



Verona Environmental Commission

600 Bloomfield Avenue
Verona, New Jersey 07044
VeronaEC.org

Minutes of the Verona Environmental Commission Regular Meeting on June 21st, 7:00 P.M.,
Conference Room, Verona Community Center, 880 Bloomfield Avenue, Verona N.J.

Attendees: Gloria Machnowski (Chairwoman), Members Jessica Pearson, Sean DiBartolo, Sarah Yauch O'Farrell, Walter Steinmann (Alternate I), Frank Ceccacci (Alternate II), Michael Foley (Planning Board Liaison) and Mayor Kevin Ryan (Council Liaison). Guest: Carolyn Rubinfeld (NJWAP Watershed Ambassador).

1. Chairperson calls the meeting to order and reads the notice of Open Public Meetings Act. There is a quorum to go ahead and hold an official meeting.
2. Minutes from the May 17th 2017 meeting were approved by members.
3. The following members' terms will expire on June 30th: Sarah O'Farrell, Tony Saltalamacchia and Martin Golan. The Chairperson encouraged them to continue serving in the VEC, they are doing a great job, she needs to notify Mrs. Kiernan, the Municipal Clerk, by June 26. Sarah and Martin confirmed that they are seeking reappointment. Tony is out of town. Martin asked when the reappointment will take place and if the new Councilmen took office already. Jessica said that the new Councilmen didn't take office yet and mentioned that VEC members are not required to attend the Town Council Meeting when they are reappointed but they are welcome to do so. Gloria will find out the reappointment date.
4. Following VEC members suggestion, the Chairperson requested the Library renovation plans for review. This project has already been bid and awarded. There is no review required by the Environmental Commission; however Mr. Cavallo gave a copy of the plans to the VEC yesterday, for a courtesy review and mentioned that any changes that we have going forward would require a Change Order approved by the Mayor and Council. Gloria suggested meeting performance standards to seek Energy Star building Certification: <https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/earn-recognition/energy-star-certification> Jessica agreed, achieving such certification is a worthy goal that the township will surely support, she recently inquired about the possibility of installing a rain garden and/or relocating plantings that may be removed during construction. Members encouraged her to follow up as soon as possible. After reviewing the plans the VEC will submit recommendations to Mr. Cavallo.
5. Events:
 - The VEC participated in the Verona Green Fair on May 20 distributing about 40 recycling bins and barrels to residents, and sent an additional list to be distributed by DPW. Sarah played a recycling game with kids and awarded pre-owned stuffed animals. The VEC had a display on the 7 types of plastics, recruited volunteers for the Peckman cleanup and invited Edward Selimi, an HBW 8th Grader, to demo a bicycle that he built almost entirely from used bike parts.
 - The Peckman Cleanup behind F.N. Brown School took place on June 3. Volunteers removed a large amount of invasive Japanese Knotweed and garbage, mulched the area, installed a bat house, repaired the footbridge and boardwalk, moved rusty football equipment and cleared the trails of fallen trees. The Chairperson thanked all volunteers and members.
 - The area near Aqua Products (which was cleaned up recently during the West Essex Trail Cleanup) is being littered again, and there are big items such as wooden pallets on the woods again. The VEC already notified Tara Casella from Essex County Parks. There is a new app to report and help stop illegal dumping

in public lands in New Jersey: <http://stopdumping.nj.gov> - Frank offered to visit Aqua Products again and ask for their cooperation maintaining the area clean, before using the app. All VEC members agreed.

- The VEC didn't receive yet final approval for the Verona Open Streets Festival, scheduled on August 13 in front of VHS (including Fairview and Sampson's parking lot). Approvals are needed from Verona Township, Police, BOE and Essex County (Fairview is an Essex County Road). Members agreed to re-schedule the event if approvals are not received soon. Last week Steve Neal received approval from School Superintendent Rui Dionisio, but still needs to discuss details. Geordie Smith from the Hilltop Conservancy runs the Grasshopper kids' race on August 12. He saw the 2 miles route for the family ride, part of the route is on the West Essex Trail and it crosses over the Peckman River via the pedestrian bridge in Franklin Street. Geordie loves the idea of a town ride, and likes the route; a few ride marshals will be needed. Regarding insurance and waivers, his kid's race have that requirement, therefore they have a registration fee of \$10. Probably the town ride doesn't require such insurance, the VEC will check with the Town Attorney. People could just sign a waiver. Geordie can help with Cycling Skills Clinic and setting up an Obstacle Course, a few simple things set up on grass across from the high school. The VEC would like to invite the Verona Police to give a Cycling Safety Clinic. The Verona Recreation Department could handle pre-registration. Cyclecraft confirmed that they are coming to do Bike Safety Checks and Helmet fittings. The Electric Spokes didn't confirm yet. The event could include a parent's on Kids bikes race and NJ cycling information tables and music.

6. Green Infrastructure for Verona. The VEC called and emailed Chris Perez a few times about the new plans for the VCC Rain Garden but didn't hear back from him. Sean sent him photograph's of the site and scanned plans as well a month ago. Initially Chris mentioned that the new draft will be ready on May 22, and added that nothing will change in the details and the cost previously quoted will be similar. The most expensive cost is of excavation and removal of soil. If these can be handled by the Township, then it will be an enormous savings.

7. Recommended actions to reduce greenhouse gas emissions from Verona government operations and community. Climate Change education. Gloria presented information from NASA. According to <https://climate.nasa.gov> Ninety-seven percent of climate scientists agree that climate-warming trends over the past century are very likely due to human activities, and most of the leading scientific organizations worldwide have issued public statements endorsing this position.

The evidence for rapid climate change is compelling, see <https://climate.nasa.gov/evidence/>
Sea level rise: Global sea level rose about 8 inches in the last century. The rate in the last two decades, however, is nearly double that of the last century.

Global temperature rise: The planet's average surface temperature has risen about 2.0 degrees Fahrenheit since the late 19th century, a change driven largely by increased carbon dioxide and other human-made emissions into the atmosphere. Most of the warming occurred in the past 35 years, with 16 of the 17 warmest years on record occurring since 2001. Not only was 2016 the warmest year on record, but eight of the 12 months that make up the year were the warmest on record for those respective months.

Warming oceans: The oceans have absorbed much of this increased heat, with the top 2,300 feet)of ocean showing warming of 0.302 degrees Fahrenheit since 1969.

Shrinking ice sheets: The Greenland and Antarctic ice sheets have decreased in mass. Data from NASA's Gravity Recovery and Climate Experiment show Greenland lost 36 to 60 cubic miles of ice per year between 2002 and 2006, while Antarctica lost about 36 cubic miles of ice between 2002 and 2005.

Declining Arctic sea ice: Both the extent and thickness of Arctic sea ice has declined rapidly over the last several decades.

Glacial retreat: Glaciers are retreating almost everywhere around the world — including in the Alps, Himalayas, Andes, Rockies, Alaska and Africa.

Extreme events: The number of record high temperature events in the United States has been increasing, while the number of record low temperature events has been decreasing, since 1950. The U.S. has also witnessed increasing numbers of intense rainfall events.

Ocean acidification: Since the beginning of the Industrial Revolution, the acidity of surface ocean waters has increased by about 30 percent. This increase is the result of humans emitting more carbon dioxide into the atmosphere and hence more being absorbed into the oceans.

Decreased snow cover: Satellite observations reveal that the amount of spring snow cover in the Northern Hemisphere has decreased over the past five decades and that the snow is melting earlier.

Earth-orbiting satellites and other technological advances have enabled scientists to see the big picture, collecting a body of data that reveals the signals of a changing climate. The heat-trapping nature of carbon dioxide and other gases was demonstrated in the mid-19th century. Their ability to affect the transfer of infrared energy through the atmosphere is the scientific basis of many instruments flown by NASA. There is no question that increased levels of greenhouse gases must cause the Earth to warm in response.

Ice cores drawn from Greenland, Antarctica, and tropical mountain glaciers show that the Earth’s climate responds to changes in greenhouse gas levels. Ancient evidence can also be found in tree rings, ocean sediments, coral reefs, and layers of sedimentary rocks. This ancient evidence reveals that current warming is occurring roughly ten times faster than the average rate of ice-age-recovery warming.

What can we do about it? According to Sustainable Jersey the primary goal is reducing greenhouse gas (GHG) emissions. At VEC encouragement, Verona Township joined the program Sustainable Jersey in 2013, and achieved bronze certification. Bronze certification (total of at least 150 points) means a municipality has made a commitment to sustainability and succeeded in implementing the first significant steps. Silver certification (total of at least 350 points) means a municipality has made significant progress in a number of categories toward sustainability and is a state-wide and national leader. The Gold level of certification differs from Bronze and Silver in several ways. By setting a measurable standard rather than requiring prescriptive actions, it rewards performance and innovation. Gold differs from the other levels in that it will not be attained in the course of one cycle or application. Rather, the Gold Standard will be comprised of Gold ‘Stars’ that will be granted one dimension of sustainability at a time. The first Sustainable Jersey Gold Star Standards focuses on Energy and Waste.

IMPACTS FROM WASTE REDUCTION STRATEGIES

WASTE REDUCTION STRATEGIES	IMPACT ON ANNUAL WASTE REDUCTION
Pay-As-You-Throw Program	14-27%
Cut It and Leave It Program (Grass)	3 - 5%
Waste Reduction Education & Enforcement	1-10%
Backyard Composting	1-5%
Materials Reuse Program	1-5%
Reusable Bag Education Program	0.60%

IMPACTS FROM RECYCLING STRATEGIES

RECYCLING STRATEGIES	ESTIMATED ANNUAL INCREASE IN RECYCLING RATE
Pay-As-You-Throw Program	30-60%
Food Waste	8%- 25%
Recycling Education & Enforcement	1-20%
Non-Mandated Materials Recycling	5-15%
Construction and demolition	4-11%
Commercial & Institutional Recycling	4-10%

Gloria recommended to focus on the Energy aspect, instead of Waste, since one of the most efficient actions for waste reduction is “Pay as you throw”, which unfortunately is not a popular concept in Verona. Martin explained that the pay-as-you-throw program creates an incentive to recycle more and to generate less waste. The tables shows key strategies that Verona can implement. Mayor Ryan noticed that Verona is already using some of this strategies.

New Jersey’s Global Warming Response Act (<http://www.nj.gov/dep/aqes/sggi.html>) calls for an **80% reduction** of greenhouse gas (GHG) emissions from 2006 levels by the year 2050. The Sustainable Jersey Gold Star in Energy is calibrated to achieve this target. To meet the target New Jersey has to reduce GHG emissions at a rate of **3.6% a year**, every year. Known municipal strategies can achieve 100% of the reductions needed to achieve the municipal operations standard (3.6% per year). Municipal governments have less control over the businesses and residents in their communities, so they would be responsible for a smaller portion (1% per year) of the GHG reductions expected from the community as a whole.

Sustainable Jersey Energy Goals are:

1. Decrease greenhouse gas emissions in time to avoid catastrophic climate impacts.
2. Increase the renewable energy fraction.
3. Increase resilience of energy system.
4. Increase affordability of energy.
5. Decrease risk to health from the energy system.

Two municipal roles, two municipal standards:

1. Municipal operations: Buildings, exterior lighting, fleets, etc.
2. Influencing the community: Taking effective action to lower community-wide GHG

MUNICIPAL OPERATIONS: GHG REDUCTION STRATEGIES AND GOAL

STRATEGIES AND ACTIONS TO ACHIEVE GOLD	TIME TO IMPLEMENT	IMPACT ON MUNICIPAL GHG
Renewable Energy Generation		4-38%
On-Site Solar System	1-2 years	1-35%
On-Site Wind System	3-5 years	<1%
Geothermal System	2-3 years	3%
Greening the Municipal Fleet		15-18%
Purchase Alternative Fuel or Efficient Vehicles	3-7 years	4%
Convert Vehicles to Alternative Fuel	1 year	2%
Trip Optimization Software	1 Year	3-6%
Proper Vehicle Maintenance	1 Year	6%
Driver Training	1 year	3%
Buildings and Street Lighting Efficiency		12-19%
Implement Energy Efficiency Measures	2-4 years	10-17%
Energy Tracking & Management	1 year	2%
Estimated Impact from Reduction Strategies		31-75%

Gold Star Standard: Municipal Operations

- Lower GHG emissions from municipal operations and facilities 3.6% per year to qualify for Gold.
- Maintain 3.6% rate of reduction (3-year average) to remain Gold.

The VEC could recommend the Mayor and Town Council adopting a resolution to commit to reduce GHG emissions at a rate of 3.6% a year, every year. How? There are several strategies, listed by Sustainable Jersey. Implementing a Green Fleet Policy requires that new municipal vehicle purchases be alternatively powered vehicles such as hybrid, electric or compressed natural gas (CNG). Another strategy is installing electric charging stations like Montclair did with a grant. This is something that Sustainable Verona is working on and the VEC could support. This could also be required in our future solid waste removal

contract, requiring the contractor to use clean fuel technology vehicles. Hamilton Township's current contractor uses compressed natural gas vehicles instead of diesel. Verona has an anti idling resolution that supports State Law, idling over 3 minutes while parked is illegal. Verona could implement an anti idling policy for all municipal vehicles. Members agreed.

Sean showed on the screen a Green Fleets Presentation by Melinda Dower (page 9 to end):
 Idling Reduction Practices that Work: You will never see a FedEx or UPS truck idle. Long-haul trucking companies measure idling rates of each driver and pay bonuses accordingly. "What gets measured gets done". There are several ways to measure, but if you don't, you probably won't see results. Fleet calculators are available on the web. Walmart improved fuel efficiency by 65% over 5 years. Poland Spring used technology to reduce idling time by 70% in 2 years (from 1400 to 380 hours/year). Bergen County Public Works (Jo Marie Sacchinelli, DPW) Installed Skyguard in 100 vehicles, and considering another 100.

Ottawa Police Reduce Idling: Use auxiliary battery to power computers, lights, accessories. \$1800/year savings plus emissions. 2009 study showed patrol cars idled 67% of time, or 6.7 hours per shift! 1 hour of idling = 1 gallon fuel - Goal is 40% reduction in idling in first year.

COMMUNITY-WIDE GHG EMISSIONS: REDUCTION STRATEGIES AND GOAL

STRATEGIES AND ACTIONS TO ACHIEVE GOLD	TIME TO IMPLEMENT	IMPACT ON MUNICIPAL GHG
Renewable Energy Generation		6-11%
Community Purchase of Green Energy (Aggregation)	1-2 years	4-7%
Community-led Solar Initiatives	1-2 years	2-4%
Mobile Sources (vehicles)		10-18%
Public Alternative Fuel Vehicle (AFV) Refueling Station	1 year	5-10%
AFV Infrastructure Permitting and Zoning	1-2 years	
Development Patterns/Intensity	5-10 years	5-8%
Promoting Walking and Bicycling	2-10 years	
Building Energy Efficiency		3-4%
Commercial Sector Outreach (Direct Install)	1-2 years	≈1%
Outreach to Residents (Home Performance w/Energy Star)	1-2 years	≈1%
Tree Canopy (Shading Effect)	1-10 years	1-2%
Estimated Impact from Reduction Strategies		19-33%

Michael supports using vehicles like Tesla but asked who and how the GHG emissions reduction will be measured. Gloria explained that Verona could provide documentation such as amount of gasoline purchased for municipal vehicles before and after implementing the Green Fleet program, showing a reduction on gas used. Frank added that the municipal budget clearly shows the amount of money spent on gas and maintenance for the municipal fleet. Sarah talked about the recent presentation at the Verona Park Boat House where a restaurant owner from Montclair explained how he avoids purchasing gasoline all together by charging his electric vehicle with energy harvested by his home's solar panels. Michael said that the VEC should put together a fleet inventory first, and provide specific recommendations to the township showing how much money they will save. Gloria explained that the first step is asking the town authorities to look into the program and commit to reducing emissions, by for example, putting together a Task Force to promote green fleets, as recommended by Sustainable Jersey. Frank agreed and mentioned that the VEC should present these recommendations to the town authorities and they should decide who takes care of the fleet inventory, and look for municipal incentives to purchase electric cars.

Verona could team up with several towns in Essex County to get a community energy aggregation program with benefits such as higher renewable energy content at lower prices, like the Essex-Hudson energy aggregation program which had a renewable energy component that was 1.8 times the amount required by the RPS while saving money from lower flat rates of third party suppliers. The increased renewable energy component helps communities meet the goals of the state of New Jersey's GHG reduction target.

Verona could also require new buildings to be ENERGY STAR certified. For example San Francisco requires new buildings to install solar panels. While Montclair Board of Education participates in the ACES (Alliance for Competitive Energy Services) program, which purchases electric and gas for over 430 school districts in the state at lower rates.

Members agreed to write a letter to the Town Council with all these recommendations, and submit it after majority approval.

As a comparison, with a population of about 27,000 people Hamilton Township in New Jersey made two commitments:

1- Reduce CO₂e emissions from government operations by 20% by 2020 based on 2007 levels.

2- Reduce CO₂e emissions from the community by 20% by 2020 based on 2008 levels.

<http://climateaction.unfccc.int/city/hamilton-township,-nj/united-states-of-america>

Jessica recommended to better address the Science behind Climate Change by co-hosting a presentation with Sustainable Verona at the Community Center one evening. In the ANJEC Spring 2017 Newsletter, there is a group of concerned citizens, C-Change Conversations, interested in understanding the effects of our changing climate. They promote non-partisan dialogue around the issues of climate change and energy and sponsor lectures and education sessions. They aim to reach out to people along all sides of the political spectrum and host a speaker series as well as an educational branch that will come and do presentations in town. Themes include: How do we build resilient infrastructure? What new technologies are seeking investors? What opportunities are out there for job and community growth? They believe that by talking and learning with each other we can move toward a resilient response that benefits us all. <http://www.c-changeconversations.com/conversations/lunch-learn/>

Michael suggested to host the event at the Kip's Castle, which is available during the day from 9 am to 5 pm. Jessica mentioned that it is hard for people to attend event during working hours, perhaps the Verona Community Center is an easier venue, for example at 7 pm. Gloria mentioned that the Sustainable Verona team is working in several projects and VEC members will need to volunteer and lead this project to make it happen. Mayor Ryan recommended to send this information to Mr. Cavallo and Steve.

8. Residential, commercial and institutional recycling requirements in Verona.

Verona received a letter from Mary Jo Aiello, Director of the Division of Solid and Hazardous Waste from the NJ DEP. The letter reminds and encourages municipalities to comply with requirements set in the Recycling Act to reach the goal of recycling 50% of municipal solid waste.

Requirements include to designate a Recycling Coordinator who will report annual recycling tonnages to the Department and who has completed professional certification. Adopt an ordinance establishing a recycling program sufficient to achieve the the recovery targets, including: require source separation of waste, set standards for placement and temporary storage of recyclable materials in all new multi-family housing developments, specify the municipal official that will enforce the ordinance. Conduct review every 36 months. Provide a collection system to achieve at least 50% of the municipal solid waste and 60% of the overall waste stream to be recycled and reported.

Len Waterman is listed as our current Recycling Coordinator. According to Verona Chapter 111 the Recycling Committee in the Township of Verona consist of the Township Manager, the Township Engineer and the Recycling Coordinator. A week ago Gloria requested a copy of the last 4 recycling tonnage reports submitted to the NJDEP. Once we receive this materials we can study them and make recommendations. We have a Recycling Ordinance and it is online: <http://ecode360.com/12271156>

Walter looked at the list of plastic and scrap recyclers that are in Essex County and noticed that we contract with Waste Management, which only takes plastic #1 and #2 for recycling. Mayor Ryan spoke with Chuck Molinaro from DPW, currently Atlantic Coast Fibers is our vendor for all recycling. They do not have the ability to do curb side pickups so we contract with Waste Industries to do that but they bring it to ACF to be sorted. Our printed material only stated that we take type 1 and 2 plastics for recycling.

Gloria talked to Rick Ramsay, one of the owners of Atlantic Coast Fibers, and Fred Petrone, who specifically works with Verona. They explained that initially they only accepted plastic #1 and #2 but later on they added an optical sorter for plastic #5. So now they accept plastic #1, #2 and #5. Plastics #3, #4, #6 and #7 are NOT accepted and should NOT be included in the recycling bins. Fred Petrone sent her a list of their accepted and not accepted materials, and an example of a visual list based on which Gloria created Verona's visual list, and sent it to Steve Neale. After a few modifications the township approved it for publishing. Steve Bass, the son of former VEC member Kerry Bass, is doing an internship on sustainability and he is working on something similar to our list but with additional information.

The VEC recommended the DPW to place 2 recycling receptacles on the sidewalk, near HBW's main entrance, one next to each of the existing garbage receptacles (which are filled with recycling items). The VEC sent them Walter's suggestion, to add recycling bins to the existing ones in the pool. There are currently 4 bins spread out in the pool. The town could get more if they have the money but the problem they're having is people are filling them with a lot of garbage, even though they are clearly marked and have the circular openings. They are going to buy a few more recycling bins for now. The VEC recommended the Rec. Dpt. to send an email/letter to all pool members explaining how and encouraging to use the recycling bins at the pool, and display a poster at the pool entrance regarding recycling procedures. Steve is planning to add the recycling procedures to the Pool Rules & Regulations.

Mayor Ryan recommended to include in the pool food vendor's contract the requirement to use compostable plates and cups, ban all Styrofoam and use more environmentally friendly options such as paper plates. All members agreed. Regarding the schools, they could include recycling procedures in the parent/student manual that all families receive and sign at the beginning of the school year. HBW needs recycling bins by the field and basketball courts, there are always plastic bottles in those areas. We need to work with the BOE to make this happen. Jessica mentioned that Brookdale Avenue School is planning to install water fountains to refill reusable water bottles with help from their SCA. This is great news!

9. New Business. Grove Park: Bill Knight from 40 Grove Ave. used to mow the grass on the left side of the park, next to his property. Due to his age he's not doing that anymore. The VEC will ask DPW if they could take care of that. Also, recently a township tree (a White Oak) fell and one of the logs is right next to the trail. You can count the rings on the exposed stump. The number of rings indicates the number of years the tree lived. Most trees produce a two-colored ring per year, within the annual ring the thinner strip is the phloem and the thicker is the xylem. Thinner rings represent colder years whereas thicker rings represent warmer years. To show the ring pattern, the VEC could sand and polish the surface, and apply multiple coats of exterior spar varnish, which provides more protection than oil, and attach markers every 10 rings, so people could see it from the trail. We could add a sign explaining the concept of dendrochronology or tree ring dating (<http://www.wikihow.com/Determine-the-Age-of-a-Tree> <https://en.wikipedia.org/wiki/Dendrochronology>). Sarah measured the diameter, it is 44 inches. The growth factor for white oak is 5. So according to this site <http://homeguides.sfgate.com/estimate-age-oak-tree-37563.html> the tree is approximately 220 years old. Sarah estimated 7 rings per inch on the low side. The tree is so close now to Sarah's Mom's property that she might be ambivalent to attract more people to the area. The tree could attract kids anyway to play on it. Jessica recommended cutting a slide and placing the display indoors. Walter recommended putting an acrylic over to protect the display. Members will visit the trail and look at the log to provide feedback during the next meeting.

Mary Farrell confirmed the Conference Room availability from 7 pm to 9 pm for VEC Meeting Dates: 2017: July 19, September 20, October 18, November 15, December 20 – 2018: January 17, February 21, March 21, April 18, May 16 and June 20. Mrs. Kiernan will publish the dates in the annual notice of meetings.

10. Public Participation: Carolyn Rubinfeld invited everybody to attend a free Macroinvertebrate Identification (Water Quality) Workshop at the Essex County Environmental Center in the indoor classroom, 621 Eagle Rock Ave, Roseland, NJ. The program will take place on Monday, June 26, from 6 pm to 9 pm. Carolyn will be covering the ways in which sampling for stream bugs are done and what it reveals about water quality, followed by a guided identification exercise and sorting with live critters. This particular workshop is geared towards adults, but middle school age students and up are welcomed to attend.

Adjournment – Next Meeting July 19th, 2017.