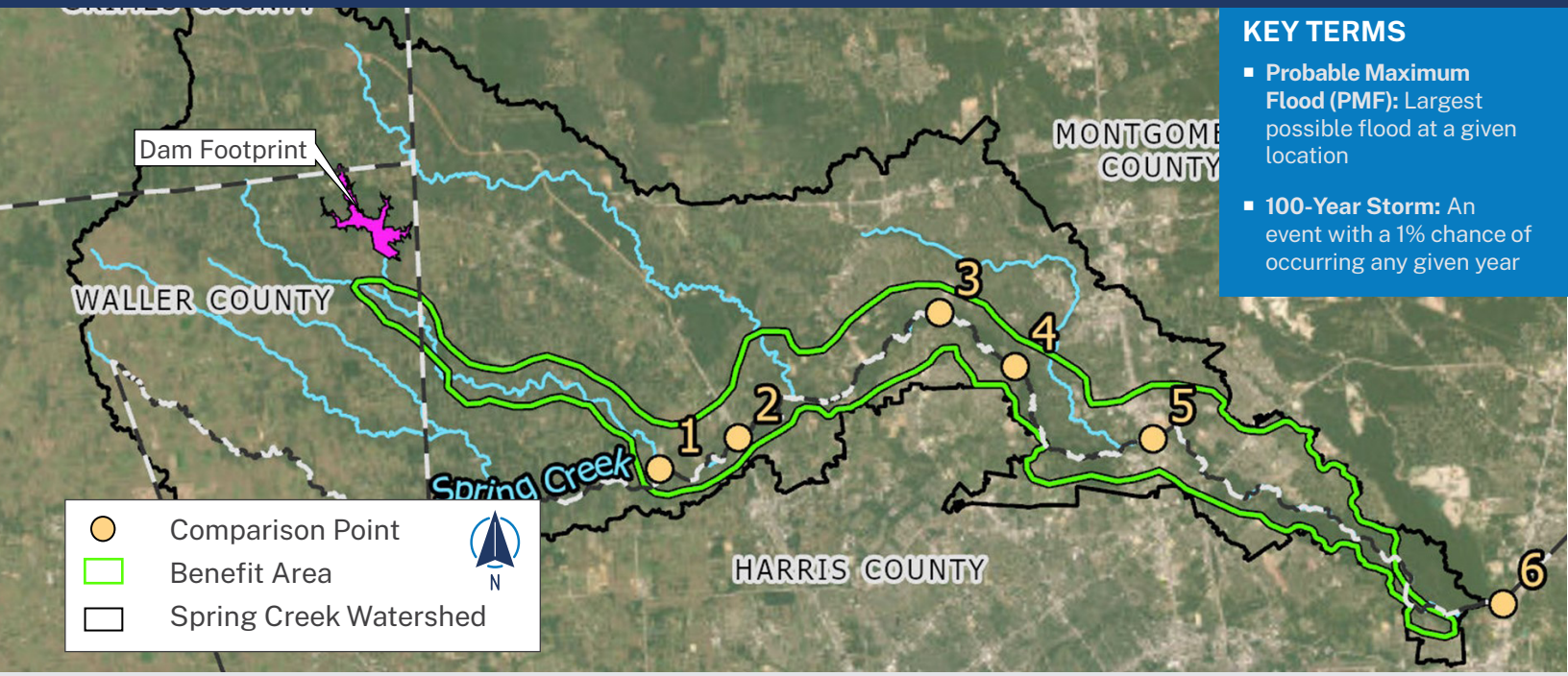
Birch Creek Detention

https://springcreekstudy.com/

A proposed dry bottom dam facility located on Birch Creek

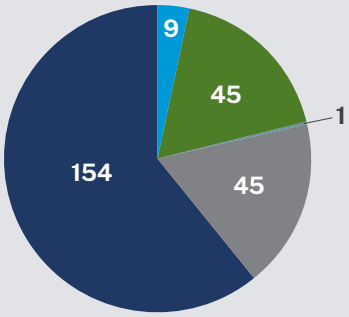


KEY TERMS

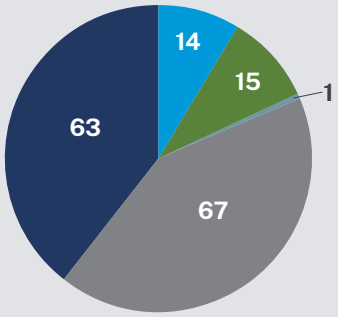
- **Probable Maximum Flood (PMF):** Largest possible flood at a given location
- **100-Year Storm:** An event with a 1% chance of occurring any given year

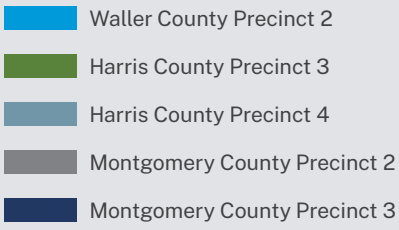
ESTIMATED BENEFITS

Structures Anticipated to No Longer Flood
Hurricane Harvey



Structures Anticipated to No Longer Flood
100-Year Storm





ADDITIONAL BENEFITS

- Reduced flooding for 9,207 structures in 500-Year event
- Removed 303 structures from flooding in 500-Year

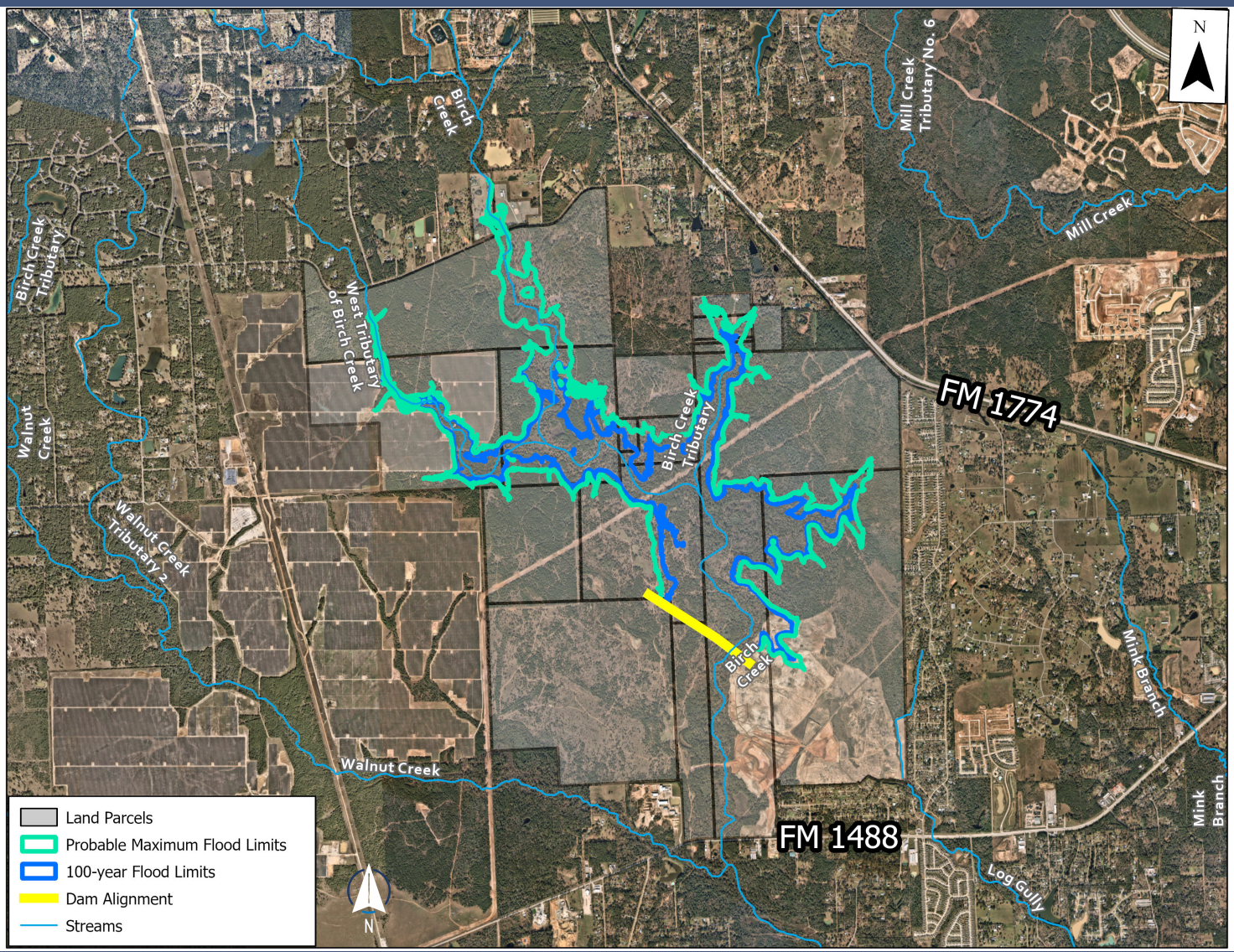
ESTIMATED COSTS

Design Cost	$10M
Environmental Cost	$1M
Construction Cost	$64M
Land Cost	$31M
TOTAL COSTS	**$105M**
TOTAL BENEFITS	**$185M**

PROJECT BENEFIT-COST RATIO: 1.76

Reduction in Flood Elevations After Project Construction

Comparison Point	Location	100-YR (ft)
1	On Walnut Creek	-1.99
2	SH 249	-0.54
3	Kuykendahl	-0.36
4	Gosling	-0.33
5	I-45	-0.23
6	West Fork Confluences	-0.14



PROJECT DETAILS

- Type: Dry dam detention facility
- Volume provided: 4,800 acre-feet
- Maximum height: 35.4 feet
- Dam Length: 3,168 feet
- Maximum inundation area: 920 acre
- 100-year inundation area: 690 acre
- Spillway Elevation: 251.2 feet
- Top of Dam Elevation: 259.1 feet

CHALLENGES

- Future Woodhaven Development overlaps portions of the proposed facility
- USACE coordination required due to minor environmental stream and wetland impacts
- Private land owners within project footprint

POTENTIAL PARTNERS

- Montgomery Co.
- MUDs
- SJRA
- The Woodlands
- HCFCD
- TWDB
- GLO
- FEMA
- USACE
- Future Flood Control District
- Waller County

NEXT STEPS

- **Coordinate with developers for potential shared project**
- **Identify potential dam owner and operator**
- **Identify funding partners**
- **Seek funding for land acquisition, design and construction**
- **Acquire land using local and other funding sources**
- **Final engineering and design of proposed facility**
- **Construction and operation of dam facility**