

Hydraulic Project Narrative

Greenbrier County, West Virginia

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1.0 INTRODUCTION

1.1 PROJECT OVERVIEW

Greenbrier County is located in southeast West Virginia and is bordered on the north by Webster County; to the northeast by Pocahontas County; to the east by the Commonwealth of Virginia; to the south by Monroe County; to the southwest by Summers County; to the west by Fayette County, and to the northwest by Nicholas County. Greenbrier County includes the Cities of Lewisburg, Ronceverte and White Sulphur Springs. Interstate highway 64 runs through the southern portion of the county and other major roads servicing the county include U.S. routes 60 and 219, and West Virginia routes 12, 20, 39, 55, 63 and 92. The county includes a total population of 35,480 (U.S. Census Bureau, 2010). Figure 1 shows Greenbrier County, West Virginia, and the stream reaches included in this study.

1.2 SCOPE OF WORK

The scope of work included the collection of topographic data, development of hydrologic data, and development hydraulic models using updated modeling software. FEMA funded LiDAR collection, and it was flown November 22 to December 28, 2016, by Quantum Spatial, Inc. The peak discharges were calculated based on gage analysis weighted with regional regression, HEC-HMS, and regional regression equations. The one-dimensional, steady state models were developed with the USACE Hydraulic Engineering Center (HEC) River Analysis System (RAS), versions 5.0.7 (USACE, 2019). The most recent study prior to this restudy was the Flood Insurance Study (FIS) for Greenbrier County, West Virginia and Incorporated Areas effective October 16th, 2012 (FIS, 2012).

The scope of work includes the restudy of approximately 543 miles of approximate Zone A streams, and 28 miles of detailed Zone AE streams. The study included the development of flood profiles for the 10%, 4%, 2%, 1%, 1% plus, and 0.2%-annual-chance exceedance event water surface elevations (WSELs). The location of the approximate study reaches, and their corresponding HUC-8 watersheds are illustrated on the map provided in Figure 1.

2.0 ADDITIONAL INFORMATION

2.1 ISSUES

No unresolved issues remain. See the DCS Hydraulics Report for methodology and results.

2.2 INFORMATION FOR THE NEXT MAPPING PARTNER

Greenbrier River was divided into 5 sections. From downstream to upstream the reaches are named in the following order: Greenbrier River 1, Greenbrier River 3, Greenbrier River 2, Greenbrier River 4, and Greenbrier River 5. Greenbrier River 1 and Greenbrier River 2 were studied during the Physical Map Revision (PMR). Greenbrier River 3 and Greenbrier River 4 were detailed studies, and Greenbrier River 5 is an approximate study.

Please refer to the DCS Hydrology submittal and DCS Hydraulics submittal for all information regarding the Greenbrier County, West Virginia.

3.0 REFERENCES

Federal Emergency Management Agency, 2012. Flood Insurance Study, Greenbrier County, West Virginia and Incorporated Areas, Effective: October 16, 2012

United States Census Bureau, 2010. Quick Facts – Greenbrier County, West Virginia, Accessed online February 2020 online at <https://www.census.gov/quickfacts/greenbriercountywestvirginia>

U.S. Army Corps of Engineers, Hydrologic Engineering Center (HEC), 2019. HEC-RAS River Analysis System, Version 5.0.7, U.S. Army Corps of Engineers (USACE).

4.0 FIGURES

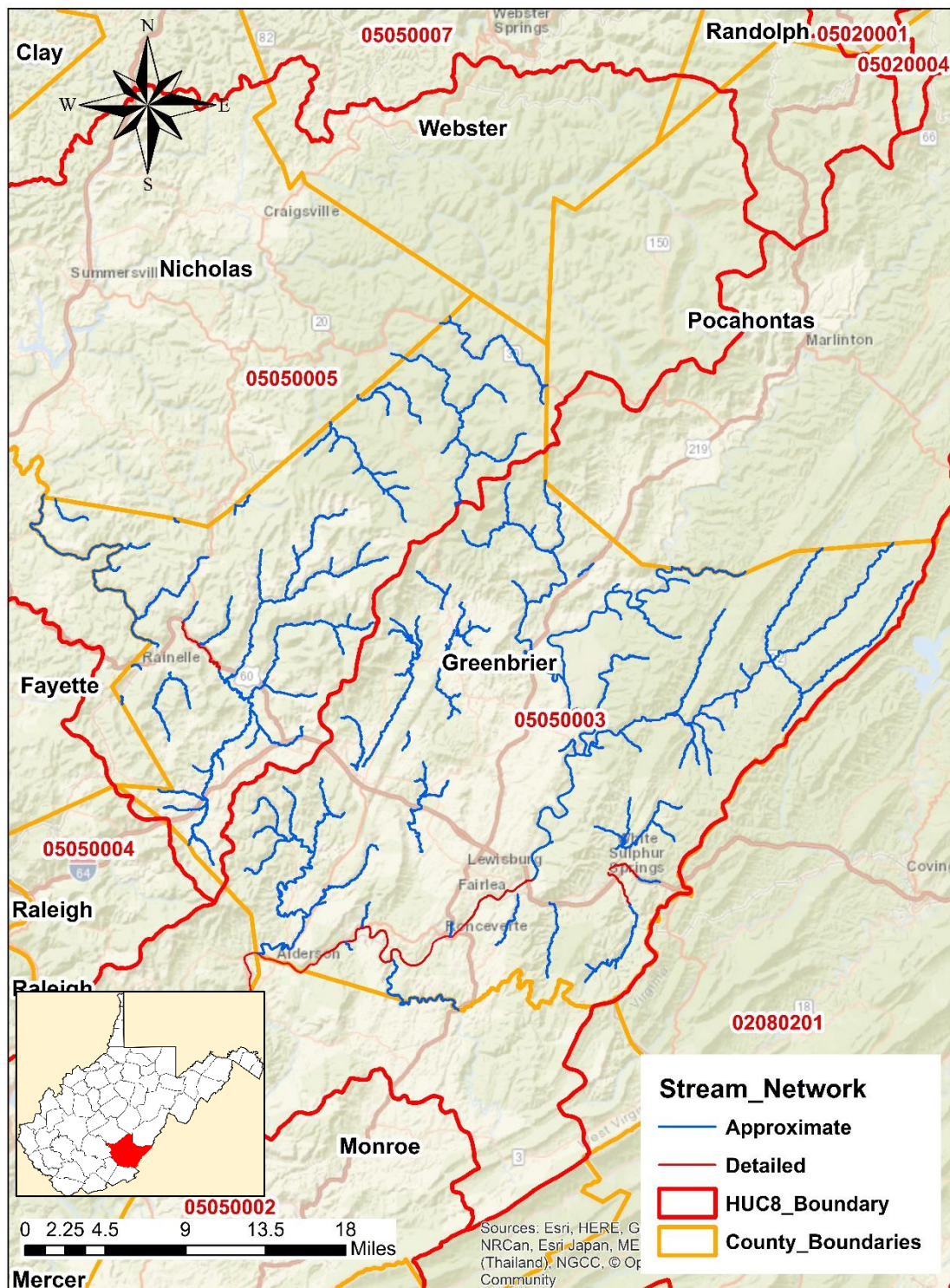


Figure 1. Greenbrier County Reach Studies Location