

**Town of
High Prairie**

Flood Response

MUNICIPAL EMERGENCY

RESPONSE PLAN

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1.0 ACTIVATION OF PLAN AND NOTIFICATION PROCEDURES

1.1. Public Works Superintendent or Designate:

If conditions of increased water levels in creeks and/or rivers or a water main break could potentially cause flooding to occur, or if flooding has occurred, and the Public Works Superintendent believes an actual flood or potential flood condition is/or can be of magnitude that requires the Municipal Emergency Response Plan to be activated, the Public Works Superintendent or designate:

- 1.1.01. Shall contact the Director of Emergency Management, the Deputy Director or designate.
- 1.1.02. Shall provide sufficient and significant details of the situation at hand, including details of any imminent dangers that may result.
- 1.1.03. Shall classify the emergency to be a Level 1, Level 2 or Level 3 Emergency and may recommend the activation of the Municipal Emergency Response Plan.

1.2. Director of Emergency Management, Deputy Director or Designate:

Upon receiving notification as above described, the Director of Emergency Management, Deputy Director or designate:

- 1.2.01. May contact and alert the Disaster Services Committee members of the situation at hand and request their assembly at the Emergency Operations Centre (EOC), or to select an alternate location as the EOC.
- 1.2.02. May contact an administrative support person and request the administrative support person to notify the appropriate Disaster Services Agency members and Agency advisors to assemble at the EOC.
- 1.2.03. May proceed to the EOC and prepare the facility for operations.
- 1.2.04. In the event that a state of local emergency is declared, the Disaster Services Director shall activate the Municipal Emergency - Flood Response Plan.
- 1.2.05. Shall notify the Emergency Management District Officer of the emergency and the declaration of the state of local emergency.
- 1.2.06. Shall appoint an Emergency Site Manager. In most cases the Public Works Superintendent shall be appointed as Emergency Site Manager.
- 1.2.07. May recommend to the Disaster Services Committee, in the event that municipal resources are inadequate to facilitate the necessary flood control measures, that additional equipment or other resources be employed from the private sector or

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- through the activation of Mutual Aid Agreements.
- 1.2.08. May recommend to the Disaster Services Committee that assistance be requested from Provincial or Federal government resources.
 - 1.2.09. Shall implement the provisions of the Evacuation Plan when an evacuation is deemed necessary.
 - 1.2.10. Shall maintain an accurate and complete record of all actions taken.
 - 1.2.11. Shall request a full report from each emergency service provider activated, on the emergency operations/actions taken by those emergency service providers.
 - 1.2.12. Shall, upon receiving information from the Alberta Environmental Protection River Forecast Center, that a “High Stream Flow Advisory” is effect, authorize the release of a public warning message to the residents and business that may be affected, by informing them that water levels are rising rapidly and that precautions should be taken to safeguard their properties. In the event that a “Flood Warning” is issued, the Disaster Services Committee shall be notified. Residents and businesses that may be affected, are to be advised to take appropriate measures to avoid flood damage and to consider or be prepared to evacuate if evacuation is deemed necessary.

1.3 Disaster Services Committee

Upon receiving notification of an emergency, or an imminent emergency, situation:

- 1.3.01. Shall gather at the designated EOC. *Note: Because of this type of Emergency, the Director of Emergency Management may appoint an alternate location for the EOC.*
- 1.3.02. Shall, in the event that a state of local emergency is declared, insure the declaration identifies the area of the Town of High Prairie in which the emergency exists.
- 1.3.03. Shall cause the declaration of the state of local emergency to be published immediately by ways of communication considered to be effective for the notification of the populace in the emergency area.
- 1.3.04. Shall forward a copy of the declaration to the Minister of Municipal Affairs forthwith.
- 1.3.05. Shall utilize the provisions of Bylaw xx-2009, the Municipal Emergency Management Bylaw, to the extent required or deemed necessary to adequately combat the emergency at hand.

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- 1.3.06. Shall be provided with periodic updates on the emergency by the Director of Emergency Management.
- 1.3.07. Shall, by resolution, terminate the declaration of the state of local emergency when satisfied that the state of local emergency no longer exists.
- 1.3.08. Shall notify the Minister of Municipal Affairs that the state of local emergency has been lifted or terminated.

2.0 DISASTER AGENCY MEMBERS AND ADVISORS - PROCEDURES

2.1 Public Works Superintendent or Designate:

- 2.1.01. Shall take control of the emergency site, request, direct, and co-ordinate persons and municipal resources as necessary and required to reduce the damages or potential damages of a flood.
- 2.1.02. Shall undertake the duties of an Emergency Site Manager or designate the duties appropriately.
- 2.1.03. Shall co-ordinate and assist other emergency response agencies, persons and resources on site to facilitate orderly site management and enhance safety on the site.
- 2.1.04. Shall co-ordinate operations with the Director of Emergency Management or the designate and periodically communicate with the Director of Emergency Management to provide updated information on the emergency.
- 2.1.05. Shall establish a communication system with the other emergency responders on site.
- 2.1.06. Shall keep accurate and detailed records on the emergency which will at minimum include a description of the flooding, a record of the municipal resources and manpower used to control the flooding or damages caused by the flood, a record of other emergency responders and agencies attending, and a record of private enterprise equipment and manpower secured to assist with controlling the flooding or the damages being caused by the flooding.
- 2.1.07. Shall assist with evacuation procedures if an evacuation is required.
- 2.1.08. Shall insure all utility support agencies are contacted, if required.
- 2.1.09. Shall, if required, co-ordinate a casualty search operation in co-operation with other emergency response agencies.

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- 2.1.10. Maintain liaison with Alberta Environmental Protection, River Forecast Center, to determine the predicted forecasts respective to stream levels and the predicted time that peak levels will reach the Town of High Prairie.
- | | |
|---------------------------|----------------|
| After Hours Emergency No. | 780-427-8173 |
| Office Hours No. | 780-427-6278 |
| Fax No. | 780-427-8837 |
| All Hours | 1-800-222-6514 |

Information received from the Department indicating that a “High Steam Flow Advisory” or a “Flood Warning” is in effect will immediately be forwarded to the Director of Emergency Management or designate.

2.2 R.C.M.P. and Town of High Prairie Peace Officers:

- 2.2.01. Shall assist in the establishment of a communications system so that communications can be maintained with the Public Works Department and other emergency responders.
- 2.2.02. Shall co-ordinate with the Public Works Supervisor to establish and define the flood area.
- 2.2.03. Shall control the perimeter of the flood area to insure unauthorized persons do not enter the area.
- 2.2.04. Shall provide crowd and panic control at the flood area and in the affected areas.
- 2.2.05. Shall establish and control routes for emergency vehicles to egress and regress from the flood area.
- 2.2.06. Shall establish traffic routes to divert traffic from the flood area, provided traffic control and direction.
- 2.2.07. Shall establish a mobile public warning system to relate information to people that may be affected by the flood or any other hazard created by the flood.
- 2.2.08. Shall notify the hospital of any casualties and injuries (numbers and type) so the hospital can prepare to receive the casualties.
- 2.2.09. Shall provide security for the protection of lives, public and private property.
- 2.2.10. Shall assist with the evacuation of buildings and residential areas when an evacuation is authorized by the Director of Emergency Management or the designate.

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- 2.2.11. Shall secure any area where future investigations may need to be undertaken.
- 2.2.12. Shall assist with a casualty search operation if one is required.

2.3 Town of High Prairie Public Information Officer (PIO):

- 2.3.01. Shall inform the public, as soon as possible, of the flooding emergency or of potential flooding damages and advise the public of appropriate self-help actions, or issue public warning messages as directed by the Director of Emergency Management.
- 2.3.02. Shall prepare news releases in conjunction with the Director of Emergency Management or the designate.
- 2.3.03. Shall consult with the Director of Emergency Management to arrange for media access to the site.
- 2.3.04. Shall establish contact with Alberta Transportation - Communications Branch, (through the Disaster Services Branch).
- 2.3.05. Shall arrange for a central media facility, if required.
- 2.3.06. Shall obtain information from all relevant sources and be prepared to provide the media with honest, non-speculative answers related to these basic questions:
 - Who is involved?
 - What happened?
 - Where did it happen?
 - When did it happen?
 - Why did it happen?
 - How is it being dealt with?
 - How much will it cost?

2.4 Town or High Prairie Administrative and Clerical Staff:

- 2.4.01. Shall alert the required Disaster Services Agency and Advisory Members to gather at the EOC, upon receiving instructions from the Director of Emergency Management or designate.
- 2.4.02. Shall, in conjunction with the Director of Emergency Management, prepare to co-ordinate volunteer services. This shall include registering people who are willing to provide voluntary services, scheduling voluntary services, arranging for food, water and refreshments and providing transportation requirements for the volunteers.

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- 2.4.03. Shall provide administrative support to managers or designates of municipal emergency response agencies.
- 2.4.04. Shall purchase and distribute supplies and/or services as required.
- 2.4.05. Shall maintain a record of all supplies and/or services purchased.
- 2.4.06. Shall, upon being requested by the Director of Emergency Management, arrange security staff for the EOC.
- 2.4.07. Shall attend to public inquiries. The support staff will be briefed on how to communicate information to the public and will be provided with “fact sheets” of information on the municipal response, and telephone contact numbers that have been established to respond to the emergency.
- 2.4.08. Shall maintain a log of all activities.

2.5 Town of High Prairie Public Works Department:

- 2.5.01. Shall provide municipal equipment and personnel and set up staging area on site, as required.
- 2.5.02. Shall access equipment, supplies, and technical expertise from outside the municipality.
- 2.5.03. Shall contact utilities to disconnect services that present a hazard if not already done so by the Public Works Superintendent or designate.
- 2.5.04. Shall provide barricades and flashing lights.
- 2.5.05. Shall ensure adequate supplies of potable water are available.
- 2.5.06. Shall restore essential services.
- 2.5.07. Shall take such action as is necessary to minimize the effects of the emergency on the municipality.
- 2.5.08. Shall coordinate public works response with Director of Emergency Management and Emergency Services on scene.
- 2.5.09. Shall provide for a staging area for Emergency Services arriving at site.
- 2.5.10. Shall consult Environmental Health Officer.

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2.6 Utility Companies - Electric Power, Natural Gas, Telephone:

- 2.6.01. Shall, upon being notified of a flood, the utility companies shall eliminate the utility related hazards from damaged utility facilities at the scene.
- 2.6.01. Shall, when safe to do so, restore utility facilities to buildings and structures.

2.7 Social Services:

- 2.7.01. Alberta Human Resources and Employment shall set up social services and inquiry services in accordance to their Disaster Social Services Plan.
- 2.7.01. Big Lakes FCSS shall co-ordinate with and assist Alberta Human Resources and Employment in the provision of social and inquiry services.

2.8 Emergency Medical Services:

- 2.8.01. Shall establish and maintain communication with the local Medical Officer of Health and Health Care Centres.
- 2.8.02. Shall maintain contact with Emergency Site Manager on scene.
- 2.8.03. Shall coordinate emergency medical services resources on site.
- 2.8.04. Shall activate mutual aid emergency medical services resources.
- 2.8.05. Shall activate medi-vac resources.
- 2.8.06. Shall obtain a casualty count and brief the Director of Emergency Management or designate.
- 2.8.07. Assist other Emergency Services, as required.

2.9 Alberta Environmental Protection Alberta Environmental Protection provides information regarding stream levels. Information from the Department will be received in the form of a “High Stream Flow Advisory” or a “Flood Warning”.

- 2.9.01. A “High Stream Flow Advisory” means the stream levels are expected to rise rapidly and no imminent flooding is expected.
- 2.9.02. A “Flood Warning” means that rising river levels will result in flooding of areas

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adjacent to the specified river.

FLOOD CONTROL – SANDBAGGING GUIDELINES

General

1. The Practice of increasing the height of existing terrain to combat floods is called dyking.
2. Where a levee exists, increasing the height is called capping, requiring the same procedures as dyking.
3. The type of dyke used will depend on the material available; however, the grade line should generally be two feet above the anticipated high water.
4. Railroad crossings require special treatment of rails; ties and ballast should be completely removed if practicable.

Construction Methods

5. The construction methods outlined are for short reaches. Emergency raising of long sections will require time and manpower, which are seldom available.
6. The general types of dykes or capping are:
 - a. Sand bag dykes;
 - b. Earth fill and sandbags;
 - c. Flash boards.
7. Polyethylene barriers may be combined with any of the above methods.

Sandbag Dykes

8. Basically, a dyke requires that the sod be stripped from the ground, and that a “bonding trench” – one sack deep and two sacks wide – be established in the middle of the proposed dyke.
9. The dyke must be three times as wide as it is high. If, for example, the dyke has to be raised three feet the base wide should be nine feet.
10. Sand bags should be only half full. The bottom layer of bags on the dyke should run parallel to the river, with the second layer crosswise. The third layer is parallel, the fourth crosswise, and so on in alternate fashion. Each succeeding layer is set back the width of half a sandbag, both on the riverside and the landside of the dyke, giving it a step-like appearance.
11. It is not necessary to tie the sacks. The top, or unfilled part of the sack is stretched lengthwise and the next sandbag is laid on top of it. This is known as ‘lapping”.

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12. Sandbags must be tamped firmly in place, and it's a good idea to have extra sandbags on hand to strengthen any weak spots as the water rises.

Notes:

- A. Alternate direction of sacks with bottom layer, i.e.: bottom layer lengthwise with dyke, next layer crosswise.
- B. Lap unfilled portion under next sack.
- C. Tying or sewing of sacks is not necessary.
- D. Sacks should be approximately one-half full of clay, silt or sand.
- E. Tamp thoroughly in place.

<i>BAGS REQUIRED FOR</i>	<i>100 LINEAR FEET OF DYKE</i>
HEIGHT ABOVE DYKE	BAGS REQUIRED
1 FOOT	600
2 FEET	2000
3 FEET	3400

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Earth Fill Sandbag Dykes

13. Combination earth fill and sandbag dykes are usually more effective than sandbags only. The possibility of seepage is prevented by earth fill, which may be used up to height of 3 feet, where not exposed to wave action.
14. Conservation consists of small embankment of sandbags and earth. The surface on which the dyke is to be built should be thoroughly scarred by ploughing or other methods in order to maintain a watertight bond.
15. The material, tools and labour required for a combination earth filled and sandbag dyke 1,000 feet long and two feet high are:
 - a. 10,000 sandbags;
 - b. 30 shovels;
 - c. 1 plough or grader to scar the surface;
 - d. 100 – 120 labourers.

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Flash Board Dykes

16. Flashboard capping or dykes are used for 3 feet or less increase in height, and to prevent erosion due to wave action.
17. The following list of material and labor is required for a flashboard dyke, two board's high, and 1,000 feet long.
- | | |
|-----------------------|---------------------|
| a. Rough Pine/Spruce: | |
| 2" x 4" x 10' | 800 FBM* |
| 1" x 12" x 10' | 2,500 FBM* |
| 2" x 12" x 12' | 2,000 FBM* |
| 3" Common Nails | 60 LBS |
| b. Axes | 4 |
| c. Claw hammers | 6 |
| d. Shovels | 100 |
| e. Mauls | 4 |
| f. Saw Cross | 2 |
| g. Wheelbarrows | 100 |
| h. Plow or grader | 1 |
| i. Labour | 100 – 120 labourers |
- (* FBM – Foot Board Measure)
18. The construction sequence is:
- a. Plow or dig a furrow into the crown of the road, levee or slope. This furrow must be straight and level and dug so that the bottom flashboard will fit flush against the riverside edge of the furrow;
 - b. Place the bottom 1 x 12 on edge into the furrow;
 - c. Drive 2 x 4 posts on the land side of the 1 x 12, so that the boards are wedge against the furrow – post intervals should be 4 – 6 feet, and driven in no less than 2 feet;
 - d. Back fill the furrow, tamping both sides;
 - e. Add boards for height, ensuring joints are broken on posts – generally limit height to 3 feet;
 - f. Scar the surface behind the board fence at least 2 inches deep, to ensure a good bond with the earth fill;
 - g. Nail burlap or polyethylene to the landside of the flashboards, to prevent wave erosion;
 - h. If desired, use guy ropes from the posts to anchors on the landside;
 - i. Place earth fill on the landside of flashboards.

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Use Of Polyethylene

19. Polyethylene may be used in conjunction with each type of dyke or capping. The major advantage is that it limits erosion of soil fill.
20. The footing of the polyethylene should be anchored using about three feet of the total width double back under and between the landside sandbags. For example:
21. The polyethylene should be under the surface of the riverside or sandbags or the flashboard.
22. On existing dykes the polyethylene may be used to prevent washout. It must be weighted down by sandbags, wire or straw bales.
23. The recommended minimum thickness of polyethylene for dykes or capping is 6-mil. It is available in 10-foot width rolls 100 feet long.

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Sack Filling Racks

24. A sack filling rack may be useful in cases where it is necessary to fill a large number of sacks and automatic loaders are not available.

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