Memorandum

CITY OF DALLAS

DATE October 11, 2019

TO Honorable Mayor and Members of the City Council

SUBJECT **Follow-up Responses to the Long Range Water Supply Plan Implementation Update Briefing**

On Wednesday, October 2, 2019, staff briefed the City Council on the implementation of Dallas' Long Range Water Supply Plan. Below are responses to questions asked or requests made during the briefing.

1. Please provide a financial breakdown of the Integrated Pipeline (IPL) segments (DWU only, Spine, Tarrant Regional Water District (TRWD) only).

Project Segment	Project Budget	Dallas' Share	TRWD's Share
TRWD only (Segments 9-11, 16 and 18)	$721,935,000	$0	$721,935,000
Spine (Segment 12-15 and 17)	$1,187,845,000	$471,280,000	$716,565,000
Dallas Only (Segment 19)	$506,250,000	$506,250,000	$0
Total Project	$2,416,030,000	$977,530,000	$1,438,500,000

Please refer to the attached map for segment identification (Attachment 1).

2. Was the original budget for DWU supposed to be $800M? Why did the budget increase to $1.0B?

Dallas' estimated share of the IPL as identified in the initial 2008 feasibility study was $832 million. The feasibility study was a preliminary high-level estimate based on a conceptual design. As we have progressed into design and construction of the various segments, these costs have increased to reflect actual conditions encountered in the field. As we move further into the design phase of the Dallas Only Segment 19, further budget modifications may be needed based on increased costs from relocating the pipeline, as well as additional environmental and cultural resources studies and permitting.

3. Where is the Off-Channel Reservoir located? Can you provide me some more information including a location map for the project?

The Off-Channel reservoir is located in the northeast corner of Ellis County approximately 28 miles southeast of downtown Dallas. Attachment 2 is a one-page Main Stem Balancing Reservoir project summary from the 2014 Dallas Long Range Water Supply Plan located on Page K-7. The project Summary includes estimated costs, estimated water availability, anticipated permitting and environmental issues, potential phasing and implementation and a location map.

The following is the link to the Dallas 2014 Long Range Water Supply Plan: https://dallascityhall.com/departments/waterutilities/DCH%20Documents/2014_LRWSP_Final_Report_all_11302015.pdf

Please let me know if you have any questions or need additional information.

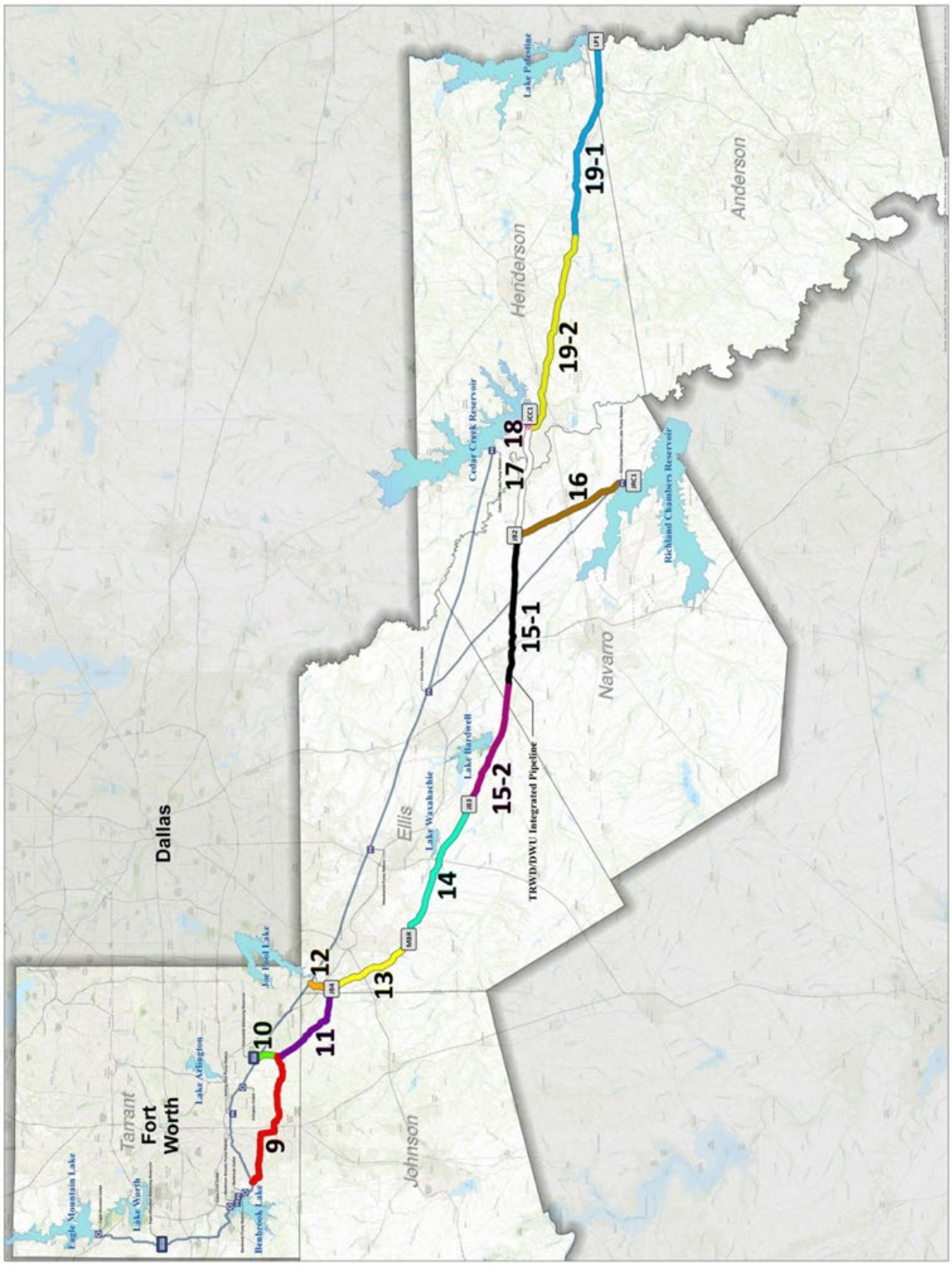
Majed Al-Ghafry, P.E.
Assistant City Manager

Attachments: Segment identification map
Main Stem Balancing Reservoir project summary

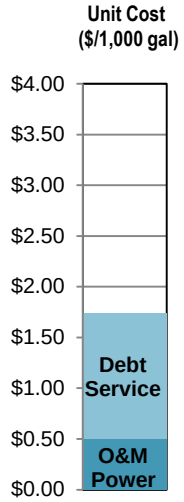
c: T.C. Broadnax, City Manager
Chris Caso, City Attorney (Interim)
Mark Swann, City Auditor
Bilierae Johnson, City Secretary
Preston Robinson, Administrative Judge
Kimberly Bizor Tolbert, Chief of Staff to the City Manager
Jon Fortune, Assistant City Manager
Joey Zapata, Assistant City Manager
Nadia Chandler Hardy, Assistant City Manager and Chief Resilience Officer
Michael Mendoza, Chief of Economic Development and Neighborhood Services
M. Elizabeth Reich, Chief Financial Officer
Laila Alequresh, Chief Innovation Officer
M. Elizabeth (Liz) Cedillo-Pereira, Chief of Equity and Inclusion
Directors and Assistant Directors

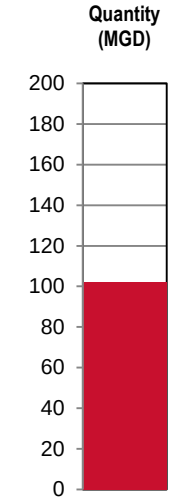
Attachment 1:

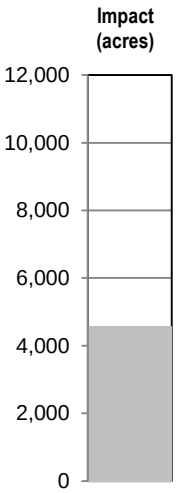
Integrated Pipeline (IPL) Project segments



RECOMMENDED AND ALTERNATIVE WATER MANAGEMENT STRATEGIES







Project Name: **Main Stem Balancing Reservoir**

Status: **Recommended (2050)**

Cost Summary	
Total Project Cost	**$674.5 M**
Annual Debt Service	$46.4 M
Annual O&M and Power	$18.5 M
Total Annual Cost	**$64.9 M**

Description of Strategy:

The Main Stem Balancing Reservoir project is a proposed off channel reservoir that could store approximately 300,000 acft of Dallas' (and potentially other entities') return flows as well as stormwater runoff originating in the upstream Trinity River watershed. Additionally, because the diversion point for this strategy is located downstream of the confluence with the East Fork of the Trinity River, the Main Stem Balancing Reservoir could also be used to transfer water from Dallas' eastern system to Dallas' western system by storing water released from either Lake Ray Hubbard or from Dallas' eastern raw water transmission pipelines where they cross the East Fork. Water supplies would be delivered to the Joe Pool area through a 36.5 mile, 84-inch transmission system.

Water Availability:

The Main Stem Balancing Reservoir was preliminarily designed to achieve a desired firm yield of 102 MGD (114,000 acft/yr) by 2070. The water availability analysis indicated that by 2070, 109 MGD of return flows would be available for diversion after considering the swap agreement with NTMWD and an amended instream flow requirement.

Permitting and Environmental Issues:

This project would require a surface water permit for the channel dam (if needed) on the Trinity River from TCEQ. While Dallas has rights to divert its Trinity River discharges, a new water right permit would be required to divert stormwater. In addition to the surface water permit, a Section 404 permit from the USACE for impacts to a waterway from construction activities would be needed for the construction of the diversion facilities and pipeline.

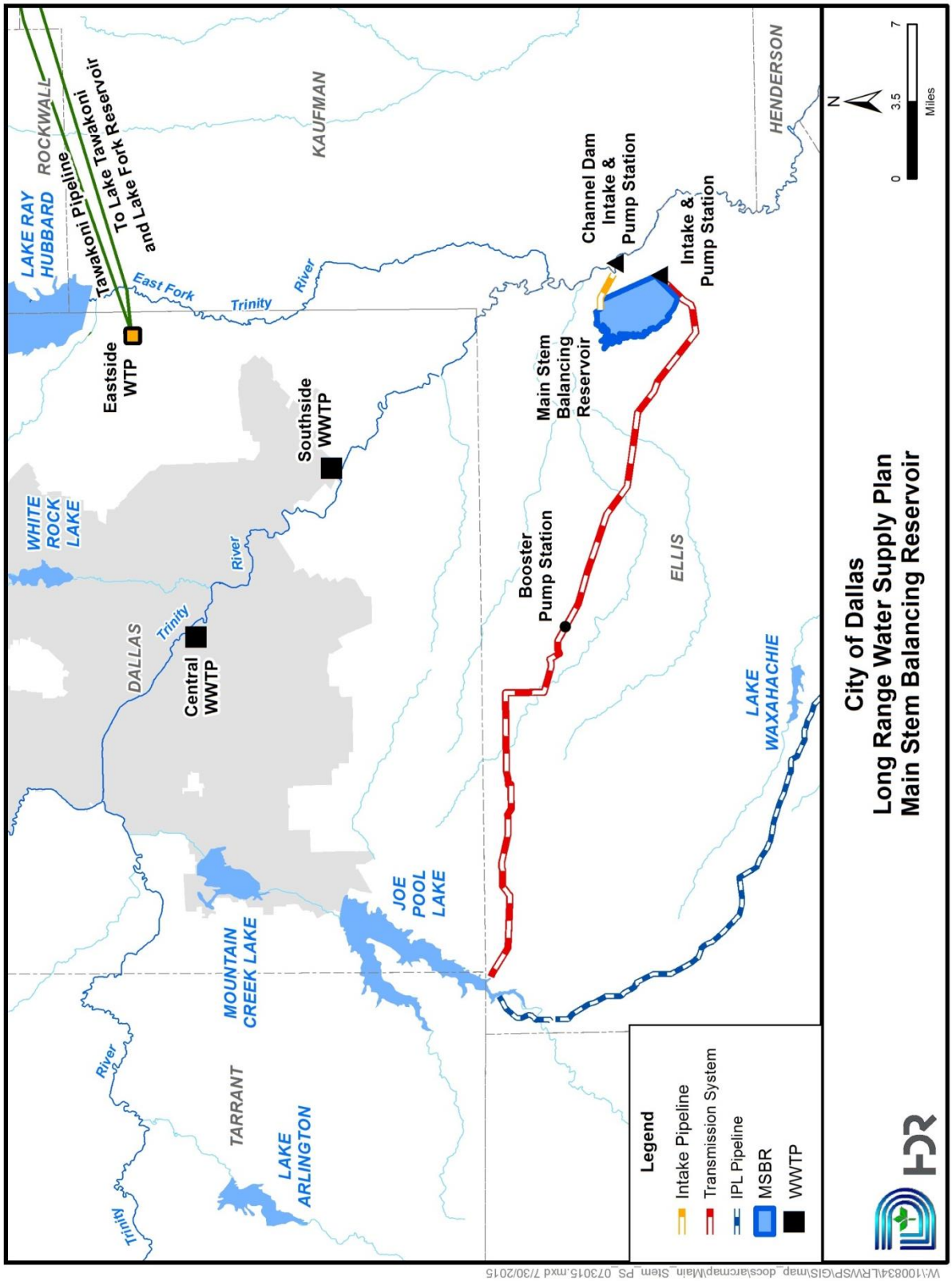
Environmental concerns associated with the main stem pump station project including impacts to habitat, threatened and endangered species, wetlands, and freshwater inflows are all anticipated to be low.

Costs:

Unit Cost, Quantity of Water, and Land Impacted			
Unit Cost of Water: O&M Unit Cost:	$1.74 $0.50	$/1,000 gal	Raw Water Delivered to Bachman Turnout / Joe Pool Area
Quantity of Water:	102	MGD	Reliability = Firm
Land Acquired (excluding Mitigation):	4,584	acres	

Phasing and Implementation:

It is recommended that Dallas initiate a feasibility study that includes: securing the water rights permit for the storage reservoir, performing a reservoir site foundation evaluation, initiating a land acquisition and maintenance program (prior to construction), preparing a water quality evaluation, performing a siting study of the main-stem pump station considering flooding issues; and determining the need for a new Trinity River water control structure or improvements to an existing structure.


City of Dallas
Long Range Water Supply Plan
Main Stem Balancing Reservoir
Legend
Intake Pipeline
Transmission System
IPL Pipeline
MSBR
WWTP
Eastside WTP
Southside WWTP
Central WWTP
Main Stem Balancing Reservoir
Booster Pump Station
Channel Dam Intake & Pump Station
Intake & Pump Station
Tawakoni Pipeline
To Lake Tawakoni and Lake Fork Reservoir
LAKE RAY HUBBARD
WHITE ROCK LAKE
JOE POOL LAKE
MOUNTAIN CREEK LAKE
LAKE ARLINGTON
LAKE WAXAHACHIE
ROCKWALL
KAUFMAN
HENDERSON
DALLAS
TARRANT
ELLIS
East Fork
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