LEVEL II SCOUR ANALYSIS FOR BRIDGE 12 (BRAITH00230012) on TOWN HIGHWAY 23, crossing AYERS BROOK, BRAINTREE, VERMONT

U.S. Geological Survey Open-File Report 96-390

Prepared in cooperation with VERMONT AGENCY OF TRANSPORTATION and FEDERAL HIGHWAY ADMINISTRATION

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By SCOTT A. OLSON

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Pembroke, New Hampshire

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BRAITH00230012 on Town Highway 23, crossing Ayers Brook,	
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CONVERSION FACTORS, ABBREVIATIONS, AND VERTICAL DATUM

Ву	To obtain
Length	
25.4	millimeter (mm)
0.3048	meter (m)
1.609	kilometer (km)
Slope	
0.1894	meter per kilometer (m/km)
Area	
2.590	square kilometer (km ²)
Volume	
0.02832	cubic meter (m^3)
Velocity and Flow	
0.3048	meter per second (m/s)
0.02832	cubic meter per second (m ³ /s
0.01093	cubic meter per second per square kilometer [(m ³ /s)/km ²]
	Length 25.4 0.3048 1.609 Slope 0.1894 Area 2.590 Volume 0.02832 Velocity and Flow 0.3048 0.02832

OTHER ABBREVIATIONS

BF	bank full	LWW	left wingwall
cfs	cubic feet per second	MC	main channel
D ₅₀	median diameter of bed material	RAB	right abutment
DS	downstream	RABUT	face of right abutment
elev.	elevation	RB	right bank
f/p	flood plain	ROB	right overbank
f/p ft ²	square feet	RWW	right wingwall
ft/ft	feet per foot	TH	town highway
JCT	junction	UB	under bridge
LAB	left abutment	US	upstream
LABUT	face of left abutment	USGS	United States Geological Survey
LB	left bank	VTAOT	Vermont Agency of Transportation
LOB	left overbank	WSPRO	water-surface profile model

In this report, the words "right" and "left" refer to directions that would be reported by an observer facing downstream.

Sea level: In this report, "sea level" refers to the National Geodetic Vertical Datum of 1929-- a geodetic datum derived from a general adjustment of the first-order level nets of the United States and Canada, formerly called Sea Level Datum of 1929.

In the appendices, the above abbreviations may be combined. For example, USLB would represent upstream left bank.

LEVEL II SCOUR ANALYSIS FOR BRIDGE 12 (BRAITH00230012) ON TOWN HIGHWAY 23, CROSSING AYERS BROOK, BRAINTREE, VERMONT

By Scott A. Olson

INTRODUCTION AND SUMMARY OF RESULTS

This report provides the results of a detailed Level II analysis of scour potential at structure BRAITH00230012 on town highway 23 crossing Ayers Brook, Braintree, Vermont (figures 1–8). A Level II study is a basic engineering analysis of the site, including a quantitative analysis of stream stability and scour (U.S. Department of Transportation, 1993). A Level I study is included in Appendix E of this report. A Level I study provides a qualitative geomorphic characterization of the study site. Information on the bridge available from VTAOT files was compiled prior to conducting Level I and Level II analyses and can be found in Appendix D.

The site is in the Green Mountain physiographic province of central Vermont in the town of Braintree. The 18.8-mi² drainage area is in a predominantly rural watershed. In the vicinity of the study site, the surface cover of the left and right banks is pasture .

In the study area, Ayers Brook has a meandering channel with a slope of approximately 0.003 ft/ft, an average channel top width of 46 ft and an average channel depth of 5 ft. The predominant channel bed material is sand and gravel (D_{50} is 6.15 mm or 0.0202 ft). The geomorphic assessment at the time of the Level I and Level II site visit on November 16, 1994, indicated that the reach was laterally unstable. Also at the time of the site visit, there was considerable backwater at the bridge site due to a beaver dam downstream. The beaver dam was ignored in the analyses.

The town highway 23 crossing of Ayers Brook is a 28-ft-long, one-lane bridge consisting of one 23-foot span (Vermont Agency of Transportation, written communication, August 24, 1994). The bridge is supported by vertical timber cribwork abutments with wingwalls on the upstream and downstream sides of the right abutment. The lower half of the right abutment and wingwalls are constructed of laid-up stone. The right abutment and wingwalls are also protected by stone fill. The channel is skewed approximately 45 degrees to the opening while the opening-skew-to-roadway is only 5 degrees. Additional details describing conditions at the site are included in the Level II Summary and Appendices D and E.

Scour depths and rock rip-rap sizes were computed using the general guidelines described in Hydraulic Engineering Circular 18 (Richardson and others, 1993). Total scour at a highway crossing is comprised of three components: 1) long-term streambed degradation; 2) contraction scour (due to accelerated flow caused by a reduction in flow area at a bridge) and; 3) local scour (caused by accelerated flow around piers and abutments). Total scour is the sum of the three components. Equations are available to compute depths for contraction and local scour and a summary of the results of these computations follows.

Contraction scour for all modelled flows ranged from 4.2 to 9.4 ft. The worst-case contraction scour occurred at the incipient-overtopping discharge which was less than the 100-year discharge. Abutment scour ranged from 4.3 to 17.5 ft. The worst-case abutment scour occurred at the 500-year discharge. Additional information on scour depths and depths to armoring are included in the section titled "Scour Results". Scoured-streambed elevations, based on the calculated scour depths, are presented in tables 1 and 2. A cross-section of the scour computed at the bridge is presented in figure 8. Scour depths were calculated assuming an infinite depth of erosive material and a homogeneous particle-size distribution.

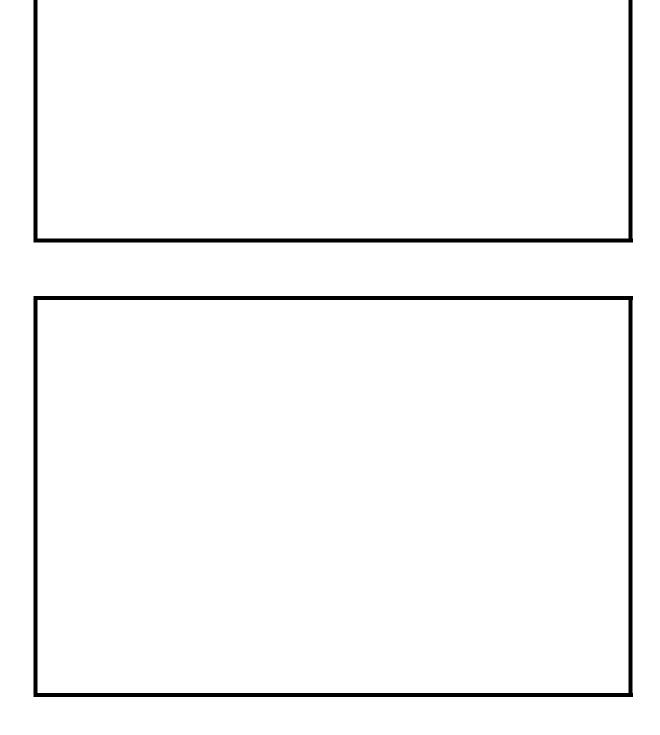
It is generally accepted that the Froehlich equation (abutment scour) gives "excessively conservative estimates of scour depths" (Richardson and others, 1993, p. 48). Usually, computed scour depths are evaluated in combination with other information including (but not limited to) historical performance during flood events, the geomorphic stability assessment, existing scour protection measures, and the results of the hydraulic analyses. Therefore, scour depths adopted by VTAOT may differ from the computed values documented herein.

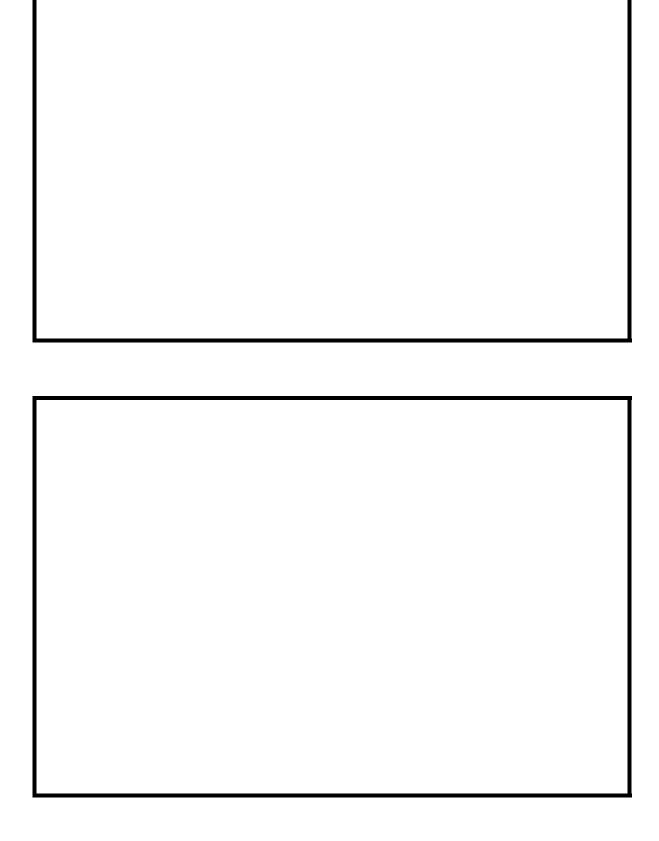
Randolph, VT. Quadrangle, 1:24,000, 1966



Figure 1. Location of study area on USGS 1:24,000 scale map.

Figure 2. Location of study area on Vermont Agency of Transportation town highway map.





LEVEL II SUMMARY

Structure Number —	BRAITH00230012	Stream	Ayers Brook		
County Orange		Road —	TH023	District	04

Description of Bridge

28			16.5			23
Bridge length	ft	Bridge width		ft	Max span len	gth ft
	• /		•	mode	erate curve on right	ght approach
Alignment of bridge to		<i>n curve or straig</i> laid-up stone	ght)		vertical (L), sloping(R)
Abutment type	on	right	Embankm	ient typ	<i>e</i> <u>11/16/94</u>	
Stone fill on abutment?	The		ection on t		t abutment and d	ownstream right
wingwall and type I pro		on the upstream	right wing	gwall. S	tone fill appears	to have slumped
into the main channel fr	om the	banks and toes o	of the bank	s.		
		There	e is a stone	e laid-uj	p wall extending	from the
upstream end of the left	abutmo	ent to about 75 fe	eet upstrea	m. This	s is protecting the	e roadway from
being cut into by the ch	annel. I	Part of right abut	ment is lai	d-up sto	one.	
					Y	45
Is bridge skewed to floo	od flow	according to Y	surve	ey?	Angle	
<u>Ayers Brook is a mean</u>	dering o	channel and there	e is <u>a sever</u>	e bend	in the channel at	the entrance to
the bridge opening.						

Debris accumulation on bridge at time of Level I or Level II site visit:

	Date of inspection <u>11/16/94</u>	Percent of channel bloc ked norizontall y	Percent of abarrel block ed vertically
Level I	same	-	
Level II	High due to s	evere bank cutting along chan	nnel meanders with some
trees along	the top of bank leaning o	over the brook.	
Potential for	r debris		

The lateral instability of the channel may cause the additional misalignment with the bridge. **Describe any features near or at the bridge that may affect flow (include observation date)** High debris potential could also affect flow.

Description of the Geomorphic Setting

General topo	ography	Moderate rel	ief valley with v	vide floodplains; streat	m meanders and
anabranches	s througho	ut the wide valle	ey.		
Geomorphi	ic conditio	ns at bridge site	e: downstream (DS), upstream (US)	
Date of insp	pection	11/16/94			
DS left:	wide fl	oodplain			
<i>DS right:</i> <u>narrow flood plain to valley wall</u>					
US left: wide floodplain					
US right:	narrow	flood plain to va	alley wall		
		Desc	ription of the	Channel	
Average to	op width	46	Ĥ	Average depth	5
Predomina	•	_grav torial	rel	 Rank matarial	gravel
~	2. 	s alluvial and la		<u>1</u>	meandering, with
Vegetative o	co <u>Pasture</u>)			_11/16/94
DS left:	Pasture	, ,			
DS right:	Pasture	;			
US left:	Pasture				
US right:		N			
Do banks a	ppear stal	ble? 11/16/940	Cut-banks are co	mmon along this reach	of the brook
Lateral ins	stability is	a concern espec	cially due to the	severe bend at the char	nnel entrance to the
bridge ope					
				11	/16/94There is a
beaver dar	n about 14	0 feet downstre	am of the bridge		
Describe ar	<i>iy obstruc</i>	0 feet downstreations in channe	el and date of ob	servation.	

Hydrology

<i>Physiographic province</i> Green Mountain	Percent of drainage area
<i>Is drainage area considered rural or un</i> <u>None</u> <i>urbanization</i> :	rban? Rural Describe any significant
s there a USGS gage on the stream of	<u>Yes</u> <i>interest?</i> Ayers Brook at Randolph, VT
USGS gage des	
USGS gage nun	
Gage drainage	
Is there a lake/p · · · · · · · · · · ·	
· · ·	
	alculated Discharges 2,360 Q500 ft ³ /s Discharges were determined from a drainage area
Ca 	2,500
$\frac{1,670}{Q100}$ C: Q100 ft^3/s elationship with flood frequency determ	$\frac{2,500}{g500} ft^{3}/s$ Discharges were determined from a drainage area

Description of the Water-Surface Profile Model (WSPRO) Analysis

Datum for WSPRO analysis (USGS survey, sea level, VTAOT	plans)	USGS survey
Datum tie between USGS survey and VTAOT plans	N/A	

Description of reference marks used to determine USGS datum. RM1 is near the

downstream left corner of the bridge. It is the head of a spike in the top streamward end of the

topmost log in the abutment cribwork. The arbitrary survey elevation is 999.86 feet

¹ Cross-section	Section Reference Distance (SRD) in feet	² Cross-section development	Comments
EXIT1	-52	1	Exit section
FULLV	0	2	Downstream Full-valley section (Templated from EXIT1)
BRIDG	0	1	Bridge section
RDWAY	10	1	Road Grade section
APPR	46	1	Approach section

Cross-Sections Used in WSPRO Analysis

¹ For location of cross-sections see plan-view sketch included with Level I field form, Appendix E. For more detail on how cross-sections were developed see WSPRO input file.

Data and Assumptions Used in WSPRO Model

Hydraulic analyses of the reach were done by use of the Federal Highway Administration's WSPRO step-backwater computer program (Shearman and others, 1986, and Shearman, 1990). The analysis reported herein reflects conditions existing at the site at the time of the study. Furthermore, in the development of the model it was necessary to assume no accumulation of debris or ice at the site. Results of the hydraulic model are presented in the Bridge Hydraulic Summary, Appendix B, and figure 7.

Channel roughness factors (Manning's "n") used in the hydraulic model were estimated using field inspections at each cross section following the general guidelines described by Arcement, Jr. and Schneider (1989). Final adjustments to the values were made during the modelling of the reach. Channel "n" values for the reach ranged from 0.034 to 0.050, and overbank "n" values ranged from 0.030 to 0.040.

Normal depth at the exit section (EXIT1) was assumed as the starting water surface. This depth was computed by use of the slope-conveyance method outlined in the user's manual for WSPRO (Shearman, 1990). The slope used was 0.003 ft/ft which was determined from surveyed thalweg points downstream of the bridge.

The surveyed approach section (APPR) was surveyed one bridge length upstream of the upstream face as recommended by Shearman and others (1986). This approach also provides a consistent method for determining scour variables.

For the incipient overtopping model, WSPRO assumes critical depth at the bridge section. Further analysis, in which the water surface is shown to pass through critical depth in the bridge, suggests the critical depth assumption at the bridge section is a satisfactory solution.

Bridge Hydraulics Summary

Average bridge embankment elevation1000.1ftAverage low steel elevation999.3ft

1,670 **ft³/s** 100-year discharge 999.5 ft Water-surface elevation in bridge opening Road overtopping? _____yes Discharge over road 700, , , s 148 ft^2 Area of flow in bridge opening Average velocity in bridge opening ft/s 6.6 Maximum WSPRO tube velocity at bridge 8.4 ft/s

Water-surface elevation at Approach section with bridge1000.2Water-surface elevation at Approach section without bridge996.2Amount of backwater caused by bridge4.0 t

500-year discharge	2,360	ft ³ /s			
Water-surface elevation	in bridge	e opening	9	999.5 <u>f</u> t	
Road overtopping?	yes	Discharge	over ro	ad	<u>12</u> 37, /s
Area of flow in bridge o	pening	148	$_ft^2$		
Average velocity in bridg	ge openin	g	7.5	ft/s	
Maximum WSPRO tube	e velocity	at bridge		9.6 's	

Water-surface elevation at Approach section with bridge1000.7Water-surface elevation at Approach section without bridge996.7Amount of backwater caused by bridge4.0

Incipient overtopping discharge <u>1,215</u> ft ³ /s	
Water-surface elevation in bridge opening 995.5 ft	
Area of flow in bridge opening 89.0 ft^2	
Average velocity in bridge opening 13.6 ft/s	
Maximum WSPRO tube velocity at bridgeft/s	
Water-surface elevation at Approach section with bridge	998.9
Water-surface elevation at Approach section without bridge	

Water-surface elevation at Approach section with bridge598.9Water-surface elevation at Approach section without bridge995.7Amount of backwater caused by bridge3.2 t

Scour Analysis Summary

Special Conditions or Assumptions Made in Scour Analysis

Scour depths were computed using the general guidelines described in Hydraulic Engineering Circular 18 (Richardson and others, 1993). Scour depths were calculated assuming an infinite depth of erosive material and a homogeneous particle-size distribution. The results of the scour analysis are presented in tables 1 and 2 and a graph of the scour depths is presented in figure 8.

The 100-year and 500-year discharges resulted in unsubmerged orifice flow. Contraction scour at bridges with orifice flow is best estimated by use of the Chang pressure-flow equation (oral communication, J. Sterling Jones, October 4, 1996). Therefore, contraction scour for the 100-year and 500-year discharges was computed by use of the Chang equation (Richardson and others, 1995, p. 145-146). The results of Laursen's clear-water contraction scour for the 100-year and 500-year events were also computed and can be found in appendix F. For the incipient road-overflow discharge, contraction scour was computed by use of the clear-water contraction scour equation (Richardson and others, 1993, p. 35, equation 18). Worst case contraction scour was at the incipient road overtopping discharge. The worst case total scour occurred at the 500-year discharge.

Because of the streambed's fine material composition, armoring was not applicable at this site, except for the 100-year discharge.

Abutment scour for the right abutment was computed by use of the Froehlich equation (Richardson and others, 1993, p. 49, equation 24). Variables for the Froehlich equation include the Froude number of the flow approaching the embankments, the length of the embankment blocking flow, and the depth of flow approaching the embankment less any roadway overtopping.

Scour at the left abutment was computed by use of the HIRE equation (Richardson and others, 1993, p. 50, equation 25) because the HIRE equation is recommended when the length to depth ratio of the embankment blocking flow exceeds 25. The variables used by the HIRE abutment-scour equation are defined the same as those defined for the Froehlich abutment-scour equation.

Scour Results

Contraction scour:	100-yr discharge	500-yr discharge	Incipient overtopping discharge
	(Scour depths in feet)	
Main channel			
Live-bed scour			
Clear-water scour	4.2	6.2	9.4
	3.4	N/A	N/A
Depth to armoring			*
Left overbank			
Right overbank			
Local scour:			
Abutment scour	5.2	5.8	4.3
Left abutment	15.2-	17.5-	13.4-
Right abutment			
Pier scour			
Pier 1			
Pier 2			
Pier 3			

Rock Riprap Sizing

	100-yr discharge	ov 500-yr discharge	Incipient vertopping discharge
		(D_{50} in feet)	
Abutments:	1.2	1.5	2.3
Left abutment	1.2	1.5	2.3
Right abutment			
Piers:			
Pier 1			
Pier 2			

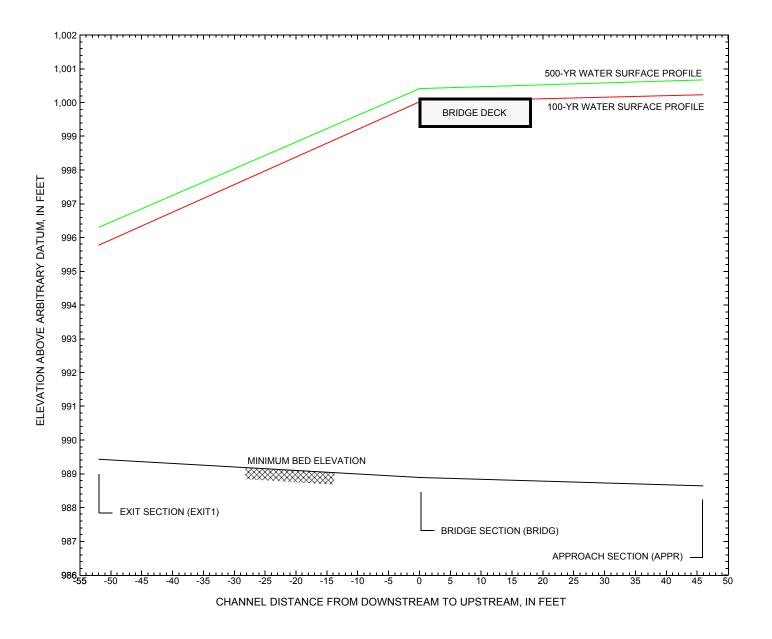


Figure 7. Water-surface profiles for the 100- and 500-yr discharges at structure BRAITH00230012 on town highway 23, crossing Ayers Brook, Braintree, Vermont.

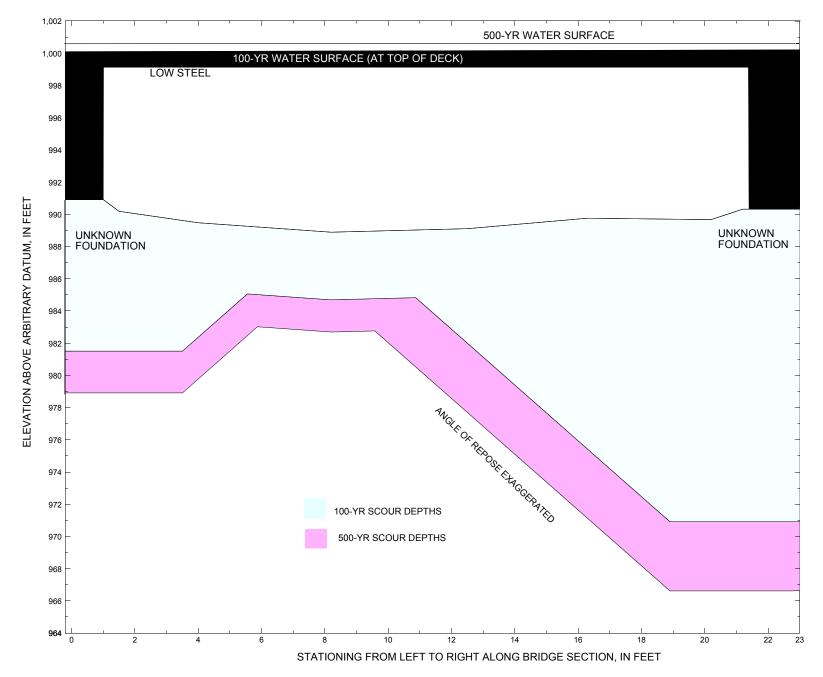


Figure 8. Scour elevations for the 100-yr and 500-yr discharges at structure BRAITH00230012 on town highway 23, crossing Ayers Brook, Braintree, Vermont.

Table 1. Remaining footing/pile depth at abutments for the 100-year discharge at structure BRAITH00230012 on Town Highway 23, crossing Ayers Brook, Braintree, Vermont.

[VTAOT, Vermont Agency of Transportation; --,no data]

Description	Station ¹	VTAOT minimum low-chord elevation (feet)	Surveyed minimum low-chord elevation ² (feet)	Bottom of footing elevation ² (feet)	Channel elevation at abutment/ pier ² (feet)	Contraction scour depth (feet)	Abutment scour depth (feet)	Pier scour depth (feet)	Depth of total scour (feet)	Elevation of scour ² (feet)	Remaining footing/pile depth (feet)
				100-yr.	discharge is 1,670	cubic-feet per sec	cond				
Left abutment	1.0		999.5		990.9	4.2	5.2		9.4	981.5	
Right abutment	21.4		999.1		990.3	4.2	15.2		19.4	970.9	

Measured along the face of the most constricting side of the bridge.
 Arbitrary datum for this study.

Table 2. Remaining footing/pile depth at abutments for the 500-year discharge at structure BRAITH00230012 on Town Highway 23, crossing Ayers Brook, Braintree, Vermont.

[VTAOT, Vermont Agency of Transportation; --, no data]

Description	Station ¹	VTAOT minimum low-chord elevation (feet)	Surveyed minimum low-chord elevation ² (feet)	Bottom of footing elevation ² (feet)	Channel elevation at abutment/ pier ² (feet)	Contraction scour depth (feet)	Abutment scour depth (feet)	Pier scour depth (feet)	Depth of total scour (feet)	Elevation of scour ² (feet)	Remaining footing/pile depth (feet)
				500-yr.	discharge is 2,360	cubic-feet per sec	cond				
Left abutment	1.0		999.5		990.9	6.2	5.8		12.0	978.9	
Right abutment	21.4		999.1		990.3	6.2	17.5		23.7	966.6	

^{1.} Measured along the face of the most constricting side of the bridge.

². Arbitrary datum for this study.

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APPENDIX A:

WSPRO INPUT FILE

WSPRO INPUT FILE

т1 U.S. GEOLOGICAL SURVEY WSPRO INPUT FILE brai012.wsp Τ2 CREATED ON 27-APR-95 FOR BRIDGE BRAITH00230012 USING FILE brai012.dca Т3 HYDRAULIC ANALYSIS OF BRAI012 OVER AYERS BROOK IN BRAINTREE, VT * 6 29 30 552 553 551 5 16 17 13 3 * 15 14 23 21 11 12 4 7 3 JT3 * 0 1670 2360 1215 SK 0.003 0.003 0.003 * XS EXIT1 -52 -201.7, 997.43 -157.4, 995.11 GR -257.5,1001.94 4.8, 994.75 GR 0.0, 995.33 8.2, 992.10 8.7, 989.84 11.3, 989.43 GR 19.3, 989.99 29.4, 990.56 34.4, 991.37 58.8, 992.04 GR 47.7, 991.76 56.7, 991.31 65.8, 994.91 87.4, 995.46 101.4, 996.54 GR 80.8, 994.45 81.7, 994.21 GR 149.5, 996.94 169.4,1004.29 N 0.032 0.040 0.032 SA 65.8 4.8 * * Expansion coefficient increased from default 0.5 to 1.0 * between the full valley section and the approach due to * approach being much more constricting than the exit section. * This will only affect the unconstricted model run and will not * change the results of the profile through the bridge. * FULLV 0 * 1.0 * 0.003 XS * BR BRIDG 0 999.3 45 0.0, 999.46 1.0, 990.91 1.5, 990.19 4.0, 989.48 GR 1.5, 990.19 16.3, 989.76 12.5, 989.11 20.2, 989.67 GR 8.2, 988.89 22.8, 999.12 0.0, 999.46 GR 21.2, 990.32 21.4, 992.09 0 034 Ν CD 1 19 * * 17.5 2.5 * XR RDWAY 10 16 2 GR -257.5,1001.94 -207.3, 999.12 GR -60.2, 998.86 -10.9,1000.48 0.0,1000.02 26.1,1000.27 GR 48.3,1001.65 100.3,1003.51 154.1,1006.67 209.0,1009.36 ΒP 0 * * actual approach stationing was 86 feet but bed from bridge to * approach was 0 grade so changing SRD to 46. Also changing the * graphical estimate of BP=65 to value below for curvilinear flow * APPR 46 AS -168.9, 997.15 -122.6, 998.33 GR -257,1001.9 0.0, 996.50 2.4, 992.17 6.9, 989.73 11.8, 990.16 GR GR 19.1, 988.64 23.0, 988.79 24.9, 989.29 27.8, 992.14 GR 30.7, 995.47 38.2, 995.33 99.3, 995.31 126.8, 996.78 154.6,1008.81 GR 0.040 0.050 0.030 N SA 0 30.7 ΒP 2.4 27.8 14 62 * HP 2 BRIDG 999.46 * * 971 HP 2 RDWAY 1000.02 * * 700 HP 1 APPR 1000.23 1 1000.23 HP 2 APPR 1000.23 * * 1670 * HP 1 BRIDG 999.46 1 999.46 HP 2 BRIDG 999.46 * * 1112 HP 2 RDWAY 1000.41 * * 1237

APPENDIX B: WSPRO OUTPUT FILE

WSPRO OUTPUT FILE

			N 27-AH	PR-95 FC	OR BR	IDGE I	BRAITH	0023001	L2 US	ING FI	ILE bi	rai012.dca
		HYDRAULIC							OK IN	BRAII	NTREE,	VT
		*** RU										
		S-SECTION										
	WSE	l SA#	AREA		K			ALPH	L	EW	REW	
		1		13619		0.						0.
	999.4	6	148.	13619	9.	0.	49.	1.00		0.	23.	0.
	VELO	CITY DIST										0.
		WSEL										
	9	99.46	0.0	22.8	148	.3 :	13619.	97	71.	6.55		
	STA.	0.		2.8								6.9
	A(I)		14.7				7.3					
	V(I)		3.29	5	5.64		6.67	5	7.00		7.56	
Х	STA.	6.	9									11.0
	A(I)		6.1								5.8	
	V(I)		7.91	8	3.19		8.15	8	3.29		8.33	
		11.										15.2
	A(I)		5.8				5.9				6.3	
	V(I)		8.36	8	3.15		8.27	5	7.81		7.71	
Х	STA.	15.	2			17.2		18.4				
	A(I)		6.6				7.5					
	V(I)		7.31	5	7.06		6.44	5	5.62		3.30	
	VELO	CITY DIST	RIBUTIC	ON: ISH	EQ =	4; 8	SECID :	= RDWAY	ľ; S	RD =	1	LO.
		WSEL	LEW	REW	AR	EA	K		Q	VEL		
	10	00.02 -2	23.3	-24.9	179	.2	7795.	70	00.	3.91		
Х	STA.	-223.										
	A(I)		12.4		9.4		9.1		8.9		8.6	
	V(I)		2.82	3	3.72		3.84	3	3.95		4.09	
Х	STA.	-163.	5 -	-154.7	-	146.3	- 3	138.0	-	130.0	-	122.1
	A(I)		0 0		0 4				0 0		0 0	
			0.0		8.4		8.5		8.2		8.3	
	V(I)			4								
	V(I)											
		-122.	4.07	4	4.16		4.14	4	1.27		4.22	
х			4.07	4	4.16	106.8	4.14	4 -99.3	1.27	-92.0	4.22	-84.7
X	STA.	-122.	4.07 1 .1	-114.4	4.16 - 8.2	106.8	4.14	4-99.3	1.27 8.0	-92.0	4.22	-84.7
X	STA. A(I)	-122.	4.07 1 .1	-114.4	4.16 - 8.2	106.8	4.14	4-99.3	1.27 8.0	-92.0	4.22	-84.7
X	STA. A(I) V(I)	-122.	4.07 1 - 8.1 4.32 7	-114.4 -77.4	4.16 - 8.2 4.27	-70.1	4.14 8.1 4.32	-99.3 -62.6	1.27 8.0 1.38	-92.0	4.22 8.1 4.32	-84.7
x x	STA. A(I) V(I)	-122.	4.07 1 8.1 4.32 7	-114.4 -77.4	4.16 - 8.2 4.27 8.3	-70.1	4.14 8.1 4.32 8.5	-99.3 -62.6	 27 8.0 38 9.2 	-92.0	4.22 8.1 4.32	-84.7
x x	STA. A(I) V(I) STA.	-122.	4.07 1 8.1 4.32 7	-114.4 -77.4	4.16 - 8.2 4.27 8.3	-70.1	4.14 8.1 4.32 8.5	-99.3 -62.6	 27 8.0 38 9.2 	-92.0	4.22 8.1 4.32	-84.7
x x	STA. A(I) V(I) STA. A(I) V(I) CR	-122. -84. OSS-SECTI	4.07 1 8.1 4.32 7 8.2 4.25 CON PROB	-114.4 -77.4 -22	4.16 8.2 4.27 8.3 4.21 : IS	-70.1 EEQ =	4.14 8.1 4.32 8.5 4.10 5; SI	-99.3 -62.6 ECID =	4.27 8.0 4.38 9.2 3.79 APPR	-92.0 -54.1 ; SH	4.22 8.1 4.32 14.0 2.49 RD =	-84.7 -24.9 46.
x x	STA. A(I) V(I) STA. A(I) V(I) CR	-122. -84. OSS-SECTI	4.07 1 8.1 4.32 7 8.2 4.25 CON PROP AREA	-114.4 -77.4 PERTIES:	4.16 8.2 4.27 8.3 4.21 : IS	106.8 -70.1 EEQ = TOPW	4.14 8.1 4.32 8.5 4.10 5; SJ WETP	-99.3 -62.6 ECID = ALPH	4.27 8.0 4.38 9.2 3.79 APPR	-92.0 -54.1 ; SH	4.22 8.1 4.32 14.0 2.49 RD =	-84.7 -24.9 46.
x x	STA. A(I) V(I) STA. A(I) V(I) CR	-122. -84. OSS-SECTI L SA# 1	4.07 1 8.1 4.32 7 8.2 4.25 CON PROF AREA 548.	-114.4 -77.4 PERTIES: 36870	4.16 8.2 4.27 8.3 4.21 : IS K 0.	106.8 -70.1 EQ = TOPW 226.	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226.	-99.3 -62.6 ECID = ALPH	4.27 8.0 4.38 9.2 3.79 APPR	-92.0 -54.1 ; SH	4.22 8.1 4.32 14.0 2.49 RD =	-84.7 -24.9 46.
x x	STA. A(I) V(I) STA. A(I) V(I) CR	-122. -84. OSS-SECTI L SA# 1	4.07 1 8.1 4.32 7 8.2 4.25 CON PROF AREA 548.	-114.4 -77.4 PERTIES: 36870	4.16 8.2 4.27 8.3 4.21 : IS K 0.	106.8 -70.1 EQ = TOPW 226.	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226.	-99.3 -62.6 ECID = ALPH	4.27 8.0 4.38 9.2 3.79 APPR	-92.0 -54.1 ; SH	4.22 8.1 4.32 14.0 2.49 RD =	-84.7 -24.9 46. QCR
x x	STA. A(I) V(I) STA. A(I) V(I) CR	-122. -84. OSS-SECTI L SA# 1	4.07 1 8.1 4.32 7 8.2 4.25 CON PROF AREA 548.	-114.4 -77.4 PERTIES:	4.16 8.2 4.27 8.3 4.21 : IS K 0.	106.8 -70.1 EQ = TOPW 226.	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226.	-99.3 -62.6 ECID = ALPH	4.27 8.0 4.38 9.2 3.79 APPR	-92.0 -54.1 ; SH	4.22 8.1 4.32 14.0 2.49 RD =	-84.7 -24.9 46. QCR 4847.
x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE	-122. -84. OSS-SECTI L SA# 1	4.07 1 8.1 4.32 7 8.2 4.25 CN PROI AREA 548. 298. 465.	-114.4 -77.4 -77.4 PERTIES: 3687(35766 62364	4.16 8.2 4.27 8.3 4.21 : IS K 0. 5. 4.	106.8 -70.1 EQ = TOPW 226. 31. 104.	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105.	-99.3 -62.6 ECID = ALPH	8.0 4.38 9.2 3.79 APPR L	-92.0 -54.1 ; SI EW	4.22 8.1 4.32 14.0 2.49 RD = REW	-84.7 -24.9 46. QCR 4847. 5262. 5579.
x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE	-122. -84. OSS-SECTI L SA# 1 2 3	4.07 1 8.1 4.32 7 8.2 4.25 CN PROI AREA 548. 298. 465.	-114.4 -77.4 -77.4 PERTIES: 3687(35766 62364	4.16 8.2 4.27 8.3 4.21 : IS K 0. 5. 4.	106.8 -70.1 EQ = TOPW 226. 31. 104.	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105.	-99.3 -62.6 ECID = ALPH	8.0 4.38 9.2 3.79 APPR L	-92.0 -54.1 ; SI EW	4.22 8.1 4.32 14.0 2.49 RD = REW	-84.7 -24.9 46. QCR 4847. 5262. 5579.
x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2	-122. -84. OSS-SECTI L SA# 1 2 3 3 CITY DIST	4.07 1 8.1 4.32 7 8.2 4.25 CON PROI AREA 548. 298. 465. 1311. CRIBUTIC	-114.4 -77.4 PERTIES: 36870 35766 62364 135000 DN: ISE	4.16 8.2 4.27 8.3 4.21 : IS K D. 5. 4. D. 5. 2. 2.	106.8 -70.1 3EQ = TOPW 226. 31. 104. 361. 5; 5	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID	-99.3 -62.6 ECID = ALPH 1.26 = APPR	4.27 8.0 4.38 9.2 3.79 APPR L -22 ; S	-92.0 -54.1 ; SI EW 6. : RD =	4.22 8.1 4.32 14.0 2.49 RD = REW 135.	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633.
x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2	-122. -84. OSS-SECTI L SA# 1 2 3 3	4.07 1 8.1 4.32 7 8.2 4.25 CON PROI AREA 548. 298. 465. 1311. CRIBUTIC	-114.4 -77.4 PERTIES: 36870 35766 62364 135000 DN: ISE	4.16 8.2 4.27 8.3 4.21 : IS K D. 5. 4. D. 5. 2. 2.	106.8 -70.1 3EQ = TOPW 226. 31. 104. 361. 5; 5	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID	-99.3 -62.6 ECID = ALPH 1.26 = APPR	4.27 8.0 4.38 9.2 3.79 APPR L -22 ; S	-92.0 -54.1 ; SI EW 6. : RD =	4.22 8.1 4.32 14.0 2.49 RD = REW 135.	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633.
x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2 VELO	-122. -84. OSS-SECTI L SA# 1 2 3 3 CITY DIST	4.07 1 8.1 4.32 7 8.2 4.25 CON PROF AREA 548. 298. 465. 1311. 'RIBUTIC LEW	-114.4 -77.4 PERTIES: 36870 35766 62364 135000 DN: ISE REW	4.16 8.2 4.27 8.3 4.21 : IS K 0. 5. 4. 0. 5. 2. 2. EQ = AF	-70.1 EQ = TOPW 226. 31. 104. 361. 5; \$	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID K	-99.3 -62.6 ECID = ALPH 1.26 = APPR	4.27 8.0 4.38 9.2 3.79 APPR L -22 ; S Q	-92.0 -54.1 ; SI EW 6. : RD = VEL	4.22 8.1 4.32 14.0 2.49 RD = REW 135.	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633.
x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2 VELO	-122. -84. OSS-SECTI L SA# 1 2 3 3 CITY DIST WSEL	4.07 1 8.1 4.32 7 8.2 4.25 CON PROF AREA 548. 298. 465. 1311. 'RIBUTIC LEW	-114.4 -77.4 PERTIES: 36870 35766 62364 135000 DN: ISE REW	4.16 8.2 4.27 8.3 4.21 : IS K 0. 5. 4. 0. 5. 2. 2. EQ = AF	-70.1 EQ = TOPW 226. 31. 104. 361. 5; \$	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID K	-99.3 -62.6 ECID = ALPH 1.26 = APPR	4.27 8.0 4.38 9.2 3.79 APPR L -22 ; S Q	-92.0 -54.1 ; SI EW 6. : RD = VEL	4.22 8.1 4.32 14.0 2.49 RD = REW 135.	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633.
x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2 VELO 10	-122. -84. OSS-SECTI L SA# 1 2 3 3 CITY DIST WSEL	4.07 1 8.1 4.32 7 8.2 4.25 CON PROI AREA 548. 298. 465. 1311. CRIBUTIO LEW 226.0	-114.4 -77.4 PERTIES: 3687(35766 62364 13500(DN: ISB REW 134.8	4.16 8.2 4.27 8.3 4.21 : IS K 0. 5. 4. 0. EQ = AR 1311	106.8 -70.1 EQ = TOPW 226. 31. 104. 361. 5; S EA 2 1:	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID K 35000.	-99.3 -62.6 ECID = ALPH 1.26 = APPR 167	1.27 8.0 1.38 9.2 3.79 APPR L -22 ; S Q 70.	-92.0 -54.1 ; SI EW 6. : RD = VEL 1.27	4.22 8.1 4.32 14.0 2.49 RD = REW	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633. 46.
x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2 VELO 10	-122. -84. OSS-SECTI L SA# 1 2 3 3 CITY DIST WSEL 00.23 -2 -226.	4.07 1 8.1 4.32 7 8.2 4.25 CON PROI AREA 548. 298. 465. 1311. 'RIBUTIO LEW 26.0 0	-114.4 -77.4 PERTIES: 3687(35766 62364 13500(DN: ISB REW 134.8	4.16 8.2 4.27 8.3 4.21 : IS K 0. 5. 4. 0. EQ = AR 1311	-70.1 EEQ = TOPW 226. 31. 104. 361. 5; S EEA .2 1: 108.7	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID K 35000.	-99.3 -62.6 ECID = ALPH 1.26 = APPR 167 -66.2	1.27 8.0 1.38 9.2 3.79 L -22 ; S Q 20.	-92.0 -54.1 ; SI EW 6. : RD = VEL 1.27 -35.1	4.22 8.1 4.32 14.0 2.49 RD = REW	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633. 16.
x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2 VELO 10 STA.	-122. -84. OSS-SECTI L SA# 1 2 3 3 CITY DIST WSEL 00.23 -2 -226.	4.07 1	-114.4 -77.4 PERTIES: 3687(35766 62364 13500(DN: ISH REW 134.8 -156.7	4.16 8.2 4.27 8.3 4.21 : IS K 0. 5. 4. 0. EQ = AR 1311 - - - - - - - - - - - -	-70.1 EEQ = TOPW 226. 31. 104. 361. 5; 5 EA .2 1: 108.7	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID K 35000. 103.1	-99.3 -62.6 ECID = ALPH 1.26 = APPR 167 -66.2	1.27 8.0 1.38 9.2 3.79 L -22 ; S Q 70.	-92.0 -54.1 ; SI EW 6. : RD = VEL 1.27 -35.1	4.22 8.1 4.32 14.0 2.49 REW 135. 2 84.7	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633. 46.
x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2 VELO 10 STA. A(I)	-122. -84. OSS-SECTI L SA# 1 2 3 3 CITY DIST WSEL 00.23 -2 -226.	4.07 1	-114.4 -77.4 PERTIES: 3687(35766 62364 135000 ON: ISH REW 134.8 -156.7	4.16 8.2 4.27 8.3 4.21 : IS K 0. 5. 4. 0. EQ = AR 1311 - - - - - - - - - - - -	-70.1 EEQ = TOPW 226. 31. 104. 361. 5; 5 EA .2 1: 108.7	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID K 35000. 103.1	-99.3 -62.6 ECID = ALPH 1.26 = APPR 167 -66.2	1.27 8.0 1.38 9.2 3.79 L -22 ; S Q 70.	-92.0 -54.1 ; SI EW 6. : RD = VEL 1.27 -35.1	4.22 8.1 4.32 14.0 2.49 REW 135. 2 84.7	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633. 46.
x x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2 VELO 10 STA. A(I) V(I)	-122. -84. OSS-SECTI L SA# 1 2 3 3 CITY DIST WSEL 00.23 -2 -226.	4.07 1	-114.4 -77.4 PERTIES: 36870 35766 62364 135000 DN: ISH REW 134.8 -156.7 10 0 5.7	4.16 8.2 4.27 8.3 4.21 : IS K 0. 5. 4. 0. 20 - - - - - - - - - - - - -	-70.1 EQ = TOPW 226. 31. 104. 361. 5; \$ EA 2 1: 108.7 : 10.9	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID K 35000.	-99.3 -62.6 ECID = ALPH 1.26 = APPR 167 -66.2 (15.7	1.27 8.0 1.38 9.2 3.79 APPR L -22 ; S Q 70. 0.2.2 0.91	-92.0 -54.1 ; SI EW 6. : ND = VEL 1.27 -35.1 19.9	4.22 8.1 4.32 14.0 2.49 RD = REW 135. 2 84.7 0.99	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633. 46. -10.2 24.0
x x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2 VELO 10 STA. A(I) V(I)	-122. -84. OSS-SECTI L SA# 1 2 3 3 CITY DIST WSEL 00.23 -2 -226.	4.07 1	-114.4 -77.4 PERTIES: 36870 35766 62364 135000 DN: ISH REW 134.8 -156.7 10 0 5.7	4.16 8.2 4.27 8.3 4.21 : IS K 0. 5. 4. 0. 20 - - - - - - - - - - - - -	-70.1 EQ = TOPW 226. 31. 104. 361. 5; \$ EA 2 1: 108.7 : 10.9	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID K 35000.	-99.3 -62.6 ECID = ALPH 1.26 = APPR 167 -66.2 (15.7	1.27 8.0 1.38 9.2 3.79 APPR L -22 ; S Q 70. 0.2.2 0.91	-92.0 -54.1 ; SI EW 6. : ND = VEL 1.27 -35.1 19.9	4.22 8.1 4.32 14.0 2.49 RD = REW 135. 2 84.7 0.99	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633. 46. -10.2 24.0
x x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2 VELO 10 STA. A(I) V(I) STA.	-122. -84. OSS-SECTI L SA# 1 2 3 3 CITY DIST WSEL 00.23 -2 -226. -10.	4.07 1	-114.4 -77.4 PERTIES: 36870 35766 62364 135000 DN: ISH REW 134.8 -156.7 10 0 5.7	4.16 8.2 4.27 8.3 4.21 : IS K 0. 5. 4. 0. 20 - - 0.7 4 0.78 53.0	-70.1 EQ = TOPW 226. 31. 104. 361. 5; \$ EA 2 1: 108.7 : 10.9	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID K 35000. 103.1 0.81 50.3	-99.3 -62.6 ECID = ALPH 1.26 = APPR 167 -66.2 (15.7	1.27 8.0 1.38 9.2 3.79 APPR L -22 ; S Q 70. 0.22 0.91 17.1	-92.0 -54.1 ; SI EW 6. : ND = VEL 1.27 -35.1 19.9	4.22 8.1 4.32 14.0 2.49 RD = REW 135. 2 84.7 0.99 47.7	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633. 46. -10.2 24.0
x x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2 VELO 10 STA. A(I) V(I) STA. A(I)	-122. -84. OSS-SECTI L SA# 1 2 3 3 CITY DIST WSEL 00.23 -2 -226. -10.	4.07 1	-114.4 -77.4 PERTIES: 36870 35766 62364 135000 DN: ISH REW 134.8 -156.7 10 0 5.7	4.16 8.2 4.27 8.3 4.21 : IS K 0. 5. 4. 0. 20 - - 0.7 4 0.78 53.0	-70.1 EQ = TOPW 226. 31. 104. 361. 5; \$ EA 2 1: 108.7 : 10.9	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID K 35000. 103.1 0.81 50.3	-99.3 -62.6 ECID = ALPH 1.26 = APPR 167 -66.2 (15.7	1.27 8.0 1.38 9.2 3.79 APPR L -22 ; S Q 70. 0.22 0.91 17.1	-92.0 -54.1 ; SI EW 6. : ND = VEL 1.27 -35.1 19.9	4.22 8.1 4.32 14.0 2.49 RD = REW 135. 2 84.7 0.99 47.7	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633. 46. -10.2 24.0
x x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2 VELO 10 STA. A(I) V(I) STA. A(I)	-122. -84. OSS-SECTI L SA# 1 2 3 3 CITY DIST WSEL 00.23 -2 -226. -10.	4.07 1	-114.4 -77.4 PERTIES: 3687(35766 62364 135000 DN: ISE REW 134.8 -156.7 10 5.7	4.16 8.2 8.3 4.27 8.3 4.21 : IS K 0. 5. 4. 0. 20 20 27.4 0.7.8 53.0 1.57	106.8 -70.1 EQ = TOPW 226. 31. 104. 361. 5; \$ EA .2 1: 108.7 : 10.9	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID K 35000. 103.1 0.81 50.3 1.66	-99.3 -62.6 ECID = ALPH 1.26 = APPR 167 -66.2 (15.7	1.27 8.0 1.38 9.2 3.79 APPR L -22 ; S Q 70. 92.2 0.91 1.77	-92.0 -54.1 ; SI EW 6. : ND = VEL 1.27 -35.1 19.9	4.22 8.1 4.32 14.0 2.49 REW 135. 4 84.7 0.99 47.7 1.75	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633. 46. -10.2 24.0
x x x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2 VELO 10 STA. A(I) V(I) STA. A(I) V(I) STA.	-122. -84. OSS-SECTI L SA# 1 2 3 3 CITY DIST WSEL 00.23 -2 -226. -10.	4.07 1	-114.4 -77.4 PERTIES: 3687(35766 62366 135000 DN: ISP REW 134.8 -156.7 10 5.7 5.7 33.1	4.16 8.2 4.27 8.3 4.21 : IS K 0. 5. 4. 0. 20 - 0. 7.4 0.78 53.0 1.57	106.8 -70.1 EQ = TOPW 226. 31. 104. 361. 5; \$ LEA .2 1: 108.7 : 10.9 42.8	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID S K 35000. 103.1 0.81 50.3 1.66	-99.3 -62.6 ECID = ALPH 1.26 = APPR 167 -66.2 0 15.7 4 52.5	1.27 8.0 1.38 9.2 3.79 APPR L -22 ; S Q 70. 02.2 0.91 1.77	-92.0 -54.1 ; SI EW 6. : RD = VEL 1.27 -35.1 19.9 62.0	4.22 8.1 4.32 14.0 2.49 REW 135. 4 84.7 0.99 47.7 1.75	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633. 46. -10.2 24.0 71.7
x x x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2 VELO 10 STA. A(I) V(I) STA. A(I) V(I) STA. A(I) V(I)	-122. -84. OSS-SECTI L SA# 1 2 3 3 CITY DIST WSEL 00.23 -2 -226. -10. 24.	4.07 1	-114.4 -77.4 PERTIES: 3687(35766 62366 135000 DN: ISP REW 134.8 -156.7 10 5.7 5.7 33.1	4.16 8.2 4.27 8.3 4.21 : IS K 0. 5. 4. 0. 20 - 0. 7.4 0.78 53.0 1.57 47.0	106.8 -70.1 EQ = TOPW 226. 31. 104. 361. 5; \$ LEA .2 1: 108.7 : 10.9 42.8	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID S K 35000. 103.1 0.81 50.3 1.66 48.0	-99.3 -62.6 ECID = ALPH 1.26 = APPR 167 -66.2 0 15.7 4 52.5	1.27 8.0 1.38 9.2 3.79 APPR L -22 ; S Q 70. 02.2 0.91 1.7.1 1.77 16.6	-92.0 -54.1 ; SI EW 6. : RD = VEL 1.27 -35.1 19.9 62.0	4.22 8.1 4.32 14.0 2.49 REW 135. 47.7 1.75 47.5	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633. 46. -10.2 24.0 71.7
x x x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2 VELO 10 STA. A(I) V(I) STA. A(I) V(I) STA.	-122. -84. OSS-SECTI L SA# 1 2 3 3 CITY DIST WSEL 00.23 -2 -226. -10. 24.	4.07 1	-114.4 -77.4 PERTIES: 3687(35766 62366 135000 DN: ISP REW 134.8 -156.7 10 5.7 5.7 33.1	4.16 8.2 4.27 8.3 4.21 : IS K 0. 5. 4. 0. 20 - 0. 7.4 0.78 53.0 1.57 47.0	106.8 -70.1 EQ = TOPW 226. 31. 104. 361. 5; \$ LEA .2 1: 108.7 : 10.9 42.8	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID S K 35000. 103.1 0.81 50.3 1.66 48.0	-99.3 -62.6 ECID = ALPH 1.26 = APPR 167 -66.2 0 15.7 4 52.5	1.27 8.0 1.38 9.2 3.79 APPR L -22 ; S Q 70. 02.2 0.91 1.7.1 1.77 16.6	-92.0 -54.1 ; SI EW 6. : RD = VEL 1.27 -35.1 19.9 62.0	4.22 8.1 4.32 14.0 2.49 REW 135. 47.7 1.75 47.5	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633. 46. -10.2 24.0 71.7
x x x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2 VELO 10 STA. A(I) V(I) STA. A(I) V(I) STA. A(I) V(I) STA.	-122. -84. OSS-SECTI L SA# 1 2 3 3 CITY DIST WSEL 00.23 -2 -226. -10. 24.	4.07 1	-114.4 -77.4 PERTIES: 36870 35766 62364 135000 DN: ISH REW 134.8 -156.7 10 5.7 5.7 11 33.1 4 13 13 13 13 14 14 15 15 15 15 16 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 16 16 16 16 16 16 16 16 16	4.16 8.2 4.27 8.3 4.21 : IS K 0. 5. 4. 0. 20 27 4. 0. 20 - 0. 27 4. 0. 3. 4. 20 - 0. 27 4. 27 - 0. 27 - 0. 20 - 0. 20 - 0. 20 - 0. 20 - 1311 - 1. 27 - 0. 27 - 0. 27 - 0. 27 - 0. 20 - - 0. 20 - - 0. 20 - - 0. 20 - - - 20 - - - - - - - - - - - - -	106.8 -70.1 EQ = TOPW 226. 31. 104. 5; 5 EA .2 1: 108.7 10.9 10.9	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID 5. 5. 5. 5. 6. 4. 1.66 48.0 1.74	-99.3 -62.6 ECID = ALPH 1.26 = APPR 167 -66.2 52.5 2 1	1.27 8.0 1.38 9.2 3.79 APPR L -22 , S Q 70. 92.2 0.91 1.77 46.6 1.79	-92.0 -54.1 ; SI EW 6. : ND = VEL 1.27 -35.1 19.9 62.0	4.22 8.1 4.32 14.0 2.49 RD = REW 135. 4 84.7 0.99 47.7 1.75 47.5 1.76	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633. 16. -10.2 24.0 71.7
x x x x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2 VELO 10 STA. A(I) V(I) STA. A(I) V(I) STA. A(I) V(I) STA. A(I) V(I) STA.	-122. -84. OSS-SECTI L SA# 1 2 3 3 CITY DIST WSEL 00.23 -2 -226. -10. 24.	4.07 1	-114.4 -77.4 PERTIES: 36870 35766 62364 135000 DN: ISH REW 134.8 -156.7 10 5.7 5.7 10 33.1 4 81.6	4.16 8.2 4.27 8.3 4.21 : IS K 0. 20 4. 0. 20 - 0. 23 - 0. 23 - 0. 23 - 0. 24 - 0. 24 - 0. 25 - 0. 25 - 0. 25 - 0. 25 - 0. 25 - 1311 - 1. 27 - - 27 - - - - - - - - - - - - -	106.8 -70.1 EQ = TOPW 226. 31. 104. 361. 5; 5 EA .2 1: 108.7 : 10.9 42.8 91.4	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID K 35000. 103.1 0.81 50.3 1.66 48.0 1.74	-99.3 -62.6 ECID = ALPH 1.26 = APPR 167 -66.2 52.5 15.7 2 101.3	1.27 8.0 1.38 9.2 3.79 APPR L -22 70. 92.2 0.91 1.77 16.6 1.79	-92.0 -54.1 ; SI EW 6. : ND = VEL 1.27 -35.1 19.9 62.0 113.1	4.22 8.1 4.32 14.0 2.49 RD = REW 135. 4 84.7 0.99 47.7 1.75 47.5 1.76	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633. 16. -10.2 24.0 71.7
x x x x x x	STA. A(I) V(I) STA. A(I) V(I) CR WSE 1000.2 VELO 10 STA. A(I) V(I) STA. A(I) V(I) STA. A(I) V(I) STA.	-122. -84. OSS-SECTI L SA# 1 2 3 3 CITY DIST WSEL 00.23 -2 -226. -10. 24.	4.07 1	-114.4 -77.4 PERTIES: 36870 35766 62364 135000 DN: ISH REW 134.8 -156.7 10 5.7 5.7 11 33.1 4 13 13 13 13 14 14 15 15 15 15 16 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 16 16 16 16 16 16 16 16 16	4.16 8.2 4.27 8.3 4.21 : IS K 0. 5. 4. 0. 20 20 27 4. 1311 27 4. 20 27 4. 27 4. 27 4. 27 5. 4. 27 5. 4. 27 5. 4. 20 5. 5. 4. 20 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.	106.8 -70.1 EQ = TOPW 226. 31. 104. 361. 5; \$ EEA 2 1: 108.7 : 10.9 42.8 91.4	4.14 8.1 4.32 8.5 4.10 5; SI WETP 226. 37. 105. 368. SECID K 35000. 103.1 0.81 50.3 1.66 48.0 1.74 48.9	-99.3 -62.6 ECID = ALPH 1.26 = APPR 167 -66.2 52.5 4 101.3	1.27 8.0 1.38 9.2 3.79 APPR L -22 70. 70. 02.2 0.91 1.77 16.6 1.79 53.2	-92.0 -54.1 ; SI EW 6. : ND = VEL 1.27 -35.1 19.9 62.0 113.1	4.22 8.1 4.32 14.0 2.49 REW 135. 2 84.7 0.99 47.7 1.75 47.5 1.76 65.8	-84.7 -24.9 46. QCR 4847. 5262. 5579. 12633. 46. -10.2 24.0 71.7 134.8

	+++			BRAI	012 OV	ER AYE	RS BROOM	2 USING H K IN BRAI		
	*** RUN								<u>_</u>	0
WSEL		AREA						IDG; SRI LEW		
NOLL		148.				49.			ICDW	0.
999.46		148.						0.	23	
555.40		140.	1301		0.	ч <i>у</i> .	1.00	0.	25.	0.
VELOCT	TY DISTR	TRUTTO	N· TS	EO -	3.	SECTD	- BRIDG	; SRD =		0
		LEW								0.
								2. 7.50		
	. 10	0.0	22.0			13019.	111/		, ,	
X STA.	0 0		28		4 0		5 1	6.0)	69
A(I)		14.7							6.4	
V(I)		3.77							8.65	
. ,										
X STA.	6.9		7.8		8.6		9.4	10.2	2	11.0
A(I)		6.1		5.9		6.0		5.9	5.8	
V(I)								.50		
X STA.	11.0		11.8		12.6		13.4	14.3	3	15.2
A(I)		5.8		6.0		5.9		5.2	6.3	
V(I)								.94		
							5			
X STA.	15.2		16.2		17.2		18.4	19.7	7	22.8
A(I)		6.6						3.6		
V(I)		8.37				7.37	6	.44	3.78	
								; SRD =		
	SEL							Q VEI		
								7. 4.60)	
X STA.	-230.3	-	204.6	-	-194.3	- 3	184.7	-175.5	5.	-166.7
A(I)		18.3						2.3	11.9	
V(I)		3.38		4.58		4.89	5	.03		
X STA.	-166.7	-	157.8	-	-149.3	- :	140.9	-132.0	5.	-124.3
A(I)		12.2				11.7		1.7	11.8	
V(I)		5.05						.28		
X STA.	-124.3	-	116.2	-	-108.2	- 3	100.3	-92.3	3	-84.3
A(I)		11.7		11.8		11.6	13	1.9	12.0	
V(I)		5.31		5.26		5.33	5	.20	5.17	
X STA.	-84.3		-76.2		-67.9		-59.2	-46.8	3	28.4
A(I)		12.2		12.8		13.3	10	5.3	27.6	
V(I)		5.06		4.83		4.64	3	.79	2.24	
CROSS-	SECTION	PROPER	TIES:	ISEQ	Q = 5	; SEC	ID = API	PR ; SRI) =	46.
WSEL								LEW		QCR
	1	650.	4775	6.	234.	234.				6140.
	2	311.	3851	1.	31.	37.				5624.
		511.								6396.
1000.67		1472.	15874	1.	370.	377.	1.25	-234.	136.	14910.
	TY DISTR	IBUTIO	N: IS	EQ =	5;	SECID	= APPR	; SRD =	4	16.
VELOCI		LEW	REW	AI	REA	K		Q VEI		
W			135 8	1472	2.0 1	58741.	2360	0. 1.60)	
W	.67 -23	4.2	100.0							
W 1000	.67 -23									
W	.67 -23	-	161.8							
W 1000	.67 -23	-	161.8				104	1.2	93.5	
W 1000 X STA.	.67 -23	-	161.8 1	10.9		112.0	104	-48.1 4.2 .13	93.5	
W 1000 X STA. A(I) V(I)	.67 -23	- 139.4 0.85	161.8 1	10.9 1.06		112.0 1.05	104	4.2 .13	93.5 1.26	
W 1000 X STA. A(I) V(I)	.67 -23 -234.2 -22.4	- 139.4 0.85	161.8 1 -0.2	10.9 1.06	8.5	112.0 1.05	104 1 13.9	1.2 .13 18.8	93.5 1.26	23.3
W 1000 X STA. A(I) V(I)	.67 -23 -234.2 -22.4	- 139.4 0.85	161.8 1 -0.2	10.9 1.06	8.5	112.0 1.05	104 1 13.9	1.2 .13 18.8	93.5 1.26	23.3
W 1000 X STA. A(I) V(I) X STA.	.67 -23 -234.2 -22.4	- 139.4 0.85	161.8 1 -0.2	10.9 1.06	8.5	112.0 1.05	104 1 13.9	4.2 .13	93.5 1.26	23.3
W 1000 X STA. A(I) V(I) X STA. A(I)	.67 -23 -234.2 -22.4	- 139.4 0.85	161.8 1 -0.2	10.9 1.06	8.5	112.0 1.05	104 1 13.9	1.2 .13 18.8	93.5 1.26	23.3
W 1000 X STA. A(I) V(I) X STA. A(I) V(I)	.67 -23 -234.2 -22.4	- 139.4 0.85 88.6 1.33	-0.2	10.9 1.06 77.4 1.52	8.5	112.0 1.05 58.2 2.03	104 1 13.9 59 2	1.2 .13 18.8	93.5 1.26 3 54.3 2.17	23.3
W 1000 X STA. A(I) V(I) X STA. A(I) V(I)	.67 -23 -234.2 -22.4 23.3	- 139.4 0.85 88.6 1.33	-0.2 32.1	10.9 1.06 77.4 1.52	8.5	112.0 1.05 58.2 2.03	104 1 13.9 59 2	4.2 .13 18.8 5.5 .13 61.7	93.5 1.26 3 54.3 2.17	23.3 71.5
W 1000 X STA. A(I) V(I) X STA. A(I) V(I) X STA.	.67 -23 -234.2 -22.4 23.3	- 139.4 0.85 88.6 1.33 74.2	-0.2 32.1	10.9 1.06 77.4 1.52 52.7	8.5	112.0 1.05 58.2 2.03 52.3	104 1 13.9 51.8 52	4.2 .13 18.8 5.5 .13	93.5 1.26 3 54.3 2.17 7 52.4	23.3
W 1000 X STA. A(I) V(I) X STA. A(I) V(I) X STA. A(I) X STA. A(I)	.67 -23 -234.2 -22.4 23.3	- 139.4 0.85 88.6 1.33 74.2	-0.2 32.1	10.9 1.06 77.4 1.52 52.7	8.5	112.0 1.05 58.2 2.03 52.3	104 1 13.9 51.8 52	4.2 .13 5.5 .13 61.7 2.9	93.5 1.26 3 54.3 2.17 7 52.4	23.3
W 1000 X STA. A(I) V(I) X STA. A(I) V(I) X STA. A(I) V(I)	.67 -23 -234.2 -22.4 23.3	- 139.4 0.85 88.6 1.33 74.2 1.59	-0.2 32.1	10.9 1.06 77.4 1.52 52.7 2.24	8.5	112.0 1.05 58.2 2.03 52.3 2.25	104 1 13.9 51.8 51.8 2	4.2 .13 5.5 .13 61.7 2.9	93.5 1.26 3 54.3 2.17 7 52.4 2.25	23.3 71.5
W 1000 X STA. A(I) V(I) X STA. A(I) V(I) X STA. A(I) V(I)	.67 -23 -234.2 -22.4 23.3	- 139.4 0.85 88.6 1.33 74.2 1.59	161.8 1 -0.2 32.1 81.5	10.9 1.06 77.4 1.52 52.7 2.24	8.5 42.0 91.4	112.0 1.05 58.2 2.03 52.3 2.25	104 1 13.9 51.8 52 2 101.4	4.2 .13 18.8 5.5 .13 61.7 2.9 .23	93.5 1.26 3 54.3 2.17 7 52.4 2.25	23.3 71.5 135.8

U.S. GEOL	OGICAL SURVEY WSE	RO INPUT FIL	E brai012.wsp	
	N 27-APR-95 FOR E		-	FILE brai012.dca
HYDRAULIC	ANALYSIS OF BRAI	012 OVER AYE	RS BROOK IN BRAI	INTREE, VT
	N DATE & TIME: 06			
	PROPERTIES: ISE			
	AREA K			
1	89. 9066.	15. 25.		1219.
995.52	89. 9066.	15. 25.	1.00 0.	22. 1219.
	STRIBUTION: ISEQ			
	LEW REW P 0.5 22.1 8			
995.52	0.5 22.1 6	9.0 9066.	1215. 15.05	2
X STA. 0.	5 3.2	4.4	5.4 6.3	3 7.2
A(I)	9.2 5.1	4.5	4.0	3.9
V(I)	5 3.2 9.2 5.1 6.63 11.87	13.61	15.04	15.77
X STA. 7.	2 7.9 3.7 3.5	8.7	9.4 10.2	2 10.9
A(I)	3.7 3.5	3.5	3.4	3.4
V(I)	16.51 17.45	17.39	17.70	17.80
	9 11.7			
A(I)	3.5 3.4 17.60 17.71	3.6	3.7	3.8
V(I)	17.60 17.71	. 1/.11	16.62	16.15
X STA. 14.	9 15.9	16.9	18.0 19.2	2 22.1
- / - >				
V(I)	3.9 4.2 15.71 14.52	13.46	11.65	6.55
CROSS-SECTION	PROPERTIES: ISE	EQ = 5; SEC	ID = APPR ; SRI	0 = 46.
	AREA K	TOPW WETP	ALPH LEW	
1	260. 11506. 256. 27860.	201. 201.		1679.
2	256. 27860.	31. 37.		4203.
3		101. 101.		3335.
998.88	843. 74751.	333. 339.	1.31 -201.	132. 6667.
VELOCITY DIST	RIBUTION: ISEQ =	5. SECID	- APPR · SRD -	46
	LEW REW A			
998.88 -2	01.0 131.7 84	3.1 74751.	1215. 1.44	1
X STA201.	0 -91.1	-34.5	-2.4 6.6	5 10.2
A(I)	105.2 81.7	67.4	49.8	32.5
V(I)	0.58 0.74	0.90	1.22	1.87
	2 13.7			
A(I)	30.8 29.5			31.9
V(I)	1.97 2.06	2.10	2.12	1.90
X STA. 25.	8 35.1	44 A	53 5 62 7	7 71 8
A(I)				
V(I)	45.1 32.9 1.35 1.85	1.89	1.86	1.86
. ,		>	. = =	
X STA. 71.	8 81.1	90.2	99.7 111.0	131.7
A(I)	33.1 32.3	34.0	36.7	45.0
V(I)	1 0/ 1 00	1 70	1.65	1 35
- (-)	1.04 1.00	1.19	1.05	1.55

U.S. GEOLOGICAL SURVEY WSPRO INPUT FILE brai012.wsp CREATED ON 27-APR-95 FOR BRIDGE BRAITH00230012 USING FILE brai012.dca HYDRAULIC ANALYSIS OF BRAI012 OVER AYERS BROOK IN BRAINTREE, VT

MERIODIC MEDIDID OF BRHOLZ OVER MERO BROOK IN BRHANKED, VI
XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEL SRD FLEN REW K ALPH HO ERR FR# VEL
EXIT1:XS ***** -170. 390. 0.39 ***** 996.16 994.10 1670. 995.77 -52. ***** 91. 30471. 1.38 ***** ****** 0.73 4.28
FULLV:FV 52. -170. 394. 0.39 0.15 996.32 ******* 1670. 995.94 0. 52. 92. 30810. 1.38 0.00 0.01 0.71 4.23 <<< <the "normal"="" (unconstricted)<="" above="" reflect="" results="" th=""> FLOW>>>></the>
===125 FR# EXCEEDS FNTEST AT SECID "APPR ": TRIALS CONTINUED. FNTEST,FR#,WSEL,CRWS = 0.80 0.93 996.18 996.13
===110 WSEL NOT FOUND AT SECID "APPR ": REDUCED DELTAY. WSLIM1,WSLIM2,DELTAY = 995.44 1008.81 0.50
===115 WSEL NOT FOUND AT SECID "APPR ": USED WSMIN = CRWS. WSLIM1,WSLIM2,CRWS = 995.44 1008.81 996.13
===135 CONVEYANCE RATIO OUTSIDE OF RECOMMENDED LIMITS. "APPR " KRATIO = 0.56
APPR :AS 46. 0. 239. 0.90 0.24 997.08 996.13 1670. 996.18 46. 46. 116. 17364. 1.19 0.52 0.00 0.93 6.99 <<< <the "normal"="" (unconstricted)="" above="" flow="" reflect="" results="">>>></the>
===215 FLOW CLASS 1 SOLUTION INDICATES POSSIBLE ROAD OVERFLOW. WS1,WSSD,WS3,RGMIN = 1000.92 0.00 996.91 998.86
===260 ATTEMPTING FLOW CLASS 4 SOLUTION.
===220 FLOW CLASS 1 (4) SOLUTION INDICATES POSSIBLE PRESSURE FLOW. WS3,WSIU,WS1,LSEL = 996.06 999.51 999.70 999.30
===245 ATTEMPTING FLOW CLASS 2 (5) SOLUTION.
<<< <results constricted="" flow="" follow="" reflecting="" the="">>>>></results>
XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEL SRD FLEN REW K ALPH HO ERR FR# VEL
BRIDG:BR 52. 0. 148. 0.67 ***** 1000.13 994.67 971. 999.46 0. ***** 23. 13619. 1.00 ***** ****** 0.45 6.55
TYPE PPCD FLOW C P/A LSEL BLEN XLAB XRAB 1. **** 5. 0.402 0.000 999.30 ****** ****** ******
XSID:CODE SRD FLEN HF VHD EGL ERR Q WSEL RDWAY:RG 10. 30. 0.00 0.03 1000.26 0.00 700. 1000.02
Q WLEN LEW REW DMAX DAVG VMAX VAVG HAVG CAVG
LT: 700. 199223. 0. 1.2 0.9 4.6 3.9 1.1 2.9 RT: 0. 12. 11. 23. 0.1 0.1 2.3 8.9 0.3 2.6
RT: 0. 12. 11. 23. 0.1 0.1 2.3 8.9 0.3 2.6 XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEL SRD FLEN REW K ALPH HO ERR FR# VEL
SRD FLEN REW K ALPH HO ERR FR# VEL
APPR :AS 27. -226. 1311. 0.03 0.09 1000.26 996.13 1670. 1000.23 46. 93. 135. 134936. 1.26 0.35 0.00 0.13 1.27
M(G) M(K) KQ XLKQ XRKQ OTEL ****** ****** ******* ****** ******
<<<< END OF BRIDGE COMPUTATIONS>>>>
FIRST USER DEFINED TABLE. XSID:CODE SRD LEW REW Q K AREA VEL WSEL
XSID:CODE SRD LEW REW Q K AREA VEL WSEL EXIT1:XS -52170. 91. 1670. 30471. 390. 4.28 995.77
FULLV:FV 0170. 92. 1670. 30810. 394. 4.23 995.94
BRIDG:BR0.0.23.971.13619.148.6.55999.46RDWAY:RG10.*******700.700.********0.2.001000.02
RDWAY:RG 10.****** 700. 700.******** 0. 2.00 1000.02 APPR :AS 46. -226. 135. 1670. 134936. 1311. 1.27 1000.23
XSID:CODE XLKQ XRKQ KQ APPR :AS *****************
SECOND USER DEFINED TABLE.
XSID:CODE CRWS FR# YMIN YMAX HF HO VHD EGL WSEL
EXIT1:XS 994.10 0.73 989.43 1004.29********** 0.39 996.16 995.77
FULLV:FV ******* 0.71 989.59 1004.45 0.15 0.00 0.39 996.32 995.94 BRIDG:BR 994.67 0.45 988.89 999.46**********************************
RDWAY:RG ***************** 998.86 1009.36 0.00****** 0.03 1000.26 1000.02
APPR :AS 996.13 0.13 988.64 1008.81 0.09 0.35 0.03 1000.26 1000.23

<pre>0. 52. 98. 43488. 1.35 0.00 0.01 0.65 4.38 </pre> <pre></pre>	XSID:CODI SRI	E SRDL D FLEN	LEW REW	AREA K	VHD ALPH	HF HO	EGL ERR	CRWS FR#	Q VEL	WSEL						
<pre><</pre>	EXIT1:XS -52	***** · *****	-180. 98. 4	534. 3073.	0.41 1.35	**** ****	996.71 ******	995.77 0.65	2360. 4.42	996.30						
<pre>FWTEST, FR#, WSEL, CRNS = 0.80 0.98 996.73 996.71 ===110 WSEL NOT FOUND AT SECID "APPR ": REDUCED DELTAY. WSLIMI, WSLIM2, DELTAY = 995.97 1008.61 0.50 ===115 WSEL NOT FOUND AT SECID "APPR ": DESD WSMIN = CRNS. WSLIMI, WSLIM2, CRNS = 995.97 1008.61 996.71 ===135 CONVEYANCE RATIO OUTSIDE OF RECOMMENDED LIMITS. "APPR " KRATIO = 0.53 PFR :AS 4614. 304. 1.06 0.25 997.77 996.71 2360. 996.71 46. 46. 125. 21174. 1.14 0.66 -0.02 0.99 7.76 <cccct "normal"="" (unconstricted)="" above="" flow.="" reflect="" results="" rh="">>>> ===216 ATTEMPTING FLOW CLASS 4 SOLUTION. ===220 FLOW CLASS 1 (4) SOLUTION INDICATES POSSIBLE PRAD OVERFLOW. WS3,WSIU,WS3,KSHIN = 1003.66 0.00 998.82 998.86 ===260 ATTEMPTING FLOW CLASS 2 (5) SOLUTION. <ccccct constricted="" flow="" follow="" reflecting="" results="" the="">>>> XSID:CODE SRDL LEW AREA VHD HF EGL CRNS Q WSEL SRD FLEN REW K ALPFH HO ERC FR# VEL RIDG:DR 52. 0. 146. 0.67 ***** 1000.33 995.17 1112. 999.46 0. ****** 23. 13619. 1.00 *********************************</ccccct></cccct></pre>	0															
WSLIMI, WSLIM2, DELTAY = 995.97 1008.81 0.50 ===115 WSEL NOT FOUND AT SECID "APPR ": USED WSNIM = CRWS. WSLIMI, WSLIM2, CRWS = 995.97 1008.01 996.71 ===135 CONVEYANCE RATIO OUTSIDE OF RECOMMENDED LIMITS. "APPR " KRATIO = 0.53 996.71 2360. 996.71 ===215 CONVEYANCE RATIO OUTSIDE OF RECOMMENDED LIMITS. "APPR " KRATIO = 0.02 0.99 7.76 <<<< <td><<<<td>46. 46. 125. 23174. 1.14 0.66 0.02 0.99 7.76 <<<<td><<<td><<<td>WSL,WSD,WS3,RGMIN = 1003.66 0.00 998.82 998.86 ===260 ATTEMPTING FLOW CLASS 4 SOLUTION. ==260 ATTEMPTING FLOW CLASS 2 (5) SOLUTION. WSJ,WSU,WSJ,KSEL = 997.02 1000.11 1000.35 999.30 ===245 ATTEMPTING FLOW CLASS 2 (5) SOLUTION. <<<<<<<><<<td>KALPH HO ERR FR# VEL WSEL SID:CODE SRDL LEW AREA VHD HHF EGL CRWS Q WSEL SRD FLEN REW ALPH HO ERR FR# VEL 999.46 0.****** 23. 13619. 1.00 ************************************</td><td>===125 F1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>71</td></td></td></td></td></td>	<<< <td>46. 46. 125. 23174. 1.14 0.66 0.02 0.99 7.76 <<<<td><<<td><<<td>WSL,WSD,WS3,RGMIN = 1003.66 0.00 998.82 998.86 ===260 ATTEMPTING FLOW CLASS 4 SOLUTION. ==260 ATTEMPTING FLOW CLASS 2 (5) SOLUTION. WSJ,WSU,WSJ,KSEL = 997.02 1000.11 1000.35 999.30 ===245 ATTEMPTING FLOW CLASS 2 (5) SOLUTION. <<<<<<<><<<td>KALPH HO ERR FR# VEL WSEL SID:CODE SRDL LEW AREA VHD HHF EGL CRWS Q WSEL SRD FLEN REW ALPH HO ERR FR# VEL 999.46 0.****** 23. 13619. 1.00 ************************************</td><td>===125 F1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>71</td></td></td></td></td>	46. 46. 125. 23174. 1.14 0.66 0.02 0.99 7.76 <<< <td><<<td><<<td>WSL,WSD,WS3,RGMIN = 1003.66 0.00 998.82 998.86 ===260 ATTEMPTING FLOW CLASS 4 SOLUTION. ==260 ATTEMPTING FLOW CLASS 2 (5) SOLUTION. WSJ,WSU,WSJ,KSEL = 997.02 1000.11 1000.35 999.30 ===245 ATTEMPTING FLOW CLASS 2 (5) SOLUTION. <<<<<<<><<<td>KALPH HO ERR FR# VEL WSEL SID:CODE SRDL LEW AREA VHD HHF EGL CRWS Q WSEL SRD FLEN REW ALPH HO ERR FR# VEL 999.46 0.****** 23. 13619. 1.00 ************************************</td><td>===125 F1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>71</td></td></td></td>	<< <td><<<td>WSL,WSD,WS3,RGMIN = 1003.66 0.00 998.82 998.86 ===260 ATTEMPTING FLOW CLASS 4 SOLUTION. ==260 ATTEMPTING FLOW CLASS 2 (5) SOLUTION. WSJ,WSU,WSJ,KSEL = 997.02 1000.11 1000.35 999.30 ===245 ATTEMPTING FLOW CLASS 2 (5) SOLUTION. <<<<<<<><<<td>KALPH HO ERR FR# VEL WSEL SID:CODE SRDL LEW AREA VHD HHF EGL CRWS Q WSEL SRD FLEN REW ALPH HO ERR FR# VEL 999.46 0.****** 23. 13619. 1.00 ************************************</td><td>===125 F1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>71</td></td></td>	<< <td>WSL,WSD,WS3,RGMIN = 1003.66 0.00 998.82 998.86 ===260 ATTEMPTING FLOW CLASS 4 SOLUTION. ==260 ATTEMPTING FLOW CLASS 2 (5) SOLUTION. WSJ,WSU,WSJ,KSEL = 997.02 1000.11 1000.35 999.30 ===245 ATTEMPTING FLOW CLASS 2 (5) SOLUTION. <<<<<<<><<<td>KALPH HO ERR FR# VEL WSEL SID:CODE SRDL LEW AREA VHD HHF EGL CRWS Q WSEL SRD FLEN REW ALPH HO ERR FR# VEL 999.46 0.****** 23. 13619. 1.00 ************************************</td><td>===125 F1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>71</td></td>	WSL,WSD,WS3,RGMIN = 1003.66 0.00 998.82 998.86 ===260 ATTEMPTING FLOW CLASS 4 SOLUTION. ==260 ATTEMPTING FLOW CLASS 2 (5) SOLUTION. WSJ,WSU,WSJ,KSEL = 997.02 1000.11 1000.35 999.30 ===245 ATTEMPTING FLOW CLASS 2 (5) SOLUTION. <<<<<<<><< <td>KALPH HO ERR FR# VEL WSEL SID:CODE SRDL LEW AREA VHD HHF EGL CRWS Q WSEL SRD FLEN REW ALPH HO ERR FR# VEL 999.46 0.****** 23. 13619. 1.00 ************************************</td> <td>===125 F1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>71</td>	KALPH HO ERR FR# VEL WSEL SID:CODE SRDL LEW AREA VHD HHF EGL CRWS Q WSEL SRD FLEN REW ALPH HO ERR FR# VEL 999.46 0.****** 23. 13619. 1.00 ************************************	===125 F1									71
<pre>WSLIM1,WSLIM2,CRWS = 995.97 1008.81 996.71 ===135 CONVEYANCE RATIO OUTSIDE OF RECOMMENDED LIMITS. "APPR * KRATIO = 0.53 PFR :AS 4614. 304. 1.06 0.25 997.77 996.71 2360. 996.71 46. 46. 125. 23174. 1.14 0.66 -0.02 0.99 7.76 «<<<<the 'normal'="" (unconstricted)="" above="" flow="" reflect="" results="">>>> ==215 FLOW CLASS 1 SOLUTION INDICATES POSSIBLE ROAD OVERFLOW. WS1,WSSD,WS3,RCMIN = 1003.66 0.00 998.82 998.86 ===260 ATTEMPTING FLOW CLASS 4 SOLUTION. ==220 FLOW CLASS 1 (4) SOLUTION INDICATES POSSIBLE PRESSURE FLOW. WS3,WSIU,WS1,LSEL = 997.02 1000.11 1000.35 999.30 ===245 ATTEMPTING FLOW CLASS 2 (5) SOLUTION. <<<<<results constricted="" flow="" follow="" reflecting="" the="">>>> XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEL SRD FLEN REW K ALPH HO ERR FR# VEL SRD FLEN REW K ALPH HO ERR FR# VEL INTER 5. 0.440 0.000 999.30 ************************************</results></the></pre>	===110 WS								0.50							
<pre>"APPR " KRATIO = 0.53 PPR :AG 4614. 304. 1.06 0.25 997.77 996.71 2360. 996.71 46. 46. 125. 23174. 1.14 0.66 -0.02 0.99 7.76 </pre> <pre></pre>	===115 W8								996.71							
 46. 46. 125. 23174. 1.14 0.66 -0.02 0.99 7.76 <<<<<<li< td=""><td>===135 C0</td><td>ONVEYANCE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></li<>	===135 C0	ONVEYANCE														
WS1,WS5D,WS3,RGMIN = 1003.66 0.00 998.82 998.86 ===260 ATTEMPTING FLOW CLASS 4 SOLUTION. ===220 FLOW CLASS 1 (4) SOLUTION INDICATES POSSIBLE PRESSURE FLOW. WS3,WS1U,WS1,LSEL = 997.02 1000.11 1000.35 999.30 ===245 ATTEMPTING FLOW CLASS 2 (5) SOLUTION. <pre></pre>	46	. 46.	125. 2	3174.	1.14	0.66	-0.02	0.99	7.76							
<pre>===260 ATTEMPTING FLOW CLASS 4 SOLUTION. ===220 FLOW CLASS 1 (4) SOLUTION INDICATES POSSIBLE PRESSURE FLOW. WS3,WSIU,WS1,LSEL = 997.02 1000.11 1000.35 999.30 ===245 ATTEMPTING FLOW CLASS 2 (5) SOLUTION.</pre>	===215 FI									.86						
<pre>WS3,WSIU,WS1,LSEL = 997.02 1000.11 1000.35 999.30 ===245 ATTEMPTING FLOW CLASS 2 (5) SOLUTION.</pre>	===260 A															
<<<<<	===220 F1									30						
XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEL SRD FLEN REW K ALPH HO ERR FR# VEL RIDG:BR 52. 0. 148. 0.87 ***** 1000.33 995.17 1112. 999.46 0. ***** 23. 13619. 1.00 ***** ****** 0.52 7.50 TYPE PPCD FLOW C P/A LSEL BLEN XLAB XRAB 1. **** 5. 0.440 0.000 999.30 ****** ****** XSID:CODE SRD FLEN HF VHD EGL ERR Q WSEL RDWAY:RG 10. 30. 0.01 0.05 1000.72 0.00 1237. 1000.41 Q WLEN LEW REW DMAX DAVG VMAX VAVG HAVG CAVG LT: 1220. 237230. 11. 1.5 1.1 5.4 4.6 1.4 3.0 RT: 17. 17. 11. 28. 0.3 0.2 2.9 5.0 0.5 2.7 XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEL SRD FLEN REW K ALPH HO ERR FR# VEL PPR :AS 27234. 1474. 0.05 0.16 1000.72 996.71 2360. 1000.67 46. 112. 136. 158955. 1.25 0.29 0.00 0.16 1.60 M(G) M(K) KQ XLKQ XRKQ OTEL ****** ****** ******* ***************	===245 A	TTEMPTING	FLOW CLAS	S 2 (5)	SOLU	TION.										
SRD FLEN REW K ALPH HO ERR FR# VEL RIDG:BR 52. 0. 148. 0.87<******		<<< <re< td=""><td>SULTS REF</td><td>LECTING</td><td>THE</td><td>CONSTR</td><td>ICTED FL</td><td>OW FOLLO</td><td>W>>>>></td><td></td></re<>	SULTS REF	LECTING	THE	CONSTR	ICTED FL	OW FOLLO	W>>>>>							
0. ****** 23. 13619. 1.00 ***** ******* 0.52 7.50 TYPE PPCD FLOW C P/A LSEL BLEN XLAB XRAB 1. **** 5. 0.440 0.000 999.30 ****** ******* XSID:CODE SRD FLEN HF VHD EGL ERR Q WSEL RDWAY:RG 10. 30. 0.01 0.05 1000.72 0.00 1237. 1000.41 Q WLEN LEW REW DMAX DAVG VMAX VAVG HAVG CAVG LT: 1220. 237230. 11. 1.5 1.1 5.4 4.6 1.4 3.0 RT: 17. 17. 11. 28. 0.3 0.2 2.9 5.0 0.5 2.7 XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEL SRD FLEN REW K ALPH HO ERR FR# VEL PPR :AS 27234. 1474. 0.05 0.16 1000.72 996.71 2360. 1000.67 46. 112. 136. 158995. 1.25 0.29 0.00 0.16 1.60 M(G) M(K) KQ XLKQ XRKQ OTEL ****** ****** ***********************																
<pre> 1. **** 5. 0.440 0.000 999.30 ****** ****** XSID:CODE SRD FLEN HF VHD EGL ERR Q WSEL RDWAY:RG 10. 30. 0.01 0.05 1000.72 0.00 1237. 1000.41 Q WLEN LEW REW DMAX DAVG VMAX VAVG HAVG CAVG LT: 1220. 237230. 11. 1.5 1.1 5.4 4.6 1.4 3.0 RT: 17. 17. 11. 28. 0.3 0.2 2.9 5.0 0.5 2.7 XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEL SRD FLEN REW K ALPH HO ERR FR# VEL PPR :AS 27234. 1474. 0.05 0.16 1000.72 996.71 2360. 1000.67 46. 112. 136. 158995. 1.25 0.29 0.00 0.16 1.60 M(G) M(K) KQ XLKQ XRKQ OTEL ****** ****** ***********************</pre>										999.46						
RDWAY:RG 10. 30. 0.01 0.05 1000.72 0.00 1237. 1000.41 Q WLEN LEW REW DMAX DAVG VMAX VAVG HAVG CAVG LT: 1220. 237. -230. 11. 1.5 1.1 5.4 4.6 1.4 3.0 RT: 17. 17. 11. 28. 0.3 0.2 2.9 5.0 0.5 2.7 XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEL SRD FLEN REW K ALPH HO ERR FR# VEL PPR :AS 27. -234. 1474. 0.05 0.16 1000.72 996.71 2360. 1000.67 46. 112. 136. 158995. 1.25 0.29 0.00 0.16 1.60 M(G) M(K) KQ XLKQ XRKQ OTEL ************************************																
LT: 1220. 237230. 11. 1.5 1.1 5.4 4.6 1.4 3.0 RT: 17. 17. 11. 28. 0.3 0.2 2.9 5.0 0.5 2.7 XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEL SRD FLEN REW K ALPH HO ERR FR# VEL PPR :AS 27234. 1474. 0.05 0.16 1000.72 996.71 2360. 1000.67 46. 112. 136. 158995. 1.25 0.29 0.00 0.16 1.60 M(G) M(K) KQ XLKQ XRKQ OTEL ******* ****** ******* **************																
XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEL PPR AREA VHD HO ERR FR# VEL VEL PPR AREA 1474. 0.05 0.16 1000.72 996.71 2360. 1000.67 46. 112. 136. 158995. 1.25 0.29 0.00 0.16 1.60 M(G) M(K) KQ XLKQ XRKQ OTEL ****** ****** ****** ****** ******* ******* SED SED DF BRIDGE COMPUTATIONS>>>> FIRST USER DEFINED TABLE. XSID:CODE SRD LEW REW Q K AREA VEL WSEL SED SED REW Q K AREA VEL WSEL SID:CODE SRD LEW REW Q K AREA VEL WSEL SECOND USER 0. -180. 98. 2360. 43488. 538. 4.38 996.47 BRIDG:BR 0. 0. <td></td> <td>Q WL</td> <td>EN LEW</td> <td>REW</td> <td>DMA</td> <td>X DAV</td> <td>g vmax</td> <td>VAVG H</td> <td>AVG CAV</td> <td>′G</td>		Q WL	EN LEW	REW	DMA	X DAV	g vmax	VAVG H	AVG CAV	′G						
SRD FLEN REW K ALPH HO ERR FR# VEL PPR :AS 27234. 1474. 0.05 0.16 1000.72 996.71 2360. 1000.67 46. 112. 136. 158995. 1.25 0.29 0.00 0.16 1.60 M(G) M(K) KQ XLKQ XRKQ OTEL ******* ****************************	LT: RT:	1220. 23 17. 1	7230. 7. 11.	11. 28.	1. 0.	5 1. 3 0.	1 5.4 2 2.9	4.6 5.0	1.4 3. 0.5 2.	0 7						
46. 112. 136. 158995. 1.25 0.29 0.00 0.16 1.60 M(G) M(K) KQ XLKQ XRKQ OTEL ****** ****** ****** ****************						HF HO	EGL ERR		~	WSEL						
****** ****** ****** ****** ****** *****	APPR :AS 46	27. . 112.	-234. 136. 15	1474. 8995.	0.05 1.25	0.16 0.29	1000.72 0.00	996.71 0.16	2360. 1.60	1000.67						
FIRST USER DEFINED TABLE. XSID:CODE SRD LEW REW Q K AREA VEL WSEL EXIT1:XS -52. -180. 98. 2360. 43073. 534. 4.42 996.30 FULLV:FV 0. -180. 98. 2360. 43488. 538. 4.38 996.47 BRIDG:BR 0. 0. 23. 1112. 13619. 148. 7.50 999.46 RDWAY:RG 10.******* 1220. 1237.******* 0. 2.00 1000.41 APPR :AS 46. -234. 136. 2360. 158995. 1474. 1.60 1000.67 XSID:CODE XLKQ XRQ KQ APPR :AS ******************************** SECOND USER DEFINED TABLE. XSID:CODE CRWS FR# YMIN YMAX HF HO VHD EGL WSE																
EXIT1:XS -52180. 98. 2360. 43073. 534. 4.42 996.30 FULLV:FV 0180. 98. 2360. 43488. 538. 4.38 996.47 BRIDG:BR 0. 0. 23. 1112. 13619. 148. 7.50 999.46 RDWAY:RG 10.****** 1220. 1237.******* 0. 2.00 1000.41 APPR :AS 46234. 136. 2360. 158995. 1474. 1.60 1000.67 XSID:CODE XLKQ XRKQ KQ APPR :AS ***********************************	FIRST U	SER DEFINE		D OF BR	IDGE	COMPUT	ATIONS>>	>>>								
BRIDG:BR 0. 0. 23. 1112. 13619. 148. 7.50 999.46 RDWAY:RG 10.******* 1220. 1237.******** 0. 2.00 1000.41 APPR :AS 46. -234. 136. 2360. 158995. 1474. 1.60 1000.67 XSID:CODE XLKQ XRQ KQ APPR :AS *********************************** SECOND USER DEFINED TABLE. XSID:CODE CRWS FR# YMIN YMAX HF HO VHD EGL WSE	XSID:(CODE SR	D LEW	REW 98	236	Q 10 4	K 3073									
RDWAY:RG 10.******* 1220. 1237.******* 0. 2.00 1000.41 APPR :AS 46. -234. 136. 2360. 158995. 1474. 1.60 1000.67 XSID:CODE XLKQ XRQ KQ APPR :AS ************************************	FULLV:	FV 0	180.	98.	236	0. 4	3488.									
APPR :AS 46234. 136. 2360. 158995. 1474. 1.60 1000.67 XSID:CODE XLKQ XRKQ KQ APPR :AS ***********************************	BRIDG:	BR 0 RG 10	· 0.	23. 1220	111	2. 1	3619. ****	0	2 00 1	000 41						
APPR :AS ***********************************	APPR :	AS 46	234.	136.	236	0. 15	8995.	1474.	1.60 1	000.67						
XSID:CODE CRWS FR# YMIN YMAX HF HO VHD EGL WSE	APPR :	AS *****	******													
				YMI	N	YMAX	HF	HO VHD	EGI	. WSE						
EXIT1:XS 995.77 0.65 989.43 1004.29********** 0.41 996.71 996.3	EXIT1:X	S 995.7	7 0.65	989.4	3 100	4.29**	******	** 0.41	996.71	. 996.3						
FULLV:FV ******* 0.65 989.59 1004.45 0.15 0.00 0.40 996.88 996.4 BRIDG:BR 995.17 0.52 988.89 999.46**********************************	FULLV:F	V ******	* 0.65	989.5	9 100	4.45	0.15 0.	00 0.40	996.88	996.4						
RDWAY:RG ******************* 998.86 1009.36 0.01****** 0.05 1000.72 1000.4	RDWAY:RO	G ******	*******	998.8	6 100	9.36	0.01****	** 0.05	1000.72	1000.4						
APPR :AS 996.71 0.16 988.64 1009.36 0.16 0.29 0.05 1000.72 1000.4																

<pre>XSID:CODE SED: LEW AREA VHD HF E EGL CRWS Q WEEL SED FLEM REW K ALEH HO ERR FR# VVE XITI.XS ************************************</pre>																																																																																																																																																																																																																																																																																																																																																							
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XSID.CODE SRD LEW REW Q K AREA VEL WSEL EXITI:XS -52160. 86. 1215. 22170. 263. 4.63 995.26 FULXO:FV 0161. 87. 1215. 22407. 267. 4.56 995.43 BYR :AS 46201. 132. 1215. 9068. 89. 13.64 995.25 FURST USER DEFINED TABLE. XSID.CODE SRD LEW REW Q K AREA VEL WSEL EXITI:XS 93.46 0.74 989.43 1004.29********* CODE XLKQ XRKQ KQ APPR :AS 6. 28. 25191. SECOND USER DEFINED TABLE. XSID:CODE XLKQ XRKQ KQ APPR :AS 6. 28. 25191. SECOND USER DEFINED TABLE. XSID:CODE XLKQ XRKQ KQ APPR :AS 6. 28. 25191. SECOND USER DEFINED TABLE. XSID:CODE XLKQ XRKQ KQ APPR :AS 6. 28. 25191. SECOND USER DEFINED TABLE. XSID:CODE XLKQ XRKQ KQ APPR :AS 6. 28. 25191. 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RIDG:BR 52. 0. 89. 2.89 ***** 998.42 995.52 1215. 995.52 0. 52. 22. 9068. 1.00 ****** 1.00 13.64 TYPE PPCD FLOW C P/A LSEL BLEN XLAB XRAB 1. ***** 4. 1.000 ****** 999.30 ****** XSID:CODE SRD FLEN HF VHD EGL ERR Q WSEL RDWAY:RG 10. 30. 0.01 0.04 998.91 0.00 0. 998.88 Q WLEN LEW REW DMAX DAVG VMAX VAVG HAVG CAVG LT: 0. 12. -71. -60. 0.0 0.8 2.4 0.0 2.5 RT: 0. 26. 11. 37. 0.8 0.6 4.3 4.9 1.0 2.9 XSID:CODE SRD LEW AREA VHD HF EGL CRWS Q WSEL SRD FLEN REW K ALPH HO ERR FR# VEL VEL SID:CODE SRDL LEW REW Q K AREA VEL <td></td>											TYPE PPCD FLOW C P/A LSEL BLEN XLAB XRAB 1. ***** 4. 1.000 ****** 999.30 ****** ****** XSID:CODE SRD FLEN HF VHD EGL ERR Q WSEL RDWAY:RG 10. 30. 0.01 0.04 998.91 0.00 0. 998.88 Q WLEN LEW REW DMAX DAVG VMAX VAVG HAVG CAVG LT: 0. 12. -71. -60. 0.0 0.8 2.4 0.0 2.5 RT: 0. 26. 11. 37. 0.8 0.6 4.3 4.9 1.0 2.9 XSID:CODE SRD LEW AREA VHD HF EGL CRWS Q WSEL SRD FLEN REW K ALPH HO ERR FR# VEL 98.88 46. 74. 132. 74619. 1.31 0.30 0.00 1.8 1.44	XSID:CODE SRD	SRDL FLEN	LEW REW	AREA K 2	VHD ALPH	HF HO	EGL ERR	CRWS FR#	Q VEL	WSEL	<pre> 1. **** 4. 1.000 ****** 999.30 ****** ****** XSID:CODE SRD FLEN HF VHD EGL ERR Q WSEL RDWAY:RG 10. 30. 0.01 0.04 998.91 0.00 0. 998.88 Q WLEN LEW REW DMAX DAVG VMAX VAVG HAVG CAVG LT: 0. 127160. 0.0 0.0 0.8 2.4 0.0 2.5 RT: 0. 26. 11. 37. 0.8 0.6 4.3 4.9 1.0 2.9 XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEL SRD FLEN REW K ALPH HO ERR FR# VEL PPR :AS 27201. 842. 0.04 0.16 998.92 993.99 1215. 998.88 46. 74. 132. 74619. 1.31 0.34 0.00 0.18 1.44 M(G) M(K) KQ XLKQ XRKQ OTEL 0.795 0.662 25191. 6. 28. ******* </pre>	BRIDG:BR 0.	52. 52.	0. 22. 9	89. 2 068. 2	2.89	* * * * *	998.42 ******	995.52 1.00	1215. 13.64	995.52	Q WLEN LEW REW DMAX DAVG VMAX VAVG HAVG CAVG LT: 0. 12. -71. -60. 0.0 0.8 2.4 0.0 2.5 RT: 0. 26. 11. 37. 0.8 0.6 4.3 4.9 1.0 2.9 XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEI SRD FLEN REW K ALPH HO ERR FR# VEL PPR :AS 27. -201. 842. 0.04 0.16 998.92 993.99 1215. 998.88 46. 74. 132. 74619. 1.31 0.34 0.00 0.18 1.44 M(G) M(K) KQ XLKQ XRKQ OTEL 0.795 0.662 25191. 6. 28. ******** KSID:CODE SRD LEW REW Q K											Q WLEN LEW REW DMAX DAVG VMAX VAVG HAVG CAVG LT: 0. 12. -71. -60. 0.0 0.8 2.4 0.0 2.5 RT: 0. 26. 11. 37. 0.8 0.6 4.3 4.9 1.0 2.9 XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEI SRD FLEN REW K ALPH HO ERR FR# VEL PPR :AS 27. -201. 842. 0.04 0.16 998.92 993.99 1215. 998.88 46. 74. 132. 74619. 1.31 0.34 0.00 0.18 1.44 M(G) M(K) KQ XLKQ XRKQ OTEL 0.795 0.662 25191. 6. 28. ******** KSID:CODE SRD LEW REW Q K	XSID:CC	DE SRI) FLEN	HF	VHD	EG	l er	R () WSE	L	LT: 0. 127160. 0.0 0.0 0.8 2.4 0.0 2.5 RT: 0. 26. 11. 37. 0.8 0.6 4.3 4.9 1.0 2.9 XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEL SRD FLEN REW K ALPH HO ERR FR# VEL NPR :AS 27201. 842. 0.04 0.16 998.92 993.99 1215. 998.88 46. 74. 132. 74619. 1.31 0.34 0.00 0.18 1.44 M(G) M(K) KQ XLKQ XRKQ OTEL 0.795 0.662 25191. 6. 28. ******* <pre> FIRST USER DEFINED TABLE. 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XSID:CODE XLKQ XRKQ KQ APPR :AS 6. 28. 25191.</pre>		Q WLF	N LEW	REW	DMA	X DAV	g vmax	VAVG HA	AVG CAV	′G	XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEL SRD FLEN REW K ALPH HO ERR FR# VEL PPR :AS 27201. 842. 0.04 0.16 998.92 993.99 1215. 998.88 46. 74. 132. 74619. 1.31 0.34 0.00 0.18 1.44 M(G) M(K) KQ XLKQ XRKQ OTEL 0.795 0.662 25191. 6. 28. ******** 		0. 12	71.	-60.	0.0	00.	0.0	2.4 0	0.0 2.	5	SRD FLEN REW K ALPH HO ERR FR# VEL JPPR :AS 27201. 842. 0.04 0.16 998.92 993.99 1215. 998.88 46. 74. 132. 74619. 1.31 0.34 0.00 0.18 1.44 M(G) M(K) KQ XLKQ XRKQ OTEL 0.795 0.662 25191. 6. 28. ******* 0.0F BRIDGE COMPUTATIONS>>>> 995.26 FULLV:FV 0. -161. 87. 1215. 22170. 263. 4.63 995.26 FULV:FV 0. -161. 87. 1215. 22407. 267. 4.56 995.32 RDMAY:RG 10.******* 0. 0.******** 0. 2.00 998.88 APPR :AS 46. -201. 132. 1215. 74619. 842. 1.44 998.88 XSID:CODE	RT:	0. 26	. 11.	37.	0.8	80.	6 4.3	4.9	1.0 2.	9	46. 74. 132. 74619. 1.31 0.34 0.00 0.18 1.44 M(G) M(K) KQ XLKQ XRKQ OTEL 0.795 0.662 25191. 6. 28. ******* <pre></pre>										WSEL	0.795 0.662 25191. 6. 28. ******* <pre></pre>											0.795 0.662 25191. 6. 28. ******* <pre></pre>	M(G)	M(K)	ко	XLKO	XRK	o c	TEL				FIRST USER DEFINED TABLE. 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<< <td>0.07 0.77 6.68 <<<<<<td>0.00 995.52 998.86 ===215 FLOW CLASS 1 SOLUTION INDICATES POSSIBLE ROAD OVERFLOW. WS1,WS3D,WS3,RGMIN = 998.88 0.00 995.52 998.86 ===260 ATTEMPTING FLOW CLASS 4 SOLUTION. ===260 ATTEMPTING FLOW CLASS 4 SOLUTION. ===285 CRITICAL WATER-SURFACE ELEVATION A S S U M E DINN SECID "BRIDG" Q,CRWS = 1215. 995.52 <<<<<<results constricted="" flow="" follow="" reflecting="" the="">>>> XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEL SRD FLEN REW K ALPH HO ERR FR# VEL RIDG:BR 52. 0. 89. 2.89 ***** 998.42 995.52 1215. 995.52 0. 52. 22. 9068. 1.00 ***** 999.30 ************************************</results></td><td>===115 WSE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>993.99</td><td>)</td></td>	0.07 0.77 6.68 <<<<< <td>0.00 995.52 998.86 ===215 FLOW CLASS 1 SOLUTION INDICATES POSSIBLE ROAD OVERFLOW. WS1,WS3D,WS3,RGMIN = 998.88 0.00 995.52 998.86 ===260 ATTEMPTING FLOW CLASS 4 SOLUTION. ===260 ATTEMPTING FLOW CLASS 4 SOLUTION. ===285 CRITICAL WATER-SURFACE ELEVATION A S S U M E DINN SECID "BRIDG" Q,CRWS = 1215. 995.52 <<<<<<results constricted="" flow="" follow="" reflecting="" the="">>>> XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEL SRD FLEN REW K ALPH HO ERR FR# VEL RIDG:BR 52. 0. 89. 2.89 ***** 998.42 995.52 1215. 995.52 0. 52. 22. 9068. 1.00 ***** 999.30 ************************************</results></td> <td>===115 WSE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>993.99</td> <td>)</td>	0.00 995.52 998.86 ===215 FLOW CLASS 1 SOLUTION INDICATES POSSIBLE ROAD OVERFLOW. WS1,WS3D,WS3,RGMIN = 998.88 0.00 995.52 998.86 ===260 ATTEMPTING FLOW CLASS 4 SOLUTION. ===260 ATTEMPTING FLOW CLASS 4 SOLUTION. ===285 CRITICAL WATER-SURFACE ELEVATION A S S U M E DINN SECID "BRIDG" Q,CRWS = 1215. 995.52 <<<<< <results constricted="" flow="" follow="" reflecting="" the="">>>> XSID:CODE SRDL LEW AREA VHD HF EGL CRWS Q WSEL SRD FLEN REW K ALPH HO ERR FR# VEL RIDG:BR 52. 0. 89. 2.89 ***** 998.42 995.52 1215. 995.52 0. 52. 22. 9068. 1.00 ***** 999.30 ************************************</results>	===115 WSE								993.99)																																																																																																																																																																																																																																																																																																																																											
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 EXITI:XS
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 BRIDG:BR
 995.52
 1.00
 988.89
 999.46**********
 2.89
 998.42
 995.52

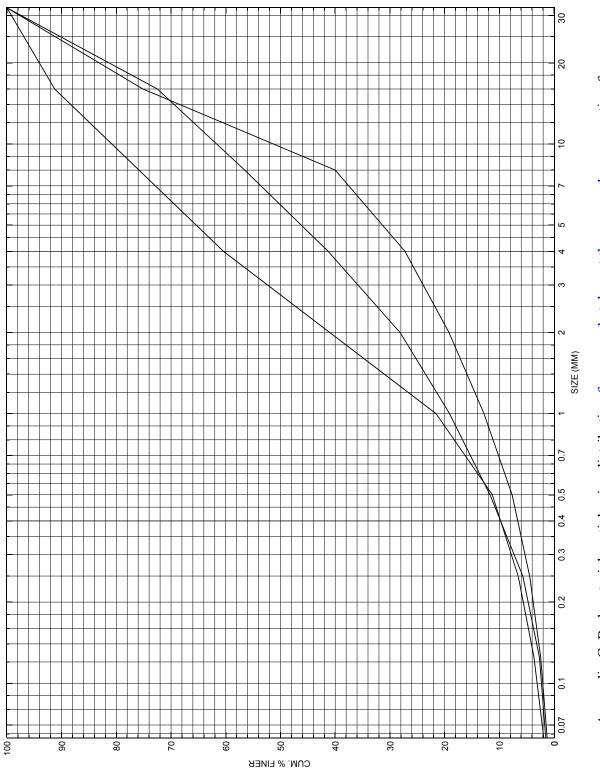
 RDWAY:RG

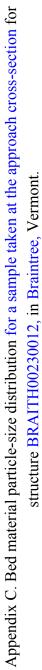
 998.86
 1009.36
 0.01******
 0.04
 998.91
 998.88

 APPR<:AS</td>
 993.99
 0.18
 988.64
 1008.81
 0.16
 0.34
 0.04
 998.92
 998.88

APPENDIX C:

BED-MATERIAL PARTICAL-SIZE DISTRIBUTION





APPENDIX D: HISTORICAL DATA FORM