CITY OF DEER PARK
NOVEMBER 07, 2017-6:30 PM
CITY COUNCIL WORKSHOP - FINAL


COUNCIL CHAMBERS
710 E SAN AUGUSTINE DEER PARK, TX 77536

Sherry Garrison, Council Position 1 Thane Harrison, Council Position 2 Tommy Ginn, Council Position 3

James Stokes, City Manager Gary Jackson, Assistant City Manager


Jerry Mouton Jr. , Mayor

Bill Patterson, Council Position 4 Ron Martin, Council Position 5 Rae A. Sinor, Council Position 6<br>Shannon Bennett, TRMC, City Secretary Jim Fox, City Attorney

## CALL TO ORDER

1. Executive Session - By authority of Article 6252-17 (Section 3-e,f, and g)

EXS 17-004 V.A.T.S., and the Open Meetings Act, the Council may adjourn to an Executive Session related to following item(s):
a. Consultation with City Attorney - (551.071) Potential Litigation.

Recommended Action: $\quad$ No action will occur. Discussion only in Executive Session.
Department: City Manager's Office
2. Presentation and discussion of issues relating to the sale of Certificates of

PRE 17-037 Obligation, Series 2017-A.

Recommended Action: Discussion only in workshop.
Department: City Manager's Office and Finance
3. Discussion of issues relating to an agreement with Midtown Engineers,

AGR 17-045 LLC for engineering design service on the Center Street and Railroad Avenue Intersection Project.

Recommended Action: $\quad$| Discussion only at this time. If Council concurs, an action item will be |
| :--- |
| added to the November 21, 2017 Council meeting agenda to authorize the |
| consultant to design both alternatives and include the non-traversable |
| median design as an add-alternate to the base bid. |

Attachments: $\quad$| Alternate 3 |
| :--- |

| Alternate 4 |
| :--- | :--- |
| Center Street @ Railroad Ave Traffic Analysis - Midtown Engineers |

4. Discussion of issues relating to the girls softball and soccer bids.

DIS 17-128

| Recommended Action: | Discussion only |
| ---: | :--- |
| Department: | Parks \& Recreation |
| $\underline{\text { Attachments: }}$ | $\underline{\text { 2017-10-17 LT Contractor Qualifications (2) }}$ |
|  | $\underline{\text { 2017-10-09 LT Contractor Qualifications }}$ |

The Mission of the City of Deer Park is to deliver exemplary municipal services that provide the community a high quality of life consistent with our history, culture and unique character.
5. Discussion of issues relating to the 2016 Street Bond Project - West 9th Street, West 12th Street, Ridgeway Streets off Arbor, and Amherst/Brown Lane.

| Recommended Action: | Discussion only during workshop |
| :---: | :--- |
| Department: | Public Works |
| $\underline{\text { Attachments: }}$ | $\underline{2016 \text { street bond map }}$ |

## ADJOURN

## Shannon Bennett, TRMC

City Secretary

Posted on Bulletin Board
November 03, 2017

City Hall is wheelchair accessible and accessible parking spaces are available. Requests for accommodations or interpretive services must be made 72 hours prior to any meeting. Please contact the City Secretary's office at 281.478.7248 for further information.

City of Deer Park

# Legislation Details (With Text) 

| File \#: | EXS 17-004 Version: 1 | Name: |
| :---: | :---: | :---: |
| Type: | Executive Session | Status: Agenda Ready |
| File created: | 10/27/2017 | In control: City Council Workshop |
| On agenda: | 11/7/2017 | Final action: |
| Title: | Executive Session - By authority of Article 6252-17 (Section 3-e,f, and g) V.A.T.S., and the Open Meetings Act, the Council may adjourn to an Executive Session related to following item(s): <br> a. Consultation with City Attorney - (551.071) Potential Litigation. |  |
| Sponsors: | City Manager's Office |  |
| Indexes: |  |  |
| Code sections: |  |  |
| Attachments: |  |  |
| Date | Ver. Action By | Action Result |
| 11/7/2017 | 1 City Council Workshop |  |

Executive Session - By authority of Article 6252-17 (Section 3-e,f, and g) V.A.T.S., and the Open Meetings Act, the Council may adjourn to an Executive Session related to following item(s):
a. Consultation with City Attorney - (551.071) Potential Litigation.

Summary:

The City Council will adjourn into Executive Session to discuss with the City Attorney potential litigation.

Fiscal/Budgetary Impact:
n/a

No action will occur. Discussion only in Executive Session.

| File \#: | PRE 17-037 | Version: | 1 | Name: |
| :--- | :--- | :--- | :--- | :--- |
| Type: | Presentation |  | Status: | Agenda Ready |
| File created: | $10 / 23 / 2017$ |  | In contro: | City Council Workshop |
| On agenda: | $11 / 7 / 2017$ |  | Final action: |  |
| Title: | Presentation and discussion of issues relating to the sale of Certificates of Obligation, Series 2017-A. |  |  |  |
| Sponsors: | City Manager's Office, Finance |  |  |  |
| Indexes: |  |  |  |  |
| Code sections: |  |  |  |  |

Attachments:

| Date | Ver. | Action By | Action | Result |
| :--- | :--- | :--- | :--- | :--- |
| $11 / 7 / 2017$ | 1 | City Council Workshop |  |  |
| Presentation and discussion of issues relating to the sale of Certificates of Obligation, Series 2017-A. |  |  |  |  |

Summary: On September 19, 2017, City Council approved Resolution No. 2017-16 authorizing the publication of the City's intention to issue certificates of obligation. The proceeds of these certificates are planned for renovation projects on the City's water treatment plant, rehabilitation and construction projects on the sanitary sewer system, and work on the ground storage tank(s). The related professional services and issuance costs will also be paid from the proceeds of these certificates. The tentative schedule of events presented by the City's Financial Advisor, John Robuck, from BOK Financial Services, Inc. at the September 19, 2017 workshop, included the sale of these certificates on November 7, 2017. Mr. Robuck and the City's Bond Counsel, Jonathan Frels, from Bracewell LLP will be in attendance at the November 7, 2017 workshop to present the results of the sale and to answer any questions related to this debt issuance.

Fiscal/Budgetary Impact:
Payment of the debt service and issuance costs related to these certificates are "payable from ad valorem taxes and from a limited pledge of a subordinate lien on the net revenues of the City's waterworks and sanitary sewer system."

Discussion only in workshop.

Legislation Details (With Text)

| File \#: | AGR 17-045 | Version: 1 | Name: |
| :--- | :--- | :--- | :--- |
| Type: | Agreement | Status: | Agenda Ready |
| File created: | $10 / 23 / 2017$ | In control: | City Council Workshop |
| On agenda: | $11 / 7 / 2017$ | Final action: |  |
| Title: | Discussion of issues relating to an agreement with Midtown Engineers, LLC for engineering design <br> service on the Center Street and Railroad Avenue Intersection Project. |  |  |

## Sponsors:

Indexes:

## Code sections:

## Attachments: Alternate 3

Alternate 4
Center Street @ Railroad Ave Traffic Analysis - Midtown Engineers

| Date | Ver. | Action By | Action | Result |
| :--- | :--- | :--- | :--- | :--- |
| $11 / 7 / 2017$ | 1 | City Council Workshop |  |  |

Discussion of issues relating to an agreement with Midtown Engineers, LLC for engineering design service on the Center Street and Railroad Avenue Intersection Project.

Summary:
On April 4, 2017 Council authorized Midtown Engineers, LLC to conduct a traffic study of the Center Street/Railroad Avenue intersection and provide recommendations to eliminate illegal north bound left-hand turn movements onto Center Street from Railroad Avenue.

Four alternatives were presented to Council on August 15, 2017 and after considerable discussion, the consensus favored adding a right turn only diverter on Railroad Avenue at Center Street, and at a later date consider adding a non-traversable directional median on Center Street. The right turn only diverter will be a raised concrete " $Y$ " shaped island placed within the pavement at the east end of Railroad Avenue. The island will channelize east bound traffic from Railroad Avenue forcing a rightturn only onto Center Street. (See alternate 3 attached). It was discussed that it would be preferable to hold off on installing a non-traversable (raised) directional median on Center Street (See alternate 4 attached) until the diverter was installed and observed to determine it was functioning as designed. If illegal turning movements persist and vehicles continue to cross the Center Street median to head north bound from Railroad Avenue, the non-traversable directional median on Center Street could be installed that would provide a raised barrier along the center line of Center Street and would also channelize north bound Center Street left turn movements turning west onto Railroad.

In order to accomplish this, it is recommended that the consultant be authorized to develop plans and specifications to bid the right turn only diverter as the base bid and the non-traversable median as an add-alternate. Once the bids have been received, Council can choose to include the add-alternate or not. Also, staff from Midtown Engineers will be in attendance at Tuesday evening's Council Workshop to describe this further.

Fiscal/Budgetary Impact:
The design cost of both options is $\$ 55,432$
Contingency of Capital Improvement Fund (Fund 90)
Discussion only at this time. If Council concurs, an action item will be added to the November 21, 2017 Council meeting agenda to authorize the consultant to design both alternatives and include the non-traversable median design as an add-alternate to the base bid.

## Alternative 3: Add a right-turn only diverter on Railroad Avenue at Center Street

Alternative 3 proposed a right-turn diverter, similar to the example shown in Figure 1. The diverter is proposed to be positioned at the approach to an intersection that orients vehicles to making a right-turn movement only. Also, with Alternative 3, it is proposed to replace the existing "No Left" (R3-2) turn signs with "Right Turn Only" (R3-5R) signs. Alternative 3 will not alter the existing traffic flow, therefore the existing LOS and delay shown in Table 3 apply.


Source: https://www.phoenix.gov/streetssite/Documents/d_039263.pdf
Figure 1: Right Turn Diverter

## Alternative 4: Add a non-traversable directional median on Center Street

Alternative 4 proposed adding a directional non-traversable median, with a left turn bay, for the northbound left turn movement on Center Street. See example shown in Figure 2. Alternative 4 will not alter the existing traffic flow, therefore the existing LOS and delay shown in Table 3 apply. This separator would prevent the eastbound left turn movement from Railroad Avenue, where the access becomes right-in/right-out only with just two conflict points.

This Alternative will require additional pavement on Center Street. The pavement would need to widen to 66 -feet, from its existing 64 -feet, with five11-foot lanes (two southbound and three northbound) and 11-foot median/left turn lane.


Figure 2: Left-Turn Ingress from One Direction

## TRAFFIC ANALYSIS FOR

## CENTER STREET AT RAILROAD AVENUE

## FOR CITY OF DEER PARK, TEXAS



JUNE 2017


## Content

I. INTRODUCTION AND SUMMARY .....  3
II. EXISTING CONDITIONS .....  3
A. Center Street ..... 3
B. Railroad Avenue ..... 3
C. State Highway 225 Frontage Road ..... 3
D. Robin Street ..... 3
E. Intersection Characteristics ..... 4
F. Land Use ..... 4
III. TRAFFIC DATA ..... 4
A. Traffic Volumes ..... 4
IV. TRAFFIC OPERATIONS ANALYSIS ..... 6
A. Existing Condition ..... 6
i. Level of Service ..... 6
V. ALTERNATIVES. ..... 8
VI. CONCLUSION AND RECOMMENDATIONS ..... 10
Appendix A: Exhibit 1 through Exhibit 3
Appendix B: Intersection Photographs
Appendix C: Traffic Volumes
Appendix D: Deer Park Independent School District Bus Route List
Appendix E: SYNCHRO Analysis Report

## LIST OF EXHIBITS

Exhibit 1: Site Location Map<br>Exhibit 2: Existing Conditions<br>Exhibit 3: Peak Hour Volumes

## LIST OF TABLES

Table 1: Vehicle Volume Summary...................................................................................................... 5
Table 2: LOS Criteria for Signalized and Unsignalized Intersections................................................ 6
Table 3: Existing LOS and Delay (seconds/vehicle)*............................................................................ 7
Table 4: Alternative 1: LOS and Delay (seconds/vehicle)* .................................................................. 8
Table 5: Alternative 2: LOS and Delay (seconds/vehicle)*.................................................................. 9

## I. INTRODUCTION AND SUMMARY

Midtown Engineers, LLC was retained to analyze the intersection of Center Street at Railroad Avenue, located in the City of Deer Park, Harris County, Texas (Key Map 538F). The study location is shown in Exhibit 1. Illegal left turn movements from Railroad Avenue onto Center Street created damage to the Gateway Improvements on Center Street.

The study was comprised of the following tasks:

- Analysis of existing conditions based on collected traffic counts and lane geometry
- Develop alternatives to eliminate the illegal left turn movements at the intersection of Center Street and Railroad Avenue


## II. EXISTING CONDITIONS

This section outlines the characteristics of the approach roadways, the intersection of the roadways, and the current land use of the study area.

## A. Center Street

Center Street runs in the north-south direction through the City of Deer Park. It begins at State Highway 225 Frontage Road and terminates just south of Fairmont Parkway. It is comprised of a four-lane section with left turn lane pockets within the study area. Center Street turns into a private industrial street, with gated entry, just north of SH 225 Westbound Frontage Road. The land use along it is commercial. Street lighting is present along Center Street. The posted speed limit on Center Street, within the study intersection, is 40 MPH .

## B. Railroad Avenue

Railroad Avenue runs in the east-west direction. It begins at Deerwood Glen Drive and terminates at Center Street. It has two westbound lanes and one eastbound lane. The land use along Railroad Avenue is composed of general industrial, office professional and general commercial. The posted speed limit on Railroad Avenue is 40 MPH.

## C. State Highway 225 Frontage Road

State Highway (SH) 225 Frontage Road, runs parallel to SH 225, in the east-west direction with three lanes in each direction within the study area. SH 225 is continuous through the study area. The posted speed limit on SH 225 Frontage Roads is 50 MPH .

## D. Robin Street

Robin Street runs in the north-south direction. It begins at Railroad Avenue and terminates within an industrial area, just north of SH 225 Westbound Frontage Road. The land use along Robin Street is industrial.

## E. Intersection Characteristics

Center Street and Railroad Avenue is a T-intersection, where Railroad Avenue T's into Center Street. Eastbound left turn movements from Railroad Avenue to Center Street is prohibited, with "NO LEFT TURN" signs at the intersection. Northbound left turn movements from Center Street to Railroad Avenue is allowed.

During a field visit in the afternoon, there were school buses traveling north on Center Street and turning left onto Railroad Avenue. Upon reviewing the Deer Park Independent School District's (ISD) Route List, see Appendix D, Railroad Avenue was not on the list. Midtown Engineers contacted the Deer Park ISD Department of Transportation to verify. A representative from the department said there are school buses traveling north on Center Street and turning left onto Railroad Avenue during the school days.

## F. Land Use

The study intersection is located in the City of Deer Park in Harris County, Texas. According to Houston-Galveston Area Council (H-GAC), the properties surrounding the study intersection are composed of mostly commercial and residential. An existing condition diagram of this intersection is shown in Exhibit 2. Appendix B contains photographs of each approach of the study intersection.

## III. TRAFFIC DATA

The traffic data collected for this intersection includes the AM and PM peak hour vehicle turning movement counts (TMC).

## A. Traffic Volumes

The AM and PM peak hour vehicle turning movement counts were recorded at the study intersection on Thursday, April 22, 2017 from 6:00 to 8:00 A.M. and 4:00 to 6:00 P.M. The complete traffic data can be found in Appendix C. A summary of the data is presented in Table 1. The peak-hour turning movement counts are shown in Exhibit 3.

Table 1: Vehicle Volume Summary

| Time Period | Traffic Volumes (vph) |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Northbound | Southbound | Eastbound | Westbound |
| Center Street at Railroad Avenue |  |  |  |  |
| 6:00-7:00 AM | 810 | 333 | 103 | N/A |
| 7:00-8:00AM | 673 | 604 | 133 | N/A |
| 4:00-5:00 PM | 650 | 661 | 176 | N/A |
| 5:00-6:00 PM | 506 | 862 | 163 | N/A |
| Center Street at SH 225 Eastbound Frontage Road |  |  |  |  |
| 6:00-7:00 AM | 776 | 222 | 214 | 20 |
| 7:00-8:00AM | 623 | 397 | 334 | 21 |
| 4:00-5:00 PM | 618 | 439 | 471 | 116 |
| 5:00-6:00 PM | 506 | 656 | 487 | 93 |
| Center Street at SH 225 Westbound Frontage Road |  |  |  |  |
| 6:00-7:00 AM | 505 | 13 | 0 | 294 |
| 7:00-8:00AM | 433 | 6 | 2 | 472 |
| 4:00-5:00 PM | 403 | 191 | 2 | 579 |
| 5:00-6:00 PM | 289 | 223 | 2 | 1087 |
| Robin Street at SH 225 Eastbound Frontage Road |  |  |  |  |
| 6:00-7:00 AM | 108 | 7 | 321 | 0 |
| 7:00-8:00AM | 125 | 19 | 392 | 0 |
| 4:00-5:00 PM | 230 | 14 | 342 | 0 |
| 5:00-6:00 PM | 192 | 35 | 406 | 0 |
| Robin Street at SH 225 Westbound Frontage Road |  |  |  |  |
| 6:00-7:00 AM | 141 | 0 | 11 | 590 |
| 7:00-8:00AM | 120 | 0 | 4 | 508 |
| 4:00-5:00 PM | 36 | 1 | 3 | 716 |
| 5:00-6:00 PM | 24 | 1 | 13 | 963 |

## IV. TRAFFIC OPERATIONS ANALYSIS

## A. Existing Condition

Capacity analysis for the existing conditions was conducted using the methodologies defined in the Highway Capacity Manual (HCM 2010). The software program, Synchro Version 9.1, was used to conduct the analysis. The traffic operations for each movement, at signalized and unsignalized intersections, were reported in terms of Level of Service (LOS) and the corresponding control delays. The LOS criteria as defined in HCM for signalized and unsignalized intersections are detailed below.

## i. Level of Service

The LOS is assigned based on the intersection delay; Table 2 lists the different levels according to the Highway Capacity Manual (HCM) 2000. Most major urban areas within the United States, LOS A-D is considered an acceptable LOS, while LOS E is considered marginal and LOS F is considered unacceptable. For intersections operating at LOS D or below, reasonable efforts have been made to maintain the existing LOS.

The LOS at unsignalized intersections is determined by the average delay a vehicle experiences on each intersection approach. Therefore, a different LOS is reported for each approach.

The LOS at signalized intersections is determined by the average vehicle delay. Values can be reported for the intersection as a whole or each individual movement.

Table 2: LOS Criteria for Signalized and Unsignalized Intersections

|  | Signalized Intersections | Unsignalized Intersections |
| :---: | :---: | :---: |
| A | $<10$ | $0-10$ |
| B | $>10-20$ | $>10-15$ |
| C | $>20-35$ | $>15-25$ |
| D | $>35-55$ | $>25-35$ |
| E | $>55-80$ | $>35-50$ |
| F | $>80$ | $>50$ |

Source: Highway Capacity Manual 2000 (Chapter 16 and 17)
The results of the capacity analysis for 2017 existing conditions are indicated in Table 3. It can be seen from the results table that all intersections operate at an acceptable LOS B or better during the AM and PM peak hour.

Since HCM methodology does not provide intersection-wide delay for Stop-Controlled operation, (Center Street at Railroad Avenue), the LOS of the intersection approaches and individual movements were analyzed. The results of the LOS for the unsignalized intersection of Center Street at Railroad Avenue is summarized in Table 3.

Table 3: Existing LOS and Delay (seconds/vehicle)*

|  | AM PEAK HOUR |  | PM PEAK HOUR |  |
| :--- | :---: | :---: | :---: | :---: |
| STOP CONTROLLED <br> INTERSECTION | Northbound <br> Left Turn | Eastbound <br> Right Turn | Northbound <br> Left Turn | Eastbound <br> Right Turn |
| 1 - Center Street at Railroad <br> Avenue | A 2.9) | B (10.7) | A (2.4) | B (11.3) |
| SIGNALIZED INTERSECTION |  |  |  |  |
| 2 - SH 225 EB FR at Center Street | B (12.0) |  | B (14.5) |  |
| 3 - SH 225 WB FR at Center Street | B (12.7) | B (17.6) |  |  |
| 4 - SH 225 EB FR at Robin Street | B (13.6) | B (15.3) |  |  |
| 5 - SH 225 WB FR at Robin Street | B (15.3) | B (18.9) |  |  |

*signal timing based on Synchro's default values
The existing LOS for all five intersections are at LOS B or better. When this report was prepared, the signal timing plans for SH 225 Frontage Road (eastbound and westbound) at Center Street and Robin Street, was requested but was not available. Therefore, the analysis was based on the optimized pre-time created by Synchro.

## V. ALTERNATIVES

Four alternatives were developed to help eliminate the illegal left turn movements at Center Street and Railroad Avenue. The details for each alternative is listed below.

## Alternative 1: Close the median on Center Street at Railroad Avenue

Alternative 1 proposed to close the median at Center Street. The existing northbound left turns, from Center Street onto Railroad Avenue, will be prohibited. Traffic will be rerouted through Intersection 2, 3, 4 and 5 to return to Railroad Avenue. The rerouted traffic was analyzed in Synchro and the results are summarized below in Table 4.

Table 4: Alternative 1: LOS and Delay (seconds/vehicle)*

|  | AM PEAK HOUR |  | PM PEAK HOUR |  |
| :--- | :---: | :---: | :---: | :---: |
| STOP CONTROLLED <br> INTERSECTION | Northbound <br> Left Turn | Eastbound <br> Right Turn | Northbound <br> Left Turn | Eastbound <br> Right Turn |
| 1 - Center Street at Railroad <br> Avenue | N/A | B (10.7) | N/A | B (11.3) |
| SIGNALIZED INTERSECTION |  |  |  |  |
| 2 - SH 225 EB FR at Center Street | B (11.9) | B (14.5) |  |  |
| 3 - SH 225 WB FR at Center Street | B (12.6) | B (17.4) |  |  |
| 4 - SH 225 EB FR at Robin Street | B (12.8) | D (50.3) |  |  |
| 5 - SH 225 WB FR at Robin Street | B (14.7) | B (19.2) |  |  |

When compared to existing AM and PM LOS and delay, Alternative 1's AM LOS remain the same at LOS B, with minor changes to the delay. In the PM peak hour, all intersections but intersection 4, remain the same LOS B. Intersection 4 LOS changed from LOS B (existing) to D (Alternative 1). This is due to the over capacity of the shared left turn and through movement.

Alternative 1 will also impact the existing school bus routes, which travel north on Center Street and turn left onto Railroad Avenue, during the non-peak hours.

## Alternative 2: Convert Railroad Avenue into a one-way street (westbound)

Alternative 2 proposed to convert Railroad Avenue into a one-way street, westbound only, starting at the intersection of Robin Street and Railroad Avenue and ending at Center Street. The existing Railroad Avenue eastbound right turn traffic onto Center Street will be rerouted through intersection 5, where vehicles will turn left onto Robin Street, then right onto SH 225 Eastbound Frontage Road, and then right onto Center Street at intersection 2. The rerouted traffic was analyzed in Synchro and the results are summarized below in Table 5.

Table 5: Alternative 2: LOS and Delay (seconds/vehicle)*

|  | AM PEAK HOUR |  | PM PEAK HOUR |  |
| :--- | :---: | :---: | :---: | :---: |
| STOP CONTROLLED <br> INTERSECTION | Northbound <br> Left Turn | Eastbound <br> Right Turn | Northbound <br> Left Turn | Eastbound <br> Right Turn |
| 1 - Center Street at Railroad <br> Avenue | A (3.1) | N/A | A (2.7) | N/A |
| SIGNALIZED INTERSECTION |  |  |  |  |
| 2 - SH 225 EB FR at Center Street | B (11.4) |  | B (15.5) |  |
| 3 - SH 225 WB FR at Center Street | B (12.7) | B (17.6) |  |  |
| 4 - SH 225 EB FR at Robin Street | B (11.1) | B (12.9) |  |  |
| 5 - SH 225 WB FR at Robin Street | B (15.3) | B (18.9) |  |  |

When compared to the existing AM and PM LOS and delay, Alternative 2's LOS remain the same at LOS B, with minor changes to the delay. Intersection 4, the AM and PM overall intersection delay improved with the rerouted vehicles. This is because the existing northbound right turn has very low delay, and the rerouted vehicles actually make a right turn on red. In Synchro, the overall intersection delay is a weighted average of all movements at the intersection. Therefore, increasing the volume to a movement with low delay does increase the weight for that movement and result in a decreased overall intersection delay.

## Alternative 3: Add a right-turn only diverter on Railroad Avenue at Center Street

Alternative 3 proposed a right-turn diverter, similar to the example shown in Figure 1. The diverter is proposed to be positioned at the approach to an intersection that orients vehicles to making a right-turn movement only. Also, with Alternative 3, it is proposed to replace the existing "No Left" (R3-2) turn signs with "Right Turn Only" (R3-5R) signs. Alternative 3 will not alter the existing traffic flow, therefore the existing LOS and delay shown in Table 3 apply.


Source: https://www.phoenix.gov/streetssite/Documents/d_039263.pdf
Figure 1: Right Turn Diverter

## Alternative 4: Add a non-traversable directional median on Center Street

Alternative 4 proposed adding a directional non-traversable median, with a left turn bay, for the northbound left turn movement on Center Street. See example shown in Figure 2. Alternative 4 will not alter the existing traffic flow, therefore the existing LOS and delay shown in Table 3 apply. This separator would prevent the eastbound left turn movement from Railroad Avenue, where the access becomes right-in/right-out only with just two conflict points.

This Alternative will require additional pavement on Center Street. The pavement would need to widen to 66 -feet, from its existing 64 -feet, with five11-foot lanes (two southbound and three northbound) and 11-foot median/left turn lane.


Figure 2: Left-Turn Ingress from One Direction
Source: http://onlinemanuals.txdot.gov/txdotmanuals/rdw/urban_streets.htm

## VI. CONCLUSION AND RECOMMENDATIONS

The four alternatives presented above would help to eliminate the illegal eastbound left turn movement from Railroad Avenue onto Center Street. Alterative 1 proposed the closing of the median on Center Street, which will eliminate northbound access from Center Street to Railroad Avenue. This alternative will provide the most permanent solution to the illegal left turn, it will alter the traffic flow for a period of time until drivers adapt to the closure and find alternative routes. The traffic operation analysis in Synchro shows this alternative will have the same LOS as the existing for most of the intersections, except for the SH 225 Eastbound Frontage Road at Robin Street intersection, where the LOS is reduced from a B to D.

Alternative 2 proposed converting Railroad Avenue from a two-way to a one-way (westbound) roadway. This alternative will reroute all existing eastbound movement on Railroad Avenue to the intersection of Railroad Avenue and Robin Street and SH 225 Eastbound Frontage Road. Similarly to Alternative 1, it will alter the traffic flow for a period of time until drivers adapt to the closure and find alternative routes. The traffic operation analysis in Synchro shows this alternative will have the same LOS as the existing condition.

Alternative 3 proposed adding a right-turn diverter on Railroad Avenue to force all vehicles to make a right turn. This alternative will replace the existing no left turn signs with right turn only signs. This alternative will not alter the existing traffic flow.

Alternative 4 proposed a directional median with a left turn lane on Center Street to manage the illegal left turn movements on Railroad Avenue. This alternative will not alter the existing traffic flow, but will require additional pavement.

In summary, Alternative 3 is recommended, as it provides an immediate viable solution with minimum cost and no impact to existing traffic flow. Alternative 4 could supplement Alternative 3 at a later date with appropriate funding.

In addition to the recommended Alternatives listed above, the City should consider installing large streetscapes, such as bollards, in the median on Center Street within the study area. The large streetscapes will further prevent large vehicles from jumping the curb to make the illegal left turn.

Appendix A:
Exhibit 1 through Exhibit 3




Appendix B:
Intersection Photographs


Image 1: Looking north on Center Street*


Image 2: Looking south on Center Street*
*Source - GoogleMap, Image Capture: February 2017.


Image 3: Looking east on Railroad Avenue*


Image 4: Looking west on Railroad Avenue*
*Source - GoogleMap, Image Capture: February 2017.

## Appendix C: Traffic Volumes

## 은앙 <br> Midtown <br> 5215 Sycamore Ave

Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 1 - Center St at Railroad St Site Code: 1
Start Date: 04/20/2017
Page No: 1

| Start Time | Center St Southbound |  |  |  |  | Turning Movement Data |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Left | Thru | Center St <br> Northbound <br> U-Turn | Peds | App. Total | Left | Right | Railroad St <br> Eastbound U-Turn | Peds | App. Total | Int. Total |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Thru | Right | U-Turn | Peds | App. Total |  |  |  |  |  |  |  |  |  |  |  |
| 6:00 AM | 48 | 7 | 0 | 0 | 55 | 10 | 201 | 0 | 0 | 211 | 0 | 16 | 0 | 0 | 16 | 282 |
| 6:15 AM | 47 | 16 | 0 | 0 | 63 | 11 | 186 | 0 | 0 | 197 | 0 | 24 | 0 | 0 | 24 | 284 |
| 6:30 AM | 78 | 22 | 0 | 0 | 100 | 15 | 197 | 0 | 0 | 212 | 0 | 31 | 0 | 0 | 31 | 343 |
| 6:45 AM | 86 | 29 | 0 | 0 | 115 | 10 | 180 | 0 | 0 | 190 | 0 | 32 | 0 | 0 | 32 | 337 |
| Hourly Total | 259 | 74 | 0 | 0 | 333 | 46 | 764 | 0 | 0 | 810 | 0 | 103 | 0 | 0 | 103 | 1246 |
| 7:00 AM | 94 | 23 | 0 | 0 | 117 | 16 | 166 | 0 | 0 | 182 | 0 | 20 | 0 | 0 | 20 | 319 |
| 7:15 AM | 123 | 26 | 0 | 0 | 149 | 12 | 154 | 0 | 0 | 166 | 0 | 42 | 0 | 0 | 42 | 357 |
| 7:30 AM | 129 | 33 | 0 | 0 | 162 | 17 | 142 | 0 | 0 | 159 | 0 | 26 | 0 | 0 | 26 | 347 |
| 7:45 AM | 137 | 39 | 0 | 0 | 176 | 4 | 162 | 0 | 0 | 166 | 0 | 45 | 0 | 0 | 45 | 387 |
| Hourly Total | 483 | 121 | 0 | 0 | 604 | 49 | 624 | 0 | 0 | 673 | 0 | 133 | 0 | 0 | 133 | 1410 |
| *** BREAK *** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4:00 PM | 139 | 23 | 0 | 0 | 162 | 15 | 183 | 0 | 0 | 198 | 0 | 45 | 0 | 0 | 45 | 405 |
| 4:15 PM | 127 | 16 | 0 | 0 | 143 | 7 | 136 | 0 | 0 | 143 | 0 | 37 | 0 | 0 | 37 | 323 |
| 4:30 PM | 145 | 21 | 0 | 0 | 166 | 10 | 153 | 0 | 0 | 163 | 0 | 55 | 0 | 0 | 55 | 384 |
| 4:45 PM | 160 | 30 | 0 | 0 | 190 | 6 | 140 | 0 | 0 | 146 | 0 | 39 | 0 | 0 | 39 | 375 |
| Hourly Total | 571 | 90 | 0 | 0 | 661 | 38 | 612 | 0 | 0 | 650 | 0 | 176 | 0 | 0 | 176 | 1487 |
| 5:00 PM | 221 | 29 | 0 | 0 | 250 | 10 | 162 | 0 | 0 | 172 | 1 | 39 | 0 | 0 | 40 | 462 |
| 5:15 PM | 164 | 32 | 0 | 0 | 196 | 7 | 118 | 0 | 0 | 125 | 0 | 44 | 0 | 0 | 44 | 365 |
| 5:30 PM | 221 | 38 | 0 | 0 | 259 | 5 | 103 | 0 | 0 | 108 | 0 | 40 | 0 | 0 | 40 | 407 |
| 5:45 PM | 143 | 14 | 0 | 0 | 157 | 8 | 93 | 0 | 0 | 101 | 1 | 38 | 0 | 0 | 39 | 297 |
| Hourly Total | 749 | 113 | 0 | 0 | 862 | 30 | 476 | 0 | 0 | 506 | 2 | 161 | 0 | 0 | 163 | 1531 |
| Grand Total | 2062 | 398 | 0 | 0 | 2460 | 163 | 2476 | 0 | 0 | 2639 | 2 | 573 | 0 | 0 | 575 | 5674 |
| Approach \% | 83.8 | 16.2 | 0.0 | - | - | 6.2 | 93.8 | 0.0 | - | - | 0.3 | 99.7 | 0.0 | - | - | - |
| Total \% | 36.3 | 7.0 | 0.0 | - | 43.4 | 2.9 | 43.6 | 0.0 | - | 46.5 | 0.0 | 10.1 | 0.0 | - | 10.1 | - |
| All Vehicles (no classification) | 2062 | 398 | 0 | - | 2460 | 163 | 2476 | 0 | - | 2639 | 2 | 573 | 0 | - | 575 | 5674 |
| $\%$ All Vehicles (no classification) | 100.0 | 100.0 | - | - | 100.0 | 100.0 | 100.0 | - | - | 100.0 | 100.0 | 100.0 | - | - | 100.0 | 100.0 |
| Pedestrians | - | - | - | 0 | - | - | - | - | 0 | - | - | - | - | 0 | - | - |
| \% Pedestrians | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

## CJ Hen <br> Associatas

5215 Midtown
Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 1 - Center St at Railroad St Site Code: 1
Start Date: 04/20/2017
Page No: 2


Turning Movement Data Plot

## CJ Henseth <br> Midtown <br> 5215 Sycamore Ave

Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 1 - Center St at Railroad St Site Code: 1
Start Date: 04/20/2017
Page No: 3

Turning Movement Peak Hour Data (7:00 AM)

| Start Time |  |  | Center St <br> Southbound |  |  |  |  | Center St Northbound |  |  |  |  | Railroad S Eastbound |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thru | Right | U-Turn | Peds | App. Total | Left | Thru | U-Turn | Peds | App. Total | Left | Right | U-Turn | Peds | App. Total | Int. Total |
| 7:00 AM | 94 | 23 | 0 | 0 | 117 | 16 | 166 | 0 | 0 | 182 | 0 | 20 | 0 | 0 | 20 | 319 |
| 7:15 AM | 123 | 26 | 0 | 0 | 149 | 12 | 154 | 0 | 0 | 166 | 0 | 42 | 0 | 0 | 42 | 357 |
| 7:30 AM | 129 | 33 | 0 | 0 | 162 | 17 | 142 | 0 | 0 | 159 | 0 | 26 | 0 | 0 | 26 | 347 |
| 7:45 AM | 137 | 39 | 0 | 0 | 176 | 4 | 162 | 0 | 0 | 166 | 0 | 45 | 0 | 0 | 45 | 387 |
| Total | 483 | 121 | 0 | 0 | 604 | 49 | 624 | 0 | 0 | 673 | 0 | 133 | 0 | 0 | 133 | 1410 |
| Approach \% | 80.0 | 20.0 | 0.0 | - | - | 7.3 | 92.7 | 0.0 | - | - | 0.0 | 100.0 | 0.0 | - | - | - |
| Total \% | 34.3 | 8.6 | 0.0 | - | 42.8 | 3.5 | 44.3 | 0.0 | - | 47.7 | 0.0 | 9.4 | 0.0 | - | 9.4 | - |
| PHF | 0.881 | 0.776 | 0.000 | - | 0.858 | 0.721 | 0.940 | 0.000 | - | 0.924 | 0.000 | 0.739 | 0.000 | - | 0.739 | 0.911 |
| All Vehicles (no classification) | 483 | 121 | 0 | - | 604 | 49 | 624 | 0 | - | 673 | 0 | 133 | 0 | - | 133 | 1410 |
| \% All Vehicles (no classification) | 100.0 | 100.0 | - | - | 100.0 | 100.0 | 100.0 | - | - | 100.0 | - | 100.0 | - | - | 100.0 | 100.0 |
| Pedestrians | - | - | - | 0 | - | - | - | - | 0 | - | - | - | - | 0 | - | - |
| \% Pedestrians | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

Count Name: 1 - Center St at Railroad S Site Code: 1
Start Date: 04/20/2017
Page No: 4


Turning Movement Peak Hour Data Plot (7:00 AM)

## CJ Henseth <br> Midtown <br> 5215 Sycamore Ave

Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 1 - Center St at Railroad St Site Code: 1
Start Date: 04/20/2017
Page No: 5

Turning Movement Peak Hour Data (4:45 PM)


Midtown
5215 Sycamore Ave
Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 1 - Center St at Railroad S Site Code: 1
Start Date: 04/20/2017
Page No: 6


Turning Movement Peak Hour Data Plot (4:45 PM)

Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 2 - Center St at SH 225 EBFR Site Code: 2
Start Date: 04/20/2017
Page No: 1

Turning Movement Data

| Start Time | Center St Southbound |  |  |  |  |  | SH 225 EBFR Westbound |  |  |  |  |  | Center St Northbound |  |  |  |  |  | SH 225 EBFR Eastbound |  |  |  |  |  | Int. Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Left | Thru | Right | U-Turn | Peds | App. <br> Total | Left | Thru | Right | U-Turn | Peds | App. <br> Total | Left | Thru | Right | U-Turn | Peds | App. <br> Tota | Left | Thru | Right | U-Turn | Peds | App. Total |  |
| 6:00 AM | 0 | 42 | 0 | 0 | 0 | 42 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 125 | 66 | 0 | 0 | 191 | 0 | 18 | 20 | 0 | 0 | 38 | 276 |
| 6:15 AM | 0 | 47 | 0 | 0 | 0 | 47 | 0 | 0 | 0 | 6 | 0 | 6 | 0 | 133 | 68 | 0 | 0 | 201 | 1 | 32 | 18 | 0 | 0 | 51 | 305 |
| 6:30 AM | 1 | 59 | 0 | 0 | 0 | 60 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 125 | 78 | 0 | 0 | 203 | 0 | 28 | 35 | 0 | 0 | 63 | 331 |
| 6:45 AM | 0 | 73 | 0 | 0 | 0 | 73 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 122 | 59 | 0 | 0 | 181 | 0 | 26 | 36 | 0 | 0 | 62 | 320 |
| Hourly Total | 1 | 221 | 0 | 0 | 0 | 222 | 0 | 0 | 0 | 20 | 0 | 20 | 0 | 505 | 271 | 0 | 0 | 776 | 1 | 104 | 109 | 0 | 0 | 214 | 1232 |
| 7:00 AM | 1 | 73 | 0 | 0 | 0 | 74 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 110 | 45 | 0 | 0 | 155 | 0 | 17 | 42 | 1 | 0 | 60 | 294 |
| 7:15 AM | 0 | 108 | 0 | 0 | 0 | 108 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 121 | 39 | 0 | 0 | 160 | 0 | 31 | 45 | 1 | 0 | 77 | 350 |
| 7:30 AM | 2 | 101 | 0 | 0 | 0 | 103 | 0 | 0 | 0 | 7 | 0 | 7 | 0 | 95 | 53 | 0 | 0 | 148 | 0 | 27 | 60 | 0 | 0 | 87 | 345 |
| 7:45 AM | 1 | 111 | 0 | 0 | 0 | 112 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 108 | 52 | 0 | 0 | 160 | 0 | 43 | 69 | 0 | 0 | 112 | 388 |
| Hourly Total | 4 | 393 | 0 | 0 | 0 | 397 | 0 | 0 | 0 | 21 | 0 | 21 | 0 | 434 | 189 | 0 | 0 | 623 | 0 | 118 | 216 | 2 | 0 | 336 | 1377 |
| *** BREAK *** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4:00 PM | 7 | 87 | 0 | 0 | 0 | 94 | 0 | 0 | 0 | 21 | 0 | 21 | 0 | 115 | 60 | 0 | 0 | 175 | 0 | 72 | 74 | 1 | 0 | 147 | 437 |
| 4:15 PM | 8 | 80 | 0 | 0 | 0 | 88 | 0 | 0 | 0 | 40 | 0 | 40 | 0 | 97 | 58 | 0 | 0 | 155 | 0 | 42 | 53 | 1 | 0 | 96 | 379 |
| 4:30 PM | 15 | 103 | 0 | 0 | 0 | 118 | 0 | 0 | 0 | 30 | 0 | 30 | 0 | 98 | 58 | 0 | 0 | 156 | 0 | 55 | 63 | 0 | 0 | 118 | 422 |
| 4:45 PM | 9 | 130 | 0 | 0 | 0 | 139 | 0 | 0 | 0 | 25 | 0 | 25 | 0 | 79 | 53 | 0 | 0 | 132 | 1 | 56 | 55 | 0 | 0 | 112 | 408 |
| Hourly Total | 39 | 400 | 0 | 0 | 0 | 439 | 0 | 0 | 0 | 116 | 0 | 116 | 0 | 389 | 229 | 0 | 0 | 618 | 1 | 225 | 245 | 2 | 0 | 473 | 1646 |
| 5:00 PM | 13 | 169 | 0 | 0 | 0 | 182 | 0 | 0 | 0 | 36 | 0 | 36 | 0 | 79 | 73 | 0 | 0 | 152 | 0 | 72 | 91 | 2 | 0 | 165 | 535 |
| 5:15 PM | 14 | 136 | 0 | 1 | 0 | 151 | 0 | 0 | 0 | 25 | 0 | 25 | 0 | 77 | 50 | 0 | 0 | 127 | 0 | 47 | 61 | 0 | 0 | 108 | 411 |
| 5:30 PM | 5 | 188 | 0 | 0 | 0 | 193 | 0 | 0 | 0 | 20 | 0 | 20 | 0 | 62 | 52 | 0 | 0 | 114 | 0 | 55 | 68 | 0 | 0 | 123 | 450 |
| 5:45 PM | 11 | 119 | 0 | 0 | 0 | 130 | 0 | 0 | 0 | 12 | 0 | 12 | 0 | 68 | 45 | 0 | 0 | 113 | 0 | 26 | 67 | 0 | 0 | 93 | 348 |
| Hourly Total | 43 | 612 | 0 | 1 | 0 | 656 | 0 | 0 | 0 | 93 | 0 | 93 | 0 | 286 | 220 | 0 | 0 | 506 | 0 | 200 | 287 | 2 | 0 | 489 | 1744 |
| Grand Total | 87 | 1626 | 0 | 1 | 0 | 1714 | 0 | 0 | 0 | 250 | 0 | 250 | 0 | 1614 | 909 | 0 | 0 | 2523 | 2 | 647 | 857 | 6 | 0 | 1512 | 5999 |
| Approach \% | 5.1 | 94.9 | 0.0 | 0.1 |  | - | 0.0 | 0.0 | 0.0 | 100.0 | - | - | 0.0 | 64.0 | 36.0 | 0.0 | - | - | 0.1 | 42.8 | 56.7 | 0.4 | - | - | - |
| Total \% | 1.5 | 27.1 | 0.0 | 0.0 | - | 28.6 | 0.0 | 0.0 | 0.0 | 4.2 | - | 4.2 | 0.0 | 26.9 | 15.2 | 0.0 | - | 42.1 | 0.0 | 10.8 | 14.3 | 0.1 | - | 25.2 | - |
| All Vehicles (no classification) | 87 | 1626 | 0 | 1 | - | 1714 | 0 | 0 | 0 | 250 | - | 250 | 0 | 1614 | 909 | 0 | - | 2523 | 2 | 647 | 857 | 6 | - | 1512 | 5999 |
| $\begin{gathered} \text { \% All Vehicles (no } \\ \text { classification) } \\ \hline \end{gathered}$ | 100.0 | 100.0 | - | 100.0 | - | 100.0 | - | - | - | 100.0 | - | 100.0 | - | 100.0 | 100.0 | - | - | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | - | 100.0 | 100.0 |
| Pedestrians | - | $-$ | $-$ | - | 0 | $-$ | - | $-$ | $-$ | - | 0 | $-$ | $-$ | - | $-$ | $-$ | 0 | - | - | - | $-$ | - | 0 | - | - |
| \% Pedestrians | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

## CJ Hen

Midtown
5215 Midtown
Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Turning Movement Data Plot


Count Name: 2 - Center St at SH 225 EBFR Site Code: 2
Start Date: 04/20/2017
Page No: 2

## CJ Henseth <br> Midtown <br> 5215 Sycamore Ave

Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 2 - Center St at SH 225 EBFR Site Code: 2
Start Date: 04/20/2017
Page No: 3

| Start Time | Center St Southbound |  |  |  |  |  | Turning Movement Peak Hour Data (7:00 AM) |  |  |  |  |  |  |  |  |  |  |  | SH 225 EBFR Eastbound |  |  |  |  |  | Int. Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \end{aligned}$ | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \end{aligned}$ | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \end{aligned}$ | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \end{aligned}$ |  |
| 7:00 AM | 1 | 73 | 0 | 0 | 0 | 74 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 110 | 45 | 0 | 0 | 155 | 0 | 17 | 42 | 1 | 0 | 60 | 294 |
| 7:15 AM | 0 | 108 | 0 | 0 | 0 | 108 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 121 | 39 | 0 | 0 | 160 | 0 | 31 | 45 | 1 | 0 | 77 | 350 |
| 7:30 AM | 2 | 101 | 0 | 0 | 0 | 103 | 0 | 0 | 0 | 7 | 0 | 7 | 0 | 95 | 53 | 0 | 0 | 148 | 0 | 27 | 60 | 0 | 0 | 87 | 345 |
| 7:45 AM | 1 | 111 | 0 | 0 | 0 | 112 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 108 | 52 | 0 | 0 | 160 | 0 | 43 | 69 | 0 | 0 | 112 | 388 |
| Total | 4 | 393 | 0 | 0 | 0 | 397 | 0 | 0 | 0 | 21 | 0 | 21 | 0 | 434 | 189 | 0 | 0 | 623 | 0 | 118 | 216 | 2 | 0 | 336 | 1377 |
| Approach \% | 1.0 | 99.0 | 0.0 | 0.0 | - | - | 0.0 | 0.0 | 0.0 | 100.0 | - | - | 0.0 | 69.7 | 30.3 | 0.0 | - | - | 0.0 | 35.1 | 64.3 | 0.6 | - | - | - |
| Total \% | 0.3 | 28.5 | 0.0 | 0.0 | - | 28.8 | 0.0 | 0.0 | 0.0 | 1.5 | - | 1.5 | 0.0 | 31.5 | 13.7 | 0.0 | - | 45.2 | 0.0 | 8.6 | 15.7 | 0.1 | - | 24.4 | - |
| PHF | 0.500 | 0.885 | 0.000 | 0.000 | - | 0.886 | 0.000 | 0.000 | 0.000 | 0.750 | - | 0.750 | 0.000 | 0.897 | 0.892 | 0.000 | - | 0.973 | 0.000 | 0.686 | 0.783 | 0.500 | - | 0.750 | 0.887 |
| All Vehicles (no classification) | 4 | 393 | 0 | 0 | - | 397 | 0 | 0 | 0 | 21 | - | 21 | 0 | 434 | 189 | 0 | - | 623 | 0 | 118 | 216 | 2 | - | 336 | 1377 |
| \% All Vehicles (no classification) | 100.0 | 100.0 | - | - | - | 100.0 | - | - | - | 100.0 | - | 100.0 | - | 100.0 | 100.0 | - | - | 100.0 | - | 100.0 | 100.0 | 100.0 | - | 100.0 | 100.0 |
| Pedestrians | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - |
| \% Pedestrians | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

## CJ Hen

Midtown
5215 Sycamore Ave
Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com


Turning Movement Peak Hour Data Plot (7:00 AM)

## CJ Henseth <br> Midtown

5215 Sycamore Ave
Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 2 - Center St at SH 225 EBFR Site Code: 2
Start Date: 04/20/2017
Page No: 5

| Start Time | Turning Movement Peak Hour Data (4:45 PM) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Center StSouthbound |  |  |  |  |  | SH 225 EBFR |  |  |  |  |  | Center St <br> Northbound |  |  |  |  |  | SH 225 EBFR <br> Eastbound |  |  |  |  |  | Int. Total |
|  | Left | Thru | Right | U-Turn | Peds | App. <br> Total | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \end{aligned}$ | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \end{aligned}$ | Left | Thru | Right | U-Turn | Peds | App. Total |  |
| 4:45 PM | 9 | 130 | 0 | 0 | 0 | 139 | 0 | 0 | 0 | 25 | 0 | 25 | 0 | 79 | 53 | 0 | 0 | 132 | 1 | 56 | 55 | 0 | 0 | 112 | 408 |
| 5:00 PM | 13 | 169 | 0 | 0 | 0 | 182 | 0 | 0 | 0 | 36 | 0 | 36 | 0 | 79 | 73 | 0 | 0 | 152 | 0 | 72 | 91 | 2 | 0 | 165 | 535 |
| 5:15 PM | 14 | 136 | 0 | 1 | 0 | 151 | 0 | 0 | 0 | 25 | 0 | 25 | 0 | 77 | 50 | 0 | 0 | 127 | 0 | 47 | 61 | 0 | 0 | 108 | 411 |
| 5:30 PM | 5 | 188 | 0 | 0 | 0 | 193 | 0 | 0 | 0 | 20 | 0 | 20 | 0 | 62 | 52 | 0 | 0 | 114 | 0 | 55 | 68 | 0 | 0 | 123 | 450 |
| Total | 41 | 623 | 0 | 1 | 0 | 665 | 0 | 0 | 0 | 106 | 0 | 106 | 0 | 297 | 228 | 0 | 0 | 525 | 1 | 230 | 275 | 2 | 0 | 508 | 1804 |
| Approach \% | 6.2 | 93.7 | 0.0 | 0.2 | - | - | 0.0 | 0.0 | 0.0 | 100.0 | - | - | 0.0 | 56.6 | 43.4 | 0.0 | - | - | 0.2 | 45.3 | 54.1 | 0.4 | - | - | - |
| Total \% | 2.3 | 34.5 | 0.0 | 0.1 | - | 36.9 | 0.0 | 0.0 | 0.0 | 5.9 | - | 5.9 | 0.0 | 16.5 | 12.6 | 0.0 | - | 29.1 | 0.1 | 12.7 | 15.2 | 0.1 | - | 28.2 | - |
| PHF | 0.732 | 0.828 | 0.000 | 0.250 | - | 0.861 | 0.000 | 0.000 | 0.000 | 0.736 | - | 0.736 | 0.000 | 0.940 | 0.781 | 0.000 | - | 0.863 | 0.250 | 0.799 | 0.755 | 0.250 | - | 0.770 | 0.843 |
| All Vehicles (no classification) | 41 | 623 | 0 | 1 | - | 665 | 0 | 0 | 0 | 106 | - | 106 | 0 | 297 | 228 | 0 | - | 525 | 1 | 230 | 275 | 2 | - | 508 | 1804 |
| \% All Vehicles (no classification) | 100.0 | 100.0 | - | 100.0 | - | 100.0 | - | - | - | 100.0 | - | 100.0 | - | 100.0 | 100.0 | - | - | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | - | 100.0 | 100.0 |
| Pedestrians | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - |
| \% Pedestrians | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

## CJ Hens

Midtown
5215 Sycamore Ave
Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com


Turning Movement Peak Hour Data Plot (4:45 PM)

## 은앙 <br> Midtown <br> 5215 Sycamore Ave

Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 3 - Center St at SH 225 WBFR Site Code: 3
Start Date: 04/20/2017
Page No: 1

Turning Movement Data



Count Name: 3 - Center St at SH 225 WBFR Site Code: 3
Start Date: 04/20/2017
Page No: 2

## CJ Henseth <br> Midtown <br> 5215 Sycamore Ave

Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 3 - Center St at SH 225 WBFR Site Code: 3
Start Date: 04/20/2017
Page No: 3

| Start Time | Turning Movement Peak Hour Data (7:00 AM) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Center St |  |  |  |  |  | SH 225 WbFr |  |  |  |  |  | Center St |  |  |  |  |  | SH 225 WBFR |  |  |  |  |  |  |
|  | Left | Thru | Right | U-Turn | Peds | App. Total | Left | Thru | Right | U-Turn | Peds | App. <br> Total | Left | Thru | Right | u-Turn | Peds | App. Total | Left | Thru | Right | U-Turn | Peds | App. Total | Int. Total |
| 7:00 AM | 0 | 2 | 1 | 0 | 0 | 3 | 83 | 21 | 0 | 0 | 0 | 104 | 108 | 0 | 0 | 0 | 0 | 108 | 0 | 0 | 0 | 1 | 0 | 1 | 216 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 96 | 6 | 0 | 0 | 0 | 102 | 120 | 0 | 0 | 0 | 0 | 120 | 0 | 0 | 0 | 1 | 0 | 1 | 223 |
| 7:30 AM | 0 | 2 | 0 | 0 | 0 | 2 | 105 | 29 | 0 | 0 | 0 | 134 | 98 | 1 | 0 | 0 | 0 | 99 | 0 | 0 | 0 | 0 | 0 | 0 | 235 |
| 7:45 AM | 0 | 1 | 0 | 0 | 0 | 1 | 113 | 19 | 0 | 0 | 0 | 132 | 106 | 0 | 0 | 0 | 0 | 106 | 0 | 0 | 0 | 0 | 0 | 0 | 239 |
| Total | 0 | 5 | 1 | 0 | 0 | 6 | 397 | 75 | 0 | 0 | 0 | 472 | 432 | 1 | 0 | 0 | 0 | 433 | 0 | 0 | 0 | 2 | 0 | 2 | 913 |
| Approach \% | 0.0 | 83.3 | 16.7 | 0.0 | - | - | 84.1 | 15.9 | 0.0 | 0.0 | - | - | 99.8 | 0.2 | 0.0 | 0.0 | - | - | 0.0 | 0.0 | 0.0 | 100.0 | - | - | - |
| Total \% | 0.0 | 0.5 | 0.1 | 0.0 | - | 0.7 | 43.5 | 8.2 | 0.0 | 0.0 | - | 51.7 | 47.3 | 0.1 | 0.0 | 0.0 | - | 47.4 | 0.0 | 0.0 | 0.0 | 0.2 | - | 0.2 | - |
| PHF | 0.000 | 0.625 | 0.250 | 0.000 | - | 0.500 | 0.878 | 0.647 | 0.000 | 0.000 | - | 0.881 | 0.900 | 0.250 | 0.000 | 0.000 | - | 0.902 | 0.000 | 0.000 | 0.000 | 0.500 | - | 0.500 | 0.955 |
| All Vehicles (no classification) | 0 | 5 | 1 | 0 | - | 6 | 397 | 75 | 0 | 0 | - | 472 | 432 | 1 | 0 | 0 | - | 433 | 0 | 0 | 0 | 2 | - | 2 | 913 |
| \% All Vehicles (no classification) | - | 100.0 | 100.0 | - | - | 100.0 | 100.0 | 100.0 | - | - | - | 100.0 | 100.0 | 100.0 | - | - | - | 100.0 | - | - | - | 100.0 | - | 100.0 | 100.0 |
| Pedestrians | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - |
| \% Pedestrians | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

## CJ Hens

Midtown
5215 Sycamore Ave
Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com


Turning Movement Peak Hour Data Plot (7:00 AM)

## CJ Henseth <br> Midtown <br> 5215 Sycamore Ave

Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 3 - Center St at SH 225 WBFR Site Code: 3
Start Date: 04/20/2017
Page No: 5

| Start Time | Center St Southbound |  |  |  |  |  | Turning Movement Peak Hour Data (4:45 PM) |  |  |  |  |  |  |  |  |  |  |  | SH 225 WBFR Eastbound |  |  |  |  |  | Int. Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \end{aligned}$ | Left | Thru | Right | U-Turn | Peds | App. <br> Total | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { Tpp. } \\ & \text { Top. } \end{aligned}$ | Left | Thru | Right | U-Turn | Peds | App. Total |  |
| 4:45 PM | 0 | 17 | 16 | 0 | 0 | 33 | 112 | 69 | 0 | 0 | 0 | 181 | 89 | 0 | 0 | 0 | 0 | 89 | 0 | 0 | 0 | 0 | 0 | 0 | 303 |
| 5:00 PM | 0 | 30 | 37 | 0 | 0 | 67 | 145 | 79 | 0 | 0 | 0 | 224 | 82 | 0 | 0 | 0 | 0 | 82 | 0 | 0 | 0 | 2 | 0 | 2 | 375 |
| 5:15 PM | 0 | 20 | 28 | 0 | 0 | 48 | 143 | 215 | 0 | 0 | 0 | 358 | 77 | 0 | 0 | 0 | 0 | 77 | 0 | 0 | 0 | 0 | 0 | 0 | 483 |
| 5:30 PM | 0 | 20 | 43 | 0 | 0 | 63 | 170 | 154 | 0 | 0 | 0 | 324 | 62 | 0 | 0 | 0 | 0 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 449 |
| Total | 0 | 87 | 124 | 0 | 0 | 211 | 570 | 517 | 0 | 0 | 0 | 1087 | 310 | 0 | 0 | 0 | 0 | 310 | 0 | 0 | 0 | 2 | 0 | 2 | 1610 |
| Approach \% | 0.0 | 41.2 | 58.8 | 0.0 | - | - | 52.4 | 47.6 | 0.0 | 0.0 | - | - | 100.0 | 0.0 | 0.0 | 0.0 | - | - | 0.0 | 0.0 | 0.0 | 100.0 | - | - | - |
| Total \% | 0.0 | 5.4 | 7.7 | 0.0 | - | 13.1 | 35.4 | 32.1 | 0.0 | 0.0 | - | 67.5 | 19.3 | 0.0 | 0.0 | 0.0 | - | 19.3 | 0.0 | 0.0 | 0.0 | 0.1 | - | 0.1 | - |
| PHF | 0.000 | 0.725 | 0.721 | 0.000 | - | 0.787 | 0.838 | 0.601 | 0.000 | 0.000 | - | 0.759 | 0.871 | 0.000 | 0.000 | 0.000 | - | 0.871 | 0.000 | 0.000 | 0.000 | 0.250 | - | 0.250 | 0.833 |
| All Vehicles (no classification) | 0 | 87 | 124 | 0 | - | 211 | 570 | 517 | 0 | 0 | - | 1087 | 310 | 0 | 0 | 0 | - | 310 | 0 | 0 | 0 | 2 | - | 2 | 1610 |
| \% All Vehicles (no classification) | - | 100.0 | 100.0 | - | - | 100.0 | 100.0 | 100.0 | - | - | - | 100.0 | 100.0 | - | - | - | - | 100.0 | - | - | - | 100.0 | - | 100.0 | 100.0 |
| Pedestrians | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - |
| \% Pedestrians | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

## CJ Hens

Midtown
5215 Sycamore Ave
Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com


Turning Movement Peak Hour Data Plot (4:45 PM)

Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 4 - Contractor Rd at SH 225 EBFR Site Code: 4
Start Date: 04/20/2017
Page No: 1

Turning Movement Data

| Start Time | Contractor Rd Southbound |  |  |  |  |  | SH 225 EBFR Westbound |  |  |  |  |  | Contractor Rd <br> Northbound |  |  |  |  |  | SH 225 EBFR Eastbound |  |  |  |  |  | Int. Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \end{aligned}$ | Left | Thru | Right | U-Turn | Peds | App. <br> Total | Left | Thru | Right | U-Turn | Peds | App. <br> Total | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \end{aligned}$ |  |
| 6:00 AM | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 17 | 0 | 0 | 23 | 20 | 20 | 12 | 2 | 0 | 54 | 79 |
| 6:15 AM | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 27 | 0 | 0 | 31 | 33 | 26 | 11 | 5 | 0 | 75 | 109 |
| 6:30 AM | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 25 | 0 | 0 | 30 | 36 | 40 | 19 | 1 | 0 | 96 | 128 |
| 6:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 20 | 0 | 0 | 24 | 30 | 40 | 23 | 3 | 0 | 96 | 120 |
| Hourly Total | 0 | 7 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 89 | 0 | 0 | 108 | 119 | 126 | 65 | 11 | 0 | 321 | 436 |
| 7:00 AM | 0 | 5 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 15 | 0 | 0 | 20 | 34 | 41 | 11 | 2 | 0 | 88 | 113 |
| 7:15 AM | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 26 | 0 | 0 | 30 | 27 | 53 | 13 | 0 | 0 | 93 | 125 |
| 7:30 AM | 0 | 6 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 26 | 0 | 0 | 35 | 18 | 64 | 16 | 1 | 0 | 99 | 140 |
| 7:45 AM | 0 | 6 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 5 | 35 | 0 | 0 | 40 | 15 | 77 | 19 | 1 | 0 | 112 | 159 |
| Hourly Total | 0 | 19 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 23 | 102 | 0 | 0 | 125 | 94 | 235 | 59 | 4 | 0 | 392 | 537 |
| ***BREAK *** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4:00 PM | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 6 | 63 | 0 | 0 | 69 | 1 | 77 | 14 | 0 | 0 | 92 | 165 |
| 4:15 PM | 1 | 4 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 6 | 37 | 0 | 0 | 43 | 3 | 63 | 17 | 0 | 0 | 83 | 133 |
| 4:30 PM | 1 | 4 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 50 | 0 | 0 | 58 | 2 | 67 | 16 | 0 | 0 | 85 | 148 |
| 4:45 PM | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 53 | 0 | 0 | 60 | 3 | 61 | 15 | 3 | 0 | 82 | 144 |
| Hourly Total | 2 | 12 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 27 | 203 | 0 | 0 | 230 | 9 | 268 | 62 | 3 | 0 | 342 | 590 |
| 5:00 PM | 0 | 7 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 6 | 68 | 0 | 0 | 74 | 2 | 98 | 21 | 6 | 0 | 127 | 209 |
| 5:15 PM | 1 | 8 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 34 | 0 | 0 | 37 | 3 | 65 | 21 | 5 | 0 | 94 | 140 |
| 5:30 PM | 0 | 11 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 6 | 54 | 0 | 0 | 60 | 0 | 71 | 18 | 0 | 0 | 89 | 161 |
| 5:45 PM | 0 | 8 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 17 | 0 | 0 | 21 | 1 | 77 | 16 | 2 | 0 | 96 | 125 |
| Hourly Total | 1 | 34 | 0 | 0 | 0 | 35 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 19 | 173 | 0 | 0 | 192 | 6 | 311 | 76 | 13 | 0 | 406 | 635 |
| Grand Total | 3 | 72 | 0 | 0 | 0 | 75 | 0 | 0 | 0 | 7 | 0 | 7 | 0 | 88 | 567 | 0 | 0 | 655 | 228 | 940 | 262 | 31 | 0 | 1461 | 2198 |
| Approach \% | 4.0 | 96.0 | 0.0 | 0.0 | - | - | 0.0 | 0.0 | 0.0 | 100.0 | - | - | 0.0 | 13.4 | 86.6 | 0.0 | - | - | 15.6 | 64.3 | 17.9 | 2.1 | - | - | - |
| Total \% | 0.1 | 3.3 | 0.0 | 0.0 | - | 3.4 | 0.0 | 0.0 | 0.0 | 0.3 | - | 0.3 | 0.0 | 4.0 | 25.8 | 0.0 | - | 29.8 | 10.4 | 42.8 | 11.9 | 1.4 | - | 66.5 | - |
| All Vehicles (no classification) | 3 | 72 | 0 | 0 | - | 75 | 0 | 0 | 0 | 7 | - | 7 | 0 | 88 | 567 | 0 | - | 655 | 228 | 940 | 262 | 31 | - | 1461 | 2198 |
| $\begin{aligned} & \text { \% All Vehicles (no } \\ & \text { classification) } \\ & \hline \end{aligned}$ | 100.0 | 100.0 | - | - | - | 100.0 | - | - | - | 100.0 | - | 100.0 | - | 100.0 | 100.0 | - | - | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | - | 100.0 | 100.0 |
| Pedestrians | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | $-$ | 0 | - | $-$ | - | - | - | 0 | - | - |
| \% Pedestrians | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

## CJ Hen

Midtown
5215 Midtown
Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Turning Movement Data Plot


Count Name: 4 - Contractor Rd at SH 225 EBFR Site Code: 4
Start Date: 04/20/2017
Page No: 2

## CJ Henseq4 <br> Midtown

5215 Sycamore Ave
Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 4 - Contractor Rd at SH 225 EBFR Site Code: 4
Start Date: 04/20/2017
Page No: 3

| Start Time | Contractor Rd Southbound |  |  |  |  |  | Turning Movement Peak Hour Data (7:00 AM) |  |  |  |  |  |  |  |  |  |  |  | SH 225 EBFR Eastbound |  |  |  |  |  | Int. Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \\ & \hline \end{aligned}$ | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \end{aligned}$ | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \end{aligned}$ | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \\ & \hline \end{aligned}$ |  |
| 7:00 AM | 0 | 5 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 15 | 0 | 0 | 20 | 34 | 41 | 11 | 2 | 0 | 88 | 113 |
| 7:15 AM | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 26 | 0 | 0 | 30 | 27 | 53 | 13 | 0 | 0 | 93 | 125 |
| 7:30 AM | 0 | 6 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 26 | 0 | 0 | 35 | 18 | 64 | 16 | 1 | 0 | 99 | 140 |
| 7:45 AM | 0 | 6 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 5 | 35 | 0 | 0 | 40 | 15 | 77 | 19 | 1 | 0 | 112 | 159 |
| Total | 0 | 19 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 23 | 102 | 0 | 0 | 125 | 94 | 235 | 59 | 4 | 0 | 392 | 537 |
| Approach \% | 0.0 | 100.0 | 0.0 | 0.0 | - | - | 0.0 | 0.0 | 0.0 | 100.0 | - | - | 0.0 | 18.4 | 81.6 | 0.0 | - | - | 24.0 | 59.9 | 15.1 | 1.0 | - | - | - |
| Total \% | 0.0 | 3.5 | 0.0 | 0.0 | - | 3.5 | 0.0 | 0.0 | 0.0 | 0.2 | - | 0.2 | 0.0 | 4.3 | 19.0 | 0.0 | - | 23.3 | 17.5 | 43.8 | 11.0 | 0.7 | - | 73.0 | - |
| PHF | 0.000 | 0.792 | 0.000 | 0.000 | - | 0.792 | 0.000 | 0.000 | 0.000 | 0.250 | - | 0.250 | 0.000 | 0.639 | 0.729 | 0.000 | - | 0.781 | 0.691 | 0.763 | 0.776 | 0.500 | - | 0.875 | 0.844 |
| All Vehicles (no classification) | 0 | 19 | 0 | 0 | - | 19 | 0 | 0 | 0 | 1 | - | 1 | 0 | 23 | 102 | 0 | - | 125 | 94 | 235 | 59 | 4 | - | 392 | 537 |
| \% All Vehicles (no classification) | - | 100.0 | - | - | - | 100.0 | - | - | - | 100.0 | - | 100.0 | - | 100.0 | 100.0 | - | - | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | - | 100.0 | 100.0 |
| Pedestrians | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - |
| \% Pedestrians | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

## CJ Hens

Midtown
5215 Sycamore Ave
Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com


Turning Movement Peak Hour Data Plot (7:00 AM)

## CJ Henseq4 <br> Midtown

5215 Sycamore Ave
Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 4 - Contractor Rd at SH 225 EBFR Site Code: 4
Start Date: 04/20/2017
Page No: 5

| Start Time | Contractor Rd Southbound |  |  |  |  |  | Turning Movement Peak Hour Data (4:45 PM) |  |  |  |  |  |  |  |  |  |  |  | SH 225 EBFR Eastbound |  |  |  |  |  | Int. Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Left | Thru | Right | U-Turn | Peds | App. Total | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \end{aligned}$ | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \end{aligned}$ | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \end{aligned}$ |  |
| 4:45 PM | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 53 | 0 | 0 | 60 | 3 | 61 | 15 | 3 | 0 | 82 | 144 |
| 5:00 PM | 0 | 7 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 6 | 68 | 0 | 0 | 74 | 2 | 98 | 21 | 6 | 0 | 127 | 209 |
| 5:15 PM | 1 | 8 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 34 | 0 | 0 | 37 | 3 | 65 | 21 | 5 | 0 | 94 | 140 |
| 5:30 PM | 0 | 11 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 6 | 54 | 0 | 0 | 60 | 0 | 71 | 18 | 0 | 0 | 89 | 161 |
| Total | 1 | 28 | 0 | 0 | 0 | 29 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 22 | 209 | 0 | 0 | 231 | 8 | 295 | 75 | 14 | 0 | 392 | 654 |
| Approach \% | 3.4 | 96.6 | 0.0 | 0.0 | - | - | 0.0 | 0.0 | 0.0 | 100.0 | - | - | 0.0 | 9.5 | 90.5 | 0.0 | - | - | 2.0 | 75.3 | 19.1 | 3.6 | - | - | - |
| Total \% | 0.2 | 4.3 | 0.0 | 0.0 | - | 4.4 | 0.0 | 0.0 | 0.0 | 0.3 | - | 0.3 | 0.0 | 3.4 | 32.0 | 0.0 | - | 35.3 | 1.2 | 45.1 | 11.5 | 2.1 | - | 59.9 | - |
| PHF | 0.250 | 0.636 | 0.000 | 0.000 | - | 0.659 | 0.000 | 0.000 | 0.000 | 0.500 | - | 0.500 | 0.000 | 0.786 | 0.768 | 0.000 | - | 0.780 | 0.667 | 0.753 | 0.893 | 0.583 | - | 0.772 | 0.782 |
| All Vehicles (no classification) | 1 | 28 | 0 | 0 | - | 29 | 0 | 0 | 0 | 2 | - | 2 | 0 | 22 | 209 | 0 | - | 231 | 8 | 295 | 75 | 14 | - | 392 | 654 |
| \% All Vehicles (no classification) | 100.0 | 100.0 | - | - | - | 100.0 | - | - | - | 100.0 | - | 100.0 | - | 100.0 | 100.0 | - | - | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | - | 100.0 | 100.0 |
| Pedestrians | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - |
| \% Pedestrians | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

## CJ Hens

Midtown
5215 Sycamore Ave
Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com


Turning Movement Peak Hour Data Plot (4:45 PM)

## CJ Hensetir <br> Midtown <br> 5215 Sycamore Ave

Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 5 - Contractor Rd at SH 225 WBFR
Site Code: 5
Start Date: 04/20/2017
Page No: 1

Turning Movement Data


## Associa

Midtown
5215 Sycamore Ave
Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

WBFR
Site Code: 5
Start Date: 04/20/2017
Page No: 2


Turning Movement Data Plot

## CJ Henseq4 <br> Midtown <br> 5215 Sycamore Ave

Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 5 - Contractor Rd at SH 225 WBFR
Site Code: 5
Start Date: 04/20/2017
Page No: 3

| Start Time | Contractor Rd Southbound |  |  |  |  |  | SH 225 WBFR <br> Westbound |  |  |  |  |  | Contractor Rd Northbound |  |  |  |  |  | SH 225 WBFR Eastbound |  |  |  |  |  | Int. Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \end{aligned}$ | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \end{aligned}$ | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \\ & \hline \end{aligned}$ | Left | Thru | Right | U-Turn | Peds | $\begin{aligned} & \text { App. } \\ & \text { Total } \end{aligned}$ |  |
| 6:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 132 | 20 | 0 | 0 | 154 | 6 | 21 | 0 | 0 | 0 | 27 | 0 | 0 | 0 | 2 | 0 | 2 | 183 |
| 6:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 137 | 15 | 0 | 0 | 155 | 6 | 33 | 0 | 0 | 0 | 39 | 0 | 0 | 0 | 5 | 0 | 5 | 199 |
| 6:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 130 | 11 | 0 | 0 | 142 | 4 | 38 | 0 | 0 | 0 | 42 | 0 | 0 | 0 | 1 | 0 | 1 | 185 |
| 6:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 119 | 16 | 0 | 0 | 139 | 2 | 31 | 0 | 0 | 0 | 33 | 0 | 0 | 0 | 3 | 0 | 3 | 175 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 518 | 62 | 0 | 0 | 590 | 18 | 123 | 0 | 0 | 0 | 141 | 0 | 0 | 0 | 11 | 0 | 11 | 742 |
| Approach \% | NaN | NaN | NaN | NaN | - | - | 1.7 | 87.8 | 10.5 | 0.0 | - | - | 12.8 | 87.2 | 0.0 | 0.0 | - | - | 0.0 | 0.0 | 0.0 | 100.0 | - | - | - |
| Total \% | 0.0 | 0.0 | 0.0 | 0.0 | - | 0.0 | 1.3 | 69.8 | 8.4 | 0.0 | - | 79.5 | 2.4 | 16.6 | 0.0 | 0.0 | - | 19.0 | 0.0 | 0.0 | 0.0 | 1.5 | - | 1.5 | - |
| PHF | 0.000 | 0.000 | 0.000 | 0.000 | - | 0.000 | 0.625 | 0.945 | 0.775 | 0.000 | - | 0.952 | 0.750 | 0.809 | 0.000 | 0.000 | - | 0.839 | 0.000 | 0.000 | 0.000 | 0.550 | - | 0.550 | 0.932 |
| All Vehicles (no classification) | 0 | 0 | 0 | 0 | - | 0 | 10 | 518 | 62 | 0 | - | 590 | 18 | 123 | 0 | 0 | - | 141 | 0 | 0 | 0 | 11 | - | 11 | 742 |
| \% All Vehicles (no classification) | - | - | - | - | - | - | 100.0 | 100.0 | 100.0 | - | - | 100.0 | 100.0 | 100.0 | - | - | - | 100.0 | - | - | - | 100.0 | - | 100.0 | 100.0 |
| Pedestrians | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - |
| \% Pedestrians | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

## CJ Hens <br> Associatase

5215 Midtown
Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 5 - Contractor Rd at SH 225 WBFR
Site Code: 5
Start Date: 04/20/2017
Page No: 4


Turning Movement Peak Hour Data Plot (6:00 AM)

## CJ Henseq4 <br> Midtown <br> 5215 Sycamore Ave

Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 5 - Contractor Rd at SH 225 WBFR
Site Code: 5
Start Date: 04/20/2017
Page No: 5


## CJ Hens <br> Associatase

5215 Midtown
Pasadena, Texas, United States 77503 555 SSet@midtownengineers.com

Count Name: 5 - Contractor Rd at SH 225 WBFR
Site Code: 5
Start Date: 04/20/2017
Page No: 6


Turning Movement Peak Hour Data Plot (5:00 PM)

Appendix D:
Deer Park Independent School District Bus Route List

| District Streets | Block | Zone | City | Zip | Elem | Elem Bus | JH | JH Bus | North | NC Bus | South | SC Bus | Biling Elem. | $\begin{gathered} \hline \text { Biling } \\ \text { JH } \\ \hline \end{gathered}$ | DAEP | $\begin{array}{\|c\|} \hline \text { SJE } \\ \text { DL Bus } \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Preston Rd (residential) | 131-730 | AA | Pas | 77503 | PWE/DWE | 25/PWE 8/DWE | DWJH | 41 | NC | 41 | SC | 30 | 25/PWE 8/DWE | 97 | 73 | 48 |
| Preston Rd/Trailer Park | 128-130 | AA | Pas | 77503 | PWE/DWE | 25/PWE 8/DWE | DWJH | 41 | NC | 41 | SC | 55 | 25/PWE 8/DWE | 97 | 73 | 48 |
| Preston Rd/Vista Del Sol | 701 | AA | Pas | 77503 | PWE/DWE | 25(-K-1) 54(2-3) 8(4-5) | DWJH | 0 | NC | 69 | SC | 96 | $\begin{gathered} \hline 25(-\mathrm{K}-1) \\ 54(2-3) \\ 8(4-5) \\ \hline \end{gathered}$ | 0 | 73 | 48 |
| Prine Ln | 3901-4002 | DL | DP | 77536 | DE | 96 | BJH | 15 | NC | 23 | SC | 10 | 6 | 55 | 25 | 66 |
| Rafam Dr | No Addresses | FD | Pas | 77505 | FE | 95 | FJH | 95 | NC | 66 | SC | 95 | 56 | 55 | 38a/86p | 49 |
| Rainbow Bend Dr | 7603-7715 | FI | Pas | 77505 | DE | 18 | FJH | 52 | NC | 31 | SC | 49 | 56 | 55 | 38a/86p | 49 |
| Rainfall Dr | 4202-4239 | FI | Pas | 77505 | DE | 18 | FJH | 52 | NC | 31 | SC | 49 | 56 | 55 | 38a/86p | 49 |
| Rainforest Trail Dr | 7300-7842 | FI | Pas | 77505 | DE | 18 | FJH | 18 | NC | 31 | SC | 49 | 56 | 55 | 38a/86p | 49 |
| Raintree Ct | 4302-4323 | FI | Pas | 77505 | DE | 18 | FJH | 18 | NC | 31 | SC | 49 | 56 | 55 | 38a/86p | 49 |
| Ranier Dr | 1502-1718 | DI | DP | 77536 | DPE | 0 | DPJH | 96 | NC | 8 | SC | 10 | 6 | 97 | 25 | 66 |
| Ravena Cr | 3701-3725 | FD | Pas | 77505 | FE | 95 | FJH | 95 | NC | 75 | SC | 29 | 56 | 55 | 38a/86p | 49 |
| Ray Dr | 6302-6631 | FD | Pas | 77505 | FE | 95 | FJH | 95 | NC | 66 | SC | 95 | 56 | 55 | 38a/86p | 49 |
| Reata Dr, East | 2202-2318 | DE | DP | 77536 | DPE | 0 | DPJH | 96 | NC | 8 | SC | 0 | 6 | 97 | 25 | 66 |
| Reata Dr, East | 2709-2906 | DI | DP | 77536 | DPE | 0 | DPJH | 96 | NC | 8 | SC | 10 | 6 | 97 | 25 | 66 |
| Reata Dr, West | 2201-2318 | DE | DP | 77536 | DPE | 0 | DPJH | 96 | NC | 8 | SC | 0 | 75 | 97 | 25 | 66 |
| Red Bluff Rd | 4100-5140 | El | Pas | 77503 | PWE/DWE | 56 | DWJH | 76 | NC | 24 | SC | 76 | 56 | 76 | 41 | 66 |
| Red Bluff Rd | 5202 | EI | Pas | 77503 | PWE/DWE | 45/PWE <br> 41/DWE | DWJH | 76 | NC | 24 | SC | 76 | $\begin{aligned} & \hline \text { 45/PWE } \\ & \text { 41/DWE } \end{aligned}$ | 76 | 38a/86p | 66 |
| Red Bluff Rd (Palace Inn) | 5321 | EJ | Pas | 77503 | DE | 12 | FJH | 49 | NC | 70 | SC | 6 | $\begin{aligned} & \hline \text { 76/PWE } \\ & \text { 39/DWE } \end{aligned}$ | 55 | 38a/86p | 49 |
| Red Bluff Rd / Cedar <br> Bluff Apts. | 5930 | FB | Pas | 77505 | DE | 69 | FJH | 69 | NC | 46 | SC | 6 | 56 | 55 | 38a/86p | 49 |
| Red Bluff Rd <br> on Red Bluff) (houses | 5742-5826 | FB | Pas | 77505 | DE | 69 | FJH | 69 | NC | 46 | SC | 6 | 56 | 55 | 38a/86p | 49 |
| Red Coral Dr | 6801-7143 | FE | Pas | 77505 | FE | 0 | FJH | 0 | NC | 75 | SC | 29 | 56 | 55 | 38a/86p | 49 |
| Redwood Falls Dr | 6701-7132 | FE | Pas | 77505 | FE | 0 | FJH | 0 | NC | 75 | SC | 29 | 56 | 55 | 38a/86p | 49 |
| Regency Dr | 201-4033 | EA | DP | 77536 | DE | 0 | BJH | 15 | NC | 18 | SC | 10 | 59 | 55 | 25 | 66 |
| Rena Jane Ln | 3701-3840 | AB | Pas | 77503 | PWE/DWE | 0 | DWJH | 0 | NC | 50 | SC | 15 | 0 | 0 | 73 | 48 |
| Reta Dr | 301-435 | BF | DP | 77536 | SJE | 0 | DPJH | 0 | NC | 0 | SC | 0 | 75 | 97 | 0 | 0 |
| Rhodes | 3801-3934 | FD | Pas | 77505 | FE | 95 | FJH | 95 | NC | 66 | SC | 95 | 56 | 55 | 38a/86p | 49 |
| River Oaks Dr | 3801-3934 | FD | Pas | 77505 | FE | 95 | FJH | 95 | NC | 66 | SC | 95 | 56 | 55 | 38a/86p | 49 |
| River Park Ln | No Addresses | FI | Pas | 77505 | DE | 18 | FJH | 52 | NC | 45 | SC | 49 | 56 | 55 | 38a/86p | 49 |
| River Ranch Dr | 4201-4320 | FE | Pas | 77505 | FE | 0 | FJH | 0 | NC | 75 | SC | 29 | 56 | 55 | 38a/86p | 66 |
| Robin St | 201-334 | BA | DP | 77536 | SJE | 15 | DPJH | 0 | NC | 0 | SC | 54 | 75 | 97 | 0 | 15 |
| Rockfield Dr | 6501-6635 | FE | Pas | 77505 | FE | 0 | FJH | 0 | NC | 75 | SC | 29 | 56 | 55 | 38a/86p | 49 |
| Roosevelt Dr | 1401-1534 | DH | DP | 77536 | DPE | 0 | DPJH | 96 | NC | 8 | SC | 0 | 6 | 97 | 25 | 10 |
| Royal Dornoch | 4701-4822 | FF | Pas | 77505 | FE | 0 | FJH | 0 | NC | 45 | SC | 52 | 56 | 55 | 38a/86p | 49 |

## Appendix E: SYNCHRO Analysis Report

|  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |


|  | 4 | $\rightarrow$ |  | $\downarrow$ |  |  |  | $\dagger$ |  | ＊ | $\downarrow$ | $\downarrow$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | $\emptyset 8$ |
| Lane Configurations | ${ }^{1}$ | งt |  |  |  |  |  | 个个 | 「 | ${ }^{7}$ | 个个 |  |  |
| Traffic Volume（vph） | 0 | 118 | 216 | 0 | 0 | 0 | 0 | 434 | 189 | 4 | 393 | 0 |  |
| Future Volume（vph） | 0 | 118 | 216 | 0 | 0 | 0 | 0 | 434 | 189 | 4 | 393 | 0 |  |
| Satd．Flow（prot） | 1695 | 3061 | 0 | 0 | 0 | 0 | 0 | 3539 | 1583 | 1770 | 3539 | 0 |  |
| Flt Permitted |  |  |  |  |  |  |  |  |  | 0.950 |  |  |  |
| Satd．Flow（perm） | 1695 | 3061 | 0 | 0 | 0 | 0 | 0 | 3539 | 1583 | 1770 | 3539 | 0 |  |
| Satd．Flow（RTOR） |  | 235 |  |  |  |  |  |  | 205 |  |  |  |  |
| Lane Group Flow（vph） | 0 | 363 | 0 | 0 | 0 | 0 | 0 | 472 | 205 | 4 | 427 | 0 |  |
| Turn Type | Perm | NA |  |  |  |  |  | NA | Perm | Prot | NA |  |  |
| Protected Phases |  | 4 |  |  |  |  |  | 2 |  | 1 | 6 |  | 8 |
| Permitted Phases | 4 |  |  |  |  |  |  |  | 2 |  |  |  |  |
| Total Split（s） | 22.5 | 22.5 |  |  |  |  |  | 23.0 | 23.0 | 9.5 | 32.5 |  | 22.5 |
| Total Lost Time（s） | 4.5 | 4.5 |  |  |  |  |  | 4.5 | 4.5 | 4.5 | 4.5 |  |  |
| Act Effct Green（s） |  | 12.8 |  |  |  |  |  | 31.3 | 31.3 | 5.5 | 33.2 |  |  |
| Actuated g／C Ratio |  | 0.23 |  |  |  |  |  | 0.57 | 0.57 | 0.10 | 0.60 |  |  |
| $\mathrm{V} / \mathrm{C}$ Ratio |  | 0.41 |  |  |  |  |  | 0.23 | 0.21 | 0.02 | 0.20 |  |  |
| Control Delay |  | 17.3 |  |  |  |  |  | 8.1 | 2.8 | 14.0 | 15.2 |  |  |
| Queue Delay |  | 0.0 |  |  |  |  |  | 0.0 | 0.0 | 0.0 | 0.8 |  |  |
| Total Delay |  | 17.3 |  |  |  |  |  | 8.1 | 2.8 | 14.0 | 16.0 |  |  |
| LOS |  | B |  |  |  |  |  | A | A | B | B |  |  |
| Approach Delay |  | 17.3 |  |  |  |  |  | 6.5 |  |  | 16.0 |  |  |
| Approach LOS |  | B |  |  |  |  |  | A |  |  | B |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Cycle Length： 55 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Actuated Cycle Length： 55 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Offset： 0 （0\％），Referenced to phase 2：NBT and 6：SBT，Start of Green |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Control Type：Actuated－Coordinated |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Maximum v／c Ratio： 0.58 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Intersection Signal Delay： 12.0 |  |  |  |  | Intersection LOS：B |  |  |  |  |  |  |  |  |
| Intersection Capacity Utilization 45．5\％Analysis Period（min） 15 |  |  |  |  | ICU Level of Service A |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |






Splits and Phases: 5: Robin Street \& SH225 FR EB




|  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |



Splits and Phases: 3: Center Street \& SH225 FR EB





Splits and Phases: 5: Robin Street \& SH225 FR EB




|  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |







Splits and Phases: 4: Robin Street \& SH225 FR EB



Splits and Phases: 5: Robin Street \& SH225 FR WB


|  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |



Splits and Phases: 3: Center Street \& SH225 FR EB




|  | $\stackrel{ }{*}$ |  |  | $t$ |  |  |  | $\dagger$ |  |  | $\downarrow$ | $\downarrow$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | $\varnothing 5$ | $\emptyset 8$ |
| Lane Configurations | \% | * $\hat{+}$ |  |  |  |  |  | $\hat{F}$ |  | ${ }_{1}$ | $\uparrow$ |  |  |  |
| Traffic Volume (vph) | , | 295 | 75 | 0 | 0 | 0 | 0 | 22 | 209 | 1 | 56 | 0 |  |  |
| Future Volume (vph) | 8 | 295 | 75 | 0 | 0 | 0 | 0 | 22 | 209 | 1 | 56 | 0 |  |  |
| Satd. Flow (prot) | 1610 | 3288 | 0 | 0 | 0 | 0 | 0 | 1635 | 0 | 1681 | 1770 | 0 |  |  |
| Flt Permitted | 0.950 |  |  |  |  |  |  |  |  | 0.950 |  |  |  |  |
| Satd. Flow (perm) | 1610 | 3288 | 0 | 0 | 0 | 0 | 0 | 1635 | 0 | 1681 | 1770 | 0 |  |  |
| Satd. Flow (RTOR) |  | 57 |  |  |  |  |  | 227 |  |  |  |  |  |  |
| Lane Group Flow (vph) | 8 | 404 | 0 | 0 | 0 | 0 | 0 | 251 | 0 | 1 | 61 | 0 |  |  |
| Turn Type | Perm | NA |  |  |  |  |  | NA |  | Prot | NA |  |  |  |
| Protected Phases |  | 4 |  |  |  |  |  | 2 |  | 1 | 6 |  | 5 |  |
| Permitted Phases | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total Split (s) | 22.5 | 22.5 |  |  |  |  |  | 23.0 |  | 9.5 | 23.0 |  | 9.5 | 22.5 |
| Total Lost Time (s) | 4.5 | 4.5 |  |  |  |  |  | 4.5 |  | 4.5 | 4.5 |  |  |  |
| Act Effct Green (s) | 16.9 | 16.9 |  |  |  |  |  | 27.2 |  | 5.2 | 1.0 |  |  |  |
| Actuated g/C Ratio | 0.31 | 0.31 |  |  |  |  |  | 0.49 |  | 0.09 | 0.02 |  |  |  |
| v/c Ratio | 0.02 | 0.38 |  |  |  |  |  | 0.27 |  | 0.01 | 1.91 |  |  |  |
| Control Delay | 12.7 | 13.6 |  |  |  |  |  | 3.5 |  | 13.0 | 491.8 |  |  |  |
| Queue Delay | 0.0 | 0.0 |  |  |  |  |  | 0.0 |  | 0.0 | 0.0 |  |  |  |
| Total Delay | 12.7 | 13.6 |  |  |  |  |  | 3.5 |  | 13.0 | 491.8 |  |  |  |
| LOS | B | B |  |  |  |  |  | A |  | B | F |  |  |  |
| Approach Delay |  | 13.6 |  |  |  |  |  | 3.5 |  |  | 484.1 |  |  |  |
| Approach LOS |  | B |  |  |  |  |  | A |  |  | F |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Cycle Length: 55 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Actuated Cycle Length: 55 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Offset: 45.5 (83\%), Referenced to phase 2:NBT and 6:SBT, Start of Green |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Control Type: Actuated-Coordinated |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Maximum v/c Ratio: 1.91 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Intersection Signal Delay: 50.3 |  |  |  | Intersection LOS: D |  |  |  |  |  |  |  |  |  |  |
| Intersection Capacity Utilization 38.8\% |  |  |  | ICU Level of Service A |  |  |  |  |  |  |  |  |  |  |
| Analysis Period (min) 15 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Splits and Phases: 5: Robin Street \& SH225 FR EB










Splits and Phases: 5: Robin Street \& SH225 FR EB













Legislation Details (With Text)

| File \#: | DIS 17-128 | Version: | 1 | Name: |
| :--- | :--- | :--- | :--- | :--- |
| Type: | Discussion |  | Status: | Agenda Ready |
| File created: | $10 / 27 / 2017$ |  | In control: | City Council Workshop |
| On agenda: | $11 / 7 / 2017$ |  | Final action: |  |
| Title: | Discussion of issues relating to the girls softball and soccer bids. |  |  |  |
| Sponsors: | Parks \& Recreation |  |  |  |

Indexes:

## Code sections:

Attachments: 2017-10-17 LT Contractor Qualifications (2)
2017-10-09 LT Contractor Qualifications

| Date | Ver. | Action By | Action | Result |
| :---: | :---: | :---: | :---: | :---: |
| 11/7/2017 | 1 | City Coun |  |  |

Discussion of issues relating to the girls softball and soccer bids.

## Summary:

Ten (10) bids were received for the Girls Softball and eleven (11) bids were received for the Soccer Complex. The apparent low bidder on girls softball is $\$ 2,635,392.45$. The initial low bidder on the soccer complex is IKLO, the contractor on the current CCPD funded police firing range. The next low bidder (Tandem Services) is $\$ 3,325,655.65$. Both projects have additional items to be purchased by the City directly (such as lights, shades, bleachers) which will save the City money by cutting out the percentage markup added by the general contractor. Also, the architectural fees for Halff Associates need to be included for both projects. When all totaled, the cost of these two projects exceed DPCDC funding by a total of $\$ 556,827.10$ ( $\$ 449,630.45$ for girls softball and $\$ 107,196.65$ for soccer). A breakdown is below:

This is the second time these projects have been bid. The first bids were rejected and PARD staff and the DPCDC subcommittees worked with the architect to cut some items and revise the bid documents to attempt to save money. The options at this point are:

1. Amend the City budget to pay for the cost above the DCPCDC funding. This would mean amending the budget by $\$ 556,827.10$ for both projects. There is a projected fund balance in the Capital Improvement Fund (Fund 90) at 9/30/18 of \$2,667,159.
2. Reject bids and re-bid the project. Since 10 bids were received for one project and 11 bids were received for the other, simply re-bidding the project with no reductions in scope are not likely to get any better prices. Further reduction in scope of the projects will likely not be supported by the user groups.

Option \#1 above is recommended.
Fiscal/Budgetary Impact:

File \#: DIS 17-128, Version: 1

## Girls Softball

\$3,000,000.00
\$2,635,392.45
\$284,033.00
\$530,205.00
\$3,449,630.45
\$3,000,000.00
\$3,449,630.45

Appropriated Funds for Girls' Softball Facilities Project
Lowest Responsible Bidder - Tandem Services
Professional Services - Halff Associates
Shade structure, lights, bleachers, benches - City Purchase
Total Cost for Girls' Softball Facilities Project
Appropriated Funds
Total Cost
\$449,630.45 Additional funding from the Capital Improvements Fund for overage Soccer Complex
$\$ 4,000,000.00$
\$3,325,655.65
$\$ 334,732.00$
\$446,809.00
\$4,107,196.65
\$4,000,000.00
$\$ 4,107,196.65$

Appropriated funds for development of soccer fields
Lowest Responsible Bidder - Tandem Services
Professional Services - Halff Associates
Shade structure and lights - City Purchase
Total cost for development of soccer fields
Appropriated Funds
Total Cost
\$107,196.65 Additional funding from the Capital Improvements Fund for overage
$\$ 556,827.10$ Total additional funding needed for both projects

Discussion only

October 17, 2017
31558.03B

Charlie Sandberg
Parks and Recreation Director
City of Deer Park
710 E San Augustine St.
Deer Park, TX 77536

## RE: Contractor Qualifications for Deer Park Soccer

Dear Mr. Sandberg:
We have had an opportunity to tabulate the unit prices, review qualifications and references for the bidders for the Deer Park Soccer Field Development- Phase 1, located at 901 East Blvd., Deer Park.

At the time of the bid opening the low apparent low bidders were Triple B Services $\$ 3,024,600.75$, IKLO Construction $\$ 3,126,658.00$ and Tandem Services $\$ 3,325,655.65$ and this ranking was based on the bidders written Bid Form. Since that time, we have taken the bidders unit prices and tabulated their bids to check for errors and discrepancies. (See the attached Bid Tab.) The new three low bidders based on the tabulated bid tab are:

- IKLO Construction $\$ 3,127,049.45$
- Tandem Services \$3,325,655.65
- Cox Commercial $\$ 3,530,753.84$.

We have also reviewed the three low bidder's listed references. Attached is a copy of the notes from the phone interviews with the three low bidder's project references. The following is a summary of those notes.

We were able to contact three of the four references for IKLO Construction. The feedback to date from references for IKLO has been one positive, one negative, and the third reference stated they had no comment. The final reference listed by IKLO is the Deer Park Shooting Range project. IKLO has had experience working with contracts of the $\$ 2,000,000$ range and above. However, similar project experience appears to be less than the other low bidders.

We were able to contact two of the three project references for Tandem Services. Tandem Services has had recent comparable project type experience with the City of Friendswood and the feedback was positive. Friendswood Sports Park construction value was $\$ 740,137$ and the Friendswood Lake Park was $\$ 701,000$. Note that Tandem Services is also the apparent low bidder for the Deer Park Girls Softball project.

We were able to contact three of the four project references for Cox Commercial. The feedback for Cox was positive from all of their references. They appear to have comparable recent project experience with Baytown's Pirate Bay and Chambers County's Whites Park Arena. Contract values for the listed projects are of similar size ranging from $\$ 2,000,000$ to $\$ 6,600,000$.

## \#\# HALFF

Please call with questions.
Sincerely,
HALFF ASSOCIATES, INC.


Kolby Davidson, PLA
Senior Project Manager

CC: File, Tim May, Jacob Zuniga, Tiffany McGallian
Attached: Bid Tab, Reference Interview Notes (3 low bidders)
$\qquad$ KL
reference: Haniff Moton
$\qquad$ PHONE: $713-542-9346$

1. We recently received bids for a new sports complex for the City of $\qquad$ .
$\qquad$ (bidder) bid the project and they listed you as a reference. Can I ask you a few questions about them?
2. What was your overall experience working with $\qquad$ (bidder)?
Great \& sutistred.
3. When did you work with them?

Habit Tai Talha Khan
4. Abclulkarim Tai_ and, Hay der Abdullatre listed as superintendent for this project. Did you work with this person on your project? If so, were they competent and capable?
5. What was the scope of your project? prayer hall, class rooms, gymnasium, utilities site grading ] C phases \& assisted in process $\sqrt[5]{ } 3$ phases completed.
6. What was the value of their contract? $\$ 5,000,000$
7. Were they responsive to you requests?
yrs
8. Were they responsive to your inspector?

$$
485
$$

9. Had you worked with them before this contract/project?
No
10. How well did they handle their subcontractors?
11. Were their progress billings accurate and on time?
12. Were change order negotiations professional and easily processed with them?
13. Did you have to deal with their bonding company(ies) during the course of your contract with them?
14. Did they finish the work completely?
timely
15. Did they finish on time?
no set schedule. but worked well.
16. Did they execute a punch list in a timely manner?
17. Have you had any warranty work required of them? If so, were they responsive?

No?
18. Would you be willing to work with them again?
Yes, several times again.
19. Our project is approximately $\$$ $\qquad$ that $\qquad$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?
20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project?

Eullshrar Run Landscape Amn.

BIDDER: $\qquad$

Reference: Doug Konop kn (DHK)
PHONE: $713-96 \mid-0033$

1. We recently received bids for a new sports complex for the City of $\qquad$ DP .
$\qquad$ (bidder) bid the project and they listed you as a reference. Can I ask you a few questions about them?
primarily SF res.
2. What was your overall experience working with $\qquad$ (bidder)?
not good experience.
3. When did you work with them?

Habib Ta:
4. Abdulkarim Tai and $\qquad$ Header are listed as superintendent for this project. Did you work with this person on your project? If so, were they competent and capable?
5. What was the scope of your project? sidewalks, park str., tree preservation, landscaping
6. What was the value of their contract? $\$ 2,019,446$ up $\$ 2.3$
7. Were they responsive to you requests?

Verbally but no able get done $40 \%$
8. Were they responsive to your inspector?
9. Had you worked with them before this contract/project?
10. How well did they handle their subcontractors?
did not handle their subs well.
11. Were their progress billings accurate and on time?
12. Were change order negotiations professional and easily processed with them?
13. Did you have to deal with their bonding company(ies) during the course of your contract with them?
14. Did they finish the work completely?
15. Did they finish on time?

9 months should have been done; but poor schechuling of subs.
16. Did they execute a punch list in a timely manner?

```
not
```

17. Have you had any warranty work required of them? If so, were they responsive?
18. Would you be willing to work with them again?

No
19. Our project is approximately $\$$ $\qquad$ that $\qquad$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?
20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project?

BIDDER: $\quad 1 K L O$
$\qquad$

1. We recently received bids for a new sports complex for the City of $\qquad$ .
$\qquad$ (bidder) bid the project and they listed you as a reference. Can I ask you a few questions about them? \& No Comment
2. What was your overall experience working with $\qquad$ (bidder)?
3. When did you work with them? col
4. $\qquad$ and $\qquad$ are listed as superintendent for this project. Did you work with this person on your project? If so, were they competent and capable?
5. What was the scope of your project? fine grading, field, parking lot $\frac{1}{2}$ concession stan
6. What was the value of their contract? $\$ 87,000$
7. Were they responsive to you requests?
8. Were they responsive to your inspector?
9. Had you worked with them before this contract/project?
10. How well did they handle their subcontractors?
11. Were their progress billings accurate and on time?
12. Were change order negotiations professional and easily processed with them?
13. Did you have to deal with their bonding company(ies) during the course of your contract with them?
14. Did they finish the work completely?
15. Did they finish on time?
16. Did they execute a punch list in a timely manner?
17. Have you had any warranty work required of them? If so, were they responsive?
18. Would you be willing to work with them again?
19. Our project is approximately $\$$ $\qquad$ that $\qquad$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?
20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project?
$\qquad$ PHONE: 713-556-9309×64255
21. We recently received bids for a new sports complex for the City of $\qquad$ .
$\qquad$ (bidder) bid the project and they listed you as a reference. Can I ask you a few questions about them?
22. What was your overall experience working with $\qquad$ (bidder)?
23. When did you work with them? 2013

Habit Tai Tate $K$
4. Abdulkarim TaI and Fayer A.__ are listed as superintendent for this project. Did you work with this person on your project? If so, were they competent and capable?
5. What was the scope of your project? Nature playgreand ipuuing,
6. What was the value of their contract? $\$ 416,000$
7. Were they responsive to you requests?
8. Were they responsive to your inspector?
9. Had you worked with them before this contract/project?
10. How well did they handle their subcontractors?
11. Were their progress billings accurate and on time?
12. Were change order negotiations professional and easily processed with them?
13. Did you have to deal with their bonding company(ies) during the course of your contract with them?
14. Did they finish the work completely?
15. Did they finish on time?
16. Did they execute a punch list in a timely manner?
17. Have you had any warranty work required of them? If so, were they responsive?
18. Would you be willing to work with them again?
19. Our project is approximately $\$$ $\qquad$ that $\qquad$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?
20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project?

Friendswood Sports Park $\ddagger$ Lake park

BIDDER:

reference: Patrick Donar
PHONE: $281-996-3312$

1. We recently received bids for a new sports complex for the City of $\qquad$ .
$\qquad$ (bidder) bid the project and they listed you as a reference. Can I ask you a few questions about them?
2. What was your overall experience working with $\qquad$ tanker (bidder)?
Good/Grat contr
3. When did you work with them?

12/2015 to Z014 new project now
4. Matt laws and to Garcia Brandon Warlock
are listed as superintendent for this with this person on your project? If so, were they competent and capable?
5. What was the scope of your project? \#' Sports Park: '. plot, gracile, foundations for bldg. \#2 Lake Park handscape
6. What was the value of their contract $\$ 740,137 \& 701,000$
7. Were they responsive to you requests?
Yes
8. Were they responsive to your inspector?
Yes interactive in positive manner
9. Had you worked with them before this contract/project?
first proj.
10. How well did they handle their subcontractors?
no subs... maybe small crews
11. Were their progress billings accurate and on time?
accurate
12. Were change order negotiations professional and easily processed with them?
worked well; fair easy process
13. Did you have to deal with their bonding company(ies) during the course of your contract with them?
No
14. Did they finish the work completely?
Yes
15. Did they finish on time?

Yes on contract time
16. Did they execute a punch list in a timely manner?

## Yes

17. Have you had any warranty work required of them? If so, were they responsive?

Not that he knows... $V$
18. Would you be willing to work with them again?

Yes
19. Our project is approximately $\$ 2.7_{\text {mill _____ that }}$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?

No issue handling 2.7 million
20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project?

Been gand to work with

Thank you for your time and cooperation!!!

1. We recently received bids for a new sports complex for the City of $\qquad$ .
$\qquad$ (bidder) bid the project and they listed you as a reference. Can I ask you a few questions about them?
mss. 1015
2. What was your overall experience working with Tandem (bidder)?
3. When did you work with them? $/ 2017$
4. Matt Laws and Branden Garlock are listed as superintendent for this project. Did you work with this person on your project? If so, were they competent and capable?
5. What was the scope of your project? $\$ 607 \mathrm{~K}:$ a sphalti Roadways icte.
6. What was the value of their contract? $\$ 680 \mathrm{~K}$
7. Were they responsive to you requests?
8. Were they responsive to your inspector?
9. Had you worked with them before this contract/project?
10. How well did they handle their subcontractors?
11. Were their progress billings accurate and on time?
12. Were change order negotiations professional and easily processed with them?
13. Did you have to deal with their bonding company(ies) during the course of your contract with them?
14. Did they finish the work completely?
15. Did they finish on time?
16. Did they execute a punch list in a timely manner?
17. Have you had any warranty work required of them? If so, were they responsive?
18. Would you be willing to work with them again?
19. Our project is approximately $\$$ $\qquad$ that $\qquad$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?
20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project?

Pirates Bay Exp.
$\qquad$
reference: Dustin Schubert (Baytown)
PHONE: 281-420-6591

1. We recently received bids for a new sports complex for the City of $\qquad$ .
$\qquad$ (bidder) bid the project and they listed you as a reference. Can I ask you a few questions about them?
2. What was your overall experience working with $\qquad$ (bidder)?
GC was good
3. When did you work with them? 2015
4. Bo Cox and Dwayne that ion are listed as superintendent for this project. Did you work with this person on your project? If so, were they competent and capable?
Bo, yes
5. What was the scope of your project? Water park, slides, wave pod', 2 blags site work \& parking
6. What was the value of their contract? $\$ 6,664,748$
7. Were they responsive to you requests? y $\swarrow 5$
8. Were they responsive to your inspector? Y $\ell 5$
9. Had you worked with them before this contract/project?

$$
N_{0}
$$

10. How well did they handle their subcontractors?
good, overall few bad subs
11. Were their progress billings accurate and on time?
yes
12. Were change order negotiations professional and easily processed with them?

$$
\text { Yes } \& \text { yes }
$$

13. Did you have to deal with their bonding company(ies) during the course of your contract with them? No
14. Did they finish the work completely?
yes
15. Did they finish on time?
weather delays
16. Did they execute a punch list in a timely manner?

$$
N_{0}
$$

17. Have you had any warranty work required of them? If so, were they responsive?
```
yes, ot wl reeponste
```

18. Would you be willing to work with them again?

19. Our project is approximately $\$$ $\qquad$ that $\qquad$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?

$$
y \operatorname{cs} .
$$

20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project?
21. We recently received bids for a new sports complex for the City of $\qquad$ . questions about them? (bidder) bid the project and they listed you as a reference. Can I ask you a few
22. What was your overall experience working with $\qquad$ (bidder)?
Mixed but areall finished on budget $\&$ time. Had shake up but
23. When did you work with them?

2014
4. $\quad B_{0} \operatorname{Cos}$ $\qquad$ and Durapnethortor are listed as superintendent for this project. Did you work with this person on your project? If so, were they competent and capable?
5. What was the scope of your project? Covered arena, restrooms, concession bids.. Site work site electrical 45,000 of
6. What was the value of their contract? $\$ z_{2} 604,420$
7. Were they responsive to you requests?
yes
8. Were they responsive to your inspector?
Yes
9. Had you worked with them before this contract/project?

$$
415
$$

10. How well did they handle their subcontractors?
all subcontractors) yes
11. Were their progress billings accurate and on time?

## no issues

12. Were change order negotiations professional and easily processed with them?

No C.O.
13. Did you have to deal with their bonding company(ies) during the course of your contract with them?
14. Did they finish the work completely?
yes
15. Did they finish on time?
16. Did they execute a punch list in a timely manner?

$$
y<s
$$

17. Have you had any warranty work required of them? If so, were they responsive?
18. Would you be willing to work with them again?
yes \& hare
19. Our project is approximately $\$$ $\qquad$ that $\qquad$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?
think so ... dene a lot of parks
20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project? No
21. We recently received bids for a new sports complex for the City of $\qquad$ .
$\qquad$ (bidder) bid the project and they listed you as a reference. Can I ask you a few questions about them?

$$
m s s 10 / 6
$$

2. What was your overall experience working with $\qquad$ (bidder)? good contractor. project was unique it understand
3. When did you work with them? project
4. Bo Coy and Dwayne thaw are listed as superintendent for this project. Did you work with this person on your project? If so, were they competent and capable?

Worked well good relationship
5. What was the scope of your project? CMU Bids. I site work, detention i parking lot
6. What was the value of their contract? $\$ 2,174,328$
7. Were they responsive to you requests?
frotastic at good canmuniontion
8. Were they responsive to your inspector?
yes
9. Had you worked with them before this contract/project?
st
10. How well did they handle their subcontractors?
Yes
11. Were their progress billings accurate and on time?

$$
4 \times 5
$$

12. Were change order negotiations professional and easily processed with them?
no change orders
13. Did you have to deal with their bonding company(ies) during the course of your contract with them?

No
14. Did they finish the work completely?
yes - schedule to be done this week
15. Did they finish on time?
yes.
16. Did they execute a punch list in a timely manner?
Not a problem
17. Have you had any warranty work required of them? If so, were they responsive?
Not applicable
18. Would you be willing to work with them again?

19. Our project is approximately $\$$ $\qquad$ that $\qquad$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?
20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project?

No, huorldn't hesitate to work with then gan

Thank you for your time and cooperation!!!
reference: Mark thatched (City Fredrisksbus) PHONE: $\qquad$ 972-770-1300

1. We recently received bids for a new sports complex for the City of Deer Park Coy Commercial (bidder) bid the project and they listed you as a reference. Can I ask you a few questions about them?
2. What was your overall experience working with Cox Commercial (bidder)?
3. When did you work with them?
4. Bo Cox and DuWayne Thanton are listed as superintendent for this project. Did you work with this person on your project? If so, were they competent and capable?

> Lady Bia
5. What was the scope of your project? New Pool, pool house $\$$ site work
6. What was the value of their contract?

LB \$2,178,601.00 TP $\$ 1,191,286$
7. Were they responsive to you requests?
8. Were they responsive to your inspector?
9. Had you worked with them before this contract/project?
10. How well did they handle their subcontractors?
11. Were their progress billings accurate and on time?
12. Were change order negotiations professional and easily processed with them?
13. Did you have to deal with their bonding company(ies) during the course of your contract with them?
14. Did they finish the work completely?
15. Did they finish on time?
16. Did they execute a punch list in a timely manner?
17. Have you had any warranty work required of them? If so, were they responsive?
18. Would you be willing to work with them again?
19. Our project is approximately $\$$ $\qquad$ that $\qquad$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?
20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project?


2

| Ean |  |  | \％ |  |  |  | $\mid$ |  |  |  |  | ${ }_{\text {cosem }}$ |  |  |  |  |  |  |  | ${ }_{\text {cosem }}$ |  |  |  |  |  |  |  | min |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lemen | m．orm | mome | momes | wemem | momes | mexan | nommas | wemme |  |  | mexem |  | （enes | mame |  |  | mesem | momes | mame | ${ }^{\text {mpenem }}$ | meseno | meneos | samese | vomem | msaes | meal | mome | mesom | \＃semm |
| 边 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 边 | ${ }_{\text {anem }}$ | Nomes | nome | ，memm |  | minem | ，mex | ，mex |  | mem | ，meme |  | mem | ${ }_{\text {mamem }}^{n \times m}$ |  | mem | ${ }_{\text {nemem }}^{\text {nemem }}$ | Noms | ，mman | ${ }_{\text {cosem }}^{\text {nemem }}$ | ${ }_{\text {mamem }}^{\text {momem }}$ | ${ }_{\text {max }}$ | mame | nowe | ，mome | wems | new | ${ }_{\text {anem }}$ | ，nemod |
|  | ， | ${ }^{\text {cesate }}$ | \％ | sememe | ${ }_{\text {er }}^{3 \times 8}$ | manes | and | Stame |  | \％ | exs ${ }^{\text {ase }}$ |  | ， | nsamem |  |  | ${ }_{\text {cosem }}^{\text {cosem }}$ | ${ }_{\text {ame }}^{4 \times}$ |  | ${ }_{\substack{\text { seo }}}^{\text {cos }}$ | manse | ${ }^{\text {mem }}$ | maxes | ${ }_{\text {\％}}^{\text {gex }}$ | mamem | sss | ${ }_{\text {usmms }}^{\text {usems }}$ | ，mome |  |
| Sess is | max | smom | mas | \％me | \％ | \％es | \％ | $\operatorname{sen}^{2}$ |  |  | \％em |  | \％em | ${ }_{8}$ |  |  | spome | \％ear | sme | $\ldots$ | mese | $\ldots$ | esem | \％20m | sen | sema | sz27 | \％se |  |
|  | mam | usarn | \％e | nemm | mas | \％mac | 2no | vame |  | m | \％mem |  | anc | \％2me | \％mo |  | mame | \％im | sean | ${ }^{m \times \infty}$ | masmo | men | \％emem | \％em | $\ldots$ | mam | smas | \％me |  |
| \％oso 5 | ${ }_{\text {mus }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 边 |  | ， |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ， |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| \％ |  | \％eas | ${ }^{10}$ | sam |  | mam | \％em | ewen |  |  | nemom |  | 为 | msom | smam |  | mom | ＊ | sem |  | ，ome |  | ance | mam | mem | sma | mas |  |  |
| \％ |  |  |  |  |  |  | Ta | Ama |  |  | \％ |  |  | max |  |  | ，man |  | mas |  | \％ |  |  |  |  |  |  |  |  |
| （eater |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | mam | meme | mem | vemem | ＊en | wemen | \％ | smem |  |  | nome |  | mem | ${ }^{\text {mamem }}$ |  | \％ | s，mem | ${ }^{m} \times$ | meman | mem | mam | $\ldots$ | smem | ${ }^{\text {momem}}$ | nem | mem | vema | 2000 |  |
| 边 | \％ | mam | \％em | mome | ${ }^{\text {max }}$ | \％eme | \％ | \％eme |  | 为 |  |  | ， | ${ }_{\text {mame }}$ | ${ }_{\text {mam }}$ | \％ | ${ }_{\text {mamem }}^{\text {mamem }}$ | ${ }_{\text {cosem }}$ | meme | ，mmem | ${ }_{\text {den }}$ | ${ }_{\text {mime }}^{\text {mim }}$ |  | ${ }_{\text {com }}$ | ${ }_{\text {knem }}$ | mam |  |  |  |
|  | mumam | mam | nom |  | mam |  | nem | umad |  | \％ | miss |  | mem | ${ }_{\text {mases }}$ | weme |  | smem | nem | ，umam |  | wesem | mos | memm | som | mam | neme |  | \％em |  |
| T－ | $\ldots$ |  | mame | Seme | aman | 边 | ， | deme |  |  | \％ome |  |  | Smame |  |  | ） | ， | ， |  | mamm |  |  |  |  |  |  |  |  |
| 为 |  |  |  |  | ， |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 䢕 |  |  |  |  | \％ |  | ${ }^{\text {a }}$ |  |  |  |  |  |  |  |  |  |  | ${ }^{\prime \prime}$ |  | ${ }^{\text {en }}$ | \％ | $\frac{\square}{\text { b }}$ |  | $\stackrel{\text { and }}{\text { and }}$ |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  | mom |  |  |  |  |  | ， |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | ， |  |  |  |  |  |  | ， |  |  | ＋ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | ＊ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ， |  |  |  |  |  |  |  |  |  |  |  |
| com |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \％ |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | － |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }_{\text {a }}^{\text {a }}$ |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }^{\text {m }}$ |  |  |  |  |  |  |  |  |  |
| 1． |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | $\underbrace{2 \times m}$ |  | 边 |  |  |  |  |  |  |  |  |  | \％ |  |  |  |  |  |  |  |  | \％ |  | 为 |  |  |  |  |  |





四 1



－Emam
ancmane
$-$ － ${ }^{318}$ axts
$\qquad$
1

October 9, 2017
31558.06A

Charlie Sandberg
Parks and Recreation Director
City of Deer Park
710 E San Augustine St.
Deer Park, TX 77536
RE: Contractor Qualifications for Deer Park
Dear Mr. Sandberg:
We have had an opportunity to review the qualifications and references for the apparent low bidder, Tandem Services, LLC, for the Deer Park Girls Softball Renovations- Phase 1, located at 501 West X St., Deer Park.

Based upon the projects included in their qualifications proposal and references contacted, Tandem Construction is a qualified contractor for this project. The feedback to date from references has been limited, but positive. We were able to review two of the three project references. Attached is a copy of the notes from the phone interviews with the three low bidder's project references. Based on the phone interviews, Tandem Services recent experience and comparable project type experience with the City of Friendswood allows us to reach the conclusion they are qualified for this project.

Please call with questions.
Sincerely, HALFF ASSOCIATES, INC.


Kolby Davidson, PLA
Senior Project Manager

CC: File, Tim May, Jacob Zuniga, Tiffany McGallian
Attached: Bid Tab, Reference Interview Notes (3 low bidders)

## \#\# HALFF







| same 1 －${ }^{\text {s }}$ | smasmo | memem | momam | mamea | moscom | memes | sueme | mpams | mamam | Emamata | mpame | mimasi | samaces | mamea | zmamam | smmaco | nsamem | Bsamem | zımamam | smmad | smame | smame | mimpam |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | mame | ， |  |  | ，mame |  | numam |  |  |  |  |  | mame | eme | mamm |  | numm |  | ，mame |  | ， | －20 | mmm |
|  | ${ }_{\text {mamem }}^{\text {mamem }}$ |  | 为 | comme | nel | mom | 込 | ， | ${ }_{\text {a }}^{\text {amam }}$ |  | 边 | 䢒 | ${ }^{\text {a }}$ |  | $\stackrel{\text { am }}{\text { x }}$ | ，mamem | \％ome |  | 退 |  | \％em |  | রnk | 为 |
| Emout wow butwes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| esom 1 L | stasseos | mossom | $\pm \times \infty$ | maxm | suminee | sustimes | 2menem | \％osem | manes | samen | vense | smasm | mamem | masmos | menam | smomaco | tramese | mposen | mmonem | smonem | twames | mmates | Espomem | smosem |
|  | mosme | emsmea | msameo | smasos | esposos | samene | sameso | 5 | maea | memesa | Enamsa | Eassom | emaxam | namaso | sammo | susaos | smoses | mames | samano | smanos | smaneo | maneo | ssamo |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | ${ }^{26565} 5.325$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }_{\text {samas2as }}$ |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | sı34，5283 |  | 20．12ana |



Friendswood Sports Park $\ddagger$ Lake park

BIDDER:

reference: Patrick Donar
PHONE: $281-996-3312$

1. We recently received bids for a new sports complex for the City of $\qquad$ .
$\qquad$ (bidder) bid the project and they listed you as a reference. Can I ask you a few questions about them?
2. What was your overall experience working with $\qquad$ tanker (bidder)?
Good/Grat contr
3. When did you work with them?

12/2015 to Z014 new project now
4. Matt laws and to Garcia Brandon Warlock
are listed as superintendent for this with this person on your project? If so, were they competent and capable?
5. What was the scope of your project? \#' Sports Park: '. plot, gracile, foundations for bldg. \#2 Lake Park handscape
6. What was the value of their contract $\$ 740,137 \& 701,000$
7. Were they responsive to you requests?
Yes
8. Were they responsive to your inspector?
Yes interactive in positive manner
9. Had you worked with them before this contract/project?
first proj.
10. How well did they handle their subcontractors?
no subs... maybe small crews
11. Were their progress billings accurate and on time?
accurate
12. Were change order negotiations professional and easily processed with them?
worked well; fair easy process
13. Did you have to deal with their bonding company(ies) during the course of your contract with them?
No
14. Did they finish the work completely?
Yes
15. Did they finish on time?

Yes on contract time
16. Did they execute a punch list in a timely manner?

## Yes

17. Have you had any warranty work required of them? If so, were they responsive?

Not that he knows... $V$
18. Would you be willing to work with them again?

Yes
19. Our project is approximately $\$ 2.7_{\text {mill _____ that }}$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?

No issue handling 2.7 million
20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project?

Been gand to work with

Thank you for your time and cooperation!!!

1. We recently received bids for a new sports complex for the City of $\qquad$ .
$\qquad$ (bidder) bid the project and they listed you as a reference. Can I ask you a few questions about them?
mss. 1015
2. What was your overall experience working with Tandem (bidder)?
3. When did you work with them? $/ 2017$
4. Matt Laws and Branden Garlock are listed as superintendent for this project. Did you work with this person on your project? If so, were they competent and capable?
5. What was the scope of your project? $\$ 607 \mathrm{~K}:$ a sphalti Roadways icte.
6. What was the value of their contract? $\$ 680 \mathrm{~K}$
7. Were they responsive to you requests?
8. Were they responsive to your inspector?
9. Had you worked with them before this contract/project?
10. How well did they handle their subcontractors?
11. Were their progress billings accurate and on time?
12. Were change order negotiations professional and easily processed with them?
13. Did you have to deal with their bonding company(ies) during the course of your contract with them?
14. Did they finish the work completely?
15. Did they finish on time?
16. Did they execute a punch list in a timely manner?
17. Have you had any warranty work required of them? If so, were they responsive?
18. Would you be willing to work with them again?
19. Our project is approximately $\$$ $\qquad$ that $\qquad$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?
20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project?

## Camp Sienna Sports Compress

REFERENCE: Andrew Locssin(Ward Get Assoc) PHONE: 713-789-1900

1. We recently received bids for a new sports complex for the City of $\qquad$ . $\overline{\text { questions about them }}$ (bidder) bid the project and they listed you as a reference. Can I ask you a few questions about them?
2. What was your overall experience working with $\qquad$ (bidder)?
3. When did you work with them? 2015-2017?

Mathew
4. Phillips and George Phillips are listed as superintendent for this project. Did you work with this person on your project? If so, were they competent and capable?
5. What was the scope of your project? paving draink ge
6. What was the value of their contract? $\$ 2,185,493$
7. Were they responsive to you requests?
8. Were they responsive to your inspector?
9. Had you worked with them before this contract/project?
10. How well did they handle their subcontractors?
11. Were their progress billings accurate and on time?
12. Were change order negotiations professional and easily processed with them?
13. Did you have to deal with their bonding company(ies) during the course of your contract with them?
14. Did they finish the work completely?
15. Did they finish on time?
16. Did they execute a punch list in a timely manner?
17. Have you had any warranty work required of them? If so, were they responsive?
18. Would you be willing to work with them again?
19. Our project is approximately $\$$ $\qquad$ that $\qquad$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?
20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project?

Redstone View Dr.
bidder:GW Philips


1. We recently received bids for a new sports complex for the City of $\qquad$ .
$\qquad$ (bidder) bid the project and they listed you as a reference. Can I ask you a few questions about them?
2. What was your overall experience working with $\qquad$ (bidder)?
good work easy to work with
3. When did you work with them?
oud s your ago
4. Mather $\qquad$ and $\qquad$ George are listed as superintendent for this project. Did you work with this person on your project? If so, were they competent and capable? Yes...
5. What was the scope of your project? Paving $\$$ drainage - no other utility
6. What was the value of their contract? $\$ 1,097,000$
7. Were they responsive to you requests? could be better
8. Were they responsive to your inspector? Yes
9. Had you worked with them before this contract/project? No
10. How well did they handle their subcontractors? all their work
11. Were their progress billings accurate and on time?
Yes
12. Were change order negotiations professional and easily processed with them?
lesitionate change orders of site constraints. easy but
13. Did you have to deal with their bonding company(ies) during the course of your contract with them? No
14. Did they finish the work completely?
Yes
15. Did they finish on time?
yes
16. Did they execute a punch list in a timely manner?

Y\&s minor \& quick
17. Have you had any warranty work required of them? If so, were they responsive?
18. Would you be willing to work with them again?

19. Our project is approximately $\$$ $\qquad$ that $\qquad$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?
Yes an general dirtwrik.
20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project?
Not at this time.

Thank you for your time and cooperation!!!

BIDDER: $\qquad$

1. We recently received bids for a new sports complex for the City of $\qquad$ . questions about (bidder) bid the project and they listed you as a reference. Can I ask you a few questions about them?
2. What was your overall experience working with $\qquad$ (bidder)?
3. When did you work with them? 2013

Dead End
reference
4. Mathew Phillips and Grange Phillips are listed as superintendent for this project. Did you work with this person on your project? If so, were they competent and capable?
5. What was the scope of your project? Def. Pond
6. What was the value of their contract?
7. Were they responsive to you requests?
8. Were they responsive to your inspector?
9. Had you worked with them before this contract/project?
10. How well did they handle their subcontractors?
11. Were their progress billings accurate and on time?
12. Were change order negotiations professional and easily processed with them?
13. Did you have to deal with their bonding company(ies) during the course of your contract with them?
14. Did they finish the work completely?
15. Did they finish on time?
16. Did they execute a punch list in a timely manner?
17. Have you had any warranty work required of them? If so, were they responsive?
18. Would you be willing to work with them again?
19. Our project is approximately $\$$ $\qquad$ that $\qquad$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?
20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project?

City of La Porte Ave.D paving \& drainage
$\qquad$ GW Phillips Reference: Jason Flaring (Cobs Fondly) PHONE: $\quad 281-744-7313$

1. We recently received bids for a new sports complex for the City of $\qquad$ .
$\qquad$ (bidder) bid the project and they listed you as a reference. Can I ask you a few questions about them?
2. What was your overall experience working with $\qquad$ (bidder)? average inot a bis project,
3. When did you work with them? 20
4. Mather P. and George P.
$\qquad$ are listed as superintendent for this project. Did you work with this person on your project? If so, were they competent and capable?
5. What was the scope of your project? $\qquad$ paring drainage
6. What was the value of their contract? $\$ 500,000$
7. Were they responsive to you requests? Yes
8. Were they responsive to your inspector?
Yes
9. Had you worked with them before this contract/project?

No
10. How well did they handle their subcontractors?
Yes
11. Were their progress billings accurate and on time?
Good
12. Were change order negotiations professional and easily processed with them?
often change orders
13. Did you have to deal with their bonding company(ies) during the course of your contract with them? $N_{0}$
14. Did they finish the work completely? little longer than expect
15. Did they finish on time?
late but a few rain days.
16. Did they execute a punch list in a timely manner?
Yes
17. Have you had any warranty work required of them? If so, were they responsive?

18. Would you be willing to work with them again?

NA
19. Our project is approximately $\$ 2.7$ that ___ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work? have the equip could sub out
20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project?

## No

Thank you for your time and cooperation!!!

Pirates Bay Exp.
$\qquad$
reference: Dustin Schubert (Baytown)
PHONE: 281-420-6591

1. We recently received bids for a new sports complex for the City of $\qquad$ .
$\qquad$ (bidder) bid the project and they listed you as a reference. Can I ask you a few questions about them?
2. What was your overall experience working with $\qquad$ (bidder)?
GC was good
3. When did you work with them? 2015
4. Bo Cox and Dwayne that ion are listed as superintendent for this project. Did you work with this person on your project? If so, were they competent and capable?
Bo, yes
5. What was the scope of your project? Water park, slides, wave pod', 2 blags site work \& parking
6. What was the value of their contract? $\$ 6,664,748$
7. Were they responsive to you requests? y $\swarrow 5$
8. Were they responsive to your inspector? Y $\ell 5$
9. Had you worked with them before this contract/project?

$$
N_{0}
$$

10. How well did they handle their subcontractors?
good, overall few bad subs
11. Were their progress billings accurate and on time?
yes
12. Were change order negotiations professional and easily processed with them?

$$
\text { Yes } \& \text { yes }
$$

13. Did you have to deal with their bonding company(ies) during the course of your contract with them? No
14. Did they finish the work completely?
yes
15. Did they finish on time?
weather delays
16. Did they execute a punch list in a timely manner?

$$
N_{0}
$$

17. Have you had any warranty work required of them? If so, were they responsive?
```
yes, ot wl reeponste
```

18. Would you be willing to work with them again?

19. Our project is approximately $\$$ $\qquad$ that $\qquad$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?

$$
y \operatorname{cs} .
$$

20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project?
21. We recently received bids for a new sports complex for the City of $\qquad$ . questions about them? (bidder) bid the project and they listed you as a reference. Can I ask you a few
22. What was your overall experience working with $\qquad$ (bidder)?
Mixed but areall finished on budget $\&$ time. Had shake up but
23. When did you work with them?

2014
4. $\quad B_{0} \operatorname{Cos}$ $\qquad$ and Durapnethortor are listed as superintendent for this project. Did you work with this person on your project? If so, were they competent and capable?
5. What was the scope of your project? Covered arena, restrooms, concession bids.. Site work site electrical 45,000 of
6. What was the value of their contract? $\$ z_{2} 604,420$
7. Were they responsive to you requests?
yes
8. Were they responsive to your inspector?
Yes
9. Had you worked with them before this contract/project?

$$
415
$$

10. How well did they handle their subcontractors?
all subcontractors) yes
11. Were their progress billings accurate and on time?

## no issues

12. Were change order negotiations professional and easily processed with them?

No C.O.
13. Did you have to deal with their bonding company(ies) during the course of your contract with them?
14. Did they finish the work completely?
yes
15. Did they finish on time?
16. Did they execute a punch list in a timely manner?

$$
y<s
$$

17. Have you had any warranty work required of them? If so, were they responsive?
18. Would you be willing to work with them again?
yes \& hare
19. Our project is approximately $\$$ $\qquad$ that $\qquad$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?
think so ... dene a lot of parks
20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project? No
21. We recently received bids for a new sports complex for the City of $\qquad$ .
$\qquad$ (bidder) bid the project and they listed you as a reference. Can I ask you a few questions about them?

$$
m s s 10 / 6
$$

2. What was your overall experience working with $\qquad$ (bidder)? good contractor. project was unique it understand
3. When did you work with them? project
4. Bo Coy and Dwayne thaw are listed as superintendent for this project. Did you work with this person on your project? If so, were they competent and capable?

Worked well good relationship
5. What was the scope of your project? CMU Bids. I site work, detention i parking lot
6. What was the value of their contract? $\$ 2,174,328$
7. Were they responsive to you requests?
frotastic at good canmuniontion
8. Were they responsive to your inspector?
yes
9. Had you worked with them before this contract/project?
st
10. How well did they handle their subcontractors?
Yes
11. Were their progress billings accurate and on time?

$$
4 \times 5
$$

12. Were change order negotiations professional and easily processed with them?
no change orders
13. Did you have to deal with their bonding company(ies) during the course of your contract with them?

No
14. Did they finish the work completely?
yes - schedule to be done this week
15. Did they finish on time?
yes.
16. Did they execute a punch list in a timely manner?
Not a problem
17. Have you had any warranty work required of them? If so, were they responsive?
Not applicable
18. Would you be willing to work with them again?

19. Our project is approximately $\$$ $\qquad$ that $\qquad$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?
20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project?

No, huorldn't hesitate to work with then gan

Thank you for your time and cooperation!!!
reference: Mark thatched (City Fredrisksbus) PHONE: $\qquad$ 972-770-1300

1. We recently received bids for a new sports complex for the City of Deer Park Coy Commercial (bidder) bid the project and they listed you as a reference. Can I ask you a few questions about them?
2. What was your overall experience working with Cox Commercial (bidder)?
3. When did you work with them?
4. Bo Cox and DuWayne Thanton are listed as superintendent for this project. Did you work with this person on your project? If so, were they competent and capable?

> Lady Bia
5. What was the scope of your project? New Pool, pool house $\$$ site work
6. What was the value of their contract?

LB \$2,178,601.00 TP $\$ 1,191,286$
7. Were they responsive to you requests?
8. Were they responsive to your inspector?
9. Had you worked with them before this contract/project?
10. How well did they handle their subcontractors?
11. Were their progress billings accurate and on time?
12. Were change order negotiations professional and easily processed with them?
13. Did you have to deal with their bonding company(ies) during the course of your contract with them?
14. Did they finish the work completely?
15. Did they finish on time?
16. Did they execute a punch list in a timely manner?
17. Have you had any warranty work required of them? If so, were they responsive?
18. Would you be willing to work with them again?
19. Our project is approximately $\$$ $\qquad$ that $\qquad$ is the apparent low bidder. In your opinion, are they capable of performing that amount of construction work?
20. Do you have any other comments of $\qquad$ that might be of benefit to our Client regarding their project?

City of Deer Park

Legislation Details (With Text)


Discussion of issues relating to the 2016 Street Bond Project - West $9^{\text {th }}$ Street, West $12^{\text {th }}$ Street, Ridgeway Streets off Arbor, and Amherst/Brown Lane.

Staff is requesting authorization to advertise and receive bids on the 2016 Street Bond Project - West $9^{\text {th }}$ Street, West $12^{\text {th }}$ Street, Ridgeway loop Streets off Arbor Dr., and Amherst/Brown Lane. The Binkley and Barfield Consulting Engineers were hired to perform the design work on this project, the Engineers estimate for this Project is $\$ 6$ Million.

The project consists of the complete concrete reconstruction of these streets including all utilities under pavement. During the design phase, the drainage was evaluated on a street by street basis resulting in some additional storm pipe being upsized or added in order to enhance the drainage for the areas.

Fiscal/Budgetary Impact:
Funding for the 2016 Street Bond Project is included in the Capital Improvement Fund (Fund 90) for fiscal year 2017-2018 in the amount of $\$ 1,633,813$. The balance needed for this project will be funded from the remaining proceeds of the Certificates of Obligation Series 2015 (Fund 26), which are available for this purpose.

Discussion only during workshop


