

SCDOT BrM Mobile

Change is Hard. Technology Helps.

BrMUG 2024 | Long Beach, CA | September 17-18





Emily Bickley, P.E.

Assistant Director of Bridge Management - Compliance



Ryan Jordan District 4 Bridge Inspector

Overview

- Background
- Day in the Life: Inspector
 - Assignments
 - NBI Data
 - Element Data
 - Critical Findings
 - Multimedia
 - Inspection Procedures
 - Sync

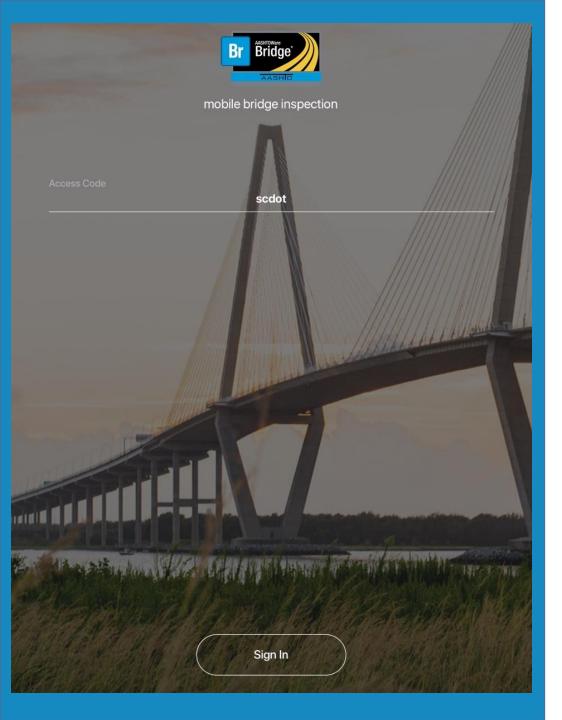


Upload Docs			
i oprotei o oca			
Uploaded Documentation			
74127 InspectionReport.pdf			
Inspection Report			
9/8/2021 6:15:15 AM			
Bridge Inspection Report			
Review Delete			
74127_BRIDGE_PHOTOS_1.pdf			
Picture			
9/8/2021 1:14:43 PM			
BRIDGE PHOTOS			
Review Delete			
74127_WATER_PROFILE_1.pdf			
Picture			
9/8/2021 1:15:56 PM			
WATER PROFILE			
Review Delete			
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9/8/2021 1:16:07 PM			
HMMS			
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74127_Kenny_QC_form_149_1.pdf			
Picture			
9/15/2021 10:29:38 AM			
QC 149			
Review Delete			

Background: BIO

- Bridge Inspection Online
- Offline Access
- Complete Many PDFs
- Combine Report Manually





Background: BrM Mobile

- Implemented Sept. 2023
- Offline Access
- Streamline No PDFs
- Submits Reports
- Layout Similar to BrM



	SC BrM
=	BRIDGE INSPECTION
Good morning Rob	
Inspection Ass	ignments Unscheduled Inspections
2023-09 D6 - District 6	District 6 22 Inspections Inspections Performed By 09-30-2023
2023-10 D6 - District 6	District 6 26 Inspections Inspections Performed By 10-31-2023
2023-11 D6 - District 6	District 6 15 Inspections Inspections Performed By 11-30-2023
2023-12 D6 - District 6	District 6 18 Inspections Inspections Performed By 12-31-2023
2024-01 D6 - District 6	District 6 23 Inspections Inspections Performed By 01-31-2024
2024-02 D6 - District 6	District 6 17 Inspections Inspections Performed By 02-29-2024
2024-03 D6 - District 6	District 6 16 Inspections Inspections Performed By 03-31-2024
2024-04 D6 - District 6	District 6 15 Inspections Inspections Performed By 04-30-2024
2024-05 D6 - District 6	District 6 29 Inspections Inspections Performed By 05-31-2024
2024-06 D6 - District 6	District 6 19 Inspections Inspections Performed By 06-30-2024
2024-07 D6 - District 6	District 6 17 Inspections Inspections Performed By 07-31-2024
	District 6

Assignments

- Assignment Navigation Screen
- Assignment Progress
- Choose Bridge



• • •	SC BrM	
:	2023-09 D6 - District 6	
ASSIGNMENT DETAILS \lor		
All Inspections Due By	09-30-2023	
QC Due By	10-31-2023	
Assigned User Group	District 6	
No. of Inspections	22	
Not Entered in BrM 🔶	6	
Entered in BrM ᅌ	12	
in QC 🔶	4	
QC Complete	0	
Inspections		
In Progress		Routine
in Progress 01009		Routine
In Progress 01010		Routine
In Progress 01429		Routine
Not Started		Routine
05471		Start Inspection
Not Started		Routine
05472		Start Inspection
Not Started		Routine
05674 (esses)		Start Inspection
Not Started		Routine
08969		Start Inspection
Not Started		Routine
10660		

Assignments

- Assignment Navigation Screen
- Assignment Progress
- Choose Bridge



< 00149	
Q Search	
Equipments Complete	>
Inspection Procedures	>
Multimedia	>
Bridge Data	
Element Conditions	>
Condition and Appraisal	>
Deck Material And Type	>
Main Span Material And Type	>
Approach Span Material And Type	>
Roadside Hardware	>
Traffic Status	>
Bridge History	>
Bridge Orientation	>
Geometry	>
Other Bridge Data	>
Non-Element Inspection Notes	>
Streambed Data	
Inspection Information	>
Streambed Information	>
Evidence Of Scour	>

- Condition & Appraisal Screen
- Updating Values
 - Previous Values
- Add Photos
- Mark as Completed



Condition and Appraisal	Mark as Complete
Peck (058) * 6 Satisfactory	>
* Superstructure (059) 6 Satisfactory	>
* Substructure (060) 7 Good	>
Culvert (062) * N N/A (NBI)	>
* Bridge Railing (602) 7 Good	>
Railing Transition (603) 7 Good	>
* Bearing (604) N N/A (NBI)	>
* Joint (605) N N/A (NBI)	>
* Approach Alignment (072) 8 Equal Desirable Crit	>
* Channel (061) 7 Minor Damage	>
* Channel Protection (601) 8 Very Good,Inherent Def	>
* Waterway Adequacy (071) 6 Equal Minimum	>
* Scour Condition Rating (631) * 8 - Insignificant	>
*	

- Condition & Appraisal Screen
- Updating Values
 - Previous Values
- Add Photos
- Mark as Completed



<	Deck (058)	Close
Previous Inspection		
6 Satisfactory		
Current Inspection		
0 Failed		
1 Imminent failure		
2 Critical		
3 Serious		
4 Poor		
5 Fair		~
6 Satisfactory		
7 Good		
8 Very Good		
9 Excellent		
N N/A (NBI)		
Unknown (NBI)		
Multimedia		

- Condition & Appraisal Screen
- Updating Values
 - Previous Values
- Add Photos
- Mark as Completed



Condition and Appraisal	Mark as Complete
Deck (058) 5 Fair	>
Superstructure (059) 6 Satisfactory	>
Substructure (060) 7 Good	>
* Culvert (062) N N/A (NBI)	>
Bridge Railing (602) 7 Good	>
Railing Transition (603) 7 Good	>
* Bearing (604) N N/A (NBI)	>
* N N/A (NBI)	>
Approach Alignment (072) 8 Equal Desirable Crit	>
* Channel (061) 7 Minor Damage	>
Channel Protection (601) 8 Very Good,Inherent Def	>
Waterway Adequacy (071) * 6 Equal Minimum	>
* Scour Condition Rating (631) 8 - Insignificant	>

- Condition & Appraisal Screen
- Updating Values
 - Previous Values
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- Mark as Completed



< 00149	
Q Search	
Equipments Complete	>
Inspection Procedures	>
Multimedia	>
Bridge Data	
Element Conditions	>
Condition and Appraisal Complete	>
Deck Material And Type	>
Main Span Material And Type	>
Approach Span Material And Type	>
Roadside Hardware	>
Traffic Status	>
Bridge History	>
Bridge Orientation	>
Geometry	>
Other Bridge Data	>
Non-Element Inspection Notes	>
Streambed Data	
Inspection Information	>
Streambed Information	>
Evidence Of Scour	>

- Condition & Appraisal Screen
- Updating Values
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< 00149	
Q Search	
Equipments Complete	>
Inspection Procedures	>
Multimedia	>
Bridge Data	
Element Conditions	>
Condition and Appraisal Complete	>
Deck Material And Type	>
Main Span Material And Type	>
Approach Span Material And Type	>
Roadside Hardware	>
Traffic Status	>
Bridge History	>
Bridge Orientation	>
Geometry	>
Other Bridge Data	>
Non-Element Inspection Notes	>
Streambed Data	
Inspection Information	>
Streambed Information	>
Evidence Of Scour	>

- Element Navigation Screen
- Updating Condition States
 - Add notes
- Add photos
- Mark as Completed



<	Element Conditions	Mark as Complete
Conditions	Status	Notes
1 / Type = 0 (1)		
38 38 Re Concrete Slab		
215 215 Re Conc Abutment		>
226 226 Pre Conc Pile		—— >
234 234 Re Conc Pier Cap		— >
301 301 Pourable Joint Seal		
321 321 Re Conc Approach Slab		— >
331 331 Re Conc Bridge Railing		>
Add Element		

- Element Navigation Screen
- Updating Condition States
 - Add notes
- Add photos
- Mark as Completed



<	38 Re Concrete Slab	Ma Co	ark as mplete
Structure Unit 1 / Type = 0 (1)			>
Environment Sev. (4)			>
Condition State			
•			-
Quantity (sq.ft)	Percentage (%)		
Total Quantity		33000	sq.ft
CS1		24674	sq.ft
CS2		7909	sq.ft
CS3		417	sq.ft
CS4		0	sq.ft
Defects			
1090 1090 Exposed Rebar Defect Notes Topside of Deck:			>
•			-
1130			
1130 Cracking (RC and Other) Defect Notes Topside of Deck:			>
+			-
1080			

- Element Navigation Screen
- Updating Condition States
 - Add notes
- Add photos
- Mark as Completed



Defect Notes

Topside of Deck:

– SN21 both lanes at bent 22, (1) spall in each lane up to 1' L. x 3' W. x 3" D. with exposed reinforcing showing 5% section loss (CS3, Q3 SF, Photo 30)

Underside of Deck:

- SN2 S fascia 5' from BT 3, (1) Spall with surrounding delamination 4' L. x 1' W. x 0.75" D. with exposed reinforcement and 5% section loss (CS3, Q4 SF)

– SN2 along N edge, (1) Spall 6" L. x 3" W. x 0.5" D. with exposed reinforcement and 5% section loss (CS3, Q1 SF, Photo 26)

– SN4 along N fascia, 2' L. x 6" W. x 0.25" D with exposed reinforcing bar showing 5% section loss (CS3, Q2 SF)

- SN8 along S edge at mid span, (1) Spall/Delam 15' L. x 1.5" W. x 1.25" D. with exposed reinforcement and 5% section loss (CS3, Q30 SF, Photo 27)

– SN9 along N edge, (1) Spall 1' L. x 4" W. x 0.5" D. with exposed reinforcement and 5% section loss (CS3, Q1 SF)

- SN10 along S edge, (2) Spalls up to 2' L. x 3" W. x 1.5" D. with exposed reinforcement and 5% section loss (CS3, Q2 SF)

– SN10 N fascia at BT 11, (1) Spall 4" L. x 8" High x 2" D. with exposed reinforcement and no loss (CS3, Q1 SF)

– SN14 along S edge, (1) Spall 3' L x 1' W x 2" D. with (2) exposed reinforcing bars showing 10% section loss (CS3, Q3 SF)

– SN22, (2) spalls 1.5' L. x 6" W. x 2" D. with exposed reinforcing showing 5% section loss (CS3, Q2 SF)

– SN23 along N edge, (1) Spall 6" L. x 6" W. x 1" D. with exposed reinforcement and 10% section loss (CS3, Q1 SF)

– SN24 along S edge, (3) Spalls 3' L. x 6" W. x 2" D. with exposed reinforcement and 10% section loss (CS3, Q9 SF)

– SN24 along N edge, (3) Spalls 3' L. x 6" W. x 2" D. with exposed reinforcement and 10% section loss (CS3, Q9 SF)

– SN25 along S edge, (1) Spall 2' L. x 6" W. x 0.25" D. with exposed reinforcement and 10% section loss (CS3, Q2 SF)

- Element Navigation Screen
- Updating Condition States
 - Add notes
- Add photos
- Mark as Completed



38 Re Concrete Slab	Mark as Complete
1080 1080 Delamination/Spall/Patched Area Defect Notes Topside:	>
*	
1190 1190 Abrasion(PSC/RC) Defect Notes Topside of Deck:	>
•	
1120 1120 Efflorescence/Rust Staining Defect Notes Topside of Deck:	>
+	—
Add Defect	
Protective Systems	
Add Protective System	
Multimedia	
Additional Field Information	
Element Notes Element 38: Cast-In-Place Reinforced Concrete Deck in all Spans.	>
Element Manual	>

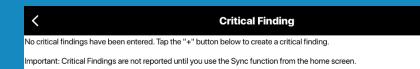
- Element Navigation Screen
- Updating Condition States
 - Add notes
- Add photos
- Mark as Completed



< 00149	
Non-Element Inspection Notes	>
Streambed Data	
Inspection Information	>
Streambed Information	>
Evidence Of Scour	>
Tidal Bridge Inspection Only	>
Scour Condition, POA, And Vulnerability	>
Posting Sign Values	
R-12-6-48 Legal Load Posting and Sign Posted Values	>
R-12-9-36 Emergency Vehicle Posting and Sign Posted Values	>
40T Combination Posting	>
Bridge Curb Reveal Measurements	>
Culvert Fill Measurements	>
Inventory	>
Cross Sections	>
Piles	>
Bearings	>
Joints	>
Clearance Dimensions	>
Critical Findings	>

- Critical Findings Screen
- Existing CFs
- Reported during Sync
- Required Data
- Add photos
- Mark as Completed





- Critical Findings Screen
- Existing CFs
- Reported during Sync
- Required Data
- Add photos
- Mark as Completed



Mark as

Complete

Critical Findings
Reporter E.Bickley (BickleyEJ@scdot.org)
Reporter Phone 555.555.5555
Reporter Email BickleyEJ@scdot.org
* Date of Finding 08/28/2024
* Time of Finding 08:39
* Category Inspection
* Initial Priority Urgent
* Initial Action Taken * Close Br. w/ Insp. Trck *
* Bridge Owner Contacted Date * 08/28/2024
* Bridge Owner Contacted Time 12:00
* Contacted Name District 6 DBIS C. Fralix
* Contacted Phone 555555555
* Description Scour at Bent 2 due to flood event: Pile 2-1 scour 8ft birds with 4ft embergroups

- Critical Findings Screen
- Existing CFs
- Reported during Sync
- Required Data
- Add photos
- Mark as Completed



Critical Findings	
* Date of Finding 08/28/2024	
* Time of Finding 08:39	
* Category Inspection	>
* Initial Priority Urgent	>
Initial Action Taken Close Br. w/ Insp. Trck	>
* Bridge Owner Contacted Date * 08/28/2024	
* Bridge Owner Contacted Time 12:00	
* Contacted Name District 6 DBIS C. Fralix	
Contacted Phone * 555555555	
* Scour at Bent 2 due to flood event: Pile 2-1 scour 8ft high with 4ft embedment remaining. Pile 2-2 scour 7.5ft high with 4.5ft embedment remaining. Pile 2-3 scour 9ft high with 3ft embedment remaining. Pile 2-4 scour 8ft high with 4ft embedment remaining. Pile 2-5 scour 8.25ft high with 3.75ft embedment remaining.	
Multimedia	

- Critical Findings Screen
- Existing CFs
- Reported during Sync
- Required Data
- Add photos
- Mark as Completed



<	Critical Finding	Mark as Complete
8/28/2024 8:39 AM	Inspection Urgent Draft	

- Critical Findings Screen
- Existing CFs
- Reported during Sync
- Required Data
- Add photos
- Mark as Completed



< 00149	
Non-Element Inspection Notes	>
Streambed Data	
Inspection Information	>
Streambed Information	>
Evidence Of Scour	>
Tidal Bridge Inspection Only	>
Scour Condition, POA, And Vulnerability	>
Posting Sign Values	
R-12-6-48 Legal Load Posting and Sign Posted Values	>
R-12-9-36 Emergency Vehicle Posting and Sign Posted Values	>
40T Combination Posting	>
Bridge Curb Reveal Measurements	>
Culvert Fill Measurements	>
Inventory	>
Cross Sections	>
Piles	>
Bearings	>
Joints	>
Clearance Dimensions	>
Critical Findings Complete	>

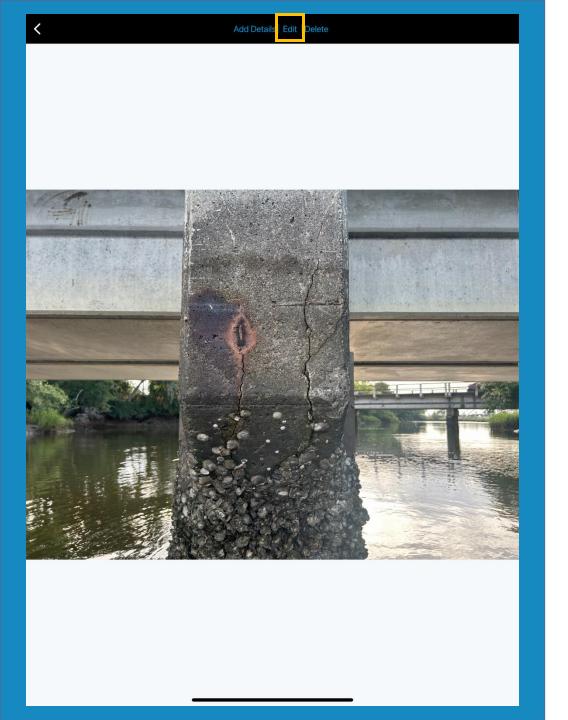
- Critical Findings Screen
- Existing CFs
- Reported during Sync
- Required Data
- Add photos
- Mark as Completed



<	Deck (058)	С	lose
Previous Inspection			
6 Satisfactory			
Current Inspection			
0 Failed			
1 Imminent failure			
2 Critical			
3 Serious			
4 Poor			
5 Fair			~
6 Satisfactory			
7 Good			
8 Very Good			
9 Excellent			
N N/A (NBI)		Take Photo	
Unknown (NBI) Multimedia			
Wattinedia		Pick Photo	
		Create Sketch	
		×	
		,	

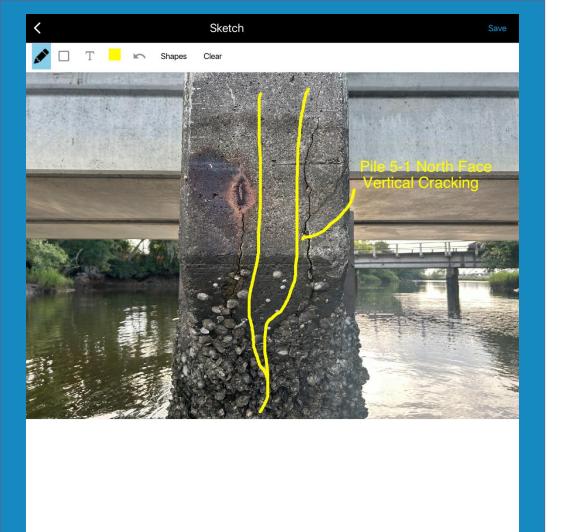
- Upload/Take Photos
- Edit Photos
- Add Details
 - Category
 - Notes





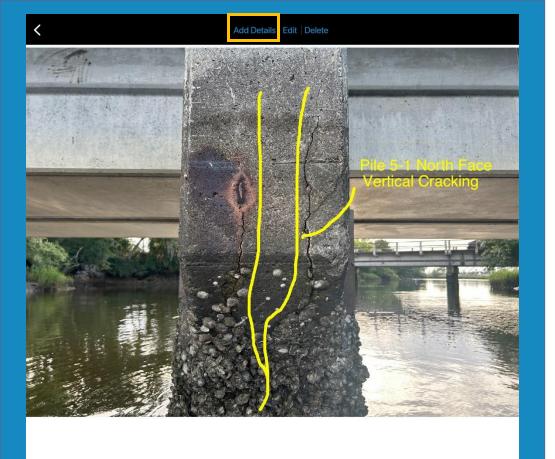
- Upload/Take Photos
- Edit Photos
- Add Details
 - Category
 - Notes





- Upload/Take Photos
- Edit Photos
- Add Details
 - Category
 - Notes





- Upload/Take Photos
- Edit Photos
- Add Details
 - Category
 - Notes



< Add Details	
Include in Report	
Category	>
Inspection Photo Sub-Category	>
Multimedia Notes Pile 5-1 North Face, Vertical Cracking up to 0.25in wide x 6ft long. (CS3, Q1, Photo 12)	>

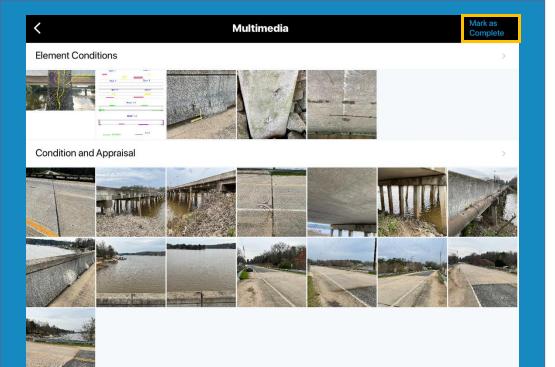
- Upload/Take Photos
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 - Category
 - Notes



00149	
Q Search	
Equipments Complete	>
Inspection Procedures	>
Multimedia	>
Bridge Data	
Element Conditions Complete	>
Condition and Appraisal Complete	>
Deck Material And Type	>
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Traffic Status	>
Bridge History	>
Bridge Orientation	>
Geometry	>
Other Bridge Data	>
Non-Element Inspection Notes	>
Streambed Data	
Inspection Information	>
Streambed Information	>
Evidence Of Scour	>

- Upload/Take Photos
- Edit Photos
- Add Details
 - Category
 - Notes
- Mark as Completed





- Upload/Take Photos
- Edit Photos
- Add Details
 - Category
 - Notes
- Mark as Completed



< 00149	
Q Search	
Equipments Complete	>
Inspection Procedures	>
Multimedia	>
Bridge Data	
Element Conditions Complete	>
Condition and Appraisal Complete	>
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Non-Element Inspection Notes	>
Streambed Data	
Inspection Information	>
Streambed Information	>
Evidence Of Scour	>

- Procedures Screen
- Existing Procedures
- Check as Completed
 - Notes, if needed
- Add photos
- Mark as Completed



<	Inspection Procedures	Mark as Complete			
Routine (Ty	Routine (Typical)				
	Post-Inspection: Requests (Routine) Confirm that all Inspection Requests are included as both scheduled inspections in the Sc	>			
	Inspection: Timber Sounding (Routine) Sound full length of exposed timber piles (including through bolts) per BIGD 5.3.3.1 and 5	>			
	Inspection: Pile Sketch (Routine) Pile Sketch Table required when NBI Item 60 Condition Rating = 5. Per BIGD 5.3.3.1 and 5	>			
	Inspection: Defect Photos (Routine) Any NBE (element) with CS3 or CS4 Any deterioration causing an NBE (element) to have	>			
	Post-Inspection: Data Verification (Routine) Verify the correct: 1) Traffic Status (NBI 041), 2) Inspection Invervals (NBI 090 to 093), 3)	>			
	Inspection: Posting Photos (Routine) Photographs of at bridge and advance (if present) posting or weight limit signs are require	>			
Procedure I	Notes	>			
Multimedia					

- Procedures Screen
- Existing Procedures
- Check as Completed
 - Notes, if needed
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Confirm that all Inspection Requests are included as both scheduled inspections in the Schedule Table and the Requests Table when needed. Confirm requests include Load Rating (if needed) (NBI GCR 7 to 5 or NBI GCR to 4, Element CS4, etc.). Confirm requests include Hydraulic Appraisal (if needed) (NBI 071 and NBI 113). Confirm requests include UW (Unscheduled) (Water Depth 4' or more at Bent).

- Procedures Screen
- Existing Procedures
- Check as Completed
 - Notes, if needed
- Add photos
- Mark as Completed



<	Inspection Procedures	Mark as Complete
Routine (Ty	pical)	
	Inspection: Timber Sounding (Routine) Sound full length of exposed timber piles (including through bolts) per BIGD 5.3.3.1 and 5	>
	Inspection: Posting Photos (Routine) Photographs of at bridge and advance (if present) posting or weight limit signs are require	>
	Post-Inspection: Requests (Routine) Confirm that all Inspection Requests are included as both scheduled inspections in the Sc	>
	Inspection: Defect Photos (Routine) Any NBE (element) with CS3 or CS4 Any deterioration causing an NBE (element) to have	>
	Post-Inspection: Data Verification (Routine) Verify the correct: 1) Traffic Status (NBI 041), 2) Inspection Invervals (NBI 090 to 093), 3)	>
	Inspection: Pile Sketch (Routine) Pile Sketch Table required when NBI Item 60 Condition Rating = 5. Per BIGD 5.3.3.1 and 5	>
Procedure Notes No Timber Substructure, new NBI 60 = 6, & posting removed. (new H-Piles re-rated 06/2024)		
Multimedia		

- Procedures Screen
- Existing Procedures
- Check as Completed
 - Notes, if needed
- Add photos
- Mark as Completed



<	Inspection Procedures	Mark as Complete
Routine (Ty	pical)	
	Inspection: Timber Sounding (Routine) Sound full length of exposed timber piles (including through bolts) per BIGD 5.3.3.1 and 5	>
	Inspection: Posting Photos (Routine) Photographs of at bridge and advance (if present) posting or weight limit signs are require	>
	Post-Inspection: Requests (Routine) Confirm that all Inspection Requests are included as both scheduled inspections in the Sc	>
	Inspection: Defect Photos (Routine) Any NBE (element) with CS3 or CS4 Any deterioration causing an NBE (element) to have	>
	Post-Inspection: Data Verification (Routine) Verify the correct: 1) Traffic Status (NBI 041), 2) Inspection Invervals (NBI 090 to 093), 3)	>
	Inspection: Pile Sketch (Routine) Pile Sketch Table required when NBI Item 60 Condition Rating = 5. Per BIGD 5.3.3.1 and 5	>
Procedure No Timber St	ubstructure, new NB 60	>
Multimedia	You are about to mark this screen complete, however, not all procedures are marked as complete. Are you sure you wish to continue?	
	Cancel OK	

- Procedures Screen
- Existing Procedures
- Check as Completed
 - Notes, if needed
- Add photos
- Mark as Completed



< 00149	
Q Search	
Equipments Complete	>
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Bridge Data	
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Evidence Of Scour	>

- Procedures Screen
- Existing Procedures
- Check as Completed
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<	Sync	Cancel
Select All		
O Jorda	00149 1 bridge, 0 waypoints	Unsynced
O	05786 1 bridge, 0 waypoints	Unsynced
	Start Sync	

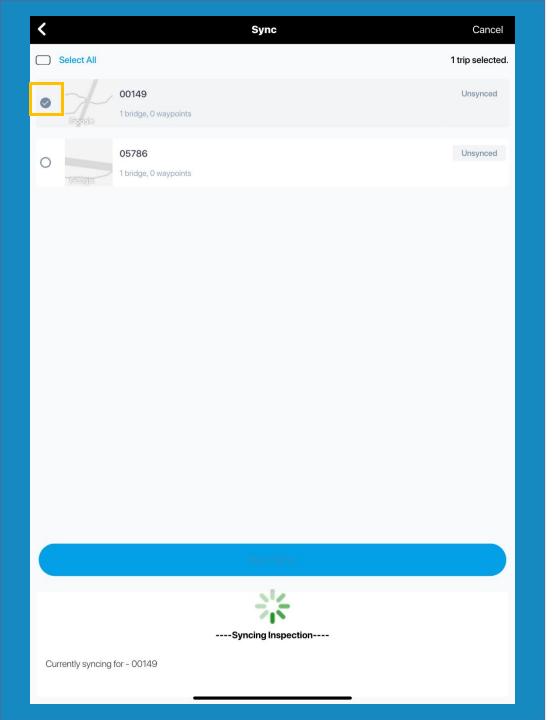
- Sync with 2 clicks
- Sync Successful Message
- Critical Findings Submitted



<			Sync	Cancel
	Select All			1 trip selected.
0	- Cordia	00149 1 bridge, 0 waypoints		Unsynced
0		05786 1 bridge, 0 waypoints		Unsynced
			Syncing will remove this inspection from your device. Click Ok to continue.	
			Cancel Ok	
			Start Sync	

- Sync with 2 clicks
- Sync Successful Message
- Critical Findings Submitted





- Sync with 2 clicks
- Sync Successful Message
- Critical Findings Submitted



Select All O149 Tbridge, 0 waypoints O5786 Tbridge, 0 waypoints Ibridge, 0 waypoints Sync Results Sync completed successfully. Ok	1 trip selected. Sync Successful Unsynced
 bridge, 0 waypoints 05786 bridge, 0 waypoints 	
bridge, 0 waypoints	Unsynced
Sync completed successfully.	
Sync completed successfully.	
Sync completed successfully.	
Ok	
Start Sync	

- Sync with 2 clicks
- Sync Successful Message
- Critical Findings Submitted



Change is Hard. Technology Helps.

Summary

- Background
- Day in the Life: Inspector
 - Assignments
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Questions?

BrMUG 2024 | Long Beach, CA | September 17-18

