POLICY/GUIDELINES

REG-2020-1

CONSTRUCTION PERMIT WATER MANAGEMENT

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REG-2020-1

CONSTRUCTION PERMIT WATER MANAGEMENT

EFFECTIVE: 10/27/2020 POLICY VERSION 1

POLICY OUTLINE

1. POLICY STATEMENT

This policy clarifies the State Engineer's philosophy regarding water management regulation in North Dakota, as specified for the purposes of obtaining a construction permit under N.D. Century Code (N.D.C.C.) section 61-16.1-38 and N.D. Administrative Code (N.D.A.C.) article 89-08. This policy clarifies accepted methodologies for water management considerations in order to successfully obtain a construction permit, while also allowing the applicant and the State Engineer flexibility to work out creative solutions to complex water management issues or considerations. Specifically, this policy addresses effects to land from the construction or modification of a dam, dike, or other device. This policy specifies identification, mitigation, and notification requirements for these effects.

This policy harnesses the State Engineer's mission, which is "managing the water resources of the state for the benefit of its people" by following specific agency goals to "regulate and manage water resources for the future welfare and prosperity of the people of North Dakota."

1.1. POLICY AUTHORITY AND IMPLEMENTATION

This policy garners authority from N.D.C.C. section 61-16.1-38 and N.D.A.C. article 89-08 and will be implemented through construction permit application and permit requirements.

1.2. STATE ENGINEER ACCEPTANCE OR ENFORCEMENT

The State Engineer reserves the right to change this policy as necessary to ensure the State Engineer fulfills its statutory duties. Additionally, the State Engineer reserves the right to return any application submittal under this policy to the applicant for correction if, in the State Engineer's determination, it does not comply with the policy's intent or is insufficient for the State Engineer to make an informed decision. The State Engineer reserves the right to enforce this policy as part of the construction permit process outlined in N.D.C.C. section 61-16.1-38 and N.D.A.C. article 89-08.

1.3. APPEALS

State Engineer decisions may be appealed under N.D.C.C. section 61-03-22.

1.4. POLICY DEVIATIONS

The State Engineer may consider policy deviations if the applicant can justify why this policy's requirements are not necessary. However, such a deviation will not be granted without significant engineering or legal justification. Additionally, a deviation request does not guarantee that a deviation will be granted, and any work performed to pursue a deviation request will be solely at the applicant's expense. Unforeseen scenarios encountered during policy implementation may require policy changes.

2. PRE-APPLICATION CONSULTATION

The State Engineer strongly encourages pre-application consultation prior to a construction permit application submittal. Early consultation, whether conference calls, meetings, or correspondence between the applicant, the applicant's representatives, and the State

Engineer, will ensure early understanding and compliance with this policy to limit any unexpected project costs, delays, or requirements.

3. GENERAL POLICY REQUIREMENTS

For the purposes of N.D.C.C. section 61-16.1-38 and N.D.A.C. article 89-08, the following applies:

3.1. For water control structure projects, such as dikes, levees, floodwalls, or other similar devices, the policy requires the following:

3.1.1. Mandatory notification to affected landowners and public easement holders of effects of 0.1 feet or more up to the 1% annual exceedance probability, and

3.1.2. Mandatory mitigation to affected landowners of effects of 0.5 feet or more up to the 1% annual exceedance probability.

3.1.3. NOTES:

3.1.3.1. Mandatory notification and mitigation are not required for annual exceedance probabilities above the 1% probability when designing to a flood of record greater than the 1% probability.

3.2. For water impoundment structure projects, such as dams or other similar devices, the policy requires the following:

3.2.1. Mandatory notification to affected landowners and public easement holders of effects within the impoundment reservoir below the top of structure elevation.

3.2.2. Mandatory mitigation to affected landowners of effects below the structure's highest auxiliary spillway elevation or below the structure's spillway elevation if no other spillway exists.

3.2.3. NOTES:

3.2.3.1. If no spillway exists for the structure, mitigation for effects is required below the top of structure elevation.

3.2.3.2. Modifications to existing structures will be required to mitigate for any incremental effects caused by the proposed modifications.

3.3. For all projects, the applicant must own or have an easement for the land on which the structure's footprint is located.

4. DETERMINING EFFECTS

Effects, as defined in the Definitions section, are determined in the following manner:

4.1. Water control structure projects

4.1.1. Effects for water control structure projects will typically be determined with a hydraulic model.

4.2. Water impoundment structure projects

4.2.1. Effects for water impoundment structure projects will typically be determined with topographic data, such as survey, LiDAR, or other similar data sources.

4.2.2. The State Engineer will determine effects for water impoundment structure projects, unless supplied by the applicant with application.

4.2.3. Under the authority noted in Section 1.1, the State Engineer will presume easements or fee title are appropriate mitigation for water impoundment structures unless a mitigation plan is offered by the applicant with the application.

4.3. Some projects, at the State Engineer's discretion, may require a combination of a hydraulic model and topographic data to determine effects.

5. MITIGATION PLAN REQUIREMENTS

If submitted or required, a mitigation plan must address the Mitigation Criteria established by the State Engineer and can take many forms as outlined in the Mitigation Forms section.

5.1. Mitigation Criteria

5.1.1. The following criteria are to be reviewed and addressed with respect to the effects:

5.1.1.1. Effects to all lands.

5.1.1.2. Effects to structures, including homes, out-buildings, and businesses.

5.1.1.3. Effects to existing flood protection or control projects.

5.1.1.4. Effects to existing water features, including watercourses, ponds, sloughs, lakes, and permitted drains.

5.2. Mitigation Forms

5.2.1. Mitigation can take many forms, but generally may include the following:

5.2.1.1. Compensating property owners for effects to property or increased flooding risk, including easements or fee title purchases.

5.2.1.2. Raising, elevating, moving, or diking affected properties or structures.

5.2.1.3. Exercising quick take or eminent domain authorities.

5.2.1.4. Project changes or alternatives to mitigate effects.

5.2.1.5. Agreements, Memorandums of Understanding, or other approvals, but only for mitigation to land owned by the federal government, state government, or political subdivisions.

6. NOTIFICATION REQUIREMENTS

If applicable, the applicant is required to notify all landowners and public easement holders identified in the policy's General Policy Requirements section.

6.1. The State Engineer requires assurance that all landowners and public easement holders were notified prior to issuance of a Notice to Proceed for construction. These notifications must include:

6.1.1. A letter mailed to the landowners and public easement holders in a format approved by the State Engineer that describes the nature and extent of effect.

6.1.2. A required landowner and public easement holder address list.

6.1.3. Either certified mail receipts or affidavit of service to the required landowners and public easement holders.

6.2. For phased projects, the State Engineer will require notification as soon as the effects are known, which will typically be in the project's first phase.

6.3. Failure to notify the required parties prior to the issuance of the Notice to Proceed for construction may result in action by the State Engineer, such as permit abeyance, suspension, or revocation.

7. EASEMENT AND TITLE DOCUMENTATION

If the State Engineer requires an easement or title to land as part of a conditional permit approval or the applicant pursues easements or title to land as mitigation, the following applies:

7.1. The applicant may choose to provide easement or title documentation with a construction permit application. The State Engineer will review the provided documentation for policy compliance.

7.2. The applicant may choose to provide easement or title documentation after a construction permit is issued. If required by this policy, the State Engineer will condition the permit requiring land ownership or easement documents to be submitted for State Engineer review and approval prior to issuance of a Notice to Proceed for construction.

8. APPLICATION REQUIREMENTS FOR WATER CONTROL PROJECTS

Given a hydraulic model is necessary to determine effects for a water control structure project, such a project has specific application requirements, which are outlined below:

8.1. With the exception of section 8.2, applications require the following:

8.1.1. Development and submittal of a "mitigation plan," hydraulics model, and model report as part of a complete application.

8.1.1.1. A hydraulics model and report of the proposed water control project must detail hydraulic effects as described in the General Policy Requirements and Modeling and Report Requirements sections.

8.1.1.2. A mitigation plan must detail how effects to properties will be mitigated as described in the General Policy Requirements and Mitigation Plan Requirements sections.

8.1.1.3. The State Engineer will condition an approved permit based upon compliance with the proposed mitigation plan.

8.1.1.4. NOTES:

8.1.1.4.1. If a water control project has effects less than 0.5 feet, a mitigation plan is <u>not</u> required. However, the applicant still must identify effects of 0.1 feet or greater and comply with this policy's notification requirements.

8.1.1.4.2. The applicant may choose to submit a hydraulic model and model report without an accompanying mitigation plan. In this scenario, the State Engineer will require flowage easements or notifications based on the General Policy Requirements section as part of a conditionally approved permit.

8.2. Applications involving low-risk projects with only local water management implications require the following:

8.2.1. The State Engineer will not require a hydraulics model and report or mitigation plan for these applications.

8.2.2. The State Engineer will defer effects decisions for these applications to the water resource district.

8.2.2.1. In this scenario, if the water resource district believes a hydraulics model or report is necessary to adequately review the project's effects, the water resource district may require a hydraulics model or report directly from the applicant and suggest any changes, conditions, or modifications regarding the results of a hydraulics model or report to the State Engineer under N.D.C.C. § 61-16.1-38.

8.2.2.1.1. In this scenario, the application will be deemed incomplete until the water resource district receives the hydraulic model or report from the applicant for review. After hydraulic model or report receipt, the water resource district will have 45 days from receipt of a complete application under N.D.C.C. § 61-16.1-38 to review the application and suggest any changes, conditions, or modifications to the State Engineer.

8.2.2.2. Because the State Engineer is deferring effects decisions to the water resource district, the State Engineer will approve, deny, or condition the permit of any local water management implications at the direction of the water resource district.

8.2.2.3. In the event that the water resource district does not provide any suggested changes, conditions, or modifications to the State Engineer, the State Engineer will assume no local water management implications exist and will approve the application with only the standard permit conditions and without further effects review.

8.3. Application Review

The following provides a general outline of what is expected for each application track:

8.3.1. All projects except "low-risk projects with only local water management implications"

8.3.1.1. Applicant submits materials according to section 8.1 with permit application.

8.3.1.2. State Engineer reviews submittals for compliance with this policy and state of engineering practice.

8.3.1.3. If a mitigation plan is submitted and the State Engineer approves the permit, the State Engineer will condition the permit subject to compliance with the proposed mitigation plan.

8.3.1.4. If no mitigation plan is submitted and the State Engineer approves the permit, the State Engineer will condition the permit subject to compliance with section 8.1.

8.3.1.5. Applicant must submit evidence of compliance with permit conditions before the State Engineer will issue a Notice to Proceed for the proposed water control project's construction.

8.3.2. Low-risk projects with only local water management implications

8.3.2.1. Applicant submits a permit application without a hydraulic model, model report, or mitigation plan.

8.3.2.2. State Engineer defers water management considerations to the water resource district.

8.3.2.3. The State Engineer will approve, deny, or condition the permit subject to direction from the water resource district.

8.3.2.4. Applicant must submit evidence of compliance with permit conditions before the State Engineer will issue a Notice to Proceed for the proposed water control project's construction.

8.4. Modeling And Report Requirements

A hydraulics model and model report require the following information:

8.4.1. Hydrology

8.4.1.1. The hydrology developed or chosen must be the hydrology used to design the water control project.

8.4.1.2. The hydrology, if developed by the applicant, must be summarized in the model report.

8.4.1.3. The hydrology methods chosen and rationale for the choice must be described in model report.

8.4.1.4. Consistent hydrology methods must be used for all discharge frequencies.

8.4.2. Hydraulics

8.4.2.1. An applicant-provided hydraulics model must represent the water control project's function and setting, as well as be commensurate with the state of engineering practice for hydraulic modeling.

8.4.2.2. Any hydraulic modeling must be completed by a professional engineer registered in the state with experience in hydraulic modeling.

8.4.2.3. Any hydraulic modeling provided may be completed with any type of software capable of meeting the policy requirements; however, publicly available software, such as the US Army Corps of Engineer's HEC programs, are preferred. The State Engineer may require more

supporting documentation and justification if proprietary modeling software is used.

8.4.2.4. The hydraulic model must depict the pre-project and post-project scenarios. For a phased water control project, the Phased Projects and Emergency Measures section requirements apply.

8.4.2.5. The model must incorporate the following annual exceedance probabilities:

8.4.2.5.1. 10% (10-year)

8.4.2.5.2. 4% (25-year)

8.4.2.5.3. 1% (100-year)

8.4.2.5.4. The discharge and annual exceedance probability used for the project design, if not the 1, 4, or 10% probability.

8.4.3. Model Report

8.4.3.1. A hydrology and hydraulic report (Model Report) must be provided to accompany and summarize the hydraulic modeling provided and the engineering assumptions made. The Model Report must include:

8.4.3.1.1. A description of the hydrology developed or used, including the software and software version used, data used, hydrology methods used, and general engineering and modeling rationale and assumptions made.

8.4.3.1.2. A description of the hydraulic model developed or used, including its purpose, software and software version used, data used, hydraulic methods used, and general engineering and modeling rationale and assumptions made.

8.4.3.1.3. A brief description of the modeling results, including any notable changes between the pre-project and post-project conditions, such as changes in water depth, duration, or frequency.

8.4.3.1.4. An overview map of the modeled area, including cross-section locations.

8.4.3.1.5. Depth difference information depicting the pre-project and post-project inundation for the required probabilities and water control project phases.

8.4.3.1.6. Professional engineer stamp or signature.

8.4.4. NOTES

8.4.4.1. The State Engineer reserves the right to refuse any hydrology or hydraulics submitted or used if they are not commensurate with the state of engineering practice.

8.4.4.2. The State Engineer will not accept a hydraulic model from an applicant without an accompanying Model Report.

8.5. Phased Projects And Emergency Measures

8.5.1. Phased Water Control Projects

8.5.1.1. For phased water control projects, mitigation will not be required by the State Engineer until the final project is constructed and operational.

8.5.1.2. The mitigation plan, model, and Model Report must be submitted with the first water control project phase unless specified otherwise by the State Engineer.

8.5.1.3. The mitigation plan must detail how the fully planned water control system's effects will be mitigated.

8.5.1.4. Each phase will be conditionally approved under a construction permit. Depending on the circumstances, the State Engineer may require a Notice to Proceed prior to water control project construction or operation to ensure compliance with any permit conditions.

8.5.2. Emergency Measures

8.5.2.1. Temporary emergency dikes will not require mitigation.

8.5.2.2. Planned closures, such as temporary dikes, gates, sandbags, embankments, road blocks, etc., constructed or installed in the event of anticipated project operation and within a permanent water control system require mitigation.

8.5.2.3. Emergency measures that are part of a formal emergency response plan must be identified and accounted for in the hydraulic model, accompanying report, and mitigation plan.

9. DEFINITIONS

9.1. "Dam" is defined in N.D.A.C. section 89-08-01-01 and otherwise in State Engineer policy.

9.2. "Dike" is defined in N.D.A.C. section 89-08-01-01 and otherwise in State Engineer policy.

9.3. "Effects" means the physical constructed footprint of a dam, dike, or other device and increases in water surface elevation or inundation caused to a property or structure by the construction, operation, or modification of a dam, dike, or other device.

9.4. "Other device" is defined in N.D.A.C. section 89-08-01-01 and otherwise in State Engineer policy.

10. POLICY ADDENDUMS

State Engineer Technical Memo – dated October 27, 2020

No Policy Revisions available