



THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION



WILLIAM CASS, P.E.
ASSISTANT COMMISSIONER

August 11, 2015

RECEIVED

AUG 12 2015

Lynne Blaisdell
Sandown Town Administrator
PO Box 1756
Sandown, NH 03873

SELECTMEN'S OFFICE
TOWN OF SANDOWN NH

RE: BIENNIAL INSPECTION OF MUNICIPALLY OWNED BRIDGES
TOWN OF SANDOWN

Dear Ms. Blaisdell:

Enclosed are copies of biennial bridge inspection reports for three municipally owned bridges in the Town of Sandown. Included are a bridge location map and bridge-listing sheet. Approved bridge railing options and details are available at:

<http://www.nh.gov/dot/org/projectdevelopment/bridgedesign/detailsheets/index.htm>

Please note that Red List bridges are in bold type.

<u>Bridge #</u>	<u>Location</u>	<u>Recommended Posting</u>
<i>In order to be legal and enforceable, weight signs (black letters on a white background) and advisory width signs need to be located at each end of the bridge. At the Town's discretion, you may post a structure at a lower weight limit than the Department's recommended posting.</i>		
093/109	Phillips Road over Exeter River	"Bridge Closed" & Barricaded
098/117	Fremont Road over Exeter River	No Posting Required
110/120	Odell Road over Exeter River	No Posting Required

Please note if there are any changes in the recommended weight posting or lack of postings for your bridges. Even though a bridge may be recommended for a weight posting or closure by the State, the decision to properly post or close the structure is the responsibility of the municipal officials. It is in the best interest of the municipality to post or sign your bridges in accordance with these recommendations. A failure to warn motorists of potential bridge hazards could result in tort liability claims. Also, if your bridges are not posted properly, it will result in forfeiture of any possible federal highway funds for projects in your municipality.

Lynne Blaisdell, Sandown Town Administrator
August 11, 2015
Page 2 of 2

Our bridge inspectors have indicated that the bridges listed on page one of this letter are in compliance with DOT's recommendations; therefore no action needs to be taken by the Town. Please call if there are any questions.

Sincerely,



Nancy J. Mayville, P.E.
Municipal Highways Engineer
Bureau of Planning and Community Assistance
Telephone: (603) 271-3344 / Fax: (603) 271-8093

NJM/sa

Enclosures

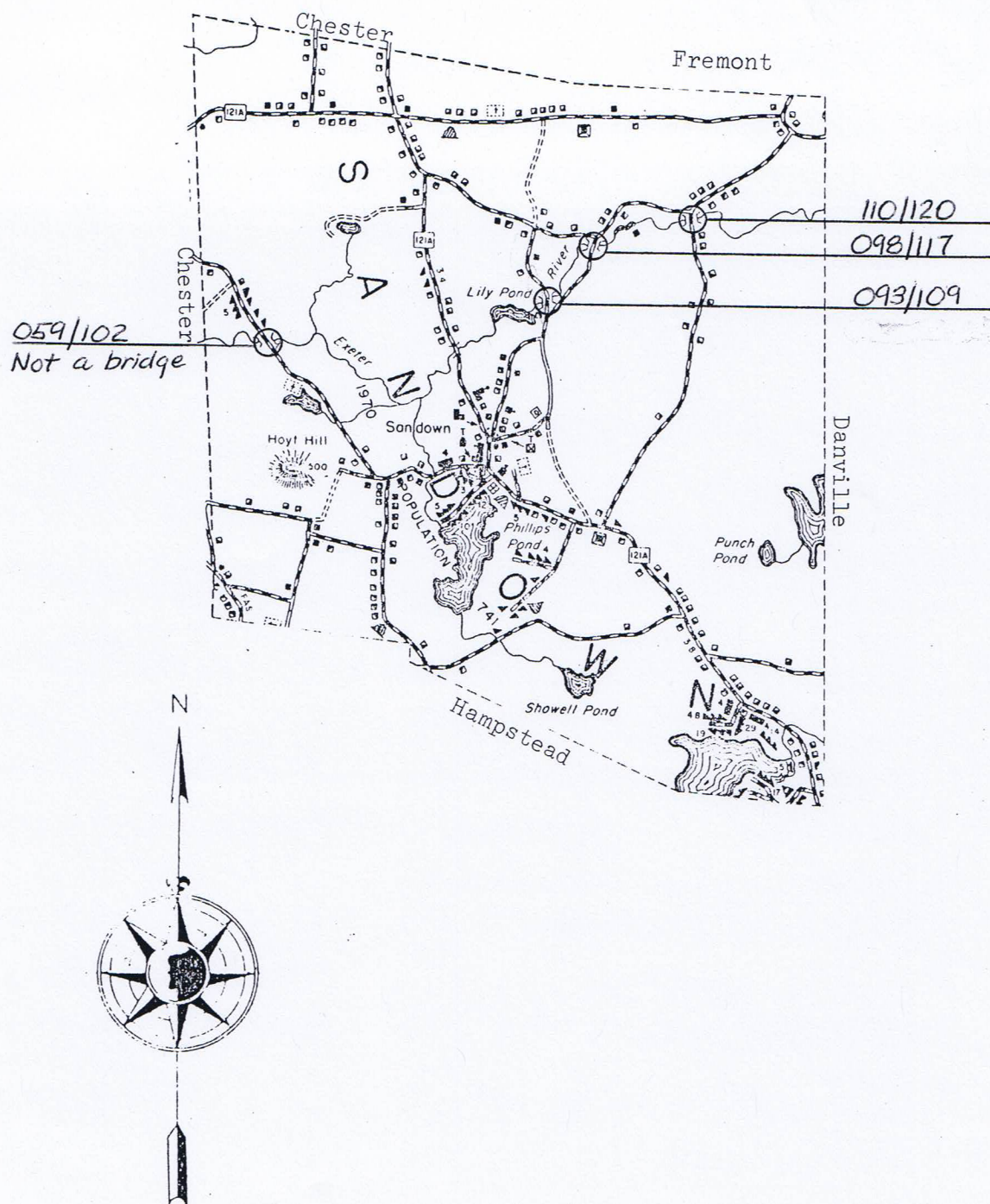
cc: Sandown Public Works Director
Commissioner, Department of Education
Risk Management Representative, Local Government Center
S:\Planning\Community Assistance\1-Municipalities\Sandown\Bridge Insp\Biennial 8-11-15.doc

SANDOWN MUNICIPAL BRIDGES

BRIDGE NUMBER	TYPE	NO. SPANS	ROAD INV.NO.	ROAD NAME	OVER	LENGTH (O-T-O)	RECOMMENDED POSTING
093/109	MP-A	1	63	PHILLIPS ROAD	EXETER RIVER	16'-0"	BRIDGE CLOSED
098/117	CS	1	53	FREMONT ROAD	EXETER RIVER	16'-6"	NO POSTING REQ'D
110/120	MP	1	61	ODELL ROAD	EXETER RIVER	16'-0"	NO POSTING REQ'D

REMARKS: 093/109 SENT AS A CRITICAL DEFICIENCY ON 7/30/2015.

REVIEWED/REVISED: 7/15



Bridge Inspection Report

RECEIVED

Sandown 093/109

Date of Inspection: 07/30/2015

AUG 12 2015

PHILLIPS ROAD

Date Report Sent: 8/6/2015

Over

☒ Picture taken during inspectionSELECTMEN'S OFFICE
TOWN OF SANDOWN NH

EXETER RIVER

Owner: Municipality

Critical deficiency sent 7/31/15 due to severely corroded/failing section of metal plate arch. As of 8/3/15, the bridge is closed.

Recommended Postings:

Weight: This bridge should be posted 'Bridge Closed' and barricaded.

☒ Weight Sign OK

Bridge closed and barricaded per letter and photos sent by Sandown, dated 8/3/15.

Width: Not Required

☒ Width Sign OK

Primary Height Sign Recommendation: None

Clearances: Over:
(Feet) Under: 0.00
Route:☒ Height Signs OK

Optional Centerline Height Sign Rec: None

Condition: Municipal Redlist

Deck: N N/A (NBI)

Superstructure: N N/A (NBI)

Substructure: N N/A (NBI)

Culvert: 1 Closed - Failing

Structure Type and Materials:

Number of Spans Main Unit: 1

Number of Approach Spans: 0

Main Span Material and Design Type

Steel Culvert

Sufficiency Rating: 40.9%**NBI Status:** Not Applicable

Bridge Rail: N/A or Not Required

Rail Transition: N/A or Not Required

Bridge Approach Rail: Substandard

Approach Rail Ends: Substandard

NH Bridge Type: Metal Plate Arch

Deck Type: No Deck (N/A - NBI)

Wearing Surface: No Deck (N/A - NBI)

Membrane: No Deck (N/A - NBI)

Deck Protection: No Deck (N/A - NBI)

Pavement thickness: 3.0 in

Curb Reveal: Not Applicable

Plan Location: Unknown

Bridge Dimensions:

Length Maximum Span: 16.0 ft

Left Curb/Sidewalk Width: 0.0 ft

Width Curb to Curb: 0.0 ft

Approach Roadway Width (W/ Shoulders): 19.0 ft

Total Bridge Length: 16.0 ft

Right Curb/Sidewalk Width: 0.0 ft

Total Bridge Width: 0.0 ft

Median: No median

Bridge Skew: 0.00 °

Bridge Service:

Type of Service on Bridge: Highway

Year Built: 1979

Type of Service under: Waterway

Year Rebuilt: Not Rebuilt

Lanes on bridge: 2

Detour Length: 1.0 mi

Lanes Under: NA

AADT: 460

Percent Trucks: 4 %

Year of AADT: 2013

Bridge Inspection Report

Sandown 093/109

Future AADT: 681

Year of Future AADT: 2035

Federal or State Definition Bridge: NH Definition Bridge

Roadway Functional Class: Urban Local

New Hampshire Highway System and Class: Municipal Highway

Eligibility for the National Register of Historic Places: Not Eligible

Traffic Direction: Two-way traffic

National Bridge Inventory (NBI) Appraisal Ratings:

Deck Geometry: Not Applicable (NBI)

Underclearances: Not Applicable (NBI)

Approach Alignment: Equal Desirable Criteria

Structural Evaluation: Bridge Closed

Channel/Channel Protection: Bank Slumping

Waterway Adequacy: Equal Desirable Criteria

Bridge Scour Critical Status: Stable for extreme flood

Riprap Condition: Good Condition

Debris Present: Debris Present

BEAVER DAM AT INLET, LOW WATER IN PIPE 7/30/2015.

Date of Underwater Inspection: Not Applicable

AASHTO CoRe Element Condition State Data:

No.	Description	Env.	Material Notes and Condition Notes
215	Reinforced Concrete Abutment	Moderate	CRACKED WITH LIGHT SPALLS. BEAVER DAM AT INLET.
240	Culvert (includes Steel, Aluminum and Galvanized)	Moderate	GALVANIZED STEEL ARCH CORRUGATIONS 6" X 2" X .167" HEAVY RUSTING WITH HEAVY SCALE AT BASES EACH SIDE. SMALL CUT HOLES IN ROOF. BOLT MISSING IN ROOF AT DOWNSTREAM EXTERIOR AND 1 AT TOP MIDSPAN. TORN AND HOLED AT NORTHWEST. SEVERAL HOLES AT BASES BOTH SIDES. VERY THIN AT BASES. 85% SECTION LOSS AT BASES THROUGHOUT. 100% SECTION LOSS FOR 14' AT NORTHWEST.
363	Section Loss Condition Warning Flag	Moderate	None MP IS HOLED AT NORTHWEST FOR 14 FEET IN LENGTH, 100 PERCENT SECTION LOSS. SEVERAL HOLES AT BASE BOTH SIDES. MP IS VERY THIN AT BASES WITH HEAVY RUST, SCALE, HOLES AND 85 PERCENT SECTION LOSS.

No.	Description	Env.	Quantity	Units	State 1	State 2	State 3	State 4	State 5
215	Reinforced Concrete Abutment	Moderate	72	(LF)	0 %	100 %	0 %	0 %	
240	Culvert (includes Steel, Aluminum and C	Moderate	36	(LF)	0 %	0 %	0 %	100 %	
363	Section Loss Condition Warning Flag	Moderate	1	(EA)	0 %	0 %	0 %	100 %	

Bridge Notes:

ADDED TO RED LIST 7/13/2011.

UNDER 3' OF FILL.

0.167 PIPE THICKNESS NEW.

Bridge Inspection Report**Sandown 093/109**

Approach and Roadway Notes: ASPHALT - (6) CRACKS, SEILED WITH FEW PATCHED AREAS. WASHED AREA AT WEST IS ENCROACHING ON ROADWAY.
W- BEAM RAIL - GOOD CONDITION, NO OFF-SET BLOCKS, MISSING EVERY OTHER POST.
EMBANKMENT WASHED.

Inspection History:

Inspection Date: 07/30/2015	Inspector: MAS	Deck: N N/A (NBI)
Notes: MAS - inspection comments - CULVERT: ASPHALT - CRACKS, WASHED AREA AT WEST IS ENCROACHING ON ROADWAY. MP - TORN AND HOLED AT NORTHWEST EXTERIOR FOR 14 FEET IN LENGTH AND 100% SECTION LOSS. HEAVY RUST AND SCALE WITH SEVERAL HOLES AND VERY THIN AT BASES BOTH SIDES AND 85% SECTION LOSS. BEAVER DAM AT INLET. CONCRETE - CRACKS AND SPALLED. EROSION AT WINGS AND TOP OF MP AT WEST. STONEWORK - VOIDS, SETTLEMENT. LOW WATER 7/30/2015.		Super: N N/A (NBI) Substr: N N/A (NBI) Culvert: 1 Closed - Failing
PICTURES: C537- 10. MP IS TORN AND HOLED WITH 100% SECTION LOSS AT NORTHWEST FOR 14'. 11. MP IS TORN AND HOLED WITH 100% SECTION LOSS AT NORTHWEST FOR 14'. 12. CONCRETE IS SPALLED BELOW NORMAL WATER LINE AT SOUTH. 13. BEAVER DAM AT INLET, LOW WATER. 14. WASHED AREA AT WEST OVER MP IS ENCROACHING ON ROADWAY.		
Inspection Date: 12/16/2014	Inspector: MAS	Deck: N N/A (NBI)
Notes: MAS - inspection comments - CULVERT: ASPHALT - CRACKS. MP - TORN AND HOLED AT NORTHWEST EXTERIOR 3 TO 4 FEET IN LENGTH. HEAVY RUST AND SCALE WITH SEVERAL HOLES AT BASES BOTH SIDES. CONCRETE - CRACKS AND SPALLED. UNDERMINED SLIGHTLY. EROSION AT WINGS AND TOP OF MP AT WEST. STONEWORK - VOIDS, SETTLEMENT. HIGH WATER 12/16/2014.		Super: N N/A (NBI) Substr: N N/A (NBI) Culvert: 4 Poor
Inspection Date: 07/17/2013	Inspector: MAS	Deck: N N/A (NBI)
Notes: MAS - inspection comments - CULVERT: ASPHALT - CRACKS. MP - TORN AND HOLED AT NORTHWEST EXTERIOR 3 TO 4 FEET IN LENGTH. HEAVY RUST AND SCALE WITH SEVERAL HOLES AT BASES BOTH SIDES. CONCRETE - CRACKS AND SPALLED. UNDERMINED SLIGHTLY. EROSION AT WINGS AND TOP OF MP AT WEST. STONEWORK - VOIDS, SETTLEMENT.		Super: N N/A (NBI) Substr: N N/A (NBI) Culvert: 4 Poor
PICTURES: C485- 02. SOUTH APPROACH, E-2 SIGN MISSING. 03. MP TORN AND HOLED AT NORTHWEST FOR 3 FEET. 04. MP HOLED AT NORTH. 05. MP HOLED AT SOUTH. 06. MP HOLED AT NORTHEAST.		
Inspection Date: 12/13/2012	Inspector: KJT	Deck: N N/A (NBI)
Notes: KJT- inspection comments - MP- HOLED AT NORTH WEST EXTERIOR 3 TO 4 FEET IN LENGTH WITH SEVERAL HOLES AT BASE BOTH SIDES. HEAVY RUSTING AND LEAKING AT BASE. CONCRETE SPALLED. EROSION AT WINGS. STONEWORK- VOIDS, SETTLEMENT. W- BEAM RAIL.		Super: N N/A (NBI) Substr: N N/A (NBI) Culvert: 4 Poor

Bridge Inspection Report

Sandown 093/109

Inspection History:

Inspection Date: 07/13/2011	Inspector: KJT	Deck: N N/A (NBI)
Notes: KJT- inspection comments - MP- HOLED AT NORTH WEST EXTERIOR AND SEVERAL HOLES AT BASE BOTH SIDES. HEAVY RUSTING AND LEAKING AT BASE. CONCRETE SPALLED. EROSION AT WINGS. STONEWORK- VOIDS, SETTLEMENT. NEW W- BEAM RAIL INSTALLED.		Super: N N/A (NBI) Substr: N N/A (NBI) Culvert: 4 Poor
PICTURES: C432. 01.MP-HOLED AND HEAVY RUSTING. 02.HEAVY RUSTING AND LEAKING. 03.WEST ELEVATION. 04.SOUTH APPROACH.		
Inspection Date: 07/21/2009	Inspector: KJT	Deck: N N/A (NBI)
Notes: KJT- inspection comments - MP- HOLED AT NORTH WEST EXTERIOR AND SEVERAL HOLES AT BASE BOTH SIDES. HEAVY RUSTING AND LEAKING AT BASE. CONCRETE SPALLED. EROSION AT WINGS. STONEWORK- VOIDS, SETTLEMENT. NEW W- BEAM RAIL INSTALLED.		Super: N N/A (NBI) Substr: N N/A (NBI) Culvert: 4 Poor
Inspection Date: 01/25/2007	Inspector: RLM	Deck: N N/A (NBI)
Notes: RLM inspection comments - MP- ELEMENTS IN FAIR CONDITION. SMALL HOLE AT NORTH WEST EXTERIOR. HEAVY RUSTING. CONCRETE SPALLED. EROSION AT WINGS. STONEWORK- VOIDS, SETTLEMENT. NEW W- BEAM RAIL INSTALLED.		Super: N N/A (NBI) Substr: N N/A (NBI) Culvert: 5 Fair
PIC(S): C334- 8.		
Inspection Date: 08/22/2005	Inspector: DPC	Deck: N N/A (NBI)
Notes: Sufficiency Rating Calculation Accepted by DMB at 3/8/2006 13:38:43 DPC inspection comments - MP- ELEMENTS IN FAIR CONDITION. SMALL HOLE AT NORTH WEST EXTERIOR. HEAVY RUSTING. CONCRETE SPALLED. EROSION AT ROADSIDE AND WINGS. STONEWORK- VOIDS, SETT		Super: N N/A (NBI) Substr: N N/A (NBI) Culvert: 5 Fair
Inspection Date: 08/28/2003	Inspector: DPC	Deck: N N/A (NBI)
Notes: Sufficiency Rating Calculation Accepted by DEP at 7/20/2004 14:25:50 DPC inspection comments - MP- ELEMENTS IN FAIR CONDITION. SMALL HOLE AT NORTH WEST EXTERIOR. HEAVY RUSTING. CONCRETE SPALLED. EROSION AT ROADSIDE AND WINGS. STONEWORK - VOIDS, S		Super: N N/A (NBI) Substr: N N/A (NBI) Culvert: 5 Fair
Inspection Date: 08/29/2001	Inspector: DPC	Deck: N N/A (NBI)
Notes: Sufficiency Rating Calculation Accepted by DEP at 09-26-2001 15:13:29 DPC inspection comments - MP. - SMALL HOLE AT NORTH WEST EXTERIOR. HEAVY RUSTING. CONCRETE SPALLED. EROSION AT ROADSIDE AND WINGS. STONEWORK - VOIDS, SETTLED, UNSTABLE. PIC. #		Super: N N/A (NBI) Substr: N N/A (NBI) Culvert: 5 Fair

Bridge Inspection Report

Sandown 093/109

Inspection History:

Inspection Date: 03/01/1999	Inspector: FNM	Deck: N N/A (NBI)
Notes: Sufficiency Rating Calculation Accepted by DEP at 05-12-1999 13:35:48 FNM inspection comments - MP-RUSTED WITH MODERATE SCALE AT BASES EACH SIDE. SMALL CUT HOLES IN ROOF. BOLT MISSING IN ROOF AT DOWNSTREAM EXTERIOR. STONE HEADWALLS AND WINGS SETTLE		Super: N N/A (NBI) Substr: N N/A (NBI) Culvert: 6 Satisfactory
Inspection Date: 10/01/1997	Inspector: Not Available	Deck: N N/A (NBI)
Notes: Sufficiency Rating Calculation Accepted by DEP at 12-23-98 08:12:51		Super: N N/A (NBI) Substr: N N/A (NBI) Culvert: 6 Satisfactory
Inspection Date: 09/01/1995	Inspector: Not Available	Deck: N N/A (NBI)
Notes:		Super: N N/A (NBI) Substr: N N/A (NBI) Culvert: 6 Satisfactory
Inspection Date: 02/01/1994	Inspector: Not Available	Deck: N N/A (NBI)
Notes:		Super: N N/A (NBI) Substr: N N/A (NBI) Culvert: 6 Satisfactory
Inspection Date: 08/01/1991	Inspector: Not Available	Deck: N N/A (NBI)
Notes:		Super: N N/A (NBI) Substr: N N/A (NBI) Culvert: N N/A (NBI)

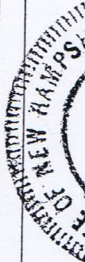
Copy Distribution:

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> (2) Bureau of Municipal Hghways | <input type="checkbox"/> Border State | <input type="checkbox"/> Dept. of Res. and Econ. Dev. |
| <input type="checkbox"/> (3) Bureau of Municipal Hghways | <input type="checkbox"/> Bureau of Rail and Transit | <input type="checkbox"/> Dept. of Environmental Services |
| <input type="checkbox"/> Bureau of Turnpikes | <input type="checkbox"/> Army Corps Of Engineers | <input type="checkbox"/> USDA Forest Service |
| | <input type="checkbox"/> Railroad | <input type="checkbox"/> Bureau of Traffic |

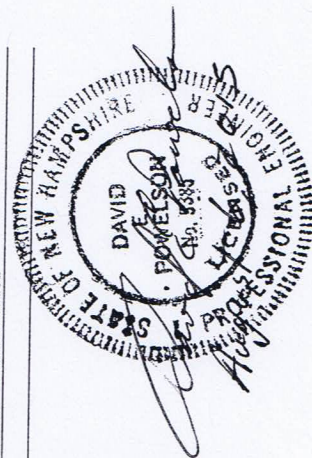
BRIDGE CAPACITY SUMMARY

TOWN: SANDOWN
BRIDGE NUMBER: 093/109
DESIGN LOAD: UNKNOWN
DESIGN METHOD: UNKNOWN
RATED BY: NBG DATE: 7/30/2015
RATING METHOD: FIELD EVAL. & ENG. JUDGMENT PLAN FILE: UNKNOWN
CHECK BY: JRP DATE: 8/3/15
ROUTE: PHILLIPS ROAD
OVER: EXETER RIVER

RATED MEMBER	LONGITUD. EFFECTIVE SPAN LENGTH	REQUIRED CAPACITY (HS Tons)			AVAILABLE CAPACITY (HS Tons)						
		CURRENT LEGAL LOADS	CERTIFIED VEHICLES		MULTIPLE LANES LOADED			SINGLE LANES LOADED			
			SINGLE UNIT	MULTIPLE UNIT	INVENTORY	OPERATING	POSTING	INVENTORY	OPERATING	POSTING	
METAL PLATE ARCH (severly corroded, 100% losses)	4'-0"	HS 14.0	HS 15.4	HS 15.4	HS 0.0	HS 0.0	HS 0.0	HS 0.0	HS 0.0		
RECOMMENDED POSTING: "BRIDGE CLOSED" and barricaded					Rating Method (Op.) 63. By. Insp. (Inv.) 65. By. Insp.		English Tons 64. (Op.) 0.0 66. (Inv.) 0.0		Metric Tons 0.0 0.0		



RECOMMENDED POSTING: "BRIDGE CLOSED" and barricaded



SANDOWN 093/109
PHILLIPS ROAD over EXETER RIVER

Thursday, July 30, 2015

MP IS TORN AND HOLED
WITH 100% SECTION LOSS
AT NORTHWEST FOR 14'.
(RL)

C537 10



Thursday, July 30, 2015

MP IS TORN AND HOLED
WITH 100% SECTION LOSS
AT NORTHWEST FOR 14'.
(RL)

C537 11



Thursday, July 30, 2015

CONCRETE IS SPALLED
BELOW NORMAL WATER
LINE AT SOUTH. (RL)

C537 12



SANDOWN 093/109

PHILLIPS ROAD over EXETER RIVER

Thursday, July 30, 2015

BEAVER DAM AT INLET,
LOW WATER. (RL)



C537 13

Thursday, July 30, 2015

WASHED AREA AT WEST
OVER MP IS ENCROACHING
ON ROADWAY. (RL)



C537 14