

# **City Council Workshop**

FY 2020 Budget and Financial Operating Plan

October 7, 2019

## **Overview**

- Strategic Plan
- Growth
- Sources of Expenditures
- System Capacity & Supply
- Operating Expenses
- Cost Cutting
- New Revenue Sources
- Reserves
- Financial Results 5-Year Plan
- Impact Fees
- Financial Results 20-Year Financial Forecast
- Rates



## Mission, Vision, and Core Values

### **Mission**

Enhancing the quality of our community by providing innovative essential services.

### Vision

New Braunfels Utilities will be recognized as a trusted community partner dedicated to excellence in service.

### **Core Values**

Safety, Integrity, Team and Stewardship.

## **Our Guiding Principles** are what matters.

Be Convenient

Do it Right the First Time

Lead and Serve

Care and Empower

**Exceed Expectations** 

Know and Do the Right Thing

Together, We are One

**Organizational Resiliency** 

Be Flexible and Innovative



Strategic Plan: Key Focus Areas and Tier 1 Goals

KEY FOCUS AREAS	TIER 1 GOALS	MEASUREMENTS		
CUSTOMERS AND COMMUNITY	Recognized as a trusted community partner dedicated to excellence in service	Customer satisfaction survey		
PEOPLE AND CULTURE	Develop and retain an engaged and ethical workforce	Employee engagement survey		
INFRASTRUCTURE AND TECHNOLOGY	Maintain organizational reliability and resiliency	Percentage of technological up-time, SAIDI, percentage of completion for water/wastewater capital improvement projects		
FINANCIAL EXCELLENCE	Maintain a competitive bond rating	Ratings as assigned by recognized financial rating agencies		
SAFETY AND SECURITY	Provide a safe and secure environment	OSHA incident rate		
STEWARDSHIP	Be a responsible steward of natural resources	Gallons Per Capita Daily		

## **Business Plan Example**

**Key Focus Area:** People and Culture

**Performance Measure:** Employee Engagement Survey

**Strategy:** Provide ethics training

### Measurement:

95% of active employee base trained on ethics program







## **Growth in NBU Service Area**

- New Braunfels was ranked as the second fastest growing city in 2015, 2017, and 2018
- New Braunfels indicated a 7.2% increase in population from 2017 to 2018
- Comal County was the second fastest growing county for 2017 and 2018
- New Braunfels and Comal County have been in the top 10% of population growth for the past decade
- Growth has
  - Rapidly consumed capacity in our infrastructure
  - Strained our workforce
  - Changed customer expectations
- This is an historic time



### **Budgeted Sources of Expenditures**

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**H**BU



\*Does not include purchased power, purchased water, and depreciation

### **Capital Expenditures – Historical & Projected**

BRAUNFELS

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## **Drivers for Electric System Improvements**

Regulatory Compliance	<ul> <li>Design electric infrastructure to meet or exceed National Electrical Safety Code (NESC) and National Electrical Code (NEC) requirements.</li> <li>Achieve all NERC &amp; ERCOT requirements with NBU's transmission system.</li> </ul>
Desired Level of Service	<ul> <li>Maintain a 3 year rolling average SAIDI in top quartile for Texas utilities or 3 year rolling average SAIDI &lt; 52.56 minutes (99.99% reliability)</li> <li>SAIFI &lt; 1.1 Interruptions</li> </ul>
Optimized Operations	<ul> <li>Customer Count per Feeder &lt; 1,000 Customers</li> <li>Nominal Capacity &gt; System Demand</li> <li>Rehab/Replace aging infrastructure prior to failure</li> </ul>



### **Reliability Bar Graph, SAIDI** (Lower is better!)



Source: U.S. Energy Information Administration https://www.eia.gov/electricity/data/eia861/

## **Rolling 12 Month SAIDI & SAIFI**



### Demand in MVA System Demand vs. Nominal Capacity

FELS

UT



## **Customer Count per Feeder**

FELS



### Distribution Substations

Over the past 25 years, NBU has added five substations, and anticipates new substations to be constructed at an average rate of one per five year period.



## **Significant 5 Year CIP Projects**

Year	Project	Budget	Substation	Transmission	Distribution
2020	Transmission Breaker Replacements	\$1,954,529	Х		
	Comal T1 Replacement	\$1,285,874	Х		
	Hortontown T2 Replacement	\$1,440,127	Х		
	Loop 337 T2 & Feeder Exits Replacement	\$3,086,098	Х		Х
	Sheriff's Posse T3 Addition	\$3,469,796	Х		
2021	Sheriff's Posse to Marion T-340 Upgrade	\$1,311,068		Х	
	Goodwin & Conrads Adjustments	\$1,148,516			Х
	Sheriff's Posse Feeder	\$815,587			Х
2022	E.C. Mornhinweg T2 Addition	\$3,814,342	Х		
2022	Alves Ln Feeder	\$577,013			Х
2022	Hueco Springs Substation	\$6,359,209	Х		
2025	Industrial PWT Replacement	\$1,185,349	Х		
2024	Kohlenburg Substation & Transmission	\$12,076,283	Х	Х	
	Technology Upgrades	\$1,602,633	Х		Х

### **Electric Capital Plan** Amounts in Thousands

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#### System Expansion

- System Extensions \$24.6M
- Distribution Transformers \$5.8M
- Two-Way Metering \$5.0M

#### Substation & Transmission

- Loop 337 T2 \$3.1M
- Sheriff's Posse \$4.7M
- E.C. Mornhinweg T2 \$3.8M
- Hueco Springs Substation \$6.3M
- Kohlenburg Substation \$12.0M

#### Replacement/Aging

- Aging Infrastructure \$11.4M
- Pole Replacements \$3.1M

#### City/TxDOT Projects

- TxDOT Road Widening \$2.3M
- Goodwin/Conrads \$1.1M

#### Information Technology

System Technology Upgrades - \$3.6M

## **Drivers for Water System Improvements**

Regulatory Compliance	<ul> <li>TCEQ minimum water system requirements</li> <li>Supply, Pumping, Storage</li> </ul>
Desired Level of Service	<ul> <li>Improved Water Systems Resiliency</li> <li>Build contingency for supply curtailment, water demand fluctuations, and maintenance activities</li> </ul>
Optimized Operations	<ul> <li>Effective peak demand management</li> <li>Rehab/Replace aging infrastructure prior to failure</li> </ul>



## Water System Deficiencies

# Regulatory Compliance

- Deficient in elevated storage capacity
- Deficient in pumping capacity

# Operational

- Insufficient aging infrastructure investments
- Water tank non-recovery during peak demand
- Water system resiliency have become dependent on technology



# Water Supply Diversification



Edwards Aquifer	\$207			
Canyon Reservoir	\$529			
Run of River	\$13			
Trinity Aquifer	\$499			
GBRA Mid Basin	\$1,470			
City of Seguin	\$1,530			
Total – 49,776 Ac-Ft				

### **NBU Water Supply 2010-2040**



### **Peak Day Water System Capacity**



## **Updated Available Connections – Non-Compliance**

	<u>May 7, 2019</u>		<u>August 8, 2019</u>
Pressure Zone	Existing Available Connections	Newly Approved Connections	Updated Existing Available Connections
Riverchase	1,372	158	829
Hoffmann	1,372	-24	829
Kohlenberg	1,792	811	829
Bretzke	1,792	18	829
Downtown	3,418	1,968	4,455
Morningside	3,418	662	4,455
Texas	2,477	-2	2,479
Loop	1,164	-115	1,279
Kerlick	859	394	323
Westpointe	859	52	323
Mission	859	125	323
Copper Ridge	859	-35	323
		-4,012	+5,350

## **Significant 5 Year CIP Projects**

Year	Project	Budget	Pumping	Storage	Transmission
2020	Water Plant Pump Station Expansion	\$6,909,126	4.5	0	0
	Avery Park 30" Water Main	\$17,235,041	0	0	Х
2020	GVSUD Interconnect	\$1,500,000	0.9	0	0
	Weltner Road Pump Station	\$10,892,482	10	1.5	0
	Aquifer Storage & Recovery	\$6,639,795	1	0	0
2021	Bretzke Elevated Storage Tank & Pipeline	\$11,807,631	0	2.5	Х
	Loop Elevated Storage Tank	\$4,170,235	0	1.5	0
	30/24 Inch SWTP Discharge Line	\$5,838,375	0	0	Х
2022	FM 306 Pump Station Expansion & Pipelines	\$4,460,789	3.5	0	Х
2022	Oak Brook Elevated Storage Tank	\$9,434,142	0	0.75	Х
2023	FM 1102 Water Main	\$5,684,039	0	0	Х
	Surface Water Treatment Plant Expansion	\$34,738,612	8	1.5	Х
2024	Goodwin Elevated Storage & Pipelines	\$5,228,985	0	2	Х
	Mission to Westpointe Connection	\$4,999,029	0	0	Х

### Water Capital Plan Amounts in Thousands



### **BU**<sup>®</sup> NEW BRAUNFELS UTILITIES

### Distribution

- Water Meters (New & Change-Out) \$18.1M
- Avery Park 20" Water Main \$16.9M
- System Extensions \$6.5M

#### Plant

- Surface Water Treatment Plant Expansion \$34.4M
- Bretzke Ground Storage \$11M
- Weltner Road Ground Storage/Pump Station, Phase I \$10.8M

### Replacement/Aging

• Aging Infrastructure - \$11.9M

#### ASR

• Aquifer Storage & Recovery - \$6.6M

### **City/TxDOT Projects**

- Castell Ave. Rehabilitation \$4.5M
- MSR Reconstruction \$2.2M
- San Antonio Street Rehabilitation \$1.2M

### **NBU Water Supply Cost 2010-2024**



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Forecasted Demand (Ac-Ft)
 Actual Demand (Ac-Ft)
 Firm Yield Supply (Ac-Ft)
 Average Year Supply (Ac-Ft)
 Water Supply Costs (\$)

### Water Supply Cost Comparison





## **Drivers for Wastewater System Improvements**

Regulatory Compliance	<ul> <li>TCEQ Requirements</li> <li>Sanitary Sewer Overflows</li> <li>Wastewater treatment plant discharge permit</li> </ul>
Desired Level of Service	<ul> <li>Minimize risk of overflows</li> <li>Monitor and limit inflow/infiltration</li> </ul>
Optimized Operations	<ul> <li>Reduce number of lift stations</li> <li>Rehab/Replace aging infrastructure prior to failure</li> </ul>

RB

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## **Wastewater System Deficiencies**

# **Regulatory Compliance**

- Insufficient pipeline capacity that leads to sanitary sewer overflows
- Insufficient WWTP capacities
- Insufficient Lift station capacities

# Operational

- Insufficient aging infrastructure investments
- Wastewater system resiliency have become dependent on technology



## **Kuehler Treatment Capacity**

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## **Gruene Treatment Capacity**

NEW BRAUNFELS



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## **McKenzie Treatment Capacity**





### **North Kuehler Interceptor Alignment**

North Kuehler Interceptor

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## **Significant 5 Year CIP Projects**

Year	Project	Budget	Interceptor	Plant	Lift Station
	Gruene WWTP Relocation & Expansion	\$29,913,353		Х	
2020	North Kuehler 42" Interceptor Upgrade	\$8,596,874	Х		
	South Kuehler 18" & 24" Interceptor				
	Replacement	\$1,242,803	Х		
	San Antonio St Rehab	\$1,208,136	Х		
	North Kuehler 30" &33" Interceptor Upgrade	\$10,258,075	Х		
2024	Rio Lift Expansion	\$3,772,088			Х
2021	Solms Lift Expansion	\$1,125,735			Х
	Saengerhalle Lift Expansion	\$2,303,444			Х
2022	McKenzie WWTP Expansion	\$40,766,865		Х	
2022	IH-35 Interceptor Upgrade	\$2,388,996	Х		
2022	N & S Kuehler WWTP Expansion	\$48,963,469		Х	
2023	Saengerhalle North Interceptor Upgrade	\$2,693,298	Х		
2024	McKenzie Interceptor Upgrade	\$20,206,894	Х		
	N & S Kuehler WWTP Rehab	\$9,405,587	Х		

### Wastewater Capital Plan Amounts in Thousands



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#### Plant

- N/S Kuehler WWTP Expansion \$49.1M
- McKenzie WWTP Expansion \$41.5M
- Gruene WWTP Relocation & Expansion \$30M

#### Interceptors

- North Kuehler 42" Interceptor Upgrade \$8.6M
- North Kuehler 30" Interceptor Upgrade \$5.8M
- North Kuehler 33" Interceptor Upgrade \$3.9M

### Aging

- Aging Infrastructure \$11M
- South Kuehler Rehabilitation \$5.7M
- North Kuehler Rehabilitation \$3.1M
- Manhole Rehabilitation \$2.5M

### **City/TxDOT Projects**

- Castell Ave. Rehabilitation \$2.2M
- MSR Reconstruction \$1.4M
- San Antonio St. Rehabilitation \$1.2M


# Technology Infrastructure

Dashboards



# **Satellite Leak Detection**







- 189 leaks detected in 8 months
- 42,311,837 gallons saved!
- \$214,627 total avoided costs!

# **AMI - Customer Side Leak Detection**



Internal Time		Channel 1	Collected Time	Statu	s Flags
Interval Time	Ť	Channel I	Collected Time	Interval Status	Channel Status
Jun 13, 2019 - 1:00 pm CS	r/CDT	6.700 GAL	Jun 13, 2019 – 1:53 pm	📕 1 flag	-
Jun 13, 2019 - 12:00 pm C	📕 Lea	k Detected		1 flag	-
Jun 13, 2019 - 11:00 am C				1 flag	-
Jun 13, 2019 - 10:00 am CS	ST/CDT	6.500 GAL	Jun 13, 2019 - 1:53 pm	📕 1 flag	-

- 37,976 leaks detected over 24 months
- Mean time to repair 45 days to 13 days
- 58,331,136 gallons saved!
- \$301,000 customer savings!



### NBU Drone Program

Phased approach to

implementation to ensure

mastery of tasks and efficient

workflows



QA/QC on Contractors

# Electrical Line Inspections

### Vegetation Maintenance Monitoring



### **Support Capital Plan** Amounts in Thousands

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#### **Facilities**

- Office Space \$19.3M
- Physical Security Systems \$555k

#### **Information Technology**

- Update Backup and Disaster Recovery \$1.1M
- Telecommunications Enhancements \$1.1M
- Cyber Security System \$875k
- Software Replacements & Enhancements \$625k

#### Headwaters at the Comal

- Headwaters Phases 2 & 3 \$16.8M
  - Net of donations and grants totaling \$12.7M

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## **Operating Expenses** Amounts in Thousands

		FY 2019	FY 2020			Percent	
	Budget		Budget		ariance/	Change	
Personnel							
Net Salaries	\$	20,044	\$ 21,447	\$	1,403	7.0%	
Net Benefits	\$	6,799	\$ 8,461	\$	1,662	24.4%	
TOTAL PERSONNEL COSTS	\$	26,844	\$ 29,909	\$	3,065	11.4%	
Non-Personnel							
TOTAL NON-PERSONNEL COSTS	\$	16,336	\$ 19,602	\$	3,266	20.0%	
Total 0&M	\$	43,180	\$ 49,510	\$	6,330	13.6%	
Less: Contra to Capital		(11,809)	(11,046)		763	-6.3%	
Net 0&M	\$	31,371	\$ 38,464	\$	7,093	20.5%	



# **Meters per Employee**

### • Electric, Water, and Wastewater

Utility	Total Meter Count	Employee Count	Meters Per Employee	NBU Employee Shortfall	% Shortfall
New Braunfels Utilities	112,289	298	377		
Brownsville PUB	152,559	605	252	147	33%
• Electric					
Utility	Iotal Meter Count	Employee Count	Meters Per Employee	NBU Employee Shortfall	% Shortfall
New Braunfels Utilities	43,147	Employee Count 151	Meters Per Employee 287	NBU Employee Shortfall	% Shortfall
New Braunfels Utilities Austin Energy	10tal Meter Count 43,147 472,703	Employee Count 151 1,700	Meters Per Employee 287 278	NBU Employee Shortfall	% Shortfall
New Braunfels Utilities Austin Energy CPS	10tal Meter Count 43,147 472,703 850,000	Employee Count 151 1,700 3,160	Meters Per Employee 287 278 269	NBU Employee Shortfall 5 10	% Shortfall 3% 6%
New Braunfels Utilities Austin Energy CPS Garland Power & Light	Iotal Meter Count   43,147   472,703   850,000   69,928	Employee Count 151 1,700 3,160 275	Meters Per Employee   287   278   269   254	NBU Employee Shortfall 5 10 19	% Shortfall 3% 6% 11%

#### • Water & Wastewater

Utility	Total Meter Count	Employee Count	Meters Per Employee	NBU Employee Shortfall	% Shortfall
New Braunfels Utilities	69,142	147	469		
San Antonio Water System	502,000	1,733	290	91	38%

# **Cost Cutting**

- GASB 62 to defer the recognition of expenses
- Commercial Paper Program **\$3 million** interest savings over the life of the program
- Line Sensors **\$263k** over two years
- Satellite Leak Detection **42 million gallons** saved totaling **\$167k** over 8 months
- Customer Side Leak Detection **58.4 million gallons** saved resulting in **\$301k** customer savings
- AMI **\$778k** saved and **55,312** truck rolls avoided over two years
- Drone Program **\$4M** in avoided costs over 5 years
- Load-following power requirements filled by NBU staff 100% of cost savings is passed through to customers
- Health care premiums flat for **6th straight year** due to education and employee wellness programs
- Total Savings \$8.5M



# **New Revenue Sources**

- Update to Electric Connection Policy increased contributions
- GBRA Wholesale Wastewater Capital Participation Fee & Usage Revenue
- Impact Fee Program D
- Update to the Service Conditions Policy Quick Connect
- Exploring wholesale water sales
- Total new revenues over 5 year period = \$21.4M





- Reserves incorporated in Financial Plan
- Essential to financial health of NBU
  - Reserve to mitigate risk of Energy Portfolio
  - Reserve for 90 days Operating Expenses
  - DCoH targets need to remain in line with rating agency expectations



# Financial Results – Revenue Requirements

			Final			Results	
	FY20	FY21	FY22	FY23	FY24	FY 2024	L .
Electric*	0.0%	0.0%	3.5%	3.3%	3.3%	DSC	3.15
Water	22.0%	20.0%	20.0%	15.0%	10.0%	Total Debt	\$386.7M
Wastewater	16.5%	16.5%	12.5%	12.0%	10.0%	Debt to Cap.	50%

\*Electric rate increases are only applied to the Distribution and Customer Charge, which results in the corresponding percentage increases.



## **Financial Results** Amounts in Thousands

	Fc	recast		Budget	F	orecast	F	orecast	F	orecast		Forecast
	F١	FY 2019		FY 2020	FY 2021		FY 2022		FY 2023		FY 2024	
Total Debt	\$	163,584	\$	300,265	\$	416,445	\$	481,489	\$	472,679	\$	508,785
Equity		421,127		429,448		447,966		472,668		486,676		510,492
Capitalization	\$	584,710	\$	729,713	\$	864,412	\$	954,158	\$	959,356	\$	1,019,277
Total Debt / Capitalization Ratio*		28%		41%		48%		50%		49%		50%
Days Cash on Hand		190		137		165		166		160		157
Debt Service Coverage**		4.51		4.36		3.04		2.86		3.01		3.15
Adjusted Debt Service Coverage***		3.78		3.30		2.42		2.37		2.53		2.70

\* Total Debt / (Current Debt + Long-Term Debt + Equity)

\*\* Net Available for Debt Service / Debt Service

\*\*\* (Net Available for Debt Service - Intergovernmental Expense) / Debt Service



# **Bond Ratings Comparison**

VFELS I E S

	Tot Reve	al Operating nue (Millions)	Debt Service Coverage	Days Cash on Hand	Debt to Capitalization
"AA+" Median	\$	1,261	2.66	116	50.8%
CPS Energy	\$	2,465	2.46	215	63.6%
"AA" Median	\$	318	2.53	264	45.1%
NBU - Per Fitch Report of June 2018 (FY 2017 Da	\$	133	4.26	171	22.7%
NBU - FY 2020 - Projected	\$	169	4.36	137	41.1%
NBU - FY 2024 - Projected	\$	219	<i>3.15</i>	157	49.9%
"AA-" Median	\$	250	2.70	206	40.2%
Austin Energy	\$	1,362	2.91	201	43.9%
Garland Power & Light	\$	280	1.43	375	41.5%
Floresville Electric Light & Power	\$	39	2.67	243	59.5%
"A+" Median	\$	167	2.05	157	40.5%
Brownsville Public Utilities Board	\$	216	2.01	171	41.3%
Bryan Utilities City Electric System	\$	190	2.03	157	57.5%
Seguin Utility Fund	\$	50	3.27	251	39.5%
"A" Median	\$	143	1.72	136	52.5%

Source: U.S. Public Power Peer Study, Retail Systems, June 15, 2018, Fitch Ratings, Inc.



# FY 2024 Implied Credit Rating

- Current five year financial operating plan
- FY20-24 revenue requirements approved
- Rating drops from AA+ (Moody's) to AA due mostly to increased debt levels

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# Scenario A (2020 Revenues) Implied Credit Rating

- 2024 debt levels
- FY 2020 revenue requirement approved
- FY 2021-2024 revenue at FY 2020 levels, rating drops to AA-

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# Scenario B (2019 Revenues) Implied Credit Rating

- 2024 debt levels
- No revenue requirements granted
- FY 2020-2024 revenue at FY 2019 levels, rating drops to A

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### **Capital Funding by Source** Amounts in Millions



**BU**<sup>®</sup> NEW BRAUNFELS UTILITIES 65% of capital requirements will be met with existing or new borrowings

Impact Fees are estimated to provide about \$67.3M in funds or 11% of capital requirements

funds will provide about 20% of capital requirements

> Contributions and other funds will provide about 4% of capital requirements

## **Debt Funding Requirement** Includes Short-Term and Long-Term Financing





# **Impact Fees**

- Impact fees are used to help pay for the cost of construction for new growth.
- Impact fee statutes require municipalities to follow prescribed procedures when implementing local impact fee programs.
- Only projects listed in the CIP at the time of development of the Impact fee can be included in the calculation.
- Market conditions and CIP can change swiftly. Impact fees need to be updated on a timely basis or you will not be able to offset new demands made by growth.
- Cost of construction has escalated showing at least an 11% increase for water and 5% increase for sewer projects from last impact fee study
- NBU plans to go through an impact fee study in the Fall of 2020 in order to coincide with the updated Water Resource Plan and the Water and Sewer Master Plans.



### 2018 Impact Fee Study Water System Cost Allocation

Total Project Cost	10-Year Cost	10-Year Cost %	Existing Customers	Beyond 2028
\$280.4M	\$200.4M	71%	\$25.4M	\$54.6M

### 2018 Impact Fee Study Wastewater System Cost Allocation

Total Project Cost	10-Year Cost	10-Year Cost %	Existing Customers	Beyond 2028
\$182.4M	\$78.2M	43%	\$66.9M	\$37.3M



### **Capital Projects – 20-Year Financial Forecast** Amounts in Thousands





## Financial Results – 20-Year Financial Forecast

### **Debt Service Coverage**





# Financial Results – 20-Year Financial Forecast

### **Debt to Capitalization**

60%





## Financial Results – 20-Year Financial Forecast

### **Revenue Requirements**

	Electric	Water	Wastewater
FY 2025	0.0%	3.0%	3.0%
FY 2026	0.0%	3.0%	3.0%
FY 2027	0.0%	3.0%	3.0%
FY 2028	0.0%	3.0%	3.0%
FY 2029	0.0%	3.0%	3.0%
FY 2030	3.0%	3.0%	3.0%
FY 2031	3.0%	3.0%	3.0%
FY 2032	3.0%	3.0%	3.0%
FY 2033	3.0%	3.0%	3.0%
FY 2034	3.0%	3.0%	3.0%
FY 2035	3.0%	3.0%	3.0%
FY 2036	3.0%	3.0%	3.0%
FY 2037	3.0%	3.0%	3.0%
FY 2038	3.0%	3.0%	3.0%
FY 2039	3.0%	3.0%	3.0%



# **Goals for Water Rate Design**

- Fund needed investments to bring our systems back into compliance and build resiliency
- Protect customers who only use water for domestic purposes (drinking, bathing, preparing food)
- $\checkmark$  Place the majority of costs on high volume water users (landscape watering)
  - Encourage conservation this is the lowest cost water supply option.
  - Meet rating agency highest criteria for affordability and cost recovery
  - Ensure equity and provide ease in interpretation and implementation
    - Align inside and outside city limit rates
    - Simplify multi-unit rate structure into one class and a flat rate



### Water Rate Change Comparison Based on Residential Usage of 6,000 Gallons

Utility	2016 Rate Increase	2017 Rate Increase	2018 Rate Increase	2019 Rate Increase	5-Year % Change	Curr Am	ent Bill 10unt
Austin Utility	2.7%	2.6%	0.0%	-3.5%	1.8%	\$	37.02
New Braunfels Utilities	2.4%	2.5%	2.5%	-2.8%	4.5%	\$	22.10
City of San Marcos	5.0%	5.0%	5.1%	4.9%	21.6%	\$	46.44
San Antonio Water	13.0%	5.4%	7.7%	1.4%	30.0%	\$	34.86
City of Buda	18.9%	10.3%	2.9%	0.0%	35.1%	\$	32.16



## Residential Water Bill Comparison No Irrigation/Domestic Use Only – 6,000 Gal.



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# Sewer Bill Comparisons – 4,600 gallons





# Residential Total Bill Impact No Irrigation/Domestic Use Only – 6,000 Gal.





# Residential Water Bill Comparison Average Irrigation – 25,000 Gal.





# Residential Total Bill Impact Average Irrigation – 25,000 Gal.

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# Residential Water Bill Comparison High Irrigation – 40,000 Gal.





# Residential Total Bill Impact High Irrigation – 40,000 Gal.

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# **Commercial Bill Comparisons – 30,300 gallons**





# **Rate Design Process**

- Collaborated with Boston University's Institute for Sustainable Energy
- BU's work funded by a grant from the Cynthia and George Mitchell Foundation.
- Utilized an advanced ratemaking model from the Alliance for Water Efficiency


## The Model

The model performs up to 1,000 simulations and considers

- Historical water usage
- Account growth rates
- Temperature and rainfall

#### Estimates the effects of

- Variable and fixed charges
- Increasing block structures
- Peak and off-peak pricing
- Drought rate adjustments



## The Model (cont'd)

- Factors in demand elasticities (sensitivity of demand based on changes to variables)
- Adjusts rates across classes and meter sizes
- Evaluates the affordability of water bills



## Outcomes

The proposed rates achieve NBU's goals by

- Protecting the domestic-only customer
- Aligning water rates with higher usage
- Adding a water supply fee
- Implementing seasonal peak/off peak pricing (June, July, August, September)
- Eliminating the inside/outside city limit rate differential
- Allocating costs to the rate classes driving the need for investments
- Ensuring revenue recovery



## Water Supply Fee

- NBU is proposing to use a "pass-thru" option for the cost of certain water supplies
- A pass-thru rate is allowed for water by the PUC
- It allows passing thru the actual costs charged to the utility and the over under must be trued up annually
  - Will also incorporate the sale of any certain water supplies as a credit to the pass-thru
- Implement water supply fee
  - \$0.33 per 1000 gallons



#### **Ratio of Peak Month to Average Month**

	Average Monthly Demand	Ratio August 2018	Ratio September 2018
Pata Class	EV 2010	Demand to Average	Demand to Average
Nate class	112013	Demanu to Average	Demanu to Average
Residential	162.856.997	1.55	1.47
	,,		
Irrigation	53,640,937	1.99	1.82
Multi Unit	23,228,741	1.04	1.14
Commercial	64,787,826	1.28	1.18



# Summary of Average Revenue Changes by Class FY 2020

Rate Class	Revenue Change
Residential Inside City Limits	12.66%
Residential Outside City Limits	10.43%
Irrigation Inside City Limits	46.63%
Irrigation Outside City Limits	32.91%
Commercial Inside City Limits	41.43%
Commercial Outside City Limits	24.42%
Multi Unit Inside City Limits	45.39%
Multi Unit Outside City Limits	24.90%
Total All Rate Classes	26.45%



#### **Proposed FY 2020 Residential Customer Service Charges**

	Residential				
Meter Size	Current (\$/Bill)	Proposed (\$/Bill)	Difference (\$/Bill)	% Increase	
5/8-Inch	\$12.80	\$12.80	\$0.00	0.00%	
1-Inch	\$14.52	\$21.78	\$7.26	50.00%	
1 1/2-Inch	\$16.87	\$25.31	\$8.44	50.00%	
2-Inch	\$20.60	\$30.90	\$10.30	50.00%	
3-Inch	\$30.05	\$45.08	\$15.03	50.00%	
4-Inch and Above	\$35.44	\$53.16	\$17.72	50.00%	



#### **Proposed FY 2020 Residential Off Peak Rates**

Block (Gallons)	Current vs. Proposed Rate (\$/Thou. Gal.)	Proposed Rate without Water Supply Fee (\$/Thou. Gal.)	% Increase over Current Rates	% Increase over Current Rates without Water Supply Fee
0-7,500	\$1.55> \$1.88	\$1.55	21.29%	0.00%
7,501-15,000	\$3.64> \$4.24	\$3.91	16.47%	7.41%
15,001-25,000	\$4.26> \$5.66	\$5.33	32.65%	24.91%
25,001+	\$5.43> \$7.66	\$7.33	41.21%	35.12%



#### **Proposed FY 2020 Residential Peak Rates**

Block (Gallons)	Current vs. Proposed Rate (\$/Thou. Gal.)	Proposed Rate without Water Supply Fee (\$/Thou. Gal.)	% Increase over Proposed Off Peak Rates	% Increase over Current Rates without Water Supply Fee
0-7,500	\$1.55> \$1.95	\$1.62	3.72%	4.51%
7,501-15,000	\$3.64> \$4.54	\$4.21	7.00%	5.07%
15,001-25,000	\$4.26> \$6.72	\$6.39	18.83%	36.28%
25,001+	\$5.43> \$9.86	\$9.53	28.71%	59.68%



#### Test Year (FY 2018) Residential % Customers by Block

Block (Gallons)	Off Peak % of Customers by Block	Peak % of Customers by Block
0-7,500	82.1%	65.8%
7,501-15,000	13.1%	20.8%
15,001-25,000	3.3%	8.0%
25,001+	1.5%	5.7%



#### **Proposed FY 2020 Residential Off Peak Bills**

Residential Bills Off Peak	Usage	Current	Proposed	Difference	% Increase
Monthly Water Bill	1,000	\$14.35	\$14.68	\$0.33	2.30%
With Usage Of	2,000	\$15.90	\$16.56	\$0.66	4.15%
	3,000	\$17.45	\$18.44	\$0.99	5.67%
	4,000	\$19.00	\$20.32	\$1.32	6.95%
	5,000	\$20.55	\$22.20	\$1.65	8.03%
	6,000	\$22.10	\$24.08	\$1.98	8.96%
	7,500	\$24.43	\$26.90	\$2.48	10.13%
	8,000	\$26.25	\$29.02	\$2.78	10.57%
	9,000	\$29.89	\$33.26	\$3.38	11.29%
	10,000	\$33.53	\$37.51	\$3.98	11.85%
	12,000	\$40.82	\$45.99	\$5.18	12.68%
	15,000	\$51.75	\$58.72	\$6.97	13.48%
	20,000	\$73.06	\$87.00	\$13.94	19.07%
	25,000	\$94.38	\$115.27	\$20.90	22.14%
	40,000	\$175.75	\$230.18	\$54.43	30.97%

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#### **Proposed FY 2020 Residential Peak Bills**

Residential Bills Inside Peak	Usage	Current	Proposed	Difference	% Increase
Monthly Water Bill	1,000	\$14.35	\$14.75	\$0.40	2.79%
With Usage Of	2,000	\$15.90	\$16.70	\$0.80	5.03%
	3,000	\$17.45	\$18.65	\$1.20	6.88%
	4,000	\$19.00	\$20.60	\$1.60	8.42%
	5,000	\$20.55	\$22.55	\$2.00	9.73%
	6,000	\$22.10	\$24.50	\$2.40	10.86%
	7,500	\$24.43	\$27.43	\$3.00	12.28%
	8,000	\$26.25	\$29.70	\$3.45	13.14%
	9,000	\$29.89	\$34.24	\$4.35	14.54%
	10,000	\$33.53	\$38.78	\$5.24	15.63%
	12,000	\$40.82	\$47.86	\$7.04	17.24%
	15,000	\$51.75	\$61.48	\$9.73	18.80%
	20,000	\$73.06	\$95.08	\$22.01	30.13%
	25,000	\$94.38	\$128.68	\$34.30	36.34%
	40,000	\$175.75	\$276.58	\$100.82	57.37%



#### Proposed FY 2020 Irrigation Customer Service Charges

	Irrigation			
Meter Size	Current	Proposed		
	(\$/Bill)	(\$/Bill)		
5/8-Inch	\$4.73	\$9.46		
1-Inch	\$5.74	\$11.48		
1 1/2-Inch	\$7.50	\$15.00		
2-Inch	\$8.00	\$16.00		
3-Inch	\$12.50	\$25.00		
4-Inch and Above	\$15.00	\$30.00		



#### **Proposed Rates – Irrigation Off Peak**

Block (Gallons)	Current vs. Proposed Rate (\$/Thou. Gal.)	Proposed Rate without Water Supply Fee (\$/Thou. Gal.)	% Increase over Current Rates	% Increase over Current Rates without Water Supply Fee
0-7,500	\$3.64> \$4.52	\$4.19	24.07%	15.02%
7,501-25,000	\$4.26> \$5.45	\$5.12	27.84%	20.10%
25,001+	\$5.43> \$7.39	\$7.06	36.20%	30.12%



#### **Proposed Rates – Irrigation Peak**

Block (Gallons)	Current vs. Proposed Rate (\$/Thou. Gal.)	Proposed Rate without Water Supply Fee (\$/Thou. Gal.)	% Increase over Proposed Off Peak Rates	% Increase over Current Rates without Water Supply Fee
0-7,500	\$3.64> \$5.57	\$5.24	23.17%	43.77%
7,501-25,000	\$4.26> \$6.73	\$6.40	23.49%	50.13%
25,001+	\$5.43> \$9.15	\$8.82	23.88%	62.65%



#### **Test Year (FY 2018) Irrigation % Customers by Block**

	Off Peak % of Customers by	
BIOCK (Gallons)	BIOCK	Peak % of customers by Block
0-7,500	80.3%	60.5%
7,501-25,000	17.0%	32.0%
25,001+	2.7%	7.8%



#### Proposed FY 2020 Multi Unit Customer Service Charges

	Multi Family 2-4			
Meter Size	Current	Proposed		
	(\$/Bill)	(\$/Bill)		
5/8-Inch	\$12.80	\$12.80		
1-Inch	\$14.52	\$16.70		
1 1/2-Inch	\$16.87	\$19.40		
2-Inch	\$20.60	\$23.69		
3-Inch	\$30.05	\$34.56		
4-Inch and above	\$35.44	\$40.76		



#### **Proposed FY 2020 Multi Unit Monthly Unit Charge**

- Current: \$6.10
- Proposed: \$10.00
- Brings the charge more in line with the residential customer charge



### **Multi-Unit Off Peak Rates and Monthly Bills**

Block (Gallons)	Current vs. Proposed Rate (\$/Thou. Gal.)	Rate without Water Supply Fee (\$/Thou. Gal.)	% Increase over Current Rates	% Increase over Current Rates without Water Supply Fee
0-8,000	\$1.85> \$2.50	\$2.17	35.14%	17.30%
8,001-20,000	\$2.45> \$2.50	\$2.17	2.04%	-11.43%
20,001+	\$3.00> \$2.50	\$2.17	-16.67%	-27.67%



#### **Multi Unit Peak Rates**

Block (Gallons)	Current vs. Proposed Rate (\$/Thou. Gal.)	% Increase over Proposed Off Peak Rates	% Increase over Current Rates without Water Supply Fee
0-8,000	\$1.85> \$2.83	13.20%	43.78%
8,001-20,000	\$2.45> \$2.83	13.20%	8.57%
20,001+	\$3.00> \$2.83	13.20%	-11.33%



#### **Commercial Customer Service Charges FY 2020**

Commercial					
Meter Size	Current	Proposed	Difference	% Increase	
5/8-Inch	\$13.39	\$16.07	\$2.68	19.98%	
1-Inch	\$14.48	\$18.10	\$3.62	24.99%	
1 1/2-Inch	\$18.81	\$23.51	\$4.70	24.97%	
2-Inch	\$23.90	\$29.88	\$5.98	25.01%	
3-Inch	\$36.19	\$45.24	\$9.05	24.99%	
4-Inch	\$55.03	\$68.79	\$13.76	25.01%	
6-Inch	\$95.56	\$119.45	\$23.89	25.00%	
10-Inch +	\$95.56	\$124.23	\$28.67	30.00%	



## **Commercial Monthly Unit Charge**

- Current: \$6.10
- Proposed: \$10.00



### **Commercial Off Peak Rates**

Block (Gallons)	Current vs. Proposed Rate (\$ /Thou. Gal.)	Rate without Water Supply Fee (\$/Thou. Gal.)	% Increase over Current Rates	% Increase over Current Rates without Water Supply Fee
0-5,000	\$2.17> \$2.72	\$2.39	25.15%	9.95%
5,001-50,000	\$2.26> \$2.93	\$2.60	29.89%	15.25%
50,001-200,000	\$2.33> \$3.36	\$3.03	44.22%	30.06%
200,001+	\$2.49> \$4.07	\$3.74	63.32%	50.06%



#### **Commercial Peak Rates**

Block (Gallons)	Current vs. Proposed Rate (\$/Thou. Gal.)	Rate without Water Supply Fee (\$/Thou. Gal.)	% Increase over Off Peak Rates	% Increase over Current Rates without Water Supply Fee
0-5,000	\$2.17> \$2.96	\$2.63	8.79%	20.94%
5,001-50,000	\$2.26> \$3.32	\$2.99	13.31%	32.54%
50,001-200,000	\$2.33> \$4.27	\$3.94	27.05%	69.07%
200,001+	\$2.49> \$5.56	\$5.23	36.75%	110.08%



## **Goals for Sewer Rate Design Development**

- Fund needed investments to bring our systems back into compliance and build resiliency
- $\checkmark \bullet$  Meet rating agency highest criteria for affordability and cost recovery
- Find right balance between fixed and variable rate components driven by higher efficiency water use



# Summary of Average Revenue Changes by Class FY 2020

Rate Class	Revenue Change
Residential	13.7%
Multi-Unit 2-4	14.9%
Multi-Unit 5+	18.4%
Small General Service	16.8%
Total All Rate Classes	15.4%



#### **Proposed FY 2020 Sewer Customer Service** Charges

Customer Class	Current (\$/Bill)	Proposed (\$/Bill)	Difference (\$/Bill)	% Increase
Residential/ Multi-Unit 2-4	\$15.31	\$18.50	\$3.19	20.83%
Multi-Unit 5+ (1 5" meter)	\$31.84	\$39.80	\$796	25 00%
Commercial (5/8" meter)	\$21.04	\$26.30	\$5.26	25.00%



#### **Proposed FY 2020 Sewer Usage Rates**

Customer Class	Current (\$/Bill)	Proposed (\$/Bill)	Difference (\$/Bill)	% Increase
Residential/ Multi-Unit 2-4	\$4.10	\$4.35	\$.25	6.1%
Multi-Unit 5+ (150k gal)	\$4.81	\$5.50	\$7.96	14.34%
Commercial (30,300 gal)	\$5.03	\$5.50	\$5.26	9.34%



## **Fitch Bond Rating Attributes**

#### Stronger

Residential charges for combined water/sewer utilities less than or equal to 1.2% of median household income (MHI)

Approximately 30% or more of revenues recovered from fixed base charges

#### Mid-range

Residential charges for combined water/sewer utilities less than or equal to 1.5% of MHI

Approximately 15% or more of revenues recovered from fixed base charges



## Summary

NBU utilized an advanced ratemaking model to design rates that will

- Fund needed investments to bring our systems back into compliance and build resiliency
- Protect customers who only use water for domestic purposes (drinking, bathing, preparing food)
- Place the majority of costs on high volume water users (peak pricing, water supply fee)
- Encourage conservation the lowest cost water supply option
- Meet rating agency highest criteria for affordability and cost recovery
- Achieved the right balance between fixed and variable rates
- Eliminate inside/outside city limit rate differential



# Summary (cont'd)

- With these W/WW increases, NBU's rates are still among the very lowest in our region
- The new water rate for domestic only use is **the lowest in the region** and **21% lower** than the next highest utility
- When these increases are applied to a residential customer's total bill with only domestic water use, the increase to the total bill is only \$6.73 or 4.4%



## **Next Steps**

- NBU Board approved rates 9/26/19
  - October 7 City Council Workshop to present FOP and rates
  - October 14 First reading of ordinance revision
  - October 28 Second reading
  - November 1 Rates take effect





## **Questions?**