BRIDGE FOUNDATION INVESTIGATION

PROJECT NUMBER BRST-073-1 (11) Brantley
P.I. NUMBER 533158
LOCATION (See Map) Bridge Replacement on SR 15 over Dix Branch, Bridge No. 1

GENERAL INFORMATION

GEOLOGIC FORMATION Wicomico Shoreline Complex Formation of the Georgia Coastal Plain Region

SUBSURFACE FEATURES Loose to very dense sand with medium stiff to very stiff clay layers.
Groundwater was encountered from Elevations 84 to 85.

MAXIMUM PILE DESIGN LOADS

END BEARING = 100 %
FRICTION = 0 %

14" PSC = 60 Tons
16" PSC = 82 Tons
18" PSC = 95 Tons
20" PSC = 110 Tons
24" PSC = 138 Tons
30" PSC = 180 Tons
36" PSC = 220 Tons

FOUNDATION RECOMMENDATIONS

BENTS	DRILLED SHAFT (BEARING)	SPREAD FTG (BEARING)	PILE FOOTING (PILE TYPE)	PILE BENT (PILE TYPE)
1 - 4				PSC

ELEVATIONS

BENTS	BOTTOM OF FTG	MINIMUM TIP	ESTIMATED TIP
1		72	45
2, 3		60	36
4		62	36

NOTES

Elevations All elevations are based on an Elevation of 97.78 at the southeast corner of the existing bridge, Station 44+90, 14.60 feet Rt.

PDO Driving resistance after Minimum Tip Elevations are achieved.

Waiting Period None required.

Theoretical Scour Appears feasible for the material encountered.

Erosion We recommend the use of 24 inches of Type I riprap and filter fabric.

Spudding/Jetting Spudding and/or jetting will be required to achieve the Minimum Tip Elevations for PSC piles at the proposed intermediate bents.

Pre-drilling The Contractor may choose pre-drilling as an option to assist in the installation of PSC piles at the proposed intermediate bents, as per Special Provision 520. No separate payment will be made if the Contractor chooses to use pre-drilling. Pre-drilling should be set up to 3 feet above Minimum Tip Elevation. The maximum diameter of the pre-drilled hole should be determined from the following table:

PSC Pile Size	Maximum Pre-drill Auger Size
14“	12”
16”	18”
18”	18”
20”	24”
24”	24”
30”	30”
36”	36”

Test Piles We recommend that PSC test piles be set up at Bents 1 and 3 to help determine pile order lengths. They should be of sufficient length to reach a depth of 5 feet below the Estimated Tip Elevation.

As Built Information The as built foundation information should be forwarded to the Geotechnical Engineering Bureau upon completion of the foundation system.

Prepared By

Reviewed By _____, PE

12/5/2003

Georgia Department of Transportation
Office of Materials and Research
Geotechnical Engineering Bureau

QUALITY 1 "Working Together Works"

Project: BRS-073-1(11) Brantley SR 15 O/Dix Branch — 10/31/03
Boring Number: 1 — **Boring Location:** Bent 1, Sta 44+75, 19' Rt Const CL — **Ground Elev:** 96.82 ft
P.I. Number: 533158 — **Drilling Method:** Rotary — **Water Level:** 12.0 ft — **Crew Chief:** Everett

Elevation ft: 95, 90, 85, 80, 75, 70, 65, 60, 55, 50, 45, 40, 35, 30, 25

Strata Description	USCS	Sample No	SPT	Unit Wt	% Moist	LL	PI	% Pass 75μ	Rock RQD	% Rock Rec
Ground Line										
lse tan & gr slty fine sand	SM	1	10							
lse tan, gr & brn slty sand	SM	2	6							
m dse brn slty fine sand	SM	3	29							
m dse gr & brn sand	SP	4	26							
v dse gr fine sand w/wood fibers	SP	5	67							
m dse gr & grn slty sand	SM	6	15							
		7	14							
lse gr & grn slty sand	SM	8	10							
m dse gr cly fine sand	SC	9	26							
		10	24							
v stf grn clay	CH	11	35							
v dse gr fine sand	SP	12	62=.4'							
v hd gr fine sdy clay		13	62=.5'							
		14	62=.3'							
End Boring at 70.0 ft										

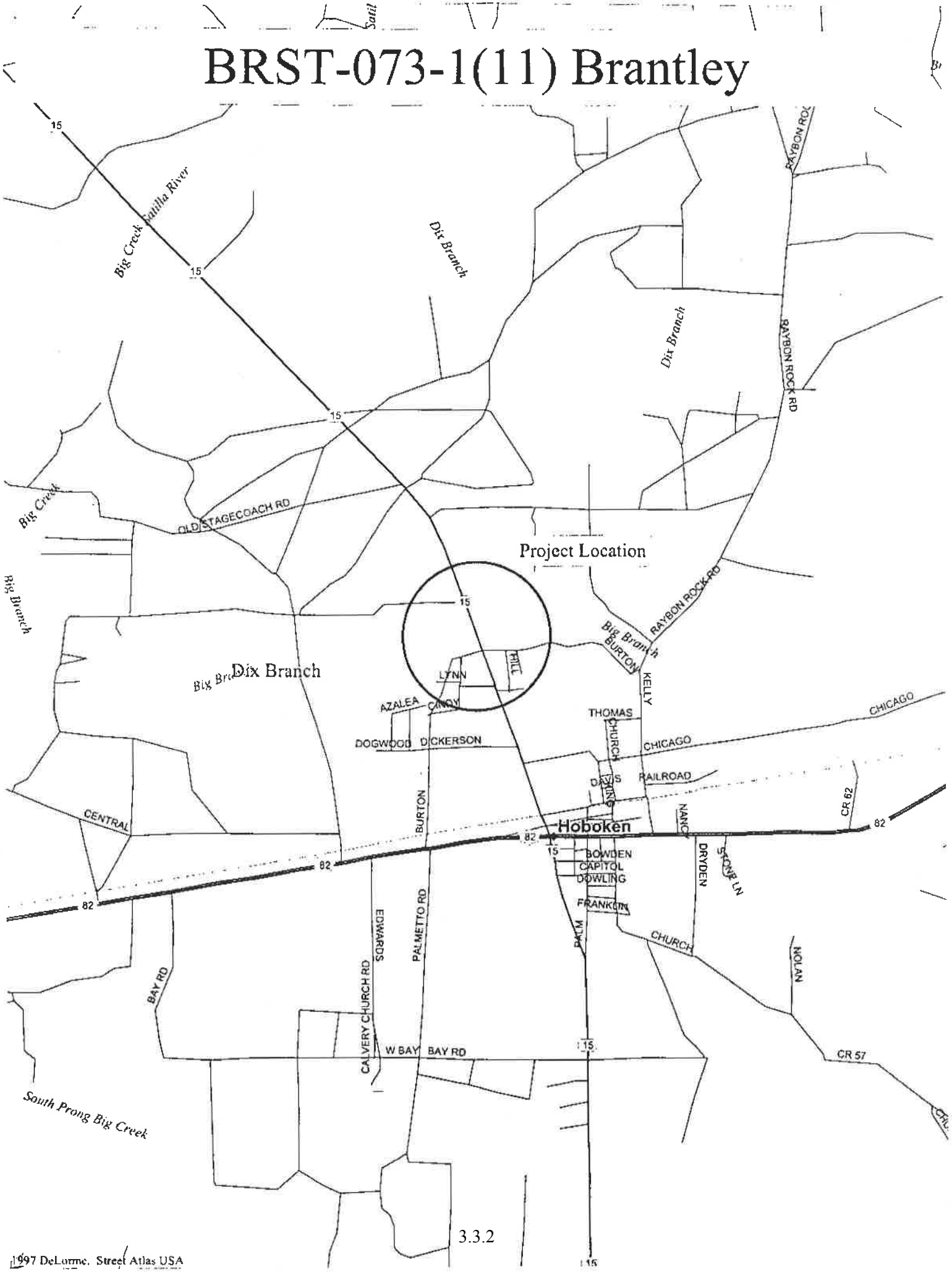
The Department of Transportation in making this foundation report available to contractors assumes no responsibility for its accuracy.

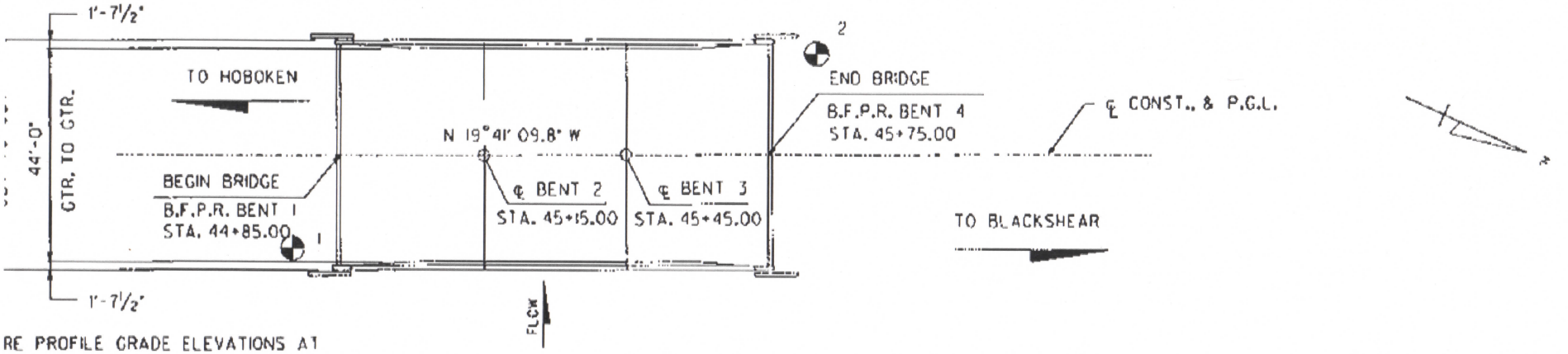
No claim will be considered if the contractor relies on this information in the bidding or in the construction operations and finds that it is inaccurate.

This foundation investigation report is not considered as a part of the Plans and specifications or contract on the job.

Notes: SPT values have been adjusted to reflect the use of the Automatic Hammer

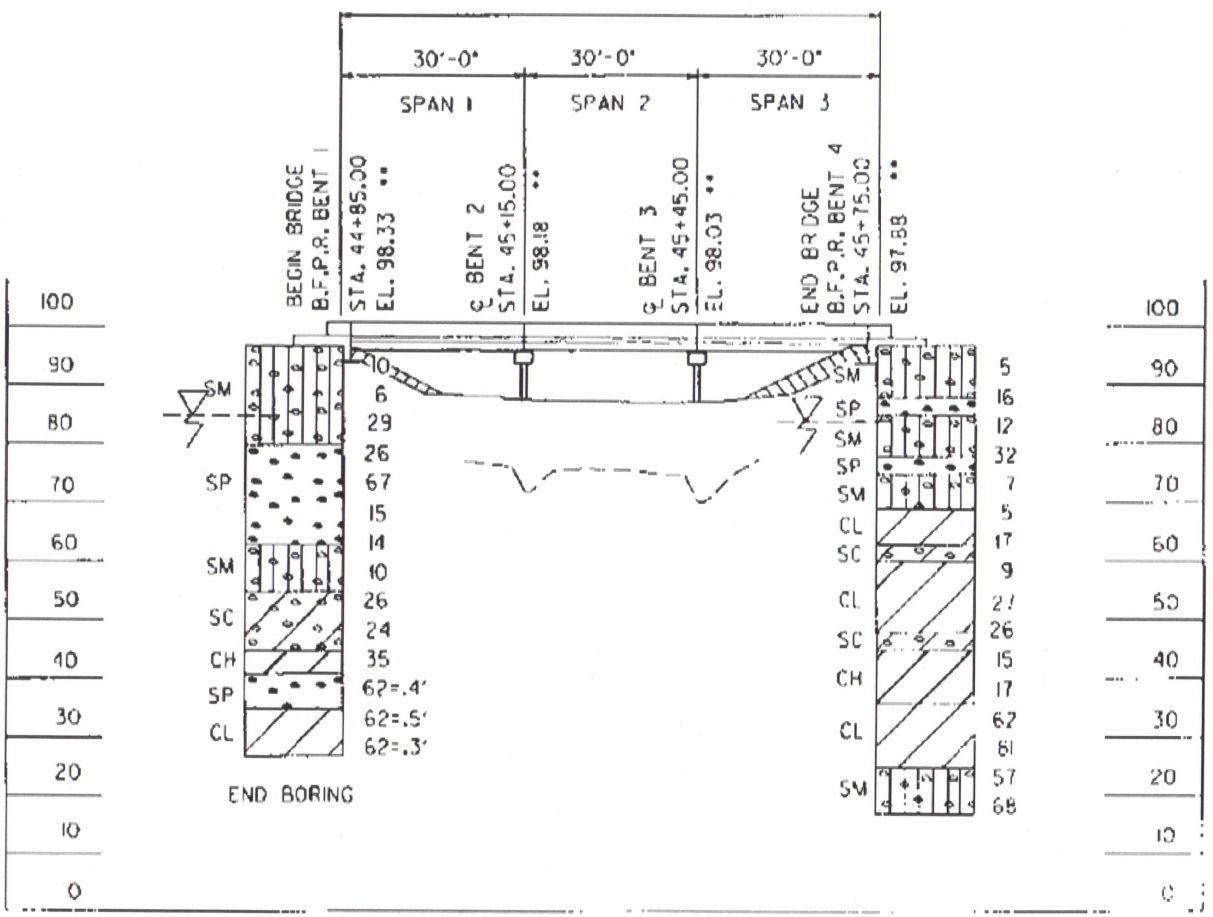
BRST-073-1(11) Brantley





RE PROFILE GRADE ELEVATIONS AT
OF P.G.L. AND B.F.P.R. OR ℄ BENTS.

TOTAL LENGTH OF BRIDGE = 90'-0"



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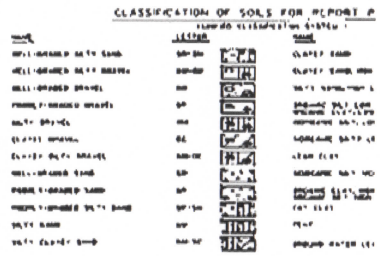

BRIDGE NO. 1

GEORGIA DEPARTMENT OF TRA
GEOTECHNICAL ENGINEERING

BORING LOCATION & SC
BRST 073-1
S.R. 15 OVER D-X
BRANTLEY CO.

NO SCALE

DATE
REVISIONS
BY

W.H.