



Finding of No Significant Impact

**Shakerag WRF Discharge Right-of-Way Request
Forsyth County, Georgia
PEPC Project # 23722
August 2011**

Introduction

This finding of no significant impact (FONSI) and the Shakerag Water Reclamation Facility Discharge Right-of-Way Request Environmental Assessment constitute the record of environmental impact analysis and decision-making process for the Chattahoochee River National Recreation Area (CRNRA, or Recreation Area) project. The National Park Service will implement the selected alternative (Alternative G: Surface Water Discharge to the Chattahoochee River), which entails the granting of a right-of-way (ROW) permit for the installation and operation of a discharge diffuser in the bed of the Chattahoochee River within the boundary of CRNRA.

The ROW would be used by the Forsyth County Water and Sewer Department (FCWSD) to install an underground outfall diffuser pipe system in the bank and bed of the Chattahoochee River just north of McGinnis Ferry Bridge. The cascade diffuser would be located between river miles 340 and 341 and would discharge from the proposed Shakerag Water Reclamation Facility (WRF). The Shakerag WRF would be constructed near the existing Threatt Land Application System (LAS) and outside of the river buffer in southern Forsyth County. Once the Shakerag WRF is fully operational, use of the existing LAS would be discontinued.

The FCWSD was initially permitted by the Georgia Environmental Protection Division (GA EPD) to discharge up to 6 million gallons a day (mgd) of reclaimed water from the proposed Shakerag WRF and the existing Fowler WRF to the Chattahoochee River in August of 2010. The appendices to the EA provide a copy of the year-round wasteload allocation (WLA) FCWSD and initial 2010 permit received from the GA EPD for the proposed discharge (GA EPD #23-123). An appeal of the 2010 National Pollutant Discharge Elimination System (NPDES) permit resulted in Administrative Law Judge Kristin L. Miller remanding the permit to GA EPD for reissuance in 2011 with revised monthly average discharge limits of 23 cfu/100 ml for fecal coliform bacteria and 0.08 mg/l for total phosphorus¹.

This Finding of No Significant Impact (FONSI) documents the alternatives considered, the criteria for selection of the preferred alternative and why the selected action will have no

¹ Final Decision, Office of State Environmental Hearings, Docket No.: OSAH-BNR-WQC-1107476-60-Miller, June 1, 2011.

significant effects on the human environment. The document includes a determination of no impairment as required by the NPS Organic Act of 1916, which can be found in Attachment A, and a Statement of Findings for Floodplains and Wetlands, per Executive Order 11988 (Floodplain Management) and Executive Order 11990 (Wetland Protection), which can be found in Attachment B. Responses to substantive comments are included in Attachment C, and an errata sheet documenting changes to the Environmental Assessment is included in Attachment D.

The errata sheet documents revisions to the September 2010 EA in response to the court ruling. The reissued NPDES permit will lower the monthly average discharge limits allowed for fecal coliform bacteria and total phosphorus that were presented in the EA; therefore, potential impacts from the Proposed Action are anticipated to be less than considered in the impact analysis in the EA.

Selected Alternative

Based on the analysis presented in the EA, the NPS has selected Alternative G: Surface Water Discharge to the Chattahoochee River as the selected alternative. This alternative consists of the granting of a right-of-way permit to FCWSD for the installation and operation of a discharge diffuser in the bed of the Chattahoochee River between river miles 340 and 341. Once installed, the diffuser would discharge up to 6.0 mgd of reclaimed water to the Chattahoochee River.

The purpose of granting a right-of-way permit to FCWSD is to allow Forsyth County to increase the capacity and operational flexibility of its beneficial reuse system, consistent with the state of Georgia's recognition that the return of high-quality reclaimed water to waterways is preferable to alternatives, such as land application and septic systems, which result in consumptive use. The return of reclaimed water to the Chattahoochee River will augment stream flows for downstream users and also reduce the amount of water lost through inter-basin transfer.

The components of the diffuser are described in the Shakerag WRF and Chattahoochee River Diffuser Design Development Report (CH2M HILL, 2005a) and in the Construction Design Specifications. The following facilities are proposed to be constructed and operated by FCWSD within the proposed ROW:

- An approximately 100-foot by 10-foot open trench would be cut excavated in the river bottom at the diffuser site.
- A total of 100 feet of 36-inch-diameter High Density Polyethylene (HDPE) pipe would be installed.
- The diffuser would occupy the last 77.5 feet of pipe with 10 ports (6-inch diameter) located at a spacing of 7.5 feet center to center.
- A 56-inch by 56-inch box of concrete would encase the entire length of 36-inch HDPE pipe, anchoring it and protecting it. This anchor would be constructed of concrete, rebar, and epoxy grout and would rest within a 4-foot deep trench drilled into the bedrock.

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- After the diffuser is secured to the bedrock, it would be covered with 40 cubic yards of granular fill. The diffuser ports would protrude approximately 6 inches from the river bed.

Mitigation Measures

Mitigation measures and best management practices (BMPs) have been incorporated into the selected alternative to avoid or reduce impacts as part of the proposed action. Some or all of the following BMPs would be implemented as part of the proposed action to lessen the potential adverse effects of the selected alternative:

- All work associated with the pumping facilities and pipeline would be performed in accordance with Forsyth County plans for stormwater management and environmental controls, which would incorporate these and additional site-specific BMPs consistent with the Manual for Erosion and Sediment Control in Georgia (Georgia Soil and Water Conservation Commission, 2000), the Field Manual for Erosion and Sediment Control in Georgia (Georgia Soil and Water Conservation Commission, 2002), and the January 1, 2009, updates to the Manual for Erosion and Sediment Control in Georgia (Georgia Soil and Water Conservation Commission, 2009).
- After the diffuser is secured to the bedrock, the original excavated sediment would be used to return the disturbed area to the pre-construction river bottom elevation resulting in a negligible loss of wetlands and their functions.
- Wetlands within the construction area, the Chattahoochee River, would be isolated by silt fencing to prevent ingress of sediment. Fuel for construction vehicles would not be stored onsite.
- Existing vegetation would be removed only as required during initial site preparation operations. Areas would be graded to match pre-construction conditions, where feasible. Final site restoration would include seeding all disturbed areas where maintained grass was present prior to construction activities or surfaced with crushed aggregate. Only native plant seed mixtures approved by CRNRA staff would be used. Any areas that were natural prior to construction activities would be rehabilitated using appropriate native plant materials approved by NPS. All disturbed areas would be stabilized as soon as practical to further limit erosion.
- All construction entrances would be provided with stabilized stone traps to limit tracking of sediment offsite. Sediment traps (silt fencing) would be established around the perimeter of construction areas for sedimentation and erosion control. Forsyth County would have an inspector who is certified through the State of Georgia Erosion and Sediment Control Education and Training Certification Program overseeing the installation of silt fencing. The silt fencing would be maintained by Forsyth County through the duration of construction activities and removed from the site at the end of construction and revegetation activities.

- During in-river construction (aquatic land) activity using a temporary cofferdam, turbidity curtains would be used to encircle the intake and discharge structures during placement into the river bed and connection to intake and discharge piping.
- Highly visible warning signage will be posted upstream of the project site on the river bank and at common access points to ensure visitors are aware of the construction activities associated with the selected alternative.
- A corridor along the eastern side of the river will be maintained for downstream boat travel during construction, except when a complete closure is required for public safety. Forsyth County will attempt to complete construction activities during the recreation off season in the months of November through April.

Other Alternatives Considered

In addition to the selected alternative, the EA included an analysis of the no action alternative. Under the no action alternative, no right-of-way permit for installation and operation of a diffuser pipe would be issued, eliminating the possibility of discharge into the Chattahoochee River. This alternative would not allow Forsyth County to expand its treatment capacity, and any future growth would rely on additional onsite systems for wastewater disposal. Given that withdrawal from the Chattahoochee River basin would continue to increase as Forsyth County's population expands, the no action alternative would contribute to depletion of the basin's water supply and increase inter-basin transfers of water.

Alternatives Considered But Dismissed

Five other alternatives were initially considered in the EA but ultimately dismissed from further analysis because they did not meet the need and purpose of the project or were economically or technically infeasible. The dismissed alternatives are briefly described in the following table.

| Alternative | Description |
|--|--|
| B - Land Application System | Alternative B would not meet the project needs because there is not enough suitable property for creation or expansion of a land application system with adequate capacity to accommodate the discharge from the Shakerag WRF. |
| C - Blended Reuse | Alternative C would not meet the project needs, because it is not economically feasible and would have high environmental impacts. |
| D - Direct Reuse | Alternative D would not meet the project needs because of the high cost of implementation and the lack of a regulatory framework. |
| E - Surface Water Discharge to Big Creek | Alternative E would not meet the project needs, because the waste load allocation for Big Creek has already been completely allotted and any new discharge would further deteriorate water quality and would not be permitted. |

| Alternative | Description |
|---|---|
| F – Surface Water Discharge to Etowah River Basin | Alternative F would not meet the project needs, because it would increase inter-basin transfer and would require costly infrastructure that is not economically feasible. |

Environmentally Preferred Alternative

The environmentally preferred alternative is defined by the Council on Environmental Quality regulations as “the alternative that will promote the national environmental policy as expressed in the National Environmental Policy Act [Section 101 (b)].” Section 101 (b) defines six criteria used to determine the environmentally preferred alternative. The environmentally preferred alternative should:

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. Assure for all generations safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
3. Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
4. Preserve important historic, cultural, and natural aspects of our national heritage and maintaining, wherever possible, an environment that supports diversity and variety of individual choice;
5. Achieve a balance between population and resource use that would permit high standards of living and a wide sharing of life’s amenities; and
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources (NEPA, Section 101).

Simply put, this means that the environmentally preferred alternative is the alternative that causes the least damage to the biological and physical environment while providing for a wide range of beneficial uses and achieving a balance between population and resource use; it also means it is the alternative that best protects, preserves, and enhances historic, cultural, and natural resources.

The selected alternative was identified as the environmentally preferred alternative because it addresses the policy considerations delineated in Section 101 of NEPA. Although the discharge would have minor adverse impacts to water quality and aquatic resources due to slight increases in temperature within the immediate vicinity of the diffuser, overall the selected alternative achieves a balance between population and resource use. Short-term moderate impacts to recreational activities in the Chattahoochee River and in the CRNRA would occur during construction due to the need to use a coffer dam; however, there would be only minor impacts from use of the ROW during operation of the project. By focusing on beneficial reuse of reclaimed water, the proposed action is the alternative that causes the least damage to the biological and physical environment and that best protects, preserves, and enhances historic, cultural, and natural resources over the long term by minimizing

inter-basin transfers, reducing consumptive uses, and augmenting water for downstream uses.

Why the Selected Alternative Will Not Have a Significant Effect on the Human Environment

As defined in 40 CFR § 1508.27, significance is determined by examining the following criteria:

Impacts that may have both beneficial and adverse aspects and which on balance may be beneficial, but that may still have significant adverse impacts which require analysis in an EIS.

The selected alternative will not result in major or significant impacts that will require analysis in an EIS. As described in the EA, there will be short-term, minor, adverse impacts to vegetation; and long-term, negligible, adverse impacts to vegetation and terrestrial wildlife from the removal of vegetation within the right-of-way and other disturbances caused by construction activities. Impacts to aquatic resources, including trout due to the discharge of water that is warmer than ambient temperatures, will be minor and adverse. The impacts to special status species, either terrestrial or aquatic, from construction activities and operation of the diffuser will be negligible and adverse. Impacts associated with wetlands and floodplains from the installation and operation of the diffuser pipe in the bed of the river will be short-term, minor, adverse; and long-term, negligible, adverse. There will be short-term, minor, adverse; and long-term, negligible, adverse impacts to geology and soils due to cutting and grading activities along the bank of the river. Impacts to water quantity will be long-term, negligible, and beneficial due to the increased return of water into the river. The noise impacts from the operation of heavy equipment during construction will be short-term, minor, adverse; and long-term, negligible, adverse from the operation of the diffuser. The impact to visitor use will be moderate and adverse in the short-term due to construction activities in the river corridor, and negligible, adverse in the long-term due to operation of the diffuser.

Lastly, based on the analysis in the EA and subsequent information provided in the legal appeal of the state NPDES permit, impacts to water quality and water temperature will be long-term, minor to moderate, and adverse due to the discharge of water containing higher levels of fecal coliform and total phosphorous than the surrounding water column. Minor impacts to water quality were identified in the EA based on slightly detectable increases in fecal coliform and phosphorous levels that wouldn't compromise the continued attainment of state and federal water quality standards. Evidence presented in the legal challenge of the NPDES permit showed that, while state and federal water quality standards would continue to be met, increases in phosphorous levels at the originally permitted levels would be clearly detectable and therefore minor to moderate in intensity.

Degree of effect on public health or safety.

While the diffuser pipe will be located in a rapidly growing quadrant of the Atlanta region, the portion of the CRNRA that surrounds the area is less developed than areas located downstream and closer to the City of Atlanta. Visitor use in this segment of the CRNRA

primarily consists of fishing, boating, float-tubing, canoeing, and kayaking. The closest formal access point to the river is Settles Bridge located approximately 3 miles upstream; however, a new boat ramp is being installed approximately 1 mile downstream adjacent to McGinnis Ferry Road.

Potential safety issues related to construction activities will be addressed through the placement of highly visible warning signage posted upstream of the project site on the river bank and at common access points to ensure visitors are aware of the construction activities. A corridor along the eastern side of the river will be maintained for downstream boat travel during construction, except when a complete closure is required for public safety. To minimize impacts to visitors and potential safety issues, Forsyth County will attempt to complete construction activities during the recreation off season in the months of November through April.

Impacts to visitors during operation of the facilities covered by the Proposed Action were assessed under low flow conditions (650 cfs) in the EA to fully bracket all potential scenarios. Under low flow conditions, the river depth would be approximately 5.4 ft at the diffuser location, providing a minimum of 4 ft of clearance for boaters, which is sufficient to ensure safe passage of motorized watercraft.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

There are no historic resources, prime farmlands, wild and scenic rivers, or ecologically critical areas in the vicinity of the selected alternative. As described in the EA, no effect on cultural resources is expected from the implementation of the selected alternative, and no subsurface archaeological resources were identified within the project area.

As described in the EA and the floodplain and wetland Statement of Findings, impacts to wetlands from the diffuser and pipeline construction will be minimized by working within a coffer dam and utilizing all appropriate BMPs. Impacts related to construction activities will be short term and minor, with approximately 800 square feet of wetlands impacted through the installation of the diffuser pipe within the right-of-way. Further avoidance of impacts is not practicable because the design requires the diffuser to be located within the river channel.

Degree to which effects on the quality of the human environment are likely to be highly controversial.

The creation of a new point source discharge in the Chattahoochee River has engendered some controversy, particularly related to the levels of nutrient and bacterial loading allowed under the original NPDES permit approved by Georgia EPD. The permit was challenged in court by the Upper Chattahoochee Riverkeeper, a non-profit advocacy group, which resulted in a court ruling that the permit be remanded to the EPD for reissuance with reductions in the allowable limits for total phosphorous and fecal coliform bacteria. While the EA determined that there would be adverse impacts to water quality from increased levels of nutrients and bacteria, the effects on park resources and the human environment were not found to be highly controversial during the public scoping, preparation of the EA, or the public review period.

Degree to which possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks.

There were no highly uncertain, unique, or unknown risks identified during the public scoping, preparation of the EA, or the public review period.

Degree to which an action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

As described in the EA, the construction and operation of Forsyth County's new water reclamation facility is consistent with the Metropolitan North Georgia Water Planning District's Wastewater Management Plan. The plan provides a long-term, comprehensive framework and implementation schedule for new or upgraded wastewater treatment facilities required to meet the needs of 15 counties comprising the metropolitan Atlanta area. The selected alternative is consistent with the plan; however, because the Forsyth County facility is the only new facility included in the plan within the boundary of CRNRA, the issuing of a right-of-way permit neither establishes an NPS precedent for future actions with significant effects related to other wastewater treatment facilities, nor represents a decision in principle about a future consideration.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.

In the EA, the geographic scope of cumulative impact analysis for the selected alternative was established as the 48-mile Chattahoochee River corridor managed by CRNRA. The EA analyzed impacts of the proposed action and related actions to cultural resources (including historical and archeological resources), natural resources (including vegetation, terrestrial wildlife, and aquatic resources), special status species, wetlands and floodplains, geology and soils, water quality and quantity, noise, and visitor use. As described in the EA, the cumulative impacts of past, present, and future actions in the area, combined with the impacts of the selected alternative, are not anticipated to produce significant cumulative effects.

Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historic resources.

As described in the EA, the preferred alternative will not adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places or cause loss or destruction of significant scientific, cultural, or historic resources.

Degree to which the action may adversely affect an endangered or threatened species or its critical habitat.

As described in the EA, no state or federally protected species or potentially suitable habitat for protected species are located in the project area. Based on the results of field surveys and historical information, no special status species have been documented in the project area. Additionally, within the Chattahoochee River corridor, no protected aquatic species or their potentially suitable habitats were identified within the reach downstream of the

proposed diffuser. Therefore, the selected action will have no effect on a threatened or endangered species or its critical habitat.

Whether the action threatens a violation of federal, state, or local environmental protection law.

The selected alternative does not violate federal, state, or local environmental protection laws.

Public Involvement and Agency Coordination

A summary of public concerns and the NPS responses are contained in Attachment C to this FONSI, and where necessary, errata to the EA are included in Attachment D.

Public Involvement

In accordance with the NPS guidelines for implementing NEPA, external (public and agency) scoping was undertaken to review the proposed action. As part of the NPDES permitting process, a public meeting was held on Thursday, November 17, 2005, from 7:00 PM to 9:00 PM in the Commissioners Chambers at the Forsyth County Administration Building, 110 East Main Street, Suite 150, Cumming, Georgia 30040. A public notice (attached, with affidavits, in Appendix D of the EA) was posted in the newspaper of record (Forsyth County News) every Wednesday for a period of 4 weeks. Four people attended the public meeting and no comments were received at the meeting or by telephone, mail, or email within the 30-day comment period.

In addition, the EA was made available to the public and resource agencies from September 30, 2010 to October 30, 2010 to solicit additional questions and comments. During that time, four pieces of correspondence were received, two of which supported the selected alternative and two of which raised questions regarding the validity of the NPDES permit issued by the Georgia Environmental Protection Division. Substantive comments received during the public review period are addressed in the attached errata sheet.

Agency Coordination

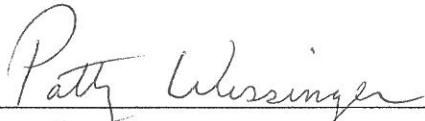
The following agencies were consulted during the preparation of this EA, previous planning efforts or associated permitting documents:

- Atlanta Regional Commission – Compliance with Metropolitan River Protection Act (MRPA).
- Georgia Department of Natural Resources Wildlife Resources Division (GDNR WRD).
- Georgia Environmental Protection Division (GA EPD) – Wasteload Allocation, Environmental Information Document, Anti-degradation Report, NPDES Permit, Stream Buffer Variance, and CWA Section 401 Certification.
- Georgia Mountains Regional Commission – Review of Developments of Regional Impact (DRI).
- United States Army Corps of Engineers (USACE) – CWA Section 404 Individual Permit
- United States Fish and Wildlife Service (USFWS) – Consulted as part of the Section 404 permit process, confirmed that it has no further comments under the Fish and Wildlife Coordination Act in August 2009.

Conclusion

Based on the following summary of effects, as discussed in the EA, it has been determined that the selected alternative would not have a significant impact on the human environment. Environmental impacts that could occur as a result of the implementation of the selected alternative are limited in context and intensity, with impacts that range from short to long term and negligible to moderate in duration and intensity. There are no unmitigated adverse effects on public health, public safety, threatened or endangered species, historic properties either listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative impacts, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or location environmental protection laws. Based on the foregoing, it has been determined that an Environmental Impact Statement (EIS) is not required.

Recommended:

 10-12-2011
Patty Wissinger, Superintendent Date
Chattahoochee River National Recreation Area

Approved:

 11-9-11
David Vela, Regional Director Date
Southeast Region, National Park Service

Attachment A

Finding of No Significant Impact

Shakerag WRF Discharge Right-of-Way Request

Impairment Determination

The Prohibition on Impairment of Park Resources and Values

NPS *Management Policies 2006*, Section 1.4.4, explains the prohibition on impairment of park resources and values.

While Congress has given the Service the management discretion to allow impacts within parks, that discretion is limited by the statutory requirement (generally enforceable by the federal courts) that the Park Service must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the Organic Act, ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.

What is Impairment?

NPS *Management Policies 2006*, Section 1.4.5, *What Constitutes Impairment of Park Resources and Values*, and Section 1.4.6, *What Constitutes Park Resources and Values*, provide an explanation of impairment.

Impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values.

Section 1.4.5 of *Management Policies 2006* states:

An impact on any park resource or value may, but does not necessarily, constitute impairment. An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park,
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- Identified as a goal in the park's general management plan or other relevant NPS planning documents as being of significance.

Impairment may result from NPS activities in managing the park, visitor activities, or activities undertaken by concessionaires, contractors, and others operating in the park. Impairment may also result from sources or activities outside the park, but this would not be a violation of the Organic Act unless the NPS was in some way responsible for the action.

How is an Impairment Determination Made?

Section 1.4.7 of *Management Policies 2006* states, “[i]n making a determination of whether there would be an impairment, an NPS decision maker must use his or her professional judgment. This means that the decision maker must consider any environmental assessment or environmental impact statements required by the National Environmental Policy Act of 1969 (NEPA); consultations required under Section 106 of the National Historic Preservation Act (NHPA); relevant scientific and scholarly studies; advice or insights offered by subject matter experts and others who have relevant knowledge or experience; and the results of civic engagement and public involvement activities relating to the decision.

Management Policies 2006 further define “professional judgment” as “a decision or opinion that is shaped by study and analysis and full consideration of all the relevant facts, and that takes into account the decision-maker’s education, training, and experience; advice or insights offered by subject matter experts and others who have relevant knowledge and experience; good science and scholarship; and, whenever appropriate, the results of civic engagement and public involvement activities related to the decision.”

Impairment Determination for the Selected Alternative

The determination on impairment has been prepared for the selected alternative, Alternative G: Surface Water Discharge to the Chattahoochee River. An impairment determination is made for all resource impact topics analyzed for the selected alternative. An impairment determination is not made for visitor use and public safety because impairment findings relate back to park resources and values, and these impact areas are not generally considered to be park resources or values according to the Organic Act, and cannot be impaired in the same way that an action can impair park resources and values.

CULTURAL RESOURCES

Alternative G will result in no direct or indirect impacts on known cultural resources in the park. With the understanding that the appropriate steps regarding accidental discovery of previously unknown archaeological resources will be taken, it is anticipated that no impacts on cultural resources would occur during construction activities.

Because there would be no direct or indirect, adverse impacts to cultural resources, Alternative G will not result in impairment of the park’s resources or values with respect to cultural resources.

TERRESTRIAL WILDLIFE AND VEGETATION RESOURCES

Implementation of Alternative G will result in short-term, minor, adverse impacts to vegetation; and long-term, negligible, adverse impacts to vegetation and terrestrial wildlife due to the removal of vegetation within the limits of the right-of-way. Crushing and trampling of vegetation will occur during construction activities by construction equipment, vehicles, and foot traffic. Although some permanent loss of vegetation will likely occur, the long-term impacts will be negligible because the affected area will be restored using native plants and grasses.

Because the impacts on terrestrial vegetation are minor and because partial clearing of terrestrial habitat will be mitigated through planned restoration activities using native plant material, Alternative G will not result in impairment of the park's resources or values with respect to vegetation and terrestrial wildlife.

AQUATIC RESOURCES

Alternative G will result in long-term, minor, adverse impacts on fish and aquatic resources. The operation of the diffuser will result in the discharge of water that is warmer than ambient temperatures, resulting in impacts to temperature-sensitive trout species. These impacts would be mitigated by the design of the diffuser ports, which promote rapid mixing of discharged water to limit the scope and intensity of warming effects. Modeling of the temperature effects associated with the discharge indicate that temperature increases will be minor and will not exceed standards for secondary trout streams nor reach temperatures detrimental to stocked trout or wild brown trout.

Because construction impacts will be temporary and because impacts to water temperature will be mitigated by the design of the discharge diffuser, there will be no impairment of the park's resources or values with respect to fish and aquatic resources.

SPECIAL STATUS SPECIES

Alternative G will result in no impact to federally-listed threatened or endangered species as no federally-listed species have been documented or have suitable habitat within the vicinity of the project area. Alternative G will result in short-term, negligible, adverse impacts from noise or disturbance of special status species within the general vicinity of the project area.

Alternative G will not result in impairment of special status species within the park because no special status species are present in the project area.

WETLANDS AND FLOODPLAINS

Alternative G will result in short-term, minor, adverse and long-term, negligible, adverse impacts on floodplains and riverine wetlands. During construction and installation of the diffuser pipe, 1,000 square feet (0.023 acres) of riverine wetlands will be adversely affected, and 800 square feet (0.018 acres) of riverine wetland will be permanently affected. Floodplain areas would be temporarily impacted by construction activities, but there will be no permanent changes to the floodplain. There will be no change in flood elevation, flood conveyance, or flood storage as a result of the project. Impacts to wetlands and floodplains

will be mitigated through the construction of a coffer dam and the use of all appropriate BMPs during construction and restoration activities.

Because construction impacts will be temporary and because the long-term, direct impacts on floodplains and wetlands are negligible and will not alter floodplain or wetland function, there will be no impairment of the park's resources or values with respect to wetlands and floodplains.

GEOLOGY AND SOILS

Implementation of Alternative G will result in short-term, minor, adverse impacts on geology and soils during construction from cutting and grading activities, resulting in temporary increases in soil erosion and sedimentation. The use of a coffer dam and other sediment barriers will be implemented to reduce rates of sedimentation. The long-term impacts to geology and soils will be negligible and adverse. The impacts will be mitigated through the implementation of shoreline stabilization measures and restoration of the area with native plants and grasses.

Because construction impacts will be temporary, because the riverbank will be stabilized at the project site, and because soil erosion and habitat degradation will be minimized, Alternative G will not result in impairment of geology and soils.

WATER RESOURCES

During construction, Alternative G will result in short-term, minor, adverse impacts on water quality from increased soil erosion and sedimentation due to the disturbance of the site. BMPs, including temporary coffer dams, will be incorporated into the project to control and minimize the amount of soil disturbance and sedimentation during construction. Following construction, Alternative G will have long-term, minor to moderate, adverse impacts on surface water quality due to the discharge into the river of water containing higher levels of fecal coliform bacteria and total phosphorus, as well as higher temperatures, than the surrounding water column. State and federal water quality standards will be met for all criteria that are currently in attainment. The discharge limits established under a 2010 NPDES permit issued by the Georgia Environmental Protection Division were modified under a court appeal, which directed the permit back to GA EPD for reissuance in 2011 with revised monthly average discharge limits of 23 cfu/100 ml for fecal coliform bacteria and 0.08 mg/l for total phosphorus. However, because these discharge limits are lower than those considered in the impact analysis in the EA, potential impacts from the selected action are anticipated to be less due to fecal coliform bacteria and total phosphorus.

Alternative G will result in long-term, negligible, beneficial impacts to water quantity due to the increased return of water directly to the river. The new water reclamation facility will replace the existing land application system and reduce other consumptive uses (e.g., septic systems), while also reducing inter-basin transfers of Forsyth County's municipal water supply.

Because construction impacts will be temporary and because the new discharge diffuser will return highly treated water to the withdrawal basin, Alternative G will not result in impairment of the park's resources or values with respect to water quality and quantity.

NOISE

During construction, Alternative G will result in short-term, moderate, adverse noise impacts on both visitors and wildlife due to the operation of heavy equipment such as bulldozers, excavators, and dump trucks during normal working hours. When construction is complete and the diffuser is operation, there will be long-term, negligible, adverse impacts from noise.

Because the noise generated by construction activities will be temporary and limited to the project area and because operation of the discharge diffuser will negligible levels of background noise, Alternative G will not result in a noise-related impairment.

Attachment B
Finding of No Significant Impact
Shakerag WRF Discharge Right-of-Way Request
Statement of Findings for EO 11988 (Floodplain Management)
and EO 11990 (Wetland Protection)

*Statement of Findings for Executive Order
11988 (Floodplain Management) and
Executive Order 11990 (Wetland
Protection)*

**Shakerag WRF Discharge
Right-of-Way Request
Forsyth County, Georgia**

**Environmental Assessment (PEPC Project # 23722)
Chattahoochee River National Recreation Area**

Recommended: Patty Wussinger 10-20-2011
Superintendent, CRNRA Date

Certified for Technical Adequacy and Service-wide Consistency:
Angela Roubil 10-24-2011
Chief, Water Resources Division Date

Approved: Daniel Hela 11-9-11
Director, Southeast Region Date

Introduction

Congress established the Chattahoochee River National Recreation Area (CRNRA) in 1978, and determined that the "natural, scenic, recreation, historic, and other values of a forty-eight-mile segment of the Chattahoochee River and certain adjoining lands in the State of Georgia from Buford Dam downstream to Peachtree Creek are of special national significance, and that such values should be preserved and protected from developments and uses which would substantially impair or destroy them." The park boundaries currently include 10,000 acres of land situated in a narrow corridor along the Chattahoochee River. (NPS, 2008)

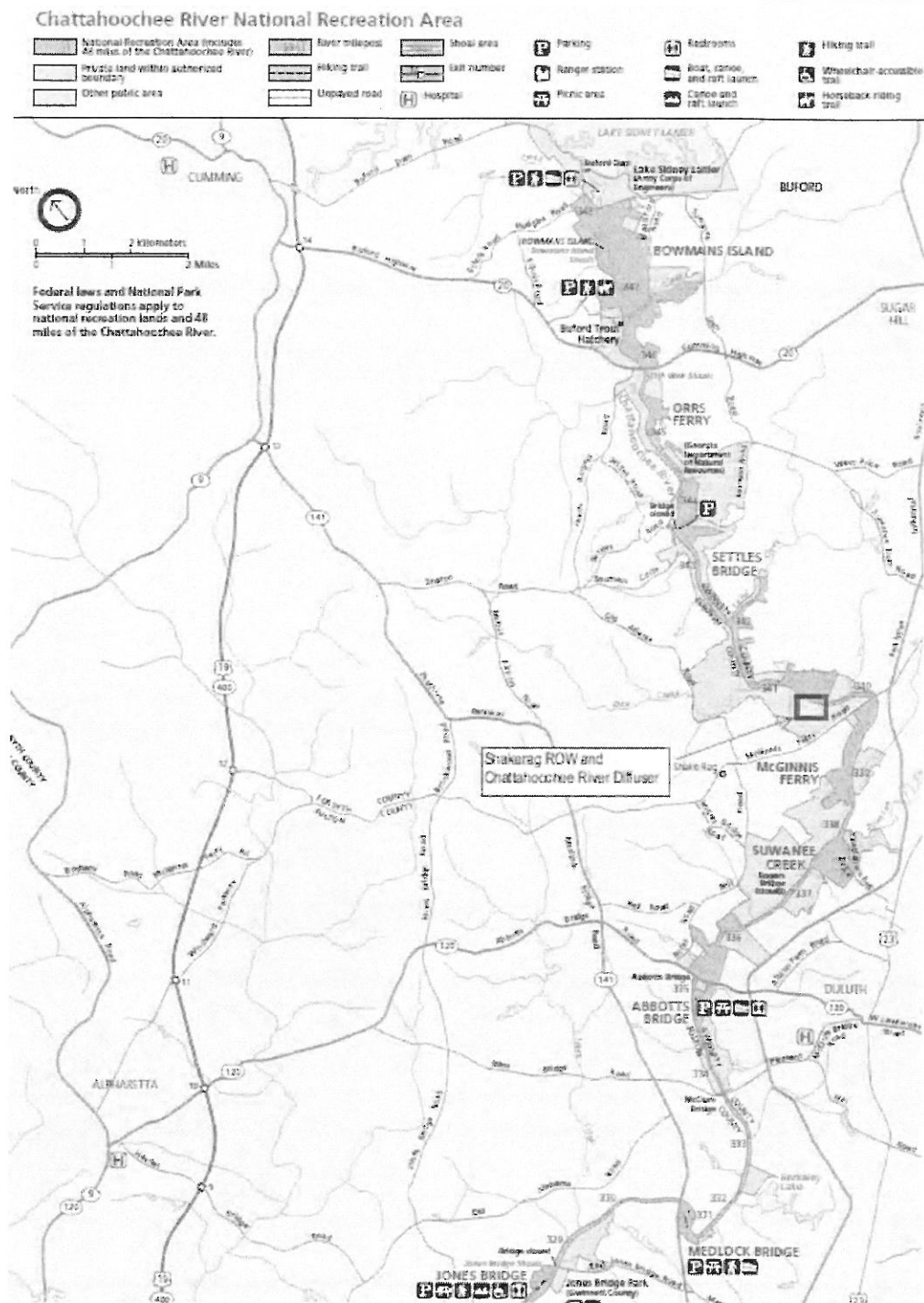
While the Proposed Action would not cross terrain owned by the NPS, the NPS claims jurisdiction over activities within the Chattahoochee River per Title 16, Chapter 1, Section 460 ii, which defines the CRNRA as "the river and its bed together with the lands, waters and interests therein." In response to the request for a ROW permit under Title 36, Chapter 1, Part 14, the NPS notified Forsyth County Water and Sewer Department (FCWSD) that they would need to prepare an environmental assessment (EA) as part of their request for a right-of-way (ROW) within the CRNRA, between river miles 340 and 341, for the establishment of a discharge diffuser in the Chattahoochee River, see Figure 1. The only component of the proposed action to directly impact the CRNRA is the underground outfall diffuser pipe system located in the bank and bed of the Chattahoochee River just north of McGinnis Ferry Bridge in Forsyth County. The Shakerag WRF would be constructed well outside of the river buffer and would not affect any wetlands or floodplains. The location and components of the Proposed Action are illustrated in Attachment 1 and described in Section 1.3.

Pursuant to Executive Orders 11988 (Floodplain Management) and 11990 (Wetland Protection) and the National Park Service (NPS) Director's Orders #77-1 and #77-2, NPS has evaluated the impacts of the proposed action to floodplains and wetlands. This statement of findings (SOF) augments the EA by documenting full compliance with these NPS floodplain management and wetland protection procedures. It outlines the steps taken to first avoid wetlands and then minimize unavoidable impacts per DO #77-1. Since the adverse impact on wetlands (direct plus indirect impacts) from the entire project totals less than 0.1 acres and isolated within a single, highly localized area, Forsyth County is requesting that wetland compensation requirements be waived.

FIGURE 1

Location of Proposed Action within the CRNRA

Shakerag WRF Discharge Right-of-Way Request Forsyth County, Georgia [Wetland / Floodplain SOF]



1.1 Purpose and Need for the Proposed Action

As described further in Section 1.0 of the EA, the purpose of the Proposed Action is the establishment of a right-of-way (ROW) to authorize a special park use within the CRNRA for the installation and operation of a discharge diffuser in the Chattahoochee River between river miles 340 and 341 that would eventually discharge up to 6.0 million gallons per day (mgd). The diffuser would receive reclaimed water from the proposed FCWSD Shakerag Water Reclamation Facility (WRF) and existing Fowler WRF.

Forsyth County is a rapidly growing area located along GA 400 approximately 40 miles northeast of downtown Atlanta. Wastewater treatment in the areas served by FCWSD currently occurs through a combination of individual septic systems, publicly owned facilities, and contracted capacity in the City of Cumming, Fulton County, and small private treatment plants. The Forsyth County government desires to construct state-of-the-art treatment and distribution systems for the beneficial reuse of wastewater. These objectives and the FCWSD's projected wastewater needs are further described in the planning documents referenced in Section 1.3.1. The County currently operates the Fowler WRF membrane bioreactor (MBR) plant in the Big Creek drainage sub-basin which is permitted to treat to urban reuse standards as established by the GA EPD.

An 11-mile reuse force main (FM) extends through the southern part of the county, beginning at the Fowler WRF and terminating at the Threatt LAS. The buried drip system at the Threatt LAS is permitted to apply 1.25 mgd to open pasture, where hay is cultivated. Plans are underway to provide reuse water to major outdoor water users, offsetting potable water use and reducing additional withdrawal needs. The ROW permit would support Forsyth County's effort to expand its beneficial reuse system through construction of a new advanced treatment WRF (Shakerag WRF), that would produce a high-quality effluent using MBR technology, and the discharge of up to 6.0 mgd to the Chattahoochee River. This treatment technology meets the intent of Georgia's Antidegradation Rule (391-3-6-03(2)) by protecting existing instream water uses and water quality via the "highest statutory and regulatory requirements for all new and existing point sources" FCWSD has received a year-round wasteload allocation (WLA) from the Georgia Environmental Protection Division (GA EPD) for the proposed discharge (GA EPD #23-123) and is in the process of obtaining a National Pollutant Discharge Elimination System (NPDES) permit.

1.2 Description of Alternatives

Six alternatives to the Proposed Action were considered and are summarized in Table 1 along with a description of why they would not meet the project needs. These alternatives were identified during the wastewater planning process for the Shakerag WRF and were evaluated in the Environmental Information Document (EID) (CH2M HILL, 2005), which is required by GA EPD as part of the wastewater National Pollutant Discharge Elimination System (NPDES) permitting process.

TABLE 1

Description of Alternatives Considered

Shakerag WRF Discharge Right-of-Way Request Forsyth County, Georgia [Wetland / Floodplain SOF]

| Alternative | Description |
|--|---|
| A – No Action | The No-Action Alternative would not meet the project needs, because it would not allow for FCWSD capacity expansion and beneficial reuse of reclaimed water. This alternative would have no direct or indirect adverse impacts on wetlands. |
| B - Land Application System (LAS) | Alternative B would not meet the project needs because there is not enough suitable property for creation or expansion of a LAS with adequate capacity to accommodate the discharge from the Shakerag WRF. This alternative would likely have both direct and indirect adverse impacts on wetlands. |
| C - Blended Reuse | Alternative C would not meet the project needs, because it is not economically feasible and would have high environmental impacts. This alternative would likely have indirect adverse impacts on wetlands. |
| D - Direct Reuse | Alternative D would not meet the project needs because of the high cost of implementation and the lack of a regulatory framework. This alternative would likely have indirect adverse impacts on wetlands. |
| E - Surface Water Discharge to Big Creek | Alternative E would not meet the project needs, because the WLA for Big Creek has already been completely allotted and any new discharge would further deteriorate water quality and would not be permitted. This alternative would likely have both direct and indirect adverse impacts on wetlands. |
| F – Surface Water Discharge to Etowah River Basin | Alternative F would not meet the project needs, because it would increase Inter-Basin Transfer (IBT) and would require costly infrastructure that is not economically feasible. |
| G (Proposed Action) – Surface Water Discharge to the Chattahoochee River | Alternative G would meet the project needs, because it would increase FCWSD capacity and make a beneficial reuse of reclaimed water while reducing IBT. The highly localized minor impacts to wetlands from the Proposed Action are discussed in Section 1.3. |

1.3 Proposed Action

The components of the proposed diffuser are described in detail in the Shakerag WRF and Chattahoochee River Diffuser Design Development Report (CH2M HILL, 2005a) and are illustrated in the Design Drawings provided in Attachment 3. Attachment 3 provides the overall site plan, side plan view and other design drawings of the project components. The side plan view provides a cross section of the Chattahoochee River at the diffuser location to illustrate river depth under low flow conditions, 650 cubic feet per second (cfs), and how the diffuser ports would relate to the river bottom. The following facilities are proposed to be constructed and operated by FCWSD within the proposed ROW:

- An approximately 100-foot by 10-foot open trench would be cut excavated in the river bottom at the diffuser site.
- A total of 100 feet of 36-inch-diameter High Density Polyethylene (HDPE) pipe would be installed.
- The diffuser would occupy the last 77.5 feet of pipe with 10 ports (6-inch diameter) located at a spacing of 7.5 feet center to center.
- A 56-inch by 56-inch box of concrete would encase the entire length of 36-inch HDPE pipe, anchoring it and protecting it. This anchor would be constructed of concrete, rebar, and epoxy grout and would rest within a 4-foot deep trench drilled into the bedrock.
- After the diffuser is secured to the bedrock, it would be covered with 40 cubic yards of granular fill. The diffuser ports would protrude approximately 6 inches from the river bed over a footprint of approximate 800 sf / 0.018 acres.

Construction will be facilitated by the installation of a temporary coffer dam along the eastern bank of the river.

Floodplains

Review of Flood Insurance Rate Map community-panel number 13117C0265E (Attachment 2), produced by the Federal Emergency Management Agency (FEMA), indicates that the proposed action location is within Zone X and Floodway Areas in Zone AE. Zone X is defined by FEMA as an area where the flood hazard is yet to be determined outside the 0.2 percent annual chance floodplain. Floodway Areas in Zone AE are defined by FEMA as the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1 percent annual chance flood can be carried without substantial increases in flood height.

The proposed action location would be within the 100-year floodplain of the Chattahoochee River. A "100-year floodplain" or "100-year flood" describes an area or event subject to a 1 percent probability of a certain size flood occurring in any given year. The 100-year floodplain for the Chattahoochee River at this location begins at an elevation of 911.0 ft above mean sea level (msl) at McGinnis Ferry Road and rises to 912.0 ft msl approximately 4,000 ft upriver and continues at 912.0 ft msl beyond the project area. All above-ground construction for the WRF would occur at or above elevation 960 ft msl, which is well outside the 100-year and 500-year floodplains for the Chattahoochee River at this site. Therefore, no impacts to floodplains would occur from above-ground features.

Construction of the reclaimed water pipeline and diffuser would require temporary disturbance within the floodplain. However, the pipeline would be buried and the ground surface returned to the original contours. No impacts to floodplains would result from construction of the pipeline. Once installed, there would be no change in flood elevations, flood conveyance, or flood storage as a result of the project.

Wetlands

Approximately 152 acres of wetlands have been identified via the National Wetlands Inventory (NWI) throughout the CRNRA; see Table 2 (NPS, 2008). Major wetland types found in the CRNRA include: palustrine forested (21.5 acres), palustrine scrub/shrub (10.3 acres), palustrine unconsolidated bottom or shore (7.8 acres), palustrine emergent (6.2), lacustrine (33.4 acres), and riverine (72.7 acres) wetlands (NPS, 2008).

The largest percentages of the CRNRA's wetlands are classified as riverine wetlands, 48 percent (72.7 acres), which includes all wetlands and deepwater habitats contained in natural or artificial channels periodically or continuously containing flowing water or which form a connecting link between two bodies of standing water. The entire 48-mile reach of the Chattahoochee River within the CRNRA is classified as a riverine wetland including the location of the Proposed Action. As noted in Table 2, the Proposed Action is anticipated to adversely impact approximately 1000 sf (0.023 acres) during construction and to result in 800 sf / 0.018 acres of permanent adverse impacts to Riverine wetlands during operation. This is a fraction of a percent of the existing riverine wetlands within the CRNRA.

TABLE 2
CRNRA NWI wetlands as compared to Proposed Action
*Shakerag WRF Discharge Right-of-Way Request Forsyth County, Georgia [Wetland / Floodplain
SOF]*

| National Wetland Inventory Type | Acres of Each NWI Type in CRNRA | Proposed Action - Construction | Proposed Action - Operation |
|---|---------------------------------|--------------------------------|-----------------------------|
| Palustrine Forested | 21.5 | | |
| Palustrine Scrub/Shrub | 10.3 | | |
| Palustrine Unconsolidated Bottom or Shore | 7.8 | | |
| Palustrine Emergent | 6.2 | | |
| Lacustrine | 33.4 | | |
| Riverine | 72.7 | 1000 sf / 0.023 acres | 800 sf / 0.018 acres |
| Total: | 151.9 | | |

Source: USFWS, 2001 and NPS, 2008.

Riverine wetlands provide valuable aquatic habitats for the fish and invertebrates described in the EA and are a source of primary production (aquatic vascular plants). Riverine wetland functions and values include:

- Biotic functions – aquatic habitat for fish and invertebrates and primary production of aquatic vascular plants,
- Hydrologic functions - flood attenuation and stream flow maintenance,
- Cultural values from recreational users, and
- Economic value from fisheries management and tourism along the CRNRA.

While the Proposed Action is anticipated to adversely impact approximately 1000 sf of riverine wetlands during construction and 800 sf of permanent adverse impacts during operation, Table 2 illustrates that this is a fraction of a percent of the total existing riverine wetlands within the CRNRA. Further, there would be no permanent loss of wetland functions as a result of the Proposed Action.

From a biotic standpoint, the river substrate functions as habitat for invertebrates and invertebrates would be expected to recolonize the area once construction was complete. This section of the river does not contain appreciable growth of aquatic macrophytes, but these also would recolonize the area after construction is complete. The water column provides habitat for fish and there would be no change in fish species assemblages expected as a result of the Proposed Action (see description of Aquatic Resources below).

The discharges from the new facility would comply with NPDES permit limits established by the Georgia EPD, the agency responsible for maintaining water quality in the State of Georgia. Because the discharges would be regulated and compliant with established permit limits, any impacts to water quality would be limited to the mixing zone, a short segment of the Chattahoochee River downstream of the diffuser. There would be no reduction in water quality in downstream reaches.

Hydrologic function of this wetland is driven by the externality of releases from Buford Dam, which are controlled by the U.S. Army Corps of Engineers and electrical power generation needs. Implementation of the Proposed Action would not change the ability of the project area or downstream reaches to accommodate variable release volumes from Buford Dam.

Construction associated with the Proposed Action would have short-term moderate impacts on visitors using the river for boating or fishing. High visibility warning signage will be posted upstream of the project site on the river bank and at common access points to ensure visitors are aware of the construction activities. These impacts would be mitigated by the opportunity for users to temporarily relocate their activities to nearby upstream CRNRA locations. Impacts to visitors during operation of the facilities covered by the Proposed Action were assessed under low flow conditions (650 cfs) to fully bracket all potential scenarios. Appendix E of the EA describes the results of this analysis, which are illustrated by a side view of the diffuser location in Attachment 3 of Appendix A. The river depth would be approximately 5.4 ft at the diffuser location, providing a minimum of 4 ft of clearance for boaters (see Attachment 4 bathymetric survey). However, the potential would exist for the riverine pedestrian travel of those fly fishing to interact with the diffuser ports. These potential impacts to visitor use would be

mitigated through the posting and maintenance of highly visible warning signage. As a result, there would be negligible impacts on boaters and minor impacts on those fly fishing.

Other NWI types not impacted by the Proposed Action include lacustrine habitats which make up approximately 22 percent (33.4 acres) of the total wetlands within the CRNRA. Lacustrine wetlands are defined as wetlands and deepwater habitats with all of the following characteristics: (1) situated in a topographic depression or a dammed river channel; (2) lacking trees, shrubs, persistent emergents, emergent mosses, or lichens with greater than 30 percent aerial coverage, and (3) total area exceeds 20 acres. Palustrine forested wetlands make up approximately 14 percent (21.5 acres) of the total acreage of wetlands in the CRNRA. Mature hardwood trees that inhabit the floodplains of the Chattahoochee River, tributary streams, and associated sloughs dominate palustrine wetlands. These areas experience variable degrees of flooding, but are flooded frequently enough to qualify as wetlands. The remaining wetland types, palustrine scrub/shrub, palustrine unconsolidated bottom or shore, and palustrine emergent are relatively small and geographically separated from one another. They are commonly associated with beaver ponds or the boundaries of lesser streams and ponds (NPS, 2008).

CH2M HILL conducted wetland delineations on the Threatt property in 1999 and 2007, following U.S. Army Corps of Engineers methods (USACE, 1987). The lead delineator from CH2M HILL was qualified to conduct the wetland delineation as a PhD Wetland Ecologist with a certificate of wetland training from the Institute for Wetland & Environmental Education & Research and with 15 years of experience in wetland delineations. Onsite wetlands were identified and were limited to bed and bank (defined by the ordinary high water level) palustrine forested systems associated with two streams and three ponds on the property (Attachment 1). The boundary of the CRNRA is defined, for the evaluation of wetlands impacts, as the ordinary high water level of the river.

Field inspection confirmed that the Chattahoochee River within the CRNRA conforms to the definition of a riverine wetland under the U.S. Fish and Wildlife Service classification system due to the shallow depth and substrate type at the proposed project location between river miles 340 and 341 (Cowardin, et al., 1979). However, field inspection also indicated that the river is more similar to a free flowing river system than a riverine wetland at this location, as the system lacks vegetation and hydric soils.

No wetlands occur on the Threatt LAS property along the proposed pipeline route. The only wetland that would be impacted by the project is the riverine wetlands defined by the ordinary high water mark of the Chattahoochee River. The river is incised at the proposed discharge location and there are no fringing wetlands above the ordinary high water mark. Figure 2 illustrates the upland area that will be crossed with the proposed pipeline and documents that the existing vegetation is dominated by grasses. The riparian upland adjacent to the river and stream bank is also illustrated in Figure 2. Vegetation in the riparian area is dominated by a shrub layer of river cane and privet with a limited canopy of ironwood, red maple, and small oaks. Within the streambank area the vegetation is limited to a sparse cover of privet and scattered grasses. These photos help to document that no impacts to wetlands outside of the Chattahoochee River would result from construction and operation of the proposed Shakerag WRF and Chattahoochee River diffuser.

FIGURE 2

View of Area of Proposed Action

Shakerag WRF Discharge Right-of-Way Request Forsyth County, Georgia [Wetland / Floodplain SOF]



View Looking East Towards Chattahoochee River



View Looking North (with Chattahoochee River Corridor on right)

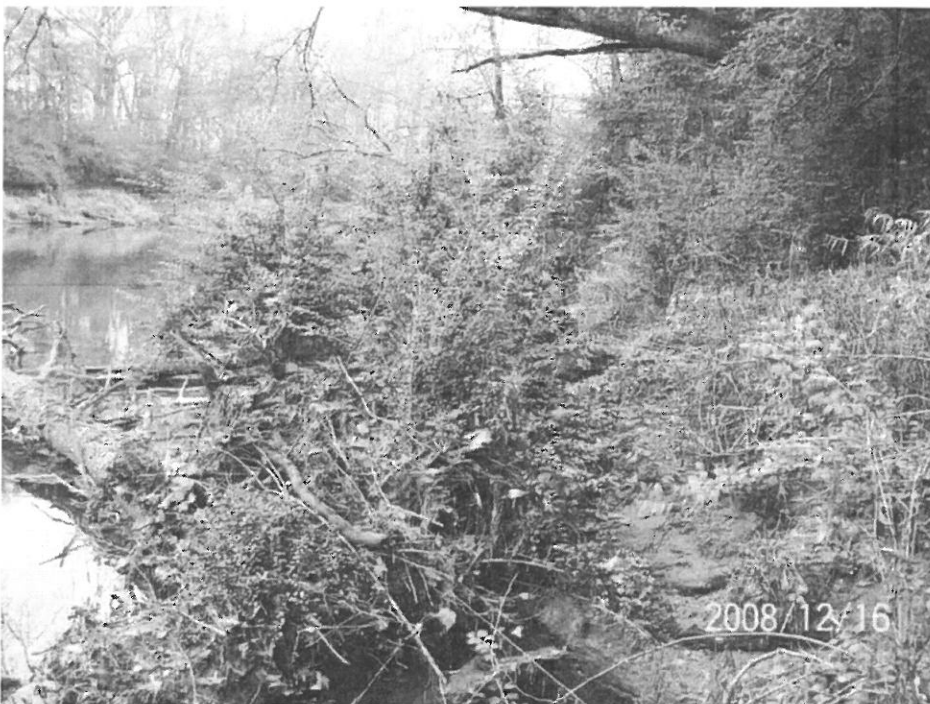
FIGURE 2

View of Area of Proposed Action

Shakerag WRF Discharge Right-of-Way Request Forsyth County, Georgia [Wetland / Floodplain SOF]



View Looking North along the Western Bank of the Chattahoochee River



View Looking South along the Western Bank of the Chattahoochee River

At the design stage, the location of the proposed Shakerag WRF and the proposed route for the discharge line were selected to avoid wetlands on the Threatt property. However, further avoidance of impacts is not practicable because modeling to support the design indicates that the diffuser must be 100 ft out in the river channel to allow appropriate mixing of the discharge. The diffuser ports would be spaced over the last 77.5 ft.

Aquatic Resources

Aquatic resources within the Chattahoochee River have been described in detail in Section 2.2.3 of the EA. A list of fish species known and historically known to occur within the CRNRA were compiled in 2007 (Georgia Power, 2007). In all, at least 55 species of fish in 16 families were found along the 48-mile reach between Buford Dam (river mile 348) and Peachtree Creek (river mile 300) and within the Willeo Creek (river mile 316) and Big Creek (river mile 317) tributaries. Most of the species are native warm-water fishes. Fishery surveys have documented 38 fish species in the mainstem river between Buford Dam and Morgan Falls dam and 42 species in the river between Morgan Falls dam and Peachtree Creek. The cold releases from Buford Dam depress many warm-water species populations in the mainstem river (Hess, 1980; Biagi and Brown, 1997). Rare species of fish with potential to occur in the project vicinity are evaluated in Section 2.3 of the EA. No federally listed aquatic species presently are known to occur within the project vicinity.

Trout (rainbow and brown) are the primary fish species of interest in this reach of the Chattahoochee River. Based on an instream flow study conducted by Nestler et al. (1986), habitat area in the Chattahoochee River for adult rainbow trout and adult brown trout generally peaks at river flows of about 1,500 cfs and declines to its minimum at 12,000 cfs. Trout require water temperatures below about 25 degrees Celsius (°C) for survival and typically prefer temperatures below 20°C for feeding, growth, and reproduction (See Section 4.22 of EA).

In 2003 a freshwater mussel survey was conducted for the NPS (O'Brien and Brim Box, 2003). Eighteen sites were searched for the presence of mussels, including the Chattahoochee River 1,000 meters downstream of McGinnis Ferry Road and approximately 0.75 mile downstream of the diffuser project area; Island Ford (20 miles downstream of the diffuser project area); the Morgan Falls impoundment at Gold Branch (27 miles downstream of the diffuser project area); and four sites on the Chattahoochee River downstream of the Morgan Falls Dam (Johnson Ferry, Cochran Shoals, Powers Island, and Paces Mill). No live native mussel species were found.

The invasive Asian clam (*Corbicula fulminea*) was documented in the mainstem of the river at Island Ford, Big Creek (a major tributary), and four mainstem sites downstream of Morgan Falls Dam (O'Brien and Brim Box, 2003). Based on the survey findings, O'Brien and Brim Box (2003) concluded that the native freshwater mussel fauna appears to be extirpated from the upper Chattahoochee River, including the proposed project area. The absence of native mussel fauna has likely resulted from a combination of habitat alterations over the past 160 years, including impoundments, water quality changes, peaking discharges, habitat alteration, and sedimentation from nonpoint sources (O'Brien and Brim Box, 2003; Brim Box and Williams, 2000).

Results of the water quality analysis indicates that the quality of the effluent would not adversely impact aquatic resources within area immediately downstream of the diffuser (within the mixing zone) or further downstream in the river (Section 4.2 of the EA). Temperature conditions within the mixing zone will be within the normal temperature tolerance of the warm-water aquatic species that inhabit the Chattahoochee River and the tolerance limits of the introduced trout species (Section 4.22 of the EA).

1.4 Justification for Use of the Floodplain and Wetlands

Floodplains

Attachment 2 illustrates the Flood Insurance Rate Map (FIRM) for the location of the proposed action. The nature of the proposed action, which requires access to the river for installation of a submerged multiport outfall diffuser, makes moving all project actions outside the floodplain infeasible. All above-ground structures would be located outside the floodplain, but the pipeline must cross the floodplain to reach the proposed diffuser location. At the proposed action location, construction of the reclaimed water pipeline and diffuser would require temporary disturbance within the floodplain. However, the main pipeline would be buried and the ground surface returned to the original contours. The diffuser ports will rise approximately 6 inches from the river bottom as illustrated in Attachment 3. While an overbank event is unlikely due to flow regulation by Buford Dam, flooding of the Chattahoochee River would not adversely affect system operation or the surrounding area. The proposed action location would require little physical development.

Wetlands

As described in Section 1.3, CH2M HILL (2007) determined that there are no wetlands inside the proposed project area at the proposed action location except for the Chattahoochee River. Further avoidance of impacts is not practicable because the design requires the diffuser to extend 100 feet (ft) out in the channel with the diffuser ports spaced over the last 77.5 ft. However, impacts to these wetlands from the diffuser and pipeline construction would be minimized by working within a coffer dam and utilizing appropriate best management practices (BMPs) during construction. The majority of the impacts would be temporary however there would be a negligible adverse permanent impact within a single, highly localized area as quantified in Table 2. Sediment traps (silt fencing) would be established around the perimeter of construction staging or general construction areas to control sedimentation and erosion into the nearby wetland areas. All disturbed areas would be stabilized and seeded as soon as practical to further limit erosion potential.

1.5 Wetland Avoidance, Minimization and Mitigation Actions

Efforts were made throughout the project design to avoid and reduce impacts to sensitive wetland resources. Appropriate best management practices (BMPs) will be utilized during construction to further reduce and mitigate potential impacts as described below.

Floodplain Mitigation

Construction of the reclaimed water pipeline and diffuser at the proposed action location would not substantially alter the grades or drainage patterns of the site. Existing vegetation would be removed only as required during initial site preparation operations. Areas would be graded to match pre-construction conditions, where feasible. Final site restoration would include seeding all disturbed areas that were mowed grass prior to construction activities or surfaced with crushed aggregate. Only native plant seed mixtures approved by Park staff would be used. Any areas that were natural prior to construction activities would be rehabilitated using appropriate native plant materials approved by NPS. All disturbed areas would be stabilized as soon as practical to further limit erosion.

All construction entrances would be provided with stabilized stone traps to limit tracking of sediment offsite. Sediment traps (silt fencing) would be established around the perimeter of construction areas for sedimentation and erosion control. Forsyth County would have an inspector that is certified through the State of Georgia Erosion and Sediment Control Education and Training Certification Program overseeing the installation of silt fencing. The silt fencing would be maintained by the County through the duration of construction activities, and removed from the site at the end of construction activities.

Wetland Mitigation

Unavoidable temporary wetland impacts from open trenching used to complete the pipeline and diffuser installation in the Chattahoochee River would disturb riverine wetland areas of approximately 1,000 sf, or 0.023 acres (estimated 10 ft by 100 ft disturbed area). The initial 20 ft of the diffuser would be completely underground so an 800 sf, or 0.018 acre (estimated 10 ft by 80 ft), footprint represents the area where diffuser ports would be exposed. The diffuser ports would be spaced over the last 77.5 ft. After the diffuser is secured to the bedrock the excavated sediment will be used to return the disturbed area to the pre-construction river bottom elevation. The area would provide the same functions as before the disturbance, except for the physical presence of the diffuser ports. Permanent impacts from operation of the Proposed Action would be limited to 800 sf or less.

Wetlands within the construction area, the Chattahoochee River, would be isolated by silt fencing and a coffer dam to prevent ingress of sediment. Fuel for construction vehicles would not be stored onsite. All work associated with the pumping facilities and pipeline would be performed in accordance with Forsyth County plans for stormwater management and environmental controls, which would incorporate these and additional site-specific BMPs consistent with the *Manual for Erosion and Sediment Control in Georgia* (Georgia Soil and Water Conservation Commission, 2000), the *Field Manual for Erosion and Sediment Control in Georgia* (Georgia Soil and Water Conservation Commission, 2002), and the January 1, 2009, updates to

the *Manual for Erosion and Sediment Control in Georgia* (Georgia Soil and Water Conservation Commission, 2009).

Because there would be no permanent loss of wetland function from implementation of the Proposed Action, and because the adverse impact on wetlands (direct plus indirect impacts) from the entire project totals less than 0.1 acres that would be isolated within a highly localized area, Forsyth County is requesting that wetland compensation requirements be waived.

1.6 Conclusion

The proposed action was designed to avoid and minimize impacts to the floodplain and wetland areas. Because this alternative would not reduce flood storage capacity, flood conveyance, or flood elevations, there would be no effect on natural floodplain functions. Temporary impacts to wetlands would be minimized by returning excavated native river stone to the trench and then placing native river sediments to return the river bottom to pre-construction elevation. In addition, BMPs, such as sediment traps (silt fencing), would be placed around the perimeter of construction areas to control sedimentation and erosion into the nearby wetland areas.

Because there would be no permanent loss of wetland function or wetland acreage from implementation of the Proposed Action, and because the adverse impact on wetlands (direct plus indirect impacts) from the entire project totals less than 0.1 acres that would be isolated within a highly localized area, Forsyth County is requesting that wetland compensation requirements be waived. NPS finds that this proposed action is consistent with the policies and procedures of Director's Order #77-1: Wetland Protection, and Director's Order #77-2: Floodplain Management, including the "no net loss of wetlands" policy.

References

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Attachment 1
Shakerag WRF and Diffuser Map

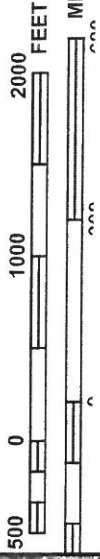


Shakerag WRF & Diffuser Location Map
Forsyth County, GA

Attachment 2
Flood Insurance Rate Map



MAP SCALE 1" = 1000'



2315000 FT



NFIP

PANEL 0265E

FIRM

FLOOD INSURANCE RATE MAP
FORSYTH COUNTY,
GEORGIA
AND INCORPORATED AREAS

PANEL 265 OF 265

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
COMMUNITY NUMBER 130312
PANEL SUFFIX 0265 E

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



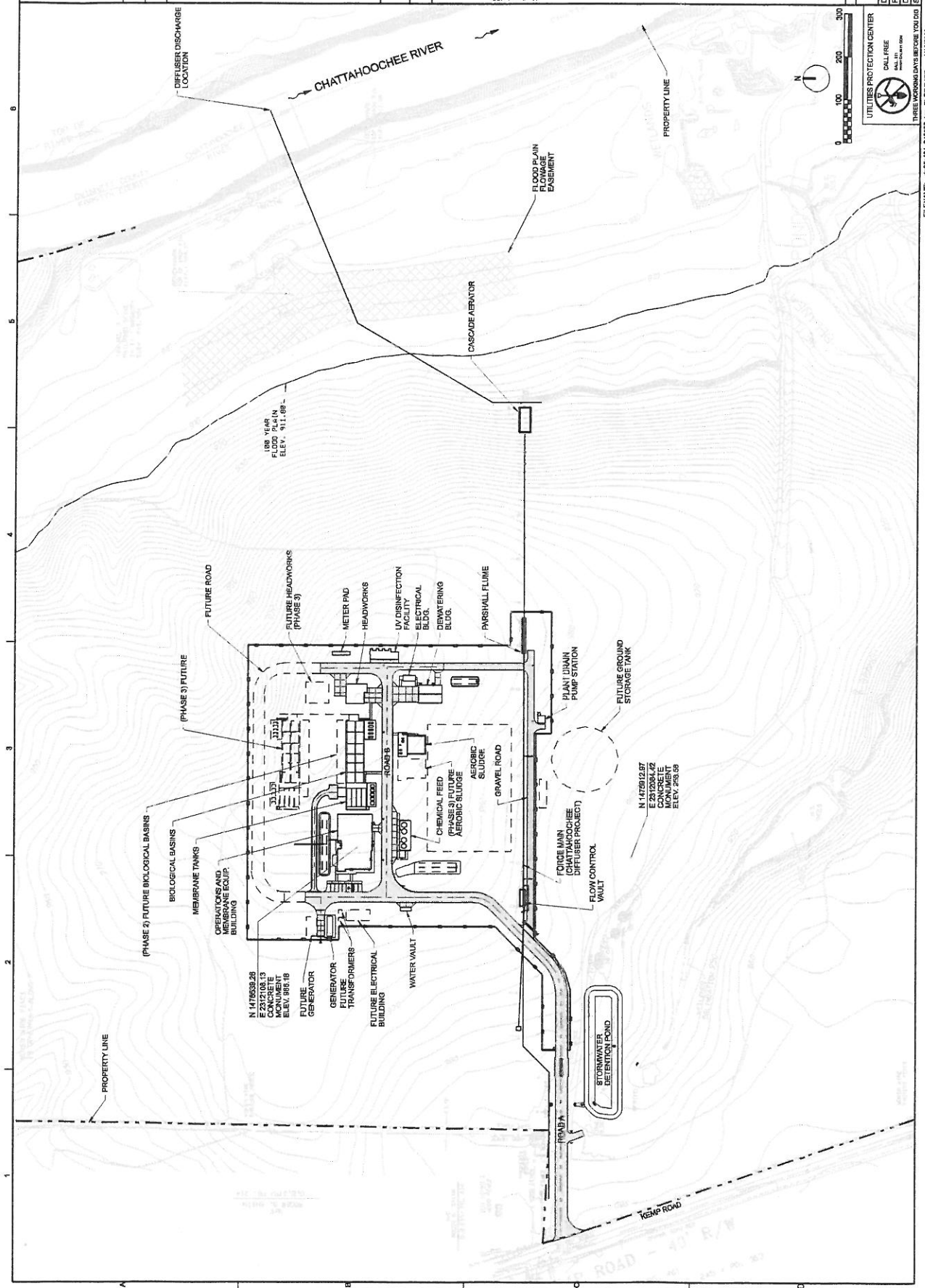
MAP NUMBER
13117C0265E
MAP REVISED
SEPTEMBER 19, 2007

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Attachment 3
Site and Diffuser Design Drawings

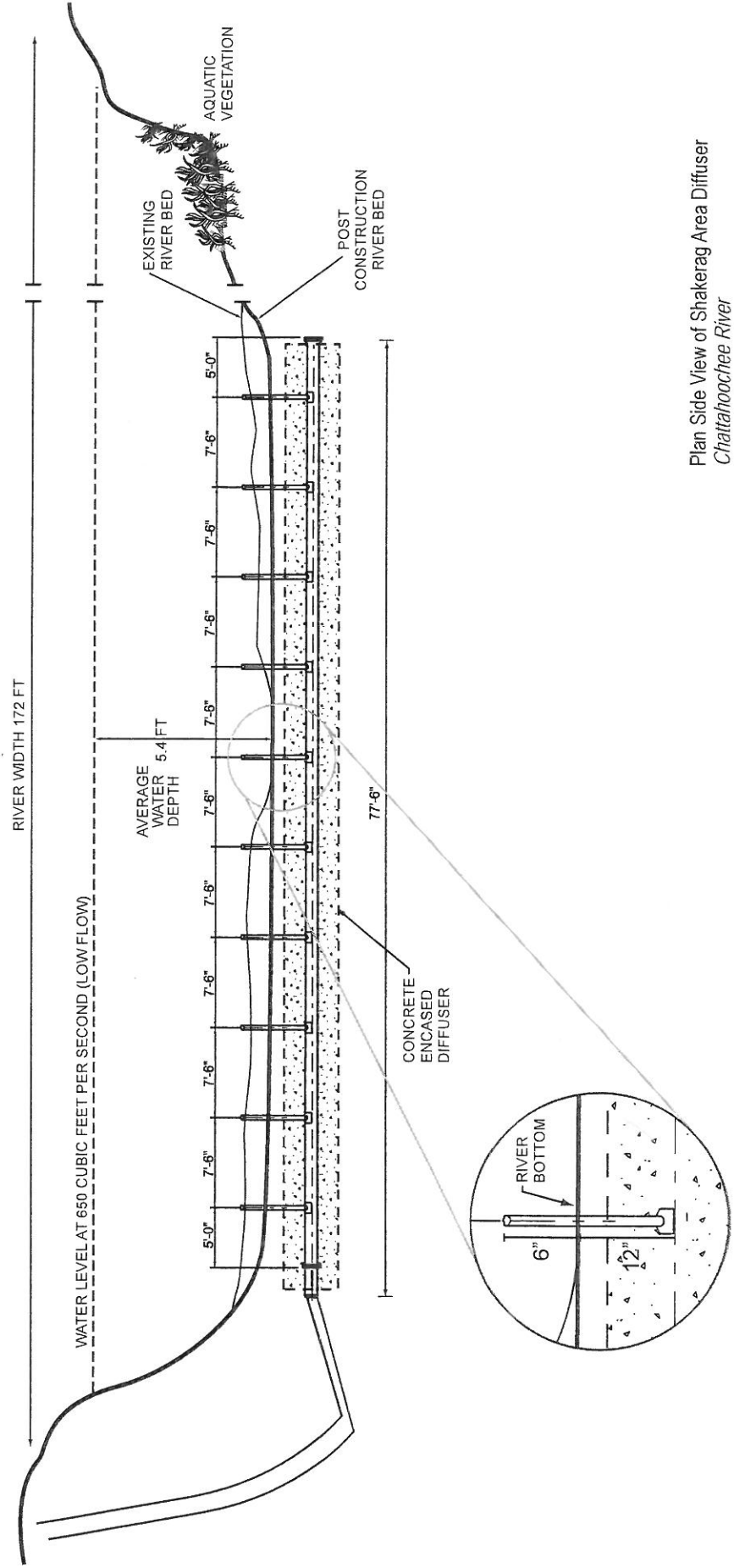
| | | | | | |
|--|----------|--|-----------|---|------|
| 1000 ALBANY ROAD, SUITE 1000 ALBANY, GEORGIA 31706 (770) 504-9085 (FAX) 504-9183 | | SHAKESPEARE WATER RECLAMATION FACILITY FORTY COUNTY, GEORGIA | | CIVIL CH2MHILL OVERALL SITE PLAN | |
| NO. | DATE | DESCRIPTION | BY | APP'D | DATE |
| 1 | 11/01/00 | REVISED | W. MURPHY | | |
| 2 | 11/01/00 | REVISED | W. MURPHY | | |
| 3 | 11/01/00 | REVISED | W. MURPHY | | |
| 4 | 11/01/00 | REVISED | W. MURPHY | | |
| 5 | 11/01/00 | REVISED | W. MURPHY | | |
| 6 | 11/01/00 | REVISED | W. MURPHY | | |
| 7 | 11/01/00 | REVISED | W. MURPHY | | |
| 8 | 11/01/00 | REVISED | W. MURPHY | | |
| 9 | 11/01/00 | REVISED | W. MURPHY | | |
| 10 | 11/01/00 | REVISED | W. MURPHY | | |



10% REVIEW
 DATE: JANUARY 2003
 PROJ: 246588
 DWG: 05-C-101
 SHEET
 PLOT TIME: 10:26:24 AM
 FILENAME: 0050101_246588.dgn PLOT DATE: 1/16/2008

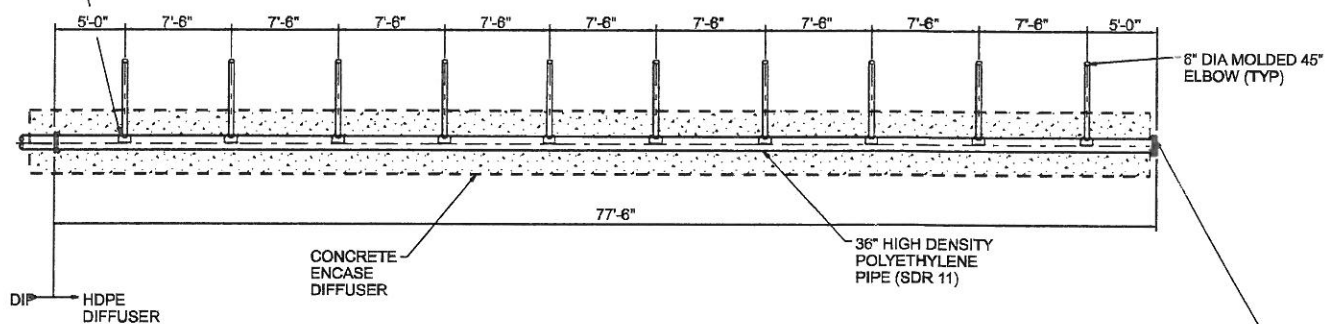
Not to Scale

Conceptual Drawing. Not to be used for construction.



Plan Side View of Shakerag Area Diffuser
Chattahoochee River
Forsyth County, GA

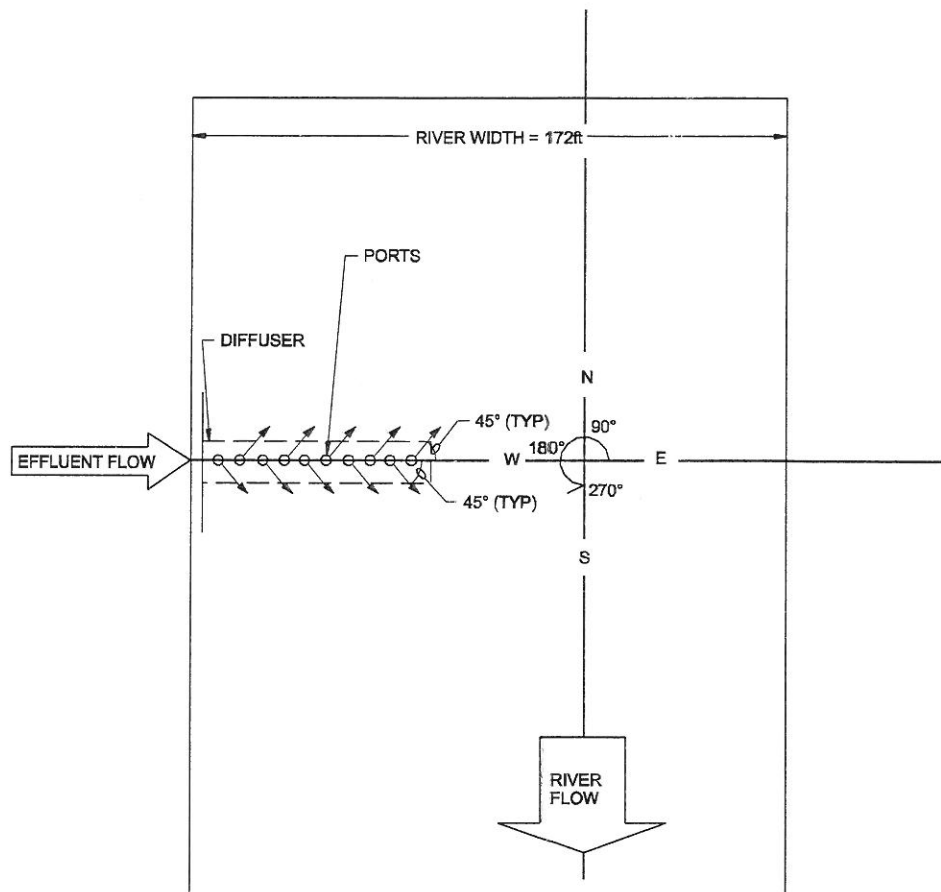
RISER NECKS AND LOWER
FLANGES TO BE FUSION
WELDED TO HEADER
BY MANUFACTURER



36" DIA MOLDED POLYETHYLENE
STUB END W/316 STAINLESS
STEEL BACKING FLANGE AND 316
STAINLESS STEEL BLIND FLANGE
I.E. 878.50

SHAKERAG DIFFUSER
PORT PROFILE
FORSYTH COUNTY, GA

CH2MHILL

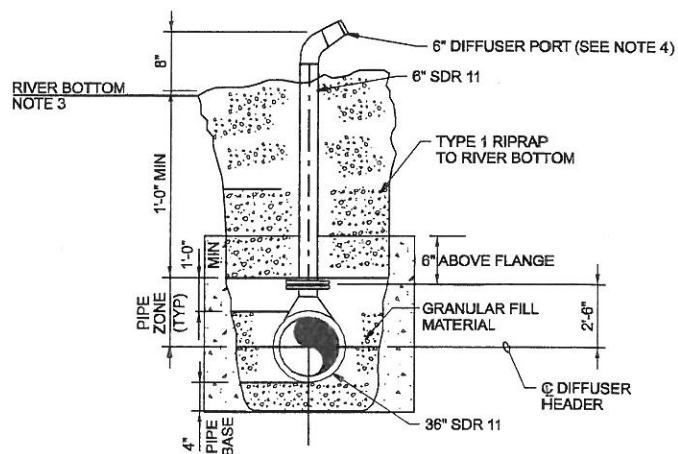


DIFFUSER PORT ORIENTATION LAYOUT

NTS

SHAKERAG DIFFUSER PORT
ORIENTATION LAYOUT
FORSYTH COUNTY, GA

CH2MHILL



NOTES:

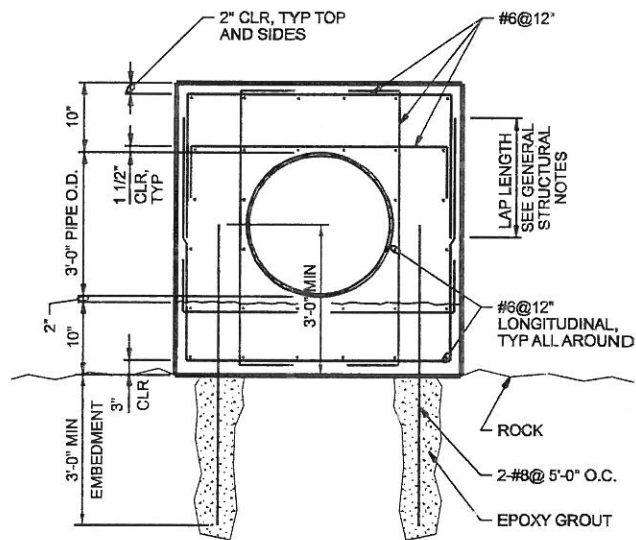
1. CONTRACTOR SHALL SUBMIT PLAN TO THE ENGINEER FOR PROTECTING DIFFUSER DURING PLACEMENT.
2. SEE PLAN VIEW FOR DIFFUSER PORT ORIENTATION LAYOUT
3. SEE DWG C-5A FOR BATHYMETRIC SURVEY OF RIVER BOTTOM.
4. INSTALL 6-INCH CHECK VALVE ON END OF EACH DIFFUSER PORT, VALVE SHALL BE TIDEFLEX SERIES TF-2 OR EQUAL.

DIFFUSER TRENCH AND RISER DETAIL

NTS

SHAKERAG DIFFUSER TRENCH
AND RISER DETAIL
FORSYTH COUNTY, GA

CH2MHILL



CONCRETE ENCASEMENT DETAIL

NTS

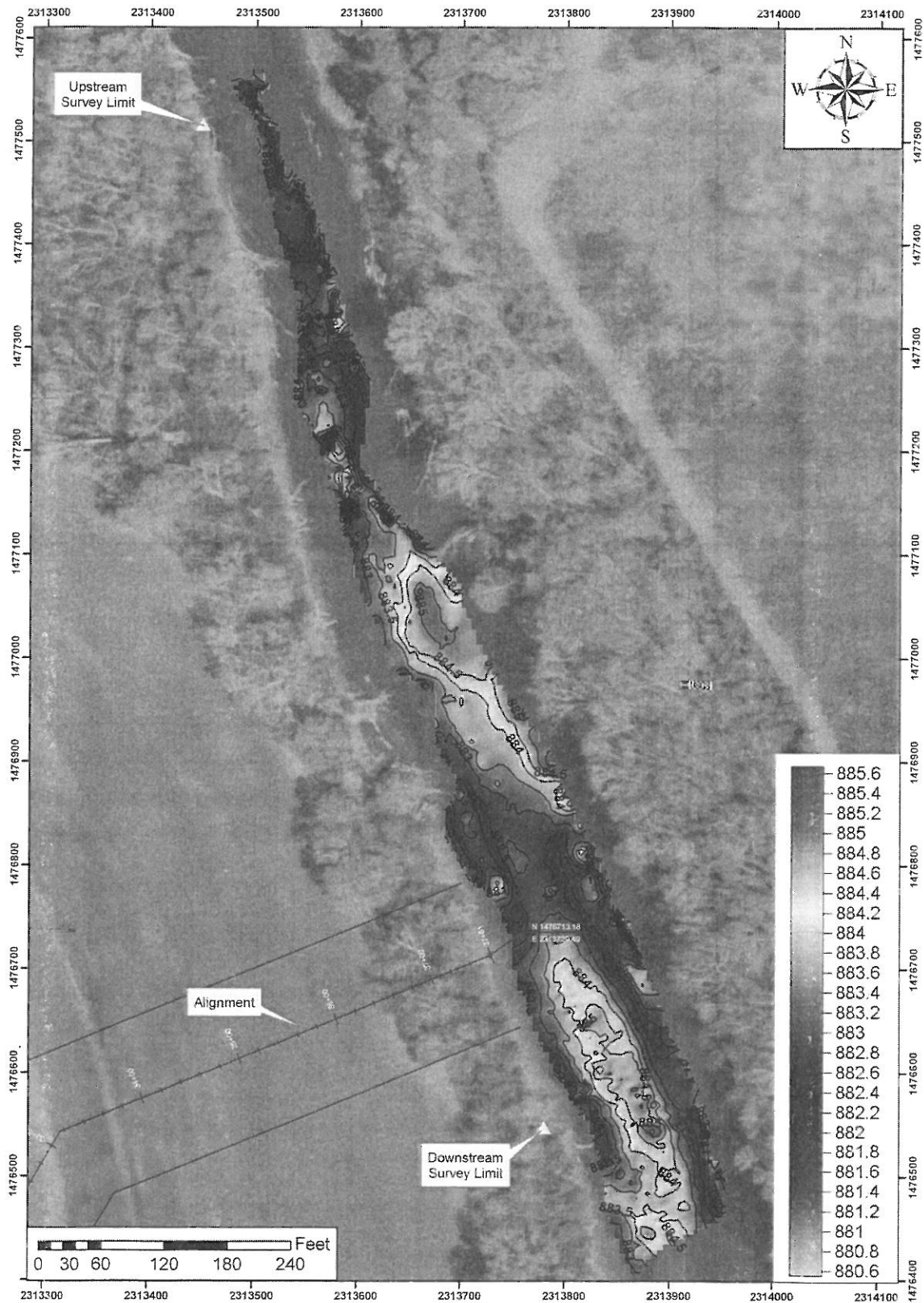
SHAKERAG CONCRETE
ENCASEMENT DETAIL
FORSYTH COUNTY, GA

CH2MHILL

Attachment 4
Bathymetric Survey Data*

*Drawings were produced based on a 2007 version of the site plan. Diffuser is not oriented as pictured. Please see the Overall Site Plan in Attachment 3 for correct alignment.

FIGURE 1 (Revised July 5, 2007)
BATHYMETRIC CONTOUR MAP
CHATTAHOOCHEE RIVER
FORSYTH COUNTY, GEORGIA
0.5 Foot Contour Line Interval and Surface Map

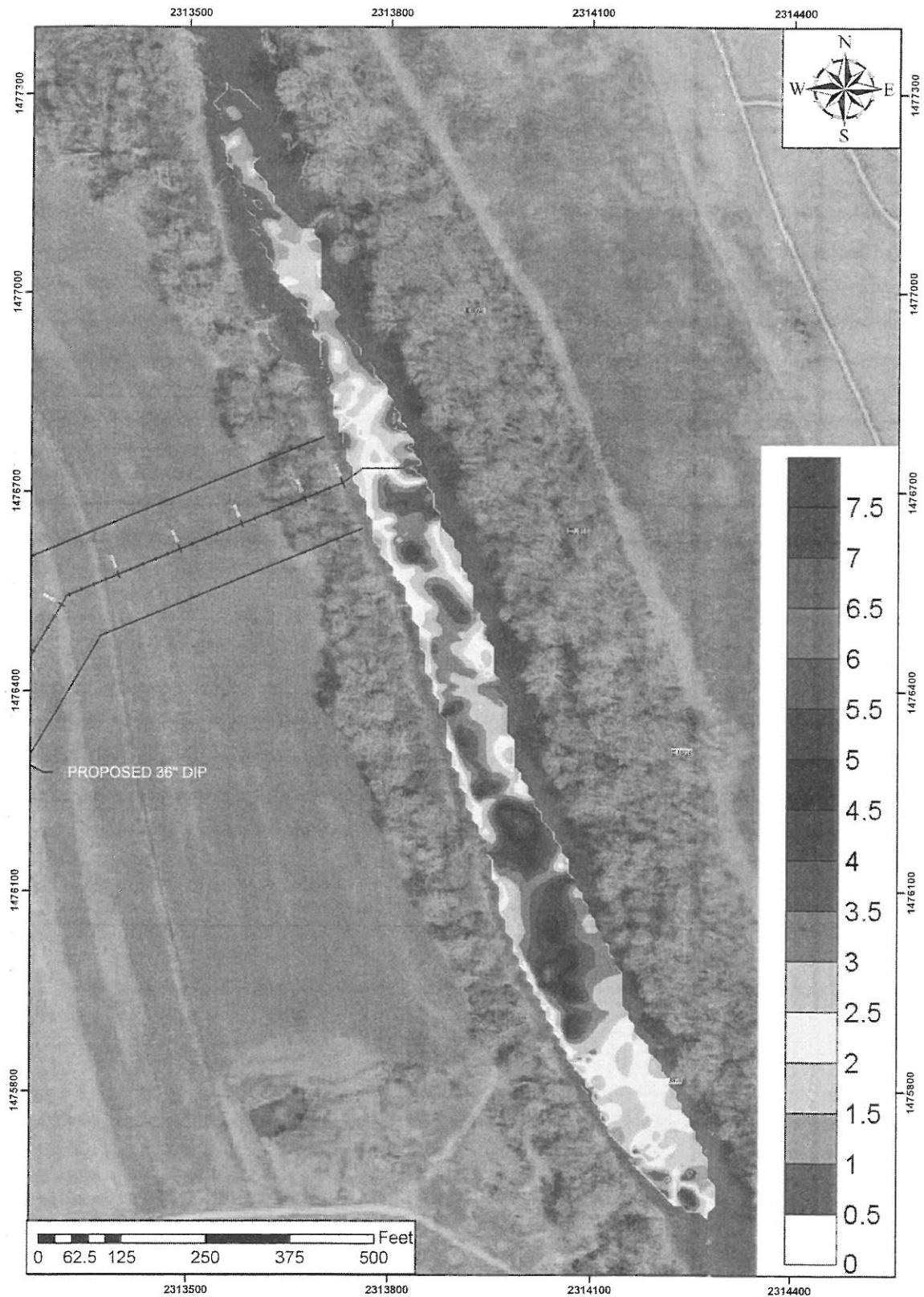


NOTES:

1. Survey conducted by CR Environmental, Inc. on March 13, 2007.
2. Data acquired using a 200-kHz precision echo sounder and DGPS navigation.
3. Grid: Georgia State Plane (West), NAD83, US Foot.

FIGURE 6

10-KHZ SUB-BOTTOM SONAR PENETRATION
CHATTAHOOCHEE RIVER
FORSYTH COUNTY, GEORGIA
(Revised July 5, 2007)



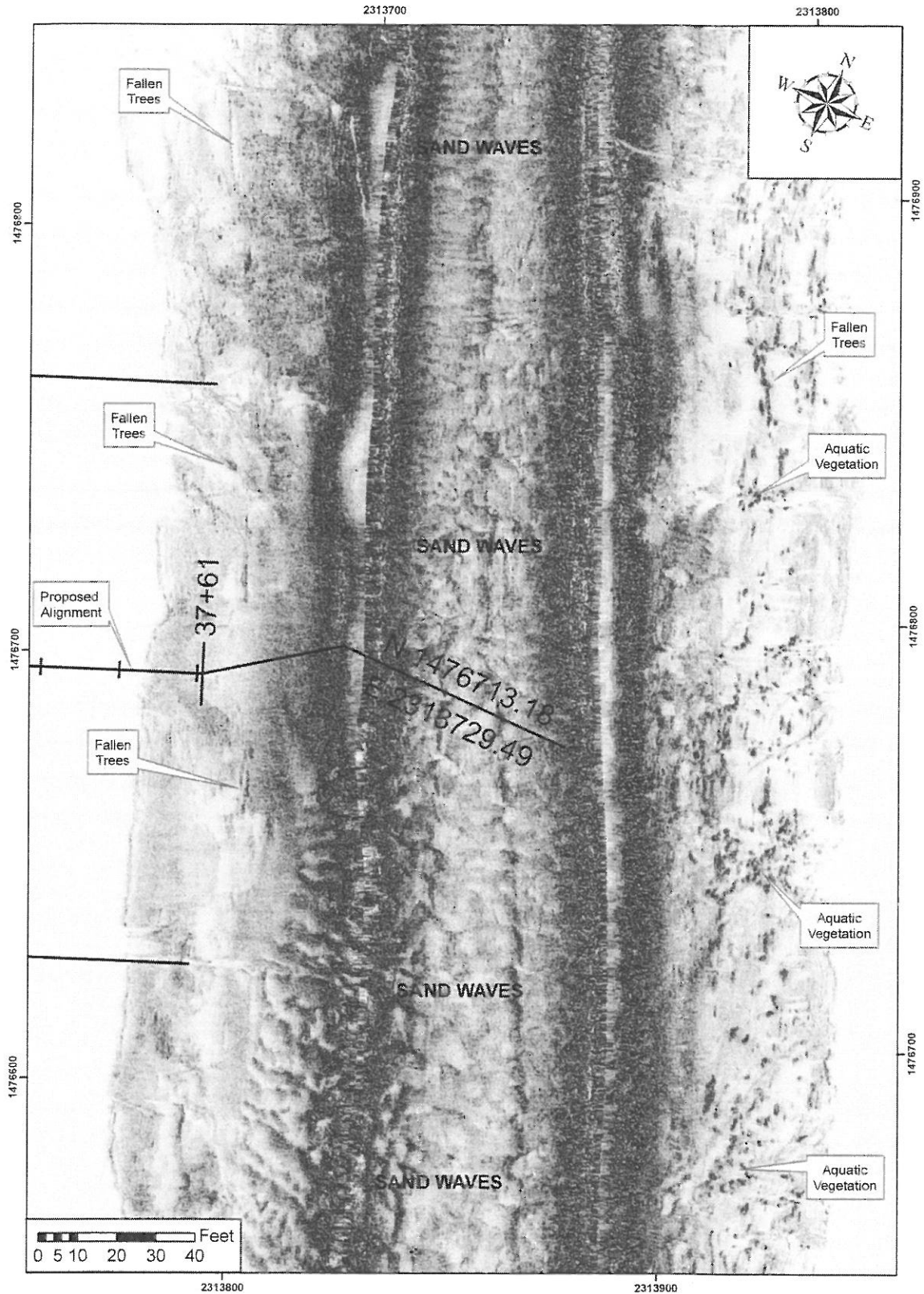
NOTES:

1. Survey conducted by CR Environmental, Inc. on March 13, 2007.
2. Data acquired using a 10 kHz signal, 30 foot range.
3. Grid: Georgia State Plane (West), NAD83, US Foot.

CRENENVIRONMENTAL, INC. WBE
ECOLOGICAL AND OCEANOGRAPHIC CONSULTANTS
639 Boxberry Hill Road
East Falmouth, MA 02536
Tel/Fax (508) 563 7970
www.crenvironmental.com

FIGURE 3

SIDE SCAN SONAR MOSAIC
NEAR PROPOSED ALIGNMENT
CHATTAHOOCHEE RIVER
FORSYTH COUNTY, GEORGIA
(Revised July 5, 2007)



NOTES:

1. Survey conducted by CR Environmental, Inc. on March 13, 2007.
2. Data acquired using a 500-kHz signal and DGPS navigation.
3. Grid: Georgia State Plane (West), NAD83, US Foot.

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Attachment C

Finding of No Significant Impact

Shakerag WRF Discharge Right-of-Way Request

Response to Substantive Comments

The Environmental Assessment was made available for public review and comment during a 30-day review period from September 30, 2010 to October 30, 2010. A total of four responses were received, including two from private individuals and two from non-profit organizations. A summary of the public comments received, and the park responses to those comments, are provided below.

- 1. A number of comments questioned the validity of the National Pollution Discharge Elimination System (NPDES) permit issued by the Georgia Environmental Protection Division (EPD), specifically asserting that shortcomings in the Anti-degradation analysis render the permit inconsistent with state rules and regulations governing water quality. Related comments noted that the permit has been the subject of a legal appeal.**

The NPS recognizes that the NPDES permit issued by the EPD in 2010 was subject to a successful legal appeal, which resulted in an administrative law judge remanding the permit to EPD for reissuance in 2011 with revised monthly average discharge limits of 23 cfu/100 ml for fecal coliform bacteria and 0.08 mg/l for total phosphorus. The potential impacts from the selected action are anticipated to be less than represented in the EA since the reissued permit will lower the monthly average discharge limits for fecal coliform bacteria and total phosphorus. Although the impacts to water quality are expected to be adverse, those impacts will be less than considered in the EA and will be less than significant to park resources. The ROW will be subject to compliance with all State requirements.

- 2. One comment indicated that the analysis of water quality impacts did not consider ambient water quality conditions.**

The NPS considered impacts to water quality from the discharge of treated wastewater in the EA and concluded that impacts to water quality would be minor and adverse.

Attachment D

Finding of No Significant Impact

Shakerag WRF Discharge Right-of-Way Request

Errata Sheet

The following bullets summarize the revisions to the September 2010 Environmental Assessment (EA) by page number. Strike through text reflects deletions and bold underline text reflects additions.

- Page ES-1, First paragraph: “..which was **initially** permitted by the Georgia Environmental Protection Division (GA EPD) to discharge up to 6 million gallons of wastewater a day (mgd) in August of 2010. **An appeal of the 2010 permit resulted in Administrative Law Judge Kristin L. Miller in 2011 directing GA EPD to reissue the permit.**”
- Page ES-3, Revise the third paragraph, “Additionally, the ~~anticipated~~, final NPDES permit limits for pH, 6.0 to ~~8.5~~ **9.0**,...”
- Page ES-3, Insert the following sentence prior to the second to the last sentence as follows: “...north Georgia. **The 2011 ruling by Administrative Law Judge Kristin L. Miller directed the EPD to reissue the permit with more stringent limits on phosphorus and fecal coliform bacteria. However,** this treatment...”
- Page ES-4, Change the intensity of effect of the Proposed Action under Nutrients from Minor Adverse to Minor to Moderate Adverse. This change is necessary because minor impacts to water quality were identified in the EA based on slightly detectable increases in fecal coliform and phosphorous levels that wouldn't compromise the continued attainment of state and federal water quality standards. Evidence presented in the legal challenge of the NPDES permit showed that, while state and federal water quality standards would continue to be met, increases in phosphorous levels at the originally permitted levels would be clearly detectable and therefore minor to moderate in intensity. This change is made in relevant sections throughout the EA.
- Page ES-5, First paragraph, change the second sentence to read: “The EA was available electronically at the Planning, Environment, and Public Comment (PEPC) website: <http://parkplanning.nps.gov/parkHome.cfm?parkId=364> and could also be viewed at the following locations during the 30 day public comment period:”
- Page ES-5, Delete last two paragraphs: “~~Written comments received during the official comment period will be considered as part of the National Environmental Policy Act process. If you wish to comment on the EA, you may submit comments on the document by mail (Superintendent, CRNRA; 1978 Island Ford Parkway; Sandy Springs, GA 30350), electronic mail (chat_superintendent@nps.gov), or through the PEPC website listed above. The public comment period will be open for 30 days.~~”

Please be aware that your entire comment—including your personal identifying information—may be made publicly available. While you can ask to have your identity withheld, we cannot guarantee that we will be able to do so. We will always make submissions from organizations or businesses, and from individuals identifying themselves as representatives of organizations or businesses, available for public inspection.”

- Page IV, Revise Appendix B of table of contents as follows: Appendix B GA EPD Wasteload Allocation Letter, NPDES Permit **(2010, Remanded for Reissuance)**, and 401 Certification Letter
- Page 2, Revise the first paragraph as follows: “...issued National Pollutant Discharge Elimination System (NPDES) permit # GA 0038954 on August 18, 2010 (Appendix B). **An appeal of the 2010 NPDES permit resulted in Administrative Law Judge Kristin L. Miller remanding the permit to GA EPD for reissuance in 2011.**”
- Page 6, Add the following sentence to the end of the last paragraph as follows: “**The 2011 ruling by Administrative Law Judge Kristin L. Miller requires the EPD to reissue the permit with more stringent limits on phosphorus and fecal coliform bacteria².**”
- Page 8, Revise the title of Table 1-1 as follows: “Shakerag WRF WLA and **2010** NPDES Permit Limits (including flows from Fowler WRF)”
- Page 35, Revise the first sentence as follows: “Wastewater impacts would be minor to moderate and would not pose a threat to aquatic life or human health.”
- Page 38, Change the intensity of effect of the Proposed Action under Nutrients from Minor Adverse to Minor to Moderate Adverse.
- Page 52, Revise the second to the last sentence of the Nutrients subsection as follows: “Considering the proposed discharge would have a **maximum** TP concentration limit of 0.3 mg/L...”
- Page 53, Insert the following language at the end of the first paragraph: “Although state and federal water quality standards would continue to be met, phosphorous levels in the area of the discharge would increase from 53 parts per billion to 58 parts per billion, which would be clearly detectable and therefore minor to moderate in intensity.
- Page 59, Revise the first sentence of the last paragraph as follows: “Negligible to minor adverse cumulative impacts to water quality would be anticipated during operation of the Chattahoochee diffuser.”
- Page 59, Delete the second sentence of the last paragraph: “Although the design discharge limits of the Shakerag WRF (Table 1-1) would be more stringent than the WLA discharge limits and urban reuse standards (GA EPD, 2002), temperature standards for the Chattahoochee River would cumulatively receive minor adverse impacts within the immediate vicinity of the diffuser.”

² Final Decision, Office of State Environmental Hearings, Docket No.: OSAH-BNR-WQC-1107476-60-Miller, June 1, 2011.