

REPORT

PROJECT

Environmental Impact Assessment Addendum
Parker Springs Subdivision
Mt. Gilead Church Road and Silverberry Road
New Hope Township, Chatham County, North Carolina

CLIENT

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1.0 Executive Summary

RLA Development, LLC (RLA) plans to construct a residential subdivision on the approximately 86.74-acre tract located northeast of the intersection of Mt. Gilead Church Road (S.R. 1700) and Silverberry Road (S.R. 1797), in New Hope Township, Chatham County, North Carolina (Appendix A, Figure 1). According to Chatham County Subdivision Regulations 5.2A(1), pursuant to Chapter 113A of the North Carolina General Statutes, the planning board may require the subdivider to submit an environmental impact assessment (EIA) if the development exceeds two acres in area. ECS Carolinas was contracted by RLA to provide the EIA which would satisfy the regulations as follows:

The environmental impact assessment shall address the following areas:

- a. The environmental impact of the proposed action;
- b. Any significant adverse environmental effects which cannot be avoided should the proposal be implemented;
- c. Mitigation measures proposed to minimize the impact;
- d. Alternatives to the proposed action;
- e. The relationship between the short-term uses of the environment involved in the proposed action and the maintenance and enhancement of long-term productivity;
- f. Any irreversible and irretrievable environmental changes which would be involved in the proposed action should it be implemented.

This addendum is provided specifically to addresses changes to the subdivision and new information which has been received since the issuance of the Amended Environmental Impact Statement on November 2, 2007. This new information provides relevant information regarding the impact of this subdivision on the environment.

Potential impacts from the project include crossing of streams for roadway construction, if unmitigated could affect water quality and aquatic habitat. A Section 404 Clean Water Act Permit (Appendix B) from the U.S. Army Corps of Engineers (USACE) and the Section 401 Clean Water Act Permit (Appendix B) from the North Carolina Division of Water Quality (NCDWQ), have been issued to RLA for all stream and wetland impacts from the construction of the subdivision. The attached preliminary Stream Preservation Plan (Appendix B) will satisfy all mitigation requirements of the USACE and NCDWQ for impacts to streams and wetlands. The preservation plan will place restrictive covenants on the stream, wetland, and buffer areas to prevent most future impacts to these streams and buffer areas, even from individual home owners. In addition, RLA has reconfigured lot and street layouts to minimize water quality and aquatic habitat impacts. The new subdivision plan is provided in Appendix A, Figure 10. Any potential impacts to water quality and aquatic habitats from stormwater runoff should be minimal since impervious surface at build out conditions is anticipated to be only 12%, which does not fall under any Chatham County or State of North Carolina stormwater requirements. However, RLA does plan to treat stormwater in accordance with the NCDWQ approved Best Management Practices Manual, in a V-Ditch or grass swale as shown on the attached plan (Appendix B). Potential impacts to soils, water quality and aquatic habitat from sedimentation due to the steep slopes on the property is expected to be minimal because RLA will obtain a Sediment and Erosion Control Permit from the North Carolina Division of Land Resources (NCDLR), and Chatham County, and will follow the requirements of those permits. Terrestrial wildlife habitat, specifically within the Big Woods Significant Natural Heritage Area will also

be minimally affected by the proposed construction. The terrestrial habitat on the site is already disturbed due to timbering activities which have taken place on the property since approximately 1940, and the Big Woods Significant Natural Heritage Area has already been impacted and reduced in size due to other residential subdivisions in the surrounding vicinity.

In summary, the mitigation of the potential impacts from the subdivision, by providing stream buffers, the large lot sizes, and the subdivision configuration, and measures set forth in the environmental permits issued for the subdivision, will effectively minimize these impacts and prevent any significant irreversible or irretrievable environmental changes on the subject property.

2.0 Project Description and Need

2.1 Project Description

RLA plans to construct a residential subdivision on the approximately 86.74-acre tract located northeast of the intersection of Mt. Gilead Church Road (S.R. 1700) and Silverberry Road (S.R. 1797), in New Hope Township, Chatham County, North Carolina. At this time 50 lots are proposed for construction, with a minimum lot size of 40,000 square feet. Several roadways will be constructed throughout the subdivision, with a pavement width of approximately 20 feet and a right-of-way width of 50 feet, including shoulder areas and a stormwater V-ditch (Appendix B). Water will be provided by Chatham County and sewer will be treated via septic systems as shown on the attached septic system plan (Appendix B). There will be several areas preserved as open space, one to preserve a 100-foot riparian buffer around Parkers Creek, one to preserve a 500-foot riparian buffer around the remaining jurisdictional streams on the property, and one to preserve an historic cemetery located on the property. These open space areas will be maintained by the Home Owner's Association.

2.2 Project Purpose and Need

This project is designed to provide housing for residents of Chatham County.

3.0 Alternatives to the Proposed Action

3.1 No-Build Alternative

This alternative would leave the approximately 86.74 acre tract in its current undeveloped state, with no additional development on the property. It would not meet the project purpose and need.

3.2 Parker Springs Subdivision Sketch Plan

This alternative, the plan approved at the Sketch Design stage of the Chatham County subdivision approval process, would provide for 50 buildable lots and associated roadways. This plan meets the project purpose and need but is not preferred to the current plan due to potential impacts to water quality and aquatic habitats from roadway alignments and lot layouts.

3.3 Parker Springs Subdivision (Preferred Alternative)

This alternative, presently pending before the Chatham County Commissioners at the Preliminary Plat stage of the subdivision approval process, would provide for 50 buildable lots and associated roadways.

See Figure 10 for the preliminary subdivision plan. Roadway alignments and lot layouts were altered from the original subdivision sketch plan in order to minimize impacts to water quality and aquatic habitats.

4.0 Existing Environment and Project Impacts

4.1 Geography and Land Use

Existing Geography and Land Use for the subject property was described in the original report.

4.1.1 Amended Land Use Impacts

The existing land use will be impacted as it is changing from undeveloped woodland to a residential subdivision. However, due to the larger lots sizes, it is anticipated that some of the existing land cover will be able to remain in place. Impacts to the existing land use have already occurred resulting from on-site soil suitability testing for the proposed septic systems. Some trees on the property were cut (stumps remained in place) with a hydro-axe but grading was not performed. RLA obtained a Sediment and Erosion Control Permit (Appendix B) from Chatham County for impacts to 13.5 acres potentially affected. A site visit to the subject property by ECS personnel on March 7, 2008 as shown in the attached photographs (Appendix C) confirmed that little to no soil disturbance occurred on the property, and stumps of the removed trees were still in place.

4.2 Soils and Important Farmlands

Existing Soils and Important Farmlands for the subject property were described in the original report.

4.2.1 Impacts to Soils and Important Farmlands

The majority of soils on the subject property are listed as Prime Farmland on the NC List of Important Farmlands. The remainder of the subject property is listed as Farmland of Statewide Importance. However, the property has not been used for farmland, so no impacts to prime farmland are anticipated from the proposed project. Potential erosion to the soils on the property, which could otherwise occur because of the slopes found on the subject property, will be minimized by obtaining a Sediment and Erosion Control Permit from NC DLR and Chatham County, and by following all recommendations and guidelines of those permits.

4.3 Formally Classified Public Lands

Existing Formally Classified Public Lands for the subject property were described in the original report.

4.3.1 Impacts to Formally Classified Public Lands

Impacts to Formally Classified Public Lands for the subject property were described in the original report.

4.4 Floodplains

Existing Floodplains for the subject property were described in the original report.

4.4.1 Impacts to Floodplains

Impacts to Floodplains for the subject property were described in the original report.

4.5 Water Resources

The subject property is located within the Cape Fear River Basin and drains to Parkers Creek, which also bisects the property. Parkers Creek is classified by NCDWQ as WS-IV; NSW; B. The 8-digit Hydrologic Unit Code is 03030002.

The wetlands and streams on the subject property were delineated by Mr. Scott Mitchell, PE, LSS of Mitchell Environmental, P.A. The wetlands and stream features are illustrated in Figure 5. Two jurisdictional perennial streams were delineated, including Parkers Creek. Four jurisdictional intermittent streams and one isolated intermittent stream were delineated. Four jurisdictional wetland areas and one isolated wetland were also delineated. These features have been verbally approved by Mr. Monte Matthews of the USACE per an on-site concurrence meeting on August 16, 2007 and by the Ms, Lia Myott of the NCDWQ per an on-site concurrence meeting on September 7, 2007. A letter from NCDWQ with the findings of their meeting is provided in Appendix B.

4.5.1 Impacts to Water Resources

A 100-foot open space buffer will be provided around Parkers Creek, and 50-foot buffers will be provided around all other streams delineated on the subject property, to be maintained by the Home Owners's Association. A Section 404 Clean Water Act Permit (Appendix B) from the USACE and the Section 401 Clean Water Act Permit (Appendix B) from the NCDWQ, have been issued to RLA for all stream and wetland impacts from the construction of the subdivision. The attached preliminary Stream Preservation Plan (Appendix B) will satisfy all mitigation requirements of the USACE and NCDWQ for impacts to streams and wetlands. The preservation plan will place restrictive covenants on the stream, wetland, and buffer areas to prevent most future impacts to these streams and buffer areas, even from individual home owners.

Potential impacts to water quality from stormwater runoff should be minimal since impervious surface at build out conditions is anticipated to be only 12%, which does not fall under any Chatham County or State of North Carolina stormwater requirements. However, RLA does plan to treat stormwater in the NCDWQ approved best management practice, V-Ditch or grass swale as shown on the attached plan (Appendix B).

Potential impacts to water quality from sedimentation due to the slopes on the property is expected to be minimal because RLA will obtain a Sediment and Erosion Control Permit from the NCDLR, and Chatham County, and will follow the requirements of those permits.

Potential impacts to water quality resulting from on-site soil suitability testing for the proposed septic systems were also assessed. Some trees on the property were cut (stumps remained in place) with a hydro-axe but grading was not performed. RLA obtained a Sediment and Erosion Control Permit (Appendix B) from Chatham County for impacts to 13.5 acres potentially affected. A site visit to the subject property by ECS personnel on March 7, 2008, as shown in the attached photographs (Appendix C), confirmed that little to no soil disturbance occurred on the property, and stumps of the removed trees

were still in place. Under these circumstances, the cutting of the trees has not significantly affected the water quality on the site.

4.6 Archeological and Historical Resources

Existing Archeological and Historical Resources for the subject property were described in the original report.

4.6.1 Impacts to Archeological and Historical Resources

Impacts to Archeological and Historical Resources for the subject property were described in the original report.

4.7 Biological Resources

4.7.1 Aquatic and Terrestrial Habitats

Existing Aquatic and Terrestrial Habitats for the subject property were described in the original report, except for the Big Woods Significant Natural Heritage Area. A portion of the planned subdivision is within the very southwest corner of the Big Woods Significant Natural Heritage Area. At the time of the field reconnaissance for the Chatham County Inventory in 1988 (Appendix B), the Big Woods Wilderness Area was "the largest tract of unbroken upland forest remaining in the Triangle region". The inventory also states that "the entire area has been timbered at one time or another -- probably repeatedly". The inventory also states: "Although all of them [the upland sites] contain scattered patches of mature upland hardwoods, all have been extensively exploited for timber and can hardly be considered pristine natural areas. Nor do any of them contain any significantly rare species at least on a state or national level." In the Conservation Recommendations section, it is stated that "[t]he value of this tract to wildlife requires that its unbroken, wooded character be preserved." The inventory notes that several thousand areas of the Big Woods NHA were dropped from the larger site due to fragmentation by housing developments.

We have found that the fragmentation due to currently existing or planned housing developments has already occurred in the Big Woods area, within the attached current Significant Natural Heritage Area Report (Appendix B). An analysis of the area shows that the southern part of the Big Woods area has been separated from the northern portion by development north of the Parkers Springs tract. Therefore, the value of the Big Woods area in the Parkers Springs tract has already been compromised since it has already been effectively fragmented from the major Big Woods area to the north.

4.7.1.1 Impacts to Aquatic and Terrestrial Habitats

Potential impacts from the project include crossing of streams for roadway construction which, if unmitigated, could affect aquatic habitat. A Section 404 Clean Water Act Permit (Appendix B) from the USACE and the Section 401 Clean Water Act Permit (Appendix B) from the NCDWQ, have been issued to RLA for all stream and wetland impacts from the construction of the subdivision. The attached preliminary Stream Preservation Plan (Appendix B) will satisfy all mitigation requirements of the USACE and NCDWQ for impacts to streams and wetlands. The preservation plan will place restrictive covenants on the stream, wetland, and buffer areas to prevent most future impacts to these streams and

buffer areas, even from individual home owners. In addition, RLA has reconfigured lot and street layouts to minimize aquatic habitat impacts. The new subdivision plan is provided in Appendix A, Figure 10.

Potential impacts to aquatic habitat from stormwater runoff should be minimal since impervious surface at build out conditions is anticipated to be only 12%, which does not fall under any Chatham County or State of North Carolina stormwater requirements. However, RLA does plan to treat stormwater in accordance with the NCDWQ Best Management Practices Manual, in a V-Ditch or grass swale as shown on the attached plan (Appendix B).

Potential impacts to aquatic habitat from sedimentation due to the slopes on the property is expected to be minimal because RLA will obtain a Sediment and Erosion Control Permit from the North Carolina Division of Land Resources (DLR), and Chatham County, and will follow the requirements of those permits.

Terrestrial wildlife habitat, specifically within the Big Woods Significant Natural Heritage Area may potentially be affected by the proposed construction, however the terrestrial habitat on the site is already disturbed due to timbering activities which have taken place on the property since approximately 1940, and the Big Woods Significant Natural Heritage Area has already been impacted and reduced in size due to other residential subdivisions in the surrounding vicinity. Therefore, any impacts to the Big Woods Significant Natural Heritage Area are not expected to be significant.

4.7.2 Threatened and Endangered Species

Existing Threatened and Endangered Species for the subject property were described in the original report.

4.7.2.1 Impacts to Threatened and Endangered Species

Impacts to Threatened and Endangered species for the subject property were described in the original report.

4.8 Socio-Economics and Environmental Justice

Existing Socio-Economics and Environmental Justice for the subject property were described in the original report.

4.8.1 Socio-Economic Impacts

Impacts to Socio-Economics and Environmental Justice for the subject property were described in the original report.

4.9 Air Quality

Existing Air Quality for the subject property was described in the original report.

4.9.1 Impacts to Air Quality

Impacts to Air Quality for the subject property were described in the original report.

4.10 Noise

Existing Noise levels for the subject property were described in the original report.

4.10.1 Noise Impacts

Impacts to Noise levels for the subject property were described in the original report.

5.0 Summary of Mitigation

Mitigation includes preserving a 100-foot buffer around Parkers Creek, a 50-foot buffer around all other jurisdictional streams on the subject property, preserving many of the streams and wetlands under restrictive covenants, providing a 25-foot tree protection buffer and an additional 25-foot structure setback buffer along the boundary with the Monterrane subdivision, utilization of a V-ditch or grass swale for stormwater treatment, adjusting some lot and street layouts to minimize impacts to water quality and aquatic habitat, and preserving a historic cemetery located on the property.

6.0 References

Carolina Geological Society Fiftieth Anniversary Volume, *The Geology of the Carolinas*, Horton, J. Wright and Zullo, Victor A., University of Tennessee Press, 1991

North Carolina Geological Survey, *Geologic Map of North Carolina*, dated 1985.

State of North Carolina and Federal Emergency Management Agency, *Digital Flood Rate Insurance Panel 3648*.

United States Department of Agriculture, Soil and Water Conservation Service, *Important Farmlands of North Carolina*, June 1994.

United States Department of Agriculture, Soil and Water Conservation Service, *Soil Survey of Chatham County, North Carolina*, 1983.

United States Geological Survey Topographic Map 1987, 7.5 minute series, *Farrington Quadrangle*, scale 1:24,000, U.S. Geological Survey, Denver, Colorado.

Chatham County Online GIS Service.

Schafale, Michael P., and Weakley, Alan S., *Classification of the Natural Communities of North Carolina, Third Approximation*, 1990.

7.0 Qualifications of Preparers

Mr. Stephen Mark Brown, LG, PG, RSM is a Principal Geologist for the Raleigh Branch of ECS Carolinas, LLP with over 30 years experience in the practice of engineering and environmental geology. He has served as a Senior Project Geologist delineating soil and groundwater contamination at numerous private, commercial, municipal, state, and federal sites in central and eastern North Carolina, including military bases located in Fayetteville, Goldsboro, Havelock, and Jacksonville, North Carolina. He has

also served as a Senior Project Geologist performing semi-annual and annual compliance assessments of lined and unlined municipal solid waste landfills in eastern North Carolina and providing waste characterization reports with regard to hazardous, non-hazardous, and solid waste sites in accordance with USEPA and North Carolina Department of Environment and Natural Resources (NCDENR) guidelines. Mr. Brown is currently listed as a Registered Site Manager (RSM) with the NCDENR - Inactive Hazardous Sites Branch, Registered Environmental Consultant Program and is experienced in assessment and cleanup of contaminated sites listed within the NC UST Trust Fund, and EPA and NC Brownfields Programs. He has extensive hands-on experience with various field assessment methods including soil boring, rock drilling, direct push drilling, geophysical logging, pump tests, and monitor and water supply well installation. Mr. Brown received his B.A in Geology from Appalachian State University in 1975 and is currently or has been actively licensed as a professional geologist in North Carolina, Virginia, Kentucky, South Carolina, and Tennessee.

Ms. Christina Breen is a Senior Environmental Scientist and Wetland Services Team Leader with the environmental group for the Raleigh Branch of ECS, Carolinas, LLP. Her current duties include wetland delineations, stream determinations, producing and applying for 404/401 permits, developing habitat enhancement plans, and completing NEPA field assessments and documentation. Ms. Breen received her B.S. in Environmental Science from Virginia Tech in 2000.

APPENDIX A – FIGURES

Environmental Impact Assessment Addendum– Parker Springs Subdivision
ECS Project No. 06.14896-A
March 17, 2008

APPENDIX B – AGENCY CORRESPONDENCE

APPENDIX C – SITE PHOTOGRAPHS