



**REGULAR MEETING & WORK SESSION
OF THE CITY COUNCIL**

June 24, 2019

ADDISON TOWN HALL

**5300 BELT LINE RD., DALLAS, TX 75254
5:00 PM EXECUTIVE SESSION & WORK SESSION
7:30 PM REGULAR MEETING**

1. Call Meeting to Order

-
2. Closed (executive) session of the Addison City Council pursuant to:

Section 551.074, Tex. Gov. Code, to deliberate the appointment, employment, evaluation, reassignment, duties, discipline or dismissal of a public officer or employee, pertaining to:

- City Secretary Annual Review

-
3. RECONVENE INTO REGULAR SESSION: In accordance with Texas Government Code, Chapter 551, the City Council will reconvene into Regular Session to consider action, if any, on matters discussed in Executive Session.
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WORK SESSION

4. Present and Discuss the **Results of the April 2019 Town-Wide Traffic Signal Optimization Study and Implementation.**

5. Present and Discuss an **Update Regarding Schematic Design for the Les Lacs Pond Liner Replacement Project.**

REGULAR MEETING

Pledge of Allegiance

Announcements and Acknowledgements regarding Town and Council Events and Activities

Discussion of Events/Meetings

6. Public Comment.
The City Council invites citizens to address the City Council on any topic not on this agenda. Please fill out a **City Council Appearance Card** and submit it to a city staff member prior to Public Participation. Speakers are allowed **up to three (3) minutes per speaker** with **fifteen (15) total minutes** on items of interest or concern and not on items that are on the current agenda. In accordance with the Texas Open Meetings Act, the City Council cannot take action on items not listed on the agenda. The Council may choose to place the item on a future agenda.
-

Consent Agenda:

All items listed under the Consent Agenda are considered routine by the City Council and will be enacted by one motion with no individual consideration. If individual consideration of an item is requested, it will be pulled from the Consent Agenda and discussed separately.

7. Consider Action to **Approve the June 11, 2019 City Council Work Session, Executive Session, and Regular Meeting Minutes.**
-

8. Consider Action to Approve an **Ordinance Amending Ordinance No. 005-010 as Amended, Which Grants a Franchise to Oncor Electric Delivery Company LLC, by Extending the Term and Providing for Its Renewal; Providing a Severability Clause; Providing a Savings Clause; Providing an Effective Date; and Providing for Acceptance by Oncor Electric Delivery Company LLC.**

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9. Consider Action to Approve a **Resolution Approving a Third Amendment to Rooftop Telecommunications License Agreement Between the Town of Addison and COP Spectrum Center, LLC F/K/A GPI Spectrum LLC, and Authorizing the City Manager to Execute the Agreement** in an Amount not to Exceed \$29,112.96 for the First Year.

Regular Items

-
10. Presentation of **Best Practices Recognition from the Texas Fire Chiefs Association for the Addison Fire Department.**
-
11. Present, Discuss, and Consider Action on an **Ordinance Granting a Meritorious Exception from the Code of Ordinances Chapter 62 Section 62-289 (a) Special District Addison Town Center for Ross Dress for Less Located at 3802 Belt Line Road, in Order to Permit a 458.25 Square Foot Wall Sign on the North Facade.**
-
12. Hold a Public Hearing, Discuss, and Consider Action Regarding **Potential Changes to Regulations for Political Signs.**
-
13. Present, Discuss, and Consider Action on an **Ordinance Appointing Danielle Dulaney as an Alternate Municipal Judge of the Addison Municipal Court of Record No. 1 and Approving a Compensation Agreement to Perform Services as an Alternate Municipal Judge and Administer the Oath of Office.**
-
14. Present and Discuss the **Addison Community Bond Advisory Committee's Final Report on a Recommendation for a Bond Program and Review the Program's Propositions, Projects, Financing, and Process.**
-

Adjourn Meeting

NOTE: The City Council reserves the right to meet in Executive Session closed to the public at any time in the course of this meeting to discuss matters listed on the agenda, as authorized by the Texas Open Meetings Act, Texas Government Code, Chapter 551, including §551.071 (private consultation with the attorney for the City); §551.072 (purchase, exchange, lease or value of real property); §551.074 (personnel or to hear complaints against personnel); §551.076 (deployment, or specific occasions for implementation of security personnel or devices); and §551.087 (economic development negotiations). Any decision held on such matters will be taken or conducted in Open Session following the conclusion of the Executive Session.

Posted: _____
Irma Parker, City Secretary
DATE
Time:

**THE TOWN OF ADDISON IS ACCESSIBLE TO PERSONS WITH
DISABILITIES. PLEASE CALL (972) 450-7090 AT LEAST
48 HOURS IN ADVANCE IF YOU NEED ASSISTANCE.**

Work Session and Regular Meeting

4.

Meeting Date: 06/24/2019

Department: Infrastructure- Development Services

Pillars: Excellence in Transportation Systems

AGENDA CAPTION:

Present and Discuss the **Results of the April 2019 Town-Wide Traffic Signal Optimization Study and Implementation.**

BACKGROUND:

On April 27, 2018, the Council authorized an agreement with Kimley-Horn Associates, Inc., for a Town-wide Traffic Signal Optimization Study. The goal of the study was to reduce delays, stops, and travel time along five major corridors:

- Belt Line Road
- Midway Road
- Addison Road
- Arapaho Road
- Spring Valley Road

The scope of the study was to provide optimized traffic signal timing plans for the Town's thirty-eight signalized intersections for the morning, midday, afternoon, late-night, and weekend peak periods.

Staff will present the full findings of the study, benefits achieved to date, and next steps.

RECOMMENDATION:

Information only, no action required.

Attachments

Presentation - Traffic Signal Optimization Study
Traffic Signal Optimization Study

Traffic Signal Optimization Project Results

City Council

June 11, 2019



Background

- March 27, 2018 - Council approved an agreement with Kimley-Horn for a Town-wide Traffic Signal Optimization Project
- Goal: To reduce delay, stops, and travel time along the major corridors
- Since last update in 2009-2010:
 - Traffic increased by 7%
 - Traffic on Arapaho Road increased as a new east/west route
 - IH 635 was reconstructed
 - Dallas North Tollway expanded to 4 lanes
 - State and Federal standards changed

Project Scope

- To provide optimized traffic signal timing plans at 38 intersections during the morning, midday, afternoon, late night, and weekend peak periods
- To provide recommendations for minor intersections and signal improvements
- To develop, implement, and fine-tune newly optimized signal timing plans

Project Area

A blue circular logo with the word "ADDISON" in white, uppercase letters.

- 38 signalized intersections – including the pedestrian signal on Belt Line Road (Redding Trail)
- Five major travel corridors
 - Belt Line Road
 - Midway Road
 - Addison Road
 - Arapaho Road
 - Spring Valley Road

Initial Significant Field Observations

- Traffic backs up and blocks railroad tracks on Marsh Lane and Addison Road during the 7:00 am to 8:30 am peak period
- Heavy pedestrian traffic crossing Belt Line Road during the 12:00 pm to 1:30 pm peak period
- Belt Line Road and Quorum Road to Dallas North Tollway is over capacity during the 4:45 pm to 6:15 pm peak period
- Marsh Lane and Arapaho Road westbound right turn lane is over capacity during the 4:45 pm to 6:15 pm peak period
- Belt Line Road and Surveyor Boulevard is significant choke point in both directions during 4:45 pm and 6:15 pm peak

Travel Time Test Run Routes

A blue circular logo with the word "ADDISON" in white, uppercase letters.

- Belt Line Road
 - From Marsh Lane to Dallas Parkway
- Arapaho Road
 - From Marsh Lane to Dallas Parkway
- Addison Road
 - From Sojourn Drive to Belt Line Road
- Midway Road
 - From Keller Springs Road to Spring Valley Road
- Runs were made before and after signal improvements were made

Study Recommendations

- Install flashing yellow arrows at 6 intersections
 - Five have been installed
 - One pending
 - Others will be included with Midway Road reconstruction project
- Restripe Edwin Lewis to provide a dedicated right turn lane and allowing more time for north and south bound Quorum Drive traffic movements
- Continue signal timing coordination updates, internally and with adjacent municipalities
- Timing plan updates should be done every 3-5 years
- The start of the DART Cotton Belt will necessitate retiming on Addison Road at Arapaho Road and Lindbergh Road

Results of Signal Timing Optimization Project

- Belt Line Road –
 - Travel time reduced by 32%
 - Stops reduced by 59%
 - Speed increased by 56% (nearly to the posted speed)
 - Delay improved by more than 62%
- Morning Peak delay was reduced by 71 seconds
- Afternoon Peak delay was reduced by 200 seconds, more than 3 minutes

Results of Signal Timing Optimization Project

A blue circular logo with the word "ADDISON" in white, uppercase letters.

- Midway Road –
 - Travel time reduced by 18%
 - Stops reduced by 39%
 - Speed increased by 22% (nearly to the posted speed)
 - Delay improved by more than 34%
- Arapaho Road
 - Able to maintain signal cycle timing length with longer pedestrian crossing standards and no delays to vehicles

Annual Benefits of Signal Optimization

- Changes made to Belt Line Road and Midway Road will result in delay savings of:
 - More than 673,000 vehicle hours per year
 - More than 76 years of vehicle delay annually
 - More than \$19 million annually in driver delay savings

Next Steps

- Install remaining Flashing Yellow Arrow at Quorum and Arapaho
- Restripe Edwin Lewis to add dedicated right-hand turn lane per recommendation
- Plan retiming study after DART Cotton Belt is operational
- Reassess system timing every 3-5 years to account for changes in traffic patterns and volume

Questions / Discussion

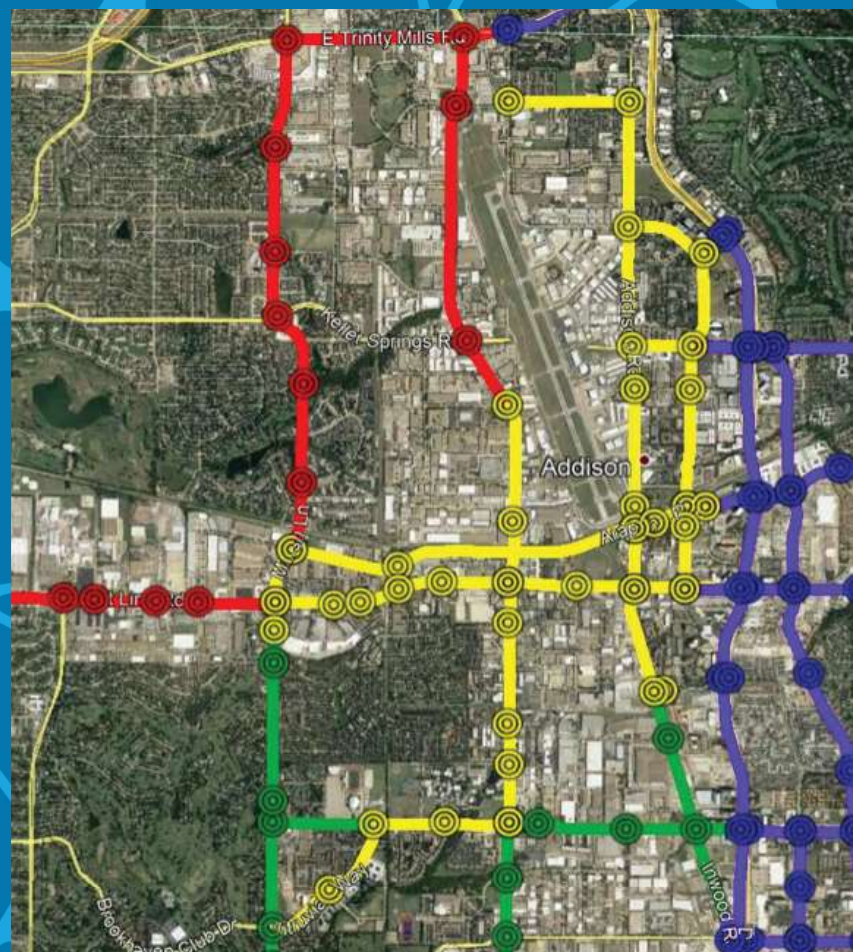
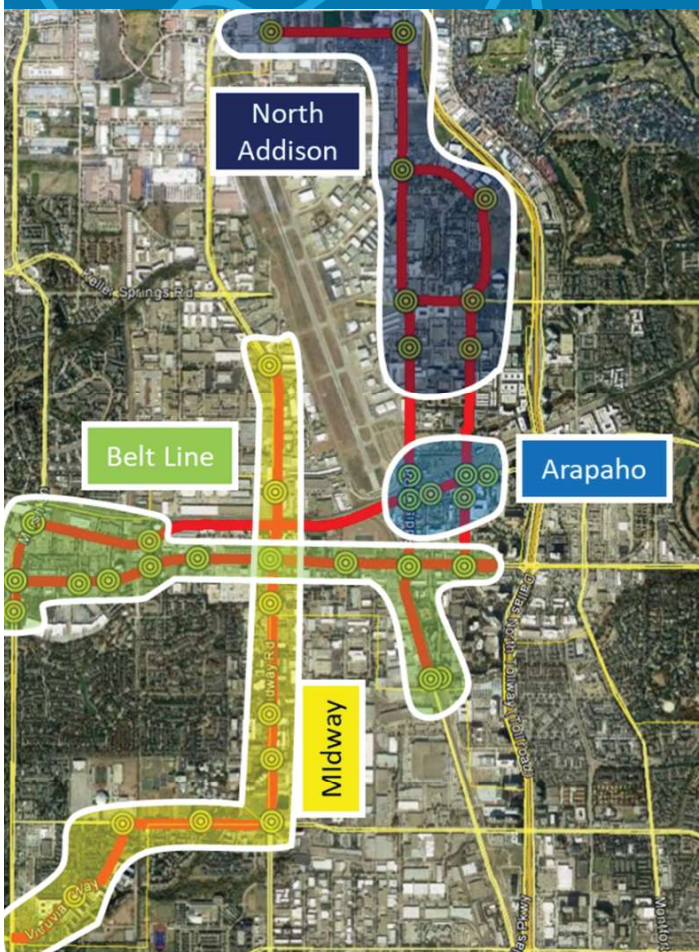
The logo for Addison-Wesley, featuring the word "ADDISON" in a bold, blue, sans-serif font inside a white circle. The circle is set against a blue background that is part of a larger graphic on the right side of the slide, which includes diagonal white lines and a grey triangle in the top right corner.

ADDISON

Addison Town-Wide Signal Retiming

ADDISON

SM



April 2019

Kimley»Horn

MEMORANDUM

To: Jason Shroyer, P.E.
Town of Addison

From: David Halloin, P.E., PTOE
Tom Hartmann, P.E., PTOE, IMSA TS II
Lucy Richardson, EIT
Kimley-Horn and Associates, Inc.

Date: April 1, 2019

Subject: Addison Town-Wide Retiming



Kimley-Horn and Associates contracted with the Town of Addison to develop new coordinated timing plans for all thirty-eight (38) signalized intersections within the Town limits. Addison's Town-wide traffic signal timing plans for coordinated arterial progression were last updated in 2009 and 2010. These plans provide coordination along Belt Line Road, Midway Road, Arapaho Road, Addison Road, Marsh Lane, and Spring Valley Road. Many locations are synchronized with adjacent signals in the cities of Dallas, Carrollton, and Farmers Branch. While timing has been adjusted, and maintained over time, this project revisited control strategies for the entire traffic signal system and developed new timing solutions based on current standards and state of practice.

The project included developing an updated base model for signalized intersections and roadway segments connecting these intersections; performing a baseline analysis of AM, Midday, PM, Late-Night, and Weekend peak periods; recommendations for minor intersection and signal improvements; and development, implementation, and fine-tuning of newly optimized signal timing plans. The goal of this project was to reduce delay, stops, and travel time along major corridors. This report summarizes details and discusses benefits of the new timing plans.

Description of the Project Area

All thirty-eight (38) of the Town's signalized intersections (inclusive of the pedestrian signal on Belt Line Road) are included in the project area. Five major routes through the Town were included in this project.

Belt Line Road is the major east-west facility in Addison, traversing the entire Town from Carrollton on the west to Dallas on the east. Listed as a Principal Arterial on the 2016 Thoroughfare Plan, Belt Line Road is a six-lane divided roadway with a raised median and turn bays throughout the corridor. The posted speed is 40 mph. Regionally, Belt Line Road serves as an alternate route to the frequently congested IH 635. Belt Line Road is also a heavily commercial corridor, with dozens of restaurants fronting.

Midway Road is a Principal Arterial stretching from Carrollton on the north end of Addison to Farmers Branch on the south side of Addison. Serving as the major north-south corridor, it is a six-lane divided roadway with a raised median and turn bays throughout the corridor. Midway Road has a posted speed of 40 mph. Midway Road is the nearest north-south alternative route west of Dallas North Tollway, serving as a regional corridor. Midway Road is a significant truck route, as the two nearest arterial corridors to the west prohibit truck traffic.

Addison Road is a Minor Arterial running north-south from Trinity Mills Parkway in Carrollton to Belt Line Road. South of Belt Line Road, Addison Road becomes Inwood Road. Addison Road has a four-lane undivided cross-section with no median or midblock turn bays. The posted speed limit is 40 mph. Multiple rail lines cross Addison Road at-grade.

Arapaho Road runs parallel to Belt Line Road with a posted speed limit of 40 mph between Marsh Lane and Addison Road and 35 mph between Addison Road and Dallas North Tollway. Classified as a Minor Arterial, Arapaho Road has a four-lane divided cross-section with a raised median. At Midway Road, Arapaho Road is elevated on the Arapaho Bridge over a rail crossing. The short section of Arapaho Road between Quorum and the Dallas Parkway classified as a Principal Arterial, connecting the Dallas North Tollway corridor with Addison's transit center.

Spring Valley Road is a Principal Arterial, with a six-lane divided cross section, running east-west from Vitruvian Way to Midway Road and Farmers Branch east of Addison. West of Vitruvian Way Spring Valley Road is a minor arterial with a 4-lane cross section, intersecting Marsh Lane in Farmers Branch. Both Greenhill School and George Bush Elementary are located on this section of roadway.

Table 1 lists the thirty-eight (38) project intersections in the Town. The study area is shown in Figure 1.

Table 1. Project Area Intersections

Intersection	Corridor
Spring Valley Road & Vitruvian Way	Spring Valley
Spring Valley Road & Greenhill School Street	Spring Valley
Midway Road & Spring Valley Road	Spring Valley
Vitruvian Way & Ponte Avenue	Spring Valley
Belt Line Road & Marsh Lane	Belt Line
Belt Line Road & Business Avenue	Belt Line
Belt Line Road & Commercial Drive	Belt Line
Belt Line Road & Surveyor Boulevard	Belt Line
Belt Line Road & Runyon Road	Belt Line
Belt Line Road & Midway Road	Belt Line
Belt Line Road & Beltway Drive	Belt Line
Belt Line Road & Addison Road	Belt Line
Belt Line Road & Quorum Drive	Belt Line
Marsh Lane & Target Driveway	Marsh
Marsh Lane & Arapaho Road/Realty Road	Marsh
Inwood Road & Landmark Place	Addison Rd
Addison Road & Arapaho Road	Addison Rd
Addison Road & Lindbergh Drive	Addison Rd
Addison Road & Airport Parkway	Addison Rd
Addison Road & Keller Springs Road	Addison Rd
Addison Road & Westgrove Drive	Addison Rd
Addison Road & Sojourn Drive	Addison Rd
Westgrove Drive & Sojourn Drive	Addison Rd
Quorum Drive & Edwin Lewis Drive	Quorum
Arapaho Road & Quorum Drive	Quorum
Quorum Drive & Airport Parkway	Quorum
Keller Springs Road & Quorum Drive	Quorum
Westgrove Drive & Quorum Drive	Quorum
Arapaho Road & Surveyor Boulevard	Arapaho
Arapaho Road & Edwin Lewis Drive	Arapaho
Arapaho Road & Spectrum Drive	Arapaho
Midway Road & Hornet Road	Midway
Midway Road & Proton Drive	Midway
Midway Road & Beltway Drive	Midway
Midway Road & Lindbergh Drive	Midway
Midway Road & Dooley Road	Midway



Figure 1. Existing Control Groups

Project Scope

The purpose of this project was to provide optimized traffic signal timing plans at the thirty-eight (38) project intersections in the Town. during the AM, Midday, PM, Late-Night, and Weekend peak periods, and to document the results of the signal timing effort. Specifically, this report will address the following areas:

- Data Collection
- Preparation of New Timing Strategies
- Timing Plan Implementation and Fine Tuning
- Summary of Benefits

Data Collection

Traffic data collection for this project was performed by GRAM Traffic NTX, as part of a separate town-wide traffic count program. Field verification of counts and volume trends was performed by Kimley-Horn senior staff.

PREVIOUS OPERATIONS

Previous signal timing was coordinated with neighboring cities of Dallas and Carrollton during much of the week. Belt Line Road was coordinated with Carrollton to the west and Dallas to the east. The Town coordinated with Dallas. to the east, on Arapaho Road, Westgrove Drive, and Keller Springs Road. Timing on Midway Road was coordinated with Carrollton to the north of Addison. Marsh Lane was also coordinated with Carrollton to the north and Farmers Branch to the south.

The Town previously operated five basic timing plans, with two variants and special school plans. Since the last town-wide timing project in 2008-2009, the following significant changes occurred:

- Traffic volumes increased 7%
- Arapaho Road increased use as alternate route (open 2006)
- IH 635 (LBJ Freeway) was reconstructed
- Dallas North Tollway added a fourth lane in each direction
- Development & redevelopment, including Vitruvian Park
- Development increase in size & type
- Belt Line Road was improved
- Timing adjustments were made by neighboring agencies
- Signal equipment in the town aged by a decade
- State and national standards changed
- ADA awareness increased

There were numerous unique operations in Addison:

- Uneven Double Cycles
 - Midway Road & Lindbergh Drive
 - Belt Line Road & Surveyor Boulevard

- School plans
 - Midway Road & Hornet Road (2x's northbound left-turn operation in AM)
 - Spring Valley Road & Greenhill School
 - Addison Road & Sojourn Drive
- Special Phasing
 - Arapaho Road, east of Addison Road (half cycles)
 - Inwood/Landmark/Landmark PI
 - Quorum Drive & Belt Line Road
- HAWK Signal
 - Belt Line Road trail crossing

The critical intersection for the entire Town is Belt Line Road & Midway Road. The intersection of the Town's only two Primary Arterials drives the operations for a majority of the network.

The Town of Addison provided information regarding existing signal timing and phasing, including phase sequences and controller timing parameters. During field investigations, existing operations were observed and major traffic signal components at each intersection were noted.

Existing (pre-project) control groups are shown in **Figure 1**.

Tables 2, 3, and 4 provide the existing (pre-project) schedules for each intersection on the corridor by control group.

Table 2. Existing Sunday Time of Day Schedule by Control Group

	<i>Vitruvian</i>	<i>Midway</i>	<i>Belt Line</i>	<i>Arapaho</i>	<i>North Addison</i>
0:00	Free	Plan 15 Late Night 90 s	Plan 15 Late Night 90 s	Free	Free
1:00					
2:00					
3:00					
4:00					
5:00					
6:00	Plan 15 Late Night 45 s	Plan 15 Late Night 90 s	Plan 15 Late Night 90 s	Plan 15 Low Vol - Nite Coord 80 s	
7:00					
7:30					
8:00					
9:00					
10:00	Plan 14 Weekend Day - Low 60 s	Plan 14 Weekend Day - Low 120 s	Plan 14 Weekend Day - Low 120 s	Plan 14 Weekend 90 s	
10:30					
12:00					
13:00					
14:00					
15:00					
16:00					
17:00					
18:00					
19:00					
20:00					
21:00	Free	Plan 15 Late Night 90 s	Plan 15 Late Night 90 s	Free	
22:00					
23:00					

Table 3. Existing Weekday Time of Day Schedule by Control Group

	<i>Vitruvian</i>	<i>Midway</i>	<i>Belt Line</i>	<i>Arapaho</i>	<i>North Addison</i>
0:00	Free	Plan 15 Late Night 90 s	Plan 15 Late Night 90 s	Free	Free
1:00					
2:00					
3:00					
4:00					
5:00					
5:30					
6:00	Plan 25 Weekday Off-Peak 60 s	Plan 25 Weekday Off-Peak 1202 s	Plan 25 Weekday Off-Peak 1202 s		
6:30	Plan 11 AM 80 s	Plan 11 AM 160 s	Plan 11 AM 160 s	Plan 11 AM 160 s	Plan 11 AM 120 s
7:00					
8:00					
9:00	Plan 25 Weekday Off-Peak 60 s	Plan 25 Weekday Off-Peak 120 s	Plan 25 Weekday Off-Peak 120 s	Plan 12 Midday Peak 90 s	Free
10:00					
11:00					
11:15	Plan 12 Midday Peak 67 s	Plan 12 Midday Peak 134 s	Plan 12 Midday Peak 134 s		Plan 12 Off-peak 90 s
12:00					
13:00					
13:30					
14:00					
15:00					
15:30					
16:00	Plan 13 PM 80 s	Plan 13 PM 160 s	Plan 13 PM 160 s	Plan 13 PM 160 s	Plan 13 PM 120 s
16:15					
17:00					
18:00					
18:30					
18:45	Plan 25 Weekday Off-Peak 60 s	Plan 25 Weekday Off-Peak 120 s	Plan 25 Weekday Off-Peak 120 s	Plan 12 Midday Peak 90 s	Free
19:00					
20:00					
20:15					
21:00	Free	Plan 15 Late Night 90 s	Plan 15 Late Night 90 s	Low Vol - Nite Coord 80 s	
22:00					
23:00				Free	

Table 4. Existing Saturday Time of Day Schedule by Control Group

	<i>Vitruvian</i>	<i>Midway</i>	<i>Belt Line</i>	<i>Arapaho</i>	<i>North Addison</i>		
0:00	Free	Plan 15 Late Night 90 s	Plan 15 Late Night 90 s	Free	Free		
1:00							
2:00							
3:00		Free	Free				
4:00							
5:00							
6:00	Plan 15 Late Night 45 s	Plan 15 Late Night 90 s	Plan 15 Late Night 90 s				
7:00							
8:00							
8:30							
9:00	Plan 14 Weekend Day - Low 60 s	Plan 14 Weekend Day - Low 120 s	Plan 14 Weekend Day - Low 120 s	Plan 15 Low Vol - Nite Coord 80 s			
10:00							
11:00	Plan 24 Weekend Day - High 67 s	Plan 24 Weekend Day - High 134 s	Plan 24 Weekend Day - High 134 s	Plan 14 Weekend 90 s			
12:00							
13:00							
14:00							
15:00							
16:00							
17:00							
18:00							
19:00	Plan 14 Weekend Day - Low 60 s	Plan 14 Weekend Day - Low 120 s	Plan 14 Weekend Day - Low 120 s	Plan 15 Low Vol - Nite Coord 80 s			
19:30							
20:00	Free	Plan 15 Late Night 90 s	Plan 15 Late Night 90 s	Plan 15 Low Vol - Nite Coord 80 s			
21:00							
22:00							
23:00							
23:15				Free			

FIELD OBSERVATIONS

Field observations were conducted in May 2018. Locations with queues were noted, with potential solutions to improve those operations.

The following significant observations were made in the AM:

- Marsh & Arapaho – the southbound left turn spills out of the turn bay, blocking the thru lane and stopping on the railroad tracks
- Arapaho & Spectrum – the intersection was getting out of step due to actuations of oversized pedestrian splits

During the Midday peak the following significant observations were made:

- Many pedestrians are crossing Belt Line, so it is critical to cover pedestrian splits
- Traffic was relatively light in the North Addison group, so the 90 second plan is sufficient, and a shorter cycle length could be implemented for the off-peak period

Significant observations made during the PM peak included:

- Belt Line & Quorum – the eastbound approach of Belt Line & Dallas Parkway (City of Dallas Signal) is over capacity and spills back through the Belt Line & Quorum intersection
- Marsh & Arapaho – the westbound right turn is over capacity and has significant queuing
- Belt Line & Surveyor seemed to be a chokepoint for platoons in both directions on Belt Line

TRAFFIC VOLUME COUNTS

Kimley-Horn identified 90-minute peak periods in the AM, Midday, PM, and Weekend peak periods for which detailed turning movement count (TMC) data was collected in 15-minute intervals at each project intersection. The data was collected on Tuesday, March 6th, 2018, Tuesday, March 20th, 2018, and Saturday, March 24th, 2018 during the following peak periods:

- AM Peak: 7:00 AM – 8:30 AM
- Midday Peak: 12:00 PM – 1:30 PM
- PM Peak: 4:45 PM – 6:15 PM
- Weekend Peak: 2:00 PM – 3:30 PM

For each period, intersection peak hour TMCs were used for the signal optimization modeling. Raw turning movement count data was provided to the City in electronic format as part of the 2018 Town-Wide Count Program.

New recording machine counts were also collected as part of the 2018 Town-Wide Count Program. This data was used for retiming efforts and to develop recommended operating schedules for new timing plans.

TRAVEL TIME RUNS

Travel time runs were made on the following arterials during each of the periods for which TMC data was collected:

- Belt Line Road, from Marsh Lane to Dallas Parkway
- Arapaho Road, from Marsh Lane to Dallas Parkway
- Addison Road, from Sojour Drive to Belt Line Road
- Midway Road, from Keller Springs Road to Spring Valley Road

Travel time runs were made using “floating car techniques,” i.e. the driver of the test vehicle car traveled at the pace set by other traffic. *before* and *after* travel time runs were made under a separate contract, as part of the 2018 Town-Wide Traffic Count Program. The *before* runs were made prior to the implementation of any changes to the existing timing on the following dates:

- Wednesday, March 7, 2018
- Thursday, March 22, 2018
- Saturday, March 24, 2018
- Thursday, March 29, 2018
- Tuesday, April 3, 2018
- Saturday, April 7, 2018

These runs established baseline conditions (speeds, delay, and number of stops), to assist in the determination of appropriate progression speeds, and to identify areas where queue management is critical and recurrent congestion may affect progressive traffic movement.

INRIX DATA

To supplement traditional data, Kimley-Horn obtained crowd-sourced probe-based data from INRIX for the following corridors:

- Belt Line Road (Marsh Lane to Dallas Parkway, 2.2 miles),
- Addison Road (Sojourn Drive to Inwood Road & Landmark Place, 2.5 miles), and
- Midway Road (Spring Valley Road to Dooley Road, 1.8 miles).

This data will supplement *before* and *after* travel time runs to quantify benefits of the signal retiming effort. The data can also be used by the Town to monitor their system and evaluate and rank corridors for future regional traffic signal retiming efforts, based on quantifying the natural degradation of coordinated signal timing over time.

Data from INRIX was used to estimate the signal performance *before* and *after* the corridor was retimed. The data was collected one month *before* and one month *after* implementation, excluding major special events, holidays, and changes in school schedule. Measures of effectiveness (MOEs) evaluated included:

- Speed;
- Travel time;
- Delay; and
- Travel Time Index.

INRIX aggregates speed data from more than 400 sources, including crowd-sourced, public, and proprietary data. The information collected and analyzed by INRIX includes historical GPS data from over 300 million global sources and features historical data availability for nearly 3 years up to the previous day.

The data was examined during four time periods: weekday AM peak, midday peak, PM peak; and Saturday peak. The specific time periods were determined from travel time data extracted from INRIX. For periods lasting more than one hour, an average value of each MOE was calculated.

Traditional measures of effectiveness (MOEs) include travel time, speed, delay, and stops. INRIX, like all segment-based probe data, is capable of measuring travel time and speed; delay can be calculated as the difference between measured travel time and free flow travel time (based on speed limit). Stops are only available from traditional travel time runs. Travel time index is essentially a normalized measure of delay, calculated from travel times. Tables in the “Projects Benefits” section of this report present the traditional measures of effectiveness, gathered from INRIX data¹.

To quantify the benefits of the signal retiming effort, INRIX data was used to compare operations *before* and *after* the new timing was implemented. Crowd-sourced probe data (e.g. INRIX) has been found to be similarly accurate to Bluetooth probe data. The data (including historical data) is readily available and does not require infrastructure investment. Traditional measures of effectiveness (MOEs), such as travel time and speed are available in the data (delay can be calculated); however, stops are not available from crowd-sourced probe data. The size of the INRIX data sets, which are orders of magnitude greater than traditional travel time runs can provide, allows for calculation of advanced MOEs. These advanced MOEs include travel time index, buffer time, planning index, and confidence intervals for all MOEs. Crowd-sourced probe data does not capture stops, so the floating car travel time runs were used for analysis of that information.

Preparation of New Timing Strategies

To develop new timing strategies, Synchro™ was used with existing timing information and TMCs for each study period. Strategies for pedestrian clearance times were reevaluated, and specific recommendations were developed for each intersection. The proposed timing plans were presented to Town staff and mutually agreed upon prior to implementation.

VEHICLE AND PEDESTRIAN CLEARANCE TIMES

Vehicle and pedestrian change and clearance intervals were recalculated for the first time since 2009; calculation procedures have been updated since then;

Recalculation of the vehicular clearances (i.e. yellows and all-reds) was based on the approach speeds and the roadway and intersection geometry (street widths, grades, etc.). These parameters were measured and field-verified.

In the case of pedestrian timing (e.g., walk and flashing don't walk), recalculation of these intervals was required based on new requirements that were made effective by the 2011 edition of Texas MUTCD. These changes include the following:

¹ https://analytics.inrix.com/roadway_analytics/X47i6C8FnKYugmvD4

- Assumed walking speed of 3.5 feet per second (rather than 4 feet per second); and
- Pedestrian clearance distance from near edge of travel way to far edge of traveled way (rather than from near edge of traveled way to middle of far traffic lane).

The formulas found in NCHRP Report 731 were used to calculate vehicular clearance times. NCHRP 731 forms the basis of the new ITE Recommended Practice and is considered state of the practice for calculating clearance times.

The values calculated by the NCHRP formulas are conservative. Essentially, the NCHRP calculations provide as much or more total clearance time as the ITE formula, with more yellow and slightly less red. Recalculating pedestrian speeds at 3.5 feet per second results in longer pedestrian times, which affects available bandwidth for vehicles on main phases. Per guidance in the Texas Manual on Uniform Traffic Control Devices (MUTCD), yellow and all-red times can be used as part of pedestrian clearance times, decreasing the time required to serve pedestrians. By decreasing the pedestrian clearance interval by the yellow change interval only (not the red clearance interval), bandwidth for the main platoon increased.

RECOMMENDATIONS FOR SPECIFIC INTERSECTIONS

Recommendations were developed for low-cost modifications and long-term enhancements that could be incorporated on the corridor to further improve overall traffic operations.

The following locations were identified for flashing yellow arrow (FYA) implementation:

- Arapaho Road & Marsh Lane (NB & SB) – installed
- Belt Line Road & Surveyor Boulevard (EB & WB) – installed
- Arapaho Road & Addison Road (all 4 approaches) – Pending
- Keller Springs Road & Addison Road (all 4 approaches) – Pending
- Arapaho Road & Quorum Drive (all 4 approaches) – Pending
- Arapaho Road & Spectrum Drive (EB & WB) – Pending

These locations were selected for Addison's FYA upgrades because lead/lag sequences would allow substantially better two-way signal progression during multiple timing plans and/or allow for dual services of a left turn phase. Other locations along Midway Road will be upgraded as these signals are replaced during the upcoming Midway Road reconstruction project. Under a separate contract, Kimley-Horn is in the process of redesigning Midway Road signals between Hornet Road and Dooley Road. This includes FYA upgrades for all northbound and southbound approaches of Midway, other than the protected-only lefts at Belt Line Road, which will further enhance two-way signal progression.

At Edwin Lewis Drive & Quorum Drive, it is recommended to restripe the eastbound approach to have a shared thru/left lane and a right-turn only lane, then to operate permitted left turns for eastbound and westbound approaches.

To improve traffic operations in the Arapaho group with oversized pedestrian splits, the "return in step" feature of Cobalt controllers is recommended for experimentation.

NEW SIGNAL TIMING PLANS

To maintain coordination with adjacent coordinated timing in Carrollton and Dallas, cycle length changes were not made for most signals in the study area.

Several new sections of coordination were introduced in the new timing plans. A new 45-second late night plan was developed for Addison Road, to run during the overnight, off-peak, and weekend periods (which previously operated in “free” mode). Coordinated timing was developed for the first time at the intersection of Quorum Drive & Airport Parkway. The intersection of Ponte Avenue & Vitruvian Way was coordinated with Spring Valley & Vitruvian Way for the first time. The intersection of Inwood & Landmark was also tied in with Belt Line & Addison during peak periods, running a half cycle. In the morning, southbound traffic on Inwood is now able to consistently make it through the signal. In the evening, every other cycle of Inwood & Landmark ties in with the northbound service of Belt Line & Addison.

The start of the PM timing plans was adjusted to match the updated schedule at Belt Line & Dallas Parkway, which is operated by the City of Dallas. The signals at Marsh Lane & Arapaho Road and Midway Road & Dooley Road are coordinated with adjacent Carrollton signals during all peaks.

Under the proposed signal timing plans, many of the previous control groups were maintained but modified. The Belt Line Control Group was not altered at all, and it extends west to Josey Lane and East beyond Preston Road. The previous Midway and Vitruvian Control Groups were merged into a single Midway control group, aligned with the Belt Line Control Group. The North Addison Control Group was expanded to include the four (4) northernmost signals in the previous Arapaho Control Group (Addison Road & Keller Springs Road, Keller Springs Road & Quorum Drive, Addison Road & Airport Parkway, and Quorum Drive & Airport Parkway). The Arapaho Control Group was reduced by the same number of intersections.

Belt Line and Midway Control Groups run the same time-of-day schedule and the same cycle lengths to provide crossing arterial progression. The cycle lengths are as follows:

- AM Peak – 160 seconds
- Weekday Off Peak – 120 seconds
- Midday Peak – 134 seconds
- PM Peak – 160 seconds
- Weekend Low Volume – 120 seconds
- Weekend High Volume – 134 seconds
- Late Night – 90/45 seconds

Arapaho Control Group aligns with Belt Line and Midway Control Groups in the AM and PM peaks and Late Night, with different cycle lengths in the Midday/Off-Peak it operates the following cycle lengths:

- AM Peak – 160/80 seconds
- Midday/Off Peak – 90 seconds
- PM Peak – 160/80 seconds
- Weekend Low Volume – 120 seconds
- Late Night – 90/45 seconds

The North Addison Control Group time of day schedule is aligned with the Arapaho Control Group for the most part, but with different cycle lengths. This control group is now coordinated with a short, late night, plan during normal weekend operations:

- AM Peak – 120 seconds
- Midday/Off Peak – 90 seconds
- PM Peak – 120 seconds
- Late Night – 90/45 seconds

New control groups are shown in **Figure 2**.

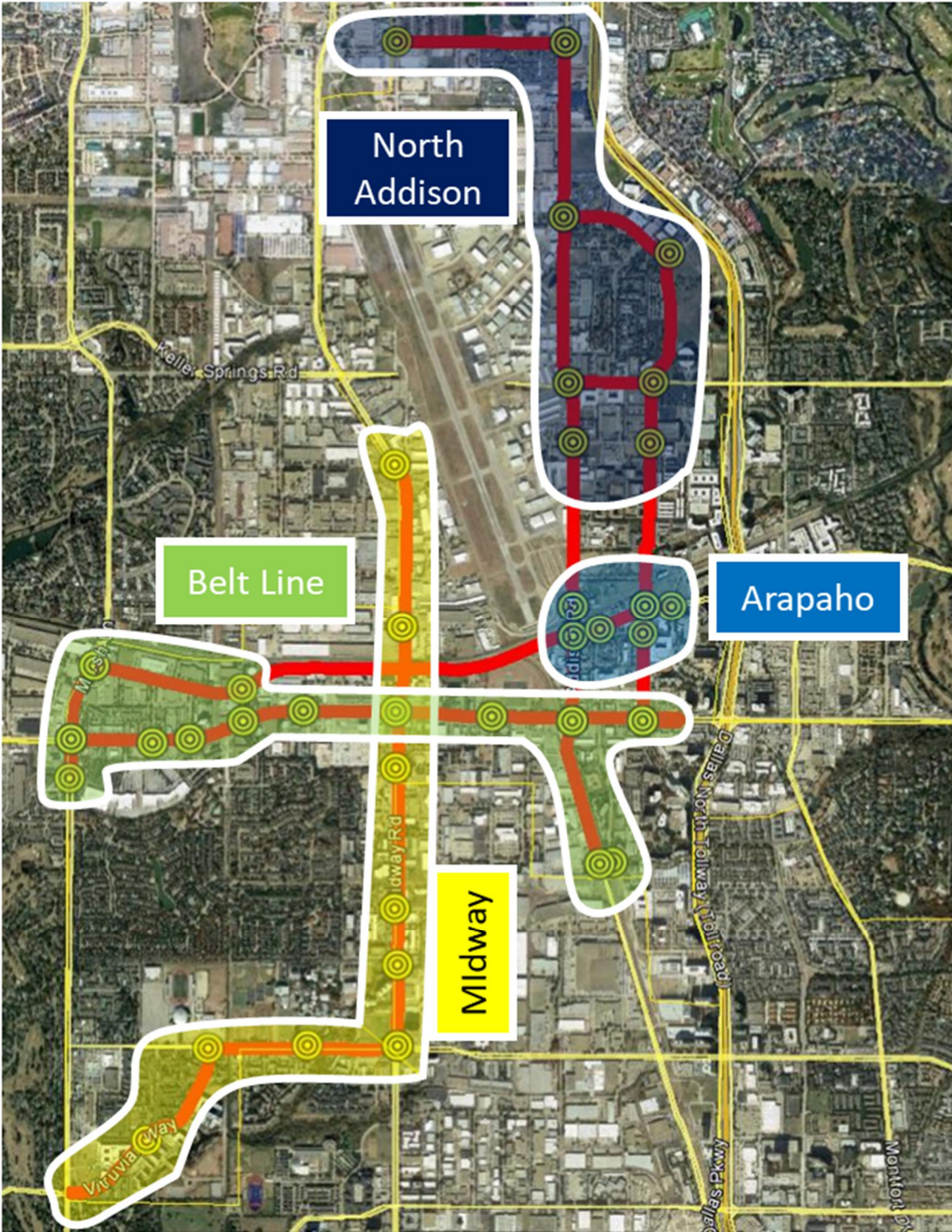


Figure 2. New Control Groups

Tables 5, 6, and 7 detail the new operating schedules for the control groups shown in Figure 2.

Table 5. New Sunday Time of Day Schedule by Control Group

	Midway	Belt Line	Arapaho	North Addison
0:00	Plan 9 Late Night 90/45 s	Plan 9 Late Night 90/45 s	Plan 9 Late Night 90/45 s	Plan 9 Late Night 90/45 s
1:00				
2:00				
3:00				
4:00				
5:00				
6:00				
7:00				
8:00				
9:00				
10:00	Plan 5 Weekend Low Volume 120 s	Plan 5 Weekend Low Volume 120 s	Plan 5 Weekend Low Volume 90 s	
11:00				
12:00				
13:00				
14:00				
15:00				
16:00				
17:00				
18:00				
19:00				
20:00				
21:00	Plan 9 Late Night 90/45 s	Plan 9 Late Night 90/45 s	Plan 9 Late Night 90/45 s	
22:00				
23:00				

Table 6. New Weekday Time of Day Schedule by Control Group

	Midway	Belt Line	Arapaho	North Addison		
0:00	Plan 9 Late Night 90/45 s	Plan 9 Late Night 90/45 s	Plan 9 Late Night 90/45 s	Plan 9 Late Night 90/45 s		
1:00						
2:00						
3:00						
4:00						
5:00						
6:00	Plan 4 Weekday Off Peak 120 s	Plan 4 Weekday Off Peak 120 s	Plan 1 AM 160/80 s	Plan 1 AM 120 s		
7:00	Plan 1 AM 160 s	Plan 1 AM 160/80 s				
8:00						
9:00	Plan 4 Weekday Off Peak 120 s	Plan 4 Weekday Off Peak 120 s				
10:00						
11:00						
12:00	Plan 2 Midday 134 s	Plan 2 Midday 134 s	Plan 2 Midday/Off Peak 90 s	Plan 2 Off Peak 90 s		
13:00						
14:00						
15:00						
16:00	Plan 3 PM 160 s	Plan 3 PM 160 s	Plan 3 PM 160/80 s	Plan 3 PM Peak 120 s		
17:00						
18:00						
19:00	Plan 4 Weekday Off Peak 120 s	Plan 4 Weekday Off Peak 120 s	Plan 2 Midday/Off Peak 90 s	Plan 2 Off Peak 90 s		
20:00						
21:00	Plan 9 Late Night 90/45 s	Plan 9 Late Night 90/45 s	Plan 9 Late Night 90/45 s	Plan 9 Late Night 90/45 s		
22:00						
23:00						

Table 7. New Saturday Time of Day Schedule by Control Group

0:00	Plan 9 Late Night 90/45 s	Plan 9 Late Night 90/45 s	Plan 9 Late Night 90/45 s	Plan 9 Late Night 90/45 s
1:00				
2:00				
3:00				
4:00				
5:00				
6:00				
7:00				
8:00				
9:00	Plan 5 Weekend Low Volume 120 s	Plan 5 Weekend Low Volume 120 s		
10:00				
11:00	Plan 6 Weekend High Volume 134 s	Plan 6 Weekend High Volume 134 s	Plan 5 Weekend Low Volume 90 s	
12:00				
13:00				
14:00				
15:00				
16:00				
17:00				
18:00				
19:00	Plan 5 Weekend Low Volume 120 s	Plan 5 Weekend Low Volume 120 s		
20:00				
21:00	Plan 9 Late Night 90/45 s	Plan 9 Late Night 90/45 s	Plan 9 Late Night 90/45 s	
22:00				
23:00				

Timing Plan Implementation and Fine-Tuning

New timing was implemented by control group. The North Addison group was implemented on November 13 and 14, 2018. The Midway group was implemented on November 27 and 29, 2018. The Belt Line group was implemented on February 5-7, 2019. The Arapaho group will be implemented once FYA installations are complete. During these implementations, the timing was verified to be operating as expected, and any adjustments for fine-tuning were made. Several minor adjustments were made related to detection parameters and zones.

For the North Addison group:

- The 45-second late night plan was verified to be sufficient for off-peak service on Addison Road
- No other fine-tuning changes were made
- Determination of a final operating schedule for Westgrove Drive and Sojourn Drive is still under review
- New FYA operations are pending implementation for Addison Road & Keller Springs Road.

For the Midway group:

- Midway & Hornet – in the AM, increased split time for the northbound left turn, to make sure queue was consistently clearing
- Spring Valley & Greenhill – AM school schedule was adjusted to make sure the signal was in step when the peak begins

For the Belt Line group:

- Belt Line & Surveyor – various detection adjustments were made to ensure signal timing was operating efficiently
- Marsh & Arapaho – various settings and parameters were adjusted to make sure reseriving of the southbound left turn was operating properly and all phases were extending as appropriate.

PROJECT BENEFITS

The goal of this project was to reduce delay, stops, and travel time along Belt Line Road, Midway Road, Addison Road, and Arapaho Road. To quantify the degree of improvement, *after* travel time runs were conducted on Belt Line Road on Thursday, February 21st, 2019 and Saturday, February 23rd, 2019. Midway Road *after* travel time runs were conducted on Wednesday, February 20th, 2019 and Saturday, February 23rd, 2019. *After* travel time runs were not performed on Addison Road or Arapaho Road because new timing is not yet fully operational at three of the project intersections. The Town is in the process of upgrading to FYA at the key intersections previously identified.

A comparison of *before* and *after* travel-time runs are presented in Tables 8 and 9.

Table 8. Travel Time Run Results – Belt Line Road

Before and After Travel Time Run Data for Belt Line Road									
Peak	Direction	Travel Time (sec)		# of Stops		Average Speed		Delay (sec)	
		Before	After	Before	After	Before	After	Before	After
AM Peak	EB	299	257	2.0	1.6	24.0	27.9	119	80
	WB	287	172	2.4	0.0	25.0	41.6	110	7
	Average	293	215	2.2	0.8	24.5	34.7	114	43
MD Peak	EB	324	276	1.8	1.6	22.1	26.0	143	95
	WB	320	230	2.8	1.0	22.3	32.6	141	56
	Average	322	253	2.3	1.3	22.2	29.3	142	76
PM Peak	EB	477	229	4.0	0.9	15.1	32.8	294	55
	WB	403	240	3.2	1.1	17.7	31.1	224	65
	Average	440	235	3.6	1.0	16.4	32.0	259	60
SAT Peak	EB	323	237	2.4	1.1	22.3	31.5	141	63
	WB	222	190	0.8	0.0	32.1	37.7	45	13
	Average	273	214	1.6	0.5	27.2	34.6	93	38

Before and After Travel Time Run Data for Belt Line Road									
Peak	Direction	Travel Time		# of Stops		Average Speed		Delay	
		Sec.	Percent	Total	Percent	mph	Percent	Sec.	Percent
AM Peak	EB	-42	-14%	-0.4	-20%	3.9	16%	-39	-33%
	WB	-115	-40%	-2.4	-100%	16.6	66%	-103	-94%
	Average	-78	-27%	-1.4	-64%	10.2	42%	-71	-62%
MD Peak	EB	-48	-15%	-0.2	-11%	3.9	18%	-47	-33%
	WB	-90	-28%	-1.8	-64%	10.3	46%	-85	-60%
	Average	-69	-21%	-1.0	-43%	7.1	32%	-66	-47%
PM Peak	EB	-248	-52%	-3.1	-77%	17.7	117%	-239	-81%
	WB	-163	-40%	-2.1	-65%	13.4	76%	-159	-71%
	Average	-205	-47%	-2.6	-71%	15.6	95%	-199	-77%
SAT Peak	EB	-85	-26%	-1.3	-55%	9.2	41%	-78	-56%
	WB	-32	-14%	-0.8	-100%	5.6	17%	-31	-70%
	Average	-59	-22%	-1.1	-66%	7.4	27%	-55	-59%

Table 9. Travel Time Run Results – Midway Road

Before and After Travel Time Run Data for Midway Road									
Peak	Direction	Travel Time (sec)		# of Stops		Average Speed		Delay (sec)	
		Before	After	Before	After	Before	After	Before	After
AM Peak	NB	307	301	2.6	1.6	24.1	24.5	122	119
	SB	393	301	3.2	1.6	18.8	24.5	207	119
	Average	350	301	2.9	1.6	21.5	24.5	164	119
MD Peak	NB	294	260	1.8	1.4	25.2	28.2	107	83
	SB	308	233	2.0	1.4	24.0	31.6	123	55
	Average	301	247	1.9	1.4	24.6	29.9	115	69
PM Peak	NB	362	269	3.4	1.5	20.5	27.8	176	89
	SB	560	460	4.0	2.4	13.2	16.1	379	278
	Average	461	365	3.7	2.0	16.9	21.9	277	183
SAT Peak	NB	293	278	1.6	1.6	25.3	26.6	107	95
	SB	245	214	0.8	0.8	30.3	34.7	59	32
	Average	269	246	1.2	1.2	27.8	30.7	83	64

Before and After Travel Time Run Data for Midway Road									
Peak	Direction	Travel Time		# of Stops		Average Speed		Delay	
		Sec.	Percent	Total	Percent	mph	Percent	Sec.	Percent
AM Peak	NB	-5	-2%	-1.0	-38%	0.4	2%	-2	-2%
	SB	-92	-23%	-1.6	-50%	5.7	31%	-88	-42%
	Average	-48	-14%	-1.3	-45%	3.1	14%	-45	-27%
MD Peak	NB	-33	-11%	-0.4	-22%	3.0	12%	-24	-22%
	SB	-75	-24%	-0.6	-30%	7.6	32%	-68	-56%
	Average	-54	-18%	-0.5	-26%	5.3	22%	-46	-40%
PM Peak	NB	-93	-26%	-1.9	-56%	7.3	35%	-87	-49%
	SB	-100	-18%	-1.6	-40%	2.9	22%	-101	-27%
	Average	-96	-21%	-1.8	-47%	5.1	30%	-94	-34%
SAT Peak	NB	-15	-5%	0.0	0%	1.3	5%	-12	-11%
	SB	-30	-12%	0.0	0%	4.4	15%	-27	-46%
	Average	-23	-8%	0.0	0%	2.9	10%	-19	-23%

Travel time results were consistently positive for both corridors in all peak periods.

Belt Line Road showed excellent results. Overall, in both directions for all peaks on Belt Line Road, travel time was reduced by 32%, stops were reduced by 59%, speed increased 56% (nearly to posted speed), and delay improved by more than 62%. Of note was the elimination of stops for both the westbound AM Peak and westbound Saturday Peak travel time runs. AM delay was reduced by an average of 71 seconds and PM delay was reduced by an average of nearly 200 seconds (more than 3 minutes).

Midway Road was also significantly improved, with an 18% overall reduction in travel time, a 39% reduction in stops, a 22% increase in speed, and a 34% reduction in delay.

The following rationale was used to estimate the annual reduction in delay from the new timing plans on Belt Line Road and Midway Road, based on travel time runs:

- Total reduction in delay in both directions
- Average peak period bidirectional traffic volume
- On each weekday there will be:
 - Two hours of benefit from the AM peak timing plan
 - Two hours of benefit from the PM peak timing plan
 - Five hours of benefit from the midday timing plan
- On each Saturday, there will be five hours of benefit from the Saturday timing plan
- To be conservative, no benefit is assumed from other hours of the day even though most of the corridors operate the new timing plans for at least 12 hours per day.
- For calculations, 5 weekdays and 1 Saturday per week were used, with 52 weeks per year, resulting in 260 weekdays per year and 52 Saturdays per year.

Based on measured travel time results and the assumptions listed above, Belt Line Road and Midway Road have resulted in delay savings of more than **673,000 vehicle hours per year** (or more than 76 years of vehicle delay annually). In terms of delay savings, this translates to more than **\$19 million annually** in driver delay savings. For economic analysis of transportation improvements, the cost of delay was assumed to be \$28.69 per vehicle-hour (as reflected in TxDOT's 2018 Value of Time Memo).

INRIX MEASURES OF EFFECTIVENESS

Traditional measures of effectiveness (MOEs) include travel time, speed, delay, and stops. INRIX, like all segment-based probe data, is capable of measuring travel time and speed; delay can be calculated as the difference between measured travel time and free flow travel time (based on speed limit). Stops are only available from traditional travel time runs. Travel time index is essentially a normalized measure of delay, calculated from travel times. shows the traditional measures of effectiveness. A before and after comparison of INRIX data for Belt Line Road and Midway Road corridors is presented in Table 10 and Table 11. Addison Road was not included in the analysis because the timing effort is not yet complete.

Table 10. INRIX Traditional MOEs for Belt Line Road

Peak Period		Travel Time (s)		Speed (mph)		Travel Time Index		Delay (s)	
		EB	WB	EB	WB	EB	WB	EB	WB
AM (7:00 AM - 9:00 AM)	Before	318	278	21.98	25.00	1.12	1.06	121	81
	After	277	258	25.08	26.98	0.95	0.95	80	60
	Δ	-41	-21	+3.10	+1.98	-0.17	-0.11	-41	-21
	$\Delta\%$	-13%	-7%	+14%	+8%	-15%	-10%	-34%	-26%
MD (11:00 AM - 1:00 PM)	Before	324	277	21.42	25.09	1.14	1.05	127	79
	After	291	259	23.91	26.81	0.99	0.95	93	62
	Δ	-34	-18	+2.49	+1.73	-0.15	-0.10	-34	-17
	$\Delta\%$	-10%	-6%	+12%	+7%	-13%	-10%	-27%	-22%
PM (4:00 PM - 6:00 PM)	Before	372	301	18.76	23.16	1.31	1.14	175	104
	After	339	289	20.69	24.20	1.16	1.06	142	91
	Δ	-33	-13	+1.94	+1.04	-0.15	-0.08	-33	-13
	$\Delta\%$	-9%	-4%	+10%	+4%	-11%	-7%	-19%	-13%
Saturday (10:00 AM - 2:00 PM)	Before	291	255	24.13	27.32	1.02	0.97	93	57
	After	275	244	25.31	28.57	0.94	0.90	77	46
	Δ	-16	-11	+1.19	+1.24	-0.08	-0.07	-16	-11
	$\Delta\%$	-5%	-4%	+5%	+5%	-8%	-7%	-17%	-19%

Traditional MOEs for Belt Line Road showed improvement in both directions during all four peak periods. Overall, travel time decreased 7%, speed increased 8%, travel time index (a measure of reliability) improved by 10%, and delay was reduced by 22%. Eastbound in the AM peak showed the best results overall, with a 13% reduction in travel time, a 14% increase in speed, a 15% decrease in travel time index, and a 34% reduction in delay.

Table 11. INRIX Traditional MOEs for Midway Road

Peak Period		Travel Time (s)		Speed (mph)		Travel Time Index		Delay (s)	
		NB	SB	NB	SB	NB	SB	NB	SB
AM (7:00 AM - 9:00 AM)	Before	288	268	25.33	27.55	1.16	1.07	90	71
	After	288	272	25.32	27.15	1.10	1.10	90	74
	Δ	+0	+4	-0.02	-0.40	-0.06	+0.03	0	+3
	$\Delta\%$	+0%	+1%	-0%	-1%	-5%	+3%	0%	+4%
MD (11:00 AM - 1:00 PM)	Before	266	273	27.39	27.06	1.07	1.09	68	76
	After	277	263	26.31	28.10	1.06	1.06	79	65
	Δ	+11	-10	-1.08	+1.04	-0.01	-0.03	+11	-11
	$\Delta\%$	+4%	-4%	-4%	+4%	-1%	-3%	+16%	-14%
PM (4:00 PM - 6:00 PM)	Before	284	319	25.82	23.27	1.15	1.27	87	121
	After	302	312	24.25	23.77	1.16	1.26	105	114
	Δ	+18	-7	-1.57	+0.50	+0.01	-0.01	+18	-7
	$\Delta\%$	+6%	-2%	-6%	+2%	+1%	-1%	+21%	-6%
Saturday (10:00 AM - 2:00 PM)	Before	245	244	29.81	30.27	0.99	0.97	47	46
	After	262	252	27.92	29.44	1.00	1.02	64	54
	Δ	+17	+8	-1.90	-0.83	+0.01	+0.05	+17	+8
	$\Delta\%$	+7%	+3%	-6%	-3%	+1%	+5%	+36%	+17%

Traditional MOEs shown in Table 11 did not reflect the positive results observed via traditional travel time runs on Midway Road (Table 9). Overall, travel time, speed, and travel time index were essentially unchanged (2% or less average change), while delay increased an average of 9% across all peaks and all directions. Some positive results were observed in the traditional MOEs, including a 5% reduction in northbound AM travel time index and a 14% reduction in midday southbound delay.

The advanced MOEs available from INRIX allow a deeper analysis of signal retiming efforts than traditional floating car travel time run studies. In addition to reducing travel times and delays and increasing speed, signal retiming can also improve operations on a corridor by improving reliability. The change in reliability can be calculated from the change in confidence intervals (CI) of the MOEs. Using the data provided by INRIX, the confidence intervals were calculated as the difference between the 95th percentile and the 5th percentile. A comparison of these advanced MOEs is presented in Table 12 and Table 13.

Table 12. Advanced INRIX MOEs for Belt Line Road

Peak Period		Travel Time CI (s)		Speed CI (mph)		Travel Time Index CI		Buffer Time (s)		Planning Index	
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
AM (7:00 AM - 9:00 AM)	Before	218	147	13.89	12.76	0.77	0.56	137	88	1.60	1.39
	After	129	107	11.51	11.19	0.44	0.39	75	58	1.20	1.16
	Δ	-89	-40	-2.39	-1.56	-0.33	-0.16	-62	-29	-0.40	-0.23
	$\Delta\%$	-41%	-27%	-17%	-12%	-43%	-29%	-45%	-33%	-25%	-16%
MD (11:00 AM - 1:00 PM)	Before	229	148	14.57	12.87	0.80	0.56	140	89	1.63	1.39
	After	140	112	11.45	11.49	0.48	0.41	79	59	1.26	1.17
	Δ	-89	-36	-3.12	-1.38	-0.33	-0.15	-61	-30	-0.37	-0.22
	$\Delta\%$	-39%	-24%	-21%	-11%	-41%	-27%	-44%	-33%	-23%	-16%
PM (4:00 PM - 6:00 PM)	Before	253	156	12.08	11.81	0.89	0.59	159	89	1.87	1.48
	After	180	131	10.82	10.84	0.61	0.48	97	72	1.49	1.33
	Δ	-73	-25	-1.26	-0.97	-0.28	-0.11	-62	-17	-0.38	-0.16
	$\Delta\%$	-29%	-16%	-10%	-8%	-31%	-19%	-39%	-19%	-20%	-11%
Saturday (10:00 AM - 2:00 PM)	Before	184	107	14.24	11.09	0.64	0.41	111	62	1.41	1.20
	After	92	68	8.36	7.91	0.31	0.25	50	36	1.11	1.03
	Δ	-92	-39	-5.88	-3.17	-0.33	-0.16	-61	-26	-0.30	-0.18
	$\Delta\%$	-50%	-36%	-41%	-29%	-51%	-39%	-55%	-41%	-21%	-15%

As shown in Table 12, the signal retiming effort was successful in significantly improving the reliability of operations in both directions in all peaks and operations overall on the Belt Line corridor by reducing variability. Averaged over both directions for all peaks, travel time reliability was improved by 33%, speed reliability was improved 19%, the travel time index confidence interval was reduced by 35%, buffer time was improved by 39%, and the planning index was reduced by 18%. When these advanced MOEs are considered as a whole, drivers on Belt Line Road experience more consistent and reliable operations, reducing variability. These results compliment the results of the traditional MOEs.

Table 13. Advanced INRIX MOEs for Midway Road

Peak Period		Travel Time CI (s)		Speed CI (mph)		Travel Time Index CI		Buffer Time (s)		Planning Index	
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
AM (7:00 AM - 9:00 AM)	Before	149	142	12.96	14.14	0.60	0.57	85	85	1.51	1.41
	After	133	105	11.56	10.07	0.51	0.42	75	63	1.39	1.35
	Δ	-16	-37	-1.40	-4.06	-0.09	-0.15	-11	-23	-0.12	-0.06
	$\Delta\%$	-11%	-26%	-11%	-29%	-15%	-26%	-13%	-27%	-8%	-4%
MD (11:00 AM - 1:00 PM)	Before	127	137	12.58	12.95	0.51	0.55	76	82	1.38	1.41
	After	116	117	10.95	12.75	0.45	0.47	66	63	1.32	1.32
	Δ	-11	-20	-1.63	-0.21	-0.07	-0.07	-10	-19	-0.06	-0.09
	$\Delta\%$	-9%	-15%	-13%	-2%	-13%	-13%	-13%	-23%	-5%	-7%
PM (4:00 PM - 6:00 PM)	Before	165	181	14.29	12.78	0.66	0.72	98	106	1.54	1.69
	After	169	162	13.76	12.58	0.65	0.66	94	86	1.52	1.61
	Δ	+4	-20	-0.52	-0.20	-0.02	-0.07	-4	-19	-0.02	-0.08
	$\Delta\%$	+2%	-11%	-4%	-2%	-3%	-9%	-4%	-18%	-1%	-5%
Saturday (10:00 AM - 2:00 PM)	Before	104	92	11.76	11.42	0.42	0.37	65	52	1.25	1.18
	After	92	118	9.59	12.24	0.35	0.48	51	73	1.20	1.32
	Δ	-12	+26	-2.17	0.83	-0.07	0.11	-13	+22	-0.05	0.14
	$\Delta\%$	-12%	+28%	-18%	+7%	-16%	+30%	-20%	+42%	-4%	+12%

The advanced MOEs for Midway Road in Table 13 showed results closer to the travel time run results. Reliability was improved in every peak in both directions, with the exception of southbound during the Saturday peak. Averaged over both directions for all peaks, travel time reliability was improved by 7%, speed reliability was improved 9%, the travel time index confidence interval was reduced by 8%, buffer time was improved by 9%, and the planning index was reduced by 3%. The signal timing effort was successful in improving reliability of operations on the Midway Road corridor.

SYNCHRO™ MEASURES OF EFFECTIVENESS

New timing in the Addison Road and Arapaho Road control groups has not yet been completed. The Town is in the process of upgrading to FYA at the key intersections identified above. In the absence of *after* travel time runs, existing and proposed timing was compared using Synchro™ measures of effectiveness.

For a network consisting of each control group's signals, Table 14 and Table 15 compare the total delay as estimated by Synchro™.

Table 14. Synchro™ MOEs for Addison Road

Timing Plan	Synchro Total Delay (veh-hrs/hr)		% Change
	Previous	New	
AM Peak	125	112	-10.4%
MD Peak	76	75	-1.3%
PM Peak	206	183	-11.2%
Saturday Peak	104	90	-13.5%

It should be noted that Synchro™ calculates the delay for all traffic movements at the included intersections. As modeled in Synchro™, the operational improvements on Addison Road did not come at the expense of the remainder of the network (e.g. side streets). A decrease of at least 10% in total delay for the proposed timing (to be implemented once FYA are installed) is predicted for the AM, PM, and Saturday peaks. Midday is predicted to be essentially unchanged and is shown to have relatively low delay to start with.

Arapaho Road itself is not configured as a coordinated corridor. The two signals on the west end (Marsh Lane and Surveyor Boulevard) are part of the Belt Line Road Control Group. The remainder of the signals on Arapaho Road are in the Arapaho Road Control Group, coordinated with the City of Dallas diamond interchange at Dallas Parkway. Additionally, there is a mile-long gap between Surveyor Boulevard and Addison Road, with considerable grade changes on the Arapaho Bridge. Signals further than one mile apart are typically not coordinated. In short, the entirety of Arapaho Road should not be evaluated as a coordinated corridor. The most significant goal achieved on Arapaho was to maintain the relatively short, 80-second, cycle length for the 4 intersections between Addison Road and Dallas Parkway while satisfying the new, longer, pedestrian crossing times resulting from new standards that needed to be satisfied.

Table 17 presents a comparison of Arapaho Road timing only between Dallas Parkway and Addison Road. This is where most significant enhancements were made to accommodate the longer crossing pedestrian intervals. The result of no significant increase in delay is viewed as a positive for this control group, given the impact of longer pedestrian times. The Addison intersections are not coordinated with the longer cycle length at Dallas Parkway during the Midday or Saturday periods, likely resulting in the slight increase in delay. Another reason for only minor changes on this section

of Arapaho may be that timing was last updated more recently (2013-2014) than other corridors in Addison.

Table 15. Synchro™ MOEs for Arapaho Road (Addison Road to Dallas Parkway)

Timing Plan	Synchro Total Delay (veh-hrs/hr)		% Change
	Previous	New	
AM Peak	80	80	0.0%
MD Peak	157	159	1.3%
PM Peak	201	202	0.5%
Saturday Peak	46	52	13.0%

Conclusion and Recommendations

The project achieved the goals of reducing delay, stops, and travel time along major corridors in the Town of Addison. As shown through multiple measures of effectiveness, particularly good results were realized on the heaviest volume corridors of Belt Line Road and Midway Road. As shown through the INRIX analysis, travel time reliability was also improved.

In addition to improving operations on the major corridors in Addison, crossing arterial progression was maintained or improved. Coordination with neighboring cities was also maintained.

Future timing plan updates should be scheduled at intervals of three to five years, or as other operational improvements can be implemented in the corridor. As-yet-uninstalled FYA displays for the intersections identified will result in significant delay reductions and should yield a large benefit for a relatively low cost.

At such time as DART improvements are made to the rail crossings in Addison, the signals on Addison Road at Arapaho Road and at Lindbergh Road should be modified to operate either together on a single controller or to effectively have same operations through peer-to-peer operations, such that the two signals are able to transition back into coordination from railroad preemptions in a manner that maintains coordination through this period of transition.

Work Session and Regular Meeting

5.

Meeting Date: 06/24/2019

Department: Parks & Recreation

Pillars: Excellence in Asset Management

Milestones: Implement the Asset Management Plan
Clarify and protect the Addison Way

AGENDA CAPTION:

Present and Discuss an **Update Regarding Schematic Design for the Les Lacs Pond Liner Replacement Project.**

BACKGROUND:

On April 4, 2019, Staff provided Council with an update regarding the Schematic Design and public input gathered for the Les Lacs Pond Liner Replacement Project. During this discussion, Council had questions related to liner material products along with respective warranty and life cycle information for each product. Council requested additional information regarding the proposed landscape enhancements and opportunities for potential grant funding. Council also inquired about the water quality study for Les Lacs Pond (which had not been finalized at the time of the presentation).

Staff, along with representatives for Westra Consultants, Inc. (Les Lacs Liner Replacement Consultant) and Halff Associates (Water Quality Study), will provide Council with the requested information.

RECOMMENDATION:

Information only, no action required.

Attachments

Presentation - Les Lacs Pond Liner Replacement Project

Project History - Les Lacs Pond Liner Replacement Project

Les Lacs Water Quality Report

Les Lacs Pond Liner Replacement & Water Quality Update

June 11, 2019

ADDISON



Presentation Overview

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This is a follow up to the project update staff and the consultant made to Council on April 6, 2019 in regards to the replacement of the pond liner at Les Lacs Pond. During this update Council requested additional information from staff regarding:

- **Question 1:** What liner materials were considered? What is the life cycle information and warranty of the proposed liner?
- **Question 2:** What is the break down of items included in the landscape enhancements?
- **Question 3:** What Grants are available and how do the landscape enhancements improve grant funding potential?
- **Question 4:** When will the water quality report be complete? Please, provide the results of the water quality sampling report when completed.

Staff will provide a project background and additional information related to the questions listed above.

Background Information - Existing Conditions

ADDISON



LEGEND

PEDESTRIAN AMENITIES

- 01 FOUNTAINS
- 02 PET STATIONS
- 03 TRASH RECEPTACLES
- 04 OVERLOOK AND WATERFALL

VEGETATION

- 01 TURF
- 02 CANOPY TREES TYPE 1
- 03 ORNAMENTAL TREES
- 04 CANOPY TREES TYPE 2

UTILITIES

- 01 STORMWATER OUTFALL
- 02 POND OVERFLOW
- 03 ELECTRICAL ENCLOSURE

SITEWORK

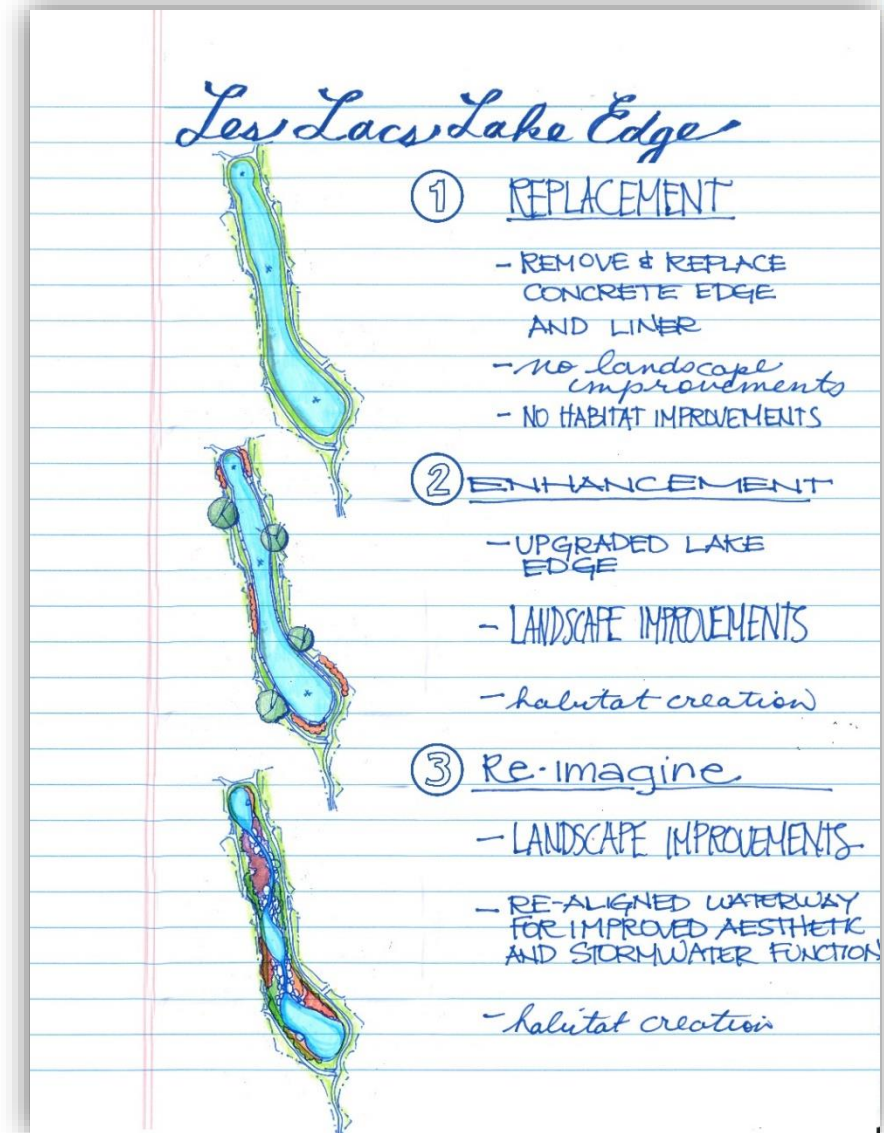
- 01 PROPERTY BOUNDARY
- 02 CONCRETE FLUMES
- 03 LIMESTONE SUB-LAYER
- 04 AGING IRREGULAR POND EDGE
- 05 STEEP SLOPES
- 06 WALK NOT ADA ACCESSIBLE

- Upland Pond, 2.2 Acres.
- Residents report concerns with water quality.
- Manages stormwater for surrounding neighborhood.
- Irregular concrete edge, deteriorated.
- Steep slopes in some areas.
- Liner is nearing or has exceeded its life expectancy of 15-20 years.
- Two constructed overlooks with water recirculation.

Background Information - Options

ADDISON

- Initially a Base, Medium and High Option were to be developed.
- Due to the structure of the public input process the consultant designed a Base and High Option.
- The Medium Option was discussed with Council during the April 9, 2019 Council Meeting Work Session.



Background Information - Base Option

ADDISON



LEGEND

- 01 PROPERTY BOUNDARY
- 02 EXISTING FOUNTAINS
- 03 EXISTING DECK AND WATERFALL
- 04 EXISTING TREES TO REMAIN
- 05 EXISTING CONCRETE FLUME
- 06 PROPOSED RETAINING WALLS
- 07 MAKE WALK ADA ACCESSIBLE
- 08 PROPOSED POND OVERFLOW TRASH RACK
- 09 PROPOSED SMOOTHING OF ENTIRE PERIMETER POND EDGE
- 10 APPLY STONE VENEER TO OUTFALL STRUCTURE

DESIGN TIMELINE: 4 - 6 MONTHS
CONSTRUCTION TIMELINE: 6 - 8 MONTHS
BASE COST - POND DEMOLITION, NEW LINER AND NATURAL EDGE: \$790,000
CONCEPT OPTION 1 - POND LANDSCAPE, AMENITY AND SITE IMPROVEMENTS: \$297,000
MATERIALS TESTING, CONSTRUCTION ADMINISTRATION, PERMITTING, LANDSCAPE ARCHITECTURE AND ENGINEERING, & SURVEYING SERVICES: \$271,750
TOTAL PROBABLE COST: \$1,358,750.00

NOTES:
OPTION 1 INCLUDES THE MINIMUM WORK REQUIRED TO REPLACE THE LINER, MEET ADA REQUIREMENTS AND SMOOTH OUT THE POND EDGE TO IMPROVE MAINTENANCE.

Base Option Includes the Minimum Work Required to Replace the Liner, Meet ADA Requirements, Smooth Out the Pond Edge to Improve Maintenance and Revegetate the Site to Existing Conditions

Design Schedule: 4-6 Months
Construction Schedule: 6-8 Months
Cost: \$1,358,750*

* Includes Engineering Services, Materials Testing and Construction Administration and is based on 2019 Construction

Background Information - High Option

ADDISON



LEGEND

- | | | | |
|---|---|---|--|
| 01 PROPERTY BOUNDARY | 07 WIDEN WALKS TO 8' AND CREATE CURVILINEAR ALIGNMENT | 13 EXISTING DECKING WITH PROPOSED MOVABLE SEATING AND GAME AREA | 19 PROPOSED EDUCATIONAL SIGNAGE |
| 02 NEW FOUNTAINS WITH LED LIGHTING | 08 PROPOSED POND OVERFLOW TRASH RACK | 14 PROPOSED FITNESS STATIONS ALONG WALK | 20 PROPOSED ROOT BARRIER TO PROTECT SIDEWALKS AND POND LINER |
| 03 EXISTING WATERFALL WITH PROPOSED LED LIGHTING AND CLEANING OF ROCKS | 09 PROPOSED SMOOTH POND FORM AND CONCRETE EDGE | 15 PROPOSED BOARDWALK | 21 NUTRIENT/DEBRIS COLLECTION CHAMBER |
| 04 PRESERVE EXISTING TREES AND ADD UPLIGHTING (*) | 10 PROPOSED SMOOTH POND FORM AND NATURAL LANDSCAPE EDGE | 16 PROPOSED BRIDGE | |
| 05 EXISTING CONCRETE FLUME WITH PROPOSED RAIN GARDEN AND STONE BOULDERS | 11 PROPOSED SMOOTH POND FORM AND STONE EDGE | 17 PROPOSED MEANDERING WALK | |
| 06 PROPOSED RETAINING WALLS | 12 PROPOSED ART | 18 PROPOSED AQUATIC PLANTING | |

DESIGN TIMELINE: 6 - 8 MONTHS

CONSTRUCTION TIMELINE: 9 - 12 MONTHS

BASE COST - POND DEMOLITION AND RECONSTRUCTION OF POND LINER: \$790,000

CONCEPT OPTION 2 - POND LANDSCAPE, AMENITY AND SITE IMPROVEMENTS: \$2,637,000

MATERIALS TESTING, CONSTRUCTION ADMINISTRATION, PERMITTING, LANDSCAPE

ARCHITECTURE AND ENGINEERING, & SURVEYING SERVICES: \$856,750

TOTAL PROBABLE COST: \$4,283,750.00

NOTES:

OPTION 2 INCLUDES ITEMS SHOWN IN OPTION 1 AND RECOMMENDED ENHANCEMENTS. THE ENHANCEMENTS WILL BE PRIORITIZED BY COMMUNITY INPUT.

High Option Builds on the Base Option and Includes the Stone Edge Option, Additional Plantings, Interactive Amenities, Site Improvements, Environmental Amenities and Aesthetic Amenities.

Design Schedule: 6-8 Months
Construction Schedule: 9-12 Months
Cost: \$4,283,750*

* Includes Engineering Services, Materials Testing and Construction Administration and is based on 2019 Construction

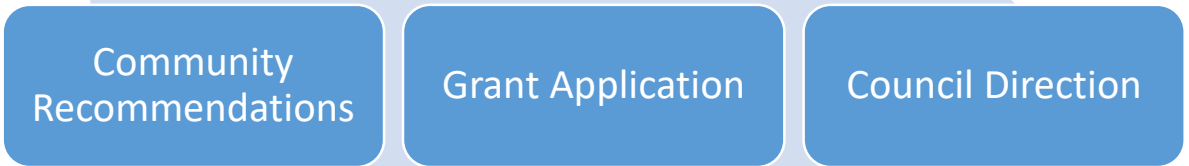
Background Information - Recommendations

ADDISON

Community Recommended Enhancements

Base Project	1,358,750
Pond Edge Condition	
Combined Edge	493,200
Planting Condition	
Formal Plantings	792,600
Interactive Amenities	
None Preferred	0
Site Improvement Amenities	
Retaining Walls	96,300
Environmental Amenities	
Rain Garden	43,500
Aquatic Plants	229,000
Aesthetic Improvement Amenities	
Fountain & LED Uplighting	61,625
Tree Uplighting	68,150
Addison Arbor Foundation	0
Total Community Recommended Enhancements	\$3,143,125

Staff Recommended Process



Staff Recommended Grant Application - \$2,186,075*

- Staff recommends submitting the Base Project, Pond Edge Conditions, Environmental Amenities, Fountain & LED Lighting for a TCEQ Grant.

- Staff recommends finalizing project scope once the Town has been notified of the grant application status.

Bond Committee Recommendation - \$3,282,110**

The bond committee's recommendation to Council includes the base project and the Community Recommended Enhancements.

* Includes Engineering Services, Materials Testing and Construction Administration.

** Amount requested by Parks Department for consideration in 2019 Bond Program. Includes inflation rate increase for 2020 Construction.

Question 1: Liner Information

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Liner Material	Estimated Cost	Installation Warranty	Liner Warranty	Notes
HDPE 40 Mil Smooth	\$41,940*	1-year	5-Years Standard**	Over / Underlayment can extend life 10 Years
HDPE 40 Mil Textured	\$45,235	1-year	5-Years Standard**	Over / Underlayment can extend life 10 Years
HDPE 60 Mil Textured (Included in the Base Bid) Staff recommends this product	\$57,298	1-year	5-Years Standard**	Over / Underlayment can extend life 10 Years
Geosynthetic Clay Liner	\$57,692	None	5-Years Standard	
Natural Clay	\$157,000	None	None Required	24" Thick Profile
Bentonite Clay	\$66,800	None	None Required	1-4" Thick Profile

* Costs are for materials only and do not include labor and installation.

**Additional years can be purchased and added onto the warranty.

Question 2 - Landscape Breakdown

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Additional Landscape Includes:

Soft Costs

Design Fees
Testing
Project Contingency

Hard Costs

Fine Grading
Bed Preparation
Shrub and Groundcover
Additional Sod Replacement
Canopy Trees
Ornamental Trees
Root Barrier
Steel Edging
Spray Irrigation
Drip Irrigation
Irrigation Meter
1-Year Maintenance

Question 3 – Grant Opportunities

Grant Opportunity	Agency	Maximum Amount	Deadline	Notes
TCEQ Nonpoint Source Program*	TCEQ	\$500,000	July 31, 2019	Strategic selection of management measures to assure the water bodies meet water quality standards. Addison applied for, but was not awarded, this grant in 2016. Staff believes that water quality information and schematic design plans will strengthen the application in 2019.
Blue-Grey-Green	NCTCOG	\$50,000	Date Not Set	Anticipates a call within the next year.

* Similarities Amongst Grant Awarded Projects

- The selected projects often reach a large scope of people. It is either a regional issue or an issue that affects a large city.
- Most of the approved watershed projects include measures to address issues with elevated bacteria levels.
- There is a large public element of the project. Some projects include using media to educate citizens and others encourage the public to participate in watershed partnerships.
- The project addresses source water protection or restoration.

Question 4 - Water Quality Sampling Report

A blue circular logo with the word "ADDISON" in white capital letters.

Testing	Results	Notes
Total Phosphorous	Frequently Over .036	> .036 indicates: <ul style="list-style-type: none">• High Nutrients• Low Clarity• Algae Blooms
Nitrogen	Exceeded 6 mg/l on two occasions	> 6 mg/l indicates pollution from: <ul style="list-style-type: none">• Fertilizers• Nutrient Rich Waste• Manure
Total Organic Carbon	Slightly exceeded 10 mg/l in June, July and August	< 10 mg/l = pristine rivers and lakes > 10 mg/l can indicate: <ul style="list-style-type: none">• Foam• Pollution from pesticides and herbicides and agricultural chemicals
Chlorophyll-a	Almost always exceed 13 ug/l	<ul style="list-style-type: none">• < 10 ug/l – Indicates good water quality• > 13 ug/l – Indicates eutrophic conditions which is typically dominated by algae and results in darker and murkier water

mg/l = milligrams per liter
ug/l = micrograms per liter

Question 4 – Water Quality Sampling Report

Testing	Results	• Notes
Fecal Coliform	Exceeded 10,000 cfu/100 ml on four occasions Consistently over 2,000 cfu/100 ml	<ul style="list-style-type: none">• > 200 cfu/100 ml - potential concern for primary recreation activities• > 2000 cfu/100 ml - potential concern for secondary contact recreation activities• Concentrations > than 10,000 cfu/100 ml - immensely high Can cause diarrhea in dogs who may drink from the pond
Biochemical Oxygen Demand (BOD) the amount of oxygen consumed by bacteria in the decomposition of organic material	BOD levels are typically 8 mg/L or lower but have ranged between 20-25 mg/l on three occasions	<ul style="list-style-type: none">• < 2mg/l pristine water bodies.• 2 mg/l – 8 mg/l moderately polluted water bodies• 20 mg/l – 30 mg/l efficiently treated sewage• 30 mg/l or > is considered high
Total Suspended Solids (TSS)	TSS levels are below 45 mg/l except for early and late summer seasons	> 45 mg/l high level Can Indicate: <ul style="list-style-type: none">• Light being blocked• High levels of bacteria, nutrients, pesticides and other metals present in the water

mg/l = milligrams per liter

cfu/100 ml = colony forming units per 100 milliliters

Primary Recreation Activities - swimming

Secondary Recreation Activities – fishing, boating, and limited body contact

Question 4 – Water Quality Sampling Report

The Water Quality Sampling Report recommends the implementation of the following Best Management Practices (BMP's) to improve water quality:

1. Implement a consistent program to document and record complaints from citizens and staff of the pond water quality.
2. Enforce mandatory use of phosphorus-free fertilizers by Town in public areas.
3. Increase public education of residential use of phosphorous free fertilizers in lawn care and of where runoff water goes.
4. Begin a regimented chemical testing program and be proactive to water quality irregularities. Trigger corrective actions such as stricter enforcement of polluted runoff, chemical treatments or water body controls.
5. Use chemical treatment to help precipitate phosphorous and decrease its levels.
6. Plant and maintain vegetation buffers around pond to help filter pollutants carried in runoff and to absorb excess nutrients.
7. Post signs during high levels of nutrients in water to increase public awareness and input on reducing fertilizing and yard waste disposal in storm sewers.
8. Flush pond during hazardous periods with supplemental water supply.
9. Increase frequency of basket cleaning of the recirculation system to remove waste and nutrients from system.
10. Monitor chemical properties of silt in bottom as well as depth on 5-year program to determine rate of increase of nutrient concentrations and volume. Develop plan for future removal if need develops.

Next Steps

- Finalize and submit TCEQ non-point source grant application.
- Monitor NCTCOG for submission deadlines for Blue-Grey-Green grant.
- A recommended scope for a medium project will be brought to Council for adoption, once staff receives the status of the TCEQ grant applications.
- Develop a proposal for professional services based on the scope defined by Council.
- Develop and finalize construction documents for the project.
- Bid project.
- Begin construction.

Project History

In 2015 and 2016, the four projects listed below were bid to address water quality issues and degradation of the concrete pond liner edge of Les Lacs Pond.

1. Les Lacs Pond Water Well Pump Rebuild (completed)
2. Les Lacs Pond Water Well Transfer Piping System Improvements (completed)
3. Les Lacs Pond Water Quality Monitoring and Well Pump Operation Program (completed)
4. Les Lacs Poly Liner Concrete Edge Restrainer and Drainage Flume Repair

Apart from Project #4, the projects have been completed or are in the process of being completed. Project #4 was initiated within the Parks Department and was to be funded using the department's operation and maintenance budget. The goal of the project was to repair the damaged portions of the lake edge that were failing (approximately 270 Linear Feet) and a damaged drainage flume at Lakeview Court. While exploring feasible solutions for restoring the poly liner concrete edge it was determined that the pond liner was near, or had met, its life expectancy and would require replacement in the future. Because of these findings, the project shifted from a maintenance item to a planning item.

On May 23rd, 2017, Council approved a contract with Westra Consultants, Inc. (selected through RFQ #16-88), to develop schematic level design solutions, preliminary construction and maintenance budgets, and facilitate stakeholder involvement for Les Lacs Park pond.

When speaking with the community and taking resident calls related to the project, staff heard several consistent messages; improve the smell and unclean appearance of the water, incorporate additional landscaping or trail amenities, repair the pond edge to a more aesthetic appearance and be conservative with funds. Since requests regarding amenities and conservative spending appeared to conflict, the schematic design process was tailored to provide participants with potential amenities that could be included in the project and their associated costs. To accommodate this process, the consultant's scope included development of schematic design for a base, medium and high project.

Base Schematic Design - includes the minimum requirements to replace the pond liner, repair the failing pond edge and drainage flume and meet ADA requirements.

Medium Schematic Design – includes additional amenities related to the pond edge aesthetics and other amenities that could enhance the use of the pond.

High Schematic Design - includes a larger scale change to the use of the pond and surrounding trail amenities.

A base and high project were developed and presented to the community. The base project included a feasibility study to determine the most appropriate type of pond liner that should be utilized. During this study it was determined that a PVC liner was most feasible because of the shallow limestone bedrock located below the pond. The consultant also analyzed whether the pond could be deepened, which would help with water quality, but the limestone bedrock made this cost prohibitive.

Input from the community was gathered to develop recommendations for a medium project. To help facilitate public input staff developed an on-line web portal called "Imagine Addison." This portal was used to gather feedback from residents by allowing them to build their own project by adding proposed enhancements for the pond edge condition, planting style, interactive elements, site improvement elements, environmental elements and aesthetic improvements onto the base project. As participants built their own project the project budget would adjust to include their selections. In addition to developing the project budget the portal tallied the potential tax implications associated with the project if taxes were to be increased to fund the project. Although there are other funding options that can be considered for the project, calculation of the tax rate provided residents with a tangible avenue to weigh project costs. This portal also allowed participants to provide additional feedback to staff regarding the project.

DRAFT MEMORANDUM

TO: Todd Weinheimer, Streets and Stormwater
Manager

DATE: May 31, 2019

FROM: Tim Lackey, PE

AVO: 29751.016

EMAIL: tlackey@halff.com

SUBJECT: Lab Result Synopsis

Executive Summary

Residents of the neighborhood have reported pond odors and overall poor appearance to the Town of Addison in Les Lacs pond prior to 2014, prompting the Town to take action to improve the water quality. Besides odor and poor aesthetics, the pond also had accumulated foam and there are occasional fish kills. The well recirculation has not been individually effective at improving the water quality in Les Lacs pond.

The City has implemented numerous tasks for the lake water quality improvements inclusive of directing staff from blowing yard clippings in to lake, signage for no feeding of ducks, signage and receptacles for pick up of pet wastes, rehabilitation of the recirculation system, rehabilitation of the water well for makeup water, and redirecting water from well to the south end.

Water quality testing at Les Lacs pond began in limited form in 2014 and is more consistently tested since January of 2018. A combination of EPA and TCEQ guidelines and other references were used to establish optimum ranges for the water quality parameters tested in order to improve the condition of the pond. This memorandum outlines trends and concerns observed from the lab data from January 2, 2018 to April 11, 2019. The duration of data accumulated will help detect seasonal trends for different parameters.

Trophic statuses classify water bodies and helps indicates the overall health of the pond. While oligotrophic and mesotrophic bodies are generally considered healthy, eutrophic and hypereutrophic water bodies are often considered unhealthy. Eutrophic and hypereutrophic water bodies can have odors, poor water appearance, foam accumulation, and fish kills – all of which have been reported in the Les Lacs pond.

The process of eutrophication within urban environments is typically man-made. The lab results indicate that the pond has high biological productivity due to excess nutrients,

specifically nitrogen and phosphorus. High levels of these nutrients correlate with eutrophic and hypereutrophic conditions.

The phosphorus, nitrogen, fecal coliform levels have increased since the 2014/2015 levels. Although the pond has had no foaming or fish kill events since the improvements have been installed.

Due to the unique characteristics of the pond (eutrophic to hypereutrophic state, shallow depth, small drainage basin, and hard edge bottom) recommendations have been made in the conclusion of the memo. The recommendations are based around a consistent public complaint system implementation, ongoing strategic testing for being proactive for deteriorating water quality events. Additionally, efforts are recommended to increase public and staff awareness for reduction of nutrients such as phosphorous and nitrogen fertilizers, yard wastes in storm sewer system, pet wastes in the entire drainage basin. Also recommended are planning for plant buffers for harvesting of nutrients and monitoring of the silt for chemical and volumes for planning future treatments.

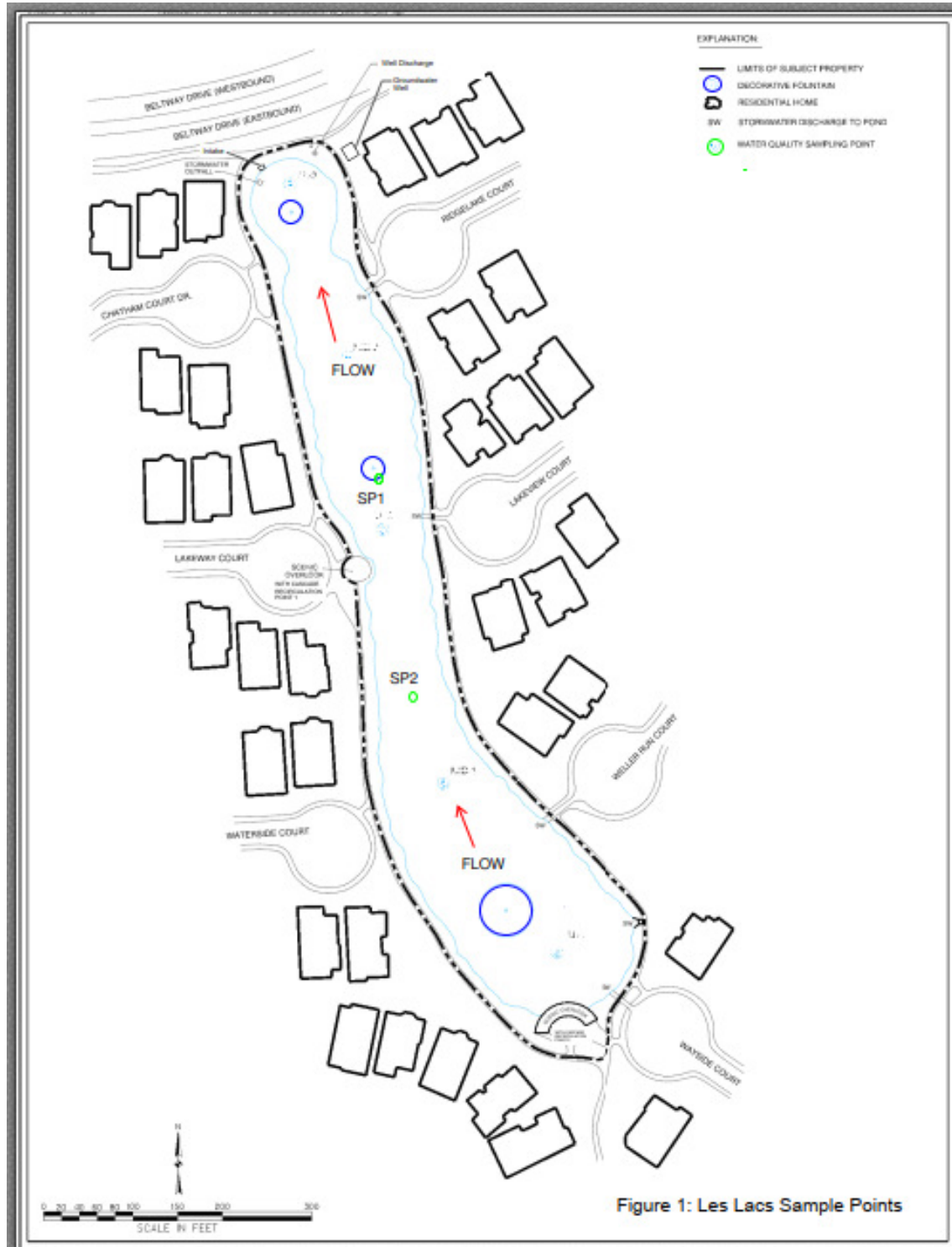
Introduction

The Les Lacs pond is located within an urban residential area of Addison, Texas and is an isolated, manmade pond with a concrete capped poly liner. The pond receives urban runoff through overland flow and through concrete storm water culverts located on the east and south sides of the pond. The pond receives water from an upstream 48" storm sewer system that drains from the neighborhood. The outflow of the pond discharges to the Town of Addison's storm sewer system through a 4'x4' box culvert outfall located at the northern end of the pond where the water eventually enters Rawhide Creek. The box culvert outfall has a screen around it to help keep animals and debris out. The pond is approximately 2.2 acres in size and ranges in depth from approximately 2 to 7 feet.

The pond contains infrastructure to help recirculate water within the pond. A water well located at the northern end of the pond pumps makeup water. Three pumps recirculate the water to the scenic overlooks with cascades at the western and southern ends of the pond to promote water flow. As detailed lab analysis will show later in the report, the well recirculation has not been individually effective at improving the water quality in Les Lacs pond. The pond also has three decorative fountains and two overlook areas. The decorative fountains also serve a practical purpose to disrupt water at the pond surface and accelerate the diffusion of oxygen into water. The well has been rehabbed, and well water is now pumped to south end of pond for freshening upstream conditions at twelve hour increments.

Water Quality Goals

Figure 1 shows the locations, Sample Point 1 (SP1) and Sample Point 2 (SP2), where water samples were collected for analysis.



Contributors to Pollutant Events

- **Total Phosphorus**

Total phosphorus in Les Lacs pond consistently reflects eutrophic and hypereutrophic conditions and indicates an overload of phosphorus. Excessive amounts of phosphorus are levels over 0.036 mg/L and indicate eutrophic water conditions.^[1] Eutrophic conditions describes the chemistry of a pond that has an abundant nutrients and high rates of growth by primary plants. Hypereutrophic water bodies typically have visibilities of less than 3 feet, have chlorophyll-a values of 13 ug/L or higher, and total phosphorous values of greater than 0.036 mg/L. This correlates with lab results showing the Les Lacs also contains eutrophic to hypereutrophic levels of phosphorus. Phosphorus is usually a limiting factor in aquatic systems. When excess phosphorus levels are available, algae grows rapidly. As more algae grows, others die and become dead organic material which feeds bacteria – in turn driving up the BOD. Excess phosphorus can also contribute to the formation of foam on pond surfaces.

Figure 2 shows total phosphorus concentrations and rainfall over the sampling period.

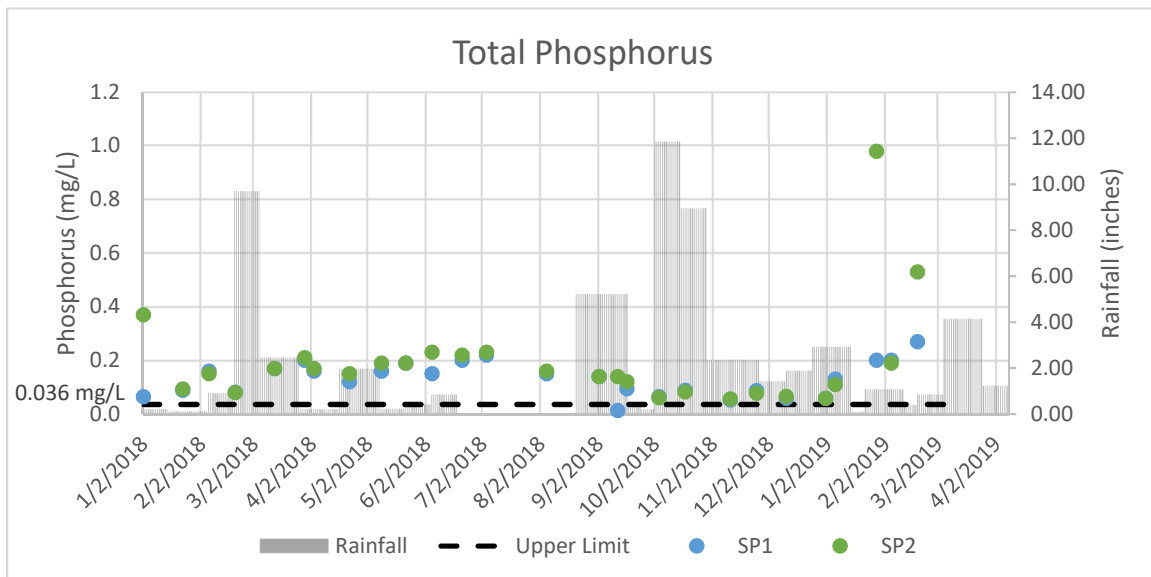


Figure 2: Total Phosphorus

- **Total Nitrogen**

Nitrogen levels in the water may increase in the Les Lacs pond during the summer season due to runoff from fertilized lawns and yards. Since total nitrogen consistently falls within an acceptable concentration, the results indicate that phosphorus is the parameter causing the poor conditions in Les Lacs Pond. Total nitrogen values in excess of 6 mg/L may be indicative of pollution from fertilizers, manures, or other nutrient-rich wastes.^[2] High nitrogen values may be indicative of pollution from fertilizers, manures, or other nutrient-rich wastes.

Total nitrogen only exceeds 6mg/L on two occasions, both at sample point 2. Both nitrogen and phosphorus can contribute to nutrient overloading which then in turn creates eutrophic water conditions. Figure 3 shows total nitrogen concentrations and rainfall over the sampling period.

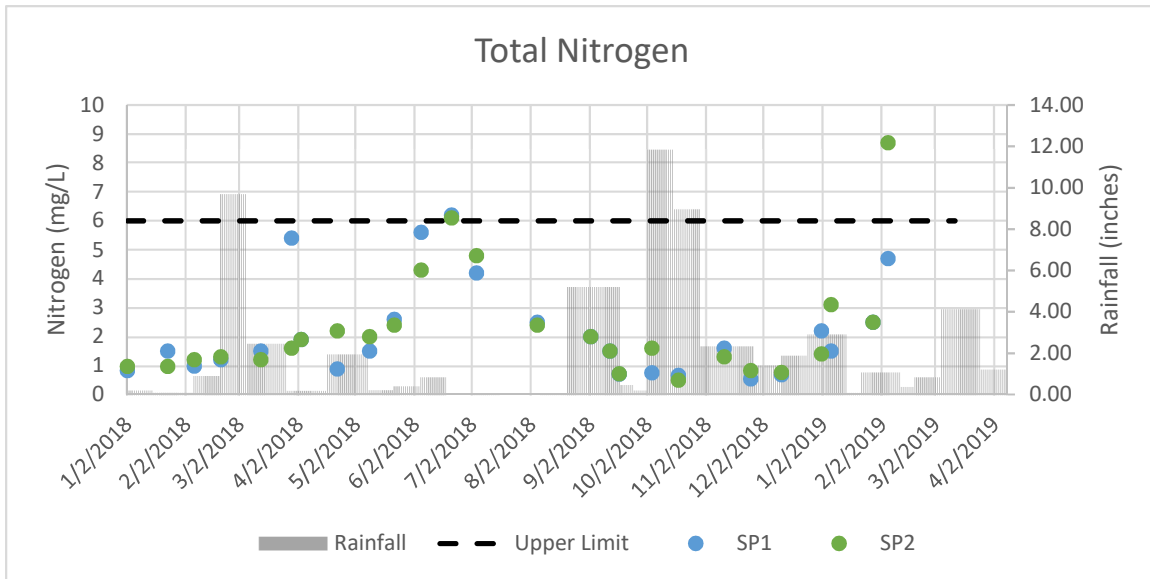


Figure 3: Total Nitrogen

- Total Organic Carbon**

The higher concentration of TOC in summer months may make foam presence more likely, but overall the concentrations of TOC observed in Les Lacs pond are within acceptable ranges. Groundwater typically has TOC values below 2 mg/L, pristine lakes and rivers typically have TOC values less than 10 mg/L while wastewater effluents range from 10 mg/L to 100 mg/L.^[3] Total organic carbon does not identify specific organic contaminants, but does detect the presence or organic contaminants such as insecticides, herbicides, and agricultural chemicals. Excess organic material can also contribute to the formation of foam on pond surfaces.

TOC levels only exceed 10 mg/L in the months of June, July and August. Figure 4 shows total organic carbon concentrations and rainfall over the sampling period.

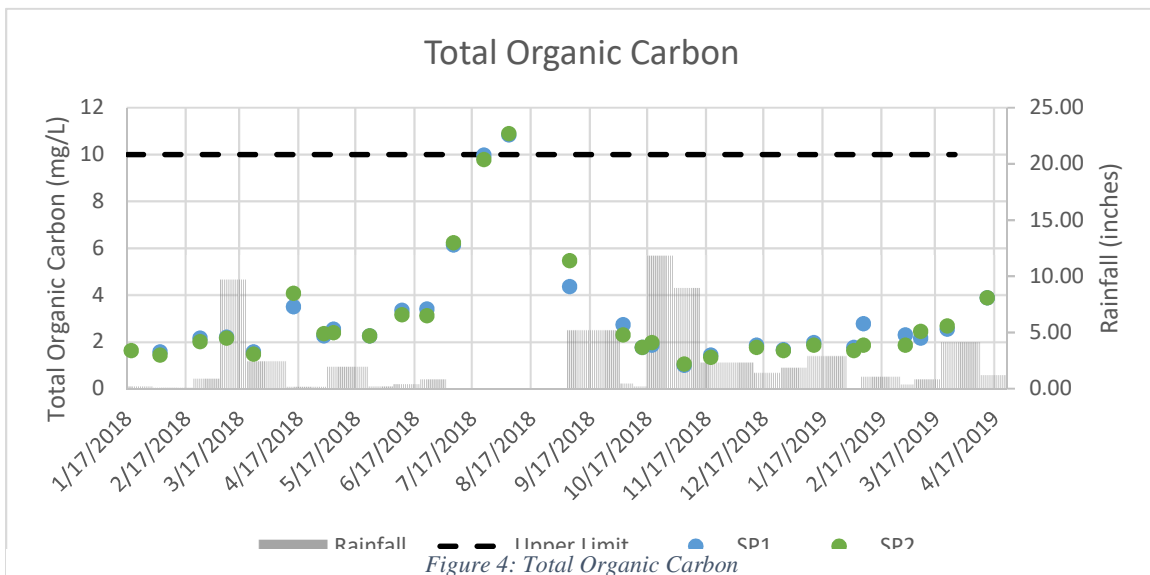


Figure 4: Total Organic Carbon

- *Fecal Coliform*

Les Lacs pond is not used for primary or secondary recreation, so concentrations of fecal coliform above 2,000 cfu/100 mL are not a primary concern. Fecal coliform contains nitrogen and phosphorus and can contribute to nutrient overloaded of the pond. Fecal coliform values that exceed 200 colony forming units per 100 milliliters (cfu/100mL) are potential concern for primary contact recreation activities and values over 2,000 cfu/100mL are a potential concern for secondary contact recreation activities [4]. Primary contact recreation, such as swimming, surpasses the needs for Les Lacs pond. Secondary contact recreation activities include fishing, boating, and limited body contact activity. The higher concentration levels found in the pond can cause diarrhea in dogs who may drink from the pond and illness in humans who come into contact with it.

Monitoring fecal coliform is beneficial when determining the source of nutrient overloading. Concentrations over 10,000 cfu/100 mL are considered immensely high. Further testing may be needed if concentrations are over 10,000 cfu/100 mL. Figure 5 shows fecal coliform concentrations and rainfall over the sampling period.

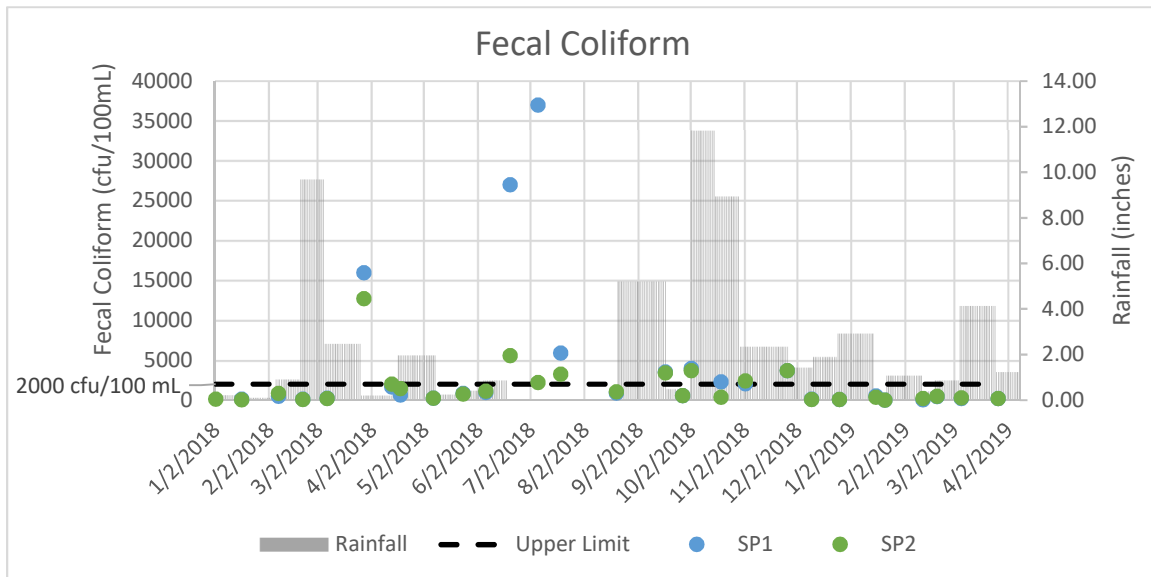


Figure 5: Fecal Coliform

Indicators of Pollution Events

- *BOD, 5 Day*

BOD levels are high during the early summer season. Pristine water bodies typically have BOD values less than 2 mg/L, moderately polluted water bodies typically have BOD values in the 2 mg/L to 8 mg/L range, and efficiently treated sewage typically has BOD values between 20 mg/L and 30 mg/L. A value of 30 mg/L for BOD is considered very high. The goal should be to keep BOD levels below 20 mg/L. [5] High productivity often correlates with high BOD levels. BOD is the amount of oxygen consumed by bacteria in the decomposition of organic material such as plant decay and leaf debris. Excessive BOD can decrease dissolved oxygen levels which detrimentally affects other aquatic organisms which rely on the oxygen in the water for survival.

Figure 6 shows BOD5 concentrations and rainfall over the sampling period.

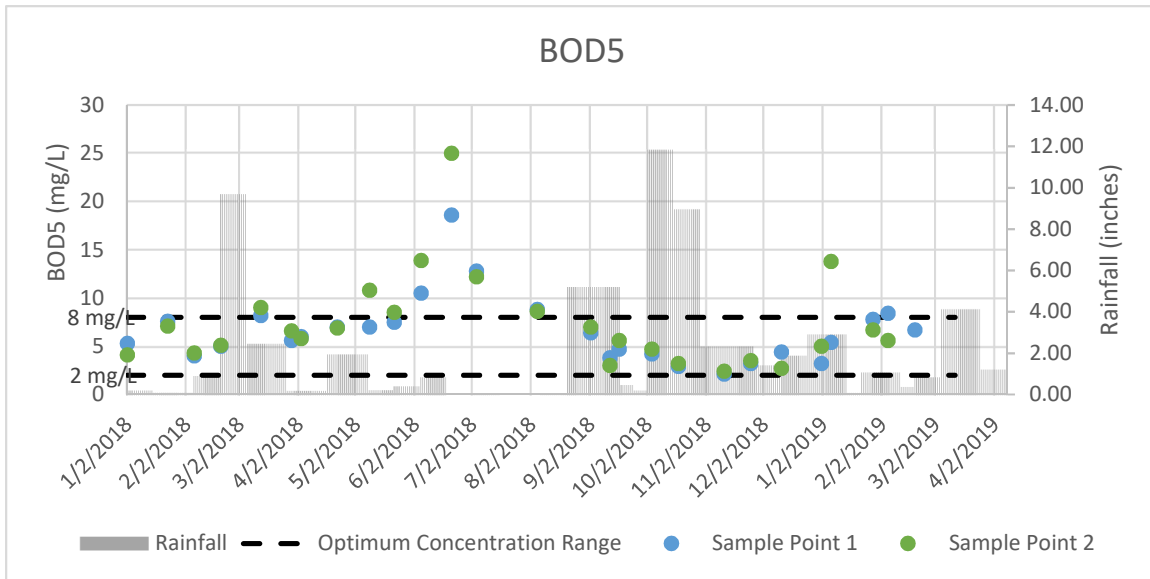


Figure 6: BOD, 5-Day

- Total Suspended Solids**

TSS levels are higher during the early summer season, and their concentration pattern is very close to that of BOD5. High TSS values are levels are greater than 45 mg/L [6]. This level is based on the typical maximum daily effluent limitation for treatment facilities. High total suspended solid values can block light from reaching submerged vegetation within water bodies and may indicate that high levels of bacteria, nutrients, pesticides, and/or metals are present in the water. Homeowners and municipalities apply fertilizer and pesticides more in the summer months, both of which can enter the pond by runoff.

Figure 7 shows TSS concentrations and rainfall over the sampling period.

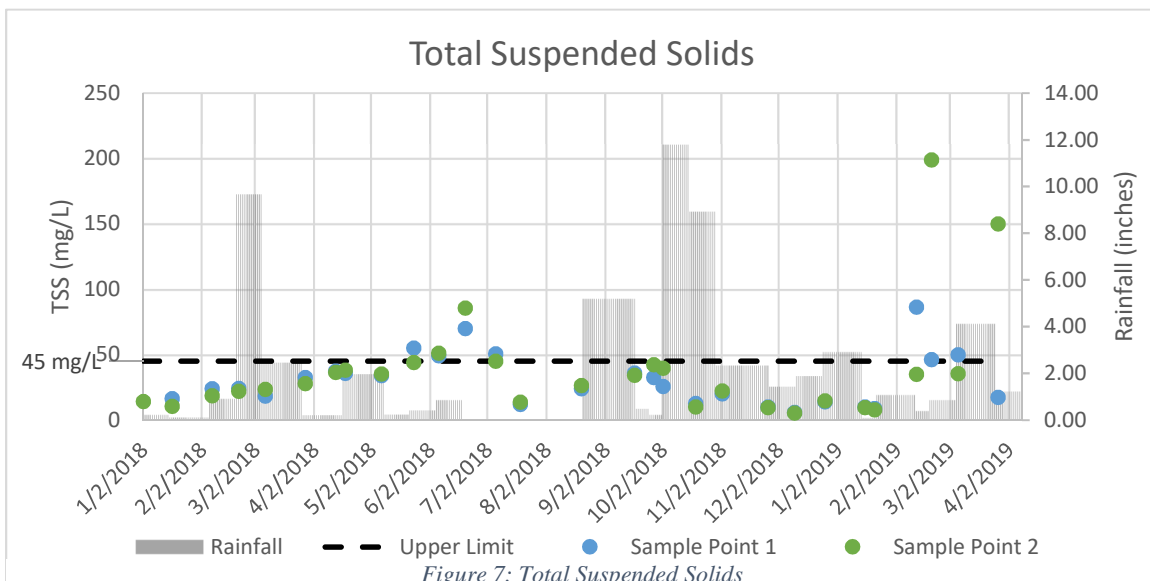


Figure 7: Total Suspended Solids

- *Chlorophyll-a*

Chlorophyll-a in Les Lacs pond consistently reflects eutrophic and hypereutrophic conditions and indicates high productivity within the water column. Chlorophyll-a concentration trends indicate that levels increase with higher temperatures and increased nutrient loading. Chlorophyll-a values below 10 ug/L are typically indicative of good water quality while values over 13 ug/L are more indicative of high productivity within the water column and eutrophic conditions [7].

Chlorophyll-a indirectly measures the amount of photosynthesizing plants within a body of water such as algae. Abnormally large chlorophyll-a levels typically indicate that a body of water is high in nutrients. Eutrophic water bodies have high biological productivity due to excessive nutrients, especially nitrogen and/or phosphorous. Aquatic plants or algae typically dominate eutrophic water bodies, and when dominated by algae, eutrophic water bodies are darker and murkier and can occasionally have large algal blooms.

Figure 8 shows total phosphorus concentrations and rainfall over the sampling period.

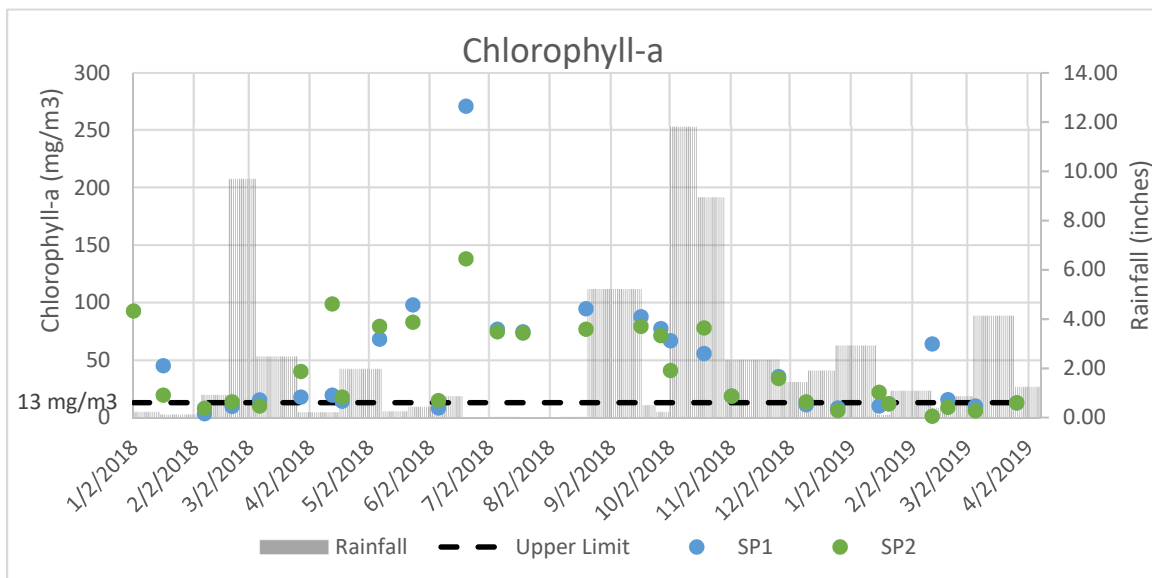


Figure 8: Chlorophyll-a

Function of Groundwater

Regional subsurface geology determines typical characteristics of groundwater in a given area. Groundwater's chemical makeup heavily influence parameters such as total dissolved solids and alkalinity. The pond is pumped with groundwater during times of low rainfall. Therefore, the pond will have higher concentrations of alkalinity and total dissolved solids during times where the well is pumped at higher rates.

- *Total Dissolved Solids*

TDS values are expected to increase to 800 mg/L or higher whenever rainfall is limited and the well is pumped consistently to fill the pond. Total dissolved solids are produced by both natural and human produced sources. A natural source is water hardness. The

groundwater in the Dallas area is known to have moderately hard water, meaning it contains minerals such as calcium and magnesium. Calcium and magnesium are measured as a part of total dissolved solids. Human produced sources can also contribute to high dissolved solid levels such as salts for de-icing roads, lawn treatments, and fertilizer runoff. Total dissolved solids levels observed in the Les Lacs pond exceed the limits for extremely hard water. The lack of natural areas with runoff, areas such as hard edged streets, storm sewers, roofs, and other impermeable surfaces contribute to the high total dissolved solid levels.

Texas Water Development Board (TWDB) runs an interactive water data website that shows the wells in Texas and a well report from when the well was first registered with the TWDB. For the Les Lacs well, well number 33-02-406, the 1982 Well Report documents a TDS level of 708 mg/L. This is not irregular since the TWDB determined that TDS concentrations in Dallas County groundwater can range from under 1,000 mg/L to 5,000 mg/L [8]. Taking into an account a safety factor for natural variances, values under 800 mg/L are considered typical for the Les Lacs pond. Values over 800 mg/L indicate that additional non-natural sources are also contributing to high TDS values.

Figure 9 reflects this trend and sees higher TDS values at times were rainfall is low.

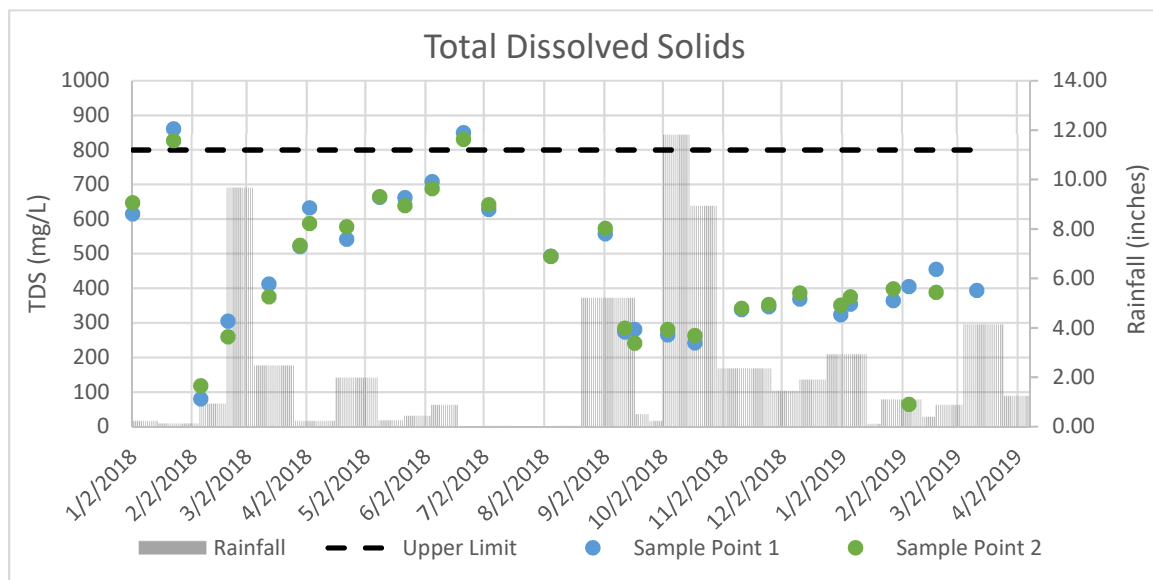


Figure 9: Total Dissolved Solids

- **Alkalinity**

The alkalinity levels in Les Lacs pond consistently reflects sufficient buffering capacity for maintaining ph. Of the discrete sampling parameters tested, alkalinity is the only parameter that remained within the optimum levels. Alkalinity is the buffering capacity of a body of water and reflects how well it can resist changes in pH. Measurable alkalinity above 20 mg/L provides a buffer that helps maintain a water body's pH while values below 20 mg/L can result in reduced buffering capacity and stunted aquatic life population. [9]

Running the well for makeup water has helped water quality by resisting changes in the ph..

Figure 10 shows alkalinity levels and rainfall over the sampling period.

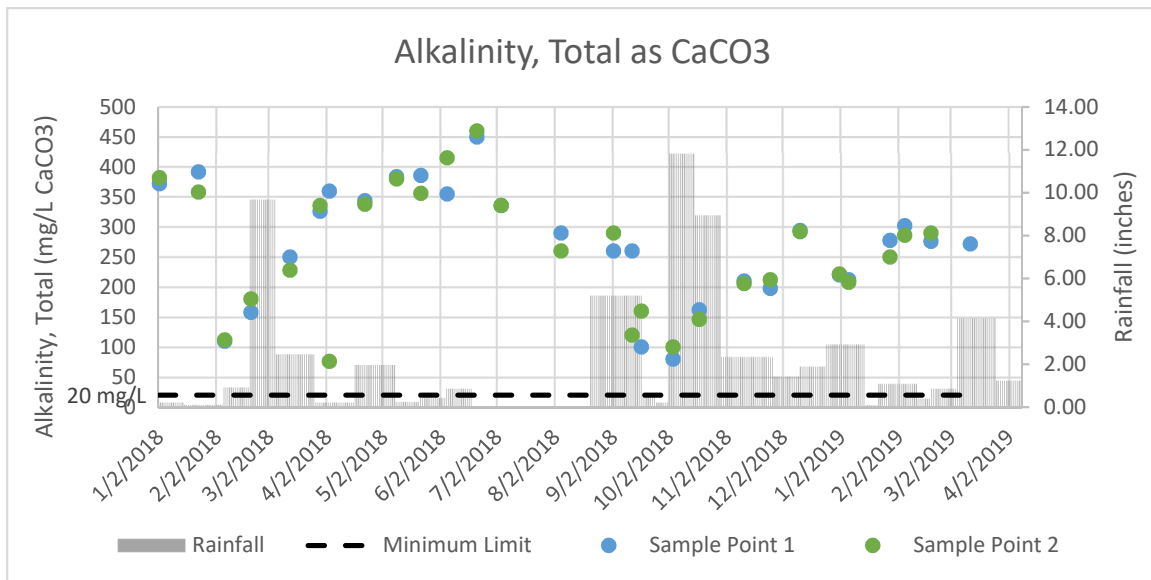


Figure 10: Alkalinity, Total as CaCO₃

Tables of each parameter are included in Appendix A.

Although in-situ parameters such as temperature, dissolved oxygen, pH, and clarity were requested, their results were not provided at the time of this report.

Rainfall was also considered to impact certain parameters. Rainfall stations in Johnston Park in Farmer's Branch, Downtown Carrollton, and Dallas Love Field were used to estimate rainfall for monthly rainfall during the sampling. Table 1 shows the rainfall measured in inches.

Table 1: Rainfall in Inches

Date	Rainfall (in.)	Date	Rainfall (in.)
12/31/2017 - 1/13/2018	0.23	9/16/2018 - 9/22/2018	0.50
1/14/2018 - 2/3/2018	0.12	9/23/2018 - 9/29/2018	0.23
2/4/2018 - 2/17/2018	0.92	9/30/2018 - 10/13/2018	11.80
2/18/2018 - 3/3/2018	9.66	10/14/2018 - 10/27/2018	8.92
3/4/2018 - 3/24/2018	2.47	10/28/2018 - 11/24/2018	2.35
3/25/2018 - 4/14/2018	0.22	11/25/2018 - 12/8/2018	1.44
4/15/2018 - 5/6/2018	1.97	12/9/2018 - 12/22/2018	1.90
5/7/2018 - 5/19/2018	0.25	12/23/2018 - 1/12/2019	2.92
5/20/2018 - 6/2/2018	0.43	1/13/2019 - 1/19/2019	0.11
6/3/2018 - 6/16/2018	0.87	1/20/2019 - 2/9/2019	1.09
6/17/2018 - 6/30/2018	0.00	2/10/2019 - 2/16/2019	0.40
7/1/2018 - 7/14/2018	0.02	2/17/2019 - 3/2/2019	0.87
7/15/2018 - 8/4/2018	0.00	3/3/2019 - 3/23/2019	4.13
8/5/2018 - 8/18/2018	0.02	3/24/2019 - 4/6/2019	1.24
8/19/2018 - 9/15/2018	5.20		

February and October 2018 saw the highest rainfall, while the summer months saw the least amount of rainfall. The higher rainfall helps to prevent higher pond concentration levels by flushing. Low rainfall events will wash phosphorus and nitrogen into the pond.

One main purpose of the extensive lab testing in 2018 and part of 2019 was to determine if pumping well water into Les Lacs pond improved overall water quality. The only data available before the well improvement project was a 2015 sampling report that tested many of the same parameters. The 2015 report had two sampling events, once in the summer (August 2014), and once in the winter (January 2015), at multiple locations throughout the pond. Below is a comparison of those report levels compared to existing lab results.

- Total Phosphorus – Existing phosphorus levels were similar but slightly lower to the summer sample (August 2014) but no phosphorus was detected in the winter of 2015 sample (January 2015). Therefore phosphorus is increasing during winter months.
- Total Nitrogen – Existing total nitrogen levels were higher since the 2015 report but remained similar in the winter months.
- Total Organic Carbon – Existing total organic carbon levels are lower in both the summer and winter month since the 2015 report.
- Fecal Coliforms – Existing fecal coliform levels were considerably higher during both winter and summer months compared to the 2015 report.
- BOD, 5-day – Existing BOD levels decreased in the summer months (August 2019), but levels remained similar in the winter month (January 2015).
- Total Dissolved Solids – Existing TDS levels were higher in the summer months since the 2015 report but remained similar in the winter months. This can be attributed to running the well water more frequently.
- Total Suspended Solids – Existing TSS levels were higher in the summer month (August 2014) but lower in the winter month (January 2015).
- Chlorophyll-a – Existing chlorophyll-a summer levels were higher than the August 2014 sample but lower in the winter month of January 2015.
- Alkalinity – Existing alkalinity levels were higher in both the summer and winter months since the 2015 report. This can be attributed to running the well water more frequently.

Although alkalinity and TDS have both drastically increased since 2015's report, it does not necessarily mean these parameters are degrading the pond water. The well water naturally has high levels of alkalinity and TDS. Alkalinity is a measure of buffering capacity, and higher levels only help the water body's ability resist drastic changes in pH. Natural occurring elements can contribute to TDS levels. If ground water has high TDS levels, it can be as a result of high levels of natural elements in the subsurface geology – as in the case of the well water pumped into Les Lacs pond. Although nitrogen and phosphorus are measured in TDS, high levels of nitrogen and phosphorus are not common in groundwater. Therefore, when the water in the pond exceeds the natural well water TDS levels, it is most likely due to human caused nutrient overloading.

In months where the well pumps longer to make up for lack of rainfall, TDS and alkalinity levels in the pond will likely increase. TDS and alkalinity levels alone do not reflect the quality of the water in the pond and should be compared to other values such as total nitrogen and phosphorus to determine impact on the pond.

The lab results also show that the levels of TSS and fecal coliforms have increased in the summer months since the 2015 report. While fecal coliform can pose health risks if humans or animals come in to

contact with the water, increased TSS levels can impact clarity and overall aesthetics of the pond. Even though TSS levels have increased since 2015, they are still on average below 45 mg/L.

Recommendations

The Town of Addison will need to implement other Best Management Practices (BMP's) to improve water quality. The shallow depth of the pond poses a challenge for healthy ecological pond system.

Recommended BMP's are:

1. Implement a consistent program to document and record complaints from citizens and staff of the pond water quality consistently.
2. Enforce mandatory use of phosphorus-free fertilizers by Town worker's in public areas including adjacent areas and also in upstream drainage basin such as in Photon Drive.
3. Increase public education of residences of using phosphorous free fertilizers in lawn care, and wastes entering storm sewer inlets in adjacent residences along adjacent streets, as well as the entire drainage basin including Bentwater Court, portions of Photon Drive, and portions of Les Lacs Drive.
4. Begin a regimented chemical water testing program based around phosphorus, nitrogen, dissolved oxygen, ph, chlorophyll-a, and fecal coliform, to be proactive to water quality irregularities, and trigger corrective actions such as stricter enforcement of polluted runoff, chemical treatments, or water body quality controls.
5. Chemical treatment to help precipitate phosphorus and decrease its levels. This can be done with phosphorus reducing chemical treatments, and special type algaecide and herbicide treatments.
6. Plant and maintain vegetation buffers around pond to help filter pollutants carried in runoff and to adsorb excess nutrients such as nitrogen and phosphorus
7. Post signs during High levels of nutrients in water for increase public awareness and input on reducing fertilizing, yard waste disposal in storm sewers.
8. Flush pond during hazardous periods with supplemental water supply.
9. Increase frequency of basket cleanings of the recirculation system to remove waste and nutrients from system.
10. Monitor chemical properties of silt in bottom as well as depth on 5-year program to determine rate of increase of nutrients concentrations and volume, and develop planning for future removal if need develops.

Citations

- [1] "Trophic Classification of Texas Reservoirs – 2010 Texas Water Quality Inventory and 303(d) List," Texas Commission of Environmental Quality, last modified on November 18, 2011, https://www.tceq.texas.gov/assets/public/waterquality/swqm/assess/10twqi/2010_reservoir_narrative.pdf
- [2] "Total Nitrogen," Environmental Protection Agency, last updated June 4, 2013, <https://www.epa.gov/sites/production/files/2015-09/documents/totalnitrogen.pdf>
- [3] "Water Quality Assessments – A Guide to Use of Biota, Sediments and Water in Environmental Monitoring – Second Edition," Deborah Chapman, last updated 1996, https://www.who.int/water_sanitation_health/resourcesquality/wqachapter3.pdf
- [4] "Texas Water Quality Standards: Criteria for Recreation," Texas Commission of Environmental Quality, last modified August 31, 2007, <https://www.tceq.texas.gov/assets/public/waterquality/tmdl/82lakehouston/82-bactstand-oct2007.pdf>
- [5] "Chemistry of the Environment," Professor Shapley, University of Illinois, last modified 2011, <http://butane.chem.uiuc.edu/pshapley/Environmental/L31/1.html>
- [6] "Chapter 309 – Domestic Wastewater Effluent Limitation and Plant Siting – Subchapter A: Effluent Limitations," Texas Commission on Environmental Quality, last updated November 26, 2009, <https://www.tceq.texas.gov/assets/public/legal/rules/rules/pdflib/309a.pdf>
- [7] "Trophic Classification of Texas Reservoirs – 2010 Texas Water Quality Inventory and 303(d) List," Texas Commission of Environmental Quality, last modified on November 18, 2011, https://www.tceq.texas.gov/assets/public/waterquality/swqm/assess/10twqi/2010_reservoir_narrative.pdf
- [8] "Texas Aquifers Study – Groundwater Quantity, Quality, Flow, and Contributions to Surface Water", Bech Bruun & Kathleen Jackson & Peter Lake & Jeff Walker, December 31, 2016, http://www.twdb.texas.gov/groundwater/docs/studies/TexasAquifersStudy_2016.pdf
- [9] "National Recommended Water Quality Criteria – Aquatic Life Criteria Table," Environmental Protection Agency, <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table>

**Les Lacs Pond
Water Quality Program**

**APPENDIX A
Parameter Lab Results Tables**

Table A.1 shows the concentrations for total dissolved solids, BOD5, total phosphorus, chlorophyll-a, total nitrogen, fecal coliform, total organic carbon, and total suspended solids.

Table A.1: Parameter Concentrations

Date	Total Dissolved Solids (mg/L)		BOD, 5 Day (mg/L)		Total Phosphorus (mg/L)		Chlorophyll-a (ug/L)	
	SP1	SP2	SP1	SP2	SP1	SP2	SP1	SP2
1/2/2018		520		2.2		0.08		92.6
1/17/2018	615	647	5.3	4.1	0.06	0.37	45	19.3
2/7/2018	861	827	7.6	7.1	0.09	0.09	3.3	8
2/21/2018	80	118	4	4.3	0.16	0.15	9.6	13.4
3/7/2018	305	259	5	5.1	0.08	0.08	15.1	9.8
3/28/2018	412	375	8.2	9	0.17	0.17	17.8	40
4/13/2018	520	524	5.6	6.6	0.20	0.21	19.3	98.8
4/18/2018	632	587	6	5.8	0.16	0.17	14.1	17.8
5/7/2018	542	578	7	6.9	0.12	0.15	68.2	79.2
5/24/2018	663	665	7	10.8	0.16	0.19	97.9	82.8
6/6/2018	662	639	7.5	8.5	0.19	0.19	8.1	14.5
6/20/2018	708	688	10.5	13.9	0.15	0.23	271	138
7/6/2018	850	830	18.6	25	0.20	0.22	76.8	74.5
7/19/2018	628	642	12.8	12.2	0.22	0.23	74.5	73.4
8/6/2018							94.6	76.8
8/20/2018	493	492	8.8	8.6	0.15	0.16	87.5	79.2
9/17/2018	557	573	6.4	7	0.14	0.14	77.4	71.2
9/26/2018	273	284	3.8	3	0.01	0.14	66.8	40.9
10/1/2018	281	241	4.7	5.6	0.09	0.12	55.6	77.9
10/18/2018	265	281	0	0	0.07	0.06	18.5	18.5
11/2/2018	242	263	4.2	4.7	0.09	0.08	35.6	33.8
11/26/2018	338	342	2.9	3.2	0.00	0.00	11.1	13.4
12/10/2018	346	353	2.1	0	0.05	0.06	8.3	5.9
12/26/2018	369	386	3.2	2.4	0.09	0.08	10	21.8
1/16/2019	323		4.4	3.5	0.06	0.07	11.9	11.9
1/21/2019	354	351	3.2	2.7	0.06	0.06	64	1.1
2/12/2019	364	375	5.4	5	0.13	0.11	15.6	8.9
2/20/2019	405	398	7.8	13.8	0.20	0.98	10	5.8
3/6/2019	455	64	8.4	6.7	0.20	0.19	12.7	12.7
3/27/2019	394	388	6.7	5.6	0.27	0.53	36.5	68.5

	Within Optimum Levels
	Outside Optimum Levels
	Outside Optimum Level but Not Excessive

Table A.1 (Continued): Parameter Concentrations

Date	Total Nitrogen (mg/L)		Fecal Coliform (cfu/100mL)		Total Organic Carbon (mg/L)		Total Suspended Solids (mg/L)	
	SP1	SP2	SP1	SP2	SP1	SP2	SP1	SP2
1/2/2018		0.8		118		3.4		14.3
1/17/2018	0.8	1.0	127	45	3.3	3	16.4	10.7
2/7/2018	1.5	1.0	490	855	4.5	4.2	24.1	18.7
2/21/2018	1.0	1.2	118	82	4.6	4.5	24.3	22.1
3/7/2018	1.2	1.3	250	209	3.3	3.1	18.5	23.5
3/28/2018	1.5	1.2	15,973	12,745	7.3	8.5	32.6	27.9
4/13/2018	5.4	1.6	1,636	2,009	4.7	4.9	37.6	36.4
4/18/2018	1.9	1.9	664	1,455	5.3	5	35.8	38.3
5/7/2018	0.9	2.2	240	250	4.7	4.7	34	35.2
5/24/2018	1.5	2.0	855	782	7	6.6	55	44.1
6/5/2018	2.6	2.4	982	1,127	7.1	6.5	49.2	51.1
6/19/2018	5.6	4.3	27,000	5,600	12.8	13	70	85.7
7/5/2018	6.2	6.1	37,000	2,200	20.8	20.4	50.8	45
7/18/2018	4.2	4.8	5,900	3,255	22.6	22.7	12	13.8
8/6/2018			895	1,048				
8/20/2018	2.5	2.4	3,555	3,400	9.1	11.4	24	26.6
9/17/2018			560	560				
9/26/2018	2.0	2.0	4,000	3,700	3.7	3.7	32.7	42.4
10/1/2018	1.5	1.5	2,300	370	3.9	4.1	25.7	39.6
10/18/2018	0.7	0.7	2,045	2,436	2.1	2.2	12.8	10.2
11/2/2018	0.8	1.6	3,700	3,700	3	2.8	20	22.4
11/26/2018	ND	0.5	109	73	3.9	3.7	10.2	9.7
12/10/2018	0.7	ND	91	100	3.5	3.4	6	5.4
12/26/2018	1.6	1.3	520	380	4.1	3.9	14	14.8
1/16/2019	0.5	0.8	10	10	3.7	3.4	10.2	9.6
1/21/2019	0.7	0.8	64	210	5.8	3.9	8.9	8
2/12/2019	2.2	1.4	470	480	4.8	3.9	86.4	35
2/20/2019	1.5	3.1	210	273	4.5	5.1	46.4	199
3/6/2019	2.5	2.5	220	220	5.3	5.6	50	35.6
3/27/2019	4.7	8.7	370	310	8.1	8.1	17.5	150

	Within Optimum Levels
	Outside Optimum Levels
	Outside Optimum Level but Not Excessive

Work Session and Regular Meeting

7.

Meeting Date: 06/24/2019

Department: City Manager

AGENDA CAPTION:

Consider Action to **Approve the June 11, 2019 City Council Work Session, Executive Session, and Regular Meeting Minutes.**

BACKGROUND:

The City Secretary has prepared the June 11, 2019 City Council Work Session, Executive Session, and Regular Meeting Minutes for Council approval.

RECOMMENDATION:

Administration recommends approval.

Attachments

Minutes - June 11, 2019 Council Executive Session, Work Session and and Regular Meeting

DRAFT

OFFICIAL ACTIONS OF THE ADDISON CITY COUNCIL WORK SESSION

June 11, 2019

**Addison Town Hall, 5300 Belt Line Rd.,
Dallas, TX 75254
5:00 p.m. Executive Session & Work Session
7:30 Regular Meeting**

Present: Mayor Joe Chow; Mayor Pro Tempore Tom Braun; Deputy Mayor Pro Tempore Lori Ward; Council Member Ivan Hughes; Council Member Guillermo Quintanilla; Council Member Paul Walden; Council Member Marlin Willesen

1. **Call Meeting to Order**

2. **CLOSED (EXECUTIVE) SESSION OF THE ADDISON CITY COUNCIL
PURSUANT TO:**

Section 551.074, Tex. Gov. Code, to deliberate the appointment, employment, evaluation, reassignment, duties, discipline or dismissal of a public officer or employee, pertaining to:

- **Alternate Judge Interviews**

Mayor Chow closed the open meeting at 5:02 pm to convene the City Council into Closed Executive Session.

3. **RECONVENE INTO REGULAR SESSION:** In accordance with Texas Government Code, Chapter 551, the City Council will reconvene into Regular Session to consider action, if any, on matters discussed in Executive Session.

Mayor chow reconvened the City Council into Regular Session at 6:24 pm. No action taken.

WORK SESSION

4. **Present and Discuss the 2019 Community Bond Advisory Committee Report.**

Presentation: Ralph Doherty, Community Bond Advisory Committee Chairman. Mr. Doherty presented the Committee’s final report. Mr. Doherty described the processes employed to review the twenty-one projects presented to the committee by Staff. The Committee ranked the projects then chose fifteen projects that they believe should be included in a bond program. The projects were divided into the following five proposed propositions: Roads (East/West); Roads (North/South); Buildings; Recreation and Lifestyle; and, Investment in the Future. The total estimated cost of the recommended projects was presented as \$85,620,002. A copy of the Committee’s Report will be placed on the Town’s website for citizen review. These proposals along with a proposed November Bond Election will be presented and discussed by the City Council at a future City Council Meeting. Presented for information only, no action was taken.

5. **Present and Discuss the Spruill Dog Park Naming and Recognition Policy.**

Presentation: Janna Tidwell, Director of Parks & Recreation. Ms. Tidwell presented a brief history of the naming and recognition criteria for Spruill Dog Park.

COUNCIL COMMENTS: Council Members Willesen and Walden requested an agenda item to discuss the Spruill Dog Park Naming and Recognition Policy. Council Members discussed: the criteria for naming and recognizing Spruill Dog Park elements; the naming nomenclature for the elements; and, the donation process. Related to the donation process, Council Members discussed their understanding of the timing and use of donated funds for the Spruill Dog Park. Council provided direction to Staff to amend the Policy by: (1) deleting 2(d) in its entirety and (2) amending 3(a) to read as follows – “Elements in Spruill Dog park may **only** include the following types of recognition...”. These changes will be presented for consideration at a future City Council Meeting. The status of any non-conforming Brick Pavers will be addressed after consultation with the City Attorney at a future City Council Meeting.

REGULAR MEETING

Pledge of Allegiance

Announcements and Acknowledgements regarding Town and Council Events and Activities

Discussion of Events/Meetings

Public Comment: *The City Council invites citizens to address the City Council on any topic not on this agenda. Please fill out a **City Council Appearance Card** and submit it to a city staff member prior to Public Participation. Speakers are allowed **up to three (3) minutes per speaker with fifteen (15) total minutes** on items of interest or concern and not on items that are on the current agenda. In accordance with the Texas Open Meetings Act, the City Council cannot take action on items not listed on the agenda. The Council may choose to place the item on a future agenda.*

Mayor Chow acknowledged that several citizens had requested to address the City Council. Mayor Chow indicated that these requests will be honored as those citizens would be called on to address the City Council during the Public Hearing portion of the specific agenda item indicated on their Speaker Card.

Consent Agenda: *All items listed under the Consent Agenda are considered routine by the City Council and will be enacted by one motion with no individual consideration. If individual consideration of an item is requested, it will be pulled from the Consent Agenda and discussed separately.*

6. **Consider Action to Approve the May 28, 2019 City Council Work Session and Regular Meeting Minutes.**
7. **Consider Action to Approve a Resolution Assigning Council Liaison Appointments for 2019-2020.**
8. **Consider Action to Approve a Resolution Approving the Agreement for Professional Engineering Services Between the Town of Addison and Kleinfelder, Inc., for the Design, Bid and Construction Phase Services Associated with the Celestial Ground Storage Tank Improvements project in an Amount Not to Exceed 4154,589 and Authorizing the City Manager to Execute the Agreement.**

Mayor Chow called for any requests to remove any item from the Consent Agenda to discussion and take action separately. There were no requests. Mayor Chow called for a motion.

MOTION: Mayor Pro-Tempore Braun moved to approve Consent Agenda Items 6, 7, and 8 as presented. Deputy Mayor Pro-Tempore Ward seconded the motion. Motion carried unanimously.

Resolution No. R19-042: 2019-2020 Council Liaison appointments

Resolution No. R19-043: Professional Services Contract with Kleinfelder, Inc. Celestial Ground Storage Tanks

Regular Items

9. **Hold a Public Hearing, Discuss, and Consider Action to Approve an Ordinance Changing the Zoning on Property Located at 3820 Belt Line Road, Which Property is Currently Zoned Planned Development (PD) Through Ordinance 093-018, as Amended by Ordinance O15-030, by Approving a New PD District. Case 1796-Z/3820 Belt Line Road.**

Presentation: Charles Goff, Director of Development Services. Mr. Goff presented a zoning change request for the property located at 3820 Belt Line Road to establish a new PD “Planned Development” to allow for the development of a new two-building retail center with two drive

throughs to replace the existing one-story restaurant building. Mr. Goff explained that the project as proposed does not meet the requirements of the Belt Line District and Master Transportation Plan. Mr. Goff discussed the Planning and Zoning Commission's recommendation for approval with conditions. A representative of the applicant addressed Council's questions and offered possible concessions.

Public Hearing: Speaking against this proposal were: Jane Lentz, 3942 Ashbury Lane; Dr. Jay M. Ihrig, 3757 Chatham Court; and Bernard Shaw, 3802 Belt Line Road. No residents appeared to speak in favor of this project.

COUNCIL COMMENTS: Council opined that any proposal in this area must comply with the standards established by both the Belt Line District and the Master Transportation Plan.

MOTION: Council Member Walden moved to deny Ordinance changing the zoning of the property located at 3820 Belt Line Road as presented. Council Member Hughes seconded the motion. Motion carried unanimously.

10. **Hold a Public Hearing, Discuss, and Consider Action to Approve an Ordinance Changing the Zoning on Property Located at 3820 Belt Line Road, Which Property is Currently Zoned Planned Development (PD) Through Ordinance 093-018, as Amended by Ordinance O15-030, by Approving a Restaurant with a Drive Through. Case 1799-SUP/Smoothie King.**

Presentation: Charles Goff, Director of Development Services. Mr. Goff presented a zoning change request for the property located at 3820 Belt Line Road currently zoned PD "planned Development" by approving a Special Use Permit for a restaurant with a drive through to allow for a Smoothie King. Mr. Goff explained that since Agenda Item #9 was denied this item should be denied as well.

Public Hearing: No citizens requested to address the City Council either in favor of or against this proposal.

MOTION: Deputy Mayor Pro-Tempore Ward moved to deny Ordinance changing the zoning of property at 3820 Belt Line Road for a drive through as presented. Council Member Hughes seconded the motion. Motion carried unanimously.

11. **Hold a Public Hearing, Discuss, and Consider Action to Approve an Ordinance Changing the Zoning on Property Located at 3820 Belt Line Road, Which Property is Currently Zoned Planned Development (PD) Through Ordinance 093-018, as Amended by Ordinance O15-030, by Approving a Restaurant with a Drive Through. Case 1800-SUP/Dunkin Donuts.**

Presentation: Charles Goff, Director of Development Services. Mr. Goff presented a zoning

change request for the property located at 3820 Belt Line Road currently zoned PD “planned Development” by approving a Special Use Permit for a restaurant with a drive through to allow for a Dunkin Donuts. Mr. Goff explained that since Agenda Item #9 was denied this item should be denied as well.

Public Hearing: No citizens requested to address the City Council either in favor of or against this proposal.

MOTION: Council Member Quintanilla moved to deny the Ordinance changing the zoning of property at 3820 Belt Line Road for a drive through as presented. Council Member Hughes seconded the motion. Motion carried unanimously.

12. **Hold a Public Hearing, Discuss, and Consider Action to Approve an Ordinance Changing the Zoning on Property Located at 5290 Belt Line Road at the Southeast Corner of Belt Line Road and Montfort Drive, Which Property is Currently Zoned Local Retail (LR), by Approving a New Planned Development (PD) District. Case 1794-Z/Prestonwood Place.**

Presentation: Charles Goff, Director of Development Services. Mr. Goff presented a zoning change requested for a property located at 5290 Belt Line Road (Prestonwood Place) currently zoned LT “Local Retail” create a new Planned Development district to permit façade improvements, additional landscaping, pedestrian improvements – 8-foot wide sidewalk, allowance for a mixed-use parking ratio, and conversion of a vacant Service Merchandise building to a new office building with ground floor retail. Staff advised that the property does not comply with the Master Transportation Plan regarding sidewalk width along Belt Line Road. Compliance will occur when and if the property is re-developed.

Public Hearing: No citizens requested to address the City Council either in favor of or against this proposal.

COUNCIL COMMENTS: Mayor Pro-Tempore Braun discussed the inclusion of decorative bollards to separate the parking and sidewalk to make the area safer and to create a visual pathway. Comments were favorable about the proposed improvements, upgrades and new tenants coming to this facility.

MOTION: Council Member Hughes moved to approve subject to conditions proposed in the report received and to include decorative sidewalk bollards along the sidewalk as discussed by Council. Deputy Mayor Pro-Tempore Ward seconded the motion. Motion carried unanimously.

Ordinance No. O19-22: Case 1794-Z/Prestonwood Place approval of new Planned Development District

13. **Hold a Public Hearing, Discuss, and Consider Action to Approve an Ordinance Changing the Zoning on Property Located at 4595 Excel Parkway, Which Property is Currently Zoned Planned Development (PD) Through Ordinance 595, as**

Amended by Ordinance 004-043, by Approving a New PD District. Case 1795-Z/BGO Architects.

Presentation: Charles Goff, Director of Development Services. Mr. Goff presented a zoning change request for the property located at 4595 Excel Parkway to establish a new PD “Planned Development” to allow for the development of a new two-story, 12,754 square foot office building subject to no conditions. This proposal is in accordance with the adopted Comprehensive Plan. The owner/developer is proposing to use a metal paneling system on the South, West and East façade. The applicant addressed the City Council.

Public Hearing: No citizens requested to address the City Council either in favor of or against this proposal.

COUNCIL COMMENTS: None.

MOTION: Mayor Pro-Tempore Braun moved for approval. Council Member Willesen seconded the motion. Motion carried unanimously.

Ordinance No. O19-23: 1795-Z/BGO Architects approval of new Planned Development District.

14. **Hold a Public Hearing, Discuss, and Consider Action to Approve an Ordinance Changing the Zoning on Property Located at 5100 Belt Line Road (Village on the Parkway) Suite 510, Which Property is Currently Zoned PD, Planned Development, Through Ordinance 012-001, by Approving a Special Use Permit for Commercial Amusement. Case 1797-SUP/Zero Latency.**

Presentation: Charles Goff, Director of Development Services. Mr. Goff presented a zoning change request for the property located at 5100 Belt Line Road (Village on the Parkway) currently zoned PD “Planned Development” by approving a Special Use Permit for a commercial amusement use in order to permit a new “free roam” virtual reality gaming experience subject to no conditions. The Zoning is in accordance with the adopted Comprehensive Plan.

Public Hearing: No citizens requested to address the City Council either in favor of or against this proposal.

COUNCIL COMMENTS: None.

MOTION: Council Member Willesen moved for approval as stated. Council Member Walden seconded the motion. Motion carried unanimously.

Ordinance No. O19-24: Approval of Case 1797-SUP/Zero Latency, 5100 Belt Line Road, Special Use Permit for Commercial Amusement.

15. **Hold a Public Hearing, Discuss, and Consider Action to Approve an Ordinance Changing the Zoning on Property Located at 5100 Belt Line Road (Village on the Parkway) Suite 540, Which Property is Currently Zoned PD, Planned Development, Through Ordinance 012-001, by Approving a Special Use Permit for a Two-Story Restaurant with the Sale of Alcoholic Beverages for On-Premises Consumption Only. Case 1798-SUP/Stirr 2.0.**

Presentation: Charles Goff, Director of Development Services. Mr. Goff presented a zoning change request for the property located at 5100 Belt Line Road (Village on the Parkway) currently zoned PD “Planned Development” by approving a Special Use Permit for a restaurant with the sale of alcoholic beverages for on-premises consumption only in order to allow a new two-story restaurant subject to the condition that the property not use any terms or graphic depictions that relate to alcoholic beverages in any exterior signage. A representative of the applicant addressed the City Council.

Public Hearing: No citizens requested to address the City Council either in favor of or against this proposal.

COUNCIL COMMENTS: Council Member Quintanilla noted that the Planning & Zoning Commission discussed the ‘DJ Booth’ that was included in the floor plans. He asked about the resolution of this item. Mr. Goff stated that the booth was to be removed and replaced by tables and chairs on the drawings. The applicant also noted that the reference to the “DJ Booth” was a mistake on the plans and that the applicant has no plans to operate a DJ Booth at the restaurant. This will prevent the future use of this space as a club.

MOTION: Council Member Willesen moved to approve. Council Member Hughes seconded the motion. Motion carried.

Ordinance No. 019-25: Approval of 1798-SUP/Stirr 2.0, 5100 Belt Line Road, Ste 540 Special Use Permit

16. **Present and Discuss the Finance Department Quarterly Financial Report of the Town of Addison for the FY 2019 Second Quarter Ended March 31, 2019.**

Presentation: *Terri Doby, Budget Manager.* Ms. Doby presented the Second Quarter Financial and Investment Reports to the City Council. The reports cover the financial performance for the second quarter of Fiscal Year 2019 (January 1, 2019 – March 31, 2019) along with detailed exhibits to demonstrate the current financial position for the following funds: General, Hotel, Airport, Economic Development, Utility and Storm Water. The current financial and investment policy was also attached for Council information.

COUNCIL COMMENTS: Council Member Hughes, who also serves on the Finance Committee, stated that the investment and financial policies comply with all state regulations and Town policy. Mayor Chow remarked that the Town has a very conservative investment policy and because of this has received the highest bond rating.

Presented for information only, no action taken.

Adjourn Meeting

There being no further business to come before the Council, Mayor Chow adjourned the meeting.

TOWN OF ADDISON, TEXAS

Joe Chow, Mayor

ATTEST:

Irma G. Parker, City Secretary

Work Session and Regular Meeting

8.

Meeting Date: 06/24/2019

Department: City Manager

AGENDA CAPTION:

Consider Action to Approve an Ordinance Amending Ordinance No. 005-010 as Amended, Which Grants a Franchise to Oncor Electric Delivery Company LLC, by Extending the Term and Providing for Its Renewal; Providing a Severability Clause; Providing a Savings Clause; Providing an Effective Date; and Providing for Acceptance by Oncor Electric Delivery Company LLC .

BACKGROUND:

This Ordinance extends the Town of Addison's current franchise with Oncor Electric Delivery Company LLC (hereafter "Oncor"), which is set to expire on July 31, 2019. The franchise provides Oncor with the authority to construct and operate electric power lines and facilities within the public rights-of-way for the purpose of delivering electricity.

Oncor has presented the Town with a proposed franchise renewal ordinance for consideration. Staff has reviewed the proposed franchise ordinance and has been monitoring negotiations between the City of Plano and Oncor regarding their franchise agreement. Staff believes it is prudent to temporarily extend the existing franchise and model any future revisions to the franchise after those negotiated between Plano and Oncor.

RECOMMENDATION:

Administration recommends approval.

Attachments

Ordinance - Oncor Franchise Renewal / Extension

ORDINANCE NO. R19-_____

AN ORDINANCE OF THE TOWN OF ADDISON, TEXAS, AMENDING ORDINANCE NO. 005-010 AS AMENDED, WHICH GRANTS A FRANCHISE TO ONCOR ELECTRIC DELIVERY COMPANY LLC, BY EXTENDING THE TERM AND PROVIDING FOR ITS RENEWAL; PROVIDING A SEVERABILITY CLAUSE; PROVIDING A SAVINGS CLAUSE; PROVIDING AN EFFECTIVE DATE; AND PROVIDING FOR ACCEPTANCE BY ONCOR ELECTRIC DELIVERY COMPANY LLC.

WHEREAS, on February 22, 2005 the City Council adopted Ordinance No. 005-010, an ordinance granting Oncor Electric Delivery Company LLC (“Oncor” or “Company”), a franchise for a period of ten (10) years to use the present and future streets, avenues, alleys, roads, highways, sidewalks, easements, and public ways and other public property within the Town of Addison (“Town”) for the purposes of constructing and operating an electric distribution and transmission system and for delivering electricity to Town residents and businesses, and the City Council amended such ordinance to include an additional five (5) years by Ordinance No. 006-039, (collectively, the “Franchise”); and

WHEREAS, Ordinance No. 005-010, will expire on July 31, 2019; and

WHEREAS, the Town and Oncor wish to extend the term of the Franchise to expire on July 31, 2020 and thereafter to allow the Franchise to renew automatically for successive terms of six (6) months each, but, in any event, the term of such automatic renewals shall terminate on or before July 31, 2044.

BE IT ORDAINED BY THE CITY COUNCIL OF THE TOWN OF ADDISON, TEXAS:

SECTION 1. The extension to the term of Ordinance No. 005-010 (as amended) of the Town of Addison, Texas until July 31, 2020, is hereby approved and agreed to by Oncor and the Town of Addison; provided that, unless written notice of cancellation is given by either party hereto to the other not less than sixty (60) days before the expiration of this franchise agreement, it shall be automatically renewed for an additional period of six (6) months from such expiration date and shall be automatically renewed thereafter for like periods until canceled by written notice given not less than sixty (60) days before the expiration of any such renewal period or superseded by a new Franchise agreement or on July 31, 2044, whichever comes first.

SECTION 2. In all respects, except as specifically and expressly amended by this Ordinance, the Franchise, as amended, shall remain in full force and effect according to its terms until the Franchise expires or otherwise terminates in accordance with the provisions of the Franchise.

SECTION 3. The sections, paragraphs, sentences, clauses and phrases of this Ordinance are severable. If any portion of this Ordinance is declared illegal or unconstitutional by the valid final judgment or decree of any court of competent jurisdiction, such illegality or unconstitutionality shall not affect the legality and enforceability of any of the remaining portions of this Ordinance.

SECTION 4. This Ordinance and Franchise Agreement shall become effective upon Oncor’s

written acceptance hereof, said written acceptance to be filed by Oncor with the Town within sixty (60) days after final passage.

DULY PASSED AND ADOPTED by the City Council of the Town of Addison, Texas, on this the 11th day of JUNE 2019.

TOWN OF ADDISON, TEXAS

Joe Chow, Mayor

ATTEST:

APPROVED AS TO FORM:

Irma Parker, City Secretary

Brenda N. McDonald, City Attorney

Work Session and Regular Meeting

9.

Meeting Date: 06/24/2019

Department: Police

Pillars: Gold Standard in Public Safety

AGENDA CAPTION:

Consider Action to Approve a **Resolution Approving a Third Amendment to Rooftop Telecommunications License Agreement Between the Town of Addison and COP Spectrum Center, LLC F/K/A GPI Spectrum LLC, and Authorizing the City Manager to Execute the Agreement** in an Amount not to Exceed \$29,112.96 for the First Year.

BACKGROUND:

In 2013, the Town of Addison partnered with the cities of Carrollton, Coppell and Farmers Branch to build and operate a public safety radio system comprised of six tower sites within the four cities. The Town selected the east tower at 5080 Spectrum as the location for Addison's tower site. The Town of Addison currently holds a rooftop telecommunications license agreement with COP Spectrum Center Partners, LLC to host the tower site on their building. The contract amount for Fiscal Year 2019 was \$28,264.92 and has been paid. This expenditure is a budgeted item and was within budget.

The license agreement needs to be renewed. The license fee for the new term is \$2,426.08 per month for a total amount of \$29,112.96 for the first year (Fiscal Year 2020). The renewed license extends the original agreement for an additional five years expiring on October 31, 2023.

Provisions:

- Two additional, five-year terms if desired by both parties.
- Subject to a 3% annual escalation

RECOMMENDATION:

Administration recommends approval.

Attachments

Resolution - 3rd Amendment Spectrum License Agreement

TOWN OF ADDISON, TEXAS

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE TOWN OF ADDISON, TEXAS APPROVING A THIRD AMENDMENT TO ROOFTOP TELECOMMUNICATIONS LICENSE AGREEMENT BETWEEN THE TOWN OF ADDISON AND COP SPECTRUM CENTER, LLC F/K/A GPI SPECTRUM, LLC, AUTHORIZING THE CITY MANAGER TO EXECUTE THE AGREEMENT, AND PROVIDING AN EFFECTIVE DATE.

BE IT RESOLVED BY THE CITY COUNCIL OF THE TOWN OF ADDISON, TEXAS:

Section 1. The Third Amendment to Rooftop Telecommunications License Agreement between the Town of Addison and COP Spectrum Center, LLC f/k/a GPI Spectrum, LLC, a copy of which is attached to this Resolution as **Exhibit A**, is hereby approved. The City Manager is hereby authorized to execute the agreement.

Section 2. This Resolution shall take effect from and after its date of adoption.

PASSED AND APPROVED by the City Council of the Town of Addison, Texas this the 24th day of June 2019.

Joe Chow, Mayor

ATTEST:

By: _____
Irma Parker, City Secretary

APPROVED AS TO FORM:

By: _____
Brenda N. McDonald, City Attorney

EXHIBIT A

THIRD AMENDMENT TO ROOFTOP TELECOMMUNICATIONS LICENSE AGREEMENT

This THIRD AMENDMENT to the ROOFTOP TELECOMMUNICATIONS LICENSE AGREEMENT (this "**Third Amendment**"), dated effective October 31, 2018, is made and entered into by and between **COP SPECTRUM CENTER, LLC**, formerly known as **GPI SPECTRUM , LLC**, ("Owner"), and **TOWN OF ADDISON, TEXAS** ("Provider").

WITNESSETH:

WHEREAS, the Owner and Provider entered into that certain Rooftop Telecommunications License Agreement dated effective October 21, 2003 (the "Agreement"); and

WHEREAS, subsequently, the parties entered into a First Amendment to Rooftop Telecommunications License Agreement dated effective October 1, 2008 ("First Amendment") and that certain Second Amendment to Rooftop Telecommunications License Agreement dated effective November 13, 2013 ("Second Amendment"); and

WHEREAS, Owner and Provider now desire to enter into this Third Amendment to the Agreement to extend the Term for an additional five (5) years and include two (2) five (5) year renewal options and confirm the Monthly License Fee.

NOW, THEREFORE, in consideration of the mutual obligations set forth in this Amendment and in the License Agreement, Owner and Provider hereby agree as follows:

1. Incorporation of Recitals. The recitals set forth above are incorporated herein as if set forth verbatim.
2. Amendment to Agreement. The Agreement is hereby amended as follows:
 - a. The term of the Agreement is hereby amended to: (1) extend the term for an additional five (5) years commencing November 1, 2018 and expiring October 31, 2023; and (2) so long as the Provider is not then in default under the terms of Agreement, as amended, Provider is hereby granted the option to renew the Term for two (2) additional five (5) year terms. The renewal options shall be automatic unless the Owner or Provider gives notice of intent not to renew one hundred eighty (180) days prior to the end of the then present term.

- b. The License Fee for the new term shall be \$2,426.08 per month effective November 1, 2018 and shall be subject to the 3% annual escalation as stated in the original Agreement.
3. Counterparts. This Third Amendment may be executed in a number of identical counterparts. If so executed, each of such counterparts is deemed to be an original for all purposes. If so executed, each of such counterparts shall, collectively, constitute one Amendment No. 1. An electronic signature will also be deemed to constitute an original if properly executed.
4. Defined Terms/Ratification of Agreement. Any term not defined herein shall be deemed to have the same definition identified in the Agreement. Except as expressly amended herein, all of the terms, provisions, covenants, and conditions of the Agreement are hereby ratified and confirmed and shall continue in full force and effect.
5. Authority to Execute. The individuals executing this Third Amendment represent and warrant that they are empowered and duly authorized to execute this Third Amendment on behalf of the parties they represent.
6. Entire Agreement/Amendment. The Agreement, the First Amendment, Second Amendment and this Third Amendment embody the entire agreement between the parties regarding the subject matter hereof. There are no oral understandings or arrangements between the parties regarding the subject matter hereof.
7. Venue. This Third Amendment shall be governed by and construed in accordance with the laws of the State of Texas and shall be performable in Dallas County, Texas.
8. Assignment. This Third Amendment may not be assigned except as authorized by the Agreement.

PROVIDER:

TOWN OF ADDISON
a Texas municipality

By: _____

Name: Wesley S. Pierson

Its: City Manager

Date: _____, 2019

OWNER:

COP SPECTRUM CENTER, LLC
a Texas limited liability company

By: Granite Properties, Inc.,
a Delaware corporation

Its: General Manager

By:  _____

Name: Clint Osteen

Its: Sr. Director, IT

Date: 6/18, 2019

STATE OF TEXAS §
COUNTY OF DALLAS §

BEFORE ME, the undersigned authority, on this day personally appeared **Wesley S. Pierson** known to me to be one of the persons whose names are subscribed to the foregoing instrument; he acknowledged to me he is the duly authorized representative for the **Town of Addison, Texas** and he executed said instrument for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this ____ day of _____, 2019.

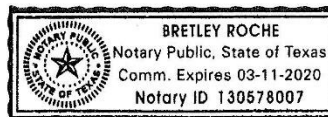
Notary Public in and for the State of Texas
My Commission Expires: _____

STATE OF Texas §
COUNTY OF Colin §

BEFORE ME, the undersigned authority, on this day personally appeared **Clint Osteen** known to me to be one of the persons whose names are subscribed to the foregoing instrument; he acknowledged to me he is the duly authorized representative for Clint Osteen and he executed said instrument for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this 18th day of June, 2019.

Bretley Roche
Notary Public in and for the State of Texas
My Commission Expires: 03/11/2020



Work Session and Regular Meeting

10.

Meeting Date: 06/24/2019

Department: Fire

Pillars: Gold Standard in Public Safety

AGENDA CAPTION:

Presentation of **Best Practices Recognition from the Texas Fire Chiefs Association for the Addison Fire Department.**

BACKGROUND:

The Texas Fire Chiefs Association (TFCA) Best Practices program is a voluntary process where fire departments prove their compliance with the TFCA's current best practices. Being "recognized" means the department meets or exceeds all of the identified best practices. The best practice categories include: administration and organization, emergency medical service, training, special operations, records and information management, fire operations, fire prevention/risk reduction/community outreach, response analysis, communications, safety and health, resources management, professional standards, and conduct.

The Addison Fire Department is proud to be the 20th department in the state to have achieved this recognition.

RECOMMENDATION:

Information only, no action required.

Work Session and Regular Meeting

11.

Meeting Date: 06/24/2019

Department: Development Services

AGENDA CAPTION:

Present, Discuss, and Consider Action on an Ordinance Granting a Meritorious Exception from the Code of Ordinances Chapter 62 Section 62-289 (a) Special District Addison Town Center for Ross Dress for Less Located at 3802 Belt Line Road, in Order to Permit a 458.25 Square Foot Wall Sign on the North Facade.

BACKGROUND:

Ross Dress for Less is a chain of off-priced department stores that is working on opening a new location at Addison Town Center.

Due to the large setback from Belt Line Road, Addison Town Center signage is regulated by Article VI Special Districts section of the Sign Code, which provides two options for signage located specifically within this shopping center.

Recognizing the extent of the setback for this shopping center, the intent of the Addison Town Center Special District is to provide for increased letter heights and increased overall sign square footage throughout the center, as compared to the usual Sign Code requirements for wall signs.

The Sign Code, Chapter 62 of the Code of Ordinances, states the following:
Section 62-289. – Generally.

(a) Addison Town Center (being that area to which Ordinance No. 094-069, adopted October 11, 1994, applies): Signs shall be permitted under either the (1) or (2) size option listed below:

(1) One sign per facade not to exceed 100 square feet, maximum square footage shall be one and one-half times the length of facade, maximum letter height to be 24 inches for all letters, maximum width of sign to be 75 percent of width of facade; or

(2) One sign allowed per 20 feet of linear frontage, maximum square footage of sign to be three and one-half percent of square footage of facade, maximum letter height to be six feet for all letters.

Section 62-1 Definitions, identifies the effective area of a sign as "the area enclosed by drawing a rectangle of horizontal and vertical lines which fully contain all extremities of the sign drawn to scale, including architectural design elements such as decorative bordering, but exclusive of the sign supports. The measurement is to be calculated from the viewpoint which gives the largest

rectangle of that kind as the viewpoint is rotated horizontally around the sign."

The applicant is proposing a sign utilizing the second option of the Addison Town Center Special District and is requesting a meritorious exception to allow an increase in the maximum allowed effective area, from 132.48 to 458.25 square feet. The proposed sign does not comply with the maximum effective area requirement as set forth by the Addison Town Center Special District, exceeding the allowance by 325.77 square feet. This equates to a 246% increase from what is allowed by Code.

Due to the building setback, extensive landscaping and other obstructions between the building and Belt Line Road, the sign will not be visible regardless of the size. The business will most likely be identified on Belt Line Road and Marsh Lane by panels on the existing multi-tenant signage. Addison Town Center also has directional signage within the center to guide patrons to the various businesses. While Addison Town Center has a history of visibility concerns, no other tenants have been granted meritorious exceptions.

RECOMMENDATION:

Administration recommends denial.

Attachments

Application - Ross Dress for Less

Ordinance - Meritorious Exception - Ross Dress for Less



ADDISON

MERITORIOUS EXCEPTION APPLICATION

To be completed by Town staff:

Application date: May 30, 2019 Application/Fee Received: _____ Fee paid: \$300.00

APPLICANT CONTACT

I hereby certify that the information in this application is true and correct to the best of my knowledge.

Name: (printed) Kenner Phiffer

Company name: Albrite Sales and Service

Address: _____

Phone: _____

Email: _____

Status of Applicant: ☐ Property Owner ☐ Tenant ☒ Contractor ☐ Other: _____

Applicant's Signature: _____

INFORMATION ABOUT THE REQUEST

Address or location: Addison Town Center, SEC East Belt Line Rd. & Marsh Lane

Reasons for Meritorious Exception: _____

Please see attached Letter of Justification and Exhibits

SUBMITTAL REQUIREMENTS

You must submit 2 paper copies (11x17) and a PDF of the following items:

- Site Plan showing:
 - Lot Lines
 - Names of Adjacent Streets
 - Location of Existing Buildings and Signs
 - Setbacks from the Proposed Sign/s
- Sign Plans of All Proposed Signs with:
 - Scales
 - Dimensions
 - All Letter/Logo Heights
 - Total Square Footage

INFRASTRUCTURE &
DEVELOPMENT SERVICES

16801 Westgrove Drive
Addison, TX 75001

P.O. Box 9010
Addison, TX 75001

phone: 972.450.2880
fax: 972.450.2837

ADDISONTEXAS.NET

IT ALL COMES
TOGETHER.

Variation Letter of Justification

Ross Dress For Less

Addison Town Center
Addison, TX

Background:

Ross Stores, Inc. currently operates over 40 Ross Dress For Less stores in the greater Dallas/Fort Worth area. These stores have proven to be an asset to the communities they serve. Opening the new Ross Dress For Less store at Addison Town Center is evidence of Ross' plans to partner with the City of Addison, but they find that they need to bolster their identity by increasing the signage entitlements dictated by the City's zoning ordinance. Therefore, as agents of Ross Stores, Inc., we are applying for a variance requesting an increase in the maximum sign area in order to overcome limitations caused by site and regulatory hardships.

The new Ross Dress For Less store will occupy the 21,067 sq. ft. in the now vacant Office Depot space. Their lease provides for a 118'-0" frontage. They will be employing around 50 full and part time employees. Section 62-163 of Addison's sign ordinance establishes a maximum sign area of 1 square foot of sign area per linear foot of frontage not to exceed 100 sq. ft. The proposed ROSS is 72" hi and the DRESS FOR LESS letters are 39" hi, and when by encapsulating the ROSS and DRESS FOR LESS separately is 270.75 sq. ft. There are also two small oval pedestrian-oriented wall plaques and one under-canopy sign.

Section 62-33 of the sign ordinance provides for Meritorious Exceptions, stating that "The council may consider appeals on the basis that such regulations and/or standards will, by reason of exceptional circumstances or surroundings, constitute a practical difficulty or unnecessary hardship or on the basis that the proposed improvement although falling under the definition of a "sign," constitutes art that makes a positive contribution to the visual environment."

The term "variance" is not defined in Chapter 211 of the Texas Local Government Code. A "variance" is defined by the Sixth Edition of Black's Law Dictionary, however, as "[p]ermission to depart from the literal requirements of a zoning ordinance by virtue of unique hardship due to special circumstances regarding [a] person's property. The purpose of a variance is to prevent the unconstitutional application of the zoning ordinance. It is in the nature of a waiver of the strict letter of the zoning law upon substantial compliance with it and without sacrificing its spirit and purpose. variance actually sanctions violations of the strict technical terms contained in a zoning ordinance.

Petitioner Justification (typical variance criteria)

- 1. The existence of exceptional and extraordinary physical circumstances.**

Sign ordinances are generally written with consideration that most retail businesses abut the street frontage in the traditional manner of retail development. In this case, the store is set back from the East Belt Line Rd. over 750 feet. This unique condition must be taken into account when considering the resulting size and proportion of the primary wall sign.

Furthermore, the required method of calculating sign area in a single, 4-sided box unfairly counts background area as sign area. If we were to box the ROSS and DRESS FOR LESS in separate boxes, the actual sign area would be 270.75 sf, rather than the 458.25 sf using the required method.

We feel that the required 132.48 sq. ft. maximum ROSS DRESS FOR LESS sign will look disproportionately small from such a long distance. We have prepared a photo-rendering to illustrate this dilemma.

2. Strict application of the zoning code would cause undue hardship.

Part of the purpose of the request for a meritorious exception from the sign regulations is that a larger sign will assure Ross Stores, Inc. and the City of Addison that the business will be seen and therefore improve their prospects of success.

3. The hardship is not self-imposed.

Addison Town Center is an existing development. Therefore the site conditions are inherited.

4. Granting the meritorious exception would not adversely affect adjacent properties.

The adjacent properties are exclusively retail, so the proposed variance would be consistent with the designated land use and not out of character of the area.

5. Granting the meritorious exception would not change the character of the zone district.

The essential character of Addison Town Center is retail. What Ross is proposing is not inconsistent with the existing appearance or purpose.

6. Granting the meritorious exception would not adversely affect health safety, and welfare.

Granting of the meritorious exception would not have any impact on the community's health, safety, and welfare. As a matter of fact, the Small Business Administration has documented how undersized signs actually lead to more traffic incidents because drivers are known to make unsafe moves if they can't find what they are looking for.

7. Granting the meritorious exception would not impair the purpose of the zoning code.

Section 62-33 states that the following procedures apply to the meritorious exception:

- (1) In the development of the sign criteria a primary objective has been to ensure against the kind of signage that has led to low visual quality. On the other hand, an equally primary objective has been guarding against overly controlled signage.
- (2) It is not the intention of these criteria to discourage innovation. It is entirely conceivable that signage proposals could be made that, while clearly not conforming to this chapter and thus not allowable under these criteria, have obvious merit in not only being appropriate to the particular site or location, but also making a positive contribution to the visual environment.
- (3) The Council may consider appeals on the basis of such regulations and/or standards will, by reason of exceptional circumstances or surroundings, constitute a practical difficulty or unnecessary hardship or on the basis that the improvement although falling under the definition of a “sign” constitutes art that makes a positive contribution to the visual environment.

(Underlines added by applicant)

Summary:

With this variance request, Ross Stores, Inc. is seeking to balance the visual perception of a sign that appears smaller than those closer to the traffic corridors. It would also signify the relative importance Ross Stores Inc. will play in the local economy. We believe that those businesses that have little or no setback from the retail traffic corridors of Addison actually have a special privilege. We are not asking for special privilege as much as we are asking that Ross Dress For Less, which is set back such a long distance, be given extra consideration regarding sign size.

We appreciate the opportunity to present our reasoning behind our request for limited relief from the City of Addison’s sign regulations. We feel that the purposes and intent of the ordinance and General Plan would be advanced by the requested deviations from the requirements, and the benefits of such a deviation will substantially outweigh the detriment that would result from ineffective identification.

Notes:

- ROSS CONTRACTOR TO PROVIDE:
- ADEQUATE ACCESS BEHIND LOGO LETTERS FOR INSTALLATION AND MAINTENANCE, PER ARTICLE 600 OF THE N.E.C.
 - ONE (1) 20 AMP 120V ISOLATED SIGN CIRCUIT AND JUNCTION BOX TO AREA BEHIND SIGN LETTERS CONNECTED TO THE ENERGY MANAGEMENT SYSTEM
 - AT LEAST 1/2" THICK PLYWOOD BACKING BEHIND ALL E.I.F.S. WALL SYSTEMS FOR SIGN AND BANNER SUPPORT
- SIGN FASCIA TO BE FREE OF JOINTS & REVEALS, AND OF A LIGHT COLOR (MINIMUM 80% L.R.V.) TO PROVIDE HIGH CONTRAST AND VISIBILITY FOR THE SIGN.
- COLOR APPEARANCE MAY BE ALTERED BY PRINTING, SEE APPROVED FINAL CONSTRUCTION DRAWINGS FOR COLOR SPECIFICATIONS.

- A** 72"H INDIVIDUAL "ROSS" PAN CHANNEL LETTER-LOK LOGO LETTERS:
FACES: TUF-GLAS SG 21210-E4 MATTE BLUE
RETURNS: 8"D ALUM. W/ WHITE FINISH
TRIM CAP: 2" WHITE JEWELITE
LETTER BACKS: ALUMINUM
LEDs: INSEM SS-KDL2CL-RW 9000K WHITE
MOUNTING: 1/4"-20 GALV. THRU BOLTS
PEG OFF: 1/2" SPACERS
- B** 39"H INDIVIDUAL "DFL" LOGO LETTERS:
ALL CALLOUTS SAME AS "ROSS" EXCEPT:
RETURNS: 5"D ALUM. W/ WHITE FINISH
TRIM CAP: 1" WHITE JEWELITE
- C** 23"H X 46"W X 10"D DOUBLE-FACE INTERNALLY ILLUMINATED UNDER-CANOPY SIGN, SEE SHEET UC FOR DETAILS.
- D** 24"H X 48"W X 1"D SINTRA OVAL "ROSS" LOGO WALL PLAQUE TWO (2) REQUIRED AS SHOWN, SEE SHEET EL FOR DETAILS.

- 1** SIGN FASCIA BY ROSS CONTRACTOR, SEE NOTES



1 STOREFRONT · SOUTH · EAST BELT LINE ROAD · ELEVATION

SCALE: 3/32" = 1'- 0"

RB-E

SHEET

S17839

CODE COMPLIANT:
SIGN AREA CALCULATION

ROSS DRESS FOR LESS
11.75' x 39.0' = 458.25 SF
ROSS DFL 4'H x 26.5'W = 114.5 sf
TOTAL 46.82'W = 304 sf 14.5 sf

SIGN AREA ALLOWED: 126 S.F.
SIGN AREA USED: 121.72 S.F.
GROSS CANOPY AREA: 3,766.1 SF
SIGN AREA ALLOWED:
3 ROSS 1 X .035 = 132.48 SF
TOTAL PROPOSED SIGN AREA: 6 S.F.
458.25 SF
UC SIGN: 1.9 X 3.8' = 7.22 S.F.



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albany, ca 94706-0153
510/526-0296 fax 526-6092
www.billmoore.com



2156 ADDISON
Addison Town Center
SEC East Belt Line Road & Marsh Lane
Addison, TX

drawn 10/23/17
Exhibit J 01/31/18
rev per AE2-1 12/20/18
Revised sign calc 01/08/19
SM- 39" DFL 02/21/19
SM - sign area calc. 5/17/19

Notes:

ROSS CONTRACTOR TO PROVIDE:

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SIGN FASCIA TO BE FREE OF JOINTS & REVEALS, AND OF A LIGHT COLOR (MINIMUM 80% L.R.V.) TO PROVIDE HIGH CONTRAST AND VISIBILITY FOR THE SIGN.

COLOR APPEARANCE MAY BE ALTERED BY PRINTING, SEE APPROVED FINAL CONSTRUCTION DRAWINGS FOR COLOR SPECIFICATIONS.

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- 1 SIGN FASCIA BY ROSS CONTRACTOR, SEE NOTES

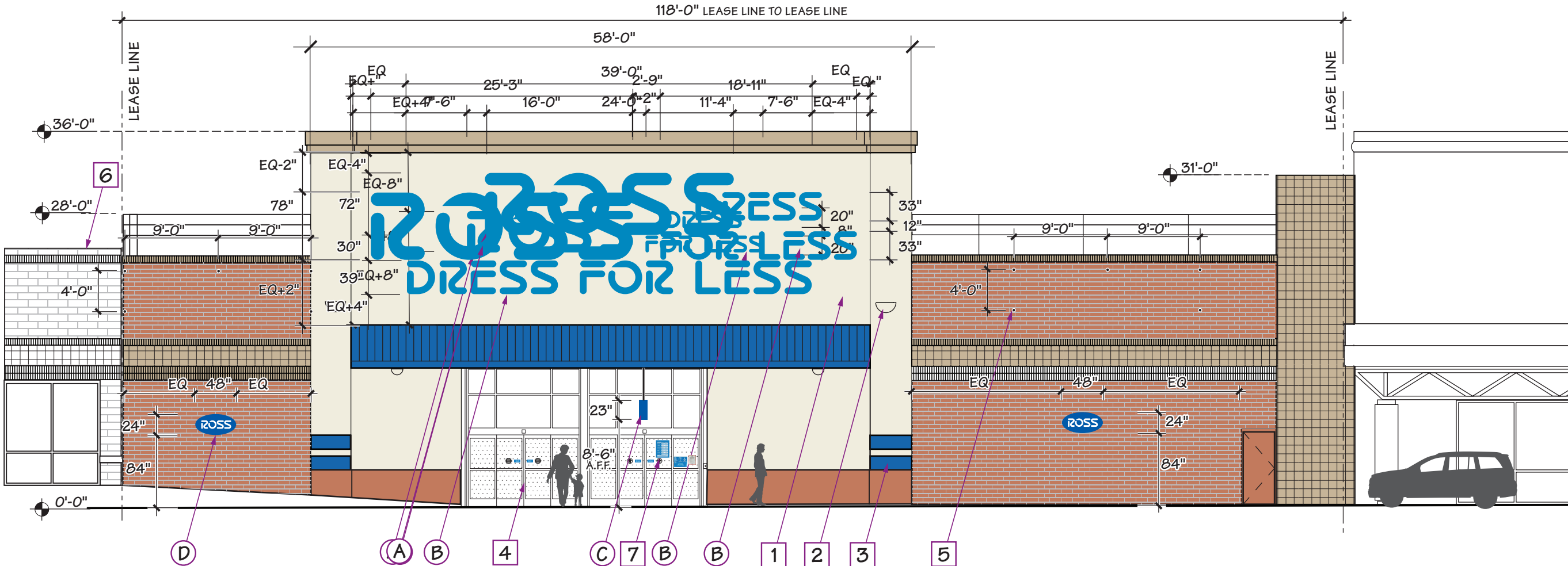
2 TYPICAL ARCHITECTURAL LIGHTING BY ROSS CONTRACTOR

3 TYPICAL ROSS BLUE IDENTITY BANDS BY ROSS CONTRACTOR

4 CLEAR ANODIZED ALUMINUM STOREFRONT & DOORS BY ROSS CONTRACTOR
- 5 SET OF FIVE (5) EYE-BOLTS FOR BANNER ATTACHMENT BY ROSS CONTRACTOR. TWO (2) SETS REQUIRED AS SHOWN.

6 ADJACENT PARAPET MAY NOT BE HIGHER THAN ROSS BASE BUILDING

7 STORE HOURS, ENTRY/EXIT, ETC. DECALS BY ROSS STORES



1 STOREFRONT • SOUTH • EAST BELT LINE ROAD • ELEVATION

SCALE: 3/32" = 1'- 0"

VARIANCE:
SIGN AREA CALCULATION

ROSS DRESS FOR LESS	SIGN AREA ALLOWED: 126 S.F.
ROSS DRESS FOR LESS	SIGN AREA USED: 327.22 S.F.
ROSS DRESS FOR LESS	SIGN AREA ALLOWED: 132.48 S.F.
ROSS DRESS FOR LESS	SIGN AREA USED: 114.50 S.F.
ROSS DRESS FOR LESS	WALL PLAQUES: 2' X 4' X 2' = 16 S.F.
ROSS DRESS FOR LESS	UC SIGN: 1.9 X 3.8' = 7.22 S.F.

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drawn	10/23/17
Exhibit J	01/31/18
rev per AE2-1	12/20/18
Revised sign calc	01/08/19
SM- 39" DFL	02/21/19
SM - sign area calc.	5/17/19

TOWN OF ADDISON, TEXAS

ORDINANCE NO. 019-_____

AN ORDINANCE OF THE CITY COUNCIL OF THE TOWN OF ADDISON, TEXAS GRANTING A MERITORIOUS EXCEPTION TO SECTION 62-289(a) SPECIAL DISTRICTS, ADDISON TOWN CENTER, OF CHAPTER 62 OF THE CODE OF ORDINANCES TO ALLOW A 458.25 SQUARE FOOT SIGN ON THE NORTH ELEVATION, ON THE PROPERTY LOCATED AT 3802 BELT LINE ROAD, PROVIDING A PENALTY NOT TO EXCEED FIVE HUNDRED AND NO/100 DOLLARS (\$500.00) FOR EACH OFFENSE AND A SEPARATE OFFENSE SHALL BE DEEMED COMMITTED EACH DAY DURING OR ON WHICH A VIOLATION OCCURS OR CONTINUES; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, Chapter 62 of the Code of Ordinances regulates signage in the Town of Addison; and

WHEREAS, Section 62-33 permits the City Council to approve exceptions to the provisions of Chapter 62 in cases that have obvious merit in not only being appropriate to the particular site or location, but also in making a positive contribution to the visual environment; and

WHEREAS, the City Council has determined that the grant of the meritorious exception contained herein is in the best interest of the public and promotes the visual environment of the Town.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE TOWN OF ADDISON, TEXAS:

Section 1. That the recitals and findings set forth above are hereby found to be true and correct and incorporated as if fully set forth herein.

Section 2. That a meritorious exception to Section 62-289(a) Special Districts, Addison Town Center, of Chapter 62 of the Code of Ordinances is hereby granted to allow a 458.25 square foot wall sign on the north facade, front elevation, as detailed in **Exhibit A**, for Ross Dress for Less, located at 3802 Belt Line Road. No other additional signage is permitted unless it complies with Chapter 62 of the Code of Ordinances.

Section 3. Any person, firm, corporation, or other business entity violating any of the provisions or terms of this Ordinance shall, in accordance with Section 62-35 of the Town of Addison Code of Ordinance (Violations), be fined, upon conviction, in an amount of not more than Five Hundred and No/100 Dollars (\$500.00), and a separate offense shall be deemed committed each day during or on which a violation occurs or continues.

Section 4. That this Ordinance shall take effect from and after its date of adoption and publication as required by law.

PASSED AND APPROVED BY THE CITY COUNCIL OF THE TOWN
OF ADDISON, TEXAS, on this the 24th day of June, 2019.

Joe Chow, Mayor

ATTEST:

Irma Parker, City Secretary

APPROVED AS TO FORM:

Brenda N. McDonald, City Attorney

Ordinance No. _____

Exhibit A

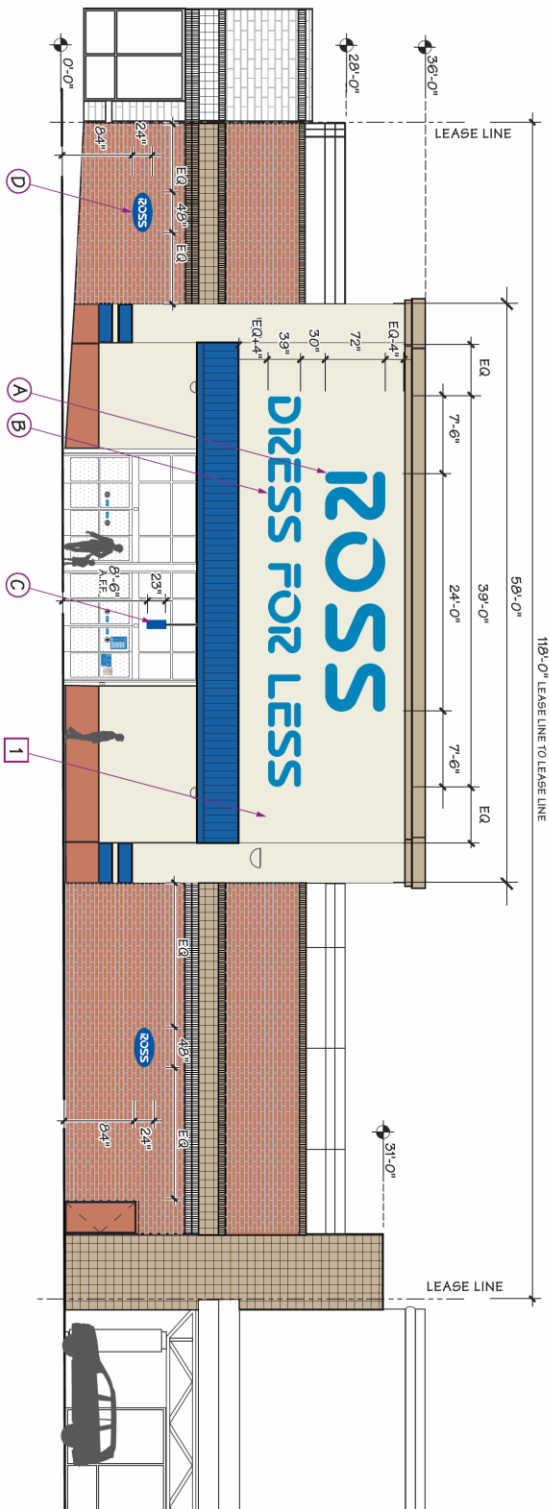
Notes:

ROSS CONTRACTOR TO PROVIDE:

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COLOR APPEARANCE MAY BE ALTERED BY PRINTING. SEE APPROVED FINAL CONSTRUCTION DRAWINGS FOR COLOR SPECIFICATIONS.

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TWO (2) REQUIRED AS SHOWN, SEE SHEET EL FOR DETAILS.
- (1) SIGN FASCIA BY ROSS CONTRACTOR, SEE NOTES



SIGN AREA CALCULATION

ROSS
DRESS FOR LESS
11'7" x 39'0" = 463.25 SF

GROSS FACADE AREA = 3,785.1 SF
SIGN AREA ALLOWED:
3,785.1 X .035 = 132.48 SF
TOTAL PROPOSED SIGN AREA:
463.25 SF

1 STOREFRONT - SOUTH - EAST BELT LINE ROAD - ELEVATION

SCALE: 3/32" = 1'-0"

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ROSS
DRESS FOR LESS

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down
Exhibit J
rev per AE2-1
Revised sign calc
SM - Sign area calc.

10/23/17
01/13/18
12/20/18
01/08/19
02/21/19
5/17/19

SHEET
172
39

Work Session and Regular Meeting

12.

Meeting Date: 06/24/2019

Department: Development Services

AGENDA CAPTION:

Hold a Public Hearing, Discuss, and Consider Action Regarding **Potential Changes to Regulations for Political Signs.**

BACKGROUND:

At the Work Session on May 28, 2019, the City Council discussed the Town's current regulations and enforcement procedures related to political signage. At that time, Council directed Staff to explore changing the Town's political signage regulations to accomplish the following:

- Prohibit political signs within the public right-of-way (ROW)
- Formally prohibit political signs on Town-owned property, such as parks and Town facilities
- Establish limitations on political signs near polling places

The Council also requested that staff survey how surrounding cities regulate political signs. Staff reached out to several nearby cities, and the results are summarized in the table below:

City	Allowed in the ROW?	Allowed on Public Property?	Allowed at Polling Places?
Allen	No	No	Yes, with local restrictions
Carrollton	No	No	Yes, with local restrictions
Coppell	No	No	Yes, with local restrictions
Farmers Branch	No	No	Yes, regulated by Election Judge
Frisco	No	No	Yes, regulated by Election Judge
McKinney	No	No	Yes, with local restrictions
Plano	No	No	Yes, with local restrictions
Richardson	No	No	Yes, with local restrictions

Based on Council's direction, Staff has drafted changes to the Code of Ordinances Section 62-247. - Political Signs. These changes are detailed in the attached exhibit. The proposed changes would remove the existing regulations on signs in the ROW and replace them with new language expressly prohibiting signs in the ROW and on Town-owned property with two exceptions.

1. Signs would be allowed in the front and side yards of single-family residential properties as long as the signs are at least three feet away from the edge of the street or, in locations with sidewalks, three feet away from the edge of the sidewalk. Staff is proposing this exception because in many of the Town's single-family neighborhoods, the ROW extends well into what residents consider their yard. In Midway Meadows, for example, the ROW extends 11.5 feet behind the back of the street curb. There is another residential property in Town where the ROW extends 50 feet into what appears to be the resident's front yard. To simplify enforcement for property owners and Staff, the proposed language would not distinguish between the ROW and single-family residential front and side yards as long as the sign is at least three feet from the edge of the pavement. This exception would not apply to rear yards adjacent to streets.

2. Signs would be allowed on Town-owned property that has been designated as a polling place. In such locations, two political signs would be allowed per candidate or issue for the period of time beginning with early voting and continuing through the completion of the election. Prior to the voting period, Staff will mark an area where signs are allowed. Signs in these locations would be limited in size to no more than 12 square feet and four feet in height and would prohibit illuminated signs or signs with moving elements.

This item is listed on the agenda as a public hearing so that the community can provide input. The proposed regulations and the public hearing were publicized in the June 21, 2019 Town newsletter. Based on any input received, Staff will request direction from Council, and will bring back an ordinance formally adopting new regulations for political signs at the July 9, 2019 Council Meeting.

RECOMMENDATION:

Staff requests direction from Council.

Attachments

Political Signs - Proposed Ordinance Changes

Sec. 62-247. - Political signs.

- (a) A political sign that conforms to the provisions of this section is permitted. For a political sign, no permit shall be required and no fee shall be required for the sign to be placed.
- (b) A political sign that is permitted by subsection (a) of this section must:
 - (1) Be located on private real property with the consent of the property owner;
 - (2) Not have an effective area greater than 36 square feet;
 - (3) Not be more than eight feet in height;
 - (4) Not be illuminated;
 - (5) Not have any moving elements.
- (c) For purposes of this section, "private real property" does not include real property subject to an easement or other encumbrance that allows a municipality, including the town, to use the property for a public purpose.

(d) Political signs are not permitted within the public right-of-way or on any real property owned by the Town of Addison, with the following exceptions:

- (1) In single family neighborhoods, political signs may be placed in any portion of the front or side yard that may include the public right-of-way, if the political sign is placed at least three feet away from the edge of the street or, in locations with sidewalks, three feet away from the edge of the sidewalk pavement.
- (2) On any town-owned property that has been designated as an election polling place, two political signs per candidate, proposition or measure may be placed in an area designated by Town staff for the period of time beginning with early voting by personal appearance and continuing through the completion of the election contest including any runoff election. Such signs may not:
 - Have an effective area greater than 12 square feet;
 - Be more than four feet in height;
 - Be illuminated; or
 - Have any moving elements.

- (de) This section does not apply to a sign, including a billboard, that contains primarily a political message on a temporary basis and that is generally available for rent or purchase to carry commercial advertising or other messages that are not primarily political.

~~(e) Subject to the provisions of this subsection, a political sign which refers only to an issue or candidate involved in a political election may be located within a public street right-of-way not more than 30 days prior to the date of the election to which the sign relates, and must be removed not later than two days following the date of the election. A political sign so placed in the public right-of-way shall:~~

- ~~(1) Be placed at least three feet from the edge of the pavement of the public street right-of-way;~~
- ~~(2) Not extend over any public sidewalk or path;~~
- ~~(3) Not exceed 12 square feet in area nor four feet in height;~~
- ~~(4) Not be placed within a street or roadway median or block vehicular visibility.~~

Work Session and Regular Meeting

13.

Meeting Date: 06/24/2019

Department: City Manager

AGENDA CAPTION:

Present, Discuss, and Consider Action on an **Ordinance Appointing Danielle Dulaney as an Alternate Municipal Judge of the Addison Municipal Court of Record No. 1 and Approving a Compensation Agreement to Perform Services as an Alternate Municipal Judge and Administer the Oath of Office.**

BACKGROUND:

On June 11, 2019, the City Council interviewed three candidates for the vacant Alternate Judge position during Executive Session. This ordinance will appoint and issue the Oath of Office to Danielle Dulaney as an Alternate Municipal Judge for the Town of Addison Municipal Court of Record No.1. She will join the Municipal Court team consisting of Presiding Municipal Judge Larry Dwight and Alternate Municipal Judge Cass Calloway.

Danielle Dulaney will be employed on an on-call basis and is expected to be reasonably available to perform her role as an Alternate Judge as requested by the Town. Ms. Dulaney will fill the term that expires on December 31, 2020.

Also included in this item is a compensation agreement. Ms. Dulaney will receive \$100 per hour for work performed while acting in her judicial capacity for the Town. These funds are budgeted and available in the Municipal Court department budget in the General Fund.

RECOMMENDATION:

Administration recommends approval.

Attachments

Ordinance - Appointing Dulaney as Alternate Municipal Judge and Approving a Compensation Agreement

TOWN OF ADDISON, TEXAS

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE TOWN OF ADDISON, TEXAS, APPOINTING DANIELLE DULANEY AS ALTERNATE MUNICIPAL JUDGE OF ADDISON MUNICIPAL COURT OF RECORD NO. 1; APPROVING A COMPENSATION AGREEMENT WITH DANIELLE DULANEY TO PERFORM SERVICES AS AN ALTERNATE MUNICIPAL JUDGE, AND AUTHORIZING THE CITY MANAGER TO EXECUTE THE AGREEMENT; PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City Council of the Town of Addison has determined that an Alternate Municipal Judge of Addison Municipal Court of Record No. 1 is necessary to perform certain judicial functions in the Town of Addison; and

WHEREAS, the City Council of the Town of Addison has determined that Danielle Dulaney should be appointed as Alternate Municipal Judge of Addison Municipal Court of Record No. 1; and

WHEREAS, the City Council of the Town of Addison has determined that a compensation agreement should be entered into with Danielle Dulaney to perform services as an Alternate Municipal Judge of Addison Municipal Court of Record No. 1.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE TOWN OF ADDISON, TEXAS:

Section 1. Incorporation of Premises. The above and foregoing premises are true and correct and are incorporated herein and made a part hereof for all purposes.

Section 2. Appointment. The City Council of Addison hereby appoints Danielle Dulaney as Alternate Municipal Judge of Addison Municipal Court of Record No. 1 to serve for a term which shall begin on June 24, 2019 and shall end on December 31, 2020. Danielle Dulaney may not serve beyond the said term except upon the express authorization of the City Council, and this provision shall control over any law, rule, or regulation in conflict herewith.

Section 3. Authorization to Execute. The Compensation Agreement by and between the City and Danielle Dulaney regarding her service as an Alternate Municipal Judge of the Addison Municipal Court of Record No. 1, a true and correct copy of which is attached hereto as Exhibit A, is hereby approved. The City Manager or the City Manager's designee is authorized to execute the said Compensation Agreement on behalf of the City.

Section 4. Effective Date. This Ordinance shall take effect on June 24, 2019.

PASSED AND APPROVED by the City Council of the Town of Addison, Texas this 24th day of June, 2019.

Joe Chow, Mayor

ATTEST:

By: _____
Irma Parker, City Secretary

APPROVED AS TO FORM:

By: _____
Brenda McDonald, City Attorney

STATE OF TEXAS §
 §
COUNTY OF DALLAS §

KNOW ALL MEN BY THESE PRESENTS

AGREEMENT

For and in consideration of the mutual terms, conditions and covenants herein contained, the following Agreement is entered into by and between THE TOWN OF ADDISON, TEXAS (hereinafter referred to as “City”) and DANIELLE DULANEY (hereinafter referred to as “DULANEY”) (hereinafter collectively the City and Dulaney are referred to as the “Parties”).

I.

The City does hereby appoint, Dulaney as Alternate Judge of Addison Municipal Court of Record No. 1 for a term to commence on June 24, 2019 and to expire December 31, 2020.

II.

As Alternate City Judge, Dulaney shall perform such functions as arraignment of prisoners and any other functions requested of him to assist the Presiding Municipal Judge. Dulaney is employed on an on-call basis and is expected to be reasonably available to perform her role as Alternate Judge as requested by the City. Dulaney is required to provide her own robe. Dulaney is further required to spend a reasonable amount of time participating in judicial continuing legal education programs so as to enhance her abilities to perform as Alternate City Judge and to enhance the stature of such office at her own expense.

III.

In consideration for such services, Dulaney shall receive compensation of One Hundred and No/100 Dollars (\$100.00) per hour, with a minimum of one hour’s compensation to be paid to Dulaney per sitting in her judicial capacity. The City’s obligations are funded from current funds.

IV.

The City makes no warranties or representations as to the amount of work Dulaney will receive under this Agreement.

V.

Dulaney may be removed from office by the City at any time for incompetency, misconduct, malfeasance, or disability, or other reason(s) as may be authorized by or not inconsistent with law. Dulaney shall be required to provide thirty (30) days’ notice of resignation.

VI.

The terms, obligations, and requirements of this Agreement shall be construed in accordance with the laws of the State of Texas, without regard to conflict of law provisions of any jurisdiction. The obligations and requirements of the Parties hereto are performable in Dallas County, and exclusive venue for any dispute relating to this Agreement shall be in Dallas County.

VII.

The Parties further agree that Dulaney may only serve beyond the term of this Agreement as provided by the laws and Constitution of this State.

VIII.

This Agreement is executed on behalf of the City by the City Manager or his designee who is authorized to execute this instrument by order heretofore passed and duly recorded in its minutes.

IX.

This instrument shall be the entire agreement and understanding between the Parties and supersedes any and all prior agreements, arrangements, or understandings between the parties relating to the subject matter. No oral understandings, statements, promises, or inducements contrary to the terms of this Agreement exist. This Agreement cannot be changed orally.

WITNESS the signatures of all parties hereto in single or multiple originals on this the ____ day of _____, 2019, in Addison, Dallas County, Texas.

DANIELLE DULANEY

TOWN OF ADDISON, TEXAS

Danielle Dulaney

By: _____
Wesley S. Pierson, City Manager

Work Session and Regular Meeting

14.

Meeting Date: 06/24/2019

Department: City Manager

Milestones: Implementation and continuous development of Long Term Financial Plan

AGENDA CAPTION:

Present and Discuss the **Addison Community Bond Advisory Committee's Final Report on a Recommendation for a Bond Program and Review the Program's Propositions, Projects, Financing, and Process.**

BACKGROUND:

The purpose of this agenda item is for Council and Staff to discuss the recommended bond program's propositions, projects, financing, and process.

On November 27, 2018, the Council appointed 28 community members to the Community Bond Advisory Committee whose stated purpose was:

- To assess and review information related to proposed future capital projects;
- To provide input in developing a final list of projects;
- To make a recommendation to Council concerning whether a bond election should be called and, if so, what projects should be included; and,
- To serve as community advocates for the bond program election, if Council decides to call an election.

The Council charged the Committee with making a recommendation as to whether a bond election should be held in November 2019. In order to accomplish this, the Committee sought to answer three questions:

- Should a bond election be held?
- If so, what projects should be included?
- What are the recommended propositions?

The Committee met a total of nine times from January to May 2019. During those meetings, staff presented the Committee with information about twenty-one proposed projects to improve the Town's infrastructure. The proposed projects covered the areas of information technology, parks and recreation, buildings systems, roads, and land acquisition. Staff also provided estimated project costs and the asset condition scores from the Asset Management Report, where applicable.

The Committee then ranked the proposed projects according to the criteria the Committee had developed. Once ranked, the Committee chose 15 projects that they believe should be included in a bond program. These projects were also divided into five proposed propositions. The total cost of the recommended projects is \$85,620,002.

- Proposition 1 - Roads (East West) \$22,900,000
- Proposition 2 - Roads (North South) \$33,602,000
- Proposition 3 - Buildings \$7,395,000
- Proposition 4 - Recreation and Lifestyle \$6,723,002
- Proposition 5 - Investment in the Future \$15,000,000

The Committee's final report was presented to Council by Community Bond Advisory Committee Chair Ralph Doherty on June 11, 2019 during a City Council Work Session.

The attached presentation is intended to help Council and community members understand how the recommended bond propositions were identified, how their associated projects were selected and prioritized, and how the cost estimates for the various projects were developed. Future presentations will focus on the financial impact of the recommended bond program, the bond election process and timing, and how bond information will be communicated to residents.

This and future presentations are intended to facilitate discussion, provide information, and answer questions in order for the City Council to decide whether or not to call for a bond election.

Information about the Bond Advisory Committee's meetings can be found on the Town's website by visiting:

<https://addisontexas.net/bc/community-bond-advisory-committee>

RECOMMENDATION:

Staff requests direction from Council.

Attachments

Presentation - Proposed Bond Program Propositions and Projects

Proposed Bond Program Propositions and Projects

City Council

June 24, 2019



Bond Committee Process and Considerations

- 28-member committee
- Met 9 times from January 30th to May 23rd
- Considered projects presented by Staff
 - Are these bond worthy projects?
 - Should the Committee recommend a bond program to Council?
 - If so, what projects and propositions?
- What criteria should be considered to select projects?
- What is the impact on Addison's brand?
- What monetary level of bond program would the community accept?
- How should needs be balanced with community support and aspirational goals?

Project Information and Selection

The logo for Addison, featuring the word "ADDISON" in a bold, blue, sans-serif font. The text is centered within a white circle, which is itself set against a blue background. The blue background is part of a larger graphic element on the right side of the slide, which includes diagonal white lines and a grey triangle in the top right corner.

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Staff Project Selection Process

- Information gathered from the asset management plan, capital improvement plans, master plans, other evaluations and assessments
- Street Condition Assessment
 - Pavement Condition Index: 0 to 100 scale
 - International Roughness Index: 0 to 1000 scale
 - Visual condition assessment
- Likelihood and consequence of failure
 - Impact to service and community if failure occurs
- Assets considered most critical
 - Provision of services
 - Community identification – Addison brand
 - Economic development
- Strategic goals – future focus

Committee Project Selection Process

- Heard presentations describing each project
 - Asset Management score
 - Estimated cost
- Developed evaluation criteria
- Participated in keypad polling
 - Project description
 - Residents “lens”
 - “Initial reaction”
- Completed online survey
 - Council appointee “lens”
 - Project information – description, cost, asset management score
- Discussed and finalized project recommendation list

Bond Committee Criteria

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Improved Transportation

- Ingress and egress to TOA, ease of mobility
- Traffic Management
- Mobility, pedestrian safety
- Walkability

Economic Vitality / Development

- Commercial attractiveness
- Desirability
- Quality of Life
- Place to "be"
- New business recruitment
- Commercial attractiveness
- Addison means "..."
- Brand management
- Competitiveness

Safety and Security

- Public safety
- Crime, Enforcement

Recreation and Leisure

- Programs for families/kids
- Add programs to Athletic Club
- Athletic Club expansion
- Size, quality, and capacity
- Invest in people

Bond Committee Criteria (continued)

Effective Management

- Facility consolidation
- Interdependencies
- Reduce excess facilities
- Value proposition
- Aggregate small properties

Strategic Direction

- Priority – Most important first
- Timing of project
- When, multiple years
- Manage and spend funds judiciously
- Invest in future
- Town of Addison acquire to develop

Asset Management

- Useful Life
- Asset Management - Red, Yellow, Green
- Minimize "deferred maintenance"

Fiscal Responsibility

- Cost / Best estimate
- Future cost implications
- Consider encumbrances
- Fiscal management
- Corporate Sponsorships
- New avenues of funding
- Benefit to taxpayers
- Bonding capacity

Projects Presented by Staff

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Staff Presented 21 Projects

These projects fall in to 5 broad categories:

- Information Technology
- Buildings
- Parks and Recreation
- Streets
- Strategic Goals

1. Smart City

- Expansion of License Plate Recognition (LPR) Network
- Advanced Traffic Management System (ATMS)
- Town-Wide Mesh Wireless Network
- Automated Meter Reading System (AMRS)
- Drone Technology
- Total Estimated Cost: \$5,000,000
- Asset Management Risk Factor: N/A

2. Americans with Disabilities Act Compliance
 - Total Estimated Cost: \$3,850,000
 - Asset Management Risk Factor: Yellow and Green
3. Roof Replacements
 - Total Estimated Cost: \$4,000,000
 - Asset Management Risk Factor: Red and Yellow
4. Gun Range Air Filtration
 - Total Estimated Project Cost: \$360,000
 - Asset Management Risk Factor: N/A
5. HVAC Replacements
 - Total Estimated Project Cost: \$1,535,000
 - Asset Management Risk Factor: Red and Yellow (High)

Parks and Recreation Projects

6. Athletic Club Update Master Plan
 - Total Estimated Project Cost: \$4,961,326
 - Asset Management Risk Factor: Yellow
7. Additional Athletic Club Improvements
 - Total Estimated Project Cost: \$4,742,167
 - Asset Management Risk Factor: Hot tub – Red; others N/A
8. Les Lacs Pond Improvements
 - Total Estimated Project Cost: \$3,282,110
 - Asset Management Risk Factor: Yellow and N/A
9. Trail Rehabilitation, Expansion, Wayfinding Elements
 - Total Estimated Project Cost: \$412,725
 - Asset Management Risk Factor: N/A

10. Keller Springs Road

Asphalt to concrete roadway; upsize existing utilities; install Master Transportation Plan elements; right-of-way acquisition; medians, sidewalks, landscaping; and, replacement of traffic signal

- Year Built – 1979
- Limits – Dallas North Tollway to Addison Road
- Average Traffic – 15,000 Vehicles Per Day
- Pavement Condition Index – 35 (Very Poor)
- International Roughness Index – 343
- Estimated Project Cost: \$12,900,000
- Asset Management Risk Factor: Red

11. Airport Parkway

Asphalt to concrete roadway; upsize existing utilities; install Master Transportation Plan elements; right-of-way acquisition; medians, sidewalks, landscaping; and, replacement of traffic signal

- Year Built – 1978
- Limits – Dallas North Tollway to Addison Road
- Average Traffic – 3,000 Vehicles per Day
- Average Pavement Condition Index – 44 (Poor)
- Average International Roughness Index – 338
- Estimated Project Cost – \$9,400,000
- Asset Management Risk Factor – Red

12. Quorum Road

Concrete roadway; upsize existing utilities; install Master Transportation Plan elements; right-of-way acquisition; medians, sidewalks, landscaping, and replacement of 3 traffic signals

- Year Built – 1980 and 1985
- Limits – Dallas North Tollway to DART rail Right-of-Way
- Composition – Concrete
- Average Traffic – 8,400 Vehicles per Day
- Average Pavement Condition Index – 59 (Fair)
- Average International Roughness Index – 375
- Estimated Project Cost – \$26,302,000
- Asset Management Risk Factor – Red

13. Montfort Drive

Concrete roadway; upsize existing utilities; install Master Transportation Plan elements; right-of-way acquisition; medians, sidewalks, landscaping.

- Year Built – 1981
- Limits – Belt Line Road to Town of Addison City Limits
- Composition – Concrete
- Average Traffic – 20,000 Vehicles per Day
- Average Pavement Condition Index – 58 (Fair)
- Average International Roughness Index – 392
- Estimated Project Cost – \$7,300,000
- Asset Management Risk Factor – Red

14. Addison Road

Asphalt to concrete roadway; upsize existing utilities; install Master Transportation Plan elements; right-of-way acquisition; medians, sidewalks, landscaping, and replacement of 5 traffic signal

- Year Built – 1983
- Rehabilitation – 2015
- Limits – Arapaho Road to Town of Addison City Limits
- Composition – Asphalt
- Average Traffic – 16,000 Vehicles per Day
- Average Pavement Condition Index – 83 (Satisfactory)
- Average International Roughness Index – 275
- Estimated Project Cost – \$64,600,000
- Asset Management Risk Factor – Red

Street Projects (Future)

- 15. Beltway Drive to Gillis Road – \$20,300,000
- 16. Beltway to Arapaho Road – \$12,600,000
- 17. Landmark Blvd to Dallas North Tollway – \$1,500,000
- 18. North Beltwood Drive to Inwood Road – \$7,200,000
- 19. Beltway Drive to Inwood Road – \$16,100,000
- 20. Artist Way to Addison Road – \$1,400,000

21. Special Area Studies Strategic Land Acquisition

- Total Estimated Project Cost: \$15,000,000
- Asset Management Risk Factor: N/A

Committee Recommended Propositions and Projects

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Committee Propositions/Projects

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Proposition 1: Roads (East West)	Asset Management Score	\$ 22,900,000
Advanced Traffic Management System	N/A	\$ 600,000
Reconstruction of Keller Springs Road	RED	\$ 12,900,000
Reconstruction of Airport Parkway	RED	\$ 9,400,000
Proposition 2: Roads (North South)		\$ 33,602,000
Reconstruction of Quorum Drive	RED	\$ 26,302,000
Reconstruction of Montfort Drive	RED	\$ 7,300,000
Proposition 3: Buildings		\$ 7,395,000
Improvements Needed to Address Americans with Disabilities Act Compliance	YELLOW	\$ 1,500,000
Roof Replacements	RED	\$ 4,000,000
Police Gun Range Air Filtration System	N/A	\$ 360,000
HVAC Replacements	RED	\$ 1,535,000
Proposition 4: Recreation and Lifestyle		\$ 6,723,002
Athletic Club Improvements –		
Locker Room Reconfiguration and Firewall Improvement	YELLOW	\$ 1,556,035
Gymnasium and Track Improvements	YELLOW	\$ 462,679
Pool Modernization	RED	\$ 1,009,453
Les Lacs Pond Improvements	YELLOW	\$ 3,282,110
Trail Rehabilitation, Expansion, and Addition of Wayfinding Elements	N/A	\$ 412,725
Proposition 5: Investment in the Future		\$ 15,000,000
Special Area Study – Strategic Land Acquisition	N/A	\$ 15,000,000
Total all Propositions		\$ 85,620,002

Development of Estimated Project Costs

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How were costs developed? – Street Projects

- Streets – Jacobs Engineering Group developed detailed cost estimates:
 - Current project plans, as-builts, GIS, and survey information
 - Utility plans and drainage reports
 - Typical cross sections developed based on the Town's design standards and the Master Transportation Plan
 - Planning level cost estimates developed using costs from other recent city, county, and TxDOT construction projects
 - Soft costs were applied as a percentage of the total construction cost for administrative (2%), engineering (10.5%), legal (1%), and construction support (13%) and reimbursements (1%)
 - 20% contingency was added to the cost of each project
 - An escalated cost was calculated using the Engineering News Record's Construction Cost Index (CCI)

How were costs developed? – Information Technology

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- Consultant and contractors developed pricing for the projects using a conservative approach
- 10% project contingency was included in the cost estimates
- A 5% inflationary factor was added

How were costs developed? – Buildings

- Staff worked with contractors in the field to develop cost estimates for each project
- 3% inflationary factor was built in to the project costs
- 7% used for HVAC to account for potential tariffs
- 15% project contingency was included in the cost estimates
- The facility and accessibility improvement estimates require additional scrutiny

How were costs developed? – Parks and Recreation

- Staff worked with an Architectural and Engineering consultant and contractors in the field, using a conservative approach, to develop cost estimates for each project
- Updated cost estimates were provided as of April 2019
- 3% inflationary factor added for each year assumed beyond 2019
- 15% project contingency was included in the cost estimates

How were costs developed? – Strategic Goals

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- Used Dallas County Appraisal District (DCAD) parcel value data for each of the parcels
- Assumed average value of \$1.5 million per acre

- Bond Financing
 - Council authorization
 - Tax rate potential impact
- Election Timing and Legal Mechanics
 - What is the cost of the election?
 - Who does what, by when?
- Communication Plan
 - Education (roles, requirements)
 - Advocacy (roles, requirements)
- Decision needed by August 19th

Bond Committee Information

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- All of the materials considered and developed by the Community Bond Advisory Committee can be found at:

<https://addisontexas.net/bc/community-bond-advisory-committee>

Questions / Discussion

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