

**Kenny, Ann**

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**From:** Kenny, Ann  
**sent:** Tuesday, July 31, 2001 10:49 AM  
**to:** 'Katie Walter'  
**Cc:** Hellwig, Raymond; Stockdale, Erik  
**Subject:** Attachment X: NRMP Plan Set Revisions

Katie,

Here is the attachment with plan set revisions that we are requiring.

I took what you earlier sent me and edited it so that the concerns are now prescriptive requirements resulting in submission of revised sheets. Some of the earlier comments I deleted because my notes indicated that they had been resolved. I tried to be clear but please look at them and check to see that I accurately captured what we are looking for.

There are some sheets/comments that we need to discuss. I have these in blue in the attached version and I have bracketed comments/questions.

Please look this over and let me know if you believe this format will work. We need to be very clear about what we want them to submit.



AttachmentNRMPpl  
ansheets.doc

**AR 018266**

**Attachment X: NRMP Plan Set Revisions**

**Appendix A – Miller Creek Relocation and Floodplain Enhancement**

**Sheet C3:** Note 13. Provide revised sheet showing design of irrigation system and discuss irrigation plan in NRMP (timing, amounts of water, etc.)

**Sheet C4:** Provide revised sheet C4 showing no work in streams. Provide revised Grading plan C-129 showing no work in streams.

**Sheet C7:** Provide revised sheet with note detailing how woody debris will be anchored using cable or hemp.

On the swale section provide revised sheet showing that swale area will be seeded.

**Sheet C-8:** Provide revised sheet that shows steel anchors for all the logs in the stream channel with note that hemp rope anchors are expected to remain in place for 3-5 years.

**Sheet TE1:** Provide revised sheet with note on how the ditches will be blocked to prevent sediment migration.

Provide schedule or table that shows the sequence in which the different elements of the mitigation will be installed. (This applies to the Auburn site as well.)

**Sheet L2:** Revise sheet to show how young plants will be protected from sun exposure until they are well enough established to withstand exposure to the sun.

Revise note 6 to state that except where needed to protect roots of conifers, care must be taken not to seed mulch collars.

Revise sheet to remove staking notes and details from sheet.

**Appendix B – Miller Creek In-stream and Buffer Enhancements**

**Sheet C3:** Revise sheet to show construction access points and add a note to the plans to minimize wetland and stream impacts. Provide note detailing how access points will be restored.

**Sheet C4:** Note 5. Add note to see sheet TE2 and add more details detailing how the channel will be de-watered during re-grading.

**Sheet C5:** Provide revised sheet if log orientation at 42+00 changes.

Note 2. Provide revised sheet with note. Discuss disposal of solid wastes in text of NRMP or in an Appendix. Provide information on how hazardous materials will be managed if discovered during the course of constructing the mitigation site.

Sheet C7: Provide revised sheet with note that details how project areas will be accessed. Also provide details on how access locations will be restored after the work has been completed.

Sheet C8: On Section 2, the coir lift is shown on the section but is not present on the plan. Provide revised sheet.

On Section 3, the logs on the plan view are not present on the section. Provide revised sheet.

On Section 5, the log shown on the plan view is not present on the section. The coir lift shown on the section is not shown on the plan. Provide revised sheet.

On Section 6, the log shown on the plan view is not present on the section. Provide revised sheet.

Sheet C9: In typical detail of coir fabric lifts, develop a specification for the quantity of willow cutting. Provide revised sheet.

Sheet C10: Provide revised sheet and include note on sheet that indicates that the geotextile fabric will be biodegradable. If this is discussed in text, then text must become part of final plan set.

Sheets TE1-TE4: Provide revised sheets adding note in notes section that states that equipment should not be driven in the streambed except where necessary to complete construction.

Sheet TE2: Provide revised sheet showing details for stream diversion structure and flow dispersion structure.

Provide revised sheet showing detail for the flexible by-pass pipe. Note that pipe should not be trenched in.

Indicate on plan sheet direction of sump discharge water with note that it is pumped to a treatment pond. Provide specific pond. Provide revised sheet.

Sheet TE5: On the live stake detail, specify the density of staking (inches on center). Provide revised sheet.

Sheet L1.1: Provide revised sheet with note that says that if S. 157<sup>th</sup> Place is determined not to be needed for access purposes it will be revegetated.

Sheet L2: Provide revised sheet with note that says that if S. 160<sup>th</sup> Street is not needed for access it will be revegetated.

Sheet L3: It is unclear how much of this area will be cleared.  
Provide revised sheet with correct cross-hatching in wetland.

Sheet L5: Clarify why some of Wetland R11 shown as revegetated and others are not. Provide revised sheet with note indicating that the Corps of Engineers is requiring that the sewer easement will not be revegetated. The sewer easement areas were not included in calculations for mitigation credit.

Provide revised sheet correcting hatching error for the replacement drainage channels buffer areas that will be graded. This area should be in darker (cleared and revegetated areas) hatch.

Sheet L5.1: Provide revised sheet with note that says that if 8<sup>th</sup> Avenue South is not needed for access it will be revegetated.

Sheet L5.2: Provide revised sheet with note indicating that any irrigation installed in the field shall be shown on the As-Built Report.

Sheet L6: Areas that are cleared and revegetated should be planted at a higher density than enhancement areas. Densities or quantities should be stated on the plan.  
*A performance standard of 280 trees per acre is proposed for the buffer. In cases where some forest vegetation is present, they would supplement the existing trees with enhancement plantings to achieve this density.*  
How will survival monitoring be performed in these areas to differentiate these two types of areas?  
**Resolution: Discuss in revised section in NRMP on performance standards and monitoring. [delete, but be sure is covered in conditions.]**

Provide revised plan detail/notes to allow for use of phased planting in areas that lack suitable shade or soil moisture. Discuss in text of NRMP.

On tree planting and staking detail, the plan needs to state when the stakes will be removed. If it is determined that staking is not necessary then remove the stake details. Provide revised sheet.

Sheet P2: Provide revised sheet showing approximate locations of the sandbags and the abutments to be removed. Provide note on TESC controls that will be in place for the timber removal in order to minimize sediment mobilization.

## Appendix D – Replacement Drainage Channels and Restoration of Temporarily Impacted Wetlands

Sheet C3: The relocated S. 154<sup>th</sup> Street may severely impact the hydrology of the remaining downstream sides of Wetland 11 and Wetland 9. Where or how will the hydrological support be provided to these wetlands after construction? This was overlooked and not discussed during our meetings.

*Wetland hydrology will be maintained by water seeping through the embankment.*

**Resolution: Provide additional information after low flow analysis work has been completed. [provide analysis in Low Flow study that addresses direct and indirect impacts to wetlands.]**

Sheet C5: Provide revised plan sheet with details regarding flow spreaders and spalls.

Sheet C6: Provide revised sheet clarifying whether the dark hatched area in the vicinity of Wetlands R9a, R10, R11, A10, and A11 will be graded and revegetated?

Sheet C7: How will water get to Wetland 44a after the TESC channel is removed?  
*Existing groundwater and embankment seepage will provide hydrology. The TESC channel won't be removed, believes it discharges to Pond F.*

**Resolution: Verify whether TESC channel will remain in place. Provide information on what interim measures will be in place to provide hydrology to the wetland while temporary Pond B is located there?**

The flow monitoring locations are not shown on the stormwater management plan.

**Resolution: Provide revised sheet for SMP. [discuss with Kelly W.? Perhaps it will be shown on the map J. Kelley is supposed to send]**

Sheet C8: Provide additional information that addresses how the drainage channel discharge structure controls flow to the wetland. Address how often these structures will be monitored and how modifications be made if a problem is identified. Provide information in note on revised sheet.

Sheet L1: Provide revised sheet to allow for phased planting to provide shading for western red cedar and the western hemlock .

## Appendix E – Auburn Wetland Mitigation

Sheet C5: Will the northernmost dirt piles on the western edge of the mitigation site be removed? Provide revised sheet with note saying that if hummocks remain in place options for removing reed canary grass will be evaluated.

The Sheet C6 grading plan shows proposed contours for re-grading the SW portion of the mitigation site. These contours do not continue onto Sheet C5. Provide revised sheet.

Will the cut between phase 1 and phase 2 of the grading effectively drain portions of the existing wetland?

Parametrix is assessing this and will provide a map of the potentially impacted area. [was this resolved by the information they submitted re zone of influence?]

**Resolution: Provide map.**

**Sheet C8:** Provide revised sheet with a note added to the plans to include culverts at the low spots if needed to eliminate ponding.

On Section 3, will the perforated pipes sink into the substrate and become blocked? Is the prepared sub-grade compacted?

*The engineers will check this. [did we get any info on this?]*

**Resolution: Confirm with your engineers and let us know their determination. [permit condition: design substrate to prevent sinking of perforated pipe]**

**Sheet TE1:** There is no discussion on the dewatering except in the NRMP text on page 7-50. Sheet C2 (Appendix E) shows the discharge point located along a ditch, which is slated to be recontoured. What about erosion? Can the ditch handle the maximum flows that may be encountered? Will it create downstream erosion?

They could line the ditch with Visqueen and quarry spalls.

Provide revised sheet with additional details to manage potential erosion and amend text in NRMP if necessary.

Text also discusses two retention ponds that are not shown. Shouldn't Area 1 have a sedimentation pond?

*This has not been resolved yet. The Corps also brought it up in their comments.*

**Resolution: Provide additional information on this issue. [do we have additional information on this yet?]**

Page 7-47 of the text discusses major construction activities limited to a period from October 31 to March 31 to avoid winter bald eagles. Is this a typographical error? Provide revised sheet correcting error regarding construction window to avoid winter bald eagles.

**Sheets L7 and L8:** Provide revised sheets to show plant pattern layout areas for each phase.

**Sheet L9:** Provide revised sheet with a note added to the plans so that ponded areas or areas that are anticipated to be ponded shortly after planting will be planted with plugs representative of the seed mix specified. Add Hydro seeding specifications.