TEXAS DEPARTMENT OF TRANSPORTATION
DALLAS DISTRICT

COLLIN COUNTY

DESIGN SCHEMATIC

WILLIAM L. HALE, P.E.
DISTRICT ENGINEER

FM 546 (NEW ALIGNMENT)

CSJ: 1013-01-026

FROM: SH 5
TO: WEST OF CR 317

NET LENGTH OF PROJECT: 1.70 MILES

FUNCTIONAL CLASSIFICATION:

TxDOT - MINOR ARTERIAL
CITY OF McKINNEY - URBAN MAJOR ARTERIAL (MAD)
FM 546: 19,810 ADT (2010) 35,780 ADT (2030)

DESIGN SPEED:
FM 546 = 45 MPH
SH 5 = 40 MPH *
AIRPORT ROAD = 45 MPH
COUCH ROAD = 35 MPH
U-TURN LANE = 15 MPH
* PER TEXAS MUTCD, SECTION 2C.13, 1955

LOCATION MAP

ROLL INDEX

ROLL 1: FM 546 NEW ALIGNMENT
BEGIN PROJECT STA 10+44.90 TO STA 55+00

ROLL 2: FM 546 NEW ALIGNMENT
STA 55+00 TO END PROJECT STA 99+79.77

ROLL 3: SH 5 PROPOSED IMPROVEMENTS PLAN AND CROSS STREETS PROFILES

PREPARED BY:
CIVIL ASSOCIATES, INC.
TBPE REGISTRATION NO. F-006949

NASER ABUSAAD, P.E., A.I.CP. SEAL NO. 83200 AUGUST, 2011
BRAD HERNANDEZ, P.E., SEAL NO. 100079 AUGUST, 2011

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ROLL 1 OF 3

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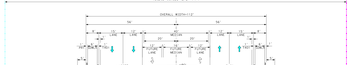
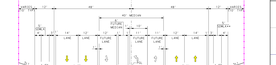
FM 546 NEW ALIGNMENT PROJECT
ANTICIPATED ADT

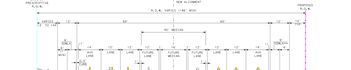
PROPOSED BRIDGE - TYPICAL SECTION
STA 24+70.70 TO STA 28+18.00 (SEGMENT A)
STA 29+19.00 TO 30+50.00 (SEGMENT B)
(NOTE: SEGMENT A INCLUDES U-TURNS AND SIDEWALKS.)
N.T.S.



FM 546
PROPOSED (RETAINING WALL) - TYPICAL SECTION
STA 25+00.00 TO STA 26+70.00 (SEGMENT A)
STA 30+00.00 TO STA 30+62.00 (SEGMENT B)
(NOTE: SEGMENT A INCLUDES U-TURNS AND SIDEWALKS.)
N.T.S.



FM 546
PROPOSED TYPICAL SECTION
WITH FUTURE LEFT TURN LANE
STA 30+62.00 TO STA 70+73.33
N.T.S.



PROPOSED FM 546
TYPICAL SECTION
BEGIN PROJECT TO STA 20+00.00
N.T.S.

EXISTING FM 546
TYPICAL SECTION
N.T.S.

THE CITY OF McKINNEY CODE OF ORDINANCES, SECTION 146-1400 (DEVELOPMENT OF PROPERTY) PROVIDES SIDEWALK WALL IS THE RESPONSIBILITY OF THE PROPERTY OWNER. THE PROPOSED SIDEWALK WALL ALONG THE PROPERTY OWNER'S PROPERTY LINE IS NOT A PART OF THE DEVELOPMENT PROJECT. PROPOSED SIDEWALKS ARE PROVIDED FOR INFORMATION PURPOSES ONLY.

HORIZONTAL ALIGNMENT- CURVE DATA

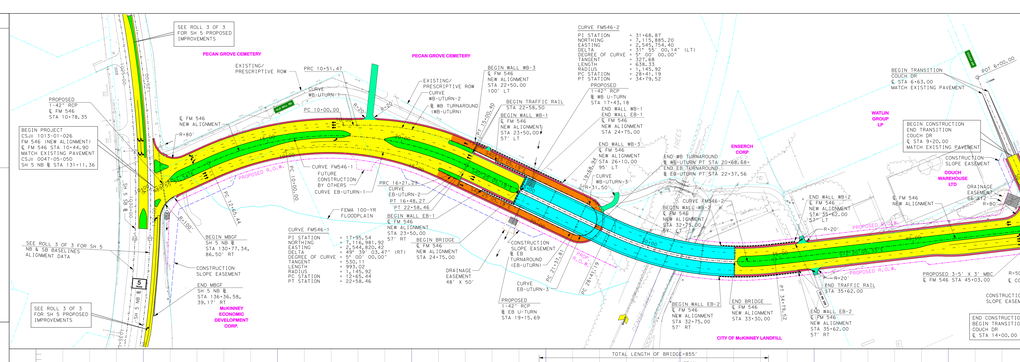
EB TURNAROUND (EB-UTURN)

CURVE EB-UTURN-1		CURVE EB-UTURN-2	
PI STATION	= 13+21.65	PI STATION	= 16+34.78
NORTHING	= 7,546,574.57	NORTHING	= 7,545,093.42
EASTING	= 2,546,883.45	EASTING	= 2,545,093.42
DELTA	= 90° 00' 00.00" (RT)	DELTA	= 90° 00' 00.00" (LT)
DEGREE OF CURVE	= 11° 46.88"	DEGREE OF CURVE	= 32° 59.99"
TANGENT	= 321.41	TANGENT	= 13.49
LENGTH	= 514.73	LENGTH	= 26.97
PC STATION	= 16+07.24	PC STATION	= 16+21.29
PT STATION	= 16+21.99	PT STATION	= 16+48.27

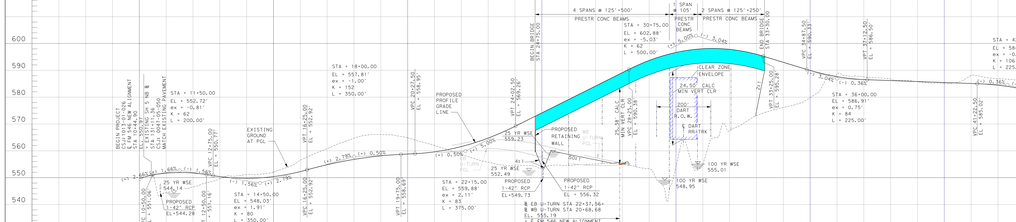
WB TURNAROUND (WB-UTURN)

CURVE WB-UTURN-1		CURVE WB-UTURN-2	
PI STATION	= 12+25.74	PI STATION	= 12+80.16
NORTHING	= 7,546,258.58	NORTHING	= 7,545,261.61
EASTING	= 2,546,783.73	EASTING	= 2,546,064.14
DELTA	= 31° 00' 13.39" (LT)	DELTA	= 28° 58' 07.97" (RT)
DEGREE OF CURVE	= 11° 46.99"	DEGREE OF CURVE	= 32° 59.99"
TANGENT	= 157.26	TANGENT	= 226.49
LENGTH	= 311.47	LENGTH	= 448.93
PC STATION	= 12+68.47	PC STATION	= 12+54.67
PT STATION	= 12+79.94	PT STATION	= 13+03.60

CURVE WB-UTURN-3	
PI STATION	= 20+32.44
NORTHING	= 7,546,214.44
EASTING	= 2,545,472.42
DELTA	= 90° 00' 00.00" (RT)
DEGREE OF CURVE	= 11° 46.88"
TANGENT	= 514.73
LENGTH	= 769.15
PC STATION	= 19+17.69
PT STATION	= 19+86.84
PC STATION	= 20+68.68



SUPERELEVATION TABLE								
BASELINE	CURVE NAME	DIRECTION	BEGIN CROSS SLOPE	BEGIN TRANSITION	END TRANSITION AND BEGIN FULL SUPERELEVATION	FULL SUPERELEVATION	END FULL SUPERELEVATION AND BEGIN TRANSITION	END TRANSITION	END CROSS SLOPE
FM546EB	EB	--	-2.00%	42+09.00	43+44.00	-0.50%	46+33.00	47+68.00	-2.00%
FM546WB	FM546-1	WB	MATCH SH 5	12+00.00	11+75.00	-0.50%	21+69.00	21+44.00	-2.00%
FM546WB	--	WB	-2.00%	42+09.00	43+44.00	-0.50%	46+33.00	47+68.00	-2.00%
TURNAROUND	UTURN-3	--	-2.00%	21+30.00(EB)	--	--	--	19+50.00(WB)	2.00%



SCALE IN FEET
1" = 20'
HORIZONTAL 20 10 0 20 40
VERTICAL 10 5 0 10 20

LEGEND

- PROPOSED CONCRETE ROADWAY
- PROPOSED SIDEWALK
- PROPOSED DRIVEWAY
- PROPOSED MEDIAN
- PROPOSED TURNAROUND
- PROPOSED STRUCTURE (BRIDGE)
- PROPOSED TRANSITION PAVEMENT
- EXISTING R.O.W./PROPERTY LINE ACCESS BY PERMIT ONLY
- PROPOSED DRAINAGE EASEMENT
- PROPOSED CONSTRUCTION SLOPE EASEMENT
- PROPOSED R.O.W.
- PROPOSED RETAINING WALL
- TRAFFIC FLOW
- PROPOSED CROSS DRAINAGE STRUCTURE (BOX)

NOTES:

1. PROPOSED PROFILE GENERALLY FOLLOWS EXISTING.
2. FINAL DRIVEWAY LOCATIONS SHALL BE DETERMINED DURING THE FINAL DESIGN PHASE.
3. ALL DIMENSIONS ARE HORIZONTAL UNLESS OTHERWISE NOTED.
4. CONTROL OF ACCESS WILL BE HANDLED IN ACCORDANCE WITH THE TxDOT ACCESS MANAGEMENT MANUAL.
5. SURVEY NOTES:
   DATE OF SURVEY: AUGUST 7, 2010
   ONLY VISIBLE UTILITIES AS OF AUGUST 13, 2010 WERE LOCATED.
   ALL POINTS WERE ADJUSTED USING THE WDS VRS NETWORK.
   ALL POINTS WERE CONVERTED TO SURFACE USING THE TXDOT COMBINED SURFACE TO GRID SCALE FACTOR OF 1.00015271EL.
   CONTROLS
   FM 546 COLLIN COUNTY
   PRIMARY CONTROL
   SAMM-29232-06
   AUGUST 7, 2010
   HORIZ. DATUM NAD-83 (CORS 2002)
   GRID NORTH NAD-88 (CORS 2002)
   COORD. SYSTEM
   TEXAS STATE PLANE NAD-83 (CORS 2002)
   ZONE: TEXAS NORTH CENTRAL (4202)
   UNITSU: U.S. SURVEY FEET
   GEOID: GEOID09
   PROJECT COMBINED SCALE FACTOR
   1.00015271U (0.9999473135)
   PT. NORTHING, EASTING, ELEV, DESCR.
   PT. NORTHING, EASTING BELOW ARE GRID VALUES.
   SURFACE COORDINATES
   1. 7116884.801,2544073.127,592.803,OF 1
   2. 7116847.423,2547458.536,593.656,OF 2
   3. 7117844.349,2550643.874,584.230,OF 3
   4. 7117509.867,2551507.404,584.686,F 4
   5. 7117417.915,2551265.071,582.954,OF 5
   6. 7112390.337,2548235.36,536.095, OF 6
   7. 7110662.446,2547059.573,582.351,OF 7
   8. 7114876.011,2542248.736,570.296,OF 8

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END PROJECT
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