

PUBLIC NOTICE

US Army Corps Of Engineers Wilmington District

> Issue Date: January 10, 2014 Comment Deadline: February 10, 2014 Corps Action ID Number: SAW-2012-00058

The Wilmington District, Corps of Engineers (Corps) received an application from Charlotte-Mecklenburg Storm Water Services seeking Department of the Army authorization to place fill in 448 linear feet of stream channel and 0.24 acre of wetlands, associated with the construction of the Prosperity Ridge Road connector in Charlotte, Mecklenburg County, North Carolina.

Specific plans and location information are described below and shown on the attached plans. This Public Notice and all attached plans are available on the Wilmington District Web Site: <u>http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram.aspx</u>

Applicant: City of Charlotte Storm Water Services Mr. Isaac Hinson 600 East 4th Street Charlotte, North Carolina 28202

Authority

The Corps evaluates this application and decides whether to issue, conditionally issue, or deny the proposed work pursuant to applicable procedures of the following Statutory Authorities under Section 404 of the Clean Water Act (33 U.S.C. 1344)

Location

The site is located approximately 0.3 miles east of the Prosperity Church Road and Ridge Road intersection (on Ridge Road) in Charlotte, Mecklenburg County, North Carolina. The proposed project will connect two unfinished road gaps in Prosperity Ridge Road between Prosperity Church Road and Ridge Road in the northeast quadrant of the Prosperity Village Subdivision. Coordinates for the road segment are: 35.373141°N and -80.779926°W. The project area contains wetland abutting an unnamed tributary to Stoney Creek located in the Upper Pee Dee River basin (CU 03040105). The Yadkin River joins the Uwharrie River to form the Pee-Dee River. The Yadkin-Pee Dee River is a Section 10 navigable water starting downstream of the Blewett Falls dam on Blewett Falls Lake on the Anson/Richmond County line.

Existing Site Conditions

The project area is approximately 2.0 acres and is comprised of asphalt paved roadways, residential lots with maintained lawns, non-maintained open fields, and woodland areas. Dominant vegetation within the project area consists of goldenrod (*Solidago*), sweetgum (*Liquidambar styraciflua*), kudzu (*Pueraria montana*), common blackberry (*Rubus argutus*), sericea lespedeza (*Lespedeza cuneata*), and little bluestem (*Schizachyrium scoparium*).

The Soil Survey of Mecklenburg County (NRCS, 1980) identified four mapped soil types within the project vicinity: Helena sandy loam (HeB), Enon sandy loam (EnB), Cecil sandy clay loam (CeB2), and Mecklenburg fine sandy loam (MeB). The Enon, Cecil, and Mecklenburg series are well drained and exhibit high permeability. The Helena series is moderately well drained with moderate permeability. The Helena series is listed as partially hydric in Mecklenburg County.

Two wetlands were observed within the project study area. Wetlands were identified as WL1 and WL2. Wetland 1, designated as WL1, is classified as a Palustrine Emergent (PEM)/Palustrine Forested (PFO) wetland and is located north of Ridge Road, abutting Stream 1. WL 1 is approximately 0.23 acre in size. This wetland exhibited inundation, saturation to the surface, water stained leaves and drainage patterns. Dominant vegetation identified within WL1 included common rush (*Juncus effusus*), cattail (*Typha latifolia*), seedbox (*Ludwigia alternafolia*), hazel alder (*Alnus serrulata*), eastern cottonwood (*Populus deltoides*) and various sedges (*Carex spp*). Wetland 2, designated WL2, is classified as a PEM wetland, and is located south of Ridge Road, abutting Stream 1. WL2 is approximately 0.01 acre in size and is maintained by mowing. This wetland exhibited saturation to the surface, crayfish mounds, sediment deposits, water stained leaves and drainage patterns. Dominant vegetation identified within WL2 included watercress (*Nasturtium officinale*), fescue (*Festuca sp.*), polygonum (*Polygonum sp.*), and various sedges.

One jurisdictional stream was observed within the project study area and identified as Stream 1. Stream 1 is an unnamed tributary to Stoney Creek that flows southeast through the project area and crosses under Ridge Road. Stream 1 was classified as a perennial relatively permanent water (RPW) and exhibited a 3-4 foot wide ordinary high water mark (OHWM). Stream 1 exhibited a well defined bed and bank, moderate flow and sinuosity and substrate consisting of silt, sand, gravel, and small cobble. Stream 1 rated 51 out of a possible 100 points on the USACE Stream Quality Assessment Form and scored 31 out of 60 possible points on the NCDWR Stream Classification Form. Stream 2 is a non-jurisdictional roadside swale located in maintained upland lawns. Stream 2 classified as a non-jurisdictional ditch through uplands and exhibited no sinuosity or groundwater flow. The substrate within Stream 2 consists primarily of silt and vegetation. Non-jurisdictional Stream 2 rated 26 out of a possible 100 points on the USACE Stream Quality Assessment Form and scored 10 out of 60 possible points on the NCDWR

Applicant's Stated Purpose

The basic purpose of this project is to construct a road and new intersection. The overall purpose of the project is to construct a road that will connect previously segmented portions of Prosperity Ridge Road to Ridge Road and create a new intersection at Ridge Road.

Project Description

This project will extend Prosperity Ridge Road to Ridge Road and create a new intersection. This project is part of the Transportation Action Plan (TAP) that was adopted by the Charlotte City Council in 2006 that will provide a policy framework to improve mobility and reduce vehicle-miles-of-travel. This project will construct a section of the roadway that will serve as an integral part of the roadway system for the future I-485 interchange. The plan calls for a dense grid of two-lane thoroughfares and a splitdiamond interchange with I-485 rather than a conventional multilane road with a simple diamond interchange. The split-diamond concept requires that there be three parallel north-south minor thoroughfares across I-485 to distribute the traffic through the interchange. Prosperity Ridge Road is the easternmost of the three minor thoroughfares. Construction of this project will build part of thoroughfare that provides access to the I-485 eastbound on-ramp and westbound off-ramp. This section of road that is being proposed is located on the north side of Ridge Road and connects previously segmented portions of Prosperity Ridge Road. The southernmost section of Prosperity Ridge Road that will ultimately connect to the I-485 interchange has been constructed and previously permitted by a private developer.

Construction of this project will result in 369 linear feet of permanent impacts and 79 linear feet of temporary impacts to jurisdictional Stream 1, and 0.24 acre of permanent impacts to wetlands. A portion of Stream 1 will be relocated and directed into an upgraded and extended pipe system that will carry the flow under the proposed intersection of Prosperity Ridge Road and Ridge Road. Stream 1 currently flows through an existing 75 linear feet dual 36 inch RCP culvert under Ridge Road. The existing culvert will be replaced with an extended 8-foot by 4-foot RCP box culvert pipe system, totaling 333 linear feet, installed beneath the proposed connector segment of Prosperity Ridge Road and under the existing Ridge Road. The proposed 8' wide single box culvert will provide additional hydraulic capacity at lower stages than does the dual 36" pipes and will provide a 50-year event or greater level of service for roadway flooding. Approximately 292 linear feet of Stream 1 upstream of the pipe system will be relocated and/or filled to facilitate flow into the new pipe system. Approximately 85 linear feet of new channel will be constructed to match the new pipe inlet. This relocated portion of Stream 1, along with an additional 52 linear feet of channel to be enhanced in place, will transition from the existing channel through a series of three boulder step structures over 85 linear feet, with channel improvements between the boulder step structures. These boulder step structures will be constructed to provide the necessary vertical transition and to adequately dissipate velocities before entering the proposed box culvert pipe system.

Average rock size for the boulders used will be 2'x2'x1.5', with the header rock being a minimum of 2'x1'x1'. Filter fabric will be installed from the middle of the header boulder and extend downward to the depth of the bottom footer boulder, and then upstream for a minimum of six feet. A mix of Class A and B rip rap will be used to fill the upstream side of each structure. The channel improvements will include lining the toe of the banks with Class I rip rap with filter fabric underneath and installing temporary erosion control matting and vegetation along the upper portion of the bank. Please note that the 10-year velocity exceeds the recommended permissible velocity and sheer stress limits from soil or synthetic matting, thereby requiring the use of rip rap toe stabilization. Downstream of Ridge Road, the proposed pipe system will be extended 39 feet beyond the existing culvert outlet to allow for the construction of a sidewalk. Below the proposed outlet, flows will discharge to a 38 linear foot stilling basin. The basin will be constructed of Class I rip-rap with filter fabric under the rip-rap. This stilling basin will also assist with water quality by slowing flow velocity and allowing sediment to settle out. From the stilling basin, an additional 27 linear feet of Stream 1 will be reshaped and the toe of the banks will be stabilized with rip rap before tying back into the original channel. The channel improvements will be the same as mentioned previously. Due to construction of a new sidewalk extension along the south side of Ridge Road, the approximate 100 linear feet of non-jurisdictional Stream 2 will be relocated in to an 18-inch diameter storm water piping system. Approximately 0.24 acre of wetlands (0.23 acre of WL1 and 0.01 acre of WL2) will be impacted from construction of the proposed project. Construction of roadway side slopes will result in the permanent placement of fill within WL1 and WL2. Impacts to Waters of the U.S. are summarized in Table 1 below.

Table 1: Summary of Impacts to Jurisdictional Waters of the U.S.				
Jurisdictional Feature	Plan Sheet (Location)	Activity	Impacts	
			Permanent	Temporary
Stream 1	SD-1	Channel relocation and fill for new Prosperity Ridge Road segment and pipe system installation (upstream of Ridge Road)	292 LF	0
Stream 1	SD-1 (Sta. 124+00 – 124+60)	Stream enhancement within existing channel to facilitate transition to relocated channel and pipe system (upstream of Ridge Road)	0	52 LF
Stream 1	SD-1 (Sta. 119+85 – 120+23)	Pipe system extension beyond existing culvert outlet (downstream of Ridge Road)	39 LF	0
Stream 1	SD-1 (Sta. 119+47 – 119+85)	Rip rap stilling basin at pipe system outlet	38 LF	0
Stream 1	SD-1 (Sta. 119+20 – 119+47)	Stream enhancements and bank stabilization downstream of stilling basin	0	27 LF
Wetland 1	SD-1	Fill	0.23 Ac.	0
Wetland 2	SD-1	Fill	0.01 Ac.	0
Total Impacts for Streams			369 LF	79 LF
Total Impacts for Wetlands			0.24 Ac.	0

Avoidance and Minimization

The applicant provided information in support of efforts to avoid and/or minimize impacts to the aquatic environment. There are several constraints that limit the applicant's ability to avoid and minimize impacts to waters of the U.S. to include 1) proper connection of Prosperity Ridge Road subdivision stub-out -to- Prosperity Ridge Road south and South Prosperity Ridge Road -to- Ridge Road 2) minimization of impacts to adjacent properties and structures and 3) tie-in with the proposed residential subdivision entrance on the south side of Ridge Road. Given these engineering and construction goals, the applicant evaluated several alternatives. The main area of impacts to jurisdictional waters is upstream (north) of Ridge Road. At this location, impacts generally result from construction of the new segment of Prosperity Ridge Road that connects with Ridge Road. The location of this road segment is dictated by the existing Prosperity Ridge Road alignment, stub-out location, and proximity to adjacent structures and properties. There is no opportunity to adjust the footprint or fill limits of the road. Outside of the actual road footprint, the proposed storm drainage design and alignment will result in impacts to jurisdictional waters. This proposed storm drainage design was evaluated for avoidance and minimization opportunities. Alternative improvement analysis revealed multiple challenges, including: physical grade constraints of the roadways; proximity and elevation of existing buildings/structures; existing utilities within the roadway; and existing drainage system alignment and grade. Jurisdictional impacts upstream of the proposed Prosperity Ridge Road are due to the extension of the upgraded pipe system and the location of the inlet of the pipe system, which is shifted away from the existing alignment of Stream 1. This alignment necessitates relocation of the stream with enhancement of the relocated channel and existing channel immediately upstream of the relocated channel. The existing dual 36" RCPs will be replaced with an 8' x 3' RCBC at an average 0.50% slope. The proposed design, including extension and alignment, are necessary to:

- provide additional hydraulic capacity at lower stages than the existing dual 36" pipes;
- provide for a 50-year event or greater level of service for roadway flooding;
- accommodate the road widening and provide adequate clear zone per design standards;
- minimize flooding potential for adjacent structures and minimize impacts (abandonment) to the existing upstream channel and wooded areas; and
- minimize extent of impacts upstream and downstream by raising the proposed culvert slightly: minimal cover between the proposed finished roadway grade and the top of the RCBC and the required minimal clearance between the bottom of the RCBC and the 16" water main and 8" sanitary sewer. (Note: Installation of a larger size culvert to provide a natural bottom, either buried 1' or a bottomless arch culvert, is not possible without relocation of a 16" water main, additional

sanitary sewer relocation, approximately 200' of additional channel improvements upstream and downstream to tie-in, and a complete road closure of the thoroughfare for an extended duration).

A design alternative that included shifting the inlet to the west, and thereby line up better with the current stream channel alignment, was considered in an effort to minimize channel fill and relocation impacts. However, hydraulic and hydrologic analyses indicate that this alignment would increase flooding at the intersection and of adjacent building structure at 4902 Ridge Road. This adjacent structure is currently at the same elevation of the existing roadway but will be lower than the proposed roadway after construction. These flood concerns dictated that the inlet be relocated to its proposed location. Improvements to the relocated and existing channel upstream of the proposed pipe system inlet are also intended to minimize impacts. Storm water is currently directed across the entire parcel at 6902 Ridge Road and to the existing channel and ultimately the road crossing. The proposed upstream channel improvements include:

- re-grading the areas adjacent to the roadways to relocate the "low point" of the system from the northwest curb return to the headwall;
- grading to establish a new channel alignment;
- providing grade control structures within the new upstream channel segment to provide vertical transition and to minimize length of impacts to the existing channel and upstream wooded areas; and
- incorporating channel section improvements with a rip rap toe to tie-in to the existing channel and to minimize scour and bank erosion. A vertical drop of over 3' is needed to connect the existing channel into the proposed crossing (Note: the 10-year velocity is approximately 4.6 fps and exceeds the recommended permissible velocity and sheer stress limits for soil or synthetic matting. A significant amount of overland runoff will be entering the channel from the west side and the potential for bank erosion at the new channel location and crossing inlet is higher resulting in the need for structural stabilization.)

Compensatory Mitigation

The applicant offered the following compensatory mitigation plan to offset unavoidable functional loss to the aquatic environment.

Approximately 369 linear feet of stream channel will be permanently filled as a result of this project. The City is proposing to construct 85 linear feet of new channel with a boulder step structure sequence on the intake side of the box culvert. The City proposes that this newly constructed channel segment provide on-site mitigation at a 1:1 ratio. The City is proposing the utilize the City of Charlotte Umbrella Stream and Wetland Mitigation Bank (Bank) and the North Carolina Ecosystem Enhancement Program (NCEEP) for the remainder of the stream and wetland impacts at a 2:1 ratio.

Essential Fish Habitat

Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, this Public Notice initiates the Essential Fish Habitat (EFH) consultation requirements. The Corps' initial determination is that the proposed project would not effect EFH or associated fisheries managed by the South Atlantic or Mid Atlantic Fishery Management Councils or the National Marine Fisheries Service.

Cultural Resources

Pursuant to Section 106 of the National Historic Preservation Act of 1966, Appendix C of 33 CFR Part 325, and the 2005 Revised Interim Guidance for Implementing Appendix C, the District Engineer consulted district files and records and the latest published version of the National Register of Historic Places and initially determines that: No historic properties, nor properties eligible for inclusion in the National Register, are present within the Corps' permit area; therefore, there will be <u>no historic properties affected</u>. The Corps subsequently requests concurrence from the SHPO (or THPO). The District Engineer's final eligibility and effect determination will be based upon coordination with the SHPO and/or THPO, as appropriate and required, and with full consideration given to the proposed undertaking's potential direct and indirect effects on historic properties within the Corps-indentified permit area.

Endangered Species

Pursuant to the Endangered Species Act of 1973, the Corps reviewed the project area, examined all information provided by the applicant and consulted the latest North Carolina Natural Heritage Database. Based on available information, the Corps determines that the proposed project would not affect federally listed endangered or threatened species or their formally designated critical habitat. In a U.S. Fish and Wildlife Service (FWS) letter dated April 9, 2012, a survey for the federally threatened Schweinitz's sunflower (*Helianthus schweinitzii*) was requested for the project site. GAI performed a pedestrian survey within the FWS optimal survey window for Schweinitz's sunflower on October 24, 2013. The approximate 1.50 acre study area centered on the project's proposed 0.83 acre of non-forested land disturbance. Potential habitat (an approximate 0.20-acre area) for the Schweinitz's sunflower is located at the terminus of the existing paved Prosperity Ridge Road "split" near an approximate 0.15-acre detention pond. The Schweinitz's sunflower was not observed during the site investigation in the project study area. In fact no specimens of the genus *Helianthus* were found in the project area. The Schweinitz's sunflower assessment report is available upon request.

Other Required Authorizations

The Corps forwards this notice and all applicable application materials to the appropriate State agencies for review.

North Carolina Division of Water Resources (NCDWR): The Corps will generally not make a final permit decision until the NCDWR issues, denies, or waives the state Certification as required by Section 401 of the Clean Water Act (PL 92-500). The receipt of the application and this public notice, combined with the appropriate application fee, at the NCDWR Central Office in Raleigh constitutes initial receipt of an application for a 401 Certification. A waiver will be deemed to occur if the NCDWR fails to act on this request for certification within sixty days of receipt of a complete application. Additional information regarding the 401 Certification may be reviewed at the NCDWR Central Office, 401 and Buffer Permitting Unit, 512 North Salisbury Street, Raleigh, North Carolina 27604-2260. All persons desiring to make comments regarding the application for a 401 Certification should do so, in writing, by February 10, 2014 to:

NCDWR Central Office

Attention: Ms. Karen Higgins, 401 and Buffer Permitting Unit (USPS mailing address): 1650 Mail Service Center, Raleigh, NC 27699-1650 or, (Physical address): 512 North Salisbury Street, Raleigh, North Carolina 27604

Evaluation

The decision whether to issue a permit will be based on an evaluation of the probable impacts including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values (in accordance with Executive Order 11988), land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving the discharge of dredged or fill materials in waters of the United States, the evaluation of the impact of the activity on the public interest will include application of the Environmental Protection Agency's 404(b)(1) guidelines.

Commenting Information

The Corps of Engineers is soliciting comments from the public; Federal, State and local agencies and officials, including any consolidated State Viewpoint or written position of the Governor; Indian Tribes and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment (EA) and/or an Environmental Impact Statement (EIS)

pursuant to the National Environmental Policy Act (NEPA). Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. Requests for a public hearing shall be granted, unless the District Engineer determines that the issues raised are insubstantial or there is otherwise no valid interest to be served by a hearing.

The Corps of Engineers, Wilmington District will receive written comments pertinent to the proposed work, as outlined above, until 5pm, February 10, 2014. Comments should be submitted to Ms. Amanda Fuemmeler, Asheville Regulatory Field Office, 151 Patton Avenue, Room 208, Asheville, North Carolina 28801-5006, at (828) 271-7980 extension 231.







EX. CHANNEL - 52' PROP. CHANNEL IMPROVEMENTS WITH RIPRAP TOE END PROP. IMPROVEMENTS TIE TO EX. CHANNEL PROSPERITY RIDGE RD. (70' PUBLIC RIGHT-OF-WAY) NOTE: LENGTHS MEASURED ALONG EXISTING AND PROPOSED CENTERLINE. Prosperity Ridge Connection Design - 8'x3' RCBC

11/2013 Scale 1" = 50'



Tuesday, October 01, 2013 11:30:24 AM







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Monday, September 30, 2013 3:02:53 PM