Inspection Form
for
Final Inspection of Bridge Construction Works
Of
Long Span Trail Bridge (LSTB)

Inspection Form
Final Inspection of Bridge Construction Works
SUMMARY

TYPE OF WORK

New or Maintenance .....

LOCATION

Bridge Number .....
Name of Bridge .....
Bridge Type .....
Bridge Span (to be measured) .....
River Name .....
District/Region .....

PERSONS IN-CHARGE

Contractor's Firm Name .....
Contractor's Site In-charge .....
Accomplished the Works .....
Civil work by .....

CONSTRUCTION PERIOD

Date of Tender Award .....
Date of Completion .....
Date of Actual Completion .....

FINANCE

Financed by .....
Total Cost Estimate Amount .....
Contract Amount .....
Total Site Expenditures .....

ACCEPTANCE

	YES	NO
Bridge Accepted		
Rectification Required		
Deduction Required (Un-repairable)		

Checked and Signed by:	Contractor or Representative	Inspection Engineer	Quality Control Engineer
Name:			
Signature:			
Place/Date :			

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1. GENERAL

The work completion certificate on hand is a specification paper for acceptance of completed bridge work, new as well as maintenance. It shall be used for the final check, to be carried out by the responsible Inspection Engineer in the presence of the Site-Incharge of the contractor or his representative immediately after work completion.

The work completion certificate provides all necessary data for a proper control of completion and quality of all items specified in the contract document for transportation and construction work of a trail bridge. It will serve both HMG and Helvetas to judge the overall acceptability of the bridges.

2. PROCEDURES

A bridge under construction or major maintenance is considered completed only after **the Work Completion Certificate** with this **Inspection Form** and the **Work Completion Report** with **Quality Assurance Document** of the contractor have been filled in, signed and issued to SBD.

A copy of the work completion certificate has to be forwarded to Helvetas. Then Helvetas will confirm in writing the acceptance of the construction work. SDC/Helvetas will reserve the right of an independent inspection within two months after having received the certificate.

The completed bridge, new construction or maintenance, accepted by SBD and SDC/Helvetas will then be handed over to the DDC to which it has been assigned for routine maintenance.

3. HOW TO USE THIS FORM

The Inspection Engineer has, together with the Site In-charge of the contractor or his authorized representative, to inspect each part of the bridge and certify that all has been built according to specifications. For this purpose, all sheets of this Inspection Form have to be filled in and signed by the respective persons.

You will find Inspection Forms with all items to be inspected and checks to be carried out for each main part on the following pages. Separate forms are provided for special maintenance work and for photographs. All explanations concerning the checks are given in a legend next to the Inspection Form.

Consult this legend to get clear about the exact meaning of each check. Then for each item mark with a tick all necessary checks which are underlined in the relevant forms if they are found to be correct. Use general arrangement, measuring tape and calliper for proper checking.

No part of the bridge can be accepted until each and every item has been proven to be correct. Each Inspection Form must be signed by the contractor or his authorized representative, the Inspection Engineer and the responsible Quality Control Engineer once all items have been found to be correct.

If the work has not been executed according to the drawings and specifications and the work cannot be corrected, mention the reasons and details in the "remark" column.

INSPECTION OF CABLES

SETTING AND CONDITION OF CABLES

Items to be Inspected	Corro-sion	Kinks	Broken strands	Other defects	Proper sag	Correct position	Proper tension	Perpen-dicular	REMARKS
UPSTREAM									
Main cables									
Spanning cables									
Handrail cables									
Fixation cables									
Windguy cable									
Windtie cables									
Stabilizing cables									
DOWNSTREAM									
Main cables									
Spanning cables									
Handrail cables									
Fixation cables									
Windguy cable									
Windtie cables									
Stabilizing cables									

Checked and Signed by:	Contractor's Representative	Inspection Engineer	Quality Control Engineer
Name :			
Signature :			
Place/Date :			

INSPECTION OF CABLES (II)

FIXATION OF WINDTIES & STABILIZING CABLES

Items to be Inspected	Correct number	Correct size	Proper fixation	Correct spacing	Tight-ness	REMARKS
UPSTREAM						
Steelparts						
Bulldog grips						
Thimbles						
Clamps						
Nuts, Locknuts Threads						
Cable ends						
DOWNSTREAM						
Steelparts						
Bulldog grips						
Thimbles						
Clamps						
Nuts, Locknuts, Threads						
Cable ends						

Checked and Signed by:	Contractor's Representative	Inspection Engineer	Quality Control Engineer
Name :			
Signature :			
Place/Date :			

7. INSPECTION OF WALKWAY

EXPLANATIONS

FREE OF DEFECTS	:	Check that the item inspected does not have any kind of defect such as dents, wrong bents etc. which are not already specified in the form.
CORRECT NUMBER/ SIZE	:	Check that all items are set up and correct in size. For bulldog grips and wire mesh see also page 6.
PROPER FIXATION	:	Check that all items of the walkway are properly fixed and the wire mesh tensioned.
TIGHTNESS	:	Check that all nuts are tightly fastened and cannot be unscrewed without a wrench. Check that all lock-nuts have been fastened by unscrewing the first nut and screwing the lock-nut in one move, using two wrenches.
STRAIGHT AND VERTICAL	:	Check that all suspenders are neither curved nor bent and that they are completely vertical.
ALIGNMENT	:	Check that the deck of the walkway forms an unbroken line, straight in plane and continuously parabolic in elevation.

INSPECTION OF WALKWAY

STEELPARTS

Items to be Inspected	Free of defects	Correct no./size	Proper fixation	Tight-ness	Straight/ vertical	Align-ment	REMARKS
Suspenders							
Connection of suppenders on upper cables							
Connection of handrail cables on suspenders							
Connection of spanning or main cables on crossbeams							
Connection of fixation cables on crossbeams							
Nuts, locknuts, washers & bolts							
Threads							
Crossbeams							
Bracings							
Steeldeck							
Wiremesh							

Checked and Signed by:	Contractor's Representative	Inspection Engineer	Quality Control Engineer
Name :			
Signature :			
Place/Date :			

8. INSPECTION OF TOWERS

EXPLANATIONS

REMOVED	:	Check that all erection wedges used at the tower base to prevent tower movement during erection have been removed.
VERTICAL	:	Check that the tower is absolutely vertical using a plumb-line on all sides of the tower to ensure that it does not present any deviation. This check has to be done without any load on the bridge.
FREE OF CONTORTIONS	:	Check that the tower does not show any contortion or twist on both horizontal and vertical axis.
NO MISSING PARTS	:	Check that all steel parts, nuts, bolts and washers have been set up when building the tower.
FREE OF DEFECTS	:	Check that no parts of the towers have any kind of defect such as dents, wrong bents etc. which are not already specified in the form.
TIGHTNESS	:	Check that all nuts are tightly fastened and cannot be unscrewed without a wrench. Check that all lock-nuts have been fastened by unscrewing the first nut and screwing the lock-nut in one move, using two wrenches.

INSPECTION OF TOWERS

ALL TOWER ITEMS

Items to be Inspected	Removed	Vertical	Free of contortion	No missing parts	Free of defects	Tightness	REMARKS
LEFT BANK							
Tower as a whole							
Steelparts							
Nuts, bolts, washers							
Threads							
Saddle clamps							
Erection wedges							
RIGHT BANK							
Tower as a whole							
Steelparts							
Nuts, bolts, washers							
Threads							
Saddle clamps							
Erection wedges							

Checked and Signed by:	Contractor's Representative	Inspection Engineer	Quality Control Engineer
Name :			
Signature :			
Place/Date :			

INSPECTION OF MAIN ANCHORAGE (LEFT BANK)

STRUCTURE

Items to be Inspected	Cleanliness	Confor. of layout with design	Dimensions	Back-filling	Safety against instability	Quality of concrete/ masonry	Quality of plaster/ mortar	Protection of outlet	REMARKS
Anchorage block									
Retaining walls									
Drainages									
Ditches									

FIXTURES

Items to be Inspected	Cleanliness	Protection against earth	Correct number	Correct size	Proper fixation	Correct spacing	Tightness	REMARKS
Steelparts								
Bulldog grips								
Thimbles								
Nuts and locknuts								
Pins								
End of cables								

Checked and Signed by:	Contractor's Representative	Inspection Engineer	Quality Control Engineer
Name :			
Signature :			
Place/Date :			

INSPECTION OF MAIN ANCHORAGE (RIGHT BANK)

STRUCTURE

Items to be Inspected	Cleanliness	Confor. of layout with design	Dimensions	Back-filling	Safety against instability	Quality of concrete/ masonry	Quality of plaster/ mortar	Protection of outlet	REMARKS
Anchorage block									
Retaining walls									
Drainages									
Ditches									

FIXTURES

Items to be Inspected	Cleanliness	Protection against earth	Correct number	Correct size	Proper fixation	Correct spacing	Tightness	REMARKS
Steelparts								
Bulldog grips								
Thimbles								
Nuts and locknuts								
Pins								
End of cables								

Checked and Signed by:	Contractor's Representative	Inspection Engineer	Quality Control Engineer
Name :			
Signature :			
Place/Date :			

INSPECTION OF TOWER FOUNDATION (RIGHT BANK)

STRUCTURE

Items to be Inspected	Cleanliness	Confor. of layout with design	Dimensions	Back-filling	Safety against instability	Quality of concrete/ masonry	Quality of plaster/ mortar	Protection of outlet	REMARKS
Anchorage block									
Retaining walls									
Drainages									
Ditches									

FIXTURES

Items to be Inspected	Cleanliness	Protection against earth	Correct number	Correct size	Proper fixation	Correct spacing	Tightness	REMARKS
Steelparts								
Bulldog grips								
Thimbles								
Nuts and locknuts								
Pins								
End of cables								

Checked and Signed by:	Contractor's Representative	Inspection Engineer	Quality Control Engineer
Name :			
Signature :			
Place/Date :			

INSPECTION OF TOWER FOUNDATION (RIGHT BANK)

STRUCTURE

Items to be Inspected	Cleanliness	Confor. of layout with design	Dimensions	Back-filling	Safety against instability	Quality of concrete/ masonry	Quality of plaster/ mortar	Protection of outlet	REMARKS
Anchorage block									
Retaining walls									
Drainages									
Ditches									

FIXTURES

Items to be Inspected	Cleanliness	Protection against earth	Correct number	Correct size	Proper fixation	Correct spacing	Tightness	REMARKS
Steelparts								
Bulldog grips								
Thimbles								
Nuts and locknuts								
Pins								
End of cables								

Checked and Signed by:	Contractor's Representative	Inspection Engineer	Quality Control Engineer
Name :			
Signature :			
Place/Date :			

INSPECTION OF WINDGUY CABLE ANCHORAGES, UPSTREAM (LEFT BANK)

STRUCTURE

Items to be Inspected	Cleanliness	Confor. of layout with design	Dimensions	Back-filling	Safety against instability	Quality of concrete/ masonry	Quality of plaster/ mortar	Protection of outlet	REMARKS
Anchorage block									
Retaining walls									
Drainages									
Ditches									

FIXTURES

Items to be Inspected	Cleanliness	Protection against earth	Correct number	Correct size	Proper fixation	Correct spacing	Tightness	REMARKS
Steelparts								
Bulldog grips								
Thimbles								
Nuts and locknuts								
Pins								
End of cables								

Checked and Signed by:	Contractor's Representative	Inspection Engineer	Quality Control Engineer
Name :			
Signature :			
Place/Date :			

INSPECTION OF WINDGUY CABLE ANCHORAGES, DOWNSTREAM (LEFT BANK)

STRUCTURE

Items to be Inspected	Cleanliness	Confor. of layout with design	Dimensions	Back-filling	Safety against instability	Quality of concrete/ masonry	Quality of plaster/ mortar	Protection of outlet	REMARKS
Anchorage block									
Retaining walls									
Drainages									
Ditches									

FIXTURES

Items to be Inspected	Cleanliness	Protection against earth	Correct number	Correct size	Proper fixation	Correct spacing	Tightness	REMARKS
Steelparts								
Bulldog grips								
Thimbles								
Nuts and locknuts								
Pins								
End of cables								

Checked and Signed by:	Contractor's Representative	Inspection Engineer	Quality Control Engineer
Name :			
Signature :			
Place/Date :			

INSPECTION OF WINDGUY CABLE ANCHORAGES, UPSTREAM (RIGHT BANK)

STRUCTURE

Items to be Inspected	Cleanli-ness	Confor. of layout with design	Dimen-sions	Back-filling	Safety against instabi-lity	Quality of concrete/ masonry	Quality of plaster/ mortar	Protec-tion of outlet	REMARKS
Anchorage block									
Retaining walls									
Drainages									
Ditches									

FIXTURES

Items to be Inspected	Cleanli-ness	Protec-tion against earth	Correct number	Correct size	Proper fixation	Correct spacing	Tight-ness	REMARKS
Steelparts								
Bulldog grips								
Thimbles								
Nuts and locknuts								
Pins								
End of cables								

Checked and Signed by:	Contractor's Representative	Inspection Engineer	Quality Control Engineer
Name :			
Signature :			
Place/Date :			

INSPECTION OF WINDGUY CABLE ANCHORAGES, DOWNSTREAM (RIGHT BANK)

STRUCTURE

Items to be Inspected	Cleanli-ness	Confor. of layout with design	Dimen-sions	Back-filling	Safety against instabi-lity	Quality of concrete/ masonry	Quality of plaster/ mortar	Protec-tion of outlet	REMARKS
Anchorage block									
Retaining walls									
Drainages									
Ditches									

FIXTURES

Items to be Inspected	Cleanli-ness	Protec-tion against earth	Correct number	Correct size	Proper fixation	Correct spacing	Tight-ness	REMARKS
Steelparts								
Bulldog grips								
Thimbles								
Nuts and locknuts								
Pins								
End of cables								

Checked and Signed by:	Contractor's Representative	Inspection Engineer	Quality Control Engineer
Name :			
Signature :			
Place/Date :			

10. **INSPECTION OF GABIONS**

EXPLANATIONS

CONFORMITY OF LAYOUT WITH DESIGN	:	Check that the gabion structure or individual boxes inspected have been built at the right place according to the drawings.
DIMENSIONS	:	Measure all dimensions of the items inspected and check if they are the same as indicated in the drawings.
BACKFILLING	:	Check that all necessary backfillings have been properly carried out and properly compacted.
SAFETY AGAINST INSTABILITY	:	Check, as far as possible, that the item inspected is safe from the danger of instability of the soil on which it rests, or danger from potential landslides, or erosion.
BUILT ACCORDING TO NORMS	:	Check that the gabion walls and their crates have been built properly. Check that all necessary diaphragms are assembled.
PROPERLY CONNECTED	:	Check that all gabion boxes are tied up together with binding wire.
PROPERLY WOVEN	:	Check that all gabion boxes are properly built using the right wires and mesh sizes (see page 6).
CORRECT SIZE	:	Check that the items inspected are of correct size as prescribed in the drawings. See that the mesh size is as indicated on page 6 and make sure that the stones are neither too big nor too small.

INSPECTION OF GABIONS

ALL GABION ITEMS

Items to be Inspected	Confor. of layout with design	Dimen-sion	Back-filling	Safety against stabi-lity	Built accord-ing to norms	Properly connec-ted	Properly woven	Correct size	Neatly piled up	REMARKS
LEFT BANK										
Gabion wall										
Boxes										
Meshes										
Diaphragm										
Stones										
RIGHT BANK										
Gabion wall										
Boxes										
meshes										
Diaphragm										
Stones										

Checked and Signed by:	Contractor's Representative	Inspection Engineer	Quality Control Engineer
Name :			
Signature :			
Place/Date :			

INSPECTION OF OTHER WORK

CONCRETE STRUCTURES, RETAINING WALLS, DRAINAGE CHANNELS

Items to be Inspected	Confor. of layout with design	Dimen-sions	Cleanli-ness	Back-filling	Safety against instabi-lity	Quality of concrete/ masonry	Quality of plaster/ mortar	Protec-tion of outlet	REMARKS
Concrete Structures									
1)									
2)									
Retaining walls									
1)									
2)									
Drainage channels									
1)									
2)									

SLOPE STABILIZATION, APPROACH TRAIL

Items to be Inspected	Confor. of layout with design	Dimen-sions	Preven-tion of slope erosion	Preven-tion of gully erosion	Protec-tion against rockfall	REMARKS
LEFT BANK						
Slopes						
Approach trail						
RIGHT BANK						
Slopes						
Approach trail						

Checked and Signed by:	Contractor's Representative	Inspection Engineer	Quality Control Engineer
Name :			
Signature :			
Place/Date :			

PHOTOGRAPHS