

STATE OF MICHIGAN
COUNTY OF OAKLAND
CITY OF NOVI

ORDINANCE NO. _____

**ORDINANCE AMENDING DESIGN AND CONSTRUCTION STANDARDS ORDINANCE TO ADOPT
OAKLAND COUNTY'S STORMWATER ENGINEERING DESIGN STANDARDS**

An Ordinance to amend City of Novi City Code, Chapter 11, Design and Construction Standards, Article IV, Storm Sewers to adopt and enact Stormwater Engineering Design Standards developed by the Oakland County Water Resource Commissioners Office for compliance with the City's Part 31, MS4 General Permit, Water Resources Protection in accordance with the requirements of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended and the City's Michigan Department of Environment, Great Lakes & Energy (MDEGLE), Wastewater Discharge Permit, Rule 323.2161a, Post-Construction Requirements.

THE CITY OF NOVI ORDAINS AS FOLLOWS:

Part I. That Chapter 11, Design and Construction Standards, Article VI, Storm Sewers, Section 11-93, "General Design," is hereby amended as follows:

Sec. 11-93. – General Design

(a) The City of Novi hereby adopts the Stormwater Engineering Design Standards as set forth in Section I of the Oakland County Stormwater Engineering Design Standards Manual, as amended, as set forth in Appendix B to this Code. References to "Non-County Stormwater Systems" in Part H of the Oakland County Stormwater Engineering Design Standards shall mean and refer to "Privately-Owned Stormwater Systems within the City." All references throughout the Stormwater Engineering Design Standards to "OCWRC" or "County" shall mean and refer to "the City of Novi." The master plan describes the city stormwater system. Underground drainage facilities will generally be required for the minor stormwater disposal system (ten-year storm event). Continuous overland flood routing will generally be required for the major stormwater disposal system (one-hundred-year storm event).

(b) Hydraulic design calculations for both the minor and major storm design shall be included with the final site plan or subdivision engineering drawings.

(c) Variances from the Channel Protection Performance standards may not be considered by the City in accordance with Section 1-12 of the City of Novi Code of Ordinances and instead must comply with the alternative standard provided by the Michigan Department of Environment, Great Lakes, and Energy Stormwater Permit dated _____, as set forth in Part I, Section A.3.f.1.b).

Part II Severability

Should any section, subsection, paragraph, sentence, clause, or word of this ordinance be held invalid for any reason, such decisions shall not affect the validity of the remaining portions of the ordinance.

Part III Savings

This amendatory ordinance shall not affect violations of the zoning ordinance or any other ordinance existing prior to the effective date of this ordinance and such violation shall be governed and shall continue to be separately punishable to the full extent of the law under the provisions of such ordinance at the time the violation was committed.

Part IV. Repealer.

All ordinances or parts of ordinances in conflict with this ordinance are repealed only to the extent necessary to give this ordinance full force and effect.

Part V Effective Date: Publication.

This amendatory ordinance shall be effective 10 days after adoption by the City Council and after publication as provided by the Charter of the City of Novi.

Ayes:

Nayes:

Abstentions:

Absent:

STATE OF MICHIGAN)
)ss.
COUNTY OF OAKLAND)

I, the undersigned, the qualified and acting City Clerk of the City of Novi, Oakland County, Michigan, do certify that the foregoing is a true and complete copy of the Ordinance adopted by the City Council of the City of Novi at a meeting held on the ____ day of _____, 2021, the original of which is on file in my office.

Cortney Hanson, City Clerk
City of Novi

Adopted:

Published:

Effective:

STATE OF MICHIGAN
COUNTY OF OAKLAND
CITY OF NOVI

ORDINANCE NO. _____

**ORDINANCE AMENDING DRAINAGE AND FLOOD DAMAGE PREVENTION ORDINANCE TO
ADOPT OAKLAND COUNTY'S STORMWATER ENGINEERING DESIGN STANDARDS**

An Ordinance to amend City of Novi City Code, Chapter 12, Flood Damage Prevention Ordinance, Article III, Stormwater Detention to adopt and enact Stormwater Engineering Design Standards developed by the Oakland County Water Resource Commissioners Office for compliance with the City's Part 31, MS4 General Permit, Water Resources Protection in accordance with the requirements of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended and the City's Michigan Department of Environment, Great Lakes & Energy (MDEGLE), Wastewater Discharge Permit, Rule 323.2161a, Post-Construction Requirements.

THE CITY OF NOVI ORDAINS AS FOLLOWS:

Part I. That Chapter 12, Flood Damage Prevention Ordinance, Article III, "Stormwater Detention," Section 12-70, "Determination of need for on-site detention or retention facilities," is hereby amended as follows:

Sec. 12-70. – Determination of need for on-site detention or retention facilities

- (a) For all new developments within the city, the city engineer shall examine all site plans, preliminary plats and building permit applications and determine whether the receiving drainage course possesses sufficient flow capacities to protect downstream properties from damage resulting from developed stormwater flows.
- (b) All new developments and redevelopments shall provide an on-site stormwater detention or retention facility or facilities in accordance with the Engineering Design Manual and the Stormwater Engineering Design Standards as set forth in Section I of the Oakland County Stormwater Engineering Design Standards, as amended, as set forth in Appendix B to this Code. References to "Non-County Stormwater Systems" in Part H of the Oakland County Stormwater Engineering Design Standards shall mean and refer to "Privately-Owned Stormwater Systems within the City." All references throughout the Stormwater Engineering Design Standards to "OCWRC" or "County" shall mean and refer to "the City of Novi."
- (c) Where a receiving drainage course possesses sufficient flow capacities to protect downstream properties from damage resulting from developed stormwater flows, the new development shall:
 - (1) Pay a stormwater detention fee, as provided in section 12-71, if utilizing a regional stormwater detention facility, and provide facilities for stormwater quality enhancements or
 - (2) Elect to provide an on-site stormwater management facility or facilities in accordance with the Engineering Design Manual.
- (d) Upon its adoption by the council, the city stormwater management master plan shall be determinative of whether a new development is served by a drainage course with sufficient flow capacities to protect downstream properties from developed stormwater flows.
- (e) Any owner or developer aggrieved by a determination of the city engineer made pursuant to subsection (a) of this section shall have the right to a hearing before the council, provided a written request therefor is filed with the city clerk within ten (10) days following the personal delivery or the

date of mailing of the determination of the city engineer. Further review may be had in a court of competent jurisdiction.

Part II Severability

Should any section, subsection, paragraph, sentence, clause, or word of this ordinance be held invalid for any reason, such decisions shall not affect the validity of the remaining portions of the ordinance.

Part III Savings

This amendatory ordinance shall not affect violations of the zoning ordinance or any other ordinance existing prior to the effective date of this ordinance and such violation shall be governed and shall continue to be separately punishable to the full extent of the law under the provisions of such ordinance at the time the violation was committed.

Part IV. Repealer.

All ordinances or parts of ordinances in conflict with this ordinance are repealed only to the extent necessary to give this ordinance full force and effect.

Part V Effective Date: Publication.

This amendatory ordinance shall be effective 10 days after adoption by the City Council and after publication as provided by the Charter of the City of Novi.

Ayes:

Nayes:

Abstentions:

Absent:

STATE OF MICHIGAN)
)ss.
COUNTY OF OAKLAND)

I, the undersigned, the qualified and acting City Clerk of the City of Novi, Oakland County, Michigan, do certify that the foregoing is a true and complete copy of the Ordinance adopted by the City Council of the City of Novi at a meeting held on the ____ day of _____, 2021, the original of which is on file in my office.

Cortney Hanson, City Clerk
City of Novi

Adopted:

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STATE OF MICHIGAN
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ORDINANCE NO. _____

**ORDINANCE AMENDING DRAINAGE AND FLOOD DAMAGE PREVENTION ORDINANCE TO
ADOPT OAKLAND COUNTY'S STORMWATER ENGINEERING DESIGN STANDARDS**

An Ordinance to amend City of Novi City Code, Chapter 12, Flood Damage Prevention Ordinance, Article VI, "Stormwater Management," to adopt and enact Stormwater Engineering Design Standards developed by the Oakland County Water Resource Commissioners Office for compliance with the City's Part 31, MS4 General Permit, Water Resources Protection in accordance with the requirements of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended and the City's Michigan Department of Environment, Great Lakes & Energy (MDEGLE), Wastewater Discharge Permit, Rule 323.2161a, Post-Construction Requirements.

THE CITY OF NOVI ORDAINS AS FOLLOWS:

Part I. That Chapter 12, Flood Damage Prevention Ordinance, Article VI, "Stormwater Management," Section 12-217, "Standards for Stormwater Management and Plan Approval," is hereby amended as follows:

Sec. 12-217. – Standards for Stormwater Management and Plan Approval

All developments requiring a stormwater management plan shall be designed, constructed, and maintained to prevent flooding and protect water quality. The particular facilities and measures required on-site shall take into consideration the natural features, wetlands, and watercourses on the site; the potential for on-site and off-site adverse stormwater impacts, water pollution, and erosion; and the size of the site. The city strongly encourages the use of low impact development techniques for reducing and managing stormwater runoff.

(1) General standards for on-site and off-site stormwater management.

- a. Stormwater management conveyance, storage and infiltration measures and facilities shall be designed to prevent flood hazards and water pollution related to stormwater runoff, to prevent accelerated soil erosion from the proposed development, and shall conform with the requirements specified in the Stormwater Engineering Design Standards as set forth in Section I of the Oakland County Stormwater Engineering Design Standards Manual, as amended, as set forth in Appendix B to this Code and the Engineering Design Manual.
- b. Natural topography and site drainage shall be preserved, and site grading shall be minimized to the maximum extent reasonably achievable considering the nature of the development.
- c. Unless otherwise approved, stormwater runoff shall be conveyed through swales and vegetated buffer strips so as to decrease runoff velocity, allow for natural infiltration, allow suspended sediment particles to settle, and to remove pollutants. To the fullest extent possible, impervious surfaces should be disconnected from other impervious surfaces.
- d. Runoff rates from detention basins shall conform to the requirements specified in the the Stormwater Engineering Design Standards as set forth in Section I of the Oakland County Stormwater Engineering Design Standards Manual, as amended, as set forth in Appendix B to this Code. and the Engineering Design Manual for the first flush, bankfull, and one-hundred-year storm.

- e. Watercourses shall not be deepened, widened, dredged, cleared of vegetation, straightened, stabilized or otherwise altered without applicable permits or approvals from the city, relevant county agencies and the Michigan Department of Environmental Quality.
- f. Drainage systems shall be designed to protect public health and safety and to facilitate efficient and effective maintenance.
- g. The stormwater management plan shall demonstrate a zero percent increase over the discharge or runoff permitted by applicable law and ordinances in relation to the predevelopment and post-development stormwater runoff.

(2) *Soil erosion control.*

- a. Cutting, filling and grading shall conform with the requirements specified in the Engineering Design Manual.
- b. All development and other earth changes shall be designed, constructed and completed in such a manner that the exposed area of any disturbed land is limited to the shortest practical period of time. Proposed erosion control measures shall be submitted to the city building department for determination that such measures comply with the city's soil erosion control ordinance [chapter 29 of this Code].
- c. Approved soil erosion control measures shall be installed and maintained between the disturbed area and any down gradient watercourses (including rivers, streams, creeks, lakes, ponds and other watercourses), wetlands, roadways and property lines.
- d. Sediment resulting from accelerated soil erosion shall be removed from runoff water before it leaves the site of the development.
- e. Temporary and permanent soil measures designed and constructed for the conveyance of water around, through or away from the development or earth change area shall be designed to limit the water flow to a non-erosive velocity.
- f. Temporary soil measures shall be removed after permanent soil measures have been implemented and stabilized. All developments and earth change areas shall be stabilized with permanent soil measures.
- g. If inland lakes, ponds, rivers, creeks, streams or other watercourses and wetlands are located on or near the site, measures which trap sediment shall be provided. Straw bale berms may be used as temporary stormwater diversion structures but will not be considered sufficient by themselves for trapping sediment on-site. The use of temporary sediment basins, sediment traps, filter fabric, and rock filters in lieu of straw bale berms shall be employed as required as part of a permit. Other measures may be required if reasonably determined to be necessary to protect a watercourse or wetland.
- h. When it is not possible to permanently stabilize a disturbed area after an earth change has been completed or where significant earth change activity ceases, temporary soil erosion control measures shall be implemented within two (2) calendar days.
- i. Permanent soil measures for all slopes, channels, ditches, or any disturbed land area shall be completed within fifteen (15) calendar days after final grading or the final earth change has been completed. All temporary soil measures shall be maintained until permanent soil measures are implemented and stabilized.
- j. Vegetated filter strips, twenty-five (25) feet in width, shall be created or retained along the edges of all lakes, creeks, streams, and other watercourses. As part of permit approval, the width of a particular filter strip may be reduced to the extent it is demonstrated that a portion of the width will serve no useful function, e.g., to the extent the grade is such that water flow will be away from the watercourse and the filter strip does not serve to protect wildlife habitat or other useful function.

- k. The city shall have the authority to issue stop-work orders for failure to comply with the requirements of this section, provided a proprietor shall be entitled to a hearing before the chief building official or his designee within three (3) business days to determine whether the stop-work order shall continue.
- (3) *Stormwater storage, infiltration and treatment facilities.* Stormwater storage, infiltration and treatment facilities required pursuant to this article shall comply with the requirements specified in the Stormwater Engineering Design Standards as set forth in Section I of the Oakland County Stormwater Engineering Design Standards Manual, as amended, as set forth in Appendix B to this Code and the Engineering Design Manual.
- (4) *Discharge of stormwater runoff to wetlands.*
 - a. Wetlands will be protected from damaging modification and adverse changes in runoff quality and quantity associated with land developments. Before approval of a final plat or site plan, all necessary wetland permits from the Michigan Department of Environmental Quality (MDEQ) will be in place.
 - b. Direct discharge of untreated stormwater to a natural wetland is prohibited. All runoff from the development will be pretreated to remove sediment and other pollutants prior to discharge to a wetland. Such treatment facilities shall be constructed and operational before property grading begins.
 - c. Site drainage patterns will not be altered in any way that will modify existing water levels in protected wetlands without proof that all applicable permits from the MDEQ and/or the city have been obtained. Proof that existing trees and vegetation will not "die off" as a result of any increase in wetlands stormwater discharge will be provided by the applicant's engineer.
 - d. Wetland construction, reconstruction, or modification will be overseen by the applicant's qualified professional with specific wetland expertise.
 - e. A mandatory period of two (2) years and a performance bond equal to the cost of the total wetland construction project is required as assurance that the constructed wetland will function and thrive.
 - f. A permanent filter strip twenty-five (25) feet in width, preferably vegetated with native plant species, shall be maintained or restored around the periphery of wetlands.
 - g. Wetlands will be protected during development by appropriate soil erosion and sediment control measures that are continuously maintained throughout the construction phase.

Part II. That Chapter 12, Flood Damage Prevention Ordinance, Article VI, Stormwater Management, Section 12-218, "Off-site stormwater management," is hereby amended as follows:

Sec. 12-218. - Off-site stormwater management.

- (a) *Requirements.*
 - (1) In lieu of on-site stormwater detention, the use of off-site stormwater conveyance, infiltration, and/or detention areas may be proposed. Off-site stormwater management facilities shall be designed to comply with the requirements specified the Stormwater Engineering Design Standards as set forth in Section I of the Oakland County Stormwater Engineering Design Standards Manual, as amended, as set forth in Appendix B to this Code and the Engineering Design Manual and all other standards provided by this article that are applicable to on-site facilities.
 - (2) Off-site stormwater management areas may be shared with other landowners, provided that the terms of the proposal are approved by the city council and city attorney.

- (3) Adequate provision and agreements providing for maintenance and inspection of stormwater management facilities shall be made by recorded instrument, including an access easement, approved by the city.
- (4) Accelerated soil erosion shall be managed off-site as well as on-site.
- (b) *Performance guarantees, inspections, maintenance, and enforcement.* All provisions of divisions 7 and 9 of this article, and of chapter 26.5 shall apply to off-site stormwater conveyance and detention. Additional requirements for maintenance of stormwater management facilities provided in the Stormwater Engineering Design Standards as set forth in Section I of the Oakland County Stormwater Engineering Design Standards Manual, as amended, as set forth in Appendix B to this Code and the Engineering Design Manual shall also apply.

Part III Severability

Should any section, subsection, paragraph, sentence, clause, or word of this ordinance be held invalid for any reason, such decisions shall not affect the validity of the remaining portions of the ordinance.

Part IV Savings

This amendatory ordinance shall not affect violations of the zoning ordinance or any other ordinance existing prior to the effective date of this ordinance and such violation shall be governed and shall continue to be separately punishable to the full extent of the law under the provisions of such ordinance at the time the violation was committed.

Part V. Repealer.

All ordinances or parts of ordinances in conflict with this ordinance are repealed only to the extent necessary to give this ordinance full force and effect.

Part VI Effective Date: Publication.

This amendatory ordinance shall be effective 10 days after adoption by the City Council and after publication as provided by the Charter of the City of Novi.

Ayes:

Nayes:

Abstentions:

Absent:

STATE OF MICHIGAN)
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COUNTY OF OAKLAND)

I, the undersigned, the qualified and acting City Clerk of the City of Novi, Oakland County, Michigan, do certify that the foregoing is a true and complete copy of the Ordinance adopted by the City Council of the City of Novi at a meeting held on the ____ day of _____, 2021, the original of which is on file in my office.

Cortney Hanson, City Clerk
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