



## EFFECTIVE CROSS SECTIONAL FLOW AREA WORKSHEET

State Form 55236 (R / 02-25)

Indiana Department of Natural Resources  
Division of Water  
402 West Washington St., Rm. 264  
Indianapolis, IN 46204  
Phone: (317) 232-4160  
Fax: (317) 232-4579  
on.IN.gov/water

**DNR**  
Indiana Department  
of Natural Resources

### FOR STATE USE ONLY

Application

An assessment using the Effective Cross Sectional Flow Area Worksheet is appropriate to use to assess most projects, but not new and replacement in kind bridge projects, projects that are located entirely within the shadow of a bridge, a dam construction project or the reconstruction of a building.

The minimum documentation specified below must be submitted with your application.

Unless the instructions direct you otherwise, all plan details, questions and computations in this worksheet must be addressed to adequately evaluate a project under this assessment approach.

## MINIMUM PLAN DETAILS AND COMPUTATION REQUIREMENTS

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.		
<b>Column 1</b> <i>Check if item is included.</i>	<b>Column 2</b> <i>Indicate page or sheet number for each required item.</i>	<b>Column 3</b> <i>Minimum plans required.</i>
<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"/>		An aerial plan view that illustrates disturbed area of the project site.
<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"/>		A plan view of the floodway throughout the project limits.
<input type="checkbox"/>		A cross section view(s) showing an overlay comparison of the preconstruction and post construction conditions of the effective cross sectional flow area at the most restrictive segment(s) of the encroachment. Cross sections should be stationed left to right, looking downstream, full valley, and oriented perpendicular to flow.
<input type="checkbox"/>		Describe the methodology used to compute the cross sectional area, e.g. identify the software or show computations.
<input type="checkbox"/>		A plan view that clearly marks the location(s) and label of the cross section(s).
<input type="checkbox"/>		Photos that illustrate the natural and man-made surroundings: 1) from the project site, a downstream view of the channel 2) from the project site, an upstream view of the channel 3) from a downstream streambank, a view of the project site 4) from an upstream streambank, a view of the project site *Label orientation of each photo.

continue to next page

**PLAN DETAILS AND SUPPORTING DOCUMENTATION CONTINUED**

<input type="checkbox"/>		Plans require horizontal and vertical scale, vertical datum, north arrow, labels, stations, and date.
<input type="checkbox"/>		A completed Change in Effective Cross Sectional Flow Area Worksheet, Companion Worksheet A (State Form 57166).
<input type="checkbox"/>		A completed Fish, Wildlife, and Botanical Resources Impact Assessment Worksheet (State Form 57132).

**SIGNATURE**

Be aware that after reviewing the submitted plans and computations in the worksheet, the IDNR staff may request additional documentation if sufficient evidence has not been provided that clearly demonstrates the effect that the project may have on the base flood elevation or impacts to fish, wildlife, and botanical resources in the floodway.

Printed Name of Preparer	Date Signed (mm/dd/yyyy)
Signature of Preparer	