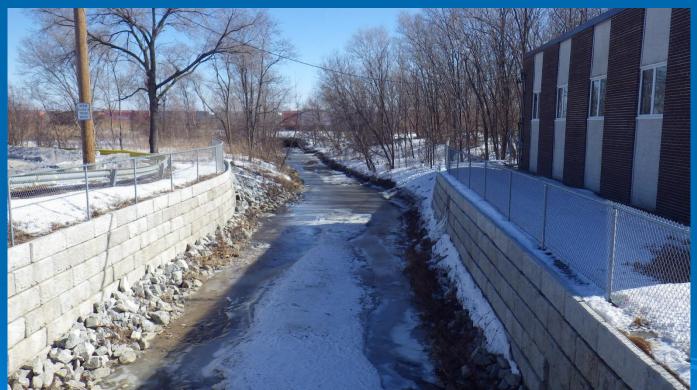
The Do's and Don'ts for an IDNR/OWR Floodway Construction Permit



William B. Milner Jr, P.E., CFM IAFSM Conference 2020



# **IDNR-OWR Offices**

 Northeastern Illinois Regulatory Programs Section 2050 W. Stearns Road Bartlett, IL 60103

> Phone 847/608-3116 Fax 847/931-2037

Downstate Illinois Regulatory Programs Section One Natural Resource Way Springfield, IL 62702-1271

Phone 217/785-8100 Fax 217/785-5014

#### Web Site:

https://www.dnr.illinois.gov/WaterResources/Pages/default.aspx

# The Do's and Don'ts for Permitting Overview

- Brief Overview of permitting
- What to include with an application The Do's
- What not to include The Don'ts
- Hydrology
- Hydraulics

# IDNR/OWR Permit Programs Administrative Rules

- Construction in Floodways of Rivers, Lakes and Streams: Part 3700 Rules
- Regulations for Dam Construction: Part 3702 Rules
- Regulations of Public Waters: Part 3704 Rules
- Floodway Construction in Northeastern Illinois: Part 3708 Rules
- Allocation of Water from Lake Michigan: Part 3730 Rules

# IDNR/OWR Floodway Permit Program (3700 Rules)

The IDNR/OWR exercises jurisdiction over **construction** in the **floodway** of watercourses which have a drainage area of:

- 1 square mile or more (640 acres) in an urban area, or
- 10 square miles or more (6400 acres) in a rural area.
- Consult with IDNR/OWR for assistance with determining jurisdiction.





State Permit required in a: Mapped Floodway

Or

Floodplain with no identified Floodway

Images from FEMA NFHL viewer

# **Resources for Determining Jurisdiction**

- StreamStats (USGS)
  - <u>https://water.usgs.gov/osw/streamstats/</u>
  - Delineates watershed (drainage area) from a point
- FEMA
  - Map Service Center (<u>https://msc.fema.gov/portal</u>)
    - Hard copy FIRM (pdf)
  - National Flood Hazard Layer
    - FEMA Web Portal (<u>https://fema.maps.arcgis.com/home/index.html</u>)
    - KMZ file (<u>https://hazards.fema.gov/femaportal/wps/portal/</u>)

# IDNR/OWR Floodway Permit Program (3700 Rules)

#### Two types of Permits are offered:

#### Statewide Permit

- Statewide Permits are pre-authorizations of certain minor projects which are permissible per the Part 3700 rules.
- A permit application submittal is usually not needed.
- Individual Permit
  - Individual Permits are needed for significant projects which do not meet a Statewide Permit. These projects generally require an extensive project review of engineering data.
  - Examples: New Bridges and Culverts, Levees

# IDNR/OWR Floodway Permit Program (3700 Rules)

#### **Current Active Statewide Permits**

- SWP 2 Bridge and Culvert Crossings of Streams in Rural Areas
- SWP 3 Mooring Facilities Used Exclusively for Barge Fleeting Purposes
- SWP 4 Aerial Utility Crossings
- SWP 5 Minor Boat Docks
- SWP 6 Minor Non-Obstructive Floodway Construction
- SWP 7 Outfalls
- SWP 8 Underground Pipeline and Utility Crossings
- SWP 9 Minor Shoreline, Stream Bank, and Channel Protection activities
- SWP 10 Accessory Structures and Additions to Existing Residential Structures
- SWP 11 Minor Maintenance Dredging
- SWP 12 Bridge and Culvert Replacement Structures
- SWP 13 Temporary Construction Activities
- SWP 14 Special Uses of Public Waters

Can be found at

https://www.dnr.illinois.gov/WaterResources/Pages/PermitsStatewideRegionalGeneral.aspx

# IDNR/OWR Public Waters Permits (Part 3704 Rules)

- Activities in Public Waters
- Navigation impacts
- Encroachments
- Impairment of Public's rights, interests and uses
- Impairment of Natural Resources

# IDNR/OWR Public Waters Permits (Part 3704 Rules)

- Natural Waterways
- Waterways Improved for Navigation
- Man-Made Waterways
- Appendix A List of all Public Waters in IL

- Regional and Statewide Permits may be applicable
- Formal Permit requires a separate fee



https://www2.illinois.gov/dnr/ WaterResources/Pages/Water ResourcesPublications.aspx

# **Submitting a Permit Application**

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- Complete and Submit Joint Application Form.
- Application Form and instructions can be found at

https://www.dnr.illinois.gov/WaterRes ources/Pages/PermitApplicationandIn structions.aspx

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# **Application Form**

- Important Information
  - All of it
- Key Items

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- 1. Applicant's name with contact information
- 2. Co-Applicant
- 3. Agent's name
- 4. Statement of Authorization – needed if applicant wants agent to act on their behalf

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# **Application Form**

- Key Items continued
  - 5. Project Description can be included in narrative if preffered
  - 6. Purpose of Project
  - Signature applicant (or agent) and coapplicant

#### The Do's

# Items to Include With an Application

- Location Map
- FIRM
- Site Plan
- Design Drawings
- Grading Plan if re-grading is proposed
- Explain how project meets applicable rules
- Include support information for computations and modeling

# **Location Map**

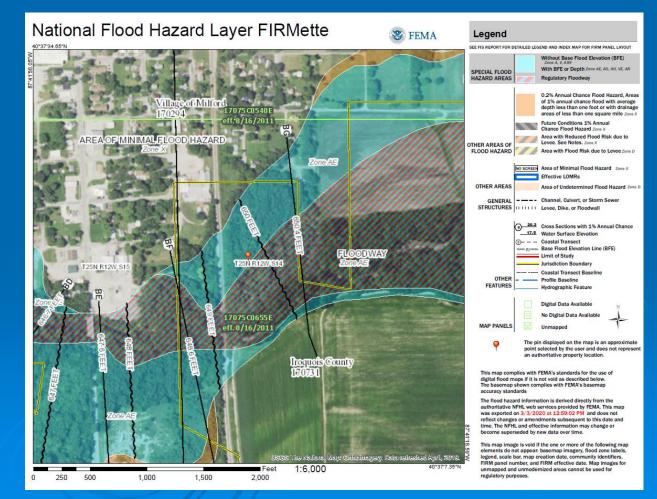
- Show project site
- Include road names
- Show stream with name
- Show/name nearby municipalities





FEMA Map Service Center

https://msc.fema. gov/portal/home



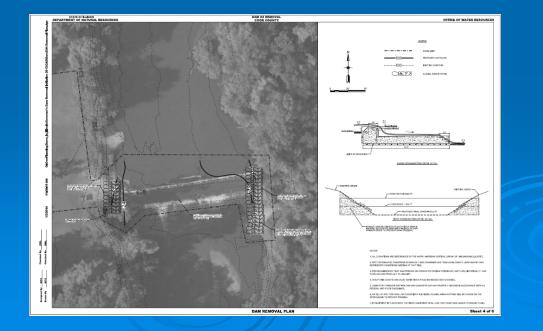
## Site Plan

- Project Layout
- Show property lines (if applicable)
- Show stream channel (if located on subject property)



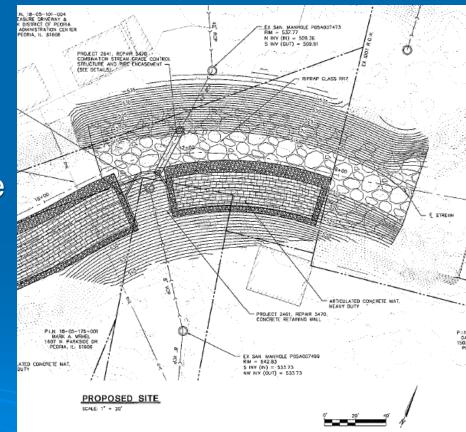
## **Design Drawings**

- Plan, elevation, cross-section views of bridges, culverts and other structures
- Size, length, width, type of structure
- Cross-sections channel work, excavation, or fill projects



# **Grading Plan**

- Existing and proposed contour lines shown and labeled
- Proposed grades must "tie in" with existing grades on the plans
- Reference marks and elevation datum



# Items That Are Helpful to Include with an Application

- Narrative
- H&H Study & Modeling
- Engineering Report for H&H Study

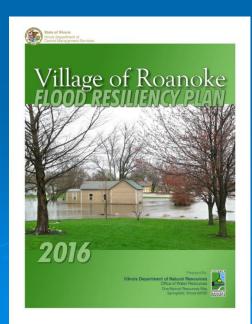


#### Narrative

- Recommended for most projects
- Essential for complex projects
- Detailed project description
- Explain how project meets applicable rules
- Include support information for computations and modeling

# **Engineering Report**

- Not required, but usually very helpful
- Do not bury application form in report
- Include narrative, maps, summary tables, computations, models, photographs, other support information





## The Don'ts

# Do Not Submit...

- More than one copy of the application form, engineering report, etc.
- Corps of Engineers, IEPA, and Applicant's copy of the application form
- Wetland reports needed by COE
- Full sized engineering drawings <u>11x17</u> is fine
- Soil boring reports\*
- Contract documents \*
- \* May be needed for a dam safety submittal.

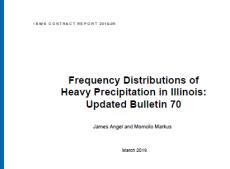
# Hydrology

- IDNR/OWR will use the discharge information in the FEMA Flood Insurance study if it exists
- If no study or streamgage analysis, then StreamStats is acceptable
- If a study exists and you want to use different values provide reasoning in the narrative
- H&H model or streamgage analysis preferred
- Report describing values and methodology

# **Hydrologic Modeling**

#### **Precipitation Data**

- Updated Bulletin 70 March 2019
- <u>https://www.ideals.illinois.edu/handle</u> /2142/103172



**ILLINOIS** Illinois State Water Survey PRAIRIE RESEARCH INSTITUTE

# **Hydraulic Modeling**

- Accepted engineering practices
- Ineffective flow boundaries
  - Include upstream/downstream of bridge/culvert crosssections to represent the areas of confined flow Pittsburgh conveyance.

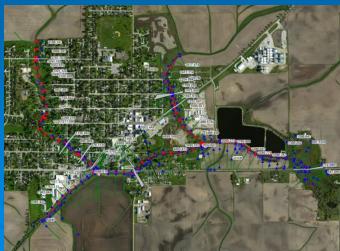
Minneapoli

- Include on upstream/downstream cross-sections till full flow sections.
- Contraction and expansion coefficients
  - Change upstream and downstream of bridges/culverts.

About 2,000 miles (3,219 km) across

# **Hydraulic Modeling**

- Do not include entire stream if only looking at a little section
- Make sure the model extends far enough upstream and downstream of project
- Work map showing cross-section locations with labels
- Include 100-year flood event <u>and</u> other events, such as 10year and 50-year flood events



# **Hydraulic Modeling**

- Keep n-values the same between existing and proposed conditions
  - If need to change them provide justification i.e. change in land cover
- Channel excavation
  - Allow half channel depth excavation
  - Assumes the bottom half of the channel will silt in

# In Summary

- Key Points
  - Submit a completed Application
  - Do submit the information necessary for a complete review
  - Don't submit extra information that is not needed or multiple copies
- The less we have to make an additional information request for, the expedited the review can be



# Questions

#### **Contact Information:**

William B Milner Jr, P.E., CFM Section Chief, Downstate Regulatory Programs Illinois Department of Natural Resources Office of Water Resources One Natural Resources Way Springfield, IL 62702-1271 (217) 524-1458 Bill.milner@Illinois.gov