

ADDING, DELETING, UPDATING DATA IN THE MASTER STRUCTURE FILE

PURPOSE: To establish a formal procedure for adding, deleting, and updating bridge inventory and condition information in the Bridge Folders and in the Master Structure File Database that conforms to the Code of Federal Regulations, Title 23, Part 650, with Federal Highway Administration regulations and requirements, and with the needs and responsibilities of this department. When it is necessary to update data, or to add or delete records in the Master Structure File Database, this directive provides guidelines and uniform reporting procedures for proper documentation of the structure.

Each state is required under the Code of Federal Regulations to compile and maintain a bridge inventory that contains inventory and condition information for all bridges on all public roads in the states.

SCOPE: This Directive applies to all bridges on all highways, roads, and streets in the State of Louisiana.

POLICY: 23 CFR, Part 650.315 states that newly completed structures or the modifications of existing structures which would alter previously recorded data on the inventory forms shall be entered in the state's records within 45 days for bridges on the State Maintained Highway System and 90 days for all other bridges.

It is the policy of this Department to strictly adhere to this requirement, therefore;

It is the policy of this Department that when a bridge(s) is constructed under LA DOTD construction projects, that immediately upon completion of the project or opening of the bridge to traffic, whichever occurs first, Master Structure File Add/Update Forms must be properly completed by the District Bridge Inspection office for each bridge built under the project. This shall be done within 45 days for On-System and 90 days for Off-System in accordance with EDSM IV 4.1.2.

It is also a policy that all such forms MUST be reviewed for accuracy and completeness and then signed by the District ADA of Operations. Two copies of the completed, signed forms shall be made, one copy for the District's Bridge Inspection office files, and one copy for the Project Engineer's files for submittal to the Headquarters Estimates Section as part of the Final Estimate.

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The original forms shall be submitted to the Headquarters Bridge Maintenance Section by the District ADA of Operations' office along with the other documents, photographs, sketches, etc. required by this directive.

It is also the policy of this Department that when it comes to the attention of the District Bridge Inspection Staff that a bridge has been overlooked (i.e. was built by the District or Statewide forces, or has been taken into the State Maintained Highway System, or has otherwise been overlooked) and should be added to the inventory, that it shall be the responsibility of the District Bridge Inspectors to immediately compile and submit to Headquarters Bridge Maintenance Section all of the information required in this Directive in order to add the bridge to the inventory.

Even though the initial responsibility of providing this information lies with the Project Engineer's office, it is the responsibility of the District Bridge Inspection Staff to see that ALL of the following activities are accomplished and ALL of the following information is obtained and included in the inventory.

PROCEDURE:

Any changes of inventory data should be coded onto the department's Master Structure File Database Add/Update forms (MSF forms) by the district Bridge Inspectors, and submitted to the Headquarters Bridge Maintenance office. Bridge Inspection personnel should adhere to the latest edition of the Recording and Coding Guide for the Structure Inventory of the State's Bridges, as provided by DOTD, in order to ensure all information contained on MSF forms will be correct in the database. Listed below are the documents/forms required to make updates in the Master Structure File Database:

MSF forms (1, 2, and 3 rev. 10/2011)—used for any and all changes or updates to the Master Structure File database, including adding new structures to or deleting structures from the inventory.

Delete [cover] sheet—used when a structure is to be deleted from the inventory, and includes a section for remarks as to the reason it is to be deleted. This document is **required** for ALL deletes, even if the bridge is a replacement structure.

Bridge inspections shall be reviewed, corrected as necessary, and approved within the same 45 or 90 day intervals from the date field inspection is completed.

ADDING A NEW BRIDGE IN A NEW LOCATION, OR A PREVIOUSLY OVERLOOKED BRIDGE:

All documents, forms, sketches, photographs and other paperwork required in this Directive shall be prepared and submitted as a package for each bridge

being added to the Inventory. To add a new bridge to the inventory, the following documents are required:

A. STRUCTURE NUMBERS:

The Structure Number shall be determined according to the instructions in the Recording and Coding Guide and painted on or otherwise affixed to the structure in a permanent manner and in a conspicuous and easily accessible location such as on the inside face of the Bridge Railing. A uniform system should be used throughout the District for both On-System and Off-System bridges.

B. ADD SHEETS:

Master Structure Fill Add/Update Form 1, 2, & 3 must be completely filled out as per the attached examples. ALL items marked as REQUIRED DATA on the form MUST be filled out according to the coding guide instructions. Some data items, as indicated in the coding guide, may be left blank or coded "000". Every item on the coding form must conform to the coding guide instructions. If a state highway passes under the structure, a second MSF Add/Update Form 1 (Segments 1 and 3) must also be completed for each state highway under the structure.

C. PHOTOGRAPHS:

As a minimum, three (3) color print photographs of each structure MUST be submitted with the original add sheets as follows:

- 1) Showing the roadway approaching the structure in the direction of inventory;
- 2) Showing the roadway approaching the structure from the other direction;
- 3) Showing the roadway leaving the structure in the direction of inventory (taken from on the deck), if the entire structure cannot be seen in #1 or #2;
- 4) Showing the roadway leaving the structure in the other direction (taken from the deck) if entire structure cannot be seen in #1 or #2;
- 5) Showing the entire profile of the structure whenever possible, taken from a sufficient distance away to show most, if not all spans (showing the bridge from the side, NOT a view down the bridge railing)
For bridges over either waterways or roadways, the profile photograph(s) must show the feature crossed, i.e. the waterway or the roadway. If the bridge crosses over both, then both features crossed must be photographed, separately where necessary.

Either or both pairs of the following photographs are also required, depending on what the bridge crosses over:

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If the bridge is over a waterway, two (2) additional photographs are required:

- 6) Showing the upstream view of the waterway (taken from on the deck);
- 7) Showing the downstream view of the waterway (taken from on the deck);

If the bridge is over a roadway, two (2) additional photographs are required:

- 8) Showing the underpassing roadway as it approaches the structure from its direction of inventory;
- 9) Showing the underpassing roadway as it approaches the structure from the other direction.

Additional photographs showing special details such as pin and hanger assemblies or connections, curved girders, other "new" details, special/different main span types, etc. must also be submitted if the special details are not clearly shown in the above photographs.

D. LOCATION MAP:

A copy of an LA DOTD Parish map with the location of the bridge circled and clearly marked with a red marking pen, with the Structure Number and the Recall/Report Number of the structure marked on the map.

E. PLAN SHEETS or SKETCHES SHOWING:

- 1) Geometric layout of the area showing the approach roadway, the bridge deck, number of traffic lanes on and under the structure, the alignment of the feature crossed, etc.;
- 2) Cross-section of the bridge (through the deck) with measurements indicating the roadway width, the rail to rail clearance, the curb to curb width, out to out width, the layout of the bent(s) and/or piers, vertical clearance over the bridge deck, etc.;
- 3) Profile of the bridge showing the total length of the structure, the length and type of each span, the underpassing roadway(s) vertical and horizontal clearances, and the width of the OPENING and the location and distance between the backwalls for all one span bridges less than twenty-five (25) feet long, etc.
- 4) For all movable bridges and fixed bridges over navigable waterways, the navigation vertical and horizontal clearance shall be field checked and sketched. Measurements for movable bridges shall be taken in both the fully open position and the fully closed position.

F. STREAM BED PROFILES:

For bridges crossing waterways, rivers, drainage areas, flood plains – wet or dry, creeks, etc. a set of two (2) stream bed profile readings shall be plotted on a profile drawing of the structure showing the original stream bottom elevations

and the lengths of all piling. The elevations of the bottom of the stream shall be plotted in red on the profile drawings. These profiles should show:

- 1) Immediately adjacent to the structure on the upstream side.
- 2) Immediately adjacent to the structure on the downstream side.

The maximum distance between the elevation readings, measured along the roadway shall be twenty (20) feet or at each bent and/or pier, whichever is the smallest distance interval, however the drawings must include a reading at each bent and/or pier. For example, for a thirty foot long span, readings shall be taken at each bent/pier support and at the center of the span, fifteen feet from each support.

The drawings shall also include the length of the pile in each bent or under each footing (obtained from the plans), the elevation of the bottom of the cap, and the elevation of the deck. If a plan sheet profile is used for this purpose, and any of these dimensions are not shown, these dimensions must be added to the profile drawing.

For major bridges, these drawings may be prepared by plotting the readings from the Hydrographic Survey Fathometer Chart, provided it references the bridge's substructure units and suitable benchmarks along the bank to be used for future reference.

G. BRIDGE INSPECTION REPORT FORM:

A Bridge Inspection Form 3097_PO (see Directive #4) MUST be completed by the District Bridge Inspectors in accordance with the PONTIS Inspection Manual, and submitted with the original add sheets for the structure.

H. TIMBER RATING FORM:

For ALL timber bridges or bridges with timber spans, a Timber Rating Form MUST be completed by the District Bridge Inspectors and submitted with the original add sheets for the structure. The span and bent configuration shall be sketched on the back of the form. This sketch shall include and identify the specific location of all deterioration or other sub-standard conditions.

REPLACING AN OLD BRIDGE/SAME LOCATION:

- A. All of the forms, sketches, photos, map, etc. listed under "ADDING A NEW BRIDGE IN A NEW LOCATION", plus:

- B. DELETE FORM FOR THE BRIDGE BEING REPLACED: (see "DELETING A BRIDGE FROM THE INVENTORY")

Where an old bridge is replaced with a new bridge in the same location, a Delete [MSF] Form, as well as a Delete Cover sheet, must be submitted showing the old Structure Number, the old Recall or Report Number, and the Project Number under which the replacement bridge was built.

DELETING A BRIDGE FROM THE INVENTORY:

To delete a bridge from the inventory, the following documents are required:

- A. DELETING AN ON-SYSTEM BRIDGE:

On-System bridges may be deleted under the following circumstances:

- 1) The old bridge was removed and replaced with a pipe, metal arch, or box culvert which does not meet the NBIS criteria for inclusion in the Federal Bridge Replacement Program (i.e. less than 20 ft. opening).

Two (2) photographs of each location MUST be submitted with the delete form and delete cover sheet, one showing the roadway in the direction of travel and one showing the profile (end view) of the pipe(s), arch, or box culvert.

If the existing bridge is replaced with a bridge that does not meet NBIS requirements, then the replacement procedure above shall be followed.

- 2) The old section of roadway was officially abandoned and the area was physically barricaded to prevent access to vehicular traffic. When a section of highway is abandoned, and there is a bridge to be deleted from the inventory, the District Bridge Inspection personnel should include a copy of the Revision to State Highway System memo (generated and disseminated from DOTD's Data Collection/Management Systems section) when submitting Delete forms to Headquarters.

One (1) photograph of the location showing the closed roadway in the direction of travel MUST be submitted with the delete form and delete cover sheet. If the bridge is not visible from the closure location, a map indicating the location of the bridge and closure points must accompany the photo.

B. DELETING AN OFF-SYSTEM BRIDGE:

Off-System bridges may be deleted under the following circumstances:

- 1) The old bridge was removed and replaced with a pipe, metal arch, box culvert, or a bridge which does not meet the NBIS criteria to be included in the Federal Bridge Replacement Program (i.e. less than 20 ft. opening).

-AND-

The bridge is NOT on the Owner's priority list and the Owner DOES NOT wish to have the bridge added to their replacement program priority list within the next five (5) years.

Two (2) photographs of each location MUST be submitted with the delete form and delete cover sheet, one showing the roadway in the direction of travel and one showing the profile (end view) of the pipe(s), arch, or box culvert, or bridge.

A letter shall be prepared and sent to the owner notifying them that the bridge is being deleted and is now considered ineligible for replacement.

- 2) The bridge is permanently, physically closed and WILL NOT be re-opened,

-AND-

The bridge is NOT on the Owner's priority list and the Owner DOES NOT wish to have the bridge added to their replacement program priority list.

NOTE : "Closure" will include locked gates, deep beam barriers, and other similar devices capable of preventing all traffic from using the bridge. "Closure" DOES NOT include piles of dirt, saw horse barricades, timbers across the roadway, or signs alone, it MUST be a POSITIVE BARRIER!!

Two (2) photographs of each location MUST be submitted with the delete form and delete cover sheet, one photograph showing the roadway approach in the direction of inventory, and one photograph showing the roadway approach from the other direction.

A letter shall be prepared and sent to the owner notifying them that the bridge is being deleted and is now considered ineligible for replacement.

- 3) The bridge is now under private jurisdiction and is no longer owned or maintained by the Parish or City.

A letter from the former Owner confirming this situation, including the name of the private entity now responsible for the bridge MUST be attached to the Delete Form and Delete Cover Sheet.

C. WHEN A "DELETED" OFF-SYSTEM BRIDGE WILL REMAIN IN THE INVENTORY:

Off-System bridges will not be deleted from the inventory if the bridge IS on the Owner's priority list and the Owner DOES plan to have the bridge replaced under the program, EVEN IF the bridge has been temporarily replaced with a small pipe or other structure in order to maintain traffic. The record will be flagged to indicate that the old bridge is no longer in service. While the old bridge will not be deleted from the inventory, the following updates in STRM for the SI&A items are necessary:

- 10 – Inventory Route Minimum Vertical Clearance
- 41 – Structure Open, Posted, or Closed = "E"
- 47 – Inventory Route Total Horizontal Clearance
- 53 – Minimum Vertical Clearance Over Bridge Roadway
- 54 – Minimum Vertical Underclearance
- 55 – Minimum Lateral Underclearance on Right
- 56 – Minimum Lateral Underclearance on Left
- 103 – Temporary Structure Designation = "T"

*Note: All of the above items should be coded for the temporary structure.

Once the permanent structure is complete and open to public traffic, an NBIS inspection is to be completed and updated SI&A data is to be submitted, on the applicable MSF forms, to Headquarters' Bridge Maintenance Section within 90 days in accordance with EDSM IV.4.1.2.

UPDATING BRIDGE DATA IN THE INVENTORY:

When it is necessary to update bridge inventory data in the Master Structure File, a Master Structure File Add/Update Form must be submitted with only the data which has changed or needs correction coded. Updates of structural, geometric, or design information must be accompanied by as-built plan sheets or other supporting documentation such as sketches or photographs.

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Only the applicable Master Structure File Add/Update Form (1 or 2 or 3) which contains the fields being updated is required to be submitted. It is not necessary to submit all three pages to update one field on one page.

RESPONSIBILITY: The DOTD District ADA of Operations shall be responsible for the implementation of this policy.

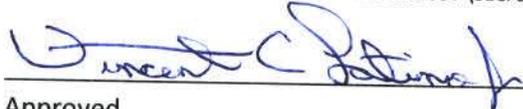
EFFECTIVE DATE: This policy shall become effective immediately upon receipt.



Recommend Approval
Bridge Inspection Engineer (SEC. 51)



Recommend Approval
Structures and Facilities Administrator (SEC. 51)



Approved
Vincent C. Latino Jr., P.E.
Chief Maintenance Engineer

**MASTER STRUCTURE FILE
DATA BASE ADD/UPDATE
FORM NO. 1 (SEGMENTS 1 and 3)**

Coded By: _____
Date: _____

ADA of Operations

U. D. TYPE	SEQUENCE	SEGMENT	STRUCTURE NUMBER 1-8										IDENTIFICATION AND LOCATION										HISTORICAL																
			DIST I-2	PAR I-3	CONTROL	SECT	LOG MILE 1-11	ID	RECALL NUMBER	LATITUDE 1-16	LONGITUDE 1-17	NATIONAL GEOG CITY CODE 1-4	FEDERAL-AID PROJECT-NO	PROJECT NUMBER CONSTRUCTED UNDER	DATE COMPLETED 1-27	DATE MAJOR RECONS-TRUCTION 1-108																							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

U. D. TYPE	SEQUENCE	SEGMENT	FAC. TYPE	FACILITY TYPE AND DESCRIPTION																																			
				KIND OF CROSSING 1-42	RAILROAD CODE	MAINT. BY 1-21	OWNER 1-22	SHARED COST	DISTRICT MAINT. BY	STRUCTURE TYPE CODE 1-43	STRUCTURE TYPE NAME	TOTAL LENGTH (FEET) 1-49	LENGTH OF MAXIMUM SPAN 1-48 (FEET)	TOTAL NUMBER OF SPANS	SURFACE THICKNESS																								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

U. D. TYPE	SEQUENCE	SEGMENT	FAC. TYPE	CONTROL SECTION	LOG MILE 1-11	BRIDGE ID	DIV. TWN	STATE	FEDERAL	FUNCTIONAL CLASS 1-28	TOLL-FREE 1-20	BYPASS DETOUR LENGTH 1-19	STRA NET 1-100	TRK RTE 1-110	NHS RTE 1-104	PERCENT TRUCKS 1-109	AVERAGE DAILY TRAFFIC 1-29	YEAR OF ADT 1-30	LANES ON 1-28A	LANES UNDER 1-28B	TRAF DIR 1-102
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

Blank-out Symbol

NEW STRUCTURE NUMBER			
DIST I-2	PAR I-3	CONTROL	SECT
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32
33	34	35	36
37	38	39	40

U. D. TYPE	SEQUENCE	SEGMENT	OCCURRENCE	VERTICAL CLEARANCE RIGHT										VERTICAL CLEARANCE LEFT										MINIMUM V. C. OVER BRIDGE ROW 1-53	MEDIAN TYPE I-33	GUARDRAIL TYPE	MATERIAL	INVENTORY ROUTE MINIMUM VERTICAL CLEARANCE 1-10	INVENTORY ROUTE TOTAL HORIZONTAL CLEARANCE (FT & 1/10S) 1-47	CURB - CURB OR RAIL - RAIL WIDTH (FT & 1/10S) 1-51	OUT-OUT WIDTH (FT & 1/10S) 1-52	ROADWAY WIDTH	STR FLARED 1-36	TYPE	MATERIAL	SHOULDER WIDTH RIGHT (FT & 1/10S)	SHOULDER WIDTH LEFT (FT & 1/10S)	SIDEWALK OR CURB WIDTH 1-50 (FT & 1/10S)	NAV. CONT. 1-38	PIER PROT. 1-111
				CENTER LINE	RIGHT	LEFT	CENTER LINE	RIGHT	LEFT																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	

U. D. TYPE	SEQUENCE	SEGMENT	OCCURRENCE	FIELDS FOR OVERPASS OR BRIDGE ONLY										STATE ROUTE NO.										INVENTORY ROUTE 1-5	CROSSING DESCRIPTION 1-6														
				VERTICAL 1-54	HORIZONTAL	CHANNEL WIDTH (FT) 1-40	PIER TO PIER (FT) 1-41	REF. ELEV. (FT) 1-39	NAV. VERT. CLEARANCE (VERT. LEFT) 1-118	PREFIX	ROUTE #	SUFFIX	INVENTORY ROUTE																										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

