



City of Sachse, Texas

Meeting Agenda

City Council

Monday, August 1, 2016

7:30 PM

Council Chambers

The Mayor and Sachse City Council request that all cell phones be turned off or set to vibrate. Members of the audience are requested to step outside the Council Chambers to respond or to conduct a phone conversation.

The City Council of the City of Sachse will hold a Regular Meeting on Monday, August 1, 2016, at 7:30 p.m. in the Council Chambers at Sachse City Hall, 3815 Sachse Road, Building B, Sachse, Texas to consider the following items of business:

Invocation and Pledges of Allegiance to U.S. and Texas Flags.

A. Pledge of Allegiance to the Flag of the United States of America: I pledge allegiance to the flag of the United States of America, and to the Republic for which it stands: one nation under God, indivisible, with liberty and justice for all.

B. Pledge of Allegiance to the Texas State Flag: Honor the Texas flag; I pledge allegiance to thee, Texas, one state under God, one and indivisible.

1. CONSENT AGENDA.

All items listed on the consent agenda will be considered by the City Council and will be enacted on by one motion. There will be no separate discussion of these items unless a Council Member or citizen so requests.

[16-3442](#) Approve the minutes of the July 18, 2016 workshop meeting.

Attachments: [07.18.16 Minutes Workshop](#)

[16-3443](#) Approve the minutes of the July 18, 2016 regular meeting.

Attachments: [07.18.16 Minutes](#)

[16-3438](#) Approve the Monthly Revenue and Expenditure Report for the period ending June 30, 2016.

Attachments: [GF 6-30-16](#)

[UF 6-30-16](#)

[DS 6-30-16](#)

[SEDC 6-30-16](#)

[Sales Tax Analysis August 2016](#)

[16-3439](#) Consider acceptance of the 2016 Certified tax rolls as approved by the Dallas and Collin County Appraisal Districts.

Attachments: [Certification Letter DCAD 2016](#)

[2016 DCAD](#)

[2016 CCAD](#)

[2016 Cert Totals.](#)

2. MAYOR AND CITY COUNCIL ANNOUNCEMENTS REGARDING SPECIAL EVENTS, CURRENT ACTIVITIES, AND LOCAL ACHIEVEMENTS.

3. CITIZEN INPUT.

The public is invited at this time to address the Council. The Mayor will ask you to come to the microphone and state your name and address for the record. If your remarks pertain to a specific agenda item, please hold them until that item, at which time the Mayor may solicit your comments. Time limit is 3 minutes per speaker. The City Council is prohibited by state law from discussing any item not posted on the agenda according to the Texas Open Meetings Act, but may take them under advisement.

4. REGULAR AGENDA ITEMS.

[16-3444](#) Discuss the proposed traffic signal and pedestrian crossing improvements on Miles Road at Sachse High School.

Attachments: [Presentation](#)

[60% Engineering Plans](#)

[Draft Cost Estimate](#)

[16-3440](#) Receive ISO rating update.

Attachments: [Presentation](#)

[16-3445](#) Discuss water meter replacement strategy.

Attachments: [Water Meter Replacement Program](#)

5. ADJOURNMENT.

Vision Statement: Sachse is a friendly, vibrant community offering a safe and enjoyable quality of life to all who call Sachse home.

The City of Sachse reserves the right to reconvene, recess or realign the regular session or called Executive Session or order of business at any time prior to adjournment.

As authorized by Section 551.072(2) of the Texas Government Code, this meeting may be convened into closed Executive Session at any time during the City Council workshop or regular meeting for the purpose of seeking confidential legal advice from the City Attorney on any workshop or regular meeting agenda item listed herein.

Posted: July 29, 2016; 5:00 p.m.

Michelle Lewis Sirianni, City Secretary

If you plan to attend this public meeting and you have a disability that requires special arrangements, please contact Michelle Lewis Sirianni, City Secretary, at (972) 495-1212, 48 business hours prior to the scheduled meeting date.



City of Sachse, Texas

Legislation Details (With Text)

File #: 16-3442 **Version:** 1 **Name:** July 18, 2016 Council Workshop meeting minutes.
Type: Agenda Item **Status:** Agenda Ready
File created: 7/26/2016 **In control:** City Council
On agenda: 8/1/2016 **Final action:**
Title: Approve the minutes of the July 18, 2016 workshop meeting.
Sponsors:
Indexes:
Code sections:
Attachments: [07.18.16 Minutes Workshop](#)

Date	Ver.	Action By	Action	Result
------	------	-----------	--------	--------

Title
July 18, 2016 workshop minutes.

Background
Minutes of the July 18, 2016 workshop meeting.

Policy Considerations
None.

Budgetary Considerations
None.

Staff Recommendations
Approve the minutes of the July 18, 2016 workshop meeting.

CITY COUNCIL OF THE CITY OF SACHSE

WORKSHOP MEETING MINUTES

JULY 18, 2016

The City Council of the City of Sachse held a workshop meeting on Tuesday, July 18, 2016 at 6:30 p.m. at Sachse City Hall, 3815-B Sachse Road, Sachse, Texas. Those present were Mayor Mike Felix, Council Members Brett Franks, Charlie Ross, Paul Watkins, and Cullen King. City Manager, Gina Nash; City Secretary, Michelle Lewis Sirianni; Human Resources Manager, Stacy Buckley; Economic Development Director, Leslyn Blake; Community Development Director, Dusty McAfee; Director of Public Works and Engineering, Greg Peters; Finance Director, Teresa Savage; Police Lieutenant, Marty Cassidy; and Fire Chief, Marty Wade. Councilman Jeff Bickerstaff and Bill Adams were absent.

Mayor Felix called the meeting to order at 6:31 p.m.

FY 2016-2017 FIVE YEAR CAPITAL IMPROVEMENT PLAN (CIP): Discuss the FY 2016-2017 update to the Five Year Capital Plan.

Mrs. Nash stated Greg will provide Council with an update regarding the CIP including the funding and a preview of proposed projects.

Mr. Peters presented an overview of the key projects within 2015-2016 within the street and utilities departments, as well as current fund balances. Mr. Peters outlined key projects within 2016-2017 including long-term street projects, water projects, sanitary sewer projects, drainage projects, street maintenance tax projects which included the budget for street maintenance tax projects and their selection process, and street pavement replacement needs list.

Mrs. Nash stated staff is requesting direction on the proposed FY 2016-2017 CIP and the prioritization of street maintenance projects in order to finalize the CIP to bring back to Council for approval.

Council discussed various projects including the Maxwell Creek Road-Canyon Creek North project, Miles Road, the Southeast water tower, Merritt Road, the Bunker Hill Road sewer project, Sachse Road widening, street maintenance tax projects, and the Hooper Road rehabilitation project. Council discussed timeframes on projects and how often the CIP is updated, which is typically every five years.

Council were in agreement with the proposed projects by staff.

No formal action was taken.

ADJOURNMENT: At 7:33 p.m. Mayor Felix adjourned the meeting.

MIKE J FELIX, MAYOR

ATTEST:

Michelle Lewis Sirianni, City Secretary



City of Sachse, Texas

Legislation Details (With Text)

File #: 16-3443 **Version:** 1 **Name:** July 18, 2016 Council meeting minutes.
Type: Agenda Item **Status:** Agenda Ready
File created: 7/26/2016 **In control:** City Council
On agenda: 8/1/2016 **Final action:**
Title: Approve the minutes of the July 18, 2016 regular meeting.
Sponsors:
Indexes:
Code sections:
Attachments: [07.18.16 Minutes](#)

Date	Ver.	Action By	Action	Result
------	------	-----------	--------	--------

Title
July 18, 2016 meeting minutes.

Background
Minutes of the July 18, 2016 regular meeting.

Policy Considerations
None.

Budgetary Considerations
None.

Staff Recommendations
Approve the minutes of the July 18, 2016 regular meeting.

CITY COUNCIL OF THE CITY OF SACHSE

MEETING MINUTES

JULY 18, 2016

The City Council of the City of Sachse held a regular meeting on Tuesday, July 18, 2016 at 7:30 p.m. at Sachse City Hall, 3815-B Sachse Road, Sachse, Texas. Those present were Mayor Mike Felix, Council Members Brett Franks, Charlie Ross, Paul Watkins, and Cullen King. City Manager, Gina Nash; City Secretary, Michelle Lewis Sirianni; Park and Recreation Director, Lance Whitworth; Public Works Director and Director of Public Works and Engineering, Greg Peters; Community Development Director, Dustin McAfee; Economic Development Coordinator, Leslyn Blake; Human Resources Manager, Stacy Buckley; Finance Director, Teresa Savage; Fire Chief, Marty Wade and Police Lieutenant, Marty Cassidy. Councilman Bill Adams and Jeff Bickerstaff were absent.

Mayor Felix opened the meeting at 7:48 p.m.

INVOCATION AND PLEDGE OF ALLEGIANCE TO U.S. AND STATE FLAG: The invocation was offered by Councilman King and the pledges by Councilman Franks.

CONSENT AGENDA: All items listed on the Consent Agenda are considered routine and will be acted on by one motion, with no separate discussion of these items unless a Council member or citizen so requests. **16-3411** Approve the minutes of the July 5, 2016 workshop meeting. **16-3412** Approve the minutes of the July 5, 2016 special meeting. **16-3413** Approve an agreement from Oncor regarding the audit of City street lights. **16-3429** Approve an ordinance abandoning a sanitary sewer easement of two thousand and four square feet, more or less, as more particularly described in Exhibit "A" and depicted in Exhibit "B" to the property owners Orville Craig Jones and Kibbie Jones Hipp.

Councilman King made a motion to approve items 16-3411, 16-3412, 16-3413, and 16-3429 as submitted. Mayor Pro Tem Ross seconded that motion and the motion was unanimously approved.

MAYOR AND CITY COUNCIL ANNOUNCEMENTS REGARDING SPECIAL EVENTS,

Councilman King congratulated Jackie Eichelberger and the General on their 62 years of marriage.

Mayor Pro Tem Ross stated the Library's summer program wraps up on Saturday, July 23 and reminded those participating to turn in their reading logs. On Thursday, July 21 the Library is hosing magic with Todd McKinney, on Tuesday, July 26, In-n-Out Burger will be at the Library starting at noon while supplies last, and on Thursday, July 28 at 11:00 a.m., the summer finale will feature the petting zoo.

Mayor Felix added on Saturday, July 23 from 10 a.m. to 6:00 p.m. the Animal Shelter is hosting the Clear the Shelter event and on Saturday, July 30 the Sachse Chamber is hosting Cars under the Stars in the Kroger shopping center parking lot.

16-3414 Proclaim July 2016 Parks and Recreation Month.

Mayor Felix presented the Parks and Recreation Department a proclamation recognizing July as Parks and Recreation Month.

Mayor Felix then presented certificates of appreciation to Devin Hayes, Eva Hayes, Nathan Cook, and Clark Packard for raising \$1500 for the families of the fallen Dallas PD through their lemonade stand, lollipops, and popsicles.

CITIZENS INPUT:

Mike Kellam, 5419 Pinnacle Circle, requested Council to make local park grants a priority and to use the Friends of the Parks as leverage.

Jerry Nichols, 2005 Portsmouth Drive, Richardson, invited everyone to attend the eighth annual Senior Awareness Day sponsored by the City of Garland and Texas State Representative Angie Chen Button. The event is being held on Friday, July 29 from 9 a.m. to noon at the Atrium at the Granville Arts Center in Garland. There will be exhibitors, entertainment, door prizes, and refreshments that is free to the public.

Bob Jensen, 7200 Bailey Road, asked Council to look at making Hooper Road Bailey Road, to resurface Bailey Road, and remove speed bumps and stops signs off of Bailey Road.

REGULAR AGENDA ITEMS:

16-3415 Consider an ordinance authorizing the issuance and sale of City of Sachse, Texas General Obligation Refunding Bonds, Series 2016; levying annual ad valorem tax and providing for the security for and payment of said bonds; approving the official statement; providing an effective date; and enacting other provision relating to the subject.

Mrs. Nash presented this item stating the next two agenda items will allow for the City to replace the ladder truck and will result in a net saving in debt service payments.

Jason Hughes of Hilltop Securities formerly First Southwest presented council with an overview of the General Obligation Refunding Bonds (GO), Series 2016 and the Tax Notes, Series 2016. Mr. Hughes stated the City will have a value savings of over \$2.652 million and see no extension of debt. The GO bonds were purchased through Citigroup with a TIC of 2.212%. The Tax Notes were purchased through RW Baird for a seven year term with a TIC of 1.595%, and because the notes sold with premium, the City will get the full \$1.2 million in project proceeds. Mr. Hughes commented that the City also received an upgrade in credit rating from "Aa3" to "Aa2" from Moody's.

Councilman Watkins made a motion to approve item 16-3415 as submitted. Mayor Pro Tem Ross seconded that motion and the motion was unanimously approved.

16-3417 Consider an ordinance authorizing the issuance and sale of City of Sachse, Texas Limited Tax Notes, Series 2016; levying an annual ad valorem tax and providing for the security for and payment of said notes; approving the official statement; providing an effective date; and enacting other provisions relating to the subject.

Councilman Watkins made a motion to approve item 16-3417 as written. Councilman King seconded that motion and the motion was unanimously approved.

16-3418 Conduct a public hearing and take action on a request by Serene Global Group to rezone approximately 10.26 acres of land from Commercial to a Planned Development District (PD) to allow for a residential townhouse subdivision, generally located north of the intersection of Ben Davis Road, Bunker Hill Road, and Ben Davis Road, within Sachse City limits.

Mrs. Nash stated that this is a continuation of discussion from the last meeting. Staff took recommendations from Council and put into a PD for Council consideration.

Mr. McAfee presented this item by providing an overview of the project information as well as indicating where the subject property is located. The PD will allow for 121 single family townhomes that will be individually owned and require an HOA. Mr. McAfee stated the PD will required LED streetlights, trees in front yards and within open spaces, sidewalks along three perimeter right-of-ways and interior right-of-ways, and have a centralized mail kiosk to avoid crowding the street and creating parking conflicts. The perimeter screening and buffering and the architecture details were defined with two options given for the architecture. One being that the exterior finishes of all buildings shall be a mix of brick and stone only or 75% of the front façade shall be a mix of brick or stone with the remainder allowed to be stucco. Other facades shall be a minimum of 50% brick/stone with no more than 50% stucco (or other percentage split desired by Council). At the June 27th Planning and Zoning Commission meeting, the commission unanimously recommended approval of the proposed PD with the special ordinance provisions outlined. One person spoke at their public hearing with questions about the Future Land Use Plan (FLUP) process. Staff is recommending approval with the special ordinance provision and asking Council to consider the proposed PD and architectural options as presented.

Mr. Jim Cook with Serene Development provided a presentation to Council regarding the proposed development and stated that they want to blend with existing neighborhood with the exterior finishes of all building being a mix of brick and stone, at least two exterior finishing materials applied to the front façade of all buildings, and the rear façade of building being masonry. Mr. Cook stated that to better blend with the neighboring architecture and not restrict the design limits, they are requesting a percentage of stone/brick rather than limiting to just stone and brick. Mr. Cook showed neighboring examples including Kroger, Walgreens/CVS, and Oxford Glen. Other townhouse projects completed by Serene were also shown and examples of nearby townhome developments in the area.

Mayor Felix opened the public hearing. No comments were made.

Councilman Franks made a motion to close the public hearing. Councilman Watkins seconded that motion and the motion was unanimously approved.

Council discussed the HOA and maintenance responsibilities and guidelines, drainage, and elevation design. Councilman King stated he has no issue with hardy plank, but prefers 25% or less of any stucco. Councilman Franks stated he preferred 75% brick or stone and 25% stucco. Councilman Watkins agreed with the 75/25 on the front façade with a 60/40 on the remaining sides. Mayor Pro Tem Ross stated he prefers stucco to hardy plank and favors the 75/25 on the front façade and 60/40 on remaining. Councilman King stated the 60/40 on remaining sides would address his concerns and agrees with the 75/25 on the front façade.

Councilman King made a motion to approve the Planned Development as submitted with 75% of the front façade being a mix of brick or stone and the other facades being 60% brick or stone with no more than 40% stucco. Councilman Franks seconded that motion with direction for staff to check park trail connections. Motion was unanimously approved.

ADJOURNMENT:

Mayor Felix adjourned the meeting at 9:24 p.m.

MIKE J FELIX, MAYOR

ATTEST:

Michelle Lewis Sirianni, City Secretary



City of Sachse, Texas

Legislation Details (With Text)

File #:	16-3438	Version:	1	Name:	Monthly Budget Reports June 2016
Type:	Agenda Item	Status:		Status:	Agenda Ready
File created:	7/25/2016	In control:		In control:	City Council
On agenda:	8/1/2016	Final action:		Final action:	
Title:	Approve the Monthly Revenue and Expenditure Report for the period ending June 30, 2016.				
Sponsors:					
Indexes:					
Code sections:					
Attachments:	GF 6-30-16 UF 6-30-16 DS 6-30-16 SEDC 6-30-16 Sales Tax Analysis August 2016				

Date	Ver.	Action By	Action	Result
------	------	-----------	--------	--------

Title

Monthly Revenue and Expenditure Report for the period ending June 30, 2016.

Background

The Finance Department will prepare a report each month to update the City Council regarding the revenues and expenditures for the City. The report includes unaudited summaries for the General Fund, Utility Fund, Debt Service Fund, and Sachse Economic Development Corporation, as well as an analysis of sales tax receipts. The attached reports are for the month of June 2016.

Policy Considerations

City Charter requires that the City Manager submit a report summarizing revenues and expenditures on a monthly basis.

Budgetary Considerations

There are no significant variances requiring a budget amendment at this time.

Staff Recommendations

Approve the Monthly Revenue and Expenditure Report for the period ending June 30, 2016.

City of Sachse
 Monthly Revenue and Expenditure Report
 June 30, 2016
 (Unaudited)

GENERAL FUND

75% of Year Completed

	Annual Budget	Current Month Actual	Actual YTD	YTD Actual as a Percent of Budget	Note Reference 75%
Revenue Summary					
Property Tax	\$ 9,106,824	\$ 22,048	\$ 9,047,114	99.34%	
Sales Tax	1,244,094	108,919	1,055,975	84.88%	
Franchise Fees	1,590,122	44,234	1,310,108	82.39%	
Licenses and Permits	535,500	65,847	591,057	110.37%	
Service Fees	681,500	77,073	741,078	108.74%	
Fines	275,000	20,438	195,693	71.16%	
Interest Income	12,000	4,506	11,341	94.51%	
Miscellaneous Income	372,360	13,492	144,578	38.83%	
Intergovernmental Revenue	986,945	82,245	740,209	75.00%	
Total Revenue	\$ 14,804,345	\$ 438,801	\$ 13,837,152	93.47%	
Expenditure Summary					
City Manager	\$ 374,652	\$ 32,871	\$ 276,898	73.91%	
City Secretary	157,148	12,197	92,360	58.77%	
Human Resources	294,803	27,438	213,657	72.47%	
Finance	608,428	51,828	439,403	72.22%	
Municipal Court	212,197	24,690	148,580	70.02%	
Parks & Recreation	1,004,375	119,873	736,849	73.36%	
Senior Programs	122,821	6,596	85,714	69.79%	
Library Services	371,686	38,754	279,030	75.07%	
Community Development	1,010,899	103,316	618,405	61.17%	
Streets & Drainage	1,259,147	130,282	922,223	73.24%	
Facility Maintenance	463,404	41,659	341,235	73.64%	
Police	4,566,001	376,359	3,229,451	70.73%	
Animal Control	225,172	18,636	167,087	74.20%	
Fire/EMS	3,295,682	318,596	2,498,230	75.80%	
Combined Services	577,463	20,855	517,835	89.67%	A
City Engineer	299,968	23,426	190,640	63.55%	
Total Expenditures	\$ 14,843,846	\$ 1,347,375	\$ 10,757,597	72.47%	
Total Revenue Over/Under Expenses	\$ (39,501)	\$ (908,575)	\$ 3,079,556		

Explanation of Major Variances:

A Full-year property and liability expense posted in November

City of Sachse
Monthly Revenue and Expenditure Report
 June 30, 2016
 (Unaudited)

UTILITY FUND

75% of Year Completed

	Annual Budget	Current Month Actual	Actual YTD	YTD Actual as a Percent of Budget	Note Reference 75%
Revenue Summary					
Water Revenue	\$ 4,839,836	\$ 469,320	\$ 3,900,380	80.59%	
Sewer Revenue	4,132,115	345,825	3,037,665	73.51%	
Fees	156,300	13,753	132,660	84.88%	
Interest Income	2,500	1,489	2,289	91.57%	
Transfer In-Debt Service	138,194	-	138,146	99.97%	
Miscellaneous Income	-	-	50		
Total Revenue(Budgeted)	\$ 9,268,945	\$ 830,388	\$ 7,211,191	77.80%	
Transfer In-EDC			1,271,301	N/A	A
Transfer In-TIF			1,074,272	N/A	A
Total Revenue	\$ 9,268,945	\$ 830,388	\$ 9,556,763	N/A	
Expenditure Summary					
Utility Administration	\$ 285,823	\$ 28,304	\$ 218,516	76.45%	
Water Operations	5,034,698	387,406	3,409,107	67.71%	
Sewer Operations	3,427,132	516,759	3,073,264	89.67%	B
Meter Reading	227,045	17,514	187,971	82.79%	
Total Expenditures	\$ 8,974,698	\$ 949,983	\$ 6,888,858	76.76%	
Total Revenue Over/Under Expenses	\$ 294,247	\$ (119,595)	\$ 2,667,905		

Explanation of Major Variances:

- A** Project-specific transfers for Third Sewer Connection Project
- B** Includes capital project expenses budgeted in previous years

Monthly Revenue and Expenditure Report
 June 30, 2016
 (Unaudited)

Debt Service Fund

75% of Year Completed

	Annual Budget	Current Month Actual	Actual YTD	YTD Actual as a Percent of Budget	Note Reference 75%
Revenue Summary					
Property Tax	\$ 3,001,087	\$ 7,264	\$ 2,985,561	99.48%	
Interest Income	1,500	42	184	12.25%	
Total Revenue	\$ 3,002,587	\$ 7,306	\$ 2,985,745	99.44%	
Expenditure Summary					
Fees	\$ 1,000	\$ -	\$ 1,206	120.63%	
Principal	1,325,000		1,325,000	100.00%	A
Interest	1,553,433		787,441	50.69%	A
Transfer Out-Utility Fund	138,146		138,146	100.00%	
Total Expenditures	\$ 3,017,579	\$ -	\$ 2,251,794	74.62%	
Total Revenue Over/Under Expenses	\$ (14,992)	\$ 7,306	\$ 733,951		

A Principal payments are due in February and interest payments in February and August

City of Sachse
 Monthly Revenue and Expenditure Report
 June 30, 2016
 (Unaudited)

SACHSE ECONOMIC DEVELOPMENT CORPORATION

75% of Year Completed

	Annual Budget	Current Month Actual	Actual YTD	YTD Actual as a Percent of Budget	Note Reference 75%
Revenue Summary					
Sales Tax	\$ 609,759	\$ 54,459	\$ 518,318	85.00%	
Other Income	\$ -		\$ 10,000	N/A	
Interest Income	8,000	1,014	3,501	43.76%	
Total Revenue	\$ 617,759	\$ 55,474	\$ 531,819	86.09%	
Expenditure Summary					
Expenditures	599,811	30,913	204,340	34.07%	
Total Budgeted Expenditures	\$ 599,811	\$ 30,913	\$ 204,340	34.07%	
Economic Development Grants	\$ -		\$ 1,271,301	N/A	A
Total Expenditures	\$ 599,811	\$ 30,913	\$ 1,475,640		
Total Revenue Over/Under Expenses	\$ 17,948	\$ 24,560	\$ 327,479		

Explanation of Major Variances:

A Grant to City of Sachse for Third Sewer Connection

**CITY OF SACHSE
2015/2016 SALES TAX ANALYSIS**

FY 2015	Total Sales Tax	General Fund Sales Tax	General Fund Year-To-Date	YTD Percent of Budget	FY 2016	Total Sales Tax	General Fund Sales Tax	General Fund Year-To-Date	YTD Percent of Budget
October	149,053	85,169	85,169	7.30%	October	156,703	89,540	89,540	7.34%
November	227,089	129,759	214,928	18.43%	November	223,828	127,895	217,435	17.83%
December	162,100	92,624	307,552	26.37%	December	162,793	93,020	310,455	25.46%
January	158,992	90,848	398,400	34.16%	January	198,309	113,314	423,769	34.75%
February	257,209	146,969	545,369	46.75%	February	278,265	159,001	582,769	47.79%
March	141,655	80,941	626,311	53.69%	March	168,935	96,530	679,299	55.70%
April	135,136	77,217	703,527	60.31%	April	165,486	94,559	773,858	63.46%
May	226,142	129,217	832,745	71.39%	May	269,268	153,860	927,718	76.07%
June	166,541	95,162	927,907	79.55%	June	190,617	108,919	1,036,636	85.00%
July	155,796	89,022	1,016,929	87.18%	July	189,206	108,113	1,144,749	93.87%
August	228,922	130,806	1,147,735	98.40%	August				
September	165,152	94,368	1,242,103	106.49%	September				
TOTAL	2,173,787	1,242,103			TOTAL	2,003,411	1,144,749		
BUDGET		1,166,444			BUDGET		1,219,518		



City of Sachse, Texas

Legislation Details (With Text)

File #:	16-3439	Version:	1	Name:	Accept Certified Appraisal Rolls 2016
Type:	Agenda Item	Status:		Status:	Agenda Ready
File created:	7/25/2016	In control:		In control:	City Council
On agenda:	8/1/2016	Final action:		Final action:	
Title:	Consider acceptance of the 2016 Certified tax rolls as approved by the Dallas and Collin County Appraisal Districts.				
Sponsors:					
Indexes:					
Code sections:					
Attachments:	Certification Letter DCAD 2016 2016 DCAD 2016 CCAD 2016 Cert Totals.				

Date	Ver.	Action By	Action	Result
------	------	-----------	--------	--------

Title

Consider acceptance of the 2016 Certified tax rolls as approved by the Dallas and Collin County Appraisal Districts.

Background

The City has received the certified 2016 appraisal rolls from Dallas and Collin County Chief Appraisers. Combined ARB approved taxable values are \$1,873,284,967. Properties that remain under protest and are not included in the Certified values total an additional \$16,032,664.

The City is required to submit the certified appraisal rolls to City Council annually. The Dallas County Appraisal District and Collin County Appraisal District are responsible for determining the appraised values of all properties located in the City of Sachse. These values are certified annually by the Chief Appraisers of Dallas and Collin Central Appraisal Districts.

Policy Considerations

The 2016 appraisal roll taxable value for Collin County was certified at \$755,974,567 ARB approved, with an additional \$13,960,985 under protest; the taxable value certified by the Dallas County Central Appraisal District is \$1,117,310,400, with an additional \$2,959,542 under protest. The total appraisal roll increased by \$237,675,218 or 14.5% compared to the 2015 taxable value of \$1,635,609,749.

Budgetary Considerations

The final 2016-2017 budget will provide funding for continued operations of the City for the upcoming year.

Staff Recommendations

Accept the 2016 Certified tax rolls as approved by the Dallas and Collin County Appraisal Districts.



**DALLAS CENTRAL APPRAISAL DISTRICT
CERTIFICATION OF APPRAISAL ROLL**

Year: 2016

Jurisdiction: City of SACHSE

In accordance with the requirements of the Texas Property Tax Code, Chapter 26, Section 26.01, paragraphs (A) and (B), the following values are hereby certified:

Market Value of all Real & Business Personal Property Before Qualified Exemptions*	\$1,272,744,030
Taxable Value of all Real & Business Personal Property	\$1,117,310,400

In accordance with the requirements of the Texas Property Tax Code, Chapter 26, Section 26.01, paragraph (C), the following values are hereby certified as disputed values and are not included in the above totals:

	Market Value	Taxable Value
Values under protest as determined by the Appraisal District**	\$4,354,730	\$2,959,542
Values under protest as claimed by property owner or estimated by Appraisal District in event property owner's claim is upheld	\$3,048,311	\$2,071,679
Freeport Estimated Loss		\$0
Estimated Net Taxable		\$2,071,679

I, W. Kenneth Nolan, Executive Director/Chief Appraiser of the Dallas Central Appraisal District, do hereby certify the aforementioned values and totals to the taxing jurisdiction indicated above, in accordance with the requirements of the laws of the State of Texas on this 25th day of July, 2016 .

Dallas Central Appraisal District

W. Kenneth Nolan
Executive Director/Chief Appraiser

*Total Value of New Construction in Certified Market Value above	\$39,094,701
**Value of Disputed New Construction in Protested Market Value Above	\$243,500



Dallas Central Appraisal District Certified Estimated Values Report

JURISDICTION: SACHSE
 REPORT TYPE: JURISDICTION TOTALS
 DATABASE: CERTIFICATION (2016)
 TAX YEAR: 2016
 REPORT DATE: July 20, 2016
 RUN DATE: July 20, 2016 8:09 pm

	PARCELS	LAND VALUE	IMPROVEMENT VALUE	BPP MKT VALUE	TOTAL MKT VALUE
JURISDICTION TOTALS	6,037	269,634,410	972,930,540	30,179,080	1,272,744,030

	TOTAL MKT VALUE	CAPPED LOSS	EXEMPTIONS	AG LOSS	TAXABLE VALUE
JURISDICTION TOTALS	1,272,744,030	48,835,496	94,062,372	12,535,762	1,117,310,400

TOTAL EXEMPTIONS	PARCELS	MARKET VALUE	CAPPED LOSS	EXEMPTION AMOUNT	OTHER EXEMPTIONS	TAXABLE VALUE
TOTALLY EXEMPT	105	47,705,950	0	47,705,950	0	0
PRORATED TOTAL EXEMPT	1	1,176,900	0	306,317	0	870,583
UNDER 500	12	3,120	0	3,120	0	0
MINERAL RIGHTS	0	0	0	0	0	0
PARTIAL EXEMPTIONS						
HOMESTEAD	3,970	872,211,780	48,835,496	0	46,039,485	777,336,799
CAPPED VALUE LOSS	2,779	597,706,520	48,835,496	0	31,546,465	517,324,559
OVER-65	740	155,608,530	10,234,078	36,426,000	2,219,934	106,728,518
DISABLED PERSONS	78	14,641,680	1,233,026	3,827,500	271,049	9,310,105
DISABLED VETERANS	84	19,817,480	777,028	723,000	1,638,375	16,679,077
100% DISABLED VETERANS	24	5,963,640	202,155	5,070,485	691,000	0
DISABLED VET DONATED HOME	0	0	0	0	0	0
ABATEMENTS	0	0	0	0	0	0
HISTORIC SITE	0	0	0	0	0	0
POLLUTION CONTROL	0	0	0	0	0	0
FREEPORT	0	0	0	0	0	0
FREEPORT IN PROCESS	0	0	0	0	0	0
GOODS IN TRANSIT	0	0	0	0	0	0
LOW INCOME	0	0	0	0	0	0
TOTAL PARTIAL EXEMPT				46,046,985		
TOTAL REAL PARTIAL EXEMPT				46,046,985		
TOTAL BPP PARTIAL EXEMPT				0		

AG SPECIAL VALUATION	PARCELS	LAND VALUE	IMPROVEMENT VALUE	MARKET VALUE
AGRICULTURAL 1D	0	0	0	0
AGRICULTURAL 1D1	64	12,620,090	496,760	13,116,850

AG SPECIAL VALUATION	MARKET VALUE	CAPPED LOSS	LOSS AMOUNT	NON AG EXEMPTIONS	TAXABLE VALUE
AGRICULTURAL 1D	0	0	0	0	0
AGRICULTURAL 1D1	13,116,850	0	12,535,762	0	581,088

	LAND DEV COSTS	REAL PROP NEW CONSTR	PERS PROP NEW CONSTR	TOTAL NEW CONSTR
NEW CONSTRUCTION	3,415,428	35,679,273	0	39,094,701



Dallas Central Appraisal District Certified Estimated Values Report

JURISDICTION: SACHSE
 REPORT TYPE: RESIDENTIAL TOTALS
 DATABASE: CERTIFICATION (2016)
 TAX YEAR: 2016
 REPORT DATE: July 20, 2016
 RUN DATE: July 20, 2016 8:09 pm

	PARCELS	LAND VALUE	IMPROVEMENT VALUE	BPP MKT VALUE	TOTAL MKT VALUE
JURISDICTION TOTALS	5,430	210,226,230	888,476,430	0	1,098,702,660

	TOTAL MKT VALUE	CAPPED LOSS	EXEMPTIONS	AG LOSS	TAXABLE VALUE
JURISDICTION TOTALS	1,098,702,660	48,835,496	47,041,875	0	1,002,825,289

TOTAL EXEMPTIONS	PARCELS	MARKET VALUE	CAPPED LOSS	EXEMPTION AMOUNT	OTHER EXEMPTIONS	TAXABLE VALUE
TOTALLY EXEMPT	33	994,890	0	994,890	0	0
PRORATED TOTAL EXEMPT	0	0	0	0	0	0
UNDER 500	0	0	0	0	0	0
MINERAL RIGHTS	0	0	0	0	0	0
PARTIAL EXEMPTIONS						
HOMESTEAD	3,970	872,211,780	48,835,496	0	46,039,485	777,336,799
CAPPED VALUE LOSS	2,779	597,706,520	48,835,496	0	31,546,465	517,324,559
OVER-65	740	155,608,530	10,234,078	36,426,000	2,219,934	106,728,518
DISABLED PERSONS	78	14,641,680	1,233,026	3,827,500	271,049	9,310,105
DISABLED VETERANS	84	19,817,480	777,028	723,000	1,638,375	16,679,077
100% DISABLED VETERANS	24	5,963,640	202,155	5,070,485	691,000	0
DISABLED VET DONATED HOME	0	0	0	0	0	0
ABATEMENTS	0	0	0	0	0	0
HISTORIC SITE	0	0	0	0	0	0
POLLUTION CONTROL	0	0	0	0	0	0
FREEPORTR	0	0	0	0	0	0
FREEPORTR IN PROCESS	0	0	0	0	0	0
GOODS IN TRANSIT	0	0	0	0	0	0
LOW INCOME	0	0	0	0	0	0
TOTAL PARTIAL EXEMPT				46,046,985		
TOTAL REAL PARTIAL EXEMPT				46,046,985		
TOTAL BPP PARTIAL EXEMPT				0		

AG SPECIAL VALUATION	PARCELS	LAND VALUE	IMPROVEMENT VALUE	MARKET VALUE
AGRICULTURAL 1D	0	0	0	0
AGRICULTURAL 1D1	0	0	0	0

AG SPECIAL VALUATION	MARKET VALUE	CAPPED LOSS	LOSS AMOUNT	NON AG EXEMPTIONS	TAXABLE VALUE
AGRICULTURAL 1D	0	0	0	0	0
AGRICULTURAL 1D1	0	0	0	0	0

	LAND DEV COSTS	REAL PROP NEW CONSTR	PERS PROP NEW CONSTR	TOTAL NEW CONSTR
NEW CONSTRUCTION	3,415,428	34,829,003	0	38,244,431



Dallas Central Appraisal District Certified Estimated Values Report

JURISDICTION: SACHSE
 REPORT TYPE: COMMERCIAL TOTALS
 DATABASE: CERTIFICATION (2016)
 TAX YEAR: 2016
 REPORT DATE: July 20, 2016
 RUN DATE: July 20, 2016 8:09 pm

	PARCELS	LAND VALUE	IMPROVEMENT VALUE	BPP MKT VALUE	TOTAL MKT VALUE
JURISDICTION TOTALS	321	59,408,180	84,454,110	0	143,862,290

	TOTAL MKT VALUE	CAPPED LOSS	EXEMPTIONS	AG LOSS	TAXABLE VALUE
JURISDICTION TOTALS	143,862,290	0	46,917,387	12,535,762	84,409,141

TOTAL EXEMPTIONS	PARCELS	MARKET VALUE	CAPPED LOSS	EXEMPTION AMOUNT	OTHER EXEMPTIONS	TAXABLE VALUE
TOTALLY EXEMPT	70	46,611,070	0	46,611,070	0	0
PRORATED TOTAL EXEMPT	1	1,176,900	0	306,317	0	870,583
UNDER 500	0	0	0	0	0	0
MINERAL RIGHTS	0	0	0	0	0	0
PARTIAL EXEMPTIONS						
HOMESTEAD	0	0	0	0	0	0
CAPPED VALUE LOSS	0	0	0	0	0	0
OVER-65	0	0	0	0	0	0
DISABLED PERSONS	0	0	0	0	0	0
DISABLED VETERANS	0	0	0	0	0	0
100% DISABLED VETERANS	0	0	0	0	0	0
DISABLED VET DONATED HOME	0	0	0	0	0	0
ABATEMENTS	0	0	0	0	0	0
HISTORIC SITE	0	0	0	0	0	0
POLLUTION CONTROL	0	0	0	0	0	0
FREEPORT	0	0	0	0	0	0
FREEPORT IN PROCESS	0	0	0	0	0	0
GOODS IN TRANSIT	0	0	0	0	0	0
LOW INCOME	0	0	0	0	0	0
TOTAL PARTIAL EXEMPT				0		
TOTAL REAL PARTIAL EXEMPT				0		
TOTAL BPP PARTIAL EXEMPT				0		

AG SPECIAL VALUATION	PARCELS	LAND VALUE	IMPROVEMENT VALUE	MARKET VALUE
AGRICULTURAL 1D	0	0	0	0
AGRICULTURAL 1D1	64	12,620,090	496,760	13,116,850

AG SPECIAL VALUATION	MARKET VALUE	CAPPED LOSS	LOSS AMOUNT	NON AG EXEMPTIONS	TAXABLE VALUE
AGRICULTURAL 1D	0	0	0	0	0
AGRICULTURAL 1D1	13,116,850	0	12,535,762	0	581,088

	LAND DEV COSTS	REAL PROP NEW CONSTR	PERS PROP NEW CONSTR	TOTAL NEW CONSTR
NEW CONSTRUCTION	0	850,270	0	850,270



Dallas Central Appraisal District Certified Estimated Values Report

JURISDICTION: SACHSE
 REPORT TYPE: BPP TOTALS
 DATABASE: CERTIFICATION (2016)
 TAX YEAR: 2016
 REPORT DATE: July 20, 2016
 RUN DATE: July 20, 2016 8:09 pm

	PARCELS	LAND VALUE	IMPROVEMENT VALUE	BPP MKT VALUE	TOTAL MKT VALUE
JURISDICTION TOTALS	286	0	0	30,179,080	30,179,080

	TOTAL MKT VALUE	CAPPED LOSS	EXEMPTIONS	AG LOSS	TAXABLE VALUE
JURISDICTION TOTALS	30,179,080	0	103,110	0	30,075,970

TOTAL EXEMPTIONS	PARCELS	MARKET VALUE	CAPPED LOSS	EXEMPTION AMOUNT	OTHER EXEMPTIONS	TAXABLE VALUE
TOTALLY EXEMPT	2	99,990	0	99,990	0	0
PRORATED TOTAL EXEMPT	0	0	0	0	0	0
UNDER 500	12	3,120	0	3,120	0	0
MINERAL RIGHTS	0	0	0	0	0	0
PARTIAL EXEMPTIONS						
HOMESTEAD	0	0	0	0	0	0
CAPPED VALUE LOSS	0	0	0	0	0	0
OVER-65	0	0	0	0	0	0
DISABLED PERSONS	0	0	0	0	0	0
DISABLED VETERANS	0	0	0	0	0	0
100% DISABLED VETERANS	0	0	0	0	0	0
DISABLED VET DONATED HOME	0	0	0	0	0	0
ABATEMENTS	0	0	0	0	0	0
HISTORIC SITE	0	0	0	0	0	0
POLLUTION CONTROL	0	0	0	0	0	0
FREEPORT	0	0	0	0	0	0
FREEPORT IN PROCESS	0	0	0	0	0	0
GOODS IN TRANSIT	0	0	0	0	0	0
LOW INCOME	0	0	0	0	0	0
TOTAL PARTIAL EXEMPT				0		
TOTAL REAL PARTIAL EXEMPT				0		
TOTAL BPP PARTIAL EXEMPT				0		

AG SPECIAL VALUATION	PARCELS	LAND VALUE	IMPROVEMENT VALUE	MARKET VALUE
AGRICULTURAL 1D	0	0	0	0
AGRICULTURAL 1D1	0	0	0	0

AG SPECIAL VALUATION	MARKET VALUE	CAPPED LOSS	LOSS AMOUNT	NON AG EXEMPTIONS	TAXABLE VALUE
AGRICULTURAL 1D	0	0	0	0	0
AGRICULTURAL 1D1	0	0	0	0	0

	LAND DEV COSTS	REAL PROP NEW CONSTR	PERS PROP NEW CONSTR	TOTAL NEW CONSTR
NEW CONSTRUCTION	0	0	0	0

Dallas Central Appraisal District

Certified Estimated Value Report

Property Class Breakdown

JURISDICTION SACHSE
 REPORT TYPE: PROPERTY CLASS BREAKDOWN
 DATABASE: CERTIFICATION (2016)
 TAX YEAR: 2016
 REPORT DATE: July 20, 2016
 RUN DATE: July 20, 2016 8:09 pm

DCAD SPTD	PTD CODE	DESCRIPTION	PARCELS	MARKET VALUE	TAXABLE VALUE
A11	A	SINGLE FAMILY RESIDENCES	4,911	1,066,329,390	971,882,769
A12	A	SFR - TOWNHOUSES	7	1,882,810	1,679,606
A13	A	SFR - CONDOMINIUMS	24	1,150,080	1,150,080
A20	A	MOBILE HOME ON OWNERS LAND	1	33,600	33,600
	A - TOTAL	REAL: RESIDENTIAL SINGLE FAMILY	4,943	1,069,395,880	974,746,055
B11	B	MFR - APARTMENTS	17	8,204,020	8,175,630
B12	B	MFR - DUPLEXES	132	13,103,410	12,809,057
	B - TOTAL	REAL: RESIDENTIAL MULTI-FAMILY	149	21,307,430	20,984,687
C11	C1	SFR - VACANT LOTS/TRACTS	295	10,639,020	9,734,217
C12	C1	COMMERCIAL - VACANT PLOTTED LOTS/TRACTS	136	14,524,730	8,994,710
C14	C1	RURAL VACANT - LESS THAN 5 ACRES	7	128,490	128,490
	C1 - TOTAL	REAL: VACANT LOTS/TRACTS	438	25,292,240	18,857,417
D10	D1	QUALIFIED OPEN SPACE LAND	64	13,116,850	581,088
	D1 - TOTAL	REAL: QUALIFIED LAND	64	13,116,850	581,088
E11	E	RURAL LAND AND IMPROVEMENTS NON QUALIFIE	5	1,494,770	1,494,770
	E - TOTAL	REAL: FARM AND RANCH IMPROVEMENTS	5	1,494,770	1,494,770
F10	F1	COMMERCIAL IMPROVEMENTS	116	110,400,310	69,012,943
	F1 - TOTAL	REAL: COMMERCIAL	116	110,400,310	69,012,943
F20	F2	INDUSTRIAL IMPROVEMENTS	2	584,820	584,820
	F2 - TOTAL	REAL: INDUSTRIAL	2	584,820	584,820
J20	J	GAS COMPANIES	1	2,538,590	2,538,590
J30	J	ELECTRIC COMPANIES	1	5,525,780	5,525,780
J40	J	TELEPHONE COMPANIES	4	2,607,560	2,607,560
J51	J	RAILROAD CORRIDOR	1	680,100	680,100
J70	J	CABLE COMPANIES	7	2,018,610	2,018,610
	J - TOTAL	REAL AND TANGIBLE PERSONAL UTILITIES	14	13,370,640	13,370,640
L10	L1	COMMERCIAL BPP	265	17,082,290	16,979,530
	L1 - TOTAL	PERSONAL: COMMERCIAL	265	17,082,290	16,979,530
L20	L2	INDUSTRIAL BPP	2	4,930	4,600
	L2 - TOTAL	PERSONAL: INDUSTRIAL	2	4,930	4,600
M31	M1	MOBILE HOMES ON LEASED SPACES	32	292,450	292,450
	M1 - TOTAL	MOBILE HOMES	32	292,450	292,450
O11	O	RESIDENTIAL - IMPROVEMENTS AS INVENTORY	1	100	100
	O - TOTAL	REAL PROPERTY: INVENTORY	1	100	100
S10	S	SPECIAL INVENTORY	6	401,320	401,300
	S - TOTAL	SPECIAL INVENTORY	6	401,320	401,300

**Dallas Central Appraisal District
Certified Estimated Value Report
Property Class Breakdown**

GRAND TOTALS

6,037

1,272,744,030

1,117,310,400



Collin Central Appraisal District

PROPERTY TAX CODE, SECTION 26.01(a)

CERTIFICATION OF 2016 APPRAISAL ROLL

FOR: SACHSE CITY

I, Bo Daffin, Chief Appraiser for the Collin Central Appraisal District, solemnly swear that the attached is that portion of the approved Appraisal Records of the Collin Central Appraisal District which lists property taxable by SACHSE CITY and constitutes the Certified Appraisal Roll for SACHSE CITY with the amounts listed on the attached totals pages, with the heading "2016 Certified Totals".



Signature of Chief Appraiser

July 19, 2016

Date

Note: The Collin Central Appraisal District Appraisal Review Board approved the appraisal records on July 15, 2016.

PROPERTY TAX CODE, SECTION 26.01(c)

CERTIFICATION OF 2016 PROPERTIES UNDER PROTEST AND NOT INCLUDED IN CERTIFIED ROLL ABOVE

FOR: SACHSE CITY

I, Bo Daffin, Chief Appraiser for the Collin Central Appraisal District, solemnly swear that the attached is that portion of the Appraisal Records of the Collin Central Appraisal District which lists property taxable by SACHSE CITY but NOT included on the Certified Appraisal Roll for SACHSE CITY, since these properties are currently under Protest. The protested property values are listed on the attached totals pages, with the subheading "Under ARB Review Totals".

If there are no attached pages labeled with the subheading "Under ARB Review Totals" then all protests within SACHSE CITY were completed by July 15, 2016 and included in the Certified Roll listed above.



Signature of Chief Appraiser

July 19, 2016

Date

**NOTE: Please be advised that the property values appearing on the 'Under ARB Review Totals' page in your certified totals packet reflect the current 2016 Market and Taxable Values for the properties Under ARB Review without any Section 26.01(c) adjustments. In order to arrive at the taxable value to use for the effective tax rate calculations for your entity, you will need to use the taxable value from the 'ARB Approved Totals' page, along with the 'Total Value Used' that appears in the Lower Value Used section on the Effective Rate Assumption page. The Total Value Used on the Effective Rate Assumption page is the assessed value Under ARB Review that has been calculated in accordance with Property Tax Code, Section 26.01(c). The 'Grand Totals' page is the combined 'ARB Approved Totals' plus the 'Under ARB Review Totals' – which have not been adjusted. (The formula for calculating the total taxable remaining under protest is as follows: Taxable Value from "ARB Approved Totals" plus Total Value Used from the "Effective Rate Assumptions" Lower Value Used section minus Total Exemptions amount from the "Under ARB Review Totals".)*

Rev. 2015.07

2016 CERTIFIED TOTALS

Property Count: 2,991

CSA - SACHSE CITY
ARB Approved Totals

7/20/2016

9:33:46AM

Land			Value			
Homesite:			151,561,487			
Non Homesite:			41,990,568			
Ag Market:			5,994,129			
Timber Market:			0	Total Land	(+)	
					199,546,184	
Improvement			Value			
Homesite:			519,476,545			
Non Homesite:			91,145,584	Total Improvements	(+)	
					610,622,129	
Non Real	Count			Value		
Personal Property:	120		20,209,966			
Mineral Property:	0		0			
Autos:	0		0	Total Non Real	(+)	
					20,209,966	
				Market Value	=	
					830,378,279	
Ag	Non Exempt			Exempt		
Total Productivity Market:	5,994,129		0			
Ag Use:	12,707		0	Productivity Loss	(-)	
Timber Use:	0		0	Appraised Value	=	
Productivity Loss:	5,981,422		0		824,396,857	
				Homestead Cap	(-)	
					14,941,169	
				Assessed Value	=	
					809,455,688	
				Total Exemptions Amount (Breakdown on Next Page)	(-)	
					53,481,121	
				Net Taxable	=	
					755,974,567	

Freeze	Assessed	Taxable	Actual Tax	Ceiling	Count			
DP	7,564,685	5,283,433	28,063.35	30,632.08	33			
OV65	62,476,893	49,156,594	275,359.14	277,229.05	252			
Total	70,041,578	54,440,027	303,422.49	307,861.13	285	Freeze Taxable	(-)	
Tax Rate	0.757279							
						Freeze Adjusted Taxable	=	
							701,534,540	

APPROXIMATE LEVY = (FREEZE ADJUSTED TAXABLE * (TAX RATE / 100)) + ACTUAL TAX
 5,615,996.24 = 701,534,540 * (0.757279 / 100) + 303,422.49

2016 CERTIFIED TOTALS

Property Count: 2,991

CSA - SACHSE CITY
ARB Approved Totals

7/20/2016

9:33:56AM

Exemption Breakdown

Exemption	Count	Local	State	Total
DP	34	1,500,000	0	1,500,000
DV1	18	0	125,000	125,000
DV2	10	0	79,500	79,500
DV2S	1	0	7,500	7,500
DV3	14	0	150,000	150,000
DV4	15	0	115,947	115,947
DV4S	1	0	12,000	12,000
DVHS	12	0	3,112,613	3,112,613
DVHSS	1	0	208,006	208,006
EX-XV	52	0	31,253,731	31,253,731
EX366	12	0	2,547	2,547
LVE	17	3,351,061	0	3,351,061
OV65	276	13,533,216	0	13,533,216
PPV	1	30,000	0	30,000
Totals		18,414,277	35,066,844	53,481,121

2016 CERTIFIED TOTALS

Property Count: 49

CSA - SACHSE CITY
Under ARB Review Totals

7/20/2016

9:33:46AM

Land		Value			
Homesite:		3,003,063			
Non Homesite:		0			
Ag Market:		0			
Timber Market:		0		Total Land	(+) 3,003,063
Improvement		Value			
Homesite:		11,532,730			
Non Homesite:		2,872		Total Improvements	(+) 11,535,602
Non Real		Count	Value		
Personal Property:		0	0		
Mineral Property:		0	0		
Autos:		0	0	Total Non Real	(+) 0
				Market Value	= 14,538,665
Ag		Non Exempt	Exempt		
Total Productivity Market:		0	0		
Ag Use:		0	0	Productivity Loss	(-) 0
Timber Use:		0	0	Appraised Value	= 14,538,665
Productivity Loss:		0	0	Homestead Cap	(-) 377,680
				Assessed Value	= 14,160,985
				Total Exemptions Amount (Breakdown on Next Page)	(-) 200,000
				Net Taxable	= 13,960,985

Freeze	Assessed	Taxable	Actual Tax	Ceiling	Count		
DP	298,508	248,508	1,580.49	1,580.49	1		
OV65	867,478	717,478	4,299.86	4,299.86	3		
Total	1,165,986	965,986	5,880.35	5,880.35	4	Freeze Taxable	(-) 965,986
Tax Rate	0.757279						
						Freeze Adjusted Taxable	= 12,994,999

APPROXIMATE LEVY = (FREEZE ADJUSTED TAXABLE * (TAX RATE / 100)) + ACTUAL TAX
104,288.75 = 12,994,999 * (0.757279 / 100) + 5,880.35

2016 CERTIFIED TOTALS

Property Count: 49

CSA - SACHSE CITY
Under ARB Review Totals

7/20/2016

9:33:56AM

Exemption Breakdown

Exemption	Count	Local	State	Total
DP	1	50,000	0	50,000
OV65	2	100,000	0	100,000
OV65S	1	50,000	0	50,000
Totals		200,000	0	200,000

2016 CERTIFIED TOTALS

Property Count: 3,040

CSA - SACHSE CITY
Grand Totals

7/20/2016

9:33:46AM

Land		Value			
Homesite:		154,564,550			
Non Homesite:		41,990,568			
Ag Market:		5,994,129			
Timber Market:		0		Total Land	(+) 202,549,247
Improvement		Value			
Homesite:		531,009,275			
Non Homesite:		91,148,456		Total Improvements	(+) 622,157,731
Non Real		Count	Value		
Personal Property:		120	20,209,966		
Mineral Property:		0	0		
Autos:		0	0	Total Non Real	(+) 20,209,966
				Market Value	= 844,916,944
Ag	Non Exempt	Exempt			
Total Productivity Market:	5,994,129	0			
Ag Use:	12,707	0	Productivity Loss	(-) 5,981,422	
Timber Use:	0	0	Appraised Value	= 838,935,522	
Productivity Loss:	5,981,422	0	Homestead Cap	(-) 15,318,849	
			Assessed Value	= 823,616,673	
			Total Exemptions Amount (Breakdown on Next Page)	(-) 53,681,121	
			Net Taxable	= 769,935,552	

Freeze	Assessed	Taxable	Actual Tax	Ceiling	Count		
DP	7,863,193	5,531,941	29,643.84	32,212.57	34		
OV65	63,344,371	49,874,072	279,659.00	281,528.91	255		
Total	71,207,564	55,406,013	309,302.84	313,741.48	289	Freeze Taxable	(-) 55,406,013
Tax Rate	0.757279						
						Freeze Adjusted Taxable	= 714,529,539

APPROXIMATE LEVY = (FREEZE ADJUSTED TAXABLE * (TAX RATE / 100)) + ACTUAL TAX
5,720,284.99 = 714,529,539 * (0.757279 / 100) + 309,302.84

2016 CERTIFIED TOTALS

Property Count: 3,040

CSA - SACHSE CITY
Grand Totals

7/20/2016

9:33:56AM

Exemption Breakdown

Exemption	Count	Local	State	Total
DP	35	1,550,000	0	1,550,000
DV1	18	0	125,000	125,000
DV2	10	0	79,500	79,500
DV2S	1	0	7,500	7,500
DV3	14	0	150,000	150,000
DV4	15	0	115,947	115,947
DV4S	1	0	12,000	12,000
DVHS	12	0	3,112,613	3,112,613
DVHSS	1	0	208,006	208,006
EX-XV	52	0	31,253,731	31,253,731
EX366	12	0	2,547	2,547
LVE	17	3,351,061	0	3,351,061
OV65	278	13,633,216	0	13,633,216
OV65S	1	50,000	0	50,000
PPV	1	30,000	0	30,000
Totals		18,614,277	35,066,844	53,681,121

2016 CERTIFIED TOTALS

Property Count: 2,991

CSA - SACHSE CITY
ARB Approved Totals

7/20/2016

9:33:56AM

State Category Breakdown

State Code	Description	Count	Acres	New Value Market	Market Value
A	Single-Family Residential	2,496		\$24,712,629	\$651,440,993
B	Multi-Family Residential	2		\$15,108,419	\$53,908,995
C1	Vacant Lots and Tracts	84		\$0	\$7,924,494
D1	Qualified Open-Space Land	10	103.9453	\$0	\$5,994,129
D2	Improvements on Qualified Open-Space Lan	2		\$0	\$4,104
E	Rural Land, Non Qualified Open-Space Land,	19	118.7645	\$0	\$5,579,649
F1	Commercial Real Property	20		\$4,818,908	\$34,545,218
F2	Industrial and Manufacturing Real Property	3		\$0	\$620,643
J3	Electric Companies and Co-Ops	1		\$0	\$2,309,710
J4	Telephone Companies and Co-Ops	2		\$0	\$1,325,879
J5	Railroads	4		\$0	\$0
J6	Pipelines	1		\$0	\$936
J7	Cable Television Companies	3		\$0	\$1,017,586
L1	Commercial Personal Property	101		\$481,853	\$12,171,747
O	Residential Real Property Inventory	233		\$5,578,316	\$18,896,857
X	Totally Exempt Property	82		\$0	\$34,637,339
	Totals		222.7098	\$50,700,125	\$830,378,279

2016 CERTIFIED TOTALS

Property Count: 49

CSA - SACHSE CITY
Under ARB Review Totals

7/20/2016

9:33:56AM

State Category Breakdown

State Code	Description	Count	Acres	New Value Market	Market Value
A	Single-Family Residential	49		\$231,003	\$14,538,665
		Totals	0.0000	\$231,003	\$14,538,665

2016 CERTIFIED TOTALS

Property Count: 3,040

CSA - SACHSE CITY
Grand Totals

7/20/2016

9:33:56AM

State Category Breakdown

State Code	Description	Count	Acres	New Value Market	Market Value
A	Single-Family Residential	2,545		\$24,943,632	\$665,979,658
B	Multi-Family Residential	2		\$15,108,419	\$53,908,995
C1	Vacant Lots and Tracts	84		\$0	\$7,924,494
D1	Qualified Open-Space Land	10	103.9453	\$0	\$5,994,129
D2	Improvements on Qualified Open-Space Lan	2		\$0	\$4,104
E	Rural Land, Non Qualified Open-Space Land,	19	118.7645	\$0	\$5,579,649
F1	Commercial Real Property	20		\$4,818,908	\$34,545,218
F2	Industrial and Manufacturing Real Property	3		\$0	\$620,643
J3	Electric Companies and Co-Ops	1		\$0	\$2,309,710
J4	Telephone Companies and Co-Ops	2		\$0	\$1,325,879
J5	Railroads	4		\$0	\$0
J6	Pipelines	1		\$0	\$936
J7	Cable Television Companies	3		\$0	\$1,017,586
L1	Commercial Personal Property	101		\$481,853	\$12,171,747
O	Residential Real Property Inventory	233		\$5,578,316	\$18,896,857
X	Totally Exempt Property	82		\$0	\$34,637,339
	Totals		222.7098	\$50,931,128	\$844,916,944

2016 CERTIFIED TOTALS

Property Count: 3,040

CSA - SACHSE CITY
Effective Rate Assumption

7/20/2016

9:33:56AM

New Value

TOTAL NEW VALUE MARKET:	\$50,931,128
TOTAL NEW VALUE TAXABLE:	\$50,704,520

New Exemptions

Exemption	Description	Count		
EX-XV	Other Exemptions (including public, religious, c	1	2015 Market Value	\$403,310
EX366	House Bill 366 - Under \$500	5	2015 Market Value	\$1,905
ABSOLUTE EXEMPTIONS VALUE LOSS				\$405,215

Exemption	Description	Count	Exemption Amount
DP	Disabled Person	1	\$50,000
DV1	Disabled Veterans 10% - 29%	1	\$5,000
DV2	Disabled Veterans 30% - 49%	2	\$15,000
DV2S	Disabled Veterans Surviving Spouse 30% - 49%	1	\$7,500
DV3	Disabled Veterans 50% - 69%	2	\$22,000
DV4	Disabled Veterans 70% - 100%	5	\$48,000
DV4S	Disabled Veterans Surviving Spouse 70% - 100%	1	\$12,000
DVHS	Disabled Veteran Homestead	2	\$458,044
OV65	Over-65	24	\$1,200,000
PARTIAL EXEMPTIONS VALUE LOSS		39	\$1,817,544
NEW EXEMPTIONS VALUE LOSS			\$2,222,759

Increased Exemptions

Exemption	Description	Count	Increased Exemption Amount
INCREASED EXEMPTIONS VALUE LOSS			
TOTAL EXEMPTIONS VALUE LOSS			\$2,222,759

New Ag / Timber Exemptions**New Annexations****New Deannexations****Average Homestead Value****Category A and E**

Count of HS Residences	Average Market	Average HS Exemption	Average Taxable
2,046	\$274,888	\$7,487	\$267,401
Category A Only			
Count of HS Residences	Average Market	Average HS Exemption	Average Taxable
2,045	\$274,901	\$7,491	\$267,410

Lower Value Used

Count of Protested Properties	Total Market Value	Total Value Used
49	\$14,538,665.00	\$12,541,908



City of Sachse, Texas

Legislation Details (With Text)

File #:	16-3444	Version:	1	Name:	Discuss Miles Road Traffic Signal & Pedestrian Crossing Improvements
Type:	Agenda Item	Status:		Status:	Agenda Ready
File created:	7/26/2016	In control:		In control:	City Council Workshop
On agenda:	8/1/2016	Final action:		Final action:	
Title:	Discuss the proposed traffic signal and pedestrian crossing improvements on Miles Road at Sachse High School.				

Sponsors:

Indexes:

Code sections:

Attachments: [Presentation](#)
[60% Engineering Plans](#)
[Draft Cost Estimate](#)

Date	Ver.	Action By	Action	Result
------	------	-----------	--------	--------

Title

Discuss the proposed traffic signal and pedestrian crossing improvements on Miles Road at Sachse High School.

Background

The traffic on and across Miles Road near Sachse High School is a mix of school related and non-school related transportation activity, creating a dynamic situation during morning and evening hours of peak activity.

In September 2014, Lee Engineering completed a study of the pedestrian and motor vehicle movements on and across Miles Road at Hunters Ridge Drive and Haverhill Lane. The findings included recommendations for two traffic signals, pedestrian improvements, and extending the length of the existing turn lanes into Sachse High School.

The City Council included funding for engineering design of the improvements in the Fiscal Year 2015-16 Budget as shown in the FY 2015-2016 Capital Improvement Plan. The engineering design is now close to 90% complete.

City staff has reached out to both Dallas County and Garland ISD to discuss partnering on the construction of the proposed improvements. Staff will continue to work with both Dallas County and Garland ISD with the goal of developing agreements to partner on funding the construction of the improvements.

Policy Considerations

The project is identified in the City of Sachse Capital Improvement Plan.

Budgetary Considerations

The draft FY 16-17 CIP update includes funding for construction of the project in the amount of \$166,250 (25% of the estimated construction cost).

Staff Recommendations

None.



Miles Road Traffic & Pedestrian Improvements

City Council
August 1, 2016

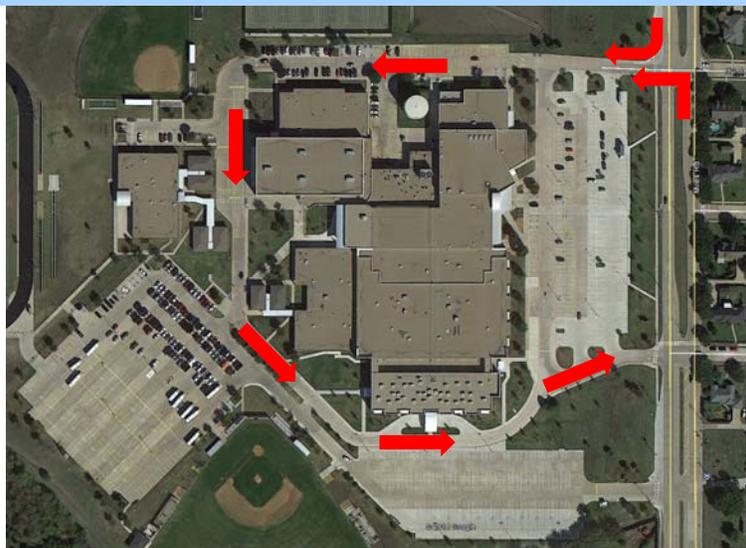
Overview

- History and background
- Overview of the traffic study
- Engineering Design
- Project Funding
- Discussion

History and Background

- Vehicular and pedestrian traffic congestion occurs regularly during the morning drop-off and afternoon dismissal times for Sachse High School. The congestion has continued to increase over time.
- April 2014 - The City Council approved a contract with a transportation engineer to conduct a traffic study in front of Sachse High School.
- September 2014 – The traffic study was completed.
- November 2014 – Staff presented the final traffic study findings to the City Council.
- Summer 2015 - The City Council approved funding for engineering design for traffic improvements in the FY 15-16 Budget.
- November 2015 – The City Council approved an ordinance to implement a no-stopping/standing/parking area on Miles Road near Sachse High School to address traffic/pedestrian concerns related to vehicles dropping off students in Miles Road.
- Current – The engineering design for the identified traffic improvements is 90% complete. Staff is coordinating with both Dallas County and Garland ISD to seek a funding partnership for construction of the improvements. The FY 16-17 CIP update includes City funding for construction of the identified improvements.

On Campus Traffic Circulation



Miles Road Traffic Study - Overview

- Data
 - Automated traffic counts on Miles Road, Hunters Ridge, and Haverhill
 - Manual turning movement counts at intersections
 - Field observations during peak times
- Analysis
 - Capacity analysis for street and driveway intersections
 - Crossing analysis for pedestrian crossings on Miles Road
 - Warrant study for traffic signals on Miles Road at Hunters Ridge and Haverhill

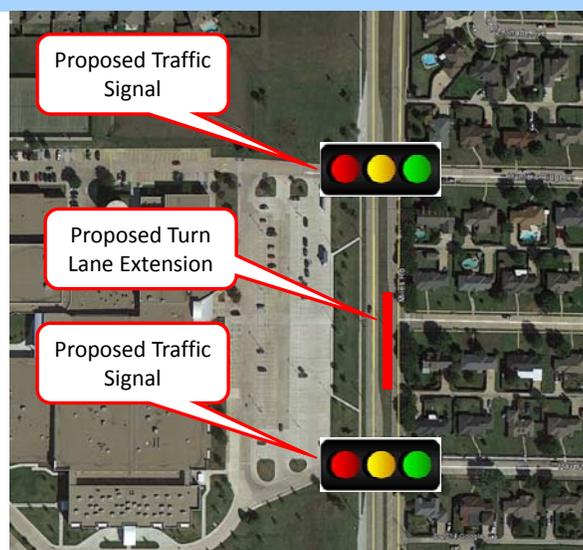
Miles Road Traffic Study - Findings

- There are operational problems along Miles Road
 - Pedestrians movements have overtaken the intersections during peak morning traffic, causing insufficient vehicular operations
 - Regulation of pedestrian movements is necessary
 - Flashing yellow lights are not sufficient to regulate pedestrian traffic
 - Use of Walk/Don't Walk signals is needed
- Traffic signals are warranted
 - Miles Road at Hunters Ridge Drive
 - Miles Road at Haverhill Lane
 - Installing a signal only in one location is unlikely to provide sufficient relief
 - Traffic signals should be linked with existing signals on Miles Road to minimize stops

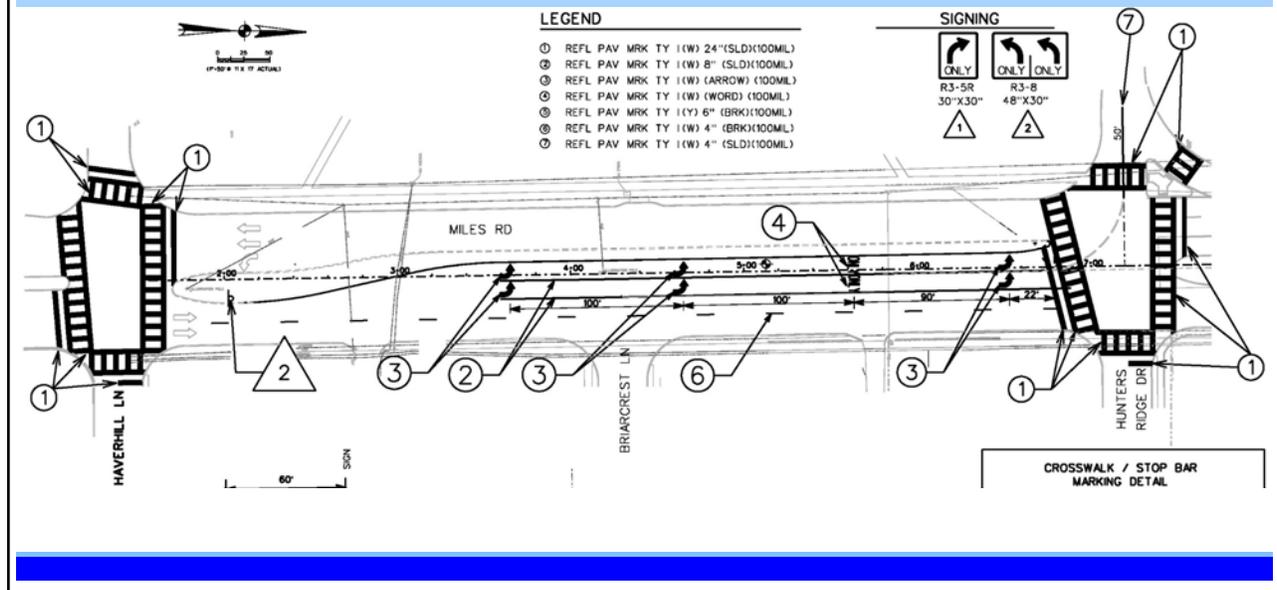
Miles Road Traffic Study – Recommendations

- The study made the following recommendations:
 - Traffic Signals
 - Install traffic signals on Miles Road at Haverhill and at Hunters Ridge
 - Link the signals to existing signals at Hudson and Bunker Hill
 - Street Improvements
 - Extend northbound left turn lane at Hunters Ridge
 - Extend southbound right turn lane at Hunters Ridge
 - Construct new curb ramps at crossing locations for Sachse High School
 - Potential Future Improvements
 - Private - Connection to the High School from Hudson Drive
 - Public - Upgrade sidewalks along Miles Road

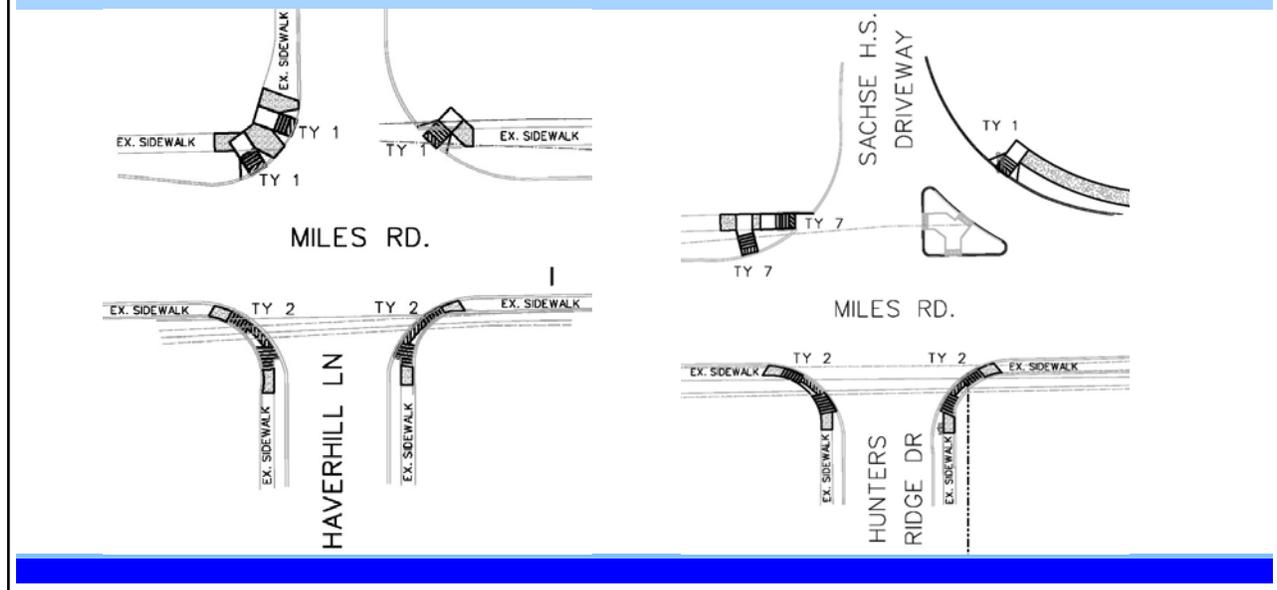
Critical Improvements – Currently in Design



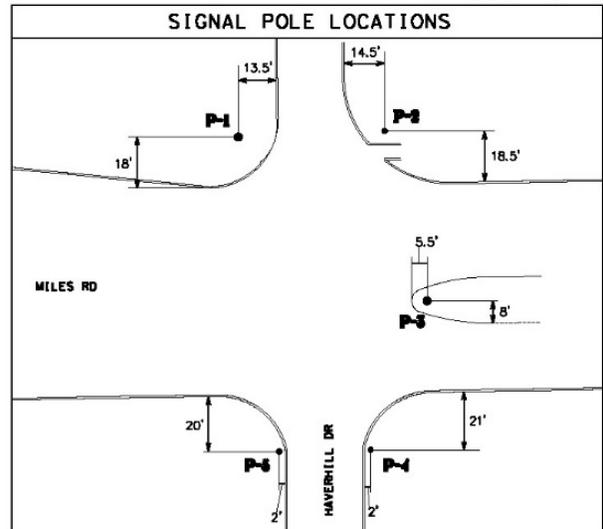
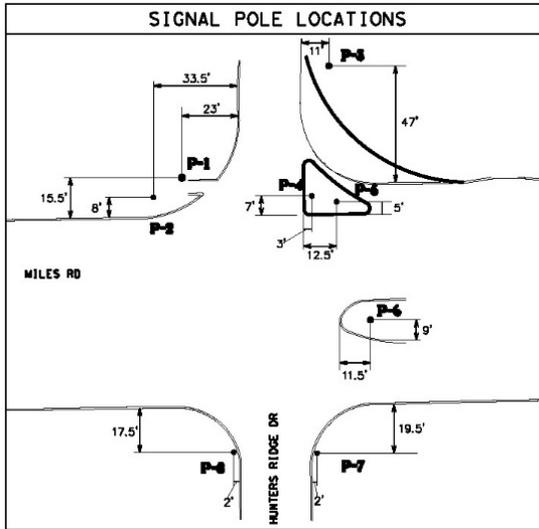
Engineering Design - Crosswalks



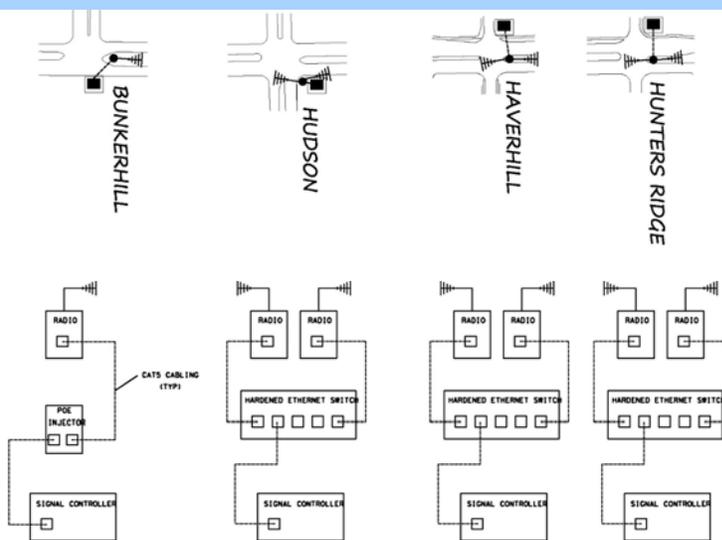
Engineering Design – Ramps



Engineering Design – Signal Poles



Engineering Design – Signal Coordination



Potential Future Private Improvements

- Potential Future Private Improvements:
 - Future driveway connecting Hudson to the High School parking lot.



Potential Future Public Improvements



- Potential Future Public Improvements – these projects would require additional right-of-way from adjacent properties:
 - Extending the southbound right turn lane at the north school entrance
 - Sidewalk improvements along the west side of Miles Road

Project Funding

- Analysis & Design
 - City funded traffic study in FY 2014-2015 (\$5,400)
 - City funded the Engineering Design in FY 2015-2016 (\$75,000)
- Construction Funding – FY 2016-2017
 - Estimated Construction Cost: \$665,000 (Engineer's estimate)
 - Potential Partnership for Construction Funding
 - City of Sachse (25%) - \$166,250
 - Garland ISD (25%) - \$166,250 (Not yet committed – formal agreement required)
 - Dallas County (50%) - \$332,500 (Committed in principal – formal agreement required)

Discussion & Next Steps

- Next Steps
 - Work with Dallas County to prepare a Project Specific Agreement for project funding.
 - Work with Garland ISD to seek an agreement for project partnership & funding.
 - Set aside partial construction funds (\$166,250) in the FY 16-17 Budget
 - If project partners agree, plan for construction - Summer 2017.
- Discussion
 - Discuss project status and engineering plans
 - Discuss identified partnership opportunities



ENGINEERING PLANS

FOR

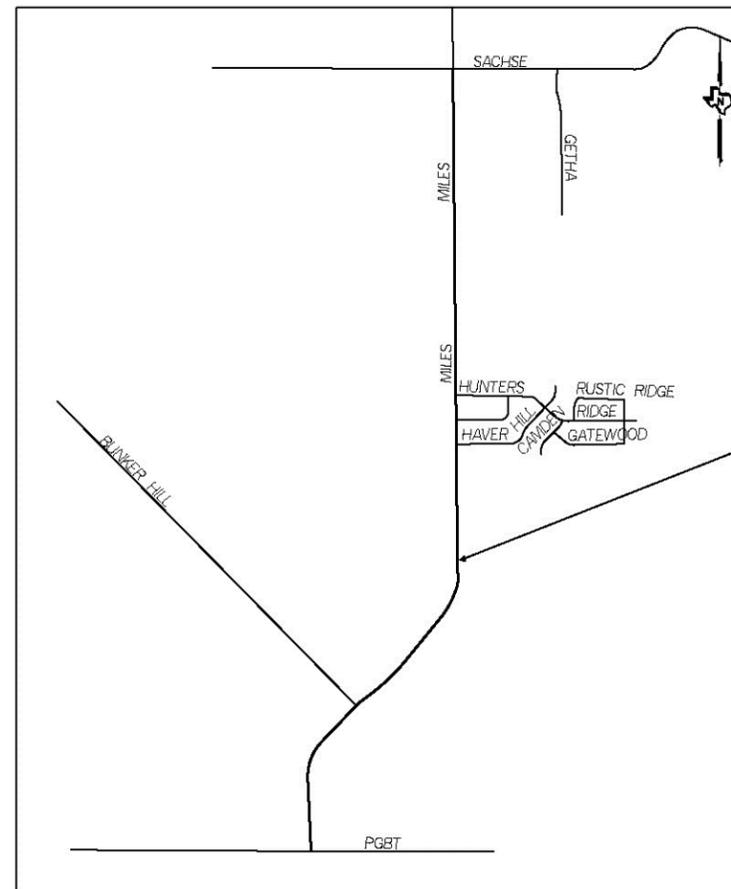
TURN BAY AND TRAFFIC SIGNAL INSTALLATIONS AT MILES ROAD AND HUNTERS RIDGE DRIVE & MILES ROAD AND HAVERHILL DRIVE

CIP# XXXXXXXXXX
APRIL 2016
PROJECT MAP

SHEET INDEX

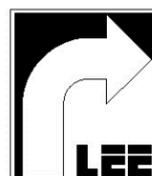
MAYOR	MIKE FELIX
MAYOR PRO TEM	BRETT FRANKS
COUNCILMAN	CHARLIE ROSS
COUNCILMAN	PAUL WATKINS
COUNCILMAN	BILL ADAMS
COUNCILMAN	CULLEN KING
COUNCILMAN	JEFF BICKERSTAFF
CITY MANAGER	GINA NASH
DIR OF PUBLIC WORKS AND ENGINEERING	GREG PETERS, P.E

PREPARED FOR:
CITY OF SACHSE
3815-B SACHSE ROAD
SACHSE, TEXAS 75048



TO BE DETERMINED

PROJECT
COORIDOR



3030 LBJ FREEWAY
SUITE 1660
DALLAS, TEXAS 75234
972-248-3006 FAX 972-248-3855
TBPE FIRM REGISTRATION NO. F-450

LEE ENGINEERING

All construction within the City of Sachse Right-of-Way will require compliance to NCTCOG Specifications, TxDOT Standard Specifications, Standard Plans, and Texas Manual on Uniform Traffic Control Devices.

60% REVIEW
PRELIMINARY - FOR REVIEW ONLY LEE ENGINEERING, L.L.C. REGISTRATION NO. F-450 CHRISTOPHER J. PIERCE, P.E. #92541 APRIL 2016

The CONTRACTOR will only be allowed to work on this project during daylight hours (8 AM to 5 PM Monday - Friday). If the Contractor needs to work on a Saturday, 72 hours notice shall be given to the City. Contractor shall be responsible for paying overtime to the construction inspector should the work being performed need to be inspected.

The CONTRACTOR shall notify Mr. Greg Peters, Director of Public Works & Engineering for the City of Sachse at (972) 495-7600 at least one week prior to starting work on this project.

The CONTRACTOR shall clean up and remove from work area all loose material resulting from the contract operations each day before work is suspended.

Any obstructions to existing drainage due to the CONTRACTOR's operations will be removed by the CONTRACTOR as required by the City at the CONTRACTOR's entire expense.

THIS PROJECT CONSISTS OF THE FOLLOWING PRINCIPAL ITEMS:

1. Furnishing and installing controller and cabinet assemblies and digital detectors, as required.
2. Furnishing and installing mast arm poles, pedestal poles, push button posts, signal heads, and signal cable.
3. Furnishing and installing pavement markings and signage.
4. Furnishing and installing conduit and ground boxes.
5. Furnishing and installing opticom detection equipment and VIVDS detection equipment.
6. Furnishing and installing an uninterruptible power supply (UPS) system.
7. Furnishing and placing all concrete and reinforcing steel for the signal pole foundations, and controller foundations.
8. The CONTRACTOR shall also furnish and install all other items not listed above which are needed to provide the complete traffic signal installation as called for in the plans and specifications.
9. Unless directed by the City, the signal shall be placed in full operation between 9:00 A.M. - 12:00 P.M. (noon) on Tuesday or Wednesday only, with the signal being placed into flashing mode 3 or 4 days before.
10. The dimensions shown on the plans for location of signal foundations, conduit, and other items may be varied to meet local conditions, subject to approval by the City.

SIGNAL TECHNICIAN

A signal technician from the City of Sachse shall be present when the signals are placed in operation. The CONTRACTOR shall notify Mr. Greg Peters at (972) 495-7600 approximately 48 hours in advance of the turn on.

TEST PERIOD FOR SIGNALS

Once the permanent signals have been installed and placed in operation, they shall operate continuously for a minimum of 30 calendar days in a satisfactory manner. Equipment failures during this 30 day period will cause the test period to start over.

EXISTING UTILITIES

The exact location of the underground utilities is not certain. The CONTRACTOR shall contact the City of Sachse, and utility companies with utilities in the area for exact location prior to drilling for foundations and any other work that might interfere with or damage present utilities. Known utilities include city water and sewer lines, TXU electric lines, Verizon telecommunication lines, TXU gas lines, and Garland ISD fiber optic lines. Location of some of these utilities can be determined by calling TEXAS 811. No additional payment will be made for relocation of any foundations due to utilities.

Texas State Law, Article 1436C, makes unlawful the operation of equipment or machines within 10 feet of any overhead electrical line unless danger against contact with high voltage lines has been effectively guarded against pursuant to the provisions of the article. When construction operations requires working near an overhead electrical line, the CONTRACTOR shall contact the owner/operator of the overhead electrical line to make adequate arrangements and to take necessary safety precautions to ensure that all laws, electrical line owner/operator requirements and standard industry safety practices are met.

ELECTRICAL CONDUCTORS

The equipment grounding conductor shall be identified by a continuous green colored jacket insulation or bare wire. Grounded conductors (Neutral) shall be identified by a continuous white colored jacket. Ungrounded conductors (Hot) in a 120/240v or 240/480v system shall be identified by each pole or leg. For 240-volt branch circuit fed from 120/240 source and 480-volt branch circuit fed from 240/480 source, ensure one leg is identified by a continuous black colored jacket and the other leg by a continuous red colored jacket.

Grounding conductors that share the same conduit, ground box, or structure shall be bonded together at every accessible point in accordance with the NEC.

Provide Engineer, in addition to any submittals required by the specifications and elsewhere in the general notes, a list of pre-qualified material to be used on this project.

CONDUIT

The location of conduits and ground boxes are diagrammatic only and may be shifted to accommodate field conditions as directed by the Engineer.

Secure permission and approval from the proper authority prior to cutting into or removing any sidewalks or curbs for installation of this item.

A continuous bare copper wire no. 6 or larger shall be installed in every PVC conduit throughout the electrical system in accordance with the electrical detail sheets, and the latest edition of the National Electrical Code.

Underground PVC conduit shall be heavywall schedule 40, unless otherwise approved by the Engineer. All couplings and connections shall be tight and waterproof.

All conduit elbows and rigid metal extensions required to be installed on PVC conduit systems will not be paid for separately, but will be considered subsidiary to TxDOT Specification 618.

Conduit to be placed under existing pavement shall be by an approved boring method and placed at a minimum depth of 4 feet below the pavement surface. Do not place boring pits closer than 2 feet from the edge of pavement unless directed. Do not use water jetting. Do not exceed 18 inches in the vertical and horizontal tolerances as measured from the intended target point.

Do not use a pneumatically driven device for punching holes beneath the pavement (commonly known as a "missile").

Furnish and install a non-metallic mule tape in all conduit runs. Also furnish and install non-metallic mule tape in conduit installed for future use and cap using standard weather-tight conduit caps as approved. Furnish Garvin #PT-1250-3K, ComStar PUL 1250P3K, Ideal Part No. 31-315 or equal as approved by the Engineer. This work will not be paid for directly, but is subsidiary to this item.

Use a colored cleaner-primer on all PVC to PVC joints before application of PVC cement.

Seal all conduit ends with a permanently soft, non-toxic duct seal. Use a duct seal that does not adversely affect other plastic materials or corrode metals.

SHEET 1 OF 3



MILES ROAD IMPROVEMENTS

TRAFFIC SIGNAL GENERAL NOTES

2

60% REVIEW
 PRELIMINARY - FOR REVIEW ONLY
 LEE ENGINEERING, L.L.C.
 REGISTRATION NO. F-450
 CHRISTOPHER J. PIERCE, P.E. #92541
 APRIL 2016

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	

POLE ASSEMBLIES

Provide 12 circuit Buchanan Type 112SN, Kulka Type 985-GP-12 CU, or equal terminal strips in the signal pole access compartment. Provide additional terminal strips of 8 circuits each when more than 12 circuits are required. The conductors for the Line and Load side of the terminal strip shall be identified with a plastic label with two straps per tag. The line side shall have each signal head, PED head, and push button identified on the tag.

Critical pole assembly features and dimensions required for this project are shown on the plan detail sheets. Pole shaft/mast arm identification numbers shall be stenciled on pole shafts and mast arms before shipment to ensure matching of poles and mast arms during field assembly.

Provide nuts on top and bottom (double nuts) of the base plate as shown on the plans.

Set anchor bolts for mast arm signal poles so that two are in tension and two are in compression. Obtain approval of anchor bolt placement before placing concrete.

All locations of signal poles and pedestal poles shall be potholed prior to ordering of equipment.

Provide vertical clearance of 17 to 19 feet from the roadway to the lowest point of the signal head or mast arm. Place signal heads 40 feet minimum and 180 feet maximum from the stop line. If the nearest signal is more than 180 feet from the stop line, place a supplemental near-side signal head. Determine the field measurements and elevations from the actual field location of the poles, considering all above and below ground utilities and existing roadway elevations.

ITEM 416 - POLE FOUNDATIONS

No mast arm poles shall be placed on the foundations prior to seven (7) days following placement of concrete.

The dimensions shown on the plans for location of signal foundations, conduit, and other items may be varied to meet local conditions, subject to approval by the City.

The CONTRACTOR shall notify Mr. Greg Peters Sachse at 972-495-7600 at least 48 hours before placing concrete. Cylinders will be made for testing by a third party.

All exposed signal pole and controller foundations shall receive a Class C finish as per TxDOT item 427.

Traffic signal pole and pedestal pole foundations will be paid for once regardless of extra work caused by obstructions.

Install a 5/8" x 10' copper clad ground rod in each traffic signal pole foundation. The ground rod for each foundation will protrude above the finish grade of the foundation a minimum of 1" and a maximum of 2".

Concrete removal required for installation of drilled shafts will be subsidiary to Item 416.

Provide a formed smooth finish for all portions of the drill shafts extending above proposed ground. Include cost for this work in the unit bid price for this item.

LUMINAIRE MAST ARMS

Luminaire mast arms shall be positioned directly above and in line with the associated mast arm unless otherwise directed.

ITEM 682 - SIGNAL HEADS

Unless otherwise shown in the plans, all signal heads shall be mounted horizontally.

Turn down signal heads or cover with burlap or other approved material until traffic signal is placed in operation.

LED indications shall be used and furnished and installed by the CONTRACTOR.

Pedestrian push button signs R10-3eR(L) shall be used in coordination with the COUNTDOWN HEADS.

Install signal head attachments so that the wiring to each signal head passes from the mast arm through the attachment hardware to the signal head. Do not leave cable or wiring exposed.

Provide signal head attachments that allow for adjustment about the horizontal and vertical axis.

All signal heads and tubing shall be Yellow Polycarbonate. Provide backplates, louvers, and the inside of the visors with a flat black finish.

Mount signal heads level and plumb and aim as directed.

ITEM 684 - CABLE

The CONTRACTOR shall furnish and install stranded 14 AWG Type A signal cables.

Provide a separate multi-conductor signal cable (14 AWG) inside pedestal poles and signal poles from the terminal strip to each signal head as shown on the plans.

Identify each cable as shown on the plans (cable 1, etc.) with permanent marking labels (Panduit Type PLM standard single marker tie, Thomas & Betts Type 548M, or equal) at each ground box, pole base, and controller.

Extra cable length shall be included in each run to provide adequate slack, as determined by the City, at each ground box or foundation.

No splices shall be allowed in any cable.

OPTICOM DETECTORS

The CONTRACTOR shall furnish and install an opticom detector system manufactured by Global Traffic Technologies. The equipment shall include Type 711 uni-directional opticom detectors, Type 764 4 Channel phase selectors, and opticom detector cable.

ITEM 6002 - VIVDS DETECTION SYSTEM

The CONTRACTOR shall furnish and install an Autoscope RackVision Terra VIVDS detection system. The system shall include the detection system processor, Solo Terra detection cameras and mounting hardware, card rack and power supply, video camera suppression and surge panel for AC and video, a video monitor, a video microprocessor, and field set-up system as well as any other items not listed needed to make system operational.

The CONTRACTOR shall also be responsible for furnishing and installing VIVDS detection cable.

SHEET 2 OF 3



MILES ROAD IMPROVEMENTS

TRAFFIC SIGNAL GENERAL NOTES

3

60% REVIEW
PRELIMINARY - FOR REVIEW ONLY
LEE ENGINEERING, L.L.C.
REGISTRATION NO. F-450
CHRISTOPHER J. PIERCE, P.E. #92541
APRIL 2016

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	

SIGNING

All new signal pole and mast arm mounted signs shall be furnished and installed by the CONTRACTOR. Payment shall be subsidiary to Item 680.

Existing stop signs shall remain in operation until full signal operation has been turned on. The CONTRACTOR will remove stop signs at turn-on.

TRAFFIC SIGNAL CONTROLLER & CABINET

The CONTRACTOR shall furnish and install a NAZTEC Model 980 NEMA TS-2 Type 2 Traffic Signal Controller with Ethernet capabilities at each intersection.

The CONTRACTOR shall also furnish and install a NEMA TS-2 Type 2 controller cabinet assembly at the subject intersections.

ITEM 656 - FOUNDATIONS FOR TRAFFIC CONTROL DEVICES

Form a 3/4 inch chamfer on the top edge of each signal pole and pedestal pole foundation.

Probe for utilities and underground structures prior to drilling foundations. Foundations shall be paid for once regardless of extra work caused by obstructions.

ITEM 6058 - UNINTERRUPTIBLE POWER SUPPLY (UPS) SYSTEM

The CONTRACTOR shall furnish and install an Uninterruptible Power Supply System in accordance with TxDOT Special Specification 6058 at the subject inersections. The external cabinet for housing of batteries shall be mounted on the outside of the traffic signal controller cabinet. Stand alone housing WILL NOT be permitted.

ITEM 688 - ACCESSIBLE PEDESTRIAN SIGNAL UNITS

If a traffic or signal pole includes two APS units, or if the APS units cannot be installed a minimum of 10' apart, speech walk messages shall be used. Each speech walk message shall be programmed to clearly state the name of the roadway to be crossed as a result of activating that particular APS unit.

Verify the location of the push button assemblies and the direction of the arrows on the signs prior to installation.

CONTRACTOR'S RESPONSIBILITY FOR THE WORK

The CONTRACTOR shall be responsible for all installations until accepted by the City as required by the general provisions and requirements. Should "knock downs" occur, the CONTRACTOR shall be responsible for all labor to reinstall said equipment at no additional cost to the City. If new equipment is required, as determined by the City, the CONTRACTOR shall provide replacement equipment at no additional cost to the City.

HANDLING OF TRAFFIC

Roads and streets shall be kept open to traffic at all times. The CONTRACTOR shall, unless otherwise directed by the City, arrange the work in the roadway so as to close only one lane of a roadway at a time. All construction operations shall be conducted to provide the least possible interference to traffic as provided in the specifications and/or as directed by the City.

The CONTRACTOR shall arrange the installation of signals, poles, and conduit so as to permit the continuous movement of the traffic in both directions at all times. A pre-construction conference including City staff shall outline intersection construction phases.

A Traffic Control Plan (TCP) for this project shall be as detailed on Standard Sheets WZ (BTS-1)-13 and WZ (BTS-2)-13. All construction signs shall be mounted on fixed supports (4" x 4" wood posts) unless otherwise directed by the City.

SHEET 3 OF 3



MILES ROAD IMPROVEMENTS

TRAFFIC SIGNAL GENERAL NOTES

4

60% REVIEW
PRELIMINARY - FOR REVIEW ONLY
LEE ENGINEERING, L.L.C.
REGISTRATION NO. F-450
CHRISTOPHER J. PIERCE, P.E. #92541
APRIL 2016

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	

PLAN NOTES

Extension of the southbound right turn lane is shown as an "ALTERNATIVE BID". Construction in this project is dependent on acquisition of right-of-way or easement from the adjacent property owner.

The existing drainage inlet at the southbound right turn lane is to remain in place without modification.

Two existing timber pole mounted luminaires are to be relocated within the median area of the northbound left turn lane.

The plan base line has been established for this project based on field survey and does not represent the actual centerline of the roadway or R.O.W.

Pavement markings shall consist of a sealer (Traffic Paint - TY II) followed by a 100 mil thermoplastic (TY I) marking.

GENERAL NOTES

SW3P Responsibility: Contractor is responsible for seeking coverage under the TPDES Construction General Permit (CGP) and adhering to all requirements of the permit for discharging storm water from the areas under their operational control. Perform regular inspections, prepare a written report of deficiencies, and repair deficiencies within the time frame set forth by the permit. File a Notice of Termination with TCEQ upon completion of the project when the exposed areas have been stabilized with a vegetative cover of at least 70%.

Applicable Specifications: Specifications for this project shall be in accordance with TxDOT 2014 "Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges".

General: Access will be provided to all business and residences at all times. Where turning radii are limited during phased construction at intersections, provide all weather surfaces such as RAP or base in turning movements to accommodate and to protect the traffic from edge drop-offs. Materials, labor, maintenance and removal for these temporary accesses and radii will not be paid for directly but will be considered subsidiary to the various bid items. The construction, operation and maintenance of the proposed project will be consistent with the state implementation plan as prepared by the Texas Commission on Environmental Quality. The disturbed area for this project, as shown on the plans is 0.15 acres. However, the Total

Disturbed Area (TDA) will establish the required authorization for storm water discharges. The TDA of this project will be determined by the sum of the disturbed area in all project locations in the contract, and all disturbed area on all Project-Specific Locations (PSL) located in the project limits and/or within 1 mile of the project limits. When the TDA for the project exceeds 1 acre, provide a copy of the appropriate application of permit (NOI, or Construction Site Notice) to the engineer, for any PSL located in the project limits or within 1 mile of the project limits. Follow the directives and adhere to all requirements set forth in the TCEQ, Texas Pollution Discharge Elimination System, Construction General Permit (TPDES, CGP).

Install traffic marking signs prior to sealcoat application and remove within three days after placement of traffic markings.

Leave all right of way areas undisturbed until actual construction is to be performed in said areas.

Use established industry and utility safety practices to erect poles, luminaries, signs or structures near any overhead or underground utility. Consult with the appropriate utility company prior to beginning such work. All electric work shall comply with the NEC.

For the project to be deemed complete, permanently stabilize all unpaved disturbed areas of the project with a vegetative cover at a minimum of 70% density for the control of erosion.

Repair or replace any structures and utilities that might have been damaged by negligence or a failure to have utility locates performed.

Perform all electrical work in accordance with the National Electrical Code. Consult with appropriate electric company representatives according to their respective area to coordinate electrical services installations.

Submit all shop drawings, working drawings, or other documents which require review sufficiently in advance of scheduled construction to allow no less than thirty (30) calendar days for review and response. Meet weekly with the engineer to notify him or her of planned work for the upcoming week.

Material On Hand (MOH) will not be used in calculating partial payments for Mobilization. Provide the Engineer with a copy of all DBE subcontractor agreements prior to commencing work.

SHEET 1 OF 3



MILES ROAD IMPROVEMENTS

TURN BAY CONSTRUCTION
GENERAL NOTES

5

60% REVIEW
PRELIMINARY - FOR REVIEW ONLY
LEE ENGINEERING, L.L.C.
REGISTRATION NO. F-450
CHRISTOPHER J. PIERCE, P.E. #92541
APRIL 2016

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	

Item 104: Item includes removal of 4" sidewalks, 8" reinforced concrete pavement and curb and gutter. In those areas where the pavement is not to be overlaid, provide a smooth surface after the curb removal. Planing or grinding is considered an acceptable method at these locations. Measurement and payment is in accordance with this item. Sawing of concrete is not paid for directly, but is considered subsidiary to this item.

Item 110: Scarify and loosen the excavated areas, unpaved surface areas, except rock, to a depth of at least 8 inches, or as called for on the plans, and compact in accordance with the specifications. Perform the following test by an approved laboratory on excavated soils when used for roadway embankment: 1- Tex-145-E (Sulfate Content in Soils), 2-Tex-106-E (Plasticity Index). Provide the above-mentioned test results on sources outside of the right of way at no expense to the City. Contact the engineer for a list of approved laboratories. Notify the engineer 72 hours before sampling and testing material. Perform split-sample verification testing with the engineer when directed. The engineer will sample and test soils produced by the onstruction project for specification requirements or material sources specified in the plans. Excavated shale is not an acceptable material for embankment.

Items 110 and 132: Excavation and embankment for driveways, sleeper slabs, alleys and intersections will not be paid for directly, but will be considered subsidiary to these items.

Item 132: Earth embankment Type C, is mainly composed of material other than shale. Furnish material that is free from vegetation or other objectionable material and that conforms to the requirements of Table 1 (Sheet B). If necessary, add lime slurry in accordance with Item 260, "Lime Treatment (Road-Mixed)" in order to meet these requirements. Use Tex-121-E, figure 1, page 5 to calculate the amount of lime required. Furnish material containing sulfate at or below the threshold of 5000 parts per million (ppm). For material with sulfate levels greater than 3000 ppm, allow the mixture to mellow for at least three days, or as directed. Test soil for sulfate levels in accordance with Tex-145-E.

Use an approved laboratory to perform tests for sulfate and plasticity index and provide results on sources outside the right of way to the department. Contact the engineer for a list of approved laboratories.

Notify the engineer 48 hours before sampling and testing material. Perform split-sample verification testing with the engineer when directed. The engineer will sample and test material produced by the construction project for specification requirements or material sources specified in the plans. The engineer will test material placed or excavated to a depth of one foot below and laterally to one foot outside the proposed treatment limit. Lime treatment and testing of this material will not be paid for directly, but will be considered subsidiary to this item.

Item 260: Furnish and distribute MS-2 smoothly and evenly at the rate of 0.20 gallons per square yard to cure lime, as directed. Lime quantity has been estimated at 7% with a unit weight of 105 lb. /cf.

Provide Commercial Lime Slurry and apply lime by slurry placement method.

Item 360: Provide curbs monolithically constructed with the concrete pavement. If continuous monolithic curb has to be temporarily omitted for any reason, provide dowelled curbs in the proposed areas, as detailed in the plans, and apply an approved epoxy resin to the pavement to receive the curb as directed. This work and materials will not be paid for directly, but is considered subsidiary to this item.

Stockpile the concrete aggregates at the plant site.

Provide pavement widening joints, as detailed in the plans, at all locations where concrete pavement is placed adjacent to existing concrete pavement. Installation of these joints is not paid for directly, but is considered subsidiary to this item.

Payment for furnishing and installing the pre-molded expansion joint material between the retaining walls and concrete pavement is not paid for directly, but is considered subsidiary to this item.

Provide a curing machine equipped with rubber tires, or other acceptable arrangement, so that the machine will span the pavement and monolithic curb.

Curb transition is paid for as Type II curb.

Place construction, sawed and contraction joints in accordance with the pavement detail sheet and as directed. Joint locations, other than as shown on the plans, are subject to approval.

Provide tiebars in longitudinal joints but do not place them within 15 inches of transverse joints. Use "mechanical steel placing equipment" at the discretion of the engineer.

Contractor personnel performing job-control testing on concrete must be ACI- Certified. Provide a copy of certification paper to the Engineer upon arrival and before testing at job site. Furnish hard copies of calibration reports for testing equipment when non-TxDOT approved equipment is used to test concrete.

SHEET 2 OF 3



MILES ROAD IMPROVEMENTS

TURN BAY CONSTRUCTION
GENERAL NOTES

6

60% REVIEW
PRELIMINARY - FOR REVIEW ONLY
LEE ENGINEERING, L.L.C.
REGISTRATION NO. F-450
CHRISTOPHER J. PIERCE, P.E. #92541
APRIL 2016

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	

Item 502: Provide written proposed lane closure information by 1:00 pm on the business day prior to the proposed closures. Do not close lanes when this requirement is not met.

When excavation is required next to a pavement lane carrying traffic and the widening is not completed by the end of the work day, backfill against the edge of the pavement with at least a 3:1 slope using an acceptable material to support vehicular traffic. Carefully remove and dispose of this material when work resumes. Backfilling pavement edges, and the materials required for the work will be subsidiary to this item.

Place barricades and signs in locations that do not obstruct the sight distance of drivers entering the highway from driveways or side streets. Provide rectangular shape (CW12-2P) Temporary Clearance Signs on all bridges where the existing vertical clearance has changed. Install Signs to the satisfaction of the Engineer prior to opening to traffic. Plywood sign blanks will have minimum dimensions of 84" X 12". Work performed and materials are subsidiary to this item.

Do not commence work on the road before sunrise. Do not operate or park any equipment/machinery closer than 30 feet from the traveled roadway after sunset unless authorized by the engineer.

When moving unlicensed equipment on or across any pavement or public highways, protect the pavement from all damage using an acceptable method.

Limit lane closures along Milles Rd. to the hours between 9:00 am and 3:30 pm. Work in other areas of the project is not restricted to this time frame. Contractor shall follow relevant Standard Construction Details for all related shoulder and roadway work. The Contractor shall submit a traffic control plan to the Engineer prior to commencing work.

Item 529: Provide grooved joints at 10-foot intervals and 3/4 inch expansion joint material for doweled curb at the same locations as on the existing pavement.

For Curb and Gutter sections, provide grooved joints at 10-foot intervals and 3/4 inch expansion joint material at a maximum of 50-foot centers and at all radius points and inlets. Curb and Gutter transitions will be paid for by the foot at the unit price for the corresponding curb or curb and gutter section. Saw joints at the same location as on the existing pavement.

Item 644: Prior to taking elevations to determine lengths for fabrication of sign posts, obtain verification of all proposed locations. Provide field galvanizing and metallizing equipment, as per Item 445, at all times and make repairs to galvanized surfaces according to the above specification item at intervals as directed.

All sign mounts shall have a clamp base system for all small roadside sign assemblies. After sign supports with signs attached have been erected, wash individual units requiring cleaning with an approved cleaning solution to remove all grease, oil, dirt, smears, streaks, and other foreign particles.

Benchmarks: Control point and benchmark information has been provided on the plan and profile sheets.

SHEET 3 OF 3



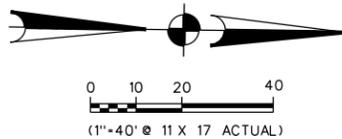
MILES ROAD IMPROVEMENTS

TURN BAY CONSTRUCTION
GENERAL NOTES

7

60% REVIEW
PRELIMINARY - FOR REVIEW ONLY
LEE ENGINEERING, L.L.C.
REGISTRATION NO. F-450
CHRISTOPHER J. PIERCE, P.E. #92541
APRIL 2016

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	



60% REVIEW
 PRELIMINARY - FOR REVIEW ONLY
 LEE ENGINEERING, L.L.C.
 REGISTRATION NO. F-450
 JOHN D. FRIEBELE, P.E. #92541
 APRIL 2016

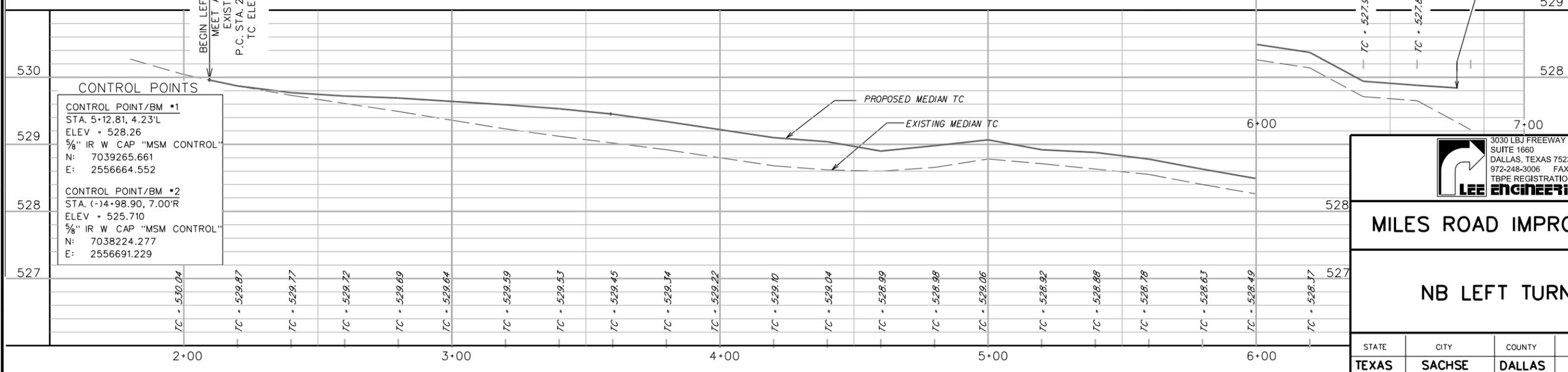
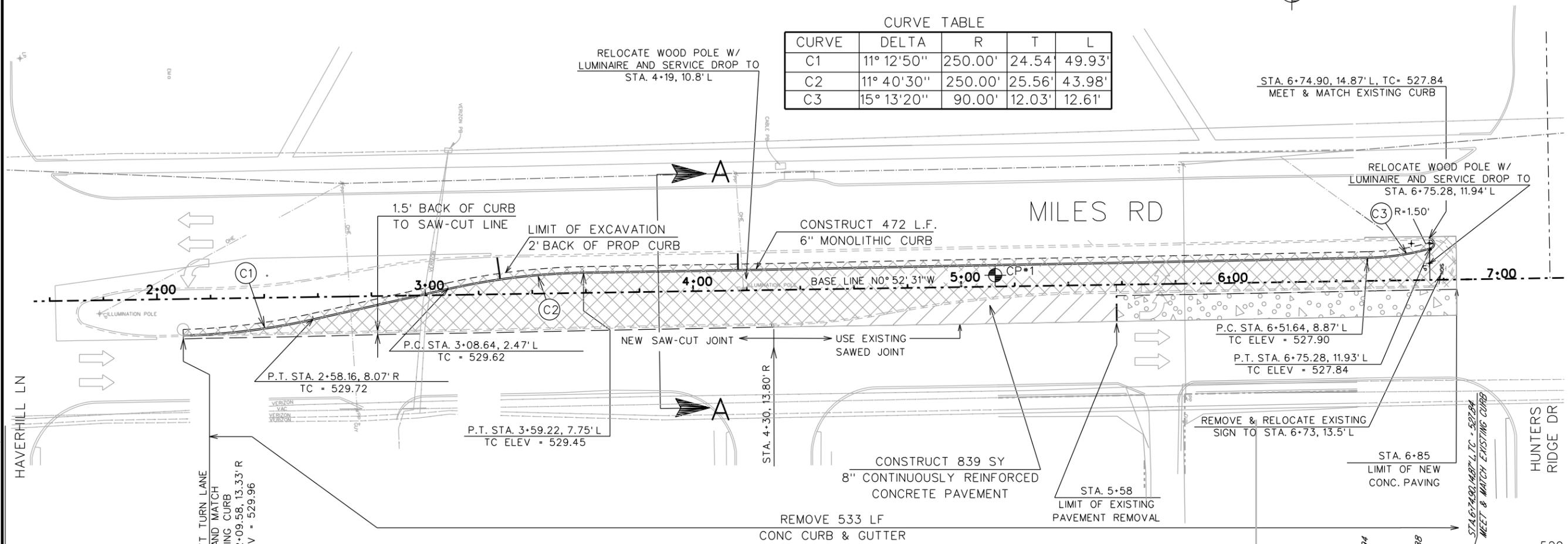
NOTE: ALL STATIONING AND OFFSET REFERENCED
 TO TOP/BACK OF CURB

LEGEND

- EXCAVATION / CONSTR. NEW PAVING
- REMOVE EX PAVING / CONSTR. NEW PAVING
- EXISTING CONCRETE PAVEMENT TO REMAIN
- CONSTRUCT NEW CURB
- EXISTING CURB LINE
- SAW-CUT LINE
- LIMIT OF EXCAVATION
- ILLUMINATION POLE
- CONTROL POINT (CP) / BENCH MARK

CURVE TABLE

CURVE	DELTA	R	T	L
C1	11° 12' 50"	250.00'	24.54'	49.93'
C2	11° 40' 30"	250.00'	25.56'	43.98'
C3	15° 13' 20"	90.00'	12.03'	12.61'



CONTROL POINTS

CONTROL POINT/BM *1 STA. 5+12.81, 4.23'L ELEV = 528.26 5/8" IR W CAP "MSM CONTROL" N: 7039265.661 E: 2556664.552
CONTROL POINT/BM *2 STA. (-)4+98.90, 7.00'R ELEV = 525.710 5/8" IR W CAP "MSM CONTROL" N: 7038224.277 E: 2556691.229

3030 LBJ FREEWAY
 SUITE 1660
 DALLAS, TEXAS 75234
 972-248-3006 FAX 972-248-3855
 TBPE REGISTRATION NO. F-450

MILES ROAD IMPROVEMENTS

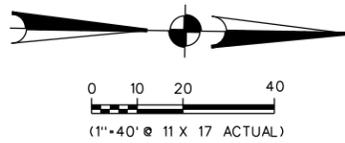
NB LEFT TURN LANE

8

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	1 OF 5

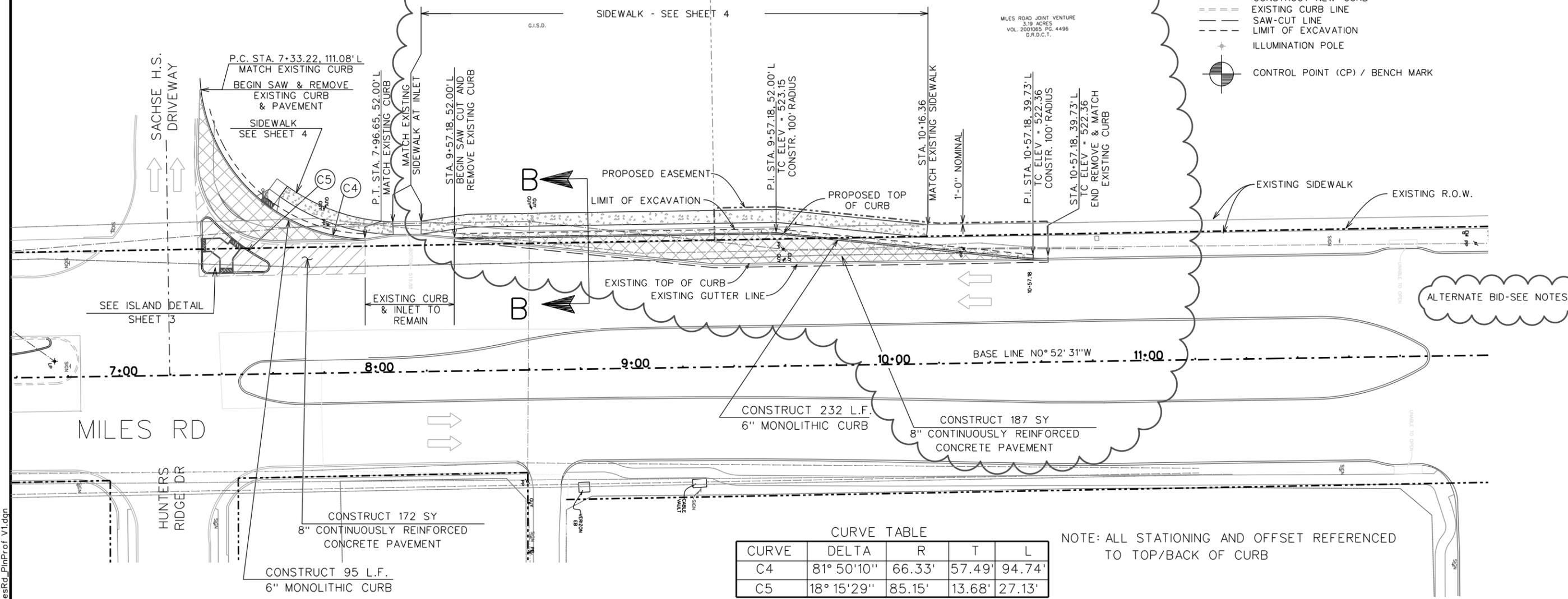
Z:\0 - Projects\Active\Sachse_City\T1418.07 - Miles Rd Turn Lanes\CAD\MilesRd_PlnProf_V1.dgn

REV: 4/26/2016



LEGEND

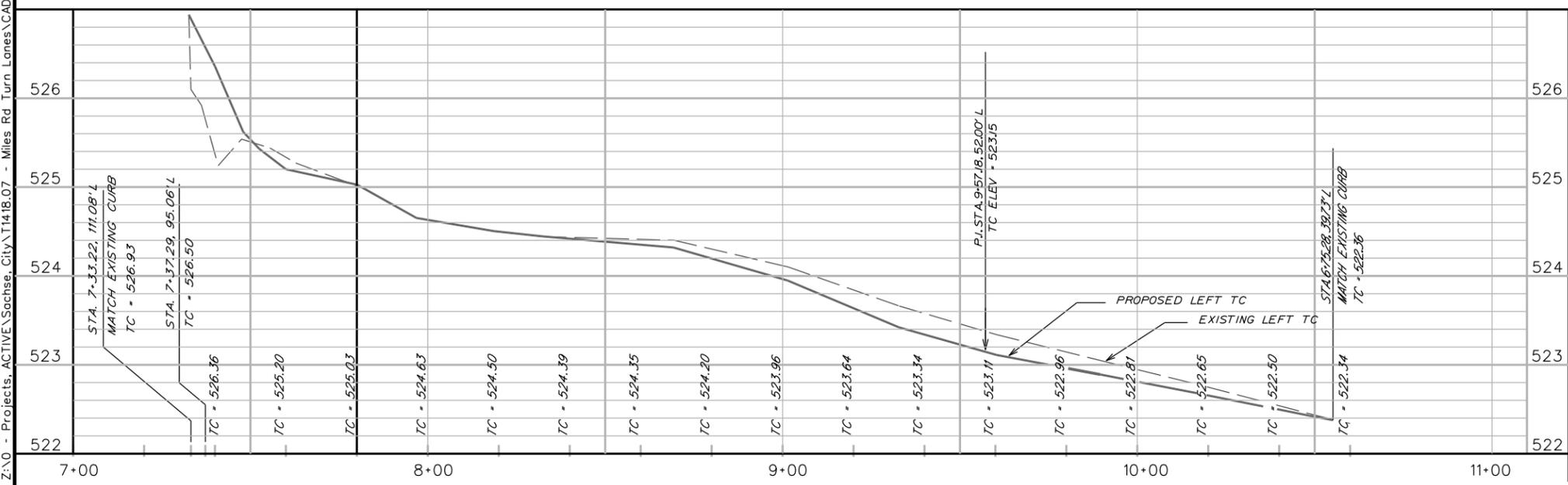
- EXCAVATION / CONSTR. NEW PAVING
- REMOVE EX PAVING / CONSTR. NEW PAVING
- EXISTING CONCRETE PAVEMENT TO REMAIN
- CONSTRUCT NEW CURB
- EXISTING CURB LINE
- SAW-CUT LINE
- LIMIT OF EXCAVATION
- ILLUMINATION POLE
- CONTROL POINT (CP) / BENCH MARK



CURVE TABLE

CURVE	DELTA	R	T	L
C4	81° 50' 10"	66.33'	57.49'	94.74'
C5	18° 15' 29"	85.15'	13.68'	27.13'

NOTE: ALL STATIONING AND OFFSET REFERENCED TO TOP/BACK OF CURB



60% REVIEW
 PRELIMINARY - FOR REVIEW ONLY
 LEE ENGINEERING, L.L.C.
 REGISTRATION NO. F-450
 JOHN D. FRIEBELE, P.E. #92541
 APRIL 2016



MILES ROAD IMPROVEMENTS

SB RIGHT TURN LANE

9

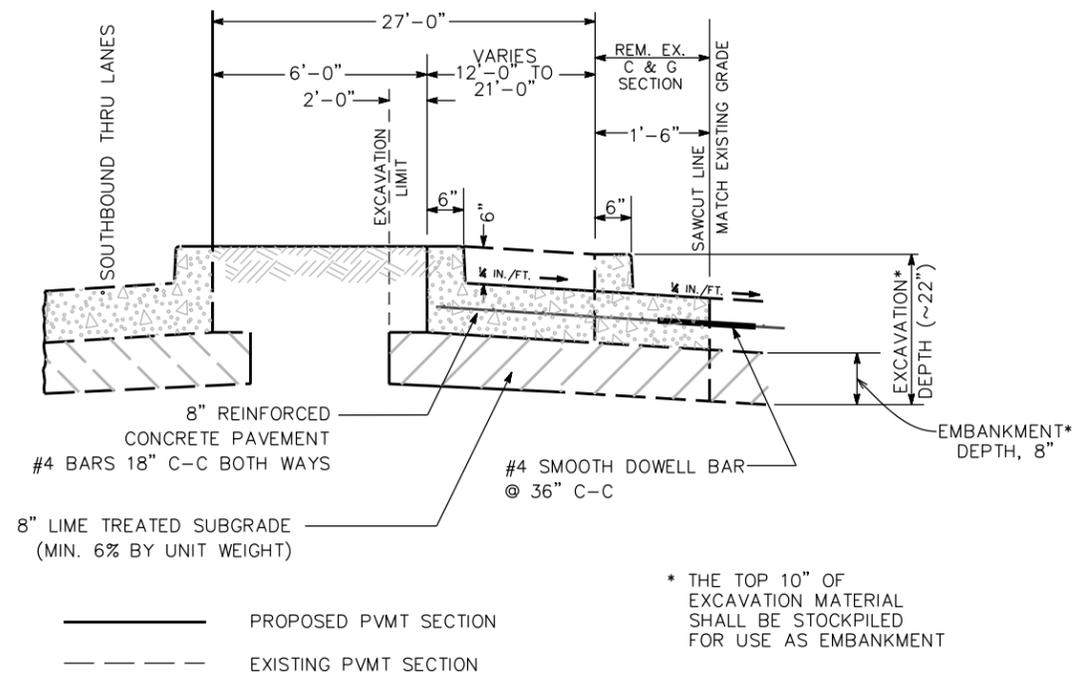
STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	2 OF 5

Z:\0 - Projects\ACTIVE\Sachse, City\11418.07 - Miles Rd Turn Lanes\CAD\MilesRd_PlnProf_V1.dgn

Z:\0 - Projects\Active\Sachse, City\T1418.07 - Miles Rd Turn Lanes\CAD\MilesRd_PlnProf V1.dgn

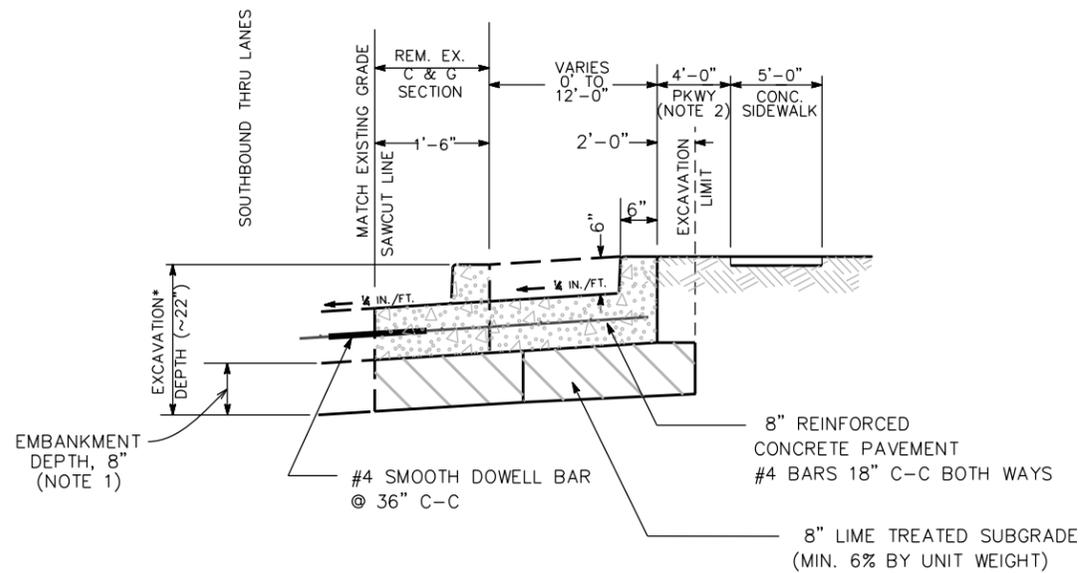
SECTION A-A

NORTHBOUND LEFT TURN LANE
(NO SCALE)



SECTION B-B

SOUTHBOUND RIGHT TURN LANE
(NO SCALE)



NOTE 1 THE TOP 10" OF EXCAVATION MATERIAL SHALL BE STOCKPILED FOR USE AS EMBANKMENT

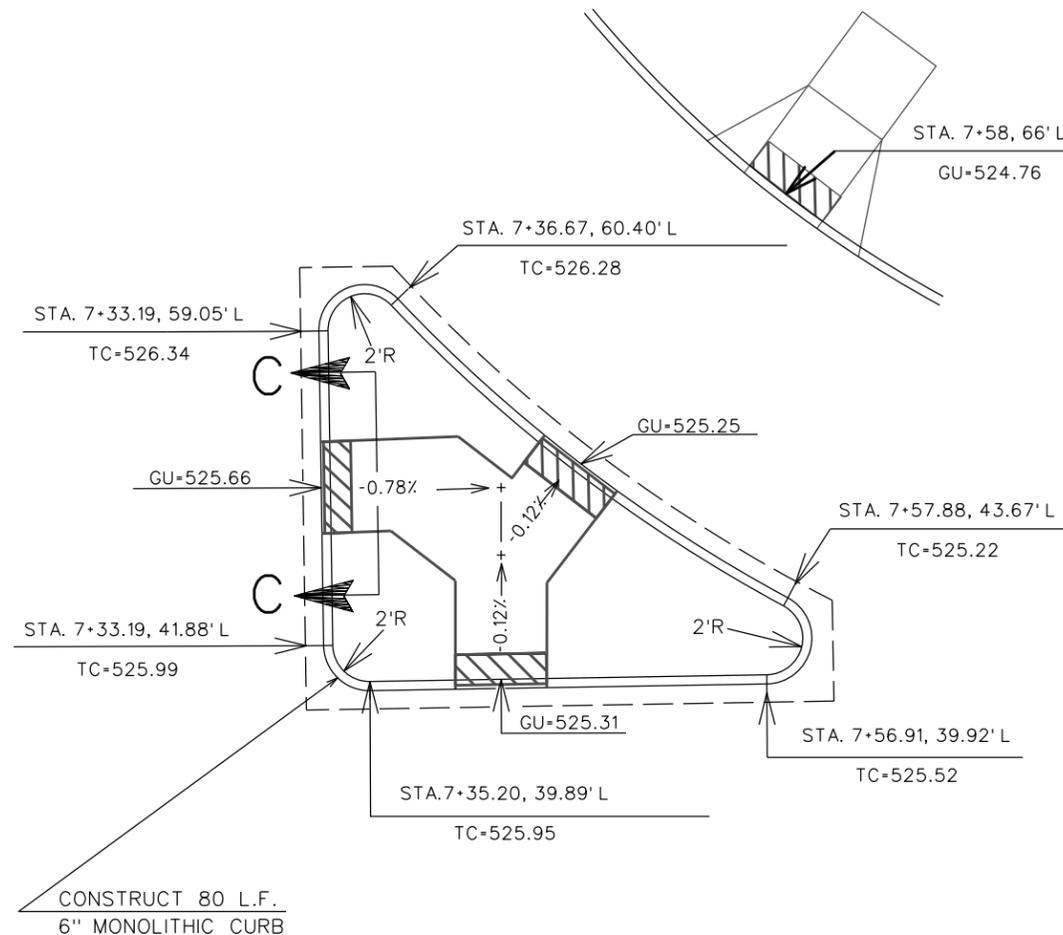
NOTE 2 AREA TO BE BLOCK SODDED

PROPOSED PVMT SECTION ————

EXISTING PVMT SECTION - - - - -

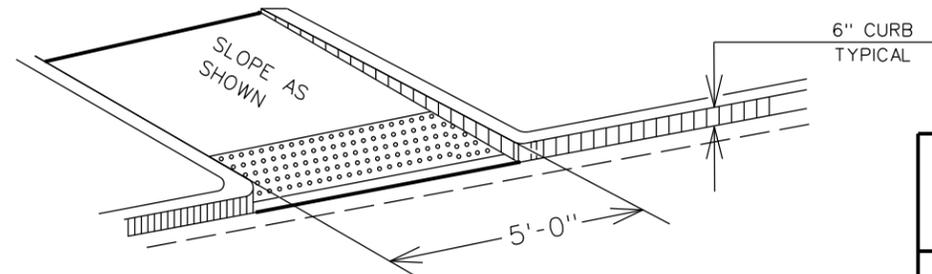
ISLAND DETAIL

(NO SCALE)



SECTION C-C

40 S.Y. 4" CLASS B CONCRETE
MEDIAN PAVING ON SELECT FILL



60% REVIEW

PRELIMINARY - FOR REVIEW ONLY

LEE ENGINEERING, L.L.C.

REGISTRATION NO. F-450

JOHN D. FRIEBELE, P.E. #92541

APRIL 2016

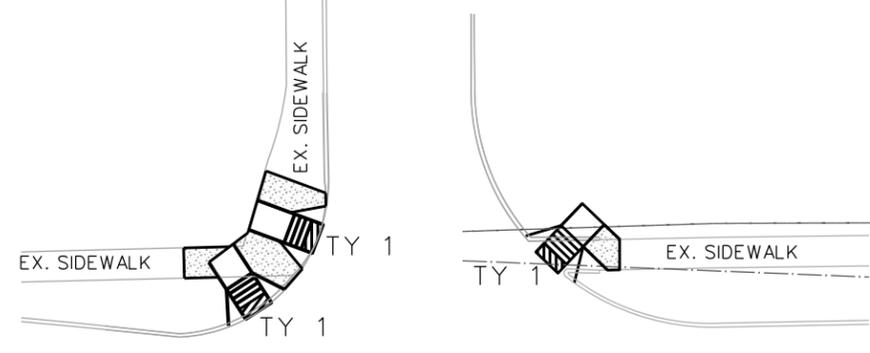


MILES ROAD IMPROVEMENTS

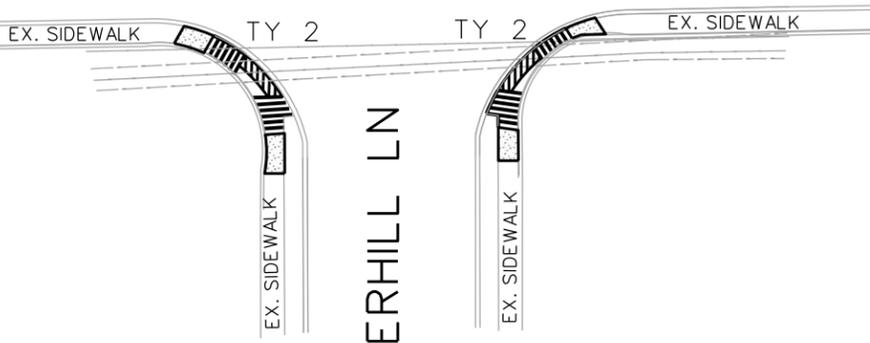
**TYPICAL SECTIONS
AND DETAILS**

10

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	3 OF 5

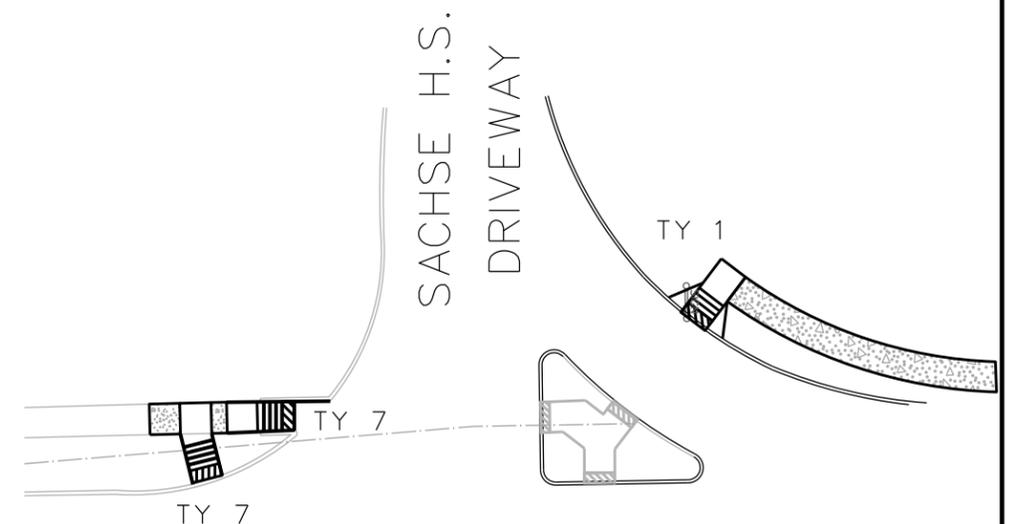


MILES RD.



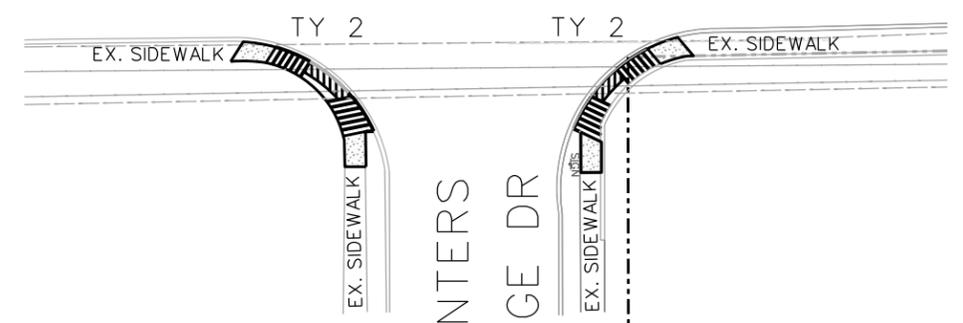
HAVERHILL LN

STREET/CORNER	H.C. RAMPS (NO.)			CONC. SIDEWALK (S.Y.)
	TY 1	TY 2	TY 7	
HAVERHILL LN				
NE		1		3.3
NW	1			3.0
SE		1		4.0
SW	2			14.8
HUNTERS RIDGE DR				
NE		1		4.2
NW	1			--
SE		1		4.1
SW			2	4.2



SACHSE H.S. DRIVEWAY

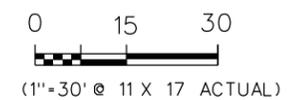
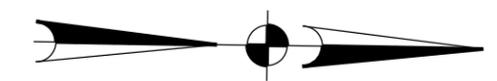
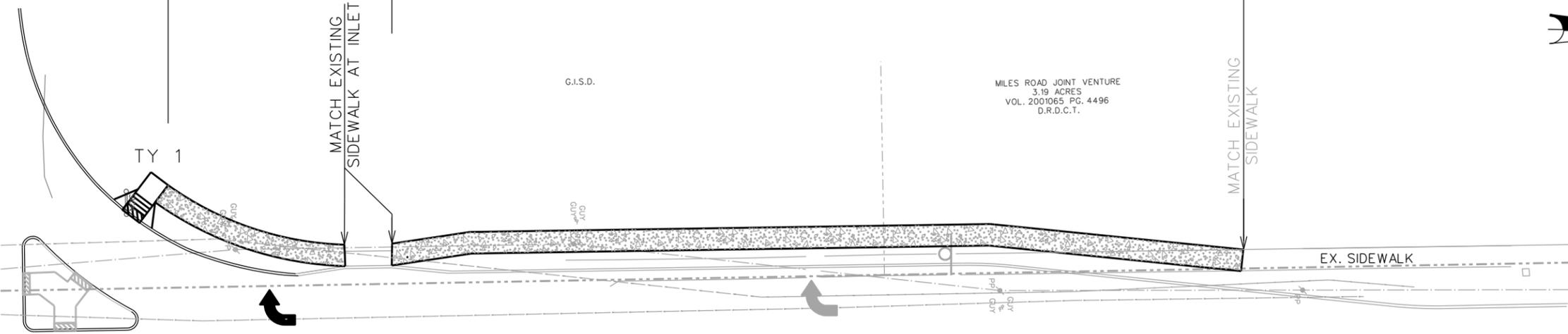
MILES RD.



HUNTERS RIDGE DR

REMOVE EXISTING 5' SIDEWALK
CONSTRUCT 28 S.Y. NEW 5' CONC. SIDEWALK

REMOVE EXISTING 5' SIDEWALK
CONSTRUCT 112 S.Y. NEW 5' CONC. SIDEWALK



MILES ROAD JOINT VENTURE
3.19 ACRES
VOL. 2001065 PG. 4496
D.R.D.C.T.

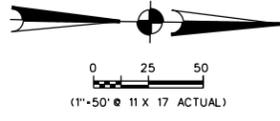
60% REVIEW
PRELIMINARY - FOR REVIEW ONLY
LEE ENGINEERING, L.L.C.
REGISTRATION NO. F-450
JOHN D. FRIEBELE, P.E. #46394
APRIL 2016

3030 LBJ FREEWAY
SUITE 1660
DALLAS, TEXAS 75234
972-248-3006 FAX 972-248-3855
TBPE REGISTRATION NO. F-450
LEE ENGINEERING

MILES ROAD IMPROVEMENTS

HC RAMPS AND SIDEWALKS

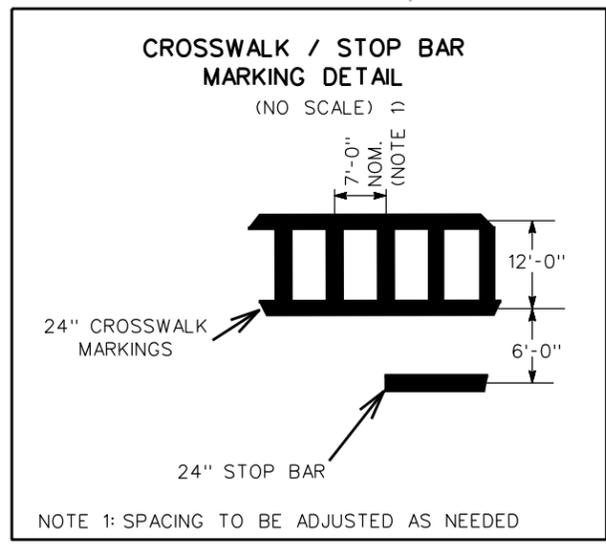
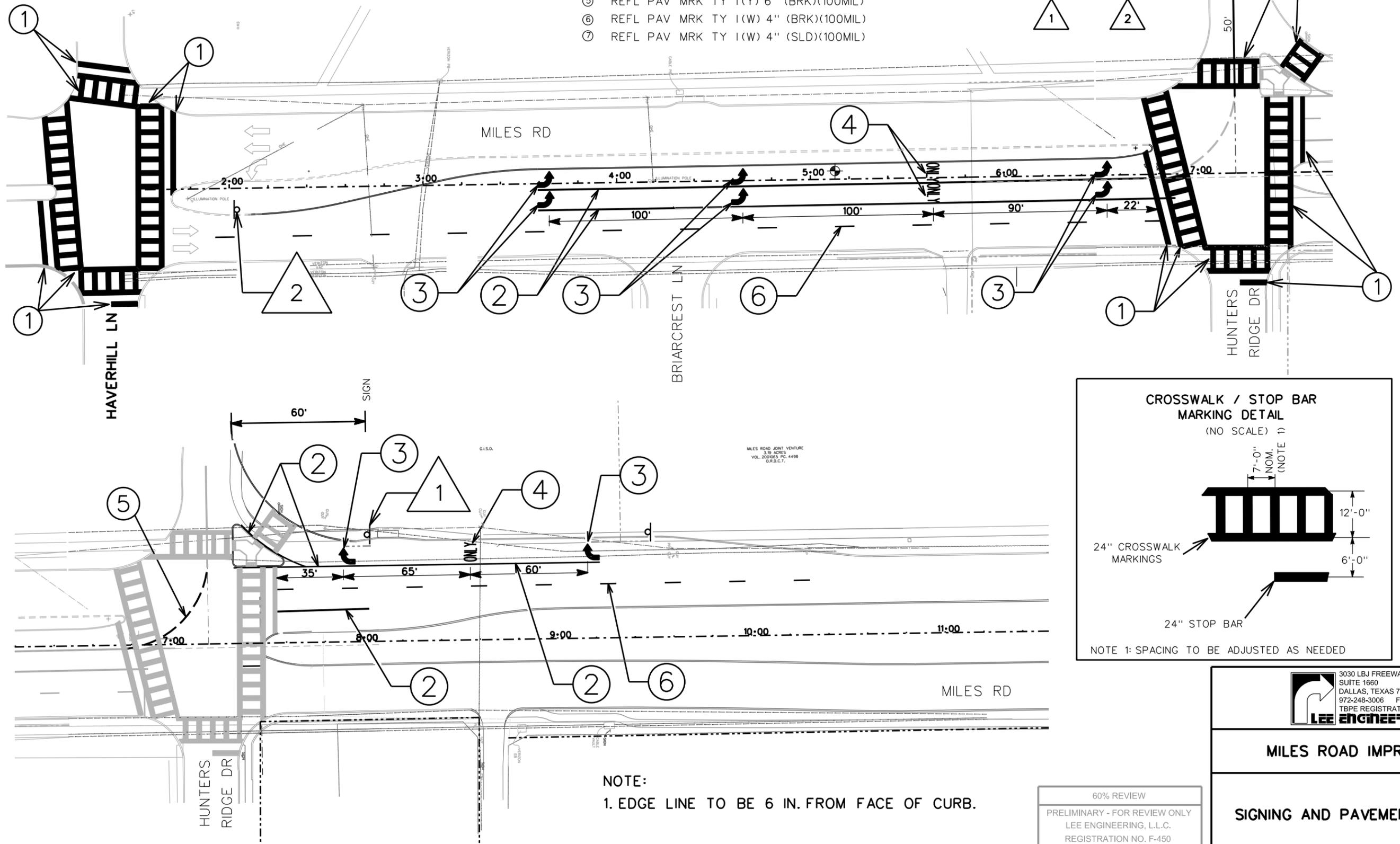
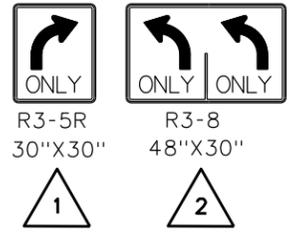
STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	4 OF 5



LEGEND

- ① REFL PAV MRK TY I(W) 24" (SLD) (100MIL)
- ② REFL PAV MRK TY I(W) 8" (SLD) (100MIL)
- ③ REFL PAV MRK TY I(W) (ARROW) (100MIL)
- ④ REFL PAV MRK TY I(W) (WORD) (100MIL)
- ⑤ REFL PAV MRK TY I(Y) 6" (BRK) (100MIL)
- ⑥ REFL PAV MRK TY I(W) 4" (BRK) (100MIL)
- ⑦ REFL PAV MRK TY I(W) 4" (SLD) (100MIL)

SIGNING



NOTE:
1. EDGE LINE TO BE 6 IN. FROM FACE OF CURB.

60% REVIEW
PRELIMINARY - FOR REVIEW ONLY
LEE ENGINEERING, L.L.C.
REGISTRATION NO. F-450
JOHN D. FRIEBELE, P.E. #92541
APRIL 2016

3030 LBJ FREEWAY
SUITE 1660
DALLAS, TEXAS 75234
972-248-3006 FAX 972-248-3855
TBPE REGISTRATION NO. F-450
LEE ENGINEERING

MILES ROAD IMPROVEMENTS

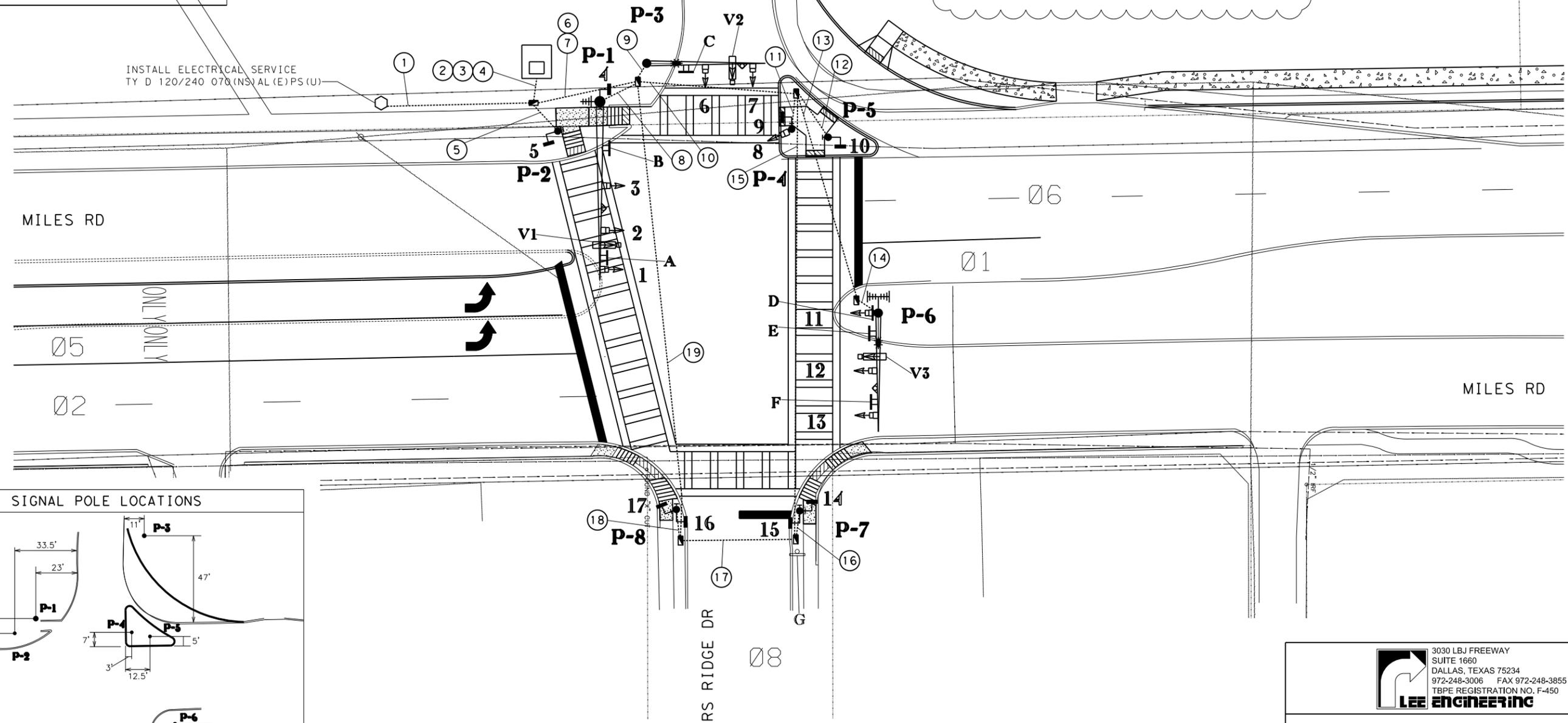
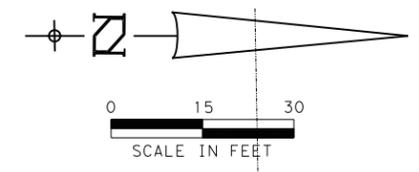
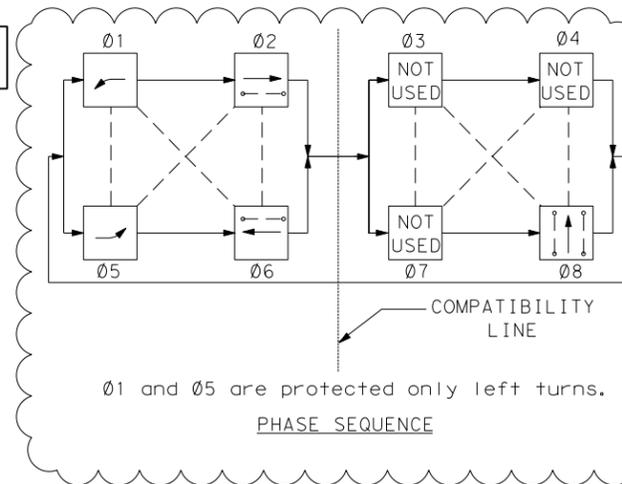
SIGNING AND PAVEMENT MARKING

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	12 5 OF 5

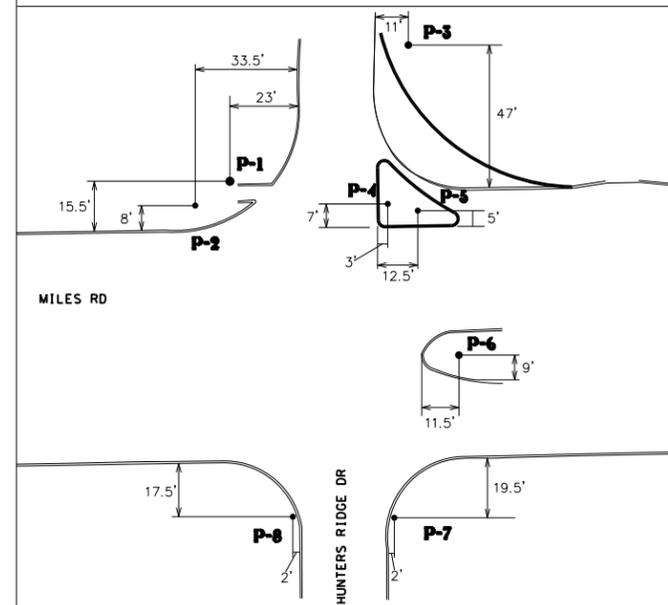
LEGEND OF SYMBOLS

	SIGNAL POLE/MAST ARM SET UP		NEW CONDUIT RUN & NUMBERS
2	SIGNAL HEAD NUMBERS	R.O.W.	RIGHT OF WAY LINES
P-2	POLE NUMBERS		VIVDS DETECTION CAMERA
	GROUND MOUNTED CONTROLLER CABINET	V1	VIVDS IDENTIFICATION
	GROUND BOX TYPE C		ELECTRICAL SERVICE PEDESTAL
	LUMINAIRE		OPTICOM
	PEDESTAL POLE ASSEMBLY	D	NEW SIGN DESIGNATION
	TRAFFIC SIGNAL HEAD	F	MAST ARM MOUNTED SIGN
	EXISTING POST MOUNTED SIGN	Ø2	PHASE NUMBERS
	COMMUNICATION ANTENNAS	D	EXISTING SIGN DESIGNATION

PRELIMINARY PHASING. MAY CHNGE BASED ON DEVELOPMENT OF TIMING PLANS.



SIGNAL POLE LOCATIONS



DISTANCES SHOWN ON DIAGRAM ARE FROM EXISTING CURBLINES, EXCEPT THE NEW ISLAND. DISTANCES ARE FOR GUIDANCE ONLY.

EXACT LOCATIONS OF SIGNAL POLES SHALL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO DRILLING.

60% REVIEW
PRELIMINARY - FOR REVIEW ONLY
LEE ENGINEERING, L.L.C.
REGISTRATION NO. F-450
CHRISTOPHER J. PIERCE, P.E. #92541
APRIL 2016

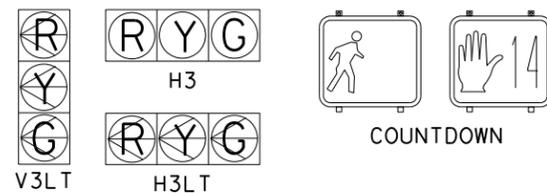
MILES ROAD IMPROVEMENTS
TRAFFIC SIGNAL LAYOUT
MILES RD AT
HUNTERS RIDGE DR

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	13

CONDUIT RUNS																
RUN NO.	CONDUIT SIZE/TYPE (FEET)						ELECTRICAL CONDUCTORS (FEET)			OPTICOM CABLE	VIDDS CABLE	CAT5 ETHERNET CABLE	SIGNAL CABLES (TY A) (FT)		2 CNDR. CABLE (#12 AWG) (TY C) (FT)	LENGTH OF RUN (FEET)
	2" PVC - Trenched	3" PVC - Trenched	3" PVC - Bored	4" PVC - Trenched	4" PVC - Bored	STATUS	NO. 6 XHHW POWER WIRE	NO. 8 XHHW WIRE (LUM)	NO. 6 BARE WIRE				10 CNDR. CABLE (#14 AWG)	20 CNDR. CABLE (#14 AWG)		
1	45					I	2	2	1							45
2	15					I	2		1							15
3				15		I			1			1	5	3		15
4				15		I			1	3	3				8	15
5		15				I			1				1		1	15
6				30		I		2	1			1	4	3		30
7				30		I			1	3	3				7	30
8		15				I			1	1	1			1	1	15
9		10				I		4	1	1	1			1		10
10				10	35	I		2	1	1	1	1	2	1	2	45
11			15			I			1				1		1	15
12			20			I			1				1		1	20
13		20	40			I		2	1	1	1	1		1		60
14		10				I		2	1	1	1	1		1		10
15				30	95	I			1							125
16		10				I			1				1		2	10
17				5	30	I			1				1		2	35
18		10				I			1				1		2	10
19				25	105	I			1				2		4	130
TOTAL	60	90	75	160	265		120	420	650	275	275	160	650	265	1,115	

E = EXISTING; I = INSTALL

SIGNAL HEADS											
SIGNAL HEAD NO.	SIGNAL HEAD TYPE	12" SIGNAL INDICATION			VEHICLE SIGNAL SECTIONS						PEDESTRIAN SIGNAL SECTIONS
		BACKPLATE			RED BALL	YELLOW BALL	GREEN BALL	RED ARROW	YELLOW ARROW	GREEN ARROW	
		3 SEC (EA)	4 SEC (EA)	5 SEC (EA)							
2, 3, 6, 7, 12, 13	H3	6			6	6	6				
1	H3LT	1						1	1	1	
8, 11	V3LT	2						2	2	2	
4, 5, 9, 10, 14, 15, 16, 17	COUNTDOWN										8
	TOTAL	9	0	0	6	6	6	3	3	3	8



60% REVIEW
 PRELIMINARY - FOR REVIEW ONLY
 LEE ENGINEERING, L.L.C.
 REGISTRATION NO. F-450
 CHRISTOPHER J. PIERCE, P.E. #92541
 APRIL 2016

SHEET 1 OF 5



MILES ROAD IMPROVEMENTS

SIGNAL DESIGN TABLES
 MILES RD AT
 HUNTERS RIDGE DR

14

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	

CABLE TERMINATION CHART

	CONDUCTOR COLOR	CABLE 1 FROM P-1 TO CNTRL 20 CNDR	CABLE 2 FROM P-2 TO CNTRL 10 CNDR	CABLE 3 FROM P-3 TO CNTRL 20 CNDR	CABLE 4 FROM P-4 TO CNTRL 10 CNDR	CABLE 5 FROM P-5 TO CNTRL 10 CNDR	CABLE 6 FROM P-6 TO CNTRL 20 CNDR	CABLE 7 FROM P-7 TO CNTRL 10 CNDR	CABLE 8 FROM P-8 TO CNTRL 10 CNDR
1	BLACK	SPARE							
2	WHITE	SIG COMMON							
3	RED	SH 2, 3 PH 6 R	SPARE	SH 6, 7 PH 8 R	SH 9 PH 6 DW	SPARE	SH 12, 13 PH 2 R	SH 15 PH 2 DW	SH 16 PH 2 DW
4	GREEN	SH 2, 3 PH 6 G	SPARE	SH 6, 7 PH 8 G	SH 9 PH 6 W	SPARE	SH 12, 13 PH 2 G	SH 15 PH 2 W	SH 16 PH 2 W
5	ORANGE	SH 2, 3 PH 6 Y	SPARE	SH 6, 7 PH 8 Y	SPARE	SPARE	SH 12, 13 PH 2 Y	SPARE	SPARE
6	BLUE	SH 1 PH 1 GA LT	SPARE	SPARE	SH 8 PH 5 GA LT	SPARE	SH 11 PH 5 GA LT	SPARE	SPARE
7	WHITE/BLACK	SH 1 PH 1 YA LT	SPARE	SPARE	SH 8 PH 5 YA LT	SPARE	SH 11 PH 5 YA LT	SPARE	SPARE
8	RED/BLACK	SH 1 PH 1 RA LT	SPARE	SPARE	SH 8 PH 5 RA LT	SPARE	SH 11 PH 5 RA LT	SPARE	SPARE
9	GREEN/BLACK	SH 4 PH 6 DW	SH 5 PH 8 DW	SPARE	SPARE	SH 10 PH 8 DW	SPARE	SH 14 PH 8 DW	SH 17 PH 8 DW
10	ORANGE/BLACK	SH 4 PH 6 W	SH 5 PH 8 W	SPARE	SPARE	SH 10 PH 8 W	SPARE	SH 14 PH 8 W	SH 17 PH 8 W
11	BLUE/BLACK	SPARE		SPARE			SPARE		
12	BLACK/WHITE	SPARE		SPARE			SPARE		
13	RED/WHITE	SPARE		SPARE			SPARE		
14	GREEN/WHITE	SPARE		SPARE			SPARE		
15	BLUE/WHITE	SPARE		SPARE			SPARE		
16	BLACK/RED	SPARE		SPARE			SPARE		
17	WHITE/RED	SPARE		SPARE			SPARE		
18	ORANGE/RED	SPARE		SPARE			SPARE		
19	BLUE/RED	SPARE		SPARE			SPARE		
20	RED/GREEN	SPARE		SPARE			SPARE		

R = RED BALL; Y = YELLOW BALL; G = GREEN BALL; RA = RED ARROW; YA = YELLOW ARROW; GA = GREEN ARROW; FYA = FLASHING YELLOW ARROW
 RT = RIGHT TURN; LT = LEFT TURN

GROUND BOX SUMMARY	
TYPE	EACH
C W/APRON	6

60% REVIEW

PRELIMINARY - FOR REVIEW ONLY
 LEE ENGINEERING, L.L.C.
 REGISTRATION NO. F-450
 CHRISTOPHER J. PIERCE, P.E. #92541
 APRIL 2016

SHEET 2 OF 5



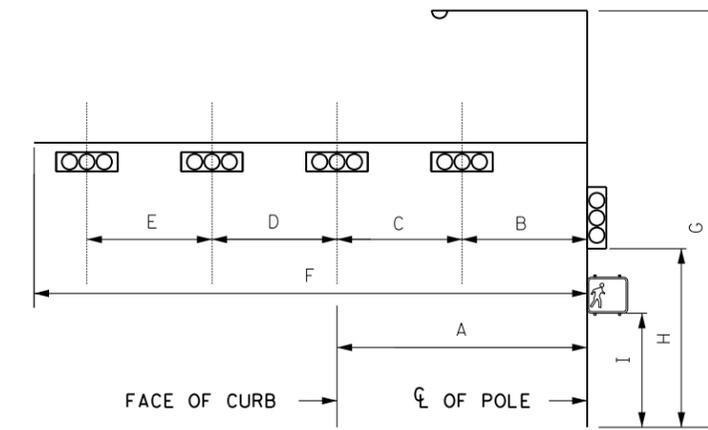
MILES ROAD IMPROVEMENTS

SIGNAL DESIGN TABLES
 MILES RD AT
 HUNTERS RIDGE DR

15

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	

SIGNAL HEAD AND POLE PLACEMENT (FEET)												
POLE NUMBER	A	B	C	D	E	F	G	H	I	NO. OF HEADS ON MAST ARM / POLE	LUM-A	
P-1	12	22.5	12	11	---	48	20	---	10	3 / 0	---	
P-2	33.5S, 8W	PEDESTAL POLE ASSEMBLY					10	---	---	10	---	---
P-3	7.5	15.5	13	---	---	32	30	---	---	2 / 0	1	
P-4	3N, 7W	PEDESTAL POLE ASSEMBLY					14	14	---	10	0 / 1	---
P-5	12.5N, 5W	PEDESTAL POLE ASSEMBLY					10	---	---	10	---	---
P-6	7	15.5	12	---	---	32	30	14	---	2 / 1	1	
P-7	2N, 19.5E	PEDESTAL POLE ASSEMBLY					10	---	---	10	---	---
P-8	2S, 17.5E	PEDESTAL POLE ASSEMBLY					10	---	---	10	---	---



P-2: 33.5S, 8W - 33.5' SOUTH OF EXISTING DRIVEWAY CURBLINE EXTENSION, 8' WEST OF EXISTING MILES RD CURBLINE EXTENSION.

P-4: 3N, 7W - 3' NORTH OF PROPOSED ISLAND SOUTHERN CURBLINE, 7' WEST OF PROPOSED ISLAND EASTERN CURBLINE.

P-5: 12.5N, 5W - 12.5' NORTH OF PROPOSED ISLAND SOUTHERN CURBLINE, 5' WEST OF PROPOSED ISLAND EASTERN CURBLINE.

P-7: 2N, 19.5E - 2' NORTH OF EXISTING HUNTERS RIDGE DR CURBLINE EXTENSION, 19.5' EAST OF EXISTING MILES RD CURBLINE EXTENSION.

P-8: 2S, 17.5E - 2' SOUTH OF EXISTING HUNTERS RIDGE DR CURBLINE EXTENSION, 17.5' EAST OF EXISTING MILES RD CURBLINE EXTENSION.

POLE NUMBER	DRILL SHAFTS (FEET)			WIRE INSIDE POLE (FEET)						ACCESSIBLE PEDESTRIAN SIGNAL UNITS
	TYPE 24-A *	TYPE 30-A	TYPE 36-A	5 CNDR CABLE (#14 AWG) (TY A)	2 CNDR CABLE (#12 AWG) (TY C)	OPTICOM CABLE	VIVDS CABLE	CAT5 ETHERNET CABLE	1C #8 XHHW WIRE (LUM)	
P-1	---	---	13	173	5	50	64	---	---	1
P-2	6	---	---	10	5	---	---	---	---	1
P-3	---	11	---	84	---	46	48	---	80	---
P-4	6	---	---	24	5	---	---	---	---	1
P-5	6	---	---	10	5	---	---	---	---	1
P-6	---	11	---	97	---	40	32	60	80	---
P-7	6	---	---	20	10	---	---	---	---	2
P-8	6	---	---	20	10	---	---	---	---	2
TOTAL	30	22	13	438	40	136	144	60	160	8

SHEET 3 OF 5



MILES ROAD IMPROVEMENTS

SIGNAL DESIGN TABLES
MILES RD AT
HUNTERS RIDGE DR

16

60% REVIEW
PRELIMINARY - FOR REVIEW ONLY
LEE ENGINEERING, L.L.C.
REGISTRATION NO. F-450
CHRISTOPHER J. PIERCE, P.E. #92541
APRIL 2016

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	

SIGN SUMMARY									
ID	TYPE	LEGEND	EXIST	REM	REL	REP	INST	HARDWARE & SUPPORT	LOCATION
A	R10-5	LEFT ON GREEN ARROW ONLY					1	1	P-1 ARM
B	ST NAME	HUNTERS RIDGE DR					1	1	P-1 ARM
C	ST NAME	MILES RD					1	1	P-3 ARM
D	R10-5	LEFT ON GREEN ARROW ONLY					1	1	P-6 POLE
E	R3-8	LANE CONFIGURATION SIGN					1	1	P-6 ARM
F	ST NAME	HUNTERS RIDGE DR					1	1	P-6 ARM
G	R1-1	STOP		1					POST

EXIST = EXISTING, REM = REMOVE, REL = RELOCATE, REP = REPLACE, INST = INSTALL
 STANDARD STREET NAME SIGNS SHALL HAVE CLEARVIEW HWY 3W FONT.

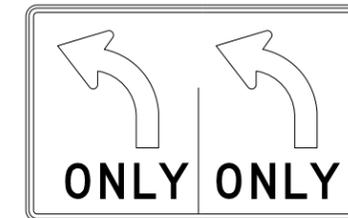
ALL NEW SIGNS MOUNTED ON SIGNAL POLES AND MAST ARMS SHALL BE CONSIDERED SUBSIDIARY TO ITEM 680.
 THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE STREET NAME SIGNS TO THE CITY OF SACHSE FOR APPROVAL PRIOR TO FABRICATION.
 SIGN G: STOP SIGN SHALL BE REMOVED FROM EXISTING POST. STREET NAME BLADES AND POST SHALL REMAIN IN PLACE.



TMUTCD SIGN R10-5
30"X36"



TMUTCD SIGN R1-1
36"X36"



TMUTCD SIGN R3-8
30"X30"

ELECTRICAL SERVICE DATA												
ELECTRIC SERVICE NO.	SHEET NO.	ELECTRICAL SERVICE DESCRIPTION	SERVICE CONDUIT SIZE (RMC)	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN CIRCUIT BREAKER POLE/AMP	TWO-POLE CONTACTOR AMPS	PANELBD./LOADCENTER AMP RATING	CIRCUIT NO.	BRANCH CIRCUIT BREAKER POLE/AMPS	BRANCH CIRCUIT AMPS	KVA LOAD
		SEE ED(5) & (6)-14										
1	XX	ELEC SRV TY D 120/240 070 (NS)AL(E)PS(U)	2"	3/#4	N/A	2P/70	30	100	T.S. LIGHT	1P/50 2P/15	40	< 7.1

DETECTION INFORMATION			
VIVDS PRESENCE DETECTION	STATUS	PHASES	LOCATION
V1	I	PH 1 & PH 6 PRESENCE	P-1 SIGNAL POLE
V2	I	PH 8 PRESENCE	P-3 SIGNAL POLE
V3	I	PH 2 & PH 5 PRESENCE	P-6 SIGNAL POLE

I = INSTALL; E = EXISTING; R = RELOCATE

60% REVIEW
 PRELIMINARY - FOR REVIEW ONLY
 LEE ENGINEERING, L.L.C.
 REGISTRATION NO. F-450
 CHRISTOPHER J. PIERCE, P.E. #92541
 APRIL 2016

SHEET 4 OF 5



MILES ROAD IMPROVEMENTS

SIGNAL DESIGN TABLES
 MILES RD AT
 HUNTERS RIDGE DR

17

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	

APS MESSAGE CHART			
POLE NUMBER	PEDESTRIAN MOVEMENT	FUNCTIONS	SPEECH MESSAGE/SOUND DETAILS
P-1	PHASE 6	BUTTON PUSH ON DON'T WALK	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS SACHSE HIGH SCHOOL DRIVEWAY AT MILES RD.
		LOCATOR TONE	SLOW TICK
		WALK INDICATION *	RAPID TICK
P-2	PHASE 8	BUTTON PUSH ON DON'T WALK	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS MILES ROAD AT SACHSE HIGH SCHOOL DRIVEWAY.
		LOCATOR TONE	SLOW TICK
		WALK INDICATION *	RAPID TICK
P-4	PHASE 6	BUTTON PUSH ON DON'T WALK	WAIT TO CROSS SACHSE HIGH SCHOOL DRIVEWAY AT MILES RD.
		EXTENDED BUTTON PUSH	WAIT TO CROSS SACHSE HIGH SCHOOL DRIVEWAY AT MILES RD.
		LOCATOR TONE	SLOW TICK
		WALK INDICATION *	SACHSE HIGH SCHOOL DRIVEWAY. WALK SIGN IS ON TO CROSS SACHSE HIGH SCHOOL DRIVEWAY.
P-5	PHASE 8	BUTTON PUSH ON DON'T WALK	WAIT TO CROSS MILES ROAD AT SACHSE HIGH SCHOOL DRIVEWAY.
		EXTENDED BUTTON PUSH	WAIT TO CROSS MILES ROAD AT SACHSE HIGH SCHOOL DRIVEWAY.
		LOCATOR TONE	SLOW TICK
		WALK INDICATION *	MILES ROAD. WALK SIGN IS ON TO CROSS MILES ROAD.
P-7	PHASE 8	BUTTON PUSH ON DON'T WALK	WAIT TO CROSS MILES ROAD AT HUNTERS RIDGE DRIVE.
		EXTENDED BUTTON PUSH	WAIT TO CROSS MILES ROAD AT HUNTERS RIDGE DRIVE.
		LOCATOR TONE	SLOW TICK
		WALK INDICATION *	MILES ROAD. WALK SIGN IS ON TO CROSS MILES ROAD.
P-7	PHASE 2	BUTTON PUSH ON DON'T WALK	WAIT TO CROSS HUNTERS RIDGE DRIVE AT MILES ROAD.
		EXTENDED BUTTON PUSH	WAIT TO CROSS HUNTERS RIDGE DRIVE AT MILES ROAD.
		LOCATOR TONE	SLOW TICK
		WALK INDICATION *	HUNTERS RIDGE DRIVE. WALK SIGN IS ON TO CROSS HUNTERS RIDGE DRIVE.
P-8	PHASE 2	BUTTON PUSH ON DON'T WALK	WAIT TO CROSS HUNTERS RIDGE DRIVE AT MILES ROAD.
		EXTENDED BUTTON PUSH	WAIT TO CROSS HUNTERS RIDGE DRIVE AT MILES ROAD.
		LOCATOR TONE	SLOW TICK
		WALK INDICATION *	HUNTERS RIDGE DRIVE. WALK SIGN IS ON TO CROSS HUNTERS RIDGE DRIVE.
P-8	PHASE 8	BUTTON PUSH ON DON'T WALK	WAIT TO CROSS MILES ROAD AT HUNTERS RIDGE DRIVE.
		EXTENDED BUTTON PUSH	WAIT TO CROSS MILES ROAD AT HUNTERS RIDGE DRIVE.
		LOCATOR TONE	SLOW TICK
		WALK INDICATION *	MILES ROAD. WALK SIGN IS ON TO CROSS MILES ROAD.

* COUNTDOWN SPEECH MESSAGE = "OFF" FOR ALL UNITS

ACCESSIBLE PEDESTRIAN SIGNAL (APS) UNITS	
PED BUTTON PHASE	FURNISH & INSTALL
PHASE 2	2
PHASE 6	2
PHASE 8	4
TOTAL	8

SHEET 5 OF 5



MILES ROAD IMPROVEMENTS

SIGNAL DESIGN TABLES
MILES RD AT
HUNTERS RIDGE DR

18

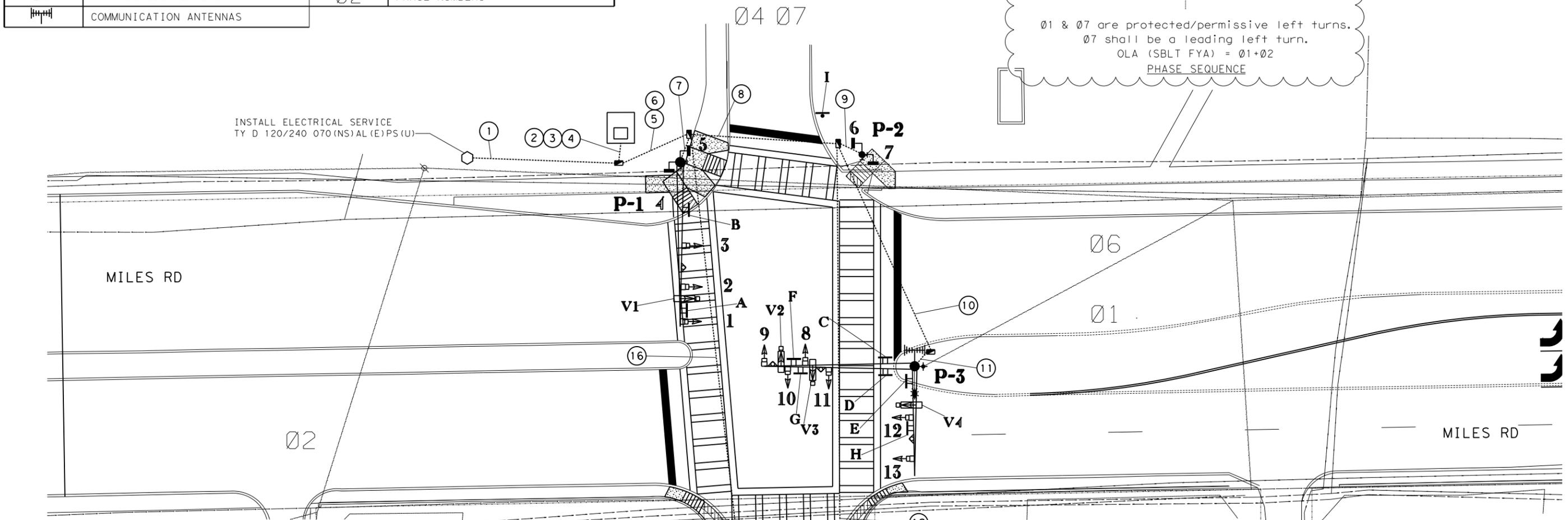
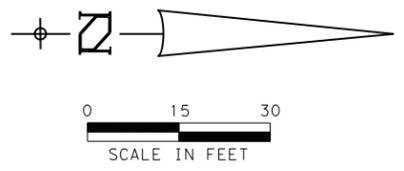
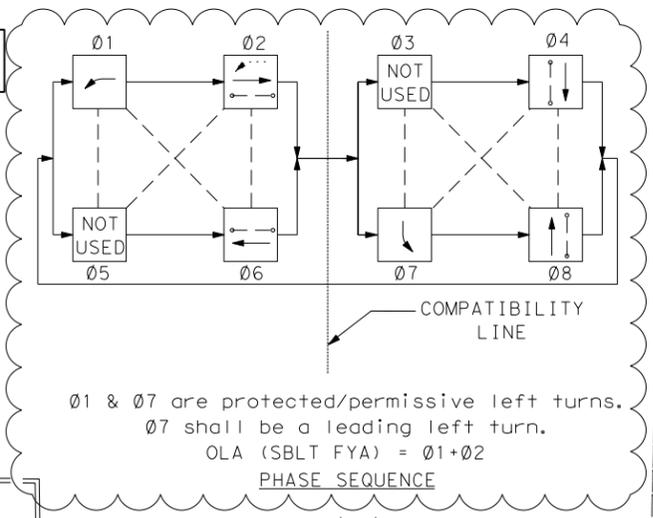
60% REVIEW
PRELIMINARY - FOR REVIEW ONLY
LEE ENGINEERING, L.L.C.
REGISTRATION NO. F-450
CHRISTOPHER J. PIERCE, P.E. #92541
APRIL 2016

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	

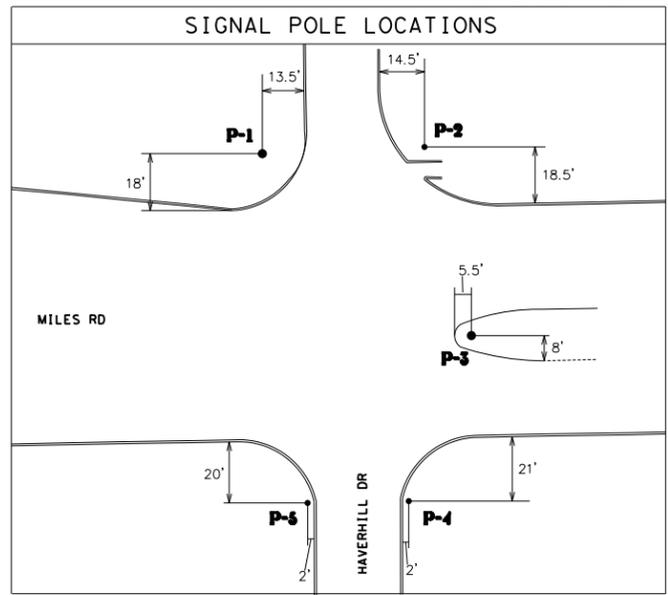
LEGEND OF SYMBOLS

	SIGNAL POLE/MAST ARM SET UP		NEW CONDUIT RUN & NUMBERS
2	SIGNAL HEAD NUMBERS		RIGHT OF WAY LINES
P-2	POLE NUMBERS	V1	VIVDS DETECTION CAMERA
	GROUND MOUNTED CONTROLLER CABINET		VIVDS IDENTIFICATION
	GROUND BOX TYPE C		ELECTRICAL SERVICE PEDESTAL
	LUMINAIRE	4	OPTICOM
	PEDESTAL POLE ASSEMBLY	D	SIGN DESIGNATION
	TRAFFIC SIGNAL HEAD	F	MAST ARM MOUNTED SIGN
	COMMUNICATION ANTENNAS	Ø2	PHASE NUMBERS

PRELIMINARY PHASING. MAY CHNAGE BASED ON DEVELOPMENT OF TIMING PLANS.



INSTALL ELECTRICAL SERVICE
TY D 120/240 Ø70(NS)AL(E)PS(U)



DISTANCES SHOWN ON DIAGRAM ARE FROM EXISTING CURBLINES.
DISTANCES ARE FOR GUIDANCE ONLY.

EXACT LOCATIONS OF SIGNAL POLES SHALL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO DRILLING.

60% REVIEW
PRELIMINARY - FOR REVIEW ONLY
LEE ENGINEERING, L.L.C.
REGISTRATION NO. F-450
CHRISTOPHER J. PIERCE, P.E. #92541
APRIL 2016

LEE ENGINEERING
3030 LBJ FREEWAY
SUITE 1660
DALLAS, TEXAS 75234
972-248-3006 FAX 972-248-3855
TBPE REGISTRATION NO. F-450

MILES ROAD IMPROVEMENTS

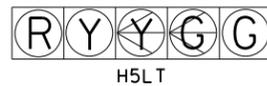
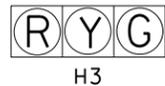
TRAFFIC SIGNAL LAYOUT
MILES RD AT HAVERHILL DR

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	19

CONDUIT RUNS																
RUN NO.	CONDUIT SIZE/TYPE (FEET)						ELECTRICAL CONDUCTORS (FEET)			OPTICOM CABLE	VIVDS CABLE	CAT5 ETHERNET CABLE	SIGNAL CABLES (TY A) (FT)		2 CDR. CABLE (#12 AWG) (TY C) (FT)	LENGTH OF RUN (FEET)
	2" PVC - Trenched	3" PVC - Trenched	3" PVC - Bored	4" PVC - Trenched	4" PVC - Bored	STATUS	NO. 6 XHHW POWER WIRE	NO. 8 XHHW WIRE (LUM)	NO. 6 BARE WIRE				10 CDR. CABLE (#14 AWG)	20 CDR. CABLE (#14 AWG)		
1	50					I	2	2	1							50
2	15					I	2		1							15
3				15		I			1			3	3	8		15
4				15		I			1	4	4	1				15
5				25		I		2	1			3	3	8		25
6				25		I			1	4	4	1				25
7		10				I			1	1	1	1		1	2	10
8				15	30	I		2	1	3	3		1	2	2	45
9		15				I			1				1		2	15
10		15	55			I		2	1	3	3			2		70
11		10				I		2	1	3	3			2		10
12				20	110	I			1							130
13		10				I			1				1		2	10
14				5	30	I			1				1		2	35
15		10				I			1				1		2	10
16				35	100	I			1				2		4	135
TOTAL	65	70	55	155	270		130	400	615	545	545	50	505	380	1,110	

E = EXISTING; I = INSTALL

SIGNAL HEADS											
SIGNAL HEAD NO.	SIGNAL HEAD TYPE	12" SIGNAL INDICATION			VEHICLE SIGNAL SECTIONS						PEDESTRIAN SIGNAL SECTIONS
		BACKPLATE			RED BALL	YELLOW BALL	GREEN BALL	RED ARROW	YELLOW ARROW	GREEN ARROW	
		3 SEC (EA)	4 SEC (EA)	5 SEC (EA)							
1	H4FYA		1					1	2	1	
8	H5LT			1	1	1	1		1	1	
2, 3, 9, 10, 11, 12, 13	H3	7			7	7	7				
4, 5, 6, 7, 14, 15, 16, 17	COUNTDOWN										8
TOTAL		7	1	1	8	8	8	1	3	2	8



SHEET 1 OF 5



MILES ROAD IMPROVEMENTS

SIGNAL DESIGN TABLES
MILES RD AT HAVERHILL DR

20

60% REVIEW
PRELIMINARY - FOR REVIEW ONLY
LEE ENGINEERING, L.L.C.
REGISTRATION NO. F-450
CHRISTOPHER J. PIERCE, P.E. #92541
APRIL 2016

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	20

CABLE TERMINATION CHART

	CONDUCTOR COLOR	CABLE 1 FROM P-1 TO CNTRL 20 CNDR	CABLE 2 FROM P-2 TO CNTRL 10 CNDR	CABLE 3 FROM P-3 TO CNTRL		CABLE 4 FROM P-4 TO CNTRL 10 CNDR	CABLE 5 FROM P-5 TO CNTRL 10 CNDR
				20 CNDR	20 CNDR		
1	BLACK	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE
2	WHITE	SIG COMMON	SIG COMMON	SIG COMMON	SIG COMMON	SIG COMMON	SIG COMMON
3	RED	SH 2, 3 PH 6 R	SH 7 PH 8 DW	SH 8, 9 PH 4 R	SH 12, 13 PH 2 R	SH 14 PH 8 DW	SH 17 PH 4 DW
4	GREEN	SH 2, 3 PH 6 G	SH 7 PH 8 W	SH 8, 9 PH 4 G	SH 12, 13 PH 2 G	SH 14 PH 8 W	SH 17 PH 4 W
5	ORANGE	SH 2, 3 PH 6 Y	SPARE	SH 8, 9 PH 4 Y	SH 12, 13 PH 2 Y	SPARE	SPARE
6	BLUE	SH 1 PH 1 GA LT	SPARE	SH 8 PH 7 GA LT	SPARE	SPARE	SPARE
7	WHITE/BLACK	SH 1 PH 1 YA LT	SPARE	SH 8 PH 7 YA LT	SPARE	SPARE	SPARE
8	RED/BLACK	SH 1 PH 1 RA LT	SPARE	SPARE	SPARE	SPARE	SPARE
9	GREEN/BLACK	SH 5 PH 6 DW	SH 6 PH 6 DW	SPARE	SPARE	SH 15 PH 2 DW	SH 16 PH 2 DW
10	ORANGE/BLACK	SH 5 PH 6 W	SH 6 PH 6 W	SPARE	SPARE	SH 15 PH 2 W	SH 16 PH 2 W
11	BLUE/BLACK	SPARE		SPARE	SPARE		
12	BLACK/WHITE	SH 4 PH 4 DW		SPARE	SPARE		
13	RED/WHITE	SH 4 PH 4 W		SPARE	SPARE		
14	GREEN/WHITE	SPARE		SPARE	SPARE		
15	BLUE/WHITE	SPARE		SPARE	SPARE		
16	BLACK/RED	SH 1 OLA FYA LT		SPARE	SPARE		
17	WHITE/RED	SPARE		SPARE	SPARE		
18	ORANGE/RED	SPARE		SH 10, 11 PH 8 R	SPARE		
19	BLUE/RED	SPARE		SH 10, 11 PH 8 G	SPARE		
20	RED/GREEN	SPARE		SH 10, 11 PH 8 Y	SPARE		

R = RED BALL; Y = YELLOW BALL; G = GREEN BALL; RA = RED ARROW; YA = YELLOW ARROW; GA = GREEN ARROW

FYA = FLASHING YELLOW ARROW; RT = RIGHT TURN; LT = LEFT TURN

OLA (SBLT FYA) = PH 1+PH2

GROUND BOX SUMMARY	
TYPE	EACH
C W/APRON	6

60% REVIEW
 PRELIMINARY - FOR REVIEW ONLY
 LEE ENGINEERING, L.L.C.
 REGISTRATION NO. F-450
 CHRISTOPHER J. PIERCE, P.E. #92541
 APRIL 2016

SHEET 2 OF 5



MILES ROAD IMPROVEMENTS

SIGNAL DESIGN TABLES
 MILES RD AT HAVERHILL DR

21

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	

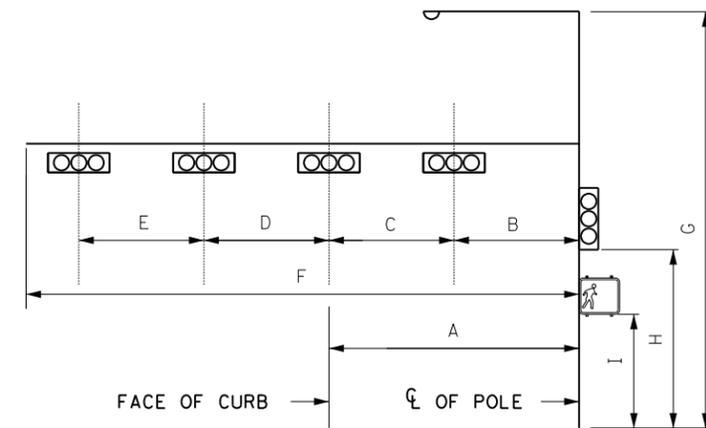
SIGNAL HEAD AND POLE PLACEMENT (FEET)												
POLE NUMBER	A	B	C	D	E	F	G	H	I	NO. OF HEADS ON MAST ARM / POLE	LUM-A	
P-1	15.5	24	12	10	---	48	20	---	10	3 / 0	---	
P-2	14.5N, 18.5W	PEDESTAL POLE ASSEMBLY					10	---	10	---	---	---
P-3	5.5N	25	7	5	7	44	30	---	---	4 / 0	1	
		15	12	---	---	32				2 / 0		
P-4	2N, 21E	PEDESTAL POLE ASSEMBLY					10	---	10	---	---	---
P-5	2S, 20E	PEDESTAL POLE ASSEMBLY					10	---	10	---	---	---

P-2: 14.5N, 18.5W - 14.5' NORTH OF EXISTING DRIVEWAY CURBLINE EXTENSION, 18.5' WEST OF EXISTING MILES RD CURBLINE EXTENSION.

P-3: 5.5N - 5.5' NORTH OF EXISTING MILES RD MEDIAN NOSE.

P-4: 2N, 21E - 2' NORTH OF EXISTING HAVERHILL DR CURBLINE EXTENSION, 21' EAST OF EXISTING MILES RD CURBLINE EXTENSION.

P-5: 2S, 20E - 2' SOUTH OF EXISTING HAVERHILL DR CURBLINE EXTENSION, 20' EAST OF EXISTING MILES RD CURBLINE EXTENSION.



POLE NUMBER	DRILL SHAFTS (FEET)		WIRE INSIDE POLE (FEET)							ACCESSIBLE PEDESTRIAN SIGNAL UNITS
	TYPE 24-A *	TYPE 36-A	5 CNDR CABLE (#14 AWG) (TY A)	7 CNDR CABLE (#14 AWG) (TY A)	2 CNDR CABLE (#12 AWG) (TY C)	OPTICOM CABLE	VIVDS CABLE	CAT5 ETHERNET CABLE	1C #8 XHHW WIRE (LUM)	
P-1	---	13	120	68	10	51	65	---	---	2
P-2	6	---	20	---	10	---	---	---	---	2
P-3	---	13	248	52	---	151	156	60	80	---
P-4	6	---	20	---	10	---	---	---	---	2
P-5	6	---	20	---	10	---	---	---	---	2
TOTAL	18	26	428	120	40	202	221	60	80	8

SHEET 3 OF 5



MILES ROAD IMPROVEMENTS

SIGNAL DESIGN TABLES
MILES RD AT HAVERHILL DR

22

60% REVIEW
PRELIMINARY - FOR REVIEW ONLY
LEE ENGINEERING, L.L.C.
REGISTRATION NO. F-450
CHRISTOPHER J. PIERCE, P.E. #92541
APRIL 2016

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	

SIGN SUMMARY									
ID	TYPE	LEGEND	EXIST	REM	REL	REP	INST	HARDWARE & SUPPORT	LOCATION
A	R10-17T	LEFT TURN YIELD ON FLASHING YELLOW ARROW					1	1	P-1 ARM
B	ST NAME	HAVERHILL DR					1	1	P-1 ARM
C	ST NAME	MILES RD					1	1	P-3 ARM
D	ST NAME	MILES RD					1	1	P-3 ARM
E	ST NAME	HAVERHILL DR					1	1	P-3 ARM
F	R10-12	LEFT TURN YIELD ON GREEN (BALL)					1	1	P-3 ARM
G	R3-27	NO STRAIGHT THROUGH					1	1	P-3 ARM
H	R3-2	NO LEFT TURN					1	1	P-3 ARM
I	R3-8	LANE CONFIGURATION SIGN					1	1	TY 10 BWG(1)SA(P) POST
J	R1-1	STOP		1					POST

EXIST = EXISTING, REM = REMOVE, REL = RELOCATE, REP = REPLACE, INST = INSTALL
 STANDARD STREET NAME SIGNS SHALL HAVE CLEARVIEW HWY 3W FONT.

ALL NEW SIGNS MOUNTED ON SIGNAL POLES AND MAST ARMS SHALL BE CONSIDERED SUBSIDIARY TO ITEM 680.
 THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE STREET NAME SIGNS TO THE CITY OF SACHSE FOR APPROVAL PRIOR TO FABRICATION.
 SIGN J: STOP SIGN SHALL BE REMOVED FROM EXISTING POST. STREET NAME BLADES AND EXISTING POST SHALL REMAIN IN PLACE.



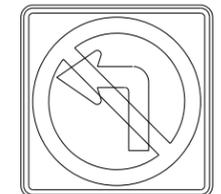
TMUTCD SIGN R10-12
30"X36"



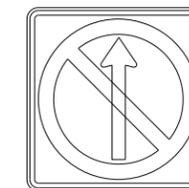
TMUTCD SIGN R10-17T
36"X42"



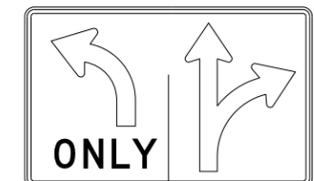
TMUTCD SIGN R1-1
36"X36"



TMUTCD SIGN R3-2
36"X36"



TMUTCD SIGN R3-27
36"X36"



TMUTCD SIGN R3-8
30"X30"

ELECTRICAL SERVICE DATA												
ELECTRIC SERVICE NO.	SHEET NO.	ELECTRICAL SERVICE DESCRIPTION	SERVICE CONDUIT SIZE (RMC)	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN CIRCUIT BREAKER POLE/AMP	TWO-POLE CONTACTOR AMPS	PANELBD./LOADCENTER AMP RATING	CIRCUIT NO.	BRANCH CIRCUIT BREAKER POLE/AMPS	BRANCH CIRCUIT AMPS	KVA LOAD
		SEE ED(5) & (6)-14										
1	XX	ELEC SRV TY D 120/240 070 (NS)AL(E)PS(U)	2"	3/#4	N/A	2P/70	30	100	T.S. LIGHT	1P/50 2P/15	40	< 7.1

DETECTION INFORMATION			
VIVDS PRESENCE DETECTION	STATUS	PHASES	LOCATION
V1	I	PH 1 & PH 6 PRESENCE	P-1 SIGNAL POLE
V2	I	PH 4 PRESENCE	P-3 SIGNAL POLE
V3	I	PH 8 PRESENCE	P-3 SIGNAL POLE
V4	I	PH 2 PRESENCE	P-3 SIGNAL POLE

I = INSTALL; E = EXISTING; R = RELOCATE

60% REVIEW
 PRELIMINARY - FOR REVIEW ONLY
 LEE ENGINEERING, L.L.C.
 REGISTRATION NO. F-450
 CHRISTOPHER J. PIERCE, P.E. #92541
 APRIL 2016

SHEET 4 OF 5



MILES ROAD IMPROVEMENTS

SIGNAL DESIGN TABLES
 MILES RD AT HAVERHILL DR

23

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	

APS MESSAGE CHART			
POLE NUMBER	PEDESTRIAN MOVEMENT	FUNCTIONS	SPEECH MESSAGE/SOUND DETAILS
P-1	PHASE 4	BUTTON PUSH ON DON'T WALK	WAIT TO CROSS MILES ROAD AT SACHSE HIGH SCHOOL DRIVEWAY.
		EXTENDED BUTTON PUSH	WAIT TO CROSS MILES ROAD AT SACHSE HIGH SCHOOL DRIVEWAY.
		LOCATOR TONE	SLOW TICK
		WALK INDICATION *	MILES ROAD. WALK SIGN IS ON TO CROSS MILES ROAD.
P-1	PHASE 6	BUTTON PUSH ON DON'T WALK	WAIT TO CROSS SACHSE HIGH SCHOOL DRIVEWAY AT MILES RD.
		EXTENDED BUTTON PUSH	WAIT TO CROSS SACHSE HIGH SCHOOL DRIVEWAY AT MILES RD.
		LOCATOR TONE	SLOW TICK
		WALK INDICATION *	SACHSE HIGH SCHOOL DRIVEWAY. WALK SIGN IS ON TO CROSS SACHSE HIGH SCHOOL DRIVEWAY.
P-2	PHASE 6	BUTTON PUSH ON DON'T WALK	WAIT TO CROSS SACHSE HIGH SCHOOL DRIVEWAY AT MILES RD.
		EXTENDED BUTTON PUSH	WAIT TO CROSS SACHSE HIGH SCHOOL DRIVEWAY AT MILES RD.
		LOCATOR TONE	SLOW TICK
		WALK INDICATION *	SACHSE HIGH SCHOOL DRIVEWAY. WALK SIGN IS ON TO CROSS SACHSE HIGH SCHOOL DRIVEWAY.
P-2	PHASE 8	BUTTON PUSH ON DON'T WALK	WAIT TO CROSS MILES ROAD AT SACHSE HIGH SCHOOL DRIVEWAY.
		EXTENDED BUTTON PUSH	WAIT TO CROSS MILES ROAD AT SACHSE HIGH SCHOOL DRIVEWAY.
		LOCATOR TONE	SLOW TICK
		WALK INDICATION *	MILES ROAD. WALK SIGN IS ON TO CROSS MILES ROAD.
P-4	PHASE 2	BUTTON PUSH ON DON'T WALK	WAIT TO CROSS HAVERHILL DRIVE AT MILES ROAD.
		EXTENDED BUTTON PUSH	WAIT TO CROSS HAVERHILL DRIVE AT MILES ROAD.
		LOCATOR TONE	SLOW TICK
		WALK INDICATION *	HAVERHILL DRIVE. WALK SIGN IS ON TO CROSS HAVERHILL DRIVE.
P-4	PHASE 8	BUTTON PUSH ON DON'T WALK	WAIT TO CROSS MILES ROAD AT HAVERHILL DRIVE.
		EXTENDED BUTTON PUSH	WAIT TO CROSS MILES ROAD AT HAVERHILL DRIVE.
		LOCATOR TONE	SLOW TICK
		WALK INDICATION *	MILES ROAD. WALK SIGN IS ON TO CROSS MILES ROAD.
P-5	PHASE 2	BUTTON PUSH ON DON'T WALK	WAIT TO CROSS HAVERHILL DRIVE AT MILES ROAD.
		EXTENDED BUTTON PUSH	WAIT TO CROSS HAVERHILL DRIVE AT MILES ROAD.
		LOCATOR TONE	SLOW TICK
		WALK INDICATION *	HAVERHILL DRIVE. WALK SIGN IS ON TO CROSS HAVERHILL DRIVE.
P-5	PHASE 4	BUTTON PUSH ON DON'T WALK	WAIT TO CROSS MILES ROAD AT HAVERHILL DRIVE.
		EXTENDED BUTTON PUSH	WAIT TO CROSS MILES ROAD AT HAVERHILL DRIVE.
		LOCATOR TONE	SLOW TICK
		WALK INDICATION *	MILES ROAD. WALK SIGN IS ON TO CROSS MILES ROAD.

* COUNTDOWN SPEECH MESSAGE = "OFF" FOR ALL UNITS

ACCESSIBLE PEDESTRIAN SIGNAL (APS) UNITS	
PED BUTTON PHASE	FURNISH & INSTALL
PHASE 2	2
PHASE 4	2
PHASE 6	2
PHASE 8	2
TOTAL	8

SHEET 5 OF 5



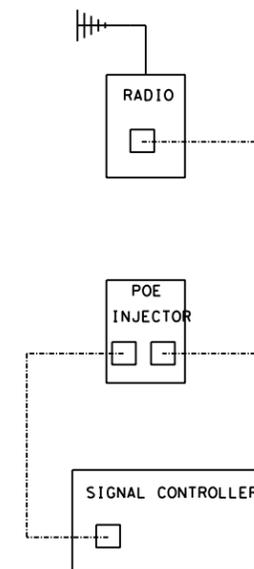
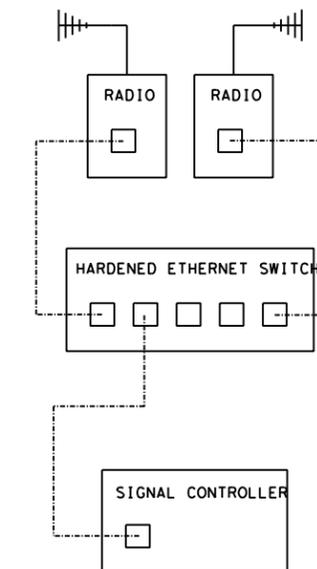
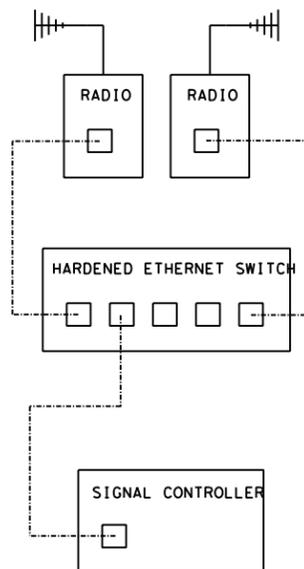
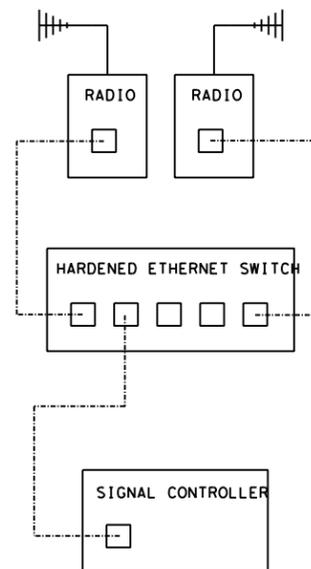
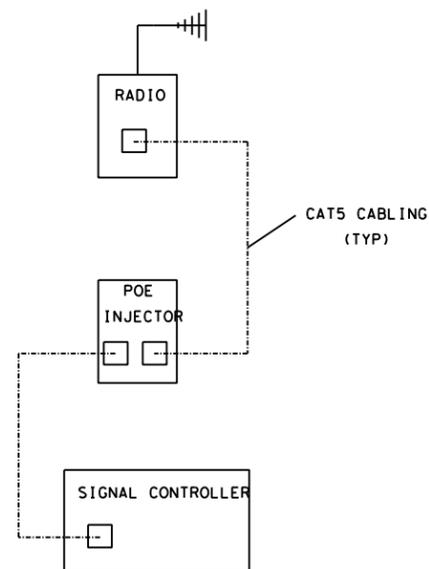
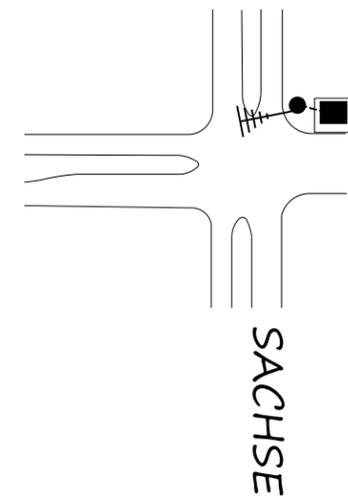
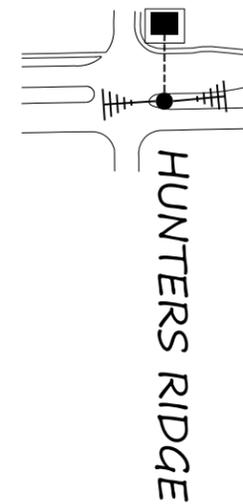
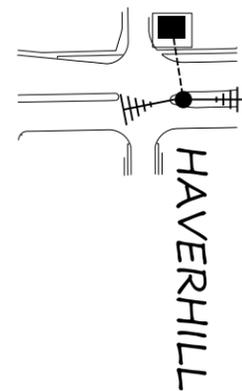
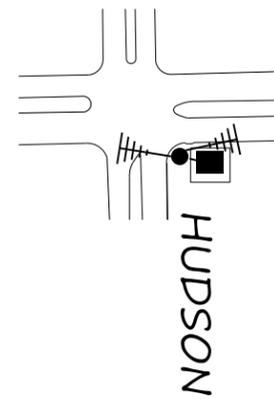
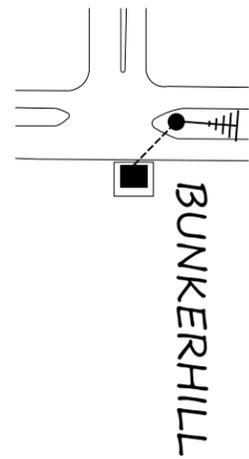
MILES ROAD IMPROVEMENTS

SIGNAL DESIGN TABLES
MILES RD AT HAVERHILL DR

24

60% REVIEW
PRELIMINARY - FOR REVIEW ONLY
LEE ENGINEERING, L.L.C.
REGISTRATION NO. F-450
CHRISTOPHER J. PIERCE, P.E. #92541
APRIL 2016

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	



60% REVIEW
 PRELIMINARY - FOR REVIEW ONLY
 LEE ENGINEERING, L.L.C.
 REGISTRATION NO. F-450
 CHRISTOPHER J. PIERCE, P.E. #92541
 APRIL 2016

3030 LBJ FREEWAY
 SUITE 1660
 DALLAS, TEXAS 75234
 972-248-3006 FAX 972-248-3855
 TBPE REGISTRATION NO. F-450
LEE ENGINEERING

MILES ROAD IMPROVEMENTS

COMMUNICATION SYSTEM
 INSTALLATION DETAILS

STATE	CITY	COUNTY	HIGHWAY NO.	SHEET NO.
TEXAS	SACHSE	DALLAS	MILES	25

TRAFFIC SIGNAL AND TURN BAY INSTALLATION- ENGINEER'S OPINION OF PROBABLE COS
Miles Road at Haverhill Road & Hunters Ridge Road Signal and Turn Bay Installation

TxDOT Spec No.	Description	Unit	Miles Rd at Haverhill Rd Base Bid	Miles Rd at Hunters Ridge Rd		Communication System Base Bid	Total Base Bid Quantity	Engineer's Estimate		
				Base Bid (Signal, Northbound turn lane, Southbound channelization)	Alternate Bid (Southbound Turn Lane Extension)			Unit Cost	Base Bid Total Cost	Alternate Bid Item Additional Cost
104	REMOVING CONC (PAV)	SY		202			202	\$6.94	\$1,401.88	\$0.00
104	REMOVING CONC (CURB AND GUTTER)	LF		633	232.3		633	\$6.99	\$4,424.67	\$1,623.78
110	EXCAVATION (ROADWAY)	CY		595.3	146.2		595.3	\$9.15	\$5,447.00	\$1,337.73
132	EMBANKMENT (FINAL)(ORD COMP)(TYP C)	CY		246.5	53.2		246.5	\$16.02	\$3,948.93	\$852.26
162	BLOCK SODDING	SY		1128	349		1128	\$2.79	\$3,147.12	\$973.71
260	LIME (HYDRATED LIME (SLURRY))	TON		18.4	4.6		18.4	\$149.09	\$2,743.26	\$685.81
260	LIME TRT (NEW BASE) (8")	SY		1108.1	239.1		1108.1	\$2.00	\$2,216.20	\$478.20
360	CONC PVMT (CONT REINF-CRCP)(8")	SY		1012	187		1012	\$80.00	\$80,960.00	\$14,960.00
416	DRILL SHAFT (TRF SIG POLE) (30 IN)	LF		22			22	\$242.63	\$5,337.86	\$0.00
416	DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	26	13			39	\$254.91	\$9,941.49	\$0.00
500	MOBILIZATION	LS			1		1	\$48,529.65	\$48,529.65	\$3,906.84
502	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO			6		6	\$3,000.00	\$18,000.00	\$0.00
506	SANDBAGS FOR EROSION CONTROL (12")	LF		60			60	\$3.00	\$180.00	\$0.00
506	TEMP SEDMT CONT FENCE (INSTALL)	LF		380			380	\$2.38	\$904.40	\$0.00
506	TEMP SEDMT CONT FENCE (REMOVE)	LF		380			380	\$0.75	\$285.00	\$0.00
529	CONC CURB (MONO)(TY II)	LF		646	232		646	\$2.61	\$1,686.06	\$605.52
531	CONC SIDEWALKS (4")	SY		26	406		26	\$43.23	\$1,123.98	\$17,551.38
531	CURB RAMPS (TY 1)	EA		4			4	\$1,575.99	\$6,303.96	\$0.00
531	CURB RAMPS (TY 2)	EA		4			4	\$2,090.14	\$8,360.56	\$0.00
531	CURB RAMPS (TY 7)	EA		2			2	\$1,456.55	\$2,913.10	\$0.00
536	CONC MEDIAN CAP (4")	SY		271.1			271.1	\$67.44	\$18,282.98	\$0.00
618	CONDUIT (PVC) (SCHD 40) (2")	LF	65	60			125	\$7.66	\$957.50	\$0.00
618	CONDUIT (PVC) (SCHD 40) (3")	LF	70	90			160	\$11.58	\$1,855.80	\$0.00
618	CONDUIT (PVC) (SCHD 40) (3") (BORE)	LF	55	75			130	\$23.69	\$3,079.70	\$0.00
618	CONDUIT (PVC) (SCHD 40) (4")	LF	155	160			315	\$15.99	\$5,036.85	\$0.00
618	CONDUIT (PVC) (SCHD 40) (4") (BORE)	LF	270	265			535	\$21.01	\$11,240.35	\$0.00
620	ELEC CONDUCTOR (NO. 8) INSULATED	LF	480	580			1060	\$1.00	\$1,060.00	\$0.00
620	ELEC CONDUCTOR (NO. 6) BARE	LF	615	650			1265	\$1.11	\$1,404.15	\$0.00
620	ELEC CONDUCTOR (NO. 6) INSULATED	LF	130	120			250	\$1.26	\$315.00	\$0.00
624	GROUND BOX TY C (162911) W/APRON	EA	6	6			12	\$911.28	\$10,935.36	\$0.00
628	ELC SRV TY D 120/240 070(NS)AL(E)PS(U)	EA	1	1			2	\$2,500.00	\$5,000.00	\$0.00
644	INS SM RD SN SUP&AM TY10BWG(1)SA(P)	EA	1	2			3	\$559.90	\$1,679.70	\$0.00
666	REFL PAV MRK TY I (W) 4" (BRK) (100MIL)	LF		765			765	\$0.50	\$382.50	\$0.00
666	REFL PAV MRK TY I (W) 4" (SLD) (100MIL)	LF		100			100	\$0.50	\$50.00	\$0.00
666	REFL PAV MRK TY I (W) 4" (DOT) (100MIL)	LF		65			65	\$1.11	\$72.15	\$0.00
666	REFL PAV MRK TY I (W) 8" (SLD) (100MIL)	LF		908			908	\$0.80	\$726.40	\$0.00
666	REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	LF		1863			1863	\$5.19	\$9,668.97	\$0.00
666	REFL PAV MRK TY I (W) (ARROW) (100MIL)	EA		8			8	\$113.25	\$906.00	\$0.00
666	REFL PAV MRK TY I (W) (WORD) (100MIL)	EA		3			3	\$130.42	\$391.26	\$0.00
666	REFL PAV MRK TY II (W) 4" (BRK)	LF		765			765	\$0.14	\$107.10	\$0.00
666	REFL PAV MRK TY II (W) 4" (DOT)	LF		65			65	\$0.12	\$7.80	\$0.00
666	REFL PAV MRK TY II (W) 4" (SLD)	LF		100			100	\$0.10	\$10.00	\$0.00
666	REFL PAV MRK TY II (W) 8" (SLD)	LF		908			908	\$0.26	\$236.08	\$0.00
666	REFL PAV MRK TY II (W) 24" (SLD)	LF		1863			1863	\$2.18	\$4,061.34	\$0.00
666	REFL PAV MRK TY II (W) (ARROW)	LF		8			8	\$44.12	\$352.96	\$0.00
666	REFL PAV MRK TY II (W) (WORD)	LF		3			3	\$51.53	\$154.59	\$0.00
680	INSTALL HWY TRAF SIG (ISOLATED)	EA	1	1			2	\$18,876.58	\$37,753.16	\$0.00
682	VEH SIG SEC (12") LED (GRN)	EA	8	6			14	\$268.75	\$3,762.50	\$0.00
682	VEH SIG SEC (12") LED (GRN ARW)	EA	2	3			5	\$277.26	\$1,386.30	\$0.00
682	VEH SIG SEC (12") LED (YEL)	EA	8	6			14	\$258.14	\$3,613.96	\$0.00
682	VEH SIG SEC (12") LED (YEL ARW)	EA	3	3			6	\$293.05	\$1,758.30	\$0.00
682	VEH SIG SEC (12") LED (RED)	EA	8	6			14	\$258.84	\$3,623.76	\$0.00
682	VEH SIG SEC (12") LED (RED ARW)	EA	1	3			4	\$267.97	\$1,071.88	\$0.00
682	PED SIG SEC (LED) (COUNTDOWN)	EA	8	8			16	\$566.91	\$9,070.56	\$0.00
682	BACK PLATE (12") (3 SEC) ALUM	EA	7	9			16	\$103.67	\$1,658.72	\$0.00
682	BACK PLATE (12") (4 SEC) ALUM	EA	1	1			2	\$132.61	\$265.22	\$0.00
682	BACK PLATE (12") (5 SEC) ALUM	EA	1	1			2	\$113.79	\$227.58	\$0.00
684	TRF SIG CBL (TY A) (14 AWG) (5 CONDR)	LF	428	438			866	\$1.89	\$1,636.74	\$0.00
684	TRF SIG CBL (TY A) (14 AWG) (7 CONDR)	LF	120				120	\$1.96	\$235.20	\$0.00
684	TRF SIG CBL (TY A) (14 AWG) (10 CONDR)	LF	505	650			1155	\$2.41	\$2,783.55	\$0.00
684	TRF SIG CBL (TY A) (14 AWG) (20 CONDR)	LF	380	265			645	\$3.49	\$2,251.05	\$0.00
684	TRF SIG CBL (TY C) (12 AWG) (2 CONDR)	LF	1150	1155			2305	\$1.07	\$2,466.35	\$0.00
686	INS TRF SIG PL AM (S) 1 ARM (32) LUM	EA	1	2			3	\$6,007.70	\$18,015.40	\$0.00
686	INS TRF SIG PL AM (S) 1 ARM (48)	EA	1	1			2	\$8,196.42	\$16,392.84	\$0.00
686	INS TRF SIG PL AM (S) 2 ARM (44-32) LUM	EA	1	1			2	\$12,000.00	\$24,000.00	\$0.00
687	PED POLE ASSEMBLY	EA	3	5			8	\$2,111.29	\$16,890.32	\$0.00
688	PED DETECT PUSH BUTTON (APS)	EA	8	8			16	\$1,017.87	\$16,285.92	\$0.00
688	PED DETECTOR CONTROLLER UNIT	EA	1	1			2	\$3,633.99	\$7,267.98	\$0.00
6002	VIVDS PROCESSOR SYSTEM	EA	1	1			2	\$4,805.56	\$9,611.12	\$0.00
6002	VIVDS CAMERA ASSEMBLY	EA	4	3			7	\$1,951.09	\$13,657.63	\$0.00
6002	VIVDS SET-UP SYSTEM	EA	1	1			2	\$532.92	\$1,065.84	\$0.00
6002	VIVDS COMMUNICATION CABLE (COAXIAL)	LF	766	419			1185	\$2.32	\$2,749.20	\$0.00
6054	SPREAD SPECTRUM RADIO	EA	1	1		3	5	\$2,219.47	\$11,097.35	\$0.00
6054	ANTENNA (UNI-DIRECTIONAL)	EA	2	2		4	8	\$638.16	\$4,305.28	\$0.00
6058	BBU SYSTEM (EXTERNAT BATT CABINET)	EA	1	1			2	\$954.10	\$1,908.20	\$0.00
	UNI-DIRECTIONAL OPTICOM DETECTOR	EA	4	3			7	\$800.00	\$5,600.00	\$0.00
	PHASE SELECTOR	EA	1	1			2	\$3,000.00	\$6,000.00	\$0.00
	OPTICOM DETECTOR CABLE	LF	747	411			1158	\$3.00	\$3,474.00	\$0.00
	GPS Clock (Furnish and Install at Sachse / Miles)	EA				1	1	\$1,500.00	\$1,500.00	\$0.00
	GPS Clock (Furnish to TxDOT for PGBT Diamond)	EA				1	1	\$1,000.00	\$1,000.00	\$0.00
	HARDENED ETHERNET SWITCH	EA	1	1		3	5	\$3,000.00	\$15,000.00	\$0.00
	POWER OVER ETHERNET INJECTOR	EA	1	1		3	5	\$3,000.00	\$15,000.00	\$0.00
	CATS ETHERNET CABLE	LF	110	220		600	930	\$2.00	\$1,860.00	\$0.00

		Base	+Alternate	Total
	Estimate	\$533,826.17	\$42,975.23	\$576,801.40
Contingency	15%	\$613,900.09	\$49,421.52	\$663,321.61

Total Base + Alternate	\$576,801.40
with Contingency	\$663,321.61



City of Sachse, Texas

Legislation Details (With Text)

File #: 16-3440 **Version:** 1 **Name:** Fire ISO Update
Type: Agenda Item **Status:** Agenda Ready
File created: 7/25/2016 **In control:** City Council
On agenda: 8/1/2016 **Final action:**
Title: Receive ISO rating update.
Sponsors:
Indexes:
Code sections:
Attachments: [Presentation](#)

Date	Ver.	Action By	Action	Result
------	------	-----------	--------	--------

Title
ISO Rating Update

Background
In February 2016, the City of Sachse hired an ISO Consultant to evaluate the current status of the city and make recommendations relevant to maintaining our current ISO Class 3 Rating or improve to a higher classification. The consultant’s report was returned on March 8th, 2016. The recommendations have been reviewed and steps taken in preparation for the required ISO Site Survey. Chief Wade will go over the current status and recommendations provided by Mike Pietsch, P.E. Consulting Services.

Policy Considerations
None.

Budgetary Considerations
None. Outsid preparatory efforts already underway by staff.

Staff Recommendations
Discussion only.



ISO UPDATE
CITY COUNCIL
AUGUST 1ST, 2016

PROJECT SCOPE

1. Brief ISO Overview
2. Our Current Estimated ISO Rating
3. Improvements Needed for the Next Survey
4. Immediate Action Items
5. Long Range Action Items

INSURANCE SERVICES OFFICE (ISO) OVERVIEW

- The Insurance Services Office establishes a Public Protection Classification (PPC) for communities based on their ability to extinguish or control a structural fire
- There are 10 Public Protection Classifications with 1 being exceptional fire protection and 10 being without fire protection
- The City of Sachse currently holds a Class 3 PPC

INSURANCE SERVICES OFFICE (ISO) OVERVIEW - CONT

- ISO evaluates municipalities all across the United States by utilizing the Fire Suppression Rating Schedule (FSRS)
- It includes 5 key elements of a community's fire defense infrastructure
 - Fire Service Communications – 9%
 - Fire Department – 47%
 - Water Supply – 38%
 - Community Risk Reduction – 6%
 - The Texas Exception to the FSRS

Points are awarded within each element for
a Cumulative Credit.

COORDINATION WITH ISO

- The ISO Representative has been contacted and scheduling is flexible however he would like to do it before the end of the year.
- ISO Upgrade Importance for Economic Development
 - Insurance Premiums
 - Commercial Savings – Possible 2%
 - Residential Savings – Possible 8%
 - Sooner better than Later

(ISO) CONSULTANT VISIT OVERVIEW

How did we do?

Category	Points Awarded	Maximum Available
Fire Communications	8.22	10
Fire Department	33.21	50
Water Supply	37.81	40
Community Risk Reduction	4.11	5.5
Texas Exemption	0	1
Totals	77.73	106.5

Credit	Classification
90.00 - 100.00	1
80.00 - 89.99	2
70.00 - 79.99	3
60.00 - 69.99	4
50.00 - 59.99	5
40.00 - 49.99	6
30.00 - 39.99	7
20.00 - 29.99	8
10.00 - 19.99	9
00.00 - 9.99	10

Without the 6 Positions approved in FY – 15/16 our Rating would be - **70.65**

NEEDS

Mike Pietsch identified several areas where we can gain points and Receive an ISO 2 Rating.

This is with the understanding that Staffing is our greatest deficiency and appropriate levels will not be obtained quickly

FIRE SERVICE COMMUNICATIONS - DISPATCH

Additional Staffing – The only area that could possibly improve is the number of dispatchers on duty at all times in the communications center.

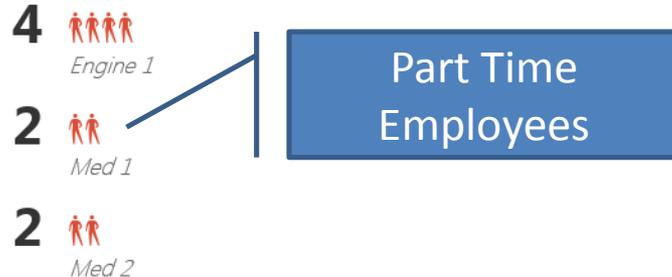
FIRE DEPARTMENT NEEDS

- 1. Staffing** is severely deficient
- 2. 3rd Engine Company** Required Not Provided
- 3. Annual Fire Pump Testing on Apparatus** not accomplished (**1.17 Pts**)
- 4. 1.5 Mile “road miles” criteria** - Some areas of the city are outside of this
- 5. Preplanning Program** not complete

UNDERSTAFFED AND AN UNREALISTIC EXPECTATION

Daily Staffing

CURRENT STAFFING LEVEL



April 2016 - Current Staffing included Part-Time

6 PER ENGINE & TRUCK COMPANY



HOW ARE WE DOING?

CURRENT STAFFING LEVEL

4 
Engine 1

2 
Med 1

2 
Med 2

6 Vacant Position
were filled.
Part-Time
personnel are
still being utilized
PRN

STAFFING OCTOBER 1, 2016

4 
Truck 1

2 
Med 1

3 
Engine 2

0
Med 2

With the
Addition of 3
Positions
(3.54 Points)

October 1st, the **New Part-Time Program** begins using them strictly on an as needed basis to off set Over-time

WATER SUPPLY NEEDS

Fire Hydrant Inspections - The Only deficiency was the frequency of the inspections. (2.19 Points)

COMMUNITY RISK REDUCTION – FIRE MARSHAL'S OFFICE

1. Fire Code – the City has adopted the *2009 Edition* by ordinance. It needs to be updated to the *2015 Edition*

(.56 Points)

1. Lack of sufficient personnel – 1 additional inspector/investigator is required *(.83 Points)*

POINTS OVERVIEW

Current Estimate	77.73	ISO 3
With Improvements	85.84	ISO 2

Hydrant Inspections	FY 15/16	2.19	
Fire Pump Testing	FY 15/16	1.17	
Fire Code Update	FY 16/17	.56	
Property Pre-Fire Plans	FY 16/17	.65	
Fire Staffing (3)	FY 16/17	3.54	
Safer Grant Staffing (6)	FY 16/17		(?)
Communications Staffing	TBD		1.78
Fire Marshal Staff FY	TBD		.83

IMMEDIATE ACTION ITEMS

- Schedule The ISO Survey for late October or November and Earn an ISO Class 2 Rating
- Work with the ISO Consultant to ensure preparedness
- Initiate the Hydrant Flow Testing Program
- Hire 3 Personnel on October 1, 2016
 - These positions are being requested FY 16/17

IMMEDIATE ACTION ITEMS CONT.

- Work to Complete Property Pre-Fire Plan
- Update the Fire Code to 2015 Edition

LONG RANGE ACTION ITEMS

- Preparation to be an ISO Class 1 City
- Continue to recommend the increase in staffing levels
 - FD according to staffing plan
 - SAFER GRANT
 - Annual Staffing Increase Requests
 - Fire Marshal's Office
 - Dispatch

QUESTIONS?





City of Sachse, Texas

Legislation Details (With Text)

File #:	16-3445	Version:	1	Name:	Meter Replacement Update
Type:	Agenda Item	Status:		Status:	Agenda Ready
File created:	7/27/2016	In control:		In control:	City Council
On agenda:	8/1/2016	Final action:		Final action:	
Title:	Discuss water meter replacement strategy.				
Sponsors:					
Indexes:					
Code sections:					
Attachments:	Water Meter Replacement Program				

Date	Ver.	Action By	Action	Result
------	------	-----------	--------	--------

Title
Discuss water meter replacement strategy.

Background
During the July 5, 2016 City Council Workshop session, a presentation on water meter technology and replacement needs was provided. Staff requested feedback and direction to assist in preparation of the FY2017 budget, and the direction most preferred was to begin upgrading meters to be compatible with an AMI system.

The current AMR system used by the City was implemented in 2007, so many of the meters currently in use are approaching the end of their expected life cycle and need to be replaced. There is an urgent need to replace at least 1000 meters--should they be the same technology currently in use or upgraded to be compatible with future AMI system?

AMI compatible meters are digital, and the display is LCD, not a dial; therefore, when the battery dies, there is no visible display. The register needs to be replaced immediately, but because of the two-way communication between the reading system and the meter, the failure will be known immediately.

Policy Considerations
None.

Budgetary Considerations
2016-2017 budget preparation is underway, and meter replacement needs must be addressed.

Staff Recommendations
Discuss and provide guidance to staff.



Water Meter Replacement Program

City Council Meeting

August 1, 2016

Current Challenges

- Aging Meters
 - Over 250 meters with no usage report available due to battery life
 - 10% of meters are read manually due to skipped reads
- Meters that Pre-date technology
 - 859: Under-registration, No usage report technology
- Metal Lids and Boxes
 - Transmission interference with metal

Definitions

- **AMR: Automated Meter Reading**

One-way fixed system whereby utility meters are read remotely with one-way electronic technology requiring employee drive-by in close proximity of the meter. Features include frequent readings at various intervals and ability to detect leaks and tampering. Data collected is available weeks after registration allowing potential problems to be unnoticed for a significant period of time. AMR can be walk-by, drive-by or fixed network but all one-way communication. The meter talks to the meter-reading device, but the device cannot send a command back to the meter.

Definitions

- **AMI: Advanced Metering Infrastructure**

Two-way physical fixed network that records customer consumption frequently and electronically transmits real-time measurements over a communication network to a central collection point allowing employee to query off-site. Features include frequent readings at various intervals and ability to detect leaks and tampering in real-time, ability to operate and maintain distribution system in peak condition with diagnostic reports, enhanced customer service with customer web portal availability.

Side by Side Comparison

AMR	AMI
One-way communication	Two-way communication
Drive-by reads	Off-site reads
Reports for usage, tampering, leaks available within weeks	Reports for usage, low battery, tampering, leaks available real-time
Usage reports provided by customer service upon request.	Customer web portal available for customer viewing with customer service in real-time
Public Works on-site location for manual leak detection	Ability to maintain distribution system for leak checks prior to main breaks or bubbling to surface
If register no longer sends read, register can be read manually until replacement available.	True digital read—no manual read available, register must be replaced.
Odometer reading, mechanism parts	LCD reading, no moving parts

Disadvantages of 4G/Digital

- Infrastructure needed for full AMI implementation
- Establish daily review of software for missing meter communication
- LCD reading, replacement needed for usage measurement

Current Metering Structure

- AMR system
- Utility Billing software implemented 2008. Exact meter age for approx. 4000 meters unknown
- % water unbilled FY2014: 17.45% FY2015: 15.84%
 - Difference between water delivered to customers plus authorized use but not sold (i.e fire fighting, leak repair flushing, dead end flushing, water quality flushing, filling jet truck, vac truck and concrete saw water tank, and new water mains installed by developer/contracting flushing)
- 1880 meter swaps in FY14-FY15
 - Outdated meter swaps 451
 - Warranty meter swaps 1,356
 - 34 randomly selected outdated meter analysis revealed water use decreased 5%
- Usage reports/data logs available on newer meters
- Usage reports/data logs available on meters with strong battery life
 - No report can determine battery life. Roll out required for all usage report requests
- Leak detection and tamper reports available during reading cycle
 - The “Flag” report means water has run through the meter for 3 hours straight in the last 24 hours
 - The leak detection report cannot distinguish soaker hose use

What's the Price Tag?

2 Propagation Studies by Potential Vendors

AMI full system replacement (8,306 meter connections), 2 base stations, 5 repeaters, portable leak detectors, online customer portal, billing system integration, and all residential swaps contracted and completed within 90 days.

\$3,000,000 – \$3,500,000

Will also require replacement of all metal meter boxes with plastic boxes

\$400,000

Total Cost estimated \$4 million

Financing Options

- Continuing to research options for the best value for the City
 - State loan programs do not currently offer the best financing option
 - Grant programs require City matching and quantifiable conservation %
 - Certificates of Obligation
 - Water Revenues pledged to debt service—no impact on tax levy
 - Amortization period can be tied to life of meters—15 years
 - Annual Debt Service estimated at \$330 thousand
 - Tax Notes
 - Water Revenues pledged to debt service with no impact on tax levy
 - Amortization limited to 7 years
 - Annual Debt Service estimated at \$600 thousand

Peer City Comparison

Water Billing Survey 2016 conducted by City of Murphy

City	Method	# of meter readers employed	# meters
Allen	95% touch read	9 meter techs, 2 crew leaders	30,000
Carrollton	Handheld	2 sr readers, 4 readers, 1 field tech	39,650
Colleyville	Handheld	2 meter tech	9,800
Colony	Manual and transponder	4 techs plus supv	12,700
Coppell	Analog, drive by, and new cell devices being tested	3 meter readers	13,000
Garland	AMR	3 meter techs, 8 meter readers	70,700
Highland Village	NA	11 meter techs	5,000
Murphy	AMI	1 vacant position	6,300
Plano	AMR	5 technicians	83,495
Rowlett	AMR discussing AMI switch	3 meter readers, 1 meter services manager	20,000
Sachse	AMR	2 meter techs	8,200

What if we don't change?

- Accuracy of reads is more about the meter than the reading method.
- Current meter inventory ranges from enhanced 3G with full AMR capability to outdated registers with no enhancements:
 - 859 predate current technology
 - 250 no signal due to battery life expended
 - 800-850 manually read due to interference or age
 - 4000 exact age and generation unknown
 - 2400 fully functioning and tracked from origin
- Eventually all will require replacement.
- Replacing 1,000 needed immediately with 3G would allow current system to continue, decision on AMI deferred indefinitely.

Summary

- July 5th Direction was to implement in phases.
- 2016-2017 Budget request \$303,668 for 1,000 meters/boxes.
- Will require two reading and billing systems in transition.
- 4G meters that fail cannot be manually read at the meter but the last read is available on the software and would be under warranty and replaceable upon failure.
- Staff availability to complete swaps is limited due to high number of meters requiring manual reading.
- Annual cost of replacing 1,000 to 1,200 meters only would take 7 years and be comparable to debt service on full implementation(15 year amortization).