Summary Table of Impacts to Potentially Jurisdictional Waters of the U.S.

Project Name: State Highway (SH) 114 **CSJ:** 0353-03-100 **County:** Tarrant **District:** Fort Worth **Date Completed:** 02.28.2019

Please include, as an attachment, all supporting documentation that was used to populate the information in the table.

Waterbody ID[1]	Location Description *(Ex: Lat. and Long.; Intersection, Station Number; etc.)*	Resource Type[2]	Linear Feet in Project Area	Acres in Project Area	Permanent Fill		Temporary Fill		Permit Type	Pre-Construction Notification	
					Linear Feet	Acres	Linear Feet	Acres		Required	If Yes, Reason[3]
Water 1 – Kirkwood Branch	32.979807, -97.165316	PS	619	0.34	243	0.075	0	0.00	NWP 14	No	N/A
Water 2 – Unnamed Tributary to Kirkwood Branch	32.975091, -97.161211	PS	594	0.15	207	0.049	0	0.00	NWP 14	No	N/A
Water 3 - Unnamed Tributary to Kirkwood Branch	32.970371, -97.160496	PS	129	0.03	0	0.00	0	0.00	N/A	N/A	N/A

Waterbody ID[1]	Location Description *(Ex: Lat. and Long.; Intersection, Station Number; etc.)*	Resource Type[2]	Linear Feet in Project Area	Acres in Project Area	Permanent Fill		Temporary Fill		Permit Type	Pre-Construction Notification	
					Linear Feet	Acres	Linear Feet	Acres		Required	If Yes, Reason[3]

[1] Waterbody ID may be the name of a feature or an assigned label such as "W-1" for a wetland.
[2] Resource Types: NFW – Non-forested wetland, FW – Forested wetland, PS – Perennial Stream, IS – Intermittent Stream, ES – Ephemeral Stream, I – Impoundment
[3] Reasons for PCN requirement:
A – The loss of waters of the U.S. exceeds 1/10 acre
B – There is a discharge in a special aquatic site (e.g., wetlands)
C – Potential endangered species
D – Potential historic properties
E – Discharge into pitcher plant bog or bald cypress-tupelo swamp
F – Discharge into the area of Caddo Lake within Texas that is designated as a "Wetland of International Importance" under the Ramsar Convention
G – Required by Louisiana Regional Conditions
H – Other

N/A – Not Applicable

*Based on the current plans, impacts to Water 1 and Water 2 would involve the grading and placement of concrete and rock riprap within the ordinary high water mark of these two potentially jurisdictional crossings of waters of the U.S. Water 3 exists entirely within a culvert within the project area at Crossing 3. No extension of the culvert at Crossing #3 is anticipated. Therefore, the construction of the proposed project will have no impacts on this Water 3.

** Qualified wetland ecologists conducted field investigations within the existing and proposed project ROW in September and December 2018. The routine method of wetland delineation outlined in the *Field Guide for Wetland Delineation – 1987 Corps of Engineers Manua*l (Environmental Laboratory, 1987) and updated in the *Great Plains Regional Supplement* (USACE, 2010) was utilized for wetland determinations within the project area. Field activities focused on wetland and water of the U.S. delineation and description. Following the completion of preliminary data gathering and synthesis, the routine method of wetland determination was used to identify potentially jurisdictional areas within the proposed project right-of-way. Potential wetland sites were evaluated in the field and localized hydrologic characteristics and the dominant vegetative species observed at the site were described. Boundaries of potential waters of the U.S., including wetlands, were recorded using a handheld Trimble GeoXT Global Positioning System (GPS) unit and confirmed using aerial photography; these are shown on **Figure 2a-2e**. GPS data was post-processed using Trimble Pathfinder Office software to achieve sub-meter accuracy.

SUPPORTING ATTACHMENTS

ATTACHMENT 1: FIGURE 1 – WATER RESOURCES

ATTACHMENT 2: FIGURE 2 – POTENTIAL WATERS OF THE U.S

ATTACHMENT 3: WETLAND DETERMINATION DATA FORMS

ATTACHMENT 4: PROJECT AREA PHOTOGRAPHS

ATTACHMENT 5: FIGURE 3 - PHOTO LOCATIONS

ATTACHMENT 6: 60% BRIDGE DESIGN AND PROJECT LAYOUT

ATTACHMENT 1:

FIGURE 1 – WATER RESOURCES

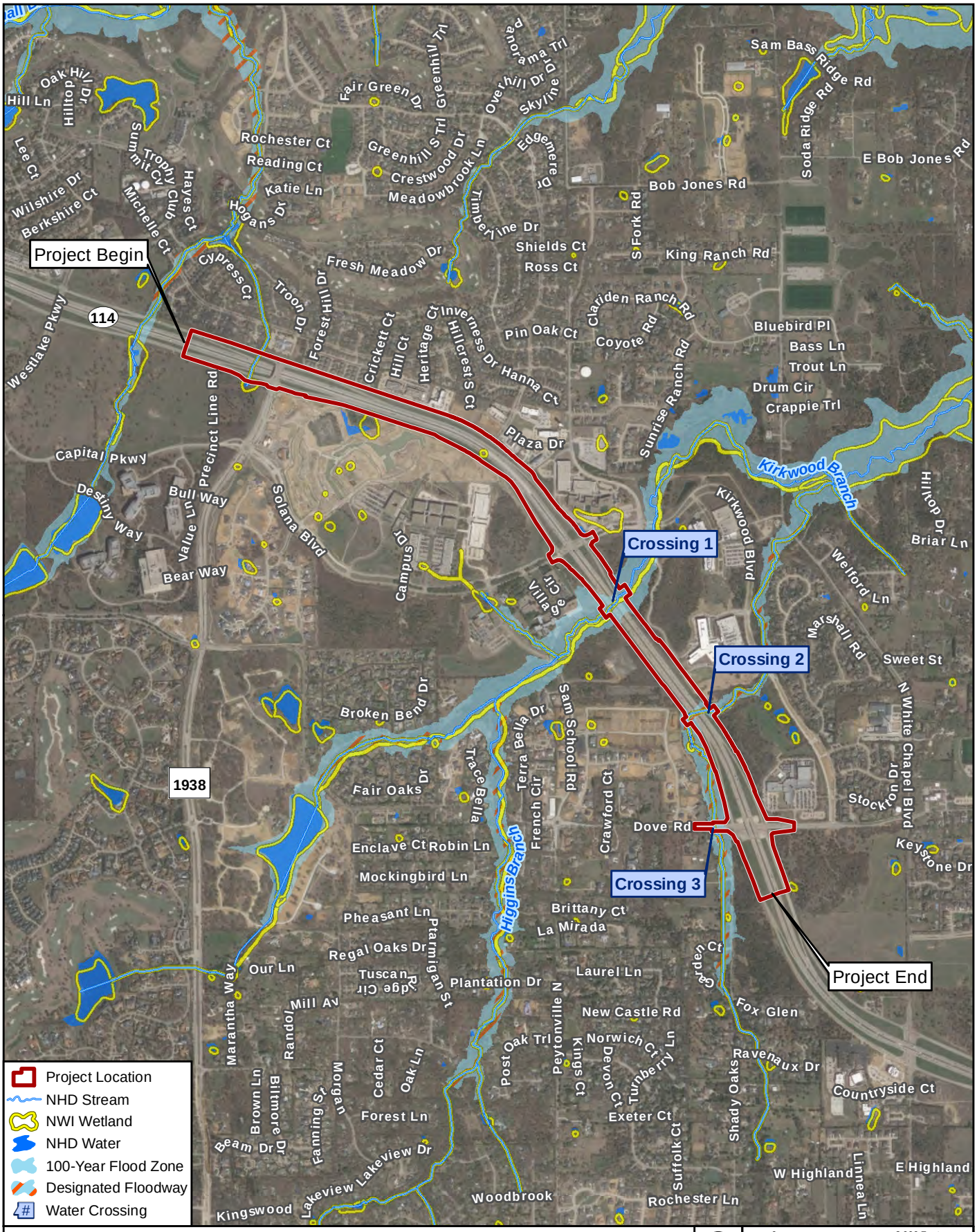

Figure 1

Water Resources

SH 114 from FM 1938 to Dove Rd

Data Sources: NHD (2018), NWI (2018)
FEMA NFHL (2018), CMEC (2018)
Aerial Source: Google (2018)

0 2,000 Feet
0 500 Meters

Prepared for: TxDOT	1 in = 2,000 feet
	Scale: 1:24,000
CSJ: 0353-03-100	Date: 12/21/2018

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ATTACHMENT 2:

FIGURE 2 – POTENTIAL WATERS OF THE U.S

Figure 2a

Potential Waters of the U.S.

SH 114 from FM 1938 to Dove Rd

Data Sources: NHD (2018), FEMA NFHL (2018), CMEC (2018)
Aerial Source: Google (2018)

0 150 Feet
0 50 Meters

Prepared for: TxDOT	1 in = 150 feet
	Scale: 1:1,800
CSJ: 0353-03-100	Date: 2/27/2019

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Figure 2b

Potential Waters of the U.S.

SH 114 from FM 1938 to Dove Rd

Data Sources: NHD (2018), FEMA NFHL (2018), CMEC (2018) Aerial Source: Google (2018)

0 150 Feet

0 50 Meters

Prepared for: TxDOT	1 in = 150 feet
	Scale: 1:1,800
CSJ: 0353-03-100	Date: 2/27/2019

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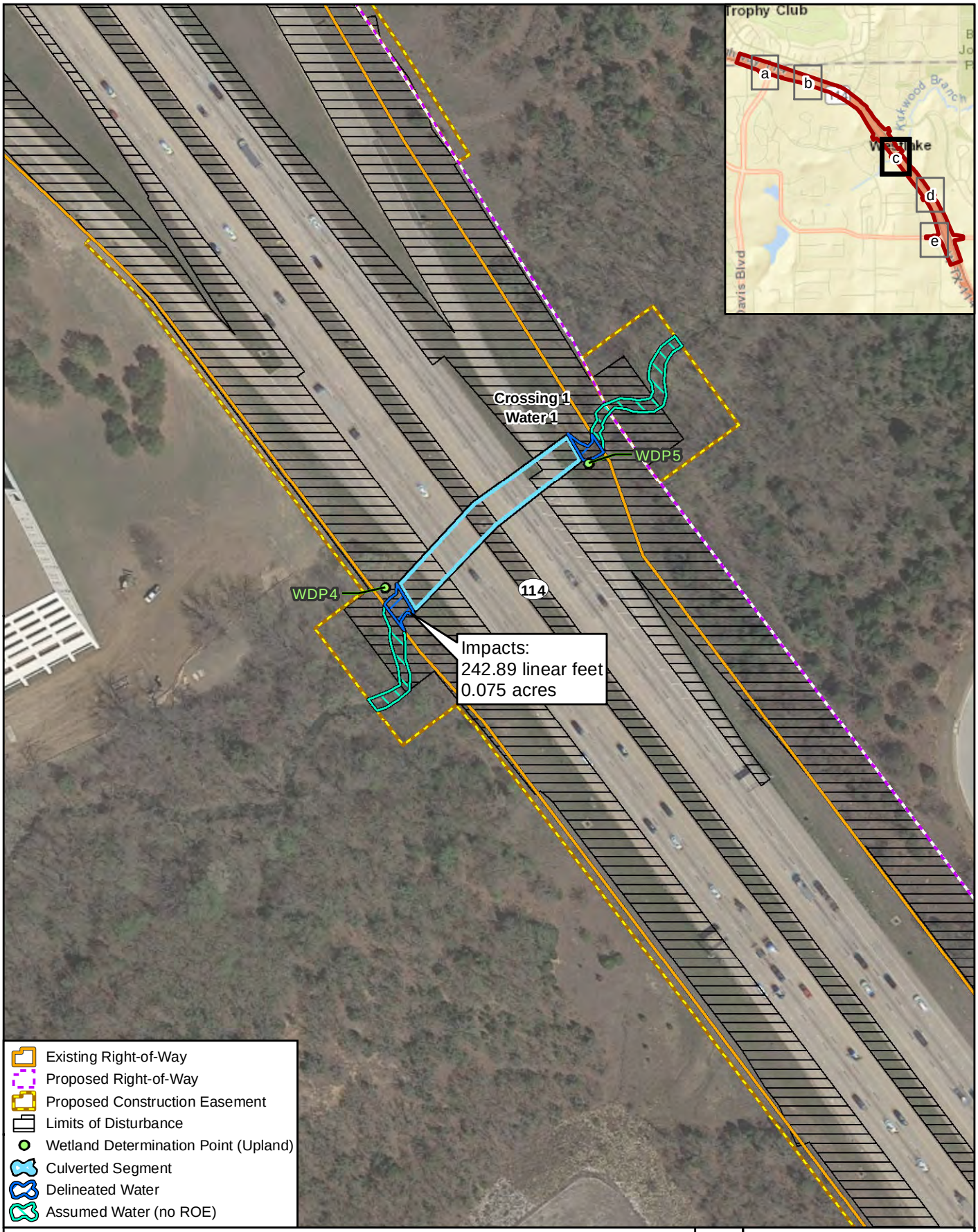

Figure 2c

Potential Waters of the U.S.

SH 114 from FM 1938 to Dove Rd

Data Sources: NHD (2018), FEMA NFHL (2018), CMEC (2018)
Aerial Source: Google (2018)

0 150 Feet
0 50 Meters

Prepared for: TxDOT	1 in = 150 feet
	Scale: 1:1,800
CSJ: 0353-03-100	Date: 2/27/2019

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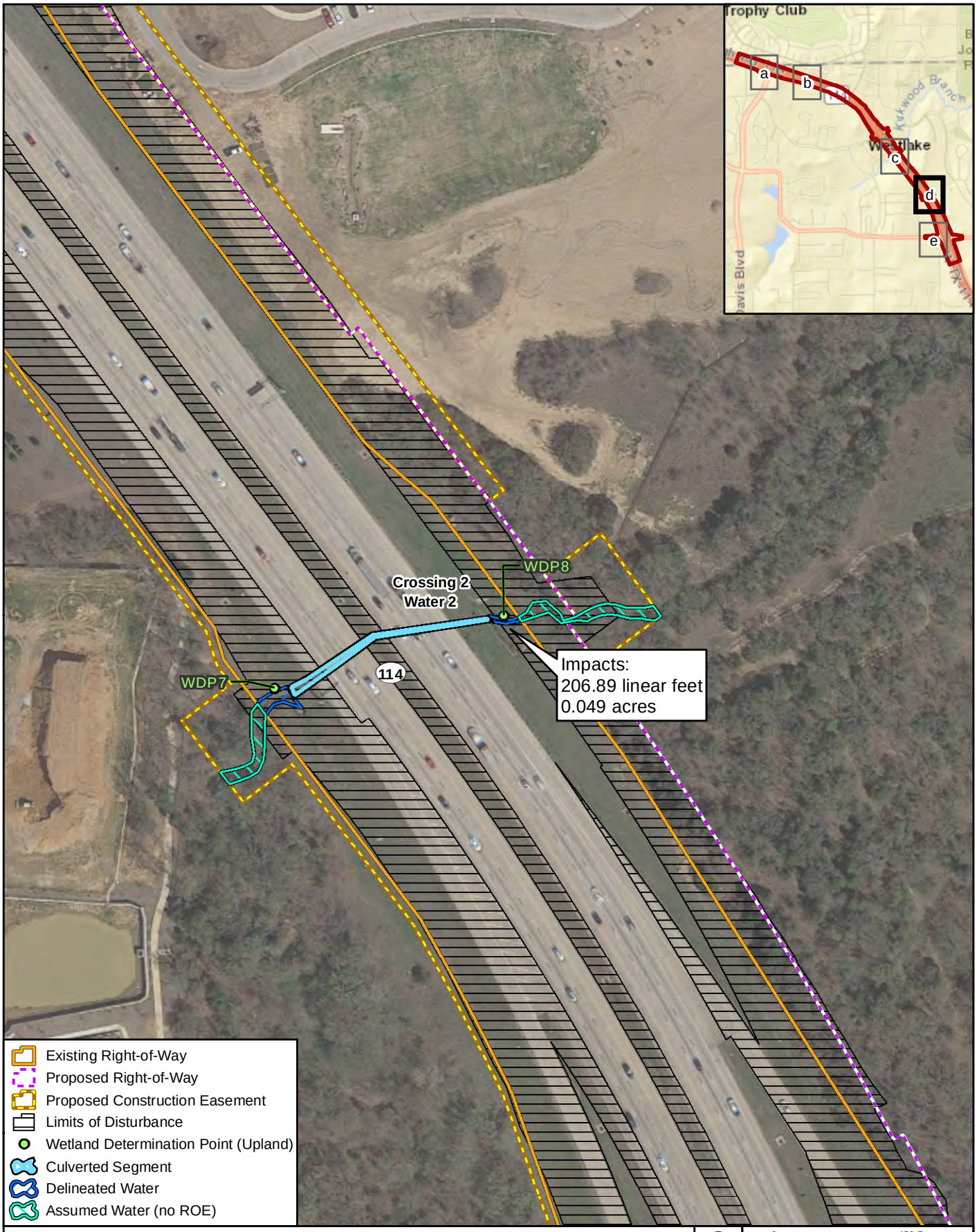

Figure 2d

Potential Waters of the U.S.

SH 114 from FM 1938 to Dove Rd

Data Sources: NHD (2018), FEMA NFHL (2018), CMEC (2018)
Aerial Source: Google (2018)

0 150 Feet
0 50 Meters

Prepared for: TxDOT	1 in = 150 feet
	Scale: 1:1,800
CSJ: 0353-03-100	Date: 2/27/2019

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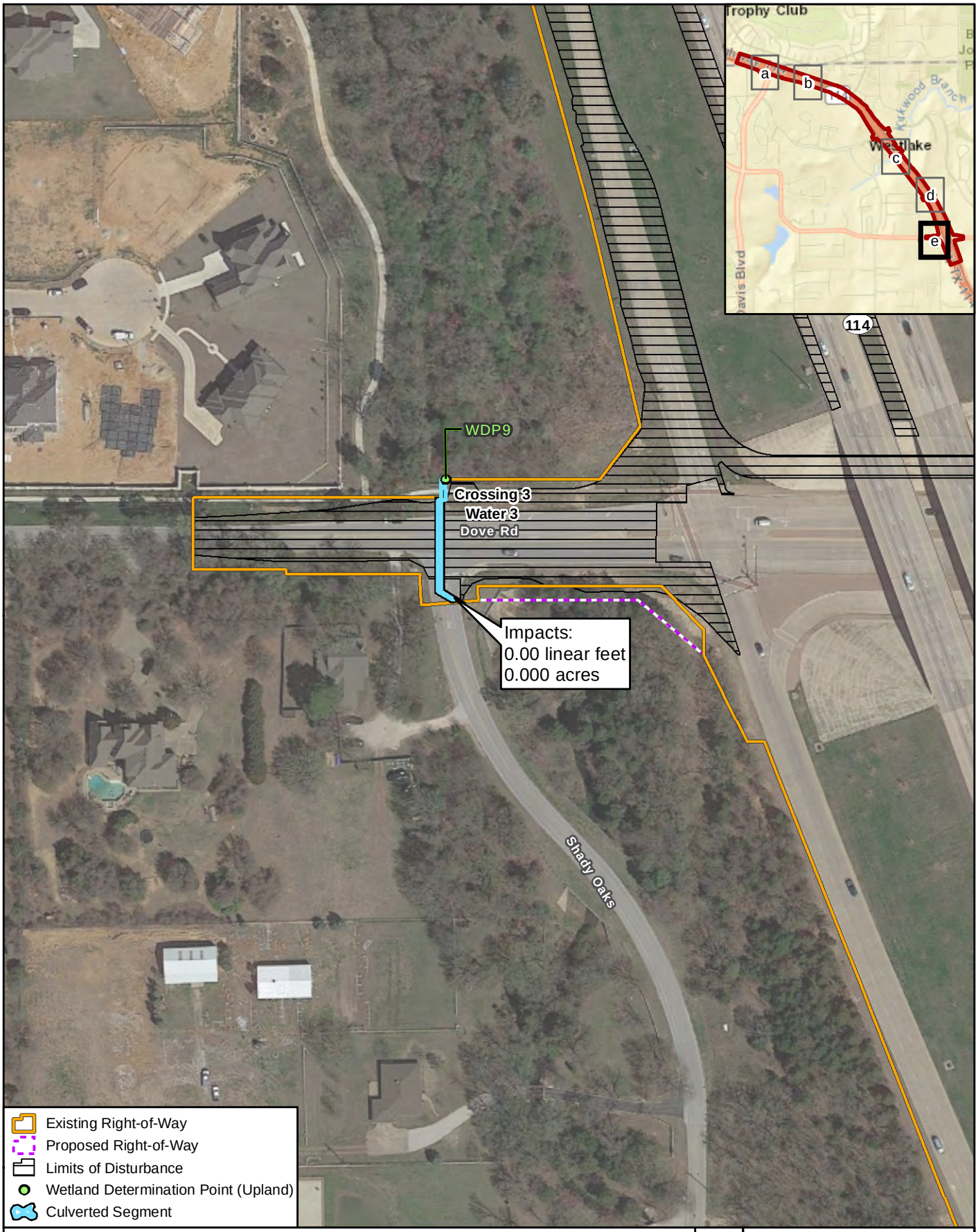

Figure 2e

Potential Waters of the U.S.

SH 114 from FM 1938 to Dove Rd

Data Sources: NHD (2018), FEMA NFHL (2018), CMEC (2018)
Aerial Source: Google (2018)

0 150 Feet
0 50 Meters

Prepared for: TxDOT	1 in = 150 feet
	Scale: 1:1,800
CSJ: 0353-03-100	Date: 2/27/2019

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ATTACHMENT 3:

WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: State Highway 114 City/County: Denton County Sampling Date: 09.11.2018

Applicant/Owner: TXDOT State: TX Sampling Point: WDP 1

Investigator(s): Garrett Weiberg, Katie Kuzdak Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0-1

Subregion (LRR): J Lat: 32.989154 Long: -97.183014 Datum: NAD 83

Soil Map Unit Name: Gasil fine sandy loam, 3 to 8 percent slopes NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

None of the three necessary wetland indicators are present. The WDP is not located in a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	15	Y	FACW
2.			
3.			
4.			
	15 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. None			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Sorghum halepense	80	Y	FACU
2. Cynodon dactylon	40	Y	FACU
3. Ambrosia trifida	30	N	FAC
4. Bothriochloa saccharoides	15	N	UPL
5. Paspalum plicatulum	10	N	FAC
6. Tragia nepetifolia	5	N	UPL
7. Smilax bona-nox	5	N	FACU
8.			
9.			
10.			
	185 = Total Cover		
Woody Vine Stratum (Plot size: 15')			
1. Smilax bona-nox	20	Y	FACU
2.			
	20 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** ✓

Remarks:

The vegetative community did not pass the dominance test.

SOIL

Sampling Point: WDP 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/1	100	None				clay	
2-8	10YR 5/3	100	None				clay	
8-18	10YR 4/6	100	None				clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR F**)
___ 1 cm Muck (A9) (**LRR F, G, H**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR I, J**)
___ Coast Prairie Redox (A16) (**LRR F, G, H**)
___ Dark Surface (S7) (**LRR G**)
___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: N/A

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

No hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Dry-Season Water Table (C2)
___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
___ Presence of Reduced Iron (C4)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
✓ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)
___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

One secondary wetland hydrology indicator, D2 (Geomorphic Position), is present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: State Highway 114 City/County: Denton County Sampling Date: 09.11.2018

Applicant/Owner: TXDOT State: TX Sampling Point: WDP 2

Investigator(s): Garrett Weiberg, Katie Kuzdak Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): J Lat: 32.989044 Long: -97.182786 Datum: NAD 83

Soil Map Unit Name: Gasil fine sandy loam, 3 to 8 percent slopes NWI classification: PUBHh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

None of the three necessary wetland indicators are present. The WDP is not located within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus crassifolia	40	Y	FAC
2. Salix nigra	20	Y	FACW
3. Pistacia chinensis	5	N	UPL
4.			
	65	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. None			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Sorghum halepense	80	Y	FACU
2. Bothriochloa ischaemum	40	Y	UPL
3. Tragia nepetifolia	10	N	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	130	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1. Smilax bona-nox	20	Y	FACU
2.			
	20	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** ✓

Remarks:

The vegetative community did not pass the dominance test.

SOIL

Sampling Point: WDP 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/3	70	None				clay	
0-8	10YR 4/4	30	None				clay	
8-9	10YR 4/6	100	None				clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR F**)
___ 1 cm Muck (A9) (**LRR F, G, H**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR I, J**)
___ Coast Prairie Redox (A16) (**LRR F, G, H**)
___ Dark Surface (S7) (**LRR G**)
___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: Concrete
Depth (inches): 9

Hydric Soil Present? **Yes** ___ **No** ✓

Remarks:

No hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Dry-Season Water Table (C2)
___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
___ Presence of Reduced Iron (C4)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
✓ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)
___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___
Water Table Present? Yes ___ No ✓ Depth (inches): ___
Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

One secondary wetland hydrology indicator, D2 (Geomorphic Position), is present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: State Highway 114 City/County: Denton County Sampling Date: 09.11.2018

Applicant/Owner: TXDOT State: TX Sampling Point: WDP 3

Investigator(s): Garrett Weiberg, Katie Kuzdak Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): 1-3

Subregion (LRR): J Lat: 32.990225 Long: -97.182452 Datum: NAD 83

Soil Map Unit Name: Gasil fine sandy loam, 3 to 8 percent slopes NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

One of the necessary three wetland indicators are present. The data point is not located in a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	60	Y	FACW
2. Morus rubra	10	N	FACU
3. Populus deltoides	30	Y	FAC
4.			
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. None			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Stenotaphrum secundatum	90	Y	FAC
2. Ambrosia trifida	30	Y	FAC
3. Asclepias sp.	20	N	UPL
4. Chloris sp.	20	N	UPL
5. Plantago sp.	20	N	FACW
6. Sorghum halepense	20	N	FACU
7. Parthenocissus quinquefolia	10	N	FACU
8. Conyza canadensis	10	N	UPL
9. Oxalis stricta	5	N	FACU
10. Cyperus sp.	5	N	FACW
	230	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1. None			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____

Remarks:

The vegetative community passed the dominance test.

SOIL

Sampling Point: WDP 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-5	7.5YR 4/3	100	None				loam	
5-18	10YR 4/4	100	None				clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR F**)
___ 1 cm Muck (A9) (**LRR F, G, H**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR I, J**)
___ Coast Prairie Redox (A16) (**LRR F, G, H**)
___ Dark Surface (S7) (**LRR G**)
___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: N/A

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

No hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Dry-Season Water Table (C2)
___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
___ Presence of Reduced Iron (C4)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
✓ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)
___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: State Highway 114 City/County: Tarrant County Sampling Date: 09.11.2018

Applicant/Owner: TXDOT State: TX Sampling Point: WDP 4

Investigator(s): Garrett Weiberg, Katie Kuzdak Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope (%): 1-3

Subregion (LRR): J Lat: 32.979586 Long: -97.165681 Datum: NAD 83

Soil Map Unit Name: Pulexas fine sandy loam, frequently flooded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

One of the three necessary wetland indicators is present. The WDP is not located within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	20	Y	FACW
2. Ulmus americana	50	Y	FAC
3. Maclura pomifera	20	Y	FACU
4.			
	90	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. None			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Chasmanthium latifolium	20	Y	FACU
2. Toxicodendron radicans	20	Y	FACU
3. Elymus virginicus	10	Y	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1. Vitis rotundifolia	10	Y	FAC
2.			
	10	= Total Cover	

% Bare Ground in Herb Stratum 80

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____

Remarks:

The vegetative community passed the dominance test.

SOIL

Sampling Point: WDP 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 5/4	100	None				sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR F**)
___ 1 cm Muck (A9) (**LRR F, G, H**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR I, J**)
___ Coast Prairie Redox (A16) (**LRR F, G, H**)
___ Dark Surface (S7) (**LRR G**)
___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: N/A
Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

No hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Dry-Season Water Table (C2)
___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
___ Presence of Reduced Iron (C4)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
✓ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)
___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____
Water Table Present? Yes _____ No ✓ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

One secondary wetland hydrology indicator, D2 (Geomorphic Position), is present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: State Highway 114 City/County: Tarrant County Sampling Date: 09.11.2018

Applicant/Owner: TXDOT State: TX Sampling Point: WDP 5

Investigator(s): Garrett Weiberg, Katie Kuzdak Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 1-3

Subregion (LRR): J Lat: 32.979964 Long: -97.164928 Datum: NAD 83

Soil Map Unit Name: Pulexas fine sandy loam, frequently flooded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Two of the three necessary wetland indicators are present. The WDP is not located within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer negundo	30	Y	FAC
2. Salix nigra	30	Y	FACW
3.			
4.			
	60 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Carya texana	20	Y	UPL
2. Carya illinoinensis	10	Y	FAC
3. Acer negundo	10	Y	FAC
4.			
5.			
	40 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Chasmanthium latifolium	20	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	20 = Total Cover		
Woody Vine Stratum (Plot size: 15')			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 80

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____

Remarks:

The vegetative community passed the dominance test.

SOIL

Sampling Point: WDP 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/2	100	None				silty clay loam	
6-18	10YR 3/2	100	None				silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR F**)
___ 1 cm Muck (A9) (**LRR F, G, H**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR I, J**)
___ Coast Prairie Redox (A16) (**LRR F, G, H**)
___ Dark Surface (S7) (**LRR G**)
___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: N/A

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

No hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
✓ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Dry-Season Water Table (C2)
___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
___ Presence of Reduced Iron (C4)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)
___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

One primary wetland hydrology indicator, B3 (Drift Deposits), is present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: State Highway 114 City/County: Denton County Sampling Date: 12.12.2018

Applicant/Owner: TXDOT State: TX Sampling Point: WDP 6

Investigator(s): Garrett Weiberg, Katie Kuzdak Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Concave Slope (%): 3

Subregion (LRR): J Lat: 32.987744 Long: -97.176925 Datum: NAD 83

Soil Map Unit Name: Callisburg fine sandy loam, 1 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

None of the three necessary wetland indicators are present. The WDP is not located within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. None	0		
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. None			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Cynodon dactylon	80	Y	FACU
2. Vicia sp.	50	Y	UPL
3. Calyptocarpus vialis	30	N	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	160 = Total Cover		
Woody Vine Stratum (Plot size: 15')			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** ✓

Remarks:

The vegetative community did not pass the dominance test.

SOIL

Sampling Point: WDP 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100	None				loamy clay	
3-9	10YR 5/6	100	None				loamy clay	Likely fill material

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR F**)
___ 1 cm Muck (A9) (**LRR F, G, H**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR I, J**)
___ Coast Prairie Redox (A16) (**LRR F, G, H**)
___ Dark Surface (S7) (**LRR G**)
___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: Gravel
Depth (inches): 9 inches

Hydric Soil Present? **Yes** ___ **No** ✓

Remarks:

No hydric soil indicators are present. Fill- roadside ditch

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Dry-Season Water Table (C2)
___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
___ Presence of Reduced Iron (C4)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)
___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___
Water Table Present? Yes ___ No ✓ Depth (inches): ___
Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: State Highway 114 City/County: Tarrant County Sampling Date: 12.12.2018

Applicant/Owner: TXDOT State: TX Sampling Point: WDP 7

Investigator(s): Garrett Weiberg, Katie Kuzdak Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Stream Terrace Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR): J Lat: 32.974933 Long: -97.161579 Datum: NAD 83

Soil Map Unit Name: Rader fine sandy loam, 0 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

One of the three necessary wetland indicators is present. The WDP is not located within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	30	Y	FACW
2.			
3.			
4.			
	60 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Salix nigra	1	Y	FACW
2.			
3.			
4.			
5.			
	1 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Sorghum halepense	60	Y	FACU
2. Cynodon dactylon	10	N	FACU
3. Rubus trivialis	25	N	FACU
4. Ulmus alata	1	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	96 = Total Cover		
Woody Vine Stratum (Plot size: 15')			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** ✓

Remarks:

The vegetative community did not pass the dominance test.

SOIL

Sampling Point: WDP 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/6	100	None				loamy sand	
4-15	10YR 3/3	100	None				loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR F**)
___ 1 cm Muck (A9) (**LRR F, G, H**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR I, J**)
___ Coast Prairie Redox (A16) (**LRR F, G, H**)
___ Dark Surface (S7) (**LRR G**)
___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: N/A

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

No hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Dry-Season Water Table (C2)
___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
___ Presence of Reduced Iron (C4)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
✓ Drainage Patterns (B10)
___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
✓ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)
___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Two secondary wetland hydrology indicators, B10 (Drainage Patterns) and D2 (Geomorphic Position), are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: State Highway 114 City/County: Tarrant County Sampling Date: 12.12.2018

Applicant/Owner: TXDOT State: TX Sampling Point: WDP 8

Investigator(s): Garrett Weiberg, Katie Kuzdak Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 3

Subregion (LRR): J Lat: 32.975149 Long: -97.16073 Datum: NAD 83

Soil Map Unit Name: Rader fine sandy loam, 0 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Two of the three necessary wetland indicators are present. The WDP is not located within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	10	Y	FACW
2. Ulmus americana	5	Y	FAC
3.			
4.			
	15 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Sambucus nigra	15	Y	UPL
2. Salix nigra	5	Y	FACW
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Sorghum halepense	90	Y	FACU
2. Rumex crispus	15	N	FAC
3. Eupatorium serotinum	10	N	FAC
4. Chamaesyce sp.	1	N	FACU
5. Andropogon glomeratus	1	N	FACW
6.			
7.			
8.			
9.			
10.			
	117 = Total Cover		
Woody Vine Stratum (Plot size: 15')			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 1

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____

Remarks:

The vegetative community passed the dominance test.

SOIL

Sampling Point: WDP 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/4	100	None				loamy sand	
3-15	10YR 4/3	100	None				loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR F**)
___ 1 cm Muck (A9) (**LRR F, G, H**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR I, J**)
___ Coast Prairie Redox (A16) (**LRR F, G, H**)
___ Dark Surface (S7) (**LRR G**)
___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: N/A

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

No hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Dry-Season Water Table (C2)
___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
___ Presence of Reduced Iron (C4)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
✓ Drainage Patterns (B10)
___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
✓ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)
___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Two secondary wetland hydrology indicators, B10 (Drainage Patterns) and D2 (Geomorphic Position), are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: State Highway 114 City/County: Tarrant County Sampling Date: 12.12.2018

Applicant/Owner: TXDOT State: TX Sampling Point: WDP 9

Investigator(s): Garrett Weiberg, Katie Kuzdak Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Culvert stream Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR): J Lat: 32.970579 Long: -97.16047 Datum: NAD 83

Soil Map Unit Name: Rader fine sandy loam, 0 to 3 percent slopes NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil ✓, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

One of the three necessary wetland indicators is present. The WDP is not located within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	20	Y	FACW
2. Triadica sebifera	1	N	FAC
3.			
4.			
	15 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Sambucus nigra	10	Y	UPL
2. Salix nigra	5	Y	FACW
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 5')			
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 15')			
1. Lonicera japonica	20	Y	FACU
2. Smilax rotundifolia	5	Y	FAC
	25 = Total Cover		

% Bare Ground in Herb Stratum 100

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____

Remarks:

The vegetative community passed the dominance test. All vegetation was outside of the project with the exception of some overhanging Salix nigra.

SOIL

Sampling Point: WDP 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
	None							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR F**)
___ 1 cm Muck (A9) (**LRR F, G, H**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR I, J**)
___ Coast Prairie Redox (A16) (**LRR F, G, H**)
___ Dark Surface (S7) (**LRR G**)
___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Concrete culvert/ rip rap

Depth (inches): 0

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

No hydric soil indicators are present. Concrete substrate.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Dry-Season Water Table (C2)
___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
___ Presence of Reduced Iron (C4)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)
___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology indicators are present.

ATTACHMENT 4:

PROJECT AREA PHOTOGRAPHS

PHOTO 1: THE WESTERN TERMINUS OF THE PROJECT AREA ON THE STATE HIGHWAY (SH) 114 WESTBOUND FRONTAGE ROAD (RD). VIEWING EAST.

PHOTO 2: THE WESTERN TERMINUS OF THE PROJECT AREA ON THE SH 114 WESTBOUND FRONTAGE RD. VIEWING WEST.

PHOTOS TAKEN ON SEPTEMBER 11, 2018 AND DECEMBER 12, 2018.

PHOTO 3: THE WESTERN TERMINUS OF THE PROJECT AREA ON THE SH 114 EASTBOUND FRONTAGE RD. VIEWING EAST.

PHOTO 4: THE WESTERN TERMINUS OF THE PROJECT AREA ON THE SH 114 EASTBOUND FRONTAGE RD. VIEWING WEST.

PHOTOS TAKEN ON SEPTEMBER 11, 2018 AND DECEMBER 12, 2018.

PHOTO 5: WETLAND DETERMINATION DATA POINT 1 LOCATED WITHIN AN UPLAND MANMADE DRAINAGE DITCH SOUTHWEST OF THE INTERSECTION OF SH 114 AND DAVIS BOULEVARD (BLVD).

PHOTO 6: WETLAND DETERMINATION DATA POINT 2 LOCATED WITHIN AN UPLAND MANMADE DRAINAGE DITCH SOUTHWEST OF THE INTERSECTION OF SH 114 AND DAVIS BLVD.

PHOTOS TAKEN ON SEPTEMBER 11, 2018 AND DECEMBER 12, 2018.

PHOTO 7: AN UPLAND MANMADE DRAINAGE DITCH LOCATED AT WETLAND DETERMINATION DATA POINTS 1 AND 2. VIEWING WEST. (SEPTEMBER 2018)

PHOTO 8: AN UPLAND MANMADE DRAINAGE DITCH LOCATED AT WETLAND DETERMINATION DATA POINTS 1 AND 2. VIEWING WEST. (DECEMBER 2018)

PHOTO 9: WETLAND DETERMINATION DATA POINT 3 LOCATED NEAR AN UPLAND AREA ADJACENT TO A HEADWALL NORTH OF SH 114.

PHOTO 10: AN EPHEMERAL STREAM LOCATED NORTH OF THE HEADWALL AT WETLAND DETERMINATION DATA POINT 3 (OUTSIDE OF THE PROJECT AREA). VIEWING NORTH.

PHOTOS TAKEN ON SEPTEMBER 11, 2018 AND DECEMBER 12, 2018.

PHOTO 11: SH 114 EASTBOUND FRONTAGE RD. INTERSECTION AT DAVIS BOULEVARD . VIEWING EAST.

PHOTO 12: SH 114 EASTBOUND FRONTAGE RD. INTERSECTION AT DAVIS BLVD. VIEWING WEST.

PHOTO 13: SH 114 EASTBOUND FRONTAGE RD. INTERSECTION AT DAVIS BLVD. VIEWING NORTH.

PHOTO 14: SH 114 EASTBOUND FRONTAGE RD. INTERSECTION AT DAVIS BLVD. VIEWING SOUTH.

PHOTO 15: WETLAND DETERMINATION DATA POINT 6 LOCATED SOUTH OF SH 114 AND EAST OF DAVIS BLVD.

PHOTO 16: AN UPLAND MANMADE DRAINAGE DITCH LOCATED AT WETLAND DETERMINATION DATA POINT 6 (CLASSIFIED AS A PUBHX-FRESHWATER POND ON THE NATIONAL WETLAND INVENTORY DATASET). VIEWING EAST.

PHOTO 17: A FLUSH MOUNT GRATE INLET LOCATED WITHIN THE UPLAND MANMADE DRAINAGE DITCH AT WETLAND DETERMINATION DATA POINT 6.

PHOTO 18: SH 114 EASTBOUND FRONTAGE RD. INTERSECTION AT SOLANA BLVD. VIEWING SOUTHEAST.

PHOTO 19: SH 114 EASTBOUND FRONTAGE RD. INTERSECTION AT SOLANA BLVD. VIEWING NORTHWEST.

PHOTO 20: SH 114 EASTBOUND FRONTAGE RD. INTERSECTION AT SOLANA BLVD. VIEWING NORTHEAST.

PHOTO 21: SH 114 EASTBOUND FRONTAGE RD. INTERSECTION AT SOLANA BLVD. VIEWING SOUTHWEST.

PHOTO 22: SH 114 WESTBOUND FRONTAGE RD. INTERSECTION AT KIRKWOOD BLVD. VIEWING SOUTHEAST.

PHOTO 23: SH 114 WESTBOUND FRONTAGE RD. INTERSECTION AT KIRKWOOD BLVD. VIEWING NORTHWEST.

PHOTO 24: SH 114 WESTBOUND FRONTAGE RD. INTERSECTION AT KIRKWOOD BLVD. VIEWING NORTHEAST.

PHOTO 25: SH 114 WESTBOUND FRONTAGE RD. INTERSECTION AT KIRKWOOD BLVD. VIEWING SOUTHWEST.

PHOTO 26: WETLAND DETERMINATION DATA POINT 4 LOCATED ADJACENT TO KIRKWOOD BRANCH (WATER 1), SOUTHWEST OF SH 114.

PHOTO 27: DOWNSTREAM VIEW OF WATER 1 AT CROSSING 1, SOUTHWEST OF SH 114. VIEWING NORTHEAST.

PHOTO 28: UPSTREAM VIEW OF WATER 1 AT CROSSING 1, SOUTHWEST OF SH 114. VIEWING SOUTHWEST.

PHOTO 29: WETLAND DETERMINATION DATA POINT 5 LOCATED ADJACENT TO KIRKWOOD BRANCH (WATER 1) NORTHEAST OF SH 114.

PHOTO 30: DOWNSTREAM VIEW OF WATER 1 NORTHEAST OF SH 114. VIEWING NORTHEAST.

PHOTO 31: UPSTREAM VIEW OF WATER 1 NORTHEAST OF SH 114. VIEWING SOUTHWEST.

PHOTO 32: AN INACTIVE BARN SWALLOW NEST OBSERVED WITHIN THE CULVERT AT CROSSING 1.

PHOTO 33: WETLAND DETERMINATION DATA POINT 7 LOCATED ADJACENT TO AND UNNAMED TRIBUTARY TO KIRKWOOD BRANCH (WATER 2) SOUTHWEST OF SH 114. VIEWING SOUTHEAST

PHOTO 34: DOWNSTREAM VIEW OF WATER 2 AT CROSSING 2, SOUTHWEST OF SH 114. VIEWING EAST.

PHOTO 35: UPSTREAM VIEW OF WATER 2 AT CROSSING 2, SOUTHWEST OF SH 114. VIEWING SOUTH.

PHOTO 36: WETLAND DETERMINATION DATA POINT 8 LOCATED ADJACENT TO AND UNNAMED TRIBUTARY TO KIRKWOOD BRANCH (WATER 2) NORTHEAST OF SH 114.

PHOTO 37: DOWNSTREAM VIEW OF WATER 2 AT CROSSING 2, NORTHEAST OF SH 114. VIEWING EAST.

PHOTO 38: UPSTREAM VIEW OF WATER 2 AT CROSSING 2, NORTHEAST OF SH 114. VIEWING WEST.

PHOTO 39: DOWNSTREAM VIEW OF WATER 3, OUTSIDE OF THE PROJECT AREA, NORTH OF DOVE RD. VIEWING NORTH.

PHOTO 40: UPSTREAM VIEW OF WATER 3 AT CROSSING 3 NORTH OF DOVE RD. VIEWING SOUTH.

PHOTO 41: DOWNSTREAM VIEW OF WATER 3 AT CROSSING 3 SOUTH OF DOVE RD. VIEWING NORTHWEST

PHOTO 42: UPSTREAM VIEW OF WATER 3, OUTSIDE OF THE PROJECT AREA, SOUTH OF DOVE RD. VIEWING SOUTHEAST.

PHOTO 43: SH 114 EASTBOUND FRONTAGE RD. INTERSECTION AT DOVE RD. VIEWING NORTH.

PHOTO 44: SH 114 EASTBOUND FRONTAGE RD. INTERSECTION AT DOVE RD. VIEWING SOUTH.

PHOTO 45: SH 114 EASTBOUND FRONTAGE RD. INTERSECTION AT DOVE RD. VIEWING EAST.

PHOTO 46: SH 114 EASTBOUND FRONTAGE RD. INTERSECTION AT DOVE RD. VIEWING WEST.

PHOTO 47: SH 114 WESTBOUND FRONTAGE RD. INTERSECTION AT DOVE RD. VIEWING NORTH.

PHOTO 48: SH 114 WESTBOUND FRONTAGE RD. INTERSECTION AT DOVE RD. VIEWING SOUTH.

PHOTO 49: SH 114 WESTBOUND FRONTAGE RD. INTERSECTION AT DOVE RD. VIEWING EAST.

PHOTO 50: SH 114 WESTBOUND FRONTAGE RD. INTERSECTION AT DOVE RD. VIEWING WEST.

PHOTO 51: THE EASTERN TERMINUS OF THE PROJECT AREA ON THE SH 114 WESTBOUND FRONTAGE RD. VIEWING WEST.

PHOTO 52: THE EASTERN TERMINUS OF THE PROJECT AREA ON THE SH 114 WESTBOUND FRONTAGE RD. VIEWING EAST.

PHOTOS TAKEN ON SEPTEMBER 11, 2018 AND DECEMBER 12, 2018.

PHOTO 53: THE EASTERN TERMINUS OF THE PROJECT AREA AT THE SH 114 EASTBOUND FRONTAGE RD. VIEWING WEST.

PHOTO 54: THE EASTERN TERMINUS OF THE PROJECT AREA AT THE SH 114 EASTBOUND FRONTAGE RD. VIEWING EAST.

ATTACHMENT 5:

FIGURE 3 -PHOTO LOCATIONS

Figure 3a

Photo Locations

SH 114 from FM 1938 to Dove Rd

Data Source: CMEC (2018)
Aerial Source: Google (2018)

0 500 Feet
0 150 Meters

Prepared for: TxDOT	1 in = 500 feet
	Scale: 1:6,000
CSJ: 0353-03-100	Date: 2/25/2019

G:\Projects\TXDOT\SH114\JD_Figure 3_Photo Locations_20190220.mxd

Figure 3b

Photo Locations

SH 114 from FM 1938 to Dove Rd

Data Source: CMEC (2018)
Aerial Source: Google (2018)

0 500 Feet
0 150 Meters

Prepared for: TxDOT	1 in = 500 feet
	Scale: 1:6,000
CSJ: 0353-03-100	Date: 2/25/2019

G:\Projects\TXDOT\SH114\JD_Figure 3_Photo Locations_20190220.mxd

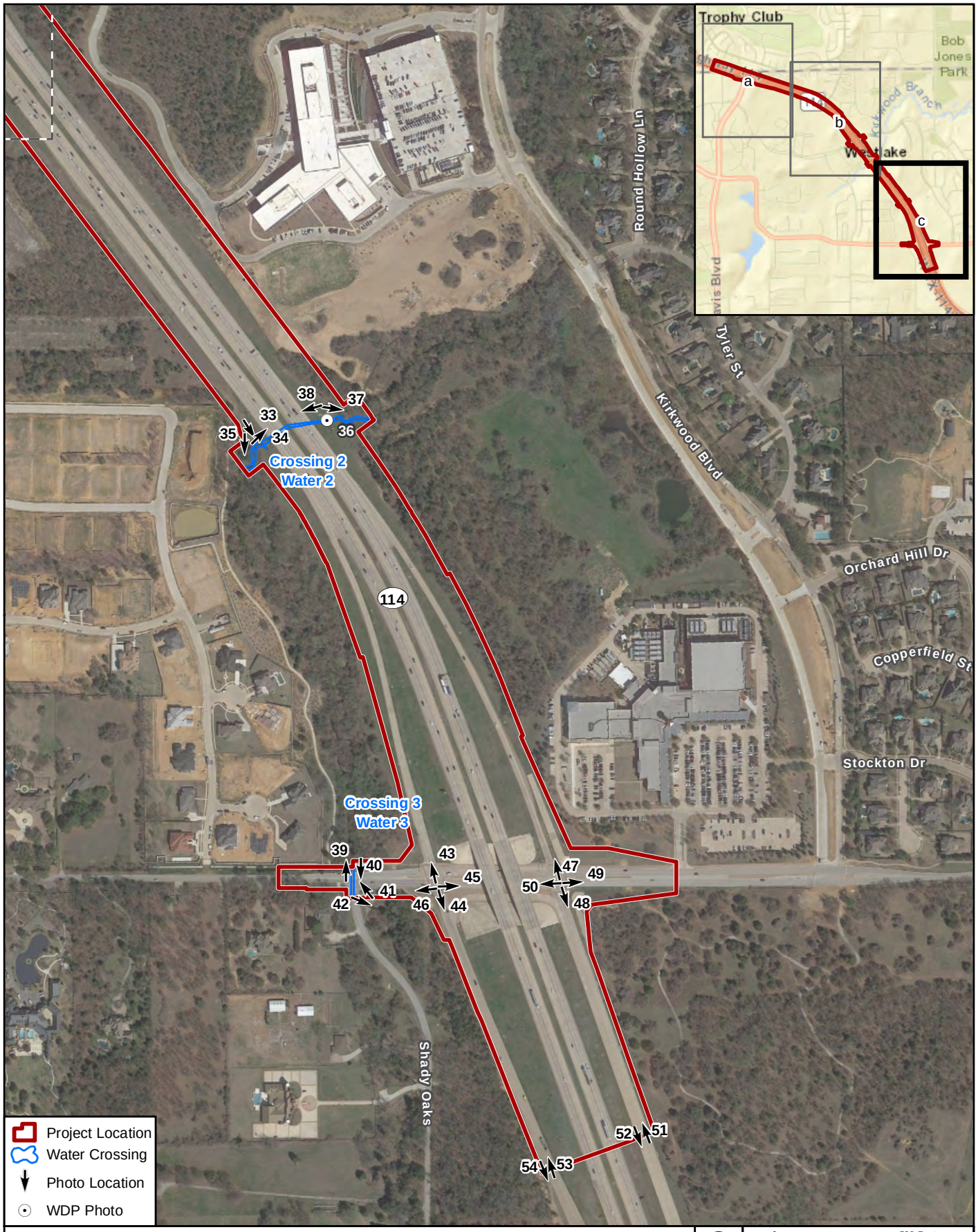


Figure 3c

Photo Locations

SH 114 from FM 1938 to Dove Rd

Data Source: CMEC (2018)
Aerial Source: Google (2018)

0 500 Feet
0 150 Meters

Prepared for: TxDOT	1 in = 500 feet
	Scale: 1:6,000
CSJ: 0353-03-100	Date: 2/25/2019

G:\Projects\TXDOT\SH114\JD_Figure 3_Photo Locations_20190220.mxd

ATTACHMENT 6:

60% BRIDGE SUBMITTAL

PROJECT SCHEMATIC

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.			SHEET NO.
GRAPHICS	6				1
	STATE	STATE DIST.	COUNTY		
CHECKED	TEXAS	FTW	TARRANT, ETC.		
	CONT.	SECT.	JOB	HIGHWAY NO.	
CHECKED	0353	03	100	SH 114	

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED STATE HIGHWAY IMPROVEMENT

CSJ: 0353-03-100

FEDERAL AID PROJECT # NH ( )
STATE HIGHWAY 114
TARRANT & DENTON COUNTY

LIMITS: FROM FM 1938 (DAVIS BLVD) TO DOVE RD

ROADWAY LENGTH=	11424.79 FT. =	2.164 MI.
BRIDGE LENGTH=	176.54 FT. =	0.033 MI.
PROJECT LENGTH=	11601.33 FT. =	2.197 MI.

TYPE: GRADING, PAVEMENT, DRAINAGE, BRIDGE, SIGNING, AND PAVEMENT MARKINGS

CONSISTING OF: CONSTRUCT NEW LOCATION FRONTAGE ROADS, REVERSE EXISTING RAMPS, ADD AUXILIARY LANE TO EXISTING FRONTAGE ROAD, WIDEN BRIDGE, AND ADD U-TURN LANES.

STATE HIGHWAY 114 (SH 114)
DESIGN SPEED = 50 MPH
FUNCTIONAL CLASSIFICATION: URBAN FREEWAY
ADT (2020)= 115700
ADT (2040)= 184200

SH 114 WESTBOUND FRONTAGE ROAD (WBFR)
DESIGN SPEED = 45 MPH (XXXX)
FUNCTIONAL CLASSIFICATION: URBAN COLLECTOR
ADT (2020)= 20950
ADT (2040)= 27050

SH 114 EASTBOUND FRONTAGE ROAD (EBFR)
DESIGN SPEED = 45 MPH (XXXX)
FUNCTIONAL CLASSIFICATION: URBAN COLLECTOR
ADT (2020)= 16300
ADT (2040)= 18700

FM 1938 / DAVIS BOULEVARD (DAVIS BLVD)
DESIGN SPEED = 40 MPH
FUNCTIONAL CLASSIFICATION: PRINCIPAL ARTERIAL
ADT (2020)= 28000
ADT (2040)= 37850

SOLANA/KIRKWOOD BOULEVARD (KIRKWOOD BLVD)
DESIGN SPEED = 35 MPH
FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR
ADT (2020)= 32450
ADT (2040)= 41750

DOVE ROAD (DOVE RD)
DESIGN SPEED = 30 MPH
FUNCTIONAL CLASSIFICATION: MINOR ARTERIAL
ADT (2020)= 26750
ADT (2040)= 36050

EASTBOUND ENTRANCE RAMP WEST OF DAVIS BLVD (EB ENT RAMP WESTLAKE PKWY)
DESIGN SPEED = 55 MPH
FUNCTIONAL CLASSIFICATION: URBAN FREEWAY
ADT (2020)= 9350
ADT (2040)= 12500

EASTBOUND EXIT RAMP EAST OF DAVIS BLVD (EB EXIT RAMP KIRKWOOD BLVD)
DESIGN SPEED = 55 MPH
FUNCTIONAL CLASSIFICATION: URBAN FREEWAY
ADT (2020)= 2950
ADT (2040)= 4650

EASTBOUND ENTRANCE RAMP WEST OF KIRKWOOD BLVD (EB ENT RAMP DAVIS BLVD)
DESIGN SPEED = 55 MPH
FUNCTIONAL CLASSIFICATION: URBAN FREEWAY
ADT (2020)= 10400
ADT (2040)= 15250

EASTBOUND EXIT RAMP EAST OF KIRKWOOD BLVD (EB EXIT RAMP DOVE RD)
DESIGN SPEED = 55 MPH
FUNCTIONAL CLASSIFICATION: URBAN FREEWAY
ADT (2020)= 14400
ADT (2040)= 16750

EASTBOUND ENTRANCE RAMP WEST OF DOVE RD (EB ENT RAMP KIRKWOOD BLVD)
DESIGN SPEED = 55 MPH
FUNCTIONAL CLASSIFICATION: URBAN FREEWAY
ADT (2020)= 11050
ADT (2040)= 15150

WESTBOUND EXIT RAMP WEST OF DOVE RD (WB EXIT RAMP KIRKWOOD BLVD)
DESIGN SPEED = 55 MPH
FUNCTIONAL CLASSIFICATION: URBAN FREEWAY
ADT (2020)= 15250
ADT (2040)= 21350

WESTBOUND ENTRANCE RAMP EAST OF KIRKWOOD BLVD (WB ENT RAMP DOVE RD)
DESIGN SPEED = 55 MPH
FUNCTIONAL CLASSIFICATION: URBAN FREEWAY
ADT (2020)= 10650
ADT (2040)= 14100

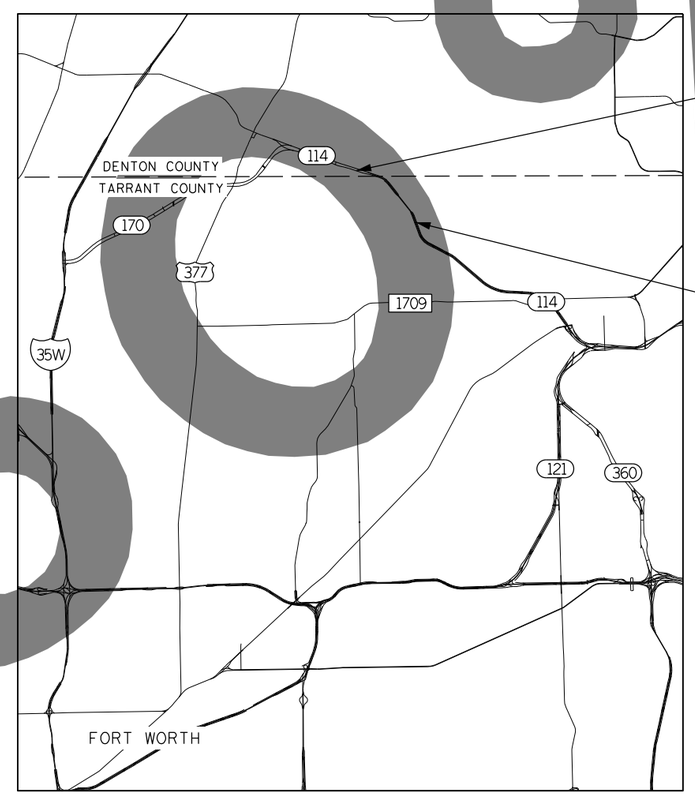
WESTBOUND EXIT RAMP WEST OF KIRKWOOD BLVD (WB EXIT RAMP DAVIS BLVD)
DESIGN SPEED = 55 MPH
FUNCTIONAL CLASSIFICATION: URBAN FREEWAY
ADT (2020)= 5900
ADT (2040)= 9250

WESTBOUND ENTRANCE RAMP EAST OF FM 1938 (WB ENT RAMP KIRKWOOD BLVD)
DESIGN SPEED = 55 MPH
FUNCTIONAL CLASSIFICATION: URBAN FREEWAY
ADT (2020)= 4850
ADT (2040)= 5900

EASTBOUND U-TURN AT KIRKWOOD BLVD (EB TO WB U-TURN KIRKWOOD BLVD)
DESIGN SPEED = 15 MPH
FUNCTIONAL CLASSIFICATION: URBAN COLLECTOR
ADT (2020)= 400
ADT (2040)= 550

WESTBOUND U-TURN AT KIRKWOOD BLVD (WB TO EB U-TURN KIRKWOOD BLVD)
DESIGN SPEED = 15 MPH
FUNCTIONAL CLASSIFICATION: URBAN COLLECTOR
ADT (2020)= 2500
ADT (2040)= 2850

EASTBOUND U-TURN AT DOVE RD (EB TO WB U-TURN DOVE RD)
DESIGN SPEED = 15 MPH
FUNCTIONAL CLASSIFICATION: URBAN COLLEGTOR
ADT (2020)= 3250
ADT (2040)= 3450



NTS

BEGIN PROJECT
SH 114 STA 1429+98.83
CSJ: 0353-03-100
REF MARKER #600-0.555

END PROJECT
SH 114 STA 1546+00.16
CSJ: 0353-03-100
REF MARKER #602+0.637

EXCEPTIONS:
TBD

EQUATIONS:
NONE

RAILROAD CROSSINGS:
NONE

FINAL PLANS

NAME OF CONTRACTOR:_____

DATE OF LETTING:_____

DATE WORK BEGAN:_____

DATE WORK COMPLETED:_____

DATE WORK ACCEPTED:_____

SUBMITTED FOR LETTING:

PROJECT MANAGER

Kimley»Horn

NOTE:
SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, NOVEMBER 1, 2014 AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS, SHALL GOVERN ON THIS PROJECT: REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACTS (FORM FHWA 1273, MAY 2012).

THE CONTRACTOR SHALL PROVIDE AND ERECT BARRICADES AND WARNING SIGNS IN ACCORDANCE WITH BC(1)14 THROUGH BC(12)-14 AT POINTS INDICATED AND AT OTHER POINTS AS DIRECTED BY TH ENGINEER.

"TDLR INSPECTION REQUIRED"
"TDLR NO. EABPRJA_____"

Texas Department of Transportation

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RECOMMENDED FOR LETTING:

DISTRICT DIRECTOR OF TRANSPORTATION PLANNING AND DEVELOPMENT

SUBMITTED FOR LETTING:

AREA ENGINEER

APPROVED FOR LETTING:

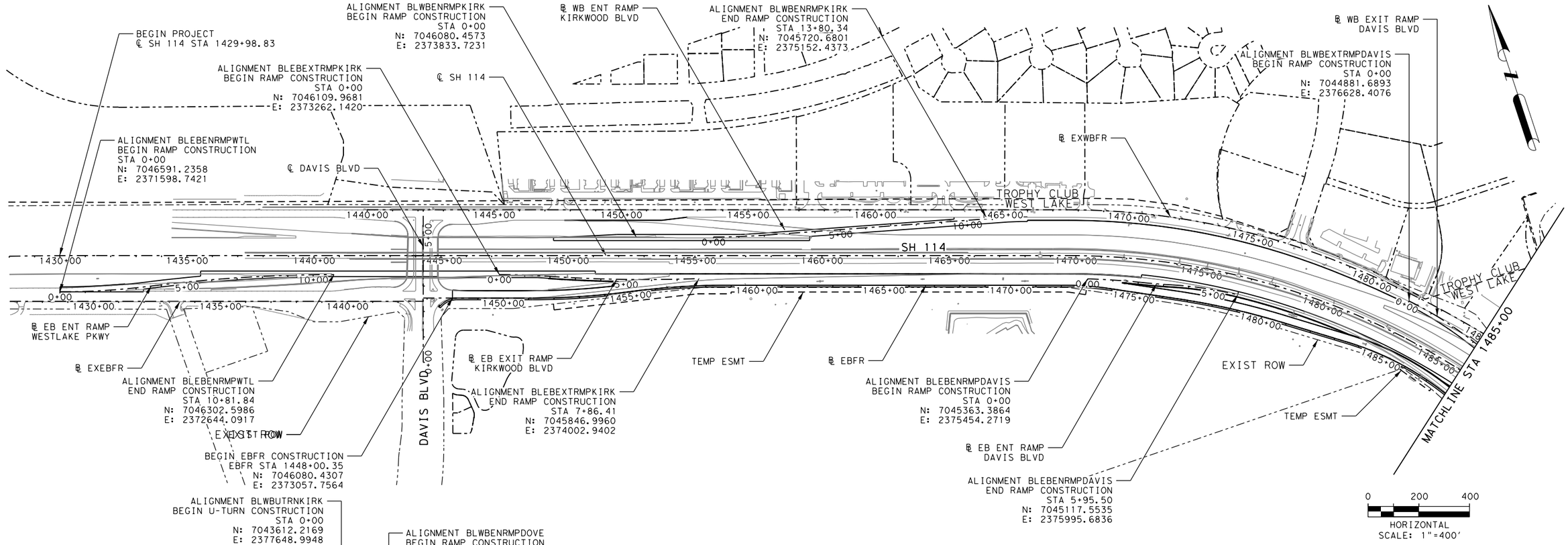
DIRECTOR, TRAFFIC OPERATIONS DIVISION

APPROVED FOR LETTING:

DISTRICT ENGINEER

APPROVED FOR LETTING:

DIRECTOR, DESIGN DIVISION



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Kimley»Horn
Engineer: LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

Texas Department of Transportation
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SH 114
PROJECT LAYOUT

Scale-H: 1"=400'

SHEET 1 OF 2

DESIGN LPB	FED. RD. DIV. NO. 6	FEDERAL AID PROJECT NO. SEE TITLE SHEET		HIGHWAY NO. SH 114	
DRAWN RCA	STATE TEXAS	DISTRICT FTW	COUNTY TARRANT		SHEET NO. 2
CHECK LJD	CONTROL 0353	SECTION 03	JOB 100		
CHECK LPB					

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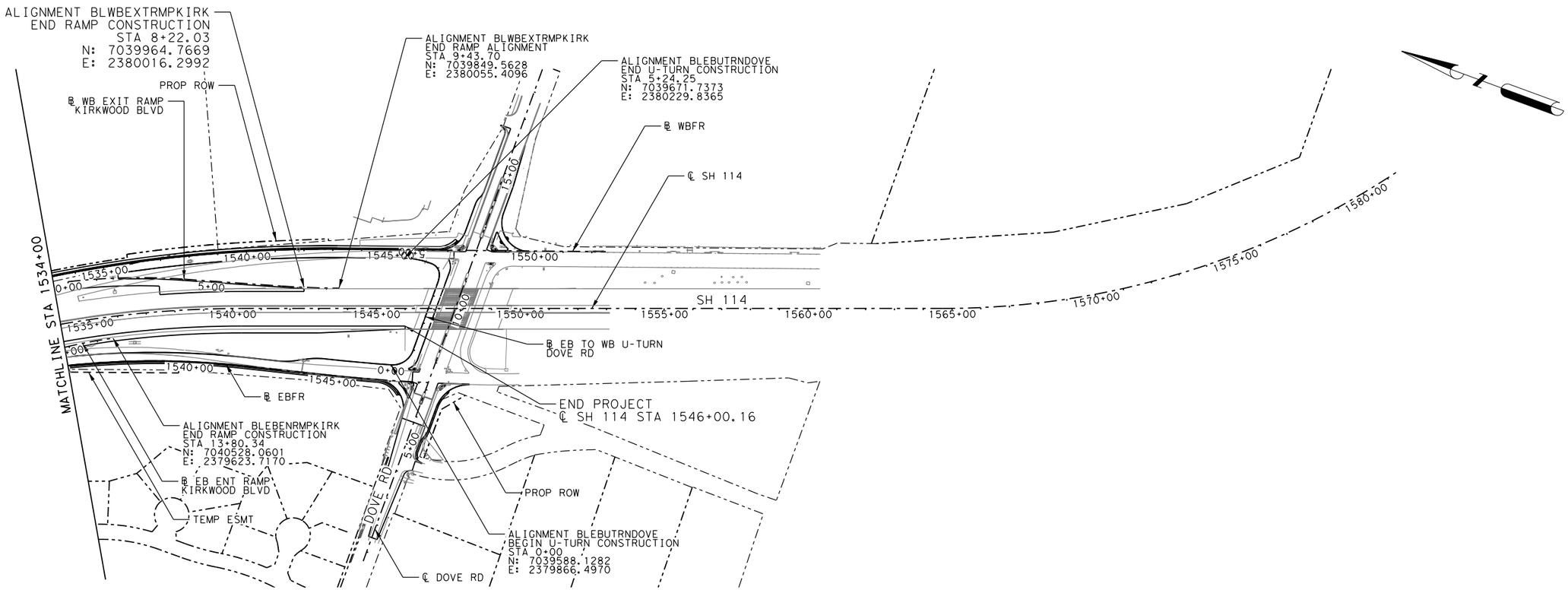

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Kimley»Horn
Engineer: LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

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SH 114
PROJECT LAYOUT

Scale-H: 1"=400'

SHEET 2 OF 2

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
LPB	6	SEE TITLE SHEET		SH 114
DRAWN RCA	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK LJD	TEXAS	FTW	TARRANT	3
CHECK LPB	CONTROL 0353	SECTION 03	JOB 100	

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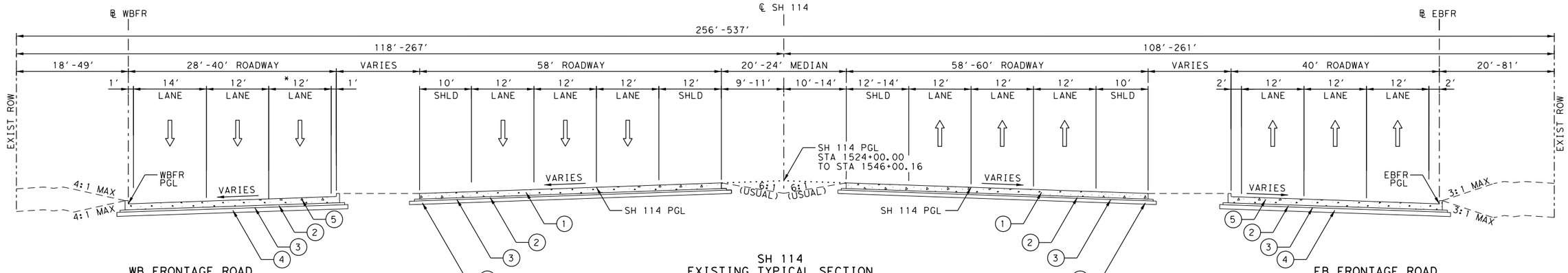


WB FRONTAGE ROAD

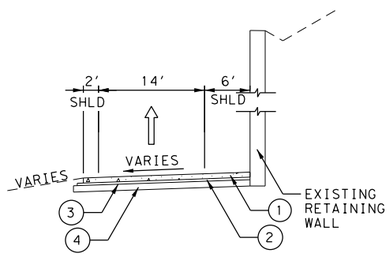
℄ WBFR STA 1461+36.81 TO STA 1496+87.13
* ℄ WBFR STA 1486+07.91 TO STA 1496+87.13

SH 114
EXISTING TYPICAL SECTION

℄ SH 114 STA 1429+98.83 TO STA 1546+00.16

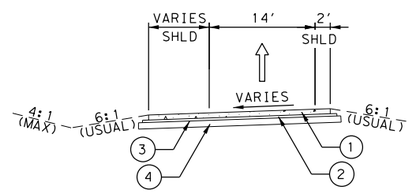
EB FRONTAGE ROAD

℄ EBFR STA 1428+68.60 TO STA 1442+98.91



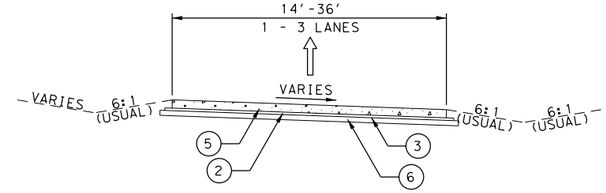
EB ENTRANCE RAMP
WESTLAKE PARKWAY
EXISTING TYPICAL SECTION

℄ SH 114 STA 1432+59.83 TO STA 1440+69.60



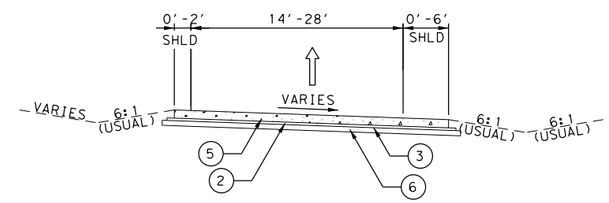
EB ENTRANCE RAMP
DAVIS BLVD
EXISTING TYPICAL SECTION

℄ SH 114 STA 1444+30.04 TO STA 1453+99.14



EB EXIT RAMP
KIRKWOOD BLVD
EXISTING TYPICAL SECTION

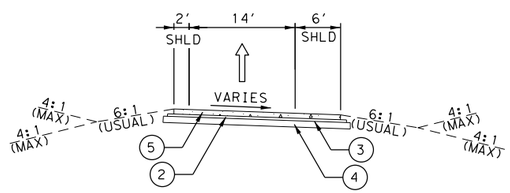
℄ SH 114 STA 1486+45.76 TO STA 1497+24.28



EB ENTRANCE RAMP
KIRKWOOD BLVD
EXISTING TYPICAL SECTION

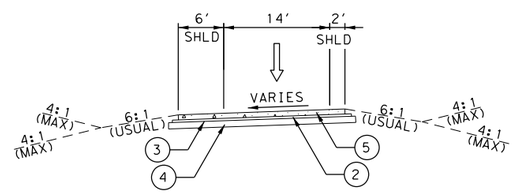
℄ SH 114 STA 1497+24.28 TO STA 1504+79.63

N. T. S.



EB EXIT RAMP
DOVE RD
EXISTING TYPICAL SECTION

℄ SH 114 STA 1533+45.72 TO STA 1546+80.36



WB ENTRANCE RAMP
DOVE RD
EXISTING TYPICAL SECTION

℄ SH 114 STA 1534+74.68 TO STA 1548+47.57

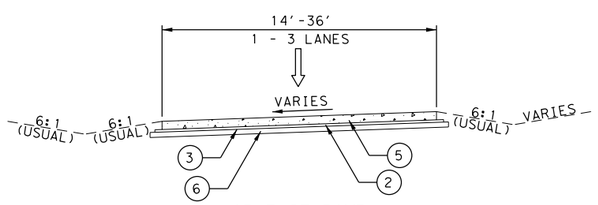
NOTES BY SYMBOL " # "

1. EXISTING 11"-13" CONC. PVMT.
2. EXISTING 4" ASB
3. EXISTING PRIME COAT
4. EXISTING 8"-10" SUBGRADE
5. EXISTING 8"-11" CONC. PVMT.
6. EXISTING 6" SUBGRADE

LEGEND

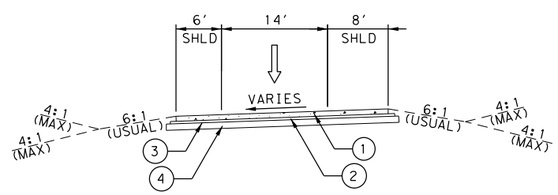
PROPOSED TRAFFIC FLOW DIRECTION

EXISTING TRAFFIC FLOW DIRECTION



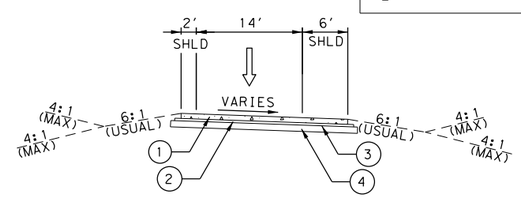
WB EXIT RAMP
KIRKWOOD BLVD
EXISTING TYPICAL SECTION

℄ SH 114 STA 1497+90.15 TO STA 1507+50.55



WB EXIT RAMP
DAVIS BLVD
EXISTING TYPICAL SECTION

℄ SH 114 STA 1454+67.91 TO STA 1459+58.33



WB ENTRANCE RAMP
KIRKWOOD BLVD
EXISTING TYPICAL SECTION

℄ SH 114 STA 1482+20.55 TO STA 1487.14.41

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Kimley»Horn
Engineer LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

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SH 114
TYPICAL SECTIONS

Scale-N. T. S. SHEET 1 OF 9

DESIGN LPB	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
DRAWN JCH	6	SEE TITLE SHEET		SH 114
CHECK LJD	STATE	DISTRICT	COUNTY	SHEET NO.
	TEXAS	FTW	TARRANT	4
CHECK LPB	CONTROL	SECTION	JOB	
	0353	03	100	

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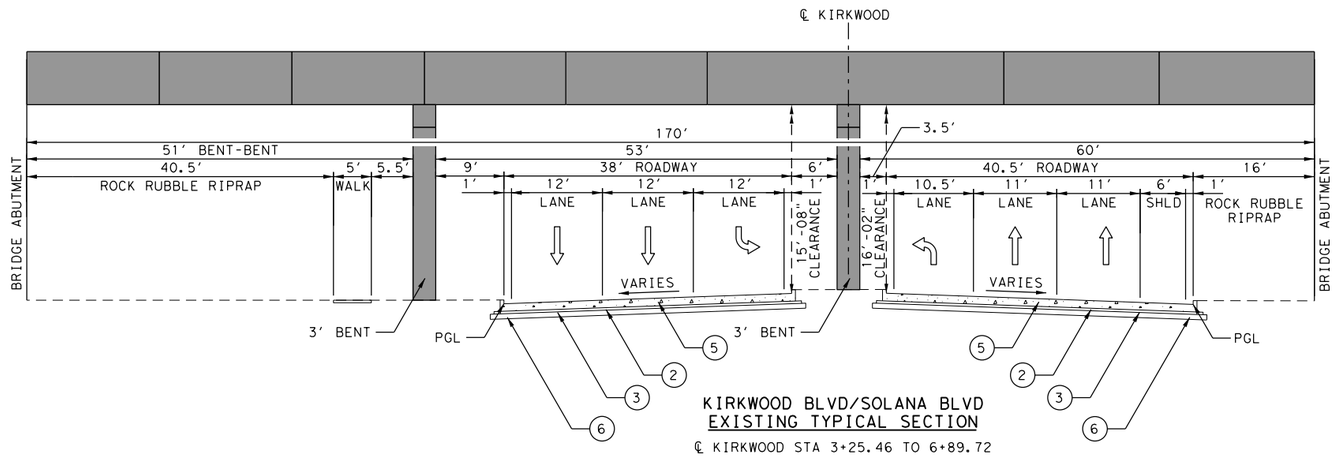
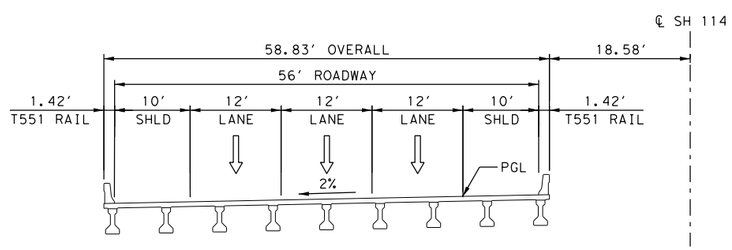


KIRKWOOD BLVD/SOLANA BLVD
EXISTING TYPICAL SECTION

℄ KIRKWOOD STA 3+25.46 TO 6+89.72



WESTBOUND KIRKWOOD/SOLANA BLVD BRIDGE
EXISTING TYPICAL SECTION

℄ SH114 STA 1496+53.23 TO 1498+29.80

N. T. S.

NOTES BY SYMBOL " # "

1. EXISTING 11"-13" CONC. PVMT.
2. EXISTING 4" ASB
3. EXISTING PRIME COAT
4. EXISTING 8"-10" SUBGRADE
5. EXISTING 8"-11" CONC. PVMT.
6. EXISTING 6" SUBGRADE

LEGEND

PROPOSED TRAFFIC FLOW DIRECTION

EXISTING TRAFFIC FLOW DIRECTION

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Kimley»Horn
Engineer: LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

Texas Department of Transportation
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SH 114
TYPICAL SECTIONS

Scale-N. T. S.

SHEET 2 OF 9

DESIGN LPB	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
DRAWN JCH	6	SEE TITLE SHEET		SH 114
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK LJD	TEXAS	FTW	TARRANT	5
	CONTROL	SECTION	JOB	
CHECK LPB	0353	03	100	

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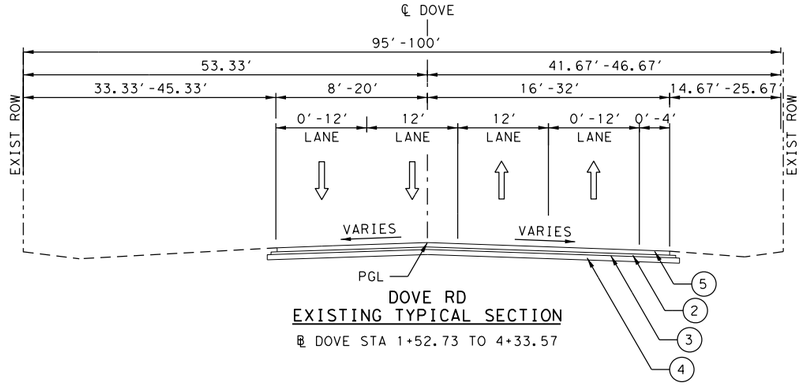
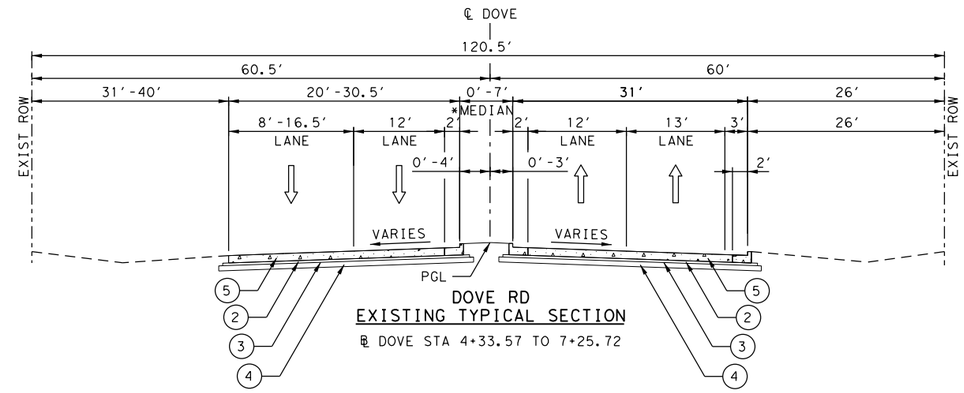
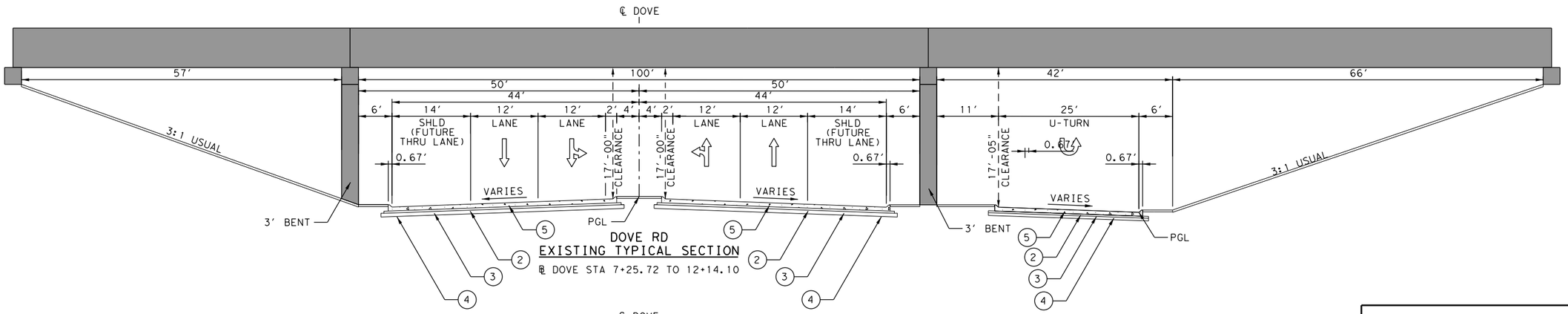


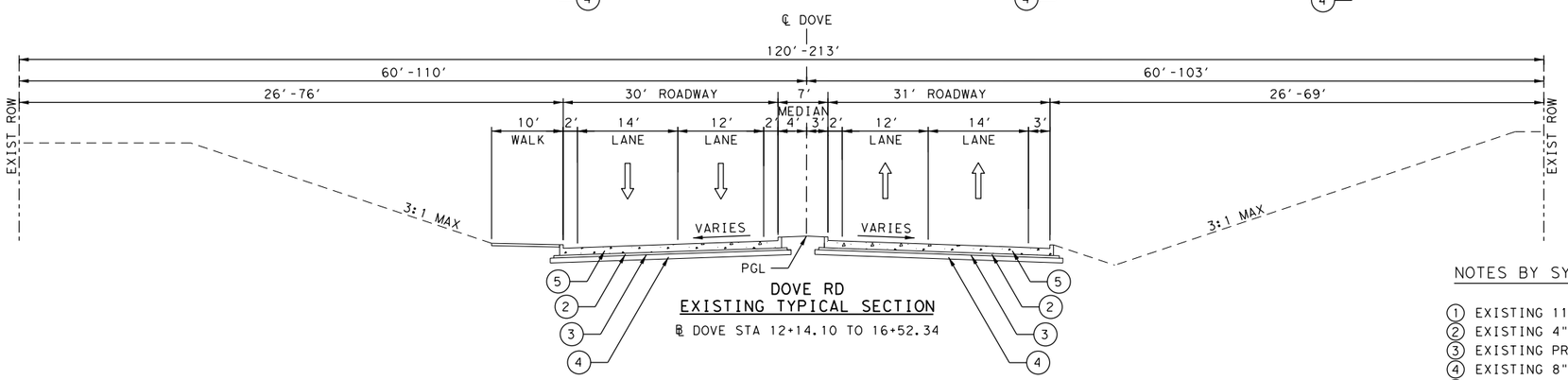
DOVE RD
EXISTING TYPICAL SECTION
℄ DOVE STA 1+52.73 TO 4+33.57



DOVE RD
EXISTING TYPICAL SECTION
℄ DOVE STA 4+33.57 TO 7+25.72



DOVE RD
EXISTING TYPICAL SECTION
℄ DOVE STA 7+25.72 TO 12+14.10



DOVE RD
EXISTING TYPICAL SECTION
℄ DOVE STA 12+14.10 TO 16+52.34

NOTES BY SYMBOL " # "

1. EXISTING 11"-13" CONC. PVMT.
2. EXISTING 4" ASB
3. EXISTING PRIME COAT
4. EXISTING 8"-10" SUBGRADE
5. EXISTING 8"-11" CONC. PVMT.
6. EXISTING 6" SUBGRADE

LEGEND

PROPOSED TRAFFIC FLOW DIRECTION

EXISTING TRAFFIC FLOW DIRECTION

PRELIMINARY
FOR REVIEW ONLY
Not for construction, bidding, or permit purposes.
Kimley»Horn
Engineer LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

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SH 114
TYPICAL SECTIONS

Scale-N.T.S. SHEET 3 OF 9

DESIGN LPB	FED.RD. DIV.NO. 6	FEDERAL AID PROJECT NO. SEE TITLE SHEET		HIGHWAY NO. SH 114	
DRAWN JCH	STATE	DISTRICT	COUNTY		SHEET NO.
CHECK LJD	TEXAS	FTW	TARRANT		6
CHECK LPB	CONTROL 0353	SECTION 03	JOB 100		

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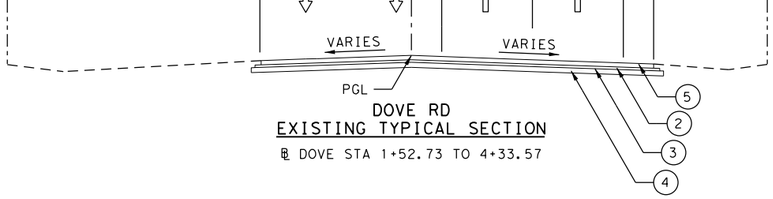
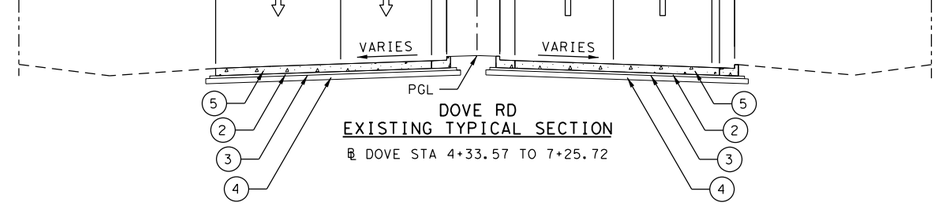
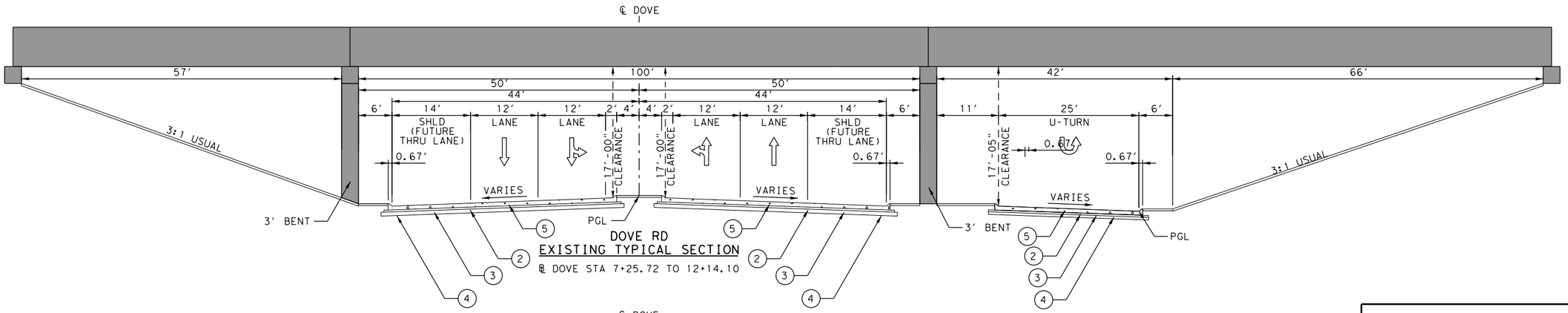


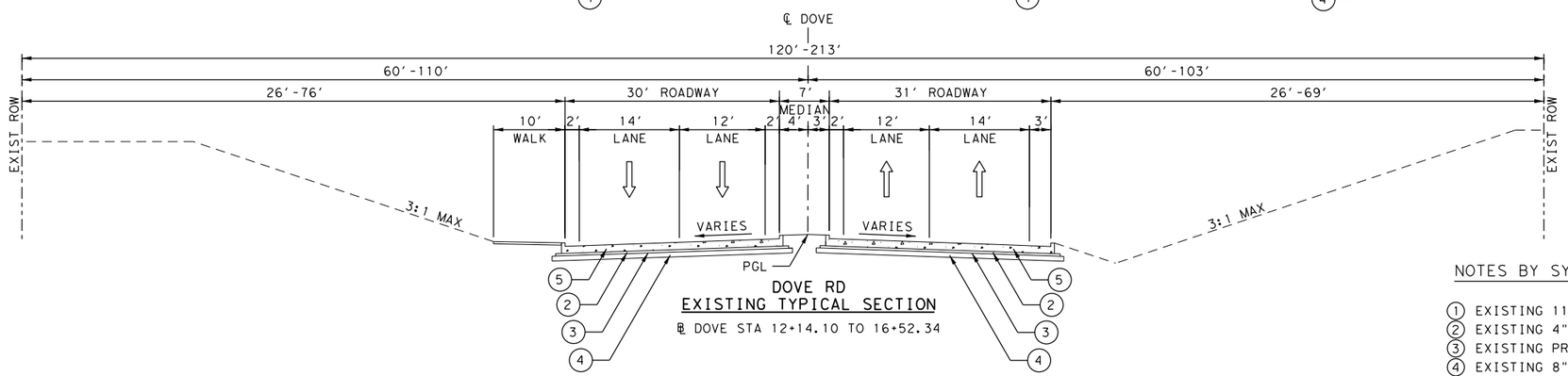
DOVE RD
EXISTING TYPICAL SECTION
℄ DOVE STA 1+52.73 TO 4+33.57



DOVE RD
EXISTING TYPICAL SECTION
℄ DOVE STA 4+33.57 TO 7+25.72



DOVE RD
EXISTING TYPICAL SECTION
℄ DOVE STA 7+25.72 TO 12+14.10



DOVE RD
EXISTING TYPICAL SECTION
℄ DOVE STA 12+14.10 TO 16+52.34

NOTES BY SYMBOL " # "

1. EXISTING 11"-13" CONC. PVMT.
2. EXISTING 4" ASB
3. EXISTING PRIME COAT
4. EXISTING 8"-10" SUBGRADE
5. EXISTING 8"-11" CONC. PVMT.
6. EXISTING 6" SUBGRADE

LEGEND

PROPOSED TRAFFIC FLOW DIRECTION

EXISTING TRAFFIC FLOW DIRECTION

PRELIMINARY
FOR REVIEW ONLY
Not for construction, bidding, or permit purposes.
Kimley»Horn
Engineer: LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

Texas Department of Transportation
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SH 114
TYPICAL SECTIONS

Scale-N.T.S. SHEET 3 OF 9

DESIGN LPB	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
	6	SEE TITLE SHEET	SH 114
DRAWN JCH	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK LJD	TEXAS	FTW	TARRANT	6
CHECK LPB	CONTROL	SECTION	JOB	
	0353	03	100	

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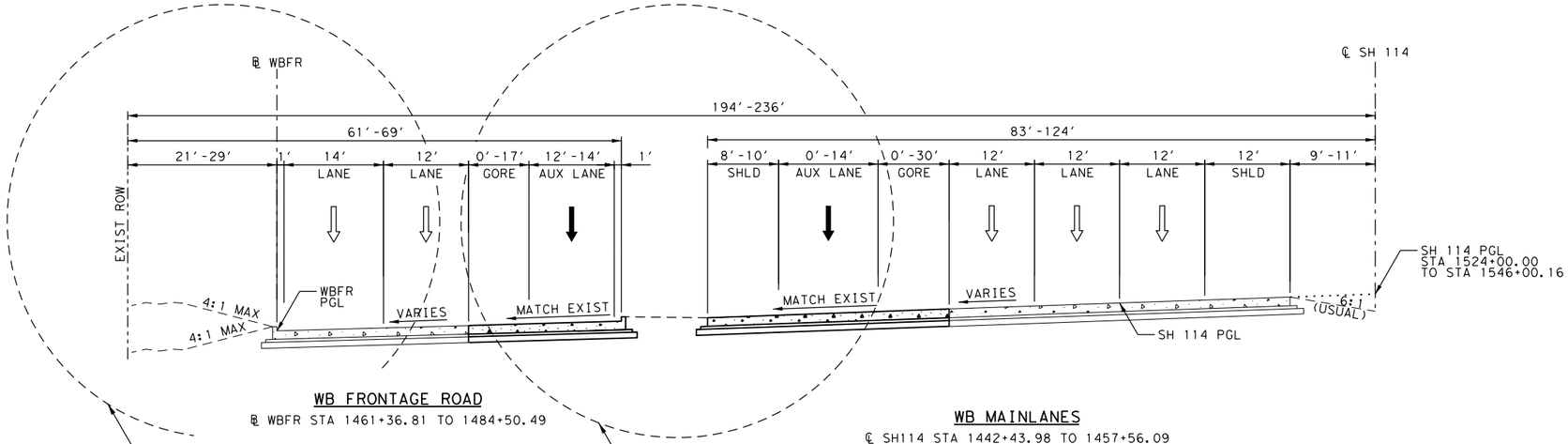


WB FRONTAGE ROAD

℄ WBFR STA 1461+36.81 TO 1484+50.49

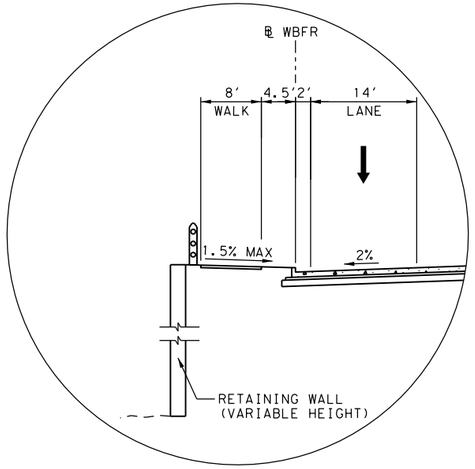
SEE SH 114 WB FRONTAGE ROAD RETAINING WALL LIMITS

WB MAINLANES

℄ SH114 STA 1442+43.98 TO 1457+56.09
℄ SH114 STA 1488+73.17 TO 1505+81.86
℄ SH114 STA 1537+52.42 TO 1558+70.15

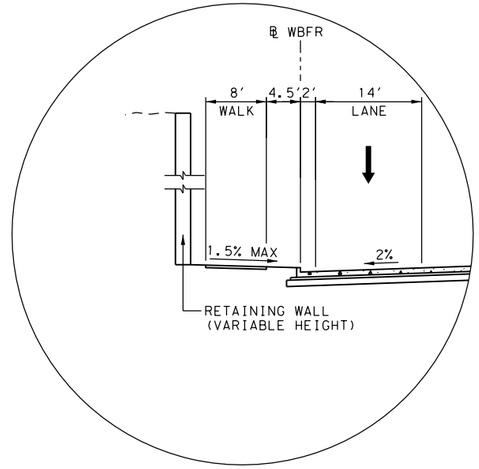
SEE SH 114 WBML RETAINING WALL LIMITS

N. T. S.



SH 114 WB FRONTAGE RD RETAINING WALL LIMITS

℄ WBFR STA 1503+11.21 TO 1514+54.39
℄ WBFR STA 1527+36.85 TO 1531+62.03



SH 114 WB FRONTAGE RD RETAINING WALL LIMITS

℄ WBFR STA 1535+45.52 TO 1536+46.22
℄ WBFR STA 1536+83.58 TO 1539+10.00

NOTES BY SYMBOL " # "

1. EXISTING 11"-13" CONC. PVMT.
2. EXISTING 4" ASB
3. EXISTING PRIME COAT
4. EXISTING 8"-10" SUBGRADE
5. EXISTING 8"-11" CONC. PVMT.
6. EXISTING 6" SUBGRADE

LEGEND

PROPOSED TRAFFIC FLOW DIRECTION

EXISTING TRAFFIC FLOW DIRECTION

PRELIMINARY
FOR REVIEW ONLY
Not for construction, bidding, or permit purposes.
Kimley»Horn
Engineer: LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

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SH 114
TYPICAL SECTIONS

Scale-N. T. S. SHEET 4 OF 9

DESIGN LPB	FED. RD. DIV. NO. 6	FEDERAL AID PROJECT NO. SEE TITLE SHEET		HIGHWAY NO. SH 114	
DRAWN JCH	STATE	DISTRICT		COUNTY	SHEET NO.
CHECK LJD	TEXAS	FTW		TARRANT	7
CHECK LPB	CONTROL 0353	SECTION 03		JOB 100	

DATE: 10/25/2018 8:52:56 AM
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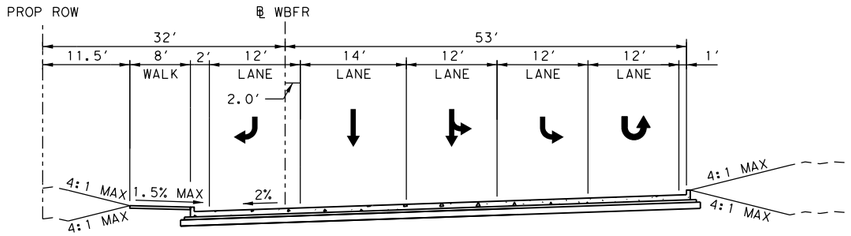
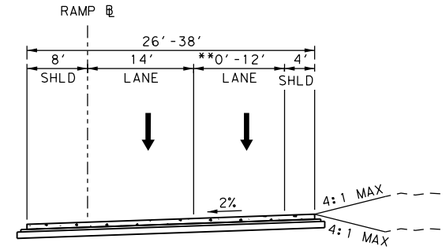


WB SH 114 FRONTAGE RD

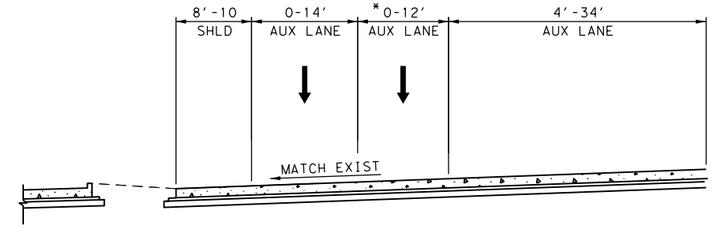
STA 1498+24.43 TO 1501+66.84



WB SH 114 RAMP

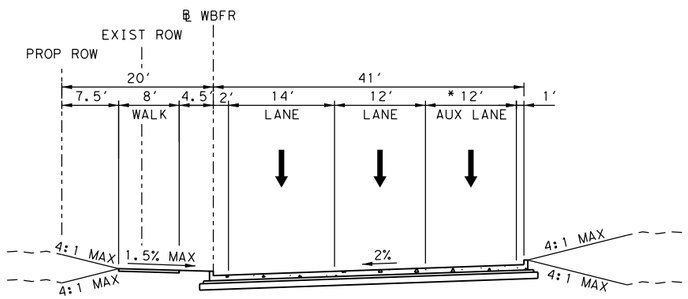
WESTBOUND ENTRANCE RAMP
℄ WBONRMPKIRK STA 4+86.56 TO 10+80.64
℄ WBONRMPDOVE STA 4+86.78 TO 8+46.21
WESTBOUND EXIT RAMP
℄ WBOFFRMPDAVIS 2+78.61 TO 5+95.50
℄ WBOFFRMPKIRK **STA 1+73.65 TO 3+18.63

** SECOND RAMP LANE ONLY APPLICABLE TO INDICATED STATION RANGES



*SECOND WB AUXILIARY LANE LIMITS

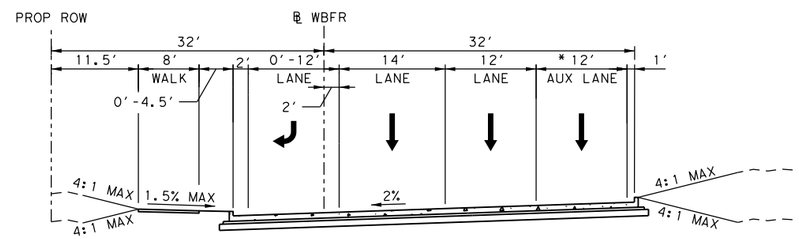
℄ SH114 STA 1537+52.45 TO 1543+70.70



WB SH 114 FRONTAGE RD

℄ WBFR STA 1506+42.91 TO 1508+36.48
* ℄ WBFR STA 1520+07.12 TO 1524+49.34
* ℄ WBFR STA 1528+88.29 TO 1530+53.61
℄ WBFR STA 1535+45.52 TO 1545+49.01

* AUX LANE ONLY APPLICABLE TO INDICATED STATION RANGE

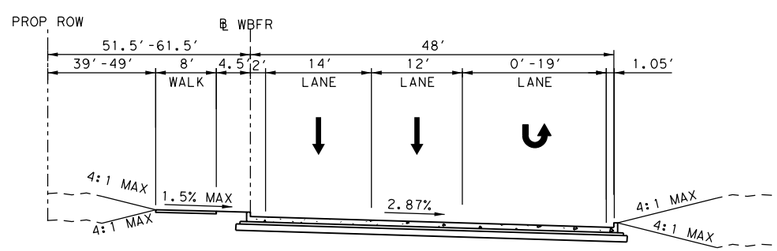


WB SH 114 FRONTAGE RD

℄ WBFR STA 1501+66.84 TO 1506+42.91
* ℄ WBFR STA 1514+58.23 TO 1520+07.12
* ℄ WBFR STA 1524+49.34 TO 1528+88.29

* AUX LANE ONLY APPLICABLE TO INDICATED STATION RANGE

N.T.S.



WB SH 114 FRONTAGE RD

℄ WBFR STA 1545+49.01 TO 1547+63.68

NOTES BY SYMBOL " # "

1. EXISTING 11"-13" CONC. PVMT.
2. EXISTING 4" ASB
3. EXISTING PRIME COAT
4. EXISTING 8"-10" SUBGRADE
5. EXISTING 8"-11" CONC. PVMT.
6. EXISTING 6" SUBGRADE

LEGEND

PROPOSED TRAFFIC FLOW DIRECTION

EXISTING TRAFFIC FLOW DIRECTION

PRELIMINARY
FOR REVIEW ONLY
Not for construction, bidding, or permit purposes.
Kimley»Horn
Engineer LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

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SH 114
TYPICAL SECTIONS

Scale-N.T.S. SHEET 5 OF 9

DESIGN LPB	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
DRAWN JCH	6	SEE TITLE SHEET	SH 114

CHECK LJD	STATE	DISTRICT	COUNTY	SHEET NO.
	TEXAS	FTW	TARRANT	8
CHECK LPB	CONTROL	SECTION	JOB	
	0353	03	100	

DATE: 10/25/2018 8:53:03 AM
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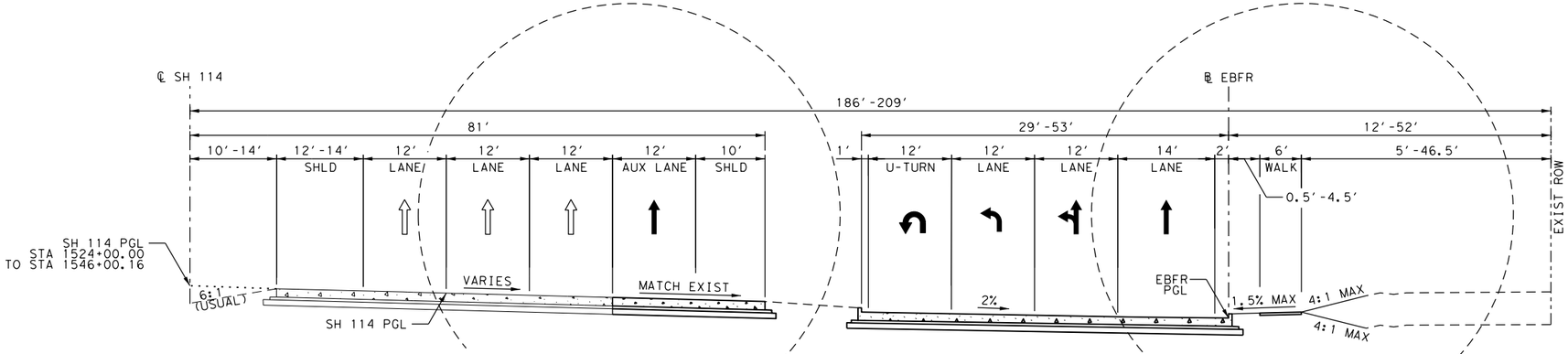


EB MAINLANES

℄ SH114 STA 1435+54.02 TO 1451+07.62
℄ SH114 STA 1472+65.74 TO 1486+98.11
℄ SH114 STA 1499+66.37 TO 1505+00.87
℄ SH114 STA 1532+09.87 TO 1546+00.16

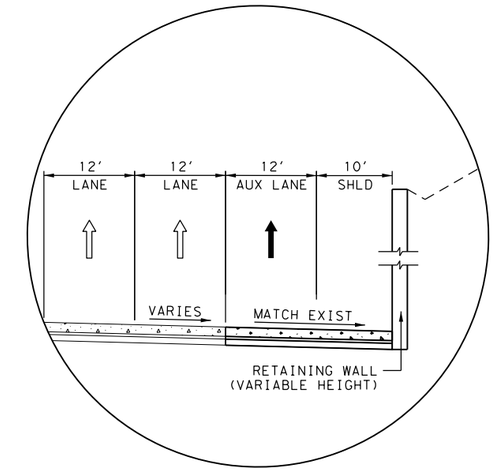
VARYING MAINLANE SHOULDER WIDTH LIMITS (6'-12'):
℄ SH114 STA 1483+09.91 TO 1486+98.11

SEE SH 114 EBML
RETAINING WALL LIMITS

EB SH 114 FRONTAGE RD

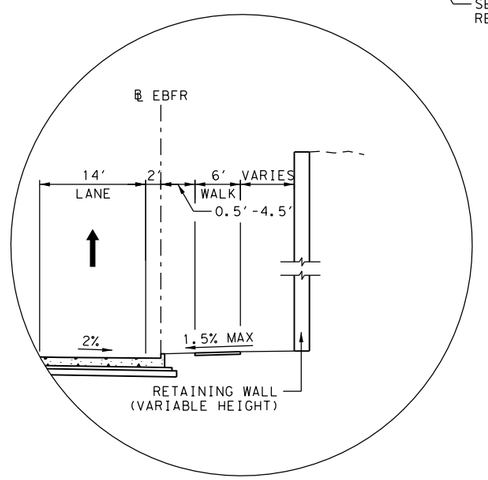
℄ EBFR STA 1493+75.58 TO 1498+75.82
℄ EBFR STA 1499+55.91 TO 1506+85.38
℄ EBFR STA 1543+07.88 TO 1547+76.79

SEE SH 114 EB FRONTAGE ROAD
RETAINING WALL LIMITS



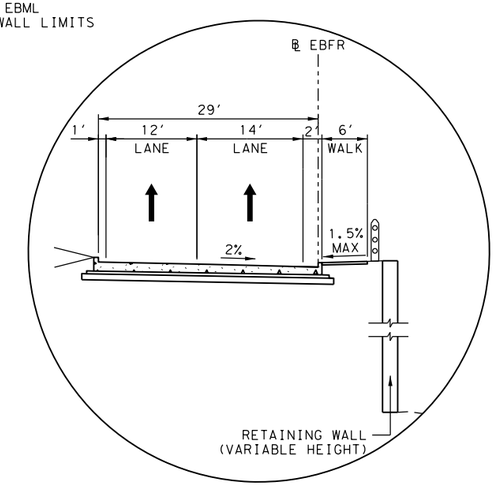
SH 114 EBML RETAINING WALL LIMITS

℄ SH114 STA 1444+89.45 TO 1449+22.68



SH 114 EB FRONTAGE RD RETAINING WALL LIMITS

℄ EBFR STA 1449+00.00 TO 1455+25.37
℄ EBFR STA 1462+35.00 TO 1466+40.00
℄ EBFR STA 1470+75.00 TO 1484+00.00
℄ EBFR STA 1517+30.00 TO 1523+62.30



SH 114 EB FRONTAGE RD RETAINING WALL LIMITS

℄ EBFR STA 1505+30.00 TO 1512+30.00

N. T. S.

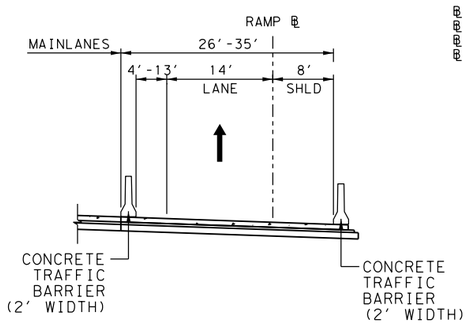
NOTES BY SYMBOL " # "

1. EXISTING 11"-13" CONC. PVMT.
2. EXISTING 4" ASB
3. EXISTING PRIME COAT
4. EXISTING 8"-10" SUBGRADE
5. EXISTING 8"-11" CONC. PVMT.
6. EXISTING 6" SUBGRADE

LEGEND

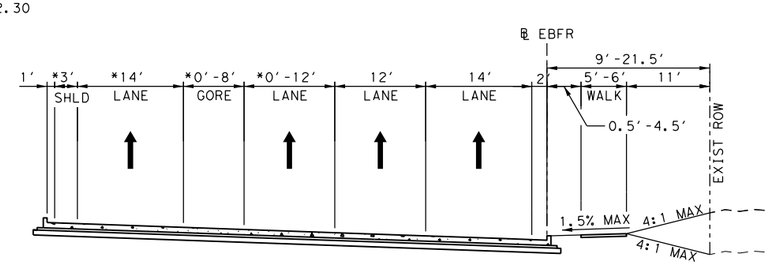
PROPOSED TRAFFIC FLOW DIRECTION

EXISTING TRAFFIC FLOW DIRECTION



EB SH 114 RAMP

EASTBOUND ENTRANCE RAMP
℄ EBONRMPWTL STA 4+11.00 TO 5+47.25
℄ EBONRMPDAVIS STA 1+62.25 TO 2+10.65
℄ EBONRMPKIRK STA 2+52.08 TO 2+98.47
EASTBOUND EXIT RAMP
℄ EBOFFRMPKIRK STA 3+77.36 TO 5+31.03
℄ EBOFFRMPDOVE STA 5+34.63 TO 8+19.37



EB SH 114 FRONTAGE RD

* ℄ EXEBFR STA 1428+68.60 TO 1432+79.21
℄ EBFR STA 1448+00.35 TO 1455+21.41
℄ EBFR STA 1474+60.99 TO 1483+48.73
℄ EBFR STA 1487+41.61 TO 1493+75.58
℄ EBFR STA 1506+85.38 TO 1509+76.17
℄ EBFR STA 1533+45.82 TO 1543+07.88

* ONLY APPLICABLE TO INDICATED STATION RANGE

PRELIMINARY
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Kimley»Horn
Engineer LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

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SH 114
TYPICAL SECTIONS

Scale-N.T.S. SHEET 6 OF 9

DESIGN LPB	FED. RD. DIV. NO. 6	FEDERAL AID PROJECT NO. SEE TITLE SHEET	HIGHWAY NO. SH 114	
DRAWN JCH	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK LJD	TEXAS	FTW	TARRANT	9
CHECK LPB	CONTROL 0353	SECTION 03	JOB 100	

DATE: 10/25/2018 8:53:10 AM
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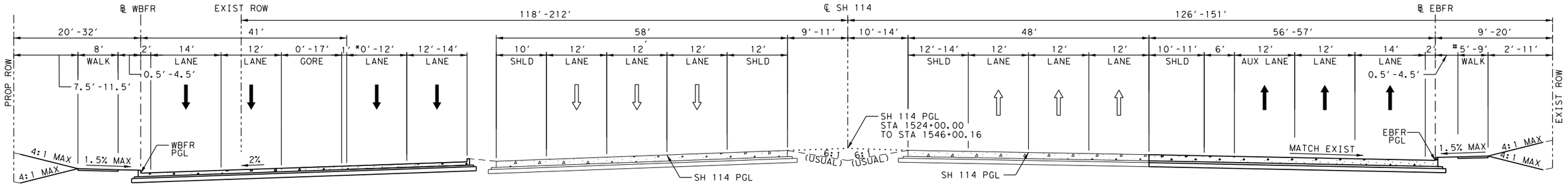


WB SH 114 FRONTAGE RD

℄ WBFR STA 1508+36.48 TO 1514+58.23
* ℄ WBFR STA 1530+53.61 TO 1535+45.52

* ADDITONAL LANE ONLY APPLICABLE TO INDICATED STATION RANGES

SH 114 MAIN LANES WITH EB FRONTAGE ROAD

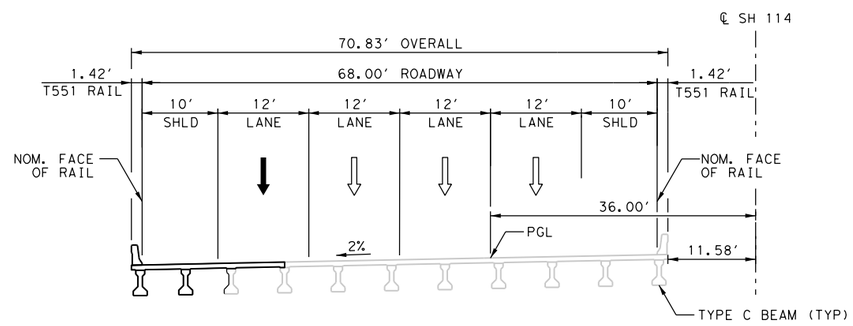
℄ SH114 STA 1429+98.83 TO 1558+70.15

EB SH 114 FRONTAGE RD

℄ EBFR STA 1455+21.41 TO 1474+60.99
** ℄ EBFR STA 1483+48.73 TO 1487+41.61
℄ EBFR STA 1509+76.17 TO 1533+45.82

#VARYING SIDEWALK WIDTH LIMITS:
℄ EBFR STA 1509+76.17 TO 1513+07.60

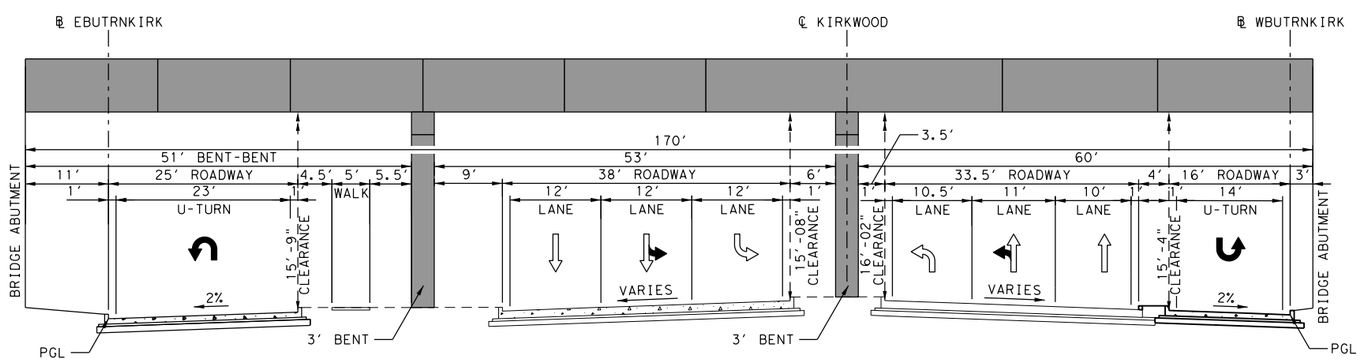
** AUX LANE DOES NOT OCCUR AT INDICATED STATION RANGE



N. T. S.

WESTBOUND MAINLANE KIRKWOOD/SOLANA BLVD BRIDGE
PROPOSED TYPICAL SECTION

℄ SH114 STA 1496+53.23 TO 1498+29.80



KIRKWOOD BLVD/SOLANA BLVD
PROPOSED TYPICAL SECTION

℄ KIRKWOOD STA 3+25.46 TO 6+89.72

NOTES BY SYMBOL " # "

1. EXISTING 11"-13" CONC. PVMT.
2. EXISTING 4" ASB
3. EXISTING PRIME COAT
4. EXISTING 8"-10" SUBGRADE
5. EXISTING 8"-11" CONC. PVMT.
6. EXISTING 6" SUBGRADE

LEGEND

PROPOSED TRAFFIC FLOW DIRECTION

EXISTING TRAFFIC FLOW DIRECTION

PRELIMINARY
FOR REVIEW ONLY
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Kimley»Horn
Engineer LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

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SH 114
TYPICAL SECTIONS

Scale-N.T.S. SHEET 7 OF 9

DESIGN LPB	FED. RD. DIV. NO. 6	FEDERAL AID PROJECT NO. SEE TITLE SHEET		HIGHWAY NO. SH 114	
DRAWN JCH	STATE TEXAS	DISTRICT FTW		COUNTY TARRANT	SHEET NO. 10
CHECK LJD	CONTROL 0353	SECTION 03		JOB 100	
CHECK LPB					

DATE: 10/25/2018 8:53:16 AM
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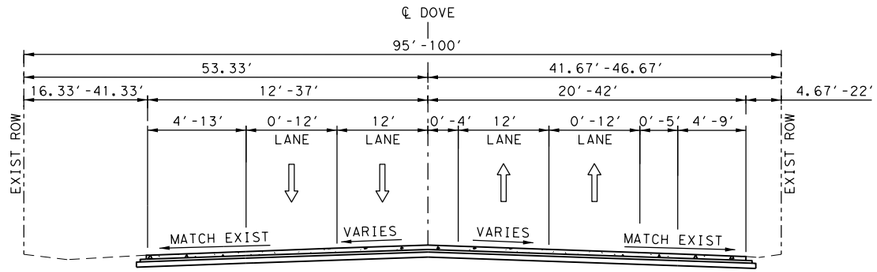
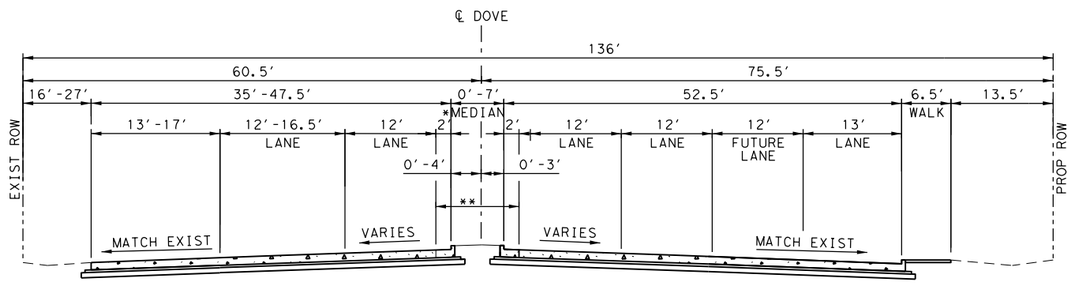
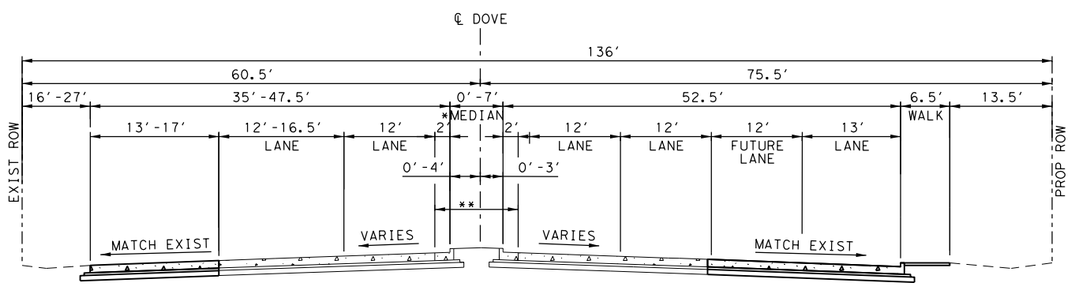


DOVE RD
PROPOSED TYPICAL SECTION
℄ DOVE STA 1+52.73 TO 4+33.57



DOVE RD
PROPOSED TYPICAL SECTION
℄ DOVE STA 4+33.57 TO 6+75.24



DOVE RD
PROPOSED TYPICAL SECTION
℄ DOVE STA 6+75.24 TO 7+25.72

N. T. S.

NOTES BY SYMBOL " ⊕ "

1. EXISTING 11"-13" CONC. PVMT.
2. EXISTING 4" ASB
3. EXISTING PRIME COAT
4. EXISTING 8"-10" SUBGRADE
5. EXISTING 8"-11" CONC. PVMT.
6. EXISTING 6" SUBGRADE

LEGEND

PROPOSED TRAFFIC FLOW DIRECTION

EXISTING TRAFFIC FLOW DIRECTION

PRELIMINARY
FOR REVIEW ONLY
Not for construction, bidding, or permit purposes.
Kimley»Horn
Engineer LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

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SH 114
TYPICAL SECTIONS

Scale-N. T. S. SHEET 8 OF 9

DESIGN LPB	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
DRAWN JCH	6	SEE TITLE SHEET		SH 114
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK LJD	TEXAS	FTW	TARRANT	11
	CONTROL	SECTION	JOB	
CHECK LPB	0353	03	100	

DATE: 10/25/2018 8:53:23 AM
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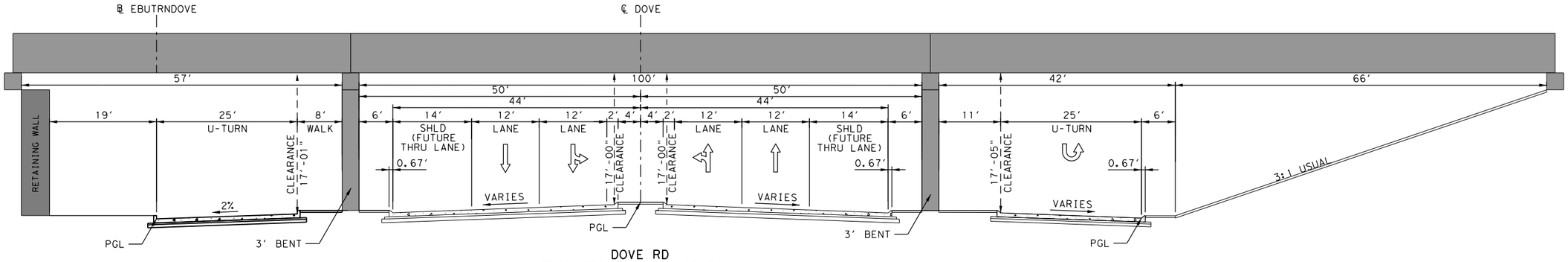
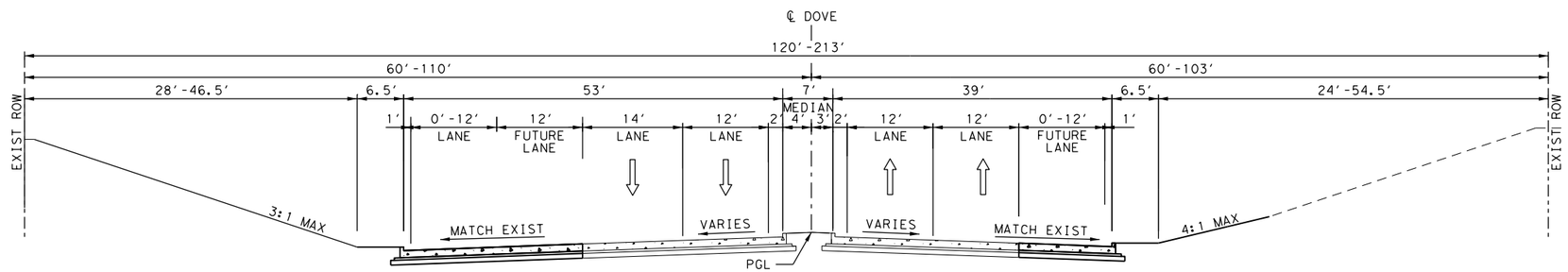


DOVE RD
PROPOSED TYPICAL SECTION
℄ DOVE STA 7+25.72 TO 12+14.10



DOVE RD
EXISTING TYPICAL SECTION
℄ DOVE STA 12+14.10 TO 16+52.34

N. T. S.

NOTES BY SYMBOL " # "

1. EXISTING 11"-13" CONC. PVMT.
2. EXISTING 4" ASB
3. EXISTING PRIME COAT
4. EXISTING 8"-10" SUBGRADE
5. EXISTING 8"-11" CONC. PVMT.
6. EXISTING 6" SUBGRADE

LEGEND

PROPOSED TRAFFIC FLOW DIRECTION

EXISTING TRAFFIC FLOW DIRECTION

PRELIMINARY
FOR REVIEW ONLY
Not for construction, bidding, or permit purposes.
Kimley»Horn
Engineer LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

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SH 114
TYPICAL SECTIONS

Scale-N.T.S. SHEET 9 OF 9

DESIGN LPB	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
	6	SEE TITLE SHEET	SH 114
DRAWN JCH	STATE	DISTRICT	COUNTY / SHEET NO.
CHECK LJD	TEXAS	FTW	TARRANT / 12
CHECK LPB	CONTROL	SECTION	JOB
	0353	03	100

DATE: 10/25/2018 8:53:30 AM
FILE: c:\pwworking\kha\pwproa\cade.ackerman\dms21027\SH0114_GEN_TYP_09.dgn

EXISTING EASTBOUND FRONTAGE RD ALIGNMENT
(℄ EXIST EBFR)

Chain BLEXEBFR contains:
BLEXEBFR1 BLEXEBFR2

Beginning chain BLEXEBFR description
Feature: Geom_Centerline
Description: Eastbound Frontage Road Existing Baseline Alignment

==========

Point BLEXEBFR1 N 7,046,646.89 E 2,371,314.00 Sta 1425+80.84

Course from BLEXEBFR1 to BLEXEBFR2 S 71° 36′ 46.361" E Dist 1,718.07

Point BLEXEBFR2 N 7,046,104.95 E 2,372,944.35 Sta 1442+98.91

==========

Ending chain BLEXEBFR description

EASTBOUND FRONTAGE RD ALIGNMENT
(℄ EBFR)

Chain BLEBFR contains:
BLEBFR1 CUR BLEBFR-1 CUR BLEBFR-2 CUR BLEBFR-3 CUR BLEBFR-4 CUR BLEBFR-5 CUR B-
LEBFR-6 CUR BLEBFR-7 CUR BLEBFR-8 CUR BLEBFR-9 CUR BLEBFR-10 CUR BLEBFR-11 CUR -
BLEBFR-12

Beginning chain BLEBFR description
Feature: Geom_Centerline
Description: Eastbound Frontage Road Baseline Alignment

==========

Point BLEBFR1 N 7,046,116.82 E 2,372,948.30 Sta 1446+85.00

Course from BLEBFR1 to PC BLEBFR-1 S 71° 36′ 46.361" E Dist 430.93

Curve Data

Curve BLEBFR-1
P.I. Station 1453+06.53 N 7,045,920.76 E 2,373,538.10
Delta = 7° 36′ 45.824" (LT)
Degree = 2° 00′ 00.000"
Tangent = 190.60
Length = 380.64
Radius = 2,864.79
External = 6.33
Long Chord = 380.36
Mid. Ord. = 6.32
P.C. Station 1451+15.93 N 7,045,980.88 E 2,373,357.23
P.T. Station 1454+96.57 N 7,045,885.13 E 2,373,725.34
C.C. N 7,048,699.42 E 2,374,260.89
Back = S 71° 36′ 46.361" E
Ahead = S 79° 13′ 32.186" E
Chord Bear = S 75° 25′ 09.273" E

Curve Data

Curve BLEBFR-2
P.I. Station 1456+87.17 N 7,045,849.50 E 2,373,912.58
Delta = 7° 36′ 45.824" (RT)
Degree = 2° 00′ 00.000"
Tangent = 190.60
Length = 380.64
Radius = 2,864.79
External = 6.33
Long Chord = 380.36
Mid. Ord. = 6.32
P.C. Station 1454+96.57 N 7,045,885.13 E 2,373,725.34
P.T. Station 1458+77.21 N 7,045,789.38 E 2,374,093.44
C.C. N 7,043,070.85 E 2,373,189.79
Back = S 79° 13′ 32.186" E
Ahead = S 71° 36′ 46.361" E
Chord Bear = S 75° 25′ 09.273" E

Course from PT BLEBFR-2 to PC BLEBFR_3 S 71° 36′ 46.361" E Dist 1,341.99

Curve Data

Curve BLEBFR_3
P.I. Station 1473+04.24 N 7,045,339.24 E 2,375,447.62
Delta = 8° 29′ 19.781" (RT)
Degree = 5° 00′ 00.000"
Tangent = 85.04
Length = 169.78
Radius = 1,145.92
External = 3.15
Long Chord = 169.62
Mid. Ord. = 3.14
P.C. Station 1472+19.20 N 7,045,366.07 E 2,375,366.92
P.T. Station 1473+88.98 N 7,045,300.80 E 2,375,523.48
C.C. N 7,044,278.65 E 2,375,005.46
Back = S 71° 36′ 46.361" E
Ahead = S 63° 07′ 26.581" E
Chord Bear = S 67° 22′ 06.471" E

Course from PT BLEBFR_3 to PC BLEBFR_4 S 63° 07′ 26.581" E Dist 269.54

EASTBOUND FRONTAGE RD ALIGNMENT
(℄ EBFR)(CONTINUED)

Curve Data

Curve BLEBFR-6
P.I. Station 1492+53.07 N 7,044,088.53 E 2,376,877.21
Delta = 7° 52′ 55.512" (LT)
Degree = 2° 00′ 00.000"
Tangent = 197.36
Length = 394.10
Radius = 2,864.79
External = 6.79
Long Chord = 393.79
Mid. Ord. = 6.77
P.C. Station 1490+55.70 N 7,044,260.81 E 2,376,780.92
P.T. Station 1494+49.81 N 7,043,931.08 E 2,376,996.21
C.C. N 7,045,658.47 E 2,379,281.63
Back = S 29° 12′ 03.538" E
Ahead = S 37° 04′ 59.051" E
Chord Bear = S 33° 08′ 31.294" E

Course from PT BLEBFR-6 to PC BLEBFR-7 S 37° 04′ 59.051" E Dist 686.32

Curve Data

Curve BLEBFR_7
P.I. Station 1502+45.15 N 7,043,296.58 E 2,377,475.79
Delta = 8° 42′ 17.796" (LT)
Degree = 4° 00′ 00.000"
Tangent = 109.02
Length = 217.62
Radius = 1,432.39
External = 4.14
Long Chord = 217.41
Mid. Ord. = 4.13
P.C. Station 1501+36.13 N 7,043,383.55 E 2,377,410.05
P.T. Station 1503+53.76 N 7,043,220.56 E 2,377,553.93
C.C. N 7,044,247.25 E 2,378,552.76
Back = S 37° 04′ 59.051" E
Ahead = S 45° 47′ 16.847" E
Chord Bear = S 41° 26′ 07.949" E

Curve Data

Curve BLEBFR_8
P.I. Station 1504+62.78 N 7,043,144.53 E 2,377,632.07
Delta = 8° 42′ 18.216" (RT)
Degree = 4° 00′ 00.000"
Tangent = 109.02
Length = 217.63
Radius = 1,432.39
External = 4.14
Long Chord = 217.42
Mid. Ord. = 4.13
P.C. Station 1503+53.76 N 7,043,220.56 E 2,377,553.93
P.T. Station 1505+71.38 N 7,043,057.56 E 2,377,697.81
C.C. N 7,042,193.87 E 2,376,555.10
Back = S 45° 47′ 17.140" E
Ahead = S 37° 04′ 58.924" E
Chord Bear = S 41° 26′ 08.032" E

Course from PT BLEBFR_8 to PC BLEBFR_9 S 37° 04′ 58.924" E Dist 403.77

Curve Data

Curve BLEBFR-9
P.I. Station 1510+46.04 N 7,042,678.89 E 2,377,984.02
Delta = 5° 40′ 00.220" (LT)
Degree = 4° 00′ 00.000"
Tangent = 70.89
Length = 141.67
Radius = 1,432.39
External = 1.75
Long Chord = 141.61
Mid. Ord. = 1.75
P.C. Station 1509+75.15 N 7,042,735.45 E 2,377,941.27
P.T. Station 1511+16.82 N 7,042,626.84 E 2,378,032.14
C.C. N 7,043,599.14 E 2,379,083.98
Back = S 37° 04′ 58.924" E
Ahead = S 42° 44′ 59.144" E
Chord Bear = S 39° 54′ 59.034" E

Curve Data

Curve BLEBFR-10
P.I. Station 1512+58.60 N 7,042,522.72 E 2,378,128.38
Delta = 5° 40′ 00.252" (RT)
Degree = 2° 00′ 00.000"
Tangent = 141.78
Length = 283.34
Radius = 2,864.79
External = 3.51
Long Chord = 283.22
Mid. Ord. = 3.50
P.C. Station 1511+16.82 N 7,042,626.84 E 2,378,032.14
P.T. Station 1514+00.16 N 7,042,409.61 E 2,378,213.87
C.C. N 7,040,682.22 E 2,375,928.45
Back = S 42° 44′ 59.302" E
Ahead = S 37° 04′ 59.051" E
Chord Bear = S 39° 54′ 59.176" E

Course from PT BLEBFR-10 to PC BLEBFR-11 S 37° 04′ 59.051" E Dist 1,620.98

EASTBOUND FRONTAGE RD ALIGNMENT
(℄ EBFR)(CONTINUED)

Curve Data

Curve BLEBFR-11
P.I. Station 1536+13.47 N 7,040,643.91 E 2,379,548.44
Delta = 23° 21′ 50.787" (RT)
Degree = 2° 00′ 00.000"
Tangent = 592.33
Length = 1,168.21
Radius = 2,864.79
External = 60.60
Long Chord = 1,160.13
Mid. Ord. = 59.34
P.C. Station 1530+21.14 N 7,041,116.45 E 2,379,191.28
P.T. Station 1541+89.34 N 7,040,068.48 E 2,379,688.92
C.C. N 7,039,389.06 E 2,376,905.86
Back = S 37° 04′ 59.051" E
Ahead = S 13° 43′ 08.264" E
Chord Bear = S 25° 24′ 03.657" E

Course from PT BLEBFR-11 to PC BLEBFR-12 S 13° 43′ 08.264" E Dist 280.46

Curve Data

Curve BLEBFR-12
P.I. Station 1546+51.32 N 7,039,619.68 E 2,379,798.48
Delta = 3° 37′ 45.167" (LT)
Degree = 0° 59′ 59.999"
Tangent = 181.52
Length = 362.92
Radius = 5,729.58
External = 2.87
Long Chord = 362.86
Mid. Ord. = 2.87
P.C. Station 1544+69.80 N 7,039,796.02 E 2,379,755.43
P.T. Station 1548+32.72 N 7,039,446.41 E 2,379,852.61
C.C. N 7,041,154.84 E 2,385,321.55
Back = S 13° 43′ 08.264" E
Ahead = S 17° 20′ 53.431" E
Chord Bear = S 15° 32′ 00.847" E

==========

Ending chain BLEBFR description

PRELIMINARY
FOR REVIEW ONLY
Not for construction, bidding, or permit purposes.
Kimley»Horn
Engineer LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

Texas Department of Transportation
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HORIZONTAL ALIGNMENT DATA

SHEET 1 OF 7

DESIGN LPB	FED. RD. DIV. NO. 6	FEDERAL AID PROJECT NO. SEE TITLE SHEET		HIGHWAY NO. SH 114	
DRAWN RCA	STATE	DISTRICT		COUNTY	SHEET NO.
CHECK LJD	TEXAS	FTW		TARRANT	13
CHECK LPB	CONTROL 0353	SECTION 03		JOB 100	

DATE: 10/25/2018 8:53:37 AM
FILE: c:\pwworking\kha\pwprod\cade.ackerman\dms21033\SH0114_RDW HAD 01.dgn

EXISTING WESTBOUND FRONTAGE RD ALIGNMENT
(℄ EXIST WBFR)

Chain BLEXWBFR contains:
EXWBFR11401 CUR BLEXWBFR-1 CUR BLEXWBFR-2 EXWBFR11405 CUR BLEXWBFR-3 EXWBFR114-07 CUR BLEXWBFR-4 EXWBFR11409

Beginning chain BLEXWBFR description
Description: Westbound Frontage Road Existing Bsaeline Alignment

Point EXWBFR11401 N 7,046,516.08 E 2,372,848.55 Sta 1440+00.00

Course from EXWBFR11401 to PC BLEXWBFR-1 S 71° 36′ 41.573" E Dist 2,760.39

Curve Data

Curve BLEXWBFR-1
P.I. Station 1472+82.27 N 7,045,480.66 E 2,375,963.23
Delta = 20° 38′ 56.206" (RT)
Degree = 1° 59′ 59.997"
Tangent = 521.88
Length = 1,032.45
Radius = 2,864.79
External = 47.15
Long Chord = 1,026.87
Mid. Ord. = 46.39
P.C. Station 1467+60.39 N 7,045,645.29 E 2,375,468.00
P.T. Station 1477+92.84 N 7,045,151.96 E 2,376,368.60
C.C. N 7,042,926.78 E 2,374,564.28
Back = S 71° 36′ 41.554" E
Ahead = S 50° 57′ 45.349" E
Chord Bear = S 61° 17′ 13.451" E

Curve Data

Curve BLEXWBFR-2
P.I. Station 1482+57.76 N 7,044,859.14 E 2,376,729.73
Delta = 13° 52′ 46.468" (RT)
Degree = 1° 29′ 59.998"
Tangent = 464.93
Length = 925.31
Radius = 3,819.72
External = 28.19
Long Chord = 923.04
Mid. Ord. = 27.98
P.C. Station 1477+92.84 N 7,045,151.96 E 2,376,368.60
P.T. Station 1487+18.14 N 7,044,488.23 E 2,377,010.06
C.C. N 7,042,185.05 E 2,373,962.83
Back = S 50° 57′ 45.334" E
Ahead = S 37° 04′ 58.865" E
Chord Bear = S 44° 01′ 22.099" E

Course from PT BLEXWBFR-2 to EXWBFR11405 S 37° 04′ 58.800" E Dist 260.70

Point EXWBFR11405 N 7,044,280.26 E 2,377,167.26 Sta 1489+78.84

Curve Data

Curve BLEXWBFR-3
P.I. Station 1490+86.01 N 7,044,194.76 E 2,377,231.88
Delta = 8° 33′ 29.199" (LT)
Degree = 3° 59′ 59.995"
Tangent = 107.18
Length = 213.95
Radius = 1,432.40
External = 4.00
Long Chord = 213.75
Mid. Ord. = 3.99
P.C. Station 1489+78.84 N 7,044,280.26 E 2,377,167.26
P.T. Station 1491+92.79 N 7,044,119.83 E 2,377,308.51
C.C. N 7,045,143.95 E 2,378,309.97
Back = S 37° 04′ 58.850" E
Ahead = S 45° 38′ 28.049" E
Chord Bear = S 41° 21′ 43.450" E

Course from PT BLEXWBFR-3 to EXWBFR11407 S 45° 38′ 27.996" E Dist 110.33

Point EXWBFR11407 N 7,044,042.69 E 2,377,387.39 Sta 1493+03.12

Curve Data

Curve BLEXWBFR-4
P.I. Station 1493+74.57 N 7,043,992.74 E 2,377,438.48
Delta = 8° 33′ 29.259" (RT)
Degree = 5° 59′ 59.999"
Tangent = 71.45
Length = 142.64
Radius = 954.93
External = 2.67
Long Chord = 142.50
Mid. Ord. = 2.66
P.C. Station 1493+03.12 N 7,044,042.69 E 2,377,387.39
P.T. Station 1494+45.75 N 7,043,935.74 E 2,377,481.56
C.C. N 7,043,359.94 E 2,376,719.75
Back = S 45° 38′ 28.172" E
Ahead = S 37° 04′ 58.913" E
Chord Bear = S 41° 21′ 43.543" E

Course from PT BLEXWBFR-4 to EXWBFR11409 S 37° 04′ 58.664" E Dist 54.25

Point EXWBFR11409 N 7,043,892.46 E 2,377,514.27 Sta 1495+00.00

Ending chain BLEXWBFR description

WESTBOUND FRONTAGE RD ALIGNMENT
(℄ WBFR)

Chain BLWBFR contains:
BLWBFR1 CUR BLWBFR-1 CUR BLWBFR-2 CUR BLWBFR-3 BLWBFR9

Beginning chain BLWBFR description
Feature: Geom_Centerline
Description: Westbound Frontage Road Baseline Alignment

Point BLWBFR1 N 7,043,887.34 E 2,377,507.49 Sta 1495+00.00

Course from BLWBFR1 to PC BLWBFR-1 S 37° 04′ 59.051" E Dist 361.17

Curve Data

Curve BLWBFR-1
P.I. Station 1500+98.46 N 7,043,409.91 E 2,377,868.34
Delta = 5° 38′ 49.982" (RT)
Degree = 1° 11′ 27.358"
Tangent = 237.28
Length = 474.18
Radius = 4,811.00
External = 5.85
Long Chord = 473.99
Mid. Ord. = 5.84
P.C. Station 1498+61.17 N 7,043,599.21 E 2,377,725.26
P.T. Station 1503+35.36 N 7,043,207.45 E 2,377,992.09
C.C. N 7,040,698.31 E 2,373,887.23
Back = S 37° 04′ 59.051" E
Ahead = S 31° 26′ 09.069" E
Chord Bear = S 34° 15′ 34.060" E

Curve Data

Curve BLWBFR-2
P.I. Station 1505+70.62 N 7,043,006.72 E 2,378,114.79
Delta = 5° 38′ 49.982" (LT)
Degree = 1° 12′ 04.210"
Tangent = 235.26
Length = 470.14
Radius = 4,770.00
External = 5.80
Long Chord = 469.95
Mid. Ord. = 5.79
P.C. Station 1503+35.36 N 7,043,207.45 E 2,377,992.09
P.T. Station 1508+05.50 N 7,042,819.04 E 2,378,256.65
C.C. N 7,045,695.22 E 2,382,061.98
Back = S 31° 26′ 09.069" E
Ahead = S 37° 04′ 59.051" E
Chord Bear = S 34° 15′ 34.060" E

Course from PT BLWBFR-2 to PC BLWBFR-3 S 37° 04′ 59.051" E Dist 2,033.32

Curve Data

Curve BLWBFR-3
P.I. Station 1535+83.88 N 7,040,602.55 E 2,379,931.94
Delta = 17° 36′ 23.499" (RT)
Degree = 1° 11′ 27.358"
Tangent = 745.06
Length = 1,478.38
Radius = 4,811.00
External = 57.35
Long Chord = 1,472.57
Mid. Ord. = 56.68
P.C. Station 1528+38.82 N 7,041,196.93 E 2,379,482.69
P.T. Station 1543+17.20 N 7,039,900.12 E 2,380,180.36
C.C. N 7,038,296.03 E 2,375,644.65
Back = S 37° 04′ 59.051" E
Ahead = S 19° 28′ 35.551" E
Chord Bear = S 28° 16′ 47.301" E

Course from PT BLWBFR-3 to BLWBFR9 S 19° 28′ 35.551" E Dist 934.10

Point BLWBFR9 N 7,039,019.47 E 2,380,491.80 Sta 1552+51.30

Ending chain BLWBFR description

PRELIMINARY
FOR REVIEW ONLY
Not for construction, bidding, or permit purposes.
Kimley»Horn
Engineer: LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

Texas Department of Transportation
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HORIZONTAL ALIGNMENT DATA

SHEET 2 OF 7

DESIGN LPB	FED. RD. DIV. NO. 6	FEDERAL AID PROJECT NO. SEE TITLE SHEET		HIGHWAY NO. SH 114
DRAWN RCA	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK LJD	TEXAS	FTW	TARRANT	14
CHECK LPB	CONTROL 0353	SECTION 03	JOB 100	

DATE: 10/25/2018 8:53:44 AM
FILE: c:\pwworking\kha\prpro0\cade.ackerman\dms21033\SH0114_RDW_HAD_02.dgn

EXISTING ℄ SH 114 ALIGNMENT
(℄ SH 114)

Chain CLSH114 contains:
CLSH1141 CUR CLSH114-1 CUR CLSH114-2 CUR CLSH114-3 CUR CLSH114-4 CUR CLSH114-5-
CLSH1142

Beginning chain CLSH114 description
Description: SH 114 Centerline Alignment

Point CLSH1141 N 7,047,351.15 E 2,369,534.63 Sta 1408+00.00

Course from CLSH1141 to PC CLSH114-1 S 73° 48′ 35.959" E Dist 1,464.00

Curve Data

Curve CLSH114-1
P.I. Station 1427+03.47 N 7,046,820.42 E 2,371,362.61
Delta = 2° 11′ 49.598" (RT)
Degree = 0° 15′ 00.000"
Tangent = 439.48
Length = 878.84
Radius = 22,918.31
External = 4.21
Long Chord = 878.79
Mid. Ord. = 4.21
P.C. Station 1422+64.00 N 7,046,942.95 E 2,370,940.57
P.T. Station 1431+42.84 N 7,046,681.79 E 2,371,779.65
C.C. N 7,024,933.53 E 2,364,550.40
Back = S 73° 48′ 35.959" E
Ahead = S 71° 36′ 46.361" E
Chord Bear = S 72° 42′ 41.160" E

Course from PT CLSH114-1 to PC CLSH114-2 S 71° 36′ 46.361" E Dist 3,828.78

Curve Data

Curve CLSH114-2
P.I. Station 1478+61.98 N 7,045,193.21 E 2,376,257.86
Delta = 34° 31′ 47.311" (RT)
Degree = 2° 00′ 00.020"
Tangent = 890.36
Length = 1,726.49
Radius = 2,864.78
External = 135.17
Long Chord = 1,700.48
Mid. Ord. = 129.08
P.C. Station 1469+71.62 N 7,045,474.06 E 2,375,412.96
P.T. Station 1486+98.11 N 7,044,482.92 E 2,376,794.72
C.C. N 7,042,755.53 E 2,374,509.31
Back = S 71° 36′ 46.361" E
Ahead = S 37° 04′ 59.051" E
Chord Bear = S 54° 20′ 52.706" E

Course from PT CLSH114-2 to PC CLSH114-3 S 37° 04′ 59.051" E Dist 4,251.38

Curve Data

Curve CLSH114-3
P.I. Station 1534+94.00 N 7,040,656.93 E 2,379,686.51
Delta = 17° 06′ 52.738" (RT)
Degree = 1° 35′ 00.000"
Tangent = 544.52
Length = 1,080.93
Radius = 3,618.68
External = 40.74
Long Chord = 1,076.91
Mid. Ord. = 40.29
P.C. Station 1529+49.49 N 7,041,091.33 E 2,379,358.19
P.T. Station 1540+30.41 N 7,040,145.15 E 2,379,872.47
C.C. N 7,038,909.36 E 2,376,471.34
Back = S 37° 04′ 59.051" E
Ahead = S 19° 58′ 06.312" E
Chord Bear = S 28° 31′ 32.681" E

Course from PT CLSH114-3 to PC CLSH114-4 S 19° 58′ 06.312" E Dist 2,436.45

Curve Data

Curve CLSH114-4
P.I. Station 1577+46.06 N 7,036,652.88 E 2,381,141.37
Delta = 48° 07′ 26.262" (LT)
Degree = 2° 00′ 00.000"
Tangent = 1,279.20
Length = 2,406.20
Radius = 2,864.79
External = 272.63
Long Chord = 2,336.09
Mid. Ord. = 248.94
P.C. Station 1564+66.86 N 7,037,855.18 E 2,380,704.52
P.T. Station 1588+73.06 N 7,036,175.60 E 2,382,328.20
C.C. N 7,038,833.51 E 2,383,397.08
Back = S 19° 58′ 06.312" E
Ahead = S 68° 05′ 32.574" E
Chord Bear = S 44° 01′ 49.443" E

Course from PT CLSH114-4 to PC CLSH114-5 S 68° 05′ 32.574" E Dist 1,562.88

EXISTING ℄ SH 114 ALIGNMENT
(℄ SH 114)(CONTINUED)

Curve Data

Curve CLSH114-5
P.I. Station 1616+28.05 N 7,035,147.68 E 2,384,884.24
Delta = 17° 44′ 19.158" (RT)
Degree = 0° 45′ 00.000"
Tangent = 1,192.11
Length = 2,365.15
Radius = 7,639.44
External = 92.45
Long Chord = 2,355.72
Mid. Ord. = 91.35
P.C. Station 1604+35.94 N 7,035,592.47 E 2,383,778.22
P.T. Station 1628+01.09 N 7,034,387.05 E 2,385,802.17
C.C. N 7,028,504.70 E 2,380,927.86
Back = S 68° 05′ 32.574" E
Ahead = S 50° 21′ 13.416" E
Chord Bear = S 59° 13′ 22.995" E

Course from PT CLSH114-5 to CLSH1142 S 50° 21′ 13.416" E Dist 100.00

Point CLSH1142 N 7,034,323.25 E 2,385,879.17 Sta 1629+01.09

Ending chain CLSH114 description

EXISTING ℄ DAVIS ALIGNMENT
(℄ DAVIS BLVD)

Chain CLDAVIS contains:
CLDAVIS1 CLDAVIS2

Beginning chain CLDAVIS description
Description: Centerline Davis Boulevard Alignment

Point CLDAVIS1 N 7,045,877.12 E 2,372,868.62 Sta 0+00.00

Course from CLDAVIS1 to CLDAVIS2 N 18° 23′ 12.990" E Dist 600.00

Point CLDAVIS2 N 7,046,446.49 E 2,373,057.88 Sta 6+00.00

Ending chain CLDAVIS description

EXISTING ℄ KIRKWOOD ALIGNMENT
(℄ KIRKWOOD BLVD)

Chain CLKIRKWOOD contains:
CLKIRKWOOD01 CUR CKIRKWOOD01

Beginning chain CLKIRKWOOD description
Description: Centerline Kirkwood Boulevard Alignment

Point CLKIRKWOOD01 N 7,043,411.36 E 2,376,987.02 Sta 0+00.00

Course from CLKIRKWOOD01 to PC CKIRKWOOD01 N 62° 42′ 46.765" E Dist 878.08

Curve Data

Curve CKIRKWOOD01
P.I. Station 9+39.08 N 7,043,841.87 E 2,377,821.59
Delta = 4° 42′ 03.948" (RT)
Degree = 3° 51′ 21.388"
Tangent = 60.99
Length = 121.92
Radius = 1,485.91
External = 1.25
Long Chord = 121.88
Mid. Ord. = 1.25
P.C. Station 8+78.08 N 7,043,813.91 E 2,377,767.39
P.T. Station 10+00.00 N 7,043,865.30 E 2,377,877.91
C.C. N 7,042,493.36 E 2,378,448.62
Back = N 62° 42′ 43.947" E
Ahead = N 67° 24′ 47.895" E
Chord Bear = N 65° 03′ 45.921" E

Ending chain CLKIRKWOOD description

EXISTING ℄ DOVE RD ALIGNMENT
(℄ DOVE RD)

Chain CLDOVE contains:
CLDOVE01 CLDOVE02

Beginning chain CLDOVE description
Description: Centerline Dove Road Alignment

Point CLDOVE01 N 7,039,447.03 E 2,379,192.75 Sta 0+65.87

Course from CLDOVE01 to CLDOVE02 S 89° 56′ 45.551" E Dist 1,831.18

Point CLDOVE02 N 7,039,445.31 E 2,381,023.94 Sta 18+97.06

Ending chain CLDOVE description

PRELIMINARY
FOR REVIEW ONLY
Not for construction, bidding, or permit purposes.
Kimley»Horn
Engineer LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

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HORIZONTAL ALIGNMENT DATA

SHEET 3 OF 7

DESIGN LPB	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
	6	SEE TITLE SHEET	SH 114
DRAWN RCA	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK LJD	TEXAS	FTW	TARRANT	15
CHECK LPB	CONTROL 0353	SECTION 03	JOB 100	

DATE: 10/25/2018 8:53:50 AM
FILE: c:\pwworking\kha\pwprod\cade.ackerman\dms21033\SH0114_RDW_HAD_03.dgn

EASTBOUND ENTRANCE RAMP WESTLAKE PKWY ALIGNMENT
(℄ EB ENT RAMP WESTLAKE PKWY)

Chain BLEBENRMPWTL contains:
CUR BLEBENRMPWTL-1 CUR BLEBENRMPWTL-2

Beginning chain BLEBENRMPWTL description
Description: Eastbound Entrance Ramp Westlake Pkwy Baseline Alignment

Curve Data

Curve BLEBENRMPWTL-1

P.I.	Station	1+80.55	N	7,046,534.29	E	2,371,770.07
Delta	=	7° 12′ 44.169″ (LT)				
Degree	=	2° 00′ 00.000″				
Tangent	=	180.55				
Length	=	360.61				
Radius	=	2,864.79				
External	=	5.68				
Long Chord	=	360.38				
Mid. Ord.	=	5.67				
P.C.	Station	0+00.00	N	7,046,591.24	E	2,371,598.74
P.T.	Station	3+60.61	N	7,046,499.29	E	2,371,947.19
C.C.			N	7,049,309.77	E	2,372,502.40
Back	= S 71° 36′ 46.288″ E					
Ahead	= S 78° 49′ 30.457″ E					
Chord Bear	= S 75° 13′ 08.373″ E					

Curve Data

Curve BLEBENRMPWTL-2

P.I.	Station	7+21.70	N	7,046,429.31	E	2,372,301.44
Delta	=	7° 12′ 44.168″ (RT)				
Degree	=	1° 00′ 00.000″				
Tangent	=	361.09				
Length	=	721.23				
Radius	=	5,729.58				
External	=	11.37				
Long Chord	=	720.75				
Mid. Ord.	=	11.34				
P.C.	Station	3+60.61	N	7,046,499.29	E	2,371,947.19
P.T.	Station	10+81.84	N	7,046,315.41	E	2,372,644.09
C.C.			N	7,040,878.35	E	2,370,836.78
Back	= S 78° 49′ 30.457″ E					
Ahead	= S 71° 36′ 46.289″ E					
Chord Bear	= S 75° 13′ 08.373″ E					

Ending chain BLEBENRMPWTL description

EASTBOUND EXIT RAMP KIRKWOOD BLVD ALIGNMENT
(℄ EB EXIT RAMP KIRKWOOD BLVD)

Chain BLEBEXTRMPKIRK contains:
CUR BLEBEXRMPKIRK-1 CUR BLEBEXRMPKIRK-2

Beginning chain BLEBEXTRMPKIRK description
Description: Eastbound Exit Ramp Kirkwood Blvd Baseline Alignment

Curve Data

Curve BLEBEXRMPKIRK-1

P.I.	Station	0+96.75	N	7,046,079.45	E	2,373,353.95
Delta	=	3° 52′ 06.168″ (RT)				
Degree	=	2° 00′ 00.000″				
Tangent	=	96.75				
Length	=	193.42				
Radius	=	2,864.79				
External	=	1.63				
Long Chord	=	193.38				
Mid. Ord.	=	1.63				
P.C.	Station	0+00.00	N	7,046,109.97	E	2,373,262.14
P.T.	Station	1+93.42	N	7,046,042.81	E	2,373,443.49
C.C.			N	7,043,391.44	E	2,372,358.49
Back	= S 71° 36′ 46.361″ E					
Ahead	= S 67° 44′ 40.194″ E					
Chord Bear	= S 69° 40′ 43.277″ E					

Curve Data

Curve BLEBEXRMPKIRK-2

P.I.	Station	4+90.18	N	7,045,930.41	E	2,373,718.14
Delta	=	5° 55′ 47.829″ (LT)				
Degree	=	1° 00′ 00.000″				
Tangent	=	296.76				
Length	=	593.00				
Radius	=	5,729.58				
External	=	7.68				
Long Chord	=	592.73				
Mid. Ord.	=	7.67				
P.C.	Station	1+93.42	N	7,046,042.81	E	2,373,443.49
P.T.	Station	7+86.41	N	7,045,847.00	E	2,374,002.94
C.C.			N	7,051,345.56	E	2,375,613.49
Back	= S 67° 44′ 40.194″ E					
Ahead	= S 73° 40′ 28.023″ E					
Chord Bear	= S 70° 42′ 34.108″ E					

Ending chain BLEBEXTRMPKIRK description

EASTBOUND ENTRANCE RAMP DAVIS BLVD ALIGNMENT
(℄ EB ENT RAMP DAVIS BLVD)

Chain BLEBENRMPDAVIS contains:
CUR BLEBENRMPDAVI-1 CUR BLEBENRMPDAVI-2 CUR BLEBENRMPDAVI-3

Beginning chain BLEBENRMPDAVIS description
Description: Eastbound Entrance Ramp Davis Blvd Baseline Alignment

Curve Data

Curve BLEBENRMPDAVI-1

P.I.	Station	1+05.38	N	7,045,327.48	E	2,375,553.35
Delta	=	4° 21′ 05.536″ (RT)				
Degree	=	2° 03′ 56.233″				
Tangent	=	105.38				
Length	=	210.66				
Radius	=	2,773.78				
External	=	2.00				
Long Chord	=	210.61				
Mid. Ord.	=	2.00				
P.C.	Station	0+00.00	N	7,045,363.39	E	2,375,454.27
P.T.	Station	2+10.66	N	7,045,284.17	E	2,375,649.42
C.C.			N	7,042,755.53	E	2,374,509.31
Back	= S 70° 04′ 54.626″ E					
Ahead	= S 65° 43′ 49.091″ E					
Chord Bear	= S 67° 54′ 21.859″ E					

Curve Data

Curve BLEBENRMPDAVI-2

P.I.	Station	2+73.02	N	7,045,258.54	E	2,375,706.27
Delta	=	2° 29′ 37.824″ (LT)				
Degree	=	2° 00′ 00.000″				
Tangent	=	62.36				
Length	=	124.69				
Radius	=	2,864.79				
External	=	0.68				
Long Chord	=	124.68				
Mid. Ord.	=	0.68				
P.C.	Station	2+10.66	N	7,045,284.17	E	2,375,649.42
P.T.	Station	3+35.36	N	7,045,235.41	E	2,375,764.17
C.C.			N	7,047,895.77	E	2,376,826.94
Back	= S 65° 43′ 49.091″ E					
Ahead	= S 68° 13′ 26.914″ E					
Chord Bear	= S 66° 58′ 38.003″ E					

Curve Data

Curve BLEBENRMPDAVI-3

P.I.	Station	4+65.79	N	7,045,187.02	E	2,375,885.29
Delta	=	10° 24′ 20.154″ (RT)				
Degree	=	4° 00′ 00.000″				
Tangent	=	130.43				
Length	=	260.14				
Radius	=	1,432.39				
External	=	5.93				
Long Chord	=	259.78				
Mid. Ord.	=	5.90				
P.C.	Station	3+35.36	N	7,045,235.41	E	2,375,764.17
P.T.	Station	5+95.50	N	7,045,117.55	E	2,375,995.68
C.C.			N	7,043,905.22	E	2,375,232.79
Back	= S 68° 13′ 26.914″ E					
Ahead	= S 57° 49′ 06.761″ E					
Chord Bear	= S 63° 01′ 16.838″ E					

Ending chain BLEBENRMPDAVIS description

EASTBOUND EXIT RAMP DOVE RD ALIGNMENT
(℄ EB EXIT RAMP DOVE RD)

Chain BLEBEXTRMPDOVE contains:
CUR BLEBEXRMPDOVE-1 CUR BLEBEXRMPDOVE-2 BLEBEXRMPDOVE4

Beginning chain BLEBEXTRMPDOVE description
Description: Eastbound Exit Ramp Dove Road Baseline Alignment

Curve Data

Curve BLEBEXRMPDOVE-1

P.I.	Station	1+36.50	N	7,043,325.43	E	2,377,593.04
Delta	=	5° 27′ 20.933″ (RT)				
Degree	=	2° 00′ 00.000″				
Tangent	=	136.50				
Length	=	272.79				
Radius	=	2,864.79				
External	=	3.25				
Long Chord	=	272.69				
Mid. Ord.	=	3.25				
P.C.	Station	0+00.00	N	7,043,434.32	E	2,377,510.73
P.T.	Station	2+72.79	N	7,043,209.20	E	2,377,664.62
C.C.			N	7,041,706.93	E	2,375,225.31
Back	= S 37° 04′ 59.051″ E					
Ahead	= S 31° 37′ 38.118″ E					
Chord Bear	= S 34° 21′ 18.584″ E					

Curve Data

Curve BLEBEXRMPDOVE-2

P.I.	Station	6+18.79	N	7,042,914.59	E	2,377,846.06
Delta	=	6° 54′ 41.727″ (LT)				
Degree	=	1° 00′ 00.000″				
Tangent	=	346.00				
Length	=	691.16				
Radius	=	5,729.58				
External	=	10.44				
Long Chord	=	690.74				
Mid. Ord.	=	10.42				
P.C.	Station	2+72.79	N	7,043,209.20	E	2,377,664.62
P.T.	Station	9+63.95	N	7,042,643.96	E	2,378,061.63
C.C.			N	7,046,213.74	E	2,382,543.22
Back	= S 31° 37′ 38.118″ E					
Ahead	= S 38° 32′ 19.845″ E					
Chord Bear	= S 35° 04′ 58.981″ E					

Course from PT BLEBEXRMPDOVE-2 to BLEBEXRMPDOVE4 S 38° 32′ 19.845″ E Dist 97.82

Point BLEBEXRMPDOVE4 N 7,042,567.44 E 2,378,122.58 Sta 10+61.77

Ending chain BLEBEXTRMPDOVE description

PRELIMINARY
FOR REVIEW ONLY
Not for construction, bidding, or permit purposes.
Kimley»Horn
Engineer LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

Texas Department of Transportation
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HORIZONTAL ALIGNMENT DATA

SHEET 4 OF 7

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
LPB	6	SEE TITLE SHEET	SH 114

DRAWN	STATE	DISTRICT	COUNTY	SHEET NO.
RCA	TEXAS	FTW	TARRANT	16

CHECK	CONTROL	SECTION	JOB
LJD	0353	03	100

CHECK LPB

DATE: 10/25/2018 8:53:57 AM
FILE: c:\pwworking\k1ha\pwprod\cade.ackerman\dms21033\SH0114_RDW_HAD_04.dgn

EASTBOUND ENTRANCE RAMP KIRKWOOD BLVD ALIGNMENT
(℄ EB ENT RAMP KIRKWOOD BLVD)

Chain BLEBENRMPKIRK contains:
BLEBENRMPKIRK1 CUR BLEBENRMPKIRK-1 CUR BLEBENRMPKIRK-2 CUR BLEBENRMPKIRK-3

Beginning chain BLEBENRMPKIRK description
Description: Eastbound Entrance Ramp Kirkwood Blvd Baseline Alignment

Point BLEBENRMPKIRK1 N 7,041,072.06 E 2,379,258.68 Sta 0+00.00

Course from BLEBENRMPKIRK1 to PC BLEBENRMPKIRK-1 S 37° 04′ 59.050" E Dist 44.63

Curve Data

Curve BLEBENRMPKIRK-1
P.I. Station 1+71.60 N 7,040,935.16 E 2,379,362.15
Delta = 4° 07′ 22.133" (RT)
Degree = 1° 37′ 27.037"
Tangent = 126.97
Length = 253.84
Radius = 3,527.68
External = 2.28
Long Chord = 253.79
Mid. Ord. = 2.28
P.C. Station 0+44.63 N 7,041,036.46 E 2,379,285.59
P.T. Station 2+98.47 N 7,040,828.62 E 2,379,431.23
C.C. N 7,038,909.36 E 2,376,471.34
Back = S 37° 04′ 59.051" E
Ahead = S 32° 57′ 36.918" E
Chord Bear = S 35° 01′ 17.984" E

Curve Data

Curve BLEBENRMPKIRK-2
P.I. Station 3+69.39 N 7,040,769.11 E 2,379,469.82
Delta = 2° 50′ 10.979" (LT)
Degree = 2° 00′ 00.000"
Tangent = 70.92
Length = 141.82
Radius = 2,864.79
External = 0.88
Long Chord = 141.80
Mid. Ord. = 0.88
P.C. Station 2+98.47 N 7,040,828.62 E 2,379,431.23
P.T. Station 4+40.29 N 7,040,711.59 E 2,379,511.30
C.C. N 7,042,387.23 E 2,381,834.93
Back = S 32° 57′ 36.918" E
Ahead = S 35° 47′ 47.897" E
Chord Bear = S 34° 22′ 42.407" E

Curve Data

Curve BLEBENRMPKIRK-3
P.I. Station 5+48.20 N 7,040,624.06 E 2,379,574.42
Delta = 8° 37′ 00.578" (RT)
Degree = 4° 00′ 00.000"
Tangent = 107.91
Length = 215.42
Radius = 1,432.39
External = 4.06
Long Chord = 215.22
Mid. Ord. = 4.05
P.C. Station 4+40.29 N 7,040,711.59 E 2,379,511.30
P.T. Station 6+55.71 N 7,040,528.06 E 2,379,623.72
C.C. N 7,039,873.76 E 2,378,349.49
Back = S 35° 47′ 47.897" E
Ahead = S 27° 10′ 47.318" E
Chord Bear = S 31° 29′ 17.607" E

Ending chain BLEBENRMPKIRK description

WESTBOUND ENTRANCE RAMP KIRKWOOD BLVD ALIGNMENT
(℄ WB ENT RAMP KIRKWOOD BLVD)

Chain BLWBENRMPKIRK contains:
CUR BLWBENRMPKIRK_1 CUR BLWBENRMPKIRK_2

Beginning chain BLWBENRMPKIRK description
Description: Westbound Entrance Ramp Kirkwood Blvd Baseline Alignment

Curve Data

Curve BLWBENRMPKIRK_1
P.I. Station 1+04.47 N 7,045,951.57 E 2,374,207.86
Delta = 4° 10′ 36.853" (LT)
Degree = 2° 00′ 00.023"
Tangent = 104.47
Length = 208.84
Radius = 2,864.78
External = 1.90
Long Chord = 208.80
Mid. Ord. = 1.90
P.C. Station 0+00.00 N 7,045,984.52 E 2,374,108.72
P.T. Station 2+08.84 N 7,045,925.92 E 2,374,309.13
C.C. N 7,048,703.05 E 2,375,012.38
Back = S 71° 36′ 46.361" E
Ahead = S 75° 47′ 23.214" E
Chord Bear = S 73° 42′ 04.788" E

Course from PT BLWBENRMPKIRK_1 to PC BLWBENRMPKIRK_2 S 75° 47′ 23.214" E Dist 925.93

Curve Data

Curve BLWBENRMPKIRK_2
P.I. Station 11+87.03 N 7,045,685.80 E 2,375,257.38
Delta = 4° 10′ 41.641" (RT)
Degree = 4° 00′ 00.045"
Tangent = 52.25
Length = 104.46
Radius = 1,432.39
External = 0.95
Long Chord = 104.43
Mid. Ord. = 0.95
P.C. Station 11+34.78 N 7,045,698.63 E 2,375,206.73
P.T. Station 12+39.23 N 7,045,669.32 E 2,375,306.96
C.C. N 7,044,310.06 E 2,374,855.11
Back = S 75° 47′ 23.214" E
Ahead = S 71° 36′ 41.573" E
Chord Bear = S 73° 42′ 02.393" E

Ending chain BLWBENRMPKIRK description

WESTBOUND ENTRANCE RAMP DOVE RD ALIGNMENT
(℄ WB ENT RAMP DOVE RD)

Chain BLWBENRMPDOVE contains:
CUR BLWBENRMPDOVE-1 CUR BLWBENRMPDOVE-2

Beginning chain BLWBENRMPDOVE description
Description: Westbound Entrance Ramp Dove Rd Baseline Alignment

Curve Data

Curve BLWBENRMPDOVE-1
P.I. Station 2+00.08 N 7,043,253.44 E 2,377,815.50
Delta = 4° 00′ 00.000" (LT)
Degree = 1° 00′ 00.000"
Tangent = 200.08
Length = 400.00
Radius = 5,729.58
External = 3.49
Long Chord = 399.92
Mid. Ord. = 3.49
P.C. Station 0+00.00 N 7,043,413.06 E 2,377,694.86
P.T. Station 4+00.00 N 7,043,102.63 E 2,377,946.99
C.C. N 7,046,867.83 E 2,382,265.70
Back = S 37° 04′ 59.051" E
Ahead = S 41° 04′ 59.051" E
Chord Bear = S 39° 04′ 59.051" E

Course from PT BLWBENRMPDOVE-1 to PC BLWBENRMPDOVE-2 S 41° 04′ 59.051" E Dist 588.68

Curve Data

Curve BLWBENRMPDOVE-2
P.I. Station 10+88.73 N 7,042,583.49 E 2,378,399.58
Delta = 4° 00′ 00.000" (RT)
Degree = 2° 00′ 00.000"
Tangent = 100.04
Length = 200.00
Radius = 2,864.79
External = 1.75
Long Chord = 199.96
Mid. Ord. = 1.75
P.C. Station 9+88.68 N 7,042,658.90 E 2,378,333.84
P.T. Station 11+88.68 N 7,042,503.68 E 2,378,459.91
C.C. N 7,040,776.30 E 2,376,174.49
Back = S 41° 04′ 59.051" E
Ahead = S 37° 04′ 59.051" E
Chord Bear = S 39° 04′ 59.051" E

Ending chain BLWBENRMPDOVE description

WESTBOUND EXIT RAMP DAVIS BLVD ALIGNMENT
(℄ WB EXIT RAMP DAVIS BLVD)

Chain BLWBEXTRMPDAVIS contains:
CUR WBDAVRMP1 CUR WBDAVRMP2

Beginning chain BLWBEXTRMPDAVIS description
Description: Westbound Exit Ramp Davis Blvd Baseline Alignment

Curve Data

Curve WBDAVRMP1
P.I. Station 1+43.83 N 7,044,780.58 E 2,376,730.70
Delta = 11° 27′ 47.054" (RT)
Degree = 3° 59′ 53.915"
Tangent = 143.83
Length = 286.70
Radius = 1,433.00
External = 7.20
Long Chord = 286.22
Mid. Ord. = 7.16
P.C. Station 0+00.00 N 7,044,881.69 E 2,376,628.41
P.T. Station 2+86.70 N 7,044,661.15 E 2,376,810.85
C.C. N 7,043,862.55 E 2,375,621.01
Back = S 45° 19′ 54.955" E
Ahead = S 33° 52′ 07.901" E
Chord Bear = S 39° 36′ 01.428" E

Course from PT WBDAVRMP1 to PC WBDAVRMP2 S 33° 52′ 07.901" E Dist 763.98

Curve Data

Curve WBDAVRMP2
P.I. Station 11+31.05 N 7,043,960.07 E 2,377,281.41
Delta = 3° 12′ 51.573" (LT)
Degree = 2° 00′ 00.000"
Tangent = 80.38
Length = 160.72
Radius = 2,864.79
External = 1.13
Long Chord = 160.70
Mid. Ord. = 1.13
P.C. Station 10+50.67 N 7,044,026.81 E 2,377,236.61
P.T. Station 12+11.39 N 7,043,895.95 E 2,377,329.87
C.C. N 7,045,623.34 E 2,379,615.29
Back = S 33° 52′ 07.901" E
Ahead = S 37° 04′ 59.474" E
Chord Bear = S 35° 28′ 33.687" E

Ending chain BLWBEXTRMPDAVIS description

PRELIMINARY
FOR REVIEW ONLY
Not for construction, bidding, or permit purposes.
Kimley»Horn
Engineer LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

Texas Department of Transportation
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HORIZONTAL ALIGNMENT DATA

SHEET 5 OF 7

DESIGN LPB	FED. RD. DIV. NO. 6	FEDERAL AID PROJECT NO. SEE TITLE SHEET		HIGHWAY NO. SH 114	
DRAWN RCA	STATE	DISTRICT	COUNTY		SHEET NO.
CHECK LJD	TEXAS	FTW	TARRANT		17
	CONTROL	SECTION	JOB		
CHECK LPB	0353	03	100		

DATE: 10/25/2018 8:54:04 AM
FILE: c:\pwworking\k\ha\pwprod\cade.ackerman\dms21033\SH0114_RDW HAD 05.dgn

WESTBOUND EXIT RAMP KIRKWOOD BLVD ALIGNMENT
(℄ EB EXIT RAMP KIRKWOOD BLVD)

Chain BLWBEXTRMPKIRK contains:
CUR BLWBEXRMPKIRK-1 CUR BLWBEXRMPKIRK-2

Beginning chain BLWBEXTRMPKIRK description
Description: Westbound Exit Ramp Kirkwood Blvd Baseline Alignment

==========

Curve Data

```
Curve BLWBEXRMPKIRK-1
P.I.   Station            2+02.48  N        7,040,561.21  E        2,379,844.59
Delta        =     10° 25′ 56.761" (RT)
Degree       =      2° 34′ 59.999"
Tangent      =              202.48
Length       =              403.84
Radius       =           2,217.90
External     =                9.22
Long Chord   =              403.28
Mid. Ord.    =                9.18
P.C.   Station            0+00.00  N        7,040,742.58  E        2,379,754.58
P.T.   Station            4+03.84  N        7,040,366.53  E        2,379,900.27
C.C.                               N        7,039,756.65  E        2,377,767.87
Back         = S  26° 23′ 36.361" E
Ahead        = S  15° 57′ 39.600" E
Chord Bear   = S  21° 10′ 37.980" E
```

Course from PT BLWBEXRMPKIRK-1 to PC BLWBEXRMPKIRK-2 S 15° 57′ 39.600" E Dist 339.50

Curve Data

```
Curve BLWBEXRMPKIRK-2
P.I.   Station            8+43.56  N        7,039,943.76  E        2,380,021.18
Delta        =      4° 00′ 26.712" (LT)
Degree       =      2° 00′ 00.000"
Tangent      =              100.23
Length       =              200.37
Radius       =           2,864.79
External     =                1.75
Long Chord   =              200.33
Mid. Ord.    =                1.75
P.C.   Station            7+43.33  N        7,040,040.13  E        2,379,993.62
P.T.   Station            9+43.70  N        7,039,849.56  E        2,380,055.41
C.C.                               N        7,040,827.89  E        2,382,747.97
Back         = S  15° 57′ 39.600" E
Ahead        = S  19° 58′ 06.312" E
Chord Bear   = S  17° 57′ 52.956" E
```

==========

Ending chain BLWBEXTRMPKIRK description

EASTBOUND TO WESTBOUND U-TURN KIRKWOOD BLVD ALIGNMENT
(℄ EB TO WB U-TURN KIRKWOOD BLVD)

Chain BLEBUTRNKIRK contains:
CUR BLEBUTRNKIRK-1 CUR BLEBUTRNKIRK-2 CUR BLEBUTRNKIRK-3 CUR BLEBUTRNKIRK-4 CUR BLEBUTRNKIRK-5

Beginning chain BLEBUTRNKIRK description
Feature: Geom-Centerline
Description: Eastbound U-Turn Kirkwood Blvd Baseline Alignment

==========

Curve Data

```
Curve BLEBUTRNKIRK-1
P.I.   Station            0+49.57  N        7,043,674.19  E        2,377,256.81
Delta        =     66° 55′ 17.829" (LT)
Degree       =     76° 23′ 39.742"
Tangent      =               49.57
Length       =               87.60
Radius       =               75.00
External     =               14.90
Long Chord   =               82.70
Mid. Ord.    =               12.43
P.C.   Station            0+00.00  N        7,043,713.73  E        2,377,226.93
P.T.   Station            0+87.60  N        7,043,686.18  E        2,377,304.91
C.C.                               N        7,043,758.95  E        2,377,286.76
Back         = S  37° 04′ 59.051" E
Ahead        = N  75° 59′ 43.120" E
Chord Bear   = S  70° 32′ 37.965" E
```

Curve Data

```
Curve BLEBUTRNKIRK-2
P.I.   Station            0+96.33  N        7,043,688.30  E        2,377,313.38
Delta        =     13° 16′ 56.355" (LT)
Degree       =     76° 23′ 39.742"
Tangent      =                8.73
Length       =               17.39
Radius       =               75.00
External     =                0.51
Long Chord   =               17.35
Mid. Ord.    =                0.50
P.C.   Station            0+87.60  N        7,043,686.18  E        2,377,304.91
P.T.   Station            1+04.99  N        7,043,692.30  E        2,377,321.14
C.C.                               N        7,043,758.95  E        2,377,286.76
Back         = N  75° 59′ 43.120" E
Ahead        = N  62° 42′ 46.765" E
Chord Bear   = N  69° 21′ 14.943" E
```

Course from PT BLEBUTRNKIRK-2 to PC BLEBUTRNKIRK-3 N 62° 42′ 46.765" E Dist 162.34

EASTBOUND TO WESTBOUND U-TURN KIRKWOOD BLVD ALIGNMENT
(℄ EB TO WB U-TURN KIRKWOOD BLVD)(CONTINUED)

Curve Data

```
Curve BLEBUTRNKIRK-3
P.I.   Station            2+80.35  N        7,043,772.69  E        2,377,476.99
Delta        =     14° 50′ 06.402" (LT)
Degree       =     57° 17′ 44.806"
Tangent      =               13.02
Length       =               25.89
Radius       =              100.00
External     =                0.84
Long Chord   =               25.82
Mid. Ord.    =                0.84
P.C.   Station            2+67.33  N        7,043,766.72  E        2,377,465.42
P.T.   Station            2+93.22  N        7,043,781.43  E        2,377,486.65
C.C.                               N        7,043,855.60  E        2,377,419.57
Back         = N  62° 42′ 46.765" E
Ahead        = N  47° 52′ 40.363" E
Chord Bear   = N  55° 17′ 43.564" E
```

Curve Data

```
Curve BLEBUTRNKIRK-4
P.I.   Station            3+18.46  N        7,043,798.36  E        2,377,505.37
Delta        =     64° 30′ 43.342" (LT)
Degree       =    143° 14′ 22.016"
Tangent      =               25.24
Length       =               45.04
Radius       =               40.00
External     =                7.30
Long Chord   =               42.70
Mid. Ord.    =                6.17
P.C.   Station            2+93.22  N        7,043,781.43  E        2,377,486.65
P.T.   Station            3+38.26  N        7,043,822.54  E        2,377,498.14
C.C.                               N        7,043,811.09  E        2,377,459.82
Back         = N  47° 52′ 40.363" E
Ahead        = N  16° 38′ 02.978" W
Chord Bear   = N  15° 37′ 18.692" E
```

Curve Data

```
Curve BLEBUTRNKIRK-5
P.I.   Station            3+88.69  N        7,043,870.86  E        2,377,483.71
Delta        =     21° 57′ 15.005" (LT)
Degree       =     22° 02′ 12.618"
Tangent      =               50.43
Length       =               99.62
Radius       =              260.00
External     =                4.85
Long Chord   =               99.02
Mid. Ord.    =                4.76
P.C.   Station            3+38.26  N        7,043,822.54  E        2,377,498.14
P.T.   Station            4+37.88  N        7,043,910.28  E        2,377,452.25
C.C.                               N        7,043,748.12  E        2,377,249.02
Back         = N  16° 38′ 02.978" W
Ahead        = N  38° 35′ 17.983" W
Chord Bear   = N  27° 36′ 40.481" W
```

==========

Ending chain BLEBUTRNKIRK description

WESTBOUND TO EASTBOUND U-TURN KIRKWOOD BLVD ALIGNMENT
(℄ WB TO EB U-TURN KIRKWOOD BLVD)

Chain BLWBUTRNKIRK contains:
CUR BLWBUTRNKIRK-1 CUR BLWBUTRNKIRK-2 CUR BLWBUTRNKIRK-3 CUR BLWBUTRNKIRK-4

Beginning chain BLWBUTRNKIRK description
Feature: Geom_Centerline
Description: Westbound U-Turn Kirkwood Blvd Baseline Alignment

==========

Curve Data

```
Curve BLWBUTRNKIRK-1
P.I.   Station            0+14.86  N        7,043,624.07  E        2,377,640.03
Delta        =     23° 58′ 11.645" (LT)
Degree       =     81° 51′ 04.009"
Tangent      =               14.86
Length       =               29.28
Radius       =               70.00
External     =                1.56
Long Chord   =               29.07
Mid. Ord.    =                1.53
P.C.   Station            0+00.00  N        7,043,612.22  E        2,377,648.99
P.T.   Station            0+29.28  N        7,043,631.26  E        2,377,627.03
C.C.                               N        7,043,570.01  E        2,377,593.15
Back         = N  37° 04′ 59.051" W
Ahead        = N  61° 03′ 10.696" W
Chord Bear   = N  49° 04′ 04.873" W
```

WESTBOUND TO EASTBOUND U-TURN KIRKWOOD BLVD ALIGNMENT
(℄ WB TO EB U-TURN KIRKWOOD BLVD)(CONTINUED)

Curve Data

```
Curve BLWBUTRNKIRK-2
P.I.   Station            0+77.05  N        7,043,654.38  E        2,377,585.23
Delta        =     55° 54′ 43.884" (LT)
Degree       =     63° 39′ 43.118"
Tangent      =               47.77
Length       =               87.83
Radius       =               90.00
External     =               11.89
Long Chord   =               84.38
Mid. Ord.    =               10.50
P.C.   Station            0+29.28  N        7,043,631.26  E        2,377,627.03
P.T.   Station            1+17.11  N        7,043,632.72  E        2,377,542.66
C.C.                               N        7,043,552.51  E        2,377,583.47
Back         = N  61° 03′ 10.696" W
Ahead        = S  63° 02′ 05.420" W
Chord Bear   = N  89° 00′ 32.638" W
```

Course from PT BLWBUTRNKIRK-2 to PC BLWBUTRNKIRK-3 S 62° 42′ 43.811" W Dist 161.36

Curve Data

```
Curve BLWBUTRNKIRK-3
P.I.   Station            2+95.23  N        7,043,551.06  E        2,377,384.36
Delta        =     67° 40′ 56.483" (LT)
Degree       =    229° 10′ 59.225"
Tangent      =               16.76
Length       =               29.53
Radius       =               25.00
External     =                5.10
Long Chord   =               27.84
Mid. Ord.    =                4.24
P.C.   Station            2+78.47  N        7,043,558.75  E        2,377,399.26
P.T.   Station            3+08.00  N        7,043,534.36  E        2,377,385.81
C.C.                               N        7,043,536.53  E        2,377,410.72
Back         = S  62° 42′ 41.981" W
Ahead        = S   4° 58′ 14.502" E
Chord Bear   = S  28° 52′ 13.740" W
```

Curve Data

```
Curve BLWBUTRNKIRK-4
P.I.   Station            3+65.57  N        7,043,477.02  E        2,377,390.80
Delta        =     32° 06′ 44.549" (LT)
Degree       =     28° 38′ 52.403"
Tangent      =               57.56
Length       =              112.09
Radius       =              200.00
External     =                8.12
Long Chord   =              110.63
Mid. Ord.    =                7.80
P.C.   Station            3+08.00  N        7,043,534.36  E        2,377,385.81
P.T.   Station            4+20.10  N        7,043,431.10  E        2,377,425.51
C.C.                               N        7,043,551.69  E        2,377,585.06
Back         = S   4° 58′ 14.502" E
Ahead        = S  37° 04′ 59.051" E
Chord Bear   = S  21° 01′ 36.776" E
```

==========

Ending chain BLWBUTRNKIRK description

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Kimley»Horn
Engineer LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

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HORIZONTAL ALIGNMENT DATA

SHEET 6 OF 7

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
LPB	6	SEE TITLE SHEET		SH 114
DRAWN	STATE	DISTRICT	COUNTY	SHEET NO.
RCA	TEXAS	FTW	TARRANT	18
CHECK	CONTROL	SECTION	JOB	
LJD	0353	03	100	
CHECK				
LPB				

DATE: 10/25/2018 8:54:10 AM
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EASTBOUND TO WESTBOUND U-TURN DOVE RD ALIGNMENT
(℄ EB TO WB U-TURN DOVE RD)

Chain BLEBUTRNDOVE contains:
CUR BLEBUTRNDOVE-1 CUR BLEBUTRNDOVE-2 CUR BLEBUTRNDOVE-3 CUR BLEBUTRNDOVE-4

Beginning chain BLEBUTRNDOVE description
Feature: Geom-Centerline
Description: Eastbound U-Turn Dove Rd Baseline Alignment

```
==============================================================================

                                   Curve Data
                                  *----------*
Curve BLEBUTRNDOVE-1
P.I.  Station            0+56.44  N        7,039,533.88  E        2,379,882.08
Delta        =     73° 55′ 18.037" (LT)
Degree       =     76° 23′ 39.742"
Tangent      =               56.44
Length       =               96.76
Radius       =               75.00
External     =               18.86
Long Chord   =               90.19
Mid. Ord.    =               15.07
P.C.  Station            0+00.00  N        7,039,588.13  E        2,379,866.50
P.T.  Station            0+96.76  N        7,039,533.83  E        2,379,938.51
C.C.                              N        7,039,608.83  E        2,379,938.58
Back         = S  16° 01′ 27.514" E
Ahead        = S  89° 56′ 45.551" E
Chord Bear   = S  52° 59′ 06.533" E

Course from PT BLEBUTRNDOVE-1 to PC BLEBUTRNDOVE-2 S 89° 56′ 45.551" E Dist 251.06

                                   Curve Data
                                  *----------*
Curve BLEBUTRNDOVE-2
P.I.  Station            3+60.84  N        7,039,533.58  E        2,380,202.59
Delta        =     14° 50′ 05.481" (LT)
Degree       =     57° 17′ 44.805"
Tangent      =               13.02
Length       =               25.89
Radius       =              100.00
External     =                0.84
Long Chord   =               25.82
Mid. Ord.    =                0.84
P.C.  Station            3+47.82  N        7,039,533.59  E        2,380,189.57
P.T.  Station            3+73.72  N        7,039,536.90  E        2,380,215.18
C.C.                              N        7,039,633.59  E        2,380,189.67
Back         = S  89° 56′ 45.551" E
Ahead        = N  75° 13′ 08.968" E
Chord Bear   = N  82° 38′ 11.709" E

                                   Curve Data
                                  *----------*
Curve BLEBUTRNDOVE-3
P.I.  Station            4+03.16  N        7,039,544.42  E        2,380,243.65
Delta        =     72° 42′ 29.863" (LT)
Degree       =    143° 14′ 11.500"
Tangent      =               29.44
Length       =               50.76
Radius       =               40.00
External     =                9.67
Long Chord   =               47.42
Mid. Ord.    =                7.79
P.C.  Station            3+73.72  N        7,039,536.90  E        2,380,215.18
P.T.  Station            4+24.48  N        7,039,573.83  E        2,380,244.94
C.C.                              N        7,039,575.58  E        2,380,204.97
Back         = N  75° 13′ 08.968" E
Ahead        = N   2° 30′ 39.106" E
Chord Bear   = N  38° 51′ 54.037" E

                                   Curve Data
                                  *----------*
Curve BLEBUTRNDOVE-4
P.I.  Station            4+74.98  N        7,039,624.29  E        2,380,247.15
Delta        =     21° 59′ 30.482" (LT)
Degree       =     22° 02′ 32.213"
Tangent      =               50.51
Length       =               99.77
Radius       =              259.94
External     =                4.86
Long Chord   =               99.16
Mid. Ord.    =                4.77
P.C.  Station            4+24.48  N        7,039,573.83  E        2,380,244.94
P.T.  Station            5+24.25  N        7,039,671.90  E        2,380,230.31
C.C.                              N        7,039,585.22  E        2,379,985.25
Back         = N   2° 30′ 39.106" E
Ahead        = N  19° 28′ 51.376" W
Chord Bear   = N   8° 29′ 06.135" W

==============================================================================
Ending chain BLEBUTRNDOVE description
```

DATE: 10/25/2018 8:54:17 AM
FILE: c:\pwworking\kha\pwprod\cade.ackerman\dms21033\SH0114_RDW_HAD_07.dgn

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Kimley»Horn
Engineer LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

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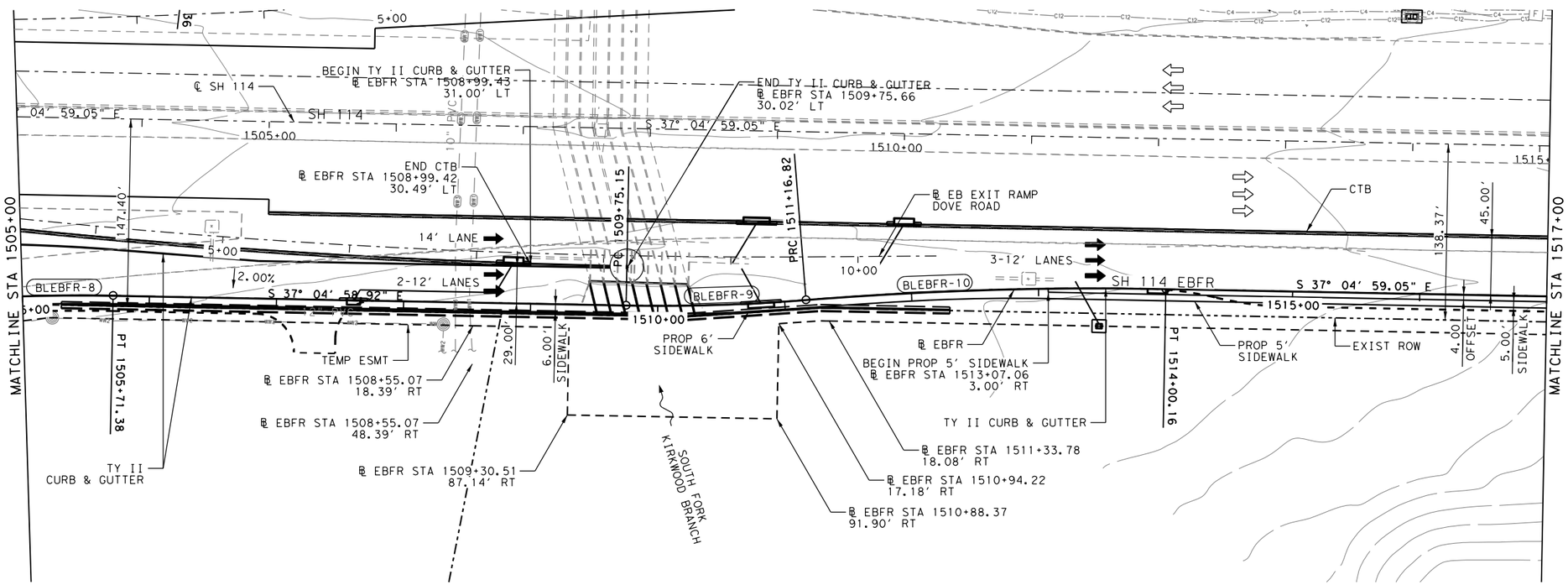
HORIZONTAL ALIGNMENT DATA

SHEET 7 OF 7

DESIGN LPB	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
DRAWN RCA	6	SEE TITLE SHEET	SH 114

CHECK LJD	STATE	DISTRICT	COUNTY	SHEET NO.
	TEXAS	FTW	TARRANT	19
CHECK LPB	CONTROL	SECTION	JOB	
	0353	03	100	



LEGEND

- EXISTING ROW/ PROPERTY LINE
- PROPOSED ROW
- EASEMENT
- EXIST TRAFFIC FLOW PATTERN
- PROP TRAFFIC FLOW PATTERN

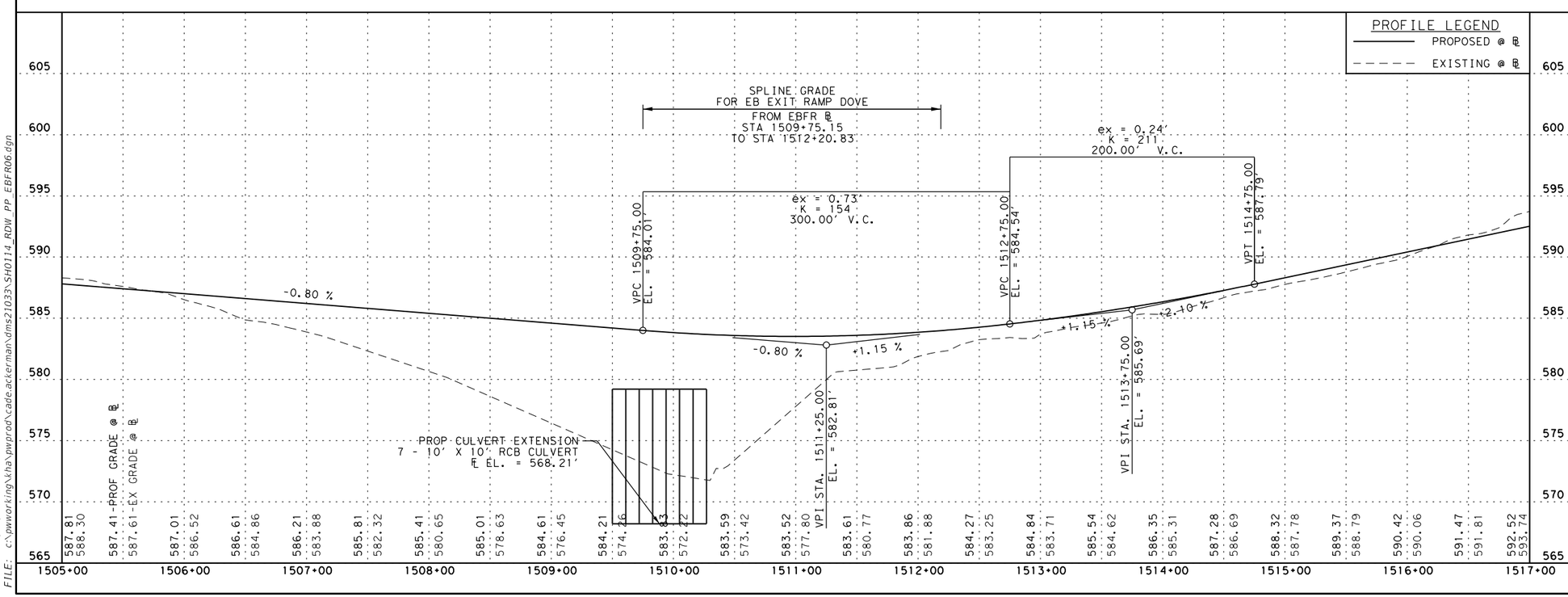
BLEBFR-8
Δ = 8° 42' 18.22" (RT)
T = 109.02'
R = 1,432.39'
L = 217.63'
PI = STA 1504+62.78

BLEBFR-9
Δ = 5° 40' 00.22" (LT)
T = 70.89'
R = 1,432.39'
L = 141.67'
PI = STA 1510+46.04

BLEBFR-10
Δ = 5° 40' 00.25" (RT)
T = 141.78'
R = 2,864.79'
L = 283.34'
PI = STA 1512+58.60

0 50 100
HORIZONTAL
SCALE: 1"=100'

0 5 10
VERTICAL
SCALE: 1"=10'



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Engineer LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

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SH 114
EASTBOUND FRONTAGE ROAD
PLAN AND PROFILE
STA 1505+00 TO STA 1517+00

Scale-H: 1"=100'
V: 1"=10'
SHEET 6 OF 9

DESIGN LPB	FED. RD. DIV. NO. 6	FEDERAL AID PROJECT NO. SEE TITLE SHEET	HIGHWAY NO. SH 114	
DRAWN RCA	STATE TEXAS	DISTRICT FTW	COUNTY TARRANT	SHEET NO. 20
CHECK LJD	CONTROL 0353	SECTION 03	JOB 100	
CHECK LPB				

DATE: 10/25/2018 8:54:25 AM
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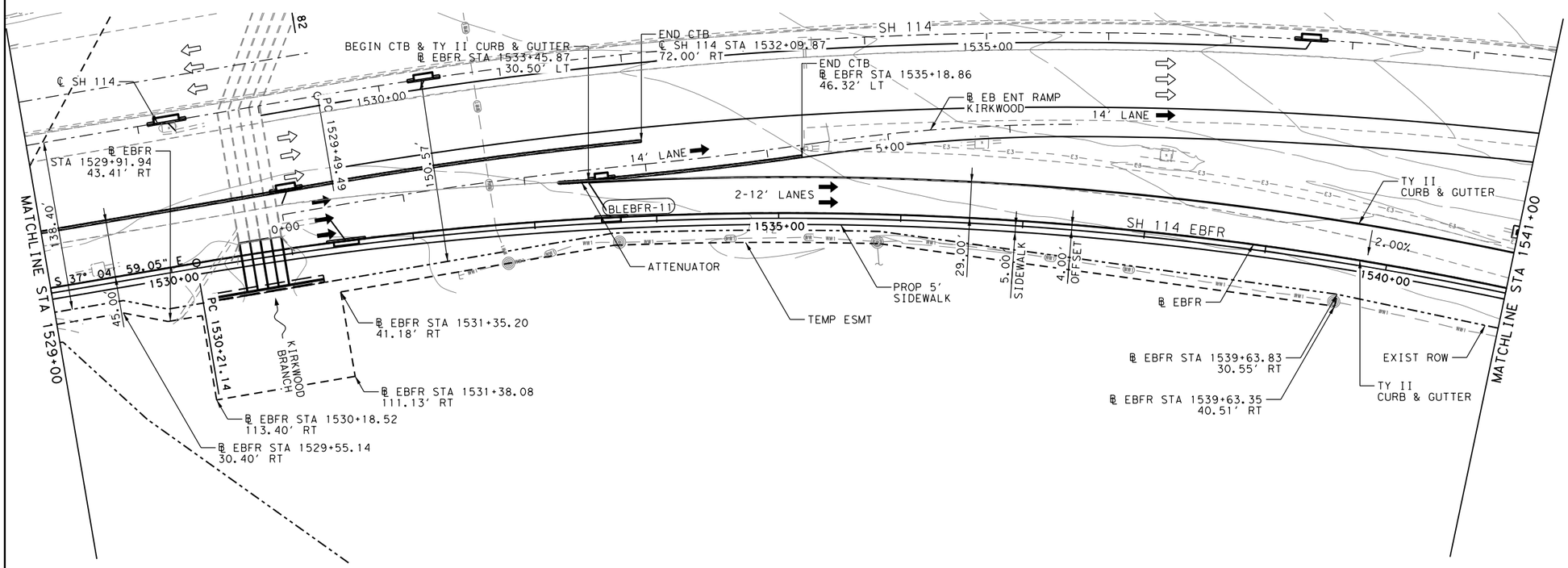


LEGEND

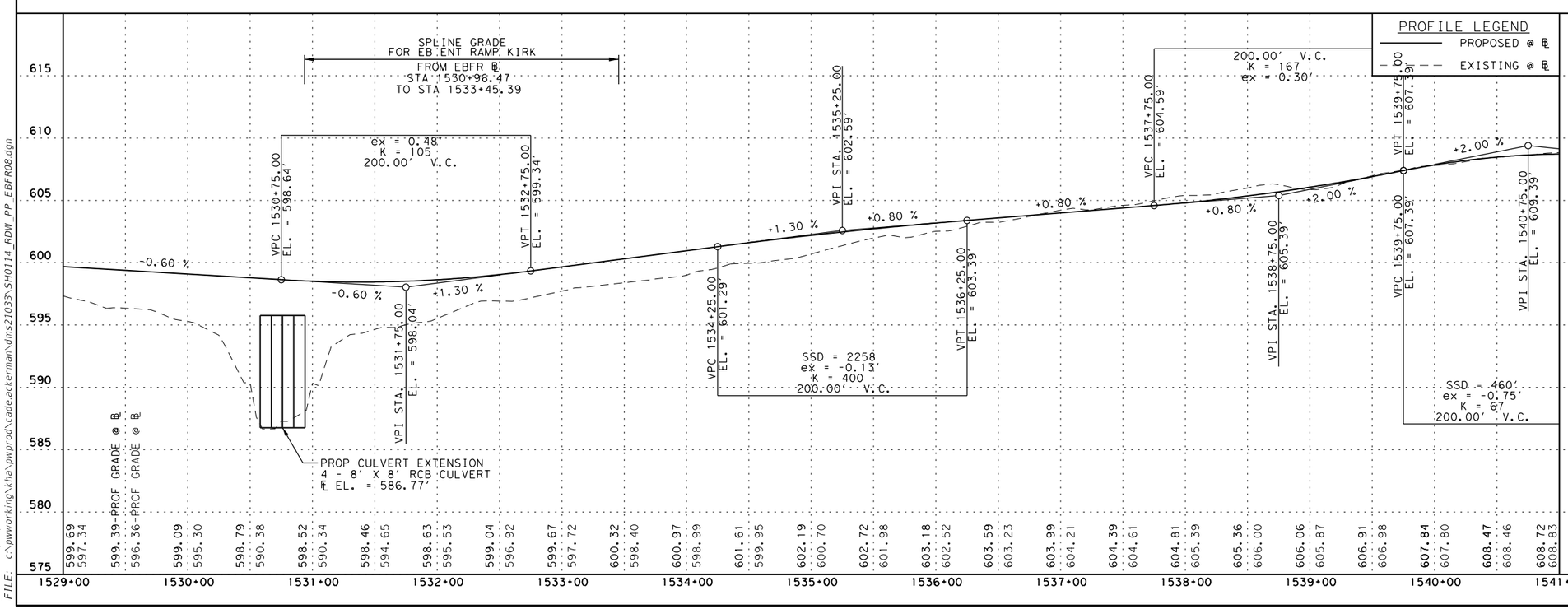
- EXISTING ROW/ PROPERTY LINE
- PROPOSED ROW
- EASEMENT
- EXIST TRAFFIC FLOW PATTERN
- PROP TRAFFIC FLOW PATTERN

BLEBFR-11

Δ = 23°21'50.79" (RT)
T = 592.33'
R = 2,864.79'
L = 1,168.21'
PI = STA 1536+13.47

0 50 100
HORIZONTAL
SCALE: 1"=100'

0 5 10
VERTICAL
SCALE: 1"=10'



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Engineer LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

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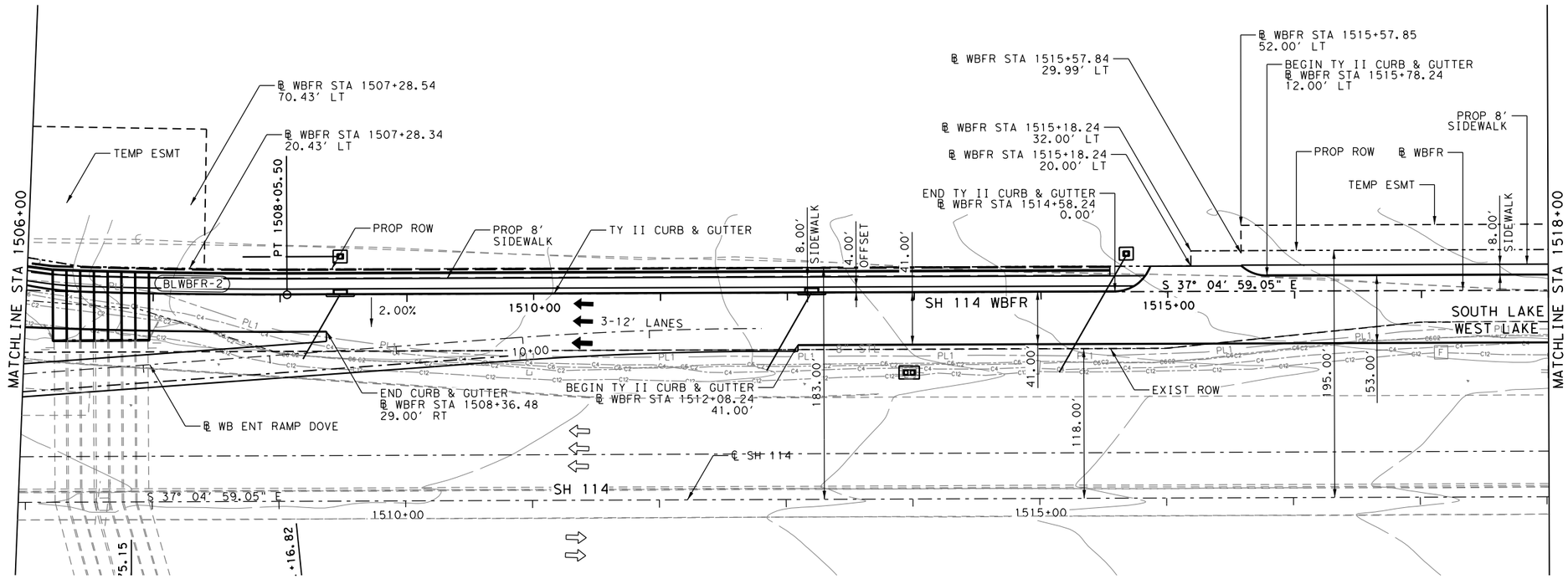
SH 114
EASTBOUND FRONTAGE ROAD
PLAN AND PROFILE
STA 1529+00 TO STA 1541+00

Scale-H: 1"=100'
V: 1"=10'

SHEET 8 OF 9

DESIGN LPB	FED. RD. DIV. NO. 6	FEDERAL AID PROJECT NO. SEE TITLE SHEET	HIGHWAY NO. SH 114
DRAWN RCA	STATE TEXAS	DISTRICT FTW	COUNTY TARRANT
CHECK LJD	CONTROL 0353	SECTION 03	JOB 100
CHECK LPB			SHEET NO. 21

DATE: 10/25/2018 8:54:32 AM
FILE: c:\pwworking\kha\pwprod\cade.ackerman\dms21033\SH0114_RDW_PP_EBFR08.dgn



LEGEND

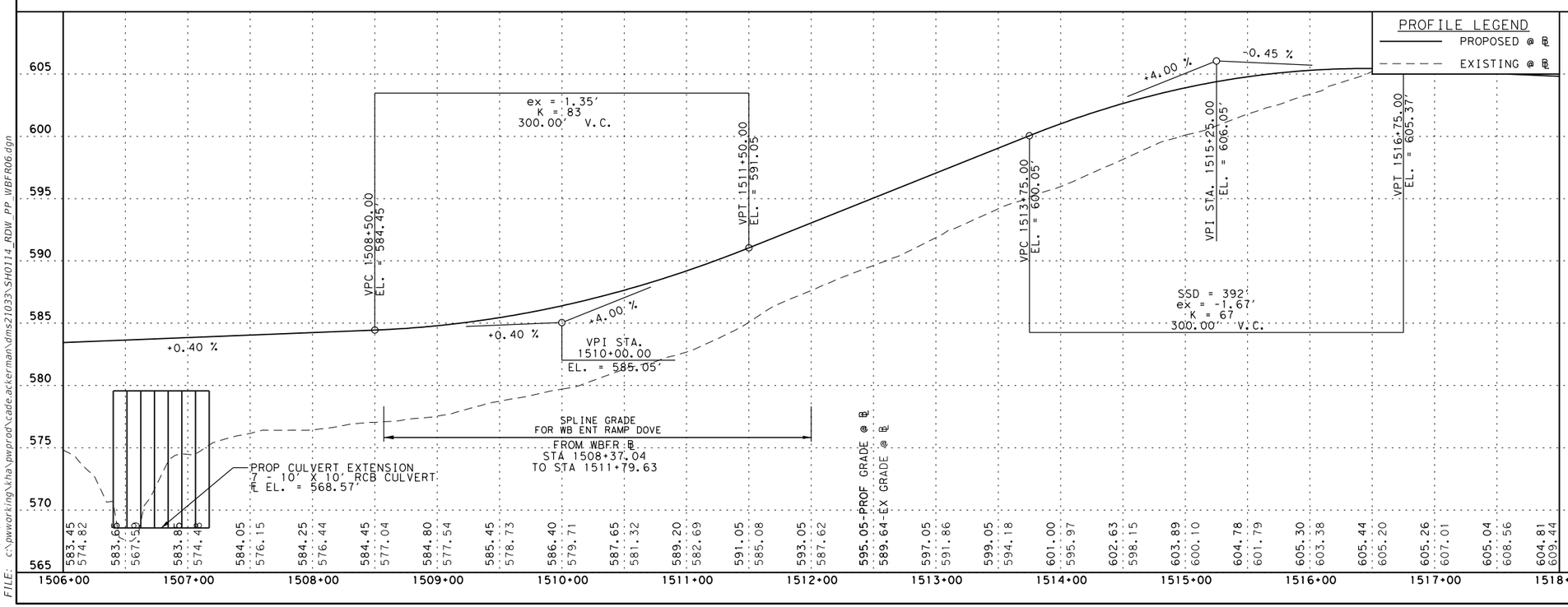
- EXISTING ROW/ PROPERTY LINE
- PROPOSED ROW
- EASEMENT
- EXIST TRAFFIC FLOW PATTERN
- PROP TRAFFIC FLOW PATTERN

BLWBFR-2

Δ = 5°38'49.98"(LT)
T = 235.26'
R = 4,770.00'
L = 470.14'
PI = STA 1505+70.62

0 50 100
HORIZONTAL
SCALE: 1"=100'

0 5 10
VERTICAL
SCALE: 1"=10'



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Kimley»Horn
Engineer LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

NO.	DATE	REVISION	APPROVED

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SH 114
WESTBOUND FRONTAGE ROAD
PLAN AND PROFILE
STA 1525+00 TO STA 1537+00

Scale-H: 1"=100'
V: 1"=10'

SHEET 6 OF 9

DESIGN LPB	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
	6	SEE TITLE SHEET	SH 114
DRAWN RCA	STATE	DISTRICT	COUNTY
CHECK LPB	TEXAS	FTW	TARRANT
CHECK LJD	CONTROL	SECTION	JOB
	0353	03	100

SHEET NO. 22

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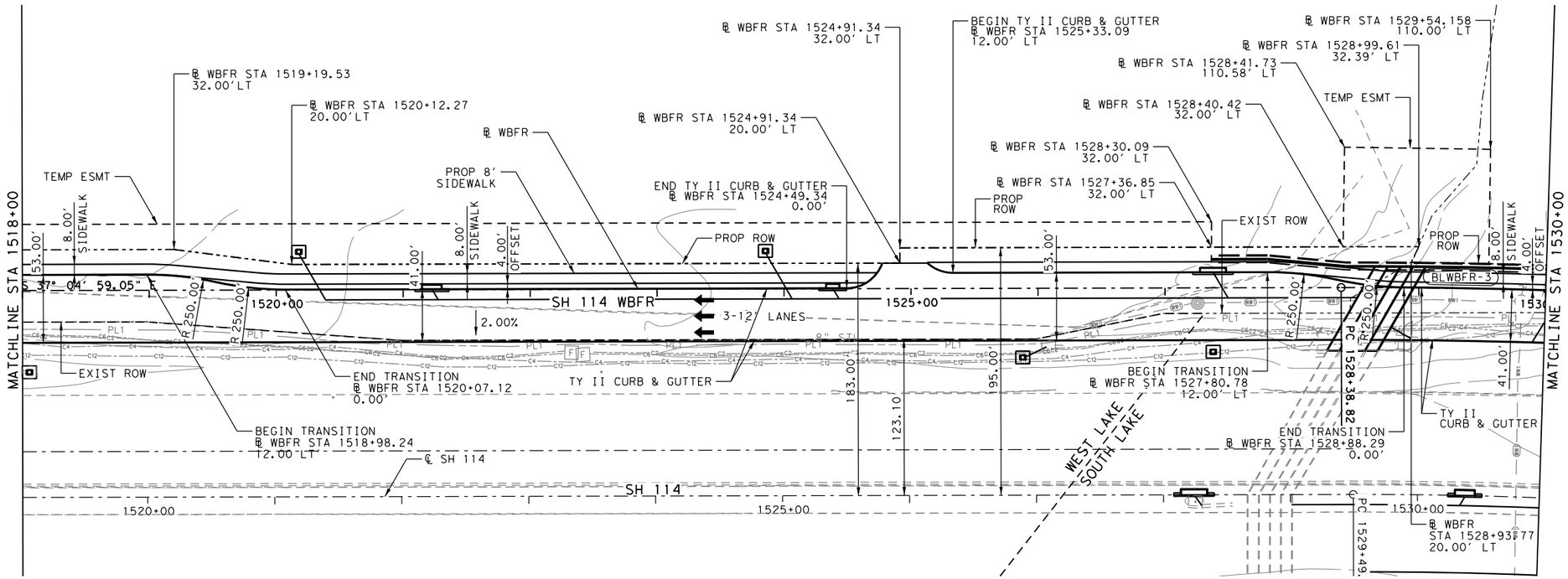


LEGEND

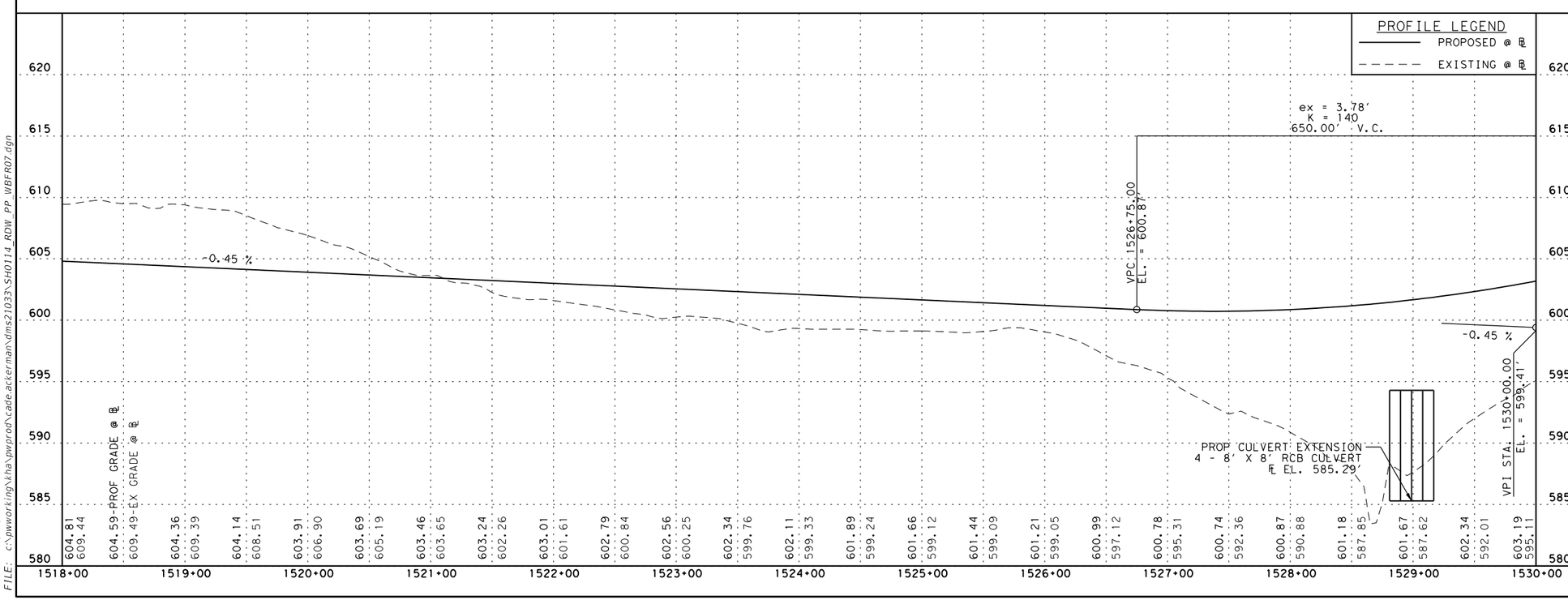
- EXISTING ROW/ PROPERTY LINE
- PROPOSED ROW
- EASEMENT
- EXIST TRAFFIC FLOW PATTERN
- PROP TRAFFIC FLOW PATTERN

BLWBFR-3

Δ = 17° 36' 23.50" (LT)
T = 745.06'
R = 4,811.00'
L = 1,478.38'
PI = STA 1535+83.88

0 50 100
HORIZONTAL
SCALE: 1"=100'

0 5 10
VERTICAL
SCALE: 1"=10'



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Kimley»Horn
Engineer LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

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SH 114
WESTBOUND FRONTAGE ROAD
PLAN AND PROFILE
STA 1537+00 TO STA 1549+00

Scale-H: 1"=100'
V: 1"=10'

SHEET 7 OF 9

DESIGN LPB	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
	6	SEE TITLE SHEET	SH 114
DRAWN RCA	STATE	DISTRICT	COUNTY
CHECK LPB	TEXAS	FTW	TARRANT
CHECK LJD	CONTROL	SECTION	JOB
	0353	03	100

SHEET NO. 23

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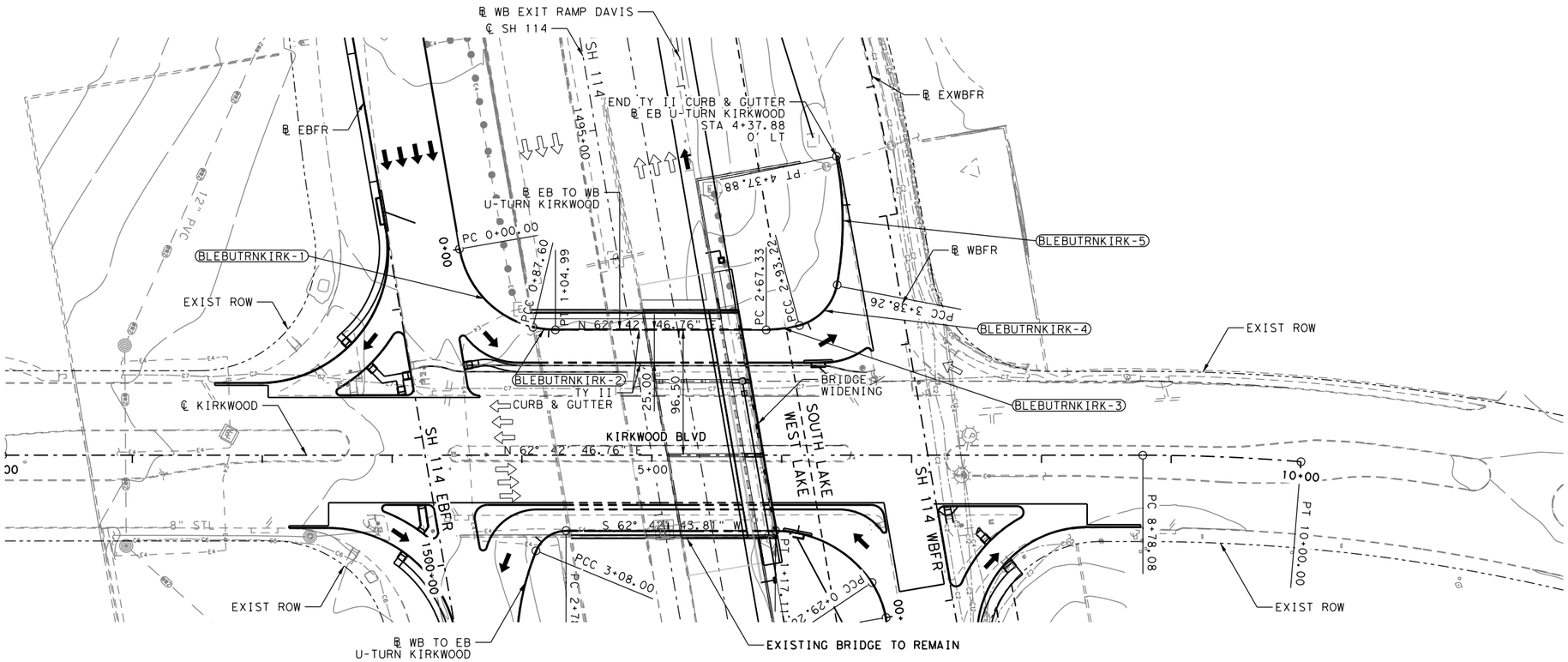


LEGEND

- EXISTING ROW/ PROPERTY LINE
- PROPOSED ROW
- EASEMENT
- EXIST TRAFFIC FLOW PATTERN
- PROP TRAFFIC FLOW PATTERN

BLEBUTRNKIRK-1
Δ = 66°55'17.83"(LT)
T = 49.57'
R = 75.00'
L = 87.60'
PI = STA 0+49.57

BLEBUTRNKIRK-2
Δ = 13°16'56.36"(LT)
T = 8.73'
R = 75.00'
L = 17.39'
PI = STA 0+96.33

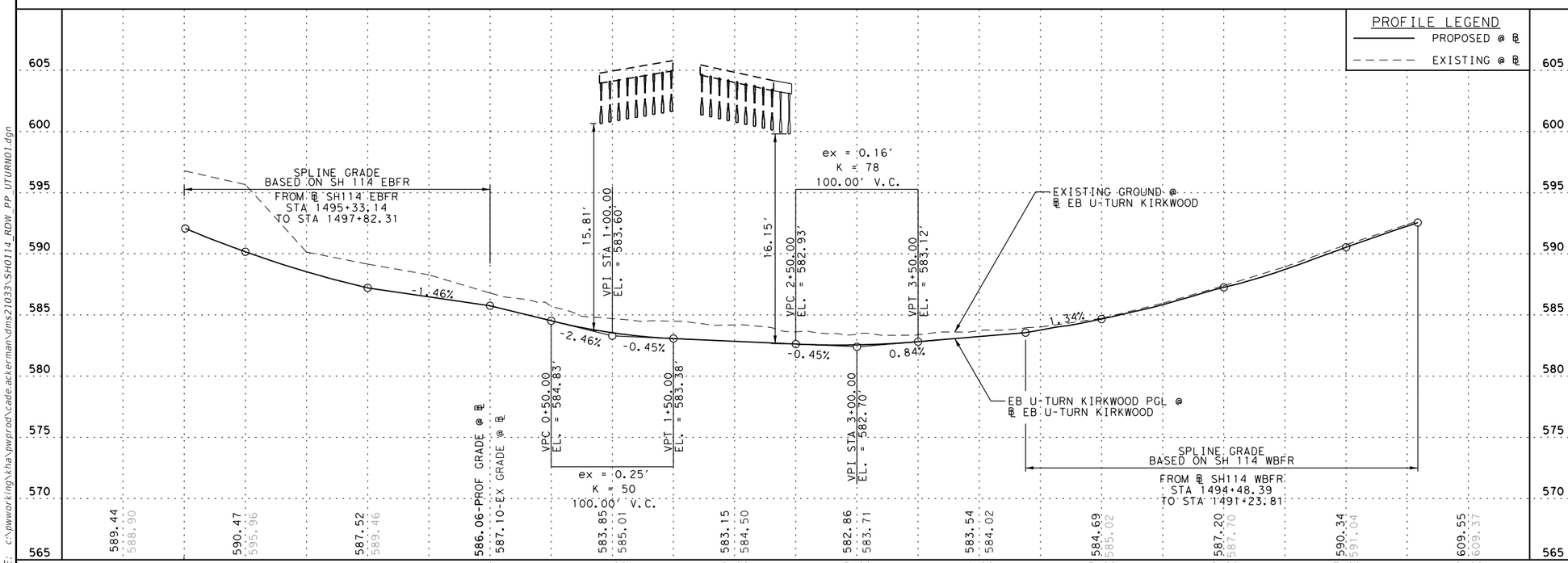
BLEBUTRNKIRK-3
Δ = 14°50'06.40"(LT)
T = 13.02'
R = 100.00'
L = 25.89'
PI = STA 2+80.35

BLEBUTRNKIRK-4
Δ = 64°30'43.34"(LT)
T = 25.24'
R = 40.00'
L = 45.04'
PI = STA 3+18.46

BLEBUTRNKIRK-5
Δ = 21°57'15.01"(LT)
T = 50.43'
R = 260.00'
L = 99.62'
PI = STA 3+88.69

0 50 100
HORIZONTAL
SCALE: 1"=100'

0 5 10
VERTICAL
SCALE: 1"=10'



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Engineer LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

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KIRKWOOD BLVD
EB TO WB U-TURN
PLAN AND PROFILE

Scale-H: 1"=100'
V: 1"=10'

SHEET 1 OF 3

DESIGN LPB	FED. RD. DIV. NO. 6	FEDERAL AID PROJECT NO. SEE TITLE SHEET		HIGHWAY NO. SH 114
DRAWN RCA	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK LJD	TEXAS	FTW	TARRANT	24
CHECK LPB	CONTROL 0353	SECTION 03	JOB 100	

DATE: 10/25/2018 8:54:54 AM
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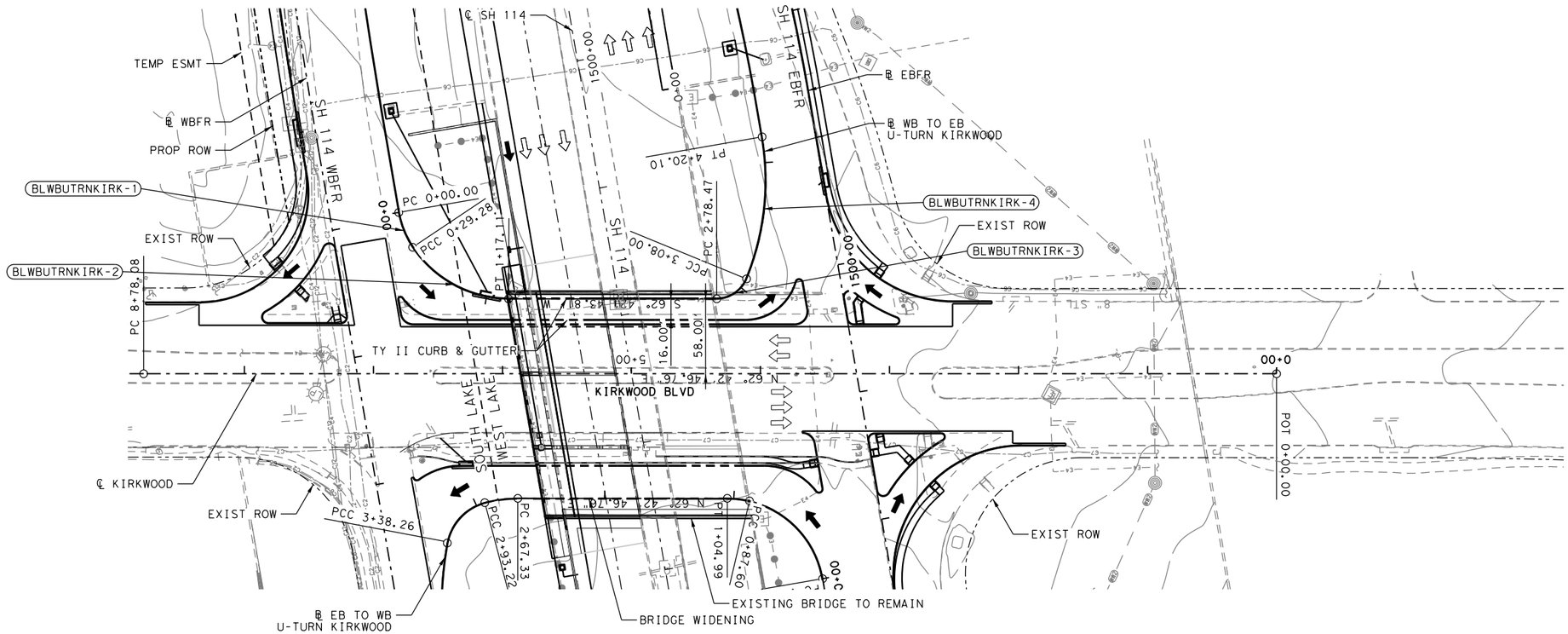


LEGEND

- EXISTING ROW/ PROPERTY LINE
- PROPOSED ROW
- EASEMENT
- EXIST TRAFFIC FLOW PATTERN
- PROP TRAFFIC FLOW PATTERN

BLWBUTRNKIRK-1
Δ = 23°58′11.65″(LT)
T = 14.86′
R = 70.00′
L = 29.07′
PI = STA 0+14.86

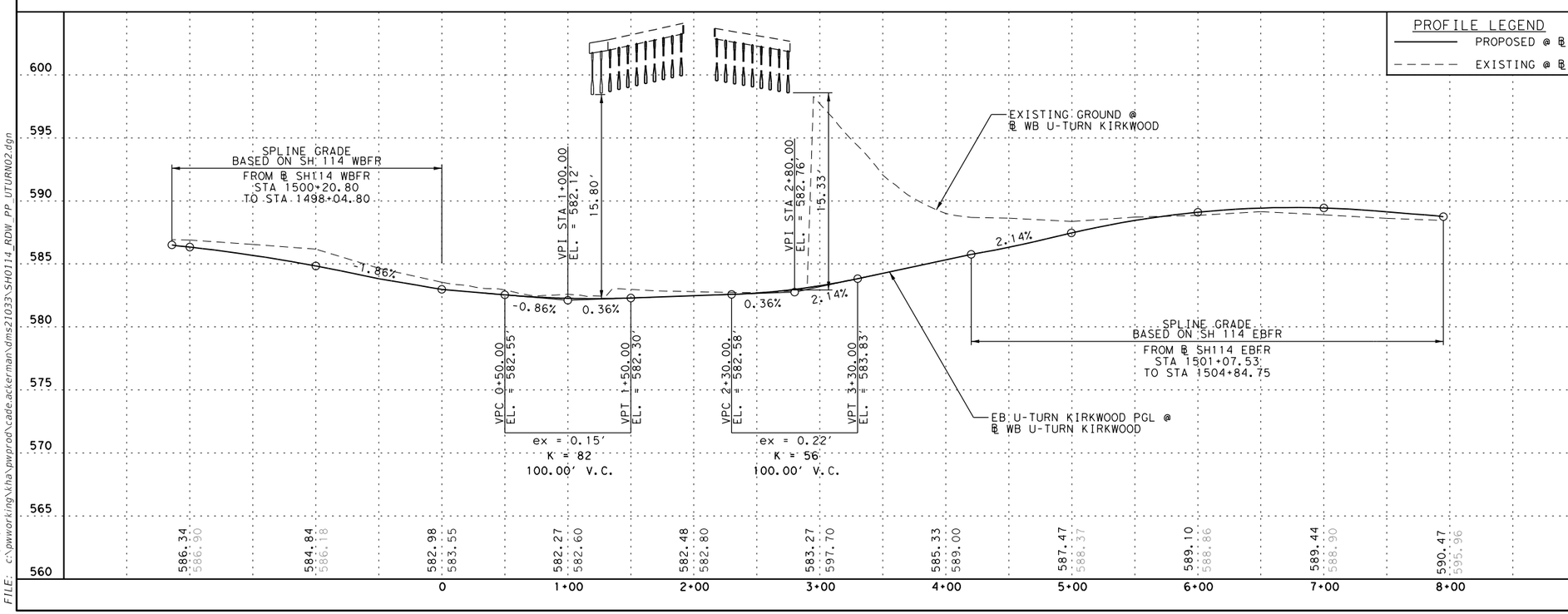
BLWBUTRNKIRK-2
Δ = 55°54′43.88″(LT)
T = 47.77′
R = 90.00′
L = 87.83′
PI = STA 0+77.05

BLWBUTRNKIRK-3
Δ = 67°40′56.48″(LT)
T = 16.76′
R = 25.00′
L = 29.53′
PI = STA 2+95.23

BLWBUTRNKIRK-4
Δ = 32°06′44.55″(LT)
T = 57.56′
R = 200.00′
L = 112.09′
PI = STA 3+65.57

0 50 100
HORIZONTAL
SCALE: 1"=100′

0 5 10
VERTICAL
SCALE: 1"=10′



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Engineer: LESLIE P. BRUCE
P.E. No. 97360 Date 10/25/2018

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KIRKWOOD BLVD
WB TO EB U-TURN
PLAN AND PROFILE

Scale-H: 1"=100′
V: 1"=10′

SHEET 2 OF 3

DESIGN LPB	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
	6	SEE TITLE SHEET		SH 114
DRAWN RCA	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK LJD	TEXAS	FTW	TARRANT	25
CHECK LPB	CONTROL	SECTION	JOB	
	0353	03	100	

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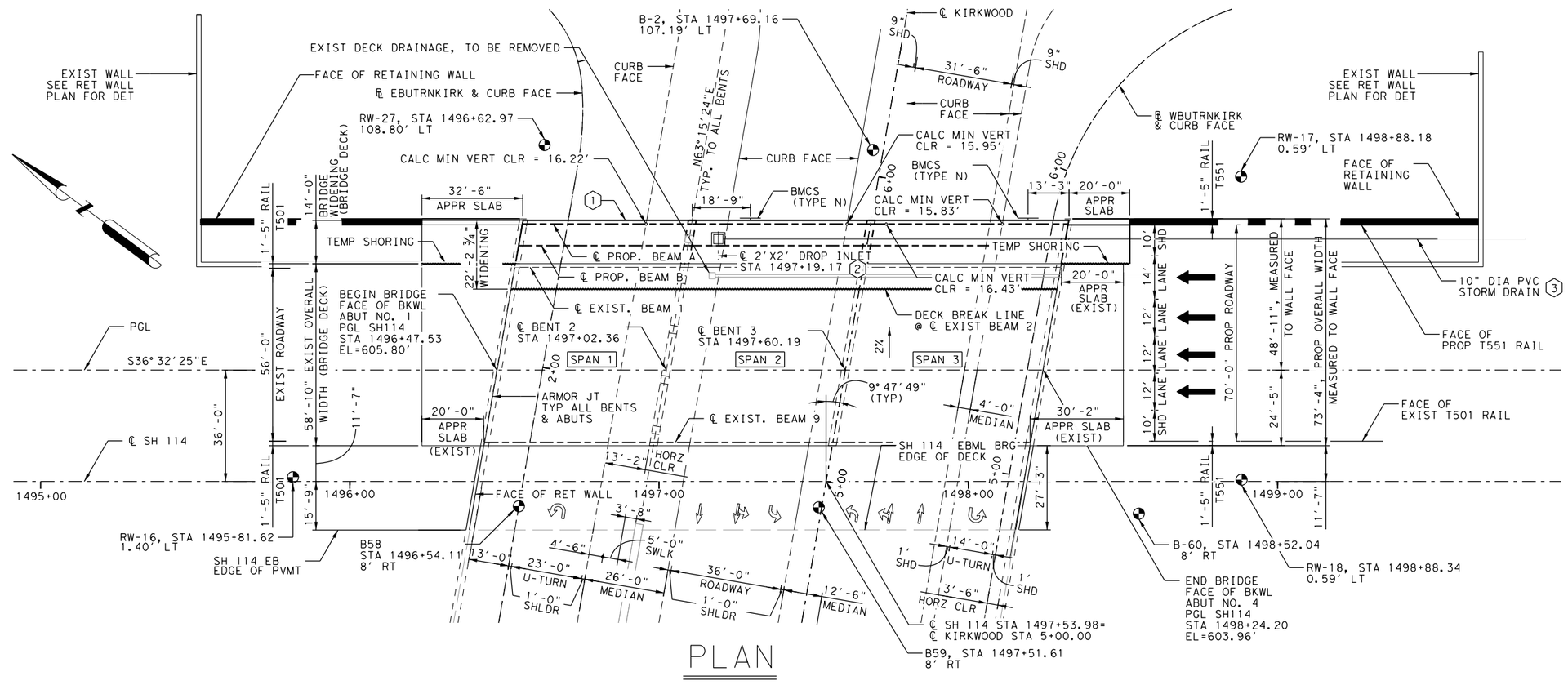


PLAN

0 20 40

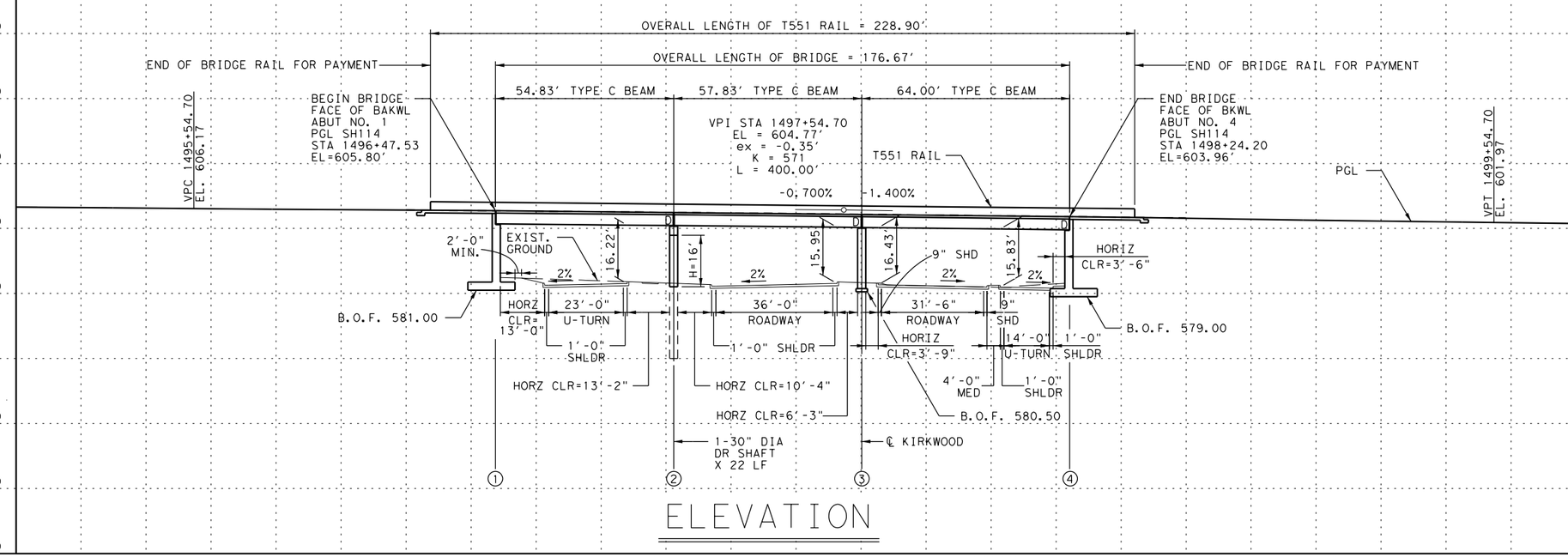
NOTES:

1. BRIDGE WIDENING DESIGNED FOR HL93 LOADING UNDER 2014 AASHTO LRFD SPECIFICATIONS AND INTERIM REVISIONS THERETO.
2. BORING LOG LOCATIONS SHOWN ARE FOR AS-BUILT BRIDGE. SEE BORING SHEETS FOR ADDITIONAL DRILLING LOG INFORMATION.
3. ALL DIMENSIONS ARE HORIZONTAL AND MUST BE CORRECTED FOR GRADE AND CROSS SLOPE.
4. THE "H" VALUES SHOWN ARE ESTIMATED COLUMN HEIGHTS AND ARE FOR BIDDING PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CALCULATING THE ACTUAL COLUMN HEIGHTS BASED ON FIELD CONDITIONS.
5. SEE RETAINING WALL SHEETS FOR ADDITIONAL INFORMATION.
6. DESIGN SPEED = 70 MPH
   EXISTING ADT (2020) = 50,000
   PROPOSED ADT (2040) = 80,400
   FUNCTIONAL CALL = URBAN FREEWAY
7. EXIST NBI: 02-220-0-0353-03-204

1 PRECAST FACIA PANAL NOT SHOWN FOR CLARITY. SEE SHEET 13 FOR DETAILS.

2 SEE SHEET 15 FOR DROP INLET DETAILS.

3 DECK DRAINAGE SYSTEM PENDING UPDATE PER DRAINAGE DESIGN.



ELEVATION

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Kimley»Horn
Engineer JIANYING GUO
P.E. No. 104055 Date 10/25/2018

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Kimley»Horn

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BRIDGE LAYOUT SH 114 WBML OVERPASS AT KIRKWOOD/SOLANA

Scale-H:1"=40
V:1"=40

SHEET 1 OF 2

DESIGN JG	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
	6	SEE TITLE SHEET	SH 114
DRAWN JG	STATE	DISTRICT	COUNTY
CHECK LJD	TEXAS	FTW	TARRANT
CHECK LJD	CONTROL	SECTION	JOB
	0353	03	100

SHEET NO. 26

DATE: 10/25/2018 8:55:10 AM
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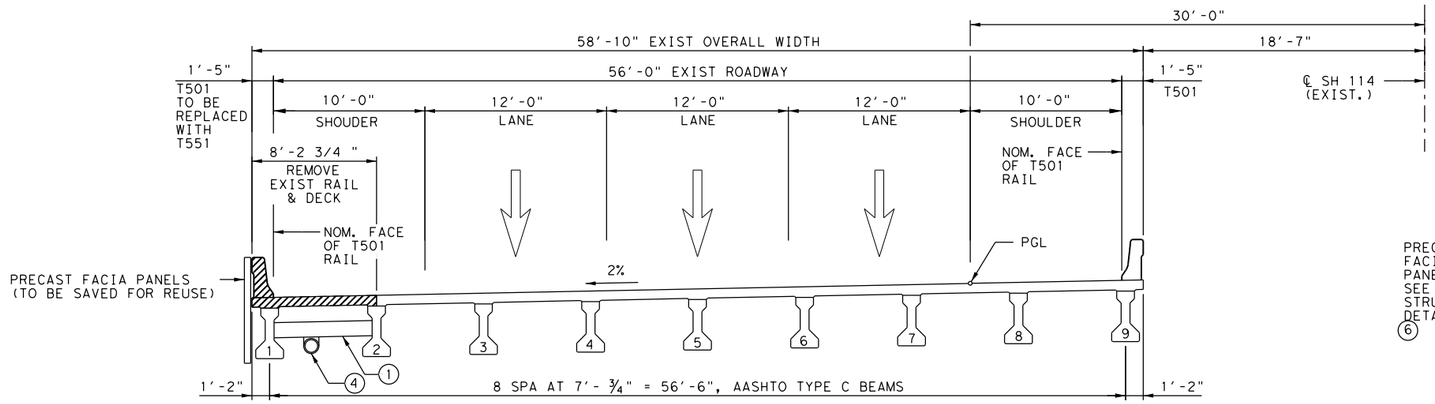
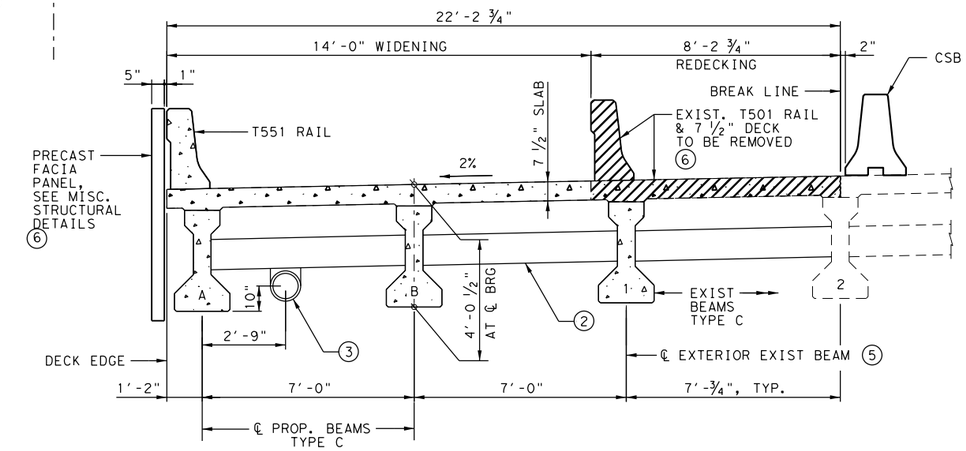


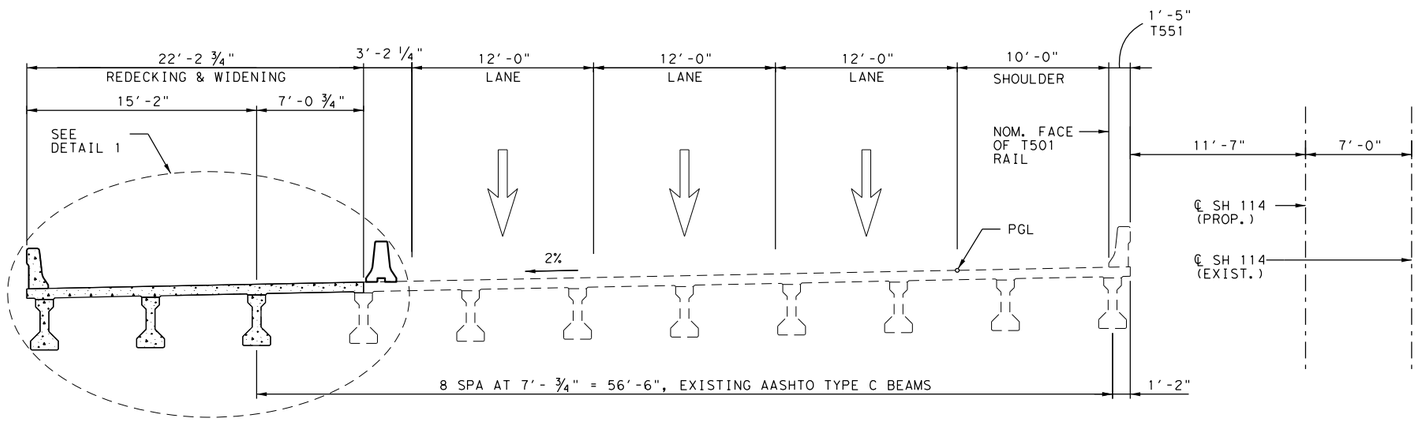
EXISTING BRIDGE TYPICAL SECTION

SCALE: 1"=10'



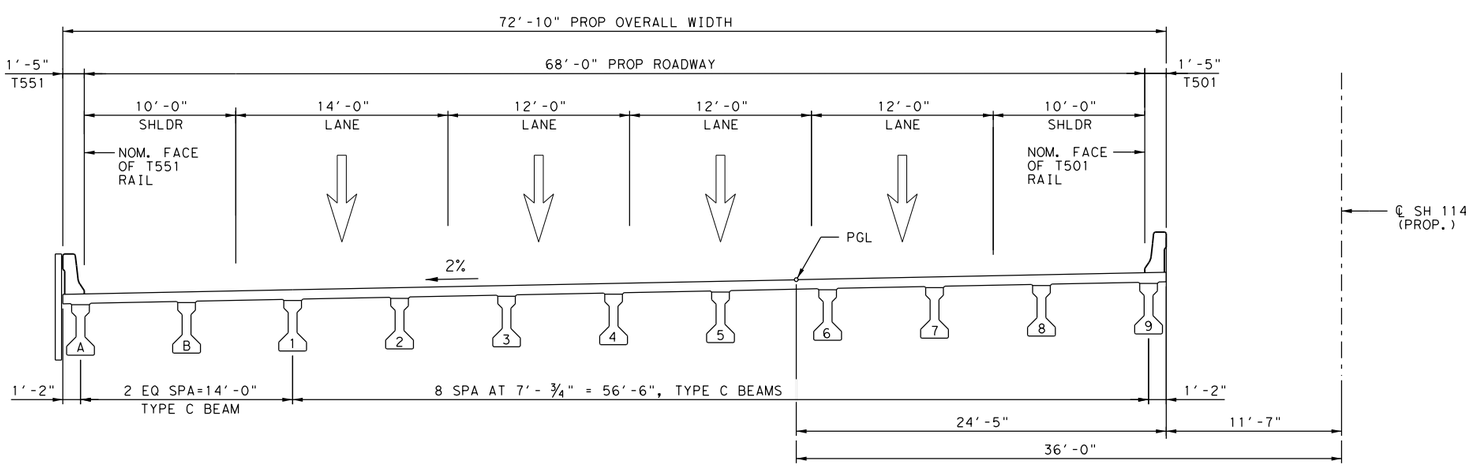
DETAIL 1

SCALE: 1"=5'



PROP BRIDGE WIDENING

SCALE: 1"=10'



PROPOSED BRIDGE TYPICAL SECTION

SCALE: 1"=10'

1. STEEL INTERIOR DIAPHRAGM, TYPICAL TO ALL BAYS. INTERIOR DIAPHRAGMS NOT SHOWN IN ALL OTHER BAYS FOR CLARITY.
2. MATCH AS-BUILT STEEL DIAPHRAGM TYPE AND CONNECTION DETAILS.
3. 12" ID SLEEVE 10" DIA PVC STORM DRAIN (UPDATE POSSIBLE PER DRAINAGE DESIGN). SEE DRAINAGE PLAN FOR DETAILS.
4. EXISTING STORM DRAIN TO BE REMOVED.
5. EXISTING EXTERIOR BEAMS TO REPLACED WITH NEW BEAMS.
6. HYDRO-DEMOLISION SHALL BE APPLIED TO SAVE PRECAST FACIA PANELS AND THE CONNECTORS ATTACHED TO THE EXISTING RAIL.

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Kimley»Horn
Engineer JIANYING GUO
P.E. No. 104055 Date 10/25/2018

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Kimley»Horn

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BRIDGE LAYOUT
SH 114 WBML OVERPASS
AT KIRKWOOD/SOLANA

SHEET 2 OF 2

DESIGN JG	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
	6	SEE TITLE SHEET	SH 114
DRAWN JG	STATE	DISTRICT	COUNTY
CHECK LJD	TEXAS	FTW	TARRANT
CHECK LJD	CONTROL 0353	SECTION 03	JOB 100

SHEET NO. 27

DATE: 10/25/2018 8:55:18 AM
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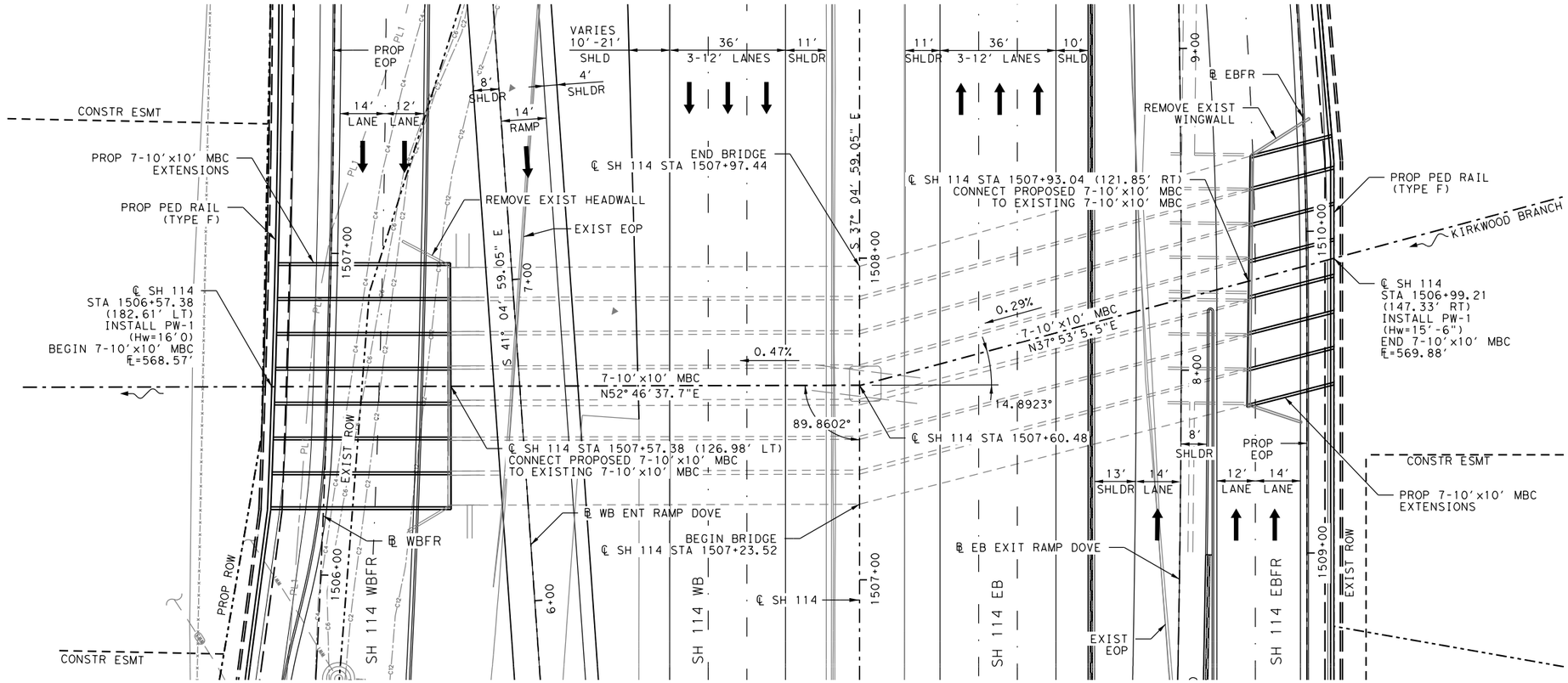
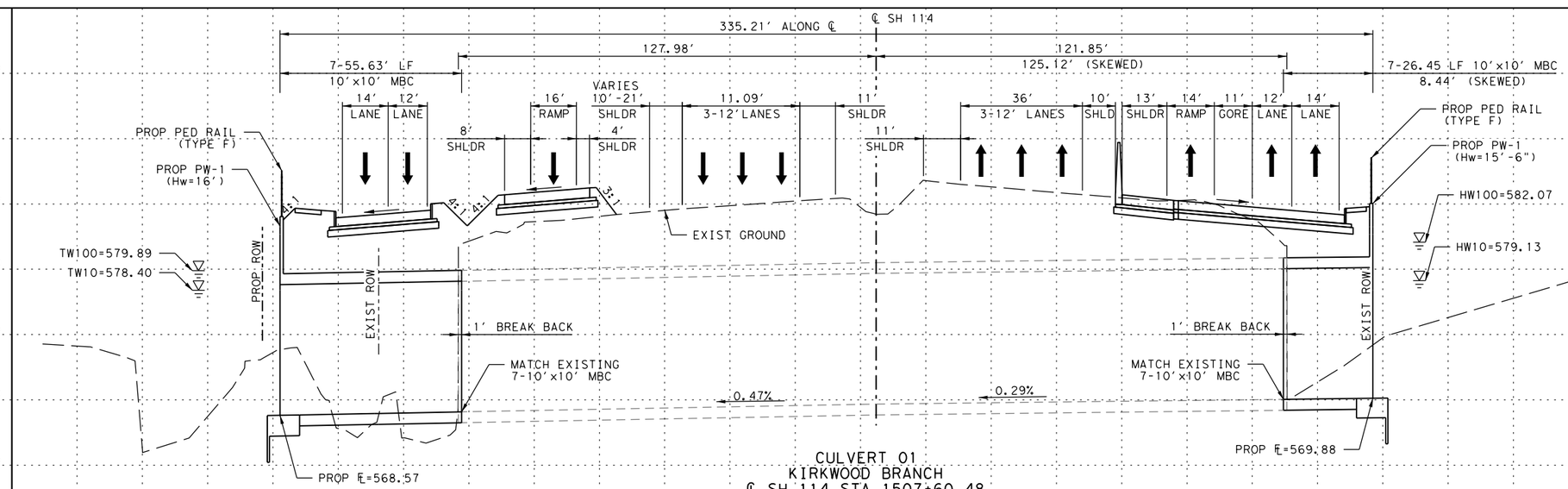


0 10 20 30 40
SCALE: 1" = 40'

BRIDGE DATA
NBI# 02-220-0-0353-03-190
DESIGN SPEED = 70 MPH (MAIN LANES)
= 55 MPH (RAMP)
= 45 MPH (FRONTAGE RD)
ADT (2020) = 20,950
ADT (2040) = 27,050
FUNCTIONAL CLASS = URBAN FREEWAY

HYDRAULIC DATA:

Q10 =4300 cfs	Q100 =6800 cfs
TW10 =578.40	TW100 =579.89
HW10 =579.13	HW100 =582.07
V10 =5.77 fps	V100 =6.83 fps



CULVERT 01
KIRKWOOD BRANCH
℄ SH 114 STA 1507+60.48
EXIST 7-10'x10'x253.1'
REMOVE 1.00' (RT & LT)
EXTEND 55.63' (LT), 27.40' (RT)
OVERALL LENGTH= 335.21'
INSTALL PW-1(Hw=16')(LT), PW-1(Hw=15'-6")(RT)
REMOVE EXIST WINGWALL

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Kimley»Horn
Engineer LORI J. DAVIDSON
P.E. No. 82624 Date 10/25/2018

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SH 114 BRIDGE LAYOUT CULVERT 01 KIRKWOOD BRANCH STA 1507+60.46

Scale-H:1"=40'
V:1"=10'

SHEET 1 OF 1

DESIGN KHA	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
DRAWN BLC	6	SEE TITLE SHEET	SH 114
CHECK KHA	STATE	DISTRICT	COUNTY
	TEXAS	FTW	TARRANT
CHECK KHA	CONTROL	SECTION	JOB
	0353	03	100

SHEET NO. 28

DATE: 10/25/2018 8:55:27 AM
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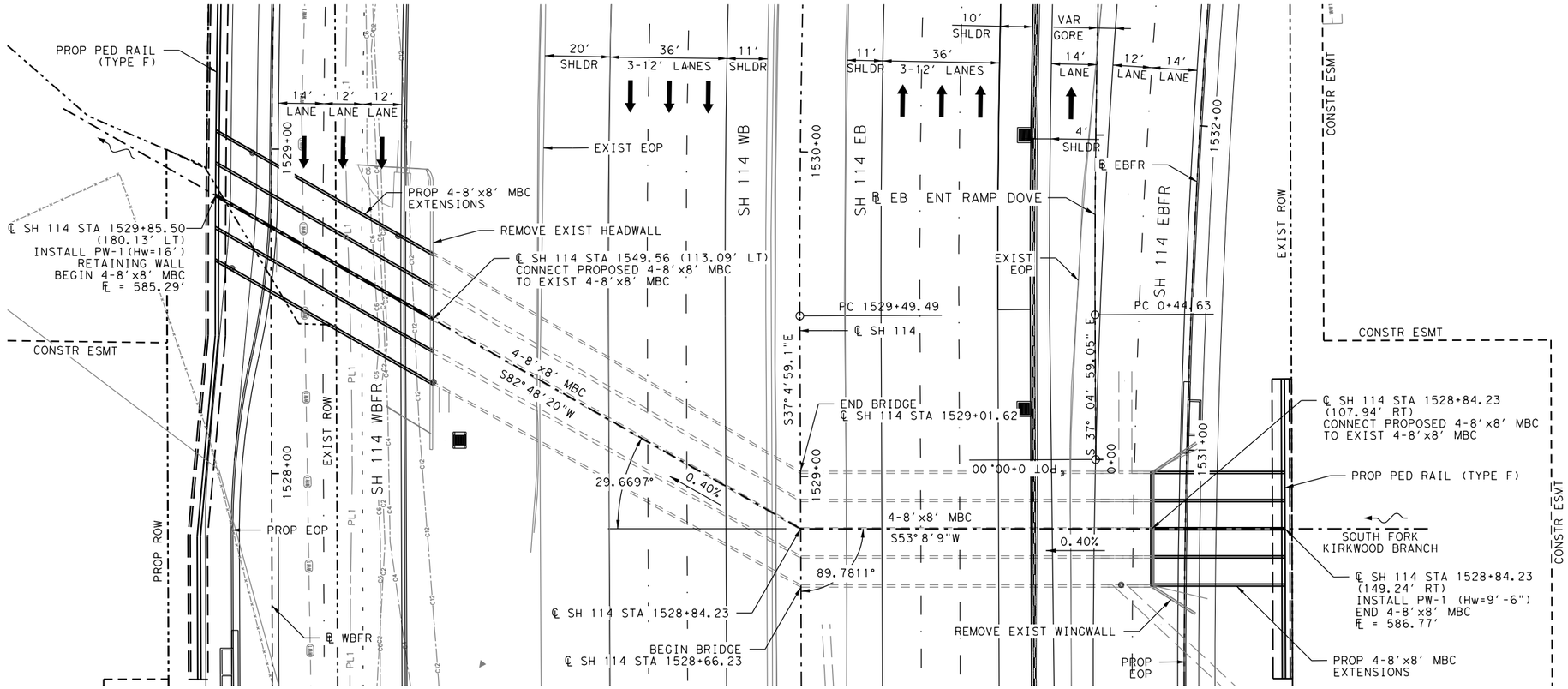
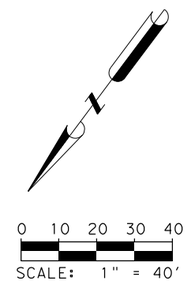


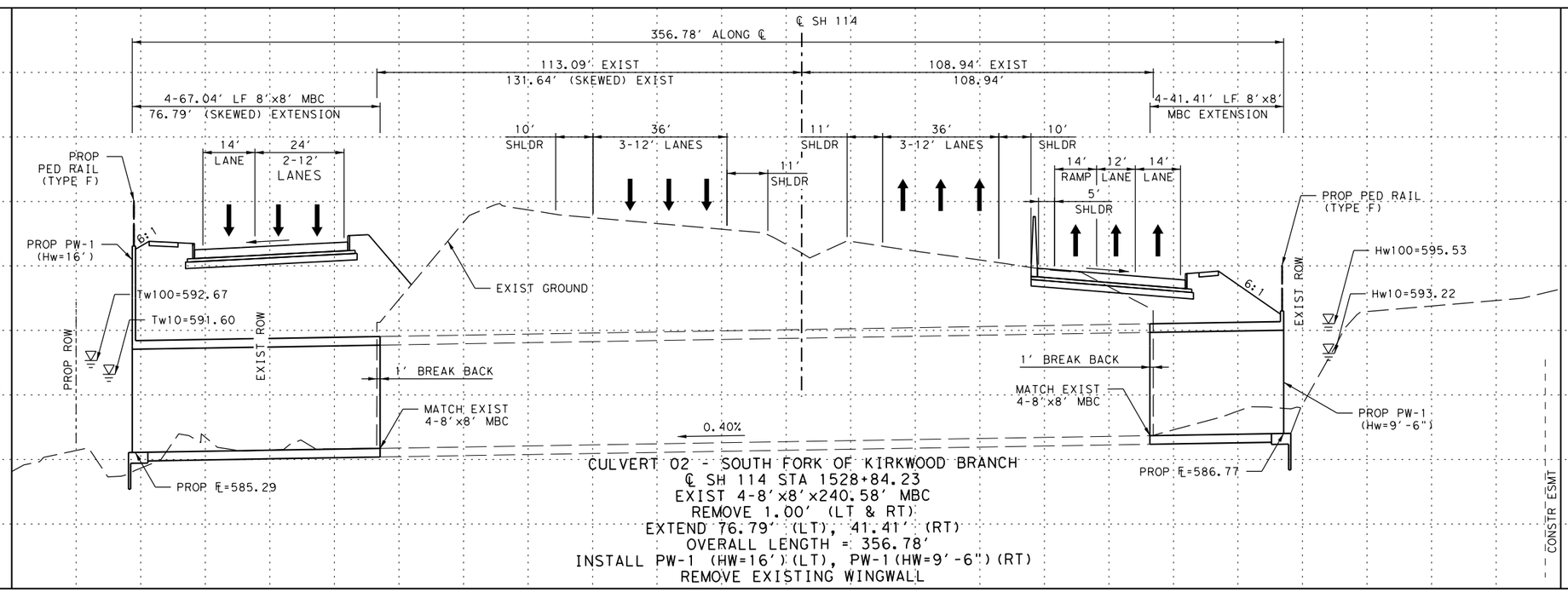


BRIDGE DATA

NBI# 02-220-0-0353-03-191
DESIGN SPEED = 70 MPH (MAIN LANES)
= 55 MPH (RAMP)
= 45 MPH (FRONTAGE RD)
ADT (2020) = 20,950
ADT (2040) = 27,050
FUNCTIONAL CLASS = URBAN FREEWAY

HYDRAULIC DATA:

Q10 =1450 cps	Q100 =2300 cfs
TW10=591.60	TW100 =592.67
HW10=593.22	HW100 =595.53
V10 =5.31 fps	V100 =6.08 fps



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Engineer JIANYING GUO
P.E. No. 104055 Date 10/25/2018

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SH 114 BRIDGE LAYOUT CULVERT 02 - S. FORK OF KIRKWOOD BRANCH STA 1528+84.23

Scale-H:1"=40'
V:1"=10'

SHEET 1 OF 1

DESIGN KHA	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
DRAWN BLC	6	SEE TITLE SHEET		SH 114
CHECK KHA	STATE	DISTRICT	COUNTY	SHEET NO.
	TEXAS	FTW	TARRANT	29
CHECK KHA	CONTROL	SECTION	JOB	
	0353	03	100	

DATE: 10/25/2018 8:55:34 AM
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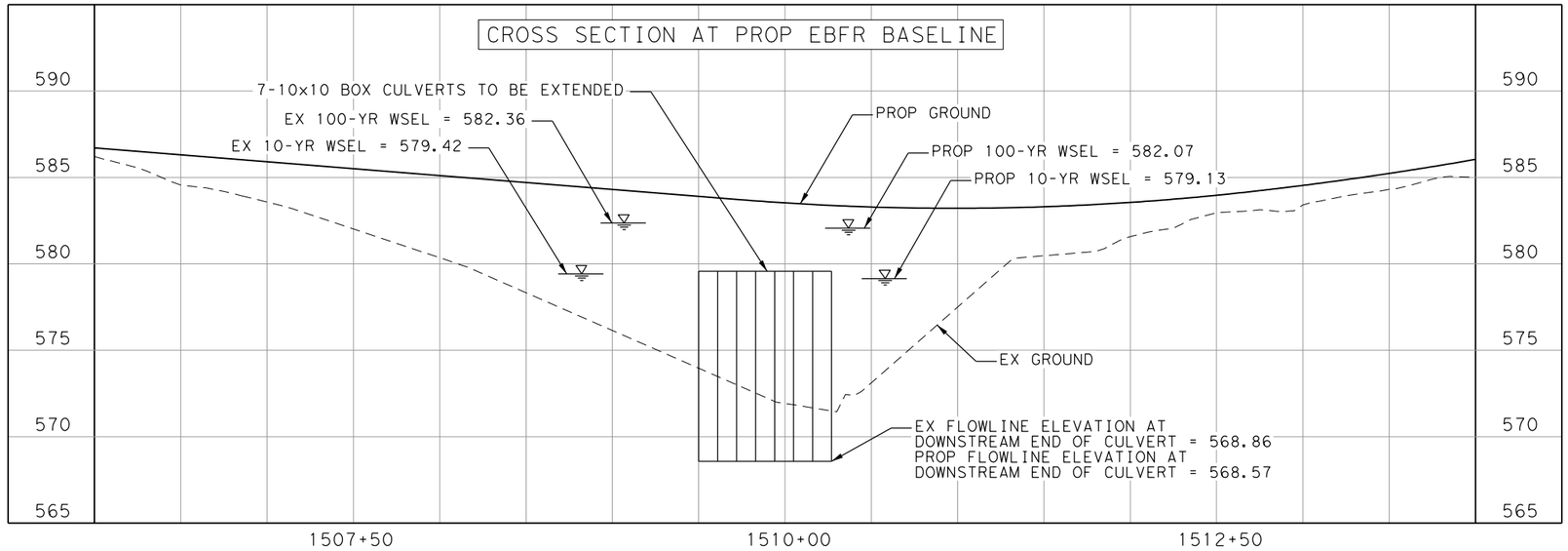
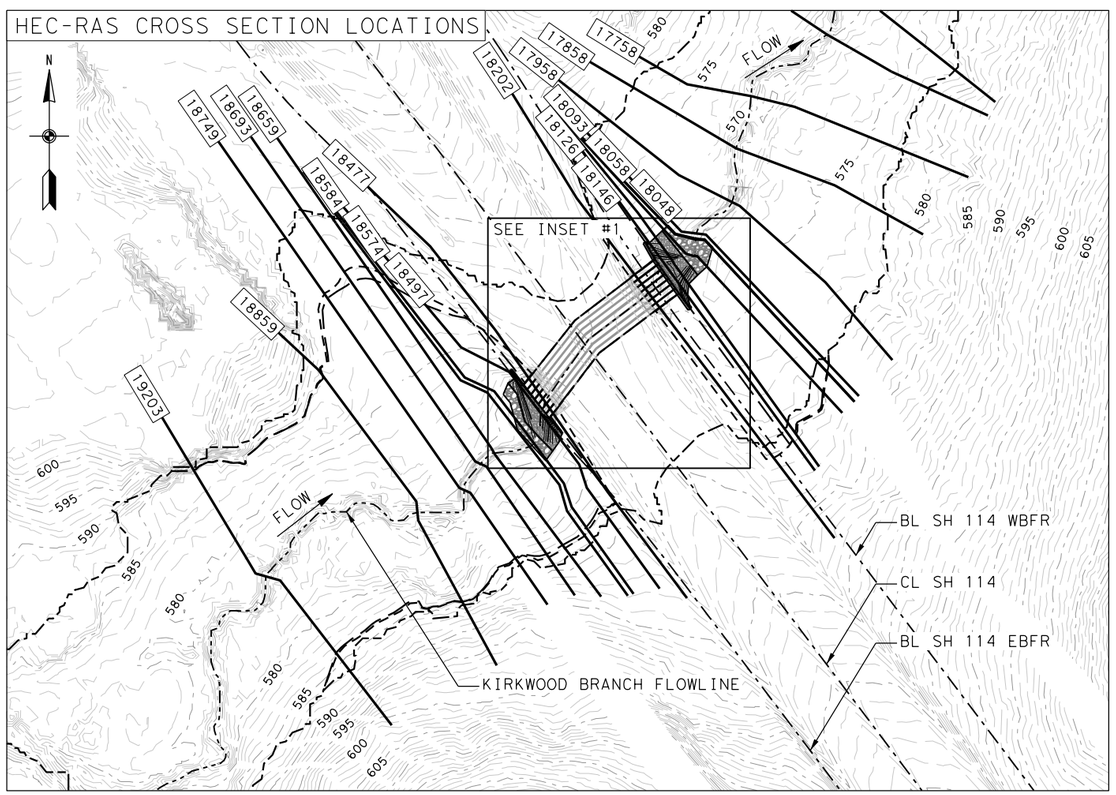
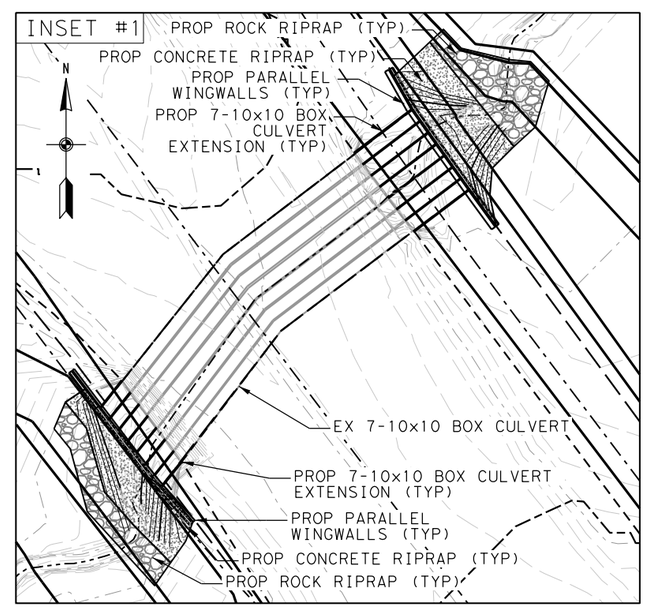




LEGEND

- 1' TOPOGROPHY CONTOUR
- 5' TOPOGROPHY CONTOUR
- HEC-RAS CROSS SECTION
- PROP 100-YR FLOODPLAIN (KIMLEY-HORN, 2018)
- EX 100-YR FLOODPLAIN (KIMLEY-HORN, 2018)
- EFFECTIVE FEMA 100-YR FLOODPLAIN
- CREEK FLOWLINE



NOTES:
1. ALL CROSS SECTIONS SHOWN ON MAP ARE BASED ON ON-GROUND SURVEY AND LIDAR.
2. SURVEY POINTS NOT SHOWN ON THIS MAP FOR CLARITY.
3. ALL ELEVATIONS REVERENCE NAVD88.

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Kimley»Horn
Engineer: JENNIFER M. LAFOY
P.E. No. 97309 Date OCT. 2018

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SH 114
HYDRAULIC DATA SHEET
KIRKWOOD BRANCH

SHEET 1 OF 2

DESIGN HMM	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
DRAWN BCS	6	SEE TITLE SHEET		SH 114
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK JML	TEXAS	FTW	TARRANT	30
CHECK JML	CONTROL	SECTION	JOB	
	0353	03	100	

DATE: 10/25/2018 8:55:41 AM
FILE: c:\pwworking\kha\pwprod\cade.ackerman\dms21035\SH0114_DRG_DS_HYDRAULICS_01.dgn

HYDRAULIC RESULTS TABLES

Cross Section	100-Year Water Surface Elevation (ft)				100-Year Velocities (ft/sec)			
	Existing	Corrected Existing	Proposed	Difference	Existing	Corrected Existing	Proposed	Difference
18048	-	579.87	579.82	-0.05	-	6.09	6.88	0.79
18058	579.83	579.79	579.75	-0.04	9.69	9.71	8.64	-1.07
18093	-	579.83	579.67	-0.16	-	9.77	9.77	0.00
18126	-	579.86	579.72	-0.14	-	10.00	8.10	-1.90
18146	-	579.90	579.89	-0.01	-	10.54	7.52	-3.02
18202	-	580.37	-	-	-	7.87	-	-
SH 114								
18477	-	582.36	-	-	-	6.24	-	-
18497	-	582.69	582.07	-0.62	-	4.87	6.83	1.96
18574	-	582.80	582.49	-0.31	-	6.95	6.85	-0.10
18584	-	582.95	582.53	-0.42	-	6.57	7.53	0.96
18659	-	583.04	582.66	-0.38	-	6.32	7.04	0.72
18693	-	583.16	582.85	-0.31	-	5.87	6.35	0.48
18749	-	583.23	583.16	-0.07	-	6.73	5.08	-1.65
18859	-	583.50	583.31	-0.19	-	6.18	6.41	0.23
19203	-	584.04	583.91	-0.13	-	8.71	8.99	0.28

Cross Section	10-Year Water Surface Elevation (ft)				10-Year Velocities (ft/sec)			
	Existing	Corrected Existing	Proposed	Difference	Existing	Corrected Existing	Proposed	Difference
18048	-	578.17	578.13	-0.04	-	5.11	5.61	0.50
18058	578.46	578.10	578.09	-0.01	8.56	8.28	7.23	-1.05
18093	-	578.15	578.03	-0.12	-	8.46	8.36	-0.10
18126	-	578.23	578.29	0.06	-	8.23	6.02	-2.21
18146	-	578.28	578.40	0.12	-	8.72	5.52	-3.20
18202	-	278.82	-	-	-	5.84	-	-
SH 114								
18477	-	579.42	-	-	-	5.33	-	-
18497	-	579.62	579.13	-0.49	-	4.48	5.77	1.29
18574	-	579.66	579.15	-0.51	-	7.86	7.45	-0.41
18584	-	579.80	579.04	-0.76	-	8.11	9.86	1.75
18659	-	580.02	579.45	-0.57	-	7.73	9.08	1.35
18693	-	580.25	580.01	-0.24	-	7.18	7.56	0.38
18749	-	580.37	580.59	0.22	-	8.47	6.45	-2.02
18859	-	581.16	581.00	-0.16	-	6.41	6.66	0.25
19203	-	582.00	581.94	-0.06	-	9.78	9.97	0.19

NOTES:

1. ALL HYDRAULIC CALCULATIONS WERE PERFORMED WITH THE UNITED STATES ARMY CORPS OF ENGINEERS HYDRAULIC MODELING SOFTWARE, HEC-RAS v4.1.0.
2. THE 10-YEAR EVENT IS CONSIDERED THE DESIGN EVENT FOR THE PROPOSED CULVERT IMPROVEMENTS PER TABLE 4-2 OF THE TEXAS DEPARTMENT OF TRANSPORTATION HYDRAULIC DESIGN MANUAL (JULY, 2016).
3. REFER TO "HYDROLOGIC/HYDRAULIC REPORT FOR KIRKWOOD BRANCH" FOR DESCRIPTION OF THE MODELING PERFORMED FOR THIS PROJECT.

PRELIMINARY
FOR REVIEW ONLY
Not for construction, bidding, or permit purposes.
Kimley»Horn
Engineer JENNIFER M. LAFOY
P.E. No. 97309 Date OCT. 2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

Texas Department of Transportation
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SH 114
HYDRAULIC DATA SHEET
KIRKWOOD BRANCH

SHEET 2 OF 2

DESIGN HMM	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
DRAWN BCS	6	SEE TITLE SHEET	SH 114

CHECK JML	STATE	DISTRICT	COUNTY	SHEET NO.
	TEXAS	FTW	TARRANT	31
CHECK JML	CONTROL	SECTION	JOB	
	0353	03	100	

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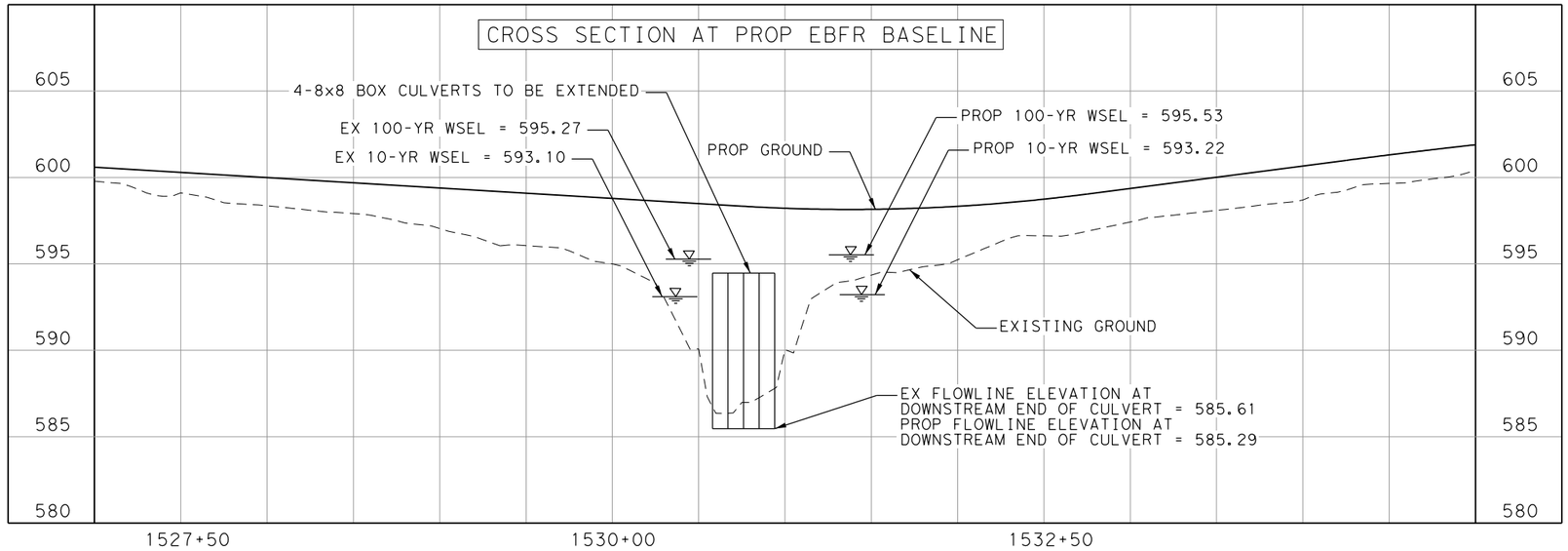
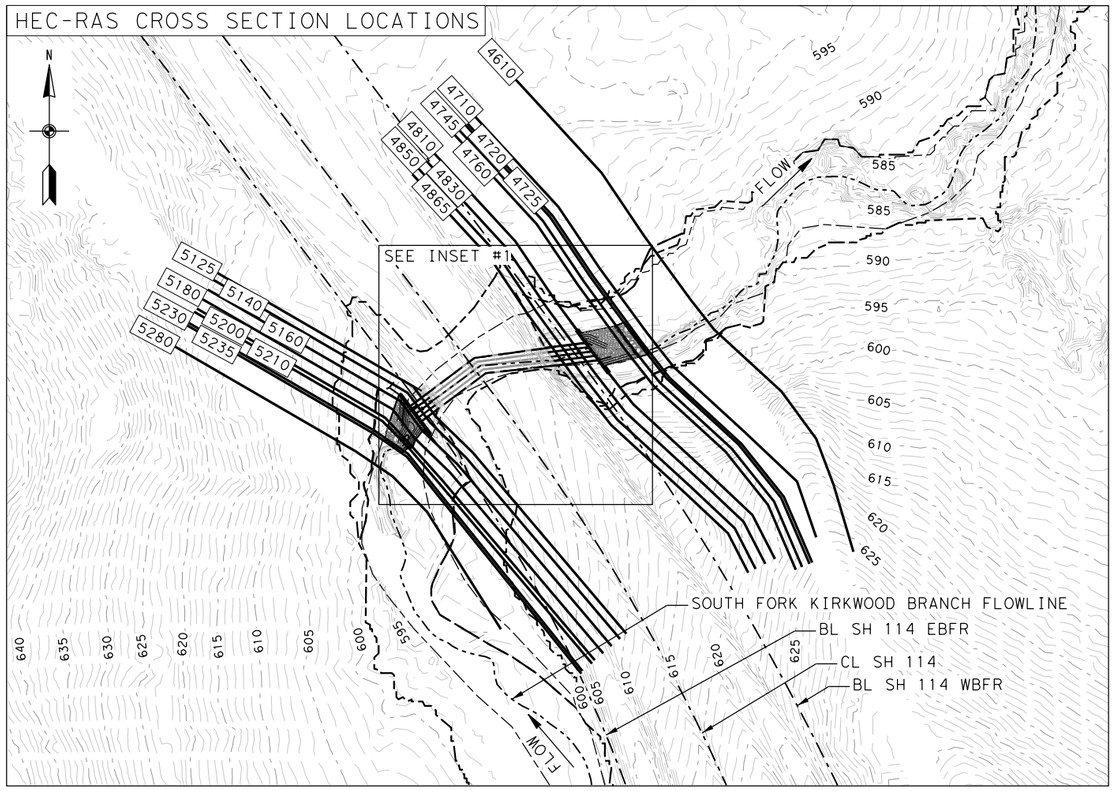
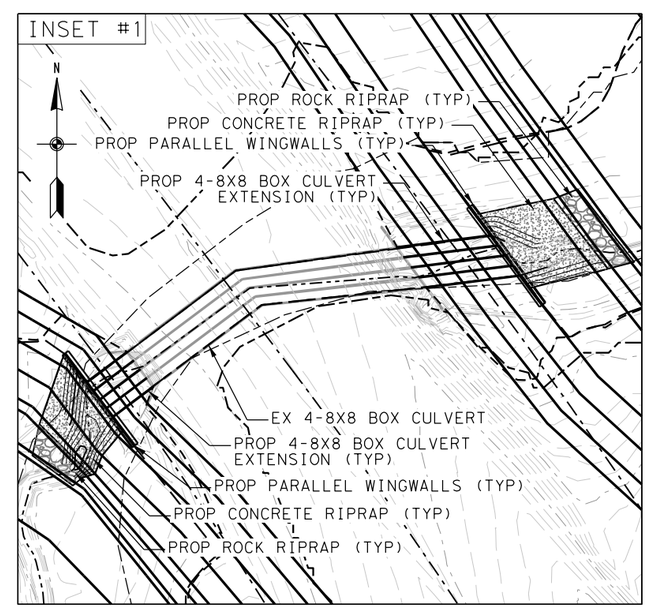




LEGEND

- 1' TOPOGROPHY CONTOUR
- 5' TOPOGROPHY CONTOUR
- HEC-RAS CROSS SECTION
- PROP 100-YR FLOODPLAIN (KIMLEY-HORN, 2018)
- EX 100-YR FLOODPLAIN (KIMLEY-HORN, 2018)
- EFFECTIVE FEMA 100-YR FLOODPLAIN
- EFFECTIVE FEMA FLOODWAY
- CREEK FLOWLINE



NOTES:
1. ALL CROSS SECTIONS SHOWN ON MAP ARE BASED ON ON-GROUND SURVEY AND LIDAR.
2. SURVEY POINTS NOT SHOWN ON THIS MAP FOR CLARITY.
3. ALL ELEVATIONS REVERENCE NAVD88.

PRELIMINARY
FOR REVIEW ONLY
Not for construction, bidding, or permit purposes.
Kimley»Horn
Engineer JENNIFER M. LAFOY
P.E. No. 97309 Date OCT. 2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

Texas Department of Transportation
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SH 114
HYDRAULIC DATA SHEET
SOUTH FORK OF KIRKWOOD BRANCH

SHEET 1 OF 2

DESIGN HMM	FED. RD. DIV. NO. 6	FEDERAL AID PROJECT NO. SEE TITLE SHEET		HIGHWAY NO. SH 114	
DRAWN BCS	STATE	DISTRICT	COUNTY		SHEET NO.
CHECK JML	TEXAS	FTW	TARRANT		32
CHECK JML	CONTROL 0353	SECTION 03	JOB 100		

DATE: 10/25/2018 8:55:55 AM
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HYDRAULIC RESULTS TABLES

Cross Section	100-Year Water Surface Elevation (ft)			100-Year Velocities (ft/sec)		
	Existing	Proposed	Difference	Existing	Proposed	Difference
4610	592.07	592.07	0.00	3.85	3.85	0.00
4710	592.46	592.46	0.00	4.42	4.42	0.00
4720	592.66	592.65	-0.01	3.72	3.77	0.05
4725	592.68	592.66	-0.02	3.70	3.77	0.07
4745	592.75	592.69	-0.06	3.64	3.81	0.17
4760	592.81	592.67	-0.14	3.60	4.02	0.42
4810	592.98	-	-	3.57	-	-
4830	592.98	-	-	4.50	-	-
4850	592.98	-	-	5.37	-	-
4865	592.90	-	-	6.83	-	-
SH 114						
5125	595.27	-	-	5.66	-	-
5140	595.62	-	-	4.06	-	-
5160	595.70	595.53	-0.17	3.83	6.08	2.25
5180	595.79	595.78	-0.01	3.73	4.96	1.23
5200	595.82	595.81	-0.01	4.05	4.80	0.75
5210	595.87	595.82	-0.05	3.89	4.77	0.88
5230	595.93	595.83	-0.10	3.70	4.85	1.15
5235	595.95	595.86	-0.09	3.67	4.78	1.11
5280	596.10	596.10	0.00	3.55	4.45	0.90

Cross Section	10-Year Water Surface Elevation (ft)			10-Year Velocities (ft/sec)		
	Existing	Proposed	Difference	Existing	Proposed	Difference
4610	591.02	591.02	0.00	3.58	3.58	0.00
4710	591.41	591.41	0.00	3.92	3.92	0.00
4720	591.57	591.57	0.00	3.22	3.22	0.00
4725	591.59	591.58	-0.01	3.21	3.22	0.01
4745	591.64	591.60	-0.04	3.17	3.21	0.04
4760	591.69	591.60	-0.09	3.14	3.28	0.14
4810	591.84	-	-	3.00	-	-
4830	591.84	-	-	3.78	-	-
4850	591.87	-	-	4.19	-	-
4865	591.84	-	-	5.22	-	-
SH 114						
5125	593.10	-	-	5.07	-	-
5140	593.34	-	-	4.03	-	-
5160	593.39	593.22	-0.17	4.18	5.31	1.13
5180	593.53	593.21	-0.32	4.16	5.61	1.45
5200	593.60	593.31	-0.29	4.58	5.08	0.50
5210	593.70	593.28	-0.42	4.37	5.40	1.03
5230	593.83	593.27	-0.56	3.96	5.79	1.83
5235	593.86	593.34	-0.52	3.91	5.62	1.71
5280	594.15	593.90	-0.25	3.43	4.41	0.98

NOTES:

1. ALL HYDRAULIC CALCULATIONS WERE PERFORMED WITH THE UNITED STATES ARMY CORPS OF ENGINEERS HYDRAULIC MODELING SOFTWARE, HEC-RAS v4.1.0.
2. THE 10-YEAR EVENT IS CONSIDERED THE DESIGN EVENT FOR THE PROPOSED CULVERT IMPROVEMENTS PER TABLE 4-2 OF THE TEXAS DEPARTMENT OF TRANSPORTATION HYDRAULIC DESIGN MANUAL (JULY, 2016).
3. REFER TO "HYDROLOGIC/HYDRAULIC REPORT FOR SOUTH FORK KIRKWOOD BRANCH" FOR DESCRIPTION OF THE MODELING PERFORMED FOR THIS PROJECT.

PRELIMINARY
FOR REVIEW ONLY
Not for construction, bidding, or permit purposes.
Kimley»Horn
Engineer JENNIFER M. LAFOY
P.E. No. 97309 Date OCT. 2018

NO.	DATE	REVISION	APPROVED

Kimley»Horn

Texas Department of Transportation
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SH 114
HYDRAULIC DATA SHEET
SOUTH FORK OF KIRKWOOD BRANCH

SHEET 2 OF 2

DESIGN HMM	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
DRAWN BCS	6	SEE TITLE SHEET	SH 114

CHECK JML	STATE	DISTRICT	COUNTY	SHEET NO.
	TEXAS	FTW	TARRANT	33
CHECK JML	CONTROL	SECTION	JOB	
	0353	03	100	

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Texas Department of Transportation
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FORT WORTH DISTRICT
LOYL C. BUSSELL, P.E.
DISTRICT ENGINEER

DESIGN SCHEMATIC
JANUARY 3, 2019

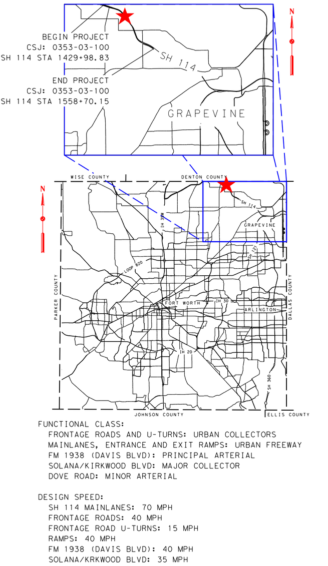
SH 114
FROM FM 1938 (DAVIS BLVD)
TO DOVE ROAD

CSJ: 0353-03-100
PROJECT LENGTH = 2.44 MILES
ROADWAY = 2.44 MILES

TARRANT COUNTY

CONSTRUCTION OF: EB FRONTAGE ROAD FROM FM 1938 TO SOLANA/KIRKWOOD AND WB AND EB FRONTAGE ROADS FROM SOLANA/KIRKWOOD TO DOVE

CONSISTING OF: GRADING, PAVING, BRIDGE STRUCTURES, SIGNING AND PAVEMENT MARKINGS AND ITS



FUNCTIONAL CLASS:
FRONTAGE ROADS AND U-TURNS: URBAN CO...
MAINLANES, ENTRANCE AND EXIT RAMPS: ...
FM 1938 (DAVIS BLVD): PRINCIPAL ARTE...
SOLANA/KIRKWOOD BLVD: MAJOR COLLECTO...
DOVE ROAD: MINOR ARTERIAL

DESIGN SPEED:
SH 114 MAINLANES: 70 MPH
FRONTAGE ROADS: 40 MPH
FRONTAGE ROAD U-TURNS: 15 MPH
RAMPS: 40 MPH
FM 1938 (DAVIS BLVD): 40 MPH
SOLANA/KIRKWOOD BLVD: 35 MPH
DOVE ROAD: 30 MPH

PLAN LEGEND

WIDENING ALONG MAIN LANES; BRIDGE; FRONTAGE ROAD; RAMP; U-TURN; GORE AND SHOULDER; LOCAL ROAD IMPROVEMENTS; EXISTING PAVEMENT; EXISTING BRIDGE; FUTURE MAINLANE; FUTURE SHOULDER; FUTURE BRIDGE

PROPOSED ACCESS CONTROL; PROPOSED CONSTRUCTION EASEMENT; PROPOSED DRAINAGE EASEMENT; EXISTING PROPERTY LINE; CONCRETE TRAFFIC BARRIER; RETAINING WALL; PARCEL NUMBER; SIGN NUMBER

ROLL 1 OF 2

SHEET INDEX

ROLL 1: PLAN - SH 114 MAINLANES AND FRONTAGE ROADS
PROFILE - SH 114 EASTBOUND FRONTAGE ROAD (EBFR)
PROFILE - SH 114 WESTBOUND FRONTAGE ROAD (WBFR)

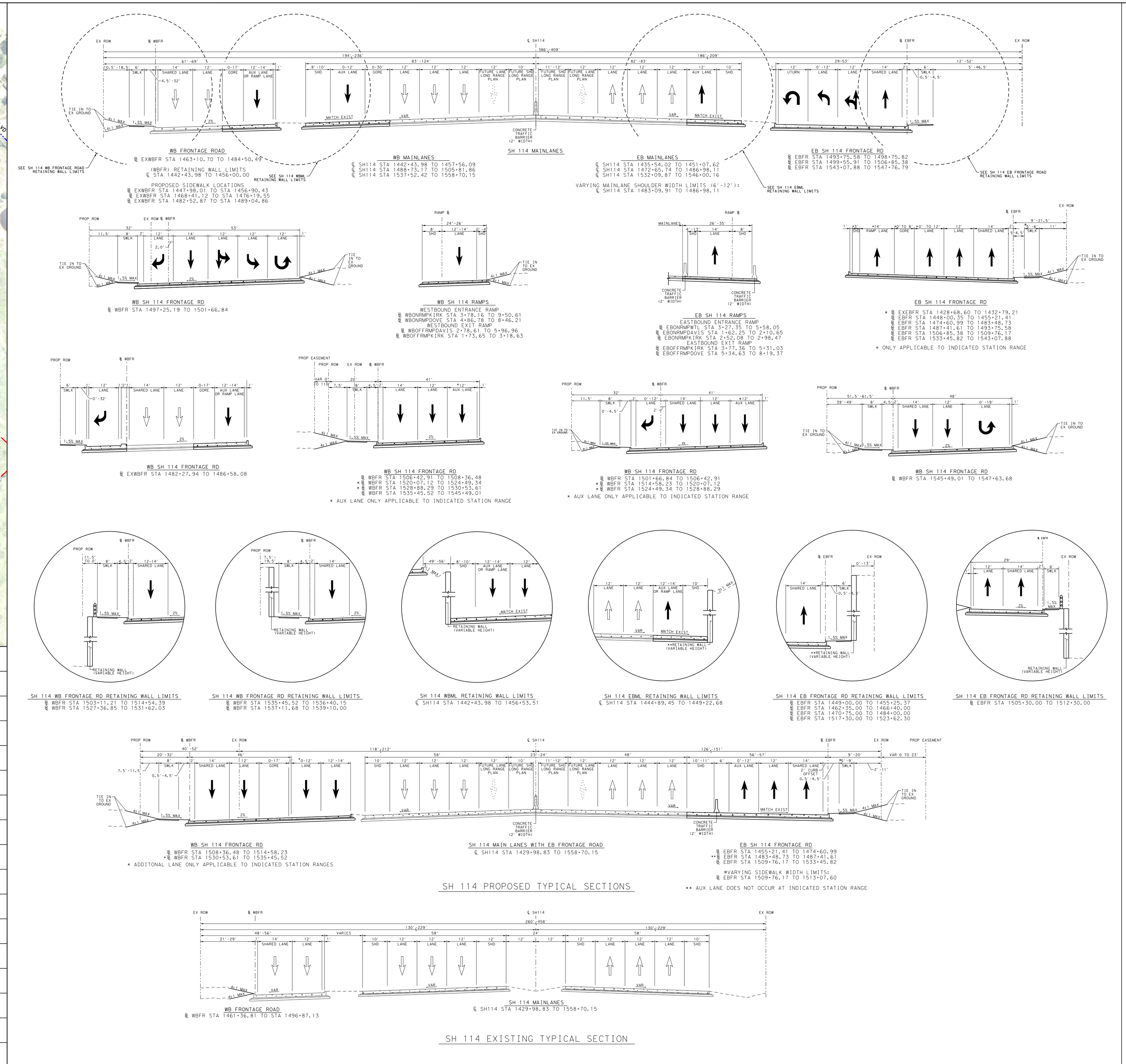
ROLL 2: PROFILE - SH 114 MAINLANES
PROFILE - RAMPS AND U-TURNS
ALIGNMENT GEOMETRIC DATA
TRAFFIC DATA
CONSTRUCTION PHASING

THESE PRELIMINARY DOCUMENTS ARE TO BE RELEASED FOR INFORMATIONAL PURPOSES AND ARE NOT INTENDED FOR CONSTRUCTION. THEY WERE PREPARED FOR THE TEXAS DEPARTMENT OF TRANSPORTATION UNDER THE SUPERVISION OF:

KERRY MILLER, P.E. DATE: JANUARY 3, 2019
TEXAS NUMBER: 67832

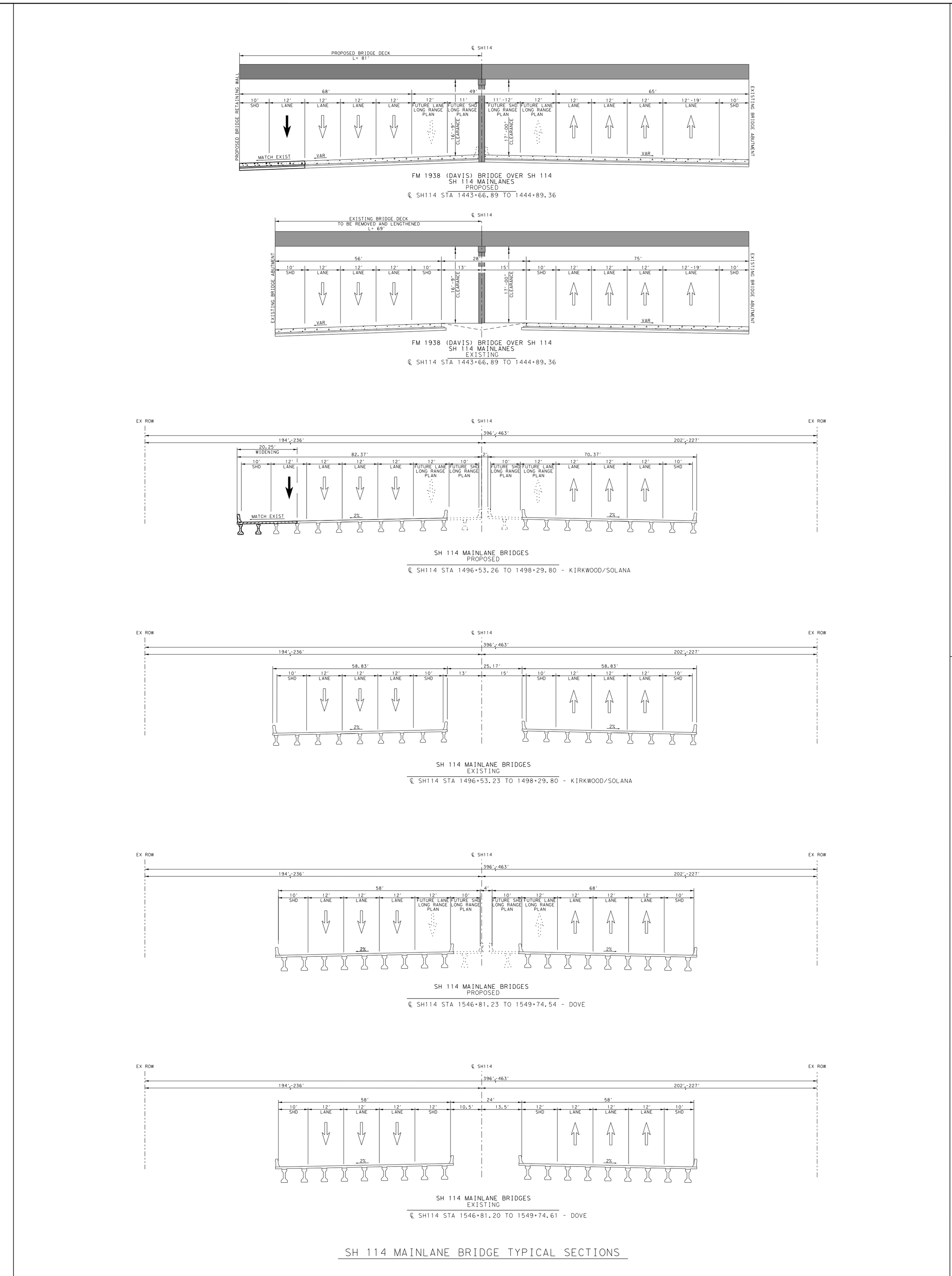
HORIZONTAL GRAPHIC SCALE: 1" = 200'
VERTICAL GRAPHIC SCALE: 1" = 40'

AERIAL IMAGERY DATE: OCTOBER 2017
TOPOGRAPHICAL DATA DATE: APRIL 2018



SH 114 PROPOSED TYPICAL SECTIONS

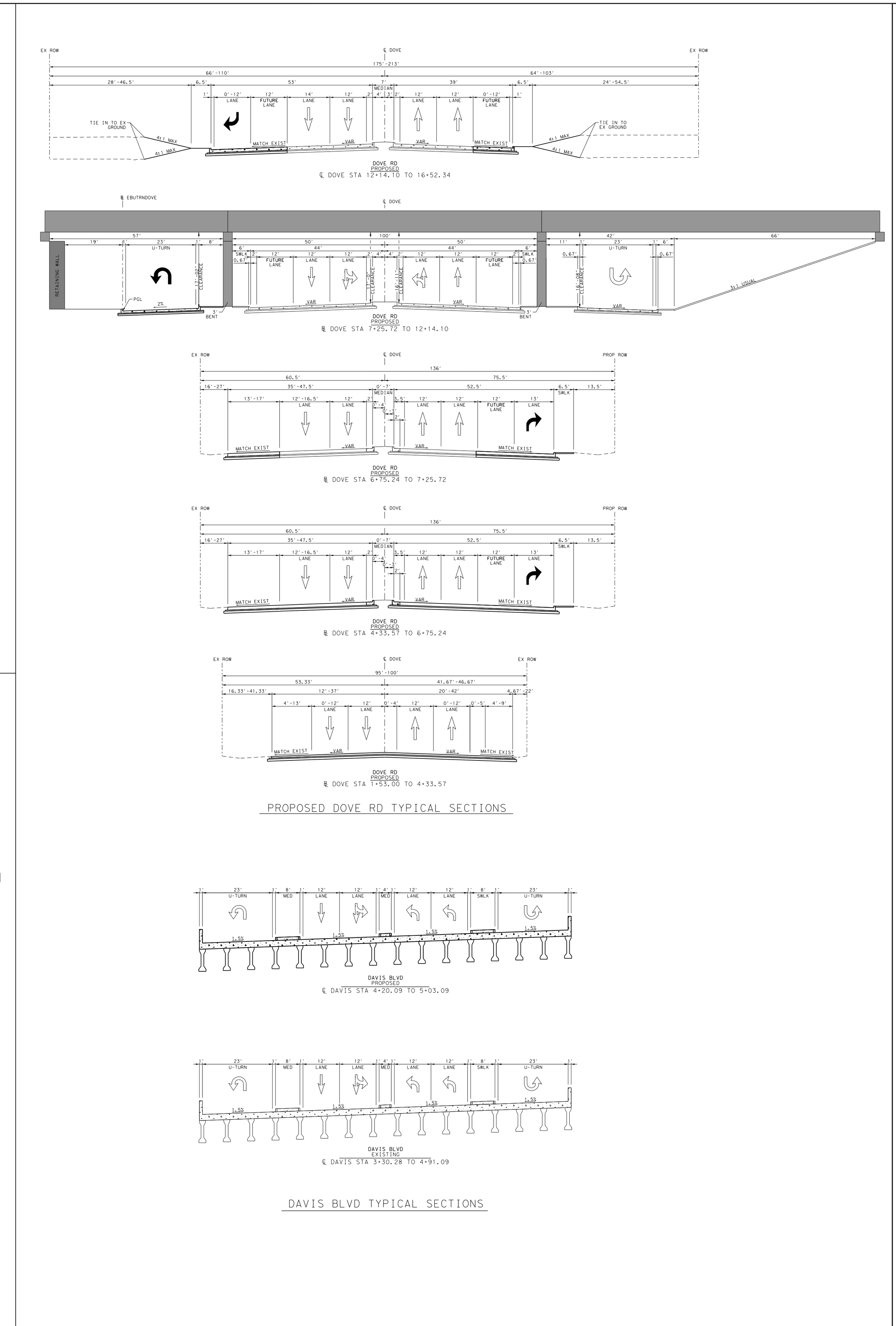
SH 114 EXISTING TYPICAL SECTION



SH 114 MAINLANE BRIDGE TYPICAL SECTIONS

KIRKWOOD BLVD/SOLANA BLVD TYPICAL SECTIONS

EXISTING DOVE RD TYPICAL SECTIONS



PROPOSED DOVE RD TYPICAL SECTIONS

DAVIS BLVD TYPICAL SECTIONS

Texas Department of Transportation
FORT WORTH DISTRICT
LOYL C. BUSSELL, P.E.
DISTRICT ENGINEER
DESIGN SCHEMATIC
JANUARY 3, 2019
SH 114
FROM FM 1938 (DAVIS BLVD)
TO DOVE ROAD
TARRANT COUNTY
ROLL 1 OF 2

Texas Department of Transportation

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FORT WORTH DISTRICT
LOYL C. BUSSELL, P.E.
DISTRICT ENGINEER

DESIGN SCHEMATIC
JANUARY 3, 2019

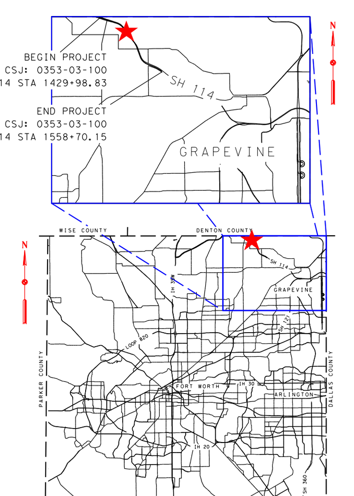
SH 114
FROM FM 1938 (DAVIS BLVD) TO DOVE ROAD

CSJ: 0353-03-100
PROJECT LENGTH = 2.00 MILES
ROADWAY = 2.00 MILES

TARRANT COUNTY

CONSTRUCTION OF: EB FRONTAGE ROAD FROM FM 1938 TO SOLANA/KIRKWOOD AND WB AND EB FRONTAGE ROADS FROM SOLANA/KIRKWOOD TO DOVE

CONSISTING OF: GRADING, PAVING, BRIDGE STRUCTURES, SIGNING AND PAVEMENT MARKINGS AND ITS



FUNCTIONAL CLASS:
FRONTAGE ROADS AND U-TURNS: URBAN COLLECTORS
MAINLANES, ENTRANCE AND EXIT RAMPS: URBAN FREEWAY
FM 1938 (DAVIS BLVD): PRINCIPAL ARTERIAL
SOLANA/KIRKWOOD BLVD: MAJOR COLLECTOR
DOVE ROAD: MINOR ARTERIAL

DESIGN SPEED:
SH 114 MAINLANES: 70 MPH
FRONTAGE ROADS: 40 MPH
FRONTAGE ROAD U-TURNS: 15 MPH
RAMPS: 40 MPH
FM 1938 (DAVIS BLVD): 40 MPH
SOLANA/KRKWOOD BLVD: 35 MPH
DOVE ROAD: 30 MPH

PLAN LEGEND

WIDENING ALONG MAIN LANES; BRIDGE; FRONTAGE ROAD; RAMP; U-TURN; GORE AND SHOULDER; LOCAL ROAD IMPROVEMENTS; EXISTING PAVEMENT; EXISTING BRIDGE; FUTURE MAINLANE; FUTURE SHOULDER; FUTURE BRIDGE

FUTURE DECEL LANE & DRIVEWAY (BY OTHERS); EXISTING RIGHT OF WAY; PROPOSED RIGHT OF WAY; CITY LIMIT; PAVEMENT REMOVAL; EXISTING ACCESS CONTROL; PROPOSED ACCESS CONTROL; PROPOSED CONSTRUCTION EASEMENT; PROPOSED DRAINAGE EASEMENT; EXISTING PROPERTY LINE; CONCRETE TRAFFIC BARRIER; RETAINING WALL; PARCEL NUMBER; SIGN NUMBER

ROLL 2 OF 2

SHEET INDEX

ROLL 1: PLAN - SH 114 MAINLANES AND FRONTAGE ROADS
PROFILE - SH 114 EASTBOUND FRONTAGE ROAD (EBFR)
PROFILE - SH 114 WESTBOUND FRONTAGE ROAD (WBFR)

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TRAFFIC DATA
CONSTRUCTION PHASING

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KERRY MILLER, P.E. DATE: JANUARY 3, 2019
TEXAS NUMBER: 67832

HORIZONTAL GRAPHIC SCALE: 1" = 200'
VERTICAL GRAPHIC SCALE: 1" = 40'
AERIAL IMAGERY DATE: OCTOBER 2017

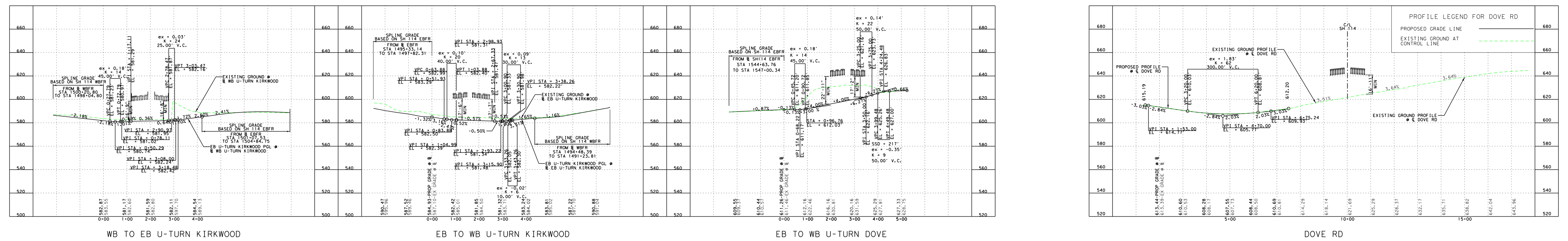
EXISTING SH 114 PGL

PROFILE LEGEND
EXISTING PROFILE AT PGL
EXISTING PROFILE AT 36' LT PGL
EXISTING PROFILE AT 36' RT PGL
EXISTING GROUND AT PGL
EXISTING GROUND AT 36' LT PGL
EXISTING GROUND AT 36' RT PGL

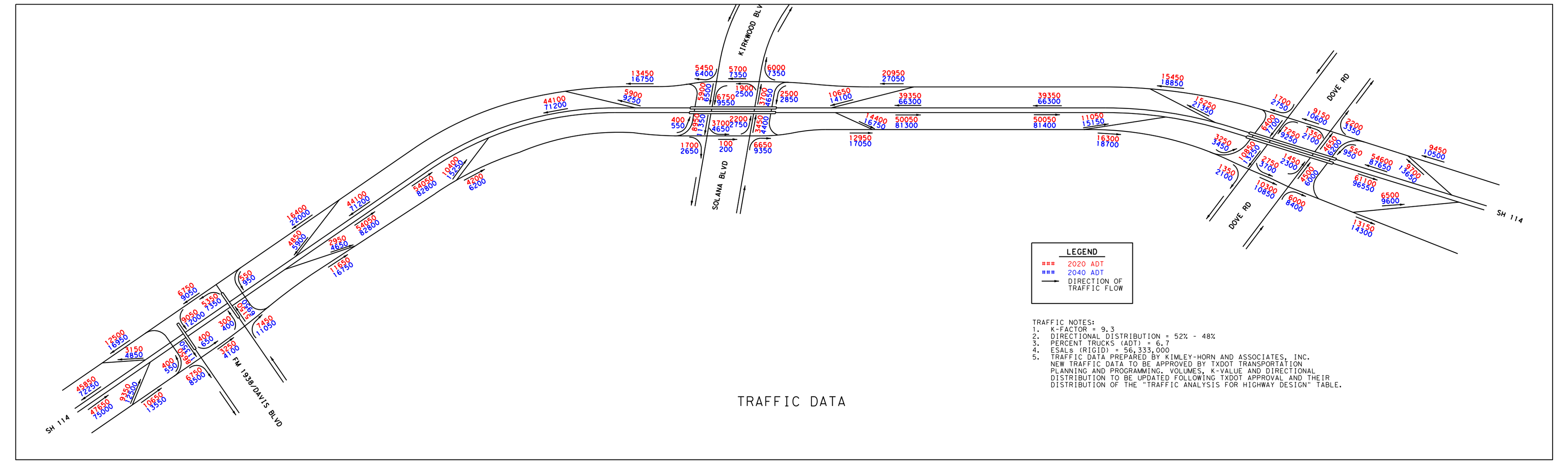
PROFILE LEGEND FOR RAMPS AND U-TURNS
PROPOSED GRADE LINE
EXISTING GROUND AT CONTROL LINE
SH 114 EXISTING GRADE AT SPLINE
FRONTAGE ROAD GRADE AT SPLINE

WB ON RAMP KIRKWOOD — WB OFF RAMP DAVIS — WB ON RAMP DOVE — WB OFF RAMP KIRKWOOD — EB ON RAMP WESTLAKE — EB OFF RAMP KIRKWOOD — EB ON RAMP DAVIS — EB OFF RAMP DOVE — EB ON RAMP KIRKWOOD

PROFILE LEGEND FOR DOVE RD
PROPOSED GRADE LINE
EXISTING GROUND AT CONTROL LINE



WB TO EB U-TURN KIRKWOOD — EB TO WB U-TURN KIRKWOOD — EB TO WB U-TURN DOVE — DOVE RD



TRAFFIC NOTES:
1. K-FACTOR = 9.3
2. DIRECTIONAL DISTRIBUTION = 52% - 48%
3. PERCENT TRUCKS (ADT) = 6.7
4. ESALs (RIGID) = 56,333,000
5. TRAFFIC DATA PREPARED BY KIMLEY-HORN AND ASSOCIATES, INC. NEW TRAFFIC DATA TO BE APPROVED BY TXDOT TRANSPORTATION PLANNING AND PROGRAMMING. VOLUMES, K-VALUE AND DIRECTIONAL DISTRIBUTION TO BE UPDATED FOLLOWING TXDOT APPROVAL AND THEIR DISTRIBUTION OF THE "TRAFFIC ANALYSIS FOR HIGHWAY DESIGN" TABLE.

TRAFFIC DATA

CURVE DATA

PROP/EXIST	CHAIN	CURVE	PI STA.	DELTA	DEGREE	TANGENT	LENGTH	RADIUS	PC STA.	PT STA.	PI X COORDINATE	PI Y COORDINATE
EXIST	CLSH114	CLSH114_1	1427+03.47	2° 11' 49.60" (RT)	0° 15' 00.00"	439.48	878.84	22918.31	1422+64.00	1431+42.84	2,371,362.61	7,046,820.42
EXIST	CLSH114	CLSH114_2	1478+61.98	34° 31' 47.31" (RT)	2° 00' 00.02"	890.36	1726.49	2864.78	1469+71.62	1486+98.11	2,376,257.86	7,045,193.21
EXIST	CLSH114	CLSH114_3	1534+94.00	17° 06' 52.74" (RT)	1° 35' 00.00"	544.52	1080.93	3618.68	1529+49.49	1540+30.41	2,379,686.51	7,040,656.93
EXIST	CLSH114	CLSH114_4	1577+46.06	48° 07' 26.26" (LT)	2° 00' 00.00"	1279.20	2406.20	2864.79	1564+66.86	1588+73.06	2,381,141.37	7,036,652.88
EXIST	CLSH114	CLSH114_5	1616+28.05	17° 44' 19.16" (RT)	0° 45' 00.00"	1192.11	2365.15	7639.44	1604+35.94	1628+01.09	2,384,884.24	7,035,147.68
EXIST	BLEXWBFR	BLEXWBFR_1	1472+82.27	20° 38' 56.21" (RT)	2° 00' 00.00"	521.88	1032.45	2864.79	1467+60.39	1477+92.84	2,375,963.23	7,045,480.66
EXIST	BLEXWBFR	BLEXWBFR_2	1482+57.76	13° 52' 46.47" (RT)	1° 30' 00.00"	464.93	925.31	3819.72	1477+92.84	1487+18.14	2,376,729.73	7,044,859.14
EXIST	BLEXWBFR	BLEXWBFR_3	1490+86.01	8° 33' 29.20" (LT)	3° 59' 59.99"	107.18	213.95	1432.40	1489+78.84	1491+92.79	2,377,231.88	7,044,194.76
EXIST	BLEXWBFR	BLEXWBFR_4	1493+74.57	8° 33' 29.26" (RT)	6° 00' 00.00"	71.45	142.64	954.93	1493+03.12	1494+45.75	2,377,438.48	7,043,992.74
PROP	BLWBFR	BLWBFR_1	1500+98.46	5° 38' 49.98" (RT)	1° 11' 27.36"	237.28	474.18	4811.00	1498+61.17	1503+35.36	2,377,868.34	7,043,409.91
PROP	BLWBFR	BLWBFR_2	1505+70.62	5° 38' 49.98" (LT)	1° 12' 04.21"	235.26	470.14	4770.00	1503+35.36	1508+05.50	2,378,114.79	7,043,006.72
PROP	BLWBFR	BLWBFR_3	1535+83.88	17° 36' 23.50" (RT)	1° 11' 27.36"	745.06	1478.38	4811.00	1528+32.82	1543+17.20	2,379,931.94	7,040,602.55
PROP	BLEBFR	BLEBFR_1	1453+06.53	7° 35' 45.82" (LT)	2° 00' 00.00"	190.60	380.64	2864.79	1451+15.93	1454+96.57	2,373,538.10	7,045,920.76
PROP	BLEBFR	BLEBFR_2	1456+87.17	7° 36' 45.82" (RT)	2° 00' 00.00"	190.60	380.64	2864.79	1454+96.57	1458+77.21	2,373,912.58	7,045,849.50
PROP	BLEBFR	BLEBFR_3	1473+04.24	8° 29' 19.78" (RT)	5° 00' 00.00"	85.04	169.78	1145.92	1472+19.20	1473+88.98	2,375,447.62	7,045,339.24
PROP	BLEBFR	BLEBFR_4	1478+66.86	8° 19' 08.00" (RT)	2° 00' 00.00"	208.34	415.94	2864.79	1476+58.52	1480+74.46	2,375,949.75	7,045,084.76
PROP	BLEBFR	BLEBFR_5	1486+14.83	25° 36' 15.04" (RT)	5° 00' 00.00"	260.39	512.08	1145.92	1483+54.44	1488+66.53	2,376,561.59	7,044,653.24
PROP	BLEBFR	BLEBFR_6	1492+53.07	7° 52' 55.51" (LT)	2° 00' 00.00"	197.36	394.10	2864.79	1490+55.70	1494+49.81	2,376,877.21	7,044,088.53
PROP	BLEBFR	BLEBFR_7	1502+45.15	8° 42' 17.80" (LT)	4° 00' 00.00"	109.02	217.62	1432.39	1501+36.13	1503+53.76	2,377,475.79	7,043,296.58
PROP	BLEBFR	BLEBFR_8	1504+62.78	8° 42' 18.22" (RT)	4° 00' 00.00"	109.02	217.63	1432.39	1503+53.76	1505+71.38	2,377,632.07	7,043,144.53
PROP	BLEBFR	BLEBFR_9	1510+46.04	5° 40' 00.22" (LT)	4° 00' 00.00"	70.89	141.67	1432.39	1509+75.15	1511+16.82	2,377,984.02	7,042,678.89
PROP	BLEBFR	BLEBFR_10	1512+58.60	5° 40' 00.25" (RT)	2° 00' 00.00"	141.78	283.34	2864.79	1511+16.82	1514+00.16	2,378,128.38	7,042,522.72
PROP	BLEBFR	BLEBFR_11	1536+13.47	23° 21' 50.79" (RT)	2° 00' 00.00"	592.33	1168.21	2864.79	1530+21.14	1541+89.34	2,379,548.44	7,040,643.91
PROP	BLEBFR	BLEBFR_12	1546+51.32	3° 37' 45.17" (LT)	1° 00' 00.00"	181.52	362.92	5729.58	1544+69.80	1548+32.72	2,379,798.48	7,039,619.68
PROP	BLEBONRMPWTL	BLEBONRMPWTL_1	1+80.55	7° 12' 44.17" (LT)	2° 00' 00.00"	180.55	360.61	2864.79	0+00.00	3+60.61	2,371,770.07	7,046,534.29
PROP	BLEBONRMPWTL	BLEBONRMPWTL_2	7+21.70	7° 12' 44.17" (RT)	1° 00' 00.00"	361.10	721.23	5729.58	3+60.61	10+81.85	2,372,301.44	7,046,429.31
PROP	BLEBOFRMPKIRK	BLEBOFRMPKIRK_1	0+96.75	3° 52' 06.17" (RT)	2° 00' 00.00"	96.75	193.42	2864.79	0+00.00	1+93.42	2,373,353.95	7,046,079.45
PROP	BLEBOFRMPKIRK	BLEBOFRMPKIRK_2	4+90.18	5° 55' 47.83" (LT)	1° 00' 00.00"	296.76	593.00	5729.58	1+93.42	7+86.41	2,373,718.14	7,045,930.41
PROP	BLWBONRMPKIRK	BLWBONRMPKIRK_1	2+00.08	3° 55' 59.93" (LT)	1° 00' 00.00"	200.08	400.00	5729.58	0+00.00	4+00.00	2,374,009.98	7,046,017.34
PROP	BLWBONRMPKIRK	BLWBONRMPKIRK_2	13+30.35	4° 00' 04.72" (RT)	4° 00' 00.00"	50.04	100.03	1432.39	12+80.31	13+80.34	2,375,104.96	7,045,736.46
PROP	BLEBONRMPDAVIS	BLEBONRMPDAVI_1	1+05.38	4° 21' 05.54" (RT)	2° 03' 56.23"	105.38	210.66	2773.78	0+00.00	2+10.66	2,375,553.35	7,045,327.48
PROP	BLEBONRMPDAVIS	BLEBONRMPDAVI_2	2+73.02	2° 29' 37.82" (LT)	2° 00' 00.00"	62.36	124.68	2864.79	2+10.66	3+35.36	2,375,706.27	7,045,258.54
PROP	BLEBONRMPDAVIS	BLEBONRMPDAVI_3	4+65.79	10° 24' 20.15" (RT)	4° 00' 00.00"	130.43	260.14	1432.39	3+35.36	5+95.50	2,375,885.29	7,045,187.02
PROP	BLWBOFRMPDAVIS	BLWBOFRMPDAVI_1	1+43.83	11° 27' 47.05" (RT)	3° 59' 53.92"	143.83	286.70	1433.00	0+00.00	2+86.70	2,376,730.70	7,044,780.58
PROP	BLWBOFRMPDAVIS	BLWBOFRMPDAVI_2	11+31.05	3° 12' 51.57" (LT)	2° 00' 00.00"	80.38	160.72	2864.79	10+50.67	12+11.39	2,377,281.41	7,043,960.07
PROP	BLEBOFRMPDOVE	BLEBOFRMPDOVE_1	1+36.50	5° 27' 20.93" (RT)	2° 00' 00.00"	136.50	272.79	2864.79	0+00.00	2+72.79	2,377,593.04	7,043,325.43
PROP	BLEBOFRMPDOVE	BLEBOFRMPDOVE_2	6+18.79	6° 54' 41.73" (LT)	1° 00' 00.00"	346.00	691.16	5729.58	2+72.79	9+63.95	2,377,846.06	7,042,914.59
PROP	BLWBONRMPDOVE	BLWBONRMPDOVE_1	2+00.08	4° 03' 00.00" (LT)	1° 00' 00.00"	200.08	400.00	5729.58	0+00.00	4+00.00	2,377,815.50	7,043,253.44
PROP	BLWBONRMPDOVE	BLWBONRMPDOVE_2	10+88.73	4° 00' 00.00" (RT)	2° 00' 00.00"	100.04	200.00	2864.79	9+88.68	11+88.68	2,378,399.58	7,042,583.49
PROP	BLEBONRAMPKIRK	BLEBONRAMPKIRK_1	1+71.60	4° 07' 22.13" (RT)	1° 37' 27.04"	126.97	253.84	3527.68	0+44.63	2+98.47	2,379,362.15	7,040,935.16
PROP	BLEBONRAMPKIRK	BLEBONRAMPKIRK_2	3+69.39	2° 50' 10.98" (LT)	2° 00' 00.00"	70.92	141.82	2864.79	2+98.47	4+40.29	2,379,469.82	7,040,769.11
PROP	BLEBONRAMPKIRK	BLEBONRAMPKIRK_3	5+48.20	8° 37' 00.58" (RT)	4° 00' 00.00"	107.91	215.42	1432.39	4+40.29	6+55.71	2,379,574.42	7,040,624.06
PROP	BLWBOFRMPKIRK	BLWBOFRMPKIRK_1	2+02.48	10° 25' 56.76" (RT)	2° 35' 00.00"	202.48	403.84	2217.90	0+00.00	4+03.84	2,379,844.59	7,040,561.21
PROP	BLWBOFRMPKIRK	BLWBOFRMPKIRK_2	8+43.56	4° 00' 26.71" (LT)	2° 00' 00.00"	100.23	200.37	2864.79	7+43.33	9+43.70	2,380,021.18	7,039,943.76
PROP	BLEBUTRNKIRK	BLEBUTRNKIRK_1	0+49.57	66° 55' 17.83" (LT)	76° 23' 39.74"	49.57	87.60	75.00	0+00.00	0+87.60	2,377,256.81	7,043,674.19
PROP	BLEBUTRNKIRK	BLEBUTRNKIRK_2	0+96.33	13° 16' 56.36" (LT)	76° 23' 39.74"	8.73	17.39	75.00	0+87.60	1+04.99	2,377,313.38	7,043,688.30
PROP	BLEBUTRNKIRK	BLEBUTRNKIRK_3	2+80.35	14° 50' 06.40" (LT)	57° 17' 44.81"	13.02	25.89	100.00	2+67.33	2+93.22	2,377,476.99	7,043,772.69
PROP	BLEBUTRNKIRK	BLEBUTRNKIRK_4	3+18.46	64° 30' 43.34" (LT)	143° 14' 22.02"	25.24	45.04	40.00	2+93..22	3+38.26	2,377,505.37	7,043,798.36
PROP	BLEBUTRNKIRK	BLEBUTRNKIRK_5	3+88.69	21° 57' 15.00" (LT)	22° 02' 12.62"	50.43	99.62	260.00	3+38.26	4+37.88	2,377,483.71	7,043,870.86
PROP	BLWBUTRNKIRK	BLWBUTRNKIRK_1	0+14.86	23° 58' 11.65" (LT)	81° 51' 04.01"	14.86	29.28	70.00	0+00.00	0+29.28	2,377,640.03	7,043,624.07
PROP	BLWBUTRNKIRK	BLWBUTRNKIRK_2	0+77.05	55° 54' 43.88" (LT)	63° 39' 43.12"	47.77	87.83	90.00	0+29.28	1+17.11	2,377,585.23	7,043,654.38
PROP	BLWBUTRNKIRK	BLWBUTRNKIRK_3	2+95.23	32° 06' 44.55" (LT)	229° 10' 59.23"	16.76	29.53	25.00	2+78.47	3+08.00	2,377,384.36	7,043,551.06
PROP	BLWBUTRNKIRK	BLWBUTRNKIRK_4	3+65.57	67° 40' 56.48" (LT)	28° 38' 52.40"	57.56	112.09	200.00	3+08.00	4+20.10	2,377,390.80	7,043,477.02
PROP	BLEBUTRNDOVE	BLEBUTRNDOVE_1	0+56.44	73° 55' 18.04" (LT)	76° 23' 39.74"	56.44	96.76	75.00	0+00.00	0+96.76	2,379,882.08	7,039,533.88
PROP	BLEBUTRNDOVE	BLEBUTRNDOVE_2	3+60.84	14° 50' 05.48" (LT)	57° 17' 44.81"	13.02	25.89	100.00	3+47.82	3+73.72	2,380,202.59	7,039,533.58
PROP	BLEBUTRNDOVE	BLEBUTRNDOVE_3	4+03.16	72° 42' 29.86" (LT)	143° 14' 11.50"	29.44	50.76	40.00	3+73.72	4+24.48	2,380,243.65	7,039,544.42
PROP	BLEBUTRNDOVE	BLEBUTRNDOVE_4	4+74.98	21° 59' 30.48" (LT)	22° 02' 32.21"	50.51	99.77	259.94	4+24.48	5+24.25	2,380,247.15	7,039,624.29

LINE DATA

PROP/EXIST	LINE #	CHAIN	BEARING	LENGTH
EXIST	100	CLSH114	S 73° 48' 35.96" E	1,464.00
EXIST	101	CLSH114	S 71° 36' 46.36" E	3,828.78
EXIST	102	CLSH114	S 37° 04' 59.05" E	4,251.38
EXIST	103	CLSH114	S 19° 58' 06.31" E	2,436.45
EXIST	104	CLSH114	S 68° 05' 32.57" E	1,562.88
EXIST	105	CLSH114	S 50° 21' 13.42" E	100.00
EXIST	201	BLEXWBFR	S 71° 36' 41.57" E	2,760.39
EXIST	202	BLEXWBFR	S 37° 04' 58.80" E	260.70
EXIST	203	BLEXWBFR	S 45° 38' 28.00" E	110.33
EXIST	204	BLEXWBFR	S 37° 04' 58.66" E	54.25
PROP	301	BLWBFR	S 37° 04' 59.05" E	361.17
PROP	302	BLWBFR	S 37° 04' 59.05" E	2,033.32
PROP	303	BLWBFR	S 19° 28' 35.55" E	934.10
EXIST	400	BLEXEBFR	S 71° 36' 46.36" E	1,718.07
PROP	500	BLEBFR	S 71° 36' 46.36" E	430.93
PROP	501	BLEBFR	S 71° 36' 46.36" E	1,341.99
PROP	502	BLEBFR	S 63° 07' 26.58" E	269.54
PROP	503	BLEBFR	S 54° 48' 18.58" E	279.98
PROP	504	BLEBFR	S 29° 12' 03.54" E	189.18
PROP	505	BLEBFR	S 37° 04' 59.05" E	686.32
PROP	506	BLEBFR	S 37° 04' 58.92" E	403.77
PROP	507	BLEBFR	S 37° 04' 59.05" E	1,620.98
PROP	508	BLEBFR	S 13° 43' 08.26" E	280.46
PROP	600	CLDAVIS	N 18° 23' 12.99" E	600.00
EXIST	700	CLKIRKWOOD	N 62° 42' 46.76" E	878.08
EXIST	800	CLDOVE	S 89° 56' 45.55" E	1,831.18
PROP	900	BLWBONRMPKIRK	S 75° 36' 46.29" E	880.31
PROP	1000	BLWBOFRMPDAVIS	S 33° 52' 07.90" E	763.98
PROP	1100	BLEBOFRMPDOVE	S 38° 32' 19.84" E	97.82
PROP	1200	BLWBONRMPDOVE	S 41° 04' 59.05" E	588.68
PROP	1300	BLEBONRAMPKIRK	S 37° 04' 59.05" E	44.63
PROP	1400	BLWBOFRMPKIRK	S 15° 57' 39.60" E	339.50
PROP	1500	BLEBUTRNKIRK	N 62° 42' 46.77" E	162.34
PROP	1600	BLWBUTRNKIRK	S 62° 42' 43.81" W	161.36
PROP	1700	BLEBUTRNDOVE	S 89° 56' 45.55" W	251.06

CONSTRUCTION SEQUENCE PLAN

CONSTRUCTION PHASE I

1. INSTALL APPROVED ADVANCED WARNING AND EROSION CONTROL MEASURES.
2. CLOSE WB ENTRANCE RAMP FROM DOVE AND PROVIDE DETOUR ROUTE TO KIRKWOOD BLVD.
3. CONSTRUCT EB U-TURN AT DOVE RD, EB DOVE RD IMPROVEMENTS, AND WB EXIT RAMP TOWARDS KIRKWOOD BLVD. CONSTRUCT WESTBOUND FRONTAGE ROAD STARTING FROM DOVE RD TO APPROXIMATE STA 1512+00.

CONSTRUCTION PHASE II

1. ADJUST ADVANCED WARNING SIGNS AND EROSION CONTROL MEASURES.
2. CLOSE WB EXIT RAMP TO KIRKWOOD BLVD AND THE WB ENTRANCE RAMP FROM KIRKWOOD. PROVIDE DETOUR ROUTE TO KIRKWOOD BLVD AND TO WB ENTRANCE RAMP FROM KIRKWOOD BLVD.
3. CONSTRUCT THE WB ENTRANCE RAMP FROM DOVE RD AND WB EXIT RAMP TOWARDS FM 1938 (INCLUDING APPROXIMATELY 975 LF OF WB SH 114 LANE WIDENING) AND BRIDGE WIDENING AT KIRKWOOD BLVD. CONSTRUCT THE REMAING PORTION OF THE PROPOSED WB FRONTAGE ROAD TO KIRKWOOD BLVD, AND ALL EXISTING WB FRONTAGE ROAD LANE WIDENING FROM FM 1938 TO KIRKWOOD BLVD.

CONSTRUCTION PHASE III

1. ADJUST ADVANCED WARNING SIGNS AND EROSION CONTROL MEASURES.
2. OPEN PHASES I AND II
3. CLOSE WB EXIT RAMP TOWARDS FM 1938 AND CLOSE FM 1938 BRIDGE. PROVIDE DETOUR ROUTE TO WB ENTRANCE RAMP FROM KIRKWOOD BLVD AND FOR ACCESS TO FM 1938.
4. CONSTRUCT BRIDGE LENGTHENING AT FM 1938 AND WB ENTRANCE RAMP FROM KIRKWOOD BLVD (INCLUDING APPROXIMATELY 1100 LF OF SH 114 LANE WIDENING) AT FM 1938.

CONSTRUCTION PHASE IV

1. ADJUST ADVANCED WARNING SIGNS AND EROSION CONTROL MEASURES.
2. OPEN PHASE III.
3. CLOSE EB ENTRANCE RAMP FROM WESTLAKE PKWY, EB ENTRANCE RAMP FROM FM 1938, AND EB EXIT RAMP TO KIRKWOOD. PROVIDE DETOUR ROUTES TO KIRKWOOD BLVD.
4. CONSTRUCT EB ENTRANCE RAMP FROM WESTLAKE PKWY AND EB EXIT RAMP TOWARD KIRKWOOD BLVD INCLUDING APPROXIMATELY 1,500 LF OF SH 114 LANE WIDENING AT FM 1938. CONSTRUCT EB FRONTAGE ROAD TO APPROXIMATE STA 1485+00, AND THE EB ENTRANCE RAMP FROM FM 1938.

CONSTRUCTION PHASE V

1. ADJUST ADVANCED WARNING SIGNS AND EROSION CONTROL MEASURES.
2. OPEN THE COMPLETED SECTION OF EB FRONTAGE ROAD AND THE EB ENTRANCE RAMP FROM FM 1938. DO NOT OPEN THE EB EXIT RAMP TO KIRKWOOD BLVD.
3. PROVIDE DETOUR ROUTES TO KIRKWOOD BLVD.
4. CONSTRUCT REMAINING PORTION OF EB FRONTAGE ROAD TO KIRKWOOD BLVD. CONSTRUCT THE EB U-TURN AT KIRKWOOD BLVD.

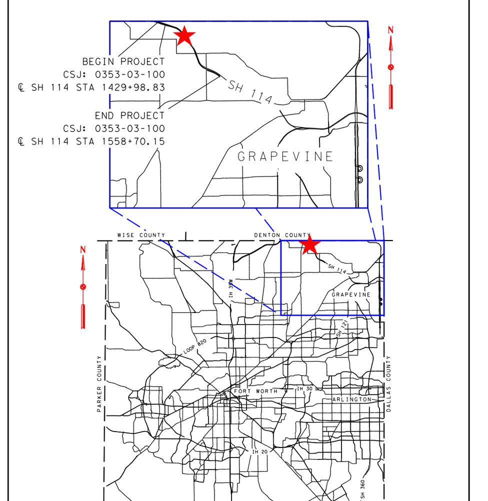
CONSTRUCTION PHASE VI

1. ADJUST ADVANCED WARNING SIGNS AND EROSION CONTROL MEASURES.
2. OPEN ALL PORTIONS OF PHASE IV AND PHASE V.
3. CLOSE THE EB ENTRANCE RAMP FROM KIRKWOOD BLVD AND PROVIDE A DETOUR ROUTE TO DOVE RD.
4. CONSTRUCT EB FRONTAGE ROAD TO APPROXIMATE STATION 1530+00 INCLUDING SH 114 LANE WIDENING. CONSTRUCT THE EB EXIT RAMP TO DOVE RD.

CONSTRUCTION PHASE VII

1. ADJUST ADVANCED WARNING SIGNS AND EROSION CONTROL MEASURES.
2. CLOSE THE EB EXIT RAMP TO DOVE RD AND PROVIDE DETOUR ROUTES TO DOVE RD.
3. CONSTRUCT THE REMAING PORTION OF THE EB FRONTAGE ROAD TO DOVE RD, THE EB ENTRANCE RAMP FROM KIRKWOOD BLVD, AND THE WB DOVE RD IMPROVEMENTS.

Texas Department of Transportation
FORT WORTH DISTRICT
LOYL C. BUSSELL, P.E.
DISTRICT ENGINEER
DESIGN SCHEMATIC
JANUARY 3, 2019
SH 114
FROM FM 1938 (DAVIS BLVD) TO DOVE ROAD
CSJ: 0353-03-100
PROJECT LENGTH = 2.00 MILES
ROADWAY = 2.00 MILES
TARRANT COUNTY
CONSTRUCTION OF: EB FRONTAGE ROAD FROM FM 1938 TO SOLANA/KIRKWOOD AND WB AND EB FRONTAGE ROADS FROM SOLANA/KIRKWOOD TO DOVE
CONSISTING OF: GRADING, PAVING, BRIDGE STRUCTURES, SIGNING AND PAVEMENT MARKINGS AND ITS



FUNCTIONAL CLASS: FRONTAGE ROADS AND U-TURNS: URBAN COLLECTORS; MAINLANES, ENTRANCE AND EXIT RAMPS: URBAN FREEWAY; FM 1938 (DAVIS BLVD): PRINCIPAL ARTERIAL; SOLANA/KIRKWOOD BLVD: MAJOR COLLECTOR; DOVE ROAD: MINOR ARTERIAL
DESIGN SPEED: SH 114 MAINLANES: 70 MPH; FRONTAGE ROADS: 40 MPH; FRONTAGE ROAD U-TURNS: 15 MPH; RAMPS: 40 MPH; FM 1938 (DAVIS BLVD): 40 MPH; SOLANA/KRKWOOD BLVD: 35 MPH; DOVE ROAD: 30 MPH
PLAN LEGEND
ROLL 2 OF 2
SHEET INDEX
THESE PRELIMINARY DOCUMENTS ARE TO BE RELEASED FOR INFORMATIONAL PURPOSES AND ARE NOT INTENDED FOR CONSTRUCTION. THEY WERE PREPARED FOR THE TEXAS DEPARTMENT OF TRANSPORTATION UNDER THE SUPERVISION OF:
KERRY MILLER, P.E. DATE: JANUARY 3, 2019
TEXAS NUMBER: 67832
AERIAL IMAGERY DATE: OCTOBER 2017