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MEMORANDUM

To: John Page, Parsons Brinkerhoff

From: Lorrie Laliberte Boswell, CZR Incorporated

Date: 16 June 2015

RE: Mid-Currituck Sound Bridge Study Task Order No. 20

Purpose: Examine whether the natural resource setting as documented in the December 2011 Currituck Natural Resources Technical Report (NRTR) and January 2012 Final Environment Impact Statement (FEIS) has changed

Surface waters:

The most recent Google Earth images (dated March 9, 2013) were compared to figures in Appendix A of the NRTR to determine if any new ponds were present and confirm that previously identified ponds remained. Pond P003 most likely should be considered Currituck Sound waters instead of pond surface waters because it is directly connected to the sound. Pond P018 previously had a thin strip of wetland separating it from Currituck Sound, but because of erosion, the wetland was breached by sound waters and the pond is now part of Currituck Sound. The eastern shoreline of Currituck Sound within the impact area of the preferred alternative (larger of the right-of-way and slope-stake + 25' boundary areas) has eroded in some places (approximately 45 feet in one spot that was visited 4 February 2015), and so there would be more Currituck Sound waters than previously mapped. No other changes in surface waters, including in the Preferred Alternative impact area, were noted.

Water use classification:

Based on NCDENR web site information (<http://portal.ncdenr.org/web/wq/ps/csu/classifications>, accessed January 2015), there are no changes to the water use classification information presented in the NRTR.

Logged Land in Maple Swamp

The most recent Google Earth images (March 9, 2013) were compared to previous figures to note changes. The extent of logging appeared to be the same as described in the NRTR. No changes in the extent of logging were noted in the field, other than a narrow strip along the existing powerline corridor near the area of the proposed toll plaza (depicted in a separate February 2015 field reconnaissance memorandum).

Significant Natural Heritage Areas

The Natural Heritage Program database (NCNHP 2015) was checked in January 2015 (after it was updated January 12, 2015) and Maple Swamp is still shown as a SNHA and the boundaries have not changed. As of July 2014, the NHP now uses the term Natural Heritage Natural Area instead of

SNHA. A separate memorandum details the January 2015 search of the updated data base concerning the proposed impact area and explains the change in terminology.

Impacts to Terrestrial Habitat

Succession of logged areas is discussed in the NRTR, but some of these logged areas may now be mapped as a different biotic community under current conditions. These communities, primarily young forests, still reflect types previously addressed. In general, animals and plants associated with regenerating forests are opportunistic, transitional, widespread, and common, and as forests mature, they often become more complex in structure and function, which in turn supports a greater diversity of species. No new habitat or expanded habitats preferred by protected species is expected with these transitional communities.

Wetland boundaries

A site visit occurred 3-4 February 2015 to evaluate jurisdictional boundaries. The visit was not comprehensive because of the preliminary nature of the task but focused on representative locations of most wetland polygons that were within the Preferred Alternative impact area and identified on NRTR figures. Several differences were found in wetland boundaries (cases of less wetland than mapped and cases of more wetland than mapped were encountered). One pond (P018) that previously had a thin strip of wetland separating it from Currituck Sound is now part of the sound (additional estuarine waters) because the wetland was breached by sound waters and there is a permanent connection with the sound. There is a wetland in close proximity to this same pond that might now be connected to the sound either hydrologically and/or the previously mapped upland strip between the wetland and the pond might now be wetland. One or two of these wetlands may now be classified as estuarine waters. The shoreline on the eastern side of the sound appears to have eroded in some areas. A separate wetlands field trip memorandum describes all the changes that were noted from areas visited during the February field reconnaissance as well as recommendations on how to proceed with a comprehensive re-evaluation of jurisdictional boundaries.

CAMA AECs

The CAMA AEC's pertinent to the impact area are public trust areas (Currituck Sound and 75-foot AEC boundary from the shoreline), estuarine waters (Currituck Sound), coastal shoreline, and coastal wetlands (marsh communities). Changes in the shoreline on the east side of Currituck Sound are noted above. Areas to the south of the bridge impact area show an apparent accretion of marsh and westward movement of the marsh/open water boundary (based on review of the 2012 aerial photographs). No changes in marsh were observed in the impact area.

Terrestrial Wildlife – Important Bird Nesting Areas

The Natural Heritage Program database was accessed January 2015 for recent records in Currituck and Dare Counties. (Database was last updated by NHP on January 12, 2015.) A separate memorandum details the January 2015 search of the updated data base concerning the impact area of the Preferred Alternative. Sara H. Schweitzer, NCWRC, confirmed that nearby Monkey Island (approximately 3.5 miles from the proposed bridge location in the sound) remains an important rookery for colonial water birds (pers. com. January 23, 2015). Many of the birds that use this nesting site, or are hatched there, forage throughout the area, including the project area. The Monkey Island rookery was documented in the 2011 NRTR.

NC River Basin Buffer Rules

The NCDENR Web site (<http://portal.ncdenr.org/web/wq/swp/ws/401/riparianbuffers/rules>) was accessed January 2015 and there were no buffer rules for the Pasquotank River Basin so there are no changes to this discussion in the NRTR.

Changes to state storm water quality law

Based on NCDENR web site information (<http://portal.ncdenr.org/web/lr/rules-and-regulations>, accessed January 2015), there are no changes to the storm water quality law as it is discussed in the 2011 NRTR.

Compensatory Mitigation of Wetland Impacts

LeiLani Paugh (NCDOT) reported to Tracy Roberts in an email the amount and type of mitigation remaining at Ballance Farm and confirmed in an email to CZR January 21, 2015 the amounts and types available. She also indicated that when appropriate, out-of-kind mitigation could possibly be used. (It is anticipated that wetland impacts by the Mid-Currituck Bridge Project will be considered non-riparian, but the credits available at Ballance Farm are riparian.) The following credits are available:

*196.01 Riparian restoration = 196.01 credits
33.95 Riparian preservation = 6.79 credits
2.16 Coastal marsh creation = 0.72 credit
47.81 Coastal marsh preservation = 9.56 credits*

Appendix E of the NRTR says: "For the purposes of this conceptual mitigation plan, it is assumed that the compensatory mitigation ratio for permitted impacts to forested wetlands would be 2:1 with a minimum ratio of 1:1 for restoration, with the remainder of the requirement being met through enhancement, preservation, or creation. If sufficient on-site opportunities within the right of way are not available, the remainder of the mitigation requirement could be met through a combination of approaches including the NCDOT Ballance Farm Mitigation Site, payment to NCEEP, or wetland preservation, pending agency concurrence. Based on the projected wetland impacts of the Preferred Alternative (8.3 acres) and applying the 1:1 requirement for restoration, 8.3 acres of restoration would be required. The wetlands impact shown in Table 3-10 of the FEIS for the Preferred Alternative was 7.9 acres. The 0.4 acre increase reflects grubbing that would be needed at pile bents along the Maple Swamp bridge. This change was made based on a FEIS comment by USACE.

The remainder of the mitigation requirement could be satisfied through 15.8 acres of wetland enhancement or 39.5 acres of wetland preservation or a combination of enhancement and preservation." As such, the current plan does not rely solely on the Ballance Farm Mitigation Site. However, in the re-evaluation report, the conceptual mitigation plan should be revised to reflect the that non-riparian credits are no longer available at the Balance Farm Mitigation Site and indicate if suitable non-riparian credits are available at another site."

Endangered Species Act Protected Species

Two species, the rufa red knot and Atlantic sturgeon have been elevated to endangered species and granted protection under the Endangered Species Act since the previous reports/documents were prepared. The Atlantic sturgeon was included and addressed in the 2011 Biological Assessment (BA)

as a species proposed for protection and a determination was given. Sturgeons use and occupy the Atlantic Ocean and Currituck Sound. NC Natural Heritage Program has a 2012 record of an Atlantic sturgeon within the project area of the Currituck Sound (NCNHP 2015). Exact locations for this record are unknown, but it was within or in close proximity to the proposed bridge over Currituck Sound. Two Atlantic sturgeons were reported in Currituck Sound through the NCDMF Observer Program in 2013 (both north of the impact area and one was reported in 2014 (near the Wright Memorial Bridge) (Jacob Boyd, protected species biologist, NCDMF, pers. com. 11 February 2015). At the time the 2011 BA was prepared there were no sightings of the Atlantic sturgeon in Currituck Sound on record. However, the BA indicated and took into consideration in its findings that Atlantic sturgeon are expected to exist in Currituck Sound, at least part of the year.

The rufa red knot is a long-distance migrant bird and occasional visitor (non-nester in NC) throughout the year to ocean-front habitats along the Outer Banks. The red knot was mentioned in the 2011 NRTR as a candidate species. A separate Protected Species Technical Memorandum is being prepared to address the red knot.

Bald Eagle

Requests for locations of known bald eagle nests were made to WRC and USFWS and no new information exists since the last official tracking/surveying for nests by NCWRC in 2011 (pers. com. David Allen, WRC Coastal Wildlife Diversity Supervisor, 18 December 2014 and pers. com John Stanton, USFWS supervisory wildlife biologist, 21 January 2015). The 2012 bald eagle nest survey and report by CZR is the last relevant survey for the vicinity of the project area. Suitable nest trees exist throughout the area and because this species is rebounding, and new nesting sites are expanding, the potential of new nests in the project area remains a possibility. CZR visually surveyed for eagles and eagle nests in the vicinity of the project area during a February 2015 field reconnaissance. The February 2015 survey was limited to selected areas and along most of the public roads in the wetland re-evaluation area. Potential nest trees, including larger trees, and isolated pine trees along the edges of the water/swamp were inspected with binoculars and a spotting scope. No potential eagle nests were detected; however, two sub-adult bald eagles were photographed; one on a power pole just south of Aylett Road and east of US 158 and another bird flying north over the Maple Swamp power line corridor on 3 February 2015.

If any eagles were to nest within one-mile of the impact area, this activity could affect the timing of construction activities. Surveys would be useful if scheduled prior to construction to avoid and minimize potential disturbance and impacts to construction timing. A survey of an approximate one-mile radius from the impact area would be typical. No new eagle nest surveys are recommended at this time.

Endangered Species Act Candidate Species

*The rufa red knot was mentioned in the 2011 NRTR but it is no longer a candidate species and is being addressed in a new protected species memorandum. The northern long-eared (or northern myotis) bat *Myotis septentrionalis* Trouessart is proposed for listing. A separate memo being prepared by CZR contains information on current status, habitat, likelihood of occurrence in project area, and possible effects of the project on this species.*

Essential Fish Habitat (EFH)

*National Marine Fisheries Service
(http://sero.nmfs.noaa.gov/sustainable_fisheries/s_atl/index.html), South Atlantic Marine Fisheries*

Council (<http://safmc.net/fish-id-and-reg/regulations-species>), and Mid-Atlantic Fishery Management Council (<http://www.mafmc.org/>) Web sites were checked January 2015 against the tables in the 2011 NRTR and the lists are the same, as well as habitat. Received 2012-2013 trip ticket (form used by fish dealers to report commercial landings information, required by NCDMF) information for Currituck Sound and checked to make sure occurrences of any managed species in the database were already included in report. No changes are needed were found. There are no changes to primary or secondary nursery areas in the project area (NCDENR, <http://portal.ncdenr.org/web/mf/primary-nursery-areas>, accessed January 2015).

Duck blinds

During the 3-4 February 2015 site visit, it appeared that there were a few duck blinds in the eastern portion of the sound that are within and/or near the proposed bridge corridor. According to the 2010 data, two blinds are within or immediately adjacent to the 200-foot wide bridge corridor in the sound and four more blinds are nearby. The map of blinds and the 200-foot wide bridge corridor was emailed to Andy Newbern, a Currituck County commissioner, who confirmed the locations were the same and there were no new ones (pers. com. 23 February 2015).

Changes in driver trespassing in USFWS protected areas in non-road accessible areas

According to Mike Hoff in a 2015 conversation, trespassing is the largest law enforcement issue at Currituck NWR. The annual number of incidents per hour of patrol ranges from 0.88 to 3.20, with 3.20 denoting the most recent annual data set. On average, one local resident is cited annually for trespassing. He expects that the number of incidents is likely a function of the volume of traffic, and so the number of incidents will likely increase with an increase in traffic volume. (pers. com. Mike Hoff, refuge manager at Mackay Island and Currituck National Wildlife Refuges, 26&27 January 2015). These observations are a confirmation of a discussion presented in a draft addendum to the Indirect and Cumulative Effects Technical Memorandum prepared in response to FEIS comments and interviews conducted with three persons in Currituck NWR in 2012.

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North Carolina Natural Heritage Program. 2015. Biotics Database. Office of Land and Water Stewardship. Department of Environment and Natural Resources, Raleigh, North Carolina.

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