



## CITY of NOVI CITY COUNCIL

[www.cityofnovi.org](http://www.cityofnovi.org)

**Agenda Item 5**  
**September 24, 2007**

**SUBJECT:** Consideration of Ordinance No. 07-124.18, an amendment to the Novi Code of Ordinances, Chapter 11 (Design and Construction Standards) and Ordinance Nos. 07-106.04 and 07-168.01, Chapter 12 (Drainage and Flood Damage Prevention), to add low impact development requirements for stormwater management systems; and consideration of resolution authorizing the City Engineer to prepare, approve and maintain the contents of an Engineering Design Manual that will contain detailed specifications regarding stormwater management systems. **Second Reading**

**SUBMITTING DEPARTMENT:** Engineering *RAA*

**CITY MANAGER APPROVAL:** *PA for CJP*

### **BACKGROUND INFORMATION:**

Since early this year, Engineering staff have been working toward making revisions to the Novi Code of Ordinances to allow low impact development options for stormwater management systems (Rob Hayes' May 30, 2007 memorandum, attached). Recently, Engineering staff members have worked with ECT, Inc. (the City's environmental consultant), to develop a series of proposed revisions to relevant chapters of the Ordinance to make it possible for low impact development technologies to be implemented at development sites in Novi. The proposed changes also update several portions of Chapters 11 and 12 to eliminate redundancy and make them consistent with present day standards.

Finally, the proposed amendments establish an *Engineering Design Manual*, which would allow the transition of technical details and specifications from the Ordinance to a document that the City Engineer would be responsible for keeping current (especially in light of the evolving nature of technologies and equipment in the construction industry). The manual is a more accessible and contemporary reference that would be routinely updated by Administration, as opposed to bringing numerous changes to Council for approval when updates are required (Rob Hayes' July 12, 2007 memorandum, attached). The attached resolution would effect this change.

Specific voluntary low impact development technologies that have been included in the Engineering Design Manual are bioretention basins and rain gardens. Subsequent additions to the manual will include vegetated swales and pervious pavement options for developers to consider.

Comments regarding the text amendments and the Engineering Design Manual were solicited from Novi's development community and no objections were received (e-mail responses from Mozart Homes, Amson Dembs, and Northern Equities are attached).

At the August 13<sup>th</sup> first reading, Council directed staff to finalize the Engineering Design Manual and bring it back to Council at the time of the amendments' second reading to meet the requirement of consideration at a public meeting before formal adoption. The final Engineering Design Manual and final text amendments are also attached (Kristin Kolb's September 19, 2007 letter, attached).

**RECOMMENDED ACTION:** Consideration of Ordinance No. 07-124.18, an amendment to the Novi Code of Ordinances, Chapter 11 (Design and Construction Standards) and Ordinance Nos. 07-106.04 and 07-168.01, Chapter 12 (Drainage and Flood Damage Prevention), to add low impact development requirements for stormwater management systems; and consideration of resolution authorizing the City Engineer to prepare, approve and maintain the contents of an Engineering Design Manual that will contain detailed specifications regarding stormwater management systems. **Second Reading**

	1	2	Y	N
Mayor Landry				
Mayor Pro Tem Capello				
Council Member Gatt				
Council Member Margolis				

	1	2	Y	N
Council Member Mutch				
Council Member Nagy				
Council Member Paul				



## RESOLUTION OF AUTHORITY

### ENGINEERING DESIGN MANUAL

#### CITY COUNCIL

Mayor  
*David B. Landry*

Mayor Pro Tem  
*Kim Capello*

*Bob Gatt*

*Terry K. Margolis*

*Andrew Mutch*

*Toni Nagy*

*Lynne Paul*

City Manager  
*Clay J. Pearson*

City Clerk  
*Maryanne Cornelius*

**WHEREAS,** the City of Novi's Code of Ordinances contains numerous technical details and specifications relating to construction; and,

**WHEREAS,** standards in the construction industry change frequently as technologies, materials and equipment improve; and,

**WHEREAS,** the City and its development community would benefit from a streamlined, single document that contains construction details and specifications.

**NOW, THEREFORE, BE IT RESOLVED** that the Mayor and Council of the City of Novi authorize the City Engineer to prepare, maintain and approve the contents of an Engineering Design Manual for purposes of clearly conveying technical details and specifications related to construction within the City of Novi.

#### CERTIFICATION

I, Maryanne Cornelius, duly appointed Clerk of the City of Novi, do hereby certify that the foregoing is a true and complete copy of a resolution adopted by the City Council of the City of Novi at a regular meeting held this 24th day of September, 2007.

---

Maryanne Cornelius  
City Clerk





MEMORANDUM

9-13-07  
To: Mayor and City  
Council Members

Forthcoming agenda item.  
*[Signature]*

To: Clay Pearson, City Manager  
Pam Antil, Assistant City Manager

From: Rob Hayes, City Engineer *[Signature]*

Re: **Engineering Design Manual – Storm Water Management**

Date: September 13, 2007

\*\*\*\*\*

You may recall that at the August 13<sup>th</sup> City Council meeting, amendments to Chapters 11 and 12 of the Ordinance relating to storm water management and low impact development (LID) received their first reading. Also, detailed technical specifications relating to storm water management and LID options were moved from the Ordinance to a draft *Engineering Design Manual*. Since the first reading, Engineering staff have continued to work with the City's environmental consultant, ECT, to finalize the Engineering Design Manual, which is attached. Although the Manual is marked "draft" it will be presented to Council in final form at the September 24<sup>th</sup> meeting, pending the final round of comments that Council and representatives of the development community may have. (As with the Ordinance amendments, we have transmitted the Engineering Design Manual to a group of three Novi developers - Northern Equities, Amson Dembs Development and Mozart Homes - to solicit their feedback.)

To summarize the need for the Manual, it will serve as a single, streamlined document for users to reference. Council's approval of this concept will allow the City Engineer to keep the Manual current as different construction technologies and equipment evolve. Currently, the Manual specifies only storm water management requirements and LID options; eventually it will address other engineering areas, including roads and utilities, as future Ordinance revisions to these areas are proposed. We will follow a similar approval process for Ordinance changes relating to roads and utilities.

Please let me know if you have any questions, comments or concerns in regards to the Engineering Design Manual or the upcoming second reading of storm water management Ordinance text amendments.

cc: Brian Coburn, Civil Engineer  
Ben Croy, Civil Engineer  
Steve Rumble, Community Development Director  
Barb McBeth, Planning Director  
Tom Schultz, City Attorney

**Hayes, Rob**

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**From:** Mike Fellows [mlf@mozarthomes.com]  
**Sent:** Thursday, September 13, 2007 3:40 PM  
**To:** Hayes, Rob  
**Subject:** RE: Engineering Design Manual for Storm Water Management and Low Impact Development

Thanks Rob,  
I have no comments at the moment.



Mike

---

**From:** Hayes, Rob [mailto:rhayes@cityofnovi.org]  
**Sent:** Thursday, September 13, 2007 1:55 PM  
**To:** Mike Fellows; Ryan Dembs; Matthew S. Sosin  
**Cc:** Pearson, Clay; Coburn, Brian  
**Subject:** Engineering Design Manual for Storm Water Management and Low Impact Development

Gentlemen:

Here is the Engineering Design Manual that incorporates the storm water management requirements that have been moved from Chapters 11 & 12 of our Ordinance and includes some options for implementing Low Impact Development technologies.

If you have any comments on the Manual, kindly respond by Tuesday, September 18th. The Manual will be presented to Council (along with the second reading of the Chapter 11 & 12 changes you've already reviewed) at the September 24th meeting.

Regards,

Rob Hayes, P.E.  
City Engineer, City of Novi  
45175 W. Ten Mile Road  
Novi, Michigan 48375  
Phone: 248-347-0454  
Fax: 248-735-5683

09/17/2007

**Hayes, Rob**

**From:** Mike Fellows [mlf@mozarthomes.com]  
**Sent:** Tuesday, August 07, 2007 2:37 PM  
**To:** Hayes, Rob  
**Subject:** RE: Draft Stormwater Ordinance Revisions

Hi Rob,

I have to apologize --- We moved our offices about 2 weeks ago and in the process I lost any emails that had not been saved. So I was not able to even read the proposed changes. From this forwarded email I see that the proposed changes include consolidation of the relevant ordinance requirements, which sounds good. Any time there are less places to look up the rules we have to follow it helps.

If there is any thought to revisions of the financial guarantee requirements, I would like to point out that a financial guarantee of 150% of the completion costs always seems unnecessarily excessive. I know that there are circumstances where even 200% of completion costs are required. For a large development the cost of obtaining these guarantees is substantial. I would like to know if in the history of requiring financial guarantees has the City ever had to seize and spend 150% of the estimated cost of any improvement. A financial guarantee need only be in place to restore an uncompleted site to a safe and non-environmentally-threatening condition. For example, if a development gets mass graded and then the developer skips town, there is no need to have money in place to install all the utilities and roads; the City only would need to stabilize the site for soil erosion concerns, and remove any dangerous conditions.

Also, if the new requirements are less performance oriented and more of "design guidelines" -- meaning a new limiting of the options offered developers, of course I would disagree in principal with that. Almost invariably, new municipal design guidelines end up increasing the cost of new developments, not reducing them.

Anyway, I do appreciate your contacting me to request our comments. Normally I would have been happy to provide them. I've been quite distracted lately trying to stay in business, and plumb forgot that you sent me that email. I will not have any time this evening to read the proposed changes; my friend, I'm afraid I'm not much help to you on this one.

Mike

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**From:** Hayes, Rob [mailto:rhayes@cityofnovi.org]  
**Sent:** Monday, August 06, 2007 5:43 PM  
**To:** Ryan Dembs; mlf@mozarthomes.com  
**Subject:** RE: Draft Stormwater Ordinance Revisions

Ryan and Mike:

Any comments on what I sent you previously in regards to adding low impact development options to our ordinance? We have until Wednesday to collect any comments (pro/con/otherwise) from the development community. These changes will now be considered at the August 13th meeting.

- Rob

---

**From:** Hayes, Rob  
**Sent:** Thursday, July 12, 2007 3:43 PM  
**To:** 'Ryan Dembs'; 'mlf@mozarthomes.com'; 'mssosin@noreq.com'  
**Subject:** Draft Stormwater Ordinance Revisions

08/09/2007

Gentlemen:

We are beginning to open the door to Low Impact Development/Green Development techniques in the City of Novi and have prepared the attached draft Ordinance revisions to reflect proposed changes for stormwater management in Novi. These revisions also provide a lot of consolidation and updating to make the stormwater-related portions of the Ordinance a lot easier to follow.

This is your opportunity to review and comment on the changes we propose. We plan on presenting these to Council for consideration at the July 23rd meeting.

Regards,

Rob Hayes, P.E.  
City Engineer, City of Novi  
45175 W. Ten Mile Road  
Novi, Michigan 48375  
Phone: 248-347-0454  
Fax: 248-735-5683

**Hayes, Rob**

**From:** Ryan Dembs [ryan@amsondembs.net]  
**Sent:** Tuesday, August 07, 2007 11:20 AM  
**To:** Hayes, Rob  
**Subject:** RE: Draft Stormwater Ordinance Revisions

Rob- I think it is great that the city tries to head in this direction...I dont know a ton about it, but I think that it is definitely worth while to explore these options....Thanks for considering us in your decision.....Talk soon.....Ryan



**From:** Hayes, Rob [mailto:rhayes@cityofnovi.org]  
**Sent:** Monday, August 06, 2007 5:43 PM  
**To:** Ryan Dembs; mlf@mozarthomes.com  
**Subject:** RE: Draft Stormwater Ordinance Revisions

Ryan and Mike:

Any comments on what I sent you previously in regards to adding low impact development options to our ordinance? We have until Wednesday to collect any comments (pro/con/otherwise) from the development community. These changes will now be considered at the August 13th meeting.

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Regards,

Rob Hayes, P.E.  
City Engineer, City of Novi  
45175 W. Ten Mile Road  
Novi, Michigan 48375  
Phone: 248-347-0454  
Fax: 248-735-5683

08/09/2007

**Hayes, Rob**

**From:** Matthew S. Sosin [mssosin@noreq.com]  
**Sent:** Wednesday, August 08, 2007 12:25 PM  
**To:** Hayes, Rob  
**Subject:** stormwater

My only comment is that if there are technologies that accomplish the goals of the ordinance, but they happen to be underground structures, they should not be discouraged. At least the minimum site limitation should be raised.

Also, I am not sure if this is the right place, but I would like the ordinance to allow for plastic pipe to be used for stormwater conveyance.



Matthew S. Sosin  
President  
Northern Equities Group  
39000 Country Club Drive  
Farmington Hills, MI 48331  
P - (248) 848-6400  
F - (248) 848-6700  
<http://www.noreq.com>



September 18, 2007

30903 Northwestern Highway  
P.O. Box 3040  
Farmington Hills, MI 48333-3040  
Tel: 248-851-9500  
Fax: 248-851-2158  
www.secretwardle.com

Mayor Landry and City Council  
City of Novi  
45175 West Ten Mile Road  
Novi, Michigan 48375

KRISTIN BRICKER KOLB  
Direct: 248-539-2837  
kbrkoll@secretwardle.com

*Re: Draft Text Amendment to Chapters 11 and 12 Regarding Low  
Impact Development Requirements  
Our File No. 55142.NOV*

Dear Mayor Landry and Council Members:

At your September 24, 2007, Council meeting, you will be asked to consider second reading and adoption of three text amendments which would amend Chapters 11 and 12 of the Code of Ordinances to add low impact development requirements for stormwater management systems. Council previously considered and held a first reading of the text amendments at your meeting on August 13, 2007.

The text amendments for Chapter 11 and Chapter 12, Article III, are unchanged from the first reading. Chapter 12, Article IV has a couple minor modifications to Section 12-217, which changes are identified by *bold, italicized* font. These changes do not substantively amend the text, but rather add further clarification to the modified stormwater management plan requirements for low impact developments. At this time, we see no legal impediment to Council proceeding with second reading and adoption of the three ordinances.

Tom Schultz will be present at the Council meeting on September 24<sup>th</sup> to discuss the matter in greater detail with you, and answer any questions you may have on our proposed alternative process. In the meantime, please feel free to contact Tom or me, should you have any questions.

Very truly yours,

Kristin Bricker Kolb

KBK:jw  
Enc.

- c: Clay J. Pearson, City Manager
- Pamela W. Antil, Assistant City Manager
- Rob Hayes, City Engineer
- Brian Coburn, City Engineer
- Thomas R. Schultz, Esq.

**“CLEAN” VERSION**  
**ARTICLE IV, CHAPTER 11**

**STATE OF MICHIGAN**  
**COUNTY OF OAKLAND**  
**CITY OF NOVI**  
**ORDINANCE NO. 07-\_\_**

**AN ORDINANCE TO AMEND THE CITY OF  
NOVI CODE OF ORDINANCES, AS AMENDED,  
CHAPTER 11, "DESIGN AND CONSTRUCTIONS  
STANDARDS," ARTICLE IV, "STORM SEWERS IN  
ORDER TO IN ORDER TO ADD LOW IMPACT  
DEVELOPMENT REQUIREMENTS FOR  
STORMWATER MANAGEMENT SYSTEMS.**

**THE CITY OF NOVI ORDAINS:**

**PART I**

That Chapter 11, Design and Construction Standards, Article IV, Storm Sewers, of the City of Novi Code of Ordinances is hereby amended to read as follows:

**ARTICLE IV. STORM SEWERS.**

Sec. 11-91. [Unchanged.]

Sec. 11-92. [Unchanged.]

Sec. 11-93. General design.

(a) All storm sewer designs shall conform to the City of Novi Stormwater Management Master Plan (SWMMP) and the Engineering Design Manual. 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) [Unchanged.]

Sec. 11-94. [Unchanged.]

Sec. 11-95. [Unchanged.]

Sec. 11-96 is hereby deleted in its entirety.

Sec. 11-96. [Unchanged.]

Sec. 11-97. [Unchanged.]

Sec. 11-98. [Unchanged.]

Sec. 11-99. [Unchanged.]

Sec. 11-100. [Unchanged.]

Sec. 11-101. [Unchanged.]

## **PART II**

That Chapter 11, Design and Construction Standards, Article V, Stormwater Holding Facilities, of the City of Novi Code of Ordinances is hereby amended as follows:

Article V, “Stormwater Holding Facilities,” Sections 11-121 – 11-128, is hereby deleted in its entirety

## **PART III**

**Savings Clause.** The amendment of the Novi Code of Ordinances set forth in this Ordinance does not affect or impair any act done, offense committed, or right accruing, accrued, or acquired or liability, penalty, forfeiture or punishment, pending or incurred prior to the amendment of the Novi Code of Ordinances set forth in this Ordinance.

## **PART IV**

**Severability.** Should any section, subdivision, clause, or phrase of this Ordinance be declared by the courts to be invalid, the validity of the Ordinance as a whole, or in part, shall not be affected other than the part invalidated.

## **PART V**

**Effective Date: Publication.** The provisions of this Ordinance shall become effective fifteen (15) days after its adoption and shall be published within 15 days of its adoption by publication of a brief notice in a newspaper circulated in the City, stating the date of enactment and the effective date of the ordinance, a brief statement as to the subject matter of this Ordinance and such other facts as the Clerk shall deem pertinent, and that a copy of the Ordinance is available for public use and inspection at the office of the City Clerk.

MADE, PASSED, AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF NOVI, OAKLAND COUNTY, MICHIGAN, ON THE 24<sup>th</sup> DAY OF SEPTEMBER 2007.

\_\_\_\_\_  
DAVID LANDRY, MAYOR

\_\_\_\_\_  
MARYANNE CORNELIUS, CITY CLERK

Ayes:  
Nays:  
Abstentions:  
Absent:

**CERTIFICATION OF ADOPTION**

I hereby certify that the foregoing is a true and complete copy of an Ordinance passed at a regular meeting of the Novi City Council, held on the 24<sup>th</sup> day of September, 2007.

\_\_\_\_\_  
MARYANNE CORNELIUS, CITY CLERK

Adopted:  
Published:  
Effective:

978951\_1

**“STRIKE-OUT” VERSION**

**ARTICLE IV, CHAPTER 11**

STATE OF MICHIGAN  
COUNTY OF OAKLAND  
CITY OF NOVI  
ORDINANCE NO. 07-\_\_

AN ORDINANCE TO AMEND THE CITY OF  
NOVI CODE OF ORDINANCES, AS AMENDED,  
CHAPTER 11, "DESIGN AND CONSTRUCTIONS STANDARDS,"  
ARTICLE IV, "STORM SEWERS IN  
ORDER TO...

THE CITY OF NOVI ORDAINS:

**PART I**

That Chapter 11, Design and Construction Standards, Article IV, Storm Sewers, of the City of Novi Code of Ordinances is hereby amended to read as follows:

**ARTICLE IV. STORM SEWERS.**

Sec. 11-91. [Unchanged.]

Sec. 11-92. [Unchanged.]

Sec. 11-93. General design.

(a) All storm sewer designs shall conform to the City of Novi Stormwater Management Master Plan (SWMMP) *and the Engineering Design Manual*. 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) [Unchanged.]

Sec. 11-94. [Unchanged.]

Sec. 11-95. [Unchanged.]

Sec. 11-96 is hereby deleted in its entirety.

Sec. 11-97 96. [Unchanged.]

Draft  
9/18/2007

- Sec. 11-98 97. [Unchanged.]  
Sec. 11-99 98. [Unchanged.]  
Sec. 11-100 99. [Unchanged.]  
Sec. 11-101 100. [Unchanged.]  
Sec. 11-102 101. [Unchanged.]

## **PART II**

That Chapter 11, Design and Construction Standards, Article V, Stormwater Holding Facilities, of the City of Novi Code of Ordinances is hereby amended as follows:

Article V, "Stormwater Holding Facilities," Sections 11-121 – 11-128, is hereby deleted in its entirety

## **PART III**

**Savings Clause.** The amendment of the Novi Code of Ordinances set forth in this Ordinance does not affect or impair any act done, offense committed, or right accruing, accrued, or acquired or liability, penalty, forfeiture or punishment, pending or incurred prior to the amendment of the Novi Code of Ordinances set forth in this Ordinance.

## **PART IV**

**Severability.** Should any section, subdivision, clause, or phrase of this Ordinance be declared by the courts to be invalid, the validity of the Ordinance as a whole, or in part, shall not be affected other than the part invalidated.

## **PART V**

**Effective Date: Publication.** The provisions of this Ordinance shall become effective fifteen (15) days after its adoption and shall be published within 15 days of its adoption by publication of a brief notice in a newspaper circulated in the City, stating the date of enactment and the effective date of the ordinance, a brief statement as to the subject matter of this Ordinance and such other facts as the Clerk shall deem pertinent, and that a copy of the Ordinance is available for public use and inspection at the office of the City Clerk.

MADE, PASSED, AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF NOVI, OAKLAND COUNTY, MICHIGAN, ON THE \_\_\_ DAY OF \_\_\_\_\_, 2007.

Draft  
9/18/2007

\_\_\_\_\_  
DAVID LANDRY, MAYOR

\_\_\_\_\_  
MARYANNE CORNELIUS, CITY CLERK

Ayes:  
Nays:  
Abstentions:  
Absent:

**CERTIFICATION OF ADOPTION**

I hereby certify that the foregoing is a true and complete copy of an Ordinance passed at a \_\_\_\_\_ meeting of the Novi City Council, held on the \_\_\_\_\_ day of \_\_\_\_\_, 2007.

\_\_\_\_\_  
MARYANNE CORNELIUS, CITY CLERK

Adopted:  
Published:  
Effective:

956562\_1

**“CLEAN” VERSION**

**ARTICLE III, CHAPTER 12**

**STATE OF MICHIGAN**  
**COUNTY OF OAKLAND**  
**CITY OF NOVI**  
**ORDINANCE NO. 07-106.04**

**AN ORDINANCE TO AMEND THE CITY OF  
NOVI CODE OF ORDINANCES, AS AMENDED,  
CHAPTER 12, "DRAINAGE AND FLOOD  
DAMAGE PROTECTIONS" ARTICLE III,  
"STORMWATER DETENTION" IN ORDER  
TO ADD LOW IMPACT DEVELOPMENT  
REQUIREMENTS FOR STORMWATER  
MANAGEMENT SYSTEMS**

**THE CITY OF NOVI ORDAINS:**

**PART I.**

That Chapter 12, Drainage and Flood Damage Protections, Article III, Stormwater Detention, of the City of Novi Code of Ordinances is hereby amended to read as follows:

Sec. 12-66. [Unchanged.]

Sec. 12-67. [Unchanged.]

Sec. 12-68. [Unchanged.]

Sec. 12-69. [Unchanged.]

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

(a) [Unchanged.]

(b) All new developments and redevelopments shall provide an on-site stormwater detention or retention facility or facilities in accordance with Article VI, "Stormwater Management" and the Engineering Design Manual.

(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:

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9/18/2007

(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) [Unchanged.]

(e) [Unchanged.]

Sec. 12-71. [Unchanged.]

Sec. 12-72. [Unchanged.]

Sec. 12-73. [Unchanged.]

Sec. 12-74. [Unchanged.]

Sec. 12-75. [Unchanged.]

## **PART II.**

**Savings Clause.** The amendment of the Novi Code of Ordinances set forth in this Ordinance does not affect or impair any act done, offense committed, or right accruing, accrued, or acquired or liability, penalty, forfeiture or punishment, pending or incurred prior to the amendment of the Novi Code of Ordinances set forth in this Ordinance.

## **PART III.**

**Severability.** Should any section, subdivision, clause, or phrase of this Ordinance be declared by the courts to be invalid, the validity of the Ordinance as a whole, or in part, shall not be affected other than the part invalidated.

## **PART IV.**

**Effective Date: Publication.** The provisions of this Ordinance shall become effective fifteen (15) days after its adoption and shall be published within 15 days of its adoption by publication of a brief notice in a newspaper circulated in the City, stating the date of enactment and the effective date of the ordinance, a brief statement as to the subject matter of this Ordinance and such other facts as the Clerk shall deem pertinent, and that a copy of the Ordinance is available for public use and inspection at the office of the City Clerk.

Draft  
9/18/2007

MADE, PASSED, AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF  
NOVI, OAKLAND COUNTY, MICHIGAN, ON THE 24<sup>th</sup> DAY OF SEPTEMBER 2007.

\_\_\_\_\_  
DAVID LANDRY, MAYOR

\_\_\_\_\_  
MARYANNE CORNELIUS, CITY CLERK

Ayes:  
Nays:  
Abstentions:  
Absent:

**CERTIFICATION OF ADOPTION**

I hereby certify that the foregoing is a true and complete copy of an Ordinance passed at  
a regular meeting of the Novi City Council, held on the 24<sup>th</sup> day of September 2007.

\_\_\_\_\_  
MARYANNE CORNELIUS, CITY CLERK

Adopted:  
Published:  
Effective:

978958\_1

**“STRIKE-OUT” VERSION**

**ARTICLE III, CHAPTER 12**

STATE OF MICHIGAN  
COUNTY OF OAKLAND  
CITY OF NOVI  
ORDINANCE NO. 07-106.04

AN ORDINANCE TO AMEND THE CITY OF  
NOVI CODE OF ORDINANCES, AS AMENDED,  
CHAPTER 12, "DRAINAGE AND FLOOD  
DAMAGE PROTECTIONS" ARTICLE III,  
"STORMWATER DETENTION" IN ORDER  
TO ADD LOW IMPACT DEVELOPMENT  
REQUIREMENTS FOR STORMWATER  
MANAGEMENT SYSTEMS

THE CITY OF NOVI ORDAINS:

**PART I.**

That Chapter 12, Drainage and Flood Damage Protections, Article III, Stormwater Detention, of the City of Novi Code of Ordinances is hereby amended to read as follows:

Sec. 12-66. [Unchanged.]

Sec. 12-67. [Unchanged.]

Sec. 12-68. [Unchanged.]

Sec. 12-69. [Unchanged.]

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

(a) [Unchanged.]

(b) ~~Where a receiving drainage course does not possess sufficient flow capacities to protect downstream properties from damage resulting from developed stormwater flows, the *All* new developments *and redevelopments* shall provide an on-site stormwater detention or retention facility or facilities in accordance with chapter 11, "Design and Construction Standards." *Article VI, "Stormwater Management" and the Engineering Design Manual.*~~

Draft  
9/18/2007

(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 detention or retention management facility or facilities in accordance with chapter 11, "~~Design and Construction Standards.~~" the Engineering Design Manual.

(d) [Unchanged.]

(e) [Unchanged.]

Sec. 12-71. [Unchanged.]

Sec. 12-72. [Unchanged.]

Sec. 12-73. [Unchanged.]

Sec. 12-74. [Unchanged.]

Sec. 12-75. [Unchanged.]

## **PART II.**

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Draft  
9/18/2007

MADE, PASSED, AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF  
NOVI, OAKLAND COUNTY, MICHIGAN, ON THE \_\_\_ DAY OF \_\_\_\_\_, 2007.

\_\_\_\_\_  
DAVID LANDRY, MAYOR

\_\_\_\_\_  
MARYANNE CORNELIUS, CITY CLERK

Ayes:  
Nays:  
Abstentions:  
Absent:

**CERTIFICATION OF ADOPTION**

I hereby certify that the foregoing is a true and complete copy of an Ordinance passed at  
a \_\_\_\_\_ meeting of the Novi City Council, held on the \_\_\_\_\_ day of \_\_\_\_\_,  
2007.

\_\_\_\_\_  
MARYANNE CORNELIUS, CITY CLERK

Adopted:  
Published:  
Effective:

956628\_1

**“CLEAN” VERSION**  
**ARTICLE VI, CHAPTER 12**

**STATE OF MICHIGAN**  
**COUNTY OF OAKLAND**  
**CITY OF NOVI**  
**ORDINANCE NO. 07-168.01**

**AN ORDINANCE TO AMEND THE CITY OF  
NOVI CODE OF ORDINANCES, AS AMENDED,  
CHAPTER 12, "DRAINAGE AND FLOOD  
DAMAGE PROTECTIONS," ARTICLE VI,  
"STORMWATER MANAGEMENT," AND THE  
APPENDIX IN ORDER TO ADD LOW IMPACT  
DEVELOPMENT REQUIREMENTS FOR  
STORMWATER MANAGEMENT SYSTEMS**

**THE CITY OF NOVI ORDAINS:**

**PART I.**

That Chapter 12, Drainage and Flood Damage Protections, Article VI, Stormwater Management, of the City of Novi Code of Ordinances is hereby amended to read as follows:

**ARTICLE VI. STORMWATER MANAGEMENT**

**DIVISION 1. PURPOSES AND INTERPRETATION**

Sec. 12-181. Purposes.

The purposes of this article shall be:

- (1) To protect public health, safety and welfare by requiring stormwater management whenever new, expanded or modified developments are proposed.
- (2) To facilitate achievement of the goals outlined in the Rouge River and Huron River Watershed Master Plans.
- (3) To minimize the increased volume of stormwater generated from a development.
- (4) To protect natural infiltration and groundwater recharge rates in order to sustain ground water supplies and stream base flows.

- (5) To assure that stormwater runoff from development is controlled so that the water quality in watercourses, ground water recharged by stormwater and habitat situated in areas impacted by stormwater are protected, and that siltation and pollution are minimized.
- (6) To maintain natural drainage patterns and encourage the use of natural drainage systems and LID techniques.
- (7) To provide for cost-effective and functionally-effective stormwater management, and to reduce the need for future remedial projects.
- (8) To treat and release stormwater as close to the source of runoff as possible using minimal structures and maximizing reliance on natural processes.
- (9) To prevent soil erosion and sedimentation.
- (10) To protect in-stream channels and geomorphologic conditions of receiving streams; protect their flood carrying capacity and aquatic habitats and reduce in-stream erosion and sedimentation.
- (11) To ensure that, if wetlands are to be used for stormwater detention, the natural functions and quality of wetlands throughout the city are protected to the maximum extent particularly with regard to the effects of stormwater elevation increases on existing woodlands.
- (12) To recognize private responsibility to incorporate stormwater management systems into the early stages of site planning and design.
- (13) To ensure that all stormwater conveyance and detention facilities will be properly maintained.
- (14) To promote the avoidance of degradation of water resources by reducing and/or avoiding impacts on the hydrology of stormwater runoff.
- (15) To establish regulations to prevent harmful effects of changes in the quantity and quality of surface water discharge into water bodies that are in the city, in whole or part.
- (16) Recognizing that significant adverse surface and/or groundwater impacts may result from development, it is the intent of this article to require development design and control mechanisms to ensure that stormwater runoff does not result in a short-term and/or long-term threat to the public health, safety and welfare in the city, and in downstream areas.
- (17) To achieve compliance with state and federal law and regulations relating to water quality, including the City's Stormwater Pollution Prevention Initiative.

Sec. 12-182. [Unchanged.]

Sec. 12-183. [Unchanged.]

## DIVISION 2. DEFINITIONS

### Sec. 12-190. Definition of terms.

The following terms, phrases, words and derivatives shall have the meaning defined below:

\* \* \*

*Bankfull flood.* The stormwater generated by a storm event with a 1.5-year return level.

*BMP or best management practice.* BMPs are any structural, vegetative or managerial practice used to treat, prevent or reduce water pollution. Such practices include temporary seeding on exposed soils, detention and retention basins for stormwater control, and scheduling the implementation of all BMPs to ensure their effectiveness.

*Bioretention facility.* A stormwater management system that consists of a shallow, landscaped depressed land area that receives runoff and is designed to use soil and plant material to mimic the natural water cycle by storing, filtering and infiltrating stormwater into the ground. Rain gardens, bioretention basins and bioswales are examples of bioretention facilities.

*Buffer strip.* A zone that is used for filtering stormwater runoff into a stormwater management system.

\* \* \*

*Design Storm.* A rainfall event of a specified size and return interval used to calculate the peak stormwater flow and volume that a stormwater management facility must be designed to handle.

\* \* \*

*First flush.* The volume of stormwater associated with 1/2-inch of runoff over the tributary area.

\* \* \*

*Low impact development (LID).* A comprehensive land planning and engineering design approach with a goal of maintaining and enhancing the pre-development hydrologic regime of urban and developing watersheds. LID's goal is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source.

\* \* \*

*Manufactured treatment system.* A manmade device or structure that is used to remove oil and grease, debris, sediment and/or other particulate contaminants from stormwater.

\* \* \*

*Underdrain.* One or more underground pipes installed beneath stormwater management facilities or structures to facilitate conveyance of stormwater runoff from beneath the facility or structure to another part of the stormwater management system.

*Underground Detention System.* One or more underground pipes and/or other structures that are used to provide storage of stormwater.

\* \* \*

### DIVISION 3. GENERAL PROVISIONS

[Unchanged.]

### DIVISION 4. PLAN REQUIREMENTS

Sec. 12-211. [Unchanged.]

Sec. 12-212. [Unchanged.]

Sec. 12-213. [Unchanged.]

Sec. 12-214. [Unchanged.]

Sec. 12-215. [Unchanged.]

Sec. 12-216. [Unchanged.]

Sec. 12-217. Standards for stormwater management 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 as specified in the Engineering Design Manual.

b. [Unchanged.]

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 Engineering Design Manual for the first flush, bankfull, and one-hundred-year storm.

e. [Unchanged.]

f. [Unchanged.]

g. [Unchanged.]

(2) *Soil erosion control.*

a. Cutting, filling and grading shall conform with the requirements specified in the Engineering Design Manual.

b. - k. [Unchanged.]

(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 Engineering Design Manual.

(4) *Discharge of stormwater runoff to wetlands.*

a. - b. [Unchanged.]

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. - e. [Unchanged.]

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. [Unchanged.]

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 in the Engineering Design Manual and all other standards provided by this article that are applicable to on-site facilities.

(2) [Unchanged.]

(3) [Unchanged.]

(4) [Unchanged.]

(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 Engineering Design Manual shall also apply.

**PART II.**

That the Appendix to Chapter 12, Drainage and Flood Damage Protections, of the City of Novi Code of Ordinances is hereby amended to read as follows:

APPENDIX

PART ONE. PROCEDURES FOR SUBMISSION AND REVIEW OF DEVELOPMENT PLANS

Sec. I. [Unchanged.]

Sec. II. Submission of preliminary plan.

A. *Submission and general information requirements for approval of stormwater management plans.*

1. - 2. [Unchanged.]

3. The plan will include:

a. - j. [Unchanged.]

k. Soil borings may be required at various locations including the sites of proposed retention/detention or infiltration facilities, and as needed in areas where

high ground water tables exist. Additional guidance for soil boring requirements is provided in the Engineering Design Manual.

4. - 8. [Unchanged.]

Sec. III. Final construction approval.

A. The applicant will submit final stormwater management facility construction plans with a letter of transmittal. Plans will be prepared under the direction of, and sealed by, a registered professional engineer and will be in accordance with part two of these procedures and standards. The city engineer will review final construction plans to assure that adequate storm drainage will be provided and that the proposed stormwater management system provides adequately for water quantity and quality management to ensure protection of property owners and watercourses both within the proposed development and downstream. Submission requirements include, but will not be limited to the following:

1. - 3. [Unchanged.]

4. A stormwater facility maintenance plan, schedule, and budget estimating the costs that will be associated with system maintenance as outlined in the Engineering Design Manual. Where applicable, a draft stormwater facility maintenance agreement shall be submitted.

5. [Unchanged.]

B. - F. [Unchanged.]

Part Two is hereby deleted in its entirety.

**Part III.**

**Savings Clause.** The amendment of the Novi Code of Ordinances set forth in this Ordinance does not affect or impair any act done, offense committed, or right accruing, accrued, or acquired or liability, penalty, forfeiture or punishment, pending or incurred prior to the amendment of the Novi Code of Ordinances set forth in this Ordinance.

**PART IV.**

**Severability.** Should any section, subdivision, clause, or phrase of this Ordinance be declared by the courts to be invalid, the validity of the Ordinance as a whole, or in part, shall not be affected other than the part invalidated.

**PART V.**

**Effective Date: Publication.** The provisions of this Ordinance shall become effective fifteen (15) days after its adoption and shall be published within 15 days of its adoption by publication

of a brief notice in a newspaper circulated in the City, stating the date of enactment and the effective date of the ordinance, a brief statement as to the subject matter of this Ordinance and such other facts as the Clerk shall deem pertinent, and that a copy of the Ordinance is available for public use and inspection at the office of the City Clerk.

MADE, PASSED, AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF NOVI, OAKLAND COUNTY, MICHIGAN, ON THE 24<sup>th</sup> DAY OF SEPTEMBER 2007.

\_\_\_\_\_  
DAVID LANDRY, MAYOR

\_\_\_\_\_  
MARYANNE CORNELIUS, CITY CLERK

Ayes:  
Nays:  
Abstentions:  
Absent:

**CERTIFICATION OF ADOPTION**

I hereby certify that the foregoing is a true and complete copy of an Ordinance passed at a regular meeting of the Novi City Council, held on the 24<sup>th</sup> day of September 2007.

\_\_\_\_\_  
MARYANNE CORNELIUS, CITY CLERK

Adopted:  
Published:  
Effective:

978962\_1

**“STRIKE-OUT” VERSION**  
**ARTICLE VI, CHAPTER 12**

STATE OF MICHIGAN  
COUNTY OF OAKLAND  
CITY OF NOVI  
ORDINANCE NO. 07-168.01

AN ORDINANCE TO AMEND THE CITY OF  
NOVI CODE OF ORDINANCES, AS AMENDED,  
CHAPTER 12, "DRAINAGE AND FLOOD  
DAMAGE PROTECTIONS," ARTICLE VI,  
"STORMWATER MANAGEMENT," AND THE  
APPENDIX IN ORDER TO ADD LOW IMPACT  
DEVELOPMENT REQUIREMENTS FOR  
STORMWATER MANAGEMENT SYSTEMS

THE CITY OF NOVI ORDAINS:

**PART I.**

That Chapter 12, Drainage and Flood Damage Protections, Article VI, Stormwater Management, of the City of Novi Code of Ordinances is hereby amended to read as follows:

**ARTICLE VI. STORMWATER MANAGEMENT**

DIVISION 1. PURPOSES AND INTERPRETATION

Sec. 12-181. Purposes.

The purposes of this article shall be:

(1) To protect public health, safety and welfare by requiring stormwater management whenever new, expanded or modified developments are proposed.

(2) To facilitate achievement of the goals outlined in the Rouge River and Huron River Watershed Master Plans.

(3) To minimize the increased volume of stormwater generated from a development.

(4) To protect natural infiltration and groundwater recharge rates in order to sustain ground water supplies and stream base flows.

~~(2)~~ (5) To assure that stormwater runoff from development is controlled so that the water quality in watercourses, ground water recharged by stormwater and habitat situated in areas impacted by stormwater are protected, and that siltation and pollution are minimized.

(6) To maintain natural drainage patterns and encourage the use of natural drainage systems and LID techniques.

~~(3)~~ (7) To provide for cost-effective and functionally-effective stormwater management, and to reduce the need for future remedial projects.

(8) To treat and release stormwater as close to the source of runoff as possible using minimal structures and maximizing reliance on natural processes.

~~(4)~~ (9) To prevent soil erosion and sedimentation.

(10) To protect in-stream channels and geomorphologic conditions of receiving streams; protect their flood carrying capacity and aquatic habitats and reduce in-stream erosion and sedimentation.

~~(5)~~ (11) To ensure that, if wetlands are to be used for stormwater detention, the natural functions and quality of wetlands throughout the city are protected to the maximum extent particularly with regard to the effects of stormwater elevation increases on existing woodlands.

~~(6)~~ (12) To recognize private responsibility to incorporate stormwater management systems into the early stages of site planning and design.

~~(7)-(13)~~ To ensure that all stormwater conveyance and detention facilities will be properly maintained.

~~(8)-(14)~~ To promote the avoidance of degradation of water resources by reducing and/or avoiding impacts on the hydrology of stormwater runoff.

~~(9)~~ (15) To establish regulations to prevent harmful effects of changes in the quantity and quality of surface water discharge into water bodies that are in the city, in whole or part.

~~(10)~~ (16) Recognizing that significant adverse surface and/or groundwater impacts may result from development, it is the intent of this article to require development design and control mechanisms to ensure that stormwater runoff does not result in a short-term and/or long-term threat to the public health, safety and welfare in the city, and in downstream areas.

~~(11)-(17)~~ To achieve compliance with state and federal law and regulations relating to water quality, including the City's Stormwater Pollution Prevention Initiative.

Sec. 12-182. [Unchanged.]

Sec. 12-183. [Unchanged.]

## DIVISION 2. DEFINITIONS

Sec. 12-190. Definition of terms.

The following terms, phrases, words and derivatives shall have the meaning defined below:

\* \* \*

Bankfull flood. *The stormwater generated by a storm event with a 1.5-year return level.*

BMP or best management practice. *BMPs are any structural, vegetative or managerial practice used to treat, prevent or reduce water pollution. Such practices include temporary seeding on exposed soils, detention and retention basins for stormwater control, and scheduling the implementation of all BMPs to ensure their effectiveness.*

Bioretention facility. *A stormwater management system that consists of a shallow, landscaped depressed land area that receives runoff and is designed to use soil and plant material to mimic the natural water cycle by storing, filtering and infiltrating stormwater into the ground. Rain gardens, bioretention basins and bioswales are examples of bioretention facilities.*

Buffer strip. *A zone that is used for filtering stormwater runoff into a stormwater management system.*

\* \* \*

Design Storm. *A rainfall event of a specified size and return interval used to calculate the peak stormwater flow and volume that a stormwater management facility must be designed to handle.*

\* \* \*

~~BMP or best management practice. *BMPs are any structural, vegetative or managerial practice used to treat, prevent or reduce water pollution. Such practices include temporary seeding on exposed soils, detention and retention basins for stormwater control, and scheduling the implementation of all BMPs to ensure their effectiveness.*~~

\* \* \*

First flush. *The volume of stormwater associated with 1/2-inch of runoff over the tributary area.*

\* \* \*

Low impact development (LID). A comprehensive land planning and engineering design approach with a goal of maintaining and enhancing the pre-development hydrologic regime of urban and developing watersheds. LID's goal is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source.

\* \* \*

Manufactured treatment system. A manmade device or structure that is used to remove oil and grease, debris, sediment and/or other particulate contaminants from stormwater.

\* \* \*

Underdrain. One or more underground pipes installed beneath stormwater management facilities or structures to facilitate conveyance of stormwater runoff from beneath the facility or structure to another part of the stormwater management system.

Underground Detention System. One or more underground pipes and/or other structures that are used to provide storage of stormwater.

\* \* \*

### DIVISION 3. GENERAL PROVISIONS

[Unchanged.]

### DIVISION 4. PLAN REQUIREMENTS

Sec. 12-211. [Unchanged.]

Sec. 12-212. [Unchanged.]

Sec. 12-213. [Unchanged.]

Sec. 12-214. [Unchanged.]

Sec. 12-215. [Unchanged.]

Sec. 12-216. [Unchanged.]

Sec. 12-217. Standards for stormwater management 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 as specified in ~~part two of the appendix following this article~~ in the Engineering Design Manual.

b. [Unchanged.]

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 ~~with~~ to the requirements specified in ~~part two of the appendix~~ the Engineering Design Manual for the first flush, bankfull, and one-hundred-year storm.

e. [Unchanged.]

f. [Unchanged.]

g. [Unchanged.]

(2) *Soil erosion control.*

a. Cutting, filling and grading shall conform with the requirements specified in ~~part two of the appendix~~ the Engineering Design Manual.

b. - k. [Unchanged.]

(3) *Stormwater storage, ~~and infiltration and treatment~~ facilities.* Stormwater storage, ~~and/or infiltration and treatment~~ facilities required pursuant to this article shall comply with the requirements specified in ~~part two of the appendix (following this article)~~ the Engineering Design Manual.

(4) *Discharge of stormwater runoff to wetlands.*

a. - b. [Unchanged.]

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 ~~township~~ 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. – e. [Unchanged.]

f. ~~Whenever feasible, a~~ 4 permanent filter strip twenty-five (25) feet in width, preferably vegetated with native plant species, ~~will~~ shall be maintained or restored around the periphery of wetlands.

g. [Unchanged.]

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 in the Engineering Design Manual part two of the appendix (following this article) and all other standards provided by this article that are applicable to on-site facilities.

(2) [Unchanged.]

(3) [Unchanged.]

(4) [Unchanged.]

(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 Engineering Design Manual shall also apply.

## **PART II.**

That the Appendix to Chapter 12, Drainage and Flood Damage Protections, of the City of Novi Code of Ordinances is hereby amended to read as follows:

### APPENDIX

#### PART ONE. PROCEDURES FOR SUBMISSION AND REVIEW OF DEVELOPMENT PLANS

Sec. I. [Unchanged.]

Sec. II. Submission of preliminary plan.

A. *Submission and general information requirements for approval of stormwater management plans.*

1. - 2. [Unchanged.]

3. The plan will include:

a. - j. [Unchanged.]

k. Soil borings may be required at various locations including the sites of proposed retention/detention *or infiltration* facilities, and as needed in areas where high ground water tables exist. Additional guidance for soil boring requirements is provided in the Engineering Design Manual.

4. - 8. [Unchanged.]

Sec. III. Final construction approval.

A. The applicant will submit final stormwater management facility construction plans with a letter of transmittal. Plans will be prepared under the direction of, and sealed by, a registered professional engineer and will be in accordance with part two of these procedures and standards. The city engineer will review final construction plans to assure that adequate storm drainage will be provided and that the proposed stormwater management system provides adequately for water quantity and quality management to ensure protection of property owners and watercourses both within the proposed development and downstream. Submission requirements include, but will not be limited to the following:

1. - 3. [Unchanged.]

4. A stormwater facility maintenance plan, schedule, and budget estimating the costs that will be associated with system maintenance (~~see part two, subsection X.D.~~) as outlined in the Engineering Design Manual. Where applicable, a draft stormwater facility maintenance agreement shall be submitted.

5. [Unchanged.]

B. - F. [Unchanged.]

Part Two is hereby deleted in its entirety.

**Part III.**

**Savings Clause.** The amendment of the Novi Code of Ordinances set forth in this Ordinance does not affect or impair any act done, offense committed, or right accruing, accrued, or acquired or liability, penalty, forfeiture or punishment, pending or incurred prior to the amendment of the Novi Code of Ordinances set forth in this Ordinance.

**PART IV.**

**Severability.** Should any section, subdivision, clause, or phrase of this Ordinance be declared by the courts to be invalid, the validity of the Ordinance as a whole, or in part, shall not be affected other than the part invalidated.

**PART V.**

**Effective Date: Publication.** The provisions of this Ordinance shall become effective fifteen (15) days after its adoption and shall be published within 15 days of its adoption by publication of a brief notice in a newspaper circulated in the City, stating the date of enactment and the effective date of the ordinance, a brief statement as to the subject matter of this Ordinance and such other facts as the Clerk shall deem pertinent, and that a copy of the Ordinance is available for public use and inspection at the office of the City Clerk.

MADE, PASSED, AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF NOVI, OAKLAND COUNTY, MICHIGAN, ON THE \_\_\_ DAY OF \_\_\_\_\_, 2007.

\_\_\_\_\_  
DAVID LANDRY, MAYOR

\_\_\_\_\_  
MARYANNE CORNELIUS, CITY CLERK

Ayes:  
Nays:  
Abstentions:  
Absent:

**CERTIFICATION OF ADOPTION**

I hereby certify that the foregoing is a true and complete copy of an Ordinance passed at a \_\_\_\_\_ meeting of the Novi City Council, held on the \_\_\_\_\_ day of \_\_\_\_\_, 2007.

\_\_\_\_\_  
MARYANNE CORNELIUS, CITY CLERK

Adopted:  
Published:

Effective:

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