

# Board of Public Utilities

## Regular Meeting Agenda

Monday, January 28, 2013  
4:00 p.m., DPW Conference Room, 1199 8<sup>th</sup> Avenue



City of South Haven

1. Call to Order
2. Roll Call
3. Approval of Agenda
4. Acceptance of Minutes for the Record – November 26, 2012
5. Interested Citizens in the Audience Will be Heard on Items Not on the Agenda

### REPORTS

6. **Cost of Energy from Indiana-Michigan Power Company (AEP)**
  - A. 2012 Billings – All Charges (includes cost per kWh)
  - B. 2011 Billings – All Charges (includes cost per kWh)
7. **Financial Reports**
  - A. Water Fund CuFt Comparisons
  - B. Water Fund Financial Statement
  - C. Sewer Fund Financial Statement
  - D. Electric Fund KWH Comparisons
  - E. Electric Fund Financial Statement
8. **Indian Grove Infrastructure Project**
  - A. Sewer Study Progress Report
9. **Unresolved Issues Report**
10. **Electric Outage Report, 4<sup>th</sup> Quarter 2012**

### NEW BUSINESS

11. Board will be presented information concerning the winter storm of December 21, 2012.
12. Board will be presented information on increased tree trimming efforts.

**13. Next meeting is scheduled for Monday, February 25, 2013 at 4:00 pm in the DPW Conference Room, 1199 8<sup>th</sup> Avenue, South Haven, Michigan.**

**14. Director's Comments**

**15. Board Member Comments**

**16. Adjourn**

RESPECTFULLY SUBMITTED,

Roger Huff, P.E.  
Public Works Director

South Haven Department of Public Works is Barrier-free and the City of South Haven will provide the necessary reasonable auxiliary aids and services for persons with disabilities, such as signers for the hearing impaired and audio tapes of printed materials being considered at the meeting to individuals with disabilities at the meeting upon seven (7) days notice to the South Haven City Clerk. Individuals with disabilities requiring services should contact the City Clerk by writing or calling South Haven City Hall at (269) 637-0750.

## Board of Public Utilities

### Regular Meeting Agenda

Monday, November 26, 2012  
4:00 p.m., DPW Conference Room, 1199 8<sup>th</sup> Avenue



City of South Haven

**1. Call to Order by Stickland at 4:00 p.m.**

**2. Roll Call**

Present: Burr, Henry, Overhiser, Rose, Stein, Winkel, Stickland  
Absent: Berry

Also present: Dave Mulac, Waste Water Treatment; Larry Halberstadt, City Engineer; Dan Dombos, Abonmarche; Chris Cooke, Abonmarche

**3. Approval of Agenda**

Motion by Henry, second by Winkel to approve the November 26, 2012 Agenda as presented.  
All in favor. Motion carried.

**4. Acceptance of Minutes for the Record – October 26, 2012**

Motion by Winkel, second by Henry to accept the October 26, 2012 meeting minutes for the record.  
All in favor. Motion carried.

**5. Interested Citizens in the Audience Will be Heard on Items Not on the Agenda**

None at this time.

### REPORTS

**6. Cost of Energy from Indiana-Michigan Power Company (AEP)**

- A. 2012 Billings – All Charges
- B. 2011 Billings – All Charges

Burr asked if there is any way to come up with the cost per kWh (kilowatt hour) at the end of the year. Huff will have that put together for the board to review.

Burr noted that with the fracking for natural gas, it is cheaper to generate electricity with natural gas than with coal. American Electric Power (AEP) was quoted last week as saying

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that when gas gets to \$3.00 to \$3.25, it is equal to the cost for coal. We might have a more stable electric cost for the next few years. Burr would be interested in seeing the demand figures.

Stickland requested Burr have American Electric Power (AEP) bring their numbers guy up here and talk to us. There was discussion regarding the local coal fired plant and the cost of gas. The board discussed other municipalities and their power sources. Halberstadt said the Michigan Municipal Electric Association (MMEA) and the Michigan Public Power Agency (MPPA) are having conversations with Consumers Energy about doing a joint natural gas plant; Halberstadt will try to keep track of how those conversations go.

## **7. Financial Reports**

- A. Water Fund CuFt Comparisons
- B. Water Fund Financial Statement
- C. Sewer Fund Financial Statement
- D. Electric Fund KWH Comparisons
- E. Electric Fund Financial Statement

Huff noted that W. Hochstedler, Finance Director, is absent due to illness.

Burr asked about operating expenses on the Water Fund; two months ago it was \$200,000 less so Burr wondered what got put in there to bring the number up. Halberstadt said it may be aimed at the project on Kalamazoo Street. Stein pointed out that last month operating expenses were \$420,000.

Burr asked about the Sewer Fund, what is the \$69,000 in “other revenue” for this month.

Burr had a question on the Electric Fund: “Is the revenue just cash or does that include receivables?”

Burr noted that the Ramada Inn paid off \$90,000. Burr had the following questions: “Is it in the cash report? How does it get displayed to us? If it is on the cash report, how often does the board see that report?”

Burr noted that the water rate increase went into effect in July because the expectation was that the fund amount was dropping; however, the fund amount has not dropped as expected.

Huff said Hochstedler will get answers to these questions when she gets back in the office.

## **8. Indian Grove Infrastructure Project**

- A. Sewer Study Progress Report
- B. Update Presentation by Abonmarche

Abonmarche is still working on flow metering; the flow metering project will be wrapped up in December. Computer modeling and televising will also be going on starting in December.

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Dan Dombos from Abonmarche gave an overview of the progress of the S2 Project Tasks, including Utility Mapping; Flow Metering, Phase I, II and III; Computer Modeling, Sewer Televising, Smoke Testing and the SRF Project Plan.

Henry questioned the spikes on the graphs depicting Flow Metering Phase I results; Dan Dombos stated the spikes follow the rainwater events. When Abonmarche staff sees inflow and infiltration, smoke testing is done to try to determine the source of some of these inflow and infiltration events.

Dan Dombos presented an overview of Phase II Metering Results. There was discussion of range and peaking factors. Phase III overview indicates that there were rain events and corresponding increases long-term. Dombos also noted that while Indian Grove is suspected by staff as a problem area, testing is not really confirming that. Some meters were redeployed due to construction; Meter 17 was pulled due to very level base flow.

During Phase III, according to Dombos, some meters were pulled and reinstalled. There will be some televising done in the sewers.

The S2 Grant Project wrap up will include Utility Mapping; Field Investigation and Data Review; Smoke Testing; Flow Metering (Phase III to be complete December 2012); Computer Modeling (to be complete in January 2012); Sewer Televising (to be complete January 2013) and finally, the Project Plan will be implemented, completed in the spring and submitted to the Michigan Department of Environmental Quality (MDEQ).

Stickland said our goal is to try to find ways to solve some of the problems within our system. The board discussed the Indian Grove area which staff has felt is one of the problem areas but Abonmarche has not found much there; Halberstadt stated that it might be attributable to the infrastructure work that has already been done.

## **9. Unresolved Issues Report**

Huff updated the board on the issues he has been working to eliminate. Worked with Ryan Bosscher (GIS Tech) to create a chart to record 2011 – 2012 substation “operations.” Stickland said the board wants to know if the number of “blips” per year is increasing.

## **NEW BUSINESS**

### **10. Board will hear from Thomas Scanlan, 321 North Shore Drive, concerning water and sewer usage charges.**

Scanlan gave the history behind the event on October 29 when he was contacted by Kim Eastman of an extremely large water and sewer bill. Scanlan said he can only speculate regarding how the water was turned on after he supervised the water being turned off. Roger gave the board an overview of the series of events that transpired on the City side. Noted that the water would not be turned back on by the City without a work order. The board discussed the process the City does when a turn off is requested and the information Scanlan gave regarding how he winterized his cottage every year and the process he used for turning off the water in early October.

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Scanlan said when he winterized the house, the taps were all opened. He was there when the house was winterized. After discussion, Burr said someone who requested to have their water turned off can not be charged for the water.

Motion by Burr, second by Winkel to disregard all charges for the water and sewer except the normal stand-by charges.  
All in favor. Motion carried.

Scanlan asked what the next step will be. Huff said Scanlan will probably receive an adjusted bill from Kim Eastman in Utility Billing.

**11. Board will be presented information concerning summer sewer credit.**

Huff noted that the Financial Director put this information together; churches are not classified as residential in the billing system. Huff said the City Manager does not see justification for doing this for some and not all. Stickland said we are not talking about giving the credit to everybody. Burr said summer sewer credit cannot be extended to commercial and industrial accounts; it is done for residential accounts to avoid the expense of installing another meter.

Motion by Burr to include churches as residential for the purpose of giving the summer sewer credit. Second by Henry.  
All in favor. Motion carried.

There was discussion that there might need to be a minimum of usage; Stickland said there is a minimum. Huff said the minimum is 1,000 cubic feet per month.

**12. Board will be requested to establish a schedule for Regular Meeting Dates for the 2013 Calendar Year.**

Huff noted that except for May, which is moved one week back due to Memorial Day and December, when there is no meeting, the board will meet on the last Monday of the month. The dates as listed in the staff report include:

- January 28, 2013
- February 25, 2013
- March 25, 2013
- April 29, 2013
- May 20, 2013 (Moved forward one week due to Memorial Day on May 27)
- June 24, 2013
- July 29, 2013
- August 26, 2013
- September 30, 2013
- October 28, 2013
- November 25, 2013

All meetings will begin at 4:00 pm. Meetings will be held in the Department of Public Works Conference Room.

Motion by Winkel, second by Henry to approve the proposed Regular Meeting schedule for the 2013 calendar year.

All in favor. Motion carried.

**13. Next meeting is scheduled for Monday, January 28, 2013 at 4:00 pm in the DPW Conference Room, 1199 8<sup>th</sup> Avenue, South Haven, Michigan.**

**14. Director's Comments**

Follow up from the last meeting and the outage map. Huff will email the map to everyone.

The water plant is getting another award from the American Council of Engineering Companies (ACEC). Huff noted that the award will be awarded February 23 in Detroit.

**15. Board Member Comments**

Rose: Noted that Roger (Huff) and Public Works Water Department worked with Covert setting up our hydrants and everything is working well. Rose is concerned about the cost and whether the expenses are being covered. Halberstadt noted that rate has not been adjusted since 2006. Huff is gathering information from other municipalities regarding their policies.

Henry: Regarding the Medevac pad at the hospital. Noticed on a Tuesday night the helicopter coming in on a steep approach past the power lines and noted it is a potential hazard. Henry reminded that he flew helicopters for quite some time. Since seeing that helicopter land, Henry talked to a friend who just retired from EMS (Emergency Medical Services) in Florida and flew for many years prior. Normally you come in, stabilize 200 to 300 feet above your intended point of touchdown and hover on down. The distance between the 40' power line and the helipad is 150', you are going 30-40 knots, decelerating and if there is any kind of malfunction, you are set up to have a significant mishap. Henry's friend said at nighttime the pilots are using 100% night vision goggles which give phenomenal vision. Henry suggests putting this on the boards project list and identify some grants that the City might be able to use to put those power lines underground.

Halberstadt said he can see both sides of the argument. Stickland said he is concerned about the precedent. Huff said this came up in 2010 and noted that Conklin looked into the project and the cost and concluded that since the power line is a primary it would cost \$75,000. Huff also noted that generally one does not want to bury just a small section of primary due to the potential to set up a ground for lightning strikes.

**16. Adjourn**

Stickland declared the meeting adjourned at 6:12 p.m.

All in favor. Motion carried.

RESPECTFULLY SUBMITTED,

Marsha Ransom  
Recording Secretary

**CITY OF SOUTH HAVEN**  
 Cost of Electric Energy from Indiana-Michigan Power Company (AEP)  
 2012

Date	ACTUAL				BILLING			COST				PJM Open Access Transmission Tariff						Total Cost	cts/ KWHR	
	KW Demand	KVAR Demand	KVA	Power Factor	KW Demand	KVAR Demand	KWHRs	\$ KW Demand	\$ KWHR	\$ Fuel Charge	\$ Fuel Adjust	Actual Fuel True-up	Sch 1A \$ KWHRs	\$ Network	RTO Start-up \$	Other	Credits			Total PJM
Main	11,992	1,726	12,116	0.9898	11,992	1,726	7,258,601	\$175,538.81	\$88,450.41											
Welder	309	328	451	0.6861	309	328	153,255	\$4,526.07	\$1,867.50											
Phoenix	7,708	874	7,757	0.9936	7,707	874	4,477,882	\$112,822.34	\$54,565.67											
Welder	38	62	73	0.5264	38	62	23,707	\$559.17	\$288.88											
<b>Jan-12</b>	<b>20,047</b>	<b>2,990</b>	<b>20,269</b>	<b>0.9891</b>	<b>20,047</b>	<b>2,990</b>	<b>11,913,444</b>	<b>\$293,446.39</b>	<b>\$145,172.46</b>	<b>\$195,737.44</b>	<b>(\$1,504.66)</b>	<b>\$18,840.08</b>	<b>\$1,130.95</b>	<b>\$81,705.56</b>	<b>\$274.86</b>	<b>\$7,764.31</b>	<b>(\$1,605.84)</b>	<b>\$89,269.84</b>	<b>\$740,961.55</b>	<b>6.220</b>
Main	11,246	1,489	11,344	0.9913	11,246	1,489	6,660,702	\$164,619.02	\$81,164.65											
Welder	356	420	550	0.6466	356	420	170,777	\$5,208.20	\$2,081.02											
Phoenix	7,083	787	7,127	0.9939	7,083	787	4,106,471	\$103,685.35	\$50,039.81											
Welder	10	30	31	0.3085	10	30	6,689	\$140.52	\$81.51											
<b>Feb-12</b>	<b>18,695</b>	<b>2,726</b>	<b>18,892</b>	<b>0.9895</b>	<b>18,695</b>	<b>2,726</b>	<b>10,944,640</b>	<b>\$273,653.09</b>	<b>\$133,367.00</b>	<b>\$179,820.02</b>	<b>(\$35,803.12)</b>	<b>(\$36,698.09)</b>	<b>\$1,038.98</b>	<b>\$76,434.23</b>	<b>\$257.13</b>	<b>\$7,764.54</b>	<b>(\$1,303.19)</b>	<b>\$84,191.69</b>	<b>\$598,530.59</b>	<b>5.469</b>
Main	11,229	2,433	11,490	0.9773	11,229	2,433	6,659,854	\$164,369.52	\$81,154.32											
Welder	245	291	380	0.6442	245	291	180,979	\$3,581.92	\$2,205.34											
Phoenix	7,798	2,001	8,050	0.9686	7,798	2,001	4,202,080	\$114,142.73	\$51,204.86											
Welder	11	34	36	0.2995	11	34	7,398	\$158.09	\$90.15											
<b>Mar-12</b>	<b>19,282</b>	<b>4,759</b>	<b>19,861</b>	<b>0.9709</b>	<b>19,282</b>	<b>4,759</b>	<b>11,050,311</b>	<b>\$282,252.26</b>	<b>\$134,654.67</b>	<b>\$181,556.19</b>	<b>(\$16,811.90)</b>	<b>\$3,379.59</b>	<b>\$1,049.01</b>	<b>\$81,705.56</b>	<b>\$274.86</b>	<b>\$7,768.31</b>	<b>(\$1,217.13)</b>	<b>\$89,580.61</b>	<b>\$674,611.42</b>	<b>6.105</b>
Main	10,627	1,593	10,746	0.9890	10,627	1,593	6,305,565	\$155,559.49	\$76,837.09											
Welder	332	293	443	0.7501	332	293	147,837	\$4,859.82	\$1,801.48											
Phoenix	6,679	902	6,739	0.9910	6,679	902	3,935,313	\$97,765.55	\$47,954.14											
Welder	9	32	34	0.2802	9	32	7,231	\$137.60	\$88.11											
<b>Apr-12</b>	<b>17,647</b>	<b>2,820</b>	<b>17,871</b>	<b>0.9875</b>	<b>17,647</b>	<b>2,820</b>	<b>10,395,945</b>	<b>\$258,322.45</b>	<b>\$126,680.83</b>	<b>\$170,804.99</b>	<b>(\$14,733.10)</b>	<b>\$40,292.41</b>	<b>\$986.89</b>	<b>\$79,069.90</b>	<b>\$265.99</b>	<b>\$8,032.02</b>	<b>(\$1,177.43)</b>	<b>\$87,177.37</b>	<b>\$668,544.95</b>	<b>6.431</b>
Main	14,868	3,529	15,281	0.9730	14,868	3,529	6,982,457	\$217,637.42	\$85,085.43											
Welder	9	22	23	0.3633	9	22	161,210	\$124.42	\$1,964.44											
Phoenix	11,010	3,754	11,633	0.9465	11,010	3,754	4,593,576	\$161,166.94	\$55,975.48											
Welder	9	23	25	0.3638	9	23	7,021	\$133.21	\$85.56											
<b>May-12</b>	<b>25,896</b>	<b>7,328</b>	<b>26,913</b>	<b>0.9622</b>	<b>25,896</b>	<b>7,328</b>	<b>11,744,265</b>	<b>\$379,061.99</b>	<b>\$143,110.91</b>	<b>\$192,957.82</b>	<b>\$12,775.38</b>	<b>\$48,832.40</b>	<b>\$1,114.88</b>	<b>\$81,705.56</b>	<b>\$274.86</b>	<b>\$7,731.13</b>	<b>(\$1,641.24)</b>	<b>\$89,185.19</b>	<b>\$865,923.69</b>	<b>7.373</b>
Main	16,941	5,210	17,724	0.9558	16,941	5,210	7,846,934	\$238,261.81	\$95,175.47											
Welder	295	108	314	0.9388	295	108	153,300	\$4,148.88	\$1,859.38											
Phoenix	12,351	4,745	13,231	0.9335	12,351	4,745	5,260,728	\$173,700.24	\$63,807.37											
Welder	9	24	25	0.3571	9	24	6,972	\$127.98	\$84.56											
<b>Jun-12</b>	<b>29,596</b>	<b>10,087</b>	<b>31,268</b>	<b>0.9465</b>	<b>29,596</b>	<b>10,087</b>	<b>13,267,935</b>	<b>\$416,238.92</b>	<b>\$160,926.78</b>	<b>\$201,108.72</b>	<b>\$48,449.19</b>	<b>(\$309,170.24)</b>	<b>\$1,259.53</b>	<b>\$79,069.90</b>	<b>\$265.99</b>	<b>\$9,839.06</b>	<b>(\$1,359.24)</b>	<b>\$89,075.24</b>	<b>\$606,628.61</b>	<b>4.572</b>
Main	20,496	6,532	21,512	0.9528	20,496	6,532	10,295,162	\$288,255.60	\$124,870.02											
Welder	8	22	23	0.3253	8	22	128,982	\$105.48	\$1,564.42											
Phoenix	15,340	6,482	16,653	0.9212	15,340	6,482	7,035,099	\$215,745.84	\$85,328.72											
Welder	9	19	21	0.4242	9	19	6,927	\$125.17	\$84.01											
<b>Jul-12</b>	<b>35,853</b>	<b>13,054</b>	<b>38,155</b>	<b>0.9396</b>	<b>35,853</b>	<b>13,054</b>	<b>17,466,170</b>	<b>\$504,232.09</b>	<b>\$211,847.17</b>	<b>\$264,743.47</b>	<b>(\$19,193.57)</b>	<b>(\$40,623.32)</b>	<b>\$1,161.37</b>	<b>\$78,298.01</b>	<b>\$274.86</b>	<b>\$10,546.62</b>	<b>(\$1,585.43)</b>	<b>\$88,695.43</b>	<b>#####</b>	<b>5.781</b>
Main	18,275	5,807	19,175	0.9530	18,275	5,807	8,491,292	\$257,020.09	\$102,990.88											
Welder	396	292	492	0.8050	396	292	177,889	\$5,572.16	\$2,157.62											
Phoenix	13,609	5,565	14,703	0.9256	13,609	5,565	5,682,143	\$191,397.47	\$68,918.72											
Welder	9	22	23	0.3831	9	22	7,129	\$126.58	\$86.46											
<b>Aug-12</b>	<b>32,289</b>	<b>11,686</b>	<b>34,339</b>	<b>0.9403</b>	<b>32,289</b>	<b>11,686</b>	<b>14,358,453</b>	<b>\$454,116.29</b>	<b>\$174,153.68</b>	<b>\$217,638.25</b>	<b>(\$35,392.15)</b>	<b>(\$81,153.32)</b>	<b>\$954.73</b>	<b>\$78,298.01</b>	<b>\$274.86</b>	<b>\$11,047.37</b>	<b>(\$1,692.02)</b>	<b>\$88,882.95</b>	<b>\$818,245.70</b>	<b>5.699</b>
Main	14,899	4,209	15,482	0.9623	14,899	4,209	6,811,660	\$209,539.40	\$82,618.62											
Welder	168	282	328	0.5108	168	282	133,197	\$2,355.72	\$1,615.54											
Phoenix	10,722	3,804	11,377	0.9424	10,722	3,804	4,529,165	\$150,796.94	\$54,934.24											
Welder	9	28	30	0.3142	9	28	7,124	\$132.20	\$86.40											
<b>Sep-12</b>	<b>25,798</b>	<b>8,323</b>	<b>27,108</b>	<b>0.9517</b>	<b>25,798</b>	<b>8,323</b>	<b>11,481,145</b>	<b>\$362,824.25</b>	<b>\$139,254.81</b>	<b>\$174,025.46</b>	<b>\$9,809.49</b>	<b>\$50,997.46</b>	<b>\$763.41</b>	<b>\$75,772.27</b>	<b>\$265.99</b>	<b>\$10,863.70</b>	<b>(\$1,487.44)</b>	<b>\$86,177.93</b>	<b>\$823,089.40</b>	<b>7.169</b>
Main	10,168	1,680	10,306	0.9866	10,168	1,680	6,194,885	\$143,002.86	\$75,137.76											
Welder	317	308	441	0.7173	317	308	134,487	\$4,452.66	\$1,631.19											
Phoenix	7,222	1,552	7,387	0.9777	7,222	1,552	4,209,479	\$101,574.54	\$51,056.77											
Welder	9	32	33	0.2720	9	32	7,059	\$127.98	\$85.62											
<b>Oct-12</b>	<b>17,716</b>	<b>3,572</b>	<b>18,072</b>	<b>0.9803</b>	<b>17,716</b>	<b>3,572</b>	<b>10,545,910</b>	<b>\$249,158.05</b>	<b>\$127,911.34</b>	<b>\$159,849.63</b>	<b>(\$4,356.52)</b>	<b>\$29,460.67</b>	<b>\$701.23</b>	<b>\$78,298.01</b>	<b>\$274.86</b>	<b>\$10,244.30</b>	<b>(\$1,395.97)</b>	<b>\$88,122.43</b>	<b>\$650,145.60</b>	<b>6.165</b>
Main	10,566	781	10,595	0.9973	10,566	781	6,216,737	\$148,600.36	\$75,402.80											
Welder	368	417	556	0.6616	368	417	126,491	\$5,170.00	\$1,534.20											
Phoenix	7,089	1,514	7,249	0.9780	7,089	1,514	4,108,928	\$99,699.70	\$49,837.19											
Welder	23	37	43	0.5233	23	37	14,002	\$317.85	\$169.83											
<b>Nov-12</b>	<b>18,045</b>	<b>2,748</b>	<b>18,253</b>	<b>0.9886</b>	<b>18,045</b>	<b>2,748</b>	<b>10,466,158</b>	<b>\$253,787.90</b>	<b>\$126,944.03</b>	<b>\$158,640.78</b>	<b>(\$28,994.40)</b>	<b>(\$41,615.71)</b>	<b>\$695.92</b>	<b>\$75,772.27</b>	<b>\$265.99</b>	<b>\$9,303.79</b>	<b>(\$1,436.03)</b>	<b>\$84,601.94</b>	<b>\$553,364.54</b>	<b>5.287</b>
Main	10,705	1,261	10,779	0.9931	10,705	1,261	6,787,395	\$150,555.96	\$82,324.31											
Welder	377	415	560	0.6720	377	415	148,364	\$5,295.10	\$1,799.51		</									

**CITY OF SOUTH HAVEN**

Cost of Electric Energy from Indiana-Michigan Power Company (AEP)  
2011

Date	ACTUAL				BILLING			COST				PJM Open Access Transmission Tariff						Total Cost	cts/ KWH	
	KW Demand	KVAR Demand	KVA	Power Factor	KW Demand	KVAR Demand	KWHRS	\$ KW Demand	\$ KWH	\$ Fuel Charge	\$ Fuel Adjust	Actual Fuel True-up	Sch 1A \$ KWHRS	\$ Network	RTO Start-up \$	Other	Credits			Total PJM
Main	11,228	1,663	11,350	0.9892	11,228	1,663	7,239,784	\$155,496.21	\$91,856.93											
Welder	269	207	339	0.7928	269	207	53,773	\$3,724.00	\$682.26											
Phoenix	7,585	977	7,647	0.9918	7,585	977	4,651,607	\$105,040.08	\$59,018.66											
Welder	19	26	32	0.5871	19	26	8,343	\$263.13	\$105.85											
Jan-11	19,101	2,873	19,315	0.9889	19,101	2,873	11,953,507	\$264,523.42	\$151,663.70	\$209,894.01	\$24,418.62	\$56,802.84	\$1,259.60	\$59,786.26	\$264.76	\$7,328.78	(\$1,656.05)	\$66,983.35	\$774,285.94	6.477
Main	11,317	1,446	11,409	0.9919	11,317	1,446	6,400,436	\$156,729.10	\$81,207.45											
Welder	63	224	232	0.2713	63	224	40,983	\$872.49	\$519.98											
Phoenix	7,747	925	7,802	0.9929	7,747	925	4,102,424	\$107,282.63	\$52,050.73											
Welder	10	25	27	0.3675	10	25	6,337	\$135.72	\$80.41											
Feb-11	19,136	2,619	19,315	0.9908	19,136	2,619	10,550,180	\$265,019.93	\$133,858.57	\$185,252.72	(\$188.85)	\$12,773.86	\$1,111.72	\$54,000.49	\$239.13	\$7,328.78	(\$1,230.20)	\$61,449.92	\$658,166.15	6.238
Main	10,809	1,463	10,908	0.9910	10,809	1,463	6,756,663	\$149,693.90	\$85,727.19											
Welder	310	216	378	0.8198	310	216	45,295	\$4,286.27	\$574.70											
Phoenix	7,040	834	7,089	0.9931	7,040	834	4,314,678	\$97,495.63	\$54,743.77											
Welder	10	28	29	0.3275	10	28	7,453	\$132.95	\$94.56											
Mar-11	18,168	2,541	18,345	0.9904	18,168	2,541	11,124,090	\$251,608.74	\$141,140.23	\$195,330.12	(\$51,493.41)	(\$39,751.40)	\$1,172.20	\$59,786.26	\$264.76	\$7,328.78	(\$1,200.49)	\$67,351.51	\$564,185.79	5.072
Main	10,639	1,501	10,744	0.9902	10,639	1,501	6,146,900	\$147,339.10	\$77,990.64											
Welder	461	225	513	0.8988	461	225	100,331	\$6,389.93	\$1,272.98											
Phoenix	6,968	893	7,025	0.9919	6,968	893	3,984,501	\$96,495.04	\$50,554.55											
Welder	9	59	60	0.1573	9	59	10,581	\$130.18	\$134.24											
Apr-11	18,078	2,678	18,275	0.9892	18,077	2,678	10,242,312	\$250,354.24	\$129,952.41	\$179,846.81	(\$52,243.99)	(\$13,625.51)	\$1,079.28	\$57,857.67	\$256.22	\$7,328.78	(\$1,135.36)	\$65,386.59	\$559,670.55	5.464
Main	10,574	3,876	11,262	0.9389	10,574	3,876	6,533,012	\$146,445.32	\$82,889.55											
Welder	181	254	311	0.5809	181	254	122,023	\$2,505.28	\$1,548.21											
Phoenix	14,061	3,655	14,528	0.9678	14,061	3,655	4,356,917	\$194,731.34	\$55,279.69											
Welder	9	24	25	0.3398	9	24	16,180	\$119.10	\$205.29											
May-11	24,825	7,808	26,024	0.9539	24,825	7,808	11,028,133	\$343,801.05	\$139,922.74	\$193,645.18	(\$15,522.10)	\$75,836.26	\$1,162.09	\$59,786.26	\$264.76	\$7,328.78	(\$1,264.19)	\$67,277.70	\$804,960.83	7.299
Main	16,113	4,818	16,818	0.9581	16,113	4,818	7,177,522	\$223,148.80	\$91,066.96											
Welder	242	252	349	0.6920	242	252	113,105	\$3,344.53	\$1,435.06											
Phoenix	11,893	4,473	12,706	0.9360	11,893	4,473	4,932,546	\$164,701.93	\$62,583.16											
Welder	10	20	22	0.4292	10	20	6,568	\$132.95	\$83.34											
Jun-11	28,257	9,563	29,831	0.9472	28,257	9,563	12,229,742	\$391,328.22	\$155,168.52	\$200,934.20	(\$16,775.50)	\$58,194.61	\$1,288.70	\$57,857.67	\$256.22	\$8,284.48	(\$1,122.84)	\$66,564.23	\$855,414.27	6.995
Main	18,848	6,308	19,876	0.9483	18,848	6,308	6,455,008	\$275,897.17	\$78,658.15											
Welder	245	179	303	0.8079	245	179	88,956	\$3,587.77	\$1,083.98											
Phoenix	13,692	5,577	14,784	0.9261	13,692	5,577	9,413,392	\$200,423.67	\$114,707.83											
Welder	12	22	25	0.4870	12	22	7,263	\$178.73	\$88.50											
Jul-11	32,797	12,085	34,953	0.9383	32,797	12,085	15,964,619	\$480,087.35	\$194,538.46	\$262,298.08	(\$26,834.87)	(\$7,040.06)	\$1,515.52	\$75,365.33	\$264.76	\$8,560.31	(\$1,674.81)	\$84,031.11	\$987,080.07	6.183
Main	18,464	6,006	19,416	0.9510	18,464	6,006	8,972,231	\$270,275.45	\$109,332.02											
Welder	319	184	368	0.8668	319	184	89,069	\$4,670.99	\$1,085.35											
Phoenix	12,989	5,068	13,942	0.9316	12,988	5,068	5,563,598	\$190,125.08	\$67,795.78											
Welder	11	20	22	0.4845	11	20	7,223	\$158.09	\$88.01											
Aug-11	31,782	11,277	33,724	0.9424	31,782	11,277	14,632,120	\$465,229.60	\$178,301.16	\$240,405.17	(\$35,471.10)	\$7,128.23	\$1,389.03	\$75,365.33	\$264.76	\$9,054.17	(\$1,415.95)	\$84,657.34	\$940,250.40	6.426
Main	16,809	4,991	17,534	0.9586	16,809	4,991	6,670,577	\$246,050.27	\$81,284.98											
Welder	306	268	407	0.7526	306	268	109,944	\$4,485.08	\$1,339.73											
Phoenix	11,652	4,259	12,406	0.9392	11,652	4,259	4,520,664	\$170,562.11	\$55,087.00											
Welder	11	22	25	0.4456	11	22	6,642	\$161.02	\$80.94											
Sep-11	28,778	9,540	30,318	0.9492	28,778	9,540	11,307,826	\$421,258.48	\$137,792.65	\$185,787.16	(\$8,134.83)	\$35,349.95	\$1,073.45	\$72,934.19	\$256.22	\$8,769.09	(\$1,154.19)	\$81,878.76	\$853,932.17	7.552
Main	11,090	2,107	11,288	0.9824	11,090	2,107	6,635,850	\$162,335.07	\$80,861.81											
Welder	328	381	503	0.6520	328	381	104,735	\$4,796.87	\$1,276.25											
Phoenix	7,575	2,040	7,845	0.9656	7,575	2,040	4,222,552	\$110,882.70	\$51,454.33											
Welder	9	36	37	0.2553	9	36	6,742	\$137.60	\$82.16											
Oct-11	19,002	4,564	19,543	0.9723	19,002	4,564	10,969,879	\$278,152.24	\$133,874.56	\$180,234.71	(\$15,192.15)	\$35,207.13	\$1,041.37	\$75,365.33	\$264.76	\$8,409.93	(\$1,207.56)	\$83,873.83	\$695,950.32	6.344
Main	11,070	1,759	11,209	0.9876	11,070	1,759	6,521,794	\$162,042.51	\$79,471.97											
Welder	387	265	469	0.8246	387	265	106,103	\$5,660.51	\$1,292.93											
Phoenix	7,143	970	7,208	0.9909	7,142	970	4,105,541	\$104,551.81	\$50,028.48											
Welder	9	30	32	0.2876	9	30	6,559	\$133.21	\$79.93											
Nov-11	18,608	3,025	18,853	0.9870	18,608	3,025	10,739,997	\$272,388.05	\$130,873.31	\$176,457.74	(\$196.54)	\$27,927.90	\$1,019.55	\$72,934.19	\$256.22	\$7,499.07	(\$1,134.92)	\$80,574.11	\$688,024.57	6.406
Main	11,527	1,645	11,644	0.9900	11,527	1,645	7,075,076	\$168,731.79	\$86,214.04											
Welder	362	208	417	0.8675	362	208	122,046	\$5,297.49	\$1,487.20											
Phoenix	7,209	813	7,255	0.9937	7,209	813	4,404,115	\$105,525.01	\$53,666.78											
Welder	9	26	28	0.3304	9	26	16,537	\$133.21	\$201.52											
Dec-11	19,107	2,691	19,296	0.9902	19,107	2,691	11,617,774	\$279,687.49	\$141,569.55	\$190,879.59	\$18,692.96	\$52,842.65	\$1,102.88	\$75,365.33	\$264.76	\$7,252.29	(\$1,237.77)	\$82,747.49	\$766,419.73	6.597

Total for 2011:

142,360,179

\$9,148,341

6.426

CITY OF SOUTH HAVEN  
WATER FUND  
CuFt COMPARISONS  
ROLLING TWELVE MONTHS

		GALLONS PUMPED TO MAINS	CuFt PUMPED TO MAINS	CuFt PLANT TAP UNBILLED	CuFt WATER QUALITY FLUSHING	CuFt BILLED	PERCENTAGE BILLED PLUS PLANT TAP TO PUMPED TO MAINS (ROLLING 12 MOS)	PERCENTAGE BILLED PLUS PLANT TAP TO PUMPED TO MAINS CURRENT MONTH
<b>FISCAL 2011</b>								
July	2010	71,789,000	9,597,460	76,067	26,738	7,160,179	89.90%	75.40%
August	2010	70,411,000	9,413,235	79,151	17,647	8,560,179	89.47%	91.78%
September	2010	53,052,000	7,092,513	82,706	246,830	7,497,785	88.65%	106.88%
October	2010	40,104,000	5,361,497	75,128	213,904	5,242,069	87.99%	99.17%
November	2010	30,513,000	4,079,278	82,706	213,904	3,856,631	88.94%	96.57%
December	2010	34,709,000	4,640,241	76,248	213,904	3,452,281	88.54%	76.04%
January	2011	32,649,000	4,364,840	70,210	213,904	3,232,165	88.34%	75.66%
February	2011	33,847,000	4,525,000	66,376	213,904	3,209,045	87.74%	72.38%
March	2011	35,054,000	4,686,364	74,020	213,904	3,124,071	87.00%	68.24%
April	2011	30,789,000	4,116,176	76,855	213,904	2,952,560	87.03%	73.60%
May	2011	42,942,000	5,740,909	54,069	202,504	3,571,271	86.49%	62.21%
June	2011	54,884,000	7,337,433	77,139	119,736	5,758,969	85.43%	78.49%
		<u>530,743,000</u>	<u>70,954,947</u>	<u>890,676</u>	<u>2,110,782</u>	<u>57,617,205</u>		
<b>FISCAL 2012</b>								
July	2011	68,313,000	9,132,754	0	190,312	7,441,256	85.55%	81.48%
August	2011	59,907,000	8,008,957	103,610	244,928	7,402,180	84.90%	93.72%
September	2011	50,823,000	6,794,519	19,658	231,936	6,658,175	85.02%	98.28%
October	2011	38,457,000	5,141,310	23,888	231,936	4,862,072	85.07%	95.03%
November	2011	30,875,000	4,127,674	4,273	231,936	3,573,435	85.44%	86.68%
December	2011	30,441,000	4,069,652	17,174	231,936	3,191,493	85.57%	78.84%
January	2012	32,467,000	4,340,508	14,319	68,972	3,074,589	85.44%	71.16%
February	2012	29,495,000	3,943,182	23,262	68,972	3,219,167	85.84%	82.23%
March	2012	30,150,000	4,030,749	38,320	65,764	3,450,952	86.13%	86.57%
April	2012	32,927,000	4,402,005	31,678	68,972	3,378,738	86.74%	77.47%
May	2012	50,646,000	6,770,856	37,087	78,956	4,537,251	86.12%	67.01%
June	2012	72,150,000	9,645,722	41,402	144,360	6,461,594	84.46%	66.99%
		<u>526,651,000</u>	<u>70,407,888</u>	<u>354,672</u>	<u>1,858,980</u>	<u>57,250,902</u>		
<b>FISCAL 2013</b>								
July	2012	97,223,000	12,997,727	42,043	149,172	9,601,173	81.95%	74.19%
August	2012	73,095,000	9,772,059	40,244	227,566	10,549,444	83.36%	108.37%
September	2012	51,928,000	6,942,246	36,348	218,946	7,875,634	84.80%	113.97%
October	2012	37,774,000	5,050,000	27,350	259,447	4,949,605	85.50%	98.55%
November	2012	28,082,000	3,754,278	16,894	255,838	3,275,439	86.15%	87.70%
December	2012	27,941,000	3,735,428	34,835	160,400	3,150,827	86.30%	85.28%
		<u>316,043,000</u>	<u>42,251,738</u>	<u>197,713</u>	<u>1,271,369</u>	<u>39,402,122</u>		
Prior Year-to-Date		278,816,000	37,274,866	168,603	1,362,984	33,128,611		
Two Years Prior		300,578,000	40,184,225	472,006	932,926	35,769,124		

City of South Haven  
Water Fund - Fund 591  
For the period ended December 31, 2012

**AS OF JUNE 30, 2012**

Retained Earnings		\$	6,848,713
Less Net Capital Assets (Net of related Debt)		\$	<u>(5,020,668)</u>
Net Undesignated Reserves	Thru 6/30/12	\$	<u>1,828,045</u> →

**Breakdown:**

Cash/Investments	\$	1,088,381	(Including Debt Fund 372)
Other Current Assets	\$	1,509,947	
Current Liabilities	\$	<u>(770,283)</u>	
Net Working Capital	\$	<u>1,828,045</u>	Thru 6/30/12

**AS OF DECEMBER 31, 2012**

Retained Earnings-FYE		\$	6,848,713
Less Net Capital Assets		\$	<u>(5,020,668)</u>
Net Undesignated Reserves	June 30	\$	<u>1,828,045</u>
Net Income Per Income Statement	Revenue > Expenses	\$	<u>142,748</u>
Add back Non-cash Depreciation Expense	Thru 12/31/12	\$	<u>287,500</u>
		\$	<u>2,258,293</u> →

**Breakdown:**

Cash/Investments	\$	1,482,544	
Other Current Assets	\$	1,552,476	
Current Liabilities	\$	<u>(776,727)</u>	
Net Working Capital	\$	<u>2,258,293</u>	Thru 12/31/12

**PROJECTED BALANCE AT JUNE 30, 2013**

Based on Original Budget

Retained Earnings-FYE		\$	6,848,713
Less Net Capital Assets		\$	<u>(5,020,668)</u>
Net Undesignated Reserves	June 30	\$	<u>1,828,045</u>
Net Income Per Income Statement	Revenue < Expenses	\$	<u>(342,653)</u>
Add back Non-cash Depreciation Expense	Projected thru 6/30/13	\$	<u>575,000</u>
		\$	<u>2,060,392</u> →

**Breakdown:**

Cash/Investments	\$	1,320,728	
Other Current Assets	\$	1,509,947	Assume Similar to PFY
Current Liabilities	\$	<u>(770,283)</u>	Assume Similar to PFY
Net Working Capital	\$	<u>2,060,392</u>	Projected thru 6/30/13

The Net Working Capital is shown here for June 30, 2012, Mid-year December 31, 2012 and projected at June 30, 2013. The amounts represent what is left over after all of the short-term obligations have been met and represents the relatively liquid portion of the Utility's retained earnings or reserves that can be used for future expenditures.

The Cash/Investment totals at June 30, 2012 include approx. \$350,000 of bond proceeds which repaid the Water Fund for costs incurred on the WFP project before the bonds were issued. Also included here is the cash balance of \$362,937 from the Fund 372 - Water Plant Debt Fund which is combined on the audit report. As of 12/31/12, the funds have been combined in the City's general ledger too. At the time the last rate increase went into effect, the Water Fund had Cash of only \$375,444.

City of South Haven  
Sewer Fund - Fund 592  
For the period ended December 31, 2012

<b>AS OF JUNE 30, 2012</b>							
				\$	6,979,106		
Retained Earnings				\$	(5,622,267)		
Less Net Capital Assets (Net of related Debt)							
Net Undesignated Reserves		Thru 6/30/12		\$	1,356,839	→	
<b>AS OF DECEMBER 31, 2012</b>							
				\$	6,979,106		
Retained Earnings-FYE				\$	(5,622,267)		
Less Net Capital Assets							
Net Undesignated Reserves	June 30			\$	1,356,839		
Net Income Per Income Statement	Revenue > Expenses	Thru 12/31/12		\$	1,475		
Add back Non-cash Depreciation Expense				\$	132,500		
				\$	1,490,814	→	
<b>PROJECTED BALANCE AT JUNE 30, 2013</b>							
			Based on Original Budget				
				\$	6,979,106		
Retained Earnings-FYE				\$	(5,622,267)		
Less Net Capital Assets							
Net Undesignated Reserves	June 30			\$	1,356,839		
Net Income Per Income Statement	Revenue < Expenses	Projected thru 6/30/13		\$	(132,748)		
Add back Non-cash Depreciation Expense				\$	265,000		
				\$	1,489,091	→	

**Breakdown:**

Cash/Investments	\$	938,520
Current Assets	\$	726,925
Current Liabilities	\$	(308,606)
<b>Net Working Capital</b>	<b>\$</b>	<b>1,356,839</b>

Thru 6/30/12

**Breakdown:**

Cash/Investments	\$	934,369
Current Assets	\$	749,283
Current Liabilities	\$	(192,839)
<b>Net Working Capital</b>	<b>\$</b>	<b>1,490,814</b>

Thru 12/31/12

**Breakdown:**

Cash/Investments	\$	1,070,772
Current Assets	\$	726,925
Current Liabilities	\$	(308,606)
<b>Net Working Capital</b>	<b>\$</b>	<b>1,489,091</b>

Assume Similar to PFY

Assume Similar to PFY

Projected thru 6/30/13

The Net Working Capital is shown here for June 30, 2012, Mid-year December 31, 2012 and projected at June 30, 2013. The amounts represent what is left over after all of the short-term obligations have been met and represents the relatively liquid portion of the Utility's retained earnings or reserves that can be used for future expenditures.

CITY OF SOUTH HAVEN  
ELECTRIC FUND  
KWH COMPARISONS  
ROLLING TWELVE MONTHS

		KWH PURCHASED	KWH BILLED	KWH STREET LTS	STREET LTS 12 MO AVE.	TOTAL KWH BILLED AND STREET LTS	PERCENTAGE BILLED AND STREET LTS TO PURCHASED (ROLLING 12 MOS)	PERCENTAGE BILLED AND STREET LTS TO PURCHASED CURRENT MONTH
<b>FISCAL 2011</b>								
July	2010	16,257,328	13,438,394	37,192	49,323	13,475,586	92.44%	82.89%
August	2010	15,694,344	14,821,889	41,506	49,424	14,863,395	93.19%	94.71%
September	2010	11,066,633	12,074,098	47,613	49,507	12,121,711	93.30%	109.53%
October	2010	10,969,854	10,132,196	54,196	49,608	10,186,392	93.13%	92.86%
November	2010	10,510,315	10,391,582	61,923	50,014	10,453,505	93.96%	99.46%
December	2010	10,683,209	10,002,716	67,037	50,217	10,069,753	94.60%	94.26%
January	2011	11,953,507	11,068,303	64,924	50,660	11,133,227	94.10%	93.14%
February	2011	10,550,180	11,250,292	61,029	51,221	11,311,321	94.78%	107.21%
March	2011	11,124,090	9,519,380	57,044	51,539	9,576,424	94.28%	86.09%
April	2011	10,242,312	10,338,916	48,737	51,775	10,387,653	94.20%	101.42%
May	2011	11,028,132	9,957,130	44,762	51,986	10,001,892	94.81%	90.69%
June	2011	12,229,714	12,173,212	38,326	52,024	12,211,538	95.42%	99.85%
		<u>142,309,618</u>	<u>135,168,108</u>	<u>624,289</u>		<u>135,792,397</u>		
<b>FISCAL 2012</b>								
July	2011	15,964,582	12,755,514	37,013	52,009	12,792,527	95.31%	80.13%
August	2011	14,632,086	15,136,722	42,500	52,092	15,179,222	95.19%	103.74%
September	2011	11,307,801	12,319,850	47,553	52,087	12,367,403	95.87%	109.37%
October	2011	10,969,854	9,722,952	56,849	52,308	9,779,801	95.46%	89.15%
November	2011	10,739,972	10,221,480	61,585	52,280	10,283,065	95.52%	95.75%
December	2011	11,617,747	9,798,051	68,085	52,367	9,866,136	95.17%	84.92%
January	2012	11,913,417	11,146,773	65,812	52,441	11,212,585	94.66%	94.12%
February	2012	10,944,615	10,940,177	58,568	52,236	10,998,745	95.24%	100.49%
March	2012	11,050,285	10,825,582	58,568	52,363	10,884,150	95.14%	98.50%
April	2012	10,395,921	10,227,215	47,347	52,247	10,274,562	95.46%	98.83%
May	2012	11,744,237	10,681,872	44,415	52,218	10,726,287	95.09%	91.33%
June	2012	13,267,935	10,895,095	38,072	52,197	10,933,167	93.60%	82.40%
		<u>144,548,453</u>	<u>134,671,283</u>	<u>626,367</u>		<u>135,297,650</u>		
<b>FISCAL 2013</b>								
July	2012	17,466,170	14,702,549	38,276	52,303	14,740,825	93.26%	84.40%
August	2012	14,358,453	15,845,089	43,385	52,376	15,888,474	93.50%	110.66%
September	2012	11,481,145	12,211,557	48,595	52,463	12,260,152	94.22%	106.79%
October	2012	10,545,910	9,741,443	54,699	52,284	9,796,142	94.11%	92.89%
November	2012	10,466,158	10,312,656	61,617	52,287	10,374,273	94.68%	99.12%
December	2012	11,131,795	9,798,623	69,065	52,368	9,867,688	94.46%	88.64%
		<u>75,449,631</u>	<u>72,611,917</u>	<u>315,637</u>		<u>72,927,554</u>		
Prior Year-to-date		75,232,042	69,954,569	313,585		70,268,154		
Two Years Prior		75,181,683	70,860,875	309,467		71,170,342		

City of South Haven  
Electric Fund - Fund 582  
For the period ended December 31, 2012

<b>AS OF JUNE 30, 2012</b>					
Retained Earnings		\$ 16,288,783			
Less Net Capital Assets		\$ (11,198,750)			
Net Undesignated Reserves	Thru 6/30/12	<b>\$ 5,090,033</b>	→	<b>Breakdown:</b>	
				<b>Cash/Investments</b>	\$ 3,546,165
				<b>Current Assets</b>	\$ 2,837,654
				<b>Current Liabilities</b>	\$ (1,293,786)
				<b>Net Working Capital</b>	<b>\$ 5,090,033</b> Thru 6/30/12
<b>AS OF DECEMBER 31, 2012</b>					
Retained Earnings-FYE		\$ 16,288,783			
Less Net Capital Assets		\$ (11,198,750)			
Net Undesignated Reserves	June 30	<b>\$ 5,090,033</b>		<b>Breakdown:</b>	
Net Income Per Income Statement Revenue > Expenses	Thru 12/31/12	\$ 1,554,643		<b>Cash/Investments</b>	\$ 5,428,387
Add back Non-cash Depreciation Expense		\$ 243,000		<b>Current Assets</b>	\$ 3,041,445
		<b>\$ 6,887,676</b>	→	<b>Current Liabilities</b>	\$ (1,582,155)
				<b>Net Working Capital</b>	<b>\$ 6,887,676</b> Thru 12/31/12
<b>PROJECTED BALANCE AT JUNE 30, 2013</b> Based on Original Budget					
Retained Earnings-FYE		\$ 16,288,783			
Less Net Capital Assets		\$ (11,198,750)			
Net Undesignated Reserves	June 30	<b>\$ 5,090,033</b>		<b>Breakdown:</b>	
Net Income Per Income Statement Revenue < Expenses	Projected thru 6/30/13	\$ (49,270)		<b>Cash/Investments</b>	\$ 3,982,895
Add back Non-cash Depreciation Expense		\$ 486,000		<b>Current Assets</b>	\$ 2,837,654 Assume Similar to PFY
		<b>\$ 5,526,763</b>	→	<b>Current Liabilities</b>	\$ (1,293,786) Assume Similar to PFY
				<b>Net Working Capital</b>	<b>\$ 5,526,763</b> Projected thru 6/30/13

The Net Working Capital is shown here for June 30, 2012, Mid-year December 31, 2012 and projected at June 30, 2013. The amounts represent what is left over after all of the short-term obligations have been met and represents the relatively liquid portion of the Utility's retained earnings or reserves that can be used for future expenditures.

# MEMORANDUM

DATE: January 22, 2013

TO: Brian Dissette, City of South Haven  
Roger Huff, City of South Haven  
Amanda Morgan, City of South Haven

FROM: Christopher J. Cook, PE

CC: Cindy Clendenon, MDEQ  
Marcus Tironi, MDEQ  
Timothy R. Drews, P.E., PTOE, Abonmarche  
Tony McGhee, Abonmarche  
Daniel A. Dombos, PE, Abonmarche

RE: **City of South Haven – Sewer Study Progress Report**

The following will summarize our progress to-date on the City of South Haven Sewer Study:

## UTILITY MAPPING

We have completed this work. This task entailed compiling City record drawings, maps and field data into a comprehensive sanitary sewer system map. We converted city GIS information into AutoCAD for presentation, modeling, field investigation and study purposes. Draft final maps were submitted to city staff in November, following our presentation at the BPU meeting.

## FIELD INVESTIGATION AND DATA REVIEW

Recently, we completed field work on the sewer lines to determine the size and slope of key runs and mapping that information for the modeling effort. This should essentially complete our work on this portion of the project.

## COMPUTER MODELING AND FLOW MONITORING

This task included flow meters at strategic locations in the system to be used for identifying infiltration and inflow and for calibration of the sewer model. The flow meters were removed on January 15, after the weekend rains. We extended the flow metering

of Phase III in an effort to obtain data during a significant rain event. With metering now complete, efforts have transitioned to the computer modeling phase. Computer modeling will use calibration methods to adjust and fine tune the model and ensure that it closely matches actual flows observed during metering. Once the model has been calibrated, the results will be used to predict the system response during certain large scale wet weather events (25 year, 24 hour storm). Modeling work is underway and we expect to have results in mid-February.

### SMOKE TESTING

We completed smoke testing of several key areas in the south-central portion of the City in June and presented the results to the BPU in June and November. At this point we do not anticipate further smoke testing.

### SEWER TELEVISIONING

We have been reviewing televising completed by the city over the past several years. Our analysis indicates that some of this prior video inspection work can be utilized in this study. We determined which additional areas require video inspection and have been working with Plummer's to do this work. They are currently underway with sewer cleaning and televising the Kalamazoo/Center Street district from Van Buren to Aylworth.

### SRF PROJECT PLAN

We continue to work on the sections of the Plan that we can address, before all of the data is received. We are roughly 40% complete with this task with the bulk of work expected to be completed this winter before the July 1 deadline. We presented a PowerPoint update to the BPU in November.

### OVERALL SCHEDULE

The schedule going forward is expected to proceed as follows:

Smoke Testing Complete	December, 2012
Televising	December 2012 – January 2013
Computer Modeling	December 2012 – February 2013
Flow Monitoring Complete	January, 2013
Project Plan Complete	April 2013
Public Hearings Conducted	May 2013
Final Plan Adopted	June 2013
Plan Submitted to DNRE	July 1, 2013





City of South Haven

## Agenda Item # 9

### Unresolved Issues

New items shown in **bold** text.

Completed items shown with single ~~strike through~~ text for one meeting, then double ~~strike through~~ text for the next meeting, then removed from the list.

### ACTION ITEMS

- 6/2/10 – Security light costs (material, labor, O & M). File located, under review.
- 5/23/11 – Welder transformer. Addressed under agenda item 11 at the July meeting. GRP Engineering has been requested to perform an analysis of the cost of the “no load losses” associated with these transformers, and to evaluate alternatives. City staff has compiled data and forwarded to GRP. GRP is proceeding with the analysis.
- 2/27/12 – October 31, 2011 meeting requested staff pursue possible contract language change not limiting liability to the amount of the contractor’s insurance; and remove statement that the contractor is not liable for making sure the sub-contractors do the work properly.
- 3/26/12 – Stickland requested that staff provide the utility policy concerning tampering fees for review at the next meeting. Addressed under agenda item 15 at the April 30, 2012 meeting. MMEA was contacted requesting their assistance in contacting fellow members for their policies regarding meter tampering, disconnection or tampering with service feeders/pipes, theft of service, and unsealed meter showing consumption. No response has been received from MMEA. City staff is contacting fellow IMMUDA members plus Holland, Lowell, and Coldwater. Policies have been received from Bluffton, IN; Coldwater, MI; Holland BPW; Lowell Light & Power; Niles, MI; Sturgis, MI; Zeeland BPW. These policies will be compiled and summarized and distributed to staff and the BPU for review and comment.
- ~~2/26/12 – Stickland requested that staff provide a list of the AEP contacts attempted during the March 7, 2012 outages. Stickland had discussions with our AEP representation at the IMMUDA Annual Meeting April 27, 2012. A meeting is to be scheduled with the City and AEP. AEP has requested a description of events be provided prior to scheduling the meeting. City staff is preparing the requested information. Met with AEP on September 4, 2012. Updated contact information has been distributed. City staff will perform test calls periodically to confirm contact with the AEP Transmission Operations Center.~~
- 4/30/12 – As a result of the tamper fee discussion with a resident, staff was requested to compile a list of electrical and plumbing contractors licensed to work in South Haven for

Board of Public Utilities  
 Staff Report  
 Agenda Item #9  
 Prepared by Roger Huff  
 Page 1 of 2  
 January 28, 2013

the purpose of sending notification letters concerning the tamper policy. City staff contacted the State of Michigan and Michigan Township services, but they could not provide specific information. City of South Haven Building Services has a bulletin board available for posting notices. Suggestion was made to add it to the building permit form or instructions. Start with the City and then work with the townships.

- Board requested information about a power outage (10 second “blip”) that occurred at approximately 5:00 a.m. Saturday, September 23, 2012. Per Kim Hasty, AEP had an operation on the 69 KV line from the Bangor side. It caused a blink at the Phoenix Substation and a blink on two circuits at the Main Substation. Also, a circuit breaker at the main Substation had one operation. This is something that happens when we have an operation on that 69 KV circuit. This blink was not system wide. Staff was requested to investigate records of “blips” (either internal or from I&M) to determine if they have increased. **Staff has begun regularly recording substation operations.**

- ~~• Burr questioned the transformer replacement for Clementine’s and wondered if the transformer was overheated or if the circuit was overloaded. The two transformers that failed were 50KVA line transformers that were installed inside a metal enclosure. Line pots are designed for open air cooling with no cooling fins; so inside an enclosure even though the enclosure has provisions for external cooling, on a hot day at 100 + degree F., the thermal rating can be exceeded with phase loads of less than 50Kva.~~

~~Both transformers come from the same 3 phase bank and are connected in delta on the low side. When the cutout blew on one of the transformers, the other two transformers were single phasing for several hours leading to the second transformer’s failure. Kim said that transformer oil was extremely hot inside the failed units.~~

~~The crews replaced the two transformers with larger 75KVA units that have radiator fins. So the concern that larger transformers may be needed has been addressed.~~

- **Burr Requested calculation of the cost of electricity per kWh for the calendar year. Addressed under item 6.**

# **City of South Haven, MI**



## **Electric Outage Report 4th Quarter 2012**

**South Haven Electric Distri Yearly Reliabilty report    Jan-Dec    2012    |    Jan-Dec    2011**

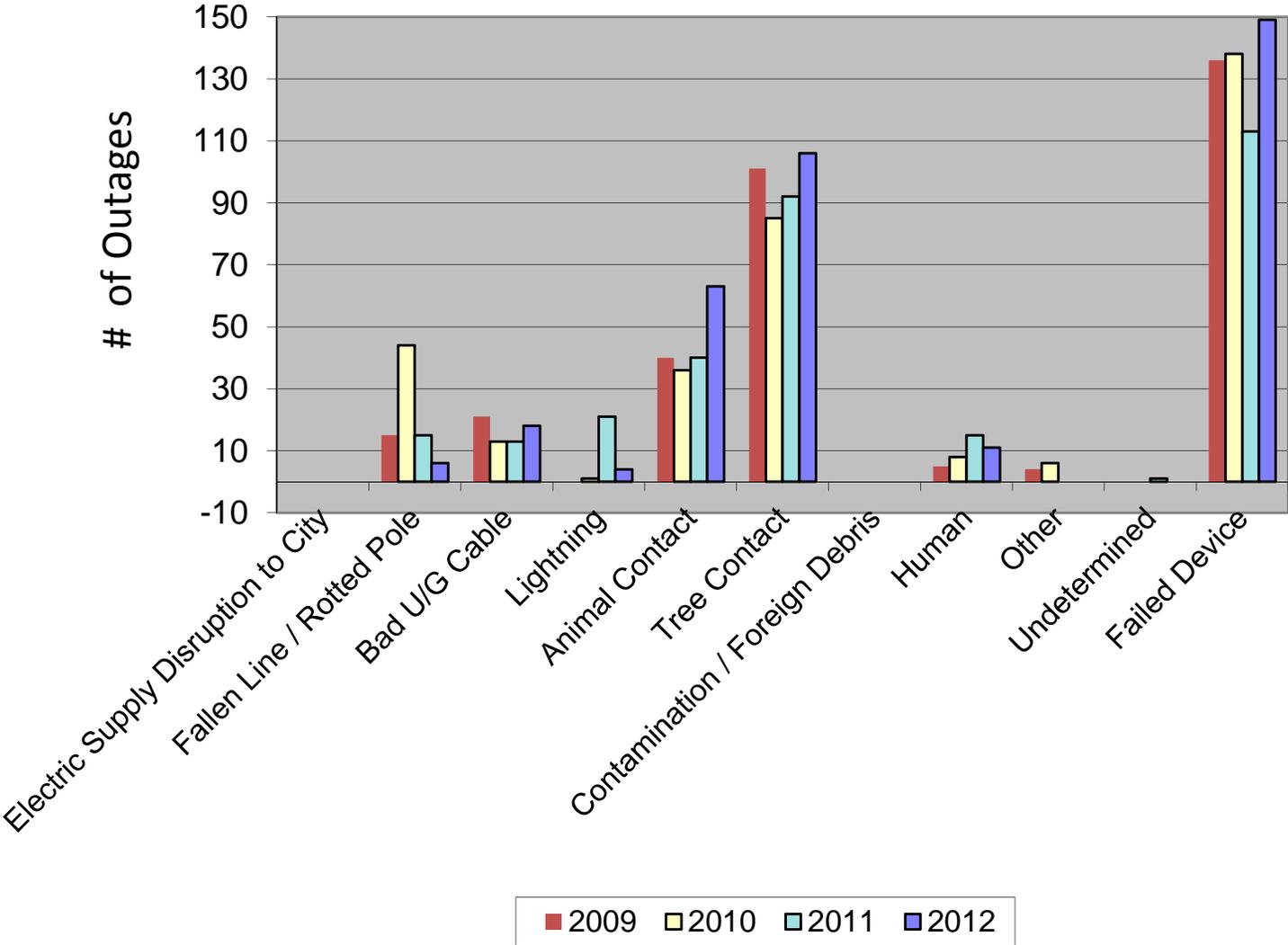
**Number of Outages per year(by Cause)**

0 Electric Supply Disruption to City	0	0
1 Fallen Line / Rotted Pole	6	15
2 Bad U/G Cable	18	13
3 Lightning	4	21
4 Animal Contact	63	40
5 Tree Contact	106	92
6 Contamination / Foreign Debris	0	0
7 Human	11	15
8 Other	0	0
9 Undetermined	0	1
10 Failed Device	149	113
<b>Total</b>	<b>357</b>	<b>310</b>

**Outage Statistics**

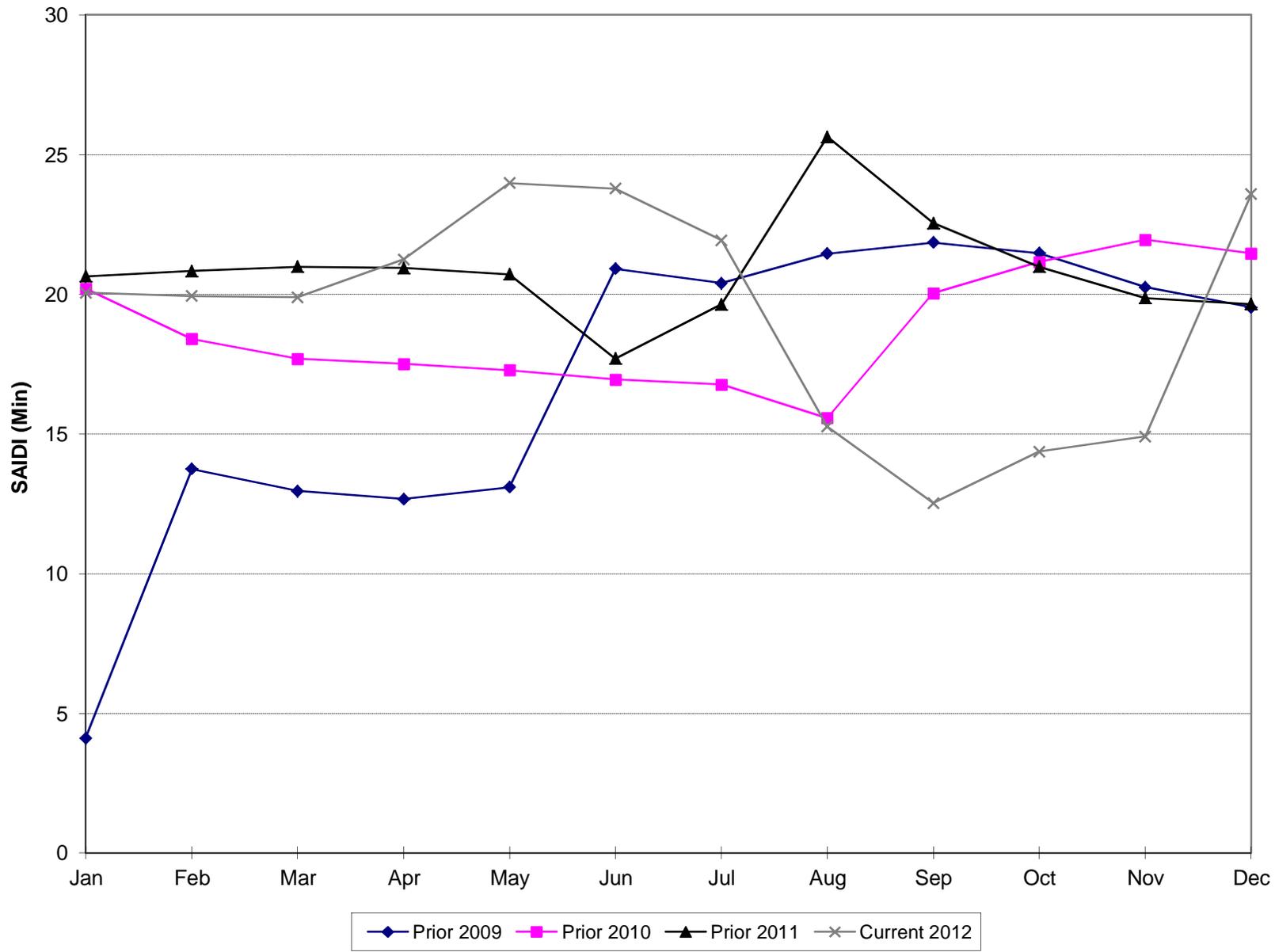
ASAI (%)	99.946308	0
CAIDI (Long) (min)	242.67065	0
SAIDI (Long) (min)	23.58232	0
SAIFI (Long) (ints/tot cust)	0.0971783	0
SAIFI (Short) (ints/tot cust)	0.0004313	0

# Outages By Cause

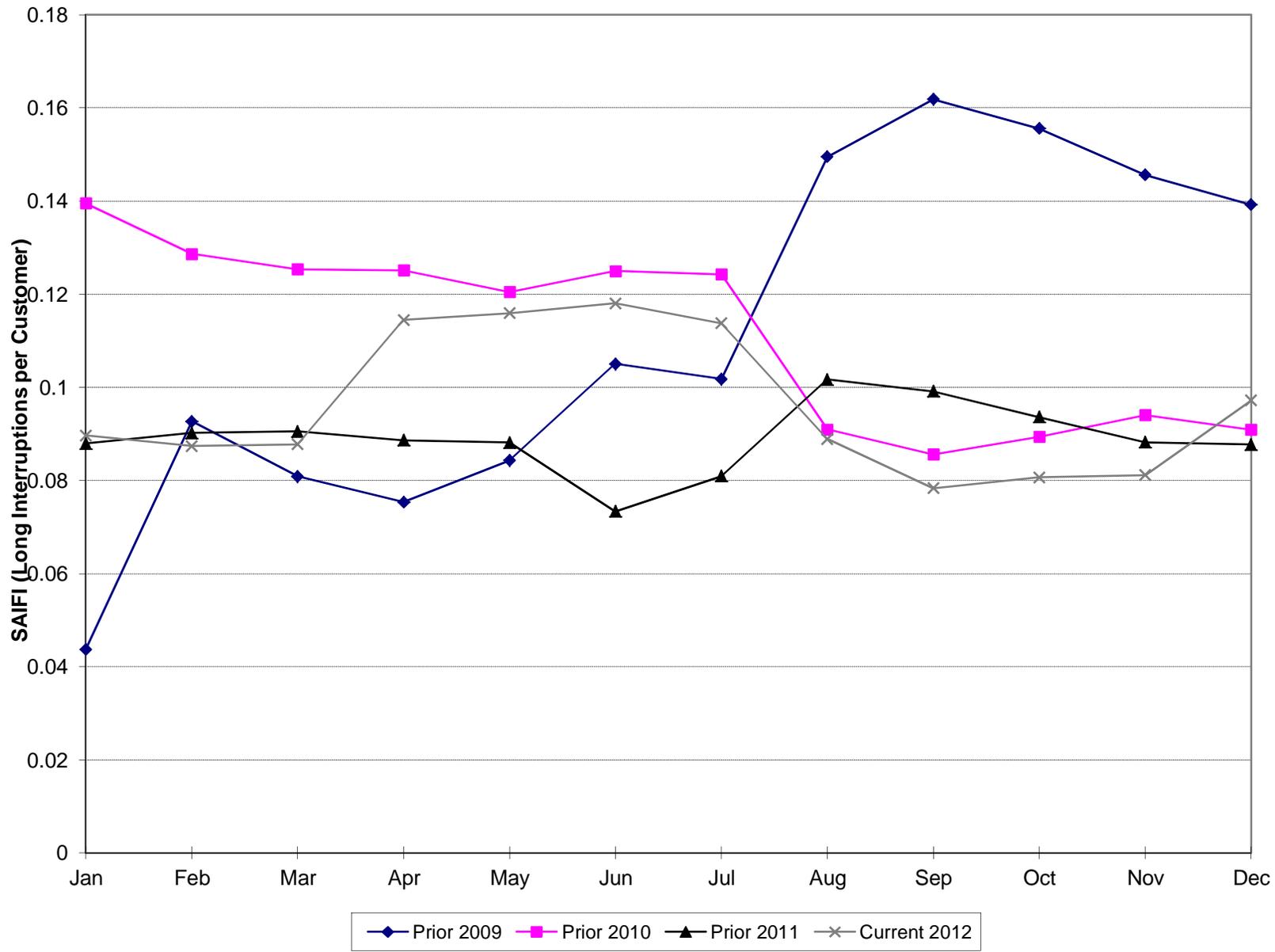


SAIDI (System Average Interruption Duration Index)

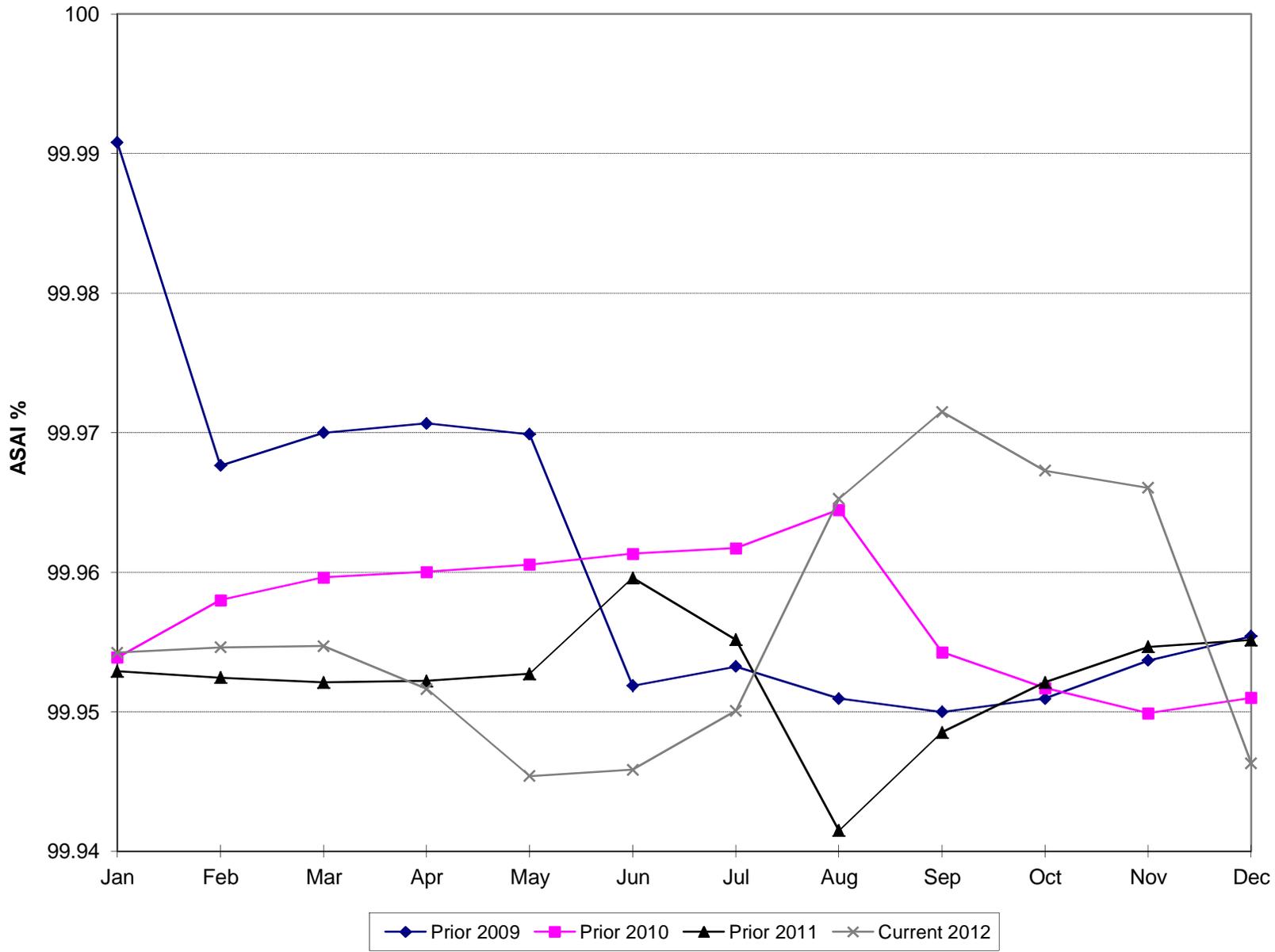
1/24/2013



This is the avg interruption duration for all customers served, and is calculated by dividing the sum of the customer minutes off by the avg number of customers served.



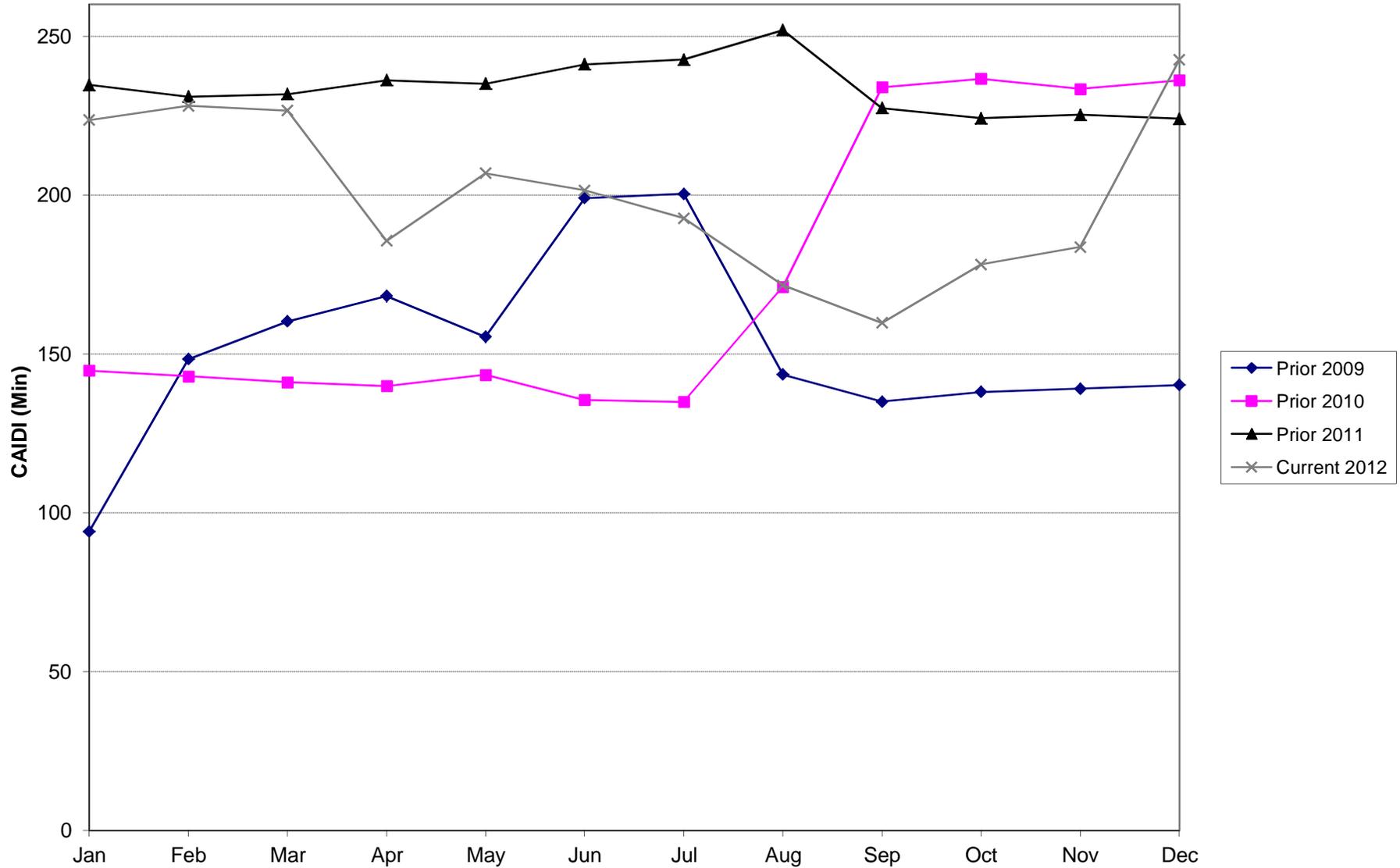
The number of times a customer is interrupted (>1 minute), averaged over all customers. Divide total customer interruptions by an avg of total customers served.



The ratio of the total customer minutes that service was available divided by the total customer minutes demanded (expected) in a time period. It is expressed as a percent.

CAIDI (Customer Average Interruption Duration Index)

1/24/2013



This is the average duration of a customer outage, and is calculated by dividing the sum of the customer minutes off by the number of customers who experienced long interruptions.

General Information				Cause	Time & Duration				Customers		
#	Date	S/U	Address/Location	Description	#	Ints	T off	T on	Mins	# Out	Cust Min
1	10/1/2012	U	74845 CR 380	Bad Connection	10	1	10/1/12 2:50 PM	10/1/12 4:00 PM	70	1	70
2	10/2/2012	U	15886 M-140	Bad Connection	10	1	10/2/12 3:05 PM	10/2/12 4:20 PM	75	1	75
3	10/4/2012	U	Lambert Dr & M-140	Bad primary jumper - tree limb	5	1	10/4/12 9:05 PM	10/4/12 11:50 PM	165	23	3795
4	10/6/2012	U	101 North Shore Dr	Bad Connection	10	1	10/6/12 1:40 PM	10/6/12 2:55 PM	75	3	225
5	10/7/2012	U	15581 73rd St	Fuse - Squirrel	4	1	10/7/12 11:00 AM	10/7/12 11:55 AM	55	16	880
6	10/7/2012	U	230 Baseline Rd	Fuse - Squirrel	4	1	10/7/12 11:15 PM	10/8/12 12:50 AM	95	43	4085
7	10/8/2012	U	74477 16th Ave	Linefuse - tree limb - wind	5	1	10/8/12 9:15 AM	10/8/12 10:45 AM	90	21	1890
8	10/8/2012	U	230 Baseline Rd	Fuse - tree limb - wind	5	1	10/8/12 11:05 AM	10/8/12 11:55 AM	50	11	550
9	10/11/2012	U	8th Ave & 73rd St	Linefuse - tree limb	5	1	10/11/12 3:10 PM	10/11/12 6:30 PM	200	46	9200
10	10/11/2012	U	74020 15th Ave	Bad Connection	10	1	10/11/12 4:40 PM	10/11/12 6:05 PM	85	1	85
11	10/11/2012	U	12th Ave & M-140	Linefuse - tree's	5	1	10/11/12 4:25 PM	10/11/12 7:40 PM	195	54	10530
12	10/11/2012	U	North St	Fuse - tree limb	5	1	10/11/12 7:30 PM	10/11/12 9:10 PM	100	13	1300
13	10/13/2012	U	420 Quaker St	Bad Connection	10	1	10/13/12 4:35 PM	10/13/12 5:50 PM	75	1	75
14	10/15/2012	U	05920 68th St	Bad Connection	10	1	10/15/12 2:50 PM	10/15/12 4:00 PM	70	1	70
15	10/17/2012	U	230 Baseline Rd	Fuse - Squirrel	4	1	10/17/12 11:55 PM	10/18/12 1:05 AM	70	61	4270
16	10/17/2012	U	CR 388 & 68th St	Sec. line down service - tree limb	5	1	10/17/12 3:30 PM	10/17/12 5:20 PM	110	6	660
17	10/18/2012	U	208 Itzen Ct	Broken pole & down service - tree limb	5	1	10/18/12 10:20 AM	10/18/12 4:35 PM	375	16	6000
18	10/18/2012	U	15480 72nd St	Bad Fuse	10	1	10/18/12 3:15 PM	10/18/12 6:20 PM	185	14	2590
19	10/19/2012	U	04920 Cecilia Ct	Bad Connection	10	1	10/19/12 3:10 PM	10/19/12 4:45 PM	95	1	95
20	10/20/2012	U	6745 Baseline Rd	Fuse - Squirrel	4	1	10/20/12 12:35 PM	10/20/12 1:50 PM	75	9	675
21	10/21/2012	U	1600 Stieve Dr	Bad Cutouts on primary line	10	1	10/21/12 12:30 PM	10/21/12 5:10 PM	280	6	1680
22	10/21/2012	U	553 Elkenburg St	Fuse - Squirrel	4	1	10/21/12 6:10 PM	10/21/12 7:20 PM	43270	3	129810
23	10/22/2012	U	75094 16th Ave	Linefuse - tree limbs	5	1	10/22/12 10:35 PM	10/23/12 1:20 AM	165	62	10230
24	10/24/2012	U	410 Chambers St	Bad Connection	10	1	10/24/12 3:35 PM	10/24/12 4:50 PM	75	1	75
25	10/25/2012	U	230 Baseline Rd	Line & Fuse - tree limb	5	1	10/25/12 2:10 PM	10/25/12 5:30 PM	200	47	9400
26	10/26/2012	U	16566 77th St	Sec. line down - tree limb	5	1	10/26/12 2:45 PM	10/26/12 6:10 PM	205	4	820
27	10/26/2012	U	75214 16th Ave	Fuse - tree limb	5	1	10/26/12 9:50 PM	10/26/12 11:20 PM	90	13	1170
28	10/28/2012	U	77323 20th Ave	Fuse - Squirrel	4	1	10/28/12 3:45 PM	10/28/12 5:10 PM	85	14	1190
29	10/29/2012	U	225 Broadway St	Bad Connection	10	1	10/29/12 5:45 PM	10/29/12 7:50 PM	125	1	125
30	10/29/2012	U	336 Broadway St	Bad Connection	10	1	10/29/12 6:15 PM	10/29/12 8:05 PM	110	4	440
31	10/29/2012	U	73075 Baseline Rd	Service down tree limb	5	1	10/29/12 11:30 PM	10/30/12 2:15 AM	165	1	165
32	10/30/2012	U	1019 E Wilson St	Primary line down - tree down - wind storm	5	1	10/30/12 5:30 AM	10/30/12 8:14 AM	164	34	5576
33	10/30/2012	U	Blue Star Mem Hwy & M-140	Primary line down - tree down - wind storm	5	1	10/30/12 10:45 AM	10/30/12 3:45 PM	300	126	37800
34	10/30/2012	U	18440 72nd St	Primary line down - tree down - wind storm	5	1	10/30/12 1:20 PM	10/30/12 4:45 PM	205	56	11480
35	10/30/2012	U	73230 8th Ave	Primary line down - tree down - wind storm	5	1	10/30/12 9:10 PM	10/30/12 11:55 PM	165	76	12540
36	10/31/2012	U	05896 68th Ave	Bad underground secondary line	2	1	10/31/12 2:50 PM	10/31/12 5:05 PM	135	3	405
37	10/6/2012	U	Chambers St & Broadway Ave	Primary line down - tree down	5	1	10/6/12 6:40 PM	10/6/12 10:35 PM	235	61	14335
38	10/7/2012	U	05697 Cherry St	Fuse - Squirrel	4	1	10/7/12 6:50 AM	10/7/12 8:10 AM	80	13	1040

S/U - Scheduled or Unscheduled  
 Ints - # of Interruptions  
 Long - >1 min; Short - <1 min  
 Cause # - see table on page 3

<b>Total Customers this Month</b>	<b>8,150</b>	<b>Days of Month</b>
<b>Total Customer Minutes this Month</b>	<b>363,816,000</b>	<b>31</b>

Outage Totals			
		This Month	This Month Last Year
<b>Unscheduled Outages</b>			
Long	# Outages	38	29
	# Customers Out	867	642
	# Minutes Out	48,364	3775
	# Customer Minutes Out	285,401	105295
	# Within City System	38	29
	# Supply to City Minutes	0	0
Short	# Outages (Blinks)	0	0
	# Customers Affected	0	0
	# Within City System	0	0
	# Supply to City Minutes	0	0
<b>Scheduled Outages</b>			
Long	# Outages	0	0
	# Customers Out	0	0
	# Minutes Out	0	0
	# Customer Minutes Out	0	0
	# Within City System	0	0
	# Supply to City Minutes	0	0
Short	# Outages (Blinks)	0	0
	# Customers Affected	0	0
	# Within City System	0	0
	# Supply to City Minutes	0	0
<b>Totals</b>			
Total Long Outages		38	29
Total Short Outages (Blinks)		0	0
Total Customers Out (Long)		867	642
Total Customers Affected (Short- Blinks)		0	0
Total Customer Minutes Out		285,401	105295
Total Outages Within City System		38	29
Total Outages in Supply to City		0	0

Number of Outages (by Cause)					
Cause #	Description	Total This Month	This Month Last Year	Rolling AT	% AT
0	Electric Supply Disruption to City	0	0	0	0%
1	Fallen Line / Rotted Pole	0	3	4	1%
2	Bad U/G Cable	1	2	18	5%
3	Lightning	0	0	4	1%
4	Animal Contact	7	6	62	18%
5	Tree Contact	18	10	83	24%
6	Contamination / Foreign Debris	0	0	0	0%
7	Human	0	1	17	5%
8	Other	0	0	0	0%
9	Undetermined	0	1	0	0%
10	Failed Device	12	6	154	45%
<b>Total</b>		<b>38</b>	<b>29</b>	<b>342</b>	

AT - Annual 12 Month Total

12 Month Outage Statistics		
Index	As of This Month	As of This Month Last Year
ASAI (%)	99.9673	99.9521
CAIDI (Long) (min)	178.17	224.19
SAIDI (Long) (min)	14.37	20.99
SAIFI (Long) (ints/tot cust)	0.08	0.09
SAIFI (Short) (ints/tot cust)	0.00	0.00

- ASAI - Average Service Availability Index  
(customer minutes available/total customer minutes, as a %)
- CAIDI - Customer Average Interruption Duration Index  
(average minutes interrupted per interrupted customer)
- SAIDI - System Average Interruption Duration Index  
(average minutes interrupted per customer for all customers)
- SAIFI (Long) - System Average Interruption Frequency Index  
(# of long interruptions per customer for all customers)
- SAIFI (Short) - System Average Interruption Frequency Index  
(# of short interruptions per customer for all customers)

S/U - Scheduled or Unscheduled  
 Ints - # of Interruptions  
 Long - >1 min; Short - <1 min  
 Cause # - see table on page 3

General Information				Cause		Time & Duration				Customers	
#	Date	S/U	Address/Location	Description	#	Ints	T off	T on	Mins	# Out	Cust Min
1	11/1/2012	U	74157 8th Ave	Bad fuse - cutout & arrester	10	1	11/1/12 9:50 AM	11/1/12 1:55 PM	245	4	980
2	11/3/2012	U	348 Indiana Ave	Bad Connection	10	1	11/3/12 8:50 AM	11/3/12 11:00 AM	130	1	130
3	11/6/2012	U	743 Kalamazoo St	Bad Underground Secondary Line	2	1	11/6/12 11:20 AM	11/6/12 4:35 PM	315	5	1575
4	11/6/2012	U	420 Green St	Bad Connection	10	1	11/6/12 3:05 PM	11/6/12 8:20 PM	315	1	315
5	11/7/2012	U	1020 6th Ave	Bad Connection	10	1	11/7/12 3:50 AM	11/7/12 4:10 AM	20	1	20
6	11/8/2012	U	14th Ave & Blue Star Mem Hwy	Pole rotted - down	1	1	11/8/12 11:05 AM	11/8/12 6:50 PM	465	2	930
7	11/10/2012	U	03219 CR 687	Fuse - Squirrel	4	1	11/10/12 12:35 PM	11/10/12 1:45 PM	70	14	980
8	11/10/2012	U	363 Broadway St	Fuse - Squirrel	4	1	11/10/12 1:15 PM	11/10/12 2:20 PM	65	21	1365
9	11/10/2012	U	400 Abell St	Fuse & Service down - tree limb	5	1	11/10/12 8:05 PM	11/10/12 9:15 PM	70	17	1190
10	11/11/2012	U	67926 CR 388	Linefuse - tree on primary line	5	1	11/11/12 10:20 AM	11/11/12 1:35 PM	195	47	9165
11	11/11/2012	U	8th Ave & 73rd St	Primary line down - tree	5	1	11/11/12 6:15 PM	11/11/12 10:55 PM	280	78	21840
12	11/12/2012	U	30 Delaware Ct	Fuse - Squirrel	4	1	11/12/12 7:20 AM	11/12/12 8:25 AM	65	16	1040
13	11/14/2012	U	523 Lyon St	Bad Connection	10	1	11/14/12 2:40 PM	11/14/12 4:00 PM		1	0
14	11/16/2012	U	77520 12th Ave	Bad Connection	10	1	11/16/12 2:50 PM	11/16/12 4:30 PM	100	1	100
15	11/17/2012	U	Cass St & 76th St	Linefuse bad cutout & arrester	10	1	11/17/12 7:45 PM	11/17/12 11:10 PM	205	38	7790
16	11/18/2012	U	923 Phoenix St	Fuse - Squirrel	4	1	11/18/12 5:15 PM	11/18/12 6:45 PM	90	11	990
17	11/19/2012	U	08801 73rd St	Fuse - Squirrel	4	1	11/19/12 10:20 AM	11/19/12 11:50 AM	90	6	540
18	11/19/2012	U	15500 76th St	Down Secondary line pole & services - tree down	5	1	11/19/12 10:10 AM	11/19/12 4:20 PM	370	9	3330
19	11/23/2012	U	77 Clinton St	Down services - tree limb	5	1	11/23/12 2:15 PM	11/23/12 4:10 PM	115	1	115
20	11/24/2012	U	06500 CR 689	Broken pole - car - lines down	7	1	11/24/12 12:17 PM	11/25/12 6:15 AM	1078	19	20482
21	11/25/2012	U	76320 14th Ave	Down service - tree limb	5	1	11/25/12 9:50 AM	11/25/12 11:55 AM	125	1	125
22	11/26/2012	U	8th Ave & 66th St	Linefuse -tree limb	5	1	11/26/12 11:20 AM	11/26/12 2:50 PM	210	69	14490
23	11/26/2012	U	225 Dyckman Ave	Bad Connection	10	1	11/26/12 3:10 PM	11/26/12 4:05 PM	55	1	55

S/U - Scheduled or Unscheduled

Ints - # of Interruptions

Long - &gt;1 min; Short - &lt;1 min

Cause # - see table on page 3

<b>Total Customers this Month</b>	<b>8,125</b>	<b>Days of Month</b>
<b>Total Customer Minutes this Month</b>	<b>351,000,000</b>	<b>30</b>

Outage Totals			
	This Month	This Month Last Year	
<b>Unscheduled Outages</b>			
Long	# Outages	22	24
	# Customers Out	363	308
	# Minutes Out	4,673	2770
	# Customer Minutes Out	87,547	34410
	# Within City System	22	24
	# Supply to City Minutes	0	0
Short	# Outages (Blinks)	1	0
	# Customers Affected	1	0
	# Within City System	1	0
	# Supply to City Minutes	0	0
<b>Scheduled Outages</b>			
Long	# Outages	0	0
	# Customers Out	0	0
	# Minutes Out	0	0
	# Customer Minutes Out	0	0
	# Within City System	0	0
	# Supply to City Minutes	0	0
Short	# Outages (Blinks)	0	0
	# Customers Affected	0	0
	# Within City System	0	0
	# Supply to City Minutes	0	0
<b>Totals</b>			
	Total Long Outages	22	24
	Total Short Outages (Blinks)	1	0
	Total Customers Out (Long)	363	308
	Total Customers Affected (Short- Blinks)	1	0
	Total Customer Minutes Out	87,547	34410
	Total Outages Within City System	22	24
	Total Outages in Supply to City	0	0

Number of Outages (by Cause)					
Cause #	Description	Total This Month	This Month Last Year	Rolling AT	% AT
0	Electric Supply Disruption to City	0	0	0	0%
1	Fallen Line / Rotted Pole	1	0	5	1%
2	Bad U/G Cable	1	1	18	5%
3	Lightning	0	0	4	1%
4	Animal Contact	5	3	64	19%
5	Tree Contact	7	8	82	24%
6	Contamination / Foreign Debris	0	0	0	0%
7	Human	1	1	17	5%
8	Other	0	0	0	0%
9	Undetermined	0	0	0	0%
10	Failed Device	8	11	151	44%
	<b>Total</b>	<b>23</b>	<b>24</b>	<b>341</b>	

AT - Annual 12 Month Total

12 Month Outage Statistics		
Index	As of This Month	As of This Month Last Year
ASAI (%)	99.9661	99.9547
CAIDI (Long) (min)	183.66	225.26
SAIDI (Long) (min)	14.91	19.87
SAIFI (Long) (ints/tot cust)	0.08	0.09
SAIFI (Short) (ints/tot cust)	0.00	0.00

- ASAI - Average Service Availability Index  
(customer minutes available/total customer minutes, as a %)
- CAIDI - Customer Average Interruption Duration Index  
(average minutes interrupted per interrupted customer)
- SAIDI - System Average Interruption Duration Index  
(average minutes interrupted per customer for all customers)
- SAIFI (Long) - System Average Interruption Frequency Index  
(# of long interruptions per customer for all customers)
- SAIFI (Short) - System Average Interruption Frequency Index  
(# of short interruptions per customer for all customers)

S/U - Scheduled or Unscheduled  
 Ints - # of Interruptions  
 Long - >1 min; Short - <1 min  
 Cause # - see table on page 3

General Information				Cause	Time & Duration					Customers	
#	Date	S/U	Address/Location	Description	#	Ints	T off	T on	Mins	# Out	Cust Min
1	12/2/2012	U	22922 76th St	Fuse - Squirrel	4	1	12/2/12 3:25 PM	12/2/12 5:20 PM	115	17	1955
2	12/3/2012	U	76648 11th Ave	Bad Connection	10	1	12/3/12 11:10 AM	12/3/12 1:15 PM	125	1	125
3	12/6/2012	U	746 Lee St	Broken Pole - tree limb	5	1	12/6/12 3:10 PM	12/6/12 4:35 PM	85	1	85
4	12/10/2012	U	829 Chambers St	Bad underground service	2	1	12/10/12 9:05 AM	12/10/12 3:10 PM	365	1	365
5	12/11/2012	U	19623 M-140	Bad Connection	10	1	12/11/12 10:50 AM	12/11/12 1:20 PM	150	1	150
6	12/11/2012	U	233 Dyckman Ave	Bad Connection	10	1	12/11/12 8:05 PM	12/11/12 11:10 PM	185	4	740
7	12/13/2012	U	10847 CR 687	Linefuse - tree limb	5	1	12/13/12 3:45 PM	12/13/12 4:55 PM	70	54	3780
8	12/15/2012	U	19489 Ruggles Rd	Tree on primary line	5	1	12/15/12 9:10 AM	12/15/12 12:50 PM	220	46	10120
9	12/18/2012	U	452 Blue Star Mem Hwy	Bad Connection	10	1	12/18/12 3:35 PM	12/18/12 6:40 PM	185	1	185
10	12/19/2012	U	24 Grand Blvd	Bad connection	10	1	12/19/12 3:05 PM	12/19/12 4:30 PM	85	1	85
11	12/20/2012	U	63125 8th Ave	Fuse & Connection	10	1	12/20/12 8:50 PM	12/20/12 11:05 PM	135	11	1485
12	12/21/2012	U	Humphrey St & Center St	Line Fuse - tree down - wind storm	5	1	12/21/12 2:20 AM	12/21/12 4:10 AM	110	27	2970
13	12/21/2012	U	6th Ave & CR 689	Primary line down - tree & wind	5	1	12/21/12 3:40 AM	12/21/12 9:40 AM	360	87	31320
14	12/21/2012	U	Michigan Ave and Maple St	Broken pole's & primary line down	1	1	12/21/12 4:40 AM	12/21/12 6:50 PM	850	740	629000
15	12/21/2012	U	260 Black River St	Primary line down - trees down & wind	5	1	12/21/12 9:10 AM	12/21/12 11:40 AM	150	109	16350
16	12/21/2012	U	300 Cherry Ct	Linefuse - trees down & wind	5	1	12/21/12 10:05 AM	12/21/12 1:40 PM	215	37	7955
17	12/21/2012	U	300 Hubbard St	Linefuse - trees down & wind	5	1	12/21/12 10:10 AM	12/21/12 12:20 PM	130	54	7020
18	12/21/2012	U	72977 Baseline Rd	Linefuse - tree limbs down primary line	5	1	12/21/12 11:35 AM	12/21/12 1:45 PM	130	27	3510
19	12/21/2012	U	73rd St - 72nd St	Tree down broken pole - line down	5	1	12/21/12 2:10 PM	12/21/12 6:50 PM	280	41	11480
20	12/21/2012	U	8th Ave & CR 689	Tree's down - primary line down	5	1	12/21/12 5:45 PM	12/21/12 11:40 PM	355	51	18105
21	12/21/2012	U	17503 Blue Star Mem Hwy	Tree's down - primary line down	5	1	12/21/12 11:10 PM	12/22/12 3:50 AM	280	57	15960
22	12/22/2012	U	Baseline Rd & North Shore Dr	Tree's down & broken pole	5	1	12/22/12 2:35 AM	12/22/12 9:20 AM	405	112	45360
23	12/22/2012	U	09920 Blue Star Mem Hwy	Broken pole & lines down - tree limb	5	1	12/22/12 3:20 AM	12/22/12 8:50 AM	330	19	6270
24	12/22/2012	U	Fruit St & Indiana Ave	tree down primary lines - broken pole	5	1	12/22/12 12:00 AM	12/22/12 12:00 AM	0	41	0
25	12/22/2012	U	820 Superior St	Tree down - broken pole	5	1	12/22/12 7:35 PM	12/22/12 11:30 PM	235	64	15040
26	12/23/2012	U	33 Promenade	Tree limb & line fuse	5	1	12/23/12 9:10 AM	12/23/12 11:50 AM	160	39	6240
27	12/23/2012	U	15187 73rd St	Tree limb & line fuse	5	1	12/23/12 11:20 AM	12/23/12 2:50 PM	210	62	13020
28	12/23/2012	U	Clarke Pl	Tree limb - primary down	5	1	12/23/12 1:10 PM	12/23/12 5:20 PM	250	16	4000
29	12/23/2012	U	22000 Ruggles Rd	Tree down - line fuse	5	1	12/23/12 4:50 PM	12/23/12 10:15 PM	325	16	5200
30	12/24/2012	U	Deer Creek	Tree limb down - linefuse	5	1	12/24/12 8:30 AM	12/24/12 11:55 AM	205	23	4715
31	12/24/2012	U	09831 Kassian Ct	Tree limb down service	5	1	12/24/12 11:05 AM	12/24/12 3:20 PM	255	4	1020
32	12/24/2012	U	1443 Clarke Pl	Tree down service	5	1	12/24/12 4:40 PM	12/24/12 8:10 PM	210	6	1260
33	12/25/2012	U	1 Apache Ct	Tree down secondary line	5	1	12/25/12 11:20 AM	12/25/12 3:45 PM	265	11	2915
34	12/25/2012	U	7224 Baseline Rd	Tree down service	5	1	12/25/12 7:30 PM	12/25/12 9:15 PM	105	1	105
35	12/26/2012	U	73479 12th Ave	Tree limb down service	5	1	12/26/12 1:52 PM	12/26/12 3:30 PM	98	1	98
36	12/27/2012	U	12548 73rd St	Tree limb down service	5	1	12/27/12 2:00 PM	12/27/12 4:15 PM	135	1	135
37	12/30/2012	U	14th Ave & Blue Star Mem Hwy	Fuse - tree limb	5	1	12/30/12 9:47 AM	12/30/12 11:55 AM	128	14	1792
38	12/30/2012	U	08801 73rd St	Fuse - Squirrel	4	1	12/30/12 10:20 AM	12/30/12 11:50 AM	90	6	540

S/U - Scheduled or Unscheduled

Ints - # of Interruptions

Long - &gt;1 min; Short - &lt;1 min

Cause # - see table on page 3

<b>Total Customers this Month</b>	<b>8,115</b>	<b>Days of Month</b>
<b>Total Customer Minutes this Month</b>	<b>362,253,600</b>	<b>31</b>

Outage Totals			
		This Month	This Month Last Year
<b>Unscheduled Outages</b>			
Long	# Outages	37	22
	# Customers Out	1,763	201
	# Minutes Out	7,986	3091
	# Customer Minutes Out	870,455	25081
	# Within City System	37	22
	# Supply to City Minutes	0	0
Short	# Outages (Blinks)	1	0
	# Customers Affected	41	0
	# Within City System	1	0
	# Supply to City Minutes	0	0
<b>Scheduled Outages</b>			
Long	# Outages	0	0
	# Customers Out	0	0
	# Minutes Out	0	0
	# Customer Minutes Out	0	0
	# Within City System	0	0
	# Supply to City Minutes	0	0
Short	# Outages (Blinks)	0	0
	# Customers Affected	0	0
	# Within City System	0	0
	# Supply to City Minutes	0	0
<b>Totals</b>			
Total Long Outages		37	22
Total Short Outages (Blinks)		1	0
Total Customers Out (Long)		1,763	201
Total Customers Affected (Short- Blinks)		41	0
Total Customer Minutes Out		870,455	25081
Total Outages Within City System		37	22
Total Outages in Supply to City		0	0

Number of Outages (by Cause)					
Cause #	Description	Total This Month	This Month Last Year	Rolling AT	% AT
0	Electric Supply Disruption to City	0	0	0	0%
1	Fallen Line / Rotted Pole	1	0	6	2%
2	Bad U/G Cable	1	1	18	5%
3	Lightning	0	0	4	1%
4	Animal Contact	2	3	63	18%
5	Tree Contact	28	4	106	30%
6	Contamination / Foreign Debris	0	0	0	0%
7	Human	0	6	11	3%
8	Other	0	0	0	0%
9	Undetermined	0	0	0	0%
10	Failed Device	6	8	149	42%
<b>Total</b>		<b>38</b>	<b>22</b>	<b>357</b>	

AT - Annual 12 Month Total

12 Month Outage Statistics		
Index	As of This Month	As of This Month Last Year
ASAI (%)	99.9463	99.9551
CAIDI (Long) (min)	242.67	224.02
SAIDI (Long) (min)	23.58	19.65
SAIFI (Long) (ints/tot cust)	0.10	0.09
SAIFI (Short) (ints/tot cust)	0.00	0.00

- ASAI - Average Service Availability Index  
(customer minutes available/total customer minutes, as a %)
- CAIDI - Customer Average Interruption Duration Index  
(average minutes interrupted per interrupted customer)
- SAIDI - System Average Interruption Duration Index  
(average minutes interrupted per customer for all customers)
- SAIFI (Long) - System Average Interruption Frequency Index  
(# of long interruptions per customer for all customers)
- SAIFI (Short) - System Average Interruption Frequency Index  
(# of short interruptions per customer for all customers)

S/U - Scheduled or Unscheduled  
 Ints - # of Interruptions  
 Long - >1 min; Short - <1 min  
 Cause # - see table on page 3

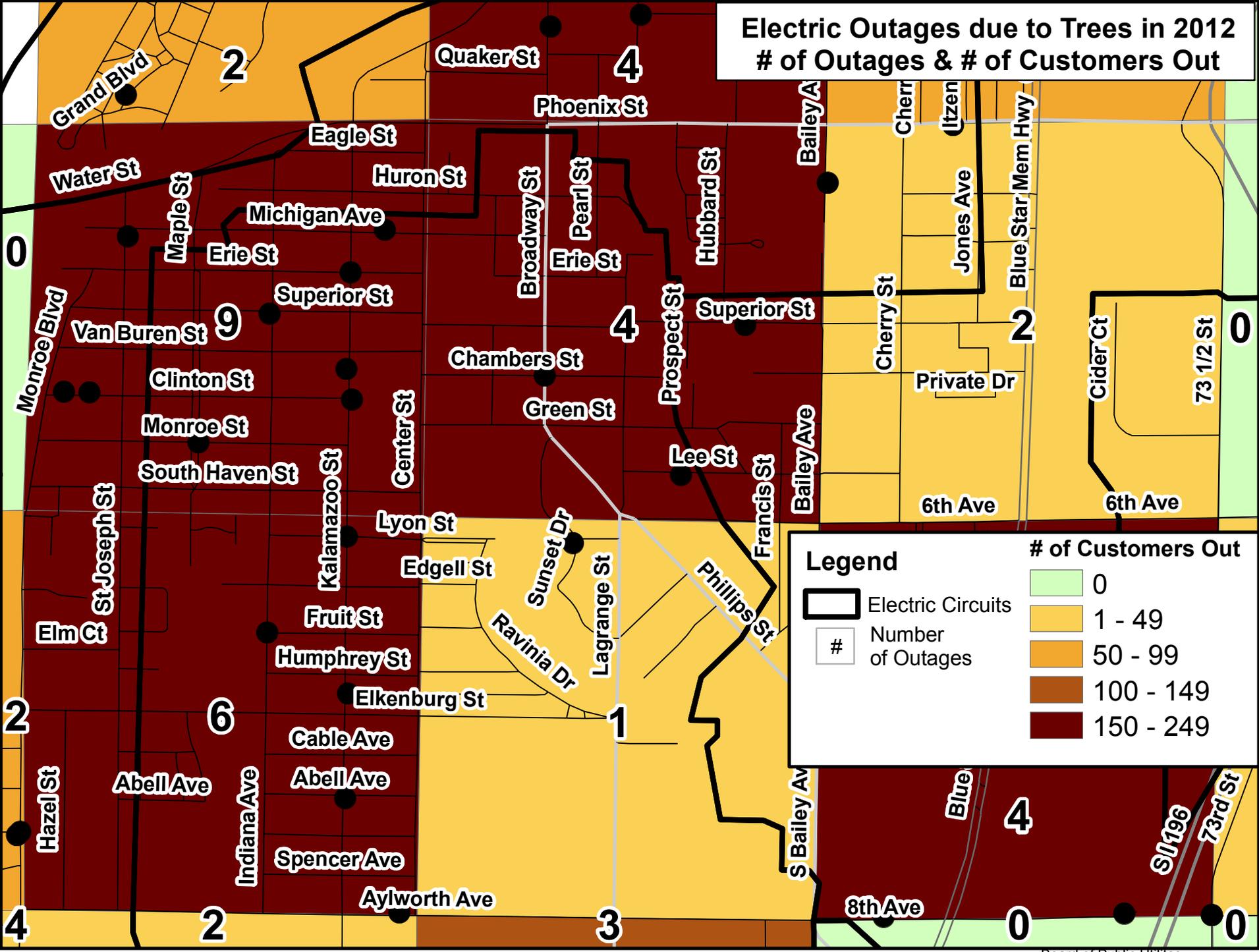
Month	Dec 11	Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sep 12	Oct 12	Nov 12	Dec 12
Number of Customers	8,061	8,026	8,046	8,030	8,057	8,202	8,163	8,151	8,172	8,151	8,150	8,125	8,115
<b>Unscheduled Outages</b>													
Long Outages # Outages	22	15	8	21	38	36	37	41	39	23	38	22	37
# Customers Out	201	289	76	217	2,858	621	901	925	266	318	867	363	1,763
# Minutes Out	3,091	2,615	1,200	3,145	5,785	20,855	5,600	5,443	5,948	2,665	48,364	4,673	7,986
# Customer Mins	25,081	59,550	21,400	33,430	204,875	343,575	138,735	131,704	49,248	70,715	285,401	87,547	870,455
# City System	22	15	8	21	38	36	37	41	39	23	38	22	37
# Supply to City Minutes	0	0	0	0	0	0	0	0	0	0	0	0	0
Short Outages # Outages (Blinks)	0	0	0	0	0	0	0	0	0	0	0	1	1
# Customers Out	0	0	0	0	0	0	0	0	0	0	0	1	41
# City System	0	0	0	0	0	0	0	0	0	0	0	1	1
# Supply to City Minutes	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Scheduled Outages</b>													
Long Outages # Outages	0	0	0	0	0	0	0	0	0	0	0	0	0
# Customers Out	0	0	0	0	0	0	0	0	0	0	0	0	0
# Minutes Out	0	0	0	0	0	0	0	0	0	0	0	0	0
# Customer Mins	0	0	0	0	0	0	0	0	0	0	0	0	0
# City System	0	0	0	0	0	0	0	0	0	0	0	0	0
# Supply to City Minutes	0	0	0	0	0	0	0	0	0	0	0	0	0
Short Outages # Outages (Blinks)	0	0	0	0	0	0	0	0	0	0	0	0	0
# Customers Out	0	0	0	0	0	0	0	0	0	0	0	0	0
# City System	0	0	0	0	0	0	0	0	0	0	0	0	0
# Supply to City Minutes	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>													
Total Long Outages	22	15	8	21	38	36	37	41	39	23	38	22	37
Total Short Outages (Blinks)	0	0	0	0	0	0	0	0	0	0	0	1	1
Total Custs Out (Long)	201	289	76	217	2,858	621	901	925	266	318	867	363	1,763
Total Custs Out (Short Blinks)	0	0	0	0	0	0	0	0	0	0	0	1	41
Total Cust Mins Out	25,081	59,550	21,400	33,430	204,875	343,575	138,735	131,704	49,248	70,715	285,401	87,547	870,455
Total City System	22	15	8	21	38	36	37	41	39	23	38	22	37
Total Supply to City	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Indices</b>													
SAI (%)	99.96	99.95	99.95	99.95	99.95	99.95	99.95	99.95	99.97	99.97	99.97	99.97	99.95
CAIDI (Long) (min)	224.02	223.63	228.09	226.60	185.59	206.90	201.51	192.71	171.64	159.80	178.17	183.66	242.67
SAIDI (Long) (min)	19.65	20.05	19.93	19.89	21.25	23.98	23.78	21.93	15.26	12.52	14.37	14.91	23.58
SAIFI (long int/cust)	0.09	0.09	0.09	0.09	0.11	0.12	0.12	0.11	0.09	0.08	0.08	0.08	0.10
SAIFI (short int/cust)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



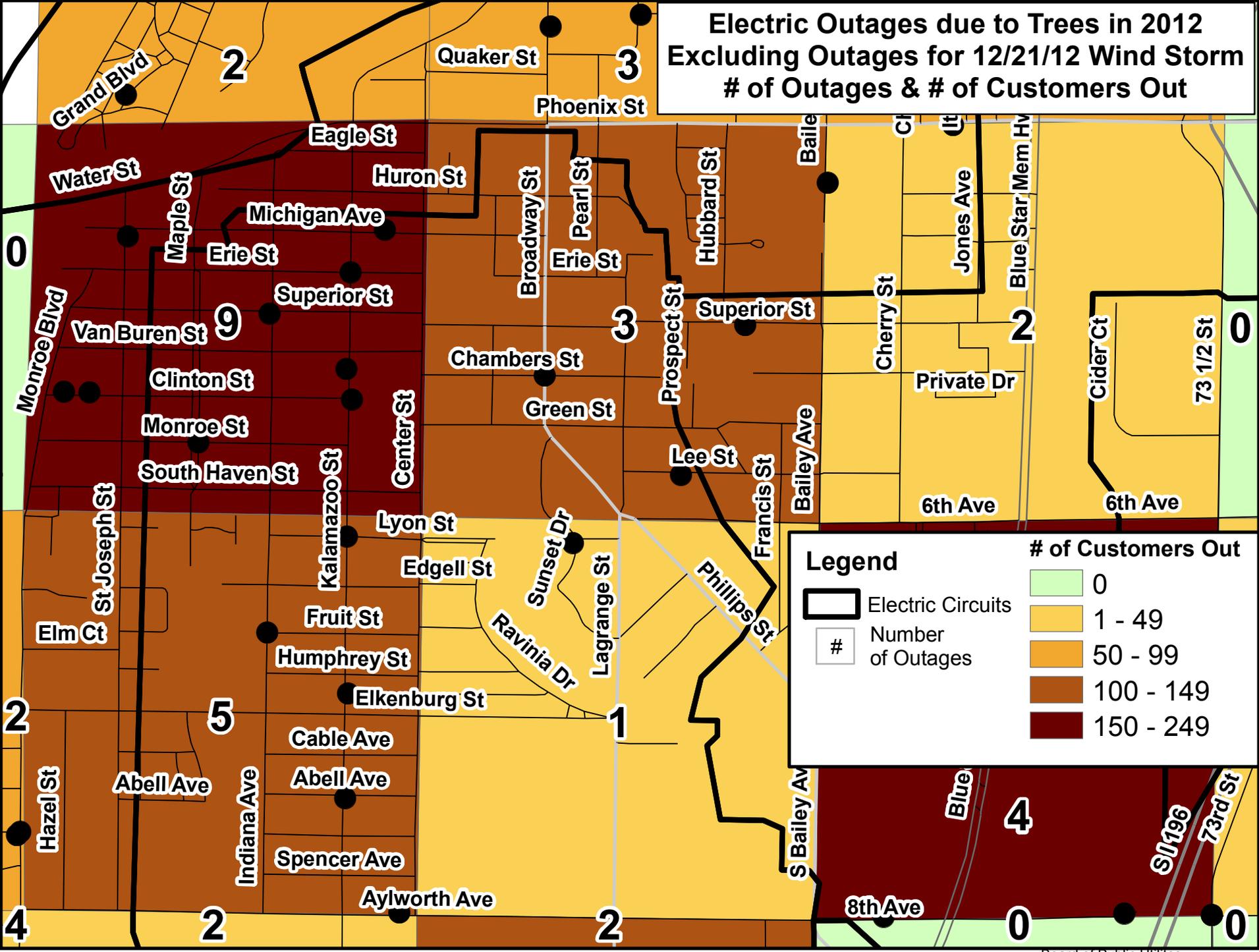


# Electric Outages due to Trees in 2012

## # of Outages & # of Customers Out



**Electric Outages due to Trees in 2012  
Excluding Outages for 12/21/12 Wind Storm  
# of Outages & # of Customers Out**







City of South Haven

## Agenda Item # 11

Winter Storm – December 21, 2012

### Background Information:

On Friday, December 21, 2012, a powerful winter storm hit West Michigan and the City of South Haven. This storm tore through most of the Midwest, then through the Great Lakes, and continued into the Northeast United States. The system produced blizzard conditions and 10 to 20 inches of snow from Nebraska, to Iowa, to Wisconsin. Most locations around West Michigan only tabulated one to three inches. However, the real threat was the powerful winds that filtered in behind the low pressure system Thursday night into Friday.

Wind speeds and wind gusts are recorded every 5 minutes from the National Oceanic and Atmospheric Administration/Great Lakes Environmental Research Laboratory (NOAA/GLERL) South Haven Meteorological Station located on the South Haven light on the south harbor inlet pier. The wind sensor is mounted on the structure railing. The processor samples the sensor every 5 seconds and is set to an averaging interval of 5 minutes. For each 5-minute interval, a mean and max (gust) wind speed are reported.

The wind speed and gust data for 5 minute intervals for Friday, December 21, 2012 are attached. These data were used to generate the attached graph. Between the period of 7:05 a.m. to 7:05 p.m., the wind speed ranged from 45 to 56 mph with an average speed of 51 mph. For the same period, the wind gusts ranged from 54 to 71 mph with an average gust of 62 mph. The highest wind gust of 71 mph was recorded at 2:05 p.m.

As a point of reference, a Hurricane Force Wind warning is issued by the National Weather Service of the United States when sustained winds or frequent gusts of 64 knots or 74 mph or greater are either being observed or are predicted to occur. The National Weather Service National Hurricane Center estimates potential property damage for a Category 1 Hurricane (74-95 mph) as follows:

“Very dangerous winds will produce some damage: Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters. Large branches of trees will snap and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.”

During the period from 7:00 a.m. to 5:00 p.m., DPW staff received a total of 83 storm related calls. 72 calls were electric related and 11 calls were tree related. The locations of these calls are plotted on the attached map. Also, a total of 45 storm related messages were received from the Call Center over the weekend.

Throughout the day, the City Arborist and contract tree crew responded to 17 major tree incidents; 9 were uprooted trees, 3 caused an outage. A summary of these incidents is attached and the locations are plotted on the attached map. Outages and blocked streets received the highest priority when dispatching the tree crew. In addition, all DPW crews were assisting with the cleanup of lower priority and smaller incidents.

**Support Material:**

Metadata for NOAA/GLERL South Haven Station  
Wind Speed and Gusts Graph  
Wind Storm Electric and Tree Related Calls  
Storm Response Summary  
Wind Storm Tree Crew Response Locations

Respectfully submitted,

Roger Huff, P.E.  
Director

Year	Time	Wind Speed mph	Wind Gust mph	Wind Direction deg	Air Temp C
12/21/2012	12:00 AM	32	36	244	6.99
12/21/2012	12:05 AM	33	38	244	6.94
12/21/2012	12:10 AM	30	35	243	6.75
12/21/2012	12:15 AM	28	34	243	6.72
12/21/2012	12:20 AM	25	30	238	6.65
12/21/2012	12:25 AM	27	31	234	6.64
12/21/2012	12:30 AM	25	29	225	6.44
12/21/2012	12:35 AM	21	26	220	6.4
12/21/2012	12:40 AM	17	21	218	6.3
12/21/2012	12:45 AM	19	23	218	6.25
12/21/2012	12:50 AM	19	23	219	6.04
12/21/2012	12:55 AM	18	25	219	6.02
12/21/2012	1:00 AM	20	24	222	6.02
12/21/2012	1:05 AM	20	22	221	6.05
12/21/2012	1:10 AM	19	22	221	5.89
12/21/2012	1:15 AM	19	23	218	5.89
12/21/2012	1:20 AM	17	21	222	5.86
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12/21/2012	7:35 AM	53	63	21	3.52
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12/21/2012	11:15 AM	51	61	20	3.14
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12/21/2012	11:25 AM	50	59	18	3.05

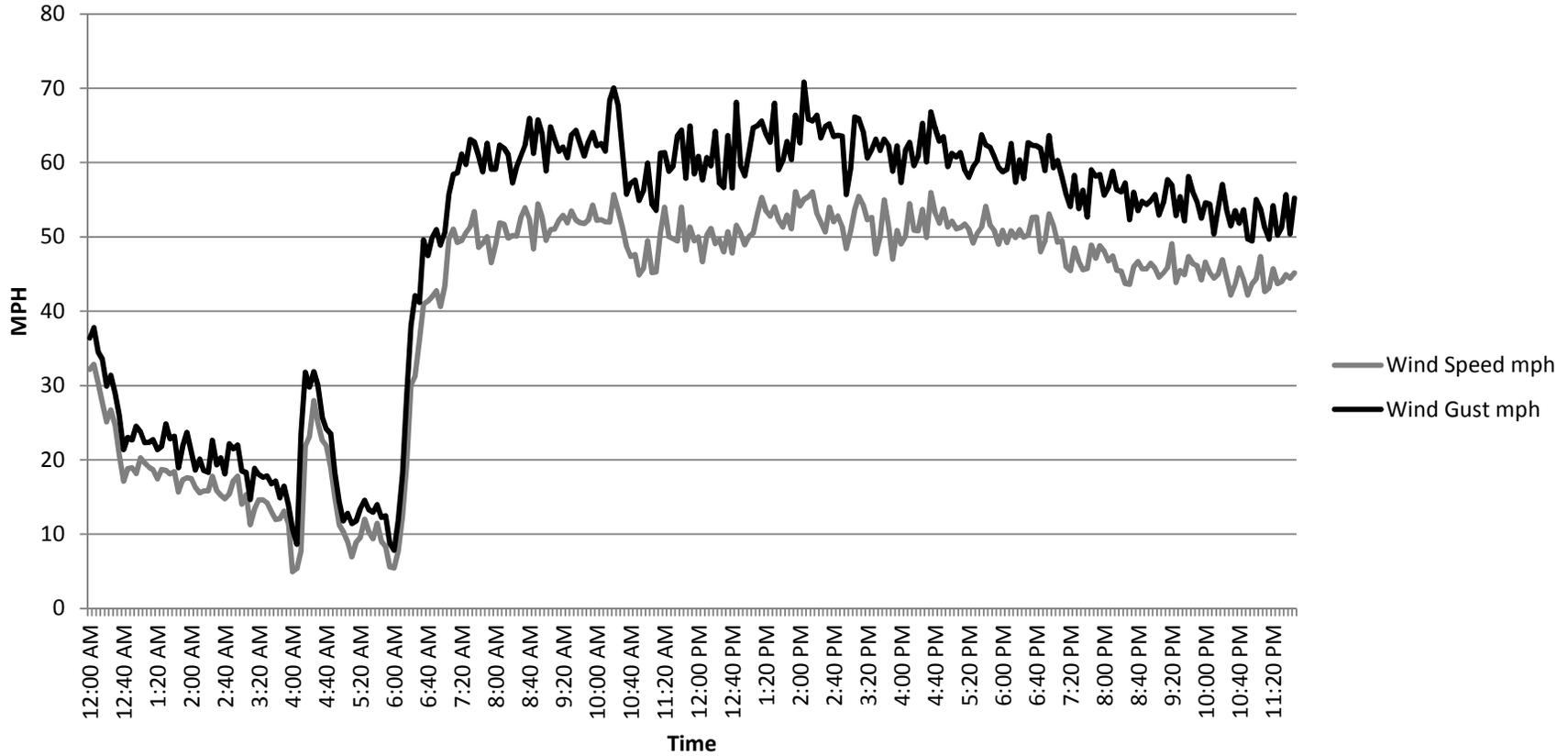
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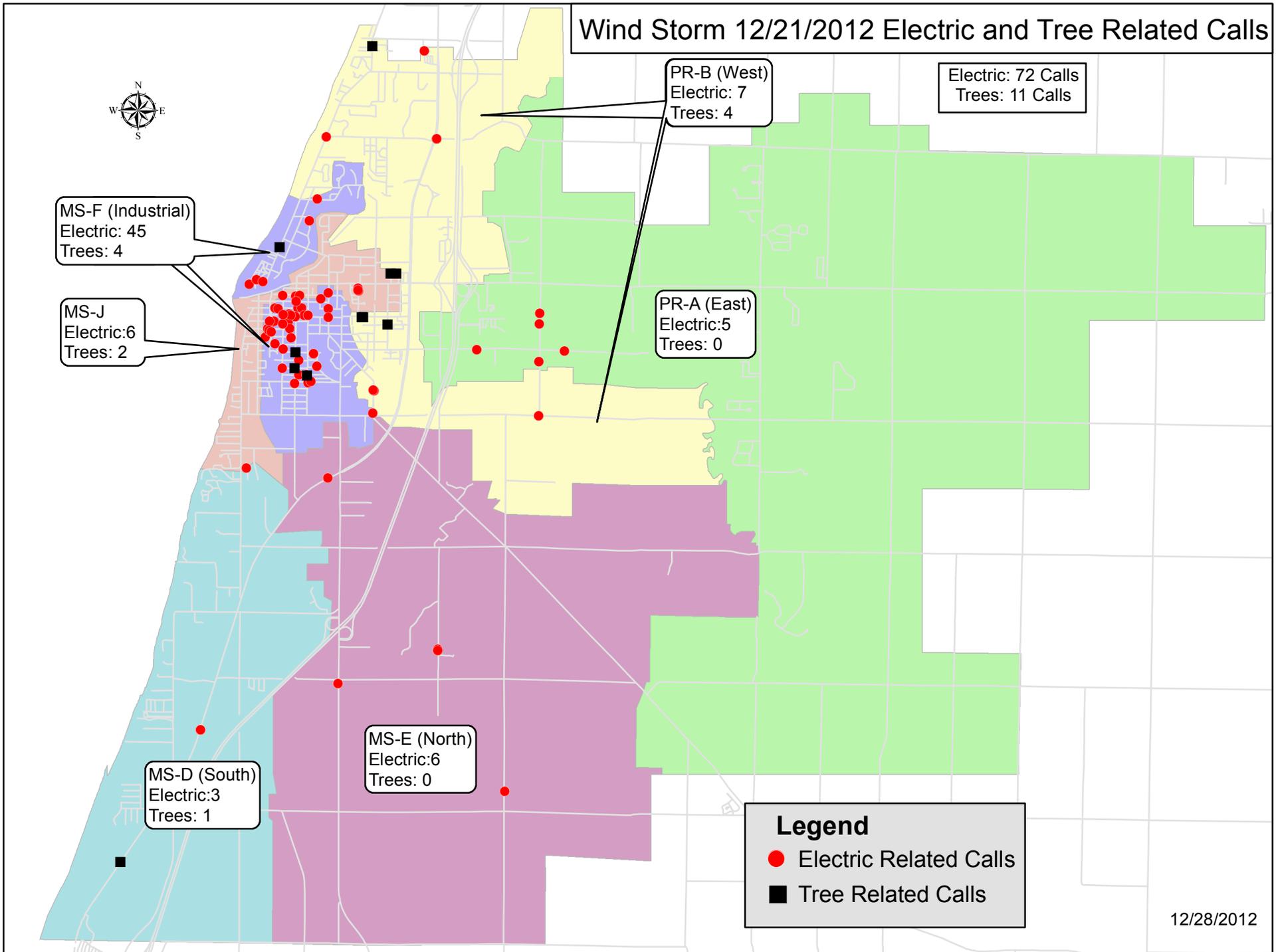
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12/21/2012	11:40 PM	44	50	19	2.51
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### Wind Speed and Gusts (MPH) at South Haven Lighthouse 12/21/2012



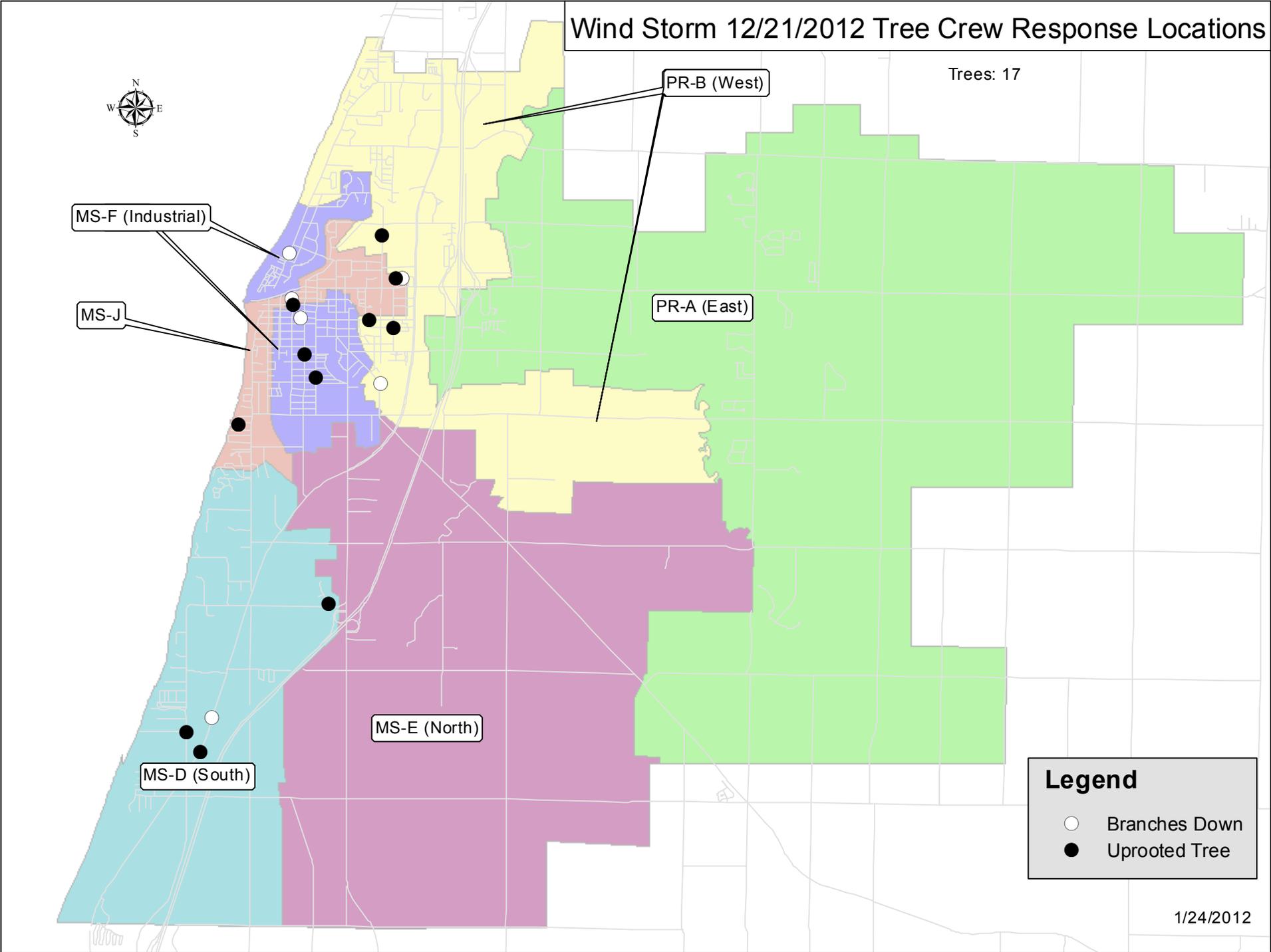
# Wind Storm 12/21/2012 Electric and Tree Related Calls



12/28/2012

STORM RESPONSE LOCATIONS						
Location	part of tree damaged?	streets or utility?	line type	outage	private/ City tree?	notes/ comments
Bailey Hyde Museum	broken branches	utility	3-phase	no	museum tree	large limbs broke out of pine and were on 3-phase
Itzen Ct.	broken and fallen branches	street	no line	no	city street tree	street department cleaned up limbs
145 N. Shore Dr.	broken trunk	utility	single phase	no	private	trunk broke on cedar tree, tree did not fall
828 Superior	uprooted tree	utility	service line	no	private	heavy on lines
Kalamazoo/ Lyon	uprooted tree	street	no line	no	city	fell across road
Cherry Ct.	uprooted tree	street	no line	no	city	fell across road
Center St./ N. of Elkenberg	branches in street	street	no line	no	private	uprooted and fell across street
352 Indiana	lead split out	street	no line	no	city street tree	damage to roof
Cemetary	uprooted tree	cemetary	no line	no	cemetary tree	one uprooted and damaged another- (2 trees )
Cherry St./ Chambers	uprooted tree	street	no line	no	city	fell across street
323 Superior	large lead broke	utility	secondary	yes	private	lots of damage, very large tree
13748 Deer Creek Dr. (fell on 14th Ave. side)	uprooted pine tree	utility	3-phase	no	private	heavy on the lines, no outage
Apache Ct.	uprooted pine tree	utility	secondary	no	private	heavy on the lines, no outage
18601 77th (fell on Blue St. Hwy.)	dead tree blew over	street	no line	no	private	fell across road
17442 Blue St. Hwy	large oak limb	utility	service line	yes	private	took down two service lines
Corner of Michigan St. and Indiana	uprooted ash tree	utility	3-phase and service	yes	city street tree	fell across street and took down Hendrix cable
Corner of 77th and 18th (fell on east side of 77th)	uprooted pine tree	utility	service line	no	private	heavy on service line

# Wind Storm 12/21/2012 Tree Crew Response Locations



Trees: 17

**Legend**

- Branches Down
- Uprooted Tree

1/24/2012