

**TOWN OF BOONE
SUSTAINABILITY COMMITTEE
MEETING MINUTES
THURSDAY, JULY 11, 2019
5:30 P.M.**

Members Present: Chairperson Quint David, Vice-Chairperson Harvard Ayers, Nancy LaPlaca and John Prickett.

Town Council Liaisons Present: Sam Furguele and Marshall Ashcraft

Staff Members Present: Jane Shook-Director of Planning and Inspections, Marty Little-Senior Planner and Marlene Crosby-Committee Secretary

Others Present: Rick Miller-Director of Public Works and Todd Moody-Deputy Director of Public Works

Call to Order

Chairperson Quint David called to order the Boone Sustainability Committee, held in the Planning and Inspections Department – Upstairs Conference Room located at 680 W. King Street at 5:30 p.m.

Adoption of Agenda

Member Prickett made a motion, seconded by Vice-Chairperson Ayers to adopt the agenda as written.

Vote: Aye – All

Nay – None

The motion passed.

Member LaPlaca stated that she would like to add to the agenda that she objects to the purview of the Sustainability Committee being so narrow and she noted that she hopes that this can be discussed at some point. Chairperson David said this topic could be discussed under other matters. He said that this topic was discussed at last month's meeting but it can also be discussed again.

Approval of Minutes

Member Prickett made a motion, seconded by Vice-Chairperson Ayers to approve the June 13, 2019 meeting minutes as written.

Vote:

Aye – All

Nay – None

The motion passed.

Town Department Operations/Public Works Department

Chairperson David welcomed Public Works Director, Mr. Rick Miller, and Public Works Deputy Director Mr. Todd Moody to the meeting and turned the meeting over to them to begin their presentation on their departments.

Mr. Moody handed out an eight-page document (permanently attached) that covered the following topics related to Public Works in their presentation: Public Services and Public Utilities, Jimmy Smith Wastewater Treatment Plant, Water Treatment Plant, Equipment Yards, Streetlights and Traffic Signals, Booster Station on Brownwood Road, Greg Young Water Intake, New River South Fork Intake and the Winkler Creek Intake. Mr. Miller added that there are 57 full-time employees and one temporary employee in the Public Services and Public Utilities Departments.

Member LaPlaca asked where the most time and energy is spent in their departments. Mr. Miller said on whatever the priority is on that day. He said one example is the meter reading which is a priority for the first two weeks of the month for eight hours a day. He explained that at this time, the meters are read with touch-read meters.

Chairperson David noted the wastewater treatment and sewer related activities created about 60 percent of the expenses in the annual budget. Mr. Miller said the waste water treatment sewer plant is the largest expense with about \$400,000.00 per year and between \$135,000 and \$150,000 in natural gas expense per year. Mr. Miller further explained that it takes electricity and gas for the drying process for two and one-half million gallons of sewage coming in to be processed per day. Mr. Miller recommended not making any changes to the sewer plant until the time the plant underwent an expansion which could be in ten to fifteen years.

Vice-Chairperson Ayers asked about the breakdown for kilowatt hours. Mr. Miller said the Town gets its power from both New River Light and Power (NRLP) and Blue Ridge Electric Membership Corporation (BREMCO). He also noted that the waste water treatment plant gets its power from BREMCO.

Discussion ensued on the breakdown of the total usage at the wastewater treatment plant. Mr. Miller said over the years there have been three separate engineers that have looked at lowering the power usage. Member LaPlaca said there should be some way to negotiate the usage with BREMCO because of their system load. Mr. Miller said there have been conversations with BREMCO and NRLP and other pump stations on trying to lower the usage. Member LaPlaca said the usage cannot be reduced because of the demand charge issue and Mr. Miller agreed.

Discussion ensued on the power bills for each of the topics outlined in the attached document. Member LaPlaca asked about the actual cost of energy without the demand charges. She recommended that Council have experts review the power bills and look at the different options for the Town's electricity.

Discussion ensued on energy versus the demand charge. Member LaPlaca said she thought the demand is half demand and half energy. She explained that the demand charge drives everything and she asked Mr. Miller to do some more research on it based on the peak charge.

Discussion ensued on the LED lights in the Town. Member LaPlaca asked if the Town was using any LED street lights. Mr. Moody explained that the Town started changing the street lights over to LED lights about five years ago. Member LaPlaca asked if the Town has seen any cost savings since they changed over to LED lights. Mr. Moody said it depends on the wattage that they are

using for the lights and because the Town is charged a flat rate, they cannot tell the cost savings. Chairperson David said he would like for the Town to ask NRLP about the rate they are charging the Town for kilowatt hours. Mr. Moody said that the Town does not see the cost savings because it is blended into the increase in the electrical rates that just occurred in July of 2019. Mr. Miller suggested that the Sustainability Committee check with the Finance Department on the electric bills. Vice-Chairperson Ayers asked how many LED street lights have been changed out that make up the 25 percent number. Mr. Moody said there are 9,000 poles in the Town of Boone but the Town does not maintain all of them.

Mr. Moody explained that for LED lights, there is a one-time charge of \$400.00 to change out a light fixture. If they change a black, powder-coated pole downtown it is \$9,125.00, a sidewalk light costs \$1,750 and a street light costs \$1,950.00. Mr. Miller explained that it takes three employees to change five or six lights per day depending on where they are working and the circumstances where they have to work.

Discussion ensued on changing out the vehicles to electric vehicles. Mr. Miller said he is working on replacing the public works 2010 bucket truck. Mr. Miller pointed out that if this type of truck is available in an electric version, it would cost more than what the budget could currently afford for a non-electric version. Vice-Chairperson Ayers asked about doing research to see if bucket trucks are available in the electric version. Ms. Jane Shook, Director of Planning and Inspections, said the Planning Staff can do the research on making a list on which vehicles that might be converted to electric.

Discussion ensued on negotiating with BREMCO to reduce power costs. Mr. Miller said that, at the Staff level, he did not feel that he could make progress with BREMCO on reducing costs.

Discussion ensued on an updated plan to evaluate if there are new methods that would help conserve water and energy in the water treatment and wastewater treatment plant systems.

Discussion ensued on alternative methods to reduce costs at the water and wastewater treatment plants. Council Liaison Furgiuele asked Mr. Miller if he had researched any alternative methods to reduce costs for the process of drying the solids. Mr. Miller said he has not researched these type of methods. Mr. Miller explained the water treatment plant is currently running at 55 to 65 percent on most days; therefore, an expansion is not needed for ten to fifteen years, based on growth of Appalachian State University and population of the Town.

Mr. Miller noted that at some point the wastewater treatment plant will need to be expanded and this is when the alternative methods will need to be researched. Mr. Miller said the wastewater treatment plant was designed to expand from 4.8 million gallons per day (MGD) to 6.2 MGD.

Mr. Miller explained that the Town of Boone toilet rebate program will pay a property owner a \$100.00 rebate when older toilets were replaced with the newer low-flow toilets.

Discussion ensued on contacting an engineer on conserving power and water. Council Liaison Furgiuele talked about consulting with an engineer regarding both sides of the raw water system to see if there are newly developed technologies to conserve power and water. Mr. Miller said it is possible to discuss this topic with an engineer.

Discussion ensued on providing power and water conservation information to the public. Ms. Shook talked about possibly handing out educational information to applicants who submit

building permit applications. Mr. Miller agreed with trying to educate the public and he noted that it is difficult to persuade the public to actually carry out the changes.

Discussion ensued on possibly expanding water conservation education for restaurants to reduce water use. Mr. Miller noted that one of his employees attends the expos and other events that promote water conservation.

Discussion ensued on maintenance work on electric vehicles. Council Liaison Furguele asked Mr. Miller if it is currently an obstacle to not have trained Town mechanics to work on the hybrid vehicles owned by the Town. Mr. Miller said it is a current obstacle and he explained that this type of training may not be available to offer the Town mechanics at this time. Mr. Moody said that he doesn't think that EV classes are available yet through the training program that they use. Mr. Miller said it is a priority for him to get ASC certifications for the current Town mechanics.

Chairperson David reviewed the 10 Tenets of Sustainability with Mr. Miller and Mr. Moody. Mr. Miller said the most frustrating item that they deal with is storm water.

Council Liaison Furguele asked Mr. Miller if his employees are concerned with climate change. Mr. Miller explained that some of the employees have different personal priorities and he is not sure how to change their priorities.

Chairperson David suggested that the Sustainability Committee create a list of items based on the EPA guidelines and from other cities; and he said he would like to present the list to Mr. Miller and Mr. Moody before presenting the list to Council. Member LaPlaca suggested reviewing the electricity use across the Town. She said that she knows experts across the country that are grant-funded that would help the Town at no cost. She suggested having a stakeholders meeting as well to get their feedback.

Discussion ensued on looking into incentive programs for employees. Member Prickett suggested creating incentives for employees to provide savings for the Town. Council Liaison Furguele talked about involving the Town's Human Resource Director on the incentive program.

Mr. Miller and Mr. Moody left the meeting around 6:44 p.m.

Other Matters by Board Members or Staff

Vice-Chairperson Ayers informed the Committee that both hybrid vehicles have been received by the Town.

Vice-Chairperson Ayers talked about the goals for 2030, 2040 and 2050.

Member LaPlaca voiced her concern regarding the change of the Committee charge. She said she felt that the focus was too narrow at this time and she would like to see other issues addressed, such as net metering and co-ops. She said that she felt we should be looking at the source of energy. She also noted that BREMCO is at 0.5 percent for clean energy. She said that NRLP mirrors Duke Energy at about 4 percent for clean energy. She included that if the underlying problem of energy is not reviewed, nothing will be solved.

Council Liaison Furguele explained about the possibility of changing the way the utility companies operate regarding clean energy. He noted that the Sustainability Committee has no power to negotiate this type of change on how they source their energy. Member LaPlaca explained that she disagreed with Council Liaison Furguele and that there are things that can be

done, starting with education. She also suggested a joint meeting with BREMCO and NRLP to discuss how to possibly make a change.

Council Liaison Furgiuele explained that the Sustainability Committee was tasked by the Council to begin discussions on net metering, pending a contract between NRLP and the Town of Boone for the solar array.

Council Liaison Furgiuele and Council Liaison Ashcraft explained the reason for the change in the Committee charge, which was to focus on areas where the Town had the most control and could make the most impact. Council Liaison Furgiuele said reviewing the Town operations was suggested by the Sustainability Committee and authorized by the Council. Council Liaison Ashcraft explained that the Committee charge may be expanded in the future if the Council chooses to do so.

Council Liaison Furgiuele talked about the possibility of a bond referendum to raise taxes to get the funding to accomplish specific things. He said that the Sustainability Committee needs to identify and propose specific things that might could be accomplished.

Ms. Shook said the Planning Staff will work internally on the demand charge versus the energy charges.

Adjournment

Vice-Chairperson Ayers made a motion, seconded by Member LaPlaca, to adjourn the meeting at 7:15 p.m.

Vote: Aye – All

Nay – None

The motion passed.

Quint David, Sustainability Committee Chairperson

Marlene Crosby, Committee Secretary

TOWN OF BOONE PUBLIC WORKS

Public Services and Public Utilities

Location: 321 E King Street

Hours of Operation: 7:00am – 5:00pm (Emergency Call Back)

Staff: Administration: 8 Full-time 1 Temporary
 Public Services: 29 Full-time
 Public Utilities: 20 Full-time
 Full-time: 57
 Temporary: 1

Vehicles:

Facilities Maintenance		
Year	Make/Model	Odometer
1992	New Holland L553	91.4
1998	Ford F250	34,682
	Kubota B 1750	1,929
1996	Ford Leaf Vac	32,673
	Vermeer Chipper	1,787
2008	New Holland CM274	394
1999	Giant Vac	455
2004	Kubota B2100 HSD	2,186
2001	Freightliner Grappler	34,274
2003	New Holland TN75	1,428
	Kut Kwick Slope Mower	148
2002	Kubota B7500	1,599
2004	GMC T7500	23,088
2006	Toyota Tacoma	55,828
1989	Chevrolet Flusher	15,234
2008	Chevrolet Silverado	43,456
	Bobcat Ransom Mower	1,265
2010	Kubota B3030HSD	1,515
2010	Chevrolet Colorado	57,033
2005	Kubota RTV900	1,298
2011	Caterpillar 279C Tracked	874
2011	Chevrolet 3500	38,310
2013	Chevrolet 3500	53,659
2014	OBD LCT650	149
2014	Ferris IS 3100Z	607
2015	Chevrolet 2500HD	20,205
2016	Kubota B3350HSDC	249
2016	Kubota B2301HSD	275
2018	Freightliner Grappler	4,997

2017	John Deere Z930R	206
2019	Chevrolet 2500 HD	0
2000	Kubota B2620HSD	1,149

Maintenance Costs for 12 Months: \$34,657.27
 Gallons of Gas Used for 12 Months: 9,030.265
 Estimated Miles Driven in 12 Months: 26,320
 Cost of Vehicle Related Gas in the Last 12 Months: \$19,867.91
 Cost of Maintenance and Gas per Mile: \$2.07

Fleet Maintenance		
<u>Year</u>	<u>Make/Model</u>	<u>Odometer</u>
2006	Toyota Tacoma	49,596
2013	Chevrolet Express Van	2,027
2017	Chevrolet 2500 HD	2,717
2018	Chevrolet Silverado	6,773

Maintenance Costs for 12 Months: \$2,820.30
 Gallons of Gas Used for 12 Months: 782.855
 Estimated Miles Driven in 12 Months: 8,377
 Cost of Vehicle Related Gas in the Last 12 Months: \$1,572.04
 Cost of Maintenance and Gas per Mile: \$0.52

Street Maintenance		
<u>Year</u>	<u>Make/Model</u>	<u>Odometer</u>
1973	Gallion Road Grader	1,730
1974	Ford Tractor	3,387
	Ford 2910	1,2910
	Ingersoll-Rand	908
1981	Chevrolet Camera	1,813
	Champion 720A Motor Grater	1,504
	Robex Excavator	2,751
1996	International Dump	84,527
	Dresser to 7 Dozer	986
2000	International Do-All 4800	32,544
2000	Chevrolet Swap Loader	19,071
	Daewoo Mega 200 III	4,490
2000	Ford Explorer	43,736
	Lee Boy 8500-II Paver	911
	Lee Boy 400TS Roller	606
2003	Freightliner FL80	12,337
2003	Freightliner FL80	45,702
2004	Chevrolet W4	8,487
	Komatsu Excavator	4,220
2007	Chevrolet Tahoe	49,719
2007	Chevrolet 3500 Crew Cab	69,783

2007	Mack Dump	45,063
	Komatsu WA200PZ-6	2,986
2010	Ford Bucket	11,439
2011	Chevrolet 3500HD	24,824
2012	International Do-All	14,669
2013	Chevrolet 3500 Crew Cab	44,518
2015	International Terrastar	7,242
2015	Chevrolet 3500HD	12,911
2016	Chevrolet 2500HD	34,817
2016	Caterpillar	1,198

Maintenance Costs for 12 Months: \$68,935.39
 Gallons of Gas Used for 12 Months: 12,728.281
 Estimated Miles Driven in 12 Months: 45,901
 Cost of Vehicle Related Gas in the Last 12 Months: \$28,102.02
 Cost of Maintenance and Gas per Mile: \$2.11

Utility and Engineering		
<u>Year</u>	<u>Make/Model</u>	<u>Odometer</u>
2007	Chevrolet Trailblazer	101,564
2016	Chevrolet 1500	29,020

Maintenance Costs for 12 Months: \$1,868.66
 Gallons of Gas Used for 12 Months: 1,001.220
 Estimated Miles Driven in 12 Months: 14,008
 Cost of Vehicle Related Gas in the Last 12 Months: \$2,026.76
 Cost of Maintenance and Gas per Mile: \$0.27

Water and Sewer Operations		
<u>Year</u>	<u>Make/Model</u>	<u>Odometer</u>
2002	Toyota Tacoma	58,505
1993	JCB Backhoe	5,914
1995	International Dump Truck	63,823
1997	Ford F350	19,667
	Ingersoll-Rand	56
2000	JCB Backhoe 214	4,889
2006	Ford F350	92,501
2006	Kubota U 45	3,229
2008	Ford Ranger	49,816
2009	Ford F350	54,371
2010	Hatz	705
2011	Chevrolet 3500	105,400
2012	Freightliner M2106	20,078
2012	Chevrolet 2500HD	91,565
2013	Nissan Rouge	27,616
2013	Chevrolet 2500	46,017

2015	Ford F350 Super Duty	54,527
2015	Chevrolet 3500HD	28,070
2016	Nissan Frontier	2,402
2017	Ford Transit 350	3,915
2017	Nissan Frontier	3,427
2017	Caterpillar 420F2	300
2018	Freightliner M6	3,202
2018	Nissan Frontier	5,030
2018	Nissan Frontier	126
2018	Chevrolet 2500HD	5,092

Maintenance Costs for 12 Months: \$28,151.51
 Gallons of Gas Used for 12 Months: 13,625.445
 Estimated Miles Driven in 12 Months: 72,549
 Cost of Vehicle Related Gas in the Last 12 Months: \$29,308.42
 Cost of Maintenance and Gas per Mile: \$0.79

Building-Electricity for past 12 Months:

Kilowatt Hours: 132,240
 Cost: \$13,158.79

Building-Gas for past 12 Months:

Gallons: 4,043
 Cost: \$5,957.31

Building-Water for past 12 Months:

Gallons: 142,000

TOWN OF BOONE PUBLIC WORKS

Jimmy Smith Wastewater Treatment Plant

Location: 201 Casey Lane

Hours of Operation: 24 hours daily

Staff: 12 Full-time

Vehicles:

Facilities Maintenance		
<u>Year</u>	<u>Make/Model</u>	<u>Odometer</u>
	Komatsu Wheel Loader	4,628
	Ford 340B	2,959
2000	Ford F350	18,935
2000	Ford F350	114,966
2008	Ford Ranger	60,293
2012	Chevrolet 1500	22,304
2016	Chevrolet 1500	14,017
2018	Toyota Rav 4 - Hybrid	2,718

Maintenance Costs for 12 Months:	\$1,641.77
Gallons of Gas Used for 12 Months:	2,154.399
Estimated Miles Driven in 12 Months:	6,177
Cost of Vehicle Related Gas in the Last 12 Months:	\$4,411.94
Cost of Maintenance and Gas per Mile:	\$0.98

Building-Electricity for past 12 months:

Kilowatt Hours:	3,787,392
Cost:	\$347,665.90

Building-Gas for past 12 months:

Therms:	148,844
Cost:	\$166,674.97

Building-Water for past 12 Months:

Gallons:	5,255,000
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TOWN OF BOONE PUBLIC WORKS

Water Treatment Plant

Location: 376 Deck Hill Road

Hours of Operation: 4:00am – 9:00pm

Staff: 7 Full-time

Vehicles:

Facilities Maintenance		
<u>Year</u>	<u>Make/Model</u>	<u>Odometer</u>
2010	Carryon Trailer	
2007	Chevrolet Trailblazer	60,495
2016	Chevrolet 1500	10,647
2018	Toyota Rav 4- Hybrid	4,044

Maintenance Costs for 12 Months:	\$1,795.59
Gallons of Gas Used for 12 Months:	756.002
Estimated Miles Driven in 12 Months:	1,650
Cost of Vehicle Related Gas in the Last 12 Months:	\$1,517.96
Cost of Maintenance and Gas per Mile:	\$2.00

Building-Electricity for past 12 months:

Kilowatt Hours:	1,274,560
Cost:	\$112,350.34

Building-Gas for past 12 months:

Gallons:	5,115
Cost:	\$7,472.83

Building-Water for past 12 Months:

Gallons:	239,000
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TOWN OF BOONE PUBLIC WORKS

Equipment Yards

Location: 169/174 Horn Avenue

Building-Electricity for past 12 months:

Kilowatt Hours:	27,242
Cost:	\$3,039.63

Building-Gas for past 12 months:

Gallons:	632
Cost:	\$968.19

Building-Water for past 12 Months:

Gallons:	10,000
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Streetlights and Traffic Signals

Electricity for past 12 months:

Cost:	\$135,720
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Booster Station on Brownwood Road

Electricity for past 10 months:

Cost:	\$16,359
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Greg Young Water Intake

Electricity for past 10 months:

Cost:	\$26,809
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New River South Fork Intake

Electricity for past 12 months:

Cost:	\$74,134
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Winkler Creek Intake

Electricity for past 12 months:

Cost:	\$7,157
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Public Works Promotes Sustainability in the following capacity:

- Promoting and participating in Recycling
- Promoting and participating in Water Conservation
- Promoting Residential Composting Program
- Harvesting rainwater to water flowers, trees and mixing salt brine
- Hosting Litter Sweep/Boone Clean-Up Day
- Hosting Earth Week
- Hosting Fun in the Park
- Hosting Every Drop Counts Poster Contest
- Hosting Rain Barrel Promotion and Giveaway
- Using beet juice to pretreat roads during inclement weather
- Using LED lighting
- Using programable thermostats
- Using occupancy sensors
- Using high efficiency heat pumps
- Using used motor oil for the fleet maintenance heating system
- Using WWTP effluent discharge to water flowers, trees and mixing salt brine
- Educating during school year (recycling, litter prevention, water conservation)