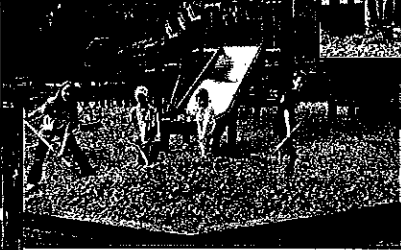


City of Mason Capital Improvements Plan



Fiscal Years: 2011/2012 – 2016/2017

Adopted by the Mason Planning Commission:
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City of Mason Capital Improvements Plan



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**CITY OF MASON
CAPITAL IMPROVEMENTS PLAN**

After the Zoning Ordinance, a Capital Improvements Plan (CIP) can be a very significant tool for implementation of the Master Plan. A CIP is a plan for the community's most immediate public improvement needs, scheduled over a period of six years. Infrastructure improvements usually included in a CIP are water system upgrades (supply and distribution), sewer system enhancements (collection and treatment), storm water management, and streets and sidewalks maintenance. Additional projects to be incorporated are public facilities improvements, such as parks and other public buildings, as well as major equipment purchases and replacements.

Projects listed in this Plan are shown in the general order of their priority, with the intent that the most-needed projects are accomplished first and scarce financial resources are allocated appropriately.

For the street component, a roadway evaluation method called PASER (Pavement Surface Evaluation and Rating) was utilized. This involves physically inspecting and evaluating each lineal mile of street and assigning it a rating between 1 and 10 (poor to excellent).

The CIP is intended to be more of a planning document than a construction schedule. Obviously, completion of the various projects contained within the CIP is fully dependent on the availability of funds and other conditions beyond the City's control.

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SECTION I. PUBLIC SERVICES

City Hall/Police Department/Library

The Capital Area District Library Board released a study in July 2007, which identified current and future needs of the District and Mason’s library. In preliminary discussions, the District is looking to the City to provide the land necessary to build a facility that is estimated at 17,000 square feet. The estimated cost for the Mason library branch is \$5,971,045. In the August 2008 election, a millage to fund extensive upgrades to the existing CADL facilities as well as construct new facilities in select locations was defeated. CADL is currently working on a new strategy to fund the facility maintenance needs.

Due to the uncertainty of the timing of a new library facility, it is critical to maintain the existing building to protect the valuable resources and collections the facility houses. The library building is currently experiencing flooding in the basement during heavy rains. During a heavy rain, the storm sewers in the vicinity surcharge and the waters back up into the garage area and filter down along the foundation wall and into the basement. Although CADL has not experienced significant damages to its property, allowing this situation to continue will eventually undermine the integrity of the foundation wall under the east side of the building. There are two options to correct this problem: one, re-grade the existing driveway area and garage floor or two, connect the existing drains to the storm sewer in the Ash Street (M-36) right-of-way. Either option is estimated at or below \$25,000. Staff is researching both options to determine a cost benefit comparison.

The library’s slate roof is in need of maintenance. There are several missing/damaged tiles in various areas of the roof. If not maintained, missing/damaged tiles may result in water damage to structural members and environmental contamination. There are an estimated 40 tiles that are loose, missing or broken. The cost to re-set loose tiles and replace missing/broken tiles is estimated at approximately \$3,000.

Police Protection

Current police officer duty pistols were purchased in August 2002. Although they have been dependable, wear does occur through regular firearms training and the extremely varying conditions of Michigan’s weather. To minimize the potential of a fatal failure of a weapon, ammunition is replaced annually and it becomes necessary to eventually replace the firearms themselves. Therefore, the department will be requesting the replacement of all duty pistols for all sworn personnel and two additional pistols for occasions weapons may be taken out of service:

- Fifteen Glock 21 pistols with Trijicon Night Sites
\$ 500.00 ea. \$ 7,500.00
- Thirteen Holsters and ammo carriers’
100.00 ea pr. 1,300.00
- Total (projected) \$ 8,800.00

Patrol rifles are also becoming a more desirable tool and mainstay of law enforcement. With the proliferation of high tech, mechanized, rapid fire weapons now available to offenders who display predatory instincts, an increasing number of drug trafficking gang members and today's tactical philosophy directed at neutralizing active shooters to minimize casualties and fatalities, rifles are the weapon of choice. The department currently has two, Vietnam Era, military surplus, M-16 rifles which were converted from full automatic to semi-automatic. The department will request six Colt AR 15 Patrol Rifles and automobile trunk mounts for five patrol cars and one detective car.

• Six Colt AR15 Patrol Rifles	\$ 1,200.00 ea.	\$ 7,200.00
• Six Trunk Mount Rifle Racks	<u>500.00 ea.</u>	<u>3,000.00</u>
	Total (projected)	\$ 10,200.00

With a newly occupied and larger, more efficient state of the art police facility, the departments focus can now be towards service improvements to the community, development of prospective opportunities for future police officers, and enhancement to patrol services. To meet this end, the Mason Police Department will establish a six member reserve police officer unit and update the department's arsenal.

Police Reserves have two primary functions in today's law enforcement agency: To augment patrol, staff major events that require additional personnel resources, and as a possible resource to cultivate future police officer candidates. The later becomes a viable option as the organization and the Reserve Officer become familiar with each other. However, reserve officers must be properly screened, trained, equipped, and monitored—the equipment being a large investment in city resources. Preliminary start-up costs will include training and equipment for individual officers:

• Equipment includes two sets of year round full uniforms and firearm.	\$2,500.00 per RO	\$ 15,000.00
• Six lockers for equipment storage	\$1,300.00 ea.	7,800.00
• Preliminary training and qualification to start	<u>\$2,000.00 ea. pr RO</u>	<u>12,000.00</u>
	Total (projected)	\$ 34,800.00

Fire Protection

The following is a complement to the Fire Department's Projection for Fixed Asset Expenditures Exceeding \$5000.00 spreadsheet found in Appendix E. The following is based on the information available at this time and is open to re-evaluation as needed.

The NFPA (National Fire Protection Association) recommends that fire apparatus be replaced on a schedule of every 25 years. This recommendation is used as the basis for apparatus projections.

Tanker 807 is a 1984 Wolverine and is currently the oldest vehicle in the fleet. 807 is used primarily on structure fires in our non-hydranted areas and as a back-up tanker to Pumper/Tanker 811. Having the reserve tanker allows for Mason to participate in the Tanker Task Force while still keeping a tanker in our service area should we get another call.

Engine 809 is a Grumman built on an HME chassis. It was put into service in 1990 and currently responds as our secondary pumper. 809 remains a high maintenance truck and we should begin to consider its replacement within the next five years.

Squad 815 was built in 1992 on a Chevrolet chassis. It has been re-assigned as our rehabilitation vehicle bringing much needed supplies to aid our firefighters at long term incidents. It is also used to deliver specialized equipment as needed such as our rescue boat and equipment.

Brush 810 is a 1993 Dodge ½ ton short box pick-up truck that was converted to a brush truck by our members. It is recommended that this vehicle be replaced with a crew cab that will be capable of carrying up to six firefighters. It is also recommended to acquire a ¾ ton that would be able to haul the Fire Safety House, as it is currently necessary to borrow a truck from a member or the DPW to move the trailer.

Tower 808 is a 2001 Pierce Dash 105' aerial platform. 808 is a fine piece of equipment and has been a fairly low maintenance vehicle. Hopefully this apparatus will provide many more years of reliable service.

The Chiefs car is a 2001 Ford Expedition that was a former police vehicle. When the fire department acquired it, it had some body and paint repairs done to it. It is beginning to rust in a few areas however it still runs well. As it is over 10 years old, it should be considered for replacement in the next couple of years.

The Officers car is a 2001 Chevy Impala that was also a former police car. The vehicle has needed body and paint work and has had several maintenance issues. This vehicle should be considered for replacement in the next few years as it may continue to be a high maintenance car.

Pumper/Tanker 811 is a 2007 HME on a Kenworth chassis. 811 is the first response tanker. It continues to be a low maintenance vehicle and runs great. The Department should get many years of service from this truck.

Rescue 806 is a 2010 Spencer on a Spartan chassis and was just recently put into service in 2010. 806 is the primary response vehicle for fire and rescue operations. It has been a great addition to our fleet and should provide many years of reliable service.

Since the purchase of Rescue 806, the Hurst rescue tools (Jaws of Life) have been rearranged. Rescue 806 came equipped with on board rescue tools. The older extrication tools are currently carried on Tower 808 as the back-up set. The current extrication tools should be sufficient for the next five years or so.

Turnout gear is the catch all phrase used for the personal protective clothing that a firefighter wears. A set of "turnouts" includes a fire coat, bunker pants, suspenders, boots, Nomex hood, helmet and gloves. Also each firefighter has a wild land jacket, extrication gloves and a safety vest. NFPA recommends the replacement of front line firefighters gear every 5 years and second line firefighters gear every 10 years. Gear has been replaced at an accelerated pace to get caught up with the NFPA recommendations. Based on the current manpower and turnover rate, six or seven sets per year should provide a satisfactory maintenance point.

The Self Contained Breathing Apparatus (SCBA) and confined entry cart are sufficient at this time.

The Infrared camera is adequate at this time and is carried on Rescue 806. It is recommended to purchase another camera for Engine 809 possibly thru a grant or the Firefighters Association.

The commercial washer and dryer seem to be in good working order at this time.

The Bauer Air Tank Fill Station is maintained quarterly under a service contract and remains in good working order.

There do not seem to be any issues with the HVAC systems at Station 1.

The carpeting in the office area of Station 1 is getting in rough shape. It is recommended to replace the flooring within the next few years, maybe replacing the worst areas with floor tile. It could be done in phases over a couple of years.

Currently six pagers are replaced each year. The pagers that were purchased from the Ingham County's grant fail at such a high rate so we are replacing them with a better more reliable pager. Without a reliable paging system, the volunteer organization cannot function.

As of this writing the unit heater at Station 2 is in the process of being replaced with an energy efficient furnace. Blown in insulation was also added to the attic to help conserve energy.

The concrete apron, approach and sidewalk in front of Station 1 continue to deteriorate. Tower 808 and Tanker 811 have to park in the current bays as they will drag on the concrete if driven out any of the other bays. It is necessary to replace the concrete and look at our options for changing the grade to prevent this from reoccurring in the future.

So far the temporary repairs made to Engine 809's water tank are still holding. Hopefully this will last until the replacement of the apparatus.

A ventilation system is recommended for Station 1 to properly vent vehicle exhaust. This is needed from both a firefighter safety perspective by not breathing exhaust fumes, and for energy efficiency. Currently the exhaust mixes with all of the air in the apparatus bay and mezzanine. Some of the air in the bay is vented via fans and louvers on the south and east walls. This method

is highly inefficient for the following reasons. By allowing the exhaust to mix with the building air, it does not get rid of all of the fumes and allows for soot to settle in the building. Also during the winter months, this method of ventilation exhausts heated air from the bay into the atmosphere. It is recommended that a different type of ventilation system that attaches to each apparatus exhaust pipe. This captures all of the exhaust fumes and does not vent the ambient air in the winter thus saving on heating costs. A new ventilation system is estimated to cost about \$60,000.

Staff will reapply for a grant to cover the cost of this project once the grant application period re-opens.

Cemetery

Maple Grove Cemetery

As of July 2011, the amount of burial spaces available for sale is as follows:

Full lots (5 spaces): 19

Half lots (2 spaces): 2 (when we need more 1/2 lots we split full lots)

Single spaces: 4 (when we need more single spaces we split full lots)

Or, a total of 103 available spaces

The number of sales and burials vary, but a range during the past 3 years is:

42-60 burials annually including cremations

18-48 spaces sold annually

Based on the number of single spaces available, it appears that there is approximately 3-5 years remaining to accommodate sales and burials. This number is always changing because one space is lost when a half lot is sold. Due to the development of the cemetery and more importantly, accessibility, sales are primarily restricted to Sections T and U on the western side.

To gain access to the remaining undeveloped sections, the installation of new drives is needed. In addition, it is recommended that a second ingress/egress to the cemetery be constructed. The logical location would be at North and East Streets. With the closing of the old bridge from North Jefferson Street several years ago, this left only one way in and out; not a desirable situation. It creates problems for the flow of traffic during large funerals, and would impede emergency medical services if required during a funeral procession.

The Cemetery Board recently approved a concept drawing from Wolverine Engineers and Land Design Collaborative to expand Maple Grove Cemetery. Expanding the cemetery will require installing additional streets.

Current estimates for the cemetery expansion are as follows:

Second entrance	\$50,000
Cemetery expansion	\$150,000

City staff is currently studying the feasibility of including the drives in the local street improvement program.

Parks/Recreation/Forestry

Phase III is proposed to link the east side of the city, including Bond, Laylin, Rayner Parks and the High School to the existing Hayhoe Riverwalk Trail (1.4 miles).

Mason’s public tree inventory has been affected by storm damage in the past few years. Several windstorms have destroyed or damaged a number of mature trees in the downtown neighborhoods, particularly along Oak, Elm and Cherry Streets. These mature trees require evaluation by City arborists, maintenance and in some cases removal.

The past two years the City has invested an additional \$10,000 per year in tree maintenance. The City has accelerated its tree management program. An additional \$10,000 should be planned for maintenance of mature trees, including in some cases, removal and replacement.

From alternate funding sources and/or in partnerships with other donors and organizations, the City should watch for opportunities to implement the goals identified in the Mason Five-Year Recreation Plan including: Attracting a YMCA; installing more public art; attracting a local movie theater.

In 2010, Ingham County and the City of Mason came to an agreement where the City of Mason has taken control of the operation and maintenance of Rayner Park (60 acres). The extent of future improvements that the City of Mason will perform at Rayner Park is still pending. However, there are a few anticipated projects including the reconstruction of a basketball court, bridges and outdoor stage and amphitheater. The basket ball court was completed in 2011. The construction of a stage (performance arts) and outdoor cinema designed to seat 150 to 200 people has also been planned. The facility would include a covered pavilion, restrooms, storage, lighting, open air seating and landscaping. The estimated cost for this project is \$281,000.

Downtown Development Authority

The DDA has completed their fourth amendment to the Downtown Development Plan. The goal of the DDA is to establish and maintain the vitality of the central business district of the city by halting property value deterioration, rehabilitating property which becomes blighted, vacant, or functionally obsolete, and promoting economic growth, business activity, and employment opportunities within the District. Plan Amendment Number 4 includes the following proposed capital improvements:

- Streetscape amenities \$50,000
- Capital improvements (124 & 140 E. Ash) \$300,000

- Electrical improvements \$50,000
- Property rehabilitation \$300,000

A full description of the DDA's proposed capital improvements may be found in the Downtown Development Authority Plan in Appendix F.

TABLE 1 PUBLIC SERVICES

	<u>Cost/\$</u>	<u>Source of \$</u>
<u>Mason Public Library</u>		
Storm Drain and Foundation Work	\$25,000	General fund
Roof Tile Replacement	\$3,000	General fund
<u>DDA</u>		
Streetscape amenities	\$50,000	
Capital improvements (124 & 140 E. Ash)	\$300,000	
Electrical improvements	\$50,000	
Property rehabilitation	\$300,000	
<u>Police Protection</u>		
Pistols & Holsters	\$8,200	General fund, Grant
Rifles & Racks	\$13,000	General fund, Grant
Police Reserve Unit	\$31,600	General fund, Grant
<u>Fire Protection</u>		
<u>Apparatus/Vehicles</u>		
Tanker 807 replacement	\$400,000	General fund
Engine 809 replacement (Non customized)	\$500,000	General fund
Command vehicle replacement	\$50,000	General fund
Officer vehicle replacement	\$25,000	General fund
<u>Fire/Rescue Equipment</u>		
Hurst extrication tools	\$20,000	General fund, Grant
Turnout gear (34 sets)	\$50,000	General fund, Grant
Infrared camera	\$20,000	General fund, Grant
<u>Station Equipment</u>		
Concrete apron, approach & sidewalk	\$30,000	General fund
Carpet (Office and training area), Station 1	\$10,000	General fund
Ventilation System, Station 1	\$60,000	Grant
Storage Loft, Station 1	\$60,000	General fund
Pagers (36)	\$18,000	Grant
<u>Parks/Recreation/Forestry</u>		
Complete Hayhoe Riverwalk Linear Park – Phase III	\$750,000	General fund, Grant
<u>Bond Park</u> Resurface parking lot	\$100,000	General fund

Hayes Park

Resurface parking lot, north & south \$120,000 General fund

Maple Grove Cemetery

Second entrance, phases I and II \$200,000 General and street funds

Rayner Park

Stage and open air seating, restrooms, storage, lighting, and landscaping \$281,000 General fund, grants, donations

Bridges TBD General fund, grants, donations

Street Trees

Street trees, replacement and new \$10,000 General and street funds

SECTION II. UTILITIES / INFRASTRUCTURE

POTW (Publicly Owned Treatment Works) Plant

Currently, the POTW plant operators manually remove screenings and solids. This is not only dangerous for slip and falls, but it is also very unsanitary. A Head Works System would eliminate the need for manual labor to remove the materials. Two advantages would result in the system upgrade. First, the hazard to workers would be reduced. Second, the system would save the City money by reducing the damage caused to the POTW equipment and holding tanks that collect these materials. The current system allows too much material to pass through to the treatment plant. The upgrade is estimated at \$850,000 (2011).

Effluent generated from the POTW plant is currently treated with chlorine gas to disinfect it before being released. Chlorine gas is toxic and carcinogen and in high concentrations can cause death. Additionally, it is expensive. In 2010, the wastewater treatment plant paid nearly \$15,000 for chemicals and cylinder rentals for disinfection and de-chlorination. Not included are the costs to maintain chlorination and de-chlorination equipment, transfer water used, and ongoing training. Switching to an ultra-violet disinfection system would eliminate many of the associated costs and hazards in the chlorination system. Estimated cost: \$680,000 (2011).

Department of Public Works

A new facility will need to be built when and if the POTW plant is expanded or at which time funds are available. This new facility will house all public works activities and equipment for the future expansion and needs of the City of Mason. The most logical site at this time would be the property located east of the new Water Treatment Plant on Avery Lane. This would centralize activities out of one location. Currently the Public Works Facility on North Jefferson Street has five buildings, which includes an old block building which has been used for an office for the department and two old WWTP Digesters that are used for salt/sand storage. The current size of the public works facilities is 12,000 square feet combined.

The proposed facility would be approximately 20,000 square feet. The building would need to include, at a minimum, the following:

- Two (2) work bays with hoist
- Storage for all city vehicles
- Tool crib/supply room
- Restroom/locker room for both male and female employees
- Lunch/break room
- Two to four offices
- Outside storage area
- Police impoundment yard
- Salt and sand storage facility

The estimated cost of this new facility is in the area of \$1,200,000.

TABLE 2 UTILITIES / INFRASTRUCTURE

<u>Water System</u>	<u>Cost/\$</u> <u>Source of \$</u>
• Two (2) new wells	\$1,325,000 LDFA Fund/ Water/Sewer Fund
• Loop eastside with 12-inch main in Temple St.	\$150,000 Water/Sewer Fund
• Upgrades to system in conjunction with street program (as encountered)	Ongoing/Water/ Sewer Fund
• Sand-blast and repair inside of the South tower(in the next 5 years)	\$100,000 Water/Sewer Fund
• Video cameras for water plant security	\$20,000 Water/Sewer Fund
• Cathodic protection for Ash Street and Hayes Park wells	\$15,000 Water/Sewer Fund
• Water main installed down Jewitt Road (by developer)	Private
• Water main put down W. Kipp Road (Future development)	\$500,000
 <u>Sanitary Sewer System</u>	
• Upgrades in connection with street program (as encountered)	Water/Sewer
• Upgrade controls for the lift stations	\$20,000 Water/Sewer Fund
• Continue investigation of sewer system to eliminate I&I/repairs as needed	\$50,000 a year Water/Sewer Fund
• Put in backup generator for Curtis Street lift station	\$30,000 Water/Sewer Fund
• Sewer camera repairs/upgrades	\$25,000 Water/Sewer Fund
• Sewer main replacement on Cedar Street in front of Arby's	\$100,000

Water/Sewer Fund

Storm Water System

- Red Cedar River Watershed Management Plan \$15,000
Water/Sewer Fund
- Replacing curb markers, and buy supplies for storm water program \$500 per year
o Permit costs \$3,500 a year
- D.P.W. Facility – Replace Asphalt at the DPW Yard \$40,000
o 2012-13 Repave DPW yard and parking lot
Water/Sewer Fund

SECTION III. STREETS

Mason has 12.25 miles of Major Streets and 18.96 miles of Local Streets and 2.21 miles of cemetery drives that it maintains. The City receives Act 51 state funds for maintenance of these streets based on a formula developed by the Michigan Department of Transportation allocating a certain dollar value per mile. The City augments its streets program funding with General Fund tax revenues through a millage that was approved by the voters in 1995 and amended in 2004.

A five-year Street Improvement Plan has been in place for a number of years and has helped the City to maintain its street network at a high level of quality. The five-year plan is reviewed and updated annually as priorities and funding change. The current five-year plan is included in Appendix D.

A roadway evaluation method called PASER (Pavement Surface Evaluation and Rating) was utilized to categorize the condition of the street system. This involves the physical inspection of each lineal mile of street within the City and assignment of a rating between 1 (poor) and 10 (excellent). An inspection was made in 2001 and again in 2004. This evaluation was conducted in 2009. The 2009 Street Inventory is included in Appendix C.

APPENDIX A – Utilities/Infrastructure

Background Information

Sanitary Sewer System

The sewage collection and treatment system consists of a 1.5 MGD activated sludge treatment plant, 32 miles of sewer line including interceptors, and five lift stations. Recent improvements at the plant include an addition to the building and a .66 million gallon sludge storage tank to the existing .30 million gallon storage tank. The Waste Activated Sludge System has been installed and activated.

The City, like most other communities in Michigan, operates under a National Pollutant Discharge Elimination System permit (NPDES) administered by the MDEQ. This permit establishes the allowable effluent levels to be discharged to the receiving waters, namely Sycamore Creek. The NPDES permit went into effect on November 1, 2008, and will expire at midnight on October 1, 2012.

A study was completed by Wolverine Engineers to determine the best method of providing sewer service to areas on the undeveloped east side of Mason. The feasibility study has identified six districts, known as the Rayner Creek Utility District, that is served via a common lift station and force main. During 2005, as part of the Temple Street extension from M-36 to Kipp Road, the sewer and pump station have been constructed to serve District 3 as this area develops. A copy of the sanitary sewer service district map is included in Appendix A.

Storm Water System

The current gravity system consists of concrete drainage pipes ranging from 6 inches to 42 inches in diameter, along with corrugated metal pipes up to 72 inches in diameter. These pipes are connected to the street network through a series of catch basins. Eventual outflow is to one of the three creeks flowing through town - the Sycamore, Willow or Rayner - since the system is separated from the sanitary sewer system.

In 2002, the City was notified that it would be required to comply with the Federal Phase II Storm Water Regulations. The City had been working with a consortium of 18 neighboring jurisdictional agencies within Ingham, Eaton and Clinton counties; collectively known as the Greater Lansing Regional Committee (GLRC). The intent of the GLRC was to seek voluntary permits for each of its members and to approach the regulations on a watershed basis. This methodology seemed logical and would allow the sharing of resources and expenditures for the unfunded mandate.

Mason received its Certificate of Coverage under the National Pollutant Discharge Elimination System (NPDES) general permit in August 2008. Some of the requirements of the storm water program were development of an Illicit Discharge Elimination Plan, Public Education Plan, and a Watershed Management Plan (WMP). The WMP was developed over 2004 and 2005, involving

several public and stakeholder meetings. Using the WMP as guidance, each community developed a Storm Water Pollution Prevention Initiative Plan (SWPPI). The SWPPI is the pollution prevention action plan outlining best management practices for communities and developments, plus public educational actions. The GLRC has divided into several committees and subcommittees to develop the required actions. The first permit cycle expired in April 2008, and a new permit was issued in July of 2009 at which time both the WMP and SWPPI have been updated. The current permit cycle expires in April 2013 at which time both the WMP and SWPPI will need to be updated. There are best management practices that need to be adopted per our discharge permit from MDEQ for storm water controls in the City of Mason.

The current storm water system is composed of concrete pipes ranging from 6-inch to 42-inch and corrugated metal pipes up to 72 inches in diameter. The system is separate from the sanitary sewers. Catch basins located in the streets carry the water to these pipes which eventually discharge to the Sycamore Creek, Willow and Rayner County Drains, where the treated sanitary sewage discharge is considered to be a point source discharge. Storm water discharge is considered to be a non-point discharge. This distinction becomes important in understanding State and Federal regulations.

Maintenance of the storm water system is divided between the City and the Ingham County Drain Commission. (The county has designated drains that flow through the City such as the Willow and Rayner Creek Drains.) It does become confusing sometimes as to who takes care of what and where. The Drain Commission will begin cleaning the Rayner Drain in late 2011.

Detention ponds are required on developments where the city engineer determines that the runoff will be too great for the catch basins and storm sewer located in the street. Many of the newer developments have these ponds on site.

Normally, the storm water system performs well during run-off events. In February, 2001, during the rain and melting snow, the county fairgrounds and consequently the ponds at Rayner Park flooded to the point where water was running across Ash Street. That was an unusual event but history has shown that it does happen. The last severe flood in Mason was in April of 1975.

On July 28 and 29, 2011, another sever storm dropped over 7 inches of rain in approximately 24 hours. This flooded Rayner and Sycamore Creeks forcing a sanitary sewer overflow at the POTW, disabling the ISD lift station and damaging storm drains and a couple streets.

Current Regulations

The EPA began its first round of storm water management requirements in 1992. At that time, and after a great deal of discussion, communities under 100,000 population that owned wastewater plants and vehicle maintenance garages were exempt from the regulations. This was accomplished through a last minute amendment to a federal Intermodal Surface Transportation Act that was passed. Since that time, EPA has wasted no time in working on Phase II of the Storm Water Management regulations. Due to a status change designated by the U.S. Census Bureau in 2000,

Mason became part of the Greater Lansing Urban Area. The City received its NPDES Permit for storm water in November of 2008, expiring in April 2013.

SANITARY SEWER OVERFLOWS AND INFLOW/INFILTRATION

Sanitary Sewer Overflows (SSOs) are the discharge of untreated, or partially treated wastewater to public waterways, over land as well as (this one is significant) the flooding of a basement for reasons other than a plugged, or broken sewer lead. Inflow is the direct introduction of storm water into the sanitary sewer system by means of a cross connection, or possibly an open sanitary manhole. City staff believes that a significant inflow source stems from many of the homes in town through footing tiles and sump pumps. Infiltration is the leaking of ground and surface water into the sanitary system through cracks in the pipes and manholes, or through bad joints in the sewer lines. Inflow and infiltration (I/I) can cause SSOs and both have been ongoing problems in most municipal sanitary systems since the first pipe went into the ground.

POTW systems are required to report any release of untreated sewage into the receiving stream to the MDEQ. A verbal notification is followed by a written report. Last year, a survey was mailed to all dischargers in the state and it was discovered that not every community has been reporting like they should. Violations carry penalties such as fines and possible jail time. Evidently some communities had discharges that were not reported, while other communities didn't even bother to respond to the survey. Because of this the MDEQ is meeting with those communities with SSO issues and drafting an agreement/plan as to how and when the SSO problem will be corrected. This "agreement" is also called an Administrative Compliance Order (ACO) and is a legally binding document containing fines (\$1500 to \$2500 per day) for future SSO events.

To further complicate the problem, within the last several years the courts have determined that owners of POTW systems may be liable for any backups into basements. Cities are no longer protected by the Act of Nature clause, even if they are able to show that they maintain the system in a responsible manner.

In February and May of 2001, May of 2004, and January and September of 2008, the City experienced some serious run-off events that forced the bypass of untreated sewage. In addition, approximately ten residents reported flooded basements. In June 2010, the City received a letter from DNRE with a draft ACO and instructions that a representative from the department will be meeting with City representatives.

SSO UPDATE

In September 2010, representatives from the City of Mason and DNRE held a meeting in regard to the issue of the Sanitary Sewer Overflows (SSOs). The DNRE claims that the City of Mason is in violation of its NPDES permit, due to the SSO events that have occurred in the past, and corrective actions are needed to prevent future SSO events. The DNRE requests that the City of Mason install metering devices in the collection system of the older subdivisions to check for Inflows and Infiltration (I/I). This is to determine if footing drains are possibly connected to the sanitary sewer

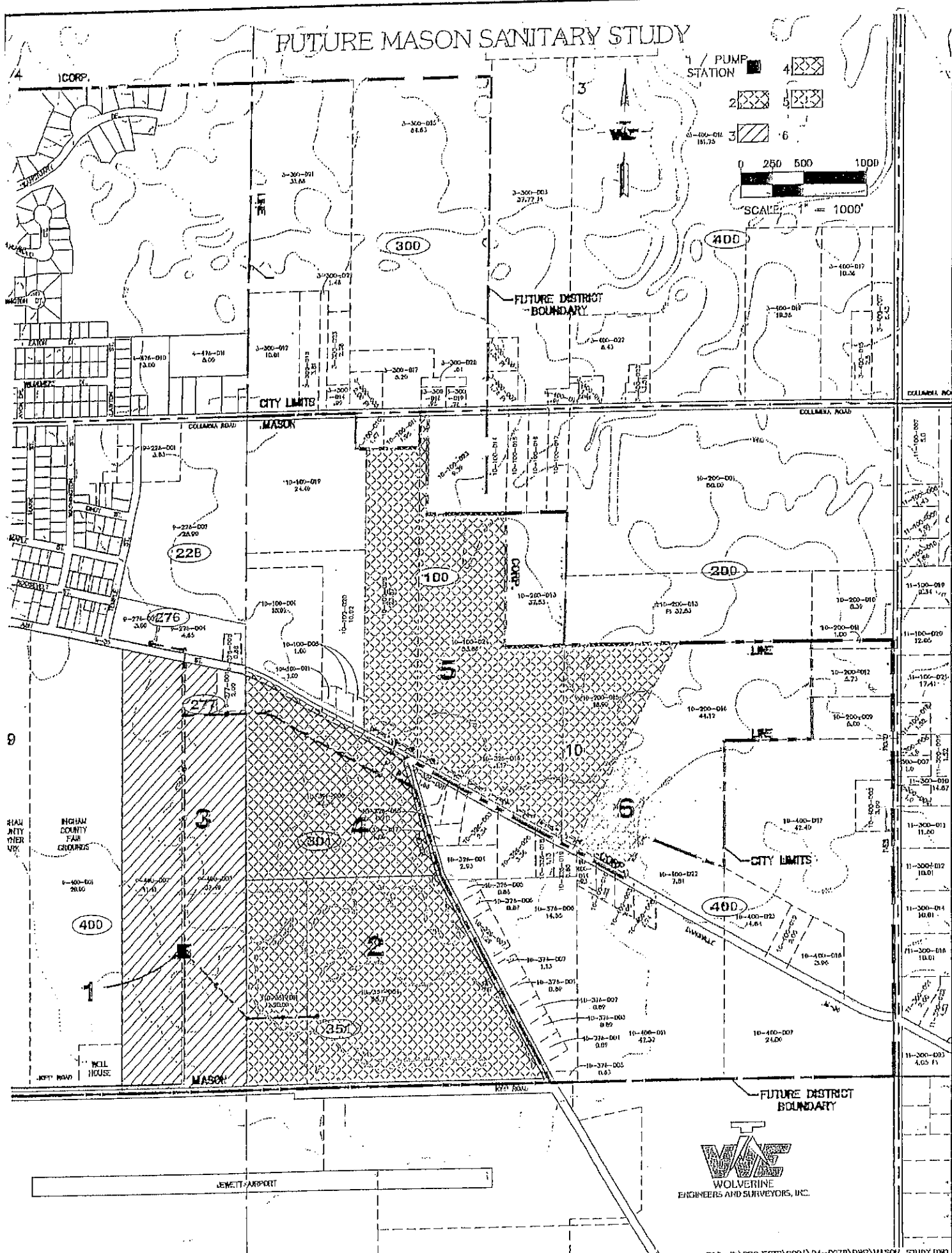
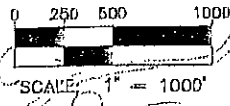
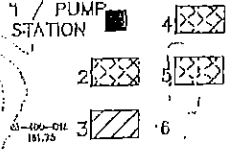
system. In addition, the DNRE requests the City of Mason install a high flow, metering device at the entrance of the wastewater treatment plant. The City of Mason is moving forward to meet the DNRE requests.

Based on observations and published studies, City staff suspects that residential sump pumps and footing tiles significantly contribute to I/I problems. Once a severe rainstorm ends and the initial surge in the sewage flow passes, the daily average flow will remain higher than normal for several weeks. Inspections of sewer lines in residential areas show increasing flows as one proceeds downstream of the line, plus the "sewage" is extremely clear. Once the ground becomes saturated, sump pumps and footing tiles contribute an enormous amount of water.

Under a pending consent order between the City of Mason and the MDEQ, the City must be able to certify that the City's WWTP is capable of providing secondary treatment to wastewater flows up to the 25-year/24-hour design storm event of 3.9 inches without bypassing during normal WWTP operations.

Beginning in the summer of 2006, the City will provide "sump pump collectors" as part of its local streets maintenance program. The next step is the need to develop policy as to determine who must connect to the collectors. This will be difficult and it will literally entail evaluation of each residential and commercial building.

FUTURE MASON SANITARY STUDY



APPENDIX B – Water System

The City's water system consists of seven wells, two 500,000 gallon elevated storage towers and one one-million gallon ground storage tank and approximately 45 miles of water main in various sizes (4" to 16"). The City now has a new centralized treatment facility; the water is pumped through raw water mains to the treatment plant to remove Radium 226 and 228 as well as iron.

The City of Mason Water Treatment Plant went on line in November of 2008 and the treatment process is working well. The process is consistently removing radium 226 and 228 down to an average of 1 pQL (pico-qui per liter) which is 4 pQL less than the MCL of 5 pQL. The iron removal process is also working well as the plant receives iron coming in to the plant at .44 ppm and on average removes the iron down to less than .1 ppm.

The improved water quality from the plant is helping the City of Mason to comply with the Radium rule and the Lead and Copper rule. The city has passed all the radium tests since the plant has gone on line on 2008 and is now in compliance with the Radium rule. Another benefit of the improved water quality is the City of Mason has now passed two rounds of lead and copper sampling which put the city in compliance with the Lead and Copper rule. The results of being in compliance with these two rules has helped reduce the amount of samples required for Lead and Copper testing and radium testing for the City. This has saved a lot of man hours and residents time spent collecting samples for the City of Mason.

The City drilled three test wells and one production well in 2008, resulting in one production well, . The remaining two test well sites are candidates for production wells also. A future agreement will be necessary with the airport to acquire the land. The City should move forward with securing these properties because of the loss of one well due to the raw water main project. The City had 7 wells in production before this project and currently has 6 wells connected to the water plant and one well as stand by that cannot connect to the raw water system, but is available to be treated with chlorine and fluoride on site and go directly to the distribution system in an emergency.

The City currently has a Wellhead Protection Plan approved by the MDEQ. The City will need to keep the plan up to date and enforce its well head protection plan.

Upgrades to the older, undersized water lines will continue in conjunction with the street improvement plan. Recent improvements to the water distribution system include the instillation of Variable Frequency Drives (VFDs) on the wells, construction of the new water plant, and ground water storage tank, new 8" water main on Ash St., and Steele St.

The City of Mason's utilities are comprised of the drinking water, the sanitary sewer (collection and treatment), and the storm sewer systems. The following narrative will discuss the current status of capacities and system components, current regulations and other issues for each system.

Definitions are provided below for various abbreviations that will be used in the discussion of the City's utilities.

psi: pounds per square inch (water pressure)

EPA: Environmental Protection Agency (Federal)

g.p.m: gallons per minute

MCL: Maximum Contaminate Level is the maximum permissible level of a contaminant in drinking water.

MGD: Million Gallons per Day (1.0 MGD equals 1,000,000 gallons per day)

MG: Million Gallons

MDEQ: Michigan Department of Environmental Quality (oversees all drinking water, sanitary and stormwater regulations)

POTW: Publicly Owned Treatment Works (includes the entire sanitary sewer system; collection, lift stations and treatment plant). The Wastewater Treatment Plant is referred to as the POTW Plant

DRINKING WATER SYSTEM

Current Components and Capacities

The City's Water System Reliability Study and Contingency Plan of the entire water system, completed during the summer of 2005 by Wolverine Engineering is planned to be updated in 2011. Currently, the City of Mason water treatment plant went on line in November of 2008. This facility is taking water from all the wells, treating it to remove Radium and Iron and storing it in the 1 million gallon ground storage tank. The water is then pumped from the ground storage out to the distribution system to the two 500,000 elevated storage tanks to maintain pressure on the system (65-80psi). The plant can pump 4,500 gallons per minute with all three high service pumps running, but the treatment plant can only produce 1,736 gallons of treated drinking water per minute when in operation.

Table B-1 lists information on the water system's wells, storage tanks and water mains. Table B-2 contains the current information on the wells. The notes at the bottom of the table provide further explanation of terminology.

The concept of Firm Capacity is an important consideration for the water system. Ideally, the City should be able to meet the daily water demand, and provide fire protection, in the event the largest producing well is out of service. It does happen on occasion despite all the best maintenance efforts.

Regarding fire protection, pursuant to recommendations by the Insurance Services Office, the fire flow duration should be three (3) hours for recommended fire flows of 3000 and 3500 g.p.m. These flows are not unreasonable for the industrial areas on the north and south ends of Mason. The following table shows the current storage calculations:

Water Storage Calculations for 3-Hour Fire Flow	
Average Demand (766 gpm)	137,880 gallons per 3 hours
Fire Flow (3,500 gpm)	630,000 gallons per 3 hours
Well Supply (1,675 gpm)	-301,500 gallons per 3 hours
Storage Needed Based Upon Fire Flow	466,380 gallons

Based upon these calculations, water storage provided by the 2 elevated water towers is adequate.

Given the recent improvements and modifications made within the City, the addition of a water tower, the addition of a 1 million gallon ground storage tank, the replacement of water meters, the new control system, and the cleaning and rehabilitation of the wells, the City of Mason finds itself in a comfortable position relating to water supply.

Current Regulations

Radionuclides: The original Radium Rule was first published in 1976 and revised in 1991. Since then water system operators have been required by the Federal Environmental Protection Agency (EPA) and the Michigan Department of Environmental Quality to periodically sample the drinking water for radioactivity. The reasoning behind this is attributed to the development and operation of nuclear reactors and radio nuclide-generating devices which result in the production of radioactive elements. However, there are naturally occurring radioactive elements such as uranium, thorium and radium which may originate in the shale and coal bearing layers that are interspersed throughout the municipal aquifer.

Since Mason began testing for radium in the mid 1990's, specifically the isotopes of Total Alpha, Radium 226 and Radium 228, the results have always been below the Maximum Contaminant Level (MCL). The monitoring for radium was done in the distribution system. In December 2003, a change in the Radium Rule by the EPA required water systems to sample at the "point of entry", or in Mason's case, at each of its wells. This new requirement put 2 of the wells over the MCL for Combined Radium 226/228 with most of the remaining wells just below the standard. In other words, Mason was out of compliance with a Federal Drinking Water standard and would need to take corrective action.

Consultants were hired in the summer of 2005 to study the problem and present some possible treatment alternatives that would be in the best interests of, and to serve our community for years to come. The study was done in such a way as to allow Mason to apply to the MDEQ for a low interest loan through the Drinking Water Revolving Fund program to help fund the project.

With aMDEQuate funding secured, the facility was constructed and completed in 2008. The facility is a centralized hydrous manganese oxide (HMO) treatment plant that was recommended by the study to meet the radium MCL.

Arsenic Rule: On January 16, 2001, President Clinton signed the new arsenic rule that would lower the MCL from the existing 50 parts per billion (ppb) to 10 ppb. This became effective January 16, 2006 and it is impacting smaller communities. Fortunately, most of the monitoring for arsenic in Mason's water has indicated non-detectable levels.

Lead & Copper Rule: These two metals pose potential health risks if the exposure is of sufficient duration and their concentrations are high. In 1992, the Federal Environmental Protection Agency began requiring all public water supplies to annually test for lead and copper. What are actually being monitored are the corrosive characteristics of drinking water on household plumbing. With the addition of the new water treatment plant, The City of Mason now has a consistently higher water quality, which has resulted in passing two consecutive sets of lead and copper tests. After passing these two sets of 40 samples the City is now in reduced monitoring.

The MCL for lead and copper is .015 mg/l and 1.3 mg/l, respectively. Samples for the tests are collected at 20 different households throughout the city once per year. The sampling procedure is to flush the water tap for 10 minutes, do not use the water for 6 hours and then collect the first draw. This assumes that the corrosiveness of the water will leach the lead and copper from the pipes and faucet. Historically, Mason has had difficulties meeting the copper limit. Part of the problem lies in the requirement that allows residents to perform the actual sampling. Many times the proper protocol is not followed. Water softeners can also negatively affect the results. The City has found that the centralized water treatment has corrected this chronic problem.

TABLE B-1

CURRENT WATER SYSTEM COMPONENTS

Revised July 2011

7 WELLS: Park Street Well #1
Curtis Street Well #2 (abandoned in 2007)
Howell Road Well #3 (standby in 2008)
Hayes Well #4
West Ash Well #5
Franklin Well #6
Kipp Road Well #7
Temple Street Well #8

FIRE HYDRANTS: Approximately 462

2 ELEVATED STORAGE TANKS (500,000 Gallons each), Constructed in 1995 & 2004
1 Ground Storage Tank (1,000,000 gallons) Constructed 2008

FINISHED WATER MAIN	(Lineal Feet)
4 Inch	32,820
6 Inch	81,300
8 Inch	63,810
10 Inch	7,000
12 Inch	56,475
16 Inch	900
Total	242,305 (45.9 miles)

RAW WATER MAIN	(Linear Feet)
8 Inch	3,262
12 Inch	5,259
16 Inch	7,837
Total	16,358 (3.1 miles)

NOTES:

- The original water main consists of cast iron, much of which remains in service today.
- Since the early 1970's, upgrades have been made with ductile iron pipe.
- Raw water main is high-density polyethylene pipe.

TABLE B-2

CURRENT WELL CHARACTERISTICS

Revised July 12, 2011

ACTUAL RATED DEPTH CAPACITY

<u>WELL</u>	<u>(ft.)</u>	<u>STATUS</u>	<u>(gpm)</u>	<u>(gpm)</u>
Park St. #1	49	Active	422	400
Howell #3	213	Standby	350	325
Hayes Park #4	245	Active	350	280
Ash #5	272	Active	250	250
Franklin #6	346	Active	500	400
Kipp #7	358	Active	350	350
Avery Lane #8	400	Active	391	250
TOTAL CAPACITY			2,613gpm	2,255gpm
FIRM CAPACITY			2,113gpm	1,855gpm

NOTES:

- Firm Capacity represents the total capacity minus the largest producing well.
- Howell #3 is not connected to the new raw water lines.
- Howell road well is normally in standby mode; emergency use only.

TABLE B-3

CURRENT & PAST WATER PRODUCTION

Revised July 2011

YEAR	YEARLY TOTAL (MG)	DAILY AVERAGE (MGD) (gpm)	MONTHLY MAXIMUM (MGD) (gpm)	MONTHLY MINIMUM (MGD) (gpm)
2004	256	.890 618	1.570 1090	.349 242
2005	328	.895 622	1.646 1143	.527 366
2006	324	.888 617	1.567 1,088	.531 368
2007	346	.949 659	1.771 1,230	.579 402
2008	345	.943 655	1.848 1,283	.540 375
2009	314	.860 597	1.842 1,279	.395 274
2010	304	.832 577	1.326 921	.422 293
2011(June)	177	.977 679	1.835 1,274	.514 357

NOTES:

- The Maximum Day on record is 1.848 MGD (1,283 gpm) recorded in July 2008.

SANITARY SEWER SYSTEM (POTW)

Current Components & Capacities

The sanitary sewer collection system consists of approximately 32 miles of clay, concrete and, as of recently, plastic pipe. The collection system starts as a 6-inch sewer lead from the buildings, which is the responsibility of the property owner to repair and maintain. The sewer leads connect to the lateral sewers located in the streets that ultimately connect to the interceptors that carry the sanitary sewage to the POTW Plant. Table 4 lists the major interceptors in town. The majority of the 6-inch and 8-inch sewers were constructed prior to 1930, using a bituminous sealer for the joints. Since 1958, rubber O-rings have been used for the joints, significantly reducing the possibility of groundwater leakage.

Sewage typically flows by gravity through the lines. There are times when significant changes in elevation occur, particularly during new development, that the sewage must be lifted from a low area to a higher elevation in order to flow. This is accomplished by pump stations, or lift stations. Table 5 lists the five lift stations in the system. The Main Court pump station serves one short street and the Hunting Meadows pump station serves that subdivision. The Curtis St. Lift Station serves the businesses along N. Cedar Street and the county jail facilities. The ISD Lift Station serves the Career Center complex, Dart Container, the Riverwalk Meadows Subdivision, and the commercial district fronting Legion Drive. Temple Street lift station serves the new water treatment plant and the industrial district on Temple street.

Lift stations are operating about 6-7 hours daily. The City's engineer recommends an upgrade when a lift station's pumps run 8 hours per day. The elimination of Curtis Street Lift Station by relaying about 2700 feet of sanitary sewer at an estimated cost of \$250,000, does not appear to be cost effective.

The sanitary sewage enters the POTW Plant through a 30-inch pipe. The plant is a conventional activated sludge plant. It is a Class B plant with a design flow of 1.5 million gallons per day (MGD). It was constructed in 1958 with additional improvements in 1975-77. Table C-6 gives the basic design criteria of the plant and Table C-7 gives flow and plant loading data for the past several years. The plant load refers to the strength of the sewage that the plant must treat. This is also referred to as the biochemical oxygen demand (BOD). The data for the year 2001 is skewed due to the extremely wet weather experienced in February and May.

Current Regulations and Proposed Projects

All dischargers of treated sewage to public waterways are permitted to do so by means of a National Pollutant Discharge Elimination Systems (NPDES) Permit. This permit is required by the Federal Clean Water Act and administered by the MDEQ. The permit specifies exactly how clean the treated sewage must be. It is a legal document and contains enforceable limits on the final treated water that is discharged (effluent).

Mason has had a NPDES permit since 1973 and it is reissued every 5 years after a formal application has been submitted to MDEQ. The current permit was issued on November 1, 2008 and will expire on October 1, 2012. Typically, each reissued permit has effluent limits that are a little more restrictive than the prior one.

Mercury Analysis: Mercury has been a metal of concern for many years due to its potential health threats and the fact that it is considered to be a bio-accumulating chemical of concern. In other words, its concentration increases in organisms' tissues as it makes its way up the food chain.

The approved test method for mercury has had a detection limit of .2 micro-grams per liter, or parts per billion. As of July 1999, the EPA approved a new mercury analysis method that has a detection limit of .5 nano-grams per liter (ng/L) or part per trillion. This new method has a detection limit that is 400 times more sensitive. The current limit in the permit is 30 ng/l, but the target water quality standard (the ultimate goal) for the receiving streams is 1.3 ng/l.

A recent requirement in the current permit is the development of a Mercury Minimization Program (MMP). The City's MMP was approved by DNRE and became effective on April 2, 2009.

Previously, approximately 20,000 gallons of drinking water were used daily in the City of Mason. An alternative pumping system was constructed in 2010 to use treated effluent for the purpose of chlorinating, applying polymer, and supplying pump seal water and spray foam, in place of using treated drinking water, thus saving the City about 7 million gallons of drinking water annually. This is consistent with water conservation and sustainability.

TABLE B-4

INTERCEPTING SEWERS

Sycamore Creek Interceptor: 30-Inch diameter sewer extending from a point approximately where the old city garage on North Jefferson Street sat south along Sycamore Creek to Mable Court. Constructed in 1990 replaced to gain depth and slope to eliminate the Cherry Street lift station.

Willow Creek Interceptor: 18-Inch diameter sewer extending from Mable Court (30inch interceptor) west along Willow Creek to Eugenia Drive. Constructed in 1990 to replace the old 15-inch interceptor, which had major infiltration.

Intermediate School District Interceptor: 15-Inch diameter sewer extending north from the ISD Lift Station (north of D.P.W. facility) along Sycamore Creek to Howell Road. Constructed in the late 1960s and remains in good condition.

Legion Drive/Howell Road Interceptor: 15-Inch diameter sewer extending from the ISD Interceptor north to Howell Road and west, crossing US-127 and Cedar Street, to the end of Legion Drive. It was constructed in 1994 to service businesses on Legion Drive and Dart Container Corporation.

West Columbia Street Interceptor: 15-Inch diameter sewer extending west from the 30-inch Sycamore Creek Interceptor at Maple Street to approximately the west city limits. Constructed in 1975 and extended to serve the Coventry Woods and Sycamore Mobile Home Park developments in 1998.

East Side Interceptor: Constructed shortly after WWII, 15-inch and 18-inch sewer extending southeasterly from the POTW Plant to Ash Street near Steele Street. In 1976 the interceptor was reconstructed as part of the Waste Water Treatment Plant expansion.

East Columbia-Eastside Interceptor: 24-inch sewer interceptor constructed in 2007. It begins near the intersection of Okemos and Randolph Streets, runs across Bond Park then beside the Rayner Drain to Mathews Street. It then continues easterly along E. Columbia to Lawton St Street.

TABLE B-5

PUMP (LIFT) STATIONS

Name	GPM/Pump	Year Constructed
ISD Lift Station	300	1971
Curtis St. Lift Station	300	1964
Main Court Lift Station	80	1985
Hunting Meadows Lift Station	90	1992
Temple Street Lift Station	300	2007

NOTES:

- All the lift stations have two (2) pumps.

TABLE B-6

POTW PLANT DESIGN DATA

DESIGN AVERAGE FLOW	1.5 MGD
POPULATION EQUIVALENT (PE)	12,000 PEOPLE
PLANT LOAD	2,400 LBS/DAY

TABLE B-7

POTW PLANT AVERAGE FLOWS AND PLANT LOADS

Revised June 30, 2010

YEAR	PRECIP (In.)	FLOW (MGD)	BOD (Lbs/Day)	BIOSOLIDS (MG/YR)	POP. EQUIV.
1993	37.35	1.417	1247	1.076	6235
1994	35.98	1.247	1222	.745	6110
1995	26.90	1.183	1276	.630	6380
1996	27.67	.970	1560	.950	7800
1997	33.01	1.015	1508	.892	7540
1998	33.40	1.074	1592	.768	7960
1999	27.71	.863	1539	.786	7695
2000	36.13	.881	1569	.840	7845
2001	36.60	1.158	1623	.742	8115
2002	21.84	.992	1792	.775	8960
2003	30.51	.895	1724	.650	8620
2004	35.73	1.053	1642	.452	8210
2005	23.73	.947	1597	1.040	7985
2006	42.73	1.088	1694	.998	8470
2007	31.6	.979	1487	1.456	7435
2008	38.4	1.112	1526	.593	7630
2009	34.33	1.665	1653	.882	8265
2010	16.82	0.985	1915	.672	9575

NOTES:

- 1 PE = .2 lbs of Plant Load
- The Plant Load in 1983, prior to Wyeth Laboratories pretreatment facility, was 3,061 lbs/day (over the design).
- November 1995: Michigan Packaging began operations (increased load).
- May 1996: Wyeth Laboratories ceased operations (decreased flow).
- For 2001, February's average was 1.546 MGD and May's was 1.666 MGD and a total of 7.46" of rain.
- 2004: May - 1.637 MGD average flow; monthly total of 9.41 inches of rain

APPENDIX C – Street Inventory

2009 STREET INVENTORY

PASER RATING: 9-10, EXCELLENT

Priority No.	Street	Location	Length (ft)	Recent Constr.	Other
	Steele	Ash-Maple	600	2010	
	Lawton	Ash-Columbia	1600	2011	
	Mathews	Sycamore-Columbia	350	2011	
	Mathews	Sycamore-North end	1150	2011	
	Randolph	Okemos-East end	2200	2011	
	S. Lansing	Jefferson-South	2000	2011	
	E. Oak	Jefferson-Steele	1850	1996	
	W. Maple	Park-Jefferson	400	2001	
	Washington	Ash-Roosevelt	300	1977	
	Washington	Roosevelt-Columbia	1350	2001	
	E. Columbia	Rogers-Mathews	750	2001	
	E. Columbia	Temple-E. city limits	850	2001	
	East	North-Columbia	750	2001	
	Center	Lansing-Walnut	2200	2001	
	Park	Ash-Maple	350	2001	
	W. Sycamore	Jefferson-State	800	2001	
	Willow	Lansing-west to end	750	2001	
	Katheryn		1150	2001	
	W. Ash	Corbin-Katheryn	600	2001	
	Corbin	Columbia-Ash	1050	2001	
	Ann	Rayner-Rogers	800	2001	
	Mark	Maple-Columbia	1000	2001	
	Steele	Maple-Sycamore	400	2001	
	E. Maple	Jefferson-Rogers	950	2001	
	Cindy	Washington-Temple	450	2001	
	Park	Maple-Sycamore	350	2002	
	W. South	Lansing-East end	850	2002	
	Coppersmith	Sanctuary-	1750	2002	

		Okemos			
	N. Rogers	Okemos-Devonhill	1500	2002	
	N. Barnes	Valley Ct.-Devonhill	700	2002	
	Devon Hill Dr.	Barnes-Rogers	300	2002	
	Valley Ct.	Okemos-Barnes	700	2002	
	Royce	Barnes-Jefferson	500	2002	
	W. Columbia	East-Mason	400	2003	
	Bush	Columbia-North	700	2003	
	North	East-Mason	600	2003	
	North	Cedar-Bush	550	2003	
	Raging River	Howell-South end	1500	2001	
	Riverwalk Dr.	Raging R.-end	1500	1998-west half	
			1750	2003-east half	
	Bubbling Spring	Raging R.- end	650	1998	
	Rain Drop Ct.	Riverwalk-end	750	2003	
	Sparkling Brook	Riverwalk-Jefferson	200	2003	
	Northbrook	Eugenia-Carom Cr.	600	2003	
	Franklin Farm	Northbrook-Lavonne	1600	2003	
	Lavonne	Franklin-Eugenia	500	2003	
	S. Holt	South-Bond	850	2003	
	S. Barnes	Sycamore-Maple	400	2003	
	S. Barnes	Maple-Ash	350	2001	boulevard
	E. Sycamore	Jefferson-E. deadend	1350	2003	
	E. Sycamore	Dead end-Steele	500	2003	
	Okemos	Columbia-city limits	5250	2004	
	Sanctuary Dr.	Coppersmith-end	2000	2006	
	Monroe	Randolph-Ann	300	2004	
	Bailey Circle		1400	2004	
	Ann	Mathews-Bailey Circ	550	2004	

2009 STREET INVENTORY

PASER RATING: 8, VERY GOOD

Priority No.	Street	Location	Length (ft)	Recent Constr.	Other
	N. Jefferson	Columbia-Royce	2250	1990	
	E. Cherry	Jefferson-Rogers	900	1996	
	E. Maple	Rogers-Steele	1000	1983	
	Mason	North-unpaved	900	1996	
	E. Elm	Steele-Jefferson	1900	1996?	
	E. South	Jefferson-Holt	1250	1998 (Jeff-Barne)	
	Wildemere	Eaton-Coppersmith	500		
	Coppersmith	Wildemere-Sanctuary	750		
	Charrington		500		
	Ravenwood		1000		
	S. Barnes	Ash-943 S. Barnes	2750	1998	Mill & fill
	W. South	Lansing-Hunting M.	2750	1998	
	Mable Ct.		250	1998	
	W. Cherry	McRoberts-Lansing	700	1998	
	W. Oak	Park-Jefferson	400	1998	
	W. Oak	Cedar-McRobert	1950	1998	
	W. Elm	McRoberts-Jefferson	1250	1998	
	Kiwanis Dr.	Columbia-Ash	800		
	W. Ash	Cedar-Peachtree	600	1999	
	Steele	Elm-Ash	1250	1996	
	Hall Blvd.	Ash-VanderVeen	650	1999	
	Walnut Ct.	Ash-Columbia	1100	1999	
	Warner	Burt-South	1125	1999	
	Burt		200	1999	
	W. Willow	Brookdale-Warner	300	1999	
	Judy Ct.		250	1999	
	Brookdale	South-Willow	850	1999	
	W. Columbia	Jefferson-Park	400	1999	
	Park	Elm-Ash	700	1998	

	Park	Sycamore-Columbia	350	1999	

2009 STREET INVENTORY

PASER RATING: 7-6, GOOD

Priority No.	Street	Location	Length (ft)	Width (ft)	Recent Constr.	Other
Rating 7						
	Peachtree	South-Columbia	2650	36	1997	Mill & fill
	Avon	Columbia-Wildemere	250	30	1980	
	Wildemere	Avon-Strafford	750	30	1980	
	Strafford	Columbia-Eaton	750	30	1980	
	Eaton	Strafford-Wildemere	1000	30	1980	
	Roosevelt	Temple-Lawton	1300	30	1977	
	E. Cherry	Rogers-East end	700	30	1997	
	E. Maple	Steele-Temple	2350	30	1977	
	Henderson	Cherry-Elm	300	30	1998	
	W. Cherry	Lansing-East end	950	30	1978	
	Rayner	Columbia-Randolph	600	30	1976	
	S. Barnes	943 Barnes-Kipp	1800	36	1988	
	Cedar	South-Ash	1400	36	1988	
	Walnut Ct.	Columbia-N. end	550	30	1989	
	S. Lansing	North-Columbia	700	36	1979 or '83	
	S. Rogers	South-Columbia	2550	30 & 36		
	W. Maple	Lansing-Cedar	1350	30	1998	
	McRoberts	South-Maple	1850	30 & 36	1998	
	W. Sycamore	Lansing-Cedar	1250	30	1986	
	Stevens	Maple-Columbia	900	30	1968?	
	N. Rogers	Okemos-Columbia	1100	36	1979 or '91	
	Northbrook	South-Eugenia	550	44	1996	
	Eugenia	Northbrook-S. end	2250	30	1996	
	Alta		100	30	1996	
	Gary Ct.		150	30	1996	

	Stag Thicket		700	30	1994 or '98	
	Eagles Nest		600	30	1994	
	Mason	Columbia-North	700	36	2009	
	E. South	Holt-Hall Blvd.	1300	30	1997 (Barn-Hall)	
	S. Holt	Elm-Oak	300	30	1997	
	Bond	Holt-Barnes	200	30		
	Cedar	Kipp-Willow Creek	2000	36	1996	
	N. Jefferson	Royce-Howell	3250	30	1990	
Rating: 6						
	E. Columbia	Mathews-Temple	3000	36	1981	
	W. Columbia	Cedar-127 overpass	1800	30	1976	
	Main Ct.	Steele-East end	600	30	2010	
	Monroe	Columbia-Randolph	600	30	1976	
	Cedar	Willow Cr.-South St.	2000	36	1993-94	
	Buhl	Cedar-end	600	36		
	Hunting Meadow	South-Stag Thicket	600	30	1994	
	W. Oak	McRoberts-Lansing	650	30	1978	
	W. Columbia	127 - W. city limits	1400	36	1976?	
	W. Maple	Lansing-Park	1000	30	1996	
	North	Mason-Cedar	1000	38	1996	No sw, N. side
	McRoberts	Maple-Columbia	700	30	1978	
	S. Lansing	Ash-Maple	300	30	1979 or '83	
	W. Columbia	Mason-Cedar	1100	30	1997	
	VanderVeen	Hall Blvd-E. South	1200	30	1986	

2009 STREET INVENTORY

PASER RATING: 5-4, FAIR

Priority No.	Street	Location	Length (ft)	Width (ft)	Recent Constr.	Other
2	W. Ash	Peachtree-Hayes Park	600	36		
3	E. Columbia	Jefferson-Rogers	900	36	1980	
4	S. Barnes	Columbia-Sycamore	300	36	1978	
5	S. Lansing	South-Ash	1600	30	1983	

6	S. Lansing	Maple-Columbia	800	30	1983	
7	W. Oak	Lansing-East End	250	30	1978	
9	Middlebury	Foxview-N. End	400	30	1980	
10	Foxview	Peachtree-Middlebury	400	30	1980	
11	Mechanic	Columbia-North	650	30		
12	Curtis	Cedar-East End	1100	36	1983	
14	Temple	Ash-Columbia	1750	36	1971-72 (est.)	
15	Kerns	Cedar-Howell	2000	24		

2009 STREET INVENTORY

PASER RATING: 3, POOR

Priority No.	Street	Location	Length (ft)	Width (ft)	Recent Constr.	Other
1	Center	East - Mason	600	30	1964	No s.w., S. end
Unpaved	Mason St.		3600			

APPENDIX D – Five-Year Local Streets Program

CITY OF MASON
STREET PROGRAMS
Revised July 2011

YEAR	LOCATION	SY
1974	W. South (Lansing-US 127) Eastlund	6570
1975	Columbia St.	
1976	Mathews Eastlund	3651
	Monroe	1857
	Randolph	7031
	Rayner	1863
	W. Columbia	
1977	Lawton (Ash-E. Columbia) Searles	4823
	Maple (Steele-Lawton)	2379
	Roosevelt (Lawton-Temple)	3858
	Steele (Ash-Maple)	1520
	Main Ct.	1996
	Washington (E. Ash-Roosevelt)	1045
	Mable St.	
1978	S. Barnes (E. Columbia-E. Sycamore) Searles	1060
	W. Cherry (Lansing-Henderson)	2320
	Henderson	1020
	McRoberts (W. Columbia-W. Maple)	2350
	North (Bush-Cedar)	1700
	W. Oak (McRoberts-dead end)	2800
	E. Sycamore (Jefferson-deadend)	3700
	Mark St.	
	Temple St.	
1979	Rogers Tom Robinson & Son	1131
	E. Cherry	2258
	E. South	7324
	S. Lansing	8222
	W. Oak	
	McRoberts St.	
	E. Columbia (Rayner Ponds)	
	Eaton Drive	
	Stratford Dr.	

1980	Rayner #1 E. Columbia (Okemos-Rogers) Ayala's Concrete Hall Blvd. Stevens St.	3490 Bond Park parking
1981	E. Columbia (W of Monroe-Temple) Spartan Holt St. Matthews St. Rogers St.	10,270
1983	Curtis St, Searles S. Lansing E. Maple (Rogers-Steele) Sewer installation on N. side of Cedar Buhl St.	5000 4650
1985	W. Sycamore St.	
Mid-80's	Devon, Temple, Mechanic (removed 4" sub-base, added 4" crushed asphalt & 2" wear coarse	
1986	VanderVeen Dr. Searles S. Cedar (Cedar Woods Condos) S. Cedar W. Sycamore	3225 1540 2100 3645
1988	S. Cedar extension (condos-South) Capitol S. Barnes (Kipp-943 S. Barnes)	2200 7600
1989	N. Mason Searles Walnut (Columbia-N. end)	3950 1990
1990	N. Jefferson (Columbia-Howell Rd.) Causie	
1991	Rogers B & D	2200
1996	S. Cedar (Willow Cr.- Kipp) CMC (bankrupt), finished by Capitol & Gil Ross Elm (1900 L.F.), Capitol & Brookfield E. Oak (S. Jefferson-Steele) E. Cherry (S. Jefferson-S. Rogers) Steele (E. Elm-Ash) Eugenia Dr. Northbrook (South-Eugenia) Mason (W. Columbia-North North (S. Cedar-Mason) N. Lansing (W. Columbia-North)	8182 5700 1900 L.F. 900 L.F. 500 L.F.

- W. Maple (S. Cedar-S. Lansing)
Cedar St. Replacement (Ash St. to Maple St.)
Riverwalk Dr.
- 1997 S. Jefferson (R.R.-Kipp), **Capitol & Brookfield**
W. Columbia (S. Cedar-Mason)
S. Lansing (W. South-S. Jefferson), milled & fabric repair Peachtree (W. Columbia-
W. South) , milled & fabric repair
Brookdale, milled & fabric repair
E. South (S. Barnes-Hall) , milled & fabric repair
E. Cherry (S Rogers-end) , milled & fabric repair
S. Rogers (E. Cherry-E. South)
Holt (E. Elm-E. Oak)
- 1998 W. Oak (LS) (Cedar-McRoberts)
W. Oak (MS) (Park — Jefferson)
W. Cherry (McRoberts-Lansing)
W. Elm (McRoberts-Jefferson)
McRoberts (Ash-South)
Henderson (Cherry-Elm)
S. Park (LS) (Elm-Oak)
S. Park (MS) (Ash-W. Oak)
W. South (MS) (Lansing-Northbrook)
W. South (LS) (Northbrook-Hunting Meadows)
Mable Ct,
E. South (LS) (Jefferson-Barnes)
S. Barnes (MS) (Ash-943 S. Barnes)
- 1999 W. Columbia (Jefferson-Park) **Capitol**
Park (W. Columbia-W. Sycamore)
Brookdale
Judy Ct.
Willow
Warner
Burt
W. Ash
Walnut Ct. (Ash-Columbia)
Kiwanis Dr.
Hall Blvd.
S. Jefferson (MS) (R.R.- Oak)
W. Columbia (?)
- 2001 Street Scape (central business district: Ash-Park-Maple-Barnes) **Capitol**
Corbin **Capitol**
W. Ash (Corbin-Katheryn)
Katheryn
E. Columbia (Rogers-Mathews)

- E. Columbia (Temple-east city limits)
- S. Jefferson (alley S. to Oak)
- S. Jefferson (downtown N.-E. Columbia)
- Willow
- East St.
- W. Sycamore (S. Jefferson-State)
- E. Maple (S. Barnes-S. Rogers)
- Mark
- S. Washington (E. Maple-E. Columbia)
- Cindy
- Ann
- Steele (E. Maple-E. Sycamore)
- Center (Lansing-Walnut)
- Barnes St.
- Devon Hill Dr.

- 2002 Coppersmith (Sanctuary Dr.-Okemos) **Capitol Aggregate**
- N. Rogers (Devonhill Subdivision)
- N. Barnes
- Royce
- Devonhill Dr. (2001) Valley Ct.
- Park (Maple-Sycamore)

- 2003 E. Sycamore (S. Jefferson east-deadend) **Capitol Aggregate**
- E. Sycamore (Deadend-Mathews)
- Bush (W. Columbia-North) (replaced water main)
- North (Bush-Cedar)
- North (East-Mason)
- Holt (Bond-E. South)
- Barnes (E. Maple-E. Sycamore)
- Northbrook (Eugenia-turn around)
- Franklin Farm Dr.
- Lavonne (Franklin Farm-Eugenia)
- Alley (S. of Sycamore-between Barnes & Rogers)
- Alley (S. of Oak-between Jefferson & Barnes) Bond St.

- 2004 Okemos (Jefferson-city limits) **Capitol Aggregate**
- Bailey Circle (wear course-2006)
- Ann (Bailey Park)
- Monroe (Bailey Park-Randolph-new construct.)

- 2005 Temple St. extension (M-36 — Kipp) **Mauldon Construction completed 2006**

- 2006 Ingham Court **Capitol Aggregate**
- S. Lansing (W. Maple-W. Columbia) W. Center (East-Mason)
- E. Columbia (Jefferson-Rogers)
- S. Barnes (E. Columbia-E. Sycamore)
- Middlebury Lane

- Foxview Lane
Miller
Randolf
Monroe
Layland Park
Oak St.
- 2007 Temple St. (new road from Ash to Kipp Road) .77 miles
East Columbia Started in 2007 completed 2008 final lift from Monroe to Temple Street.
- 2008 Mechanic St.(from Columbia to North Street)
Holt Street from Oak St. to Elm St.
Ally behind E Oak; Rogers & Holt
Ally behind E. Oak; Holt & Steel
Ally behind E. Oak; Barns & Rogers
E Elm curb + Wildemer spot curb repair
- 2009 W. Columbia-Cedar St. to US-127 (Mill and Fill 2")
Curtis St.(Mill and Fill)
Buhl St.(Mill and Fill)
Mason St. (Columbia St. to North St.)(Mill and Fill)
Mechanic Street from Columbia St. to North St.(Total reconstruct)
Alley South of Ash St.-Barnes St. to Rogers St.(rebuild)
Alley South of Sycamore St.-Jefferson St. to Barnes St.(rebuild)
Alley South of Elm St.-Jefferson St. to Barnes St.(rebuild)
Top lift on Avery Layne
- 2010 Lansing Street from Ash to Jefferson Street (Mill and Fill)
Lawton Street from Columbia to Ash St (Mill and Fill)
Steele Street from Ash to Maple Street (Total reconstruct replace water main)
Maine Court (Mill and Fill)
Cemetery drives (Crush and Reshape)
Patch Kerns road at Howell Rd
- 2011 Randolph Street from Okemos to dead end (Mill and Fill)(Reith Riley)
Mathews Street from Sycamore to Dead End (Mill and Fill) Reith Riley) Bond Street
from Barns to School Entrance (Mill and Fill)(Reith Riley)

APPENDIX E – Mason Fire Department Fixed Asset Projections

**MASON FIRE DEPARTMENT
PROJECTION FOR FIXED ASSET EXPENDITURES EXCEEDING \$5000.00
UPDATED AUGUST 2011**

ASSET	YEAR ACQUIRED	ESTIMATED OR SUGGESTED LIFE EXPECTANCY	REPLACE REPAIR REBUILD	ESTIMATED COST AT FUTURE DOLLARS	PRIORITY	POSSIBLE FUNDING
APPARATUS / VEHICLES:						
TANKER 807, WOLVERINE	1984	> 25 YEARS	2009	> \$400,000	LOW	GENERAL FUND FINANCING
ENGINE 809, GRUMMAN PUMPER	1990	25 YEARS	2015	\$680,000	MODERATE	GENERAL FUND FINANCING
SQUAD 815, CHEVROLET	1992	25 YEARS	2017	\$200,000	LOW	GENERAL FUND FINANCING
BRUSH 810, DODGE 4 X 4	1993	20 YEARS	2013	\$50,000	MODERATE	GENERAL FUND DIRECT PURCHASE
TOWER 808, PIERCE DASH	2001	> 25 YEARS	> 2026	> \$1,000,000	LOW	GENERAL FUND FINANCING
COMMAND, FORD EXPEDITION	2001	10 YEARS	2011	\$50,000	LOW	GENERAL FUND DIRECT PURCHASE
OFFICER, CHEVY IMPALA	2001	10 YEARS	2011	\$25,000	LOW	GENERAL FUND DIRECT PURCHASE
PUMPER TANKER 811, HME KW	2007	> 25 YEARS	> 2032	> \$500,000	LOW	GENERAL FUND FINANCING
RESCUE/ PUMPER 806, SPARTAN/ SPENCER	2010	25 YEARS	2035	\$750,000	LOW	GENERAL FUND FINANCING
FIRE / RESCUE EQUIPMENT:						
808'S HURST EXTRICATION TOOLS (JAWS OF LIFE)	2001	15 YEARS	2016	\$20,000	MODERATE	GRANT OR GENERAL FUND
RESCUE/PUMPER 806'S EXTRICATION TOOLS (JAWS OF LIFE)	2010	15 YEARS	2025	\$40,000	LOW	GRANT OR GENERAL FUND
TURNOUT GEAR (34 SETS)	VARIOUS	5 YEARS	7 / YEAR	\$18,000 / YEAR	IN PROCESS	GENERAL FUND DIRECT PURCHASE
AIR PACKS, SCBA (24 UNITS)	2008	10 YEARS	2018	\$200,000	LOW	GRANT

CONFINED ENTRY CART (MUST BE COMPATIBLE WITH SCBA)	2008	10 YEARS	2018	\$5,000	LOW	GENERAL FUND
BULLARD INFRARED VISION CAMERA	2007	20 YEARS	2027	\$20,000	LOW	GRANT HOMELAND SECURITY
MISCELLANEOUS:						
COMMERCIAL WASHING MACHINE	1994	25 YEARS	2019	\$5,000	LOW	GENERAL FUND
COMMERCIAL DRYER	1994	> 25 YEARS	2019	\$5,000	LOW	GENERAL FUND
BAUER AIR TANK FILL STATION COMPRESSOR	2005	> 20 YEARS	> 2025	\$50,000	LOW	GRANT
FURNACE / AC, OFFICE AREA (STATION 1)	1999	20 YEARS	2019	\$10,000	LOW	GENERAL FUND
FURNACE / AC, TRAINING ROOM (STATION 1)	1999	20 YEARS	2019	\$10,000	LOW	GENERAL FUND
CARPET, OFFICE AND TRAINING AREA (STATION 1)	1999	12 YEARS	2011	\$10,000	MODERATE	GENERAL FUND
PAGERS (36)	2006	6 YEARS	6 / YEAR	\$3,000	IN PROCESS	GENERAL FUND
PORTABLE RADIOS (26)	2006	20 YEARS	2026	\$50,000	LOW	GRANT INGHAM COUNTY
TRUCK RADIOS (7)	2006	20 YEARS	2026	\$50,000	LOW	GRANT INGHAM COUNTY
REPLACE APRON, APPROACH & SIDEWALK AT STATION 1	1999/2005	10 YEARS	2011	\$30,000	MODERATE	GENERAL FUND DIRECT PURCHASE
REPLACE WATER TANK (ENGINE 809)	1991	20 YEARS	2008	\$17,000	TEMP. PATCHED	GENERAL FUND DIRECT PURCHASE
FIRE SAFETY HOUSE	1995	> 25 YEARS	> 2020	\$60,000	LOW	MASON FF'S ASSOCIATION
EXHAUST VENTILATION SYSTEM (STATION 1)	N/A	> 25 YEARS		\$60,000	MODERATE	GRANT APPLIED FOR 2010
LOFT (STATION 1)	N/A	> 25 YEARS		\$60,000	LOW	GENERAL FUND DIRECT PURCHASE

APPENDIX F – Downtown Development Authority Plan

201 W. Ash St.
Mason, MI 48854-0370

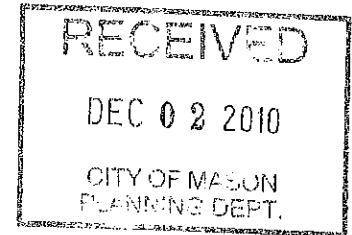


Phone: 517-244-6332
Fax: 517-244-0252
City Hall: 517-676-9155

Downtown Development Authority

December 2, 2010

City of Mason
Attn: Marty Colburn
201 West Ash Street
Mason, MI 48854



Re: DDA Plan Amendment No. 4

Mr. Colburn,

The Downtown Development Authority met on Wednesday, December 1 and approved the fourth amendment of the Downtown Development Plan. The Plan Amendment will be adopted once City Council has approved the document. In addition, Act 197 requires a notice to affected taxing jurisdictions and a public hearing held by City Council.

Please contact me if you have any further questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Marco Broggio".

Marco Broggio
Executive Director

AMENDMENT NO. 4 TO THE
DEVELOPMENT PLAN/TAX INCREMENT FINANCING PLAN
OF THE DOWNTOWN DEVELOPMENT AUTHORITY
OF THE CITY OF MASON

The City of Mason Development Plan/Tax Increment Financing Plan ("Plan"), has been adopted pursuant to the provisions of the Downtown Development Act, 1975 PA 197, as amended ("Act 197"), by the Downtown Development Authority of the City of Mason ("Authority") and approved by the City Council of the City of Mason, Ingham County, Michigan ("City"), pursuant to Ordinance 118 adopted March 16, 1987, and amended by Ordinance 118-A-96, adopted July 1, 1996, Ordinance 118-A-2000, adopted February 19, 2001, and Ordinance 118-A-2003, adopted May 5 2003.

The Plan is hereby further amended by resolution of the Authority duly adopted at a public meeting of the Authority held on the first day of December, 2010, and by City Council approval of this Plan Amendment No. 4 to the Development Plan/tax Increment Financing Plan ("Amendment No. 4") pursuant to Ordinance No. 118-A-2010 duly adopted December ____, 2010 following notice to taxing jurisdictions and public hearing as required by Act 197.

Introduction to Plan Amendment No. 4

1. The stated goal of the Authority is to establish and maintain the vitality of the central business district of the City of Mason through the Downtown Revitalization Plan established by the Development Plan/tax Increment Financing Plan of the Authority adopted by the Mason City Council on March 16, 1987, as amended.
2. The goal of the Plan and the Act are to halt property value deterioration, to rehabilitate property which has become blighted, vacant, or functionally obsolete, and to promote economic growth, business activity, and employment opportunities within the District.
3. On May 14, 2009, the Authority adopted the city of Mason downtown Marketing Analysis conducted by McKenna Associates, Inc. to identify the most appropriate business types and

strategies for attracting new business and retaining existing business. The total cost of this project was \$38,392.07. The Authority also received \$18,875.00 in CDBG funds through MSHDA. The Downtown Mason Market Analysis and Strategic Plan examines 2008 market conditions, uses consumer spending patterns and demographic analysis to identify over and under-served business sectors. This study is a tool for the Authority to target specific business sectors and identify the best spaces and locations for new business that will complement and enhance the existing character of the downtown. The recommendations for the district include the following:

- a) To promote existing businesses, and new eating establishments, especially family style restaurants within downtown.
- b) To become a regional destination by strengthening the City's identity, adding residential units in downtown, improve the appearance of pedestrian connections and most importantly develop an entertainment and dining core.
- c) To improve the connections (visual, vehicular, and pedestrian) and signage directing patrons to appropriate parking.
- d) To develop a parking acquisition management program operated by the Authority.
- e) To add more streetscape amenities, such as benches, lighting, signs and landscaping, and replace existing amenities with uniform materials.
- f) To create a Branding and Community Identity Campaign promoting Downtown Mason as a charming location with historic structures, friendly salespeople, and walkable streets.
- g) To Adopt a Form-Based Overlay District for Downtown Mason.

- h) To implement a maintenance program which includes regular sidewalk cleaning, seasonal planting, street tree maintenance, installation and removal of seasonal decorations (lights, banners, signs, garlands, etc.), and snow removal.

NOW THEREFORE, in consideration of the foregoing, the Development Plan/Tax Increment Financing Plan of the Downtown Development Authority of the City of Mason is hereby amended as follows:

DEVELOPMENT PLAN AMENDMENTS

1. Section 3.1 – A DESCRIPTION OF IMPROVEMENTS TO BE MADE IN DEVELOPMENT AREA is amended by amending subsections 3.1 a), 3.1 c), and 3.1 j) thereof, and by adding new subsections 3.1 k), 3.1 l), 3.1 m), 3.1 n), 3.1 o), and 3.1p) to add additional capital improvements, the Liquor License Assistance Program, the planning and branding of community events, a streetscape maintenance program, and increasing the amp service in the district. Which amended and added subsections shall read as follows:

3.1a) Streets, Sidewalks, and Streetscape Amenities

(1) Sidewalk and street improvements will be made throughout the district to increase accessibility and to promote a pedestrian friendly downtown.

(2) Streetscape Amenities – Existing benches, signs, and other streetscapes throughout the downtown district will be removed and replaced with uniform materials. Benches are proposed to be placed on the corners of Maple Street and Jefferson Street; on Jefferson Street and Ash Street; along Mason Street, State Street, Jefferson Street, Ash Street, and Maple Street.

Informational signs will be placed along Colombia Street, Mason Street, State Street, Maple Street, and Ash Street directing patrons to parking and the shops in downtown and the Antiques District.

3.1c) Landscaping - Shrubs and plants will be placed along Mason Street, State Street, Maple Street, Jefferson Street, and Ash Street to compliment the aesthetic appeal of the streetscapes within the District. Fencing and landscaping around parking lots within the District are also proposed.

3.1j) Rehabilitation of Vacant, Underutilized or Functionally, or Economically Obsolete Properties – Section 7 of Act 197 authorizes the Authority to undertake the renovation, repair, remodeling, rehabilitation, restoration, and reconstruction of existing buildings, multiple family dwellings, or parking lots within the District as necessary or appropriate to the execution of its plan when, in the opinion of the Authority such activities will aid in the economic growth of the downtown district. In furtherance thereof, the Authority may acquire by, purchase, lease, or otherwise, land and property within the District, improve such land and structures and construct, rehabilitate, restore, equip, improve, maintain, and operate any real estate, including multiple family dwellings, and parking lots for the use, in whole or in part, by public or private persons or corporations, and any combination thereof, and may thereafter dispose of or lease such buildings and properties to public or private users to further the District plan. The purpose of this amended Plan shall be to identify such buildings and structures within the District and acquire such properties which are deteriorated, vacant, underutilized, or functionally and economically obsolete, to be rehabilitated and adapted for reuse by public or private persons or corporations.

3.1k) Liquor License Assistance Program – The Authority will establish a program to assist eligible businesses within the District in acquiring a liquor license under Section 521a(1)(b) of the Michigan Liquor Control Code, being MCL 436.1101 et. seq. Funds will be available to businesses that have applied with the DDA and have met the requirements under the proposed guidelines for the Liquor License Assistance Program (LLAP).

3.1l) Community Event -- A community event is proposed to be held in the downtown with an emphasis in creating a new attraction for the community and promoting Mason as a regional destination. The event will host well known local and regional live entertainment and will support the economic development of the businesses within downtown.

3.1m) Brand and Community Identity Campaign -- A plan is proposed to create an attractive and positive image of downtown Mason by working with the City, Chamber of Commerce and downtown merchants in developing a Brand and Community Identity Campaign. The DDA will work with the Chamber of Commerce to update all banners and signage throughout downtown and reinforce the walkable streets and friendly environment downtown Mason has to offer. This campaign will be supported through marketing and advertising efforts and the community event.

3.1n) Maintenance Program -- The Authority will establish a program of general maintenance of sidewalk cleaning, seasonal planting, street tree maintenance, installation and removal of seasonal decorations (lights, banners, signs, garlands, etc.), and snow removal.

3.1o) Capital Improvement -- The Authority will collaborate with the City to fund special projects.

3.1p) Amp Service -- The electrical output on the light posts in the district will be increased to accommodate up to 100 amps.

2. The text of Section 3.3 -- "AN ESTIMATE OF THE TIME REQUIRED FOR COMPLETION" is amended to read as follows:

The Development Plan is estimated to be completed within 30 years from the date of approval of this Development Plan/Tax Increment Financing Plan Amendment No. 4.

The estimated completion year is 2040.

3. Section 4.1 – “THE LOCATION, EXTENT, CHARACTER, AND ESTIMATED COST OF IMPROVEMENTS CONTEMPLATED FOR THE DEVELOPMENT AREA” is amended by amending the Improvements described for Streetscape Amenities by adding improvements consisting of benches, signs, and other streetscapes, Capital Improvements, Amp Service, and by adding additional subcategories captioned Rehabilitation of Deteriorated, Blighted, Vacant, or Functionally or Economically Obsolete Properties, which amended and added subcategories shall read as follows:

Public Improvements

Streetscape Amenities

<u>Item</u>	<u>Est. Qty.</u>	<u>Description</u>	
1.	20	Black Benches	
2.	16	Directional Signs	
3.	800 ft.	Black Aluminum Fencing	
4.	200	Shrubs and Plants	
5.	200 yards	Mulch and Landscaping	
TOTAL ESTIMATED COST			\$50,000

Capital Improvement

Participation on special projects within the district not to exceed \$50,000 every five years. The DDA will provide up to \$50,000 for the improvements at 124 & 140 East Ash Street. Funds will only be available once a development contract has been signed.

TOTAL ESTIMATED COST \$300,000

Amp Service

Increase electrical output in downtown

TOTAL ESTIMATED COST \$50,000

Rehabilitation of Deteriorated, Blighted, or Functionally or Economically Obsolete

Properties

Buildings and structures within the District which are identified as being deteriorated, blighted, vacant, or functionally or economically obsolete.

TOTAL ESTIMATED COST \$300,000

4. Section 9.1 captioned "AN ESTIMATE OF THE COST OF THE DEVELOPMENT" is amended by replacing subparagraphs (a), (b), and (f) to read as follows:
 - a. The public improvements being proposed in the Amended Development Plan have an anticipated development cost of \$700,000.
 - b. Liquor License Assistance Program estimated to cost \$140,000.
 - c. The parking plan is estimated to cost \$100,000.
 - d. The revolving loan/grant program is estimated to cost \$500,000.
 - e. The plan to retain a part-time director estimated to cost \$25,000 per year for a total cost of \$750,000.
 - f. The Brand and Community Identity Campaign is estimated to cost \$10,000 per year over 30 years for a total cost of \$300,000.
 - g. The community event is estimated to cost \$750,000 over the 30 years of this amended Plan.

- i. The plan to establish a grounds maintenance program estimated to cost \$8,000 per year for the total cost of \$240,000 over 30 years.

5. Section 16.0 captioned "OTHER ACTIVITIES WHICH THE AUTHORITY, LOCAL PUBLIC AGENCY, OR GOVERNING BODY DEEMS PERTINENT" is amended to read as follows:

16.2 BRAND AND COMMUNITY IDENTITY CAMPAIGN

A plan is proposed to create an attractive and positive image of downtown Mason by working with the City, Chamber of Commerce and downtown merchants in developing a Brand and Community Identity Campaign. The DDA will work with the Chamber of Commerce to update all banners and signage throughout downtown and reinforce the walkable streets and friendly environment downtown Mason has to offer. This campaign will be supported through marketing and advertising efforts and the community event.

6. Section 21 captioned "A STATEMENT OF THE ESTIMATED IMPACT OF TAX INCREMENT FINANCING ON THE ASSESSED VALUES OF ALL TAXING JURISDICTIONS IN WHICH THE DEVELOPMENT AREA IS LOCATED" is amended to read as follows:

Under a tax increment finance plan, the annual revenue generated in any give year is calculated by multiplying the captured assessed value by the total millage levied by all local taxing jurisdictions.

Commencing in 2010, the Amended Development Plan/TIF Plan provides that the DDA will continue to capture taxes levied against the taxable value of real and personal property in the Downtown District by Ingham County, City of Mason, Lansing Community College, and Capital Area District Library.

Under this fourth Amended Plan, the base taxable value reserved to each taxing jurisdiction in 1987 will remain fixed at all levels established in 1987.

The current taxable value in the DDA District and the amount of taxable value subject to capture is shown on Table 3 Schedules 2A through 2D, which means that only 28.16% of the millage assessed in the DDA is currently subject to capture.

Commencing in 2010, the Amended Development Plan/TIF Plan provides that the taxes levied on the increase in taxable value in the District over the base year of 1987 will continue to be captured to finance the Plan, projects and activities over the next 30 years. The estimated cost of the Amended Development Plan over 30 years, including the cost to complete projects in the original plan and new plan initiatives commencing in 2010 is shown on Table 3 – Schedule 1.

The projections are estimated based on one percent inflation over the next 30 years.

Approved by the Board of the Downtown Development Authority of the City of Mason for submittal to the City Council of the City of Mason by resolution of the Board adopted at a public meeting on December 1, 2010.

Approved by the City Council of the City of Mason on _____, 2010 by adoption of Ordinance No. 118-A-2010 subsequent to a notice to affected taxing jurisdictions and a public hearing held by the Council on _____, 2010.

Martin A. Colburn, City Clerk

Leon Clark, Mayor

CITY OF MASON DOWNTOWN DEVELOPMENT AUTHORITY

COMPARISON OF REVENUE TO EXPENSES

TABLE 3 - SCHEDULE 1

<u>YEAR</u>	<u>PROJECTED REVENUE</u>	<u>PROJECTED EXPENSES</u>	<u>REVENUES OVER (UNDER) EXPENSES</u>
2010	86,424	142,050	(55,626)
2011	86,424	86,424	0
2012	86,424	86,424	0
2013	86,424	86,424	0
2014	86,424	86,424	0
2015	86,424	86,424	0
2016	87,672	87,672	0
2017	89,553	89,553	0
2018	92,080	92,080	0
2019	94,632	94,632	0
2020	97,210	97,210	0
2021	99,813	99,813	0
2022	102,443	102,443	0
2023	105,099	105,099	0
2024	107,781	107,781	0
2025	110,491	110,491	0
2026	113,227	113,227	0
2027	115,991	115,991	0
2028	118,782	118,782	0
2029	121,601	121,601	0
2030	124,449	124,449	0
2031	127,325	127,325	0
2032	130,230	130,230	0
2033	133,163	133,163	0
2034	136,126	136,126	0
2035	139,119	139,119	0
2036	142,142	142,142	0
2037	145,195	145,195	0
2038	148,278	148,278	0
2039	151,392	151,392	0
2040	154,538	154,538	0
Total	3,506,872	3,562,499	(55,626)

CITY OF MASON DOWNTOWN DEVELOPMENT AUTHORITY
 PROJECTED REVENUE AND CAPTURED REVENUE FOR CITY OF MASON
 as of October 14, 2010

TABLE 3 - SCHEDULE 2A

<u>YEAR</u>	<u>PROJECTED TAXABLE VALUE 1% INFLATION</u>	<u>PROJECTED CONSTRUCTION</u>	<u>PROJECTED TAXABLE TOTAL</u>	<u>DDA CAPTURE</u>	<u>MILLAGE</u>	<u>TOTAL</u>	<u>PROJECTED REVENUE CAPTURED TAXES</u>
2010	8,862,501	6,000	8,868,501	3,068,991	13.25	117,508	40,664
2011	8,862,501	6,000	8,868,501	3,068,991	13.25	117,508	40,664
2012	8,862,501	6,000	8,868,501	3,068,991	13.25	117,508	40,664
2013	8,862,501	6,000	8,868,501	3,068,991	13.25	117,508	40,664
2014	8,862,501	6,000	8,868,501	3,068,991	13.25	117,508	40,664
2015	8,862,501	6,000	8,868,501	3,068,991	13.25	117,508	40,664
2016	8,906,814	6,000	8,912,814	3,113,304	13.25	118,095	41,251
2017	8,973,615	6,000	8,979,615	3,180,105	13.25	118,980	42,136
2018	9,063,351	6,000	9,069,351	3,269,841	13.25	120,169	43,325
2019	9,153,984	6,000	9,159,984	3,360,474	13.25	121,370	44,526
2020	9,245,524	6,000	9,251,524	3,452,014	13.25	122,583	45,739
2021	9,337,979	6,000	9,343,979	3,544,469	13.25	123,808	46,964
2022	9,431,359	6,000	9,437,359	3,637,849	13.25	125,045	48,202
2023	9,525,673	6,000	9,531,673	3,732,163	13.25	126,295	49,451
2024	9,620,929	6,000	9,626,929	3,827,419	13.25	127,557	50,713
2025	9,717,139	6,000	9,723,139	3,923,629	13.25	128,832	51,988
2026	9,814,310	6,000	9,820,310	4,020,800	13.25	130,119	53,276
2027	9,912,453	6,000	9,918,453	4,118,943	13.25	131,420	54,576
2028	10,011,578	6,000	10,017,578	4,218,068	13.25	132,733	55,889
2029	10,111,694	6,000	10,117,694	4,318,184	13.25	134,059	57,216
2030	10,212,810	6,000	10,218,810	4,419,300	13.25	135,399	58,556
2031	10,314,939	6,000	10,320,939	4,521,429	13.25	136,752	59,909
2032	10,418,088	6,000	10,424,088	4,624,578	13.25	138,119	61,276
2033	10,522,269	6,000	10,528,269	4,728,759	13.25	139,500	62,656
2034	10,627,492	6,000	10,633,492	4,833,982	13.25	140,894	64,050
2035	10,733,766	6,000	10,739,766	4,940,256	13.25	142,302	65,458
2036	10,841,104	6,000	10,847,104	5,047,594	13.25	143,724	66,881
2037	10,949,515	6,000	10,955,515	5,156,005	13.25	145,161	68,317
2038	11,059,010	6,000	11,065,010	5,265,500	13.25	146,611	69,768
2039	11,169,600	6,000	11,175,600	5,376,090	13.25	148,077	71,233
2040	11,281,296	6,000	11,287,296	5,487,786	13.25	149,557	72,713

CITY OF MASON DOWNTOWN DEVELOPMENT AUTHORITY
 PROJECTED REVENUE AND CAPTURED REVENUE FOR INGHAM COUNTY
 as of October 14, 2010

TABLE 3 - SCHEDULE 2B

<u>YEAR</u>	<u>PROJECTED TAXABLE VALUE 1% INFLATION</u>	<u>PROJECTED CONSTRUCTION</u>	<u>PROJECTED TAXABLE TOTAL</u>	<u>DDA CAPTURE</u>	<u>MILLAGE</u>	<u>TOTAL</u>	<u>PROJECTED REVENUE CAPTURED TAXES</u>
2010	8,862,501	6,000	8,868,501	3,068,991	9.54	84,605	29,278
2011	8,862,501	6,000	8,868,501	3,068,991	9.54	84,605	29,278
2012	8,862,501	6,000	8,868,501	3,068,991	9.54	84,605	29,278
2013	8,862,501	6,000	8,868,501	3,068,991	9.54	84,605	29,278
2014	8,862,501	6,000	8,868,501	3,068,991	9.54	84,605	29,278
2015	8,862,501	6,000	8,868,501	3,068,991	9.54	84,605	29,278
2016	8,906,814	6,000	8,912,814	3,113,304	9.54	85,028	29,701
2017	8,973,615	6,000	8,979,615	3,180,105	9.54	85,666	30,338
2018	9,063,351	6,000	9,069,351	3,269,841	9.54	86,522	31,194
2019	9,153,984	6,000	9,159,984	3,360,474	9.54	87,386	32,059
2020	9,245,524	6,000	9,251,524	3,452,014	9.54	88,260	32,932
2021	9,337,979	6,000	9,343,979	3,544,469	9.54	89,142	33,814
2022	9,431,359	6,000	9,437,359	3,637,849	9.54	90,032	34,705
2023	9,525,673	6,000	9,531,673	3,732,163	9.54	90,932	35,605
2024	9,620,929	6,000	9,626,929	3,827,419	9.54	91,841	36,514
2025	9,717,139	6,000	9,723,139	3,923,629	9.54	92,759	37,431
2026	9,814,310	6,000	9,820,310	4,020,800	9.54	93,686	38,358
2027	9,912,453	6,000	9,918,453	4,118,943	9.54	94,622	39,295
2028	10,011,578	6,000	10,017,578	4,218,068	9.54	95,568	40,240
2029	10,111,694	6,000	10,117,694	4,318,184	9.54	96,523	41,195
2030	10,212,810	6,000	10,218,810	4,419,300	9.54	97,487	42,160
2031	10,314,939	6,000	10,320,939	4,521,429	9.54	98,462	43,134
2032	10,418,088	6,000	10,424,088	4,624,578	9.54	99,446	44,118
2033	10,522,269	6,000	10,528,269	4,728,759	9.54	100,440	45,112
2034	10,627,492	6,000	10,633,492	4,833,982	9.54	101,444	46,116
2035	10,733,766	6,000	10,739,766	4,940,256	9.54	102,457	47,130
2036	10,841,104	6,000	10,847,104	5,047,594	9.54	103,481	48,154
2037	10,949,515	6,000	10,955,515	5,156,005	9.54	104,516	49,188
2038	11,059,010	6,000	11,065,010	5,265,500	9.54	105,560	50,233
2039	11,169,600	6,000	11,175,600	5,376,090	9.54	106,615	51,288
2040	11,281,296	6,000	11,287,296	5,487,786	9.54	107,681	52,353

CITY OF MASON DOWNTOWN DEVELOPMENT AUTHORITY
 PROJECTED REVENUE AND CAPTURED REVENUE FOR LANSING COMMUNITY COLLEGE
 as of October 14, 2010

TABLE 3 - SCHEDULE 2C

<u>YEAR</u>	<u>PROJECTED TAXABLE VALUE</u>	<u>PROJECTED CONSTRUCTION</u>	<u>PROJECTED TOTAL TAXABLE VALUE</u>	<u>DDA CAPTURE</u>	<u>MILLAGE</u>	<u>TOTAL</u>	<u>PROJECTED REVENUE CAPTURED TAXES</u>
2010	8,862,501	6,000	8,868,501	3,068,991	3.81	33,789	11,693
2011	8,862,501	6,000	8,868,501	3,068,991	3.81	33,789	11,693
2012	8,862,501	6,000	8,868,501	3,068,991	3.81	33,789	11,693
2013	8,862,501	6,000	8,868,501	3,068,991	3.81	33,789	11,693
2014	8,862,501	6,000	8,868,501	3,068,991	3.81	33,789	11,693
2015	8,862,501	6,000	8,868,501	3,068,991	3.81	33,789	11,693
2016	8,906,814	6,000	8,912,814	3,113,304	3.81	33,958	11,862
2017	8,973,615	6,000	8,979,615	3,180,105	3.81	34,212	12,116
2018	9,063,351	6,000	9,069,351	3,269,841	3.81	34,554	12,458
2019	9,153,984	6,000	9,159,984	3,360,474	3.81	34,900	12,803
2020	9,245,524	6,000	9,251,524	3,452,014	3.81	35,248	13,152
2021	9,337,979	6,000	9,343,979	3,544,469	3.81	35,601	13,504
2022	9,431,359	6,000	9,437,359	3,637,849	3.81	35,956	13,860
2023	9,525,673	6,000	9,531,673	3,732,163	3.81	36,316	14,220
2024	9,620,929	6,000	9,626,929	3,827,419	3.81	36,679	14,582
2025	9,717,139	6,000	9,723,139	3,923,629	3.81	37,045	14,949
2026	9,814,310	6,000	9,820,310	4,020,800	3.81	37,415	15,319
2027	9,912,453	6,000	9,918,453	4,118,943	3.81	37,789	15,693
2028	10,011,578	6,000	10,017,578	4,218,068	3.81	38,167	16,071
2029	10,111,694	6,000	10,117,694	4,318,184	3.81	38,548	16,452
2030	10,212,810	6,000	10,218,810	4,419,300	3.81	38,934	16,838
2031	10,314,939	6,000	10,320,939	4,521,429	3.81	39,323	17,227
2032	10,418,088	6,000	10,424,088	4,624,578	3.81	39,716	17,620
2033	10,522,269	6,000	10,528,269	4,728,759	3.81	40,113	18,017
2034	10,627,492	6,000	10,633,492	4,833,982	3.81	40,514	18,417
2035	10,733,766	6,000	10,739,766	4,940,256	3.81	40,919	18,822
2036	10,841,104	6,000	10,847,104	5,047,594	3.81	41,327	19,231
2037	10,949,515	6,000	10,955,515	5,156,005	3.81	41,741	19,644
2038	11,059,010	6,000	11,065,010	5,265,500	3.81	42,158	20,062
2039	11,169,500	6,000	11,175,500	5,376,090	3.81	42,579	20,483
2040	11,281,296	6,000	11,287,296	5,487,786	3.81	43,005	20,908

CITY OF MASON DOWNTOWN DEVELOPMENT AUTHORITY
 PROJECTED REVENUE AND CAPTURED REVENUE FOR CAPITAL AREA DISTRICT LIBRARY
 as of October 14, 2010

TABLE 3 - SCHEDULE 2D

<u>YEAR</u>	<u>PROJECTED TAXABLE VALUE 1% INFLATION</u>	<u>PROJECTED CONSTRUCTION</u>	<u>PROJECTED TOTAL TAXABLE VALUE</u>	<u>DDA CAPTURE</u>	<u>MILLAGE</u>	<u>TOTAL</u>	<u>PROJECTED REVENUE CAPTURED TAXES</u>
2010	8,862,501	6,000	8,868,501	3,068,991	1.56	13,835	4,788
2011	8,862,501	6,000	8,868,501	3,068,991	1.56	13,835	4,788
2012	8,862,501	6,000	8,868,501	3,068,991	1.56	13,835	4,788
2013	8,862,501	6,000	8,868,501	3,068,991	1.56	13,835	4,788
2014	8,862,501	6,000	8,868,501	3,068,991	1.56	13,835	4,788
2015	8,862,501	6,000	8,868,501	3,068,991	1.56	13,835	4,788
2016	8,906,814	6,000	8,912,814	3,113,304	1.56	13,904	4,857
2017	8,973,615	6,000	8,979,615	3,180,105	1.56	14,008	4,961
2018	9,063,351	6,000	9,069,351	3,269,841	1.56	14,148	5,101
2019	9,153,984	6,000	9,159,984	3,360,474	1.56	14,290	5,242
2020	9,245,524	6,000	9,251,524	3,452,014	1.56	14,432	5,385
2021	9,337,979	6,000	9,343,979	3,544,469	1.56	14,577	5,529
2022	9,431,359	6,000	9,437,359	3,637,849	1.56	14,722	5,675
2023	9,525,673	6,000	9,531,673	3,732,163	1.56	14,869	5,822
2024	9,620,929	6,000	9,626,929	3,827,419	1.56	15,018	5,971
2025	9,717,139	6,000	9,723,139	3,923,629	1.56	15,168	6,121
2026	9,814,310	6,000	9,820,310	4,020,800	1.56	15,320	6,272
2027	9,912,453	6,000	9,918,453	4,118,943	1.56	15,473	6,426
2028	10,011,578	6,000	10,017,578	4,218,068	1.56	15,627	6,580
2029	10,111,694	6,000	10,117,694	4,318,184	1.56	15,784	6,736
2030	10,212,810	6,000	10,218,810	4,419,300	1.56	15,941	6,894
2031	10,314,939	6,000	10,320,939	4,521,429	1.56	16,101	7,053
2032	10,418,088	6,000	10,424,088	4,624,578	1.56	16,262	7,214
2033	10,522,269	6,000	10,528,269	4,728,759	1.56	16,424	7,377
2034	10,627,492	6,000	10,633,492	4,833,982	1.56	16,588	7,541
2035	10,733,766	6,000	10,739,766	4,940,256	1.56	16,754	7,707
2036	10,841,104	6,000	10,847,104	5,047,594	1.56	16,921	7,874
2037	10,949,515	6,000	10,955,515	5,156,005	1.56	17,091	8,043
2038	11,059,010	6,000	11,065,010	5,265,500	1.56	17,261	8,214
2039	11,169,600	6,000	11,175,600	5,376,090	1.56	17,434	8,387
2040	11,281,296	6,000	11,287,296	5,487,786	1.56	17,608	8,561