



# Resilience + Sustainability

CITY OF NEW ORLEANS

St. Roch Drainage Improvements & Green  
Infrastructure Project

*Thursday, November 2, 2017*

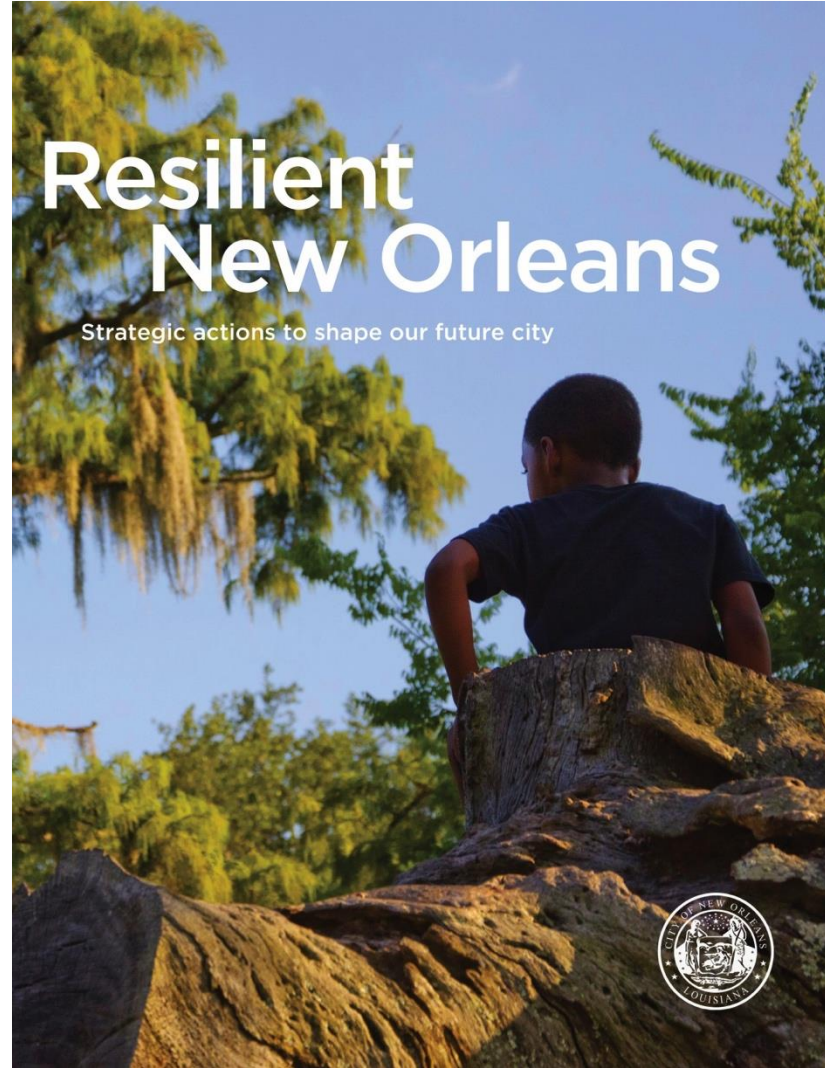


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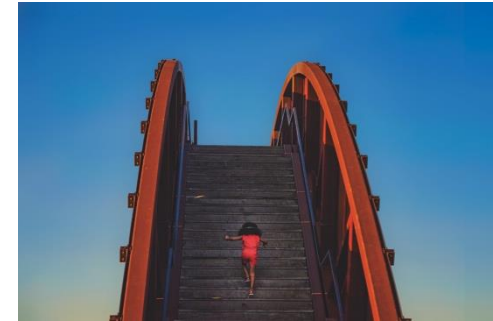


moffatt & nichol

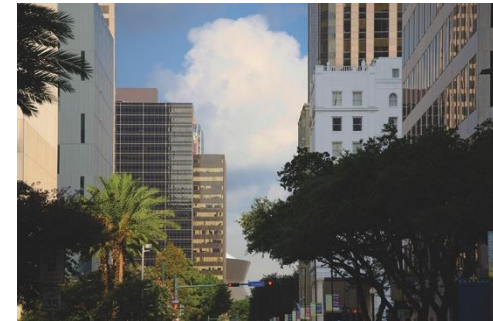
New Orleans City  
Resilience  
Strategy  
Released:  
August, 2015



Adapt to  
Thrive



Connect to  
Opportunity

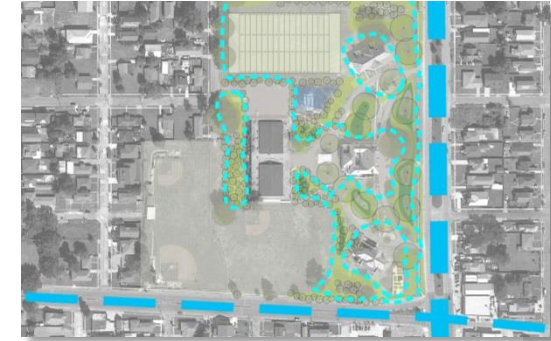


Transform City  
Systems



# Gentilly Resilience District

Projects proposed in City's  
application to National  
Disaster Resilience  
Competition



Parks & Playgrounds



Vacant Lots



Streets & Corridors



Open Spaces



Home & Property Improvements





# CITY OF NEW ORLEANS DRAINAGE UPGRADE PROJECT LOCATIONS

City of New Orleans Department of Public Works: September 2017





# Benefits of the Projects



Reduced risk of flooding and subsidence



Neighborhood beautification & economic development



Recreation & health



Environmental awareness



# Resilient NOLA

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RESILIENT NOLA

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nola.gov/resilience

# ST. ROCH

Drainage Upgrades and Green  
Infrastructure

FEMA Hazard Mitigation Grant Program

Neighborhood Association Meeting

November 2, 2017



CITY OF NEW ORLEANS



moffatt & nichol

# St. Roch Presentation Agenda

- Project Background & Status
- The Problems – Existing Drainage & Street Conditions
- The Solution – Improved Subsurface Drainage
- The Solution – Green Infrastructure
- Project Benefits – Reduced Flooding & Functional Streets
- Changes Since Our Last Meeting
- Project Challenges
- Next Steps



# St. Roch Character





## St. Roch Project Status

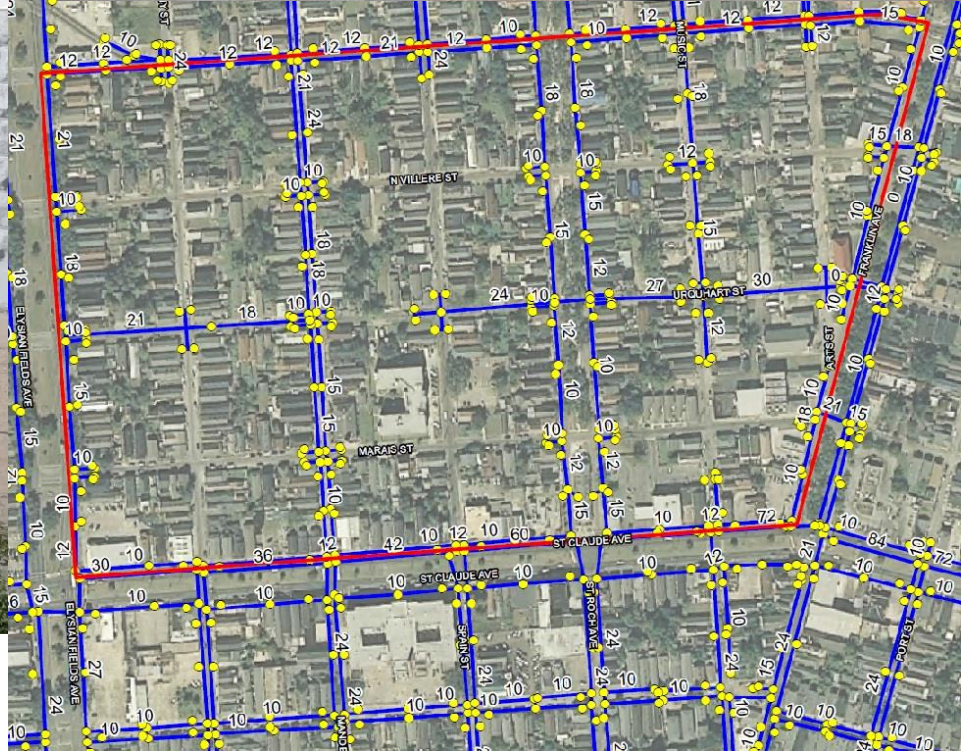
- 30% Project Scope Report supporting a Benefit-Cost Ratio (BCR)  $>1.0$  Approved by DPW & FEMA
- Survey and Geotechnical investigations completed
- 60% Design Phase completed
- 90% Design Phase ongoing



# Project Agency Coordination

- **Coordination Between Multiple Agencies / Owners**
  - DPW (Maintenance, Traffic, Engineering, Construction, Stormwater, Green Infrastructure)
  - S&WB (Water, Sanitary Sewer, Stormwater Utilities)
  - LA DOTD Orleans District
  - Entergy (Electric, Gas)
  - AT&T (Telecommunications)
  - Cox Cable (Telecommunications)
  - Planning Department
  - Department of Parks and Parkways
  - FEMA
  - Recovery Roads (N-Y Associates)





# St. Roch Drainage Problems



# St. Roch Street Conditions





# Pavement from stoop to stoop

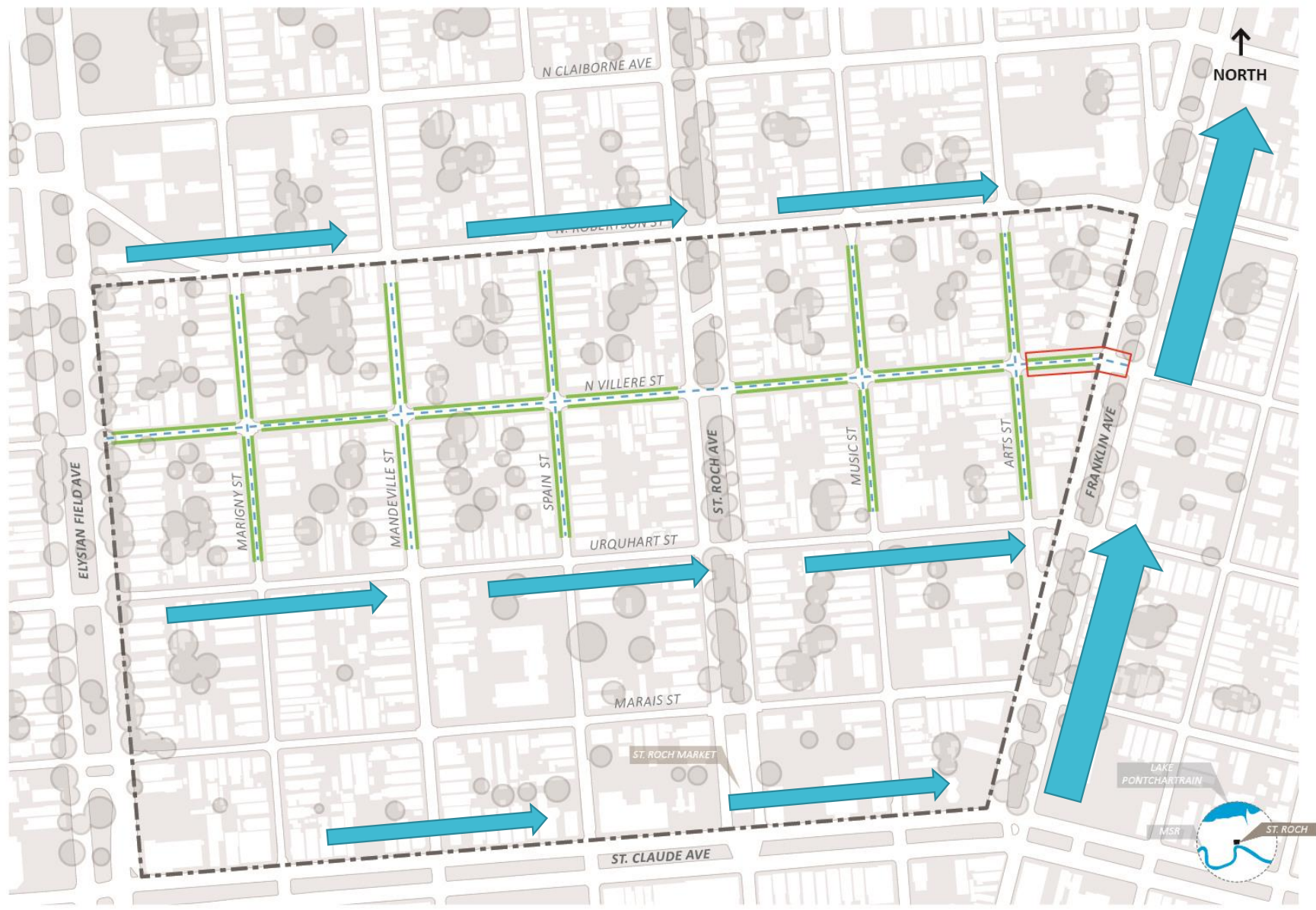




# St. Roch Drainage Pattern & Area of Intervention

ST. ROCH

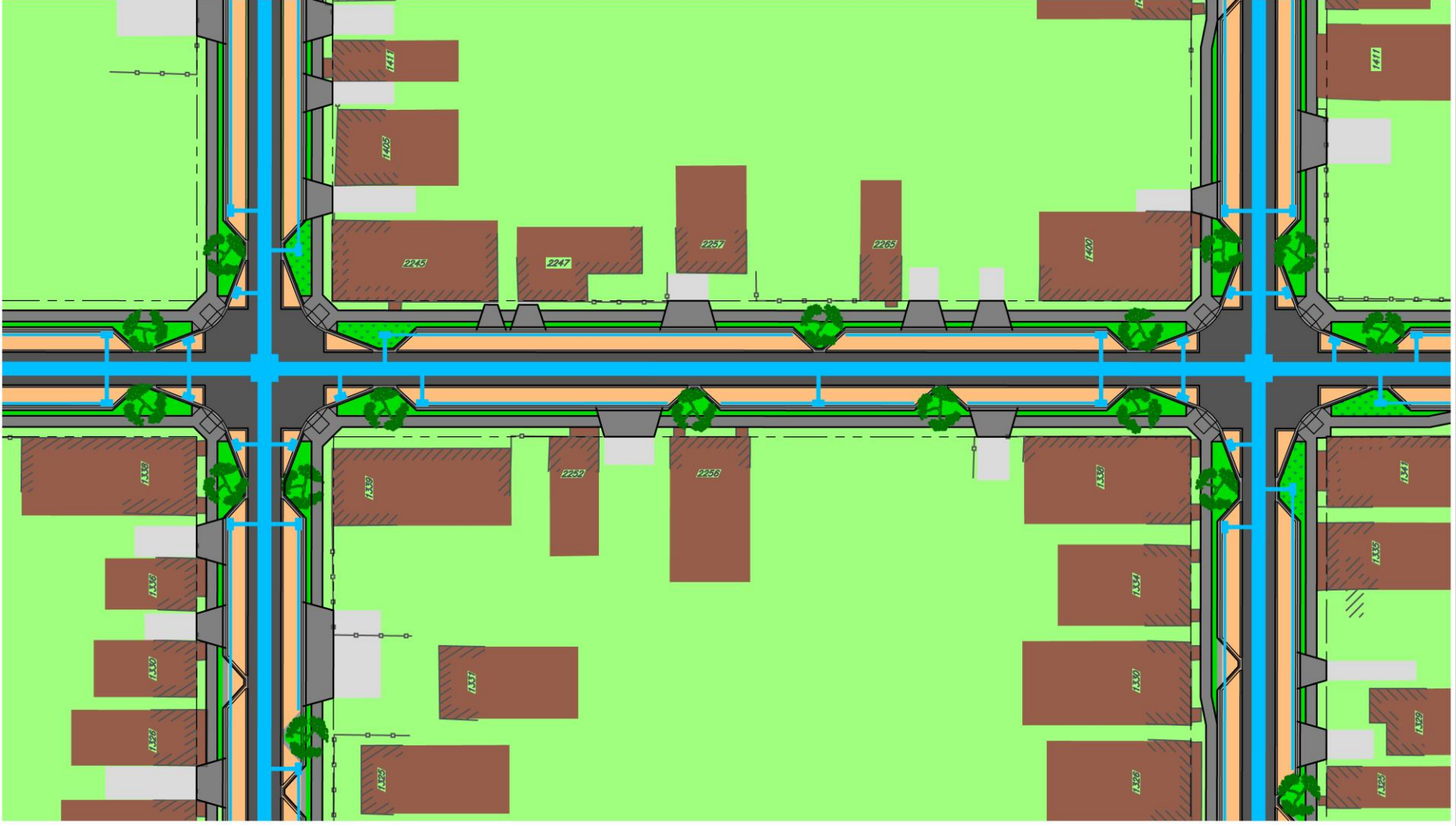
SCHEMATIC CONCEPT PLAN












— 8' WIDE GREEN CORRIDOR BIORETENTION/ PERMEABLE PARKING    
 - - - PROPOSED RCP PIPE    
 - - - - - PROJECT AREA    
  DOWNSTREAM HYDRAULIC DESIGN ALTERNATIVES    
 SCALE 1" = 300'

# St. Roch Proposed Design Elements – Subsurface Drainage

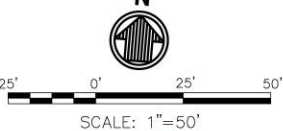
## ST ROCH - PROPOSED DRAINAGE DESIGN




**LEGEND**

- |   |                            |   |                                   |   |                          |
|---|----------------------------|---|-----------------------------------|---|--------------------------|
|  | EXISTING DRIVEWAY          |  | PROPOSED SIDEWALK / DRIVEWAY      |  | PROPOSED DRAINAGE SYSTEM |
|  | EXISTING BUILDING          |  | PROPOSED LANDSCAPE / GRASS        |   |                          |
|  | PROPOSED ASPHALT PAVEMENT  |  | PROPOSED LANDSCAPE / BIORETENTION |   |                          |
|  | PROPOSED PERVIOUS PAVEMENT |  | PROPOSED LANDSCAPE / TREES        |   |                          |

N



SCALE: 1"=50'

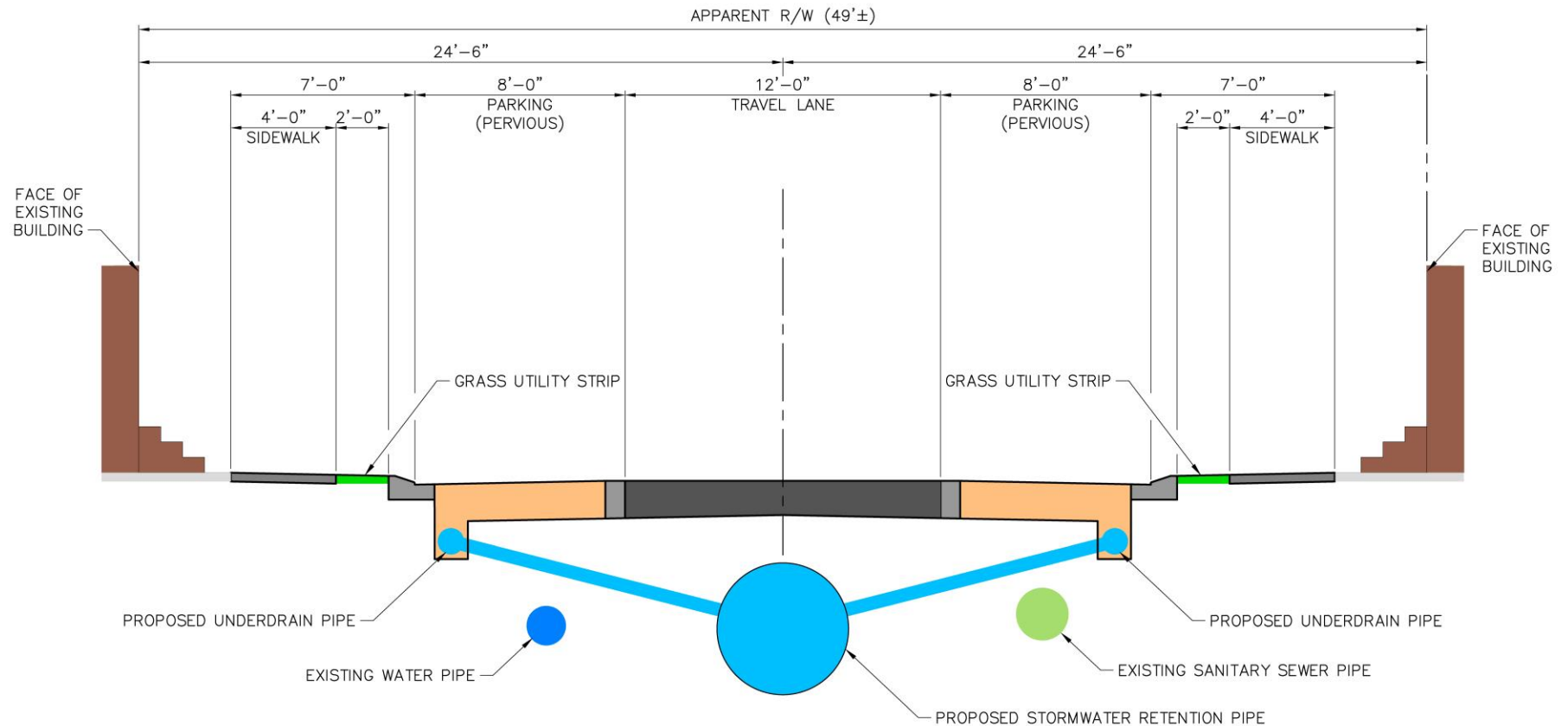


**moffatt & nichol**



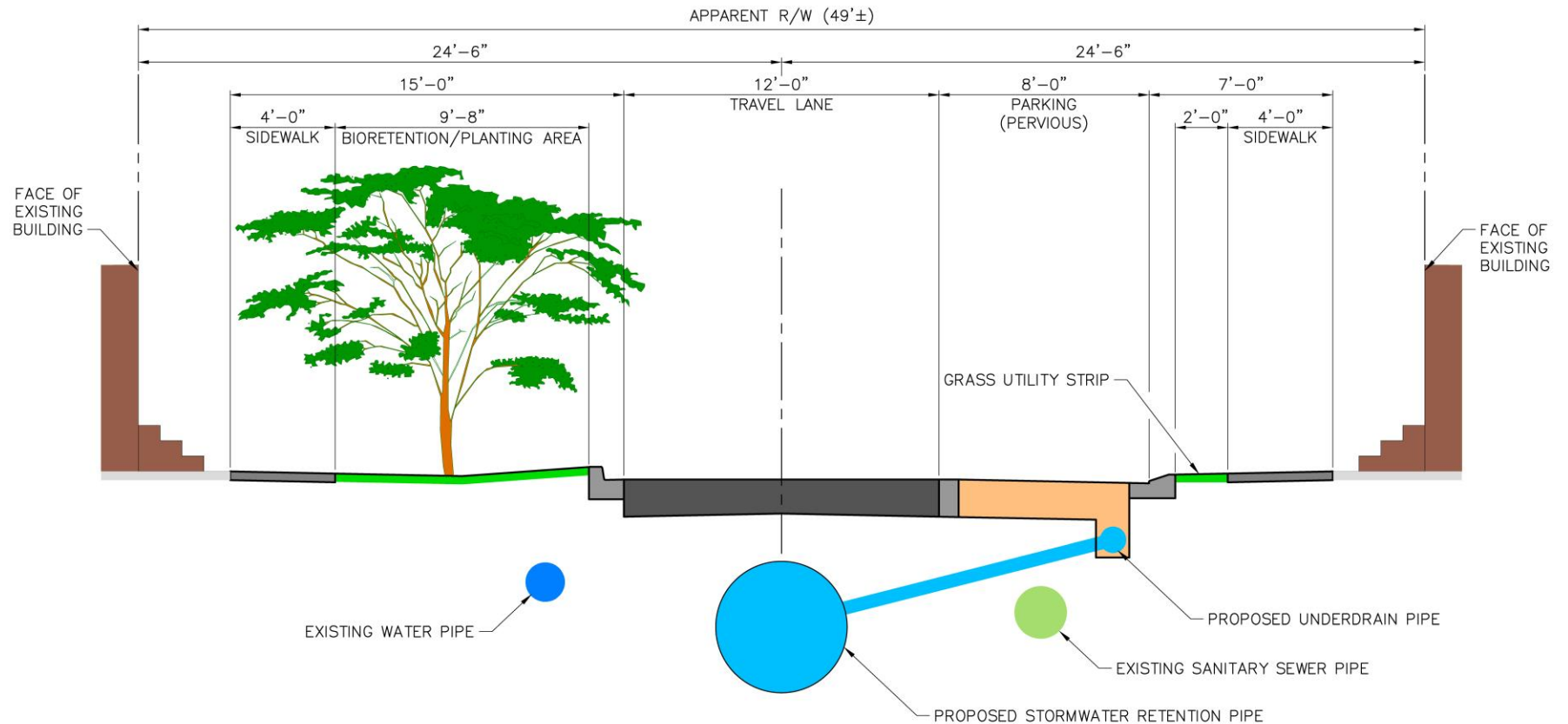
# St. Roch Proposed Design Elements – Street Cross Section

## ST ROCH - PROPOSED STREET DESIGN TYPICAL SECTION



# St. Roch Proposed Design Elements – Street Cross Section

## ST ROCH - PROPOSED STREET DESIGN TYPICAL SECTION





## Benefits of New Streetscape

- Reduced Impervious Surfaces (less runoff)
  - Existing Condition = 90% Impervious
  - Proposed Condition = 64% Impervious
  - 30% Reduction
- On Street Parking More Organized
- Plants & Shade
- Improved Aesthetics
- Storage Spaced Eliminate Standing Water







## Rain Garden Plantings

- Sweet Bay Magnolia
- Gulf Muhly Grass
- Spider Lily
- Fortnight Lily
- Louisiana Iris
- Black Eyed Susan

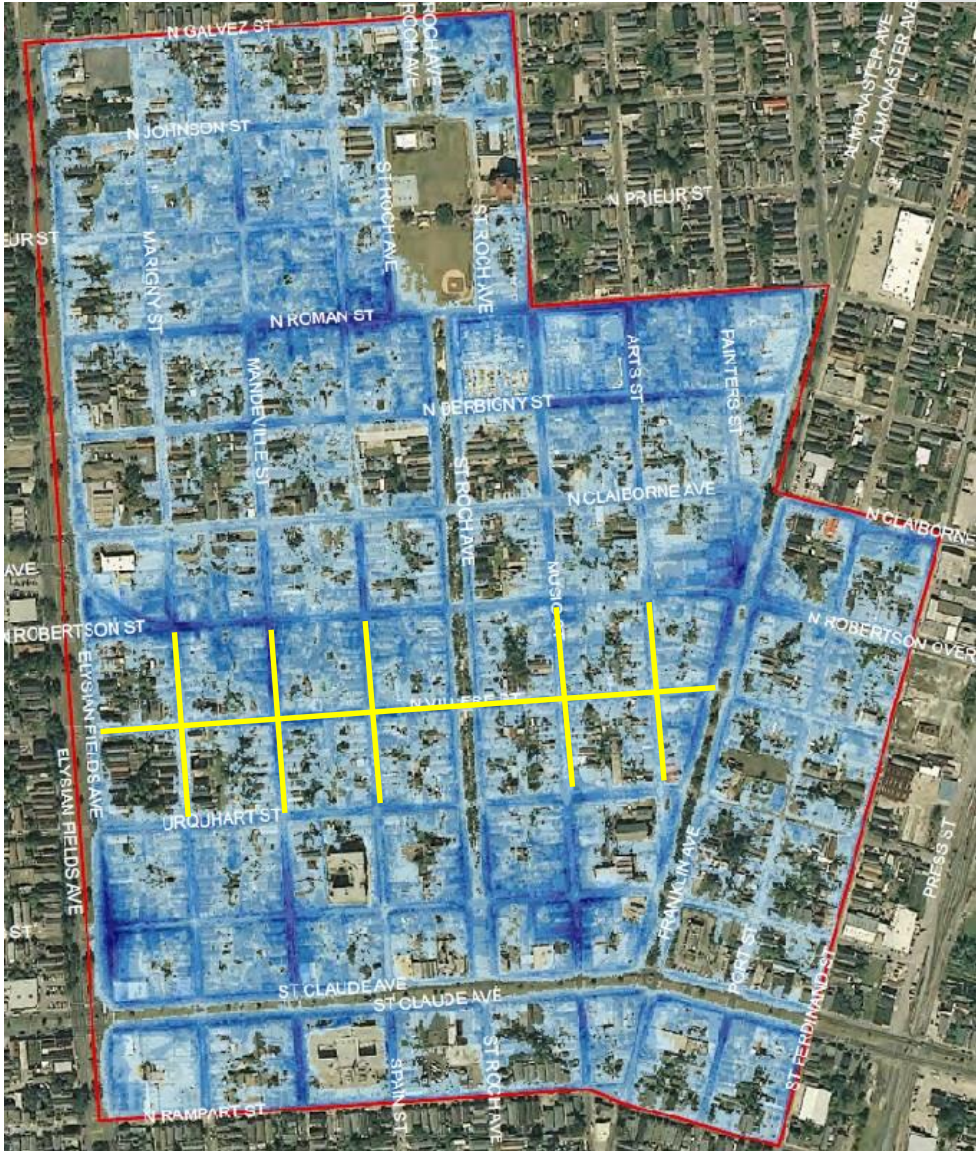
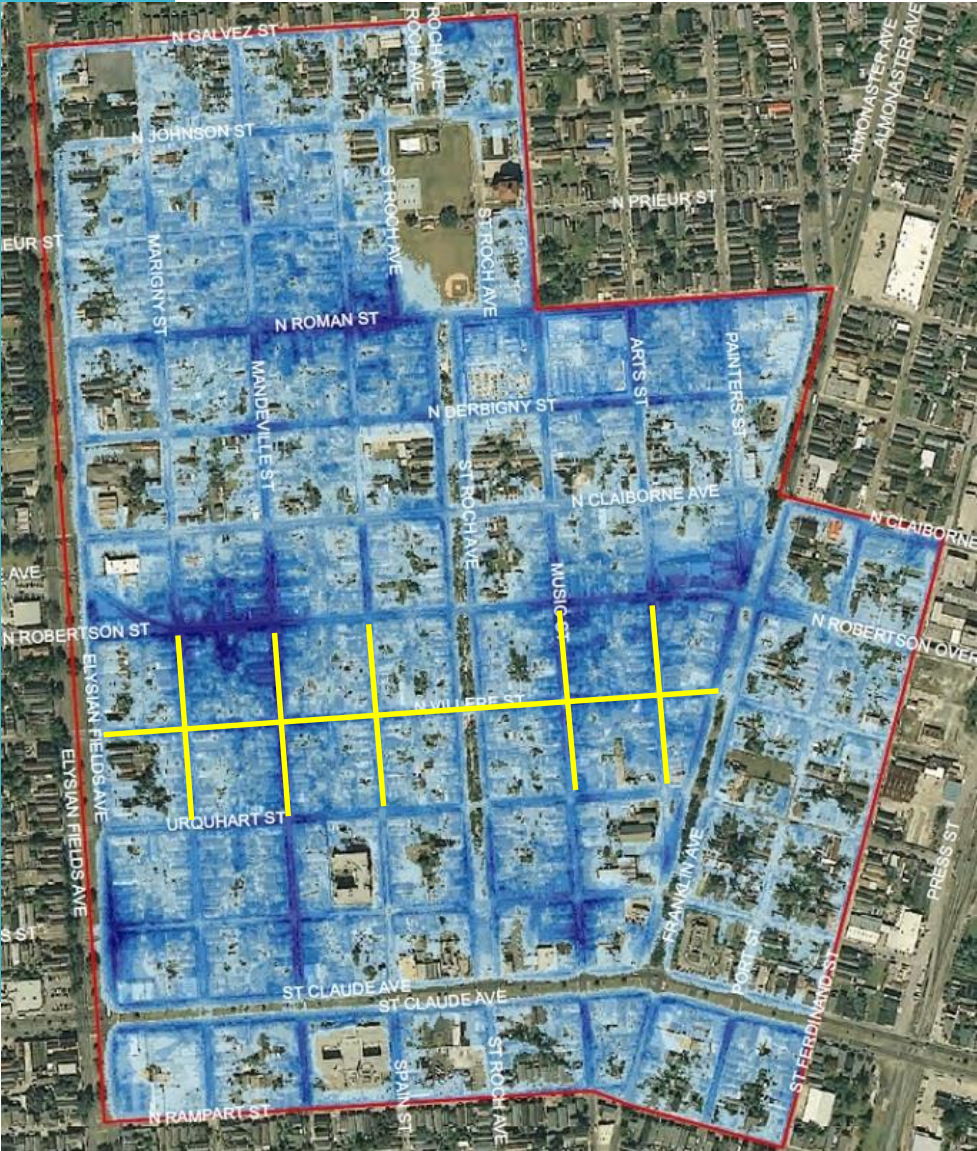


# Predicted Flood Elevations – 2-yr Storm

## EXISTING

## PROPOSED

St. Roch  
Project  
Benefits –  
Flood  
Reduction





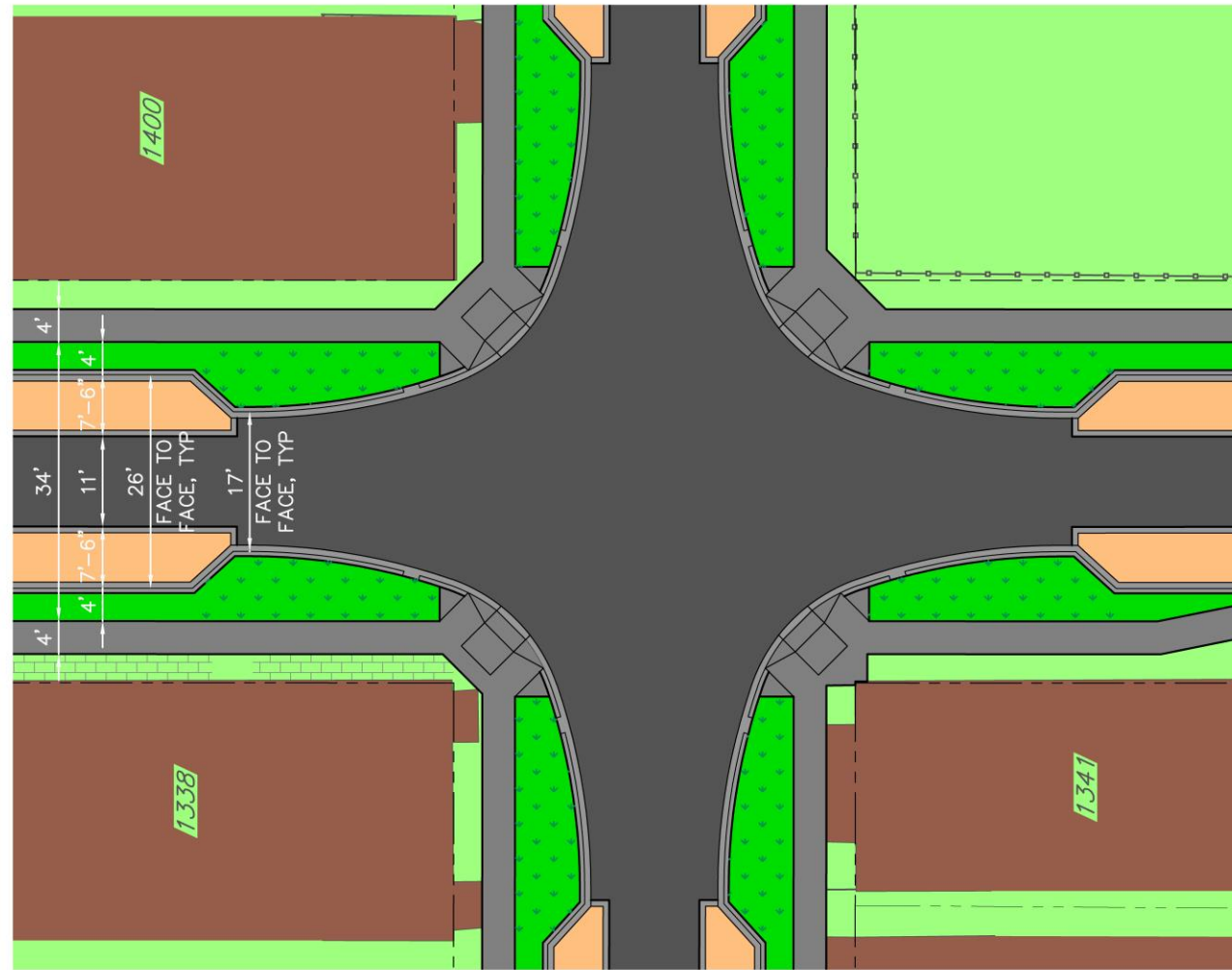
## St. Roch Overall Project Benefits

- Reduce Flooding & Improve Water Quality
- Increase Public Safety
- Reduce Mosquitos and Associated Health Risks
- Improve Resident Quality of Life
- Enhance Community & Neighborhood Morale
- Reduce Resident Financial Burden
- Public Education & Community Outreach
- Increase Community Resilience










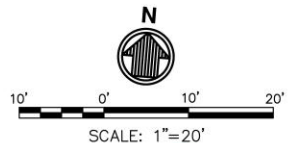
# St. Roch – Further Refinement of Intersection Geometry

## ST ROCH - PROPOSED INTERSECTION DESIGN



### LEGEND

- |   |                            |   |                                   |
|---|----------------------------|---|-----------------------------------|
|  | EXISTING BUILDING          |  | PROPOSED SIDEWALK / DRIVEWAY      |
|  | PROPOSED CURB              |  | PROPOSED LANDSCAPE / GRASS        |
|  | PROPOSED ASPHALT PAVEMENT  |  | PROPOSED LANDSCAPE / BIORETENTION |
|  | PROPOSED PERVIOUS PAVEMENT |   |                                   |



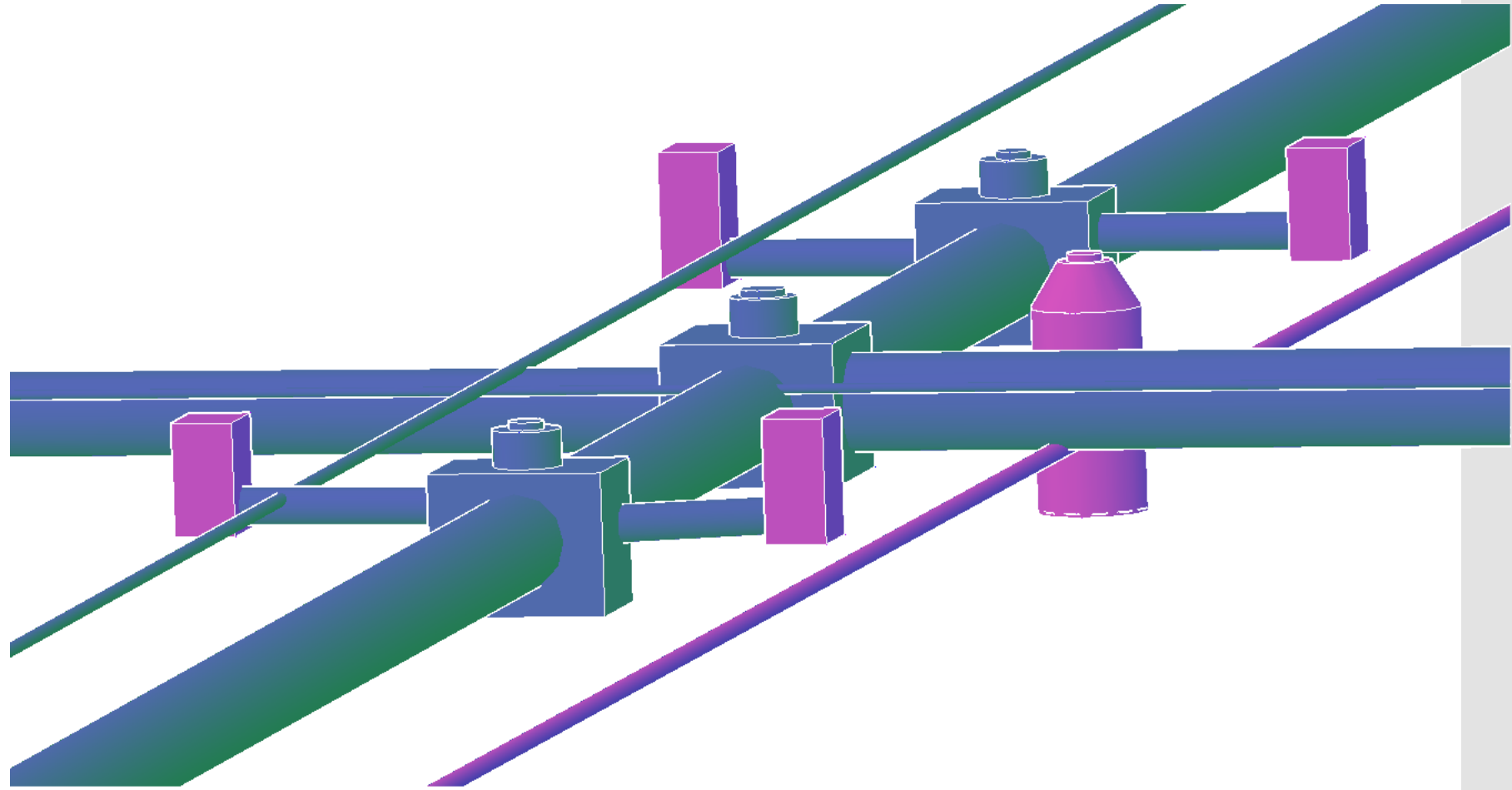
## St. Roch Project Parking Capacity

- Numerous Parking Counts – All Times
- Counts Ranged from 127-171 Cars
- Average = 152 Cars
- Design Capacity = 239 Spaces
- Non-Conforming Driveways



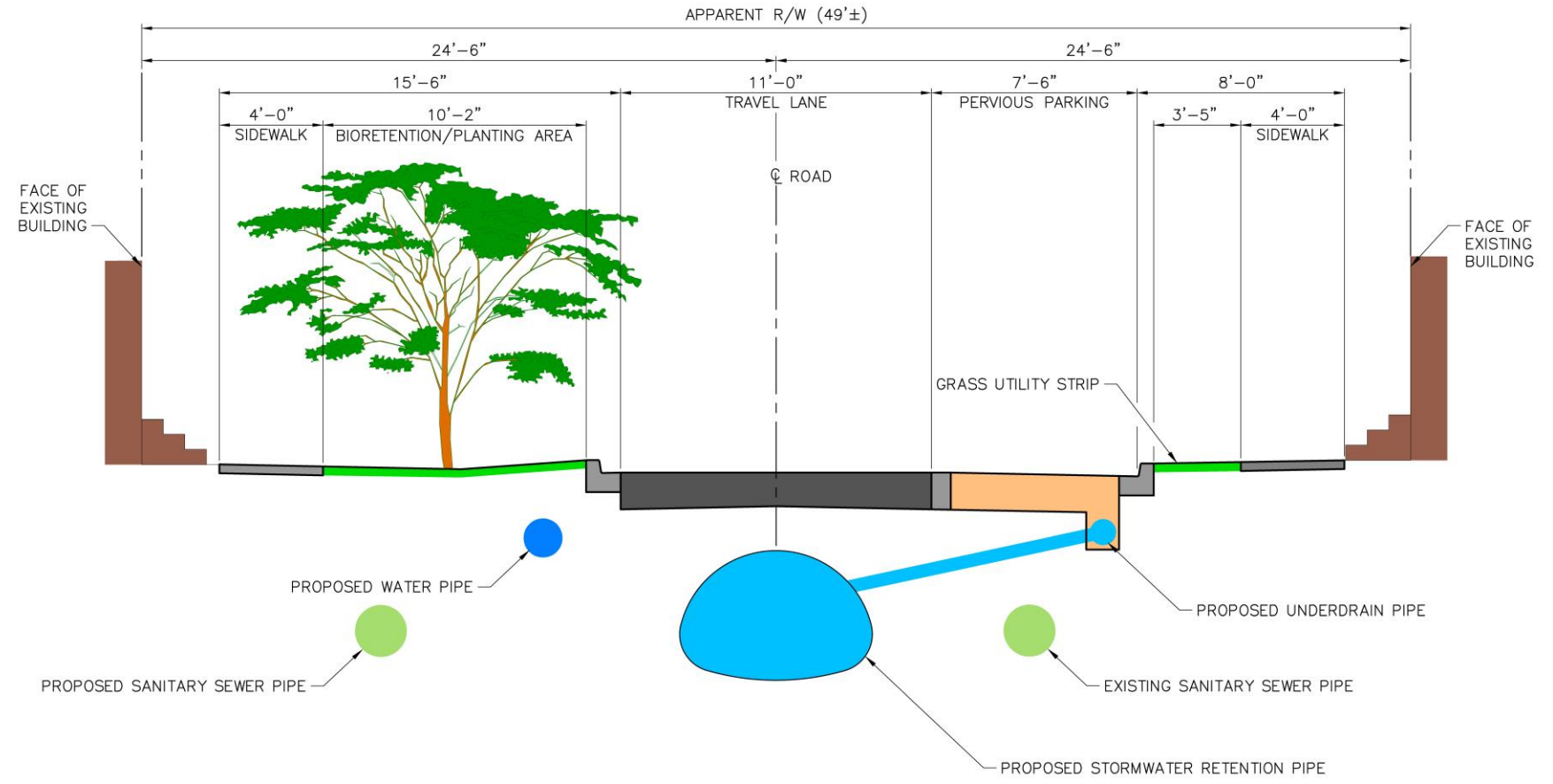
# Civil-3D Analysis of Utility Conflicts

St. Roch  
Project  
Challenges –  
Utility  
Conflicts



# Resolution of Utility Conflicts

## ST ROCH - PROPOSED STREET DESIGN TYPICAL SECTION



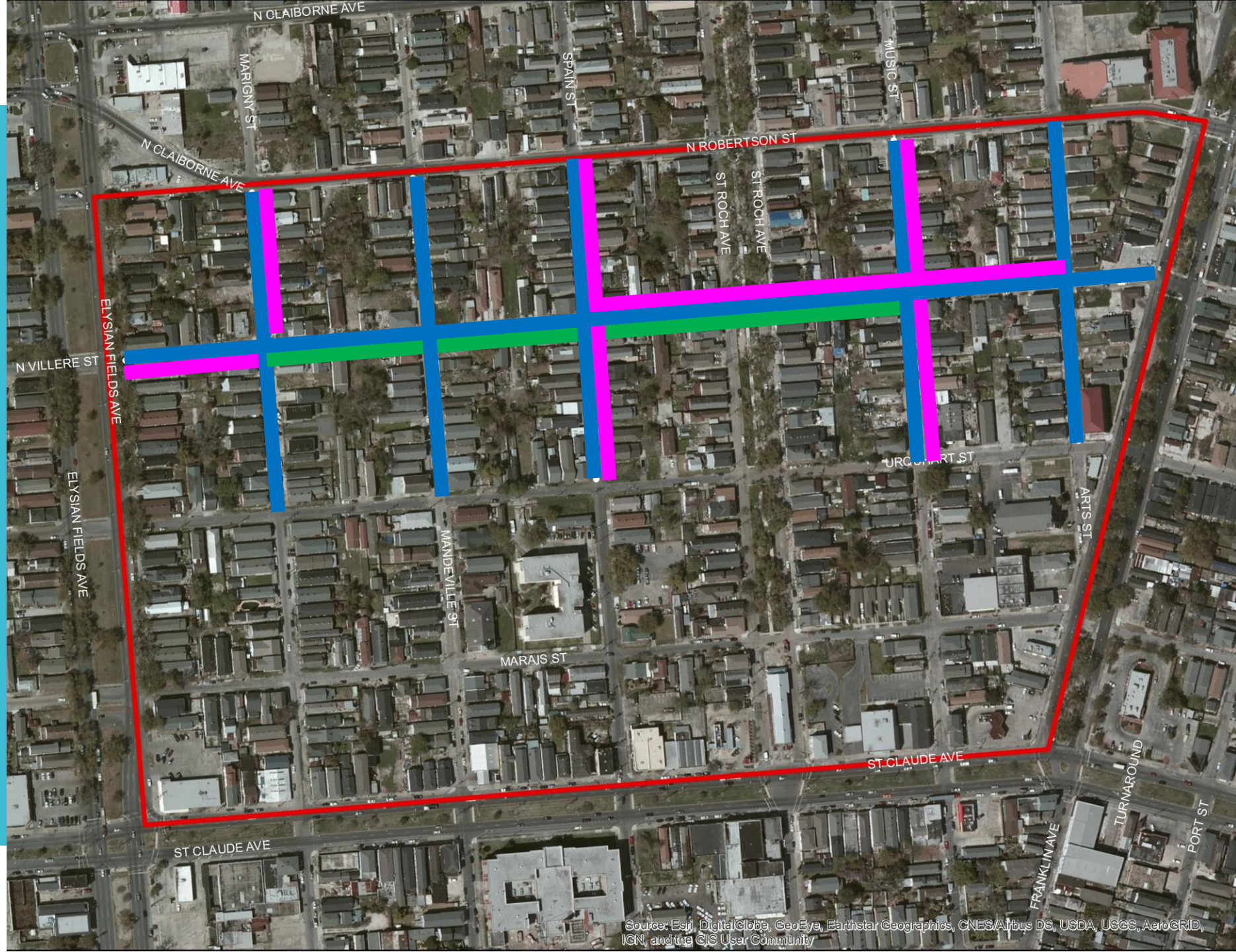


# St. Roch Utility Replacement

New Water

New Sewer

Parallel Sewer



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



## St. Roch Project – Next Steps

- Design through December 2017
- Final Utility Coordination with SWBNO and Entergy
- Constructability Reviews
- Coordination with Capital Improvements Program
- Bidding & Contracting: Winter/Spring 2018
- Community Meeting With Contractor: Prior To Construction
- Construction: Spring 2018



# Conclusion

## City Contact:

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- Email: [ceallen@nola.gov](mailto:ceallen@nola.gov)
- 504-658-2215



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