

ORDINANCE NO. 1400

AN ORDINANCE OF THE CITY OF DES MOINES, WASHINGTON, revising and updating City of Des Moines development regulations relating to the protection and regulation of environmentally critical areas to ensure compliance with the Washington State Growth Management Act (Chapter 36.70A); amending chapters 18.04 of the Des Moines Municipal Code (DMMC) to add new definitions and amend existing definitions; reenacting chapter 18.86 DMMC relating to environmentally critical areas; repealing the previously codified provisions of chapter 18.86 DMMC and underlying ordinances; and finding that the revised development regulations meet the statutory requirements of RCW 36.70A.130(1).

WHEREAS, the adopted City of Des Moines Comprehensive Plan supports the protection of environmentally critical areas through the adoption of development regulations, and

WHEREAS, the State Growth Management Act includes adopted goals and requirements to guide the development and adoption of comprehensive plans and development regulations for those counties and cities that are required to plan under the Act (RCW 36.70A.020), and

WHEREAS, the City has considered those adopted goals and requirements in development of the proposed Des Moines Municipal Code Amendments related to environmentally critical areas, and has considered other state requirements, rules, guidelines and agency comments, and

WHEREAS, the City researched and assessed the experience of other jurisdictions in regard to standards and requirements for regulating critical areas, undertook a Best Available Science (BAS) review of critical areas regulations and has followed State guidelines for the BAS process required by RCW 36.70A.172 and WAC 365-195-900 through 925, and

WHEREAS, the City undertook a public process in accordance with the requirements of the GMA, developed Des Moines Municipal Code amendment drafts, prepared environmental documents in accordance with the requirements of the State Environmental Policy Act (SEPA), and held meetings and hearings related to the code review and development process, and

WHEREAS, the City has been provided feedback on draft work products and guidance from members of the public, City staff, Washington State Department of Community, Trade and Economic Development, Washington State Department of Ecology, Washington State Department of Fish and Wildlife, Puget Sound Action Team, qualified professionals, the Des Moines planning agency and elected officials during the development of the recommended code amendments, and

WHEREAS, in developing this ordinance, the City has followed the GMA's requirements, including providing opportunities for "early and continuous public involvement" through a variety of mechanisms described in the public record, and

WHEREAS, the City completed an initial review and update of its development regulations and environmentally critical areas regulations by enactment of Ordinance No. 1378, adopted by City Council on May 4, 2006, and

WHEREAS, the changes proposed by this ordinance have been processed in accordance with the requirements of the State Environmental Policy Act (SEPA), a final determination of non-significance was issued by the responsible official, and published on February 11, 2007, in the Seattle Times, and the appropriate comment period has expired on February 26, 2007, and the appeal period concluded on March 8, 2007, and

WHEREAS, notice of the public hearing was given to the public in accordance with the law and a public hearing was held on the 8th day of March, 2007 and all persons wishing to be heard were heard, and

WHEREAS, a notice of intent to adopt the proposed code amendments was sent to the Washington State Department of Community, Trade and Economic Development and to other State agencies on January 3, 2007, for a 60-day review and comment period in accordance with State law, and

WHEREAS, the planning agency held a total of six public meetings to consider proposed amendments, including a public open house on June 26, 2006 that included presentations from Washington State Department of Ecology and Department of Fish and Wildlife, and

WHEREAS, the planning agency has reviewed and considered a variety of information sources including Best Available Science materials and informational documents in the public record, and has provided a recommendation to the City Council related to the proposed amendments, and

WHEREAS, the City Council environment committee held ten meetings to consider the proposed amendments from the planning agency and provided recommendations to the City Council of the whole, and

WHEREAS, City Council meetings were held on June 8, 2006, June 22, 2006, July 27, 2006, December 14, 2006, January 18, 2007, and March 8, 2007 to discuss and consider the proposed amendments, and

WHEREAS, City Council has considered the recommendations of the City planning agency, City Council environment committee and the public comments received, and

WHEREAS, City Council has provided policy guidance to City staff related to the proposed amendments, and

WHEREAS, notice of the public hearing before the City Council was given to the public in accordance with law and a public hearing was held on the proposed amendments on March 8, 2007, and all persons wishing to be heard were heard, and

WHEREAS, the City Council has reviewed and considered a variety of information sources including Best Available Science materials, informational documents in the public record, and public testimony submitted verbally and in writing to the City Council, and

WHEREAS, the City Council finds that the amendments contained in this ordinance are appropriate and necessary for the protection of environmentally critical areas; now therefore,

THE CITY COUNCIL OF THE CITY OF DES MOINES ORDAINS AS FOLLOWS:

Sec. 1. The City Council in support of its decision to adopt Ordinance No. 1400, adopts by reference the findings of fact attached hereto and incorporated herein as Exhibit A.

Sec 2. New sections are added to DMMC chapter 18.04 as follows:

(1) **Use of words and phrases.** As used in this ordinance, unless the context or subject matter clearly requires otherwise, the words or phrases defined in this section shall have the indicated meanings.

(2) **Commercial and recreational shellfish areas.** "Commercial and recreational shellfish areas" means areas that include all public and private tidelands or bedlands suitable for shellfish harvest, including shellfish protection districts established pursuant to Chapter 90.72 RCW.

(3) **Creation (Establishment), Wetlands.** "Creation (Establishment)" means the manipulation of the physical, chemical, or biological characteristics present to develop a wetland on an upland or deepwater site where a wetland did not previously exist. Establishment results in a gain in wetland acres. Activities typically involve excavation of upland soils to elevations that will produce a wetland hydroperiod, create hydric soils, and support the growth of hydrophytic plant species.

(4) **Developable area.** "Developable area" means the "site area" less the following areas:

(a) Areas within a project site that are required to be dedicated for public rights-of-way;

(b) Sensitive areas and their buffers to the extent they are required by the City to remain undeveloped;

(c) Areas required for storm water control facilities, including but not limited to retention/ detention ponds/vaults, biofiltration swales and setbacks from such ponds and swales;

(d) Areas required by the City to be dedicated or reserved as on-site recreation areas;

(e) Other areas, excluding setbacks, required by the City to remain undeveloped.

(5) **Enhancement, wetlands.** "Enhancement" means the manipulation of the physical, chemical, or biological characteristics of a wetland site to heighten, intensify, or improve specific function(s) or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for specified purposes such as water quality improvement, floodwater retention, or wildlife habitat. Enhancement results in a change in some wetland functions and can lead to a decline in other wetland functions, but does not result in a gain in wetland acres. Activities typically consist of planting vegetation, controlling non-native or invasive species, modifying site

elevations or the proportion of open water to influence hydroperiods, or some combination of these activities.

(6) **Erosion hazard areas.** "Erosion hazard areas" means at least those areas identified by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a "moderate to severe," "severe," or "very severe" rill and inter-rill erosion hazard. Erosion hazard areas are also those areas impacted by shore land and/or stream bank erosion and those areas within a river's channel migration zone.

(7) **Federally designated endangered and threatened species.** "Federally designated endangered and threatened species" mean those fish and wildlife species identified by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service that are in danger of extinction or threatened to become endangered. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service should be consulted for current listing status.

(8) **Geologically hazardous areas.** "Geologically hazardous areas" (GHA) means areas susceptible to erosion, sliding, earthquake, or other geological events. They pose a threat to the health and safety of citizens when incompatible development is sited in areas of significant hazard. Such incompatible development may not only place itself at risk, but also may increase the hazard to surrounding development and use. Areas susceptible to one or more of the following types of hazards shall be designated as a geologically hazardous area.

- (a) Erosion hazard;
- (b) Landslide hazard;
- (c) Seismic hazard; and

(d) Other geological events including tsunamis, mass wasting, debris flows, rock falls, and differential settlement.

(9) **Intensity of land use.** The following definitions of land use intensity serve as the basis for establishing wetland buffers and development standards as codified in Chapter 18.86 DMMC.

(a) **High intensity land use.** "High intensity land use" means land uses which are associated with high levels of human disturbance or substantial habitat impacts including, but not limited to, medium- and high-density residential (more than one home per five acres), multifamily residential, and commercial and industrial land uses. The majority of land uses in Des Moines are considered "high intensity land use."

(b) **Moderate intensity land use.** "Moderate intensity land use" means land uses which are associated with moderate levels of human disturbance or substantial habitat impacts including, but not limited to, active recreation.

(c) **Low intensity land use.** "Low intensity land use" means land uses which are associated with low levels of human disturbance or low habitat impacts, including, but not limited to, passive recreation and open space land uses.

(10) Protection/maintenance (preservation), wetlands.

"Protection/Maintenance (Preservation)" means removing a threat to, or preventing the decline of, wetland conditions by an action in or near a wetland. This includes the purchase of land or easements, repairing water control structures or fences, or structural protection such as repairing a barrier island. This term also includes activities commonly associated with the term preservation. Preservation does not result in a gain of wetland acres, may result in a gain in functions, and will be used only in exceptional circumstances.

(11) Restoration, wetlands. "Restoration" means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former or degraded wetland. For the purpose of tracking net gains in wetland acres, restoration is divided into:

(a) Re-establishment. Re-establishment means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former wetland. Re-establishment results in a gain in wetland acres (and functions). Activities could include removing fill material, plugging ditches, or breaking drain tiles.

(b) Rehabilitation. Rehabilitation means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural or historic functions of a degraded wetland. Rehabilitation results in a gain in wetland function but does not result in a gain in wetland acres. Activities could involve breaching a dike to reconnect wetlands to a floodplain or return tidal influence to a wetland.

(12) State designated endangered, threatened, and sensitive species. "State designated endangered, threatened, and sensitive species" mean those fish and wildlife species native to the state of Washington identified by the Washington Department of Fish and Wildlife, that are in danger of extinction, threatened to become endangered, vulnerable, or declining and are likely to become endangered or threatened in a significant portion of their range within the state without cooperative management or removal of threats. State designated endangered, threatened, and sensitive species are periodically recorded in WAC 232-12-014 (state endangered species) and WAC 232-12-011 (state threatened and sensitive species). The state Department of Fish and Wildlife maintains the most current listing and should be consulted for current listing status. This Subsection shall not apply to hair seals and sea lions that are threatening to damage or are damaging commercial fishing gear being utilized in a lawful manner or when said mammals are damaging or threatening to damage commercial fish being lawfully taken with commercial gear.

(13) State priority habitats and areas associated with state priority species. "State priority habitats and areas associated with state priority species," mean those areas considered priorities for conservation and management. Priority species require protective measures for their perpetuation due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance. Priority

habitats are those habitat types or elements with unique or significant value to a diverse assemblage of species. A priority habitat may consist of a unique vegetation type or dominant plant species, a described successional stage, or a specific structural element. Priority habitats and species are identified by the state Department of Fish and Wildlife.

(14) **Shorelines of the state.** "Shorelines of the state" mean lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington, as classified in RCW 90.58.

Sec 3. DMMC 18.04.212 and section 6 of Ordinance No. 925 are each amended as follows:

Critical aquifer recharge areas. "Critical aquifer recharge areas" (CARAs) mean those areas with a critical recharging effect on aquifers used for potable water, as defined by WAC 365-190-030(2). CARAs have prevailing geologic conditions associated with infiltration rates that create a high potential for contamination of ground water resources or contribute significantly to the replenishment of ground water. Aquifer recharge areas shall be rated as having high, moderate, or low susceptibility based on soil permeability, geologic matrix, infiltration, and depth to water as determined by the criteria established by the state Department of Ecology.

These areas include the following:

(1) **Wellhead Protection Areas.** Wellhead protection areas may be defined by the boundaries of the ten (10) year time of ground water travel or boundaries established using alternate criteria approved by the Washington State Department of Health in those settings where ground water time of travel is not a reasonable delineation criterion, in accordance with WAC 246-290-135.

(2) **Sole Source Aquifers.** Sole source aquifers are areas that have been designated by the U.S. Environmental Protection Agency pursuant to the Federal Safe Water Drinking Act.

(3) **Susceptible Ground Water Management Areas.** Susceptible ground water management areas are areas that have been designated as moderately or highly vulnerable or susceptible in an adopted ground water management program developed pursuant to WAC 173-100.

(4) **Special Protection Areas.** Special protection areas are those areas defined by WAC 173-200-090.

(5) **Moderately or Highly Vulnerable Aquifer Recharge Areas.** Aquifer recharge areas that are moderately or highly vulnerable to degradation or depletion because of hydrogeologic characteristics are those areas delineated by a hydrogeologic study

prepared in accordance with the state Department of Ecology guidelines.

(6) Moderately or Highly Susceptible Aquifer Recharge Areas. Aquifer recharge areas moderately or highly susceptible to degradation or depletion because of hydrogeologic characteristics are those areas meeting the criteria established by the state Department of Ecology.

Sec 4. DMMC 18.04.287 and section 8 of Ordinance No. 925 are each amended as follows:

Fish and wildlife habitat conservation areas.

"Fish and wildlife habitat conservation" means land management for maintaining species in suitable habitats within their natural geographic distribution so that isolated subpopulations are not created. Fish and wildlife habitat conservation areas include:

(1) Areas with which state or federally designated endangered, threatened, and sensitive species have a primary association;

(2) State priority habitats and areas associated with state priority species;

(3) Habitats and species of local importance;

(4) Commercial and recreational shellfish areas;

(5) Kelp and eelgrass beds identified by the Washington Department of Natural Resources;

(6) Herring and smelt spawning areas as outlined in chapter 220-110 WAC and the Puget Sound Environmental Atlas as presently constituted or as may be subsequently amended;

(7) Naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish or wildlife habitat;

(8) Waters of the state as defined in Title 222 WAC;

(9) Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity; and

(10) State natural area preserves and natural resource conservation areas as defined, established, and managed by the Washington Department of Natural Resources.

(11) Areas of rare plant species and high quality ecosystems as identified by the Washington State Department of Natural Resources through the Natural Heritage Program; and

(12) Land useful or essential for preserving connections between habitat blocks and open spaces as determined by the City Manager or designee.

Sec. 5. DMMC 18.04.363 and section 3(p) of Ordinance No. 853 as amended by section 10 of Ordinance No. 925 are each amended as follows:

Landslide hazard areas. "Landslide hazard areas" are those areas of the City potentially subject to landslides based on a combination of geologic, topographic, and hydrologic factors. They include areas susceptible because of any combination of bedrock, soil, slope (gradient), slope aspect, structure, hydrology, or other factors. Example of these may include, but are not limited to the following:

(1) Areas of historic failures, such as:

(a) Those areas delineated by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a "severe" limitation for building site development;

(b) Those areas mapped by the Washington State Department of Ecology (Coastal Zone Atlas) or the Washington State Department of Natural Resources (slope stability mapping) as unstable (U or class 3), unstable old slides (UOS or class 4), or unstable recent slides (URS or class 5); or

(c) Areas designated as quaternary slumps, earthflows, mudflows, lahars, or landslides on maps published by the U.S. Geological Survey or Washington State Department of Natural Resources;

(2) Any area with a combination of:

(a) Slopes greater than 15 percent;

(b) Impermeable soils (usually silt and clay) frequently interbedded with granular permeable soils (usually sand and gravel); and

(c) Springs or ground water seepage.

(3) Any area which has shown movement during the Holocene epoch (from 10,000 years ago to present) or which is underlain by mass wastage debris of that age.

(4) Any area potentially unstable as a result of rapid stream incision, stream bank erosion, or undercutting by wave action.

(5) Any area designated as Class III landslide hazard area by the "Map Showing Relative Slope Stability in Part of West-Central King County, Washington, Map I-852-A, U.S., Geological Survey Miscellaneous Geologic Investigations" as presently constituted or as may be subsequently amended.

(6) Slopes that are parallel or subparallel to planes of weakness (such as bedding planes, joint systems, and fault planes) in subsurface materials;

(7) Slopes having gradients steeper than eighty percent (80%) subject to rock fall during seismic shaking;

(8) Areas located in a canyon or on an active alluvial fan, presently or potentially subject to inundation by debris flows or catastrophic flooding; and

(9) Any area with a slope of forty percent (40%) or steeper and with a vertical relief of ten (10) or more feet except areas composed of consolidated rock. A slope is delineated by establishing its toe and top and is measured by averaging the inclination over at least ten (10) feet of vertical relief.

Sec. 6. DMMC 18.04.557 and section 3(x) of Ordinance No. 853 as are each amended as follows:

Seismic hazard areas. "Seismic hazard areas" means those areas subject to severe risk of earthquake damage as a result of seismically induced ground shaking, slope failure, settlement, soil liquefaction, lateral spreading, or surface faulting. One indicator of potential for future earthquake damage is a record of earthquake damage in the past. Ground shaking is the primary cause of earthquake damage in Washington. The strength of ground shaking is affected primarily by:

(1) The magnitude of an earthquake;

(2) The distance from the source of an earthquake;

(3) The type of thickness of geologic materials at the surface; and

(4) The type of subsurface geologic structure.

Settlement and soil liquefaction conditions occur in areas underlain by cohesionless, loose, or soft-saturated soils of low density usually in association with a shallow ground water table. Known seismic hazard areas are mapped in the "Washington State Department of Natural Resources, Geologic Map GM-41, Liquefaction Susceptibility for the Des Moines and Renton 7.5-minute Quadrangles, Washington," and "Washington State Department of Natural Resources, Geologic Map GM-43, Liquefaction Susceptibility for the Auburn and Poverty Bay 7.5-minute Quadrangles, Washington."

Sec. 7. DMMC 18.04.561.2 and section 3(y) of Ordinance No. 853 as are each amended as follows:

Slope. "Slope" means an inclined ground surface, the inclination of which is expressed as a ratio (percentage) of vertical distance to horizontal distance by the following formula:

$$\frac{\text{vertical distance}}{\text{horizontal distance}} \times 100 = \% \text{ slope}$$

Another method of measuring the inclination of the land surface is by measuring the angle, expressed in degrees, of the surface above a horizontal plane. The following chart shows the equivalents between these two methods of measurement for several slopes:

| Percent Slope | Angle of Inclination |
|---------------|----------------------|
| 8.7% | 5.0° |
| 15.0% | 8.5° |
| 25.0% | 14.0° |
| 30.0% | 16.7° |
| 40.0% | 21.8° |
| 50.0% | 26.6° |
| 100.0% | 45.0° |

Sec. 8. DMMC 18.04.587 and section 3(aa) of Ordinance No. 853 are each amended as follows:

Stream. "Stream" means an area where surface waters flow sufficiently to produce a defined channel or bed. A defined channel or bed is indicated by hydraulically sorted sediments or the removal of vegetative litter or loosely rooted vegetation by the action of moving water. Stream channels or beds show clear evidence of the passage of water and include, but are not limited to, bedrock channels, gravel beds, sand and silt beds, and defined channel swales. The channel or bed need not contain water year-round. This definition is not meant to include irrigation ditches, canals, storm or surface water runoff devices, or other entirely artificial watercourses unless they are used by salmonids or used to convey streams naturally occurring prior to construction. Swales, which are shallow drainage conveyances with relatively gentle side slopes and generally with flow depths less than one foot, shall be considered streams when hydrologic and hydraulic analyses done pursuant to a development proposal predict formation of a defined channel after development. To differentiate between levels of stream and marine shoreline protection and the application of development standards, streams are classified according to the Washington State Department of Natural Resources Forest Practices Board water typing system specified in WAC 222.16.030 as follows:

(1) "Type S Water" means all waters inventoried as "shorelines of the state," including periodically inundated areas of their associated wetlands, under chapter 90.58 RCW and the rules promulgated pursuant to chapter 90.58 RCW;

(2) "Type F Water" means segments of natural waters other than Type S Waters, which contain fish or fish habitat, including waters diverted for use by a federal, state or tribal fish hatchery from the point of diversion for one-thousand-five-hundred feet or the entire tributary if the tributary is highly significant for protection of downstream water quality;

(3) "Type Np Water" means all segments of natural waters that are not type S or F waters. These are perennial nonfish habitat streams that are physically connected to type S or F waters by an above-ground channel system, stream or wetland. Perennial streams are waters that do not go dry any time of a year of normal rainfall. However, for the purpose of water typing, Type Np Waters include the intermittent dry portions of the perennial channel below the uppermost point of perennial flow.

(4) "Type Ns Water" means all segments of natural waters that are not Type S, F, or Np Waters. These are seasonal, nonfish habitat streams in which surface flow is not present for at least some portion of a year of normal rainfall and are not located downstream from any stream reach that is a Type Np Water. Ns Waters must be physically connected by an above-ground channel system to Type S, F, or Np Waters.

Sec. 9. DMMC 18.04.663 and section 3(ee) of Ordinance 853 as amended by section 14 of Ordinance No. 925 as amended by section 11 of Ordinance No. 1378 are each amended as follows:

Wetland. "Wetland" is an area inundated or saturated by ground or surface water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (Army Corps of Engineers Regulation 33 CFR 323.2(c)). Wetlands and the boundaries of wetlands are those identified using the methodologies outlined in the "Washington State Wetlands Identification and Delineation Manual (Ecology Publication #96-94, March 1997)." Wetlands include ponds, but do not include those artificial wetlands intentionally created from nonwetland sites, including but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention/retention facilities, farm ponds, and landscape amenities or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. However, wetlands shall include those artificial wetlands intentionally created from non-wetland

areas created to mitigate conversion of wetlands pursuant to chapter 18.86 DMMC.

To differentiate between levels of wetland protection and the application of development standards, wetlands shall be rated according to the "Washington State Wetland Rating System for Western Washington," (Ecology Publication #04-06-025, August 2004) or as revised by Department of Ecology. Wetland rating categories shall be applied as the wetland exists at the time of the adoption of this chapter or as it exists at the time of an associated permit application. Wetland rating categories shall not change due to illegal modifications.

(1) Category I. Category I wetlands represent a unique or rare wetland type, are more sensitive to disturbance than most wetlands, are relatively undisturbed and contain some ecological attributes that are impossible to replace within a human lifetime, or provide a very high level of functions. Category I wetlands are:

(a) Mature forested wetlands larger than 1 acre; or

(b) Wetlands that perform many functions well.

(2) Category II. Category II wetlands are difficult, though not impossible, to replace, and provide high levels of some functions. These wetlands occur more commonly than Category I wetlands, but they still need a relatively high level of protection. Category II wetlands are:

(a) Wetland identified by the Washington State Department of Natural Resources as containing "sensitive" plant species;

(b) Wetlands with a moderately high level of functions.

(3) Category III. Generally, wetlands in this category may have been disturbed in some way and are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands. Category III wetlands are wetlands with a moderate level of functions.

(4) Category IV. Category IV wetlands have the lowest levels of functions and are often heavily disturbed. These are wetlands that should be replaceable, and in some cases may be improved. However, experience has shown that replacement cannot be guaranteed in any specific case. These wetlands may provide some important functions, and should be protected to some degree.

reenacts chapter 18.86 to the Des Moines Municipal Code, entitled Environmentally Critical Areas, as modified herein.

Sec. 11. Adoption by reference. The codes, standards, rules, and regulations adopted by this chapter are adopted by reference thereto as though fully set forth in this Title. Not less than one copy of each such codes, standards, rules, and regulations, in the form in which it was adopted, and suitably marked to indicate amendments, additions, deletions and exceptions as provided in this chapter, shall be filed with the Planning, Building and Public Works Department and be available for use and examination by the public.

Chapter 18.86 - Environmentally Critical Areas.

Sec. 12. City Council findings. The City Council finds that:

(1) Development in wetlands results in:

(a) Increased soil erosion and sedimentation of downstream water bodies;

(b) Degraded water quality from increased sedimentation;

(c) Degraded water quality from loss of pollutant removal process of wetlands - sediment trapping, nutrient removal, and chemical detoxification;

(d) Elimination of wildlife and fisheries habitat. Wetland ecosystems support a diverse, unique, and rich group of flora and fauna. Habitat is especially productive at the interface between water and land ecosystems. Several wildlife species specifically require wetland habitats for breeding, nesting, rearing of young, and feeding;

(e) Loss of ground water discharge and recharge areas;

(f) Loss of storm water retention and detention capacity resulting in increased flooding, degraded water quality, and changes in the streamflow regimen of watersheds;

(g) Loss of slow-release detention resulting in loss of recharge to base flow of stream systems during low flow periods and increased peak flows and flooding during storm events; and

(h) Loss of fishery resources from water quality degradation, increased peak flow rates, decreased summer low flows, and changes in the streamflow regimen.

(2) Development in stream corridors results in:

(a) Siltation of streams, which destroys spawning beds, kills fish eggs and alevins, irritates fish gills, reduces aquatic insect populations, fills stream channels, and causes flooding;

(b) Loss of stream corridor vegetation, which raises stream temperatures, destabilizes stream banks, causes erosion, removes nutrients by removing source of fallen leaves and streamside insects, increases sedimentation, and reduces recruitment of large wood debris necessary for stream structure;

(c) Elimination of wildlife and fish habitat. The stream corridor is especially sensitive and is recognized as being among the most productive terrestrial and aquatic ecosystems. It usually provides all four of the basic habitat components - water, food, cover, and space. The stream corridor is usually richer in habitat diversity and, consequently, wildlife diversity and numbers of individuals are higher than in adjoining upland plant communities. Certain fish and wildlife species are totally dependent on the stream corridor and as uplands are developed, stream corridors become a place of refuge for many wildlife species;

(d) Increased peak flow rates and decreased summer low flow rates of streams, resulting in negative impacts to the physical and chemical requirements critical for sustained fish populations;

(e) Stream channelization, which increases current velocity and bank erosion, removes critical fish rearing and spawning habitat, and reduces habitat diversity and simplifies the biotic community;

(f) Piping of streamflow and crossing of streams by culverts, which increases potential for downstream flooding, reduces migratory fishery range and, therefore, fish populations, removes habitat, and eliminates the biotic community; and

(g) Construction near or within streams, which adversely impacts fish and wildlife by destroying habitat and degrading water quality and increases potential for flooding, property damage, and risk to public health, safety, and welfare.

(3) Development on hillsides results in:

(a) The loss of slope and soil stability as well as increased erosion. The removal of vegetation from hillsides deprives the soil of the stabilizing function of roots, and the moderating effects on wind and water erosion of leaves and branches. Loss of soil stability increases erosion and thus lowers downstream water quality as a result of siltation. Downstream wetlands can be injured in this way. Strong rains on unstable slopes can produce mass movements, such as landslides, slumps, and flaws, particularly in steeply sloping areas;

(b) Increased runoff. Development may alter the natural drainage pattern of a hillside, producing increased runoff and erosion. Removal of vegetative cover decreases percolation of precipitation into the soil, thereby reducing the amount of ground water recharge and adding water to runoff that would ordinarily be transpired by trees, shrubs, and ground covers. Construction of impervious surfaces, such as roads, parking lots, and buildings, decreases the amount of ground water percolation and thus increases the amount of runoff. Increased runoff, in addition to producing intensified erosion, also creates downstream flood hazards;

(c) Destruction of the community's aesthetic resources. The hillsides of Des Moines mark the boundaries of several neighborhoods, lend natural character and distinctive features to the City, and provide open space and viewing points of remarkable vistas. They are also often associated with stream corridors and wetlands of the City. Degradation of hillsides resulting from erosion, mass movement, loss of vegetation, and damage to downstream areas deprives Des Moines of its attractive and distinctive setting, and decreases real estate values; and

(d) Major public expenditures to repair facility damages and protect against future damages due to instability created or exacerbated by development.

Sec. 13. Purpose. Geologically hazardous areas, hillsides, wetlands, areas of special flood hazard, fish and wildlife habitat conservation areas, aquifer recharge areas and streams, and the buffers of these areas as defined in chapter 18.04 DMMC, together constitute critical areas that are of special concern to the City. The purposes of this chapter are to protect the public health, safety, and welfare by preventing the adverse environmental impacts of development listed in section 12 of this ordinance, and by:

(1) Preserving, protecting, and restoring the functions and values of critical areas by regulating development within them and their buffers;

(2) Protecting the public from damage due to flooding, landslides, subsidence, and erosion;

(3) Preventing adverse impacts to ground and surface water quality, wetlands, tidelands, streams, stream corridors, and fish and wildlife habitat;

(4) Protecting the public against loss from:

(a) Unnecessary maintenance and replacement of public facilities;

(b) Publicly funded mitigation of avoidable impacts;

(c) Cost for public emergency rescue and relief operations; and

(d) Potential litigation from improper construction practices authorized for critical areas;

(5) Alerting appraisers, assessors, owners, and potential buyers or lessees to the development limitations of critical areas;

(6) Providing City officials with information to approve, condition, or deny public or private development proposals;

(7) Providing predictability and consistency to City environmental review procedures;

(8) Protecting sensitive, unique, fragile, and valuable features of the City's environment;

(9) Adopting a goal of no overall net loss of wetland and stream functions and values; and the long-term goal to increase the quantity and quality of Washington's wetlands and streams; and

(10) Implementing the policies of the State Environmental Policy Act (chapter 43.21C RCW), Puget Sound Water Quality Management Plan, Washington State Executive Order 90-04, chapter 16.04 DMMC, the Des Moines Comprehensive Plan, Shoreline Master Program, and all other present and future City functional and community plans and programs as presently constituted or as may be subsequently amended;

(11) Provide for mitigation of potential impacts to critical areas using the following descending order of preference:

(a) Avoid the impact altogether by not taking a certain action or parts of an action;

(b) Minimize impact by limiting the degree or magnitude of the action and its implementation by using appropriate technology, or by taking affirmative steps to avoid or reduce impact;

(c) Rectify the impact by repairing, rehabilitating, or restoring the affected sensitive areas;

(d) Reduce or eliminate the impact over time by prevention and maintenance operations during the life of the actions;

(e) Compensate for the impact by replacing, enhancing, or providing substitute sensitive areas and environments; and

(f) Monitor the impact and take appropriate corrective measures.

(12) Sources for attaining maps to determine where critical fish and wildlife habitats occur and the species that are present include:

- Washington Department of Fish and Wildlife Priority Habitat and Species maps;
- Washington State Department of Natural Resources official water type reference maps, as amended;
- Washington State Department of Natural Resources Puget Sound Intertidal Habitat Inventory maps;
- Washington State Department of Natural Resources Shorezone Inventory maps;
- Anadromous and resident salmonid distribution maps contained in the Habitat Limiting Factors reports published by the Washington Conservation Commission;
- Washington State Department of Health Annual Inventory of Shellfish Harvest Areas;
- Washington State Department of Natural Resources State Natural Area Preserves and Natural Resource Conservation Area maps;
- Washington State Department of Natural Resources Natural Heritage Program mapping data;

- Any local City of Des Moines or King County maps available.

Sec. 14. Applicability.

(1) All development proposals in critical areas, whether public or private, except City activities related to routine maintenance of public ways, shall comply with the requirements and purposes of this chapter. The City Manager or designee is authorized to adopt written procedures for the purpose of carrying out the provisions of this chapter. Responsibility for enforcement of the provisions of this chapter shall rest with the City Manager or designee.

(2) For the purposes of this chapter, development proposals include proposals that require any of the following: right-of-way permit; building permit; land clearing, grading, or filling permit; shoreline substantial development permit; shoreline variance; shoreline conditional use permit; shoreline environmental redesignation; conditional use permit; unclassified use permit; variance; zone reclassification; planned unit development; subdivision; short subdivision; any other land use approvals required by this code or the RCW.

(3) Prior to construction activity that would occur in, be adjacent to, or would likely affect critical areas, a review outlined by chapter 18.86 DMMC shall occur prior to the issuance of the necessary permit.

Sec. 15. Special studies required. When an applicant submits an application for any development proposal the application shall indicate whether any critical area is located on the site. The City Manager or designee shall visit the subject property and review the information submitted by the applicant along with any other available information. If the City Manager or designee determines that sufficient environmental information to evaluate a proposal is not available, the City Manager or designee shall notify the applicant that special environmental studies are required. Special environmental studies shall include a comprehensive site inventory and analysis, a discussion of potential impacts from the proposed development, and specific measures designed to mitigate any potential adverse environmental impacts of the applicant's proposal, on and off site. The City Manager or designee shall develop and maintain a detailed list of required study contents. All special studies shall be funded by the applicant and conducted under the direct supervision of the Planning, Building and Public Works Department.

Sec. 16. Maps and inventories.

(1) The general distribution of critical areas in the City and its planning area is displayed by a series of maps within the conservation element of the Des Moines Comprehensive Plan. These maps shall be used to alert the public and City officials of the potential presence of critical areas on site or off site of a development proposal.

(2) Information provided by the maps of critical areas shall be used for general informational and illustrative purposes only. In cases of mapping error and recognizing that critical areas are dynamic environmental processes, the actual presence and location of critical areas, as determined by qualified

professional and technical scientists, shall govern the treatment of a proposed development site.

Sec. 17. Best management practices required. All allowed activities under this chapter shall be conducted using the best management practices, adopted pursuant to the King County Surface Water Design Manual, that result in the least amount of impact to the critical areas. Best management practices shall be used for tree and vegetation protection, construction management, erosion and sedimentation control, water quality protection, and regulation of chemical applications. The City shall observe the use of best management practices to ensure that the activity does not result in degradation to the critical area. Any incidental damage to, or alteration of, a critical area shall be restored, rehabilitated, or replaced at the responsible party's expense.

Sec. 18. Development restrictions.

(1) Undevelopable Environmentally Critical Areas. The following environmentally critical areas shall remain undeveloped except as otherwise provided in section 38 of this ordinance.

(a) Wetlands and Their Buffers. The edge of the wetland and the outside edge of its buffer shall be determined and field marked by a professional wetland biologist or similarly qualified professional;

(b) Streams and Their Buffers. The top of the upper bank of the streams and the outside edge of its buffer shall be determined and field marked by a professional biologist, ecologist, or similarly qualified professional; and

(c) Ravine Sidewalls and Bluffs and Their Buffers. The top, toe, and edges of ravine sidewalls and bluffs, and the outside edge of their buffers, shall be determined and field marked by a qualified geotechnical engineer or similarly qualified professional.

(2) Developable Critical Areas. Critical aquifer recharge areas, areas of special flood hazard, fish and wildlife habitat conservation areas, and hillsides other than ravine sidewalls and bluffs are developable pursuant to the provisions of this chapter. The applicant shall clearly and convincingly demonstrate to the satisfaction of the City Manager or designee that the proposal incorporates measures protecting the public health, safety, and welfare.

Sec. 19. Development standards--Compliance--Requirements.

If a proposed project is within, adjacent to, or is likely to impact a critical area, all activities on the site shall be in compliance with the requirements and restrictions set forth in sections 20 through 36 of this ordinance.

Sec. 20. Wetlands--Development standards. If a wetland is located on or contiguous to the site of a development proposal, all activities on the site shall be in compliance with the following requirements and restrictions:

(1) General Performance Requirements:

(a) Activities may only be permitted in a wetland or wetland buffer if the applicant can show that the proposed

activity will not degrade the functions and functional performance of the wetland.

(b) Activities and uses shall be prohibited in wetlands and wetland buffers, except as provided for in this Chapter.

(c) Category I Wetlands. Activities and uses shall be prohibited from Category I, except as provided for in the public agency and utility exception, reasonable use exception, and variance sections of this Chapter.

(d) Category II and III Wetlands. With respect to activities proposed in Category II and III wetlands, the following standards shall apply:

(i) Where wetland fill is proposed, activities and uses shall be prohibited unless the applicant can demonstrate that:

(A) The basic project purpose cannot reasonably be accomplished on another site or sites in the general region while still successfully avoiding or resulting in less adverse impact on a wetland; and

(B) All on-site alternative designs that would avoid or result in less adverse impact on a wetland or its buffer, such as a reduction in the size, scope, configuration or density of the project, are not feasible. Compensation for the loss of acreage and functions of wetland and buffers shall be provided under the terms established under section 23 of this ordinance.

(e) Category IV Wetlands. Activities and uses that result in unavoidable and necessary impacts may be permitted in Category IV wetlands and associated buffers in accordance with an approved special environmental study and mitigation plan, and only if the proposed activity is the only reasonable alternative that will accomplish the applicant's objectives. Compensation for the acreage and loss functions will be provided under the terms established under section 23 of this ordinance.

(2) Wetland Buffers. The following standard buffers shall be established from the wetland edge as delineated and marked in the field:

| | |
|--|-----|
| Category I Wetlands | |
| High Habitat function (Habitat score 29-36) | 300 |
| Moderate Habitat function (Habitat score 20-28) | 150 |
| High Water Quality function and Low Habitat function or none of the above characteristics (Habitat score < 20) | 100 |
| Category II Wetlands | |
| High Habitat function (Habitat score 29-36 points) | 300 |
| Moderate Habitat function (Habitat score 20-28) | 150 |
| High Water Quality function and Low Habitat function or none of the above characteristics (Habitat score < 20) | 100 |
| Category III Wetlands | |
| Moderate Habitat function (Habitat score 20-28) | 150 |
| Low Habitat or not meeting above criteria (Habitat score <20) | 80 |
| Category IV Wetlands Width of Buffer (feet) | |
| Low functions | 50 |

Note: Removed information and buffers associated with the following wetlands that are not relevant to Des Moines: Category I -- Natural Heritage, bogs, estuarine, and wetlands in coastal lagoons and Category II - Estuarine and Interdunal.

(a) Where a legally established and constructed street transects a wetland buffer, the City Manager or designee may approve a modification of the standard buffer width to the edge of the right of way if the isolated part of the buffer does not provide additional protection of the wetland and provides insignificant biological, geological or hydrological buffer functions relating to the wetland. If the resulting buffer distance is less than 50 percent of the standard buffer for the applicable wetland category, no further reduction shall be allowed through wetland buffer reduction or averaging.

(b) Where a buffer has been previously established through City or county development review, and is permanently recorded on title or placed within a separate tract, the buffer shall be as previously established.

(3) Building Setback Lines. A building setback line of 10 feet is required from the edge of any wetland buffer. Minor structural intrusions into the area of the building setback line may be allowed if the City Manager or designee determines that such intrusions will not negatively impact the critical area.

(4) Increased Wetland Buffers. The City Manager or designee may require either additional native vegetation to achieve purposes of this chapter or increased buffer sizes when environmental information indicates the necessity for greater buffers to protect critical area functions, values, or hazards based on site-specific conditions. This determination shall be supported by appropriate documentation showing that additional buffer width is reasonably related to protection of critical area functions and values, or protection of public health, safety and welfare. Such determination shall be attached as permit conditions. The determination shall demonstrate that at least one of the following criteria are met:

(a) There is habitat for species listed as threatened or endangered by State or federal agencies present within the sensitive area and/or its buffer, and additional buffer is necessary to maintain a viable functional habitat; or

(b) There are conditions or features adjacent to the buffer, such as steep slopes or erosion hazard areas, which over time may pose an additional threat to the viability of the buffer or buffers, if any, associated with the conditions or feature posing the threat in addition to, or to a maximum, beyond the buffer required for the subject critical area.

(c) In cases where additional buffers are not feasible, the City Manager or designee may require the applicant to undertake alternative on-site or off-site mitigation measures, including but not limited to a financial contribution to projects or programs which seek to improve environmental quality within the same watershed.

(5) Wetland Buffer Averaging. The City Manager or designee may allow modification of the standard wetland buffer width in accordance with an approved special environmental study and the best available science on a case-by-case basis by averaging buffer widths. Averaging of buffer widths may only be allowed where a qualified professional wetland scientist demonstrates that:

(a) It will not reduce wetland functions or functional performance;

(b) The wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation, and the wetland would benefit from a wider buffer in places and would not be adversely impacted by a narrower buffer in other places;

(c) The total area contained within the buffer after averaging is no less than that which would be contained within the standard buffer; and

(d) The buffer width is not reduced to less than 75 percent (75%) of the standard width.

(6) Wetland Buffer Reduction. The City Manager or designee may allow reduction of the required wetland buffer widths when accompanied by a special study that identifies appropriate mitigation strategies. Reduction of wetland buffer widths may be allowed where a qualified professional wetland scientist demonstrates that:

(a) The reduction in buffer width based on reducing the intensity of impacts from proposed land uses. Buffer widths required for proposed land uses with high-intensity impacts to wetlands may be reduced to those recommended for moderate-intensity impacts under the following conditions:

i. For wetlands that score moderate or high for habitat (20 points or more for the habitat functions), the width of the buffer can be reduced if both of the following criteria are met:

(A) A relatively undisturbed, vegetated corridor at least 100-foot wide is protected between the wetland and any other Priority Habitats as defined by the Washington State Department of Fish and Wildlife. The corridor must be protected for the entire distance between the wetland and the Priority Habitat by some type of legal protection such as a conservation easement.

(B) Measures to minimize the impacts of different land uses on wetlands, such as the examples summarized in Table 8C-8 from "Wetlands in Washington State: Volume 2-Protecting and Managing Wetlands" (Ecology, 2005), are applied.

ii. For wetlands that score less than 20 points for habitat, the buffer width can be reduced to that required for moderate land-use impacts by applying measures to minimize the impacts of the proposed land uses. Measures include but are not limited to the following: direct light and noise away from wetlands, route untreated runoff away from wetlands, apply an integrated pest management program, use privacy fencing or vegetative buffer to delineate the wetland buffer edge and discourage disturbance, and use best management practices to control dust (see examples in Table 8C-8).

(b) Reductions in buffer widths where existing roads or structures lie within the buffer. Where a legally established, non-conforming use of the buffer exists (e.g., a road or structure that lies within the width of buffer recommended for that wetland), proposed actions in the buffer may be permitted as

long as they do not increase the degree of nonconformity, or if no reasonable alternative exists. This means no increase in the impacts to the wetland from activities in the buffer.

Sec. 21. Wetlands - Reasonable Use Exceptions.

(1) Adjustments to Dimensional Requirements.

(a) Yard Reductions for Building One Single-Family Dwelling. The City Manager or designee may allow modification to the required front, rear, or side yard on the opposite of the wetland. The reductions must meet the following standards:

(i) The wetland, wetland buffer and required yard area opposite the wetland equals more than 50% of the property dimension of the development site.

(ii) A required side yard is reduced to five feet.

(iii) A required front or rear yard is reduced to ten feet.

(2) Single-Family Dwelling. Development of one single-family dwelling within the buffer of a wetland on a development site shall be approved by the City Manager or designee if the applicant demonstrates that:

(a) The extent of development within the buffer is limited to that which is necessary to create a developable area which is no larger than 4,000 square feet;

(b) The proposal utilizes to the maximum extent possible and best available construction, design, and development techniques which result in the least adverse impact on the critical area;

(c) The proposal incorporates the development standards of sections 20 through 23 of this ordinance and the surface water design manual to the maximum extent possible; and

(d) The proposal is consistent with the purpose and intent of this chapter.

Sec. 22. Wetlands - Limited exemptions.

The City Manager or designee may allow exemptions from the provisions of this chapter based on the following criteria:

(1) Wetlands larger than 4,000 sf will be evaluated using standard procedures for wetland review.

(2) Wetlands between 1,000 and 4,000 sf shall be evaluated using the *Washington State Wetland Rating System for Western Washington* (Hruby, 2004, or as revised) to establish category and evaluate functions. The following criteria and local knowledge of natural resources shall be used to determine whether to exempt wetlands between 1,000 and 4,000 sf from the requirement to avoid impacts.

(a) The requirement to avoid impacts may be dropped for Category III and IV wetlands between 1,000 and 4,000 sf that meet all of the following criteria:

(i) Wetland is not associated with a riparian corridor; and

(ii) Wetland is not part of a wetland mosaic; and

(iii) Wetland does not score 20 points or more for habitat in the Wetland Rating System; and

(iv) Wetland does not contain habitat identified as essential for local populations of priority species identified by Washington Department of Fish and Wildlife.

(b) Impacts allowed under this provision to these wetlands will be fully mitigated as set forth in section 23 of this ordinance.

(c) All Category I and II Wetlands between 1,000 and 4,000 sf should be evaluated with full mitigation sequencing and buffer establishment. Any approved impacts should be adequately compensated by mitigation as set forth in section 23 of this ordinance.

(3) Wetlands less than 1,000 sf shall be exempt from regulation where the applicant has shown that they:

(a) Are not associated with a riparian corridor;

(b) Are not part of a wetland mosaic; and

(c) Do not contain habitat identified as essential for local populations of priority species identified by the Washington Department of Fish and Wildlife.

Sec. 23. Wetlands -- Mitigation requirements.

(1) Compensatory mitigation for alterations to wetlands shall achieve equivalent or greater biologic functions. Compensatory mitigation plans shall be consistent with the Guidance on Wetland Mitigation in Washington State - Part 2: Guidelines for Developing Wetland Mitigation Plans and Proposals, April 2004 (Washington State Department of Ecology, U.S. Army Corps of Engineers Seattle District, and U.S. Environmental Protection Agency Region 10; Ecology Publication #04-06-013b), or as revised.

(2) Mitigation shall be required in the following order of preference:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action.

(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps such as project redesign, relocation, or timing, to avoid or reduce impacts.

(c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.

(d) Reducing or eliminating the impact over time by preservation and maintenance operations.

(e) Compensating for the impact by replacing, enhancing, or providing substitute resources or environments.

(f) Monitoring the required compensation and taking remedial or corrective measures when necessary.

(3) Compensating for lost or affected functions. Compensatory mitigation shall address the functions affected by the proposed project, with an intention to achieve functional equivalency or improvement of functions. The goal shall be for the compensatory mitigation to provide similar wetland functions as those lost, except when either:

(a) The lost wetland provides minimal functions as determined by a site specific function assessment, and the proposed compensatory mitigation action(s) will provide equal or greater functions or will provide functions shown to be limiting within a watershed through a formal Washington State watershed assessment plan or protocol; or

(b) Out-of-kind replacement of wetland type or functions will best meet watershed goals formally identified by the City, such as replacement of historically diminished wetland types.

(4) Preference of mitigation actions. Methods to achieve compensation for wetland functions shall be approached in the following order of preference:

(a) Restoration (re-establishment and rehabilitation) of wetlands.

(b) Creation (establishment) of wetlands on disturbed upland sites such as those with vegetative cover consisting primarily of non-native introduced species. This should only be attempted when there is an adequate source of water and it can be shown that the surface and subsurface hydrologic regime is conducive for the wetland community that is anticipated in the design.

(c) Enhancement of significantly degraded wetlands in combination with restoration or creation. Such enhancement should be part of a mitigation package that includes replacing the impacted area and meeting appropriate ratio requirements.

(5) Type and location of compensatory mitigation. Unless it is demonstrated that a higher level of ecological functioning would result from an alternate approach, compensatory mitigation for ecological functions shall be either in-kind and on-site, or in-kind and within the same stream reach, sub-basin, or drift cell (if estuarine wetlands are impacted). Compensatory mitigation actions shall be conducted within the same sub-drainage basin and on the site of the alteration except when all of the following apply:

(a) There are no reasonable on-site or in sub-drainage basin opportunities (e.g., on-site options would require

elimination of high-functioning upland habitat), or on-site and in sub-drainage basin opportunities do not have a high likelihood of success based on a determination of the capacity of the site to compensate for the impacts. Considerations should include: anticipated replacement ratios for wetland mitigation, buffer conditions and proposed widths, available water to maintain anticipated hydrogeomorphic classes of wetlands when restored, proposed flood storage capacity, and potential to mitigate riparian fish and wildlife impacts (such as connectivity);

(b) Off-site mitigation has a greater likelihood of providing equal or improved wetland functions than the impacted wetland; and

(c) Off-site locations shall be in the same sub-drainage basin unless:

(i) Established watershed goals for water quality, flood storage or conveyance, habitat, or other wetland functions have been established by the City and strongly justify location of mitigation at another site; or

(ii) Credits from a state-certified wetland mitigation bank are used as compensation and the use of credits is consistent with the terms of the bank's certification.

(d) The design for the compensatory mitigation project needs to be appropriate for its location (i.e., position in the landscape). Therefore, compensatory mitigation should not result in the creation, restoration, or enhancement of an atypical wetland. An atypical wetland refers to a compensation wetland (e.g., created or enhanced) that does not match the type of existing wetland that would be found in the geomorphic setting of the site (i.e., the water source(s) and hydroperiod proposed for the mitigation site are not typical for the geomorphic setting). Likewise, it should not provide exaggerated morphology or require a berm or other engineered structures to hold back water. For example, excavating a permanently inundated pond in an existing seasonally saturated or inundated wetland is one example of an enhancement project that could result in an atypical wetland. Another example would be excavating depressions in an existing wetland on a slope, which required the construction of berms to hold the water.

(6) Timing of compensatory mitigation. It is preferred that compensatory mitigation projects be completed prior to activities that will disturb the on-site wetlands. At the least, compensatory mitigation shall be completed immediately following disturbance and prior to use or occupancy of the action or development. Construction of mitigation projects shall be timed to reduce impacts to existing fisheries, wildlife, and flora. The City Manager or designee may authorize a one-time temporary delay in completing construction or installation of the compensatory mitigation when the applicant provides a written explanation from a qualified wetland professional as to the rationale for the delay. An appropriate rationale would include identification of the environmental conditions that could produce a high probability of failure or significant construction difficulties (e.g., project delay lapses past a fisheries window; or installing plants should be delayed until the dormant season to ensure greater survival of installed materials). The delay shall not create or perpetuate hazardous conditions or environmental damage or degradation, and the delay shall not be

injurious to the health, safety, and general welfare of the public. The request for the temporary delay must include a written justification that documents the environmental constraints that preclude implementation of the compensatory mitigation plan. The justification must be verified and approved by the City.

(7) Mitigation ratios. The following ratios shall apply to creation or restoration that is in-kind, is on-site, is the same category, is timed prior to or concurrent with alteration, and has a high probability of success. The first number specifies the acreage of replacement wetlands and the second specifies the acreage of wetlands altered.

| Wetland Mitigation Ratios | | | |
|---------------------------|-------------|----------------|----------|
| | Enhancement | Rehabilitation | Creation |
| Category I | 6:1 | 4.5:1 | 3:1 |
| Category II | 3:1 | 2:1 | 1.5:1 |
| Category III | 2:1 | 1.5:1 | 1:1 |
| Category IV | 1.5:1 | 1:1 | 1:1 |

(a) The mitigation ratio is the acreage required for compensatory mitigation divided by the acreage of impact.

(b) The ratios are for a concurrent compensatory mitigation project. If the impacts to a wetland are to be mitigated by using an approved and established mitigation bank, the rules and ratios applicable to the bank should be used.

(c) The ratios are based on the assumption that the category, based on *Wetland Ratings* established in 18.04.663 DMMC, and hydrogeomorphic (HGM) class/subclass of the wetland proposed as compensation are the same as the category and HGM class/subclass of the wetland impacts.

(d) Ratios for projects in which the category and HGM class/subclass of wetlands proposed as compensation is not the same as that of the wetland impacts will be determined on a case-by-case basis using the recommended ratios as a starting point. The ratios could be higher in such cases.

(e) Creation can be used in combination with rehabilitation or enhancement. For example, 2 acres of impact to a Category II wetland would require 2 acres of creation (i.e. replacing the lost acreage at a 1:1 ratio), the remaining one acre of creation necessary to compensate for impact could be substituted with 1.5 acres of rehabilitation or 3 acres of enhancement.

(f) Generally the use of enhancement alone as compensation is discouraged. Using enhancement in combination with some amount of creation is preferred.

(8) Preservation. Impacts to wetlands may be mitigated by preservation of wetland areas when used in combination with other forms of mitigation such as creation, restoration, or enhancement. Preservation may also be used by itself, but more restrictions apply as outlined below.

(a) Acceptable uses of preservation. The preservation of at-risk, high quality wetlands and habitat may be

considered as part of an acceptable mitigation plan when the following criteria are met:

(i) Preservation is used as a form of compensation only after the standard sequencing of mitigation (avoid, minimize, and then compensate). See subsection (2) of this section;

(ii) Restoration (re-establishment and rehabilitation), creation, and enhancement opportunities have also been considered, and preservation is proposed by the applicant and approved by the permitting agencies as the best compensation option;

(iii) The preservation site is determined to be under imminent threat; that is, the site has the potential to experience a high rate of undesirable ecological change due to on-site or off-site activities that are not regulated (e.g., logging of forested wetlands). This potential includes permitted, planned, or likely actions;

(iv) The area proposed for preservation is of high quality or critical for the health of the watershed or basin due to its location. Some of the following features may be indicative of high quality sites:

(A) Category I or II wetland rating;

(B) Rare or irreplaceable wetland type (e.g., bogs, mature forested wetlands, estuaries) or aquatic habitat that is rare or a limited resource in the area;

(C) Habitat for threatened or endangered species;

(D) Provides biological and/or hydrological connectivity;

(E) High regional or watershed importance (e.g., listed as priority site in a watershed or basin plan);

(F) Large size with high species diversity (plants and/or animals) and/or high abundance of native species;

(G) A site that is continuous with the head of a watershed, or with a lake or pond in an upper watershed that significantly improves outflow hydrology and water quality.

(b) Preservation in combination with other forms of compensation. Using preservation as compensation is acceptable when done in combination with restoration, creation, or enhancement, provided that a minimum of 1:1 acreage replacement is provided by reestablishment or creation and the criteria below are met:

(i) All criteria listed in (8)(a) are met.

(ii) The impact area is small and/or impacts are occurring to a low functioning system (Category III or IV wetland);

(iii) Preservation of a high-quality system occurs in the same watershed or basin as the wetland impact;

(iv) Preservation sites include buffer areas adequate to protect the habitat and its functions from encroachment and degradation; and

(v) Mitigation ratios for preservation in combination with other forms of mitigation shall range from 10:1 to 20:1, as determined on a case-by-case basis, depending on the quality of the wetlands being impacted and the quality of the wetlands being preserved.

(c) Preservation as the sole means of compensation for wetland impacts. Preservation alone shall only be used as compensatory mitigation in exceptional circumstances. Preservation alone shall not apply if impacts are occurring to functions that must be replaced on site, such as flood storage or water quality treatment that need to be replicated by water quality measures implemented within the project limits. Preservation of at-risk, high-quality wetlands and habitat (as defined above) may be considered as the sole means of compensation for wetland impacts when the following criteria are met:

(i) All criteria listed in (8)(a) and (8)(b) are met;

(ii) There are no adverse impacts to habitat for fish and species listed as endangered and threatened;

(iii) There is no net loss of habitat functions within the watershed or basin;

(iv) Higher mitigation ratios are applied. Mitigation ratios for preservation as the sole means of mitigation shall generally start at 20:1. Specific ratios should depend upon the significance of the preservation project and the quality of the wetland resources lost.

(9) Wetland Mitigation Banks.

(a) Credits from a wetland mitigation bank may be approved for use as compensation for unavoidable impacts to wetlands when:

(i) The bank is certified under Chapter 173-700 WAC;

(ii) The City Manager or designee determines that the wetland mitigation bank provides appropriate compensation for the authorized impacts; and

(iii) The proposed use of credits is consistent with the terms and conditions of the bank's certification.

(b) Replacement ratios for projects using bank credits shall be consistent with replacement ratios specified in the bank's certification.

(c) Credits from a certified wetland mitigation bank may be used to compensate for impacts located within the service area specified in the bank's certification. In some cases, the

service area of the bank may include portions of more than one adjacent drainage basin for specific wetland functions.

(10) Substitute Fees. In cases where the applicant demonstrates to the satisfaction of the City Manager or designee that a suitable compensation site does not exist, the City Manager or designee may allow the applicant to make a financial contribution to a water quality project or program performing critical areas enhancement, restoration, or mitigation. The project or program must improve environmental quality within the same watershed as the altered wetland. The amount of the fee shall be determined by the City Manager or designee and shall be equal to the cost of mitigating the impact of the wetland alteration.

(11) Mitigation Plan Requirements. When mitigation is required, the applicant shall submit for approval a mitigation plan prepared by a qualified scientist(s) following procedures set forth in the state Department of Ecology Guidelines for Developing Freshwater Wetlands Mitigation Plans and Proposals, 2004, or as revised.

(12) Final Approval. The City Manager or designee shall grant final approval of a completed compensation project if the final report of the project mitigation plan satisfactorily documents that the area has achieved all requirements of this section and section 39 of this ordinance.

Sec. 24. Streams - Development standards. If a stream is located on or contiguous to the site of a development proposal, all activities on the site shall be in compliance with the following requirements and restrictions:

(1) Stream buffers. The following standard buffers shall be measured from the ordinary high water mark or from the top of the bank if the ordinary high water mark cannot be identified:

| Water Type | Buffer Width (feet) |
|----------------|---------------------|
| Types S or F | 115 |
| Types Np or Ns | 65 |

Type S: streams inventoried as "shorelines of the state" under the City's Shoreline Master Program.

Type F: streams that are salmonids bearing or have the potential to support salmonids.

Type Np: streams that are perennial during a year of normal rainfall and do not have the potential to support salmonids use.

Type Ns: streams that are seasonal or ephemeral during a year of normal rainfall and do not have the potential to support salmonids use.

(a) Where a legally established and constructed street transects a stream buffer, the City Manager or designee may approve a modification of the standard buffer width to the edge of the street if the isolated part of the buffer does not provide additional protection of the stream and provides insignificant biological, geological or hydrological buffer functions relating to the stream. If the resulting buffer

distance is less than 50 percent of the standard buffer, no further reduction shall be allowed.

(b) Where a buffer has been previously established through City or county development review, and is permanently recorded on title or placed within a separate tract, the buffer shall be as previously established, provided it is at least 50 percent of the required standard buffer distance.

(c) Any stream relocated or altered as part of approved mitigation measures shall have at least the minimum buffer required for the type of stream involved;

(d) If the stream buffer includes a steep slope hazard area or landslide hazard area, the stream buffer width is the greater of either the stream buffer in this section or twenty-five feet beyond the top of the hazard area.

(e) Any stream adjoined by a riparian wetland or other contiguous critical area shall have the buffer required for the stream type involved or the buffer that applies to the wetland or other critical area, whichever is greater.

(2) Increased stream buffer. The City Manager or designee shall require increased buffer widths in accordance with the recommendations of a qualified biologist and the best available science on a case-by-case basis when a larger buffer is necessary to protect stream functions and values based on site-specific characteristics.

This determination shall be based on one or more of the following criteria:

(a) A larger buffer is needed to protect other critical areas;

(b) The buffer or adjacent uplands has a slope greater than thirty percent (30%) or is susceptible to erosion and standard erosion-control measures will not prevent adverse impacts to the wetland.

(c) In cases where additional buffers are not feasible, the City Manager or designee may require the applicant to undertake alternative on-site or off-site mitigation measures, including but not limited to a financial contribution to projects or programs which seek to improve environmental quality within the same watershed.

(3) Pursuant to RCW 35.21.180, the King County, Washington "Surface Water Design Manual," including all subsequent revisions, is adopted by reference as the "Surface Water Design Manual for the City of Des Moines in section 44 of this ordinance."

(4) Building Setback Lines. A building setback line of 10 feet is required from the edge of any stream buffer. Minor structural intrusions into the area of the building setback line may be allowed if the City Manager or designee determines that such intrusions will not negatively impact the critical area.

Sec 25. Streams - Reasonable Use Exceptions.

(1) Adjustments to Dimensional Requirements.

(a) Yard Reductions for Building One Single-Family Dwelling. The City Manager or designee may allow modification to the required front, rear, or side yard on the opposite of the stream. The reductions must meet the following standards:

(i) The stream, stream buffer and required yard area opposite the stream equals more than 50% of the property dimension of the development site.

(ii) A required side yard is reduced to five feet.

(iii) A required front or rear yard is reduced to ten feet.

(2) Single-Family Dwelling. Development of one single-family dwelling within the buffer of a stream on a development site shall be approved by the City Manager or designee if the applicant demonstrates that:

(a) The extent of development within the buffer is limited to that which is necessary to create a developable area which is no larger than 4,000 square feet;

(b) The proposal utilizes to the maximum extent possible and best available construction, design, and development techniques which result in the least adverse impact on the environmentally critical area;

(c) The proposal incorporates the development standards of section 24 of this ordinance and the surface water design manual to the maximum extent possible; and

(d) The proposal is consistent with the purpose and intent of this chapter.

Sec. 26. Streams - Limited exemptions. The City Manager or designee may allow exemptions from the provisions of this chapter based on the following provisions:

(1) Stream crossings. Stream crossings, whether for access or utility purposes, shall be avoided to the extent possible. The City Manager or designee may approve stream crossings only when he/she determines that there are no practicable or reasonable alternatives, and when the proposal complies with all of the following criteria:

(a) Bridges are required for streams which support salmonid; and

(b) All crossings using culverts shall use superspan or oversize culverts; and

(c) All construction and installation crossings shall comply with timing restrictions set by federal and state permit processes, generally during summer low flow; and

(d) Crossings shall not occur in salmonid spawning areas unless no other feasible crossing site exists; and

(e) Bridge piers or abutments shall not be placed in either the floodway or between the ordinary high water marks unless no other feasible alternative placement exists; and

(f) Crossings shall not diminish flood-carrying capacity; and

(g) Crossings shall provide for maintenance of culverts, bridges, and utilities; and

(h) Crossings shall serve multiple properties whenever possible; and

(i) Crossings shall comply with all applicable local, state, and federal laws.

(2) Stream relocation and dredging. Stream relocation and dredging are strongly discouraged and shall only occur to improve hydrologic, hydraulic, and fish and wildlife habitat functions. The City Manager or designee may approve stream relocation and dredging only when he/she determines that there are no practicable or reasonable alternatives, and when the proposal complies with all of the following criteria:

(a) Relocation and dredging shall follow all applicable local, state, and federal laws and receive approvals from the agencies administering such laws;

(b) Dredging of any stream shall follow the standards for dredging set forth in the Shoreline Master Program;

(c) A mitigation plan with a contingency plan shall be prepared by a licensed professional pursuant to section 27 of this ordinance and shall include the following provisions:

(i) Identification of long-term goals (25 years) and objectives for restoration of the stream channel and riparian areas;

(ii) A three-year to five-year monitoring program to measure success of the restoration;

(iii) Mitigation shall be designed to accommodate a 100-year storm event.

(3) Stream channel, stream bank, bluff, or shore stabilization. The City Manager or designee may approve stabilization of stream channels, stream banks, bluffs, or shorelines when he/she determines that the proposed stabilization complies with the Washington Department of Fish and Wildlife *Integrated Streambank Protection Guidelines* (2003) and the following criteria as applicable:

(a) Naturally occurring movement threatens existing structures, public improvements, unique natural resources, or the only feasible access to property.

(b) In the case of streams, stabilization results in improved fish and wildlife habitat, flood control, and improved water quality.

(c) The preferred methodology for stream channel and bank stabilization is bioengineering or some combination of bioengineering and more traditional structural solutions. Bioengineering involves use of plant materials to stabilize eroding stream channels and banks.

(d) The preferred methodology for bluff and shore stabilization is naturalistic shoreline protection measures such as creation of beaches that absorb and dissipate wave energy. Bluff and shore stabilization shall follow the standards of the Shoreline Master Program for the construction of any stabilization device.

(e) Relocation and dredging shall follow all applicable local, state, and federal laws and receive approvals from the agencies administering such laws.

Sec 27. Streams - Mitigation requirements.

(1) Compensatory mitigation for alterations to streams shall achieve equivalent or greater biologic functions.

(a) On-site and In-kind for Streams. For streams, the applicant shall maintain or improve stream channel dimensions, including depth, length, and gradient; restore or improve native vegetation and fish and wildlife habitat; and create an equivalent or improved channel bed, biofiltration, and meandering. Unless otherwise specified by the City Manager or designee, such mitigation to replace and enhance stream elements such as pools, riffles, and spawning gravel shall be provided on a relative 2:1 basis.

(b) Off-site and In-kind for Streams. When environmental information demonstrates that greater functions and values will be achieved, off-site compensation of greater size, functions, and values may be approved if the compensation project is within the same subwatershed as the wetland or stream to be altered. Unless otherwise specified by the City Manager or designee, such mitigation shall be provided pursuant to the ratios specified in this section.

(c) Conditions Preceding Stream Alteration. In the case of the exceptions of section 24 of this ordinance, the following conditions shall precede any stream alteration approved pursuant to this section:

(i) A mitigation plan for the compensation project shall be submitted by the applicant and approved by the City Manager or designee;

(ii) The compensation project shall be fully implemented following the requirements of the approved mitigation plan; and

(iii) A final report shall be submitted following the specified growing seasons documenting that all requirements of a mitigation plan have been fully achieved. The City may postpone or limit development, require bonds pursuant to section 41 of this ordinance, or use other appropriate techniques to ensure the success of the mitigation plan.

(d) The City Manager or designee may postpone the issuance of development permits for one or more growing seasons

until the success or viability of the approved mitigation measures can be demonstrated by the applicant.

(e) Substitute Fees. In cases where the applicant demonstrates to the satisfaction of the City Manager or designee that a suitable compensation site does not exist, the City Manager or designee may allow the applicant to make a financial contribution to a water quality project or program performing critical areas enhancement, restoration, or mitigation. The project or program must improve environmental quality within the same watershed as the altered stream. The amount of the fee shall be determined by the City Manager or designee and shall be equal to the cost of mitigating the impact of the stream alteration.

(2) Mitigation Plans. All restoration and compensation projects shall follow a mitigation plan prepared by qualified scientists containing the following components:

(a) Baseline Information. Quantitative data shall be collected and synthesized for both the impacted critical area and the proposed mitigation site, if different from the impacted critical area, following procedures set forth by the City Manager or designee.

(b) Environmental Goals and Objectives. Goals and objectives describing the purposes of the mitigation measures shall be provided, including a description of site selection criteria, identification of target evaluation species and resource functions.

(c) Performance Standards. Specific criteria for fulfilling environmental goals and objectives, and for beginning remedial action or contingency measures shall be provided, including water quality standards, species richness and diversity targets, habitat diversity indices, or other ecological, geological, or hydrological criteria.

(d) Detailed Construction Plan. Written specifications and descriptions of mitigation techniques shall be provided, including the proposed construction sequence, accompanied by detailed site diagrams and blueprints that are an integral requirement of any development proposal.

(e) Monitoring Program. A program outlining the approach for assessing a completed project shall be provided, including descriptions of proposed experimental and control site survey or sampling techniques. A protocol shall be included outlining how the monitoring data will be evaluated by agencies that are tracking the progress of the mitigation project. A report shall be submitted at least twice yearly documenting milestones, successes, problems, and contingency actions of the restoration or compensation project. The City Manager or designee shall require that the applicant monitor the compensation or restoration project for a minimum of five years.

(f) Contingency Plan. A plan shall be provided fully identifying potential courses of action, and any corrective measures to be taken when monitoring or evaluation indicates project performance standards are not being met.

(g) Performance and Maintenance Securities. Securities ensuring fulfillment of the mitigation project,

monitoring program, and any contingency measures shall be posted pursuant to section 41 of this ordinance.

(3) Final Approval. The City Manager or designee shall grant final approval of a completed restoration or compensation project if the final report of the project mitigation plan satisfactorily documents that the area has achieved all requirements of section 38 of this ordinance.

Sec. 28. Geologically Hazardous Areas - Development Standards. Development within all geologically hazardous areas shall comply with the following general performance requirements:

(1) Alterations of geologically hazardous areas or associated buffers may only occur for activities that:

(a) Will not increase the threat of the geological hazard to adjacent properties beyond pre development conditions;

(b) Will not adversely impact other critical areas;

(c) Are designed so that the hazard to the project is eliminated or mitigated to a level equal to or less than pre-development conditions;

(d) Are designed and constructed in accordance with the surface water design manual; and

(e) Are certified as safe as designed and under anticipated conditions by a qualified engineer or geologist, licensed in the state of Washington.

(2) Critical Facilities Prohibited. Critical facilities shall not be sited within geologically hazardous areas unless there is no other practical alternative.

Sec 29. Ravine sidewalls and bluffs - Development standards. Activities on ravine sidewalls and bluffs shall meet the general performance requirements of section 28 of this ordinance and the specific following requirements:

(1) Buffers. A 50-foot undisturbed buffer of native vegetation shall be established from the top, toe, and sides of all ravine sidewalls and bluffs.

(2) Buffer Reduction. The City Manager or designee may approve a reduction in the width of the required buffer, to a minimum width of 10 feet, when special environmental studies are provided that demonstrate all of the following:

(a) A licensed engineer specializing in geotechnical analysis or a licensed engineering geologist, after review of the geologic conditions of the site, the proposed development plans, and all mitigation measures proposed or required, concludes in a written statement that the development proposal will result in minimal risk of soil instability; and

(b) Special mitigation measures regarding design, construction, and maintenance can reasonably be employed to minimize adverse environmental impacts associated with the proposal; and

(c) The proposal represents minimal disruption of existing native vegetation.

(3) Additional Buffers. The City Manager or designee may require increased buffers if environmental studies indicate such increases are necessary to mitigate landslide, seismic and erosion hazards, or as otherwise necessary to protect the public health, safety, and welfare.

(4) Building Setback Lines. A building setback line of 10 feet is required from the edge of any buffer of a ravine sidewall or bluff. Minor structural intrusions into the area of the building setback line may be allowed if the City Manager or designee determines that such intrusions will not negatively impact the critical area.

(5) All buffers shall be measured from the top, toe, and sides of all ravine sidewalls or bluffs.

Sec. 30. Hillside of 15 percent slope and greater Development standards--Disturbance limitations. Development on hillsides shall comply with the general performance requirements of section 28 of this ordinance and the following requirements regarding disturbance limitations, development location, development design, construction techniques, and landscaping.

(1) Amount of Disturbance Allowed. The following chart sets forth the maximum slope disturbance allowed on a development site:

| Slope | Amount of Slope Which Can Be Disturbed | Factor |
|--------|--|--------|
| 0 -15% | 100% | 1.00 |
| 15-25% | 60% | .60 |
| 25-40% | 45% | .45 |
| 40% + | 30% | .30 |

The overall amount of disturbance allowed on development sites which have any combination of the above slope categories shall be determined by the following formula:

(Square Footage of Site having 0-15% slopes) X 1.00 +
(Square Footage of Site having 15-25% slopes) X 0.60 +
(Square Footage of Site having 25-40% slopes) X 0.45 +
(Square Footage of Site having 40% + slopes) X 0.30 =
Total Amount of Allowable Site Disturbance.

(2) Development Location.

(a) Structures and improvements shall be clustered to retain as much open space as possible and the natural topographic character of the slope; and

(b) Structures and improvements shall conform to the natural contour of the slope, foundations must be tiered to generally conform to the existing topography of the site; and

(c) Structures and improvements shall be located to preserve the most sensitive portion of the site and its natural landforms and vegetation.

(3) Development Design.

(a) The footprint of buildings and other disturbed areas shall be minimized. The least number of buildings is desirable in order to consolidate the development; and

(b) Standard prepared building pads (slab on grade) resulting in grading more than 10 feet outside the building footprint area are prohibited; and

(c) Use of common access drives and utility corridors is required where feasible; and

(d) Impervious lot coverage shall be minimized. With the exception of detached single-family structures, understructure parking and multilevel structures shall be incorporated where feasible; and

(e) Roads, walkways, and parking areas shall be designed to parallel the natural contours of the steep slope hazard areas while maintaining consolidated areas of natural topography and vegetation. Access shall be located in the least sensitive area feasible; and

(f) Use of retaining walls which allow the maintenance of existing natural slope areas is preferred over graded artificial slopes.

(4) Construction Techniques.

(a) Use of foundation walls as retaining walls is preferable to rock or concrete walls built separately and away from the building. Freestanding retaining devices are only permitted when they cannot be designed as structural elements of the building foundation; and

(b) Use of pole-type construction which conforms to the existing topography is desirable where feasible; and

(c) Structures shall be tiered to conform to existing topography and to minimize topographic modification. Piled deck support structures are preferred for parking or garages over fill-based construction types.

(5) Landscaping. The disturbed area of a development site not used for buildings and other improvements shall be landscaped according to a landscape design which will achieve a minimum 40 percent coverage by the canopy of trees and shrubs within 10 years to provide habitat desirable to native western Washington birds. The trees and shrubs shall be a mix of shade, flowering, and coniferous and broad-leaf evergreens that are either native to the Puget Sound region or are valuable to western Washington birds. The Department of Wildlife "Plants for Wildlife in Western Washington" shall be used as a general guide.

(a) Trees shall be the following size at time of planting and shall conform to the "American Standard for Nursery Stock":

(i) Single-stem shade and flowering trees shall be a minimum one-inch caliper trunk as measured six inches above the ground.

(ii) Multistem shade and flowering trees shall be a minimum height of eight feet as measured from the ground level to the average uppermost point of growth of the plant.

(iii) Coniferous evergreen trees (Types 4, 5, and 6) shall be a minimum height of six feet as measured from the ground to the midpoint between the uppermost whorl and the tip of the leader. For species of trees without whorls, minimum height shall be measured to the uppermost side growth. The ratio of height to spread shall not be less than 5:3.

(iv) Broad-leaf evergreen trees (Types 4 and 5) shall be a minimum height of four feet as measured from the ground level to where the main part of the plant ends, not to the tip of a thin shoot.

(b) Shrubs shall be of the following size at time of planting and shall conform to the "American Standard for Nursery Stock":

(i) Dwarf and semi-dwarf deciduous shrubs shall be a minimum height of two to two and one-half-feet above grade, and either a #3 container size for container-grown plants, 10-inch diameter root ball for balled and burlapped plants, or 11-inch root spread for bare-root plants.

(ii) Strong-growing deciduous shrubs shall be a minimum height of two to three feet above grade, and either a #3 container size for container-grown plants, 10-inch diameter root ball for balled and burlapped plants, or 11-inch root spread for bare-root plants.

(iii) Coniferous and broad-leaf evergreen shrubs (Types 1, 2, and 3) shall be a minimum height of two to two and one-half feet spread or height, and either a minimum #3 container size for container-grown plants or 12-inch diameter root ball for balled and burlapped plants.

Sec. 31. Ravine sidewalls, bluffs, and hillsides of 15 percent slope and greater - Reasonable use exceptions.

Limited Waiver of Hillside Disturbance Limitations. Any one or all of the disturbance limitation requirements of section 31 of this ordinance may be waived if the City Manager or designee determines that the application of such requirements is not feasible for developing one single-family dwelling on a development site and the proposal is consistent with the purpose and intent of this chapter.

Sec. 32. Seismic hazard areas--Development standards. Development in seismic hazard areas shall be in accordance with the standards for earthquake design and seismic motion as established in the Des Moines Building and Construction Code (Title 14, DMMC). Seismic hazard areas shall be altered only when the City Manager or designee concludes, based on environmental information, the following:

(1) There is no actual hazard based on a lack of seismic activity in the past in the area of the development proposal, and a quantitative analysis of potential for seismic activity indicates no significant risk to the development proposal; or

(2) The development proposal can be designed so that it will be as safe from any earthquake damage as a similar development not located in a seismic hazard area.

Sec. 33. Erosion and landslide hazard areas--Development standards. Development on hillsides containing or adjacent to erosion or landslide hazard areas shall meet the general performance requirements of section 28 of this ordinance and the following:

(1) Buffer Requirement. A buffer shall be established from all edges of landslide hazard areas. The size of the buffer shall be determined by the City Manager or designee to eliminate or minimize the risk of property damage, death, or injury resulting from landslides caused in whole or part by the development, based upon review of and concurrence with a special environmental study prepared by a qualified professional.

(a) Minimum Buffer. The minimum buffer shall be equal to the height of the slope or fifty (50) feet, whichever is greater.

(b) Increased Buffer. The buffer may be increased where the City Manager or designee determines a larger buffer is necessary to prevent risk of damage to proposed and existing development;

(c) Buffer Reduction. The buffer may be reduced to a minimum of ten (10) feet when a qualified professional demonstrates to the City Manager or designee's satisfaction that the reduction will adequately protect the proposed development, adjacent developments, and uses and the subject critical area.

(2) Alterations. Alterations of an erosion or landslide hazard area and/or buffer may only occur for activities for which a hazards analysis is submitted and certifies that:

(a) The development will not increase surface water discharge or sedimentation to adjacent properties beyond pre-development conditions;

(b) The development will not decrease slope stability on adjacent properties; and

(c) Such alterations will not adversely impact other critical areas;

(3) Design Standards. Development within an erosion or landslide hazard area and/or buffer shall be designed to meet the following basic requirements unless it can be demonstrated that an alternative design that deviates from one or more of these standards provides greater long-term slope stability while meeting all other provisions of this Chapter. The requirement for long-term slope stability shall exclude designs that require regular and periodic maintenance to maintain their level of function. The basic development design standards are:

(a) The proposed development shall not decrease the factor of safety for landslide occurrences below the limits of 1.5 for static conditions and 1.2 for dynamic conditions. Analysis of dynamic conditions shall be based on a minimum horizontal acceleration as established by the current version of the Uniform Building Code;

(b) Structures and improvements shall be clustered to avoid geologically hazardous areas and other critical areas;

(c) Structures and improvements shall minimize alterations to the natural contour of the slope, and foundations shall be tiered where possible to conform to existing topography;

(d) Structures and improvements shall be located to preserve the most critical portion of the site and its natural landforms and vegetation;

(e) The proposed development shall not result in greater risk or a need for increased buffers on neighboring properties;

(f) The use of retaining walls that allow the maintenance of existing natural slope area is preferred over graded artificial slopes; and

(g) Development shall be designed to minimize impervious lot coverage;

(4) Vegetation Retention. Unless otherwise provided or as part of an approved alteration, removal of vegetation from an erosion or landslide hazard area or related buffer shall be prohibited;

(5) Seasonal Restriction. Land clearing, grading, or filling shall be limited to the period between April 1st and October 1st, provided that the City may extend or shorten the dry season on a case-by-case basis depending on actual weather conditions;

(6) Utility Lines and Pipes. Utility lines and pipes shall be permitted in erosion and landslide hazard areas only when the applicant demonstrates that no other practical alternative is available. The line or pipe shall be located above ground and properly anchored and/or designed so that it will continue to function in the event of an underlying slide. Stormwater conveyance shall be allowed only through a high-density polyethylene pipe with fuse-welded joints, or similar product that is technically equal or superior;

(7) Point Discharges. Point discharges from surface water facilities and roof drains onto or upstream from an erosion or landslide hazard area shall be prohibited except as follows:

(a) Conveyed via continuous storm pipe down slope to a point where there are no erosion hazard areas downstream from the discharge;

(b) Discharged at flow durations matching predeveloped conditions, with adequate energy dissipation, into existing channels that previously conveyed stormwater runoff in the predeveloped state; or

(c) Dispersed discharge upslope of the steep slope onto a low-gradient undisturbed buffer demonstrated to be adequate to infiltrate all surface and stormwater runoff, and where it can be demonstrated that such discharge will not increase the saturation of the slope;

(8) Subdivisions. The division of land in landslide hazard areas and associated buffers is subject to the following:

(a) Land that is located wholly within a landslide hazard area or its buffer may not be subdivided. Land that is located partially within a landslide hazard area or its buffer may be divided provided that each resulting lot has sufficient buildable area outside of, and will not affect, the landslide hazard or its buffer.

(b) Access roads and utilities may be permitted within the landslide hazard area and associated buffers if the City determines that no other feasible alternative exists; and

(9) Prohibited Development. On-site sewage disposal systems, including drain fields, shall be prohibited within erosion and landslide hazard areas and related buffers.

Sec. 34. Critical aquifer recharge areas--Development standards--Buffers and disturbance limitations. If an aquifer recharge area is located on or adjacent to a development site, all activities on the site shall be in compliance with the following requirements:

(1) Development Standards - General Performance Requirements:

(a) Activities may only be permitted in a critical aquifer recharge area if the applicant can show that the proposed activity will not cause contaminants to enter the aquifer and that the proposed activity will not adversely affect the recharging of the aquifer.

(b) The proposed activity must comply with the water source protection requirements and recommendations of the U.S. Environmental Protection Agency, Washington State Department of Health, and the Seattle-King County Health Department.

(c) The proposed activity must be designed and constructed in accordance with the surface water design manual.

(2) Development Standards--Specific Uses:

(a) Storage Tanks. All storage tanks proposed to be located in a critical aquifer recharge area must comply with local building code requirements and must conform to the following requirements:

(i) Underground Tanks. All new underground storage facilities proposed for use in the storage of hazardous substances or hazardous wastes shall be designed and constructed so as to:

(A) Prevent releases due to corrosion or structural failure for the operational life of the tank;

(B) Be protected against corrosion, constructed of noncorrosive material, steel clad with a noncorrosive material, or designed to include a secondary containment system to prevent the release or threatened release of any stored substances; and

(C) Use material in the construction or lining of the tank that is compatible with the substance to be stored.

(ii) Aboveground Tanks. All new aboveground storage facilities proposed for use in the storage of hazardous substances or hazardous wastes shall be designed and constructed so as to:

(A) Not allow the release of a hazardous substance to the ground, ground waters, or surface waters;

(B) Have a primary containment area enclosing or underlying the tank or part thereof; and

(C) Provide either a secondary containment system built into the tank structure or a secondary containment dike system built outside the tank for all tanks.

(b) Vehicle Repair and Servicing:

(i) Vehicle repair and servicing must be conducted over impermeable pads and within a covered structure capable of withstanding normally expected weather conditions. Chemicals used in the process of vehicle repair and servicing must be stored in a manner that protects them from weather and provides containment should leaks occur.

(ii) No dry wells shall be allowed in critical aquifer recharge areas on sites used for vehicle repair and servicing. Dry wells existing on the site prior to facility establishment must be abandoned using techniques approved by the state Department of Ecology prior to commencement of the proposed activity.

(c) Residential Use of Pesticides and Nutrients. Application of household pesticides, herbicides, and fertilizers shall not exceed times and rates specified on the packaging.

(d) Use of Reclaimed Water for Surface Percolation or Direct Recharge. Water reuse projects for reclaimed water must be in accordance with the adopted water or sewer comprehensive plans that have been approved by the state departments of Ecology and Health.

(i) Use of reclaimed water for surface percolation must meet the ground water recharge criteria given in Chapter 90.46.080(1) and Chapter 90.46.010(10) RCW. The state Department of Ecology may establish additional discharge limits in accordance with Chapter 90.46.080(2) RCW.

(ii) Direct injection must be in accordance with the standards developed by authority of Chapter 90.46.042 RCW.

(e) State and federal regulations. The uses listed below shall be conditioned as necessary to protect critical aquifer recharge areas in accordance with the applicable state and federal regulations.

| <u>Activity</u> | <u>Statute - Regulation - Guidance</u> |
|---|---|
| Above Ground Storage Tanks | Chapter 173-303-640 WAC |
| Automobile Washers | Chapter 173-216 WAC, Best Management Practices for Vehicle and Equipment Discharges (Washington Department of Ecology WQ-R-95-56) |
| Below Ground Storage Tanks | Chapter 173-360 WAC |
| Chemical Treatment Storage and Disposal Facilities | Chapter 173-303-182 WAC |
| Hazardous Waste Generator (Boat Repair Shops, Biological Research Facility, Dry Cleaners, Furniture Stripping, Motor Vehicle Service Garages, Photographic Processing, Printing and Publishing Shops, etc.) | Chapter 173-303 WAC |
| Injection Wells | Federal 40 CFR Parts 144 and 146, Chapter 173-218 WAC |
| On-Site Sewage Systems (Large Scale) | Chapter 173-240 WAC |
| On-Site Sewage Systems (< 14,500 gal/day) | Chapter 246-272 WAC, Local Health Ordinances |
| Pesticide Storage and Use | Chapter 15.54 RCW, Chapter 17.21 RCW |
| Solid Waste Handling and Recycling Facilities | Chapter 173-304 WAC |
| Wastewater Application to Land Surface | Chapter 173-216 WAC, Chapter 173-200 WAC, Washington State Department of Ecology Land Application Guidelines, Best Management Practices for Irrigated Agriculture |

(3) Prohibited Uses and Activities - Critical Aquifer Recharge Areas. The following activities and uses are prohibited in critical aquifer recharge areas:

(a) Landfills. Landfills, including hazardous or dangerous waste, municipal solid waste, special waste, wood waste, and inert and demolition waste landfills;

(b) Underground Injection Wells. Class I, III, and IV wells and subclasses 5F01, 5D03, 5F04, 5W09, 5W10, 5W11, 5W31, 5X13, 5X14, 5X15, 5W20, 5X28, and 5N24 of Class V wells;

(c) Mining

(i) Metals and hard rock mining; and

(ii) Sand and gravel mining, prohibited from critical aquifer recharge areas determined to be highly susceptible or vulnerable;

(d) Wood Treatment Facilities. Wood treatment facilities that allow any portion of the treatment process to occur over permeable surfaces (both natural and manmade);

(e) Storage, Processing, or Disposal of Radioactive Substances. Facilities that store, process, or dispose of radioactive substances; and

(f) Other Prohibited Uses or Activities

(i) Activities that would significantly reduce the recharge to aquifers currently or potentially used as a potable water source;

(ii) Activities that would significantly reduce the recharge to aquifers that are a source of significant base flow to a regulated stream; and

(iii) Activities that are not connected to an available sanitary sewer system, are prohibited from critical aquifer recharge areas associated with sole source aquifers.

**Sec. 35. Fish and wildlife habitat conservation areas--
Development standards--Buffers and disturbance limitations.**

(1) Buffers and disturbance limitations. If a fish and/or wildlife habitat conservation area is located on or adjacent to a development site, the following provisions shall apply:

(a) A habitat conservation area may be altered only if the proposed alteration of the habitat or the mitigation proposed does not degrade the quantitative and qualitative functions and values of the habitat.

(b) The City Manager or designee may require native vegetation buffer areas when special environmental studies indicate the necessity for such buffers in order to achieve the purposes identified in section 13 of this ordinance.

(c) In cases where the City Manager or designee determines that adequate buffers are not feasible, and that the impact upon the habitat conservation area may be severe, the City Manager or designee may prohibit development of the subject habitat conservation and buffer area.

(d) In cases where the City Manager or designee determines that adequate buffers are not feasible, but that the environmental impacts associated with the proposal would not be so severe as to warrant a prohibition of all development, the applicant shall undertake alternative on-site or off-site mitigation measures specified by the City Manager or designee. Alternative mitigation measures include, but are not limited to, a financial contribution to projects or programs which seek to improve environmental quality within the same fish and wildlife habitat conservation area. Such financial contribution shall be of an amount sufficient to fund mitigation measures commensurate with the adverse impact being mitigated.

(e) Any approval of alterations or impacts to a habitat conservation area shall be supported by the best available science such as the Washington Department of Fish and Wildlife management recommendations for Priority Habitats and Species.

(f) When appropriate due to the type of habitat or species present or the project area conditions, the City Manager or designee may require a critical areas study. If the habitat conservation area is also classified as a stream, lake, pond or a wetland, then the stream, lake, pond or wetland protection standards shall apply and habitat management shall be addressed as part of the stream, lake, pond or wetland review, provided that the City may impose additional requirements when necessary to provide for protection of the habitat conservation areas consistent with this chapter. The City Manager or designee may require the following site and proposal related information with the critical areas study:

(i) Identification of any federal or state listed endangered, threatened, sensitive or candidate species that have a primary association with habitat on or adjacent to the project area, and an assessment of potential project impacts to the species;

(ii) A discussion of any federal or state management recommendations, including Washington Department of Fish and Wildlife habitat management recommendations, that have been developed for species or habitats located on or adjacent to the project area;

(iii) A discussion of any ongoing management practices that will protect habitat after the project site has been developed, including any proposed monitoring, maintenance, and adaptive management programs; and

(iv) When appropriate due to the type of habitat or species present or the project area conditions, the City Manager or designee may also require the habitat management plan to include an evaluation by the state Department of Fish and Wildlife, local Native American Indian Tribe, or other qualified professional regarding the applicant's analysis and the effectiveness of any proposed mitigating measures or programs, to include any recommendations as appropriate.

(2) Specific habitats. If a use, activity or development is within, adjacent to, or likely to affect one or more specific fish and/or wildlife habitat conservation areas, the following provisions shall apply:

(a) Endangered, threatened, and sensitive species.

(i) No development shall be allowed within a habitat conservation area or buffer with which state or federally endangered, threatened, or sensitive species have a primary association, except that which is provided for by a management plan established by the Washington Department of Fish and Wildlife or applicable state or federal agency.

(ii) Whenever activities are proposed adjacent to a habitat conservation area with which state or federally endangered, threatened, or sensitive species have a primary association, such area shall be protected through the application of protection measures in accordance with a special environmental study prepared by a qualified professional and approved by the City. Approval for alteration of land adjacent to the habitat conservation area or its buffer shall not occur prior to consultation with the Washington Department of Fish and Wildlife for animal species, the Washington State Department of Natural

Resources for plant species, and other appropriate federal or state agencies.

(iii) Bald eagle habitat shall be protected pursuant to the Washington State Bald Eagle Protection Rules (WAC 232-12-292).

(b) Anadromous fish.

(i) All activities, uses, and alterations proposed to be located in water bodies used by anadromous fish or in areas that affect such water bodies shall give special consideration to the preservation and enhancement of anadromous fish habitat, including, but not limited to, adhering to the following standards:

(A) Activities shall be timed to occur only during the allowable work window as designated by the Washington Department of Fish and Wildlife for the applicable species;

(B) An alternative alignment or location for the activity is not feasible;

(C) The activity is designed so that it will not degrade the functions or values of the fish habitat or other critical areas;

(D) Shoreline erosion control measures shall be designed to use bioengineering methods or soft armoring techniques, according to an approved special environmental study, and

(E) Any impacts to the functions or values of the habitat conservation area are mitigated in accordance with an approved special environmental study.

(ii) Structures that prevent the migration of salmonids shall not be allowed in the portion of water bodies currently or historically used by anadromous fish. Fish bypass facilities shall be provided to prevent fish migrating downstream from being trapped or harmed.

(iii) Filling of aquatic habitats, when authorized by the City of Des Moines Shoreline Master Program shall not adversely impact anadromous fish or habitat or shall mitigate any unavoidable impacts and shall only be allowed for a water-dependent use.

Sec. 36. Area of special flood hazard--Development standards--Buffers and disturbance limitations. If an area of special flood hazard is located on or adjacent to a development site, all activities on the site shall be in compliance with the following requirements and restrictions:

(1) The provisions of chapters 11.08 and 14.44 DMMC.

(2) Prior to approval of any development proposal within an area of special flood hazard, special environmental studies must demonstrate that the proposed development and related construction activities will not result in an increase in the frequency, severity, or magnitude of flooding on the development site or on properties within the same hydrologic system.

Sec. 37. Limited density transfer.

(1) Density and Floor Area Calculation. The calculation of potential dwelling units in residential development proposals and allowable floor area in commercial development proposals shall be determined by the ratio of developable area to undevelopable critical area of the development site. The following formula for density and floor area calculations is designed to provide compensation for the preservation of critical areas, flexibility in design, and consistent treatment of different types of development proposals. The formula shall apply to all residential zones (including PUD) and all commercial zones.

(2) Formulas. The maximum number of dwelling units (DU) for a site which contains undevelopable critical areas is equal to:

$$\left[\frac{\text{Developable Area}}{\text{Minimum Lot Area/DU}} \right] + \left[\frac{\text{Undevelopable Area}}{\text{Minimum Lot Area/DU}} \right] \times \text{Development Factor} = \text{Maximum Number of Dwelling Units.}$$

The maximum amount of commercial floor area for a site which contains undevelopable critical areas is equal to:

$$\left[\frac{\text{Maximum Permitted Floor Area/Lot Area}}{\text{Development Factor}} \right] \times \text{Developable Area} + \left[\frac{\text{Maximum Permitted Floor Area/Lot Area}}{\text{Development Factor}} \right] \times \text{Undevelopable Area} = \text{Maximum Amount of Floor Area.}$$

Developable critical areas shall receive full credit towards calculating the number of dwelling units or floor area.

(3) Development Factor. The development factor is a number to be used in calculating the number of dwelling units or the maximum allowable floor area for a site which contains undevelopable critical areas. The development factor is derived from the following table:

| Undevelopable Sensitive Area as Percentage of Site (Percent) | Development Factor |
|--|--------------------|
| 1 - 10 | .30 |
| 11 - 20 | .27 |
| 21 - 30 | .24 |
| 31 - 40 | .21 |
| 41 - 50 | .18 |
| 51 - 60 | .15 |
| 61 - 70 | .12 |
| 71 - 80 | .09 |
| 81 - 90 | .06 |
| 91 - 99 | .03 |

Sec. 38. Development exceptions. Exceptions to the development restrictions and standards set forth in sections 18 through 36 of this ordinance shall be permitted pursuant to the following provisions:

(1) Emergencies. The City Manager or designee may approve improvements that are necessary to respond to emergencies that threaten the public health and safety, or public development proposals when he/she determines that no reasonable alternative exists and the benefit outweighs the loss. Emergencies shall be verified by a licensed engineer.

(2) Drainage facilities.

(a) Wetlands, streams and their buffers shall not be altered for use as any private drainage facility. Drainage facilities near these areas shall satisfy all requirements of the surface water design manual.

(b) Wetlands, streams and their buffers may be altered for use as a public drainage facility; provided, that all requirements of the surface water design manual and all other local, state, and federal laws are satisfied, and so long as increased and multiple natural resource functions are achievable and the benefits outweigh the lost resource. The City Manager or designee may approve drainage facilities in a wetland or stream only where he/she determines that long-term impacts are minimal or where there are no practicable or reasonable alternatives and mitigation is provided.

(c) Ravine sidewalls and bluffs and their buffers shall not be altered for use as any private facility, but may be altered for a public facility if all requirements of the surface water design manual are satisfied. Drainage facilities on hillsides shall satisfy all requirements of the "Surface Water Design Manual."

(3) Trails and trail-related facilities. Public and private trails and trail-related facilities, such as picnic tables, benches, interpretive centers and signs, viewing platforms, and campsites, shall be allowed, but use of impervious surface shall be minimized. Trails and trail-related facilities shall be avoided within wetlands and streams. The City Manager or designee may approve such trails and facilities only when he/she determines that there are no practicable or reasonable upland alternatives. Trail planning, construction, and maintenance shall adhere to the following additional criteria:

(a) Trails and related facilities shall, to the extent feasible, be placed on existing levees, road grades, utility corridors, or any other previously disturbed areas; and

(b) Trails and related facilities shall be planned to minimize removal of trees, shrubs, snags, and important wildlife habitat; and

(c) Trail construction and maintenance shall follow the U.S. Forest Service "Trails Management Handbook" (FSH 2309.18, June 1987) and "Standard Specifications for Construction of Trails" (EM-7720-102, June 1984) or as amended; and

(d) Viewing platforms, interpretive centers, campsites, picnic areas, benches, and access to them shall be designed and located to minimize disturbance; and

(e) Trails and related facilities shall provide water quality protection measures to assure that runoff from them does not directly discharge to wetlands or streams; and

(f) Within the buffer, trails and trail-related facilities shall be aligned and constructed to minimize disturbance to wetland and stream functions and values.

(4) Utility and roadway construction. Construction of utilities and roadways shall be avoided within critical areas. The City Manager or designee may approve utilities and/or roadways in critical areas and their buffers only when he/she determines that there are not practicable or reasonable alternatives. Utility and roadway corridor alignment, construction, restoration, and maintenance shall adhere to the following additional criteria:

(a) Corridor alignment shall follow a path of least impact to the functions of critical areas;

(b) Corridor construction and maintenance shall maintain and protect the hydrologic and hydraulic functions of wetlands and streams and the stability of ravine sidewalls and bluffs;

(c) Corridors shall be fully revegetated with native vegetation upon completion of construction pursuant to the development standards set forth in sections 18 through 36 of this ordinance pursuant to the development standards set forth in sections 18 through 36 of this ordinance;

(d) Any pipeline crossing of a stream channel shall employ one or more of the following measures:

(i) Jacked or bored under active stream channel starting outside the ordinary high water mark;

(ii) Suspension over the active channel; or

(iii) Restoration of functions and values of natural stream channel features where channel disturbance is unavoidable.

(e) Any required construction or maintenance roads shall be the minimum width necessary to gain access. Roads shall be maintained without use of herbicides and, when specified by the City Manager or designee, shall be available for use as a trail. Roads necessary for construction or maintenance purposes shall closely approximate the location of the utility and/or primary roadway to minimize disturbance; and

(f) Within a required buffer area, utilities and roadways shall be aligned and constructed to minimize disturbance to critical area functions and values.

(5) Time limitation. A development exception automatically expires and is void if the applicant fails to file for a building permit or other necessary development permit within one year of the effective date of the development exception, unless either:

(a) The applicant has received an extension for the development exception pursuant to this section; or

(b) The development exception approval provides for a greater time period.

(6) Time extension. The City Manager or designee may extend a development extension, not to exceed one year, if:

(a) Unforeseen circumstances or conditions necessitate the extension of the development exception; and

(b) Termination of the development exception would result in unreasonable hardship to the applicant, and the applicant is not responsible for the delay; and

(c) The extension of the development exception will not cause adverse impacts to critical areas.

Sec. 39. Unauthorized critical area alterations and enforcement.

(1) When a critical area or its buffer has been altered in violation of this chapter, all ongoing development work shall stop and the critical area shall be restored. The City Manager or designee shall have the authority to issue a stop work order to cease all ongoing development work, and order restoration, rehabilitation, or replacement measures at the owner's or other responsible party's expense to compensate for violation of provisions of this chapter. All restoration shall follow an approved restoration plan pursuant to the provisions of this chapter and meet the following minimum performance standards:

(2) Minimum Performance Standards for Restoration

(a) For alterations to critical aquifer recharge areas, frequently flooded areas, wetlands, and habitat conservation areas, the following minimum performance standards shall be met for the restoration of a critical area, provided that if the violator can demonstrate that greater functional and habitat values can be obtained, these standards may be modified:

(i) The historic structural and functional values shall be restored, including water quality and habitat functions;

(ii) The historic soil types and configuration shall be replicated;

(iii) The critical area and buffers shall be replanted with native vegetation that replicates the vegetation historically found on the site in species types, sizes, and densities. The historic functions and values should be replicated at the location of the alteration; and

(iv) Information demonstrating compliance with the requirements of this chapter shall be submitted to the City Manager or designee.

(b) For alterations to flood and geological hazards, the following minimum performance standards shall be met for the restoration of a critical area, provided that, if the violator can demonstrate that greater safety can be obtained, these standards may be modified:

(i) The hazard shall be reduced to a level equal to, or less than, the pre-development hazard;

(ii) Any risk of personal injury resulting from the alteration shall be eliminated or minimized; and

(iii) The hazard area and buffers shall be replanted with native vegetation sufficient to minimize the hazard.

(4) Site Investigations. The City Manager or designee is authorized to make site inspections and take such actions as are necessary to enforce this chapter. The City Manager or designee shall present proper credentials and make a reasonable effort to contact any property owner before entering onto private property.

(5) Penalties. Any person, party, firm, corporation, or other legal entity convicted of violating any of the provisions of this chapter shall be guilty of a misdemeanor and shall be subject to enforcement by civil penalty pursuant to section 18.72.060 DMMC.

Sec. 40. Tracts and easements.

(1) Sensitive Area Tracts or Easements. Separate critical area tracts or easements shall be used to protect critical areas that are to remain undeveloped pursuant to this chapter. The tracts or easements shall impose upon all present and future owners and occupiers of land subject to the tracts or easements the obligation, enforceable on behalf of the public by the City, to leave the areas of the tracts or easements permanently undisturbed. In a single-family residential zone, any lots containing a critical area easement shall be of a dimension of not less than 5,000 square feet, exclusive of such easement.

(2) Permanent Marking. Where determined by the City Manager or designee to reduce the likelihood of future intrusion into a critical area, the common boundary between a separate sensitive area tract or easement and the adjacent land shall be permanently identified and marked with permanent wood or metal signs on wood or metal posts. Sign location and wording shall be approved by the City Manager or designee during review of the development proposal and are exempt from the sign code, chapter 18.42 DMMC. The size, coloring, lettering, spacing, placement, and height above the ground surface shall be as established by the City Manager or designee.

Sec. 41. Securities and enforcement.

(1) Performance Securities. The City Manager or designee shall require the applicant of a development proposal to post a cash performance bond or other acceptable security to guarantee that the applicant will properly construct all structures and improvements required by this chapter. The security shall guarantee that the work and materials used in construction are free from defects. All securities shall be on a form approved by the director. Until written release of the security, the principal or surety may not be terminated or canceled. The director shall release the security upon determining that all structures and improvements have been satisfactorily constructed and upon the posting by the applicant of a maintenance security if one is required.

(2) Maintenance Securities. The director shall require the applicant to post a cash maintenance bond or other acceptable security guaranteeing that structures and improvements required

by this chapter satisfactorily perform for a minimum of two years, or, in the case of required mitigation improvements, up to five years after they have been constructed and approved. All securities shall be on a form approved by the City Manager or designee. Until written release of the security, the principal or surety may not be terminated or canceled. The director shall release the security upon determining that performance standards established for evaluating the effectiveness and success of the structures and improvements have been satisfactorily met. The performance standards shall be agreed upon by the City Manager or designee and the applicant and contained in the mitigation plan developed and approved during the review process.

(3) Renewable Bonds. Any bonds required by this section may be in the form of one-year bonds to be renewed as appropriate.

(4) Enforcement. Violations of this chapter shall be subject to the enforcement provisions of chapter 18.72 DMMC.

Sec. 42. Sensitive area mitigation fund. The City Manager shall be authorized to establish a sensitive area mitigation fund solely for use in enforcing and implementing sensitive area codes. Upon establishment of the fund, all moneys obtained from enforcement of the provisions of this chapter shall be deposited in this fund.

Sec. 43. Surface water design manual. Pursuant to RCW 35.21.180 the King County, Washington "Surface Water Design Manual," including all subsequent revisions, is adopted by reference as the "Surface Water Design Manual for the City of Des Moines." A current copy of the King County, Washington "Surface Water Design Manual" adopted by reference in this section shall be maintained on file in the office of the City Manager or designee and shall be available for public inspection.

Sec. 44. Surface water contamination--Determination.

(1) The City shall determine if surface water pollution has occurred or is occurring by:

(a) Utilizing the federal Environmental Protection Agency quality criteria for Freshwater Bodies and the state Department of Ecology water quality standards for surface waters of the state listed in Chapter 173-201A WAC; or

(b) Requesting investigations by other agencies having regulatory authority regarding surface water pollution.

(2) When the City or the investigating agency determines surface water quality pollution has occurred, notice shall be provided to the alleged source of pollutants identifying the specific surface water quality problem and requesting that the problem be remedied.

(3) The City shall pursue City, state and/or federal enforcement actions when any surface water pollution is verified.

Sec. 45. Surface water contamination - Compliance required - Penalty.

(1) No person shall defile, pollute, or contaminate:

(a) The surface waters of the City;

(b) A stream running through or into the corporate limits of the City; or

(c) A stream running through or into the corporate limits of the City, and for a distance of five miles beyond the corporate limits of the City.

(2) A violation of or failure to comply with this section is a class 1 civil infraction.

(3) Each day upon which a violation occurs constitutes a separate violation.

Sec. 46. Surface water contamination - Penalty not exclusive remedy. The City reserves the right to pursue other appropriate civil actions under state and federal law, including a citizen suit under the federal Clean Water Act.

Sec. 47. Interpretation. This chapter shall be liberally construed to give full effect to its objectives and purposes.

Sec. 48. Appeals. Any decision of the City Manager or designee in the administration of this chapter may be appealed to the hearing examiner. Such appeal must be taken within 10 days of the final decision of the City Manager or designee. Unless the jurisdiction of the hearing examiner is invoked in strict compliance with the time requirements of this section, the decision of the City Manager or designee shall be final and binding and shall not be subject to further agency or judicial review. Appeals taken pursuant to this chapter shall be consolidated with all other pending agency administrative reviews. The hearing examiner shall give substantial weight to any discretionary decision of the City Manager or designee rendered pursuant to this chapter.

Sec. 49. Codification. Sections 12 through 48 of this ordinance shall constitute a new chapter 18.86 DMMC entitled "Environmentally Critical Areas."

Sec. 50. Repealer. It is the intent of this section to repeal Chapter 18.86 DMMC, as presently constituted and codified, in its entirety. Chapter 18.86 DMMC and the previously codified provisions of Ordinance No. 853, sections 1-13; Ordinance No. 925, sections 1, 15-29; Ordinance No. 1130, sections 1-5; Ordinance No. 1160, section 3 (part); Ordinance No. 1164, section 1 (part); Ordinance No. 1237, sections 3-4; Ordinance No. 1332, section 4; and Ordinance No. 1378, sections 16-17 are each repealed.

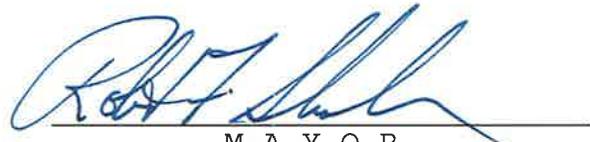
Sec. 51. Severability - Construction.

(1) If a section, subsection, paragraph, sentence, clause, or phrase of this ordinance is declared unconstitutional or invalid for any reason by any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this ordinance.

(2) If the provisions of this ordinance are found to be inconsistent with other provisions of the Des Moines Municipal Code, this ordinance is deemed to control.

Sec. 52. Effective Date. This ordinance shall be in full force and effect thirty (30) days after its passage and approval in accordance with law.

PASSED BY the City Council of the City of Des Moines this 8th day of March, 2007 and signed in authentication thereof this 8th day of March, 2007.


M A Y O R

APPROVED AS TO FORM:

 #21063
Acting City Attorney

ATTEST:


City Clerk

Published: March 19, 2007

LEGAL NOTICE

SUMMARY OF ADOPTED ORDINANCE

CITY OF DES MOINES

ORDINANCE NO. 1400, Adopted March 8, 2007.

DESCRIPTION OF MAIN POINTS OF THE ORDINANCE:

This ordinance revises and updates City of Des Moines development regulations relating to the protection and regulation of environmentally critical areas to ensure compliance with the Washington State Growth Management Act (Chapter 36.70A); amends chapters 18.04 of the Des Moines Municipal Code (DMMC) to add new definitions and amend existing definitions; reenacts chapter 18.86 DMMC relating to environmentally critical areas; repeals the previously codified provisions of chapter 18.86 DMMC and underlying ordinances; and finds that the revised development regulations meet the statutory requirements of RCW 36.70A.130(1).

The full text of the ordinance will be mailed without cost upon request.

Denis Staab
City Clerk

Published: March 19, 2007

EXHIBIT A

ORDINANCE NO. 1400

FINDINGS OF FACT

Based upon the foregoing process, the Des Moines City Council has made the following Findings of Facts and Conclusions:

(1) The Growth Management Act (GMA) requires critical areas to be designated and protected and for cities to include the best available science when developing critical areas regulations (RCW 36.70A.170 and .060).

(2) Environmentally critical areas include wetlands, streams, fish and wildlife habitat conservation areas, geologically hazardous areas, critical aquifer recharge areas, and frequently flooded areas.

(3) The City of Des Moines has within its borders a variety of environmentally sensitive areas that require protection of important functions and values.

(4) The GMA establishes a schedule for counties and cities to take action to review and, if needed, revise their comprehensive plans and development regulations, including environmentally critical area regulations, to ensure the plan and regulations comply with the requirements of the Act (RCW 36.70A.130(4)).

(5) Des Moines completed an initial review and update of its environmentally critical area regulations through the adoption of Ordinance No. 1378 on May 4, 2006.

(6) On May 4, 2006, the Washington Department of Community Trade and Economic Development (CTED) provided the following comments to the City based on their review of proposed amendments to Des Moines' environmentally critical area regulations and comments they received from other state review agencies:

(a) The Washington State Department of Ecology (Ecology) expressed concerns regarding the wetlands portion of the City's Critical Areas Ordinance (CAO) (DMMC 18.86). Ecology requested to be included in the record with a comment regarding the buffer widths for wetlands. According to the Department of Ecology's review of the scientific literature in Freshwater Wetlands in Washington State--Volume 1: A Synthesis of the Science (Publication #05-06-006, March 2005) the City's existing wetland buffers must be substantially larger in order to protect critical functions from impacts from adjacent high-intensity land uses. Ecology suggests that the City consider the guidance from the Grette Associates report and adopt Ecology's wetland rating system, along with Ecology's wetland delineation manual, and consider their science-based recommendations for setting buffer widths.

(b) The Puget Sound Action Team was also unable to provide any review because of the expedited review time line. "Due to the developed nature of your City, the salmon-bearing streams and the length of Puget Sound shoreline, this agency is very interested in working with the City of Des Moines as the City continues to review and revise the critical areas ordinance."

(7) On May 4, 2006, Washington State Department of Fish and Wildlife (WDFW) provided written comments regarding development regulations addressing the protection of fish and wildlife resources, of which the following comments were deferred to the 2006-2007 CAO update process:

(a) Section 18.04.664, Wetland: This section needs to be revised, as well, to refer to the latest DOE wetlands manuals referenced as "Volume 1 Synthesis of the Science," Publication #05-06-006, "Wetlands in Washington State," Volume 2, Publication #05-06-008 and the "Washington State Wetland Rating System for Western Washington," Publication #04-06-025.

(b) Section 18.86.085, Development standards - Fish and wildlife habitat conservation areas - Buffers and disturbance limitations: In accordance with WAC 365-190, this section should include habitats and species of local importance and a designation process as described in CTED publication (11/03) "Critical Areas Assistance Handbook." This section should also identify the extent of areas that need to be addressed in a Critical Area Report.

(c) The existing riparian buffers contained in the City of Des Moines Municipal Code are considerably less than those recommended by WDFW in its publication titled "Management Recommendations for Washington's Priority Habitats: Riparian." Because of this:

- WDFW strongly recommends that the City include additional provisions that allow for increased buffer widths for specific streams or stream reaches that are known to provide significant habitat for terrestrial wildlife and anadromous fish species.
- WDFW suggests that the City apply site-specific information into a fixed buffer-width approach.
- WDFW also recommends the City of Des Moines should also include a section on buffer averaging and enhancement.
- WDFW recommends that the City incorporate language into the CAO that requires Low Impact Development designs.

(8) The City of Des Moines worked with CTED, Ecology, WDFW and Puget Sound Action Team as it completed further review and considered revisions and updates to its environmentally critical area regulations and maps during the 2006-2007 CAO update process.

(9) The requirements for environmentally critical areas are sufficient and appropriate to protect the functions and values of environmentally critical areas consistent with the Growth Management Act.

(10) The amendments hereafter set forth address requirements related to development in and near environmentally critical areas including critical areas buffers, performance standards, mitigation requirements, exemptions and exceptions.

(11) The amendments serve to further implement the comprehensive plan, and provide protection for environmentally critical areas that is generally consistent with Best Available Science while maintaining development flexibility, and are in the public interest.

(12) Stream buffers are based on the aquatic area buffers for urban areas as established in the King County CAO and reflect the BAS review and assessment carried out by the County in "BAS Volume I - A Review of Science Literature" and "BAS Volume II - Assessment of Proposed Ordinances" dated February 2004 and are supported by the "City of Des Moines Critical Areas Ordinance (DMMC 14.44, 18.86) Best Available Science Review: Habitat, Stream and Wetland Elements" (Grette Associates, July 2005).

(13) Wetland mitigation ratios are based in part on the mitigation ratios for urban areas as established in the King County CAO and supported by the County's BAS review, and as supported by the "City of Des Moines Critical Areas Ordinance (DMMC 14.44, 18.86) Best Available Science Review: Habitat, Stream and Wetland Elements" (Grette Associates, July 2005) and the findings of the "City of Des Moines Critical Areas Inventory: Wetland, Stream and Habitat Elements" (Grette Associates, September 2006) determining that the City of Des Moines does not have bogs, Natural Heritage wetlands, old growth forested wetlands, interdunal wetlands or estuarine wetlands.

(14) The environmentally critical areas regulations continue to allow for reasonable use of property to ensure that such regulations do not infringe on constitutional private property rights.

(15) The public record demonstrates that the amendments were developed through a review of the BAS literature available to the City for review and consideration.

(16) The City has followed the GMA's requirements for public involvement and for including and considering BAS in modification of the regulations for environmentally critical areas.

(17) The City of Des Moines used the City's website, the "Des Moines City Currents" newsletter, and the "Highline Times/Des Moines News" as a means to provide information to the public on the environmentally critical area regulations update process. Information posted on the City's website included summaries of planning activities and timelines; copies of meeting materials and presentations; public notices, such as announcements for meetings, hearings or other activities; and City Council meeting agendas and meeting minutes.

(18) Based on the review of the testimony and public record, the amendments to Chapter 18.86 DMMC reflect the City's requirement to protect environmentally critical areas and to consider the planning goals of the GMA, while recognizing public and private interests.