

# INSTRUCTIONAL MEMORANDUMS

## To Local Public Agencies



To: Counties and Cities	Date: June 29, 2018
From: Local Systems Bureau	I.M. No. 4.150
Subject: Iowa DNR Floodplain Permits and Regulations	

**Contents:** This Instructional Memorandum (I.M.) includes guidelines and procedures for a Local Public Agency (LPA) to determine when an Iowa Department of Natural Resources (DNR) Floodplain permit is required.

### Introduction

The Iowa Department of Natural Resources (Iowa DNR) has published several rules in 567 Iowa Administrative Code (IAC) that regulate construction in flood plains of Iowa rivers and streams. These rules apply to construction of bridges, culverts, road embankments, channel changes, stream bank stabilization, impoundments (dams), and levees. Note: The guidance provided in this Attachment is only a summary. For additional details and guidance, refer to the text of the rules and to the Iowa DNR [Flood Plain Development Permits](#) web page.

It is important to note that the Q50 backwater requirement is no longer required under DNR rules. In addition, a variance for the Q50 freeboard requirement is no longer required as long as a licensed engineer provides certification that the bridge is designed to meet the applicable ice and horizontal stream loads and uplift forces associated with the Q100. For standard bridges, the engineer will need to assess the applicable ice loads and uplift forces associated with the Q100 if the superstructure is inundated. See Table 2 below for more information.

### Submittal Criteria

[567 IAC 70](#) describes important introductory information concerning the regulations. Topics include definitions of terms, procedures and forms for requesting a flood plain development permit, procedures for review of permit applications, and procedures for appeals.

The following tables summarize the types of projects that must be submitted to the Iowa DNR, as prescribed by [567 IAC 71](#).

**Table 1 - When DNR Flood Plain Approval is Needed**

Type of Project	Permit Needed if Drainage Area of Stream Is:	Chp. 71 Reference
Bridges, Culverts or Road Embankments that cross the stream: Rural Area Urban Area	<ul style="list-style-type: none"> <li>• 100 square miles or more.</li> <li>• 2 square miles or more.</li> </ul>	71.1(1) 71.1(3)
Road Embankments that do not cross the stream (rural area)	<ul style="list-style-type: none"> <li>• 10 square miles or more if obstructing 3% or more of the channel or 15% or more of the flood plain.</li> </ul>	71.1(2)
Channel Changes <sup>(a)</sup> Rural Area – not associated with road project Rural Area – associated with road project  Urban Area Protected Streams <sup>(b)</sup>	<ul style="list-style-type: none"> <li>• 10 square miles or more.</li> <li>• 10 square miles or more when:               <ol style="list-style-type: none"> <li>1) more than 500 feet of channel is being altered, or</li> <li>2) length of existing channel is reduced by more than 25%.</li> </ol> </li> <li>• 2 square miles or more.</li> <li>• Any drainage area requires a permit.</li> </ul>	71.2(1)a 71.2(1)b  71.2(2) 71.2(3)
Bank Stabilization Rural Area  Urban Area	<ul style="list-style-type: none"> <li>• 100 square miles or more, or</li> <li>• 10 to 100 square miles if channel cross sectional area is being reduced by 3% or more.</li> <li>• 100 square miles or more, or</li> <li>• 2 to 100 square miles if channel cross sectional area is being reduced by 3% or more.</li> </ul>	71.9(1)a 71.9(1)b  71.9(2)a 71.9(2)b
Levees, Dams (Ponds), Flood Plain Excavation or Stockpiling	<ul style="list-style-type: none"> <li>• See Iowa DNR rules or call the Iowa DNR to determine when approval is needed.</li> </ul>	

**Notes:**

- Channel changes are allowed on many streams, although there are restrictions on how much channel work can be done. Mitigation for environmental damage may be required for channel changes. The Iowa DNR may grant variances to their channel change criteria in some instances, as specified in [567 IAC 72.31](#).
- Channel changes are usually prohibited on "Protected Streams." See [567 IAC 72.50](#) for a current list of protected streams.

**Backwater and Freeboard Requirements**

If a permit is required, the following tables provide a summary of the Iowa DNR backwater and freeboard requirements for bridges or culverts and associated channel changes, as prescribed in [567 IAC 72](#).

**Table 2 – Bridges and Associated Channel Changes <sup>(a)</sup>**

Damage Potential of Uses Affected <sup>(b)</sup>	Maximum Backwater on Q <sub>100</sub>	Minimum Freeboard	Chp. 72 Reference
Low	1.5 feet	3.0 feet above Q <sub>50</sub> *	72.1(1)
High/Maximum	1.0 feet <sup>(c)</sup>	3.0 feet above Q <sub>50</sub> *	72.1(2)

\*Can be less if a licensed engineer provides certification that the bridge is designed to withstand the applicable effects of ice and horizontal stream loads and uplift forces associated with the Q<sub>100</sub>.

**Table 3 – Culverts and Associated Channel Changes** <sup>(a)</sup>

Culvert Type	Maximum Backwater	Minimum Freeboard	Chp. 72 Reference
New culverts or culverts replacing bridges	(same as for bridges)	No minimum freeboard. Could be evaluated on case- by-case basis if debris and ice is a problem	72.1(4)
Culverts replacing culverts	Backwater of existing culvert, or maximum backwater allowed for bridges, whichever is greater.		

Notes:

- a) These are applicable to channel changes on the floodway of any stream draining between 10 and 100 square miles when either more than 500 feet of the existing channel is being altered, or the length of the existing channel is being reduced by more than 25 percent.
- b) Low Damage Potential --- Flood damage potential associated with all uses not classified as maximum or high where inundation by flood waters results in minimal damage to the structure and its contents. Such structures include, but are not limited to, detached garages, sheds, park shelters and buildings used for storage of equipment or crops that can easily be removed.

High Damage Potential --- Flood damage potential associated with residences, businesses, industrial and commercial buildings containing damageable goods.

Maximum Damage Potential --- Flood damage potential associated with buildings or uses which are vital to the public, or uses that could have adverse public impacts if flooded (e.g., hospitals, power installations, repositories for public records, storage of hazardous material).

- c) Backwater cannot exceed 1.0 feet, and must be minimized when backwater affects buildings, flood control works, etc., unless increase is mitigated.

**Applying for a Permit**

For additional guidance, forms, and instructions, refer to the Iowa DNR [Flood Plain Development Permits](#) web page.