

**NOTE TO READERS:** This is a *draft* of the Kennebunk Comprehensive Plan. The Comprehensive Plan provides us with a description of the town today in a range of categories, and identifies issues and recommendations for the future. The final version will include an introduction, be professionally formatted and contain multiple photographs. As a town resident, you are encouraged to look at this draft in this early format. **We are now looking for comments and opinions on its contents**, especially the *Issues & Implications* and *Recommendations* sections at the end of each chapter.

The Town will make changes to this draft based on the comments and opinions received, and residents will vote whether or not to accept the final Plan in June 2019.

## Chapter E: Public Utilities

### Cable Television, Phone & Internet

Several companies provide cable, landline phone and internet service to all or part of Kennebunk using a variety of technologies:

#### Companies using fiber optic technology:

- Stamford, Connecticut-based Charter Communications, which markets its services under the Spectrum brand, offers TV, internet and phone service to 99% of Kennebunk addresses. Charter/Spectrum is the second-largest telecommunications company in the country, with customers in 41 states. <https://www.spectrum.com/services/maine>
- Consolidated Communications, headquartered in Mattoon, Illinois, serves customers in 24 states. TV, internet and phone service is available to 94% of Kennebunk addresses. <https://www.consolidated.com/about-us/locations/maine>
- Great Works Internet (GWI is a privately held company headquartered in Biddeford, Maine offering internet and phone service in several areas of the state. Service is available to 54.5% of Kennebunk addresses. <https://www.gwi.net/>

#### Companies using satellite-delivered technology:

- Residential internet service is available HughesNet or ViaSat/Exede, both of which are marketed primarily to rural areas without landline internet/cable. HughesNet is headquartered in Germantown, Maryland. ViaSat/Exede is headquartered in Carlsbad, California.
- <https://www.hughesnet.com/>
- <https://www.exede.com/>
- DirecTV and Dish Network offer TV service, with service available to all Kennebunk addresses. DirecTV is headquartered in El Segundo, California. Dish Network is headquartered in Englewood, Colorado.

- <https://www.directv.com/>  
<https://www.dish.com/>

The availability of TV, internet and phone services at any specific address can be queried via: <https://locator.go2broadband.com/>

This locator is provided by: <https://www.cablelabs.com/shared-services-library/go2broadband/>

### **Cell Phone Service/Mobile Internet**

AT&T, Verizon, Sprint, U.S. Cellular, and T-Mobile are the primary service providers for the Kennebunk area.

The website [www.opensignal.com](http://www.opensignal.com) shows signal levels for specific cell phone carriers at various points along main roadways. Strongest signal areas for each Kennebunk-area carrier are:

- AT&T – Along Fletcher Street and Alfred Road
- Verizon – Lower Village, Gooch’s Beach, Route 35/Alfred Road adjacent to the Maine Turnpike
- Sprint – along Route 1, Route 9A
- U.S. Cellular – Lower Village, along Route 1, Fletcher Street.
- T-Mobile – Lower Village, beachfront areas, along Route 1, downtown Kennebunk, Route 35/Alfred Road adjacent to the Maine Turnpike.

Signal levels, which impact user experience for cell phone calls and mobile internet access, are determined by factors that include the distance from each carrier’s nearest tower location. There are several towers in Kennebunk, although not all carriers are on each tower.

- 34 Forest Hill Lane
- Alewife Park Road
- Webber Hill Road
- 159 Port Road

Cell towers in Wells, Kennebunkport, Arundel and Sanford may improve signal quality for Kennebunk users near those towns.

Calls to 911 from a cell phone in Kennebunk connect with the closest cell tower and will be received at the nearest York County 911 service entry point (there are 3 locations in York County, including Sanford). To identify the caller’s location, the 911 system uses an algorithm to determine an “area of probability” based on signal strength and latitude/longitude. Identification is most accurate when the caller is in a rural area, and less accurate in a densely populated area with many buildings. The 911 dispatcher will request the caller to provide the address where service is needed. Note that “Wave Alert” reverse 911, used to notify residents of an emergency, will only go to cell phones that have been registered with the local Wave Alert service.

Current 4G/LTE cellphone technology provides 6-10mbps to users. “Fifth Generation” (5G) technology envisions that smartphones and other internet-enabled devices will operate at much faster speeds than what is available. The creation of a 5G network would require the construction of additional physical infrastructure.

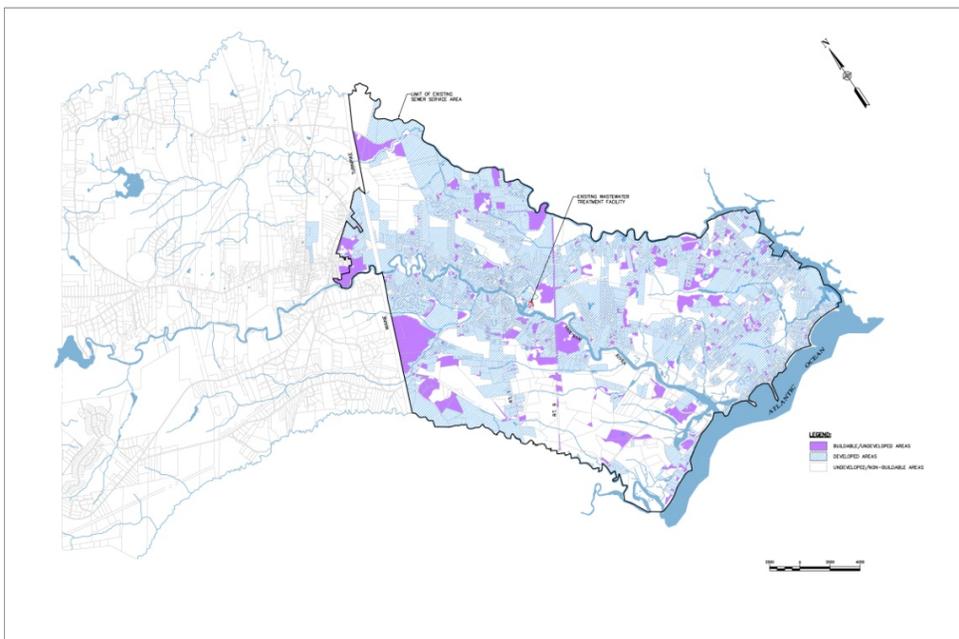
## Natural Gas

A small portion of Kennebunk is served by Northern Utilities, a for-profit company doing business as Unitil in the industrial area of West Kennebunk. In 2017, gas service was extended out to Fletcher Street for the Kennebunk High School renovation and expansion project. At the time of this Plan, expanding natural gas service to Route 1 North was under consideration.

## Kennebunk Sewer District

The Kennebunk Sewer District was established by an act of the the Maine State Legislature in 1955 as a quasi-municipal corporation. By its charter, the Kennebunk Sewer District’s service area extends west to include the industrial zone west of the Maine Turnpike, east to the Atlantic Ocean, north to Kennebunk River/Arundel Town line and south to the Branch Brook/Wells Town Line. The District has 11.8 full-time equivalent employees. At the end of 2016, the District’s indebtedness was \$5.6 million.

As of 2016, the District served about 3,200 accounts. The map below depicts the District’s jurisdictional area and the buildable and non-buildable areas.

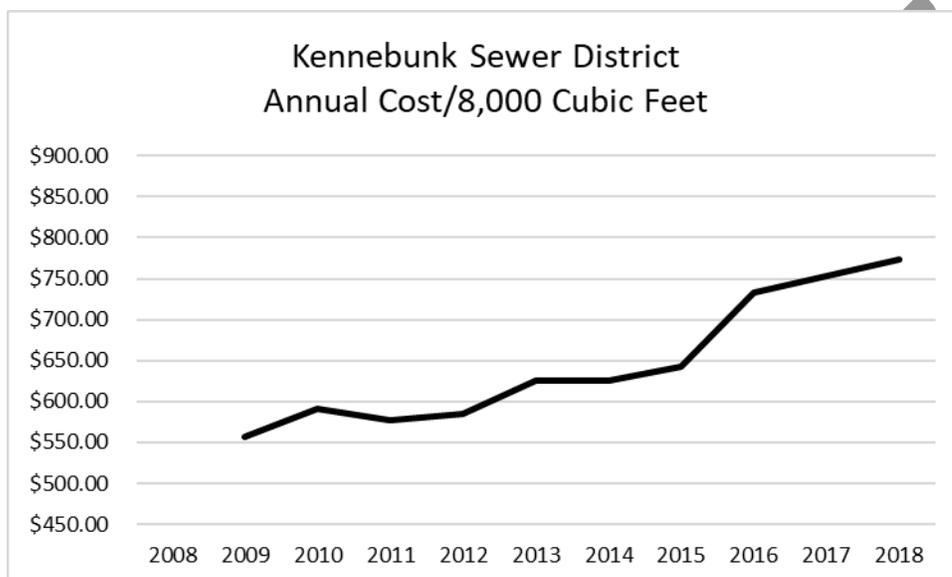


The District maintains the following infrastructure:

- The secondary treatment facility on 71 Water Street originally built in 1985.
- 36 miles of gravity sewer ranging in size from 4” to 30”
- 11.5 miles of force mains (pressure sewer) ranging in size from 4” to 12”, and

- 28 District-owned pumping stations.

The existing treatment plant treats the collected waste and discharges the treated effluent into the Mousam River. The quality and quantity of the discharge is determined and regulated by the Maine Department of Environmental Protection.



#### *Future Challenges: Effluent Discharge Limitations*

The existing plant is capable of meeting the current discharge requirements as licensed by the Environmental Protection Agency (EPA) and the Maine Department of Environmental Protection (MDEP). However, the District is anticipating new regulatory requirements for nutrient removal, primarily nitrogen, in the near future. The existing biological treatment units at the plant will be unable to remove nitrogen to the levels anticipated in future discharge licenses. At this time, the MaineDEP is in the process of researching the effect of nitrogen and other nutrients in all of the Maine estuaries, and the District is anticipating that they will be issuing guidance and levels of removal in the next five to ten year timeframe. At that time, the District would begin plans to design and construct new biological processes to meet these limits. In the meantime, the District has developed a phased approach to construct the portions of the plant that will need to be upgraded due to equipment life expectancies and capacity issues. The plan would leave the biological upgrade to be done last once the nutrient license limits have been established. The Phase 1 upgrade would include new headworks, modifications to the existing laboratory and operator work area and upgrading the mechanical units in the secondary clarifiers. These upgrades will address hydraulic capacity issues that are a prerequisite to the biological upgrades in Phase II. The anticipated cost for Phase 1 is \$7.5 million in 2015 dollars.

## Growth

The District does not include any sewer extension plans in the 10-year Capital Improvement Program (2019-2028). Expansion of the District infrastructure will need to be funded by private development and will be limited by the hydraulic and biological capacity of the existing sewers and treatment plant. A recently completed facility plan by Underwood Engineers has developed growth projections for the next 20 years within the District. The table below describes the current flow and the projected average daily flows in the next 20 years.

Description	Recent Flow Contributions	20 year Projections
Residential gpd	331,000	480,000
Commercial gpd	195,000	312,000
Inflow/Infiltration gpd	208,000	250,000
Total	734,000	1,042,000

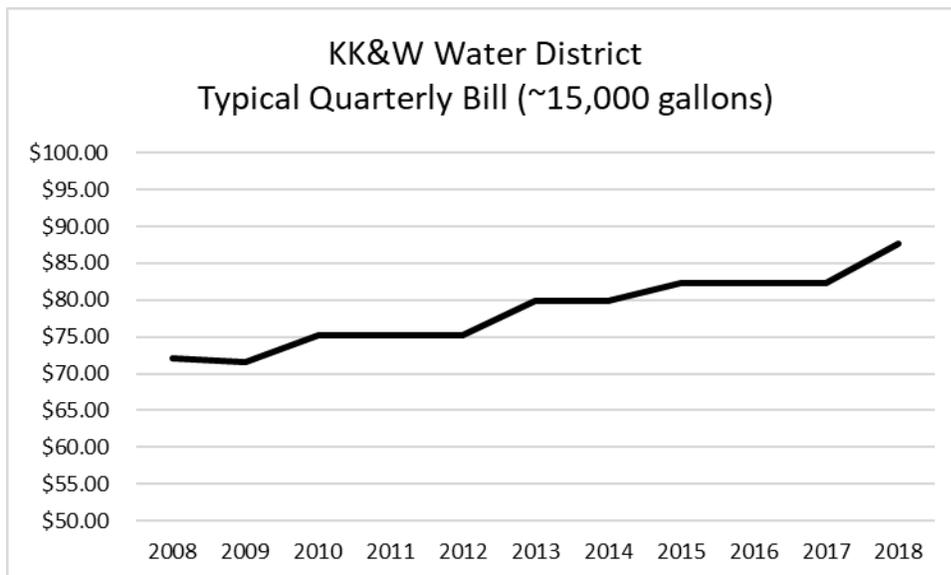
As noted above, the anticipated growth and the need to upgrade to an advanced treatment wastewater facility for nitrogen removal will require a phased upgrade at the wastewater facility over the next 15-20 years. The District is anticipating the new regulatory nitrogen limits from MaineDEP at the end of the current discharge permit in 2021. The investment in equipment and tankage needed in Phase II to meet new permit levels will be significant; specific costs will be dependent on how low the permit levels are set, i.e., how much nitrogen will need to be removed.

## Water Supply

The Kennebunk, Kennebunkport & Wells Water District (KKWWD) is a quasi-municipal water utility that was established in 1921 by an act of the Maine State Legislature. The service area extends 25 miles along the York County coast and includes the Towns of Kennebunk, Kennebunkport, Wells, Ogunquit, Arundel and portions of Biddeford and York. KKWWD serves a population that ranges from 30,000 to a seasonal high of 100,000 people. The District increased its water production between 1990-2000 by 43%, with another 11% increase since 2000. In 2016, 1.12 billion gallons of water were produced, which equates to an average day demand of 3 million gallons (MGD). The District's water demands fluctuate seasonally due to the influx of seasonal customers and tourism, resulting in peak daily demands approaching 7 MGD. Branch Brook was the District's only local source of water since 1895. In response to growing demand, the system has been interconnected to water utilities to the north and south to meet peak seasonal demands. In 2007, the District began developing additional groundwater supplies, which as of 2016 provide between 40%-45% of the water supply. Due to this, the District has not purchased any significant amount of water from its neighboring utility to the north, the Biddeford & Saco Water Division of Maine Water Company, or from its neighboring utility to the south, the York Water District. Conversely, during the past few years, the District has provided water to both neighboring utilities, at times at rates of up to 2 MGD.

Between 2000 and 2016, the total number of active meters in Kennebunk grew from 3,765 to 4,660, an increase of 24%, which translates to total new 895 meters or an average of 56 per year. From 2000 to 2016, the active number of meters in the District as a whole increased by

approximately 28%, to a total of 13,661 (as of 12/31/16). KKWWD has 40 employees, with an annual revenue of \$6.5 million, expenses of \$6.2 million, and indebtedness of \$12.5 million.



#### Past Long-term Initiatives:

##### A. The Water District has made a number of significant improvements since 2000 including:

- Development of two groundwater supplies, one near the Merriland River and one near the Kennebunk River. These supplies are capable of producing over 400 million gallons per year, with a short-term peak daily capacity of nearly 4 MGD.
- Creation of a utility interconnection with York Water District and enhancement of the existing connection with the Biddeford & Saco Div. of Maine Water Co. Combined, these connections are capable of moving up to 4 MGD of water into or out of the District's water system.
- Overall, since 2000 the District's peak day capacity (during an extended drought) has increased from approximately 6 MGD to over 10 MGD.
- The District has purchased several key parcels of land in an effort to protect the watershed from the potential negative impacts of development.
- The District has completed all of its hydraulic "backbone" from Biddeford to Ogunquit (being the hydraulic equivalent of a 20" diameter water transmission main).
- Since 2000 the District has replaced (retired) 144,000 feet, or 12.5% of its water distribution and transmission system.

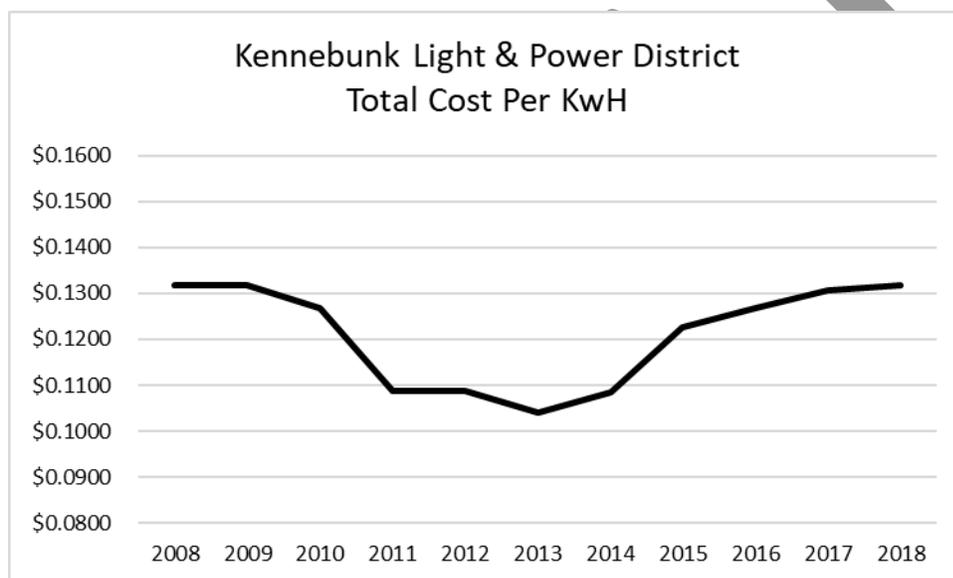
##### B. Future Long-Term Initiatives:

- KKWWD is continuing to maintain its infrastructure with a goal of replacing about 1% of its underground facilities annually. A 1% replacement rate is the "gold standard" according to the American Water Works Association (AWWA).

- In 2005 KKWWD helped to create the Southern Maine Regional Water Council (SMRWC), a State-chartered non-profit entity whose purpose, in addition to coordinating efforts to save costs and improve customer service, is developing a comprehensive, long-term regional water supply plan for coastal southern Maine from Portland to Kittery.
- The Water District continues to update its Master Plan evaluating all of its future water supply options, including the continued utilization of some or all of its current water supplies and existing utility interconnections with neighboring utilities to the north and south.

## Electrical Power

Kennebunk is served by two electric power companies: Kennebunk Light and Power District (KLPD), which is a quasi-municipal non-profit, and Central Maine Power (CMP), a for-profit company. KLPD was originally created as a department of the Town in 1893 and later incorporated as a District by the Legislature in 1951. The District serves all areas of the Town except the beach and the Lower Village areas, which are presently both served by CMP. KLPD has seen annual growth in the 1 percent range, with total number of meters increasing from 5,681 in 2001 to 6,483 in 2016 (an average annual increase of .95%).



The Kennebunk Light and Power District continues to be entirely self-supporting, with no revenue requests to the Town. The District currently has 13 employees, with annual operating revenues in 2015 of \$13,288,474, which included fees collected for energy, transmission and delivery, (an increase of 15.8% from the previous year). Operating expenses totaled \$13,122,696 in 2015, an increase of 16.6% from 2014. As of 2016, the District had a debt of \$3,525,356.

KLPD currently maintains three hydro-generation facilities on the Mousam River: Kesslen Dam, Twine Mill Dam and Dane Perkins Dam. Average electrical generation (1.4-1.8 mWh) at KLPD's hydro facilities is approximately 1.5% of electricity consumed. In June of 2016,

KLPD's Board of Trustees voted to surrender their license to generate hydropower at the three facilities when the license expires in March of 2022.

In 2017, KLPD signed a 20-year agreement with DG Maine Solar LLC, a subsidiary of NextEra Energy Resources, LLC. DG Maine Solar will design, permit, construct, operate, own and maintain the solar array to be constructed adjacent to the District's West Kennebunk substation. The 2.9 MW DC solar array has an estimated output of 3.9 million kilowatt hours, just under 4 percent of KLPD's annual kilowatt hours sales.

KLPD has made repeated efforts over the years to purchase CMP's Lower Village/Kennebunk Beach territory, however has thus far has not been successful. Most of the power necessary to serve KLPD customers is purchased from suppliers outside of Kennebunk and fed into town via high voltage transmission lines traversing West Kennebunk. Federal regulatory changes do not allow KLPD to negotiate power purchase agreements with major suppliers such as HydroQuebec. KLPD policy currently supports net metering for its customers considering solar installations.

### **Cable TV, Phone, Internet:**

### **Issues & Implications**

1. Over the past several years, escalating programming fees paid by TV providers have increased the cost of cable and dish packages, and some consumers have "cut the cord" in favor of less expensive options that include internet streaming services and small digital rooftop antennas to capture local broadcast signals.
2. As consumers increasingly rely upon internet service to support streaming services, wireless devices such as tablets, laptops, cell phones, "smart" home appliances and home security, faster internet service has become a necessity.
3. The above-ground physical infrastructure used to provide electricity, internet, TV and land-line phone service is subject to damage from storms, falling trees, squirrels, and human tampering, leaving users vulnerable to disruption of necessary communications. Replacement of existing infrastructure with underground infrastructure is cost-prohibitive.
4. Vendor competition: companies are reluctant to construct infrastructure unless home density is high enough to gain sufficient subscribers to repay the investment within a reasonable timeframe. Existing utility poles also may not have enough height to support additional vendors.
5. Some municipalities and local electric companies have constructed their own wired internet systems, either for the municipality's own use, or sold as a consumer product, with varying degrees of financial success and impact on ratepayers and taxpayers.
6. Business and industry are dependent on high speed access to the internet.

7. Cell phones have, in many cases, supplanted land-line phone service, and are used for many functions beyond voice, including accessing the internet, texting, navigation during travel, and streaming video.
8. There is a need for improved cell phone coverage in parts of Kennebunk in order to support small at-home businesses or consultancies. New 5G technology may change how this signal is delivered, so staying up to date on the new technology will be critical.

### **Recommendations**

1. High quality cable, phone and internet services have become a critical component both for quality of life and economic prosperity. The Town should be alert to Zoning opportunities to identify locations to support future infrastructure needs.
2. The Town should consider the creation of a Technology Committee to stay up to date on new developments and make recommendations as needed.

### **Natural Gas:**

#### **Issues & Implications**

1. Natural gas is derived from sources in North America, and therefore is less dependent on market forces influenced by geopolitics. As with all other service utilities in Kennebunk, expansion requires significant investment and at this time only large consumers provide an ROI worthy of consideration, which closes out opportunities to convert single homes to natural gas at this time.

### **Water:**

#### **Issues & Implications**

1. KKWWD has an excellent record for funding and implementing capital plans for replacing aging infrastructure and no further action or modifications are anticipated at this time.
2. As growth within the District's service area occurs additional water demands may necessitate purchasing additional supplies from the interconnected neighboring utilities if additional groundwater supplies cannot be developed.
3. Branch Brook is a significant surface water supply but as such, is at risk from inadvertent or intentional contamination.
4. Long term replacement of the Branch Brook supply could make a significant amount of land adjacent to Route 1, with major highway access, public sewer and Three Phase Power, potentially available for development, conservation, or a gateway into the community.

## **Recommendations**

1. The Town should ensure that water supplies are not contaminated and economic development does not put water supplies in jeopardy.

### **Light and Power:**

## **Issues & Implications**

1. The KLPD customer base is so large that they cannot depend on local source generation (hydropower) or solar generation, but both are considered renewable energy resources.
2. The District has notified FERC that it will surrender its license to generate hydropower. One entity has begun the process to apply for that license, which is estimated to be a 5-year dynamic process and therefore considered outside the scope of this plan update.
3. The majority of KLPD's power is predominantly fossil fuel-based, which would likely be purchased off the grid

## **Recommendations**

1. The Town of Kennebunk should create guidelines for planting of vegetation under power transmission lines. These should address the issue of manual versus chemical clearing, which was addressed in the Issues & Implications section in the Natural Resources chapter.

### **Sewer District**

## **Issues and Implications**

1. In 2021, the District's current license will expire and at that time, when applying for a new permit, the District will likely receive details and a timeframe from the Maine DEP for upgrading the existing plant to meet new nitrogen processing standards, which are now being formulated. This will be a significant cost. The District has developed a plan to pay for this upgrade, but the Town will also require more capacity on an ongoing basis to support services for growth areas. In this case, joint capitalization or some other kind of plan may make sense.

## **Recommendations**

1. The Town Selectmen should work collaboratively with the Board of Trustees of the Sewer District to develop a creative and equitable solution in order to fund increased sewer capacity to support planned growth. This solution must address the pending requirements of the 2021 relicensing timeframe.

2. The Town should cost share with the District to create a conceptual sewer plan for West Kennebunk so as to be able to provide an approximation of costs should expansion into this area ever become a desirable option.
3. The Town should continue to refine the mapping of growth areas so the District can better understand where service might be needed.

**KLP, KKWWD, KSD:**

**Recommendations**

1. The Board of Selectmen should initiate the development of a planning committee comprised of the Board of Trustees of KLP, KKWWD and KSD in order to manage the cost of utilities to development and to residents impacted by utility infrastructure cost.

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