



# City of Grand Island Utilities Department Annual Report for 2021



# Utilities Department – Highlights for 2021

## **Production Division**

### **Platte Generating Station**

- Although no major projects were completed in February, employees worked to keep Platte Generating Station on-line during the extreme cold weather. Staff dealt with the cold weather and frozen coal, keeping the unit at the top of its load generating capacity for several days in a row.
- Platte Generating Station was taken off-line due to economics on March 4, 2021.
- Operations changed from eight hour rotating shifts to 12 hour rotating shifts.
- The Spring Outage started on April 20, 2021. Work included:
  - Cleaning of the ductwork precipitator, spray dry absorber and the bottom ash system
  - The air pre-heater was power washed
  - Repairs were made on the steam coil air inlet pre-heater and in the boiler
  - Several valves were repaired, including the circulating water valve operator
  - Several work orders that can only be done while shutdown were also completed
- The Burdick and Platte Generating Station Operations were combined, and all Power Plant Operators now report to Platte Generating Station.
- Platte Generating Station was started up and kept on-line to complete the mercury and PM CEMS RATA. The unit was marketed to sell power during the unexpectedly hot month of June.
- Burdick Station gas turbines were called to be on-line during the hot days to supplement the power demand.
- The old Burdick Station had asbestos abated from the building and old boilers.
- The fall outage was completed. Work included:
  - Repairs to the cooling tower, lower baskets and seals in the air heater
  - Boiler repairs, along with repairs to valves
  - Cleaning of ductwork and spray dry absorber
  - Four of the transformer/rectifiers on the precipitator were replaced
  - Repairs were made to the potable water system
- ABB and GE were hired to complete the tuning of the boiler. The tuning process ensures that the emissions are kept low, and the unit performs well when it changes load to meet the demands of the grid.
- A mill puff occurred in D mill causing some damage to the atmospheric air damper.
- Union Pacific RR has not performed well as only one of three trains were delivered in December. Several cars were having issues and the train was sent in for repairs. Plant staff is working with UP to get three trains of coal in January.

### **Burdick Station**

- To provide additional generation during the extremely cold weather, Burdick Gas Turbines were operated. Since natural gas was not available, the units were run on the back-up fuel, diesel. The storage tank onsite started with over 200,000 gallons of diesel. This amount of fuel did not last long, and all available companies were called to purchase fuel. Mechanics were kept busy unloading fuel and worked to add additional heat to keep the diesel from gelling. The gas turbines were using 63 gallons per minute to produce an additional 33 megawatts of energy. High quality water was also needed when running the gas turbines on diesel, and the water purification system was started. Altogether, 323,819 gallons of diesel fuel were used during the cold week in February.

- Preparations for the Burdick Building demolition were completed, including clearing items from the building and finding all the interconnections between Substation G, the Gas Turbines, and the Water System.
- The demineralized water connection from the Burdick Control and Maintenance Building to the gas turbines was completed.
- Asbestos was abated from the steam building and boilers.
- The program logic controller for high pressure wells was removed and fiber for the Burdick Wells was installed.
- The first oil change was completed on GT2. This process included high velocity flushing to remove any varnish that had built up on components in the oil system. There are also two oil heat exchangers that cool the oil during operation. Both coolers were sent off site and cleaned.
- The lube oil coolers on GT3 were sent off site and cleaned.
- The Gas Turbines were called on-line during the hot weather. One day, operations only had 30 minutes to get all three gas turbines running. Operations completed the start-ups on time.
- All water, sewer and cooling water discharge lines were isolated from the steam unit building. The building is ready for demolition.
- Burdick Station was inspected by EPA Region 7 Inspector to remove the status of holding over a million gallons of fuel oil from the SPCC. Burdick Station no longer used #6 fuel oils as a back-up fuel since the decommissioning of Steam Units #1, #2, and #3.

### Water System

- The wells, water pumping stations, and reservoirs performed well during the cold weather. No freezing issues occurred.
- Rogers Reservoir #1 was placed back into service in preparation for summer demand.
- Media was exchanged out at the Uranium Removal System.
- The south Wellfield Basin was drained, cleaned, and inspected, then placed back into service.
- Water system pumping peaked during the hot spell at 25.1 million gallons for the day on June 17, 2021, with over 1.5 million gallons pumped during the peak hour of 5:00 a.m.
- The Reed high-pressure well electric service was changed to be metered from an AMI meter.
- Kimball Reservoir was drained for cleaning and inspection.
- Rogers #1 and #2 Reservoirs were inspected by a remote operated vehicle. Olson tower was also visually inspected.
- As water demand has fallen off, the available storage capacity was reduced by taking the Roger Reservoir out of service for the winter.
- Inspection of all storage tanks was completed and the Kimball Reservoir was cleaned.

### Water Department

Statistics from the Water Shop Include:

- 297 - Work Orders Opened and Closed/Pending
- 61 - Trouble Calls responded to after hours
- 1 – Ludlow Fire Hydrant Change Out Program
  - Newcastle and Coventry Lane
- 4 - New fire hydrants were installed/fire hydrants relocated by the Water Shop at:
  - Northeast corner of 2<sup>nd</sup> and Locust
  - 1<sup>st</sup> and Wheeler
  - 2512 W. 4<sup>th</sup> Street
  - 916 N. Shady Bend Rd
- 2,861 - Fall hydrant checks were completed
- 1,581 - Fire hydrants were painted
- 344 - Dead end Fire Hydrants were flushed – Automatic flushers were placed on dead end

mains on the outskirts of the system and moved weekly

- 7 - Hydrants were repaired or replaced that had been damaged by motor vehicles at:
  - 3501 S. Locust
  - 1<sup>st</sup> and Greenwich
  - 164 Ponderosa
  - 6<sup>th</sup> and Greenwich
  - Bismark and Stuhr
  - 12<sup>th</sup> and Locust
  - 5<sup>th</sup> and Wheeler
- 2 - Private fire hydrants were repaired/replaced at:
  - Army Aviation Facility
  - 3025 College St
- 17 - Broken Water Mains were repaired – 2” through 12” at:
  - 2704 W. Stolley Park Rd
  - 23<sup>rd</sup> and Sycamore
  - 8<sup>th</sup> and Howard
  - Nebraska and Sycamore
  - Broadwell and Roberts St
  - 3012 W. 17<sup>th</sup> St
  - 1411 Sheridan Pl
  - Faidley and Grace
  - 3661 Skypark Rd
  - Sheridan and College
  - Oak and Delaware
  - 4112 Academy Rd
  - Locust and Centennial Dr
  - Fonner Park Rd and Eddy St
  - Capital and Houston
  - 2524 LaMar
  - 645 Joehnck
- 0 - Water Main and Service that was damaged by Contractor were repaired
- 12 - 4” through 18” Line Valves added or broken/replaced with new valves at:
  - 3<sup>rd</sup> and Vine
  - Capital and St. Patrick Ave
  - 2<sup>nd</sup> and Plum
  - Hancock and Via Trivoli
  - 12<sup>th</sup> and Plum
  - 13<sup>th</sup> and Plum
  - 11<sup>th</sup> and Vine
  - Northwest corner of 3<sup>rd</sup> and Oak
  - Broadwell and Anna (2 valves)
  - Webb and Old Potash
  - Burdick Well #1
- 1,655 - 4” through 24” main line valves were exercised
- 40 - Water mains/line valves were turned off and on for plumbers and contractors
- 49 - Broken water services were checked by the Water Department
- 13 - Backflow Preventors were tested for all City Departments
- 85 - Fire hydrant meters and backflow assemblies were set out for contractors
- 8 - Abandoned water mains had services capped at:
  - 1509 W. 5<sup>th</sup> St
  - 2200 block of N. Howard (2 services)
  - Hancock and Westside (old well site)
  - 1332 N. Broadwell
  - Burdick Wells 1 and 2
  - 243 S. Locust
- 3 – Frozen services thawed
  - 1207 W. Division
  - 1019 W. Charles
  - 1014 N. Sherman
- 7 - ¾” Service Taps were made - new/replacement

- 232 - 1" Service Taps were made – new/replacement
- 13 - 1 ½" Service taps were made
- 5 - 2" Water Mains were tapped
- 2 – 4" Water Mains were tapped
- 23 – 6" Water Mains were tapped
- 7 – 8" Water Mains were tapped
- 2 – 10" Water Main was tapped
- 146 – New water meters were installed - 5/8" through 6"
- 331 – Replacements meters were installed – 5/8" through 6"
- 25 – Meters were repaired/rebuilt
- 86,750 - gallons of water sold to contractors/trucking companies
- 15 – Private water services were located/traced
- 224 – Water services were turned on/off at the request of the customer service office
- 11,328 - Locates were performed that had been requested through Digger's Hotline of Nebraska

### **Backflow Program**

#### **2021 Backflow Prevention Device Testing Statistics:**

- 4,706 – First Notice reminders mailed
- 904 – Certified letters delivered
- 279 – 48 hour notices left at the door
- 26 – Water services shut off for failure to test

### **Transmission – Phelps Control Center**

- Two large offices at Phelps Control Center were remodeled into four smaller offices to allow for better employee separation during the COVID pandemic.
- A thorough review was performed of the Power System Restoration procedure. This was a joint effort with Omaha Public Power District (our current Transmission Operator). Recommended corrections and improvements were sent to OPPD for incorporation.
- Phelps personnel assisted the production division with running new fiber optics to the well field.
- Various outdoor equipment was inspected prior to the forecasted extreme cold weather in February.
- Several Phelps employees worked hard to develop and implement a plan for necessary rolling blackouts during the February Polar Vortex event. The blackouts were required by Southwest Power Pool to avoid an overload and corresponding collapse of the grid.
- An Outage Management System (OMS) was tested and installed at the Dispatch Center. The OMS provides several benefits including outage cause predictions, switching procedure verification and an online outage map for customers.
- Substation G was taken out of service in order to finalize the separation of Burdick station from Substation G. This included relocating the controls and protection for G-26 and G-27 to Phelps. All work was completed and Burdick Station is now ready for demolition.
- A primary metering cabinet for JBS failed, causing a large outage on the east side of town. As a precaution, the Substation E transformer was thoroughly tested prior to putting it back in service.
- A Request for Proposal was developed and issued to hire an engineering firm to develop relay settings for new transmission relays. A firm has been hired and is currently finalizing the new settings, with relays anticipated to be installed during 2022.
- Substation battery chargers were replaced due to the age of existing chargers.

- Breaker E-34 in Substation E failed during the July 9<sup>th</sup> windstorm. The breaker was replaced with a spare breaker. Additionally, the fence at Substation E was damaged and repaired.
- The main DC panel at Phelps is being replaced due to age and unavailability of spare parts. This will involve adding a second battery bank in order to avoid the need for large outages during the replacement process.
- All of the substation security cameras were replaced due to age and failure of a couple cameras.
- The last oil filled substation breakers were replaced at Substations A and B.
- The access control system was updated with new hardware and software.
- The south half of Substation B was taken out of service for some minor hardware replacement as well as installing animal guards.
- Work has begun on a bid package to replace the fences around Substations A and B with a decorative wall similar to what is around Substation F.
- Remodeling of several offices at the Line Shop has begun. The remaining work should be completed by the end of January 2022.
- The battery bank was removed from Burdick Station to be used as spare batteries for substations.
- Work was started and completed on updating network access with multi factor authentication. This is a requirement from the insurance carrier.
- A bid package was developed and sent out for transmission pole inspection. A contract was awarded for inspection in the spring of 2022. This will involve every transmission pole in the system.

## **Underground Division**

- **New businesses or expanded Subdivisions requiring installation of Underground conduit and related cable and transformers**
  - Dramco Tool – building acquisition and electrical upgrade - 510 Claude
  - Fed Ex – 3225 W. Wildwood Dr.
  - Automotive Specialties - 3957 Silver Rd
  - Copper Creek Residential Subdivision - 15<sup>th</sup> and 16<sup>th</sup>
  - I HOP – 2248 N. Webb Rd
  - Family Eyecare – 3540 Prairie View St.
  - McCoy Meadows Subdivision along Ellie Dr.
  - Linage – 205 Roberts St.
  - Crossroads Mission – 1910 W. 9<sup>th</sup> St.
  - Tabitha – 3940 Ewoldt St.
  - Rhoads Construction - 800 Bronze Rd.
  - Sunbelt Rentals – Westgate & Bronze
  - Bossleman Cardloc facility - 3231 Shimmer Dr.
  - Tommys Carwash – 710 Allen Dr.
  - Gary Thompson Agency – 3234 Shimmer Dr.
  - Office Complex – 412 Lexington Cir.
  - Millennial Subdivision – 2<sup>nd</sup> section Stonewood and Lilac
  - Principle potential future building site – State & Webb
  - Hooker Bros second section of development – 978 E. Shimmer Dr.

- **Rebuild needs were integrated with service upgrades being done by customers.**  
**Combining the two met the need of customers and maintenance of the system:**
  - Continued at West Park Plaza on West Highway 30 and Kingswood Estates – 2323 Bellwood Dr. as the park owners, Ascentia, convert to park owned, all-electric housing units.
  - Diamond Plastics – 2nd phase of project to provide additional production capacity
  - Downtown multiuse building - 217 W. 2<sup>nd</sup> Street
  - Viaero tower – 4940 Gold Core Dr.
  - Westwood Subdivision - Various transformers and related cable runs as part of a sewer project
  - Southeast Commons Strip Mall – 1201 S. Locust
  - Reed Well area - Sunset and Cherry
  - Extended Stay Suites – 3021 S. Locust St.
  - Residence - 418 Pheasant Dr
  - Residence - 518 S. Woodland Dr.
  
- **Underground conduit and cable runs for open loop feeds**
  - Mclaughlin Subdivision – backing up Fort Kearny and Gunbarrel Dr.
  - Reed well area on S. Cherry St.
  
- **Replaced transformers and cables due to degradation of the transformer cabinets**
  - Various buildings along 3776, 3870, and 3930 Skypark Rd.
  - Riverside Subdivision - various areas: Arrowhead, Cochin, Stagecoach, Riverside Dr. & Brahma
  - South Grand Island entrance sign - 3230 Wildwood
  - Ponderosa – first section of transformers only – lots; 35,39,47,49,59,63,67,71
  - Residences; - 1112-1120 Kennedy Dr., 817 Sun Valley, 3124 Bison Ct.
  - Fonner Villas - 1143 S. Pine St.
  - Office at 820 Alpha
  - Post Office Facility – 3835 Old Potash Hwy
  - Runza Resturant – 1812 Webb Rd.
  
- **Equipment and Building and Grounds Maintenance**
  - Received, located and followed up electronically as needed, 9,345 locates that had been requested through Digger’s Hotline of Nebraska per Nebraska Statutes 76-2301 through 76-2332.
  
- **Assisted other Departments or Divisions**
  - Crews assisted with the lifting of various pumps, motors and screens at Platte Generating Station
  - Crews assisted with the lifting or other needs of the Substation Tech division
  - Crews installed conduit for and the pulling of fiber lines in various location as we expand the needs of monitoring or communication related needs.
  - Assisted with the annual off-site generation of the Mobile Generating Station (MGS)
  
- **Overhead to Underground Conversion Projects:**
  - Old Potash Highway from Hwy 281 to Webb – 2<sup>nd</sup> of 2 phases.

## **Overhead Division**

- In 2021, the Overhead Division maintained and upgraded the overhead distribution lines which entailed 11,707 linear feet of single-phase line, and 1,065 linear feet of 3-phase line being

rebuilt. These upgrades eliminated old primary lines and secondary service wires to provide safer and more reliable service to utility customers and kept the interruption indices (SAIDI) and (SAIFI) well below national averages.

- In addition to normal line maintenance, 7,700 linear feet of 336.4 ACSR wire was converted to 4/0 T2 on Feeder H33 to prevent galloping during icing conditions.
- We had 2 minor storms in 2021 one in July and one in December which contributed to a series of outages. Most of the outages were wind related with 4 broken streetlight poles and tree damage to secondary services.
- A single phase to 3-phase conversion was completed in the 1400 block of West North Front for service to a new butcher shop.
- In January of 2021 crews were tasked with severe cold that caused issues with damage to overhead conductors. Also, during the cold spell crews assisted the Water Department with the thawing of frozen water services for customers.
- Crews removed 800 linear feet of primary 3-phase line this past year as the result of converting areas to underground.
- Crews installed 2 new riser poles on South Locust and Highway 34 for the conversion of Overhead to Underground.
- During 2021, crews had the major task of relocating primary lines and installing 5 primary riser poles to allow for primary underground to be relocated for projects on Capital Avenue and North Road and State Street and North Rd.
- Three new primary fused disconnects were installed to serve new businesses.
- Seventeen secondary pedestals were installed and 4 new poles with secondary pedestals were installed for service upgrades.
- Crews were busy building out our fiber infrastructure for the utility system network. 6,900 linear feet of fiber was installed to service Burdick wells 6 and 7, 19,000 linear feet of fiber was installed for access to wells at the well fields and 25,000 feet of fiber was installed for communication to high-pressure wells and capacitor banks from Burdick station to Sub A.
- Three spans of primary were relocated for the Wastewater Treatment Plant road expansion to Shady Bend.
- Six deteriorated primary poles and four deteriorated streetlight poles were replaced.
- In an ongoing effort to maintain reliability with primary feeders, 24 switches/fuse disconnects were installed or upgraded.
- Seven primary poles and 15 streetlight poles were replaced that had been damaged by motor vehicles.
- The Overhead Division continued its vegetation management program to keep power lines clear of all vegetation. This was accomplished with the division's own tree trimming crew and the use of a contractor clearing ten sections of lines and removing approximately 159 trees.
- In 2021, 738 high pressure sodium lights were converted to LED lights in our service area. In addition to the conversions, 16 new LED fixtures and poles were installed on roundabouts on North Road; two new poles and lights in the Millennial Estates Subdivision, and three new poles and lights were installed in the Gateway Subdivision.
- Seven deteriorated fiberglass streetlight poles on Diers Avenue were replaced with aluminum poles and converted to LED fixtures.
- Fourteen wood and 6 concrete streetlight poles were replaced and converted to be used as small cell antennas for US Cellular.
- Line crews installed or replaced 208 transformers. This has improved system reliability and power quality for utility customers as load continues to increase.
- The automated meter infrastructure project continues to be a success. There are currently 13,955 electric AMI meters in the system. The daily read percentage has been 99.3%. The system has been useful for meter readings, performing disconnects, and troubleshooting for both water and electric service.



- In 2021, 2,418 AMI meters were installed, of which 332 were installed on delinquent accounts. In the process, 4,003 disconnect/connect commands were performed without rolling a truck.

### **Utility Warehouse Division**

- In 2021, the Utility Storeroom quoted, purchased, received, and stocked \$3,454,157.12 worth of materials. This represents only the material that is on the inventory system.
- The Storeroom issued \$2,860,735.41 worth of materials while salvaging, cleaning, and restocking \$450,185.58.
- During the past year the Storeroom purchased \$1,298,647.65 worth of items that are not on the inventory system for the Overhead, Underground and Storeroom divisions.
- The Storeroom processed, weighed, stored, and sold 133,280 pounds of scrap aluminum, copper wire, electrical brass, and ACSR wire for \$127,735.36.
- There were no issues with the 2021 audit.

### **Utilities Engineering Division**

The Utilities Engineering Division provided full engineering services for the department's electrical and water infrastructure projects. The work involves research, design, plans and specifications, construction surveys, inspection, observation, and maintaining accurate maps and data records of the related infrastructure activities. Over the past year, work consisted of the following:

- Over 60 separate overhead and underground power line projects, easement verifications, and research for service for upgrades, new residential and commercial developments
- Nine public water main projects and 11 commercial water system projects were placed in service after being inspected and tested for compliance by the division's staff. The Engineering Division also assisted the Building Department with 2 commercial water services. These projects totaled approximately 6,200 linear feet of new water mains and 5,600 linear feet of new service lines. The projects also abandoned over 1,180 linear feet of existing water mains which needed to be replaced.
- Prepared 28 easements, easement vacates or permit documents for department projects.
- Prepared five contracts and/or requests for proposals.
- Reviewed plans for 8 public water main projects and 6 commercial water service projects.
- Performed project related construction surveys using high-accuracy GPS.
- Drafted, edited, and revised CAD files and GIS related database files.
- Maintained mobile technology resources for the Electric Overhead and Underground Divisions, and the Water Division.
- A backflow testing form was developed for Grade VI water operators to submit their backflow device testing forms online through the GUID website
- Continued development of the internal Electric/Streetlight/Water combined base GIS map.

LOCAL GENERATION	2021
SUB E SOLAR FARM	2,007.700 MWh

BURDICK STATION, STEAM UNIT AUXILIARIES	
GROFF ST. SUB. RESERVE SUPPLY	184.005 MWh
UNIT #3 RESERVE SUPPLY	178.200 MWh
BURDICK COOLING WATER	44.388 MWh
<b>BURDICK STEAM NET TOTAL:</b>	<b>-406.593 MWh</b>

BURDICK STATION, COMBUSTION TURBINES:	
GT-1, PCC METER	1,444.200 MWh
GT-2, PCC METER	2,246.600 MWh
GT-3, PCC METER	4,604.300 MWh

BURDICK STATION, COMBUSTION TURBINE AUXILIARIES	
GT-1, AUXILIARIES	129.200 MWh
GT-2 & GT-3 AUXILIARIES	1618.8
<b>BURDICK COMBUSTION TURBINE NET TOTAL:</b>	<b>6,547.100 MWh</b>

PLATTE GENERATING STATION:	
UNIT #1, SUB D METER	422,231.000 MWh

PLATTE GENERATING STATION AUXILIARIES	
RESERVE SUPPLY TRANSFORMER	3,896.200 MWh
WAREHOUSE	207.240 MWh
PGS COOLING WATER	-727.440 MWh
<b>PLATTE GENERATING STATION NET TOTAL:</b>	<b>418,855.000 MWh</b>

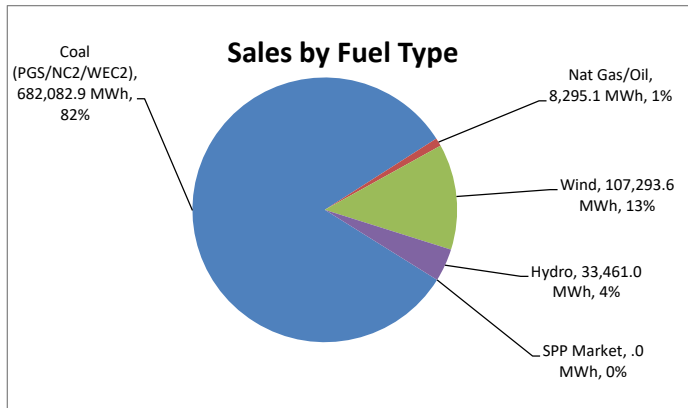
PARTICIPATION SHARES	2021
WAPA HYDRO	33,461.000 MWh
WIND PROJECTS	107,293.600 MWh
NEBRASKA CITY UNIT #2	198,736.000 MWh
WHELEN UNIT #2	61,115.900 MWh

INTERCHANGE & CITY DEMAND	
<b>INTEGRATED MARKETPLACE</b>	
IMPORT	745,856.100 MWh
EXPORT	430,489.600 MWh
<b>NET MARKET IMPORT</b>	<b>315,366.500 MWh</b>

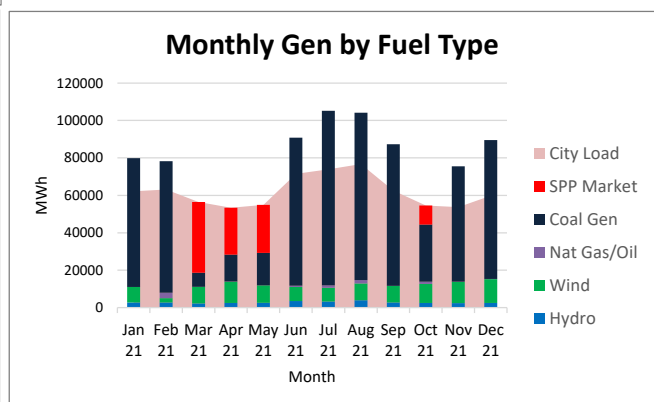
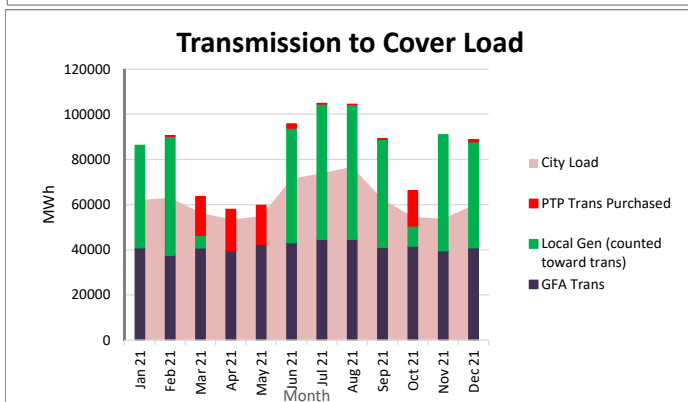
METERED ENERGY IMPORT TO GRAND ISLAND	
LINE 1093	317,364.792 MWh
LINE 1145A	119,693.500 MWh
LINE 1145B	88,588.200 MWh
LINE 1149	4,424.544 MWh
LINE 1369	76,829.880 MWh
<b>TOTAL TO GRAND ISLAND</b>	<b>606,900.916 MWh</b>

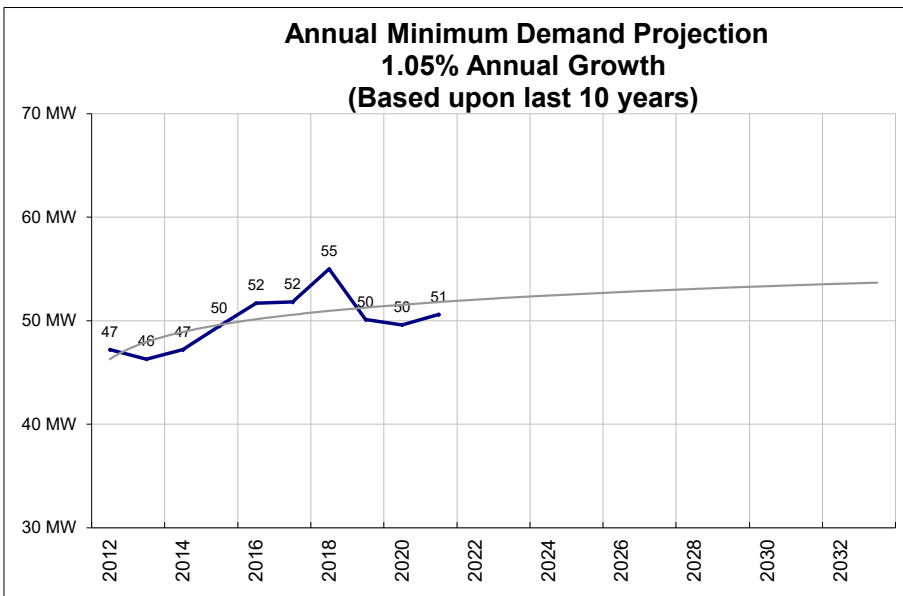
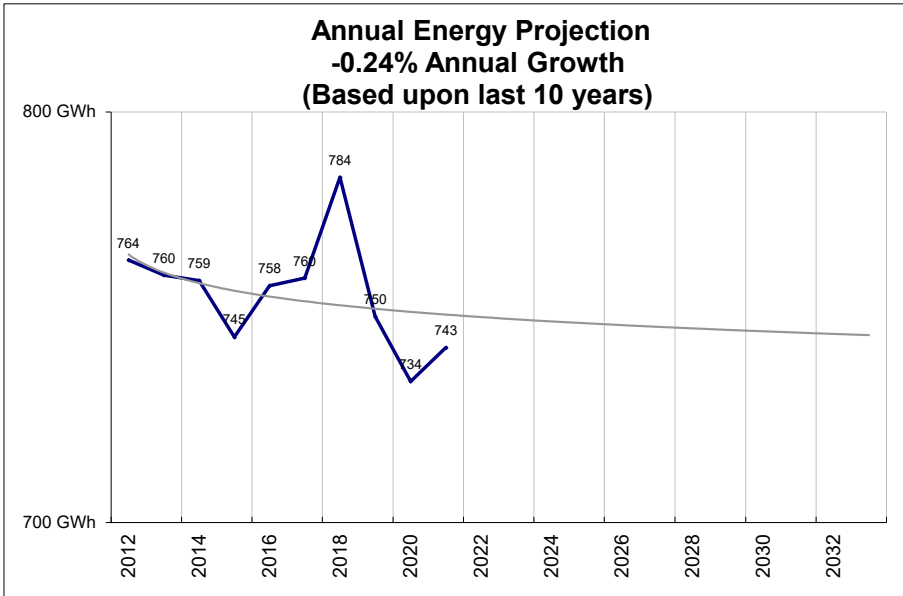
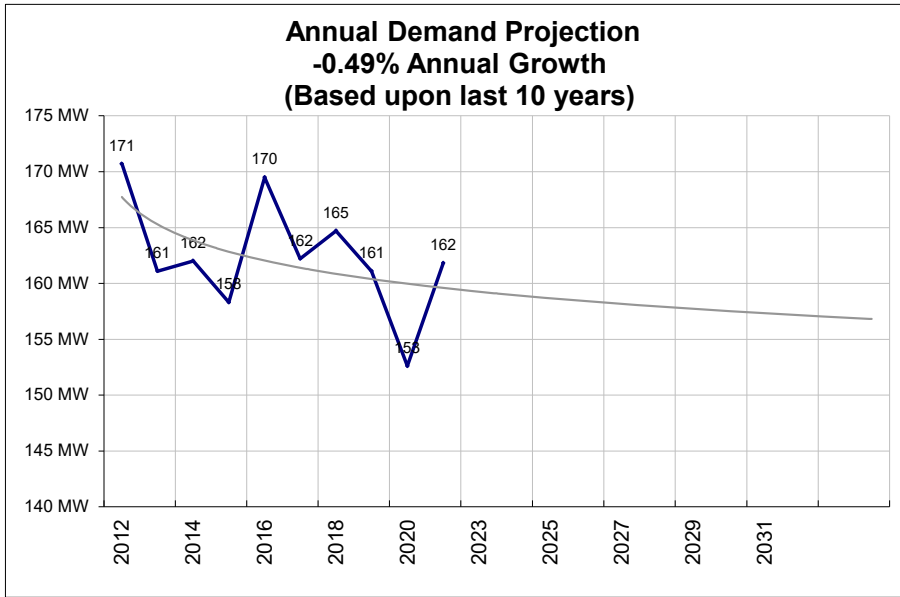
METERED ENERGY EXPORT FROM GRAND ISLAND	
LINE 1093	521.856 MWh
LINE 1145A	42,034.600 MWh
LINE 1145B	48,711.800 MWh
LINE 1149	170,309.016 MWh
LINE 1369	29,672.940 MWh
<b>TOTAL FROM GRAND ISLAND</b>	<b>291,250.212 MWh</b>

SPP Meter Calibration / Station Aux (Record Only)	-284.204 MWh
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<b>HOURLY PEAK DEMAND:</b>	<b>161.800 MW</b>
DATE & TIME OF PEAK:	June 17, 1700
<b>HOURLY MINIMUM DEMAND:</b>	<b>50.600 MW</b>
DATE & TIME OF MINIMUM:	April 4, 0400
<b>SYSTEM NET GENERATION:</b>	<b>427,003.207 MWh</b>
NET METERED IMPORT:	315,650.704 MWh
<b>SYSTEM NET DISTRIBUTION:</b>	<b>742,653.911 MWh</b>







## 2021 Electrical Feeder Summary

### Transformers

Polemount Not in service	596
Polemount in Service	6,080
Padmount Not in Service	330
Padmount in Service	2,803
<b>Total</b>	<b>9,213</b>

### Capacitor Banks

Fixed	72
Switched	100
<b>Total</b>	<b>172</b>

### Total Cable

Underground Primary Single Phase	105	Miles
Underground Primary 3 Phase	85	Miles
<b>Total Underground</b>	<b>190</b>	<b>Miles</b>
Overhead Primary 3 Phase	295	Miles
Overhead Primary Single Phase	87	Miles
<b>Total Overhead</b>	<b>382</b>	<b>Miles</b>

Utilities Department  
Platte Generating Station  
Fiscal Year Fuel Summary  
**October 1, 2020 - September 30, 2021**

**Coal**

<b>Beginning Inventory</b>	<b>October 1, 2020</b>	81,349.00 Tons
Total Coal Received		243,163.13 Tons
Total Coal Fired		-256,430.15 Tons
Total Cost Monthly Adjustments		-9,726.52 Tons
Coal Adjustments (Fiscal)		7,883.54 Tons
Final Coal Inventory	<b>September 30, 2021</b>	<b>66,239.00 Tons</b>
Average Coal Heat Value		8471 BTU/LB
Average Coal Sulfur		28.20%

**PGS No. 2 Fuel Oil**

<b>Beginning Inventory</b>	<b>October 1, 2020</b>	239,183.70 Gals
Total Fuel Oil Received		0.00 Gals
Total Fuel Oil Fired		-39,675.00 Gals
Other Fuel Oil Used		-12,391.00 Gals
Total Fuel Oil Adjustment		-45,932.70 Gals
Final Fuel Oil Inventory	<b>September 30, 2021</b>	<b>141,185.00 Gals</b>

**BURDICK STATION**

**No. 2 Fuel Oil**

<b>Beginning Inventory</b>	<b>October 1, 2020</b>	219,186.00 Gals
Total Fuel Oil Received		264,006.00 Gals
Total Fuel Oil Fired Gas Turbines		-357,441.00 Gals
Other Fuel Oil Used		0.00 Gals
Total Fuel Oil Adjustment		18,336.00 Gals
Final Fuel Oil Inventory	<b>September 30, 2021</b>	<b>144,087.00 Gals</b>

**Natural Gas**

Total Gas Turbine GT1	8,772.00 MCF
Total Gas Turbine GT2	23,257.00 MCF
Total Gas Turbine GT 3	33,435.00 MCF
Total Gas Fired	<b>65,464.00 MCF</b>

Revised 11/10/2021  
Lynn M/Tylor R-PGS  
Darren B-Finance  
Pat G-Utilities Admin  
Travis B/Keith P  
Ryan Schmitz

Utilities Department  
 Platte Generating Station  
 Fiscal Year Water Summary  
**October 1, 2020 - September 30, 2021**

**Report Totals**

Water From Wellfield	4,212,901,072 Gals
High Pressure Wells	40,952,045 Gals
Burdick Wells	19,237,618 Gals
PGS Wells	516,603,321 Gals
Cleburn Well	0 Gals
Burdick Pumping Station	873,418,454 Gals
Pine Street Pumping Station	836,942,596 Gals
Rogers Pumping Station	2,451,392,782 Gals
Water Distributed to City	4,202,705,876 Gals
Water to Burdick Station	19,237,618 Gals
Water to PGS	517,091,421 Gals
Water Pumped - Permit 10266	4,212,901,072 Gals
Water Pumped - Permit 10267	576,792,984 Gals
Total Water Distributed	4,739,034,915 Gals
Total Groundwater Pumped	4,789,694,056 Gals
Water Unaccounted For	0
Burdick Station City Water Use	3,329,348 Gals
Pine Street Station City Water Use	247,588 Gals

**Daily Maximum**

Permit No. 10266 (Wellfield)	25,971,960 Gals	on	6/17/2021
Permit No. 10302 (In-Town Wells)	1,870,245 Gals	on	11/17/2020
Total Groundwater Pumped	28,387,450 Gals	on	6/17/2021
Water Distributed to City	25,062,291 Gals	on	6/17/2021

Revised 11/10/2021  
 Lynn M/Taylor R-PGS  
 Darren B-Finance  
 Pat G-Utilities Admin  
 Travis B/Keith P  
 Ryan Schmitz

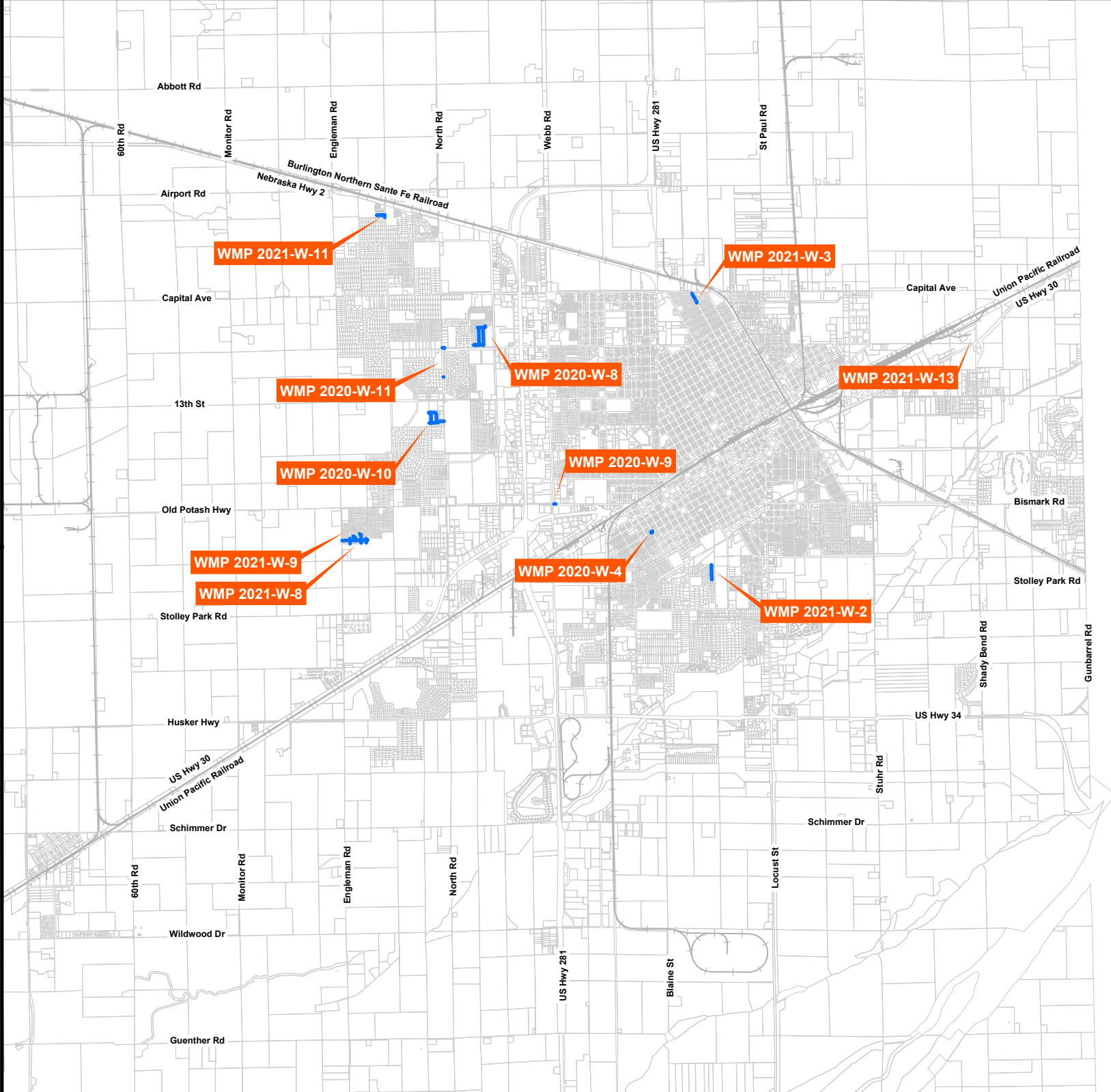
# Water Distribution Network

2021 Districts/Projects  
12/29/2021

## LEGEND

- 2021 Piping
- Property Lines

**City of Grand Island**  
Utilities Department



**Pipe Totals (4" and Larger)**

6-Jan-22

**City**

Distribution Length by Diameter (Includes Hydrant Assembly)	Year	4	6	8	10	12	14	16	18	20	24	30	36	Total	Percent Growth
	2015	24,745	719,963	221,431	119,711	197,813	17,284	115,557	54,135	71,645	7,335	787	11	1,550,417	N/A
	2016	24,939	752,141	229,610	121,272	200,540	17,244	115,557	53,788	74,060	7,222	787	11	1,597,171	3.02%
	2017	25,461	754,284	230,955	122,372	204,276	17,245	115,526	53,965	76,489	7,222	787	11	1,608,592	0.72%
	2018	25,461	754,704	232,674	127,185	208,177	17,242	115,420	53,958	76,613	6,877	787	11	1,619,109	0.65%
	2019	25,403	748,452	244,361	129,005	210,170	17,246	115,613	54,281	76,622	6,909	733	11	1,628,806	0.60%
	2020	24,882	747,671	254,273	128,561	209,876	17,336	115,604	54,278	76,733	6,896	731	15	1,636,856	0.49%
	2021	24,916	746,586	259,510	128,426	209,989	17,244	115,615	54,278	76,733	6,896	731	15	1,640,939	0.25%

Transmission Length by Diameter	Year	4	6	8	10	12	14	16	18	20	24	30	36	Total
	2015	0	0	0	0	0	0	0	0	0	0	78,425	12	78,437
	2016	0	0	0	0	0	0	0	0	0	0	78,502	12	78,514
	2017	0	0	0	0	0	0	0	0	0	0	78,496	12	78,508
	2018	0	0	0	0	0	0	0	0	0	270	78,498	12	78,780
	2019	0	0	0	0	0	0	0	0	0	270	78,508	23	78,801
	2020	0	0	0	0	0	0	0	0	0	270	77,886	23	78,179
	2021	0	0	0	0	0	0	0	0	0	270	77,886	23	78,179

Reservoir Length by Diameter	Year	4	6	8	10	12	14	16	18	20	24	30	36	Total
	2015	0	0	0	0	0	0	0	0	0	932	0	805	1,737
	2016	0	0	0	0	0	0	0	0	0	932	0	858	1,790
	2017	0	0	0	0	0	0	0	0	98	932	0	858	1,888
	2018	0	0	0	0	0	0	0	0	384	925	0	858	2,167
	2019	0	66	0	0	0	0	0	0	386	778	0	835	2,065
	2020	0	66	0	0	0	0	0	0	386	778	0	831	2,061
	2021	0	66	0	0	0	0	0	0	355	778	0	831	2,030

Well Header Length by Diameter	Year	4	6	8	10	12	14	16	18	20	24	30	36	Total
	2015	0	139	0	17,749	913	3,233	0	7,856	3,553	5,974	3,440	2,049	44,906
	2016	0	139	0	17,754	913	3,233	1,670	7,856	3,553	5,974	3,440	2,049	46,581
	2017	0	131	0	17,754	913	3,233	1,670	7,856	3,553	5,974	3,440	2,049	46,573
	2018	0	226	0	17,752	913	3,233	1,670	7,856	3,553	5,974	3,440	2,049	46,665
	2019	0	154	65	22,740	927	3,515	1,669	7,784	3,510	6,053	3,441	2,036	51,894
	2020	0	87	65	20,340	24	3,120	0	7,863	3,510	6,018	3,441	1,936	46,404
	2021	0	87	65	20,424	24	3,122	0	7,861	2,510	6,018	3,441	1,936	45,488

Total D+T+R+W	Year	Total (ft)	Total (mi)
	2015	1,675,497	317
	2016	1,724,056	327
	2017	1,735,562	329
	2018	1,746,720	331
	2019	1,761,566	334
	2020	1,763,500	334
	2021	1,766,636	335

**Private**

Fire Protection Only/Service Length by Diameter	Year	4	6	8	10	12	14	16	18	20	24	30	36	Total	Percent Growth
	2015	27,830	88,036	59,509	24,103	17,243	0	0	0	6	0	0	0	216,727	N/A
	2016	28,242	89,372	60,480	25,467	17,243	0	0	0	0	0	0	0	220,804	1.88%
	2017	28,327	90,556	60,858	25,467	17,243	0	0	0	0	0	0	0	222,451	0.75%
	2018	28,711	92,728	63,686	25,467	17,293	0	0	0	0	0	0	0	227,885	2.44%
	2019	28,872	94,128	63,686	25,467	17,293	0	0	0	0	0	0	0	229,446	0.68%
	2020	29,111	94,752	64,449	25,566	17,287	0	0	0	0	0	0	0	231,165	0.75%
	2021	29,029	96,510	67,358	25,720	17,287	0	0	0	0	0	0	0	235,904	2.05%

Total (City+Private)	Year	Total (ft)	Total (mi)
	2015	1,892,224	358
	2016	1,944,860	368
	2017	1,958,013	371
	2018	1,974,605	374
	2019	1,991,012	377
	2020	1,994,665	378