RESPONSE TO COMMENTS

City of West Boise
Wastewater Treatment Facility
NPDES Permit # ID-002398
May 28, 2013

On October 12, 2012, the U.S. Environmental Protection Agency (EPA) issued a public notice for the proposed modification of the West Boise Wastewater Treatment Facility (hereafter referred to as West Boise Facility), City of Boise National Pollutant Discharge Elimination System (NPDES) Permit No. ID-002398-1. The comment period was initially scheduled to end on November 12, 2012, but was extended to end on December 12, 2012 in response to requests for an extension.

This Response to Comments provides a summary of significant comments and provides corresponding EPA responses. Comments that are common are grouped by subject. In addition, in several cases the individual comments are grouped together under one comment number, and provided one response.

Many of the comments received were supportive of the modification of the permit to incorporate the Dixie Drain Facility offset, noting the added reductions the Dixie Drain Treatment Facility (hereafter referred to as Dixie Drain Facility) would provide toward achieving the Boise River phosphorus target, as well as providing an alternative to end of pipe effluent limits. As noted in the Fact Sheet, this modification provides greater reductions of phosphorus in the watershed than the existing permit. In addition, it will reduce phosphorus in an agricultural drain, a significant source of nutrients, that is otherwise not regulated under the NPDES program. Further, the offset is enforceable, well monitored and tightly controlled.

The comments received during the public comment period resulted in the following revisions to the permit:

1. Section I.Q. is modified to add the statement: **"**If the City does not consolidate the Lander Street POTW to an expanded plant at West Boise Facility this permit may be modified."
2. A footnote is added to Table 2A requiring continuous flow monitoring in the South Channel.
3. A footnote is added to Table 2A regarding assimilative capacity.
4. The reference to the Quality Assurance Plan (QAP) in I.F.6. for the Dixie Drain Facility monitoring is corrected to be Part I.M.
5. The QAP completion date for the Dixie Drain Facility is clarified.
6. The Operation and Maintenance Plan requirements for the Dixie Drain Facility are added to Section I.B.6.
7. The Dixie Drain Facility compliance schedule dates in Part I.C.4 are advanced sequentially beginning with Task 1 "Initiate Project Design" which is now required to be completed by August 1, 2013.

8. Condition I.F is revised to require downstream monitoring for phosphorus in the Dixie Slough. In addition, that section is revised to clarify the monitoring locations and parameters associated with the Dixie Drain facility and the Dixie Slough.
9. A typographical error was corrected on Table 3 for the delineation of the season during which the interim phosphorus apply from 2013 – 2015. The permit incorrectly listed each season to begin with May 1, 2012, instead of the correct year. Therefore the dates are corrected to be May 1, 2013, May 1, 2014, and May 1, 2015, instead of May 1, 2012.
10. The terms and conditions from the IDEQ 401 final certification related to temperature for the Dixie Drain project were added to the permit.

Comments were received from the following entities:

Michael J. Fuss, Public Works Director, City of Nampa (Nampa)

Justin Hayes, Program Director, Idaho Conservation League (ICL)

Rick Eichstaedt, Executive Director/ Attorney Center for Justice (CJ)

Nina Bell, Executive Director, Northwest Environmental Advocates (NWEA)

Kevin Lewis, Conservation Director, Idaho Rivers United (IRU)

Lee C. Belt, City Clerk, City of Greenleaf (Greenleaf)

Neal S. Oldemeyer, Director, City of Boise Public Works Department (City)

Thomas H. Barry, Director, City of Meridian Public Works Department (Meridian)

Dana L. Hofstetter, Hofstetter Law Office on behalf of Energy Resource Group LLC and G.O. Investments, LLC (ERG)

Support for the Permit Modification

1. **Comment (Several entities as identified below):** There were several comments from various entities in support of the offset.

Nampa

Nampa is providing these comments from Nampa's perspective assuming that similar requirements will be included in Nampa's pending draft NPDES permit for the City's WWTF. The City strongly supports the concept of a treat and offset option as presented in this draft Permit. The Dixie Drain Enhanced Wetland project is a responsible and innovative approach towards meeting stringent total phosphorus limits that will result in better environmental benefits for the lower Boise River and the Snake River-Hells Canyon complex. In addition, this approach allows the EPA to address one of the largest nonpoint sources of total phosphorus pollution in the watershed. Without this approach, the Dixie Drain would continue to discharge hundreds of pounds of total phosphorus on a daily basis for decades to come as nonpoint pollution is exempt from meeting the requirements off the Clean Water Act's NPDES program. With the approach, the project allows EPA to integrate a nonpoint source of pollution into the NPDES permit and

thereby setting an important precedent effectively meeting in stream water quality criteria.

Effluent limits and Compliance Dates. Page 9. Table 3 – Effluent Limits and Compliance Date. The City supports the change from a monthly limit to a seasonal limit for the period of May 1 through September 30, 2017 and every year thereafter until the final permit limit is achieved.

ICL

We have reviewed the proposed modification to incorporate a pollutant offset program into the West Boise WWTF via the development of the Dixie Drain Facility. The proposed offset promises to provide improvements to water quality that exceed those that would be achieved via the traditional NPDES permit scenario. We are supportive of the City's proposal and support EPA's proposed permit modification. We look forward to seeing this project developed. As other dischargers look for options to address their future effluent limits, we encourage the EPA to further develop this offset approach. The solution that Boise City has proposed, however, is not a one-size fits all solution. Other considerations, such as greatly increased offset ratios, year-round limits and the location of offsets relative to the location of the initial discharge will need to be considered in different situations.

Meridian

The City of Meridian supports the modification of the City of Boise's NPDES permit to incorporate the Dixie Drain project that allows Boise to meet their final effluent phosphorus limits using a combination of plant improvements and treatment of non-point source agricultural return flows in Dixie Slough.

The City of Meridian supports EPA approval of pollutant offsets and trading along with associated policy and regulation adopted by the State of Idaho, the use of seasonal average mass-based loads and the use of compliance schedules and interim limits to allow for the implementation of wastewater facility improvements. The City of Meridian appreciates EPA's acknowledgment that these are useful tools for NPDES permit holders in the Lower Boise River watershed to help reduce pollutant loading and improve water quality to the Boise River.

IRU

Idaho Rivers United is pleased that the Environmental Protection Agency and the City of Boise are proposing a strategy that aims to reduce phosphorus loads in the Dixie Drain and downstream receiving waters. The Boise River and the Snake River are debilitated by severe nutrient pollution. Waters that once supported healthy populations of trout, salmon and steelhead are now fish-deadly. New, innovative approaches like this to reduce pollution must be put to the test to determine their viability.

The City of Boise is one of many dischargers to the Boise River, and IRU would like all dischargers to be as creative and determined as the City of Boise. In this time of crisis, there has to be opportunity for many approaches and strategies to get a fair trial, and nothing in this proposed offset project should serve to discourage or inhibit others.

Idaho Rivers United supports:

- Compliance Schedule. the proposed compliance schedule for the Dixie Drain offset.
- Offset Availability. the proposed condition that the Dixie Drain offset is available when the final total phosphorus effluent limits are required. IRU supports the proposed condition that interim removal requirements at the Dixie Project may not be used to offset the interim total phosphorus effluent limits at West Boise.
- Surface Water Monitoring. IRU supports all monitoring required in Table 7A.
- Total Phosphorus Effluent Limitations at West Boise
- We argue for a fixed effluent limit but if the limit remains flow-based, Idaho Rivers United supports the proposed limit of 350 μg/L at or above flows of 340 cfs.

Response: The Dixie Drain Facility will treat a significant source of phosphorus that otherwise would not be treated. This modification to the permit requires the City to monitor the Dixie Drain discharges and to account for all phosphorus removal rates. Failure to meet the required removal rates may result in penalties for violation of the permit. The enforceability and monitoring of the NDPES permit provides EPA with the assurance that the City will meet its phosphorus reduction targets.

Availability of the Offset Option for Other Facilities

2. **Comment (Several entities as identified below):** Questions regarding the availability for offsets and trading for other permits.

Nampa

Part I.B.6. The City is concerned that a treat and offset option may not be available to other cities within the watershed because of the perception that a completed lower Boise River TMDL for total phosphorus is required prior to approval of further pollutant trading projects. As this draft permit clearly demonstrates, a TMDL is not required for the implementation of innovative approaches such as treat and offsets. In addition waiting for a completed TMDL when other cities are facing similarly stringent total phosphorus limits as presented in the is draft permit would likely remove a pollutant trading alternative as a long term discharge option. This would be an unfortunate consequence considering the opportunity to more quickly address other significant nonpoint discharges such as Mason Creek. As such, other cities within the watershed should be allowed to pursue such an option and begin discussions with EPA and the IDEQ on how it can be quickly integrate into pending permits that will be finalized prior to completion of the TMDL.

Meridian

The City of Meridian is interested in the modified draft NPDES permit issued to the City of Boise because the City of Boise and City of Meridian have permitted NDPES discharge outfalls in the same reach of the South Channel of the Lower Boise River. The City of Meridian supports the consideration of all proposals for the projects that would reduce phosphorus to the Boise River watershed by any entity in the watershed. The permit and fact sheet imply that no other projects would be considered by EPA in the

watershed. The City of Meridian encourages EPA to consider any offset project based on its merits. These types of projects provide benefits to overall watershed health.

Request: Add a statement following the first sentence in Section I of the Fact Sheet, "(Although the proposed Dixie drain project is a pilot project, it does not preclude the consideration of future offset projects or other viable options for other permittees in the future.)"

Greenleaf

Will approval of the proposed Boise permit modification affect the ability of Greenleaf to potentially develop an offset or trading project?

Response: The EPA recognizes the interest of other permittees in the lower Boise watershed to have trading as an option to meet stringent nutrient limits. However, consideration of additional offsets in the lower Boise watershed outside of an EPA-approved TMDL would be limited. The EPA does not consider the Dixie Drain project to in any way limit future phosphorus allocations other permittees may receive.

Because TMDL-like modeling is required to evaluate the water quality impacts of offsets, extensive resources are required to develop such projects. The Idaho Department of Environmental Quality (DEQ) is scheduled to submit a nutrient TMDL to the EPA in Spring 2014. The EPA encourages the commenters to provide input as that TMDL is developed.

3. **Comment (Meridian):** Given the frame work of the Dixie Drain Offset project and the selected in-stream value of 70 μg/L, what basis will be used for the independent analysis of point source discharges and future offset projects and how will those be treated and justified considering the City of Boise's permit? What procedures and framework does the EPA have for pollutant offsets and trading to be incorporated in other discharge permits?

   Response: Regarding an independent analysis of point source discharges, when evaluating the effluent to determine if water quality-based effluent limits are needed, and in developing those limits, the EPA conducts a "reasonable potential analysis," projecting the receiving water concentration downstream of where the effluent enters the receiving water. If the projected concentration of the pollutant in the receiving water exceeds the numeric criterion for that specific chemical, then the discharge has the reasonable potential to cause or contribute to an exceedance of the applicable water quality standard, and a water quality-based effluent limit is required. As described in the Fact Sheet for the reissuance of the City of Boise West Boise Facility, the EPA has determined that the total phosphorus concentration of 70 μg/L from the Snake River Hells Canyon TMDL is the appropriate value to interpret Idaho's narrative criterion for nutrients for the purposes of determining reasonable potential and, if necessary, for calculating effluent limits for total phosphorus.[1] The Dixie Drain project does not change the EPA's obligation to conduct a reasonable potential analysis of individual points sources when developing NPDES

[1] Fact Sheet for City of Boise West Boise Wastewater Treatment Plant, page C-23, EPA, October 17, 2011, http://www.epa.gov/region10/pdf/permits/npdes/id/west_boise_fs.pdf

permit conditions.

Regarding future offset projects in the lower Boise Watershed pre-TMDL, see response 2.

With regards to the framework for water quality-based effluent limits, the EPA relies on the EPA's Technical Support Document for Water Quality-Based Toxics Control (TSD), EPA, March, 1991. The procedures and framework that the EPA has for pollutant offsets and trading are available on http://water.epa.gov/type/watersheds/trading.cfm. Within this page, are links to the EPA's Water Quality Trading Policy, January 13, 2003 and the Water Quality Trading Toolkit for Permit Writers, updated June 2009.

Trading Ratio

4. **Comment (Nampa and ERG):** Comments regarding the trading ratio.

Nampa

Part I.B.6.b. The City encourages EPA to consider site-specific trading ratios for future ratio and offset projects that are based on overall water quality impacts as opposed to equivalent net-present value (NPV). As stated in the fact sheet for the draft modified NPDES permit, the trading ratio and effluent limits for the West Boise WWTF were determined based on performing a break-even NPV analysis with end of pipe compliance. The City is concerned that this approach may place an undue burden on cities that pursue similar projects in the future. The City would recommend that EPA evaluate future treat and offset projects based on their water quality impacts and set trading ratios accordingly. The goal of the Clean Water Act is to restore and maintain the integrity of the nations' waters. If this goal can be achieved more cost effectively and with a better net environmental benefit, this is in the best interest of the rate payers of the Treasure Valley, the EPA, and other key stakeholders.

ERG

The offset ratio should be based on environmental consideration, rather than cost equivalency. Applicable policy and guidance indicate that offset ratios should be based on technical environmental considerations. See e.g. Idaho Department of Environmental Quality, "Water Quality Pollutant Trading Guidance," (July 2012) at 16 ("All ratios developed for pollutant trading will ensure that a seller's credits are functionally equivalent in water quality protection to a buyers' needs." However, page 21 of the Fact Sheet indicates that the City developed the 1.5 offset ratio based solely on cost equivalency. See also, September 18, 2012, letter from Paul Woods of the City of Boise to Susan Poulsom of EPA. As the Idaho Conservation League noted in its comment (#5) on the City's original proposed NPDES permit, "ICL is more likely to look favorably on the Dixie drain project if the benefits to the river are significant and the offset ratios far exceed the minimum required." There is no legal justification for making cost the basis of establishing a trading (or offset) ratio.

If the City could remove phosphorus using a lower cost approach, a higher offset ratio could be enforced with significant benefits to the environment. However, the City does not consider any alternative phosphorus removal options besides its proposed Dixie Drain project and end of pipe treatment at the West Boise Facility itself. For example, if the

City of Boise were to utilize a larger land area for its phosphorus removal project, the larger ponds and retention times could dramatically decrease costs and thereby allow a higher offset ratio to be achieved. This (and other) alternatives should be considered to ensure that the maximum environmental benefit is realized at the target cost.

Response: The EPA agrees that trading ratios depend on several factors. Further, the EPA agrees that a default break-even scenario may not be applicable for other situations, and acknowledges that as described in EPA's 2003 Water Quality Trading Policy, trading is a *market-based approach* with the intent to achieve water quality and environmental benefits greater than would otherwise be achieved under more traditional regulatory approaches.

Integrated Planning

5. **Comment (Nampa):** Part I.B.6. The City encourages the EPA to consider other innovative approaches to meeting increasingly stringent NPDES limits. For cities like Nampa who have administrative control over water, wastewater, stormwater, and irrigation systems, the EPA should consider moving more quickly towards allowing an integrated approach to meet water quality goals. An integrated approach would allow the City to balance the impacts of treated WWTP effluent, stormwater discharges, and irrigation discharges to make better capital and operation and maintenance decisions on which discharge to treat, how to treat them, and how to balance this approach to support instream criteria. An integrated approach would allow the City of Nampa to potentially make more technically effective and more cost effective decisions on how best to achieve water quality goals within the Indian Creek and Lower Boise watersheds. An integrated approach would also break down the regulatory silos that exist amongst the various types of discharges that the City is required to manage under the Clean Water Act.

   Response: Nothing in the modification to the West Boise Facility NPDES permit prohibits the City of Nampa from pursuing an integrated approach. An integrated planning process helps identify a critical path to achieve water quality objectives of the CWA, such as NPDES requirements for separate sanitary sewer systems, municipal separate storm sewer systems and wastewater treatment plants. The integrated planning approach does not remove obligations to comply with the CWA, nor does it lower existing regulatory or permitting standards, but rather recognizes the flexibilities in the CWA for the appropriate sequencing and scheduling of work.[2]

Assimilative Capacity of Receiving Waters

6. **Comment (Greenleaf)**: The City of Greenleaf is concerned that treatment and discharge from Boise's Dixie Project could result in future NPDES permit discharge limitations for the City of Greenleaf or have other unintended or unforeseen consequences for the City of Greenleaf.

   Any additional or new discharge in a watershed can affect the assimilative capacity within a water body. This is especially true for watersheds that are water-quality limited.

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[2] US EPA Integrated Municipal Stormwater and Wastewater Planning Approach Framework, Nancy Stoner June 5, 2012

Idaho has stated that the Dixie Slough is not fully supported due to excess temperature (2010 Integrated Report) and that *E. coli* data indicate that recreational uses are not fully supported (draft 401 Certification). At this time data for a more complete assessment of the Dixie Slough is lacking. For example, on page 4 of the 401 Certification, DEQ states "…at the present time, DEQ does not have sufficient data to determine whether the Dixie Drain Facility discharge will increase temperatures in Dixie Slough…"

Considering current water quality conditions in the watershed and lack of available data, it appears that a new point source discharge from Boise's Dixie Project could influence available assimilative capacity and potentially limit the options of residents, communities, landowners and other stakeholders within the watershed.

Response: Current information indicates that the Dixie Drain project would not reduce the assimilative capacity of the Dixie Slough. To the contrary, the project may result in more assimilative capacity for some parameters, because the Dixie Drain Facility is providing treatment for a portion of the Dixie Slough that would otherwise not be treated. Monitoring associated with the project will improve the accuracy of the data to assess impacts from the Dixie Drain Facility on the Dixie Slough and the Boise River.

7. **Comment (City and Meridian Joint Comment)**: The Cities of Meridian and Boise jointly request modification of the draft NPDES permit ID-002398-1 for the City of Boise's West Boise Wastewater Treatment Facility. The purpose of the permit modification request is to clearly affirm that the assimilative capacity in Table 2-A is not reserved only to the City of Boise. The request is for modification of Table 2-A to include the following footnote:

   "*This effluent limit table is based upon the total assimilative capacity of the south channel of the Boise River but does not reserve this total assimilative capacity to this facility. This table may be re-opened and modified upon either completion of an EPA approved total phosphorus TMDL of the lower Boise River or approval of NPDES permit(s) for other discharger(s) which impact the assimilative capacity of total phosphorus in the south channel of the Boise River"*

   Response: The EPA agrees that assimilative capacity of the Boise River is not reserved only for the City of Boise. Nothing in the modified West Boise permit precludes other dischargers from utilizing the assimilative capacity of the Boise River. The completion of an EPA-approved total phosphorus TMDL for the Lower Boise River or approval of NPDES permits for other dischargers that impact the loading of total phosphorus in the south channel of the Boise River would be new information not available at the time of permit issuance. Such new information would allow the EPA to modify the permit. The footnote is added to Table 2A.

Impacts of Offset on Boise River

8. **Comment (NWEA and IRU):** Comments were received from NWEA and IRU concerning the impacts of discharging effluent concentrations greater than 70 μg/L downstream from the West Boise Facility.

   IRU (comment 1)

   While there is an argument to be made that approval of this innovative offset project will

increase the probability that similar projects are developed and approved in the Boise River watershed and that a large cumulative improvement in water quality results, approval of this extremely expensive project with a very modest offset ratio may end up discouraging nutrient trading and non-point pollution cleanup in the Treasure Valley.

Of special concern is the emphasis on benefit to the Snake River, not the Boise River. The Boise River suffers from chronic nutrient pollution, and levels of phosphorus in the Boise River need to be reduced starting at Veterans. Projects that reduce phosphorus levels in the Boise River need to be encouraged even if – under current conditions – there is little or no benefit at Parma.

IRU (comment 2)

Impact of proposed modification on the Boise River at and below Outfall 1

As stated in Appendix B, Basis for Permit Conditions, "The offset project will affect phosphorus concentrations in the Boise River from the West Boise outfall to Parma." The proposed modification allows up to a 500% increase in discharge of phosphorus at outfall 1, from 70 µg/L to 350 µg/L. In reissuing the NPDES permit for the West Boise WWTP in 2012, EPA determined that a phosphorus discharge limit of 70 µg/L was protective of both the Boise and Snake River. They determined that a phosphorus discharge of 350 µg/L was not protective.

In the updated Fact Sheet on the proposed permit modification, EPA states that, "the phosphorus concentration discharged from the West Boise Facility must not cause a local impact downstream of the West Boise Facility." EPA's interpretation is that a local impact will not result if the instream phosphorus concentration in the South Channel of the Boise River does not exceed 70 µg/L under critical conditions after complete mixing with the flow in the river. This interpretation is inconsistent with their determination that any effluent phosphorus concentration higher that 70 µg/L would not sufficiently protect water quality in the Boise River.

EPA is proposing permitting a 250% increase in phosphorus concentration in the South Channel of the Boise River.

EPA further addresses the impact of phosphorus in the Oct., 2011 Reasonable Potential Analysis. "Due to the tendency of phosphorus to be retained in the water column and/or transported downstream, the EPA's nutrient guidance emphasizes that when establishing a nutrient criterion, downstream impacts of the pollutant must be taken into account… Therefore, the reasonable potential analysis must determine if the effluent discharge has the reasonable potential to cause or contribute to an in-stream excursion of 70 µg/L at the point of discharge, *and throughout the Boise River.*" (Emphasis added)

Has EPA determined if the proposed modified phosphorus effluent discharge has the reasonable potential to cause or contribute to an in-stream excursion of 70 µg/L throughout the Boise River?

NWEA

EPA previously determined that an effluent limit above 70 µg/l "would not sufficiently protect water quality in the Boise River where stretches downstream of the City's outfall are known to be impaired for nutrients." West Boise Fact Sheet, October 17, 2011,

Appendix C. EPA has not demonstrated that water quality previously determined to be impaired is no longer impaired such that this discharge will no longer cause the problem identified by EPA in 2011.

Compliance cannot be moved at random along a stream as if the point of discharge is not fixed.

Response: The EPA agrees that impairments to the Boise River are of concern. Development of permit conditions for this modification emphasized prevention of localized impacts from the offset in the Boise River. That is, the permit limits at the West Boise Outfall 001 with the modification were developed to ensure that the discharge from the West Boise Facility does not cause the downstream concentration in the Boise River to exceed 70 µg/L.

The EPA conservatively included nutrient limitations in the West Boise permit which are consistent with the approved Snake River Hells Canyon (SR-HC) TMDL. The permit includes a stringent average monthly effluent limit for phosphorus of 70 µg/L, matching the target established by the SR-HC TMDL for the mouth of the Boise River. The final limits with the modification remain the same, at 70 µg/L of total phosphorus. The City may meet that limit through a combination of removal of total phosphorus at the West Boise Facility and at the Dixie Drain Facility. For each pound of total phosphorus that is discharged at the West Boise Facility above a concentration of 70 µg/L, the Dixie Drain Facility must remove 1.5 times that amount. The net offset decreases the phosphorus in the Boise River below the confluence with the Dixie Slough, compared with the option of treatment only at the West Boise Facility.

Immediately below the West Boise Facility, the EPA has conservatively assigned the value of 70 µg/L total phosphorus to represent the concentration associated with a local impact in the receiving water. Based on the modeling results, a maximum concentration of 350 µg/L discharged from the West Boise Facility would not cause a local impact downstream of the facility, i.e. would not cause an exceedance of 70 µg/L total phosphorus. Even discharging at 350 µg/L, the City will be *decreasing* its current phosphorus discharge concentration at the West Boise Facility, by more than 93 percent.

As noted above, EPA's modeling predicts that the project will result in a total net decrease in phosphorus in the Boise River.

As the EPA reissues permits in the watershed, the EPA will continue to use a criteria of 70 µg/L (from May 1 to September 30) to interpret Idaho's narrative criterion for nutrients.

Rationale for Offset Project

9. Comment (NWEA and IRU): Comments were received questioning the rationale for the offset project and saw little benefit of the project.

NWEA

Northwest Environmental Advocates is concerned with the erosion of statutory and regulatory requirements for the issuance of NPDES permits. A case in point is EPA's proposed permit ("permit") for the West Boise Wastewater Treatment Plant ("Plant")

which calls for the use of offsets by means of reducing phosphorus discharged from the Dixie Drain ("Drain") downstream. We hope that the brevity of these comments, due to lack of time in which to prepare them does not detract from EPA's understanding of the arguments made.

Specifically, NWEA objects to the use of offsets where there is no basis for their use in lieu of controlling pollution discharges from the outfalls of the permitted facility. Here there is no rationale that would trigger the use of an offset, such as its being of lower cost than controlling pollution at the facility's end-of-pipe. It is our understanding that the costs of installing pollution controls on the Plant is the same as installing treatment at the Drain. Without any rationale underlying the use of an offset, it should be rejected.

IRU

The actions proposed by the City of Boise will influence future decisions made by other local municipalities, by non-point source phosphorus polluters and by everyone interested in Lower Boise River nutrient trading.

The proposed modification would not improve the condition of the Boise River from outfall 1 to outfall 2. The proposed modification would not reduce the cost impact on ratepayers. The proposed modification would decrease the load of phosphorus in the Dixie Drain approximately 25% - 50% but would not clean up the Dixie Drain or the Boise River. According to the EPA model, there would be a small benefit to the Snake River due to the proximity of the Dixie Drain to the confluence.

Response: The EPA disagrees that there is no rationale for or benefits of the offset project. The reductions required at the West Boise Facility and Dixie Drain Facility will improve the water quality in the Boise River watershed. The EPA recognizes the Dixie Drain project as a step toward achieving the water quality goals of the watershed. The Dixie Drain project:

- yields a net environmental benefit by removing more phosphorus than end of pipe treatment at the West Boise Facility, approximately 5,000 lbs/year more on an annual basis;
- provides reduction of phosphorus in an agricultural drain, which is a significant source of nutrients in the watershed that is otherwise unregulated;
- is measurable and enforceable and holds the permittee accountable for the reductions.

Backsliding and Reductions at West Boise Facility

10. Comment (NWEA): The permit proposes to allow a change in effluent limit for the Plant's outfall No. 1 from the current 70 µg/l limitation to 350 µg/l. This increase in allowable concentration, which is also the equivalent of an increase in allowable load, constitutes a violation of the prohibition on antibacksliding. Clean Water Act (CWA) §402(o)(1). A prohibition on the relaxation of water quality-based effluent limitations ("WQBEL") is subject to exceptions at §402(o)(4)(A) but this discharge does not meet the requirements associated with those exceptions. As EPA's guidance explains,

> CWA section 303(d)(4)(A) allows the establishment of a less stringent effluent limitation when the receiving water has been identified as not

> meeting applicable water quality standards (i.e., a nonattainment water) if the permittee meets two conditions. First, the existing effluent limitation must have been based on a total maximum daily load (TMDL) or other wasteload allocation (WLA) established under CWA section 303. Second, relaxation of the effluent limitation is only allowed if attainment of water quality standards will be ensured or the designated use not being attained is removed in accordance with the water quality standards regulations. This subsection does not provide an exception for establishing less stringent limitations where the original limitation was based on state permitting standards (e.g., state treatment standards) and was not based on a TMDL or WLA.

EPA's NPDES Permit Writer's Manual at 7-3. Here, the previous WQBEL was not based on a TMDL for the Boise River, although it was intended to be protective of water quality in the Snake River. In the absence of a TMDL for the Boise River the allocations to all contributing sources of pollution causing the impairment cannot be determined. On this basis alone the exemption to the prohibition on backsliding for discharges to impaired waters does not apply. In addition, in part because there is no TMDL and in part because there are no other actions that will ensure that the standards will be attained, the exemption does not apply. The prohibition on antibacksliding prevents EPA from finalizing the modified permit with the proposed effluent limits.

Response: The EPA does not consider the proposed limits in the modified permit to be less stringent. The new permit results in a significant *decrease* in phosphorus discharges to the Boise River. The final effluent limit for the City of Boise Wastewater Treatment Plant remains at 70 µg/L (see Table 1). The permittee may meet the final effluent limit for total phosphorus through a combination of removal of total phosphorus at the West Boise Facility and at the Dixie Drain Facility. Because the limits are not less stringent, the anti-sliding provisions do not apply.

Need for a New Permit as a New Discharger and New Source

11. Comment (CJ): Need for New Permit:

The permit allows the construction and operation of a new Dixie Drain Treatment Facility. While we understand the concept that this is an offset, the Dixie Drain Treatment Facility is a new discharge from a point source. It appears that this would require a new NPDES permit or, at the minimum, specific effluent limitations to address this new source.

Could EPA provide an explanation as to why a separate permit with specific effluent limitations is not required under the Clean Water Act for this facility?

Response: The Dixie Drain Facility is included under the City's existing NPDES permit because it provides for an alternate method of compliance with the 70 µg/l in stream target for phosphorus. Further, the property and the facility are owned and operated by and the City.

12. Comment (NWEA): In addition, the Drain or the City's operation of a facility at the Drain, appears to be a "new source" or "new discharger" which will cause or contribute to the violation of water quality standards in impaired receiving water. EPA is prohibited

from issuing a permit under such conditions. 40 C.F.R. § 122.4(i).

Response: For this situation, the EPA is not considering this to be a new discharger. The Dixie Drain has existed for years as a large, unregulated source of phosphorus to the Boise River. This new treatment facility will remove, not add, phosphorus from the Dixie Drain. The outfall from the Dixie Drain facility to the Dixie Slough is added as an outfall to the West Boise Facility NPDES permit. This proposed modification incorporates an offset and allows reduction of phosphorus from nonpoint sources that otherwise would go unregulated. The pollutants to the Dixie Slough and the Boise River are being reduced through the offset. The EPA has considered the improvement in water quality and environmental benefits in this modification.

Cause or Contribute to Violations

13. **Comment (CJ, NWEA, ERG):** Comments were raised whether the discharge from the Dixie Drain Facility will cause or contribute to an exceedance of water quality standards in the Dixie Slough.

CJ

It is unclear whether EPA has determined whether the discharge from the Dixie Drain will cause or contribute to a water quality standards violation for phosphorus and bacteria. Water entering the facility contains excessive amounts of bacteria and phosphorus that will be discharged without specifically meeting water quality standards. The Clean Water Act prohibits permits for point source discharges that cause or contribute to an exceedance of water quality standards. 33 U.S.C. § 1311(b)(1)(c); 40 C.F.R. §122.44(d); 40 C.F.R. §122.4. Please explain whether this facility causes or contributes to a water quality standards violation. Will effluent from the Dixie Drain meet water quality standards from phosphorus and bacteria?

NWEA

There is no evidence that the issuance of the permit as proposed by EPA will assure that the Drain does not cause or contribute to violations of water quality standards. Finally it is not clear to us that the removal of pollutants from the Drain will be sufficient for that source to meet water quality standards.

Finally, it is not clear to us that the removal of pollutants from the Drain will be sufficient for that source to meet water quality standards. Since the Drain is not an NPDES-permitted source because it contains irrigation return flows, EPA has taken the position that it is not currently required to be permitted. However its use as an offset appears to convert a previously nonpermitted source into an NPDES source. As such, the source must meet the requirements of the Clean Water Act and implementing regulations. CWA § 301(b)(1)(C); 40 C.F.R. § 122.44(d).

ERG

The impacts of the City's offset project on ground and surface water quality are not adequately addressed. The ponds that will be used for treatment will intercept the relatively high ground water table in the area. Idaho's draft § 401 Water Quality Certification for the Modification on page 5 acknowledges this "[S]ince the proposed

constructed wetland and Dixie Slough are both in contact with shallow groundwater our expectation is that there will not be an increase in water temperature."

The flocculent sludge and pond sediments may contain deleterious constituents that could enter ground water and enter surface water via ground water infiltration.

Also, the flocculent the City proposes to use likely will affect background water and surface water quality as there will be some residual amounts of flocculent that will leach into the ground water and will be discharged back into the Dixie Slough. Has the City adequately demonstrated that any resulting impacts to ground and surface water from the proposed facility's operations will be environmentally acceptable?

Response: The EPA has concluded that the discharge from the Dixie Drain Facility will not cause or contribute to an exceedance of water quality standards. The Dixie Drain Facility is removing pollutants contributed from a nonpoint source that would otherwise not be removed. The Facility does not contribute phosphorus but rather reduces phosphorus from an uncontrolled irrigation return drain. The offset will yield a net environmental benefit by removing more phosphorus on an annual basis (approximately 5,000 lbs/year) from the Boise River than treatment at the West Boise Facility alone. The offset is enforceable and will be well monitored.

No data currently exist to allow EPA to conclude that the facility will cause or contribute to exceedances of E. coli, aluminum, or temperature. However, monitoring is required to further assess those parameters.

The EPA does not expect deleterious impacts to the groundwater. The facilities at Dixie Drain will not be lined and the groundwater beneath the site is shallow. However, the City will regulate the elevation in the ponds so that there is minimal interaction between the groundwater and the surface water. Further, the water in the ponds will be treated; if the water does flow to the groundwater, it will be cleaner than the groundwater.

Monitoring Requirements

14. Comment (IRU): It's important to note that the proposed offset is a pilot project, meaning that it's experimental in one or more aspects. Idaho Rivers United contends that the experimental nature of the proposed offset requires the City of Boise to meet a standard for monitoring and transparency that may be higher than that of a well-established approach. Highly accurate data must be collected to allow everyone to evaluate the effectiveness of the proposed offset.

Idaho Rivers United supports the requirement that the City continuously monitor temperature and flow in the Dixie Drain above the project diversion. This is a surface water monitoring requirement of the permit and should either be included in Table 7A or in a separate surface water monitoring table specific to the offset, not in Section F. Surface water monitoring associated with the offset should be required to start when the Dixie Project begins discharging.

The City should be required to measure flow, temperature and total phosphorus in the Dixie Drain below outfall 2 when the waters are fully mixed, just like they are required to monitor conditions in the Boise River per G (1)(i) and (ii). The real impact of the offset project on water quality can only be evaluated at that point, and one of the purposes of

this pilot project should be to clearly report how this innovative process works. This monitoring will reveal if removal of the required number of pounds of phosphorus has the expected benefit to water quality of the Boise River.

The monitoring stations referred to in Section F (3) should be described, i.e. does the language refer to inflow, outflow or surface water stations?

Response: The phosphorus monitoring that is included in the draft permit will allow the EPA to calculate how much phosphorus is removed through treatment at the Dixie Drain Facility. This is the value needed to determine compliance.

Generally the EPA does not require downstream monitoring because water quality-based effluent limits are developed to protect the receiving water under critical worst case conditions. If a discharge is controlled so that it does not cause water quality criteria to be exceeded in the receiving water at the critical flow condition, the discharge controls should be protective and ensure that water quality criteria, and thus designated uses, are attained under all receiving water flow conditions.

However, the EPA agrees that because this is a pilot project additional monitoring data would be beneficial. Downstream monitoring in the Dixie Slough following complete mixing will help reveal the extent to which the Dixie Drain facility reduces phosphorus concentrations in the Dixie Slough. The monitoring will help identify the impacts of the reductions of phosphorus concentrations in Dixie Slough on the Boise River. Continuous temperature monitoring downstream will help assess the impact on temperature of the Dixie Drain Facility. The EPA notes that there are some limitations with downstream data. Phosphorus concentrations and flow in the Dixie Slough upstream of the facility may be variable. Even taking into account residence time in the Dixie Drain Facility it would be difficult to directly compare upstream and downstream water quality.

Condition I.F. is revised to require downstream monitoring in the Dixie Slough. In addition, that section is revised to clarify the monitoring locations and parameters associated with the Dixie Drain facility and the Dixie Slough.

15. Comment (IRU): **City of Boise Lander Street WWTP**

The operation of the City of Boise Lander Street WWTP has a direct and critical impact on the effects of the proposed offset on the Boise River. The analysis in Appendix D includes zero discharge of water or phosphorus from the Lander St WWTP. In the analysis, the concentration of phosphorus in the South Channel of the Boise River above the West Boise discharge is 20 µg/L. The reviewer is unable to determine what that concentration would be if Lander St was discharging 13 mgd with a phosphorus concentration of 70 µg/L (or any other operating scenario). Insufficient information is available to evaluate the local impact of the proposed offset and the adequacy of the flow-based limits if Lander St is operating.

According to the City of Boise (Sept. 6, 2012 Request for Modification), the Dixie Drain offset design criteria include the ability to offset the City's projected flow growth over the next 20 years, which anticipates a total discharge of 39 MGD at the WBWTF and Lander Street wastewater treatment facility. In correspondence between EPA and the City of Boise, the inclusion of Lander St as part of the offset with flow-based phosphorus discharge limits identical to those at West Boise is expressed by EPA. (J. Wu email

3/22/2012). The impact of a discharge of phosphorus at 350 µg/L from Lander St on the Boise River was not analyzed by EPA.

The modified permit is silent on the operation of Lander St WWTP. In order to protect the Boise River, Idaho Rivers United requests that the modified West Boise permit be conditioned to require a zero discharge of phosphorus into the Boise River from the City of Boise Lander St WWTP before the City can begin to use phosphorus removed at the Dixie Drain Facility to offset West Boise effluent limits.

Response: The Predictive Effects Model is based on the consolidation of the Lander Street POTW with an expanded West Boise Facility. If the Lander Street POTW is not consolidated with an expanded West Boise Facility, a new analysis of impacts to the Boise River must be performed.

The NPDES permit for the Lander Street Facility requires that the City of Boise decide by December 31, 2018 the option that will be used to achieve the final effluent limits. If the City decides in 2018 to keep the Lander Street Facility open, the offset would have to be reevaluated and would be addressed, most likely at permit reissuance. The date of the Lander Street decision is before the date that the City may use the Dixie Drain Facility to offset the phosphorus discharge at the West Boise Facility. The Dixie Drain offset is not available until the final effluent limits are in place (2022). However, the permit modification requires the City to begin construction of the Dixie Drain Facility and operation of the facility during this permit cycle. The permit requires the City to begin removing phosphorus from the Dixie Slough in 2016, well before the final effluent limits are in place. The phosphorus removed by the Dixie Drain Facility during the interim period is not available to offset the West Boise Facility interim phosphorus limits.

16. Comment (IRU): **Monitoring, Effluent Limits and Compliance**

Flow Monitoring: The proposed flow-based effluent limits require measuring the flow in the South Channel of the Boise River above outfall 1, but flow monitoring is not required and no explanation is provided of how the flow will be determined. Without precise continuous flow measurement, flow-based limits are impossible to determine and compliance is not enforceable. This is unacceptable for a pilot project that will receive intense scrutiny. The USGS flow monitoring station at Glenwood is more than five miles above outfall 1 and well above the channel split at Eagle Island. Using data from that station and running the equation described in Section III B of the Oct. 17, 2011 Fact Sheet will get you a ball park figure for ten years ago, but it's not adequate for the precision required in this proposed offset.

River flow in the South Channel above outfall 1 and below the channel split must be monitored continuously when the offset is available. This requirement should be included in Table 7.

Response: The EPA agrees that clarification of flow monitoring requirements in the South Channel upstream of Outfall 1 is needed. The EPA agrees that measurements from the Glenwood USGS station are not sufficient, since the station is upstream of the channel split. Table 2A has been revised to add a footnote that requires continuous flow monitoring in the South Channel below the channel split.

17. Comment (IRU): It's important that EPA, DEQ and the public know if the proposed

offset project is operating in compliance with the permit. According to the draft modified permit, in order to determine compliance phosphorus measurements need to be taken weekly at three locations (DD inflow and outflow and WB effluent) and each one averaged monthly, Boise River flow above outfall 1 must be measured continuously and averaged monthly, and West Boise effluent flow must be measured continuously and averaged monthly. Compliance will only be known after all these numbers are available and the calculations presented on pgs. 8 and 9 of the draft modified permit are run. This information is supplied to EPA via monthly DMRs due by the 20th of each month. It's unclear when that information becomes publically available, but it is clear that seven weeks of violations could occur before the public knows and is able to take action to protect water quality. Idaho Rivers United is dissatisfied with that time lag.

Response: Compliance with average monthly limits are determined by calculating the average of all values for the month. Thus, compliance with monthly averages cannot be calculated until after the end of the month. The City will report the average monthly pounds discharged at the West Boise Facility and compliance with the monthly offset ratio presented on pages 8 and 9 no later than the 20th of the following month through NetDMR (the EPA's electronic Discharge Monitoring Report system). The monitoring data are available on the EPA's website, Envirofacts, within one month.

18. **Comment (IRU)**: Flow-based limits: The Boise River south channel flow, upon which the flow-based limits are determined, is the wild card; it's out of the control of the City of Boise. Abrupt decreases of flow, not uncommon in September, could cause the City operational headaches and might lead to too much phosphorus in the Boise River.

    Idaho Rivers United supports a fixed effluent limit of 252 µg/L under all conditions. It would be easier to monitor. The City could discharge at a constant concentration and not have to adjust as river flow fluctuated. In the absence of unpredictable fluctuations of effluent flow, the City would know ahead of time how many pounds needed to be removed at Dixie, and not have to work backward at the end of the month. And the City would not have to measure water flow above outfall 1 as requested above.

    Response: The Boise River flows are predictable. The Boise River is a highly regulated flow as it has been for many years and the City will be in contact with the watermaster to be able to know days if not weeks in advance of flow changes. Remote monitoring and control by a supervisory control and data acquisition (SCADA) system will be used to control operations at the Dixie Drain Facility including the diversion/inlet structure to ensure real time 24 hour monitoring and treatment. This will aide in ensuring the removal requirements are met by the end of the month. Further, a Chemscan on-line wastewater titrimetric continuous phosphorus monitor will indicate if the Dixie Drain Facility is achieving the required removal rates well before the end of the month. This negates any need to change to a fixed effluent limit of 252 µg/L. The flow based effluent limitations in Table 2A ranging from 252 to 350 µg/L ensure compliance with water quality standards.

19. **Comment (IRU)**: **Emergency Response and Public Notification Plan**

    Why does Section P require a number of actions for "unanticipated bypass or upset that exceed any effluent limitation in the permit," but not require those actions for other causes leading to exceedances of effluent limits in the permit? Isn't it important to have an emergency response and public notification plan for all exceedances of effluent limits in the

permit?

Response: There are other permit conditions related to response and notification of permit exceedances. In addition to Paragraph I.P (Emergency Overflow and Response Plan), the permit includes other compliance responsibilities related to notification and mitigation for exceedance of effluent limits, for example, Twenty-four Hour Notice of Noncompliance (Paragraph II.G), other Non-Compliance Reporting (Paragraph II.H) and Duty to Mitigate (Paragraph III.D), i.e. taking all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

Condition I.P. requires actions for unintentional spills of raw sewage from municipal sanitary sewers such as sanitary sewer overflows (SSOs). It also requires actions for unanticipated bypasses or upsets that exceed any effluent limitation in the permit.

Target Phosphorus Concentration for Boise River

20. Comment (Meridian and Nampa): Comments received regarding the selection of 70 µg/L as the target concentration in Boise River.

Meridian

Meridian supports the Dixie Drain project but wants to protect its interests and options which may be impacted by the decisions and requirements in the City of Boise's permit.

For example, the City of Meridian does not support a 70 µg/L in-stream target for this unimpaired reach of the Lower Boise River or the use of this target as the basis for permitting. Since the use of 70 µg/L in-stream target is not applicable during the first ten years (two permit cycles) of the City of Boise's permit and there is a schedule to complete the Lower Boise River phosphorus TMDL before ten years, it is unnecessary to include this target in the permit.

The 70 µg/L phosphorus target is not supported by the City of Meridian because the upper reach of the Boise River is identified neither as impaired nor listed on the State's 303(d) list of phosphorus. While the city of Boise and EPA may have agreed to a 70 µg/L phosphorus target for the Dixie Drain offset, the city of Meridian would not agree with the use of this concentration as a basis for its own NPDES permit.

Request: Add to item I.B.6 first bullet, "The value of 70 µg/L is only applicable to the calculation of the Dixie Drain Offset (see quote in I.B.6.b), it does not imply an in-stream target of the Lower Boise River, and is not a wasteload allocation."

Nampa

The draft permit contains average monthly and average weekly total phosphorus limits of 70 µg/L (14 lbs/day) and 84 µg/L (16.8 lbs/day, respectively, for the period of May 1st through September 30th. On page C-23 of the Fact sheet, it is noted that the EPA has "…determined that the total phosphorus concentration of 70 µg/L from the Snake River Hells Canyon TMDL is the appropriate value to interpret Idaho's narrative criterion for nutrients for the purposes of determining the reasonable potential and, if necessary, for calculating effluent limits for total phosphorus." The Snake River Hells Canyon TMDL stated the "…beneficial uses in the Snake River could be attained if the concentration of phosphorus at the mouth of the Boise River was less than or equal to 70 µg/L (Fact Sheet,

Page C-23). The City recommends that it be noted that the intent of the Snake River Hells Canyon TMDL is to achieve a total phosphorus concentration of 70 µg/L at the mouth of the Boise River and that each WWTP should be evaluated based on its contribution to achieving this goal.

Response: The final average monthly limit for total phosphorus of 70 µg/L based on a total phosphorus criterion of 70 µg/L was established as part of the reissuance of the West Boise Facility NPDES permit (issued May 15, 2012). This target was originally established in the Snake River/Hells Canyon TMDL and assigned to the mouth of the Boise river to protect the Snake River.

This modification does not revise the final effluent limit or the criteria upon which it is based. The EPA is only accepting comments on this permit modification; there is no modification to the phosphorus criterion of 70 µg/L.

Future TMDL Modification

21. **Comment (several commenters)**: Questions were raised regarding the relationship between this permit modification to incorporate the Dixie Drain offset and the anticipated TMDL for the lower Boise Watershed, including the following:

- Concerns that the modification to incorporate the Dixie Drain offset will impact the WLA that the City of Boise will receive in the upcoming TMDL and that through this offset the City will be allocated a higher WLA in the TMDL than other dischargers.
- Why is this modification occurring before a TMDL is approved by EPA?
- Concerns on how the TMDL will be implemented into permits once it is completed.
- How that TMDL will impact the existing offset and whether the Dixie Drain would be expected to run year-round.
- How will a TMDL impact the existing offset? How does this offset impact the need for year round limits?

Specific comments within this category are as follows:

Meridian

Without an EPA approved TMDL on the Lower Boise River, the City of Meridian does not support the prescription of ultra-low phosphorus limits in NPDES permits for dischargers in the Lower Boise River Watershed. The City of Meridian also points out that when the Lower Boise River TMDL or phosphorus is developed by the Idaho DEQ, and approved by the EPA, the permits must be re-opened and modified to incorporate the phosphorus wasteload allocations (WLA)a and conditions as stated in the TMDL (see 40CFR 122.62).

Question: What procedures and schedule will be followed when the Lower Boise River TMDL is approved to supersede the apparent WLA that has been used in the City of Boise permit?

Greenleaf

How will Boise's WWTF proposed phosphorus discharge limit affect the future Boise River phosphorus allocations? Idaho DEQ is in the process of developing a phosphorus

TMDL of the Boise River that will set in-river targets and establish allocations. The City of Greenleaf is concerned that Boise's modification may affect the development of targets and the establishment of allocations throughout the watershed. Can EPA confirm that the Permit Modification does not set TMDL capacity and that the proposed project will not affect TMDL allocations?

Meridian

The Idaho Department of Environmental Quality is developing a TMDL for phosphorus for the 303(d) listed reach of the Lower Boise River, from Middleton to the mouth, as supported by the Lower Boise Watershed Council. As the TMDL is intended to identify waste load allocations for dischargers within the lower Boise River Watershed, it seems appropriate to allow the TMDL to be developed prior to prescribing ultra-low phosphorus limits to dischargers via NPDES permits. It can take many years to plan, design, and construct technological improvements, at considerable costs, to achieve ultra-low effluent phosphorus concentrations; therefore, NPDES permit holders need certainty in expected permit limits. EPA's action to require municipalities to plan for ultra-low effluent phosphorus limits in advance of a nutrient TMDL for phosphorus on the Lower Boise River seems to conflict with the intention and process surrounding regulated improvements of impaired water bodies.

CJ

As EPA is aware, a TMDL will be developed for the Boise River. How will the offset provided at the Dixie Drain be treated once an allocation for the Drain is established by the TMDL? EPA's Water Quality Trading Policy provides credits only for pollutant reductions greater than those required by regulatory requirement or established under a TMDL. Will Boise be required an even greater level of reduction once the TMDL limits have been established?

ERG

What will happen to the seasonal offset project, if EPA eventually goes to annual phosphorus limits, as it has indicated ultimately it will: "Based on our review EPA had determined that effluent limitations for phosphorus are needed year-round." EPA, "Response to Idaho Rivers United ("IRU") Comment 7 Re: Reissuance of two City of Boise NPDES Permits" (2012) at 27. Would the projected need to operate year-round? Can the offset project run economically year-round? What is the alternative if the project only can be operated seasonally, once year round limits are in place?

ERG

Additionally, under applicable water quality pollutant trading polices and guidance, the TMDL should be developed before trading or offsets are approved, and currently, the phosphorus TMDL for the lower Boise River remains under development.

IRU

Phosphorus discharge limits established via this proposed modification are expected to be approved before a phosphorus TMDL is approved for the Lower Boise River. In Appendix C of the Oct. 17, 2011 West Boise Fact Sheet – Reasonable Potential Analysis - the EPA stated that the total phosphorus criterion of 70 μg/L is exceeded in all locations

downstream of the Veterans monitoring station and there is no capacity in the river to assimilate total phosphorus being discharged from the West Boise WWTP.

There isn't much, if any, phosphorus load capacity in the Boise River currently, and the City of Boise is at the upstream end of the system. Idaho Rivers United is concerned that DEQ and EPA may be influenced by the proposed modified effluent limits to give the City of Boise more than their fair share of the phosphorus allocation in the TMDL or to allow elevated loads in the Boise River all the way to the Dixie Drain. IRU is also concerned that downstream dischargers' future NPDES permits may not be as flexible as Boise's because of the load discharged by City of Boise. This may discourage or inhibit others to try new strategies.

Response: This modification does not provide a new WLA for the City of Boise. The final effluent limit that the City must meet remains the same, i.e. 70 μ/L Average Monthly Limit. The offset allows the City to meet that effluent limit through a combination of removal at the West Boise Facility and the Dixie Drain Facility.

The IDEQ is responsible for developing and submitting a TMDL to EPA. IDEQ plans to submit a nutrient TMDL to the EPA in Spring 2014. EPA's role is through the approval process. The EPA does not envision that this modification would impact the WLA provided in the TMDL for the City of Boise. Further, through this permit modification, the EPA is not forecasting the WLA that the City will receive through this TMDL.

Although the EPA expects a draft TMDL from IDEQ in Spring 2014, in the absence of an EPA-approved TMDL, the EPA is moving forward with issuing permits in the lower Boise watershed. The EPA acknowledges the permittees interest in having certainty of future phosphorus limits when making decisions for capital investments. As such, the EPA encourages members of the Watershed Advisory Group participating in the development of the TMDL, to work toward an approvable TMDL.

Once a TMDL is approved by EPA, the WLAs from the TMDL may be incorporated into future permits. In accordance with 40 CFR 122.44(d)(1)(vii)(B) permit limits must be consistent with WLAs in an EPA-approved TMDL. Generally, implementation of wasteload allocations is during the reissuance of a permit, as opposed to modification of current permits.

If trading is going to be an option for the permittees, the TMDL should address it and describe how trades can take place. The need for addressing nutrient loads on a year-round basis in not addressed as part of this modification.

Mass Balance Model

22. Comment (IRU): **Comments on Appendix D - Predicted Effects of Dixie Drain Facility on Phosphorus Concentrations in the Boise River**

The environmental benefits of the proposed modification are not as certain as the analysis predicts for a number of reason including:

1. The model uses numbers from over 10 years ago and doesn't offer any comparison with current conditions or predicted conditions 10 years from now when the project will start.

2. The model doesn't consider that phosphorus-contaminated groundwater is likely flowing into the Dixie Drain in the short reach between outfall 2 and the Boise River, and that this inflow would impact the load entering the Boise River.
3. The model doesn't consider that groundwater that has higher levels of phosphorus than the Dixie Drain will likely flow into the Dixie Drain between the diversion channel and outfall 2.
4. The model doesn't consider that decreased discharge of phosphorus from both Lander St and West Boise per each facility's permitted compliance schedule may decrease the phosphorus load in the Dixie Drain above the offset project.
5. The model doesn't consider that expected decreased phosphorus discharge from other WWTPs may decrease the phosphorus load in the Dixie Drain above the offset project.
6. The model doesn't account for expected changes in Boise River and tributary phosphorus loads when point source discharges are limited.
7. The model doesn't consider that changes in operations of the waterworks that contribute water to the Dixie Drain may decrease the phosphorus load in the Dixie Drain above the offset project.
8. The model assigns groundwater a concentration of 250 – 260 µg/L, but samples at the Dixie project site are significantly higher, ranging from 650 µg/L to 2,300 µg/L.

Response: The EPA disagrees that the model does not consider any of the items listed by IRU above. In some cases the commenter cites small-scale data when the model incorporates watershed-scale averages. The EPA provided a description of uncertainties and limitations of the offset analysis in the model documentation (refer to Appendix D of Fact Sheet for the modification.) The following addresses the specific bullets:

1) *10 year old Data* The best available information to build the mass balance model is the 2000-2001 time frame. USGS is currently building a more refined database for future models. The assumption in most environmental modeling efforts is that future conditions (e.g., flow) will be similar to past conditions. The EPA is unaware of significant management changes since the 2000-2001 time frame (or planned for the future) that would render the model results invalid as estimates of the effect of the offset project.
2) *Groundwater Inflow Below Dixie Drain.* There may be a groundwater inflow to the small reach between the Dixie Drain project and the drain mouth, but there are no available data for this potential, small-scale input. At the watershed scale, the model does incorporate estimates of the total groundwater phosphorus loading into the mainstem based on best available information. The uncertainties in these estimates were identified in the model documentation in the Fact Sheet.
3) *Phosphorus Concentration in Groundwater.* The model incorporates flows from the IDWR monitoring location downstream of the Dixie Drain project. The measured flow at this location would include any groundwater inflow in the reach upstream. At the same time, the concentration of groundwater is unknown in this short reach within the Dixie Drain. The EPA does not know if the groundwater

and surface water have different concentrations (which would introduce uncertainty into the Drain mouth estimate). The model incorporates the best available information for predicting the future drain mouth concentration.

4) *Decreased Phosphorus Concentration in Dixie Slough.* It is correct that EPA does not consider the effect of reduced phosphorus from the City's WWTP on phosphorus loading in the Dixie Drain. There is no available analysis of the potential reduction in drain concentrations due to future reductions in upstream point source reductions. This uncertainty was identified in the model documentation.
5) *Decreased Phosphorus Concentration from other WWTPs.* See response to #4.
6) *Decreased Phosphorus Concentration in Watershed.* This is essentially the same issue as #4 but applied to the watershed as a whole. See response to #4.
7) *Changes in Operations of Waterworks.* The EPA has no information on planned changes in flow management. EPA is not willing to speculate how such hypothetical changes might affect Dixie Drain conditions.
8) *Concentrations of Phosphorus in Dixie Drain.* While some groundwater samples near the Dixie Drain project area show unusually high phosphorus concentrations, individual samples may not be representative of overall groundwater inputs to Dixie Drain and/or the Boise River. The model handles groundwater as a watershed input. Consequently, the model does not employ specific groundwater values for sites such as the Dixie Drain project area. The estimated groundwater phosphorus concentration in the model (250 – 260 ug/L) represents the average concentration across the watershed. This assumed groundwater concentration is reasonable based on the general agreement we see between what the model predicts and the measured phosphorus concentrations at Parma.

23. Comment (IRU): Neither of the flow scenarios modeled in the undated Fact Sheet, Appendix D, Predicted Effects of Dixie Drain Facility on Phosphorus Concentrations in the Boise River, represent critical conditions at the West Boise outfall. Under critical conditions (30Q10), determined in the Oct. 17 Fact Sheet, Table 4, to be 220 cfs, using the West Boise discharge and concentration of Scenario C70 (current effluent volume, no offset) would result in a phosphorus concentration in the Boise River of 28 µg/L. Using the offset Scenario C350 (current effluent volume, with offset) would result in a concentration of 70 µg/L.

Response: The EPA has conducted a separate analysis of local impacts near the West Boise outfall to assure that the proposed discharge will not elevate the phosphorus concentration above 70 ug/L in the south channel of the Boise River. This analysis focuses on critical low flow conditions at this location, which were used to back-calculate the proposed limits.

The mass balance model (Appendix D) of the entire river is focused on low flow conditions at Parma, which occur at a different time of the year (July/August) than low flow conditions at West Boise (September). The purpose of this model is to provide estimates for the impact of the Dixie Drain project on conditions throughout the river, but with a particular focus on low flow conditions in the vicinity of Dixie Drain. The reason that the river model predicts a lower phosphorus concentration than 70 ug/L is that the flows in July/August are higher at the West Boise location, and this dilutes the treatment

plant discharge more at this time of year than in September.

The EPA believes the two analyses are separate but complementary, providing local and broader scale information pertinent to the proposed permit.

24. Comment (IRU): **Determination of Low Flow at Outfall 1**

Section III B of the Oct. 17, 2011 Fact Sheet explains how low flow conditions at West Boise were determined. The flow calculations explained in the Fact Sheet are not the same as the flow calculations in the model used for Appendix D - Predicted Effects of Dixie Drain Facility on Phosphorus Concentrations in the Boise River.

Response: This is correct. See response to Comment 23.

25. Comment (IRU): Has EPA determined if the proposed modified phosphorus effluent discharge will elevate phosphorus levels in the Phyllis Canal compared with the existing permit limits?

Response: Phyllis Canal is a diversion from the mainstem downstream of West Boise. Compared with current conditions, concentrations in Phyllis Canal, will be drastically reduced under the new permit.

26. Comment (IRU): The calculation used to determine the 30Q10 quantity used in the permit modification adds 9.7 MGD of groundwater to the flow between the Glenwood Monitoring Station and West Boise outfall and subtracts 29 cfs for irrigation diversions in the same reach. In Appendix D, no groundwater is added to the river and only 17 cfs are subtracted.

Should this difference be reconciled to accurately establish flow-based limits and predicted impacts of the proposed offset?

Response: Again, the local analysis and larger scale river analysis in Appendix D are focused on different questions. The small-scale analysis near the West Boise facility was instrumental to setting permit limits, so it has more detail than the river model in Appendix D. The groundwater inflow in the local analysis is omitted in the river model in Appendix D, as noted in the comment. However, adding this very small input compared to the much larger mainstem flow would not significantly change the model prediction for total phosphorus concentration. In addition, unlike the local analysis, the river-wide model results are informational only and have no effect on the effluent limit calculation for the permit.

The local analysis is focused on lowest instream flows, and the assumption of higher values for irrigation withdrawals aligns with that purpose. The values for the Appendix D modeling are tied to specific periods (July 2001 and August 2000) and the diversions are variable.

The EPA does not believe the differences in local and river-wide analysis are significant. In addition, the differences cannot be eliminated because the analyses have different purposes, methodologies, spatial scales, and locations of interest in this highly variable river. The EPA believes the flow and phosphorus estimates from both analyses are reasonable based on available information.

The EPA notes that the U.S. Geological Survey is conducting a monitoring and modeling

study to develop an improved mass balance model, and we expect these improvements to reduce the uncertainty in location and magnitude of groundwater and tributary inflows and outflows. This new research, once completed, will improve the accuracy of future river models.

27. **Comment (Greenleaf)**: The City of Greenleaf is not fully considered in EPA's assessment. It is concerning that appropriate consideration of Greenleaf was not evident in the analysis by EPA. Greenleaf is not shown on the map I of the Fact Sheet or discussed in the modeling. Considering Greenleaf's proximity to Boise's Dixie project, it would seem appropriate that the analysis include a complete assessment of Greenleaf and other watershed features that may influence the discharge and water quality in the "Dixie drainage area".

    Response: The mass balance model (Appendix D) is focused on low flow conditions which occur in July and August. The City of Greenleaf does not discharge during the critical May 1 – Sept 30 period including July and August. Therefore the City is not a factor in the Appendix D mass balance and does not need to be included. Further, if the City chooses to discharge during the critical period, the NDPES permit requires the discharges to achieve the in-water target of 70 µg/L.

Other Required Permits

28. **Comment (ERG)**: The City of Boise has applied for a water right permit from the State of Idaho to diverge 200 cubic feet per second ("cfs") for the purpose of phosphorus removal at its proposed Dixie slough offset project. The City's water right permit application has been protested by several parties and a pre hearing conference is schedule for January 17, 2013, before the Idaho Department of Water Resources ("IDWR"). It is very possible that a final decision on the City's water right permit application may not be obtained for many month, if not years or longer. EPA's proposed Modification decision does not take into account the status of this water right application and the possibility that it may not be approved in whole or in part for a year, or longer, if at all.

    While the design flow rate is "up to 200 cfs," the City has not identified a specific target flow rate or efficiency it plans to operate under. If a water right is not issued for this amount, the offset project may not be able to meet its anticipated phosphorus removal target. Accordingly, approval of the Modification should not occur until IDWRs decision on the water right application is final.

    Additionally, other permit approvals may also be required for implementation of the Dixie Slough offset project. These may include, but are not limited to, such permits as a Clean Water Act § 404 permit for construction for the diversion and discharge felicities in the Dixie Slough and, also, for the ponds and other facilities associated with the offset proposal. Further, a County conditional use permit may be required. Also, National Environmental Policy Act ("NEPA") review could apply to Modification approval. EPA's proposed Modification decision does not take into consideration additional regulatory requirements that may apply to the project, the extent to which they are likely to be approved and the timing required for such approvals.

    Response: The City is responsible to obtain any required permits for either the treatment system at the West Boise Facility or at the Dixie Drain Treatment Facility. Condition

I.C.4. Task 3 of the compliance schedule requires the City to provide the EPA with written notice that all necessary permits are received. If for some reason, the City is unable to operate the Dixie Drain facility, the offset will not be available, and the City will be required to meet an average monthly limit of 70 µg/L at the West Boise Facility. NEPA review is not required because the Dixie Drain Facility is not a new source or new discharger.

29. Comment (IRU): Modification for Cause Section Q (2) and (5) are unnecessary and should be eliminated.

Response: When a permit is modified, only the conditions subject to modification are reopened (see 40 CFR §122.62). Conditions Q(2) and (5) are from the reissued permit (issued March 15, 2012). That language was not reopened as part of this modification.

30. Comment (ERG): The City's NPDES permit is issued only for five years, yet the Dixie Slough project is expected to operate well beyond that as it is expected to operate only on an interim basis until 2017. Further, the 10 year compliance schedule for phosphorus also inappropriately extends beyond permit lifespan. How can the current permit authorize a project that is not expected to be fully implemented until long after it expires? Accordingly the offset project should not be incorporated into the current permit, but deferred to a subsequent permit.

Response: The 10-year compliance schedule for achievement of the final total phosphorus effluent limit was provided in the existing permit. That final date of compliance was not reopened with this modification. However, the EPA regulations do not preclude the EPA from including compliance schedules that extend beyond the term of the permit. (See schedules of compliance in the federal NPDES regulations at 40 CFR 122.47 and Section 400.03 of the Idaho Water Quality Standards.) Further, the EPA's memo on compliance schedules (*Compliance Schedules for Water Quality Based Effluent Limits in NPDES permits*, May 10, 2007) recognizes that compliance schedules can be longer than 5 years stating: "… Any compliance schedule that extends past the expiration date of a permit must include the final effluent limit in the permit in order to ensure enforceability of the compliance schedule as required by Clean Water Act section 502(17) and 40 CFR 122.2 (definition of schedule of compliance)."

The EPA believes it is appropriate to incorporate the Dixie Drain project in this permit cycle. The Dixie Drain facility is being constructed to provide compliance with the final total phosphorus effluent limits. When the compliance schedule is longer than 1 year, federal regulations require that the schedule set forth interim requirements and the dates for their achievement. The interim milestones for the Dixie Drain project are within the 5-year permit term. Further, the City must begin removing total phosphorus from Dixie Drain by May 1, 2016, which is within the 5-year term of this permit. Although the Dixie Drain Facility will begin removing phosphorus during this permit cycle, the City may not use that phosphorus removal to offset interim phosphorus effluent limits at the West Boise Facility, only the final phosphorus effluent limits.

In addition, this is a pilot project; the EPA recognizes the stakeholder interest in this project. Therefore, the EPA believes it is appropriate to provide opportunity for public input on this project at this time.

Sludge Management

31. Comment (ERG): ERG raises several question related to how the sludge will be managed. Specific comments are below.

How will this sediment and sludge be managed consistent with applicable solid waste requirements?

Will some or all of the sludge be classified as a solid or hazardous waste? The City should determine whether the sludges and sediments that will be generated and periodically removed from the site will be classified as solid or hazardous wastes and how they will be managed consistent with applicable environmental requirements.

Management of the anticipated huge amount of sludge and sediments on such a small site is a significant undertaking. Additionally, while the City plans to clean out the ponds in the off-season, it does not address how it will undertake this work with water from the high water table present in the ponds. Does the City plan to de-water the ponds to perform this work? If so how will it do this?

Calculations based on USGS measured flows and sediment in the Dixie Drain indicate that the proposed project will generate about 10,000 tons of suspended sediment a year from solids settling out of probably in excess of another 21 acre feet of flocculent laced sludge per year. Based on an average total suspended solids ("TSS") concentration of 68 mg/l, the Dixie Drain will produce approximately 5,000-10,000 tons of suspended sediment per year, or over 6 acre feet of sediment. The sediment produced by the Dixie Drain typically ranges from 10 tons per day to 67 tons per day and has been reported to be as high as 460 tons per day. The sediment produced actually could easily exceed 10,000 tons/year with the majority produced during the growing season. The City's design does not consider higher average suspended sediment concentrations or peak suspended sediment concentrations that are known to sporadically occur in the Dixie Drain.

High levels of TSS will significantly affect flocculent volumes and increase the operational costs associated with sediment removal in the sediment basin and wetland. Peak TSS has been recorded by the USGS at 460 mg/l or 460 tons /day, which is 10 times the City's stated average. The sediment volume anticipated to be generated in a single season could reach 10,000 tons/season, or approximately 6 acre sediment basin contains insufficient storage (4 acre feet) to manage typical and peak sediment loads observed in the Dixie Drain. This maintenance requirement would result in increased costs for sediment management.

Additionally, Boise's design and loading model does not address the sediment that will be produced and the associated phosphorus that will be removed during settling, prior to chemical treatment. This insoluble phosphorus that will be removed by the settling of solids has not been considered in the design of the City's system or in its mass balance analysis.

A considerable amount of alum sludge (approximately 21 acre feet, or over 30,000 tons based on Pilot Plant Study 1 results) will require dewatering each year on a 10 acre plot of land. Additional unspecified costs will be incurred for offsite transportation and disposal of this material. Settling basins that are deeper than a few feet will encounter

shallow groundwater and, thus, likely will never dry, limiting equipment access to the ponds. Dewatering the pond area would involve considerable cost and effort. The limited area of the sediment and flocculent ponds will result in intensive maintenance for removal of suspended sediment and flocculent sludge. When and how will the sediment and sludge be removed from the ponds if the facility is to operate continuously year-round?

EPA's proposed permit Modification does not address specifically how this much sediment and sludge, amounting to approximately 20000 semi-truckloads a year (20 tons /load), will be managed to limit adverse effects on the environment. How this will be handled needs to be addressed in the permit Modification. It is suggested that the flocculent will be removed prior to discharge of the treated water back into the Dixie slough. However, again, it is not clear what will happened with this spent flocculent after it is removed. How will it be properly managed to avoid impacts to the environment?

Response: This permit modification is limited solely to the Dixie Drain effluent, and it is not tied to domestic sewage treatment. The EPA Region 10 uses separate NPDES permits to permit wastewater effluent and domestic sludge (i.e. biosolids). Sludges generated in the wetlands are not "sewage sludge" as that term is used in EPA's sludge management regulations. Management and disposal of these sludges are therefore not regulated under the NPDES permit.

32. Comment (ERG): The City recently performed a second plant pilot study as a follow-up to the earlier Brown and Caldwell pilot plant study. However, the City provided no analysis about how the results of the second pilot plant study relate to the proposed design and were used to predict project success. For instance, the City did not address the hydraulic retention times, as determined in the pilot plant study, that would be required for optimum phosphorus removal or the operating flows and efficiencies at which the project could be expected to successful operate relative to the results of the pilot test.

The City also did not extrapolate from the pilot plant study whether the project could be expected to successfully operate and the parameters at which it could be expected to operate, such as sediment and sludge production rates. These are the essential reason for conducting pilot plant study, yet the record is devoid of any analysis in this regard.

Further, without explanation, the City chose not to incorporate the Brown and Caldwell design recommendation resulting from the first pilot plant study into its project design, In summary, the record does not reflect any connection between the pilot plant studies and the City's project design decisions and project performance expectations.

Response: Specifics on the pilot plant studies and the connection to the City's project design are details that are not reviewed under this NPDES permit action. In addition to the effluent limits, monitoring and reporting requirements, the permit includes standard conditions that support the permit conditions, for example the permit requires proper operation and maintenance.

Operation and Maintenance

33. Comment (ERG): The proposed permit modification indicates that an operator will check the site only once a week. A site handling this much water unsupervised most of the time poses safety risks and also increases the likelihood of treatment upsets and

unintended discharges to the Dixie Slough. Someone should be checking the site at least daily to make sure that the facility is operating properly. Analogously, Idaho's Wastewater Rules require that owners of public wastewater systems be placed under the responsible charge of a licensed operator and where the responsible charge operator is not available, a substitute responsible charge operator designated to have a daily on-site and on-call presence IDAPA 58.01.16.010.70&.80 and 58.01.16.203.

Response: The permit requires proper operation and maintenance of the system. This requirement applies 24 hours a day, 7 days per week. It is the responsibility of the permittee to comply with this permit condition.

34. Comment (ERG): The proposed EPA permit Modification does not address what happens if the project does not meet its phosphorus removal target. What is the alternative if the project does not meet its phosphorus requirements? An alternative should be identified prior to approval of the permit Modification.

Response: The permit requires compliance with the effluent limitation of 70 µg/L. If the City fails to meet its phosphorus removal requirements, it will be subject to penalties for failure to comply with its permit. If the City cannot meet its removal requirements at the Dixie Drain project, it will be required to further reduce phosphorus discharges at the West Boise Facility (outfall 001).

Treatment Plant Efficiency

35. Comment (ERG and IRU): There were several comments regarding treatment plant efficiency.

ERG

ERG has 313 acres near the City of Boise's Dixie slough property on which it also proposed to develop a phosphorus and sediment removal project. However, the City of Boise's proposal to utilize 200 cfs of the Dixie Slough would effectively require the entire flow of the Dixie Slough and potentially eliminate ERG's project. The city should be required to operate their project at a higher efficiency, thereby removing more of the phosphorus at a lower design flow, such as 100 cfs and allow other municipalities and ERG to treat the other 100 cfs flow rate with 70 % efficiency. This approach would preserve additional offset options for other cities, such as Meridian, which EPA had indicated is an important regulatory objective. *See* EPA internal Draft, "Dixie Drain Project Outline" (updated January 26, 2012) at 1.

Is EPA taking this objective into account in its approval of minimal design efficiency for the Modification?

IRU

With regards to the Dixie Drain, the City proposes to sequester 85% of the load, but only remove 25% - 50% of the load. If the City diverted less water and treated to a higher efficiency, the opportunity would remain for other interested operators to remove phosphorus load from the Dixie Drain, reducing loads more than the City is prepared to do alone.

ERG

The target removal efficiency of 40% is inconsistent with the City's own data which indicates that much higher removal efficiency is achievable. The City's modeling assumes the entire 200 cfs of the water right with a phosphorus removal rate of 40 % although pilot studies have identified removal efficiencies between 64% and 92%. This suggest that the city will be taking all of the Dixie Slough water, only removing 40% of the phosphorus load and dumping the remainder back into the slough. It also is noted that estimated efficiencies between 64% and 92% represents a large range. The achievable efficiency should be better defined and the project should be designed to operate at the higher end of the efficiency scale for maximum environmental benefit.

Response: The permit does not require a minimum design efficiency of the Dixie Drain Facility for phosphorus removal. The offset permit conditions for phosphorus were developed to meet the water quality based effluent limit for total phosphorus required for the West Boise Facility.

Other Projects to Treat the Dixie Drain

36. Comment (ERG): Ultimately, the project should be put out for private bid to determine whether the project can be done more cost effectively by private parties, thus potentially allowing for a higher trading ratio.

Response: See response to comment 37.

37. The City's justification for requesting a seasonal phosphorus limit appears to be cost. However, it appears that if the City had more land area for its phosphorus offset project, phosphorus removal could be done more cost effectively and a seasonal limit would not be necessary. If the City of Boise had more land and could treat the water in larger ponds with a higher retention time, it is possible that use of a flocculent could be reduced, or even possibly eliminated.

Response: The permit modification is based on the City's materials submitted for the Dixie Drain Facility as described in the fact sheet. Proposed designs by ERG are outside the scope of the modification.

Project Costs

38. Comment (ERG): It appears that the project's cost estimates are highly variable. Estimated costs increased by 27 million in the year and a half between Brown and Caldwell's Technical memorandum [No. 2}, Subject: Dixie Drain Phosphorus Removal Project, Update Concept Plan Base on Pilot Test Results (January 31, 2011)" and the September 18, 2012, letter from the city to EPA. Even recent contemporaneous documents exhibit a wide range of project costs estimates. A two page document appearing in the record of this matter entitled "Offset Option- Scenario 1," identifies the 20-year net present value to approximately$38,000,000. However, the September 18, 2012, letter from Paul Woods of the City of Boise to Susan Poulsom of EPA, identifies the 20 year net present value to be approximately $47,000,000. On the other hand, the January 31, 2011, Brown and Caldwell report (at page 51) provides a $20,000,000 20-yr net present value estimate. This dramatic difference in estimated costs raises questions about the accuracy of the estimates. Further, it is noted that the operation and maintenance estimates appear to represent a large portion (over 50%) of the projected costs.

Brown and Caldwell's Technical Memorandum [No. 2] Subject" Dixie Drain Phosphorus Removal Project, Updated Concept Plan Based on Pilot Test Results (January 31, 2011)" broke out sediment removal and flocculent-laced sludge management costs separately. However, the later two page comment entitled "Offset Option – Scenario 1," only includes the flocculent–laced sludge removal costs. Since the project will produce both sediment and sludge that needs to be removed, the costs for the removal of both sediment and sludge should be included in the final cost figures, but apparently are not.

Additionally, the later sludge removal costs do not appear consistent with the Brown and Caldwell reports' estimate of 21 acre feet of annual sludge removal required, providing instead for only 6400 tons of annual sludge removal. Also, the Brown and Caldwell report had different figures for the PAC flocculent option than the offset Option – Scenario 1"document. Why are there such dramatic discrepancies in the figures?

Response: The required offset ratio in the permit represents a favorable environmental benefit for this particular situation and provides more phosphorus removal compared to end-of-pipe water quality-based effluent limits at the West Boise Facility alone. Region 10 did not consider the cost of the treatment option that the City is proposing in assessing whether it met the requirements of the CWA.

Public Hearing Request

39. Comment (ERG): ERG respectfully requests a public hearing to address the matters identified in these comments.

Response: This was the only request for a public hearing that the EPA received for this permit. The EPA did not believe that this matter necessitated a public hearing, and therefore elected not to hold a public hearing for this permit modification. A public hearing is a formal opportunity for the public to present comments and oral testimony on a proposed agency action. It is not a forum during which the EPA addresses matters raised during the public comment period. To ensure sufficient opportunity for public input, the EPA elected to extend the public comment period.

Year Round Operation of the Offset Project

40. Comment (ERG): What is the technical basis for seasonal limits? Should the offset project operate year-round from the outset?

Response: The basis of the seasonal effluent limitation for phosphorus is the instream target for phosphorus in the *Snake River Hells Canyon TMDL*. The instream target for phosphorus is 70 µg/L seasonally from May 1 through September 30. Therefore the West Boise and Dixie Drain Facility limits are seasonal for this same period.

41. Comment (IRU): Of concern is the seasonal nature of the proposed offset. Levels of phosphorus exceed 70 µg/L year round, and projects that are designed to reduce phosphorus loading to the Boise River year round need to be encouraged.

Response: The EPA acknowledges that the available data indicate the potential need for year round limits. The EPA expects that the need for year round limits will be addressed in the Lower Boise TMDL which will be submitted to EPA in Spring 2014.

42. Comment (Meridian): The City of Meridian supports mass-based effluent limitations

and seasonal limits, as specified in the City of Boise's compliance schedule. Seasonal limits for non-toxic constituents, including phosphorus, are protective of water quality as demonstrated by EPA's approval of seasonal limits in other NPDES permits; for example, City of Boise's Table 3 in the NPDES permit and Spokane County NPDES permit WA-0093317.

Question: What is the rationale for the City of Boise's permit including average monthly and average weekly concentrations and load limits for total phosphorus?

Response: The federal regulations at 40 CFR §122.45(f) require that POTW limitations be expressed as mass-based limits. The federal regulations at 40 CFR §122.45(d)(2) require that POTW limitations be average weekly and average monthly limits. The phosphorus effluent limitation is expressed as a concentration because the target for the Boise River is expressed in the Snake River/Hells Canyon TMDL as a concentration target.

43. Comment (CJ): The Center for Justice specifically adopts by reference and incorporates the comments submitted by Idaho Rivers United on the proposed permit modification.

Response: Comment noted.

44. Comment (ICL): Please correct an error in I.F. (5). The Quality Assurance Plan is required under Part I.M.

Response: The EPA agrees and the reference to the Quality Assurance Plan in I.F. (6) for the Dixie Drain Facility monitoring is corrected to Part I.M.

45. Comment (ICL): I.F. (5) indicates that Quality Assurance Plan requirements apply to the Dixie Drain Facility, but those requirements at Part I.M. are that the QAP be "developed and implemented within 90 days of the effective date of this permit." That may be premature for the Dixie Drain Facility. When is the QAP for the Dixie Drain Facility required to be developed and implemented?

Response: Monitoring discharges from the Dixie Drain Facility must begin when discharges begin. To clarify, that permit condition (now Condition I.F.6.) is modified as follows to specify that the QA/QC procedures for the Dixie Drain Facility monitoring be documented prior to compliance monitoring:

> "6. Samples must be analyzed for the parameters listed in Table 7A. Quality assurance/quality control procedures for all the monitoring must be documented in the Quality Assurance Plan required under Part I.M. prior to compliance monitoring."

46. Comment (ICL): The Dixie Drain Facility Compliance Schedule includes a requirement for completion of the "Operation and Maintenance Manual for the Dixie Drain Facility," but Part I.O. appears to apply to West Boise and not Dixie Drain. For example, where is the aforementioned Plan required to be retained and are BMPs to be included?

This begs the question of the applicability of all the rest of the requirements in the permit to the Dixie Drain Facility. It may be best to provide more detail as to what is required of the City under the modified permit.

Response: The requirements for the Dixie Drain Operation and Maintenance plan have been added to Part I.B.6. *Dixie Drain Offset*, of the final permit.

The applicability of the QAP and the O&M Plan have been clarified in the final modification. The standard conditions of the permit (Parts II and III) remain the same and apply to both facilities.

47. Comment (ERG): The relatively high water table in the area, coupled with the planned depth of the ponds means that the pond could raise the water table in the area, causing damage to other nearby properties. Has the City adequately addressed the possible impacts of the project on the water table level?

Response: Impacts on the water table level are outside of the scope of the NPDES permit issuance process. Groundwater is not regulated under the NPDES program.