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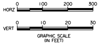
**Texas Department of Transportation**

# DALLAS DISTRICT
# WILLIAM HALE, P.E. DISTRICT ENGINEER
# SH 121
# COLLIN COUNTY
# DESIGN SCHEMATIC
# SEPTEMBER 2011

# ROLL 6 of 11

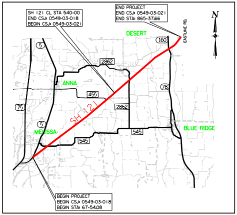
**FROM: SH 5 IN MELISSA TO: CR 635 (EAST LINE ROAD)**
**BRIDGE REPLACEMENT AND HIGHWAY RECONSTRUCTION**
**PROJECT LENGTH: 15.11 MILES (79784')**
**BRIDGE: 0.30 MILES (1560')**
**ROADWAY: 14.81 MILES (78224')**

**CSJ: 0549-03-018 (SH 5 to FM 455)**
**CSJ: 0549-03-021 (FM 455 to CR 635/FANNIN COUNTY LINE)**



HORZ
0
100
200
300
VERT
0
10
20
30

GRAPHIC SCALE
(IN FEET)



SH 121 CL STA 540+00
END CSJ: 0549-03-018
BEGIN CSJ: 0549-03-021
END PROJECT
END CSJ: 0549-03-021
END STA: 865+37.66
N
EASTLINE RD.
DESERT
160
5
2862
ANNA
455
75
2862
78
SH 121
5
MELISSA
545
545
BLUE RIDGE
BEGIN PROJECT
BEGIN CSJ: 0549-03-018
BEGIN STA: 67+54.08

## LOCATION MAP

INDEX OF ROLLS

| ROLL | DESCRIPTION |
|---|---|
| 1 | SH 121 STA 67+54.08 TO STA. 187+00 |
| 2 | SH 121 STA 187+00 TO STA. 327+00 |
| 3 | SH 121 STA 327+00 TO STA. 467+00 |
| 4 | SH 121 STA 467+00 TO STA. 607+00 |
| 5 | SH 121 STA 607+00 TO STA. 747+00 |
| 6 | SH 121 STA 747+00 TO CR 635 (FANNIN COUNTY LINE) |
| 7 | SH 121 STA 747+00 TO FANNIN COUNTY LINE (TRANSITION) |
| 8 | SH 5 AND FANNIN ROAD |
| 9 | FM 455 AND CONNECTING RAMPS |
| 10 | FM 2862 AND CONNECTING RAMPS |
| 11 | SH 160 AND CONNECTING RAMPS |

| DESIGN ROADWAY | LIMITS FROM | LIMITS TO | FUNCTIONAL CLASSIFICATION | ADT 2012 | ADT 2032 | DESIGN SPEED |
|---|---|---|---|---|---|---|
| SH 121 (SUBURBAN) | SH 5<br>STA 67+54.08 | Outer Loop •<br>STA 368+10.00 | ARTERIAL | 18800 | 29400 | 45 |
| SH 121 (RURAL) | Outer Loop •<br>STA 368+10.00 | CR 635<br>STA 865+37.66 | ARTERIAL | 13500 | 21000 | 70 |
| SH 121 RAMPS | Outer Loop •<br>STA 368+10.00 | CR 635<br>STA 865+37.66 | RAMP | NA | NA | 35 |
| FM 2933 | AT SH 121 | | COLLECTOR | 1000 | 1600 | 40 |
| 455 N | AT SH 121 | | ARTERIAL | 1550 | 2250 | 40 |
| 455 S | AT SH 121 | | COLLECTOR | 500 | 700 | 40 |
| E. HOUSTON ST (FM 2862) | AT SH 121 | | COLLECTOR | 1700 | 2700 | 50 |
| SH 160 | AT SH 121 | | ARTERIAL | 4100 | 6600 | 50 |
| N. McDonald Street (SH 5 SOUTH) | AT SH 121 | | ARTERIAL | 7300 | 11,300 | 40 |
| MC KINNEY ST (SH 5 NORTH) | AT SH 121 | | ARTERIAL | 6400 | 9900 | 40 |
| DENTON ST (FM 545) | AT SH 121 | | COLLECTOR | 4200 | 6500 | 30 |
| COUNTY ROADS | | | | | | |
| CR 418 | AT SH 121 | | LOCAL | 600 | 900 | 30 |
| LANDFILL ENTRANCE | AT SH 121 | | LOCAL | NA | NA | 30 |
| 416 | AT SH 121 | | LOCAL | NA | NA | 30 |
| 419 | AT SH 121 | | LOCAL | 300 | 600 | 20 • |
| 420 | AT SH 121 | | LOCAL | NA | NA | 20 • |
| 475 | AT SH 121 | | LOCAL | 250 | 450 | 30 |
| 507(509) | AT SH 121 | | LOCAL | NA | NA | 20 • |
| 424 / 513 | AT SH 121 | | LOCAL | NA | NA | 30 |
| 526 / 527 | AT SH 121 | | LOCAL | NA | NA | 20 • |
| 528 / 581 | AT SH 121 | | LOCAL | NA | NA | 20 • |
| 582 | AT SH 121 | | LOCAL | NA | NA | 20 • |
| 936 | AT SH 121 | | LOCAL | NA | NA | 20 • |
| 1002 | AT SH 121 | | LOCAL | NA | NA | 20 • |
| COUNTY LINE RD | AT SH 121 | | LOCAL | 250 | 250 | 20 • |
| EASTLINE RD | AT SH 121 | | LOCAL | 200 | 350 | 30 |
| CITY STREETS | | | | | | |
| FANNIN RD | AT SH 121 | | COLLECTOR | NA | NA | 30 |
| BARTLETT RD | AT SH 121 | | LOCAL | NA | NA | 30 |
| CREEKSIDE RD | AT SH 121 | | LOCAL | NA | NA | 30 |
| BERRY RD | AT SH 121 | | LOCAL | 2600 | 4000 | 30 |
| EASTWOOD RD | AT SH 121 | | LOCAL | NA | NA | 30 |
| LILLIAN DR | AT SH 121 | | LOCAL | NA | NA | 30 |
| NUGENT ST | AT SH 121 | | LOCAL | NA | NA | 30 |
| LIBERTY WAY | AT SH 121 | | LOCAL | 900 | 1400 | 30 |
| REDWOOD BLVD | AT SH 121 | | LOCAL | NA | NA | 30 |

• = UNPAVED COUNTY ROAD
• = FUTURE OUTER LOOP, BY OTHERS

NOTES:

1. MEDIAN OPENINGS ARE PRELIMINARY AND SUBJECT TO CHANGE. FINAL MEDIAN OPENING LOCATIONS TO BE DETERMINED DURING PS&E AND IN COORDINATION WITH THE CITIES OF MELISSA AND ANNA.

2. SOURCE OF TRAFFIC DATA:
TEXAS DEPARTMENT OF TRANSPORTATION
TRANSPORTATION, PROGRAMING AND PLANNING DIVISION
MARCH 27, 2007

3. ALL URBAN SECTIONS WILL HAVE CONCRETE CURB AND GUTTER WITH BARRIER CURBS.

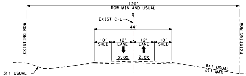
## LEGEND

| | |
|---|---|
| - - — - - — | EXISTING R.O.W. (ACCESS BY PERMIT ONLY) |
| —— | PROPERTY LINES |
| ▬ ▬ ▪ ▪ ▬ | PROPOSED R.O.W. (ACCESS BY PERMIT ONLY IN ACCORDANCE WITH TXDOT ACCESS CONTROL MANUAL) |
| -·—·—·— | SH 121 CL |
| X X X X | OBLITERATE EXISTING ROADWAY |
| — —3"w— — | WATER UTILITY |
| - - - - - - | CITY LIMIT |
| 🟩 | SH 121 PAVEMENT |
| ▭ | CROSS STREETS |
| 🟥 | BRIDGE |
| 🟪 | DRIVEWAYS |
| —— | RETAINING WALL |
| ▨ | DISPLACED STRUCTURE |

These documents are not intended for Construction, Bidding or Permit Purposes. They were prepared by, or under the supervision of:

NANCY D. MITCHELL, P.E. 79762 09/22/11
PROJECT MANAGER PE# DATE

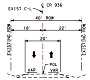
Lockwood, Andrews & Newnam, Inc.
T.B.P.E. Firm # 2614



120'
ROW MIN AND USUAL
EXISTING ROW
EXIST C-L
44'
10' SHLD
12' LANE
12' LANE
10' SHLD
2.0%
2.0%
3:1 USUAL
2:1 MAX
6:1 USUAL
2:1 MAX
EXISTING ROW

EXISTING TYPICAL SECTION (ANNA)
NTS CSJ 0549-03-021

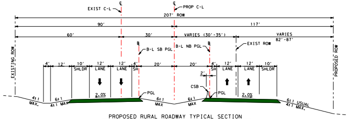
STA. 747+00 TO STA. 865+37.66



EXIST C-L
CR 936
40' ROW
18'
22'
EXISTING ROW
20'
PGL
VAR
VAR
EXISTING ROW

EXISTING CR 936 TYPICAL SECTION
NTS CSJ 0549-03-021

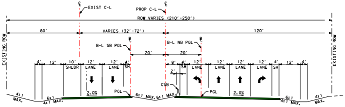
PROPOSED ROW
PROPOSED ROW



EXIST C-L
PROP C-L
207' ROW
90'
117'
60'
30'
VARIES (30'-35')
VARIES 82'-87'
EXISTING ROW
B-L SB PGL
B-L NB PGL
EXIST ROW
PROPOSED ROW
4'
12'
10' SHLDR
12' LANE
12' LANE
4' SH
20'
20'
4' SH
12' LANE
12' LANE
10' SHLDR
2'
CSB
PGL
PGL
2.0%
2.0%
4:1 MAX.
6:1
4:1 MAX
6:1 MAX
6:1 MAX
6:1 USUAL
4:1 MAX.

PROPOSED RURAL ROADWAY TYPICAL SECTION
NTS CSJ 0549-03-021

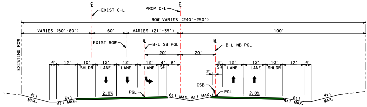
STA. 747+00 TO STA. 753+05
STA. 813+23.10 TO STA. 815+95
STA. 823+00 TO STA. 857+00
STA. 863+80 TO STA. 865+37.66



EXIST C-L
PROP C-L
ROW VARIES (210'-250')
60'
VARIES (32'-72')
120'
EXISTING ROW
B-L SB PGL
B-L NB PGL
20'
20'
4'
12'
10' SHLDR
12' LANE
12' LANE
4' SH
8'
4' SH
12' LANE
12' LANE
12' LANE
12' LANE
4' SH
12'
4'
2'
CSB
PGL
PGL
2.0%
2.0%
4:1 MAX.
6:1
4:1 MAX.
6:1 MAX.
6:1 MAX.
6:1
4:1 MAX.
4:1 MAX.
EXISTING ROW

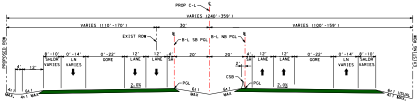
PROPOSED RURAL ROADWAY TYPICAL SECTION
AT INTERSECTIONS
NTS CSJ 0549-03-021

STA. 753+05 TO STA. 761+00



EXIST C-L
PROP C-L
ROW VARIES (240'-250')
VARIES (50'-60')
60'
VARIES (21'-39')
100'
EXISTING ROW
EXIST ROW
B-L SB PGL
B-L NB PGL
20'
20'
4'
12'
10' SHLDR
12' LANE
12' LANE
12' LANE
4' SH
8'
4' SH
12' LANE
12' LANE
10' SHLDR
12'
4'
2'
CSB
PGL
PGL
2.0%
2.0%
4:1 MAX.
6:1
4:1 MAX.
6:1 MAX.
6:1 MAX.
6:1
4:1 MAX.
4:1 MAX.
PROPOSED ROW

PROPOSED RURAL ROADWAY TYPICAL SECTION
LEFT TURN LANE
NTS CSJ 0549-03-021
STA. 761+00 TO STA. 769+44.80



PROP C-L
VARIES (240'-359')
VARIES (110'-170')
30'
VARIES (100'-159')
PROPOSED ROW
EXIST ROW
B-L SB PGL
B-L NB PGL
4'
12'
8'-10' SHLDR VARIES
0'-14' LN VARIES
0'-22' GORE
12' LANE
12' LANE
4' SH
20'
20'
4' SH
12' LANE
12' LANE
0'-22' GORE
0'-14' LN VARIES
8'-10' SHLDR VARIES
2'
CSB
PGL
PGL
2.0%
2.0%
4:1 MAX.
6:1
4:1 MAX
6:1 MAX
6:1 MAX
6:1 USUAL
4:1 MAX.
EXISTING ROW

STA. 769+44.80 TO STA. 782+58.15
STA. 800+27.29 TO STA. 804+64.50
STA. 806+54.50 TO STA 813+23.10

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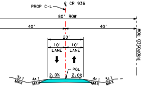
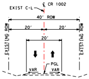
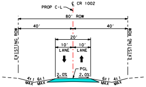

PROP C-L
℄ CR 936
80' ROW
40'
40'
20'
10' LANE
10' LANE
PROPOSED ROW
PGL
2.0%
2.0%
3:1 MAX
4:1 MAX
4:1 MAX
3:1 MAX

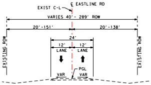
PROPOSED CR 936 TYPICAL SECTION
NTS CSJ 0549-03-021


EXIST C-L
℄ CR 1002
40' ROW
20'
20'
20'
EXISTING ROW
EXISTING ROW
PGL
VAR
VAR

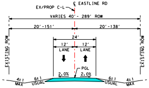
EXISTING CR 1002 TYPICAL SECTION
NTS CSJ 0549-03-021


PROP C-L
℄ CR 1002
80' ROW
40'
40'
20'
10' LANE
10' LANE
EXISTING ROW
EXISTING ROW
PGL
2.0%
2.0%
4:1 MAX
6:1 MAX
6:1 MAX
4:1 MAX

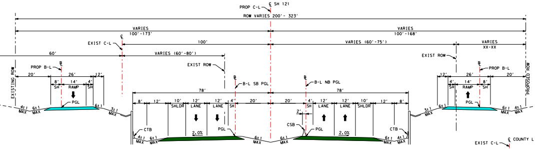
PROPOSED CR 1002 TYPICAL SECTION
NTS CSJ 0549-03-021


EXIST C-L
℄ EASTLINE RD
VARIES 40' - 289' ROW
20'-151'
20'-138'
24'
12' LANE
12' LANE
EXISTING ROW
EXISTING ROW
PGL
VAR
VAR

EXISTING EASTLINE RD TYPICAL SECTION
NTS CSJ 0549-03-021

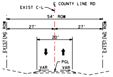

EX/PROP C-L
℄ EASTLINE RD
VARIES 40' - 289' ROW
20'-151'
20'-138'
24'
12' LANE
12' LANE
EXISTING ROW
EXISTING ROW
PGL
2.0%
2.0%
4:1 MAX
6:1 USUAL
6:1 USUAL
4:1 MAX

PROPOSED EASTLINE RD TYPICAL SECTION
NTS CSJ 0549-03-021

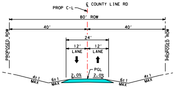

PROP C-L
℄ SH 121
ROW VARIES 200' - 323'
VARIES 100'-173'
VARIES 100'-168'
EXIST C-L
100'
VARIES (60'-75')
VARIES XX-XX
60'
VARIES (60'-80')
EXIST ROW
EXIST ROW
PROP B-L
℄ B-L SB PGL
℄ B-L NB PGL
PROP B-L
EXISTING ROW
PROPOSED ROW
20'
26'
12'
8' SH
14' RAMP
4' SH
78'
78'
8'
12'
10' SHLDR
12' LANE
12' LANE
4' SH
20'
20'
4' SH
12' LANE
12' LANE
10' SHLDR
12'
8'
2'
CSB
CTB
CTB
PGL
2.0%
4:1 MAX
6:1 MAX
3:1 MAX

PROPOSED SH 121 TYPICAL SECTION
NTS CSJ 0549-03-021

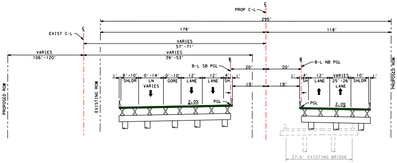
STA. 782+58.15 TO STA. 800+27.29


EXIST C-L
℄ COUNTY LINE RD
54' ROW
27'
27'
20'
EXISTING ROW
EXISTING ROW
PGL
VAR
VAR

EXISTING COUNTY LINE RD TYPICAL SECTION
NTS CSJ 0549-03-021

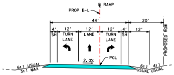

PROP C-L
℄ COUNTY LINE RD
80' ROW
40'
40'
24'
12' LANE
12' LANE
PROPOSED ROW
PROPOSED ROW
PGL
2.0%
2.0%
4:1 MAX
6:1 MAX
6:1 MAX
4:1 MAX

PROPOSED COUNTY LINE RD TYPICAL SECTION
NTS CSJ 0549-03-021

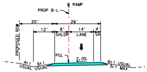

PROP C-L
295'
178'
118'
EXIST C-L
VARIES 57'-71'
VARIES 106'-120'
VARIES 39'-53'
B-L SB PGL
B-L NB PGL
20'
20'
19'
19'
1'
8'-10' SHLDR
0'-14' LN VARIES
0'-10' GORE
12' LANE
12' LANE
4' SH
4' SH
12' LANE
VARIES 25'-26' LANE
10' SHLDR
PGL
2.0%
PROPOSED ROW
EXISTING ROW
PROPOSED ROW
27.6' EXISTING BRIDGE

PROPOSED RURAL BRIDGE TYPICAL SECTION
AT DESERT GROVE CREEK
NTS CSJ 0549-03-021

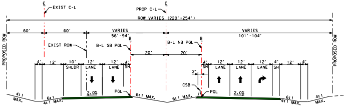
STA. 804+64.50 TO STA. 806+54.50


PROP B-L
℄ RAMP
44'
20'
4' SH
12' TURN LANE
12' LANE
12' TURN LANE
4' SH
12'
PROPOSED ROW
PGL
2.0%
6:1 USUAL
3:1 MAX
6:1 USUAL
4:1 USUAL

PROPOSED RAMP TYPICAL SECTION
AT SH 160 NB EXIT
NTS CSJ 0549-03-021

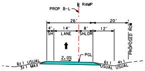

PROP B-L
℄ RAMP
20'
26'
12'
8' SHLDR
14' LANE
4' SH
PROPOSED ROW
PGL
2.0%
4:1 USUAL
6:1 USUAL
6:1 USUAL
3:1 MAX

PROPOSED RAMP TYPICAL SECTION
AT SH 160 SB ENTRANCE
NTS CSJ 0549-03-021

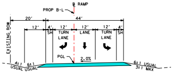

EXIST C-L
PROP C-L
ROW VARIES (220'-254')
60'
60'
VARIES 56'-94'
VARIES 101'-104'
EXIST ROW
B-L SB PGL
B-L NB PGL
20'
20'
4'
12'
10' SHLDR
12' LANE
12' LANE
4' SH
2'
CSB
4' SH
12' LANE
12' LANE
12' LANE
4' SH
12'
4'
PROPOSED ROW
PROPOSED ROW
PGL
2.0%
4:1 MAX.
6:1 MAX.
4:1 MAX.

PROPOSED RURAL ROADWAY TYPICAL SECTION
AT INTERSECTIONS
NTS CSJ 0549-03-021

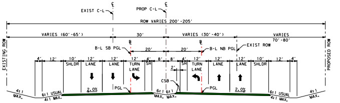
STA. 815+95 TO STA. 823+00


PROP B-L
℄ RAMP
26'
20'
4' SH
14' LANE
8' SHLDR
12'
PROPOSED ROW
PGL
2.0%
6:1 USUAL
3:1 MAX
6:1 USUAL
4:1 USUAL

PROPOSED RAMP TYPICAL SECTION
AT SH 160 NB ENTRANCE
CSJ 0549-03-021 NTS

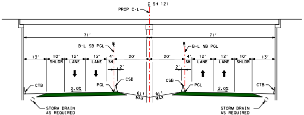

PROP B-L
℄ RAMP
20'
44'
12'
4' SH
12' TURN LANE
12' LANE
12' TURN LANE
4' SH
EXISTING ROW
PGL
2.0%
4:1 USUAL
6:1 USUAL
6:1 USUAL
3:1 MAX

PROPOSED RAMP TYPICAL SECTION
AT SH 160 SB EXIT
NTS CSJ 0549-03-021


EXIST C-L
PROP C-L
ROW VARIES 200'-205'
VARIES (60'-65')
30'
VARIES (30'-40')
VARIES 70'-80'
B-L SB PGL
B-L NB PGL
EXIST ROW
20'
20'
4'
12'
10' SHLDR
12' LANE
12' LANE
12' TURN LANE
4' SH
8'
8'
4' SH
12' TURN LANE
12' LANE
12' LANE
10' SHLDR
12'
4'
2'
CSB
PGL
2.0%
EXISTING ROW
PROPOSED ROW
4:1 MAX.
6:1 USUAL
4:1 MAX.
6:1 MAX.

PROPOSED RURAL ROADWAY TYPICAL SECTION
W/ DUAL LEFT TURN LANES
NTS CSJ 0549-03-021

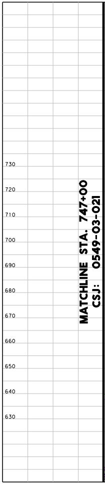
STA. 857+00 TO STA. 863+80


PROP C-L
℄ SH 121
71'
71'
B-L SB PGL
B-L NB PGL
13'
10' SHLDR
12' LANE
12' LANE
4' SH
20'
20'
4' SH
12' LANE
12' LANE
10' SHLDR
13'
2'
CSB
CTB
PGL
2.0%
6:1 MAX
STORM DRAIN AS REQUIRED
STORM DRAIN AS REQUIRED

PROPOSED SH 121 TYPICAL SECTION
NTS CSJ 0549-03-021

AT SH 160 UNDERPASS

MATCHLINE STA. 747+00
CSJ: 0549-03-021

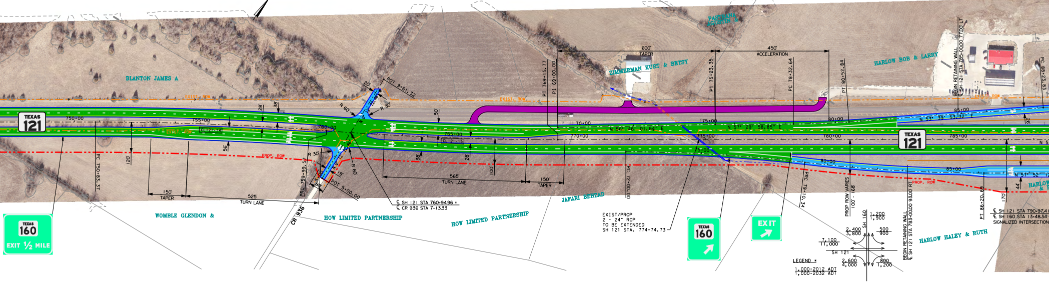


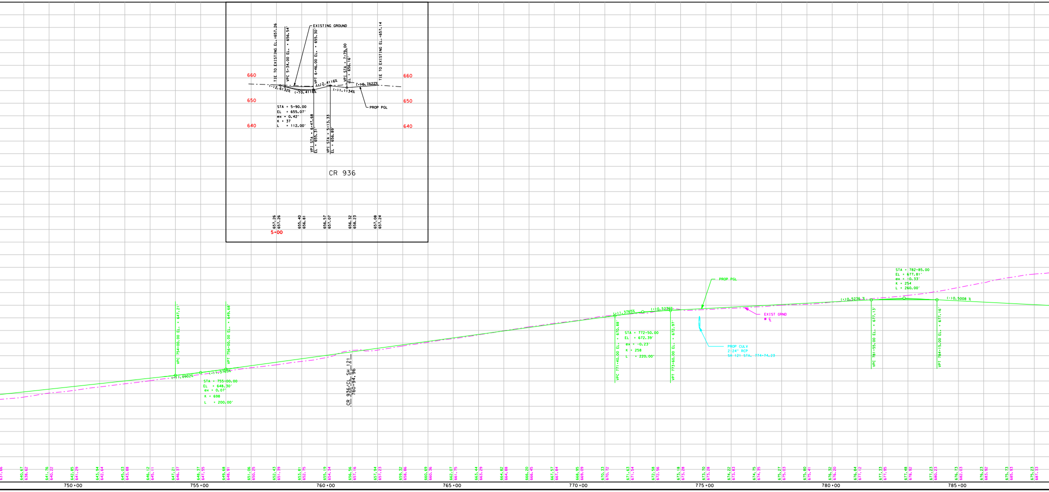
MATCHLINE STA. 747+00
CSJ: 0549-03-021

CL121-14
PI STATION = 755+41.69
DELTA = 4° 22′ 28.34″ (RT)
DEGREE OF CURVE = 0° 28′ 38.87″
TANGENT = 458.32
LENGTH = 916.20
RADIUS = 12,000.00
PC STATION = 750+83.37
PT STATION = 759+99.57

CL121-15
PI STATION = 764+57.89
DELTA = 4° 22′ 28.34″ (LT)
DEGREE OF CURVE = 0° 28′ 38.87″
TANGENT = 458.32
LENGTH = 916.20
RADIUS = 12,000.00
PC STATION = 759+99.57
PT STATION = 769+15.77

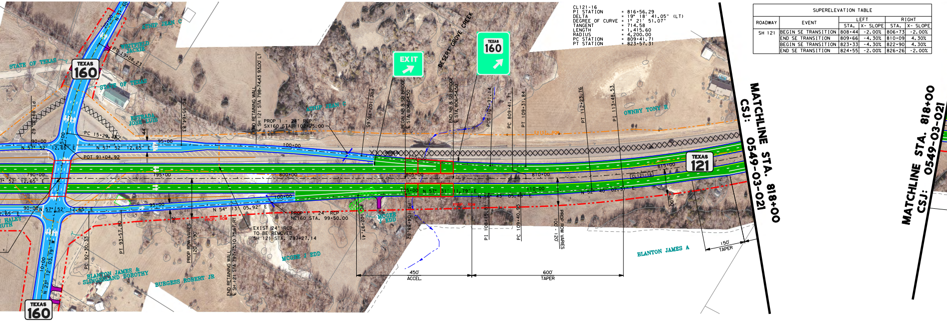
SEE ROLL 10 FOR FM 160
AND CONNECTING RAMPS

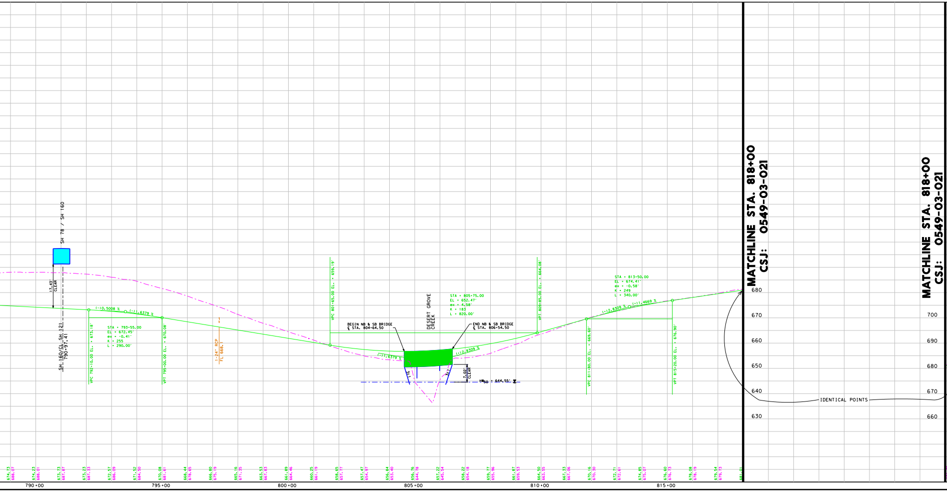

N
BLANTON JAMES A
WOMBLE GLENDON &
HOW LIMITED PARTNERSHIP
ZIMMERMAN KURT & BETSY
PASTRANA AGUSTIN
HARLOW BOB & LARRY
JAFARI BEHZAD
HARLOW HALEY & RUTH
TEXAS 121
TEXAS 160 EXIT 1/2 MILE
TEXAS 160
EXIT
CR 936
EXIST. ROW
PROP. ROW
750+00
755+00
760+00
765+00
770+00
775+00
780+00
785+00
80+00
85+00
75+00
70+00
PC 750+83.37
PRC 759+99.57
PT 769+15.77
PI 69+00.00
PI 75+23.35
PC 72+00.00
PC 78+32.64
PT 80+52.84
PRC 79+10.34
PT 86+20.69
PC 88+23.83
POT 9+61.32
POT 5+00.00
N 56° 46′ 01.64″ E
N 57° 29′ 58.85″ E
N 53° 39′ 53.32″ E
N 57° 52′
150′ TAPER
525′ TURN LANE
565′ TURN LANE
150′ TAPER
600′ TAPER
450′ ACCELERATION
℄ SH 121 STA 760+94.96 =
℄ CR 936 STA 7+13.33
EXIST/PROP
2 - 24″ RCP
TO BE EXTENDED
SH 121 STA. 774+74.73
PROP ROW VARIES
100′ - 168′
BEGIN RETAINING WALL
℄ SH 121 STA 783+00.00 93.00′ RT
BEGIN RETAINING WALL
℄ SH 121 STA 785+00.00 77.00′ LT
℄ SH 121 STA 790+97.41 =
℄ SH 160 STA 13+48.34
SIGNALIZED INTERSECTION
SH 160
SH 121
1,200
1,900
2,400
3,800
500
900
7,100
11,000
2,600
4,000
800
1,200
LEGEND *
1,000-2012 ADT
1,000-2032 ADT
R 60
R 30
28′
38′
56′
120′
50′
30′
38′
28′
100′
26′
44′
170′

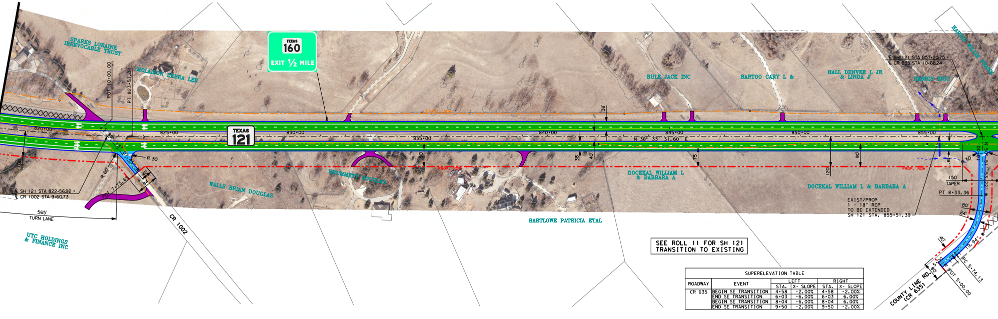

TIE TO EXISTING EL. =657.26
VPC STA 5+34.00 EL. = 656.54′
EXISTING GROUND
VPI STA 6+46.00 EL. = 655.30′
VPI STA 7+79.00 EL. = 656.16′
TIE TO EXISTING EL. =657.14
660
650
640
(-)2.6132%
(-)0.4116%
(+)2.4116%
(-)1.1134%
(+)0.7622%
PROP PGL
STA = 5+90.00
EL = 655.07′
ex = 0.42′
K = 37
L = 112.00′
VPI STA = 6+47.68
EL = 655.31′
VPI STA = 5+13.33
EL = 656.89′
CR 936
5+00
VPC 754+00.00 EL. = 647.21′
VPT 756+00.00 EL. = 649.60′
STA = 755+00.00
EL = 648.30′
ex = 0.07′
K = 698
L = 200.00′
CR 936/CL SH 121
760+94.96
PROP PGL
VPC 771+40.00 EL. = 670.88′
VPT 773+60.00 EL. = 672.97′
(+)1.3785%
(+)0.5236%
STA = 772+50.00
EL = 672.39′
ex = -0.23′
K = 258
L = 220.00′
EXIST GRND
PROP CULV
2-24″ RCP
SH 121 STA. 774+74.73
STA = 782+85.00
EL = 677.81′
ex = -0.33′
K = 254
L = 260.00′
(+)0.5236 %
(-)0.5008 %
VPC 781+55.00 EL. = 677.13′
VPT 784+15.00 EL. = 677.16′
750+00
755+00
760+00
765+00
770+00
775+00
780+00
785+00

CL121-16
PI STATION = 816+56.29
DELTA = 19° 18′ 41.05″ (LT)
DEGREE OF CURVE = 1° 21′ 51.07″
TANGENT = 714.58
LENGTH = 1,415.60
RADIUS = 4,200.00
PC STATION = 809+41.71
PT STATION = 823+57.31

| SUPERELEVATION TABLE | | | | | |
|---|---|---|---|---|---|
| ROADWAY | EVENT | LEFT | | RIGHT | |
| | | STA. | X- SLOPE | STA. | X- SLOPE |
| SH 121 | BEGIN SE TRANSITION | 808+44 | -2.00% | 806+73 | -2.00% |
| | END SE TRANSITION | 809+66 | -4.30% | 810+09 | 4.30% |
| | BEGIN SE TRANSITION | 823+33 | -4.30% | 822+90 | 4.30% |
| | END SE TRANSITION | 824+55 | -2.00% | 826+26 | -2.00% |

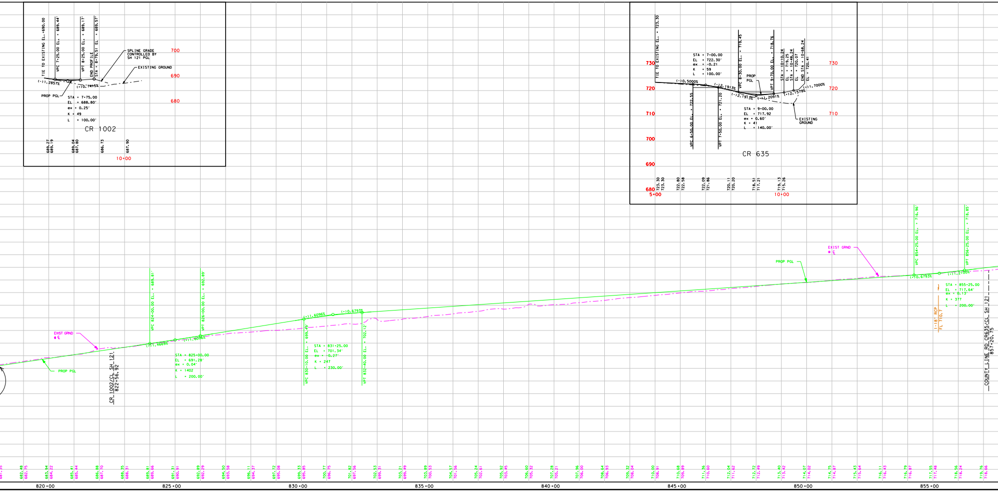

TEXAS 160
STATE OF TEXAS
WHITFIELD JACKIE
ESTRADA JOSE LUIS
KNIP JEAN C
PT 19+08.23
PC 15+29.46
N 57° 52′ 12.65″ E
POT 91+04.92
95+00
100+00
90+00
790+00
795+00
800+00
805+00
810+00
815+00
END RETAINING WALL SH 121 STA 798+74.43 93.00 LT
PROP 1 - 24″ RCP SX160 STA. 102+25.00
PROP 1 - 24″ RCP NE160 STA. 99+50.00
EXIST 24″ RCP TO BE REMOVED SH 121 STA. 797+27.14
END RETAINING WALL SH 121 STA 797+75.10 75.67 RT
N 54° 13′ 05.92″ E
PROP. ROW
PROP ROW VARIES
DESERT GROVE CREEK
EXIT
TEXAS 160
BEGIN NB & SB BRIDGE STA 804+64.50
END NB & SB BRIDGE STA 806+54.50
PC 809+41.71
PT 109+31.84
PI 108+15.81
PC 109+40.95
PT 112+23.76
PI 113+48.53
OWNBY TONY R
TEXAS 121
CL121-16
N 52° 40′ 02.31″ E
PROP ROW VARIES 100′ - 120′
MCGEE T EDD
BLANTON JAMES A
BLANTON JAMES & SLINGERLAND DOROTHY
BURGESS ROBERT JR
PT 93+57.80
PC 92+30.33
N 23° 12′ 03.79″ W
450′ ACCEL.
600′ TAPER
150′ TAPER
MATCHLINE STA. 818+00 CSJ: 0549-03-021


SH 78 / SH 160
17.43′ CLEAR
SH 160/CL SH 121 790+97.41
(-)0.5008 %
(-)1.6379 %
VPC 792+10.00 EL. = 673.18′
STA = 793+55.00
EL = 672.45′
ex = -0.41′
K = 255
L = 290.00′
VPT 795+00.00 EL. = 670.08′
1-24″ RCP FL 668.1
VPC 801+65.00 EL. = 659.19′
BEGIN NB & SB BRIDGE ℄ STA. 804+64.50
DESERT GROVE CREEK
STA = 805+75.00
EL = 652.47′
ex = 4.58′
K = 183
L = 820.00′
END NB & SB BRIDGE ℄ STA. 806+54.50
(+)2.8309 %
3:1
7.02′ CLEAR
HW50 = 644.55′
VPT 809+85.00 EL. = 664.08′
STA = 813+50.00
EL = 674.41′
ex = -0.58′
K = 249
L = 340.00′
(+)1.4669 %
VPC 811+80.00 EL. = 669.60′
VPT 815+20.00 EL. = 676.90′
680
670
660
650
640
630
700
690
680
670
660
IDENTICAL POINTS
MATCHLINE STA. 818+00 CSJ: 0549-03-021
790+00
795+00
800+00
805+00
810+00
815+00

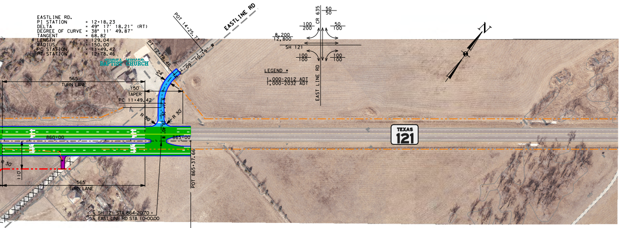

SPARKS LORAINE IRREVOCABLE TRUST
MOLAISON DEBRA LEE
TEXAS 160 EXIT ½ MILE
RULE JACK INC
BARTOO CARY L &
HALL DENVER L JR & LINDA J
HARRIS ERIC
HARRIS WILLIE FRANK
℄ SH 121 STA 857+20.75 =
℄ CR 635 STA 10+68.24
POT 10+00.00
PT 823+57.31
820+00
825+00
TEXAS 121
830+00
835+00
840+00
845+00
850+00
855+00
N 38° 33' 31.60" E
38'
40'
75'
90'
120'
R 30'
R 60'
POT 7+73.65
42'
84'
100'
℄ SH 121 STA 822+56.92 =
℄ CR 1002 STA 9+60.73
565'
TURN LANE
UTC HOLDINGS & FINANCE INC
CR 1002
WALLS BRIAN DOUGLAS
BRUMMETT DOUGLAS
BARTLOWE PATRICIA ETAL
DOCEKAL WILLIAM L & BARBARA A
DOCEKAL WILLIAM L & BARBARA A
PROP. ROW
EXIST. ROW
150'
TAPER
PT 8+33.36
80'
24'
40'
EXIST/PROP
1 - 18" RCP
TO BE EXTENDED
SH 121 STA. 855+51.39
N 50° 51' 53.22" W
19.94"
PC 5+74.13
POT 5+00.00
COUNTY LINE RD. (CR 635)

SEE ROLL 11 FOR SH 121
TRANSITION TO EXISTING

| SUPERELEVATION TABLE | | | | | |
|---|---|---|---|---|---|
| ROADWAY | EVENT | LEFT | | RIGHT | |
| | | STA. | X- SLOPE | STA. | X- SLOPE |
| CR 635 | BEGIN SE TRANSITION | 4+58 | -2.00% | 4+58 | -2.00% |
| | END SE TRANSITION | 6+03 | -6.00% | 6+03 | 6.00% |
| | BEGIN SE TRANSITION | 8+04 | -6.00% | 8+04 | 6.00% |
| | END SE TRANSITION | 9+50 | -2.00% | 9+50 | -2.00% |


TIE TO EXISTING EL. =690.00
VPC 7+25.00 EL. = 689.44'
VPT 8+25.00 EL. = 689.17'
END PROFILE STA = 8+79.51 EL = 689.57'
SPLINE GRADE CONTROLLED BY SH 121 PGL
EXISTING GROUND
(-)1.2857%
(+)0.7415%
PROP PGL
STA = 7+75.00
EL = 688.80'
ex = 0.25'
K = 49
L = 100.00'
CR 1002
700
690
680
689.27
689.19
689.04
687.80
686.73
687.90
10+00
TIE TO EXISTING EL. = 723.30
STA = 7+00.00
EL = 722.30'
ex = -0.21
K = 59
L = 100.00'
(-)0.5000%
(-)2.1913%
(-)2.1913%
VPC 6+50.00 EL. = 722.55
VPT 7+50.00 EL. = 721.20
VPC 8+30.00 EL. = 719.45
PROP PGL
VPT 9+70.00 EL. = 718.76
(+)1.2091%
STA = 10+10.24 EL = 719.25
STA = 10+48.24 EL = 720.07
END STA = 10+68.24 EL = 720.41
(+)2.1579%
(+)1.7000%
STA = 9+00.00
EL = 717.92
ex = 0.60'
K = 41
L = 140.00'
EXISTING GROUND
CR 635
730
720
710
700
690
680
5+00
723.30
723.30
722.80
722.58
722.09
721.86
720.11
720.20
718.51
717.21
719.13
715.26
10+00
EXIST GRND @ ℄
PROP PGL
CR 1002/CL SH 121 822+56.92
VPC 824+00.00 EL. = 689.81'
VPT 826+00.00 EL. = 692.89'
(+)1.4669%
(+)1.6096%
STA = 825+00.00
EL = 691.28'
ex = 0.04'
K = 1402
L = 200.00'
(+)1.6096%
(+)0.6793%
VPC 830+10.00 EL. = 699.49'
VPT 832+40.00 EL. = 702.12'
STA = 831+25.00
EL = 701.34'
ex = -0.27'
K = 247
L = 230.00'
PROP PGL
EXIST GRND @ ℄
VPC 854+25.00 EL. = 716.96'
VPT 856+25.00 EL. = 718.85'
(+)0.6793%
(+)1.2100%
STA = 855+25.00
EL = 717.64'
ex = 0.13'
K = 377
L = 200.00'
1-18" RCP
FL 710.7
COUNTY LINE RD CR635/CL SH 121 857+20.75
820+00
825+00
830+00
835+00
840+00
845+00
850+00
855+00

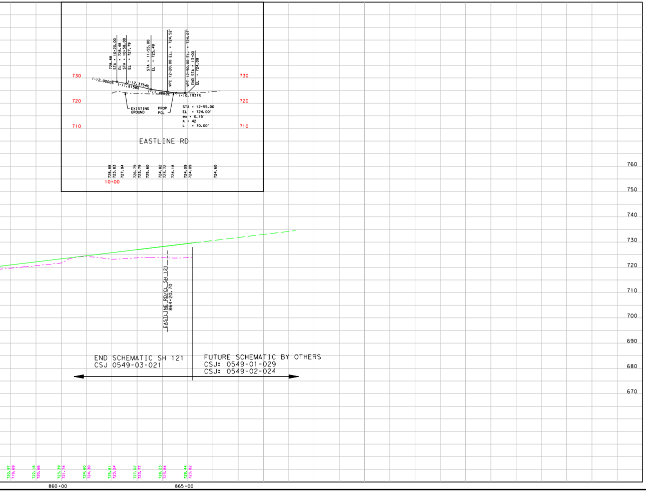
EASTLINE RD.
PI STATION = 12+18.23
DELTA = 49° 17′ 18.21" (RT)
DEGREE OF CURVE = 38° 11′ 49.87"
TANGENT = 68.82
LENGTH = 129.04
RADIUS = 150.00
PC STATION = 11+49.42
PT STATION = 12+78.46


EASTLINE RD
POT 14+25.77
PT 12+78.46
N 09' 10.19" W
24'
SHADY GROVE BAPTIST CHURCH
565' TURN LANE
150' TAPER
PC 11+49.42
R 30'
R 30'
28.40' W
860+00
865+00
POT 865+37.66
R 30'
110'
565' TURN LANE
SH 121 STA 864+20.70 =
EAST LINE RD STA 10+00.00
TEXAS 121
N
CR 635
50
50
100
200
50
100
8,200
12,800
SH 121
100
100
100
100
EAST LINE RD
LEGEND =
1,000-2012 ADT
1,000-2032 ADT

END SCHEMATIC SH 121
CSJ 0549-03-021

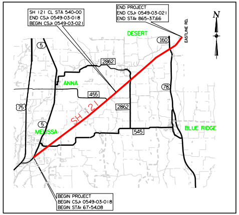
FUTURE SCHEMATIC BY OTHERS
CSJ: 0549-01-029
CSJ: 0549-02-024

CR 635
PI STATION = 7+12.46
DELTA = 49° 30′ 33.28" (LT)
DEGREE OF CURVE = 19° 05′ 54.94"
TANGENT = 138.33
LENGTH = 259.23
RADIUS = 300.00
PC STATION = 5+74.13
PT STATION = 8+33.36


728.88
STA = 10+20.00
EL = 728.48
STA = 10+58.00
EL = 727.79
STA = 11+55.00
EL = 725.49
VPC 12+20.00 EL. = 724.52'
VPT 12+90.00 EL. = 724.07'
END STA = 13+00
EL = 724.09
730
720
710
(-)2.0000%
(-)1.8158%
(-)2.3754%
(-)1.4859%
(+)0.1931%
EXISTING GROUND
PROP PGL
STA = 12+55.00
EL = 724.00'
ex = 0.15'
K = 42
L = 70.00'
EASTLINE RD
728.88
723.83
727.94
726.79
723.79
725.60
724.82
723.72
724.18
724.09
724.09
724.60
10+00
760
750
740
730
720
710
700
690
680
670
EASTLINE RD/CL SH 121
864+20.70
720.97
719.69
722.18
720.66
723.39
721.74
724.60
724.30
725.81
723.24
727.02
723.77
728.23
723.84
729.44
723.82
860+00
865+00

END SCHEMATIC SH 121
CSJ 0549-03-021

FUTURE SCHEMATIC BY OTHERS
CSJ: 0549-01-029
CSJ: 0549-02-024


SH 121 CL STA 540+00
END CSJ: 0549-03-018
BEGIN CSJ: 0549-03-021
END PROJECT
END CSJ: 0549-03-021
END STA: 865+37.66
EASTLINE RD.
N
DESERT
160
5
2862
ANNA
455
78
75
2862
SH 121
5
MELISSA
545
BLUE RIDGE
BEGIN PROJECT
BEGIN CSJ: 0549-03-018
BEGIN STA: 67+54.08

## LOCATION MAP

**Texas Department of Transportation**

® © 2011

**DALLAS DISTRICT**
**WILLIAM HALE, P.E. DISTRICT ENGINEER**
**SH 121**
**COLLIN COUNTY**
**DESIGN SCHEMATIC**
**SEPTEMBER 2011**

# ROLL 6 of 11

**FROM: SH 5 IN MELISSA TO: CR 635 (EAST LINE ROAD)**
**BRIDGE REPLACEMENT AND HIGHWAY RECONSTRUCTION**
**PROJECT LENGTH: 15.11 MILES (79784')**
**BRIDGE: 0.30 MILES (1560')**
**ROADWAY: 14.81 MILES (78224')**

**CSJ: 0549-03-018 (SH 5 to FM 455)**
**CSJ: 0549-03-021 (FM 455 to CR 635/FANNIN COUNTY LINE)**

HORZ 0 100 200 300
VERT 0 10 20 30
GRAPHIC SCALE (IN FEET)

## LEGEND

| | |
|---|---|
| — · — · | EXISTING R.O.W. (ACCESS BY PERMIT ONLY) |
| —— | PROPERTY LINES |
| ▬ · ▬ · | PROPOSED R.O.W. (ACCESS BY PERMIT ONLY IN ACCORDANCE WITH TXDOT ACCESS CONTROL MANUAL) |
| — · — · | SH 121 CL |
| X X X X | OBLITERATE EXISTING ROADWAY |
| — —3"W— — | WATER UTILITY |
| — — — | CITY LIMIT |
| 🟩 | SH 121 PAVEMENT |
| 🟦 | CROSS STREETS |
| ☐ | BRIDGE |
| 🟪 | DRIVEWAYS |
| —— | RETAINING WALL |
| ▨ | DISPLACED STRUCTURE |

INDEX OF ROLLS

| ROLL | DESCRIPTION |
|---|---|
| 1 | SH 121 STA 67+54.08 TO STA. 187+00 |
| 2 | SH 121 STA 187+00 TO STA. 327+00 |
| 3 | SH 121 STA 327+00 TO STA. 467+00 |
| 4 | SH 121 STA 467+00 TO STA. 607+00 |
| 5 | SH 121 STA 607+00 TO STA. 747+00 |
| 6 | SH 121 STA 747+00 TO CR 635 (FANNIN COUNTY LINE) |
| 7 | SH 121 STA 747+00 TO FANNIN COUNTY LINE (TRANSITION) |
| 8 | SH 5 AND FANNIN ROAD |
| 9 | FM 455 AND CONNECTING RAMPS |
| 10 | FM 2862 AND CONNECTING RAMPS |
| 11 | SH 160 AND CONNECTING RAMPS |

| DESIGN ROADWAY | LIMITS | | FUNCTIONAL CLASSIFICATION | ADT | | DESIGN SPEED |
|---|---|---|---|---|---|---|
| | FROM | TO | | 2012 | 2032 | |
| SH 121 (SUBURBAN) | SH 5<br>STA 67+54.08 | Outer Loop •<br>STA 368+10.00 | ARTERIAL | 18800 | 29400 | 45 |
| SH 121 (RURAL) | Outer Loop •<br>STA 368+10.00 | CR 635<br>STA 865+37.66 | ARTERIAL | 13500 | 21000 | 70 |
| SH 121 RAMPS | Outer Loop •<br>STA 368+10.00 | CR 635<br>STA 865+37.66 | RAMP | NA | NA | 35 |
| FM 2933 | AT SH 121 | | COLLECTOR | 1000 | 1600 | 40 |
| 455 N | AT SH 121 | | ARTERIAL | 1550 | 2250 | 40 |
| 455 S | AT SH 121 | | COLLECTOR | 500 | 700 | 40 |
| E. HOUSTON ST (FM 2862) | AT SH 121 | | COLLECTOR | 1700 | 2700 | 50 |
| SH 160 | AT SH 121 | | ARTERIAL | 4100 | 6600 | 50 |
| N. McDonald Street (SH 5 SOUTH) | AT SH 121 | | ARTERIAL | 7300 | 11,300 | 40 |
| MC KINNEY ST (SH 5 NORTH) | AT SH 121 | | ARTERIAL | 6400 | 9900 | 40 |
| DENTON ST (FM 545) | AT SH 121 | | COLLECTOR | 4200 | 6500 | 30 |
| COUNTY ROADS | | | | | | |
| CR 418 | AT SH 121 | | LOCAL | 600 | 900 | 30 |
| LANDFILL ENTRANCE | AT SH 121 | | LOCAL | NA | NA | 30 |
| 416 | AT SH 121 | | LOCAL | NA | NA | 30 |
| 419 | AT SH 121 | | LOCAL | 300 | 600 | 20 • |
| 420 | AT SH 121 | | LOCAL | NA | NA | 20 • |
| 475 | AT SH 121 | | LOCAL | 250 | 450 | 30 |
| 507(509) | AT SH 121 | | LOCAL | NA | NA | 20 • |
| 424 / 513 | AT SH 121 | | LOCAL | NA | NA | 30 |
| 526 / 527 | AT SH 121 | | LOCAL | NA | NA | 20 • |
| 528 / 581 | AT SH 121 | | LOCAL | NA | NA | 20 • |
| 582 | AT SH 121 | | LOCAL | NA | NA | 20 • |
| 936 | AT SH 121 | | LOCAL | NA | NA | 20 • |
| 1002 | AT SH 121 | | LOCAL | NA | NA | 20 • |
| COUNTY LINE RD | AT SH 121 | | LOCAL | 250 | 250 | 20 • |
| EASTLINE RD | AT SH 121 | | LOCAL | 200 | 350 | 30 |
| CITY STREETS | | | | | | |
| FANNIN RD | AT SH 121 | | COLLECTOR | NA | NA | 30 |
| BARTLETT RD | AT SH 121 | | LOCAL | NA | NA | 30 |
| CREEKSIDE RD | AT SH 121 | | LOCAL | NA | NA | 30 |
| BERRY RD | AT SH 121 | | LOCAL | 2600 | 4000 | 30 |
| EASTWOOD RD | AT SH 121 | | LOCAL | NA | NA | 30 |
| LILLIAN DR | AT SH 121 | | LOCAL | NA | NA | 30 |
| NUGENT ST | AT SH 121 | | LOCAL | NA | NA | 30 |
| LIBERTY WAY | AT SH 121 | | LOCAL | 900 | 1400 | 30 |
| REDWOOD BLVD | AT SH 121 | | LOCAL | NA | NA | 30 |

• = UNPAVED COUNTY ROAD
• = FUTURE OUTER LOOP, BY OTHERS

NOTES:

1. MEDIAN OPENINGS ARE PRELIMINARY AND SUBJECT TO CHANGE. FINAL MEDIAN OPENING LOCATIONS TO BE DETERMINED DURING PS&E AND IN COORDINATION WITH THE CITIES OF MELISSA AND ANNA.

2. SOURCE OF TRAFFIC DATA: TEXAS DEPARTMENT OF TRANSPORTATION TRANSPORTATION, PROGRAMING AND PLANNING DIVISION MARCH 27, 2007

3. ALL URBAN SECTIONS WILL HAVE CONCRETE CURB AND GUTTER WITH BARRIER CURBS.