TOWARDS SUSTAINABLE DRAINAGE
A PROPOSED NEW REGULATORY APPROACH
JUNE 2014
This document is part of TomorrowNow – Manitoba’s Green Plan; an eight-year strategic action plan for mobilizing Manitobans to work together to protect the environment while ensuring a prosperous and environmentally-conscious economy. In addition to the actions outlined in this plan, the province has other initiatives underway to ensure we protect the environment and sustainably manage our natural resources now, for tomorrow.

Manitoba’s goal is to be one of the most sustainable places to live on earth.
The draining of excess water from lands and retaining it for areas or times when it will be required is vital to the successful production of high quality crops, as well as protection of people and infrastructure. Successive wet years have resulted in a higher than average number of drainage licences requested annually. The resulting wait times for licences and the need to improve the protection of wetland benefits prompted Manitoba to work with stakeholders to develop a new approach to drainage and water retention projects.

What will the proposed new regulatory framework for drainage and water retention licensing mean for landowners and municipalities?

- A straightforward approach including minimum standards and clear timelines.
- Reduction of wait times by 50 per cent or more and reduced associated costs.
- Increased economic opportunity by allowing the earliest possible start times on the land.
- Clarity and consistency for all.
- A focus on enforcement of illegal works and penalties in line with other environmental legislation.
- A framework where water retention and drainage projects can be considered together, on a watershed basis.

The proposed changes will adjust the focus of regulation from minor drainage changes to those with a major impact on downstream owners or on the environment.

The proposed changes will also improve protection of Lake Winnipeg by ensuring that more wetlands and their benefits are protected and opportunities for water retention are captured.
INTRODUCTION AND BACKGROUND

Manitoba is proposing a new regulatory approach to drainage and water retention to improve efficiency and regulatory certainty, to enhance the protection of wetland benefits, and to enable watershed based regulatory planning for improved surface water management.

As populations continue to expand, Manitoba’s agricultural industry is important to the local, national, and worldwide production of food. Draining excess water from lands and retaining it for areas or times when it will be needed is vital to the successful production of high-quality crops. However, this must be balanced with the preservation of wetlands and their benefits. Wetlands are some of the most ecologically and functionally important habitats in the world, and yet these areas are becoming scarce in agro-Manitoba. Recent scientific evidence has confirmed the significant impact wetland drainage has on downstream flows and the additional nutrients (phosphorus and nitrogen) being loaded to waters in Manitoba. This has underscored the urgent need to protect and restore wetlands and their benefits.

Balancing the need for drainage of agricultural lands for food production with the need to retain wetlands for their many ecological functions and other benefits is best achieved through watershed-based, integrated planning. In addition, planning on a watershed basis reduces conflicts and produces the best balance between all interests; people, environment, and economy.

Integrated planning facilitates consideration of numerous factors to ensure that negative impacts from activities on the landscape are minimized and that the result is an overall positive effect on the watershed.

In Manitoba, all drainage and water retention projects require a licence under The Water Rights Act and its regulation, which is administered by Manitoba Conservation and Water Stewardship. Administration of drainage licensing has evolved over the past few years to include increased staff and, more recently, “bundling” of related minor municipal projects together into a single licence. However, there has continued to be a backlog of applications which fluctuates from year to year. During periods of above average precipitation, there is an increase in the demand for drainage-related projects and at some point, a large backlog develops.

Many of the current drainage applications received are for minor works such as cleanouts of existing works or replacement of culverts. Many of these minor works are maintenance-related and do not affect neighboring properties. There have been many requests from landowners and municipalities to streamline the approval process for such minor works. Time is often a critical factor in completing minor works, such that negative impacts will be minimized.

The number of licence applications at various stages of the licensing process was about 6,800 in January 2012 (see the following figure). This includes an equal split between municipal projects and projects on privately-held agricultural lands.

The number of applications increased significantly as a result of the 2008 report on drainage licencing from the Manitoba Ombudsman, which stated that all projects must be separately licensed, including maintenance and other minor works. Due to the time required to deal with the significant increase in the number of applications, and the increase in both licensed and illegal works being built, there is also a need to increase enforcement.
Annual and seasonal fluctuations in water levels and weather events that resulted in significant flood events prompted a review of the management of surface waters in Manitoba.

The Surface Water Management Strategy was developed through an extensive stakeholder engagement process throughout 2012, and incorporated the recent recommendations from the 2011 Flood Review Task Force and the Lake Manitoba - Lake St. Martin Regulation Review Committee. The strategy guides the high level direction for a more integrated approach to managing surface waters in the agricultural and municipal part of the province and identifies actions to change the landscape and improve watershed health.

Drainage and water retention is a natural component of surface water management and the proposed new regulatory approach co-ordinates with the Surface Water Management Strategy, resulting in integrated planning on a watershed level.

To encompass licensing and surface water management challenges and opportunities, a new approach is needed for the regulation of drainage and water retention projects with the following broad goals:

- To reduce the administrative efforts expended on smaller projects and shift available resources to focus on larger projects that have greater potential to affect downstream properties and the environment.
- To add regulatory certainty to the process - so all project proponents understand the regulatory requirements, the process to receive authorization, timelines, costs, and penalties for violations.
- To regulate the protection of wetlands from on-going losses with the goal of no-net loss of wetland benefits.
- To move to a watershed-based regulatory planning framework, within a reasonable period of time, that incorporates the concept of no net increase in water or nutrients exported from a watershed.

The concept of no net increase in water or nutrients exported from the watershed cannot be implemented one project at a time. It can only be considered in an overall watershed-based planning framework where water retention and drainage projects can be considered together.

The work to develop a new approach to drainage and water retention is being guided by a steering team with senior staff from the following agencies:

- Manitoba Conservation and Water Stewardship
- Association of Manitoba Municipalities
- Manitoba Conservation Districts Association
- Ducks Unlimited Canada
- Keystone Agricultural Producers
- Manitoba Agriculture, Food and Rural Development
- Manitoba Infrastructure and Transportation
- Manitoba Municipal Government
- Manitoba Habitat Heritage Corporation

Input and advice has also been sought from the Nature Conservancy of Canada, the International Institute for Sustainable Development, and the University of Manitoba’s Watershed Systems Research Program.
The proposed new regulatory approach will allow certain types of routine works to occur through registration with the department, if the guidelines described through regulation are followed.

More extensive works that do not fit into a defined class or do not follow the requirements of the proposed regulation would require detailed plans and a thorough approval process.

The proposed new regulatory approach incorporates the new concepts of drainage planning on a watershed basis, the further protection of wetlands with the goal of no net loss of wetland benefits, and provides for the concept of no net increase in water or nutrients exported from the watershed. Provisions for compliance audits are outlined, as well, as fines for non-compliance.

**Proposed Classes**

The various types of drainage and water retention projects typically encountered by the department have been grouped together into six similar “classes” of projects. Regulatory standards are proposed for each. More detailed information on each of the proposed classes is provided in the latter portion of this document.

The proposed classes are as follows:

- **Class 1:** Urban/Rural Subdivisions (drainage, retention, and water control works within a built-up community or subdivision)
- **Class 2a:** Provincial Water Control Works (provincial drains outside built-up communities or subdivisions)
- **Class 2b:** Municipal Water Control Works (municipal drains outside built-up communities or subdivisions)
- **Class 3:** Tile Drainage (subsurface or tile drains)
- **Class 4:** Surface Drains (surface drains on private lands)
- **Class 5:** Small Dams and other Water Retention Works (small water retention, detention, and impoundment projects)
- **Class 6:** Watershed Plan for Drainage and Water Retention Works (watershed-based plans for drainage, water retention, detention, and impoundment prepared by a conservation district or water planning authority)

Essentially, if a project fits within one of the six identified classes and if it meets the regulatory standards for that class, it will be able to proceed by registering the project with the department, identifying what is proposed to be done and where, and filing a minimal administration fee. The department will acknowledge receipt of registration within a short period of time (for example, 10 business days) and the work can proceed unless advised otherwise. Emphasis will be placed on follow-up compliance and enforcement to ensure such projects are consistent with the regulatory standards set for each class.

If a project does not fit one of the classes or does not meet the regulatory standards set for that class, it can only proceed through a track similar to the present process whereby it would need to be “licensed” and this would be accompanied by a relatively large administration fee. Such projects would typically be more complex and would take considerably more time to analyze and assess.

**Pre-1988**

Manitoba courts have determined that The Water Rights Act did not apply to drainage projects constructed before April 19, 1988. The new proposed regulation will “grandfather” these works as long as they can be shown to have been constructed before this date. Additional maintenance, alteration, or construction, however, will be considered new and will be subject to the proposed regulation.

**Harmonization**

Some larger projects currently require duplicate authorizations under The Environment Act and under The Water Rights Act. This will be streamlined to ensure that if a project is authorized under The Environment Act, it will also be considered to be authorized under The Water Rights Act, as long as required standards and conditions are met.
Protecting Wetlands

Wetlands are some of the most ecologically and functionally important habitats in the world. However, due to less water being left on the land, estimates suggest we continue to lose 0.5% of remaining wetlands every year in agricultural areas of Manitoba, and that 40 - 75% of the original wetlands and their benefits have already been lost. Recent scientific evidence has confirmed the significant impact wetland drainage is having on nutrient loading and downstream flows and has underscored the urgent need to protect what wetlands remain.

Some of the specific benefits performed by wetlands include:

- additional surface water storage to reduce the risks of flood and drought
- enhanced groundwater and aquifer recharge functions
- enhanced carbon storage for greenhouse gas mitigation
- preservation of prairie and boreal biodiversity
- sediment trapping and nutrient retention, which enhances water quality in downstream rivers and lakes
- climate change adaptation benefits through improved ecosystem health and resilience, and
- benefits for income-generating activities related to tourism and outdoor recreation, cottage development, and support of First Nation and Métis traditional ways of life

The Province will create a mechanism for approved compensation transactions to occur through organizations such as the Manitoba Habitat Heritage Corporation, Ducks Unlimited Canada or Conservation Districts. This mechanism will be developed through consultation with stakeholders, the Steering Committee, and the public.

The Stewart and Kantrud Wetland Classification System

Class 1 – Ephemeral wetlands hold surface water for a few days in the spring or immediately after heavy rain events and contain Kentucky bluegrass, goldenrod and other wetland or low prairie species.

Class 2 - Temporary wetlands hold surface water for a few weeks in the spring and a few days after heavy storms and contain wet meadow plants including fine-stemmed grasses, sedges and associated forbs.

Class 3 – Seasonal wetlands hold surface water for one to three months in the spring to early summer but dry out by mid-summer and contain wetland grasses, sedges and rushes.

Class 4 – Semi-Permanent wetlands hold surface water for five months or more annually and contain cattails, bulrushes, sedges and pond weeds.

Class 5 – Permanent wetlands hold surface water long term with permanent open water in the central zone and plants along the edges including cattails and bulrush. Submerged and floating leaf plants can be found in deep water zones.

Similar to many other jurisdictions in Canada and the United States, the new no net loss of wetland benefits approach will protect seasonal, semi-permanent and permanent wetlands (classes III, IV and V as set out in the Stewart and Kantrud Wetland Classification System). Essentially, the proposed regulation will continue to prohibit the drainage of class IV and V wetlands and will extend the protection to include no net loss of class III (seasonal) wetland benefits through any water control projects, including surface and tile drains on private agricultural lands. In those few cases where drainage of a wetland may be justified on the basis of broad social and economic reasons, compensation will be required to ensure no net loss of wetland benefits.
Planning on a Watershed Basis

It is recognized that drainage and water retention must be considered collectively on a watershed basis. This is in contrast to the present system whereby projects are considered one at a time making it difficult to consider cumulative impacts. The new regulatory framework includes a special class (Class 6); proposing that conservation districts or watershed authorities make significant progress on specific watershed-based drainage and water retention plans by 2020. Special concepts are included to guide the preparation of such plans, including no net loss of wetland benefits and the concept of no net increase in water or nutrients (phosphorus and nitrogen) exported from the watershed. The concept of ‘no net increase in water export’ on a watershed basis simply means that the current total volume of water leaving the watershed will not increase as a result of human activities such as drainage. Any new activities that would increase the total volume of water leaving the watershed must be balanced or offset to the extent possible by increasing water storage capacity within the watershed. This will require a new integrated watershed approach to drainage. Under this proposed concept, water retention may increase, but the net export of water and associated nutrients out of the watershed through drainage activities would not increase.

Terminal Basins

Terminal basins and other wetlands or shallow lakes which have no natural outlet to release waters which drain into them, have received considerable attention throughout the recent wet cycle. Special provisions for terminal basins will be included in the proposed new regulatory approach where additional drainage will be prohibited, strictly controlled or guided by a Class 6 watershed-based drainage and water retention plan.

Local Emergencies

When a State of Local Emergency is declared, municipalities can undertake certain projects without a licence under The Water Rights Act. The proposed regulation will make it clear that after the local emergency has ended and within a reasonable period of time, the projects need to be properly authorized or the lands must be restored.

Compliance

An education and compliance component is planned to increase the understanding of the new regulatory approach. Enforcement of The Water Rights Act and its regulation will be improved through compliance audits.

Further information on each of the proposed classes is provided in the latter portion of this document.
** Existing Licencing Process with Proposed Changes and Proposed Registration Process **

1. Applicant has assessed benefits and options for constructing water control works and decides to proceed with application.

2. Applicant to fill out and submit application for proposed project including all required information.

3. Provide application fee of $1,000 or more (currently $25 for any size of project).

4. Each application reviewed individually by the Department.

5. Losses of Class III, IV, or V wetland benefits are not permitted.

6. Licence may be considered if all reasonable alternatives have been considered and approved wetland compensation provided.

7. Work with applicant for any further information or to modify project.

8. 4-6 weeks for review and assessment of project by the Department and issuance of a licence.

9. Licence issued.

10. Project sites are inspected prior to construction.

11. Applicant proceeds with construction of project.

12. Licence denied.

13. Random audit of 10 - 20% of registered projects conducted to ensure compliance with the regulation.

**Legend**

- **Existing Process**
- **Changes to Existing Process**
- **Registration process**
SHARE YOUR VIEWS

Manitoba Conservation and Water Stewardship seeks public input on the proposed new regulation. Comments should be provided in writing to:

Towards Sustainable Drainage Consultation
Manitoba Conservation and Water Stewardship
Suite 160, 123 Main Street (Box 20)
Winnipeg MB R3C 1A5

Email: DWRRconsultation@gov.mb.ca

For additional information, phone 204-945-5790.

The department invites comments to be submitted by December 31, 2014. More information is also available on our web site at www.manitoba.ca/waterstewardship/
ATTACHMENT 1

Draft Concept - Drainage, Retention, and Water Control Works Regulation

This would be a regulation under The Water Rights Act (C.C.S.M. c.W80)

Table of Contents

It is envisioned that the regulation would contain the following main elements:

- definitions, interpretation, and purpose
- classes of drainage, retention, and water control works projects
- standards for classes of drainage, retention, and water control works projects
- procedures for the regulatory administration of classes of drainage, retention, and water control works projects
- fees
- timelines

Purpose

The purpose of this regulation would be to:

a) establish an orderly and consistent regulatory framework, consistent with 3(1), 26(m.1), and 26(o) of the Act, which:
   i) defines classes of drainage, retention, and water control works projects;
   ii) sets standards for each class; and
   iii) sets procedures for the regulatory administration of each class.

(b) establish a framework with principles which:
   i) protects property from excess water and safeguards human health;
   ii) conserves and protects wetlands and their benefits and other sensitive habitat;
   iii) protects commercial, recreational, and Aboriginal fisheries;
   iv) provides resilience to droughts;
   v) reduces the risk of downstream flooding by retaining more water within the watershed; and
   v) minimizes the loss of nutrients (phosphorus and nitrogen) from the landscape.

Definitions

Clear definitions will be developed for various terms used in the regulation.

Classes of Drainage, Retention, and Water Control Works Projects

The following six classes of drainage, retention, and water control works project are proposed:

Class 1: Urban/Rural Subdivisions (drainage, retention, and water control works within a built-up community or subdivision)

Class 2a: Provincial Water Control Works (provincial drains outside built-up communities or subdivisions)

Class 2b: Municipal Water Control Works (municipal drains outside built-up communities or subdivisions)

Class 3: Tile Drainage (subsurface or tile drains)

Class 4: Surface Drains (surface drains on private lands)

Class 5: Small Dams and other Water Retention Works (small water retention, detention, and impoundment projects)

Class 6: Watershed Plan for Drainage and Water Retention Works (watershed-based plans for drainage, water retention, detention, and impoundment prepared by a conservation district or water planning authority)
Plan for Drainage and Water Retention Works

For all proposed drainage and water retention works that fall under one of the proposed six classes, or which must proceed through the full licencing process under The Water Rights Act, the proposed works must be set out in a Plan for Drainage and Water Retention Works that describes the proposed works and ensures that regulatory standards are met. Written approvals that the works in the Plan for Drainage and Water Retention Works meet all applicable federal, provincial, and municipal laws, rules, regulations or other requirements or standards must also be supplied by the applicant as part of the Plan.

The overall purpose of a Plan for Drainage and Water Retention Works is to describe the proposed works and demonstrate how the proposed works will not negatively impact natural drainage rates, patterns, capacity, and outlets; as well as retain sufficient storage for storm events so that drainage on surrounding lands and downstream are not impacted or altered. A Plan for Drainage and Water Retention Works must also consider the surrounding lands and all impacts throughout the watershed, including downstream nutrient loading, wetland retention, and flow rates and patterns.

Proposed Registration and Standards for Classes of Drainage, Retention, and Water Control Works

It is proposed that Plans for Drainage and Water Retention Works that meet standard regulatory requirements can proceed by being registered with the director at least 10 business days prior to construction beginning. Currently, the licensing process for these types of projects takes, on average, 4-6 weeks. The standards for each proposed class under which proposed works can proceed with registration are described on the following pages and vary between the proposed classes and the complexity of works. Plans that have multiple works and are more complex will require a higher level of detail, and may require a full licencing review.

Class 1 Urban/Rural Subdivisions

It is proposed that Class 1 Urban/Rural Subdivisions include drainage and water retention works within cities, towns, or subdivisions of ten (10) lots or more.

Plan for Drainage and Water Retention Works

All proposed works must be set out in a Plan for Drainage and Water Retention Works that is stamped by a professional engineer registered to practice in the Province of Manitoba, to ensure that the regulatory standards for the Class and all required approvals are met, and that the works will perform as required with no negative impacts. Plans for Drainage and Water Retention Works that meet all of the following requirements can proceed by being registered with the director at least 10 business days prior to construction beginning:

Location of works and drainage area

a) must provide a site map including the legal location, specifications, and drainage area of the proposed works;

Additional regulatory approvals

b) must have written approval from the municipality, city, town, village, or unorganized district in which the development will be located, indicating that the development plan, including the Plan for Drainage and Water Retention Works, meets all local by-laws and conforms with development plans prescribed under The Planning Act;

c) must have written approval from Manitoba Infrastructure and Transportation, excepting those projects undertaken within the City of Winnipeg and within the City of Brandon;

d) must meet all applicable federal, provincial, and municipal laws, rules, regulations or other requirements or standards that may apply;

e) must comply with any applicable and approved Class 6 Watershed Plan for Drainage and Water Retention Works prepared by a conservation district or watershed authority;
Hydraulic design requirements

f) must demonstrate that post-development storm water run-off rates will not be greater than pre-development storm water run-off rates;
g) must provide hydraulic design calculations using a design scenario which details how post development storm water run-off rates of the property are to be equal to or less than pre-development run-off rates subject to the following criteria;
i) site must be able to handle, up to and including, a one-in-25 year design storm event.
ii) ponding volume must equal the difference between a one-in-five year allowable outflow and a one-in-25 year post development flow hydrograph. The allowable outflow is the one-in-five year peak flow based on pre-development conditions. The ponding storage is typically accomplished through retention ponds or internal storage via ditches and drainage patterns.
iii) storm duration for the design should be three (3) hours.
iv) the outlet for the developed land must maintain the overall pre-development drainage patterns including capacity and location of the outlet.

No alterations of wetlands

h) must not alter the natural state of seasonal, semi-permanent, and permanent wetlands (Class III, IV, and V);

No negative impact on other waters

i) must not negatively impact the natural alignment, capacity, water quality, or ecological integrity of any water body or waterway; and
j) if works are located on lands that front onto a water body or waterway, must not drain directly to those waters, unless it can be demonstrated in the Plan for Drainage and Water Retention Works that there would be no increase to sedimentation or nutrient loading to the water body;

Class 2 Provincial and Municipal Water Control Works

It is proposed that Class 2a Provincial and Class 2b Municipal Water Control Works include upgrading or maintenance of existing municipal and provincial drains. Please note that any new proposed drains must go through the comprehensive licencing process.

Class 2a Provincial Water Control Works

Plan for Drainage and Water Retention Works

All proposed works must be undertaken in accordance with a Plan for Drainage and Water Retention Works. The plan must include a description of the design and construction techniques that will be followed for Provincial projects. The plan shall be registered with the Director on an annual basis.

Location of works and drainage area

a) the Director shall be readily provided access to information showing the location of Provincial water control works;

Additional regulatory approvals

b) must meet all applicable federal, provincial, and municipal laws, rules, regulations or other requirements or standards that may apply;
c) must comply with any applicable and approved Class 6 Watershed Plan for Drainage and Water Retention Works prepared by a conservation district or watershed authority;

No alterations of wetlands

d) must not alter the natural state of seasonal, semi-permanent and permanent wetlands (Class III, IV, and V);

No negative impact on other waters

e) must not negatively impact the natural alignment, capacity, water quality, or ecological integrity of any water body or waterway;
Drains

**Downstream users**

f) must not negatively impact other lands not owned by the Crown;

**Erosion control**

g) must use erosion control methods outlined in Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat where the surface drain intersects with another water body;

**Drain cleanouts and culvert infrastructure**

h) must be undertaken on lands solely owned or controlled by the Province of Manitoba; and

i) must be undertaken in accordance with the Plan for Drainage and Water Retention Works.

**Drain cleanouts**

j) for culvert-to-culvert drain cleanouts where there is no alteration to original design specifications, the works:

i.) must be between existing authorized drains;

ii.) must be undertaken on lands solely owned or controlled by the Crown;

iii.) must have an average gradient of 0.03 per cent or less per each 0.25 km (or otherwise specifically identified by region in Manitoba);

iv.) must have minimum 3:1 side slopes;

v.) must use adequate and effective erosion control measures throughout all construction activities;

vi.) must make all reasonable attempts, when feasible, to remove cut vegetation from drainage ditches to minimize nutrient export; and

vii.) must not alter existing culvert size by more than 15%, culvert type, or invert elevations;

**Access crossings (new or existing)**

k) for property access crossings (approaches), the drainage and water control works:

i.) must not alter water flow rate, volume, or direction of flow as compared to pre-construction conditions; and

ii.) must have culvert crossings sized equal to or larger than, the largest culvert through the next immediate crossing upstream or downstream;

**Through-grade culverts (new or existing)**

l) for installation of through-grade culverts, the works must equalize water levels on either side of provincial road;

**Infrastructure replacement (existing)**

m) for infrastructure replacement(s), the drainage and water control works:

i.) must meet industry accepted engineering and construction standards;

ii.) must not change the hydraulic capacity of the structure by more than 15 per cent; and

iii.) must use erosion control methodologies as per the Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat.
Class 2b Municipal Water Control Works

Plan for Drainage and Water Retention Works

All proposed works must be set out in a Plan for Drainage and Water Retention Works. Plans for Drainage and Water Retention Works that meet all of the following requirements can proceed by being registered with the director at least 10 business days prior to construction beginning:

Location of works and drainage area

a) must provide a site map including the legal location, specifications, and drainage area of the proposed works;

Additional regulatory approvals

b) must meet all applicable federal, provincial, and municipal laws, rules, regulations or other requirements or standards that may apply;

c) must comply with any applicable and approved Class 6 Watershed Plan for Drainage and Water Retention Works prepared by a conservation district or watershed authority;

No alterations of wetlands

d) must not alter the natural state of seasonal, semi-permanent and permanent wetlands (Class III, IV, and V);

No negative impact on other waters

e) must not negatively impact the natural alignment, capacity, water quality, or ecological integrity of any water body or waterway;

Drains

Downstream users

f) must not negatively impact other lands not owned by the municipality;

Erosion control

g) must use erosion control methods outlined in Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat where the surface drain intersects with another water body;

Drain cleanouts

h) for culvert-to-culvert drain cleanouts where there is no alteration to the original design specifications, the works:

i.) must be between existing authorized drains;

ii.) must be undertaken on lands solely owned or controlled by the municipality;

iii.) must have an average gradient of 0.03 per cent or less per each 0.25 km (or otherwise specifically identified by region in Manitoba);

iv.) must have minimum 3:1 side slopes;

v.) must use adequate and effective erosion control measures to be throughout all construction activities;

vi.) must make all reasonable attempts, when feasible, to remove cut vegetation from drainage ditches to minimize nutrient export;

vii.) must not alter existing culvert size by more than 15%, culvert type, or invert elevations; and

viii.) must have a pre-construction survey showing the full extent of proposed excavation works, including at minimum:

1) a profile of the existing drain bottom;

2) location, size, type and invert elevations of existing culverts; and

3) any water control-related structure.
**Culvert infrastructure**

**Access crossings (new or existing)**

i) for property access crossings (approaches), the drainage and water control works:

i.) must not alter water flow rate, volume, or direction of flow as compared to pre-construction conditions; and

ii.) must have culvert crossings sized equal to or larger than, the largest culvert through the next immediate crossing upstream or downstream;

**Through-grade culverts (new or existing)**

j) for installation of through-grade culverts, the works must equalize water levels on either side of municipal road;

**Infrastructure replacement (existing)**

k) for infrastructure replacement(s), the drainage and water control works:

i.) must meet industry accepted engineering and construction standards;

ii.) must not change the hydraulic capacity of the structure by more than 15 per cent;

iii.) must be less than 1200 mm (48 inches) in diameter in the case of culverts; and

iv.) must use erosion control methodologies as per the Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat.

**Class 3 Tile Drainage**

It is proposed that Class 3 Tile Drainage include tile drains (subsurface).

**Plan for Drainage and Water Retention Works**

All proposed works must be set out in a Plan for Drainage and Water Retention Works. Plans for Drainage and Water Retention Works that meet all of the following requirements can proceed by being registered with the director at least 10 business days prior to construction beginning:

**Location of works and drainage area**

a) must provide a site map including the legal location, specifications, and drainage area of the proposed works;

**Additional regulatory approvals**

b) must meet all applicable federal, provincial, and municipal laws, rules, regulations or other requirements or standards that may apply;

c) must comply with any applicable and approved Class 6 Watershed Plan for Drainage and Water Retention Works prepared by a conservation district or watershed authority;

**Control of drainage flow**

d) must be equipped with departmentally approved devices to control drainage flows;

**Certified installer**

e) must be designed and installed by a person or persons who are certified as a qualified tile drainage designer or installer under a recognized program in Canada or the United States;
No alterations of wetlands

f) must not alter the natural state of seasonal, semi-permanent and permanent wetlands (Class III, IV, and V);

g) must not be located within 50 metres of seasonal, semi-permanent or permanent wetlands (Classes III, IV, and V); and

No negative impact on other waters

h) must not negatively impact the natural alignment, capacity, water quality, or ecological integrity of any water body or waterway.

Class 4 Surface Drainage

It is proposed that Class 4 Surface Drainage include surface drains on privately owned agricultural lands.

Plan for Drainage and Water Retention Works

All proposed works must be set out in a Plan for Drainage and Water Retention Works. Plans for Drainage and Water Retention Works that meet all of the following requirements can proceed by being registered with the director at least 10 business days prior to construction beginning:

Location of works and drainage area

a) must provide a site map including the legal location, specifications, and drainage area of the proposed works;

Additional regulatory approvals

b) must meet all applicable federal, provincial, and municipal laws, rules, regulations or other requirements or standards that may apply;

c) must comply with any applicable and approved Class 6 Watershed Plan for Drainage and Water Retention Works prepared by a conservation district or watershed authority;

Downstream users

d) must not negatively affect other lands or properties without the written approval of the downstream landowner or municipality;

Excavation depth

e) must not be excavated to a depth greater than 30.48 centimetres (12 inches) lower than natural prairie level including field leveling;

Soil classifications

f) must not drain Class 6 and 7 soils defined in Canada Land Inventory Soil Capability Classification for Agriculture (1965);

No alterations of wetlands

g) must not alter the natural state of seasonal, semi-permanent, and permanent wetlands (Class III, IV, and V); and

No negative impact on other waters

h) must not negatively impact the natural alignment, capacity, water quality, or ecological integrity of any water body or waterway.
Class 5 Small Dams and other Water Retention Works

It is proposed that Class 5 Small Dams Water Retention Works include small dams and other water retention, detention, impoundment, and diversion projects.

Plan for Drainage and Water Retention Works

All proposed works must be set out in a Plan for Drainage and Water Retention Works. Plans for Drainage and Water Retention Works that meet the all of the following applicable requirements, based on dam height, can proceed by being registered with the director at least 10 business days prior to construction beginning:

<table>
<thead>
<tr>
<th>Dam Height</th>
<th>Design Requirements</th>
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<tbody>
<tr>
<td>Less than 0.25m</td>
<td>a, b, c, d, e, f, g, h, and i</td>
</tr>
<tr>
<td>0.25m but below 2.5m</td>
<td>a, b, c, d, e, f, g, h, i, j, and k</td>
</tr>
<tr>
<td>2.5m and higher</td>
<td>a, b, c, d, e, f, g, h, i, j, k, l, m, o, and p</td>
</tr>
</tbody>
</table>

Location of works and drainage area

a) must provide a site map including the legal location, specifications, and drainage area of the proposed works (dam);

Flooded area

b) must provide a plan view of the site location indicating the maximum extent of flooding anticipated by the structure;

Additional regulatory approvals

c) must meet all applicable federal, provincial, and municipal laws, rules, regulations or other requirements or standards that may apply;

d) must comply with any applicable and approved Class 6 Watershed Plan for Drainage and Water Retention Works prepared by a conservation district or watershed authority;

Flood agreements

e) must have a written flood easement or agreement if a dam structure is constructed on, or back-floods at full supply level, land that is owned or controlled by others;

No alterations of wetlands

f) must not alter the natural state of seasonal, semi-permanent, and permanent wetlands (Class III, IV, and V);

No negative impact on other waters

g) must not negatively impact the natural alignment, capacity, water quality, or ecological integrity of any water body or waterway;

Fish Passage

h) must not negatively impact fish passage or fish spawning and rearing habitat;

Decommissioning plan

i) must have a decommissioning plan for all plans submitted for construction of dams and related water control works. The decommissioning plan should outline how agreements in association with the license are renewed and what action should be taken if renewal of agreements cannot be negotiated. Unless an approved decommissioning plan states otherwise, project de-commissioning will include restoration of water flow regime to natural, pre-project conditions at the end of the agreement term;

Surveys

j) must provide pre-and post-construction topographical survey of the dam site. Dam projects can be licensed under assumed survey data rather than elevations being tied into geodetic datum;
Cross-section view

k) must provide a cross-section view of structure showing elevations at the bottom of the watercourse, at the structure crest, at full supply level or maximum flooded area, at any spillway inlet/outlet, and at any emergency overflow spillway. The cross-section should also provide dimensions for structure top or crest width, side slope pitch, and type of structure fill material;

Overflow

I) must provide details of overflow or emergency spillway including length, base width, slopes, inlet/outlet elevation, and water flow capacity;

Design flood frequency

m) the design flood frequency (hydrograph) and hydrology data should be for the 1:100 year event;

Engineering approval

n) a Plan for Drainage and Water Retention Works for dams impounding over 50 cubic decameters (40.5 acre-feet) capacity or in excess of 2.5 metre in height must be designed and stamped by a professional engineer registered to practice in the Province of Manitoba, to ensure that the works will perform as required with no negative impacts;

Licencing under The Environment Act

o) if the proposed dam project impounds water of more than 50 cubic decameters (40.5 acre-feet), an Environment Act License is required; and

Licencing over 25,000 litres per day

p) dam projects that have associated water use in excess of 25,000 litres per day must be reviewed and approved by the Water Licensing Branch of Water Stewardship.

Class 6 Watershed Plan for Drainage and Water Retention Works

It is proposed that Class 6 Watershed Plans for Drainage and Water Retention Works includes any watershed-based plans for drainage, water retention, detention, and impoundment prepared by a conservation district or water planning authority.

Plan for Drainage and Water Retention Works

All proposed works must be set out in a Plan for Drainage and Water Retention Works and must meet all of the following requirements before proceeding to the comprehensive licencing process:

Inventory and location of works

a) must provide a site map including the legal location, specifications, and drainage area of all existing and proposed drainage, retention, and water control works within a defined watershed or sub-watershed;

Additional regulatory approvals

b) must meet all applicable federal, provincial, and municipal laws, rules, regulations or other requirements or standards that may apply;

No net increase

c) must include the principle of no net increase in water or nutrients (phosphorus and nitrogen) exported from the watershed, and where new drainage works would be offset with water retention works in the same watershed;

No alterations of wetlands

d) must not alter the natural state of seasonal, semi-permanent, and permanent wetlands (Class III, IV, and V); and

No negative impact on other waters

e) must not negatively impact the natural alignment, capacity, water quality, or ecological integrity of any water body or waterway.

It is proposed that conservation districts or watershed authorities make significant progress on such plans by 2020.
Procedures for the Regulatory Administration of Classes of Drainage, Retention, and Water Control Works Projects

Works meeting the requirements of Class 1, 2, 3, 4, or 5,

a) works proposed in a Plan for Drainage and Water Retention Works that meet all of the regulatory standards listed for the respective Class 1, 2, 3, 4, or 5, may proceed provided that the Plan for Drainage and Water Retention Works is registered with the director at least 10 days in advance of any construction of works being undertaken;

Works that do not meet the requirements of Class 1, 2, 3, 4, or 5,

b) all other drainage, retention, and water control works not defined or meeting specifications of a class must be licensed as per The Water Rights Act, generally, as follows:

Licencing process
i) follow a licensing process that will be set out similar to the existing process and will include all the necessary forms and information requirements;

Must not alter waterways
ii) must not alter the natural alignment, capacity, water quality, or ecological integrity of any water body or waterway;

Wetland alteration and compensation
iii) in cases where the natural state of Class IV and V wetlands are proposed to be altered, a licence will only be considered if the proponent demonstrates that all reasonable alternatives have been considered and are not feasible and if Class IVs and Vs are altered, that compensation is included and demonstrated to the satisfaction of the director (by written affidavit from the proponent and endorsed by knowledgeable wetland experts such as the Manitoba Habitat Heritage Corporation or other);

iv) in cases where the natural state of Class III wetlands are proposed to be altered, a licence will only be considered if the proponent demonstrates that all reasonable alternatives have been considered and are not feasible and if Class IIIIs are altered, that compensation is included and demonstrated to the satisfaction of the director (by written affidavit from the proponent and endorsed by knowledgeable wetland experts such as the Manitoba Habitat Heritage Corporation or other).

Options for Wetland Compensation

When wetlands must be drained, we are considering requiring offsets or compensation to ensure no loss of the benefits of wetlands. Compensation may include restoration at multiples of the original impact. Ratios of at least 3:1 (e.g. three acres restored for each acre drained), and potentially higher are being considered to account for the loss and discourage wetland drainage.

There are two basic forms of compensation:

1. Compensation through the restoration of formerly drained wetlands,

2. “On-farm” compensation where the landowner replaces the lost wetlands through compensation on other lands on their own farm.

Compensation could include direct restoration or purchase of wetland credits.

What are your views on wetland compensation?
Applicant responsibility

c) Nothing in this regulation relieves the applicant of the responsibility of meeting all other application federal, provincial, and municipal regulatory requirements.

Fees and Penalties

Plan fee

a) It is proposed that a small, non-refundable fee accompany all requests to register plans for drainage and water retention projects that fall within one of the six classes of projects and that meet the standards for that class (for example, $100 or less).

Licensing process fee

b) It is proposed that a much larger, non-refundable fee accompany requests to license all other drainage and retention for projects that fall outside of the six classes of projects, or that do not meet the standards for that class (for example, $1,000 or more).

Penalties

c) It is proposed that penalties for illegal drainage under The Water Rights Act be increased similar to penalties under other legislation such as The Water Protection Act and The Environment Act.

Timelines for Review

Registration of plan

a) For projects requiring only registration, it is proposed that the department would acknowledge receipt of submitted plans within a short period of time (for example, 10 business days).

Licensing process for plan

b) For projects requiring a more comprehensive licensing process, similar to the existing process, because they do not fall within one of the six classes or does not meet the regulatory standards for that class, a timeline cannot be identified since it will depend upon the complexity, potential impacts, completeness and accuracy of submitted information, etc. In addition, it cannot be assured a licence will be issued in all cases.