VILLAGE OF DECATUR COUNCIL REGULAR MEETING AGENDA

Monday
December 6, 2021

VILLAGE OF DECATUR
REGULAR COUNCIL MEETING
Monday, December 6, 2021 – 7:00PM
Village Hall – 114 N. Phelps Street, Decatur, MI 49045

7:00 PM Council Meeting (Action to be taken by Council on the following agenda items)
Note: Please be courteous and turn cell phones off during the meeting.

1. **CALL TO ORDER**

2. **PLEDGE OF ALLEGIANCE**

3. **ROLL CALL (Excused Absences if Any)**

4. **PUBLIC COMMENT**

5. **APPROVAL OF CONCENT AGENDA ITEMS**

   5A.1 - Approval of the Regular Council Meeting Agenda for December 6, 2021.
   5A.2 - Approval of the Regular Meeting Minutes from November 1, 2021.
   5A.3 - Approval of Accounts Payable and Payroll for week ending November 30, 2021.

6. **COMMUNICATIONS TO THE COUNCIL – PRESENTATIONS & GUEST**

   6A – Mike Chambers, Director, National League of Cities Service Line Warranty Program

7. **UNFINISHED BUSINESS**

   7A –Updates from Ad hoc Committee Members – Review of Ordinance 2019-03 Rental Ordinance
   7B – Updates USDA – Water System Improvements, Wastewater System Improvements.

8. **NEW BUSINESS**

   8A.1 – Approve Marketing Agreement – NLC Service Line Warranty Program
   8A.2 – Adopt Resolution 2021-012 Meeting Schedule for Calendar year 2022
   8A.3 – Approve the recommendations of the Village President for appointments for DDA & PC

9. **DEPARTMENT REPORTS**

   9A.1 – Department of Public Works Report
   9A.2 – Police Department Report
   9A.3 – Fire Department Report
   9A-4 – Village Manager Report

10. **PUBLIC COMMENTS – SECOND OPPORTINUTY**

11. **COUNCIL COMMENTS**

12. **ADJOURNMENT**

PLEASE NOTE

AUDIENCE PARTICIPATION:
In addition to addressing the Council during public hearings and under "Public Comment," members of the audience may address the Council, please limit your comments to three minutes or less per item. Please step up to the Podium and state your name and address.

The proposed process for items listed under agenda items above shall be as follows:

1. Announcement of the agenda item by the President.
2. Verbal report provided by staff.
3. President asks councilmembers if they have any questions for staff to clarify the staff report.
4. Motion is made by a council member and seconded by another council member.
5. President then calls on councilmembers to discuss the motion if councilmembers wish to discuss.
6. President calls for a vote on the item after discussion has occurred.

Village of Decatur
Village Council Regular Meeting Minutes

Monday, November 1, 2021, at 7:00 P.M
Village Hall, 114 N. Phelps Street
Decatur, MI 49045

I. President Elwear called the meeting to order at 7:00 P.M.

II. Roll Call

Clerk/Treasurer, Duncan provided roll call; Trustee Verran (excused), Mead Jr, President Pro Tem Jackson, Benson, President Elwaer, Gunther, and Pelfrey in attendance. Also in attendance Village Manager, Christopher Tapper, Village Clerk/Treasurer, Megan Duncan, Chief of Police Thomas VanDerWoude and Forman, Jimmy Ebeling

III. Public Comments

Donald Hanson, Van Buren County Commissioner, provided a report to the Council of activities throughout the County.

Patricia Muscovalley, 409 S. Williams, was in attendance to provide an update on YMCA project to council.

IV. Approval of Agenda, Meeting Minutes, Accounts Payable

Trustee Gunther made a motion with support from Trustee Mead Jr. to approve the agenda for November 1, 2021, along with approval of meeting minutes from October 4, 2021, and accounts payable in the amount of $177,201.46 motion carried 6-0.

V. Communications to the Council – Presentation & Guest

Carl Druskovich, Chairperson, Decatur-Hamilton Fire Department & Quick Response was in attendance to discuss the purchase of the new Fire Truck.

President Pro Tem Jackson made amotion with support from Trustee Mead Jr., to approve the purchase of the new Fire Truck, Roll Call Vote, Mead Jr, President Pro Tem Jackson, Benson, Gunther, Pelfrey, President Elwear, voting yes, motion carried 6-0.

VI Unfinished Business

Trustee Gunther made a motion to with the support of Trustee Benson to approval of Ad hoc Committee Member-Review of Ordinance 2019-03 Rental Ordinance, motion carried 6-0.

VI. New Business – Adoption of Ordinance 2021-001

Trustee Benson made a motion with the support of President Pro-Tem Jackson **to** adopt Ordinance 2021-001, amending Sections of Ordinance 2019-04 Marihuana Facilities, Roll Call Vote, Mead Jr, President Pro Tem Jackson, Benson, Gunther, Pelfrey, President Elwear, voting yes, motion carried 6-0.

VII. New Business- Adoption of Ordinance 2021-002

Trustee Gunther made a motion with the support of Trustee Mead Jr. to adopt Ordinance 2021-002, amending Planning Commission Composition, Roll Call Vote, Mead Jr, President Pro Tem Jackson, Benson, Gunther, Pelfrey, President Elwear, voting yes, motion carried 6-0.

VIII. Department Reports

Manager Tapper, Chief Police, Thomas VanDerWoude and Forman, Jimmy Ebeling all provided Department Report to the Council. Tapper noted each department report was provided in the agenda packet. A general discussion ensued regarding the department reports.

IX. Council Comments & Additional Public Comments

Mickey Bittner was in attendance and provide a brief update on the Prairie Ronde and George St. Road projects.

President Pro-Tem Jackson made positive comments about the Police Department.

Made note of the DDA meeting for next week.

X. Adjournment

Trustee Gunther made a motion with support from President Pro-Tem Jackson to adjourn the meeting at 7:34 P.M. Minutes submitted by: Christopher Tapper, Village Manager

Village of Decatur
114 N Phelps Street
Decatur, MI 49045

MEMORANDUM

TO: Village Council
FROM: Megan Duncan, Clerk/Treasurer
REVIEWED BY: Christopher Tapper, Village Manager
DATE: December 6, 2021

SUBJECT: Approval of Accounts Payable and Payroll

Action Requested:
It is requested that Village Council approve accounts payable and payroll for the period ending November 30, 2021, in the amount of $189,523.30.

Background:
Attached is the Disbursement Report highlighting the accounts payable and payroll activities for the period of November 1, 2021, through November 30, 2021.

Attachment(s):
Disbursement Report

11/30/2021 CHECK REGISTER FOR VILLAGE OF DECATUR

CHECK DATE FROM 11/01/2021 - 11/30/2021

Check Date	Check	Vendor Name	Amount	Description
Bank GEN GENERAL FUND CHECKING				
11/01/2021	28800	AFLAC ,	89.29	Payroll
11/01/2021	28801	BLUE CARE NETWORK,	8,394.60	Payroll
11/01/2021	28802	DELTA DENTAL,	370.10	Payroll
11/01/2021	EFT839	INTERNAL REVENUE SERVICE,	6,136.73	Payroll
11/01/2021	EFT842	INTERNAL REVENUE SERVICE,	260.84	Payroll
11/01/2021	28804	MISDU,	54.48	Payroll
11/01/2021	EFT840	MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM,	2,592.05	Payroll
11/01/2021	EFT841	STATE OF MICHIGAN,	902.81	Payroll
11/01/2021	EFT843	STATE OF MICHIGAN,	40.15	Payroll
11/02/2021	STUB4169	AVERY, EVELYN M	1,400.00	Payroll
11/02/2021	28809	BENSON, JANICE	108.50	Payroll
11/02/2021	STUB4181	BOITNOTT, PATRICK A	1,279.00	Payroll
11/02/2021	STUB4173	BRIDGES, DEBRA J	345.60	Payroll
11/02/2021	STUB4182	CLENDENIN, KAREN R	21.60	Payroll
11/02/2021	STUB4170	DAHLQUIST, THOMAS L	2,404.94	Payroll
11/02/2021	STUB4180	DRISCOLL, DAVID J	1,559.01	Payroll
11/02/2021	STUB4183	DUNCAN, MEGAN M	1,627.20	Payroll
11/02/2021	STUB4171	EBELING, JAMES S	2,734.00	Payroll
11/02/2021	28805	ELWAER, ALI M	167.00	Payroll
11/02/2021	28807	GUNTHER, KIM M	108.50	Payroll
11/02/2021	STUB4185	JACKSON, CHARLENE K	108.50	Payroll
11/02/2021	STUB4172	MANN, ELESA F	367.20	Payroll
11/02/2021	STUB4176	MANN, JESSEKA L	129.60	Payroll
11/02/2021	28806	MEAD JR, ROBERT H	108.50	Payroll
11/02/2021	28799	MYERS, GORDY J	1,370.61	Payroll
11/02/2021	28810	PELFREY, JESSICA L	108.50	Payroll
11/02/2021	STUB4174	RIGG, THEODORE A	2,160.40	Payroll
11/02/2021	STUB4175	SHROYER, TIMOTHY J	1,561.72	Payroll
11/02/2021	STUB4179	STRICKLIN, TAYLOR C	2,032.10	Payroll
11/02/2021	STUB4184	TAPPER, CHRISTOPHER C	2,525.00	Payroll
11/02/2021	STUB4178	TAYLOR, WYATT E	1,954.80	Payroll
11/02/2021	STUB4177	VANDERWOUDE, THOMAS C	2,554.60	Payroll

11/30/2021 CHECK REGISTER FOR VILLAGE OF DECATUR

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Check Date	Check	Vendor Name	Amount	Description
Bank GEN GENERAL FUND CHECKING				
11/02/2021	28808	VERRAN, MICHAEL D	108.50	Payroll
11/04/2021	28811	MICHIGAN MUNICIPAL LEAGUE	5.90	3rd quarter Municipal Reporting
11/11/2021	28812	AMAZON CAPITAL SERVICES	70.67	PD supplies
11/11/2021	28813	AMAZON CAPITAL SERVICES	59.31	PD supplies
11/11/2021	28814	COOPERS LAW	360.00	Gathering VOD files to transfer to new Attorney
11/11/2021	28815	DAVES CONCRETE PRODUCTS	412.50	Concrete for sidewalks
11/11/2021	28816	DECATUR DO IT CENTER	5.40	PD supplies
11/11/2021	28817	DECATUR LUMBER COMPANY	693.46	Supplies for DPW
11/11/2021	28818	EJ USA, INC	2,490.41	Fire Hydrant - inventory
11/11/2021	28819	FEDERAL CONTRACTING CENTER	600.00	SAM
11/11/2021	28820	FERGUSON #@3386	3,634.79	Meters/Copper Tubing
11/11/2021	28821	H.S. FLEET SERVICES	1,640.54	Installed 2 Docking Systems for Patrol Cars
11/11/2021	28822	H2O TOWERS LLC	4,500.00	Cleaning of Water Tower
11/11/2021	28823	HONOR CU	295.87	Credit card
11/11/2021	28824	HYDROCORP, INC	342.50	Cross Connection Program
11/11/2021	28825	LAWRENCE LAWSON OIL COMPANY	69.44	Gas for PD
11/11/2021	28826	MICHIGAN MUNICIPAL LEAGUE	195.48	Website ads for VM
11/11/2021	28827	DALE MOEN	44.00	Window Cleaning
11/11/2021	28828	PAW PAW LABORATORY	395.00	Water Testing
11/11/2021	28829	POSTMASTER	600.00	Postage for Utility Bills
11/11/2021	28830	PREFERRED PRINTING	53.00	Name Plates for M Duncan
11/11/2021	28831	RC AUTOMOTIVE SUPPLY	142.16	DPW supplies
11/11/2021	28832	REPUBLIC SERVICES	10,809.36	Garbage Service
11/11/2021	28833	SAFEBUILT LLC	825.00	Building Permits
11/11/2021	28834	SIEGFRIED, CRANDALL	1,710.00	CPA Services
11/11/2021	28835	SIRCHIE FINGER PRINT LAB INC	16.91	PD supplies
11/11/2021	28836	TAPPER PROPANE	74.90	Propane for Street Sweeper
11/11/2021	28837	THE CURCIO LAW FIRM	1,382.50	Attorny Services
11/11/2021	28838	THE SAFETY COMPANY LLC DBA MTECH	105.43	Parts for leaf vac DPW
11/11/2021	28839	VAN BUREN COUNTY	1,798.00	Docking Stations for Patrol Cars
11/11/2021	28840	VAN BUREN CO SHERIFF DEPT	80.02	Verizon Aircard For PD
11/11/2021	28841	PEDERSON, DELBERT	120.30	W/S Refund 0001819

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Check Date	Check	Vendor Name	Amount	Description
Bank GEN GENERAL FUND CHECKING				
11/11/2021	28842	WYCKOFF HYBRIDS	47.00	Grass Seed
11/11/2021	28843	DAVE DRISCOLL	150.00	Reimbursement for Boots
11/11/2021	28844	JAMES EBELING	150.00	Reimbursement for Boots
11/11/2021	903(E)	AMERICAN ELECTRIC POWER	3,591.54	Electric
11/11/2021	904(E)	COMCAST CABLE	430.01	Internet/Phone for VH, PD, and DPW
11/11/2021	905(E)	CONSUMERS ENERGY	118.00	Heating
11/11/2021	906(E)	UNUM	720.41	Life and Disability Insurance
11/11/2021	907(E)	VERIZON WIRELESS	205.31	Cell Phone
11/15/2021	28846	AFLAC ,	89.29	Payroll
11/15/2021	28847	BLUE CARE NETWORK,	758.31	Payroll
11/15/2021	28848	DELTA DENTAL,	33.40	Payroll
11/15/2021	28851	FOPLC,	140.00	Payroll
11/15/2021	EFT844	INTERNAL REVENUE SERVICE,	6,003.95	Payroll
11/15/2021	28850	MISDU,	54.48	Payroll
11/15/2021	EFT845	MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM,	2,667.35	Payroll
11/15/2021	EFT846	STATE OF MICHIGAN,	874.80	Payroll
11/16/2021	STUB4186	AVERY, EVELYN M	1,400.00	Payroll
11/16/2021	STUB4197	BOITNOTT, PATRICK A	1,254.00	Payroll
11/16/2021	STUB4190	BRIDGES, DEBRA J	388.80	Payroll
11/16/2021	STUB4198	CLENDENIN, KAREN R	86.40	Payroll
11/16/2021	STUB4187	DAHLQUIST, THOMAS L	2,515.85	Payroll
11/16/2021	STUB4196	DRISCOLL, DAVID J	1,284.01	Payroll
11/16/2021	STUB4199	DUNCAN, MEGAN M	1,560.00	Payroll
11/16/2021	STUB4188	EBELING, JAMES S	2,433.00	Payroll
11/16/2021	STUB4189	MANN, ELESA F	216.00	Payroll
11/16/2021	28845	MYERS, GORDY J	1,285.62	Payroll
11/16/2021	STUB4191	RIGG, THEODORE A	2,489.28	Payroll
11/16/2021	STUB4192	SHROYER, TIMOTHY J	1,514.16	Payroll
11/16/2021	STUB4195	STRICKLIN, TAYLOR C	1,839.56	Payroll
11/16/2021	STUB4200	TAPPER, CHRISTOPHER C	2,500.00	Payroll
11/16/2021	STUB4194	TAYLOR, WYATT E	1,852.50	Payroll
11/16/2021	STUB4193	VANDERWOUDE, THOMAS C	2,529.60	Payroll

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Check Date	Check	Vendor Name	Amount	Description
Bank GEN GENERAL FUND CHECKING				
11/29/2021	908(E)	UNUM	494.06	Life and Disability Insurance
11/30/2021	28855	THOMAS DAHLQUIST	5.10	Postage reimbursement
11/30/2021	28856	DECATUR ONE STOP	746.99	Gas for PD
11/30/2021	28857	DECATUR REPUBLICAN	219.00	Newspaper ads
11/30/2021	28858	HAHN ENTERPRISE	2,350.00	DDA Building repair (Insurance money received)
11/30/2021	28859	HS FLEET SERVICES, LLC	1,295.59	Vehicle Maintenance
11/30/2021	28860	LANSING UNIFORM COMPANY	218.95	Uniform supplies for PD
11/30/2021	28861	MEGAN DUNCAN	30.00	Reimbursement Register of Deeds
11/30/2021	28862	MICHIGAN MUNICIPAL TREASURERS ASSOC	149.00	Winter worshop for Treasurer
11/30/2021	28863	MISS DIG SYSTEM	1,726.27	2022 Membership Services
11/30/2021	28864	MICHIGAN MUNICIPAL LEAGUE	400.00	CDL Membership
11/30/2021	28865	PARAGON LABORATORIES	342.00	Water Testing
11/30/2021	28866	PARRETT COMPANY	257.42	Printing Services
11/30/2021	28867	PEERLESS-MIDWEST	1,099.50	Water Tower Service
11/30/2021	28868	PRI MAR PETROLEUM INC	3,371.16	Gasoline for DPW
11/30/2021	28869	REVIZE	5,500.00	Website Services
11/30/2021	28870	WEST MICHIGAN CRIMINAL JUSTICE	121.49	Training for PD
11/30/2021	28871	WIGHTMAN & ASSOCIATES	13,448.50	George Street Improvements Project
11/30/2021	909(E)	INVOICE CLOUD	145.10	Online Payment Services
11/30/2021	28872	HATFIELD, PATRICIA	13.93	W/S Refund
11/30/2021	28873	GILLAM, BRANDON	323.48	W/S Refund
11/30/2021	28853	AFLAC ,	89.29	Payroll
11/30/2021	DD15	AVERY, EVELYN M	1,400.00	Payroll
11/30/2021	DD11	BOITNOTT, PATRICK A	1,224.00	Payroll
11/30/2021	DD8	BRIDGES, DEBRA J	151.20	Payroll
11/30/2021	DD3	DAHLQUIST, THOMAS L	2,914.20	Payroll
11/30/2021	DD12	DRISCOLL, DAVID J	1,284.00	Payroll
11/30/2021	DD2	DUNCAN, MEGAN M	1,560.00	Payroll
11/30/2021	DD13	EBELING, JAMES S	2,655.00	Payroll
11/30/2021	EFT847	INTERNAL REVENUE SERVICE,	7,056.91	Payroll
11/30/2021	DD9	MANN, ELESA F	280.80	Payroll
11/30/2021	DD10	MANN, JESSEKA L	108.00	Payroll

11/30/2021 CHECK REGISTER FOR VILLAGE OF DECATUR

CHECK DATE FROM 11/01/2021 - 11/30/2021

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Bank GEN GENERAL FUND CHECKING				
11/30/2021	28854	MISDU,	54.48	Payroll
11/30/2021	28852	MYERS, GORDY J	1,315.61	Payroll
11/30/2021	DD4	RIGG, THEODORE A	3,066.61	Payroll
11/30/2021	DD14	SHROYER, TIMOTHY J	1,401.60	Payroll
11/30/2021	EFT848	STATE OF MICHIGAN,	1,055.31	Payroll
11/30/2021	DD5	STRICKLIN, TAYLOR C	2,352.92	Payroll
11/30/2021	DD1	TAPPER, CHRISTOPHER C	2,500.00	Payroll
11/30/2021	DD6	TAYLOR, WYATT E	3,864.32	Payroll
11/30/2021	DD7	VANDERWOUDE, THOMAS C	2,529.60	Payroll
			189,523.30	

Village of Decatur
114 N Phelps Street
Decatur, MI 49045

MEMORANDUM

TO:	Village Council
FROM:	Christopher Tapper, Village Manager
REVIEWED BY:	N/A
DATE:	December 6, 2021
SUBJECT:	Presentation & Guest – Mike Chambers, Director, National League of Cities Service Line Warrant Program

Action Requested:
It is requested the Village Council receive a presentation from Mike Chambers, Director, National League of Cities Service Line Warrant Program.

Background:
As part of my continued efforts to educate and enlighten the Council of the additional resources for residents regarding water & sewer responsibilities along with offering a solution to homeowners. Part of the enroll in the optional protection plan would cover residents, should incidents occur where a repair or replacement to water and or sewer lines.

Included with this presentation will be a list of current Michigan municipal Partners who already participate in the program.

Savings Solutions for Aging Infrastructure

NLC Service Line Warranty Program

Administered by Utility Service Partners, Inc.
a HomeServe Company

NLC Service Line Warranty Program

Mike Chambers
mike.chambers@homeserveusa.com
724-678-6075

NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

NLC SAVINGS AND SOLUTIONS PROGRAMS

The NLC Service Line Warranty Program is one of seven Savings & Solutions Programs that are offered through corporate partnerships

NLC launched its partnership with Utility Service Partners in 2010, and now there are 1,000+ participating municipalities and utilities

NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

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Utility Service Partners, Inc.
a HomeServe Company

NLC Service Line Warranty Program

UTILITY SERVICE PARTNERS

EXPERIENCE

REPUTATION

PARTNERSHIP

2018 WINNER

BBB Torch Awards for Ethics℠

Better Business Bureau of Western PA

"This award underscores one of the primary reasons the National League of Cities selected USP as a partner and extended our agreement for another five years. The organization's exemplary record of customer service and transparency is what has driven the success of this partnership over the years."

— Clarence Anthony, Executive Director
National League of Cities

NLC NATIONAL LEAGUE OF CITIES

CITIES STRONG TOGETHER

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Utility Service Partners, Inc.

a HomeServe Company

NLC Service Line Warranty Program

AGING INFRASTRUCTURE IS PROBLEMATIC FOR CITIES & HOMEOWNERS

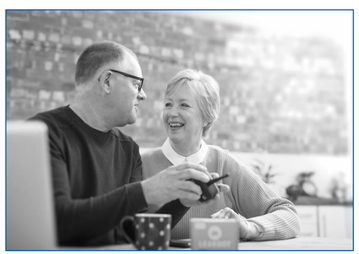
- Lateral lines are subjected to the same elements as public lines -ground shifting, fluctuating temperatures, tree root penetration, corrosion and more
- Failed lines waste thousands of gallons of water and present an environmental hazard
- Common homeowner misconceptions the municipality is responsible for maintenance of the water and sewer lines on their property or repairs are covered by their homeowner's policy

FINANCIAL SHOCK – AN UNPLANNED EXPENSE

78% of homeowners surveyed believe the utility provider should educate them on repairs and preventative measures

59% of homeowners surveyed have had a home repair emergency in the past year

40% 4 out of 10 Americans can't afford a $400 emergency expense (and would have to sell something or take out a loan to cover it).*



NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

2017 IPSOS Survey of HomeServe policyholders and non-policyholders
**Federal Reserve Report on the Economic Well-Being of U.S. Households in 2017*

Administered by
Utility Service Partners, Inc.
a HomeServe Company

NLC Service Line Warranty Program

NLC SERVICE LINE WARRANTY PROGRAM BENEFITS

- Only Service Line Program Endorsed by the National League of Cities
- No cost for the Municipality to participate
- Ongoing Revenue Stream for the Municipality
- Educates homeowners about their lateral line responsibilities
- Free Public Awareness Campaign
- Peace of Mind - with one toll-free call a reputable plumber is dispatched
- All repairs performed to code by local licensed contractors
- Contractors undergo rigorous vetting process to ensure quality service

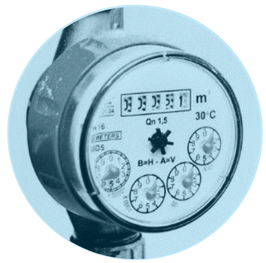
NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

Administered by
Utility Service Partners, Inc.
a HomeServe Company

NLC Service Line Warranty Program

NLC SERVICE LINE WARRANTY PROGRAM AND WHAT IT COVERS

SEWER/SEPTIC LATERAL COVERAGE



WATER/WELL LINE COVERAGE

Homeowner repair protection for leaking, clogged or broken water and sewer lines from the point of utility connection to the home exterior

Coverage includes:

- Educating homeowners about their service line responsibilities
- Up to $8,500 coverage per repair incident
- Includes coverage for thawing of frozen external water lines
- No annual or lifetime limits, deductibles, service fees, forms, or paperwork
- 24/7/365 availability
- Repairs made only by licensed, local contractors
- Affordable rates and multiple payment methods

NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

Administered by Utility Service Partners, Inc.
a HomeServe Company

NLC Service Line Warranty Program

NLC SERVICE LINE WARRANTY PROGRAM AND WHAT IT COVERS

INTERIOR PLUMBING AND DRAINAGE

Homeowner repair protection for in-home water supply lines and in-home sewer lines and all drain lines connected to the main sewer stack that are broken or leaking inside the home after the point of entry

Coverage includes:

- Up to $3,000 coverage per repair incident.
- Repair of clogged toilets
- Includes coverage for broken or leaking water, sewer, or drain lines under the slab or basement floor
- No annual or lifetime limits, deductibles, service fees, forms, or paperwork
- 24/7/365 availability
- Repairs made only by licensed, local contractors
- Affordable rates and multiple payment methods

NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

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a HomeServe Company

NLC Service Line Warranty Program

MARKETING APPROACH

- No Public Funds are used in marketing, distribution, or administration of the program.
- Only market by direct mail, no telemarketing
- Would never mail without your review and approval of marketing material before each and every campaign
- Limited mailing campaigns per year
- Consumer friendly marketing
- Always voluntary for the homeowner

- Consumers can enroll one of three ways:
  - Calling into our toll free number that is provided on the mailing;
  - Returning the bottom of the letter to us in the self addressed stamped envelope provided
  - Visiting our consumer website www.slwofa.com at any time

NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

Administered by
Utility Service Partners, Inc.
a HomeServe Company

NLC Service Line Warranty Program

SOLUTIONS FOR MUNICIPALITIES AND THEIR HOMEOWNERS

- More than 1,000 municipal and utility partnerships
- Currently serving over 4.5 million customers
- Saved customers over $520 million in repair costs over the past 3 years
- Consistent customer satisfaction rating of 4.8 out of 5
- 9 of every 10 customers surveyed have recommended the program to friends, family and neighbors

Revenue share and other benefits to city

- Non-tax revenue can be estimated at $0.50 per product, per month

- Cities utilize funds for important initiatives including:
  - ✓ Infrastructure improvements
  - ✓ Low-income assistance/community charities
  - ✓ Partially offset rate increases

- Saves money for residents that can be re-invested in the local economy

- Reduces calls to the city

- Timely repairs reduce water loss from line breaks

NLC Service Line Warranty Program by HomeServe

CURRENT MICHIGAN PARTNERS

City of Lathrup Village
City of Roseville
City of Clawson
City of Highland Park
City of Center Line
City of Royal Oak
City of Berkley
City of Pleasant Ridge
City of Ferndale
City of Howell
City of Perry
City of Hazel Park
Village of Beverly Hills
City of St Clair Shores
City of Huntington Woods
City of Saline
Village of Paw Paw
City of Big Rapids
City of Hamtramck
Village of Kalkaska
Village of St Charles
City of Bangor
City of Burton
City of Keego Harbor
City of Bangor

QUESTIONS?

For more information contact:

Mike Chambers
mike.chambers@homeserveusa.com
724-678-6075 (office)

Village of Decatur
114 N Phelps Street
Decatur, MI 49045

MEMORANDUM

TO: Village Council
FROM: Christopher Tapper, Village Manager
REVIEWED BY: N/A
DATE: December 6, 2021

SUBJECT: Update from Ad hoc Committee – Ordinance 2019-03 Rental Ordinance

Action Requested:
It is requested the Village Council receive an update from the Ad hoc Committee – Ordinance 2019-03 Rental Ordinance

Background:
The Ad hoc Committee met November 16, 2021. All committee members were in attendance. Items discussed included; text amendments, discussion regarding fee schedule, inspection schedules, vacant structures. The Committee also reviewed rental inspections rates and schedules from surrounding communities. Suggestions of note, changing the fee schedule to $100.00 per unit for a class (1) one structure containing up to (2) two rental housing units.

The Committee is set to meet again, Monday, December 6, 2021, at 2:00 PM.

Village of Decatur
114 N Phelps Street
Decatur, MI 49045

MEMORANDUM

TO:	Village Council
FROM:	Christopher Tapper, Village Manager
REVIEWED BY:	N/A
DATE:	December 6, 2021
SUBJECT:	Updates USDA – Water System Improvements, Wastewater System Improvements

Action Requested:
It is requested the Village Council receive an update regarding the Village of Decatur, USDA Water System and Wastewater System Improvements.

Background:
At the September 2020 Village Council meeting, the Council approved the proposal from Wightman & Associates to begin work on the application process for funding through the USDA. Since that time the Village has updated, ordinances and rate structures to proceed with the application approval process. The following attachments are provided to Council to reflect the work that has been completed in the application process.

The primary need to be addressed by the projects regarding the Village drinking water and wastewater systems are to replace the aging and undersized water mains. Discussion with Village staff and field evaluation has helped to identify a prosed scope of work. By addressing these needs the Village will continue to safeguard public health as well as improve system capabilities and reliability. The following objections of this are as follows:
* Analyze the exiting drinking water distribution system
* Recommend improvement to increase system safety, sustainability, reliability and capacity
* Develop a potential rate structure to finance the improvements.
* Recommend an alternative for improvement to be included in the appropriate funding apps.

Attachments:
Draft – 2021-10.25 Drink Water (PER)
Draft – 2021-10.25 Wastewater (PER)
Draft – 2021-10.25 Environmental Review

VILLAGE OF DECATUR, MICHIGAN

WATER SYSTEM IMPROVEMENTS PROJECT

PRELIMINARY ENGINEERING REPORT

TO BE FUNDED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE - RURAL DEVELOPMENT

OCTOBER 2021

DRAFT

WIGHTMAN

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APPENDIX

A Planning Area Maps
B Well and Pump Inspection Reports
C Elevated Storage Inspection Reports
D PER Summary Tables
E Rate Analysis
F Detailed Cost Estimates
G 2017 Capital Improvements Plan List

I. Purpose And Scope

Village of Decatur (Village) is requesting assistance in financing Village-wide improvements from the United States Department of Agriculture, Rural Development, Rural Utilities Service Program (USDA). The scope of the proposed project includes improvements to the Village drinking water system and wastewater system. This preliminary engineering report will address the drinking water system improvements.

The primary need to be addressed by the Project regarding the Village drinking water system is the replacement of aging and undersized water main. Discussion with Village staff and field evaluations has helped to identify a proposed scope of work. By addressing these needs the Village will continue to safeguard public health as well as improve system capabilities and reliability. The Village has authorized the preparation of applications to USDA for funding of this project.

The primary objectives of this report are listed below:

- Analyze the existing drinking water distribution system.
- Recommend improvements to increase system safety, sustainability, reliability, and capacity.
- Develop a potential rate structure to finance the improvements.
- Recommend an alternative for improvements to be included in the appropriate funding applications.

This preliminary engineering report analyzes various alternatives based on possible construction methods and materials. The proposed rates necessary to pay for the operation, maintenance, replacement, and debt retirement costs were calculated assuming a 100% USDA Rural Development loan utilizing a 1.750% interest rate for a 40-year term.

II. Project Planning

A. Location

The Village is located at the west edge of Decatur Township in the south-central portion of Van Buren County in southwestern Michigan. The area is served by State Highway, M-51, County Road 352, S. Williams Street, and an AMTRAK Railway.

The water system improvements consist of water main replacements along seven roadway corridors within a single neighborhood in the northeastern portion of the Village. The project also includes service line replacements at existing services. Since the water services in this area are suspected to be lead services, they will be replaced from the main into each building. Water service replacement to be funded through USDA-RD will include only service lines within publicly owned right-of-way; no work funded through USDA will be completed on private property. Service lines installed on the private side of the right-of-way line will be paid for by the Village and accounted for separately between in right-of-way segments and out of right-of-way segments. All work will also be done in line with existing piping and within the existing right-of-way. The Village and surrounding area are shown on the water system map included in Appendix A of this report.

B. Environmental Resources Present

The primary environmental resource present is Lake of the Woods which is located immediately west of the Village. Also present is Mud Lake which lies south of the Village and receives the Village's wastewater lagoon discharge. Some wetland areas can be found adjacent to each lake. The proposed project will not have any deleterious effects on wetlands, floodplains, or surface water resources.

The Village has five public parks which jointly provide playground equipment, Lake of the Woods access, sport facilities, a skate park, pavilions, picnic tables, and benches. These parks are not within the proposed project area.

Prime farmland and forestlands will not be impacted by the proposed project, nor will endangered species or critical habitat, as the areas where the improvements are being proposed have been developed for decades. There are no historic sites located within the project area.

Refer to the Environmental Report for additional information concerning environmental resources.

C. Right of Way

All of the proposed work will be located in existing Village road rights-of-way, Village-owned land, or existing public utility easements. If any easements are found to be required, property owners will be engaged and an appropriate easement process will be followed.

D. Population Trends

The following table lists the population growth experienced in the Village and Van Buren County since 1960, along with estimated growth to the year 2040, which will serve as the basis for the 20-year design year.

Study Area Population Growth (1960 to 2040)

	Village of Decatur		Van Buren County	
Year	*Population*	*% Change*	*Population*	*% Change*
1960	1,827	-	48,395	-
1970	1,764	-3.45%	56,173	16.07%
1980	1,915	8.56%	66,814	18.94%
1990	1,760	-8.09%	70,060	4.86%
2000	1,858	5.57%	76,263	8.85%
2010	1,819	-2.10%	76,258	-0.01%
Average 10 Year Growth Rate:		0.10%		9.74%
Selected 10 Year Growth Rate:		0%		0%
2030	1,819	0%	76,258	0%
2040	1,819	0%	76,258	0%

Using the above population data, the selected 10-year average growth rate for this report is 0%. The assumption of no growth within the service area should provide for conservative financial projections. The proposed improvements are not substantially affected by total system demand/future growth.

E. Community Engagement

The Village officials and personnel have discussed the need for water main and water service line replacement in several Public Village Council meetings and approved submission of a USDA funding application. Additional public meetings will be held as necessary by the Village Council.

III. Existing Facilities

A. Location Map

The existing Village water system, including the proposed water system improvements, is shown on the water system map included in Appendix A.

B. History

The Village is currently served by a municipal drinking water system. The system consists of three water supply wells, one elevated storage tank, and approximately 17.5 miles of 4-inch, 6-inch, 8-inch, 12-inch, and 16-inch distribution piping. The wells can supply a total of 1,750 gallons per minute (gpm) of water with a firm capacity of 750 gpm. The elevated storage tank helps maintain a steady pressure in the distribution system of 54 to 60 pounds per square inch (psi) (as measured at the base of the tank), while providing a total of 200,000 gallons of storage to meet peak and fire demands. The system currently serves 724 single unit customers and 49 multiple unit customers (condominiums, apartment buildings, commercial/industrial properties, and schools), providing an average day demand of 186,650 gallons per day (gpd) and a peak day demand of 251,800 gpd in 2019. The water system is owned and operated by the Village.

C. Condition of Existing Facilities

1. Water Supply

The Village currently has three wells. Well No. 2 is located along School Street southeast of the Village water towner, Wells No. 3 and 4 are in separate well houses approximately 250' north of County Road 352 and 750' east of Harrison Street. All pumps have been recently overhauled and are in good condition. The following table summarizes the existing wells.

Summary of Existing Wells

Description	Well No. 2	Well No. 3	Well No. 4
Year Constructed	1930	1977	1979
Type	Tubular	Tubular	Tubular
Diameter	10"	12"	12"
Depth	116'	188'	192'
Year of Last Well Cleaning	2016	2013	1996
Year of Last Pump Overhaul	2012	2013	2016
Original Test Rate	325 GPM	1,000 GPM	1,000 GPM
Pump Rated Capacity	250 GPM	500 GPM	1,000 GPM
Pump Rated TDH	185'	210'	210'
Motor Size	20 Hp	40 Hp	75 Hp
Electrical	3 Ø, 220/440 V	3 Ø 460 V	3 Ø 230/460 V
Current Pumping Rate	255 GPM	488 GPM	969 GPM
Current TDH	174'	197'	265'
Backup Power	Portable Generator Hookup	Automatic Standby Generator (Shared)	Automatic Standby Generator (Shared)

Standby power is supplied at Well No. 2 via emergency portable generator when required. Wells 3 and 4 receive emergency power from a single 100KW automatic generator.

The firm pumping capacity of a water system is defined as the total capacity with the largest well out of service. The current firm pump capacity of the Village water supply system is the capacity of Well No. 2 plus Well No. 3, and is currently about 750 GPM. The most recent well and pump inspection reports are contained in Appendix B.

Generally, the water quality in the Village is acceptable and does not surpass any of the State of Michigan's maximum contaminant levels or action levels. The Village has discussed the installation of an iron filtration plant in order to address nuisance hardness and improve water quality above and beyond the State's requirements. Ultimately, the Village has chosen not to peruse an iron filtration plant at this time.

The Village completed their Wellhead Protection Plan (WPP) in 2015 and adopted ordinances to protect their groundwater within the wellhead delineations. The Village should continue to update this plan as needed.

2. Distribution System

The water distribution system for the Village consists of 16", 12", 8", 6", and 4" water main, with sections of 2" main. Many of the pipes in the system are of unknown material, although it is believed to be cast iron. Pipes installed after the mid 1970's are ductile iron material. The total length of the system is approximately 92,600 feet (17.5 miles).

The system is in fair to good condition, however, because of a lack of historical documentation, the age and material of some mains is unknown. Approximately 30% of the distribution system is undersized 4" main. The Village has been slowly replacing these sections based on need, estimated age, and availability of funds.

The static pressures in the system range from 50 to 65 psi as represented in the most recent hydraulic model, which is within the generally accepted range of 40 to 70 psi. The system provides an average day demand of 186,650 gpd and a peak day demand of 251,800 gpd (for 2019). The total water produced for the year 2019 was 68.13 million gallons and the total water billed was 46.51 million gallons.

3. Customer Service Lines

The Village has a total of 739 single unit customers and 49 multiple-unit customers, however there are 726 water service lines. The difference between number of customers and number of service lines can be explained by the use of both potable use and sprinkling meters on a single service or service lines which serve multiple customers in one building .

The proposed project area contains 65 service lines which are suspected to be in violation of the State's Lead and Copper Rule. All services impacted by main replacements will be replaced in their entirety. Replacements will be split into two parts, 1) in right-of-way portions which will be included in the funding application to USDA and 2) out of right-of-way portions which will be funded independently. No USDA funding will be utilized for work outside of the right of way.

4. Storage Facilities

Water storage for the Village consists of a 200,000-gallon spheroidal elevated tank located on the corner of Eli Street and School Street. The tank, constructed by Universal Tank in 1979, has a height to low water line of 110 feet above ground with an operating range of 30 feet or 12.4 psi. The current average tank operating level is maintained at 28 feet of water for daily and fire flows.

A tank inspection conducted by Dixon Engineering, Inc. in September 2020 indicated the tank was in good overall condition. The inspection concluded with six recommendations for immediate repairs due to noncompliance and nine recommendations for repairs to be completed at the next tank painting. The tank was recommended for repainting within 4 years of the inspection. See the full report in Appendix C for a list of the recommendations.

D. Financial Status of Existing Facilities

The Village water system does not currently have any existing debts and maintains a fund balance to cover unforeseen expenses or repairs and for cash funded capital replacements.

The Village currently bills all customers monthly on a Readiness to Serve fee plus a commodity charge. Following is the current rate schedule for the Village drinking water system. The rate structure is based on water meter size and the number of gallons metered in each month. In addition to the Readiness to Serve fee, all customers are also charged a commodity charge based on the amount of water used. The rate for this is $2.12 per 1,000 gallons. The Village has recently equalized rates for customers both in and out of the Village.

Drinking Water Readiness to Serve Fee by Meter Size

Meter Size	Rate Factor	Readiness to Serve Charge
5/8” and 3/4”	1.00	$16.00
1”	1.78	$28.48
1 ¼”	2.78	$44.48
1 ½”	4.00	$64.00
2”	7.11	$113.76
3”	16.00	$256.00
4”	28.44	$455.04
6”	64.00	$1,024.00
8”	113.78	$1,820.48
10”	177.78	$2,844.48
12”	256.00	$4,096.00

IV. Need For Project

A. Health, Sanitation and Security

The primary need to be addressed by the proposed project is the replacement of undersized water main which has reached the end of its useful life.

The undersized water main currently in service is 4-inch diameter and will be replaced with 8-inch water main. This upsizing will increase available fire flows and bring more of the Village system into compliance with current standards. Replacement of the aging mains will also improve system reliability and increase the level of service to area customers by reducing the likelihood of main brakes, valve failures, and associated water loss.

B. Aging Infrastructure

The age of most of the existing water main is unknown because historical records were not well documented. However, the mains are likely at least 55 years old as they are shown as existing on historical plans of the wastewater system from 1966. Due to the suspected age of the water main, water services are likely constructed of materials which no longer meet current regulations.

C. Reasonable Growth

As shown in Section II. D., the population within the planning areas is assumed to remain substantially the same throughout the planning period.

V. Alternatives Considered

There are three alternatives analyzed in this report. They include “No Action”, “Replacement with Plastic Pipe by Directional Drill” and, “Replacement with Ductile Iron Pipe by Open Cut”. The following sections describe these alternatives.

A. No Action

1. Description

The No Action alternative would mean that no action would be taken to address the undersized and aging water mains. The existing water distribution system would continue to function at a reduced capacity without any improvements.

2. Environmental Impacts

Because nothing would be constructed, there would be no immediate adverse environmental impacts. The existing mains would eventually fail and cause significant water loss, and would almost certainly have some type of environmental impact.

3. Potential Construction Problems

There would be no construction problems directly related to the No Action alternative. However, the existing water mains will eventually break, requiring emergency repairs and disruption to traffic and nearby residents and businesses.

4. Sustainability Considerations

The existing mains will eventually fail and cause significant water loss. Large main breaks, long term increases in pumping costs for small leaks that are not immediately discovered, and increased maintenance required to correct existing and future problems would require more energy, manpower and cost to the system if the No Action alternative is selected.

5. Cost Estimates

There would be no direct costs associated with this alternative. The costs for ongoing maintenance of the existing mains would continue to rise as would energy costs for pumping. Additionally, emergency repairs in the event of water main failures would be more expensive because they cannot be competitively bid.

B. Replacement with PVC Pipe by Directional Drill

1. Description

Under this alternative, the mains shown in the proposed project map would be replaced with poly-vinyl chloride (PVC) piping. This material of construction would allow for easier installation due to its relatively low weight. Due to the ease of handling as well as typically low material cost, PVC piping is generally more cost effective when compared to ductile iron pipe. PVC pipe is less robust and more vulnerable to damage from sunlight than ductile iron pipe.

The installation method proposed for this alternative is directional drilling. This less-invasive construction method would install the required mains without trenching through existing roadways, driveways, and green spaces. This process is typically utilized when disrupting surface improvements is costly or impossible. The proposed water main alignment for this project is located along residential roads and crossing residential drives. The surface impacts associated with a typical open trench installation, which would be avoided by directional drilling, would be minimal. The existing road surface is significantly deteriorated. To capitalize on a project economy of scale, the Village would like to address the aged pavement condition in conjunction with water main replacements.

Other improvements which are included in both this alternative and Alternative C are water service replacements up to the right-of-way line/shutoff. The remaining portions of water services outside of the right-of-way will be replaced at the same time but as part of a separate contract. The installation of water services will require excavating to tap the water main, which further detracts from the typical benefits of directional drilling.

2. Design Criteria

Water main sizing will be accomplished utilizing a calibrated water system model. Standards for DR 14 PVC piping material, installation, and testing will be in accordance with AWWA C900. All PVC pipe will meet NSF standards 61 and 41. Tapping saddles and hardware would be utilized for all service connections.

All required EGLE and local permits will be obtained and maintained through construction.

3. Map

Refer to the map in Appendix A for water main replacement locations. These locations will be the same for both Alternatives B and C.

4. Environmental Impacts

There would be short-term environmental impacts during construction. Primary impacts would include excavation at drilling and receiving locations as well as at each service line connection. All of these locations would be within existing right-of-way and generally along the existing water main alignment.

Ultimately, improvements to system reliability and the avoidance of main brakes will result in lower environmental impacts when compared to Alternative A.

Excavation, grading, paving, dewatering and restoration activities will be required during construction. All of these activities will be appropriately permitted and environmental impacts, if any, will be mitigated.

5. Land Requirements

This alternative will be located within existing Village right-of-way. The only exceptions to this will be service line replacements outside of the right-of-way. These exceptions will be performed under a separate contract during the same time period.

6. Potential Construction Problems

No significant construction problems would be expected for this alternative. Traffic disruptions will result from utility construction within the roadway, but they are minimal and on low traffic volume roads.

7. Sustainability Considerations

In comparison to the existing system, this alternative will reduce energy consumption due to improved hydraulics and therefore reduced pumping requirements. This alternative will also reduce the risk of future breaks and eliminate existing minor leaks within the project area, reducing overall water demands.

8. Cost Estimates

This alternative will require the replacement of 6,800 ft of 4-inch water main with 8-inch water main as well as a total of 65 service lines. The estimated construction cost for the project is $1,975,015. A detailed construction estimate is provided below. Engineering design, funding administration, and construction engineering and administration are not included in the estimated construction cost, but are roughly about 20 percent of the construction cost. Operation and maintenance costs are not expected to change with these improvements.

Project Components	***Estimated Construction Cost***
Cedar St. Water Main from Pine St. to Phelps St.	$366,215
Austin Blvd. Water Main from Douglas Dr. to Kinney Rd.	245,875
Memory Ln Water Main from Cedar St. to Douglas Dr.	155,375
Kinney Rd. Water Main from Austin Blvd. to Pine St.	161,015
Lee Ave. Water Main from Austin Blvd. to Pine St.	174,055
Douglas Dr. Water Main from Austin Blvd. to Pine St.	165,355
Pine St. Water Main from Lake Dr. to N. Williams St.	527,575
Total Est. Construction Costs:	$1,795,465
Construction Contingency (10% +/-):	179,550
Total:	**$1,975,015**

C. Replacement with Ductile Iron Pipe by Open Cut

1. Description

Under this alternative, the mains shown in the proposed project map would be replaced with ductile iron piping wrapped in polyethylene encasement. This material of construction provides greater strength to resist damage during transportation and installation. Ductile iron water main has been the primary pipe material in the existing Village system since at least the late 1970's. Because ductile iron pipe is somewhat more susceptible to corrosion, a poly wrap will be utilized.

The installation method assumed for this alternative is open cut excavation. While this method is more disruptive, it is commonly used where surface improvements are minimal and/or where roadways are nearing the end of their useful life. For the proposed project location, the only surface improvement impacted will be residential driveways and aging pavement. Improvements to roadways within the proposed project area is something the Village will likely implements in

conjunction with this project.

Other improvements which are included in both this alternative and Alternative B are water service replacements up to the right-of-way line/shutoff. The remaining portions of water services outside of the right of way will be replaced at the same time but as part of a separate contract.

2. Design Criteria

Water main sizing will be accomplished utilizing a calibrated water system model. Standards for ductile iron piping material, installation, and testing will be in accordance with AWWA C150 and C151. All ductile iron pipe will meet ANSI/NSF 61. Tapping saddles and hardware would be utilized for all service connections. Polyethylene encasement will be required to be installed around ductile iron pipe according to AWWA C105.

All required EGLE and local permits will be obtained and maintained through construction.

3. Map

Refer to the map in Appendix A for water main replacement locations. These locations will be the same for both Alternatives B and C.

4. Environmental Impacts

There would be short-term environmental impacts during construction. Primary impacts would include excavation for the utility trench as well as at each service line connection. All of these locations would be within existing right-of-way and generally along the existing water main alignment. There will also be short term air quality and noise impacts due to construction equipment.

Ultimately, improvements to system reliability and the avoidance of main brakes will result in lower environmental impacts when compared to Alternative A.

Excavation, grading, paving, dewatering and restoration activities will be required during construction. All of these activities will be appropriately permitted and environmental impacts, if any, will be mitigated.

5. Land Requirements

This alternative will be located within existing Village right-of-way. The only exceptions to this will be service line replacements outside of the right-of-way. These exceptions will be performed under a separate contract during the same time period.

6. Potential Construction Problems

No significant construction problems would be expected for this alternative. Traffic disruptions will result from utility construction within the roadway, but they are minimal and on low traffic volume roads.

7. Sustainability Considerations

In comparison to the existing system, this alternative will reduce energy consumption due to improved hydraulics and therefore reduced pumping requirements. This alternative will also

reduce the risk of future breaks and eliminate existing minor leaks within the project area, reducing overall water demands.

8. Cost Estimates

This alternative will require the replacement of 6,800 ft of 4-inch water main with 8-inch water main as well as a total of 65 service lines. The total estimated construction cost for the project is $1,711,750. A detailed construction estimate is provided below. Engineering design, funding administration, and construction engineering and administration are not included in the estimated construction cost, but are roughly about 20 percent of the construction cost. Operation and maintenance costs are not expected to change with these improvements.

Project Components	***Estimated Construction Cost***
Cedar St. Water Main from Pine St. to Phelps St.	$316,050
Austin Blvd. Water Main from Douglas Dr. to Kinney Rd.	213,850
Memory Ln Water Main from Cedar St. to Douglas Dr.	135,250
Kinney Rd. Water Main from Austin Blvd. to Pine St.	140,015
Lee Ave. Water Main from Austin Blvd. to Pine St.	152,930
Douglas Dr. Water Main from Austin Blvd. to Pine St.	145,230
Pine St. Water Main from Lake Dr. to N. Williams St.	452,725
Total Est. Construction Costs:	$1,556,050
Construction Contingency (10% +/-):	155,600
Total:	**$1,711,650**

VI. Selection Of An Alternative

Of the three alternatives reviewed in Section V, the No Action alternative would not meet the project needs listed in Section IV and is therefore eliminated from further consideration. Alternatives B (Replacement with PVC Pipe by Directional Drilling) and Alternative C (Replacement with Ductile Iron Pipe by Open Cut) will be compared to show and determine the best alternative to meet the needs of the project.

A. Life Cycle Cost Analysis

A present worth analysis compares the capital costs less the present worth of any salvage value plus the present worth of the operation and maintenance (O&M) costs for each alternative. The analysis will be performed for a 20-year planning period at an interest rate equal to the federal discount rate for water resources planning which is 2.50%. Sunk costs are not included in the analysis. Sunk costs include any investments or financial commitments made before or during the project planning. These costs include the cost of the existing facilities, land, and costs associated with planning. Estimated O&M costs can be found on the PER Summary Tables in Appendix D.

The following table includes the estimated salvage costs for each alternative. The estimates are based on straight line depreciation and the assumptions listed below. The estimated salvage value of each alternative is as follows:

Assumptions for Salvage Values:	***Useful Life (Years)***
Pipe Replacement; PVC, or Ductile Iron	100

Salvage Values:	***Alternative B***	***Alternative C***
Pipe Replacement	$1,468,523	$1,272,704
Total Estimated Salvage Value	**$1,468,523**	**$1,272,704**

The total present worth is the sum of the initial capital cost, plus the present worth of O&M costs, minus the present worth of the salvage value at the end of the 20-year planning period.

PRESENT WORTH ANALYSIS

	Alternative B	***Alternative C***
Project Capital Cost	$1,795,465	$1,556,050
Plus Present Worth of O&M	3,053,319	3,053,319
Less Present Worth of Salvage Value	-896,197	-776,694
Total Present Worth Value	**$3,952,586**	**$3,832,674**

As previously mentioned, the No Action alternative fails to meet any of the project needs established within the study area and, therefore, is not considered a technically feasible alternative. The life cycle cost analysis shows that Alternative C has a lower present worth when compared to Alternative B and therefore is less costly to implement.

B. Non-Monetary Factors

Alternative B utilizes horizontal directional drilling as the method of pipe installation. This method is typically selected in order to limit ground disruption resulting from the pipe installation. Since the Village would like to make roadway improvements alongside the water main replacement project, the normal benefits of horizontal directional drilling do not apply for this project.

Alternative C utilizes open cut as the method of pipe installation. This is the typical method for utility installations and it is typically less expensive than horizontal directional drilling. Because mitigating above ground disruption is not a goal of this project, Alternative C is a better option to meet the project goals.

Materials selected for the open cut option include only ductile iron in order to maintain only ductile or cast iron pipe within the system. The benefits of this include a simplicity in maintaining a stock of materials and equipment, particularly for repairs and for water service tapping. The Village is working towards maintaining only ductile iron in the water system.

VII. Recommended Alternative

The selected alternative for the Village's Water System Improvement Project is Alternative C. This is the least costly alternative to the existing drinking water system, is the easiest to install, and will provide the Village the opportunity to replace several roadways along-side the water project. Additionally, this alternative will consist of pipe replacement with ductile iron pipe, which is what the majority of the existing system consists of, and what the public works department is trained and has the equipment to maintain. The following is a detailed description of the components and basis of design for this project.

A. Preliminary Project Design

Water Main Replacement with Ductile Iron Pipe by Open Cut

Seven sections of roadway within the Village totaling approximately 6,800 linear feet will have existing 4" water main abandoned and replaced with 8-inch water main. The existing water services within these sections are believed to contain lead. All water services will be replaced from the main all the way to the building. Water service replacements from the right-of-way to the main will be included in this USDA application. Water service replacements from the right-of-way to the building will be paid by the Village.

B. Project Schedule

This project is proposed to be constructed during the 2023 construction season, should sufficient USDA funding be received. To meet this schedule, the following target dates would need to be met.

Receive USDA-RD Letter of Conditions	December 2021
Create bid documents and complete design and permitting	May 2022
USDA-RD authorization to let project for bidding	June 2022
Receive bids	July 2022
Tentatively award project	August 2022
Complete remaining USDA-RD requirements	August 2022
Loan closing/preconstruction meeting/issue notice to proceed	October 2022
Begin construction	April 2023
Substantial completion	September 2023
Final Completion	October 2023

C. Permit Requirements

This project will require two permits as follows:

- Van Buren County Soil Erosion and Sedimentation Control permit
- EGLE Part 399 Water System Permit

D. Sustainability Considerations

This project will reduce the energy consumption of the existing water system through the elimination of aged, and possibly leaking, pipes as well as reducing the risk of pipe bursts and the associated water losses. This reduction of non-billable water will reduce the pumping requirements at the wells.

By following the requirements of the SESC permit, soil erosion and sediments will be prevented from leaving the construction site and accumulating in undesired locations, like storm drains, yards or the sanitary collection system.

E. Total Project Cost Estimate

The following table includes a summary of the project cost estimate.

TOTAL PROJECT COST ESTIMATE

1. Estimated Construction Cost	**$1,557,000**
2. Bond and Local Counsel	47,000
3. Rate Consultant	17,000
4. Design Engineering Fees (Basic Services)	128,000
4. Construction Engineering Fees (Basic Services)	63,000
5. Project Inspection Fees (RPR)	75,000
6. Engineering (Additional Services)	27,000
7. Construction Contingency	156,000
Subtotal Estimated Project Fees	**$513,000**
TOTAL ESTIMATED PROJECT COST	**$2,070,000**

*Costs are rounded up to the next thousand per USDA Summary Tables.

F. Annual Operating Budget

1. Income

All capital costs for the project and the O, M & R costs for the system will be funded through user rates. As shown on page six of the Rate Analysis Report in Appendix E, a onetime increase of 3 5 .0% will be required and an annual increase of 1.0% to cover inflation thereafter. The Village will need to adopt a resolution setting the new rates as shown below.

Commodity Charge

Current Commodity Charge per 1,000 Gallons	Proposed Commodity Charge per 1,000 Gallons	Annual Rate Increase (%)
$2.12	$2.86	35.0

Readiness to Serve Charge

Meter Size	Current Monthly Readiness to Serve Charge	Proposed Monthly Readiness to Serve Charge	Initial Rate Increase (%)
5/8" or 3/4"	$16.00	$21.60	35.0
1"	$28.48	$38.45	35.0
1 ¼"	$44.48	$60.05	35.0
1 ½"	$64.00	$86.40	35.0
2"	$113.76	$153.58	35.0
3"	$256.00	$345.60	35.0
4"	$455.04	$614.30	35.0
6"	$1,024.00	$1,382.40	35.0
8"	$1,820.48	$2,457.65	35.0
10"	$2,844.48	$3,840.05	35.0
12"	$4,096.00	$5,529.60	35.0

2. Annual Operation and Maintenance Costs

Estimated operation and maintenance costs were developed by the Village with assistance from Baker Tilly. These costs are shown in the Comparative Detail of Operation Expenses section of the Rate Analysis Report in Appendix E. The annual O&M cost for the Village water system are based on the Village's 2020 operating budget and the last two years of historical expenses. This project is not expected to change the currently estimated O&M costs.

3. Debt Repayment

The Village has no existing debt related to its water system.

4. Reserves

Major capital improvements for the Village are incorporated into annual cashflow projections. The proposed user rate accounts for these major capital improvements and expenditures. See the Rate Analysis Report located in Appendix E for a 20-year cash flow. The Village has a healthy cash balance; however, it is shown in the cashflow how this balance is quickly utilized

for required capital improvements to the Village's water system. The Village's 2017 Capital Improvement Plan is included in Appendix G for reference.

Included in the PER Summary Tables are the required Repair, Replacement and Improvement Fund and Bond Reserve funding requirements. See Appendix D for more detail.

G. Surplus of Funds

If favorable bids are received on this project and a surplus of funds are available below the total amount obligated by USDA, they will be used on additional water infrastructure in need of rehabilitation. The additional rehabilitations will be limited to water infrastructure falling within the parameters of this report regarding environmental, land requirements, historical sites, permitting, etc. All of the below listed work will take place in existing ROW and will not alter the demand or service area of the existing water system or planned improvements. No additional permitting would be required for this rehabilitation work.

The specific needs identified as part of the Village's Water Asset Management Plan and which are included in the Village's Water System Capital Improvement List are as follows:

- Miscellaneous Hydrant Replacements
    - This project will replace aged, damaged, or hydrants with otherwise low reliability due to condition with new 6" hydrant assemblies including hydrant isolation valves. There are approximately 10 hydrants needing replacement.
    - Estimated Construction Cost: $45,000; pending the total funds available, fewer hydrants can be included in the replacement to reduce the total construction costs. Each hydrant is estimated to cost $4,500 per replacement.

VIII. Conclusions And Recommendations

This Preliminary Engineering Report was prepared in accordance with United States Department of Agriculture Rural Utilities Service Bulletin 1780-2, dated April 4, 2013, for water and wastewater facilities to fulfill the planning requirements for funding from the USDA.

To finance the needed improvements as identified in this Preliminary Engineering Report, our recommendations to the Village of Decatur are the following:

- Submit a full application and supporting documents along with copies of this Preliminary Engineering Report to the United States Department of Agriculture, Rural Development Division, for consideration for funding of this project.

- Upon receipt of the Final Rural Development Grant/Loan offer, the Village should engage a bond attorney, take construction bids, and close the Rural Development Loan.

- After the loan is closed, construction of the proposed project should begin.

Wightman will work with the Village of Decatur to ensure all requirements are met within the Letter of Conditions provided by the USDA.

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APPENDIX A
Planning Area Maps

DRAFT

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map
US Topo

DECATUR QUADRANGLE
MICHIGAN
7.5-MINUTE SERIES

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid:Universal Transverse Mercator, Zone 16T
This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery....NAIP, July 2016 - October 2016
Roads....U.S. Census Bureau, 2016
Names....GNIS, 1980 - 2019
Hydrography....National Hydrography Dataset, 2007 - 2019
Contours....National Elevation Dataset, 2018
Boundaries....Multiple sources; see metadata file 2017 - 2018
Public Land Survey System....BLM, 2018
Wetlands....FWS National Wetlands Inventory 2005

UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
5°22′ 95 MILS
0°43′ 13 MILS

U.S. National Grid
100,000 - m Square ID
EM
Grid Zone Designation 16T

SCALE 1:24 000
KILOMETERS
METERS
MILES
FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.18

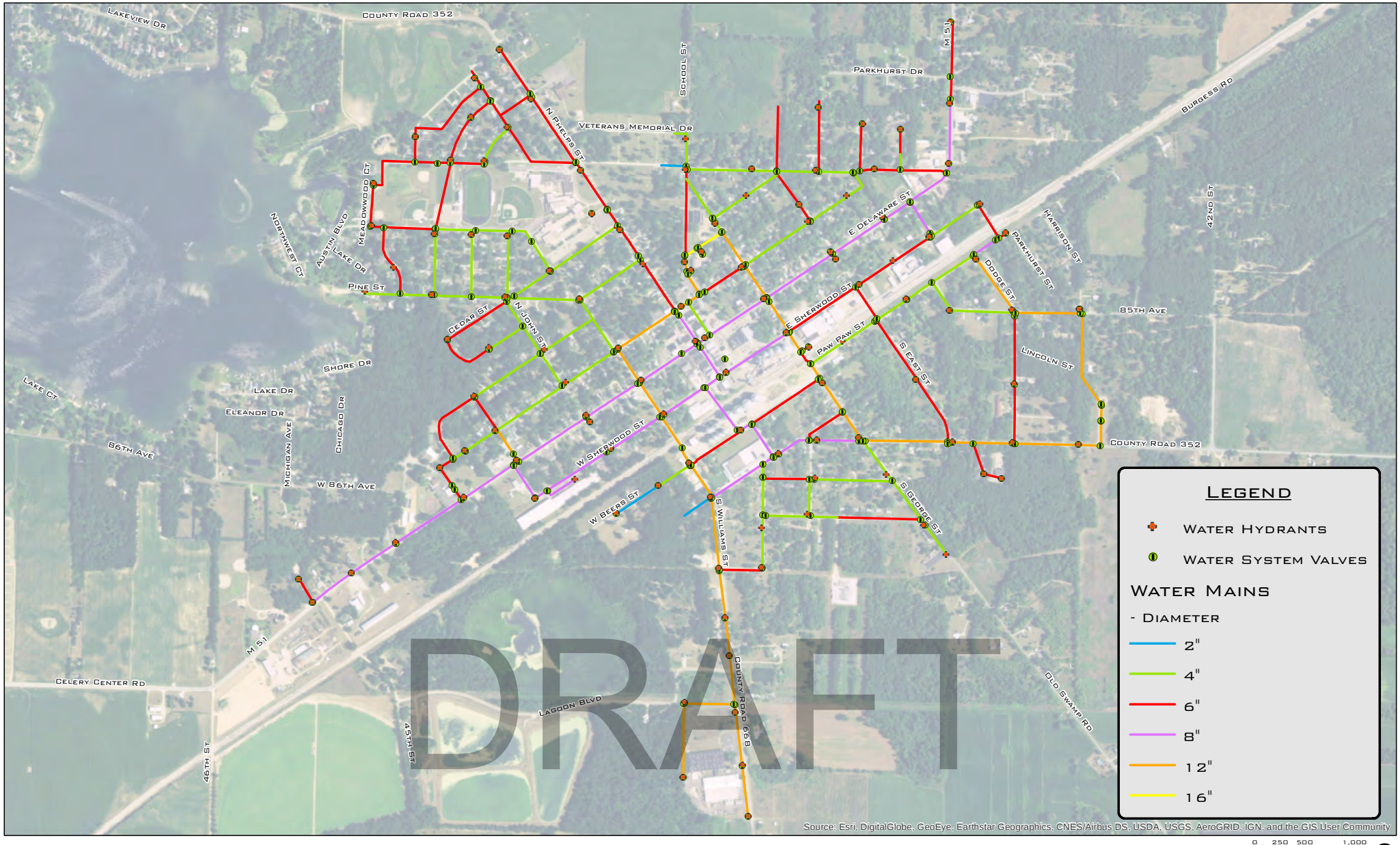
QUADRANGLE LOCATION

ADJOINING QUADRANGLES
1 Lawrence
2 Paw Paw
3 Lawton
4 Twin Lakes
5 Marcellus
6 Dowagiac
7 Vandalia
8 Jones

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

DECATUR, MI
2019

NSN. 7643016370910
NGA REF NO. USGSX24K11652



Wightman & Associates, Inc.

172173

Village of Decatur

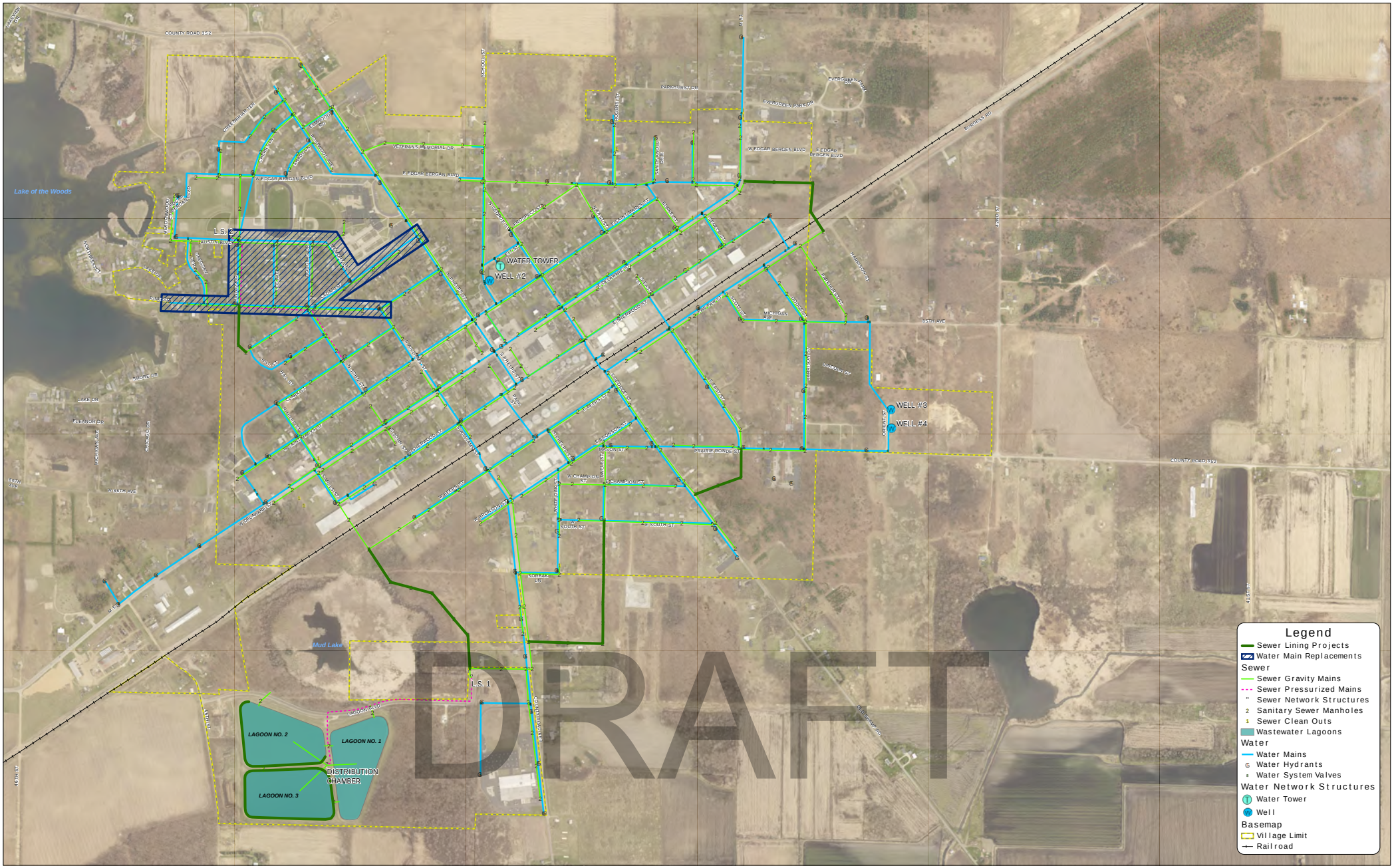
Water AMP

0 250 500 1,000

1 inch = 850 Feet

Water System - Pipe Size

12/14/2017



WIGHTMAN
it's all about people

202091

VILLAGE OF DECATUR

USDA PROJECT LOCATION MAP

SEWER AND WATER SYSTEM IMPROVEMENTS

1/13/2021

APPENDIX B
Well and Pump Inspection Reports

DRAFT

PEERLESS MIDWEST INC

55860 Russell Industrial Parkway / Mishawaka, Indiana 46545 / 574.254.9050 / Fax 574.254.9650

WELL & PUMP SERVICE INSPECTION REPORT

Owner Village of Decatur City Decatur State MI

Location SE of Maintenance Building in Pump House N. 42.11107 / W. 085.97493

Well No. 2 Date Drilled 1930 Dia. 10" Depth 116' Type Well Tubular

Screen ID. 8" Screen Length 20' Depth to Top of Screen 96' Type Screen C&M Gauze

Dates of Cleaning 1965, 1968, 1971, 2012, 2016

Phone 269-487-8475-7360 or 423-6114 Person to Contact Jimmy Ebling, Village Manager

	DATE	STATIC	G.P.M.	PUMPING LEVEL	PRESSURE	SPECIFIC CAPACITY
ORIGINAL	1930	37'	325	94'	-	5.7
AFTER LAST CLEANING	2016	28'	250	39'	-	22.7
AFTER LAST TEST	2019	26'	258	34.5'	65#	31.1
AT PUMP'S RATED FLOW	2020	27'	218	34'	65#	31.1
AT SYSTEM OPERATING PSI	2020	27'	255	35'	60#	31.9

Test Completed Through Meter ___ Flange or Thread Size 4" Confined Space Entry? No

Motor HP 20 Make U.S. Volts 220/440 RPM 1760 Phase 3

Gear Drive None HP - Ratio - RPM Meter Required ___

Pump Mfg. Peerless/Floway Serial No. 90376 Airline Length 70'

Rated Capacity: 250 GPM 185' TDH Operating Pressure 57#

Total Setting 85' 4" Size of Packing 3/8" Date Installed 1965

Dates of Overhaul 1970, 1975, 1984, 1994, 1996, 2004, 2012

THE FOLLOWING IS TO BE PERFORMED DURING EACH INSPECTION

Is Check Valve Leaking? No Change Motor Oil & Grease X Repack Pump X Grease Pump ___

Pump is Presently Developing 255 **GPM** 174' **TDH** **Projected Curve Capacity** 250 **GPM** 175' **TDH**

Shut Off Pressure 103 PSI Rated Shut Off Head 273 ft. Calculated Shut Off Head 265 ft.

Electrical Data (With Pump in Operation): 247/245/247 V 40 / 40 / 40 Amps 50 @ 220V Full Load Amps

Location of Power Lines Approx. 15' south of pump house Can Electrical Box be Locked Out? Yes

Distance From Top of Pump Pedestal to Grade 4" Materials Needed to Clean Well Drop out spool, two 90 degree elbows, two (2) hoses to tank, and 100' to waste.

Need a Smeal to Raise Pump? No Remarks ___

Maintenance: Meter or 2" plug, 1-firehose to waste. Hand switch in pole building next to pump house.

Motor is screened.

Inspected By Mike Kline Date Inspected April 8, 2020

PEERLESS MIDWEST INC.
55860 Russell Industrial Parkway / Mishawaka, Indiana 46545 / 574.254.9050 / Fax 574.254.9650

WELL & PUMP SERVICE INSPECTION REPORT

Owner Village of Decatur City Decatur State MI

Location 210' North of 86th St. 750' East of Harrison St. N. 42.10728 / W. 085.95939

Well No. 3 (South) Date Drilled 1977 Dia. 12" Depth 188' Type Well Tubular

Screen ID. 12" Screen Length 20' Depth to Top of Screen 168' Type Screen Johnson SSWW

Dates of Cleaning 1994, 2001, 2002, 2013

Phone 269-487-8475-7360 or 423-6114 Person to Contact Jimmy Ebling, Village Manager

	DATE	STATIC	G.P.M.	PUMPING LEVEL	PRESSURE	SPECIFIC CAPACITY
ORIGINAL	1977	25'	1000	52'	-	37.0
AFTER LAST CLEANING	2013	31'	500	45'	55#	35.7
AFTER LAST TEST	2019	32'	490 Orifice 485 Meter	45'	65#	37.7
AT PUMP'S RATED FLOW	2020	31'	488 Orifice 477 Meter	44'	66#	37.5
AT SYSTEM OPERATING PSI	2020	31'	403 Orifice 405 Meter	40'	80#	44.8

Test Completed Through Meter ___ Flange or Thread Size 6" Confined Space Entry? No

Motor HP 40 Make Newman Volts 460 RPM 1775 Phase 3

Gear Drive None HP - Ratio - RPM Meter Required

Pump Mfg. Floway Serial No. 79-10405 Airline Length 50'

Rated Capacity: 500 GPM 210' TDH Operating Pressure 64#

Total Setting 64' Size of Packing 3/8" Date Installed 1979

Dates of Overhaul 1985, 1990, 1996, 1997(motor), 2003, 2013

THE FOLLOWING IS TO BE PERFORMED DURING EACH INSPECTION

Is Check Valve Leaking? No Change Motor Oil & Grease X Repack Pump X Grease Pump

Pump is Presently Developing 488 **GPM** 197' **TDH** **Projected Curve Capacity** 500 **GPM** 195' **TDH**

Shut Off Pressure 100 PSI Rated Shut Off Head 264 ft. Calculated Shut Off Head 262 ft.

Electrical Data (With Pump in Operation): 499/500/500 V 46 / 47 / 49 Amps 48.8 @ 460v Full Load Amps

Location of Power Lines Approximately 40' away Can Electrical Box be Locked Out? Yes

Distance From Top of Pump Pedestal to Grade 16" Materials Needed to Clean Well Drop 6" spool and check elbow off head, (3) hoses to tank, and 75' to waste

Need a Smeal to Raise Pump? No Remarks

Maintenance: Meter or 6" flang out wall 1 firehose to waste. Motor is screened.

Inspected By Mike Kline Date Inspected April 8, 2020

PEERLESS MIDWEST INC

55860 Russell Industrial Parkway / Mishawaka, Indiana 46545 / 574.254.9050 / Fax 574.254.9650

WELL & PUMP SERVICE INSPECTION REPORT

Owner Village of Decatur City Decatur State MI

Location 180' N of Well #3, 400' N of 86th St., 750' E of Harrison st. N. 42.10728 / W. 085.95939

Well No. 4 (North) Date Drilled 1979 Dia. 12" Depth 192' Type Well Tubular

Screen ID. 12" Screen Length 20' Depth to Top of Screen 172' Type Screen Johnson SSWW

Dates of Cleaning 1989, 1996

Phone 269-487-8475-7360 or 423-6114 Person to Contact Jimmy Ebling, Village Manager

	DATE	STATIC	G.P.M.	PUMPING LEVEL	PRESSURE	SPECIFIC CAPACITY
ORIGINAL	1979	29'	1000	67' 6"	-	26.0
AFTER LAST CLEANING	1996	37'	500	40'	-	38.4
AFTER LAST TEST	2019	30'	980 Meter 984 Orifice	48'	105#	54.7
AT PUMP'S RATED FLOW	2020	30'	1000 Meter 998 Orifice	47'	35#	58.7
AT SYSTEM OPERATING PSI	2020	30'	770 Meter 777 Orifice	43'	55#	59.8

Test Completed Through Meter ___ Flange or Thread Size 6" Confined Space Entry? No

Motor HP 75 Make U.S. Volts 230/460 RPM 1775 Phase 3

Gear Drive None HP - Ratio - RPM Meter Required

Pump Mfg. Floway Serial No. 79-10404 Airline Length 80'

Rated Capacity: 1000 GPM 210' TDH Operating Pressure 82#

Total Setting 94' Size of Packing 3/8" Date Installed 1979

Dates of Overhaul 1985, 1987, 1992, 1999, 2008, 2016

THE FOLLOWING IS TO BE PERFORMED DURING EACH INSPECTION

Is Check Valve Leaking? No Change Motor Oil & Grease X Repack Pump X Grease Pump

Pump is Presently Developing *969 **GPM** *265' **TDH** **Projected Curve Capacity** 1000 **GPM** *251' **TDH**

Shut Off Pressure 80 PSI Rated Shut Off Head 320 ft. Calculated Shut Off Head *334 ft.

Electrical Data (With Pump in Operation): 500/502/500 V 47 / 43 / 48 Amps 90 @ 480V Full Load Amps

Location of Power Lines No Overhead Lines Can Electrical Box be Locked Out? Yes

Distance From Top of Pump Pedestal to Grade 18" Materials Needed to Clean Well Drop out 6" spool and check (3) hoses to tank, 75' to waste.

Need a Smeal to Raise Pump? No Remarks *Test ran @ 46.4 Hz. 1419 RPM. Projected results @ 60 Hz. 1770 RPM.

Maintenance: Meter or 6" flange out wall, 2 fire hoses to waste.

Inspected By Mike Kline Date Inspected April 8, 2020

APPENDIX C
Elevated Storage Tank Report

DRAFT

Dixon Engineering, Inc.

Maintenance Inspection

200,000 Gallon Spheroid

Decatur, Michigan

Inspection Performed: September 11, 2020
Reviewed by Joseph T. Hoban, P.E.: October 3, 2020

Dixon Engineering Inc.
1104 Third Ave. Lake Odessa, MI 48849

Phone (616) 374-3221
Fax (616) 374-7116
http://www.dixonengineering.net
dixon@dixonengineering.net

CONCLUSIONS:

1. The exterior coating is a fluoropolymer overcoat system. The coating is in good condition overall. Coating deterioration includes erosion on the roof.

2. The dry interior coating is an epoxy system. The coating is in good condition overall. Coating deterioration includes spot failures to the substrate and rust bleedthrough on the platforms and access tube.

3. The wet interior coating is an epoxy system. The coating is in good condition overall. Below the high-water level coating deterioration includes pinhole failures on the sidewall. Above the high-water level coating is deteriorating at the open lap seams.

RECOMMENDATIONS (IMMEDIATE WORK):

EGLE may allow some of the required changes to be delayed until the next paint project. These items are listed as immediate work since they are currently out of compliance.

1. Install a suspended ring, impressed current cathodic protection system in the wet interior. The estimated cost is $25,000.

2. Replace the damaged aviation lights. The estimated cost is $6,000.

3. Modify the overflow pipe discharge so it points downward to bring it into compliance with current EGLE requirements (note that having a downward discharge to meet requirements will cause the air gap to be out of compliance. We recommend requesting which action should be performed from EGLE). Install a flap gate at the new discharge. The estimated cost is $3,000.

4. Install a gasket on the wet interior roof hatch to meet current EGLE requirements. The cost would be incidental to the next painting project or could be performed by in-house personnel.

5. Replace the roof vent with a pressure vacuum vent to meet current EGLE requirements. The estimated cost is $6,000.

6. Install a threaded coupling on the fill/draw pipe for a chemical feed line as required by the EGLE. The cost would be incidental to the next painting project or can be performed by in-house personnel.

RECOMMENDATIONS (WITH THE NEXT PAINT PROJECT):

Annually inspect the roof vent, hatches, and any other health or security items on the structure. The work could be performed by in-house personnel or contracted as part of a regular maintenance program.

Complete the recommended work in four years. The repairs and upgrades should be completed during the next major tank rehabilitation project when coating repairs are made.

1. High pressure water clean and overcoat the exterior with a fluoropolymer system. The estimated cost is $70,000.

2. Spot power tool clean the coating failures in the dry interior. Spot repaint all prepared surfaces with an epoxy coating system. The estimated cost is $3,000.

3. Recoat the foundation to help prevent deterioration. The cost would be incidental to exterior painting.

4. Install a ladder extension at the condensate platform and relocate the opening cover hinges. The estimated cost is $2,000.

5. Install a handhold at the wet interior roof hatch, access tube roof hatch, and painter's (bird) hatch. The handhold would assist the climber while entering and exiting the openings. The cost would be incidental to the next painting project.

6. Install a rigging lug on the transition cone above the top platform opening. The cost would be incidental to the next painting project.

7. Install a fall prevention device extension to the ground on the basebell ladder. The estimated cost is $1,000.

8. Tighten the fall prevention device on the riser ladder. The cost would be incidental to the next coating project.

9. The expansion joint was covered with insulation and was not visible for inspection. The type of joint should be verified. If it is determined to be a glandular expansion joint, then replace with it a bellows type joint. The estimated cost is $15,000.

A DISCUSSION ON RESCUE AND RETRIEVAL OPERATIONS FROM ELEVATED PEDESTAL STORAGE TANKS

Working on elevated water storage tanks is inherently dangerous. OSHA regulations give guidelines for the climbing on elevated structures. Contractors and Engineers/Consultants are responsible for their own employees, but even with safety training and proper equipment, accidents can occur. Most rescue squads are local or neighboring fire departments, with some departments having more experience than others. Water storage tanks are designed to store water and are not suited for rescue or retrieval convenience. We recommend that you meet with your local rescue personnel and draft a rescue plan. A copy of the plan should be kept at the tank and with the rescue crew.

OSHA does not require 30 inch manways or hatches, but for rescue purposes 30 inch openings would allow enough room for a rescue basket with an injured person on it to pass through. Smaller openings may not be sufficient for retrieval.

Rescue personnel would gain access to the injured person using the existing ladders while attached to fall prevention devices. If possible, the basket would be lowered through the riser and out the opening in the bottom. If needed, the rescue crew would work from the roof inside a handrail. A tripod would be used to attach a winch to the basket. If the basket cannot fit through the riser then it would need to be raised to the roof.

From the roof it is possible to lower the basket over the side to ground level, but that would require a very large winch and increased loading on the attachment point. On a rainy, windy, or snowy day, the objective would be to get rescue personnel off the roof as soon as possible, so lowering through the dry interior is preferred. A helicopter rescue would need to be performed if it is not possible to lower the rescue basket down the dry interior.

Upgrades intended to make a rescue easier are included in this report. Dixon recommends 30 inch manways or hatches where possible, and fall prevention devices on all ladders.

COST SUMMARY:

Exterior overcoat	$70,000
Dry interior spot repaint	3,000
Cathodic protection system	25,000
Aviation lights	6,000
Overflow discharge modification	3,000
Condensate ladder extension	2,000
Fall prevention device extension - basebell	1,000
Pressure vacuum roof vent	6,000
Expansion joint	15,000
Sub Total	$131,000
Engineering and Contingencies	$25,000
Total	$156,000

Notes: Safety improvements other than fall prevention devices are optional and can be delayed. Best price for safety improvements would be obtained by including them with the next painting project.

INSPECTION:

On September 11, 2020 Dixon Engineering Inc. performed a maintenance inspection on the 200,000 gallon spheroid elevated water storage tank owned by the Village of Decatur, Michigan. Purposes of the inspection were to evaluate the interior and exterior coating's performance and life expectancy, assess the condition of metal surfaces and appurtenances, review safety and health aspects, and make budgetary recommendations for continued maintenance of the tank. All recommendations with budgeting estimates for repairs are incorporated in this report.

The inspection was performed by Kyle Lay, ROV Operator. The inspector was assisted by Chris Evans, Staff Technician.

The wet interior inspection was completed with a remotely operated vehicle (ROV). Video of the inspection and still photos are included with this report. No cleaning was performed in the wet interior during the ROV inspection.

GENERAL INFORMATION:

The tank was built in 1979 by Universal Tank and Iron Works with a height to low-water level of 110 feet.

CONDITIONS AND RECOMMENDATIONS:

EXTERIOR COATING CONDITIONS:

Information on file with DIXON indicates that the exterior was last painted in 2009. The exterior was pressure washed and spot power tool cleaned to SSPC-SP11 commercial condition. The coating applied was a fluoropolymer overcoat system. The coating is in good condition overall.

The basebell coating is in good condition with no significant failures. There are a few coating touch-ups throughout the basebell that are in good condition.

The riser, bowl, and sidewall coating in good condition with no significant failures. There is lettering that states "DECATUR" on the sidewall in two locations. There is a pirate's head logo on the sidewall in one location. The bowl is covered with light mildew growth.

The roof coating is in good condition with minor erosion of the topcoat.

Good adhesion was noted on the ASTM X-cut test areas. If overcoating is not performed within the next two years, additional adhesion testing should be performed.

EXTERIOR COATING RECOMMENDATIONS:

Budget for overcoating in four years. The typical overcoat frequency for modern urethane systems is fifteen years. There is always a risk in overcoating the exterior, but we have had several successful projects when performed in the timeframe noted. The risk of poor adhesion of the overcoat system gets higher as the existing system gets older. Current adhesion showed the existing coating would support an additional coating system.

The recommended procedure is to high pressure water clean (5,000-10,000 psi) the exterior to remove any poorly adhered coating and any contaminants. Coating failures to the substrate would be spot power tool cleaned to bare metal (SSPC-SP11) condition. All sharp edges would be feathered into the surrounding coating.

The coating system would consist of a spot prime coat on the bare metal, a full coat of epoxy, followed by a full coat of urethane and a topcoat of fluoropolymer. The fluoropolymer system offers excellent abrasion resistance with high gloss and sheen retention needed for dark and bright colors. The expected life of this system is fifteen years. The tank would be removed from service during the coating project. This is necessary to reduce condensation on the tank's surface. Fluoropolymer coatings have a minimum temperature requirement for application and are sensitive to moisture during the curing process. If moisture is present during the curing process, the appearance will become cloudy with little or no gloss. The estimated cost is $70,000.

DRY INTERIOR COATING CONDITIONS:

The dry interior on this structure is defined as the non-water contact surfaces, consisting of the basebell, riser, transition cone, and access tube.

Information on file with DIXON indicated the dry interior was last painted in 2014. The dry interior was abrasive blast cleaned to SSPC-SP6 commercial condition. The coating applied was an epoxy system. The coating is in good condition overall.

The basebell and riser coating are in good condition with no significant failures.

The coating on the topside of the platforms is in good condition with only a few spot failures and rust bleedthrough throughout.

The transition cone coating is in good condition with a few small areas of rust bleedthrough.

The access tube coating is in good condition with rust bleedthrough and rust streaking along the cable support bands.

DRY INTERIOR COATING RECOMMENDATIONS:

Spot power tool clean the coating failures to a (SSPC-SP11) condition and spot repaint with an epoxy system. The work should be performed with an exterior painting project. The estimated cost is $3,000.

WET INTERIOR COATING CONDITIONS:

Information on file with DIXON indicated the wet interior was last painted in 2014. The wet interior was abrasive blast cleaned to SSPC-SP10 near-white condition. The coating applied was an epoxy system.

The roof coating is in good condition with only a few areas of topcoat delamination and rust bleedthrough along the lap seams. The roof contains open lap seams that have started to rust and streak. Rusting is typical for a roof where the lap seams are open and not seal welded. The presence of rust in the lap seams is not a concern but should be monitored during future inspections for additional corrosion growth.

The sidewall coating is in good condition with numerous pinhole failures near the high-water line. There is no significant coating damage at the high-water level which would be the area most affected by ice movement.

The access tube coating is in good condition no significant failures. There is no significant damage at the high-water level.

The bowl was covered with approximately 12 inches of sediment that limited the amount of surface visible with the ROV and could not be inspected.

The surfaces below the normal operating water level are covered with mineral staining which does not affect the integrity of the coating system.

WET INTERIOR COATING RECOMMENDATIONS:

The existing coating system has not deteriorated to the point where replacement is warranted assuming a cathodic protection system is installed. A cathodic protection system would adequately protect all areas below the high-water level where the coating has deteriorated. Reinspect in five years to update conditions and recommendations.

CATHODIC PROTECTION CONDITIONS:

There is no cathodic protection system in the wet interior. The tank does not have attachment clips or a pressure fitting installed for a future cathodic protection installation.

CATHODIC PROTECTION RECOMMENDATIONS:

Install an impressed current cathodic protection system in one to two years. The system is designed with a horizontal ring configuration suspended into the lower one third of the tank connected to the sidewall or access tube. This design is considered ice-free as formation of ice normally occurs at the high-water level and some along the sidewall. As long as the tank is operated in the upper one half of its capacity, the probability of ice damage is very low. The anode used is a platinized niobium or titanium wire with a design life of approximately ten years. The system also incorporates copper/copper sulfate reference anodes.

The system is automatically controlled by monitoring the water-to-tank potential. It provides protection to the exposed steel surfaces. Cathodic protection operates by inhibiting galvanic cell corrosion where steel is exposed. The system creates an equipotential across the tank and drives the tank potential down to a point (-850 millivolts) where corrosion is essentially nonexistent. Only surfaces that are in contact with water are protected because water acts as the electrolyte for the circuit. Therefore, areas of the roof and upper sidewall are not protected by the system. The estimated cost is $25,000.

FOUNDATION AND ANCHOR BOLT CONDITIONS:

The exposed concrete foundation is in good condition with no significant deterioration. The foundation is coated. The coating is in good condition with no significant failures.

There are sixteen anchor bolts evenly spaced on the baseplate around the basebell. The anchor bolts are in good condition with no significant deterioration of the nuts or bolts.

FOUNDATION AND ANCHOR BOLT RECOMMENDATIONS:

Recoat the exposed concrete with an epoxy coating system to help prevent deterioration. The cost would be incidental to exterior painting.

GROUT CONDITIONS:

The grout between the baseplate and the foundation is in good condition with none damaged or missing.

ROOF HANDRAIL, PAINTER'S RAILING, AND ROOF RIGGING CONDITIONS:

There is a handrail on the roof surrounding the roof hatches and the vent. The handrail is in good condition. There is a painter's railing that surrounds the roof handrail. The painter's railing is in good condition.

There are roof rigging couplings for safety and staging lines during wet interior coating work.

LIGHTING CONDITIONS:

The tank has a double aviation light on the roof that is in fair condition. There is a photocell that will switch the lights on when it's dark outside. It could not be determined if the lights are operational. The photocell was covered by the inspector, but the light did not turn on. Sometimes the photocell will not switch the light on until it has been dark for several minutes. The aviation light has one damaged globe that is taped to the mount.

There are light fixtures located in the dry interior. Some of the lights are burned out.

LIGHTING RECOMMENDATIONS:

Replace the damaged aviation lights with a new double red light if they are required by the FAA. We assume that if lights are on the tank, then they are required. The FAA can be petitioned to verify if the lights are needed. The estimated cost for replacement is $6,000.

OVERFLOW PIPE CONDITIONS:

The overflow pipe extends along the access tube in the dry interior, down through the dry riser, and exits near the bottom of the basebell. The discharge end of the overflow pipe is screened. The screen is in good condition but is oversized. The pipe discharges to a splash pad. The air gap meets the required 12-24 inches. The discharge area is in good condition.

OVERFLOW PIPE RECOMMENDATIONS:

Modify the overflow pipe discharge to bring it into compliance with current EGLE requirements. The discharge must be in a downward position and must have a 24 mesh screen. Install a screened overflow flap gate at the discharge. The flap gate would allow water to discharge even if the screen becomes covered with debris or frosted over. The gate is designed to stay closed to prevent rodents or birds from entering the pipe. (Note that having a downward discharge to meet requirements will cause the air gap to be out of compliance. We recommend requesting which action should be performed from EGLE). The estimated cost is $3,000.

HATCH AND MANWAY CONDITIONS:

There is a 30 inch diameter roof hatch to the wet interior that is in good condition. The hinged cover is in good condition. There is no handhold next to the hatch to aid the climber while entering and exiting the opening. The hatch was not secured. There was no gasket on the hatch.

There is a 30 inch diameter roof hatch into the dry interior that is in good condition. The hinged cover is in good condition. There is no handhold next to the hatch to aid the climber while entering and exiting the opening.

There is a 14 x 18 inch manway in the transition cone to the wet interior that is in good condition. The manway gasket showed no signs of leakage and the bolts are in good condition.

There is a service door in the basebell that is in good condition. The door operated properly during the inspection.

There is a painter's hatch (bird hatch) at the top of the riser that is in good condition. There is no safety handhold above the hatch.

The condensate platform ladder opening is 30 inch diameter. The opening is equipped with a hinged cover. There is a safety handhold next to the opening.

The top platform ladder opening is 30 inch square. The opening is equipped with a hinged cover. There is a safety handhold next to the opening.

There is not a rigging attachment point on the transition for rescue retrieval line attachment.

HATCH AND MANWAY RECOMMENDATIONS:

Install a gasket on the wet interior roof hatch to meet current EGLE requirements. The cost would be incidental to the next painting project or could be performed by in-house personnel.

Install a ladder extension at the condensate platform to assist entering and exiting the opening. The existing cover hinges will need to be relocated to fit the new ladder extension. The estimated cost is $2,000.

Install a handhold at the wet interior roof hatch, access tube roof hatch, and painter's (bird) hatch. The handhold would assist the climber while entering and exiting the openings. The cost would be incidental to the next painting project.

Install a rigging lug on the bowl above the top platform opening. The lug would serve as an attachment point for a winch/pulley during rescue. The cost would be incidental to the next painting project.

VENT CONDITIONS:

The roof vent is a flow through design that is in fair condition. The screen is in fair condition. The screen mesh size is larger than the recommended 24 mesh. This is a possible entry point for insects, though none were observed inside the tank.

VENT RECOMMENDATIONS:

Replace the roof vent with a screened pressure vacuum vent to meet current EGLE requirements. The new vent would have a movable plate that would allow air to flow in and out of the tank even if the screens become plugged or frosted over. The vent would have a rain shield to prevent rainwater from entering the storage tank during high winds. The estimated cost is $6,000.

LADDER CONDITIONS:

The dry interior ladders are located in the basebell, riser, and access tube. The ladders are in good condition. The ladders meet current OSHA size requirements. All of the ladders are equipped with rail-type fall prevention devices that are in good condition.

The basebell ladder fall prevention device starts approximately 10 feet off the ground.

The fall prevention device on the riser ladder is loose.

There is a wet interior ladder from the roof to the bowl that is in good condition. The ladder meets OSHA size requirements. The ladder is equipped with a cable-type fall prevention device. The device was not used during the inspection.

LADDER RECOMMENDATIONS:

Extend the prevention device to the ground on the basebell ladder. The estimated cost is $1,000.

Tighten the fall prevention device on the riser ladder. The cost would be incidental to the next coating project.

FILL/DRAW PIPE CONDITIONS:

The tank fills and draws from a single pipe. The pipe routes through the dry interior into the bottom of the transition cone and extends approximately 24 inches into the wet interior. There is a deflector plate over top of the pipe in the wet interior.

There is a sample tap on the fill/draw pipe located in the basebell. The tap has a smooth end, faces downward, and is inside a heated box.

There is not a threaded coupling on the fill/draw pipe for future attachment of a chemical feed line.

FILL/DRAW PIPE RECOMMENDATIONS:

Install a threaded coupling for a chemical feed line on the fill/draw pipe to meet current EGLE requirements. The work would be incidental to the next painting project.

EXPANSION JOINT CONDITIONS:

The fill/draw pipe is equipped with an expansion joint that is located at the top of the riser. The glandular style of expansion joint can seize if corrosion forming at the joint stops the joint from moving as designed. The expansion joint was covered with insulation and was not visible for inspection but it has been noted in previous Dixon inspection reports to be a glandular style joint.

EXPANSION JOINT RECOMMENDATIONS:

If the expansion joint seizes it cannot take up the longitudinal movement of the fill/draw pipe and the transition cone will flex to compensate for this movement. With enough flexing, the weld at the transition cone could crack and cause a leak.

The type of joint should be verified. If it is a glandular expansion joint, then replace with it a bellows type joint. The estimated cost is $15,000.

INSULATION CONDITIONS:

The fill/draw pipe is covered with rigid foam insulation. The insulation is covered with an aluminum jacket that is in good condition.

MUD VALVE CONDITIONS:

There is a mud valve located in the bottom of the tank to aid in removal of sediment during inspections and routine maintenance. The mud valve was not operated during the inspection.

CONDENSATE DRAIN CONDITIONS:

There is a condensate drain line that routes from the platform to the overflow pipe. There is a check valve in the line to stop backflow during overflow conditions. The line is in good condition. The drain opening appeared to be operational.

WET INTERIOR METAL CONDITIONS:

The steel structure is in good condition overall. No pitting was observed at the coating failures on the sidewall.

There is a stiffener located at the equator of the sidewall. The stiffener is in good condition.

DIXON ENGINEERING, INC.
STEEL TANK FIELD INSPECTION REPORT
PEDESTAL TANK

DATE: **September 11, 2020**

OWNER: **Village of Decatur**
CLIENT CODE: **22-80-01-01**
LOCATION: Address: **160 Eli Street**
City: **Decatur**
State: **Michigan**
TANK SIZE: Capacity: **200,000 gallons**
Bottom (LWL): **110 feet (from nameplate)**
Head range: **30 feet (from nameplate)**
CONSTRUCTION:
Type: **Spheroid**
YEAR CONSTRUCTED: **1979**
MANUFACTURER: **Universal Tank & Iron Works**
CONTRACT NUMBER: **6688-200**
USE: **Potable water and fire protection**

COATING HISTORY	EXTERIOR	WET INTERIOR	DRY INTERIOR
YEAR COATED	**2009**	**2014**	**2014 (entire)**
CONTRACTOR	**L & T Painting**	**L.C. United**	**L.C. United**
SYSTEM	**Fluoropolymer**	**Epoxy**	**Epoxy**
SURFACE PREPARATION	**SSPC-SP11**	**SSPC-SP10**	**SSPC-SP6**
MANUFACTURER	**Tnemec**	**Tnemec**	**Tnemec**
HEAVY METAL COATING SAMPLES	**No**	**No**	**No**
HEAVY METAL BEARING	**No**	**No**	**No**

PERSONNEL: Inspector and ROV operator **Kyle Lay**, Top person **Chris Evans**
METHOD OF INSPECTION: **ROV**

SITE CONDITIONS

Fenced: **Yes**
Site large enough for contractor's equipment: **Yes**
Control building: **No**
Antenna control site: **No**

Neighborhood: **Residential, DPW**
Power lines within 50 feet: **Yes (estimated distance 50 feet)**
Are power lines attached to the structure: **No**
Would power lines interfere with containment: **No**
Site drainage: **Away from tank**
Indications of underground leakage: **No**
Shrub, tree, etc. encroachment: **No**

EXPOSED PIPING

N/A

FOUNDATION

Foundation exposed: **Yes**
Exposed height: **1-14 inches**
Exposed foundation condition: **Good**
Damage or deterioration: **No**
Foundation coated: **Yes**
Coating condition: **Good**
Grout condition: **Good**
Undermining of foundation: **No**

EXTERIOR COATING

Basebell:

Topcoat condition: **Good**
Previous system condition: **Good**
Describe coating: **No significant coating deterioration**
Dry film thickness: **17-25 mils**
Adhesion: **5A**
Metal condition: **Good**
Basebell comments: **Some coating touch-ups present that are a slightly different shade of brown but are in good condition**

Riser:

Topcoat condition: **Good**
Previous system condition: **Good**
Describe coating: **No significant coating deterioration**
Mildew growth: **No**
Metal condition: **Good**

Bowl:

Topcoat condition: **Good**
Previous system condition: **Good**

EXTERIOR COATING

Describe coating: **No significant coating deterioration**
Mildew growth: **Yes**
Metal condition: **Good**

Sidewall:

Lettering: **Yes**
Number: **2**
Lettering content: **DECATUR**
Logo: **Yes**
Number: **1**
Describe logo: **Pirate's head**
Topcoat condition: **Good**
Previous system condition: **Good**
Describe coating: **No significant coating deterioration**
Metal condition: **Good**

Roof:

Topcoat condition: **Good**
Previous coat/system condition: **Good**
Describe coating: **Erosion**
Dry film thickness: **20-22 mils**
Adhesion: **5A**
Metal condition: **Good**

EXTERIOR APPURTENANCES

Basebell Door:

Size: **30 x 60 inches**
Metal condition: **Good**
Door comments: **Minor corrosion on hinges**

Anchor Bolts:

Number: **16**
Diameter: **1½ inches**
Location: **Exterior**
Metal condition: **Good**

Overflow Pipe:

Diameter: **6 inches**
Metal condition: **Good**
Discharge orientation: **Horizontal**
Screen condition: **Good**

EXTERIOR APPURTENANCES

Percent of screen open: **100**
Mesh size: **4**
Flap gate: **No**
Air gap: **Yes**
Lowest part of discharge to the ground distance: **14½ inches**
Height to basebell: **14½ inches**
Overflow discharges to: **Concrete pad**
Condition: **Good**

Roof Handrail:

Diameter: **12 feet**
Height: **43¾ inches**
Midrail height: **22½ inches**
Kick plate height: **4½ inches**
Vertical post type: **Angle**
Size: **2½ x 2½ inches**
Top rail type: **Angle**
Size: **2½ x 2½ inches**
Midrail type: **Angle**
Size: **2½ x 2½ inches**
Metal condition: **Good**

Painter's Rail:

Diameter: **18 feet**
Are butt welds at braces: **Yes**
Metal condition: **Good**

Roof Rigging Points:

Number: **16**
Couplings covered: **Yes**
Covered with: **Plugs**
Metal condition: **Good**

Removable Cathodic Caps:

N/A

Wet Interior Roof Hatch:

Neck size: **30 inches**
Distance from center of the tank (to outer edge): **52 inches**
Shape: **Round**
Handhold at opening: **No**

EXTERIOR APPURTENANCES

Curb height: **4 inches**
Cover overlap: **2 inches**
Gasket on cover/neck cover: **No**
Hatch security: **None**
Metal condition: **Good**
Hatch comments: **Slight rust bleedthrough on inside of hatch**

Dry Interior Roof Hatch:

Neck size: **30 inches**
Shape: **Round**
Handhold at opening: **No**
Hatch security: **Chain and clip**
Metal condition: **Good**

Bolted Ventilation Hatch:

N/A

Access Tube Air Gap:

N/A

Roof Vent:

Number: **1**
Distance from center of the tank (to outer edge): **5 feet 9 inches**
Type: **Flow-through**
Neck diameter: **14 inches**
Vertical screen condition: **Good**
Mesh size: **12**
Metal condition: **Good**

Aviation Lights:

Design: **Double red**
Location: **Free-standing mount**
Functioning: **Unknown**
Globe condition: **Fair**
Photoelectric cell: **Yes**
Aviation light comments: **One globe taped to mount**

Antennas:

N/A

EXTERIOR APPURTENANCES

Electrical:

Electrical conduit condition: **Good**
Exposed wiring: **No**

DRY INTERIOR COATING

Basebell:

Coating condition: **Good**
Describe coating: **No significant coating deterioration**
Metal condition: **Good**
Floor: **Concrete**
Drain line present: **Yes**

Condensate Platform:

Platform design: **Full**
Coating condition: **Good**
Describe coating: **Spot coating failures to substrate, rust bleedthrough**
Metal condition: **Good**
Ladder opening size: **30 inches**
- Shape: **Round**
- Opening covered: **Yes**
- Handhold at opening: **Yes**

Drain: **Yes**
- Size: **3 inches**
- Type: **To overflow**
- Check valve: **Yes**

Riser above the Condensate Platform:

Coating condition: **Good**
Describe coating: **No significant coating deterioration**
Dry film thickness: **11-12 mils**
Metal condition: **Good**

Top Platform:

Platform design: **Full**
- Material: **Steel plate**

Coating condition: **Good**
Describe coating: **Rust bleedthrough**
Metal condition: **Good**
Ladder opening size: **30 inches**
- Shape: **Square**
- Opening covered: **Yes**

DRY INTERIOR COATING

Handhold at opening: **Yes**

Riser above the Top Platform:

Coating condition: **Good**
Describe coating: **No significant coating deterioration**
Dry film thickness: **12-13 mils**
Metal condition: **Good**

Transition Cone:

Coating condition: **Good**
Describe coating: **Spot coating failures to substrate, rust bleedthrough**
Metal condition: **Good**
Rigging lug above opening: **No**

Access Tube:

Diameter: **34 inches**
Topcoat condition: **Good**
Prime coat condition: **Good**
Describe coating: **Rust bleedthrough**
Dry film thickness: **8-11 mils**
Metal condition: **Good**
Access tube comments: **Rust bleedthrough around cable routing brackets going up access tube**

DRY INTERIOR APPURTENANCES

Electrical:

Lights functioning: **Yes**
Additional lights needed: **No**
Electrical outlet/conduit condition: **Good**
Used during inspection: **No**
Electrical comments: **Some bulbs are burned out in the riser**

Sample Tap:

Location: **In basebell**
Pipe diameter greater than ¼ inch: **No**
12 inches or more above the ground/floor: **Yes**
Down turned: **Yes**
Smooth end: **Yes**
In heated box: **Yes**
Condition: **Good**

DRY INTERIOR APPURTENANCES

Threaded Coupling (for chemical feed on the fill/draw pipe):

N/A

Expansion Joint:

Location: **Top of fill pipe**
Accessible for inspection: **No**
Expansion joint comments: **Covered in insulation, could not inspect**

Fill Pipe Insulation:

Type: **Styrofoam**
Condition: **Good**
Seams loose: **No**
Insulation cover: **Yes**
Type: **Aluminum**
Condition: **Good**

Basebell Ladder:

Toe clearance: **7 inches or greater**
Width of rungs: **16 inches**
Thickness of rungs: **¾ inch**
Shape of rungs: **Round**
Metal condition: **Good**
Fall prevention device: **Yes**
Type: **Rail**
Function properly: **Yes**
Cage: **Yes – ladder support acts as a cage**
Diameter: **30 x 30 inches (usable)**
Ladder comments: **Rail glide starts approximately 10 feet above ground level**

Riser Ladder:

Toe clearance: **7 inches or greater**
Width of rungs: **16 inches**
Thickness of rungs: **¾ inch**
Shape of rungs: **Round**
Metal condition: **Good**
Fall prevention device: **Yes**
Type: **Rail**
Function properly: **Yes**
Cage: **No**

DRY INTERIOR APPURTENANCES

Ladder comments: **Riser fall prevention is loose on ladder and needs to be tightened**

Painter's (bird) Hatch:

Size: **24 inches**

Handhold above hatch: **No**

Metal condition: **Good**

Hatch security: **None**

Manway to Wet Interior:

Size: **14 x 18 inches**

Location: **In transition cone**

Coating condition: **Good**

Metal condition: **Good**

Mud Valve:

Number: **1**

Type: **Babco**

Discharge material: **Hose**

Discharge slope: **Downward**

Functioning properly: **Not used during inspection**

Metal condition: **Good**

Access Tube Ladder:

Toe clearance: **7 inches or greater**

Width of rungs: **16 inches**

Thickness of rungs: **¾ inch**

Shape of rungs: **Round**

Metal condition: **Good**

Fall prevention device: **Yes**

Type: **Rail**

Function properly: **Yes**

WET INTERIOR COATING

Roof:

Topcoat condition: **Good**

Primer coating condition: **Good**

Describe coating: **Delaminating, rust bleedthrough**

Metal condition: **Good**

Lap seams: **Open**

Condition of lap seams: **Good**

WET INTERIOR COATING

Roof comments: **A few areas of rust streaking at the lap seam.**

Sidewall:

Topcoat condition: **Good**
Primer coating condition: **Good**
Describe coating: **Spot coating failures to substrate**
Mineral deposits: **Moderate**
Metal condition: **Good**
Active pitting: **No**
Previous pitting: **No**
Sidewall comments: **Numerous pinholes near high-water line on the sidewall panels.**

Access Tube:

Topcoat condition: **Good**
Primer coating condition: **Good**
Describe coating: **No significant coating deterioration**
Mineral deposits: **Light**
Metal condition: **Good**
Active pitting: **No**
Previous pitting: **No**

Tank Bottom:

Covered in sediment could not inspect with ROV
Type: **Bowl**
Sediment depth: **12-24 inches**

WET INTERIOR APPURTENANCES

Ladder:

Toe clearance: **Less than 7 inches**
Width of rungs: **16 inches**
Thickness of rungs: **¾ inch**
Shape of rungs: **Round**
Shape of side rails: **Flat**
Metal condition: **Good**
Fall prevention device: **Yes**
Type: **Cable**
Function Properly: **Unknown, not used during the inspection**
Ladder comments: **Cable appears to be a bit loose on wet ladder**

WET INTERIOR APPURTENANCES

Cathodic Protection:

N/A – no clips or pressure fitting

Roof Stiffeners:

N/A

Sidewall Stiffeners:

Number: **1**
Location: **Equator**
Coating condition: **Good**
Metal condition: **Good**

Overflow Pipe Inlet:

Type: **Weir box**
Metal condition: **Good**

Fill Pipe:

Diameter: **12 inches (estimated)**
Height above transition cone: **24 inches (estimated)**
Deflector over end: **Yes**
Type: **Plate**
Metal condition: **Good**

Separate Draw Pipe:

N/A

Mixer:

N/A

Field Inspection Report is prepared from the contractor's viewpoint. It contains information the contractor needs to prepare his bid for any repair or recoating. The engineer uses it to prepare the engineering report. Cost estimates are more accurate if the contractor's problems can be anticipated. While prepared from the contractor's viewpoint, the only intended beneficiary is the owner. These reports are completed with diligence, but the accuracy is not guaranteed. The contractor is still advised to visit the site.

200,000 gallon spheroid located in the
Village of Decatur, Michigan.

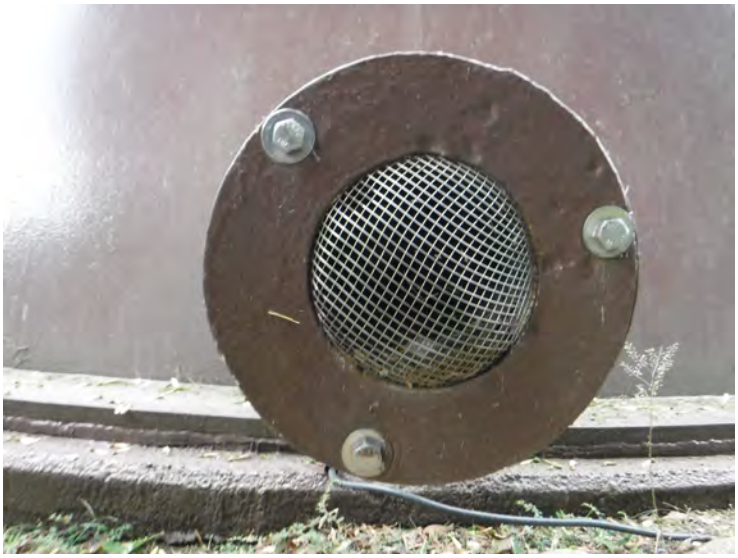
1) The foundation is in good condition.

2) Same.

3) Typical anchor bolt is in good condition.

4) The overflow pipe discharges to a concrete splash pad.

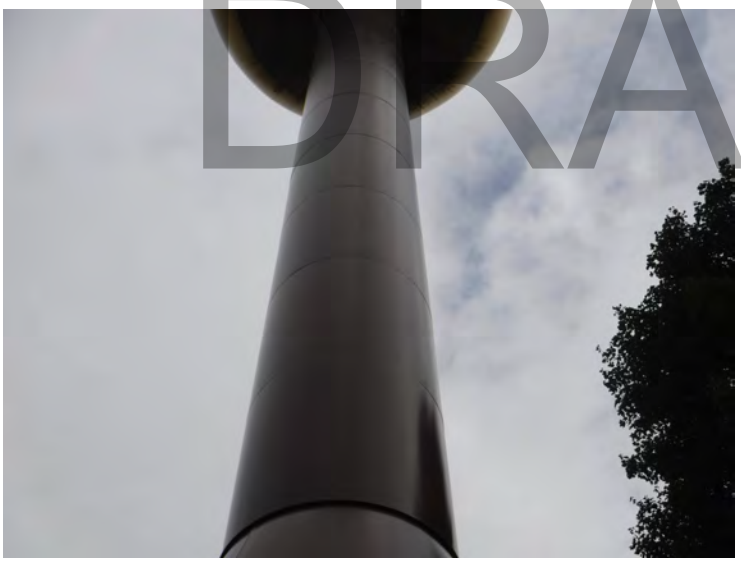
5) The overflow screen is in good condition.



6) The basebell door is in good condition.

7) The basebell coating is in good condition with no significant failures.

8) Same.

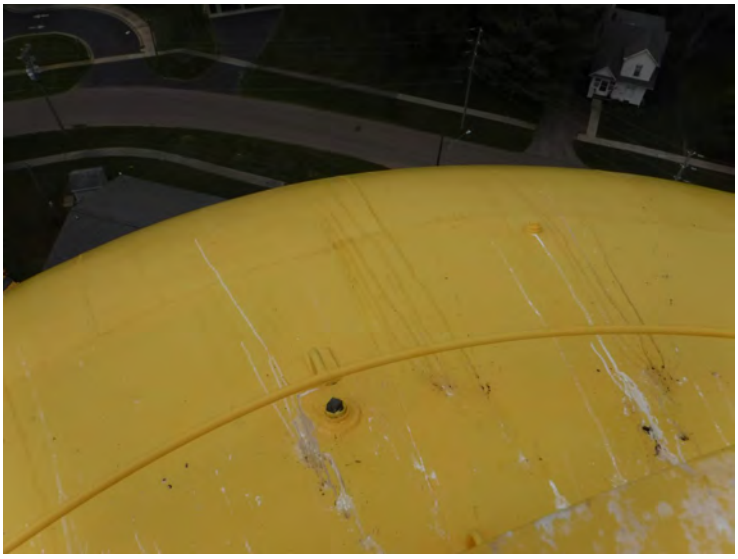


9) The riser coating is in good condition with no significant failures.

10) The bowl is covered with light mildew growth.

11) The sidewall coating is in good condition with no significant failures.

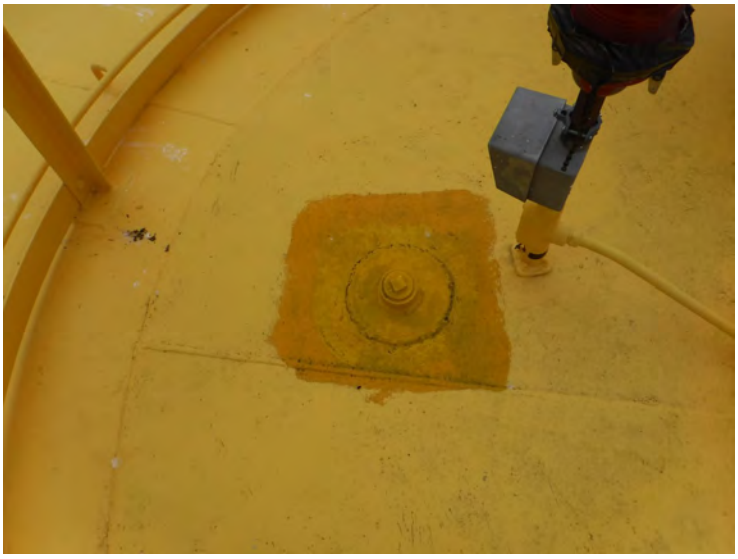
12) Same.



13) The roof coating is in good condition overall.

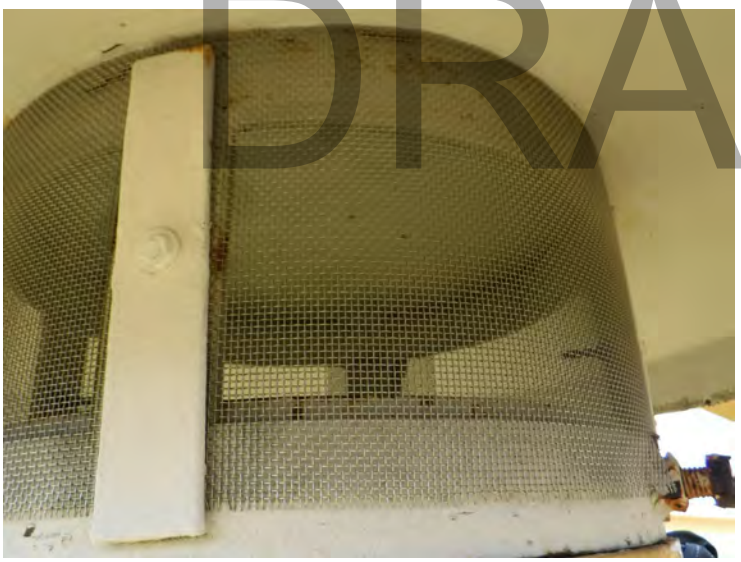
14) Same.

15) The roof handrail is in good condition.



16) Typical rigging coupling is in good condition.

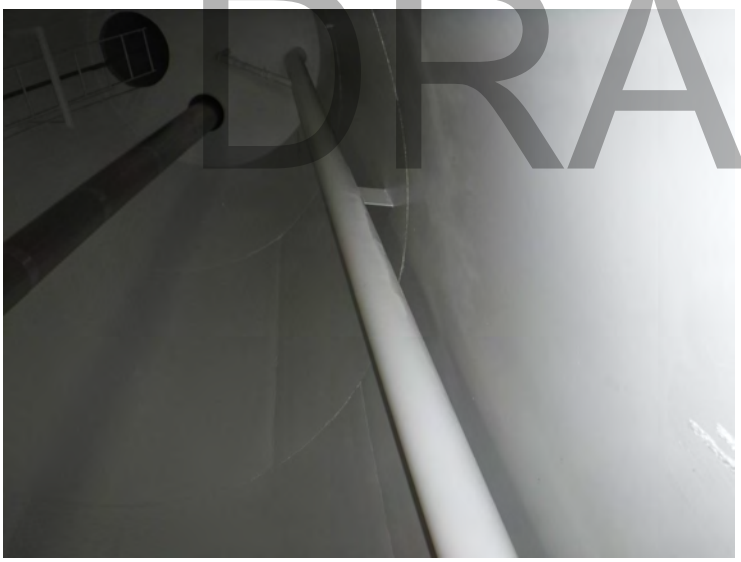
17) One of the aviation light globes is being held in place with electrical tape.



18) The roof vent screen is intact. The vent is a flow through design.

19) There is no gasket on the wet interior hatch.

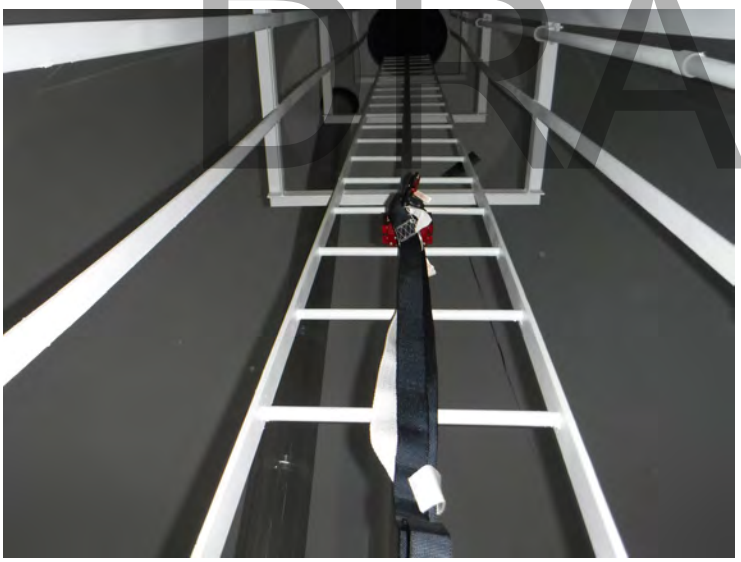
20) The basebell coating is in good condition with no significant failures.



21) Same.

22) Same.

23) There is a heated room in the basebell housing controls.

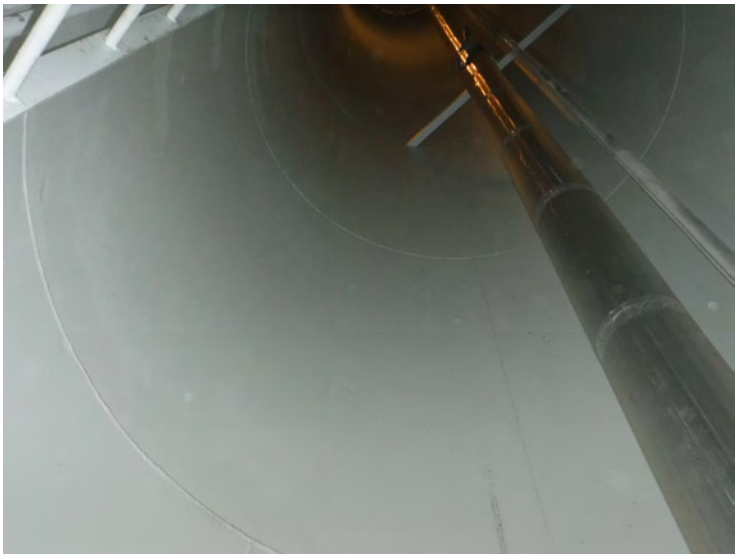


24) The basebell ladder fall prevention starts halfway up the ladder.

25) The condensate drain routes to the overflow pipe and is in good condition.

26) There is rust bleedthrough and a few minor spot failures on the condensate platform.

27) The condensate platform opening and cover are in good condition.



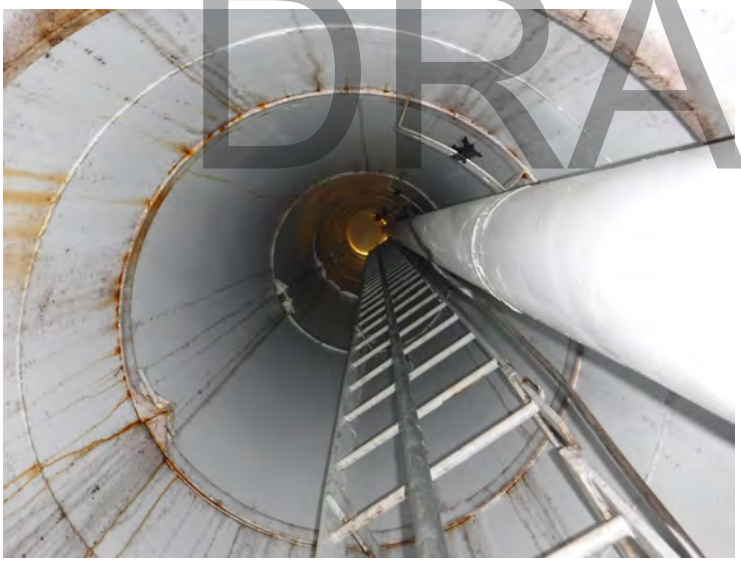
28) The riser coating is in good condition with no significant failures.

29) The riser ladder is in good condition. The ladder is equipped with a fall prevention device.

30) Minor coating failures on the top platform. The top platform opening and cover are in good condition.

31) The mud valve appears to be in good condition.

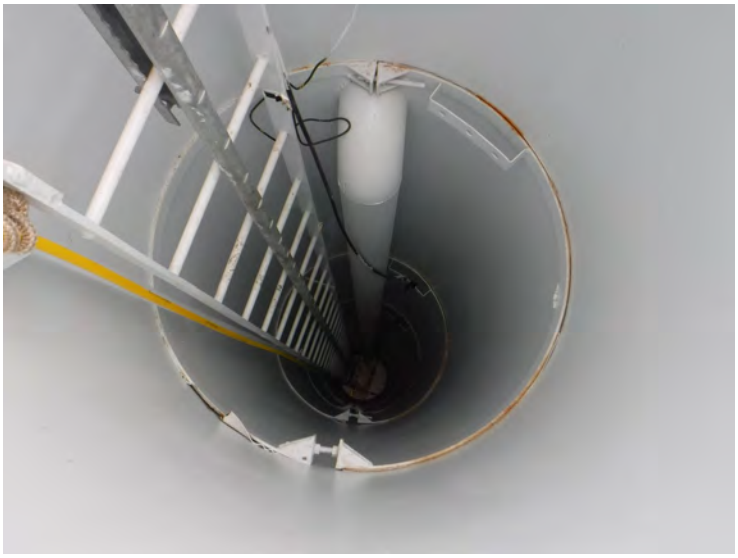
32) The wet interior manway in the transition cone is in good condition.

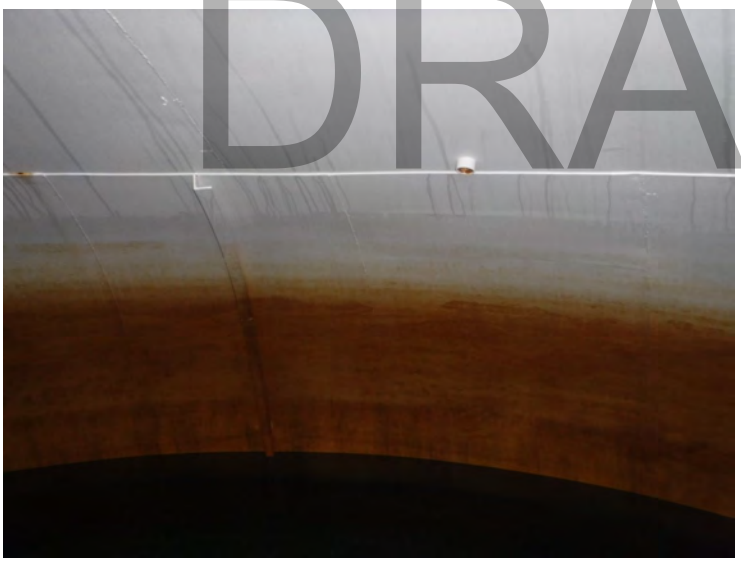


33) There is rust bleedthrough and streaking at the antenna cable attachment brackets in the access tube.

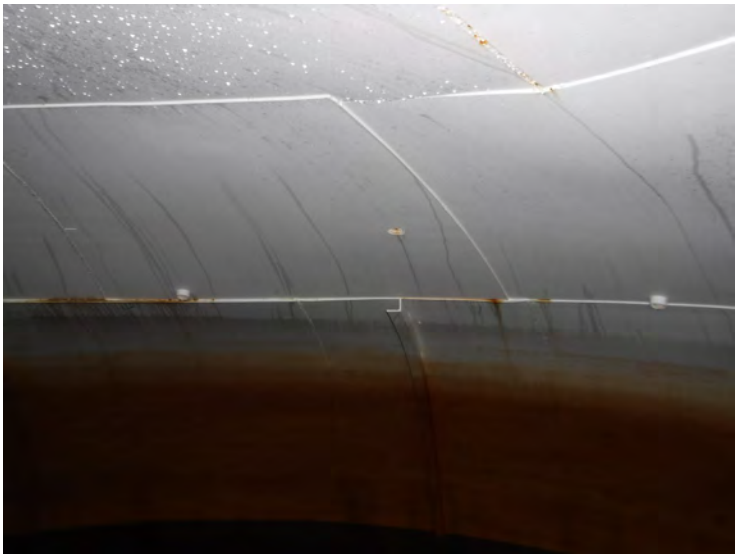
34) Same.

35) The access tube ladder is in good condition. The ladder is equipped with a fall prevention device.



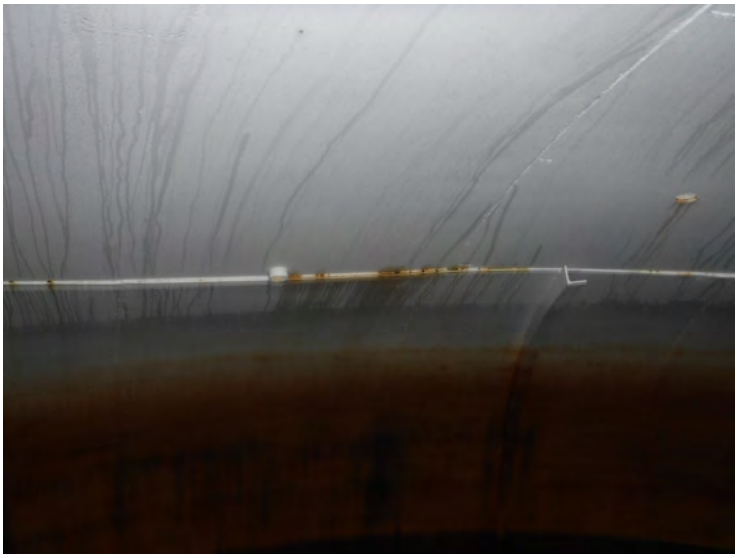


36) The wet interior roof coating is in good condition overall.



37) There is minor corrosion at the open lap seams.

38) Same.

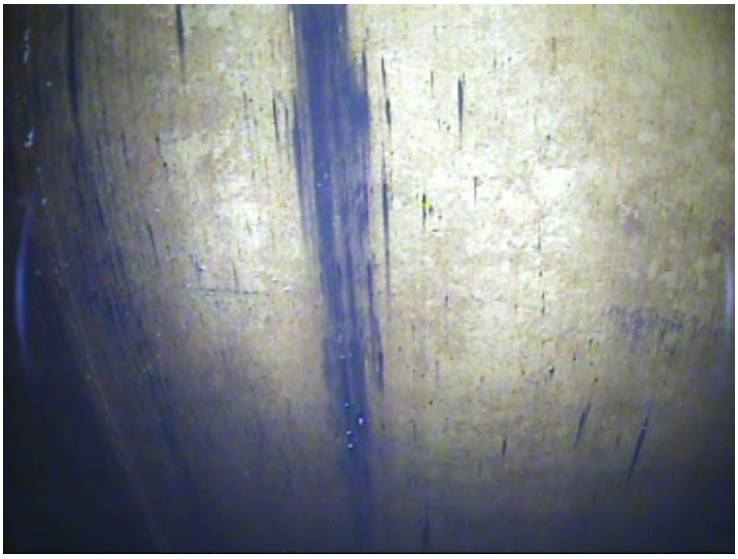


39) The overflow weir box is in good condition.

40) The roof viewed from the ROV.

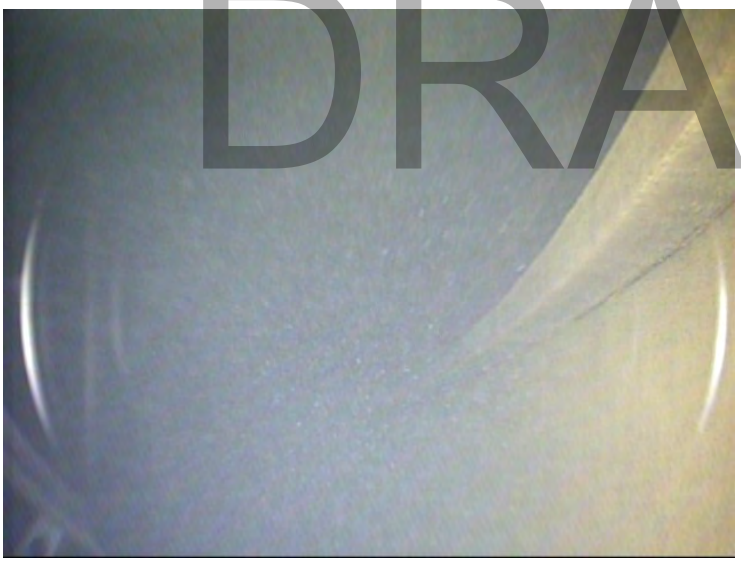
41) The sidewall coating is in good condition overall.

42) Pinhole coating failures on the sidewall.

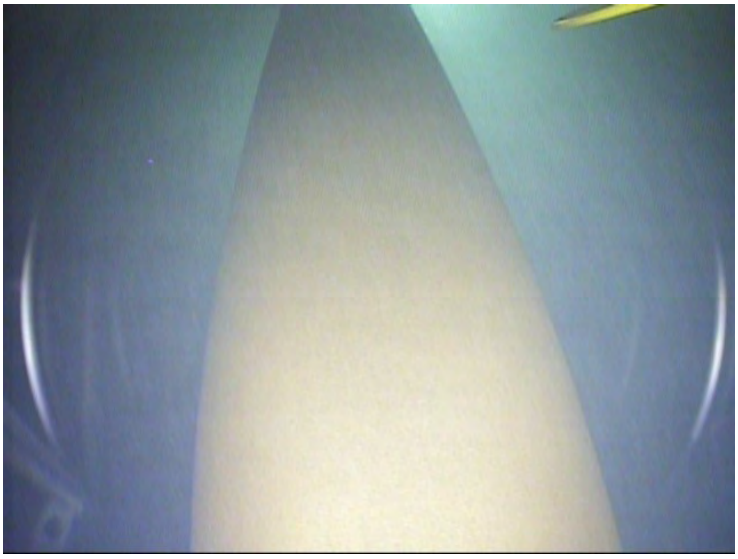


43) Same.

44) The sidewall stiffener is in good condition.



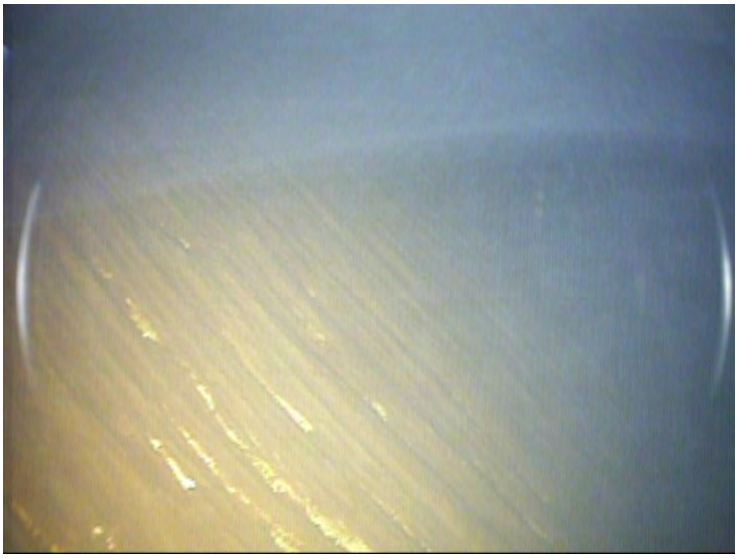
45) Same.



46) The access tube coating is in good condition with no significant failures.

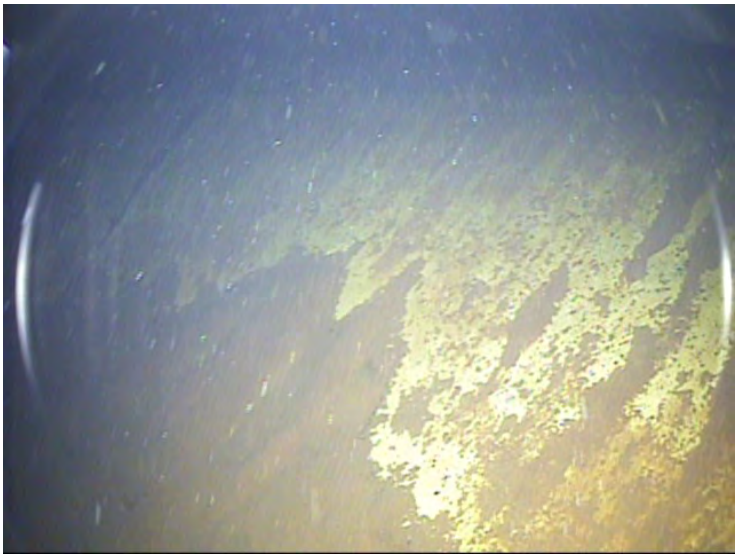
47) Same.

48) The wet interior ladder is in good condition. The ladder is equipped with a fall prevention device.



49) There is sediment accumulated on the lower sidewall and bowl.

50) Same.



51) The fill/draw pipe is in good condition. There is a deflector plate at the end of the pipe.

APPENDIX D
PER Summary Tables

Existing Water System Summary

Community Name: Village of Decatur

MDEQ Water Supply Number (WSSN): 01750

Well	Rated Capacity (gpm)	Date of Completion	Date of Last Maint.	Depth	Water Quality
Well 2	250	2016	2016	116 ft	Acceptable
Well 3	500	2015	2015	188 ft	Acceptable
Well 4	1000	2016	2016	192 ft	Acceptable

*No "Well 1" exists in the Village

Water Demand (MGD)

Firm Capacity:	0.750	MGD
Avg. Day Demand:	0.200	MGD
Max Day Demand:	0.354	MGD
Avg Monthly Billing	4	MG
Avg Monthly Pumpage	5.5	MG

Distribution System:

	Material	Footage	Age
2" watermain	Ductile or Cast Iron	585	Various
4" watermain	Ductile or Cast Iron	27,610	Various
6: watermain	Ductile or Cast Iron	31,225	Various
8" watermain	Ductile or Cast Iron	16,780	Various
12" watermain	Ductile or Cast Iron	15,810	20-40
16" watermain	Ductile or Cast Iron	595	20-30

Storage

Elevated Tank or Ground Storage

Volume:	200,000 Gal	
Construction:	Welded Steel	
Const Date:	1979	
Last paint:	2014	
Low Service Pumps	N/A	(gpm, ea.)
High Service Pumps	250; 500; 1,000	(gpm, ea.)

Number of Hydrants	Brand
117	Various

Number of Valves: 304

Water Customer Information:

	No. of Existing Customers	Monthly Usage (gallons)	No. of Users after Project	Projected Total Usage
Residential Dwellings	541	2,067,000	541	2,067,000
Other Users	247	1,775,870	247	1,775,870
Totals	788	3,842,870	788	3,842,870

Existing Rate Structure:

Ready-To-Serve Charge (Monthly):	$ 16.00
Apartment Ready-To-Serve Charge (Monthly):	$ 16.00
Usage charge (mGal)	$ 2.12

Average Monthly Billing at Current Rates (all customers)

$ 25,641.03

Yearly O & M Cost Before Improvements: $183,498.46

Yearly O & M Cost After: $ 186,320.89

Operating Budget
For First Full Year After Construction (FY 2024)

Community Name: Village of Decatur **County:** Van Buren County

Address: 114 North Phelps Street, Decatur, Michigan 49045

A. Applicant Fiscal Year: **From:** March 1 **To:** February 28

B. Operating Income:	**From Water Rates & Charges:**	$419,539
	Other:	$5,700
	Total Operating Income:	$425,239
C. Operating Expenses:*		
	Department 483 - Administration	$19,686
	Department 550 - Collection	$34,769
	Department 551 - Utility	$10,715
	Department 552 - Distribution	$124,074
	Department 553 - Wells/Tower	$6,618
	Total Operating Expenses:	$195,862
D.	**Net Operating Income:**	$229,377
E. Non Operating Income:		
	Interest:	$1,400
	Total Non Operating Income:	$1,400
F.	**Net Income**	$230,777
G. Expenditures/Transfers		
	Repair, Replacement & Improvement Fund	$5,000
	Bond Reserve	$7,239
	Payment to USDA Loan	$72,392
	Payment to Non-USDA Loan	$51,689
	Cash Funded Lead Service Line Replacements	$50,000
	Total Expenditures/Transfers:	$186,321
	Excess/Deficit over net income:	$44,456

*See Appendix E - Rate Analysis for Individual Line Item Costs

Present Worth Analysis & Short Lived Depreciation

(add or delete rows or cells as necessary)

Community Name: Village of Decatur

Federal Discount Rate for Water Resources Planning (Interest Rate) i = 0.025

Number of Years, n = 20 years

Replacement via Directional Drill
Alternative B

Initial Capital Costs =	$1,795,465
Annual Operations & Maintenance Costs =	$195,862
Future Salvage Value =	$1,468,523
Present Worth of 20 years of O & M =	$3,053,319

PW = Annual OM $*\frac{(1+i)^n-1}{i*(1+i)^n}$

Present Worth of 20 yr Salvage Value =	$896,197

PW = FSV$*\frac{1}{(1+i)^n}$

Alternate B Total Present Worth =	$3,952,586

Replacement via Open Cut
Alternative C

Initial Capital Costs =	$1,556,050
Annual Operations & Maintenance Costs =	$195,862
Future Salvage Value =	$1,272,704
Present Worth of 20 years of O & M =	$3,053,319
Present Worth of 20 yr Salvage Value =	$776,694
Alternative C Total Present Worth =	$3,832,674

Short Lived Depreciated Assets

Item	Years of Life Expectancy	Number of Units	Replacement Cost	Funds to Set Aside Yearly
Storage Tank Interior Painting	15	1	$30,000	$2,000
Storage Tank Exterior Painting	15	1	$45,000	$3,000
Total			$75,000	$5,000

Future Salvage Value

S = P(1-d)^y d = depreciation rate (1/asset life)

P = initial cost y = years

Pipe Replacement via Directional Drill

Pipe Replacement: S = $1,795,465 x (1-(1/100))^20

Total Salvage Value **= $1,468,523**

Pipe Replacement via Open Cut

Pipe Lining: S = $1,556,050 x (1-(1/100))^20

Total Salvage Value **=$1,277,704**

Bond Schedule - Drinking Water

Date: ***10/19/21***

Borrower Name: **Village of Decatur** ***Type of Bond:*** **Revenue**
Interest Rate: 1.750%
Yrs Deferred Principle 0
Principal: **$2,070,000** (round to nearest $1000)
Ammort. Factor 0.0350
Ammortized Payment: $72,392

Year	1st Interest	2nd Interest	Principal Paid	Total Year Payment	Loan Balance
					2,070,000
1	18,113	18,113	36,000	72,225	2,034,000
2	17,798	17,798	37,000	72,595	1,997,000
3	17,474	17,474	37,000	71,948	1,960,000
4	17,150	17,150	38,000	72,300	1,922,000
5	16,818	16,818	39,000	72,635	1,883,000
6	16,476	16,476	39,000	71,953	1,844,000
7	16,135	16,135	40,000	72,270	1,804,000
8	15,785	15,785	41,000	72,570	1,763,000
9	15,426	15,426	42,000	72,853	1,721,000
10	15,059	15,059	42,000	72,118	1,679,000
11	14,691	14,691	43,000	72,383	1,636,000
12	14,315	14,315	44,000	72,630	1,592,000
13	13,930	13,930	45,000	72,860	1,547,000
14	13,536	13,536	45,000	72,073	1,502,000
15	13,143	13,143	46,000	72,285	1,456,000
16	12,740	12,740	47,000	72,480	1,409,000
17	12,329	12,329	48,000	72,658	1,361,000
18	11,909	11,909	49,000	72,818	1,312,000
19	11,480	11,480	49,000	71,960	1,263,000
20	11,051	11,051	50,000	72,103	1,213,000
21	10,614	10,614	51,000	72,228	1,162,000
22	10,168	10,168	52,000	72,335	1,110,000
23	9,713	9,713	53,000	72,425	1,057,000
24	9,249	9,249	54,000	72,498	1,003,000
25	8,776	8,776	55,000	72,553	948,000
26	8,295	8,295	56,000	72,590	892,000
27	7,805	7,805	57,000	72,610	835,000
28	7,306	7,306	58,000	72,613	777,000
29	6,799	6,799	59,000	72,598	718,000
30	6,283	6,283	60,000	72,565	658,000
31	5,758	5,758	61,000	72,515	597,000
32	5,224	5,224	62,000	72,448	535,000
33	4,681	4,681	63,000	72,363	472,000
34	4,130	4,130	64,000	72,260	408,000
35	3,570	3,570	65,000	72,140	343,000
36	3,001	3,001	66,000	72,003	277,000
37	2,424	2,424	68,000	72,848	209,000
38	1,829	1,829	69,000	72,658	140,000
39	1,225	1,225	70,000	72,450	70,000
40	613	613	70,000	71,225	0

Total Project Costs - Drinking Water

	RD Funds	Non RD funds	Total
1. Construction Costs	$1,557,000	$636,795	$2,193,795
2. Bond and Local Counsel	$47,000	$0	$47,000
3. Rate Consultant	$17,000	$10,000	$27,000
4. Engineering Fees (Basic Services)	$191,000	$64,000	$255,000
5. Project Inspection Fees (RPR)	$75,000	$26,000	$101,000
6. Engineering (Additional Services)	$27,000	$7,000	$34,000
7. Contingencies	$156,000	$64,000	$220,000
TOTAL:	$2,070,000	$807,795	$2,877,795

Notes:
This Table should match SF424
Construction Costs are further detailed with Engineer's Opinion of Probable Construction Costs attached.
Round figures to the nearest $1000!

APPENDIX E
Rate Analysis

VILLAGE OF DECATUR

Historical Revenue and Expenditure Report - Drinking Water
9/1/2021

Fiscal Year Ending Febuary 28th:		2017	2018	2019	2020	2021
Revenues						
Department 000						
591-000-413.000	Delinquent special assessments	$ -	$ 122	$ -	$ 83	$ -
591-000-608.000	NSF check fee	$ 40	$ 100	$ 80	$ 60	$ 105
591-000-629.000	Penalties	$ 4,824	$ 4,918	$ 4,700	$ 4,396	$ 1,864
591-000-642.000	Water turn ons	$ 920	$ 880	$ 620	$ 760	$ 340
591-000-643.000	Metered sales	$ 232,903	$ 229,328	$ 227,685	$ 224,525	$ 255,611
591-000-645.000	Water tap fees	$ 600	$ -	$ 500	$ -	$ 4,250
591-000-664.000	Interest on CD's - Receiving	$ -	$ -	$ -	$ 1,519	$ 613
591-000-664.100	Interest - Water operating	$ 91	$ 48	$ 30	$ 64	$ 1,633
591-000-664.120	Interest on checking - Receiving	$ 127	$ 187	$ 190	$ 173	$ 87
591-000-671.000	Reimbursements special services	$ -	$ -	$ 80	$ -	$ 50
591-000-672.000	Special Assessments	$ -	$ -	$ -	$ 168	$ -
	Total Revenue	**$ 239,505**	**$ 235,583**	**$ 233,885**	**$ 231,748**	**$ 264,553**
Expenses						
Department 483 - Administration						
591-483-703.172	Manager salary	$ 7,146	$ 6,405	$ 7,100	$ 8,143	$ 10,235
591-483-703.215	Clerk salary	$ 7,071	$ 8,345	$ 7,113	$ 7,939	$ 8,729
591-483-715.000	FICA/Medicare	$ 1,099	$ 1,230	$ 1,136	$ 1,293	$ 1,199
591-483-718.000	Pension	$ -	$ -	$ 360	$ 536	$ -
591-483-719.000	Health insurance	$ 818	$ -	$ 135	$ 128	$ -
Department 550 - Collection						
591-550-703.000	Salaries-clerical	$ 9,778	$ 12,128	$ 12,711	$ 12,926	$ 15,674
591-550-703.020	Holiday pay	$ 505	$ 616	$ 414	$ 669	$ 564
591-550-703.030	Vacation pay	$ 1,133	$ 1,160	$ 118	$ 669	$ 188
591-550-703.040	Sick/personal	$ 513	$ 588	$ 1,960	$ 1,664	$ 736
591-550-715.000	FICA/Medicare	$ 954	$ 1,158	$ 1,215	$ 1,282	$ 1,388
591-550-716.000	Unemployment compensation	$ -	$ 10	$ 10	$ 2	$ 1
591-550-717.000	Workman's comp	$ 39	$ 44	$ 57	$ 149	$ 56
591-550-718.000	Pension	$ 537	$ 652	$ 684	$ 948	$ 977
591-550-719.000	Health insurance	$ 5,754	$ 5,621	$ 4,875	$ 5,704	$ 4,777
591-550-719.500	Disability Insurance	$ -	$ -	$ -	$ -	$ 57
591-550-720.000	Life insurance	$ 53	$ 53	$ 64	$ 56	$ 44
591-550-728.000	Office supplies	$ 543	$ 636	$ 785	$ 286	$ 1,059
591-550-730.000	Postage	$ 1,330	$ 1,428	$ 1,631	$ 1,503	$ 1,272
591-550-807.000	Audit	$ 810	$ 810	$ 830	$ 847	$ 847
591-550-808.000	Payment Processing Fees	$ -	$ -	$ -	$ 8	$ 307
591-550-853.000	Telephone	$ 371	$ 487	$ 604	$ 541	$ 554
591-550-864.000	Conferences/Workshops	$ -	$ -	$ 330	$ -	$ -
591-550-901.000	Printing	$ 256	$ 396	$ 325	$ 281	$ 588
591-550-931.000	Maint-Services	$ -	$ -	$ -	$ -	$ 73
591-550-934.000	Service contracts	$ 198	$ 223	$ 239	$ 2,681	$ 723
591-550-936.000	Tech services	$ 1,856	$ 798	$ 249	$ 3,684	$ 3,995
591-550-959.000	Miscellaneous	$ 374	$ 164	$ 497	$ 324	$ 408
591-550-964.000	NSF check charges	$ 10	$ 25	$ 20	$ 15	$ 23
591-550-965.000	Equipment purchase	$ 375	$ -	$ -	$ 555	$ -
Department 551 - Utility						
591-551-921.000	Power pumping-electric	$ 8,572	$ 7,284	$ 9,663	$ 8,568	$ 12,509
Department 552 - Distribution						
591-552-703.000	Salaries-distribution	$ 24,470	$ 26,534	$ 30,901	$ 25,860	$ 42,111
591-552-703.010	Overtime pay	$ 921	$ 1,585	$ 1,169	$ 2,929	$ 2,884
591-552-703.020	Holiday pay	$ 2,811	$ 3,164	$ 3,223	$ 2,970	$ 2,876
591-552-703.030	Vacation pay	$ 4,982	$ 3,089	$ 2,683	$ 2,793	$ 3,405
591-552-703.040	Sick/personal pay	$ 2,690	$ 4,401	$ 2,745	$ 3,892	$ 4,480
591-552-715.000	FICA/Medicare	$ 2,801	$ 3,172	$ 3,018	$ 3,131	$ 5,524
591-552-716.000	Unemployment insurance	$ -	$ -	$ -	$ -	$ 1
591-552-717.000	Workman's comp	$ 1,215	$ 833	$ 996	$ 1,340	$ 968
591-552-718.000	Pension	$ 2,984	$ 3,257	$ 2,258	$ 4,292	$ 4,235
591-552-719.000	Health insurance	$ 11,427	$ 12,748	$ 12,385	$ 9,294	$ 9,866

591-552-719.500	Disability Insurance	$ -	$ -	$ -	$ -	$ 209
591-552-720.000	Life insurance	$ 323	$ 337	$ 377	$ 344	$ 303
591-552-722.000	Vision reimbursement	$ 125	$ -	$ -	$ 125	$ -
591-552-756.000	Operating supplies	$ -	$ -	$ 38	$ 1,066	$ 110
591-552-768.000	Uniforms/Boots/Etc.	$ 492	$ 289	$ 549	$ 1,355	$ 746
591-552-776.000	Supplies & maintenance	$ 5,235	$ 5,160	$ 11,945	$ 6,319	$ 11,774
591-552-807.000	Audit	$ 1,215	$ 1,215	$ 1,246	$ 1,271	$ 1,273
591-552-812.000	Engineering	$ -	$ -	$ -	$ 3,407	$ 27,888
591-552-820.000	MISS DIG	$ 49	$ 49	$ 55	$ 389	$ 734
591-552-821.000	Water testing	$ 3,300	$ 3,177	$ 4,227	$ 3,498	$ 5,033
591-552-822.000	Contractual Services	$ 4,920	$ 4,920	$ 5,299	$ 5,375	$ 5,267
591-552-853.020	Cell phone	$ 693	$ 1,416	$ 1,359	$ 1,454	$ 1,409
591-552-864.000	Conf/Workshops	$ 75	$ 1,109	$ 215	$ 587	$ 310
591-552-936.000	Tech services	$ -	$ -	$ -	$ 159	$ 1,878
591-552-943.000	Equipment rental-water fund	$ 17,792	$ 12,577	$ 13,185	$ 11,139	$ 14,456
591-552-958.000	Dues/Memberships	$ 575	$ 465	$ 491	$ 710	$ 830
591-552-959.000	Miscellaneous	$ -	$ -	$ 313	$ 750	$ 750
591-552-963.000	Liability insurance	$ 2,537	$ 2,522	$ 2,441	$ 2,338	$ 2,516
Department 553 - Wells/Tower						
591-553-703.000	Salaries-wells & tower	$ -	$ -	$ -	$ -	$ 395
591-553-703.010	Overtime pay	$ -	$ 23	$ -	$ -	$ -
591-553-715.000	FICA/Medicare	$ -	$ 2	$ -	$ -	$ 32
591-553-931.000	Maint.-water services	$ 698	$ 1,116	$ 308	$ 123	$ 1,500
591-553-934.000	Repair Wells	$ -	$ -	$ -	$ 2,521	$ 5,552
591-553-963.000	Liability insurance	$ 3,061	$ 3,026	$ 2,933	$ 2,857	$ 3,024
	Total - Expenses	**$ 145,486**	**$ 146,447**	**$ 157,484**	**$ 163,686**	**$ 229,326**

Village of Decatur

Water System Improvements Project

ESTIMATED PRELIMINARY RATE IMPACTS - WATER CUSTOMERS

10/25/2021

ASSUMPTIONS

Initial Rate Increase	35.00%
Start Date of Initial Rate Increase	2023
Start of Annual COLA Rate Increase	2024
Inflation	2.2%
Meter Equivalents Billed (inside and outside Village)*	965
Apartment Unit Count (inside and outside Village)*	162
Annual Billed Usage (Gallons)*	43,070,000

*Per 2020 Baker Tilly Rate Study

Water Customers

Per BS&A Active Accounts Meter Report

Meter Size:	*Village Customer Meters*
5/8" or 3/4	719
1"	40
1 1/4"	1
1 1/2"	8
2"	16
3"	2
4"	2
6"	0
8"	0
10"	0
12"	0
Total:	788

REVENUES				FY 2022		FY 2023		FY 2024
Rate Increase				0.0%		35.00%		1.00%
Readiness to Serve Charge				$ 16.00		$ 21.60		$ 21.82
Meter Equivalents Billed*				965		965		965
Apartment Unit Count*				162		162		162
Ready to Serve Revenue				$ 216,384		$ 292,118		$ 295,040
Usage Rate - City				$ 2.12		$ 2.86		$ 2.89
Usage Rate Revenue				$ 91,308		$ 123,266		$ 124,499
Other Revenue				$ 7,100		$ 7,100		$ 7,100
Total Revenue				$ 314,792		$ 422,485		$ 426,639
* Meter Equivalents Based on 2020 Baker Tilly Rate Analysis								
Typical Homeowner's Bill (assuming 5,000 gallons per month)				$ 26.60		$ 35.91		$ 36.27
OPERATING EXPENDITURES								
O&M				$ 187,512		$ 191,632		$ 195,862
Net Operating Revenue				$ 127,281		$ 230,853		$ 230,776.97
NON-OPERATING EXPENDITURES								
Cash Funded Capital Replacements				$ -		$ -		$ -
Cash Funded Lead Service Line Replacements				$ 50,000		$ 50,000		$ 50,000
Estimated Debt Srvice #2 2027/28 bonds								

Bonds	Project Cost	Grant	Bond Amount	Term	Rate	Start	End	Debt Service				
Water USDA	$ 2,070,000	0.0%	$ 2,070,000	40	1.750%	2024	2063	$72,392.23	*Balance:*	$ -	$ -	$ 2,070,000
									Principal:	$ -	$ -	$ 36,167
									Interest:	$ -	$ -	$ 36,225
									Total:	$ -	$ -	$ 72,392
Non - USDA	$ 805,795	0.0%	$ 805,795	20	2.500%	2024	2043	$51,689.44	*Balance:*	$ -	$ -	$ 805,795
									Principal:	$ -	$ -	$ 37,588
									Interest:	$ -	$ -	$ 14,101
									Total:	$ -	$ -	$ 51,689

CASH RESERVES					
Repair, Replacement & Improvement Fund	$ -	$ -	$ 5,000		
Bond Reserve	$ -	$ -	$ 7,239		
Net Cash Flow	$ 77,281	$ 180,853	$ 44,456		
Cash Fund Balance	**$ 407,627**	**$ 484,908**	**$ 665,761**	**$ 710,217**	

FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034
1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
$ 22.03	$ 22.25	$ 22.48	$ 22.70	$ 22.93	$ 23.16	$ 23.39	$ 23.62	$ 23.86	$ 24.10
965	965	965	965	965	965	965	965	965	965
162	162	162	162	162	162	162	162	162	162
$ 297,990	$ 300,970	$ 303,980	$ 307,019	$ 310,090	$ 313,190	$ 316,322	$ 319,486	$ 322,680	$ 325,907
$ 2.92	$ 2.95	$ 2.98	$ 3.01	$ 3.04	$ 3.07	$ 3.10	$ 3.13	$ 3.16	$ 3.19
$ 125,744	$ 127,001	$ 128,271	$ 129,554	$ 130,850	$ 132,158	$ 133,480	$ 134,815	$ 136,163	$ 137,524
$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100
$ 430,834	$ 435,071	$ 439,351	$ 443,674	$ 448,039	$ 452,449	$ 456,902	$ 461,400	$ 465,943	$ 470,532
$ 36.63	$ 37.00	$ 37.37	$ 37.74	$ 38.12	$ 38.50	$ 38.89	$ 39.27	$ 39.67	$ 40.06
$ 200,185	$ 204,604	$ 209,120	$ 213,736	$ 218,454	$ 223,276	$ 228,204	$ 233,241	$ 238,390	$ 243,652
$ 230,649	$ 230,468	$ 230,231	$ 229,938	$ 229,586	$ 229,173	$ 228,698	$ 228,159	$ 227,553	$ 226,880
$ 30,914	$ 88,967	$ -	$ -	$ 82,461	$ 23,161	$ 124,337	$ -	$ 250,960	$ 193,963
$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000
			$ 12,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000
$ 2,033,833	$ 1,997,033	$ 1,959,588	$ 1,921,489	$ 1,882,723	$ 1,843,278	$ 1,803,143	$ 1,762,306	$ 1,720,754	$ 1,678,475
$ 36,800	$ 37,444	$ 38,099	$ 38,766	$ 39,445	$ 40,135	$ 40,837	$ 41,552	$ 42,279	$ 43,019
$ 35,592	$ 34,948	$ 34,293	$ 33,626	$ 32,948	$ 32,257	$ 31,555	$ 30,840	$ 30,113	$ 29,373
$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392
$ 768,207	$ 729,961	$ 691,046	$ 651,450	$ 611,161	$ 570,167	$ 528,455	$ 486,014	$ 442,830	$ 398,890
$ 38,246	$ 38,915	$ 39,596	$ 40,289	$ 40,994	$ 41,712	$ 42,441	$ 43,184	$ 43,940	$ 44,709
$ 13,444	$ 12,774	$ 12,093	$ 11,400	$ 10,695	$ 9,978	$ 9,248	$ 8,505	$ 7,750	$ 6,981
$ 51,689	$ 51,689	$ 51,689	$ 51,689	$ 51,689	$ 51,689	$ 51,689	$ 51,689	$ 51,689	$ 51,689
$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000
$ 7,239	$ 7,239	$ 7,239	$ 7,239	$ 7,239	$ 7,239	$ 7,239	$ 7,239	$ 7,239	$ -
$ 13,414	$ (44,820)	$ 43,910	$ 31,617	$ (78,196)	$ (19,309)	$ (120,960)	$ 2,838	$ (248,727)	$ (185,165)
$ 723,631	**$ 678,811**	**$ 722,721**	**$ 754,338**	**$ 676,142**	**$ 656,833**	**$ 535,873**	**$ 538,711**	**$ 289,983**	**$ 104,819**

FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044
1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
$ 24.34	$ 24.58	$ 24.83	$ 25.08	$ 25.33	$ 25.58	$ 25.84	$ 26.10	$ 26.36	$ 26.62
965	965	965	965	965	965	965	965	965	965
162	162	162	162	162	162	162	162	162	162
$ 329,166	$ 332,458	$ 335,783	$ 339,140	$ 342,532	$ 345,957	$ 349,417	$ 352,911	$ 356,440	$ 360,004
$ 3.22	$ 3.26	$ 3.29	$ 3.32	$ 3.36	$ 3.39	$ 3.42	$ 3.46	$ 3.49	$ 3.53
$ 138,900	$ 140,289	$ 141,691	$ 143,108	$ 144,539	$ 145,985	$ 147,445	$ 148,919	$ 150,408	$ 151,912
$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100
$ 475,166	$ 479,847	$ 484,574	$ 489,349	$ 494,171	$ 499,042	$ 503,961	$ 508,930	$ 513,948	$ 519,017
$ 40.46	$ 40.87	$ 41.28	$ 41.69	$ 42.11	$ 42.53	$ 42.95	$ 43.38	$ 43.82	$ 44.26
$ 249,030	$ 254,527	$ 260,145	$ 265,887	$ 271,756	$ 277,755	$ 283,886	$ 290,152	$ 296,557	$ 303,103
$ 226,136	$ 225,320	$ 224,429	$ 223,462	$ 222,415	$ 221,287	$ 220,076	$ 218,778	$ 217,392	$ 215,914
$ 17,496	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000		
$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000
$ 1,635,456	$ 1,591,685	$ 1,547,147	$ 1,501,830	$ 1,455,720	$ 1,408,802	$ 1,361,064	$ 1,312,491	$ 1,263,067	$ 1,212,778
$ 43,772	$ 44,538	$ 45,317	$ 46,110	$ 46,917	$ 47,738	$ 48,574	$ 49,424	$ 50,289	$ 51,169
$ 28,620	$ 27,854	$ 27,075	$ 26,282	$ 25,475	$ 24,654	$ 23,819	$ 22,969	$ 22,104	$ 21,224
$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392
$ 354,181	$ 308,689	$ 262,402	$ 215,305	$ 167,383	$ 118,623	$ 69,009	$ 18,528	$ -	$ -
$ 45,491	$ 46,287	$ 47,097	$ 47,922	$ 48,760	$ 49,614	$ 50,482	$ 18,535	$ -	$ -
$ 6,198	$ 5,402	$ 4,592	$ 3,768	$ 2,929	$ 2,076	$ 1,208	$ 324	$ -	$ -
$ 51,689	$ 51,689	$ 51,689	$ 51,689	$ 51,689	$ 51,689	$ 51,689	$ 18,859	$ -	$ -
$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ (9,442)	$ 7,238	$ 6,347	$ 5,380	$ 4,333	$ 3,206	$ 1,994	$ 33,527	$ 101,000	$ 99,522
$ 95,377	**$ 102,615**	**$ 108,963**	**$ 114,342**	**$ 118,676**	**$ 121,881**	**$ 123,875**	**$ 157,402**	**$ 258,402**	**$ 357,924**

FY 2045	FY 2046	FY 2047	FY 2048	FY 2049	FY 2050	FY 2051	FY 2052	FY 2053	FY 2054
1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
$ 26.89	$ 27.15	$ 27.43	$ 27.70	$ 27.98	$ 28.26	$ 28.54	$ 28.83	$ 29.11	$ 29.40
965	965	965	965	965	965	965	965	965	965
162	162	162	162	162	162	162	162	162	162
$ 363,604	$ 367,240	$ 370,913	$ 374,622	$ 378,368	$ 382,152	$ 385,973	$ 389,833	$ 393,731	$ 397,669
$ 3.56	$ 3.60	$ 3.63	$ 3.67	$ 3.71	$ 3.74	$ 3.78	$ 3.82	$ 3.86	$ 3.90
$ 153,432	$ 154,966	$ 156,516	$ 158,081	$ 159,662	$ 161,258	$ 162,871	$ 164,499	$ 166,144	$ 167,806
$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100
$ 524,136	$ 529,306	$ 534,528	$ 539,803	$ 545,130	$ 550,510	$ 555,944	$ 561,433	$ 566,976	$ 572,575
$ 44.70	$ 45.14	$ 45.60	$ 46.05	$ 46.51	$ 46.98	$ 47.45	$ 47.92	$ 48.40	$ 48.89
$ 309,793	$ 316,631	$ 323,620	$ 330,764	$ 338,065	$ 345,527	$ 353,154	$ 360,949	$ 368,916	$ 377,059
$ 214,343	$ 212,675	$ 210,908	$ 209,039	$ 207,065	$ 204,983	$ 202,790	$ 200,484	$ 198,060	$ 195,515
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000
$ 1,161,610	$ 1,109,546	$ 1,056,571	$ 1,002,668	$ 947,823	$ 892,017	$ 835,236	$ 777,460	$ 718,673	$ 658,858
$ 52,064	$ 52,975	$ 53,902	$ 54,846	$ 55,805	$ 56,782	$ 57,776	$ 58,787	$ 59,815	$ 60,862
$ 20,328	$ 19,417	$ 18,490	$ 17,547	$ 16,587	$ 15,610	$ 14,617	$ 13,606	$ 12,577	$ 11,530
$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 97,951	$ 96,283	$ 94,516	$ 92,647	$ 90,673	$ 88,591	$ 86,398	$ 84,091	$ 81,667	$ 79,123
$ 455,874	**$ 552,157**	**$ 646,673**	**$ 739,320**	**$ 829,993**	**$ 918,584**	**$ 1,004,982**	**$ 1,089,074**	**$ 1,170,741**	**$ 1,249,864**

FY 2055	FY 2056	FY 2057	FY 2058	FY 2059	FY 2060	FY 2061	FY 2062	FY 2063
1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
$ 29.70	$ 30.00	$ 30.30	$ 30.60	$ 30.90	$ 31.21	$ 31.53	$ 31.84	$ 32.16
965	965	965	965	965	965	965	965	965
162	162	162	162	162	162	162	162	162
$ 401,645	$ 405,662	$ 409,719	$ 413,816	$ 417,954	$ 422,133	$ 426,355	$ 430,618	$ 434,924
$ 3.94	$ 3.97	$ 4.01	$ 4.05	$ 4.09	$ 4.14	$ 4.18	$ 4.22	$ 4.26
$ 169,484	$ 171,179	$ 172,891	$ 174,619	$ 176,366	$ 178,129	$ 179,911	$ 181,710	$ 183,527
$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100	$ 7,100
$ 578,229	$ 583,941	$ 589,709	$ 595,535	$ 601,420	$ 607,363	$ 613,365	$ 619,428	$ 625,551
$ 49.37	$ 49.87	$ 50.37	$ 50.87	$ 51.38	$ 51.89	$ 52.41	$ 52.94	$ 53.47
$ 385,382	$ 393,889	$ 402,583	$ 411,470	$ 420,552	$ 429,835	$ 439,323	$ 449,020	$ 458,931
$ 192,847	$ 190,052	$ 187,126	$ 184,066	$ 180,867	$ 177,528	$ 174,043	$ 170,408	$ 166,620
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000	$ 39,000
$ 597,996	$ 536,068	$ 473,057	$ 408,944	$ 343,708	$ 277,330	$ 209,792	$ 141,071	$ 71,147
$ 61,927	$ 63,011	$ 64,114	$ 65,236	$ 66,377	$ 67,539	$ 68,721	$ 69,923	$ 71,147
$ 10,465	$ 9,381	$ 8,279	$ 7,157	$ 6,015	$ 4,853	$ 3,671	$ 2,469	$ 1,245
$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392	$ 72,392
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 76,455	$ 73,660	$ 70,734	$ 67,673	$ 64,475	$ 61,136	$ 57,650	$ 54,016	$ 50,228
$ 1,326,319	**$ 1,399,979**	**$ 1,470,713**	**$ 1,538,386**	**$ 1,602,861**	**$ 1,663,997**	**$ 1,721,647**	**$ 1,775,663**	**$ 1,825,890**

APPENDIX F
Detailed Cost Estimates

Village of Decatur

Water System Improvements Project

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COSTS

October 25, 2021

Cedar St Water Main Replacement - Pine St to Phelps St

USDA Funded Water Main Replacement - Alternative C

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	LS	Mobilization	@	$30,000	$30,000
1	LS	Traffic Maintenance & Control	@	15,000	15,000
5	CYD	Subgrade Undercutting, Type II	@	25	125
110	SYD	Pavt, Rem, Modified	@	10	1,100
1,680	SYD	HMA Surface, Rem	@	5	8,400
1,680	SYD	Aggregate Base, 8 inch	@	10	16,800
5.6	STA	Machine Grading, Modified	@	3,000	16,875
100	SFT	Sidewalk, Conc, 4 inch	@	5	500
25	SFT	Sidewalk Ramp, Conc, 6 inch	@	7	175
110	SYD	Driveway, Nonreinf Conc, 6 inch	@	50	5,500
1,375	FT	Water Main, DI, 8 inch	@	85	116,875
1	EA	Hydrant, Rem	@	550	550
1	EA	Hydrant, Valve and Box, 6 inch	@	1,500	1,500
750	LBS	Compact Ductile Iron Fittings	@	5	3,750
5	EA	Gate Valve and Box, 8 inch	@	2,000	10,000
3	EA	Connect to Existing Main, 4 inch	@	2,500	7,500
1	EA	Connect to Existing Main, 6 inch	@	3,000	3,000
1,375	FT	Water Main, Abandon	@	10	13,750
4	EA	Water Serv, Short	@	1,800	7,200
5	EA	Water Serv, Long	@	2,200	11,000
370	TON	HMA, LVSP	@	110	40,700
2,750	FT	Pavement Markings	@	1.00	2,750
1	LS	Permanent Signage	@	3,000	3,000
		Subtotal Estimated Construction Cost			**$316,050**

Non-USDA Funded Private Service Line Replacement

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
9	EA	Water Serv, Private	@	3,000	27,000
9	EA	Plumber	@	195	1,755
9	EA	Landscaping	@	200	1,800
		Subtotal Estimated Construction Cost			**$30,555**

Non-USDA Funded Road Replacement

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
10	FT	Detectable Warning Surface	@	35	350
2,295	SFT	Sidewalk, Conc, 4 inch	@	5	11,475
75	SFT	Sidewalk Ramp, Conc, 6 inch	@	7	525
480	TON	HMA, LVSP	@	110	52,800
2,150	SYD	HMA Base Crushing and Shaping	@	6	12,900
		Subtotal Estimated Construction Cost			**$78,050**

Austin Blvd Water Main Replacement - Douglas Dr to Kinney Rd

USDA Funded Water Main Replacement - Alternative C

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	LS	Mobilization	@	$15,000	$15,000
1	LS	Traffic Maintenance & Control	@	10,000	10,000
5	CYD	Subgrade Undercutting, Type II	@	25	125
160	SYD	Pavt, Rem, Modified	@	10	1,600
910	SYD	HMA Surface, Rem	@	5	4,550
910	SYD	Aggregate Base, 8 inch	@	10	9,100
4	STA	Machine Grading, Modified	@	3,000	12,000
160	SYD	Driveway, Nonreinf Conc, 6 inch	@	50	8,000
915	FT	Water Main, DI, 8 inch	@	85	77,775
3	EA	Hydrant, Rem	@	550	1,650
3	EA	Hydrant, Valve and Box, 6 inch	@	1,500	4,500
500	LBS	Compact Ductile Iron Fittings	@	5	2,500
6	EA	Gate Valve and Box, 8 inch	@	2,000	12,000
4	EA	Connect to Existing Main, 4 inch	@	2,500	10,000
1	EA	Connect to Existing Main, 8 inch	@	3,500	3,500
915	FT	Water Main, Abandon	@	10	9,150
1	EA	Water Serv, Short	@	1,800	1,800
1	EA	Water Serv, Long	@	2,200	2,200
210	TON	HMA, LVSP	@	110	23,100
390	SYD	Restoration	@	3	1,170
1,630	FT	Pavement Markings	@	1.00	1,630
1	LS	Permanent Signage	@	2,500	2,500
		Subtotal Estimated Construction Cost			**$213,850**

Non-USDA Funded Private Service Line Replacement

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
2	EA	Water Serv, Private	@	3,000	6,000
2	EA	Plumber	@	195	390
2	EA	Landscaping	@	200	400
		Subtotal Estimated Construction Cost			**$6,790**

Non-USDA Funded Road Replacement

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
3	EA	Dr Structure Cover, adj, Case 1	@	550	1,650
350	TON	HMA, LVSP	@	110	38,500
1,550	SYD	HMA Base Crushing and Shaping	@	6	9,300
		Subtotal Estimated Construction Cost			**$49,450**

Memory Ln Water Main Replacement - Cedar St to Douglas Dr

USDA Funded Water Main Replacement - Alternative C

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	LS	Mobilization	@	$15,000	$15,000
1	LS	Traffic Maintenance & Control	@	7,500	7,500
5	CYD	Subgrade Undercutting, Type II	@	25	125
60	SYD	Pavt, Rem, Modified	@	10	600
740	SYD	HMA Surface, Rem	@	5	3,700
740	SYD	Aggregate Base, 8 inch	@	10	7,400
3	STA	Machine Grading, Modified	@	3,000	9,000
60	SYD	Driveway, Nonreinf Conc, 6 inch	@	50	3,000
575	FT	Water Main, DI, 8 inch	@	85	48,875
200	LBS	Compact Ductile Iron Fittings	@	5	1,000
1	EA	Gate Valve and Box, 8 inch	@	2,000	2,000
1	EA	Connect to Existing Main, 4 inch	@	2,500	2,500
1	EA	Connect to Existing Main, 8 inch	@	3,500	3,500
575	FT	Water Main, Abandon	@	10	5,750
1	EA	Water Serv, Short	@	1,800	1,800
1	EA	Water Serv, Long	@	2,200	2,200
170	TON	HMA, LVSP	@	110	18,700
1,100	FT	Pavement Markings	@	1.00	1,100
1	LS	Permanent Signage	@	1,500	1,500
		Subtotal Estimated Construction Cost			**$135,250**

Non-USDA Funded Private Service Line Replacement

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
2	EA	Water Serv, Private	@	3,000	6,000
2	EA	Plumber	@	195	390
2	EA	Landscaping	@	200	400
		Subtotal Estimated Construction Cost			**$6,790**

Non-USDA Funded Road Replacement

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
400	SFT	Sidewalk, Conc, 4 inch	@	5	2,000
170	TON	HMA, LVSP	@	110	18,700
730	SYD	HMA Base Crushing and Shaping	@	6	4,380
		Subtotal Estimated Construction Cost			**$25,080**

Kinney Rd Water Main Replacement - Austin Blvd to Pine St

USDA Funded Water Main Replacement - Alternative C

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	LS	Mobilization	@	$10,000	$10,000
1	LS	Traffic Maintenance & Control	@	5,000	5,000
5	CYD	Subgrade Undercutting, Type II	@	25	125
90	SYD	Pavt, Rem, Modified	@	10	900
700	SYD	HMA Surface, Rem	@	5	3,500
700	SYD	Aggregate Base, 8 inch	@	10	7,000
2	STA	Machine Grading, Modified	@	3,000	6,000
90	SYD	Driveway, Nonreinf Conc, 6 inch	@	50	4,500
600	FT	Water Main, DI, 8 inch	@	85	51,000
200	LBS	Compact Ductile Iron Fittings	@	5	1,000
1	EA	Connect to Existing Main, 4 inch	@	2,500	2,500
1	EA	Connect to Existing Main, 8 inch	@	3,500	3,500
600	FT	Water Main, Abandon	@	10	6,000
4	EA	Water Serv, Short	@	1,800	7,200
5	EA	Water Serv, Long	@	2,200	11,000
160	TON	HMA, LVSP	@	110	17,600
1,190	FT	Pavement Markings	@	1.00	1,190
1	LS	Permanent Signage	@	2,000	2,000
		Subtotal Estimated Construction Cost			**$140,015**

Non-USDA Funded Private Service Line Replacement

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
9	EA	Water Serv, Private	@	3,000	27,000
9	EA	Plumber	@	195	1,755
9	EA	Landscaping	@	200	1,800
		Subtotal Estimated Construction Cost			**$30,555**

Non-USDA Funded Road Replacement

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	EA	Dr Structure Cover, adj, Case 1	@	550	550
200	TON	HMA, LVSP	@	110	22,000
880	SYD	HMA Base Crushing and Shaping	@	6	5,280
		Subtotal Estimated Construction Cost			**$27,830**

Lee Ave Water Main Replacement - Austin Blvd to Pine St

USDA Funded Water Main Replacement - Alternative C

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	LS	Mobilization	@	$10,000	$10,000
1	LS	Traffic Maintenance & Control	@	5,000	5,000
160	SYD	Pavt, Rem, Modified	@	10	1,600
700	SYD	HMA Surface, Rem	@	5	3,500
700	SYD	Aggregate Base, 8 inch	@	10	7,000
2	STA	Machine Grading, Modified	@	3,000	6,000
160	SYD	Driveway, Nonreinf Conc, 6 inch	@	50	8,000
600	FT	Water Main, DI, 8 inch	@	85	51,000
200	LBS	Compact Ductile Iron Fittings	@	5	1,000
1	EA	Connect to Existing Main, 4 inch	@	2,500	2,500
1	EA	Connect to Existing Main, 8 inch	@	3,500	3,500
600	FT	Water Main, Abandon	@	10	6,000
6	EA	Water Serv, Short	@	1,800	10,800
7	EA	Water Serv, Long	@	2,200	15,400
160	TON	HMA, LVSP	@	110	17,600
280	SYD	Restoration	@	3	840
1,190	FT	Pavement Markings	@	1.00	1,190
1	LS	Permanent Signage	@	2,000	2,000
		Subtotal Estimated Construction Cost			**$152,930**

Non-USDA Funded Private Service Line Replacement

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
13	EA	Water Serv, Private	@	3,000	39,000
13	EA	Plumber	@	195	2,535
13	EA	Landscaping	@	200	2,600
		Subtotal Estimated Construction Cost			**$44,135**

Non-USDA Funded Road Replacement

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
200	TON	HMA, LVSP	@	110	22,000
890	SYD	HMA Base Crushing and Shaping	@	6	5,340
		Subtotal Estimated Construction Cost			**$27,340**

Douglas Dr Water Main Replacement - Austin Blvd to Pine St

USDA Funded Water Main Replacement - Alternative C

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	LS	Mobilization	@	$10,000	$10,000
1	LS	Traffic Maintenance & Control	@	5,000	5,000
5	CYD	Subgrade Undercutting, Type II	@	25	125
160	SYD	Pavt, Rem, Modified	@	10	1,600
680	SYD	HMA Surface, Rem	@	5	3,400
680	SYD	Aggregate Base, 8 inch	@	10	6,800
2	STA	Machine Grading, Modified	@	3,000	6,000
160	SYD	Driveway, Nonreinf Conc, 6 inch	@	50	8,000
575	FT	Water Main, DI, 8 inch	@	85	48,875
200	LBS	Compact Ductile Iron Fittings	@	5	1,000
1	EA	Connect to Existing Main, 4 inch	@	2,500	2,500
1	EA	Connect to Existing Main, 8 inch	@	3,500	3,500
575	FT	Water Main, Abandon	@	10	5,750
5	EA	Water Serv, Short	@	1,800	9,000
6	EA	Water Serv, Long	@	2,200	13,200
150	TON	HMA, LVSP	@	110	16,500
280	SYD	Restoration	@	3	840
1,140	FT	Pavement Markings	@	1.00	1,140
1	LS	Permanent Signage	@	2,000	2,000
		Subtotal Estimated Construction Cost			**$145,230**

Non-USDA Funded Private Service Line Replacement

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
11	EA	Water Serv, Private	@	3,000	33,000
11	EA	Plumber	@	195	2,145
11	EA	Landscaping	@	200	2,200
		Subtotal Estimated Construction Cost			**$37,345**

Non-USDA Funded Road Replacement

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
190	TON	HMA, LVSP	@	110	20,900
850	SYD	HMA Base Crushing and Shaping	@	6	5,100
		Subtotal Estimated Construction Cost			**$26,000**

Pine St Water Main Replacement - Lake Dr to N. Williams St

USDA Funded Water Main Replacement - Alternative C

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	LS	Mobilization	@	$30,000	$30,000
1	LS	Traffic Maintenance & Control	@	10,000	10,000
140	SYD	Pavt, Rem, Modified	@	10	1,400
1,780	SYD	HMA Surface, Rem	@	5	8,900
1,780	SYD	Aggregate Base, 8 inch	@	10	17,800
9	STA	Machine Grading, Modified	@	3,000	26,250
140	SYD	Driveway, Nonreinf Conc, 6 inch	@	50	7,000
2,135	FT	Water Main, DI, 8 inch	@	85	181,475
3	EA	Hydrant, Rem	@	550	1,650
3	EA	Hydrant, Valve and Box, 6 inch	@	1,500	4,500
1,500	LBS	Compact Ductile Iron Fittings	@	5	7,500
9	EA	Gate Valve and Box, 8 inch	@	2,000	18,000
1	EA	Connect to Existing Main, 4 inch	@	2,500	2,500
5	EA	Connect to Existing Main, 8 inch	@	3,500	17,500
2,135	FT	Water Main, Abandon	@	10	21,350
9	EA	Water Serv, Short	@	1,800	16,200
10	EA	Water Serv, Long	@	2,200	22,000
400	TON	HMA, LVSP	@	110	44,000
1,000	SYD	Restoration	@	3	3,000
4,200	FT	Pavement Markings	@	1.00	4,200
1	LS	Permanent Signage	@	7500	7,500
		Subtotal Estimated Construction Cost			**$452,725**

Non-USDA Funded Private Service Line Replacement

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
19	EA	Water Serv, Private	@	3,000	57,000
19	EA	Plumber	@	195	3,705
19	EA	Landscaping	@	200	3,800
		Subtotal Estimated Construction Cost			**$64,505**

Non-USDA Funded Road Replacement

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
75	CYD	Subgrade Undercutting, Type II	@	25	1,875
270	SYD	Pavt, Rem, Modified	@	10	2,700
9	EA	Dr Structure Cover, adj, Case 1	@	550	4,950
1,565	SFT	Sidewalk, Conc, 4 inch	@	5	7,825
100	SFT	Sidewalk Ramp, Conc, 6 inch	@	7	700
270	SYD	Driveway, Nonreinf Conc, 6 inch	@	50	13,500
1,100	TON	HMA, LVSP	@	110	121,000
4,970	SYD	HMA Base Crushing and Shaping	@	6	29,820
		Subtotal Estimated Construction Cost			**$182,370**

Village of Decatur

Water System Improvements Project

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COSTS

October 25, 2021

Cedar St Water Main Replacement - Pine St to Phelps St

USDA Funded Water Main Replacement - Alternative B

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	LS	Mobilization	@	$30,000	$30,000
1	LS	Traffic Maintenance & Control	@	15,000	15,000
5	CYD	Subgrade Undercutting, Type II	@	25	125
110	SYD	Pavt, Rem, Modified	@	10	1,100
1,680	SYD	HMA Surface, Rem	@	5	8,400
1,680	SYD	Aggregate Base, 8 inch	@	10	16,800
5.6	STA	Machine Grading, Modified	@	3,000	16,875
100	SFT	Sidewalk, Conc, 4 inch	@	5	500
25	SFT	Sidewalk Ramp, Conc, 6 inch	@	7	175
110	SYD	Driveway, Nonreinf Conc, 6 inch	@	50	5,500
1,375	FT	Water Main, PVC, 8 inch via Directional Drilling	@	120	165,000
1	EA	Hydrant, Rem	@	550	550
1	EA	Hydrant, Valve and Box, 6 inch	@	1,500	1,500
750	LBS	Compact Ductile Iron Fittings	@	5	3,750
5	EA	Gate Valve and Box, 8 inch	@	2,000	10,000
3	EA	Connect to Existing Main, 4 inch	@	2,500	7,500
1	EA	Connect to Existing Main, 6 inch	@	3,000	3,000
1,375	FT	Water Main, Abandon	@	10	13,750
4	EA	Water Serv, Short	@	1,800	7,200
5	EA	Water Serv, Long	@	2,200	11,000
370	TON	HMA, LVSP	@	110	40,700
680	SYD	Restoration	@	3	2,040
2,750	FT	Pavement Markings	@	1.00	2,750
1	LS	Permanent Signage	@	3,000	3,000
		Subtotal Estimated Construction Cost			**$366,215**

Austin Blvd Water Main Replacement - Douglas Dr to Kinney Rd

USDA Funded Water Main Replacement - Alternative B

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	LS	Mobilization	@	$15,000	$15,000
1	LS	Traffic Maintenance & Control	@	10,000	10,000
5	CYD	Subgrade Undercutting, Type II	@	25	125
160	SYD	Pavt, Rem, Modified	@	10	1,600
910	SYD	HMA Surface, Rem	@	5	4,550
910	SYD	Aggregate Base, 8 inch	@	10	9,100
4	STA	Machine Grading, Modified	@	3,000	12,000
160	SYD	Driveway, Nonreinf Conc, 6 inch	@	50	8,000
915	FT	Water Main, PVC, 8 inch via Directional Drilling	@	120	109,800
3	EA	Hydrant, Rem	@	550	1,650
3	EA	Hydrant, Valve and Box, 6 inch	@	1,500	4,500
500	LBS	Compact Ductile Iron Fittings	@	5	2,500
6	EA	Gate Valve and Box, 8 inch	@	2,000	12,000
4	EA	Connect to Existing Main, 4 inch	@	2,500	10,000
1	EA	Connect to Existing Main, 8 inch	@	3,500	3,500
915	FT	Water Main, Abandon	@	10	9,150
1	EA	Water Serv, Short	@	1,800	1,800
1	EA	Water Serv, Long	@	2,200	2,200
210	TON	HMA, LVSP	@	110	23,100
390	SYD	Restoration	@	3	1,170
1,630	FT	Pavement Markings	@	1.00	1,630
1	LS	Permanent Signage	@	2,500	2,500
		Subtotal Estimated Construction Cost			**$245,875**

Memory Ln Water Main Replacement - Cedar St to Douglas Dr

USDA Funded Water Main Replacement - Alternative B

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	LS	Mobilization	@	$15,000	$15,000
1	LS	Traffic Maintenance & Control	@	7,500	7,500
5	CYD	Subgrade Undercutting, Type II	@	25	125
60	SYD	Pavt, Rem, Modified	@	10	600
740	SYD	HMA Surface, Rem	@	5	3,700
740	SYD	Aggregate Base, 8 inch	@	10	7,400
3	STA	Machine Grading, Modified	@	3,000	9,000
60	SYD	Driveway, Nonreinf Conc, 6 inch	@	50	3,000
575	FT	Water Main, PVC, 8 inch via Directional Drilling	@	120	69,000
200	LBS	Compact Ductile Iron Fittings	@	5	1,000
1	EA	Gate Valve and Box, 8 inch	@	2,000	2,000
1	EA	Connect to Existing Main, 4 inch	@	2,500	2,500
1	EA	Connect to Existing Main, 8 inch	@	3,500	3,500
575	FT	Water Main, Abandon	@	10	5,750
1	EA	Water Serv, Short	@	1,800	1,800
1	EA	Water Serv, Long	@	2,200	2,200
170	TON	HMA, LVSP	@	110	18,700
1,100	FT	Pavement Markings	@	1.00	1,100
1	LS	Permanent Signage	@	1,500	1,500
		Subtotal Estimated Construction Cost			**$155,375**

Kinney Rd Water Main Replacement - Austin Blvd to Pine St

USDA Funded Water Main Replacement - Alternative B

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	LS	Mobilization	@	$10,000	$10,000
1	LS	Traffic Maintenance & Control	@	5,000	5,000
5	CYD	Subgrade Undercutting, Type II	@	25	125
90	SYD	Pavt, Rem, Modified	@	10	900
700	SYD	HMA Surface, Rem	@	5	3,500
700	SYD	Aggregate Base, 8 inch	@	10	7,000
2	STA	Machine Grading, Modified	@	3,000	6,000
90	SYD	Driveway, Nonreinf Conc, 6 inch	@	50	4,500
600	FT	Water Main, PVC, 8 inch via Directional Drilling	@	120	72,000
200	LBS	Compact Ductile Iron Fittings	@	5	1,000
1	EA	Connect to Existing Main, 4 inch	@	2,500	2,500
1	EA	Connect to Existing Main, 8 inch	@	3,500	3,500
600	FT	Water Main, Abandon	@	10	6,000
4	EA	Water Serv, Short	@	1,800	7,200
5	EA	Water Serv, Long	@	2,200	11,000
160	TON	HMA, LVSP	@	110	17,600
1,190	FT	Pavement Markings	@	1.00	1,190
1	LS	Permanent Signage	@	2,000	2,000
		Subtotal Estimated Construction Cost			**$161,015**

Lee Ave Water Main Replacement - Austin Blvd to Pine St

USDA Funded Water Main Replacement - Alternative B

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	LS	Mobilization	@	$10,000	$10,000
1	LS	Traffic Maintenance & Control	@	5,000	5,000
5	CYD	Subgrade Undercutting, Type II	@	25	125
160	SYD	Pavt, Rem, Modified	@	10	1,600
700	SYD	HMA Surface, Rem	@	5	3,500
700	SYD	Aggregate Base, 8 inch	@	10	7,000
2	STA	Machine Grading, Modified	@	3,000	6,000
160	SYD	Driveway, Nonreinf Conc, 6 inch	@	50	8,000
600	FT	Water Main, PVC, 8 inch via Directional Drilling	@	120	72,000
200	LBS	Compact Ductile Iron Fittings	@	5	1,000
1	EA	Connect to Existing Main, 4 inch	@	2,500	2,500
1	EA	Connect to Existing Main, 8 inch	@	3,500	3,500
600	FT	Water Main, Abandon	@	10	6,000
6	EA	Water Serv, Short	@	1,800	10,800
7	EA	Water Serv, Long	@	2,200	15,400
160	TON	HMA, LVSP	@	110	17,600
280	SYD	Restoration	@	3	840
1,190	FT	Pavement Markings	@	1.00	1,190
1	LS	Permanent Signage	@	2,000	2,000
		Subtotal Estimated Construction Cost			**$174,055**

Douglas Dr Water Main Replacement - Austin Blvd to Pine St

USDA Funded Water Main Replacement - Alternative B

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	LS	Mobilization	@	$10,000	$10,000
1	LS	Traffic Maintenance & Control	@	5,000	5,000
5	CYD	Subgrade Undercutting, Type II	@	25	125
160	SYD	Pavt, Rem, Modified	@	10	1,600
680	SYD	HMA Surface, Rem	@	5	3,400
680	SYD	Aggregate Base, 8 inch	@	10	6,800
2	STA	Machine Grading, Modified	@	3,000	6,000
160	SYD	Driveway, Nonreinf Conc, 6 inch	@	50	8,000
575	FT	Water Main, PVC, 8 inch via Directional Drilling	@	120	69,000
200	LBS	Compact Ductile Iron Fittings	@	5	1,000
1	EA	Connect to Existing Main, 4 inch	@	2,500	2,500
1	EA	Connect to Existing Main, 8 inch	@	3,500	3,500
575	FT	Water Main, Abandon	@	10	5,750
5	EA	Water Serv, Short	@	1,800	9,000
6	EA	Water Serv, Long	@	2,200	13,200
150	TON	HMA, LVSP	@	110	16,500
280	SYD	Restoration	@	3	840
1,140	FT	Pavement Markings	@	1.00	1,140
1	LS	Permanent Signage	@	2,000	2,000
		Subtotal Estimated Construction Cost			**$165,355**

Pine St Water Main Replacement - Lake Dr to N. Williams St

USDA Funded Water Main Replacement - Alternative B

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	LS	Mobilization	@	$30,000	$30,000
1	LS	Traffic Maintenance & Control	@	10,000	10,000
5	CYD	Subgrade Undercutting, Type II	@	25	125
140	SYD	Pavt, Rem, Modified	@	10	1,400
1,780	SYD	HMA Surface, Rem	@	5	8,900
1,780	SYD	Aggregate Base, 8 inch	@	10	17,800
9	STA	Machine Grading, Modified	@	3,000	26,250
140	SYD	Driveway, Nonreinf Conc, 6 inch	@	50	7,000
2,135	FT	Water Main, PVC, 8 inch via Directional Drilling	@	120	256,200
3	EA	Hydrant, Rem	@	550	1,650
3	EA	Hydrant, Valve and Box, 6 inch	@	1,500	4,500
1,500	LBS	Compact Ductile Iron Fittings	@	5	7,500
9	EA	Gate Valve and Box, 8 inch	@	2,000	18,000
1	EA	Connect to Existing Main, 4 inch	@	2,500	2,500
5	EA	Connect to Existing Main, 8 inch	@	3,500	17,500
2,135	FT	Water Main, Abandon	@	10	21,350
9	EA	Water Serv, Short	@	1,800	16,200
10	EA	Water Serv, Long	@	2,200	22,000
400	TON	HMA, LVSP	@	110	44,000
1,000	SYD	Restoration	@	3	3,000
4,200	FT	Pavement Markings	@	1.00	4,200
1	LS	Permanent Signage	@	7500	7500
		Subtotal Estimated Construction Cost			**$527,575**

USDA Drinking Water Project

Road Segment:	*Costs:*
Cedar St - Pine St to Phelps St	$316,050
Austin Blvd - Douglas Dr to Kinney Rd	213,850
Memory Ln - Cedar St to Douglas Dr	135,250
Kinney Rd - Austin Blvd to Pine St	140,015
Lee Ave - Austin Blvd to Pine St	152,930
Douglas Dr - Austin Blvd to Pine St	145,230
Pine St - Lake Dr to Williams St	452,725
SUBTOTAL ESTIMATED CONSTRUCTION COST:	**$1,556,050**
Construction Contingency (10% +/-)	155,600
Bond and Local Counsel (3.0%+/-)	46,700
Rate Consultant	16,500
Design Engineering	
Study and Report Phase	34,750
Preliminary Eng Phase	54,500
Final Eng Phase	38,900
Bidding and Negotiating Phase	7,800
Construction Engineering	
Construction Phase	46,700
Post Construction Phase	7,800
Additional Services	26,600
Project Inspection Fees (RPR)	75,000
SUBTOTAL ESTIMATED PROJECT COST:	***$510,850***
TOTAL ESTIMATED PROJECT & CONSTRUCTION COSTS:	**$2,066,900**

Non-USDA Drinking Water Private Service Replacements:

Road Segment:	*Private Service Replacement Costs:*
Cedar St - Pine St to Phelps St	$30,555
Austin Blvd - Douglas Dr to Kinney Rd	6,790
Memory Ln - Cedar St to Douglas Dr	6,790
Kinney Rd - Austin Blvd to Pine St	30,555
Lee Ave - Austin Blvd to Pine St	44,135
Douglas Dr - Austin Blvd to Pine St	37,345
Pine St - Lake Dr to Williams St	64,505
SUBTOTAL ESTIMATED CONSTRUCTION COST:	**$220,675**
Construction Contingency (10% +/-)	22,100
Bond and Local Counsel (NA)	0
Rate Consultant (1.5%+/-)	3,300
Design Engineering	
Study and Report Phase	
Preliminary Eng Phase	7,728
Final Eng Phase	5,545
Bidding and Negotiating Phase	1,109
Construction Engineering	
Construction Phase	6,654
Post Construction Phase	1,109
Additional Services	2,218
Project Inspection Fees (RPR)	8,837
SUBTOTAL ESTIMATED PROJECT COST:	***$58,599***
TOTAL ESTIMATED PROJECT & CONSTRUCTION COSTS:	**$279,274**

Drinking Water Related Road Projects:

Road Segment:	***Crush and Shape Costs:***
Cedar St - Pine St to Phelps St	$78,050
Austin Blvd - Douglas Dr to Kinney Rd	49,450
Memory Ln - Cedar St to Douglas Dr	25,080
Kinney Rd - Austin Blvd to Pine St	27,830
Lee Ave - Austin Blvd to Pine St	27,340
Douglas Dr - Austin Blvd to Pine St	26,000
Pine St - Lake Dr to Williams St	182,370
TOTAL ESTIMATED CONSTRUCTION COST	**$416,120**
Construction Contingency (10% +/-)	41,600
Bond and Local Counsel (NA)	
Rate Consultant (1.5%+/-)	6,200
Design Engineering	
Study and Report Phase	
Preliminary Eng Phase	14,572
Final Eng Phase	10,455
Bidding and Negotiating Phase	2,091
Construction Engineering	
Construction Phase	12,546
Post Construction Phase	2,091
Additional Services	4,182
Project Inspection Fees (RPR)	16,663
SUBTOTAL ESTIMATED PROJECT COST:	***$110,401***
TOTAL ESTIMATED PROJECT & CONSTRUCTION COSTS:	**$526,521**

APPENDIX G
2017 Capital Improvements Plan List

DRAFT

Summary of Drinking Water Capital Improvement Projects

Village of Decatur

Year	Project Name	Estimated Cost
2018	SCADA System	$80,000
2018	Water Tapping Machine	$5,000
2018	Well 4 Rehabilitation	$19,000
2019	Cedar Street - Pine to Phelps	$175,000
2019	Update General Plan	$7,000
2020	Pine Street Water Main	$207,000
2020	Well 2 Pump Maintenance - 2020	$19,000
2021	Austin Boulevard and Pine Street Water Main	$210,000
2021	Well 3 Pump Maintenance - 2021	$13,000
2022	Lee Avenue and Memory Lane Water Main	$185,000
2023	Kinney Street and Douglas Drive Water Main	$192,000
2024	Hand Held Meter Reader	$9,000
2024	Well 4 Pump Maintenance - 2024	$19,000
2024	White Oak Street Water Main	$135,000
2025	Miscellaneous Hydrant Replacements	$44,000
2025	Rosewood Avenue Water Main	$70,000
2025	Well 3 Rehabilitation	$25,000
2025	Well 4 VFD Replacement	$7,000
2026	Beers Street Water Main - 2026	$144,000
2027	Beers Street Water Main - 2027	$130,000
2028	Beers Street Water Main - 2028	$108,000
2028	Recoat the Elevated Storage Tank - Exterior	$69,000
2028	Well 2 Pump Maintenance - 2028	$19,000
2029	Well 3 Pump Maintenance - 2029	$19,000
2029	Williams Street Water Main	$116,000
2030	Replace Well 3 and 4 Standby Generator	$65,000
2030	Water Meter Replacement - 2030	$100,000
2032	George Street Water Main	$242,000
2032	Well 4 Pump Maintenance - 2032	$19,000
2033	Replace Well 2 and Well 3 Control Panels	$11,000
2033	Water Meter Replacement - 2033	$100,000
2033	Well 4 Maintenance	$4,000
2034	Well 2 Building Maintenance	$4,000

Capital Improvement Project List Continued On Next Page

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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Summary of Drinking Water Capital Improvement Projects (cont.)

Village of Decatur

Year	Project Name	Estimated Cost
2034	Well 3 Maintenance	$4,000
2035	Replace Portable Generator for Well 2	$32,000
2035	Replace Well 4 Control Panel	$6,000
2036	Edgar Bergen Boulevard and N. East Street Water Main	$410,000
2036	Well 2 Pump Maintenance - 2036	$19,000
2037	Recoat the Elevated Storage Tank - Interior	$88,000
2037	Well 3 Pump Maintenance - 2037	$19,000
2037	Well 3 VFD Replacement	$7,000
2038	John Street Water Main	$216,000

Total Estimated Project Cost for Twenty Year Drinking Water CIP =	$3,372,000

(269) 673-8465 1670 Lincoln Road, Allegan, MI
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(269) 927-0100 2303 PIPESTONE ROAD, BENTON HARBOR, MI
(269) 327-3532 9835 PORTAGE ROAD, PORTAGE, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2018**
Total Project Cost:	**$80,000**

Project Title: SCADA System

System: Drinking Water

Project Description
Purchase and install a Supervisory Control And Data Acquisition (SCADA) system.

Project Justification/Benefit
A SCADA system will help the operator with monitoring the water system and issuing process commands through an operator interface.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	80,000
TOTAL	**$**	**80,000**

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Village of Decatur

Project Title: SCADA System

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	SCADA System	$ 50,000	$ 50,000

Project Costs		
Construction Costs (Subtotal)		$ 50,000
Engineering	20 %	$ 10,000
Construction Observation	8 %	$ 4,000
Contingency	25 %	$ 16,000
TOTAL		**$ 80,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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Village of Decatur

Project Year:	**2018**
Total Project Cost:	**$5,000**

Project Title: Water Tapping Machine

System: Drinking Water

Project Description

Buy a new water tapping machine.

Project Justification/Benefit

The current water tapping machine was purchased in 1995. Water tapping machines have an intended useful life of approximately 22 years and the current machine is on the verge of complete failure.

Project Funding Source

Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	5,000
TOTAL	**$**	**5,000**

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Village of Decatur

Project Title: Water Tapping Machine

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Water Taping Machine	$ 4,000	$ 4,000

Project Costs		
Construction Costs (Subtotal)		$ 4,000
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 1,000
TOTAL		**$ 5,000**

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(269) 327-3532 9835 Portage Road, Portage, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2018**
Total Project Cost:	**$19,000**

Project Title: Well 4 Rehabilitation

System: Drinking Water

Project Description
Chemically clean and rehabilitate Well 4.

Project Justification/Benefit
The screens of drinking water wells can become clogged over time with mineral deposits and/or biomass growth, while the surrounding strata can become clogged with clay or silt. These issues cause the performance of a well to deteriorate. Periodic chemical cleaning and well rehabilitation will restore the performance (specific capacity) of the well to near- or like-new conditions and extend the useful life of the well.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	19,000
TOTAL	**$**	**19,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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Village of Decatur

Project Title: Well 4 Rehabilitation

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Well 4 Rehabilitation	$ 15,000	$ 15,000

Project Costs		
Construction Costs (Subtotal)		$ 15,000
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 3,800
TOTAL		**$ 19,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2019**
Total Project Cost:	**$175,000**

Project Title: Cedar Street - Pine to Phelps

System: Drinking Water

Project Description
Replace the existing 4-inch water main running under Cedar Street from Pine Street to N. Phelps Street with 6-inch water main.

Project Justification/Benefit
The minimum water main size allowed in the current version of the Ten States Standards for Water Works in water systems providing fire protection is 6-inch. Increasing the existing 4-inch water main to 6-inch will help to increase the water flow rate for fire fighting efforts and can, in conjunction with other projects identified in the most recent Water Reliability Study, help to lower the Insurance Service Office (ISO) rating for the Village which could lower insurance rates for Village residents. In addition, there have been four recent water main breaks in this area, all of which resulted from shear forces likely due to poor quality soil used for backfill when the water main was originally installed. Replacing the water main will allow for good quality backfill to be installed and for the pipe to be properly bedded, reducing the likelihood of further water main breaks.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	175,000
TOTAL	**$**	**175,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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Village of Decatur

Project Title: Cedar Street - Pine to Phelps

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1,215	FT	Water Main, DI, 6 inch, Tr Det G	$ 100	$ 121,500

Project Costs		
Construction Costs (Subtotal)		$ 121,500
Engineering	7 %	$ 8,600
Construction Observation	8 %	$ 9,800
Contingency	25 %	$ 35,000
TOTAL		**$ 175,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2019**
Total Project Cost:	**$7,000**

Project Title: Update General Plan

System: Drinking Water

Project Description

Update the 2015 version of the General Plan for the water system.

Project Justification/Benefit

Updating the General Plan to reflect improvements and changed conditions since the last update in 2015 will keep the General Plan "current" and allow it to be a useful tool for use in day-to-day operations and planning for future improvements.

Project Funding Source

Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	7,000
TOTAL	**$**	**7,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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Village of Decatur

Project Title: Update General Plan

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	LS	Update General Plan	$ 5,000	$ 5,000

Project Costs		
Construction Costs (Subtotal)		$ 5,000
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 1,300
TOTAL		**$ 7,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2020**
Total Project Cost:	**$207,000**

Project Title: Pine Street Water Main

System: Drinking Water

Project Description
Replace the existing 4-inch water main running under Pine Street from Cedar Street to Lake Drive with 6-inch water main.

Project Justification/Benefit
The minimum water main size allowed in the current version of the Ten States Standards for Water Works in water systems providing fire protection is 6-inch. Increasing the existing 4-inch water main to 6-inch will help to increase the water flow rate for fire fighting efforts and can, in conjunction with other projects identified in the most recent Water Reliability Study, help to lower the Insurance Service Office (ISO) rating for the Village which could lower insurance rates for Village residents. In addition, there have been three recent water main breaks in this area, all of which resulted from shear forces likely due to poor quality soil used for backfill when the water main was originally installed. Replacing the water main will allow for good quality backfill to be installed and for the pipe to be properly bedded, reducing the likelihood of further water main breaks.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	207,000
TOTAL	**$**	**207,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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Village of Decatur

Project Title: Pine Street Water Main

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1,435	FT	Water Main, DI, 6 inch, Tr Det G - Pine	$ 100	$ 143,500

Project Costs		
Construction Costs (Subtotal)	$	143,500
Engineering 7 %	$	10,100
Construction Observation 8 %	$	11,500
Contingency 25 %	$	41,300
TOTAL	**$**	**207,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2020**
Total Project Cost:	**$19,000**

Project Title: Well 2 Pump Maintenance - 2020

System: Drinking Water

Project Description
Remove the pump from Well 2, rehabilitate the pump, and rehabilitate or replace the motor.

Project Justification/Benefit
Regular pump maintenance can extend the life of a well pump and restore performance to near- or like-new conditions. Recommended maintenance intervals are 8 to 10 years and the pump for Well 2 was last rehabilitated in 2012.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	19,000
TOTAL	**$**	**19,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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Village of Decatur

Project Title: Well 2 Pump Maintenance - 2020

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Well 2 pump and motor maintenance	$ 15,000	$ 15,000

Project Costs		
Construction Costs (Subtotal)		$ 15,000
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 3,800
TOTAL		**$ 19,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2021**
Total Project Cost:	**$210,000**

Project Title: Austin Boulevard and Pine Street Water Main

System: Drinking Water

Project Description

Replace the existing 4-inch water main running under Pine Street from Cedar Street to Williams Street and under Austin Boulevard from Kinney Road to Memory Lane with 6-inch water main.

Project Justification/Benefit

The minimum water main size allowed in the current version of the Ten States Standards for Water Works in water systems providing fire protection is 6-inch. Increasing the existing 4-inch water main to 6-inch will help to increase the water flow rate for fire fighting efforts and can, in conjunction with other projects identified in the most recent Water Reliability Study, help to lower the Insurance Service Office (ISO) rating for the Village which could lower insurance rates for Village residents. In addition, there have been three recent water main breaks in this area, all of which resulted from shear forces likely due to poor quality soil used for backfill when the water main was originally installed. Replacing the water main will allow for good quality backfill to be installed and for the pipe to be properly bedded, reducing the likelihood of further water main breaks.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	210,000
TOTAL	**$**	**210,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
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(269) 327-3532 9835 Portage Road, Portage, MI
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Village of Decatur

Project Title: Austin Boulevard and Pine Street Water Main

Quantity	Unit of Measure	Item	Unit Price	Subtotal
715	FT	Water Main, DI, 6 inch, Tr Det G - Pine	$ 100	$ 71,500
740	FT	Water Main, DI, 6 inch, Tr Det G - Austin	$ 100	$ 74,000

Project Costs		
Construction Costs (Subtotal)	$	145,500
Engineering 7 %	$	10,200
Construction Observation 8 %	$	11,700
Contingency 25 %	$	41,900
TOTAL	**$**	**210,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2021**
Total Project Cost:	**$13,000**

Project Title: Well 3 Pump Maintenance - 2021

System: Drinking Water

Project Description
Remove the pump from Well 3, rehabilitate the pump, and rehabilitate or replace the motor.

Project Justification/Benefit
Regular pump maintenance can extend the life of a well pump and restore performance to near- or like-new conditions. Recommended maintenance intervals are 8 to 10 years and the pump for Well 3 was last rehabilitated in 2013.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	13,000
TOTAL	**$**	**13,000**

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Village of Decatur

Project Title: Well 3 Pump Maintenance - 2021

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Well 3 pump and motor maintenance	$ 10,000	$ 10,000

Project Costs			
Construction Costs (Subtotal)		$	10,000
Engineering	0 %	$	-
Construction Observation	0 %	$	-
Contingency	25 %	$	2,500
TOTAL		**$**	**13,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2022**
Total Project Cost:	**$185,000**

Project Title: Lee Avenue and Memory Lane Water Main

System: Drinking Water

Project Description

Replace the existing 4-inch water main running under Lee Avenue from Pine Street to Austin Boulevard and under Memory Lane from Cedar Street to Austin Boulevard with 6-inch water main.

Project Justification/Benefit

The minimum water main size allowed in the current version of the Ten States Standards for Water Works in water systems providing fire protection is 6-inch. Increasing the existing 4-inch water main to 6-inch will help to increase the water flow rate for fire fighting efforts and can, in conjunction with other projects identified in the most recent Water Reliability Study, help to lower the Insurance Service Office (ISO) rating for the Village which could lower insurance rates for Village residents. In addition, there have been two recent water main breaks in this area, all of which resulted from shear forces likely due to poor quality soil used for backfill when the water main was originally installed. Replacing the water main will allow for good quality backfill to be installed and for the pipe to be properly bedded, reducing the likelihood of further water main breaks.

Project Funding Source

Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	185,000
TOTAL	**$**	**185,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
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Village of Decatur

Project Title: Lee Avenue and Memory Lane Water Main

Quantity	Unit of Measure	Item	Unit Price	Subtotal
670	FT	Water main, DI, 6 inch, Tr Det G - Lee	$ 100	$ 67,000
610	FT	Water main, DI, 6 inch, Tr Det G - Memory	$ 100	$ 61,000

Project Costs		
Construction Costs (Subtotal)	$	128,000
Engineering 7 %	$	9,000
Construction Observation 8 %	$	10,300
Contingency 25 %	$	36,900
TOTAL	**$**	**185,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2023**
Total Project Cost:	**$192,000**

Project Title: Kinney Street and Douglas Drive Water Main

System: Drinking Water

Project Description

Replace the existing 4-inch water main running under Kinney Street and Douglas Drive from Pine Street to Austin Boulevard with 6-inch water main.

Project Justification/Benefit

The minimum water main size allowed in the current version of the Ten States Standards for Water Works in water systems providing fire protection is 6-inch. Increasing the existing 4-inch water main to 6-inch will help to increase the water flow rate for fire fighting efforts and can, in conjunction with other projects identified in the most recent Water Reliability Study, help to lower the Insurance Service Office (ISO) rating for the Village which could lower insurance rates for Village residents. In addition, there has been a recent water main break in this area, which resulted from shear forces likely due to poor quality soil used for backfill when the water main was originally installed. Replacing the water main will allow for good quality backfill to be installed and for the pipe to be properly bedded, reducing the likelihood of further water main breaks.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	192,000
TOTAL	**$**	**192,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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Village of Decatur

Project Title: Kinney Street and Douglas Drive Water Main

Quantity	Unit of Measure	Item	Unit Price	Subtotal
660	FT	Water main, DI, 6 inch, Tr Det G - Kinney	$ 100	$ 66,000
670	FT	Water main, DI, 6 inch, Tr Det G - Douglas	$ 100	$ 67,000

Project Costs		
Construction Costs (Subtotal)	$	133,000
Engineering 7 %	$	9,400
Construction Observation 8 %	$	10,700
Contingency 25 %	$	38,300
TOTAL	**$**	**192,000**

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(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2024**
Total Project Cost:	**$9,000**

Project Title: Hand Held Meter Reader

System: Drinking Water

Project Description
Buy a hand held meter reader.

Project Justification/Benefit
Water meter readers are subject to a rough environment and potentially have a short life span. Purchasing an additional water meter reader will provide a level of redundancy in the ability to automatically read water meters. Doing the readings automatically increases the accuracy of reading the individual water meters and reduces the amount of labor required to do so.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	9,000
TOTAL	**$**	**9,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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Village of Decatur

Project Title: Hand Held Meter Reader

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Hand held meter reader	$ 7,000	$ 7,000

Project Costs		
Construction Costs (Subtotal)		$ 7,000
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 1,800
TOTAL		**$ 9,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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Village of Decatur

Project Year:	**2024**
Total Project Cost:	**$19,000**

Project Title: Well 4 Pump Maintenance - 2024

System: Drinking Water

Project Description

Remove the pump from Well 4, rehabilitate the pump, and rehabilitate or replace the motor.

Project Justification/Benefit

Regular pump maintenance can extend the life of a well pump and restore performance to near- or like-new conditions. Recommended maintenance intervals are 8 to 10 years and the pump for Well 4 was last rehabilitated in 2012.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	19,000
TOTAL	**$**	**19,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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Village of Decatur

Project Title: Well 4 Pump Maintenance - 2024

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Well 4 pump and motor maintenance	$ 15,000	$ 15,000

Project Costs		
Construction Costs (Subtotal)		$ 15,000
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 3,800
TOTAL		**$ 19,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2024**
Total Project Cost:	**$135,000**

Project Title: White Oak Street Water Main

System: Drinking Water

Project Description

Replace the existing 4-inch water main running under White Oak Street from Champion Street to Sorbak Lane with 6-inch water main.

Project Justification/Benefit

The minimum water main size allowed in the current version of the Ten States Standards for Water Works in water systems providing fire protection is 6-inch. Increasing the existing 4-inch water main to 6-inch will help to increase the water flow rate for fire fighting efforts and can, in conjunction with other projects identified in the most recent Water Reliability Study, help to lower the Insurance Service Office (ISO) rating for the Village which could lower insurance rates for Village residents. In addition, this water main was installed at a relatively shallow depth and there have been three recent water main breaks in this area. Replacing the water main will allow for the main to be installed deeper and to have good quality backfill installed, reducing the likelihood of further water main breaks.

Project Funding Source

Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	135,000
TOTAL	**$**	**135,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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Village of Decatur

Project Title: White Oak Street Water Main

Quantity	Unit of Measure	Item	Unit Price	Subtotal
900	FT	Water Main, DI, 6 inch, Tr Det G	$ 100	$ 90,000

Project Costs		
Construction Costs (Subtotal)		$ 90,000
Engineering	10 %	$ 9,000
Construction Observation	10 %	$ 9,000
Contingency	25 %	$ 27,000
TOTAL		**$ 135,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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Village of Decatur

Project Year:	**2025**
Total Project Cost:	**$44,000**

Project Title: Miscellaneous Hydrant Replacements

System: Drinking Water

Project Description

Replace existing hydrants that have issues such as leaking nuts and/or no pumper heads.

Project Justification/Benefit

Some of the existing fire hydrants in the Village have mechanical issues such as leaking nuts, or are older-model hydrants lacking modern pumper head connections. Replacing these hydrants separate from a water main project would alleviate mechanical issues with the fire hydrants in the Village and would bring the hydrants up to current standards, increasing their ability to provide enough flow in the event of a fire.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	44,000
TOTAL	**$**	**44,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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Village of Decatur

Project Title: Miscellaneous Hydrant Replacements

Quantity	Unit of Measure	Item	Unit Price	Subtotal
10	EA	Hydrant Replacement	$ 3,500	$ 35,000

Project Costs		
Construction Costs (Subtotal)		$ 35,000
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 8,800
TOTAL		**$ 44,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2025**
Total Project Cost:	**$70,000**

Project Title: Rosewood Avenue Water Main

System: Drinking Water

Project Description

Replace the existing 4-inch water main running under Rosewood Avenue from Shady Lane to Edgar Bergen Boulevard with 6-inch water main.

Project Justification/Benefit

The minimum water main size allowed in the current version of the Ten States Standards for Water Works in water systems providing fire protection is 6-inch. Increasing the existing 4-inch water main to 6-inch will help to increase the water flow rate for fire fighting efforts and can, in conjunction with other projects identified in the most recent Water Reliability Study, help to lower the Insurance Service Office (ISO) rating for the Village which could lower insurance rates for Village residents. In addition, this water main has had two recent water main breaks. Replacing the water main will allow for any underlying issues contributing to the breaks to be addressed, reducing the likelihood of further water main breaks.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	70,000
TOTAL	**$**	**70,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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Village of Decatur

Project Title: Rosewood Avenue Water Main

Quantity	Unit of Measure	Item	Unit Price	Subtotal
400	FT	Water Main, DI, 6 inch, Tr Det G	$ 100	$ 40,000

Project Costs		
Construction Costs (Subtotal)		$ 40,000
Engineering	25 %	$ 10,000
Construction Observation	15 %	$ 6,000
Contingency	25 %	$ 14,000
TOTAL		**$ 70,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2025**
Total Project Cost:	**$25,000**

Project Title: Well 3 Rehabilitation

System: Drinking Water

Project Description
Chemically clean and rehabilitate Well 3.

Project Justification/Benefit
The screens of drinking water wells can become clogged over time with mineral deposits and/or biomass growth, while the surrounding strata can become clogged with clay or silt. These issues cause the performance of a well to deteriorate. Periodic chemical cleaning and well rehabilitation will restore the performance (specific capacity) of the well to near- or like-new conditions and extend the useful life of the well.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	25,000
TOTAL	**$**	**25,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
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(269) 327-3532 9835 Portage Road, Portage, MI
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Village of Decatur

Project Title: Well 3 Rehabilitation

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Well 3 Rehabilitation	$ 20,000	$ 20,000

Project Costs		
Construction Costs (Subtotal)		$ 20,000
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 5,000
TOTAL		**$ 25,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2025**
Total Project Cost:	**$7,000**

Project Title: Well 4 VFD Replacement

System: Drinking Water

Project Description
Replace the variable frequency drive (VFD) for Well 4.

Project Justification/Benefit
VFDs used in water service have an expected useful life of approximately 20 years. Planning for replacement of the VFD, though it is not in need of replacement now, will ensure that sufficient capital exists when replacement becomes necessary.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	7,000
TOTAL	**$**	**7,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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Village of Decatur

Project Title: Well 4 VFD Replacement

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Well 4 VFD	$ 5,000	$ 5,000

Project Costs		
Construction Costs (Subtotal)		$ 5,000
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 1,300
TOTAL		**$ 7,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2026**
Total Project Cost:	**$144,000**

Project Title: Beers Street Water Main - 2026

System: Drinking Water

Project Description

Replace the existing 4-inch and 2-inch water main running under Beers Street from S. Williams Street to the dead end with 6-inch water main.

Project Justification/Benefit

The minimum water main size allowed in the current version of the Ten States Standards for Water Works in water systems providing fire protection is 6-inch. Increasing the existing 4-inch and 2-inch water main to 6-inch will help to increase the water flow rate for fire fighting efforts and can, in conjunction with other projects identified in the most recent Water Reliability Study, help to lower the Insurance Service Office (ISO) rating for the Village which could lower insurance rates for Village residents.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	144,000
TOTAL	**$**	**144,000**

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Village of Decatur

Project Title: Beers Street Water Main - 2026

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1,000	FT	Water Main, DI, 6 inch, Tr Det G	$ 100	$ 100,000

Project Costs		
Construction Costs (Subtotal)	$	100,000
Engineering 7 %	$	7,000
Construction Observation 8 %	$	8,000
Contingency 25 %	$	28,800
TOTAL	**$**	**144,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
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(269) 327-3532 9835 Portage Road, Portage, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2027**
Total Project Cost:	**$130,000**

Project Title: Beers Street Water Main - 2027

System: Drinking Water

Project Description

Replace the existing 6-inch water main running under Beers Street from George Street to Phelps Street.

Project Justification/Benefit

This segment of water main has been targeted for replacement in conjunction with a road project due to the age of the pipe. In addition, it is believed that sections (or the entire length) of this water main are actually 4-inch diameter. The minimum water main size allowed in the current version of the Ten States Standards for Water Works in water systems providing fire protection is 6-inch. Increasing any existing 4-inch water main to 6-inch will help to increase the water flow rate for fire fighting efforts and can, in conjunction with other projects identified in the most recent Water Reliability Study, help to lower the Insurance Service Office (ISO) rating for the Village which could lower insurance rates for Village residents.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	130,000
TOTAL	**$**	**130,000**

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Village of Decatur

Project Title: Beers Street Water Main - 2027

Quantity	Unit of Measure	Item	Unit Price	Subtotal
900	FT	Water Main, DI, 6 inch, Tr Det G	$ 100	$ 90,000

Project Costs		
Construction Costs (Subtotal)	$	90,000
Engineering 7 %	$	6,300
Construction Observation 8 %	$	7,200
Contingency 25 %	$	25,900
TOTAL	**$**	**130,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2028**
Total Project Cost:	**$108,000**

Project Title: Beers Street Water Main - 2028

System: Drinking Water

Project Description

Replace the existing 6-inch water main running under Beers Street from Park Street to Williams Street.

Project Justification/Benefit

This segment of water main has been targeted for replacement in conjunction with a road project due to the age of the pipe. In addition, it is believed that sections (or the entire length) of this water main are actually 4-inch diameter. The minimum water main size allowed in the current version of the Ten States Standards for Water Works in water systems providing fire protection is 6-inch. Increasing any existing 4-inch water main to 6-inch will help to increase the water flow rate for fire fighting efforts and can, in conjunction with other projects identified in the most recent Water Reliability Study, help to lower the Insurance Service Office (ISO) rating for the Village which could lower insurance rates for Village residents.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	108,000
TOTAL	**$**	**108,000**

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Village of Decatur

Project Title: Beers Street Water Main - 2028

Quantity	Unit of Measure	Item	Unit Price	Subtotal
750	FT	Water Main, DI, 6 inch, Tr Det G	$ 100	$ 75,000

Project Costs		
Construction Costs (Subtotal)	$	75,000
Engineering 7 %	$	5,300
Construction Observation 8 %	$	6,000
Contingency 25 %	$	21,600
TOTAL	**$**	**108,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2028**
Total Project Cost:	**$69,000**

Project Title: Recoat the Elevated Storage Tank - Exterior

System: Drinking Water

Project Description
Recoat the exterior of the elevated storage tank.

Project Justification/Benefit
Elevated storage tank coatings are exposed to harsh weather conditions and eventually begin to break down, fading and losing some of their ability to protect the underlying surfaces from corrosion. Periodically cleaning and re-coating the exterior of the elevated storage tank will restore the aesthetics of the tank, extend the life of the coating system, and extend the life of the elevated storage tank itself.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	69,000
TOTAL	**$**	**69,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
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Village of Decatur

Project Title: Recoat the Elevated Storage Tank - Exterior

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Elevated storage tank exterior recoating	$ 50,000	$ 50,000

Project Costs		
Construction Costs (Subtotal)		$ 50,000
Engineering	0 %	$ -
Construction Observation	10 %	$ 5,000
Contingency	25 %	$ 13,800
TOTAL		**$ 69,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
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Village of Decatur

Project Year:	**2028**
Total Project Cost:	**$19,000**

Project Title: Well 2 Pump Maintenance - 2028

System: Drinking Water

Project Description

Remove the pump from Well 2, rehabilitate the pump, and rehabilitate or replace the motor.

Project Justification/Benefit

Regular pump maintenance can extend the life of a well pump and restore performance to near- or like-new conditions. Recommended maintenance intervals are 8 to 10 years and the pump for Well 2 was last scheduled for rehabilitation in 2020.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	19,000
TOTAL	**$**	**19,000**

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Village of Decatur

Project Title: Well 2 Pump Maintenance - 2028

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Well 2 pump and motor maintenance	$ 15,000	$ 15,000

Project Costs		
Construction Costs (Subtotal)		$ 15,000
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 3,800
TOTAL		**$ 19,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2029**
Total Project Cost:	**$19,000**

Project Title: Well 3 Pump Maintenance - 2029

System: Drinking Water

Project Description
Remove the pump from Well 3, rehabilitate the pump, and rehabilitate or replace the motor.

Project Justification/Benefit
Regular pump maintenance can extend the life of a well pump and restore performance to near- or like-new conditions. Recommended maintenance intervals are 8 to 10 years and the pump for Well 3 was last scheduled for rehabilitation in 2021.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	19,000
TOTAL	**$**	**19,000**

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Village of Decatur

Project Title: Well 3 Pump Maintenance - 2029

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Well 3 pump and motor maintenance	$ 15,000	$ 15,000

Project Costs		
Construction Costs (Subtotal)		$ 15,000
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 3,800
TOTAL		**$ 19,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2029**
Total Project Cost:	**$116,000**

Project Title: Williams Street Water Main

System: Drinking Water

Project Description

Replace the existing 4-inch water main running under Williams Street from Pine Street to St. Mary's Street with 6-inch water main.

Project Justification/Benefit

The minimum water main size allowed in the current version of the Ten States Standards for Water Works in water systems providing fire protection is 6-inch. Increasing the existing 4-inch water main to 6-inch will help to increase the water flow rate for fire fighting efforts and can, in conjunction with other projects identified in the most recent Water Reliability Study, help to lower the Insurance Service Office (ISO) rating for the Village which could lower insurance rates for Village residents.

Project Funding Source

Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	116,000
TOTAL	**$**	**116,000**

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Village of Decatur

Project Title: Williams Street Water Main

Quantity	Unit of Measure	Item	Unit Price	Subtotal
700	FT	Water Main, DI, 6 inch, Tr Det G	$ 100	$ 70,000

Project Costs		
Construction Costs (Subtotal)		$ 70,000
Engineering	20 %	$ 14,000
Construction Observation	12 %	$ 8,400
Contingency	25 %	$ 23,100
TOTAL		**$ 116,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2030**
Total Project Cost:	**$65,000**

Project Title: Replace Well 3 and 4 Standby Generator

System: Drinking Water

Project Description
Replace the 150 kW standby emergency generator for Well 3 and 4.

Project Justification/Benefit
The generator provides backup power to Well 3 and Well 4 in the event of a power outage and is a necessity to ensure that water is available to the Village under all conditions. Standby generators used in water service have an expected useful life of approximately 20 years. Planning on replacement of the generator, though not in need of replacement now, will ensure that sufficient capital exists when replacement becomes necessary.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	65,000
TOTAL	**$**	**65,000**

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Village of Decatur

Project Title: Replace Well 3 and 4 Standby Generator

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	150 kW Generator	$ 45,000	$ 45,000

Project Costs		
Construction Costs (Subtotal)		$ 45,000
Engineering	10 %	$ 4,500
Construction Observation	5 %	$ 2,300
Contingency	25 %	$ 13,000
TOTAL		**$ 65,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2030**
Total Project Cost:	**$100,000**

Project Title: Water Meter Replacement - 2030

System: Drinking Water

Project Description
Replace 400 water meters throughout the Village on an as-needed basis.

Project Justification/Benefit
The expected life span for water meters is approximately 20 years. All of the Village water meters were installed in 2013. While the Village plans to replace the water meters as needed (i.e. as the old meters fail), planning on replacement of the meters as a batch project at about the time of the end of their useful life will ensure that sufficient capital exists to purchase the new water meters as needed. To reduce the one time cost of this replacement, the meter purchases have been split over two separate years (2030 and 2033).

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	100,000
TOTAL	**$**	**100,000**

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Village of Decatur

Project Title: Water Meter Replacement - 2030

Quantity	Unit of Measure	Item	Unit Price	Subtotal
400	EA	Water Meter	$ 200	$ 80,000

Project Costs		
Construction Costs (Subtotal)		$ 80,000
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 20,000
TOTAL		**$ 100,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
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(269) 327-3532 9835 Portage Road, Portage, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2032**
Total Project Cost:	**$242,000**

Project Title: George Street Water Main

System: Drinking Water

Project Description

Replace the existing 4-inch water main running under George Street from Mason Street to the southeast Village limits with 8-inch water main.

Project Justification/Benefit

The minimum water main size allowed in the current version of the Ten States Standards for Water Works in water systems providing fire protection is 6-inch. In addition, due to this line being a dead end pipe, the latest Water Reliability Study indicated an 8-inch pipe is necessary to provide the recommended fire flows along the length of the pipe. Increasing the existing 4-inch water main to 8-inch will help to increase the water flow rate for fire fighting efforts and can, in conjunction with other projects identified in the most recent Water Reliability Study, help to lower the Insurance Service Office (ISO) rating for the Village which could lower insurance rates for Village residents.

Project Funding Source

Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	242,000
TOTAL	**$**	**242,000**

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Village of Decatur

Project Title: George Street Water Main

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1,600	FT	Water Main, DI, 8 inch, Tr Det G	$ 105	$ 168,000

Project Costs		
Construction Costs (Subtotal)	$	168,000
Engineering 7 %	$	11,800
Construction Observation 8 %	$	13,500
Contingency 25 %	$	48,400
TOTAL	**$**	**242,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2032**
Total Project Cost:	**$19,000**

Project Title: Well 4 Pump Maintenance - 2032

System: Drinking Water

Project Description

Remove the pump from Well 4, rehabilitate the pump, and rehabilitate or replace the motor.

Project Justification/Benefit

Regular pump maintenance can extend the life of a well pump and restore performance to near- or like-new conditions. Recommended maintenance intervals are 8 to 10 years and the pump for Well 4 was last scheduled for rehabilitation in 2020.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	19,000
TOTAL	**$**	**19,000**

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Village of Decatur

Project Title: Well 4 Pump Maintenance - 2032

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Well 4 pump and motor maintenance	$ 15,000	$ 15,000

Project Costs		
Construction Costs (Subtotal)		$ 15,000
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 3,800
TOTAL		**$ 19,000**

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Village of Decatur

Project Year:	**2033**
Total Project Cost:	**$11,000**

Project Title: Replace Well 2 and Well 3 Control Panels

System: Drinking Water

Project Description

Plan for replacement of the control panel at Well 2 and Well 3.

Project Justification/Benefit

Electrical equipment used in water service has an expected useful life of approximately 20 years. Planning on replacement of these well control panels, though not in need of replacement now, will ensure that sufficient capital exists when replacement becomes necessary.

Project Funding Source

Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	11,000
TOTAL	**$**	**11,000**

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Village of Decatur

Project Title: Replace Well 2 and Well 3 Control Panels

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Well 2 control panel	$ 3,000	$ 3,000
1	EA	Well 3 control panel	$ 3,000	$ 3,000

Project Costs		
Construction Costs (Subtotal)		$ 6,000
Engineering	25 %	$ 1,500
Construction Observation	15 %	$ 900
Contingency	25 %	$ 2,100
TOTAL		**$ 11,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2033**
Total Project Cost:	**$100,000**

Project Title: Water Meter Replacement - 2033

System: Drinking Water

Project Description
Replace 400 water meters throughout the Village on an as-needed basis.

Project Justification/Benefit
The expected life span for water meters is approximately 20 years. All of the Village water meters were installed in 2013. While the Village plans to replace the water meters as needed (i.e. as the old meters fail), planning on replacement of the meters as a batch project at about the time of the end of their useful life will ensure that sufficient capital exists to purchase the new water meters as needed. To reduce the one time cost of this replacement, the meter purchases have been split over two separate years (2030 and 2033).

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	100,000
TOTAL	**$**	**100,000**

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Village of Decatur

Project Title: Water Meter Replacement - 2033

Quantity	Unit of Measure	Item	Unit Price	Subtotal
400	EA	Water Meter	$ 200	$ 80,000

Project Costs		
Construction Costs (Subtotal)		$ 80,000
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 20,000
TOTAL		**$ 100,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2033**
Total Project Cost:	**$4,000**

Project Title: Well 4 Maintenance

System: Drinking Water

Project Description

Perform maintenance on the building for well 4.

Project Justification/Benefit

While there is not much maintenance required on the well buildings, due to their method of construction, some comprehensive building maintenance will be required periodically. The last time major maintenance was done on the well buildings was 2013. As such, a new roof and lighting/electrical upgrades should be anticipated approximately every 20 years to ensure sufficient capital exists to address the maintenance when it is needed.

Project Funding Source

Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	4,000
TOTAL	**$**	**4,000**

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Village of Decatur

Project Title: Well 4 Maintenance

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Well 4 building maintenance	$ 2,500	$ 2,500

Project Costs		
Construction Costs (Subtotal)		$ 2,500
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 700
TOTAL		**$ 4,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2034**
Total Project Cost:	**$4,000**

Project Title: Well 2 Building Maintenance

System: Drinking Water

Project Description
Perform building maintenance on well 2.

Project Justification/Benefit
While there is not much maintenance required on the well buildings, due to their method of construction, some comprehensive building maintenance will be required periodically. The last time major maintenance was done on the well buildings was 2013. As such, a new roof and lighting/electrical upgrades should be anticipated approximately every 20 years to ensure sufficient capital exists to address the maintenance when it is needed.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	4,000
TOTAL	**$**	**4,000**

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Village of Decatur

Project Title: Well 2 Building Maintenance

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Well 2 Building Maintenance	$ 2,500	$ 2,500

Project Costs		
Construction Costs (Subtotal)		$ 2,500
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 700
TOTAL		**$ 4,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2034**
Total Project Cost:	**$4,000**

Project Title: Well 3 Maintenance

System: Drinking Water

Project Description
Perform building maintenance on well 3.

Project Justification/Benefit
While there is not much maintenance required on the well buildings, due to their method of construction, some comprehensive building maintenance will be required periodically. The last time major maintenance was done on the well buildings was 2013. As such, a new roof and lighting/electrical upgrades should be anticipated approximately every 20 years to ensure sufficient capital exists to address the maintenance when it is needed.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	4,000
TOTAL	**$**	**4,000**

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Village of Decatur

Project Title: Well 3 Maintenance

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Well 3 building maintenance	$ 2,500	$ 2,500

Project Costs		
Construction Costs (Subtotal)		$ 2,500
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 700
TOTAL		**$ 4,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
WWW.WIGHTMAN-ASSOC.COM

Village of Decatur

Project Year:	**2035**
Total Project Cost:	**$32,000**

Project Title: Replace Portable Generator for Well 2

System: Drinking Water

Project Description

Replace the portable generator for Well 2.

Project Justification/Benefit

The portable generator is used for multiple purposes, one of which is to provide backup power to Well 2 in the event of a power outage. This is a necessity to ensure that water is available to the Village under all conditions. Standby generators used in water service have an expected useful life of approximately 20 years. Planning on replacement of the generator, though not in need of replacement now, will ensure that sufficient capital exists when replacement becomes necessary.

Project Funding Source

Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	32,000
TOTAL	**$**	**32,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
WWW.WIGHTMAN-ASSOC.COM

Village of Decatur

Project Title: Replace Portable Generator for Well 2

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Portable generator	$ 25,000	$ 25,000

Project Costs		
Construction Costs (Subtotal)		$ 25,000
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 6,300
TOTAL		**$ 32,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
WWW.WIGHTMAN-ASSOC.COM

CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2035**
Total Project Cost:	**$6,000**

Project Title: Replace Well 4 Control Panel

System: Drinking Water

Project Description
Plan for replacement of the control panel at Well 4.

Project Justification/Benefit
Electrical equipment used in water service has an expected useful life of approximately 20 years. Planning on replacement of the well control panel, though not in need of replacement now, will ensure that sufficient capital exists when replacement becomes necessary.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	6,000
TOTAL	**$**	**6,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
WWW.WIGHTMAN-ASSOC.COM

Village of Decatur

Project Title: Replace Well 4 Control Panel

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Well 4 Control Panel	$ 3,000	$ 3,000

Project Costs			
Construction Costs (Subtotal)		$	3,000
Engineering	25 %	$	800
Construction Observation	15 %	$	500
Contingency	25 %	$	1,100
TOTAL		**$**	**6,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
WWW.WIGHTMAN-ASSOC.COM

CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2036**
Total Project Cost:	**$410,000**

Project Title: Edgar Bergen Boulevard and N. East Street Water Main

System: Drinking Water

Project Description

Replace the existing 2-inch water main running under Edgar Bergen Boulevard from Phelps Street to School Street with 6-inch water main. Install new 6-inch water main under the portion of Edgar Bergen Boulevard from Phelps Street to School Street where there is currently no water main.

Replace the existing 4-inch water main running under Edgar Bergen Boulevard from School Street to Rogers Street with 6-inch water main.

Install new 6-inch water main from the intersection of Edgar Bergen Boulevard, Prospect Street, and N. East Street southeast under N. East Street where there is currently no water main to the existing 6-inch water main that dead ends on N. East Street northeast of St. Mary's Street.

Project Justification/Benefit

The minimum water main size allowed in the current version of the Ten States Standards for Water Works in water systems providing fire protection is 6-inch. Increasing the existing 2-inch and 4-inch water mains to 6-inch will help to increase the water flow rate for fire fighting efforts. In addition, installing new water main on Edgar Bergen Boulevard to complete a loop to Phelps Street and on N. East Street to complete a loop to St. Mary's Street will also increase the water flow rate for fire fighting efforts and can, in conjunction with other projects identified in the most recent Water Reliability Study, help to lower the Insurance Service Office (ISO) rating for the Village which could lower insurance rates for Village residents. These new loops will also create more redundancy in the water system and reduce the number of people who would be without water service due to an emergency repair.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	410,000
TOTAL	**$**	**410,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
WWW.WIGHTMAN-ASSOC.COM

Village of Decatur

Project Title: Edgar Bergen Boulevard and N. East Street Water Main

Quantity	Unit of Measure	Item	Unit Price	Subtotal
2,450	FT	Water main, 6 inch, DI, Tr Det G - Edgar Bergen	$ 100	$ 245,000
400	FT	Water main, 6 inch, DI, Tr Det G - N. East Street	$ 100	$ 40,000

Project Costs		
Construction Costs (Subtotal)	$	285,000
Engineering 7 %	$	20,000
Construction Observation 8 %	$	22,800
Contingency 25 %	$	82,000
TOTAL	**$**	**410,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
WWW.WIGHTMAN-ASSOC.COM

Village of Decatur

Project Year:	**2036**
Total Project Cost:	**$19,000**

Project Title: Well 2 Pump Maintenance - 2036

System: Drinking Water

Project Description

Remove the pump from Well 2, rehabilitate the pump, and rehabilitate or replace the motor.

Project Justification/Benefit

Regular pump maintenance can extend the life of a well pump and restore performance to near- or like-new conditions. Recommended maintenance intervals are 8 to 10 years and the pump for Well 2 was last scheduled for rehabilitation in 2028.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	19,000
TOTAL	**$**	**19,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
WWW.WIGHTMAN-ASSOC.COM

Village of Decatur

Project Title: Well 2 Pump Maintenance - 2036

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Well 2 pump and motor maintenance	$ 15,000	$ 15,000

Project Costs		
Construction Costs (Subtotal)		$ 15,000
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 3,800
TOTAL		**$ 19,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
WWW.WIGHTMAN-ASSOC.COM

CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2037**
Total Project Cost:	**$88,000**

Project Title: Recoat the Elevated Storage Tank - Interior

System: Drinking Water

Project Description

Recoat both the wet and dry interior of the elevated storage tank.

Project Justification/Benefit

Elevated storage tank coatings eventually begin to break down, losing some of their ability to protect the underlying surfaces from corrosion. Periodically cleaning and re-coating both the wet portion and the dry portion of the interior of the elevated storage tank will extend the life of the coating system, and extend the life of the elevated storage tank itself.

Project Funding Source

Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	88,000
TOTAL	**$**	**88,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
WWW.WIGHTMAN-ASSOC.COM

Village of Decatur

Project Title: Recoat the Elevated Storage Tank - Interior

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Elevated storage tank wet interior recoating	$ 60,000	$ 60,000
1	EA	Elevated storage tank dry interior recoating	$ 4,000	$ 4,000

Project Costs		
Construction Costs (Subtotal)	$	64,000
Engineering 0 %	$	-
Construction Observation 10 %	$	6,400
Contingency 25 %	$	17,600
TOTAL	**$**	**88,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2037**
Total Project Cost:	**$19,000**

Project Title: Well 3 Pump Maintenance - 2037

System: Drinking Water

Project Description

Remove the pump from Well 3, rehabilitate the pump, and rehabilitate or replace the motor.

Project Justification/Benefit

Regular pump maintenance can extend the life of a well pump and restore performance to near- or like-new conditions. Recommended maintenance intervals are 8 to 10 years and the pump for Well 3 was last scheduled for rehabilitation in 2029.

Project Funding Source

Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	19,000
TOTAL	**$**	**19,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
WWW.WIGHTMAN-ASSOC.COM

Village of Decatur

Project Title: Well 3 Pump Maintenance - 2037

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Well 3 pump and motor maintenance	$ 15,000	$ 15,000

Project Costs		
Construction Costs (Subtotal)		$ 15,000
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 3,800
TOTAL		**$ 19,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
WWW.WIGHTMAN-ASSOC.COM

CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2037**
Total Project Cost:	**$7,000**

Project Title: Well 3 VFD Replacement

System: Drinking Water

Project Description

Replace the variable frequency drive (VFD) for Well 3.

Project Justification/Benefit

VFDs used in water service have an expected useful life of approximately 20 years. Planning for replacement of the VFD, though it is not in need of replacement now, will ensure that sufficient capital exists when replacement becomes necessary.

Project Funding Source

Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	7,000
TOTAL	**$**	**7,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
WWW.WIGHTMAN-ASSOC.COM

Village of Decatur

Project Title: Well 3 VFD Replacement

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1	EA	Well 4 VFD	$ 5,000	$ 5,000

Project Costs		
Construction Costs (Subtotal)		$ 5,000
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 1,300
TOTAL		**$ 7,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2038**
Total Project Cost:	**$216,000**

Project Title: John Street Water Main

System: Drinking Water

Project Description

Replace the existing 4-inch water main running under John Street from Pine Street to St. Mary's Street with 6-inch water main. Install new 6-inch water main under the portion of John Street from St. Mary's Street to Delaware Street where there is currently no water main.

Project Justification/Benefit

The minimum water main size allowed in the current version of the Ten States Standards for Water Works in water systems providing fire protection is 6-inch. Increasing the existing 4-inch water mains to 6-inch will help to increase the water flow rate for fire fighting efforts. In addition, installing new water main on John Street to complete a loop between St. Mary's Street and Delaware Street will also increase the water flow rate for fire fighting efforts and can, in conjunction with other projects identified in the most recent Water Reliability Study, help to lower the Insurance Service Office (ISO) rating for the Village which could lower insurance rates for Village residents. The new loop will also create more redundancy in the water system and reduce the number of people who would be without water service due to an emergency repair.

Project Funding Source		
Drinking Water Revolving Fund Loan		
Bonds/Grants/Other Financing Source		
Assessments		
Water Fund	$	216,000
TOTAL	**$**	**216,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
WWW.WIGHTMAN-ASSOC.COM

Village of Decatur

Project Title: John Street Water Main

Quantity	Unit of Measure	Item	Unit Price	Subtotal
1,500	FT	Water Main, DI, 6 inch, Tr Det G	$ 100	$ 150,000

Project Costs		
Construction Costs (Subtotal)	$	150,000
Engineering 7 %	$	10,500
Construction Observation 8 %	$	12,000
Contingency 25 %	$	43,200
TOTAL	**$**	**216,000**

(269) 673-8465 1670 Lincoln Road, Allegan, MI
(269) 927-0100 2303 Pipestone Road, Benton Harbor, MI
(269) 327-3532 9835 Portage Road, Portage, MI
WWW.WIGHTMAN-ASSOC.COM

DRAFT

WIGHTMAN

ALLEGAN

1670 LINCOLN RD. (M-40)
ALLEGAN, MI 49010

269.673.8465

BENTON HARBOR

2303 PIPESTONE RD.
BENTON HARBOR, MI 49022

269.927.0100

KALAMAZOO

433 E. RANSOM ST.
KALAMAZOO, MI 49007

269.327.3532

ROYAL OAK

306 S. WASHINGTON AVE., SUITE 200
ROYAL OAK, MI 48067

248.791.1371

GOWIGHTMAN.COM

VILLAGE OF DECATUR, MICHIGAN

WASTEWATER SYSTEM IMPROVEMENTS PROJECT

PRELIMINARY ENGINEERING REPORT

TO BE FUNDED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE - RURAL DEVELOPMENT

OCTOBER 2021

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Table of Contents

APPENDIX

A. Planning Area Maps
B. PER Summary Table
C. Rate Analysis
D. Detailed Cost Estimates
E. 2017 Capital Improvements Plan List

I. Purpose And Scope

The Village of Decatur (Village) is requesting assistance in financing Village wide improvements from the United States Department of Agriculture, Rural Development, Rural Utilities Services Program (USDA). The scope of the proposed project includes improvements to the Village wastewater system and drinking water system. This preliminary engineering report will address the wastewater system improvements which will be included in the *Sewer Lining and Lagoon Improvements Project*.

The primary need to be addressed by this project is the rehabilitation of existing wastewater collection and treatment facilities which have reached the end of their useful life. Through discussion with Village Staff and field evaluations, a proposed scope of work has been identified to be included in an application for USDA funding. The Village has authorized the preparation of an application to USDA for funding of this project.

The primary objectives of this report are listed below:

- Analyze the existing wastewater collection and treatment system.
- Recommend improvements to increase network safety, sustainability, reliability, and ease of maintenance.
- Develop a potential rate structure to finance the improvements.
- Recommend an alternative for improvements to be included in a USDA-RD funding application.

This preliminary engineering report analyzes various wastewater collection alternatives based on current system conditions and projected future requirements for a 20-year planning period. The proposed rates necessary to pay for the operation, maintenance, replacement, and debt retirement costs were calculated assuming a 100% USDA Rural Development loan utilizing a 1.750% interest rate for a 40-year period.

II. Project Planning

A. Location

The Village is located at the west edge of Decatur Township in the south-central portion of Van Buren County in southwestern Michigan. The area is served by State Highway M-51, County Road 352, S. Williams Street, and an AMTRAK Railway.

The majority of the proposed improvements involve rehabilitation of the Village wastewater lagoons. These lagoons are located south of the Village and adjacent to Mud Lake. The lagoon site is accessible by Lagoon Boulevard between 45th Street and S. Williams Street. Also included in the project is the lining of several gravity mains at various locations throughout the Village collection system. The Village and surrounding area are shown on the wastewater system map included in Appendix A of this report.

B. Environmental Resources Present

The primary environmental resource present is Lake of the Woods which is located immediately west of the Village. Also present is Mud Lake which lies south of the Village and receives the Village's wastewater lagoon discharge. Some wetland areas can be found adjacent to each lake. The proposed project will not have any deleterious effects on wetlands, floodplains, or surface water resources.

The Village has five public parks which jointly provide playground equipment, Lake of the Woods access, sport facilities, a skate park, pavilions, picnic tables, and benches. These parks are not within the proposed project area.

Prime farmland and forestlands will not be impacted by the proposed project, nor will endangered species or critical habitat, as the areas where the improvements are being proposed have been developed for decades. There are no historic sites located within the project area.

Refer to the Environmental Report for additional information concerning environmental resources.

C. Right of Way

All of the proposed work will be located in existing Village road right-of-way, Village-owned land, or existing public utility easements. If any easements are found to be required, property owners will be engaged and an appropriate easement process will be followed.

D. Population Trends

The following table lists the population growth experienced in the Village and Van Buren County since 1960, along with estimated growth to the year 2040, which will serve as the basis for the 20-year design year.

Study Area Population Growth (1960 to 2040)

	Village of Decatur		Van Buren County	
Year	*Population*	*% Change*	*Population*	*% Change*
1960	1,827	-	48,395	-
1970	1,764	-3.45%	56,173	16.07%
1980	1,915	8.56%	66,814	18.94%
1990	1,760	-8.09%	70,060	4.86%
2000	1,858	5.57%	76,263	8.85%
2010	1,819	-2.10%	76,258	-0.01%
Average 10 Year Growth Rate:		0.10%		9.74%
Selected 10 Year Growth Rate:		0%		0%
2030	1,819	0%	76,258	0%
2040	1,819	0%	76,258	0%

Using the above population data, the selected 10-year average growth rate for this report is 0%. The assumption of no growth within the service area should provide for conservative finical projections. The proposed improvements are not substantially affected by total system demand/future growth.

E. Community Engagement

The Village officials and personnel have discussed the need for rehabilitating the existing collection and treatment system in several Public Village Council meetings and approved submission of a USDA funding application. Additional public meetings will be held as necessary by the Village Council.

III. Existing Facilities

A. Location Map

The existing Village wastewater collection system is shown on the map included in Appendix A. This map also shows the location of the existing Decatur Wastewater Treatment Facility (WWTF).

B. History

Decatur owns and operates both a WWTF and a wastewater collection system. The collection system consists of several miles of both gravity sewer pipes and pressurized force mains, as well as over 300 manholes, mostly from the original 1971 system construction. In addition to the pipes and manholes in the collection system, Decatur relies on two sewage lift (pump) stations to convey the wastewater through the system and to the WWTF located at the southern end of the Village on Lagoon Boulevard.

The first lift station, Lift Station 2, is located on Austin Blvd. west of Decatur High School. Lift Station 2 is a duplex submersible pump lift station that was completely re-constructed in 2010, including a new wet well, new pumps, new controls, and an emergency backup generator. It collects wastewater from approximately 325 residential equivalent units (REUs) and pumps it through a 2,142-foot-long force main to the intersection of Clark St. and North John St., where it discharges into another gravity sewer.

The second lift station, Lift Station 1, is located just northeast of the Decatur WWTF on Lagoon Blvd. Lift Station 1 is a duplex submersible pump lift station that was completely re-constructed in 2006, including a new wet well, new pumps, new controls, a new flow meter, and an emergency backup generator. There is also a comminutor located at the influent to the original Lift Station 1 wet well that grinds up the incoming sewage. The comminutor was not replaced as part of the 2006 project and its age was unable to be accurately determined. The wastewater from the entire Decatur collection system flows to Lift Station 1, which pumps through a 2,268-foot-long force main to the diversion chamber at the head of the WWTF.

The Decatur WWTF consist of a series of three lagoons, interconnected by level control structures. As currently operated, primary treatment of the wastewater occurs in the first lagoon, Lagoon Cell 1, a 10.1-acre facultative lagoon constructed in 1971. After the first lagoon, the wastewater flows by gravity through a level control structure and into a second lagoon, Lagoon Cell 3, a 10.6-acre polishing lagoon constructed in 2004. After flowing through the second lagoon, the wastewater flows through another level control structure into the third lagoon, Lagoon Cell 2, a 10.7-acre polishing lagoon constructed in 1971 where aerobic bacteria continue breaking down the remaining nutrients in the wastewater. The effluent from Lagoon Cell 2 is suitable for discharge to Mud Lake through a lagoon outlet structure.

The sewer system is comprised of 2 lift stations, a total of approximately 16.6 miles of gravity main ranging from 8-inch to 18-inch, a total of 0.8 miles of forcemain six and eight-inch in size, and over 300 manholes.

C. Condition of Existing Facilities

The Village wastewater collection and treatment system assets were assessed in 2017 in the

Stormwater, Asset Management, and Wastewater (SAW) Grant program. The following conditions were determined by visual inspection, when available, and based on age and performance data.

The existing wastewater collection system ranges from very poor to very good condition. The system functions as designed and has adequate capacity to meet the needs of the community. Approximately 49.8% of the gravity mains within the system are in very poor or poor condition. Thus, 50.2% of the gravity mains are in fair, good, or very good condition.

Overall, both lift stations are in good condition, though Lift Station 1 has grease buildup that was noted during the 2017 inspection. Table 1 shows the condition of the individual components of the lift stations. In addition to the components shown in Table 1, Lift Station 1 includes the previously mentioned comminutor and flow meter. Their conditions are summarized in Table 2.

Station	Pump Design Capacity (gpm)	Pump 1 Test Rate (gpm)	Pump 2 Test Rate (gpm)	Design Head (ft)	Primary/ Secondary Wet Well Condition	Pump Condition	Electrical & Controls Condition	Generator Condition
LS-1	500	483	496	44.81	Good/Fair	Fair	Good	Good
LS-2	180	142	145	34.27	Good/Fair	Good	Good	Good

Table 1 - Wastewater system lift station condition ratings

Equipment	Equipment Condition	Motor Condition	Wet Well/Manhole Condition	Electrical & Controls Condition
Comminutor	Fair	Poor	Fair	Fair
Flow Meter	Good	N/A	Fair	Good

Table 2 - Lift Station 1 additional equipment condition ratings

Lastly, the WWTF is in fair condition. Table 3 shows the condition of the individual components of the WWTF. Lagoons 2 & 3 have erosion damage to the south and west lagoon slopes where riprap is not present. In addition, the side slopes on the inner lagoon walls of Lagoon 3 are very steep, resulting in maintenance issues.

	Diversion	Water Level Control Chamber			Lagoon Outlet Structure	
Lagoons	Chamber	1 to 2	1 to 3	2 to 3	1	2
Good	Fair	Fair	Good	Good	Fair	Fair

Table 3 - Wastewater treatment facility condition ratings

D. Financial Status of Existing Facilities

The Village wastewater system does not currently have any existing debts and maintains a fund balance in order to cover unforeseen expenses and for cash funded capital replacements.

The Village currently bills all customers monthly on a Readiness to Serve fee plus a commodity charge. The Readiness to Serve fees correspond to the water meter size and is shown below in Table 4. In addition to the Readiness to Serve fee, users also pay a monthly sewer commodity charge of $1.37 per 1,000 gallons of water used. Deduct meters or irrigation meters are used to track the water usage that does not enter the sewer system for uses such as lawn/garden irrigation, cooling water, air-conditioned water, etc. The total commodity charge subtracts the metered irrigation water usage from the total metered usage.

Meter Size (in)	Rate Factor	Readiness to Serve Charge
5/8 or 3/4	1.00	$14.50
1	1.78	$25.78
1-1/4	2.78	$40.28
1-1/2	4.00	$58.00
2	7.11	$103.11
3	16.00	$232.00
4	28.44	$412.44
6	64.00	$928.00
8	113.78	$1,649.78
10	177.78	$2,577.78
12	256.00	$3,712.00

Table 4: Readiness to Serve Sewer Rates

IV. Need For Project

A. Health, Sanitation and Security

The primary needs to be addressed by this project for the existing sewer collection system include rehabilitating failing pipe by lining sections of sewer and extending the expected life span. The consequence of sewer failure of the gravity mains in question is catastrophic. The pipe lining will prevent infiltration and major breaks that could lead to a system overflow and significant emergency repair costs. Regarding the WWTF, sludge removal is recommended every 25 years in facultative lagoons and it has been approximately 27 years since Lagoon Cell 1 was last cleaned. Lagoon Cell 1 has a varying depth of sludge ranging from 5 – 40 inches and should be cleaned. The erosion damage on both Lagoon Cells 2 and 3 causes maintenance issues and will only continue to worsen. Lastly, the shear gate valve on the Lagoon Cell 2 Effluent Control Structure is broken and does not function properly.

B. Aging Infrastructure

A majority of the existing gravity collection system piping is constructed of vitrified clay and is showing age related defects at various joints throughout the system. This project will address these issues by utilizing a cured-in-place pipe lining system for rehabilitation.

Additionally, two of the three Lagoons were constructed in 1971 with little maintenance since then. Sludge removal, erosion repairs and bank stabilization will address the current issues the WWTF has and will eliminate maintenance issues in the future.

C. Reasonable Growth

As shown in Section II. D., the population within the planning areas is not expected to grow in a significant way. Since the existing treatment and collection systems provide adequate capacity for current and future demands, growth is not a significant factor in the planning of this project.

V. Alternatives Considered

There are three basic alternatives analyzed in this report. They include the following:

A. No action
B. Lagoon Improvements and Pipe Replacement: Sludge removal in Lagoons 1 and 3, riprap placement at Lagoon Cells 2 and 3, replacement of a shear gate valve, installation of a flow monitoring and logging system to monitor and record discharge flow rates of effluent from Lagoon Cell 1, and localized sewer replacement.
C. Lagoon Improvements and Pipe Lining: Sludge removal in Lagoon Cells 1 and 3, erosion repairs to Lagoon Cells 2 and 3, replacement of a shear gate valve, installation of a flow monitoring and logging system to monitor and record discharge flow rates of effluent from Lagoon Cell 1, and localized sewer lining rehabilitation.

The following sections describe these alternatives in further detail.

A. No Action

1. Description

The No Action alternative would mean that no action would be taken to address the aging collection system. The existing collection system and WWTF would continue to function as is, experiencing the same operational issues mentioned in Section III. C, without any improvements and continuing to age.

2. Environmental Impacts

Since nothing would be constructed, there would be no adverse environmental impacts during construction. The existing operational issues would continue to worsen, ultimately causing a system failure which would very likely result in a sanitary sewer overflow.

3. Potential Construction Problems

There would be no construction problems for the No Action Alternative.

4. Sustainability Considerations

This alternative would require the consumption of more energy than Alternatives B and C since no energy saving improvements would be made. Constant maintenance would be required to correct existing problems and inevitably more prevalent and severe issues in the future.

5. Cost Estimates

There would be no direct costs associated with this alternative. The costs for ongoing maintenance of the collection system and WWTF would continue to rise. Costs for emergency repairs will result in higher prices since competitive bids cannot be sought.

B. Lagoon Improvements and Pipe Replacement

1. Description

Under this alternative, sludge removal in Lagoon Cells 1 and 3 is proposed. Per sludge judging results, Lagoon Cell 1 had varying depths ranging from 5 inches to 40 inches. The east side of the Lagoon averaged approximately 33.5 inches of sludge and is nearing capacity. The average sludge depth in Lagoon Cell 3 is approximately 8 inches. While the sludge removal for Lagoon Cell 3 is not as critical, it should be completed simultaneously with the removal at Lagoon Cell 1 for overall system improvements, to capitalize on the economy of scale of this improvement, and to facilitate bank regrading.

This alternative also includes installation of flow monitoring and logging instrumentation in the Lagoon Cell 2 weir manhole. Currently, there are no provisions to accurately measure and record the amount of effluent discharging from the WWTF Lagoons. Installing instrumentation to monitor the water level in the existing weir manhole downstream of the outlet structure for Lagoon Cell 2 will allow the discharge flow rates and volumes to be measured and recorded under normal operating conditions. Necessary mounting hardware shall be installed in the existing weir manhole downstream of the outlet structure for Lagoon Cell 1 to monitor and record flow rates and volumes on the rare occasions where effluent is being discharged from Lagoon Cell 1.

As part of this project, the shear gate valve on the Lagoon Cell 2 effluent control structure will be replaced. The existing valve is broken and not functioning properly.

To protect against erosion. heavy riprap will be installed on the all the banks of Lagoon Cell 3. In addition, heavy riprap will be added along the south and west slopes of Lagoon Cell 2. The riprap will act as erosion protection and impede the erosion damage.

The sewer main replacement consists of replacing segments of sanitary sewer ranging from 8-inch to 15-inch diameter. A portion of the pipe segments to be replaced have been identified to have a significant or catastrophic consequence in the instance of pipe failure. All the pipe segments to be replaced are showing signs of failure and are contributing to infiltration into the system. It is crucial to address the issues in the collection system to reduce the likelihood of emergency repairs and prevent any catastrophic failures. The pipe replacement will be constructed with PVC piping utilizing an open cut method.

2. Design Criteria

The collection system improvements will be replaced in-kind to match any existing infrastructure upstream and downstream of the proposed work.

All EGLE, state, and local standards and permits will be obtained and will be maintained through construction.

3. Map

Refer to the map in Appendix A for the locations of all proposed improvements.

4. Environmental Impacts

There would be short term environmental impacts during replacement of the sewer main and riprap placement on the lagoons' side slopes including open trenches, noise and exhaust due to

construction vehicles. The riprap placement will reduce any erosion along the lagoon slopes. The sewer replacements will prevent both raw sewage from leaking into the ground and backups into houses and the surrounding system.

Excavation, grading, paving, dewatering, and restoration activities will be required during construction. All these activities will be appropriately permitted and environmental impacts, if any, will be mitigated. Appropriate soil erosion and sedimentation control measures will be in place at all times during construction.

5. Land Requirements

This alternative will be located within existing Village right-of-way, Village-owned land, or existing utility easements. All improvements will be made in the location of existing wastewater system assets. However, temporary grading permits may be required for finish grading above open cut improvements. Each improvement location is listed below with associated land rights requirements.

Sludge Removal: Sludge removal is located at the WWTF on Village-owned land.

Flow Monitoring and Logging: The installation of a monitoring and logging system is located at the WWTF on Village-owned land.

Shear Gate Valve Replacement: The valve replacement is located at the WWTF on Village-owned land.

Riprap Placement: The riprap placement is located at the WWTF on Village-owned land.

Pipe Replacement: All improvements are located within the existing facilities locations wether in right-of-way or an existing utility easement. In the event temporary grading permits are determined to be necessary, property owners will be engaged prior to construction.

6. Potential Construction Problems

There will be construction constraints for this alternative due to the sewer replacement. The open cut of roadways and ground above the sewer will be necessary for replacement. The sanitary sewer is buried at depths up to 15 feet in some locations, which results in a large construction trench. The large construction trench then results in more traffic disruption and roadway restoration.

The proposed work at the WWTF will not propose any construction problems. Between the three lagoons and two outlet structures, there is redundancy and adequate capacity for the treatment system to maintain operations while the proposed improvements are completed.

7. Sustainability Considerations

The addition of a logging and monitoring system will assist in assessments of the sanitary sewer system. Any irregularities regarding flows and volume will be noticed and addressed in a timely manner. Replacement of the failing gravity sewer mains will reduce infiltration, restore capacity of the existing system and reduce risk of pipe failure.

8. Cost Estimates

This alternative will require the sludge removal of two lagoons within the WWTF, installation of a flow monitoring and logging system within the WWTF, a shear gate valve replacement, riprap placement, and localized pipe replacements. The estimated construction cost for the entire project is $3,345,080. The cost estimate of individual project components is outlined below. Operation and maintenance cost are not expected to change considerably with these improvements.

Project Components	***Estimated Construction Cost***
Sludge Removal	$1,538,600
Flow Monitoring and Logging	9,250
Shear Gate Valve Replacement	5,000
Lagoon 2 Bank Repair	183,390
Lagoon 3 Bank Regrade and Repair	415,200
Pipe Replacement	889,540
Total Est. Construction Costs:	$3,040,980
Construction Contingency (10%):	304,100
Total:	**$3,345,080**

C. *Lagoon Improvements and Pipe Lining*

1. Description

Under this alternative, the Village's heaviest utilized lagoon (Lagoon Cell 1) and Lagoon Cell 3 will have all the sludge removed increasing the capacity and functionality immensely. In addition, the erosion damage to Lagoon Cells 2 and 3 will be addressed by re-grading the slopes and placing riprap. A flow logging and monitoring system shall be installed downstream of both Lagoon Cell 1 and Lagoon Cell 2. Lastly, a non-functioning valve in the Lagoon Cell 2 Effluent Control Structure will be replaced.

Per sludge judging results, Lagoon Cell 1 had varying depths ranging from 5-inches to 40 inches. The east side of the Lagoon averaged approximately 33.5 inches of sludge and is nearing capacity. The sludge removal for Lagoon Cell 3 is not as critical but deemed necessary. The average sludge depth is approximately 8 inches in Lagoon Cell 3.

Flow monitoring and logging instrumentation will be installed in the Lagoon Cell 2 weir manhole. Currently, there are no provisions to accurately measure and record the amount of effluent discharging from the WWTF Lagoons. Installing instrumentation to monitor the water level in the existing weir manhole downstream of the lagoon outlet structure for Lagoon Cell 2 will allow the discharge flow rates and volumes to be measured and recorded under normal operating conditions. Necessary mounting hardware will be installed in the existing weir manhole downstream of the outlet structure for Lagoon Cell 1 to monitor and record flow rates and volumes on the rare occasions where effluent is being discharged from Lagoon Cell 1.

As part of the project, the shear gate valve in the Lagoon Cell 2 effluent control structure will be replaced. The existing valve is broken and not functioning properly.

To protect against erosion, heavy riprap will be installed and the side slopes will be flattened on the all the banks of Lagoon 3. The banks will be regraded to reduce the slope above the high-water level

and increase safety and ease of maintenance. In addition, installation of heavy riprap along the south and west slopes of Lagoon Cell 2 will occur. The riprap will act as erosion protection and impede the erosion damage. Any existing riprap will be salvaged.

Sewer main rehabilitation consists of cured-in-place lining construction performed with special equipment and materials on sanitary sewer ranging from 8-inch to 15-inch diameter. The damaged sections of sewer main which need repair will receive pipe lining for the full length of pipe between manholes. This is a trenchless application which has a small construction footprint. All of the pipe segments to be lined are showing signs of failure and are contributing to infiltration into the system. It is crucial to address the issues in the collection system to reduce the likelihood of emergency repairs and prevent any catastrophic failures.

2. Design Criteria

The collection system improvements will be replaced in-kind to match any existing infrastructure upstream and downstream of the proposed work.

All EGLE, state, and local standards and permits will be obtained and maintained through construction.

3. Map

A map showing the proposed improvement locations is included in Appendix A. These locations will be the same for both Alternative B and Alternative C.

4. Environmental Impacts

There would be short-term environmental impacts during lining of the sewer main, riprap placement, and regrading of the lagoons' side slopes. The riprap placement and regrading will reduce any erosion along the lagoon slopes. In addition, reducing the side slopes will make maintenance easier and increase safety for employees. Sewer lining will prevent both raw sewage from leaking into the ground and backups into houses and the surrounding system. Sewer lining is much less disruptive than the full sewer replacement discussed in Alternative B.

Excavation, grading, dewatering and restoration activities will be required during construction. All these activities will be appropriately permitted and environmental impacts, if any, will be mitigated. Appropriate soil erosion and sedimentation control measures will be in place at all times during construction.

There would be short-term environmental impacts during lagoon regrading/riprap work and lining of sewer main.

5. Land Requirements

The overall construction area for this alternative is similar to Alternative B, therefore the land requirements listed in Alternative B are nearly the same. However, pipe lining will not require any excavation and in turn will required much less earth disturbance than pipe replacement.

6. Potential Construction Problems

No significant construction problems would be expected for this alternative. Minor traffic disruption may result from the utility construction within the roadway, but it is expected to be

minimal due to the low speed and traffic volume. Due to the footprint of the lining equipment, short-term traffic disruptions may be necessary.

7. Sustainability Considerations

The addition of a logging and monitoring system will assist in analyzing the sanitary treatment system. Any irregularities regarding flows and volume will be noticed and addressed in a timely manner. Pipe lining increases the pipe's structural integrity while eliminating any infiltration. Also, pipe lining will improve hydraulics and capacity of the existing system.

8. Cost Estimates

This alternative will require the sludge removal of two lagoons within the WWTF, installation of a flow monitoring and logging system within the WWTF, a shear gate valve replacement, erosion repairs & riprap placement at the WWTF, and localized pipe lining. The estimated cost for the entire project is $2,928,480. The cost estimate of individual project components is outlined below. Operation and maintenance cost are not expected to change dramatically with these improvements.

Project Components	***Estimated Construction Cost***
Sludge Removal	$1,538,600
Flow Monitoring and Logging	$9,250
Shear Gate Valve Replacement	$5,000
Lagoon 2 Bank Repair	$183,390
Lagoon 3 Bank Regrade and Repair	$415,200
Pipe Lining	$510,790
Total Est. Construction Costs:	$2,662,230
Construction Contingency (10%):	$266,250
Total:	**$2,928,480**

VI. Selection Of An Alternative

Of the three alternatives reviewed in Section V, Alternative A, the No Action alternative, would not meet the project needs listed in Section IV and is therefore eliminated from further consideration. Alternatives B (Lagoon Improvements and Pipe Replacement) and Alternative C (All Necessary Lagoon Improvements and Pipe Lining) will be compared to show and determine the best alternative to meet the needs of the project.

A. *Life Cycle Cost Analysis*

A present worth analysis compares the capital costs less the present worth of any salvage value plus the present worth of the operation and maintenance (O&M) costs for each alternative. The analysis will be performed for a 20-year planning period at an interest rate equal to the federal discount rate for water resources planning which is 2.50%. Sunk costs are not included in the analysis. Sunk costs include any investments or financial commitments made before or during the project planning. These costs include the cost of the existing facilities, land, and costs associated with planning. Estimated O&M costs can be found on the PER Summary Tables in Appendix F.

The following table includes the estimated salvage costs for each alternative. The estimates are based on straight line depreciation and the assumptions listed below. The estimated salvage value of each alternative is as follows:

Assumptions for Salvage Values:	***Useful Life (Years)***
Lagoon Sludge Removal	25
Flow Monitoring and Logging	100
Shear Gate Valve Replacement	100
Riprap Placement/Erosion Repairs	50
Pipe Replacement/Lining	100

Salvage Values:	***Alternative B***	***Alternative C***
Lagoon Sludge Removal	$680,065	$680,065
Flow Monitoring and Logging	7,566	7,566
Shear Gate Valve Replacement	4,090	4,090
Riprap Placement/Erosion Repairs	399,623	399,623
Pipe Replacement/Lining	727,561	417,779
Total Estimated Salvage Value	**$1,818,905**	**$1,509,122**

The total present worth is the sum of the initial capital cost, plus the present worth of O&M costs, minus the present worth of the salvage value at the end of the 20-year planning period.

Present Worth Analysis

	Alternative B	***Alternative C***
Project Capital Cost	$3,040,980	$2,662,230
Plus Present Worth of O&M	2,692,205	2,692,205
Less Present Worth of Salvage Value	-1,110,022	-920,972
Total Present Worth Value	**$4,623,263**	**$4,433,463**

As previously mentioned, Alternative A, the No Action alternative, fails to meet any of the project needs established within the study area and, therefore, is not considered a technically feasible alternative. The life cycle cost analysis shows that Alternative C has a lower present worth when compared to Alternative B and therefore is less costly to implement.

B. *Non-Monetary Factors*

Alternative B (riprap placement at WWTF and pipe replacements) is not the most practical solution for the justifications presented. This alternative also includes pipe replacement in previously identified localized areas. Pipe replacement offers the construction to be visibly inspected. However, compared to pipe lining proposed in Alternative C, pipe replacement is more expensive, much more intrusive, and more time consuming. Lastly, both Alternatives B and C propose the same riprap placement, bank regrading as required, sludge removal, flow monitoring and shear gate valve replacement.

VII. Recommended Alternative

The selected alternative for the Village's *Sewer Lining and Lagoon Improvements Project* is Alternative C. This is the most cost-effective alternative for the existing collection and treatment system and offers the most logical solutions to the issues presented. All necessary lagoon improvements are included, providing the Village with permanently improved access and ease of maintenance. Pipe lining offers an affordable and effective solution to deteriorating sewer infrastructure. The following is a detailed description of the components and basis of design for this system.

A. Preliminary Project Design

1. Lagoon Sludge Removal

The sludge depth of the east side of Lagoon Cell 1 is reaching capacity. It has been over the recommended 25 years since the last cleaning. Additionally, Lagoon Cell 3 has not reached its capacity, however it should be cleaned because it is over 15 years old and has never been cleaned. This will improve system operations following implementation of other recommended improvements. Sludge removal from Lagoon Cell 3 will also allow for necessary bank regrading. The sludge removal in both lagoons will increase the treatment volume.

2. Flow Monitoring and Logging

Currently, there are no provisions to accurately measure and record how much effluent is discharged from the WWTF lagoons. Installing instrumentation to monitor the water level in the existing weir manhole downstream of the lagoon outlet structure for Lagoon Cell 2 will allow the discharge volume and flow rates to be measured and recorded. Installing the necessary mounting hardware in the existing weir manhole downstream of Lagoon Cell 1 will allow the instrumentation to be moved to Lagoon Cell 1 when necessary.

3. Shear Gate Valve Replacement

The shear gate valve on the Lagoon Cell 2 effluent control structure is currently broken and will be replaced to restore the structure to its full functionality.

4. Riprap Placement/Erosion Repairs

Both Lagoon Cells 2 and 3 have erosion damage on the lagoon banks. The proposed regrading of the bank slopes will increase safety and ease of maintenance. Riprap will be placed along all the banks of the lagoons to prevent future erosion.

5. Full Pipe Lining

Six locations within the existing collection system will receive full pipe linings. These areas of need are throughout the Village collection system and range from 8- to 15-inch pipe diameter. The repair locations have been determined and quantified as a result of the Village's recent SAW program.

B. Project Schedule

This project is proposed to be constructed during the 2023 construction season should sufficient USDA Rural Development funding be received. To meet this schedule, the following target dates would need to be met.

Receive USDA-RD Letter of Conditions	December 2021
Create bid documents and complete design and permitting	May 2022
USDA-RD authorization to let project for bidding	June 2022
Receive bids	July 2022
Tentatively award project	August 2022
Complete remaining USDA-RD requirements	August 2022
Loan closing/preconstruction meeting/issue notice to proceed	October 2022
Begin construction	October 2022
Substantial completion	June 2023
Final Completion	July 2023

C. Permit Requirements

This project will require two permits as follows:

- Van Buren County Soil Erosion and Sedimentation Control permit (Part 91)
- EGLE Part 41 Wastewater System Construction Permit

D. Sustainability Considerations

This project will aid in analyzing the sanitary sewer system flows and volumes with the addition of the logging and monitoring system at the lagoon weir structure. The pipe lining activities will improve the system's sustainability in numerous ways. The rehabilitation of the sewer pipes will eliminate infiltration within those pipes, which in turn, reduces the volume of water to be pumped to and treated at the WWTF. In addition, three of the stretches of pipe to be lined are located within off-road utility easements, making routine maintenance and emergency repairs very difficult. Pipe lining will reduce the likelihood of failure at these locations. Lastly, since pipe lining is a non-intrusive construction method, earth disturbance and restoration will be at a minimum, while still achieving the project goals.

By requiring the contractor to follow the requirements of the SESC permit and construction best practices, soil erosion and sedimentation will be prevented from leaving the construction site and accumulating in undesired locations, like storm drains, yards, or the existing sanitary collection system.

E. Total Project Cost Estimate

The following table includes a summary of the project cost estimate.

TOTAL PROJECT COST ESTIMATE

1. Estimated Construction Cost	**$2,663,000**
2. Bond and Local Counsel	80,000
3. Rate Consultant	17,000
4. Engineering Fees (Basic Services)	208,000
4. Construction Engineering	94,000
5. Project Inspection Fees (RPR)	94,000
6. Engineering Additional Services	16,000
7. Construction Contingency	267,000
Subtotal Estimated Project Fees:	**$776,000**
TOTAL ESTIMATED PROJECT COST:	**$3,439,000**

F. Annual Operating Budget

6. Income

All capital costs for the project and the O, M & R costs for the system will be funded through user rates. As shown on page six of the Rate Analysis Report in Appendix C, a rate increase of 15.0% will be required for the first three years, and an annual increase of 1.0% to cover inflation thereafter. The Village will need to adopt a resolution setting the new rates as shown below.

Commodity Charge

Current Commodity Charge per 1,000 Gallons	Proposed Commodity Charge per 1,000 Gallons	Annual Rate Increase (%)
$1.37	$1.58	15.0

Readiness to Serve Charge

Meter Size	Current Monthly Readiness to Serve Charge	Proposed Monthly Readiness to Serve Charge	Initial Rate Increase (%)
5/8" or 3/4"	$14.50	$16.68	15.0
1"	$25.78	$29.65	15.0
1 ¼"	$40.28	$46.32	15.0
1 ½"	$58.00	$66.70	15.0
2"	$103.11	$118.58	15.0
3"	$232.00	$266.80	15.0
4"	$412.44	$474.31	15.0
6"	$928.00	$1,067.20	15.0
8"	$1,649.78	$1,897.25	15.0
10"	$2,577.78	$2,964.45	15.0
12"	$3,712.00	$4,268.80	15.0

7. Annual Operation and Maintenance Costs

Estimated operation and maintenance costs were developed by the Village with assistance from Baker Tilly. These costs are shown in the Comparative Detail of Operation Expenses section of the Rate Analysis Report in Appendix C. The annual O&M cost for the Village wastewater system is based on the Village's 2020 operating budget and the last two years of historical expenses. This project is not expected to change the currently estimated O&M costs.

8. Debt Repayment

The Village has no existing debt related to its wastewater system.

9. Reserves

Major capital improvements for the Village are incorporated into annual cashflow projections. The proposed user rate accounts for these major capital improvements and expenditures. See the Rate Analysis Report located in Appendix C for a 20-year cash flow. The Village has a healthy cash balance; however, it is shown in the cashflow how this balance is quickly utilized for required capital improvements to the Village's sanitary system.

Included in the PER Summary Tables shows the required Repair, Replacement, and Improvement (RRI) Fund and Bond Reserve funding requirements. See Appendix C for more details.

G. Surplus of Funds

If favorable bids are received on this project and a surplus of funds are available, below the total amount obligated by USDA-RD, they will be used on additional sewer infrastructure in need of rehabilitation. The additional rehabilitations will be limited to sewer infrastructure falling within the parameters of this report regarding environmental, land requirements, historical sites, permitting, etc. All of the below listed work will take place in existing ROW and will not alter the flow, service area, capacity or character of the existing wastewater system or planned improvements. No additional permitting would be required for this rehabilitation work.

The specific needs identified as part of the Village's SAW Grant and which are included in the Villages Sanitary Sewer Capital Improvement List are as follows:

- Sewer Spot Lining
  - This project will repair failing and deteriorating sewer pipes at six different locations. The pipes requiring spot repairs include ssGM-36, ssGM-78, ssGM-96, ssGM-128, ssGM-129, and ssGM-172
  - Estimated Construction Cost: $38,000

- Manhole Lining
  - This project will involve cleaning, drying, and applying an epoxy or polyurea coating to nineteen manholes that are degrading and experiencing hydrogen sulfide damage.
  - Manholes ssMH-9, ssMH-10, ssMH-11, ssMH-15, ssMH-16, ssMH-85, ssMH-86, ssMH-87, ssMH-88, ssMH-141-E, ssMH-143, ssMH-157, ssMH-158, ssMH-160, ssMH-169, ssMH-180, ssMH-184, ssMH-234, and ssMH-235.
  - Estimated Construction Cost: $85,000

- Miscellaneous Manhole Repairs
    - This project will repair and/or clean a total of twenty-two manholes.
    - Manholes are identified of having one of the following defects, or a combination thereof: Joint degradation, chimney degradation, and casting defects.
    - The following manholes require various repairs: ssMH-6, ssMH-76, ssMH-80, ssMH-82, ssMH-244-A, ssMH-246-A, ssMH-12, ssMH-14, ssMH-17, ssMH-18, ssMH-19, ssMH-20, ssMH-21, ssMH-22, ssMH-22-A, ssMH-23, ssMH-24, ssMH-27, ssMH-28, ssMH-71, ssMH-112, and ssMH-245-A.
    - Estimated Construction Cost: $30,000

VIII. Conclusions And Recommendations

This Preliminary Engineering Report was prepared in accordance with United States Department of Agriculture Rural Utilities Service Bulletin 1780-2, dated April 4, 2013, for water and wastewater facilities to fulfill the planning requirements for funding from the USDA.

To finance the needed improvements as identified in this Preliminary Engineering Report, our recommendations to the Village of Decatur are the following:

- Submit a full application and supporting documents along with copies of this Preliminary Engineering Report to the United States Department of Agriculture, Rural Development Division, for consideration for funding of this project.

- Upon receipt of the Final Rural Development Grant/Loan offer, the Village should engage a bond attorney, take construction bids, and close the Rural Development Loan.

- After the loan is closed, construction of the proposed project should begin.

Wightman will work with Village of Decatur to ensure all requirements are met within the Letter of Conditions provided by the USDA.

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APPENDIX A

Planning Area Map

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map
US Topo

DECATUR QUADRANGLE
MICHIGAN
7.5-MINUTE SERIES

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 16T

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery....NAIP, July 2016 - October 2016
Roads.... U.S. Census Bureau, 2016
Names....GNIS, 1980 - 2019
Hydrography....National Hydrography Dataset, 2007 - 2019
Contours....National Elevation Dataset, 2018
Boundaries....Multiple sources; see metadata file 2017 - 2018
Public Land Survey System....BLM, 2018
Wetlands....FWS National Wetlands Inventory 2005

UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
5°22′ 95 MILS
0°43′ 13 MILS

U.S. National Grid
100,000 - m Square ID
EM
Grid Zone Designation
16T

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.18

QUADRANGLE LOCATION

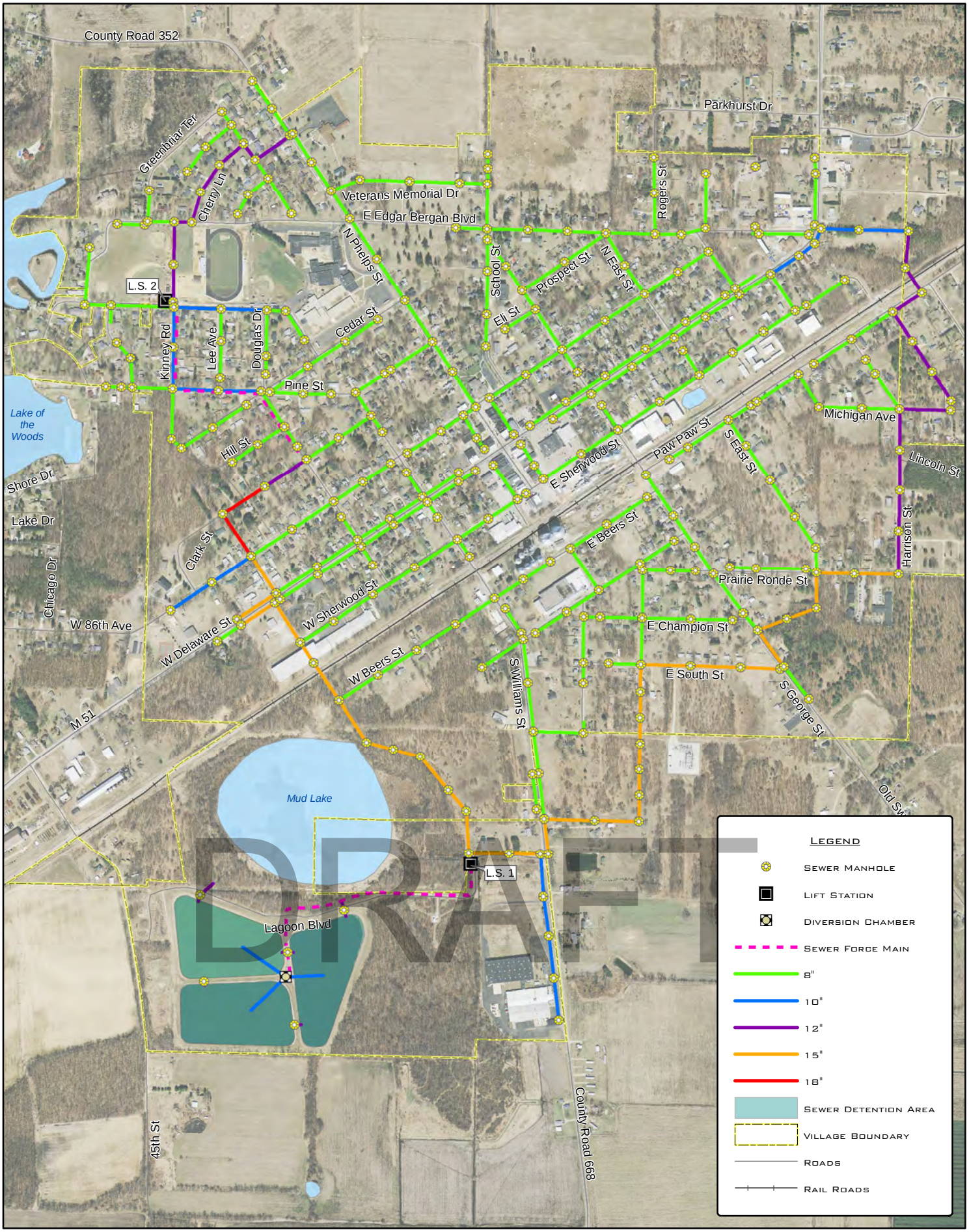
1 Lawrence
2 Paw Paw
3 Lawton
4 Twin Lakes
5 Marcellus
6 Dowagiac
7 Vandalia
8 Jones

ADJOINING QUADRANGLES

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

DECATUR, MI
2019

NSN. 7643016370910
NGA REF NO. USGSX24K11652



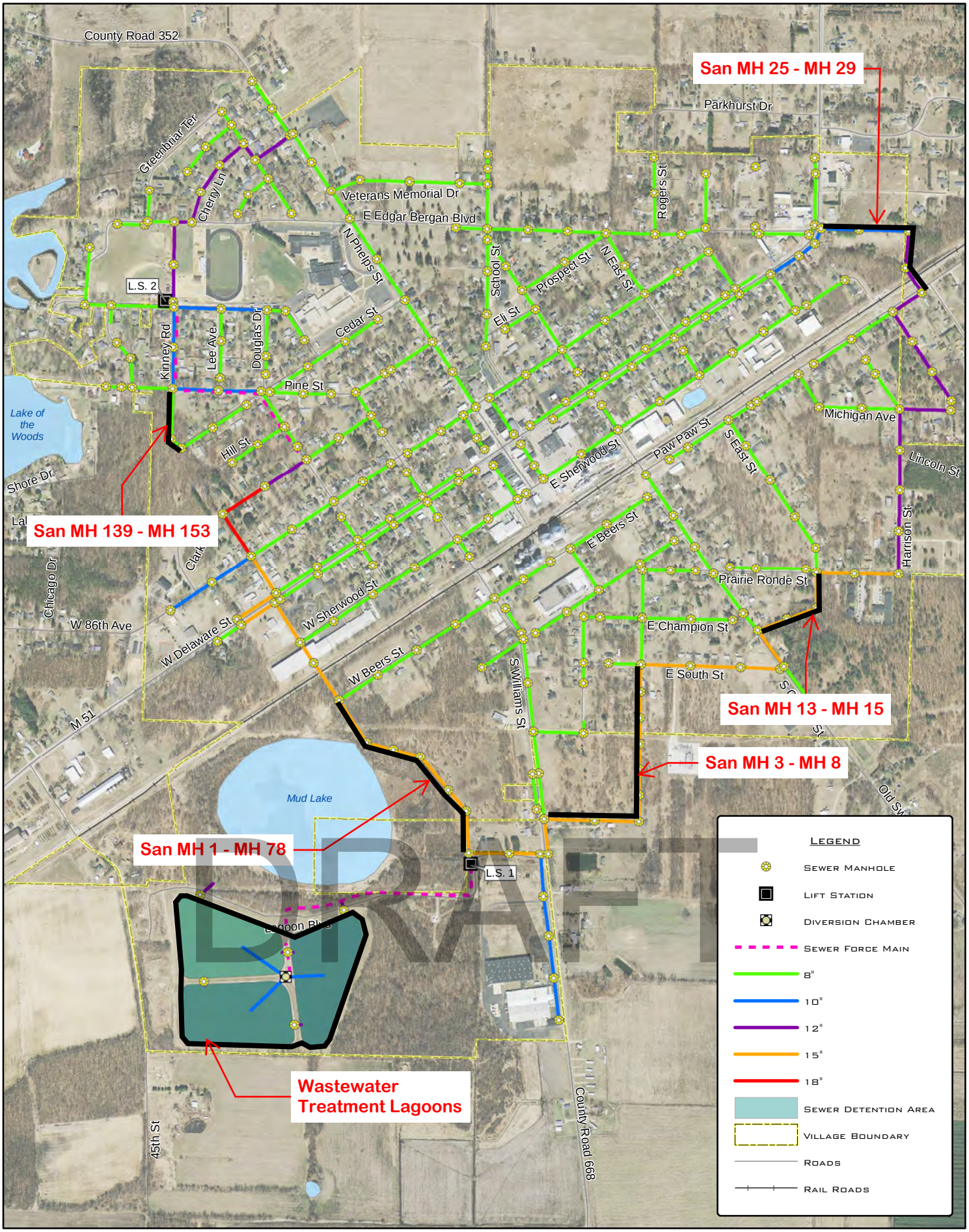
VILLAGE OF DECATUR

SANITARY SEWER SYSTEM

0 250 500 1,000
Scale 1 in = 1,000 Feet

SYSTEM MAP
7/20/2017

130776



VILLAGE OF DECATUR

SANITARY SEWER SYSTEM

0 250 500 1,000
Scale 1 in = 1,000 Feet

SYSTEM MAP
7/20/2017

130776

APPENDIX B

Per Summary Tables

Existing System Sewer Summary

Community Name: Village of Decatur
NPDES Discharge Permit No. MIG580314

Collection Sewer: Village of Decatur
Type: gravity

Sewers	Footage	Material	Age	Condition	No. of Manholes	Age	Condition
8 inch	59,315	Vitrified Clay	42-46 ('71-'75)	Fair to Poor	10	10	Very Good
8 inch	124	Polyvinyl Chloride	42-46 ('71-'75)	Fair to Poor	1	20	Good
8 inch	1,391	Vitrified Clay	45-36 ('76-'85)	Fair to Poor	9	30	Good
8 inch	1,182	Polyvinyl Chloride	45-36 ('76-'85)	Very Poor	26	40	Good
8 inch	127	Polyvinyl Chloride	35-26 ('86-'95)	Very Good	160	40	Fair
8 inch	276	Vitrified Clay	25-16 ('96-2005)	Good	82	40	Poor
8 inch	502	Polyvinyl Chloride	25-16 ('96-2005)	Very Good	13	50	Poor
10 inch	720	Cast Iron	42-46 ('71-'75)	Fair			
10 inch	4,133	Vitrified Clay	42-46 ('71-'75)	Fair			
10 inch	1,335	Polyvinyl Chloride	('96-2005)	Very Good			
10 inch	381	Ductile Iron	('96-2005)	Fair			
12 inch	5,978	Vitrified Clay	42-46 ('71-'75)	Good to Fair			
12 inch	132	High Density Polyethylene	('96-2005)	Fair			
12 inch	216	Reinforced Concrete	15-4 (2006-2015)	Fair			
12 inch	196	Corrugated Metal	42-46 ('71-'75)	Fair			
15 inch	8,523	Vitrified Clay	42-46 ('71'75)	Poor			
15 inch	363	Concrete (Non-reinforced)	42-46 ('71-'75)	Very Poor			
15 inch	700	Polyvinyl Chloride	25-16 ('96-2005)	Very Good			
18 inch	805	Vitrified Clay	42-46 ('71-'75)	Fair to Poor			

Lift Stations:

L.S. No.	Type	Pumping Capacity	Age	Condition
1	duplex submersible	500	14 yrs	Good
2	duplex submersible	180	10 yrs	Good

Treatment Type and Description:

Lagoons		Storage Volume (Gal)	Sludge (ft)	No. of Aerators	Hp
Lagoon 1:	Primary	12,635,267	1.68	None	N/A
Lagoon 2:	Polishing	13,495,518	< 0.50	None	N/A
Lagoon 3:	Polishing	12,371,978	0.65	None	N/A

Discharge Type/Outfall surfacewater - Mud Lake

Discharge Frequency: continuous/intermittent

Discharge Volume: 3,000,000 Gal

Discharge Effluent Criteria:

	Maximum Limits for Quality or Concentration			
	Monthly	*7-Day*	*Daily*	*Units*
Biochemical Oxygen Demand (BOD)	30	45	(report)	mg/l
Total Suspended Solids				
March - May	70	100	(report)	mg/l
October - December	40	45	(report)	mg/l
Ammonia Nitrogen	(report)		(report)	mg/l
Total Phosphorus	(report)		(report)	mg/l
Fecal Coliform Bacteria	200	400	(report)	mg/l
	Minimum Daily			
pH	6.5			S.U.
Dissolved Oxygen	5			mg/l

Sewer Customer Information:

	No. of Existing Customers	Monthly Usage (gallons)	No. of Users after Project	Projected Total Usage
Residential Dwellings	523	2,002,108	523	2,002,108
Other Users	247	1,727,338	247	1,727,338
Totals	770	3,729,445	770	3,729,445

Existing Rate Structure:

Ready-To-Serve Charge (Monthly):	$	14.50
Apartment Ready-To-Serve Charge (Monthly):	$	14.50
Usage charge (mGal)	$	1.37

Average Monthly Billing at Current Rates (all customers) $ 21,636

Yearly O & M Cost Before Improvements: $ 164,425.30 **Yearly O & M Cost After:** $ 143,962.59

Operating Budget - Wastewater
For First Full Year After Construction (2024)

Community Name: Village of Decatur **County:** Van Buren County

Address: 114 North Phelps Street, Decatur, Michigan 49045

A. Applicant Fiscal Year: **From:** March 1 **To:** February 28

B. Operating Income:	**From Sewer Rates & Charges:**	$343,358
	Other	$1,000
	Total Operating Income:	$344,358
C. Operating Expenses*:		
	Department 483 - Administration	$20,224
	Department 548 - Sewer Line Maintenance	$28,949
	Department 549 - Maintenance - Lift Stations	$90,005
	Department 550 - Collection	$33,519
	Total Operating Expenses:	$172,697
D.	**Net Operating Income:**	$171,661
E. Non Operating Income:		
	Interest:	$2,475
	Total Non Operating Income:	$2,475
F.	**Net Income**	$174,136
G. Expenditures/Transfers		
	Repair, Replacement & Improvement Fund	$11,667
	Bond Reserve	$12,107
	Payment to USDA Loan	$121,073
	Total Expenditures/Transfers:	$144,847
	Excess/Deficit over net income:	$29,288

*See Appendix D - Detailed Operating Expenses for Individual Line Item Costs

Present Worth Analysis & Short Lived Depreciation - Wastewater

Community Name: Village of Decatur

Federal Discount Rate for Water Resources Planning (Interest Rate) i = 0.025
Number of Years, n = 20 years

Lagoon Repairs & Pipe Replacement		Lagoon Repairs & Pipe Lining	
Initial Capital Costs =	$3,040,980	**Initial Capital Costs =**	$2,662,230
Annual Operations & Maintenance Costs =	$172,697	**Annual Operations & Maintenance Costs =**	$172,697
Future Salvage Value =	$1,818,900	**Future Salvage Value =**	$1,509,120
Present Worth of 20 years of O & M =	$2,692,205	**Present Worth of 20 years of O & M =**	$2,692,205
PW = **Annual OM *(1+i)^n-1 / i*(1+i)^n**			
Present Worth of 20 yr Salvage Value =	$1,110,022	**Present Worth of 20 yr Salvage Value =**	$920,972
PW = **FSV* 1 / (1 + i)^n**			
Alternate 1 Total Present Worth =	$4,623,163	**Alternative 2 Total Present Worth =**	$4,433,463

Short Lived Depreciated Assets

Item	Years of Life Expectancy	Number of Units	Replacement Cost	Funds to Set Aside Yearly
Lift Station Pumps > 500 GPM	15	1	$25,000	$1,667
Lift Station Pumps < 500 GPM	15	1	$10,000	$667
Lift Station Controls	15	2	$30,000	$4,000
Generator	15	2	$40,000	$5,333
Total			$105,000	$11,667

Future Salvage Value

S = P(1-d)^ d = depreciation rate (1/asset life)
P = initial cost y = years

Lagoon Repairs & Pipe Replacement		Lagoon Repairs & Pipe Lining	
Sludge Removal:	S = $1,538,600 x (1-(1/25))^20	Sludge Removal:	S = $1,538,600 x (1-(1/25))^20
Bank Repairs:	S = $(183,390 + 415,200) x (1-(1/50))^20	Bank Repairs:	S = $(183,390 + 415,200) x (1-(1/50))^20
Flow Monitoring/Logging:	S = $9,250 x (1-(1/100))^20	Flow Monitoring/Logging:	S = $9,250 x (1-(1/100))^20
Shear Gate Valve:	S = $5,000 x (1-(1/100))^20	Shear Gate Valve:	S = $5,000 x (1-(1/100))^20
Pipe Replacement:	S = $889,540 x (1-(1/100))^20	Pipe Lining:	S = $510,790 x (1-(1/100))^20
Total Salvage Value	**= $1,818,905**	Total Salvage Value	**= $1,509,122**

Bond Schedule

Date: ***10/18/21***

Borrower Name: **Village of Decatur** ***Type of Bond:*** **Revenue**
Interest Rate: 1.750%
Yrs Deferred Principle 0
Principal: **$3,462,000** (round to nearest $1000)
Ammort. Factor 0.0350
Ammortized Payment: $121,073

Year	1st Interest	2nd Interest	Principal Paid	Total Year Payment	Loan Balance
					3,462,000
1	30,293	30,293	60,000	120,585	3,402,000
2	29,768	29,768	62,000	121,535	3,340,000
3	29,225	29,225	63,000	121,450	3,277,000
4	28,674	28,674	64,000	121,348	3,213,000
5	28,114	28,114	65,000	121,228	3,148,000
6	27,545	27,545	66,000	121,090	3,082,000
7	26,968	26,968	67,000	120,935	3,015,000
8	26,381	26,381	68,000	120,763	2,947,000
9	25,786	25,786	70,000	121,573	2,877,000
10	25,174	25,174	71,000	121,348	2,806,000
11	24,553	24,553	72,000	121,105	2,734,000
12	23,923	23,923	73,000	120,845	2,661,000
13	23,284	23,284	75,000	121,568	2,586,000
14	22,628	22,628	76,000	121,255	2,510,000
15	21,963	21,963	77,000	120,925	2,433,000
16	21,289	21,289	78,000	120,578	2,355,000
17	20,606	20,606	80,000	121,213	2,275,000
18	19,906	19,906	81,000	120,813	2,194,000
19	19,198	19,198	83,000	121,395	2,111,000
20	18,471	18,471	84,000	120,943	2,027,000
21	17,736	17,736	86,000	121,473	1,941,000
22	16,984	16,984	87,000	120,968	1,854,000
23	16,223	16,223	89,000	121,445	1,765,000
24	15,444	15,444	90,000	120,888	1,675,000
25	14,656	14,656	92,000	121,313	1,583,000
26	13,851	13,851	93,000	120,703	1,490,000
27	13,038	13,038	95,000	121,075	1,395,000
28	12,206	12,206	97,000	121,413	1,298,000
29	11,358	11,358	98,000	120,715	1,200,000
30	10,500	10,500	100,000	121,000	1,100,000
31	9,625	9,625	102,000	121,250	998,000
32	8,733	8,733	104,000	121,465	894,000
33	7,823	7,823	105,000	120,645	789,000
34	6,904	6,904	107,000	120,808	682,000
35	5,968	5,968	109,000	120,935	573,000
36	5,014	5,014	111,000	121,028	462,000
37	4,043	4,043	113,000	121,085	349,000
38	3,054	3,054	115,000	121,108	234,000
39	2,048	2,048	117,000	121,095	117,000
40	1,024	1,024	117,000	119,048	0

Total Project Costs

	RD Funds	Non RD funds	Total
1. Construction Costs	$2,663,000	$0	$2,663,000
2. Bond and Local Counsel	$80,000	$0	$80,000
3. Rate Consultant	$17,000	$0	$17,000
4. Engineering Fees (Basic Services)	$302,000	$0	$302,000
5. Project Inspection Fees (RPR)	$94,000	$0	$94,000
6. Engineering Fees (Additional Services)	$16,000	$0	$16,000
7. Contingencies	$267,000	$0	$267,000
TOTAL:	$3,439,000	$0	$3,439,000

Notes:
This Table should match SF424
Construction Costs are further detailed with Engineer's Opinion of Probable Construction Costs attached.
Round figures to the nearest $1000!

APPENDIX C

Rate Analysis

VILLAGE OF DECATUR

Historical Revenue and Expenditure Report - Wastewater
9/1/2021

Fiscal Year Ending Febuary 28th:	2017	2018	2019	2020	2021
Revenues					
Department 000					
590-000-413.000 DELINQUENT SPECIAL ASSESSMENTS	$ -	$ 134	$ -	$ 43	$ -
590-000-539.000 GRANT PAYMENTS/STATE	$ 46,398	$ 145,616	$ -	$ -	$ -
590-000-626.000 TAP IN FEES	$ 500	$ -	$ 500	$ -	$ 3,000
590-000-628.000 SEWER SERVICE CHARGES	$ 201,593	$ 199,834	$ 199,146	$ 198,688	$ 205,267
590-000-629.000 PENALTIES	$ 2,420	$ 2,443	$ 2,262	$ 2,085	$ 914
590-000-664.000 INTEREST ON CD'S	$ 999	$ 878	$ 2,164	$ 4,205	$ 2,000
590-000-664.100 INTEREST ON CHECKING	$ 10	$ 53	$ 48	$ 54	$ 1,648
590-000-664.120 INTEREST ON CHECKING-RECEIVING	$ 309	$ 286	$ 305	$ 229	$ 108
590-000-671.000 OTHER REVENUE	$ 10	$ -	$ 0	$ 43	$ 150
590-000-672.000 SPECIAL ASSESSMENTS	$ -	$ -	$ -	$ 452	$ -
Total Revenue	**$ 252,239**	**$ 349,243**	**$ 204,426**	**$ 205,799**	**$ 213,088**
Expenses					
Department 483 - Administration					
590-483-703.172 MANAGER SALARY	$ 7,146	$ 7,435	$ 7,353	$ 8,143	$ 10,235
590-483-703.215 CLERK SALARY	$ 7,070	$ 8,345	$ 7,113	$ 7,939	$ 8,729
590-483-715.000 FICA/MEDICARE	$ 1,099	$ 1,230	$ 1,136	$ 1,293	$ 1,200
590-483-718.000 PENSION	$ -	$ -	$ 360	$ 536	$ -
590-483-719.000 HEALTH INSURANCE	$ 818	$ -	$ 135	$ 128	$ -
590-483-807.000 AUDIT	$ 450	$ 450	$ 461	$ 471	$ 471
Department 548 - Sewer Line Maintenance					
590-548-756.000 OPERATING SUPPLIES	$ 5	$ 584	$ 798	$ 444	$ 309
590-548-768.000 UNIFORMS/BOOTS/ETC	$ 524	$ 439	$ 549	$ 293	$ 746
590-548-812.000 ENGINEERING	$ -	$ -	$ -	$ 997	$ 15,073
590-548-820.000 MISS DIG	$ 49	$ 49	$ 546	$ 389	$ 734
590-548-821.000 LAB TESTING	$ 2,479	$ 2,833	$ 3,591	$ 3,225	$ 1,675
590-548-822.000 CONTRACTUAL SERVICES	$ -	$ -	$ -	$ 1,050	$ -
590-548-853.020 CELL PHONE	$ 343	$ 441	$ 534	$ 604	$ 809
590-548-864.000 CONFERENCES/WORKSHOPS	$ 75	$ 366	$ 465	$ -	$ -
590-548-934.000 MAINTENANCE	$ 3,002	$ 5,053	$ 11,542	$ 15,303	$ 6,898
590-548-936.000 TECH SERVICES	$ -	$ -	$ -	$ 3,159	$ 2,628
590-548-943.000 EQUIPMENT RENTAL	$ 412	$ 478	$ 1,009	$ 611	$ 844
590-548-958.000 DUES/MEMBERSHIPS	$ 300	$ 300	$ 294	$ -	$ 95
590-548-963.000 LIABILITY INSURANCE	$ 2,702	$ 2,522	$ 2,585	$ 2,598	$ 2,665
Department 549 - Maintenance - Lift Stations					
590-549-703.000 SALARIES-MAINTENANCE	$ 17,047	$ 21,035	$ 31,190	$ 19,028	$ 34,391
590-549-703.010 OVERTIME PAY	$ 229	$ 852	$ 882	$ 1,291	$ 1,508
590-549-703.020 HOLIDAY PAY	$ 2,812	$ 3,165	$ 3,224	$ 2,971	$ 2,877
590-549-703.030 VACATION PAY	$ 4,983	$ 3,090	$ 2,684	$ 2,793	$ 3,405
590-549-703.040 SICK/PERSONAL PAY	$ 2,658	$ 4,404	$ 2,747	$ 3,894	$ 4,482
590-549-715.000 FICA	$ 2,193	$ 2,766	$ 2,746	$ 2,817	$ 5,132
590-549-716.000 UNEMPLOYMENT	$ -	$ -	$ -	$ 0	$ 1
590-549-717.000 WORKMAN'S COMP	$ 802	$ 485	$ 534	$ 689	$ 283
590-549-718.000 PENSION	$ 2,986	$ 3,259	$ 2,258	$ 4,292	$ 4,236
590-549-719.000 HEALTH INSURANCE	$ 11,427	$ 12,749	$ 12,385	$ 9,294	$ 9,867
590-549-719.500 DISABILITY INSURANCE	$ -	$ -	$ -	$ -	$ 209
590-549-720.000 LIFE INSURANCE	$ 323	$ 337	$ 434	$ 344	$ 303
590-549-756.000 OPERATING SUPPLIES	$ -	$ -	$ -	$ -	$ 49
590-549-807.000 AUDIT	$ 405	$ 405	$ 415	$ 424	$ 422
590-549-812.000 ENGINEERING	$ -	$ -	$ -	$ 1,048	$ -
590-549-822.000 CONTRACTUAL SERVICES	$ 854	$ 616	$ 1,216	$ 993	$ 695
590-549-921.000 ELECTRIC	$ 3,509	$ 4,026	$ 4,425	$ 3,698	$ 4,560
590-549-931.000 MAINTENANCE SERVICE	$ 2,132	$ 926	$ 4,680	$ 4,211	$ -
590-549-931.010 COUNTY DRAIN MAINTENANCE	$ 220	$ 1,320	$ 1,069	$ 1,069	$ -
590-549-934.000 MAINTENANCE EQUIPMENT	$ -	$ -	$ -	$ -	$ 1,966
590-549-943.000 EQUIPMENT RENTAL	$ 11,850	$ 8,692	$ 14,668	$ 9,967	$ 11,414
590-549-963.000 LIABILITY INSURANCE	$ 3,226	$ 3,026	$ 3,103	$ 3,117	$ 3,199

Department 550 - Collection

590-550-703.000	SALARIES	$	9,777	$	12,127	$	13,145	$	12,925	$	15,673
590-550-703.020	HOLIDAY PAY	$	505	$	616	$	414	$	669	$	564
590-550-703.030	VACATION PAY	$	1,133	$	1,160	$	118	$	669	$	188
590-550-703.040	SICK/PERSONAL PAY	$	547	$	588	$	1,961	$	1,665	$	736
590-550-715.000	FICA/MEDICARE	$	954	$	1,159	$	1,215	$	1,282	$	1,388
590-550-716.000	UNEMPLOYMENT COMPENSATION	$	-	$	10	$	10	$	2	$	1
590-550-717.000	WORKMAN'S COMP.	$	31	$	44	$	46	$	149	$	56
590-550-718.000	PENSION	$	537	$	652	$	684	$	948	$	977
590-550-719.000	HEALTH INSURANCE	$	5,754	$	5,621	$	5,325	$	5,704	$	4,777
590-550-719.500	DISABILITY INSURANCE	$	-	$	-	$	-	$	-	$	57
590-550-720.000	LIFE INSURANCE	$	53	$	53	$	120	$	56	$	44
590-550-722.000	VISION REIMBURSEMENT	$	125	$	-	$	-	$	125	$	-
590-550-728.000	OFFICE SUPPLIES	$	544	$	678	$	825	$	286	$	1,059
590-550-730.000	POSTAGE	$	1,330	$	1,428	$	1,631	$	1,503	$	1,272
590-550-807.000	AUDIT	$	810	$	810	$	830	$	847	$	847
590-550-808.000	PAYMENT PROCESSING FEES	$	-	$	-	$	-	$	8	$	307
590-550-853.000	TELEPHONE	$	371	$	487	$	643	$	541	$	554
590-550-901.000	PRINTING	$	30	$	159	$	30	$	-	$	189
590-550-930.000	REPAIRS OFFICE EQUIPMENT	$	100	$	-	$	-	$	-	$	-
590-550-934.000	SERVICE CONTRACTS	$	208	$	223	$	294	$	2,676	$	725
590-550-936.000	TECH SERVICES	$	1,856	$	740	$	1,349	$	674	$	2,961
590-550-959.000	MISCELLANEOUS	$	36	$	14	$	83	$	236	$	352
590-550-964.000	NSF CHECK CHARGES	$	-	$	-	$	-	$	-	$	23
590-550-965.000	EQUIPMENT PURCHASE < 1000	$	375	$	-	$	-	$	555	$	-
	Total - Expenses	**$**	**119,207**	**$**	**128,245**	**$**	**155,856**	**$**	**150,640**	**$**	**174,863**

Village of Decatur

Wastewater System Improvements Project

ESTIMATED PRELIMINARY RATE IMPACTS - SEWER CUSTOMERS

10/25/2021

ASSUMPTIONS

Initial Rate Increase	15.00%
Start Date of Initial Rate Increase	2023
Duration of Initial Rate Increase (Years)	3
Annual COLA Rate Increase	1.0%
Start of Annual COLA Rate Increase	2026
Inflation	2.5%
Meter Equivalents Billed (inside and outside Village)*	991
Apartment Unit Count (inside and outside Village)*	162
Annual Billed Usage (Gallons)*	43,070,000

*Per 2020 Baker Tilly Rate Study

Existing Customers

Per BS&A Active Accounts

Residential:	523
Other:	247
Total:	**770**

REVENUES		FY 2022		FY 2023		FY 2024
Rate Increase		0.0%		15.00%		15.00%
Readiness to Serve Charge	$	14.50	$	16.68	$	19.18
Meter Equivalents Billed*		991		991		991
Apartment Unit Count*		162		162		162
Ready to Serve Revenue	$	200,622	$	230,715	$	265,323
Usage Rate - City	$	1.37	$	1.58	$	1.81
Usage Rate Revenue	$	59,006	$	67,857	$	78,035
Other Revenue	$	3,475	$	3,475	$	3,475
Total Revenue	$	263,103	$	302,047	$	346,833
* Meter Equivalents Based on 2020 Baker Tilly Rate Analysis						
Typical City homeowner's bill (assuming 5,000 gallons per month)	$	21.35	$	24.55	$	28.24
OPERATING EXPENDITURES						
O&M	$	164,425	$	168,506	$	172,697
Net Operating Revenue	$	98,678	$	133,541	$	174,136
NON-OPERATING EXPENDITURES						
Cash Funded Capital Replacements	$	92,000	$	-	$	-

Bonds	Project Cost	Grant	Bond Amount	Term	Rate	Start	End	Debt Service					
Sewer USDA	$ 3,439,000	0.0%	$ 3,439,000	40	1.750%	2024	2063	$120,269.02	*Balance:*	$	-	$	-	$	3,439,000
									Principal:	$	-	$	-	$	60,087
									Interest:	$	-	$	-	$	60,183
									Total:	$	-	$	-	$	120,269

CASH RESERVES				
Repair, Replacement & Improvement Fund	$	-	$	-	$	11,667
Bond Reserve	$	-	$	-	$	12,027
Net Cash Flow	$	6,678	$	133,541	$	30,173
Cash Fund Balance	**$ 430,845**	**$**	**437,523**	**$**	**571,064**	**$**	**601,237.18**

FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034
15.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
$ 22.05	$ 22.27	$ 22.50	$ 22.72	$ 22.95	$ 23.18	$ 23.41	$ 23.64	$ 23.88	$ 24.12
991	991	991	991	991	991	991	991	991	991
162	162	162	162	162	162	162	162	162	162
$ 305,121	$ 308,172	$ 311,254	$ 314,366	$ 317,510	$ 320,685	$ 323,892	$ 327,131	$ 330,402	$ 333,706
$ 2.08	$ 2.10	$ 2.13	$ 2.15	$ 2.17	$ 2.19	$ 2.21	$ 2.23	$ 2.26	$ 2.28
$ 89,741	$ 90,638	$ 91,544	$ 92,460	$ 93,384	$ 94,318	$ 95,261	$ 96,214	$ 97,176	$ 98,148
$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475
$ 398,337	$ 402,285	$ 406,273	$ 410,301	$ 414,370	$ 418,478	$ 422,629	$ 426,820	$ 431,054	$ 435,329
$ 32.47	$ 32.80	$ 33.12	$ 33.45	$ 33.79	$ 34.13	$ 34.47	$ 34.81	$ 35.16	$ 35.51
$ 176,993	$ 181,396	$ 185,908	$ 190,532	$ 195,272	$ 200,129	$ 205,108	$ 210,210	$ 215,439	$ 220,798
$ 221,344	$ 220,889	$ 220,365	$ 219,769	$ 219,098	$ 218,349	$ 217,521	$ 216,610	$ 215,615	$ 214,532
$ -	$ 132,000	$ 111,000	$ 97,000	$ -	$ 103,000	$ 120,000	$ 155,000	$ 10,000	$ 161,000
$ 3,378,913	$ 3,317,775	$ 3,255,567	$ 3,192,271	$ 3,127,867	$ 3,062,335	$ 2,995,657	$ 2,927,812	$ 2,858,780	$ 2,788,539
$ 61,138	$ 62,208	$ 63,297	$ 64,404	$ 65,531	$ 66,678	$ 67,845	$ 69,032	$ 70,240	$ 71,470
$ 59,131	$ 58,061	$ 56,972	$ 55,865	$ 54,738	$ 53,591	$ 52,424	$ 51,237	$ 50,029	$ 48,799
$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269
$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667
$ 12,027	$ 12,027	$ 12,027	$ 12,027	$ 12,027	$ 12,027	$ 12,027	$ 12,027	$ 12,027	$ -
$ 77,381	$ (55,073)	$ (34,597)	$ (21,194)	$ 75,135	$ (28,613)	$ (46,442)	$ (82,352)	$ 61,652	$ (78,404)
$ 678,618	**$ 623,545**	**$ 588,948**	**$ 567,754**	**$ 642,889**	**$ 614,275**	**$ 567,834**	**$ 485,481**	**$ 547,134**	**$ 468,730**

FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044
1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
$ 24.36	$ 24.60	$ 24.85	$ 25.10	$ 25.35	$ 25.60	$ 25.86	$ 26.12	$ 26.38	$ 26.64
991	991	991	991	991	991	991	991	991	991
162	162	162	162	162	162	162	162	162	162
$ 337,043	$ 340,414	$ 343,818	$ 347,256	$ 350,729	$ 354,236	$ 357,778	$ 361,356	$ 364,970	$ 368,619
$ 2.30	$ 2.32	$ 2.35	$ 2.37	$ 2.40	$ 2.42	$ 2.44	$ 2.47	$ 2.49	$ 2.52
$ 99,129	$ 100,121	$ 101,122	$ 102,133	$ 103,155	$ 104,186	$ 105,228	$ 106,280	$ 107,343	$ 108,416
$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475
$ 439,648	$ 444,010	$ 448,415	$ 452,864	$ 457,358	$ 461,897	$ 466,481	$ 471,111	$ 475,788	$ 480,511
$ 35.87	$ 36.23	$ 36.59	$ 36.95	$ 37.32	$ 37.70	$ 38.07	$ 38.46	$ 38.84	$ 39.23
$ 226,290	$ 231,919	$ 237,688	$ 243,601	$ 249,660	$ 255,870	$ 262,235	$ 268,758	$ 275,444	$ 282,295
$ 213,358	$ 212,091	$ 210,727	$ 209,264	$ 207,698	$ 206,027	$ 204,246	$ 202,353	$ 200,344	$ 198,215
$ 10,000	$ 168,000	$ -	$ 175,000	$ -	$ -	$ -	$ -	$ -	$ -
$ 2,717,070	$ 2,644,350	$ 2,570,357	$ 2,495,069	$ 2,418,464	$ 2,340,518	$ 2,261,208	$ 2,180,510	$ 2,098,400	$ 2,014,853
$ 72,720	$ 73,993	$ 75,288	$ 76,605	$ 77,946	$ 79,310	$ 80,698	$ 82,110	$ 83,547	$ 85,009
$ 47,549	$ 46,276	$ 44,981	$ 43,664	$ 42,323	$ 40,959	$ 39,571	$ 38,159	$ 36,722	$ 35,260
$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269
$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 71,422	$ (87,845)	$ 78,791	$ (97,672)	$ 75,762	$ 74,091	$ 72,310	$ 70,417	$ 68,408	$ 66,280
$ 540,152	**$ 452,307**	**$ 531,098**	**$ 433,426**	**$ 509,188**	**$ 583,279**	**$ 655,589**	**$ 726,007**	**$ 794,415**	**$ 860,695**

FY 2045	FY 2046	FY 2047	FY 2048	FY 2049	FY 2050	FY 2051	FY 2052	FY 2053	FY 2054
1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
$ 26.91	$ 27.18	$ 27.45	$ 27.72	$ 28.00	$ 28.28	$ 28.56	$ 28.85	$ 29.14	$ 29.43
991	991	991	991	991	991	991	991	991	991
162	162	162	162	162	162	162	162	162	162
$ 372,306	$ 376,029	$ 379,789	$ 383,587	$ 387,423	$ 391,297	$ 395,210	$ 399,162	$ 403,154	$ 407,185
$ 2.54	$ 2.57	$ 2.59	$ 2.62	$ 2.65	$ 2.67	$ 2.70	$ 2.73	$ 2.75	$ 2.78
$ 109,501	$ 110,596	$ 111,702	$ 112,819	$ 113,947	$ 115,086	$ 116,237	$ 117,399	$ 118,573	$ 119,759
$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475
$ 485,281	$ 490,099	$ 494,965	$ 499,880	$ 504,844	$ 509,858	$ 514,922	$ 520,036	$ 525,202	$ 530,419
$ 39.62	$ 40.02	$ 40.42	$ 40.82	$ 41.23	$ 41.64	$ 42.06	$ 42.48	$ 42.90	$ 43.33
$ 289,318	$ 296,514	$ 303,890	$ 311,449	$ 319,197	$ 327,137	$ 335,274	$ 343,614	$ 352,162	$ 360,922
$ 195,964	$ 193,585	$ 191,075	$ 188,431	$ 185,648	$ 182,721	$ 179,648	$ 176,422	$ 173,040	$ 169,498
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 1,929,844	$ 1,843,347	$ 1,755,336	$ 1,665,786	$ 1,574,668	$ 1,481,956	$ 1,387,621	$ 1,291,635	$ 1,193,970	$ 1,094,595
$ 86,497	$ 88,010	$ 89,551	$ 91,118	$ 92,712	$ 94,335	$ 95,986	$ 97,665	$ 99,375	$ 101,114
$ 33,772	$ 32,259	$ 30,718	$ 29,151	$ 27,557	$ 25,934	$ 24,283	$ 22,604	$ 20,894	$ 19,155
$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269
$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 64,028	$ 61,649	$ 59,140	$ 56,495	$ 53,712	$ 50,786	$ 47,712	$ 44,486	$ 41,105	$ 37,562
$ 924,722	**$ 986,372**	**$ 1,045,511**	**$ 1,102,007**	**$ 1,155,719**	**$ 1,206,504**	**$ 1,254,216**	**$ 1,298,702**	**$ 1,339,807**	**$ 1,377,369**

FY 2055	FY 2056	FY 2057	FY 2058	FY 2059	FY 2060	FY 2061	FY 2062	FY 2063
1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
$ 29.72	$ 30.02	$ 30.32	$ 30.62	$ 30.93	$ 31.24	$ 31.55	$ 31.87	$ 32.19
991	991	991	991	991	991	991	991	991
162	162	162	162	162	162	162	162	162
$ 411,257	$ 415,370	$ 419,523	$ 423,718	$ 427,956	$ 432,235	$ 436,558	$ 440,923	$ 445,332
$ 2.81	$ 2.84	$ 2.86	$ 2.89	$ 2.92	$ 2.95	$ 2.98	$ 3.01	$ 3.04
$ 120,957	$ 122,166	$ 123,388	$ 124,622	$ 125,868	$ 127,127	$ 128,398	$ 129,682	$ 130,979
$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475	$ 3,475
$ 535,689	$ 541,011	$ 546,386	$ 551,815	$ 557,299	$ 562,837	$ 568,431	$ 574,080	$ 579,786
$ 43.77	$ 44.20	$ 44.65	$ 45.09	$ 45.54	$ 46.00	$ 46.46	$ 46.92	$ 47.39
$ 369,900	$ 379,101	$ 388,531	$ 398,196	$ 408,101	$ 418,253	$ 428,657	$ 439,320	$ 450,248
$ 165,789	$ 161,910	$ 157,855	$ 153,619	$ 149,198	$ 144,584	$ 139,774	$ 134,761	$ 129,539
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 993,482	$ 890,598	$ 785,915	$ 679,399	$ 571,020	$ 460,744	$ 348,538	$ 234,368	$ 118,201
$ 102,883	$ 104,684	$ 106,516	$ 108,380	$ 110,276	$ 112,206	$ 114,170	$ 116,168	$ 118,201
$ 17,386	$ 15,585	$ 13,754	$ 11,889	$ 9,993	$ 8,063	$ 6,099	$ 4,101	$ 2,069
$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269	$ 120,269
$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667	$ 11,667
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
$ 33,853	$ 29,974	$ 25,919	$ 21,684	$ 17,262	$ 12,649	$ 7,838	$ 2,825	$ (2,397)
$ 1,411,222	**$ 1,441,196**	**$ 1,467,116**	**$ 1,488,799**	**$ 1,506,061**	**$ 1,518,710**	**$ 1,526,548**	**$ 1,529,373**	**$ 1,526,976**

APPENDIX D
Detailed Cost Estimates

Village of Decatur

Wastewater System Improvements Project

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COSTS

October 18, 2021

ALTERNATIVE C

Lagoon 3 Bank Regrading and Repair

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
4,920	SYD	Riprap, Plain	@	$75	$369,000
1,300	CYD	Granular Material, Cl II	@	30	39,000
2,400	SYD	Restoration	@	3	7,200
		Subtotal Estimated Construction Cost			**$415,200**

Lagoon 2 Bank Repair

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
2,400	SYD	Riprap, Plain	@	$75	$180,000
1,130	SYD	Restoration	@	3	3,390
		Subtotal Estimated Construction Cost			**$183,390**

Lagoon Sludge Removal

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
7,693,000	GAL	Lagoon Sludge Removal	@	$0.20	$1,538,600
		Subtotal Estimated Construction Cost			**$1,538,600**

Sanitary Sewer Lining

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	LS	Bypass Pumping	@	$10,000	$10,000
6,610	FT	Pre-Installation CCTV Inspection	@	$2	$13,220
510	FT	8" Sewer Lining	@	$35	$17,850
710	FT	10" Sewer Lining	@	$40	28,400
820	FT	12" Sewer Lining	@	$50	41,000
4,570	FT	15" Sewer Lining	@	$80	365,600
43	EA	Service Reinstatement	@	$500	21,500
6,610	FT	Post Installation CCTV Inspection	@	$2	13,220
		Subtotal Estimated Construction Cost			**$510,790**

Lagoon Flow Monitoring

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	EA	Ultrasonic Level Meter	@	$7,500	$7,500
1	EA	Ultrasonic Level Meter Mounting Assembly	@	1,750	1,750
		Subtotal Estimated Construction Cost			**$9,250**

Lagoon 2 Shear Gate Valve

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	EA	Shear Gate Valve Replacement	@	$5,000	$5,000
		Subtotal Estimated Construction Cost			**$5,000**

ALTERNATIVE B

Lagoon 3 Bank Regrading and Repair

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
4,920	SYD	Riprap, Plain	@	$75	$369,000
1,300	CYD	Granular Material, Cl II	@	30	39,000
2,400	SYD	Restoration	@	3	7,200
			Subtotal Estimated Construction Cost		**$415,200**

Lagoon 2 Bank Repair

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
2,400	SYD	Riprap, Plain	@	$75	$180,000
1,130	SYD	Restoration	@	3	3,390
			Subtotal Estimated Construction Cost		**$183,390**

Lagoon Sludge Removal

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
7,693,000	GAL	Lagoon Sludge Removal	@	$0.20	$1,538,600
			Subtotal Estimated Construction Cost		**$1,538,600**

Sanitary Sewer Replacement

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
510	FT	8" Sewer	@	$100	$51,000
710	FT	10" Sewer	@	110	78,100
820	FT	12" Sewer	@	120	98,400
4,570	FT	15" Sewer	@	130	594,100
1	LS	Bypass Pumping	@	10,000	10,000
6,610	FT	Pre-Installation CCTV Inspection	@	2	13,220
6,610	FT	Post Installation CCTV Inspection	@	2	13,220
43	EA	Service Reinstatement	@	500	21,500
1	LS	Erosion Control Measures	@	10,000	10,000
			Subtotal Estimated Construction Cost		**$889,540**

Install Lagoon Effluent Flow Monitoring and Logging

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	EA	Ultrasonic Level Meter	@	$7,500	$7,500
1	EA	Additional Ultrasonic Level Meter Mounting Asse	@	1,750	1,750
			Subtotal Estimated Construction Cost		**$9,250**

Replace Shear Gate Valve on the Lagoon 2 Effluent Control Structure

Quantity:	Unit:	Item:		Unit Price:	Subtotal:
1	EA	Shear Gate Valve Replacement	@	$5,000	$5,000
			Subtotal Estimated Construction Cost		**$5,000**

USDA Wastewater Project

Improvement:	*Costs:*
Lagoon 3 Bank Regrading and Repair	$415,200
Lagoon 2 Bank Repair	183,400
Lagoon Sludge Removal	1,538,600
Replace Lagoon 2 Shear Gate Valve	5,000
Install Lagoon Flow Monitoring and Logging	9,300
Sewer Lining	510,800
SUBTOTAL ESTIMATED CONSTRUCTION COST:	**$2,662,300**
Construction Contingency (10% +/-)	266,200
Bond and Local Counsel (3.0%+/-)	79,900
Rate Consultant	16,500
Design Engineering	
Study and Report Phase	34,750
Preliminary Eng Phase	93,200
Final Eng Phase	66,600
Bidding and Negotiating Phase	13,300
Construction Engineering	
Construction Phase	79,900
Post Construction Phase	13,300
Additional Services	15,600
Project Inspection Fees (RPR)	93,800
SUBTOTAL ESTIMATED PROJECT COST:	***$773,050***
TOTAL ESTIMATED PROJECT & CONSTRUCTION COSTS:	**$3,435,350**

APPENDIX E

2017 Capital Improvements Plan List

DRAFT

Summary of Wastewater Capital Improvement Projects

Village of Decatur

Year	Project Name	Estimated Cost
2018	Repair Sanitary Sewer Cross-Bored by Utility	$ 5,000
2018	Manhole Lining - 2018	$ 47,000
2018	Lift Station 1 Comminutor Rebuild/Replacement	$ 22,000
2019	Lift Station 1 Lighting Upgrade	$ 5,000
2019	Recoat Exposed Piping and Valves at Lift Station 1	$ 11,000
2019	Lift Station 2 Lighting Installation	$ 5,000
2019	Sewer Spot Repairs - 2019	$ 32,000
2019	Replace Lagoon 2 Effluent Shear Gate Valve	$ 3,000
2019	Miscellaneous Manhole Repairs - 2019	$ 7,000
2020	Coat Lift Station 1 Wet Well Number 1	$ 75,000
2021	Coat Lift Station 2 Wet Well Number 1	$ 75,000
2022	Lagoon 3 Bank Regrading and Erosion Repair	$ 442,000
2023	Sewer Lining - 2023	$ 327,000
2024	Lagoon Sludge Removal	$ 236,000
2025	Replace Lift Station 1 Generator, Flow Meter, and Controls	$ 108,000
2025	Replace Lift Station 1 Pump Number 1	$ 18,000
2026	Replace Lift Station 1 Pump Number 2	$ 18,000
2026	Rosewood Sewer Reconstruction	$ 24,000
2026	Sewer Spot Lining - 2026	$ 28,000
2026	Manhole Lining - 2026	$ 32,000
2026	Miscellaneous Manhole Repairs - 2026	$ 11,000
2026	Install Lagoon Effluent Flow Monitoring and Logging	$ 12,000
2027	Lagoon 2 Bank Erosion Repair	$ 285,000
2028	Sewer Lining - 2028	$ 190,000
2029	Manhole Lining - 2029	$ 35,000
2029	Miscellaneous Manhole Repairs - 2029	$ 27,000
2030	Replace Lift Station 2 Generator and Controls	$ 87,000
2030	Replace Lift Station 2 Pump Number 1	$ 9,000
2031	Replace Lift Station 2 Pump Number 2	$ 9,000
2031	Additional Sanitary Sewer and Manhole Repairs - 2031	$ 115,000
2033	Additional Sanitary Sewer and Manhole Repairs - 2033	$ 115,000
2035	Additional Sanitary Sewer and Manhole Repairs - 2035	$ 115,000
2037	Additional Sanitary Sewer and Manhole Repairs - 2037	$ 115,000
	Total Estimated Project Cost for Twenty Year Wastewater CIP =	**$ 2,645,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2018**
Total Project Cost:	**$5,000**

Project Title: Repair Sanitary Sewer Cross-Bored by Utility

System: Wastewater

Project Description

Dig up a segment of sanitary sewer ssGM-226 where a utility cross-bored through the pipe and perform a spot repair on it.

Project Justification/Benefit

There is a segment of the sanitary sewer between sanitary manhole 195 and sanitary manhole 186 where the CCTV camera shows another utility service pipe cross-bored through the sanitary sewer. Digging this segment of the sanitary sewer up will allow the cross-bored utility to be relocated and allow repairs to the sanitary sewer to be carried out as well.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$5,000
TOTAL	**$5,000**

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Project Title: Repair Sanitary Sewer Cross-Bored by Utility

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	Each	Pipe spot repair - excavate and restore (8-inch)	$ 3,000	$ 3,000
1	Each	Utility relocation	$ 500	$ 500

Project Costs		
Construction Costs (Subtotal)		$ 3,500
Engineering	0 %	$ -
Construction Observation	0 %	$ -
Contingency	25 %	$ 900
TOTAL		**$ 5,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2018**
Total Project Cost:	**$47,000**

Project Title: Manhole Lining - 2018

System: Wastewater

Project Description

Clean, dry, and install an epoxy or polyurea coating on a total of 16 sanitary sewer manholes (ssMH-1, ssMH-2, ssMH-3, ssMH-4, ssMH-5, ssMH-7, ssMH-8, ssMH-74, ssMH-75, ssMH-78, ssMH-81, ssMH-84, ssMH-84A, ssMH-241-A, ssMH-242-A, and ssMH-243-A). Re-center the manhole casting at manhole ssMH-7 before lining.

Project Justification/Benefit

These manholes all have asset criticality ratings of high to very high and exhibit various degrees of hydrogen sulfide damage throughout the manhole. This degradation will only worsen with time, eventually placing the manhole in danger of structural failure. Repairing existing damage and lining the manholes with a coating that is impervious to hydrogen sulfide damage will extend the life of these critical assets.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$47,000
TOTAL	**$47,000**

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Project Title: Manhole Lining - 2018

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	Each	Epoxy or polyurea manhole lining (ssMH-1)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-2)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-3)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-4)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-5)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-7)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-8)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-74)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-75)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-78)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-81)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-84)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-84A)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-241-A)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-242-A)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-243-A)	$ 2,000	$ 2,000
1	Each	Remove, adjust, and reinstall manhole casting	$ 500	$ 500

Project Costs		
Construction Costs (Subtotal)		$ 32,500
Engineering	7 %	$ 2,300
Construction Observation	8 %	$ 2,600
Contingency	25 %	$ 9,400
TOTAL		**$ 47,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2018**
Total Project Cost:	**$22,000**

Project Title: Lift Station 1 Comminutor Rebuild/Replacement

System: Wastewater

Project Description

Rebuild or replace the comminutor located upstream of the wet wells at Lift Station 1. Replace the steel I-beams providing support for the grating over the comminutor chamber.

Project Justification/Benefit

The existing comminutor is in fair condition and the motor is in poor condition. Replacing the motor and rebuilding or replacing the comminutor will continue to protect the downstream equipment by breaking up large solids and rags before they are passed into the lift station wet well. In addition, the steel I-beams that provide support for the grating over the comminutor chamber are in very poor condition due to corrosion and need to be replaced so the grating can safely be walked on.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$22,000
TOTAL	**$22,000**

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Project Title: Lift Station 1 Comminutor Rebuild/Replacement

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	Each	Comminutor rebuild/replacement	$ 10,000	$ 10,000
1	Each	Structural I-beam replacement	$ 2,500	$ 2,500

Project Costs		
Construction Costs (Subtotal)		$ 12,500
Engineering	25 %	$ 3,200
Construction Observation	15 %	$ 1,900
Contingency	25 %	$ 4,400
TOTAL		**$ 22,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2019**
Total Project Cost:	**$5,000**

Project Title: Lift Station 1 Lighting Upgrade

System: Wastewater

Project Description

Upgrade the lighting at Lift Station 1.

Project Justification/Benefit

The existing lighting at Lift Station 1 only provides minimal light in the immediate vicinity of the lift station controls. Upgrading the lighting to provide a sufficient level of illumination to work on all areas of the lift station would increase security and employee safety.

Project Funding Source

SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$5,000
TOTAL	**$5,000**

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Project Title: Lift Station 1 Lighting Upgrade

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	Each	Upgrade lift station lighting	$ 2,500	$ 2,500

Project Costs			
Construction Costs (Subtotal)		$	2,500
Engineering	25 %	$	700
Construction Observation	15 %	$	400
Contingency	25 %	$	900
TOTAL		**$**	**5,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2019**
Total Project Cost:	**$11,000**

Project Title: Recoat Exposed Piping and Valves at Lift Station 1

System: Wastewater

Project Description

Sand-blast and recoat all exposed piping and valves in the valve vault and flow meter manhole at Lift Station 1.

Project Justification/Benefit

The existing coating is showing signs of deterioration, allowing for degradation of the pipe/valve material. Sand-blasting and recoating the piping and valves will restore the corrosion protection provided by the coating and extend the life of the piping and valves.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$11,000
TOTAL	**$11,000**

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Village of Decatur

Project Title: Recoat Exposed Piping and Valves at Lift Station 1

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
30	LF	Sand-blast and recoat pipe and valves	$ 200	$ 6,000

Project Costs			
Construction Costs (Subtotal)		$	6,000
Engineering	25 %	$	1,500
Construction Observation	15 %	$	900
Contingency	25 %	$	2,100
TOTAL		**$**	**11,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2019**
Total Project Cost:	**$5,000**

Project Title: Lift Station 2 Lighting Installation

System: Wastewater

Project Description

Install lighting at Lift Station 2.

Project Justification/Benefit

There is currently no lighting at Lift Station 2. Installing lighting to provide a sufficient level of illumination to work on all areas of the lift station would increase security and employee safety.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$5,000
TOTAL	**$5,000**

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Village of Decatur

Project Title: Lift Station 2 Lighting Installation

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	Each	Lift station lighting installation	$ 2,500	$ 2,500

Project Costs			
Construction Costs (Subtotal)		$	2,500
Engineering	25 %	$	700
Construction Observation	15 %	$	400
Contingency	25 %	$	900
TOTAL		**$**	**5,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2019**
Total Project Cost:	**$32,000**

Project Title: Sewer Spot Repairs - 2019

System: Wastewater

Project Description

Perform spot repairs on sanitary sewer pipes ssGM-6, ssGM-110, ssGM-125, ssGM-152, ssGM-231, and ssGM-238 utilizing spot lining.

Dig up a segment of sanitary sewer ssGM-305 and perform a spot repair on it.

Project Justification/Benefit

There are six locations throughout the Decatur sanitary sewer system where there are broken pipes, some with portions of the pipe missing and the soil behind the pipe visible. Repairing these locations will return the sewer to full functionality and restore the structural integrity of the sewers in these locations, preventing sewer collapse and/or sinkhole formation. Conducting the repairs utilizing spot lining techniques will allow the repairs to be completed quickly and without disturbing any surface improvements.

Additionally, there is a segment of the sanitary sewer around a joint between manholes 156 and 157 where the CCTV camera goes underwater but the sewage level in the pipe does not appear to change indicating that the bottom of the pipe has failed in this area and the underlying soil is eroding. Digging this segment of sanitary sewer up will allow for confirmation of why the camera went underwater and allow any necessary repairs to be carried out.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$32,000
TOTAL	**$32,000**

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Project Title: Sewer Spot Repairs - 2019

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
6	Each	Pipe spot repair - lining (8-inch)	$ 2,500	$ 15,000
1	Each	Pipe spot repair - excavate and restore (12-inch)	$ 7,000	$ 7,000

Project Costs		
Construction Costs (Subtotal)	$	22,000
Engineering 7 %	$	1,600
Construction Observation 8 %	$	1,800
Contingency 25 %	$	6,400
TOTAL	**$**	**32,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2019**
Total Project Cost:	**$3,000**

Project Title: Replace Lagoon 2 Effluent Shear Gate Valve

System: Wastewater

Project Description

Replace the shear gate valve on the Lagoon 2 Effluent Control Structure.

Project Justification/Benefit

The shear gate valve on the Lagoon 2 Effluent Control Structure is broken and should be replaced to restore the full functionality of the structure.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$3,000
TOTAL	**$3,000**

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Village of Decatur

Project Title: Replace Lagoon 2 Effluent Shear Gate Valve

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	Each	Shear gate valve replacement	$ 1,400	$ 1,400

Project Costs			
Construction Costs (Subtotal)		$	1,400
Engineering	25 %	$	400
Construction Observation	15 %	$	300
Contingency	25 %	$	600
TOTAL		**$**	**3,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2019**
Total Project Cost:	**$7,000**

Project Title: Miscellaneous Manhole Repairs - 2019

System: Wastewater

Project Description

Repair miscellaneous damage (joint degradation, chimney degradation, and/or casting defects) at a total of 6 manholes (ssMH-6, ssMH-76, ssMH-80, ssMH-82, ssMH-244-A, and ssMH-246-A).

Project Justification/Benefit

These 6 manholes have criticalities of very high to high and all have various types of damage that will continue to deteriorate and could lead to structural failure or collateral damage to surrounding surface improvements. Repair of these defects will restore the structural integrity of the manhole, protect surrounding surface improvements, and prevent further degradation of the manhole.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$7,000
TOTAL	**$7,000**

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Project Title: Miscellaneous Manhole Repairs - 2019

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
6	Each	Install manhole chimney sleeve	$ 300	$ 1,800
1	Each	Manhole joint repair	$ 250	$ 250
1	Each	Replace manhole casting	$ 1,500	$ 1,500

Project Costs		
Construction Costs (Subtotal)		$ 3,600
Engineering	25 %	$ 900
Construction Observation	15 %	$ 600
Contingency	25 %	$ 1,300
TOTAL		**$ 7,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2020**
Total Project Cost:	**$75,000**

Project Title: Coat Lift Station 1 Wet Well Number 1

System: Wastewater

Project Description

Bypass the comminutor and first wet well at Lift Station 1, pumping directly to the bypass connection. Clean the first wet well, repair any damage, and coat the wet well with a lining system that is impervious to hydrogen sulfide damage.

Project Justification/Benefit

Judging from the condition of the manhole immediately upstream of the first wet well at Lift Station 1 (which has been in service as long as the wet well itself), there is likely hydrogen sulfide damage to the lift station wet well, which will only continue to deteriorate over time, eventually leading to structural failure of the wet well. Repairing the existing damage and coating the wet well with a lining system that is impervious to hydrogen sulfide will extend the life of the wet well.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$75,000
TOTAL	**$75,000**

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Project Title: Coat Lift Station 1 Wet Well Number 1

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	Each	Coat wet well	$ 52,000	$ 52,000

Project Costs			
Construction Costs (Subtotal)		$	52,000
Engineering	7 %	$	3,700
Construction Observation	8 %	$	4,200
Contingency	25 %	$	15,000
TOTAL		**$**	**75,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2021**
Total Project Cost:	**$75,000**

Project Title: Coat Lift Station 2 Wet Well Number 1

System: Wastewater

Project Description

Bypass the first wet well at Lift Station 2, pumping directly to the bypass connection. Clean the first wet well, repair any damage, and coat the wet well with a lining system that is impervious to hydrogen sulfide damage.

Project Justification/Benefit

Hydrogen sulfide, released from the wastewater by the turbulence of falling into the wet well, is attacking the concrete walls of the wet well. This condition will continue to deteriorate over time, eventually leading to structural failure of the wet well. Repairing existing damage and coating the wet well with a lining system that is impervious to hydrogen sulfide will extend the life of the wet well.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$75,000
TOTAL	**$75,000**

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Village of Decatur

Project Title: Coat Lift Station 2 Wet Well Number 1

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	Each	Coat wet well	$ 52,000	$ 52,000

Project Costs			
Construction Costs (Subtotal)		$	52,000
Engineering	7 %	$	3,700
Construction Observation	8 %	$	4,200
Contingency	25 %	$	15,000
TOTAL		**$**	**75,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2022**
Total Project Cost:	**$442,000**

Project Title: Lagoon 3 Bank Regrading and Erosion Repair

System: Wastewater

Project Description

Repair erosion damage on the south and west wastewater treatment lagoon slopes on Lagoon 3. Reduce the side-slope grade on all of the interior lagoon walls and install riprap around the entire lagoon.

Project Justification/Benefit

There is erosion damage to the south and west lagoon slopes, which did not have riprap installed when the lagoon was originally constructed. In addition, the side-slopes of all of the inner lagoon walls are steep, resulting in maintenance issues. Reducing the side-slopes will make maintenance easier and increase safety for employees. As part of the side-slope restoration, new riprap will be installed around the entire lagoon, providing erosion protection.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$442,000
TOTAL	**$442,000**

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Project Title: Lagoon 3 Bank Regrading and Erosion Repair

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
2,560	LF	Erosion repair and side-slope reduction (17 feet wide)	$ 120	$ 307,200

Project Costs		
Construction Costs (Subtotal)		$ 307,200
Engineering	7 %	$ 21,600
Construction Observation	8 %	$ 24,600
Contingency	25 %	$ 88,400
TOTAL		**$ 442,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2023**
Total Project Cost:	**$327,000**

Project Title: Sewer Lining - 2023

System: Wastewater

Project Description

Line the sanitary sewers from sanitary manhole 78 to sanitary manhole 1 and from sanitary manhole 8 to sanitary manhole 3.

Project Justification/Benefit

The sewer from manhole 28 to manhole 1 has a consequence of failure of catastrophic and the sewer from manhole 8 to manhole 3 has a consequence of failure of major. Both of these sewer stretches run off-road through utility easements making routine maintenance and emergency repairs very difficult. Lining these sewers will increase the expected lifespan of two crucial sewer segments and reduce the likelihood of emergence repairs being required.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$327,000
TOTAL	**$327,000**

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Village of Decatur

Project Title: Sewer Lining - 2023

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1,760	LF	Lining from manhole 78 to manhole 1 (15-inch)	$ 60	$ 105,600
2,020	LF	Lining from manhole 8 to manhole 3 (15-inch)	$ 60	$ 121,200

Project Costs		
Construction Costs (Subtotal)	$	226,800
Engineering 7 %	$	15,900
Construction Observation 8 %	$	18,200
Contingency 25 %	$	65,300
TOTAL	**$**	**327,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2024**
Total Project Cost:	**$236,000**

Project Title: Lagoon Sludge Removal

System: Wastewater

Project Description

Remove accumulated waste sludge from the wastewater treatment lagoons.

Project Justification/Benefit

Sludge depth in Lagoon 1 (the primary facultative lagoon) is 7-inches and that depth will only continue to increase with time, reducing the overall treatment volume of that lagoon. Additionally, sludge removal is recommended every 25 years in facultative lagoons and it has been approximately 24 years since Lagoon 1 was last cleaned. In addition, the sludge depth in Lagoon 3 (the second lagoon in the typical flow of the wastewater through the treatment lagoons) should be measured and Lagoon 3 should be cleaned at the same time, if warranted.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$236,000
TOTAL	**$236,000**

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Village of Decatur

Project Title: Lagoon Sludge Removal

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1,637,000	Gallons	Lagoon sludge removal	$ 0.10	$ 163,700

Project Costs		
Construction Costs (Subtotal)		$ 163,700
Engineering	7 %	$ 11,500
Construction Observation	8 %	$ 13,100
Contingency	25 %	$ 47,100
TOTAL		**$ 236,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2025**
Total Project Cost:	**$108,000**

Project Title: Replace Lift Station 1 Generator, Flow Meter, and Controls

System: Wastewater

Project Description

Plan for replacement of the emergency backup generator, the flow meter, and the lift station controls at Lift Station 1.

Project Justification/Benefit

Electrical equipment used in wastewater service has a typical lifespan of 20 years. Planning on replacement of these items, though not in need of replacement now, will ensure that sufficient capital exists when replacement becomes necessary.

Project Funding Source

SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$108,000
TOTAL	**$108,000**

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Village of Decatur

Project Title: Replace Lift Station 1 Generator, Flow Meter, and Controls

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	Each	Emergency backup generator	$ 35,000	$ 35,000
1	Each	Flow meter	$ 10,000	$ 10,000
1	Each	Lift station controls	$ 30,000	$ 30,000

Project Costs		
Construction Costs (Subtotal)	$	75,000
Engineering 7 %	$	5,300
Construction Observation 8 %	$	6,000
Contingency 25 %	$	21,600
TOTAL	**$**	**108,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2025**
Total Project Cost:	**$18,000**

Project Title: Replace Lift Station 1 Pump Number 1

System: Wastewater

Project Description

Plan for replacement of Pump Number 1 at Lift Station 1.

Project Justification/Benefit

Pumps used in wastewater service have a typical lifespan of 20 years. Planning on replacement of the pump, though not in need of replacement now, will ensure that sufficient capital exists when replacement becomes necessary.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$18,000
TOTAL	**$18,000**

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Project Title: Replace Lift Station 1 Pump Number 1

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	Each	Pump replacement (500 gpm or larger)	$ 10,000	$ 10,000

Project Costs			
Construction Costs (Subtotal)		$	10,000
Engineering	25 %	$	2,500
Construction Observation	15 %	$	1,500
Contingency	25 %	$	3,500
TOTAL		**$**	**18,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2026**
Total Project Cost:	**$18,000**

Project Title: Replace Lift Station 1 Pump Number 2

System: Wastewater

Project Description

Plan for replacement of Pump Number 2 at Lift Station 1.

Project Justification/Benefit

Pumps used in wastewater service have a typical lifespan of 20 years. Planning on replacement of the pump, though not in need of replacement now, will ensure that sufficient capital exists when replacement becomes necessary.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$18,000
TOTAL	**$18,000**

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Village of Decatur

Project Title: Replace Lift Station 1 Pump Number 2

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	Each	Pump replacement (500 gpm or larger)	$ 10,000	$ 10,000

Project Costs			
Construction Costs (Subtotal)		$	10,000
Engineering	25 %	$	2,500
Construction Observation	15 %	$	1,500
Contingency	25 %	$	3,500
TOTAL		**$**	**18,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2026**
Total Project Cost:	**$24,000**

Project Title: Rosewood Sewer Reconstruction

System: Wastewater

Project Description

Reconstruction of the sanitary sewer segment from sanitary manhole 314 to sanitary manhole 315.

Project Justification/Benefit

This is a very shallow sewer and it has been reported that this segment of sewer has frozen during harsh winters. In addition, sanitary manhole 314 has a poorly constructed flow channel and has a house service discharging directly into it resulting in the need for regular getting of the sewer. Reconstruction of this portion of the sanitary sewer will reduce or eliminate these maintenance issues.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$24,000
TOTAL	**$24,000**

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Project Title: Rosewood Sewer Reconstruction

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
140	LF	Sanitary sewer reconstruction (8-inch)	$ 80	$ 11,200
1	Each	Sanitary sewer manhole replacement (4 foot dia.)	$ 2,000	$ 2,000

Project Costs			
Construction Costs (Subtotal)		$	13,200
Engineering	25 %	$	3,300
Construction Observation	15 %	$	2,000
Contingency	25 %	$	4,700
TOTAL		**$**	**24,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2026**
Total Project Cost:	**$28,000**

Project Title: Sewer Spot Lining - 2026

System: Wastewater

Project Description

Perform spot repairs on sanitary sewer pipes ssGM-36, ssGM-78, ssGM-96, ssGM-128, ssGM-129, and ssGM-172 utilizing spot lining.

Project Justification/Benefit

There are six locations throughout the Decatur sanitary sewer system where there are pipes with excessive cracking indicating that there are potentially structural issues with the pipe. Repairing these locations will return the sewer to full functionality and restore the structural integrity of the sewers in these locations, preventing sewer collapse and/or sinkhole formation. Conducting the repairs utilizing spot lining techniques will allow the repairs to be completed quickly and without disturbing any surface improvements.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$28,000
TOTAL	**$28,000**

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Project Title: Sewer Spot Lining - 2026

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
3	Each	Pipe spot repair - lining (8-inch)	$ 2,500	$ 7,500
2	Each	Pipe spot repair - lining (15-inch)	$ 2,750	$ 5,500
1	Each	Pipe spot repair - lining (18-inch)	$ 3,000	$ 3,000

Project Costs			
Construction Costs (Subtotal)		$	16,000
Engineering	25 %	$	4,000
Construction Observation	15 %	$	2,400
Contingency	25 %	$	5,600
TOTAL		**$**	**28,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2026**
Total Project Cost:	**$32,000**

Project Title: Manhole Lining - 2026

System: Wastewater

Project Description

Clean, dry, and install an epoxy or polyurea coating on a total of 9 sanitary sewer manholes (ssMH-9, ssMH-10, ssMH-11, ssMH-15, ssMH-16, ssMH-85, ssMH-86, ssMH-87, and ssMH-88).

Project Justification/Benefit

These manholes all have asset criticality ratings of moderate and exhibit various degrees of hydrogen sulfide damage throughout the manhole. This degradation will only worsen with time, eventually placing the manhole in danger of structural failure. Repairing existing damage and lining the manholes with a coating that is impervious to hydrogen sulfide damage will extend the life of these assets.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$32,000
TOTAL	**$32,000**

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Project Title: Manhole Lining - 2026

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	Each	Epoxy or polyurea manhole lining (ssMH-9)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-10)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-11)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-15)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-16)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-85)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-86)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-87)	$ 2,000	$ 2,000
1	Each	Epoxy or polyurea manhole lining (ssMH-88)	$ 2,000	$ 2,000

Project Costs			
Construction Costs (Subtotal)		$	18,000
Engineering	25 %	$	4,500
Construction Observation	15 %	$	2,700
Contingency	25 %	$	6,300
TOTAL		**$**	**32,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2026**
Total Project Cost:	**$11,000**

Project Title: Miscellaneous Manhole Repairs - 2026

System: Wastewater

Project Description

Repair miscellaneous damage (joint degradation, chimney degradation, and/or manhole casting mis-alignment) at a total of 16 manholes (ssMH-12, ssMH-14, ssMH-17, ssMH-18, ssMH-19, ssMH-20, ssMH-21, ssMH-22, ssMH-22-A, ssMH-23, ssMH-24, ssMH-27, ssMH-28, ssMH-71, ssMH-112, and ssMH-245-A).

Project Justification/Benefit

These 16 manholes have moderate criticality and all have various types of damage that will continue to deteriorate and could lead to structural failure or collateral damage to surrounding surface improvements. Repair of these defects will restore the structural integrity of the manhole, protect surrounding surface improvements, and prevent further degradation of the manhole.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$11,000
TOTAL	**$11,000**

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Village of Decatur

Project Title: Miscellaneous Manhole Repairs - 2026

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
11	Each	Install manhole chimney sleeve	$ 300	$ 3,300
7	Each	Manhole joint repair	$ 250	$ 1,750
2	Each	Remove, adjust, and reinstall manhole casting	$ 500	$ 1,000

Project Costs		
Construction Costs (Subtotal)		$ 6,100
Engineering	25 %	$ 1,600
Construction Observation	15 %	$ 1,000
Contingency	25 %	$ 2,200
TOTAL		**$ 11,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2026**
Total Project Cost:	**$12,000**

Project Title: Install Lagoon Effluent Flow Monitoring and Logging

System: Wastewater

Project Description

Install flow monitoring and logging instrumentation in the Lagoon Cell 2 Weir Manhole. Include provisions to move instrumentation to the Lagoon Cell 1 Weir Manhole.

Project Justification/Benefit

Currently there are no provisions to accurately measure and record how much effluent is discharged from the WWTF lagoons. Installing instrumentation to monitor the water level in the existing weir manhole downstream of the lagoon outlet structure for Lagoon 2 will allow the discharge flow rates and volumes to be measured and recorded under normal operating conditions. Installing the necessary mounting hardware in the existing weir manhole downstream of the lagoon outlet structure for Lagoon 1 will allow the instrumentation to be moved to Lagoon 1 to monitor and record discharge flow rates and volumes on those occasions where effluent is being discharged from Lagoon 1.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$12,000
TOTAL	**$12,000**

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Project Title: Install Lagoon Effluent Flow Monitoring and Logging

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	Each	Ultrasonic level meter	$ 5,000	$ 5,000
1	Each	Additional ultrasonic level meter mounting assembly	$ 1,500	$ 1,500

Project Costs			
Construction Costs (Subtotal)		$	6,500
Engineering	25 %	$	1,700
Construction Observation	15 %	$	1,000
Contingency	25 %	$	2,300
TOTAL		**$**	**12,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2027**
Total Project Cost:	**$285,000**

Project Title: Lagoon 2 Bank Erosion Repair

System: Wastewater

Project Description

Repair erosion damage on the south and west wastewater treatment lagoon walls on Lagoon 2 and install riprap around those walls.

Project Justification/Benefit

There is erosion damage on the lagoon slopes, primarily on the south and west lagoon slopes where there is no riprap. Repairing the damage will restore the full functionality of the lagoons and increase employee safety. Additionally, the new riprap will provide erosion protection.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$285,000
TOTAL	**$285,000**

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Project Title: Lagoon 2 Bank Erosion Repair

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1,650	LF	Erosion repair and riprap installation (17 feet wide)	$ 120	$ 198,000

Project Costs		
Construction Costs (Subtotal)	$	198,000
Engineering 7 %	$	13,900
Construction Observation 8 %	$	15,900
Contingency 25 %	$	57,000
TOTAL	**$**	**285,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2028**
Total Project Cost:	**$190,000**

Project Title: Sewer Lining - 2028

System: Wastewater

Project Description

Line the sanitary sewers from sanitary manhole 153 to sanitary manhole 139, from sanitary manhole 15 to sanitary manhole 13, and from sanitary manhole 29 to sanitary manhole 25.

Project Justification/Benefit

The sewers from manhole 15 to manhole 13 and from manhole 29 to manhole 25 both have a consequence of failure of moderate, while the sewer from manhole 153 to manhole 139 has a consequence of failure of insignificant. All three of these sewer stretches run off-road through utility easements making routine maintenance and emergency repairs very difficult. Lining these sewers will increase the expected lifespan of these sewer segments and reduce the likelihood of emergency repairs being required in locations with limited access.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$190,000
TOTAL	**$190,000**

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Project Title: Sewer Lining - 2028

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
710	LF	Lining from manhole 29 to manhole 25 (10-inch)	$ 40	$ 28,400
820	LF	Lining from manhole 29 to manhole 25 (12-inch)	$ 48	$ 39,360
790	LF	Lining from manhole 15 to manhole 13 (15-inch)	$ 60	$ 47,400
510	LF	Lining from manhole 153 to manhole 139 (8-inch)	$ 32	$ 16,320

Project Costs		
Construction Costs (Subtotal)	$	131,500
Engineering 7 %	$	9,300
Construction Observation 8 %	$	10,600
Contingency 25 %	$	37,900
TOTAL	**$**	**190,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2029**
Total Project Cost:	**$35,000**

Project Title: Manhole Lining - 2029

System: Wastewater

Project Description

Clean, dry, and install an epoxy or polyurea coating on a total of 10 sanitary sewer manholes (ssMH-141-E, ssMH-143, ssMH-157, ssMH-158, ssMH-160, ssMH-169, ssMH-180, ssMH-184, ssMH-234, and ssMH-235).

Project Justification/Benefit

These manholes all have asset criticality ratings of low to very low and exhibit damage with reinforcement visible within the manhole. This degradation will only worsen with time, eventually placing the manhole in danger of structural failure. Repairing existing damage or lining the manholes will extend the life of these assets.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$35,000
TOTAL	**$35,000**

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Project Title: Manhole Lining - 2029

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	Each	Cementitious manhole lining (ssMH-141-E)	$ 2,000	$ 2,000
1	Each	Cementitious manhole lining (ssMH-143)	$ 2,000	$ 2,000
1	Each	Cementitious manhole lining (ssMH-157)	$ 2,000	$ 2,000
1	Each	Cementitious manhole lining (ssMH-158)	$ 2,000	$ 2,000
1	Each	Cementitious manhole lining (ssMH-160)	$ 2,000	$ 2,000
1	Each	Cementitious manhole lining (ssMH-169)	$ 2,000	$ 2,000
1	Each	Cementitious manhole lining (ssMH-180)	$ 2,000	$ 2,000
1	Each	Cementitious manhole lining (ssMH-184)	$ 2,000	$ 2,000
1	Each	Cementitious manhole lining (ssMH-234)	$ 2,000	$ 2,000
1	Each	Cementitious manhole lining (ssMH-235)	$ 2,000	$ 2,000

Project Costs		
Construction Costs (Subtotal)		$ 20,000
Engineering	25 %	$ 5,000
Construction Observation	15 %	$ 3,000
Contingency	25 %	$ 7,000
TOTAL		**$ 35,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2029**
Total Project Cost:	**$27,000**

Project Title: Miscellaneous Manhole Repairs - 2029

System: Wastewater

Project Description

Repair miscellaneous damage (joint degradation, chimney degradation, flow channel damage, and/or manhole casting mis-alignment) at a total of 45 manholes (ssMH-32, ssMH-36, ssMH-37, ssMH-46, ssMH-55, ssMH-56, ssMH-57, ssMH-67, ssMH-91, ssMH-92, ssMH-98, ssMH-108, ssMH-114, ssMH-115, ssMH-116, ssMH-127, ssMH-129, ssMH-130, ssMH-131, ssMH-134, ssMH-138, ssMH-139, ssMH-140, ssMH-141-W, ssMH-142, ssMH-145, ssMH-154, ssMH-159, ssMH-161, ssMH-177, ssMH-185, ssMH-187, ssMH-202, ssMH-205, ssMH-206, ssMH-207, ssMH-218, ssMH-223, ssMH-233, ssMH-239, ssMH-246, ssMH-312, ssMH-330, ssMH-351, and ssMH-352).

Project Justification/Benefit

These 45 manholes have criticalities of low to very low and all have various types of damage that will continue to deteriorate and could lead to structural failure or collateral damage to surrounding surface improvements. Repair of these defects will restore the structural integrity of the manhole, protect surrounding surface improvements, and prevent further degradation of the manhole.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$27,000
TOTAL	**$27,000**

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Village of Decatur

Project Title: Miscellaneous Manhole Repairs - 2029

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
39	Each	Install manhole chimney sleeve	$ 300	$ 11,700
4	Each	Manhole joint repair	$ 250	$ 1,000
2	Each	Remove, adjust, and reinstall manhole casting	$ 500	$ 1,000
3	Each	Grout manhole flow channel	$ 500	$ 1,500

Project Costs			
Construction Costs (Subtotal)		$	15,200
Engineering	25 %	$	3,800
Construction Observation	15 %	$	2,300
Contingency	25 %	$	5,400
TOTAL		**$**	**27,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2030**
Total Project Cost:	**$87,000**

Project Title: Replace Lift Station 2 Generator and Controls

System: Wastewater

Project Description

Plan for replacement of the emergency backup generator and the lift station controls at Lift Station 2.

Project Justification/Benefit

Electrical equipment used in wastewater service has a typical lifespan of 20 years. Planning on replacement of these items, though not in need of replacement now, will ensure that sufficient capital exists when replacement becomes necessary.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$87,000
TOTAL	**$87,000**

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Village of Decatur

Project Title: Replace Lift Station 2 Generator and Controls

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	Each	Emergency backup generator	$ 30,000	$ 30,000
1	Each	Lift station controls	$ 30,000	$ 30,000

Project Costs		
Construction Costs (Subtotal)		$ 60,000
Engineering	7 %	$ 4,200
Construction Observation	8 %	$ 4,800
Contingency	25 %	$ 17,300
TOTAL		**$ 87,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2030**
Total Project Cost:	**$9,000**

Project Title: Replace Lift Station 2 Pump Number 1

System: Wastewater

Project Description

Plan for replacement of Pump Number 1 at Lift Station 2.

Project Justification/Benefit

Pumps used in wastewater service have a typical lifespan of 20 years. Planning on replacement of the pump, though not in need of replacement now, will ensure that sufficient capital exists when replacement becomes necessary.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$9,000
TOTAL	**$9,000**

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Village of Decatur

Project Title: Replace Lift Station 2 Pump Number 1

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	Each	Pump replacement (less than 500 gpm)	$ 5,000	$ 5,000

Project Costs			
Construction Costs (Subtotal)		$	5,000
Engineering	25 %	$	1,300
Construction Observation	15 %	$	800
Contingency	25 %	$	1,800
TOTAL		**$**	**9,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2031**
Total Project Cost:	**$9,000**

Project Title: Replace Lift Station 2 Pump Number 2

System: Wastewater

Project Description

Plan for replacement of Pump Number 2 at Lift Station 2.

Project Justification/Benefit

Pumps used in wastewater service have a typical lifespan of 20 years. Planning on replacement of the pump, though not in need of replacement now, will ensure that sufficient capital exists when replacement becomes necessary.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$9,000
TOTAL	**$9,000**

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Village of Decatur

Project Title: Replace Lift Station 2 Pump Number 2

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	Each	Pump replacement (less than 500 gpm)	$ 5,000	$ 5,000

Project Costs			
Construction Costs (Subtotal)		$	5,000
Engineering	25 %	$	1,300
Construction Observation	15 %	$	800
Contingency	25 %	$	1,800
TOTAL		**$**	**9,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2031**
Total Project Cost:	**$115,000**

Project Title: Additional Sanitary Sewer and Manhole Repairs - 2031

System: Wastewater

Project Description

Selected sanitary sewer and manhole repair project focusing on the sanitary sewers and manholes most in need of repair, rehabilitation, or replacement.

Project Justification/Benefit

In addition to the specific sanitary sewer pipes and manholes selected for repair in the first 10 years' worth of capital improvement projects, some of the system pipes and manholes are older than others, constructed of materials that deteriorate faster than others, or located in areas where they deteriorate faster than others. Attention will be paid to older sewer pipes and manholes and force main discharge manholes and downstream sewer pipes where concentrated H2S gas can occur when there are long residence times, as well as to manholes that have been noted for repair during annual sewer cleaning.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$115,000
TOTAL	**$115,000**

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Village of Decatur

Project Title: Additional Sanitary Sewer and Manhole Repairs - 2031

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	LS	Miscellaneous manhole and sewer repairs	$ 80,000	$ 80,000

Project Costs		
Construction Costs (Subtotal)		$ 80,000
Engineering	7 %	$ 5,600
Construction Observation	8 %	$ 6,400
Contingency	25 %	$ 23,000
TOTAL		**$ 115,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2033**
Total Project Cost:	**$115,000**

Project Title: Additional Sanitary Sewer and Manhole Repairs - 2033

System: Wastewater

Project Description

Selected sanitary sewer and manhole repair project focusing on the sanitary sewers and manholes most in need of repair, rehabilitation, or replacement.

Project Justification/Benefit

In addition to the specific sanitary sewer pipes and manholes selected for repair in the first 10 years' worth of capital improvement projects, some of the system pipes and manholes are older than others, constructed of materials that deteriorate faster than others, or located in areas where they deteriorate faster than others. Attention will be paid to older sewer pipes and manholes and force main discharge manholes and downstream sewer pipes where concentrated H2S gas can occur when there are long residence times, as well as to manholes that have been noted for repair during annual sewer cleaning.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$115,000
TOTAL	**$115,000**

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Village of Decatur

Project Title: Additional Sanitary Sewer and Manhole Repairs - 2033

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	LS	Miscellaneous manhole and sewer repairs	$ 80,000	$ 80,000

Project Costs		
Construction Costs (Subtotal)	$	80,000
Engineering 7 %	$	5,600
Construction Observation 8 %	$	6,400
Contingency 25 %	$	23,000
TOTAL	**$**	**115,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2035**
Total Project Cost:	**$115,000**

Project Title: Additional Sanitary Sewer and Manhole Repairs - 2035

System: Wastewater

Project Description

Selected sanitary sewer and manhole repair project focusing on the sanitary sewers and manholes most in need of repair, rehabilitation, or replacement.

Project Justification/Benefit

In addition to the specific sanitary sewer pipes and manholes selected for repair in the first 10 years' worth of capital improvement projects, some of the system pipes and manholes are older than others, constructed of materials that deteriorate faster than others, or located in areas where they deteriorate faster than others. Attention will be paid to older sewer pipes and manholes and force main discharge manholes and downstream sewer pipes where concentrated H2S gas can occur when there are long residence times, as well as to manholes that have been noted for repair during annual sewer cleaning.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$115,000
TOTAL	**$115,000**

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Village of Decatur

Project Title: Additional Sanitary Sewer and Manhole Repairs - 2035

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	LS	Miscellaneous manhole and sewer repairs	$ 80,000	$ 80,000

Project Costs		
Construction Costs (Subtotal)	$	80,000
Engineering 7 %	$	5,600
Construction Observation 8 %	$	6,400
Contingency 25 %	$	23,000
TOTAL	**$**	**115,000**

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CAPITAL IMPROVEMENT PLAN

Village of Decatur

Project Year:	**2037**
Total Project Cost:	**$115,000**

Project Title: Additional Sanitary Sewer and Manhole Repairs - 2037

System: Wastewater

Project Description

Selected sanitary sewer and manhole repair project focusing on the sanitary sewers and manholes most in need of repair, rehabilitation, or replacement.

Project Justification/Benefit

In addition to the specific sanitary sewer pipes and manholes selected for repair in the first 10 years' worth of capital improvement projects, some of the system pipes and manholes are older than others, constructed of materials that deteriorate faster than others, or located in areas where they deteriorate faster than others. Attention will be paid to older sewer pipes and manholes and force main discharge manholes and downstream sewer pipes where concentrated H2S gas can occur when there are long residence times, as well as to manholes that have been noted for repair during annual sewer cleaning.

Project Funding Source	
SAW grant	
Bonds/Grants/Other Financing Source	
Assessments	
Wastewater Fund	$115,000
TOTAL	**$115,000**

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Village of Decatur

Project Title: Additional Sanitary Sewer and Manhole Repairs - 2037

Quantity	Unit of Measure	Item Description	Unit Price	Subtotal
1	LS	Miscellaneous manhole and sewer repairs	$ 80,000	$ 80,000

Project Costs		
Construction Costs (Subtotal)		$ 80,000
Engineering	7 %	$ 5,600
Construction Observation	8 %	$ 6,400
Contingency	25 %	$ 23,000
TOTAL		**$ 115,000**

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VILLAGE OF DECATUR, MICHIGAN

WATER AND WASTEWATER SYSTEM IMPROVEMENTS

ENVIRONMENTAL REVIEW

TO BE FUNDED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE - RURAL DEVELOPMENT

OCTOBER 2021

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APPENDIX

I. Purpose And Need For Project

A. Proposed Project Description

The project planning area includes areas within the Village of Decatur which are currently served by the village water and wastewater systems. The Village is located at the west edge of Decatur Township in the south-central portion of Van Buren County in southwestern Michigan. The project planning area is shown on the Planning Area Maps included in Appendix A. A listing of each of the improvements and a brief description as well as the location of each improvement are provided below.

Project Scope of Work Water System Improvements

The water system project was developed through discussions with Village representatives. Water system improvements consist of water main replacements along seven roadway corridors within a single neighborhood. The water main replacements include replacement of all system appurtenances including valves, hydrants, fittings, and water services. Proposed service line replacements will be in line with existing services. Since the water services in this area are suspected to be lead services, it is anticipated they will be replaced from the main into each building. Water Service replacement to be funded through USDA-RD will include only service lines within publicly owned right-of-way; no work funded through USDA will be completed on private property. Service lines installed on the private side of the right-of-way line will be paid for by the Village and accounted for separately between in right-of-way segments and out of right-of-way segments. Water main replacement work will also be done in line with existing piping and within the existing right-of-way.

Project Scope of Work Wastewater System Improvements

A total of 6,610 feet of wastewater pipe lining was identified through the Village's 2017 SAW Asset Management Plan. These pipe lining improvements are at various locations throughout the Village collection system and will rehabilitate aging pipe which would otherwise continue to deteriorate and ultimately fail. In addition to these non-invasive rehabilitations, several improvements are proposed at the wastewater treatment Lagoons. These include sludge removal, lagoon bank repair/regrading on two lagoons, replacement of a shear gate valve, and the installation of a flow monitoring and logging system. All proposed improvements are located within existing rights-of-way, public utility easements, or Village-owned property.

B. Purpose and Need for Project

Water System Improvements

1. Health, Sanitation and Security

The primary need to be addressed by the proposed project is the replacement of undersized water main which has reaching the end of its useful life.

The undersized water main currently in service is 4-inch diameter and will be replaced with 8-inch water main. This upsizing will increase available fire flows and bring more of the Village system into compliance with current standards. Replacement of the aging mains will also improve system reliability and increase the level of service to area customers by reducing the likelihood of main brakes, valve failures, and associated water loss.

2. Aging Infrastructure

The age of most of the existing water main is unknown because historical records were not well documented. However, the mains are likely at least 55 years old as they are shown as existing on historical plans of the wastewater system from 1966. Due to the suspected age of the water main, water services are likely constructed of materials which no longer meet current regulations.

Wastewater System Improvements

1. Health, Sanitation and Security

The primary needs to be addressed by this project for the existing sewer collection system include rehabilitating failing pipe by lining sections of sewer and extending the expected life span. The consequence of sewer failure of the gravity mains in question is catastrophic. The pipe lining will prevent infiltration and major breaks that could lead to backups or a system overflow and significant emergency repair costs. Regarding the WWTF, sludge removal is recommended every 25 years in facultative lagoons and it has been approximately 27 years since Lagoon Cell 1 was last cleaned. Lagoon Cell 1 has a varying depth of sludge ranging from 5 – 40 inches and should be cleaned. The erosion damage on both Lagoon Cells 2 and 3 causes maintenance issues and will only continue to worsen. Lastly, the shear gate valve on the Lagoon Cell 2 Effluent Control Structure is broken and does not function properly.

2. Aging Infrastructure

A majority of the existing gravity collection system piping is constructed of vitrified clay and is showing age related defects at various joints throughout the system. This project will address these issues by utilizing a cured-in-place pipe lining system for rehabilitation.

Additionally, two of the three Lagoons were constructed in 1971 with little maintenance since then. Sludge removal, erosion repairs and bank stabilization will address the current issues the WWTF has and will eliminate maintenance issues in the future.

III. Alternatives To The Proposed Action

There were multiple alternatives considered to provide the required water and wastewater systems improvements for the Village. The alternatives are broken into two categories: Water System Improvements and Wastewater Improvements. A no action option is explored in both categories as well as other alternatives. The alternatives proposed for the Village improvements project are as follows:

Water System Improvements

A. No Action

The no action alternative would mean that nothing would be replaced in the water system. The existing water main would continue to function as is, but due to the age and deterioration of the water main, breaks in the main could occur and impact both public and private properties. This alternative would also result in no replacement of the existing water service lines, most of which are suspected to contain lead.

B. Replacement with PVC Pipe by Directional Drilling

Under this alternative, the mains shown in the proposed project map would be replaced with poly-vinyl chloride (PVC) piping. This material of construction would allow for easier installation due to its relatively low weight. Due to the ease of handling as well as typically low material cost, PVC piping is generally more cost effective when compared to ductile iron pipe. PVC pipe is less robust and more vulnerable to damage from sunlight than ductile iron pipe.

The installation method proposed for this alternative is directional drilling. This less-invasive construction method would install the required mains without trenching through existing roadways, driveways, and green spaces. This process is typically utilized when disrupting surface improvements is costly or impossible. The proposed water main alignment for this project is located along residential roads and crossing residential drives. The surface impacts associated with a typical open trench installation, which would be avoided by directional drilling, would be minimal. The existing road surface is significantly deteriorated. To capitalize on a project economy of scale, the Village would like to address the aged pavement condition in conjunction with water main replacements.

Other improvements which are included in both this alternative and Alternative C, are water service replacements up to the right of way line/shutoff. The remaining portions of water services outside of the right of way will be replaced at the same time but as part of a separate contract. The installation of water services will require digging down to tap the water main, which further detracts from the typical benefits of directional drilling.

C. Replacement with Ductile Iron Pipe by Open Cut

Under this alternative, the mains shown in the proposed project map would be replaced with ductile iron piping wrapped in polyethylene encasement. This material of construction provides greater strength to resist damage during transportation and installation. Ductile iron water main is the primary pipe material in the existing Village system. Because ductile iron pipe is more susceptible to corrosion, a poly wrap will be utilized.

The installation method assumed for this alternative is open cut excavation. While this method is more disruptive, it is commonly used where surface improvements are minimal and/or where roadways are nearing the end of their useful life. For the proposed project location, the only surface improvement impacted will be residential driveways and aging pavement. Improvements to roadways within the proposed project area is something the Village desires to implements in conjunction with this project.

Other improvements which are included in both this alternative and Alternative B, are water service replacements up to the right of way line/shutoff. The remaining portions of water services outside of the right of way will be replaced at the same time but as part of a separate contract.

Wastewater System Improvements

A. No Action

The no action alternative would mean that no action would be taken to address the aging collection and treatment systems. The existing collection system and wastewater treatment lagoons would continue to function as is, experiencing the same operational issues mentioned, without any improvements and continuing to age.

B. Lagoon Improvements and Pipe Replacement

Under this alternative, sludge removal in Lagoon Cells 1 and 3 is proposed. Per sludge judging results, Lagoon Cell 1 has varying depths ranging from 5 inches to 40 inches. The east side of the Lagoon averaged approximately 33.5 inches of sludge and is nearing capacity. The average sludge depth in Lagoon Cell 3 is approximately 8 inches.

This alternative also includes installation of flow monitoring and logging instrumentation in the Lagoon Cell 2 weir manhole. Currently, there are no provisions to accurately measure and record the amount of effluent discharging from the Lagoons. Installing instrumentation to monitor the water level in the existing weir manhole downstream of the outlet structure for Lagoon Cell 2 will allow the discharge flow rates and volumes to be measured and recorded under normal operating conditions. Necessary mounting hardware shall be installed in the existing weir manhole downstream of the outlet structure for Lagoon Cell 1 to monitor and record flow rates and volumes on the rare occasions where effluent is being discharged from Lagoon Cell 1.

As part of the project, the shear gate valve on the Lagoon Cell 2 effluent control structure will be replaced. The existing valve is broken and not functioning properly.

Heavy riprap will be installed on the all the banks of Lagoon Cell 3. In addition, heavy riprap will be installed along the south and west slopes of Lagoon Cell 2. The riprap will act as erosion protection and impede the erosion damage.

The sewer main replacement consists of replacing segments of sanitary sewer ranging from 8-inch to 15-inch diameter. A portion of the pipe segments to be replaced have been identified to have a significant or catastrophic consequence in the instance of pipe failure. All the pipe segments to be replaced are showing signs of failure and are contributing to inflow and infiltration into the system. It is crucial to address the issues in the collection system to reduce the likelihood of emergency repairs and prevent any catastrophic failures. The pipe replacement will be constructed with PVC piping utilizing an open cut method.

C. Lagoon Improvements and Pipe Lining

Under this alternative, sludge removal in Lagoon Cells 1 and 3 is proposed. Per sludge judging results, Lagoon Cell 1 has varying depths ranging from 5 inches to 40 inches. The east side of the Lagoon averaged approximately 33.5 inches of sludge and is nearing capacity. The average sludge depth in Lagoon Cell 3 is approximately 8 inches.

This alternative also includes installation of flow monitoring and logging instrumentation in the Lagoon Cell 2 weir manhole. Currently, there are no provisions to accurately measure and record the amount of effluent discharging from the Lagoons. Installing instrumentation to monitor the water level in the existing weir manhole downstream of the outlet structure for Lagoon Cell 2 will allow the discharge flow rates and volumes to be measured and recorded under normal operating conditions. Necessary mounting hardware shall be installed in the existing weir manhole downstream of the outlet structure for Lagoon Cell 1 to monitor and record flow rates and volumes on the rare occasions where effluent is being discharged from Lagoon Cell 1.

As part of this project, the shear gate valve on the Lagoon Cell 2 effluent control structure will be replaced. The existing valve is broken and not functioning properly.

Heavy riprap on the all the banks of Lagoon Cell 3 will be installed. In addition, heavy riprap will be installed along the south and west slopes of Lagoon Cell 2. The riprap will act as erosion protection and impede the erosion damage.

Sewer main rehabilitation is proposed to be cured-in-place lining construction performed with special equipment and materials on sanitary sewer ranging from 8-inch to 15-inch diameter. The damaged sections of sewer main which need repair will receive pipe lining for the full length of pipe between manholes. This is a trenchless application which has a small construction footprint. All of the pipe segments to be lined are showing signs of failure and are contributing to inflow and infiltration into the system. It is crucial to address the issues in the collection system to reduce the likelihood of emergency repairs and prevent any catastrophic failures.

V. Recommended Alternative

Water System Improvements

The selected alternative for the Village's Water System Improvement Project is Alternative C. This is the most cost-effective alternative to the existing drinking water system, is the easiest to install, and will provide the Village the opportunity to replace several roadways along-side the water project. Additionally, this alternative will consist of pipe replacement with ductile iron pipe, which is what the majority of the existing system consists of.

Wastewater System Improvements

The selected alternative for the Village's Sewer Lining and Lagoon Improvements Project is Alternative C. This is the most cost-effective alternative for the existing collection and treatment system and offers the most logical solutions to the issues presented. All necessary lagoon improvements are included, providing the Village with permanently improved access and ease of maintenance. Pipe lining offers an affordable and effective solution to deteriorating sewer infrastructure.

VII. Environmental Consequences

A. Land Use/Important Farmland/Formally Classified Lands

The land surrounding the water distribution mains, lagoons, and wastewater collection mains have been used for the systems previously and are in existing right-of-way. A map of soil conditions within the project planning Area is included in Appendix B

1. Environmental Consequences

No environmental consequences are directly associated with the water main replacements.

The direct impact to the environment will be minor. The lagoons are being repaired, upgrading the shear gate valve, and installing monitoring and logging systems. The dredge material will be disposed of properly in accordance with state and federal laws. All work will occur within village-owned property or existing right-of-way. Wastewater collection mains will have no direct impact, as the selected alternative is non-invasive.

B. Floodplains

There are no designated floodplain areas within the area of potential effect of the water system and wastewater system improvements. The flood insurance rate maps for the areas around the Village are included in Appendix C of this report.

C. Wetlands

There are wetlands located within the area of potential effect as shown on Michigan Wetland Viewer Maps of the project area included in Appendix D of this report. The proposed wastewater system improvements project will impact the wastewater treatment lagoons which are identified as wetlands but do not fall under the Natural Resource and Environment Protection Act 451 (Part 303 Wetland Protections).

D. Historic Properties

A search for historic properties was conducted by RESCOM Environmental Corp. As a result of the search, no historic properties were found within the project planning area. A Section 106 application has been completed and submitted to the State Historic Preservation office. A copy of the Application is included in Appendix E of this report.

E. Biological Resources

Van Buren County has a rich diversity of biological resources that are typical to southwestern Michigan. The Indiana bat (Myotis sodalist), northern long-eared bat (myotis septentrionalis), and Mitchell's Satyr (Neonympha mitchellii mitchellii) have been listed as endangered while the Rufa Red knot (Calidris canutus rufa), eastern massasauga rattlesnake (Sistrurus catenatus), and Pitcher's Thistle (Cirsium pitcher) have been listed as threatened with the U.S. Department of Interior's Fish and Wildlife Service.

1. Environmental Consequences

The Eastern massasauga rattlesnake is the only species of concern within the project area. With improvements occurring at the wastewater lagoons, potential eastern massasauga rattlesnake habitat could be impacted.

2. Mitigation

To avoid disturbance of the Eastern Massasauga Rattlesnake, construction work at the lagoon site should occur during the species active season which is April 1st until October 1st. This will allow the species to move on its own and avoid the project area. Upon completion, snake-safe restoration measures as provided in the Michigan Amphibian & Reptile Best Management Practices should be used.

F. Water Quality Issues

No impacts to water sources will occur during this project. The project is taking place near Mud Lake and Lake of the Woods; however, no impacts are expected to occur.

1. Environmental Consequences

The only potential environmental impacts to the surface waters and the wetland areas within the project area could include storm runoff, siltation, and other storm runoff related items during earth disturbing activities. No impacts are anticipated to the ground waters of the area.

2. Mitigation

To mitigate any potential impact on the surface waters or the wetlands during construction, soil erosion and sedimentation control best practices will be required to be implemented and maintained by the contractor as well as any additional requirements of the Van Buren County Drain Commission.

G. Coastal Resources

There are no coastal resources within the project area.

H. Socio-economic/Environmental Justice Issues

Van Buren County, Michigan census data for the Village of Decatur was researched. The following table lists the 2019 population, minority population percentage, the 2019 median household income (MHI), and the percentage of the population below the poverty level for Van Buren County and the Village of Decatur. Information is from 2019 US Census Bureau projections.

Municipality	2019 Population	% Minority	2019 MHI	% Below Poverty Level
Decatur	3603	18.7%	$44,324	20.85%
Van Buren County	76,069	13.8%	$54,485	14.85%

1. Environmental Consequences

The existing and future users of the proposed improvements will be treated equally and fairly. None will be impacted negatively or realize devaluation of their property because of the proposed project.

I. Miscellaneous Issues

1. Air Quality

Air quality in Van Buren County is generally good. The purposed dredging of the wastewater lagoons may present some noxious odors, but will be temporary as the dredging occurs. There are no new permanent emissions that are anticipated to impact the air quality of this area related to the proposed project.

a) Environmental Consequences

No permanent environmental consequences are anticipated to result from the proposed project. There will be some minor, short-term impacts during the construction period relating to the use of heavy equipment and dredging of the wastewater lagoon. Once construction is complete, these impacts will cease.

b) Mitigation

No permanent mitigation measures are necessary in association with this project as no permanent impacts are anticipated. Any short-term impacts will be mitigated and minimized to the extent possible through the permitting requirements. Dust control will be employed during construction to minimize impacts of dust on air quality.

2. Transportation

Transportation routes in the project area include local Village streets and state highways. The local streets and state highways within the area of potential effect are all currently paved. All roads are currently in very poor to good condition.

a) Environmental Consequences

During construction, occasional road closures must occur due to trenches in the roadways or across intersection for water main replacements as well as additional temporary truck traffic for material delivery. The impact will be moderate. Once construction is complete, these temporary impacts will be resolved.

b) Mitigation

Traffic control will be required for all intersections in which road closures occur and at any limited access road. Detour routes will be posted, and traffic control will be operated according to current Village and MDOT standards. Once construction is completed, traffic will return to its current state within the areas of project influence.

3. Noise

The noise levels in the proposed project area are currently low and will remain so following the completion of the proposed improvements.

a) Environmental Consequences

No permanent increases are anticipated to occur due to the proposed improvements. There will be temporary increases in noise levels during construction with the operation of heavy equipment and the presence of construction crews. These added noises are unavoidable.

b) Mitigation

Any potential noise issue will be minimized through the use of daylight-only construction hours, limitations on equipment idling, and so forth. Best management practices will be employed during construction to minimize the disturbance caused by construction equipment.

VIII. Summary Of Necessary Mitigation

A summary of the mitigation measures necessary to avoid or minimize the adverse environmental impacts of the proposed project follows:

A. Land Use/Important Farmland/Formally Classified Lands

No mitigation required.

B. Floodplains

No mitigation required.

C. Wetlands

No mitigation required.

D. Historic Properties

No mitigation required.

E. Biological Resources

To avoid disturbance of the Eastern Massasauga Rattlesnake, construction work to the lagoon should occur during the species active season which is April 1st until October 1st. This will allow the species to move on its own and avoid the project area. Upon completion, snake-safe restoration measures as provided in the Michigan Amphibian & Reptile Best Management Practices should be used.

F. Water Quality Issues

To mitigate any potential impact on the surface waters or the wetlands during construction, soil erosion and sedimentation control best practices will be required during construction and any additional requirements of the Van Buren County Drain Commission will be implemented.

G. Coastal Resources

No mitigation required.

H. Socio-Economic/Environmental Justice Issues

No mitigation required.

I. Miscellaneous Issues

To minimize adverse impact on air quality during construction due to dust, proper dust control will be employed. Properly maintaining construction equipment will help to minimize adverse impact on air quality during construction due to exhaust fumes. In order to address traffic impacts, Village and MDOT standards for traffic control will be practiced in all sites where applicable. To minimize noise levels during construction, operation during daylight hours will be required.

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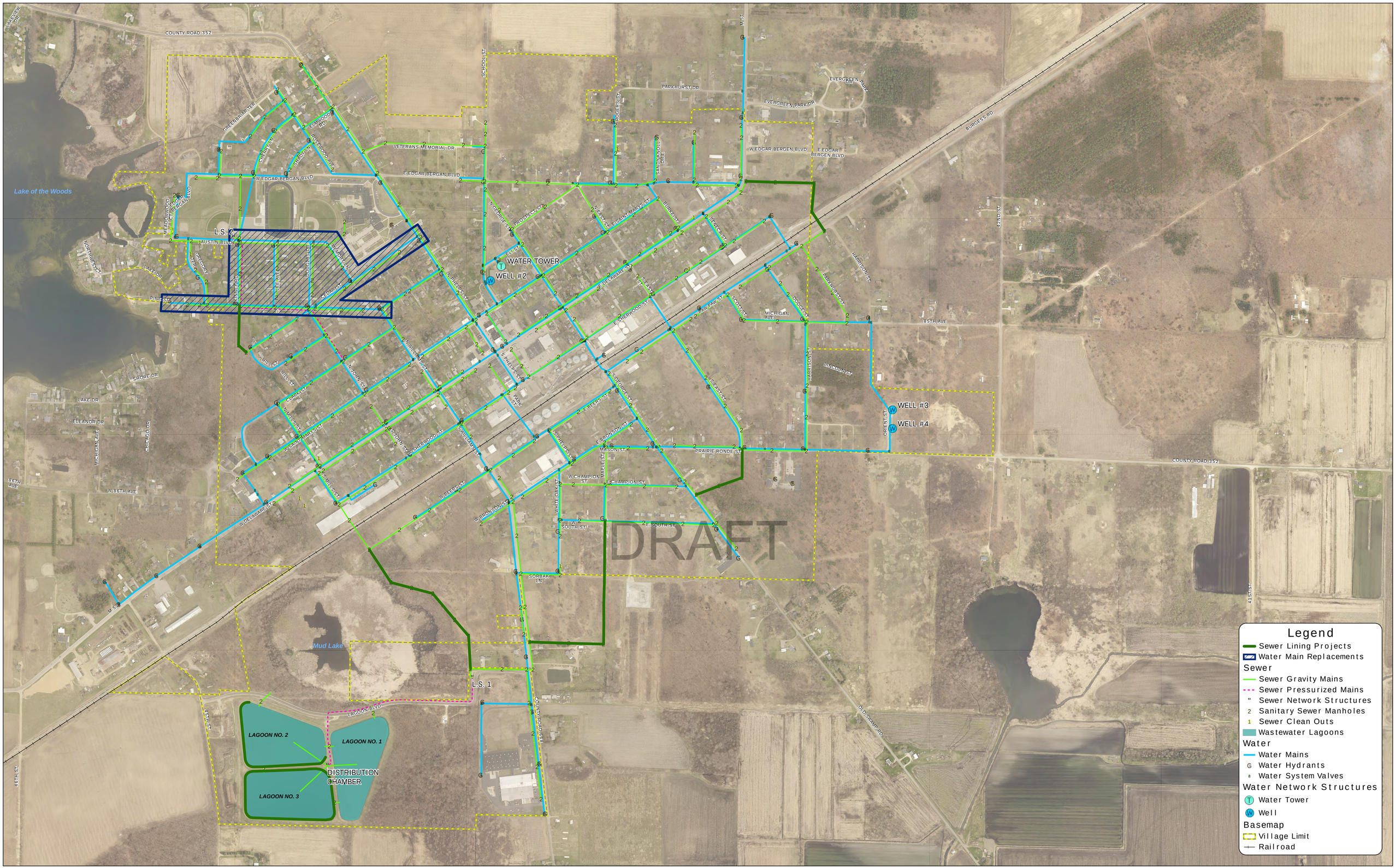
APPENDIX A

Project Planning Area Maps



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VILLAGE OF DECATUR
USDA PROJECT LOCATION MAP

SEWER AND WATER SYSTEM IMPROVEMENTS

1/13/2021

APPENDIX B

Prime Farmland Maps and Data

United States Department of Agriculture

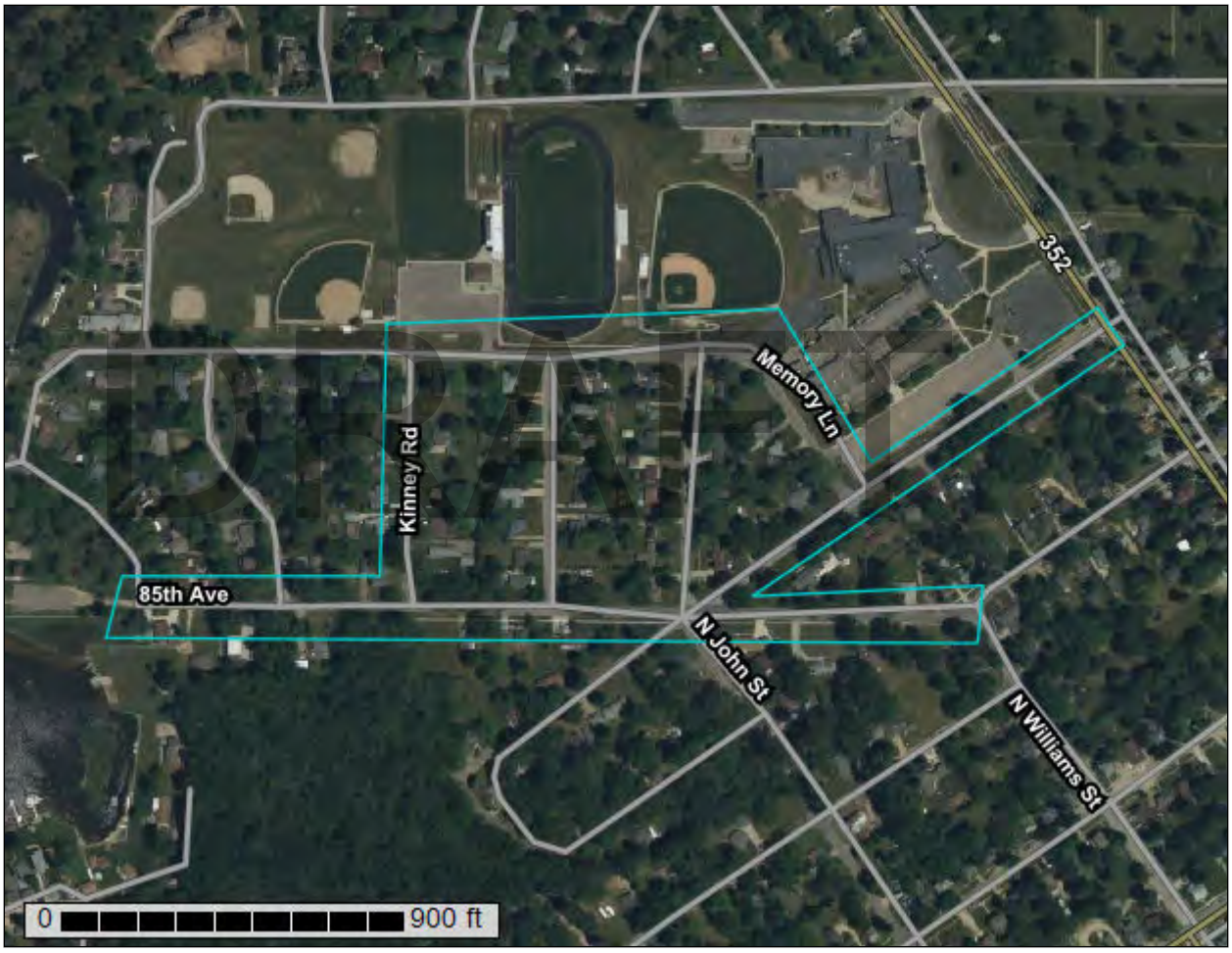
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Van Buren County, Michigan

Water Main Replacement



July 14, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map (Decatur Water Main Replacement)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Van Buren County, Michigan
Survey Area Data: Version 16, Jun 1, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (Decatur Water Main Replacement)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
6B	Oshtemo sandy loam, 0 to 6 percent slopes	2.0	6.8%
18B	Ormas loamy sand, 0 to 6 percent slopes	16.1	55.6%
61B	Udipsamments and Udorthents, 0 to 4 percent slopes	0.4	1.3%
64B	Urban land-Coloma complex, 0 to 6 percent slopes	10.5	36.3%
Totals for Area of Interest		**28.9**	**100.0%**

Map Unit Descriptions (Decatur Water Main Replacement)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Van Buren County, Michigan

6B—Oshtemo sandy loam, 0 to 6 percent slopes

Map Unit Setting

National map unit symbol: 2v2cd
Elevation: 710 to 1,010 feet
Mean annual precipitation: 30 to 41 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 140 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Oshtemo and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Oshtemo

Setting

Landform: Outwash plains, outwash terraces, moraines
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Interfluve, side slope, head slope, nose slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy drift over calcareous sandy and gravelly drift

Typical profile

Ap - 0 to 8 inches: sandy loam
E - 8 to 13 inches: sandy loam
Bt - 13 to 36 inches: sandy loam
E and Bt - 36 to 55 inches: loamy sand
2C - 55 to 80 inches: gravelly sand

Properties and qualities

Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 34 percent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F098XA015MI - Dry Loamy Drift Plains

Hydric soil rating: No

Minor Components

Brady

Percent of map unit: 3 percent
Landform: Outwash terraces, outwash plains, moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Bronson

Percent of map unit: 3 percent
Landform: Outwash terraces, outwash plains, moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, head slope, nose slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Spinks

Percent of map unit: 3 percent
Landform: Outwash terraces, outwash plains, moraines
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Interfluve, side slope, head slope, nose slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Gilford

Percent of map unit: 1 percent
Landform: Outwash terraces, outwash plains, moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

18B—Ormas loamy sand, 0 to 6 percent slopes

Map Unit Setting

National map unit symbol: 67vr
Elevation: 590 to 1,000 feet
Mean annual precipitation: 30 to 36 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 140 to 150 days
Farmland classification: Farmland of local importance

Map Unit Composition

Ormas and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ormas

Setting

Landform: Outwash plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and/or loamy outwash

Typical profile

Ap - 0 to 6 inches: loamy sand
E - 6 to 40 inches: sand
2Bt - 40 to 55 inches: gravelly sandy loam
2C - 55 to 60 inches: gravelly sand

Properties and qualities

Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Ecological site: F097XA004MI - Dry Sandy Lake Plain
Hydric soil rating: No

61B—Udipsamments and Udorthents, 0 to 4 percent slopes

Map Unit Setting

National map unit symbol: 67x0
Elevation: 600 to 1,400 feet
Mean annual precipitation: 32 to 36 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 160 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Udipsamments and similar soils: 51 percent
Udorthents and similar soils: 49 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udipsamments

Setting

Landform: Outwash plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy drift

Typical profile

H1 - 0 to 60 inches: sand

Properties and qualities

Slope: 0 to 4 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Hydrologic Soil Group: A
Ecological site: F097XA004MI - Dry Sandy Lake Plain
Hydric soil rating: No

Description of Udorthents

Setting

Landform: Flats
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy drift

Properties and qualities

Slope: 0 to 4 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

64B—Urban land-Coloma complex, 0 to 6 percent slopes

Map Unit Setting

National map unit symbol: 67x2
Elevation: 580 to 1,360 feet
Mean annual precipitation: 30 to 36 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 140 to 150 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 65 percent
Coloma and similar soils: 30 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Coloma

Setting

Landform: Till plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy outwash

Typical profile

Ap - 0 to 10 inches: loamy sand
E - 10 to 34 inches: sand
E and Bt - 34 to 60 inches: sand

Properties and qualities

Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: A
Ecological site: F097XA004MI - Dry Sandy Lake Plain
Hydric soil rating: No

Minor Components

Oshtemo

Percent of map unit: 5 percent
Hydric soil rating: No

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United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Van Buren County, Michigan

July 7, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

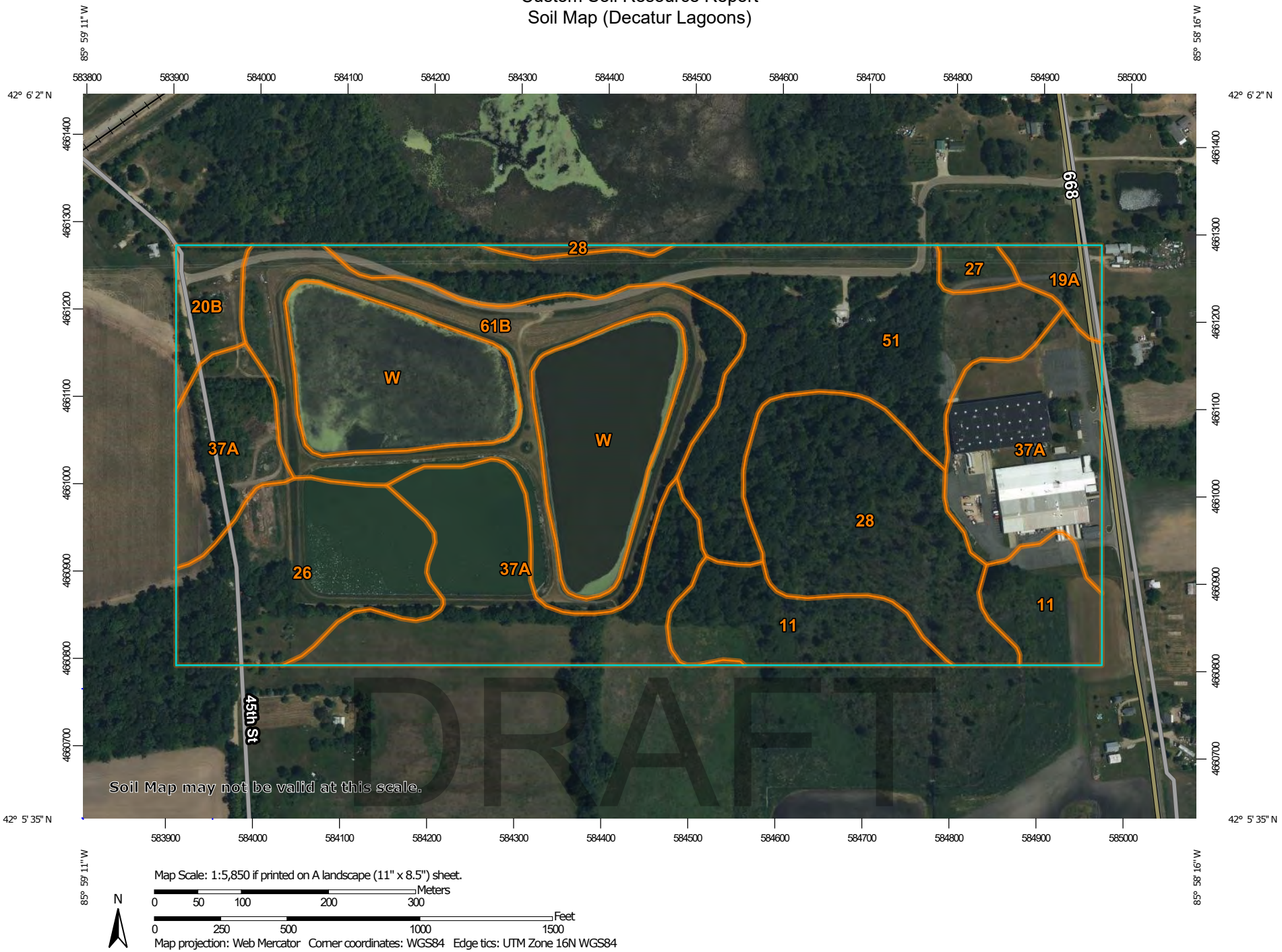
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



Map Scale: 1:5,850 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Van Buren County, Michigan
Survey Area Data: Version 16, Jun 1, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (Decatur Lagoons)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
11	Edwards muck, 0 to 1 percent slopes	10.3	8.1%
19A	Ottokee loamy fine sand, 0 to 3 percent slopes	1.9	1.5%
20B	Spinks loamy sand, 0 to 6 percent slopes	2.6	2.1%
26	Gilford sandy loam, 0 to 1 percent slopes	11.7	9.2%
27	Adrian muck, 0 to 1 percent slopes	1.0	0.8%
28	Houghton muck, 0 to 1 percent slopes	14.6	11.5%
37A	Thetford loamy sand, 0 to 2 percent slopes	28.6	22.6%
51	Kingsville loamy sand	22.4	17.6%
61B	Udipsamments and Udorthents, 0 to 4 percent slopes	14.6	11.5%
W	Water	19.1	15.1%
Totals for Area of Interest		**126.9**	**100.0%**

Map Unit Descriptions (Decatur Lagoons)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They

generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Van Buren County, Michigan

11—Edwards muck, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2rfgx
Elevation: 580 to 1,230 feet
Mean annual precipitation: 31 to 41 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 125 to 205 days
Farmland classification: Farmland of local importance

Map Unit Composition

Edwards and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Edwards

Setting

Landform: Lakebeds (relict) on glacial drainage channels, lakebeds (relict) on outwash plains, lakebeds (relict) on moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, dip
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Herbaceous organic material over marl

Typical profile

Oa1 - 0 to 9 inches: muck
Oa2 - 9 to 26 inches: muck
Lma - 26 to 80 inches: marly silt loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 100 percent
Gypsum, maximum content: 4 percent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: Very high (about 20.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Ecological site: F098XA006MI - Mucky Depressions
Hydric soil rating: Yes

Minor Components

Adrian

Percent of map unit: 3 percent
Landform: Lakebeds (relict) on moraines, lakebeds (relict) on glacial drainage channels, lakebeds (relict) on outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, dip
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: Yes

Houghton

Percent of map unit: 3 percent
Landform: Lakebeds (relict) on glacial drainage channels, lakebeds (relict) on outwash plains, lakebeds (relict) on moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, dip
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: Yes

Palms

Percent of map unit: 2 percent
Landform: Drainageways on moraines, depressions on moraines, drainageways on glacial drainage channels, drainageways on moraines, drainageways on outwash plains, depressions on outwash plains, depressions on outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Gilford

Percent of map unit: 2 percent
Landform: Lakebeds (relict) on moraines, lakebeds (relict) on glacial drainage channels, lakebeds (relict) on outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

19A—Ottokee loamy fine sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 67vt
Elevation: 610 to 920 feet
Mean annual precipitation: 32 to 36 inches

Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 160 to 180 days
Farmland classification: Farmland of local importance

Map Unit Composition

Ottokee and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ottokee

Setting

Landform: Outwash plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy outwash

Typical profile

Ap - 0 to 10 inches: loamy fine sand
Bt and E - 10 to 60 inches: loamy fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F097XA012MI - Moist Sandy Depression
Hydric soil rating: No

Minor Components

Kingsville

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

20B—Spinks loamy sand, 0 to 6 percent slopes

Map Unit Setting

National map unit symbol: 2tpkp
Elevation: 670 to 1,050 feet
Mean annual precipitation: 30 to 41 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 140 to 200 days
Farmland classification: Farmland of local importance

Map Unit Composition

Spinks and similar soils: 92 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Spinks

Setting

Landform: Moraines, glacial drainage channels, outwash plains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, head slope, nose slope, side slope, tread
Down-slope shape: Linear, convex
Across-slope shape: Linear
Parent material: Sandy drift

Typical profile

Ap - 0 to 9 inches: loamy sand
Bw - 9 to 28 inches: sand
E and Bt - 28 to 69 inches: loamy sand
C - 69 to 80 inches: sand

Properties and qualities

Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 20 percent
Maximum salinity: Nonsaline (0.0 to 0.4 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: Low (about 5.2 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 3s

Hydrologic Soil Group: A
Ecological site: F098XA013MI - Piney Dry Sandy Drift Plains, F094AA006MI - Snowy Sandy Drift, F096XB019MI - Rich Sandy Drift
Hydric soil rating: No

Minor Components

Thetford
Percent of map unit: 3 percent
Landform: Moraines, outwash plains
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Linear
Hydric soil rating: No

Tekenink
Percent of map unit: 2 percent
Landform: Moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Oshtemo
Percent of map unit: 2 percent
Landform: Moraines, outwash plains, glacial drainage channels
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, head slope, nose slope, side slope, tread
Down-slope shape: Linear, convex
Across-slope shape: Linear
Hydric soil rating: No

Metea
Percent of map unit: 1 percent
Landform: Moraines
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Head slope, nose slope, interfluve, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

26—Gilford sandy loam, 0 to 1 percent slopes

Map Unit Setting
National map unit symbol: 2w5lt
Elevation: 600 to 780 feet
Mean annual precipitation: 34 to 41 inches

Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 170 to 230 days
Farmland classification: Not prime farmland

Map Unit Composition

Gilford and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gilford

Setting

Landform: Outwash plains, nearshore zones (relict)
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy drift over sandy outwash

Typical profile

Ap - 0 to 11 inches: sandy loam
A - 11 to 13 inches: sandy loam
Bg - 13 to 29 inches: sandy loam
BCg - 29 to 40 inches: loamy sand
Cg - 40 to 80 inches: sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 26 percent
Maximum salinity: Nonsaline (0.0 to 0.3 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A/D
Ecological site: R098XB034IN - Kankakee Wet Drift Flats
Other vegetative classification: Mixed/Transitional (Mixed Native Vegetation)
Hydric soil rating: Yes

Minor Components

Brady

Percent of map unit: 5 percent
Landform: Outwash plains, nearshore zones (relict)
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear

Across-slope shape: Linear
Other vegetative classification: Trees/Timber (Woody Vegetation)
Hydric soil rating: No

Sebewa

Percent of map unit: 5 percent
Landform: Outwash plains, nearshore zones (relict)
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Mixed/Transitional (Mixed Native Vegetation)
Hydric soil rating: Yes

Rensselaer

Percent of map unit: 5 percent
Landform: Nearshore zones (relict), outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Mixed/Transitional (Mixed Native Vegetation)
Hydric soil rating: Yes

27—Adrian muck, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2rfgz
Elevation: 630 to 1,110 feet
Mean annual precipitation: 31 to 41 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 125 to 205 days
Farmland classification: Farmland of local importance

Map Unit Composition

Adrian and similar soils: 92 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Adrian

Setting

Landform: Depressions on outwash plains, depressions on moraines on outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, dip
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Herbaceous organic material over sandy glaciofluvial deposits

Typical profile

Oa1 - 0 to 12 inches: muck
Oa2 - 12 to 34 inches: muck
Cg - 34 to 80 inches: sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline (0.3 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum: 0.2
Available water capacity: Very high (about 15.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Ecological site: F096XB027MI - Mucky Depression, F098XA006MI - Mucky Depressions
Hydric soil rating: Yes

Minor Components

Kingsville

Percent of map unit: 3 percent
Landform: Outwash plains, nearshore zones (relict)
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Edwards

Percent of map unit: 2 percent
Landform: Depressions on outwash plains, depressions on moraines on outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, dip
Down-slope shape: Concave, linear
Across-slope shape: Linear
Hydric soil rating: Yes

Houghton

Percent of map unit: 2 percent
Landform: Depressions on outwash plains, depressions on moraines on outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, dip
Down-slope shape: Concave
Across-slope shape: Linear

Ecological site: F097XA030MI - Mucky Depression, F096XA014MI - Snowy Mucky Depression, F096XB027MI - Mucky Depression, F098XA006MI - Mucky Depressions
Hydric soil rating: Yes

Gilford, gravelly subsoil
Percent of map unit: 1 percent
Landform: Glacial drainage channels, glacial drainage channels
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

28—Houghton muck, 0 to 1 percent slopes

Map Unit Setting
National map unit symbol: 2rfgy
Elevation: 580 to 1,360 feet
Mean annual precipitation: 31 to 41 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 125 to 205 days
Farmland classification: Farmland of local importance

Map Unit Composition
Houghton and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Houghton

Setting
Landform: Depressions on outwash plains, depressions on moraines on outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, dip
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Herbaceous organic material

Typical profile
Oa1 - 0 to 12 inches: muck
Oa2 - 12 to 35 inches: muck
Oa3 - 35 to 80 inches: muck

Properties and qualities
Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 3 percent
Maximum salinity: Nonsaline to very slightly saline (0.4 to 2.7 mmhos/cm)
Sodium adsorption ratio, maximum: 0.8
Available water capacity: Very high (about 23.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Ecological site: F098XA006MI - Mucky Depressions
Hydric soil rating: Yes

Minor Components

Adrian

Percent of map unit: 4 percent
Landform: Depressions on outwash plains, depressions on moraines on outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, dip
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F097XA030MI - Mucky Depression, F096XA014MI - Snowy Mucky Depression, F096XB027MI - Mucky Depression, F098XA006MI - Mucky Depressions
Hydric soil rating: Yes

Edwards

Percent of map unit: 3 percent
Landform: Depressions on outwash plains, depressions on moraines on outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, dip
Down-slope shape: Concave, linear
Across-slope shape: Linear
Hydric soil rating: Yes

Palms

Percent of map unit: 2 percent
Landform: Depressions on moraines, swamps on moraines, drainageways on till plains, drainageways on moraines, drainageways on outwash plains, depressions on outwash plains, depressions on till plains, swamps on outwash plains, swamps on till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: F097XA030MI - Mucky Depression, F098XA006MI - Mucky Depressions
Hydric soil rating: Yes

Gilford, gravelly subsoil

Percent of map unit: 1 percent
Landform: Glacial drainage channels, glacial drainage channels
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

37A—Thetford loamy sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 67w9
Elevation: 600 to 1,200 feet
Mean annual precipitation: 30 to 36 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 140 to 150 days
Farmland classification: Farmland of local importance

Map Unit Composition

Thetford and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Thetford

Setting

Landform: Outwash plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy outwash

Typical profile

Ap - 0 to 9 inches: loamy sand
E - 9 to 11 inches: loamy sand
E and Bt - 11 to 45 inches: sand
C - 45 to 60 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 6 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Ecological site: F097XA012MI - Moist Sandy Depression
Hydric soil rating: No

Minor Components

Kingsville

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

51—Kingsville loamy sand

Map Unit Setting

National map unit symbol: 67wq
Elevation: 610 to 920 feet
Mean annual precipitation: 30 to 36 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 140 to 150 days
Farmland classification: Farmland of local importance

Map Unit Composition

Kingsville and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kingsville

Setting

Landform: Outwash plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciolacustrine deposits

Typical profile

Ap - 0 to 8 inches: loamy sand
Bg - 8 to 30 inches: sand
Cg - 30 to 60 inches: sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 0 inches

Frequency of flooding: None
Frequency of ponding: Frequent
Available water capacity: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F097XA008MI - Wet Sandy Flatwoods
Hydric soil rating: Yes

61B—Udipsamments and Udorthents, 0 to 4 percent slopes

Map Unit Setting

National map unit symbol: 67x0
Elevation: 600 to 1,400 feet
Mean annual precipitation: 32 to 36 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 160 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Udipsamments and similar soils: 51 percent
Udorthents and similar soils: 49 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udipsamments

Setting

Landform: Outwash plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy drift

Typical profile

H1 - 0 to 60 inches: sand

Properties and qualities

Slope: 0 to 4 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Hydrologic Soil Group: A

Ecological site: F097XA004MI - Dry Sandy Lake Plain
Hydric soil rating: No

Description of Udorthents

Setting

Landform: Flats
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy drift

Properties and qualities

Slope: 0 to 4 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

W—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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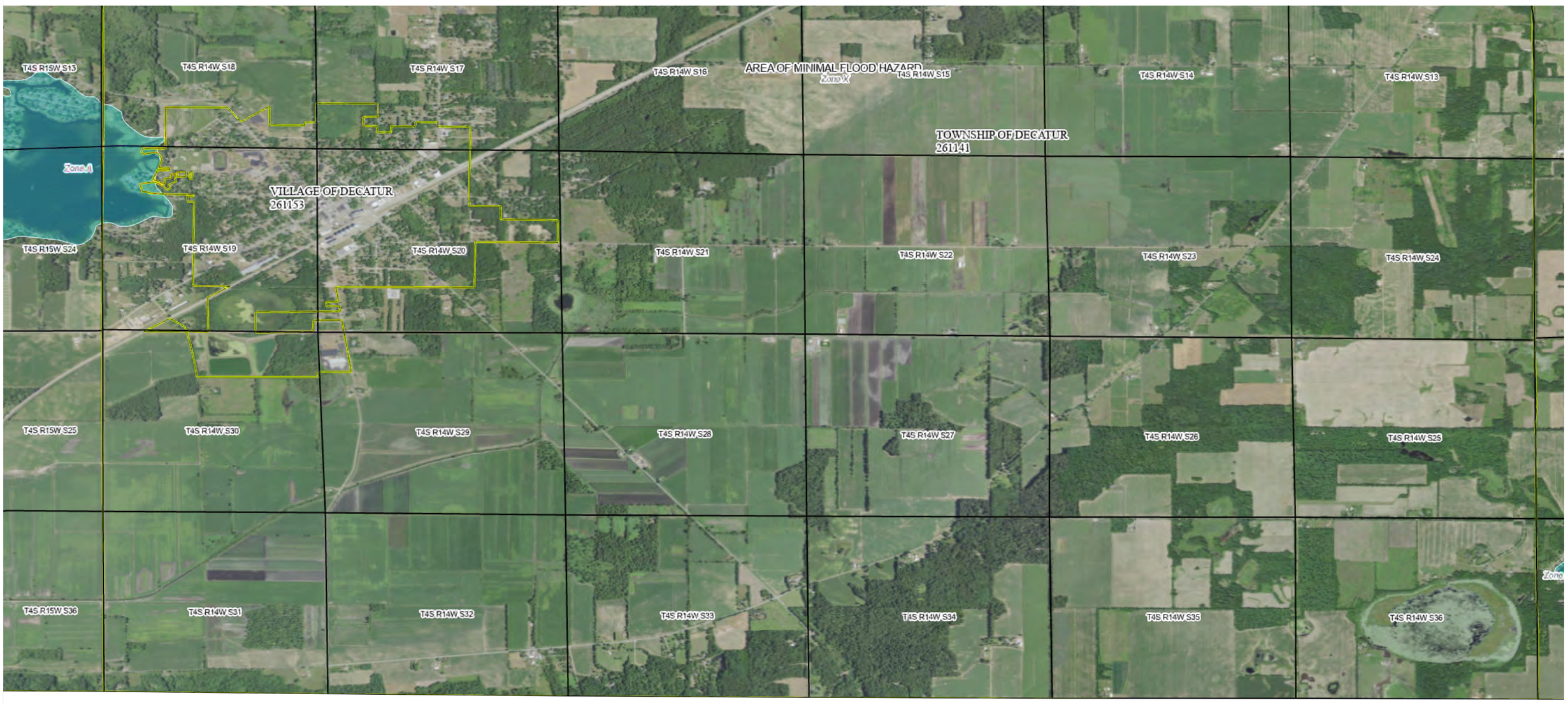
APPENDIX C

Floodplain Maps

86°0'1.73"W 42°10'1.37"N



DRAFT

85°52'28.31"W 42°1'38.67"N

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR DRAFT FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates, refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM was provided in digital format by the United States Geological Survey (USGS). The basemap shown is the USGS National Map: Orthoimagery. Last refreshed October, 2020.

This map was exported from FEMA's National Flood Hazard Layer (NFHL) on **6/29/2021 3:22 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time. For additional information, please see the Flood Hazard Mapping Updates Overview Fact Sheet at https://www.fema.gov/media-library/assets/documents/118418

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards. This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date.

SCALE

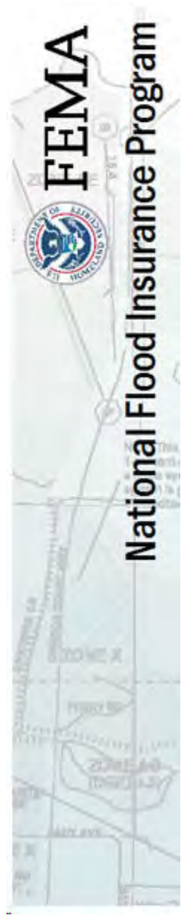
Map Projection:
GCS, Geodetic Reference System 1980;
Vertical Datum: No elevation features on this FIRM
For information about the specific vertical datum for elevation features, datum conversions, or vertical monuments used to create this map, please see the Flood Insurance Study (FIS) Report for your community at https://msc.fema.gov

N

1 inch = 2,000 feet 1:24,000

0 1,000 2,000 4,000 6,000 8,000 Feet

0 210 420 840 1,260 1,680 Meters



NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

VAN BUREN COUNTY, MICHIGAN ALL JURISDICTIONS

PANEL 450 OF 475

Panel Contains:

COMMUNITY	NUMBER	PANEL
TOWNSHIP OF HAMILTON	261144	0450
VILLAGE OF DECATUR	261153	0450
TOWNSHIP OF DECATUR	261141	0450
TOWNSHIP OF PORTER	261148	0450

MAP NUMBER
26159C0450C
EFFECTIVE DATE
December 03, 2009

APPENDIX D

Project Area Wetland Maps

Wetlands Map Viewer

June 29, 2021

Part 303 Final Wetlands Inventory

- Wetlands as identified on NWI and MIRIS maps
- Soil areas which include wetland soils
- Wetlands as identified on NWI and MIRIS maps and soil areas which include wetland soils

1:18,985

0 0.15 0.3 0.6 mi

0 0.25 0.5 1 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Disclamer: This map is not intended to be used to determine the specific

APPENDIX E

SHPO Clearance and Application

Village of Decatur
114 N Phelps Street
Decatur, MI 49045

MEMORANDUM

TO: Village Council
FROM: Christopher Tapper, Village Manager
REVIEWED BY: N/A
DATE: December 6, 2021

SUBJECT: NLC – Marketing Agreement

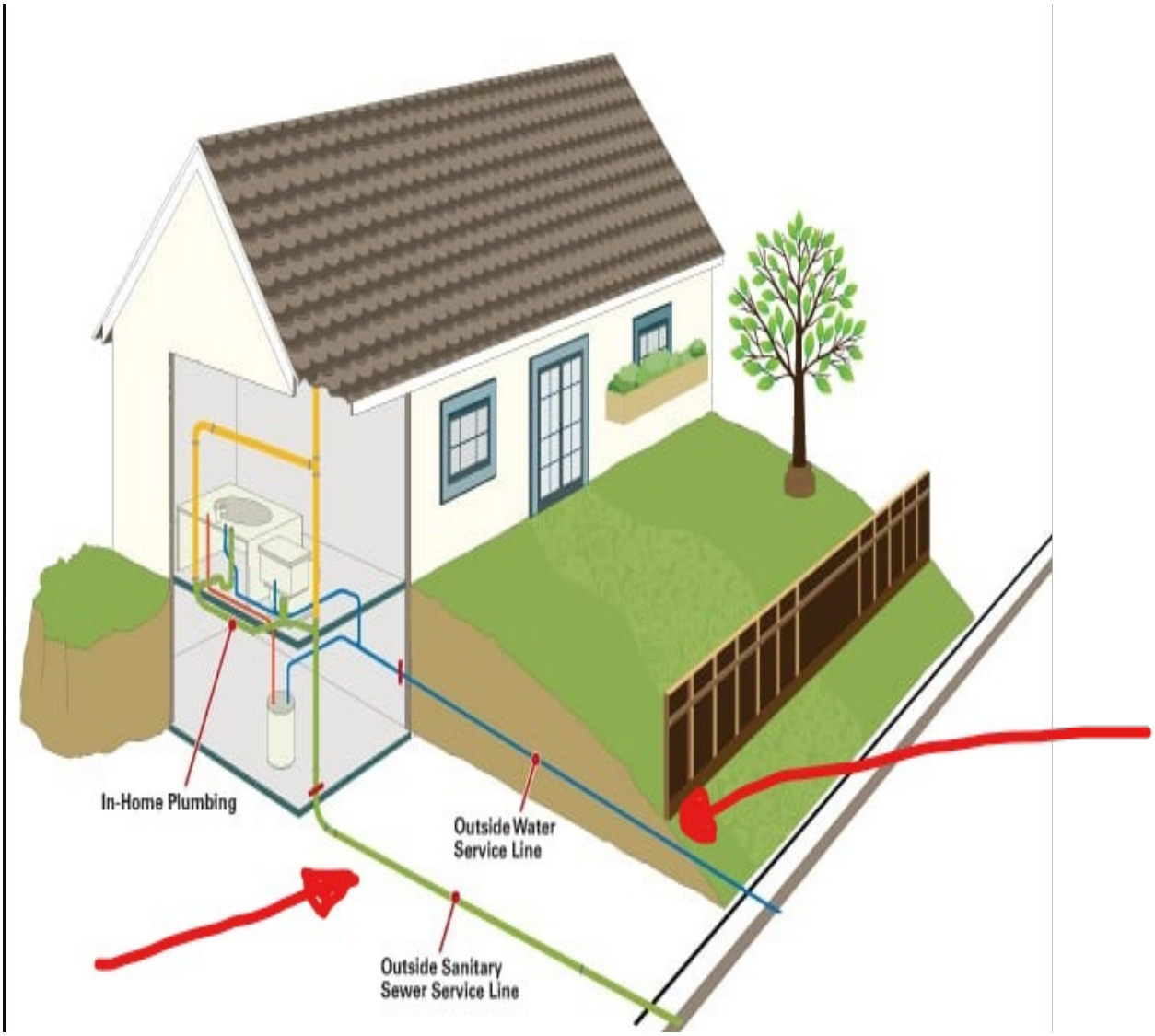
Action Requested:
It is requested the Village Council approve the marketing agreement between the Village of Decatur and Utility Service Partners, Service Line Warranties of America

Background:
Homeowners are commonly under the misconception the municipality is responsible for maintenance of the water and sewer lines on their property or repairs are covered by their homeowner's policy. The National League of Cities service line warranty program will provide additional sewer & water lateral line coverages to residents within the Village of Decatur. The coverage areas include; educating homeowners about their service line responsibilities, includes coverage for thawing of frozen external water line, no annual or lifetime limits, deductibles, service fees, forms, or paperwork, 24/7/365 availability, repairs made only by licensed, local contractors, affordable rates and multiple payment methods.

NLC currently services over 4.5 million customers nationwide. NLC services has estimated their program has saved customers over $520 million in repair cost over the past 3 years. Consistent customer satisfaction rating of 4.8 out 5.

Attachments:
Example of outside service lines
NLC Service Line Program file
Marketing Agreement – NLC

Village of Decatur
114 N Phelps Street
Decatur, MI 49045



Savings Solutions for Aging Infrastructure

NLC Service Line Warranty Program

Administered by Utility Service Partners, Inc.
a HomeServe Company

NLC Service Line Warranty Program

Mike Chambers
mike.chambers@homeserveusa.com
724-678-6075

NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

NLC SAVINGS AND SOLUTIONS PROGRAMS

The NLC Service Line Warranty Program is one of seven Savings & Solutions Programs that are offered through corporate partnerships

NLC launched its partnership with Utility Service Partners in 2010, and now there are 1,000+ participating municipalities and utilities

NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

Administered by
Utility Service Partners, Inc.
a HomeServe Company

NLC Service Line Warranty Program

UTILITY SERVICE PARTNERS

EXPERIENCE

REPUTATION

PARTNERSHIP

2018 WINNER

BBB Torch Awards for Ethics℠

Better Business Bureau of Western PA

"This award underscores one of the primary reasons the National League of Cities selected USP as a partner and extended our agreement for another five years. The organization's exemplary record of customer service and transparency is what has driven the success of this partnership over the years."

— Clarence Anthony, Executive Director
National League of Cities

NLC NATIONAL LEAGUE OF CITIES

CITIES STRONG TOGETHER

Administered by

Utility Service Partners, Inc.

a HomeServe Company

NLC Service Line Warranty Program

AGING INFRASTRUCTURE IS PROBLEMATIC FOR CITIES & HOMEOWNERS

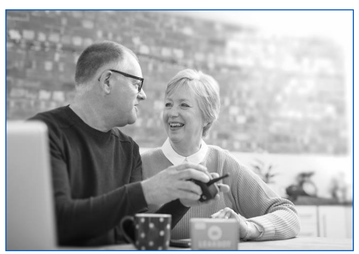
- Lateral lines are subjected to the same elements as public lines -ground shifting, fluctuating temperatures, tree root penetration, corrosion and more
- Failed lines waste thousands of gallons of water and present an environmental hazard
- Common homeowner misconceptions the municipality is responsible for maintenance of the water and sewer lines on their property or repairs are covered by their homeowner's policy

FINANCIAL SHOCK – AN UNPLANNED EXPENSE

78% of homeowners surveyed believe the utility provider should educate them on repairs and preventative measures

59% of homeowners surveyed have had a home repair emergency in the past year

40% 4 out of 10 Americans can't afford a $400 emergency expense (and would have to sell something or take out a loan to cover it).*



NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

2017 IPSOS Survey of HomeServe policyholders and non-policyholders
**Federal Reserve Report on the Economic Well-Being of U.S. Households in 2017*

Administered by
Utility Service Partners, Inc.
a HomeServe Company

NLC Service Line Warranty Program

NLC SERVICE LINE WARRANTY PROGRAM BENEFITS

- Only Service Line Program Endorsed by the National League of Cities
- No cost for the Municipality to participate
- Ongoing Revenue Stream for the Municipality
- Educates homeowners about their lateral line responsibilities
- Free Public Awareness Campaign
- Peace of Mind - with one toll-free call a reputable plumber is dispatched
- All repairs performed to code by local licensed contractors
- Contractors undergo rigorous vetting process to ensure quality service

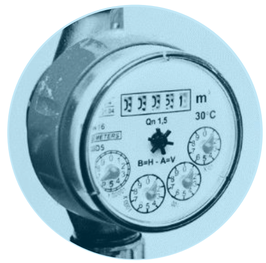
NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

Administered by
Utility Service Partners, Inc.
a HomeServe Company

NLC Service Line Warranty Program

NLC SERVICE LINE WARRANTY PROGRAM AND WHAT IT COVERS

SEWER/SEPTIC LATERAL COVERAGE



WATER/WELL LINE COVERAGE

Homeowner repair protection for leaking, clogged or broken water and sewer lines from the point of utility connection to the home exterior

Coverage includes:

- Educating homeowners about their service line responsibilities
- Up to $8,500 coverage per repair incident
- Includes coverage for thawing of frozen external water lines
- No annual or lifetime limits, deductibles, service fees, forms, or paperwork
- 24/7/365 availability
- Repairs made only by licensed, local contractors
- Affordable rates and multiple payment methods

NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

Administered by Utility Service Partners, Inc.
a HomeServe Company

NLC Service Line Warranty Program

NLC SERVICE LINE WARRANTY PROGRAM AND WHAT IT COVERS

INTERIOR PLUMBING AND DRAINAGE

Homeowner repair protection for in-home water supply lines and in-home sewer lines and all drain lines connected to the main sewer stack that are broken or leaking inside the home after the point of entry

Coverage includes:

- Up to $3,000 coverage per repair incident.
- Repair of clogged toilets
- Includes coverage for broken or leaking water, sewer, or drain lines under the slab or basement floor
- No annual or lifetime limits, deductibles, service fees, forms, or paperwork
- 24/7/365 availability
- Repairs made only by licensed, local contractors
- Affordable rates and multiple payment methods

NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

Administered by Utility Service Partners, Inc.
a HomeServe Company

NLC Service Line Warranty Program

MARKETING APPROACH

- No Public Funds are used in marketing, distribution, or administration of the program.
- Only market by direct mail, no telemarketing
- Would never mail without your review and approval of marketing material before each and every campaign
- Limited mailing campaigns per year
- Consumer friendly marketing
- Always voluntary for the homeowner

- Consumers can enroll one of three ways:
  - Calling into our toll free number that is provided on the mailing;
  - Returning the bottom of the letter to us in the self addressed stamped envelope provided
  - Visiting our consumer website www.slwofa.com at any time

NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

Administered by
Utility Service Partners, Inc.
a HomeServe Company

NLC Service Line Warranty Program

SOLUTIONS FOR MUNICIPALITIES AND THEIR HOMEOWNERS

- More than 1,000 municipal and utility partnerships
- Currently serving over 4.5 million customers
- Saved customers over $520 million in repair costs over the past 3 years
- Consistent customer satisfaction rating of 4.8 out of 5
- 9 of every 10 customers surveyed have recommended the program to friends, family and neighbors

Revenue share and other benefits to city

- Non-tax revenue can be estimated at $0.50 per product, per month

- Cities utilize funds for important initiatives including:
  - ✓ Infrastructure improvements
  - ✓ Low-income assistance/community charities
  - ✓ Partially offset rate increases

- Saves money for residents that can be re-invested in the local economy

- Reduces calls to the city

- Timely repairs reduce water loss from line breaks

NLC Service Line Warranty Program by HomeServe

CURRENT MICHIGAN PARTNERS

City of Lathrup Village
City of Roseville
City of Clawson
City of Highland Park
City of Center Line
City of Royal Oak
City of Berkley
City of Pleasant Ridge
City of Ferndale
City of Howell
City of Perry
City of Hazel Park
Village of Beverly Hills
City of St Clair Shores
City of Huntington Woods
City of Saline
Village of Paw Paw
City of Big Rapids
City of Hamtramck
Village of Kalkaska
Village of St Charles
City of Bangor
City of Burton
City of Keego Harbor
City of Bangor

QUESTIONS?

For more information contact:

Mike Chambers
mike.chambers@homeserveusa.com
724-678-6075 (office)

MARKETING AGREEMENT

This MARKETING AGREEMENT ("**Agreement**") is entered into by and between the Village of Decatur, Michigan ("**Village**"), and Utility Service Partners Private Label, Inc. d/b/a Service Line Warranties of America ("**Company**"), herein collectively referred to singularly as "Party" and collectively as the "Parties". This Agreement shall be effective on the last signature date set forth below ("**Effective Date**").

RECITALS:

WHEREAS, sewer and water line laterals between the mainlines and the connection on residential private property are owned by individual residential property owners residing in the Village ("**Property Owner**"); and

WHEREAS, Village desires to offer Property Owners the opportunity, but not the obligation, to purchase a service plan and other similar products set forth in Exhibit A or as otherwise agreed in writing from time-to-time by the Parties (each, a "**Product**" and collectively, the "**Products**"); and

WHEREAS, Company, a subsidiary of HomeServe USA Corp., is the administrator of the National League of Cities Service Line Warranty Program and has agreed to make the Products available to Property Owners subject to the terms and conditions contained herein; and

NOW, THEREFORE, in consideration of the foregoing recitals, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and with the intent to be legally bound hereby, the Parties agree as follows:

1. **Purpose.** Village hereby grants to Company the right to offer and market the Products to Property Owners subject to the terms and conditions herein.

2. **Village Obligations.**

A. Grant of License. Village hereby grants to Company a non-exclusive license ("**License**") to use Village's branding ("**Marks**"), on marketing materials in accordance with Exhibit A to be sent to Property Owners from time to time, and to be used in advertising (including on the Company's website), all at Company's sole cost and expense and subject to Village's prior review and approval, which will not be unreasonably conditioned, delayed, or withheld. Company's use of the Marks in accordance with this Agreement will not infringe any other party's rights. In the event that Village extends a similar license to a competitor of Company during the Term and any Renewal Term of this Agreement, the Village shall provide thirty (30) days' notice prior to such grant of license and Company may immediately terminate this Agreement.

B. Property Owner Data. If Village elects to do so, Village may provide Company with Property Owner Data for use by Company in furtherance of the advertisement, marketing, and sale of the Products. Any name, service address, postal address, and any other appropriate or necessary data for Property Owners in Village is defined as **"Property Owner Data"**. Property Owners Data shall be and remain Village's property. For any Property Owner Data provided by Village to Company, Village warrants that Property Owner Data has been and will be collected in compliance with all laws, statutes, treaties, rules, codes, ordinances, regulations, permits, official guidelines, judgments, orders and interpretations ("**Applicable Laws**"); and Village is permitted by Applicable Laws and by any applicable privacy policy to provide Property Owner Data to Company and to permit Company to use Property Owner Data for the purposes of this Agreement. A Property Owner who has purchased a Product is a member ("**Member**") and, following such purchase, all data in Company's control or possession relating to Members is Company's property.

3. **Term.** The term of this Agreement ("**Initial Term**") shall be for three (3) years from the Effective Date. The Agreement will automatically renew for additional one (1) year terms (each a "**Renewal Term**", and collectively with the Initial Term, the "**Term**") unless one of the Parties gives the other written notice at least ninety (90) days prior to end of the Initial Term or of a Renewal Term that the Party does not intend to renew this Agreement. In the event that Company is in material breach of this Agreement, the Village may terminate this Agreement thirty (30) days after giving written notice to Company of such breach, if said breach is not cured during said thirty (30) day period. Company will be permitted to complete any marketing initiative initiated prior to termination of this Agreement after which time, neither Party will have any further obligations to the other and this Agreement will terminate.

4. **Consideration.** As consideration for such license, Company will pay to Village a License Fee of as set forth in Exhibit A ("**License Fee**") during the Term of this Agreement. The first payment shall be due by January 30th of the year following the conclusion of the first year of the Term. Succeeding License Fee payments shall be made on an annual basis throughout the Term, due and payable on January 30th of the succeeding year. Village agrees to provide a completed Form W-9 to Company in order to facilitate proper payment of the License Fee. Village will have the right, at its sole expense, to conduct an audit, upon reasonable notice and during normal business hours, of Company's books and records pertaining to any fees due under this Agreement while this Agreement is in effect and for one (1) year after any termination of this Agreement.

5. **Confidentiality.** Each party will treat all non-public, confidential and trade secret information received from the other party as confidential, and such party shall not disclose or use such information in a manner contrary to the purposes of this Agreement. Notwithstanding the foregoing, the Village shall not be liable for any disclosure of confidential information that is required to be disclosed under any applicable public records act or under court order. Village shall provide notice to Company prior to any such disclosure.

6. **Code Change.** The Parties understand that the pricing of the Products and compensation provided for in this Agreement are based upon the currently applicable Village, municipal or

similar codes. In the event Company discovers a code change, Company shall have the ability to reassess the pricing of this Agreement.

7. **Indemnification.** Each Party (the "**Indemnifying Party**") hereby agrees to protect, indemnify, and hold the other Party, its officers, employees, contractors, subcontractors, and agents (collectively or individually, "**Indemnitee**") harmless from and against any and all third party claims, damages, losses, expenses, suits, actions, decrees, judgments, awards, reasonable attorneys' fees and court costs (individually or collectively, "**Claim**"), which an Indemnitee may suffer or which may be sought against or are recovered or obtainable from an Indemnitee, as a result of or arising out of any breach of this Agreement by the Indemnifying Party, or any negligent or fraudulent act or omission of the Indemnifying Party or its officers, employees, contractors, subcontractors, or agents in the performance of this Agreement; provided that the applicable Indemnitee notifies the Indemnifying Party of any such Claim within a time that does not prejudice the ability of the Indemnifying Party to defend against such Claim. Any Indemnitee hereunder may participate in its, his, or her own defense, but will be responsible for all costs incurred, including reasonable attorneys' fees, in connection with such participation in such defense.

8. **Notice.** Any notice required to be given hereunder shall be deemed to have been given when notice is (i) received by the Party to whom it is directed by personal service, (ii) sent by electronic mail (provided confirmation of receipt is provided by the receiving Party), or (iii) deposited as registered or certified mail, return receipt requested, with the United States Postal Service, addressed as follows:

To: Village:
ATTN: Christopher Tapper
Village of Decatur
114 N. Phelps Street
Decatur, MI 49045
Email: ctapper@decaturmi.us
Phone: (269) 423-6114

To: Company:
ATTN: Chief Sales Officer
Utility Service Partners Private Label, Inc.
4000 Town Center Boulevard, Suite 400
Canonsburg, PA 15317
Phone: (866) 974-4801

9. **Modifications or Amendments/Entire Agreement.** Except for the list of available Products under the Agreement, which may be amended from time to time by the Parties in writing and without signature, any and all of the representations and obligations of the Parties are contained herein, and no modification, waiver or amendment of this Agreement or of any of its conditions or provisions shall be binding upon a Party unless in writing signed by that Party.

10. **Assignment.** Neither Party may assign its rights or delegate its duties under this Agreement without the prior written consent of the other Party unless such assignment or delegation is to an affiliate or to an acquirer of all or substantially all of the assets of the transferor.

11. **Counterparts/Electronic Delivery; No Third Party Beneficiary.** This Agreement may be executed in counterparts, all such counterparts will constitute the same contract and the signature of any Party to any counterpart will be deemed a signature to, and may be appended to, any other counterpart. Executed copies hereof may be delivered by email and upon receipt will be deemed originals and binding upon the Parties hereto, regardless of whether originals are delivered thereafter. Nothing expressed or implied in this Agreement is intended, or should be construed, to confer upon or give any person or entity not a party to this agreement any third- party beneficiary rights, interests, or remedies under or by reason of any term, provision, condition, undertaking, warranty, representation, or agreement contained in this Agreement.

12. **Choice of Law/Attorney Fees.** The Parties shall maintain compliance with all Applicable Laws with respect to its obligations under this Agreement. The governing law shall be the laws of the State of Michigan, without regard to the choice of law principles of the forum state. THE PARTIES HERETO HEREBY KNOWINGLY, VOLUNTARILY, AND INTENTIONALLY WAIVE ANY RIGHT THAT MAY EXIST TO HAVE A TRIAL BY JURY IN RESPECT OF ANY LITIGATION BASED UPON OR ARISING OUT OF, UNDER, OR IN ANY WAY CONNECTED WITH, THIS AGREEMENT.

13. **Incorporation of Recitals and Exhibits.** The above Recitals and Exhibit A attached hereto are incorporated by this reference and expressly made part of this Agreement.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement on the day and year first written below.

VILLAGE OF DECATUR

_____

Name:

Title:

Date:

UTILITY SERVICE PARTNERS PRIVATE LABEL, INC.

_____

Name: Michael Backus

Title: Chief Sales Officer

Date:

Exhibit A
NLC Service Line Warranty Program
Village of Decatur
Term Sheet
November 10, 2021

I. Initial Term. Three Years.

II. License Fee. $0.50 per Product for each month that a Product is in force for a Property Owner (and for which payment is received by Company), aggregated and paid annually, for:
   A. Use of Village logo and name on letterhead, advertising, signature line, and marketing materials.

III. Products.
   A. External water service line plan (initially, $6.49 per month)
   B. External sewer/septic line plan (initially, $8.49 per month)
   C. Interior plumbing and drainage plan (initially, $9.99 per month)

Pricing does not include taxes. Company may adjust the foregoing Product fees; provided, that any such monthly fee adjustment shall not exceed $0.50 in any 12-month period. If such adjustment shall exceed $0.50, both Parties must agree in writing.

IV. Scope of Coverage.
   A. External water service line plan:
      i. Covers Property Owner responsibility: From the curbstop to the external wall of the home.
      ii. Covers thawing of frozen external water lines.
      iii. Covers well service lines if applicable.
   B. External sewer/septic line plan:
      i. Covers Property Owner responsibility: From the external wall of the home to the sewer main.
      ii. Covers septic lines if applicable.
   C. Interior plumbing and drainage plan:
      i. Covers water supply pipes and drainage pipes within the interior of the home.

V. Marketing Campaigns. Company shall have the right to conduct up to three campaigns per year (each campaign consists of two mailings) and such other channels as may be mutually agreed. Initially, Company anticipates offering the interior plumbing and drainage plan Product via in-bound phone or web only.

Village of Decatur
114 N Phelps Street
Decatur, MI 49045

MEMORANDUM

TO: Village Council
FROM: Christopher Tapper, Village Manager
REVIEWED BY: N/A
DATE: December 6, 2021

SUBJECT: Adopt Resolution 2021-012 Meeting Calendar 2022

Action Requested:
It is requested the Village Council adopt Resolution 2021-012 Meeting Calendar 2022.

Background:
Each calendar year the Village Council adopts an annual regular meeting schedule. The following Resolution 2021-012 addresses the Village Council meeting dates, times, and location. Resolution 2021-012 also will address the annual regular meeting of the Planning Commission along with the Downtown Development Authority.

Attachment:
Resolution 2021-012
Public Meeting Schedule 2022

VILLAGE OF DECATUR

COUNTY OF VAN BUREN

STATE OF MICHIGAN

RESOLUTION 2021-012: VILLAGE OF DECATUR COUNCIL MEETING SCHEDULE FOR 2022.

WHEREAS, a local Municipality has the right to set their own Regular Meeting schedule by Resolution; and

WHEREAS, The Village of Decatur is required by law to have one Regular Meeting every month; and

WHEREAS, The Regular Meeting Schedule will be posted at Village Offices throughout the duration of the 2022 Calendar Year. The Village of Decatur, Trustee's meet at 7:00PM for on the first Monday of each month unless otherwise posted. Meetings are held in the Council Chambers of the Decatur Village Hall, 114/116 N. Phelps Street, Decatur, Michigan. The Village Council will also from time to time meet electronically allowable under PA 228 of 2020.

January 3, 2022	**February 7, 2022**	**March 7, 2022**	**April 4, 2022**	**May 2, 2022**
June 6, 2022	**July 5, 2022 (Tuesday)**	**August 1, 2022**	**September 6, 2022 (Tuesday)**	
October 3, 2022	**November 7, 2022**	**December 5, 2022**		

DOWNTOWN DEVELOPMENT AUTHORITY

The Decatur Village DDA meets at 1:00 PM on the second Wednesday of each month unless otherwise posted. Meetings are held in the Council Chambers of the Decatur Village Hall, 114/116 N. Phelps, Decatur, MI 49045.

PLANNING COMMISSION

The Decatur Village Planning Commission meets at 1:00 PM on the third Thursday of each month unless otherwise posted. Meetings are held in the Council Chambers of the Decatur Hall, 114/116 N. Phelps, Decatur, MI 49045.

ZONING BOARD OF APPEALS

The Zoning Board of Appeals meets as needed. Meetings are held in the Council Chambers of the Decatur Village Hall, 114/116 N. Phelps, Decatur, MI 49045

NOW, THEREFORE, BE IT RESOLVED, the following is the current Regular Meeting Schedule for the 2022 Calendar Year for The Village of Decatur.

RESOLUTION DECLARED ADOPTED, this 6st day of December 2021.

_____

Ali Elwaer, Village President

_____

Megan Duncan, Village Clerk & Treasurer

VILLAGE OF DECATUR
NOTICE OF PUBLIC MEETINGS FOR 2022

The Village of Decatur, Trustee's meet at 7:00PM for on the first Monday of each month unless otherwise posted. Meetings are held in the Council Chambers of the Decatur Village Hall, 114/116 N. Phelps Street, Decatur, Michigan. The Village Council will also from time to time meet electronically allowable under PA 228 of 2020.

January 3, 2022	**February 7, 2022**	**March 7, 2022**	**April 4, 2022**	**May 2, 2022**
June 6, 2022	**July 5, 2022 (Tuesday)**	**August 1, 2022**	**September 6, 2022 (Tuesday)**	
October 3, 2022	**November 7, 2022**	**December 5, 2022**		

DOWNTOWN DEVELOPMENT AUTHORITY

The Decatur Village DDA meets at 1:00 PM on the second Wednesday of each month unless otherwise posted. Meetings are held in the Council Chambers of the Decatur Village Hall, 116 N Phelps Street, Decatur, MI 49045.

PLANNING COMMISSION

The Decatur Village Planning Commission meets at 1:00 PM on the third Thursday of each month unless otherwise posted. Meetings are held in the Council Chambers of the Decatur Hall, 116 N Phelps Street, Decatur, MI 49045.

ZONING BOARD OF APPEALS

The Zoning Board of Appeals meets as needed. Meetings are held in the Council Chambers of the Decatur Village Hall, 116 N Phelps Street, Decatur, MI 49045

NOTE: All special meetings and changes will be posted in compliance with the Open Meetings Act.

Village of Decatur
114 N Phelps Street
Decatur, MI 49045

MEMORANDUM

TO: Village Council
FROM: Christopher Tapper, Village Manager
REVIEWED BY: N/A
DATE: December 6, 2021

SUBJECT: Village Presidents Appointments to various Boards

Action Requested:
It is requested the Village Council approve the recommendation of the Village President and appoint, Roger Kemp (Decatur Auto parts), Jami Swihart (Honor Credit Union) and Mary Miller (Moose Lodge) to the Downtown Development Authority and Pat Muscovalley to the Planning Commission and Maria Paredes-Zavala to the Zoning Board of Appeals

Background:
The Planning Commission has a membership requirement of five members, the term of each member, shall be for two years. Pat Muscovalley and Maria Paredes-Zavala both have expressed a willingness to serve on the Planning Commission. The Planning Commission currently has four members. Staff recommendation to the Village President the appointment of both Muscovalley to the open position on the Planning Commission, and Paredex-Zavala as an alternate member to the Zoning Board of Appeals.

The Downtown Development has a membership requirement of eight members, the term of each member, shall be for two years. Roger Kemp, Jami Swihart and Mary Miller both have expressed a willingness to service on the Downtown Development Authority. The DDA currently has five members, plus the Village President.

RE: Village of Decatur

Jami Swihart <JSwihart@honorcu.com>

Thu 11/18/2021 1:43 PM

To: Christopher Tapper <ctapper@decaturmi.us>

Good Afternoon Chris,

I would be honored to serve on this board! This is a first for me. Looking forward to working with each of you!

Thank you for thinking of me!

Jami Swihart

Decatur Member Center Manager | NMLS#: 622306

JSwihart@honorcu.com

269.983.6357 ext 4202 | 800.442.2800

fax : 269.423.6070

Securely send me a document

Schedule an Appointment

From: Christopher Tapper <ctapper@decaturmi.us>
Sent: Thursday, November 18, 2021 12:24 PM
To: Jami Swihart <JSwihart@honorcu.com>
Subject: Village of Decatur

Greetings Jami,

Was wondering if you would be interested in a position on the Downtown Development Authority for the Village of Decatur? I currently have one position open to serve as a board member and I thought you might be interested. This board meets once a month, the second Wednesday at 1:00 PM.

Currently the DDA board is composed of

James Creagan , Jay Newell, David Moormann, Lee Moser, Fred Reeder, Mary Miller, Roger Kemp, President Elwear

Let me know if you or anyone from the bank is interested, but I wanted to offer the opportunity to you first. Thanks for the consideration.

Christopher Tapper

Village Manager

Tel: (269) 423-6114

Fax: (269) 423-9047

Email: ctapper@decaturmi.us

Re: Village of Decatur

Christopher Tapper <ctapper@decaturmi.us>
Fri 11/19/2021 4:08 PM
To: Pat. Muscovalley <muscoval@att.net>

Thank you again Pat,

I wanted to make sure I communicated the appointment will take place at the Monday, December 6, 2021 Village Council meeting. Please feel free to attend the meeting at 7:00

CT

From: Pat. Muscovalley <muscoval@att.net>
Sent: Monday, November 8, 2021 6:58 PM
To: Christopher Tapper <ctapper@decaturmi.us>
Subject: Re: Village of Decatur

Hi Chris,

This email is to inform you that I am willing to be on the planning committee.

Thanks for your help today.

Sincerely, Pat. Muscovalley

On Thursday, October 14, 2021, 07:07:52 PM EDT, Pat. Muscovalley <muscoval@att.net> wrote:

Thanks Chris, hope to hear something from you soon.

Thanks, Pat. Muscovalley

On Thursday, October 14, 2021, 12:43:54 PM EDT, Christopher Tapper <ctapper@decaturmi.us> wrote:

Pat,

Thank you for contacting me. I have not heard back from anyone specifically from the three mentioned cities or Cass County yet. I will keep digging. Thank you for your help and we will be in touch if I heard anything.

Christopher Tapper
Village Manager
Village of Decatur

From: Pat. Muscovalley <muscoval@att.net>
Sent: Tuesday, October 12, 2021 8:52 AM
To: Christopher Tapper <ctapper@decaturmi.us>
Subject: Re: Village of Decatur

Good morning Chris,

Hope that you are doing well.

Wondering if you were able to obtain any more information about the three cities, Paw Paw, Lawton and Mattawan, effort to have a YMCA within their region?

Also, were you able to contact anyone in Cass County to inquire about them joining our effort of having a YMCA closer to them?

Please, excuse me for my persistence, knowing that you have many pressing issues to address, but I would welcome an update on any new information. And also, if at all you would assign me something to do that would take some of this load off of you.

Sincerely, Pat. Muscovalley phone #: (517) 372-0468
On Monday, September 13, 2021, 06:26:03 PM EDT, Pat. Muscovalley <muscoval@att.net> wrote:

Hi Christopher,

Yes, it was a pleasant visit this morning. Thanks for sharing your time with me. Looking forward to seeing any updates from you concerning having a YMCA closer to Decatur.

Sincerely,
Pat. Muscovalley

On Monday, September 13, 2021, 12:04:47 PM EDT, Christopher Tapper <ctapper@decaturmi.us> wrote:

Greetings Patricia,

Thank you for taking the time this morning to meet. I will gather some more information regarding the YMCA topic and forwarded the information on to you.

Christopher Tapper
Village Manager
Tel: (269) 423-6114
Fax: (269) 423-9047
Email: ctapper@decaturmi.us

Village of Decatur
114 N Phelps Street
Decatur, MI 49045

MEMORANDUM – WEEKLY REPORT

TO: Village Council
FROM: Jimmy Ebeling, DPW
REVIEWED BY: Christopher Tapper, Village Manager
DATE: December 1, 2021

SUBJECT: November 2021 Monthly Report from DPW

November 2021 – Jobs completed

Read Water Meters for billing
Marked Miss Digs
Sewer pond discharged; samples collected & reports done
Sewer maintenance (recorded at barn)
Took Monthly water tests to Paw Paw
Mowed Parks
Mowed Lagoons & Road Shoulders
Put dirt in hole near sidewalk at 301 W. Delaware (tree stumps filled hole)
Did equipment maintenance
Cleaned shop
Jetted sewers
Picked up brush/grass
Vac leaves
Put up Christmas Decorations
Winterized beach house at Red Woolfe Park
Put up picnic tables at Red Woolfe Park
Put in Paver blocks around Fire Hydrant on corner N. Phelps and W Delaware
Fixed sidewalk in front of Post Office
Cleaned leaves out of parks
Jimmy & Tim went to confined space training in St. Joe
Winter Prep
Water tower was power washed by outside company
Turned on water at 515 Cherry Lane, 615 N. Phelps
Replaced meter register at 106 E. Champion
Turned off sprinklers at Library
Flushed Service at 124 E. Edgar Bergen

Thomas VanDerWoude, Chief of Police
114 N. Phelps St.
Decatur, MI 49045
Phone: (269) 423-2171
Fax: (269) 423-7814
Email: vanderwoudet@decaturmi.org

To: Village Manager Chris Tapper
Fr: Chief Tom VanDerWoude
Date: November 30, 2021
Ref: Monthly Report for the Month of November 2021

Meetings / Events / Information:

- Treatment Court Policy Meeting
- Council Meeting
- Meeting with Local Chief's
- Court, PPO Violation
- Report for Federal Government, Number of FTE's…..
- Meeting with Village Manager and Resident
- DDA Meeting
- Meeting on-site with IT Right
- Meeting with Henry Upjohn
- Meeting / Presentation with Honor Credit Union, Honor CU has awarded $1,000 to Decatur PD / Child Safety America

Please see the below activity occurring in our community over the past month.

Arrests: October 26, 2021 to November 30, 2021

- 10-27-21, Male, Possession of Meth
- 10-31-21, Male, Felonious Assault
- 10-31-21, Male, Fleeing and Eluding
- 11-3-21, Male, Stalking
- 11-4-21, Male, Warrants / Receiving and Concealing Stolen Property
- 11-15-21, Male, Warrant, Resist and Obstruct Police
- 11-21-21, Male, Domestic Assault
- 11-24-21, Male, Operating While Intoxicated
- 11-25-21, Male, Operating While Intoxicated

Calls for Service / Reports Taken: October 26, 2021 to November 30, 2021

- General Assist
- Forgery
- Assist Medical
- Larceny
- Assist Medical
- General Assist
- Motorist Assist
- Water Main Break
- Attempt Warrant Arrest
- Background Check
- Background Check
- Trespass
- Assist VBCS
- 911 Hang up
- Salvage
- Salvage
- Minor in Possession of Tobacco
- Salvage
- Drove While License Suspended / No Insurance
- Assist Medical
- Domestic, Assist to MSP
- Felonious Assault
- Threats
- Conditional Bond Violation
- General Assist
- Fleeing and Eluding Police
- Liquor Law Violation
- Abandoned Vehicle
- Assist Medical
- Truant Child
- Disturb the Peace
- Crossing Guard Assignment
- Salvage
- Salvage
- Property Damage Car Accident
- Stalking / Trespass
- General Assist
- Crossing Guard
- General Assist
- Forgery
- Welfare Check
- Crossing Guard
- Police Officer Stand-bye
- Trespass

- Blight
- Mental Investigation
- Possession of Cocaine
- Assault with a Motor Vehicle
- Rollover Car Accident, Assist MSP
- General Assist
- Counterfeit Money
- Mental Investigation / Trespass
- Check open Gate
- Assist Medical
- MDOP
- General Assist
- Counterfeit Money
- Medical Assist
- Background Check
- Abandoned Vehicle
- Domestic
- Dog at Large
- Assist Medical
- Salvage
- Unlawful Dumping
- Unlawful Dumping
- Suspicious Situation, Assist VBCS
- Hazardous Condition
- Mental Investigation
- Alarm
- Civil Matter
- Trespass
- Property Damage Car Accident
- MDOP Village Property
- Larceny
- Possession of Marijuana / Carrying a Concealed Weapon
- Assist Medical
- Salvage
- Salvage
- Salvage
- General Assist
- Mental Investigation
- Criminal Sexual Conduct
- MDOP
- Larceny of Gasoline
- General Assist
- Alarm
- Mental Investigation
- General Assist

- Blight
- Blight
- Suspicious Situation
- Assist Medical
- Found Property
- Blight
- Blight
- Blight
- Blight
- Blight
- Barking Dog Complaint
- Background Check
- Fire Alarm
- Crossing Guard
- Salvage
- Salvage
- Salvage
- Delinquent Minor
- Assist Medical
- Civil Dispute / Child Custody
- MDOP
- Noise Complaint
- Trespass
- OUID, Assist VBCS
- Domestic / Kidnapping, Assist MSP, VBCS
- Traffic Policing
- Illegal Dumping
- Suspicious Situation
- Assist Medical
- Trespass
- Resist and Obstruct Police / Drove While License Revoked
- Suspicious Situation
- VIN Inspection
- Alarm
- Check open gate
- Runaway Complaint
- Larceny
- Burning Complaint
- Hazard
- General Assist
- Blight
- Blight
- Domestic Assault / Interfere with 911 Call
- Assist Fire Dept.
- Liquor Inspection

- Blight
- Blight
- Found Property
- Found Property
- Found Property
- Found Property
- Found Property
- Domestic
- Salvage
- Salvage
- Salvage
- Salvage
- Retail Fraud
- Blight
- Crossing Guard
- MDOP
- MDOP
- General Assist
- Assist to State Probation
- Assist Medical
- General Assist / Civil
- OWI Arrest, Resist and Obstruct Police, High BAC
- Assist Medical
- Assist Medical
- Assist Medical
- Abandoned Vehicle
- Assist Fire Dept.
- Found Property
- Assist Medical
- Domestic
- OWI, Assist MSP
- Assault
- Assist Medical
- Welfare Check
- General Assist

Thank you! Please stay safe!

Chief Tom VanDerWoude

Village of Decatur
114 N Phelps Street
Decatur, MI 49045

MEMORANDUM

TO: Village Council
FROM: Christopher Tapper, Village Manager
REVIEWED BY: N/A
DATE: December 6, 2021

SUBJECT: Decatur-Hamilton Fire & QR Report – November 2021

Action Requested:
It is requested the Village Council receive a report from the Monday, November 29, 2021, Decatur-Hamilton Fire & QR Departments.

Background:
At the November 2021 Village Council meeting, it was discussed how best to provide additional information regarding the activities of the Decatur-Hamilton Fire & QR Departments. Chairperson Carl Druskovich and I in partnership believe the additional agenda item for the Village Council to receive a formal report, of the monthly activities of the Fire & QR departments would be a positive suggestion.

Please see the following attachments for the November 29, 2021, agenda packet for both the Fire & QR Departments. I would gratefully take questions if any from the Council to the Fire Board if Council has comments or concerns.

I am bringing the following topics to your attention as they have been asked of me by several Council members. Topic one, both the Fire Department and QR are funded each through a Special Assessment millage. The Fire Board does not need the approval from the Village Council to increase or decrease millage rates for this district. Past practice has included bringing these discussion topics to the Village Council before a decision was made by the Fire Board as a courtesy of cooperation.

Decatur and Hamilton Townships are the taxing authorities responsible for setting millage rates. Each Township is required to follow the State of Michigan best practices with regards to the Special Assessment, voted on by residents in Decatur Township, Village and Hamilton Township. The Village Council does not have a role with setting these millage rates.

Village of Decatur
114 N Phelps Street
Decatur, MI 49045

Topic two, regarding Council members concerns with the Fire Department budget specifically looking at vehicle repairs and maintenance. It should be noted the meeting in October & November the Fire Board is aware of the increased repair cost for maintenance of the vehicles. The Chairperson along with the Board expressed concerns to the Department. The Village Council does not create or set the budget for the Fire or QR Department. Both Departments are their own separate fiduciary agencies.

As a best practice of cooperation between all three municipalities citing the Joint Fire Department agreement dated from 1987, the Fire Board shares the budget and financial information to the Village Council at an annual meeting once a year. The current agreement has not been updated since 1987 and can be revised if the Council takes action to open those discussions. This procedure would involve notifying each municipality of the intent to open the agreement for reviewing, but all parties would need to agree to open the agreement for updating and ultimately all three municipalities would need to agree to any changes if necessary. I am building better professional relationships with the municipalities and do not believe the Council needs to take this course of action.

In conclusion I have learned a great amount of information as it pertains to these matters. The Fire & QR Departments are their own entities and have operated as such for many years. I'm comfortable with our village being afforded the opportunity for our improvement with building these lasting relationships with the Fire & QR departments, working more directly with the in the future for the benefit of the residents of the Village of Decatur.

Attachments:
Fire Department

Quick Response Department

DECATUR-HAMILTON FIRE BOARD

REGULAR MEETING

Monday, November 29, 2021

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1. **Call to Order, Pledge of Allegiance, and Roll Call**
2. **Public Comment**
3. **Additions/Deletions to the Agenda**
4. **Approval of Agenda**
5. **Approval of Minutes from the October 25, 2021 Regular Meeting**
6. **Approval of Bills in a total of $5,399.72**
7. **Treasurer's Report**
8. **Officer Reports**
    a. Chief's Report
    b. Secretary's Report
    c. Training Report
    d. Truck Captain's Report
    e. Building Report
9. **DHFD Auxiliary Report**
10. **Personnel**
11. **Unfinished Business**
    a. Ongoing By-Law Revisions
    b. Pumper Truck
    c. Office Printer
12. **New Business**
13. **Public Comment**
14. **Adjournment**

DECATUR-HAMILTON FIRE BOARD

MEETING MINUTES

Monday, October 25, 2021

1. The meeting was called to order at 6:16 PM by Chairman Druskovich. Roll call was taken with Druskovich, Flowers, Gateley, Kusmack K, Kusmack M, and Newton present. Newell was absent.
2. No public comment was given.
3. Newton moved, Flowers seconded, CARRIED, to approve Agenda as amended to include item A) Awards Banquet and B) Department Printer under New Business. All were in favor.
4. Kusmack M moved, Flowers seconded, CARRIED, to approve the September 27, 2021 Regular Meeting Minutes as presented. All were in favor.
5. Kusmack M, Kusmack K seconded, CARRIED, to approve bills as presented in a total of $21,827.44 as presented. All were in favor.
6. Newton gave the Treasurer's Report noting $162,417.57 in the General Fund, $400,205.00 in General Fund CDs, $88,560.25 in the Capital Expense Fund, $1,233.98 in the Donations Fund, and $698.21 in the Restitutions Fund for a total fund balance of $653,115.01 across all funds. Newton noted that FY 22 Budget had just started and noted one exception under Travel/Fire Prevention and that Vehicle Repairs may exceed the budget and require an amendment. Newton further noted that the increased repair costs reflected increased maintenance being performed, so future year budgets may be adjusted upward to reflect this.
    a. Flowers moved, Kusmack M seconded, CARRIED, to approve Treasurer's Report as presented. All were in favor.
7. Officer Reports
    a. Chief's Report
        i. Fire I and II class pricing reduced due to changing classes to Cass County.
        ii. 2 old air packs that are no longer usable in operations are proposed to be donated to the VBISD Skills Center.
        iii. 2 old radios are available to be disposed and Bangor FD is interested in purchasing them at $800.00 per radio.
        iv. Gerhold noted 2 individuals had been banned from the Department.
        v. Kusmack M moved, Flowers seconded, CARRIED, to approve donation of air packs to VBISD Skills Center and sell the 2 radios to Bangor FD at $800.00/each. All were in favor.
    b. Secretary-add 5 calls, 1 in Decatur Township, 2 in Village, 1 in Hamilton Township, and 1 Disregard. 152 calls in total so far on the year.
    c. Training Report-Nothing to add.
    d. Truck Captain's Report-Nothing to add.
    e. Building Report-Nothing to add.
    f. Newton moved, Flowers seconded, CARRIED, to accept Officer Reports as presented. All were in favor.
8. Auxiliary Report
    a. It was report that the Auxiliary is working on sponsors. A checking account was opened. They are also Getting ready for their first fundraiser.
9. Personnel-Nothing to add.

10. Unfinished business
    a. By-Law Update-Nothing to add.
    b. New Pumper Truck-one bid was received from KME for $870,688.00.
        i. Kusmack K moved, Kusmack M seconded, CARRIED, to approve for $300,000.00 in financing from First State Bank to be paid back in bulk payments over 2 years and authorize Chairman Druskovich to sign for financing as may be required. All were in favor.
    c. Keyless Entry
        i. Newton moved, Kusmack K seconded, CARRIED, to approve quote for $2,965.35 to install fully keless entry system for FD Building as presented. All were in favor.
    d. Membership Limit Policy
        i. Kusmack M moved, Flowers seconded, CARRIED, to approve Membership Limit Policy as presented, contingent upon attorney approval. All were in favor.
11. New Business
    a. Awards Banquet
        i. Flowers moved, Kusmack K seconded, CARRIED, to approve for $1,000.00 plus hotel costs for comedian for Awards Banquet. All were in favor.
    b. Department Printer-Ok to get quotes.
12. Public Comment was given.
13. Newton moved, Kusmack M seconded, CARRIED, to adjourn the meeting at 6:56 PM.

HAMILTON & DECATUR FIRE
Check Detail
November 2, 2021 - December 1, 2021

	Type	Date	Num	Name	Memo	Debit	Credit
HAMILTON FIRE							
	Check	11/02/2021	10997	Cass County Firemen's Association	2021-2022 Fire I & II		500.00
	Check	11/02/2021	eft	Consumers	Account # 1000 3954 0628		25.97
	Check	11/02/2021	eft	Village of Decatur			60.20
	Check	11/02/2021	eft	COMCAST	Account # 8529 11 329 0019815		194.48
	Check	11/02/2021	eft	AEP	Account # 041-938-379-0-5		258.95
	Liability Check	11/15/2021	eftps	Internal Revenue Service	38-2561883		204.98
	Deposit	11/16/2021			Interest	7.59	
	Deposit	11/24/2021			Deposit	1,000.00	
	Check	11/24/2021	11002	REEDER ACCOUNTING SERVICES	Inv 26558		300.00
	Check	11/24/2021	11003	DECATUR HAMILTON FIRE DEPARTMENT	reimbursement		721.27
	Check	11/24/2021	11004	Best Way Disposal	Acct# L-203138		80.34
	Check	11/24/2021	11005	Mich State Fireman's Association			75.00
	Check	11/24/2021	11006	Decatur One Stop	INV # 481075		10.44
	Check	11/24/2021	11007	Garage Door Plus	INV #936		1,047.00
	Check	11/24/2021	11008	Dinges Fire Company	INV # 22864;23086;23361		754.83
	Check	11/24/2021	11009	Indusco Supply Company	inv# 1138419		141.26
	Check	11/24/2021	11010	Premier Safety	INV 35003433		266.00
	Check	11/24/2021	11011	Decatur Hardware	acct# 1019		109.00
	Deposit	11/24/2021			Deposit	547.00	
	Check	12/01/2021	11012	DECATUR HAMILTON FIRE DEPARTMENT			500.00
	Check	12/01/2021	11013	Matthew Newton			150.00
Total HAMILTON FIRE						1,554.59	5,399.72
TOTAL						**1,554.59**	**5,399.72**

HAMILTON & DECATUR FIRE
Annual Budget vs Fiscal Year To Date
July 1, 2021 through December 1, 2021

	07/01/2021 - 12/01/2021	Annual Budget	$ Over Budget
Income			
Building Lease	5,000.00	23,000.00	-18,000.00
Tax Rev			
Decatur Twp	788.90	160,000.00	-159,211.10
Hamilton	0.00	110,000.00	-110,000.00
Total Tax Rev	788.90	270,000.00	-269,211.10
Insurance Payout	547.00	0.00	547.00
Int Inc	47.37	1,000.00	-952.63
Misc Inc	-1,000.00	1,500.00	-2,500.00
Total Income	5,383.27	295,500.00	-290,116.73
Expense			
Repairs			
Vehicles	27,781.75	35,000.00	-7,218.25
Bldg	5,027.45	15,000.00	-9,972.55
Equip	522.11	5,000.00	-4,477.89
Kitchen	142.00	0.00	142.00
Other	0.00	1,000.00	-1,000.00
Radio	0.00	1,000.00	-1,000.00
Total Repairs	33,473.31	57,000.00	-23,526.69
Supplies Turnout Gear	30,246.91	80,000.00	-49,753.09
Util	7,251.48	7,500.00	-248.52
Supplies	6,615.40	15,000.00	-8,384.60
Salaries	6,550.00	32,000.00	-25,450.00
66000 · Payroll Expenses	4,994.05	15,000.00	-10,005.95
Trav,Train,Misc	3,776.21	3,500.00	276.21
Contracted Serv	3,000.00	7,500.00	-4,500.00
Supplies Pagers- Radios	2,867.32	7,500.00	-4,632.68
Insur	2,378.00	25,000.00	-22,622.00
Fuel & Oil	2,306.55	3,000.00	-693.45
Travel Fire Prevention	2,147.83	2,000.00	147.83
Supplies Hoses	2,061.32	8,000.00	-5,938.68
Prof Fee	1,962.50	6,000.00	-4,037.50
Capital outlay/Reserve	0.00	30,000.00	-30,000.00
Audit	0.00	6,500.00	-6,500.00
Total Expense	109,630.88	305,500.00	-195,869.12
Net Income	**-104,247.61**	**-10,000.00**	**-94,247.61**

HAMILTON & DECATUR FIRE
Balance Sheet
As of December 1, 2021

	Dec 1, 21
ASSETS	
Current Assets	
Checking/Savings	
Honor CD	200,000.00
HAMILTON FIRE	158,572.44
Savings 14986	88,560.25
Savings - Donation Fund 17883	1,233.98
Savings - Restitutions	698.21
Honor Savings #142386	205.00
Total Checking/Savings	449,269.88
Other Current Assets	
CD 60697	200,000.00
Prepaid insurance	15,142.46
Accts Receivable - Other	570.00
Total Other Current Assets	215,712.46
Total Current Assets	664,982.34
TOTAL ASSETS	**664,982.34**
LIABILITIES & EQUITY	
Liabilities	
Long Term Liabilities	
Deferred Revenue	104,500.00
Total Long Term Liabilities	104,500.00
Current Liabilities	
Other Current Liabilities	
Accts payable	1,464.00
24000 · Payroll Liabilities	46.67
Total Other Current Liabilities	1,510.67
Total Current Liabilities	1,510.67
Total Liabilities	106,010.67
Equity	
3900 · Retained Earnings	398,051.78
3000 · Open Bal Equity	265,167.50
Net Income	-104,247.61
Total Equity	558,971.67
TOTAL LIABILITIES & EQUITY	**664,982.34**

HAMILTON & DECATUR FIRE
Profit & Loss
November 2 through December 1, 2021

		Nov 2 - Dec 1, 21
Income		
Building Lease		1,000.00
Insurance Payout		547.00
Int Inc		7.59
Total Income		1,554.59
Expense		
Trav,Train,Misc		1,168.28
Supplies		1,080.09
Repairs		
Bldg	1,047.00	
Total Repairs		1,047.00
Util		619.94
Contracted Serv		500.00
Supplies Turnout Gear		318.99
Prof Fee		300.00
Salaries		150.00
Fuel & Oil		10.44
Total Expense		5,194.74
Net Income		**-3,640.15**

Secretary Report for November 2021

8 calls for month

Village	1- 2-car PI
	1-False Alarm
Decatur Twp	1-Lines Down
	1-Cat Tails on Fire
	2-PI Accident
Hamilton Twp	1-RV Fire
	1-PI Accident

Reported as of November 20, 2021

Submitted by Secretary,

Amy M. Williams

Non Incident Event

Decatur-Hamilton Fire Dept

Reference# 1072

General Information

Start Date/Time 11/01/2021 18:26:00
End Date/Time 11/01/2021 19:41:00
Length in Hours 1.25
Location Firehall

Event Type Meeting,
Description Business Meeting

Comments

Excused	Unexcused
Zachary Cullen	Toby Jackson
Wyatt Taylor	Scott Turk
Heath Seelye	Janis Gaikis
Austin Mead	Chris Schaap
	Devin Krogel
	Nicholas Gaikis
	Gaige Carlsen

Personnel Attendance

ID#	Last Name, First	Length (Hours)	Attendance Type	Point Value
00000001	Arnold, Bill	1.25		0.00
00000002	Avery, Dale	1.25		0.00
00000004	Conklin, Jack	1.25		0.00
00000005	Dragomir, David	1.25		0.00
00000008	Duncan, Harry	1.25		0.00
00000009	Duncan, Scott	1.25		0.00
00000011	Williams, Amy	1.25		0.00
00000012	Gerhold, Joseph	1.25		0.00
00000013	Jackson, Erin	1.25		0.00
00000015	Pullen Sr., Paul	1.25		0.00
00000016	Shugars, Ron	1.25		0.00
00000017	Secondi, Rich	1.25		0.00
00000022	Jerue, Joseph	1.25		0.00
00000023	Krall, Dustin	1.25		0.00
00000024	Haun, Randall	1.25		0.00
00000025	Bishop, Scotty	1.25		0.00
00000027	Bush, Tom	1.25		0.00
00000029	Bush, Mike	1.25		0.00
00000035	Dunkerley, Kenneth	1.25		0.00
00000037	Gerhold, Jacob	1.25		0.00
00000038	Haun, Chloe	1.25		0.00
00000039	Holmes, Shawn	1.25		0.00
00000040	Shindeldecker, Tyler	1.25		0.00
00000044	Williams, Marissa	1.25		0.00
00000045	Anderson, James	1.25		0.00
00000046	Flowers, Nychole	1.25		0.00
00000047	Williams, Randy	1.25		0.00
00000048	Flowers, Nolyn	1.25		0.00
00000050	Bishop, Zavier	1.25		0.00
00000051	Bishop, Jossalyn	1.25		0.00
00000053	McBride, Shane	1.25		0.00

Total Manpower	38.75
Total Attended	31

Personnel Involved

ID#	Last Name, First	Type

Class, Evolutions, Topics

Training Type or Category	Description	Start	End	Length
				0.00

Non Incident Event

Decatur-Hamilton Fire Dept

Reference# 1073

General Information

Start Date/Time 11/07/2021 08:00:00
End Date/Time 11/07/2021 13:00:00
Length in Hours 5.00
Location Firehall

Event Type Training,
Description Training Burn

Comments

Personnel Attendance

ID#	Last Name, First	Length (Hours)	Attendance Type	Point Value
00000001	Arnold, Bill	4.00		0.00
00000012	Gerhold, Joseph	4.00		0.00
00000016	Shugars, Ron	4.00		0.00
00000022	Jerue, Joseph	4.00		0.00
00000023	Krall, Dustin	4.00		0.00
00000024	Haun, Randall	4.00		0.00
00000027	Bush, Tom	4.00		0.00
00000029	Bush, Mike	4.00		0.00
00000030	Schaap, Chris	4.00		0.00
00000037	Gerhold, Jacob	4.00		0.00
00000038	Haun, Chloe	4.00		0.00
00000039	Holmes, Shawn	4.00		0.00
00000040	Shindeldecker, Tyler	4.00		0.00
00000044	Williams, Marissa	4.00		0.00
00000046	Flowers, Nychole	4.00		0.00
00000048	Flowers, Nolyn	4.00		0.00
00000049	Flowers, Rilyn	4.00		0.00
00000053	McBride, Shane	4.00		0.00
00000054	Harris, Jesse	4.00		0.00
		Total Manpower	76.00	
		Total Attended	19	

Personnel Involved

ID#	Last Name, First	Type

Class, Evolutions, Topics

Training Type or Category	Description	Start	End	Length
				0.00

Non Incident Event

Decatur-Hamilton Fire Dept

Reference# 1074

General Information

Start Date/Time 11/08/2021 18:00:00
End Date/Time 11/08/2021 21:00:00
Length in Hours 3.00
Location Firehall

Event Type Training,
Description Confined Space/airpack/search & rescue

Comments

Personnel Attendance

ID#	Last Name, First	Length (Hours)	Attendance Type	Point Value
00000002	Avery, Dale	3.00		0.00
00000008	Duncan, Harry	3.00		0.00
00000012	Gerhold, Joseph	3.00		0.00
00000013	Jackson, Erin	3.00		0.00
00000024	Haun, Randall	3.00		0.00
00000025	Bishop, Scotty	3.00		0.00
00000029	Bush, Mike	3.00		0.00
00000034	Cullen, Zachary	3.00		0.00
00000035	Dunkerley, Kenneth	3.00		0.00
00000037	Gerhold, Jacob	3.00		0.00
00000038	Haun, Chloe	3.00		0.00
00000039	Holmes, Shawn	3.00		0.00
00000044	Williams, Marissa	3.00		0.00
00000045	Anderson, James	3.00		0.00
00000046	Flowers, Nychole	3.00		0.00
00000047	Williams, Randy	3.00		0.00
00000048	Flowers, Nolyn	3.00		0.00
00000049	Flowers, Rilyn	3.00		0.00
00000050	Bishop, Zavier	3.00		0.00
00000051	Bishop, Jossalyn	3.00		0.00
		Total Manpower	**60.00**	
		Total Attended	**20**	

Personnel Involved

ID#	Last Name, First	Type

Class, Evolutions, Topics

Training Type or Category	Description	Start	End	Length
				0.00

Non Incident Event

Decatur-Hamilton Fire Dept

Reference# 1075

General Information

Start Date/Time 11/14/2021 09:00:00
End Date/Time 11/14/2021 12:00:00
Length in Hours 3.00
Location Firehall

Event Type Miscellaneous,
Description Truck Maintenance

Comments

Personnel Attendance

ID#	Last Name, First	Length (Hours)	Attendance Type	Point Value
00000001	Arnold, Bill	3.00		0.00
00000012	Gerhold, Joseph	3.00		0.00
00000023	Krall, Dustin	3.00		0.00
00000024	Haun, Randall	3.00		0.00
00000029	Bush, Mike	3.00		0.00
00000035	Dunkerley, Kenneth	3.00		0.00
00000037	Gerhold, Jacob	3.00		0.00
00000038	Haun, Chloe	3.00		0.00
		Total Manpower	**24.00**	
		Total Attended	**8**	

Personnel Involved

ID#	Last Name, First	Type

Class, Evolutions, Topics

Training Type or Category	Description	Start	End	Length
				0.00

Non Incident Event

Decatur-Hamilton Fire Dept

Reference# 1076

General Information

Start Date/Time 11/15/2021 18:30:00
End Date/Time 11/15/2021 21:30:00
Length in Hours 3.00
Location

Event Type Miscellaneous,
Description

Comments

Building Maintenance

Personnel Attendance

ID#	Last Name, First	Length (Hours)	Attendance Type	Point Value
00000012	Gerhold, Joseph	3.00		0.00
00000024	Haun, Randall	3.00		0.00
00000037	Gerhold, Jacob	3.00		0.00
00000038	Haun, Chloe	3.00		0.00
00000052	Carlsen, Gaige	3.00		0.00
00000053	McBride, Shane	3.00		0.00
		Total Manpower	**18.00**	
		Total Attended	**6**	

Personnel Involved

ID#	Last Name, First	Type

Class, Evolutions, Topics

Training Type or Category	Description	Start	End	Length
				0.00

DECATUR-HAMILTON FIRE DEPARTMENT
AGENDA
For
November 1st, 2021

1. **Meeting Called to Order**
2. **Roll Call**
3. **Approval of Minutes**
4. **Approval of Treasure Report**
5. **Motion to Pay Bills**
6. **Additions/Deletions to Agenda**
7. **Old Business**
   - A. Jamboree
8. **New Business**
   - A. Washing Trucks
   - B. Christmas Cards
   - C. Christmas Party
9. **Training**
10. **Committee Reports**
    - A. Kitchen
    - B. Sick
    - C. Fire Prevention/Jamboree
    - D. Awards
    - E. Investigating
    - F. SOG/ByLaws
    - G. Uniform
    - H. Truck
    - I. Auxiliary
11. **Comments from Membership**
12. **Motion for Adjournment**

Upcoming Events

11/1 Business Meeting @1830hrs
11/2 Auxiliary Meeting @1930hrs
11/7 Training 0800hrs
11/8 Training 1830hrs
11/11 Happy Veterans Day
11/13 Auxiliary Chili Cook-Off 1600-1900hrs
11/14 Truck Maintenance 0900hrs
11/15 Building Maintenance 1900hrs
11/25 Happy Thanksgiving
11/29 Fireboard Meeting 1800hrs

Note-These events are subject to change so please check the board in the meeting room.

Register Report - Oct 2021

10/1/2021 through 10/31/2021

Date	Account	Description	Memo	Amount
BALANCE 9/30/2021				3,336.92
10/4/2021	Checking	Target	pumpkin carving tools	-21.20
10/4/2021	Checking	Party City	prizes for jamboree games	-7.42
10/4/2021	Checking	Walmart	prizes,candy, bike helmets, tarp, buckets for jambo...	-234.39
10/7/2021	Checking	Village Market	everyday card and gas card for Gaikis Family	-109.12
10/8/2021	Checking	Sweetwater's Donut Mill	breakfast before Jamboree	-25.98
10/9/2021	Checking	*Van Buren County Training Council	payment for textbooks	-1,000.00
10/12/2021	Checking	Kortokrax Pumpkin	pumpkins for jamboree	-120.00
10/15/2021	Checking	*Eagle Engraving	part to an award	-233.95
10/18/2021	Checking	Fire Board	October	500.00
10/19/2021	Checking	Village Market	gc for Janis	-105.95
10/26/2021	Checking	*Derek Richards	deposit on comedian christmas party	-200.00
10/28/2021	Checking	Walmart	halloween candy for trick or treating	-174.72
10/29/2021	Checking	*Amazon	books for Austin	-141.40
10/29/2021	Checking	*Amazon	award	-45.58
10/31/2021	Checking	Scotty Bishop	firemans axe for mailbox	-31.79
10/31/2021	Checking	Decatur Hardware	suspenders for sparky	-13.77
10/31/2021	Checking	From Fire Prevention Acct	suspenders for sparky	13.77
10/31/2021	Checking	Village Market	account at store	-200.00
10/31/2021	Checking	Interest Earned		0.11
10/1/2021 - 10/31/2021				-2,151.39
BALANCE 10/31/2021				1,185.53

* CASH ON HAND NO CHANGE $263.08

Register Report - Oct 2021

10/1/2021 through 10/31/2021

Date	Account	Description	Memo	Amount
BALANCE 9/30/2021				6,089.37
10/18/2021	Checking	Fire Prevention	Fire Jamboree	donations from Jamboree	100.00
10/18/2021	Checking	Fire Prevention	Look Sharp Image	jamboree shirts	-885.50
10/31/2021	Checking	Fire Prevention	To Checking Account	suspenders for sparky	-13.77
10/1/2021 - 10/31/2021					-799.27
BALANCE 10/31/2021					5,290.10

Register Report - Oct 2021

10/1/2021 through 10/31/2021

Date	Account	Description	Memo	Category	Amount
BALANCE 9/30/2021					1,600.00
10/2/2021	Auxiliary	Walmart	thank you/sympathy/thinking of you cards/storage bin		-37.61
10/18/2021	Auxiliary	Special Lite	to get up and started	Donation	300.00
10/18/2021	Auxiliary	Terri Vales	to get up and started	Donation	100.00
10/20/2021	Auxiliary	Etsy	part to award for chili cook off		-45.03
10/28/2021	Auxiliary	Walmart	stuff for chili cook off		-147.21
10/1/2021 - 10/31/2021					170.15
BALANCE 10/31/2021					1,770.15

Inventory
Action # 1020

Service Information

Date Done 11/14/2021 **Out of Service** 0.0 Hrs.

Additional
Vendor
Personnel
Status
Outside Work # Building Maintenance

Notes

BUILDING A
Engine Room Floors- Need to have cracks filled/sealed and lines painted.

BUILDING B
Day use room-Wall behind couch needs repair with protective cover added, couch hits wall if it slides back.
Storage Rooms-Mechanical room still remains cluttered and needs attention
Service Doors-door between engine room and meeting room needs door handle repaired.
Overhead Doors-There was an incident with VBEMS ambulance hitting the overhead door causing a catastrophic failure of the door and opener. Emergency service call was started and dxoor is back up and usable without opener, parts are being sourced forb replacement.

GROUNDS/MAINTENANCE/LANDSCAPING
Driveway- cracks need to be sealed and repaired, trip and fall hazard, asphalt edge on west side of property need some top soil to brfing yard up to level of driveway, trip fall hazard, driveway markings need to be redone, consider re-planning parking to angle parking.
Monument-Monument rock has been moved for better visibility and ongoing improvements.

Service Parts

Part Number	Description	Part Cost	Quantity	Part Total	Labor Length	Labor Rate	Labor Cost	Shipping Cost
		0.00	0	0.00	0.00	0.00	0.00	0.00

Service Total

Shipping Cost	**0.00**	**Labor Length**	**0.00**
Part Total	**0.00**	**Labor Total**	**0.00**
Total Cost	**0.00**		

Inventory
Action # 1021

Service Information

Date Done 11/15/2021 **Out of Service** 0.0 Hrs.
Additional
Vendor
Personnel 00000029 Mike Bush
Status
Outside Work # 1420

Notes

Mileage: 4000.6 Engine Hours: 344.5
Pump: 72.35 Fuel Level: Full
Calls: 8

Comments: Nothing at this time.

Service Parts

Part Number	Description	Part Cost	Quantity	Part Total	Labor Length	Labor Rate	Labor Cost	Shipping Cost
		0.00	0	0.00	0.00	0.00	0.00	0.00

Service Total

Shipping Cost	**0.00**	**Labor Length**	**0.00**
Part Total	**0.00**	**Labor Total**	**0.00**
Total Cost	**0.00**		

Inventory
Action # 1022

Service Information

Date Done 11/14/2021 **Out of Service** 0.0 Hrs.

Additional
Vendor
Personnel
Status
Outside Work # 1421

Notes

Mileage: 30991.5 Engine Hours: 2487.3
Pump Hours: 660.7 Fuel Level: 3/4

Runs: 1

Comments: oil on pump panel- residue, cleaned, gauges changed. Rotator bulb (center)

Service Parts

Part Number	Description	Part Cost	Quantity	Part Total	Labor Length	Labor Rate	Labor Cost	Shipping Cost
		0.00	0	0.00	0.00	0.00	0.00	0.00

Service Total

Shipping Cost	**0.00**	**Labor Length**	**0.00**
Part Total	**0.00**	**Labor Total**	**0.00**
Total Cost	**0.00**		

Inventory
Action # 1023

Service Information

Date Done 11/15/2021 **Out of Service** 0.0 Hrs.

Additional
Vendor
Personnel
Status
Outside Work # 1422

Notes

Mileage: 13694.2 Engine Hours: 1157.1
Pump Hours: 208.5 Fuel Level: Full

Runs: 0

Comments: Nothing at this time

Service Parts

Part Number	Description	Part Cost	Quantity	Part Total	Labor Length	Labor Rate	Labor Cost	Shipping Cost
		0.00	0	0.00	0.00	0.00	0.00	0.00

Service Total

Shipping Cost	**0.00**	**Labor Length**	**0.00**
Part Total	**0.00**	**Labor Total**	**0.00**
Total Cost	**0.00**		

Inventory
Action # 1024

Service Information

Date Done 11/13/2021 **Out of Service** 0.0 Hrs.

Additional Vendor Personnel Status

Outside Work # 1430

Notes

Mileage: 11376.9 Engine Hours: 1057.5
Pump Hours: N/A Fuel Level: 5/8

Runs: 1

Comments: Radiator fluid level is a litle low

Service Parts

Part Number	Description	Part Cost	Quantity	Part Total	Labor Length	Labor Rate	Labor Cost	Shipping Cost
		0.00	0	0.00	0.00	0.00	0.00	0.00

Service Total

Shipping Cost	**0.00**	**Labor Length**	**0.00**
Part Total	**0.00**	**Labor Total**	**0.00**
Total Cost	**0.00**		

Inventory
Action # 1026

Service Information

Date Done 11/14/2021 **Out of Service** 0.0 Hrs.

Additional
Vendor
Personnel
Status
Outside Work # 1465

Notes

Mileage: 2308.0 Engine Hours: 253
Pump Hours: N/A Fuel Level: Full

Runs: 0

Comments: Need flares

Service Parts

Part Number	Description	Part Cost	Quantity	Part Total	Labor Length	Labor Rate	Labor Cost	Shipping Cost
		0.00	0	0.00	0.00	0.00	0.00	0.00

Service Total

Shipping Cost	**0.00**	**Labor Length**	**0.00**
Part Total	**0.00**	**Labor Total**	**0.00**
Total Cost	**0.00**		

Inventory
Action # 1027

Service Information

Date Done 11/14/2021 **Out of Service** 0.0 Hrs.

Additional Vendor Personnel Status

Outside Work # 1471

Notes

Mileage: 2739.4 Engine Hours: 1125.7
Pump Hours: N/A Fuel Level: Full

Runs: 3

Comments: Nothing reported

Service Parts

Part Number	Description	Part Cost	Quantity	Part Total	Labor Length	Labor Rate	Labor Cost	Shipping Cost
		0.00	0	0.00	0.00	0.00	0.00	0.00

Service Total

Shipping Cost	**0.00**	**Labor Length**	**0.00**
Part Total	**0.00**	**Labor Total**	**0.00**
Total Cost	**0.00**		

Inventory 10
Action # 1028

Service Information

Date Done 11/14/2021 **Out of Service** 0.0 Hrs.
Additional
Vendor
Personnel 00000024 Randall Haun
Status
Outside Work # 1472

Notes

Mileage: 518.5 Engine Hours: 74.3
Pump Hours: N/A Fuel Level: 3/4

Runs: 0

Comments: Nothing reported

Service Parts

Part Number	Description	Part Cost	Quantity	Part Total	Labor Length	Labor Rate	Labor Cost	Shipping Cost
		0.00	0	0.00	0.00	0.00	0.00	0.00

Service Total

Shipping Cost	**0.00**	**Labor Length**	**0.00**
Part Total	**0.00**	**Labor Total**	**0.00**
Total Cost	**0.00**		

DECATUR-HAMILTON FIRE DEPARTMENT AUXILIARY
AGENDA
For
November 2nd, 2021

1. Meeting Called to Order
2. Roll Call
3. Approval of Minutes
4. Approval of Treasure Report
5. Motion to Pay Bills
6. Additions/Deletions
7. Old Business
   - A. Chili Cook-Off
8. New Business
   - A. Signs
   - B. Locker
   - C. Tshirts
   - D. Honor Christmas Party
   - E. Christmas Party/Awards Banquet
9. Comments from Membership
10. Motion for Adjournment

Upcoming Events

11/2 Auxiliary Meeting @ 7:30pm
11/13 Chili Cook-Off 4-7pm

12/7 Auxiliary Meeting @ 7:30pm
12/17 Honor Christmas Party @ FD6-8pm
12/18 Christmas Party/Awards Banquet 4pm

Note-These events are subject to change so please check your email and/or fb messages.

Register Report - Oct 2021

10/1/2021 through 10/31/2021

Date	Account	Description	Memo	Category	Amount
BALANCE 9/30/2021					**1,600.00**
10/2/2021	Auxiliary	Walmart	thank you/sympathy/thinking of you cards/storage bin		-37.61
10/18/2021	Auxiliary	Special Lite	to get up and started	Donation	300.00
10/18/2021	Auxiliary	Terri Vales	to get up and started	Donation	100.00
10/20/2021	Auxiliary	Etsy	part to award for chili cook off		-45.03
10/28/2021	Auxiliary	Walmart	stuff for chili cook off		-147.21
10/1/2021 - 10/31/2021					**170.15**
BALANCE 10/31/2021					**1,770.15**

D.L. Gallivan Office Solutions

November 9th, 2021

Proposal For: Decatur-Hamilton Fire Department

New B/W Machine

ITEM	*NON PROFIT Purchase Price*	*OR*	*63 Month Lease*
Kyocera Ecosys M3645IDN	**$1,995.00**		**$36.00/Month**

47 PPM B/W Multi Function Printer
Copy/Print/Scan/Fax
600 Sheet Paper Tray

Description: Vibrant Black and White imaging, advanced technology integration and outstanding ergonomics set the Kyocera Ecosys M3645IDN apart/ Ready to tackle the most demanding print, scan, and copy jobs, this expertly-engineered MFP boasts impressive throughput speeds, flexible document handling and scalable configurations. Built on an award-winning platform, the powerful Ecosys M3645IDN enables workgroups to maximize efficiency, minimize costly outsourcing, and improve company-wide productivity and profitability.

****Full Service Maintenance Agreement: $.012 BLACK**

Cost per copy covers all parts, labor, and supplies including toner and drums and rollers ECT... Paper and Staples are not includes in this agreement. There is NO MINIMUM monthly or quarterly billing.

KYOCERA

ECOSYS

› PRINT › COPY › SCAN › FAX

ECOSYS M3645idn

BLACK & WHITE MULTIFUNCTIONAL PRINTER

ECONOMICAL. ECOLOGICAL. ECOSYS TECHNOLOGY.

The **ECOSYS M3645idn** is an impressive black and white A4 (up to 8.5" x 14") MFP that combines strong performance, at speeds up to 47 ppm, with advanced features - all in a compact footprint. Its standard print, copy, color scan and fax functionality has been engineered to drive your business needs through high-end features, including an intuitive 7" color touch screen interface (TSI), exceptional print quality, and high paper capacity up to 2,600 sheets. Add in the capability to run HyPAS Business Applications solutions designed to fit your unique workflows and on-the-go secure mobile print/scan capabilities, and you have a powerful, low total cost of ownership solution that will propel your business to the next level.

- Crisp B&W Business Output up to 47 Pages per Minute
- Customizable 7" Color Touch Screen Interface (TSI)
- HyPAS Capable to Run KYOCERA Business Applications
- Standard 600 Sheets Capacity; Upgradable to 2,600 Sheets
- KYOCERA Mobile Print™, Apple AirPrint®, Google Cloud Print™ and Mopria® Print Services Compatible
- KFS Ready - KYOCERA Fleet Services, a Secure Cloud-Based Monitoring System, Optimizes Device Uptime and Reduces Cost
- KNM Ready - KYOCERA Net Manager, an Administrative Interface to Manage User Print Policies (How and Where Users Print) and Print Devices

KYOCERA

Document Solutions

ECOSYS M3645idn

ECOSYS TECHNOLOGY

Kyocera ECOSYS MFPs provide advanced office solutions that enable businesses to achieve fast return-on-investment, with minimal impact on the environment. Specifically, ECOSYS M3645idn utilizes imaging technology that is comprised of our patented long-life drum and separate toner cartridges. This eliminates drum replacement when toner is depleted, reducing both cost-per-print and landfill waste. As such, Kyocera's best-in-class ECOSYS MFPs support our customers' sustainability initiatives–while driving down operating costs.

HARNESS THE POWER OF YOUR ECOSYS MFPS WITH CUSTOMIZED BUSINESS APPLICATIONS

KYOCERA MOBILE PRINT: Simply and conveniently print files, web pages, and images using your smartphone or tablet.

PINPOINT SCAN 3: Scan from your MFP to your PC with added speed, functions and versatility.

SHAREPOINT CONNECTOR: Enhance collaboration utilizing your Kyocera MFPs and your existing Microsoft SharePoint Server.

TEACHING ASSISTANT: Streamline printing, grading, and analyzing multiple-choice bubble tests and reduce paper output by saving student reports to USB drives or email.

BASIC SPECIFICATIONS

Configuration:
Multifunctional Printer - Print / Copy / Color Scan / Faxx

Pages per Minute: Letter: 47 ppm; Legal: 38 ppm; A4: 45 ppm

Duplex Print Speed: Letter: 23 ppm; Legal: 19 ppm

Display: 7" Color Touch Screen Control Panel (TSI)

Warm Up Time: 21 Seconds or Less (Power On)

First Page Out Time:
Copy: 7 Seconds or Less
Print: 5.9 Seconds or Less

Resolution:
600 x 600 dpi, 300 x 300 dpi; Fine 1200 (1200 x 1200 dpi) and Fast 1200 (1800 x 600 dpi) Interpolated Resolution

Memory: Std/Max: 1 GB / 3 GB

Dimensions / Weight: 18.7" W x 18.7" D x 22.6" H / 49.6 lb

Maximum Monthly Duty Cycle: 150,000 Pages per Month

POWER CONSUMPTION

Electrical Requirements: 120V, 60Hz, 10A; 220-240V, 50Hz, 5.6A

Typical Electricity Consumption (TEC):
120V: 2,370 Wh/week; 220-240V 2,370 Wh/week

Maximum (Including Options): 120V: 1,218 W; 220-240V: 1,285 W

Copy / Printing: 120V: 735/676 W; 220-240V: 652/630 W

Ready Mode: 120V: 51 W; 220-240V: 50 W

Sleep Mode: 120V: 0.5 W; 220-240V: 0.5 W

Power Off: 120V: 0.5 W; 220-240V: 0.8 W

PRINTER SPECIFICATIONS

Standard Controller: ARM Cortex-A9 1,200MHz

PDLs / Emulations: PRESCRIBE, PCL6 (PCL-XL/PCL-5c), KPDL3 (AES, PDF Direct Print Support), XPS, OpenXPS (TIFF/JPEG Direct Print Support), IBM Proprinter, Line Print

Fonts: Outline: 93 Fonts (PCL 6/KPDL3), 8 Fonts (Windows/Vista); Bitmap: 1 Font, 79 Outline Fonts

Barcodes: 1 Dimensional: 45 Type; 2 Dimensional: PDF417 1 Type

Windows: Windows 7/8/8.1/10/Server 2008/Server 2008 R2/Server 2012/Server 2012 R2/Server 2016

Mac OS: Requires Mac OS X v10.5 or Later

Interfaces: 10/100/1000BaseTX, 1 High-Speed USB 2.0, 1 High-Speed USB 2.0 Host, 1 Expansion Slot; Optional: Wireless **IB-36** LAN (Approx. 98 ft Range & Wi-Fi Direct), **IB-51** (Approx. 328 ft Range); **IB-50** Dual LAN NIC

Mobile Printing: KYOCERA Mobile Print, KYOCERA Mobile Print for Students, KYOCERA My Panel, Apple AirPrint® & Wi-Fi Direct[1], Google Cloud Print™, Mopria®

Network Print and Supported Protocols: TCP/IP, IPv4, IPv6, NetBEUI, FTP, LPR, Port9100, Apple Bonjour, IPP, WSD Scan/Print, DHCP, DNS, PNP USB, LDAP, SMTP, PDF Direct Print, PnP-X (WS-Discovery for WSD Print Service)

Drivers: KX Driver, KX(XPS) Driver, PCL Mini Driver, KPDL Mini Driver, Network FAX Driver, TWAIN Driver, WIA Driver, MAC Driver, Linux Driver

Utilities: KYOCERA Net Direct Print, File Management Utility, KYOCERA Print Center, KYOCERA Net Admin, KYOCERA Net Viewer, ID Register, Quick Setup, Maintenance Menu, Removal Tool, Wi-Fi Setup Tool, Remote Panel, Command Center RX; KYOCERA Fleet Services (KFS) Ready

Additional Print Features: HyPAS capable[3], EcoPrint, Private Print, Proof and Hold, Quick Copy and Job Storage[3], N-Up Printing, Print Priority Setting, Job End Notification, Job Name Setting

SECURITY SPECIFICATIONS

Standard: Local & Network Authentication, IPsec, HTTPS, SNMPv3, IPP over SSL/TLS, HTTP over SSL/TLS, FTP over SSL/TLS, SMTP over SSL/TLS, POP3 over SSL/TLS, LDAP over SSL, Enhanced WSD over SSL/TLS; Optional: Data Security Kit (E)

SCAN SPECIFICATIONS

Scan Type: Color and Black & White Scanner

Scan Resolution:
600 dpi x 600 dpi, 400 dpi x 400 dpi, 300 dpi x 300 dpi, 200 dpi x 400 dpi, 200 dpi x 200 dpi, 200 dpi x 100 dpi

Scanning Functions: USB, TWAIN, WIA, WSD, PC Send (SMB/FTP), E-mail, Continuous Scan, Mixed Originals

File Formats: TIFF/PDF (MMR/JPEG), XPS, OpenXPS, PDF/A, High Compression PDF; Optional: Searchable PDF and OOXML / OOXML(OCR)[2], Skip Blank Page

Scan Speeds:
Simplex BW/Color: @300 dpi - 62ipm/42ipm; @600 dpi - 42ipm/21ipm

Duplex (RADF) BW/Color: @300 dpi: 27ipm/18ipm: @600 dpi - 18ipm/9ipm

COPY SPECIFICATIONS

Image Mode:
Text, Photo, Text & Photo, Map, Light Text/Fine Line Mode

Continuous Copy: 1-999 / Auto Reset to 1

Job Management: Address Book 200 Records, Job Accounting, 100 Department Codes, 20 Program Keys, 2 Shortcut Keys

Magnification / Zoom: Auto Zoom, Full Size, 7 Reduction, 5 Enlargement Preset Ratios, 25 - 400% in 1% Step Increments

Additional Features: Auto Color Select (ACS), Auto Zoom, Auto Duplex, Continuous Scan, Skip Blank Page

DOCUMENT PROCESSOR

Type / Capacity:
Reverse Automatic Document Processor (RADF) / 75 Sheets

Acceptable Originals:
Statement to Legal (5.5" x 8.5" – 8.5" x 14")

Acceptable Weights:
Simplex / Duplex : 13 - 32lb Bond (50 – 120gsm)

FAX SPECIFICATIONS

Compatibility / Data Compression:
ITU-T G3 Fax / MMR, MR, MH, JBIG

Transmission Speed / Modem Speed: 33.6kbps

Fax Memory: 6 MB

Fax Functions: Simplex & Duplex Original, Continuous Scan, Banner, Scheduled Reception, Density Adjustment, Direct Send, Polling, Job End Notification, Job Name Setting, Mixed Originals (Same Width)

PAPER SUPPLY

Standard Paper Sources:
Single 500 Sheet Drawer, 100 Sheet Multipurpose Tray

Standard / Maximum Paper Sources:
2 / 6 including Multipurpose Tray

Standard / Maximum Paper Capacity: 600 Sheets / 2,600 Sheets

Paper Size:
Standard and MPT: Statement to Legal (5.5" x 8.5" – 8.5" x 14"), Custom; MPT: Envelope, Banner

Paper Weight:
Standard / Optional Drawers: 16 lb Bond – 32 lb Bond (60 – 120gsm); MTP: 16 lb Bond – 120 lb Index (60 – 220gsm)

Standard Output Tray Capacity: 250 Sheets (Face Down)

Input Materials: Standard / Optional Drawer: Plain Paper, Bond Paper, Recycled Paper; MPT: Plain Paper, Bond Paper, Labels, Recycled, Letterhead, Envelopes, OHP, Thin/Thick Paper, Coated, Banner

PAPER HANDLING OPTIONS

PF-3110: Paper Feed Cassette (500 sheets x 4)

Paper Size: Statement to Legal (5.5" x 8.5" – 8.5" x 14"), Envelope, Custom

Dimensions / Weight: 14.9" W x 16.1"D x 4.8" H / 8.4 lbs

ADDITIONAL OPTIONS

Print Management: ThinPrint **(UG-33)**

Security: Card Authentication Kit(B); Data Security Kit (E)

SD Card: 16 /32 GB

HDD: HD-6: 32 GB SSD / **HD-7:** 128 GB SSD

Wireless LAN: IB-36, IB-51 (IEEE 802.11b/g/n)

Additional NIC: IB-50 Gigabit NIC

Optional Memory: 2 GB DIMM Memory (DDR3)

Other: Scan Extension Kit (A), USB Keyboard (Customer Supplied)

[1] Requires Optional **IB-36**
[2] Requires Optional **Scan Extension Kit (A)**
[3] Requires Optional SD Card, **HD-6** or **HD-7**

Specifications and design are subject to change without notice.
For the latest on connectivity visit usa.kyoceradocumentsolutions.com.
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KYOCERA Document Solutions America, Inc.
Headquarters: 225 Sand Road, Fairfield, NJ 07004-0008, USA

IC# 855D400665
v061218

KYOCERA
Document Solutions

D.L. Gallivan Office Solutions

November 9th, 2021

Proposal For: Decatur-Hamilton Fire Department

New Color Machine

ITEM	*Non Profit Purchase Price*	*OR*	*63 Month Rental*
Kyocera TASKalfa 308CI (Up to 8.5 x 14" Legal Size)	**$2,659.00**		**$45.20**

32 PPM Color Multi Function Printer
Copy/Print/Scan/Fax
600 Sheet Paper Tray
1200 x 1200 DPI Print Resolution

Optional ITEM	*Non Profit Purchase Price*	*OR*	*63 Month Rental*
2nd Paper Tray and Copier Stand	**$395.00**		**5.50**

Description: Vibrant Color and Black and White imaging, advanced technology integration and outstanding ergonomics set the Kyocera TASKalfa 308CI apart. Ready to tackle the most demanding print, scan, and copy jobs, this expertly-engineered MFP boasts impressive throughput speeds, flexible document handling and scalable configurations. Built on an award-winning platform, the powerful TASKalfa 308CI enables workgroups to maximize efficiency, minimize costly outsourcing, and improve company-wide productivity and profitability.

****Full Service Maintenance Agreement:**

$.01 BLACK
$.035 Color Tier 1(Color Documents under 6% Color Page Coverage)
$..065 Color Tier 2 (Color Documents 6% Color Page Coverage and above)

Cost per copy covers all parts, labor, and supplies including toner and drums and rollers ECT... Paper and Staples are not includes in this agreement. There is NO MINIMUM monthly or quarterly billing.

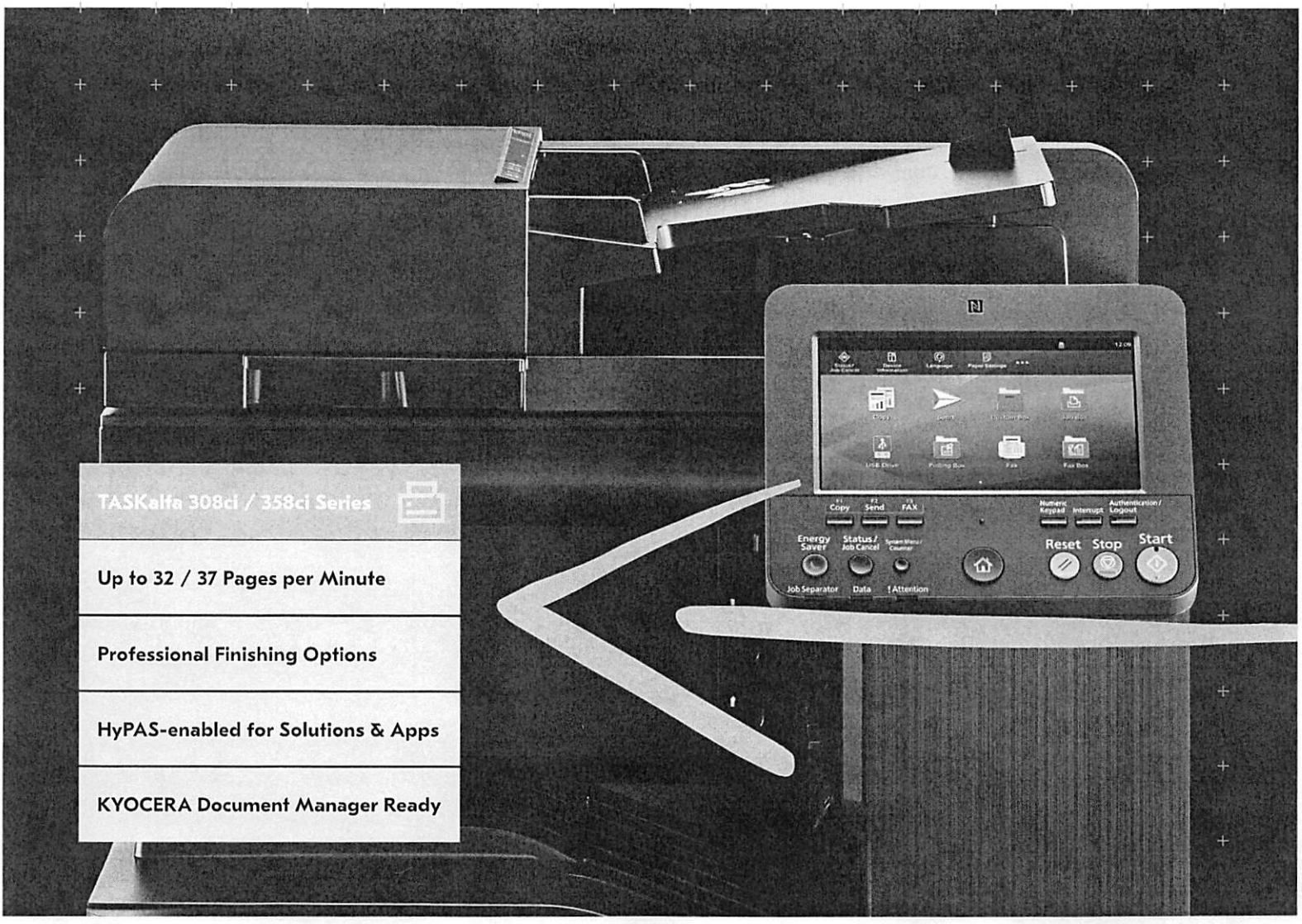
KYOCERA

KYOCERA

usa.kyoceradocumentsolutions.com

For that moving target called growth.

Keep building your business with the compact, yet versatile TASKalfa 308ci and TASKalfa 358ci. Ideal for small to mid-size businesses, these multifunction printers grow with you as your needs evolve. You'll appreciate the intuitive 7" Color Touch Screen with tablet-like functionality that makes it easy to find features and interact with business apps. No matter what your needs are and how they change, these intelligent systems will be there for you today and tomorrow.



The TASKalfa 308ci / 358ci Series Options

DP-5130
Document Processor (DSDP)

DP-5120
Document Processor (DSDP)

DP-5100
Document Processor (RADF)

DF-5100
300 Sheet Internal Finisher

DT-5100
Document Tray

NK-7100(B) / K-7110(B)
Numeric Keypad

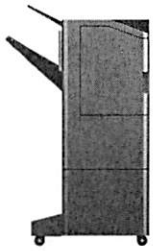
MT-5100[1]
5 Bin Mailbox

JS-5100
Job Separator

AK-5100
Attachment Kit

RFID IC
Card Reader Holder

DF-5110[1]
1,000 Sheet Finisher



DF-5120[1]
3,200 Sheet Finisher

TASKalfa 358ci

TASKalfa 308ci

PF-5140[2]
2,000 Sheet Tray

PF-5130[2]
2 x 500 Sheet Tray

PF-5120
500 Sheet MPT

Stapler Option
SH-10 for DF-5100 / DF-5110 / DF-5120

Hole Punch Option
PH-5100 / **PH-5110** for DF-5110

Only available for the TASKalfa 358ci model
Available for both the TASKalfa 308ci and 358ci models
[1] Requires **AK-5100**
[2] Requires **PF-5120**

General Specifications

TASKalfa 358ci

Pages Per Minute:
Color and Black – Letter: 37 ppm, Legal: 30 ppm, A4: 35 ppm

Warm Up Time: 24 Seconds or Less (Power On)

First Page Out:
Copy: 5.9 Seconds or Less Black, 7.3 Seconds or Less Color;
Print: 5.5 Seconds or Less Black, 6.5 Seconds or Less Color

Typical Electricity Consumption (TEC):
120V: 1.86 kWh / week;
220V: 1.66 kWh / week

Weight: 104.5 lbs (excludes Optional Document Processor)

Maximum Monthly Duty Cycle: 100,000 Pages per Month

Basic Specifications

Display: New 7" 800 x 480 dot Color Touch Screen Control Panel

Resolution: 600 x 600 dpi; 1200 x 1200 dpi
(At reduced speed)

Memory: 4GB Standard

Hard Disk Drive: 320GB HDD Standard

Standard Output Tray: Statement - Legal / 500 sheets; up to 8.5" x 48" Banner / Single Sheet

Electrical Requirements: 120V, 60Hz, 8.9A; 220-240V, 50Hz, 5.4A

Dimensions: 21.65" W x 19.96" D x 29.13" H

Print Specifications

Standard Controller: Freescale QorIQ T1024 / 1.0GHz

PDLs / Emulations: PRESCRIBE, PCL6 (PCL-XL / PCL5c), KPDL3 (PS3), XPS, OPEN XPS;

Optional (UG-34): IBM ProPrinter, Line Printer, LQ-850

Print Resolution: Up to 1200 x 1200 dpi (At reduced speed)

Interfaces: Standard: 10/100/1000BaseTX, Hi-Speed USB 2.0, 3 USB Host Interfaces, 2 Expansion Slots

Scan Specifications

Scan Speeds (mono/color) @ 300 dpi:

DP-5100: Simplex: 60, 62 ipm BW / 60, 62 ipm Color;
Duplex: 26, 27 ipm BW / 26, 27 ipm Color
DP-5120: Simplex: 60, 62 ipm BW / 60, 62 ipm Color;
Duplex: 120, 124 ipm BW / 120, 124 ipm Color
DP-5130: Simplex: 85, 87 ipm BW / 65, 67 ipm Color;
Duplex: 170, 174 ipm BW / 130, 134 ipm Color

Copy Specifications

Job Management: 1,000 Department Codes

Optional Document Processors

Type / Capacity:
DP-5100[2]: Reversing Automatic Document Processor / 75 Sheets
DP-5120[2]: Dual Scan Document Processor / 100 Sheets
DP-5130[2]: Dual Scan Document Processor / 270 Sheets

Acceptable Originals: 5.5" x 8.5" – 8.5" x 74.8" (1900mm)

Acceptable Weights:
DP-5100:
Simplex: 13 – 32 lb Bond (50 – 120gsm);
Duplex: 13 – 32 lb Bond (50 – 120gsm)
DP-5120:
Simplex: 13 – 32 lb Bond (50 – 120gsm);
Duplex: 13 – 32 lb Bond (50 – 120gsm)
DP-5130:
Simplex: 13 – 32 lb Bond (50 – 120gsm);
Duplex: 13 – 32 lb Bond (50 – 120gsm

Optional Fax Processors

Fax Type: Fax System 10(X)
Fax Memory: Standard 170 MB (No scalability: Maximum 170 MB)

Optional 1,000 Sheet Finisher DF-5110[3,4]

Stack / Staple Capacity:

Main Tray: 1,000 Sheets (up to 80gsm) / 50 Sheets
(up to 24 lb Bond [90gsm])

Paper Size: 5.5" x 8.5" – 8.5" x 14"

Paper Weight: 16 lb Bond – 120 lb Index (60 – 220gsm)

Edge Staple Position: 3 Positions: Top Left, Bottom Left, Center Bind

Optional Punch: PH-5100 2 and 3 Hole Punch Unit,
Supports 5.5" x 8.5" – 8.5" x 14"; 16 lb Bond – 120 lb Index
(60 – 220gsm)

Dimensions: 23.27" W x 20.35" D x 39.58" H

Optional 3,200 Sheet Finisher DF-5120[3,4]

Stack / Staple Capacity: Main Tray (A): 3,000 Sheets; Sub Tray (B): 200 Sheets / 50 Sheets

Paper Size: 5.5" x 8.5" – 8.5" x 14"

Paper Weight: 16 lb Bond – 120 lb Index (60 – 220gsm)

Edge Staple Position: 3 Positions: Top Left, Bottom Left, Center Bind

Standard Punch: PH-5100 2 and 3 Hole Punch Unit,
Supports 5.5" x 8.5" – 8.5" x 14"; 16 lb Bond – 120 lb Index
(60 – 220gsm)

Dimensions: 25.59" W x 20.94" D x 42.35" H

Additional Options

Bridge Unit Attachment Kit (AK-5100), Job Separator3 (JS-5100), Internet Fax Kit (A), Card Authentication Kit (B), ThinPrint (UG-33), Emulation (UG-34), Document Tray (DT-5100), Scan Extension Kit (A) for Searchable PDF/OCR, Key Counter, Key Counter Attachment Kit, Card Reader Holder (11), 5 Bin Mailbox (MT-5100), Wireless Card IB-50, Wireless Card IB-51

TASKalfa 308ci

Pages Per Minute:
Color and Black – Letter: 32 ppm, Legal: 26 ppm, A4: 30 ppm

Warm Up Time: 20 Seconds or Less (Power On)

First Page Out:
Copy: 6.4 Seconds or Less Black, 7.8 Seconds or Less Color;
Print: 7.0 Seconds or Less Black, 8.0 Seconds or Less Color

Typical Electricity Consumption (TEC):
120V: 1.55 kWh/week;
220V: 1.43 kWh/week

Weight: 109.3 lbs (includes Standard RADF)

Maximum Monthly Duty Cycle: 100,000 Pages per Month

Basic Specifications

Display: 7" Color Touch Screen Control Panel

Resolution: 600 x 600 dpi; 1200 x 1200 dpi
(At reduced speed)

Memory: 1.5GB Standard (3GB Maximum)

Hard Disk Drive: Optional 32GB (HD-6) or 128GB (HD-7) SSD

Standard Output Tray: Statement - Legal / 500 Sheets

Electrical Requirements: 120V, 60Hz, 8.5A; 220-240V, 50Hz, 5.3A

Dimensions: 21.65" W x 19.96" D x 29" H (includes RADF)

Print Specifications

Standard Controller: Main: SoC (PPC465S) 1GHz

PDLs / Emulations: PRESCRIBE, PCL6 (PCL-XL/PCL5c), KPDL3 (PS3), XPS, OPEN XPS

Print Resolution: Up to 1200 x 1200 dpi (At reduced speed)

Interfaces: Standard: 10/100/1000BaseTX, Hi-Speed USB 2.0, 2 USB Host Interfaces, 2 Expansion Slots

Scan Specifications

Scan Speeds (mono/color) @ 300 dpi:

STD: Simplex: 40, 42 ipm BW / 30, 32 ipm Color;
Duplex: 17, 18 ipm BW / 13 ipm Color

Copy Specifications

Job Management: 100 Department Codes

Standard Document Processor

Type / Capacity: Standard Reversing Automatic Document Processor / 75 Sheets

Acceptable Originals: 5.5" x 8.5" – 8.5" x 36" (915mm)

Acceptable Weights: Simplex: 13 – 32 lb Bond (50 – 120gsm);
Duplex: 13 – 32 lb Bond (50 – 120gsm)

Optional Fax Processors

Fax Type: Fax System 11
Fax Memory: 3.5 MB

Additional Options

Bridge Unit Attachment Kit (AK-5100), Job Separator2 (JS-5100), Card Authentication Kit (B), Gigabit NIC (IB-50), IEEE802.11b/g/n (IB-51), ThinPrint (UG-33), Document Tray (DT-5100), Card Reader Holder (11), SD Card[4] (16 or 32GB), 5 Bin Mailbox (MT-5100), Scan Extension Kit, Wireless Card IB-35

The TASKalfa 308ci/358ci are compact, highly scalable, multifunction systems that streamline your document processing. A host of intelligent features boost productivity, from robust paper handling and advanced finishing to a standard security kit.

Specifications

Basic Specifications

Configuration: Color Multifunctional System – Print/Scan/Copy/Optional Fax

Duplex: Standard Stackless Duplex Supports Statement to Legal (5.5" x 8.5" – 8.5" x 14"), 16 lb Bond – 120 lb Index (60 – 220gsm)

Security Specifications

Standard: Local Authentication, Network Authentication, IPsec, SNMPv3, IEEE802.1x, IPP over SSL/TLS, HTTPS, FTP over SSL/TLS, SMTP over SSL/TLS, POP3 over SSL/TLS, Enhanced WSD over SSL/TLS, LDAP over SSL/TLS

Data Security Function: HDD Overwrite Mode, HDD Data Encryption

Print Specifications

Fonts: 136 KPDL3, 93 PCL6, 8 Windows Vista, 1 Bitmap

OS Compatibility: Windows: 7/8/8.1/Server 2003/Server 2008/Server 2008 R2/Server 2012/Server 2012 R2

Mac: OS Compatibility: Mac OS 10.5 and later, AirPrint Enabled

Mobile Printing: Apple AirPrint®, Google Cloud Print™, Mopria®, KYOCERA Mobile Print
Optional: 10/100/1000BaseTX (IB-50 for Dual NIC);
Optional: IEEE 802.11 b/g/n (IB-51 for Wireless LAN Interface)
Optional: IEEE 802.11 b/g/n (IB-35 for Wireless LAN Interface)
for 308ci / (358ci comes standard with IB-35)

Network Print and Supported Protocols: TCP/IP, IPv4, IPv6; HTTP, LPD, FTP, IPP, RawPort, LLTD, SNTP, DHCP, SMTP, POP3, DNS, SNMPv1/v2, WSD Scan/Print

Drivers: KX Driver, PCL Mini Driver, KPDL Mini Driver, KX Driver for XPS, Network Fax Driver, TWAIN Driver, WIA Driver, PPD for MAC, PPD for Linux

Utilities: KYOCERA Device Manager, KYOCERA Net Viewer, KYOCERA Capture Manager, Command Center RX

Paper Supply

Standard Paper Sources: Single 500 Sheet Tray, 100 Sheet MPT

Optional Paper Sources:
500 Sheet Tray (**PF-5120**), Dual 500 Sheet Trays (**PF-5130**)[1];
2,000 Sheet Large Capacity Tray (**PF-5140**)[1]

Paper Capacity: Standard: 600 Sheets; Maximum: 3,100 Sheets

Paper Size:
Tray 1 – PF-5120 and PF-5130: 5.5" x 8.5" – 8.5" x 14" (Statement to Legal); PF-5140: 8.5" x 11" (Multiple Sheets) MPT: 5.5" x 8.5" – 8.5" x 14" (up to 356mm for 308ci Multiple Sheets / up to 1220mm for 358ci Single Sheet)

Paper Weight: Trays/MPT: 16 lb Bond – 120 lb index (60 – 220gsm)

Input Materials: Standard/Optional Drawer: Plain Paper, Bond Paper, Recycled Paper, Envelopes; MPT: Plain Paper, Bond Paper, Recycled Paper, Cardstock, Transparencies, Labels, Envelopes

Scan Specifications

File Formats: TIFF (MMR compression), PDF (MMR compression), PDF (high compression), OpenXPS, XPS, JPEG

PDF Extension: Searchable PDF (OCR) Option

Connectivity / Supported Protocols:
10/100/1000BaseTX, TCP/IP, Hi-Speed USB 2.0

Scanning Functions: Scan to Folder (SMB), Scan to e-Mail, Scan to FTP, Scan to FTP over SSL, Scan to USB, WSD Scan, TWAIN Scan

Original Size:
Through DP: Statement to Banner (5.5" x 8.5" – 8.5" x 74.8" for 358ci, up to 915mm for 308ci); Glass: up to 8.5" x 14"

Copy Specifications

Copy Resolution: 600 x 600 dpi

Image Mode: Text, Photo, Text/Photo, Graphic/Map

Continuous Copy: 1 – 999 / Auto Reset to 1(308ci) 1 – 9999 / Auto Reset to 1(358ci)

Additional Features: Auto Magnification, Auto Paper Select, Auto Start, Auto Drawer Change, Interrupt Copy

Magnification / Zoom: Full Size, 7 Reduction, 5 Enlargement (for 308ci/358ci SRSE) Preset Ratios, 25-400% in 1% step increments
Document Box: Custom Box, Job Box, Removable Memory Box, Fax Box (with optional Fax System)

Optional Fax Specifications

Compatibility / Data Compression:
Super G3 Fax / MMR, MR, MH, JBIG

Transmission Speed / Modem Speed:
Less than 3 seconds / 33.6 Kbps

Driver: Network Fax Driver

Fax Functions: Network fax, duplex transmission and reception, encrypted transmission and reception, polling transmission and reception, broadcast

Output & Finishing Options

Optional 300 Sheet Internal Finisher DF-5100[3]

Stack / Staple Capacity:
300 Sheets / 50 Sheets (up to 24 lb Bond [80gsm])

Paper Size: 5.5" x 8.5" – 8.5" x 14"

Paper Weight: 16 lb Bond – 120 lb Index (60 – 220gsm)

Edge Staple Position: 3 Positions: Front 1 staple, Edge 1 staple, Face 2 staple

Dimensions: 19.13" W x 15.55" D x 6.22" H

[1]Requires PF-5120
[2]Only 1 Document Processor can be installed
[3]Only 1 output option can be installed
[4]Requires Bridge Unit Attachment Kit (AK-5100)

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KYOCERA Document Solutions America, Inc.
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v112119

DECATUR-HAMILTON QUICK RESPONSE BOARD

REGULAR MEETING

Monday, November 29, 2021

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1. **Call to Order, Pledge of Allegiance, and Roll Call**
2. **Public Comment**
3. **Additions/Deletions to the Agenda**
4. **Approval of Agenda**
5. **Approval of Minutes from the October 25, 2021 QR Board Regular Meeting**
6. **Approval of Bills in a Total of $3,205.15**
7. **Treasurer's Report**
8. **Officer Reports**
    a. Team Leader's Report
9. **Personnel**
10. **Unfinished Business**
    a. QR Vehicle
    b. QR Staffing
    c. Cascade O2 System
11. **New Business**
12. **Public Comment**
13. **Adjournment**

DECATUR-HAMILTON QUICK RESPONSE BOARD

MEETING MINUTES

Monday, October 25, 2021

1. The meeting was called to order at 6:00 PM by Chairman Druskovich. Roll call was taken with Druskovich, Flowers, Gateley, Kusmack K, Kusmack M, and Newton present. Newell was absent.
2. No public comment was given.
3. Kusmack K moved, Flowers seconded, CARRIED, to approve Agenda as amended to include items A) Cascade O2 System under New Business . All were in favor.
4. Kusmack M moved, Kusmack K seconded, CARRIED, to approve September 27, 2021 Regular Meeting Minutes as presented. Aye: Druskovich, Flowers, Kusmack K, Kusmack M, and Newton. No: None. Abstain: Gateley.
5. Kusmack M moved, Flowers seconded, CARRIED, to approve bills in a total of $ 2,945.38 as presented. All were in favor.
6. Newton gave the Treasurer's report indicating fund balance of $114,792.02 in the General Fund, $442.86 in the Member's Savings Fund, and $113,150.67 in the Capital Expenditure Fund for a total fund balance of $228,385.55. Newton noted there were no overbudget items at this time.
    a. Kusmack K moved, Flowers seconded, CARRIED, to accept Treasurer's Report as presented. All were in favor.
7. Team Leader Report
    a. Asst. Team Leader Benson reviewed response numbers for September. There were 27 responses on 81 calls for a response percentage of 33%. 43 calls in the Village, 20 in Decatur Towship, and 18 in Hamilton Township.
    b. Newton moved, Flowers seconded, CARRIED, to approve officers report as presented. All were in favor.
8. Personnel
    a. Nothing to add.
9. Unfinished Business
    a. QR Vehicle-Still exploring options for Explorer units. Availability is a challenge at this time.
10. New Business
    a. Cascade O2 System-Oxygen filling system for QR. Looking to procure quotes on this. Planning to bring quote for consideration for November meeting.
11. No Public Comment was given.
12. Newton moved, Kusmack M seconded, CARRIED, to adjourn the meeting at 6:15 PM.

Decatur-Hamilton Quick Response
Check Detail
November 2, 2021 - December 1, 2021

	Type	Date	Num	Name	Memo	Debit	Credit
Cash - Checking 34599							
	Check	11/02/2021	eft	AEP			837.92
	Check	11/02/2021	eft	Consumers			20.09
	Check	11/02/2021	eft	Village Of Decatur	Account Number 1106		60.27
	Check	11/08/2021	eft	Comcast	Account # 8529 11 329 0019906		333.94
	Check	11/16/2021	eft	AEP			352.93
	Deposit	11/16/2021			Interest	4.95	
	Check	11/24/2021	5421	REEDER ACCOUNTING SERVICES	INV 26605		150.00
	Check	12/01/2021	5422	Christina Benson			150.00
	Check	12/01/2021	5423	DH Fire Board			1,000.00
	Check	12/01/2021	5424	Terry Burns			300.00
Total Cash - Checking 34599						4.95	3,205.15
TOTAL						**4.95**	**3,205.15**

Decatur-Hamilton Quick Response
Annual Budget vs Fiscal Year to Date
July 1, 2021 through December 1, 2021

	07/01/2021 - 12/01/2021	Annual Budget	$ Over Budget
Ordinary Income/Expense			
Income			
Misc. Inc	13,120.00	5,500.00	7,620.00
Tax Revenue - Decatur Township	197.22	38,000.00	-37,802.78
Interest Income	23.48	75.00	-51.52
Tax Revenue - Hamilton Township	0.00	28,000.00	-28,000.00
Funds Equity	0.00	0.00	0.00
CD Interest	0.00	0.00	0.00
Total Income	13,340.70	71,575.00	-58,234.30
Expense			
Building Rental	6,000.00	23,000.00	-17,000.00
Insurance	3,165.00	5,800.00	-2,635.00
Salaries	2,400.00	12,000.00	-9,600.00
Utilities	783.37	10,500.00	-9,716.63
Contracted Services	750.00	1,800.00	-1,050.00
Building Repairs	417.64	1,500.00	-1,082.36
Vehicle & Equip. Repairs	0.00	4,000.00	-4,000.00
Fuel & Oil	0.00	750.00	-750.00
Equipment & Supplys	0.00	5,500.00	-5,500.00
Audit	0.00	4,000.00	-4,000.00
Training	-3,340.00	2,500.00	-5,840.00
Total Expense	10,176.01	71,350.00	-61,173.99
Net Ordinary Income	3,164.69	225.00	2,939.69
Net Income	**3,164.69**	**225.00**	**2,939.69**

Decatur-Hamilton Quick Response
Balance Sheet
As of December 1, 2021

	Dec 1, 21
ASSETS	
Current Assets	
Checking/Savings	
Cash - Savings - Vehicle 16696	113,150.67
Cash - Checking 34599	111,591.82
Cash - Savings - Member 15771	442.86
Total Checking/Savings	225,185.35
Other Current Assets	
Prepaid Insurance	1,458.52
Accts Receivable - Other	600.00
Total Other Current Assets	2,058.52
Total Current Assets	227,243.87
Other Assets	
Prepaid Building Rent	104,500.00
Total Other Assets	104,500.00
TOTAL ASSETS	**331,743.87**
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Other Current Liabilities	
Accounts payable - year end acc	3,344.00
Total Other Current Liabilities	3,344.00
Total Current Liabilities	3,344.00
Total Liabilities	3,344.00
Equity	
Retained Earnings	269,992.66
Opening Bal Equity	55,242.52
Net Income	3,164.69
Total Equity	328,399.87
TOTAL LIABILITIES & EQUITY	**331,743.87**

Decatur-Hamilton Quick Response
Profit & Loss
November 2 through December 1, 2021

	Nov 2 - Dec 1, 21
Ordinary Income/Expense	
Income	
Interest Income	4.95
Total Income	4.95
Expense	
Utilities	1,605.15
Building Rental	1,000.00
Salaries	450.00
Contracted Services	150.00
Total Expense	3,205.15
Net Ordinary Income	-3,200.20
Net Income	**-3,200.20**

Village of Decatur
114 N Phelps Street
Decatur, MI 49045

MEMORANDUM – MONTHLY REPORT

TO: Village Council
FROM: Christopher Tapper, Village Manager
REVIEWED BY: N/A
DATE: November 1, 2021

SUBJECT: Monthly Report November 2021

Updates – November:

12/01/2021 11:57 AM
User: C.TAPPER
DB: Decatur

CASH SUMMARY BY FUND
FROM 03/01/2021 TO 11/30/2021
FUND: ALL FUNDS
CASH AND INVESTMENT ACCOUNTS

Page: 1/1

Fund	Description	Beginning Balance 03/01/2021	Total Debits	Total Credits	Ending Balance 11/30/2021
101	GENERAL FUND	591,741.16	1,007,676.05	916,116.65	683,300.56
202	MAJOR ROADS	596,319.27	130,397.27	41,667.54	685,049.00
203	LOCAL ROADS	118,597.75	207,852.67	117,358.97	209,091.45
206	FIRE INSURANCE PROCEEDS	438.39	0.24	0.06	438.57
213	SALVAGE VEHICLE INSPECTIONS	27,239.70	11,459.63	17,401.86	21,297.47
230	STREETS	179,987.34	167,539.24	125,603.50	221,923.08
244	BUSINESS LOANS	63,877.91	4,444.03	221.77	68,100.17
245	HOME REHAB LOANS	113,365.88	1,202.00	222.92	114,344.96
248	DDA	40,280.68	18,923.40	8,618.00	50,586.08
265	DRUG FORFEITURE	1,381.85	0.69	0.17	1,382.37
282	APRA FUND	0.00	90,646.79	0.00	90,646.79
590	SEWER FUND	788,677.63	174,626.11	159,888.29	803,415.45
591	WATER FUND	610,878.98	251,128.70	215,846.11	646,161.57
596	GARBAGE COLLECTION	9,293.36	85,899.80	93,706.94	1,486.22
661	MOTOR POOL	383,943.93	102,134.06	185,266.14	300,811.85
	TOTAL - ALL FUNDS	3,526,023.83	2,253,930.68	1,881,918.92	3,898,035.59

I continue to review the fiscal year budget 2022 along with meeting with Department Heads to prepare for the fiscal year budget 2023. Additional information will be provided once review and discussions are completed with staff.

A meeting of VBCO Municipalities will be held Wednesday, December 8, 2021, to discuss ARPA Funding & Internet Efforts throughout Van Buren County. This meeting has been called by the Van Buren County Internet Task Force. The purpose of the meeting is to update the Van Buren County leaders and municipalities on the task force's efforts to expand broadband access throughout the County. The meeting will also discuss alignment of local efforts to expand broadband within the community. The Village of Decatur has not made plans yet to use the Village's funds, this may be an opportunity to be a part of the County's efforts to expand broadband to residents in the Village of Decatur.

Village Attorney, Nick Curcio has offered a suggestion to benefit with cost saving regarding ordinance prosecution. The suggestion is to enter into an agreement with the Law Office of Crystal Morgan. Crystal's practice areas included, municipal law, ordinance enforcement and prosecution, property tax valuation appeals, property tax exemption appeals, special assessment procedures and appeals, zoning and land use issues. I am confident with the recommendation of the Village Attorney and would like to formally enter into agreement.

Attorney Curcio has offered a suggestion to benefit the Village of Decatur, regarding Bond Consultant. The suggestion was to enter into an agreement with Dickinson Wright PLLC, attorney Roger Swets. This suggestion is being offered due to the fact that the Village will need Bond Consultant next year to assist with the USDA Bond processing. I am confident with the recommendation of the Village Attorney and would like to formally enter into agreement.

Thank you again to the Council for the opportunity to hold an employee holiday appreciation lunch Wednesday, December 22, 2021, from 11:30 – 2:00 at the Decatur VFW. Please mark your calendar for this event.

Wightman & Associates has completed the draft of the USDA Water & Sewer System Improvement Preliminary Engineering Report (PER). A meeting is scheduled for Monday, December 6, 2021, to review both plans. The primary need for both projects is to address the existing infrastructure needs as both systems are likely to have reached full depreciation 55 years old. While this preliminary information is vital, the Council needs to appreciate, these two projects are not considered, wants or needs, but an obligation to the residents of the Village of Decatur. Maintaining adequate, water & sanitary systems are consider one of the most valuable to our community. The Village does hold very solid fund balances in both the Water & Sewer Fund, it is not in the best interest of the Council to deplete those fund balances for these projects. Operational costs and expenses will still need to be conducted on both systems over the course of use. I have included in the agenda a report outlining in detail of the progress regarding this application.

USDA - WATER IMPROVEMENT

E. Total Project Cost Estimate

The following table includes a summary of the project cost estimate.

TOTAL PROJECT COST ESTIMATE

1. Estimated Construction Cost	**$1,557,000**
2. Bond and Local Counsel	47,000
3. Rate Consultant	17,000
4. Design Engineering Fees (Basic Services)	128,000
4. Construction Engineering Fees (Basic Services)	63,000
5. Project Inspection Fees (RPR)	75,000
6. Engineering (Additional Services)	27,000
7. Construction Contingency	156,000
Subtotal Estimated Project Fees	**$513,000**
TOTAL ESTIMATED PROJECT COST	**$2,070,000**

*Costs are rounded up to the next thousand per USDA Summary Tables.

USDA – SEWER IMPROVEMENT

E. Total Project Cost Estimate

The following table includes a summary of the project cost estimate.

TOTAL PROJECT COST ESTIMATE

1. Estimated Construction Cost	**$2,663,000**
2. Bond and Local Counsel	80,000
3. Rate Consultant	17,000
4. Engineering Fees (Basic Services)	208,000
4. Construction Engineering	94,000
5. Project Inspection Fees (RPR)	94,000
6. Engineering Additional Services	16,000
7. Construction Contingency	267,000
Subtotal Estimated Project Fees:	**$776,000**
TOTAL ESTIMATED PROJECT COST:	**$3,439,000**