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Preliminary Engineering Report
2020 Street & Utility Improvements

October 15, 2019

HOUSTON
The Best of Bluff Country

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Preliminary Engineering Report

- Project Area
- Existing Conditions
- Proposed Improvements
- Cost Estimate & Financing
- Assessments
- Schedule & Next Steps

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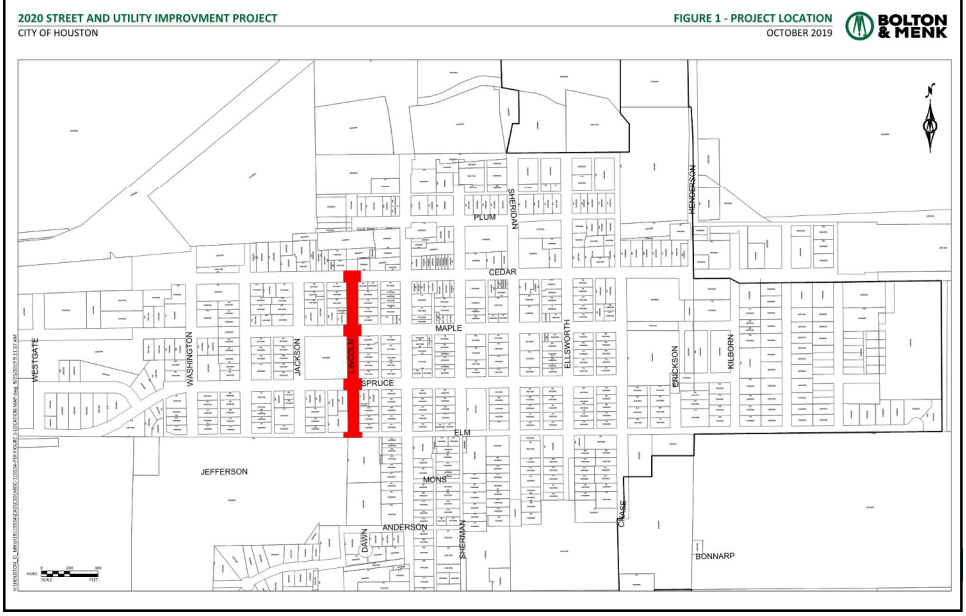
Project Location



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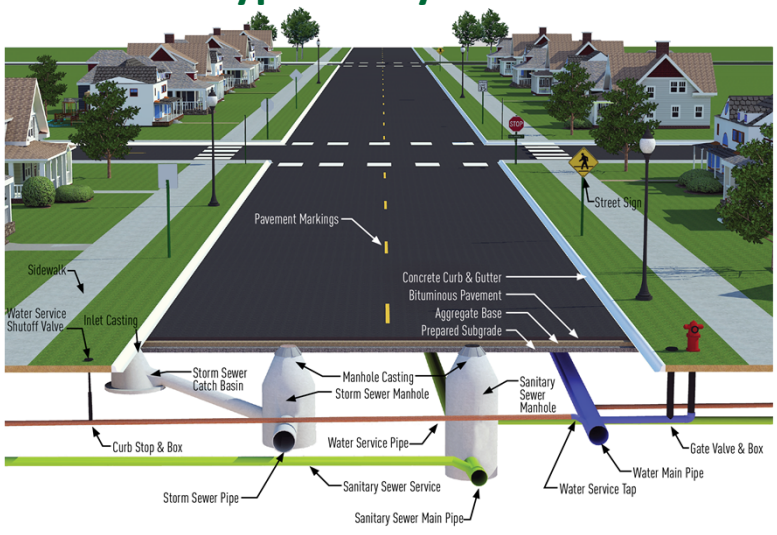
Typical City Street



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Existing Conditions
Streets

- 40-ft wide street
- 80-ft wide right-of-way
- Asphalt surface – poor condition
- Concrete curb and gutter – fair to poor condition
- Sidewalk – good to poor condition, gaps on south end of the park and in 300 block of Lincoln

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Exhibit 1 – Street Condition, Lincoln Street at Cedar Street

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Exhibit 2 – Street Condition, East Side of Lincoln Street North of Maple Street

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Exhibit 3 – Street Condition, Lincoln Street North of Spruce Street

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Exhibit 4 – Street Condition, Lincoln Street at Elm Street

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Exhibit 5 – Curb Condition, West Side of Lincoln Street Adjacent to the Park

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Existing Conditions
Storm Sewer

- Project area is flat – 2-ft of fall over 1,000-ft project length
- Existing 12-inch to 21-inch pipe, reinforced concrete and corrugated metal
- System between intersections of Maple and Spruce drains west along Spruce to wetland/levee interior ponding area
- System at intersection of Elm drains east, then north along Sheridan to outlet A-2 of the levee system

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Existing Conditions
Storm Sewer

- Valley gutter at W. Cedar (TH 16)
- Shallow system – catch basins and manholes 2-3 ft deep
- Undersized inlet openings

Exhibit 6 – Undersized Openings on the Catch Basins

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Existing Conditions
Sanitary Sewer

- System is more than 50 years old
- 8-inch pipe, cast-iron, vitrified clay, some PVC repairs
- Roots, cracks, calcification, offset joints, infiltration (groundwater leaking into system)
- Brick manholes with evidence of infiltration Shallow depth – 4-6 ft deep, flat grade, solids buildup
- Infiltration – increases flows, increases backup and bypass risk, increases pumping costs

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Exhibit 7 – Cast Iron Sanitary Sewer Main Obstructed 75-ft North of Maple Street

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Exhibit 8 – Brick Sanitary Sewer Manhole Main at Maple Street

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Exhibit 9 – End Sanitary Sewer Main Repair 100-ft North of Elm Street

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Exhibit 10 – Damaged Clay Pipe Sanitary Sewer Main 20-ft South of Spruce Street

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Existing Conditions
Watermain

- System is more than 50 years old
- 4-inch and 6-inch pipe, cast iron (CIP)
- CIP of this age is typically brittle, corroded, susceptible to breaks, and reduced in diameter due to mineral buildup
- History of watermain breaks in 100 block
- 4-inch pipe is undersized for fire protection

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Proposed Conditions
Streets

- 36-ft wide – allows for two 10-ft traffic lanes and 8-ft parking lanes on both sides (standard residential street width)
- Asphalt surfacing, concrete curb and gutter, concrete driveway aprons
- 5-ft concrete sidewalk, fill/connect gaps, ADA pedestrian ramps

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Proposed Conditions
Streets

- Replacement at 40-ft width would add $13,700 to total project cost
- Maple Street intersection
  - West approach – narrow to 36-ft if Council confirms 36-ft width for Lincoln
  - East approach – either match existing 48-ft width, or construct curb bumpouts at 36-ft width
- Spruce Street – County Road 13, match existing width

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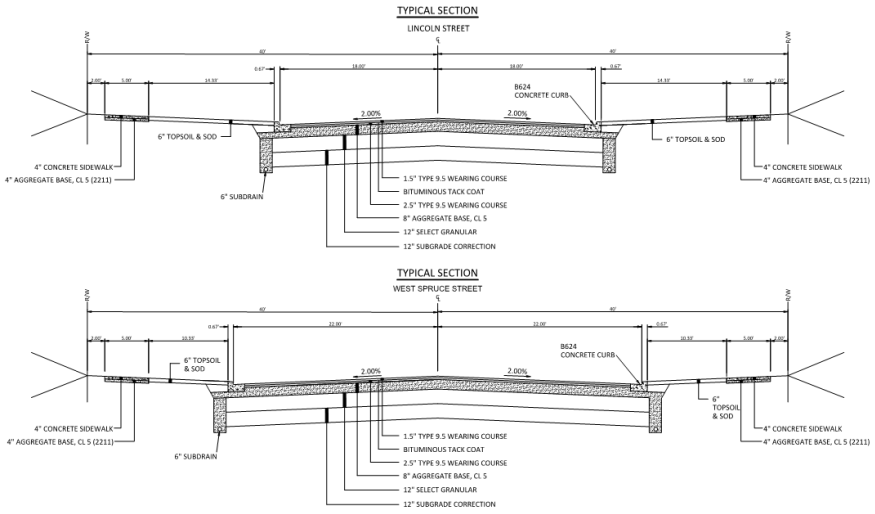
Proposed Conditions
Streets



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Proposed Conditions
Storm Sewer

- New 12-inch to 21-inch reinforced concrete pipe
- Additional inlets at intersections
- Larger inlet grates
- Shallow depth will remain
- 6-inch perforated subdrain with sump pump service stubs

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Proposed Conditions
Sanitary Sewer & Services

- 8” Diameter PVC Pipe
- Concrete Manholes
- 4” Services to Property Line
- Watertight System
- Shallow depth will remain
- Insulation provided for pipe and services with less than 7-ft of cover

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Proposed Conditions
Watermain & Services

- 8” Diameter PVC
- 1” Copper Services to Property Line (w/ Curb Stop)
- New Hydrants
- New Valves

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Proposed Conditions

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Other Utilities

- Communications (internet, phone cable)
- Natural Gas
- Electric
- Design to be coordinated with these systems

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Estimated Costs

Table 2 – Preliminary Cost Estimate			
Item	**Estimated Construction Cost**	**Estimated Engineering, Administration, and Financing Cost**	**Total Estimated Project Cost**
Assessable Costs			
Removals, Street & Surface, Misc.	$ 547,375.19	$ 136,892.41	$ 684,267.60
Sidewalks	$ 88,479.18	$ 22,127.65	$ 110,606.83
Sanitary Sewer Services	$ 39,490.30	$ 9,876.08	$ 49,366.39
Water Services	$ 36,971.28	$ 9,246.10	$ 46,217.39
Total Assessable Costs	$ 712,315.96	$ 178,142.25	$ 890,458.20
Non-Assessable Cost			
Storm Sewer	$ 107,267.32	$ 26,826.36	$ 134,093.68
Sanitary Sewer	$ 117,313.15	$ 29,338.70	$ 146,651.85
Watermain	$ 139,921.07	$ 34,992.69	$ 174,913.77
Total Non-Assessable Costs	$ 364,501.54	$ 91,157.75	$ 455,659.30
Total Estimated Project Costs	$ 1,076,817.50	$ 269,300.00	$ 1,346,117.50

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Financing

- We understand project will be financed using a bond sale repaid with:
  - Utility Funds
  - Special Assessments
  - Ad Valorem Funds (tax levy)

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Special Assessments

- City Special Assessment Policy
  - Street - 50% Assessed, 50% City
  - Sidewalks - 50% Assessed, 50% City
  - Water and Sanitary Main - 0% Assessed, 100% City
  - Water/Sewer Services - 100% Assessed, 0% City
  - Storm Sewer - 0% Assessed, 100% City
- Streets and Sidewalk Assessed on Frontage Basis
- Sewer and Water Services assessed on a per Each Basis

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Special Assessments

- Corner Lots
  - Long Side – 100% Assessed
  - Short Side – 100% City Cost
  - If short side is improved first, assessment will be based on short side length.
  - If long side is improved first, assessment will be based on long side length. If short side has been previously improved, then a credit for the short side will be applied to the long side assessment.

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Special Assessments

- Based on City Policy
  - Street ~$188/lineal foot
  - Sidewalk ~$30/lineal foot
  - Water Service ~$2,311/each
  - Sewer Service ~$2,468/each
- Example 60’ lot with Sanitary & Water
  - Estimated Assessment $17,881
- Example 100’ lot with Sanitary & Water
  - Estimated Assessment $26,616

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Special Assessments

- Option to Reduce Assessments – 20% of Project Cost
  - Reduce street and sidewalk assessments from 50% to 23%
    - Street ~$86/lineal foot
    - Sidewalk ~$14/lineal foot
    - Water Service ~$2,311/each (no change)
    - Sewer Service ~$2,468/each (no change)
- Example 60’ lot with Sanitary & Water
  - Estimated Assessment $10,806
- Example 100’ lot with Sanitary & Water
  - Estimated Assessment $14,824

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Tentative Project Schedule Summary

Table 3 – Project Schedule	
Resolution Ordering Preparation of the Preliminary Engineering Report (PER)	9/9/2019
Prepare Feasibility Report	9/10/2019 – 10/14/2019
Resolution Receiving Report and Calling for Hearing on Improvement	10/15/2019
Published Notice of Hearing on Improvement	10/24/2019
	10/31/2019
Mailed Notice of Hearing on Improvement	10/24/2019
Neighborhood Informational Meeting	11/7/2019
Improvement Hearing	11/12/2019
Resolution Ordering Improvement and Preparation of Plans and Specifications	11/12/2019
Prepare Plans and Specifications	11/13/2019 – 2/9/2020
Resolution Approving Plans and Specifications and Ordering Advertisement for Bids	2/10/2020
Advertise for Bids	2/13/2020
Open Bids	3/5/2020
Prepare Assessment Roll & Contractor Evaluations	3/5/2020 – 3/9/2020
Resolution Declaring Cost to be Assessed and Ordering Preparation of Proposed Assessment	3/9/2020
Resolution for Hearing on Proposed Assessment	3/9/2020
Publish Notice of Hearing on Proposed Assessment	3/19/2020
Mailed Notice of Hearing on Proposed Assessment	3/19/2020
Neighborhood Informational Meeting	4/9/2020
Assessment Hearing	4/13/2020
Resolution Adopting Assessment	4/13/2020
Resolution Awarding Contract	4/13/2020
Begin Construction	May 2020
Substantial Completion of Construction	September 2020
End Construction	June 2021

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Conclusions/Recommendations

- Proposed improvements are necessary, cost effective, and feasible
- Need direction on following items
  - Street width – 36-ft or 40-ft (existing)
  - Bumpouts at east side of Maple Street intersection
  - Confirm sidewalk for Park and 300 Block gaps
  - Assessment Rates (City Policy or 20% Rates)
- Recommend City Council accept this report & call for a hearing on the proposed improvements

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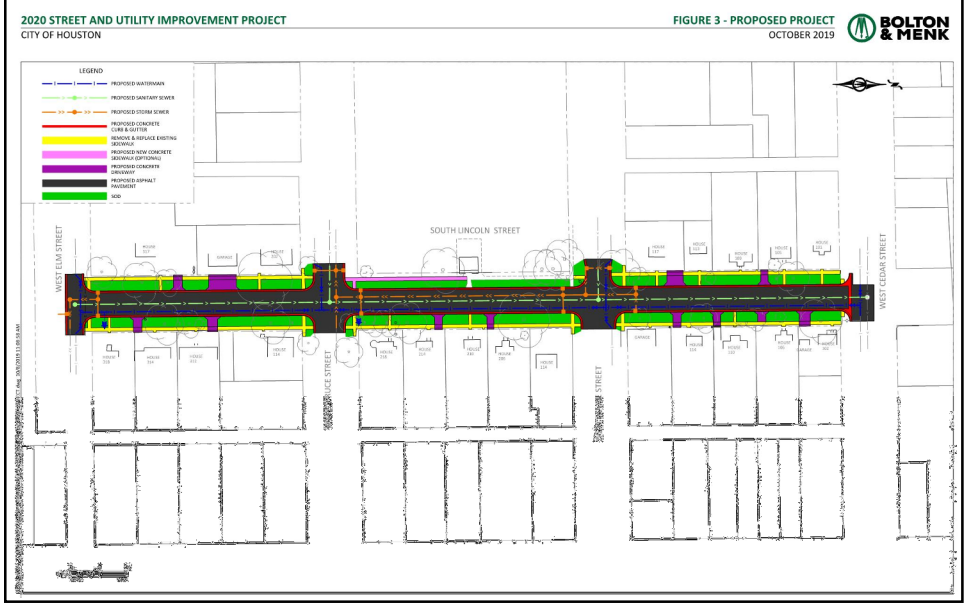
Questions?



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2020 STREET AND UTILITY IMPROVEMENT PROJECT

CITY OF HOUSTON

FIGURE 3 - PROPOSED PROJECT

OCTOBER 2019

BOLTON & MENK

H:\HOUSTON_CI_MN\H19119534\CAD\C3D\MISC-119534-PER FIGURE 3-PROPOSED PROJECT.dwg 10/8/2019 11:08:58 AM