

Newport Municipal Utility District

Community Engagement
Meeting
2020



What is a M.U.D? What's a Director?

MUD

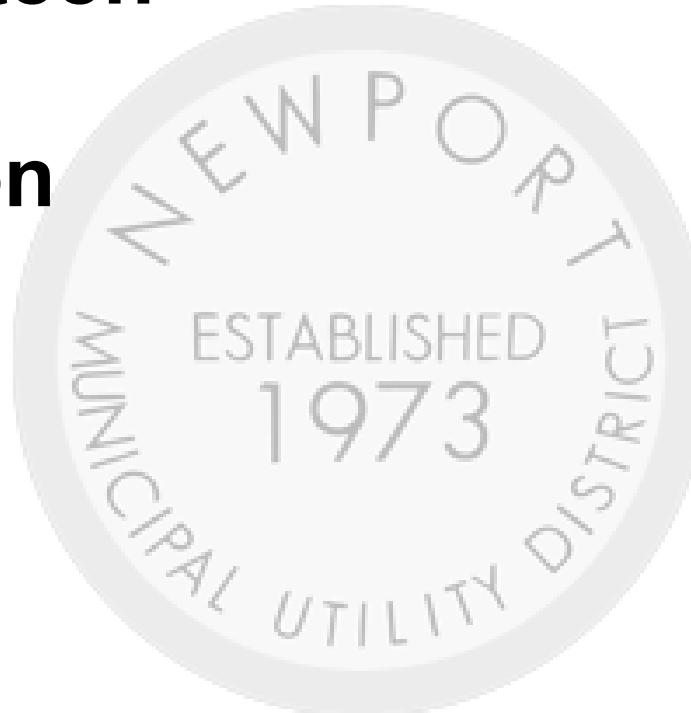
- Municipal Utility District
- It is essentially the town/area government with more limitations
- Operate the equipment needed to provide basic utilities water and sewer(drainage)
- Maintain the infrastructure
- Communicate with other local authorities
- Build phase and dormant phase.

Director

- Owns property or is a qualified voter
- No immunity from taxes and fees
- Elected by the voting authority aka residents
- Have 4-year terms
- 5 directors
- Good looking

Newport M.U.D. Board of Directors

- Margarette Chasteen**
- DeLonne Johnson**
- Deborah Florus**
- Earl Boykin**
- Gary Hasse**



- President**
- Vice President**
- Secretary**
- Assistant Secretary**
- Director**

What are Newport's Needs

❑ Infrastructure – The Age of the District's Water and Sewer Lines



**Water Main
Repair**



**Sewer Line with Tree
Roots**

Infrastructure Details and Needs

- Water main lines 4-6-8-12-16 inches
- Fire hydrants
- Water storage
- Gravity main
- Lift stations
- 6inch-36 inch

Pipe bursting

Sink holes

Main line leaks

Inflow & Infiltration

Valve maintenance

Hurricane Harvey and Tropical Storm Imelda

Extreme Weather events Expose weaknesses in the aging Infrastructure

Imelda \$300,000 + Harvey \$1,000,000+
Tropical Storm

WWTP after Hurricane Harvey



Effluent Line after



What are Newport's Needs

❑ Regulatory Agencies Newport must comply with

❖ Harris-Galveston Subsidence District

- Surface Water Treatment Plant must expand to meet 2025 and 2035 Subsidence District Requirements, 80/20 in area 2 and 3 respectively

❖ Texas Commission Environmental Quality

- Wastewater Treatment Plant permit Effluent 75% rule

TCEQ

- <https://www.tceq.texas.gov/searchpage?q=waste+water+plant+expansion&btnG=TCEQ+Search>
- https://www.tceq.texas.gov/agency/water_main.html
- Our Communication with TCEQ includes
- Sending Potable water reports monthly, Effluent flow monthly.
- Expansion required to be discussed at 75%
- Implemented at 90%



TCEQ Rules as Written

non-high flow periods, and plant flushing and/or plant overflows during rainfall events. The original rule was developed to assist community leaders by requiring them to plan ahead and position their community for expansion and/or upgrading of the existing wastewater treatment plant when effluent flows reached a specific level. The proposed amendments will allow this advance planning to continue while responding to the concerns of the regulated community.

Under the current rule, whenever a domestic wastewater treatment plant reaches 75 percent of the permitted daily average flow for three consecutive months, the permittee is required to initiate engineering and financial planning for expansion and/or upgrading of the treatment plant and/or collection facilities. Whenever flows at a domestic wastewater treatment plant reach 90 percent of the permitted daily average flow for three consecutive months, the permittee is required to obtain authorization from the commission to commence construction of the necessary additional treatment

Harris Galveson Subsidence District

- <https://hgsubsidence.org/>
- <https://hgsubsidence.org/planning/regulatory-areas/>
- <https://hgsubsidence.org/planning/regulatory-plan/>
- <https://hgsubsidence.org/planning/rules/>
- Agency regulates ground water use
- Created to stop subsidence
- Disincentive fee \$9.24 per 1,000 gallons.

HGSD Plan

 hgsubsidence.org/planning/regulatory-plan/



HARRIS-GALVESTON
SUBSIDENCE DISTRICT

Regulatory Plan



About



Planning



Permitting

Conse

The Harris-Galveston Subsidence District Regulatory Plan was approved on January 9, 2013 and subsequently amended on May 08, 2013.

It is the purpose and intent of the HGSD Regulatory Plan to establish policy in the areas of groundwater regulation, permits and enforcement and to establish the HGSD [Regulatory Areas](#) and regulatory requirements for each area.

The HGSD Regulatory Plan was developed with an overall goal to reduce groundwater withdrawal to a level that no longer contributes to further subsidence within the District. Extensive research and on-going monitoring has determined that no more than 20% (10% in HGSD Regulatory Area 1) of total water demand can be sourced from groundwater to prevent future subsidence. The HGSD Regulatory Plan will be reviewed and may be amended as needed.

The District has both coastal and inland areas that exhibit different consequences to additional subsidence. Regardless of proximity to the coast, whether on the island or in Jersey Village, the consequences of subsidence include flooding, inundation, fault movement, infrastructure damage, and changes in drainage patterns. The low-lying areas along the coast are the most vulnerable to flooding resulting from hurricane storm surge events. In the areas that are not vulnerable to tidal storm surges, subsidence contributes to changes in drainage patterns, flooding, fault movement, and damages to wells and pipelines.

In establishing these objectives, the District has taken into account the time and cost of introducing alternative water supplies. The District recognizes that the burden of controlling subsidence should be borne by all users of groundwater. Although a single permittee's groundwater withdrawal may not be capable of causing severe subsidence problems, the total actions by all permittees can cause significant subsidence. Therefore, every permittee is responsible for managing their withdrawals to help contribute toward solving the subsidence problem. To achieve the objectives for each Regulatory Area, the District must have discretion in permitting groundwater withdrawals and setting disincentive fee rates as a means of achieving the plan's goals.

 [HGSD 2013 Regulatory Plan with Amendment](#)

Disincentive Fee Written

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE HARRIS-GALVESTON SUBSIDENCE DISTRICT THAT:

1. All statutory requirements and conditions for the establishment of permit fees and application fees have been met by the Board.
2. The Board of Directors hereby establishes a permit fee rate of \$22.00 per million gallons of authorized groundwater withdrawal.
3. The Board of Directors hereby establishes a disincentive permit fee rate equal to 200% of the City of Houston Contract Treated Water Service Charge without airgap between systems rate, plus the Premium Over Contract Minimum rate, per thousand gallons of authorized groundwater withdrawal, and index to that rate combination annually.

Subsidence



HARRIS-GALVESTON
SUBSIDENCE DISTRICT



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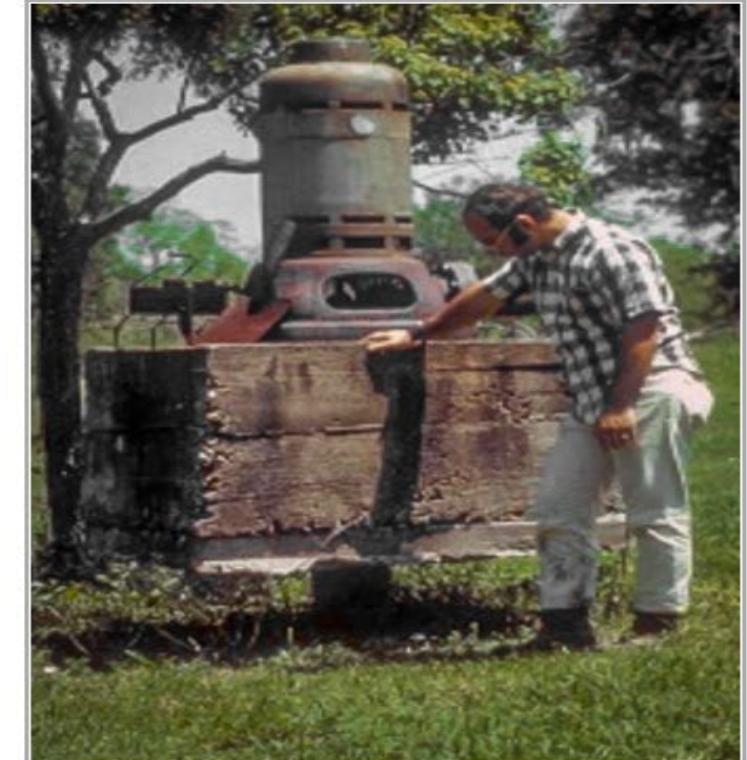
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Land subsidence is sinking of the land surface.

The elevation of the land surface is lowered by compressing the many layers of clay beneath the land surface. In the greater Houston area, land subsidence is caused by the withdrawal of groundwater. When we pump large amounts of groundwater from the aquifers beneath us, we pull water out of the many layers of clay, which allows the clay to compact under the weight of everything above them.

In other parts of the world, other things can cause subsidence besides the pumping of groundwater, such as oil and gas withdrawals and even coal mining.

Some natural land subsidence occurs over long periods of time, due to the natural settling of sediments left over from millions of years ago, but nothing compared to the rates of subsidence caused by us.

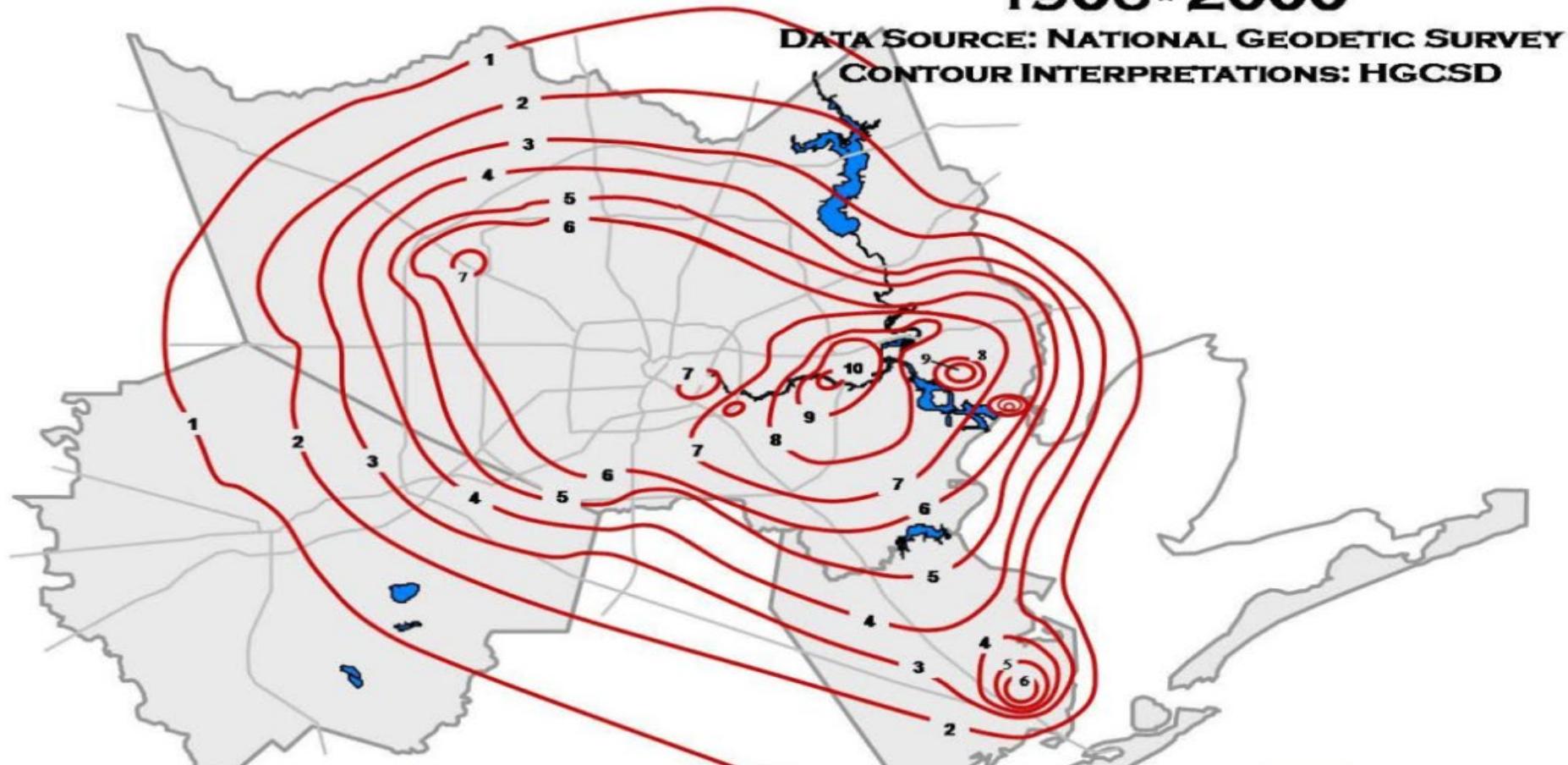




In the low elevation areas, generally nearest the coast, land subsidence from 1906 to current of 13 feet has been recorded (See map of Subsidence 1906-2000 below). When the elevation of your house is only 10 feet above sea-level and you lose 10 feet of elevation because of subsidence, your house is now under water.

Subsidence 1906 - 2000

DATA SOURCE: NATIONAL GEODETIC SURVEY
CONTOUR INTERPRETATIONS: HGCSD





The Brownwood Subdivision in the City of Baytown is a perfect example of the effects of subsidence in coastal areas. Brownwood is now mostly underwater and has been turned into a nature center by the City of Baytown.





Image U.S. Geological Survey

Google earth

Further inland, subsidence is not as evident because the relationship to sea-level is not as apparent, but still of great concern. The land surface of the greater Houston area is very flat and therefore prone to flooding. We also get a lot of rain in the average year, and sometimes a lot of rain when a tropical storm or hurricane moves through. Flooding has always been a major issue in the area. By continuing to over pump groundwater, we potentially change drainage patterns of creeks and bayous, increasing flow into some areas and decreasing flow out of other areas. From 1978 to 2000, as much as 5 feet of subsidence has been measured in northwest Harris County (See map of Subsidence 1978-2000 below).

SUBSIDENCE IN FEET 1978- 2000

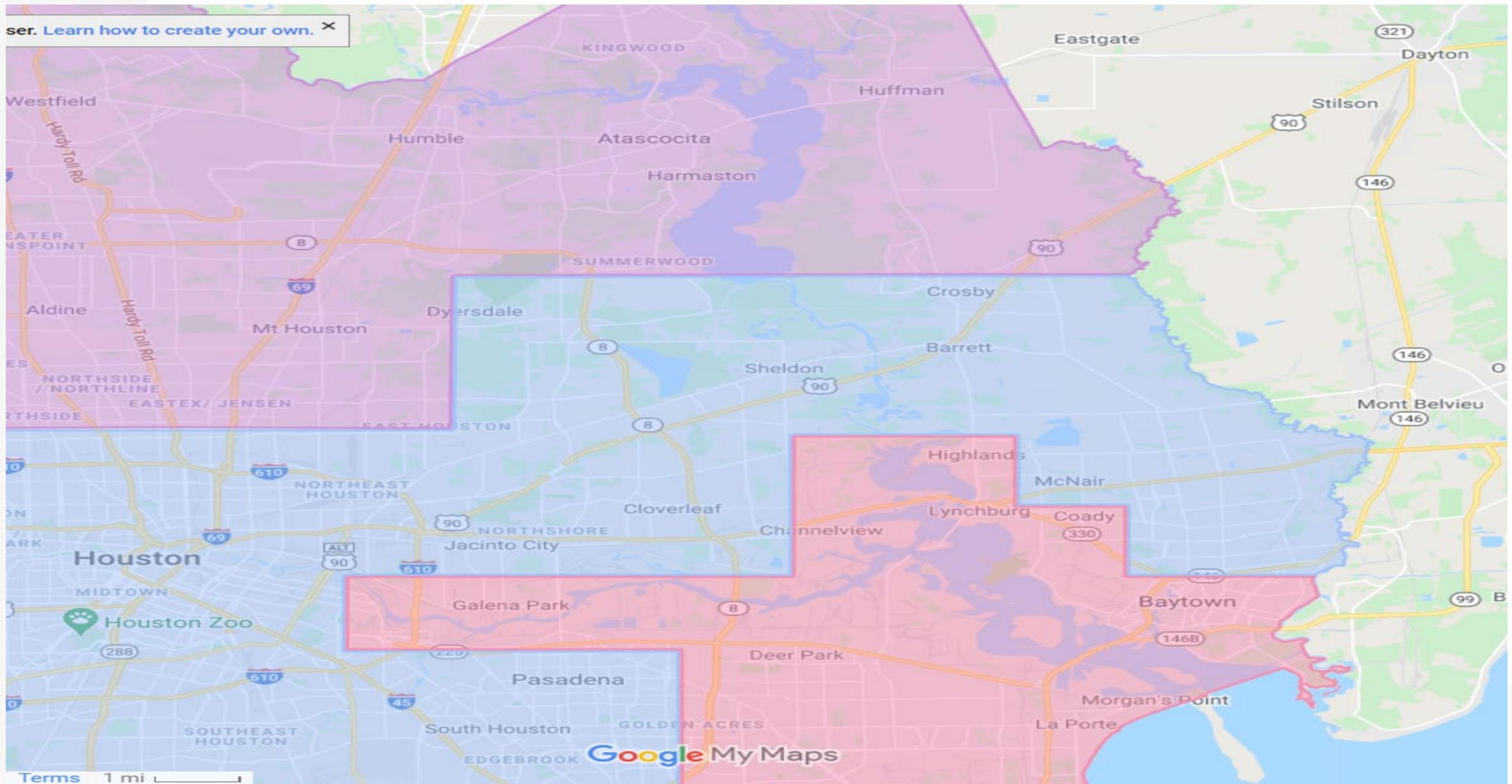
**DATA SOURCE: NATIONAL GEODETIC SURVEY
CONTOUR INTERPRETATIONS: HGCSD**



80/20 Rule for Surface Water

- Of all the water produced for NPs water demand in the district, 80% must be from Lake Houston in area 2
- Example last month we produced 29 MG of potable. 6 MG of it can be from the ground source aka well. We were at 5.8 MG, in 2025 we would have been in danger of receiving a disincentive fee.
- Disincentive fee is Houston's water rate $\$4.62 \times 200\%$. Yes 200% aka X2. Equals $\$9.24$ per thousand gallons used over 6 million gallons of ground water.
- FOR EXAMPLE, if we produced 8 million gallons from our ground water source, without a change to our total consumption of 26MG for the month, 2 million would be charged a disincentive fee $2,000,000/1,000 \times \$9.24$ Which would cost Newport taxpayers $\$18,480$ for that month.
- We don't want that.

HGSD Map



Water Consumption

- Currently we are already close to the threshold
- Drought would cause an increase in water consumption
- Leaking water mains obviously unknown and under ground
- Growth. NP has 6000 lots, 3900 are built so far.

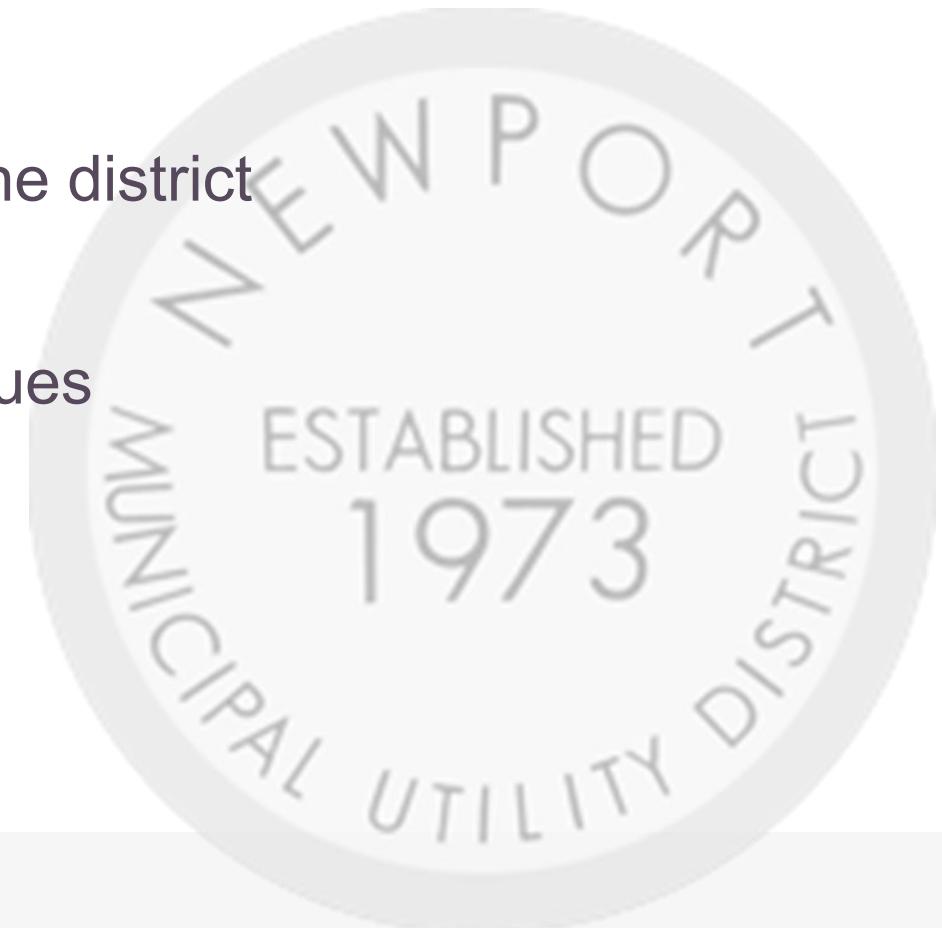
What are Developer Reimbursements?

- ❑ Why does the Developer get Reimbursements
- ❑ How the New Development pays for itself



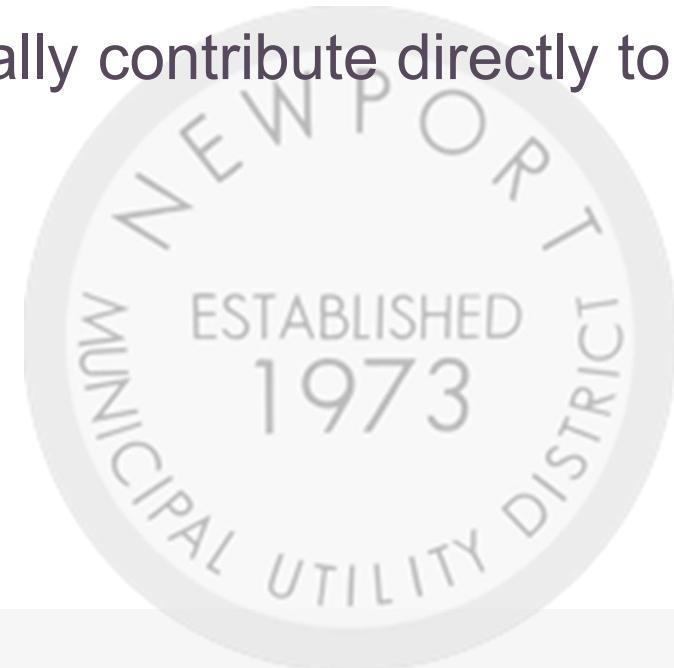
Reimbursements Cont.

- Property belongs to the district
- Mainlines
- Do not pay for property that does not belong to the district
- Repayment
- Developer must meet the agreed upon home values
- Partially or fully denied
- Current commitments are several years old



Reimbursement Cont.

- Compass Trl 570 houses
- MUD Tax value 128,250,000
- Maintenance rate for NP repairs .31 per \$100 valuation
- \$397,000 revenue annually contribute directly to maintenance of existing district infrastructure.



Construction Improvement Plan

- Prepare for the known, unknown and the unknowable
- Upgrade Water plant from 1.3 MGD
- Upgrade Waster plant from 2.1 MGD
- Tx Dot is raising The South Diamondhead bridge
- Could cause the district over 1 Million dollars in infrastructure changes.
- Lift stations
- Plans change as regulations and needs do
- Plan for the worst hope for the best.
- Plan was created to have a maintenance schedule not for expansion.
- Again, plans can change depending on circumstances.

What Projects are in the Capital Improvement Plan?

2020 Capital Improvement Plan and Bond Election Requirements for Water, Sanitary, Drainage and Facility Improvements, 2020 - 2025

The purpose of the 2020 Bond Election in Newport Municipal Utility District is to obtain voter authorization for Newport MUD to issue bonds for various water supply, water treatment and storage facilities, water distribution system, sanitary sewer collection system, wastewater treatment facilities, drainage improvements within the District boundaries.

Specific improvements to be funded are shown in the attached **Exhibit A** and listed below:

1. Surface Water Treatment Plant Expansion, from 2.4 MGD to 3.6 MGD, and Improvements
2. Replacement Water Well for Water Plant 2 Well 1
3. Recoating of Water Storage Tanks and Related Facilities
4. Sanitary Sewer, Lift Station and Force Main Construction and Rehabilitation
5. Wastewater Treatment Plant Expansion, from 1.33 MGD to 2.0 MGD, and Improvements
6. Drainage System Improvements
7. Administration Building
8. New Water, Sanitary Sewer and Drainage Systems to serve –

Newport Section 4, Reserves C & D

Newport Section 6, Partial Replat 1

Newport Section 7

Newport Section 10, Partial Replat 1

The opinion of probable costs for construction, contingencies and engineering for all projects is \$45,016,000. The estimated costs to issue the bonds are \$7,944,000 and the total costs are estimated at \$52,960,000.

Capitol Improvement Plan Records

000103

| Newport MUD | | | | | | | Wastewater Treatment Plant | | | | | | | |
|--|---|---|--|---|--|---------------------|----------------------------|--------------------------|--------------------|---|--|--|--|--|
| As of 10/15/20 | | Original Prepared by: Adam Anderson, P.E. | | 1.0 MGD WWTP constructed in 1972 | | Low | High | | | | | | | |
| | | Updated by: Bill Rosenbaum, P.E. | | 0.3 MGD Expansion in 2008, 1.3 MGD Total | | Range | Range | | | | | | | |
| Currently permitted for 1.3 MGD | | | | | | | | | | | | | | |
| No. | Project | Description of Problem & Information | | Justification | | When Needed (years) | Conceptual Cost (2019\$) | Conceptual Cost (2019\$) | LAN Project Number | | | | | |
| Projects Needed to Prevent Imminent Failure | | | | | | | | | | | | | | |
| Projects not yet completed from previous bond funds | | | | | | | | | | | | | | |
| 1 | Rehabilitate Clarifier #1 | | | | | | \$245,000 | | 12190 | NTP 5/27/20. Substantial Completion 3/28/21 | | | | |
| 2 | Aeration System Improvements | | | | | | \$150,000 | | 12191 | Design authorized 3/19/20. Ready to bid November 2020 | | | | |
| Projects related to Flood Prevention | | | | | | | | | | | | | | |
| 1 | Remap Site out of 100-yr Floodway-Engineering | Rerun San Jacinto Floodplain/Floodway model with updated info. Submit to reviewing agencies for a LOMR | | Without being remapped out of the Floodway, no construction permits will be allowed by Harris County for a WWTP Expansion that extends above Natural Ground | | ASAP | | \$40,000 | 12192 | LOMR approved by FEMA 9/18/20 with effective date of 2/1/21 | | | | |
| 2 | Remap Site out of 100-yr Flood Plain Engineering | If the WWTP site is in the Flood Plain, FP Mitigation measures are required with building permits adding to the cost of the project | | This step could potentially reduce FEMA Insurance Premiums by \$75,000 per year and reduce project costs by eliminating FP Mitigation measures | | ASAP after No. 1 | \$40,000 | \$40,000 | | Start 11/19/20 | | | | |
| 2A | Apply to the U.S. Army Corp of Engineers for a Certification of WWTP Berm - Engineering | Certify that the existing Berm meets the US Corps Criteria. This could take 5 years to approve. | | Required by FEMA and U.S. Army Corps with #2 | | | \$100,000 | \$300,000 | | | | | | |
| 2B | Remove all trees from the berm | Required by the U.S. Army Corps of Engineers | | Required by FEMA and U.S. Army Corps with #2 | | | | \$85,000 | | | | | | |
| 3 | Raise Flood Protection Berm | Raise berm elevation 3 ft above expected 500 year Flood Plain, a distance of 6 vertical feet to elevation 38.0 | | Protect the WWTP from a Hurricane Harvey type flood. Can't start until #2 is completed | | | | \$1,100,000 | | | | | | |
| 4 | Remap Site out of 500-yr Flood Plain-Engineering | Apply for Letter of Map Revision (LOMR), Corp of Engineers Certification of berm | | With the site mapped out of the Flood Plain, the insurance rate for the WWTP will drop | | | 110000 | \$310,000 | | | | | | |
| 5 | Flood Pump Station Rehabilitation | New flood pumps, automated flood gate, check valves, backup float control system, walkway from the berm to the pump station | | Proper operation during a flood or loss of power | | ASAP | \$500,000 | \$1,000,000 | 12158 | We anticipate Advertising for Bids on 11/19/20 | | | | |
| 6 | New Elevated Operations Building (Approx 1,500 SF | At 5/16/19 meeting FEMA discussed reimbursement for up to \$500,000. The | | Proper operation during a flood or loss of power. Currently can be permitted at an elevation 2 ft above | | | \$400,000 | \$800,000 | | | | | | |

How do we fund the projects in the C.I.P.?

What a vote no means **(Pay as you go)**

Funding the CIP projects with water and sewer rates. All required funds for a project must be obtained with water and sewer rates in advance of starting any project.



What a vote yes means **(Pay with Bonds)**

Authorizing the District to issue bonds allows the costs of the necessary / mandated projects to be spread over 20 to 30 years similar to how a mortgage works.

Cost to Homeowner For Construction Improvements Based on Method

Newport MUD

Estimated Debt Service Tax Rate Impact and Assumptions

** Includes remaining bond authorization

*** Additional tax rates shown are calculations based on level debt service payments for 25 years at an interest rate of 3.50% and does not include any bond structuring to minimize tax rate implications. Each year of capital improvements is reviewed by the Board to determine the necessity of the projects and the best way to pay for them.

| Pay as You Go | | | | | | | |
|-----------------------------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|
| Construction Costs | \$8,428,200 | \$2,468,400 | \$8,520,800 | \$1,993,200 | \$4,807,440 | \$25,676,200 | \$51,894,240 |
| Annual Cost | \$1,914.63 | \$529.70 | \$1,751.81 | \$391.90 | \$928.97 | \$4,507.76 | \$10,024.77 |
| Monthly cost | \$159.55 | \$44.14 | \$145.98 | \$32.66 | \$77.41 | \$375.65 | \$835.40 |
| Number of Connections (projected) | 4402 | 4660 | 4864 | 5086 | 5175 | 5696 | 5696 |