

**THE CITY OF DEXTER  
CITY COUNCIL MEETING  
MONDAY, MAY 23, 2016**

**A. CALL TO ORDER AND PLEDGE OF ALLEGIANCE**

The meeting was called to order at 7:30 PM by Mayor Keough at the Dexter Senior Center located at 7720 Ann Arbor Street in Dexter, Michigan.

<b>B. ROLL CALL:</b> Mayor Keough	J. Carson	D. Fisher
	J. Knight	Z. Michels
	J. Smith	R. Tell

Also present: Marie Sherry, Finance Director/Treasurer; Michelle Aniol, Community Development Manager; Dan Schlaff, Public Services Superintendent; Justin Breyer, Assistant to the City Manager; Carol Jones, Interim City Clerk; Patrick Droze, Orchard, Hiltz & McCliment; residents and media.

**C. APPROVAL OF THE MINUTES**

1. Regular City Council Meeting – May 9, 2016
2. City Council Work Session – May 4, 2016

Motion Smith; support Michels to approve the minutes of the May 9, 2016, Regular City Council Meeting and the minutes of the May 4, 2016, City Council Work Session with one correction on page 6, Discussion Item 5, *the motion should read Bicycle Sculpture and not Lions Sculpture.*

Unanimous voice vote approval.

**D. PRE-ARRANGED PARTICIPATION**

None

**E. APPROVAL OF THE AGENDA**

Motion Fisher; support Smith to approve the agenda as presented.

Unanimous voice vote approval.

**F. PUBLIC HEARINGS**

None

## **G. NON-ARRANGED PARTICIPATION**

Paul Cousins of 7648 Forest, Dexter noted his disappointment in the resignation of Chris Renius as the City Assessor. He stated that he hopes that the City can find a replacement soon. He came to the meeting because of the discussion item on coal tar regulations and would like to be a part of this discussion. Some of the major businesses and the University of Michigan have banned the use of coal tar on their premises.

## **H. COMMUNICATIONS:**

1. Upcoming Meeting List
2. Sign Calendar

## **I. REPORTS**

1. Public Services Superintendent – Dan Schlaff

Mr. Schlaff submits his report as per packet. Mr. Schlaff gave the following updates and answered questions:

- Question – Who paid for the cleanup at Parts Peddler? (Insurance)
- Question – What was taken with regards to the arsenic and fluoride report? (Samples from the water treatment plant)
- Question – When is the curbing in the downtown area to be painted yellow? (Will check into this.)
- The Border to Border trail drive has been asphalted and there needs to be another coat applied on the DPW side.
- Highway Maintenance was at Westridge today (May 23) and then they will head to Huron Farms.
- Have had a resident concerned about the slurry on the curb. I will check on this but didn't notice anything. The final slurry application will take about 15 minutes to set up.
- Hope to have the fifth well on line tomorrow (May 24).
- Question – The light meters are not hooked up at Baker Road; can we do anything about this? (Will check)

2. Community Development Manager – Michelle Aniol

Ms. Aniol submits her report as per packet. Ms. Aniol gave the following updates and answered questions:

- Ms. Aniol explained the signage content regulation issue and that the Planning Commission is working on zoning ordinance updates.
- Last week I made a presentation at SEMCOG, filling in for the Huron River Watershed Council representative and talked about Mill Creek Park.
- The owner of 8060 Main Street appears to be close to signing some tenets for the space.
- Regarding bees and chickens; all materials from previous meetings have been sent to Jeanette Brooks.

- The 3441 Broad Street property owned by Jack Savas is in the process of being sold. It will be a retail property and may have a coffee shop.
- Would like some feedback on the quadrant map provided in the packet regarding trees.
- Question – What was discussed at the RFQ Committee meeting? (Talked about the progress or lack of progress from the first two community meetings. Mayor Keough and I will meet with Terry Bailey from Foremost tomorrow, May 24, regarding public input and listening to the residents.)

3. Boards, Commissions. & Other Reports-“Bi-annual or as needed”

None

4. Subcommittee Reports

None

5. City Manager Report

Ms. Nicholls submits her report as per packet. In the absence of Ms. Nicholls, Ms. Sherry was present to give updates and answer questions:

- Information was sent out today (May 23) on the Road Project to clarify the 30 minute wait that was previously mentioned.
- Mr. Breyer visited four different classes at Dexter High School on Friday (May 20) to explain elections, voter registration, and the function of local government.
- Mr. Haines from the FAA will be coming to the Planning Commission meeting on June 6.
- The June 2 Budget Breakfast was pushed back to June 9.
- Question – Can you elaborate on the meeting with Washtenaw County on the Urban County Program? (Ms. Aniol explained the process that may open up opportunities to a variety of funding possibilities.)

6. Mayor’s Report

Mr. Keough submits his report as per packet. Mr. Keough gave the following updates:

- At the Dexter Area Fire Department meeting on May 19 there was a request to hold a joint presentation with the other municipalities on ISO ratings and equipment with Chief Smith.
- There will possibly be a visit and tour of Dexter with Michigan Senator Gary Peters on June 10.
- Attended an Honor Ceremony for Ian Bell’s Eagle Scout award. I would like to invite him to a future meeting.

**J. CONSENT AGENDA**

1. Consideration of: Bills and Payroll in the amount of \$115,450.35
2. Consideration of: Appointment of Joy Gee to the Tree Board as the Parks and

Recreation Commission Liaison

Motion Fisher; support Smith to approve items 1 and 2 of the Consent Agenda.

Unanimous voice vote approval.

**K. OLD BUSINESS-Consideration and Discussion of:**

None

**L. NEW BUSINESS-Consideration of and Discussion of:**

1. Consideration of: Scope of Services from OHM for Cape Seal Inspection and Contract Administration

Motion Carson; support Fisher to approve the estimate from OHM for inspection and contract administration for the cape seal project in an amount not to exceed \$20,400.

Ayes: Carson, Fisher, Knight, Michels, Smith, Tell and Keough  
Nays: None  
Motion carries

2. Consideration of: Bid Award for OPEB

Motion Fisher; support Knight to award the contract for actuarial services for Other Post-Employment Benefits to CBIZ Retirement Plan Services in the amount of \$4,250 for the required and optional items, as presented in their bid and included in the request for proposals.

Ayes: Fisher, Knight, Michels, Smith, Tell, Carson and Keough  
Nays: None  
Motion carries

3. Consideration of: Acceptance of the Resignation of City Assessor Renius & Renius

Motion Smith; support Tell to accept the resignation of City Assessor Renius & Renius.

Ayes: Knight, Michels, Smith, Tell, Carson, Fisher and Keough  
Nays: None  
Motion carries

4. Discussion of: Coal Tar Regulation

Mr. Breyer led the discussion on the issue of coal tar usage in surfacing parking lots and driveways in the City. Discussion followed

Motion Michels; support Fisher to proactively draft an ordinance or resolution to ban coal tar sealants in the City and to direct staff to provide education to City residents about coal tar.

Ayes: Michels, Smith, Tell, Carson, Fisher, Knight and Keough

Nays: None

Motion carries

#### **M. COUNCIL COMMENTS**

Michels A couple of thoughts about the Broad Street project, I have a feeling that the developer has their plan and is listening for things that match their ideas. If it doesn't work out, let's move forward.

Knight At the last meeting, I mentioned something about the Chamber of Commerce folding, but they have assured me that even though they are struggling, they are not folding. I will not be at the next meeting.

Smith I provided a copy from an old Dexter Leader article about the Hotel Hickman building.

Jones Reminder about two events coming up – Rummage Sale at St. Andrew's Church on June 3 and 4 and Gordon Hall Days on June 10-12.

Carson None

Fisher How are the new ice skates Marie? (Don't have them yet.)

Tell None

#### **N. NON-ARRANGED PARTICIPATION**

Paul Cousins of 7648 Forest Street, Dexter thanked Council for the consideration of the coal tar issue and mentioned to previous Eagle Scout projects done to benefit the City. Monday is the Memorial Day Parade and we anticipate over 700 participants.

#### **O. ADJOURNMENT**

Motion Smith; support Knight to adjourn at 8:36 PM.

Unanimous voice vote approval.

Respectfully submitted,

Carol J. Jones  
Interim Clerk, City of Dexter

Approved for Filing: \_\_\_\_\_

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**DEXTER CITY COUNCIL  
BUDGET WORK SESSION  
WEDNESDAY, MAY 18, 2016**

**A. CALL TO ORDER**

The meeting was called to order at 6:11 PM by Mayor Keough at the Creekside Cafeteria located at 2615 Baker Road in Dexter, Michigan.

**B. ROLL CALL:** Mayor Keough

J. Carson	D. Fisher
J. Knight	Z. Michels
J. Smith	R. Tell

Also attending: Courtney Nicholls, City Manager; Marie Sherry, Finance Director/Treasurer; Michelle Aniol, Community Development Manager; Dan Schlaff, Public Services Superintendent; Justin Breyer, Assistant to the City Manager; and Carol Jones, Interim City Clerk.

**C. REVIEW OF GENERAL FUND PRIORITIES**

Ms. Nicholls reviewed the pie chart presentation of the breakdown of General Fund expenditures and the specific categories in the General Fund – City Council, City Manager, Finance, Attorney Fees, Clerk, Treasurer, Assessing, Elections, Building & Grounds, Trees, Police Services, Fire Department, Planning Department, Zoning Board of Appeals, Public Works, Downtown Public Works, Engineering Consulting, Utilities/Street Lights, Economic Development, Parks & Recreation, Arts, Culture & Heritage, Insurance & Bonds, Contributions, Contingencies, and Transfers. The increased cost for fire service was a main item of discussion.

**D. DISCUSSION**

Discussion also occurred on the following:

- Millage rates – raising ½ % or not
- Capital Fund for Fire Department Equipment
- Budget cuts in order to meet Capital Funding for DAFD

**E. ADJOURNMENT**

Adjourned at 8:00 PM

Respectfully submitted,

Carol J. Jones  
Interim Clerk, City of Dexter

Approved for Filing: \_\_\_\_\_

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**OFFICE OF THE CITY MANAGER**

8140 Main Street • Dexter, Michigan 48130-1092 • (734) 426-8303 • Fax (734) 426-5614

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## Memorandum

**To:** Mayor Keough and City Council  
**From:** Courtney Nicholls, City Manager  
**Re:** Draft Budget Updates  
**Date:** 6/7/2016

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Attached are updated budget drafts for 2016-2017 and 2017-2018. Council will hold a public hearing on the draft budget and the millage rate used to support that budget on June 13, 2016.

The City of Dexter creates budgets for the following funds: 101 General Fund, 202 Major Streets, 203 Local Streets, 204 Municipal Streets, 226 Solid Waste Collection Fund, 275 Tree Replacement Fund, 303 General Debt Service Fund – Voted Bonds (Streetscape Millage), 352 Facilities Bond Debt Service Fund, 353 Road Bond Debt Service Fund and 402 Equipment Replacement Fund, 590 Sewer Enterprise Fund, and 591 Water Enterprise Fund. A copy of the draft budget is included as a separate document in the Council packet and posted in a separate document online.

### General/Municipal Streets/GO Bond Millage and Revenue

Taxable value for 2015 – 237,424,001  
Taxable value for 2016 – 225,518,118

Largely due to the State legislature's voter approved change to the tax structure regarding personal property tax, the City's taxable value is \$11.9 million less than 2015. Attached to the memo is a breakdown of the taxable value change from 2015 to 2016 and a copy of the IFT spreadsheet.

The personal property loss is supposed to be reimbursed by the State and an online tool has been created to estimate the payments; \$140,000 for general fund, \$38,300 for streets and \$10,100 for the GO Bond. The actual payments will be calculated by the State, who will provide the reimbursement check in October. This creates some level of uncertainty until the actual check is received. The personal property tax reimbursement is shown in a separate revenue line item called Local Community Stabilization Share in the three funds.

The City's maximum millage rate per the Charter is 17.5 mills: a cap of 12.5 mills for General Fund and 5 mills for Streets. The third millage is a voted millage for the GO Bond, which is capped at 2 mills.

The GO Bond millage rate needed to make the final streetscape bond payment was increased slightly by 0.0305 mills from 0.6276 to 0.6581. This will generate approximately \$10,000 over the amount of the final bond payment to ensure that there is enough revenue to make the final bond payment. Uncertainties in this area include the final personal property tax reimbursement that will be received and any tax tribunal cases that are settled that require reimbursement. If any funds are remaining in this account after the final bond payment is made, they must be put towards another bond payment (i.e. the 2006 facility bond).

The 0.0305 increase in the GO Bond rate was offset by a 0.0305 reduction in the street fund millage. This slight decrease is offset by the increase in Act 51 payments, which is estimated at \$25,000.

In fiscal year 2015-2016 a 0.8% administrative fee was used in the General Fund. The amount collected will be less because we are collecting less tax dollars. Due to the reduction in the value of a percent and the ongoing tax litigation, the 2016-2017 and 2017-2018 budget shows the full 1% fee. A worksheet that shows more detail about the use of these funds is attached.

\$25,000 in revenue has been included in General Fund from the Downtown Development Authority: \$5,000 to reimburse for general maintenance and \$20,000 for repayment of the purchase of the Forest Street houses.

During the budget work sessions, Council discussed raising the millage rate by 0.5 mills to provide funding for the future capital needs of the Dexter Area Fire Department in the amount of \$100,000. Raising the millage by 0.5 would bring the overall millage to 14.5562 and generate \$100,600. Council also discussed keeping the millage rate the same, incorporating the \$100,000 capital payment into the budget and balancing the budget through making cuts to other line items.

These two options are presented in the attached budget document for the General Fund. The millage rate increase is shown in the "2016-2017 Recommended" column. Keeping the millage rate the same is shown in the "2016-2017 Requested" column.

The current and proposed millage rate is as follows:

	Current 2015-2016	Proposed w/increase	Proposed w/o increase
General Fund	9.9906	10.4906	9.9906
Streets	3.438	3.4075	3.4075
GO Bond	0.6276	0.6581	0.6581
Total	14.0562	14.5562	14.0562
		(2016-2017 Recommended)	(2016-2017 Requested)

**Updates to Existing Expenses Impacting General Fund, Major/Local/Municipal Streets, Water and Sewer**

Since the closing of the defined benefit program, the City MERS contribution is based on a flat rate. For 2016-2017 the flat rate is \$7,052 per month or \$84,624 per year. The defined benefit program now covers 8 active employees. For the past several years the City has been paying more than the minimum in an attempt to lower the unfunded liability and ease the cost burden in future years as the amortization period for the unfunded liability continues to be reduced. The 2015 actuarial valuation should be available from MERS in June 2016. Provided for Council's review are three MERS funding options. As in past years Option 2 was included in the draft budgets.

\$75,000 is budgeted from general fund for retiree health care; a total of \$20,000 is budgeted from roads, water and sewer.

The renewal for our current health care plan includes an average 6.4% increase. The FY 16-17 budget uses a 7% increase. The health care numbers look higher throughout the budget because the premium share paid by the employees is now shown as revenue. In previous budgets it was a reduction to the expense line.

The employee salary spreadsheet for fiscal year 2016-2017 is provided for your review. The 2016-2017 wage spreadsheet includes a 2.5% increase in all salaries. Also attached is a breakdown of the salaries/benefits paid by the municipal, sewer and water funds.

## Updates to Existing Expenses in General Fund

Expenses related to the Arts, Culture and Heritage Committee have been moved from Dept 101 (City Council) to their own department 801.

Per the contract with the Washtenaw County Sheriff the cost of a police service unit will increase 1% in year 2017 and 1% in 2018.

The current Dexter Area Fire Department payment is \$158,254 per quarter for the calendar year. To estimate the 2016-2017 budget the two remaining payments of \$158,254 were used, plus two payments with a 5% increase bringing the budget to \$650,000. \$670,000 was used for 2017-2018. A new line has been added to the Fire Department's Budget Department called Capital Equipment.

## General Fund Budget Discretionary Expenses

Due to the small increase in tax dollars and the increase in the cost of the Fire Department, the amount of "discretionary" expenses included in draft General Fund budget were reduced. Below is a summary of the expenses that were included and/or not included in both drafts of the budget.

**The following items are included in both the "2016-2017 Recommended" and "2016-2017 Requested" budgets:**

Certain expenses, such as additional payments to MERS and OPEB could be considered discretionary because they are not statutorily required. I do not consider them discretionary because they are essential to maintain the long term fiscal health of the City. In general fund those payments are:

\$39,300 – Additional payment to MERS beyond what is required

\$95,000 - OPEB (retiree health care)

\$7,500 for Election Equipment. The State of Michigan will be purchasing new voting equipment for the entire State however their funds will not cover the entire purchase. They have recommended that each community budget \$2,000 to help fund the equipment. The \$7,500 would cover three machines (2 precincts and one emergency spare) plus the cost of new electronic poll book laptops. Our current laptops are a very old model that we received through the State for free. It is possible a State grant program could defray this cost, but either way keeping up on the technology in this area is important.

\$15,000 for Intern. This item was included in the Manager's Department for a year round graduate level intern.

\$2,500 for Ordinance Codification. Several ordinances have been passed that should be incorporated into the codified ordinance.

\$100,000 for Fire Capital Expenses. It is likely that the Dexter Area Fire Department will be requesting an annual contribution to an equipment replacement fund for fire apparatus.

\$3,000 to replace two oldest computers (Finance Director/Treasurer and Assistant to the Manager)

**The following expenses are not included in either draft of the budget:**

\$10,000 for Document Management System. Staff would like to begin the process of scanning old minutes, agenda, packets, planning record, etc both for ease of searching for things from the past and for historical preservation.

Funds for Signage Replacement. We will be receiving \$5,000 in grant funds to replace wayfinding signage in downtown, however this will not be enough to convert every sign.

\$10,000 was requested by the Parks & Recreation Commission to improve ADA accessibility in the parks. This could also be used as a grant match for State of Michigan Recreation Passport Grant they are considering applying for.

Additional funds are needed to begin replacing references to Village to City in City Ordinances. A quote has been requested from Municode. This will likely need to be budgeted for over the course of several years, potentially on a chapter by chapter basis.

\$10,000 to begin the update of Master Plan. The current 5 year Master Plan was adopted in 2012.

**The following items are included in the "2016-2017 Recommended" and not included in the "2016-2017 Requested" budget:**

\$15,000 for the First Street Park improvements (101-751-970-000)

\$5,000 for the temporary art display (101-801-959-002)

\$3,000 for general equipment replacement expense in buildings & grounds (101-265-977-000)

### **Road Fund Expenses**

Road fund expenses for 2016-2017 are reflective of the cape seal program that will occur across fiscal year 2015-2016 and 2016-2017.

\$70,000 was included between local and major streets to do a sidewalk project in 2016-2017 and 2017-2018. The intent is to include general sidewalk maintenance along with intersection realignments and ramp improvements.

The purchase of hand held radios has been included in the equipment budgets in major and local streets to comply with Commercial Driver's License rules.

Projects included for 2017-2018 include beginning the design of Central Street, \$300,000 toward a street improvement project and a possible \$80,000 contribution to the Dan Hoey/Shield/Baker project.

### **Sewer/Water Fund Revenue**

Utility bill revenue for the water and sewer fund is coming in slightly over projection, using the current data and the 2015 data for May and June as an estimate.

We have not received as many tap fees as expected due to the number of units of Victoria Condos that have been sold to this point. The original 2015-2016 estimate included DexTech's second installment payment for their expansion, 20 units from Victoria Condos and 15 other residential homes. The actual amount received so far includes the DexTech payment, 6 units at Victoria Condos and 13 residential homes. The 2015-2016 projection assumes we will receive tap fees for 8 additional homes in 2015-2016.

Tap fee revenue for both funds was projected for 2016-2017 using the final installment payment for DexTech's expansion plus the completion of 15 residential homes/condos.

### **Sewer Expenses**

Sewer expenses include \$15,000 for 50% of the cost to replace the 2004 van used by both water and sewer, a \$10,000 estimate to replace an HVAC unit at the Wastewater Treatment Plant, funds to rebuild a lift station pump to have as a backup, maintenance on the sand filter mud well, \$15,000 for replacement of the grinder pump, and \$10,000 to continue to replace lab equipment.

Still to be determined are the next steps are on the replacement of the storage tank for ferric chloride.

For the first time in the sewer budget, we have created a line item to transfer money into a restricted equipment reserve. To start this reserve fund, we took three assets; screw pumps, the primary clarifier drives, and the blowers and assigned an estimated useful life and replacement cost to them. This resulted in an estimated annual cost to prepare for their replacement of \$63,000. A copy of the spreadsheet is attached to the memo. This amount has been included in the budget.

### **Water Expenses**

The main expense in the water department is \$100,000 for water tower maintenance. This includes inspecting and painting the inside of the tower. Due to the projected amount of revenue over expenditure in both 2015-2016 and 2016-2017 this project should be able to be completed without using additional reserves.

The next large project for the water system will be the replacement of the three filter media (one per high service pump) located at the filtration plant. This is the primary removal system for iron and naturally occurring arsenic. The life expectancy is 15 to 20 years and they were originally installed in 2000. Staff is looking into options for testing them to determine their remaining useful life and whether it is possible to clean them more substantially than the regular backwashing. The estimated cost for replacement of each media is \$30,000 (\$90,000 total).

Once these projects are complete, the goal is to establish a fund similar to the sewer equipment replacement fund.

**RESOLUTION # xx-2016**

**RESOLUTION OF ADOPTION OF THE  
FY 2016-2017 MILLAGE RATES AND  
ADMINISTRATION FEE**

**City of Dexter**  
County of Washtenaw  
State of Michigan

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At a regular meeting of the City Council of the City of Dexter, County of Washtenaw, State of Michigan, held on the 13<sup>th</sup> day of June, 2016, Eastern Time.

PRESENT: Members:

ABSENT:

The following preamble and resolution were offered by Member \_\_\_\_ and supported by Member \_\_\_\_\_

WHEREAS, the City of Dexter will adopt the 2016-2017 Budget prior to July 1, 2016 in accordance with the millage rate herein established, and

WHEREAS, it is necessary to establish a millage rate for the 2016-2017 Fiscal Year to support a 2016-2017 Budget, and

WHEREAS, it is also necessary to establish the Administration Fee that will be levied on the tax bill for 2016-2017; and

WHEREAS, the City Council held a Public Hearing on June 13, 2016, and has met the requirements to establish such millage rates and administrative fee rate.

NOW, THEREFORE BE IT RESOLVED, THAT THE 2016-2017 MILLAGE RATE FOR THE CITY OF DEXTER, for real and personal property is hereby established and approved as follows:

	Proposed with Increase	Proposed without increase
General Fund	10.4906	9.9906
Streets	3.4075	3.4075
GO Bond	0.6581	0.6581
Total	14.5562	14.0562

BE IT FURTHER RESOLVED, that the administration fee to be levied on the 2016-2017 tax bill will be 1%;

BE IT FURTHER RESOLVED, that the City will collect the taxes generated from this millage, including applicable interest and penalties that accrue after the September 15, 2016 due date, until February 28, 2017.

BE IT FURTHER RESOLVED that all resolutions in conflict herewith are hereby rescinded.

Yeas:

Nays:

Absent:

**RESOLUTION DECLARED ADOPTED THIS 13<sup>th</sup> DAY OF JUNE, 2016**

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Mayor – Shawn W. Keough

**CERTIFICATION**

I hereby certify that the attached is a true and complete copy of a resolution adopted by the City Council of the City of Dexter, County of Washtenaw, State of Michigan, at a regular meeting held on the 13<sup>th</sup> day of June, 2016.

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Interim City Clerk – Carol J. Jones

CITY OF DEXTER  
NOTICE OF PUBLIC HEARING ON THE PROPOSED FISCAL YEAR 2016-2017  
MILLAGE RATE AND PROPOSED FISCAL YEAR 2016-2017 BUDGET

Notice is hereby given that the Dexter City Council will hold a public hearing Monday, June 13, 2016 at 7:30 p.m. at the Dexter Senior Center, 7720 Dexter-Ann Arbor Road, Dexter, Michigan, for the purpose of hearing public comment regarding the proposed fiscal year 2016-2017 Millage Rate and the proposed fiscal year 2016-2017 Budget.

The proposed millage rate for real and personal property is 14.5562 levied as:

	<u>2016 (proposed)</u>	<u>2015 (current)</u>
General Operating	10.4906	9.9906
Streets	3.4075	3.4380
General Obligation Debt	0.6581	0.6276
Total	14.5562	14.0562

City Council is considering the proposed 0.5 mill increase to create a restricted reserve account that will be used to pay the City’s share of capital equipment (i.e. fire trucks, hoses, etc.) replacement costs for the Dexter Area Fire Department.

Information regarding the Proposed Fiscal Year July 1, 2016 through June 30, 2017 Budget is available for public inspection at the City Office, on the second floor of the PNC Bank Building, 8123 Main Street, Dexter MI weekdays between 9:00 am and 5:00 pm and online at <http://www.dextermi.gov>.

**Statement as required by MCL 141.412 – “The property tax millage rate proposed to be levied to support the proposed budget will be a subject of this hearing”**

Courtney Nicholls  
City Manager

Publish: May 18, 2016

Analysis of Change in Taxable Value

Location (ECF Category**)	Real/Personal	2015 Taxable Value	Losses	Adjustment	Additions	2016 Taxable Value
Dexter City Commercial	Real	\$24,801,144.00	(\$121,500.00)	\$139,561.00	\$220,100.00	\$25,039,305.00
Industrial	Real	\$19,972,688.00	\$0.00	(\$12,811.00)	\$182,200.00	\$20,142,077.00
IFT	Real	\$5,021,793.00	(\$193,751.00)	\$14,480.00	\$1,428,700.00	\$6,271,222.00
IFT	Personal	\$8,695,500.00	(\$8,147,700.00)	(\$4,000.00)	\$593,200.00	\$1,137,000.00
Cottonwood Condos	Real	\$2,691,150.00	\$0.00	\$8,054.00	\$0.00	\$2,699,204.00
Dexter Crossing Condos	Real	\$1,535,178.00	\$0.00	\$73,053.00	\$1,057,200.00	\$2,665,431.00
Dexter Crossing	Real	\$24,353,123.00	(\$5,804.00)	\$378,679.00	\$1,330,000.00	\$26,055,998.00
Dexter Expansion Commercial	Real	\$12,259,635.00	\$0.00	(\$149,440.00)	\$0.00	\$12,110,195.00
Dexter Original	Real	\$32,646,680.00	(\$184,790.00)	\$847,427.00	\$93,100.00	\$33,402,417.00
Eaton Court	Real	\$3,143,935.00	\$0.00	\$123,115.00	\$0.00	\$3,267,050.00
Huron Farms	Real	\$30,815,470.00	\$0.00	\$891,749.00	\$18,900.00	\$31,726,119.00
Huron Condos Stacked	Real	\$2,998,129.00	\$0.00	\$171,883.00	\$0.00	\$3,170,012.00
Huron View Condos	Real	\$3,579,253.00	\$0.00	\$71,135.00	\$0.00	\$3,650,388.00
Orchard River Hills	Real	\$5,755,186.00	(\$4,054.00)	\$297,489.00	\$4,000.00	\$6,052,621.00
Personal Property	Personal	\$27,737,600.00	(\$12,891,100.00)	(\$428,900.00)	\$871,400.00	\$15,289,000.00
United Methodist	Real	\$4,704,403.00	\$0.00	\$14,113.00	\$3,700.00	\$4,722,216.00
West Ridge	Real	\$26,713,134.00	(\$99,559.00)	\$637,188.00	\$867,100.00	\$28,117,863.00
<b>Total</b>		<b>\$237,424,001.00</b>	<b>(\$21,648,258.00)</b>	<b>\$3,072,775.00</b>	<b>\$6,669,600.00</b>	<b>\$225,518,118.00</b>
Losses - Removal of appurtenances (i.e. garage, deck, etc.) to property/demolitions/change in personal property tax law						
Adjustments - CPI Increase (0.3%) or reduction necessary to equalize values						
Additions - New construction						
**ECF Map Included in Your Packet						

**City of Dexter - Industrial Facilities Tax Exemptions**

(\*Data is reflective of how the IFT was approved and does not take into account new personal property tax law\*)

<b>Real Property - Active</b>			
<b>Business</b>	<b>Expires at the end of:</b>	<b>Estimated Taxable Value of Property</b>	<b>Estimated Tax Revenue Increase (7.0281 mills)</b>
K-Space	2019	\$352,066.00	\$2,474.36
3515 Broad LLC (Medhub)	2019	\$714,814.00	\$5,023.78
Northern United Brewing	2019	\$786,381.00	\$5,526.76
Variety Die	2021	\$351,500.00	\$2,470.38
QED	2022	\$379,021.50	\$2,663.80
DAPCO	2024	\$439,590.00	\$3,089.48
Dexter Fastener	2026	\$5,059,979.00	\$35,562.04
MC3	2025	\$2,442,100.00	\$17,163.32
<b>Personal Property - Active</b>			
<b>Business</b>	<b>Expires at the end of:</b>	<b>Estimated Taxable Value of Property</b>	<b>Estimated Tax Revenue Increase (7.0281 mills)</b>
MC3	2016	\$225,650.00	\$1,585.89
UIS	2018	\$249,314.50	\$1,752.21
K-Space	2019	\$42,877.00	\$301.34
Northern United Brewing	2020	\$810,000.00	\$5,692.76
QED	2022	\$52,249.00	\$367.21
Dexter Research	2022	\$1,900.00	\$13.35
DAPCO	2024	\$643,395.00	\$4,521.84
Dexter Fastener	2026	\$11,490,128.50	\$80,753.77
<b>Issued - Not Used as of 2016</b>			
<b>Business</b>	<b>Year Expires</b>	<b>Estimated Taxable Value of Property</b>	<b>Estimated Tax Revenue Increase (7.0281 mills)</b>
Dexter Research (Real)	2022	\$520,000.00	\$3,654.61
<b>Real Property - Expired Over The Past 5 Years</b>			
<b>Business</b>	<b>Year Expires</b>	<b>Estimated Taxable Value of Property</b>	<b>Estimated Tax Revenue Increase (7.0281 mills)</b>
K-Space	2012	\$248,400.00	\$1,745.78
Berry & Associates	2015	\$187,300.00	\$1,316.36
<b>Personal Property - Expired Over The Past 5 Years</b>			
<b>Business</b>	<b>Year Expires</b>	<b>Estimated Taxable Value of Property</b>	<b>Estimated Tax Revenue Increase (7.0281 mills)</b>
Dexter Fastener	2012	\$661,800.00	\$4,651.20
Protomatic	2012	\$91,700.00	\$644.48
DAPCO	2012	\$282,800.00	\$1,987.55
DAPCO	2013	\$149,700.00	\$1,052.11
Berry & Associates	2015	\$34,300.00	\$241.06
3515 Broad LLC (Medhub)	2015	\$150,000.00	\$1,054.22
Locations of Districts:			
Industrial Techtonics 7222 Huron River Dr			Established April 22, 1985
Dexter Business and Research Park			Established May 26, 1987/Expanded September 9, 2013
7931 Grand			Established August 14, 1995
7300 Huron River Drive			Established November 23, 2009
Huron Street High Tech-Light Industrial Development District			Established February 13, 2012

## Tax Bill Administrative Fee

According to Michigan Law taxing jurisdictions can levy up to a 1% administrative fee on taxes to cover the cost incurred in assessing property values, collecting property tax levies, and in the review and appeal process. This fee was charged by both Scio Township and Webster Township. The Village did not perform assessing or collect taxes for other jurisdictions so the fee was not included on Village taxes.

1% Administrative Fee on All Taxes Collected	\$112,000
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### Uses of Funds

Assessing Contract	(30,000.00)
Managers Salary (\$76,709*5%)	(3,835.45)
Treasurers Salary (\$72,914*40%)	(29,165.60)
Office Staff Salary (\$92,314*20%)	(18,462.80)
Tax Bill/Assessment Notice Mailing	(5,000.00)
Misc. Assessor Expense	(500.00)
BSA Software Annual Maintenance (Tax & Assessing, Online Access)	(4,519.00)
Board of Review Stipends	(1,000.00)
Tax Tribunal Defense	(20,000.00)
	(112,482.85)

2016-2017 MERS Payments

Required 2016/2017 Payment			\$84,624.00		
	Percent of Salary Based on Current DB Employees	2015-2016 Payment	Option 1 - Minimum Payment	Option 2 - Payment To Cover 75% of Benefits Paid Out	Option 3 - Payment To Cover 100% of Benefits Paid Out
General	54%	\$85,700	\$45,697	\$85,024	\$113,365
Municipal Streets	20%	\$24,500	\$16,925	\$31,490	\$41,987
Sewer	17%	\$27,000	\$14,386	\$26,767	\$35,689
Water	9%	\$11,600	\$7,616	\$14,171	\$18,894
Total City Contribution		\$148,800	\$84,624	\$157,452	\$209,936
Estimated Employee Contribution - 5% of salary		\$25,000	\$25,000	\$25,000	\$25,000
Total MERS Contribution		\$173,800	\$109,624	\$182,452	\$234,936
Total Estimated Benefits Paid Out		\$234,936			
Investment Income in 2014 - \$168,346					

## Salary Breakdown

	Salary in 16-17	Amounts Budgeted in Each Fund							
		General	Solid Waste	Major	Local	Municipal	Sewer	Water	
Erin Aiken	\$52,084.76	\$52,084.76							\$52,084.76
Michelle Aniol	\$53,065.48	\$53,065.48							\$53,065.48
Justin Breyer	\$47,287.76	\$47,287.76							\$47,287.76
Andrea Dorney	\$65,942.76						\$49,457.07	\$16,485.69	\$65,942.76
Eric Hartman	\$54,195.44						\$40,646.58	\$13,548.86	\$54,195.44
Bob Mester	\$46,243.08						\$34,682.31	\$11,560.77	\$46,243.08
Courtney Nicholls	\$76,709.36	\$76,709.36							\$76,709.36
Dan Schlaff	\$87,500.00	\$7,000.00	\$1,750.00	\$13,125.00	\$13,125.00		\$30,625.00	\$21,875.00	\$87,500.00
Rick Chabot	\$34,282.56						\$17,141.28	\$17,141.28	\$34,282.56
Marie Sherry	\$72,914.40	\$72,914.40							\$72,914.40
Tim Stewart	\$49,931.44				\$7,489.72			\$42,441.72	\$49,931.44
Brenda Tuscano	\$40,230.84	\$40,230.84							\$40,230.84
Todd Viebahn	\$52,800.00						\$26,400.00	\$26,400.00	\$52,800.00
Total DPW - Kurt (\$79,400), Harold (\$45,000), New Hire (\$35,000), Shawn (\$34,000)	\$193,343.64	\$83,000.00	\$31,000.00	\$40,000.00	\$40,000.00				\$194,000.00
<b>Total Salary</b>	<b>\$926,531.52</b>	<b>\$432,292.60</b>	<b>\$32,750.00</b>	<b>\$53,125.00</b>	<b>\$60,614.72</b>	<b>\$0.00</b>	<b>\$198,952.24</b>	<b>\$149,453.32</b>	<b>\$927,187.88</b>
Summer Help		\$11,700.00	\$5,000.00	\$1,300.00	\$2,600.00		\$4,000.00		\$24,600.00
Office Intern		\$15,000.00							\$15,000.00
Landscapers Downtown		\$9,100.00							\$9,100.00
Landscapers Mill Creek Park		\$8,700.00							\$8,700.00
							Budgeted Salary		\$984,587.88
Amounts Taking Into Account Enterprise Fund Fees									
	Salary in 16-17	General	Solid Waste	Major	Local	Municipal	Sewer	Water	
Erin Aiken	\$52,084.76	\$6,250.17				\$2,083.39	\$21,875.60	\$21,875.60	\$52,084.76
Michelle Aniol	\$53,065.48	\$53,065.48							\$53,065.48
Justin Breyer	\$47,287.76	\$47,287.76							\$47,287.76
Andrea Dorney	\$65,942.76						\$49,457.07	\$16,485.69	\$65,942.76
Eric Hartman	\$54,195.44						\$27,097.72	\$27,097.72	\$54,195.44
Bob Mester	\$46,243.08						\$34,682.31	\$11,560.77	\$46,243.08
Courtney Nicholls	\$76,709.36	\$64,435.86				\$4,602.56	\$3,835.47	\$3,835.47	\$76,709.36
Dan Schlaff	\$87,500.00	\$7,000.00	\$1,750.00	\$13,125.00	\$13,125.00		\$30,625.00	\$21,875.00	\$87,500.00
Rick Chabot	\$34,282.56						\$25,711.92	\$8,570.64	\$34,282.56
Marie Sherry	\$72,914.40	\$30,624.05				\$11,666.30	\$15,312.02	\$15,312.02	\$72,914.40
Tim Stewart	\$49,931.44				\$12,482.86			\$37,448.58	\$49,931.44
Brenda Tuscano	\$40,230.84	\$32,184.67					\$4,023.08	\$4,023.08	\$40,230.84
Todd Viebahn	\$52,800.00						\$26,400.00	\$26,400.00	\$52,800.00
Total DPW - Kurt (\$79,400), Harold (\$45,000), New Hire (\$35,000), Shawn (\$34,000)	\$193,343.64	\$87,000.00	\$31,000.00	\$40,500.00	\$35,000.00				\$193,500.00
<b>Total Salary</b>	<b>\$926,531.52</b>	<b>\$327,847.99</b>	<b>\$32,750.00</b>	<b>\$53,625.00</b>	<b>\$60,607.86</b>	<b>\$18,352.26</b>	<b>\$239,020.20</b>	<b>\$194,484.58</b>	<b>\$926,687.88</b>
Summer Help		\$11,700.00	\$5,000.00	\$1,300.00	\$2,600.00		\$4,000.00	\$0.00	\$24,600.00
Office Intern		\$15,000.00							\$15,000.00
Landscapers Downtown		\$9,100.00							\$9,100.00
Landscaper Mill Creek Park		\$8,700.00							\$8,700.00
							Budgeted Salary		\$984,087.88

Sewer Fund - Equipment Replacement Estimates

	Current Age (Years)	Estimated Life (Years)	Replacement Cost	Annual Cost
Screw Pump	17	20	\$200,000.00	\$10,000.00
Screw Pump	17	20	\$200,000.00	\$10,000.00
Screw Pump	17	20	\$200,000.00	\$10,000.00
Screw Pump	17	20	\$200,000.00	\$10,000.00
Primary Clarifier Drive	17	30	\$50,000.00	\$2,500.00
Primary Clarifier Drive	17	30	\$50,000.00	\$2,500.00
Primary Clarifier Drive	17	30	\$50,000.00	\$2,500.00
Primary Clarifier Drive	17	30	\$50,000.00	\$2,500.00
Blower	17	20	\$130,000.00	\$6,500.00
Blower	0	20	\$130,000.00	\$6,500.00
				\$63,000.00

# **CITY OF DEXTER**

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8140 Main Street Dexter, MI 48130-1092

[cnicholls@dextermi.gov](mailto:cnicholls@dextermi.gov)

Phone (734)426-8303 Fax (734)426-5614

## **MEMO**

**To: Mayor Keough and Council Members**  
**From: Courtney Nicholls, City Manager**  
**Date: June 8, 2016**  
**Re: Public Hearing for Water and Sewer Ordinance**

A public hearing to hear comment on the water and sewer ordinance is scheduled for June 13, 2016. Attached is the public hearing notice. The notice also includes information on the refuse rate because it also appears on the utility bill.

The water, sewer and refuse rates will be adopted on June 27, 2016.

**CITY OF DEXTER**  
**NOTICE OF PUBLIC HEARING ON AN ORDINANCE TO SET WATER AND SEWER RATES**

Notice is hereby given that the Dexter City Council will hold a public hearing on Monday, June 13, 2016 at 7:30 p.m. at the Dexter Senior Center – 7720 Ann Arbor Street, Dexter, Michigan for the purpose of hearing public comment regarding the proposed Water and Sewer Rate Ordinance.

<u>Water Rates</u>	<u>Current Rates</u>	<u>Proposed 3% increase</u>
Ready To Serve Monthly Fee	\$7.63	\$7.86
First Meter Per 1,000 Gallons	\$3.44	\$3.54
Second Meter Per 1,000 Gallons	\$4.65	\$4.79

<u>Sewer Rates</u>	<u>Current Rates</u>	<u>Proposed 3% increase</u>
Ready to Serve Monthly Fee	\$7.12	\$7.33
Per 1,000 Gallons	\$8.76	\$9.02

<u>Other Charges and Penalties</u>	<u>Current Rates</u>	<u>Proposed Rates</u>
Penalties on Late Charges	2% Cumulative	2% Cumulative
Turn-on and Turn-off Charges	\$35	\$35
Meter Calibration Charge	\$35	\$35
Water Only Meter 1 inch	\$350	\$350

<u>Refuse Rates</u>	<u>Current Rates</u>	<u>Proposed Rate</u>
Monthly Charge	\$17.50	\$17.50

The chart below illustrates the impact the proposed rate adjustment will have on a family using 10,000 gallons of water during a 2-month billing cycle. The overall increase during a 2-month billing cycle would be \$4.53 each billing cycle or \$2.26 per month. The overall percentage increase is 2.43%.

<u>WATER- 3%</u>	<u>Current</u>	<u>Proposed</u>
Ready to Serve Charge	\$15.27	\$15.72
Commodity Charge 10,000 gallons	\$34.40	\$35.40

<u>SEWER- 3%</u>	<u>Current</u>	<u>Proposed</u>
Ready to Serve Charge	\$14.23	\$14.66
Commodity Charge 10,000 gallons	\$87.55	\$90.20

<u>REFUSE</u>	<u>Current</u>	<u>Proposed</u>
	\$35	\$35
	\$186.45	\$190.98

**Public comment will also be received on proposed Sewer Surcharge Rate Increase. Extra Strength Surcharges and Industrial Cost Recovery Charges are assessed on commercial/industrial (non-residential) users whose wastewater exceeds certain limits.**

<u>Extra Strength Surcharges:</u>	<u>Current</u>	<u>Proposed – 3% increase</u>
BOD in excess of 300 mg/l	\$0.68/pound	\$0.70/pound

Suspended solids in excess of 275 mg/l	\$0.23/pound	\$0.24/pound
Phosphorous as P in excess of 12 mg/l	\$4.99/pound	\$5.14/pound

Industrial Cost Recovery:

Water usage in excess of 22 gpepd	\$0.31 per 1,000 gal.	\$0.32 per 1,000 gal.
BOD in excess of 300 mg/l	\$0.68/pound	\$0.70/pound
Suspended solids in excess of 275 mg/l	\$0.23/pound	\$0.24/pound
Phosphorous as P in excess of 12 mg/l	\$4.99/pound	\$5.14/pound

Courtney Nicholls  
Dexter City Manager

Publish: May 18, 2016

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## Meeting Calendar

Board	Date	Time	Location	Website	City Representative
CAPT/DART - As Needed	6/8/2016	7:00 p.m.	TBD	<a href="http://www.ewashtenaw.org/">http://www.ewashtenaw.org/</a>	Jim Carson
Dexter Area Chamber of Commerce	6/8/2016	9:00 a.m.	Copeland Board Room	<a href="http://www.dexterchamber.org/">http://www.dexterchamber.org/</a>	Julie Knight
3045 Broad St. Redevelopment Workshop	6/8/2016	6:00 p.m.	Creekside Intermediate School	<a href="http://www.dextermi.gov">http://www.dextermi.gov</a>	
Gateway Initiative (Big 400)	6/10/2016	9:30 a.m.	Waterloo Recreation Area		Paul Cousins, Carol Jones
Dexter Community Schools Board of Education	6/13/2016	7:00 p.m.	Creekside Intermediate School	<a href="http://dexterschools.org/">http://dexterschools.org/</a>	
Dexter City Council	6/13/2016	7:30 p.m.	Dexter Senior Center	<a href="http://www.dextermi.gov">http://www.dextermi.gov</a>	
5H - Dexter Coalition	6/14/2016	5:30 p.m.	Dexter Wellness Center		Becky Murillo
Washtenaw Area Transportation Study - Policy	6/15/2016	9:30 a.m.	Washtenaw County LRC, Huron Room	<a href="http://www.miwats.org/">http://www.miwats.org/</a>	Jim Carson
Dexter Area Fire Board	6/16/2016	6:00 p.m.	Dexter Township Hall	<a href="http://dexterareafire.org/">http://dexterareafire.org/</a>	Shawn Keough/Jim Carson
Downtown Development Authority	6/16/2016	7:30 a.m.	Dexter Senior Center	<a href="http://www.dextermi.gov">http://www.dextermi.gov</a>	Shawn Keough
Lion's Park Community Build Day	6/18/2016	9:00 a.m.	7720 Ann Arbor St.	<a href="http://www.dextermi.gov">http://www.dextermi.gov</a>	
Zoning Board of Appeals - As Needed	6/20/2016	7:00 p.m.	Dexter Senior Center	<a href="http://www.dextermi.gov">http://www.dextermi.gov</a>	Zach Michels
Farmers Market/Community Garden Oversight	6/21/2016	5:30 p.m.	City Offices	<a href="http://www.dextermi.gov">http://www.dextermi.gov</a>	Julie Knight
Parks and Recreation Commission	6/21/2016	7:00 p.m.	City Offices	<a href="http://www.dextermi.gov">http://www.dextermi.gov</a>	Ray Tell
Southeast Michigan Council of Governments	6/23/2016	2:00 p.m.	Blue Water Convention Center	<a href="http://www.semco.org">http://www.semco.org</a>	Shawn Keough
Huron River Watershed Council	6/23/2016	5:30 p.m.	1100 N. Main, Suite 210, Ann Arbor	<a href="http://www.hrwc.org/">http://www.hrwc.org/</a>	Paul Cousins
Dexter Community Schools Board of Education	6/27/2016	7:00 p.m.	Creekside Intermediate School	<a href="http://dexterschools.org/">http://dexterschools.org/</a>	
Dexter City Council	6/27/2016	7:30 p.m.	Dexter Senior Center	<a href="http://www.dextermi.gov">http://www.dextermi.gov</a>	

**Due to the possibility of cancellations, please verify the meeting date with the listed website or City representative**

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	Name of Group	Dates	Number Approved	Approval Date	Locations		Name of Group	Dates	Number Approved	Approval Date	Locations	
<b>January</b>	Dexter Winter Marketplace-Farmers Market 2 X Mos.	1/4-1/9 & 1/18-1/23	2-2' X 3' & 3-18 X 24	9/8/2015	1,2,4,5,44	<b>July</b>	St. Andrews-American Red Cross Blood Drive	7/7-7/18	2-2' X 3'	9/17/2015	8 & 22	
	St. Andrews-American Red Cross Blood Drive	12/28-1/4	2-2' X 3'	9/17/2015	8 & 22		Dexter Wellness-Monthly Community Walks	7/4-7/9	5 - 18 X 24	2/9/2016	1,2,4,5,44	
	Dexter Community Players-Production of Avenue Q	1/9-1/23	2 - 18 X 24, 1 - 4' X 8'	11/12/2015	2 & 5		St. Joseph Festival Flea Market & Rummage Sale	6/26-7/10	5 - 18 X 24	3/30/2016	1,2,4,5,10	
	K of C Ladies Auxiliary-Quarter Mania	1/13-1/21	4 - 18 X 24	1/13/2016	1,2,4,44		St. Joseph Festival	7/5-7/18	5 - 18 X 24	3/30/2016	1,2,4,5,10	
	K of C Ladies Auxiliary-Rummage Sale	1/21-2/6	5 - 18 X 24	1/15/2016	1,2,4,5,10		Dexter Wellness Coalition-Dexter Fitness Festival	7/1-7/14	5 - 18 X 24	5/16/2016	1,2,4,5,44	
	Dexter Little League-Spring Registration	1/25-2/8	5 - 18 X 24	1/20/2016	1,2,4,5,44							
	Friends of the Dexter District Library	1/3-1/10	5 - 18 X 24	1/20/2016	1,4,44,10,3							
	St. Andrews-Monthly Dinners	1/26-2/4	1 - 2 X 3	1/26/2016	8							
<b>February</b>	Dexter Winter Marketplace-Farmers Market 2 X Mos.	2/1-2/6 & 2/15-2/20	2-2' X 3' & 3-18 X 24	9/8/2015	1,2,4,5,44	<b>August</b>	Friends of the Dexter District Library	8/6-8/14	5 - 18 X 24	1/20/2016	1,4,44,10,3	
	Dexter Community Orchestra Concerts	2/11-2/21	2 - 3' X 4'	9/28/2015	5 & 9		Dexter Wellness-Monthly Community Walks	8/8-8/13	5 - 18 X 24	2/9/2016	1,2,4,5,44	
	Dexter Drama Club-"Chicago"	1/30-2/14	2 - 2' X 4', 3 - 18 X 24	1/15/2016	1,2,4,44,10		Dexter Wellness Coalition-Dexter Fitness Festival	8/1-8/14	5 - 18 X 24	5/16/2016	1,2,4,5,44	
	Dexter Little League-Spring Registration	1/25-2/8	5 - 18 X 24	1/20/2016	1,2,4,5,44							
	Friends of the Dexter District Library	1/31-2/7	5 - 18 X 24	1/20/2016	1,4,44,10,3							
	St. Andrews-Monthly Dinners	1/26-2/4 & 2/23-3/3	1 - 2 X 3	1/26/2016	8		<b>September</b>	St. Andrews-American Red Cross Blood Drive	9/8-9/19	2-2' X 3'	9/17/2015	8 & 22
	Dexter Lacrosse Assoc.-Spring Registration Boys	2/9-2/23	4 - 18 X 24	2/5/2016	1,2,36,45			Dexter Wellness-Monthly Community Walks	9/5-9/10	5 - 18 X 24	2/9/2016	1,2,4,5,44
	Dexter Wellness-Monthly Community Walks	2/8-2/13	5 - 18 X 24	2/9/2016	1,2,4,5,44							
Dexter Little League-Final week Spring Registration	2/25-3/1	5 - 18 X 24	2/18/2016	1,2,4,5,44								
<b>March</b>	Dexter Winter Marketplace-Farmers Market 2 X Mos.	2/29-3/6 & 3/14-3/19	2-2' X 3' & 3-18 X 24	9/8/2015	1,2,4,5,44	<b>October</b>	Friends of the Dexter District Library	9/25-10/2	5 - 18 X 24	1/20/2016	1,4,44,10,3	
	Friends of the Dexter District Library	2/28-3/6	5 - 18 X 24	1/20/2016	1,4,44,10,3		Dexter Wellness-Monthly Community Walks	10/3-10/8	5 - 18 X 24	2/9/2016	1,2,4,5,44	
	St. Andrews-Monthly Dinners	2/23-3/3 & 3/29-4/7	1 - 2 X 3	1/26/2016	8							
	Dexter Wellness-Monthly Community Walks	3/7-3/12	5 - 18 X 24	2/9/2016	1,2,4,5,44							
	Peace Lutheran Church-Easter Egg Hunt	3/5-3/19	1 - 2' X 3"	2/19/2016	1							
	Columbus Ladies Auxiliary-Quarter Mania	3/9-3/17	4 - 18 X 24	3/9/2016	1,2,4,44							
<b>April</b>	Dexter Winter Marketplace-Farmers Market 2 X Mos.	3/28-4/2 & 4/11-4/16	2-2' X 3' & 3-18 X 24	9/8/2015	1,2,4,5,44	<b>November</b>	Friends of the Dexter District Library	10/30-11/6	5 - 18 X 24	1/20/2016	1,4,44,10,3	
	St. Andrews-American Red Cross Blood Drive	4/7-4/18	2-2' X 3'	9/17/2015	8 & 22		Dexter Wellness-Monthly Community Walks	11/7-11/12	5 - 18 X 24	2/9/2016	1,2,4,5,44	
	Friends of the Dexter District Library	3/27-4/3	5 - 18 X 24	1/20/2016	1,4,44,10,3							
	St. Andrews-Monthly Dinners	3/29-4/7 & 4/26-5/5	1 - 2 X 3	1/26/2016	8							
	Dexter Wellness-Monthly Community Walks	4/4-4/9	5 - 18 X 24	2/9/2016	1,2,4,5,44							
	Red Cross/Blood Drive-In Memory of Jeremy Loy	4/15-4/26	5 - 18 X 24	4/14/2016	1,4,5,44,10							
	Dexter Drama Club /Hercules	4/23-5/9	3-18X24 & 2-5X10	4/15/2016	1,2,4,44,10							
	Dexter United Methodist/Spring Rummage Sale	4/21-5/1	2-2X3 & 3-18X24	4/19/2016	1,2,5,44,10							
<b>May</b>	Dexter Community Orchestra Concerts	5/5-5/15	2 - 3' X 4'	9/28/2015	5 & 9	<b>December</b>	Friends of the Dexter District Library	11/27-12/4	5 - 18 X 24	1/20/2016	1,4,44,10,3	
	Friends of the Dexter District Library	5/1-5/8	5 - 18 X 24	1/20/2016	1,4,44,10,3		Dexter Wellness-Monthly Community Walks	12/5-12/10	5 - 18 X 24	2/9/2016	1,2,4,5,44	
	St. Andrews-Monthly Dinners	4/26-5/5	1 - 2 X 3	1/26/2016	8							
	Dexter Wellness-Monthly Community Walks	5/9-5/14	5 - 18 X 24	2/9/2016	1,2,4,5,44							
	Ann Arbor Track Club-Dexter to Ann Arbor Run	5/22-6/6	5 - 18 X 24	3/28/2016	1,2,4,5,44							
	Dexter Area Historical Society/Railroad Workers Ball	5/27-6/13	5 - 18 X 24	4/11/2016	1,4,5,44,10							
	Gordon Hall-Train Days	5/27-6/13	5 - 18 X 24	4/11/2016	1,4,5,44,10							
	Dexter Drama Club /Hercules	4/23-5/9	3-18X24 & 2-5X10	4/15/2016	1,2,4,44,10							
	St. Joseph /Annual Plant Sale	5/3-5/15	5 - 18 X 24	4/20/2016	1,2,4,5,10							
	Rotary Club/Memorial Day Parade	5/16-5/30	5 - 18 X 24	4/21/2016	1,2,4,44,10							
	Ann Arbor Trout Unlimited-2016 Dexter Trout Fest	5/5-5/14	1 - 18 X 24	5/5/2016	55							
	St. Andrew's Church-Annual Rummage Sale	5/28-6/4	5 - 18 X 24	5/12/2016	1,2,4,5,10							
	Knights of Columbus-Memorial Day Chicken Broil	5/18-5/31	5 - 18 X 24	5/17/2016	1,2,4,5,44							
	Dexter Little League/Summer Baseball Registration	5/24-6/7	5 - 18 X 24	5/19/2016	1,2,4,5,44							
	Dexter Community Orchestra Concerts	6/6-6/16	2 - 3' X 4'	9/28/2015	5 & 9							
	Friends of the Dexter District Library	5/29-6/4	5 - 18 X 24	1/20/2016	1,4,44,10,3							
Dexter Wellness-Monthly Community Walks	6/6-6/11	5 - 18 X 24	2/9/2016	1,2,4,5,44								
Ann Arbor Track Club-Dexter to Ann Arbor Run	5/22-6/6	5 - 18 X 24	3/28/2016	1,2,4,5,44								
St. Joseph Festival Flea Market & Rummage Sale	6/26-7/10	5 - 18 X 24	3/30/2016	1,2,3,4,10								
Dexter Lion's Club/White Cane Days Fundraiser	6/17-6/18	5 - 2 X 3	4/8/2016	49,50,51,52,53								
Dexter Soccer Club-Tryouts	6/4-6/20	5 - 2 X 3	5/5/2016	1,2,4,5,44								
Dexter Wellness Coalition-Dexter Fitness Festival	6/1-6/14	5 - 18 X 24	5/16/2016	1,2,4,5,44								
Dexter Little League/Summer Baseball Registration	5/24-6/7	5 - 18 X 24	5/19/2016	1,2,4,5,44								
American Legion-Flea Market/Rumage Sale	6/17-6/25	5 - 18 X 24	6/1/2016	1,2,4,5,10								

Location Listing: 1 - Baker/Main, 2 - Central/Mill, 3 - Dexter Ann Arbor/Copeland, 4 - Main/Alpine, 5 - Baker/Cemetery, 6 - Monument Park, 7 - Creekside, 8 - 7610 Dexter Ann Arbor, 9 - Peace Park, 10 - Dexter Ann Arbor/Limits, 11 - Cornerstone, 12 - Bates, 13 - 3443 Inverness, 14 - 7720 Ann Arbor Street, 15 - S. Main/Broad, 16 - N. Main/Broad, 17 - Edison/Ann Arbor Street, 18 - Dover/Fifth, 19 - Central/Fifth, 20 - Broad/Fifth, 21 - Mill Creek Middle School, 22 - Fourth/Inverness, 23 - Dexter Bakery, 24 - Lighthouse, 25 - Dexter Pharmacy 2, 26-Warrior Creek Park Driveway, 27-Dexter Flowers, 28-Terry B's, 29-7795 Ann Arbor St, 30 - 7915 Fourth, 31 - 7651 Dan Hoey, 32 - Wylie, 33-Lions Park, 35-Dexter Crossing Entrance, 36 - Dan Hoey/Dexter Ann Arbor; 37 - Dover/Main, 38 - Fourth/Central, 39 - Baker/Hudson, 40 - Inverness/Ann Arbor, 41 - Main/Jeffords, 42 - Third/Broad; 43 - 3rd/Dover; 44 - Ryan/Dexter Ann Arbor, 45 - Meadowview/Dexter Ann Arbor, 46 - Ice Rink, 47-Dexter Mill/RR tracks, 48-7444 Dexter-Ann Arbor, 49-Post Office, 50-8135 Main-gas station, 51-Hackney, 52-TCF, 53-DQ, 54-Busch's 55-Mill Creek Park

\*\* Dexter Farmers Market will place up to 5 signs on Friday, Saturday and Tuesday from May through October to advertise for the market \*\* Dexter Area Chamber will place 4 signs on Friday night to announce the summer series (1, 2, 5, 44)

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**DPW**

- Checked tree planting
- Meeting on Hudson with homeowner about Storm Water issue - Dan Schlaff, Kurt Augustine and OHM
- Repaired asphalt prior to highway maintenance/cape sealing
- Edged Monument Park
- Swept downtown
- Dug out grass and mulched bed in Monument Park
- Built shed over the well at Community Garden
- Repaired leak and re-plumbed sprinkler line at Community Garden after shed installation
- Repaired barricade lights
- Swept streets
- Worked on roller
- Repaired Pedestrian Crossing sign
- Put up American flags
- Put up bunting
- Put out barricades for parade
- Picked up chairs for ceremony
- Closed road for TCF Bank for installation of their new A/C unit on top of the building
- Fixed mud flap on 1-ton
- Picked up parts for asphalt roller from Cougar
- Cut up tree at 5<sup>th</sup> and Alpine
- Changed blades on mowers
- B2B walkthrough
- Ordered street sweepings dumpster
- Banner
- Fixed base of traffic signal
- Did morning rounds for water testing
- Miss Digs

**WATER**

- Morning rounds
- Reads (final, beginning, NUBCO)
- Depth at well 5: 5/17/2016 - 23.3; 5/25/2016 - 22.8
- Meter installation
- MXU installation
- Checked high use
- Miss Digs
- ROW inspections
- Worked with Raymer on putting Well 5 back in service
- Bacti Samples for Well 5 came back negative: put Well 5 back in service.
- Changed all the CL2 tubing with Dan and Todd
- Backwash 5/20/2016 - 46000gals, 5/26/2016 - 40000gals
- Took Grab Samples for arsenic and fluoride from the Filter Building and Well House
- Out of 2300 meter reads, only 6 need to be estimated
- Huron River Dr valve test, valve operates but does not stop flow
- Change CL2 connector at water filtration plant
- Resolved Dexter Crossings Mall meter confusion
- Received flow certification for Dexter Crossings Mall
- Emergency call on Water Filtration Plant High Service Pump #3.

- Filed pool at 315 Carrington
- OHM site visit for Huron River Dr hydrants
- Chemical delivery
- Distributed throughout the City, 43 door hanger reminders for the Water Restrictions

On May 31<sup>st</sup>, Dan and OHM met with Kelly Jones, Washtenaw City Senior Project Manager of Construction, to discuss utilities issues that may impact the bridge upgrade on Shield Rd. Next Utility Coordination Meeting is scheduled for June 15, 2016 at 10am at the Road Commission Office on Zeeb Rd.

## **WASTE WATER**

- PVS Chemical (ferric supplier) site visit from sales and safety rep.
- Bio Tech washed out primary digester
- F&V performed 3 year inspection of digester project
- Review MAHL data
- 590-591 funds review
- Disconnect raw sludge pump counters with OHM due to concerns of sparking
- Pump representative site visit, no sparking issue due to LED light used in pump counter
- Repaired chemical transfer pump
- Review digester inspection data w/ Rhett OHM
- Disassemble clean and reassemble 3 plug valves in digester building
- Clear plugged floor drain in digester building
- Create digester startup schedule and review with F&V
- Transfer seed to digester and begin startup
- Volatile Acid to Total Alkalinity test daily through digester startup expect completion by 6/16
- Metro Environmental cleaned Westridge, Dexter Crossings lift stations and WWTP Scum pit
- Locate Westridge missing storm man holes after cape seal
- Check for man holes after cape seal in Huron farms and Dexter crossings
- Call in new blower alarm 100 hour maintenance check
- NUBC monthly visit
- Ferric feed line repair leak
- Wash down equalizing basin
- Secondary clarifier plug
- Restart blower after power fail
- On-call phone service interruption
- Chemical delivery

## STAFF REPORT

**To:** Mayor Keough and City Council  
Courtney Nicholls, City Manager

**From:** Michelle Aniol, Community Development Manager

**Date:** June 8, 2016

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### Miscellaneous

- Staff received the attached email from Hackney Hardware regarding on-street parking during parade events. As you will read, the store manager observed, what he termed, "unsafe behavior by those parking in front of stores before, during and after parades" and that "many cars pull out immediately after the parade passes, almost striking many of those who are still around as the parade ends." He is asking that all on-street parking be blocked during parade events.
- Staff recently met with the potential owner of the vacant lot at the southwest corner of Hudson and Forest Streets. He wanted information regarding yard requirements, tree removal regulations, etc. During our meeting staff mentioned he would be required to install new sidewalks along Hudson and Forest, at his cost, or as an alternative, he could make a contribution to the City's Public Sidewalk Program, in lieu of constructing the sidewalk.

According to the CIP, a sidewalk is only planned for the north side of Forest, between Baker Road and Inverness Street. However, the non-motorized pathways map in the recently adopted Park and Recreation Plan shows new sidewalks planned for both the north and south side of Forest, between Hudson and Inverness. Staff is seeking input from Council to determine the location of planned sidewalks along Forest Street, between Hudson and Inverness Streets.

### Planning Commission Updates

- On Monday, June 6, 2016 the Planning Commission consider a revised combined preliminary and final site plan, submitted by Don Darnell, on behalf of 8080 Grand, LLC. The revised plan called for the redevelopment of an existing 6,330 sq. ft. single story concrete block building, located at 8080 Grand Street, for business and professional offices and retail uses.

Following presentations by staff, the Planning and Engineering consultants, and the applicant, the Planning Commission discussed the requirement for a contribution to the City's Public Parking Program, the need for an easement for the sewer across the neighboring property, the elevation plan and relocation of the proposed bike rack.

The applicant asked the Planning Commission to recommend conditional approval to City Council. He agreed to contribute to the Public Parking Program, but also indicated he might wish to pursue a variance from the ZBA.

The Planning Commission then voted unanimously to recommend approval of the Combined Preliminary and Final Site Plan, dated April 5, 2016, and received May 6, 2016, for the redevelopment of 8080 Grand Street, for business and professional offices and retail uses, to city Council, subject to the following conditions:

1. Five additional parking spaces shall be provided on a revised site plan or the applicant shall submit a contribution to the Public Parking Fund, in the amount of \$12,500.00;
2. The parking calculations table shall be updated on a revised plan, as cited in the CWA review letter, dated May 11, 2016;

3. A revised site plan shall be submitted addressing all issues cited in the OHM review dated, May 19, 2016 and shall be reviewed by the engineer and staff prior to consideration by City Council;
4. Comments of the DAFD review, dated May 11, 2016;
5. Applicant shall secure an easement for the sewer across the adjacent property or relocate it on a revised plan; and
6. Bike parking shall be relocated to the other side of the sidewalk, to ensure unobstructed pedestrian access.

This case will be placed on the Council agenda once all conditions of approval have been satisfied.

- The Planning Commission conducted a public hearing to consider an amended Planned Unit Development (PUD) Petition and revised Area Plan for Grandview Commons, submitted by Steve Brouwer on behalf of MMB Equities, LLC. The application calls for an 80-unit mixed residential development located at the southwest corner of Grand Street and Baker Road involves the four properties, totaling 8.57 gross acres, including the city owned property the applicant has requested. The addition of the property at 7961 Grand Street triggered the need for a second hearing.

The Planning and Engineer consultants and staff reported their findings and recommendations, as well as those of the DAFD, which were based on the amended PUD Petition and Revised Area Plan dated May 6, 2016. Staff also updated the Commission on the revised Area Plan and parallel plan submitted by the applicant on Thursday, June 2, 2016. The primary change to the plan centered on the elimination of an 8-unit building in the center of the development and the creation of a centralized communal green space. Other changes to the layout plan included the addition of a 4-unit building and 4 benches. The net change in density was a loss of 4-unit, which brought the total number of units proposed to 76, which is 9 units per acre.

The applicant then addressed the Commission and explained the proposed changes.

Following presentations by staff, the Planning and Engineering consultants, and the applicant, the Commission discussed the orientation of the duplex units, efforts of the developer to address the commission's concerns, the sales price of the units, pedestrian circulation from Baker Road to the duplexes, design and elevation of the units, material and recognized benefits, tree preservation, and desire to move the project forward. Commissioners Kowalski and Smith expressed concerns that the last minute submittal had not been thoroughly reviewed by staff or the consultants. The other Commissioners wanted to know, "when would Council consider the case, if a recommendation for conditional approval was granted?" Staff verified that the revised area plan would have to satisfy all conditions of approval before it would be considered by City Council.

Then, in a 6-2 vote, the Planning Commission determined the amended PUD Petition and revised Area Plan received June 2, 2016, met the qualifications for consideration as a PUD and recommended approval to City Council, subject to the following conditions:

1. Recommendations, as cited in the CWA review dated, May 20, 2016, including the following:
  - a. Applicant shall provide a parallel plan showing the entire project area and shall demonstrate all required setbacks of the proposed VR Village Residential District.
  - b. Site modifications, as provided in the applicants June 2, 2016 correspondence, page 4, item 6;
  - c. Applicant shall submit a revised area plan that provides the following information:
    - i. Location and dimensions of all proposed, existing and/or modified utility lines;
    - ii. List of dimensional deviations sought through the PUD approval;
    - iii. Verification of height of townhouse, duplex and 4-unit structures;

- d. Attorney review and approval of Development Agreement;
- e. City Engineer's review and approval.
2. All General, Water and Sanitary Sewer, Stormwater Management, and Paving and Right-of-Way review comments, as cited in the OHM review dated, May 19, 2016;
3. Recommendations, as cited in the DAFD review dated, May 11, 2016.
4. The applicant shall provide a revised area plan that includes the following, as cited by staff herein:
  - a. All plan sheets must be sealed by the professional, as required by the State of Michigan;
  - b. Legal description of the each parcel, along with acreage;
  - c. Soil classifications on the topographic survey; and
  - d. Adjacent land uses and zoning, as well as the location of adjacent buildings, drives and streets.
5. Material and recognized benefits, as determined by the Planning Commission, including the following:
  - a. The benefits listed in staff memo dated, May 31, 2016, items 2.a, b, e, f, and g, plus elevations depicted along Grand Street, in rendering distributed by applicant at the June 6, 2016 meeting and sidewalk connectivity between Baker Road and the proposed duplexes.

This case will be placed on the Council agenda once all conditions of approval have been satisfied.

### **Enforcement Activity**

- Junk and rubbish in the front yard (Dover St); ticket issues by Washtenaw County Sheriff
- Public nuisance- inoperable vehicle (Ann Arbor St); ticket issued by Washtenaw County Sheriff
- Public Nuisance – overgrown grass/weeds (Bristol Dr); 2<sup>nd</sup> notice of violation
- Public Nuisance – overgrown grass/weeds (Inverness St); 2<sup>nd</sup> notice of violation pending
- An enforcement letter was sent to the owner of record of 7711 Fourth St on May 25, 2016, regarding the over grown grass. The certified letter was returned by the post office. The property owner of record no longer resides at house, and the post office could not deliver it, as there was not forwarding address on record.

As this may be a bank foreclosure situation, staff asked Chris Renius to check county records for bank information. No luck. Staff also checked to see if any notices had been posted. No notices were observed.

Normally, staff sends out another letter and posts a notice on the property, giving another 10 days, before issuing a ticket, if the violation isn't abated. In this case, staff has sent a 2<sup>nd</sup> notice of violation (certified and regular mail) and posted the notice on the property, giving another 10 days to abate the violation. However, after the 2<sup>nd</sup> 10 day period expires, staff intends to exercise the provisions in Section 18-34, so the City or its agent is able to enter the property and mow the grass. We could then put a lien on the property to cover the cost of maintaining the property (Sec 18.-34(d-e)). Staff anticipates the City will need to maintain the property the rest of the season. Consequently, staff must be able to demonstrate that the City provided the "property owner" due process and one notice would not be sufficient to do that.

The 1<sup>st</sup> 10 day period ended on Monday, June 6<sup>th</sup>. A second inspection was conducted on June 8, 2016. A second notice has been mailed (certified and regular) and a notice posted on the house. Staff will follow-up with the City Attorney before maintenance activities are initiated by DPS.

**From:** [Andy Reiser](#)  
**To:** [maniol@dextermi.gov](mailto:maniol@dextermi.gov)  
**Subject:** Parking on parade route  
**Date:** Wednesday, June 08, 2016 10:47:16 AM

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Michelle,

I am writing to you in the hopes that during parades through the City, all parking in front of the store fronts downtown is blocked from vehicles parking in them. I have observed many incidents of unsafe behavior by those parking in front of stores before, during and after parades. I have observed many cars pull out immediately after the parade passes, almost striking many of those who are still around as the parade ends.

Those parked in the spots act as if they are "entitled" to that space, and at times, act aggressively towards others who attempt to come to the street from the side walk to watch the passing parade. At the recent Memorial parade, for example, one person cursed many times at people (with young children in tow) who innocently walked next to their car to watch the parade.

Additionally, those parked in the street create unnecessary congestion on the sidewalks. Folks want to watch the parade, but can not because all the cars are in the way. They then have to find a suitable spot elsewhere. This creates areas where there are three or four folks watching versus other spots where there are many dozens watching because cars are taking up prime viewing spots. These few who park in front of the stores take away from and diminish the overall enjoyment by the many who want to watch the parade.

I thank you for your consideration in the manner.

Andy Reiser  
Store Manager  
Hackney Hardware  
426-4009

**CITY OF DEXTER**

**[cnicholls@dextermi.gov](mailto:cnicholls@dextermi.gov)**

8140 Main Street Dexter, MI 48130-1092 Phone (734)426-8303 ext. 11 Fax (734)426-5614

**MEMO**

**To: Mayor Keough and Council Members**  
**From: Courtney Nicholls, City Manager**  
**Date: June 8, 2016**  
**Re: City Manager/Assistant to the Manager Report - Meeting of  
June 13, 2016**

1. Meeting Review:
  - May 18<sup>th</sup> – City Council Budget Workshop
  - May 19<sup>th</sup> – 3045 Broad Redevelopment Team
  - May 30<sup>th</sup> – Memorial Day Parade/Ceremony
  - June 3<sup>rd</sup> – Facility Committee (if necessary)
  - June 6<sup>th</sup> – Intern Interview
  - June 7<sup>th</sup> – Intern Interview
  - June 7<sup>th</sup> – Arts, Culture & Heritage Committee/Art Selection Committee Joint Meeting
  - June 7<sup>th</sup> – Dexter Are Fire Department Capital Needs/ISO Presentation
  
2. Upcoming Meetings:
  - June 8<sup>th</sup> - Assessor Interview
  - June 8<sup>th</sup> – Intern Interview
  - June 8<sup>th</sup> - 3045 Broad Redevelopment Visioning Session
  - June 9<sup>th</sup> – Assessor Interview
  - June 10<sup>th</sup> – Visit from Senator Peters
  - June 13<sup>th</sup> – Shield/Baker/Dan Hoey Rd Planning Meeting
  - June 13<sup>th</sup> – City Council
  - June 16<sup>th</sup> – Downtown Development Authority
  - June 16<sup>th</sup> – Breakfast with the Budget
  - June 18<sup>th</sup> – Lion’s Park – Community Build
  
3. **Drone Regulation.** Steve Hanes, Supervisory Inspector and Unmanned Aerial Vehicle Specialist with the Federal Aviation Administration came to speak to the Planning Commission on June 6<sup>th</sup>. Mr. Hanes provided information about drone regulation and municipal and federal roles in enforcing regulation. A copy of the notes taken during his presentation is attached to this report.
  
4. **Art Selection Guidelines.** The Arts, Culture, and Heritage Committee held a regular meeting on Tuesday, June 6<sup>th</sup>. It was staff’s intent to hold a joint meeting between ACH and the Art Selection Committee to discuss the art selection process and criteria, but the Art Selection Committee did not meet quorum. In the absence of a

- quorum for the Art Selection Committee, the Arts, Culture, and Heritage discussed the criteria and voted to include the criteria in their draft Master Plan. A copy of the criteria, which is attached to this memo, will be sent out to the remaining members of the Art Selection Committee for their review and comment.
5. **Lion's Park Installation.** Knight's Excavating began grading the playground area for Lion's Park on Tuesday, June 7<sup>th</sup>. As a reminder, the Community Build Day for the playground equipment installation will take place on Saturday, June 18<sup>th</sup>.
  6. **MML Wage Study.** The wage study for non-union employees completed by the Michigan Municipal League is currently under review by staff. We anticipate that the representative from the MML will be attending the July 25, 2016 meeting to present the findings of the report. The MML representative was not available on July 11<sup>th</sup>. As a reminder, a 2.5% increase to the base wage of all employees will take effect on July 1, 2016. The Manager's recommendation on any additional increases for non-union staff will be presented based on performance reviews and the wage study findings.
  7. **Road Work.** The microsurfacing of Dexter Ann Arbor Road and Ryan was completed on Saturday, June 4, 2016. The remaining work to apply the slurry seal to the roadways in the project area will be scheduled once school is out.
  8. **Assessor Position.** Staff has interviews scheduled with two candidates for the part time Assessor position. We hope to have a recommendation ready for the June 13, 2016 meeting.
  9. **Dexter Area Fire Department Meeting.** On June 7<sup>th</sup>, Marie Sherry attended the Fire Chief's presentation on his plans for capital expenditures for the DAFD. Also in attendance from the City were Council members Smith, Knight and Tell, and Planning Commission member Schmid. The Chief reviewed the standards and regulations that fire departments are required and/or recommended to follow, and then discussed the department's most recent ISO rating from 2012. The last part of the presentation covered the actual equipment inventory, when it should have been or should be replaced, and a funding schedule based on a set amount of funding per year. The meeting lasted about an hour and a half, with the Chief taking questions at the end.
  10. **Employee Transfer.** City employee Todd Viebahn has decided to transfer from the Department of Public Works to the Utility Department. We will be advertising to fill the vacant Department of Public Works position. The salary breakout provided with the budget document in Item F has been updated to reflect the transfer.

**Steve Hanes, Supervisory Inspector and UAV Specialist**  
**Presentation to Planning Commission**  
**July 6, 2016 Notes**

- FAA Reauthorization Act – Gives the FAA authority to regulate unmanned aerial vehicles.
  - The direction to FAA staff in the past has been to talk to drone users and educate them rather than fine or take heavier corrective action.
  - Drone users with drones ½ - 55 lbs are supposed to register with the FAA.
- Two types of drones – commercial and private.
  - Commercial uses – taking photos or video of real estate, bridge inspections.
  - Not a lot of limitations on private uses.
- Municipalities cannot regulate airspace. As soon as something takes flight, that is considered airspace.
  - Municipalities can regulate where people stand when they are operating the drone.
  - FAA can fine users for endangering life or property.
  - Only law enforcement is regulated as far as surveilling private property.
  - FAA has no authority indoors.
- FAA typically only intercedes if a drone operator is endangering someone or something.
  - FAA directs people to first contact law enforcement.
  - Law enforcement should then contact the FAA.
- Question of privacy supposedly being addressed by State law (in the legislature now).
- Shooting an aircraft (i.e. drone) is a federal offense. This is equivalent to trying to shoot a Boeing 747.
- May be possible to enact business permitting for commercial drone use.
- FAA is working on online look-up for drone registrations.
  - Drone operators are supposed to notify the FAA when they move.

**Phase 1** - ACH gives consideration to the concept.

**Phase 2** – Staff works with the applicant to gather all of the Required Criteria

Required Criteria (Either have it or don't)

- The proposed design of a donated piece of work must be in its final form before going to the Art Selection Committee
- Maquette or rendering of three-dimensional work or complete drawing of a two-dimensional work
- Drawings or photographs that demonstrate the relationship of the artwork to the site – size and scale demonstrated
- Artist statement about how the artwork meets the goals and objectives of the Arts, Culture, and Heritage Master Plan
- Material samples for the artwork and any relevant construction materials
- Installation details, including proposed lighting, fixtures, and methods of affixing the artwork
- Professional appraisal of the artwork's value
- Description of routine maintenance and estimate of maintenance costs
- Itemize any and all costs to the City
- Approval for the installation and use of site by the appropriate City departments (Public Works, Parks and Recreation, Engineering)
- Artist's resume
- Object's exhibition history, if it is an existing work
- A clear demonstration of the dimensions of all aspects of the work
- Colors, color samples included in the work
- Specific proposed location (final decision made by Committee), location must be accessible to the general public
- Must have artistic merit and be designed by a qualified professional
- The work must be durable and made for outdoor display
- The work must be safe for public display and/or interaction
- Samples of any necessary agreements are provided (i.e. easements, property transfer, ect.)
- Site design, engineering, installation, and maintenance costs will be borne by the donor

**Phase 3** – Once Required Criteria is collected, and then item goes to Art Selection Committee. Art Selection Committee reviews and finalizes all details. The Art Selection Committee gives consideration to the artwork based on the following items:

Scoring Items (1 – 10)

- Goals and Objectives - Donation meets the goals and objectives set forth in the Arts, Culture, and Heritage Master Plan
- Location - The location satisfies The Committee's objective of distribution of art throughout all areas of the City.
- Artistic Quality and Originality – The strength, originality, and creativity of the artist's concept and demonstrated skill or craftsmanship
- Context – The appropriateness of the concept as it relates to the City's architectural, geographical, socio-cultural, and historical context
- Size – The appropriateness of the work's scale and massing for the site
- Feasibility – Budget, timeline, and probability of success
- Design and Construction – Issues related to fabrication of the installation, its durability, resistance to vandalism, long-term maintenance issues, and weather permanence
- Support – Demonstrated community agreement/support for the project (Facebook post, newsletter)

- Public Safety – Meets any and all applicable building codes for public projects
- Other – The Art Selection Committee may adopt other project specific criteria pertinent to special considerations of the site, the project, or the Committee's specific intent, provided such criteria are clearly and completely stated in the Request for Proposal

At their meeting on June 7, 2016, the Arts Culture and Heritage Committee voted to approve the use of an 85% average score in order to meet the threshold where the Committee would recommend the acceptance of a piece of art to City Council.

If a piece of art does not meet the 85% threshold, then the Art Selection Committee has several options open to it.

1. Members of the Committee may choose not to make any motion, in which case the piece of art is rejected outright
2. The Art Selection Committee may choose to vote to deny the piece of art outright.
3. Members of the Committee may choose to make a motion that the art has merit, in which case the applicant will be presented with the criteria grading forms. The applicant may choose to modify the piece to receive a better score and resubmit to the Art Selection Committee for a new evaluation.

**Phase 4** – City Council gives consideration to the item based on the Art Selection Committee's recommendation.

DRAFT

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**Mayor Report  
Shawn Keough  
Prepared on June 8, 2016**

Agenda: 6/13/2016  
Item: I-6

Hello Residents and Council members,

Here is a report of my activities over the past couple weeks and my calendar of activities looking ahead:

**Recent Activities**

Tax Tribunal Update – Following the Judge’s Ruling that the Wellness Center should be taxable, the Chelsea Wellness Foundation filed an Appeal. As a result of that action, the City of Dexter/Downtown Development Authority filed a cross Appeal. We are in the early stages of an Appeals process that will likely take 1 year to complete.

Facility Committee activity – At the May 6<sup>th</sup> Facility Committee meeting, the committee agreed to package up the information that we have so far and share it with Council. Binders have been prepared by staff with all the information that we have obtained so far. We figure that this is a continuous process and that as additional information is gathered, it can be added to the binder. The Facility Committee received their binders on June 3<sup>rd</sup>. Council will be receiving a binder as part of their Council packet.

Mill Creek Terrace Project – This project continues to receive a lot of interest. Over the past couple of weeks, I was contacted by John Evans again and Bob Guenther of Guenther Homes. Apparently, Mr. Guenther also has some interest in speaking to the Schulz family about taking over their project. Mr. Guenther also seemed interested in working with the City if we are interested in space on the first floor of the building (i.e. for City offices/public restroom/etc...).

May 30, 2016 - I participated in the Memorial Day Ceremony at Monument Park following the Memorial Day parade. I am honored to be invited to do the welcome each year. I think the Rotary Club of Dexter is doing a fantastic job with their organization of the parade and the ceremony. It is quite a special tradition.

June 1<sup>st</sup> and 6<sup>th</sup>, 2016 – Union Negotiation meetings with DAFD Firefighters from Local 4090

**Upcoming Activities**

June 8, 2016 - 3045 Broad Street – Public Visioning Session #3 – the third visioning workshop will be held at the Creekside Cafeteria at 6 pm. I hope you can join us.

June 10, 2016 – Dexter Mill Creek Park Tour with Senator Gary Peters

June 13, 2016 – Baker/Shield/Dan Hoey Project Meeting

June 13, 2016 – City Council meeting

June 15, 2016 - Union Negotiation meeting with DAFD Firefighters from Local 4090

June 16, 2016 – Downtown Development Authority meeting

June 16, 2016 – Dexter Area Fire Department (DAFD) meeting

Please feel free to contact me at any time with questions or suggestions.

I look forward to seeing you around our town.

Shawn Keough, Mayor, City of Dexter  
[skeough@DexterMI.gov](mailto:skeough@DexterMI.gov) (313) 363-1434 (cell)

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<b>SUMMARY OF BILLS AND PAYROLL</b>			<b>6/13/2016</b>
Payroll Check Register	05/25/16	\$40,208.76	Regular Payroll
	06/08/16	\$40,693.46	Regular Payroll
	06/08/16	\$770.00	Vacation Cash Out
Employer Costs (FICA/MERS/ICMA) paid via electronic transfer	05/25/16	\$3,616.29	Regular Payroll
	06/08/16	\$3,678.19	Regular Payroll
	06/08/16	\$58.90	Vacation Cash Out
Account Payable Check Register		\$457,890.88	
		<b>\$506,707.72</b>	<b>TOTAL BILLS &amp; PAYROLL EXPENDED ALL FUNDS</b>
<b>The due date column on the accounts payable worksheets represents the date of the Council meeting</b>			
<b>ALL PAYABLES ARE WITHIN ACCEPTABLE BUDGET LIMITS EXCEPT AS NOTED BELOW DETAIL VENDOR LIST AND ACCOUNT SUMMARY PROVIDED</b>			
<i>"This is the summary report that will be provided with each packet. Approval of the total bills and payroll expended, all funds will be necessary."</i>			

BANK CODE: POOL

Claimant	Amount Claimed	Amount Owed	Amount Rejected
1. ALLIED EAGLE SUPPLY CO	353.66		
2. ANDREA DORNEY	288.32		
3. ARBOR CARE TREE SURGEONS	30.00		
4. ARBOR SPRINGS WATER CO.INC	26.00		
5. AT&T	55.89		
6. BARCO PRODUCTS COMPANY	221.04		
7. BIOTECH	16,473.70		
8. BOULLION SALES	101.02		
9. CADILLAC ASPHALT, LLC	3,389.03		
10. CARLISLE-WORTMAN ASSOCIATES	807.50		
11. CINTAS CORPORATION	1,619.99		
12. CITY OF DEXTER	1,735.50		
13. COMCAST	889.96		
14. COMCAST	45.82		
15. COMMERCIAL DOOR SPECIATLIES	4,810.00		
16. CORRIGAN OIL COMPANY	1,528.91		
17. COUGAR SALES AND RENTAL	92.90		
18. CRIBLEY WELL DRILLING CO INC	1,699.05		
19. DES MOINES STAMP MANUFACTURING	67.40		
20. DETROIT PUMP & MANUFACTURING	72.71		
21. DEXTER COMMUNITY SCHOOLS	82,998.50		
22. DEXTER MILL	900.78		
23. DIUBLE EQUIPMENT INCORPORATED	1,056.89		
24. DTE ENERGY	5,754.01		
25. DTE ENERGY-STREET LIGHTING	5,993.52		
26. ECONO	1,380.44		
27. ELHORN ENGINEERING CO	543.90		
28. EQUALIZATION AND PROPERTY DISCRIPTI	30.00		
29. F&V OPERATIONS	2,636.00		
30. FALCON	1,535.88		
31. GRAINGER	115.56		
32. GREEN GUYS LAWN AND LANDSCAPE	544.00		
33. GRIFFIN PEST CONTROL INC	159.00		
34. GRISSOM JANITORIAL	320.00		
35. HACKNEY HARDWARE	594.18		
36. HIGHWAY MAINTENANCE CONSTUCTION CO	201,124.86		
37. ILE EXCAVATING	1,500.00		
38. LESSORS WELDING SUPPLY	55.00		
39. LOWE'S BUSINESS ACCOUNT	584.25		
40. MARIE A. SHERRY	364.21		
41. MASTERCRAFT PLUMBING	244.00		
42. MML WORKERS COMPENSATION FUND	3,542.00		
43. NORTH CENTRAL LABORATORIES	156.19		
44. NORTHERN SAFETY CO INC	417.02		
45. PARAGON LABORATORIES INC	40.00		
46. PARTS PEDDLER AUTO SUPPLY	152.17		
47. PNC	323.16		
48. PRINTING SYSTEMS	754.10		
49. PRINT-TECH, INC.	35.20		
50. RENIUS & RENIUS	1,497.76		

BANK CODE: POOL

Claimant	Amount Claimed	Amount Owed	Amount Rejected
51. RITE-TECH ENTERPRISES INC.	10,145.12		
52. SCOTT E. MUNZEL, PC	2,913.50		
53. SITE ONE LANDSCAPE SUPPLY	58.20		
54. SMALL BUSINESS ASSOC OF MICH	199.00		
55. SMITHGROUP JJR	8,460.00		
56. SPEARS FIRE & SAFETY SERVICES	208.55		
57. THE SUN TIMES	150.00		
58. TIM STEWART	70.00		
59. TRACTOR SUPPLY CREDIT PLAN	127.97		
60. US BANK CORPORATE TRUST	300.00		
61. UTILITIES INSTRUMENTATION SERV	2,815.00		
62. VARNUM, RIDDERING, SCHMIDT	524.48		
63. VERIZON WIRELESS	532.72		
64. VIEBAHN, TODD	139.25		
65. WASHTENAW COUNTY TREASURER	39,177.25		
66. WASTE MANAGEMENT OF MICHIGAN	42,408.86		
***TOTAL ALL CLAIMS***	457,890.88		

GL Number	Inv. Line Desc	Vendor	Invoice Desc.	Invoice	Due Date	Amount	check #
Fund 101 GENERAL FUND							
Dept 101 CITY COUNCIL							
101-101-958.000	MEMBERSHIPS & DUES	SMALL BUSINESS ASSOC O	MEMBERSHIP	06/06/16	06/13/16	199.00	
Total For Dept 101 CITY COUNCIL						199.00	
Dept 172 CITY MANAGER							
101-172-955.000	MISCELLANEOUS	DES MOINES STAMP MANUF	NOTARY	1071486	06/13/16	67.40	
Total For Dept 172 CITY MANAGER						67.40	
Dept 210 ATTORNEY							
101-210-810.000	ATTORNEY FEES	SCOTT E. MUNZEL, PC	DEXTER WELLNESS	1854	06/13/16	1,538.50	
101-210-810.000	ATTORNEY FEES	SCOTT E. MUNZEL, PC	TAX APPEAL	1851	06/13/16	1,001.00	
101-210-810.000	ATTORNEY FEES	SCOTT E. MUNZEL, PC	TAX APPEAL	1852	06/13/16	374.00	
Total For Dept 210 ATTORNEY						2,913.50	
Dept 253 TREASURER							
101-253-861.000	TRAVEL & MILEAGE	MARIE A. SHERRY	MILEAGE	06/07/16	06/13/16	364.21	
101-253-861.000	TRAVEL & MILEAGE	PNC	MCAT TRAINING	06/06/16	06/13/16	308.16	
Total For Dept 253 TREASURER						672.37	
Dept 257 ASSESSING DEPARTMENT							
101-257-803.000	CONTRACTED SERVICES	RENIUS & RENIUS	JUNE 2016	06/06/16	06/13/16	1,497.76	
Total For Dept 257 ASSESSING DEPARTMENT						1,497.76	
Dept 262 ELECTIONS							
101-262-727.000	OFFICE SUPPLIES	EQUALIZATION AND PROPE	PRECINCT MAO	06/06/16	06/13/16	30.00	
Total For Dept 262 ELECTIONS						30.00	
Dept 265 BUILDINGS & GROUNDS							
101-265-727.000		ARBOR SPRINGS WATER CO	OFFICE	1614767	06/13/16	26.00	
101-265-727.000	OFFICE SUPPLIES	ECONO	OFFICE	58136	06/13/16	307.00	
101-265-727.000		HACKNEY HARDWARE	ACCT # 6430	06/08/16	06/13/16	22.25	
101-265-727.000	OFFICE SUPPLIES	PRINTING SYSTEMS	ACCTS PAYABLE CHECKS	95682	06/13/16	268.95	
101-265-920.000	UTILITIES	COMCAST	OFFICE	06/06/16	06/13/16	45.82	
101-265-920.000	UTILITIES	DTE ENERGY	MAY 2016	06/08/16	06/13/16	550.45	
101-265-920.001	UTILITIES - TELEPHONES	COMCAST	PHONE SYSTEM	43226609	06/13/16	515.03	
101-265-935.000		CINTAS CORPORATION	MAY 2016 SERVICE	06/07/16	06/13/16	86.62	
101-265-935.000	BUILDING MAINTENANCE & REPAIR	MASTERCRAFT PLUMBING	8050 MAIN	18604	06/13/16	244.00	
101-265-935.001		GRISSOM JANITORIAL	OFFICE	162	06/13/16	320.00	
101-265-962.000	COMMUNITY GARDEN	LOWE'S BUSINESS ACCOUN	DPW	06/08/16	06/13/16	521.55	
Total For Dept 265 BUILDINGS & GROUNDS						2,907.67	
Dept 301 LAW ENFORCEMENT							
101-301-807.000		WASHTENAW COUNTY TREAS	PSU JUNE 2016	28329	06/13/16	39,177.25	
101-301-807.001	DCS OFFICER & CROSSING GUARD	DEXTER COMMUNITY SCHOO	MILL CREEK	2016-0000006	06/13/16	5,032.00	
101-301-807.001	DCS OFFICER & CROSSING GUARD	DEXTER COMMUNITY SCHOO	15-16' PUBLIC SAFETY	20160000005	06/13/16	77,966.50	
101-301-920.000	UTILITIES	CITY OF DEXTER	WATER BILLS	06/06/16	06/13/16	246.04	
101-301-920.000	UTILITIES	DTE ENERGY	MAY 2016	06/08/16	06/13/16	226.80	
Total For Dept 301 LAW ENFORCEMENT						122,648.59	
Dept 336 FIRE DEPARTMENT							
101-336-920.000	UTILITIES	CITY OF DEXTER	WATER BILLS	06/06/16	06/13/16	307.55	
101-336-920.000		DTE ENERGY	MAY 2016	06/08/16	06/13/16	226.80	
101-336-935.000	BUILDING MAINTENANCE & REPAIR	GRIFFIN PEST CONTROL I	8140 MAIN	1359947	06/13/16	159.00	
Total For Dept 336 FIRE DEPARTMENT						693.35	

GL Number	Inv. Line Desc	Vendor	Invoice Desc.	Invoice	Due Date	Amount	check #
Fund 101 GENERAL FUND							
Dept 400 PLANNING DEPARTMENT							
101-400-802.000	PROFESSIONAL SERVICES	CARLISLE-WORTMAN ASSOC	GENERAL CONSULTATION	2139941	06/13/16	77.50	
Total For Dept 400 PLANNING DEPARTMENT						77.50	
Dept 441 DEPARTMENT OF PUBLIC WORKS							
101-441-740.000	OPERATING SUPPLIES	CRIBLEY WELL DRILLING	DPW	06/07/16	06/13/16	9.50	
101-441-740.000	OPERATING SUPPLIES	DEXTER MILL	SUPPLIES	06/08/16	06/13/16	72.90	
101-441-740.000		HACKNEY HARDWARE	ACTT # 6431	06/08/16	06/13/16	147.69	
101-441-740.000	OPERATING SUPPLIES	LESSORS WELDING SUPPLY	DPW	302499	06/13/16	55.00	
101-441-745.000		CINTAS CORPORATION	MAY 2016 SERVICE	06/07/16	06/13/16	753.66	
101-441-745.000	UNIFORM ALLOWANCE	TRACTOR SUPPLY CREDIT	DPW	241717	06/13/16	127.97	
101-441-745.000	UNIFORM ALLOWANCE	VIEBAHN, TODD	CLOTHING ALLOWANCE	06/08/16	06/13/16	63.35	
101-441-751.000		CORRIGAN OIL COMPANY	WWTP & DPW	6238595	06/13/16	390.39	
101-441-751.000		CORRIGAN OIL COMPANY	WWTP	6242357	06/13/16	209.05	
101-441-861.000	TRAVEL & MILEAGE	VIEBAHN, TODD	MILEAGE	06/08/16	06/13/16	75.90	
101-441-920.000	UTILITIES	CITY OF DEXTER	WATER BILLS	06/06/16	06/13/16	127.61	
101-441-920.000	UTILITIES	DTE ENERGY	MAY 2016	06/08/16	06/13/16	1,106.40	
101-441-920.001	UTILITIES - TELEPHONES	COMCAST	PHONE SYSTEM	43226609	06/13/16	103.75	
101-441-920.001	UTILITIES - TELEPHONES	VERIZON WIRELESS	CELLULAR	06/06/16	06/13/16	223.86	
101-441-957.000	MISCELLANEOUS FEES	TIM STEWART	CDL REIMBURSEMENT	06/06/16	06/13/16	70.00	
Total For Dept 441 DEPARTMENT OF PUBLIC WORKS						3,537.03	
Dept 442 DOWNTOWN PUBLIC WORKS							
101-442-730.000	FARMERS MARKET SUPPLIES	DEXTER MILL	SUPPLIES	06/08/16	06/13/16	398.00	
101-442-730.000	FARMERS MARKET SUPPLIES	DEXTER MILL	SUPPLIES	06/08/16	06/13/16	27.98	
101-442-730.000	FARMERS MARKET SUPPLIES	HACKNEY HARDWARE	ACCT # 6430	06/08/16	06/13/16	4.47	
101-442-730.000	FARMERS MARKET SUPPLIES	THE SUN TIMES	VENDOR LISTINGS	49338	06/13/16	150.00	
101-442-740.000	OPERATING SUPPLIES	ALLIED EAGLE SUPPLY CO	DPW	853956	06/13/16	281.60	
101-442-740.000	OPERATING SUPPLIES	SITE ONE LANDSCAPE SUP	DPW	75761146	06/13/16	58.20	
101-442-920.000	UTILITIES	DTE ENERGY	MAY 2016	06/08/16	06/13/16	592.56	
Total For Dept 442 DOWNTOWN PUBLIC WORKS						1,512.81	
Dept 448 MUNICIPAL STREET LIGHTS							
101-448-920.003	UTILITIES - STREET LIGHTS	DTE ENERGY-STREET LIGH	STREETLIGHTS	06/06/16	06/13/16	5,993.52	
Total For Dept 448 MUNICIPAL STREET LIGHTS						5,993.52	
Dept 751 PARKS & RECREATION							
101-751-731.000	LANDSCAPE SUPPLIES	DEXTER MILL	SUPPLIES	06/08/16	06/13/16	288.00	
101-751-731.000	LANDSCAPE SUPPLIES	GREEN GUYS LAWN AND LA	PARKS	06/08/16	06/13/16	544.00	
101-751-731.000	LANDSCAPE SUPPLIES	HACKNEY HARDWARE	ACCT # 6430	06/08/16	06/13/16	5.97	
101-751-731.000	LANDSCAPE SUPPLIES	HACKNEY HARDWARE	ACTT # 6431	06/08/16	06/13/16	139.20	
101-751-740.000	OPERATING SUPPLIES	BARCO PRODUCTS COMPANY	DPW	051600515	06/13/16	221.04	
101-751-740.000	OPERATING SUPPLIES	HACKNEY HARDWARE	ACTT # 6431	06/08/16	06/13/16	19.96	
101-751-740.000	OPERATING SUPPLIES	LOWE'S BUSINESS ACCOUN	DPW	06/08/16	06/13/16	62.70	
101-751-802.000	PROFESSIONAL SERVICES	SMITHGROUP JJR	MILL CREEK PARK PHASE 2	0116123	06/13/16	8,460.00	
Total For Dept 751 PARKS & RECREATION						9,740.87	
Dept 851 INSURANCE & BONDS							
101-851-910.000		MML WORKERS COMPENSATI	QUARTERLY	6080204	06/13/16	1,788.71	
Total For Dept 851 INSURANCE & BONDS						1,788.71	
Dept 901 CAPITAL IMPROVEMENTS							
101-901-975.011	PROPERTY ACQUISITION	CRIBLEY WELL DRILLING	DAN HOEY	69766	06/13/16	1,689.55	
101-901-975.011	PROPERTY ACQUISITION	ILE EXCAVATING	DEMO	160	06/13/16	1,500.00	

GL Number	Inv. Line Desc	Vendor	Invoice Desc.	Invoice	Due Date	Amount	check #
Fund 101 GENERAL FUND							
Dept 901 CAPITAL IMPROVEMENTS							
Total For Dept 901 CAPITAL IMPROVEMENTS						3,189.55	
Total For Fund 101 GENERAL FUND						157,469.63	
Fund 202 MAJOR STREETS FUND							
Dept 451 CONTRACTED ROAD CONSTRUCTION							
202-451-803.006	CONTRACTED ROAD CAPE SEAL	HIGHWAY MAINTENANCE CO	STREETS	0130-15-0022	06/13/16	76,124.86	
202-451-974.000	CIP CAPITAL IMPROVEMENTS	CADILLAC ASPHALT, LLC	PATCHING	2877463	06/13/16	2,573.13	
202-451-974.000	CIP CAPITAL IMPROVEMENTS	FALCON	DPW	16126-323	06/13/16	1,535.88	
Total For Dept 451 CONTRACTED ROAD CONSTRUCTION						80,233.87	
Dept 463 ROUTINE MAINTENANCE							
202-463-802.000	PROFESSIONAL SERVICES	ECONO	ROAD MAINTENANCE MAILER	58113	06/13/16	536.72	
202-463-910.000		MML WORKERS COMPENSATI	QUARTERLY	6080204	06/13/16	162.93	
Total For Dept 463 ROUTINE MAINTENANCE						699.65	
Dept 474 TRAFFIC SERVICES							
202-474-740.000	OPERATING SUPPLIES	GRAINGER	DPW	9114258446	06/13/16	115.56	
202-474-910.000		MML WORKERS COMPENSATI	QUARTERLY	6080204	06/13/16	56.67	
Total For Dept 474 TRAFFIC SERVICES						172.23	
Dept 478 WINTER MAINTENANCE							
202-478-910.000		MML WORKERS COMPENSATI	QUARTERLY	6080204	06/13/16	83.24	
Total For Dept 478 WINTER MAINTENANCE						83.24	
Total For Fund 202 MAJOR STREETS FUND						81,188.99	
Fund 203 LOCAL STREETS FUND							
Dept 451 CONTRACTED ROAD CONSTRUCTION							
203-451-803.006	CONTRACTED ROAD CAPE SEAL	HIGHWAY MAINTENANCE CO	STREETS	0130-15-0022	06/13/16	125,000.00	
203-451-970.000	CONTRACTED CAPITAL IMPROVE	CADILLAC ASPHALT, LLC	PATCHING	287050	06/13/16	815.90	
Total For Dept 451 CONTRACTED ROAD CONSTRUCTION						125,815.90	
Dept 463 ROUTINE MAINTENANCE							
203-463-740.000	OPERATING SUPPLIES	DEXTER MILL	SUPPLIES	06/08/16	06/13/16	113.90	
203-463-740.000	OPERATING SUPPLIES	HACKNEY HARDWARE	ACTT # 6431	06/08/16	06/13/16	62.94	
203-463-802.000	PROFESSIONAL SERVICES	ECONO	ROAD MAINTENANCE MAILER	58113	06/13/16	536.72	
203-463-910.000		MML WORKERS COMPENSATI	QUARTERLY	6080204	06/13/16	49.59	
Total For Dept 463 ROUTINE MAINTENANCE						763.15	
Dept 474 TRAFFIC SERVICES							
203-474-910.000		MML WORKERS COMPENSATI	QUARTERLY	6080204	06/13/16	17.71	
Total For Dept 474 TRAFFIC SERVICES						17.71	
Dept 478 WINTER MAINTENANCE							
203-478-910.000		MML WORKERS COMPENSATI	QUARTERLY	6080204	06/13/16	38.96	
Total For Dept 478 WINTER MAINTENANCE						38.96	
Total For Fund 203 LOCAL STREETS FUND						126,635.72	
Fund 226 SOLID WASTE COLLECTION FUND							
Dept 528 SOLID WASTE							
226-528-805.000	CONTRACTED SOLID WASTE SEF	WASTE MANAGEMENT OF MI	APRIL 16'	06/06/16	06/13/16	42,408.86	
226-528-901.000	PRINTING & PUBLISHING	PRINT-TECH, INC.	UTILITY BILLS	232044	06/13/16	11.73	
226-528-901.000	PRINTING & PUBLISHING	PRINTING SYSTEMS	UTILITIES	95554	06/13/16	161.71	

GL Number	Inv. Line Desc	Vendor	Invoice Desc.	Invoice	Due Date	Amount	check #
Fund 226 SOLID WASTE COLLECTION FUND							
Dept 528 SOLID WASTE							
Total For Dept 528 SOLID WASTE						42,582.30	
Total For Fund 226 SOLID WASTE COLLECTION FUND						42,582.30	
Fund 303 GENERAL DEBT SERVICE FUND (VOTED BONDS)							
Dept 570 STREETSCAPE							
303-570-992.000	BOND FEES	US BANK CORPORATE TRUS	REFUNDING BONDS	4306405	06/13/16	300.00	
Total For Dept 570 STREETSCAPE						300.00	
Total For Fund 303 GENERAL DEBT SERVICE FUND (VOT)						300.00	
Fund 402 EQUIPMENT REPLACEMENT FUND							
Dept 441 DEPARTMENT OF PUBLIC WORKS							
402-441-939.000	VEHICLE MAINTENANCE & REPAIR	BOULLION SALES	DPW	06/07/16	06/13/16	101.02	
402-441-939.000	VEHICLE MAINTENANCE & REPAIR	COUGAR SALES AND RENTA	DPW	254408	06/13/16	92.90	
402-441-939.000	VEHICLE MAINTENANCE & REPAIR	DIUBLE EQUIPMENT INCOR	DPW	2089	06/13/16	1,056.89	
402-441-939.000		PARTS PEDDLER AUTO SUP	MAINTENANCE	06/08/16	06/13/16	114.61	
402-441-939.000	VEHICLE MAINTENANCE & REPAIR	RITE-TECH ENTERPRISES	DPW	10942	06/13/16	8,680.14	
402-441-939.000	VEHICLE MAINTENANCE & REPAIR	RITE-TECH ENTERPRISES	DPW	10934	06/13/16	1,464.98	
Total For Dept 441 DEPARTMENT OF PUBLIC WORKS						11,510.54	
Total For Fund 402 EQUIPMENT REPLACEMENT FUND						11,510.54	
Fund 590 SEWER ENTERPRISE FUND							
Dept 248 ADMINISTRATION							
590-248-811.000	ATTORNEY FEES - MISCELLAN	VARNUM, RIDDERING, SCH	LEGAL	974806	06/13/16	524.48	
Total For Dept 248 ADMINISTRATION						524.48	
Dept 548 SEWER UTILITIES DEPARTMENT							
590-548-740.000	OPERATING SUPPLIES	DETROIT PUMP & MANUFAC	WWTP	1040527	06/13/16	72.71	
590-548-740.000		HACKNEY HARDWARE	ACT #6432	06/08/16	06/13/16	131.78	
590-548-740.000	OPERATING SUPPLIES	NORTHERN SAFETY CO INC	WWTP	901947154	06/13/16	417.02	
590-548-740.000	OPERATING SUPPLIES	SPEARS FIRE & SAFETY S	WWTP	149376	06/13/16	208.55	
590-548-742.000	CHEMICAL SUPPLIES - PLANT	ELHORN ENGINEERING CO	WWTP	264874	06/13/16	543.90	
590-548-743.000		NORTH CENTRAL LABORATO	WWTP	372951	06/13/16	156.19	
590-548-743.000	CHEMICAL SUPPLIES - LAB	PARAGON LABORATORIES I	WWTP	42155-93000	06/13/16	40.00	
590-548-745.000	UNIFORM ALLOWANCE	ANDREA DORNEY	CLOTHING ALLOWANCE	06/08/16	06/13/16	288.32	
590-548-745.000		CINTAS CORPORATION	MAY 2016 SERVICE	06/07/16	06/13/16	779.71	
590-548-751.000		CORRIGAN OIL COMPANY	WWTP & DPW	6238595	06/13/16	352.89	
590-548-751.000		CORRIGAN OIL COMPANY	WWTP	6245363	06/13/16	576.58	
590-548-802.000	PROFESSIONAL SERVICES	F&V OPERATIONS	WWTP	1497	06/13/16	2,636.00	
590-548-803.003	SLUDGE HAULING	BIOTECH	WWTP	1519	06/13/16	16,473.70	
590-548-901.000	PRINTING & PUBLISHING	PRINT-TECH, INC.	UTILITY BILLS	232044	06/13/16	11.73	
590-548-901.000		PRINTING SYSTEMS	UTILITIES	95554	06/13/16	161.72	
590-548-910.000		MML WORKERS COMPENSATI	QUARTERLY	6080204	06/13/16	956.34	
590-548-920.000	UTILITIES	CITY OF DEXTER	WATER BILLS	06/06/16	06/13/16	1,054.30	
590-548-920.000	UTILITIES	COMCAST	WWTP	06/06/16	06/13/16	75.01	
590-548-920.000	UTILITIES	DTE ENERGY	MAY 2016	06/08/16	06/13/16	290.00	
590-548-920.001		AT&T	426 8302	06/06/16	06/13/16	27.94	
590-548-920.001	UTILITIES - TELEPHONES	COMCAST	PHONE SYSTEM	43226609	06/13/16	60.73	
590-548-920.001	UTILITIES - TELEPHONES	VERIZON WIRELESS	CELLULAR	06/06/16	06/13/16	222.89	
590-548-935.000	BUILDING MAINTENANCE & REPAIR	COMMERCIAL DOOR SPECIA	WWTP	QB1979	06/13/16	3,960.00	
590-548-935.000	BUILDING MAINTENANCE & REPAIR	PNC	WWTP	20480	06/13/16	15.00	
590-548-938.001	SCADA MAINTENANCE	UTILITIES INSTRUMENTA	WWTP	530348396	06/13/16	2,815.00	

GL Number	Inv. Line Desc	Vendor	Invoice Desc.	Invoice	Due Date	Amount	check #
Fund 590 SEWER ENTERPRISE FUND							
Dept 548 SEWER UTILITIES DEPARTMENT							
Total For Dept 548 SEWER UTILITIES DEPARTMENT						32,328.01	
Total For Fund 590 SEWER ENTERPRISE FUND						32,852.49	
Fund 591 WATER ENTERPRISE FUND							
Dept 556 WATER UTILITIES DEPARTMENT							
591-556-740.000	OPERATING SUPPLIES	ALLIED EAGLE SUPPLY CO	WWTP	854680	06/13/16	72.06	
591-556-740.000		HACKNEY HARDWARE	ACCT # 6433	06/08/16	06/13/16	59.92	
591-556-740.000	OPERATING SUPPLIES	PARTS PEDDLER AUTO SUP	MAINTENANCE	06/08/16	06/13/16	37.56	
591-556-901.000	PRINTING & PUBLISHING	PRINT-TECH, INC.	UTILITY BILLS	232044	06/13/16	11.74	
591-556-901.000		PRINTING SYSTEMS	UTILITIES	95554	06/13/16	161.72	
591-556-910.000		MML WORKERS COMPENSATI	QUARTERLY	6080204	06/13/16	387.85	
591-556-920.000	UTILITIES	COMCAST	WWTP	06/06/16	06/13/16	75.01	
591-556-920.000	UTILITIES	DTE ENERGY	MAY 2016	06/08/16	06/13/16	2,761.00	
591-556-920.001		AT&T	426 8302	06/06/16	06/13/16	27.95	
591-556-920.001	UTILITIES - TELEPHONES	COMCAST	PHONE SYSTEM	43226609	06/13/16	60.43	
591-556-920.001	UTILITIES - TELEPHONES	VERIZON WIRELESS	CELLULAR	06/06/16	06/13/16	85.97	
591-556-935.000	BUILDING MAINTENANCE & REPAIR	COMMERCIAL DOOR SPECIA	WWTP	QB1979	06/13/16	850.00	
Total For Dept 556 WATER UTILITIES DEPARTMENT						4,591.21	
Total For Fund 591 WATER ENTERPRISE FUND						4,591.21	
Fund 701 TRUST & AGENCY FUND							
Dept 000 ASSETS, LIABILITIES & REVENUE							
701-000-254.000	GRANDV SPR - GRANDVIEW COMMONS	CARLISLE-WORTMAN ASSOC	GRAND ST PUD	2139942	06/13/16	160.00	
701-000-254.000	GRANDV SPR - GRANDVIEW COMMONS	CARLISLE-WORTMAN ASSOC	8080 GRAND	2139940	06/13/16	570.00	
701-000-254.100	VARIET CONST E - VARIETY DIE & ST	ARBOR CARE TREE SURGEO	TREES	06/06/16	06/13/16	30.00	
Total For Dept 000 ASSETS, LIABILITIES & REVENUE						760.00	
Total For Fund 701 TRUST & AGENCY FUND						760.00	

GL Number	Inv. Line Desc	Vendor	Invoice Desc.	Invoice	Due Date	Amount	check #
Fund Totals:							
			Fund 101 GENERAL FUND			157,469.63	
			Fund 202 MAJOR STREETS FUND			81,188.99	
			Fund 203 LOCAL STREETS FUND			126,635.72	
			Fund 226 SOLID WASTE COLLECTION FUND			42,582.30	
			Fund 303 GENERAL DEBT SERVICE FUND (V			300.00	
			Fund 402 EQUIPMENT REPLACEMENT FUND			11,510.54	
			Fund 590 SEWER ENTERPRISE FUND			32,852.49	
			Fund 591 WATER ENTERPRISE FUND			4,591.21	
			Fund 701 TRUST & AGENCY FUND			760.00	
Total For All Funds:						<u>457,890.88</u>	

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**OFFICE OF THE CITY MANAGER**

8140 Main Street • Dexter, Michigan 48130-1092 • (734) 426-8303 • Fax (734) 426-5614

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**Memorandum**

**To:** Mayor Keough and City Council

**From:** Courtney Nicholls, City Manager  
Dan Schlaff, Public Services Superintendent

**Re:** Maximum Allowable Headworks Loading Study

**Date:** June 6, 2016

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In 2013 the City of Dexter contracted with Fleis & Vandenbrink (F & V) to perform a Maximum Allowable Headworks Loading (MAHL) Study for the Wastewater Treatment Plant. The purpose of the study is to determine the capacity of the plant to deal with certain components of the waste stream, such as phosphorous and BODs.

Though the study was substantially completed, it was never formally approved by the State of Michigan Department of Environmental Quality (MDEQ). In March 2016 Council approved a scope of services with F & V to update the study with information following the sludge project and blower project and to incorporate comments received from the MDEQ with the goal of getting it updated and submitted for final approval by the MDEQ.

A summary memo prepared by F & V is provided with the updated study, along with a comparison of the current loading limits and the proposed limits. Elaine Venema and Blair Selover will be attending the meeting to answer any questions.

If Council concurs, the next step will be to submit the MAHL to the MDEQ for review and approval.

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# MEMO



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**To:** Dexter City Council Members

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**From:** Elaine Venema, PE  
Fleis & VandenBrink

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**CC:** Blair Selover, FVOP  
Dan Schlaff, Dexter WWTP

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**Date:** May 17, 2016

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**Re:** Summary of 2016 MAHL Updates

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The purpose of this memo is to summarize updates to the Maximum Allowable Headworks Loading (MAHL) evaluation to reflect current conditions.

## Background

The MAHL is a capacity evaluation of the wastewater treatment plant (WWTP) used to help determine appropriate discharge limits for sewer customers, including industrial users. A draft MAHL was prepared in 2013 when Northern United Brewery Company began plans to significantly expand their operation and move from the downtown location to a larger facility at the industrial park.

The draft MAHL was submitted to MDEQ for review in early 2014. The City received DEQ's written comment letter in March 2016. It was decided that in addition to addressing comments from DEQ, we would also update the MAHL evaluation because several conditions have changed since the 2013 draft was prepared: 1) NUBCO has finished its move to the industrial park and expanded production faster than originally anticipated, 2) the City upgraded the aeration system at the WWTP, allowing for more BOD<sub>5</sub> organic treatment capacity, and 3) as the economy has picked back up, Dexter has experienced residential and commercial growth that should be considered when allocating capacity for the next 5 years.

## Key Updates for 2016

- Added "Near Term Anticipated Growth" allocation for compatible pollutants (constituents such as Biochemical Oxygen Demand, a measure of the biodegradable organic matter, and Total Suspended Solids; that the WWTP was designed to remove) considering nominally 185 new residential and commercial customers that may be connecting to the Dexter Sewer System in the next 1-3 years.
- Revised the MAHL calculation for Phosphorus using the DEQ's more stringent mass-based limit of 0.8 lbs phosphorus/day allowed to be discharged to Mill Creek from the WWTP during July and August. This stringent limit is a result of the DEQ's proposed TMDL for the Huron River watershed. The result is a lower phosphorus loading allowed to the WWTP from all users, resulting in a recommended reduction to the current local limit.

The following table summarizes the proposed changes to the phosphorus limits.

2960 Lucerne Drive SE  
Grand Rapids, MI 49546  
P: 616.588.2900  
F: 616.977.1005  
www.fv-operations.com

# MEMO



**Table 1: Changes to Phosphorus Local and Industrial Limits**

	<b>Current Limits</b>	<b>Proposed Limits</b>
Monthly Average Phosphorus (ordinance limit)	N/A	8 mg/L
Daily Maximum Phosphorus (ordinance limit)	16 mg/L	12 mg/L
Monthly Average Phosphorus (NUBC)	N/A	1.8 lbs/day
Daily Maximum Phosphorus (NUBC)	16 mg/L (1.7 lb/day at current flows)	7.0 lbs/day

## Future Capacity Considerations

The City staff asked F&V to develop an opinion regarding what the limiting capacity of the WWTP is currently, considering the recent digester improvements project and blower upgrades.

Equipment used for removing phosphorus is critical, since the TMDL driving the MAHL for phosphorus is quite low. If the phosphorus TMDL decision isn't overturned, the City should plan to evaluate whether the existing phosphorus removal system is adequate. The current system removes 96.6% of the influent phosphorus on average; however the proposed MAHL-based ordinance limit of 8 mg/L monthly average is low, compared to other communities.

Ferric chloride is used to precipitate soluble phosphorus so that it can be removed from the wastewater in the clarifiers and sand filters. The next process to consider evaluating for upgrades is the sand filter system, which is used for reducing solids, and therefore, precipitated phosphorus, to meet the stringent phosphorus limits. Currently, all three of the sand filters need to be online in order to consistently remove phosphorus below the 0.8 lbs/day limit during the summer months. This leaves no redundancy of the process in case of unscheduled maintenance or other problems. The WWTP staff do a great job maintaining the sand filter; however, the tank and underdrain system is from the 1970s and is approaching the end of its useful life. The City may want to evaluate other tertiary treatment systems that can consistently meet very low phosphorus limits. Membrane filters, cloth-disk filters, and more advanced sand filtration systems are able to achieve limit of technology type limits for phosphorus.

## Next Steps

During the 2013 review of the draft MAHL, DEQ would only allow up to 1,495 lb/day MAHL for BOD, citing the basis of design outlined in the WWTP O&M manual on file with DEQ. City representatives and F&V staff met with DEQ to discuss the WWTP performance for removing BOD, showing that the true capacity exceeds 2,000 lb/day. The recent blower upgrade gave the WWTP aeration treatment capacity of 1,500 lbs BOD/day; the headworks loading to the WWTP should be 1,800 – 2,100 lbs/day, assuming a typical removal efficiency in the primary clarifiers. Because the blower system just came online last week, it may take a few months to effectively demonstrate this additional capacity to the DEQ.

It is also recommended that the City evaluate its phosphorus removal process. As outlined above, the existing sand filter system is maxed out, leaving little room for unscheduled issues or process upsets during the summer when the stringent TMDL limit is in effect. Other processes exist that will not only provide redundancy, but could also increase the phosphorus treatment capacity.

# MEMO



**To:** Courtney Nicholls  
City of Dexter

**From:** Elaine Venema, PE  
Fleis & VandenBrink

**CC:** Dan Schlaff, City of Dexter  
Blair Selover, FVOP

**Date:** 5/23/2016

**Re:** Comparison of Current and Proposed MAHL & Local Limits – Revised May 2016

Table 1 presents the design basis on file with the MDEQ (from the 1998 project) compared to the Maximum Allowable Headworks Loading (MAHL) determined by F&V while updating the MAHL in April/May 2016. The table also shows that the City's current average BOD5 loading is near the 1998 design basis.

**Table 1 – Proposed Standard Local Limits for Non-Domestic Users**

Parameter	1978 Design Basis (lb/d)	1998 Design Basis (lb/d)	Proposed MAHL (lb/day)	Avg WWTP Influent (2015) (lb/d)	Current Avg NUBCO (lb/day)
BOD5	1329	975	1495	923	437
TSS	1208	1288	1583	799	35.4
Phosphorus	N/A	N/A	24	22.1	5.1

Table 2 is a comparison of the current concentration based local limits and the proposed local limits.

**Table 2 – Comparison of Current and Proposed Limits**

Parameter	Avg WWTP Influent (2013) (mg/L)	Current Limit Daily Max (mg/L)	Proposed Monthly Avg (mg/L)	Proposed Daily Max (mg/L)	Proposed Alpha Metals (mg/L)	Proposed Avg NUBCO (lb/day)
BOD5	311	300	550	550	550	150
TSS	247	350	600	600	350	100
Phosphorus	6.5	16	8	12	8	1.0

The 2016 MAHL update also evaluated non-compatible pollutants. Table 3 provides a comparison of the City's current local limits for non-compatible pollutants and the proposed limits.

**Table 3 – Draft Standard Local Limits – Non-compatible Pollutants**

Parameter	Avg WWTP Influent (2013) (mg/L)	Current Local Limit (mg/L)	Proposed Monthly Avg Limit (mg/L)	Proposed Max Daily Limit (mg/L)
Arsenic*	0.0012	0.08	0.042	0.044
Cadmium	0.00013	0.013	0.034	0.069
Chromium, Total	0.0072	0.50	0.514	1.59
Chromium, Hex.		0.10	0.325	0.325
Copper	0.202	0.94	0.266	0.266
Cyanide*	0.0025	0.10	0.105	0.148
Lead	0.0026	0.20	0.248	0.495
Mercury	0.000037		ND <sup>†</sup>	ND <sup>†</sup>
Molybdenum	0.0063		0.001	0.2
Nickel	0.0067	0.14	0.443	0.692
Selenium*	0.0004		0.075	0.214
Silver*	0.001	0.02	0.003	0.111
Zinc	0.340	0.58	1.77	3.54
Pthalate Esters		0.94	0.94	0.94

\*Note that analytical results below detection limit were taken as half of the detection limit when calculating the average concentration for these parameters.

<sup>†</sup>ND = Non-detectable in accordance with USEPA Method 245.1 at a detection level of 0.2 µg/L or USEPA Method 1631 at a detection level of 0.0005 µg/L, unless a higher detection level is appropriate due to demonstrated sample matrix interference.

CITY OF DEXTER  
MAHL/LOCAL LIMITS REPORT

PREPARED FOR:



May 2016  
Project No. 702712



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## APPENDICES

APPENDIX A - CALCULATIONS

APPENDIX B – SAMPLING RESULTS

## 1.0 BACKGROUND AND PURPOSE

Maximum Allowable Headworks Loadings (MAHLs) were evaluated for selected compatible and non-compatible (e.g. metals) pollutants in order to determine appropriate Local Limits to include in an updated Sewer Use Ordinance for protection of the wastewater treatment plant from pass through, interference and biosolids contamination. The City selected the following pollutants for the MAHL evaluation: BOD<sub>5</sub>, Total Suspended Solids, Ammonia, Phosphorus, Arsenic, Cadmium Cyanide, Chromium, Hexavalent Chromium, Copper, Mercury, Molybdenum, Nickel, Selenium, Silver, Lead, and Zinc. It was determined that local limits for volatile and semi-volatile compounds are no longer needed because a local plastics producer moved out of town several years ago and no industries are using these chemicals currently.

The timing for the 2013 MAHL evaluation was chosen to correlate to the planned site relocation and expansion of a local brewery facility to minimize the need for future revisions to the local limits. The draft 2013 MAHL was updated in April 2016 to address MDEQ comments on the draft and to revisit the BOD MAHL due to 1) aeration system improvements completed in 2015, 2) impact of the brewery load now that the facility has been online for more than 2 years, and 3) consideration given to more potential residential and mixed-use growth within the City limits now that the economy is making a recovery.

This report discusses the approaches, data, and calculations used to develop the updated Maximum Allowable Headworks Loading (MAHL) evaluation and Local Limits recommendations for the City of Dexter.

The MAHL evaluation was developed in accordance with MDEQ and US EPA guidelines. Detailed descriptions and justification are provided where procedures or methods varied from those standard procedures outlined in the guidance.

Because of the high organic strength of the brewery wastewater, F&V recommended that the City of Dexter adopt Tiered Local Limits for the compatible pollutants, specifying both a maximum allowable headworks loading to the POTW (in pounds per day) and Standard Local Limits for Non-Domestic Users. Local Limits for the non-compatible pollutants were determined using a uniform allocation methodology.

## 2.0 DATA COLLECTION

Wastewater Treatment Plant (WWTP) influent, effluent, and representative domestic wastewater samples were collected during September, October, November, and December 2012 to provide a basis for the MAHL evaluation; particularly for metals and other pollutants that are not routinely monitored at the WWTP. In addition, historic plant performance and influent and effluent analytical data were used in calibrating the various MAHL models, where appropriate.

The average concentrations (mg/L) for WWTP influent, effluent, and domestic wastewater samples collected specifically for the MAHL are shown in Table 1.

Table 1: Data Collection Average Results

PARAMETER	WWTP INFLUENT	DOMESTIC SAMPLE	WWTP EFFLUENT
Arsenic*	0.0012	0.0003	0.0004
Cadmium	0.00013	0.0001	0.00003
Chromium	0.0072	0.0037	0.0015
Copper	0.202	0.185	0.0125
Cyanide*	0.0025	0.0025	0.0025
Lead	0.0026	0.0016	0.0004
Mercury	0.000037		0.0000003

Molybdenum	0.0063	0.0059	0.0046
Nickel	0.0067	0.0065	0.0066
Selenium*	0.0004	0.0004	0.0004
Silver*	0.001	0.0002	0.0001
Zinc	0.340	0.109	0.018

\*Note that analytical results below detection limit were taken as half of the detection limit when calculating the average concentration for these parameters.

The full analytical results are presented in Appendix A for reference.

### 3.0 NON-COMPATIBLE POLLUTANTS – METHODS

The non-compatible pollutant MAHL results were determined using a Fleis and VandenBrink Engineering, Inc (F&V) modified version of a U.S. EPA-developed spreadsheet model, customized for use at the City of Dexter.

The following parameters are key user inputs in the non-compatibles MAHL spreadsheet:

- Influent flows, including: domestic/residential, Significant Industrial Users (Northern United Brewing Company and Alpha Metals), and other non-domestic flows
- Domestic, industrial, and WWTP influent wastewater characteristics
- Receiving water (Mill Creek) 95%-exceedence flow & hardness
- Biosolids flows and percent solids
- Treatment plant % removals

Table 2 summarizes the key flow and miscellaneous variables used in the Dexter MAHL.

**Table 2: Variables and Values Used for Non-Compatible Pollutant MAHL**

VARIABLE	VALUE	UNITS
Q <sub>dom</sub> , City Domestic Flow	0.275	MGD
Q <sub>brewery,fut</sub> , Brewery 2013/14 Flow (Broad St site)*	0.013	MGD
Q <sub>alpha</sub> , Metal Finisher Flow	0.013	MGD
Q <sub>ind/comm</sub> , other industrial/commercial Flow	0.076	MGD
Q <sub>ind</sub> , Total Industrial (SIU/IU/commercial) Flow	0.103	MGD
Q <sub>POTW</sub> , Total Avg WWTP Influent Flow	0.377	MGD
Q <sub>Max</sub> , Maximum WWTP Influent Flow	1.3	MGD
Q <sub>Dig</sub> , Sludge Flow to Digester	0.002	MGD
Q <sub>Sludge</sub> , Sludge Flow to Disposal	0.002	MGD
Sludge (to disposal) % Solids	4.0	%
Mill Creek 95% Exceedence Flow	15 (9.69)	cfs (MGD)
Mill Creek (assumed) background hardness	255	mg/L

\*NUBCO's discharge permit does not specify a maximum permitted flow. The average flowrate for 2014 was 0.013 MGD

Table 3 summarizes the percent removals used and the source for the value chosen. Site specific percent removals were used where applicable and appropriate. If insufficient data was available to determine a

site specific percent removal, an appropriate literature value (e.g. US EPA Local Limits Development Guidance appendices) was used.

**Table 3: Primary Process and Treatment Plant % Removals**

PARAMETER	% REMOVAL (PRIMARY)	% REMOVAL (OVERALL)	SOURCE
Arsenic	NA	70%	Site Specific
Cadmium	15%	80%	Literature, Site Specific
Chromium, Total	27%	79%	Literature, Site Specific
Chromium, Hexavalent	0%	10%	Literature
Copper	22%	94%	Literature, Site Specific
Cyanide	27%	69%	Literature
Lead	57%	84%	Literature, Site Specific
Mercury	10%	91%	Literature, Site Specific
Molybdenum	0%	27%	Literature, Site Specific
Nickel	14%	42%	Literature
Selenium	0%	0%	Site Specific
Silver	20%	90%	Literature, Site Specific
Zinc	27%	95%	Literature, Site Specific

The allowable headworks loading for each parameter was calculated for the following criteria:

- Activated sludge inhibition
- Nitrification inhibition
- Digestion inhibition
- Water quality based on chronic toxicity pass-through
- Water quality based on acute toxicity pass-through
- Biosolids (sludge) quality for land application

### 3.1 NON-COMPATIBLE POLLUTANTS – LOADING CALCULATIONS

The formula and a table summarizing the results for each criterion are described below.

#### Allowable Loading Based on Activated Sludge Inhibition (Secondary Treatment Inhibition)

$$L_{INHIB,Sec} = \frac{Q_{POTW} * 8.34 * C_{INHIB,Sec}}{1 - R_{PRIM}}$$

Where:

$L_{INHIB,Sec}$  = Loading based on biological secondary inhibition (lbs/day)

$Q_{POTW}$  = Total flow to the WWTP (MGD)

$C_{INHIB,Sec}$  = Concentration that inhibits biological treatment of the secondary process (mg/L), literature values were used

$R_{PRIM}$  = Removal % across the primary clarifiers (expressed as a decimal)

Table 4: MAHLs based on Secondary Treatment Inhibition

PARAMETER	C <sub>INHIB</sub> (mg/L)	MAHL (lb/day)
Arsenic	0.1	0.314
Cadmium	1.0	3.70
Chromium, Total	1.0	4.31
Chromium, Hexavalent	0.2	NA
Copper	1.0	4.03
Cyanide	0.1	0.43
Lead	1.0	7.32
Mercury	0.1	0.35
Molybdenum	NA	NA
Nickel	1.0	3.66
Selenium	NA	NA
Silver	0.25	0.98
Zinc	5.0	21.55

### 3.2 ALLOWABLE LOADING BASED ON NITRIFICATION TREATMENT INHIBITION

$$L_{INHIB, Nit} = \frac{Q_{POTW} * 8.34 * C_{INHIB, Nit}}{1 - R_{Avg}}$$

Where:

L<sub>INHIB, Nit</sub> = Loading based on nitrification inhibition (lbs/day)

Q<sub>POTW</sub> = Total flow to the WWTP (MGD)

C<sub>INHIB, Nit</sub> = Concentration that inhibits nitrification (mg/L), literature values were used

R<sub>AVG</sub> = Removal % across the primary clarifiers (expressed as a decimal)

Table 5: MAHLs based on Nitrification Inhibition

PARAMETER	C <sub>INHIB</sub> (mg/L)	MAHL (lb/day)
Arsenic	1.5	15.6
Cadmium	5.2	83.0
Chromium, Total	1.0	15.0
Chromium, Hexavalent	NA	NA
Copper	0.48	24.6
Cyanide	NA	NA
Lead	0.5	10.2

Mercury	NA	NA
Molybdenum	NA	NA
Nickel	0.5	2.71
Selenium	NA	NA
Silver	NA	NA
Zinc	0.5	30.2

### 3.3 ALLOWABLE LOADING BASED ON DIGESTION INHIBITION

$$L_{INHIB, Dig} = \frac{Q_{Sludge} * C_{INHIB, Dig} * 8.34}{R_{Avg}}$$

Where:

$L_{INHIB, Dig}$  = Loading based on digester inhibition (lbs/day)

$Q_{Sludge}$  = Sludge flow to the digester (MGD)

$R_{Avg}$  = Average removal % (expressed as a decimal)

Table 6: MAHLs based on Digestion Inhibition

PARAMETER	$C_{INHIB}$ (mg/L)	MAHL (lb/day)
Arsenic	1.6	0.037
Cadmium	20	0.405
Chromium, Total	100	2.06
Chromium, Hexavalent	NA	NA
Copper	40	0.69
Cyanide	4.0	0.094
Lead	340	6.53
Mercury	NA	NA
Molybdenum	NA	NA
Nickel	10	0.387
Selenium	NA	NA
Silver	13	0.236
Zinc	400	6.86

### 3.4 ALLOWABLE LOADING BASED ON WATER QUALITY (CHRONIC TOXICITY PASS-THROUGH)

Chronic Loading Formula: 
$$L_{Chronic} = Q_{POTW} * 8.34 * \frac{WQBEL_C / 1000}{(1 - R_{Avg})}$$

Where:

$L_{Chronic}$  = Loading based on chronic toxicity pass through (lbs/day)

$Q_{POTW}$  = Total flow to the WWTP (MGD)

$R_{avg}$  = average overall removal fraction for the treatment plant (fraction)

$WQBEL_C$  = Water quality based effluent limit for chronic toxicity protection (µg/L)

$$WQBEL_C = C_{WQS} * \frac{(Q_{MAX} + (25\% * Q_{STREAM}))}{Q_{MAX}}$$

Where:

$C_{WQS}$  = Michigan water quality standard concentration, Part 57 Rules (µg/L)

$Q_{MAX}$  = Maximum flow to the WWTP (MGD)

$Q_{STREAM}$  = 95% exceedence flow for receiving water (MGD). Note that 25% of the applicable receiving water flow is utilized in accordance with the current MDEQ policy on mixing zones.

Table 7: MAHLs based on Chronic Toxicity Pass-through

PARAMETER	WQBEL <sub>c</sub> (mg/L)	MAHL (lb/day)
Arsenic	0.15	15.4
Cadmium	0.005	0.235
Chromium, Total	0.011	0.471
Chromium, Hexavalent	NA	NA
Copper*	0.02	2.92
Cyanide	0.0052	0.151
Lead	0.043	2.54
Mercury	0.0008	0.080
Molybdenum	0.005	0.062
Nickel	0.115	1.78
Selenium	0.005	0.067
Silver	0.00006	0.005
Zinc	0.26	45.2

\*Dexter has an NPDES permit limit for copper of 0.14 mg/L, however the more restrictive WQBEL value of 0.02 mg/L was used.

### 3.5 ALLOWABLE LOADING BASED ON WATER QUALITY (ACUTE TOXICITY PASS-THROUGH)

Acute Toxicity Loading Formula:  $L_{Acute} = Q_{POTW} * 8.34 * \frac{WQBEL_A / 1000}{(1 - R_{Avg})}$

Where:

$L_{Acute}$  = Loading based on acute toxicity pass through (lbs/day)

$Q_{POTW}$  = Total flow to the WWTP (MGD)

$R_{avg}$  = average overall removal fraction for the treatment plant (expressed as a fraction)

$WQBEL_A$  = Water quality based effluent limit for acute toxicity protection (µg/L)

$$WQBEL_A = C_{WQS} * \frac{(Q_{WWTP} + (25\% * Q_{STREAM}))}{Q_{WWTP}}$$

Where:

$C_{WQS}$  = Michigan water quality standard concentration, Part 57 Rules (µg/L)

$Q_{POTW}$  = Influent flow to the WWTP (MGD)

$Q_{STREAM}$  = 95% exceedence flow for receiving water (MGD). Note that 25% of the applicable receiving water flow is utilized in accordance with the current MDEQ policy on mixing zones.

Table 8: MAHLs based on Acute Toxicity Pass-through

PARAMETER	WQBEL <sub>A</sub> (mg/L)	MAHL (lb/day)
Arsenic	0.68	20.26
Cadmium	0.013	0.594
Chromium, Total	0.032	1.37
Chromium, Hexavalent	0.032	0.32
Copper*	0.032	4.76
Cyanide	0.044	1.28
Lead	0.831	48.6
Mercury	0.0028	0.292
Molybdenum	0.12	1.49
Nickel	2.07	32.1
Selenium	0.12	1.61
Silver	0.0011	0.095
Zinc	0.518	89.7

\*Dexter has an NPDES permit limit for copper of 0.14 mg/L, however the more restrictive WQBEL value of 0.032 mg/L was used.



### 3.6 ALLOWABLE LOADING BASED ON BIOSOLIDS QUALITY

$$L_{Sludge} = Q_{Sludge} * \frac{TSS_{Sludge}}{100} * 8.34 * \frac{C_{Sludge}}{R_{avg} * F_{Sorp}}$$

Where:

$L_{Sludge}$  = Loading based on biosolids quality (lbs/day)

$Q_{Sludge}$  = Average daily sludge generation rate (MGD)

$TSS_{Sludge}$  = Average sludge % solids (%)

$C_{Sludge}$  = Target standard for biosolids quality (mg/kg) – use Part 24 “Clean” or “Ceiling” limit as applicable

$R_{avg}$  = average overall removal fraction for the treatment plant (expressed as a fraction)

$F_{Sorp}$  = fraction of removal that occurs by sorption to biosolids (this was assumed to be 1.0 for all parameters)

Table 9: MAHLs based on Biosolids Quality for Land Application

PARAMETER	$C_{Sludge}$ (mg/kg)	MAHL (lb/day)
Arsenic	37	0.035
Cadmium	35	0.029
Chromium, Total	NA	NA
Chromium, Hexavalent	NA	NA
Copper	1338	0.95
Cyanide	NA	NA
Lead	268	0.211
Mercury	15	0.011
Molybdenum	75	0.182
Nickel	375	0.596
Selenium	89	0.180
Silver	NA	NA
Zinc	2498	1.75

The most restrictive loading was chosen as the controlling MAHL and safety factors were then applied to the resultant MAIL as follows.

Table 10: Controlling MAHL, Criteria, MAIL, and Safety Factor

PARAMETER	Controlling Criteria	MAHL (lb/day)	Domestic Loading (lb/day)	Safety Factor	MAIL after SF (lb/day)
Arsenic	Biosolids Quality	0.035	0.0006	10%	<b>0.031</b>
Cadmium	Biosolids Quality	0.029	0.0003	10%	<b>0.026</b>
Chromium, Total	Chronic Toxicity	0.471	0.0086	10%	<b>0.386</b>
Chromium, Hex.	Acute Toxicity	0.320	0.0101	10%	<b>0.244</b>
Copper	Digestion Inhib	0.694	0.4238	10%	<b>0.200</b>
Cyanide	Digestion Inhib	0.094	0.0057	10%	<b>0.079</b>
Lead	Biosolids Quality	0.211	0.0038	10%	<b>0.186</b>
Mercury	Biosolids Quality	0.011	0.0001	10%	<b>0.010</b>
Molybdenum	Chronic Toxicity	0.062	0.0134	5%	<b>0.001</b>
Nickel	Digestion Inhib	0.387	0.0149	10%	<b>0.333</b>
Selenium	Chronic Toxicity	0.067	0.001	10%	<b>0.036</b>
Silver	Chronic Toxicity	0.005	0.0005	10%	<b>0.003</b>
Zinc	Biosolids Quality	1.758	0.2497	10%	<b>1.332</b>

## 4.0 NON-COMPATIBLE POLLUTANTS – ALLOCATION & LOCAL LIMIT DEVELOPMENT

After the MAHL was determined for each of the non-compatible parameters, the Maximum Allowable Industrial Loading (MAIL) was determined by subtracting out the domestic background portion of the total loading.

The City has chosen to utilize a uniform allocation of the MAIL. The MAIL in lbs/day was converted to a local limit by dividing by the total non-domestic flow of 0.1026 MGD and the conversion factor 8.34. The draft Standard Local Limits for the incompatible pollutants are summarized in Table 11 below.

Table 11: Draft Standard Local Limits – Non-compatible Pollutants

POLLUTANT	Current Local Limit (mg/L)	Proposed Monthly Avg Limit (mg/L)	Proposed Max Daily Limit (mg/L)
Arsenic	0.08	0.042	0.044
Cadmium	0.013	0.034	0.069
Chromium, Total	0.50	0.514	1.59
Chromium, Hex.	0.10	0.325	0.325
Copper	0.94	0.266	0.266
Cyanide	0.10	0.105	0.148

Lead	0.20	0.248	0.495
Mercury		ND*	ND*
Molybdenum		0.001	0.2
Nickel	0.14	0.443	0.692
Selenium		0.075	0.214
Silver	0.02	0.003	0.111
Zinc	0.58	1.77	3.54
Pthalate Esters	0.94	0.94	0.94

\*ND = Non-detectable in accordance with USEPA Method 245.1 at a detection level of 0.2 µg/L or USEPA Method 1631 at a detection level of 0.0005 µg/L, unless a higher detection level is appropriate due to demonstrated sample matrix interference.

## 5.0 COMPATIBLE POLLUTANTS – METHODS

MAHL evaluations for 5-day biochemical oxygen demand, total suspended solids, phosphorus, and ammonia were also developed.

Table 12 summarizes the compatible pollutant sampling results for WWTP influent and effluent, domestic, and SIU sources.

Table 12: Data Collection Average Results

PARAMETER	WWTP INFLUENT (mg/L)	DOMESTIC SAMPLE (mg/L)	WWTP EFFLUENT (mg/L)	ALPHA METALS (mg/L)	NUBCO (Brewery) (mg/L)
BOD <sub>5</sub>	311	263	5	27	4623*
TSS	247	278	6.5	389	411
Phosphorus	6.5	5.7	0.3	3.6	33
Ammonia	37	31.8	0.3	22.3	6.2

\*2014 data from NUBCO indicates a wide range for BOD5 values (500 – 15,000 mg/L), with an average of 4900 mg/L; the 2016 MAHL update used 4900 mg/L in determining appropriate average day mass-based limits

The MAHLs for the compatible pollutants were determined based on the treatment plant capacity or NPDES limitations, whichever loading was lowest. The allowable headworks loading based on the NPDES permit limit was calculated in accordance with the EPA Local Limits Development Guidance using the following equation:

$$\text{NPDES Limit Formula: } L_{NPDES} = \frac{8.34 * C_{NPDES} * Q_{POTW}}{(1 - R_{Avg})}$$

Where:

$L_{NPDES}$  = Loading based on NPDES permit limit (lbs/day)

$Q_{POTW}$  = Total flow to the WWTP (MGD)

$R_{avg}$  = average overall removal fraction for the treatment plant (fraction); see Table 3

## 5.1. BIOCHEMICAL OXYGEN DEMAND MAHL

Dexter has an average monthly cBOD<sub>5</sub> limit of 25 mg/L. MOR data from 2009-2015 indicates the long term average removal efficiency for BOD was 98%. Inserting these values into the NPDES limit formula shown above yields an NPDES based AHL for BOD<sub>5</sub> of 3,930 lb/day. Calculations using standard loadings recommended in *Ten States Standards* demonstrate that the Dexter treatment plant is currently capable of handling an average BOD<sub>5</sub> loading of up to 1,495 lb/day. Additionally, the recent blower improvements project has increased blower capacity to handle peak organic loads up to 1,500 lb/day to the aeration tanks, allowing for an even higher headworks load. The controlling AHL for BOD<sub>5</sub> is the plant capacity; therefore it was determined that the MAHL for BOD<sub>5</sub> is 1,495 lb/day. The spreadsheet calculations are attached for reference.

## 5.2. BOD ALLOCATION AND LOCAL LIMITS DEVELOPMENT

The MAIL for BOD was calculated as the MAHL after the 10% safety factor was applied (1,346 lb/day) minus the average domestic loading (600.5 lb/day), near-term anticipated residential/commercial growth (104 lb/day, based on 185 new REU connections) and reserve loading (84 lb/day, or approximately 150 additional REUs in the long term). The MAIL for BOD is 557 lb/day. The average monthly local limits were developed based on the MAIL.

Because the brewery wastewater has a high concentration of BOD<sub>5</sub> and Alpha Metals has a very low concentration of BOD, the City has opted to allocate the MAIL non-uniformly. Alpha Metals doesn't currently have a BOD limit listed in their industrial discharge permit. Their average BOD is 28 mg/L was rounded upward to 30 mg/L to represent the BOD loading from Alpha Metals. The resultant average loading was calculated as 3.3 lb/day. Since Alpha Metals is a metal finisher it is unlikely that its discharge will ever approach the proposed standard local limit for BOD<sub>5</sub>, however for this evaluation it was assumed that the Alpha Metals allocation is equal to the proposed standard local limit for BOD<sub>5</sub> (545 mg/L) at their current flow rate, or 59 lb/day.

A standard local limit was developed for all non-domestic users who do not have an industrial discharge permit. The proposed average monthly standard local limit is 545 mg/L. Multiplying the proposed standard local limit by the corresponding non-domestic flow and the conversion factor of 8.34 yields a loading of 346 lb/day.

It is the City's intent to allocate a portion of the remaining BOD MAIL to the brewery. The BOD available to NUBCO after allocating to all other sewer customers and after dedicating a reserve, is 151 lb/day. It is proposed that the City renew the mass based permit limit for the brewery. The current NUBCO permitted limit is 150 lbs/day. NUBCO has been unable to consistently achieve this discharge limit; however they anticipate having an anaerobic digestion pretreatment system online by July 2016 to significantly reduce the BOD in their discharge.

The maximum daily and monthly average limits for BOD will be the same for the purposes of this evaluation. The BOD<sub>5</sub> allocation is depicted graphically in Figure 1.

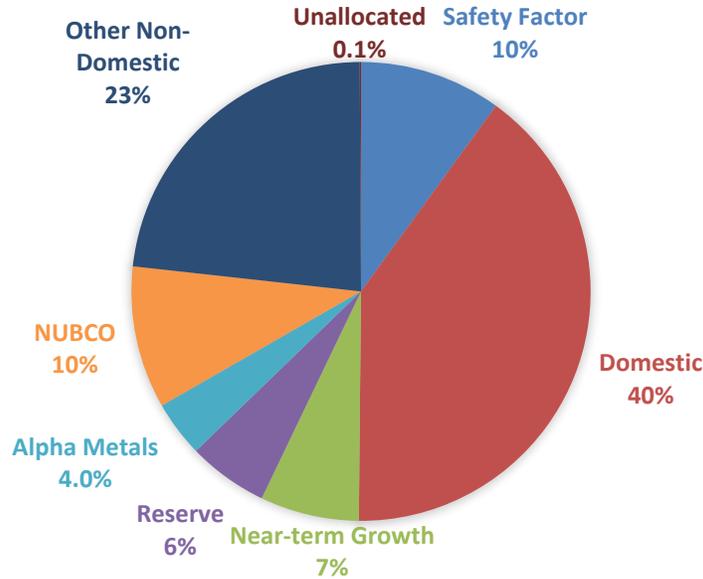


Figure 1: BOD<sub>5</sub> Allocation

### 5.3. TOTAL SUSPENDED SOLIDS MAHL

The MAHL for TSS was determined similarly to the method described for the BOD MAHL. Dexter has an average monthly TSS limit of 30 mg/L. MOR data indicates the long-term average TSS removal efficiency (2009-2015) for TSS is 96.4%. Inserting these values into the NPDES limit formula shown above yields can NPDES based AHL for TSS of 2,620 lb/day. Calculations using standard loadings recommended in *Ten States Standards* demonstrate that the Dexter treatment plant is currently capable of handling an average TSS loading of 1,583 lb/day and a peak hour loading 3,534 lb/day. The controlling AHL for TSS is the average plant capacity; therefore it was determined that the MAHL for TSS is 1,583 lb/day. The spreadsheet calculations are attached for reference.

### 5.4. TSS ALLOCATION AND LOCAL LIMITS DEVELOPMENT

The MAIL for TSS was calculated as the MAHL after the safety factor (1,425 lb/day) minus the average domestic loading (662 lb/day), near-term anticipated residential/commercial growth (118 lb/day based on 185 additional sewer connections), and reserve loading (96 lb/day, or approximately 150 additional REUs). The MAIL for TSS is 549 lb/day. The average monthly local limits were developed based on the MAIL.

As previously discussed, the City has opted to allocate the MAIL non-uniformly for compatible pollutants. Alpha Metals currently has a permit limit of 350 mg/L for TSS, however Alpha Metals is subject to the Local Limit in the SUO, which is proposed to increase to 600 mg/L. The average loading using the new proposed local limit is 65.1 lb/day.

As with BOD, a standard local limit was developed for all non-domestic users who do not have an industrial discharge permit for TSS as well. The proposed average monthly standard local limit is 600 mg/L. Multiplying the proposed standard local limit by the corresponding non-domestic flow and the conversion factor of 8.34 yields a loading of 381 lb/day.

It is the City’s intent to allocate a portion of the remaining TSS MAIL to the brewery. The TSS available to NUBCO after allocating to all other sewer customers is 102 lb/day. The proposed mass-based limit for NUBCO is 100 lb/day.

The maximum daily and monthly average limits for TSS will be the same for the purposes of this evaluation. The TSS allocation is depicted graphically in Figure 2.

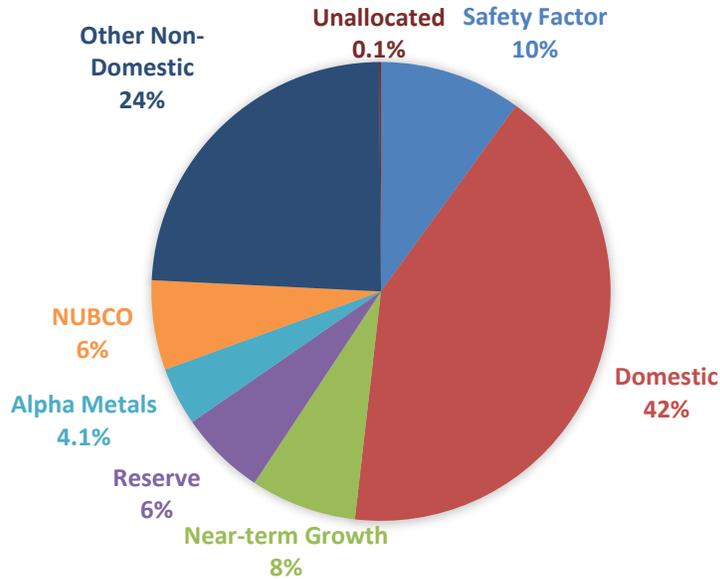


Figure 2: TSS Allocation

### 5.5. PHOSPHORUS MAHL

The MAHL for phosphorus was determined similarly to the method described for the BOD and TSS MAHLs. Dexter has an average monthly phosphorus limit of 0.6 mg/L from October through March, and a stringent season mass limit of 0.8 lbs/day during July and August. MOR data 2015 indicate an average removal efficiency for phosphorus of 96.6%. Inserting these values into the NPDES limit formula shown above yields an NPDES based AHL for phosphorus of 55 lb/day from October through March, and 24 lbs/day during July and August. Calculations based on the ferric chloride feed system at the WWTP demonstrate that the WWTP is currently capable of handling an average phosphorus loading of 63.8 lb/day. The controlling AHL for phosphorus is the stringent mass based NPDES limit; therefore it was determined that the MAHL for phosphorus is 22.4 lb/day, after 5% safety factor. The spreadsheet calculations are attached for reference.

### 5.6. PHOSPHORUS ALLOCATION AND LOCAL LIMITS DEVELOPMENT

The MAIL for phosphorus was calculated as the MAHL after the safety factor minus the average domestic loading (12.8 lb/day), the near-term anticipated residential/commercial growth (1.5 lb/day), and reserve loading (0.2 lb/day). The MAIL for phosphorus is 7.8 lb/day. The average monthly local limits were developed based on the MAIL.

As previously discussed, the City has opted to allocate the MAIL non-uniformly for compatible pollutants. Alpha Metals currently has a permit limit of 16 mg/L, corresponding to the current standard local limit. It is recommended that the Alpha Metals permit limit be reduced to the proposed standard local limit, which is 8 mg/L, on a monthly average basis. The resultant average loading was calculated as 0.9 lb/day for Alpha Metals.

As with BOD and TSS, a standard local limit was developed for all non-domestic users who do not have an industrial discharge permit for phosphorus. The proposed average monthly standard local limit is 8 mg/L. Multiplying the proposed standard local limit by the corresponding non-domestic flow and the conversion factor of 8.34 yields a loading of 5.1 lb/day.

It is the City’s intent to allocate the majority of remaining phosphorus MAIL to the brewery. The phosphorus available to NUBCO after allocating to all other sewer customers is 1.87 lb/day. The proposed monthly average permit limit for NUBCO is 1.85 lb/day.

The proposed daily maximum limit is equal to the average monthly limit for phosphorus because of the stringent NPDES permit limitations, current ferric feed pump capacity, and pending TMDL for the Huron River watershed. The phosphorus allocation is depicted graphically in Figure 3.

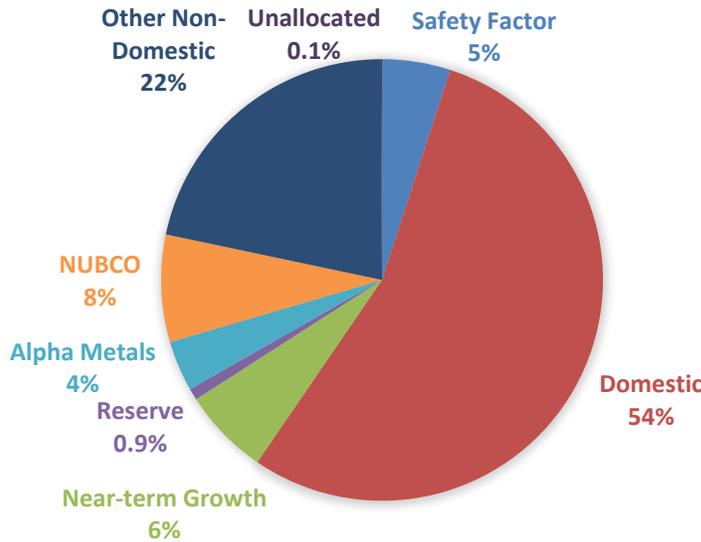


Figure 3: Phosphorus Monthly Average Allocation

Because the monthly average limits were developed using the most restrictive AHL derived from the extremely stringent 0.8 lb/day NPDES permit limit, effective only during July and August, it is proposed that slightly higher maximum day limits be developed in addition to the monthly average limits using the second-most restrictive AHL of 55 lb/day, derived from the 0.6 mg/L NPDES effluent limit effective for the rest of the year.

A larger safety factor (20%) was chosen to develop the daily max limits. The daily max allocation included a greater allocation for the domestic and reserve contribution to be conservative. The proposed daily maximum standard local limit is 12 mg/L. This limit would apply to Alpha Metals and all non-permitted, non-domestic users.

It is proposed that NUBCO be given a mass-based special allocation limit. NUBCO currently cleans its tankage using phosphoric acid and experiences days when they do a large amount of cleaning that can cause fairly high phosphorus concentrations in the discharge. A mass based limit would give NUBCO more flexibility in managing their discharge, while still protecting the POTW. A maximum day limit of 7.0 lb/day is proposed for NUBCO. This would leave 9 lbs/day of the max day MAHL unallocated. Figure 4 depicts the allocation of the second-most restrictive AHL using the proposed daily maximum limits.

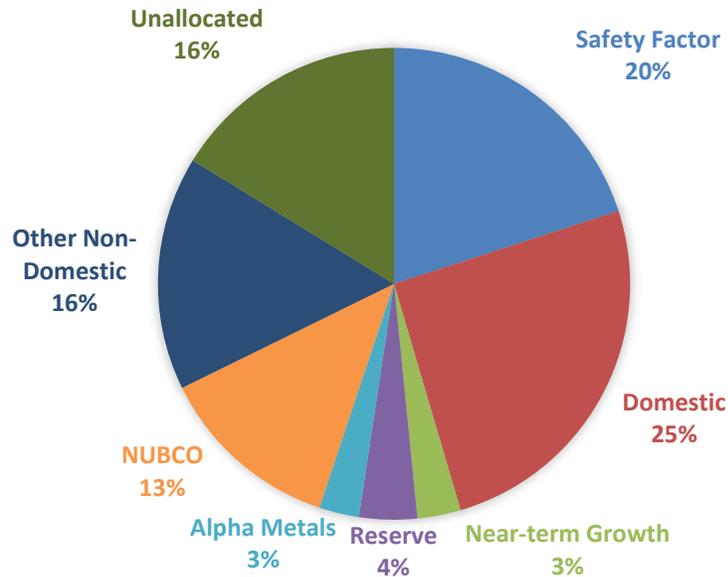


Figure 4: Phosphorus Daily Maximum Allocation

## 5.7. AMMONIA MAHL

The MAHL for ammonia was determined using the NPDES protective formula. Dexter has a seasonal ammonia limit of 12 mg/L from May 1 through October 31. The City only infrequently samples the raw influent for ammonia, however available MOR data (2011) indicates an average ammonia removal of 96.3%. Inserting these values into the NPDES limit formula shown above yields an NPDES based AHL for ammonia of 1,020 lb/day. The spreadsheet calculations are attached for reference.

## 5.8. AMMONIA ALLOCATION AND LOCAL LIMITS DEVELOPMENT

The MAIL for ammonia was calculated as the MAHL after the safety factor (918 lb/day) minus the average domestic loading (83 lb/day), near-term anticipated residential/commercial growth (9 lb/day based on 185 new connections) and reserve loading (100 lb/day). MAIL for ammonia is 726 lb/day. The average monthly local limits were developed based on the MAIL.

As previously discussed, the City has opted to allocate the MAIL non-uniformly for compatible pollutants. Alpha Metals does not currently have a permit limit for ammonia, therefore they will be subject to the proposed standard local limit of 42 mg/L. The resultant average loading was calculated as 4.6 lb/day.

As with BOD, TSS, and phosphorus, a standard local limit was developed for all non-domestic users who do not have an industrial discharge permit for ammonia. The proposed average monthly standard local limit is 42 mg/L. Multiplying the proposed standard local limit by the corresponding non-domestic flow and the conversion factor of 8.34 yields a loading of 27 lb/day.

The brewery does not have a high concentration of ammonia in its wastewater; therefore it was determined that the brewery's limit should be equal to the standard local limit of 42 mg/L.

The proposed daily maximum limits are equal to the average monthly limit for ammonia.

The phosphorus allocation is depicted graphically in Figure 5.

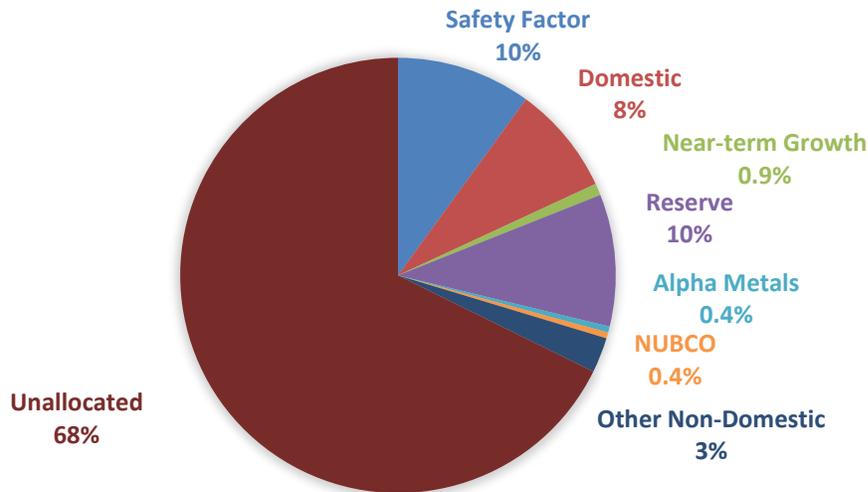


Figure 5 - Ammonia Allocation

### 5.9. COMPATIBLE POLLUTANT MAHL & LOCAL LIMITS SUMMARY

The MAHL, domestic loading, and MAILs for the compatible pollutants are summarized in Table 13.

Table 13 – Compatible MAHL, MAIL, and Safety Factor

PARAMETER	MAHL (lb/day)	Domestic Loading (lb/day)	Near-Term Growth (lb/day)	Reserve Loading (lb/day)	Safety Factor	MAIL after SF (lb/day)
BOD <sub>5</sub>	1495	600	104	84	10%	<b>557</b>
TSS	1583	662	118	96	10%	<b>549</b>
Phosphorus	24	12.8	1.5	0.2	5%	<b>7.8</b>
Ammonia	1020	83	9	100	10%	<b>726</b>

As previously discussed, the City has chosen to allocate the MAIL non-uniformly because the brewery has a need for a higher allocation of BOD<sub>5</sub>, TSS, and phosphorus. Non-domestic users who do not have an industrial permit will be subject to standard local limits. The proposed standard local limits are summarized in Table 14 below.

Table 14 – Proposed Standard Local Limits for Non-Domestic Users

PARAMETER	Monthly Avg (mg/L)	Daily Max (mg/L)
BOD <sub>5</sub>	545	545
TSS	600	600
Phosphorus	8	12
Ammonia	42	42

A draft allocation of the average monthly MAIL is summarized in Table 15 below.

**Table 15 – Allocation of MAIL to Non-Domestic Users**

PARAMETER	MAIL (lb/day)	Alpha Metals Allocation (lb/day)	NUBCO Allocation (lb/day)	Other Non-Domestic Users (lb/day)	Unallocated Amount (lb/day)
BOD <sub>5</sub>	557	59	150	346	1
TSS	549	65	100	381	2
Phosphorus	7.7	1.0	1.0	5.7	0.02
Ammonia	726	4.6	4.6	27	690

## 6.0 SUMMARY OF DISCHARGE PERMIT LIMITS FOR APPROVAL

The City desires NUBCO to have a mass-based discharge permit for compatible pollutants. Alpha Metals will continue to have a concentration based discharge permit using categorical or the MAHL-determined local limits, whichever is more stringent for each parameter.

Tables 16 and 17 summarize the industrial limits the City is seeking approval on for NUBCO and Alpha Metals, respectively.

**Table 16 – Draft NUBCO Discharge Permit Limits**

POLLUTANT	Proposed Monthly Average Limit (lb/day)	Proposed Max Daily Limit (lb/day)
cBOD <sub>5</sub>	150	150
TSS	100	100
Total Phosphorus	1.85	7.0

Note that NUBCO is also subject to the concentration-based non-compatible Standard Local Limits presented in Table 11.

**Table 17 – Draft Alpha Metals Discharge Permit Limits**

POLLUTANT	Proposed Monthly Average Limit (mg/L)	Proposed Max Daily Limit (mg/L)
cBOD <sub>5</sub>	545	545
TSS	600	600
Phosphorus	8	12
Ammonia	42	42

Alpha Metals would also be subject to the non-compatible concentration-based Standard Local Limits presented in Table 11.

## **APPENDIX A – CALCULATIONS**

**TABLE A1**

**Local Limits Determination Based on Activated Sludge Inhibition Level**

Pollutant	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE							MAXIMUM LOADING			INDUSTRIAL		Safety Factor (%) (SF)
	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Removal Efficiency (%) (Rprim)	Activated Sludge Inhibition Level		Domestic and Commercial		Allowable Headworks (lbs/day) (Lhw)	Domestic/Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)		
				(mg/l) (Ccrit)	(mg/l) (Cdom)	(MGD) (Qdom)							
Arsenic	0.1026	0.377		0.1		0.00025	0.2748	0.3146	0.0006	0.2826	0.33034	10	
Cadmium	0.1026	0.377	15	1		0.000115	0.2748	3.7015	0.0003	3.3311	3.89395	10	
Chromium	0.1026	0.377	27	1		0.00375	0.2748	4.3100	0.0086	3.8704	4.52436	10	
Hex. Chrom.	0.1026	0.377	0			0.0044	0.2748	-	0.0101	-	-	10	
Copper	0.1026	0.377	22	1		0.185	0.2748	4.0337	0.4238	3.2065	3.74833	10	
Cyanide	0.1026	0.377	27	0.1		0.0025	0.2748	0.4310	0.0057	0.3822	0.44675	10	
Lead	0.1026	0.377	57	1		0.001645	0.2748	7.3169	0.0038	6.5815	7.69354	10	
Mercury	0.1026	0.377	10	0.1		0.000037	0.2748	0.3496	0.0001	0.3145	0.3676916	10	
Molybdenum	0.1026	0.377				0.00585	0.2748	-	0.0134	-	-	10	
Nickel	0.1026	0.377	14	1		0.0065	0.2748	3.6585	0.0149	3.2777	3.83157	10	
Selenium	0.1026	0.377				0.000425	0.2748	-	0.0010	-	-	10	
Silver	0.1026	0.377	20	0.25		0.000215	0.2748	0.9832	0.0005	0.8844	1.03384	10	
Zinc	0.1026	0.377	27	5		0.109	0.2748	21.5498	0.2497	19.1451	22.38014	10	

- (Q<sub>ind</sub>) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.
- (Q<sub>potw</sub>) POTW's average influent flow in MGD.
- (R<sub>prim</sub>) Removal efficiency across across primary treatment as percent.
- (C<sub>crit</sub>) Activated sludge threshold inhibition level, mg/l.
- (Q<sub>dom</sub>) Domestic/commercial background flow in MGD.
- (C<sub>dom</sub>) Domestic/commercial background concentration for a particular pollutant in mg/l.
- (L<sub>hw</sub>) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).
- (L<sub>dom</sub>) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).
- (L<sub>ind</sub>) Maximum allowable industrial loading to the POTW in pounds per day.
- (C<sub>ind</sub>) Industrial allowable local limit for a given pollutant in mg/l.
- (SF) Safety factor as a percent.

8.337 Unit conversion factor

$$L_{hw} = \frac{8.337 * C_{crit} * Q_{potw}}{1 - R_{prim}}$$

$$L_{ind} = L_{hw} * (1 - SF/100) - L_{dom}$$

$$C_{ind} = \frac{L_{ind}}{Q_{ind} * 8.337}$$

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**TABLE A2**

**Local Limits Determination Based on Nitrification Inhibition Level**

Pollutant	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE							MAXIMUM LOADING			INDUSTRIAL		
	IU Pollut. Flow (MGD) (Q <sub>ind</sub> )	POTW Flow (MGD) (Q <sub>potw</sub> )	Removal Efficiency (%) (R <sub>sec</sub> )	Nitrification Inhibition Level (mg/l) (C <sub>crit</sub> )	Domestic and Commercial		Allowable Headworks (lbs/day) (L <sub>hw</sub> )	Domestic/Commercial (lbs/day) (L <sub>dom</sub> )	Allowable Loading (lbs/day) (L <sub>ind</sub> )	Local Limit (mg/l) (C <sub>ind</sub> )	Safety Factor (%) (SF)		
					Conc. (mg/l) (C <sub>dom</sub> )	Flow (MGD) (Q <sub>dom</sub> )							
Arsenic	0.1026	0.377	69.8	1.5	0.00025	0.2748	15.60	0.0006	14.0435	16.41644	10		
Cadmium	0.1026	0.377	80.3	5.2	0.000115	0.2748	83.04	0.0003	74.7381	87.36671	10		
Chromium	0.1026	0.377	79.0	1	0.00375	0.2748	14.95	0.0086	13.4436	15.71518	10		
Hex. Chrom.	0.1026	0.377	10.0		0.0044	0.2748	-	0.0101	-	-	10		
Copper	0.1026	0.377	93.9	0.48	0.185	0.2748	24.56	0.4238	21.6822	25.34588	10		
Cyanide	0.1026	0.377	69.0		0.0025	0.2748	-	0.0057	-	-	10		
Lead	0.1026	0.377	84.6	0.5	0.001645	0.2748	10.22	0.0038	9.1955	10.74927	10		
Mercury	0.1026	0.377	91.4		0.0000370	0.2748	-	0.0001	-	-	10		
Molybdenum	0.1026	0.377	27.4		0.00585	0.2748	-	0.0134	-	-	10		
Nickel	0.1026	0.377	42.0	0.5	0.0065	0.2748	2.71	0.0149	2.4262	2.83614	10		
Selenium	0.1026	0.377	33.0		0.000425	0.2748	-	0.0010	-	-	10		
Silver	0.1026	0.377	89.6		0.000215	0.2748	-	0.0005	-	-	10		
Zinc	0.1026	0.377	94.8	0.5	0.109	0.2748	30.23	0.2497	26.9532	31.50754	10		

- (Q<sub>ind</sub>) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.
- (Q<sub>potw</sub>) POTW's average influent flow in MGD.
- (R<sub>sec</sub>) Removal efficiency across primary treatment and secondary treatment as percent.
- (C<sub>crit</sub>) Nitrification threshold inhibition level, mg/l.
- (Q<sub>dom</sub>) Domestic/commercial background flow in MGD.
- (C<sub>dom</sub>) Domestic/commercial background concentration for a particular pollutant in mg/l.
- (L<sub>hw</sub>) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).
- (L<sub>dom</sub>) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).
- (L<sub>ind</sub>) Maximum allowable industrial loading to the POTW in pounds per day.
- (C<sub>ind</sub>) Industrial allowable local limit for a given pollutant in mg/l.
- (SF) Safety factor as a percent.
- 8.337 Unit conversion factor

$$L_{hw} = \frac{8.337 * C_{crit} * Q_{potw}}{1 - R_{sec}}$$

$$L_{ind} = L_{hw} * (1 - SF/100) - L_{dom}$$

$$C_{ind} = \frac{L_{ind}}{Q_{ind} * 8.337}$$

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**TABLE A3**

**Local Limits Determination Based on Anaerobic Digester Inhibition Level**

Pollutant	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE										MAXIMUM LOADING		INDUSTRIAL		
	IU Pollut. Flow (MGD) (Q <sub>ind</sub> )	POTW Flow (MGD) (Q <sub>potw</sub> )	Sludge Flow to Digester (MGD) (Q <sub>dig</sub> )	Sorption Removal Fraction (%)	Removal Efficiency (%) (R <sub>potw</sub> )	Anaerobic Digester Inhibition Level (mg/l) (C <sub>crit</sub> )	Domestic and Commercial		Allowable Headworks (lbs/day) (L <sub>hw</sub> )	Domestic/Commercial (lbs/day) (L <sub>dom</sub> )	Allowable Loading (lbs/day) (L <sub>ind</sub> )	Local Limit (mg/l) (C <sub>ind</sub> )	Safety Factor (%) (SF)		
							Conc. (mg/l) (C <sub>dom</sub> )	Flow (MGD) (Q <sub>dom</sub> )							
Arsenic	0.1026	0.377	0.00195	100	69.8	1.6	0.00025	0.2748	0.037	0.00057	0.032987509	0.038561	10		
Cadmium	0.1026	0.377	0.00195	100	80.3	20	0.000115	0.2748	0.405	0.00026	0.364162632	0.425696	10		
Chromium	0.1026	0.377	0.00195	100	79.0	100	0.00375	0.2748	2.059	0.00859	1.844656255	2.156351	10		
Hex. Chrom.	0.1026	0.377	0.00195	0	10		0.0044	0.2748	-	0.01008	-	-	10		
Copper	0.1026	0.377	0.00195	100	93.9	40	0.185	0.2748	0.693	0.42380	0.199797291	0.233557	10		
Cyanide	0.1026	0.377	0.00195	100	69	4	0.0025	0.2748	0.094	0.00573	0.079092856	0.092457	10		
Lead	0.1026	0.377	0.00195	100	84.6	340	0.001645	0.2748	6.533	0.00377	5.87582579	6.868675	10		
Mercury	0.1026	0.377	0.00195	100	91.4		0.000037	0.2748	-	0.00008	-	-	10		
Molybdenum	0.1026	0.377	0.00195	100	27.4		0.00585	0.2748	-	0.01340	-	-	10		
Nickel	0.1026	0.377	0.00195	100	42	10	0.0065	0.2748	0.387	0.01489	0.333477152	0.389825	10		
Selenium	0.1026	0.377	0.00195	100	33		0.000425	0.2748	-	0.00097	-	-	10		
Silver	0.1026	0.377	0.00195	100	89.6	13	0.000215	0.2748	0.236	0.00049	0.211884969	0.247688	10		
Zinc	0.1026	0.377	0.00195	100	94.7953216	400	0.109	0.2748	6.860	0.24970	5.924206262	6.925230	10		

- (Q<sub>ind</sub>) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.
- (Q<sub>potw</sub>) POTW's average influent flow in MGD.
- (Q<sub>dig</sub>) Sludge flow to digester in MGD.
- (R<sub>potw</sub>) Removal efficiency across POTW as percent.
- (C<sub>crit</sub>) Anaerobic digester threshold inhibition level in mg/l.
- (Q<sub>dom</sub>) Domestic/commercial background flow in MGD.
- (C<sub>dom</sub>) Domestic/commercial background concentration for a particular pollutant in mg/l.
- (L<sub>hw</sub>) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).
- (L<sub>dom</sub>) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).
- (L<sub>ind</sub>) Maximum allowable industrial loading to the POTW in pounds per day.
- (C<sub>ind</sub>) Industrial allowable local limit for a given pollutant in mg/l.
- F<sub>(sorp)</sub> Fraction of overall removal due to sorption as a percent
- (SF) Safety factor as a percent.
- 8.337 Unit conversion factor
- $$L_{hw} = \frac{8.337 * C_{crit} * Q_{dig}}{R_{potw} * F_{sorp}}$$
- $$L_{ind} = L_{hw} * (1-SF/100) - L_{dom}$$
- $$C_{ind} = \frac{L_{ind}}{Q_{ind} * 8.337}$$

**TABLE A4**

**Local Limits Determination Based on Chronic Water Quality Standards**

Pollutant	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE										MAXIMUM LOADING		INDUSTRIAL		Safety Factor (%)
	IU Pollut. Flow (MGD) (Q <sub>ind</sub> )	Avg POTW Flow (MGD) (Q <sub>potw</sub> )	Max POTW Flow (MGD) (Q <sub>max</sub> )	River 95% Exceedence Flow (MGD)	Nonvolatile Removal Fraction (%)	Average Removal Efficiency (%) (R <sub>avg</sub> )	Water Quality Standard (mg/l)	Chronic WQS (mg/l) (C <sub>crit</sub> )	Domestic and Commercial		Allowable Headworks (lbs/day) (L <sub>hw</sub> )	Domestic/Commercial (lbs/day) (L <sub>dom</sub> )	Allowable Loading (lbs/day) (L <sub>ind</sub> )	Local Limit (mg/l) (C <sub>ind</sub> )	
									Conc. (mg/l) (C <sub>dom</sub> )	Flow (MGD) (Q <sub>dom</sub> )					
Arsenic	0.1026	0.377	1.3	9.69	100	69.8	0.15	0.42964	0.00025	1.1974	15.40	0.0025	13.8542	16.195	10
Cadmium	0.1026	0.377	1.3	9.69	100	80.3	0.005	0.01471	0.000115	1.1974	0.235	0.0011	0.2102	0.246	10
Chromium	0.1026	0.377	1.3	9.69	100	79.0	0.011	0.03151	0.00375	1.1974	0.471	0.0374	0.3864	0.452	10
Hex. Chrom.	0.1026	0.377	1.3	9.69	100	10		0.00000	0.0044	1.1974	-	0.0439	-	-	10
Copper	0.1026	0.377	1.3	9.69	100	93.9	0.02	0.05708	0.185	1.1974	2.921	1.8468	0.7821	0.914	10
Cyanide	0.1026	0.377	1.3	9.69	100	69	0.0052	0.01489	0.0025	1.1974	0.151	0.0250	0.1111	0.130	10
Lead	0.1026	0.377	1.3	9.69	100	84.6	0.043	0.12418	0.001645	1.1974	2.539	0.0164	2.2683	2.652	10
Mercury	0.1026	0.377	1.3	9.69	100	91.4	0.0008	0.0022055	0.000037	1.1974	0.080	0.0004	0.0718	0.083979	10
Molybdenum	0.1026	0.377	1.3	9.69	100	27.4	0.005	0.01432	0.00585	1.1974	0.062	0.0584	0.0006	0.001	5
Nickel	0.1026	0.377	1.3	9.69	100	42	0.115	0.32885	0.0065	1.1974	1.784	0.0649	1.5406	1.801	10
Selenium	0.1026	0.377	1.3	9.69	100	33	0.005	0.01432	0.000425	1.1974	0.067	0.0042	0.0563	0.066	10
Silver	0.1026	0.377	1.3	9.69	100	89.6	0.00006	0.00017	0.000215	1.1974	0.005	0.0021	0.0025	0.003	10
Zinc	0.1026	0.377	1.3	9.69	100	94.79532164	0.26	0.74794	0.109	1.1974	45.21	1.0881	39.6040	46.296	10

(Q<sub>ind</sub>) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.

(Q<sub>potw</sub>) POTW's average influent flow in MGD.

(Q<sub>95ex</sub>) MDEQ Designated 95% exceedence flow for receiving stream (MGD)

(R<sub>avg</sub>) Average removal efficiency across POTW as percent.

(C<sub>crit</sub>) State chronic water quality standard for a particular pollutant in mg/l.

(Q<sub>dom</sub>) Domestic/commercial background flow in MGD.

(C<sub>dom</sub>) Domestic/commercial background concentration for a particular pollutant in mg/l.

(L<sub>hw</sub>) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).

(L<sub>dom</sub>) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).

(L<sub>ind</sub>) Maximum allowable industrial loading to the POTW in pounds per day.

(C<sub>ind</sub>) Industrial allowable local limit for a given pollutant in mg/l.

F<sub>(nonvol)</sub> Fraction of overall POTW removal not due to volatilization as a percent

(SF) Safety factor as a percent.

(Q<sub>max</sub>) Maximim permitted POTW flow

8.337 Unit conversion factor

$$C_{crit} = \frac{C_{std} * (Q_{max} + 25% * Q_{95ex})}{Q_{max}}$$

$$L_{hw} = \frac{8.337 * Q_{potw} * (C_{crit} * (Q_{max} + 25% * Q_{95ex}) / Q_{max})}{(1 - R_{avg} * F_{nonvol})}$$

$$L_{ind} = L_{hw} * (1 - SF/100) - L_{dom}$$

$$C_{ind} = \frac{L_{ind}}{Q_{ind} * 8.337}$$

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**TABLE A5**

**Local Limits Determination Based on Acute Water Quality Standards**

Pollutant	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE										MAXIMIM LOADING		INDUSTRIAL		Safety Factor (%) (SF)
	IU Pollut. Flow (MGD) (Q <sub>ind</sub> )	Avg POTW Flow (MGD) (Q <sub>potw</sub> )	Max POTW Flow (MGD) (Q <sub>max</sub> )	River 95% Exceedence Flow (MGD)	Nonvolatile Removal Fraction (%)	Average Removal Efficiency (%) (R <sub>avg</sub> )	Water Quality Standard (mg/l)	Acute WQS (mg/l) (C <sub>crit</sub> )	Domestic an Commercial Conc. (mg/l) (C <sub>dom</sub> )	Flow (MGD) (Q <sub>dom</sub> )	Allowable Headworks (lbs/day) (L <sub>hw</sub> )	Domestic/ Commercial (lbs/day) (L <sub>dom</sub> )	Allowable Loading (lbs/day) (L <sub>ind</sub> )	Local Limit (mg/l) (C <sub>ind</sub> )	
Arsenic	0.1026	0.377	1.3	9.69	100	69.8	0.68	1.948	0.00025	1.1974	20.26	0.002496	18.2331	21.3140	10
Cadmium	0.1026	0.377	1.3	9.69	100	80.3	0.013	0.037	0.000115	1.1974	0.594	0.001148	0.5334	0.6236	10
Chromium	0.1026	0.377	1.3	9.69	100	79.0	0.032	0.092	0.00375	1.1974	1.370	0.037435	1.1955	1.3975	10
Hex. Chrom.	0.1026	0.377	1.3	9.69	100	10	0.032	0.092	0.0044	1.1974	0.320	0.043924	0.2445	0.2858	10
Copper	0.1026	0.377	1.3	9.69	100	93.9	0.032	0.093	0.185	1.1974	4.758	1.846790	2.4357	2.8472	10
Cyanide	0.1026	0.377	1.3	9.69	100	69	0.044	0.126	0.0025	1.1974	1.279	0.024957	1.1262	1.3165	10
Lead	0.1026	0.377	1.3	9.69	100	84.6	0.831	2.381	0.001645	1.1974	48.67	0.016421	43.7903	51.1896	10
Mercury	0.1026	0.377	1.3	9.69	100	91.4	0.0028	0.008	0.000037	1.1974	0.292	0.000369	0.2622	0.30651524	10
Molybdenum	0.1026	0.377	1.3	9.69	100	27.4	0.12	0.344	0.00585	1.1974	1.490	0.058398	1.2830	1.499806882	10
Nickel	0.1026	0.377	1.3	9.69	100	42	2.07	5.922	0.0065	1.1974	32.12	0.064887	28.8452	33.7192	10
Selenium	0.1026	0.377	1.3	9.69	100	33	0.12	0.344	0.000425	1.1974	1.614	0.004243	1.4484	1.6931	10
Silver	0.1026	0.377	1.3	9.69	100	89.6	0.0011	0.003	0.000215	1.1974	0.095	0.002146	0.0833	0.0974	10
Zinc	0.1026	0.377	1.3	9.69	100	94.79532164	0.518	1.484	0.109	1.1974	89.69	1.088109	79.6358	93.0920	10

(Q<sub>ind</sub>) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.

(Q<sub>potw</sub>) POTW's average influent flow in MGD.

(Q<sub>95ex</sub>) MDEQ Designated 95% exceedence flow for receiving stream (MGD)

(R<sub>avg</sub>) Average removal efficiency across POTW as percent.

(C<sub>crit</sub>) State acute water quality standard for a particular pollutant in mg/l.

(Q<sub>dom</sub>) Domestic/commercial background flow in MGD.

(C<sub>dom</sub>) Domestic/commercial background concentration for a particular pollutant in mg/l.

(L<sub>hw</sub>) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).

(L<sub>dom</sub>) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).

(L<sub>ind</sub>) Maximum allowable industrial loading to the POTW in pounds per day.

(C<sub>ind</sub>) Industrial allowable local limit for a given pollutant in mg/l.

F<sub>(nonvol)</sub> Fraction of overall POTW removal not due to volatilization as a percent

(SF) Safety factor as a percent.

(Q<sub>max</sub>) Maximim permitted POTW flow

8.337 Unit conversion factor

$$C_{crit} = \frac{C_{std} * (Q_{max} + 25% * Q_{95ex})}{Q_{max}}$$

$$L_{hw} = \frac{8.337 * Q_{potw} * (C_{crit} * (Q_{max} + 25% * Q_{95ex}) / Q_{max})}{(1 - R_{avg} * F_{nonvol})}$$

$$L_{ind} = L_{hw} * (1 - SF/100) - L_{dom}$$

$$C_{ind} = \frac{L_{ind}}{Q_{ind} * 8.337}$$

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**TABLE A6**

**Local Limits Determination Based on USEPA 503 Sludge Regulations**

Pollutant	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE									MAXIMUM LOADING		INDUSTRIAL			
	IU Pollut. Flow (MGD) (Q <sub>ind</sub> )	POTW Flow (MGD) (Q <sub>potw</sub> )	Sludge Flow (MGD) (Q <sub>slgd</sub> )	Sorption Removal Fraction (%)	Percent Solids (%) (PS)	Average Digester Removal (%)	Maximum Removal Efficiency (%) (R <sub>max</sub> )	503 Sludge Criteria (mg/kg) (C <sub>slcrit</sub> )	Domestic and Commercial		Allowable Headworks (lbs/day) (L <sub>hw</sub> )	Domestic/Commercial (lbs/day) (L <sub>dom</sub> )	Allowable Loading (lbs/day) (L <sub>ind</sub> )	Local Limit (mg/l) (C <sub>ind</sub> )	Safety Factor (%) (SF)
									Conc. (mg/l) (C <sub>dom</sub> )	Flow (MGD) (Q <sub>dom</sub> )					
Arsenic	0.1026	0.377	0.002	100	4.0	0	69.8	37	0.00025	0.2748	0.035	0.0006	0.0313	0.036550	10
Cadmium	0.1026	0.377	0.002	100	4.0		80.3	35	0.000115	0.2748	0.029	0.0003	0.0259	0.030277	10
Chromium	0.1026	0.377	0.002	100	4.0		79.0		0.00375	0.2748	-	0.0086	-	-	10
Hex. Chrom.	0.1026	0.377	0.002	0	4.0		10		0.0044	0.2748	-	0.0101	-	-	10
Copper	0.1026	0.377	0.002	100	4.0		93.9	1338	0.185	0.2748	0.951	0.4238	0.4320	0.504959	10
Cyanide	0.1026	0.377	0.002	100	4.0		69		0.0025	0.2748	-	0.0057	-	-	10
Lead	0.1026	0.377	0.002	100	4.0		84.6	268	0.001645	0.2748	0.211	0.0038	0.1864	0.217856	10
Mercury	0.1026	0.377	0.002	100	4.0		91.4	15	0.000037	0.2748	0.011	0.0001	0.0098	0.011423	10
Molybdenum	0.1026	0.377	0.002	100	4.0		27.4	75	0.00585	0.2748	0.182	0.0134	0.1506	0.176090	10
Nickel	0.1026	0.377	0.002	100	4.0		42	375	0.0065	0.2748	0.596	0.0149	0.5211	0.609104	10
Selenium	0.1026	0.377	0.002	100	4.0		33	89	0.000425	0.2748	0.180	0.0010	0.1609	0.188106	10
Silver	0.1026	0.377	0.002	100	4.0		89.6		0.000215	0.2748	-	0.0005	-	-	10
Zinc	0.1026	0.377	0.002	100	4.0		94.8	2498	0.109	0.2748	1.758	0.2497	1.3321	1.557172	10

(Q<sub>ind</sub>) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.

(Q<sub>potw</sub>) POTW's average influent flow in MGD.

(Q<sub>slgd</sub>) Sludge flow to disposal in MGD.

(PS) Percent solids of sludge to disposal.

(R<sub>max</sub>) Maximum removal efficiency across POTW as a percent.

(C<sub>slcrit</sub>) 503 sludge criteria in mg/kg dry sludge.

(Q<sub>dom</sub>) Domestic/commercial background flow in MGD.

(C<sub>dom</sub>) Domestic/commercial background concentration for a particular pollutant in mg/l.

(L<sub>hw</sub>) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).

(L<sub>dom</sub>) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).

(L<sub>ind</sub>) Maximum allowable industrial loading to the POTW in pounds per day.

(C<sub>ind</sub>) Industrial allowable local limit for a given pollutant in mg/l.

F<sub>(sorp)</sub> Fraction of overall removal due to sorption as a percent

R<sub>(dig)</sub> Average removal fraction of digester as a percent

(SF) Safety factor as a percent.

8.337 Unit conversion factor

$$L_{hw} = \frac{8.337 * C_{slcrit} * (PS/100) * Q_{slgd}}{R_{max} * F_{sorp} * (1 - R_{dig})}$$

$$L_{ind} = L_{hw} * (1 - SF/100) - L_{dom}$$

$$C_{ind} = \frac{L_{ind}}{Q_{ind} * 8.337}$$

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**TABLE A7**

**Summary of Determined Limits**

			Arsenic	Cadmium	Chromium	Hex. Chrom.	Copper	Cyanide	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
Activated Sludge Inhibition	Allowable Headworks Load	(lbs/day) (Lhw)	0.315	3.702	4.310	-	4.034	0.431	7.317	0.34959	-	3.658	-	0.983	21.550
	Domestic/	(lbs/day) (Ldom)	0.001	0.000	0.009	0.010	0.424	0.006	0.004	0.00008	0.013	0.015	0.001	0.000	0.250
	Allowable Industrial Load	(lbs/day) (Lind)	0.283	3.331	3.870	-	3.207	0.382	6.581	0.31454	-	3.278	-	0.884	19.145
	Local Limit (Cind)	(mg/l) (Cind)	0.330	3.894	4.524	-	3.748	0.447	7.694	0.36769	-	3.832	-	1.034	22.380
Nitrification Inhibition Level	Allowable Headworks Load	(lbs/day) (Lhw)	15.605	83.043	14.947	-	46.687	-	10.221	-	-	2.712	-	-	30.225
	Domestic/	(lbs/day) (Ldom)	0.001	0.000	0.009	0.010	24.562	0.006	0.004	0.00008	0.013	0.015	0.001	0.000	0.250
	Allowable Industrial Load	(lbs/day) (Lind)	14.043	74.738	13.444	-	0.424	-	9.195	-	-	2.426	-	-	26.953
	Local Limit (Cind)	(mg/l) (Cind)	16.416	87.367	15.715	-	21.682	-	10.749	-	-	2.836	-	-	31.508
Anaerobic Digester Inhibition	Allowable Headworks Load	(lbs/day) (Lhw)	0.037	0.405	2.059	-	0.693	0.094	6.533	-	-	0.387	-	0.236	6.860
	Domestic/	(lbs/day) (Ldom)	0.001	0.000	0.009	0.010	0.424	0.006	0.004	0.00008	0.013	0.015	0.001	0.000	0.250
	Allowable Industrial Load	(lbs/day) (Lind)	0.033	0.364	1.845	-	0.200	0.079	5.876	-	-	0.333	-	0.212	5.924
	Local Limit (Cind)	(mg/l) (Cind)	0.039	0.426	2.156	-	0.234	0.092	6.869	-	-	0.390	-	0.248	6.925
Chronic Water Quality Standards	Allowable Headworks Load	(lbs/day) (Lhw)	15.396	0.235	0.471	-	2.921	0.151	2.539	0.08023	0.062	1.784	0.067	0.005	45.213
	Domestic/	(lbs/day) (Ldom)	0.002	0.001	0.037	0.044	1.847	0.025	0.016	0.00037	0.058	0.065	0.004	0.002	1.088
	Allowable Industrial Load	(lbs/day) (Lind)	13.854	0.210	0.386	-	0.782	0.111	2.268	0.07184	0.001	1.541	0.056	0.003	39.604
	Local Limit (Cind)	(mg/l) (Cind)	16.195	0.246	0.452	-	0.914	0.130	2.652	0.08398	0.0007	1.801	0.066	0.003	46.296
Acute Water Quality Standards	Allowable Headworks Load	(lbs/day) (Lhw)	20.262	0.594	1.370	0.320	4.758	1.279	48.674	0.29175	1.490	32.122	1.614	0.095	89.693
	Domestic/	(lbs/day) (Ldom)	0.002	0.001	0.037	0.044	1.847	0.025	0.016	0.00037	0.058	0.065	0.004	0.002	1.088
	Allowable Industrial Load	(lbs/day) (Lind)	18.233	0.533	1.196	0.244	2.436	1.126	43.790	0.26221	1.283	28.845	1.448	0.083	79.636
	Local Limit (Cind)	(mg/l) (Cind)	21.314	0.624	1.398	0.286	2.847	1.317	51.190	0.30652	1.4998	33.719	1.693	0.097	93.092
USEPA 503 Sludge Regulations	Allowable Headworks Load	(lbs/day) (Lhw)	0.035	0.029	-	-	0.951	-	0.211	0.01095	0.182	0.596	0.180	-	1.758
	Domestic/	(lbs/day) (Ldom)	0.001	0.000	0.009	0.010	0.424	0.006	0.004	0.00008	0.013	0.015	0.001	0.000	0.250
	Allowable Industrial Load	(lbs/day) (Lind)	0.031	0.026	-	-	0.432	-	0.186	0.00977	0.151	0.521	0.161	-	1.332
	Local Limit (Cind)	(mg/l) (Cind)	0.037	0.030	-	-	0.505	-	0.218	0.01142	0.1761	0.609	0.188	-	1.557

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**TABLE A8**

**Allowable Headworks Load**

			Arsenic	Cadmium	Chromium	Hex. Chrom.	Copper	Cyanide	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
Activated Sludge Inhibition AS	(lbs/day)	(Lhw)	0.315	3.702	4.310	-	4.034	0.431	7.317	0.350	-	3.658	-	0.983	21.550
Nitrification Inhibition Level NI	(lbs/day)	(Lhw)	15.605	83.043	14.947	-	46.687	-	10.221	-	-	2.712	-	-	30.225
Anaerobic Digester Inhibition DI	(lbs/day)	(Lhw)	0.037	0.405	2.059	-	<b>0.693</b>	<b>0.094</b>	6.533	-	-	<b>0.387</b>	-	0.236	6.860
Chronic Water Quality Standards C	(lbs/day)	(Lhw)	15.396	0.235	<b>0.471</b>	-	2.921	0.151	2.539	0.080	<b>0.062</b>	1.784	<b>0.067</b>	<b>0.005</b>	45.213
Acute Water Quality Standards A	(lbs/day)	(Lhw)	20.262	0.594	1.370	<b>0.320</b>	4.758	1.279	48.674	0.292	1.490	32.122	1.614	0.095	89.693
USEPA 503 Sludge Regulations BS	(lbs/day)	(Lhw)	<b>0.035</b>	<b>0.029</b>	-	-	0.951	-	<b>0.211</b>	<b>0.011</b>	0.182	0.596	0.180	-	<b>1.758</b>
Monthly Average	(lbs/day)		0.035	0.029	0.471	0.320	0.693	0.094	0.211	0.011	0.062	0.387	0.067	0.005	1.758
Basis			BS	BS	C	A	DI	DI	BS	BS	C	DI	C	C	BS
Daily Maximum	(lbs/day)		0.037	0.058	1.370	0.320	0.951	0.151	0.423	0.022	0.182	0.596	0.180	0.095	3.515
Basis			DI	2xBS	A	A	BS	C	2xBS	2xBS	BS	BS	BS	A	2sBS

**TABLE A9**

**Allowable Industrial Load**

			Arsenic	Cadmium	Chromium	Hex. Chrom.	Copper	Cyanide	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
Activated Sludge Inhibition AS	(lbs/day)	(Lind)	0.283	3.331	3.870	-	3.207	0.382	6.581	0.315	-	3.278	-	0.884	19.145
Nitrification Inhibition Level	(lbs/day)	(Lind)	14.043	74.738	13.444	-	0.424	-	9.195	-	-	2.426	-	-	26.953
Anaerobic Digester Inhibition	(lbs/day)	(Lind)	0.033	0.364	1.845	-	<b>0.200</b>	<b>0.079</b>	5.876	-	-	<b>0.333</b>	-	0.212	5.924
Chronic Water Quality Standards	(lbs/day)	(Lind)	13.854	0.210	<b>0.386</b>	-	0.782	0.111	2.268	0.072	<b>0.001</b>	1.541	<b>0.056</b>	<b>0.003</b>	39.604
Acute Water Quality Standards	(lbs/day)	(Lind)	18.233	0.533	1.196	<b>0.244</b>	2.436	1.126	43.790	0.262	1.283	28.845	1.448	0.083	79.636
USEPA 503 Sludge Regulations	(lbs/day)	(Lind)	<b>0.031</b>	<b>0.026</b>	-	-	0.432	-	<b>0.186</b>	<b>0.010</b>	0.151	0.521	0.161	-	<b>1.332</b>
Monthly Average	(lbs/day)		0.031	0.026	0.386	0.244	0.200	0.079	0.186	0.010	0.001	0.333	0.056	0.003	1.332
Basis			BS	BS	C	A	DI	DI	BS	BS	C	DI	C	C	BS
Daily Maximum	(lbs/day)		0.033	0.052	1.196	0.244	0.400	0.111	0.373	0.020	0.151	0.521	0.161	0.083	2.664
Basis			DI	2xBS	A	A	2xDI	C	2XBS	2xBS	BS	BS	BS	A	2xBS

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**TABLE A10**  
**Standard Local Limits - Uniform Allocation**

		Arsenic	Cadmium	Chromium	Hex. Chrom.	Copper	Cyanide	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
Monthly Average	(mg/L)	0.042	0.034	0.514	0.325	0.266	0.105	0.248	0.013	0.001	0.443	0.075	0.003	1.770
	(ug/L)	42	34	514	325	266	105	248	13	1	443	75	3	1770
Basis		BS	BS	C	A	DI	DI	BS	BS	C	DI	C	C	BS
Daily Maximum	(mg/L)	0.044	0.069	1.589	0.325	0.266	0.148	0.495	0.026	0.200	0.692	0.214	0.111	3.541
	(ug/L)	44	69	1589	325	266	148	495	26	200	692	214	111	3541
Basis		DI	2xBS	A	A	DI	C	2XBS	2xBS	BS	BS	BS	A	2xBS

**TABLE A11 "DEFAULT" VALUES**

**Highlighted Data Was Used In This Local Limits Determinations**

The following tables are taken from the EPA's Local Limits Development Guidance Appendixes

	Appendix R tables				Appendix V		Appendix G tables			
	Removal Efficiencies				Domestic Level	@h=100 WQS*	Inhibition Levels			
	Primary	Activated sludge	Trickling Fltr	Tertiary			Activated sludge	Trickling Fltr	Nitrification	Digestion
Ag	20%	75%	66%	62%	0.019	0.0001	0.25	0.25		13
As	NA	45%	NA	na	0.007	0.19	0.1	0.1	1.5	1.6
Cd*	15%	67%	68%	50%	0.008	0.0011	1	1	5.2	20
CN	27%	69%	59%	66%	0.082	0.005	0.1	0.1		4
Cr	27%	82%	55%	72%	0.034	0.2	1	1	1	100
Cr6		10%								
Cu*	22%	86%	55%	85%	0.061	0.012	1	1	0.48	40
Hg	10%	60%	50%	67%	0.002	1.2	0.1	0.1		NA
Ni*	14%	42%	29%	17%	0.047	0.16	1	1	0.5	10
Pb*	57%	61%	55%	52%	0.058	0.032	1	1	0.5	340
Se		33%								
Zn*	27%	79%	67%	78%	0.231	0.11	5	5	0.5	400

\*Hardness Dependent (This table assumes Hardness=100)  
all values in mg/l unless stated

	Appendix E - Land Application of Sludge		
	Ceiling Concentration	Cumulative Pollutant Loading Rates	Annual Pollutant Loading Rate
As	75	37	1.8
Cd*	85	35	1.7
Cu*	4300	1338	67
Hg	57	15	0.76
Mo	75	-	-
Ni*	420	375	19
Pb*	840	268	13
Se	100	89	4.5
Zn*	7500	2498	125

MWEA committee 2012 survey fixed from total Plant removal Efficiencies	
Ag	68
As	70
Cd*	67
CN	-
Cr	43
Cu*	87
Hg	-
Mo	20
Ni*	34
Pb*	83
Zn*	85

Site Specific Data from Dexter WWTP Samplings	
Ag	89.6
As	69.8
Cd*	80.3
CN	-
Cr	79.0
Cu*	93.9
Hg	91.4
Mo	27.4
Ni*	5.7
Pb*	84.6
Se	-
Zn*	94.80

Michigan Part 57 Water Quality values

	Final Chronic Values	
Ag	0.0001	=.06/1000
As	0.150	=150/1000
Cd*	0.005	=(EXP(0.7852*(LN(255))-2.715))/1000
CN	0.0052	=5.2/1000
Cr	0.0110	=11/1000
Cu*	0.0199	=(EXP(0.8545*(LN(255))-1.702))*0.96/1000
Hg	0.00077	=.77/1000
Mo	0.005	=5/1000
Ni*	0.115	=(EXP(0.846*(LN(255))+0.0584))*0.997/1000
Pb*	0.043	=(EXP(0.9859*(LN(255))-1.270))*(1.46203-((LN(255))*(0.14571)))/1000
Se	0.005	=5/1000
Zn*	0.261	=(EXP(0.8473*(LN(255))+0.884))*0.986/1000

Michigan Part 57 Water Quality values

	Acute Values	
Ag	0.0011	=1.1/1000
As	0.68	=680/1000
Cd*	0.013	=(EXP(1.128*(LN(255))-3.6867))/1000
CN	0.044	=44/1000
Cr	0.032	=32/1000
Cu*	0.032	=(EXP(0.9422*(LN(255))-1.7))*0.96/1000
Hg	0.0028	=2.8/1000
Mo	0.120	=120/1000
Ni*	2.07	=(EXP(0.846*(LN(255))+2.255))*(0.998*2)/1000
Pb*	0.831	=(EXP(0.9859*(LN(255))+0.9904))*(1.46203-((LN(255))*(0.14571)))*2/1000
Se	0.120	=120/1000
Zn*	0.518	=(EXP(0.8473*(LN(255))+0.884))*0.978*2/1000

\*Hardness Dependent (This table assumes Hardness=255 as reported by DEQ sampling)

Monthly average  $Wq_{bel} = [(25\%(95\%exc) + \text{effluent flow}) * FCV - (\text{background conc}) * Qr] / \text{effluent flow}$

**Village of Dexter WWTF**  
Compatibles MAHL

**BOD Loading - NPDES Permit Basis**

$$L_{NPDES} = \frac{8.34 * C_{NPDES} * Q_{POTW}}{1 - R_{Avg}}$$

C <sub>NPDES</sub> , Monthly avg BOD5 =	25 mg/L
R <sub>Avg, BOD5</sub> =	0.98
Q <sub>POTW</sub> =	0.377 MGD
L <sub>NPDES, BOD5 (monthly Avg)</sub> =	3930 lb/day

**BOD Capacity Analysis**

Current avg domestic flow	0.2748 MGD
Avg NUBCO Flow	0.013 MGD
Avg Alpha Metals Flow	0.013 MGD
Current other nondomestic flow	0.0762 MGD

Average Influent BOD (lbs)	262 mg/L
Average primary effluent BOD (lbs)	226 mg/L

Primary Clarifier Performance BOD % removal	14%
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No. of aeration tanks	3
Volume, each	79,000 gals
Total volume	237,000 gals 32,250 cf

10 States Loading	40 lb BOD5/1000 cf
Aeration Tank BOD capacity	1290 lb BOD5/day
Allowable Headworks loading, with 14% removal in primaries	1495 lb BOD5/day

Total Maximum Allowable Headworks Loading	1495 lb BOD5/day
MAHL (after 10% SF)	1346 lb BOD5/day
Domestic Loading	600 lb BOD5/day
Near-term Anticipated Growth	104 lb BOD5/day
Reserve Loading	84 lb BOD5/day
MAIL BOD (after 10% SF)	557 lb BOD5/day

**Allocation of avg. BOD MAIL to Non-Domestic Users**

Alpha Metals Flow	0.013 MGD
Alpha Metals BOD Conc.	30 mg/L
Alpha Metals Loading	3.3 lb BOD5/day
Proposed Alpha Metals limit	545 mg/L
Alpha Metals Loading	59 lb BOD5/day

Proposed Std Local Limit (non-domestic users)	545 mg/L
Non permitted, non domestic loading	346 lb/day

<b>BOD Loading Available for NUBCO</b>	<b>151 Lb/day</b>
NUBCO Flow	0.013 MGD

<b>DRAFT NUBCO Avg Monthly Limit for BOD5</b>	<b>150 lb/day</b>
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**TSS Loading - NPDES Permit Basis**

$$L_{NPDES} = \frac{8.34 * C_{NPDES} * Q_{POTW}}{1 - R_{Avg}}$$

C <sub>NPDES</sub> , Monthly avg TSS =	30 mg/L
R <sub>Avg, TSS</sub> =	0.964
Q <sub>POTW</sub> =	0.377 MGD
L <sub>NPDES</sub> , TSS (monthly Avg) =	2620 lb/day

**TSS Capacity Analysis**

Primary Clarifiers

Surface Area	1414 sf
Design Avg Solids Loading Rate*	1.12 lbs/sf
<b>Design Avg Loading (MAHL)</b>	<b>1,583 lbs/day</b>
Design Peak Solids Loading Rate*	2.5 lbs/sf
Design Peak Loading	3,534 lbs/day

\*Source - September 2011 Dexter O&M Manual by OHM

Avg Domestic TSS	250 mg/L
Avg raw influent TSS loading	573 lb/day
Avg NUBCO TSS	530 mg/L
Avg NUBCO Loading	57 lb/day
Avg WAS Flow Rate	0.0015 MGD
Avg WAS TSS	7,127 mg/L
WAS Loading	89 lb/day
MAHL (with 10% SF)	1425 lb/day
Domestic Loading, Current	662 lb/day
Near-term Anticipated Growth	118 lb/day
Reserve Loading	96 lb/day
<b>MAIL TSS w/ 10% SF</b>	<b>549 lb/day</b>
<u>Allocation of Avg. MAIL to IUs</u>	
Alpha Metals Flow	0.013 MGD
Alpha Metals TSS Conc. (proposed limit)	600 mg/L
Alpha Metals Loading	65.1 lb BOD5/day
Proposed Std Local Limit (non-domestic users), avg monthly	600 mg/L
Non permitted, non domestic loading	381 lb/day
<b>TSS Loading Available for NUBCO</b>	<b>102.2 Lb/day</b>
NUBCO Future Flow	0.013 MGD
<b>DRAFT NUBCO Avg Monthly Limit for TSS</b>	<b>100 lb/day</b>

**Phosphorus Loading - NPDES Permit Basis**

$$L_{NPDES} = \frac{8.34 * C_{NPDES} * Q_{POTW}}{1 - R_{Avg}}$$

C <sub>NPDES</sub> , Monthly avg Phos =	0.6 mg/L
R <sub>Avg, Phos</sub> =	0.966
Q <sub>POTW</sub> =	0.377 MGD
L <sub>NPDES</sub> , Phos (monthly Avg) =	55 lb/day

$$L_{NDES} = \frac{L_{lbs\_to\_river}}{1 - R_{Avg}}$$

L <sub>lbs to river</sub> , mass based NPDES limit, July/August =	0.8 lbs/day
R <sub>Avg, Phos</sub> =	0.966
L <sub>NPDES</sub> , Phos (monthly Avg) =	24 lb/day

**Phosphorus Capacity Analysis**

Existing ferric chloride feed system consists of two 150 gpd metering pumps  
 In general 3.6 lbs of iron is required per lb of phosphorus loaded  
 Feeding 38% ferric chloride, which contains 1.53 lbs iron per gallon of solution  
 ASSUMING: all phosphorus is soluble and needs FeCl3 treatment

Avg daily iron dosage =	229.5 lbs Fe, capacity of one metering pump
Avg phosphorus AHL =	<b>63.8 lbs P</b>
MAHL (after 5% safety factor) =	22.4
Domestic influent phosphorus conc. =	5.6 mg/L
Domestic phosphorus loading	12.8 lb/day
Near-Term Anticipated growth	1.5 lb/day
Reserve Loading	0.2 lb/day
MAIL phosphorus w/ 5% SF	7.8 lb/day

Allocation of MAIL to IUs

Alpha Metals Flow	0.013 MGD
Alpha Metals phos. conc. (proposed permit limit)	8 mg/L
Alpha Metals Loading	0.9 lb phos/day
Proposed Std Local Limit (non-domestic users)	8 mg/L
Non permitted, non domestic loading	5.1 lb/day

<b>Phosphorus Loading Available for NUBCO</b>	<b>1.82 Lb/day</b>
NUBCO Future Flow	0.013 MGD

<b>Proposed NUBCO Monthly Avg phosphorus permit limit</b>	<b>1.80 lb/day</b>
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Maximum Day Limit Allocation

Use second most-restrictive AHL	
AHL after 20% Safety Factor	44 lb/day
Domestic Loading	14.1 lb/day
Near-Term Anticipated Growth	1.7 lb/day
Reserve	2.2 lb/day
MAIL for Maximum Day	26 lb/day

Allocation of MAIL to IUs

Alpha Metals Flow	0.013 MGD
Alpha Metals phos. conc. (proposed daily max permit limit)	14 mg/L
Alpha Metals Loading	1.5 lb phos/day
Proposed Std Local Limit (non-domestic users)	14 mg/L
Non permitted, non domestic loading	8.9 lb/day

<b>Phosphorus Loading Available for NUBCO</b>	<b>16 Lb/day</b>
NUBCO Future Flow	0.013 MGD

<b>Proposed NUBCO Daily Max phosphorus permit limit</b>	<b>7.00 lb/day</b>
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**Ammonia Loading - NPDES Permit Basis**

$$L_{NPDES} = \frac{8.34 * C_{NPDES} * Q_{POTW}}{1 - R_{Avg}}$$

C <sub>NPDES</sub> , Monthly avg Ammonia =	12 mg/L
R <sub>Avg</sub> , Ammonia =	0.963
Q <sub>POTW</sub> =	0.377 MGD
L <sub>NPDES</sub> , Ammonia (monthly Avg) =	1020 lb/day
Ammonia MAHL (with 10% SF)	918 lb/day
Avg Influent Ammonia	36 mg/L
Domestic Loading	83 lb/day
Near-Term Anticipated Growth	9 lb/day
Reserve Loading	100 lb/day
<b>MAIL w/ 10% SF</b>	<b>726 lb/day</b>

Allocation of Ammonia MAIL

Alpha Metals Flow	0.013 MGD
Alpha Metals avg ammonia conc.	25 mg/L
Proposed Alpha Metals Limit	42 mg/L
Alpha Metals Loading	4.6 lb/day

Proposed Std Local Limit (non-domestic users)	42 mg/L
Non permitted, non domestic loading	27 lb/day

**Ammonia Loading Available for NUBCO** **695 Lb/day**

NUBCO Future Flow	0.013 MGD
Available NUBCO Limit for ammonia	6,410 mg/L

<b>Draft NUBCO Limit for ammonia</b>	<b>42 mg/L</b>
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## **APPENDIX B – ANALYTICAL RESULTS**

**WWTP Raw Influent**

Date	Arsenic mg/L	Cadmium mg/L	Chromium, Total mg/L	Chromium, Hexavalent mg/L	Copper mg/L	Cyanide mg/L	Lead mg/L	Molybdenum mg/L	Nickel mg/L	Selenium mg/L	Silver mg/L	Zinc mg/L	Mercury mg/L	TKN mg/L	Ammonia mg/L	BOD mg/L	TSS mg/L	Total Phos mg/L
9/13/2012	0.0024	0.0001	0.0086	0.0025	0.21	0.0025	0.0026	0.001	0.0063	0.0004	0.0001	0.16		53	39.8	333	284	7.06
9/18/2012	0.0013	0.0001	0.0052	0.0025	0.18	0.0025	0.0026	0.0098	0.0062	0.0004	0.0012	0.49		64	33	277	250	5.58
9/19/2012	0.0012	0.0002	0.0082	0.0025	0.18	0.0025	0.0025	0.0054	0.0064	0.0004	0.002	0.8		78	36.5	367	230	6.51
9/27/2012	0.001	0.0002	0.0042	0.0025	0.22	0.0025	0.0027	0.0055	0.0072	0.0004	0.0006	0.15	0.000031	45	36	363	207	5.97
10/2/2012															31.05	312	232	6.31
10/3/2012													0.000043		30.2	403	209	6.29
10/4/2012															51.8	332	315	6.65
10/5/2012															37.15	235	226	6.21
11/28/2012															41.15	279	273	7.18
12/12/2012	0.0003	0.0001	0.01	0.0025	0.22	0.0025	0.0024	0.01	0.0091	0.0004	0.0009	0.11				213	242	7.41
AVG	0.0012	0.0001	0.00724	0.0025	0.202	0.0025	0.0026	0.00634	0.007	0.0004	0.0010	0.34	0.000037	60	37.4	311.4	246.8	6.517

**WWTP Effluent**

Date	Arsenic mg/L	Cadmium mg/L	Chromium, Total mg/L	Chromium, Hexavalent mg/L	Copper mg/L	Cyanide mg/L	Lead mg/L	Molybdenum mg/L	Nickel mg/L	Selenium mg/L	Silver mg/L	Zinc mg/L	Mercury mg/L	TKN mg/L	Ammonia mg/L	BOD mg/L	TSS mg/L	Total Phos mg/L
9/13/2012	0.0009	3E-05	0.0023	0.012	0.014	0.0025	0.0005	0.0014	0.0066	0.0004	0.0001	0.021		0.8	0.035	6	11	0.68
9/18/2012	0.0003	3E-05	0.00084	0.0056	0.0083	0.0025	0.0002	0.0061	0.0056	0.0004	0.0001	0.014		1.9	0.13	5	7	0.3
9/19/2012	0.0003	2E-05	0.00084	0.0083	0.0068	0.0025	0.0001	0.0047	0.0052	0.0004	0.0001	0.014		2	0.1	8	5	0.32
9/27/2012	0.0003	2E-05	0.00054	0.0025	0.021	0.0025	0.0008	0.0047	0.0076	0.0004	0.0001	0.023	2.7E-06	0.83	0.45	5	5	0.23
10/2/2012															0.065	5	10	0.27
10/3/2012													3.7E-06		0.08	3	4	0.26
10/4/2012															0.63	5	7	0.33
10/5/2012															1.22	4	6	0.36
11/28/2012															0.08	4.5	5	0.18
12/12/2012	0.0003	2E-05	0.0031	0.0073	0.012	0.0025	0.0003	0.0061	0.0082	0.0004	0.0001	0.017				4	5	0.11
AVG	0.0004	0.00003	0.001524	0.00714	0.0124	0.0025	0.0004	0.0046	0.0066	0.0004	0.0001	0.0178	3.2E-06	1.3825	0.31	4.95	6.5	0.304

Jolly Pumpkin Brewery Discharge

*Bishop Circle Site (Current Location)*

Date	Arsenic mg/L	Cadmium mg/L	Chromium, Total mg/L	Chromium, Hexavalent mg/L	Copper mg/L	Cyanide mg/L	Lead mg/L	Molybdenum mg/L	Nickel mg/L	Selenium mg/L	Silver mg/L	Zinc mg/L	Mercury mg/L	TKN mg/L	Ammonia N mg/L	BOD mg/L	TSS mg/L	Total Phos mg/L
9/27/2012	0.0012	0.0001	0.014	0.0025	0.15	0.0025	0.0056	0.0037	0.01	0.0004	0.0001	0.12		40	0.44	3427	279	22.4
10/1/2012													0.000026		6.5	6340	665	36.5
10/2/2012															3	5623	641	40.8
Avg															3.3	5130	528	33

*Different Brewery that is expected to be similar to new Broad Street Site*

Date	Ammonia N mg/L	BOD mg/L	TSS mg/L	Total Phos mg/L	pH SU
3/9/2011	15	3100	60		6.68

Alpha Metal Discharge

Date	Arsenic mg/L	Cadmium mg/L	Chromium, Total mg/L	Chromium, Hexavalent mg/L	Copper mg/L	Cyanide mg/L	Lead mg/L	Molybdenum mg/L	Nickel mg/L	Selenium mg/L	Silver mg/L	Zinc mg/L	Mercury mg/L	TKN mg/L	Ammonia mg/L	BOD mg/L	TSS mg/L	Total Phosphorus mg/L
10/3/2012													0.0003		32	28	348	5.36
10/4/2012	0.0019	0.0006	0.2	0.0025	0.37	0.0025	0.038	0.0077	0.12	0.0004	0.003	0.58		27	17	28	337	1.9
10/5/2012															17.9	24	483	3.65
<b>Current Permit Limits</b>		<b>0.013</b>	<b>0.5</b>		<b>0.94</b>	<b>0.1</b>	<b>0.2</b>		<b>0.14</b>		<b>0.02</b>	<b>0.58</b>					<b>350</b>	<b>16</b>

Residential Manhole Wastewater

Date	Arsenic mg/L	Cadmium mg/L	Chromium, Total mg/L	Chromium, Hexavalent mg/L	Copper mg/L	Cyanide mg/L	Lead mg/L	Molybdenum mg/L	Nickel mg/L	Selenium mg/L	Silver mg/L	Zinc mg/L	Mercury mg/L	TKN mg/L	Ammonia mg/L	BOD mg/L	TSS mg/L	Total Phosphorus mg/L
9/27/2012	0.00025	0.0001	0.0027	0.0063	0.25	0.0025	0.001	0.0064	0.0064	0.0004	0.0001	0.098		35	23.5	248	192.5	5.01
10/2/2012															40	315	295	6.71
10/3/2012															42	293	262	6.44
11/28/2012															29.65	236	245	4.61
12/12/2012	0.00025	0.0001	0.0048	0.0025	0.12	0.0025	0.0023	0.0053	0.0066	0.0004	0.0003	0.12			23.7	222	393	5.59
Avg	0.00025	0.0001	0.00375	0.0044	0.185	0.0025	0.0016	0.00585	0.0065	0.0004	0.0002	0.109		35	31.77	262.8	277.5	5.672

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**OFFICE OF THE CITY MANAGER**

8140 Main Street • Dexter, Michigan 48130-1092 • (734) 426-8303 • Fax (734) 426-5614

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**Memorandum**

**To:** Mayor Keough and City Council

**From:** Courtney Nicholls, City Manager; Dan Schlaff; Public Services Superintendent

**Re:** West Ridge Lift Station Pump

**Date:** June 6, 2016

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Funds are remaining in the 2015-2016 sewer budget to allow us to replace one of the two lift station pumps located in the West Ridge neighborhood. Both pumps were manufactured in 1999. During the annual maintenance and inspection of the lift station pumps it was determined that one of the pumps has a severely worn impeller and uses 25% more energy than the other pump.

Funds have been included in the draft 2016-2017 budget to take the pump that will be removed and rehab it. That will allow us to have a back-up on hand that can be used at the Dexter Crossing or West Ridge lift station in case of a future problem with a pump.

Council is asked to approve the quote from Kennedy Industries for the purchase of the pump in an amount not to exceed \$8,000 (\$7,000 for the pump and \$1,000 for installation and start-up).



QUOTATION		
DATE	NUMBER	PAGE
4/11/2016	66744	1 of 1

B DEX100  
 I Village of Dexter  
 L ACCTS. PAYABLE/SEWER DEPT.  
 T 8140 MAIN  
 O DEXTER, MI 48130

Accepted By: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 PO#: \_\_\_\_\_

ATTENTION:  
 ERIC HARTMAN P: 734-368-1510 ehartman@dextermi.gov

WE ARE PLEASED TO PROPOSE THE FOLLOWING FOR YOUR CONSIDERATION:

CUSTOMER REF/PO #	JOB #	JOB TITLE	SLP	SHIPPING TYPE
QUOTE, REV1	66744	WESTRIDGE PUMP STATION, FLYGT	AKM / REA	FRT ALLOWED

QTY	DESCRIPTION	UNIT PRICE	EXTENDED
1	FLYGT, SUBMERSIBLE PUMP, NP3102.095, IMP462, 5HP, 3PHASE, 208VOLT, 4", 50' CABLE, FLS, FM, FV PUMP QUOTED TO REPLACE S/N: 9920101	\$6,980.00	\$6,980.00

DELIVERY: 8-10 WEEKS

WE DO NOT INCLUDE: TAXES, INSTALLATION, CONCRETE, SITE WORK, ANCHOR BOLTS, PIPING, VALVES, COVER, CONDUIT, WIRING, JUNCTION BOXES, PADLOCKS, KEYS OR START-UP.

WE APPRECIATE THIS OPPORTUNITY AND LOOK FORWARD TO BEING OF FUTURE SERVICE.

SINCERELY,  
 RICK ALVAREZ/NATALIE LASKOWSKI  
 KENNEDY INDUSTRIES

<p>This quote is subject to and incorporates by reference Kennedy Industries, Inc.'s ("Kennedy") Terms &amp; Conditions and Customer Warranty available at <a href="http://www.kennedyind.com">www.kennedyind.com</a> which will be provided by mail upon written request. Kennedy reserves the right to change the Terms &amp; Conditions and Customer Warranty for future orders. By accepting this quote and/or issuing a purchase order relative to this quote, buyer expressly agrees to the provisions set forth in the Terms &amp; Conditions and Customer Warranty posted on Kennedy's website.</p> <p><b>CREDIT CARD ORDERS ARE SUBJECT TO AN ADDITIONAL 3% CHARGE</b>  <b>NO TAXES OF ANY KIND ARE INCLUDED IN THIS PROPOSAL</b></p>	<p><b>TOTAL:</b> \$6,980.00</p>
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P.O. Box 930079 Wixom, MI 48393 ♦ 4925 Holtz Dr, Wixom, MI 48393 ♦ Phone: 248-684-1200 ♦ Fax: 248-684-6011

[www.KennedyInd.com](http://www.KennedyInd.com)

**TREASURER/FINANCE DIRECTOR OFFICE**

8140 Main Street • Dexter, Michigan 48130-1092 • (734) 426-8303 • Fax (734) 426-5614

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**Memorandum**

**To:** Mayor Keough and City Council  
Courtney Nicholls, City Manager

**From:** Marie Sherry, Treasurer/Finance Director

**Re:** Additional Signer for City Bank Accounts

**Date:** June 3, 2016

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I would like to request that Justin Breyer, Assistant to the City Manager, be added to the list of Bank Signatories on the 2016 Resolution for the Purpose of Establishing Organizational Matters for the City of Dexter. This would ensure that there are two staff members available to sign checks in case the City Manager or I are on vacation.

Adding an additional signer can be done by a simple majority vote of Council, pursuant to the adopted resolution.

Thank you.

2016-xx

**RESOLUTION FOR THE PURPOSE OF ESTABLISHING ORGANIZATIONAL MATTERS FOR THE CITY OF DEXTER**

At a regular meeting of the City Council of the City of Dexter, Michigan called to order by Mayor Shawn Keough on January 25, 2016 at 7:30 p.m., the following resolution was offered:

Moved by:                      Supported by:

**WHEREAS**, the City intends to generally utilize various firms and individuals for particular matters to coincide with the regular City election every November of odd years, and

**WHEREAS**, the following firms and individual appointments can be changed as deemed necessary by Council by a simple majority vote of Council at any point during this time period.

**NOW, THEREFORE, BE IT RESOLVED**, that the City Council does confirm using the following firms and individuals as needed in their respective responsibilities:

1. Bank Signatories: Mayor Shawn Keough, Treasurer Marie Sherry, Mayor Pro Tem Ray Tell, ~~and~~ City Manager Courtney Nicholls, and Assistant to the City Manager Justin Breyer.
2. Mayor Pro Tem: Ray Tell
3. Attorney for enforcement of Traffic Laws: Tom Stringer
4. Attorney for Bonding Matters: Miller Canfield
5. Attorney for General Legal Matters: Dykema and Scott Munzel
6. Attorney for Contested NPDES Permit: Varnum, Riddering, Schmidt & Howlett
7. Consultants for Planning and Zoning Matters: Carlisle/Wortman Associates, Inc.
8. Financial Consultant: Tom Traciak, Umbaugh & Associates
9. General Consultant for Engineering Matters: OHM Advisors
10. Consultant for Parks & Recreation Matters: Smith Group JJR
11. Specialized Water & Sewer Engineering & Consulting: Williams & Works; Flies & Vandenbrink
12. Auditor: PSLZ, LLC
13. Freedom of Information Officer: City Manager
14. Street Administrator: Kurt Augustine
15. City Assessor: Renius & Renius
16. As Council representatives to the following organizations:
  - Arts, Culture & Heritage Committee                      Donna Fisher
  - Chamber of Commerce/Dexter Daze                      Julie Knight

- Dexter Area Fire Department Board Jim Carson, Shawn Keough
- Election Commission City Clerk, Donna Fisher, Michael Raatz
- Parks & Recreation Commission Ex-officio Ray Tell
- Planning Commission, Ex-officio James Smith
- Zoning Board of Appeals Zach Michels
- CAPT/DART Jim Carson
- Gateways (Big 400) Initiative Carol Jones, Paul Cousins
- 5H Becky Murillo
- Huron River Watershed Council/Stormwater Paul Cousins
- Library Board Pat Cousins
- SEMCOG Shawn Keough
- WATS (Technical and Policy) Jim Carson (Policy), OHM (Technical)
- Washtenaw Area Value Express (WAVE) Jim Carson
- Economic Preparedness Jim Carson, Donna Fisher, Shawn Keough
- Facilities Committee Shawn Keough, Fred Schmid (DDA rep), Julie Knight, James Smith and Paul Cousins (Citizen Rep)
- Farmer’s Market/Community Garden Committee Julie Knight
- Finance Committee Shawn Keough, Zach Michels
- Street/Road Committee Ray Tell, Jim Carson
- Utilities Committee Zach Michels, Ray Tell, Shawn Keough
- Website Committee James Smith, Donna Fisher, Shawn Keough

**BE IT FURTHER RESOLVED**, that the City of Dexter is committed to fostering an environment that encourages the purchase of local goods and the use of local business; and

**BE IT FURTHER RESOLVED**, that the regular meeting of the City Council shall be held the 2<sup>nd</sup> and 4<sup>th</sup> Monday of each month at 7:30 p.m. at the Dexter Senior Center – 7720 Dexter Ann Arbor Road; and

That, all representatives shall report to Council as scheduled, review significant issues and proposals with Council for input and discussion, as needed; and That the Regular Meeting of the City Planning Commission shall be held the 1<sup>st</sup> Monday of each Month at 7:00 p.m. at the Dexter Senior Center – 7720 Dexter Ann Arbor Road; and

That the Regular Meeting of the City Parks & Recreation Commission shall be held the 3<sup>rd</sup> Tuesday of each month at 7:00 p.m. at the City Offices – 8123 Main Street; and

That the Regular Meeting of the Zoning Board of Appeals shall be held the 3<sup>rd</sup> Monday of each month at 7:00 p.m. at the

Dexter Senior Center – 7720 Main Street. (Meetings will only be held when requests are pending.)

AYES:

NAYS:

**RESOLUTION DECLARED ADOPTED THIS \_\_\_ DAY OF \_\_\_\_\_ 2016.**

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Carol J. Jones, Interim City Clerk