



**Minimum Requirements / Hydrologic and Hydraulic Assessment Worksheet**  
 for  
**NON-MODELING ASSESSMENT / WITHIN CONTRACTION OR EXPANSION REACH**



Last Revision Date June 6, 2012

The Non-Modeling / Within Contraction or Expansion Reach may be appropriate to use to assess the loss of the effective cross sectional flow of a floodway as long as the **project is located entirely within the ineffective area of the contraction or expansion reach from a bridge AND the regulatory flood event is conveyed solely through the bridge opening (no road overflow).**

The minimum documentation specified below in this worksheet must be submitted to the Division of Water along with a completed, signed, and dated application form, State Form # 42946, and the appropriate application fee.

Minimum Plan Details and Computation Requirements:

**1) Plan Details and Supporting Documentation**

For each of the minimum plan details described in the following chart, complete Column 1 and Column 2. The required plan view items can be combined into one or more plan drawings as long as the information is clearly defined.

<u>Column 1</u> Indicate with <input checked="" type="checkbox"/> if item is included in application submittal	<u>Column 2</u> Indicate page or sheet # for each required item	<u>Column 3</u> Minimum Plans Required	<u>Column 4</u> For Division of Water use only
<input type="checkbox"/>		A plan view that illustrates the proposed project's construction components. Indicate permanent and temporary components throughout the project site.	<input type="checkbox"/> Accepted <input type="checkbox"/> Item Not Clear
<input type="checkbox"/>		An aerial plan view that illustrates disturbed area of the project site.	<input type="checkbox"/> Accepted <input type="checkbox"/> Item Not Clear
<input type="checkbox"/>		A plan view that illustrates the contraction or expansion reaches of the bridge. e.g. Upstream contraction reach 1:1; Downstream expansion reach 2:1	<input type="checkbox"/> Accepted <input type="checkbox"/> Item Not Clear
<input type="checkbox"/>		Bridge details: 1) Source of bridge information 2) Elevation of top of bridge deck 3) Lowest elevation of the approach roads within the floodway	<input type="checkbox"/> Accepted <input type="checkbox"/> Item Not Clear

**1) Plan Details and Supporting Documentation continued**

<input type="checkbox"/>		A map that clearly identifies the location of the proposed project site in relationship to the waterway and surrounding roadways	<input type="checkbox"/> Accepted <input type="checkbox"/> Item Not Clear
<input type="checkbox"/>		Photos that illustrates the natural and manmade surroundings: <ol style="list-style-type: none"> <li>1) from the bridge deck, a downstream view of the channel</li> <li>2) from the bridge deck, an upstream view of the channel</li> <li>3) from a downstream streambank, a view of the downstream bridge deck and waterway opening</li> <li>4) from an upstream streambank, a view of the upstream bridge deck and waterway opening</li> </ol>	<input type="checkbox"/> Accepted <input type="checkbox"/> Item Not Clear
<input type="checkbox"/>		Plans require horizontal and vertical scale, datums, north arrow, labels, stations, and date	<input type="checkbox"/> Accepted <input type="checkbox"/> Item Not Clear
<input type="checkbox"/>		This completed Hydrologic and Hydraulic Assessment Worksheet	<input type="checkbox"/> Accepted <input type="checkbox"/> Item Not Clear

**2) Regulatory Flood Elevation(s)**

To utilize this assessment approach, the Regulatory Flood Elevation (RFE) must be determined for the upstream side of the bridge.

The Regulatory Flood Elevation (RFE) is also referred to as the Base Flood Elevation (BFE) or the 100-year frequency flood elevation (100-year).

Acceptable sources for the Regulatory Flood Elevation for projects assessed under Non-Modeling / Within Contraction or Expansion Reach assessment are:

- (a) a published Flood Insurance Study or a Flood Study,
- (b) a Letter of Map Revision (LOMR),
- (c) an approved model(s) from a DNR permit,
- (d) a DNR Floodplain Analysis and Regulatory Assessment (FARA).

2) **Regulatory Flood Elevation(s) continued**

Complete Columns 1 and 2 in this chart.

<u>Column 1</u> <b>RFE at the upstream side of the bridge</b>	<u>Column 2</u> <b>Indicate the source(s) of the RFE and indicate the corresponding source file #, when applicable</b>	<u>Column 3</u> <b>For Division of Water use only</b>
RFE _____, ft.  RFE _____ datum	Published Flood Study or a Flood Study Source _____  Letter of Map Revision (LOMR) Case # _____  Approved model(s) from a DNR permit DNR Permit # _____  DNR Floodplain Analysis and Regulatory Assessment (FARA) DNR FARA # _____	<input type="checkbox"/> Accepted <input type="checkbox"/> Item Not Clear

Use a separate sheet if additional plan details are necessary to support this assessment approach.

Be aware that after reviewing the submitted plans and computations in the worksheet, the Division of Water staff may request additional documentation if sufficient evidence has not been provided that clearly demonstrates the effect that the project may have on the effective cross sectional flow area of the floodway.

I hereby swear or affirm, under the penalties for perjury, that the information submitted herewith is to the best of my knowledge and belief, true, accurate and complete.

\_\_\_\_\_  
Name of Preparer, Firm Name

\_\_\_\_\_  
Date