

Module 1
Site Description

by

Noboru Togawa

Presented to:
Dr. Pitt
Construction Site Erosion Control

Department of Civil, Construction, and Environmental Engineering
The University of Alabama
Tuscaloosa, AL 35486

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1.0 Introduction

1.1 Summary

This document describes the construction site of Campus Drive Relocation which is planned to use as an erosion control project. The project site is located at the University of Alabama Campus.

1.2 Objectives

The objective of this document is to describe the general information for the construction site following the Alabama Handbook for Erosion Control as well as identify the critical area for the erosion control.

2.0 Construction Site Description

2.1 Campus Drive Relocation Project General Information

Campus Drive Relocation Project is planned at the University of Alabama Campus on Campus Drive between Hackberry and Jefferson Avenue. The development and expansion of the northern portion of campus has created a need to improve the current roadway system. The construction is planned to relocate Hackberry Lane between Margaret and Riverside as well as the creation of new loop around Shelby Hall and service road to access facilities. The nearby receiving water, Black Warrior River is located north of the construction site.

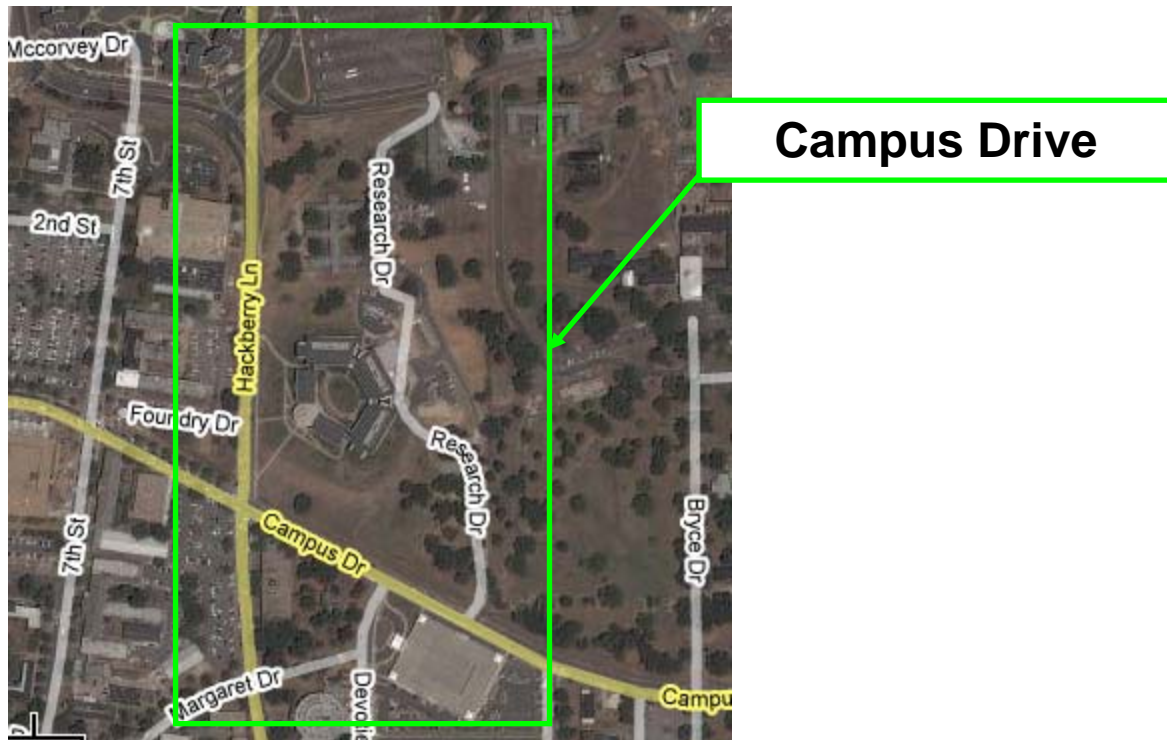


Figure 1: Campus Drive Relocation Project Aerial Image

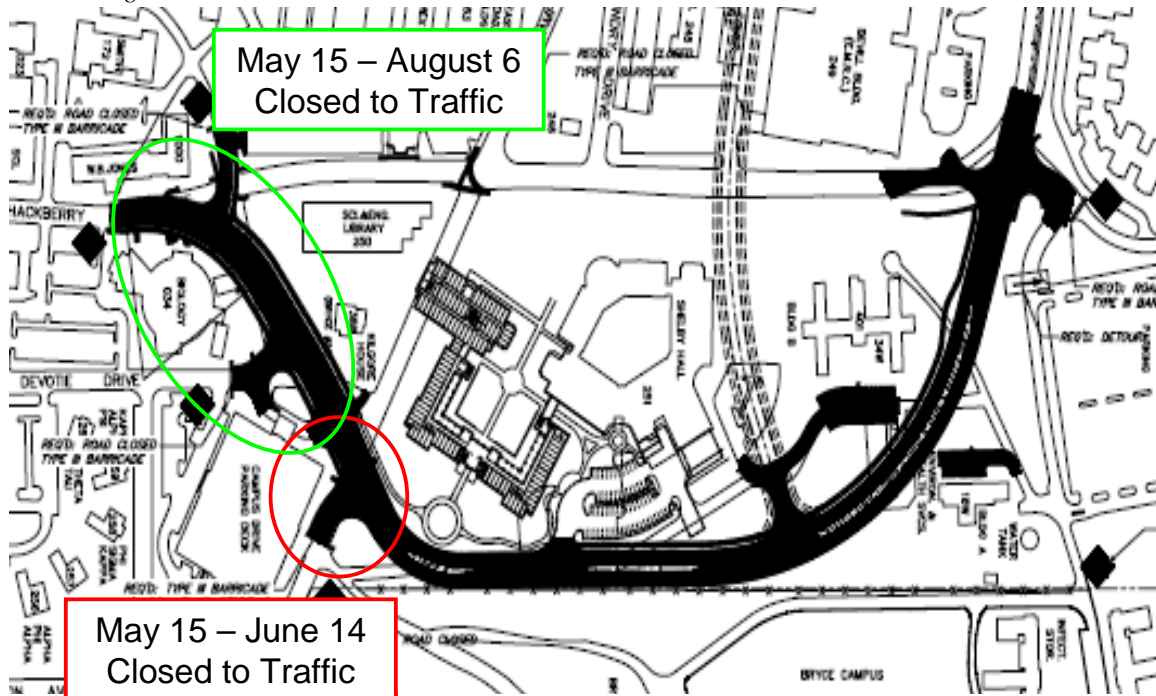


Figure 2: Campus Drive Relocation Project Location Map

2.2 Topography

The site has approximately 61 acres. New campus drive will relocate Hackberry Lane between Margaret and Riverside and it will provide the loop around Shelby Hall and service road to access facilities. The site will be levelled to approximately elevation of 220 ft. North area of the construction site is located at the relatively high slope land compared with south area. Thus, north area will require well maintained erosion control plan. East and west side do not have steep slope, but there are many existing inlets which have to be protected. Total construction time is approximately 9 months.

2.3 Drainage Patterns

The drainage basin for the site is approximately 65 acres. The construction site is located at the centre of the drainage area. It will not much flow run into the site, but much runoff is expected to course a sediment problem to surroundings. The large amount of the flow is caught by the existing gutters and inlets and transported to the Black Warrior River, located approximately 1500 ft north of the construction site.

2.4 Soils

United States Department of Agriculture describes that the 97% of soil in this area is Bama-Urban land complex which is made from loamy marine deposits derived from sedimentary rock. Other 3% of soils consist of Shatta-Urban land complex and Smithdale fine sandy loam. Figure 3 describes the soil type of the construction area.

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
7	Bama-Urban land complex, 0 to 2 percent slopes	0.3	0.4%
8	Bama-Urban land complex, 2 to 6 percent slopes	59.1	96.6%
31	Shatta-Urban land complex, 0 to 2 percent slopes	0.5	0.8%
33	Smithdale fine sandy loam, 6 to 15 percent slopes	1.3	2.1%
Totals for Area of Interest (AOI)		61.1	100.0%



Figure 3: Soil Type of the Construction Site

2.5 Ground Cover

The ground cover over the site ranges from bare soils to matured trees. North side of the construction site is mostly covered by the grasses and small trees as well as the small areas of bare soils. East side is well vegetated and it is covered with relatively large trees and grasses. Shelby Hall is located on west side which has undisturbed ground covered with small trees and grasses. Major roads and buildings are located at south side which creates a large impervious area.

2.6 Adjacent Property

North side is newly developed residential buildings with a large parking lot. East side is covered with matured trees and grasses, so there will be less impact by the construction erosion. Western side is the campus building with a yard covered with small trees and grasses. South side is consisting of campus facilities and roads.

2.7 Receiving Waters

Black Warrior River is located approximately 1500 ft north of the construction site. Storm Water will be collected by the existing gutters and inlets and carried to the river by the pipes.

3.0 Construction Work Phases

3.1 Phase 1 Improvement

The first phase improvement starts from the north of the Hackberry Lane to the intersection of the new campus drive and the existing campus drive. The construction

starts from clearing and grubbing, installation of the temporary access and parking to the site, and the demolition of the existing facilities. Erosion control and traffic control are done before the earthwork for the site and the sanitary sewer, storm sewer, water main, electrical line are installed. After that the curb, gutter, and sidewalks are constructed. Then the road is installed starting from the landscaping, base settlement, and paving. Finally striping and road signs are installed. After the completion of the road, parking lots for the Mcmillan and Environmental Health and Safety are constructed. After the tie-in of North Hackberry intersection, the road is opened for the traffic.

3.2 Existing Campus Drive and Hackberry Lane intersection

Before the phase 2 improvement, intersection of the existing Campus Drive and Hackberry lane are constructed. The work consists of the demolition of the existing facilities and the earth work. Then curb, gutter and sidewalks are installed. The intersection is completed by the paving, striping, and signage.

3.3 Phase 2 Improvement

The second phase improvement starts from the existing campus drive and the new campus drive constructed in the phase 1 improvement. The construction starts from clearing and grubbing, and the demolition of the existing facilities. Erosion control and traffic control are prepared before the earthwork for the site and the storm sewer, water main, and electrical line are installed. After that the curb, gutter, and sidewalks are constructed. Then the road construction is started from the landscaping, base and paving. Then, striping is done and road signs are installed. After the completion of the road, East Engineering Parking Lot is constructed. The road is opened for the traffic and the project is closed with the clean up for the site.

4.0 Hazard Map

Following Figure 4 and Figure 5 describe the hazard map for the initial topography (left column) and the final topography (right column). Left column and right column figures are the same locations of the construction sites. Pink colour describes the low hazardous area (slope <2.0%), blue colour describes the moderate hazardous area (slope 2-5%), yellow colour describes high hazardous area (slope 5-10%), and orange colour describes high hazardous area (slope >10%). After the completion of the road, high hazardous areas are reduced, but it still requires other erosion control practice for the remaining high slope area.

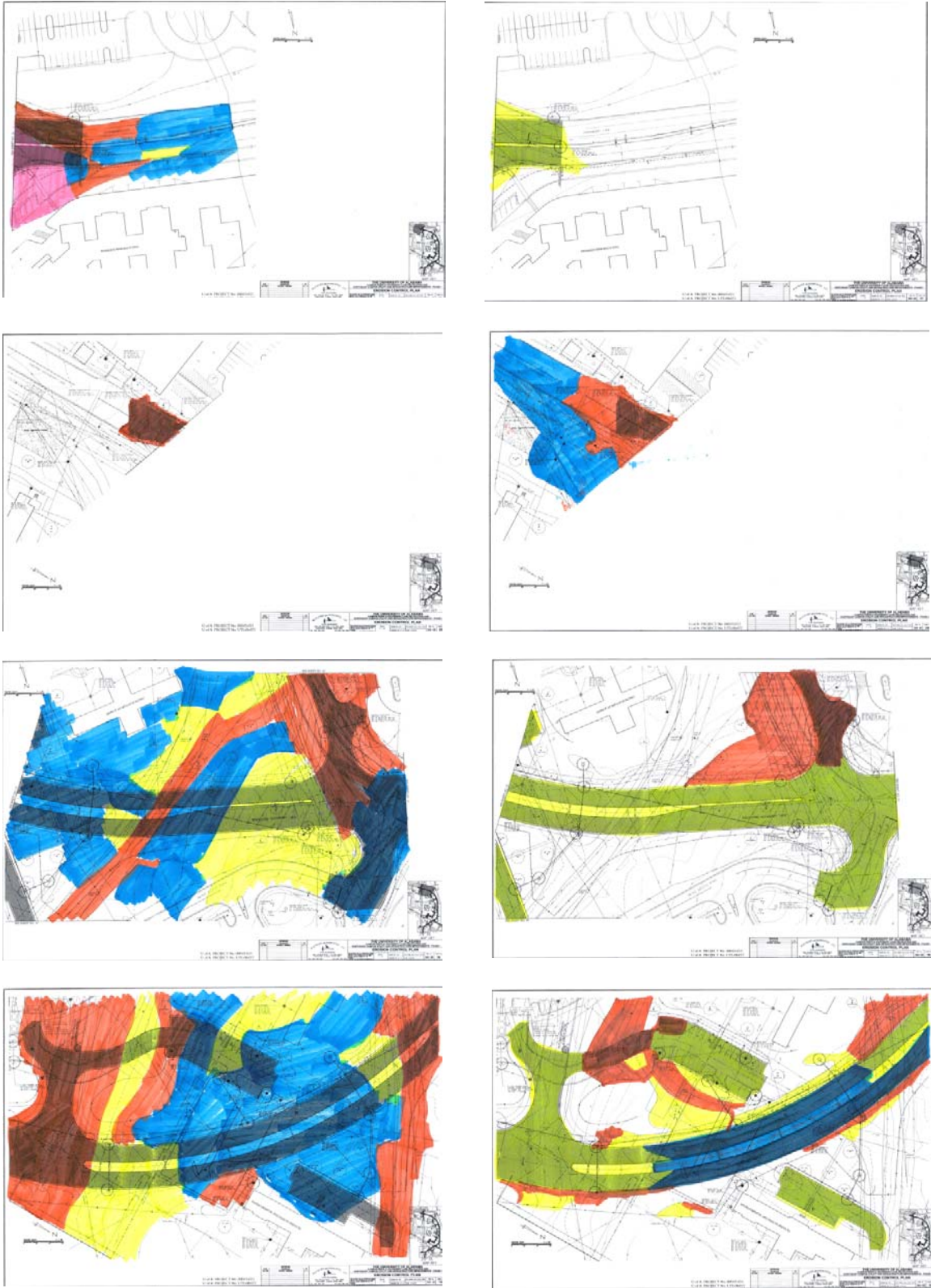


Figure 4: Hazard Map (left column: initial and right column: final topography)

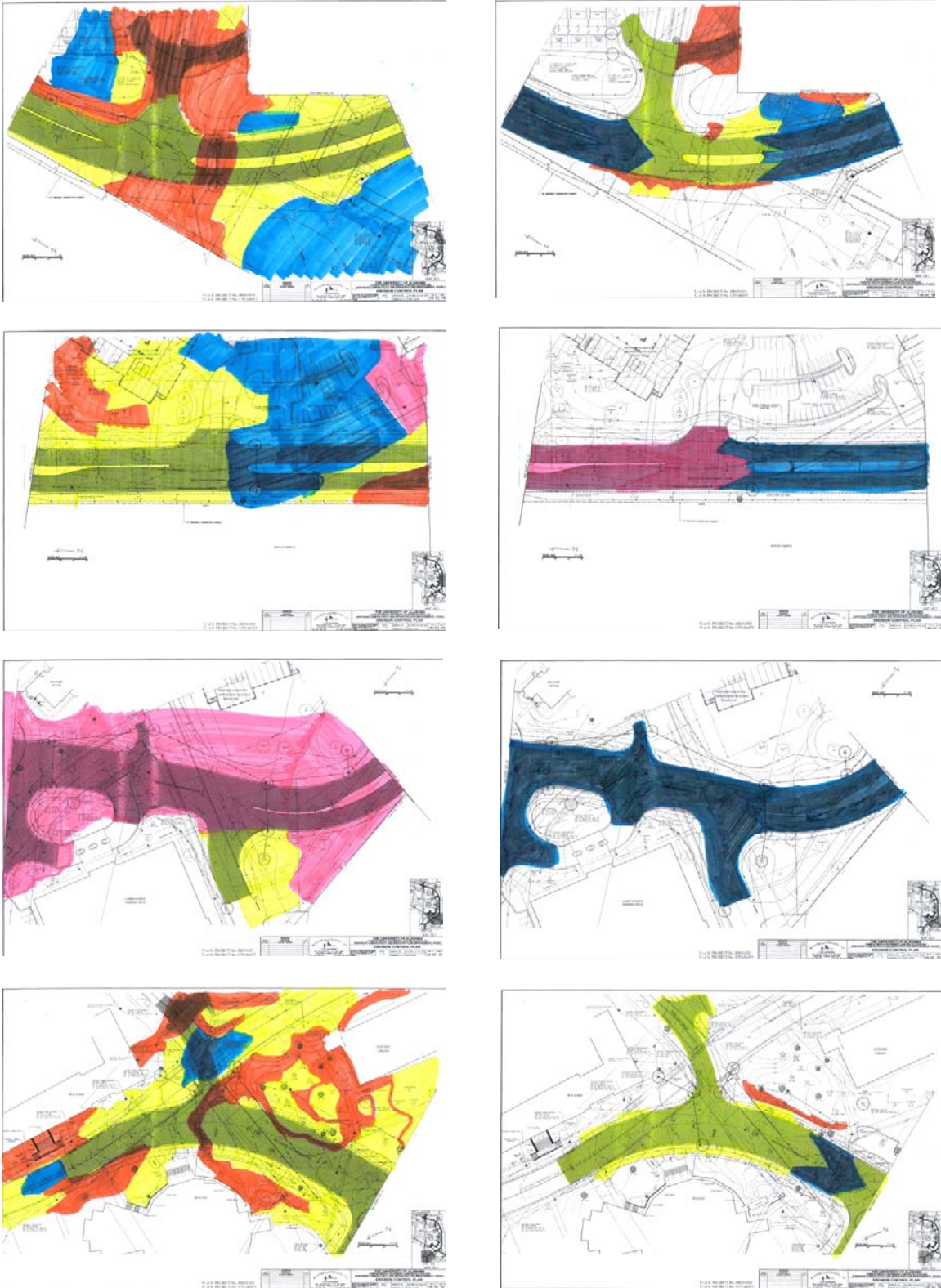


Figure 5: Hazard Map cont. (left column: initial and right column: final topography)