IF YOU WISH TO ADDRESS THE CITY COUNCIL,
PLEASE COMPLETE FORM LOCATED ON DESK AT ENTRANCE AND PASS TO MAYOR.

AGENDA – CITY COUNCIL MEETING

December 17, 2013
6:30 p.m.

1. **CALL TO ORDER.**

2. **PLEDGE OF ALLEGIANCE** – Invocation by Arlene Robinson, 1st Ward City Councilmember.

3. **ROLL CALL.**

4. **ADOPTION OF AGENDA.**

5. **CITIZEN COMMENTS (3-Minute Limit).**

6. **EXECUTIVE SESSION to discuss pending litigation.**

7. **RETURN TO OPEN SESSION.**

8. **PRESENTATIONS/PROCLAMATIONS.**

9. **PETITIONS & COMMUNICATION (Accept & Place on File):**

   A. **Jackson Housing Commission Meeting Minutes:**
   Receive and place on file the Jackson Housing Commission regular meeting minutes for October 16, and the special meeting minutes for October 23, 2013.

   B. **Human Relations Commission Meeting Minutes:**
   Receive and place on file the Human Relations Commission regular meeting minutes for October 16, 2013.

   C. **State Department of Treasury Notification:**
   Receive and place on file correspondence received from the State Tax Commission regarding a water pollution control exemption application received for Consumers Energy located at 410 E. Franklin Street.

10. **CONSENT CALENDAR.**

    A. **Minutes of the Regular Meeting on November 26, 2013;**
    Approve the minutes of the regular City Council meetings of November

26, 2014.

B. Minutes of the Regular Meeting on December 3, 2013:
Approve the minutes of the regular City Council meeting of December 3, 2013.

C. CDBG and HOME Financial Statements through November 30, 2013:
Receive the Community Development Block Grant (CDBG) and HOME Financial Summaries through November 30, 2013.

D. Income Tax Board of Review Resignation:
Receipt with regret the resignation of Arlene Robinson from the Income Tax Board of Review.

11. PUBLIC HEARINGS.

Recess as a City Council and reconvene as a Board of Review:

A. Public Hearings for Special Assessment Rolls:
Public hearings on the following Special Assessment Rolls:

1. Special Assessment Roll No. 4232 - Delinquent Miscellaneous General Fund Accounts Receivable.
   a. Resolution confirming Special Assessment Roll No. 4232.

2. Special Assessment Roll No. 4233 – Delinquent Miscellaneous Housing Code Enforcement Fund Accounts Receivable.
   a. Resolution confirming Special Assessment Roll No. 4233.

3. Special Assessment Roll No. 4234 – Delinquent Miscellaneous Building Demolition Fund Accounts Receivable.
   a. Resolution confirming Special Assessment Roll No. 4234.

4. Special Assessment Roll No. 4235 – Delinquent Miscellaneous CDBG Fund Accounts Receivable.
   a. Resolution confirming Special Assessment Roll No. 4235.

5. Special Assessment Roll No. 4236 – Delinquent Miscellaneous Waste Water Fund Accounts Receivable.
   a. Resolution confirming Special Assessment Roll No. 4236.

6. Special Assessment Roll No. 4237 – Public Works Fund Accounts Receivable.
   a. Resolution confirming Special Assessment Roll No. 4237.

B. Public Hearing – Special Assessment Roll No. 3375:
Public hearing on Special Assessment Roll No. 3375 for street repaving on Webster Street from Oakdale to Elmwood Avenue.

1. Resolution confirming Special Assessment Roll No. 3375.

Adjourn as a Board of Review and reconvene as City Council.

12. OTHER BUSINESS.

13. NEW BUSINESS.

A. Resolution – 2014 City Council Meeting Dates:
Approve a resolution establishing City Council meeting dates for 2014.

B. Resolution Establishing Receiving Board for Elections Held in 2014:
Approve a resolution establishing Receiving Boards for Elections held in the City in 2014.

C. Historic District Commission Appointment:
Approve the Mayor's recommendation to appoint Lynn Fessel to the Historic District Commission for a three year term beginning January 1, 2014, and ending December 31, 2016.

D. Appointment of Mayor and Council to Various Boards & Commissions:
Approve of the appointment and reappointment of the Mayor and City Councilmembers to various boards, commissions and committees:

JACT's Policy Committee – Mayor Jason Smith;

Local Development Finance Authority – Mayor Jason Smith with a term end date of June 3, 2014;

Region 2 Planning Commission – Councilmember Laura Schlecte with a term end date of November 30, 2016;

Emergency Management Advisory Council – Councilmember Arlene Robinson with a term end date of November 30, 2015;

Boards and Commissions the Mayor serves on by virtue of the office with a term end date of November 30, 2015:

City Employees Retirement Board of Trustees
City Planning Commission
Downtown Development Authority
Police & Fire Pension Board of Trustees – Original Charter Plan
Police & Fire Pension Board of Trustees – Act 345

E. Expert Opinion Agreement – DPC Juniper LLC v. City of Jackson:
Approve the Expert Opinion Agreement between Cost Plus Consulting, and Jack Van Coevering and the City regarding The DPC Juniper LLC Generating Facility v. City of Jackson, and authorization for the Mayor to execute the Agreement, and for the Interim City Attorney to make minor

modifications if needed, and take all other action necessary to finalize the Expert Opinion Agreement.

F. Blackboard Connect System Contract Renewal:
Authorize the contract renewal of the Blackboard Connect System at an annual cost of $29,616.49, and for the City Attorney to make minor modifications to the contract document(s) and for the Mayor and City Treasurer/Clerk to execute the appropriate contract documents.

G. Ella Sharp Park Deer Harvest:
Approve a resolution suspending enforcement of ordinances that prohibit the possession and use of the fire arms within the City as it applies to employees and agents of Aaron's Nuisance Animal Control during said deer harvest within Ella Sharp Park during the months of January and/or February 2014.

1. Approve the contract renewal with Aaron's Nuisance Animal Control of Rives Junction, and authorization for the Mayor and City Clerk to execute the appropriate document(s), for the City Attorney to make minor modifications, if needed, and to approve the necessary street closures and operational requirements of the MDNR permit, in accordance with the recommendation of the Ella Sharp Park Board and the City Parks Director.

H. Wesley Street Water Main Replacement Contract – Change Order No. 1:
Approve Change Order No. 1 to the contract with Bailey Excavating, Inc., in the decreased amount of $2,652.00 to balance the contract quantities with the final quantities placed, and authorization for the City Manager and City Engineer to execute the appropriate documents.

I. 2013 Local Street Construction Contract – Change Order No. 1:
Approve Change Order No. 1 to the contract with Concord Excavating and Grading, Inc., in the decreased amount of $6,754.23 to balance the contract quantities with the final quantities placed, and authorization for the City Manager and City Engineer to execute the appropriate document.

J. 2014-2015 CDBG and HOME Timetable and Establish Public Hearings:
Approve the 2014-2015 Community Development Block Grant (CDBG) and HOME Investment Partnerships Program (HOME) Timetable and Establish Public Hearings on January 28, 2014, and September 23, 2014.

K. Accounts Receivable Write-Off Request:
Approve the Accounts Receivable Write-off request.

L. Revised Stormwater Management Manual:
Approve the revised Stormwater Management Manual.

M. Fire Training Program for Jackson Area Career Center Students: Approve a resolution authorizing the City of Jackson to enter into an Educational Affiliation Agreement with the Jackson Intermediate School District to support the training of Jackson Area Career students enrolled in the Firefighter I/II training, and authorization for the City Attorney to make minor modifications if needed and to take all action necessary to finalize the Agreement.

14. CITY COUNCILMEMBERS' COMMENTS.

15. MANAGER'S COMMENTS.

16. ADJOURNMENT.

Jackson Housing Commission

Minutes of the Regular Meeting
October 16, 2013

The Jackson Housing Commission held its regular meeting at Reed Manor in the Board Room at 12:00 PM on October 16, 2013.

Commissioner Pultz-Orthaus called the meeting to order at 12:00 p.m. and upon roll call, the following Commissioners were present: Montgomery, Stark, Pultz-Orthaus, Davis-Dye. Absent: Robinson

Also present were: Connie Crandall, Interim Executive Director & Public Housing Director
Shari Boyce, Section 8 Director
Katie Dickerson, Executive Secretary

13-10-001 PUBLIC COMMENTS

No public comments were heard.

13-10-002 APPROVAL OF THE MINUTES OF THE REGULAR MEETING HELD September 18, 2013.

Commissioner Stark **MOVED** to approve the minutes of the Regular Meeting held September 18, 2013. Commissioner Montgomery **SECONDED** motion, and upon the following roll call, the motion was adopted with changes:

AYES:	Stark, Montgomery, Pultz-Orthaus, Davis-Dye
NAYS:	None
ABSTAIN:	None
ABSENT:	Robinson

13-10-003 APPROVAL OF THE PREVIOUSLY PAID LIABILITIES FROM September 19 to October 10, 2013 and from September 13 to September 18, 2013.

Commissioner Davis-Dye **MOVED** to approve the Previously Paid Liabilities from September 19 to October 10, 2013. Commissioner Stark **SECONDED** motion, and upon the following roll call, the motion was adopted with changes:

AYES:	Stark, Montgomery, Pultz-Orthaus, Davis-Dye
NAYS:	None
ABSTAIN:	None
ABSENT:	Robinson

13-10-004 RESOLUTIONS

A. Resolution No. 2013-42: Collection Losses Write-Off

Commissioner Stark **MOVED** to approve the Write-Off of Collection Losses of $2,098.25. Commissioner Davis-Dye **SECONDED** the motion and, upon the following roll call, the motion was adopted:

AYES:	Pultz-Orthaus, Stark, Montgomery, Davis-Dye
NAYS:	None
ABSTAIN:	None
ABSENT:	Robinson

B. Resolution No. 2013-43: Close Wells Fargo Account

Commissioner Stark **MOVED** to the adopt resolution to close the Wells Fargo Investment account. Commissioner Montgomery **SECONDED** the motion and, upon the following roll call, the motion was adopted:

AYES:	Pultz-Orthaus, Stark, Montgomery, Davis-Dye
NAYS:	None
ABSTAIN:	None
ABSENT:	Robinson

C. Resolution No. 2013-44: Blue Care Network of Michigan

Commissioner Stark **MOVED** to adopt the resolution to enter into a contract with Blue Care Network of Michigan. Commissioner Montgomery **SECONDED** the motion and, upon the following roll call, the motion was adopted:

AYES:	Stark, Montgomery, Davis-Dye
NAYS:	None
ABSTAIN:	Pultz-Orthaus,
ABSENT:	Robinson

*Commissioner Robinson entered the meeting at 12:29 PM.

D. Resolution No. 2013-45: Approve EIV Policy

Commissioner Davis-Dye **MOVED** to the adopt the resolution approve the EIV policy. Commissioner Stark **SECONDED** the motion and, upon the following roll call, the motion was adopted:

AYES:	Stark, Montgomery, Davis-Dye, Pultz-Orthaus, Robinson
NAYS:	None
ABSTAIN:	None
ABSENT:	None

13-10-005 DIRECTORS' REPORTS

Section 8

A. Utilization Report
   Mrs. Boyce presented the report as stated. Ms. Boyce also explained to the board that as previously thought, the program will be covered through the end of 2013. 2014 will be questionable and Ms. Boyce is working with DOF-HUD to find a solution.

Public Housing

B. Tenant Accounts Receivables
   Ms. Crandall presented the Tenant Accounts Receivables as stated. Ms. Crandall stated that collections have taken a back seat due to her double job duty.
C. Consolidated TARs
   Ms. Crandall presented the Consolidated TARs.
D. Turnaround Time
   Ms. Crandall stated that the turnaround time for September was great.
E. Reasons for Move Outs
   Ms. Crandall stated the reasons for tenant move outs.

Executive

F. S8 Income Statement
G. PH Income Statement
H. Petty Cash Fund Register
I. After Hours/ Emergency Response Report
J. Utility Costs and Consumption
   Ms. Crandall presented the reports as stated.

13-10-006 OTHER BUSINESS

Ms. Crandall stated the JHC received an award from the insurance company. The award was due to minimal insurance loss over the years 2009-2011.

The Board would like an RFP issued for bulk pricing on natural gas.

Commissioner ~~Robinson~~ Davis-Dye asked for an administrative fee breakdown of what is covered when paid to the City of Jackson.

President Pultz-Orthaus went over reports that are due in October and November and asked if they were on schedule to be submitted. Ms. Crandall stated they were.

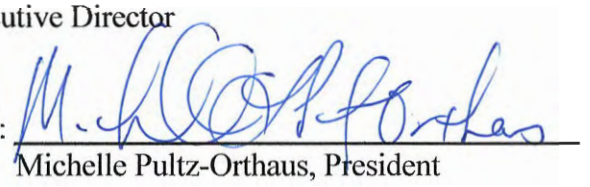
President Pultz-Orthaus updated the board on the Executive Director search. The ~~committed~~ committee has narrowed the second round interview down to three candidates. President Pultz-Orthaus asked for Special Meeting to conduct the interviews via Skype. Commissioner Stark seconded the call. The meeting will be set for next week. Ms. Dickerson will schedule the interviews and coordinate with the Community Action Agency and the Board of Commissioners.

Commissioner Stark **MOVED** to adjourn; Commissioner Montgomery **SECONDED** the motion. All members of the board were in favor of adjournment.

The regular meeting adjourned at 1:10 p.m.

Respectfully submitted,

Connie Crandall, PHM
Interim Executive Director

ATTESTED: 
Michelle Pultz-Orthaus, President

Jackson Housing Commission

Minutes of the Special Meeting
October 23, 2013

The Jackson Housing Commission held a special meeting at Community Action Agency in the Conference Room at 9:00 am on October 23, 2013.

Commissioner Pultz-Orthaus called the meeting to order at 9:03 am.

Roll Call: Michelle Pultz-Orthaus, Gerald Montgomery, James Stark. Absent: Arlene Robinson, Patricia Davis-Dye

Also present were: Shari Boyce, Section 8 Director
Connie Crandall, Public Housing Program Director

13-10-007 Interview of Ms. Ila Alfaro via conference call

President Pultz-Orthaus introduced the board to the candidate along with Connie Crandall & Shari Boyce.
The board took turns asking Ms. Alfaro questions for the interview. The board started with a list of questions, however, they deviated it from the list based off of answers the candidate provided.

13-10-008 10:21 am the board called a recess until noon.

13-10-009 Meeting reconvened to interview Ms. Tiffany Robinson via Skype

President Pultz-Orthaus introduced the board to the candidate along with Connie Crandall & Shari Boyce.
The board took turns asking Ms. Robinson questions for the interview. The board started with a list of questions, however, they deviated it from the list based off of answers the candidate provided.

13-10-010 Meeting recessed at 1:00 pm.

13-10-011 Meeting reconvened at 1:30 pm to interview Patricia Tyus via Skype

President Pultz-Orthaus introduced the board to the candidate along with Connie Crandall, Shari Boyce.

Due to technical difficulties, Ms. Tyus' interview was completed via phone conference.

The board took turns asking Ms. Tyus questions for the interview. The board started with a list of questions, however, they deviated it from the list based off of

answers the candidate provided.

13-10-012m Board Discussion

The board discussed each candidate and highlighted points from each candidate. Commissioner Stark provided his selections; however, Commissioner Montgomery MOVED to offer employment to Patricia Tyus pending background and criminal checks and HUD approval. Commissioner Stark SECONDED the motion, and upon roll call, the motion was adopted:

AYES:	Pultz-Orthaus, Stark, Montgomery.
NAYS:	None
ABSTAIN:	None
ABSENT:	Davis-Dye, Robinson

The board agreed that if Ms. Tyus' checks do not pass, then Ms. Robinson would be offered the position and if she failed checks, then Ms. Alfaro.

The meeting adjourned at 2:53 pm.

Respectfully submitted,

Connie Crandall

Connie Crandall, PHM
Interim Executive Director

ATTESTED: _____
Michelle Pultz-Orthaus, President

HUMAN RELATIONS COMMISSION
MEETING MINUTES
October 16, 2013

MEMBERS PRESENT	MEMBERS ABSENT	STAFF
Jon Hart	Kathleen Conley (exc.)	Frank Weathers
Teressa Delph		
Alice Lewis	EX-OFFICIO	GUESTS
Rev. John Clemons	Clevester Molten	Mrs. Shauna Hayes,
Parrish Stahl	Valerie Cochran-Toops	disAbility Connections
	POLICE LIAISON	
	Lt. Elmer Hitt	

1. CALL TO ORDER:
Chair Hart called the meeting to order at 6:35 p.m.

2. APPROVAL OF THE MEETING MINUTES FOR SEPTEMBER 18, 2013
Alice Lewis made a motion to approve the meeting minutes from September 18, 2013, with the amendment of striking M. Teressa Gibson's name from the Members Present list. Rev. Clemons supported the motion for the amended meeting minutes. The motion carried.

3. COMMUNITY LIAISON POLICE OFFICER:
Lt. Hitt reported about a 10 week Citizen Police Academy class that is currently being held. There are 15 people in the class. Lt. Hitt explained the program to Commissioners. Members of the Academy are encouraged to do at least one ride-a-long. The Academy is held every Wednesday for the 10 weeks. Lt. Hitt gave an update on the most recent crime events in the City. Commissioner Stahl questioned some recent altercations happening on the bike path near the lumber yard on Prospect Avenue. Lt. Hitt reported that the Police Department is currently working with school administrators. A discussion followed regarding youth offenders.

4. CITIZEN COMMENTS:
None

5. GUEST:
None

6. COMMUNITY UPDATE/CHAIRPERSON'S CORRESPONDENCE:
Chair Hart reported that he went to a PFLAG meeting, and asked if they would want to partner on a showing of a movie, "Brother Outsider." They indicated that they would like to do this. The First Congregational Church has offered to show the film. Chair Hart would like to have this movie shown the third week in November. He also has a speaker scheduled for the January HRC meeting, Kathy Hines from the Michigan Alliance for Families. For the November HRC meeting he will contact Marc Stanley from the Southeast Dispute Resolution Center. He also asked PFLAG if anyone would be interested in serving as an HRC member. Two people expressed interest and one person turned in their application. Chair Hart reminded Commissioners to encourage anyone they might know interested in serving on the Commission to have them fill out an application as soon as possible.

Chair Hart reported on the African American Male Summit II. There are many speakers. The Summit will take place on October 25, 2013, at Jackson College in the Potter Center. Indentifying barriers and funding solutions are the areas of focus: K-12, College and the Penal System. There is no charge to attend, and the Summit will meet from 9:00 a.m. to 12:00 p.m. (noon). All attendees are asked to register by Friday, October 18, 2013. A discussion followed and Rev. Clemons stated that he will be attending with his group in order to network.

Chair Hart reported that the recent shooting at the MLK Center really upset him. He feels that when these things happen the HRC should be speaking out against it. He will connect this with an article in the HRC newsletter and as a letter to the Voice of the People in MLive.

7. STAFF REPORT

Frank Weathers reviewed the Ombudsman report for September. A discussion took place on the complaints referenced within the report. Another discussion took place regarding the rental inspection fees, and Senate Bill 313. He reported that meetings have taken place with City staff, and Michigan Senators and legislators. Staff reported that he has some information that he can share with Commissioners regarding SB 313.

Chair Hart asked if there is anything that Staff is aware of that the HRC can be working on. He suggested the Cradle to Career program may be something to investigate to work with. He will send Commissioners information on this program. Chair Hart reported that he is on the Jackson Public School Board. Discussion followed regarding school suspensions. Chair Hart is working to make sure that it is monitored correctly. He will try to keep the HRC updated on the progress of the suspension issue/positive behavior reinforcement.

Staff also reported on the landlord/tenant workshop and the Minority Mediators meeting on September 26, 2013. This was a very good workshop to attend. He recommended that Commissioners attend this if it is offered again.

8. COMMITTEE REPORTS:

A. Anti-Violence Neighborhood Committee - Jon Hart, Chair

Chair Hart reported that he talked to the Superintendent of Jackson Public Schools about instituting the use of t-shirts relating to the 22nd day of the month as Peace Day. Rev. Clemons reported that he is interested in being a part of this committee. Chair Hart also spoke about the "Be More Kind" program. Another program to possibly explore is where shooter's are taken to emergency rooms to let them experience what happens in an ER when someone is shot.

B. Complaint Committee – Alice Lewis, Chair

No report.

C. Martin Luther King Breakfast

Frank Weathers reported that Challenge Day will be November 4-7, 2013. The committee is still looking for volunteers to work as adult facilitators. In particular, minority adult facilitators are needed. People interested in volunteers can contact Frank Weathers. This year's Challenge Day will be held at Lily Mission Center.

D. Nominating Committee – Kathleen Conley, Chair

Frank Weathers reported that Parrish Stahl and Teressa Delph's terms end December 31, 2013. He urged them to fill out the applications as soon as possible, and that the HRC vote so that they can be placed on a City Council agenda in November.

E. Public Relations and Information – Parrish Stahl, Chair
Parrish Stahl reported that the newsletter is about ready to go. He further reported on the upcoming movie to be held at the Library on October 23rd about Jackie Robinson. Staff reported that the City's social media person has posted the information on the movie on the City's facebook page.

Parrish Stahl further introduced Shauna Hayes who now works for DisAbility Connections.

9. OLD BUSINESS:

A. Chair Hart reported that the line item has been established in the City's budget to deposit incoming donations. So, the donation made by Councilmember Dobies and RICC have been deposited. There is a total of $350.00 in the account right now. He will get into contact with Kathleen Conley to let her know that some money has been received to help with the Harold White Breakfast.

B. The Strategic Plan is being put into place and the goals accomplished.

10. NEW BUSINESS:
Chair Hart met with the Director of the Fair Housing Center in Ann Arbor. He feels that it would be a good idea for the HRC to partner with them. He further suggested have them come to the February HRC meeting to discuss Fair Housing.

Chair Hart reported that Human Rights will be holding a conference in Jackson.

Teressa Delph suggested that the HRC start planning for a goal setting session in January.

A discussion took place regarding the need for Teressa Delph and Parrish Stahl to reapply for for their positions on the Human Relations Commission. Chair Hart called for a motion to recommend Teressa Delph and Parrish Stahl to the Mayor for their reappointment.

A motion was made by Alice Lewis to accept the applications of Parrish Stahl and Teressa Delph to be reappointed to the Human Relations Commission for another term. The motion was supported by Rev. Clemons. The motion carried.

Rev. Clemons asked if the HRC really wanted to have a street named for Dr. Martin Luther King. He further suggested that each Commissioner solicit each Councilmember. Discussion followed regarding the history of street renaming.

11. COMMISSIONER COMMENTS

12. ADJOURNMENT
Parrish Stahl made a motion to adjourn at 7:55 p.m. Alice Lewis supported; the motion carried.

Respectfully submitted,

Teressa Delph

Teressa Delph
Acting Secretary

5102 (Rev. 11-13)

STATE OF MICHIGAN
DEPARTMENT OF TREASURY
LANSING

RICK SNYDER
GOVERNOR

R. KEVIN CLINTON
STATE TREASURER

November 20, 2013

Patrick M. Fitzgerald
Consumers Energy
One Energy Plaza
Jackson, MI 49201

Dear Mr. Fitzgerald:

The State Tax Commission (Commission) received a water pollution control exemption application, numbered 2-5976, for Consumers Energy, located at 410 E Franklin Street, City of Jackson, Jackson County, in the amount of $1,649,898. A recommendation for approval has been made regarding this application with a qualifying amount for the exemption of $1,649,898.

As required by Public Act 451 of 1994, Part 37, as amended, the Commission is providing written notice of this recommendation, by certified mail, to the applicant and local assessor before a water pollution control tax exemption certificate is issued.

The applicant and local assessor have 21 calendar days from the date on this notice to forward any written objections to the Commission. If no written objection is received within the time frame allowed, the Commission will approve this application as recommended. Once approved, the parties will have 60 days from the date the certificate was mailed to appeal the decision to the Circuit Court.

If you have any questions, please contact the Property Services Division at (517) 373-0675.

Sincerely,

Kelli Sobel, Executive Director
State Tax Commission

By Certified Mail
cc: David W. Taylor, Assessor, City of Jackson
Clerk, City of Jackson

Andrew J. Wrozek, Jr.
City Treasurer/City Clerk
161 W. Michigan Avenue - Jackson, MI 49201
Treasurer (517)788-4043 • Income Tax Office (517)788-4044 • Clerk (517) 788-4025

JACKSON CITY COUNCIL MEETING

MINUTES

November 26, 2013

CALL TO ORDER:

The Jackson City Council met in regular session in City Hall and was called to order at 6:30 p.m. by Mayor Griffin.

PLEDGE OF ALLEGIANCE-INVOCATION:

The Council joined in the pledge of allegiance. The invocation was given by Councilmember Greer.

ROLL CALL:

Present: Mayor Martin J. Griffin, Councilmembers Michelle L. Woods, Kimberly Jaquish, Daniel P. Greer, Laura Dwyer Schlecte, Andrew R. Frounfelker and Derek J. Dobies—7. Absent—0.

Also present: City Manager Patrick Burtch, Interim City Attorney Bethany Smith, Office Shane Laporte, Chief of Police Matt Heins, City Assessor David Taylor and City Clerk/Treasurer Andrew J. Wrozek, Jr.

AGENDA:

Motion was made by Councilmember Dobies and seconded by Councilmember Woods to approve the agenda. The motion was adopted by the following vote. Yeas: Mayor Griffin, and Councilmembers Woods, Jaquish, Greer, Schlecte, Frounfelker and Dobies—7. Nays: 0. Absent: 0.

PRESENTATION/PROCLAMATIONS:

Senator Bruce Caswell stopped in to introduce himself and to give some information on his recent accomplishments.

EXECUTIVE SESSION:

Motion was made by Councilmember Woods and seconded by Councilmember Greer to go into Executive Session to discuss pending litigation and discussion of a written legal opinion. The motion was adopted by the following vote. Yeas: Mayor Griffin, and Councilmembers Woods, Jaquish, Greer, Schlecte, Frounfelker and Dobies—7. Nays: 0. Absent: 0.

RETURN TO OPEN SESSION

Motion was made by Councilmember Dobies and seconded by Councilmember Woods to return to open session. The motion was adopted by unanimous voice vote.

CITIZEN COMMENTS- AGENDA ITEMS

DOYLE RICE- Spoke regarding his house at 1218 4th Street. He asked Council to wait to award bids. He said he would like the Inspection Department to take a closer look at it. He would like to have more time to work on it and get it in order.

JASON SMITH- 717 Kennedy Street wanted to thank Mayor Griffin and Councilmember Woods for their service to the City. He also humbly asked that 13G be tabled until 12/17/13 when the incoming Councilmembers have had a chance to review the necessary documents to demolish said properties. He said the new Council would be responsible for a budget that they didn't have input in to. He said this is more of a matter of spending taxpayer dollars morally and ethically.

ROBERT TULLOCH- He asked that the vote be tabled on the demolition of properties. He said that transferring $500,000 from the General Fund to the Demolition Fund is irresponsible when there are other things that need funding. He said it needs to be revisited when the new Council is seated. He also wanted to complain about the demolition survey. He said that it is an embarrassment that the Council would allow production of such a juvenile document. He said if he was a business person looking to relocate in the City of Jackson he would really question the maturity of the Council and who is running the City after reading it.

JIM NEWBY-He said he has been a resident for over 25 years. He said the City of Jackson has stepped forward and cleaned out the "riff raff". He wanted to thank the City of Jackson, the employees, the Police Department and those who are working together to clean these neighborhoods up and make them a safer and nicer place to live.

ELAINE ROBINSON- 1223 Loeser Ave. She is a historic preservationist. She said that every time a building in the Historic District is lost the trust between the government and the people is broken. She said it is not just a trust it is also a law that the Council passed three decades ago. She said we can be a destination city if we have

forward thinking and if historic properties are protected by the people that we have our trust in.

GRANT BAUMAN- He wanted to speak on item 13I. He said to demolish that building would create a void along Michigan Avenue. He said the structure appears to be in good condition and he said it would be a shame for the City to lose it. He said that it can be marketed as residential, office or a mix of the two. He wanted to urge the City Council to save 750 W. Michigan Avenue.

KEITH VANEPPS- 1330 E. Ganson Street. He wanted the Council to move ahead and not table the demolition of the properties on the list. He said these properties have been vacant long enough and all they do is become havens for criminals.

LARRY LIENHART- 1327 E. North Street. He said he has been a resident for 54 years and he said the Council is doing a great job tearing down these houses. He said a house was torn down on Gilbert that had to have the police called there every night. Larry said now that it is gone there is not a problem anymore.

JAN TORNGA- 1517 E. Ganson Street. She feels these dangerous and vacant buildings should be torn down. She said she fears for the children that are entering these houses. She doesn't believe that slumlords that live out of town should be allowed to come in to the City and tell them how to run it.

CONSENT CALENDAR

Motion was made by Councilmember Greer and seconded by Councilmember Schlecte to approve the consent calendar as presented. The motion was adopted by the following vote: Yeas: Mayor Griffin, and Councilmembers Woods, Jaquish, Greer, Schlecte, Frounfelker and Dobies—7. Nays: 0. Absent: 0.

A. **MINUTES OF THE REGULAR MEETING ON NOVEMBER 12, 2013:**
Approve the minutes of the regular City Council meeting of November 12, 2013.

B. **AMEND MINUTES OF THE REGULAR MEETING ON OCTOBER 8, 2013:**
Approve the amended minutes of October 8, 2013.

C. **RECEIPT OF RESIGNATION FROM THE DOWNTOWN DEVELOPMENT AUTHORITY:**
Receipt with regret the resignation of Andrea Ramp from the Downtown Development Authority.

D. **DOWNTOWN DEVELOPMENT AUTHORITY APPOINTMENT:**
Approve the Mayor's recommendation to appoint Kathryn E. Snyder to the Downtown Development Authority filling a current vacancy,

beginning immediately and ending March 31, 2015.

E. ELLA SHARP PARK BOARD OF TRUSTEES APPOINTMENT:
Approve the Mayor's recommendation to appoint Councilmember Derek Dobies to the Ella W. Sharp Park Board of Trustees as a City Council Representative beginning December 1, 2013, and ending November 30, 2016.

F. OUR LADY OF GUADALUPE PROCESSION:
Approve the request from Sacred Heart Catholic Community to conduct their first annual Our Lady of Guadalupe Procession in downtown Jackson on Sunday, December 15, 2013, from 10:00 a.m. - 12:00 p.m. (Contingent upon receipt of proper insurance.)

G. CDBG AND HOME FINANCIAL STATEMENTS THROUGH OCTOBER 31, 2013:
Receive the Community Development Block Grant (CDBG) and HOME Financial Summaries through October 31, 2013.

H. RESOLUTIONS ESTABLISHING PUBLIC HEARINGS FOR SPECIAL ASSESSMENT ROLLS:
Approve resolutions establishing December 17, 2013, at the City Council meeting as the time and place to hold public hearings on the following Special Assessment Rolls, and directing the City Assessor to prepare the rolls, in accordance with the recommendation of the City Clerk:

1. Special Assessment Roll No. 4232 - Delinquent Miscellaneous General Fund Accounts Receivable.

2. Special Assessment Roll No. 4233 - Delinquent Miscellaneous Housing Code Enforcement Fund Accounts Receivable.

3. Special Assessment Roll No. 4234 - Delinquent Miscellaneous Building Demolition Fund Accounts Receivable.

4. Special Assessment Roll No. 4235 - Delinquent Miscellaneous CDBG Fund Accounts Receivable.

5. Special Assessment Roll No. 4236 - Delinquent Miscellaneous Waste Water Fund Accounts Receivable.

6. Special Assessment Roll No. 4237 - Public Works Fund Accounts Receivable.

I. ESTABLISHMENT OF A PUBLIC HEARING - SPECIAL ASSESSMENT ROLL NO. 3375:

Establishment of December 17, 2013, at the City Council as the time and place to hold a public hearing on Special Assessment Roll No. 3375 for street repaving on Webster Street from Oakdale to Elmwood Avenue.

***J. HUMAN RELATIONS COMMISSION APPOINTMENTS:**
Approve the Mayor's recommendation to appoint William Fall, filling a current vacancy beginning immediately and ending December 31, 2014; Kerry Snyder, filling a current vacancy beginning immediately, and ending December 31, 2015, and Barb Shelton filling a current vacancy beginning immediately, and ending December 31, 2016, and to appoint Jason C. Smith as the Ex-Officio Council Representative beginning December 1, 2013, and ending November 30, 2015.

***K. ZONING BOARD OF APPEALS APPOINTMENTS:**
Approve the Mayor's recommendation to appoint Gerald Montgomery (Alternate Member) to the Zoning Board of Appeals filling the position held by Martin J. Griffin, beginning January 1, 2014, and ending December 31, 2016.

PUBLIC HEARINGS

A. PUBLIC HEARING - DIE-NAMIC TOOL & DESIGN, LLC, IFTEC APPLICATION:
Public hearing regarding the application filed by Die-Namic Tool & Design, LLC, 147 Hobart Street, for an Industrial Facilities Tax Exemption Certificate.

Mayor Griffin opened the public hearing. Chad Whiting wanted to thank the Council for considering the tax exemption. He said it will allow them to purchase the necessary equipment to further their growth and add 2-3 jobs in the next 18 months. Mayor Griffin closed the public hearing.

1. ADOPT A RESOLUTION APPROVING AN APPLICATION FOR AN INDUSTRIAL FACILITIES TAX EXEMPTION CERTIFICATE (IFTEC) FOR DIE-NAMIC TOOL & DESIGN.

Motion was made by Councilmember Greer and seconded by Councilmember Woods to adopt the resolution. The motion was adopted by the following vote: Yeas: Mayor Griffin, and Councilmembers Woods, Jaquish, Greer, Schlecte, Frounfelker and Dobies—7. Nays: 0. Absent: 0.

12. OTHER BUSINESS.

A. ORDINANCE NO. 2013.24 - AMENDMENTS TO CHAPTER 26 - VEGETATION (SECOND/FINAL READING):

Final adoption of Ordinance No. 2013.24, amending Articles II and III of Chapter 26, City Code, to regulate trees, grass, weeds, shrubbery, and other woody vegetation on public and private property for the health, safety, and welfare of the citizens of the City of Jackson.

Motion was made by Councilmember Greer and seconded by Councilmember Dobies to adopt the ordinance.

Motion was then made by Councilmember Schlecte and seconded by Councilmember Dobies to amend the motion to allow the changes. Councilmember Schlecte would like to amend 1. Minor spelling corrections. 2. She said the definition of planting strips needs to be added to Section 26-66. 3. Change in 26-74 change 48 hours to 2 business days. 4. In Section 26-76 paragraph B2 remove 8 feet long, paragraph B3 just keep the very first sentence and then remove the remaining one. The motion was adopted by the following vote: Yeas: Mayor Griffin, and Councilmembers Woods, Jaquish, Greer, Schlecte, and Dobies—6. Nays: Councilmember Frounfelker—1. Absent: 0.

The original motion was made by Councilmember Greer and seconded by Councilmember Dobies to adopt the ordinance. The motion was adopted by the following vote: Yeas: Mayor Griffin, and Councilmembers Woods, Greer, Schlecte, Frounfelker and Dobies—6. Nays: Councilmember Jaquish—1. Absent: 0.

B. ORDINANCE NO. 2013.25 - POSSESSION OF ALCOHOLIC BEVERAGES AT ELLA SHARP PARK GOLF COURSE (SECOND/FINAL READING)

Final adoption of Ordinance No. 2013.25, amending Section 3-3 of Chapter 3, City Code, to permit the consumption of alcoholic beverages on the grounds of the Ella Sharp Park Golf Course.

Motion was made by Councilmember Dobies and seconded by Councilmember Woods to adopt the ordinance. The motion was adopted by the following vote: Yeas: Mayor Griffin, and Councilmembers Woods, Jaquish, Greer, Schlecte, Frounfelker and Dobies—7. Nays: 0. Absent: 0.

C. ORDINANCE NO 2013.26 - AMENDMENTS TO DIVISION 2 - MARIHUANA AND DRUG PARAPHERNALIA, ARTICLE VI, CHAPTER 18 - OFFENSES (SECOND/FINAL READING)

Final adoption of Ordinance No. 2013.26, amending Division 2 - Marihuana and Drug Paraphernalia, Article VI, Chapter 18, City Code, to make the provisions of Division 2 - Marihuana and Drug Paraphernalia, Article VI, Chapter 18, City Code, inapplicable to the use, possession or transfer of less than 1 ounce of marijuana, on private property, by a

person who has attained the age of 21 years, for the health, safety, and welfare of the citizens of the City of Jackson.

Motion was made by Councilmember Greer and seconded by Councilmember Frounfelker to adopt the ordinance. The motion was adopted by the following vote: Yeas: Mayor Griffin, and Councilmembers Woods, Jaquish, Greer, Schlecte, Frounfelker and Dobies—7. Nays: 0. Absent: 0.

NEW BUSINESS

A. CORRECTIVE RESOLUTION FOR SPECIAL ASSESSMENT ROLL NO. 4224:

Approve a Corrective Resolution for Special Assessment Roll No. 4224 for Delinquent Miscellaneous General Fund Receivables, confirmed on May 28, 2013.

Motion was made by Councilmember Greer and seconded by Councilmember Frounfelker to adopt the resolution. The motion was adopted by the following vote: Yeas: Mayor Griffin, and Councilmembers Woods, Jaquish, Greer, Schlecte, Frounfelker and Dobies—7. Nays: 0. Absent: 0.

B. RESOLUTION OF NOTIFICATION TO JACKSON COUNTY TO EXERCISE THE CITY OF JACKSON'S RIGHT OF FIRST REFUSUAL UNDER PA 123 OF 1999:

Approve a Resolution of Notification to Jackson County to exercise the City of Jackson's Right of First Refusal under PA 123 of 1999 for properties identified on Exhibit A of the Resolution and release of Right of First Refusal for properties listed in Exhibit B.

Motion was made by Councilmember Frounfelker and seconded by Councilmember Greer to adopt the resolution. The motion was adopted by the following vote: Yeas: Mayor Griffin, and Councilmembers Woods, Jaquish, Greer, Schlecte, Frounfelker and Dobies—7. Nays: 0. Absent: 0.

C. 2013/14 JNET GRANT RESOLUTION:

Approve a resolution amending the 2013/2014 Budget to reflect receipt of the Jackson Narcotic Enforcement Team (JNET) Project grant in the amount of $15,903.00, and to amend the Drug Law Enforcement Fund budget to reflect the match of $15,903.00, for a project total of $31,806.00.

Motion was made by Councilmember Dobies and seconded by Councilmember Woods to adopt the resolution. The motion was adopted by the following vote: Yeas: Mayor Griffin, and Councilmembers Woods, Jaquish, Greer, Schlecte, Frounfelker and Dobies—7. Nays: 0. Absent: 0.

D. **RESOLUTION AUTHORIZING THE STORMWATER, ASSET MANAGEMENT AND WASTEWATER (SAW) GRANT AGREEMENT:**
Approve submittal of a resolution authorizing the Stormwater, Asset Management and Wastewater Grant application for an agreement between the City of Jackson and the State of Michigan Department of Environmental Quality, and approve a Professional Services Agreement with Fishbeck, Thompson, Carr and Huber to prepare and submit the application on behalf of the City.

Motion was made by Councilmember Frounfelker and seconded by Councilmember Greer to adopt the resolution. The motion was adopted by the following vote: Yeas: Mayor Griffin, and Councilmembers Woods, Jaquish, Greer, Schlecte, Frounfelker and Dobies—7. Nays: 0. Absent: 0.

E. **AWARD OF SANITARY SEWER NORTH EXTENSION ROUTE STUDY:**
Approve the award for the Sanitary Sewer North Extension Route Study to Hubbell, Roth & Clark, Inc., Bloomfield Hills, for $32,271.24, and authorization for the Mayor and City Clerk to execute the appropriate document(s) in accordance with the Purchasing Agent.

Motion was made by Councilmember Greer and seconded by Councilmember Schlecte to approve the award. The motion was adopted by the following vote: Yeas: Mayor Griffin, and Councilmembers Woods, Jaquish, Greer, Schlecte, Frounfelker and Dobies—7. Nays: 0. Absent: 0.

F. **POLICE DEPARTMENT SURVEY RESULTS REGARDING THE DEMOLITION PROGRAM - OFFICER SHANE LAPORTE**

**Received the report

G. **AWARD OF FOUR (4) DEMOLITION CONTRACTS:**
Award four (4) demolition contracts in the total amount of $971,400.00 for demolition of vacant and abandoned structures utilizing both federal and non-federal funds as follows:

Michigan Demolition	$ 8,950.00
Salenbien Trucking & Excavation	$209,700.00
Salenbien Trucking & Excavation	$611,000.00
Smalley Construction	$141,750.00

and authorization for the City Manager to approve any and all change orders required to complete the demolitions.

Motion was made by Councilmember Greer and seconded by Councilmember Frounfelker to award the contracts.

Councilmember Jaquish stated she had reservations about the contracts because she wanted to know where the funds were coming from. She said this will impact how the new incoming Council sets up their budget, and she thinks it should be tabled until the new members take office.

The motion was adopted by the following vote: Yeas: Mayor Griffin, and Councilmembers Woods, Greer, Schlecte, Frounfelker and Dobies – 6. Nays: Councilmember Jaquish – 1. Absent: 0.

Motion was made by Councilmember Dobies and seconded by Councilmember Greer to approve a resolution to amend the 2013-2014 budget as noted. The motion was adopted by the following vote: Yeas: Mayor Griffin, and Councilmembers Woods, Greer, Schlecte, Frounfelker and Dobies – 6. Nays: Councilmember Jaquish – 1. Absent: 0.

H. MICHIGAN AVENUE STREETSCAPE DESIGN SERVICES:
Approve the contract award of the streetscape design for Michigan Avenue to Beckett & Raeder, Inc., Ann Arbor, in the amount of $61,260.00, to design and prepare construction plans and specifications for Michigan Avenue from Blackstone Street to Francis Street, and authorization for the Mayor and City Treasurer/Clerk to execute the appropriate document(s) in accordance with the Purchasing Agent.

Motion was made by Councilmember Greer and seconded by Councilmember Dobies to approve the award. The motion was adopted by the following vote: Yeas: Mayor Griffin, and Councilmembers Woods, Jaquish, Greer, Schlecte, Frounfelker and Dobies – 7. Nays: 0. Absent: 0.

I. HEAR THE APPEAL OF 750 W. MICHIGAN AVENUE:
Hear the appeal of a Historic District Commission denial to demolish 750 W. Michigan Avenue.

Mr. John Butterfield addressed the Council asking them to allow him to tear down the property at 750 W. Michigan Avenue and appeal the decision made by the Historic District Commission. He said the house has been for sale for 8 years and has never received any offers. He said it was set up as a trust, and it brings no income to the spouse. He feels the lot is more valuable without the house on it.

Motion was made by Councilmember Schlecte and seconded by

Councilmember Jaquish to table this item until the December 17th City Council meeting. The motion failed by the following vote: Yeas: Councilmembers Jaquish, Schlecte, and Dobies—3. Nays: Mayor Griffin, and Councilmembers Woods, Greer and Frounfelker—4. Absent: 0.

Motion was made by Councilmember Schlecte and seconded by Councilmember Jaquish to support the Historic District Commission's findings. The motion failed by the following vote: Yeas: Councilmembers Jaquish and Schlecte—2. Nays: Mayor Griffin, and Councilmembers Woods, Greer, Frounfelker and Dobies—5. Absent: 0.

Motion was made by Councilmember Greer and seconded by Councilmember Frounfelker to overturn the Historic District Commission's denial to demolish 750 W. Michigan Avenue. The motion was adopted by the following vote: The motion was adopted by the following vote: Yeas: Mayor Griffin, and Councilmembers Greer, Frounfelker and Dobies—4. Nays: Councilmembers Woods, Jaquish and Schlecte—3. Absent: 0.

***J. Removed from the agenda.**

EXECUTIVE SESSION

Motion was made by Councilmember Greer and seconded by Councilmember Frounfelker to authorize the Interim City Attorney to proceed according to her recommendation made in Executive Session regarding Panzica vs. City of Jackson. The motion was adopted by the following vote: Yeas: Mayor Griffin, and Councilmembers Woods, Jaquish, Greer, Schlecte, Frounfelker and Dobies—7. Nays: 0. Absent: 0.

RESIDENT COMMENTS - NON-AGENDA ITEMS

ROBERT TULLOCH-He stated that the process for appointing someone to a board is "The Mayor makes a recommendation in the open session in the public meeting". He said the three appointments that were made at the previous meeting were made by Greer with Dobies supporting the motion. He said there was no recommendation by the Mayor to recommend himself for the appointments. He said according to the City Charter, "The Mayor shall appoint subject to Council confirmation". He stated the three appointments were therefore illegal because the City Charter was not followed. He said the City Attorney needs to issue a position on the matter and invalidate the appointments.

Mayor Griffin addressed Mr. Tulloch saying, "The Council does not have to accept the Mayor's recommendations they can recommend their own and

overrule".

JOHN WILSON- (1045 S. Durand) He wanted to congratulate Jason Smith on his election win and thank Mayor Griffin and Michelle Woods for their service. He wanted to explain some misconceptions about his Write-in candidacy for Mayor. He took out petitions because of disagreements with proposals, policies, and ordinances set forth by the current Mayor. He wanted to set the record straight that his campaign was not a maneuver to make Jason win and Marty lose. He said it was not a collaboration. He said his campaign was always intended to elect John Wilson as Mayor. He said a Cit Pat reporter was successful in placing doubt in the voter's minds by running an article on Election Day stating that votes for John Wilson may not count as a result of paperwork being filled out in his full name.

BARBARA BAIRD PAULI-She said that the student's at JHS that participated in "leaf relief" have received many cards, donations, etc., from the community for their help. She said as a result, they wanted to recognize some of the City Councilmembers that were there assisting. They gave certificates to Councilmembers Laura Schlecte, Michelle Woods and Derek Dobics. She said this was a great example of a community pulling together for a common cause to resolve a community dilemma.

GEORGE MOHRING- (1409 Leroy) He wanted to say "thank you" to all of the citizens. He also wanted to thank City workers for all that they do, and City Councilmembers for their help with the leaf collection. He also wanted to thank Kim's sister Deb for her help. Lastly he wanted to thank the Mayor and Councilmember Woods for their service.

GERALD MONTGOMERY- (341 Hill) He wanted to thank Officer Laporte for the work he did on the blight survey.

He stated that he thought when you own property you can do with it as you wish as long as you have the permits.

He then wanted to thank the Mayor and Councilmember Woods on their service and wish them well. Lastly he stated that if you don't live here then don't comment on how to run the town.

MANAGER'S COMMENTS:

City Manager, Patrick Burtch stated that the City waited a bit with the demolitions in order to bid them together in larger packages to keep the costs down. He said it was a $70,000 savings by bidding them in larger packages. He also wanted to recognize all the volunteers that helped with the leaf pickup.

He wanted to say "so long" to Marty and Michelle and he thanked them for their service.

He said it has been challenging, but the wealth of knowledge with the combined effort of the Council was pretty substantial. He said some decisions that are made are difficult to articulate. He said sometimes it is very difficult to explain the decisions you make because they are extremely complicated.

He then said he looks forward to working with the next Council.

SPECIAL TRIBUTE TO:

MICHELLE WOODS, FIRST WARD COUNCILMEMBER, for her dedicated service to the citizens of Jackson.

City Manager, Patrick Burtch awarded Councilmember Woods with a plaque recognizing her service to the City of Jackson.

CITY COUNCILMEMBERS' COMMENTS:

Councilmember Woods- She wanted to thank everyone for voting for her. She said she was able to achieve a few things that she wanted to. She wanted to congratulate Arlene and Jason again, and said she will be in the audience.

Councilmember Jaquish- She wanted to tell everyone "Happy Thanksgiving". She also wanted to wish Marty and Michelle "good luck" and she said it was nice working with them.

Councilmember Greer- He said "Happy Thanksgiving" to everyone. He said he was stirred by the 50th anniversary of the assassination of former President John F. Kennedy. He said we should review his poignant words and be inspired by him once again.

He said congratulations to the Mayor on his many years of service, and then wished him well. He then told Michelle she did a great job and he wished her well going forward.

Councilmember Schlecte-She said "Happy Thanksgiving and thanks for your service".

She also said there was a Turkey Trot at the YMCA on Thursday at 9 o'clock.

Councilmember Frounfelker- He wanted to thank Michelle for her service. He said "Happy Thanksgiving" and then he thanked the Mayor for his service.

Councilmember Dobies- He wanted to thank Shane Laporte for his presentation. He wanted to thank Lucy, the staff, and citizens (especially Bruce Rockwell) for coming to the drop off sites to help with the leaf pickup. He said it was a great short-term fix as they worked on a long-term solution.

He thanked Michael and Ms. Pauli for being solution seekers in our community. He thanked Michelle Woods for spear-heading that project.

He wanted to point out the City employees who regularly attend meetings. He thanked them for coming to show their support. He said it shows the level of commitment that staff has to what the City is doing, but it also shows the level of respect that people have for the Mayor. He thanked the Mayor and Michelle for all that they do.

Mayor Griffin- He wanted to thank the City staff especially the NEO department and Kelli Hoover of Parks & Recreation. He said they have taken on everything that has been dumped on them without complaining. He said it is only going to get tougher. He said the City is going to have to continue to do more with less and less employees. He said the employees that are present have stepped up to the challenge and he appreciates all that they have done.

ADJOURNMENT:

No further business being presented, a motion was made by Councilmember Woods to adjourn the meeting. The motion was adopted by unanimous voice vote and the meeting adjourned at 8:47 p.m.

Andrew J. Wrozek Jr.
City Treasurer/Clerk

AJW/car

Andrew J. Wrozek, Jr.
City Treasurer/City Clerk
161 W. Michigan Avenue - Jackson, MI 49201
Treasurer (517)788-4043 • Income Tax Office (517)788-4044 • Clerk (517) 788-4025

JACKSON CITY COUNCIL MEETING

MINUTES

December 3, 2013

CALL TO ORDER:

The Jackson City Council met in regular session in City Hall and was called to order at 6:30 p.m. by Mayor Jason C. Smith.

PLEDGE OF ALLEGIANCE-INVOCATION:

The Council joined in the pledge of allegiance. The invocation was given by Reverend Kerry Snyder, First Congregational Church UCC.

ROLL CALL:

Present: Mayor Jason C. Smith, Councilmembers Arlene Robinson, Kimberly Jaquish, Daniel P. Greer, Laura Dwyer Schlecte, Andrew R. Frounfelker and Derek J. Dobies—7. Absent—0.

Also present: City Manager Patrick Burtch, Interim City Attorney Bethany Smith, Chief of Police Matt Heins, City Assessor David Taylor, City Engineer Jon Dowling, and City Clerk/Treasurer Andrew J. Wrozek, Jr.

AGENDA:

Motion was made by Councilmember Frounfelker and seconded by Councilmember Schlecte to adopt the agenda. The motion was adopted by the following vote. Yeas: Mayor Smith, and Councilmembers Robinson, Jaquish, Greer, Schlecte, Frounfelker and Dobies—7. Nays: 0. Absent: 0.

CITIZEN COMMENTS.

None.

THE CITY CLERK WILL ADMINISTER THE OATHS OF OFFICE.

A. FIFTH WARD, ANDREW R. FROUNFELKER
B. THIRD WARD, DANIEL P. GREER

C. **FIRST WARD, ARLENE ROBINSON**
D. **MAYOR JASON C. SMITH**

The City Clerk administered the oath of office to each official.

SELECTION OF VICE MAYOR.

Motion was made by Councilmember Frounfelker and seconded by Councilmember Dobies to elect Derek Dobies as Vice Mayor for the next term. The motion was adopted by the following vote. Yeas: Mayor Smith and Councilmembers Greer, Schlecte, Frounfelker and Dobies—5 Nays: Councilmembers Robinson and Jaquish—2. Absent: 0.

SELECTION OF PARLIAMENTARIAN.

Motion was made by Councilmember Greer and seconded by Councilmember Dobies to select City Clerk Mr. Wrozek as the Parliamentarian. The motion was adopted by the following vote. Yeas: Mayor Smith and Councilmembers Robinson, Jaquish, Greer, Schlecte, Frounfelker and Dobies—7. Nays: 0. Absent: 0.

ADJOURNMENT:

No further business being presented, a motion was made by Councilmember Greer to adjourn the meeting. The motion was adopted by unanimous voice vote and the meeting adjourned at 6:52 p.m.

Andrew J. Wrozek Jr.
City Treasurer/Clerk

AJW/car

Neighborhood & Economic Operations
Building a Stronger Jackson

161 W. Michigan Avenue • Jackson, MI 49201-1303• Facsimile (517) 780-4781

Building Inspection (517) 788-4012 | Code Enforcement (517) 788-4060 | Engineering (517) 788-4160 | Planning & Economic Development (517) 768-6433

CITY COUNCIL MEETING
December 17, 2013

TO: Honorable Mayor and City Councilmembers

FROM: **Patrick H. Burtch, City Manager**

SUBJECT: **CDBG and HOME Financial Summaries through November 30, 2013**

RECOMMENDATION

To accept and place on file the CDBG and HOME Financial Summaries through November 30, 2013.

Attached please find the Financial Summaries for the CDBG and HOME funds for the five months ended November 30, 2013.

Cc: Heather Soat, Accounting Manager
Michelle Pultz-Orthaus, Records Management Coordinator

City of Jackson
Community Development Block Grant
Monthly Financial Summary
For the Five Months Ended November 30, 2013

		Budgeted	Expended Prior Year	Actual Month-to-Date	Actual Year-to-Date	Total Funds Expended-to-Date	Balance	Percent Spent
	Public Services							
1	King Center Summer Program	45,500	-	37,103	37,103	37,103	8,397	81.5%
2	Transportation Services (FY 2012/2013)	7,000	909	-	1,671	2,580	4,420	36.9%
	Administration							
3	Administration & Planning							
	FY 2012/2013	215,000	31,000	18,767	70,261	101,261	113,739	47.1%
	FY 2013/2014	71,700	-	-	-	-	71,700	0.0%
	Code Enforcement							
4	City Code Enforcement - Inspection							
	FY 2012/2013	535,000	345,217	32,528	105,575	450,792	84,208	84.3%
	FY 2013/2014	258,220	-	-	-	-	258,220	0.0%
5	City Code Enforcement - Rehabilitation	163,780	-	5,867	31,714	31,714	132,066	19.4%
6	City Attorney Office							
	FY 2012/2013	52,000	14,321	1,026	5,616	19,937	32,063	38.3%
	FY 2013/2014	20,000	-	-	-	-	20,000	0.0%
	Housing Rehabilitation Projects							
7	City Rehabilitation	325,358	-	-	2,100	2,100	323,258	0.6%
8	City Emergency Hazard Repair Program							
	FY 2012/2013	104,000	97,375	-	6,625	104,000	-	100.0%
	FY 2013/2014	125,000	-	714	32,879	32,879	92,121	26.3%
9	City Housing Initiative	92,846	-	25	2,829	2,829	90,017	3.0%
10	City Rehab Administration (Denied Loans)							
	FY 2010/2011	1,000	670	106	330	1,000	-	100.0%
	FY 2012/2013	1,000	-	429	429	429	571	42.9%
	FY 2013/2014	1,000	-	-	-	-	1,000	0.0%
11	John George Home - building repairs	20,600	-	-	-	-	20,600	0.0%
	Street Projects							
12	Forest - Bend to Edgewood (FY 2011/2012)	106,000	62,494	-	-	62,494	43,506	59.0%
13	Homewild - Ellery to Edgewood (FY 2011/2012)	119,000	83,525	-	-	83,525	35,475	70.2%
14	Special Assessments (FY 2011/2012)	25,000	-	-	-	-	25,000	0.0%

		Budgeted	Expended Prior Year	Actual Month-to-Date	Actual Year-to-Date	Total Funds Expended-to-Date	Balance	Percent Spent
	Other Projects							
15	Sidewalk Replacement							
	FY 2012/2013	5,000	-	-	-	-	5,000	0.0%
16	Public Works - curb ramps							
	FY 2011/2012	10,000	4,832	-	-	4,832	5,168	48.3%
	FY 2012/2013	10,000	-	-	-	-	10,000	0.0%
	FY 2013/2014	40,000	-	-	-	-	40,000	0.0%
17	Tree Removal/Replacement	60,000	-	-	-	-	60,000	0.0%
18	Park Improvements	243,357	-	-	-	-	243,357	0.0%
	Public Improvements							
19	Demolition - Neighborhood Economic Stabilization							
	FY 2012/2013	494,924	304,560	-	1,800	306,360	188,564	61.9%
	FY 2013/2014	155,000	-	-	-	-	155,000	0.0%
20	Residential Historic Preservation	22,000	-	-	-	-	22,000	0.0%

NOTE: All funds are FY 2013/2014 allocations unless otherwise indicated

City of Jackson
HOME
Monthly Financial Summary
For the Five Months Ended November 30, 2013

	Budgeted	Expended Prior Year	Actual Month-to-Date	Actual Year-to-Date	Total Funds Expended-to-Date	Balance	Percent Spent
1 Rehabilitation Assistance Program							
FY 2012/2013	184,391	64,365	450	510	64,875	119,516	35.2%
2 HOME Administration							
FY 2012/2013	25,500	-	-	25,500	25,500	-	100.0%
FY 2013/2014	25,400	-	-	-	-	25,400	0.0%
3 JAHC - Downpayment Assistance							
FY 2010/2011	48,272	34,821	-	4,500	39,321	8,951	81.5%
4 CAA - CHDO Operting Expenses							
FY 2011/2012	16,000	9,575	-	-	9,575	6,425	59.8%
FY 2012/2013	12,500	-	-	-	-	12,500	0.0%
FY 2013/2014	12,500	-	-	-	-	12,500	0.0%
5 CAA - CHDO Acq/Rehab/Resale (FY 2011/2012)							
FY 2011/2012	53,250	-	-	1,391	1,391	51,859	2.6%
FY 2012/2013	40,000	-	-	-	-	40,000	0.0%
FY 2013/2014	40,000	-	-	-	-	40,000	0.0%
6 City - Acq/Rehab/Resale (FY 2011/2012)							
FY 2011/2012	240,000	236,899	-	3,101	240,000	-	100.0%
FY 2013/2014	177,361	-	7,500	18,884	18,884	158,477	10.6%

Arlene Robinson

159 Randolph Street

Jackson, MI 49203

December 13, 2013

Honorable Mayor Smith and City Manager Patrick Burtch

161 W. Michigan Avenue

Jackson, Michigan 49201

Please accept this letter as my official resignation from the Income Tax Board of Review, effective immediately.

With my resent election to the First Ward City Councilmember, I must tender my resignation as a City of Jackson Income Tax Board of Review Member.

Sincerely,

Arlene Robinson

Cc: Jackson City Councilmembers and Sharon Hasen

City Clerk's Office

161 W. Michigan Avenue - Jackson, MI 49201
Telephone: (517) 788-4025 — Facsimile: (866) 971-2147

CITY COUNCIL MEETING
December 17, 2013

MEMO TO: Honorable Mayor and City Councilmembers

FROM: Andrew J. Wrozek, Jr., City Clerk/Treasurer

SUBJECT: Confirmation of Special Assessment Roll Nos. 4232-4237

RECOMMENDATION:

Recess as City Council and convene as a Board of Review.

A. **Public Hearing on Special Assessment Roll No. 4232 Delinquent Miscellaneous General Fund Accounts Receivable**

   1. **Resolution Confirming Roll No. 4232**

B. **Public Hearing on Special Assessment Roll No. 4233 Delinquent Miscellaneous Housing Code Enforcement Fund Accounts Receivable**

   1. **Resolution Confirming Roll No. 4233**

C. **Public Hearing on Special Assessment Roll No. 4234 Delinquent Miscellaneous Building Demolition Fund Accounts Receivable**

   1. **Resolution Confirming Roll No. 4234**

D. **Public Hearing on Special Assessment Roll No. 4235 Delinquent Miscellaneous CDBG Fund Accounts Receivable**

   1. **Resolution Confirming Roll No. 4235**

E. **Public Hearing on Special Assessment Roll No. 4236 Delinquent Miscellaneous Wastewater Fund Accounts Receivable**

   1. **Resolution Confirming Roll No. 4236**

F. **Public Hearing on Special Assessment Roll No. 4237 Delinquent Miscellaneous Public Works Fund Accounts Receivable**

1. **Resolution Confirming Roll No. 4237**

Adjourn as a Board of Review and Reconvene as City Council.

Public hearings were established at the City Council's November 26th meeting for December 17, 2013. The required notice was published in the Jackson Citizen Patriot and a notification letter was sent to each property owner included on the rolls. Recommended action is to adopt the resolutions after the public hearings are held.

C: Patrick Burtch, City Manager

RESOLUTION

BY THE BOARD OF REVIEW:

WHEREAS, the Assessor, in accordance with the direction of the City Council, did make assessments for delinquent miscellaneous General Fund accounts receivable which assessments were by him placed on Assessment Roll No. 4232 in the amount of $*** and were reported to the City Council at its regular meeting held on the 26th day of November, 2013; and

WHEREAS, notice has been duly given that the City Council and Assessor will sit as a Board of Review in the Council Chambers in the City of Jackson on Tuesday, the 17th day of December, 2013, at 6:30 p.m. and hear any and all objections and suggestions by interested parties to said special assessments as contained in said Assessment Roll, and the matter of said review having come on to be heard and the City Council and Assessor sitting as a Board of Review having heard all objections and suggestions made thereto and having fully considered same;

NOW, THEREFORE, BE IT RESOLVED, that each and all of the assessments as contained in said roll are hereby confirmed and made valid liens against the property and valid claims against the owners thereof, and the City Clerk is hereby directed to make certificates of this determination and attach the same to said roll and to present said roll to the City Treasurer for collection; and

BE IT FURTHER RESOLVED, that payment of each individual assessment shall be due and payable sixty (60) days after approval of this resolution.

* * * * *

State of Michigan)
County of Jackson) ss
City of Jackson)

I, Andrew J. Wrozek, Jr., City Clerk in and for the City of Jackson, County and State aforesaid, do hereby certify that the foregoing is a true and complete copy of a resolution adopted by the Jackson City Council sitting as a Board of Review on the 17th day of December, 2013.

IN WITNESS WHEREOF, I have hereto affixed my signature and the Seal of the City of Jackson, Michigan, on this 18th day of December, 2013.

_____

Andrew J. Wrozek, Jr., City Clerk

RESOLUTION

BY THE BOARD OF REVIEW:

WHEREAS, the Assessor, in accordance with the direction of the City Council, did make assessments for delinquent miscellaneous Housing Code Enforcement Fund accounts receivable which assessments were by him placed on Assessment Roll No. 4233 in the amount of $*** and were reported to the City Council at its regular meeting held on the 26th day of November, 2013; and

WHEREAS, notice has been duly given that the City Council and Assessor will sit as a Board of Review in the Council Chambers in the City of Jackson on Tuesday, the 17th day of December, 2013, at 6:30 p.m. and hear any and all objections and suggestions by interested parties to said special assessments as contained in said Assessment Roll, and the matter of said review having come on to be heard and the City Council and Assessor sitting as a Board of Review having heard all objections and suggestions made thereto and having fully considered same;

NOW, THEREFORE, BE IT RESOLVED, that each and all of the assessments as contained in said roll are hereby confirmed and made valid liens against the property and valid claims against the owners thereof, and the City Clerk is hereby directed to make certificates of this determination and attach the same to said roll and to present said roll to the City Treasurer for collection; and

BE IT FURTHER RESOLVED, that payment of each individual assessment shall be due and payable sixty (60) days after approval of this resolution.

* * * * *

State of Michigan)
County of Jackson) ss
City of Jackson)

I, Andrew J. Wrozek Jr., City Clerk in and for the City of Jackson, County and State aforesaid, do hereby certify that the foregoing is a true and complete copy of a resolution adopted by the Jackson City Council sitting as a Board of Review on the 17th day of December, 2013.

IN WITNESS WHEREOF, I have hereto affixed my signature and the Seal of the City of Jackson, Michigan, on this 18th day of December, 2013.

_____
Andrew J. Wrozek Jr., City Clerk

RESOLUTION

BY THE BOARD OF REVIEW:

WHEREAS, the Assessor, in accordance with the direction of the City Council, did make assessments for delinquent miscellaneous Building Demolition Fund accounts receivable which assessments were by him placed on Assessment Roll No. 4234 in the amount of $*** and were reported to the City Council at its regular meeting held on the 26th day of November, 2013; and

WHEREAS, notice has been duly given that the City Council and Assessor will sit as a Board of Review in the Council Chambers in the City of Jackson on Tuesday, the 17th day of December, 2013, at 6:30 p.m. and hear any and all objections and suggestions by interested parties to said special assessments as contained in said Assessment Roll, and the matter of said review having come on to be heard and the City Council and Assessor sitting as a Board of Review having heard all objections and suggestions made thereto and having fully considered same;

NOW, THEREFORE, BE IT RESOLVED, that each and all of the assessments as contained in said roll are hereby confirmed and made valid liens against the property and valid claims against the owners thereof, and the City Clerk is hereby directed to make certificates of this determination and attach the same to said roll and to present said roll to the City Treasurer for collection; and

BE IT FURTHER RESOLVED, that payment of each individual assessment shall be due and payable sixty (60) days after approval of this resolution.

* * * * *

State of Michigan)
County of Jackson) ss
City of Jackson)

I, Andrew J. Wrozek Jr., City Clerk in and for the City of Jackson, County and State aforesaid, do hereby certify that the foregoing is a true and complete copy of a resolution adopted by the Jackson City Council sitting as a Board of Review on the 17th day of December, 2013.

IN WITNESS WHEREOF, I have hereto affixed my signature and the Seal of the City of Jackson, Michigan, on this 18th day of December, 2013.

_____

Andrew J. Wrozek Jr., City Clerk

RESOLUTION

BY THE BOARD OF REVIEW:

WHEREAS, the Assessor, in accordance with the direction of the City Council, did make assessments for delinquent miscellaneous CDBG Fund accounts receivable which assessments were by him placed on Assessment Roll No. 4235 in the amount of $*** and were reported to the City Council at its regular meeting held on the 26th day of November, 2013; and

WHEREAS, notice has been duly given that the City Council and Assessor will sit as a Board of Review in the Council Chambers in the City of Jackson on Tuesday, the 17th day of December, 2013, at 6:30 p.m. and hear any and all objections and suggestions by interested parties to said special assessments as contained in said Assessment Roll, and the matter of said review having come on to be heard and the City Council and Assessor sitting as a Board of Review having heard all objections and suggestions made thereto and having fully considered same;

NOW, THEREFORE, BE IT RESOLVED, that each and all of the assessments as contained in said roll are hereby confirmed and made valid liens against the property and valid claims against the owners thereof, and the City Clerk is hereby directed to make certificates of this determination and attach the same to said roll and to present said roll to the City Treasurer for collection; and

BE IT FURTHER RESOLVED, that payment of each individual assessment shall be due and payable sixty (60) days after approval of this resolution.

* * * * *

State of Michigan)
County of Jackson) ss
City of Jackson)

I, Andrew J. Wrozek Jr., City Clerk in and for the City of Jackson, County and State aforesaid, do hereby certify that the foregoing is a true and complete copy of a resolution adopted by the Jackson City Council sitting as a Board of Review on the 17th day of December, 2013.

IN WITNESS WHEREOF, I have hereto affixed my signature and the Seal of the City of Jackson, Michigan, on this 18th day of December, 2013.

_____

Andrew J. Wrozek Jr., City Clerk

RESOLUTION

BY THE BOARD OF REVIEW:

WHEREAS, the Assessor, in accordance with the direction of the City Council, did make assessments for delinquent miscellaneous Waste Water Fund accounts receivable which assessments were by him placed on Assessment Roll No. 4236 in the amount of $*** and were reported to the City Council at its regular meeting held on the 26th day of Novemher, 2013; and

WHEREAS, notice has been duly given that the City Council and Assessor will sit as a Board of Review in the Council Chambers in the City of Jackson on Tuesday, the 17th day of December, 2013, at 6:30 p.m. and hear any and all objections and suggestions by interested parties to said special assessments as contained in said Assessment Roll, and the matter of said review having come on to be heard and the City Council and Assessor sitting as a Board of Review having heard all objections and suggestions made thereto and having fully considered same;

NOW, THEREFORE, BE IT RESOLVED, that each and all of the assessments as contained in said roll are hereby confirmed and made valid liens against the property and valid claims against the owners thereof, and the City Clerk is hereby directed to make certificates of this determination and attach the same to said roll and to present said roll to the City Treasurer for collection; and

BE IT FURTHER RESOLVED, that payment of each individual assessment shall be due and payable sixty (60) days after approval of this resolution.

* * * * *

State of Michigan)
County of Jackson) ss
City of Jackson)

I, Andrew J. Wrozek Jr., City Clerk in and for the City of Jackson, County and State aforesaid, do hereby certify that the foregoing is a true and complete copy of a resolution adopted by the Jackson City Council sitting as a Board of Review on the 17th day of December, 2013.

IN WITNESS WHEREOF, I have hereto affixed my signature and the Seal of the City of Jackson, Michigan, on this 18th day of December, 2013.

_____

Andrew J. Wrozek Jr., City Clerk

RESOLUTION

BY THE BOARD OF REVIEW:

WHEREAS, the Assessor, in accordance with the direction of the City Council, did make assessments for delinquent miscellaneous Public Works Fund accounts receivable which assessments were by him placed on Assessment Roll No. 4237 in the amount of $*** and were reported to the City Council at its regular meeting held on the 26th day of November, 2013; and

WHEREAS, notice has been duly given that the City Council and Assessor will sit as a Board of Review in the Council Chambers in the City of Jackson on Tuesday, the 17th day of December, 2013, at 6:30 p.m. and hear any and all objections and suggestions by interested parties to said special assessments as contained in said Assessment Roll, and the matter of said review having come on to be heard and the City Council and Assessor sitting as a Board of Review having heard all objections and suggestions made thereto and having fully considered same;

NOW, THEREFORE, BE IT RESOLVED, that each and all of the assessments as contained in said roll are hereby confirmed and made valid liens against the property and valid claims against the owners thereof, and the City Clerk is hereby directed to make certificates of this determination and attach the same to said roll and to present said roll to the City Treasurer for collection; and

BE IT FURTHER RESOLVED, that payment of each individual assessment shall be due and payable sixty (60) days after approval of this resolution.

* * * * *

State of Michigan)
County of Jackson) ss
City of Jackson)

I, Andrew J. Wrozek Jr., City Clerk in and for the City of Jackson, County and State aforesaid, do hereby certify that the foregoing is a true and complete copy of a resolution adopted by the Jackson City Council sitting as a Board of Review on the 17th day of December, 2013.

IN WITNESS WHEREOF, I have hereto affixed my signature and the Seal of the City of Jackson, Michigan, on this 18th day of December, 2013.

_____
Andrew J. Wrozek Jr., City Clerk

City Clerk's Office

161 W. Michigan Avenue - Jackson, MI 49201
Telephone: (517) 788-4025 — Facsimile: (866) 971-2147

CITY COUNCIL MEETING
December 17, 2013

MEMO TO: **Honorable Mayor and City Councilmembers**

FROM: **Andrew J. Wrozek, Jr., City Clerk/Treasurer** Andrew J. Wrozek Jr.

SUBJECT: **Confirmation of Special Assessment Roll No. 3375**

Recess as a City Council and convene as a Board of Review

A. Public hearing on Special Assessment Roll No. 3375 for street construction on Webster Street from Oakdale Avenue to Elmwood Avenue.

1. Resolution confirming Roll No. 3375

Adjourn as a Board of Review and reconvene as City Council

A public hearing was established at the City Council's November 26th meeting for December 17, 2013. The required notice was published in the Jackson Citizen Patriot and a notification letter was sent to each property owner included in the rolls. Recommended action is to adopt the resolution after the public hearing is held.

Thank you.

C: Patrick Burtch, City Manager

RESOLUTION
STREET CONSTRUCTION

BY THE BOARD OF REVIEW:

WHEREAS, the Assessor, in accordance with the direction of the City Council, did prepare special assessments concerning street construction on Webster Street from Oakdale Avenue to Elmwood Avenue which assessments were by him placed on Assessment Roll No. 3375 in the amount of $54,698.52 and reported to the City Council at its meeting held on the 26th day of November, 2013; and

WHEREAS, notice has been duly given that the City Council and Assessor would sit as a Board of Review in the Council Chambers in the City of Jackson on Tuesday, the 17th day of December, 2013, at 6:30 p.m. to hear any and all objections and suggestions by interested parties to said special assessments as contained in said roll; and

WHEREAS, the matter of said review having come on to be heard and the City Council and Assessor sitting as a Board of Review having heard all suggestions and objections made thereto and having fully considered the same;

NOW, THEREFORE, BE IT RESOLVED, that each and all of the special assessments as contained in said roll are hereby confirmed and made valid liens against the property and valid claims against the owners thereof, and the City Clerk is hereby directed to make certificates of this determination and attach the same to said roll and to turn said roll over to the City Treasurer for collection; and

BE IT FURTHER RESOLVED that each and all of the special assessments contained in Roll No. 3375 shall be divided into eleven (11) equal installments, the first of which shall be payable by May 31, 2014 without interest charge; and the remaining installments, plus a 3.75% annual interest charge on each installment, shall be due annually on May 31st of each subsequent year until each of the special assessments has been paid in full; provided, however, that in the event the City issues bonds in anticipation of special assessments, the unpaid balance of said special assessments shall, in accordance with Section 22-9 of the Jackson City Code of Ordinances, bear a rate of interest which shall be one percent (1%) above the average interest cost of said special assessment bonds.

BE IT FURTHER RESOLVED that the unpaid balance of any special assessment, including pro rata interest charges, may be paid in full at any time and that each and any special assessment may be paid without interest if payment in full is made prior to May 31, 2014.

* * * * *

State of Michigan)
County of Jackson) ss
City of Jackson)

I, Andrew J. Wrozek, Jr., City Clerk in and for the City of Jackson, County and State aforesaid, do hereby certify that the foregoing is a true and complete copy of a resolution adopted by the Jackson City Council sitting as a Board of Review on the 17th day of December, 2013.

IN WITNESS WHEREOF, I have hereto affixed my signature and the Seal of the City of Jackson, Michigan, on this 18th day of December, 2013.

_____
Andrew J. Wrozek, Jr., City Clerk

City Clerk's Office

161 W. Michigan Avenue - Jackson, MI 49201
Telephone: (517) 788-4025 — Facsimile: (866) 971-2147

CITY COUNCIL MEETING
December 17, 2013

MEMO TO: **Honorable Mayor and City Councilmembers**

FROM: **Andrew J. Wrozek, Jr., City Clerk/Treasurer** Andrew J. Wrozek Jr.

SUBJECT: **Resolution for 2014 City Council Meeting Dates**

RECOMMENDATION:

Consideration of a Resolution that serves as the calendar for the regularly scheduled City Council meeting dates for 2014.

Attached please find a resolution for the regular City Council meeting schedule for 2014.

Requested action is to adopt the resolution.

C: Patrick Burtch, City Manager

RESOLUTION

BY THE CITY COUNCIL:

WHEREAS, Act 267 of 1976 as last amended (the Open Meetings Act) requires all public bodies to establish a schedule of regular meetings to be held each year.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Jackson, Michigan hereby declares that it will meet in the Council Chambers on the second floor of City Hall, 161 West Michigan Avenue, Jackson, Michigan during 2014 on the following dates:

January 14	July 15
January 28	
February 11	August 12
February 25	
March 11	September 9
March 25	September 23
April 8	October 14
April 22	October 28
May 13	November 18
May 27	November 25
June 10	December 2
June 24	December 16

* * * * *

State of Michigan)
County of Jackson)ss
City of Jackson)

I, Andrew J. Wrozek, Jr., City Clerk in and for the City of Jackson, County and State aforesaid, do hereby certify that the foregoing is a true and complete copy of a resolution adopted by the Jackson City Council on December 17, 2013.

IN WITNESS WHEREOF, I have hereto affixed my signature and the Seal of the City of Jackson, Michigan, on the 18th day of December, 2013.

_____City Clerk

Calendar for year 2014 (United States)

January

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

1:● 7:◐ 15:○ 24:◑ 30:●

February

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

6:◐ 14:○ 22:◑

March

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

1:● 8:◐ 16:○ 23:◑ 30:●

April

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

7:◐ 15:○ 22:◑ 29:●

May

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

6:◐ 14:○ 21:◑ 28:●

June

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

5:◐ 13:○ 19:◑ 27:●

July

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

5:◐ 12:○ 18:◑ 26:●

August

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

3:◐ 10:○ 17:◑ 25:●

September

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

2:◐ 8:○ 15:◑ 24:●

October

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

1:◐ 8:○ 15:◑ 23:● 30:◐

November

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

6:○ 14:◑ 22:● 29:◐

December

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

6:○ 14:◑ 21:● 28:◐

Holidays and Observances:

Holidays and Observances:

Jan 1	New Year's Day	Jul 4	Independence Day
Jan 20	Martin Luther King Day	Sep 1	Labor Day
Feb 14	Valentine's Day	Oct 13	Columbus Day (Most regions)
Feb 17	Presidents' Day	Oct 31	Halloween
Apr 13	Thomas Jefferson's Birthday	Nov 11	Veterans Day
Apr 20	Easter Sunday	Nov 27	Thanksgiving Day
May 11	Mothers' Day	Dec 24	Christmas Eve
May 26	Memorial Day	Dec 25	Christmas Day
Jun 15	Fathers' Day	Dec 31	New Year's Eve

Calendar generated on www.timeanddate.com/calendar

City Clerk's Office

161 W. Michigan Avenue - Jackson, MI 49201
Telephone: (517) 788-4025 — Facsimile: (866) 971-2147

CITY COUNCIL MEETING
December 17, 2013

MEMO TO: **Honorable Mayor and City Councilmembers**

FROM: **Andrew J. Wrozek, Jr., City Clerk/Treasurer**
Carmen Ryan, Records & Elections Coordinator

SUBJECT: **Resolution Establishing Receiving Boards for Elections held in the City in 2014**

RECOMMENDATION:

Consider a Resolution establishing Receiving Boards for Elections held in the City in 2014

Attached please find a resolution approving the use of receiving boards at elections held in the City on February 25, August 5 and November 4, 2014, and any additional dates as needed.

A receiving board is a group of officials assigned to review documents completed by the election inspectors on Election Day and after the polls are closed. Once it is determined that all election workers have properly completed the Poll Book and the Statement of Votes, seals have been correctly placed and recorded, the documents can then be sealed in the appropriate envelopes. One set of documents is retained in the City Clerk's office and two sets are delivered to the County Clerk and the appropriate Board of Canvassers.

The City receiving board will be comprised of the City Clerk's office staff and additional election workers as needed. As required by law, both political parties will be represented. The Michigan Bureau of Elections recommends that a resolution approving the use of receiving boards be adopted by the local legislative body each year.

Requested action is to adopt the resolution, in accordance with the recommendation of the City Clerk.

C: Patrick Burtch, City Manager

RESOLUTION

BY THE CITY COUNCIL:

WHEREAS, Michigan State Election Law Section 168.679 (a) provides for the establishment of receiving boards at each election and requires the adoption of a resolution by the local legislative body approving their establishment; and

WHEREAS, Michigan State Law Section 168.679 (a) further provides for the appointment and duties of inspectors serving on these receiving boards; and

WHEREAS, the City Clerk believes a receiving board is advantageous in assuring that election documents are properly completed and sealed and wishes to use a receiving board at the elections to be held in the City of Jackson on February 25, August 5, and November 4, 2014, and on any additional dates as needed.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Jackson, Michigan, hereby approves the use of receiving boards at the elections to be held on February 25, August 5 and November 4, 2014, and on any additional dates as needed.

* * * * *

State of Michigan)
County of Jackson) ss
City of Jackson)

I, Andrew J. Wrozek, Jr., City Clerk in and for the City of Jackson, County and State aforesaid, do hereby certify that the foregoing is a true and complete copy of a resolution adopted by the Jackson City Council on the 17th day of December 2013.

IN WITNESS WHEREOF, I have hereto affixed my signature and the Seal of the City of Jackson, Michigan on this 18th day of December, 2013.

_____ City Clerk

Office of the Mayor

161 W. Michigan Avenue - Jackson, MI 49201
Telephone: (517) 788-4028 — Facsimile: (517) 768-5820

CITY COUNCIL MEETING
December 17, 2013

MEMO TO: City Councilmembers

FROM: Jason C. Smith, Mayor JCS

DATE: December 4, 2013

SUBJECT: Historic District Commission Appointment

RECOMMENDATION:

Approve the Mayor's recommendation to appoint Lynn Fessel to the Historic District Commission for a three year term beginning January 1, 2014, and ending December 31, 2016.

In accordance City Code, Sec. 13-5, MCL 399.204, the Mayor appoints, subject to City Council confirmation, seven City residents for three-year terms. Mayor shall consult with chair of the Historic District Commission and appoint at least two members from a list of citizens submitted by a duly organized and existing local historical and/or preservation society(s) and, if available, one architect or a graduate of an accredited school of architecture who has two years of architecture experience or who is an architect registered in this state.

Therefore, it is my recommendation to appoint Lynn Fessel to the Historic District Commission to fill the seat of Charles Aronheim, upon the expiration of the term ending December 31, 2013, to a new three year term beginning January 1, 2014, and ending December 31, 2016.

JCS:skh

Enclosures

City of Jackson Board/Commission Application

Name: Lynn Fessel

Address: 3203 Creglow Drive Zip: 49203

Home Phone: (517) 789-8368 Other Phone: (517) 395-7347

Occupation: Retired

Community Involvement/Activity

Past board member of Big Brothers/Big Sisters & Art & Cultural Alliance

Are you a registered voter? Yes Ward? 6

Which Board or Commission(s) are you interested in?

1. City Planning Commission 2. Civil Service

3. Zoning Bd of Appeals 4. Historic District Commission

5. Parks & Rec / Shaw Park Bd.

List additional information you feel may be pertinent to board or commission

39+ years employee of the City of Jackson

Feel free to attach any information. (Resume, press clippings)

APPLICATION WILL BE KEPT ON FILE FOR ONE YEAR

Lynn Fessel 12/1/13

Signature of Applicant Date

Please return to Mayor's Office, City of Jackson, 161 W. Michigan Avenue, Jackson, MI 49201

CITY OF JACKSON
MICHIGAN

Office of Mayor
Jason C. Smith

161 W. Michigan Ave.
Jackson, MI 49201
Phone: (517) 788-4028
Facsimile (866) 384-1772

CITY COUNCIL MEETING
December 17, 2013

MEMO TO: City Councilmembers

FROM: Jason C. Smith, Mayor

DATE: December 4, 2013

SUBJECT: Appointment of Mayor to Various Boards and Commissions

It is my desire to serve on the various Boards and Commissions that former Mayor Griffin had served on, as well as to reappoint Councilmembers to Boards and Commissions where their term ends November 30, 2013:

TERM ENDING	
	JACTS POLICY COMMITTEE
	Mayor Jason C. Smith
	LOCAL DEVELOPMENT FINANCE AUTHORITY
6/03/14	Mayor Jason C. Smith
	REGION 2 PLANNING COMMISSION
11/30/16	Laura Schlecte (Councilmember)
	EMERGENCY MANAGEMENT ADVISORY COUNCIL
11/30/15	Arlene Robinson

The following are boards and commissions the Mayor serves on by virtue of the office with a term end date of November 30, 2015:

City Employees Retirement Board of Trustees
City Planning Commission
Downtown Development Authority
Police & Fire Pension Board of Trustees – Original Charter Plan
Police & Fire Pension Board of Trustees – Act 345

JCS:skh

Bethany M. Smith
Interim City Attorney

Gilbert W. Carlson
Assistant City Attorney

Kevin A. Rogers
Staff Attorney

Robert C. Rottach
Staff Attorney

OFFICE OF THE

CITY ATTORNEY

161 West Michigan Avenue
Jackson, MI 49201
(517) 788-4050
(517) 788-4023
Fax: (866) 971-2117

CITY COUNCIL MEETING
December 17, 2013

MEMO TO: Honorable Mayor and City Councilmembers

FROM: Bethany M. Smith, Interim City Attorney

DATE: December 6, 2013

SUBJECT: Expert Opinion Agreement – *DPC Juniper LLC v. City of Jackson*

RECOMMENDATION: Approve the Expert Opinion Agreement.

The Michigan Tax Tribunal case of *DPC Juniper v. City of Jackson* involves the property tax appeal for the Jackson power plant. Our attorney, Jack VanCoevering, feels it necessary to obtain the services of a cost estimator in order to determine valuation figures for the power plant. He has recommended the cost estimation firm of Cost Plus Consulting. The Agreement requires the City to pay the hourly charges incurred by the experts from Cost Plus Consulting. The hourly fees of the experts who will be assisting the City are contained on Exhibit A of the Agreement. Cost Plus estimates 575 hours will be incurred in the project. The cost will likely be in the range of $100,000.00 to $130,000.00 in total.

The requisite action is to approve the Expert Opinion Agreement, authorize the Mayor to execute the Agreement, authorize the Interim City Attorney to make minor modifications if needed and take all other action necessary to finalize the Expert Opinion Agreement.

If Council has any questions, please contact me.

cc Patrick H. Burtch, City Manager
David Taylor, City Assessor

Expert Opinion Agreement
Between Cost Plus Consulting and Jack Van Coevering and the City of Jackson, Michigan
Regarding
The DPC JUNIPER LLC Generating Facility
Located in
The City of Jackson, Michigan

THIS AGREEMENT is made and entered as of the 25th day of November, 2013, by and among Attorney Jack Van Coevering an attorney (**"Representative-Client"**) representing the City of Jackson, a city organized under the laws of the State of Michigan (hereinafter referred to as **"Client"**), and Cost Plus Consulting LLC a limited liability company organized under the laws of the State of New Jersey (hereinafter referred to as the **"Contractor"**).

The agreement is for the purpose of the Contractor providing consulting and expert opinions and litigation support to the City of Jackson's legal representative, Jack Van Coevering, in a property tax matter involving the DPC Juniper LLC, d/b/a Jackson Power Company Generating Facility in the City of Jackson, Michigan.

WHEREAS, Contractor possesses significant knowledge and has represented to Client that it has expertise respecting combined cycle power plant engineering, cost, scheduling, construction; and

WHEREAS, Clients desires to retain Contractor to provide services in connection with and related to the DPC Juniper Combined Cycle Generating Station project requiring Contractor's knowledge and experience, and Contractor wishes to provide such services to client, upon the terms and subject to the conditions contained herein;

NOW, THEREFORE, for and in consideration of the mutual covenants and agreements herein contained, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. **Engagement and Term.** Subject to the terms and conditions of this Agreement, client hereby engages Contractor to provide the services described in Section 2 below, and Contractor hereby accepts such engagement. During the term of this Agreement, Contractor shall communicate with the specific Clients' representatives responsible for the project for which Contractor is engaged. The term of this Agreement shall commence on December 1, 2013, and shall continue until Clients' requirements are completed. Notwithstanding anything to the contrary herein, the parties hereto have the right to terminate Contractor's engagement for Cause (as defined below) hereunder in accordance with the provisions contained in Section 12 below.

2. **Description of Services.** In consideration for the payment of the Contractor's Fee (as defined in Section 5 below), during the term of this Agreement, Contractor shall provide assistance, advice, documentation and consultation with respect to the constructed value of the DPC Juniper Combined Cycle Generating Station for the tax years of 2013 (tax day Dec. 31, 2012), and 2014 (tax day Dec. 31, 2013), (the **"Services"**). Additional tax years or other services are not covered in this agreement unless the agreement is amended in writing.

3. **Warranty.** Contractor warrants that all Services shall conform to all plans, drawings, documents and specifications that are provided to Contractor by Client. Contractor has the capability, expertise, and

experience to provide the Services pursuant to this Agreement or subsequent updates and is in the business of providing those Services. Contractor will perform all Services in a safe, workmanlike, and efficient manner in full compliance with all valid and acceptable statutes, ordinances, orders, rules, and regulations of the federal, state, and local governments in whose jurisdiction such activities are performed under this Agreement. Contractor warrants that its Services shall be performed and completed in accordance with standard practices agreed upon by the parties or, if not expressly addressed, generally accepted industry standards, practices, and principles applicable to the work.

4. **Place of Performance.** The Services rendered by Contractor pursuant to this Agreement shall be rendered at one or more suitable locations agreed upon by the parties.

5. **Compensation.**

(a) In consideration of Contractor's Services hereunder, Client-City of Jackson shall pay to Contractor in accordance with the Rates set forth as Exhibit A (hereinafter the **"Contractor's Fee"**), payable at the end of each requested assignment or monthly for long term assignments. The Rates shall be effective for the first year of the term of this Agreement and may be adjusted thereafter as the parties deem fit. Contractor shall maintain detailed records of time devoted by its employees, agents and independent contractors providing Services to Representative-Client and Client under this Agreement and submit these records to Clients with each invoice submitted. Within 15 days after the end of each requested assignment or monthly for long term assignments, Contractor shall submit an invoice for the Contractor's Fees as directed by Client-City of Jackson. Client-City of Jackson shall pay all invoices submitted by Contractor for Services within 45 days after the receipt of such invoice and other documentation required to substantiate Contractor's invoice such as timesheets.

(b) Client-City of Jackson shall reimburse Contractor for all expenses reasonably incurred by Contractor or its employees, agents or independent contractors in connection with the performance of Services for such party; provided, however, that Client-City of Jackson shall not be obligated to reimburse Contractor for any expenses incurred by Contractor outside those set forth in Exhibit A nnless Contractor has received prior written approval with respect to such expenditure from Client-City of Jackson. All requests for reimbursement shall be in writing and shall be substantiated by a receipt or some other evidence of the expenditure. All requests for reimbursement shall be submitted to Client-City of Jackson within 15 days after the end of each assignment, or monthly for long term assignments, during the term of this Agreement, and all approved reimbursable expenses shall be reimbursed to Contractor within 45 days after the receipt of each such invoice.

6. **Taxes.** Any and all sales, service, income, withholding and other taxes applicable to any payments made by Client-City of Jackson to Contractor under this Agreement shall be the sole responsibility and liability of Contractor.

7. **Confidentiality.**

The communications with Representative-Client, who is engaging Contractor for the purpose of the property tax litigation matter is subject to Client's attorney-client privilege and may be only waived by Client. Other confidentiality privileges nnder Michigan law also apply. Contractor agrees that its communications with and documents or information from Representative-Client and Client shall be kept confidential and shall not be disclosed to any person without the permission of Representative and Client. Contractor further understands that it may receive personal property tax information and such information is confidential under Michigan law, that this information may only be used for the purpose of the personal property tax appeal and that it may not be disclosed

8. **Ownership of Work.**

All writings, tapes, recordings, computer programs, drawings, blueprints, designs and other works in any tangible medium of expression, regardless of the form, relating to the Services, which are prepared by Contractor, or to which Contractor contributes, in connection with Contractor's performance of the Services for Client hereunder shall at all times remain the property of Representative-Client and Client-City of Jackson and shall be deemed Confidential Information as such term is defined in the Contractor's Confidentiality Agreement if said document is requested by Representative-Client or Client-City of Jackson.

9. **Independent Contractor.** Contractor has been engaged to assist Representative-Client in presenting Client-City of Jackson's interest in a property tax litigation matter and related assessment administration. Contractor's relationship to Client-City of Jackson and Representative-Client hereunder shall be solely that of an independent contractor. Persons retained by Contractor, as employees, agents, or contractors, shall not be deemed to be employees or agents for Client, and Contractor shall be solely and completely responsible for their acts during the existence of this Agreement. Contractor shall not be the agent of Client-City of Jackson and shall have no authority to act on behalf of Clients in any manner except that which is customary in the performance of the Services or to the extent that Clients may expressly agree in writing. Without limiting the generality of the foregoing, under no circumstances shall Contractor have any authority to incur on behalf of Clients any debt, obligation or liability.

10. **Indemnification.** Contractor shall defend, indemnify and hold harmless Clients and its respective officers, employees, agents and affiliates (the **"Indemnitee"**) from and against any and all claims, demands, loss, liability, expense or damage (including attorneys' fees) which any Indemnitee may suffer or incur as a result of or arising out of (a) the non-fulfillment of any of Contractor's obligations hereunder, (b) any action taken by Contractor or under Contractor's supervision resulting in misuse of Confidential Information or injuries to persons or property, or (c) Contractor's malfeasance or negligence. Contractor's obligations under this Section 10 shall survive the expiration or termination of this Agreement for any reason whatsoever.

11. **Insurance.** Contractor agrees to procure and maintain for Clients' benefit the following insurance coverage: (i) Workers' Compensation Insurance in accordance with the laws of the States where the Services shall be performed; (ii) Comprehensive General Liability Insurance of not less than $1,000,000 per occurrence for each of bodily injury and property damage; and (iii) Automobile Liability Insurance of not less than $500,000 for bodily injury and/or property damage per occurrence. Each such policy shall provide that the insurer waives all rights of subrogation against Clients and its employees for any claim that may arise by reason of any payment under such policy and provides at least thirty (30) days prior written notice of any cancellation of a policy. Proof of such insurance coverage shall be provided to Client prior to performing any Services hereunder as requested.

12. **Termination.**

(a) **Termination by Client.** Notwithstanding anything to the contrary herein, Client-City of Jackson may terminate Contractor's engagement under this Agreement with or without cause within five (5) days after written notice from Client to Contractor. Termination by Client-City of Jackson does not affect Client-City of Jackson's responsibility to pay for services rendered.

(b) **Termination by Contractor.** Contractor may terminate its engagement under this Agreement under the completion of its services or if Client-City of Jackson fails to pay Contractor within 45 days after the due date of an invoice pursuant to Section 5, provided that Contractor gives Clients written notice of such failure and such failure is not cured within ten (10) days after such notice.

13. **Survival.** The terms set forth in Sections 3, 7, 8, and 10 of this Agreement, including those of the Contractor's Secrecy Agreement set forth in Section7, shall survive the termination or expiration of this Agreement for any reason whatsoever, and shall remain in full force and effect after such termination in accordance with their respective terms.

14. **Waiver.** No failure on the part of any party hereto to exercise, and no delay by any party hereto in exercising, any right, power or remedy hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any right, power or remedy by any party hereto preclude any other or further exercise thereof or the exercise by such party of any other right, power or remedy. No express waiver or assent by any party hereto of any breach of or default in any term or condition of this Agreement by any other party shall constitute a waiver of or any assent to any succeeding breach of or default in the same or any other term or condition hereof.

15. **Severability.** All rights and restrictions contained in this Agreement may be exercised and shall be applicable and binding only to the extent that they do not violate any applicable laws and are intended to be limited to the extent necessary so that they will not render this Agreement illegal, invalid or unenforceable. If any term of this Agreement shall be held to be illegal, invalid or unenforceable by a court of competent jurisdiction, it is the intention of the parties that the remaining terms of this Agreement and the Contractor's Secrecy Agreement shall constitute their agreement with respect to the subject matter addressed therein, and all such remaining terms shall remain in full force and effect.

16. **Notices.** All notices and other communications required or contemplated thereunder shall be in writing and shall be deemed to have been duly given upon delivery in person or upon the expiration of three (3) days after the date of posting, if mailed by registered or certified mail, postage prepaid, to the parties at the addresses appearing beneath their signatures below.

17. **Governing Law.** Regardless of the place of execution, place of performance or otherwise, this Agreement and all amendments, modifications or supplements thereto, and the rights of the parties hereunder, shall be governed by and construed and enforced in accordance with the laws of the State of Michigan. In the event of a legal dispute arising out of this Agreement or the Services performed hereunder, the parties agree that jurisdiction and venue shall be proper in the state and federal courts covering or situated in the City of Jackson, Michigan.

18. **Agreement Non-Assignable.** The parties acknowledge that this Agreement has been entered into as a result of, among, other things, the special skills of Contractor, and agree that this Agreement may not be assigned or transferred by Contractor, in whole or in part, without the prior written consent of Client-City of Jackson.

19. **Headings.** The headings as to the contents of particular Sections are inserted only for convenience and shall not be construed as a part of this Agreement or as a limitation on or enlargement of the scope of any of the terms or provisions of this Agreement.

20. **Entire Agreement.** This Agreement, including the Contractor's Confidentiality Agreement noted in Section 7 (if required), supersedes all prior discussions and agreements between the parties with respect to the subject matter hereof and contains the sole and entire agreement between the parties with respect to the matters covered hereby. This Agreement shall not be modified or amended except by an instrument in writing signed by or on behalf of the parties hereto.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed as of the date first written above.

"REPRESENTATIVE-CLIENT"

By: _____

Name: Jack Van Covering

Title: Senior Counsel

Address: 1200 Campau Sq. Plaza Bldg.
99 Monroe Ave. NW
Grand Rapids, MI 49503
616-633-0105 mobile

"CLIENT"

By: _____

Name: Jason C. Smith

Title: City of Jackson Mayor

Address: c/o Bethany Smith,
Interim City Attorney
City of Jackson, MI 49201

"CONTRACTOR"

Cost Plus Consulting LLC

By: _____

Name: Walter Krzastek

Title: Principal

Address: 180 Franklin Turnpike
Mahwah, New Jersey 07430
201-252-2108

EXHIBIT A

Rates and Reimbursable Expenses

Based on the complexity of the work since this plant is unique and the only one in the United States that is constructed to this configuration and still in operation, we suggest a budget of 575 hours which does not include any hours for depositions or testifying and/or any preparation time for the same. Please note that five individuals will be assigned to this assignment and are Walter Krzastek, Jeffrey Whipple, Deborah Danielson, Dinos Nicolaou and Eolo Esposito. Depending on the exact scope of work Dinos Nicolaou and Eolo Esposito may have minimal involvement on this assignment. The hourly rates of all our personnel are as follows and will remain constant for the duration of this assignment.

Walter Krzastek	$235.00
Donald Grace	$230.00
Jeffrey Whipple	$230.00
Ben Hill	$225.00
Joseph D'Alesandro	$220.00 Atlanta Based
Thomas Sweeney	$195.00
Paul MacDonnell	$190.00
Deborah Danielson	$190.00
Louis Testa	$185.00 Atlanta Based
Michael Pace	$185.00 Atlanta Based
Daniel Baugess	$180.00 Atlanta Based
John Morris	$180.00
Stephen Flood	$180.00
Dinos Nicolaou	$180.00
Ronald Strianse	$180.00
Eolo Esposito	$180.00
John Smith	$175.00 Atlanta Based
Millard Powledge	$175.00 Atlanta Based
CADD	$130.00

EXHIBIT A

Rates and Reimbursable Expenses
(continued)

All out of pocket expenses will be invoiced at cost. For automobile mileage rates we utilize published Federal Government rates for the time period of the travel.

EXHIBIT B

Contractor Confidentiality Agreement

Contractor Confidentiality Agreements have not been requested at this time by the Client. In the event that the signing of a Contractor Confidentiality Agreement will be required in the future, the five individuals currently working on this assignment will sign agreements. Any personnel that may have to be added at a later date should the projected work scope be expanded or if additional personnel are required to be added by the Contractor in order to meet specific work schedules, Contractor will have the additional personnel sign Confidentiality Agreements if required and submit said documents to the client.

Please note that whether or not Cost Plus Consulting LLC signs a Contractor Confidentiality Agreement, all work Cost Plus Consulting prepares and documents we receive from our client are kept strictly confidential in the same manner as an attorney client relationship.

21716920.1\152627-00001

City Manager's Office

161 W. Michigan Avenue - Jackson, MI 49201
Telephone: (517) 788-4035 — Facsimile: (517) 768-5820

CITY COUNCIL MEETING
December 17, 2013

MEMO TO: Honorable Mayor Griffin and City Councilmembers

FROM: Patrick Burtch, City Manager

SUBJECT: Approve the Contract Renewal for Blackboard Connect communication system.

RECOMMENDATION:

To authorize the contract renewal of the Blackboard Connect System at an annual cost of $29,616.49, and authorization for the City Attorney to make minor modifications to the contract document(s) for the parties, and for the Mayor and Clerk to execute the appropriate contract documents.

The City of Jackson has recognized a need to communicate with citizens in the case of an emergency. The Blackboard Connect System allows government leaders to provide emergency notifications and community outreach 24 hour a day, without having to invest in or maintain hardware, software, or additional telephone lines, at an annual cost of $29,616.49. Your consideration of this request is appreciated.

Blackboard Connect for Government® GSA Quote

Unlimited Emergency Use Service Proposal for **City of Jackson, MI**

Company Information

Blackboard Inc.
650 Massachusetts Ave., NW, 6th Floor
Washington, DC 20001

DUNS Number: 01-613-1430
Tax ID Number: 52-2081178
CAGE Number: 1QLN4
GSA Contract Number: GS-35F-0554M

Service Summary: The Blackboard Connect for Government service allows government leaders to provide notices, direction, and reassurance to reach thousands of constituents in minutes without having to invest in or maintain hardware, software, or additional phone lines. Now, you can reach your entire community—quickly and reliably—with voice, text, and email messages.

Services include:

- An integrated communications suite, including Priority Communication, Community Outreach and Interactive Survey
- Voice and text/SMS delivery to multiple communication devices
- Geo-Calling feature lets you target recipients using a map
- 24/7/365 proactive Client Care support
- Unlimited use for a fixed, annual fee
- Initial set-up, training and refresher training sessions included
- Delivery to up to ten phones, four email addresses and four SMS phone per contact
- Superior call routing, throttling, and load balancing expertise
- Fully hosted and managed Software as a Service (SaaS) --- no maintenance required
- Message delivery tracking with comprehensive reporting

Weather Alerts. Weather alert bulletins provided by NOAA, and delivered by a Blackboard initiated notification via voice, email and SMS (the "Weather Alerts") to Recipients. The Weather Alerts are available in the following four distinct categories: a) tornado alerts; b) severe thunderstorm alerts; c) flood alerts; and, d) special marine alerts. The Weather Alerts shall be distributed by Blackboard based on NOAA issuing the applicable weather bulletin, which may occur at any time, 24 hours/day. In consideration for the use of Weather Alerts during the Term, the Client will pay BCI an annual fee of $2,500 ("Weather Alert Fee").

Client acknowledges and agrees Blackboard is delivering weather information created and provided by NOAA, and not Blackboard. Weather forecasting is an inexact science. Blackboard makes no express or implied warranties, guarantees or affirmations that weather will occur or has occurred as the NOAA alerts, reports, forecasts, data, or information state, represent or depict and it shall have no responsibility or liability whatsoever to Client or any other person or entity, parties and non-parties alike, for any inconsistency, inaccuracy, or omission for weather or events predicted or depicted, reported, occurring or occurred. CLIENT AND THIRD PARTIES ARE SOLELY RESPONSIBLE FOR ACTION OR LACK OF ACTION TAKEN TO PRESERVE LIFE OR PROPERTY.

Quote Summary*: All products and services quoted are available through the Blackboard Inc. GSA Schedule **GS-35F-0554M** and pursuant to the Terms and Conditions negotiated therein.*

PLEASE INCLUDE IN THE PURCHASE ORDER ALL THE INFORMATION IN THE PRICE QUOTE BELOW AND PLEASE MAKE SURE THAT BLACKBOARD GSA SCHEDULE # GS-35F-0554M IS CLEARLY WRITTEN ON YOUR PURCHASE ORDER. PLEASE SIGN THIS PRICE QUOTE, SCAN BOTH DOCUMENTS, AND EMAIL THEM TO Jennifer.Boylston@blackboard.com.

SIN #	Product Description	Initial Term & Scope	GSA Price	Annual Fee
132-32	Blackboard Connect for Government	Annual Term for **13,696** Recipients December 19, 2013 – December 18, 2014	$1.91 per Recipient	**$ 26,159.36**
Open Market	NOAA Weather Alert	Annual Weather Fee	$2,500.00	***$2,500.00***
132-32	Annual Support Fee	12 Months	$957.13	**$957.13**
			Total:	***$29,616.49*** Payable by PO at contract inception

SIN #	Product Description	Option Year 1	GSA Price	Annual Fee
132-32	Blackboard Connect for Government	Annual Term for **13,696** Recipients December 19, 2014 – December 18, 2015	$1.91 per Recipient	**$ 26,159.36**
Open Market	NOAA Weather Alert	Annual Weather Fee	$2,500.00	***$2,500.00***
132-32	Annual Support Fee	12 Months	$957.13	**$957.13**
			Total:	***$29,616.49****

***This is an estimate based on the previous years' Recipient count. The Annual Fee and Total fee is subject to change based on the actual number of Recipients.**

Questions? Please call:

Hannah Cummings Contracts
202-463-4860 x2727 or

Jennifer Boylston 818-808-1412
jennifer.boylston@blackboard.com

Next Steps
1. Fax Purchase Order and Signed Proposal to **818-450-0425**
2. Import recipient data (Blackboard Connect provides resident/ business data).
3. Implementation of service and orientation for all designated system users.
4. Begin sending Priority, Outreach and Interactive Survey communications.

City of Jackson, MI

Authorized Signatory: _____

Name & Title: _____

Execution Date: _____

Address: City of Jackson, MI
161 West Michigan Avenue
Jackson, MI 49201

Name: Patrick Burtch
Phone: 517-788-6438
Email: pburtch@cityofjackson.org

BLACKBOARD CONNECT INC.

Authorized Signatory: _____

Name & Title: _____

Execution Date: _____

Address: Blackboard Inc.
650 Massachusetts Ave., NW, 6th Floor
Washington, DC 20001

Phone: (202) 463-4860
Efax: (818) 450-0425
Email: ConnectContracts@blackboard.com

Parks, Recreation and Grounds

161 W. Michigan Avenue · Jackson, MI 49201-1303
(517) 788-4040 · Facsimile (517) 768-5860
www.cityofjackson. org

CITY COUNCIL MEETING
TUESDAY, DECEMBER 17, 2013

MEMO TO: Honorable Mayor and City Councilmembers

FROM: Kelli M. Hoover, Director
Patrick Burtch, City Manager PHB

SUBJECT: Ella Sharp Park Deer Harvest

RECOMMENDATION: To approve the contract with Aaron's Nuisance Animal Control of Rives Junction, MI and authorization for the Mayor and City Clerk to execute the appropriate document(s), and to authorize the City Attorney to make minor modifications, if needed, and to approve the necessary street closures and operational requirements of the MDNR permit, in accordance with the recommendation of the Ella Sharp Park Board and the City Parks Director.

The City of Jackson and Summit Township will renew our current contract upon the approval of all parities with Aaron's Nuisance Animal Control to harvest deer and coyotes in Ella Sharp Park and Summit Township. The previous six years have been successful with 458 deer harvested and over 24,000 pounds of venison distributed to needy families in our community.

On November 8th, 2013 a request was made for a Wildlife Damage Investigation and Control Permit from the Michigan Department of Natural Resources to harvest up to 80 deer plus coyotes. MDNRE Wildlife Biologist Kristen Bissel will meet with Department of Natural Resources' management to determine guidelines for the upcoming deer harvest. We anticipate having the control permit by early January 2014.

The culling is tentatively scheduled to start January 10th, 2014. The Beef Barn once again is willing to process the venison at a minimal cost. Funding for the deer processing will be provided by the Michigan Sportsman against Hunger. The Immanuel Lutheran Church is again willing to distribute the venison through their food pantry.

Ella Sharp Park:	$7,396 (will be paid from Golf Course Revenue)
Summit Township:	$3,643
TOTAL COST:	$11,039 (up to 80 deer)

At their meeting on Wednesday October 16th, 2013, the Ella Sharp Park Board agreed to continue forward with the Deer Management Program. As a result, the Parks Department would like to request the City Council to waive the City Ordinance pertaining to the discharge of firearms within the City Limits.

The exact dates of the harvest are yet to be determined, therefore, request the City Council authorize the Superintendent of Ella Sharp Park to close Ella Sharp Park and the following streets on an as-needed basis during the dates and times the deer harvest occurs within the park:

- West Hickory
- Birchwood Drive
- Maplewood Drive
- Corner of Oakwood Drive and Stonewall Road
- Oakwood Drive at Rotunda Drive

Please feel free to contact me with any questions you may have. Thank you for your consideration.

Parks, Recreation and Grounds

161 W. Michigan Avenue · Jackson, MI 49201-1303
(517) 788-4040 · Facsimile (517) 768-5860
www.cityofjackson. org

To: Kristen M. Bissel, SCMU Wildlife Biologist

From: Eric Terrian, Superintendent of Ella Sharp Park

Date: Friday, November 8, 2013

Subject: Request for a Wildlife Damage Investigation and Control Permit

The City of Jackson at Ella Sharp Park along with Summit Township has continued its partnership on the reduction of our current deer population. Staff, plus community input has concluded that our current deer population still exceeds normal levels. Last year's harvest was very successful, with in Ella Sharp Park, yet yielded minimal results in Summit Township. We would like to continue with our deer management program.

Our population objective is 15 deer per square mile, Ella Sharp Park/Summit Township has committed resources to reach this goal. Based on conversations with your staff, we are hopeful you will allow us to harvest up to 80 deer this season. The reasons for this deer harvest are as follows:

- Deer population will continue to grow within this area
- Increase deer/car accidents within Summit Township
- Community out-cry over deer damage
- Increase of deer/human contact
- Deer roaming into populated residential and downtown neighborhoods
- Reduce chances of deer/school incident
- Hunting is prohibited

The Ella Sharp Park Board of Trustees has agreed on using sharpshooters as the method to reduce the deer population. Summit Township also agrees with the decision to use sharpshooters. This conclusion was based on the following:

- Sharpshooters are able to drop the deer humanely and quickly
- City of Jackson/Summit Township liability requirements
- Limited amount of land to harvest the deer
- Numerous residential neighborhoods that boarder Ella Sharp Park/Summit Township
- Sharpshooters have proven effective in other communities similar to ours
- Sharpshooters share our goals and objectives
- Sharpshooters are experienced in this process

The Ella Sharp Park Board of Trustees is also looking at reducing the coyote population within this area. Coyotes have become less afraid of human contact particularly in the Cascades Golf Course Areas. Currently, trapping is being conducted in this area by independent animal control company. Also, coyote dens have to be located within the Ella Sharp Park and Cascades harvest areas close to populated subdivisions and apartment/condo communities.

The following items are requests and information for the Wildlife Damage Investigation and Control Permit:

- Duration of permit: January 4 to February 10, 2013
- Authorized sharpshooters are to be determined.
- Authorized shooters are: Attachment will be provided. All shooters will have on their persons at all times, personal picture identification and a copy of the Damage Control Permit
- Shooting from a platform and acceptable blinds. NOTE: Only two vehicles would be used on a closed park road.
- Permittee authorized to take up to 80 deer. The focus of this effort is to reduce the population by taking primary anterless deer. Antlered deer may be taken when part of a group of anterless deer.
- The use of centerfire rifle and sound suppression is allowed.
- Shooting is allowed during daylight hours or at night with the use of lights or night vision optics.
- The use of bait at shooting locations is permitted and we request 8 to 10 days pre-bait to focus the deer.
- Please provide direction as to specific biological data required.
- All deer will be field dressed offsite and taken to: The Beef Barn (3095 Cooper Road / Jackson, Michigan 49201). The deer carcasses will be properly disposed of by Aaron Blackford.
- All deer taken will be tagged using the provided MDNR OSK tags
- Permittee will provide a weekly report of shooting activities
- Permittee will provide a copy of data collected, if needed
- Local Law Enforcement (Jackson Central Dispatch) will be notified of cull activity times and dates.

The City Council of Jackson and Summit Township Board will perform the final step by suspending the firearm ordinances to allow the deer harvest to go forward. Local law enforcement agencies have offered their support during the deer harvest. They will be informed with all available information.

Thank you and your staff for your guidance and professionalism throughout this deer harvest process.

EWT:sw

cc: Mr. Patrick Burtch
Mrs. Kelli Hoover

RESOLUTION

SUSPENDING ENFORCEMENT OF FIREARMS DISCHARGE

BY THE CITY COUNCIL:

WHEREAS, the Ella Sharp Park Board, in conjunction with the Michigan Department of Natural Resources and Summit Township, have been working toward the resolution of the overpopulation of deer in and around Ella Sharp Park; and

WHEREAS, after exploring all options, the Ella Sharp Park Board determined that the safest and best method to control the deer population was through utilizing an animal control company; and

WHEREAS, after obtaining bids pursuant to the requirements of the Jackson Purchasing Policy, the City awarded the deer harvesting contract to Aaron's Nuisance Animal Control of Rives Junction, Michigan; and

WHEREAS, the deer harvesting contract was subject to five one-year renewals; and

WHEREAS, the parties wish to renew the deer harvesting contract; and

WHEREAS, it is anticipated that Aaron's Nuisance Animal Control will be harvesting deer in Ella Sharp Park during the months of January and February, 2014; and

WHEREAS, the City Council wishes to suspend enforcement of ordinances that would prohibit the use of firearms in Ella Sharp Park.

NOW, THEREFORE, BE IT RESOLVED that Ordinance No. 18-184 of the Jackson City Code addressing the discharging of weapons within the City shall be suspended during the harvesting of deer within Ella Sharp Park; and

BE IT FURTHER RESOLVED that suspension of the above ordinance shall only apply to agents and employees of Aaron's Nuisance Animal Control for the harvesting of deer within Ella Sharp Park during the months of January and February, 2014.

State of Michigan)
County of Jackson) ss:
City of Jackson)

I, Andrew J. Wrozek, Jr., City Clerk in and for the City of Jackson, County and State aforesaid, do hereby certify that the foregoing is a true and complete copy of a resolution adopted by the Jackson City Council on _____, 2013.

IN WITNESS WHEREOF, I have hereunto affixed my signature and seal of the City of Jackson, Michigan on this _____ day of _____, 2013.

Andrew J. Wrozek, Jr., City Clerk

Neighborhood & Economic Operations

Building a Stronger Jackson

161 W. Michigan Avenue • Jackson, MI 49201-1303• Facsimile (517) 780-4781

Building Inspection (517) 788-4012 | Code Enforcement (517) 788-4060 | Engineering (517) 788-4160 | Planning & Economic Development (517) 768-6433

CITY COUNCIL MEETING
December 17, 2013

TO: **Honorable Mayor and City Councilmembers**

FROM: **Patrick H. Burtch, City Manager**

Jon H. Dowling, P.E., City Engineer

SUBJECT: **Change Order 1 – Wesley Street Water Main Replacement Contract**

RECOMMENDATION: To approve Change Order 1 to the contract with Bailey Excavating, Inc., in the decreased amount of $2,652.00 to balance the contract quantities with the final quantities placed, and authorization for the City Manager and City Engineer to execute the appropriate document.

On July 16, 2013, City Council approved the award of the Wesley Street Water Main Replacement contract to Bailey Excavating, Inc., of Jackson, Michigan in the amount of $136,045.90. This contract provided for the replacement of the water main on Wesley Street between Cooper and Francis.

The attached Change Order Number 1 is to balance the contract quantities with the final quantities placed.

This change order represents a decrease of $2,652.00 bringing the final contract amount to $133,393.90.

We request approval of Change Order 1 and authorization for the City Manager and the City Engineer to sign the document.

JHD/sms

C: Troy R. White, P.E., Senior Civil Engineer
Phil Hones, Purchasing Agent
Shelly Allard, Purchasing Coordinator
Lucinda Schultz, Accounting Manager

BALANCING CHANGE ORDER NO. 1
To Contract for
Wesley Street Water Main Replacement
City of Jackson, Michigan

Notice is hereby given that the following additional information and changes shall become a part of the Contract Documents, Plans and Specifications of the above-named contract.

ORIGINAL CONTRACT AMOUNT	**$ 136,045.90**
CHANGE ORDER NO. 1 Details of changes shown on the attached sheets	**($ 2,652.00)**
NEW CONTRACT AMOUNT AS SET BY CHANGE ORDER NO. 1	**$ 133,393.90**

REASON FOR CHANGE:

To change the authorized quantities for contract items to match final quantities placed.

CONTRACT COMPLETION:

The contract completion time remains unchanged.

TR White

Prepared by Troy R. White, P.E.
Senior Civil Engineer

ACCEPTED BY:

John W Bailey — 11-22-13

Bailey Excavating, Inc. — Date:

ACCEPTED BY:

Jon H. Dowling, P.E., City Engineer — Date:

ACCEPTED BY:

Patrick H. Burtch, City Manager — Date:

WESLEY STREET WATER MAIN REPLACEMENT

FINAL BALANCING CHANGE ORDER NUMBER 1

ADDITIONS AND SUBTRACTIONS: Quantities for Contract pay items shall be increased or decreased as follows:

Prop Line	Item Code	Item Description	Current Contract Quantity	Quantity Change	Final Quantity	Units	Unit Price	Amount	
								ADD	DEDUCT
0001	1500001	Mobilization, Max ____	1.00	0.00	1.00	LS	$ 6,000.00	$ -	$ -
0002	2040020	Curb and Gutter, Rem	78.00	11.00	89.00	Ft	$ 8.00	$ 88.00	$ -
0003	2040055	Sidewalk, Rem	20.00	46.00	66.00	Syd	$ 10.00	$ 460.00	$ -
0004	2040080	Vertical Exploratory Investigation	20.00	-1.00	19.00	Ft	$ 20.00	$ -	$ (20.00)
0005	2047001	_ Earth Sawcut	20.00	-20.00	0.00	Ft	$ 10.00	$ -	$ (200.00)
0006	2047001	_ Pavt Sawcut	551.00	35.00	586.00	Ft	$ 1.50	$ 52.50	$ -
0007	2047011	_ Driveway, Rem	24.00	-5.00	19.00	Syd	$ 8.00	$ -	$ (40.00)
0008	2047011	_ Pavt, Rem, Modified	285.00	-4.00	281.00	Syd	$ 5.00	$ -	$ (20.00)
0009	2047021	_ Track Base, Rem	53.00	-53.00	0.00	Cyd	$ 25.00	$ -	$ (1,325.00)
0010	2050031	Non Haz Contam Mat'l Handling & Disp, LM	10.00	-10.00	0.00	Cyd	$ 100.00	$ -	$ (1,000.00)
0011	2087050	_ Erosion Control, Inlet Protection, Grate Filter, Rectangular	7.00	1.00	8.00	Ea	$ 100.00	$ 100.00	$ -
0012	2090001	Project Cleanup	1.00	0.00	1.00	LS	$ 1,500.00	$ -	$ -
0013	3020020	Aggregate Base, 8 inch	251.00	105.00	356.00	Syd	$ 10.00	$ 1,050.00	$ -
0014	4027050	_ Sewer Lateral Repair	1.00	-1.00	0.00	Ea	$ 500.00	$ -	$ (500.00)
0015	4030005	Dr Structura Cover, Adj, Case 1	2.00	-2.00	0.00	Ea	$ 300.00	$ -	$ (600.00)
0016	4037050	_ Dr Structure, Temp Lowering, Modified	1.00	-1.00	0.00	Ea	$ 200.00	$ -	$ (200.00)
0017	5010025	Hand Patching	82.00	-72.80	9.20	Ton	$ 95.00	$ -	$ (6,916.00)
0018	6020076	Conc Pavt, Misc, Reinf, 9 inch	36.00	171.00	207.00	Syd	$ 80.00	$ 13,680.00	$ -
0019	6030005	Cement	1.00	2.40	3.40	Ton	$ 200.00	$ 480.00	$ -
0020	6030020	Joint, Contraction, Crg	24.00	0.00	24.00	Ft	$ 20.00	$ -	$ -
0021	6030023	Joint, Tied, Trg	24.00	0.00	24.00	Ft	$ 20.00	$ -	$ -
0022	6030030	Lane Tie, Epoxy Anchored	10.00	-10.00	0.00	Ea	$ 20.00	$ -	$ (200.00)
0023	8010005	Driveway, Nonreinf Conc, 6 inch	24.00	-7.00	17.00	Syd	$ 42.50	$ -	$ (297.50)
0024	8020024	Curb and Gutter, Conc, Det C5	30.00	10.00	40.00	Ft	$ 18.00	$ 180.00	$ -
0025	8020038	Curb and Gutter, Conc, Det F4	48.00	-12.00	36.00	Ft	$ 18.00	$ -	$ (216.00)
0026	8030044	Sidewalk, Conc, 4 inch	126.00	282.00	408.00	Sft	$ 4.75	$ 1,339.50	$ -
0027	8030046	Sidewalk, Conc, 6 inch	72.00	76.00	148.00	Sft	$ 4.75	$ 361.00	$ -
0028	8080007	Fence, Protective	100.00	20.00	120.00	Ft	$ 5.00	$ 100.00	$ -
0029	8120012	Barr,TypeIII,HighInten,DblSided,Ltd,Furn	3.00	0.00	3.00	Ea	$ 65.00	$ -	$ -
0030	8120013	Barr,TypeIII,HighInten,DblSided,Ltd,Oper	3.00	0.00	3.00	Ea	$ 10.00	$ -	$ -
0031	8120140	Lighted Arrow, Type C, Furn	1.00	0.00	1.00	Ea	$ 400.00	$ -	$ -
0032	8120141	Lighted Arrow, Type C, Oper	1.00	0.00	1.00	Ea	$ 60.00	$ -	$ -
0033	8120170	Minor Traf Devices	1.00	0.00	1.00	LS	$ 1,500.00	$ -	$ -
0034	8120250	Plastic Drum, High Intensity, Furn	40.00	0.00	40.00	Ea	$ 10.00	$ -	$ -
0035	8120251	Plastic Drum, High Intensity, Oper	40.00	0.00	40.00	Ea	$ 1.00	$ -	$ -
0036	8120350	Sign, Type B, Temp, Prismatic, Furn	177.00	0.00	177.00	Sft	$ 2.50	$ -	$ -
0037	8120351	Sign, Type B, Temp, Prismatic, Oper	177.00	0.00	177.00	Sft	$ 1.00	$ -	$ -
0038	8230391	Gate Box, Adj, Temp, Case 1	2.00	-2.00	0.00	Ea	$ 200.00	$ -	$ (400.00)
0039	8230431	Gate Box, Adj, Case 1	5.00	-5.00	0.00	Ea	$ 250.00	$ -	$ (1,250.00)
0040	8237001	_ Hydrant Extension	1.00	1.50	2.50	Ft	$ 800.00	$ 1,200.00	$ -
0041	8237001	_ Water Main, 12 inch, Dir Bore	440.00	-40.00	400.00	Ft	$ 100.00	$ -	$ (4,000.00)
0042	8237001	_ Water Main, 8 inch	176.00	-59.00	117.00	Ft	$ 86.90	$ -	$ (5,127.10)
0043	8237050	_ Gate Valve and Box, 12 inch, Modified	1.00	0.00	1.00	Ea	$ 2,400.00	$ -	$ -
0044	8237050	_ Gate Valve and Box, 8 inch, Modified	1.00	0.90	1.90	Ea	$ 1,600.00	$ 1,440.00	$ -
0045	8237050	_ Hydrant Assembly, 6 foot bury	2.00	0.00	2.00	Ea	$ 3,900.00	$ -	$ -
0046	8237050	_ Hydrant, Rem, Modified	3.00	0.00	3.00	Ea	$ 200.00	$ -	$ -
0047	8237050	_ Tapping Sleeve, 12 inch x 8 inch	2.00	0.00	2.00	Ea	$ 1,250.00	$ -	$ -
0048	8237050	_ Tapping Sleeve, 16 inch x 6 inch	1.00	0.00	1.00	Ea	$ 1,500.00	$ -	$ -
0049	8237050	_ Tapping Valve and Box, 6 inch	1.00	0.00	1.00	Ea	$ 1,200.00	$ -	$ -
0050	8237050	_ Tapping Valve and Box, 8 inch	2.00	0.00	2.00	Ea	$ 1,600.00	$ -	$ -

WESLEY STREET WATER MAIN REPLACEMENT

FINAL BALANCING CHANGE ORDER NUMBER 1

ADDITIONS AND SUBTRACTIONS Quantities for Contract pay items shall be increased or decreased as follows:

Prop Line	Item Code	Item Description	Current Contract Quantity	Quantity Change	Final Quantity	Units	Unit Price	Amount ADD	Amount DEDUCT
0051	8237050	_ Water Main, 12 inch, Cut and Plug, Modified	3.00	0.00	3.00	Ea	$ 1,500.00	$ -	$ -
0052	8237050	_ Water Main, 6 inch, Cut and Plug, Modified	1.00	-1.00	0.00	Ea	$ 1,200.00	$ -	$ (1,200.00)
0053	8237050	_ Water Main, Connect New 12 inch to Existing 12 inch	1.00	0.00	1.00	Ea	$ 3,500.00	$ -	$ -
0054	8237050	_ Water Main, Connect New 8 inch to Existing 8 inch	3.00	0.00	3.00	Ea	$ 1,800.00	$ -	$ -
0055	8237050	_ Water Serv, Reconnect, 1 inch	1.00	0.00	1.00	Ea	$ 500.00	$ -	$ -
0056	8507030	_ Water Main Fittings, DI	400.00	124.00	524.00	Lb	$ 2.65	$ 328.60	$ -
							Total:	$ 20,859.60	$ (23,511.60)
							Net Change:	$ (2,652.00)	
							Current Contract Amount:	$ 136,045.90	
							Revised Contract Amount:	$ 133,393.90	

Neighborhood & Economic Operations
Building a Stronger Jackson

161 W. Michigan Avenue • Jackson, MI 49201-1303• Facsimile (517) 780-4781

Building Inspection (517) 788-4012 | Code Enforcement (517) 788-4060 | Engineering (517) 788-4160 | Planning & Economic Development (517) 768-6433

CITY COUNCIL MEETING
December 17, 2013

TO: **Honorable Mayor and City Councilmembers**

FROM: **Patrick H. Burtch, City Manager**
Jon H. Dowling, P.E., City Engineer

SUBJECT: **Change Order 1 –2013 Local Street Construction Contract**

RECOMMENDATION: To approve Change Order 1 to the contract with Concord Excavating and Grading, Inc., in the decreased amount of $6,754.23 to balance the contract quantities with the final quantities placed, and authorization for the City Manager and City Engineer to execute the appropriate document.

On May 21, 2013, City Council approved the award of the 2013 Local Street Construction contract to Concord Excavating and Grading, Inc., of Concord, Michigan in the amount of $489,823.40. This contract provided for 1) replacement of the water main on Argyle between Walker and Cooper, 2) construction of a sanitary sewer, replacement of the water main and repaving on Rockwell Street from Jackson to Williams, and 3) replacement of the water main and sanitary sewer and reconstruction of the roadway with new asphalt pavement and concrete curb and gutter on Webster from Oakdale to Elmwood.

The attached Change Order Number 1 is to balance the contract quantities with the final quantities placed.

This change order represents a decrease of $6,754.23 bringing the final contract amount to $483,069.17.

We request approval of Change Order 1 and authorization for the City Manager and the City Engineer to sign the document.

JHD/sms

C: Troy R. White, P.E., Senior Civil Engineer
Phil Hones, Purchasing Agent
Shelly Allard, Purchasing Coordinator
Lucinda Schultz, Accounting Manager

BALANCING CHANGE ORDER NO. 1
To Contract for
2013 Local Street Construction
City of Jackson, Michigan

Notice is hereby given that the following additional information and changes shall become a part of the Contract Documents, Plans and Specifications of the above-named contract.

ORIGINAL CONTRACT AMOUNT	**$ 489,823.40**
CHANGE ORDER NO. 1 Details of changes shown on the attached sheets	**($ 6,754.23)**
NEW CONTRACT AMOUNT AS SET BY CHANGE ORDER NO. 1	**$ 483,069.17**

REASON FOR CHANGE:

To change the authorized quantities for contract items to match final quantities placed.

CONTRACT COMPLETION:

The contract completion time remains unchanged.

TR White

Prepared by Troy R. White, P.E.
Senior Civil Engineer

ACCEPTED BY:

Charles W. Dell

Concord Excavating

11-26-13

Date:

ACCEPTED BY:

Jon H. Dowling, P.E., City Engineer

Date:

ACCEPTED BY:

Patrick H. Burtch, City Manager

Date:

2013 LOCAL STREET CONSTRUCTION

BALANCING CHANGE ORDER NUMBER 1

ADDITIONS AND SUBTRACTIONS: Quantities for Contract pay items shall be increased or decreased as follows:

Prop Line	Item Code	Item Description	Current Contract Quantity	Quantity Change	Final Quantity	Units	Unit Price	Amount	
								ADD	DEDUCT
0001	1500001	Mobilization, Max. ____	1.00	0.00	1.00	LS	$ 16,000.00	$ -	$ -
0002	2020002	Tree, Rem, 19 inch to 36 inch	2.00	0.00	2.00	Ea	$ 850.00	$ -	$ -
0003	2020003	Tree, Rem, 37 inch or Larger	1.00	0.00	1.00	Ea	$ 1,000.00	$ -	$ -
0004	2020004	Tree, Rem, 6 inch to 18 inch	3.00	1.00	4.00	Ea	$ 300.00	$ 300.00	$ -
0005	2030011	Dr Structure, Rem	8.00	-1.00	7.00	Ea	$ 250.00	$ -	$ (250.00)
0006	2030015	Sewer, Rem, Less than 24 inch	66.00	-54.00	12.00	Ft	$ 4.00	$ -	$ (216.00)
0007	2040020	Curb and Gutter, Rem	1,635.00	8.00	1,643.00	Ft	$ 3.00	$ 24.00	$ -
0008	2040055	Sidewalk, Rem	553.00	-7.00	546.00	Syd	$ 4.20	$ -	$ (29.40)
0009	2040080	Vertical Exploratory Investigation	38.00	-38.00	0.00	Ft	$ 1.00	$ -	$ (38.00)
0010	2047001	Earth Sawcut	340.00	-175.00	165.00	Ft	$ 2.00	$ -	$ (350.00)
0011	2047001	Pavt Sawcut	1,684.00	-186.00	1,498.00	Ft	$ 2.00	$ -	$ (372.00)
0012	2047011	Driveway, Rem	356.00	-33.00	323.00	Syd	$ 4.20	$ -	$ (138.60)
0013	2047011	Pavt, Rem, Modified	366.00	-366.00	0.00	Syd	$ 7.00	$ -	$ (2,562.00)
0014	2047051	Tree Preservation	1.00	0.00	1.00	LS	$ 300.00	$ -	$ -
0015	2050018	Excavation, Rock	100.00	-31.00	69.00	Cyd	$ 1.00	$ -	$ (31.00)
0016	2050041	Subgrade Undercutting, Type II	140.00	-138.00	2.00	Cyd	$ 14.50	$ -	$ (2,001.00)
0017	2057002	Roadway Grading, Special	11.00	0.00	11.00	Sta	$ 700.00	$ -	$ -
0018	2057021	Flowable Fill, Non-Structural	3.00	-3.00	0.00	Cyd	$ 110.00	$ -	$ (330.00)
0019	2080016	Erosion Control, Gravel Access Approach	1.00	3.00	4.00	Ea	$ 500.00	$ 1,500.00	$ -
0020	2087050	Erosion Control, Inlet Protection, Grate Filter, Rect	39.00	-5.00	34.00	Ea	$ 110.00	$ -	$ (550.00)
0021	2087050	Erosion Control, Inlet Protection, Sediment Trap, F	3.00	-3.00	0.00	Ea	$ 200.00	$ -	$ (600.00)
0022	2090001	Project Cleanup	1.00	0.00	1.00	LS	$ 7,000.00	$ -	$ -
0023	3020020	Aggregate Base, 8 inch	3,104.00	-366.00	2,738.00	Syd	$ 5.00	$ -	$ (1,830.00)
0024	3027011	Aggregate Base, 8 inch, Special	1,788.00	-59.00	1,729.00	Syd	$ 6.25	$ -	$ (368.75)
0025	4021204	Sewer Tap, 12 inch	1.00	0.00	1.00	Ea	$ 500.00	$ -	$ -
0026	4021230	Sewer Bulkhead, 12 inch	5.00	0.00	5.00	Ea	$ 200.00	$ -	$ -
0027	4021260	Trench Undercut and Backfill	36.00	-10.00	26.00	Cyd	$ 30.00	$ -	$ (300.00)
0028	4027001	Sewer Backfill, Class II	114.00	-3.00	111.00	Ft	$ 3.00	$ -	$ (9.00)
0029	4027001	Sewer, Cl E, 12 inch	106.00	-11.00	95.00	Ft	$ 38.00	$ -	$ (418.00)
0030	4027001	Sewer, DI, 8 inch	12.00	1.56	13.56	Ft	$ 100.00	$ 156.00	$ -
0031	4027050	Sewer Lateral Repair	5.00	-3.00	2.00	Ea	$ 200.00	$ -	$ (600.00)
0032	4030005	Dr Structure Cover, Adj, Case 1	14.00	2.00	16.00	Ea	$ 250.00	$ 500.00	$ -
0033	4030280	Dr Structure, Adj, Add Depth	1.00	1.00	2.00	Ft	$ 250.00	$ 250.00	$ -
0034	4030304	Dr Structure, Tap, 4 inch	3.00	-3.00	0.00	Ea	$ 125.00	$ -	$ (375.00)
0035	4030308	Dr Structure, Tap, 8 inch	1.00	0.00	1.00	Ea	$ 175.00	$ -	$ -
0036	4030312	Dr Structure, Tap, 12 inch	1.00	0.00	1.00	Ea	$ 250.00	$ -	$ -
0037	4037050	Catch Basin Cover, ADA	1.00	-1.00	0.00	Ea	$ 625.00	$ -	$ (625.00)
0038	4037050	Catch Basin Cover, Curb	13.00	-2.00	11.00	Ea	$ 600.00	$ -	$ (1,200.00)
0039	4037050	Catch Basin, 24 inch dia	1.00	0.00	1.00	Ea	$ 1,300.00	$ -	$ -
0040	4037050	Catch Basin, 48 inch dia	7.00	0.00	7.00	Ea	$ 1,200.00	$ -	$ -
0041	4037050	Dr Structure, Temp Lowering, Modified	14.00	1.00	15.00	Ea	$ 50.00	$ 50.00	$ -
0042	4037050	Mh Cover, Short	3.00	-3.00	0.00	Ea	$ 415.00	$ -	$ (1,245.00)
0043	4037050	Mh Cover, Std	14.00	1.00	15.00	Ea	$ 415.00	$ 415.00	$ -
0044	4040061	Underdrain, Subbase, 4 inch	90.00	-90.00	0.00	Ft	$ 25.00	$ -	$ (2,250.00)

2013 LOCAL STREET CONSTRUCTION

BALANCING CHANGE ORDER NUMBER 1

ADDITIONS AND SUBTRACTIONS: Quantities for Contract pay items shall be increased or decreased as follows:

Prop Line	Item Code	Item Description	Current Contract Quantity	Quantity Change	Final Quantity	Units	Unit Price	Amount	
								ADD	DEDUCT
0045	5010025	Hand Patching	72.00	8.53	80.53	Ton	$ 103.00	$ 878.59	$ -
0046	5010033	HMA, 13A	1,144.00	48.65	1,192.65	Ton	$ 58.00	$ 2,821.70	$ -
0047	5017011	HMA Surface, Rem, Modified	4,438.00	-42.00	4,396.00	Syd	$ 5.50	$ -	$ (231.00)
0048	6030005	Cement	2.00	-1.60	0.40	Ton	$ 175.00	$ -	$ (280.00)
0049	7060011	Conc, Grade S2	10.00	-10.00	0.00	Cyd	$ 100.00	$ -	$ (1,000.00)
0050	8010005	Driveway, Nonreinf Conc, 6 inch	428.00	-16.00	412.00	Syd	$ 23.85	$ -	$ (381.60)
0051	8020038	Curb and Gutter, Conc, Det F4	1,635.00	68.00	1,703.00	Ft	$ 9.25	$ 629.00	$ -
0052	8030010	Detectable Warning Surface	135.00	-15.00	120.00	Ft	$ 32.00	$ -	$ (480.00)
0053	8030034	Sidewalk Ramp, Conc, 4 inch	1,951.00	1,554.00	3,505.00	Sft	$ 4.25	$ 6,604.50	$ -
0054	8030044	Sidewalk, Conc, 4 inch	2,486.00	-1,070.00	1,416.00	Sft	$ 2.25	$ -	$ (2,407.50)
0055	8030046	Sidewalk, Conc, 6 inch	570.00	-328.00	242.00	Sft	$ 2.85	$ -	$ (934.80)
0056	8120012	Barr,TypeIII,HighInten,DblSided,Ltd,Furn	32.00	0.00	32.00	Ea	$ 30.00	$ -	$ -
0057	8120013	Barr,TypeIII,HighInten,DblSided,Ltd,Oper	32.00	0.00	32.00	Ea	$ 0.01	$ -	$ -
0058	8120100	Dust Palliative, Applied	3.00	-3.00	0.00	Ton	$ 50.00	$ -	$ (150.00)
0059	8120170	Minor Traf Devices	1.00	0.00	1.00	LS	$ 500.00	$ -	$ -
0060	8120250	Plastic Drum, High Intensity, Furn	110.00	0.00	110.00	Ea	$ 10.00	$ -	$ -
0061	8120251	Plastic Drum, High Intensity, Oper	110.00	0.00	110.00	Ea	$ 0.01	$ -	$ -
0062	8120350	Sign, Type B, Temp, Prismatic, Furn	634.00	-127.00	507.00	Sft	$ 2.00	$ -	$ (254.00)
0063	8120351	Sign, Type B, Temp, Prismatic, Oper	634.00	-127.00	507.00	Sft	$ 0.01	$ -	$ (1.27)
0064	8150001	Site Preparation, Max. ____	1.00	0.00	1.00	LS	$ 500.00	$ -	$ -
0065	8150002	Watering&Cultivating,1st Seasn,Min. ____	1.00	0.00	1.00	LS	$ 1,000.00	$ -	$ -
0066	8150003	Watering&Cultivating,2nd Seasn,Min. ____	1.00	0.00	1.00	LS	$ 1,000.00	$ -	$ -
0067	8157050	Acer campestra, tree form, 2-1/2 inch	1.00	0.00	1.00	Ea	$ 195.00	$ -	$ -
0068	8157050	Acer rubrum 'Red Sunset', 2-1/2 inch	2.00	0.00	2.00	Ea	$ 185.00	$ -	$ -
0069	8157050	Platanus x acerifolia 'Bloodgood', 2-1/2 inch	2.00	0.00	2.00	Ea	$ 185.00	$ -	$ -
0070	8157050	Pyrus calleryana 'Cleveland Select', 2-1/2 inch	1.00	1.00	2.00	Ea	$ 175.00	$ 175.00	$ -
0071	8160020	Fertilizer, Chemical Nutrient, Cl A	124.00	-17.00	107.00	Lb	$ 3.00	$ -	$ (51.00)
0072	8160027	Mulch Blanket	18.00	-18.00	0.00	Syd	$ 2.90	$ -	$ (52.20)
0073	8160039	Seeding, Mixture THM	228.00	20.00	248.00	Lb	$ 5.25	$ 105.00	$ -
0074	8167011	Hydromulch	2,099.00	-240.00	1,859.00	Syd	$ 0.66	$ -	$ (158.40)
0075	8167011	Topsoil Surface, 4 inch	2,099.00	-240.00	1,859.00	Syd	$ 2.00	$ -	$ (480.00)
0076	8230391	Gate Box, Adj, Temp, Case 1	11.00	1.00	12.00	Ea	$ 150.00	$ 150.00	$ -
0077	8230431	Gate Box, Adj, Case 1	13.00	3.00	16.00	Ea	$ 200.00	$ 600.00	$ -
0078	8237001	Hydrant Extension	2.00	-0.50	1.50	Ft	$ 500.00	$ -	$ (250.00)
0079	8237001	Water Main Backfill, Class II	1,808.00	-427.00	1,381.00	Ft	$ 3.00	$ -	$ (1,281.00)
0080	8237001	Water Main, 8 inch	1,808.00	-5.00	1,803.00	Ft	$ 28.50	$ -	$ (142.50)
0081	8237050	Gate Valve and Box, 8 inch, Modified	9.00	0.00	9.00	Ea	$ 1,500.00	$ -	$ -
0082	8237050	Hydrant Assembly	4.00	1.00	5.00	Ea	$ 2,750.00	$ 2,750.00	$ -
0083	8237050	Hydrant, Rem, Modified	3.00	0.00	3.00	Ea	$ 150.00	$ -	$ -
0084	8237050	Tapping Sleeve, 8 inch x 8 inch	1.00	0.00	1.00	Ea	$ 1,500.00	$ -	$ -
0085	8237050	Tapping Valve and Box, 8 inch	1.00	0.00	1.00	Ea	$ 1,500.00	$ -	$ -
0086	8237050	Water Main, 4 inch, Cut & Plug, Modified	1.00	-1.00	0.00	Ea	$ 300.00	$ -	$ (300.00)
0087	8237050	Water Main, 6 inch, Cut & Plug, Modified	5.00	0.00	5.00	Ea	$ 300.00	$ -	$ -
0088	8237050	Water Main, 6 inch, Cut & Plug, Special	1.00	0.00	1.00	Ea	$ 500.00	$ -	$ -

2013 LOCAL STREET CONSTRUCTION

BALANCING CHANGE ORDER NUMBER 1

ADDITIONS AND SUBTRACTIONS: Quantities for Contract pay items shall be increased or decreased as follows:

Prop Line	Item Code	Item Description	Current Contract Quantity	Quantity Change	Final Quantity	Units	Unit Price	Amount ADD	Amount DEDUCT
0089	8237050	Water Main, Connect New 6 inch to Existing 4 inch	3.00	-1.00	2.00	Ea	$ 2,000.00	$ -	$ (2,000.00)
0090	8237050	Water Main, Connect New 6 inch to Existing 6 inch	9.00	1.00	10.00	Ea	$ 2,000.00	$ 2,000.00	$ -
0091	8237050	Water Serv, 1 inch	5.00	0.00	5.00	Ea	$ 600.00	$ -	$ -
0092	8237050	Water Serv, Long, 1 inch	7.00	7.00	14.00	Ea	$ 850.00	$ 5,950.00	$ -
0093	8237050	Water Serv, Reconnect, 1 inch	11.00	-2.00	9.00	Ea	$ 450.00	$ -	$ (900.00)
0094	8237050	Water Serv, Reconnect, 3/4 inch	11.00	-5.00	6.00	Ea	$ 450.00	$ -	$ (2,250.00)
0095	8507001	Sanitary Manhole, Add Depth of 48 inch dia, 8 feet	4.00	1.50	5.50	Ft	$ 200.00	$ 300.00	$ -
0096	8507001	Sanitary Sewer Backfill, Class II	930.00	-57.00	873.00	Ft	$ 2.00	$ -	$ (114.00)
0097	8507001	Sanitary Sewer, DI, Pressure Class 350, 12 inch	72.00	-5.00	67.00	Ft	$ 113.00	$ -	$ (565.00)
0098	8507001	Sanitary Sewer, SDR26 PVC, 12 inch	604.00	-11.00	593.00	Ft	$ 32.00	$ -	$ (352.00)
0099	8507001	Sanitary Sewer, SDR26 PVC, 8 inch	266.00	-17.00	249.00	Ft	$ 28.00	$ -	$ (476.00)
0100	8507001	Sanitary Sewer, Service Connection beyond 10 fe	342.00	-12.00	330.00	Ft	$ 28.00	$ -	$ (336.00)
0101	8507030	Water Main Fittings, DI	700.00	-66.00	634.00	Lb	$ 6.00	$ -	$ (396.00)
0102	8507050	Plumbing Permit Acquisition and Compliance	2.00	0.00	2.00	Ea	$ 500.00	$ -	$ -
0103	8507050	Sanitary Manhole, 48 inch dia	4.00	0.00	4.00	Ea	$ 1,600.00	$ -	$ -
0104	8507050	Sanitary Sewer, Service Connection with 12 inch x	22.00	0.00	22.00	Ea	$ 300.00	$ -	$ -
0105	8507050	Sanitary Sewer, Service Connection with 8 inch x	3.00	0.00	3.00	Ea	$ 150.00	$ -	$ -
0106	8507050	Threaded Cleanout, PVC, 4 inch	5.00	0.00	5.00	Ea	$ 125.00	$ -	$ -
							Total:	$ 28,158.79	$ (32,913.02)
							Net Change:	$ (6,754.23)	
							Current Contract Amount:	$ 489,823.40	
							Revised Contract Amount:	$ 483,069.17	

Neighborhood & Economic Operations
Building a Stronger Jackson

161 W. Michigan Avenue • Jackson, MI 49201-1303• Facsimile (517) 780-4781

Building Inspection (517) 788-4012 | Code Enforcement (517) 788-4060 | Engineering (517) 788-4160 | Planning & Economic Development (517) 768-6433

CITY COUNCIL MEETING
December 17, 2013

TO: Honorable Mayor Griffin and City Councilmembers

FROM: **Patrick Burtch, City Manager**

SUBJECT: **Approve the 2014-2015 Community Development Block Grant (CDBG) and HOME Investment Partnerships Program (HOME) Timetable and Establish Public Hearings**

RECOMMENDATION

Approve the 2014-2015 CDBG/HOME Timetable and establish public hearings on January 28, 2014 and September 23, 2014.

The Department of Neighborhood & Economic Operation's Accounting Manager estimates the City of Jackson will receive $1,301,015 in CDBG formula allocation and program income, and $242,461 in HOME funds for fiscal year 2014-2015. As this is an additional reduction from 2013-2014 funding levels, it was recommended the City not hold its normal competitive application process for community service providers and allow only various City departments to apply for funding.

Attached is a Timetable of dates and deadlines to be achieved during the next funding cycle and request City Council approve the Timetable and establish public hearings as follows:

January 28, 2014 (required) – to receive citizen comments addressing housing and community development needs, including priority non-housing community development needs.

September 23, 2014 (required) – to receive citizen comments regarding the Consolidated Annual Performance and Evaluation Report (CAPER) assessing the City's 2013-2014 program performance.

The preliminary allocation decision by City Council is scheduled for February 11, 2014 with final allocations to be made on April 22, 2014. A draft Action Plan will be presented to City Council by March 25, 2014, which will allow for the requisite 30-day comment period before submitting to HUD on May 29, 2014. All dates established in this memorandum are subject to change at the discretion of City Council.

Timetable for

2014-2015 Community Development Block Grant (CDBG) and HOME Investment Partnership Program

Proposal solicitation – City departments only	November/December 2013
Proposal information distributed to City Council (CC) and other designated boards/commissions	By January 14, 2014
CC Public Hearing to receive citizen comments	January 28, 2014
City Administration recommendations	By January 31, 2014
CC preliminary allocation decision alternate date	February 11, 2014 February 25, 2014
Environmental Review Process begins	February 26, 2014
Publish Notice of One-Year Action Plan (AP) and where available for review by public	March 23, 2014
CP/AP 30-day public comment period	March 24, 2014 – April 23, 2014
CC Receipt of One-Year AP draft report	March 25, 2014
CC final allocations	April 22, 2014
CC authorize submission of AP and adopt resolution of certifications	May 13, 2014
Request Release of Funds, submit AP and certifications to HUD	May 27, 2014
Fiscal Year 2013-2014 begins	July 1, 2014
Publish Notice of Public Hearing for Consolidated Annual Performance and Evaluation Report (CAPER)	September 7, 2014
CAPER 15-day public comment period	September 8 - 23, 2014
CC CAPER public hearing; authorization to submit to HUD	September 23, 2014
CAPER mailed to HUD	September 29, 2014

Timetable is subject to change at the discretion of City Council

Bethany M. Smith
Interim City Attorney

Gilbert W. Carlson
Assistant City Attorney

Kevin A. Rogers
Staff Attorney

Robert C. Rottach
Staff Attorney

OFFICE OF THE

CITY ATTORNEY

161 West Michigan Avenue
Jackson, MI 49201
(517) 788-4050
(517) 788-4023
Fax: (866) 971-2117

CITY COUNCIL MEETING
December 17, 2013

MEMO TO: Honorable Mayor and City Councilmembers

FROM: Bethany M. Smith, Interim City Attorney

DATE: December 11, 2013

SUBJECT: Accounts Receivable Write-Off Request

RECOMMENDATION: Approve the Accounts Receivable Write-Off Request.

Pursuant to a 1969 Resolution, the Finance Department shall submit to the City Council a list of all accounts over 6 years old and any other accounts for which collection efforts should not be continued due to impracticality and impossibility, as recommended by the City Attorney's Office.

Attached is a memorandum from the Finance Department entitled "Accounts Receivable Write Offs" dated November 8, 2013 requesting a write-off for the listed debts attached to the memorandum. The City Attorney's Office concurs with the request. Therefore, it is the recommendation of the City Attorney's Office that Council approve the debts listed for write-off as bad debts.

The requisite action is to approve the attached debts for write-off as bad debts.

If Council has any questions, please contact me.

Cc Patrick H. Burtch, City Manager
Phil Hones, Finance Director
Steve Maga, Finance Department

Finance Department

161 W. Michigan Avenue - Jackson, MI 49201
Telephone: (517) 788-4030 — Facsimile: (517) 768-5857

November 8, 2013

TO: Bethany Smith, City Attorney

FROM: Steven Maga, Assistant Finance Director

RE: **Accounts Receivable Write-off**

Attached for your review is a listing of Municipal Accounts Receivables prepared by the Finance Department. Upon your recommendation, please forward for write-off as uncollectible to the City Council. These invoices are:

- Unpaid for over 3 years after being turned over to a collection agency OR
- Unpaid for over 3 years after being notified of a Bankruptcy filing OR
- Billed to Jackson County while in a foreclosure status and not collectible from the County

City of Jackson
Schedule of Invoices for Write-Off

Inv Date	Invoice #	Customer #	Owner Name	Service Code	Description	Current Amount Due	Comments
2/3/2005	1000001509	12846	SIZEMORE, LUIS, LEE	LGHT	LIGHT POLE DAMAGE	2,549.92	Collection Agency > 3 yrs old
11/10/2005	1000001504	2138	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	6,983.10	Bankruptcy > 3 yrs old
11/10/2005	1000001505	2136	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	2,490.19	Bankruptcy > 3 yrs old
FY 2006-08	1000001192	11328	STARTING POINT FINANCIAL	CODE	PORCH DEMOLITION-605 WILLIAMS	1,332.44	County Property > 3 yrs old
FY 2006-08	1000001552	2138	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	4,689.43	Bankruptcy > 3 yrs old
FY 2006-08	1000001584	2136	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	1,630.73	Bankruptcy > 3 yrs old
FY 2006-08	1000001585	2138	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	3,852.70	Bankruptcy > 3 yrs old
FY 2006-08	1000001586	2136	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	806.85	Bankruptcy > 3 yrs old
FY 2006-08	1000001587	2136	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	1,591.55	Bankruptcy > 3 yrs old
FY 2006-08	1000001588	2138	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	2,647.82	Bankruptcy > 3 yrs old
FY 2006-08	1000001589	2136	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	168.58	Bankruptcy > 3 yrs old
FY 2006-08	1000001596	2138	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	2,223.27	Bankruptcy > 3 yrs old
FY 2006-08	1000001601	2138	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	3,448.91	Bankruptcy > 3 yrs old
FY 2006-08	1000001602	2136	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	1,702.74	Bankruptcy > 3 yrs old
FY 2006-08	1000001605	2136	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	2,395.18	Bankruptcy > 3 yrs old
FY 2006-08	1000001607	2138	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	4,563.95	Bankruptcy > 3 yrs old
FY 2006-08	1000001610	2138	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	4,407.86	Bankruptcy > 3 yrs old
FY 2006-08	1000001614	2136	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	1,726.12	Bankruptcy > 3 yrs old
FY 2006-08	1000001617	2136	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	1,575.20	Bankruptcy > 3 yrs old
FY 2006-08	1000001619	2138	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	7,024.44	Bankruptcy > 3 yrs old
FY 2006-08	1000001621	2136	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	3,126.94	Bankruptcy > 3 yrs old
FY 2006-08	1000001623	2138	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	3,876.36	Bankruptcy > 3 yrs old
FY 2006-08	1000001625	2138	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	786.12	Bankruptcy > 3 yrs old
FY 2006-08	1000001626	2136	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	3,143.16	Bankruptcy > 3 yrs old
FY 2006-08	1000001632	2136	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	3,766.59	Bankruptcy > 3 yrs old
FY 2006-08	1000001634	2136	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	4,371.85	Bankruptcy > 3 yrs old
FY 2006-08	1000001636	2138	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	2,124.33	Bankruptcy > 3 yrs old
FY 2006-08	1000001637	2136	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	3,004.82	Bankruptcy > 3 yrs old
FY 2006-08	1000001638	2138	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	1,526.48	Bankruptcy > 3 yrs old
FY 2006-08	1000001639	2136	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	1,439.75	Bankruptcy > 3 yrs old
FY 2006-08	1000001640	2138	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	785.54	Bankruptcy > 3 yrs old
FY 2006-08	1000001641	2136	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	747.08	Bankruptcy > 3 yrs old
FY 2006-08	1000001642	2136	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	1,877.28	Bankruptcy > 3 yrs old
FY 2006-08	1000001643	2136	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	734.59	Bankruptcy > 3 yrs old
FY 2006-08	1000001644	2138	MICHNER METAL TREAT DIVISION	WWTP	IPPM MONITORING	2,069.84	Bankruptcy > 3 yrs old
FY 2006-08	1000001682	2946	MICHNER PLATING METAL TREAT INC	FIRE	FIRE PERMIT	135.63	Bankruptcy > 3 yrs old
FY 2006-08	1000001683	2138	MICHNER METAL TREAT DIVISION	FIRE	FIRE PERMIT	1,084.74	Bankruptcy > 3 yrs old
9/25/2009	900000008	16149	COLVIN JOHN M	CLUP	PROPERTY CLEANUP	203.22	Collection Agency > 3 yrs old
9/25/2009	900000010	15779	HERNANDEZ LAURA	CLUP	PROPERTY CLEANUP	141.44	Collection Agency > 3 yrs old
9/25/2009	900000012	16360	BRYCE PETERS FINANCIAL CORP	CLUP	PROPERTY CLEANUP	146.21	Collection Agency > 3 yrs old
9/29/2009	900000062	40	GOLDEN, RAFAEL	CLUP	PROPERTY CLEANUP	807.70	Collection Agency > 3 yrs old
9/29/2009	900000069	15999	TJ & J INVESTMENTS	WEED	WEED MOWING	40.74	Collection Agency > 3 yrs old
9/29/2009	900000074	16794	WINTERS PEGGY L	WEED	WEED MOWING	54.99	Collection Agency > 3 yrs old
9/29/2009	900000077	13228	ROSE, BRADLEY/KAREN	WEED	WEED MOWING	42.12	Collection Agency > 3 yrs old
9/29/2009	900000078	15893	NICE, LOUIS	WEED	WEED MOWING	50.88	Collection Agency > 3 yrs old
10/7/2009	900000111	15854	TRAINOR FINANCIAL LLC	CLUP	PROPERTY CLEANUP	354.18	Collection Agency > 3 yrs old
10/15/2009	900000170	14312	SPRINGBORN, ERIC & LAURA	WEED	WEED MOWING	42.58	Collection Agency > 3 yrs old
10/15/2009	900000173	16360	BRYCE PETERS FINANCIAL CORP	BDUP	PROPERTY BOARDUP	104.78	Collection Agency > 3 yrs old
10/15/2009	900000176	105	GO INVEST WISELY LLC	BDUP	PROPERTY BOARDUP	104.78	Collection Agency > 3 yrs old
10/21/2009	900000194	16125	SIMMONS, LARON, H	CLUP	PROPERTY CLEANUP	354.18	Collection Agency > 3 yrs old
10/22/2009	900000211	15650	GO INVEST WISELY LLC	CLUP	PROPERTY CLEANUP	354.18	Collection Agency > 3 yrs old
10/27/2009	900000222	8831	DROSOFSKE, JACQUELYN	WEED	WEED MOWING	100.70	Collection Agency > 3 yrs old
11/10/2009	900000281	15300	HUNT, JEFFREY	BDUP	PROPERTY BOARDUP	253.13	Collection Agency > 3 yrs old
11/10/2009	900000283	150	BRYCE PETERS FINANCIAL CORP	BDUP	PROPERTY BOARDUP	207.26	Collection Agency > 3 yrs old
12/3/2009	900000371	189	MICHAEL R. EASTER	LGHT	LIGHT POLE DAMAGE	394.50	Collection Agency > 3 yrs old
12/10/2009	900000409	15448	DAVIS, CHARLES	BDUP	PROPERTY BOARDUP	99.03	Collection Agency > 3 yrs old
12/10/2009	900000417	203	JR INVESTORS LLC	CLUP	PROPERTY CLEANUP	1,052.50	Collection Agency > 3 yrs old
12/11/2009	900000443	14830	WHITE, MICHAEL	CLUP	PROPERTY CLEANUP	291.15	Collection Agency > 3 yrs old
12/16/2009	900000447	16448	DAVIS, CHARLES	CLUP	PROPERTY CLEANUP	951.62	Collection Agency > 3 yrs old
12/28/2009	900000468	250	TATES, KANDISE Y.	TRMS	LIGHT POLE DAMAGE	1,500.78	Collection Agency > 3 yrs old
12/28/2009	900000473	12016	NEYOME, MICHAEL	CLUP	PROPERTY CLEANUP	403.22	Collection Agency > 3 yrs old
1/7/2010	1000000534	14312	SPRINGBORN, ERIC & LAURA	CODE	GARAGE DEMOLITION-137 W. MASON	2,188.10	Collection Agency > 3 yrs old
1/21/2010	1000000596	350	ZOKVIC, DAVID S.	TRMS	LIGHT POLE DAMAGE	87.19	Collection Agency > 3 yrs old
1/21/2010	1000000605	14295	COLE, GREGORY	CLUP	PROPERTY CLEANUP	402.23	Collection Agency > 3 yrs old
2/8/2010	1000000649	16149	COLVIN JOHN M	TRMS	LIGHT POLE DAMAGE	100.18	Collection Agency > 3 yrs old
2/8/2010	1000000661	15005	SMITH, WILLIAM J	CODE	DANGEROUS STRUCTURE FEES	210.00	Collection Agency > 3 yrs old
2/8/2010	1000000688	14505	WALLACE, MELISSA	CODE	HOUSE DEMOLITION-416 WILSON	5,400.51	Collection Agency > 3 yrs old
2/22/2010	1000000737	15154	FAITH VENTURES MANAGEMENT LLC	CLUP	PROPERTY CLEANUP	393.84	Collection Agency > 3 yrs old
3/12/2010	1000001025	437	BURGESS, HANNAH R.	TRMS	LIGHT POLE DAMAGE	75.12	Collection Agency > 3 yrs old
3/12/2010	1000001026	438	CALDWELL, JEREMY A.	TRMS	LIGHT POLE DAMAGE	81.59	Collection Agency > 3 yrs old
4/7/2010	1000001099	475	LEVY, VICKY LYNN	WATER	FIRE HYDRANT DAMAGE	3,465.87	Collection Agency > 3 yrs old
4/7/2010	1000001100	8317	GRINDALL & WHITE	WATER	WATER OT SERVICE CALL	99.04	Collection Agency > 3 yrs old
4/15/2010	1000001135	14295	COLE, GREGORY A	WATER	MISSING WATER METER	76.88	Collection Agency > 3 yrs old
4/20/2010	1000001145	16797	LEVY TAMIRA K	BDUP	PROPERTY BOARDUP	63.78	Collection Agency > 3 yrs old
4/20/2010	1000001154	16665	SCOTT, VIVIAN	CLUP	PROPERTY CLEANUP	421.98	Collection Agency > 3 yrs old
4/20/2010	1000001155	512	WONNACOTT, KENNETH J	CLUP	PROPERTY CLEANUP	230.74	Collection Agency > 3 yrs old
4/20/2010	1000001156	16149	COLVIN JOHN M	CLUP	PROPERTY CLEANUP	157.66	Collection Agency > 3 yrs old
4/28/2010	1000001175	520	HOUSE OF JOHNSON	FORTRY	CEMETERY BURIAL OT	742.50	Collection Agency > 3 yrs old
4/28/2010	1000001204	15854	TRAINOR FINANCIAL LLC	CODE	CODE ENFORCEMENT INSPECTION	21.25	Collection Agency > 3 yrs old

City of Jackson
Schedule of Invoices for Write-Off

Inv Date	Invoice #	Customer #	Owner Name	Service Code	Description	Current Amount Due	Comments
4/28/2010	1000001214	14406	BURGETT, TIMOTHY/MARNIE	CODE	CODE ENFORCEMENT INSPECTION	22.50	Collection Agency > 3 yrs old
5/7/2010	1000001233	515	FOSTER, KATRINA A	CLUP	PROPERTY CLEANUP	443.76	Collection Agency > 3 yrs old
5/11/2010	1000001241	516	FOSTER, KATRINA A	BDUP	PROPERTY BOARDUP	64.49	Collection Agency > 3 yrs old
5/11/2010	1000001242	14313	LEVY, TAMIRA, K	BDUP	PROPERTY BOARDUP	255.02	Collection Agency > 3 yrs old
5/12/2010	1000001244	14313	LEVY, TAMIRA, K	BDUP	PROPERTY BOARDUP	63.78	Collection Agency > 3 yrs old
5/12/2010	1000001245	5866	HUBBARD, BARBARA, J	BDUP	PROPERTY BOARDUP	128.98	Collection Agency > 3 yrs old
5/12/2010	1000001246	16026	FIELDING PROPERTIES LLC	BDUP	PROPERTY BOARDUP	255.02	Collection Agency > 3 yrs old
5/14/2010	1000001294	16458	JACKSON, RHONDA	CODE	CODE ENFORCEMENT INSPECTION	22.50	Collection Agency > 3 yrs old
5/14/2010	1000001298	584	GRAUMAN, JAMES/LINDA	CODE	CODE ENFORCEMENT INSPECTION	22.50	Collection Agency > 3 yrs old
5/27/2010	1000001386	15564	BURGETT, TIMOTHY/MARNIE	WEED	WEED MOWING	57.40	Collection Agency > 3 yrs old
5/27/2010	1000001392	10653	JEHNZEN, MYRON	WEED	WEED MOWING	57.40	Collection Agency > 3 yrs old
5/27/2010	1000001396	16332	GIST, TROY, D	WEED	WEED MOWING	57.40	Collection Agency > 3 yrs old
5/27/2010	1000001402	13527	WILSON, BRUCE	WEED	WEED MOWING	50.48	Collection Agency > 3 yrs old
5/27/2010	1000001410	616	BEST BUY PROPERTIES LLC	WEED	WEED MOWING	57.40	Collection Agency > 3 yrs old
5/27/2010	1000001425	5866	HUBBARD, BARBARA, J	WEED	WEED MOWING	58.04	Collection Agency > 3 yrs old
5/28/2010	1000001431	630	MINIX, GARY	FORTRY	CEMETERY FOUNDATION	112.50	Collection Agency > 3 yrs old
6/8/2010	1000001515	673	SIMOKAITIS, STEVE	BDUP	PROPERTY BOARDUP	252.19	Collection Agency > 3 yrs old
6/8/2010	1000001517	516	FOSTER, KATRINA A	BDUP	PROPERTY BOARDUP	31.84	Collection Agency > 3 yrs old
6/8/2010	1000001523	584	GRAUMAN, JAMES/LINDA	CLUP	PROPERTY CLEANUP	623.21	Collection Agency > 3 yrs old
6/8/2010	1000001535	11408	HALL, BRADFORD/EVELYN	WEED	WEED MOWING	56.76	Collection Agency > 3 yrs old
6/8/2010	1000001537	16665	SCOTT, VIVIAN	WEED	WEED MOWING	95.31	Collection Agency > 3 yrs old
6/8/2010	1000001554	689	GIPSONK, JAMIE & WILLIAM	WEED	WEED MOWING	56.76	Collection Agency > 3 yrs old
6/10/2010	1000001603	717	WILKES, CHARLES JR	WEED	WEED MOWING	113.52	Collection Agency > 3 yrs old
6/10/2010	1000001613	730	RICHARD, CHRISTY A. & ERIK D.	WEED	WEED MOWING	56.76	Collection Agency > 3 yrs old
6/10/2010	1000001645	16585	SMITH, MONTEZ J & JENNIFER R	WEED	WEED MOWING	56.76	Collection Agency > 3 yrs old
6/10/2010	1000001661	12815	TRETCHEL, CHET/CHRISTINA	WEED	WEED MOWING	57.40	Collection Agency > 3 yrs old
6/11/2010	1000001684	15089	CROSS, KELLY, CLAY	LGHT	LIGHT POLE DAMAGE	4,162.70	Collection Agency > 3 yrs old
6/11/2010	1000001685	16808	KARPANAI, NICHOLAS, A	TRMS	STREET SIGN REPLACEMENT	86.15	Collection Agency > 3 yrs old
6/11/2010	1000001686	14312	SPRINGBORN, ERIC & LAURA	CODE	HOUSE DEMOLITION-187 W. MASON	11,476.56	Collection Agency > 3 yrs old
6/11/2010	1000001687	14312	SPRINGBORN, ERIC & LAURA	CLUP	PROPERTY CLEANUP	1,061.38	Collection Agency > 3 yrs old
6/11/2010	1000001694	17029	ROBINSON, JUSTIN, B	TRMS	GUARDRAIL REPLACEMENT	1,845.36	Collection Agency > 3 yrs old
6/11/2010	1000001695	14312	SPRINGBORN, ERIC & LAURA	WEED	WEED MOWING	43.57	Collection Agency > 3 yrs old
6/15/2010	1000001701	15410	LEVY, TAMIRA	BDUP	PROPERTY BOARDUP	252.19	Collection Agency > 3 yrs old
6/16/2010	1000001741	16026	FIELDING PROPERTIES LLC	CODE	CODE ENFORCEMENT INSPECTION	22.25	Collection Agency > 3 yrs old
6/16/2010	1000001774	15410	LEVY, TAMIRA	WEED	WEED MOWING	49.92	Collection Agency > 3 yrs old
6/24/2010	1000001809	14268	OLIVER II, LYNARD	CODE	CODE ENFORCEMENT INSPECTION	89.00	Collection Agency > 3 yrs old
6/28/2010	1000001837	16026	FIELDING PROPERTIES LLC	CLUP	PROPERTY CLEANUP	185.67	Collection Agency > 3 yrs old
7/1/2010	1000001854	810	KUKKONEN, KRIST	WEED	WEED MOWING	56.76	Collection Agency > 3 yrs old
7/1/2010	1000001856	10653	JEHNZEN, MYRON	WEED	WEED MOWING	56.76	Collection Agency > 3 yrs old
7/2/2010	1000001865	125	BABINEAU, KEVIN & BONNIE	WEED	WEED MOWING	56.76	Collection Agency > 3 yrs old
7/6/2010	1000001880	13284	ANDERSON, BEATRICE ETAL	WEED	WEED MOWING	56.76	Collection Agency > 3 yrs old
7/6/2010	1000001881	930	ROGERS, ROSS & BEATRICE	WEED	WEED MOWING	57.40	Collection Agency > 3 yrs old
7/12/2010	1000001910	844	BATESON FARMS	FORTRY	COMPOST	616.00	Collection Agency > 3 yrs old
7/12/2010	1000001942	14469	WILKS, CHERYL	CODE	CODE ENFORCEMENT INSPECTION	22.25	Collection Agency > 3 yrs old
7/13/2010	1000001975	673	SIMOKAITIS, STEVE	CLUP	PROPERTY CLEANUP	242.12	Collection Agency > 3 yrs old
7/21/2010	1000001984	14469	WILKS, CHERYL	CLUP	PROPERTY CLEANUP	434.00	Collection Agency > 3 yrs old
7/21/2010	1000001986	877	NEWMAN, TIFFANY NICOLE	TRMS	SIGN REPLACEMENT	199.08	Collection Agency > 3 yrs old
7/27/2010	1000001999	394	MISSION PROPERTIES LLC	WATER	WATER METER REPLACEMENT	82.52	Collection Agency > 3 yrs old
7/27/2010	1000002031	940	MARSH, NICHOLAS R & AMY E	CODE	CODE ENFORCEMENT INSPECTION	22.00	Collection Agency > 3 yrs old
7/28/2010	1000002055	8426	GRAUMAN, JAMES, B	WEED	WEED MOWING	49.36	Collection Agency > 3 yrs old
7/28/2010	1000002056	16888	AURORA LOAN SERVICES LLC	WEED	WEED MOWING	49.36	Collection Agency > 3 yrs old
7/28/2010	1000002064	14926	JACKSON, LAMAR	WEED	WEED MOWING	49.36	Collection Agency > 3 yrs old
7/28/2010	1000002083	981	TRIAD DOMINION EQUITIES LLC	WEED	WEED MOWING	49.36	Collection Agency > 3 yrs old
7/28/2010	1000002101	16332	GIST, TROY, D	WEED	WEED MOWING	56.12	Collection Agency > 3 yrs old
7/28/2010	1000002103	16571	SMITH BEVERLY H	WEED	WEED MOWING	56.12	Collection Agency > 3 yrs old
7/29/2010	1000002107	14313	LEVY, TAMIRA, K	WEED	WEED MOWING	49.36	Collection Agency > 3 yrs old
7/29/2010	1000002108	16026	FIELDING PROPERTIES LLC	WEED	WEED MOWING	56.12	Collection Agency > 3 yrs old
7/29/2010	1000002114	689	GIPSON, JAMIE & WILLIAM	WEED	WEED MOWING	56.12	Collection Agency > 3 yrs old
8/6/2010	1000002173	954	RADIO SHACK	POLICE	FALSE ALARM CALL	28.72	Collection Agency > 3 yrs old
8/6/2010	1000002174	954	RADIO SHACK	POLICE	FALSE ALARM CALL	28.72	Collection Agency > 3 yrs old
8/9/2010	1000002214	13527	WILSON, BRUCE	WEED	WEED MOWING	51.60	Collection Agency > 3 yrs old
8/9/2010	1000002224	616	BEST BUY PROPERTIES LLC	WEED	WEED MOWING	58.68	Collection Agency > 3 yrs old
8/23/2010	1000002257	16458	CAWTHON, BOBBY/MARY	CLUP	PROPERTY CLEANUP	1,633.94	Collection Agency > 3 yrs old
8/23/2010	1000002331	16458	CAWTHON, BOBBY/MARY	CODE	CODE ENFORCEMENT INSPECTION	23.00	Collection Agency > 3 yrs old
8/26/2010	1000002377	11408	HALL, BRADFORD/EVELYN	WEED	WEED MOWING	58.68	Collection Agency > 3 yrs old
8/26/2010	1000002384	16665	SCOTT, VIVIAN	WEED	WEED MOWING	51.60	Collection Agency > 3 yrs old
8/26/2010	1000002385	16363	SMITH, MONTEZ J & JENNIFER R	WEED	WEED MOWING	58.68	Collection Agency > 3 yrs old
8/26/2010	1000002387	10653	JEHNZEN, MYRON	WEED	WEED MOWING	58.68	Collection Agency > 3 yrs old
8/26/2010	1000002396	1034	HEARNS, MARY D.	WEED	WEED MOWING	58.68	Collection Agency > 3 yrs old
8/26/2010	1000002399	16792	GITTENS, ANTHONY	WEED	WEED MOWING	70.44	Collection Agency > 3 yrs old
8/26/2010	1000002401	16797	LEVY TAMIRA K	WEED	WEED MOWING	51.60	Collection Agency > 3 yrs old
8/26/2010	1000002403	16115	RATTS, RICHARD	WEED	WEED MOWING	58.68	Collection Agency > 3 yrs old
8/26/2010	1000002404	14406	BURGETT, TIMOTHY/MARNIE	WEED	WEED MOWING	58.68	Collection Agency > 3 yrs old
8/27/2010	1000002418	5866	HUBBARD, BARBARA, J	WEED	WEED MOWING	58.68	Collection Agency > 3 yrs old
8/27/2010	1000002432	11328	STARTING POINT FINANCIAL	WEED	WEED MOWING	51.60	Collection Agency > 3 yrs old
8/27/2010	1000002433	16085	COX, ESTHER, D	WEED	WEED MOWING	58.68	Collection Agency > 3 yrs old
9/8/2010	1000002514	16580	EWALD CARLYLE H ESTATE	CODE	CODE ENFORCEMENT INSPECTION	22.75	Collection Agency > 3 yrs old
9/17/2010	1000002553	10653	JEHNZEN, MYRON	WEED	WEED MOWING	58.04	Collection Agency > 3 yrs old
9/17/2010	1000002577	296	SMITH, MONTEZ & JENNIFER	WEED	WEED MOWING	58.04	Collection Agency > 3 yrs old

City of Jackson
Schedule of Invoices for Write-Off

Inv Date	Invoice #	Customer #	Owner Name	Service Code	Description	Current Amount Due	Comments
9/21/2010	1000002702	1168	MCMANAMON, DAVID PAUL	WATER	FIRE HYDRANT REPLACEMENT	2,655.44	Collection Agency > 3 yrs old
9/21/2010	1000002736	16332	GIST, TROY, D	WEED	WEED MOWING	58.04	Collection Agency > 3 yrs old
9/21/2010	1000002737	125	BABINEAU, KEVIN & BONNIE	WEED	WEED MOWING	58.04	Collection Agency > 3 yrs old
9/21/2010	1000002751	13284	ANDERSON, BEATRICE ETAL	WEED	WEED MOWING	58.04	Collection Agency > 3 yrs old
9/21/2010	1000002752	830	ROGERS, ROSS & BEATRICE	WEED	WEED MOWING	58.04	Collection Agency > 3 yrs old
9/30/2010	1000002772	1190	TORRES, VICTORIA JUANITA	LGHT	LIGHT POLE DAMAGE	3,544.07	Collection Agency > 3 yrs old
10/1/2010	1000002776	15410	LEVY, TAMIRA	WEED	WEED MOWING	50.48	Collection Agency > 3 yrs old
10/1/2010	1000002779	512	WONNACOTT, KENNETH J	WEED	WEED MOWING	68.90	Collection Agency > 3 yrs old
10/1/2010	1000002781	15148	ROBINSON, CHRISTOPHER	WEED	WEED MOWING	68.90	Collection Agency > 3 yrs old
10/1/2010	1000002784	16026	FIELDING PROPERTIES LLC	WEED	WEED MOWING	149.20	Collection Agency > 3 yrs old
10/1/2010	1000002788	296	SMITH, MONTEZ & JENNIFER	WEED	WEED MOWING	57.40	Collection Agency > 3 yrs old
10/1/2010	1000002800	1178	CALLENDER, DONALD	WEED	WEED MOWING	57.40	Collection Agency > 3 yrs old
10/11/2010	1000002838	1200	MIZE, HARLEY JAMES	TRMS	SIGN REPLACEMENT	78.60	Collection Agency > 3 yrs old
10/11/2010	1000002841	16582	BRYCE PETERS FINANCIAL CORP	BDUP	PROPERTY BOARDUP	255.02	Collection Agency > 3 yrs old
10/18/2010	1000002908	5866	HUBBARD, BARBARA, J ESTATE	CODE	CODE ENFORCEMENT INSPECTION	84.40	Collection Agency > 3 yrs old
10/18/2010	1000002920	16026	FIELDING PROPERTIES LLC	CODE	CODE ENFORCEMENT INSPECTION	84.40	Collection Agency > 3 yrs old
10/18/2010	1000002921	15410	LEVY, TAMIRA	CODE	CODE ENFORCEMENT INSPECTION	84.40	Collection Agency > 3 yrs old
10/18/2010	1000002923	14313	LEVY, TAMIRA, K	CODE	CODE ENFORCEMENT INSPECTION	84.40	Collection Agency > 3 yrs old
10/18/2010	1000002929	15410	LEVY, TAMIRA	CODE	CODE ENFORCEMENT INSPECTION	22.50	Collection Agency > 3 yrs old
10/18/2010	1000002941	940	MARSH, NICHOLAS R & AMY E	CODE	CODE ENFORCEMENT INSPECTION	22.50	Collection Agency > 3 yrs old
10/18/2010	1000002971	16582	BRYCE PETERS FINANCIAL CORP	CODE	CODE ENFORCEMENT INSPECTION	22.50	Collection Agency > 3 yrs old
10/18/2010	1000003033	1262	WILLIAMS, ANGELO S	CODE	CODE ENFORCEMENT INSPECTION	22.50	Collection Agency > 3 yrs old
10/18/2010	1000003043	8426	GRAUMAN, JAMES & LINDA	WEED	WEED MOWING	50.48	Collection Agency > 3 yrs old
10/19/2010	1000003065	16471	LIQUIDATION PROPERTIES INC	CODE	CODE ENFORCEMENT INSPECTION	22.50	Collection Agency > 3 yrs old
10/22/2010	1000003098	16582	BRYCE PETERS FINANCIAL CORP	CLUP	PROPERTY CLEANUP	438.88	Collection Agency > 3 yrs old
10/27/2010	1000003103	717	WILKES, CHARLES JR	WEED	WEED MOWING	68.90	Collection Agency > 3 yrs old
10/27/2010	1000003107	810	KUKKONEN, KRISTI	WEED	WEED MOWING	57.40	Collection Agency > 3 yrs old
6/5/2012	1200007101	11732	STATE OF MICHIGAN	WEED	WEED MOWING	134.61	Landbank Property
7/3/2012	1200007348	2489	JACKSON COUNTY TREASURER	CODE	HOUSE DEMOLITION-407 HOMEWILD	16,147.12	Demo of County Property
10/12/2012	1200008037	2684	JACKSON COUNTY TREASURER	CODE	HOUSE DEMOLITION-303 W MORRELL	22,483.58	Demo of County Property
10/12/2012	1200008038	2685	JACKSON COUNTY TREASURER	CODE	HOUSE DEMOLITION-301 W MORRELL	11,375.29	Demo of County Property
10/12/2012	1200008039	2686	JACKSON COUNTY TREASURER	CODE	HOUSE DEMOLITION-809 HOMEWILD	9,039.04	Demo of County Property
10/12/2012	1200008040	2687	JACKSON COUNTY TREASURER	CODE	HOUSE DEMOLITION-311 E EUCLID	11,482.09	Demo of County Property
10/12/2012	1200008041	2688	JACKSON COUNTY TREASURER	CODE	HOUSE DEMOLITION-330 S DWIGHT	9,039.04	Demo of County Property
11/15/2012	1200008202	2605	JACKSON COUNTY TREASURER	CODE	GARAGE DEMOLITION-915 S JACKSON	1,897.48	Demo of County Property
11/15/2012	1200008206	2747	JACKSON COUNTY TREASURER	CODE	HOUSE DEMOLITION-1018 PIGEON	14,178.96	Demo of County Property
11/15/2012	1200008207	2749	JACKSON COUNTY TREASURER	CODE	HOUSE DEMOLITION-1615 DEYO	10,988.96	Demo of County Property
11/27/2012	1200008311	2908	JACKSON COUNTY TREASURER	CODE	HOUSE DEMOLITION-115 -117 E MASON	36,947.88	Demo of County Property
11/27/2012	1200008312	2909	JACKSON COUNTY TREASURER	CODE	HOUSE DEMOLITION-1025 PIGEON	10,195.88	Demo of County Property
11/27/2012	1200008313	2911	JACKSON COUNTY TREASURER	CODE	HOUSE DEMOLITION-1013 WILLIAMS	9,304.44	Demo of County Property
11/27/2012	1200008314	2918	JACKSON COUNTY TREASURER	CODE	HOUSE DEMOLITION-1019 WILLIAMS	9,195.22	Demo of County Property
11/27/2012	1200008316	2926	JACKSON COUNTY TREASURER	CODE	HOUSE DEMOLITION-1045 WILLIAMS	10,682.62	Demo of County Property
12/11/2012	1200008593	16124	COUNTY OF JACKSON C/O KAREN COFFMAN	CODE	HOUSE DEMOLITION-119 FRANCIS	6,552.17	Demo of County Property
12/11/2012	1200008595	3192	JACKSON COUNTY TREASURER	CODE	HOUSE DEMOLITION-933 CHITTOCK	8,509.67	Demo of County Property
3/18/2013	1300009864	3795	JACKSON COUNTY TREASURER	CODE	HOUSE DEMOLITION-910 FIRST	14,322.00	Demo of County Property
			Total Invoices			362,938.08	

Bethany M. Smith
Interim City Attorney

Gilbert W. Carlson
Assistant City Attorney

Kevin A. Rogers
Staff Attorney

Robert C. Rottach
Staff Attorney

OFFICE OF THE

CITY ATTORNEY

161 West Michigan Avenue
Jackson, MI 49201
(517) 788-4050
(517) 788-4023
Fax: (866) 971-2117

CITY COUNCIL MEETING
December 17, 2013

MEMO TO: Honorable Mayor and City Councilmembers

FROM: Kevin A. Rogers, Staff Attorney

DATE: December 11, 2013

SUBJECT: Stormwater Management Manual, Revised

RECOMMENDATION: Approve the Stormwater Management Manual as revised.

Attached please find a copy of the proposed City of Jackson Stormwater Management Manual (the manual). The manual was revised accordingly:

- All references in the manual to a Storm Water User Fee, a Storm Water User Credit, and any other ancillary or supporting statements thereto have been revised to reflect the current status of the City Code. These were primarily located under Section II of the manual.

- Under the direction of the Engineering Department, the Index of the manual was updated to reflect the addition of forms to the manual. These additions are under the sub-heading "Figures" at numbers two (2) – seven (7).

- The cover art was changed to better reflect the nature of the Stormwater management policy.

- Language was added to the cover of the manual indicating the date of these revisions.

- Other than an occasional minor modification of grammar or spelling, all other sections of the manual remain unchanged.

Pursuant to The City Code at Chapter 27, Water and Sewer; Article VI, Storm Water Utility, Council must be given an opportunity to review regulations adopted in order to implement the intent of the Article. To wit:

27-193(1) [T]he administrator may adopt regulations to implement the intent of the article.

27-193(2) [T]hese regulations shall take effect thirty (30) days after being filed with the City Clerk unless modified or disapproved by the Council.

The requisite action is to approve the changes to the manual.

If Council has any questions, please feel free to contact me.

cc w/out att: Patrick H. Burtch, City Manager
Jon Dowling, City Engineer
Bethany M. Smith, Interim City Attorney

City of Jackson

Stormwater Management Manual

Effective Date February 27, 2012

Easement Form added 11/8/12

Worksheets 4A, 4B, 4C & 4D revised 12/03/12

Revised to remove Section II, 12/10/13

Table of Contents

Section I - Design Requirements

Appendices

Figures

SECTION I – Design Requirements

1.0 INTRODUCTION

The intent of this document is to provide information specific to the City of Jackson's design standards to address stormwater quantity and quality. This manual will provide the policy framework, implementation procedures and design standards for stormwater controls.

The Jackson City Council adopted two ordinances on January 11, 2011:

> The first is Ordinance No. 2011.01 known as the Post-Construction Stormwater Management Ordinance. This ordinance requires that a stormwater management permit be obtained prior to commencing any land disturbance activities in connection with new development and redevelopment projects, as defined in the ordinance.
>
> The second is Ordinance No. 2011.02, known as the Stormwater Utility Ordinance. The Design Requirements section of this manual deals with the Post-Construction Stormwater Management Ordinance and the Credit Requirements section deals with the Stormwater Utility Ordinance.

Section I outlines design requirements for stormwater quantity and quality, and flood control. The City of Jackson has adopted the *State's Low Impact Development (LID) Manual for Michigan* to guide the design of proposed Best Management Practices (BMPs) for water quality and quantity so they meet the minimum treatment volume and channel protection standards provided in this document.

This edition of the rules for the management of stormwater within the City of Jackson reflects a stormwater management philosophy that considers stream channel protection and stormwater quality management in addition to flood control. These revisions are based upon the most current State Permit requirements concerning stormwater management. This manual will be updated periodically as additional BMPs are developed and/or as requirements change.

The following section outlines basic ideas and principals of stormwater management, and provides a conceptual foundation for the design standards contained in this document.

2.0 THE ROLE OF THE DEPARTMENT OF PUBLIC WORKS AND THE MICHIGAN LID MANUAL

The Department of Public Works will review all plans submitted to the standards outlined in this document. Those sites that must submit to this office for review are listed below. The Department exercises authority over permitted activities of structural facilities that convey and treat stormwater runoff that will be generated from a site as a result of its design. The Department rules will govern the design of such management facilities with the following objectives:

- Incorporate design standards to control both water quantity and quality.
- Encourage innovative stormwater management practices that meet the criteria contained within these rules.
- Ensure future maintenance of facilities by planning for it as a part of system design.
- Make the safety of facilities a priority.
- Strengthen the protection of natural features.
- Encourage more effective soil erosion and sedimentation control measures.

With the change in land surface generated by land development, not only does the peak rate of runoff increase but also the total volume of runoff often dramatically increases. LID focuses on both peak rates and total volumes of runoff. LID application techniques are designed to hold constant peak rates of runoff for larger storms and prevent runoff volume increases for the much more frequent, smaller storms. Thus, the natural flow pattern is kept in better balance, avoiding many of the adverse impacts associated with stormwater runoff. In design, LID is structured to maximize the use of natural features to mimic predevelopment hydrology.

3.0 APPLICABILITY

To prevent an increase in non-point source pollution, these Standards and requirements shall apply to the following:

1) Any new development or redevelopment project that have earth-disturbing activities greater than or equal to 1-acre, or earth disturbing activities less than 1-acre on parcels that are part of a larger plan of development, or include a net increase in impervious area of 1,000 square feet or more, or result in the alteration of existing storm water flow patterns and discharges to a surface water of the state.
2) Any new development or redevelopment project that would change alter or convert the use of land to a stormwater hotspot.

3.1 Sites That Are Hot Spots

Hotspots are defined in the ordinance. They are sites that have a higher potential risk for spills, leaks or illicit discharges and include: any site that handles vehicles for fueling, salvage, service and maintenance, and cleaning; fleet storage areas; industrial sites; outdoor liquid container storage; recycling facilities; etc.

3.2 Stormwater Plan Submittal Requirements

These requirements have been developed in the context of plat submittal under Act 288 of the Public Acts of 1967, as amended, the Michigan Land Division Act. However, they shall also be followed for all other categories of development, including site condominiums and site plans.

The following developments will be submitted to the City for review and approval:

1. Plats submitted under Act 288 of the Public Acts of 1967, as amended, the Michigan Land Division Act
2. Site Condominium plans prepared under Act 59, P.A. 1978, as amended, where local government ordinances require.
3. Mobile home plans prepared under Act 96, PA. 1987.

The developer will describe the mechanism to be established for long-term maintenance and schedule of the development's private stormwater management system (see ordinance for details).

Should the proprietor plan to subdivide or develop a given area but wishes to begin with only a portion of the total area, the original preliminary plan will include the proposed general layout for the entire area. The first phase of the subdivision will be superimposed upon the overall plan in order to illustrate clearly the method of development that the proprietor intends to follow. Each subsequent phase will follow the same procedure until the entire area controlled by the proprietor is developed.

Final acceptance by the City of Jackson of only one portion or phase of the development does not ensure final acceptance of any subsequent phases or the overall general plat for the entire area; nor does it mandate that the overall general plat or plan be followed as originally proposed, if deviations or modifications acceptable to the City of Jackson are proposed.

Preliminary plan approval shall remain in effect for one year. Extensions must be requested in writing.

3.3 Submittal Process

City of Jackson Post-Construction Stormwater Management Permit Application Submission Schedule – City Ordinance Section 27-120

STEP 1: Pre-Application Conference - Before an application for a stormwater permit is submitted, the developer shall meet with the City Engineer to discuss the permit application process.

STEP 2: Preliminary Plan Submittal - The developer may be required to submit a conceptual design based on the pre-application conference. If the preliminary plan is required, approval is required before the City Engineer will proceed with review of a final stormwater management plan.

STEP 3: Permit Application & Plan Submittal: The developer of a proposed covered development project shall be required to submit a stormwater management permit application and plan. The application must be complete before a review can begin.

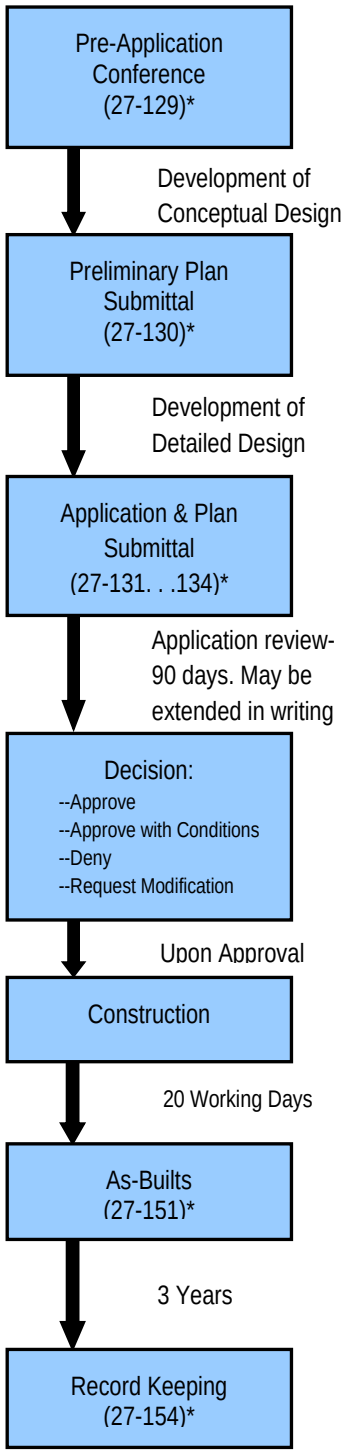
STEP 4: Review Process And Decision- Within 90 days of receipt of a completed application the City Engineer shall reach one of the following decisions: Approve, Approve With Conditions, Deny, or Request a Modification to the Application. The review process may be extended in writing by both city and applicant.

STEP 5: Construction—The Developer constructs the project insuring that soil erosion control measures are used properly and the BMPs are installed.

STEP 6: As Builts – Within 20 working days of the date of completion of a stormwater management system, as-builts shall be submitted to the City Engineer.

STEP 7: Post Construction & Record Keeping – Developer shall retain and preserve for no less than 3 years any and all records, etc., related to stormwater management system.

Figure 1:
Submittal Process Flow Chart



* Ordinance Section Numbers

4.0 DESIGN MANUAL AND STANDARD DETAILS

This document together with the State Low Impact Development (LID) manual will provide information on water quality and quantity standards as well examples of acceptable stormwater treatment practices, including the specific design criteria for each stormwater practice. This document and the LID manual may be updated and expanded from time to time based on federal and state requirements, improvements in engineering, science, monitoring, and local maintenance experience. Stormwater treatment practices that are designed and constructed in accordance with the design and sizing criteria contained in the LID manual should meet the minimum water quality and channel protection performance standards outlined in this document. Calculations to demonstrate that BMP designs will perform to meet required water quality and flood control standards are to be submitted to the City of Jackson. Failure to construct stormwater treatment practices in accordance with these standards may subject the violator to a civil penalty as described in the ordinance.

5.0 REQUIREMENTS

Preliminary Plan Requirements

To maximize the efficiency and effectiveness of the pre-application conference, the City Engineer may require the developer to submit a preliminary stormwater management plan prior to the conference. All preliminary plans will include the following information:

(a) The preliminary plan may be used by the City Engineer to evaluate the type of stormwater management measures that may be necessary and appropriate for the proposed development and to ensure adequate planning for stormwater management on the site consistent with the requirements of this manual.

(b) The preliminary stormwater management plan shall include all of the information and shall meet all of the requirements for final stormwater management plans unless any such information or requirements are determined unnecessary by the City Engineer for the development in question.

(c) All required elements of the preliminary plan, such as maps, plans, easements, details, and calculations may be preliminary rather than final, and detailed construction drawings shall not be required, unless determined necessary by the City Engineer for the development in question.

(d) In all cases, the preliminary plan shall include all information, documents, items, and materials, in the form and at the level of detail, as determined necessary by the City Engineer to adequately evaluate, before the permit application is submitted, the environmental characteristics of the project site, the potential impacts of the proposed development of the site on water resources, and the effectiveness of any measures proposed by the applicant to manage stormwater generated at the project site as required by this manual.

(e) If a preliminary stormwater management plan is required, approval of the preliminary plan by the City Engineer shall be required before the City Engineer will proceed with review of a final stormwater management plan. The City Engineer shall review the submitted preliminary plan and specify any modifications that must be made to the preliminary plan for purposes of preparing a final stormwater management plan that meets requirements. The applicant shall prepare and submit to the City Engineer a final stormwater management plan that incorporates any modifications required to the preliminary plan as specified by the City Engineer and that meets requirements of this manual.

6.0 STORMWATER MASTER PLAN INFORMATION

This section sets forth the requirements that shall apply to final stormwater management plans for proposed development projects.

(a) General.

1. The stormwater management plan shall display and present the information required by this section through the use of maps, illustrations, reports, and calculations.
2. The stormwater management plan shall specify the type, location, and size of stormwater management system to be provided, using final calculations and detailed construction drawings.
3. If the development will be completed in phases, the stormwater management plan shall be prepared and submitted for the total project and for all phases. Further, upon completion of each phase, the stormwater management plan for the project shall be fully functional for the phases already completed and its functionality shall not be reliant in any way upon the completion of future phases. Final approval of one or more phases shall not ensure approval of subsequent phases.

(b) **Plan preparation**. The stormwater management plan shall be prepared, signed, and sealed by a professional civil engineer registered in the State of Michigan.

(c) **Scale for mapping**. The stormwater management plan shall be drawn to a scale not less than 1" = 50', or as otherwise required by the civil engineer.

(d) **Required elements and information**. A stormwater management permit shall not be approved unless the applicant has provided a final stormwater management plan that contains all of the submittals required by this subsection. (The City Engineer may require the same or similar requirements for a preliminary stormwater management plan submitted by an applicant during earlier stages of the stormwater management permit review process, but using preliminary calculations and without requiring detailed construction drawings, as determined appropriate by the City Engineer.) A final stormwater management plan shall include all of the following elements and information:

1. *Location and size*. The location of the development by means of a small location map, drawn to a scale no less than 1" = 2000', and the size of the development in acres.
2. *Zoning.* The zoning classification of the development site and all abutting parcels.
3. *On-site and off-site features*. The location and description of all on-site features and all adjacent off-site features within fifty (50) feet (unless another distance is specified by the City Engineer based on the circumstances at the site), and all other off-site features that may be impacted in determining the overall requirements for the development.

   This shall include:

   (a) Property lines of the development and of adjoining developments.
   (b) Existing site topography with contours at two-foot intervals (one foot preferred) based on the NAVD88 datum.
   (c) On-site public and private streets and street right-of-way lines; and adjoining public and private streets and street right-of-way lines.
   (d) Railroads.
   (e) Power lines or underground transmission lines, gas mains, telephone, monitoring wells.

(f) Cemeteries.
(g) Parks.
(h) Natural and artificial watercourses, wetlands and wetland boundaries, environmental feature boundaries, floodplains, existing stormwater storage facilities, conveyance swales (natural or artificial) with identification of permanent water elevations.
(i) Location of woodlands.
(j) Designated natural areas.
(k) Any proposed environmental mitigation features.
(l) Existing and proposed public and private drains, storm sewers, sanitary sewers, and water mains, and any related easements.
(m) A map, at the U.S.G.S. scale, showing the drainage boundary of the proposed development and its relationship with existing drainage patterns.
(n) Boundaries of any off-site drainage area contributing flow to the development.
(o) All watercourses passing through the development, along with the following:
    (1) Area of upstream watershed and current zoning.
    (2) Final calculations of runoff from the upstream area for both the one hundred-year and two-year 24-hour design storms, for fully developed conditions according to the current land use plan for the area.
(p) Soil borings at the sites of proposed retention/detention and infiltration facilities, and as needed in areas where high groundwater tables or bedrock near the surface exist, and at any other locations as required by the City Engineer.
(q) Proposed development site improvements including lot divisions and building footprints.
(r) Drinking water wells, public wellheads, wellhead protection areas (WHPAs), underground storage tanks, and brownfields.
(s) Any areas of unique geological formations (e.g., karst areas).
(t) Any other on-site or off-site features as determined necessary by the City Engineer.

4. *Stormwater BMP construction plans.* The stormwater management plan shall include final stormwater BMP construction plans. The BMP construction plans shall be drawn to a scale not less than 1" = 50', and on sheets no larger than 24" × 36". The scales used shall be standard engineering scales and shall be consistent throughout the plans. When plans have been completed with computer aided design technology, locations should be geo-referenced and a copy of the electronic file shall also be provided. The construction plans and related documents shall, at a minimum, include:
    (a) Location and specifications of all proposed stormwater management practices, methods, and facilities (plan and profile).
    (b) Proposed storm drains, including rim elevations, invert elevations, pipe sizes, and pipe materials.
    (c) Calculations of runoff from upstream areas for both the one hundred-year and two-year, 24-hour design storms for fully developed conditions according to the current land use plan for the area.
    (d) Identification of stormwater quality and quantity treatment facilities and method of stormwater conveyance.
    (e) Calculation of runoff volume captured by BMPs for treatment facilities.

(f) Proposed open channel facilities including slope, cross-section detail, bottom elevations, and surface material.
(g) Final sizing calculations for stormwater quality and quantity treatment facilities and stormwater conveyance facilities.
(h) Storage provided by one-foot elevation increments.
(i) Tributary area map for the stormwater management system and all components thereof indicating total size and average runoff coefficient for each sub-area.
(j) Analysis of existing soil conditions and groundwater elevation (including submission of soil boring logs) as required for proposed retention and infiltration facilities.
(k) Plans and details of proposed soil erosion and sedimentation control measures, both during construction (as required by Part 91 of the Public Acts of 1994) and permanent measures.
(l) Details of all stormwater BMPs, including but not limited to:
    (1) Outlet structures.
    (2) Overflow structures and spillways.
    (3) Riprap.
    (4) Manufactured treatment systems.
    (5) Underground detention cross-section and product details.
    (6) Cross section of infiltration and/or bio-retention facilities.
(m) Location of proposed stormwater management facility easements.
(n) Final landscaping plans and details.

7.0 PERMIT APPLICATION

The developer of a proposed covered development project shall be required to submit a stormwater management permit application and all required accompanying submittals and shall meet the other requirements provided by the ordinance.

(a) An application for a stormwater management permit shall be submitted by the applicant to the City Engineer on the form provided by the City Engineer.
(b) The applicant may be the property owner or the property owner's authorized representative. The permittee, however, shall be the property owner.
(c) The submitted application shall include all information, documents, items, and materials as specified by the application form. In addition to what is required by the application form, the City Engineer may require the applicant to submit any other materials as determined necessary by the City Engineer to fully and adequately review and evaluate the application for purposes of this article.
(d) All of the required application materials shall be submitted in as many copies, and shall be prepared in the form, manner, and level of detail, as specified by the application form or as otherwise required by the City Engineer.
(e) A permit application shall not be deemed complete until the City Engineer has determined that all required information, documents, items and materials have been provided, along with the fully paid stormwater management permit review fee, and, if requested, the fully paid escrow fee and completed escrow fee acknowledgement form.
(f) If the City Engineer determines that an application is not complete, the City Engineer shall specify in writing to the applicant what the applicant must do to complete the application.
(g) Any period for approving, denying, or modifying an application as specified by this article shall not begin to run until the City Engineer has determined that the application is complete as provided by this section.
(h) An application may be considered withdrawn and the application file may be closed by the City Engineer if an applicant fails to respond to any written request from the City Engineer for information, documents, items, or materials regarding the application within thirty (30) days of the request, or within any longer period of time if the City Engineer and the applicant agree in writing that an extension of time is appropriate and the amount of additional time is set forth in the agreement.
(i) At any time during the permit application review and approval process, the City Engineer may forward copies of the application to other city departments and other public bodies for their information, review and input, and to coordinate, to the extent possible, the stormwater management permit review process with other public reviews and approvals that may also be required for the development.
(j) Filing an application for a stormwater management permit grants the city permission to enter the site to verify information in the application and to inspect for compliance with any permit that may be issued.

8.0 PERMIT APPLICATION FEE:

A non-refundable application fee shall be submitted to the City Engineer with the initial submittal of the permit application form. The application fee shall be in an amount sufficient to cover reasonable costs and expenses generally associated with the review by the City Engineer of stormwater management permit applications, including routine administrative and technical reviews and on-site inspections. The amount of the application fee shall be established from time to time by resolution of the City Council.

9.0 ESCROW FEE:

In addition to the application fee, based on the size, complexity, or other aspects of a proposed development, the City Engineer may determine that the applicant must submit to the city as part of the permit application an escrow fee in an amount sufficient, as determined by the City Engineer, to pay for the estimated reasonable costs and expenses of any city personnel and any professional consultants whose services are deemed necessary by the City Engineer to adequately review the application for purposes of compliance with the requirements of the ordinance:

(a) If the City Engineer requires payment of an escrow fee, the applicant must complete and submit an escrow fee acknowledgment form provided by the City Engineer.
(b) The amount of the escrow fee shall be determined at the time of project review based on a specific scope of work, and shall be calculated at the rates determined by the City Engineer.
(c) The services for which an escrow fee may be used may include, but shall not be limited to, hydrologic and drainage analysis, wildlife evaluation, stormwater quality analysis, wetland survey and delineation, site inspections, as-built plan review, analysis of legal issues, and any other city personnel and professional consultant services deemed necessary by the City Engineer.
(d) If the actual total cost of the services of the city personnel and consultants is less than the escrow fee submitted, the city shall refund the balance to the applicant.
(e) If the actual total cost of the services of the city personnel and consultants exceeds the amount of the escrow fee submitted, the applicant shall provide to the city an additional escrow amount equal to no less than one-half (½) the original escrow amount. All review by the city of the stormwater management permit application shall cease until such additional escrow amount is deposited with the city, and the number of days that review of the stormwater management permit application ceases shall be deducted from the period within which the City Engineer may otherwise be required to act upon the application.
(f) Payment of an escrow fee as provided by this section may be required by the City Engineer at any point during the stormwater management permit review process, as determined necessary by the City Engineer.
(g) A denial of an application for a stormwater management permit shall not affect in any way the applicant's obligation to pay the escrow fees required by this section.

All fees required shall be paid by cash, check, or money order. All forms of payment other than cash shall be made payable to the City of Jackson.

10.0 INSPECTION FEES:

Inspection fees may be charged, at the discretion of the City, especially for as-built inspections and if maintenance schedules appears to be not being followed.

11.0 EXPLANATION OF REQUIREMENTS

City Of Jackson Design Criteria

In an effort to standardize design procedures for storm sewers and open channels the City of Jackson has developed these standards. It is intended that these standards will facilitate planning from both the position of the design and reviewing engineer.

It is recognized that design conditions vary and there is no substitute for the professional judgment of an experienced engineer. In all cases this judgment should be applied.

The design engineer should always use the more restrictive requirement/methodology if there is a conflict between the LID standards and the City of Jackson flood control requirements.

Where insufficient data is available to develop basin hydrology by the above method, the developer shall determine flows along the watercourse by the Soil Conservation Service (SCS) based methods, the rational method (for peak flow only), Storm Water Management Model (SWMM), or a combination of these methods. The basin hydrology shall be approved by the City Engineer's office prior to proceeding with the final design of a given project.

The development shall meet the following stormwater design requirements:

A A minimum treatment volume standard *to minimize water quality impacts*

B *Channel Protection Criteria*

C *Be compatible/integrate with the City of Jackson's Flood Control requirements*

D *A requirement for the project developer to write and implement site plans, which shall incorporate the requirements of the City of Jackson ordinances*

E *Easement for Stormwater Management System*

F *Implementation Plan*

G *Enforcement mechanisms with recordkeeping procedures*

H *Performance Guarantee*

I *Other information and materials*

J *Operation and maintenance requirements*

Following is a detailed description for each of the requirements (A-J). There is a table after the *Operation and Maintenance Requirements* section that summarizes the stormwater requirements within the City of Jackson.

Requirement A: "A minimum treatment volume standard to minimize water quality impacts."

The calculated site runoff is from the 90 percent annual non-exceedance storm for the region or locality, according to (a) or (b) below, respectively:

To address water quality impacts of storm runoff, all stormwater management plans shall comply with the minimum treatment volume standard provided by this section.

(a) The minimum treatment volume standard shall be one (1) inch of runoff from the entire site.
(b) Treatment methods shall be designed on a site-specific basis to achieve either of the following:
    (1) A minimum of eighty (80) percent removal of total suspended solids (TSS), as compared with uncontrolled runoff; or
    (2) Discharge concentrations of TSS not to exceed eighty (80) milligrams per liter (mg/l).
(c) A minimum treatment volume standard is not required where site conditions are such that TSS concentrations in stormwater discharges will not exceed eighty (80) mg/l.

Sites are in compliance with this permit requirement if the minimum treatment volume from the site is treated by properly designed BMPs that achieve either 80% removal of total suspended solids, or discharge 80 mg/l or less of total suspended solids according to accepted literature. It is also important to note that new development will often be in compliance with this permit requirement if the volume control specified in the channel protection requirement of this permit is achieved.

Compliance may be shown through calculation or through direct measurement. Calculations or measurements must show reductions to the calculated TSS concentration in uncontrolled runoff using the data provided here or another acceptable literature source. The State LID Manual summarizes the potential application and the quantity and quality function for most BMPs, when designed correctly, either individually or as a suite of BMPs.

Requirement B: "Channel Protection Criteria."

All stormwater management plans shall comply with the channel protection criteria provided by this section to address post-development site runoff volume and peak flow rates.

(a) A stormwater management plan shall require such stormwater management practices, methods, and facilities as necessary to maintain post-development site runoff volume and peak flow rates at or below existing levels for all storms up to the two-year, twenty-four-hour event, as determined adequate by the City Engineer. "Existing levels" means the runoff flow volume and rate for the last land use prior to the proposed development. The City Engineer may specify more restrictive criteria if determined necessary by the City Engineer to meet the goals of reducing runoff volume and peak flows to less than existing levels on the property to be developed.
(b) To ensure that the required channel protection criteria are met, the City Engineer shall use the procedures, methods, techniques, formulas, and data sources as contained in the city's stormwater management manual or as otherwise determined appropriate by the City Engineer.

Requirement C: **"**Be compatible/integrate with the City of Jackson's Flood Control requirements.**"**

Structures are to be sized to accommodate a twenty-four hour, 100-year storm. The maximum allowable discharge is based a thirty-minute, ten-year storm. Furthermore, See Chapter 11 of the City of Jackson code of ordinances for further details regarding permissible uses in the floodplain.

Requirement D: **"**A requirement for the project developer to write and implement site plans, which shall incorporate the requirements of the City of Jackson ordinances." This includes:

<u>Soil Erosion Control</u>

(a) All development and other land disturbance activities 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.
(b) Proposed erosion control measures shall be submitted to Jackson County for determination that such measures comply with the county's soil erosion and sedimentation control requirements. The project developer must obtain part 91 permit from the County.
(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 land disturbance activity 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 land disturbance activity 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 that trap sediment shall be provided. The use of temporary sediment basins, sediment traps, filter fabric, and rock filters shall be employed as required by the City Engineer. Other measures may be required if reasonably determined to be necessary by the City Engineer to protect a watercourse or wetland.
(h) If it is not possible to permanently stabilize a disturbed area after an earth change has been completed or where significant land disturbance 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 land disturbance activity 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, preferably vegetated with native plant species, shall be created or retained along the edges of all lakes, creeks, streams, wetlands, and other watercourses. The width of a particular filter strip may be reduced to the extent it is demonstrated to the City Engineer's satisfaction 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.

Discharge of Stormwater to Wetlands

(a) Wetlands shall be protected from damaging modification and adverse changes in runoff quality and quantity associated with land disturbance activities. Before approval of a final plat or site plan, all necessary wetland permits from the MDNRE and/or the city must first be obtained.
(b) Wetlands shall be protected during development by appropriate soil erosion and sedimentation control measures that are continuously maintained throughout the construction phase.

Requirement E: Easements for stormwater management system. The applicant shall provide all stormwater management easements as determined necessary by the City Engineer to implement the approved final stormwater management plan and to otherwise comply with the ordinance.

(a) Stormwater management easements may be required for any of the following purposes:
    (1) To provide access for stormwater management facility inspections and maintenance.
    (2) To preserve stormwater runoff conveyance, infiltration, and detention areas and facilities, including flood routes for storm events.
    (3) To preserve primary and secondary drainage ways that are needed to serve stormwater management needs of other properties.
    (4) To accomplish purposes such as those listed above for all areas used for off-site stormwater control, including undeveloped or undisturbed lands, as applicable.
    (5) To serve other purposes and objectives as necessary to achieve the purposes of this article as determined by the City Engineer.
(b) All stormwater management easements shall meet the following requirements:
    (1) The purpose of each easement shall be specified in writing.
    (2) The easements shall be acceptable to the city attorney in form and substance and shall be recorded with the county register of deeds.

Requirement F: Implementation Plans. The applicant shall provide an implementation plan for construction and inspection during and after construction of all stormwater management system components required by the final stormwater management plan, including a schedule of the estimated dates of completing construction of the stormwater management system shown on the plan; identification of the proposed inspection procedures to ensure that the stormwater management system components are constructed and operating in accordance with the final stormwater management plan; and recordkeeping requirements. The implementation plan will include arrangements acceptable to the City Engineer for notification by the applicant to the City Engineer before the commencement of construction of the stormwater management system (and before construction of critical components of the system) and for final verification of construction by a registered professional engineer.

Requirement G: "Enforcement mechanisms with record keeping procedures."

Enforcement of the requirements will be achieved through the stormwater ordinance that supports the City of Jackson stormwater program. In particular, maintenance agreements shall implement and track maintenance activities to ensure long-term O&M plans for the **water quality treatment** controls.

The BMP owner-operator must track and record, and if required by the City, report all field inspection findings to ensure proper O&M occurs for the life of the BMP. As per the ordinance, the BMP/owner operator must maintain inspection and maintenance information for the life of the BMP and make this information available to City staff during inspections.

Requirement H: Performance guarantee. The applicant shall provide a performance guarantee in a form and amount satisfactory to the City Engineer and the city attorney as provided by this section.

(a) The applicant shall submit a performance bond (or other financial guarantee acceptable to the city) for the timely and satisfactory construction of all stormwater management system components in accordance with the final stormwater management plan. The performance bond or other financial guarantee shall be accompanied by a detailed cost estimate provided by the applicant. Upon written certification by a registered professional engineer that all components of the required stormwater management system have been completed in accordance with the final stormwater management plan, including, but not limited to, the provisions contained in the implementation plan and as-built certification and final inspection, and subject to final acceptance and approval by the City Engineer, the city may release the performance bond or other financial guarantee.

(b) Except as provided in item c below, the amount of the financial guarantee shall be in the amount of the cost estimate for the work provided by the applicant, unless the City Engineer determines that a greater amount is appropriate, in which case the basis for such determination shall be provided to the applicant in writing. In determining whether a greater amount is appropriate, the City Engineer shall consider the size and type of the development, the size and type of the on-site stormwater system, and the nature of the off-site stormwater management system the development will use.

(c) The City Engineer may, but shall not be required to, waive or reduce the amount of the financial guarantee for a development that will not increase the impervious surface of the development site by more than two thousand (2,000) square feet.

(d) Nothing in this section or this article shall be construed or interpreted as relieving any person of their obligation to pay all costs associated with on-site private stormwater management systems, as well as those costs arising from the need to make other drainage improvements to reduce a development's impact on a drain consistent with adopted design standards.

Requirement I: Other information and material. The stormwater management plan shall include any other information, documents, items, and materials determined necessary by the City Engineer to verify that the stormwater management plan complies with the city's design and performance standards for drains and stormwater management systems, and that the plan otherwise complies with the requirements of the ordinance and other applicable laws and regulations.

Requirement J: "Operation and Maintenance Requirements."

All structural and vegetative BMPs installed as a requirement of the permit shall include a plan for maintaining maximum design performance through long-term operation and maintenance (O&M). The O&M plans will ensure that the BMP continues to meet the **water quality treatment** controls outlined in this manual. The maintenance plan shall be subject to approval by the City and enforceable. The applicant shall provide a stormwater O&M plan and agreement.

(a) The O&M plan and agreement shall be provided by the applicant in such form and substance as required by the city attorney.
(b) The O&M plan and agreement shall contain provisions to ensure that the maximum design performance of stormwater BMPs is maintained on a long-term basis and that the city's standards for stormwater quality and quantity are met.
(c) At a minimum, the O&M plans and agreements shall include all of the following information and contents:
    (1) The names and addresses of the property owners, and, the owners of all components of the stormwater system.
    (2) The names and addresses of the persons responsible for operation and maintenance.
    (3) The names and addresses of the persons responsible for financing operation and maintenance and emergency repairs.
    (4) The signatures of the owners and any other persons to be bound by the agreement.
    (5) A detailed annual estimated budget for the expected life of the BMPs; and a demonstrated means of financing operation and maintenance and emergency repairs.
    (6) A map showing the location of the stormwater systems and facilities, including catch basins, manholes/access lids, main, and stormwater devices.
    (7) A schedule for routine, non-routine, emergency, and long-term inspection and maintenance of all structural and vegetative stormwater BMPs, with detailed tasks to be performed, and detailed inspection and maintenance checklists.
    (8) Operating instructions for stormwater outlet components.
    (9) Vegetation maintenance schedule.
    (10) Recordkeeping, tracking, inspection, and notice checklists and requirements.
    (11) A statement recognizing the city's right to enter the property for the purpose of inspections.
    (12) Provisions regarding the city's right to perform, or cause to be performed, any required operation and maintenance if the responsible persons fail or refuse to do so, and the obligation of property owner to fully reimburse the city for the costs and expenses incurred by the city in connection with such activity.

The O&M plan and agreement shall be binding on all current and subsequent owners of land served by the stormwater BMPs and shall be recorded in the county register of deeds as directed by the city attorney.

Any person responsible for the operation and maintenance of a stormwater management facility shall provide records of all maintenance and repairs to the City Engineer upon request.

An example of a stormwater maintenance agreement can be found in the LID Manual for Michigan.

The City of Jackson stormwater program requirements should be designed to be compatible/integrate the with the flood damage requirements as outlines in Chapter 11.

Table 1 summarizes City of Jackson water quality requirements.

Table 1: Stormwater Requirements

Treatment Category	Design Requirement
Minimum Treatment Volume	One (1) inch of runoff from the entire site.
Total Suspended Solids (TSS)	Minimum of 80% removal of (TSS), compared with uncontrolled runoff – or – Discharge concentrations of TSS not to exceed 80 (mg/l).
Channel Protection Criteria	Maintain post-development site runoff volume and peak flow rates at or below existing levels for all storms up to the two-year, twenty-four-hour event
Maintenance	All required structural and vegetative BMPs installed will include a plan for maintaining maximum design performance through long-term operation and maintenance (O&M)
Flood Control	Structures are to be sized to accommodate a twenty-four hour, 100-year storm. The maximum allowable discharge is based a thirty-minute, ten-year storm.

12.0 APPEAL PROCEDURES

Any person aggrieved by a notice of violation, order, or other action taken by the City Engineer under the ordinance may request review and reconsideration by the City Engineer and/or may appeal to the stormwater board of appeals. If review and reconsideration or appeal is not properly and timely requested in connection with an action as provided, the action shall be deemed final. The person requesting the appeal shall pay an appeal fee in the amount determined from time to time by the City Council. The appeal fee shall be paid at the time that the appeal is requested.

A request for a review and reconsideration by the City Engineer must be made in writing within seven (7) days from the date of the City Engineer's action in question. The request must state the reasons for the review and shall include all supporting documents and dates. A hearing on the request shall be scheduled at the earliest practicable date as determined by the City Engineer. The hearing shall be conducted on an informal basis at the City Engineer's offices or at another location designated by the City Engineer. The City Engineer shall conduct the hearing. Following the informal hearing, the City Engineer may affirm or reverse, in whole or in part, the action appealed from, or may make any order, requirement, decision, or determination as, in the City Engineer's opinion, ought to be made in the case under consideration. The City Engineer shall notify the aggrieved person of the decision on the request in writing within fourteen (14) days of the hearing. The City Engineer may request additional information and extend the time for his/her decision by an additional seven (7) days in writing following the submission of the additional information. The decision of the City Engineer may be appealed to the Stormwater Board of Appeals. All supporting documentation and information shall be provided by the person requesting the appeal at no cost to the city.

The building code board of examiners and appeals of the city shall serve as a Stormwater Board of Appeals ("SWBA"). The SWBA shall consider appeals from final decisions of the City Engineer. The SWBA shall adopt its own rules of procedure, and keep a record of its proceedings, showing findings of fact, the action of the board, and the vote of each member upon each question considered. The presence of five (5) members of the SWBA shall be necessary to constitute a quorum.

The following provisions shall govern appeals of final decision of the City Engineer made to the SWBA:

(a) An appeal from any final action of the City Engineer must be made to the SWBA within seven (7) days from the date of the action appealed. The appeal may be taken by any person aggrieved by the action. The appellant shall file a written notice of appeal with the City Engineer and with the SWBA. The notice of appeal shall specify the grounds for the appeal and shall be accompanied by a non-refundable appeal fee. Failure to file a timely notice of appeal shall be deemed to be a waiver of the right to appeal.

(b) Prior to a hearing before the SWBA regarding an appeal, the City Engineer shall transmit to the SWBA a written summary of all previous action taken in connection with the action being appealed. The SWBA may, at the SWBA's discretion, request the City Engineer to provide further information regarding the action that is the subject of the appeal.

(c) The SWBA shall fix a reasonable time for the hearing of the appeal. Notice of the hearing shall be provided at least ten (10) days in advance of the hearing to require the attendance and testimony of witnesses and the production of evidence relevant to any matter involved in the hearing. The appellant must submit an exhibit and witness list to the SWBA at least five (5) days before the hearing or as directed by the SWBA.

(d) The SWBA shall conduct the hearing. At the hearing, attorneys may represent the parties and they may file briefs, present evidence, and call, examine and cross-examine witnesses. Any testimony taken at the hearing shall be under oath and recorded. A copy of the transcript of the hearing shall be made available at cost to any person upon payment of applicable charges for the transcript.
(e) The SWBA shall admit all testimony having reasonable probative value and shall exclude irrelevant or unduly repetitious testimony, as determined by the SWBA. The SWBA shall not be bound by common law or statutory rules of evidence. The appellant shall have the burden of proof and persuasion for showing that the City Engineer's decision was clearly erroneous.
(f) If the action of the City Engineer subject to the appeal involves the City Engineer's grant or denial of a waiver, the SWBA's decision to grant or deny the appeal shall be based on the standards and conditions provided in the ordinance.
(g) Within thirty (30) days after the completion of the hearing, the SWBA shall mail or otherwise deliver to all of the parties a written decision granting, denying or modifying the decision appealed and/or relief being sought.
(h) The decision of the SWBA on the matter shall be final, and shall be a final determination for purposes of judicial review.
(i) If the City Engineer or his or her designee sits on the building code board of examiners and appeals because of additional responsibilities as the director of public works, the City Engineer shall abstain from any decision before the SWBA.

All charges, penalties, fines, fees, surcharges, costs, or expenses outstanding during any appeal process shall be due and payable to the city. Upon resolution of any appeal, the amounts due and payable shall be adjusted accordingly. The city may suspend discharges to the MS4 if a corrective course of action is not taken or if service charges, penalties, fines, fees, surcharges, costs, or expenses are not timely paid in full.

If an appeal is not demanded as provided by this division within the periods specified, the City Engineer's action shall be deemed final.

If an appeal is properly demanded, the action appealed shall be suspended until a final determination has been made by the SWBA, except for emergency orders or actions where a suspension or delay might endanger human health, safety, welfare, the environment, or the MS4; and as otherwise expressly provided by this section regarding permit appeals.

If an appeal involves a final decision made by the City Engineer in connection with issuing or implementing a stormwater management permit, the following provisions shall apply:

(a) The person appealing the decision must specify in its notice of appeal the action of the City Engineer being appealed and the grounds for the appeal. If a particular permit provision is objected to, the notice of appeal must specify in detail the reasons for the objection, and the specific alternative provision, if any, sought to be placed in the permit.
(b) If, after considering the record on appeal including any statements provided by the City Engineer in response to the appeal, the SWBA determines that a permit or any provision of a permit should be reconsidered, the SWBA shall remand the matter to the City Engineer for further action as determined appropriate by the SWBA. Only the specific provisions of a permit that are remanded by the SWBA for reconsideration by the City Engineer shall be stayed pending further final action taken by the City Engineer as required by the decision of the SWBA.

(c) A decision of the SWBA not to remand any matter shall be considered final administrative action for purposes of judicial review.
(d) Except as otherwise expressly provided above, no action taken or request filed by any permittee shall operate to stay the effect of any permit or of any provision, term or condition of any permit.

Appeals from a final determination of the SWBA may be made to the county circuit court as provided by law. All findings of fact made by the SWBA, if supported by the evidence, shall be deemed conclusive.

APPENDIX A

Blank Worksheets

City of Jackson
Department of Engineering

Worksheet 1. General Watershed/ Site Information

NOTE: If the project extends over more than 1 Watershed, fill out Worksheet 1 for each Watershed

Date: _____

Project Name: _____

Municipality: _____

County: _____

Total Area (acres): _____

Major Watershed: _____

http://cfpub.epa.gov/surf/state.cfm?statepostal=MI

Subwatershed: _____

Nearest Surface Water(s) to Receive Runoff: _____

Part 4 - Designated Water Use: _____

http://www.michigan.gov/deq/0,4561,7-135-3313_3682_3714---,00.html

Michigan Natural Rivers watershed? Yes ☐ No ☐

http://www.michigan.gov/dnr/0,1607,7-153-30301_31431_31442-95823--,00.html

Impaired according to Chapter 303(d) List? Yes ☐ No ☐

http://www.deq.state.mi.us/documents/deq-wb-intreport-appendixj.pdf

List Causes of Impairment:

Areas of impairment not local to project

Is project subject to, or part of:

Phase I or Phase II Municipal Separate Storm Sewer System (MS4) Requirements? (Is the site greater than 1 acre?) Yes ☐ No ☐

http://www.michigan.gov/deq/0,1607,7-135-3313_3682_3716-24366--,00.html

Existing or planned drinking water supply? Yes ☐ No ☐

If yes, distance from proposed discharge (miles): _____

Approved Watershed Management Plan? Yes ☐ No ☐

http://www.michigan.gov/deq/0,1607,7-135-3313_3682_3714_4012-95955--,00.html

City of Jackson
Department of Engineering

Worksheet 2. Sensitive Natural Resources

Project: _____

INSTRUCTIONS:

1. Provide Sensitive Resources Map for the site. This map should identify waterbodies, floodplains, riparian areas, wetlands, woodlands, natural drainage ways, steep slopes, and other sensitive natural features.

2. Summarize the existing extent of each sensitive resource in the Existing Sensitive Resources Table (below, using Acres).

Small wooded area identified on the site to be protected.

3. Summarize total proposed Protected/Undisturbed Area. Use the following BMPs to define Protected/Undisturbed Area; protect sensitive areas, protect riparian buffers, protect natural flow pathways, cluster development, and minimize disturbed area.

4. Do not count any area twice. For example, an area that is both a floodplain and a wetland may only be considered once (include as either floodplain or wetland, not both).

EXISTING NATURAL SENSITIVE RESOURCE	MAPPED? (yes, no, n/a)	TOTAL AREA (Ac.)	PROTECTED/ UNDISTURBED AREA (Ac.)
Waterbodies			
Floodplains			
Riparian Areas			
Wetlands			
Woodlands			
Natural Drainage Ways			
Steep Slopes, 15% - 25%			
Steep Slopes, over 25%			
Special Habitat Areas			
Other:			
TOTAL EXISTING:			

City of Jackson
Department of Engineering

Worksheet 3. Runoff Reduction Credits

PROTECTED/ UNDISTURBED AREA

Protected/Undisturbed Area* (from WS 2) _____ **Ac.**

TOTAL PROPOSED PROTECTED/UNDISTURBED AREA _____ **Ac.**

Total Site Area	*minus*	Protected/ Undisturbed Area	*equals*	Disturbed Area (To be managed)
	-		=	

This is the area that requires stormwater management

Transfer to WS 4

NON STRUCTURAL BMP CREDITS**

BMP: Minimize Soil Compaction Area: _____ **Ac.**

Soil Type _____ Existing CN _____ Credited CN _____

BMP: Soil Amendment and Restoration Area: _____ **Ac.**

Soil Type _____ Existing CN _____ Credited CN _____

Areas complying with the requirements of these BMPs can be assigned a Curve Number (CN) reflecting a "Good" condition instead of "Fair" as required for other disturbed pervious areas. For example, lawn areas with B soils would be given a CN of 61 instead of 69; lawns with C soils a CN of 74 instead of 79. Curve Numbers were developed as part of the U.S. Soil Conservation Service TR-55 hydrologic analysis model.

Protect Existing Trees within Disturbed Area (part of Minimize Disturbed Area)

Number of Trees: _____

Total Area: _____ **Ac.**

Soil Type _____ Existing CN _____ Credited CN _____

Trees protected under the requirements of this BMP can be assigned a Curve Number (CN) reflecting a Woods in "Good" condition for an area of 800 SF per tree or the entire area of the tree canopies protected, whichever is greater.

BMPS: Native Revegetation and Riparian Corridor Restoration

Number of Trees: _____

Number of Shrubs: _____

Total Area: _____ **Ac.**

Soil Type _____ Existing CN _____ Credited CN _____

Proposed trees and shrubs to be planted under the requirements of these BMPs can be assigned a Curve Number (CN) reflecting a Woods in "Good" condition for an area of 200 SF per tree or the estimated tree canopy, whichever is greater. For shrubs, an area of 25 SF per shrub.

** *A checklist is provided for each BMP in chapter 6 and 7 to ensure certain criteria is being met and credit can be given.*

City of Jackson
Department of Engineering

WORKSHEET 4A. Calculations for Channel Protection Volume

PROJECT NAME: _____

2-Year, 24-Hour Rainfall): _____ **in**

Total Site Area: _____ **acres**

Disturbed Area to be managed: _____ **acres** (From WS 3)

Pre-Development Conditions

Cover Type	Soil Type	Area (sf)	Area (ac)	CN (from TR-55)	S^3	Q Runoff[1] (in)	Runoff Volume[2] (ft^3)
Woods / Meadow	A	**0**		30			
Woods	B	**0**		55			
Meadow	B	**0**		58			
Woods	C	**0**		70			
Meadow	C	**0**		71			
Woods	D	**0**		77			
Meadow	D	**0**		78			
Impervious	N/A	**0**		98			
Other:		**0**					
TOTAL:	**N/A**	**-**	**0.00**	**N/A**	**N/A**		

Post-Development Conditions**

Cover Type	Soil Type	Area (sf)	Area (ac)	CN*	S	Q Runoff[1] (in)	Runoff Volume[2] (ft^3)
		-					
		-					
		-					
		-					
		-					
TOTAL:	**N/A**	**-**	**0.00**	**N/A**	**N/A**		

Runoff Volume Increase (ft^3): _____ ***Transfer to WS 5***

Runoff Volume Increase = (Post-Dev. Runoff Volume) MINUS (Pre-Dev. Runoff Volume)

1. **Runoff (in)** = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where:
   - P = 2-Year, 24-Hour Rainfall (in)
   - **3. S =** 1000/ CN - 10
   - CN = Curve Number
   - Q = Runoff (in)
2. **Runoff Volume (ft^3)** = Q x 1/12 x Area
   - Area = Area of specific land cover (ft^2)

* Runoff Volume must be calculated separately for pervious and impervious areas (without using a weighted CN), unless Non-Structural BMP Rooftop/Downspout Disconnection is applied.

** Pre- and Post-development areas shall match. Post development conditions shall reflect non-structural BMPs applied on WS 3

City of Jackson
Department of Engineering

WORKSHEET 4B. Calculations for Channel Protection Peak Flow Rate

PROJECT NAME: _____

1-Year, 24-Hour Rainfall): _____ **in**

Pre-Development Conditions

Cover Type	Soil Type	Area (sf)	Area (ac)	CN (from TR-55)	S	Q Runoff[1] (in)	Runoff Volume[2] (ft^3)
Woods / Meadow	A	**0**		30	23.3		
Woods	B	**0**		55	8.2		
Meadow	B	**0**		58	7.2		
Woods	C	**0**		70	4.3		
Meadow	C	**0**		71	4.1		
Woods	D	**0**		77	3.0		
Meadow	D	**0**		78	2.8		
Impervious	N/A	**0**		98	0.20		
Other:		**0**					
TOTAL:	**N/A**	**-**		**N/A**	**N/A**		

Post-Development Conditions

Cover Type	Soil Type	Area (sf)	Area (ac)	CN*	S	Q Runoff[1] (in)	Runoff Volume[2] (ft^3)
		0					
		0					
		0					
		0					
		0					
TOTAL:	**N/A**	**-**		**N/A**	**N/A**		

Runoff Volume Increase (ft^3): 0

PEAK FLOW RATE ANALYSIS

(Use detailed information to complete Worksheets 4C & 4D, or use simplified Graphical Method below)

Storm Event	Duration (Hr)	Pre-Settlement Peak Discharge[A]	Post-Settlement Peak Discharge Rate	Difference (Post - Pre)	Are the criteria met? (Y/N)**
1-year	24				
2-year	24				

[A] Graphical Peak Discharge method = Qp = Qu*A*Q Where: Qp = Peak Discharge (cfs)
Qu = Unit Peak Discharge (csm/in)
A = Drainage Area (mi) Q = Runoff

*To determine Qu through graphical methods see Worksheets 4C & D, and attached figure assuming a minimum Time of Concentration of 6 minutes to fill out the table below for the peak flow table above.

Ia = 0.2*(1000/CN-10) Where : CN = weighted curve number P = Rainfall

	Weighted CN	I_a	I_a/P		Qu 1-yr	Qu 2-yr
			1-yr, 24Hr	2-yr, 24Hr		
Pre						
Post						

** If the peak flow rate increases after development, then BMPs must be designed to address the increase.

WORKSHEET 4C. Time of Concentration

PROJECT NAME: _____

2-Year, 24-Hour Rainfall): _____ **in**

Pre-Development Conditions

Sheet Flow	Surface Description	Manning	Flow length (ft)	Slope (ft/ft)	Tc (hr)
					0.00
	2				0.00
	3				0.00
				Sheet Flow Subtotal	*0.00*
Shallow Concentrated Flow	Surface Description		Flow length (ft)	Slope (ft/ft)	
	Unpaved				0.00
	Paved				0.00
				Shallow Concentrated Subtotal	*0.00*
Channel Flow	Surface Description	Velocity (fps)	Flow length (ft)		
	1				0.00
	2				0.00
	3				0.00
				Channel Flow Subtotal	*0.00*
				Time of Concentration (hr)	
				Adjusted Time of Concentration (hr)**	

Post-Development Conditions

Sheet Flow	Surface Description	Manning	Flow length (ft)	Slope (ft/ft)	Tc (hr)
	1				
	2				
	3				
				Sheet Flow Subtotal	
Shallow Concentrated Flow	Surface Description		Flow length (ft)	Slope (ft/ft)	
	Unpaved				
	Paved				
				Shallow Concentrated Subtotal	
Channel Flow	Surface Description	Velocity (fps)	Flow length (ft)		
	1				
	2				
	3				
				Channel Flow Subtotal	
				Total Time of Concentration (hr)	
				Adjusted Time of Concentration (hr)**	

*** minimum allowed Tc is 0.1hr; maximum allowable is 10 hrs*

Roughness Coefficient (Manning's n) for sheet flow

Surface Description	n
Smooth surfaces (concrete, asphalt, gravel, or bare soil)	0.011
Fallow (no residue)	0.05
Cultivated Soils:	
Residue cover <= 20%	0.06
Residue cover > 20%	0.17
Grass	
Short grass prairie	0.15
Dense grassess	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods	
Light underbrush	0.4
Dense underbrush	0.8

WORKSHEET 4D. Calculations for Channel Protection Peak Flow Rate

PROJECT NAME: _____

PEAK FLOW RATE ANALYSIS

Storm Event	P (in)	Develop-ment	Tc[1] (hr)	Weighted Avg CN[2]	Ia/P[3]	Peak Unit qu (csm/in)[4]	Peak Runoff (cfs)[5]	Peak Runoff (cfs/ac)[6]
1-year 24-hour		Pre-						
		Post-						
2-year 24-hour		Pre-						
		Post-						

1. From Worksheet 4C
2. From Worksheet 4B
3. From Worksheet 4B

4. Peak Unit qu (csm/in) =

$$10^{((-2.744*(Ia/P)^3)+(0.312*(Ia/P)^2-(0.212*(Ia/P))+2.574)}$$

Where:
Ia/P = From Table above

5. Peak Runoff (cfs) =

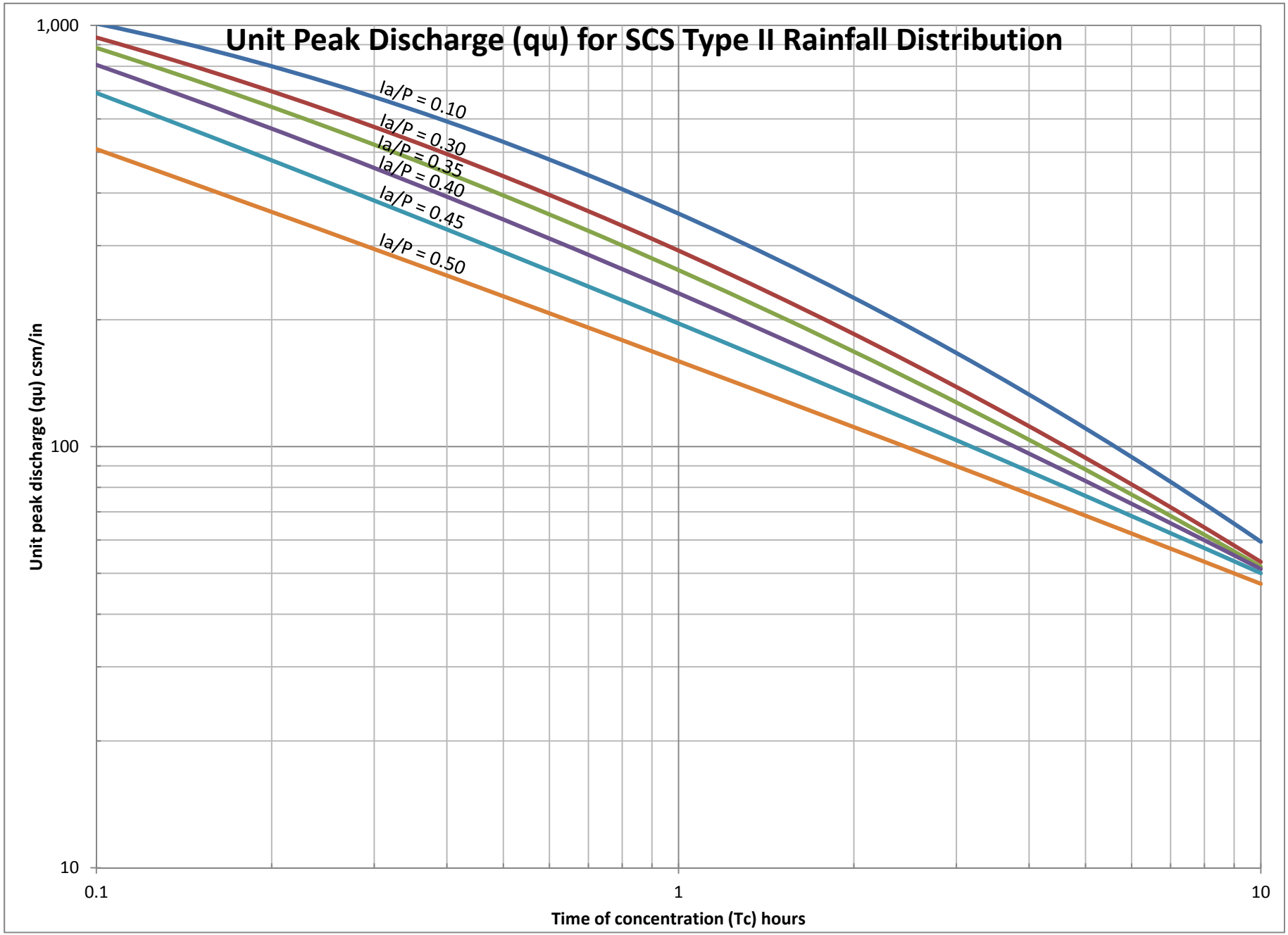
$$\frac{(qu*A)}{640} * Q$$

Where:
qu = From Table above
A = Total site area, pre/post
Q = Total site runoff pre/post
(A & Q from Worksheet 4B)

6. Peak Runoff (cfs/ac) =

$$\frac{\text{Peak Runoff}}{A}$$

Where:
A = Total site area, pre/post
(A from Worksheet 4B)


Unit Peak Discharge (qu) for SCS Type II Rainfall Distribution
1,000
100
10
0.1
1
10
Unit peak discharge (qu) csm/in
Time of concentration (Tc) hours
Ia/P = 0.10
Ia/P = 0.30
Ia/P = 0.35
Ia/P = 0.40
Ia/P = 0.45
Ia/P = 0.50

WORKSHEET 5. STRUCTURAL BMP VOLUME REDUCTION**

PROJECT: _____

This worksheet is to be used to tabulate the volume reduction as a result of the installation of structural BMPs. To meet Channel Protection Criteria for volume reduction, the Permanently Removed Storage Volume will be considered as sufficient support documentation. The Infiltration Volume During Storm calculations may be provided in addition at the developer's discretion.

Runoff Volume Increase (cubic feet) *from Worksheet 4A* : _____

Proposed BMP[A]	**Area (ft^2)**	**Permanently Removed Storage Volume[B] (ft^3)**	***Ave. Design Infiltration Rate (in./hr.)**	***Infiltration Volume During Storm[C] (ft^3)**	**Total Volume Reduction[D] (ft^3)**
Porous Pavement					
Infiltration Basin					
Subsurface Infiltration Bed					
Infiltration Trench					
Bioretention					
Dry Well					
Vegetated Swale					
Retentive Grading					
Vegetated Roof			N/A	N/A	
Capture and Re-use			N/A	N/A	

Total Volume Reduction Credit by Proposed Structural BMPs (ft^3): -

Runoff Volume Increase (cubic feet): _____

* Optional information

**** FOR PERMANENTLY REMOVED VOLUME ONLY, TEMPORARY DETENTION VOLUMES ARE NOT INCLUDED HERE. PERMANENTLY REMOVED STORAGE NOT TO BE INCLUDED IN PEAK DISCHARGE DETENTION CALCULATIONS**

[A] Follow design guidance and Protocols from Manual for each Structural BMP type

[B] Storage volume as defined in individual BMP writeups found in the Low Impact Development for Michigan- this represents permanently removed volume, not detention storage

[C] Can be approximated as the average design infiltration rate over 6 hours multiplied by the BMP area:
Design Infiltration Rate x 6 hours x BMP Area x Unit Conversions = Infiltration Volume (ft^3)

[D] Total Volume Reduction is sum of Storage Volume and Infiltration Volume During Storm.

Other Proposed BMPs *Not Volume Reducing*	**Area (ft^2)**
Constructed Filter	
Constructed Wetlands	
Wet Detention Pond	
Dry Extended Detention Basin	
Water Quality Devices	
Level Spreader	

WORKSHEET 6. WATER QUALITY WORKSHEET

PROJECT: _____

This worksheet calculates water quality volume based on the criteria of 1 inch of runoff from the entire site pervious and impervious.

A	B	C	D	E	F
BMP Tributary Area[A]	**Total Disturbed Area (ft^2)**	**Impervious Area (ft^2)**	**Disturbed Pervious Area (ft^2)**	**Water Quality Volume for Impervious Area (ft^3)**	**Water Quality Volume for Pervious (ft^3)[B]**	**Total Water Quality Volume to BMPs (ft^3)[C]**
				Col B x 1 inch/12	**Col C x 1 inch/12**	**Col D + Col E**
A						
B						
C						
D						
E						
F						
G						
Totals:						

Total area: _____ acres Total Site: _____ acres (From WS 3)

A - Only indicate the areas tributary to a particular BMP. The sum of all areas shall equal the total site area used to calculate channel protection and flood control criteria.

If only 1 water quality BMP is proposed for a given area, then it must be rated "High" for TSS Removal **. A TSS removal of "High" indicates a minimum of 80% TSS removal.

Indicate below which areas are treated by

Through BMP	BMP	TSS Removal Rating[B]
	Bioretention	High
	Capture/Reuse	Medium
	Constructed Wetlands	High
	Wet Ponds	High
	Dry Ponds	Medium
	Constructed Filters	High
	Porous Pavement*	High
	Infiltration Systems*	High

Fill in other if not listed

If 2 or more water quality BMPs are proposed in series, any that are rated "Low/Medium" or better for TSS Removal are acceptable. List proposed BMPs here:

* Requires appropriate pretreatment to prevent clogging

** Proprietary, manufactured water quality devices are not acceptable unless they have been field tested by a third-party according to approved testing protocols.

WORKSHEET 7. Maximum Allowable Discharge and Detention Calculations

The Runoff Detention calculation is required for non-residential construction that results in an increase of impervious area greater than 1000 square feet

Purpose: Development typically includes impervious parking lots and roofs. Rain water that used to soak into the ground immediately runs off into storm sewers that were originally designed and installed to accommodate storm runoff from residential property. To assure that storm sewers are not overloaded, runoff from new development is limited.

PROJECT NAME: _____

SITE LOCATION: _____

Maximum Allowable Discharge[B]: _____ **ft^3/s**

Post-Development Conditions

Total Site Drainage Area[A]: _____ **acres** **Impervious :** _____ **acres**

Existing "C": _____ **Pervious :** _____ **acres**

DURATION (min)	Rainfall Intensity 100-year Storm[C] t(hr)	I(in/hr)	R(in)	Average Coefficient[D]	100-year Runoff[E] (ft^3)	Permitted Outflow[F] (ft^3)	Required Storage[G] (ft^3)
20	0.33	4.9 =	1.62				
30	0.5	3.85 =	1.93				
40	0.67	3.33 =	2.23				
50	0.83	2.83 =	2.35				
60	1	2.52 =	2.52				
90	1.5	1.92 =	2.88				
120	2	1.58 =	3.16				
24 hrs	24	0.23 =	5.52				

Pond Size Required (ft^3): _____

INSTRUCTIONS

A) SITE DRAINAGE AREAS shall be calculated in acres and divided into impervious and pervious areas.

B) MAXIMUM ALLOWABLE DISCHARGE (Q) (ft^3) shall be for a 2 yr, 24-hr storm

Q = C*I*A — C = 0.40 for Previously Develped areas

I=2.60 inches/hr — C = 0.15 for Previously Unevelped areas

A = Site Area in acres — or C = Design Value for storm system

C) Inches of rainfall, given for a 100 year storm, source: Rainfall Frequency Atlas of the Midwest by Floyd A. Huff and James R. Angel. Bulletin 71 (MCC Research Report 92-03). Midwestern Climate Center and Illinois State Water Survey. 1992.

D) AVERAGE COEFFICIENT for runoff, used for all durations, is calculated by the weighted average of pervious and impervious areas, using a pervious coefficient of 0.15 and an impervious coefficient of 0.90.

(ie: AVE COEF = (Impervious*0.90)+(Pervious*0.15)/Total Site Area)

E) Runoff: multiply the total site drainage area by the average coefficient then by inches of rainfall converted into feet, then by 43,560 to convert acres into square feet, result will be in cubic feet.

(ie: RUNOFF = DRAIN AREA*AVE COEF*(RAINFALL/12)*43560)

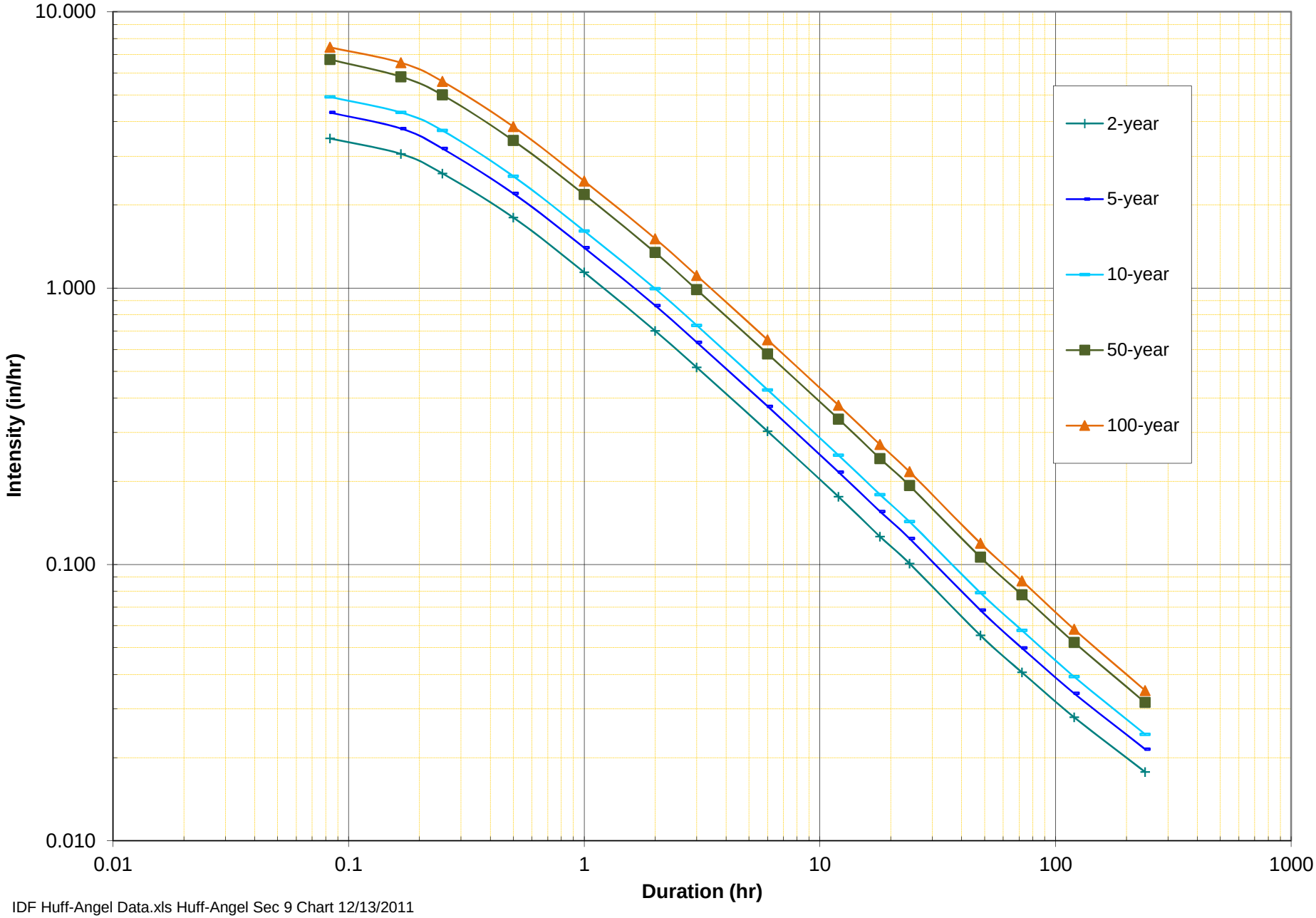
F) Permitted Outflow: Multiply maximum allowable outflow by time in hours, then by 3600

(ie: PERMITTED OUTFLOW = MAX ALLOWABLE DISCHARGE (FT^3/SEC)*TIME(HR)*3600(SEC/HR))

G) REQUIRED STORAGE: Subtract Permitted Outflow from 100-Year Runoff. Storage volume will increase to a peak and then decrease.

H) The Pond Size Required is the peak volume from the Required Storage column.

Rainfall IDF Curves
based on Huff and Angel Section 9



IDF Huff-Angel Data.xls Huff-Angel Sec 9 Chart 12/13/2011

City of Jackson
Department of Engineering

WORKSHEET 8. Criteria Summary Sheet

PROJECT:

Total Site Area	_____	acres	
Impervious	_____	acres	Pre-Development
	_____	acres	Post-Development
Pervious	_____	acres	Pre-Development
	_____	acres	Post-Development

Channel Protection Criteria

Criteria Satisfied?

Maintain post-development site runoff volume and peak flow rates at or below existing levels for all storms up to the two-year, twenty-four-hour event.

Volume:

Pre-Development Volume	_____	ft^3	(From Worksheet 4A)
Post-Development Volume	_____	ft^3	(From Worksheet 4A)
Difference	_____	~~ft^4~~ ft3	
BMP Storage	_____	ft^3	(From Worksheet 5)

***Criteria for channel protection volume may be satisfied if the site provides adequate BMP storage to handle the increase in runoff from pre- to post-development conditions.** _____

Peak Flow Rate:

Pre-Development Peak Flow Rate	_____	ft^3/s	(From Worksheet 4B)
Post-Development Peak Flow Rate	_____	ft^3/s	(From Worksheet 4B)

*** Criteria for channel protection peak rate analysis may be satisfied if the post-development rate is less than the pre-development rate. If not, the criteria can be achieved if the development has included BMPs in the site plan.** _____

Flood Control Criteria

Structures are to be sized to accommodate a twenty-four-hour, fifty-year storm. Maximum allowable discharge is based on a thirty-minute, ten-year storm

Maximum Allowable Discharge	_____	ft^3 /sec	(From Worksheet 7)
Required Storage - Flood Control	_____	ft^3	(From Worksheet 7)
Excess BMP Storage	_____	ft^3	(BMP Storage-Ch. Pro. Vol)
On-Site Detention/Retention	_____	ft^3	Provide separate calculations.**
Volume Provided - Volume Required	_____	ft^3	(Excess BMP Storage+On-site storage-Flood Control volume requirements)

***Criteria for flood control may be satisfied if the site provides for enough storage to retain the post development runoff and to detain/retain the volume of water required to maintain the maximum allowable discharge. This may be completed through utilization of available BMP storage , including storage provided by any on-site re-/detention ponds.** _____

(Detention and discharge calculations should be submitted based upon selected detention method.

** Volume provided in sewer system through oversized piping, or non-BMP storage. Cannot apply towards channel protection.

City of Jackson
Department of Engineering

Water Quality Criteria

Minimum of 80% removal of Total Suspended Solids (TSS), compared with uncontrolled runoff - or - Discharge concentrations of TSS not to exceed 80 (mg/l).

Water Quality Volume _____ ft^3 (From Worksheet 6) _____

Maintenance Criteria

All BMPs installed require a plan for maintaining maximum design performance through long-term operation and maintenance (O&M). An easment is necessary to perform periodic assessment of BMP condition.

O&M Plans Provided? Y / N

Easement Agreement? (Attach Signed Agreement) Y / N

Soil Erosion Control

Has a soil erosion control plan been developed and submitted? Y / N

Wetland Protection

Have acceptable wetland protection measures been taken? Y / N

APPENDIX B

Site Plan Examples

EXAMPLE #1 – Small Commercial Site (Total area < 1 acre)

DESCRIPTION:

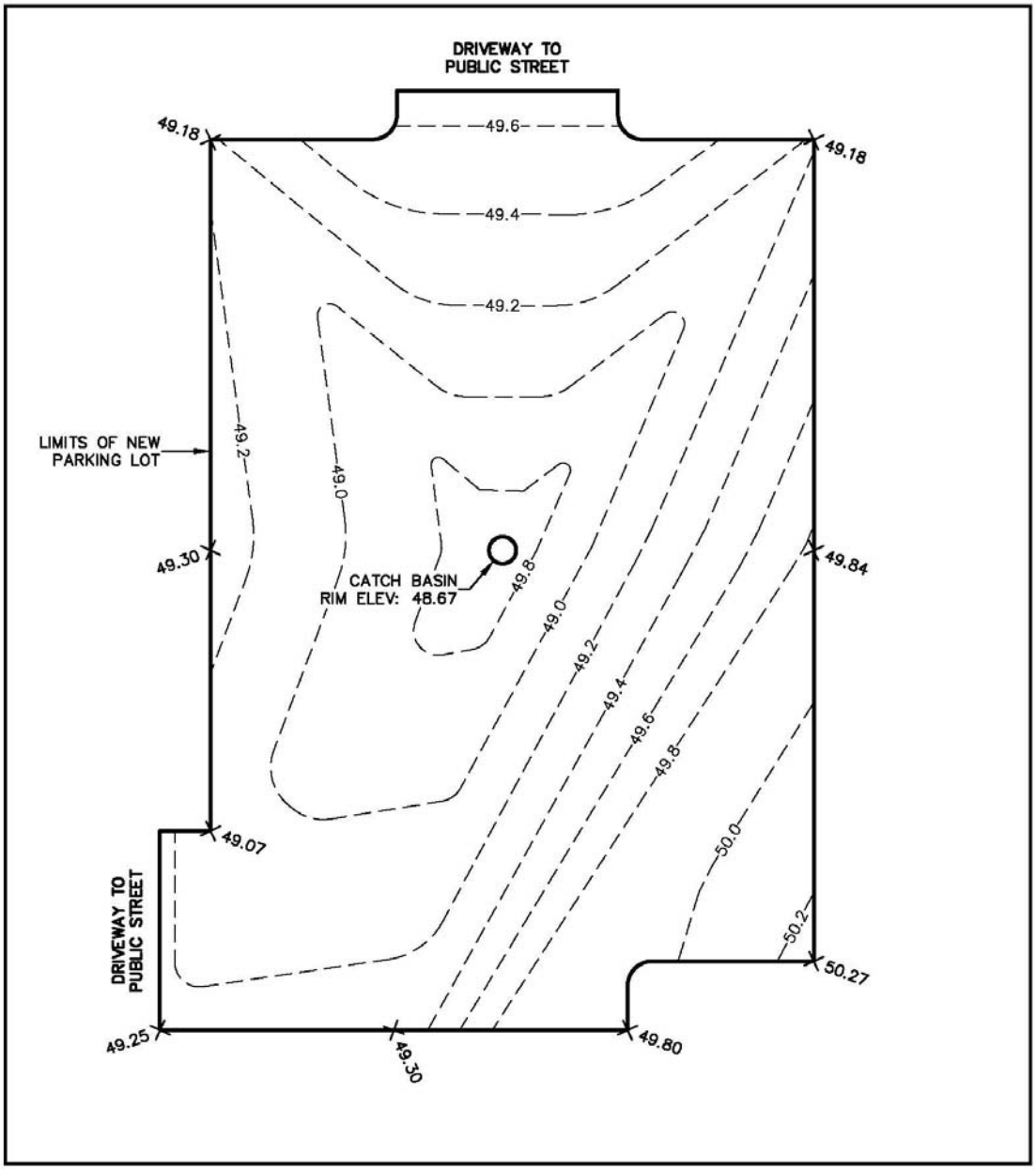
The owner of an office building at 102 Ninth Street needs additional parking. To this end, she has purchased an adjacent vacant lot for the purpose of building a parking lot. The 66 foot x 103 foot, approximately 0.156 acre lot was previously a house and garage which have since been demolished and left to seed. The new parking lot will be constructed to collect storm water runoff in a centrally located catch basin that will outlet to the City's storm sewer main under the adjacent street. The parking lot will be graded to retain the runoff on its surface. The outlet to the City storm sewer main will need to be restricted in the new catch basin to ensure that discharge to the sewer main does not exceed the allowable rate.

Around the perimeter of the new parking lot, a small band of grass and shrubs will be installed to meet the landscaping and screening requirements of the Zoning Ordinance. The remainder of the site will be hard surfaced with either asphalt or concrete. The grassed area of the developed site will be 1393 sft (0.032 acres). The hard surfaced area will be 5400 sft (0.124 acres).

Using this information in the City of Jackson's Runoff Detention Worksheet as shown below, it is determined that the required storage volume is 557 cft and the allowable discharge rate is 0.16 cfs.

STEPS REQUIRED:

1. For sites less than 1 acre, determine the increase in impervious area, if greater than 1000 sft, fill out Worksheet 7, for determining Runoff Detention. This will provide both the maximum allowable discharge rate for this site and the required on-site storage volume required for flood protection.
2. Use the site plan to determine the available on site storage volume.
3. Determine the high water elevation based on stored runoff.
4. Calculate the recommended outlet orifice size to maintain the maximum allowable discharge rate as stated on Worksheet 7.



Use the proposed grading plan to determine the post-development pervious and impervious areas. For this example, the areas were given in the narrative; however actual areas may be calculated

directly from a scaled drawing or done using computerized methods. Use these areas to fill out Worksheet 7, Runoff Detention as shown in the following example:
Worksheet 7 provides us with the following values:

Maximum Allowable Discharge = 0.16 cfs Required Storage = 557 cft

To determine if the site grading plan satisfies these requirements the applicant shall check if there is adequate storage available, and if any measures need to be taken to restrict the rate of flow from the site to the City storm sewer system.

With no on-site detention facilities, all runoff generated that is greater than the permitted outflow must be maintained on site. In this example, the applicant verifies the on-site storage capacity through using the contour lines as shown on the site grading plan. The amount of water that will pond and stay within the property limits can be found by starting at the catch basin rim and calculating the area at each contour up to the last one which lies completely within the site boundary, as shown in the table below.

Sample Calculation Table:

Elevation	Area (sft)	Δ H (ft)	Average Area (sft)	Volume (cft)	∑ Volume (cft)
49.2	3125	0.20	2125.5	425.1	565.9
49.0	1126	0.20	648.5	129.7	140.8
48.8	171	0.13	85.5	11.1	11.1
48.67	0				

Provided Storage Volume > Required Storage Volume
569.5 cft > 557 cft

-> Sufficient Storage Provided

To determine the high water elevation on the site during the event, interpolate using the provided and required volumes in the numerator and the provided elevations in the denominator to solve for the actual high water level:

$$\frac{(565.9 - 140.8)}{(49.2 - 49.0)} = \frac{(565.9 - 557)}{(49.2 - X)}$$

X = High water elevation = 49.2

In this example, there is no on-site detention so an orifice will be required on the catch basin discharge pipe to regulate the amount of flow discharging to the storm sewer system. The allowable area of an orifice can be calculated using the maximum allowable flow and high water elevation found above. Alternatively, on-site storm water control could be implemented, should the developer choose to do so, that will reduce the discharge rate to the desired level.

Example orifice calculation:

$A = Q/((0.62)*\sqrt{(2*g*h)})$

A = Area of outlet orifice, sft Q = Maximum allowable discharge = 0.16 cfs

g = Gravity = 32.2 h = average head = (2/3) *(49.2-45.12) = 2.72

$A = 0.16/((0.62)*\sqrt{(2*32.2*2.72)})$

A = 0.019 sft -> A 1.75-inch diameter opening has an area of 0.017 sft

-> Place a cap over the outlet pipe with a 1.75-inch diameter hole at the invert

WORKSHEET 7. Maximum Allowable Discharge and Detention Calculations

The Runoff Detention calculation is required for non-residential construction that results in an increase of impervious area greater than 1000 square feet

Purpose: Development typically includes impervious parking lots and roofs. Rain water that used to soak into the ground immediately runs off into storm sewers that were originally designed and installed to accommodate storm runoff from residential property. To assure that storm sewers are not overloaded, runoff from new development is limited.

PROJECT NAME: Parking Lot

SITE LOCATION: 102 Ninth Street

Maximum Allowable Discharge[B]: 0.16224 ft^3

Post-Development Conditions

Total Site Drainage Area[A]: 0.156 acres **Impervious :** 0.125 acres

Existing "C": 0.4 **Pervious :** 0.031 acres

DURATION (min)	Rainfall Intensity 100-year Storm[C] t(hr)	I(in/hr)	R(in)	Average Coefficient[D]	100-year Runoff[E] (ft^3)	Permitted Outflow[F] (ft^3)	Required Storage[G] (ft^3)
20	0.33	4.9 =	1.62	0.75096	688.9	**192.74112**	**496.2**
30	0.5	3.85 =	1.93	0.75096	820.7	**292.032**	**528.7**
40	0.67	3.33 =	2.23	0.75096	948.3	**391.32288**	**557.0**
50	0.83	2.83 =	2.35	0.75096	999.3	**484.77312**	**514.6**
60	1	2.52 =	2.52	0.75096	1071.6	**584.064**	**487.6**
90	1.5	1.92 =	2.88	0.75096	1224.7	**876.096**	**348.6**
120	2	1.58 =	3.16	0.75096	1343.8	**1168.128**	**175.7**
24 hrs	24	0.23 =	5.52	0.75096	2347.4	**14017.536**	**-11670.1**

Pond Size Required (ft^3): 556.99

INSTRUCTIONS

A) SITE DRAINAGE AREAS shall be calculated in acres and divided into impervious and pervious areas.

B) MAXIMUM ALLOWABLE DISCHARGE (Q) (ft^3) shall be for a 2 yr, 24-hr storm

Q = C*I*A — C = 0.40 for Previously Develped areas

I=2.60 inches/hr — C = 0.15 for Previously Unevelped areas

A = Site Area in acres — or C = Design Value for storm system

C) Inches of rainfall, given for a 100 year storm, source: Rainfall Frequency Atlas of the Midwest by Floyd A. Huff and James R. Angel. Bulletin 71 (MCC Research Report 92-03). Midwestern Climate Center and Illinois State Water Survey. 1992.

D) AVERAGE COEFFICIENT for runoff, used for all durations, is calculated by the weighted average of pervious and impervious areas, using a pervious coefficient of 0.15 and an impervious coefficient of 0.90.

(ie: AVE COEF = (Impervious*0.90)+(Pervious*0.15)/Total Site Area)

E) Runoff: multiply the total site drainage area by the average coefficient then by inches of rainfall converted into feet, then by 43,560 to convert acres into square feet, result will be in cubic feet.

(ie: RUNOFF = DRAIN AREA*AVE COEF*(RAINFALL/12)*43560)

F) Permitted Outflow: Multiply maximum allowable outflow by time in hours, then by 3600

(ie: PERMITTED OUTFLOW = MAX ALLOWABLE DISCHARGE (FT^3/SEC)*TIME(HR)*3600(SEC/HR))

G) REQUIRED STORAGE: Subtract Permitted Outflow from 100-Year Runoff. Storage volume will increase to a peak and then decrease.

H) The Pond Size Required is the peak volume from the Required Storage column.

Worksheet Comments: This worksheet indicates the amount of storage required on the site plan, and the maximum allowable discharge to the public storm sewer system.

EXAMPLE #2 – Large Commercial Site, Total area > 1 acre

DESCRIPTION:

A national tire retailer is redeveloping a 1.38 acre parcel that was previously the site of a car dealership. The 272 foot x 220.5 foot lot currently has an impervious area of approximately 0.5 acres consisting of a paved area with the remaining 0.88 acres of pervious surfaces evenly split between wooded and meadow areas. Upon completion of the development, the total impervious area of the proposed building, parking lot and pedestrian facilities will be increased to 0.825 acres.

Three variations of this site plan have been developed to display varying levels of Low Impact Development (LID) in order to meet the requirements of this ordinance, including:

- No LID elements applied – This site plan is of a typical storm sewer system that utilizes oversized 48" piping in order to satisfy maximum discharge limits and achieve detention requirements as established under previous standards.
- Some LID elements applied – This site plan incorporates some LID measures, but falls short of satisfying all ordinance requirements.
- LID design – This site plan contains a comprehensive LID design that will meet, and exceed the current ordinance requirements.

These examples have been attached at the end of this document. The following is a step by step walk through the process of successfully completing these worksheets.

Worksheet #1 - General Watershed / Site Information

Worksheet #1 is for general information about the site including owner identification and site location. Specific watershed information requested can be found for any site by utilizing the reference links embedded in the sheet. The information provided on this worksheet will be unique for any given site, and will change based on the type of development (LID or not).

Worksheet #2 – Sensitive Natural Resources

Worksheet #2 is used to collect information on the presence of any sensitive natural resources found within the limits of the site and a table to summarize if any of these areas are to be disturbed or not. This information is used in conjunction with Worksheet #3 to determine the actual area of the project to be managed for storm water control. Once the area to be protected or undisturbed

has been identified, it is deducted from the total area to be used for determining site runoff calculations. This area will not change based on the type of development.

Worksheet #3 – Runoff Reduction Credits

Worksheet #3 is used to determine if any non-structural Better Management Practices (BMPs) have been incorporated into the site plan. For calculation purposes, a non-structural BMP is one that alters the site hydrology to reduce runoff, rather than manage generated runoff. An example of a non-structural BMP would be to minimize soil compaction on the site. By doing this, the applicant can use an improved "credited" CN for use on Worksheet 4 for calculating the volume of runoff generated on the site.

Worksheet #4 – Calculations for Channel Protection Volume and Peak Flow Rate

Worksheet #4 is used to calculate the pre- and post-development runoff volumes based on areas of given surface types, and consists of worksheets 4A through D. On worksheet 4A, the applicant will complete the upper table for pre-development site conditions, and the lower table based on the proposed post-development conditions, and utilizing the areas with improved "CN" factors from Worksheet 3. If the difference between the pre- and post-development runoff volumes is positive, then that volume from Worksheet 4A is transferred to Worksheet 5 for use in determining whether the Channel Protection Criteria is satisfied. If the post-development runoff is less than the pre-development volume, then this criteria is satisfied. Worksheet 4B is for calculating the pre- and post-development peak flow rate. The peak flow rate analysis is based on a 1 year, 24-hour rainfall event, while the volume analysis is based on a 2 year, 24-hour event. Worksheets 4C and 4D must be completed in order for the calculations in worksheet 4B to work successfully. In cases where the site hydrology is too complicated, the applicant may submit a hydraulic model generated using a program such as EPA SWMM, or similar.

Worksheet #5 - Structural BMP Volume Reduction (Channel Protection)

When site development results in an increase of runoff generated, this runoff must be managed on-site to satisfy Channel Protection Criteria. A table is given on this worksheet with a listing of potential BMPs to be utilized on the site. The applicant will fill in only the areas applicable to BMPs incorporated into their site development, and perform the calculations showing that the BMPs to be implemented can provide enough volume reduction to match or exceed the increase in runoff generated by the site. A table is included on the bottom of the sheet for inclusion of

BMPs that do not treat volume, BMPs that actively decrease the volume of runoff through infiltration into the soils, capture and reuse or evaporation will not contribute to meeting the criteria for channel protection. If the post-development runoff is less than the pre-development volume, this worksheet may still be completed to demonstrate that the amount of on-site storage available in the proposed structural BMPs can be used for the Flood Control Criteria.

Worksheet #6 – Water Quality Worksheet

For a site to meet the criteria for water quality, the first 1-inch of runoff from all pervious and impervious areas on the site shall be treated to achieve 80% removal of total suspended solids (TSS). In order to ensure that all runoff on the site is treated, the site must be designed so that all tributary areas are directed through the appropriate BMPs needed to meet the criteria. The table at the top of the sheet is used to calculate individual tributary areas and the volume of water generated by each. The table at the bottom of the sheet lists the various BMPs and assigns each a TSS removal rating, where a rating of "High" indicates a removal of a minimum of 80% TSS removal. In order to satisfy the criteria for water quality, all on site generated runoff from the first 1-inch of rainfall must pass through one BMP rated High, or two BMPs rated Low or Medium in series.

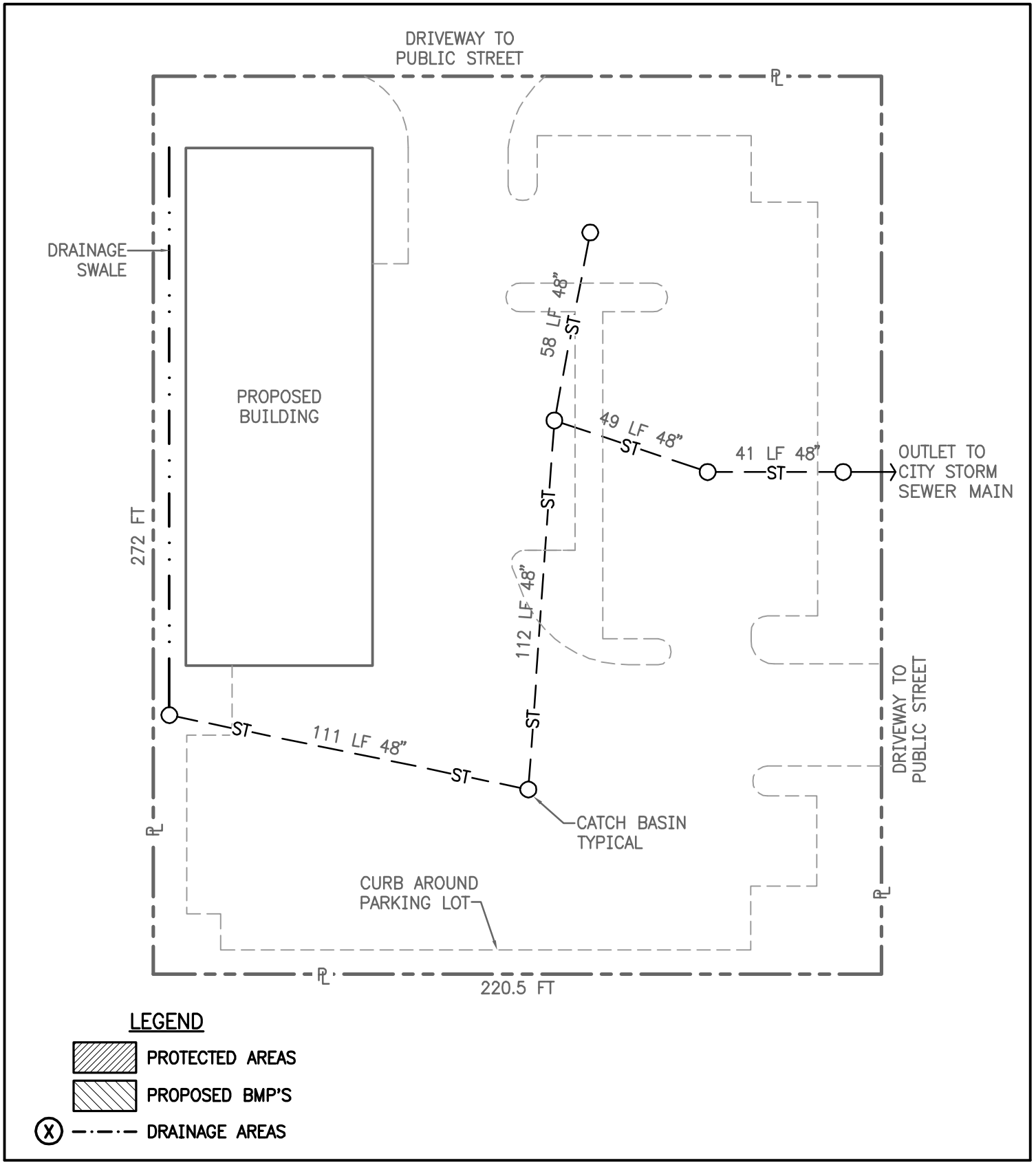
Worksheet #7 – Runoff Detention Calculation Worksheet (Flood Control)

The runoff detention calculation is required for any non-residential construction that results in an increase of impervious area greater than 1000 square feet. Using the instructions on the worksheet, the applicant will enter the site area and divide that into pervious and impervious segments. This will calculate the maximum allowable discharge rate from the site, in addition to the required volume of storage that needs to be available on the site in order to maintain that rate of discharge. The volume of storage required is based on the peak difference calculated between the 100-year runoff and the permitted outflow. Once this volume has been determined, the developer can use this figure to determine if enough on site storage capacity has been provided in the proposed structural BMPs, and/or on site detention. This will be summarized on Worksheet 8.

Worksheet #8 – Criteria Summary Sheet

This worksheet is used to summarize the calculations and results from Worksheets #1-7 to ensure that the site developer has submitted a plan that meets all three storm water criteria: channel protection (worksheets 4 & 5), flood control (worksheets 5 & 7), and water quality (worksheet 6). At the bottom of the worksheet is a section for Maintenance Criteria. This has been included to show that the applicant acknowledges that in order for BMPs to maintain long term operational

effectiveness, a plan for operating and maintaining these facilities needs to be in place. Also, an easement is granted to the City for inspection of on-site BMPs to ensure that the site owner does maintain all on site BMPs in satisfactory operating condition.



N W E S	CITY OF JACKSON DEPARTMENT OF ENGINEERING	EXAMPLE 2A – NO LID SITE PLAN FOR 1603 WISEMAN STREET

Worksheet 1. General Watershed/ Site Information

NOTE: If the project extends over more than 1 Watershed, fill out Worksheet 1 for each Watershed

Date: 8/18/2011

Project Name: Bob's Tire - No LID BMPs

Municipality: City of Jackson

County: Jackson County

Total Area (acres): 1.38

Major Watershed: Upper Grand Watershed 04050004

http://cfpub.epa.gov/surf/state.cfm?statepostal=MI

Subwatershed:

Nearest Surface Water(s) to Receive Runoff: Grand River

Part 4 - Designated Water Use: OSRW

http://www.michigan.gov/deq/0,4561,7-135-3313_3682_3714---,00.html (OSRW = Outstanding State Resource Waters)

Michigan Natural Rivers watershed?	Yes	
http://www.michigan.gov/dnr/0,1607,7-153-30301_31431_31442-95823--,00.html	No	X
Impaired according to Chapter 303(d) List?	Yes	X
http://www.deq.state.mi.us/documents/deq-wb-intreport-appendixj.pdf	No	

List Causes of Impairment:

Areas of impairment not local to project

Is project subject to, or part of:

Phase I or Phase II Municipal Separate Storm Sewer System (MS4) Requirements? (Is site greater than 1 acre?)	Yes	X
http://www.michigan.gov/deq/0,1607,7-135-3313_3682_3716-24366--,00.html	No	
Existing or planned drinking water supply?	Yes	
	No	X

If yes, distance from proposed discharge (miles):

Approved Watershed Management Plan?	Yes	X
http://www.michigan.gov/deq/0,1607,7-135-3313_3682_3714_4012-95955--,00.html	No	

Worksheet Comments:

Information provided on this sheet will be the same for all examples.

Worksheet 2. Sensitive Natural Resources

Project: Bob's Tire (No LID BMPs)

INSTRUCTIONS:

1. Provide Sensitive Resources Map for the site. This map should identify waterbodies, floodplains, riparian areas, wetlands, woodlands, natural drainage ways, steep slopes, and other sensitive natural features.

2. Summarize the existing extent of each sensitive resource in the Existing Sensitive Resources Table (below, using Acres).

3. Summarize total proposed Protected/Undisturbed Area. Use the following BMPs to define Protected/Undisturbed Area; protect sensitive areas, protect riparian buffers, protect natural flow pathways, cluster development, and minimize disturbed area.

4. Do not count any area twice. For example, an area that is both a floodplain and a wetland may only be considered once (include as either floodplain or wetland, not both).

EXISTING NATURAL SENSITIVE RESOURCE	MAPPED? (yes, no, n/a)	TOTAL AREA (Ac.)	PROTECTED/ UNDISTURBED AREA (Ac.)
Waterbodies			
Floodplains			
Riparian Areas			
Wetlands			
Woodlands			
Natural Drainage Ways			
Steep Slopes, 15% - 25%			
Steep Slopes, over 25%			
Special Habitat Areas			
Other:			
TOTAL EXISTING:		0	0

Worksheet Comments:

For this example, the developer did not identify any areas to protect during the project.

Worksheet 3. Runoff Reduction Credits

PROTECTED/ UNDISTURBED AREA

Protected/Undisturbed Area* (from WS 2) **0** **Ac.**

TOTAL PROPOSED PROTECTED/UNDISTURBED AREA **0** **Ac.**

Total Site Area	*minus*	Protected/ Undisturbed Area	*equals*	Disturbed Area (To be managed)
1.38	-	0	=	1.38

This is the area that requires stormwater management

Transfer to WS 4

NON STRUCTURAL BMP CREDITS**

BMP: Minimize Soil Compaction Area: - **Ac.**

Soil Type - Existing CN - Credited CN -

BMP: Soil Amendment and Restoration Area: - **Ac.**

Soil Type - Existing CN - Credited CN -

Areas complying with the requirements of these BMPs can be assigned a Curve Number (CN) reflecting a "Good" condition instead of "Fair" as required for other disturbed pervious areas. For example, lawn areas with B soils would be given a CN of 61 instead of 69; lawns with C soils a CN of 74 instead of 79. Curve Numbers were developed as part of the U.S. Soil Conservation Service TR-55 hydrologic analysis model.

Protect Existing Trees within Disturbed Area (part of Minimize Disturbed Area)

Number of Trees: -

Total Area: - **Ac.**

Soil Type - Existing CN - Credited CN -

Trees protected under the requirements of this BMP can be assigned a Curve Number (CN) reflecting a Woods in "Good" condition for an area of 800 SF per tree or the entire area of the tree canopies protected, whichever is greater.

BMPS: Native Revegetation and Riparian Corridor Restoration

Number of Trees: -

Number of Shrubs: -

Total Area: - **Ac.**

Soil Type - Existing CN - Credited CN -

Proposed trees and shrubs to be planted under the requirements of these BMPs can be assigned a Curve Number (CN) reflecting a Woods in "Good" condition for an area of 200 SF per tree or the estimated tree canopy, whichever is greater. For shrubs, an area of 25 SF per shrub.

** *A checklist is provided for each BMP in chapter 6 and 7 to ensure certain criteria is being met and credit can be given.*

City of Jackson
Department of Engineering

WORKSHEET 4A. Calculations for Channel Protection Volume

PROJECT NAME: Bob's Tire (No LID BMPs)

2-Year, 24-Hour Rainfall): 2.42 **in**

Total Site Area: 1.38 **acres**

Disturbed Area to be managed: 1.38 **acres** (From WS 3)

Pre-Development Conditions

Cover Type	Soil Type	Area (sf)	Area (ac)	CN (from TR-55)	S	Q Runoff[1] (in)	Runoff Volume[2] (ft^3)
Woods / Meadow	A	**0**		30	23.3	**0.00**	**0**
Woods	B	**0**		55	8.2	**0.00**	**0**
Meadow	B	**0**		58	7.2	**0.00**	**0**
Woods	C	**19166**	**0.44**	70	4.3	**0.42**	**667**
Meadow	C	**0**		71	4.1	**0.00**	**0**
Woods	D	**0**		77	3.0	**0.00**	**0**
Meadow	D	**0**		78	2.8	**0.00**	**0**
Impervious	N/A	**21780**	**0.5**	98	0.20	**2.19**	**3,977**
Other:		**19166**	0.44	74	3.51	**0.56**	**900**
TOTAL:	**N/A**	**60,113**	**1.38**	**N/A**	**N/A**	**1.11**	**5,545**

Post-Development Conditions**

Cover Type	Soil Type	Area (sf)	Area (ac)	CN*	S	Q Runoff[1] (in)	Runoff Volume[2] (ft^3)
Impervious	C	**36154.8**	0.83	98	0.20	**2.19**	**6,602**
Grassland	C	**12196.8**	0.28	79	2.66	**0.78**	**797**
Woods	C	**11761.2**	0.27	73	3.70	**0.52**	**514**
		-		74	3.51	**0.56**	**0**
		-		70	4.29	**0.42**	**0**
TOTAL:	**N/A**	**60,113**	**1.38**	**N/A**	**N/A**	**1.58**	**7,914**

Runoff Volume Increase (ft^3): **2,369** ***Transfer to WS 5***

Runoff Volume Increase = (Post-Dev. Runoff Volume) MINUS (Pre-Dev. Runoff Volume)

1. **Runoff (in)** = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where:
   - P = 2-Year, 24-Hour Rainfall (in)
   - S = 1000/ CN - 10
   - CN = Curve Number
   - Q = Runoff (in)
2. **Runoff Volume (ft^3)** = Q x 1/12 x Area
   - Area = Area of specific land cover (ft^2)

* Runoff Volume must be calculated separately for pervious and impervious areas (without using a weighted CN), unless Non-Structural BMP Rooftop/Downspout Disconnection is applied.

** Pre- and Post-development areas shall match. Post development conditions shall reflect non-structural BMPs applied on WS 3

Worksheet Comments: This shows that the post-development runoff will increase, volume is then transferred to Worksheet 5.

City of Jackson
Department of Engineering

WORKSHEET 4B. Calculations for Channel Protection Peak Flow Rate

PROJECT NAME: Bob's Tire (No LID BMPs)

1-Year, 24-Hour Rainfall): 2.03 **in**

Pre-Development Conditions

Cover Type	Soil Type	Area (sf)	Area (ac)	CN (from TR-55)	S	Q Runoff[1] (in)	Runoff Volume[2] (ft^3)
Woods / Meadow	A	**0**		30	23.3	**0.00**	**0**
Woods	B	**0**		55	8.2	**0.00**	**0**
Meadow	B	**0**		58	7.2	**0.00**	**0**
Woods	C	**19166**	**0.44**	70	4.3	**0.25**	**403**
Meadow	C	**0**		71	4.1	**0.00**	**0**
Woods	D	**0**		77	3.0	**0.00**	**0**
Meadow	D	**0**		78	2.8	**0.00**	**0**
Impervious	N/A	**21780**	**0.5**	98	0.20	**1.80**	**3,274**
Other:		**19166**	0.44	74	3.51	**0.36**	**581**
TOTAL:	**N/A**	**60,113**	**1.38**	**N/A**	**N/A**	**0.85**	**4,258**

Post-Development Conditions

Cover Type	Soil Type	Area (sf)	Area (ac)	CN*	S	Q Runoff[1] (in)	Runoff Volume[2] (ft^3)
Impervious	C	36154.8	0.83	98	0.2	**1.80**	**5,436**
Grassland	C	12196.8	0.28	79	2.7	**0.54**	**549**
Woods	C	11761.2	0.27	73	3.7	**0.33**	**327**
		0				**2.03**	**0**
		0				**2.03**	**0**
TOTAL:	**N/A**	**60,113**	**1.38**	**N/A**	**N/A**	**1.26**	**6,312**

Runoff Volume Increase (ft^3): 2,053

PEAK FLOW RATE ANALYSIS

(Use detailed information to complete Worksheets 4C & 4D, or use simplified Graphical Method below)

Storm Event	Duration (Hr)	Pre-Settlement Peak Discharge[A]	Post-Settlement Peak Discharge Rate	Difference (Post - Pre)	Are the criteria met? (Y/N)**
1-year	24	0.054	0.222	0.168	N
2-year	24	0.073	0.287	0.214	N

[A] Graphical Peak Discharge method = Qp = qu*A*Q Where: Qp = Peak Discharge (cfs)

Qu = Unit Peak Discharge (csm/in)

A = Drainage Area (mi) Q = Runoff

*To determine Qu through graphical methods see Worksheets 4C & D, and attached figure assuming a minimum Time of Concentration of 6 minutes to fill out the table below for the peak flow table above.

Ia = 0.2*(1000/CN-10) Where : CN = weighted curve number P = Rainfall

	Weighted CN	I_a	I_a/P 1-yr, 24Hr	I_a/P 2-yr, 24Hr	qu 1-yr	qu 2-yr
Pre	81.4	0.4564	0.2248	0.1886	**353**	**366**
Post	89.3	0.2408	0.1186	0.0995	**980**	**1011**

** If the peak flow rate increases after development, then BMPs must be designed to address the increase.

Worksheet Comments: The peak flow rate for this site increases, requiring the installation of BMPs.

WORKSHEET 4C. Time of Concentration

PROJECT NAME: Bob's Tire (No LID BMPs)

2-Year, 24-Hour Rainfall): 2.42 **in**

Pre-Development Conditions

Sheet Flow	Surface Description	Manning	Flow length (ft)	Slope (ft/ft)	Tc (hr)
	1 overland flow	0.24	300	0.01	0.87
	2				0.00
	3				0.00
				Sheet Flow Subtotal	*0.87*
Shallow Concentrated Flow	Surface Description		Flow length (ft)	Slope (ft/ft)	
	Unpaved				0.00
	Paved				0.00
				Shallow Concentrated Subtotal	*0.00*
Channel Flow	Surface Description	Velocity (fps)	Flow length (ft)		
	1				0.00
	2				0.00
	3				0.00
				Channel Flow Subtotal	*0.00*
				Time of Concentration (hr)	**0.87**
				Adjusted Time of Concentration (hr)**	**0.87**

Post-Development Conditions

Sheet Flow	Surface Description	Manning	Flow length (ft)	Slope (ft/ft)	Tc (hr)
	1	0.011	50	0.01	0.02
	2				0.00
	3				0.00
				Sheet Flow Subtotal	*0.02*
Shallow Concentrated Flow	Surface Description		Flow length (ft)	Slope (ft/ft)	
	Unpaved		0	0.01	0.00
	Paved		250	0.01	0.03
				Shallow Concentrated Subtotal	*0.03*
Channel Flow	Surface Description	Velocity (fps)	Flow length (ft)		
	1				0.00
	2				0.00
	3				0.00
				Channel Flow Subtotal	*0.00*
				Total Time of Concentration (hr)	**0.05**
				Adjusted Time of Concentration (hr)**	**0.10**

*** minimum allowed Tc is 0.1hr; maximum allowable is 10 hrs*

Roughness Coefficient (Manning's n) for sheet flow

Surface Description	**n**
Smooth surfaces (concrete, asphalt, gravel, or bare soil)	0.011
Fallow (no residue)	0.05
Cultivated Soils:	

Residue cover <= 20%	0.06
Residue cover > 20%	0.17
Grass	
Short grass prairie	0.15
Dense grassess	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods	
Light underbrush	0.4
Dense underbrush	0.8

WORKSHEET 4D. Calculations for Channel Protection Peak Flow Rate

PROJECT NAME: Bob's Tire (No LID BMPs)

PEAK FLOW RATE ANALYSIS

Storm Event	P (in)	Develop-ment	Tc (hr)[1]	Weighted Avg CN[2]	Ia/P[3]	Peak Unit qu (csm/in)[4]	Peak Runoff (cfs)[5]	Peak Runoff (cfs/ac)[6]
1-year 24-hour	2.03	Pre-	0.87	81.4	0.22	353	0.054	0.039
	2.03	Post-	0.10	89.3	0.12	980	0.222	0.161
2-year 24-hour	2.42	Pre-	0.87	81.4	0.19	366	0.073	0.053
	2.42	Post-	0.10	89.3	0.10	1011	0.287	0.208

1. From Worksheet 4C
2. From Worksheet 4B
3. From Worksheet 4B

4. Peak Unit qu (csm/in) =

10^((-2.744*(Ia/P)^3)+(0.312*(Ia/P)^2-(0.212*(Ia/P))+2.574)
+((5.5616*(Ia/P)^3)-(3.6065*(Ia/P)^2)+(0.686*(Ia/P))-0.6533)*LOG(Tc)
+((-6.2705*(Ia/P)^3)+(6.424*(Ia/P)^2)-(1.5281*(Ia/P))-0.00691)*(LOG(Tc)^2)

Where:
Ia/P = From Table above

5. Peak Runoff (cfs) =

$$\frac{(qu*A)}{640} * Q$$

Where:
qu = From Table above
A = Total site area, pre/post
Q = Total site runoff pre/post
(A & Q from Worksheet 4B)

6. Peak Runoff (cfs/ac) =

$$\frac{\text{Peak Runoff}}{A}$$

Where:
A = Total site area, pre/post
(A from Worksheet 4B)

Worksheet Comments:
Using the attached sheets and equations on worksheets 4C & 4D, the same conclusion that peak flow rate increases for the site after development.

WORKSHEET 5. STRUCTURAL BMP VOLUME REDUCTION**

PROJECT: Bob's Tire (No LID BMPs)

This worksheet is to be used to tabulate the volume reduction as a result of the installation of structural BMPs. To meet Channel Protection Criteria for volume reduction, the Permanently Removed Storage Volume will be considered as sufficient support documentation. The Infiltration Volume During Storm calculations may be provided in addition at the developer's discretion.

Runoff Volume Increase (cubic feet) *from Worksheet 4A* : 2,369

Proposed BMP[A]	Area (ft^2)	Permanently Removed Storage Volume[B] (ft^3)	*Ave. Design Infiltration Rate (in./hr.)	*Infiltration Volume During Storm[C] (ft^3)	Total Volume Reduction[D] (ft^3)
Porous Pavement					
Infiltration Basin					
Subsurface Infiltration Bed					
Infiltration Trench					
Bioretention					
Dry Well					
Vegetated Swale					
Retentive Grading					
Vegetated Roof			N/A	N/A	
Capture and Re-use			N/A	N/A	

Total Volume Reduction Credit by Proposed Structural BMPs (ft^3): -

Runoff Volume Increase (cubic feet) *from Worksheet 4* : 2,369

* Optional information

**** FOR PERMANENTLY REMOVED VOLUME ONLY, TEMPORARY DETENTION VOLUMES ARE NOT INCLUDED HERE. PERMANENTLY REMOVED STORAGE NOT TO BE INCLUDED IN PEAK DISCHARGE DETENTION CALCULATIONS**

[A] Follow design guidance and Protocols from Manual for each Structural BMP type

[B] Storage volume as defined in individual BMP writeups found in the Low Impact Development for Michigan- this represents permanently removed volume, not detention storage

[C] Can be approximated as the average design infiltration rate over 6 hours multiplied by the BMP area:
Design Infiltration Rate x 6 hours x BMP Area x Unit Conversions = Infiltration Volume (ft^3)

[D] Total Volume Reduction is sum of Storage Volume and Infiltration Volume During Storm.

Other Proposed BMPs *Not Volume Reducing*	Area (ft^2)
Constructed Filter	
Constructed Wetlands	
Wet Detention Pond	
Dry Extended Detention Basin	
Water Quality Devices	
Level Spreader	

Worksheet Comments: This example provides no BMP storage and will not satisfy the criteria.

WORKSHEET 6. WATER QUALITY WORKSHEET

PROJECT: Bob's Tire (No LID BMPs)

This worksheet calculates water quality volume based on the criteria of 1 inch of runoff from the entire site pervious and impervious.

A	B	C	D	E	F
BMP Tributary Area[A]	**Total Disturbed Area (ft^2)**	**Impervious Area (ft^2)**	**Disturbed Pervious Area (ft^2)**	**Water Quality Volume for Impervious Area (ft^3)**	**Water Quality Volume for Pervious (ft^3)**	**Total Water Quality Volume to BMPs (ft^3)**
				Col B x 1 inch/12	**Col C x 1 inch/12**	**Col D + Col E**
A						
B						
C						
D						
E						
Totals:	0	0	0	0	0	0

A - Only indicate the areas tributary to a particular BMP. The sum of all areas shall equal the total site area used to calculate channel protection and flood control criteria.

If only 1 water quality BMP is proposed for a given area, then it must be rated "High" for TSS Removal **. A TSS removal of "High" indicates a minimum of 80% TSS removal.

Indicate below which areas are treated by

Tributary Areas Passing Through BMP	BMP	TSS Removal Rating
	Bioretention	High
	Capture/Reuse	Medium
	Constructed Wetlands	High
	Wet Ponds	High
	Dry Ponds	Medium
	Constructed Filters	High
	Porous Pavement*	High
	Infiltration Systems*	High

Fill in other if not listed

If 2 or more water quality BMPs are proposed in series, any that are rated "Low/Medium" or better for TSS Removal are acceptable. List proposed BMPs here:

* Requires appropriate pretreatment to prevent clogging

** Proprietary, manufactured water quality devices are not acceptable unless they have been field tested by a third-party according to approved testing protocols.

Worksheet Comments:

This example has no BMPs, therefore cannot meet the criteria for water quality.

WORKSHEET 7. Maximum Allowable Discharge and Detention Calculations

The Runoff Detention calculation is required for non-residential construction that results in an increase of impervious area greater than 1000 square feet

Purpose: Development typically includes impervious parking lots and roofs. Rain water that used to soak into the ground immediately runs off into storm sewers that were originally designed and installed to accommodate storm runoff from residential property. To assure that storm sewers are not overloaded, runoff from new development is limited.

PROJECT NAME: Bob's Tire (No LID BMPs)

SITE LOCATION: 1603 Wiseman Street

Maximum Allowable Discharge[B]: **1.4352** ft^3/s

Post-Development Conditions

Total Site Drainage Area[A]: **1.38** acres **Impervious :** **0.83** acres

Existing "C": **0.4** **Pervious :** **0.55** acres

DURATION (min)	Rainfall Intensity 100-year Storm[C] t(hr)	I(in/hr)	R(in)	Average Coefficient[D]	100-year Runoff[E] (ft^3)	Permitted Outflow[F] (ft^3)	Required Storage[G] (ft^3)
20	0.33	4.9 =	1.62	0.60109	4878.0	**1705.0176**	**3172.9**
30	0.5	3.85 =	1.93	0.60109	5811.4	**2583.36**	**3228.0**
40	0.67	3.33 =	2.23	0.60109	6714.7	**3461.7024**	**3253.0**
50	0.83	2.83 =	2.35	0.60109	7076.0	**4288.3776**	**2787.7**
60	1	2.52 =	2.52	0.60109	7587.9	**5166.72**	**2421.2**
90	1.5	1.92 =	2.88	0.60109	8671.9	**7750.08**	**921.8**
120	2	1.58 =	3.16	0.60109	9515.0	**10333.44**	**-818.4**
24 hrs	24	0.23 =	5.52	0.60109	16621.2	**124001.28**	**-107380.1**

Pond Size Required (ft^3): **3,253.02**

INSTRUCTIONS

A) SITE DRAINAGE AREAS shall be calculated in acres and divided into impervious and pervious areas.

B) MAXIMUM ALLOWABLE DISCHARGE (Q) (ft^3) shall be for a 2 yr, 24-hr storm

Q = C*I*A — C = 0.40 for Previously Develped areas

I=2.60 inches/hr — C = 0.15 for Previously Unevelped areas

A = Site Area in acres — or C = Design Value for storm system

C) Inches of rainfall, given for a 100 year storm, source: Rainfall Frequency Atlas of the Midwest by Floyd A. Huff and James R. Angel. Bulletin 71 (MCC Research Report 92-03). Midwestern Climate Center and Illinois State Water Survey. 1992.

D) AVERAGE COEFFICIENT for runoff, used for all durations, is calculated by the weighted average of pervious and impervious areas, using a pervious coefficient of 0.15 and an impervious coefficient of 0.90.

(ie: AVE COEF = (Impervious*0.90)+(Pervious*0.15)/Total Site Area)

E) Runoff: multiply the total site drainage area by the average coefficient then by inches of rainfall converted into feet, then by 43,560 to convert acres into square feet, result will be in cubic feet.

(ie: RUNOFF = DRAIN AREA*AVE COEF*(RAINFALL/12)*43560)

F) Permitted Outflow: Multiply maximum allowable outflow by time in hours, then by 3600

(ie: PERMITTED OUTFLOW = MAX ALLOWABLE DISCHARGE (FT^3/SEC)*TIME(HR)*3600(SEC/HR))

G) REQUIRED STORAGE: Subtract Permitted Outflow from 100-Year Runoff. Storage volume will increase to a peak and then decrease.

H) The Pond Size Required is the peak volume from the Required Storage column.

Worksheet Comments: Sheet calculates amount of detention storage required on the site, same for all examples. BMP storage in excess of what is required for channel protection on sheet 5 may be counted towards this volume.

City of Jackson
Department of Engineering

WORKSHEET 8. Criteria Summary Sheet

PROJECT: Bob's Tire (No LID BMPs)

Total Site Area	**1.38**	acres	
Impervious	**0.5**	acres	Pre-Development
	0.88	acres	Post-Development
Pervious	**0.83**	acres	Pre-Development
	0.55	acres	Post-Development

Channel Protection Criteria

Criteria Satisfied?

Maintain post-development site runoff volume and peak flow rates at or below existing levels for all storms up to the two-year, twenty-four-hour event.

Volume:

Pre-Development Volume	**5545**	ft^3	(From Worksheet 4A)
Post-Development Volume	**7914**	ft^3	(From Worksheet 4A)
Difference	**2369**	~~ft^4~~ ft3	
BMP Storage	**0**	ft^3	(From Worksheet 5)

***Criteria for channel protection volume may be satisfied if the site provides adequate BMP storage to handle the increase in runoff from pre- to post-development conditions.** **No**

Peak Flow Rate:

Pre-Development Peak Flow Rate	0.07 ~~**0.19**~~	ft^3/s	(From Worksheet 4B)
Post-Development Peak Flow Rate	0.29 ~~**0.28**~~	ft^3/s	(From Worksheet 4B)

*** Criteria for channel protection peak rate analysis may be satisfied if the post-development rate is less than the pre-development rate. If not, the criteria can be achieved if the development has included BMPs in the site plan.** **No**

Flood Control Criteria

Structures are to be sized to accommodate a twenty-four-hour, fifty-year storm. Maximum allowable discharge is based on a thirty-minute, ten-year storm

Maximum Allowable Discharge	**1.4**	ft^3 /sec	(From Worksheet 7)
Required Storage - Flood Control	**3253**	ft^3	(From Worksheet 7)
Excess BMP Storage	**0**	ft^3	(BMP Storage-Ch. Pro. Vol)
On-Site Detention/Retention	**4662****	ft^3	Provide separate calculations.**
Volume Provided - Volume Required	**1409**	ft^3	(Excess BMP Storage+On-site storage-Flood Control volume requirements)

***Criteria for flood control may be satisfied if the site provides for enough storage to retain the post development runoff and to detain/retain the volume of water required to maintain the maximum allowable discharge. This may be completed through utilization of available BMP storage , including storage provided by any on-site re-/detention ponds.** **Yes**

(Detention and discharge calculations should be submitted based upon selected detention method.

** Volume provided in sewer system through oversized piping, or non-BMP storage. Cannot apply towards channel protection.

Water Quality Criteria

Minimum of 80% removal of Total Suspended Solids (TSS), compared with uncontrolled runoff - or - Discharge concentrations of TSS not to exceed 80 (mg/l).

Water Quality Volume **0** ft^3 (From Worksheet 6) **No**

Maintenance Criteria

All BMPs installed require a plan for maintaining maximum design performance through long-term operation and maintenance (O&M). An easment is necessary to perform periodic assessment of BMP condition.

O&M Plans Provided? Y / **N**

Easement Agreement? (Attach Signed Agreement) Y / **N**

Soil Erosion Control

Has a soil erosion control plan been developed and submitted? **Y** / N

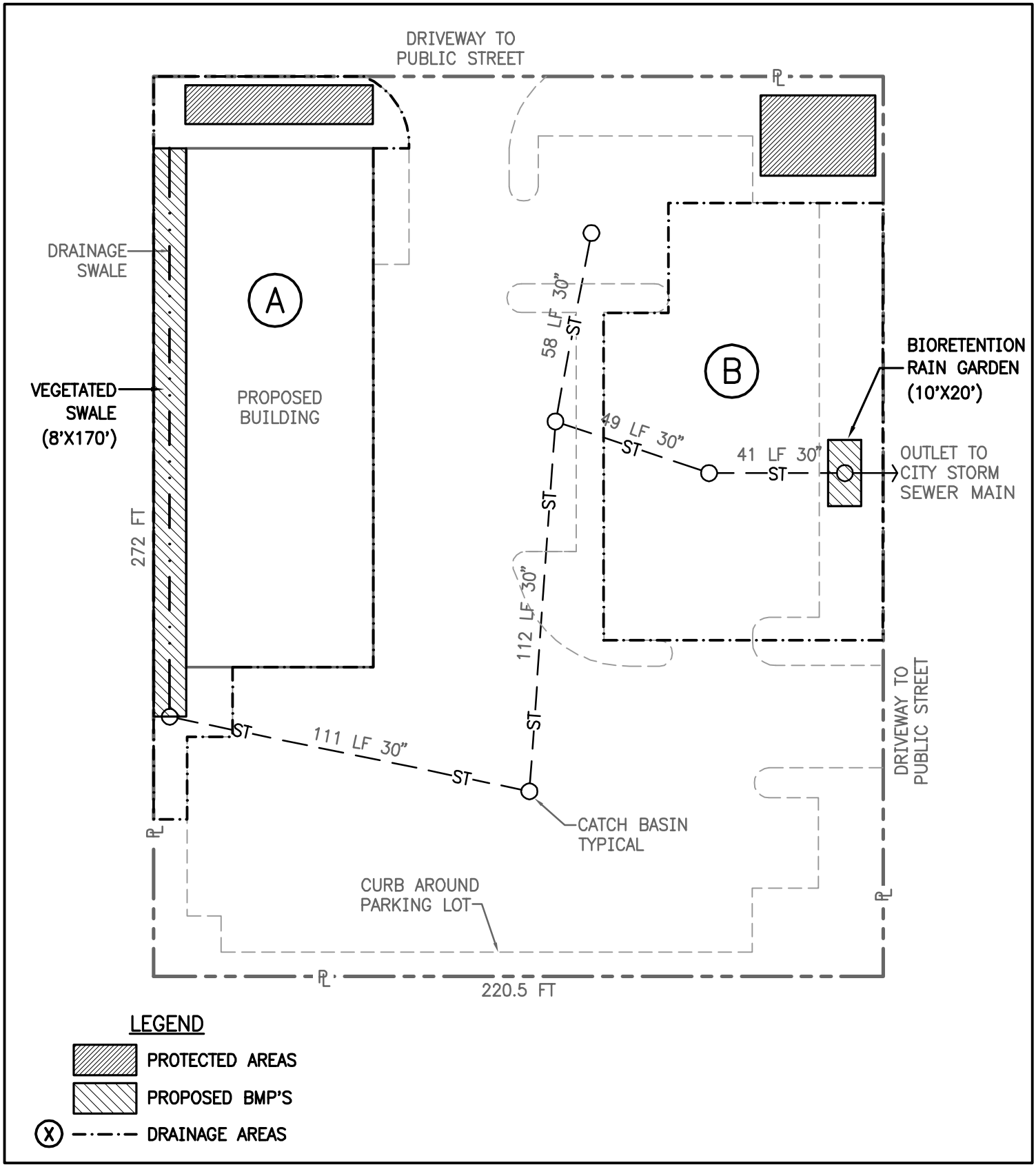
Wetland Protection

Have acceptable wetland protection measures been taken? **Y** / N

Worksheet Comments:

The site as designed will not meet the criteria for Channel Protection, Volume or Peak Flow Rate, or the Criteria for Water Quality.

The site does meet the Criteria for Flood Control based on the availability of storage within the oversized piping system.



N W E S	CITY OF JACKSON DEPARTMENT OF ENGINEERING	EXAMPLE 2B – SOME LID BMP'S SITE PLAN FOR 1603 WISEMAN STREET

Worksheet 1. General Watershed/ Site Information

NOTE: If the project extends over more than 1 Watershed, fill out Worksheet 1 for each Watershed

Date: 8/18/2011

Project Name: Bob's Tire (Some LID BMPs)

Municipality: City of Jackson

County: Jackson County

Total Area (acres): 1.38

Major Watershed: Upper Grand Watershed 04050004

http://cfpub.epa.gov/surf/state.cfm?statepostal=MI

Subwatershed:

Nearest Surface Water(s) to Receive Runoff: Grand River

Part 4 - Designated Water Use:

http://www.michigan.gov/deq/0,4561,7-135-3313_3682_3714---,00.html

Michigan Natural Rivers watershed?	Yes	
http://www.michigan.gov/dnr/0,1607,7-153-30301_31431_31442-95823--,00.html	No	X
Impaired according to Chapter 303(d) List?	Yes	X
http://www.deq.state.mi.us/documents/deq-wb-intreport-appendixj.pdf	No	

List Causes of Impairment:

Areas of impairment not local to project

Is project subject to, or part of:

Phase I or Phase II Municipal Separate Storm Sewer System (MS4) Requirements? (Is the site greater than 1 acre?)	Yes	X
http://www.michigan.gov/deq/0,1607,7-135-3313_3682_3716-24366--,00.html	No	
Existing or planned drinking water supply?	Yes	
	No	X

If yes, distance from proposed discharge (miles):

Approved Watershed Management Plan?	Yes	X
http://www.michigan.gov/deq/0,1607,7-135-3313_3682_3714_4012-95955--,00.html	No	

Worksheet 2. Sensitive Natural Resources

Project: Bob's Tire (Some LID BMPs)

INSTRUCTIONS:

1. Provide Sensitive Resources Map for the site. This map should identify waterbodies, floodplains, riparian areas, wetlands, woodlands, natural drainage ways, steep slopes, and other sensitive natural features.

2. Summarize the existing extent of each sensitive resource in the Existing Sensitive Resources Table (below, using Acres).

Small wooded area identified on the site to be protected.

3. Summarize total proposed Protected/Undisturbed Area. Use the following BMPs to define Protected/Undisturbed Area; protect sensitive areas, protect riparian buffers, protect natural flow pathways, cluster development, and minimize disturbed area.

4. Do not count any area twice. For example, an area that is both a floodplain and a wetland may only be considered once (include as either floodplain or wetland, not both).

EXISTING NATURAL SENSITIVE RESOURCE	MAPPED? (yes, no, n/a)	TOTAL AREA (Ac.)	PROTECTED/ UNDISTURBED AREA (Ac.)
Waterbodies			
Floodplains			
Riparian Areas			
Wetlands			
Woodlands	Yes	0.06	0.03
Natural Drainage Ways			
Steep Slopes, 15% - 25%			
Steep Slopes, over 25%			
Special Habitat Areas			
Other:			
TOTAL EXISTING:		0.06	0.03

Worksheet Comments: This sheet indicates that the developer has identified 0.06 acres of the site to be an existing woodland, of which they intend to protect 0.03 acres. That area will be exempt from the site storm water calculations.

Worksheet 3. Runoff Reduction Credits

PROTECTED/ UNDISTURBED AREA

Protected/Undisturbed Area* (from WS 2) **0.03** **Ac.**

TOTAL PROPOSED PROTECTED/UNDISTURBED AREA **0.03** **Ac.**

Total Site Area	*minus*	Protected/ Undisturbed Area	*equals*	Disturbed Area (To be managed)
1.38	-	0.03	=	1.35

This is the area that requires stormwater management

Transfer to WS 4

NON STRUCTURAL BMP CREDITS**

BMP: Minimize Soil Compaction Area: 0.03 **Ac.**

Soil Type C Existing CN 79 Credited CN 74

BMP: Soil Amendment and Restoration Area: - **Ac.**

Soil Type - Existing CN - Credited CN -

Areas complying with the requirements of these BMPs can be assigned a Curve Number (CN) reflecting a "Good" condition instead of "Fair" as required for other disturbed pervious areas. For example, lawn areas with B soils would be given a CN of 61 instead of 69; lawns with C soils a CN of 74 instead of 79.

Protect Existing Trees within Disturbed Area (part of Minimize Disturbed Area)

Number of Trees: 5

Total Area: 0.09 **Ac.**

Soil Type C Existing CN 73 Credited CN 70

Trees protected under the requirements of this BMP can be assigned a Curve Number (CN) reflecting a Woods in "Good" condition for an area of 800 SF per tree or the entire area of the tree canopies protected, whichever is greater.

BMPS: Native Revegetation and Riparian Corridor Restoration

Number of Trees: -

Number of Shrubs: -

Total Area: - **Ac.**

Soil Type - Existing CN - Credited CN -

Proposed trees and shrubs to be planted under the requirements of these BMPs can be assigned a Curve Number (CN) reflecting a Woods in "Good" condition for an area of 200 SF per tree or the estimated tree canopy, whichever is greater. For shrubs, an area of 25 SF per shrub.

** *A checklist is provided for each BMP in chapter 6 and 7 to ensure certain criteria is being met and credit can be given.*

Worksheet Comments: This worksheet shows that the developer is employing the non-structural BMPs of minimal soil compaction and protecting existing trees to improve the site CN used on Worksheet 4.

City of Jackson
Department of Engineering

WORKSHEET 4A. Calculations for Channel Protection Volume

PROJECT NAME: Bob's Tire (Some LID BMPs)

2-Year, 24-Hour Rainfall): 2.42 **in**

Total Site Area: 1.38 **acres**

Disturbed Area to be managed: 1.38 **acres** (From WS 3)

Pre-Development Conditions

Cover Type	Soil Type	Area (sf)	Area (ac)	CN (from TR-55)	S	Q Runoff[1] (in)	Runoff Volume[2] (ft^3)
Woods / Meadow	A	**0**		30	23.3	**0.00**	**0**
Woods	B	**0**		55	8.2	**0.00**	**0**
Meadow	B	**0**		58	7.2	**0.00**	**0**
Woods	C	**19166**	**0.44**	70	4.3	**0.42**	**667**
Meadow	C	**0**		71	4.1	**0.00**	**0**
Woods	D	**0**		77	3.0	**0.00**	**0**
Meadow	D	**0**		78	2.8	**0.00**	**0**
Impervious	N/A	**21780**	**0.5**	98	0.20	**2.19**	**3,977**
Other:		**19166**	0.44	74	3.51	**0.56**	**900**
TOTAL:	**N/A**	**60,113**	**1.38**	**N/A**	**N/A**	**1.11**	**5,545**

Post-Development Conditions**

Cover Type	Soil Type	Area (sf)	Area (ac)	CN*	S	Q Runoff[1] (in)	Runoff Volume[2] (ft^3)
Impervious	C	**36154.8**	0.83	98	0.2	**2.19**	**6,602**
Grassland	C	**10890**	0.25	79	2.7	**0.78**	**712**
Woods	C	**7840.8**	0.18	73	3.7	**0.52**	**343**
Min soil compaction	C	**1306.8**	0.03	74	3.5	**0.56**	**61**
Protect ex. Trees	C	**3920.4**	0.09	70	4.3	**0.42**	**136**
TOTAL:	**N/A**	**60,113**	**1.38**	**N/A**	**N/A**	**1.57**	**7,854**

Runoff Volume Increase (ft^3): **2,310** ***Transfer to WS 5***

Runoff Volume Increase = (Post-Dev. Runoff Volume) MINUS (Pre-Dev. Runoff Volume)

1. **Runoff (in)** = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where:
   - P = 2-Year, 24-Hour Rainfall (in)
   - S = 1000/ CN - 10
   - CN = Curve Number
   - Q = Runoff (in)
2. **Runoff Volume (ft^3)** = Q x 1/12 x Area — Area = Area of specific land cover (ft^2)

* Runoff Volume must be calculated separately for pervious and impervious areas (without using a weighted CN), unless Non-Structural BMP Rooftop/Downspout Disconnection is applied.

** Pre- and Post-development areas shall match. Post development conditions shall reflect non-structural BMPs applied on WS 3

Worksheet Comments: This shows that the post-development runoff will increase, volume is then transferred to Worksheet 5.

City of Jackson
Department of Engineering

WORKSHEET 4B. Calculations for Channel Protection Peak Flow Rate

PROJECT NAME: Bob's Tire (Some LID BMPs)

1-Year, 24-Hour Rainfall): 2.03 **in**

Pre-Development Conditions

Cover Type	Soil Type	Area (sf)	Area (ac)	CN (from TR-55)	S	Q Runoff[1] (in)	Runoff Volume[2] (ft^3)
Woods / Meadow	A	**0**		30	23.3	**0.00**	**0**
Woods	B	**0**		55	8.2	**0.00**	**0**
Meadow	B	**0**		58	7.2	**0.00**	**0**
Woods	C	**19166**	**0.44**	70	4.3	**0.25**	**403**
Meadow	C	**0**		71	4.1	**0.00**	**0**
Woods	D	**0**		77	3.0	**0.00**	**0**
Meadow	D	**0**		78	2.8	**0.00**	**0**
Impervious	N/A	**21780**	**0.5**	98	0.20	**1.80**	**3,274**
Other:		**19166**	0.44	74	3.51	**0.36**	**581**
TOTAL:	**N/A**	**60,113**	**1.38**	**N/A**	**N/A**	**0.85**	**4,258**

Post-Development Conditions

Cover Type	Soil Type	Area (sf)	Area (ac)	CN*	S	Q Runoff[1] (in)	Runoff Volume[2] (ft^3)
Impervious	C	36154.8	0.83	98	0.2	**1.80**	**5,436**
Grassland	C	10890	0.25	79	2.7	**0.54**	**490**
Woods	C	7840.8	0.18	73	3.7	**0.33**	**218**
Min soil compaction	C	1306.8	0.03	74	3.5	**0.36**	**40**
Protect ex. Trees	C	3920.4	0.09	70	4.3	**0.25**	**82**
TOTAL:	**N/A**	**60,113**	**1.38**	**N/A**	**N/A**	**1.25**	**6,266**

Runoff Volume Increase (ft^3): 2,008

PEAK FLOW RATE ANALYSIS

(Use detailed information to complete Worksheets 4C & 4D, or use simplified Graphical Method below)

Storm Event	Duration (Hr)	Pre-Settlement Peak Discharge[A]	Post-Settlement Peak Discharge Rate	Difference (Post - Pre)	Are the criteria met? (Y/N)**
1-year	24	0.054	0.219	0.165	N
2-year	24	0.073	0.283	0.210	N

[A] Graphical Peak Discharge method = Qp = qu*A*Q

Where: Qp = Peak Discharge (cfs)

Qu = Unit Peak Discharge (csm/in)

A = Drainage Area (mi) Q = Runoff

*To determine Qu through graphical methods see Worksheets 4C & D, and attached figure assuming a minimum Time of Concentration of 6 minutes to fill out the table below for the peak flow table above.

Ia = 0.2*(1000/CN-10) Where : CN = weighted curve number P = Rainfall

	Weighted CN	I_a	I_a/P 1-yr, 24Hr	I_a/P 2-yr, 24Hr	qu 1-yr	qu 2-yr
Pre	81.4	0.4564	0.2248	0.1886	**353**	**366**
Post	88.9	0.2485	0.1224	0.1027	**975**	**1005**

** If the peak flow rate increases after development, then BMPs must be designed to address the increase.

Worksheet Comments: The peak flow rate for this site increases, requiring the installation of BMPs.

WORKSHEET 4C. Time of Concentration

PROJECT NAME: Bob's Tire (Some LID BMPs)

2-Year, 24-Hour Rainfall): 2.42 **in**

Pre-Development Conditions

Sheet Flow	Surface Description	Manning	Flow length (ft)	Slope (ft/ft)	Tc (hr)
	1 overland flow	0.24	300	0.01	0.87
	2				0.00
	3				0.00
				Sheet Flow Subtotal	*0.87*
Shallow Concentrated Flow	Surface Description		Flow length (ft)	Slope (ft/ft)	
	Unpaved				0.00
	Paved				0.00
				Shallow Concentrated Subtotal	*0.00*
Channel Flow	Surface Description	Velocity (fps)	Flow length (ft)		
	1				0.00
	2				0.00
	3				0.00
				Channel Flow Subtotal	*0.00*
				Time of Concentration (hr)	**0.87**
				Adjusted Time of Concentration (hr)**	**0.87**

Post-Development Conditions

Sheet Flow	Surface Description	Manning	Flow length (ft)	Slope (ft/ft)	Tc (hr)
	1	0.011	50	0.01	0.02
	2				0.00
	3				0.00
				Sheet Flow Subtotal	*0.02*
Shallow Concentrated Flow	Surface Description		Flow length (ft)	Slope (ft/ft)	
	Unpaved		0	0.01	0.00
	Paved		250	0.01	0.03
				Shallow Concentrated Subtotal	*0.03*
Channel Flow	Surface Description	Velocity (fps)	Flow length (ft)		
	1				0.00
	2				0.00
	3				0.00
				Channel Flow Subtotal	*0.00*
				Total Time of Concentration (hr)	**0.05**
				Adjusted Time of Concentration (hr)**	**0.10**

*** minimum allowed Tc is 0.1hr; maximum allowable is 10 hrs*

Roughness Coefficient (Manning's n) for sheet flow

Surface Description	**n**
Smooth surfaces (concrete, asphalt, gravel, or bare soil)	0.011
Fallow (no residue)	0.05
Cultivated Soils:	

Residue cover <= 20%	0.06
Residue cover > 20%	0.17
Grass	
Short grass prairie	0.15
Dense grassess	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods	
Light underbrush	0.4
Dense underbrush	0.8

WORKSHEET 4D. Calculations for Channel Protection Peak Flow Rate

PROJECT NAME: Bob's Tire (Some LID BMPs)

PEAK FLOW RATE ANALYSIS

Storm Event	P (in)	Develop-ment	Tc (hr)[1]	Weighted Avg CN[2]	Ia/P[3]	Peak Unit qu (csm/in)[4]	Peak Runoff (cfs)[5]	Peak Runoff (cfs/ac)[6]
1-year 24-hour	2.03	Pre-	0.87	81.4	0.22	353	0.054	0.039
	2.03	Post-	0.10	88.9	0.12	975	0.219	0.159
2-year 24-hour	2.42	Pre-	0.87	81.4	0.19	366	0.073	0.053
	2.42	Post-	0.10	88.9	0.10	1005	0.283	0.205

1. From Worksheet 4C
2. From Worksheet 4B
3. From Worksheet 4B

4. Peak Unit qu (csm/in) =

10^((-2.744*(Ia/P)^3)+(0.312*(Ia/P)^2-(0.212*(Ia/P))+2.574)
+((5.5616*(Ia/P)^3)-(3.6065*(Ia/P)^2)+(0.686*(Ia/P))-0.6533)*LOG(Tc)
+((-6.2705*(Ia/P)^3)+(6.424*(Ia/P)^2)-(1.5281*(Ia/P))-0.00691)*(LOG(Tc)^2)

Where:
Ia/P = From Table above

5. Peak Runoff (cfs) = $\frac{(qu*A)}{640} * Q$

Where:
qu = From Table above
A = Total site area, pre/post
Q = Total site runoff pre/post
(A & Q from Worksheet 4B)

6. Peak Runoff (cfs/ac) = $\frac{\text{Peak Runoff}}{A}$

Where:
A = Total site area, pre/post
(A from Worksheet 4B)

Worksheet Comments:
Using the attached sheets and equations on worksheets 4C & 4D, the same conclusion that peak flow rate increases for the site after development.

WORKSHEET 5. STRUCTURAL BMP VOLUME REDUCTION**

PROJECT: Bob's Tire (Some LID BMPs)

This worksheet is to be used to tabulate the volume reduction as a result of the installation of structural BMPs. To meet Channel Protection Criteria for volume reduction, the Permanently Removed Storage Volume will be considered as sufficient support documentation. The Infiltration Volume During Storm calculations may be provided in addition at the developer's discretion.

Runoff Volume Increase (cubic feet) *from Worksheet 4A* : 2,310

Proposed BMP[A]	Area (ft^2)	Permanently Removed Storage Volume[B] (ft^3)	*Ave. Design Infiltration Rate (in./hr.)	*Infiltration Volume During Storm[C] (ft^3)	Total Volume Reduction[D] (ft^3)
Porous Pavement					0
Infiltration Basin					0
Subsurface Infiltration Bed					0
Infiltration Trench					0
Bioretention	200	180			180
Dry Well					0
Vegetated Swale	1360	1031			1031
Retentive Grading					0
Vegetated Roof			N/A	N/A	0
Capture and Re-use			N/A	N/A	0

Total Volume Reduction Credit by Proposed Structural BMPs (ft^3): 1,211

Runoff Volume Increase (cubic feet): 1,099

* Optional information

**** FOR PERMANENTLY REMOVED VOLUME ONLY, TEMPORARY DETENTION VOLUMES ARE NOT INCLUDED HERE. PERMANENTLY REMOVED STORAGE NOT TO BE INCLUDED IN PEAK DISCHARGE DETENTION CALCULATIONS**

[A] Follow design guidance and Protocols from Manual for each Structural BMP type

[B] Storage volume as defined in individual BMP writeups found in the Low Impact Development for Michigan- this represents permanently removed volume, not detention storage

[C] Can be approximated as the average design infiltration rate over 6 hours multiplied by the BMP area:
Design Infiltration Rate x 6 hours x BMP Area x Unit Conversions = Infiltration Volume (ft^3)

[D] Total Volume Reduction is sum of Storage Volume and Infiltration Volume During Storm.

Other Proposed BMPs *Not Volume Reducing*	Area (ft^2)
Constructed Filter	
Constructed Wetlands	
Wet Detention Pond	
Dry Extended Detention Basin	
Water Quality Devices	
Level Spreader	

Worksheet Comments: This example provides some BMP storage, but not enough to meet the criteria.

WORKSHEET 6. WATER QUALITY WORKSHEET

PROJECT: Bob's Tire (Some LID BMPs)

This worksheet calculates water quality volume based on the criteria of 1 inch of runoff from the entire site pervious and impervious.

A	~~B~~ B	C	D	E	F
BMP Tributary Area[A]	**Total Disturbed Area (ft^2)**	**Impervious Area (ft^2)**	**Disturbed Pervious Area (ft^2)**	**Water Quality Volume for Impervious Area (ft^3)**	**Water Quality Volume for Pervious (ft^3)**	**Total Water Quality Volume to BMPs (ft^3)**
				Col B x 1 inch/12	**Col C x 1 inch/12**	**Col D + Col E**
A	12380	9280	3100	773	258	1032
B	10750	7150	3600	596	300	896
C				0	0	0
D				0	0	0
E				0	0	0
Totals:	23130	16430	6700	1369	558	**1928**

Total area: 0.53 acres Total Site: 1.38 acres (From WS 3)

A - Only indicate the areas tributary to a particular BMP. The sum of all areas shall equal the total site area used to calculate channel protection and flood control criteria.

If only 1 water quality BMP is proposed for a given area, then it must be rated "High" for TSS Removal **. A TSS removal of "High" indicates a minimum of 80% TSS removal.

Indicate below which areas are treated by

Tributary Areas Passing Through BMP	BMP	TSS Removal Rating
B	**Bioretention**	High
	Capture/Reuse	Medium
A	**Constructed Wetlands**	High
	Wet Ponds	High
	Dry Ponds	Medium
	Constructed Filters	High
	Porous Pavement*	High
	Infiltration Systems*	High

Fill in other if not listed

If 2 or more water quality BMPs are proposed in series, any that are rated "Low/Medium" or better for TSS Removal are acceptable. List proposed BMPs here:

* Requires appropriate pretreatment to prevent clogging

** Proprietary, manufactured water quality devices are not acceptable unless they have been field tested by a third-party according to approved testing protocols.

Worksheet Comments:

This example has BMPs, but runoff from only .53 out of the total 1.38 acres of the site passes through a BMP, meaning the site doesn't meet the water quality criteria.

WORKSHEET 7. Maximum Allowable Discharge and Detention Calculations

The Runoff Detention calculation is required for non-residential construction that results in an increase of impervious area greater than 1000 square feet

Purpose: Development typically includes impervious parking lots and roofs. Rain water that used to soak into the ground immediately runs off into storm sewers that were originally designed and installed to accommodate storm runoff from residential property. To assure that storm sewers are not overloaded, runoff from new development is limited.

PROJECT NAME: Bob's Tire (Some LID BMPs)

SITE LOCATION: 1603 Wiseman

Maximum Allowable Discharge[B]: **1.4352** ft^3/s

Post-Development Conditions

Total Site Drainage Area[A]: **1.38** acres **Impervious :** **0.83** acres

Existing "C": **0.4** **Pervious :** **0.55** acres

DURATION (min)	Rainfall Intensity 100-year Storm[C] t(hr)	I(in/hr)	R(in)	Average Coefficient[D]	100-year Runoff[E] (ft^3)	Permitted Outflow[F] (ft^3)	Required Storage[G] (ft^3)
20	0.33	4.9 =	1.62	0.60109	4878.0	**1705.0176**	**3172.9**
30	0.5	3.85 =	1.93	0.60109	5811.4	**2583.36**	**3228.0**
40	0.67	3.33 =	2.23	0.60109	6714.7	**3461.7024**	**3253.0**
50	0.83	2.83 =	2.35	0.60109	7076.0	**4288.3776**	**2787.7**
60	1	2.52 =	2.52	0.60109	7587.9	**5166.72**	**2421.2**
90	1.5	1.92 =	2.88	0.60109	8671.9	**7750.08**	**921.8**
120	2	1.58 =	3.16	0.60109	9515.0	**10333.44**	**-818.4**
24 hrs	24	0.23 =	5.52	0.60109	16621.2	**124001.28**	**-107380.1**

Pond Size Required (ft^3): **3,253.02**

INSTRUCTIONS

A) SITE DRAINAGE AREAS shall be calculated in acres and divided into impervious and pervious areas.

B) MAXIMUM ALLOWABLE DISCHARGE (Q) (ft^3) shall be for a 2 yr, 24-hr storm

Q = C*I*A — C = 0.40 for Previously Develped areas

I=2.60 inches/hr — C = 0.15 for Previously Unevelped areas

A = Site Area in acres — or C = Design Value for storm system

C) Inches of rainfall, given for a 100 year storm, source: Rainfall Frequency Atlas of the Midwest by Floyd A. Huff and James R. Angel. Bulletin 71 (MCC Research Report 92-03). Midwestern Climate Center and Illinois State Water Survey. 1992.

D) AVERAGE COEFFICIENT for runoff, used for all durations, is calculated by the weighted average of pervious and impervious areas, using a pervious coefficient of 0.15 and an impervious coefficient of 0.90.

(ie: AVE COEF = (Impervious*0.90)+(Pervious*0.15)/Total Site Area)

E) Runoff: multiply the total site drainage area by the average coefficient then by inches of rainfall converted into feet, then by 43,560 to convert acres into square feet, result will be in cubic feet.

(ie: RUNOFF = DRAIN AREA*AVE COEF*(RAINFALL/12)*43560)

F) Permitted Outflow: Multiply maximum allowable outflow by time in hours, then by 3600

(ie: PERMITTED OUTFLOW = MAX ALLOWABLE DISCHARGE (FT^3/SEC)*TIME(HR)*3600(SEC/HR))

G) REQUIRED STORAGE: Subtract Permitted Outflow from 100-Year Runoff. Storage volume will increase to a peak and then decrease.

H) The Pond Size Required is the peak volume from the Required Storage column.

Worksheet Comments: Sheet calculates amount of detention storage required on the site, same for all examples. BMP storage in excess of what is required for channel protection on sheet 5 may be counted towards this volume.

City of Jackson
Department of Engineering

WORKSHEET 8. Criteria Summary Sheet

PROJECT: Bob's Tire (Some LID BMPs)

Total Site Area	**1.38**	acres	
Impervious	**0.5**	acres	Pre-Development
	0.88	acres	Post-Development
Pervious	**0.83**	acres	Pre-Development
	0.55	acres	Post-Development

Channel Protection Criteria

Criteria Satisfied?

Maintain post-development site runoff volume and peak flow rates at or below existing levels for all storms up to the two-year, twenty-four-hour event.

Volume:

Pre-Development Volume	**5545**	ft^3	(From Worksheet 4A)
Post-Development Volume	**7854**	ft^3	(From Worksheet 4A)
Difference	**2309**	~~ft^4~~ ft3	
BMP Storage	**1211**	ft^3	(From Worksheet 5)

***Criteria for channel protection volume may be satisfied if the site provides adequate BMP storage to handle the increase in runoff from pre- to post-development conditions.** **No**

Peak Flow Rate:

Pre-Development Peak Flow Rate	0.07 ~~**0.19**~~	ft^3/s	(From Worksheet 4B)
Post-Development Peak Flow Rate	0.28 ~~**0.281**~~	ft^3/s	(From Worksheet 4B)

*** Criteria for channel protection peak rate analysis may be satisfied if the post-development rate is less than the pre-development rate. If not, the criteria can be achieved if the development has included BMPs in the site plan.** **Yes**

Flood Control Criteria

Structures are to be sized to accommodate a twenty-four-hour, fifty-year storm. Maximum allowable discharge is based on a thirty-minute, ten-year storm

Maximum Allowable Discharge	**0.14**	ft^3 /sec	(From Worksheet 7)
Required Storage - Flood Control	**3253**	ft^3	(From Worksheet 7)
Excess BMP Storage	**(-1098)**	ft^3	(BMP Storage-Ch. Pro. Vol)
On-Site Detention/Retention	**1821****	ft^3	Provide separate calculations.**
Volume Provided - Volume Required	**(-2530)**	ft^3	(Excess BMP Storage+On-site storage-Flood Control volume requirements)

***Criteria for flood control may be satisfied if the site provides for enough storage to retain the post development runoff and to detain/retain the volume of water required to maintain the maximum allowable discharge. This may be completed through utilization of available BMP storage , including storage provided by any on-site re-/detention ponds.** **No**

(Detention and discharge calculations should be submitted based upon selected detention method.

** Volume provided in sewer system through oversized piping, or non-BMP storage. Cannot apply towards channel protection.

Water Quality Criteria

Minimum of 80% removal of Total Suspended Solids (TSS), compared with uncontrolled runoff - or - Discharge concentrations of TSS not to exceed 80 (mg/l).

Water Quality Volume **0** ft^3 (From Worksheet 6) **No**

Maintenance Criteria

All BMPs installed require a plan for maintaining maximum design performance through long-term operation and maintenance (O&M). An easment is necessary to perform periodic assessment of BMP condition.

O&M Plans Provided? **Y** / N

Easement Agreement? (Attach Signed Agreement) **Y** / N

Soil Erosion Control

Has a soil erosion control plan been developed and submitted? **Y** / N

Wetland Protection

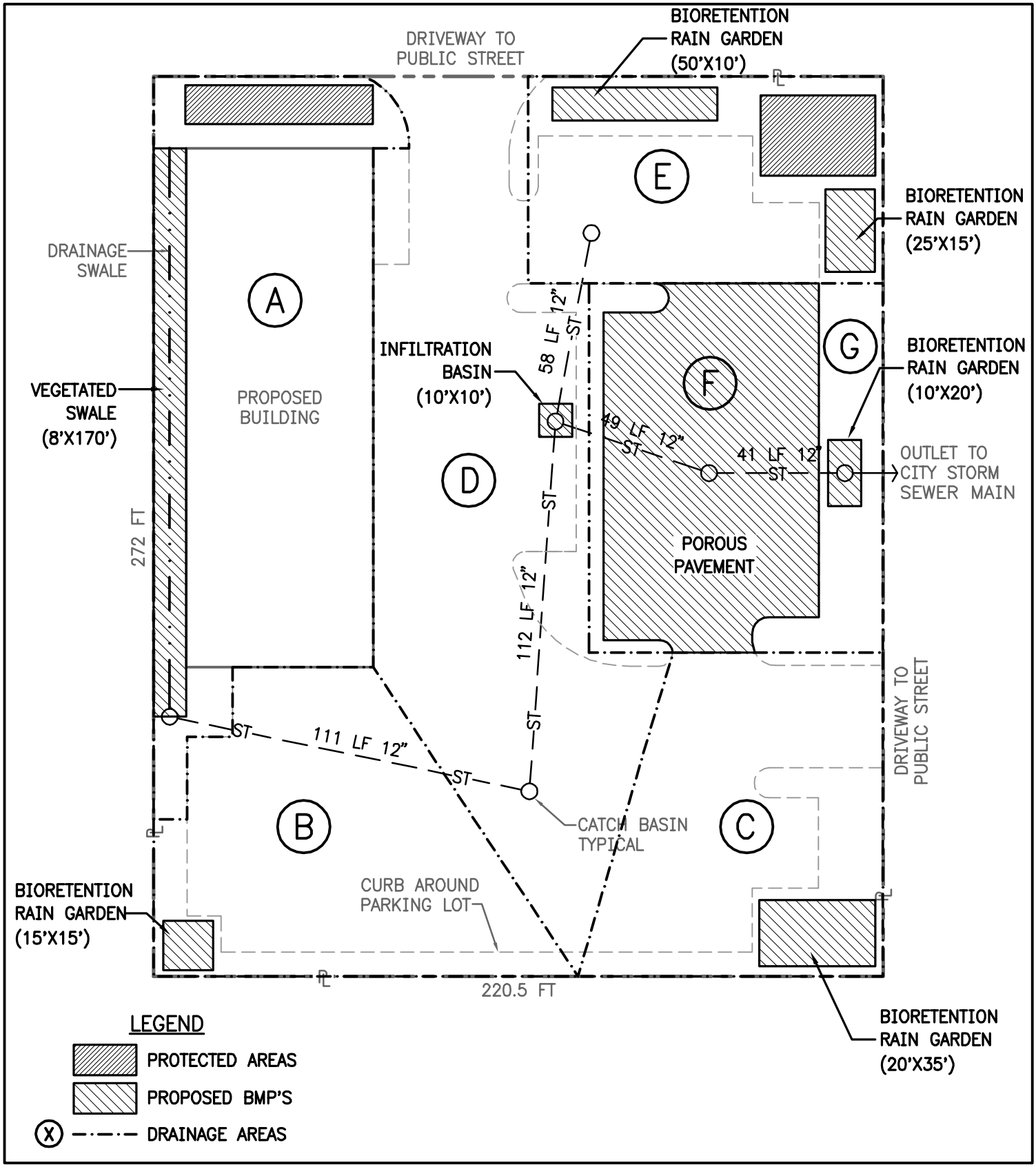
Have acceptable wetland protection measures been taken? **Y** / N

Worksheet Comments:

The site as designed will not meet the criteria for Channel Protection, Volume or Peak Flow Rate, or the Criteria for Water Quality.

The site does meet the Criteria for Flood Control based on the availability of storage within the oversized piping system.

The site does not meet the Water Quality Criteria, because all site runoff must br directed through a BMP.



N
W E
S

CITY OF JACKSON
DEPARTMENT OF
ENGINEERING

EXAMPLE 2C – FULL LID BMP'S
SITE PLAN FOR 1603 WISEMAN STREET

Worksheet 1. General Watershed/ Site Information

NOTE: If the project extends over more than 1 Watershed, fill out Worksheet 1 for each Watershed

Date: 8/18/2011

Project Name: Bob's Tire (Full LID BMPs)

Municipality: City of Jackson

County: Jackson County

Total Area (acres): 1.38

Major Watershed: Upper Grand Watershed 04050004

http://cfpub.epa.gov/surf/state.cfm?statepostal=MI

Subwatershed:

Nearest Surface Water(s) to Receive Runoff: Grand River

Part 4 - Designated Water Use:

http://www.michigan.gov/deq/0,4561,7-135-3313_3682_3714---,00.html

Michigan Natural Rivers watershed?	Yes	
http://www.michigan.gov/dnr/0,1607,7-153-30301_31431_31442-95823--,00.html	No	X
Impaired according to Chapter 303(d) List?	Yes	X
http://www.deq.state.mi.us/documents/deq-wb-intreport-appendixj.pdf	No	

List Causes of Impairment:

Areas of impairment not local to project

Is project subject to, or part of:

Phase I or Phase II Municipal Separate Storm Sewer System (MS4) Requirements? (Is the site greater than 1 acre?)	Yes	X
http://www.michigan.gov/deq/0,1607,7-135-3313_3682_3716-24366--,00.html	No	
Existing or planned drinking water supply?	Yes	
	No	X

If yes, distance from proposed discharge (miles):

Approved Watershed Management Plan?	Yes	X
http://www.michigan.gov/deq/0,1607,7-135-3313_3682_3714_4012-95955--,00.html	No	

Worksheet 2. Sensitive Natural Resources

Project: Bob's Tire (Full LID BMPs)

INSTRUCTIONS:

1. Provide Sensitive Resources Map for the site. This map should identify waterbodies, floodplains, riparian areas, wetlands, woodlands, natural drainage ways, steep slopes, and other sensitive natural features.

2. Summarize the existing extent of each sensitive resource in the Existing Sensitive Resources Table (below, using Acres).

Small wooded area identified on the site to be protected.

3. Summarize total proposed Protected/Undisturbed Area. Use the following BMPs to define Protected/Undisturbed Area; protect sensitive areas, protect riparian buffers, protect natural flow pathways, cluster development, and minimize disturbed area.

4. Do not count any area twice. For example, an area that is both a floodplain and a wetland may only be considered once (include as either floodplain or wetland, not both).

EXISTING NATURAL SENSITIVE RESOURCE	MAPPED? (yes, no, n/a)	TOTAL AREA (Ac.)	PROTECTED/ UNDISTURBED AREA (Ac.)
Waterbodies			
Floodplains			
Riparian Areas			
Wetlands			
Woodlands	Yes	0.06	0.05
Natural Drainage Ways			
Steep Slopes, 15% - 25%			
Steep Slopes, over 25%			
Special Habitat Areas			
Other:			
TOTAL EXISTING:		0.06	0.05

Worksheet Comments: This sheet indicates that the developer has identified 0.06 acres of the site to be an existing woodland, of which they intend to protect 0.05 acres. That area will be exempt from the site storm water calculations.

Worksheet 3. Runoff Reduction Credits

PROTECTED/ UNDISTURBED AREA

Protected/Undisturbed Area* (from WS 2) **0.03** **Ac.**

TOTAL PROPOSED PROTECTED/UNDISTURBED AREA **0.03** **Ac.**

Total Site Area	*minus*	Protected/ Undisturbed Area	*equals*	Disturbed Area (To be managed)
1.38	-	0.05	=	1.33

This is the area that requires stormwater management

Transfer to WS 4

NON STRUCTURAL BMP CREDITS**

BMP: Minimize Soil Compaction Area: 0.05 **Ac.**

Soil Type C Existing CN 79 Credited CN 74

BMP: Soil Amendment and Restoration Area: - **Ac.**

Soil Type - Existing CN - Credited CN -

Areas complying with the requirements of these BMPs can be assigned a Curve Number (CN) reflecting a "Good" condition instead of "Fair" as required for other disturbed pervious areas. For example, lawn areas with B soils would be given a CN of 61 instead of 69; lawns with C soils a CN of 74 instead of 79.

Protect Existing Trees within Disturbed Area (part of Minimize Disturbed Area)

Number of Trees: 6

Total Area: 0.11 **Ac.**

Soil Type C Existing CN 73 Credited CN 70

Trees protected under the requirements of this BMP can be assigned a Curve Number (CN) reflecting a Woods in "Good" condition for an area of 800 SF per tree or the entire area of the tree canopies protected, whichever is greater.

BMPS: Native Revegetation and Riparian Corridor Restoration

Number of Trees: -

Number of Shrubs: -

Total Area: - **Ac.**

Soil Type - Existing CN - Credited CN -

Proposed trees and shrubs to be planted under the requirements of these BMPs can be assigned a Curve Number (CN) reflecting a Woods in "Good" condition for an area of 200 SF per tree or the estimated tree canopy, whichever is greater. For shrubs, an area of 25 SF per shrub.

** *A checklist is provided for each BMP in chapter 6 and 7 to ensure certain criteria is being met and credit can be given.*

Worksheet Comments: This worksheet shows that the developer is employing the non-structural BMPs of minimal soil compaction and protecting existing trees to improve the site CN used on Worksheet 4.

City of Jackson
Department of Engineering

WORKSHEET 4A. Calculations for Channel Protection Volume

PROJECT NAME: Bob's Tire (Full LID BMPs)

2-Year, 24-Hour Rainfall): 2.42 **in**

Total Site Area: 1.38 **acres**

Disturbed Area to be managed: 1.38 **acres** (From WS 3)

Pre-Development Conditions

Cover Type	Soil Type	Area (sf)	Area (ac)	CN (from TR-55)	S	Q Runoff[1] (in)	Runoff Volume[2] (ft^3)
Woods / Meadow	A	**0**		30	23.3	**0.00**	**0**
Woods	B	**0**		55	8.2	**0.00**	**0**
Meadow	B	**0**		58	7.2	**0.00**	**0**
Woods	C	**19166**	**0.44**	70	4.3	**0.42**	**667**
Meadow	C	**0**		71	4.1	**0.00**	**0**
Woods	D	**0**		77	3.0	**0.00**	**0**
Meadow	D	**0**		78	2.8	**0.00**	**0**
Impervious	N/A	**21780**	**0.5**	98	0.20	**2.19**	**3,977**
Other:		**19166**	0.44	74	3.51	**0.56**	**900**
TOTAL:	**N/A**	**60,113**	**1.38**	**N/A**	**N/A**	**1.11**	**5,545**

Post-Development Conditions**

Cover Type	Soil Type	Area (sf)	Area (ac)	CN*	S	Q Runoff[1] (in)	Runoff Volume[2] (ft^3)
Impervious	C	**36154.8**	0.83	98	0.2	**2.19**	**6,602**
Grassland	C	**9583.2**	0.22	79	2.7	**0.78**	**626**
Woods	C	**7405.2**	0.17	73	3.7	**0.52**	**324**
Min soil compaction	C	**2178**	0.05	74	3.5	**0.56**	**102**
Protect ex. Trees	C	**4791.6**	0.11	70	4.3	**0.42**	**167**
TOTAL:	**N/A**	**60,113**	**1.38**	**N/A**	**N/A**	**1.56**	**7,821**

Runoff Volume Increase (ft^3): **2,277** ***Transfer to WS 5***

Runoff Volume Increase = (Post-Dev. Runoff Volume) MINUS (Pre-Dev. Runoff Volume)

1. **Runoff (in)** = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where:
   - P = 2-Year, 24-Hour Rainfall (in)
   - S = 1000/ CN - 10
   - CN = Curve Number
   - Q = Runoff (in)
2. **Runoff Volume (ft^3)** = Q x 1/12 x Area
   - Area = Area of specific land cover (ft^2)

* Runoff Volume must be calculated separately for pervious and impervious areas (without using a weighted CN), unless Non-Structural BMP Rooftop/Downspout Disconnection is applied.

** Pre- and Post-development areas shall match. Post development conditions shall reflect non-structural BMPs applied on WS 3

Worksheet Comments: This shows that the post-development runoff will increase, volume is then transferred to Worksheet 5.

WORKSHEET 4B. Calculations for Channel Protection Peak Flow Rate

PROJECT NAME: Bob's Tire (Full LID BMPs)

1-Year, 24-Hour Rainfall): 2.03 **in**

Pre-Development Conditions

Cover Type	Soil Type	Area (sf)	Area (ac)	CN (from TR-55)	S	Q Runoff[1] (in)	Runoff Volume[2] (ft^3)
Woods / Meadow	A	**0**		30	23.3	**0.00**	**0**
Woods	B	**0**		55	8.2	**0.00**	**0**
Meadow	B	**0**		58	7.2	**0.00**	**0**
Woods	C	**19166**	**0.44**	70	4.3	**0.25**	**403**
Meadow	C	**0**		71	4.1	**0.00**	**0**
Woods	D	**0**		77	3.0	**0.00**	**0**
Meadow	D	**0**		78	2.8	**0.00**	**0**
Impervious	N/A	**21780**	**0.5**	98	0.20	**1.80**	**3,274**
Other:		**19166**	0.44	74	3.51	**0.36**	**581**
TOTAL:	**N/A**	**60,113**	**1.38**	**N/A**	**N/A**	**0.85**	**4,258**

Post-Development Conditions

Cover Type	Soil Type	Area (sf)	Area (ac)	CN*	S	Q Runoff[1] (in)	Runoff Volume[2] (ft^3)
Impervious	C	**36154.8**	0.83	98	0.2	**1.80**	**5,436**
Grassland	C	**9583.2**	0.22	79	2.7	**0.54**	**431**
Woods	C	**7405.2**	0.17	73	3.7	**0.33**	**206**
Min soil compaction	C	**2178**	0.05	74	3.5	**0.36**	**66**
Protect ex. Trees	C	**4791.6**	0.11	70	4.3	**0.25**	**101**
TOTAL:	**N/A**	**60,113**	**1.38**	**N/A**	**N/A**	**1.25**	**6,239**

Runoff Volume Increase (ft^3): 1,981

PEAK FLOW RATE ANALYSIS

(Use detailed information to complete Worksheets 4C & 4D, or use simplified Graphical Method below)

Storm Event	Duration (Hr)	Pre-Settlement Peak Discharge[A]	Post-Settlement Peak Discharge Rate	Difference (Post - Pre)	Are the criteria met? (Y/N)**
1-year	24	0.054	0.218	0.164	N
2-year	24	0.073	0.281	0.208	N

[A] Graphical Peak Discharge method = Qp = qu*A*Q

Where: Qp = Peak Discharge (cfs)

Qu = Unit Peak Discharge (csm/in)

A = Drainage Area (mi) Q = Runoff

*To determine Qu through graphical methods see Worksheets 4C & D, and attached figure assuming a minimum Time of Concentration of 6 minutes to fill out the table below for the peak flow table above.

Ia = 0.2*(1000/CN-10) Where : CN = weighted curve number P = Rainfall

	Weighted CN	I_a	I_a/P 1-yr, 24Hr	I_a/P 2-yr, 24Hr	qu 1-yr	qu 2-yr
Pre	81.4	0.4564	0.2248	0.1886	**353**	**366**
Post	88.8	0.2525	0.1244	0.1043	**973**	**1002**

** If the peak flow rate increases after development, then BMPs must be designed to address the increase.

Worksheet Comments: The peak flow rate for this site increases, requiring the installation of BMPs.

WORKSHEET 4C. Time of Concentration

PROJECT NAME: Bob's Tire (Full LID BMPs)

2-Year, 24-Hour Rainfall): 2.42 **in**

Pre-Development Conditions

Sheet Flow	Surface Description	Manning	Flow length (ft)	Slope (ft/ft)	Tc (hr)
	1 overland flow	0.24	300	0.01	0.87
	2				0.00
	3				0.00
				Sheet Flow Subtotal	*0.87*
Shallow Concentrated Flow	Surface Description		Flow length (ft)	Slope (ft/ft)	
	Unpaved				0.00
	Paved				0.00
				Shallow Concentrated Subtotal	*0.00*
Channel Flow	Surface Description	Velocity (fps)	Flow length (ft)		
	1				0.00
	2				0.00
	3				0.00
				Channel Flow Subtotal	*0.00*
				Time of Concentration (hr)	**0.87**
				Adjusted Time of Concentration (hr)**	**0.87**

Post-Development Conditions

Sheet Flow	Surface Description	Manning	Flow length (ft)	Slope (ft/ft)	Tc (hr)
	1	0.011	50	0.01	0.02
	2				0.00
	3				0.00
				Sheet Flow Subtotal	*0.02*
Shallow Concentrated Flow	Surface Description		Flow length (ft)	Slope (ft/ft)	
	Unpaved		0	0.01	0.00
	Paved		250	0.01	0.03
				Shallow Concentrated Subtotal	*0.03*
Channel Flow	Surface Description	Velocity (fps)	Flow length (ft)		
	1				0.00
	2				0.00
	3				0.00
				Channel Flow Subtotal	*0.00*
				Total Time of Concentration (hr)	**0.05**
				Adjusted Time of Concentration (hr)**	**0.10**

*** minimum allowed Tc is 0.1hr; maximum allowable is 10 hrs*

Roughness Coefficient (Manning's n) for sheet flow

Surface Description	n
Smooth surfaces (concrete, asphalt, gravel, or bare soil)	0.011
Fallow (no residue)	0.05
Cultivated Soils:	
Residue cover <= 20%	0.06
Residue cover > 20%	0.17
Grass	
Short grass prairie	0.15
Dense grassess	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods	
Light underbrush	0.4
Dense underbrush	0.8

WORKSHEET 4D. Calculations for Channel Protection Peak Flow Rate

PROJECT NAME: Bob's Tire (Full LID BMPs)

PEAK FLOW RATE ANALYSIS

Storm Event	P (in)	Develop-ment	Tc (hr)[1]	Weighted Avg CN[2]	Ia/P[3]	Peak Unit qu (csm/in)[4]	Peak Runoff (cfs)[5]	Peak Runoff (cfs/ac)[6]
1-year 24-hour	2.03	Pre-	0.87	81.4	0.22	353	0.054	0.039
	2.03	Post-	0.10	88.8	0.12	973	0.218	0.158
2-year 24-hour	2.42	Pre-	0.87	81.4	0.19	366	0.073	0.053
	2.42	Post-	0.10	88.8	0.10	1002	0.281	0.204

1. From Worksheet 4C
2. From Worksheet 4B
3. From Worksheet 4B

4. Peak Unit qu (csm/in) =

10^((-2.744*(Ia/P)^3)+(0.312*(Ia/P)^2-(0.212*(Ia/P))+2.574)
+((5.5616*(Ia/P)^3)-(3.6065*(Ia/P)^2)+(0.686*(Ia/P))-0.6533)*LOG(Tc)
+((-6.2705*(Ia/P)^3)+(6.424*(Ia/P)^2)-(1.5281*(Ia/P))-0.00691)*(LOG(Tc)^2)

Where:
Ia/P = From Table above

5. Peak Runoff (cfs) = $\frac{(qu*A)}{640} * Q$

Where:
qu = From Table above
A = Total site area, pre/post
Q = Total site runoff pre/post
(A & Q from Worksheet 4B)

6. Peak Runoff (cfs/ac) = $\frac{\text{Peak Runoff}}{A}$

Where:
A = Total site area, pre/post
(A from Worksheet 4B)

Worksheet Comments:

Using the attached sheets and equations on worksheets 4C & 4D, the same conclusion that peak flow rate increases for the site after development.

WORKSHEET 5. STRUCTURAL BMP VOLUME REDUCTION**

PROJECT: Bob's Tire (Full LID BMPs)

This worksheet is to be used to tabulate the volume reduction as a result of the installation of structural BMPs. To meet Channel Protection Criteria for volume reduction, the Permanently Removed Storage Volume will be considered as sufficient support documentation. The Infiltration Volume During Storm calculations may be provided in addition at the developer's discretion.

Runoff Volume Increase (cubic feet) *from Worksheet 4A* : 2,310

Proposed BMP[A]	Area (ft^2)	Permanently Removed Storage Volume[B] (ft^3)	*Ave. Design Infiltration Rate (in./hr.)	*Infiltration Volume During Storm[C] (ft^3)	Total Volume Reduction[D] (ft^3)
Porous Pavement	7150	2860			2860
Infiltration Basin	100	500			500
Subsurface Infiltration Bed					0
Infiltration Trench					0
Bioretention	2350	2115			2115
Dry Well					0
Vegetated Swale	1360	1031			1031
Retentive Grading					0
Vegetated Roof			N/A	N/A	0
Capture and Re-use			N/A	N/A	0

Total Volume Reduction Credit by Proposed Structural BMPs (ft^3): 6,506

Runoff Volume Increase (cubic feet): (4,196)

* Optional information

**** FOR PERMANENTLY REMOVED VOLUME ONLY, TEMPORARY DETENTION VOLUMES ARE NOT INCLUDED HERE. PERMANENTLY REMOVED STORAGE NOT TO BE INCLUDED IN PEAK DISCHARGE DETENTION CALCULATIONS**

[A] Follow design guidance and Protocols from Manual for each Structural BMP type

[B] Storage volume as defined in individual BMP writeups found in the Low Impact Development for Michigan- this represents permanently removed volume, not detention storage

[C] Can be approximated as the average design infiltration rate over 6 hours multiplied by the BMP area:
Design Infiltration Rate x 6 hours x BMP Area x Unit Conversions = Infiltration Volume (ft^3)

[D] Total Volume Reduction is sum of Storage Volume and Infiltration Volume During Storm.

Other Proposed BMPs *Not Volume Reducing*	Area (ft^2)
Constructed Filter	
Constructed Wetlands	
Wet Detention Pond	
Dry Extended Detention Basin	
Water Quality Devices	
Level Spreader	

Worksheet Comments: This example completely satisfies the criteria by supplying ample storage volume.

WORKSHEET 6. WATER QUALITY WORKSHEET

PROJECT: Bob's Tire (Full LID BMPs)

This worksheet calculates water quality volume based on the criteria of 1 inch of runoff from the entire site pervious and impervious.

A	B	C	D	E	F
BMP Tributary Area[A]	**Total Disturbed Area (ft^2)**	**Impervious Area (ft^2)**	**Disturbed Pervious Area (ft^2)**	**Water Quality Volume for Impervious Area (ft^3)**	**Water Quality Volume for Pervious (ft^3)**	**Total Water Quality Volume to BMPs (ft^3)**
				Col B x 1 inch/12	**Col C x 1 inch/12**	**Col D + Col E**
A	12380	9280	3100	773	258	1032
B	8400	6400	2000	533	167	700
C	5700	3800	1900	317	158	475
D	16850	15500	1350	1292	113	1404
E	6825	3950	2875	329	240	569
F	7150	7150	0	596	0	596
G	2600	0	2600	0	217	217
Totals:	59905	46080	13825	3840	1152	**4992**

Total area: 1.38 acres Total Site: 1.38 acres (From WS 3)

A - Only indicate the areas tributary to a particular BMP. The sum of all areas shall equal the total site area used to calculate channel protection and flood control criteria.

If only 1 water quality BMP is proposed for a given area, then it must be rated "High" for TSS Removal **. A TSS removal of "High" indicates a minimum of 80% TSS removal.

Indicate below which areas are treated by

Tributary Areas Passing	BMP	TSS Removal Rating
B, C, E, G	**Bioretention**	High
	Capture/Reuse	Medium
A	**Constructed Wetlands**	High
	Wet Ponds	High
	Dry Ponds	Medium
	Constructed Filters	High
F	**Porous Pavement***	High
D	**Infiltration Systems***	High

Fill in other if not listed

If 2 or more water quality BMPs are proposed in series, any that are rated "Low/Medium" or better for TSS Removal are acceptable. List proposed BMPs here:

* Requires appropriate pretreatment to prevent clogging

** Proprietary, manufactured water quality devices are not acceptable unless they have been field tested by a third-party according to approved testing protocols.

Worksheet Comments:

This example demonstrates that all of the runoff generated on the site passes through a BMP rated "High", meaning that the water quality criteria has been achieved.

WORKSHEET 7. Maximum Allowable Discharge and Detention Calculations

The Runoff Detention calculation is required for non-residential construction that results in an increase of impervious area greater than 1000 square feet

Purpose: Development typically includes impervious parking lots and roofs. Rain water that used to soak into the ground immediately runs off into storm sewers that were originally designed and installed to accommodate storm runoff from residential property. To assure that storm sewers are not overloaded, runoff from new development is limited.

PROJECT NAME: Bob's Tire (Full LID BMPs)

SITE LOCATION: 1603 Wiseman

Maximum Allowable Discharge[B]: **1.4352** ft^3/s

Post-Development Conditions

Total Site Drainage Area[A]: **1.38** acres **Impervious :** **0.83** acres

Existing "C": **0.4** **Pervious :** **0.55** acres

DURATION (min)	Rainfall Intensity 100-year Storm[C] t(hr)	I(in/hr)	R(in)	Average Coefficient[D]	100-year Runoff[E] (ft^3)	Permitted Outflow[F] (ft^3)	Required Storage[G] (ft^3)
20	0.33	4.9 =	1.62	0.60109	4878.0	**1705.0176**	**3172.9**
30	0.5	3.85 =	1.93	0.60109	5811.4	**2583.36**	**3228.0**
40	0.67	3.33 =	2.23	0.60109	6714.7	**3461.7024**	**3253.0**
50	0.83	2.83 =	2.35	0.60109	7076.0	**4288.3776**	**2787.7**
60	1	2.52 =	2.52	0.60109	7587.9	**5166.72**	**2421.2**
90	1.5	1.92 =	2.88	0.60109	8671.9	**7750.08**	**921.8**
120	2	1.58 =	3.16	0.60109	9515.0	**10333.44**	**-818.4**
24 hrs	24	0.23 =	5.52	0.60109	16621.2	**124001.28**	**-107380.1**

Pond Size Required (ft^3): **3,253.02**

INSTRUCTIONS

A) SITE DRAINAGE AREAS shall be calculated in acres and divided into impervious and pervious areas.

B) MAXIMUM ALLOWABLE DISCHARGE (Q) (ft^3) shall be for a 2 yr, 24-hr storm

Q = C*I*A — C = 0.40 for Previously Develped areas

I=2.60 inches/hr — C = 0.15 for Previously Unevelped areas

A = Site Area in acres — or C = Design Value for storm system

C) Inches of rainfall, given for a 100 year storm, source: Rainfall Frequency Atlas of the Midwest by Floyd A. Huff and James R. Angel. Bulletin 71 (MCC Research Report 92-03). Midwestern Climate Center and Illinois State Water Survey. 1992.

D) AVERAGE COEFFICIENT for runoff, used for all durations, is calculated by the weighted average of pervious and impervious areas, using a pervious coefficient of 0.15 and an impervious coefficient of 0.90.

(ie: AVE COEF = (Impervious*0.90)+(Pervious*0.15)/Total Site Area)

E) Runoff: multiply the total site drainage area by the average coefficient then by inches of rainfall converted into feet, then by 43,560 to convert acres into square feet, result will be in cubic feet.

(ie: RUNOFF = DRAIN AREA*AVE COEF*(RAINFALL/12)*43560)

F) Permitted Outflow: Multiply maximum allowable outflow by time in hours, then by 3600

(ie: PERMITTED OUTFLOW = MAX ALLOWABLE DISCHARGE (FT^3/SEC)*TIME(HR)*3600(SEC/HR))

G) REQUIRED STORAGE: Subtract Permitted Outflow from 100-Year Runoff. Storage volume will increase to a peak and then decrease.

H) The Pond Size Required is the peak volume from the Required Storage column.

Worksheet Comments: Sheet calculates amount of detention storage required on the site, same for all examples. BMP storage in excess of what is required for channel protection on sheet 5 may be counted towards this volume.

City of Jackson
Department of Engineering

WORKSHEET 8. Criteria Summary Sheet

PROJECT: Bob's Tire (Full LID BMPs)

Total Site Area	**1.38**	acres	
Impervious	**0.5**	acres	Pre-Development
	0.88	acres	Post-Development
Pervious	**0.83**	acres	Pre-Development
	0.55	acres	Post-Development

Channel Protection Criteria

Criteria Satisfied?

Maintain post-development site runoff volume and peak flow rates at or below existing levels for all storms up to the two-year, twenty-four-hour event.

Volume:

Pre-Development Volume	**5545**	ft^3		(From Worksheet 4A)
Post-Development Volume	**7821**	ft^3		(From Worksheet 4A)
Difference	2276 ~~2369~~ -	~~ft^4~~ ft3	B	
BMP Storage	**6506**	ft^3	A	(From Worksheet 5)

***Criteria for channel protection volume may be satisfied if the site provides adequate BMP storage to handle the increase in runoff from pre- to post-development conditions.** **Yes**

Peak Flow Rate:

Pre-Development Peak Flow Rate	0.07 ~~**0.19**~~	ft^3/s	(From Worksheet 4B)
Post-Development Peak Flow Rate	**0.28**	ft^3/s	(From Worksheet 4B)

*** Criteria for channel protection peak rate analysis may be satisfied if the post-development rate is less than the pre-development rate. If not, the criteria can be achieved if the development has included BMPs in the site plan.** **Yes**

Flood Control Criteria

Structures are to be sized to accommodate a twenty-four-hour, fifty-year storm. Maximum allowable discharge is based on a thirty-minute, ten-year storm

Maximum Allowable Discharge	**1.4**	ft^3 /sec		(From Worksheet 7)
Required Storage - Flood Control	**3253**	ft^3	E	(From Worksheet 7)
Excess BMP Storage	4230 ~~4137~~ -	ft^3	C	(BMP Storage-Ch. Pro. Vol) (A - B above)
On-Site Detention/Retention	**291****	ft^3	D	Provide separate calculations.**
Volume Provided - Volume Required	1268 ~~1175~~	ft^3		(Excess BMP Storage+On-site storage-Flood Control volume requirements) (C + D - E) more vol provided than req'd

***Criteria for flood control may be satisfied if the site provides for enough storage to retain the post development runoff and to detain/retain the volume of water required to maintain the maximum allowable discharge. This may be completed through utilization of available BMP storage , including storage provided by any on-site re-/detention ponds.** **Yes**

(Detention and discharge calculations should be submitted based upon selected detention method.

** Volume provided in sewer system through oversized piping, or non-BMP storage. Cannot apply towards channel protection.

Water Quality Criteria

Minimum of 80% removal of Total Suspended Solids (TSS), compared with uncontrolled runoff - or - Discharge concentrations of TSS not to exceed 80 (mg/l).

Water Quality Volume **4992** ft^3 (From Worksheet 6) **Yes**

must be greater than 1" over entire site

Maintenance Criteria

All BMPs installed require a plan for maintaining maximum design performance through long-term operation and maintenance (O&M). An easment is necessary to perform periodic assessment of BMP condition.

O&M Plans Provided? **Y** / N

Easement Agreement? (Attach Signed Agreement) **Y** / N

Soil Erosion Control

Has a soil erosion control plan been developed and submitted? **Y** / N

Wetland Protection

Have acceptable wetland protection measures been taken? **Y** / N

Worksheet Comments:

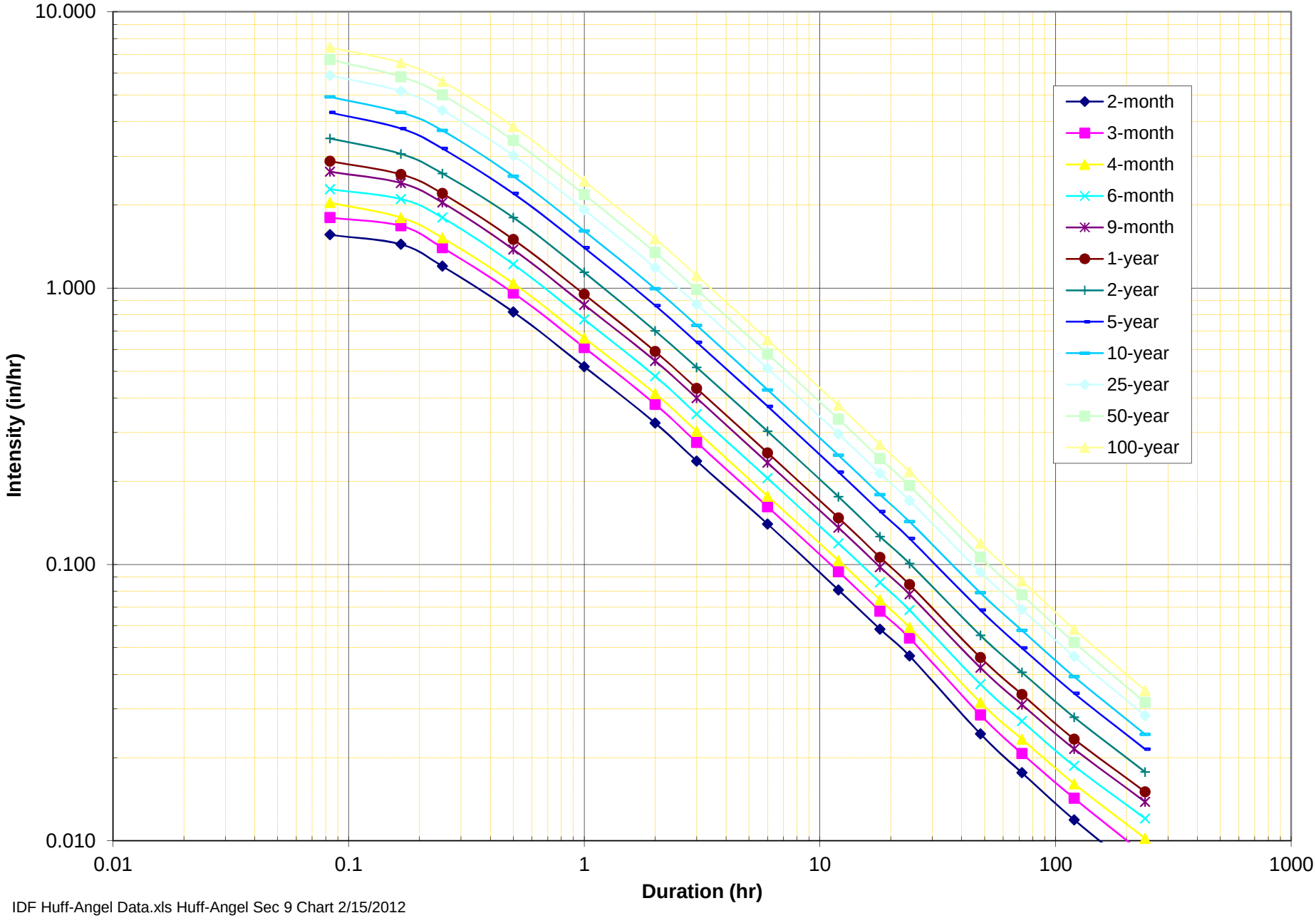
The site as designed will meet all criteria for Channel Protection, Flood Control and Water Quality.

The site utilizes extra storage available in the BMPs to demonstrate that there is enough volume available to account for both the Channel Protection and Flood Control Criteria.

FIGURE 1

Huff & Angel
Rainfall IDF Curves

Rainfall IDF Curves
based on Huff and Angel Section 9



IDF Huff-Angel Data.xls Huff-Angel Sec 9 Chart 2/15/2012

CITY OF JACKSON DEPARTMENT OF PUBLIC WORKS

APPLICATION AND PERMIT FOR CONSTRUCTION AND OPERATION OF A STORMWATER MANAGEMENT SYSTEM

_____
Permit No.

The applicant hereby applies for a permit to CONSTRUCT, OPERATE and MAINTAIN a Stormwater Management System within the City of Jackson at the location listed below and agrees to abide by the conditions set forth below:

LOCATION ADDRESS: _____

PARCEL ID NUMBER(S) _____

APPLICANT (PROPERTY OWNER) INFORMATION:		**AUTHORIZED REPRESENTATIVE INFORMATION:**	
Business Name:		Business Name	
Contact Name/Title:		Contact Name/Title:	
Address:		Address:	
City, State, ZIP:		City, State, ZIP:	
Phone:		Phone:	
Email:		Email:	
Signature:		Signature:	
Date:		Date:	

Will the proposed project disturb one (1) acre of land or more? ❒ No ❒ Yes

If no, is it a part or a phase of a larger project that, upon future completion, will have disturbed one (1) acre of land or more? ❒ No ❒ Yes

If yes to either of above, has a pre-application conference between the applicant and the City Engineer/Director of Public Works been held? ❒ No ❒ Yes If yes, on what date? _____

ATTACHED TO THE APPLICATION:

- ❒ Stormwater Management Plan
  Prepared by: _____ Dated: _____
- ❒ $_____ check payable to 'CITY OF JACKSON' for application review fee
- ❒ Copy of executed and recorded stormwater management easements
- ❒ Copies of recorded Operation and Maintenance (OM) plan for Stormwater Management System
- ❒ Certificate of Insurance in accordance with section 27-13b.b.12 of the City of Jackson Code of Ordinances
- ❒ Performance Bond in the amount of City Engineer/Dir. of Public Works approved estimated construction costs
- ❒ Copy of executed escrow fee acknowledgement form

APPLICANT (PROPERTY OWNER) PRE-CONSTRUCTION CERTIFICATION STATEMENT:

I, the undersigned, do hereby certify that all land disturbance activities, construction and drainage will be conducted in full compliance with the attached stormwater management plan.

_____ _____
Signature Date

OVER PLEASE

CITY OF JACKSON DEPARTMENT OF PUBLIC WORKS

APPLICATION AND PERMIT FOR CONSTRUCTION AND OPERATION OF A STORMWATER MANAGEMENT SYSTEM continued

_____
Permit No.

PERMIT APPROVAL (FOR CITY OF JACKSON USE ONLY)

CONDITIONS OF PERMIT:

1. If construction of the approved Stormwater Management System does not commence within one (1) year of the approval date or an extension is not approved by the City Engineer, the permit shall lapse and become invalid. All extensions shall expire within one (1) year.

2. This permit does not waive the necessity for obtaining other required federal, state and local permits.

3. The permittee shall provide written notice to the City Engineer one week prior to the commencement of earth disturbing activities on the subject property.

Other: _____

_____

_____

APPROVAL SIGNATURE: _____ **DATE:** _____

PRINTED NAME AND TITLE: _____

EXTENSION APPROVAL SIGNATURE: _____ **DATE:** _____

PRINTED NAME AND TITLE: _____

“SAMPLE ONLY”

ESCROW ACCOUNT FORM LETTER

(on banking institution stationary)

(Date)

City Engineer
City of Jackson Department of Engineering
521 Water Street
Jackson, MI 49201

Re: (Project Name/Phase)
(Project Address and Parcel ID Number)
(Escrow Account Number)

Dear (Sir or Madam):

Please be advised that $(Amount of Money) has been set aside in escrow to pay for the estimated costs and expenses of services by any City of Jackson personnel and/or any professional consultant deemed necessary by the City Engineer to adequately review the application for the construction and operation of a stormwater management system for the above referenced project. This money has been placed in the name of (Developer) under the account number (Account Number) as held by (Banking Institution Name).

This is to further advise that withdrawals will be allowed from this escrow account based on Section 27-133 of the City of Jackson Code of Ordinances. The City Engineer shall base withdrawals on the actual total costs of the services provided by City of Jackson personnel and professional consultants.

Sincerely,

By: _____ By: _____
(Bank Official and Title) (Developer & Title)

BOND _____

PERFORMANCE BOND
FOR
STORMWATER MANAGEMENT SYSTEM CONSTRUCTION)

KNOW ALL MEN BY THESE PRESENTS, that _____

Permittee, (hereinafter "Principal"), and _____,

(hereinafter "Surety"), are held and firmly bound unto THE CITY OF JACKSON, MICHIGAN, 161 West Michigan Avenue,

Jackson, MI 49201, (hereinafter "City"), in the sum of _____ to be paid to said City, its legal representatives and assigns, for which payment well and truly be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, and each and every one of them jointly, firmly by these presents.

Sealed with our seals and dated this _____ day of _____, 20_____.

WHEREAS, pursuant to Jackson City Code 27, Article 127 et. Seq., the above named Principal has obtained a Permit for the Construction of a Stormwater Management System from the City of Jackson, (hereinafter "Permit"), from the City

Engineer, dated this _____ day of _____, 20_____,

which authorized the said Principal to make excavations and construct a stormwater management system on certain properties located within the City of Jackson referenced in said Permit.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH that by and under said permit, the above named Principal has agreed to well and faithfully on all things fulfill the Permit according to the terms and conditions stipulated therein and comply with all applicable laws, regulations and guidelines and all directives of the City Engineer.

This obligation shall remain in full force and effect until the work and obligations required by the Permit have been satisfactorily completed and approved in writing by the City Engineer or his designee, at which time this obligation shall be null and void.

In case of failure to full fulfill the Permit within one (1) year of the Permit expiration date, then the City shall have the right to purchase such materials and employ such labor and equipment as may be necessary for the purpose, and to undertake, the construction of the permitted stormwater management system and/or stabilize the earth disturbance to the satisfaction of the City Engineer and charge the expense thereof to, and receive the same from said Principal and Surety, or either of them.

If, during the permitted construction, any repair or corrective action is necessary at once to the property referenced in the Permit to protect life and property, then and in that case, the said City may take immediate steps to repair or barricade such defects without notice to the Principal or Surety. In such accounting, the said City shall not be held to obtain the lowest figures for the doing of the work, or any part thereof, but all sums actually paid therefore shall be charged to the Principal and Surety, or either of them. In this connection, the judgment of the City is final and conclusive.

AND PROVIDED, that any alterations which may be made in the terms of said Permit, or in the work to be done under it, or in the event that the City shall grant any extension of time for the performance of said Permit or otherwise modify any elements of the Permit, or any forbearance on the part of either party to the other shall not in any way release the Principal and Surety, or either of them, from any liability hereunder, notice to the Surety of any such alterations, modifications, extension or forbearance being herby waived.

Said Principal and Surety, or either of them, shall fully indemnify, defend and save harmless said City from all suits and actions for damages of every name and description brought or claimed against it for or on account of any injury or damage to person or property received or sustained by any party or parties, by or from any of the acts or omissions or through negligence of said Principal, servants, agents, or employees in the prosecution of the work included in said Permit, and from any and all claims arising under the Workers' Compensation act, so-called, of the State of Michigan.

IN WITNESS THEREOF, the parties hereto have caused this instrument to be executed by their respective authorized officers, this _____ day of _____, 20 _____.

WITNESS:

_____ _____
Principal

By: _____

Its: _____

WITNESS:

_____ _____
Surety

By: _____
Attorney-in-fact

By: _____

Its: _____

_____
Address of Surety

_____
City State Zip

ATTACH POWER OF ATTORNEY

CITY OF JACKSON DEPARTMENT OF PUBLIC WORKS

POST CONSTRUCTION CERTIFICATION AND ACCEPTANCE OF A PERMITTED STORMWATER MANAGEMENT SYSTEM

_____
Permit No.

LOCATION ADDRESS: _____

PARCEL ID NUMBER(S) _____

PERMIT HOLDER (PROPERTY OWNER) INFORMATION	
Business Name:	
Contact Name/Title:	
Address:	
City, State, ZIP:	
Phone Number:	
Email Address:	

POST-CONSTRUCTION CERTIFICATION STATEMENT
(To be completed by a Professional Engineer registered in the State of Michigan)

Affix Licensed Professional Engineer seal here:

I, the undersigned, do hereby certify that

- All land disturbance activities and the construction of the stormwater management system including permanent turf establishment was completed on _____ (date); and
- Said construction was completed in full compliance with the approved permit and the Stormwater Management Plan attached thereto; and
- Stormwater management system as-built plans containing my signature and professional seal have been submitted to the City Engineer.

Signature: _____ Date: _____

Printed Name and Title: _____

Business Name: _____

Address: _____

City, State, ZIP _____

Phone Number: _____

ACCEPTANCE OF COMPLETED WORK (FOR CITY OF JACKSON USE ONLY):

- I have completed an inspection of the permitted stormwater management system and found that it conforms to an acceptable level with the approved plans.
- I have completed a review of the as-built plans for the permitted stormwater management and found them to be complete and accept them as final.
- I authorize the release of all performance guarantees associated with this stormwater management system.

Approval Signature: _____ Date: _____

Printed Name and Title: _____

STORMWATER MANAGEMENT AGREEMENT AND DECLARATION OF EASEMENT

THIS Stormwater Management Agreement and Declaration of Easement ("Agreement") is made _____ __, 2012, between _____, whose address is _____ (herein referred to as "Owner"), and the **CITY OF JACKSON**, a Michigan municipal corporation, with offices located at 161 West Michigan Ave., Jackson, Michigan 49201 (herein referred to as the "City"),

WHEREAS, the Owner has acquired property in the City which is described as follows:

Legal Description (herein referred to as the "Real Property")

Commonly known as _____, and Tax Parcel No._____,

WHEREAS, the Real Property is a "Covered Development Project" under Article V ("Post-Construction Stormwater Management for New Development and Redevelopment") of Chapter 27 ("Water and Sewers") of the City of Jackson Code of Ordinances, as amended ("Article V of Chapter 27 of the City Code").

WHEREAS, as a Covered Development Project, Owner must obtain a Stormwater Management Permit and have an approved Final Stormwater Management Plan as provided by Article V of Chapter 27 of the City Code.

WHEREAS, Article V of Chapter 27 of the City Code requires that the Owner provide such easements as determined necessary by the City to implement an approved Final Stormwater Management Plan and to otherwise comply with Article V of Chapter 27.

WHEREAS, this Agreement is being entered into between the parties to provide the easements required to implement the proposed Final Stormwater Management Plan for the Real Property and to accomplish such other objectives as stated by this Agreement.

NOW THEREFORE, it is agreed by the parties as follows:

1. This Agreement is entered by the parties to establish easements as determined necessary by the City to implement the Owner's proposed Final Stormwater Management Plan for the Real Property and to accomplish such other objectives as stated by this Agreement and required by Article V of Chapter 27 of the City Code.

2. Owner has agreed to install and maintain stormwater management practices, methods, and facilities on the Real Property in accordance with the proposed Final Stormwater Management Plan and Article V of Chapter 27 of the City Code. The Owner further agrees to the terms stated in this document to ensure that the stormwater management practices, methods, and facilities continue to comply with the approved Final Stormwater Management Plan, any associated Stormwater Management Permit, and other applicable standards, conditions, and requirements, in perpetuity.

3. Owner shall be solely responsible, in perpetuity, for the installation, maintenance and repair of the stormwater management practices, methods, and facilities required by the approved Final Stormwater Management Plan and Article V of Chapter 27 of the City Code.

4. Owner hereby conveys to the City an easement over, on, and in the Real Property for all of the following purposes, as determined applicable by the City:

   a. To provide entry and access for stormwater management facility inspections and maintenance.

b. To preserve stormwater runoff conveyance, infiltration, and detention areas and facilities, including flood routes for storm events.

c. To preserve primary and secondary drainage ways that are needed to serve stormwater management needs of other properties.

d. To accomplish purposes such as those listed above for all areas used for off-site stormwater control, including undeveloped or undisturbed lands.

e. To serve other purposes and objectives determined necessary by the City to achieve the purposes of this Agreement and Article V of Chapter 27 of the City Code.

5. The City is authorized to access the Real Property as determined necessary by the City to conduct inspections of the stormwater management practices, methods, and facilities to ascertain compliance with the approved Final Stormwater Management Plan and for any other purpose as provided by Article V of Chapter 27 of the City Code.

6. If the City determines that the stormwater management system required for the Real Property has not been properly operated or maintained, or has become a danger to public safety, health, or the environment, the City shall notify Owner by first-class mail and also by certified mail. The notice shall specify the measures needed to comply with applicable requirements and shall specify the time within which such measures must be completed. If Owner fails or refuses to complete the measures needed to comply with the applicable requirements within the specified time, the City may (but is not required to) enter the property and perform, or cause to be performed, the necessary work to return the stormwater management system to full compliance, and bill Owner for the full cost of any such work.

7. Costs and expenses incurred by the City in implementing and enforcing the provisions of this Agreement, including, but not limited to, costs and expenses incurred by the City in responding to, correcting violations, and/or performing work pursuant to Sections 27.152, 27.158, 27.163, 27.165, 27.167, 27.168 Article V of Chapter 27 of the City Code, shall be a lien on the premises which shall be enforceable in accordance with Act No. 94 of the Public Acts of 1933 (MCL 141.101 et seq.), as amended from time to time. Any such costs and expenses which are unpaid for 6 months or more may be certified by the City Manager on April 30 and September 30 of each year to the City Assessor who shall enter the lien on the next tax roll against the premises and the costs and expenses shall be collected and the lien shall be enforced in the same manner as provided for in the collection of taxes assessed upon the roll and the enforcement of a lien for taxes. In addition to any other lawful enforcement methods, the City shall have all remedies authorized by Act No. 94 of the Public Acts of 1933, as amended. If the City elects to pursue collection of unpaid costs and expenses through the courts, Owner shall pay in addition to said costs and expenses all costs of litigation, including attorney fees.

8. For purposes of this Agreement, "Owner" means and includes _____ as the current owner, and all future owners of the Real Property, as defined by Article V of Chapter 27 of the City Code. For purposes of this Agreement, "City" means the City of Jackson and any of its designees.

9. Nothing in this Agreement shall be construed to conflict with or limit in any way the City's power or authority under Article V of Chapter 27 of the City Code or other applicable laws and regulations.

10. This Agreement shall be governed by and construed in accordance with the laws of the State of Michigan, except that it is the express intention of the parties hereto that this

Agreement shall not be construed to be a requirements contract within the purview of the Uniform Commercial Code.

11. Nothing under this Agreement and no action taken pursuant hereto shall cause the City and Owner to be treated as a partnership, joint venture, association, or other common entity.

12. If any part of this Agreement is held by a Court of competent jurisdiction to be illegal or unenforceable, such event shall not be deemed to affect the validity of any other portion hereof. Any such holding materially affecting the commitments herein may be the subject of further negotiations for purpose of legally revising the consideration involved.

13. This Agreement shall become effective on the date that it has been signed by authorized representatives of both the City and Owner as set forth below.

14. This Agreement constitutes the final, entire and exclusive agreement of the parties with respect to the subject matter addressed, and supersedes all prior communications, understandings and agreements relating to the subject matter, whether oral or written. Nothing in this Agreement shall limit the ability of the parties to negotiate amendments to this Agreement, provided that except as expressly provided in this Agreement, no amendment or waiver of this Agreement shall be binding unless executed in writing by the party to be bound thereby. No waiver of any provision of this Agreement shall constitute a waiver of any other provision nor shall any waiver of any provision of this Agreement constitute a continuing waiver unless otherwise expressly provided. Nothing in this Agreement is intended to nor should it be construed to create any rights in any persons or entities that are not a party to this Agreement.

15. Owner agrees that this Agreement shall be recorded in the Jackson County Register of Deeds, and that the Real Property shall be subject to the covenants and obligations

contained herein, and this Agreement shall bind all current and future owners of the Real Property, including their administrators, executors, successors, heirs, or assigns.

16. The parties whose signatures appear below represent and warrant that they have the authority and capacity to sign this agreement and bind the respective parties hereto.

IN WITNESS WHEREOF, the parties have executed this Agreement effective on the date set forth in the first paragraph.

(OWNER) CITY OF JACKSON

By: _____ By: _____
_____ Martin J. Griffin
its: (authorized member) its: Mayor

STATE OF MICHIGAN)
)ss
COUNTY OF JACKSON)

On _____, 2012, before me, a Notary Public, in and for said County, personally appeared _____, by and through _____, its authorized member, to me known to be the same party described in and who executed the within instrument, who personally acknowledged the same to be his own free act and deed.

_____
, Notary Public
Acting in Jackson County, Michigan
My commission expires: _____

STATE OF MICHIGAN)
)ss.
COUNTY OF JACKSON)

On _____, 2012, before me, a Notary Public, in and for said County, personally appeared the City of Jackson, by and through _____, its authorized officer, to me known to be the same party described in and who executed the within instrument, who personally acknowledged the same to be his own free act and deed.

_____
, Notary Public
Acting in Jackson County, Michigan
My commission expires: _____

After recording, return to _____ and Julius A. Giglio, at the addresses below.

Julius A. Giglio
161 West Michigan Avenue, 12th Floor
Jackson, MI 49201

deposit shall bear interest and such deposit, or any remaining balance thereof, shall be returned to the customer making the same when the customer shall discontinue receiving water and wastewater service. The customer shall notify the city, in writing, of the forwarding address where the deposit, or any remaining balance thereof, shall be mailed. The failure of a customer to notify the city of their forwarding address within six (6) months of termination of service shall result in the deposit, or other remaining balance thereof, being forfeited by the customer.
(Code 1977, § 2.78)

Sec. 27-113. Billing disputes.

(a) Customers of water and/or sewer service may contest their water and/or sewer bills by contacting a customer service representative at the water department at least ten (10) days before the due date of the bill. If a resolution of the dispute is not resolved from that contact, a customer wishing to further contest a bill must, not more than ten (10) days after the due date of the bill, request a personal hearing with the billing supervisor.

(b) This hearing shall be scheduled as soon as is practicable after the request is made; shall be informal; and shall consist of a review of the amount of the bill, the recent usage history of the premises, and any other relevant matter which, in the opinion of the billing supervisor, may assist in the resolution of the dispute.

(c) At the close of the hearing, the billing supervisor, based upon the information reviewed at the informal hearing, shall either find the bill to be proper or adjust the bill.
(Code 1977, § 2.85)

Secs. 27-114—27-119. Reserved.

ARTICLE V. POST-CONSTRUCTION STORMWATER MANAGEMENT FOR NEW DEVELOPMENT AND REDEVELOPMENT

DIVISION 1. TITLE, DESCRIPTION, PURPOSE, AND FINDINGS

Sec. 27-120. Title.

This article may be officially referred to as the "City of Jackson Post-Construction Stormwater Management Ordinance."
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-121. Description.

This article requires that a stormwater management permit be obtained prior to commencing any land disturbance activities in connection with new development and redevelopment projects, as defined by this article. The permitting process includes review and approval of a stormwater management plan that sets forth, among other things, how a project developer will implement stormwater management practices, methods, and facilities to address post-construction stormwater runoff quality and quantity impacts resulting from land disturbance activities associated with the development. This article also addresses long-term operation, maintenance, and inspection requirements for stormwater management practices, methods, and facilities; specifies a minimum water quality treatment volume standard to address water quality impacts of storm runoff; specifies channel protection criteria to maintain and control runoff volume and peak flow rates; and contains enforcement mechanisms and recordkeeping requirements.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-122. Findings.

The city hereby finds and determines as follows:

(a) State and federal laws and the phase II stormwater rules and regulations promulgated thereunder compel local public bodies in certain urbanized areas, including the city, to adopt an ordinance with certain minimum provisions and require-

ments applicable to post-construction stormwater runoff from development and redevelopment sites.

(b) Implementation of the minimum provisions and requirements provided by this article will meet the applicable state and federal stormwater laws and regulations, and minimize or prevent the adverse effects of stormwater runoff from post-construction stormwater runoff from development and redevelopment sites.

(c) Development and redevelopment activities alter the hydrologic response of watersheds, resulting in increased stormwater runoff rates and volumes, increased flooding, increased soil erosion, increased stream channel erosion, increased nonpoint and point source pollution, increased sediment transport and deposition, reduced groundwater recharge, and other adverse effects.

(d) The adverse effects of stormwater runoff from development and redevelopment activities can be harmful to the public health, safety, and general welfare, the environment, and public and private property and infrastructure.

(e) The adverse effects of stormwater runoff from development and redevelopment activities can be minimized or prevented by requiring the use of appropriate stormwater management practices, methods, and facilities to manage and control runoff from development and redevelopment sites.

(f) Enactment of this article is necessary to protect, preserve, and enhance the public health, safety, and general welfare, the environment, and public and private property and infrastructure, and is necessary to meet the requirements of state and federal laws and regulations regarding post-construction stormwater runoff from new development and redevelopment sites.

(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-123. Purpose.

(a) This article is enacted to protect, maintain and enhance the public health, safety, environment, and general welfare, and public and private property and infrastructure, by establishing minimum requirements and procedures to manage and control the adverse effects of post-construction stormwater runoff from new development and redevelopment in the City of Jackson, as required by and in accordance with the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.; the "Federal Act"), Michigan Act 451, Public Acts of 1994, as amended (the "Michigan Act"), Parts 31 and 41, the city's MS4 watershed general permit, the city's certificate of coverage, and other applicable local, state and federal laws and regulations.

(b) Further, this article establishes minimum stormwater management provisions and requirements to accomplish purposes including, but not limited to, the following:

(1) Achieve compliance with state and federal stormwater laws and regulations.

(2) Establish a minimum treatment volume standard to minimize water quality impacts of post-construction stormwater runoff.

(3) Establish channel protection criteria to minimize excess sediment and channel instability caused by increased flow rate and volume from post-construction stormwater runoff.

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

(5) Maintain natural drainage patterns and encourage the use of natural drainage systems and low impact development techniques.

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

(7) Prevent or minimize the adverse impacts on water quality and channel stability

caused by post-construction runoff by requiring implementation of appropriate stormwater management practices, methods, and facilities.

(8) Recognize private responsibility to incorporate stormwater management systems into the early stages of site planning and design.

(9) Provide requirements to ensure effective long-term operation and maintenance of stormwater management practices, methods, and facilities.

(10) Establish recordkeeping requirements to document the implementation of and compliance with the post-construction stormwater runoff program established by this article, including documentation of stormwater management plans, operation and maintenance plans and agreements, and enforcement actions.

(11) Facilitate achievement of the goals outlined in the Upper Grand River Watershed Master Plan.

(Ord. No. 2011.01, § 1, 1-11-11)

DIVISION 2. DEFINITIONS

Sec. 27-124. Definitions.

Unless the context specifically indicates otherwise, the following terms shall have the following meanings as used in this article:

Applicant means a property owner or authorized agent of a property owner who has filed an application for a stormwater management permit.

Best management practice or *BMP* means any practice, program, procedure, control, technique or measure (used singularly or in combination), designed to prevent pollutants from entering into stormwater flows, to direct the flow of stormwater, or to treat polluted stormwater flows. BMPs include, but are not limited to: schedules of activities; pollution treatment practices or devices; prohibitions of practices; good housekeeping practices; pollution prevention, minimization and reduction measures; educational practices and programs; maintenance procedures; other management programs, practices, or devices; treatment requirements; notice, reporting, and record-keeping requirements; and operating procedures and practices to control or contain site runoff, spillage, or leaks, batch discharges, sludge or water disposal, or drainage from product and raw materials storage. BMPs may be structural, non-structural, or both.

BOD or *biochemical oxygen demand* means the quantity of oxygen used in the biochemical oxidation of a given amount of organic matter under standard laboratory procedures in five (5) days at twenty (20) degrees centigrade, expressed in milligrams per liter.

Certificate of coverage or *COC* means certificate of coverage issued to the city by the MDNRE under MS4 watershed general permit.

City means the City of Jackson, Michigan, or the city's authorized representatives.

City Code means the Code of Ordinances, City of Jackson, Michigan, as amended from time to time.

City engineer means the city engineer of the City of Jackson or the city engineer's designees.

COD or *chemical oxygen demand* means a measure of oxygen-consuming capacity of inorganic and organic matter present in water or wastewater. It is expressed as the amount of oxygen consumed from a chemical oxidant in a specified test. It does not differentiate between stable and unstable organic matter and thus does not necessarily correlate with biochemical oxygen demand. Also known as oxygen consumed (OCR) and dichromate oxygen consumed (DO), respectively.

Cost, costs, or *costs and expenses,* and similar terms, as used generically in the context of payments or amounts that must be paid by any person to the city, must be reimbursed to the city, or are due and payable to the city under this article, "cost," "costs," "costs and expenses," and similar terms shall be construed to mean and include, but shall not be limited to, all costs, expenses, fines, fees, charges, surcharges, penalties, assessments, claims, losses, liabilities, and damages (direct or indirect), including natural

resource damages, and other amounts, and the full value of any city staff time (including any required overtime), consultant and engineering fees, testing fees, and actual attorney fees and defense costs, as applicable to the circumstances and relevant to stormwater management matters.

Covered development project means a development or redevelopment project that meets the applicability requirements of subsection 27-126(a) of this article.

Developer means a person who undertakes or proposes to undertake land disturbance activities. The developer may be the property owner or the property owner's authorized representative.

Discharge means the introduction of stormwater into the MS4, whether intentional or unintentional, and whether directly (such as through an approved sewer connection or other approved discharge point or point source or in form of diffuse non-point runoff) or indirectly (including, but not limited to, sources such as inflow and infiltration).

Hazardous waste means any substance discharged or proposed to be discharged into the MS4, that:

(1) If otherwise disposed of would be a hazardous waste under 40 CFR Part 261 or under the rules promulgated under the state hazardous waste management act (Part 111 of Act 451 of the Public Acts of Michigan of 1994, MCL §§ 324.11101 et seq., as amended); or

(2) Is otherwise a waste or a combination of waste and other discarded material including solid, liquid, semisolid, or contained gaseous material that because of its quantity, quality, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in mortality or an increase in serious irreversible illness or serious incapacitating but reversible illness, or may pose a substantial present or potential hazard to human health or the environment if improperly treated, stored, transported, disposed of, or otherwise managed.

Hotspot means a land use or activities that generate concentrations of pollutants in excess of those typically found in stormwater runoff, and/or present a higher potential risk for spills, leaks or illicit discharges, as determined by the city engineer. Hotspots may include, but are not limited to: vehicle salvage yards; vehicle fueling stations; vehicle service and maintenance facilities; vehicle and equipment cleaning facilities; fleet storage areas; industrial sites (based on SIC or NAICS codes); marinas with service and maintenance; outdoor liquid container storage; outdoor loading/unloading facilities; public works storage areas; facilities that generate or store hazardous materials; commercial container nurseries; recycling facilities (including, but not limited to, vehicle, glass, paper, and battery recycling facilities); and other land uses and activities as determined by the city engineer.

Infiltration means any waters entering the MS4 from the ground through such means as, but not limited to, defective pipes, pipe joints, connections or manhole walls. Infiltration does not include, and is distinguished from, inflow.

Inflow means any waters entering the MS4 from sources such as, but not limited to, building downspouts; roof leaders; cellar, yard, and area drains; foundation and footing drains; cooling water discharges; drains from springs and swampy areas; manhole covers; cross connections from storm sewers and combined sewers; catch basins; stormwaters; surface runoff; street wash waters; or drainage.

Land disturbance activity means any action that causes any land change, including, but not limited to, a change in the position, location, or arrangement of soil, sand, rock, gravel, or similar earth material, and any clearing, digging, grubbing, stripping, removal of vegetation, dredging, grading, excavation, transporting and filling of land, construction, paving, and any other installation of impervious cover.

Larger common plan of development or sale means a contiguous area where multiple separate and distinct construction activities may be taking place at different schedules under one plan.

Medical waste means isolation wastes, infectious agents, human blood and blood products, pathological wastes, sharps, body parts, contaminated bedding, surgical wastes, potentially contaminated laboratory wastes, or dialysis wastes, and includes any medical or infectious wastes as defined by the MDNRE.

MDNRE means the Michigan Department of Natural Resources and Environment and its successor departments (or the MDNRE's predecessor department as embodied by the Michigan Department of Environmental Quality).

MS4 watershed general permit means the NPDES watershed general permit issued to the city by the MDNRE as authorized by Michigan Act 451, Public Acts of 1994, as amended, Part 31, and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.).

Municipal separate storm sewer system or *MS4* means, in general, all separate storm sewers that are owned or operated by the United States, a state, city, village, township, county, district, association, or other public body created by or pursuant to state law, having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law, such as a sewer district, flood control district, or drainage district, or similar entity, or a designated or approved management agency under Section 208 of the Federal Act that discharges to the waters of the state. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings. As used in this article, the term MS4 refers to MS4s located within the city.

NAICS or *North American Industrial Classification System* means the system of classification for business establishments adopted by the U.S. Office of Management and Budget.

New development means any land disturbance activities on previously unimproved premises.

NPDES means the "National Pollutant Discharge Elimination System" established pursuant to Section 402 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.; the "Federal Act").

Owner means the owner of record of the freehold of a premises or lesser estate therein, a mortgagee or vendee in possession, assignee of rents, receiver, executor, trustee, lessee, or other person, firm or corporation in control of a premises.

Permittee means any person issued a stormwater management permit under this article.

Person means any individual, partnership, copartnership, firm, company, association, society, corporation, joint stock company, trust, estate, governmental entity, or any other legal entity or their legal representatives, agents or assigns.

Pollutant includes, but is not limited to, any of the following:

(a) Any material that is discharged into water or other liquid, including, but not limited to, dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, medical wastes, chemical wastes, biological materials, radioactive materials, wrecked or discharged equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste.

(b) Properties of materials or characteristics of wastewater, including, but not limited to, pH, heat, TSS, turbidity, color, BOD, COD, toxicity, and odor.

(c) Substances regulated by, or that are required to be monitored, or that are limited in, the city's MS4 watershed general permit, the city's certificate of coverage, the Federal Water Pollution Control Act, as amended, Michigan Act 451, Public Acts of 1994, as amended, Parts 31 and 41, or relate local, state and federal laws and regulations.

(d) Hazardous wastes, toxic pollutants, and medical wastes.

Post-construction stormwater runoff means the stormwater that would flow from a development site to an MS4 or surface water of the state following (not during) the development or redevelopment of the site.

Predevelopment means runoff conditions that exist onsite immediately before the currently proposed land disturbance activities occur.

Premises means any building, lot, parcel of land, or portion of land, whether improved or unimproved, including adjacent sidewalks and parking strips, located within the city from which discharges into the MS4 are or may be created, initiated, originated, or maintained.

Pretreatment means reducing the amount of pollutants, eliminating pollutants, or altering the nature of pollutant properties to a less harmful state prior to discharge into the MS4. The reduction or alteration can be by physical, chemical, or biological processes, process changes, or by other means. Dilution is not considered pretreatment.

Redevelopment means land disturbance activity on premises already improved with buildings, structures or activities or uses, including, but not limited to, alterations that change the footprint of a building or that offer a new opportunity for stormwater controls. Redevelopment does not include ordinary maintenance activities such as exterior changes or improvements of buildings that do not alter or expand the existing building footprint; resurfacing and/or repaving of existing paved areas that does not expand the existing paved area; and other activities that do not materially increase or concentrate stormwater runoff or cause additional nonpoint source pollution, as determined by the city engineer. Paving of a previous unpaved area is specifically excluded from the definition of "ordinary maintenance activities" as used in this article.

Separate storm sewer means a conveyance or system of conveyances designed or used for collecting or conveying stormwater which is not a combined sewer and which is not part of a publicly-owned treatment works as defined in 40 CFR 122.2 of the Code of Federal Regulations.

SIC or *Standard Industrial Classification Code* means a classification pursuant to the Standard Industrial Classification Manual issued by the U.S. Office of Management and Budget.

Stormwater includes stormwater runoff, snowmelt runoff, and surface runoff and drainage.

Stormwater management system means stormwater management practices, methods, and facilities, including BMPs.

Surface waters of the state are defined consistent with Rules 323.1041 through 323.1117 of the Michigan Administrative Code to mean all of the following, but not including drainage ways and ponds used solely for wastewater conveyance, treatment, or control: the Great Lakes and their connecting waters; all inland lakes; rivers; streams; impoundments; open drains; and other surface bodies of water within the confines of the state.

Total suspended solids or *TSS* means solids that float on the surface of, or are suspended in, water, wastewater, or other liquids and which can be removed by laboratory filtering or other standard methods.

Toxic pollutant means any pollutant or combination of pollutants that is or can potentially be harmful to the public health, the MS4, or the environment, including, without limitation, those listed in 40 CFR 401.15 as toxic under the provisions of the Clean Water Act, or listed in the Critical Materials Register promulgated by the MDNRE, or as provided by local, state, or federal laws, rules, or regulations.

Treatment means the removal of pollutants through settling, filtration, infiltration, or the equivalent.
(Ord. No. 2011.01, § 1, 1-11-11)

DIVISION 3. ADMINISTRATION

Sec. 27-125. City engineer.

The city engineer is hereby appointed to administer and implement the provisions of this article.
(Ord. No. 2011.01, § 1, 1-11-11)

DIVISION 4. APPLICABILITY

Sec. 27-126. Covered development projects; exemptions.

(a) *Covered development projects.* The requirements of this article shall apply to post-construction stormwater runoff from any of the following:

(1) Any new development project or redevelopment project that:

a. Disturbs one (1) acre or more; or disturbs less than one (1) acre, if the project is part of a larger common plan of development or sale that would disturb one (1) acre or more; and

b. Discharges to a surface water of the state, either directly or via a separate storm sewer system.

(2) Any new development project or redevelopment project that would change, alter, or convert the use of land to a stormwater hotspot as defined by this article.

The requirements of this article shall apply to development projects as provided above whether or not the project is owned, operated, managed, or controlled by a private or public person or entity, and whether or not the project would otherwise be subject to site plan review and approval requirements under other provisions of this Code.

(b) *Exemptions.* The following activities shall not be considered covered development projects for purposes of this article, even if the activity would otherwise qualify as a covered development project under subsection (a) of this section based on the amount of land disturbed:

(1) Normal maintenance and improvement of land in bona fide agricultural use as defined and protected by the Michigan Right to Farm Act (Public Act 93 of 1981, MCL 286.471, et seq.) as determined by the city engineer.

(2) Routine single-family residential landscaping and/or gardening that does not materially alter stormwater flow from the property in terms of quality, quantity, and/or rate, as determined by the city engineer.

(3) Development that is not part of a larger common plan of development on one (1) single-family lot, parcel, or condominium unit where the city engineer determines that, due to the size of the site, or due to other circumstances, the quality, quantity, and/or rate of stormwater leaving the site will not be materially altered.

(4) The construction of any fence that will not alter existing terrain or drainage patterns, as determined by the city engineer.

(5) Construction of utilities (gas, water, electric, telephone, etc.) other than drainage, which will not alter terrain, ground cover, or drainage patterns, as determined by the city engineer.

(6) Emergency repairs to any stormwater management facility or practice that poses a threat to public health or safety, or as deemed necessary by the city engineer.

(7) The installation or removal of individual mobile homes within a mobile home park that does not materially alter stormwater flow from the property in terms of quality, quantity, and/or rate, as determined by the city engineer. This exemption shall not be construed to apply to the construction, expansion, or modification of a mobile home park.

(8) Developments that have received final site plan or final plat approval prior to the effective date of this article, unless the approval expires prior to the commencement of construction. If a plat has received only preliminary plat approval prior to the effective date of this article, then the development shall not be exempt and the development shall comply with the requirements of this article to the maximum extent feasible without requiring the development to be redesigned in a way that would reduce the number, size and density of buildings. For phased developments, this exemption shall apply only to the phases that have been constructed prior to the effective date of this article.

(Ord. No. 2011.01, § 1, 1-11-11)

DIVISION 5. STORMWATER MANAGEMENT PERMITS

Sec. 27-127. Permit required for covered development projects.

(a) No person shall commence or engage in any land disturbance activity for a proposed covered development project without first obtaining a stormwater management permit as provided by this division.

(b) Further, notwithstanding any other provision of this Code, the city shall not grant to any person any final permits or final approvals required under other provisions of this Code for land disturbance activities that are required for a proposed covered development project unless the permit or approval under those other provisions is expressly conditioned upon the requirement to also obtain a stormwater management permit for the covered development project as provided by this division.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-128. Permit application submission schedule.

The city engineer shall establish a submission schedule for permit applications. The schedule shall establish deadlines by which complete permit applications must be submitted with the goal of ensuring, to the extent practicable, that there is adequate time to review stormwater management permit applications, accommodate the various stages of the stormwater management permit review process, and coordinate the stormwater management permit review process with the reviews of any other public bodies that may also be required for the development.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-129. Pre-application conference.

Before an application for a stormwater management permit is submitted, the developer shall meet with the city engineer to:

(a) Discuss the permit application process, stormwater management plan submittal requirements, and potential stormwater management measures that may be required to meet the requirements of this article;

(b) Review and assess potential stormwater management designs before formal site design engineering is commenced;

(c) Determine stormwater impacts of the proposed development on local watershed plans and other relevant resource protection plans;

(d) Review requirements that may apply to the proposed covered development project under other local and state laws and regulations; and

(e) Review and discuss any related matters as determined appropriate by the city engineer.

To the extent possible, the pre-application conference shall be held before the developer has applied for permits or approvals required under other provisions of this Code for land disturbance activities that may also be required for the proposed covered development project. Following the initial pre-application conference, additional pre-application conferences may be required as determined necessary by the city engineer.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-130. Preliminary stormwater management plan.

(a) To maximize the efficiency and effectiveness of the pre-application conference, the city engineer may require the developer to submit a preliminary stormwater management plan prior to the conference.

(b) The preliminary plan may be used by the city engineer to evaluate the type of stormwater management measures that may be necessary and appropriate for the proposed development and to ensure adequate planning for stormwater management on the site consistent with the requirements of this article.

(c) The preliminary stormwater management plan shall include all of the information and shall meet all of the requirements for final stormwater management plans as provided by section [27-

137] of this article, unless any such information or requirements are determined unnecessary by the city engineer for the development in question.

(d) All required elements of the preliminary plan, such as maps, plans, easements, details, and calculations may be preliminary rather than final, and detailed construction drawings shall not be required, unless determined necessary by the city engineer for the development in question.

(e) In all cases, the preliminary plan shall include all information, documents, items, and materials, in the form and at the level of detail, as determined necessary by the city engineer to adequately evaluate, before the permit application is submitted, the environmental characteristics of the project site, the potential impacts of the proposed development of the site on water resources, and the effectiveness of any measures proposed by the applicant to manage stormwater generated at the project site as required by this article.

(f) If a preliminary stormwater management plan is required, approval of the preliminary plan by the city engineer shall be required before the city engineer will proceed with review of a final stormwater management plan. The city engineer shall review the submitted preliminary plan and specify any modifications that must be made to the preliminary plan for purposes of preparing a final stormwater management plan that meets the requirements of section 27-137 of this article. The applicant shall prepare and submit to the city engineer a final stormwater management plan that incorporates any modifications required to the preliminary plan as specified by the city engineer and that meets the requirements of section 27-137 of this article.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-131. Permit application.

The developer of a proposed covered development project shall be required to submit a stormwater management permit application and all required accompanying submittals and shall meet the other requirements provided by this article.

(a) An application for a stormwater management permit shall be submitted by the applicant to the city engineer on the form provided by the city engineer.

(b) The applicant may be the property owner or the property owner's authorized representative. The permittee, however, shall be the property owner.

(c) The submitted application shall include all information, documents, items, and materials as specified by the application form. In addition to what is required by the application form, the city engineer may require the applicant to submit any other materials as determined necessary by the city engineer to fully and adequately review and evaluate the application for purposes of this article.

(d) All of the required application materials shall be submitted in as many copies, and shall be prepared in the form, manner, and level of detail, as specified by the application form or as otherwise required by the city engineer.

(e) A permit application shall not be deemed complete until the city engineer has determined that all required information, documents, items and materials have been provided, along with the fully paid stormwater management permit review fee, and, if requested, the fully paid escrow fee and completed escrow fee acknowledgement form.

(f) If the city engineer determines that an application is not complete, the city engineer shall specify in writing to the applicant what the applicant must do to complete the application.

(g) Any period for approving, denying, or modifying an application as specified by this article shall not begin to run until the city engineer has determined that the application is complete as provided by this section.

(h) An application may be considered withdrawn and the application file may be closed by the city engineer if an applicant fails to respond to any written request from the city engineer for information, documents, items, or materials regarding the application within thirty (30) days of

the request, or within any longer period of time if the city engineer and the applicant agree in writing that an extension of time is appropriate and the amount of additional time is set forth in the agreement.

(i) At any time during the permit application review and approval process, the city engineer may forward copies of the application to other city departments and other public bodies for their information, review and input, and to coordinate, to the extent possible, the stormwater management permit review process with other public reviews and approvals that may also be required for the development.

(j) Filing an application for a stormwater management permit grants the city permission to enter the site to verify information in the application and to inspect for compliance with any permit that may be issued.

(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-132. Permit application fee.

A non-refundable application fee shall be submitted to the city engineer with the initial submittal of the permit application form. The application fee shall be in an amount sufficient to cover reasonable costs and expenses generally associated with the review by the city engineer of stormwater management permit applications, including routine administrative and technical reviews and on-site inspections. The amount of the application fee shall be established from time to time by resolution of the city council.

(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-133. Escrow fee.

In addition to the application fee, based on the size, complexity, or other aspects of a proposed development, the city engineer may determine that the applicant must submit to the city as part of the permit application an escrow fee in an amount sufficient, as determined by the city engineer, to pay for the estimated reasonable costs and expenses of any city personnel and any professional consultants whose services are deemed necessary by the city engineer to adequately review the application for purposes of compliance with the requirements of this article.

(a) If the city engineer requires payment of an escrow fee, the applicant must complete and submit an escrow fee acknowledgment form provided by the city engineer.

(b) The amount of the escrow fee shall be determined at the time of project review based on a specific scope of work, and shall be calculated at the rates determined by the city engineer.

(c) The services for which an escrow fee may be used may include, but shall not be limited to, hydrologic and drainage analysis, wildlife evaluation, stormwater quality analysis, wetland survey and delmeation, site inspections, as-built plan review, analysis of legal issues, and any other city personnel and professional consultant services deemed necessary by the city engineer.

(d) If the actual total cost of the services of the city personnel and consultants is less than the escrow fee submitted, the city shall refund the balance to the applicant.

(e) If the actual total cost of the services of the city personnel and consultants exceeds the amount of the escrow fee submitted, the applicant shall provide to the city an additional escrow amount equal to no less than one-half (½) the original escrow amount. All review by the city of the stormwater management permit application shall cease until such additional escrow amount is deposited with the city, and the number of days that review of the stormwater management permit application ceases shall be deducted from the period within which the city engineer may otherwise be required to act upon the application.

(f) Payment of an escrow fee as provided by this section may be required by the city engineer at any point during the

stormwater management permit review process, as determined necessary by the city engineer.

(g) A denial of an application for a stormwater management permit shall not affect in any way the applicant's obligation to pay the escrow fees required by this section.

(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-134. Payment of fees.

All fees required by this article shall be paid by cash, check, or money order. All forms of payment other than cash shall be made payable to the City of Jackson.

(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-135. Post-application conferences.

The city engineer may require one or more post-application conferences and consultations with the applicant at any time during the stormwater management permit review process for any purpose as determined necessary by the city engineer to meet the requirements of this article.

(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-136. Permit application review and approval procedures.

(a) The city engineer shall review an application for a stormwater management permit as provided by this article and shall approve, approve with conditions, deny, or request a modification to the application within ninety (90) days after receipt of the completed application. The ninety-day review period as provided by this section may be extended for any additional period of time as agreed upon in writing by the city and the applicant.

(b) The city engineer shall not approve a stormwater management permit application or issue the stormwater management permit unless the city engineer determines that all of the following requirements are met:

(1) The applicant has submitted a final stormwater management plan complying with section 27-137 of this article.

(2) The final stormwater management plan contains a description and design of a stormwater management system adequate to control post-construction stormwater runoff from the development consistent with the requirements of this article.

(3) The combination of stormwater management facilities, practices, methods, and procedures proposed by the applicant to control post-construction stormwater runoff from the development site will meet the minimum water quality treatment volume standard, the channel protection criteria, and any other stormwater management design standards and criteria applicable to the development as determined by the city engineer consistent with the requirements of division 7 of this article.

(4) The final stormwater management plan provides protection for water quality and quantity management adequate to ensure protection of property owners and watercourses both within the proposed development and downstream.

(5) The final stormwater management plan complies with all other applicable local, state, and federal laws and regulations.

(6) The applicant has paid or deposited the stormwater management permit review fee pursuant to section 27-132 of this article.

(7) The applicant has paid or deposited the escrow fee pursuant to section 27-133 of this article, if required.

(8) The applicant has paid or posted the performance guarantee pursuant to subsection 27-137(d)(8) of this article, if required.

(9) The applicant has provided all stormwater management easements as determined necessary by the city engineer to implement the approved final stormwater management plan and to otherwise comply with this article, and the easements have been recorded with the county register of deeds.

(10) The applicant has provided an operation and maintenance plan and agreement to implement the approved final stormwater management plan and as otherwise required by this article, and the operation and maintenance plan and agreement has been recorded with the county register of deeds.

(11) The applicant has certified in writing that all land disturbance activities, construction, and drainage will be conducted in full compliance with the approved stormwater management plan.

(12) The applicant has obtained and has provided evidence of a commercial general liability insurance policy that will be in full effect prior to the commencement of any land disturbance activities covered by the proposed permit and that is otherwise acceptable to the city attorney. The policy shall name the city, its agents, representatives, officers and employees as additional insureds to protect their interests. Both bodily injury and property damage insurance must be on an occurrence basis; and the policy shall provide that the coverage afforded thereby shall be primary coverage to the full limits of liability stated in the declarations, and if said city, agents, representatives, officers or employees have other insurance against the loss covered by said policies, that such other insurance shall be excess insurance only. The policy certificate shall reference the projects or contracts to which it applies. Upon request by the city engineer, the applicant shall submit all insurance policies to the city attorney for review. The amounts and types of such insurance shall be not less than the following:

Comprehensive commercial general liability of at least:

a. Bodily injury, each occurrence: $2,000,000.00

b. Bodily injury, aggregate: $2,000,000.00

c. Property damage, each occurrence: $2,000,000.00

d. Property damage, aggregate: $2,000,000.00

e. Or in the alternative to subsections (b)(12)a—d.: Bodily injury and property damage combined single limit, each occurrence: $2,000,000.00; and aggregate: $2,000,000.00.

The property damage liability coverage shall include standard explosion, collapse and underground coverage (XCU) for property damage and bodily injury liability coverage with limits of $2,000,000.00 each occurrence and $2,000,000.00 aggregate; additionally, the policy shall provide third party pollution liability insurance coverage with minimum limits of $2,000,000.00 per occurrence and $2,000,000.00 aggregate.

(13) The application includes all required submittals and is otherwise complete.

(c) If the city engineer determines that all of the requirements of subsection (b) of this section have been met, the city engineer shall approve the permit. The approval shall provide in writing that all of the determinations required by subsection (b) of this section have been made.

(d) The city engineer's approval of a stormwater management permit shall be subject to any conditions determined necessary by the city engineer to implement the purposes and requirements of this article. If the approval is subject to any conditions, the conditions shall be specified in writing. The applicant shall fully comply with all such conditions.

(e) The failure or refusal to fully comply with any requirement of a stormwater management permit or a stormwater management plan constitutes a separate and independent violation of this article.

(f) Notwithstanding the issuance of a stormwater management permit, in conducting the development project, the permittee (including the permittee's representatives any other responsible persons) shall be subject to all of the following requirements:

(1) The permittee shall comply with all requirements of the permit, the stormwater management plan, and this article.

(2) The development project shall be conducted only within the area or areas specified in the approved stormwater management plan.

(3) The city engineer shall be allowed to conduct unscheduled, periodic inspections of the development project as provided by this article.

(4) No changes may be made to any aspect of the approved stormwater management plan without review and written approval by the city engineer and subject to the requirements of this article.

(5) Upon completion of the project, the permittee shall submit the engineer's certification and as-built plans required by section 27-151 of this article.

(g) If the city engineer determines that any of the requirements of subsection (b) have not been met, the city engineer shall deny the permit and shall specify in writing why the permit was denied. The applicant may revise the application to address any matters specified by the city engineer in the denial, and may resubmit the application for review by the city engineer. Alternatively, instead of denying the permit, the city engineer may request that the application be modified and resubmitted. All resubmittals shall be subject to all of the requirements of this article that applied to the original submittals.

(h) If the land disturbance activity for which a stormwater management permit has been issued has not been commenced within one (1) year from the date of issuance of the permit, the permit shall lapse, provided that the city engineer may extend the time for commencement of the land disturbance activity if the permittee requests an extension prior to the expiration of the initial period and the city engineer determines that no material change of circumstances has occurred. If an extension is granted, the city engineer may require the permittee to submit additional or updated information as determined necessary by the city engineer, and the city engineer may require revisions to the stormwater management plan as determined necessary by the city engineer based on the additional or updated information.

(i) After a stormwater management permit has been approved, no change shall be made to the development unless and until the change is approved by the city engineer. If any change in the development is proposed, the permittee must notify the city engineer in writing of the proposed change before any such change is made. If the city engineer determines that the proposed change would affect the information and criteria considered in approving the permit, the city engineer may revoke or suspend the permit, require that a new permit application be filed, require submittal of a revised stormwater management plan, or take such other action that the city engineer determines appropriate under the circumstances.

(j) A stormwater management permit approved under this article may also be revoked or suspended by the city engineer for any of the following reasons:

(1) A violation of any requirement or condition of the permit or the stormwater management plan.

(2) Misrepresentation or failure to fully disclose any relevant fact in the permit application or in subsequent notices, reports, or communications to the city engineer.

(k) The issuance of a stormwater management permit under this article shall not relieve any person of the obligation to comply with any other applicable regulations, standards or requirements under local, state, or federal laws, including any regulations, standards, requirements, or laws that may become effective during the term of the permit.

(Ord. No. 2011.01, § 1, 1-11-11)

DIVISION 6. STORMWATER MANAGEMENT PLAN

Sec. 27-137. Final stormwater management plan requirements.

This section sets forth the requirements that shall apply to final stormwater management plans for proposed covered development projects as required by this article.

(a) *General.*

(1) The stormwater management plan shall display and present the infor-

mation required by this section through the use of maps, illustrations, reports, and calculations.

(2) The stormwater management plan shall specify the type, location, and size of stormwater management system to be provided, using final calculations and detailed construction drawings.

(3) If the development will be completed in phases, the stormwater management plan shall be prepared and submitted for the total project and for all phases. Further, upon completion of each phase, the stormwater management plan for the project shall be fully functional for the phases already completed and its functionality shall not be reliant in any way upon the completion of future phases. Final approval of one or more phases shall not ensure approval of subsequent phases.

(b) *Plan preparation.* The stormwater management plan shall be prepared, signed, and sealed by a professional civil engineer registered in the State of Michigan.

(c) *Scale for mapping.* The stormwater management plan shall be drawn to a scale not less than 1" = 50', or as otherwise required by the civil engineer.

(d) *Required elements and information.* A stormwater management permit shall not be approved unless the applicant has provided a final stormwater management plan that contains all of the submittals required by this subsection (d). (The city engineer may require the same or similar requirements for a preliminary stormwater management plan submitted by an applicant during earlier stages of the stormwater management permit review process, but using preliminary calculations and without requiring detailed construction drawings, as determined appropriate by the city engineer.) A final stormwater management plan shall include all of the following elements and information:

(1) *Location and size.* The location of the development by means of a small location map, drawn to a scale no less than 1" = 2000', and the size of the development in acres.

(2) *Zoning.* The zoning classification of the development site and all abutting parcels.

(3) *On-site and off-site features.* The location and description of all on-site features and all adjacent off-site features within fifty (50) feet (unless another distance is specified by the city engineer based on the circumstances at the site), and all other off-site features that may be impacted in determining the overall requirements for the development.

This shall include:

a. Property lines of the development and of adjoining developments.

b. Existing site topography with contours at two-foot intervals or less based on the NAVD88 datum.

c. On-site public and private streets and street right-of-way lines; and adjoining public and private streets and street right-of-way lines.

d. Railroads.

e. High-tension power lines or underground transmission lines.

f. Cemeteries.

g. Parks.

h. Natural and artificial watercourses, wetlands and wetland boundaries, environmental feature boundaries, floodplains, lakes, bays, existing stormwater storage facilities, conveyance

swales (natural or artificial) with identification of permanent water elevations.

i. Location of woodlands.

j. Designated natural areas.

k. Any proposed environmental mitigation features.

l. Existing and proposed public and private drains, storm sewers, sanitary sewers, and water mains, and any related easements.

m. A map, at the U.S.G.S. scale, showing the drainage boundary of the proposed development and its relationship with existing drainage patterns.

n. Boundaries of any off-site drainage area contributing flow to the development.

o. All watercourses passing through the development, along with the following:

1. Area of upstream watershed and current zoning.

2. Final calculations of runoff from the upstream area for both the one hundred-year and two-year 24-hour design storms, for fully developed conditions according to the current land use plan for the area.

p. Soil borings at the sites of proposed retention/detention and infiltration facilities, and as needed in areas where high groundwater tables or bedrock near the surface exist, and at any other locations as required by the city engineer.

q. Proposed development site improvements including lot divisions and building footprints.

r. Drinking water wells, public wellheads, wellhead protection areas (WHPAs), underground storage tanks, and brownfields.

s. Any areas of unique geological formations (e.g., karst areas).

t. Any other on-site or off-site features as determined necessary by the city engineer.

(4) *Stormwater BMP construction plans.* The stormwater management plan shall include final stormwater BMP construction plans. The BMP construction plans shall be drawn to a scale not less than 1" = 50', and on sheets no larger than 24" × 36". The scales used shall be standard engineering scales and shall be consistent throughout the plans. When plans have been completed with computer aided design technology, locations should be geo-referenced and a copy of the electronic file shall also be provided. The construction plans and related documents shall, at a minimum, include:

a. Location and specifications of all proposed stormwater management practices, methods, and facilities (plan and profile).

b. Proposed storm drains, including rim elevations, invert elevations, pipe sizes, and pipe materials.

c. Calculations of runoff from upstream areas for both the one hundred-year and two-year, 24-hour design storms for fully developed conditions according to the current land use plan for the area.

d. Identification of stormwater quality and quantity treatment facilities and method of stormwater conveyance.

e. Calculation of runoff volume captured by BMPs for treatment facilities.

f. Proposed open channel facilities including slope, cross-section detail, bottom elevations, and surface material.

g. Final sizing calculations for stormwater quality and quantity treatment facilities and stormwater conveyance facilities.

h. Storage provided by one-foot elevation increments.

i. Tributary area map for the stormwater management system and all components thereof indicating total size and average runoff coefficient for each sub-area.

j. Analysis of existing soil conditions and groundwater elevation (including submission of soil boring logs) as required for proposed retention and infiltration facilities.

k. Plans and details of proposed soil erosion and sedimentation control measures, both during construction (as required by Part 91 of the Public Acts of 1994) and permanent measures.

l. Details of all stormwater BMPs, including but not limited to:
   1. Outlet structures.
   2. Overflow structures and spillways.
   3. Riprap.
   4. Manufactured treatment systems.
   5. Underground detention cross-section and product details.
   6. Cross section of infiltration and/or bio-retention facilities.

m. Location of proposed stormwater management facility easements (consistent with subsection (d)(6) of this section.)

n. Final landscaping plans and details.

(5) *Operation and maintenance plans and agreements.* The applicant shall provide a stormwater operation and maintenance (O&M) plan and agreement.

a. The O&M plan and agreement shall be provided by the applicant in such form and substance as required by the city attorney.

b. The O&M plan and agreement shall contain provisions to ensure that the maximum design performance of stormwater BMPs is maintained on a long-term basis and that the city's standards for stormwater quality and quantity are met.

c. At a minimum, the O&M plans and agreements shall include all of the following information and contents:
   1. The names and addresses of the property owners, and, the owners of all components of the stormwater system.
   2. The names and addresses of the persons responsible for operation and maintenance.
   3. The names and addresses of the persons responsible for financing operation and maintenance and emergency repairs.
   4. The signatures of the owners and any other persons to be bound by the agreement.
   5. A detailed annual estimated budget for the expected life of the BMPs; and a demonstrated means

of financing operation and maintenance and emergency repairs.

6. A map showing the location of the stormwater systems and facilities, including catch basins, manholes/access lids, main, and stormwater devices.
7. A schedule for routine, nonroutine, emergency, and long-term inspection and maintenance of all structural and vegetative stormwater BMPs, with detailed tasks to be performed, and detailed inspection and maintenance checklists.
8. Operating instructions for stormwater outlet components.
9. Vegetation maintenance schedule.
10. Recordkeeping, tracking, inspection, and notice checklists and requirements.
11. A statement recognizing the city's right to enter the property for the purpose of inspections.
12. Provisions regarding the city's right to perform, or cause to be performed, any required operation and maintenance if the responsible persons fail or refuse to do so, and the obligation of property owner to fully reimburse the city for the costs and expenses incurred by the city in connection with such activity.

d. The O&M plan and agreement shall be binding on all current and subsequent owners of land served by the stormwater BMPs and shall be recorded in the county register of deeds as directed by the city attorney.

e. Any person responsible for the operation and maintenance of a stormwater management facility shall provide records of all maintenance and repairs to the city engineer upon request.

(6) *Easements for stormwater management system.* The applicant shall provide all stormwater management easements as determined necessary by the city engineer to implement the approved final stormwater management plan and to otherwise comply with this article.

a. Stormwater management easements may be required for any of the following purposes:
   1. To provide access for stormwater management facility inspections and maintenance.
   2. To preserve stormwater runoff conveyance, infiltration, and detention areas and facilities, including flood routes for storm events.
   3. To preserve primary and secondary drainage ways that are needed to serve stormwater management needs of other properties.
   4. To accomplish purposes such as those listed above for all areas used for offsite stormwater control, including undeveloped or undisturbed lands, as applicable.
   5. To serve other purposes and objectives as necessary to achieve the purposes of this article as determined by the city engineer.

b. All stormwater management easements shall meet the following requirements:

1. The purpose of each easement shall be specified in writing.
2. The easements shall be acceptable to the city attorney in form and substance and shall be recorded with the county register of deeds.

(7) *Implementation plan.* The applicant shall provide an implementation plan for construction and inspection during and after construction of all stormwater management system components required by the final stormwater management plan, including a schedule of the estimated dates of completing construction of the stormwater management system shown on the plan; identification of the proposed inspection procedures to ensure that the stormwater management system components are constructed and operating in accordance with the final stormwater management plan; and recordkeeping requirements. The implementation plan will include arrangements acceptable to the city engineer for notification by the applicant to the city engineer before the commencement of construction of the stormwater management system (and before construction of critical components of the system) and for final verification of construction by a registered professional engineer.

(8) *Performance guarantee.* The applicant shall provide a performance guarantee in a form and amount satisfactory to the city engineer and the city attorney as provided by this section.

a. The applicant shall submit a performance bond (or other financial guarantee acceptable to the city) for the timely and satisfactory construction of all stormwater management system components in accordance with the final stormwater management plan. The performance bond or other financial guarantee shall be accompanied by a detailed cost estimate provided by the applicant. Upon written certification by a registered professional engineer that all components of the required stormwater management system have been completed in accordance with the final stormwater management plan, including, but not limited to, the provisions contained in subsection (d)(7) of this section (implementation plan) and section 27-151 (as-built certification and final inspection), and subject to final acceptance and approval by the city engineer, the city may release the performance bond or other financial guarantee.

b. Except as provided in subsection (d)(8)c. of this section, the amount of the financial guarantee shall be in the amount of the cost estimate for the work provided by the applicant, unless the city engineer determines that a greater amount is appropriate, in which case the basis for such determination shall be provided to the applicant in writing. In determining whether a greater amount is appropriate, the city engineer shall consider the size and type of the development, the size and type of the on-site stormwater system, and the nature of the off-site stormwater management system the development will use.

c. The city engineer may, but shall not be required to, waive or reduce the amount of the financial guarantee for a development that will not increase the impervious surface of the development site by more than two thousand (2,000) square feet.

d. Nothing in this section or this article shall be construed or interpreted as relieving any person of their obligation to pay all costs associated with on-site private stormwater management systems, as well as those costs arising from the need to make other drainage improvements to reduce a development's impact on a drain consistent with adopted design standards.

(9) *Other information and materials.* The stormwater management plan shall include any other information, documents, items, and materials determined necessary by the city engineer to verify that the stormwater management plan complies with the city's design and performance standards for drains and stormwater management systems, and that the plan otherwise complies with the requirements of this article and other applicable laws and regulations.

(Ord. No. 2011.01, § 1, 1-11-11)

DIVISION 7. MINIMUM PERFORMANCE STANDARDS AND CRITERIA

Sec. 27-138. General.

Unless a waiver is granted pursuant to section 27-148 of this article, all stormwater management facilities, practices, methods, and procedures for a covered development shall be designed, constructed, and maintained in accordance with the minimum performance standards and criteria provided by this article.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-139. Stormwater management manual.

(a) The city engineer shall adopt a stormwater management manual to be used by the city engineer as a guide in reviewing, evaluating, and approving stormwater management permit applications, stormwater management plans, and associated stormwater management facilities, practices, methods, and procedures, and as otherwise determined appropriate by the city engineer to implement requirements of this article.

(b) The city engineer may revise and update the stormwater management manual from time to time based on improvements in engineering, science, monitoring, and local maintenance experience or to comply with changes in federal, state, and local stormwater laws and regulations, or as otherwise determined necessary and appropriate by the city engineer.

(c) The stormwater management manual adopted by the city engineer may include and incorporate by reference such other stormwater management manuals, guidebooks, and reference materials as determined appropriate by the city engineer, including, but not limited to, the "Guidebook of Best Management Practices for Michigan Watersheds," (MDEQ, 1998), and the "Low Impact Development Manual for Michigan" (SEMCOG 2008), as those manuals and reference materials may be updated and revised from time to time.

(d) The stormwater management manual shall list and include minimum design criteria, specifications, and performance standards for acceptable stormwater management facilities, practices, methods, and procedures as determined necessary and appropriate by the city engineer to meet the objectives of managing the quantity and quality of stormwater runoff from development sites, and provide flexibility to accommodate local conditions, consistent with the purposes and requirements of this article.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-140. Stormwater management system components.

An applicant for a stormwater management permit may select and propose any combination of

stormwater management facilities, practices, methods, and procedures, that meet the minimum design criteria, specifications, and performance standards specified by the city's stormwater management manual, provided that the selected stormwater management facilities, practices, methods, and procedures, shall also meet all of the following requirements, as determined by the city engineer:

(a) Take into consideration the natural features, upland areas, wetlands, and watercourses on the site; the potential for on-site and offsite adverse stormwater impacts, water pollution, and erosion; and the size of the site;

(b) Maintain, at a minimum, predevelopment runoff conditions on the site, and to the maximum extent feasible, attempt to improve upon predevelopment runoff conditions;

(c) Are appropriate for conditions on the site, near the site, and within the watershed;

(d) Do not conflict with the existing local stormwater management and watershed plans;

(e) Are designed, constructed, and completed in a manner to protect the public health and safety, and to minimize the need for maintenance and reduce the chances of failure;

(f) Are designed, constructed, and completed in a manner to meet the general standards for on-site and off-site stormwater management as provided by section 27-141 of this article;

(g) Are designed, constructed, and completed in a manner to meet the soil erosion control requirements as provided by section 27-142 of this article;

(h) Are designed, constructed, and completed in a manner to meet the requirements applicable to the discharge of stormwater runoff to wetlands as provided by section 27-143 of this article;

(i) Comply with the minimum treatment volume standard as provided by section 27-144 of this article;

(j) Comply with the channel protection criteria as provided by section 27-145 of this article;

(k) Comply with all other applicable requirements as provided by this article; and

(l) Comply with all other applicable local, county, state, and federal requirements.

In determining what stormwater management facilities, practices, methods, and procedures will be required in a particular case, the city engineer may consider all technological, economic, practical, and institutional considerations as determined relevant and appropriate by the city engineer, consistent with achieving and maintaining compliance with the requirements of this article and other applicable laws and regulations.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-141. 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 requirements specified in the stormwater management 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 by the city engineer, 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 stormwater management 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 MDNRE.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-142. Soil erosion control.

(a) Cutting, filling and grading shall conform with the requirements specified in the stormwater management manual.

(b) All development and other land disturbance activities 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 Jackson County for determination that such measures comply with the county's soil erosion and sedimentation control requirements.

(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 land disturbance activity 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 land disturbance activity 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 that trap sediment shall be provided. The use of temporary sediment basins, sediment traps, filter fabric, and rock filters shall be employed as required by the city engineer. Other measures may be required if reasonably determined to be necessary by the city engineer to protect a watercourse or wetland.

(h) If it is not possible to permanently stabilize a disturbed area after an earth change has been completed or where significant land disturbance 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 land disturbance activity 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, preferably vegetated with native plant species, shall be created or retained along the edges of all lakes, creeks, streams, wetlands, and other watercourses. The width of a particular filter strip may be reduced to the extent it is demonstrated to the city engineer's satisfaction 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.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-143. Discharge of stormwater runoff to wetlands.

(a) Wetlands shall be protected from damaging modification and adverse changes in runoff quality and quantity associated with land disturbance activities. Before approval of a final plat or site plan, all necessary wetland permits from the MDNRE and/or the city must first be obtained.

(b) Wetlands shall be protected during development by appropriate soil erosion and sedimentation control measures that are continuously maintained throughout the construction phase.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-144. Minimum treatment volume standard.

To address water quality impacts of storm runoff, all stormwater management plans shall comply with the minimum treatment volume standard provided by this section.

(a) The minimum treatment volume standard shall be one (1) inch of runoff from the entire site.

(b) Treatment methods shall be designed on a site-specific basis to achieve either of the following:

(1) A minimum of eighty (80) percent removal of total suspended solids (TSS), as compared with uncontrolled runoff; or

(2) Discharge concentrations of TSS not to exceed eighty (80) milligrams per liter (mg/l).

(c) A minimum treatment volume standard is not required where site conditions are such that TSS concentrations in stormwater discharges will not exceed eighty (80) mg/l.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-145. Channel protection criteria.

All stormwater management plans shall comply with the channel protection criteria provided by this section to address post-development site runoff volume and peak flow rates.

(a) A stormwater management plan shall require such stormwater management practices, methods, and facilities as necessary to maintain post-development site runoff volume and peak flow rates at or below existing levels for all storms up to the two-year, twenty-four-hour event, as determined adequate by the city engineer. "Existing levels" means the runoff flow volume and rate for the last land use prior to the proposed development. The city engineer may specify more restrictive criteria if determined necessary by the city engineer to meet the goals of reducing runoff volume and peak flows to less than existing levels on the property to be developed.

(b) To ensure that the required channel protection criteria are met, the city engineer shall use the procedures, methods, techniques, formulas, and data sources as contained in the city's stormwater management manual or as otherwise determined appropriate by the city engineer.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-146. Hotspots.

The city engineer may require the use of specific structural stormwater management practices and pollution prevention practices for stormwater discharges from hotspots. In addition, stormwater discharges from a hotspot land use or activity shall be properly pretreated prior to infiltration to remove potential pollutants (including, but not limited to, heavy metals, nutrients, dissolved pollutants, and total petroleum hydrocarbons) from entering either groundwater or surface waters, as determined necessary by the city engineer.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-147. Off-site stormwater management.

(a) 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 systems shall be designed, constructed, completed, and maintained to comply with the standards and requirements specified in the stormwater management manual and all other standards and requirements provided by this article that are applicable to onsite facilities. Further, all provisions of this article, including, but not limited to, provisions regarding performance guarantees, inspections, O&M plans and agreements, and easements, shall also apply to off-site stormwater management systems.

(b) Off-site stormwater management areas may be shared with other landowners, provided that the terms of the agreement are approved by the city engineer and city attorney.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-148. Waivers; application; conditions for grant.

Unless a waiver is granted pursuant to this section, all stormwater management facilities, practices, methods, and procedures for a covered development shall be designed, constructed, and maintained in accordance with the minimum performance standards and criteria provided by this division.

(a) The applicant for stormwater management permit may apply to the city engineer for a full or partial waiver from strict compliance with the minimum performance standards and criteria provided by this division. All waiver requests shall be submitted in writing and accompanied by the applicable waiver fee as established from time to time by the city engineer.

(b) Each request for a waiver shall be considered on a case-by-case basis. After considering the request, the city engineer shall respond in writing by granting or denying the waiver in full, in part, or granting the waiver with any necessary conditions or mitigation measures to protect public health, safety, welfare, and the environment, or as otherwise determined necessary to meet the purposes and intent of this article. If granted, the waiver provisions and any conditions imposed shall be incorporated as a part of an approved final stormwater management plan.

(c) The city engineer shall not grant a waiver unless the applicant demonstrates to the city engineer's satisfaction that at least one (1) of the following conditions exist:

(1) Alternative, equally effective, minimum requirements for on-site management of stormwater discharges are available to be used in place of the requirement for which the waiver is requested.

(2) The applicant has made provisions to manage stormwater using an off-site facility; the off-site facility is designed and adequately sized to provide a level of stormwater control that is equal to or better than that which would be afforded by on-site practices; and there is a legally obligated entity responsible for long-term operation and maintenance of the off-site facility.

(3) Full compliance with the otherwise applicable minimum on-site stormwater management requirements is not technologically or economically feasible due to the natural or existing physical characteristics of a site (including pre-existing development).

(4) New non-structural practices will be implemented on the site that will meaningfully reduce the generation of stormwater from the site; the size and cost of stormwater storage; and the pollutants generated at the site.

(d) Notwithstanding the existence of one (1) or more conditions under subsection (c) of this section that would otherwise support the grant of a waiver, the city engineer shall not grant a waiver if the city engineer determines that any of the following conditions apply:

(1) The waiver, if granted, might (by itself or considering its cumulative effect along with other waivers previously granted) result in any of the following impacts on downstream waterways:

a. Deterioration of existing culverts, bridges, dams, and other structures;

b. Degradation of biological functions or aquatic habitat;

c. Accelerated streambank or streambed erosion or siltation;

d. Adverse impacts on channel stability; or

e. An increase in the extent, frequency, or duration of flooding at downstream properties and structures.

(2) The waiver, if granted, would (by itself or considering its cumulative effect along with other waivers previously granted) impair attainment of the purposes and objectives of this article; and/or interfere with achieving the goals outlined in the Upper Grand River Watershed Master Plan.

(3) The need for the waiver was self-created by the prior actions of the applicant.

(4) The need for the waiver is caused by the applicant's unwillingness to incur reasonable costs necessary to comply with the minimum performance standards and criteria provided by this division.

(5) The applicant has not demonstrated that all reasonable options to comply with the minimum performance standards and criteria provided by this division have been exhausted.

(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-149. Mitigation measures.

(a) If a waiver is granted pursuant to section 27-148 of this article, and the city engineer determines that as a result of the waiver the level of stormwater control provided will be less than what would have been achieved without the waiver, then the applicant must implement mitigation measures to provide the same level of stormwater control that would have achieved without the waiver, as determined sufficient and appropriate by the city engineer.

(b) Mitigation measures may include, but are not limited to, one (1) or more of the following:

(1) *Fee in lieu.* If the city engineer waives all or part of the minimum stormwater management requirements, or if the waiver is based on the provision of adequate stormwater facilities provided downstream of the proposed development, the applicant may be required to pay a fee in lieu of stormwater management practices. The amount of the fee shall be determined by the city engineer, and based on the cubic feet of storage required for stormwater management of the development in question. All of the monetary contributions shall be credited to a dedicated fund for stormwater management activities within the watershed, and shall be paid by the applicant prior to the issuance of the stormwater management permit for the development.

(2) *Dedication of land; grant of easement.* An applicant may enter into an agreement with the owner of other property that currently lacks adequate stormwater management facilities for the granting of an easement or the dedication of land by the applicant to be used for the construction of stormwater management facilities on the other property. The other property shall be located within the watershed and, if possible, shall be located adjacent to the same stream corridor as the applicant's development. Both the applicant and the owner of the other property shall obtain stormwater management permits as provided by this article. The agreement shall be entered into between the applicant and the other property owner prior to the issuance of the stormwater management permits. The agreement shall contain adequate provisions to ensure that the off-site stormwater management facilities will be designed, constructed, completed, and maintained to comply with the standards and requirements specified in the stormwater management manual and all other standards and requirements provided by section 27-147 of this article for off-site stormwater management facilities.

(3) *Other.* The applicant may implement such other mitigation measures for application with the watershed as determined sufficient and appropriate by the city engineer.

(c) All stormwater mitigation measures shall be consistent with the city's stormwater management manual and other applicable requirements of this article.

(d) The city engineer shall not approve any mitigation measure that would require the city to incur any current or future cost or expense in connection with the mitigation measure (other than costs and expenses that must be reimbursed to the city or otherwise subject to recovery by the city as provided by this article).
(Ord. No. 2011.01, § 1, 1-11-11)

DIVISION 8. INSPECTIONS OF STORMWATER MANAGEMENT SYSTEMS

Sec. 27-150. Inspections to ensure plan compliance during construction.

(a) Periodic inspections during construction of a stormwater management system shall be conducted by the city engineer, or conducted and certified by a professional engineer who has been approved by the city engineer. All inspections shall be at the sole cost of the permittee. The approved final stormwater management plan shall be used for determining compliance during construction inspections.

(b) All inspections shall be documented with written reports that contain the following information:

(1) The date and location of the inspection;

(2) The name and qualifications of the inspector;

(3) The specific components of the stormwater management system inspected;

(4) Whether construction of the a stormwater management system was determined to be in compliance with the approved final stormwater management plan;

(5) Any variations in the construction from the approved final stormwater management plan; and

(6) Any other variations or violations of the requirements or conditions of the approved final stormwater management plan.

(c) If the inspection is conducted by a professional engineer approved by the city engineer, the written report shall be submitted to the city engineer immediately upon completion of the inspection.

(d) If any variations or violations are found, the permittee shall be notified in writing of the nature of the variations or violations and the required corrective actions.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-151. As-built certification and final inspection.

(a) Within twenty (20) working days of the date of completion of construction of a stormwater management system (or discrete components thereof if the construction is phased), the permittee shall prepare and submit to the city engineer reproducible mylars and electronic files (in AutoCAD format) of the actual as-built plans for the system. The mylars shall be made of quality material and three (3) mils in thickness and shall otherwise be prepared at the same scale and level of detail as the approved final stormwater management plan.

(b) The as-built plans shall show the final design specifications for the stormwater management system (and all discrete components thereof) and any deviations from the approved final stormwater management plan, and shall be accompanied by a written certification that the construction has been completed in full accordance with the approved final stormwater management plan. The as-built plans and written certification shall be signed and sealed by a professional civil engineer registered in the State of Michigan.

(c) The city engineer shall conduct a final inspection of the stormwater management system. The stormwater management system must be approved by the city engineer before any performance guarantees may be released.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-152. Ongoing, long-term inspections.

(a) Stormwater management systems approved under this article shall be inspected on an ongoing basis to document proper operation and main-

tenance and the need for repairs, and to ensure compliance with the stormwater management permit, the approved final stormwater management plan (including the O&M plan and agreement and implementation plan), and other applicable requirements of this article.

(b) A stormwater management system shall be inspected on a periodic basis by the responsible person in accordance with the approved O&M plan and agreement.

(c) In addition to the inspections required by the O&M plan and agreement, the city engineer may establish an inspection program, including but not limited to: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; and joint inspections with other agencies inspecting under other environmental or safety laws. Inspections may include, but are not limited to: reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in stormwater management facilities; and evaluating the condition of stormwater management facilities, practices, methods, and procedures.

(d) If the city engineer determines that a stormwater management system has not been properly operated or maintained, or has become a danger to public safety, health, or the environment, the city engineer shall notify the responsible person for carrying out the O&M plan and agreement by first-class mail and also by certified mail. The notice shall specify the measures needed to comply with the O&M plan and agreement and shall specify the time within which such measures shall be completed. If the responsible person fails or refuses to complete the measures needed to comply with the O&M plan and agreement within the specified time, the city engineer may enter the property and perform, or cause to be performed, the necessary work to return the stormwater management system to full compliance, and bill the property owner for the full cost of any such work.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-153. Right-of-entry.

(a) The discharge of stormwater runoff is a pervasively regulated activity under state and federal laws and this article. The city has the right and obligation to inspect discharges of post-construction stormwater runoff from development and redevelopment sites to ensure compliance with applicable local, state, and federal laws and regulations.

(b) Any person who discharges, or applies to discharge, post-construction stormwater runoff from a development or redevelopment site is hereby put on notice that inspections may be made in accordance with this article and the Michigan and United States Constitutions. Any such person who discharges, or applies to discharge, post-construction stormwater runoff from a development or redevelopment site does so with the knowledge that inspections provided for by this article will be made to ensure compliance with applicable requirements. Such a person shall have no reasonable expectation of privacy with respect to such discharges (or potential discharges) and announced and unannounced inspections may be conducted as authorized by this article and state and federal laws.

(c) The city engineer and other authorized representatives of the city bearing proper credentials and identification are authorized to enter the development site to conduct inspections as necessary to determine, independent of information supplied by or on behalf of applicants or permittees, compliance with stormwater management permits, stormwater management plans, the standards and requirements of this article and with other applicable laws and regulations. This authority shall include the right to observe, measure, monitor, sample, test, and photograph for purposes including, but not limited to, the following:

(1) To verify the completeness and accuracy of information submitted to the city engineer.

(2) To determine compliance with the terms, conditions and requirements of stormwater management permits and stormwater management plans.

(3) To assess the adequacy of required stormwater management practices, methods, and facilities.

(4) To determine if permittees have corrected problems identified in previous inspections.

(5) To correct a noncompliance or otherwise support enforcement actions taken by the city against non-compliant permittees.

(6) To obtain required records.

(7) To set up and maintain on the development site such devices as are necessary to conduct sampling, inspection, compliance monitoring and/or metering operations, or to require the permittee to do so, at the permittee's sole expense.

(8) To repair and maintain stormwater management systems (or portions thereof) that have not been properly repaired or maintained by the property owner or any other responsible persons and to recover from the property owner all associated costs and expenses thereby incurred by the city.

(9) To abate a public nuisance.

(d) Applicants, permittees, and other responsible persons shall allow the city engineer and other authorized city representatives ready access at all times to all parts of the development site where stormwater management systems required by this article are located for the purposes of inspection as provided by this division. If security measures are in force on the site that would require proper identification and clearance before entry by the city, the applicant, permittee, or other responsible person shall make necessary arrangements in advance with security guards so that upon presentation of suitable identification, authorized city representatives will be permitted to enter, without delay, for the purposes of performing their specific responsibilities. Upon arrival at the development site, city representatives shall inform the applicant, permittee, or other responsible person that inspections and associated activities are to be performed and that the applicant, permittee, or other responsible person has the right to accompany the city representative during the inspection. Entry shall be commenced and completed as expeditiously as practicable, consistent with the purposes for which the entry was made.

(e) The refusal to permit access (or causing an unreasonable delay in access) as provided by this section shall constitute a violation of this article. If an applicant, permittee, or other responsible person refuses to permit access (or unreasonably delays access) to an authorized city representative or to permit the representative to undertake authorized inspection activities as provided by this article, the city engineer may order the permittee to permit access within a time certain; issue a notice of violation of this section; or take other appropriate action as provided by this article and other applicable laws and regulations (including, but not limited to, seeking the issuance of a search warrant).
(Ord. No. 2011.01, § 1, 1-11-11)

DIVISION 9. RECORDKEEPING

Sec. 27-154. Recordkeeping requirements.

Any person subject to the requirements of this article shall retain and preserve for no less than three (3) years any and all books, drawings, plans, prints, documents, memoranda, reports, correspondence and records, including records on magnetic or electronic media and any and all summaries of such records, related to the discharge of stormwater runoff and stormwater management systems governed by this article.
(Ord. No. 2011.01, § 1, 1-11-11)

DIVISION 10. ACCIDENTAL DISCHARGES

Sec. 27-155. Notice requirements; affirmative defense.

(a) Any person who accidentally discharges into the MS4 any substance other than stormwater shall upon becoming aware of the discharge immediately inform the city of the discharge. If the accidental discharge occurs during normal weekday business hours, the discharger shall immediately notify the city engineer. At all other times, the discharger shall immediately notify the city police department.

(b) If notice of the accidental discharge is given orally, a written report concerning the discharge shall be filed with the city engineer within five (5) days. The written report shall specify:

(1) The composition of the discharge and the cause thereof.

(2) The exact date, time, duration, and estimated volume of the discharge.

(3) All measures taken to clean up the accidental discharge, and all measures proposed to be taken to reduce and prevent any recurrence.

(4) The name and telephone number of the person making the report, and the name and telephone number of a person who may be contacted for additional information on the matter.

A discharge shall be considered properly reported only if the discharger complies with all the requirements of this subsection (b).

(c) A properly-reported accidental discharge that also meets the requirements of this subsection (c) shall be an affirmative defense to a municipal civil infraction proceeding brought under this article against a person for the discharge. It shall not, however, be a defense to a legal action brought to obtain an injunction, to obtain recovery of costs, or to obtain other relief related to the discharge. In a municipal civil infraction proceeding, the person seeking to establish the affirmative defense for the accidental discharge shall have the burden of proof and must demonstrate, through properly signed, contemporaneous written records, or other relevant evidence, all of the following:

(1) An accidental discharge occurred and the person can identify the cause(s) of the accidental discharge;

(2) The facility was at the time being operated in a prudent and workmanlike manner and in compliance with applicable operation and maintenance procedures as provided by the O&M plan and agreement;

(3) The accidental discharge was not caused by operational error, improperly designed or inadequate stormwater management system, lack of preventative maintenance, or careless or improper operation.

(Ord. No. 2011.01, § 1, 1-11-11)

DIVISION 11. EXISTING COUNTY DRAINS

Sec. 27-156. Drains under the jurisdiction of the drain commissioner.

(a) Drainage districts shall not be altered when designing development drainage, except as provided under Section 433 of Act 40, Public Act 1956 as amended.

(b) Existing county or city drain easements shall be indicated on the plans as well as the final plan and will be designated as "Jackson County Drain" or "City of Jackson Drain", as applicable. It shall be the responsibility of the applicant for a stormwater management permit to check the permanent records of the drain office to determine if a drain easement is in existence on the subject property.

(c) A permit must be obtained from the county drain commissioner's office prior to tapping or crossing any county drain. The permit must be obtained prior to final approval of a stormwater management plan.

(d) Proposed relocations of county drains shall be processed through the office of the county drain commissioner.

(Ord. No. 2011.01, § 1, 1-11-11)

DIVISION 12. ENFORCEMENT

Sec. 27-157. Notice of violation.

(a) Any person found to be violating a provision of this article may be served with written notice stating the nature of the violation and providing a reasonable time limit for the satisfactory correction of the violation. The person shall, within the period of time stated in the notice, permanently cease and/or correct all violations. The notice of violation (NOV) shall be served and shall contain the information as provided by section 27-159 of this article.

(b) Unless otherwise specified by the NOV, the following provisions shall apply: Within thirty (30) days of the date of the NOV, the person shall submit to the city engineer a written explanation of the violation and a plan for the satisfactory correction and prevention thereof, to include specific required actions. Submission of the required plan shall not in any way relieve the person of liability for any violations occurring before or after receipt of the NOV.

(c) Nothing in this section shall limit the authority of the city or the city engineer to take any action, including emergency actions or any other enforcement action, without first issuing a NOV, or otherwise require the city or the city engineer to first issue a NOV before initiating a civil or criminal action against a person for violating this article.

(d) Failure or refusal to comply with any requirement of a NOV shall constitute a separate violation of this article.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-158. Orders and supplemental enforcement tools.

The city engineer may issue an order to any person as determined by the city engineer to be appropriate under the circumstances, as provided by this section. Multiple orders may be issued simultaneously or in combination as a single order with respect to a single person.

(a) *Service.* An order shall be served upon a person and shall contain the information as provided by section 27-159 of this article. However, orders to immediately cease and desist discharge or other emergency orders where delay might endanger human health, safety, welfare, or the environment may be oral and may be served by telephone (to be followed within five (5) days by written confirmation of the order by the city engineer).

(b) *Types of orders.* The city engineer may issue the following types of orders:

(1) *Order to immediately cease and desist discharge.* The city engineer may issue an order to cease and desist from discharging to the MS4 any stormwater not in compliance with this article. The order shall have immediate effect if the actual or threatened discharge to the MS4 presents, or may present, imminent or substantial endangerment to the health, safety, or welfare of persons, or to the environment. If the person fails or refuses to comply with the order to immediately suspend its discharge, the city engineer shall implement whatever action is determined necessary as authorized by this article, including, but not limited to, physical blockage of the discharge. The person shall be responsible for and shall be assessed for any penalties, fines, charges, costs, expenses, or losses incurred due to the actual or threatened discharge of stormwater as provided by this article.

If the city engineer determines that physical blockage is necessary, the city engineer shall make a reasonable attempt to deliver to the person who appears to be in control of the facility a written notice describing the reason for the physical blockage order. After delivery of the notice (or after a reasonable attempt to deliver the notice, even if delivery was unsuccessful), the city engineer may immediately install the physical blockage. No person shall remove or tamper with a physical blockage installed by the city engineer without prior written permission from the city engineer.

(2) *Order to cease discharge within a time certain.* The city engineer may issue an order to cease and desist from discharging any stormwater not in compliance with this article by a certain time and date. The proposed time for remedial action shall be specified in the order. In addition to any other circumstances as determined appropriate by the city engi-

neer, an order may be issued under this section for the failure or refusal to comply with any term of a stormwater management permit or stormwater management plan.

(3) *Order to repair or maintain stormwater management system.* The city engineer may issue an order to a person requiring the person to repair and/or maintain a stormwater management system (or component thereof) in accordance with a stormwater management permit or stormwater management plan. Any person subject to an order to repair or maintain shall prepare a plan to conduct the repairs or maintenance as necessary to comply with the requirements of the stormwater management permit or stormwater management plan. The plan shall be submitted to the city engineer within a reasonable period as specified in the order. The plan shall be prepared in accordance with good engineering practice and shall state whether construction is necessary, as well as identify measures that can be completed without construction. The plan shall contain a schedule of compliance for completion of each of the various phases necessary to implement full compliance. The schedule of compliance must be approved by the city engineer and shall consist of one (1) or more remedial measures, including enforceable timetables for a sequence of actions or operations leading to compliance with the stormwater management permit or stormwater management plan.

(4) *Stop work order.* Where there is work in progress that causes or constitutes in whole or in part, a violation of any provision of this article, the city engineer is authorized to issue a stop work order so to prevent further or continuing violations or adverse effects. All persons to whom the stop work order is directed, or who are involved in any way with the work or matter described in the stop work order shall fully and promptly comply therewith. The city engineer may also undertake or cause to be undertaken, any necessary or advisable protective measures so as to prevent violations of this article or to avoid or reduce the effects of noncompliance herewith. The cost of any such protective measures shall be the responsibility of the owner of the property upon which the work is being done and the responsibility of any person carrying out or participating in the work.

(5) *Order to affirmatively respond.* The city engineer may issue an order requiring a person to perform any other action required under this article, including, without limitation, requiring a person to install sampling, metering, and monitoring equipment; to submit reports; to permit access for inspection; or to pay fees or other applicable charges.

(c) *Amendment, suspension, and revocation of orders.* An order shall be subject to amendment, suspension, or revocation as determined appropriate by the city engineer. Notice of the amendment, suspension or revocation shall be served upon the person in the same manner as notice was provided for the original order. An amendment, suspension, or revocation of an order shall be subject to the same procedures for review and appeal as the original issuance of the order, as provided by this article.

(d) *Consent orders and agreements.* The city engineer may enter into a consent order or agreement with a person to resolve disputed claims and address identified and potential deficiencies in the person's compliance status. The order or agreement shall be in the form of a written agreement with the person and may contain appropriate provisions, including,

without limitation, compliance schedules, stipulated fines, and required remedial actions.

(e) *City engineer authority to require financial assurances.* The city engineer may require any person to post a performance bond (or other form of surety acceptable to the city engineer) sufficient to cover expenses (direct and/or indirect) that might reasonably be incurred by the city engineer as a result of the person's discharges to the MS4 (including, but not limited to, the costs to restore or repair any damage to the MS4) or sufficient to achieve consistent compliance with a stormwater management permit, stormwater management plan, and applicable laws and regulations, as determined necessary by the city engineer. Further, any person that has in the prior two (2) years been responsible for causing damage to the MS4 may be required to obtain additional liability insurance (over and above what is required by subsection 27-136(b)(12) as determined sufficient to cover the reasonable costs of responding or restoring the MS4 in the event of any subsequent incidents. These financial assurance requirements may also be made conditions of a stormwater management permit or stormwater management plan.

(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-159. Service of notices of violations, orders and notices of assessments.

Except as otherwise expressly provided by this article, all orders, notices of violations and notices of assessments shall be served upon persons and shall contain the information as provided by this section.

(a) *Service.* Service shall be by personal delivery or first-class mail, and by also by certified mail, to the person's last known address as shown by the city's tax assessor's records. (If the violator is different than the property owner, a copy of any order or notice shall also be served on the property owner shown in the current tax rolls of the city.) The person served shall sign and date the order or notice and shall return the signed original copy to the city engineer; provided, that the failure or refusal to do so shall not affect the person's obligation to comply with the order or notice. Further, a notice or order served by mail may not actually be received by a person, but this shall not nullify any enforcement action subsequently taken by the city engineer against the person under authority of this article.

(b) *Content.* All orders and notices shall contain at least the following information, to the extent then known by the city engineer and as determined by the city engineer to be applicable to the situation:

(1) The name and address of the violator;

(2) The location and time that the violation occurred or was observed, and the duration of the violation;

(3) The nature of the violation, including the provisions of this article or of any permit, plan, order, decision, determination or agreement violated;

(4) The basis for determining that a violation has occurred (personal observation, report, etc.);

(5) The amount of the fine, penalty, costs, or charges assessed or due, if any;

(6) The manner in which, and time and date by which, any fine, penalty, costs, or charge must be paid, including any penalty or charge for late payment;

(7) The remedial actions ordered, the time within which required actions must be taken, and any consequences for failure or refusal to do so.

(8) The right to appeal the issuance of the order or notice and a summary of the procedures for appeal, or other applicable administrative procedures.

(9) The date and time the order or notice was issued.

(c) *Request for additional information.* A person served may request additional information from the city engineer regarding the contents or requirements of any order or notice. However, a request for additional information shall not extend the time for compliance with an order or notice.

(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-160. Municipal civil infractions.

(a) *Violation; municipal civil infraction.* Except as provided by section 27-161 of this article, and notwithstanding any other provision of the city's laws, ordinances, and regulations to the contrary, a person who violates any provision of this article (including, without limitation, any notice, order, permit, plan, decision or determination promulgated, issued or made by the city engineer under this article) is responsible for a municipal civil infraction, subject to payment of a civil fine of not less than one thousand dollars ($1,000.00) per day for each infraction and not more than ten thousand dollars ($10,000.00) per day for each infraction, plus costs and other sanctions.

(b) *Repeat offenses; increased fines.* Increased fines may be imposed for repeat offenses. As used in this section, "repeat offense" means a second (or any subsequent) municipal civil infraction violation of the same requirement or provision of this article committed by a person within any ninety-day period and for which the person admits responsibility or is determined to be responsible. The increased fine for a repeat offense under this article shall be as follows:

(1) The fine for any offense that is a first repeat offense shall be not less than twenty-five hundred dollars ($2,500.00), plus costs.

(2) The fine for any offense that is a second repeat offense or any subsequent repeat offense shall be not less than five thousand dollars ($5,000.00), plus costs.

(c) *Amount of fines.* Subject to the minimum fine amounts specified in subsections (a) and (b) of this section, the following factors shall be considered by the court in determining the amount of a municipal civil infraction fine following the issuance of a municipal civil infraction citation for a violation of this article: the type, nature, severity, frequency, duration, preventability, potential and actual effect, and economic benefit to the violator (such as delayed or avoided costs or competitive advantage) of a violation; the violator's recalcitrance or efforts to comply; the economic impacts of the fine on the violator; and such other matters as justice may require. A violator shall bear the burden of demonstrating the presence and degree of any mitigating factors to be considered in determining the amount of a fine. However, mitigating factors shall not be considered unless it is determined that the violator has made all good faith efforts to correct and terminate all violations.

(d) *Authorized local official.* Notwithstanding any other provision of the city's laws, ordinances, and regulations to the contrary, the following persons are designated as the authorized local officials to issue municipal civil infraction citations directing alleged violators to appear in district court for violations of this article (or, if applicable, to issue municipal civil infraction notices directing alleged violators to appear at a municipal ordinance violations bureau): the city engineer, any sworn law enforcement officer, and any other persons so designated by the city.

(e) *Other requirements and procedures.* Except as otherwise provided by this section, the requirements and procedures for commencing municipal civil infraction actions; issuance and service of municipal civil infraction citations; determination and collection of court-ordered fines, costs, and expenses; appearances and payment of fines and costs; failure or refusal to answer, appear, or pay fines; disposition of fines, costs, and expenses paid; and other matters regarding municipal civil infractions shall be as set forth in Act No. 236 of the Public Acts of 1961, as amended.

(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-161. Criminal penalties; imprisonment.

Any person who meets the following criteria shall, upon conviction, be guilty of a misdemeanor punishable by a fine of five hundred dollars

($500.00) per violation, per day, or imprisonment for up to ninety-three (93) days, or both in the discretion of the court:

(a) At the time of a violation, the person knew or should have known that stormwater or a pollutant or substance was discharged contrary to any provision of this article, or contrary to any notice, order, permit, plan, decision, or determination promulgated, issued or made by the city engineer under this article; or

(b) The person intentionally makes a false statement, representation, or certification in an application for, or form pertaining to a permit, or in a notice, report, or record required by this article, or in any other correspondence or communication, written or oral, with the city engineer regarding matters regulated by this article; or

(c) The person intentionally falsifies, tampers with, or renders inaccurate any sampling or monitoring device or record required to be maintained by this article.

(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-162. Continuing violation.

Each act of violation, and each day or portion of a day that a violation of this article (or of any permit, plan, order, notice or agreement issued or entered into under this article) exists or occurs, constitutes a separate violation subject to the fines, penalties, and other sanctions and remedies as provided by this article.

(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-163. Responsibility for system; failure to maintain; abatement and cost recovery not a defense.

(a) The property owner is solely responsible to provide, repair, maintain, and pay all costs and expenses for a stormwater management system that is required by this article.

(b) The property owner (and other responsible persons, if designated) shall maintain in good operating condition and promptly repair and restore all elements of a required stormwater management system, including, but not limited to, grade surfaces, walls, drains, dams and structures, vegetation, erosion and sedimentation controls, and other protective devices. All repairs, restoration, and maintenance shall be in accordance with the O&M plan and agreement and approved final stormwater management plan and shall be at no cost or expense to the city.

(c) If the property owner (or other responsible person) fails or refuses to meet the requirements of the O&M plan and agreement, the city engineer may enter the property and perform, or cause to be performed, the necessary work to return the stormwater management system to full compliance, and bill the property owner for the full cost of any such work.

(d) The abatement by the city of any violation, or any failure or refusal to comply, with any requirement of this article and subsequent recovery by the city of all or a portion of the costs and expenses incurred by the city shall not be a defense to any action by the city against any person for the violation, including without limitation, any action by the city to collect civil fines, damages, costs or expenses as otherwise authorized by law.

(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-164. Review or approval by city.

The city's review or approval of a person's plans, specifications, or operating procedures shall not provide the person with relief from an enforcement action for the failure or refusal to comply with the standards and requirements of this article.

(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-165. Reimbursement of city.

(a) Any person who discharges to the MS4 (including, but not limited to, any person who causes or creates a discharge that violates any provision of this article or that damages, injures, or impairs the MS4, or causes or contributes to a violation of any federal, state, or local law governing the MS4, whether any such act is intentional or unintentional) shall be liable to and shall fully reimburse the city for all expenses, costs, losses, or damages (direct or indirect) payable or incurred by the city as a result of any such dis-

charge. The costs that must be reimbursed to the city shall include, but shall not be limited to, all of the following:

(1) All costs incurred by the city in responding to the discharge or noncompliance, including, expenses for any cleaning, repair or replacement work, and the costs of sampling, monitoring, analysis, and treatment, as a result of the discharge or noncompliance.

(2) All costs to the city of inspection and enforcement in connection with investigating, verifying, and prosecuting any discharge or noncompliance.

(3) The full amount of any fines, assessments, penalties, and claims, including natural resource damages, levied against the city, or any city representative, by any governmental agency or third party as a result of a violation of the city's MS4 watershed general permit, the city's certificate of coverage, or other applicable local, state, and federal laws and regulations that is caused by or contributed to by any discharge or noncompliance.

(4) The full value of any city staff time (including any administrative and overhead costs and any required overtime), consultant and engineering fees, and actual attorney fees and defense costs (including the city's legal counsel and any special legal counsel), associated with responding to, investigating, verifying, and prosecuting any discharge or noncompliance or otherwise incurred by the city in administering and enforcing the requirements of this article.

Further, the city is authorized to correct any violation of this article or damage or impairment to the MS4 caused by a discharge and to bill the person causing the violation or discharge for the amounts to be reimbursed. The costs reimbursable under this section shall be in addition to fees, amounts, or other costs and expenses required to be paid by persons under other sections of this article.

(b) Costs and expenses to be reimbursed to the city as provided by this section may be collected as provided by section 27-166 of this article, or as otherwise determined appropriate by the city engineer in conjunction with an enforcement action.

(c) The failure or refusal by any person to pay any amounts required to be reimbursed to the city as provided by this section shall constitute an additional violation of this article.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-166. Collection of costs and expenses; lien.

Costs and expenses incurred by the city in implementing and enforcing the provisions of this article, including, but not limited to, costs and expenses incurred by the city in responding to, correcting violations, and/or performing work pursuant to sections 27-152, 27-158, 27-163, 27-165, 27-167, 27-168, shall be a lien on the premises which shall be enforceable in accordance with Act No. 94 of the Public Acts of 1933 (MCL 141.101 et seq.), as amended from time to time. Any such costs and expenses which are unpaid for six (6) months or more shall be certified by the city manager on April 30 and September 30 of each year to the city assessor who shall enter the lien on the next tax roll against the premises and the costs and expenses shall be collected and the lien shall be enforced in the same manner as provided for in the collection of taxes assessed upon the roll and the enforcement of a lien for taxes. In addition to any other lawful enforcement methods, the city shall have all remedies authorized by Act No. 94 of the Public Acts of 1933, as amended.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-167. Nuisance.

A violation of this article, or of any permit, plan, order, notice, or agreement issued or entered into under this article, is deemed to be a public nuisance and shall be corrected or abated as directed by the city. In addition to any other legal or equitable remedies available under the law, any person creating a public nuisance shall be subject to the provisions of state law, this article, or other ordinance of the city governing

such nuisances, including reimbursing the city for any costs incurred in removing, abating, or remedying said nuisance, as applicable.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-168. Judicial relief.

With the approval of the city, in conjunction with the city's legal counsel, the city engineer may institute legal proceedings in a court of competent jurisdiction to seek all appropriate relief for violations of this article or of any permit, order, notice, or agreement issued or entered into under this article. The action may seek temporary or permanent injunctive relief, damages, penalties, costs, and any other relief, at law or equity, that a court may order. The city engineer may also seek collection of fines, penalties, and any other amounts due to the city that a person has not paid.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-169. Cumulative remedies.

The imposition of a single penalty, fine, order, damage, or surcharge upon any person for a violation of this article, or of any permit, plan, order, notice, or agreement issued or entered into under this article, shall not preclude the imposition by the city or a court of competent jurisdiction of a combination of any or all of those sanctions and remedies or additional sanctions and remedies with respect to the same violation, consistent with applicable limitations on penalty amounts under state or federal laws or regulations. A criminal citation and prosecution of a criminal action against a person shall not be dependent upon and need not be held in abeyance during any civil, judicial, or administrative proceeding, conference, or hearing regarding the person.
(Ord. No. 2011.01, § 1, 1-11-11)

DIVISION 13. ADMINISTRATIVE REVIEW AND APPEALS

Sec. 27-170. Appeal available.

Any person aggrieved by a notice of violation, order, or other action taken by the city engineer under this article may request review and reconsideration by the city engineer and/or may appeal to the stormwater board of appeals as provided by this division. If review and reconsideration or appeal is not properly and timely requested in connection with an action as provided by this division, the action shall be deemed final. The person requesting the appeal shall pay an appeal fee in the amount determined from time to time by the city council. The appeal fee shall be paid at the time that the appeal is requested.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-171. Review and reconsideration by the city engineer.

A request for a review and reconsideration by the city engineer must be made in writing within seven (7) days from the date of the city engineer's action in question. The request must state the reasons for the review and shall include all supporting documents and dates. A hearing on the request shall be scheduled at the earliest practicable date as determined by the city engineer. The hearing shall be conducted on an informal basis at the city engineer's offices or at another location designated by the city engineer. The city engineer shall conduct the hearing. Following the informal hearing, the city engineer may affirm or reverse, in whole or in part, the action appealed from, or may make any order, requirement, decision, or determination as, in the city engineer's opinion, ought to be made in the case under consideration. the city engineer shall notify the aggrieved person of the decision on the request in writing within fourteen (14) days of the hearing. The city engineer may request additional information and extend the time for his/her decision by an additional seven (7) days in writing following the submission of the additional information. The decision of the city engineer may be appealed to the stormwater board of appeals as provided by section [27-172]. All supporting documentation and information shall be provided by the person requesting the appeal at no cost to the city.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-172. Appeal to stormwater board of appeals.

(a) The building code board of examiners and appeals of the city shall serve as a stormwater board of appeals ("SWBA"). The SWBA shall

consider appeals from final decisions of the city engineer. The SWBA shall adopt its own rules of procedure, and keep a record of its proceedings, showing findings of fact, the action of the board, and the vote of each member upon each question considered. The presence of five (5) members of the SWBA shall be necessary to constitute a quorum.

(b) The following provisions shall govern appeals of final decision of the city engineer made to the SWBA under this article:

(1) An appeal from any final action of the city engineer must be made to the SWBA within seven (7) days from the date of the action appealed. The appeal may be taken by any person aggrieved by the action. The appellant shall file a written notice of appeal with the city engineer and with the SWBA. The notice of appeal shall specify the grounds for the appeal and shall be accompanied by a non-refundable appeal fee. Failure to file a timely notice of appeal shall be deemed to be a waiver of the right to appeal.

(2) Prior to a hearing before the SWBA regarding an appeal, the city engineer shall transmit to the SWBA a written summary of all previous action taken in connection with the action being appealed. The SWBA may, at the SWBA's discretion, request the city engineer to provide further information regarding the action that is the subject of the appeal.

(3) The SWBA shall fix a reasonable time for the hearing of the appeal. Notice of the hearing shall be provided at least ten (10) days in advance of the hearing to require the attendance and testimony of witnesses and the production of evidence relevant to any matter involved in the hearing. The appellant must submit an exhibit and witness list to the SWBA at least five (5) days before the hearing or as directed by the SWBA.

(4) The SWBA shall conduct the hearing. At the hearing, attorneys may represent the parties and they may file briefs, present evidence, and call, examine and cross-examine witnesses. Any testimony taken at the hearing shall be under oath and recorded. A copy of the transcript of the hearing shall be made available at cost to any person upon payment of applicable charges for the transcript.

(5) The SWBA shall admit all testimony having reasonable probative value and shall exclude irrelevant or unduly repetitious testimony, as determined by the SWBA The SWBA shall not be bound by common law or statutory rules of evidence. The appellant shall have the burden of proof and persuasion for showing that the city engineer's decision was clearly erroneous.

(6) If the action of the city engineer subject to the appeal involves the city engineer's grant or denial of a waiver as authorized by section 27-148 of this article, the SWBA's decision to grant or deny the appeal shall be based on the standards and conditions provided by subsection 27-148(c) and (d) of this article.

(7) Within thirty (30) days after the completion of the hearing, the SWBA shall mail or otherwise deliver to all of the parties a written decision granting, denying or modifying the decision appealed and/or relief being sought.

(8) The decision of the SWBA on the matter shall be final, and shall be a final determination for purposes of judicial review.

(9) If the city engineer or his or her designee sits on the building code board of examiners and appeals because of additional responsibilities as the director or public works, the city engineer shall abstain from any decision before the SWBA.

(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-173. Payment of charges and fees pending outcome of appeal.

All charges, penalties, fines, fees, surcharges, costs, or expenses outstanding during any appeal process shall be due and payable to the city. Upon resolution of any appeal, the amounts due and payable shall be adjusted accordingly. The city

may suspend discharges to the MS4 if a corrective course of action is not taken or if service charges, penalties, fines, fees, surcharges, costs, or expenses are not timely paid in full.
(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-174. Finality of action; emergency orders; permit appeals.

(a) If an appeal is not demanded as provided by this division within the periods specified by this division, the city engineer's action shall be deemed final.

(b) If an appeal is properly demanded, the action appealed shall be suspended until a final determination has been made by the SWBA, except for emergency orders or actions where a suspension or delay might endanger human health, safety, welfare, the environment, or the MS4; and as otherwise expressly provided by this section regarding permit appeals.

(c) If an appeal involves a final decision made by the city engineer in connection with issuing or implementing a stormwater management permit, the following provisions shall apply:

(1) The person appealing the decision must specify in its notice of appeal the action of the city engineer being appealed and the grounds for the appeal. If a particular permit provision is objected to, the notice of appeal must specify in detail the reasons for the objection, and the specific alternative provision, if any, sought to be placed in the permit.

(2) If, after considering the record on appeal including any statements provided by the city engineer in response to the appeal, the SWBA determines that a permit or any provision of a permit should be reconsidered, the SWBA shall remand the matter to the city engineer for further action as determined appropriate by the SWBA. Only the specific provisions of a permit that are remanded by the SWBA for reconsideration by the city engineer shall be stayed pending further final action taken by the city engineer as required by the decision of the SWBA.

(3) A decision of the SWBA not to remand any matter shall be considered final administrative action for purposes of judicial review.

(4) Except as otherwise expressly provided by subsection (c) of this section, no action taken or request filed by any permittee shall operate to stay the effect of any permit or of any provision, term or condition of any permit.

(Ord. No. 2011.01, § 1, 1-11-11)

Sec. 27-175. Appeals from determination of SWBA.

Appeals from a final determination of the SWBA may be made to the county circuit court as provided by law. All findings of fact made by the SWBA, if supported by the evidence, shall be deemed conclusive.
(Ord. No. 2011.01, § 1, 1-11-11)

DIVISION 14. CONSTRUCTION AND CONFLICTS

Sec. 27-176. Liberal construction; most restrictive provisions control.

(a) In their interpretation and application, the provisions of this article shall be held to be minimum requirements and shall be liberally construed in favor of achieving the purposes of this article, and shall not be deemed a limitation or repeal of any other powers granted by state and federal statutes and regulations.

(b) Notwithstanding any provision of this article to the contrary, the most stringent or restrictive stormwater standard or requirement applicable to a development or redevelopment shall control, whether established by this article, by a stormwater management permit, stormwater management plan, by state laws or regulations, including the city's MS4 watershed general permit or certificate of coverage, or by federal laws or regulations. Further, if state or federal stormwater laws or regulations provide for standards and requirements not covered by this article that are otherwise applicable to a development or redevelopment, those standards and requirements shall apply to the development or redevelopment in

Police Department

Matthew R. Heins
Chief of Police

216 E. Washington Ave. – Jackson, MI 49201-2389
Telephone: (517) 788-4100 – Facsimile (517) 788-4137

MEMO TO: Honorable Mayor and City Councilmembers

FROM: Patrick Burtch, City Manager PHB
Matthew Heins, Director of Police and Fire Services

DATE: Dec 11, 2013

SUBJECT: Training Program for Career Center Students

RECOMMENDATION: Approve the Program and Authorize Resolution

The Jackson Fire Department proposes that the City of Jackson and the Jackson Intermediate School District enter into an Educational Affiliation Agreement to support the training of Jackson Area Career Center students enrolled in the Firefighter I/II training offered at the Career Center.

The JCISD currently has a curriculum designed to prepare high school students to successfully participate in the State of Michigan required testing for Fire Fighter I and II certification. In order to register students for the state certification examination, the sponsoring program must be affiliated with a fire department, and the students must be sponsored as members of a fire department cadet program. Jackson Area Career Center students have job shadowed in the fire department for several years and it is our wish to formalize this relationship. There should be no cost to the City as a participant in this partnership.

The requisite action is to approve the agreement with the Jackson Intermediate School District. The resolution outlines the responsibilities of JCISD and the City of Jackson. Also, the Interim City Attorney is authorized to make minor modifications if needed and to take all action necessary to finalize the Educational Affiliation Agreement for the Fire Cadet Training.

CC: Patrick H. Burtch, City Manager
David D. Wooden, Deputy Fire Chief

RESOLUTION

BY THE CITY COUNCIL:

WHEREAS, the City of Jackson recognizes the need for trained firefighters to staff the Department of Police and Fire Services now and in the future; and

WHEREAS, the City of Jackson wishes to enter into an Educational Affiliation Agreement for Fire Cadet Training in order to support the training of future firefighters; and

WHEREAS, the City of Jackson wishes to affiliate with the Jackson Area Career Center to support the training of students enrolled in Firefighter I/II training offered at the Jackson Area Career Center;

NOW, THEREFORE, BE IT RESOLVED that the City of Jackson shall enter into the attached Educational Affiliation Agreement for Fire Cadet Training with the Jackson Area Career Center in order to support the training of future firefighters.

State of Michigan)
County of Jackson) ss
City of Jackson)

I, Randy Wrozek, City Clerk in and for the City of Jackson, County and State of Michigan, do hereby certify that the foregoing is a true and complete copy of a Resolution adopted by the Jackson City Council on the _____ day of _____, 2013.

IN WITNESS WHEREOF, I have hereto affixed my signature and the seal of the City of Jackson, Michigan, on this ___ day of _____, 2013.

_____City Clerk

EDUCATIONAL AFFILIATION AGREEMENT
FOR FIRE CADET TRAINING

Jackson County Intermediate School District ("JCISD"), a Michigan public school district, and the **City of Jackson** ("City"), a Michigan municipal corporation, enter into this Educational Affiliation Agreement ("Agreement") effective _____, 2013 to support the training of Jackson Area Career Center ("JACC") students enrolled in Firefighter I/II training offered at the JACC.

RECITALS

The JCISD has curricula designed to qualify its high school students to successfully participate in State of Michigan-required testing for Fire Fighter I and Fire Fighter II certification. In order to participate in the state certification examination, the JACC program must be affiliated with fire department, and its participating students must be at 16 – 18 years old, attending high school full-time, and be sponsored as members of a fire department cadet program.

The Jackson Fire Department ("JFD") has supported the JACC fire fighting program in a variety of ways over many years, including a variety of cooperative training efforts. The City of Jackson recognizes the many benefits of having a successful fire fighter training program for high school students in the county, and wishes to continue supporting the program by authorizing its Fire Department to formalize its relationship with the JACC program as a fire department cadet program.

The parties also agree that the interests of both institutions are served by providing appropriate field training experience to JACC's fire fighting students, whereby students may observe and apply skills in a practical setting. To that end, the parties will work together to develop protocols that will allow them to cooperate to provide qualified JACC fire fighting students with opportunities to observe JCISD's qualified personnel in providing fire fighting services; to be trained by JACC personnel using Jackson Fire Department facilities, such as the training tower; and to otherwise observe and practice skills in a practical, non-emergency setting with JFD personnel. All such cooperative training efforts are dependent upon the authorization of the JFD Administrator, and may discontinued as set forth below. All protocols developed may be revised cooperatively, as the parties deem appropriate.

The JFD is fully apprised of the JACC training guidelines for fire fighting students, and has been provided City-required parent/guardian Release and Indemnification Agreements applicable to all participating students. These documents, as they are currently written and as they may be updated and shared with JFD, are to be relied upon by both parties during the term of this Affiliation Agreement.

The parties desire a full statement of their Agreement in connection with the provision of educational experience to students of the JACC, and agree as follows:

ARTICLE I
JCISD RESPONSIBILITIES

1.1 The JACC retains the responsibility for its students' education, and field training experience, including the curriculum, student evaluation and grant of educational credit. The JACC will designate a faculty member as liaison to JFD. The JCISD authorizes the Principal of the

JACC to approve protocols, and to be the JCISD representative to determine any changes in the protocols between the City and the JCISD relative to this Affiliation Agreement.

1.2 The JACC and the JFD will develop mutually acceptable field experience protocols for the 2014-15 school year no later than June 30, 2014. The protocols will address the objectives sought to be obtained through field experiences for students, the number of students to be assigned, and the level of each student's academic preparation to participate in various potential field experiences, the manner in which field experiences will be scheduled, and the JFD staff role for each such field experience, if any. The JACC shall modify specific field training plans as necessary to accommodate JFD's operational needs.

1.3 The JACC agrees to provide appropriate pre-placement instruction to each student eligible for field training experience in accordance with an instructional program agreeable to both parties. The pre-placement instruction program will include, among other topics, instruction regarding JFD's general rules, regulations, policies, and procedures including those policies governing confidentiality. The JACC will place at JFD only those students who have satisfactorily completed the pre-placement instructional program.

1.4 The JACC shall instruct all of its students assigned to JFD that the students are required to comply with all JACC rules, regulations, policies and procedures, as well as the JFD rules, regulations, policies and procedures while participating in field training. Students participating in field experiences at JFD, along with each student's parent/guardian (if the student is not of lawful age to do so without parental consent), will review and execute a City of Jackson Fire Department Release and Indemnification Agreement. Original copies of said agreement will be provided to JFD.

1.5 The JACC has sole responsibility to maintain all education program and reports relating to the educational program of its students, and to comply with all applicable statutes, rules and regulations respecting the maintenance of and release of information from such records. JFD shall have no responsibility regarding such educational records, except the development of reports by JFD personnel which are necessary to the JACC's monitoring of student progress and which JFD agrees to furnish. To the extent that the JFD-produced records are subject to educational privacy laws forbidding disclosure, JFD shall not release the information contained in such educational records and reports to third parties and shall inform JCISD of any requests by third parties for such information.

1.6 If requested by the City, JACC shall instruct each of its eligible students to provide a medical certification of fitness to perform the essential responsibilities for a professional in that field, that the student is free from communicable diseases that might pose a direct and immediate threat to the safety of JFD personnel or the public, as applicable.

1.7 JACC shall inform each eligible student and the student's parent/guardian of the importance of having in force a policy of health insurance to defray the costs of hospital and medical care resulting from illness or injury the student might sustain while participating in any field experience at JFD.

1.8 JCISD has the right to provide JACC with a written request to remove any student from the field experience program at JFD when it determines that a student's behavior and/or presence is not consistent with maintenance of an acceptable standard of professional performance or personal conduct. JACC maintains the right to provide a statement to JFD documenting its reasons for disagreeing with JFD's assessment, and requiring JFD to meet

within five days of receipt of same to discuss the requested removal. JFD retains the right following such discussion to require removal of a student from the clinical or field experience program.

1.9 All JCISD students, teachers or staff must submit satisfactory results of a tuberculosis test prior to commencement of any training activities.

ARTICLE II
CITY RESPONSIBILITIES

2.1 JFD has responsibility for the delivery of fire fighting services to the community and shall exercise final responsibility, authority, control and supervision of all aspects of the delivery of these services. The City appoints its Director of Police and Fire Services to act as liaison for all matters related to implementation of this Affiliation Agreement. JACC students and faculty shall abide by such supervision and control exercised by JFD in the provision of these services.

2.2 JFD shall provide the JACC with all rules, regulations, procedures and information necessary for JACC students' training and potential placement for field experience. Such information will be provided by the beginning of each academic year. JFD will provide an appropriate orientation for the JACC faculty representative, such as facility tour, philosophies, rules, regulations, policies and conduct expectations, as needed.

2.4 JCISD and the City shall cooperate in the development of field training protocols, to the end that such field experience may be appropriate both in the light of the JACC's educational objectives and the responsibility of JFD to deliver professional services to the community.

2.5 Consistent with the mutually developed protocols, and approved field experience opportunity schedules, JFD shall provide qualified personnel to provide supervision to JACC's students. Such personnel must be in attendance at JFD at all times when students are present and are fully responsible for directing and controlling the student field experiences. JACC students scheduled for field experience at JFD shall work cooperatively with JFD and the JFD staff member(s) to whom they are assigned. JFD will not use students in lieu of professional or non-professional staff, although students will work in conjunction with JCISD staff in non-emergency situations.

2.6 JFD shall make available to JACC students the use of dressing or locker rooms, and any other appropriate facilities as available and required by the field experience program without charge, except for food consumed by the student.

2.7 JFD administrative and supervisory personnel reserve the right to relieve a JACC student from a specific assignment, function or task or to require that such student cease performing such functions or tasks pending a final determination of the status of the JACC student by JFD and JACC. JFD will provide JACC with the reasons for requesting a student be removed from the field experience program.

2.8 JFD may also refuse to place any JACC student who presents, in JFD's reasonable judgment, a safety risk. JFD shall notify the JACC in writing of its refusal to accept a student and its reasons for doing so.

2.9 JFD will use reasonable measures to summon emergency medical care for JACC students in the case of accident or illness while such individuals are engaged in Field experiences under this Agreement. All health care (emergency or otherwise) that a JACC student or faculty member receives will be at the expense of the individual involved and shall not be the responsibility of the JFD.

2.10 The Jackson City Council will document its approval of the Jackson Fire Department serving as a cadet training program for eligible students in the JACC fire fighting program, subject to the terms of this Affiliation Agreement and the mutual development of field experience protocols, with a resolution.

ARTICLE III
JOINT RESPONSIBILITIES

3.1 The parties will work together to maintain an environment of quality field learning. At the request of either party, a meeting or conference will be promptly held between the JACC and JFD representatives to resolve any problems, evaluate and improve training protocols, or develop any improvements in the operation of the contemplated field training experience.

3.2 In the event of an accident or incident which might involve legal liability on the part of the City, the JCISD or upon a JACC student or faculty member, each party will submit an accident or incident report to the appropriate department within the JCISD and JFD.

3.3 The confidentiality of JCISD student records shall be maintained at all times, in accordance with provisions of the Family and Educational Rights and Privacy Act and the Individuals with Disabilities Education Act.

3.4 The confidentiality of the City's information and records shall be maintained by JCISD and JCISD will use any confidential information or records solely for the purposes for which it is provided to JCISD and further that JCISD will protect such confidential information or records from unauthorized use and disclosure.

3.5 The parties shall comply with all applicable laws relevant to the performance of the parties' obligations under this Agreement.

ARTICLE IV
TERM AND TERMINATION

4.1 This Agreement shall become effective as noted above, and shall continue thereafter until terminated by either party, with or without cause, upon thirty (30) days written notice of termination. Notwithstanding anything to the contrary in this Agreement, the obligation in Paragraph 5.3 shall survive termination of this Agreement for any incident occurring while this Agreement was in effect.

ARTICLE V
GENERAL PROVISIONS

5.1 The JACC students assigned to JFD are students and are not employees of either party and thus are not covered by JCISD or JFD for purposes of compensation, fringe benefits, workers' compensation, unemployment compensation, minimum wage laws, income tax withholding, social security, etc. Each student placed by the JACC at JFD will receive field

training experience as a part of an academic curriculum, and the duties performed by the student are performed for academic purposes under the supervision of JACC faculty or JFD professional staff. At no time shall a student be assigned to replace or substitute for an employee of JFD. The JACC shall notify each student of the content of this paragraph.

5.2 Each party agrees to comply with and to be separately responsible for compliance with all laws, including anti-discrimination laws, which may be applicable to their respective activities under this program. Both parties promise not to discriminate illegally in employment because of color, national origin, creed, race, religion, gender, age, height, weight, marital status, familial status, veteran status, genetic information, disability or any other legally protected classification.

5.3 To the fullest extent permitted by law, JCISD expressly agrees to indemnify, defend and hold City harmless against all claims, suits, damages, expenses, costs, attorney fees, losses and liabilities arising out of bodily injury or property damage, pollution, contamination of or adverse effects on the environment or any violation of governmental laws, regulations or orders resulting from JCISD's performance of this Contract, based upon any act or omission, negligent or otherwise, of JCISD or any employee, subcontractor or other person acting on JCISD's behalf in connection with or incident to this contract or the work to be performed hereunder. JCISD shall not be obligated to indemnify City for the City's own negligence. JCISD's obligation to indemnify, hold harmless and defend City shall survive the expiration or termination of this Contract. By entering into this Contract, the parties do not waive any immunities provided by law.

5.4 JCISD agrees to maintain General Liability coverage for students with coverage limits of $1,000,000 per incident and $1,000,000 aggregate, and Medical, Errors & Omissions and General Liability coverage for faculty with coverage limits of $1,000,000 per incident and $1,000,000 aggregate, and statutorily mandated Workers' Compensation coverage for faculty. Certificates indicating effective coverage will be furnished to JFD upon request.

5.5 This Agreement is intended solely for the mutual benefit of the parties hereto, and there is no intention, express or otherwise, to create any rights or interests in any party or person other than JCISD and the City; without limiting the generality of the foregoing, no rights are intended to be created for any student, parent or guardian, employer or prospective employer other than the parties directly involved in this agreement.

5.6 It is expressly acknowledged and intended that, in the performance of their respective duties and obligations under the terms of this Agreement, JCISD and the City shall be considered as independent contractors, and nothing in the Agreement is intended, nor shall be construed, to create between City and JCISD an agency relationship, an employer/employee relationship, a joint venture relationship, or a lease or landlord/tenant relationship, or to allow either party to exercise control or direction over the manner or method by which the other party performs the services which are the subject matter of this Agreement. Each party is responsible for its own conduct.

5.7 Any and all notices given under this Agreement shall be in writing and directed to:

For the City:	For JCISD:
Chief Matt Heins Director of Police and	Mark Pogliano, Ed.D. Principal, Jackson Area Career Center

Fire Services
518 North Jackson
Jackson, MI 49201

With a copy to:
Bethany Smith
City Attorney
City of Jackson
161 W. Michigan Ave.
Jackson, MI 49201

Jackson County ISD
6800 Browns Lake Road
Jackson, MI 49201

With a copy to:
Catherine Brechtelsbauer
Director of HR & Legal Services
Jackson County ISD
6700 Browns Lake Road
Jackson, MI 49201

5.8 This Agreement constitutes the entire agreement between the parties, and all prior discussions, agreements and understandings, whether verbal or in writing, are hereby merged into this Agreement.

5.9 Neither party may assign or delegate any of its rights or obligations under this Agreement without first obtaining the written consent of the other party.

5.10 No amendment or modification to this Agreement, including any amendment or modification of this paragraph, shall be effective unless in writing and signed by both parties. In the event that any part of this Agreement is declared null, void or unenforceable by a court or administrative body of competent jurisdiction or by the subsequent enactment of legislation, such invalidity shall not affect any other provision of this Agreement that can be effective without the invalid provision, and, to that end, the provisions hereof are severable.

5.11 This Agreement is governed by the laws of the State of Michigan.

5.12 In the event that any provision of this Agreement is found invalid or unenforceable, the remainder shall remain valid and enforceable according to its terms.

IN WITNESS WHEREOF, the authorized representatives of the parties hereto have executed this Agreement.

JACKSON COUNTY ISD

By: _____ Date: 12/10/13
Kevin Oxley
Title: Superintendent

The foregoing instrument was acknowledged before me in Jackson County, Michigan this ____ day of 12-10-13, 2013.

Phyllis Stressman
Notary Public
Jackson County, Michigan
My Commission Expires: 12-5-18

CITY **OF JACKSON**

By: _____ Date: _____
Jason Smith
Title: Mayor

The foregoing instrument was acknowledged before me in Jackson County, Michigan this _____ day of _____, 2013.

_____
Notary Public
Jackson County, Michigan
My Commission Expires:_____