

# **2015 INDIVIDUAL FLOOD PROTECTION INITIATIVE**

## **PROGRAM GUIDELINES**

### **PROGRAM OVERVIEW**

The 2015 Individual Flood Protection Initiative (the “Program”) provides financial assistance to owners of flood prone home, farm, and business buildings throughout Manitoba to flood protect their buildings by raising, moving or diking.

The applicant must be the owner of the flood affected building(s) for which flood protection financial assistance is requested and have the legal right to occupy the property on which these building(s) are situated in order to be eligible.

Approved applicants who flood protect their home, farm, and/or business buildings will have the deductible on claims for 2014 temporary flood protection and/or flood damages from Disaster Financial Assistance reimbursed.

The definition of flood protection is the undertaking of permanent structural or earth works to protect eligible buildings to the minimum required elevation for flood protection as described below.

Applicants may receive financial assistance to flood protect one home and the buildings on one farm property and one business building. Where a business is operated out of a home, only the home application will be eligible for consideration in the Program.

### **THE DEADLINE FOR RECEIPT OF APPLICATIONS TO THE 2015 INDIVIDUAL FLOOD PROTECTION INITIATIVE IS SEPTEMBER 30, 2015**

### **ELIGIBILITY**

Eligible buildings are those that were flooded in 2014, or that would have flooded in the absence of temporary flood protection measures in 2014.

Applications will be prioritized based on the following criteria:

- Located in the Souris, Assiniboine and Qu’Appelle River basins
- Degree of flood risk and/or the severity of flooding
- Type of building – homes are the top priority
- The cost of the proposed flood protection works

Primary garages are eligible if there is a home, farm or business on the property.

Buildings not eligible for financial assistance for flood protection works include but are not limited to:

- Buildings flooded by seepage
- Cottages or seasonal residences
- Derelict or unused buildings
- Buildings in urban or rural areas flooded by inadequate local drainage
- Buildings within community ringed dike areas
- Buildings flood protected under previous flood protection programs
- Buildings that are flood protected
- Buildings built without appropriate zoning or permits
- Camper trailers or other portable or non-permanent buildings
- Sheds or out-buildings
- Garages if there is no home, farm or business on the property
- Secondary garages

Land with no buildings, such as farmland, camp grounds and golf courses are not eligible for financial assistance for flood protection works.

The applicant consents to the Program Manager releasing any information provided or obtained to any government department, agency or third party for the purposes of auditing and evaluating the Program, verifying the application or determining the applicant's eligibility for the Program or other related programs.

The applicant expressly authorizes the Program Manager to obtain information from any government department, agency or third party for the purposes of verifying the basis of payments under this Program or any other information provided by the applicant under the Program.

#### **ACCEPTABLE FLOOD PROTECTION METHODS**

To be approved for structural works, the applicant must show ownership of the building.

Acceptable individual flood protection methods include:

#### **Structural Works:**

- Raising buildings onto a raised existing foundation or new raised foundation:
  - Raising buildings onto a new raised foundation such as a spread footing with pony wall, piles, pad and post, basement (where the original foundation was a basement) or screw piles.
  - Plans for new raised foundations must be submitted for review prior to any projects being approved.
- Moving buildings to an area that is not flood prone:
  - Physically moving the eligible building to a new location that is not flood-prone, or into flood protected communities.
  - For homes, this option may include the purchase of a new lot in a flood-protected area, including real estate, legal and survey fees to a maximum cost shared value of \$40,000.
  - The foundations of all eligible relocated buildings are to be cleared away or levelled to grade so that there are no hazards present.
  - Wells must be capped on abandoned lots.

- Wastewater systems must be decommissioned as per Manitoba Sustainable Development requirements. Confirmation from Manitoba Sustainable Development that the wastewater system has been properly dealt with must be provided before any payments will be made.

### **Earthworks:**

- **Raising buildings onto earth pads:**
  - Construction of an earth pad to the required elevation and moving the existing building onto the earth pad.
- **Diking:**
  - Construction of an earth dike around eligible buildings to the minimum required elevation. The dike is to be constructed as described in the following Construction Guidelines.
  - Raising of roads which could act as flood protection dikes to the required elevation if jurisdictional approval is obtained.
- **Terracing:**
  - Some homes are already at the required elevation, but the earth fill around the home is too low. Where a home with a basement is already at the required elevation, terracing consists of raising the land immediately around the home to the flood protection level.
  - Terracing is available as a flood protection option where soil conditions are such that terracing will reduce the threat of flood waters reaching the home. Terracing would not be a flood protection option where homes are located in sandy or porous soils.
  - Terracing funding is only available for the supply and placement of earth fill for a top width maximum of 4.6 metres from the foundation.
- **Construction of neighbourhood dikes:**
  - Neighbours have the option of combining their financial assistance to build a common dike which protects all their buildings.
  - This option will be approved only if the neighbours have drawn up a satisfactory legal agreement which specifies each participant's responsibilities with respect to costs, repairs and maintenance of the dike. A neighbourhood dike will remain the property of the individual landowners and must be maintained by them. The participating applicants are required to place a caveat or some such legal document on all properties protected by neighbourhood dikes specifying the current and future landowners' obligations.

To be approved for earthworks, the applicant must demonstrate ownership of the building, as well as ownership of the land on which the earthworks will be built.

Construction Guidelines are attached at the end of this document.

Manitoba reserves the right to determine the most cost effective and practical method of flood protection for a building.

## Flood Protection Level (FPL):

- **The Flood Protection Level is:**
  - A level set by Manitoba based on the design flood level to provide flood protection for home, farm or business buildings.
- **The Design Flood Level is:**
  - The high water level on the property in question, or
  - Where sufficient data exists, the water level of a particular flood event, or the water level calculated for a specific return period, such as a one in 100 hundred year flood.
- **The Flood Protection Level is determined by:**
  - Adding 0.6 metres to the design flood level for the home, farm or business buildings, or
  - The design flood level, plus allowances for wind and wave action, and a safety factor which may include the impact of ice jams.

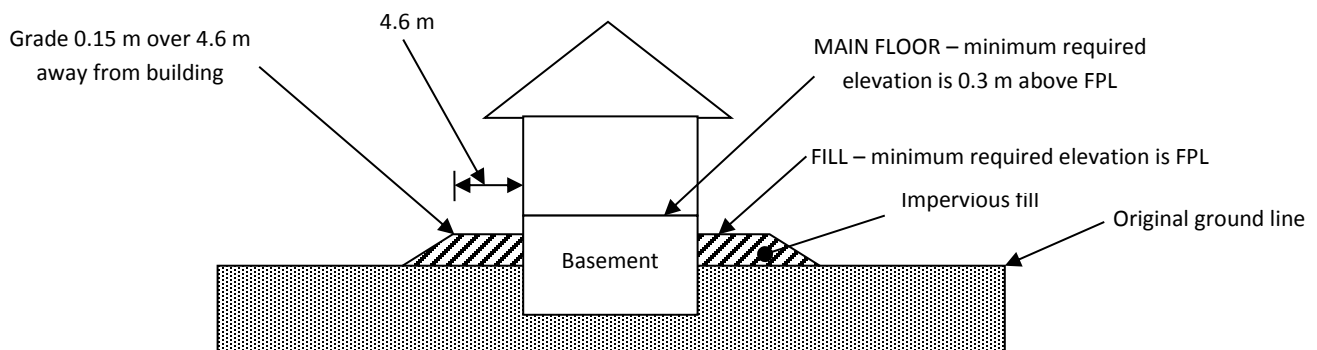
## MINIMUM REQUIRED ELEVATIONS

Flood protection is to be achieved by diking or raising buildings, or construction of terracing earthwork, to the higher of these two:

- The 2015 IFPI Program minimum required elevations, as described in the following sections of these Guidelines, or
- The level stipulated by the Local Planning Authority.

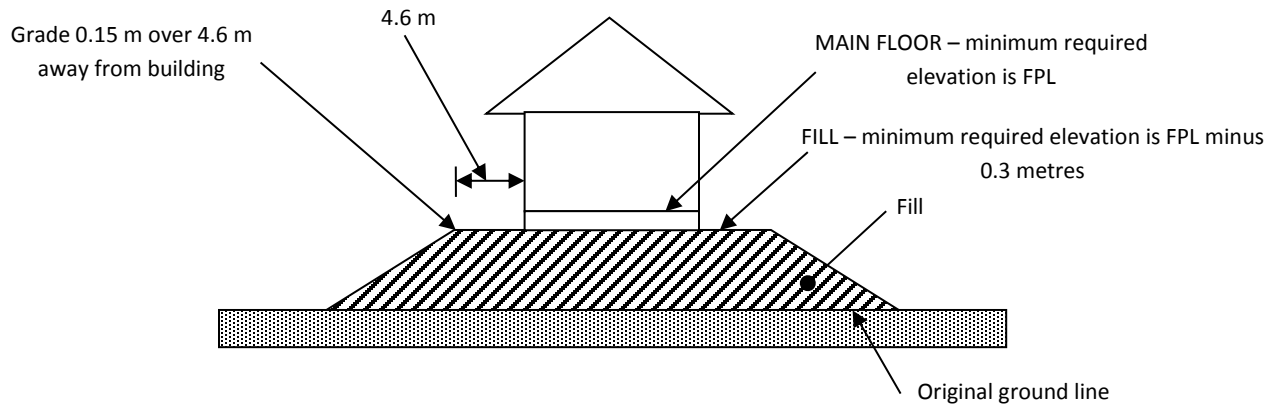
### 2015 IFPI Program minimum required elevations:

- **Home, farm or business buildings with a basement:**
  - The fill elevation of the ground adjacent to the building must be equal to the FPL. The main floor elevation is to be equal to a minimum of FPL plus 0.3 metres.



- **Home, farm or business buildings without a basement:**

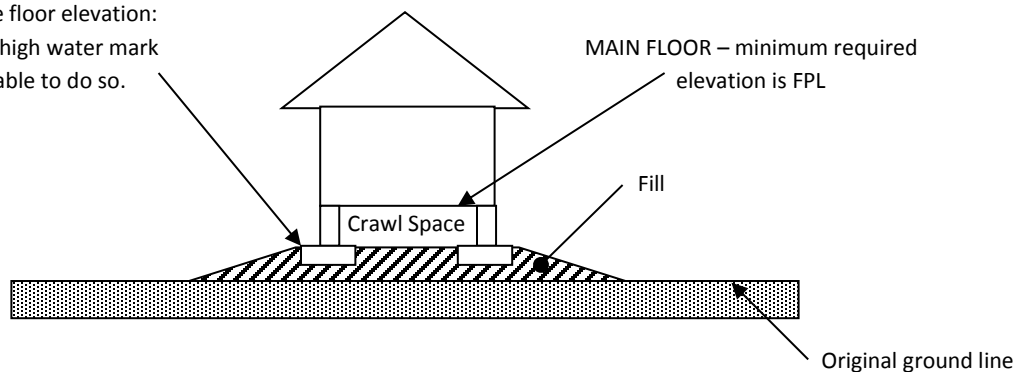
- Built on a slab on a raised earth pad: main floor is to be equal to the FPL and the fill elevation equal to the FPL minus 0.3 metres.
- Raised by some other method: main floor equal to the FPL.



- **Home, farm or business buildings with a crawl space:**

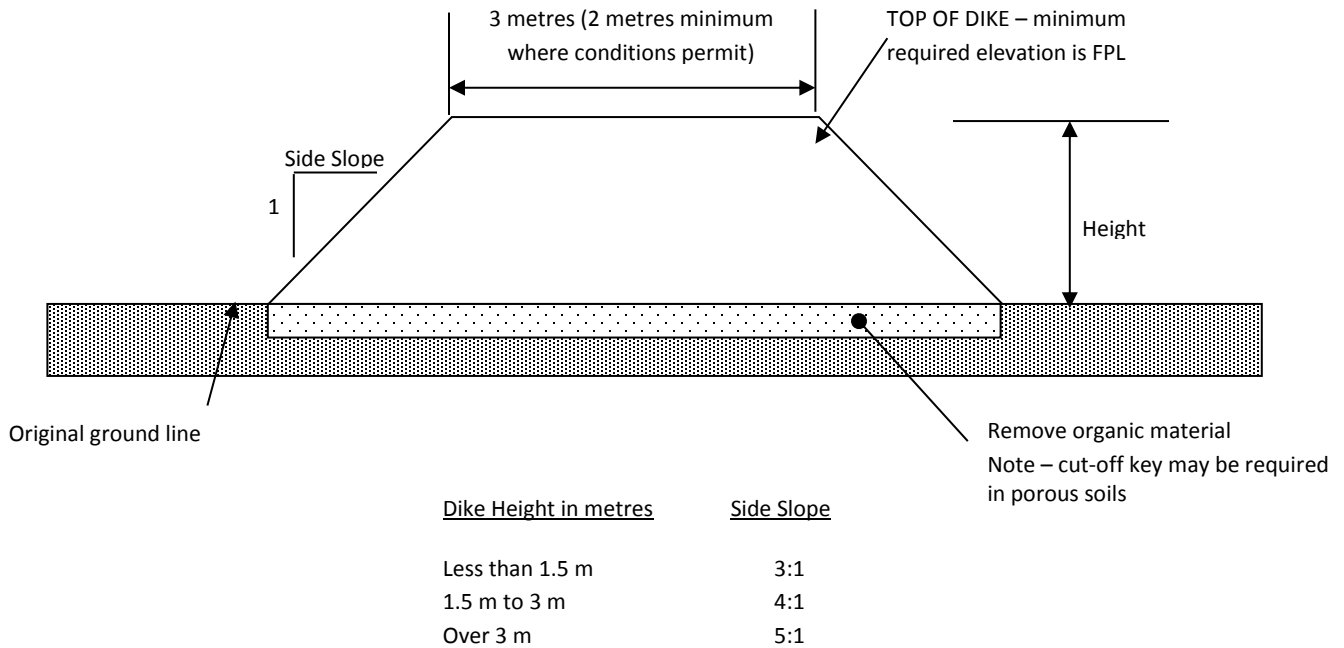
- For buildings with crawl space foundations, the main floor elevation is to be at FPL.
- Where a crawl space foundation has flooded, the new raised foundation footing and crawl space floor should not be lower than the high water mark or design flood elevation where it is reasonable to do so.

Top of footing / crawl space floor elevation:  
at or above design flood or high water mark  
elevation where reasonable to do so.



- **Ring dike:**

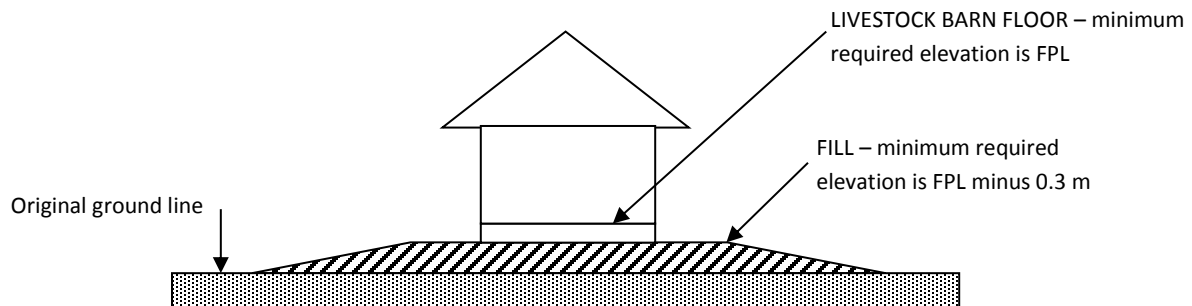
- The top of dike elevation is to be equal to the FPL and continuous around the buildings being protected.



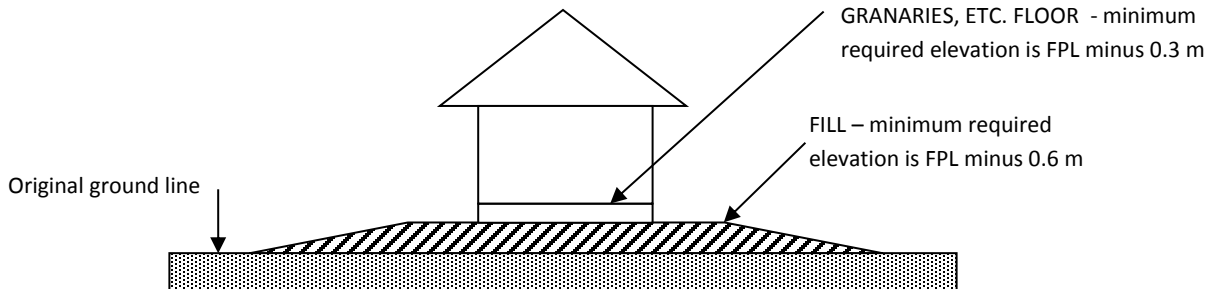
Note – dike heights and corresponding side slopes are typical dike parameters. Side slopes may have to be adjusted depending on dike material being used and existing soil conditions.

- **Livestock Barn:**

- The floor is to be equal to the FPL. The fill is to be equal to the FPL minus 0.3 metres.

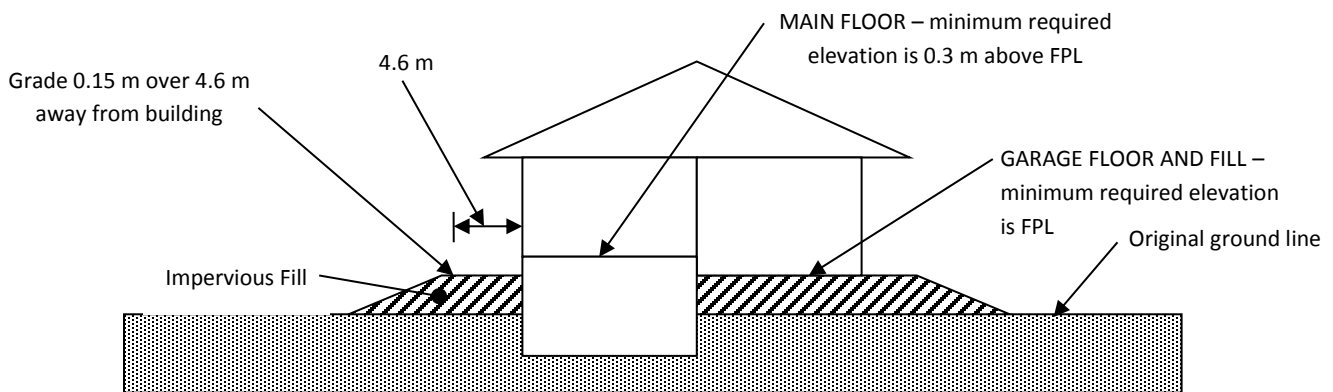


- **Granaries; farm machinery sheds; other buildings used for the storage of agricultural produce; workshops; and sheds used for the storage of immovable equipment or material or hazardous material:**
  - The floor elevation equal to the FPL minus 0.3 metres. The top of fill elevation equal to the FPL minus 0.6 metres.

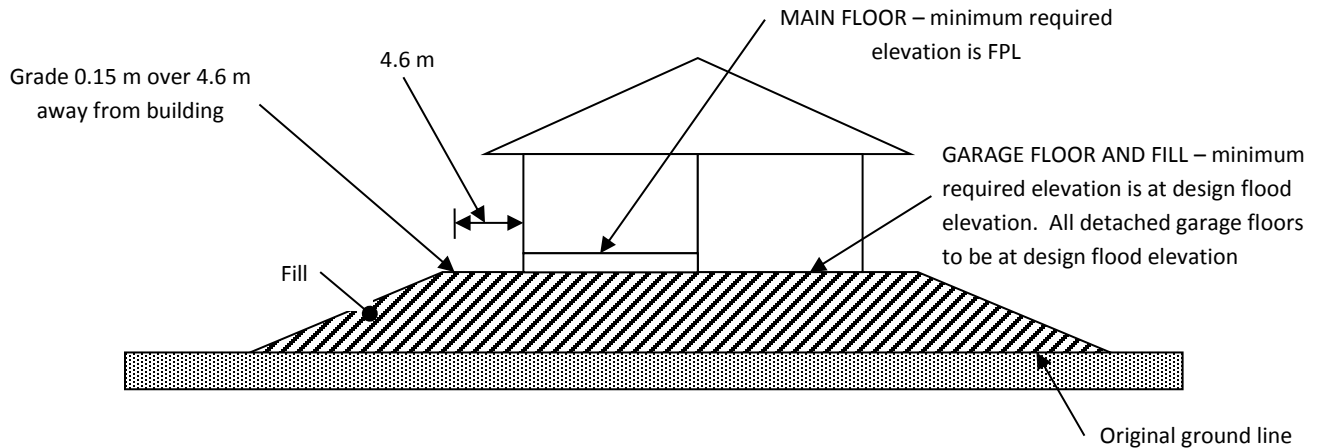


- **Home, farm or business buildings with a basement and an attached garage:**

- The main floor at FPL plus 0.3 m, garage floor at FPL.



- **Home, farm or business buildings without a basement with an attached garage. Also for all detached garages:**
  - The garage floor equal to the design flood elevation.



- **Raising Roads**
  - Roads raised as part of a flood protection dike must be at the minimum required elevation.

Flood protection projects may be constructed higher than the above stated minimum required elevations. However, the Government of Manitoba's cost-shared contribution is limited to 0.9 metres higher for raised buildings, and 0.3 metres higher for dike or terracing projects.

Applicants will be provided with site-specific flood protection levels. A "build-to" mark will be placed on-site indicating the minimum elevation that the flood protection works are to be built to. Manitoba reserves the right to adjust the site-specific flood protection level, even after the application has been approved and the applicant has signed an Agreement with Manitoba to undertake their project. The site-specific flood protection level would only be adjusted where an error had been made in the initial flood protection determination. The adjustment would not be made once construction was underway.



## **FLOOD PROTECTION FINANCIAL ASSISTANCE**

For approved projects for the flood protection of home, farm and business buildings, Manitoba will pay 86% of eligible costs, to a maximum cost-shared project cost of \$100,000.

<b>FLOOD PROTECTION FINANCIAL ASSISTANCE AVAILABLE FOR APPROVED PROJECTS</b>			
<b>Type of Building</b>	<b>Maximum Cost-Shared Project Cost</b>	<b>Manitoba's Maximum Contribution</b>	<b>Owner's Contribution*</b>
Home, farm or business	\$100,000	\$86,000	\$14,000
<b>* plus all costs over the Maximum Cost-Shared Project Cost</b>			

## **POLICIES/GUIDELINES**

### **Proof of Ownership:**

- Home – tax bill showing Education Property Tax Credit and government issued identification (such as Manitoba Health Card or drivers licence, income tax return).
- Farm – income tax return showing farming income for property being applied for.
- Business – income tax return showing business income for the property being applied for. Documents showing signing authority for the business must also be provided.

### **Excluded Work:**

- Financial assistance will not be provided for the following:
  - Any work which is not directly related to the approved permanent flood protection works.
  - Flood protection work that has been paid for by the Manitoba Emergency Measures Organization (EMO) or by private insurance providers.
  - Upgrades or improvements to buildings which are beyond the original (pre-flood) condition of the buildings.

### **Submitting Quotes:**

- Three competitive quotes are required for all flood protection work components. This requirement may be waived or modified at the discretion of the Program Manager only where the pool of contractors available for a particular type of work is limited.
- All quotes submitted are to be broken down into itemized components as opposed to lump sum prices.
- Where a quote is submitted for an item and the quote exceeds the typical cost for that item, the Program Manager reserves the right to:
  - Request further quotes for the item, or
  - Set a maximum cost for the item, or
  - Reject the item entirely.

**Work by applicant:**

- Applicants participating in the Program may be authorized to use their own equipment to flood protect their buildings, but must first provide three competitive quotes. (This requirement can be modified, at the discretion of the Program Manager.) Typically, payments to the owner will not be more than the amount of the lowest quote. The claimant will be required to submit details of the number of hours worked on the flood protection project and details regarding the type of equipment used. Payments will not be made for equipment larger than what is needed to undertake the work (e.g., using a 400 h.p. tractor when a 200 h.p. tractor is all that is needed to pull a scraper).
- Payments will not be made for project management, travel, meals, accommodation, etc.
- Person hours will be paid at a rate not greater than minimum wage. The claimant will be required to submit details of the date and number of hours worked, and the type of work completed.

**Municipal or Provincial Roads:**

- Applicants may use Municipal or Provincial roads as part of their flood protecting projects, provided that the road is at the required elevation and the building owner has obtained written permission from the required authority, such as the municipality or Manitoba Infrastructure. This permission includes authorization to complete a dike closure on the road during future flood events if required.

**Moving Option:**

- For the moving option, the owner must remove all eligible buildings from the existing site; decommission cisterns and any wastewater systems as per Manitoba Sustainable Development requirements; cap wells; clear away or level the foundations of all eligible relocated buildings to grade such that there are no hazards present.

**Soil Conditions:**

- Manitoba is not responsible for ensuring that existing soil conditions are adequate for the proposed flood protection; nor for any costs or damages to the Landowner resulting from failure of the flood protection as a result of the existing soil conditions.

**Footing Protection:**

- Where footings or foundations are exposed to the erosive forces of wave action, footing protection must be provided.

**Hiring Professional Engineer:**

- An engineering assessment and design will be required:
  - Where flood protection projects such as dikes, pads, terracing or raised foundations are near river banks, shorelines, depression areas, unstable slopes or areas with erosion concerns.
  - For retaining walls.
  - Where the approved flood protection method results in a structural change to a building foundation.
  - For all new foundations.
- Professional Engineers must be members in good standing in Engineers Geoscientists Manitoba and licensed to practice in Manitoba.

**Plan Approval:**

- All new foundation plans must be prepared by a Professional Engineer and submitted for review. Acceptance of the engineered plans will be from the perspective of the suitability of the proposed plan to provide flood protection. The review and acceptance of these drawings does not relieve the Professional Engineer that prepared the drawings of his/her responsibility for the drawings and designs provided.
- Engineered proposals for proposed flood protection works will be rejected if the proposed works are considered to be inadequate to provide appropriate flood protection.

**Manitoba Access:**

- Applicants must grant access to employees and agents of Manitoba onto their property for the purposes of the Program.

**Payments:**

- Payments may be made upon functional completion of a project if it achieves adequate flood protection of the building and if all minimum Program requirements have been met.
- If the moving option has been approved, no payments will be made until the building at the new location is on the new foundation and the original site has been dealt with as described above in "Moving Option".
- Where some items have not been completed, Manitoba may hold back up to double the cost of completing those uncompleted items.
- Once a project has been completed, a final payment will be made which would include the release of any previous holdback amounts.

**Refunds/Overpayments:**

- If it is determined by the Program Manager that a payment in contravention of the Program Guidelines, Agreement terms and conditions and/or the laws of the Government of Manitoba or Canada, has been received by the applicant, such payment will be considered to be a debt owing by the applicant to the Government of Manitoba. The applicant agrees to refund such payment to the Government of Manitoba within thirty (30) days of notice being provided to the applicant. The applicant's failure to refund such payment by the prescribed deadline may result in the debt being set off against money owed by the Government of Manitoba to the applicant. Interest charges based on an annual interest rate of 5.0% will be added to any debt not repaid by the prescribed deadline.

**Completion dates:**

- Applications to the 2015 Individual Flood Protection Initiative must be received or postmarked no later than September 30, 2015. The 2015 Flood Protection Initiative is scheduled to terminate on March 31, 2020.

**False or Misleading Information:**

- Where an applicant has submitted false or misleading information (either before the application is approved or after), Manitoba maintains the right to not approve the particular application; terminate the applicant's agreement; or take other such action as may be required. Where an applicant's agreement is terminated, the applicant may be liable to repay all Program payments received. The applicant may also be subject to prosecution in these cases.

### **Debts to Government:**

- Program payments may be deducted and applied to any debts owed by the applicant to the Government of Manitoba.

### **Termination of the Program:**

- The Minister may terminate the Program at any time, without prior notice.

### **PROJECT MANAGEMENT**

The owner of a building approved for flood protection financial assistance is the project manager of the proposed works and is responsible for understanding the scope of the project; checking references and hiring qualified contractors and Professional Engineers; ensuring all work is completed satisfactorily; and making payments to contractors, Professional Engineers or trades.

Building owners are responsible for ensuring that existing soil conditions are adequate for the proposed flood protection works.

It is recommended that building owners ensure that any and all workers hired to undertake any part of the proposed flood protection works have their own coverage under *The Workers Compensation Act*.

It is recommended that building owners ensure that any firms hired to undertake any part of the proposed flood protection works have adequate third party liability insurance; have a recognized safety program; and comply with *The Workplace Safety and Health Act*. Building owners are encouraged to check references of contractors and it is suggested that the Better Business Bureau be contacted as well.

### **SUBMITTING INVOICES AND RECEIPTS**

The applicant is responsible for paying contractors, Professional Engineers or trades undertaking the approved flood protection works. Applicants receiving financial assistance under this Program must submit original invoices and receipts as part of the process of receiving financial assistance. Financial assistance payments will only be issued to the applicants.

### **ASSIGNMENT OF AGREEMENT**

If an applicant decides to sell his/her property which is the subject of an Executed Agreement under this Program, the applicant (together with the prospective property purchaser) must submit an application to the Program Manager for approval of the assignment of the Executed Agreement to the prospective purchaser. This must be done prior to the sale of the property. **If** the prospective purchaser meets the Program's eligibility criteria and agrees to be bound as the owner to all of the terms and conditions of the Program, the assignment application may be approved. Such approval will be conditional on the title to the property being transferred to the prospective purchaser.

An application for an assignment can be obtained by contacting Program staff as indicated in the "Contacting Program Staff" section below.

## **PROGRAM DOCUMENTS**

Attached to these Program Guidelines please find:

- Construction Guidelines
- Eligible and Ineligible Items

## **PROCEDURE**

All applications and proposed projects are subject to the policies and guidelines contained in this document, and any ancillary protocols.

### **Step 1 - Application Form:**

Complete an application form, and

- (1) scan and forward it electronically to [floodproofing@gov.mb.ca](mailto:floodproofing@gov.mb.ca) , or
- (2) fax it to: (204) 945-7419, or
- (3) mail it to: 2015 Individual Flood Protection Initiative  
280 Broadway  
Winnipeg MB R3C 0R8

Applications to the 2015 Individual Flood Protection Initiative must be received or postmarked no later than September 30, 2015.

- The application should be filled out as completely as possible.
- The applicant should provide either an e-mail address or a telephone number where he or she can be reached during normal business hours.
- Applicants are required to provide a copy of a current municipal tax bill. This will ensure that the legal address of the property is listed correctly and that the applicant is the owner of the building.
- Receipt of an application does not create a legally binding obligation on Manitoba to provide financial assistance to the applicant. That obligation will only be created when Manitoba has executed (i.e., signed) the 2015 Individual Flood Protection Initiative Agreement.

### **Step 2 - Confirmation:**

All applicants will receive confirmation that their application has been received.

### **Step 3 - Site Inspection:**

A Project Inspector will contact the applicant to arrange a site visit to the property. The inspector will prepare a report consisting of the type(s) of building(s) on the property; years and depth of flooding on the property; and the proposed flood protection works. Photos and coordinates of the site will also be taken. The site will be surveyed, and once the project has been approved, a “build-to” mark will be placed on the property. The build-to mark is typically a nail in a tree or hydro pole indicating the minimum required elevation for flood protection for the approved flood protection works.

#### **Step 4 - Submission of Documents to Program Manager:**

The Project Inspector will submit his report together with photos and other supporting documents to the Program Manager.

#### **Step 5 - Building Owner and Project Evaluation:**

The Program Manager will first evaluate the Inspector Report to determine eligibility to receive financial assistance through the Program. Once eligibility has been confirmed, the proposed project will be assessed to ensure that it will adequately meet the flood protection requirement in the most cost effective and practical manner.

Applicants will be informed in writing if they are considered to be ineligible, or if their projects are not approved.

#### **Step 6 - Procedure for Eligible Applications:**

Once the project has been accepted for financial assistance, the owner will receive two copies of an Agreement. Both copies of the Agreement are to be signed by the owner and returned with three quotes for the completion of the approved proposed project.

The quotes will be reviewed by Program staff to ensure that the items identified in the quotes are necessary to undertake the approved flood protection works. As well, the items will be reviewed to ensure that they are eligible.

Where a quote is submitted for an item and the quote exceeds the typical cost for that item, the Program Manager reserves the right to:

- Request further quotes for the item, or
- Set a maximum cost for the item, or
- Reject the item entirely.

A Project Description document will be prepared which describes the approved flood protection works and the minimum required elevation for flood protection for the approved flood protection works.

An Approved Project Cost Sheet will be prepared which defines the lowest cost items approved from the quotes submitted.

Once the Agreements have been signed by Manitoba (that is, “executed”), one copy of the Executed Agreement will remain with Manitoba, and one copy of the Executed Agreement will be returned to the building owner. This Executed Agreement will be the building owner’s authorization to proceed with the approved flood protection works.

Executed Agreements will have an expiry date such that the Applicant will have at least one construction season within which to complete their flood protection project. Extensions to the expiry date can only be granted by the Program Manager. Extensions will only be granted under exceptional circumstances.

#### **Step 7 - Project Compliance:**

The applicant will notify their Project Inspector when their project is substantially complete.

A Project Inspector will inspect and survey the project to ensure that the project complies with minimum Program requirements. If the works done to date do not meet minimum Program requirements, the applicant will be required to address the deficiencies. Once the deficiencies have been addressed, the project would be considered functional from a flood protection perspective.

The project will be considered to be complete when the project complies with Program requirements and all items approved for financial assistance have been completed.

### **Step 8 - Payment:**

When a project is considered functional, payment can be made for the work done. Where some items from the Approved Project Cost Sheet have not been completed, Manitoba may hold back up to double the cost of completing those uncompleted items.

Once the project has been completed, that is, it complies with Program requirements and all the items approved on the Approved Project Cost Sheet have been completed, the final payment will be made. If any funds had been previously held back, they will be released at this time as well.

### **APPEALS**

Program appeals are limited to:

- Contesting the non-approval decision regarding eligibility in the 2015 Individual Flood Protection Initiative.
- Contesting the decision to not provide financial assistance for an item submitted by the owner.

Appeals must be submitted within 90 days of the non-approval decision.

Appeals must be made in writing to:

The Appeals Board  
2015 Individual Flood Protection Initiative  
c/o Director's Office  
Manitoba Infrastructure  
280 Broadway  
Winnipeg MB R3C 0R8

### **CONTACTING PROGRAM STAFF**

For a copy of this program guidelines document, additional application forms, links to useful websites and periodic Program updates, please visit the Manitoba Infrastructure website (<http://www.gov.mb.ca/mit/wms/wm/2015ifpi.html>).

### **Contact us:**

- By mail at:  
2015 Individual Flood Protection Initiative  
280 Broadway  
Winnipeg MB R3C 0R8
- By fax at: (204) 945-7419
- By e-mail at: floodproofing@gov.mb.ca
- By phone at: (204) 945-7428
- Or toll-free at: 1-855-415-4530

### **CONSTRUCTION GUIDELINES**

#### **Construction Guidelines for Earthworks**

To be approved for earthworks, the applicant must demonstrate ownership of the building, as well as ownership of the land on which the earthworks will be built.

The following are guidelines to be followed when the Owner flood protects by the construction of earthworks:

- The minimum required elevation for flood protection for fill and main floor elevations must be met (build-to marks are set by surveyors and final compliance surveys are done once work is functional or completed).
- The Owner should have the contractor construct pads and dikes to higher levels than the minimum required elevation for flood protection to allow for settlement.
- It is suggested that Owners allow for 25 millimetres of settlement per 0.3 metres of embankment height.
- Samples of dike or terracing materials must be submitted for approval prior to the commencement of any dike or terracing construction work. If MIT considers the suitability of the submitted samples to be questionable for dike or terracing construction, the owner will be required to obtain and submit a geotechnical report of the material complete with a dike or terracing design prepared by a Professional Engineer.
- The recommended minimum top width for dikes is 3 metres.
  - Dike top widths can be reduced where flood waters rise and recede fairly quickly.
  - In these situations, the top width can be reduced depending on the quality of the dike construction material as determined by the Program Manager.
- The minimum dike top width is 2 metres.
- The contractor should compact the fill in lifts not exceeding 150 millimetres. Contractors should strive to attain a dry density of 95% of the maximum Standard Proctor dry density.
- Compaction and scarification equipment should be used when required.
- Clay material should be used for dike construction.
- Fill heights 1.5 metres and less require a side slope not steeper than 3 horizontal to 1 vertical.



- Fill heights between 1.5 metres and 3 metres require a side slope not steeper than 4 horizontal to 1 vertical.
- Fill heights greater than 3 metres require a side slope not steeper than 5 horizontal to 1 vertical.
- Terracing:
  - Some homes are already at the required elevation, but the earth fill around the home is too low. Where a home with a basement is already at the required elevation, terracing consists of raising the land immediately around the home to the flood protection level.
  - Terracing is available as a flood protection option where soil conditions are such that terracing will reduce the threat of flood waters reaching the home. Terracing would not be a flood protection option where homes are located in sandy or porous soils.
  - Terracing funding is only available for the supply and placement of earth fill to a maximum top width of 4.6 metres from the foundation.
- Dike parameters as presented here are guidelines only. Side slopes may have to be adjusted depending on dike material being used and existing soil conditions.
- Where one or more segments of a dike use an existing road, approval must be obtained from the appropriate authorities in writing. The road must be raised to the flood protection level. Gravel and pavement must be stripped from the road prior to raising. This reclaimed road surface material can be stockpiled for re-use.
- If space is limited, the Owner may choose to use a retaining wall for containment of fill material. Retaining walls are to be designed by registered Professional Engineers with suitable experience.
- An engineering assessment may be required for stability and erosion concerns. The Owner must obtain the services of a Professional Engineer when working near riverbanks, shorelines, depression areas or any unstable slopes or where there are erosion concerns. In areas with slope stability concerns, it is preferred that the works be set back a suitable distance from the slope.
- Prior to placement of fill material for dike construction, sod and all organic material should be removed and the dike should be keyed in to the earth.
- Through-dike openings should be kept to a minimum.
- Provision should be made for sealing through-dike openings.
- Provision should be made for internal dike drainage.
- The drain between the building and any septic or holding tank or a common sanitary sewer line should have a backup valve.
- Weeping tiles should drain to a covered sump pit equipped with a submersible pump and discharge piping.
- The Owner is to ensure that all works are completely on their property and that adequate set backs are maintained from adjacent properties.
- The flood protection method employed must be the most cost effective method that is practical.
- The constructed works must adhere to all building codes; and all permits and authorizations including municipal requirements must be in place before work begins.

## Construction Guidelines for Raising

To be approved for raising, the applicant must demonstrate ownership of the building.

The following are guidelines to be followed when the Owner raises a building:

- The minimum required elevation for flood protection for fill and main floor elevations must be met. (Build-to marks are set by surveyors. Final compliance surveys are done once work is functional or complete.)
- The Owner should have the contractor construct the foundation to higher levels than the minimum required elevation for flood protection, to allow for settlement.
- Possible methods of raising structures:
  - Raising buildings onto an existing raised foundation.
  - Raising buildings onto a new raised foundation such as a spread footing with pony wall, piles, pad and post, basement (where the original foundation was a basement) or screw piles.
  - For screw pile foundations, the stem cannot extend more than 450 millimetres above grade without lateral bracing.
  - For screw pile foundations where lateral bracing is required, cable bracing is not accepted. Bracing must consist of rigid structural members positively connected to the screw pile stems.
- Plans for new raised foundations must be submitted for review prior to project approval.
- For structures with full basements and basement windows, the window well should be drained to the footing level.
- In the case of surface footings, surface organic materials should be removed.
- Surface footing base material must be protected from erosion. Surface footing base material cannot be left exposed. (Note that many flooded buildings fail due to undermined foundations.) In some situations, options can include the placement of clay soil and re-vegetation or the use of geotextile and rock on the footing base material. At a minimum, the height of the protection should be brought up close to the top of the footing.
- Surface drainage should be directed away from the foundation.
- When raising the structure on posts, piles or piers which extend greater than 3 times the base, interlacing or cross bracing is required to prevent twisting. Posts must be a minimum of 150 millimetres x 150 millimetres.
- In all cases, the beams must be mechanically secured to the posts which must be mechanically secured to the foundation with consideration given to wind and possible wave action.
- The existing floor support beams should be assessed to determine if they meet minimum building code requirements prior to raising. Note that the Manitoba Building Code requires that fabricated beams consist of a minimum of three plies of lumber sized 2 inches x 8 inches or larger based on the calculated loads imposed.

- An engineering assessment of soil conditions for new raised foundations may be required in some cases. In areas with slope stability concerns and erosion concerns, the works must be set back a suitable distance whenever possible.
- Retaining walls require an engineered design.
- If the area under the building is to be enclosed, vapour barrier should be used and adequate ventilation must be maintained as per the Manitoba Building Code.
- The Owner is to ensure that all structures are completely on their property and that adequate set backs are maintained from adjacent properties.
- The constructed works must be permanent (not temporary or emergency works) and be the most cost effective method that is practical.
- The constructed works must adhere to all applicable Manitoba Building Codes and Municipal requirements, and all permits and authorizations must be in place before work begins.
- The electrical distribution panel should be above the flood protection level.
- The potable water shut-off valve should be located above the flood protection level.
- All structures on raised foundations should be anchored against flotation.
- Any immovable equipment or material or hazardous material stored in a detached building should be stored 1.0 metre above the floor level.
- Storage tanks for fuel oil, gasoline or any other liquid or solid should be anchored to prevent flotation and have the vent and filler pipes extend above the flood protection level.

### **ELIGIBLE AND INELIGIBLE ITEMS**

The items below are examples of items which may be eligible for a given project (not all items are eligible for all projects). Project specific item eligibility is determined during the quote approval process.

#### **Eligible Items**

- raising the building on an existing foundation
- construction of a new raised basement or raised grade beam (if the building previously had a basement or grade beam)
- raising and moving the building onto a new raised foundation
- disconnecting and reconnecting all service connections to the raised building (sewer, water, gas, telephone, hydro, cable TV)
- replacement of wastewater system and / or cistern where the existing items are directly impacted by the approved flood protection works, such as by a dike
- driveway realignment or extension to accommodate a raised garage
- raising and moving the primary garage
- costs to raise hydro lines
- fence removal and reinstallation where the existing fence is directly impacted by the approved flood protection works, such as by a dike
- terracing
- top soil and seeding
- tree and stump removal in areas where fill is required to make room for a dike, pad or other approved flood protection works

- sump pumps and pits for new raised foundations and internal drainage for a dike
- storage and moving of contents to a relocated building up to a cost-shared limit of \$1,000
- non-refundable portion of taxes (GST and PST)
- engineering fees where engineering is required by the Program Manager
- reimbursement for engineering fees is limited to one engineering design per project
- construction of retaining walls (if designed by a Professional Engineer)
- well extension to the flood protection level
- removal and reinstallation of central air conditioning units
- removal of outbuildings to make room for a dike, pad, or other flood protection works
- siding on a new raised foundation
- allowance for borrow pit acreage: limited to maximum of 86% of \$1,000/acre to a maximum of 3 acres
- substantiated loan interest charges from an accredited financial institution for eligible related project costs, up to a maximum of 86% of \$2,000; maximum period of loan is nine (9) months
- for the home moving option only: purchase price, including real estate, legal and survey fees for another building lot in a non-flood prone area, up to a maximum of 86% of \$40,000
- for the moving option, costs of:
  - moving eligible buildings
  - removing or levelling the original foundation of eligible moved buildings
  - de-commissioning wastewater systems and capping wells
  - cost of new foundation
  - utility connections
- hurricane straps
- footing protection to protect raised building foundations
- erosion protection only for approved flood protection works
- shoreline erosion protection is ineligible.

### **Ineligible Items**

- all costs if minimum required elevations are not met
- any form of temporary diking or temporary flood protection works
- structural (plywood) dikes
- contractor's fees for submitting quotes
- damages caused by contractors' equipment, for example cracks in a new foundation, or cracks in the walls or windows of a raised building
- costs to flood protect outbuildings
- costs to flood protect cottages or seasonal residences
- concrete for crawl space floors
- any upgrades of buildings such as purchase of gazebos, sunrooms, decks, verandas, pools, hot tubs, Jacuzzis, dog houses, sprinkler / irrigation systems, tool sheds, TV antennas or towers, satellite dishes, air conditioners, flood fighting pumps, lawn ornaments, fountains, fish ponds, swing sets, sand boxes, trees, plants and shrubberies for landscaping, shelterbelt replacement
- hopper-bottomed bins
- sod
- terracing or fill material adjacent to raised foundations in excess of a top width of 4.6 metres from the foundation
- flood related damages

- erosion damage repair
- shoreline erosion protection
- borrow pit closure
- fencing of borrow area
- value of land taken out of production to be occupied by a dike
- purchase of tools, blades, etc.
- portable (gas) sump pumps
- all future costs of operating and / or maintaining the flood protection works
- seepage remediation
- travel, meals, consultation fees, temporary accommodation