

PLANNING AND ECONOMIC DEVELOPMENT COMMITTEE

10-068-O

ORDINANCE NO. \_\_\_\_\_

AN ORDINANCE AMENDING SECTIONS 50-18.1, 50-36.6 AND SECTION 50-41.269 OF CHAPTER 50 OF THE DULUTH CITY CODE, 1959, AS AMENDED, RELATING TO SHORELAND STANDARDS.

CITY PROPOSAL:

The city of Duluth does ordain:

Section 1. That Section 50-18.1 of Chapter 50 be amended to read as follows:

Sec. 50-18.1. Natural Resources Overlay (NR-O) (formerly Chapter 51 *Water Resource Management*).

A. General.

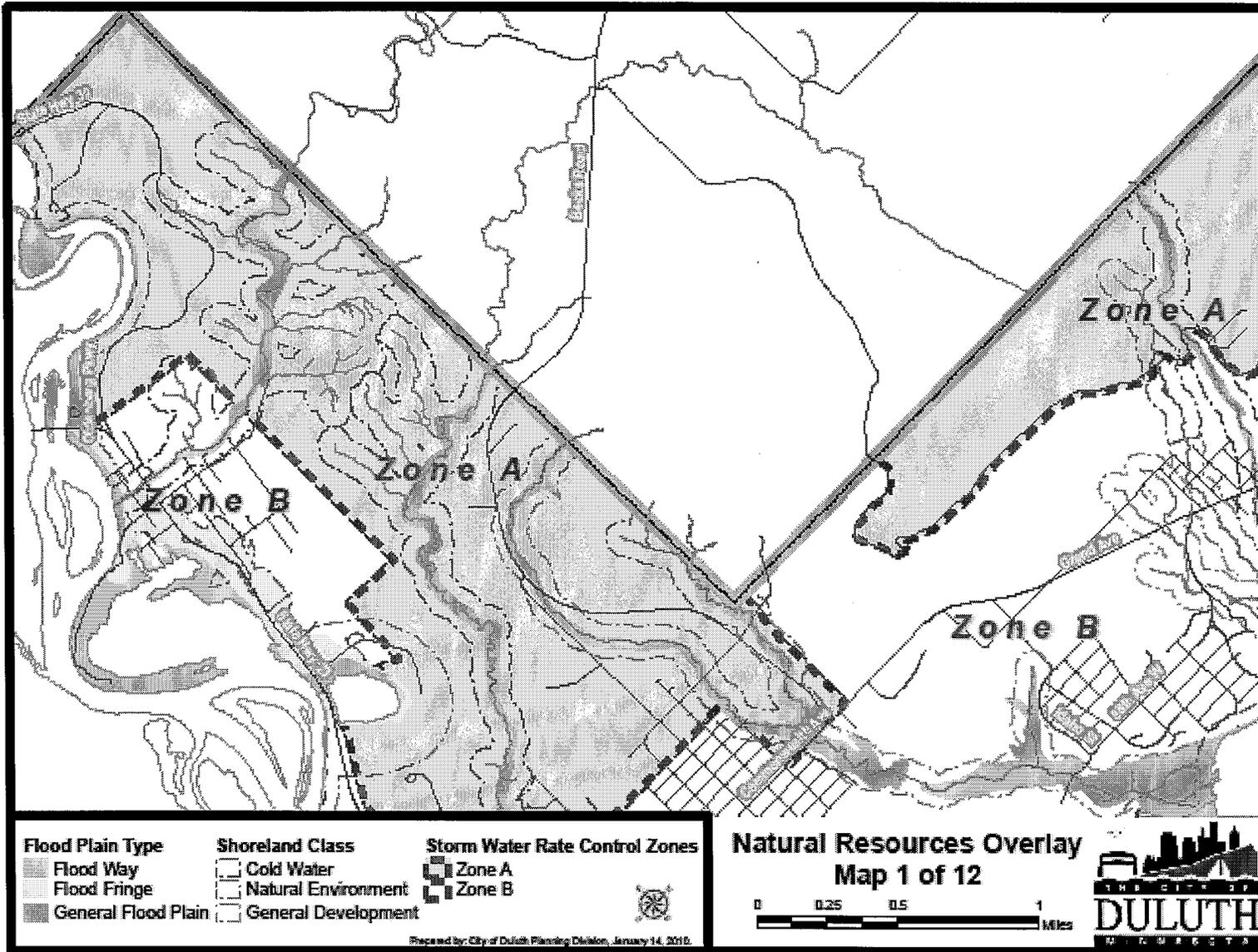
1. Purpose statement.

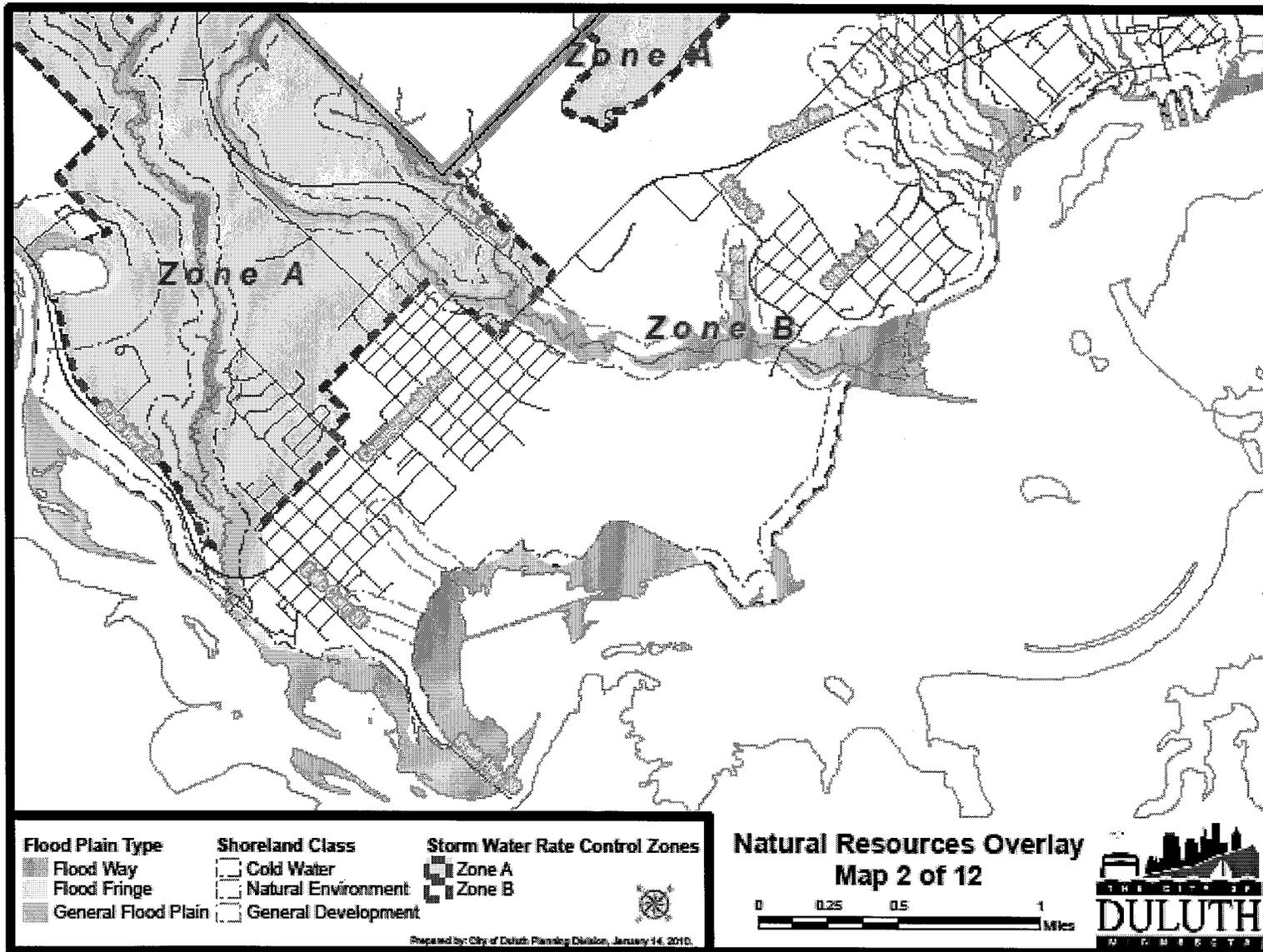
The purpose of this overlay is to promote, preserve and enhance the water resources and environment within the city and protect them from adverse effects caused by poorly sited or incompatible development. It is intended to implement the Minnesota Wetland Conservation Act (WCA), federal emergency management agency (FEMA) rules, and the Minnesota department of natural resources (DNR) shoreland regulations. In accordance with this regulatory framework, wetlands, flood plains and shorelands are protected by regulating developments that would have an adverse or potentially irreversible impact on unique and fragile land, by minimizing conflicts and encouraging compatibility between environmentally sensitive lands, and by requiring detailed review standards and procedures for developments proposed for such areas, thereby achieving a balance between urban growth and development and protection of natural areas;

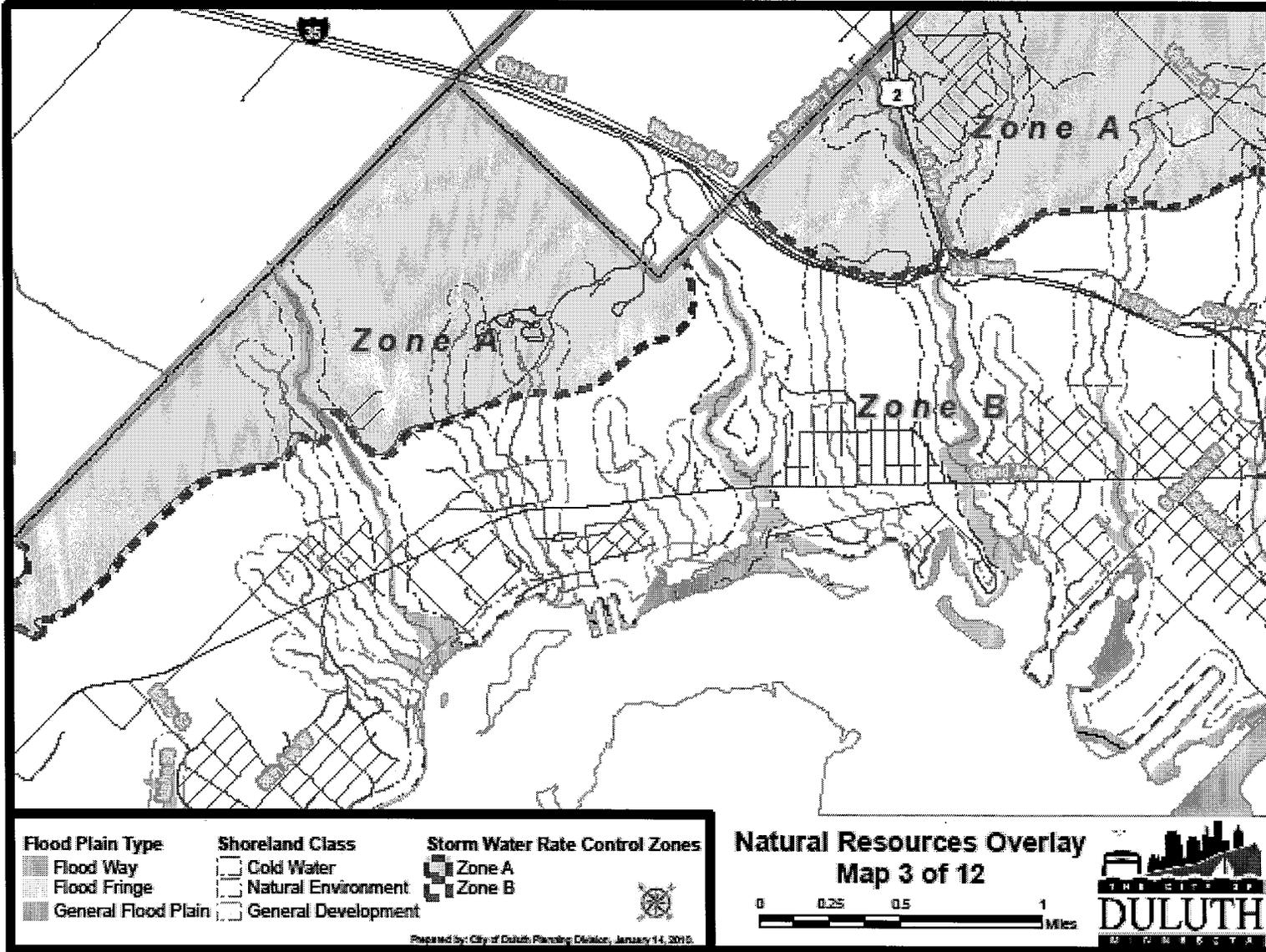
2. NR-O map.

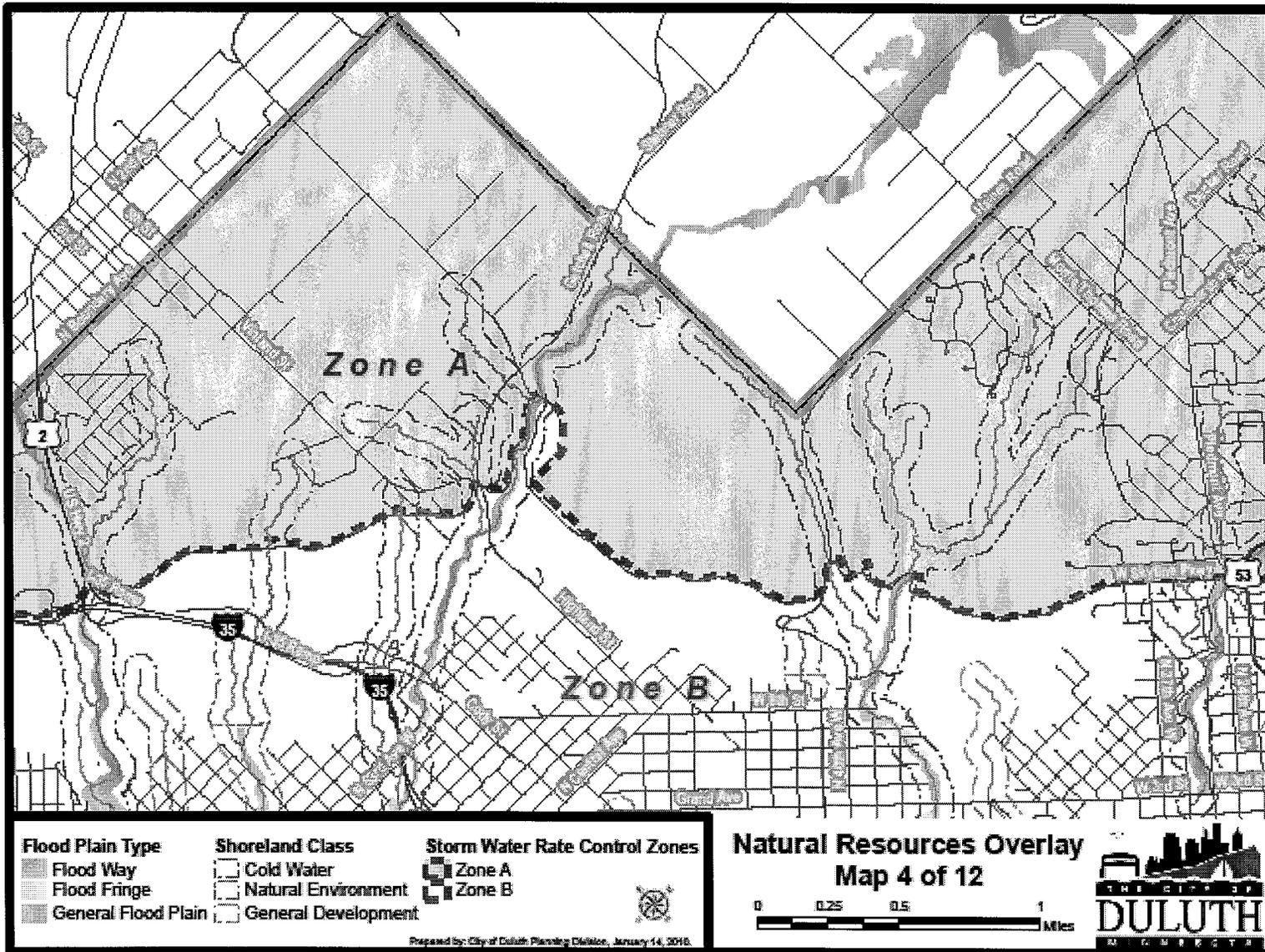
The NR-O map included in this Section contains data from the following sources:

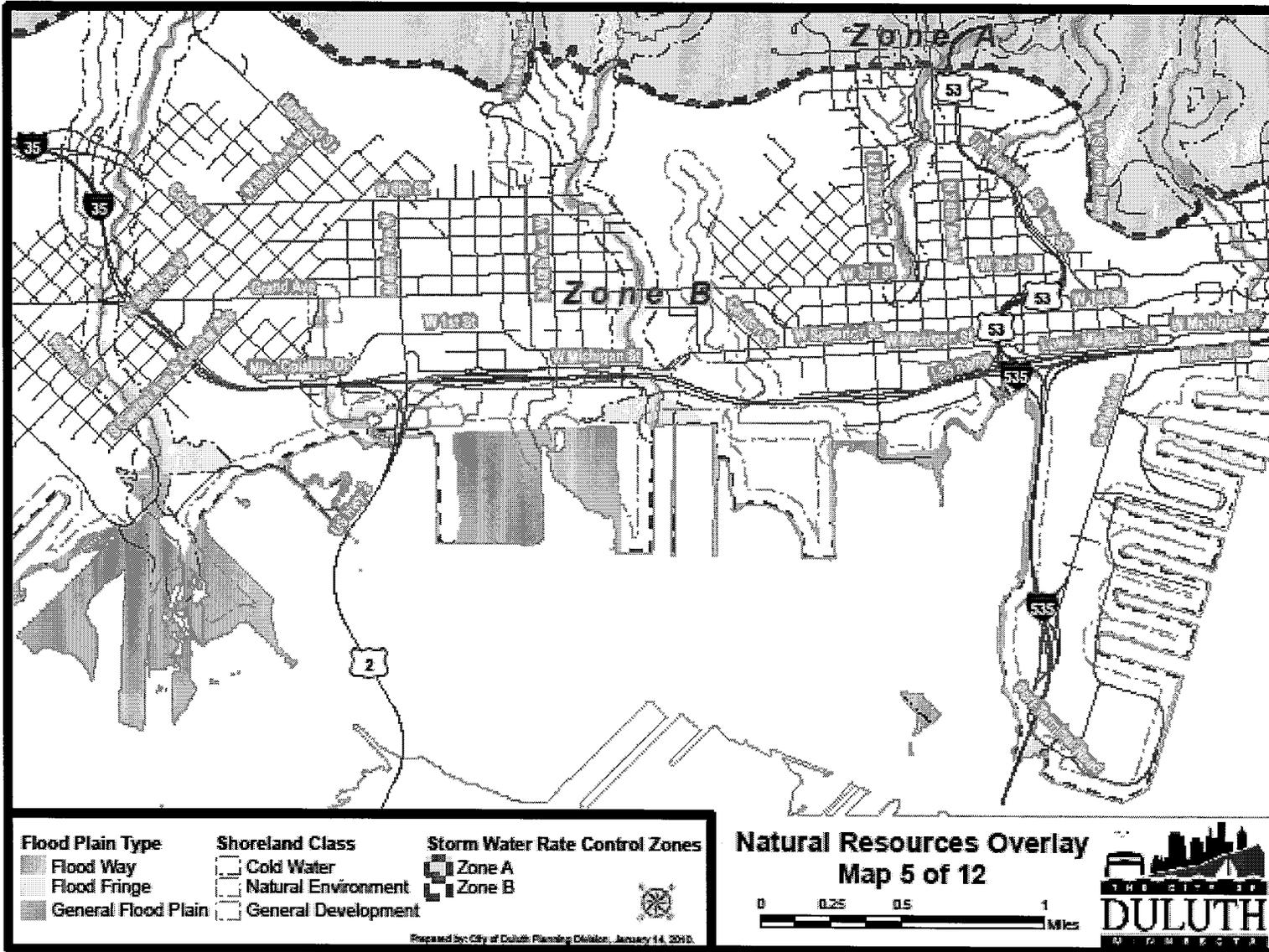
- (a) For wetlands, there is no official wetlands map. All lands in the city that meet the definition of wetlands in Article 6 are considered wetlands for the purposes of this Section;
- (b) For flood plains, the flood boundary and floodway map for Duluth, Minnesota, published with an effective date of February 1, 1980, by the U.S. department of housing and urban development, and all subsequent amendments thereto. Determinations of flood plain status on individual properties shall be made based on the official version of this map on file with the city;
- (c) For shorelands, boundaries shall be based on (i) waters shown as protected on the map and inventory of protected waters in Duluth prepared by the DNR commissioner pursuant to Chapter 199, Laws of Minnesota, 1979, and (ii) selected waters that the city has added to the commissioner's survey as being worthy of shoreland protection. All of these waters are shown on the NR-O map as currently revised as of November 19, 2010;
- (d) Where interpretation is needed as to the exact location of any boundary as shown on an official map, the city engineer shall make the necessary interpretation based on available technical data, and, in the case of flood plains, based particularly on elevations on the regional flood profile or hydraulic modeling data;
- (e) The NR-O map may be amended in the future, and any revisions shall become effective upon adoption of the revised NR-O map as an amendment to this Chapter.

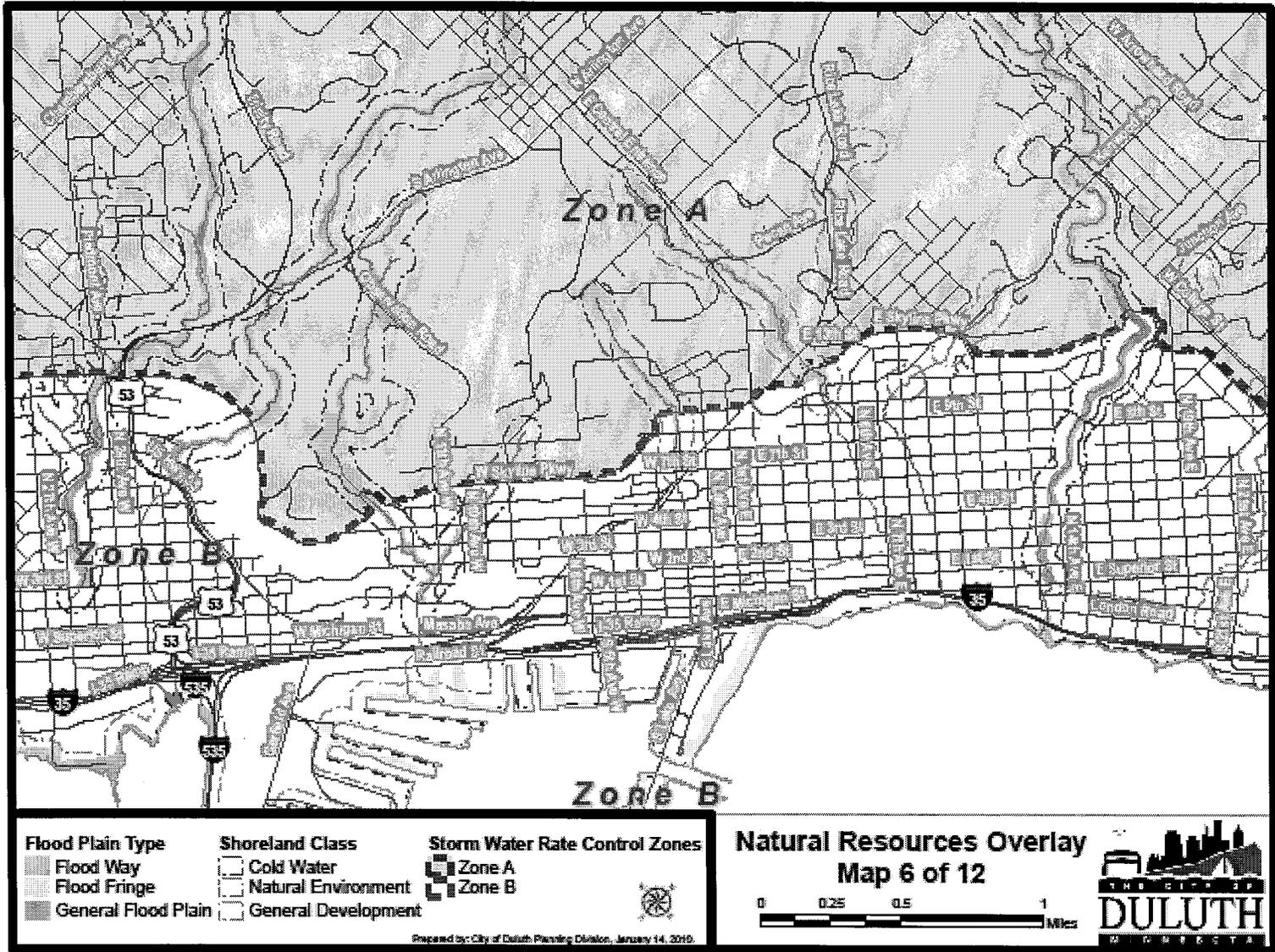


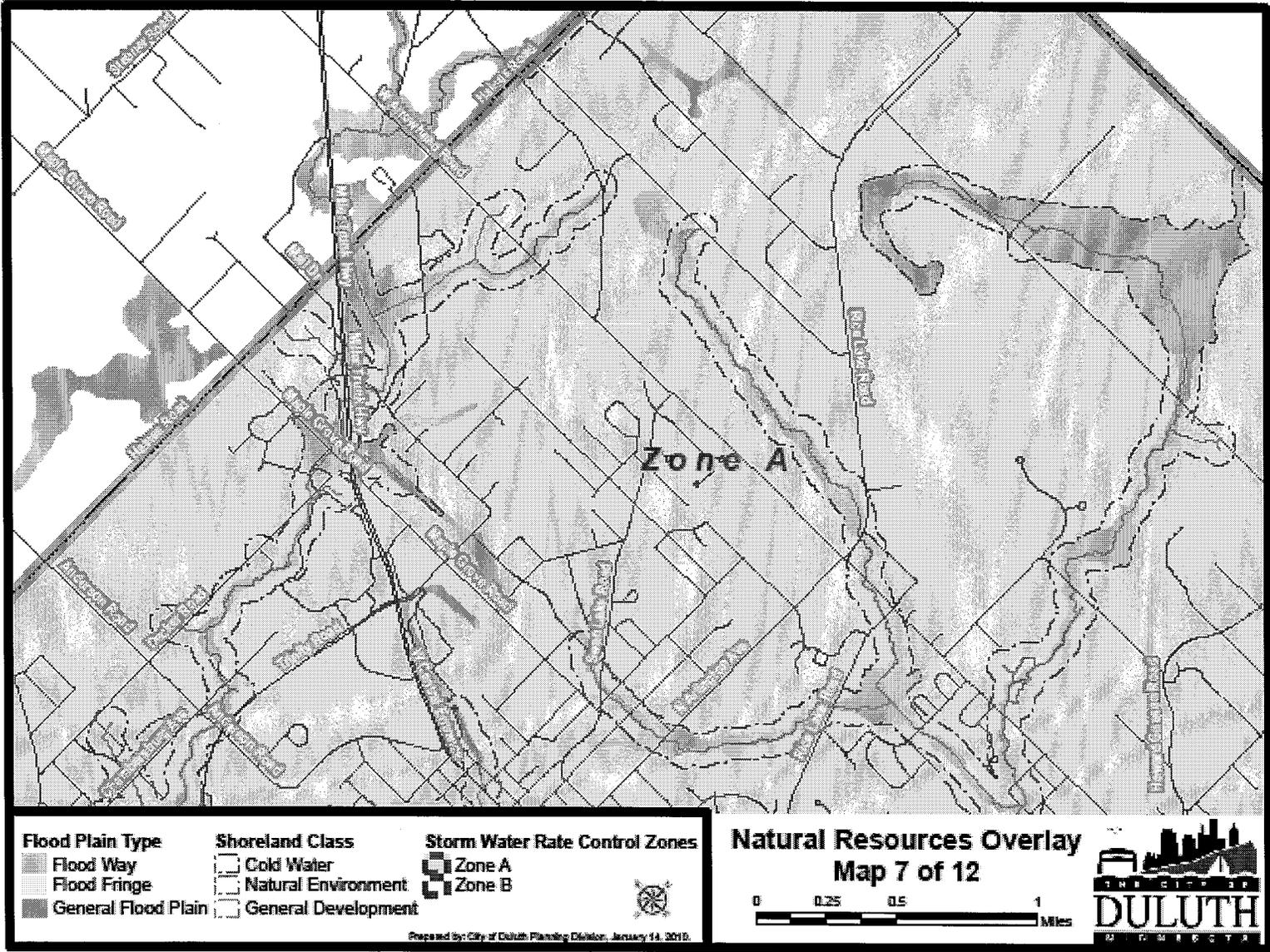


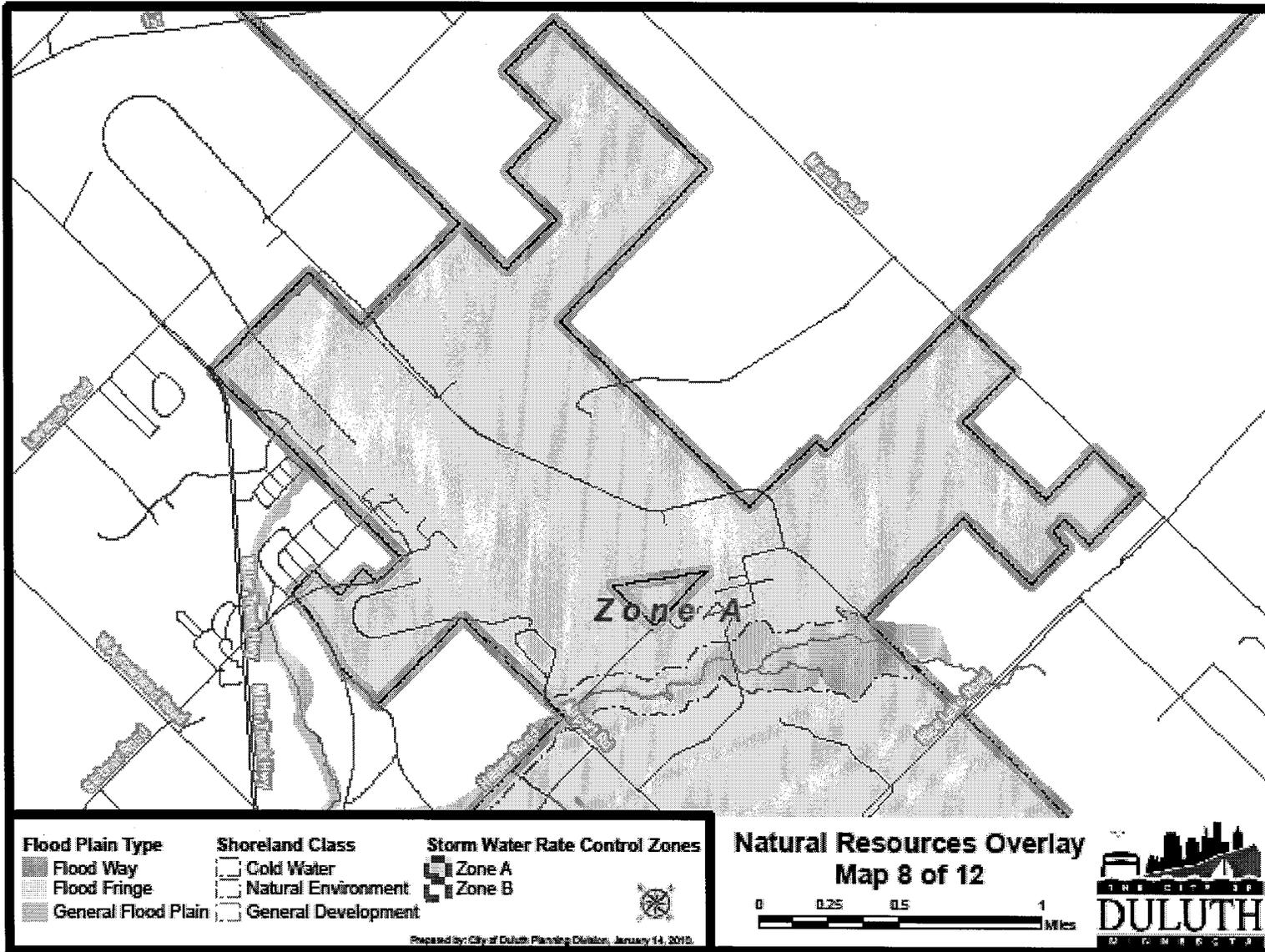


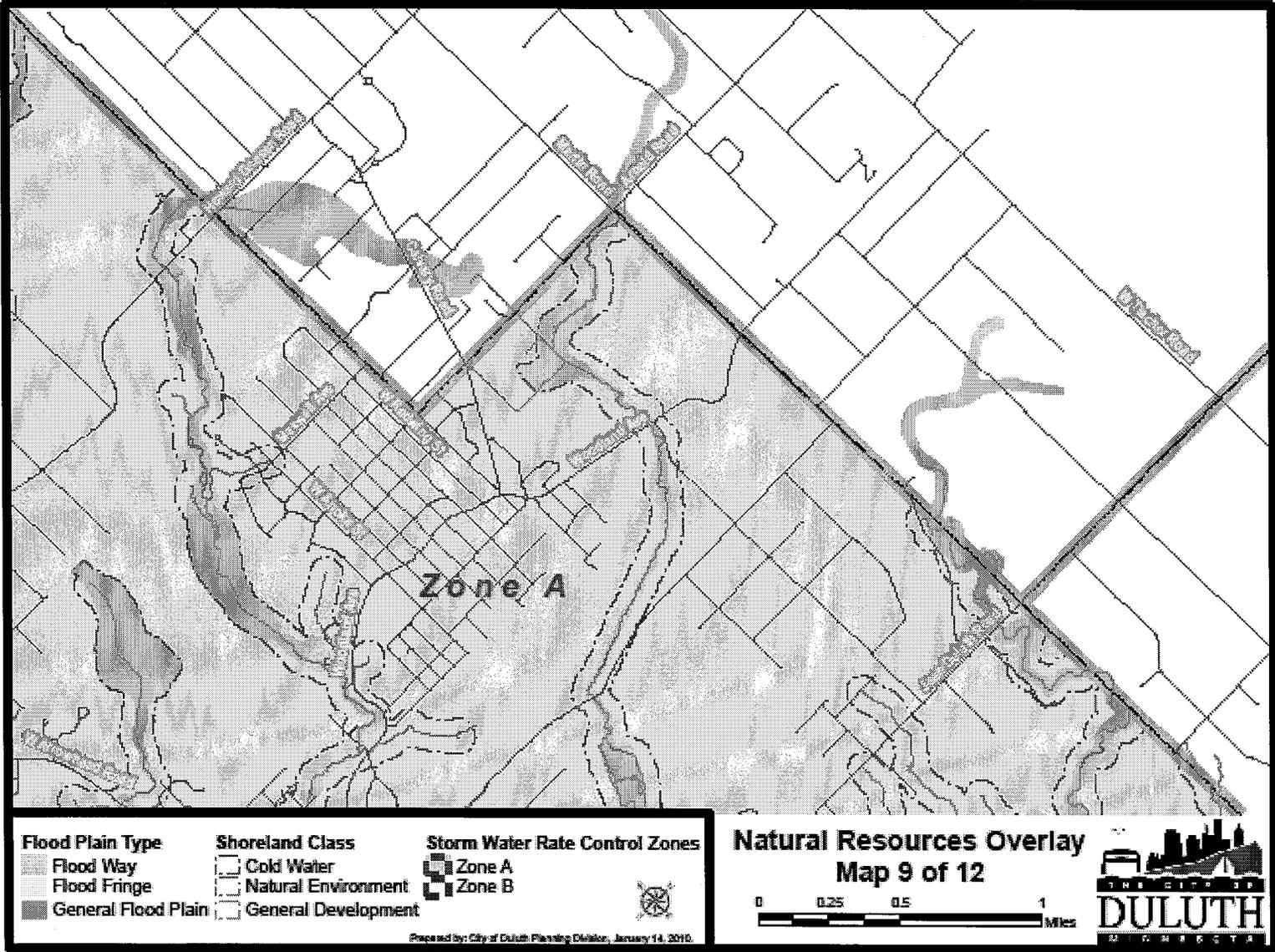


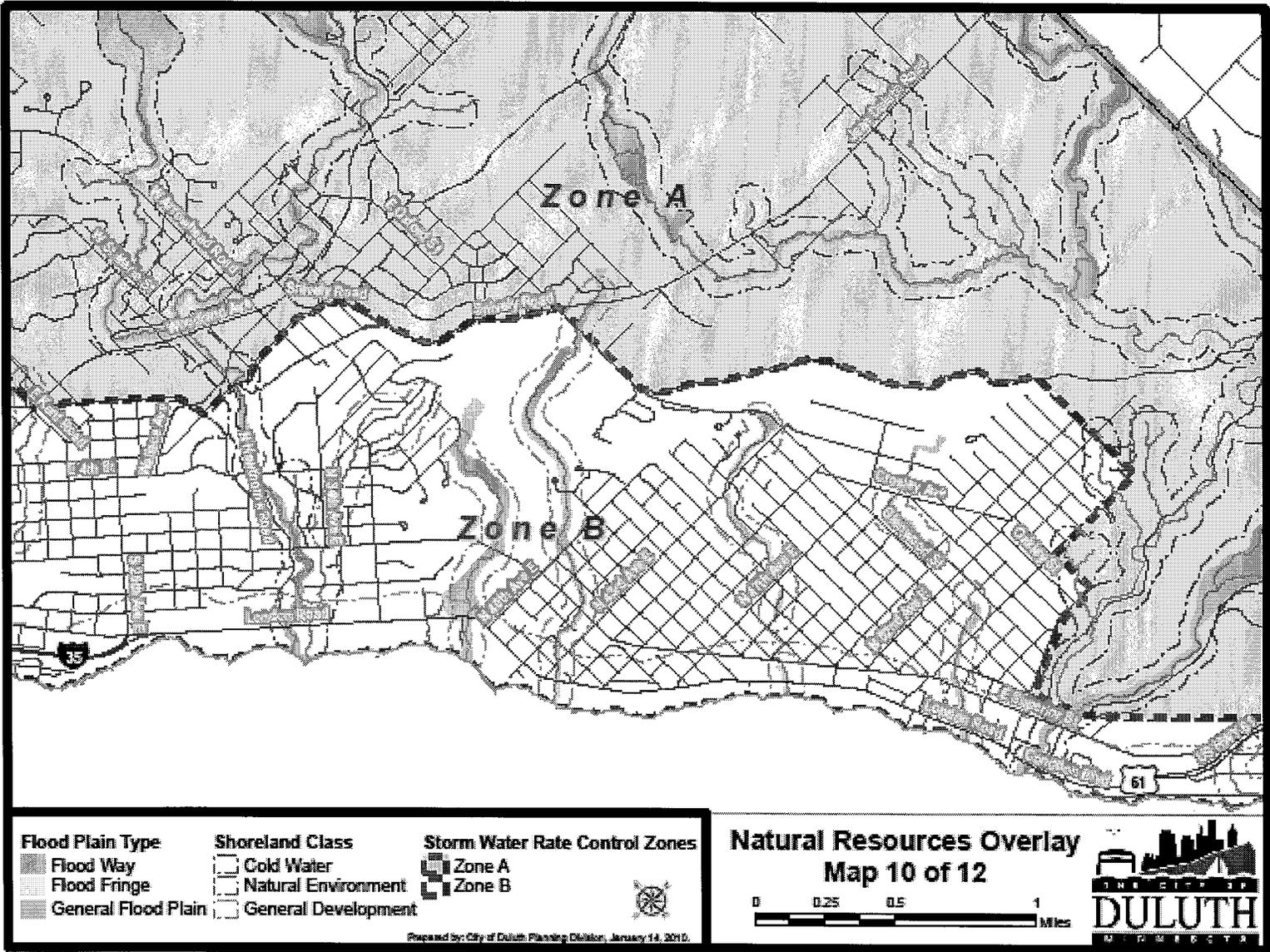


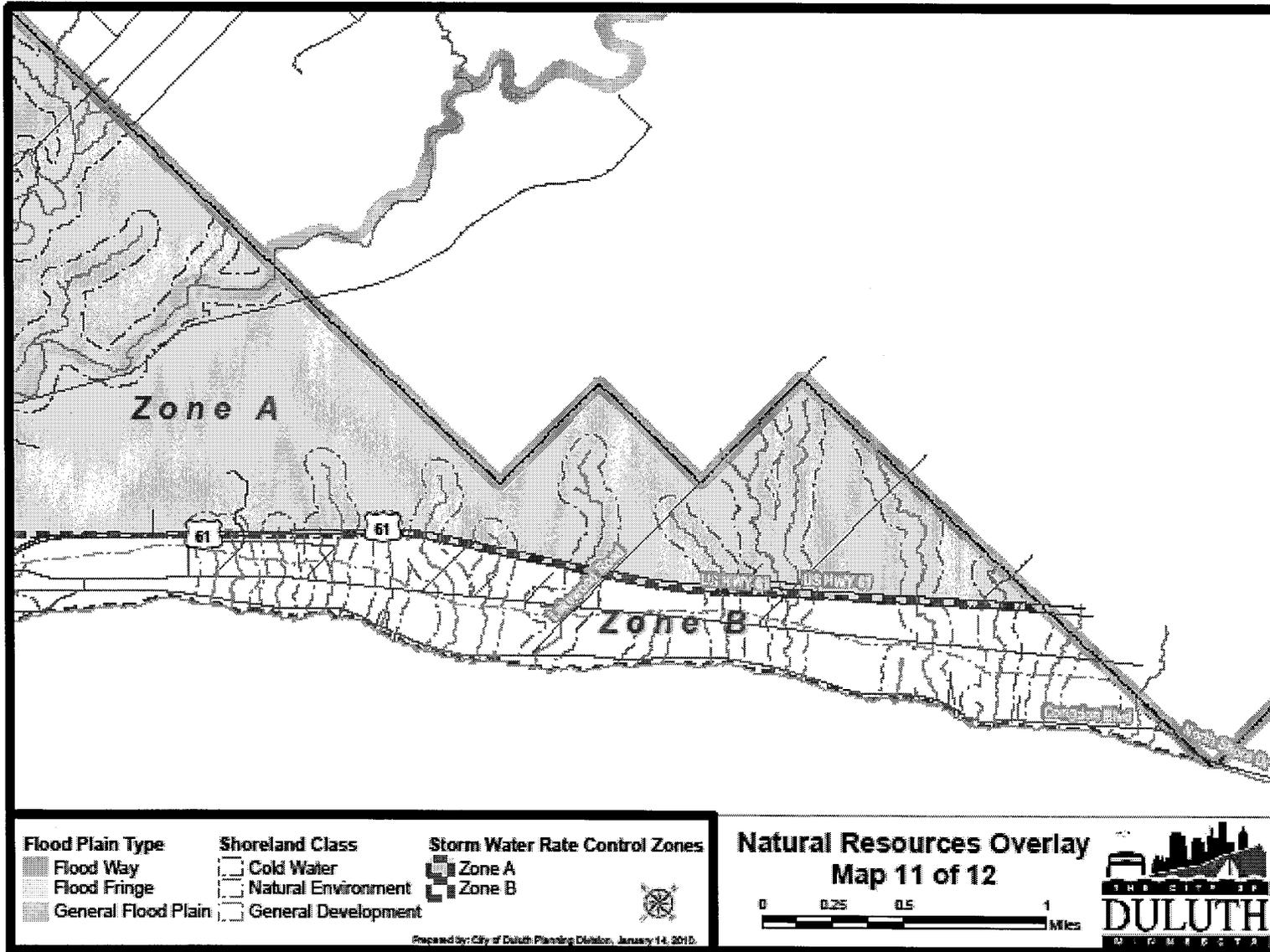


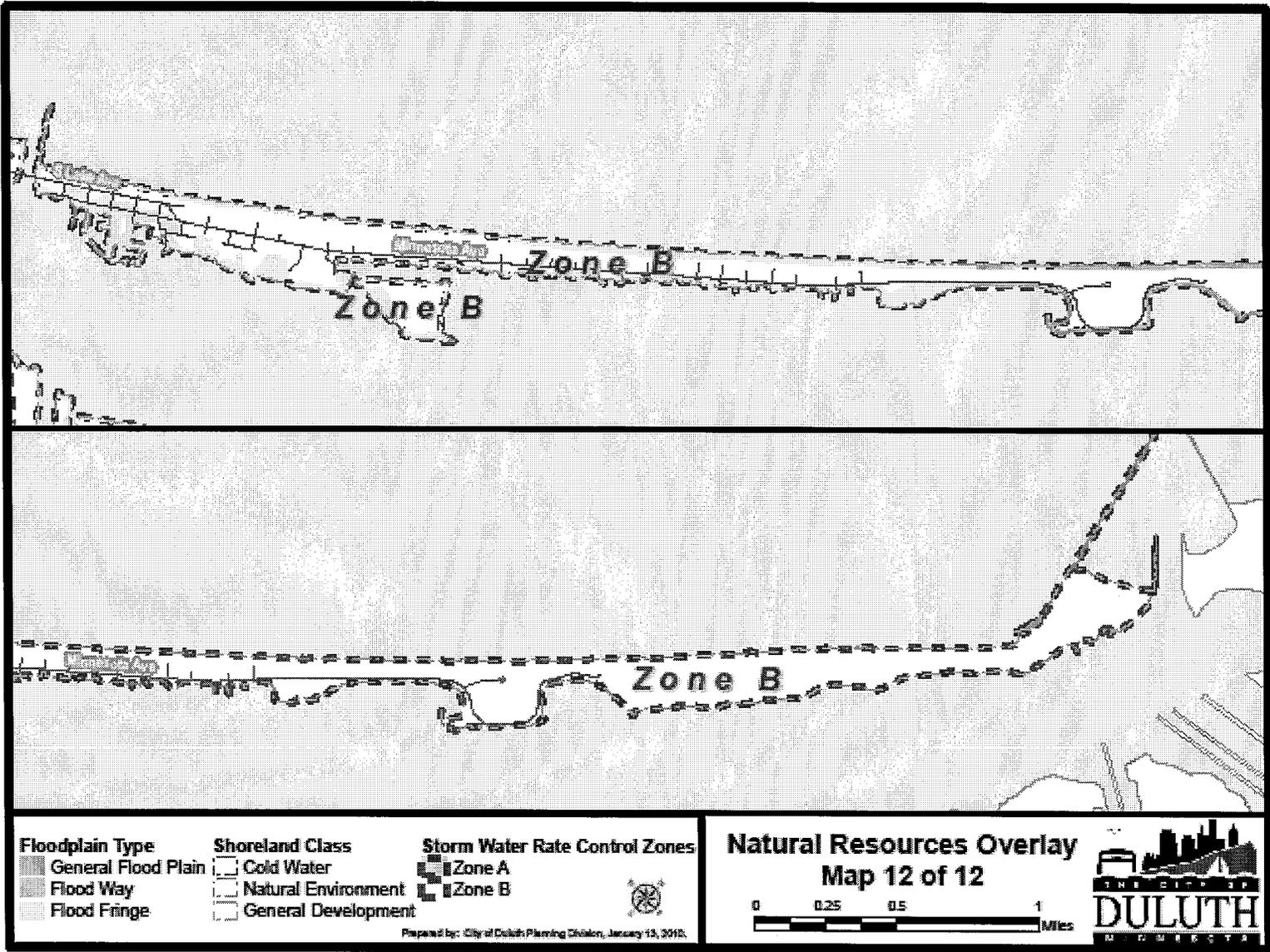






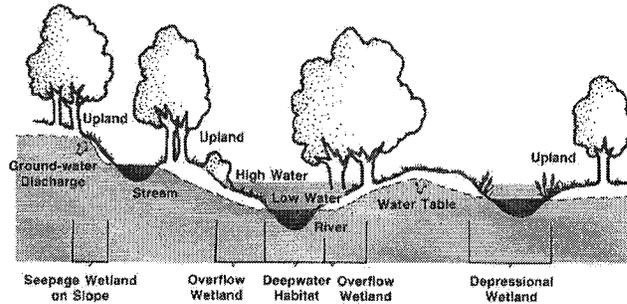






## B. Wetlands.

This Section 50-18 shall apply to all wetlands within the city. All development in the city shall comply with state statutes and regulations. In addition, any development impacting wetlands requires formal approval by the designated city wetland representative.



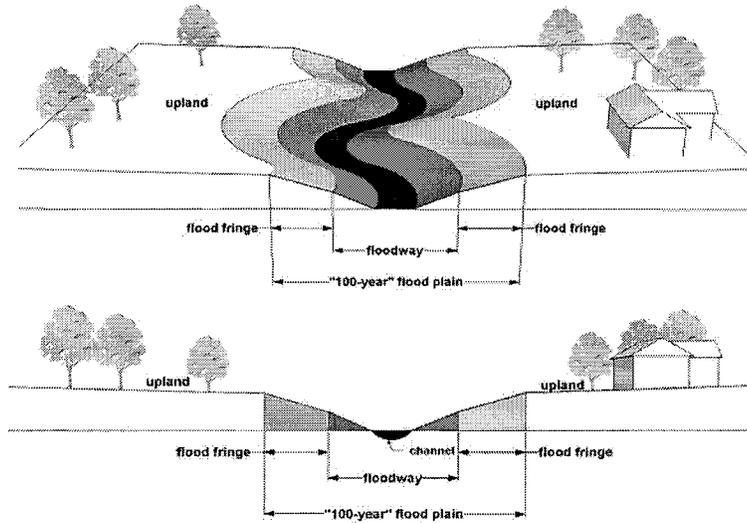
Graphic taken from *Floodplain Management in the United States: An Assessment Report*, prepared for the Federal Interagency Floodplain Management Task Force 1992.

Figure 50-18.1-1: Typical Inland Wetland

1. The building official shall require each permit applicant to specify on the permit application whether or not the proposed site contains wetlands. Regardless of the answer given, if the building official has reasonable grounds to believe the site contains wetlands, the official shall make a determination as to the existence of wetlands. In making that determination, the building official may require any of the following:
  - (a) Require the applicant to submit to submit a complete wetland delineation as outlined in WCA and performed by a professional wetland delineator, including information such as soil analysis, surveys of vegetation and engineering or hydrological data, to aid in the determination;
  - (b) Conduct a site inspection and evaluation;
  - (c) Consult with the city engineer, St. Louis County Soil and Water Conservation District, Board of Water and Soil Resources, and other available wetland experts;
  - (d) Use any other reasonable method to determine if the site contains wetlands;

## C. Flood plains.

This Section shall apply to all lands within the city that are shown as flood plains on the NR-O map. All lands within flood plains shall be divided into floodway districts, flood fringe districts, or general flood plain districts. For purposes of relating those districts to plats and lots within the city, the NR-O map shall be used as a working map in the administration of the flood plain controls unless it is clearly shown that there is an inconsistency between the flood boundary and floodway map and said NR-O Map, in which case the flood boundary and floodway map shall control.



Graphic taken from *Floodplain Management in the United States: An Assessment Report*, prepared for the Federal Interagency Floodplain Management Task Force 1992.

**Figure 50-18.1-2: Flood plain, floodway, and flood fringe**

1. Compliance.

On or after January 28, 1980, no new structure or land shall be used and no structure shall be constructed, located, extended, converted or structurally altered without full compliance with the terms of this Section 50-18.1.C. Within the floodway, flood fringe and general flood plain districts, all uses not listed as permitted uses or special uses are prohibited;

2. Uses and special use permits – floodway.

(a) Permitted uses.

Only the following uses shall be permitted within the floodway, and only if the land use supervisor determines that (a) the use is shown as a permitted use in the underlying zone district in Table 50-19.8, (b) the use has a low flood damage potential, (c) the use will not obstruct flood flows or increase flood elevations, and (d) the use does not involve structures, fill, obstructions, excavations or storage of materials or equipment:

- (i) Agriculture;
- (ii) Industrial, commercial and mixed use loading areas, parking areas and airport landing strips;
- (iii) Outdoor recreation and entertainment facilities that do not include temporary or permanent residences or occupied structures;
- (iv) Residential lawns, gardens, parking areas and play areas.

(b) Special Uses

The following uses involving accessory structures or fill or storage of materials or equipment may be permitted only after the issuance of a special use permit pursuant to Article 5:

- (i) Structures accessory to a permitted use;
- (ii) Mining, extraction and storage of sand, gravel and other materials;

- (iii) Marina or yacht club or accessory residential boat dock;
- (iv) Railroad yard or shipyard and related facilities, electric power transmission lines, major utilities or wireless communication towers and minor utilities and accessory wireless antennas attached to existing structures;
- (v) Bulk storage not listed elsewhere;
- (vi) Placement of fill or construction of fences;
- (vii) Tourist trailer or camp;
- (viii) Water-dependent manufacturing, light or heavy, and water-dependent bulk storage or wholesaling not listed elsewhere;
- (ix) Structural works for flood control such as levees, dikes, and floodwalls constructed to any height where the intent is to protect individual structures;
- (x) Other uses consistent with the stated purposes and provisions of this Section 50.18.1.C;

(c) Standards for special use permits.

A special use permit for uses and structures listed in subsection (b) above shall only be issued if the following standards are met:

- (i) The proposed use or structure will not cause any increase in the stage of the 100-year or regional flood or cause an increase in flood damages in the reach or reaches affected;
- (ii) Any fill deposited in the floodway shall be no more than the minimum amount necessary to grade or landscape, shall not in any way obstruct the flow of flood waters and shall be protected from erosion by the planting of vegetative ground cover, the use of rip rap or other method approved by the city;
- (iii) Accessory structures are not designed for human habitation, shall be constructed and placed on the building site so as to offer the minimum obstruction to the flow of flood waters, shall be constructed whenever possible with the longitudinal axis parallel to the direction of flood flow, shall be placed approximately on the same flood flow lines as those of adjoining structures and shall be floodproofed to the flood protection elevation in accordance with the State Building Code;
- (iv) The building official may require that floodproofed accessory structures meet the following additional standards, if the building official determines that compliance is necessary to carry out the stated purposes of this Section 50-18.1.c:
  - (1) The structure must be adequately anchored to prevent flotation, collapse or lateral movement of the structure and shall be designed to equalize hydrostatic flood forces on exterior walls;
  - (2) Any mechanical and utility equipment in a structure must be elevated to or above the regulatory flood protection elevation or properly floodproofed;
  - (3) The structure must be constructed to allow water to flow through it in case of flooding;
- (v) The use will not include the storage or processing of materials that are, in time of flooding, flammable, explosive or injurious to human, animal or plant life. All materials or equipment

- stored shall be readily removable from the area within the time available after a flood warning;
- (vi) Any structural works for flood control that will change the course, current, or cross-section of wetlands or public waters shall comply with state standards and regulations;
  - (vii) Any levee, dike or floodwall constructed in the floodway shall not cause an increase to the 100-year or regional flood, based on technical analysis that assumes equal conveyance or storage loss on both sides of a waterway.
3. Uses and special use permits – flood fringe.
- (a) Permitted uses.

Those uses listed in Table 50-19.8 as permitted uses in the zone district where the property is located, provided that the building official determines that:

- (i) All structures, including accessory structures, shall be elevated so that a structure's lowest floor is above the regulatory flood protection elevation. The structure's design and as-built condition in relation to the regulatory flood protection elevation must be certified by a professional engineer or architect licensed in Minnesota;
  - (ii) Any non-residential basements below the regulatory flood protection elevation will be structurally dry floodproofed in accordance with the State Building Code;
  - (iii) As an alternative to elevation, accessory structures that constitute a minimal investment and that do not exceed 500 square feet may be internally floodproofed in accordance with Section C.2(c)(iv) and (v) above;
  - (iv) Any placement of fill with a cumulative volume in excess of 1,000 cubic yards at any one time may only be used to elevate a structure in accordance with this subsection (a);
  - (v) Any stored materials or equipment shall be elevated on fill to the regulatory flood protection elevation;
- (b) Special uses.

The placement of more than 1,000 cubic yards of fill or other similar material, other than for the purpose of elevating a structure to the regulatory flood protection elevation, or the storage of materials and equipment below the regulatory flood protection elevation, may be permitted only after the issuance of a special use permit as provided in Article 5. In addition, this use is subject to the limitations on flood plain variances in Article 5 and the following requirements:

- (i) Any fill deposited in the floodway shall be no more than the minimum amount necessary to grade or landscape, shall not in any way obstruct the flow of flood waters and shall be protected from erosion by the planting of vegetative ground cover, the use of rip rap or other method approved by the city;
  - (ii) The use will not include the storage or processing of materials that are, in time of flooding, flammable, explosive or injurious to human, animal or plant life. All materials or equipment stored shall be readily removable from the area within the time available after a flood warning;
- (c) Standards for all flood fringe uses.

- (i) All new principal structures must have vehicular access at or above an elevation not more than two feet below the regulatory flood protection elevation. If a variance to this requirement is granted, limitations on the period of use or occupancy of the structure for times of flooding may be specified;
  - (ii) Flood plain developments shall not adversely affect the hydraulic capacity of the channel and adjoining flood plain;
4. General flood plain district.
- (a) Permitted uses.
    - (i) The uses listed in subsection 50-18.1.C.2(a) above shall be permitted uses;
    - (ii) All other uses shall be subject to the floodway/flood fringe evaluation criteria below and the resulting designation shall be used in determining uses;
    - (iii) Land determined to be in the floodway pursuant to subsection (a)(ii) shall have those permitted and special uses listed in Section 50-18.C.2 above;
    - (iv) Land determined to be in the flood fringe pursuant to subsection (a)(ii) shall have those permitted and special uses listed in Section 50-18.C.3 above;
  - (b) Procedures for floodway and flood fringe determinations within the general flood plain district:
    - (i) The applicant shall submit appropriate information to a designated engineer or other expert person or agency for technical assistance in determining whether the proposed use is in the floodway or flood fringe district and to determine the regulatory flood protection elevation. Procedures consistent with Minnesota Regulations 1983, parts 6120.5000 – 6120.6200 and 44 Code of Federal Regulations Part 65 shall be followed in this expert evaluation. The designated engineer or expert is strongly encouraged to discuss the proposed technical evaluation methodology with the respective DNR Area Hydrologist prior to commencing the analysis. The designated engineer or expert shall:
      - (1) Estimate the peak discharge of the regional flood;
      - (2) Calculate the water surface profile of the regional flood based upon a hydraulic analysis of the stream channel and overbank areas;
      - (3) Compute the floodway necessary to convey or store the regional flood without increasing flood stages more than 0.5 feet. A lesser stage increase than 0.5 feet shall be required if, as a result of the additional stage increase, increased flood damages would result. An equal degree of encroachment on both sides of the stream within the reach shall be assumed in computing floodway boundaries;
    - (ii) The city engineer shall present the technical evaluation and findings to the city council. The city council must formally accept the technical evaluation and the recommended floodway and/or flood fringe district boundary and that the proposed use is allowed in the area where it is proposed, or deny the permit

application. Prior to official action the city council may submit the application and all supporting data and analyses to FEMA, the DNR or the planning commission for review and comment. Once the floodway and flood fringe district boundaries have been determined, and assuming the proposed use is allowed in the area where it is proposed, the city council shall refer the matter to staff who shall process the permit application consistent with the applicable provisions of this Section 50-18.1.C;

5. Public utilities, railroads, roads and bridges.
  - (a) All public utilities and facilities such as gas, electrical, sewer and water supply systems, with the exception of sumps and wet wells, to be located in the floodway or flood fringe shall be floodproofed in accordance with the State Building Code or elevated to above the regulatory flood protection elevation;
  - (b) Railroad tracks, roads and bridges to be located within the floodway or flood fringe shall comply with subsections 2 and 3 above, as applicable. Elevation to the regulatory flood protection elevation shall be provided where failure or interruption of these transportation facilities would result in danger to the public health or safety or where such facilities are essential to the orderly functioning of the area. Minor or auxiliary roads or railroads may be constructed at a lower elevation where failure or interruption of transportation services would not endanger the public health or safety;

#### D. Shorelands.

In furtherance of the policies declared by the state legislature, waters in the city have been classified as general development waters (GD), natural environment waters (NE) or coldwater rivers (CW). The shoreland overlay applies to lands within 1,000 feet of Lake Superior or within 300 feet of rivers, creeks, streams and tributaries and floodplains, as designated on the NR-O map. If a parcel or development lies only partially within a shoreland area, only the portion of the property within the shoreland is subject to these provisions;

1. Shoreland permit required.

The following activities and structures require a shoreland permit if located within a shoreland:

  - (a) All structures;
  - (b) All grading, filling and excavating;
  - (c) All construction of impervious surfaces, including roads, driveways, parking areas and trails;
  - (d) All removal of natural vegetation;
  - (e) Any construction activity that removes or disturbs natural beach grasses on Park Point;
2. Standards for shoreland permit.
  - (a) Erosion and sediment control technologies shall be required for any land disturbing activity that disrupts a surface area of 3,000 square feet or more;
  - (b) Grading and filling of more than 250 square feet or placement of more than ten cubic yards of material within the shore impact zone shall only be permitted if a plan for erosion control, storm water management and shoreline buffer restoration is approved by the city and effectively implemented;

- (c) Impervious surfaces shall be designed and constructed to minimize and control runoff and erosion into the regulated waters;
- (d) Any removal of natural vegetation shall be designed to prevent erosion into regulated waters and to preserve shoreland aesthetics;
- (e) Removal of trees or shrubs in a contiguous patch, strip, row or block is prohibited in shore impact zones;
- (f) The project does not result in the proposed building being located in a shore or bluff impact zone;
- (g) Natural vegetation shall be restored to the extent feasible after any project is complete;

3. Dimensional standards.

(a) No shoreland permit shall be approved unless the standards in Table 50-18.1.D-1 are met or a variance obtained pursuant to Article 5;

(b) Exceptions to dimensional standards.

i. Commercial, mixed use, & industrial structures in the harbor, shown in Figure 50-18.1.-3: 0 ft. setback for grain elevators, cranes, loading bins, and other equipment necessary for loading and unloading, including impervious surface necessary to support these activities.

ii. Public trails no more than 10 ft. wide may be constructed within these setbacks, provided that a minimum amount of natural vegetation is removed and provided that permits are obtained from the DNR and MPCA, if required.

iii. Properties in Stormwater Zone B, as defined in Section 50-18.1E.3(f), that have been previously developed with 75% or greater impervious surface may use one of the following methods to determine building setback:

- Use the impervious surface setback for the shoreland classification as the building setback.
- When principal structures exist on the adjoining lots on both sides of the proposed building site, the structure setbacks can be altered to conform to the adjoining setbacks, provided the proposed building site is not located within the setback required for the naturally vegetative buffer.

iv. Park equipment such as playground structures and ball fields (but not including structures such as garages, storage buildings, toilets or warming houses) may be placed closer than the required structure setback provided they lie outside the area required for the native vegetative buffer.

4. Uses and special use permits.

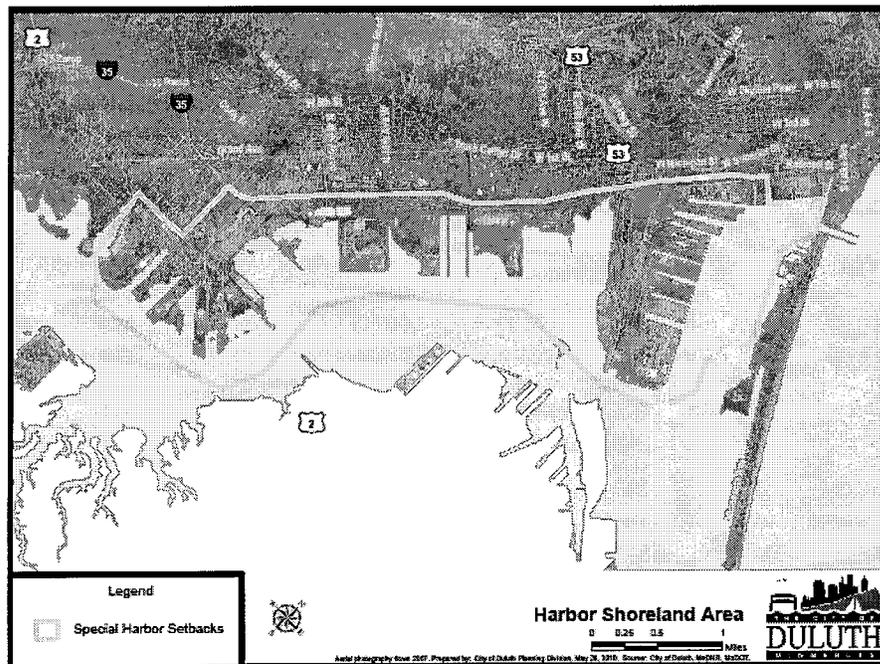
(a) Those permitted and special uses shown in Table 50.19.8, subject to the issuance of any shoreland permit required by subsection D.1 and compliance with the standards of subsection D.2, except as listed below. Agricultural uses are not permitted in the shore impact zone. Within shoreland areas that are outside of the shore impact zone, agricultural uses are permitted if steep slopes are maintained in permanent vegetation or the land is operated under an approved conservation plan from the St. Louis County Soil and Water Conservation District;

- (b) All industrial uses, including mining, extraction and storage, on coldwater rivers or natural environmental waters require a special use permit pursuant to Article 5. The application for a special use permit must include a thorough evaluation of the topographic, vegetation and soils conditions on the site;

**Table 50-18.1.D-1: Minimum Shoreland Area Standards**

Standards	General Development Waters <sup>[1]</sup>	Natural Environmental Waters	Coldwater River
Minimum setbacks from Ordinary High Water Level or highest known water level, whichever is higher			
<i>Residential structures</i>	75 ft.	150 ft.	200 ft.
<i>Public, institutional, and civic; commercial; and industrial structures</i>	200 ft.	200 ft.	200 ft.
<i>Commercial, mixed use, &amp; industrial structures in the harbor, shown in Figure 50-18.1.-3<sup>[2]</sup></i>	25 ft.	N/A	N/A
<i>Impervious surfaces</i> <sup>[3]</sup>	50 ft.	75 ft.	100 ft.
Lowest floor elevation above Ordinary High Water Level or highest known water level, whichever is higher	3 ft.		
Width of naturally vegetative buffer	50 ft.		

[1] All Lake Superior shoreland is classified as general development waters.  
 [2] 0-ft. setback for grain elevators, cranes, loading bins, and other equipment necessary for loading and unloading, including impervious surface necessary to support these activities.  
 [3] Public trails no more than 40 ft. wide may be constructed within these setbacks, provided that a minimum amount of natural vegetation is removed and provided that permits are obtained from the DNR and MPCA, if required.



- (c) Standards for special use permit:

- (i) Compliance with all development requirements for shorelands in this Section 50-18.1.D;
- (ii) Prevention of soil erosion, storm water runoff or other possible pollution of public waters, both during and after construction or use;
- (iii) Restoration of the shoreline buffer to a natural state;
- (iv) Screening of structures and other facilities as viewed from regulated waters, as shown on the NR-O map;

5. Subdivisions.

New subdivisions in the shoreland area shall meet the following requirements:

- (a) The land shall not be subdivided until the land has been rezoned into the R-P zone district, and the concept and detailed development plans required in the R-P districts shall be designed to comply with the provisions of this Section 50-18.1.D;
- (b) A buffer at least 50 feet in width, consisting of trees, shrubs and ground cover of plants and understory in a natural state, is required within a line parallel to the ordinary high water level or highest known water level, whichever is higher, and as close to the ordinary high water level as topography and the health of the plants will permit;

6. Nonconforming lots of record.

Lots of record in the office of the county recorder on November 19, 2010, may be allowed an exception from the structure setback requirement in subsection D.3. If the lot of record cannot be developed under the setback requirements of subsection D.3, then:

- (a) The lot may be developed without a variance if (1) principal structures exist on the adjoining lots on both sides of a proposed building site, and (2) the proposed structure will be located no closer to the protected shore than the principal structure on either adjoining site, and (3) the resulting adjusted setback does not result in the proposed building being located in a shore impact zone; or
- (b) The lot may be developed if a variance is obtained pursuant to Article 5;

**E. Storm water management and erosion control.**

1. Goals and purpose.

- (a) The federal Clean Water Act (CWA) requires that municipal storm water discharges be authorized under the national pollution discharge elimination system (NPDES). The city is allowed to discharge its storm water under coverage provided by a CWA municipal separate storm sewer system general permit (MS4 permit). As part of the requirements of the permit, the city is required to develop a storm water pollution prevention program (MS4 program) with specific goals requiring:
  - (i) Non-degradation of all city waters;
  - (ii) Restrictions to special designated waters in the city, including: (a) Lake Superior (which is an MPCA designated outstanding value resource water with both restricted discharge and impaired water designations); (b) St. Louis River (which is an MPCA designated impaired water and area of concern; and (c) 16 trout streams designated by the DNR;

- (b) The goals described in the city's MS4 program pertaining to illicit discharge detection and elimination, construction-site runoff controls, and post-construction runoff treatment are incorporated into this Chapter by reference;
  - (c) The purpose of this Section 50-18.1.E is to establish regulations to comply with the federal CWA and the city's MS4 permit and to achieve the goals stated in the city's MS4 program;
2. Temporary erosion and sediment controls.
- (a) Applicability.

This Section 50-18.1.E.3 applies to all land disturbing activities within the city, except those specifically exempt in this Section and those subject to a superseding or preemptive state or federal law. This Section shall be deemed to supplement, but not to conflict with, the applicable provisions of the State Building Code;

- (b) Requirements.

All proposed development and redevelopment and all subdivision plats and re-plats shall include drainage system and temporary erosion and sediment best management practices (BMPs) in compliance with the city's MS4 program and the requirements shown in Table 50-18.1.E-1 below. Plans, engineering analysis and calculations, diagrams, drainage reports and other data shall be submitted, as required by the city engineer or designee with each development proposal or application for permit;

<b>Table 50-18.1.E-1: Temporary Erosion and Sediment Controls</b>				
<b>Land Area Disturbed ►</b>	<b>≤ 3,000 sq. ft. <sup>[1]</sup></b>	<b>&gt; 3,000 and ≤ 10,000 sq. ft. <sup>[2]</sup></b>	<b>&gt; 10,000 sq. ft. and &lt; 1 acre</b>	<b>≥ 1 acre</b>
<b>Development Plan Measures Required ▼</b>				
Temporary erosion and sediment controls to prevent any off-site migration of sediment	✓			
Site specific Erosion and Sediment Control Plan (ESCP) and ESCP Permit from city engineer		✓	✓	
Site specific Storm Water Pollution Prevention Plan (SWPPP) meeting MPCA NPDES Permit requirements for Construction Activity				✓
MPCA NPDES/State Disposal System Construction Storm Water Permit				✓
MS4 Statement of Compliance from city engineer			✓	✓

[1] If the city engineer determines that the proposed development is in a vulnerable area and may cause the degradation of the waters connected to the city's storm water system, then the provisions applicable to land disturbance areas between 3,000 and 10,000 sq. ft. shall apply.

[2] If land disturbed is within a mapped shorelands zone, an MS4 Statement of Compliance from the city engineer is also required.

- (c) Authority to waive.

The city engineer has authority to waive the requirements in Table 50-18.1.E.1 in accordance with the city's MS4 permit. If storm water and erosion controls required by this subsection 2 are demonstrated to be technically feasible, provisions of subsection 2 must be met to the maximum extent practicable;

3. Permanent water quality and discharge rate controls.

(a) Applicability.

- (i) This Section 50-18.1.E.3 applies to all land disturbing activities within the city, except those specifically exempt in this Section and those subject to a superseding or preemptive state or federal law. This Section shall be deemed to supplement, but not to conflict with provisions of the State Building Code;
- (ii) This Section does not apply to pavement resurfacing and pavement rehabilitation projects where: no new impervious surface is created, there is no change to the configuration of the site and there is no change to the land use;

(b) General requirements.

All proposed development and redevelopment and all subdivision plats and re-plats shall include drainage system and storm water runoff rate controls and water quality treatment in compliance with the city's MS4 program and the requirements shown in Table 50-18.1.E-2 below. Plans, engineering analysis and calculations, diagrams, drainage reports and other data shall be submitted, as required by the city engineer with each project (referred to as the "development plan" below);

**Table 50-18.1.E-2: Permanent Water Quality and Discharge Rate Controls**  
**[See additional requirements for land in shorelands below]**

Development Plan Measures required ▼	Total New Impervious Area Created or the Impervious Area Redeveloped <sup>[1][2]</sup>		
	≤ 3,000 sq. ft.	> 3,000 sq. ft. and < 1 acre <sup>[3]</sup>	≥ 1 acre <sup>[4]</sup>
Water quality treatment	<b>NONE</b>	✓	✓
Runoff rate controls		✓	✓
Drainage report		✓	✓
Site specific SWPPP		✓	✓
MS4 Statement of Compliance from city engineer		✓	✓

[1] The total area is the sum of both the new and redeveloped impervious areas that are part of the common plan of development or sale.  
 [2] A pavement resurfacing or pavement rehabilitation project is exempt where: (a) no new impervious surface is created; and (b) no change to configuration of the site occurs; and (c) no change to land-use occurs.  
 [3] An individual one-family or two-family residence (that is not part of a common plan of development) with less than 10,000 sq. ft. of disturbed area and less than 7,500 sq. ft. of new impervious area is exempt.  
 [4] If the site contains an existing impervious surface area greater than 1 acre, the drainage report must include an evaluation of the feasibility of 50% total suspended solids removal on an annual basis across the entire site.

(c) Authority to waive.

The city engineer has authority to waive the requirements in Table 50-18.1.E-2 in accordance with the city's MS4 permit. If storm water and erosion controls required by this subsection 3 are demonstrated to be technically feasible, provisions of subsection 3 must be met to the maximum extent practicable;

(d) Shoreland requirements.

- (i) In addition to the requirements in subsection (b) above, no residential development or redevelopment within a shoreland shall result in impervious surface area exceeding 25 percent of the lot area unless the owner (a) submits a development plan including water quality treatment and (b) obtains an MS4 statement of compliance by the city engineer;
- (ii) In addition to the requirements in subsection (b) above, no commercial, mixed use, institutional or industrial development or redevelopment within a shoreland shown on the NR-O map shall create new impervious surface area unless the owner (a) submits a development plan including water quality treatment and (b) obtains an MS4 statement of compliance issued by the city engineer;

(e) Water quality treatment requirements.

Where subsection (b) requires that a development plan include water quality treatment, the development or redevelopment must be designed to provide the following treatment, volume reduction and pollutant removal:

Treatment requirements.

- (i) The development or redevelopment must provide at least the minimum treatment shown in Table 50-18.1.E.3;

<b>Development Type</b>	<b>New and Existing Impervious surface</b>	<b>Required Treatment</b>
New	< 1 acre	The first 1-in. Water Quality Volume (WQV) of rainfall or 80% Total Suspended Solids (TSS) removal <sup>[1]</sup>
New	> 1 acre	The first 1-in. WQV of rainfall <sup>[1]</sup>
Redevelopment	< 1 acre	10% reduction in impervious surface or 50% TSS removal
Redevelopment	> 1 acre	50% TSS removal

[1] Refer to additional requirements under Section 3(e)(iii) Pollutant Removal

(ii) Storm water flow volume reduction.

Storm water flow volume reduction shall be provided to the maximum extent practicable. Refer to the Minnesota Storm Water Manual. Volume reduction techniques may include:

- (1) Infiltration into the ground;
- (2) Evaporation or transpiration;
- (3) Storage for re-use;
- (4) Enhanced infiltration swales, filter strips, or disconnected impervious area;
- (5) Other demonstrable methods that reduce volume;

(iii) Pollutant removal.

Projects able to provide volume reduction for the first 1/2 inch of rainfall from newly created impervious surface shall have met city pollution abatement requirements and are exempt from this paragraph. Projects that do not meet the requirements of subsection (ii) above are required to complete computer modeling to show that water quality treatment shall provide 85 percent total suspended solids (TSS) removal, and the applicant shall also be required to describe and provide additional BMPs for temperature control;

(f) Runoff rate control.

Where subsection (b) requires that a development plan include runoff rate control, the development or redevelopment must be designed to provide the controls as follows. Runoff rate control is beneficial in the upper, flatter part of the watershed above the bluff line. Below the bluff line, the topography is relatively steep and storm water flows quickly to Lake Superior and the St. Louis River. This bluff line designation is shown on the NR-O map. The storm water rate control requirements for development and redevelopment are shown in Table 50-18.1.E-4;

<b>Location ►</b>	<b>Post-Development Peak Flow Rates at Each Discharge Point Shall Not Exceed</b>	
	<b>Zone A -- Above Bluff Line</b>	<b>Zone B -- Below Bluff Line</b>
<b>Type of Activity ▼</b>		
<b>New Development</b>	75% of predevelopment peak flow	Predevelopment peak

	rates for 10 and 100 year events; and 90% of predevelopment peak flow rate for 2 year event	flow rates for all storm events
<b>Redevelopment</b>	Predevelopment peak flow rates for all storm events	Predevelopment peak flow rates for all storm events

(g) General design criteria.

- (i) New minor system drainage systems shall be designed to efficiently convey the peak discharge rates for a ten-year flow;
- (ii) New major system drainage systems shall be designed to efficiently convey the peak discharge rates for a 100-year flow;
- (iii) The 100-year rainfall event or 100-year peak flow shall be evaluated to ensure that no damage occurs to adjacent properties for all systems;
- (iv) The storm water management systems for any new or redevelopment project shall maintain at least three feet of freeboard between the anticipated 100-year high water elevation and the minimum building opening;
- (v) Consideration may be given for treating existing untreated impervious areas diverted to the site and included in the control area for analysis if it is in the best interest of the city;
- (vi) All impervious areas shall be considered connected and curve numbers shall not be weighted for impervious areas except under special circumstances;
- (vii) 95 percent of all newly added impervious surface shall be directed to the water quality treatment area. If it is impractical to direct 95 percent of the added impervious surface to water quality area, alternate methods may be used in combination so long as 95 percent is treated and all peak flow requirements are fulfilled;
- (viii) Flow shall not be diverted from one major or minor system to another major or minor system;
- (ix) When storm water management plans involve directing runoff from a site, it shall be the responsibility of the applicant to obtain from adjacent property owners any necessary easements or other property interests concerning flowage of water to a point where the storm water enters a major system;
- (x) Adequate measures shall be taken to prevent uncontrolled drainage across lot lines;

4. General storm water restrictions.

- (a) Applying fertilizer, pesticides or any chemicals on impervious surfaces, within any part of storm water drainage system or any drainage way, within 25 feet of any wetland edge or ordinary high water level or bank edge of any drainage course, or within any water resource buffer area is prohibited;
- (b) Sweeping, raking, blowing or otherwise placing yard waste, unless the yard waste is securely contained, in the street, ditch, gutter, storm inlet, catch basin or any part of any drainage way or other area that would allow yard waste to enter the storm drainage system is prohibited;

- (c) Yard waste segregated for pickup must be securely contained until removed;
  - (d) Topsoil and erodible soil stockpiles shall be distributed within three days or covered to prevent erosion of the stockpile;
5. Ownership and maintenance.
- (a) Maintenance of temporary erosion and sediment control practices.  
During the period of a land disturbing activity, the person engaging in the construction shall be responsible for installing and maintaining erosion and sediment control practices. After construction is completed, the owner of the property shall be responsible for installing and maintaining erosion and sediment control practices;
  - (b) Ownership.
    - (i) All components of the storm water management system shall be constructed, owned, operated and maintained by the developer or owner(s) to their confluence with the major system or city owned minor system;
    - (ii) In the case of developments in which right-of-way is transferred to public ownership, the storm drain system within the city right-of-way shall be owned and maintained by the city. Storm water treatment facilities and ponds shall be in common space and shall be owned and maintained by the developer or the owners of the development. Storm water treatment facilities shall not be located in the public right-of-way;
  - (c) Owner inspection and maintenance.
    - (i) Storm water management facilities shall be designed to minimize maintenance and provide maintenance access. All facilities shall have a plan of operation and maintenance that assures continued effective removal of runoff pollutants and accumulated sediment. The developer or the owner(s) shall be responsible for inspection, maintenance and reporting for all non-publicly owned storm water management facilities associated with the development. Copies of the inspection records shall be maintained by the developer or owner for a period of six years. Copies of all inspection records shall be provided to the city upon request;
    - (ii) For the purposes of inspection during construction monitoring, the permittee shall:
      - Submit an inspection log to the city on the first day of each month during the entire duration of construction;
    - (iii) For the purposes of ongoing monitoring and maintenance after construction is complete, the owner shall conduct inspections on all non-publicly owned structural components and all non-structural components (including swales and pond areas) of the storm water management system;
      - (1) Submit a written report approved by an engineer summarizing findings and maintenance needs;
      - (2) Submit a written report of work completed to maintain storm water facilities. Work must be completed within three months of annual inspection.

Section 2. That Section 50-36.6 of Chapter 50 be amended to read as follows:

**Sec. 50-36.6 Other Departments**

Additional departments of the city may be consulted regarding any application under this Chapter, or regarding the potential impacts of the proposed activities or structures covered by an application, at the discretion of the building official, the land use supervisor, the historic preservation commission, the planning commission or council.

Notices to consider variances, amendments, or special uses under shoreland standards will be sent to the DNR commissioner or the Commissioner's designated representative at least ten days before public hearings. Notices of hearings to consider proposed plats will include copies of the plats.

A copy of approved amendments and plats, and final decisions granting variances or special uses under shoreland standards will be sent to the DNR commissioner or the commissioner's designated representative within ten days of final action.

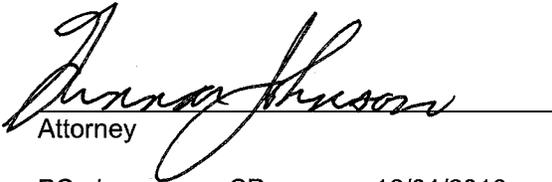
Section 3. That Section 50-41.269 of Chapter 50 be amended to read as follows:

269 Shore impact zone

Land located between the Ordinary High Water level of public waters and a line parallel to it at setback of 50% of the required structure setback, but not less than 50 ft. This zone serves as all or part of the shoreline buffer.

Section 4, That this ordinance shall take effect 30 days after its passage and publication.

Approved as to form:

  
Attorney

PC:plng CP:eu 12/01/2010

STATEMENT OF PURPOSE: This ordinance implements the recently approved flexibility request from the Department of Natural Resource's Shoreland standards.



City of Duluth  
Planning Division

411 West First Street • Room 402 • Duluth, Minnesota 55802-1197  
218-730-5580 • Fax: 218-730-5904 • www.duluthmn.gov

An Equal Opportunity Employer

To: City Council   
From: Cindy Petkac, Land Use Supervisor  
Date: November 30, 2010

**SUBJECT: ORDINANCE TO AMEND THE NATURAL RESOURCES OVERLAY OF THE UDC**

In developing the standards included in the Natural Resources Overlay of the Unified Development Chapter of the City of Duluth Legislative Code (UDC), the City of Duluth worked with the Department of Natural Resources (DNR) to incorporate the DNR's new shoreland rules. One element of these new rules is the DNR's desire to provide flexibility for cities, in recognition that previously developed areas have unique attributes. In applying the shoreland rules, the City of Duluth submitted a formal flexibility request for the following standards:

- Flexibility from setbacks in previously developed areas of the city to encourage redevelopment. Two exceptions to setback requirements could apply:
  - Properties in Stormwater Zone B (below the bluff line) that have been previously developed with 75% or greater impervious surface can use the impervious surface setback as the building setback. This setback is the same as the shore impact zone, and is 50 feet for General Development Waters, 75 feet for Natural Environmental Waters, and 100 feet for Coldwater Rivers.
  - Properties in Stormwater Zone B (below the bluff line) that have been previously developed with 75% or greater impervious surface can also follow the "string test" to determine setbacks from Ordinary High Water Level -- when principal structures exist on the adjoining lots on both sides of a proposed building site, the structure setbacks can be altered to conform to the adjoining setbacks, provided the proposed building site is not located within the setback required for the naturally vegetative buffer (50 feet).
- Flexibility from setbacks for recreational facilities:
  - Park equipment such as playground structures and ball fields (but not including structures such as garages or storage buildings) should meet structure setbacks when reasonable and prudent but in no case should be located within shore impact zones.

The flexibility request submitted to the DNR was accepted by them via a letter dated November 12, 2010. To implement this approval, the City is proposing the following amendments to the UDC. The ordinance includes changes to the following sections:

- **Section 50-18.1D: Shoreland standards.** Provides new exceptions to development standards for previously developed properties and park properties.
- **Section 50-36.6: Other departments.** States that applications will be sent to the DNR for review and comment. Note that this review already occurs with applications but had not previously been codified; it is included in this ordinance per DNR request.
- **Section 50-41.269: Definition of shore impact zone.** Clarifies definition by removing reference to "shoreline buffer," a term that is not used in the UDC.



Minnesota Department of Natural Resources  
Division of Ecological and Water Resources  
Regional Headquarters  
1201 East Highway 2  
Grand Rapids, MN 55744

November 12, 2010

Mr. David Montgomery  
Chief Administrative Officer  
City of Duluth, Room 402  
411 West First Street  
Duluth, MN 55802

Dear Mr. Montgomery:

**APPROVAL OF THE CITY OF DULUTH'S FLEXIBILITY REQUEST TO BRING THE CITY'S UNIFIED DEVELOPMENT CHAPTER INTO COMPLIANCE WITH STATEWIDE SHORELAND MANAGEMENT STANDARDS, MINNESOTA RULES, CHAPTERS 6120.2500-6120.3900**

In accordance with the provisions of Minnesota Rule 6120.2800, Subp.3, the Department of Natural Resources has reviewed the City of Duluth's flexibility request submitted on August 17, 2010, and amended on October 18, 2010. Based on the information submitted with the request and all supporting documents including the UDC itself, the flexibility request is approved, contingent upon the addition of the attached list of "housekeeping items."

On behalf of the DNR, I commend the City of Duluth, its staff, and the citizens of Duluth for the many years and long hours that went into the updating of the City's comprehensive plan and other local ordinances culminating in the Unified Development Chapter scheduled to become effective on November 19, 2010. This is indeed a job well done. Congratulations!

Also to be commended are the actions taken by the City of Duluth to incorporate major elements of the draft shoreland rules that are expected to go into effect next year. It should not be necessary for the City to make any further revisions once the draft rules do become effective.

Under the current shoreland rules, flexibility is required when a local government proposes alternative approaches to meet specific standards in the statewide rules following a comprehensive evaluation and planning effort. The City's intensive planning effort included participation by Area Hydrogist Patty Fowler and Peder Otterson, Shoreland Rules Update Program Manager, to ensure coordination with existing and emerging statewide standards.

In general, flexibility allows a local government to be "less strict" in certain areas of the rules in exchange for greater attention in other areas. For example, the City of Duluth has chosen to adopt advanced stormwater and erosion control standards that apply to all parts of the City and not just the shoreland district. It has also physically inspected and mapped all of its water courses resulting in a 22% increase in the size of the shoreland district over that in the original 1980 maps and eliminated areas that were improperly mapped. The new maps are in GIS format making them easy to access and interpret. Greater attention is also paid to the preservation of quality open space and native vegetation—especially, within required buffer areas.

The draft shoreland rules make certain allowances that require flexibility approval until they become final. Draft 6120.3300, Subp. 2E.2, allows the City to utilize its underlying zone districts to determine densities and lot sizes in areas served by public sewer and adequate storm water facilities. Draft 6120.3300, Subp. 3E(2) allows the City to apply the height restrictions of the underlying zone district.

The City has requested flexibility from setback requirements within its working waterfront established in the Duluth Port Land Use Plan (2005). As noted, the additional performance standards required for storm water treatment should cover and may even improve the quality of any runoff from these areas.

The proposed dimensional standards for the three rural zone districts are also approved, in light of the additional protections also included (greater attention to open space, native vegetation buffers, etc.).

Regarding the October 18, 2010, Addendum, DNR accepts the proposed distinction in Stormwater Zone B (below the bluff line):

- Previously developed properties with 75% or greater impervious surfaces may follow the impervious surface setback for the shore impact zone classification (50 feet, General Development; 75 feet, Natural Environment; 100 feet, Cold Water).
- When principal structures exist on adjoining lots of a proposed building site, the proposed structure setback can be altered to conform to the adjoining setbacks, provided the proposed building site is not located within the setback required for the native vegetative buffer (50 feet).
- Park equipment such as playground structures and ball fields (but not including structures such as garages or storage buildings, toilets or warming houses) may be placed closer than the required structure setback provided they lie outside the area required for the native vegetative buffer (50 feet).

As noted in the original flexibility request, City staff did meet with DNR to discuss specific provisions in the shoreland rules related to controlled access lots and resorts that are not found in the UDC. Some of this is addressed in the attached housekeeping items. The new R – P District is likely where such activities might occur. If that were to happen, it would require further examination by DNR to ensure conformity with statewide standards.

Because of its universal approach, the UDC also includes a floodplain section that requires separate DNR approval to ensure its ongoing conformity with both state and federal floodplain management requirements. See attached document dated September 30, 2010, for recommend changes discussed with the City at the October 8, 2010 meeting.

I understand that the City has built in a six month review period for the new UDC to allow for fine tuning of its provisions. This should be adequate time to ensure that the DNR items under both the shoreland and floodplain sections are addressed.

Finally, I raise for your consideration a sensitive shoreland area that is worthy of further protection—namely, the dune area of Park Point. Because of its classification as General Development, Lake Superior has the least restrictive shoreland classification. Existing development on Park Point lies outside the fragile dune environment. However, there is nothing that prevents new development from extending closer to the lake. The dune environment on Park Point is unique to Minnesota and worthy of additional protection. Please continue to work with Area Hydrologist Patty Fowler on this and all other shoreland and floodplain matters involving the City of Duluth. You can reach her at 218-834-1442.

If you have any questions, please contact me at 218-327-4417.

Sincerely,  
DIVISION OF WATERS

  
Michael Peloquin  
Regional Manager

cc: Cindy Petkac, Land Use Supervisor  
Peder Otterson, Hydrologist, Land Management  
Patty Fowler, Area Hydrologist