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WILLIAMSON COUNTY, TEXAS

CHANGE ORDER NUMBER: 1

1. CONTRACTOR: **Chasco Constructors**

2. Change Order Work Limits: Sta. **208+00** to Sta. **217+00**

3. Type of Change(on federal-aid non-exempt projects): **Minor** (Major/Minor)

4. Reasons: **1A, 4B** (3 Max. - In order of importance - Primary first)

Project: ***1604-075***
Roadway: ***CR 110 South***
CSJ Number:

5. Describe the work being revised:

1A: Design Error or Omission. Incorrect PS&E. The proposed flow of water from Box Culvert 6 went through the middle of the property; therefore, a redesign and relocation of Culvert 6 was necessary. **4B: Third Party Accommodation. Third party requested work.** The property owner at the downstream end of the proposed culvert requested that the water flow around his property limits, as it does in the current conditions. **2C: Differing Site Conditions. New development (conditions changing after PS&E completed) The** Mozart Street connection to CR 110 South was permitted and built after the completion of the CR 110 South roadway plans and plan revisions were required to tie-in properly.

6. Work to be performed in accordance with Items: **See attached**

7. New or revised plan sheet(s) are attached and numbered: **5, 14, 16, 29, 40, 49, 103, 107, 147, 155, 157, 158, 159, 162, 242, 265; X-sections: 86, 87, 88, 89, 90, 91, 92, 93, 94, 95.**

8. New Special Provisions/Specifications to the contract are attached: No

9. New Special Provisions to Item N/A No. N/A, Special Specification Item N/A are attached.

Each signatory hereby warrants that each has the authority to execute this Change Order (CO).

The contractor must sign the Change Order and, by doing so, agrees to waive any and all claims for additional compensation due to any and all other expenses; additional changes for time, overhead and profit; or loss of compensation as a result of this change.

THE CONTRACTOR Date 8.2.17

By Chuck G

Typed/Printed Name Chuck Glue

Typed/Printed Title President

The following information must be provided

Time Ext. #: **N/A** Days added on this CO: **0**

Amount added by this change order: **($5,837.31)**

RECOMMENDED FOR EXECUTION:

Christian A. Eschberger 8/3/17
Project Manager Date

N/A
Design Engineer Date

M. J. Wy 8/7/2017
Program Manager Date

Design Engineer's Seal:

See attached plan sheets

County Commissioner Precinct 1 Date
☐ APPROVED ☐ REQUEST APPROVAL

County Commissioner Precinct 2 Date
☐ APPROVED ☐ REQUEST APPROVAL

County Commissioner Precinct 3 Date
☐ APPROVED ☐ REQUEST APPROVAL

County Commissioner Precinct 4 Date
☐ APPROVED ☐ REQUEST APPROVAL

County Judge Date
☐ APPROVED

WILLIAMSON COUNTY, TEXAS

CHANGE ORDER NUMBER: ***1*** ***Project #*** ***1604-075***

TABLE A: Force Account Work and Materials Placed into Stock

	LABOR	HOURLY RATE			HOURLY RATE

TABLE B: Contract Items:

				ORIGINAL + PREVIOUSLY REVISED		ADD or (DEDUCT)	NEW		
ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	ITEM COST	QUANTITY	QUANTITY	ITEM COST	OVERRUN/ UNDERRUN
0104 6022	REMOVING CONC (CURB AND GUTTER)	LF	$8.00	212	$1,696.00	204.00	416.00	$3,328.00	$1,632.00
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	$9.00	28	$252.00	79.00	107.00	$963.00	$711.00
0105 6011	REMOVING STAB BASE AND ASPH PAV (2"-6")	SY	$3.25	2,571	$8,355.75	615.00	3,186.00	$10,354.50	$1,998.75
0110 6001	EXCAVATION (ROADWAY)	CY	$8.25	67,838.00	$559,663.50	891.00	68,729.00	$567,014.25	$7,350.75
0132 6003	EMBANKMENT (FINAL)(ORD COMP)(TY B)	CY	$7.35	44,359.00	$326,038.65	2,644.00	47,003.00	$345,472.05	$19,433.40
0160-WC02	FURNISHING AND PLACING TOPSOIL	SY	$1.40	117,748.00	$164,847.20	(1,976.00)	115,772.00	$162,080.80	($2,766.40)
0164-WC01	SEEDING FOR EROSION CONTROL (TY 4)	SY	$0.16	58,874.00	$9,419.84	(988.00)	57,886.00	$9,261.76	($158.08)
0164-WC07	SEEDING FOR EROSION CONTROL (TY 7)	SY	$0.84	117,748.00	$98,908.32	(1,976.00)	115,772.00	$97,248.48	($1,659.84)
0164-WC10	SEEDING FOR EROSION CONTROL (TY 10)	SY	$0.13	58,874.00	$7,653.62	(988.00)	57,886.00	$7,525.18	($128.44)
0168-WC01	VEGETATIVE WATERING	MG	$16.00	3,533.00	$56,528.00	(58.90)	3,474.10	$55,585.60	($942.40)
0310 6027	PRIME COAT(MC-30 OR AE-P)	GAL	$4.00	13,306	$53,224.00	55.00	13,361.00	$53,444.00	$220.00
0316 6005	ASPH (TIER II)	GAL	$3.05	14,939	$45,563.95	69.00	15,008.00	$45,774.40	$210.45
0316 6193	AGGR(TY-D GR-5 SAC-B)	CY	$100.00	400	$40,000.00	2.00	402.00	$40,200.00	$200.00
0341 6008	D-GR HMA TY-B PG64-22	TON	$60.00	15,780	$946,800.00	221.00	16,001.00	$960,060.00	$13,260.00
0341 6027	D-GR HMA TY-C SAC-B PG70-22	TON	$75.00	6,877	$515,775.00	32.00	6,909.00	$518,175.00	$2,400.00
0401 6001	FLOWABLE BACKFILL	CY	$114.00	405.00	$46,170.00	10.00	415.00	$47,310.00	$1,140.00
TOTALS					$2,880,895.83			$2,923,797.02	$42,901.19

WILLIAMSON COUNTY, TEXAS

CHANGE ORDER NUMBER: 1 ***Project # 1604-075***

TABLE B: Contract Items (*Continued*)

				ORIGINAL + PREVIOUSLY REVISED		ADD or (DEDUCT)	NEW		
ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	ITEM COST	QUANTITY	QUANTITY	ITEM COST	OVERRUN/ UNDERRUN
0402 6001	TRENCH EXCAVATION PROTECTION	LF	$1.00	2,625	$2,625.00	100.00	2,725.00	$2,725.00	$100.00
0432 6001	RIPRAP (CONC)(4 IN)	CY	$360.00	1,377	$495,720.00	(17.00)	1,360.00	$489,600.00	($6,120.00)
0462 6011	CONC BOX CULV (6 FT X 4 FT)	LF	$277.00	310.00	$85,870.00	(138.00)	172.00	$47,644.00	($38,226.00)
0464 6005	RC PIPE (CL III)(24 IN)	LF	$55.00	1,143.00	$62,865.00	73.00	1,216.00	$66,880.00	$4,015.00
0464 6007	RC PIPE (CL III)(30 IN)	LF	$70.00	258.00	$18,060.00	(95.00)	163.00	$11,410.00	($6,650.00)
0467 6395	SET (TY II) (24 IN) (RCP) (6: 1) (P)	EA	$2,200.00	56.00	$123,200.00	(4.00)	52.00	$114,400.00	($8,800.00)
0496 6007	REMOV STR (PIPE)	LF	$16.00	947	$15,152.00	126.00	1,073.00	$17,168.00	$2,016.00
0529 6008	CONC CURB & GUTTER (TY II)	LF	$12.50	8,730	$109,125.00	33.00	8,763.00	$109,537.50	$412.50
0530 6005	DRIVEWAYS (ACP)	SY	$47.00	3,049.00	$143,303.00	(5.00)	3,044.00	$143,068.00	($235.00)
0531 6004	CURB RAMPS (TY 1)	EA	$850.00	4	$3,400.00	2.00	6.00	$5,100.00	$1,700.00
0531 6016	CURB RAMPS (TY 21)	EA	$2,475.00	0	$0.00	1.00	1.00	$2,475.00	$2,475.00
0644 6071	RELOCATE SM RD SN SUP&AM TY TWT	EA	$370.00	0	$0.00	1.00	1.00	$370.00	$370.00
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	$7.00	433	$3,031.00	24.00	457.00	$3,199.00	$168.00
0666 6182	REFL PAV MRK TY II (W) 24" (SLD)	LF	$1.50	433	$649.50	24.00	457.00	$685.50	$36.00
The "Totals" from Table B of the previous work sheet:					$2,880,895.83			$2,923,797.02	$42,901.19
TOTALS					$3,943,896.33			$3,938,059.02	($5,837.31)

CHANGE ORDER REASON(S) CODE CHART

1. Design Error or Omission	1A. Incorrect PS&E 1B. Other
2. Differing Site Conditions (unforeseeable)	2A. Dispute resolution (expense caused by conditions and/or resulting delay) 2B. Unavailable material 2C. New development (conditions changing after PS&E completed) 2D. Environmental remediation 2E. Miscellaneous difference in site conditions (unforeseeable)(Item 9) 2F. Site conditions altered by an act of nature 2G. Unadjusted utility (unforeseeable) 2H. Unacquired Right-of-Way (unforeseeable) 2I. Additional safety needs (unforeseeable) 2J. Other
3. County Convenience	3A. Dispute resolution (not resulting from error in plans or differing site conditions) 3B. Public relations improvement 3C. Implementation of a Value Engineering finding 3D. Achievement of an early project completion 3E. Reduction of future maintenance 3F. Additional work desired by the County 3G. Compliance requirements of new laws and/or policies 3H. Cost savings opportunity discovered during construction 3I. Implementation of improved technology or better process 3J. Price adjustment on finished work (price reduced in exchange for acceptance) 3K. Addition of stock account or material supplied by state provision 3L. Revising safety work/measures desired by the County 3M. Other
4. Third Party Accommodation	4A. Failure of a third party to meet commitment 4B. Third party requested work 4C. Compliance requirements of new laws and/or policies (impacting third party) 4D. Other
5. Contractor Convenience	5A. Contractor exercises option to change the traffic control plan 5B. Contractor requested change in the sequence and/or method of work 5C. Payment for Partnering workshop 5D. Additional safety work/measures desired by the contractor 5E. Other
6. Untimely ROW/Utilities	6A. Right-of-Way not clear (third party responsibility for ROW) 6B. Right-of-Way not clear (County responsibility for ROW) 6C. Utilities not clear 6D. Other

Williamson County Road Bond Program

County Road 110 South
Williamson County Project No. 1604-075

Change Order No. 1

Reason for Change

This Change Order modifies the outfall location of Box Culvert 6 to match existing conditions, per the request of the downstream property owner. This redesign resulted in a decrease of the total box culvert length and quantity changes for various other drainage structure items.

This Change Order also provides a correction to Mozart Street, which was constructed after the design of CR 110 South. Additional plan sheets showing the required tie-in details were added to the plan set and issued to the Contractor for construction. This Change Order documents the required Contract changes and provides payment specifics for the Contractor. The following new Contract items are required for the required plan revisions. The unit rates submitted by the Contractor are consistent with the TxDOT average low bid unit prices.

Following is a summary of new items required for this Change Order.

ITEM	DESCRIPTION	QTY	UNIT
0531 6016	CURB RAMPS (TY 21)	1	EA
0644 6071	RELOCATE SM RD SN SUP&AM TY TWT	1	EA

This Change Order results in a net decrease of $5,837.31 to the Contract amount, for an adjusted Contract total of $11,218,751.71. The original Contract amount was $11,224,589.02. Because of this and all Change Orders to-date, $5,837.31 has been removed from the Contract, resulting in a 0.05% net decrease in the Contract cost. No additional days will be added to or deducted from the Contract as a result of this Change Order.

HNTB Corporation

James Klotz, P.E.

AVERAGE LOW BID UNIT PRICE - CONSTRUCTION - AUSTIN DISTRICT

531 6016	CURB RAMPS (TY 21)	EA		4.000		913.71000	1
644 6071	RELOCATE SM RD SN SUP&AM TY TWT	EA		26.000		193.00000	3

AVERAGE LOW BID UNIT PRICE - CONSTRUCTION – STATEWIDE

531 6016	CURB RAMPS (TY 21)	EA	19.000	1,698.81474	124.000	2,029.59097	33
644 6071	RELOCATE SM RD SN SUP&AM TY TWT	EA	5.000	481.25000	161.000	253.10559	15

TABLE B: Contract Items:

				ORIGINAL + PREVIOUSLY REVISED		ADD or (DEDUCT)	NEW		
ITEM	**DESCRIPTION**	**UNIT**	**UNIT PRICE**	**QUANTITY**	**ITEM COST**	**QUANTITY**	**QUANTITY**	**ITEM COST**	**OVERRUN/ UNDERRUN**
0110 6001	**EXCAVATION (ROADWAY)**	**CY**	**$8.25**	**67,838.00**	**$559,663.50**	**752.00**	**68,590.00**	**$565,867.50**	**$6,204.00**
0132 6003	**EMBANKMENT (FINAL)(ORD COMP)(TY B)**	**CY**	**$7.35**	**44,359.00**	**$326,038.65**	**2,602.00**	**46,961.00**	**$345,163.35**	**$19,124.70**
0160-WC02	**FURNISHING AND PLACING TOPSOIL**	**SY**	**$1.40**	**117,748.00**	**$164,847.20**	**(1,994.00)**	**115,754.00**	**$162,055.60**	**($2,791.60)**
0164-WC01	**SEEDING FOR EROSION CONTROL (TY 4)**	**SY**	**$0.16**	**58,874.00**	**$9,419.84**	**(997.00)**	**57,877.00**	**$9,260.32**	**($159.52)**
0164-WC07	**SEEDING FOR EROSION CONTROL (TY 7)**	**SY**	**$0.84**	**117,748.00**	**$98,908.32**	**(1,994.00)**	**115,754.00**	**$97,233.36**	**($1,674.96)**
0164-WC10	**SEEDING FOR EROSION CONTROL (TY 10)**	**SY**	**$0.13**	**58,874.00**	**$7,653.62**	**(997.00)**	**57,877.00**	**$7,524.01**	**($129.61)**
0168-WC01	**VEGETATIVE WATERING**	**MG**	**$16.00**	**3,532.60**	**$56,521.60**	**(59.90)**	**3,472.70**	**$55,563.20**	**($958.40)**
0401 6001	**FLOWABLE BACKFILL**	**CY**	**$114.00**	**405.00**	**$46,170.00**	**(4.00)**	**401.00**	**$45,714.00**	**($456.00)**
0462 6011	**CONC BOX CULV (6 FT X 4 FT)**	**LF**	**$277.00**	**310.00**	**$85,870.00**	**(138.00)**	**172.00**	**$47,644.00**	**($38,226.00)**
0464 6005	**RC PIPE (CL III)(24 IN)**	**LF**	**$55.00**	**1,143.00**	**$62,865.00**	**(43.00)**	**1,100.00**	**$60,500.00**	**($2,365.00)**
0464 6007	**RC PIPE (CL III)(30 IN)**	**LF**	**$70.00**	**258.00**	**$18,060.00**	**(95.00)**	**163.00**	**$11,410.00**	**($6,650.00)**
0467 6395	**SET (TY II) (24 IN) (RCP) (6: 1) (P)**	**EA**	**$2,200.00**	**56.00**	**$123,200.00**	**(6.00)**	**50.00**	**$110,000.00**	**($13,200.00)**
0530 6005	**DRIVEWAYS (ACP)**	**SY**	**$47.00**	**3,049.00**	**$143,303.00**	**(5.00)**	**3,044.00**	**$143,068.00**	**($235.00)**
TOTALS					**$1,702,520.73**			**$1,661,003.34**	**($41,517.39)**

RFI #2 Quantity Changes
Box Culvert #6 Redesign

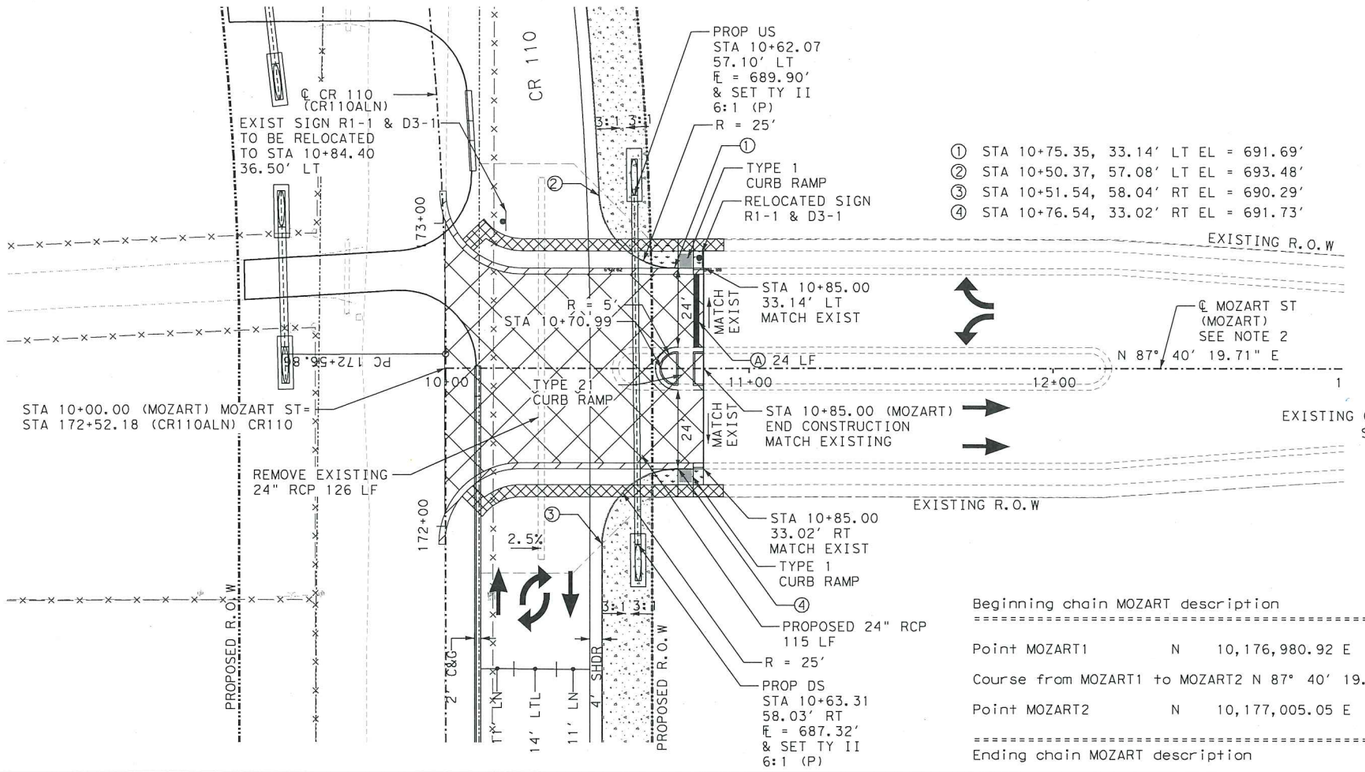
ITEM	DESCRIPTION	UNIT	BID QUANTITY	CHANGE ORDER QUANTITY	DELTA
0110 6001	EXCAVATION (ROADWAY)	CY	67838	68590	752
0132 6003	EMBANKMENT (FINAL)(ORD COMP)(TY B)	CY	44359	46961	2602
0160-WC02	FURNISHING AND PLACING TOPSOIL	SY	117748	115754	-1994
0164-WC01	SEEDING FOR EROSION CONTROL (TY 4)	SY	58874	57877	-997
0164-WC07	SEEDING FOR EROSION CONTROL (TY 7)	SY	117748	115754	-1994
0164-WC10	SEEDING FOR EROSION CONTROL (TY 10)	SY	58874	57877	-997
0168-WC01	VEGETATIVE WATERING	MG	3532.6	3472.7	-59.9
0401 6001	FLOWABLE BACKFILL	CY	405	401	-4
0462 6011	CONC BOX CULV (6 FT X 4 FT)	LF	310	172	-138
0464 6005	RC PIPE (CL III)(24 IN)	LF	1143	1100	-43
0464 6007	RC PIPE (CL III)(30 IN)	LF	258	163	-95
0467 6395	SET (TY II) (24 IN) (RCP) (6: 1) (P)	EA	56	50	-6
0530 6005	DRIVEWAYS (ACP)	SY	3049	3044	-5

TABLE B: Contract Items (*Continued*)

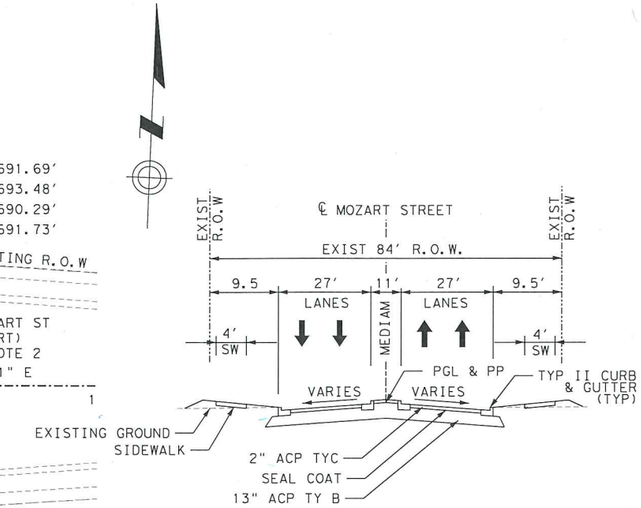
				ORIGINAL + PREVIOUSLY REVISED		ADD or (DEDUCT)	NEW		
ITEM	**DESCRIPTION**	**UNIT**	**UNIT PRICE**	**QUANTITY**	**ITEM COST**	**QUANTITY**	**QUANTITY**	**ITEM COST**	**OVERRUN/ UNDERRUN**
0104 6022	REMOVING CONC (CURB AND GUTTER)	LF	$8.00	212	$1,696.00	204.00	416.00	$3,328.00	$1,632.00
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	$9.00	28	$252.00	79.00	107.00	$963.00	$711.00
0105 6011	REMOVING STAB BASE AND ASPH PAV (2"-6")	SY	$3.25	2,571	$8,355.75	615.00	3,186.00	$10,354.50	$1,998.75
0110 6001	EXCAVATION (ROADWAY)	CY	$8.25	67,838	$559,663.50	139.00	67,977.00	$560,810.25	$1,146.75
0132 6003	EMBANKMENT (FINAL)(ORD COMP)(TY B)	CY	$7.35	44,359	$326,038.65	42.00	44,401.00	$326,347.35	$308.70
0160-WC02	FURNISHING AND PLACING TOPSOIL	SY	$1.40	117,748	$164,847.20	18.00	117,766.00	$164,872.40	$25.20
0164-WC01	SEEDING FOR EROSION CONTROL (TY 4)	SY	$0.16	58,874	$9,419.84	9.00	58,883.00	$9,421.28	$1.44
0164-WC07	SEEDING FOR EROSION CONTROL (TY 7)	SY	$0.84	117,748	$98,908.32	18.00	117,766.00	$98,923.44	$15.12
0164-WC10	SEEDING FOR EROSION CONTROL (TY 10)	SY	$0.13	58,874	$7,653.62	9.00	58,883.00	$7,654.79	$1.17
0168-WC01	VEGETATIVE WATERING	MG	$16.00	3,533	$56,528.00	1.00	3,534.00	$56,544.00	$16.00
0310 6027	PRIME COAT(MC-30 OR AE-P)	GAL	$4.00	13,306	$53,224.00	55.00	13,361.00	$53,444.00	$220.00
0316 6005	ASPH (TIER II)	GAL	$3.05	14,939	$45,563.95	69.00	15,008.00	$45,774.40	$210.45
0316 6193	AGGR(TY-D GR-5 SAC-B)	CY	$100.00	400	$40,000.00	2.00	402.00	$40,200.00	$200.00
0341 6008	D-GR HMA TY-B PG64-22	TON	$60.00	15,780	$946,800.00	221.00	16,001.00	$960,060.00	$13,260.00
0341 6027	D-GR HMA TY-C SAC-B PG70-22	TON	$75.00	6,877	$515,775.00	32.00	6,909.00	$518,175.00	$2,400.00
0401 6001	FLOWABLE BACKFILL	CY	$114.00	405	$46,170.00	14.00	419.00	$47,766.00	$1,596.00
0402 6001	TRENCH EXCAVATION PROTECTION	LF	$1.00	2,625	$2,625.00	100.00	2,725.00	$2,725.00	$100.00
0432 6001	RIPRAP (CONC)(4 IN)	CY	$360.00	1,377	$495,720.00	(17.00)	1,360.00	$489,600.00	($6,120.00)
0464 6005	RC PIPE (CL III)(24 IN)	LF	$55.00	1,143	$62,865.00	116.00	1,259.00	$69,245.00	$6,380.00
0467 6395	SET (TY II) (24 IN) (RCP) (6: 1) (P)	EA	$2,200.00	56	$123,200.00	2.00	58.00	$127,600.00	$4,400.00
0496 6007	REMOV STR (PIPE)	LF	$16.00	947	$15,152.00	126.00	1,073.00	$17,168.00	$2,016.00
0529 6008	CONC CURB & GUTTER (TY II)	LF	$12.50	8,730	$109,125.00	33.00	8,763.00	$109,537.50	$412.50
0531 6004	CURB RAMPS (TY 1)	EA	$850.00	4	$3,400.00	2.00	6.00	$5,100.00	$1,700.00
0531 6016	CURB RAMPS (TY 21)	EA	$2,475.00	0	$0.00	1.00	1.00	$2,475.00	$2,475.00
0644 6071	RELOCATE SM RD SN SUP&AM TY TWT	EA	$370.00	0	$0.00	1.00	1.00	$370.00	$370.00
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	$7.00	433	$3,031.00	24.00	457.00	$3,199.00	$168.00
0666 6182	REFL PAV MRK TY II (W) 24" (SLD)	LF	$1.50	433	$649.50	24.00	457.00	$685.50	$36.00
	TOTALS				$3,696,663.33			$3,732,343.41	$35,680.08

RFI #3 Quantity Changes
Mozart Street Tie-in

	ITEM	DESCRIPTION	UNIT	BID QUANTITY	CHANGE ORDER QUANTITY	DELTA
	0104 6022	REMOVING CONC (CURB AND GUTTER)	LF	212	416	204
	0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	28	107	79
	0105 6011	REMOVING STAB BASE AND ASPH PAV (2"-6")	SY	2571	3186	615
	0110 6001	EXCAVATION (ROADWAY)	CY	68590	68729	139
	0132 6003	EMBANKMENT (FINAL)(ORD COMP)(TY B)	CY	46961	47003	42
	0160-WC02	FURNISHING AND PLACING TOPSOIL	SY	115754	115772	18
	0164-WC04	SEEDING FOR EROSION CONTROL (TY 4)	SY	57877	57886	9
	0164-WC07	SEEDING FOR EROSION CONTROL (TY 7)	SY	115754	115772	18
	0164-WC10	SEEDING FOR EROSION CONTROL (TY 10)	SY	57877	57886	9
	0168-WC01	VEGETATIVE WATERING	MG	3473	3474	1
	0310 6027	PRIME COAT(MC-30 OR AE-P)	GAL	13306	13361	55
	0316 6005	ASPH (TIER II)	GAL	14939	15008	69
	0316 6193	AGGR(TY-D GR-5 SAC-B)	CY	400	402	2
	0341 6008	D-GR HMA TY-B PG64-22	TON	15780	16001	221
	0341 6027	D-GR HMA TY-C SAC-B PG70-22	TON	6877	6909	32
	0401 6001	FLOWABLE BACKFILL	CY	401	415	14
	0402 6001	TRENCH EXCAVATION PROTECTION	LF	2625	2725	100
	0432 6001	RIPRAP (CONC)(4 IN)	CY	1377	1360	-17
	0464 6005	RC PIPE (CL III)(24 IN)	LF	1100	1216	116
	0467 6395	SET (TY II) (24 IN) (RCP) (6: 1) (P)	EA	50	52	2
	0496 6007	REMOV STR (PIPE)	LF	947	1073	126
	0529 6008	CONC CURB & GUTTER (TY II)	LF	8730	8763	33
	0531 6004	CURB RAMPS (TY 1)	EA	4	6	2
NEW	0531 6016	CURB RAMPS (TY 21)	EA	0	1	1
NEW	0644 6071	RELOCATE SM RD SN SUP&AM TY TWT	EA	0	1	1
	0666 6148	REFL PAV MRK TY I (Y)36"(SLD)(060MIL)	LF	433	457	24
	0666 6182	REFL PAV MRK TY II (W) 24" (SLD)	LF	433	457	24



① STA 10+75.35, 33.14' LT EL = 691.69'
② STA 10+50.37, 57.08' LT EL = 693.48'
③ STA 10+51.54, 58.04' RT EL = 690.29'
④ STA 10+76.54, 33.02' RT EL = 691.73'



MOZART STREET

LEGEND

- REMOVE PAVEMENT
- REMOVE SIDEWALK CONC OR RAMP
- REMOVE CONC (CURB & GUTTER)
- PROPOSED 4" CONC RIPRAP
- REVEGETATION
- Ⓐ REFL PAV MRK TY I (W) 24" (SLD)

NOTES:

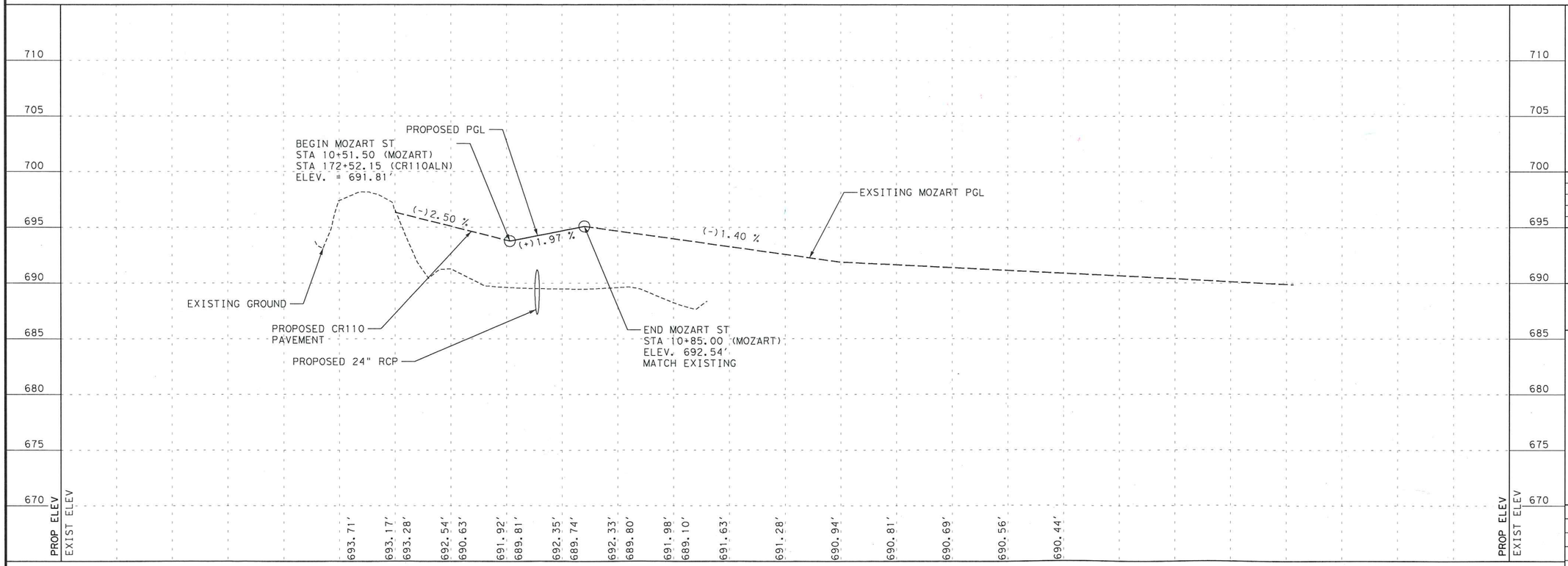
1. ALL WORK TO BE COORDINATED WITH ANY ONGOING UTILITY RELOCATIONS AND WITH ANY WORK ASSOCIATED WITH ADJACENT PROJECTS.
2. EXISTING MOZART STREET SHOWN BASED ON SIENA SECTION 20 PLANS. CONTRACTOR TO TIE AND MATCH EXISTING MOZART STREET SECTION.
3. CONTRACTOR TO FIELD VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
4. CONSTRUCT MOZART STREET INTERSECTION DURING PHASE I USING "INTERSECTION PHASING" SHEET DETAIL SHEET 52
5. CONTRACTOR TO SALVAGE AND RE-USE EXISTING LANDSCAPING ROCKS ON MOZART MEDIAN ISLAND

Beginning chain MOZART description

Point MOZART1	N	10,176,980.92 E	3,156,708.68 Sta	10+00.00
Course from MOZART1 to MOZART2 N 87° 40' 19.71" E Dist 594.13				
Point MOZART2	N	10,177,005.05 E	3,157,302.31 Sta	15+94.13

Ending chain MOZART description

H: 0' 12.5' 25' 50'
V: 0' 5' 10'



STATE OF TEXAS
TOMMY G. LEVARIO
81258
REGISTERED PROFESSIONAL ENGINEER

Tommy Levario
3-10-17

DATE	BY	REV	REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY TEXAS

CR 110 SOUTH

ROADWAY PLAN AND PROFILE

MOZART ST

SCALE: HORIZONTAL 1"=50'
VERTICAL 1"=10'

SHEET 12A OF 12

DESIGNED:	NA
DRAWN:	NA
CHECKED:	TL

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	105A

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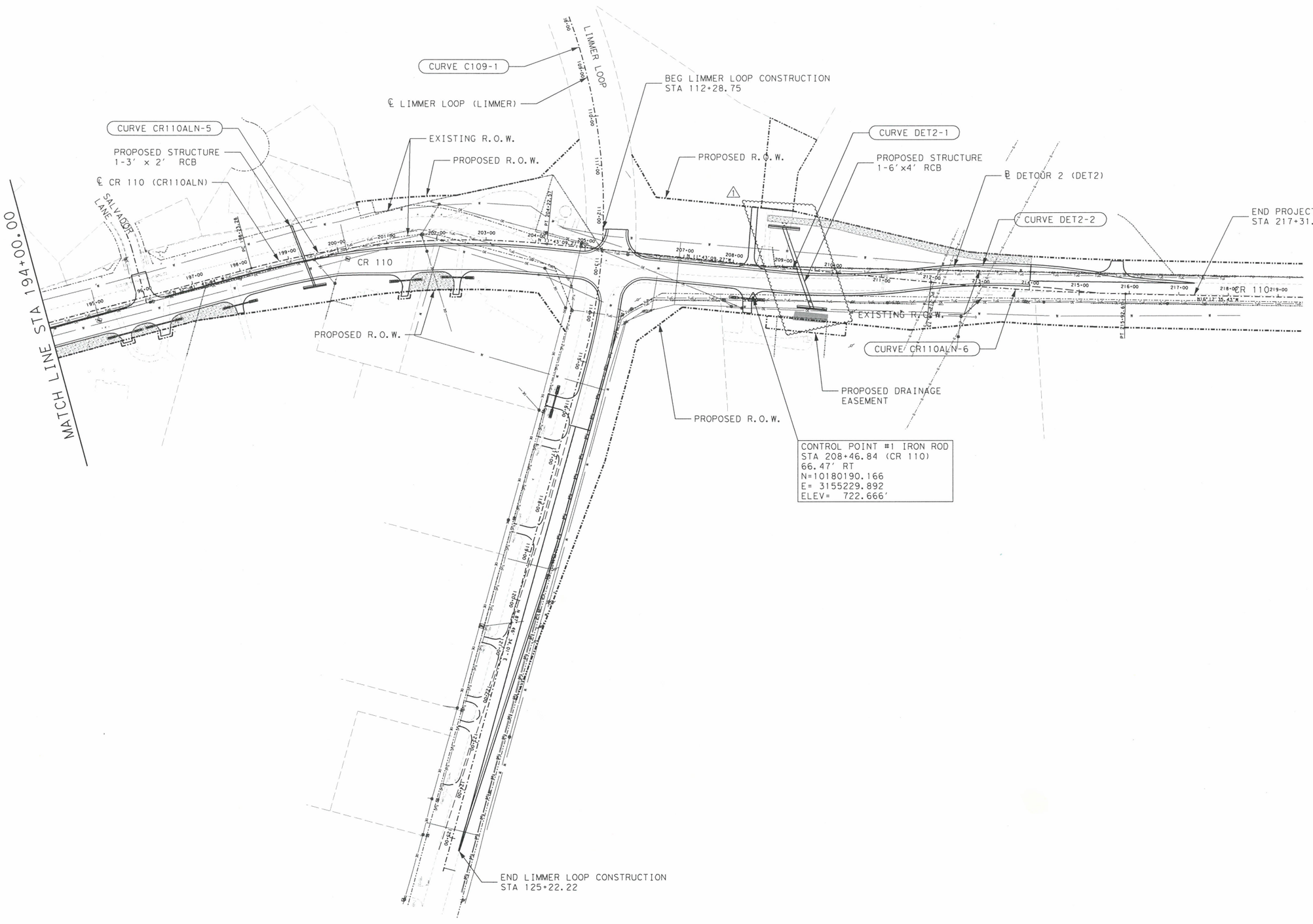

Received
NOV 14 2016
HNTB Corporation
Round Rock

0' 50' 100' 200'

NOTE:

ALL PROJECT COORDINATES ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NAD-83 (1993)/NAVD-88, U.S. SURVEY FEET. ALL DISTANCES AND COORDINATES SHOWN HEREON ARE SURFACE VALUES AND MAY BE CONVERTED TO GRID BY DIVIDING BY A COMBINED ADJUSTMENT FACTOR OF 1.00012.

SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR CURVE DATA.

STATE OF TEXAS
TOMMY G. LEVARIO
81258
REGISTERED PROFESSIONAL ENGINEER

Tommy Levario
11/2/16

DATE	BY	REV	REVISION
11/02/16	NA	1	CULVERT REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY 1848

CR 110 SOUTH

PROJECT LAYOUT AND SURVEY CONTROL

STA 194+00 TO END

SCALE: HORIZONTAL 1"=200'

SHEET 3 OF 3

DESIGNED:	PRP
DRAWN:	PRP
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	5

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DATE: 11/11/2016 TIME: 1:06:06 PM USER: majib.azouggagh

ROADWAY SUMMARY

PLAN SHEET NUMBER	ALIGNMENT	STATIONS	0100 6002 PREPARING ROW	0110 6001 EXCAVATION (ROADWAY)	0132 6003 EMBANKMENT (FINAL) (ORD COMP) (TY B)	0247 6044 FL BS (CMP IN PLC) (TYA GR 4) (FNAL POS)	0260 6001 LIME (HYDRATED LIME (DRY))	0260 6027 LIME TRT (EXST MATL) (8")	0310 6027 PRIME COAT (MC-30 OR AE-P)	0316 6005 ASPH (TIER II)	0316 6193 AGGR (TY-D GR-5 SAC-B)	0341 6008 D-GR HMA TY-B PG64-22	0341 6027 D-GR HMA TY-C SAC-B PG70-22	0432 6001 RIPRAP (CONC) (4 IN)	0432 6045 RIPRAP (MOW STRIP) (4 IN)
			STA	CY	CY	CY	TON	SY	GAL	GAL	CY	TON	TON	CY	CY
1 OF 12	CR110ALN	98+86.87 TO 110+00.00	11.0	6586	9437	1974	82	4553	888	1109	30	1403	510		14
2 OF 12	CR110ALN	110+00.00 TO 122+00.00	12.0	7386	1820	2919	121	6725	1313	1329	36	1242	612	224	
3 OF 12	CR110ALN	122+00.00 TO 134+00.00	12.0	5009	1720	2816	117	6497	1267	1413	38	1532	650	55	11
4 OF 12	CR110ALN	134+00.00 TO 146+00.00	12.0	394	15096	2890	120	6674	1301	1445	39	1662	665		5
5 OF 12	CR110ALN	146+00.00 TO 158+00.00	12.0	4546	2199	2837	118	6547	1277	1419	38	1555	653	219	
6 OF 12	CR110ALN	158+00.00 TO 170+00.00	12.0	4700	1886	2889	120	6662	1300	1351	36	1265	622	222	
7 OF 12	CR110ALN	170+00.00 TO 182+00.00	12.0	6584	2290	3067	127	7063	1380	1439	38	1346	663	109	
8 OF 12	CR110ALN	182+00.00 TO 194+00.00	12.0	8355	2042	2925	121	6738	1316	1340	36	1251	617	259	
9 OF 12	CR110ALN	194+00.00 TO 206+00.00	12.0	13069	2868	2994	124	6878	1347	1629	43	1592	750	119	
10 OF 12	CR110ALN	206+00.00 TO 218+50.00	12.0	6304 1	7556 1	2181	91	5030	982	1146	31	1107	528	97	
11 OF 12	CR122	10+99.80 TO 13+50.00	3.0	1259	41	266	11	606	120	317	8	635	146		
12 OF 12	LIMMER	112+28.75 TO 125+22.22	13.0	4398	6	1812	75	4180	815	1002	27	1190	461		
PROJECT TOTALS			135.0	68590	46961	29570	1227	68153	13306	14939	400	15780	6877	1304	30

ROADWAY SUMMARY CON'T

PLAN SHEET NUMBER	ALIGNMENT	STATIONS	0529 6008 CONC CURB & GUTTER (TY II)	0530 6004 DRIVEWAYS (CONC)	0530 6005 DRIVEWAYS (ACP)	0530 6016 DRIVEWAYS (BASE)	0531 6002 CONC SIDEWALKS (5")	0531 6004 CURB RAMPS (TY 1)	0540 6001 MTL W-BEAM GD FEN (TIM POST)	0540 6016 DOWNSTREAM ANCHOR TERMINAL SECTION	0540 6021 MTL THRIE-BEAM GD FEN (TIM POST)	0544 6001 GUARDRAIL END TREATMENT (INSTALL)	0618 6029 CONDT (PVC) (SCH 40) (3")	0624 6009 GROUND BOX TY D (162922)
			LF	SY	SY	SY	SY	EA	LF	EA	EA	EA	LF	EA
1 OF 12	CR110ALN	98+86.87 TO 110+00.00	323		441		318		225	1	1	1	560	2
2 OF 12	CR110ALN	110+00.00 TO 122+00.00	1157		339		83					1		
3 OF 12	CR110ALN	122+00.00 TO 134+00.00	1013		513		6	2	325			1		
4 OF 12	CR110ALN	134+00.00 TO 146+00.00	1437				10	2		1				
5 OF 12	CR110ALN	146+00.00 TO 158+00.00	1093		135									
6 OF 12	CR110ALN	158+00.00 TO 170+00.00	990		539									
7 OF 12	CR110ALN	170+00.00 TO 182+00.00	949	143	142	177								
8 OF 12	CR110ALN	182+00.00 TO 194+00.00	1200	175	144				100	1		1		
9 OF 12	CR110ALN	194+00.00 TO 206+00.00	568	191	274								1635	4
10 OF 12	CR110ALN	206+00.00 TO 218+50.00		124	305 1									
11 OF 12	CR122	10+99.80 TO 13+50.00			32									
12 OF 12	LIMMER	112+28.75 TO 125+22.22			180									
PROJECT TOTALS			8730	633	3044	177	417	4	650.0	3	1	4	2195	6

SMALL STRUCTURE SUMMARY

PLAN SHEET NUMBER	ALIGNMENT	STATIONS	0401 6001 FLOWABLE BACKFILL	0402 6001 TRENCH EXCAVATION PROTECTION	0432 6002 RIPRAP (CONC) (5 IN)	0462 6001 CONC BOX CULV (3 FT X 2 FT)	0462 6008 CONC BOX CULV (5 FT X 4 FT)	0462 6011 CONC BOX CULV (6 FT X 4 FT)	0464 6026 RC PIPE (CL V) (24 IN)	0464 6003 RC PIPE (CL III) (18 IN)	0464 6005 RC PIPE (CL III) (24 IN)	0464 6007 RC PIPE (CL III) (30 IN)
			CY	LF	CY	LF	LF	LF	LF	LF	LF	LF
1 OF 12	CR110ALN	98+86.87 TO 110+00.00	102	126					222		126	
2 OF 12	CR110ALN	110+00.00 TO 122+00.00	14	118 2							118 2	
3 OF 12	CR110ALN	122+00.00 TO 134+00.00	37	142							104	
4 OF 12	CR110ALN	134+00.00 TO 146+00.00		50	44		160			50		
5 OF 12	CR110ALN	146+00.00 TO 158+00.00	8	95								
6 OF 12	CR110ALN	158+00.00 TO 170+00.00	21	321							90	126
7 OF 12	CR110ALN	170+00.00 TO 182+00.00		237							237	
8 OF 12	CR110ALN	182+00.00 TO 194+00.00	30	183	7	114					183	
9 OF 12	CR110ALN	194+00.00 TO 206+00.00	47	220	9	130					220	
10 OF 12	CR110ALN	206+00.00 TO 218+50.00	9 1	37 1	26			172 1			1	37 1
11 OF 12	CR122	10+99.80 TO 13+50.00		26							26	
12 OF 12	LIMMER	112+28.75 TO 125+22.22	3	40							40	
PROJECT TOTALS			271	1595	86	244	160	172	222	50	1144	163

SMALL STRUCTURE SUMMARY CON'T

PLAN SHEET NUMBER	ALIGNMENT	STATIONS	0464 6008 RC PIPE (CL III) (36 IN)	0465 6014 INLET (COMPL) (PCO) (3 FT) (LEFT)	0466 6178 WINGWALL (PW - 1) (HW=3 FT)	0466 6179 WINGWALL (PW - 1) (HW=4 FT)	0466 6182 WINGWALL (PW - 1) (HW=7 FT)	0466 6183 WINGWALL (PW - 1) (HW=8 FT)	0466 6184 WINGWALL (PW - 1) (HW=9 FT)	0467 6395 SET (TYP II) (24 IN) (RCP) (6: 1) (P)	0467 6423 SET (TYP II) (30 IN) (RCP) (6: 1) (P)	0467 6453 SET (TYP II) (36 IN) (RCP) (6: 1) (C)	0467 6454 SET (TYP II) (36 IN) (RCP) (6: 1) (P)
			LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
1 OF 12	CR110ALN	98+86.87 TO 110+00.00								6			
2 OF 12	CR110ALN	110+00.00 TO 122+00.00		2						6			
3 OF 12	CR110ALN	122+00.00 TO 134+00.00	38							4		1	
4 OF 12	CR110ALN	134+00.00 TO 146+00.00					2						
5 OF 12	CR110ALN	146+00.00 TO 158+00.00	95								4		
6 OF 12	CR110ALN	158+00.00 TO 170+00.00	105							4	8		4
7 OF 12	CR110ALN	170+00.00 TO 182+00.00								6			
8 OF 12	CR110ALN	182+00.00 TO 194+00.00				1				8			
9 OF 12	CR110ALN	194+00.00 TO 206+00.00			1					10			
10 OF 12	CR110ALN	206+00.00 TO 218+50.00						1	1	1	2		
11 OF 12	CR122	10+99.80 TO 13+50.00								4			
12 OF 12	LIMMER	112+28.75 TO 125+22.22								2			
PROJECT TOTALS			238	2	1	1	2	1	1	50	14	1	4

DATE	BY	REV	REVISION
11/02/16	NA	1	CULVERT REVISION
05/23/17	NA	2	CULVERT 2-2 REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

CR 110 SOUTH

QUANTITY SHEETS

SHEET 2 OF 4

DESIGNED:	RP
DRAWN:	RP
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	14

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EROSION CONTROL SUMMARY

PLAN SHEET NUMBER	ALIGNMENT	STATIONS	PERMANENT					
			0160-WC02 FURNISHING AND PLACING TOPSOIL	0161-WC01 3" EROSION CONTROL COMPOST (ECC) *	0164-WC07 SEEDING FOR EROSION CONTROL (TY 7)	0168-WC01 VEGETATIVE WATERING	0169 6001 RETENTION BLANKETS (CL 1) (TYA)	0432 6031 RIPRAP (STONE PROTECTION) (12 IN)
			SY	SY	SY	MG	SY	CY
1 OF 6	CR110ALN	99+40.00 TO 122+00.00	19398	19398	19398	388.0	7437	1
2 OF 6	CR110ALN	110+00.00 TO 146+00.00	23827	23827	23827	476.5	12367	118
3 OF 6	CR110ALN	146+00.00 TO 170+00.00	19877	19877	19877	397.5	7106	
4 OF 6	CR110ALN	170+00.00 TO 194+00.00	21174	21174	21174	423.5	7784	
5 OF 6	CR110ALN	194+00.00 TO 217+31.00	26103 1	26103 1	26103 1	522.1 1	10431 1	295
6 OF 6	LIMMER	112+28.75 TO 125+22.22	5375	5375	5375	107.5	2073	
		PROJECT TOTALS	115754	115754	115754	2315.1	47198	414

* FOR CONTRACTORS INFORMATION ONLY

EROSION CONTROL SUMMARY CON'T

PLAN SHEET NUMBER	ALIGNMENT	STATIONS	TEMPORARY										
			0164-WC04 SEEDING FOR EROSION CONTROL (TY 4)	0164-WC10 SEEDING FOR EROSION CONTROL (TY 10)	0168-WC01 VEGETATIVE WATERING	0432 6031 RIPRAP (STONE PROTECTION) (12 IN)	0496 6072 REMOVING ROCK RIPRAP	0506 6003 ROCK FILTER DAMS (INSTALL) (TY 3)	0506 6011 ROCK FILTER DAMS (REMOVE)	0506 6020 CONSTRUCTION EXITS (INSTALL) (TY 1)	0506 6024 CONSTRUCTION EXITS (REMOVE)	0506 6041 BIODEG EROSN CONT LOGS (INSTL) (12")	0506 6043 BIODEG EROSN CONT LOGS (REMOVE)
			SY	SY	MG	CY	LF	LF	LF	SY	SY	LF	LF
1 OF 6	CR110ALN	99+40.00 TO 122+00.00	9699.0	9699.0	194.0	153	148	68	68	500	500	3723	3723
2 OF 6	CR110ALN	110+00.00 TO 146+00.00	11913.5	11913.5	238.3			86	86			2882	2882
3 OF 6	CR110ALN	146+00.00 TO 170+00.00	9938.5	9938.5	198.8			21	21			3336	3336
4 OF 6	CR110ALN	170+00.00 TO 194+00.00	10587.0	10587.0	211.7			26	26			2396	2396
5 OF 6	CR110ALN	194+00.00 TO 217+31.00	13051.5 1	13051.5 1	261.0			35	35			2158	2158
6 OF 6	LIMMER	112+28.75 TO 125+22.22	2687.5	2687.5	53.8							125	125
		PROJECT TOTALS	57877	57877	1157.6	153	148	236	236	500	500	14620	14620

DATE	BY	REV	REVISION
11/02/16	NA	1	CULVERT REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY TEXAS

CR 110 SOUTH

QUANTITY SHEETS

SHEET 4 OF 4

DESIGNED:	RP
DRAWN:	RP
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	16

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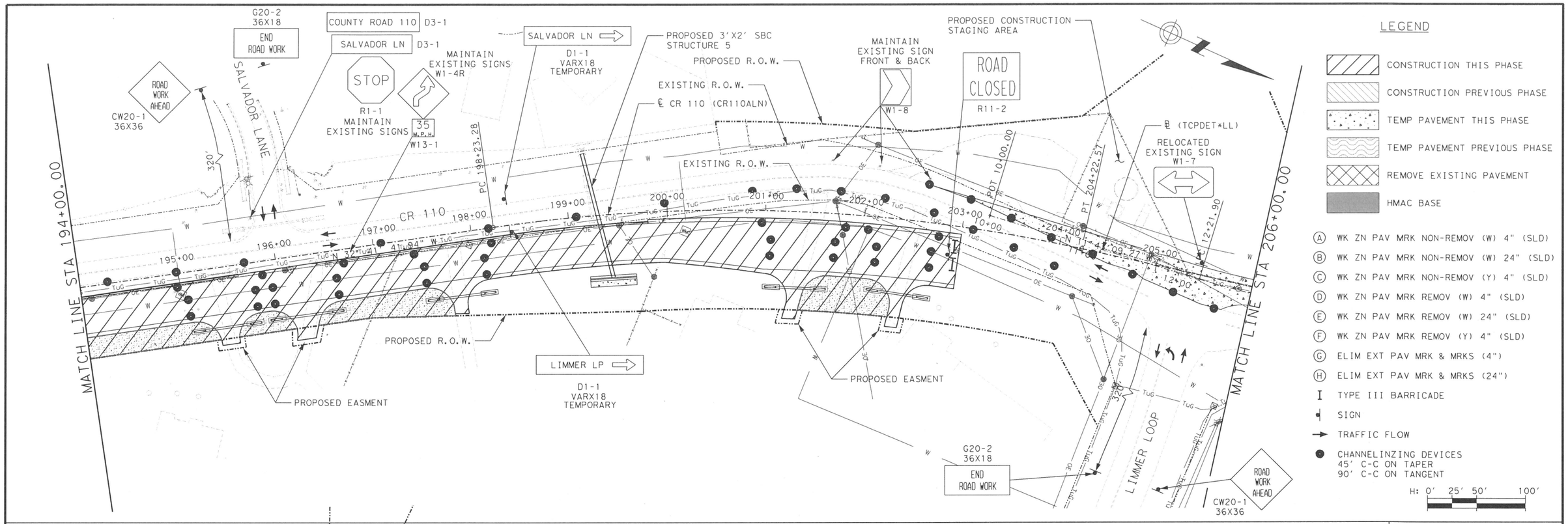

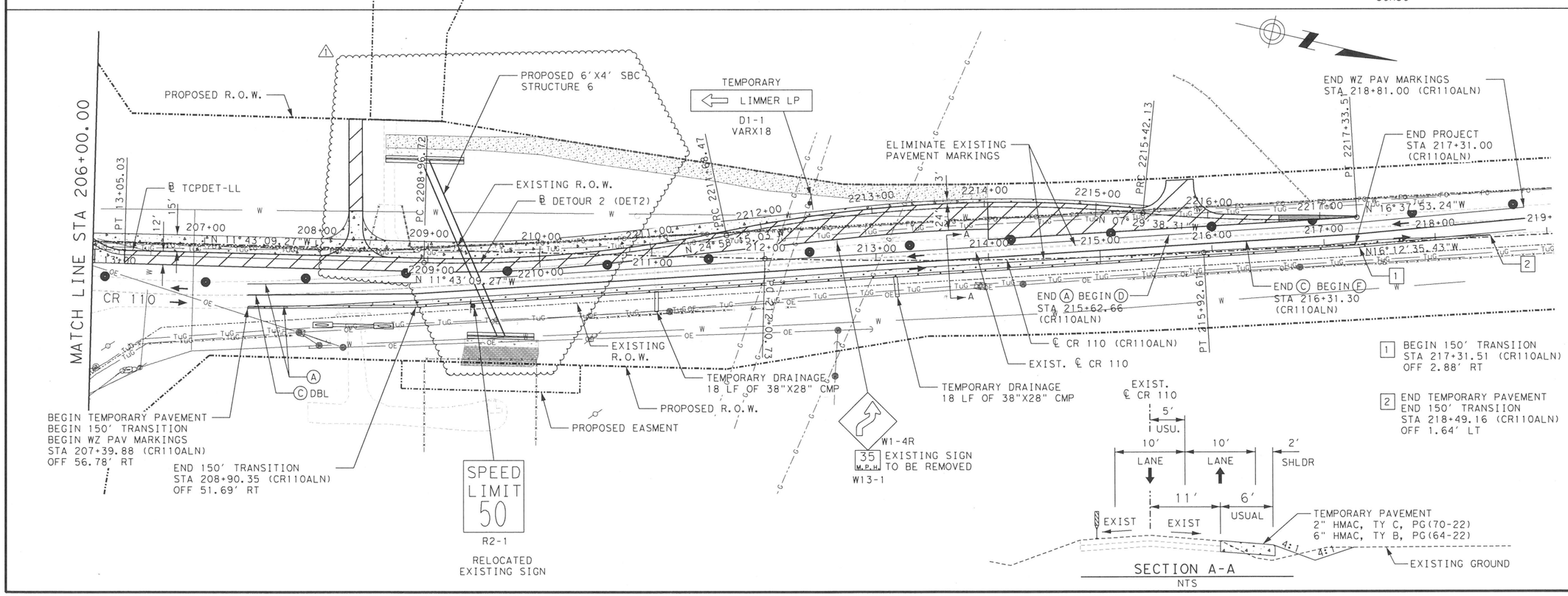

STATE OF TEXAS
TOMMY G. LEVARIO
81258
REGISTERED PROFESSIONAL ENGINEER
11/2/16

DATE	BY	REV	REVISION
11/02/16	NA	1	CULVERT REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY 1848

CR 110 SOUTH
TRAFFIC CONTROL
PHASE I
PLANS

STA 194+00 TO STA END
SCALE: HORIZONTAL 1"=100'

SHEET 5 OF 5

DESIGNED:	TGL
DRAWN:	PRP
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	29

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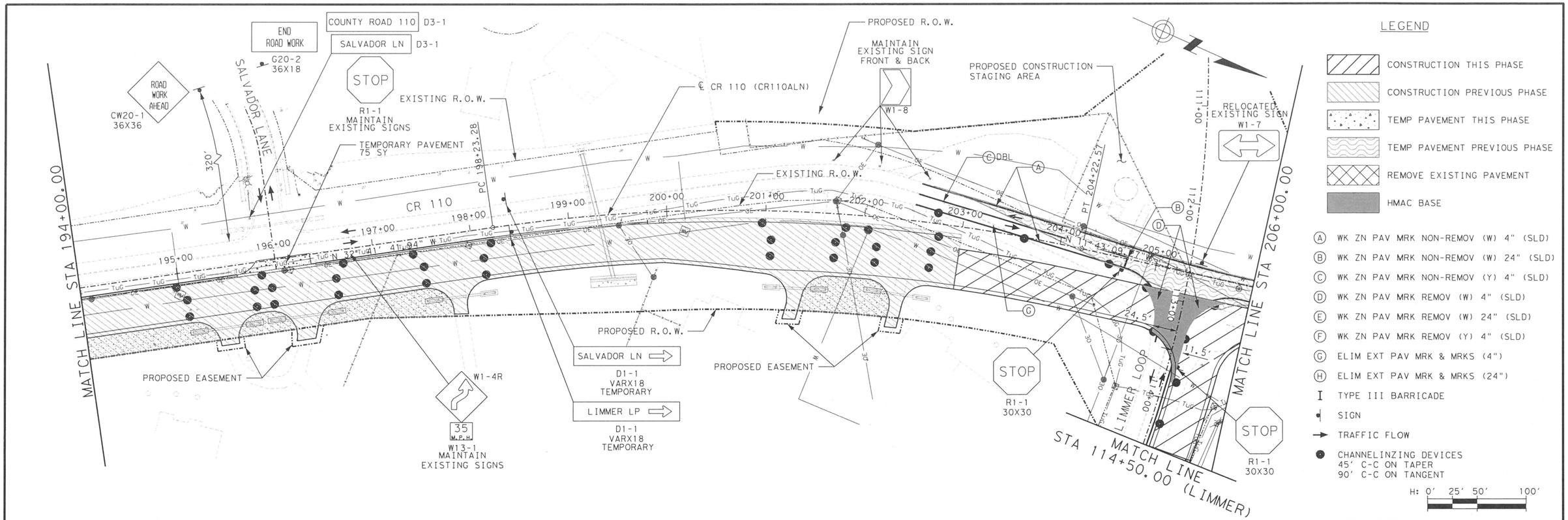

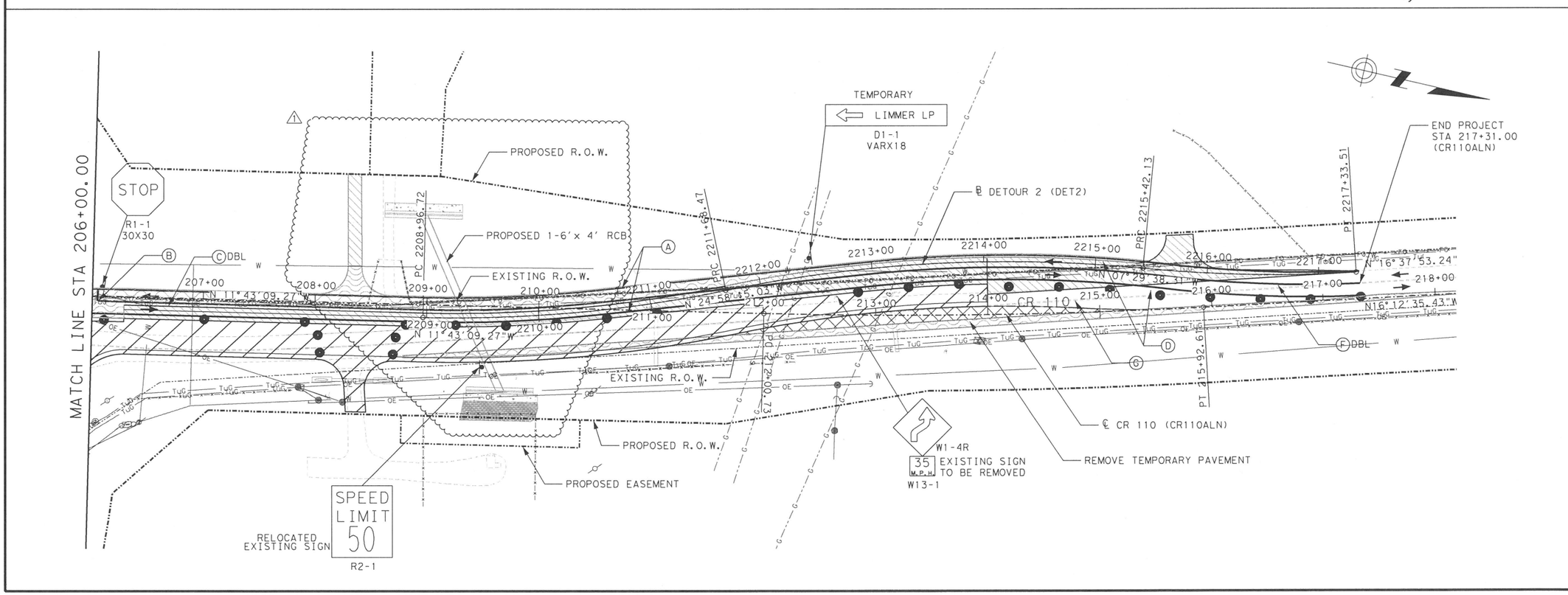

STATE OF TEXAS
TOMMY G. LEVARIO
81258
REGISTERED PROFESSIONAL ENGINEER

Tommy Levario
11/2/16

DATE	BY	REV	REVISION
11/02/16	NA	1	CULVERT REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY

CR 110 SOUTH
TRAFFIC CONTROL
PHASE II PLANS

STA 194+00 TO STA END
SCALE: HORIZONTAL 1"=100'

SHEET 5 OF 6

DESIGNED:	TGL
DRAWN:	PRP
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	40

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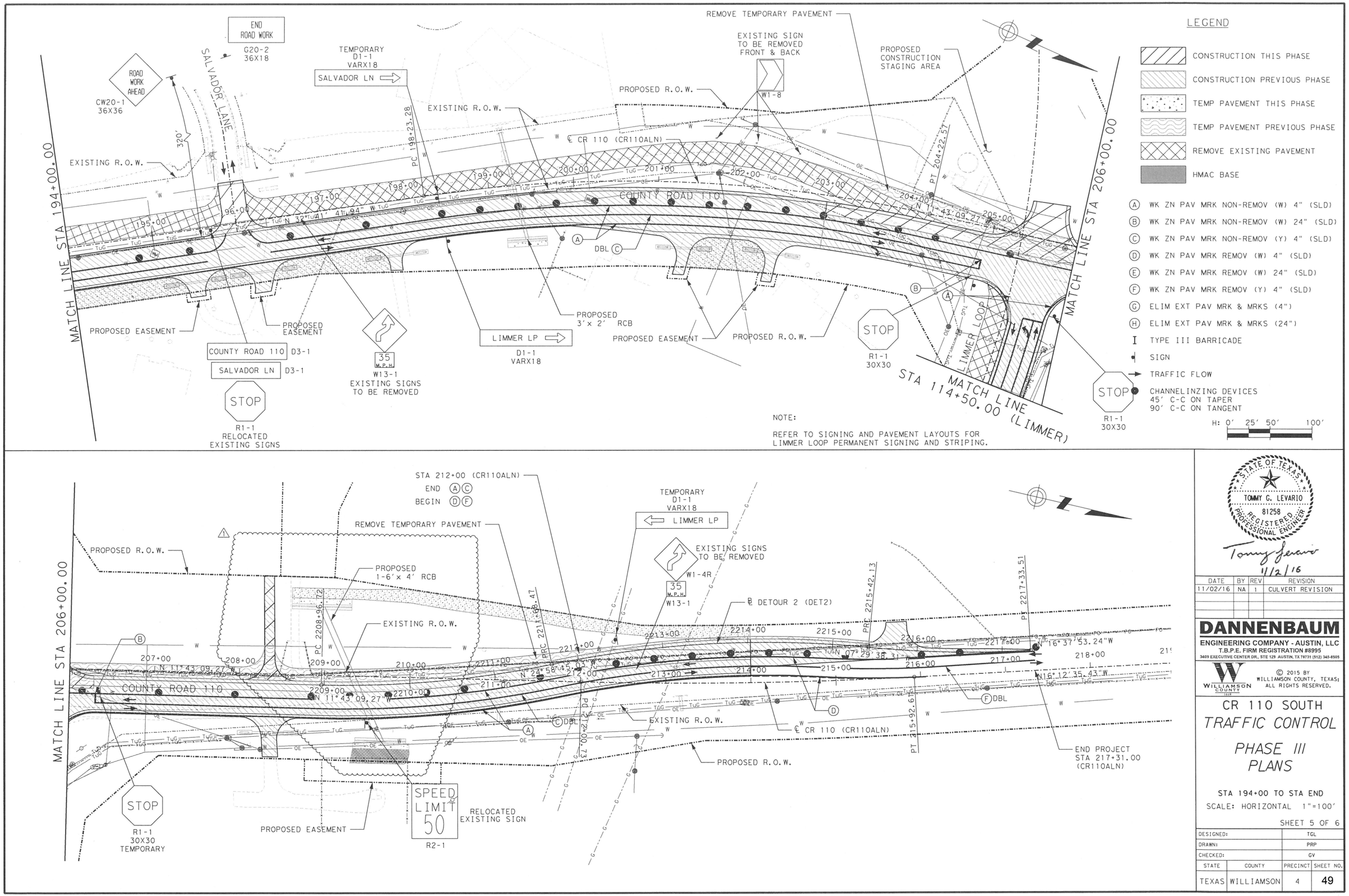

STATE OF TEXAS
TOMMY G. LEVARIO
81258
REGISTERED PROFESSIONAL ENGINEER
Tommy Levario
11/2/16

DATE	BY	REV	REVISION
11/02/16	NA	1	CULVERT REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY TEXAS

CR 110 SOUTH
TRAFFIC CONTROL
PHASE III
PLANS

STA 194+00 TO STA END
SCALE: HORIZONTAL 1"=100'

SHEET 5 OF 6

DESIGNED:	TGL
DRAWN:	PRP
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	49

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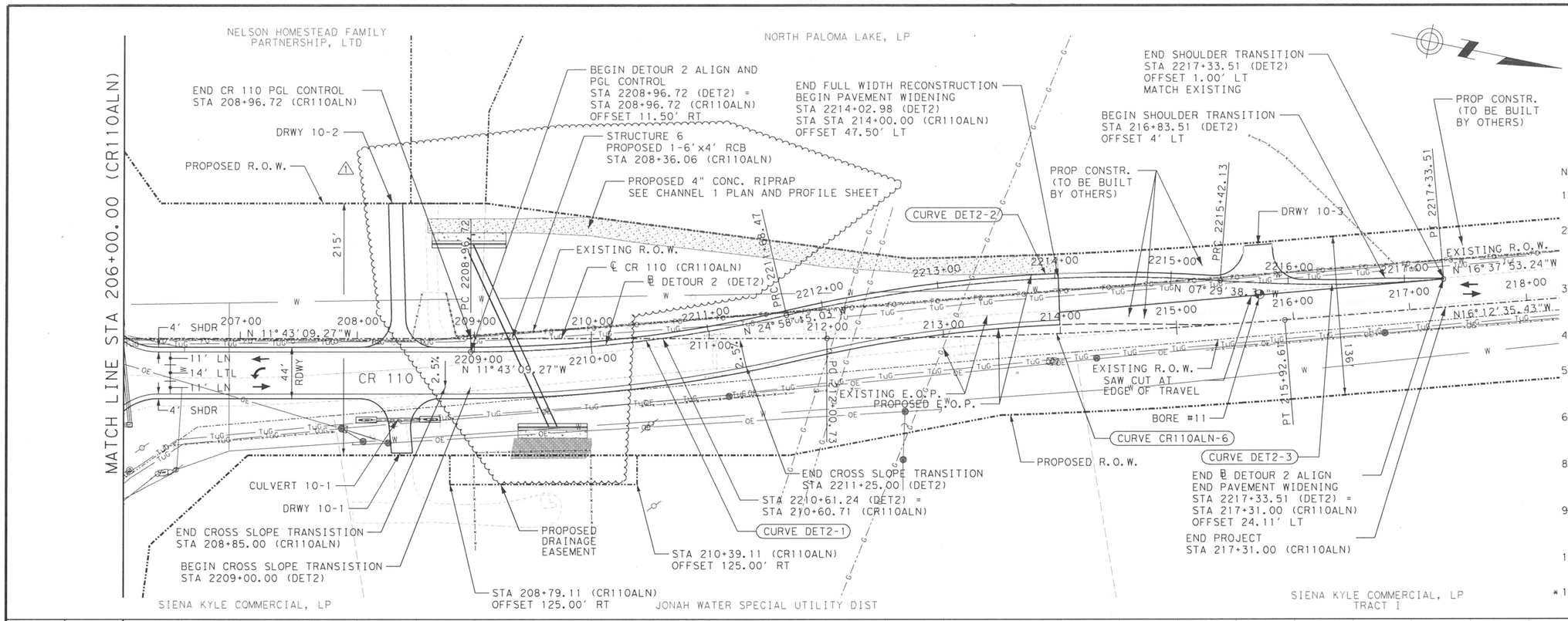


LEGEND

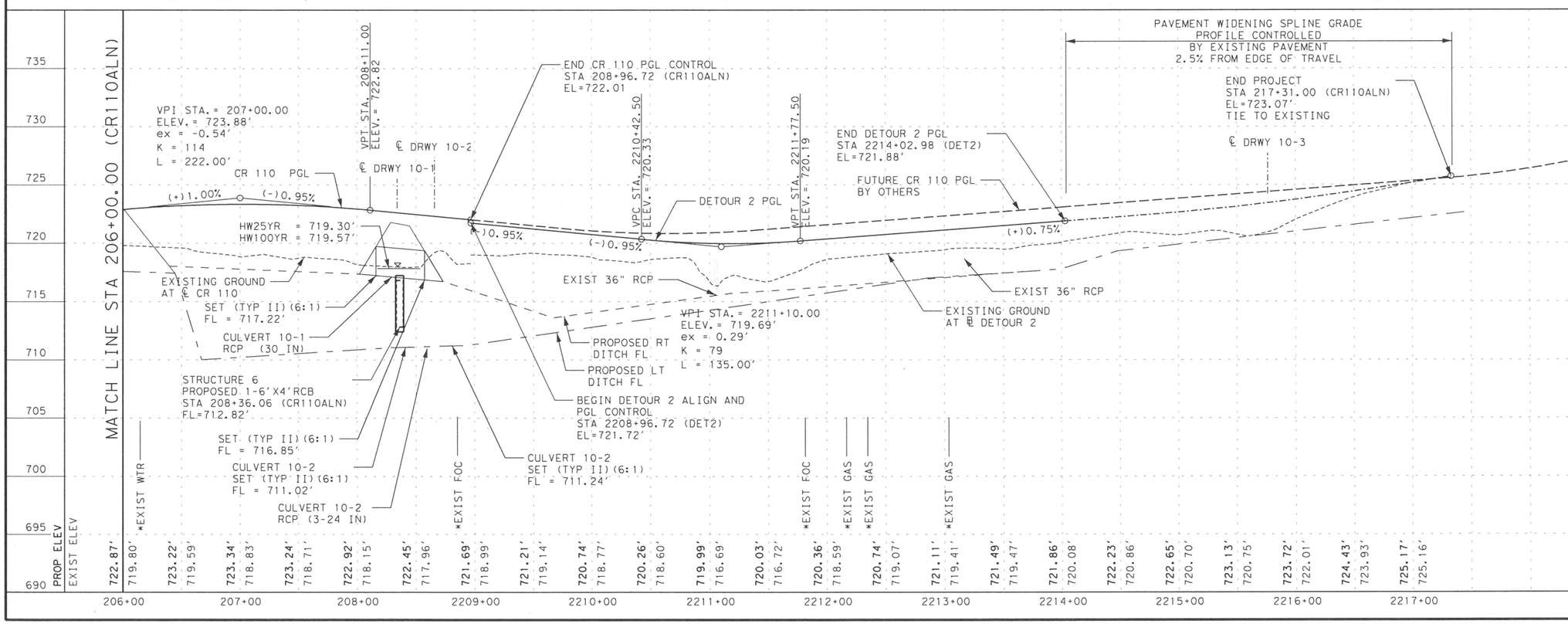
- TUG — UNDERGROUND TELEPHONE
- OE — OVERHEAD ELECTRIC
- OU — OVERHEAD UTILITY
- W — EXIST WATER LINE
- WW — EXIST WASTE WATER LINE
- G — EXIST GAS LINE
- FO — FIBER OPTIC LINE

H: 0' 25' 50' 100'
V: 0' 5' 10'

NOTES:

1. SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR CURVE INFORMATION.
2. ALL WORK TO BE COORDINATED WITH ANY ONGOING UTILITY RELOCATIONS AND WITH ANY WORK ASSOCIATED WITH ADJACENT PROJECTS.
3. SEE INTERSECTION DETAIL SHEETS FOR ALIGNMENT TIES AND GEOMETRIC LAYOUT OF INTERSECTING ROADWAYS.
4. SEE REMOVAL PLAN SHEETS FOR LIMITS OF EXISTING PAVEMENT REMOVAL.
5. SEE CULVERT CROSS SECTIONS AND BOX CULVERT SUPPLEMENT FOR DRAINAGE STRUCTURE DETAILS.
6. LOCATION OF UTILITIES ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY PRIOR TO CONSTRUCTION.
8. SEE DRIVEWAY SUMMARY AND DETAILS SHEET FOR DRIVEWAY DIMENSIONS, GRADES, QUANTITIES & T.C.E.
9. SEE RETAINING WALL SHEETS FOR RETAINING WALL SIZES, LOCATIONS, & DETAILS.
10. BORE LOCATIONS ARE APPROXIMATE. SEE PROJECT MANUAL FOR DETAILS.

*11. UTILITY ELEVATIONS UNKNOWN UNLESS OTHERWISE SHOWN.



STATE OF TEXAS
TOMMY G. LEVARIO
81258
REGISTERED PROFESSIONAL ENGINEER
Tommy Levario
11/2/16

DATE	BY	REV	REVISION
11/02/16	NA	1	CULVERT REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY 1848

CR 110 SOUTH

ROADWAY PLAN AND PROFILE

STA 206+00 TO END

SCALE: HORIZONTAL 1"=100'
VERTICAL 1"=10'

SHEET 10 OF 12

DESIGNED:	TGL
DRAWN:	PRP
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	103

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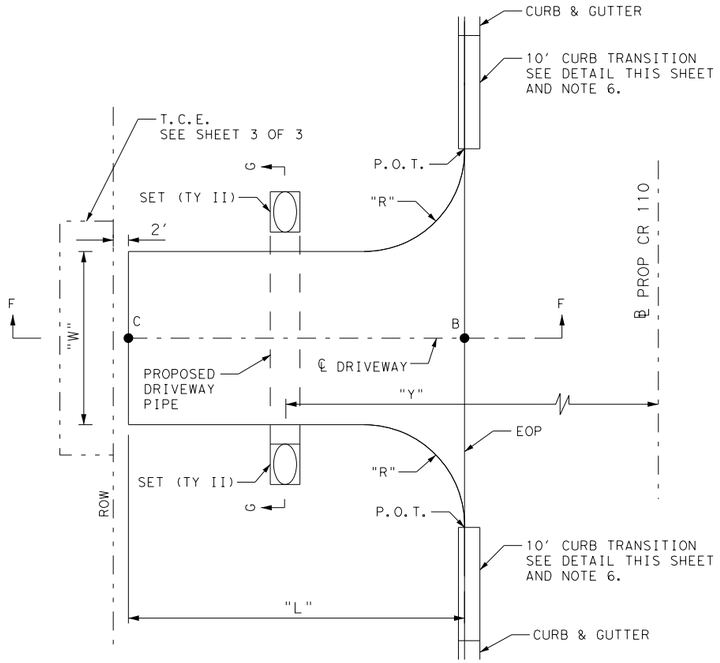
DATE: 11/11/2016 TIME: 1:06:29 PM USER: najib.azouggagh

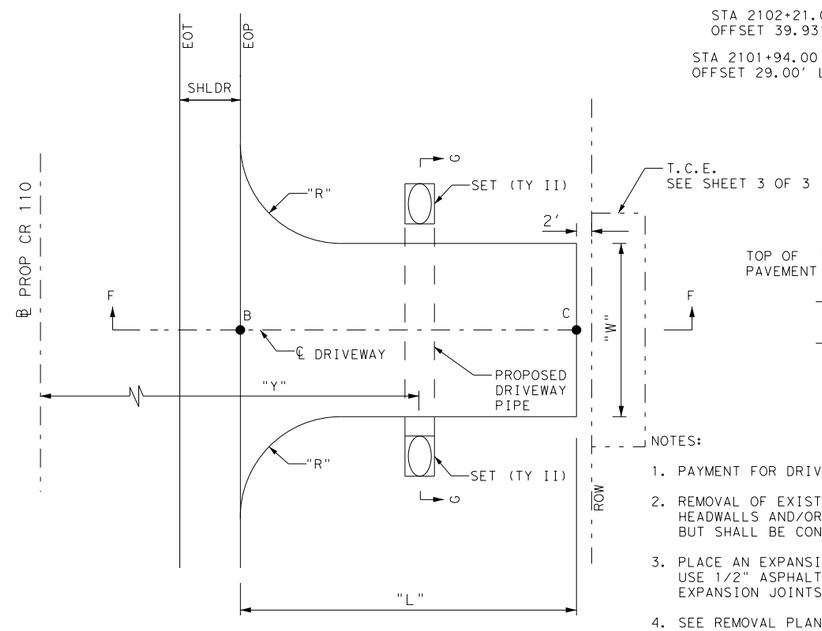
DRIVEWAY SUMMARY

PLAN AND PROFILE SHEET	DRIVEWAY NO.	COMM/ RESD	ALIGN.	STATION	LEFT OR RIGHT	DRIVEWAY DIMENSIONS: DRIVE WIDTH (W)	DRIVE LENGTH (L)	DRIVE RADIUS (R)	CULVERT OFFSET (Y)	GRADE B-C	* 0530 6004 DRIVEWAYS (CONC)	* 0530 6005 DRIVEWAYS (ACP)	* 0530 6016 DRIVEWAYS (BASE)	* 0464 6005 RC PIPE (CL III) (24 IN)	* 0464 6007 RC PIPE (CL III) (30 IN)	* 0464 6008 RC PIPE (CL III) (36 IN)	* 0467 6395 SET (TY II) (24 IN) (RCP) (6: 1) (P)	* 0467 6423 SET (TY II) (30 IN) (RCP) (6: 1) (P)	* 0467 6454 SET (TY II) (36 IN) (RCP) (6: 1) (P)
						LF	LF	LF	LF	%	SY	SY	SY	LF	LF	LF	EA	EA	EA
1 OF 12	1-1	R	DET1	2101+93.88	RT	12.00	70.00	25.00	33.70	-0.84		151		56			2		
	1-2	C	DET1	2102+31.73	LT	30.00	62.00	30.00	56.90	2.97		290		70			2		
2 OF 12	2-1	C	CR110ALN	111+27.68	LT	20.00	76.00	25L & 50R	54.36	-1.90		244		74			4		
	2-2	R	CR110ALN	120+88.72	RT	17.00	32.20	25.00	66.71	-0.54		95		44 /2			2		
3 OF 12	3-1	R	CR110ALN	124+44.60	LT	24.00	76.00	25.00	50.15	1.90		233		58			2		
	3-2	C	CR110ALN	126+81.50	LT	30.00	75.00	25.00	50.97	2.40		280		46			2		
5 OF 12	5-1	R	CR110ALN	154+74.75	LT	12.00	77.00	25.00	44.20	-0.23		135				95			4
6 OF 12	6-1	R	CR110ALN	158+01.83	LT	12.00	76.50	25.00	46.79	0.44		133				105			4
	6-2	R	CR110ALN	163+28.84	LT	13.00	76.00	25.00	52.74	0.50		140			66			4	
	6-3	R	CR110ALN	165+27.15	LT	12.00	76.00	25.00	52.33	0.40		140			60			4	
	6-4	R	CR110ALN	169+81.31	LT	12.00	72.00	25.00	51.71	2.10		126		90			4		
7 OF 12	7-1	R	CR110ALN	172+85.79	LT	13.00	76.40	25.00	53.30	0.40		142		40			2		
	7-2	R	CR110ALN	173+74.89	LT	17.00	76.30	25.00	52.63	-0.45			177	36			2		
	7-3	C	CR110ALN	179+76.35	RT	30.00	30.00	30.00	73.61	-2.38	143			76			2		
8 OF 12	8-1	C	CR110ALN	183+14.01	RT	24.00	25.00	25.00	65.88	-1.77	97			54			2		
	8-2	R	CR110ALN	186+68.28	RT	12.00	30.00	25.00	67.86	5.65		72		40			2		
	8-3	R	CR110ALN	189+00.76	RT	15.00	25.20	25.00	65.70	7.59		72		46			2		
	8-4	R	CR110ALN	192+21.00	RT	17.00	25.00	25.00	65.57	7.01	78			43			2		
9 OF 12	9-1	C	CR110ALN	195+41.20	RT	18.00	27.64	25.00	68.35	5.99	81			46			2		
	9-2	C	CR110ALN	196+32.36	RT	18.00	35.60	25.00	85.01	5.73	110			50			2		
	9-3	R	CR110ALN	197+79.44	RT	14.00	30.60	25.00	69.44	5.40		78		46			2		
	9-4	R	CR110ALN	201+38.40	RT	13.00	46.76	25.00	77.55	9.63		103		38			2		
	9-5	R	CR110ALN	202+44.59	RT	12.00	46.63	25.00	80.08	10.17		93		40			2		
10 OF 12	10-1	C	CR110ALN	208+34.12	RT	18.00	46.70	25.00	69.53	2.62	124				43			2	
	10-2	R	CR110ALN	208+35.13 /1	LT	12.00	123.20 /1	25.00		-6.25 /1		195 /1		/1			/1		
	10-3	R	DET2	2215+76.42	LT	24.00	28.80	25.00		4.50		110							
11 OF 12	11-1	R	CR122	12+09.74	RT	12.00	16.93	13.00	30.60	-3.20		32		28				2	
12 OF 12	12-1	R	LIMMER	115+93.85	RT	24.00	56.06	25.00	34.18	0.02		180		40			2		
	12-2	R	LIMMER	116+77.96	RT	16.00	54.60	25.00	39.16	EXIST.									
	12-3	R	LIMMER	118+60.92	RT	17.00	55.60	25.00	38.22	EXIST.									
	12-4	R	LIMMER	120+95.32	RT	12.00	45.60	25.00	37.66	EXIST.									
	12-5	R	LIMMER	122+18.84	RT	12.00	40.00	25.00		EXIST.									
	12-6	R	LIMMER	122+71.47	RT	12.00	37.60	25.00		EXIST.									
	12-7	R	LIMMER	124+05.33	RT	12.00	30.80	25.00	38.30	EXIST.									

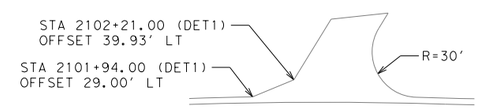
* CONTRACTOR'S INFORMATION ONLY. QUANTITIES FOR DRIVEWAYS INCLUDED IN ROADWAY SUMMARY AND QUANTITIES FOR DRAINAGE INCLUDED IN SMALL STRUCTURE SUMMARY.



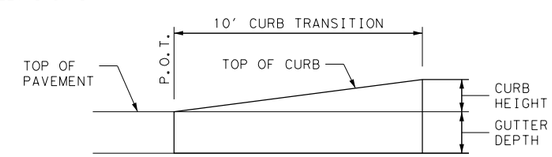
DRIVEWAY PLAN TYPICAL
(CR 110 WITH CURB & GUTTER)



DRIVEWAY PLAN TYPICAL
(CR 110 WITH SHOULDERS)



DRWY 1-2 DETAIL



CURB TRANSITION DETAIL

NOTES:

1. PAYMENT FOR DRIVEWAYS WILL BE IN ACCORDANCE WITH ITEM 530, "DRIVEWAYS".
2. REMOVAL OF EXISTING DRIVEWAY PIPES SHALL PAID FOR UNDER ITEM 496. HEADWALLS AND/OR SETS TO BE REMOVED SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 496.
3. PLACE AN EXPANSION JOINT DOWN THE CENTER OF DRIVEWAYS 30 FEET AND WIDER. USE 1/2" ASPHALT BOARD OR OTHER APPROVED MATERIAL FOR CURB & GUTTER EXPANSION JOINTS, SIDEWALK, AT THE R.O.W. LINE, AND AT MIDWIDTH.
4. SEE REMOVAL PLAN SHEETS FOR LIMITS OF PAVEMENT REMOVAL.
5. MAX COMMERICAL DRIVEWAY SLOPE IS 6%. MAX PUBLIC DRIVEWAY SLOPE IS 10%. MAX PRIVATE DRIVEWAY SLOPE IS 15%. PREFERRED DRIVEWAY SLOPE IS 6% OR LESS.
6. INSTALL 10' CURB TRANSITIONS WHERE PROPOSED DRIVEWAYS INTERESECT PROPOSED CURB AND GUTTER SECTIONS ON CR 110.

STATE OF TEXAS
TOMMY G. LEVARIO
81258
REGISTERED PROFESSIONAL ENGINEER
Tommy Levario
5/23/17

DATE	BY	REV	REVISION
11/01/16	NA	1	CULVERT REVISION
05/23/17	NA	2	CULVERT 2-2 REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY TEXAS

CR 110 SOUTH

DRIVEWAY SUMMARY AND DETAILS

SHEET 1 OF 3

DESIGNED:	TGL
DRAWN:	PRP
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	107

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Table 5 - Culvert Summary Table: STR 6

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	713.60	0.000	0.0*	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
18.41	18.41	714.74	1.136	0.0*	1-S2n	0.480	0.665	0.485	0.569	6.325	1.938
36.83	36.83	715.40	1.797	0.0*	1-S2n	0.765	1.056	0.770	0.851	7.971	2.464
55.24	55.24	715.94	2.339	0.0*	1-S2n	0.997	1.384	1.007	1.073	9.142	2.825
73.65	73.65	716.42	2.821	0.0*	1-S2n	1.219	1.676	1.221	1.264	10.052	3.100
92.06	92.06	716.87	3.266	0.0*	1-S2n	1.417	1.945	1.424	1.433	10.775	3.330
110.48	110.48	717.29	3.692	0.0*	1-S2n	1.613	2.196	1.615	1.586	11.398	3.525
128.89	128.89	717.71	4.112	0.127	5-S2n	1.794	2.434	1.834	1.727	11.712	3.698
134.27	134.27	717.84	4.236	0.168	5-S2n	1.847	2.501	1.853	1.768	12.076	3.741
165.72	165.72	718.59	4.985	0.382	5-S2n	2.148	2.878	2.213	1.982	12.479	3.991
184.13	184.13	719.06	5.458	0.500	5-S2n	2.319	3.088	2.395	2.100	12.815	4.117

* theoretical depth is impractical. Depth reported is corrected.

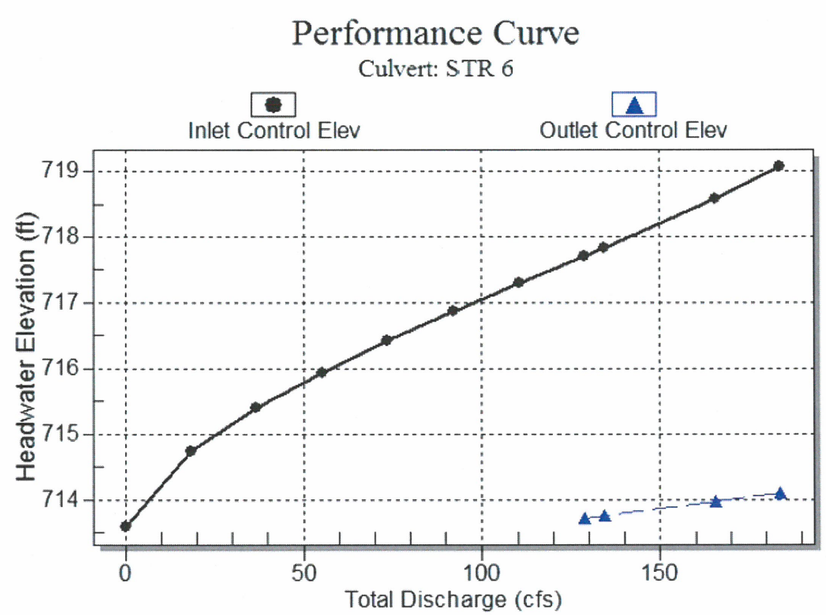
****

Inlet Elevation (invert): 713.60 ft, Outlet Elevation (invert): 712.00 ft

Culvert Length: 171.72 ft, Culvert Slope: 0.0093

****

Culvert Performance Curve Plot: STR 6



1

STATE OF TEXAS
RAFAEL BECKMANN
108488
REGISTERED PROFESSIONAL ENGINEER
11/02/16

DATE	BY	REV	REVISION
11/02/16	NA	1	CULVERT REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY 1848

CR 110 SOUTH

HYDRAULIC SUMMARY HY-8 RESULTS

SHEET 5 OF 5

DESIGNED:	RB
DRAWN:	RB
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	147

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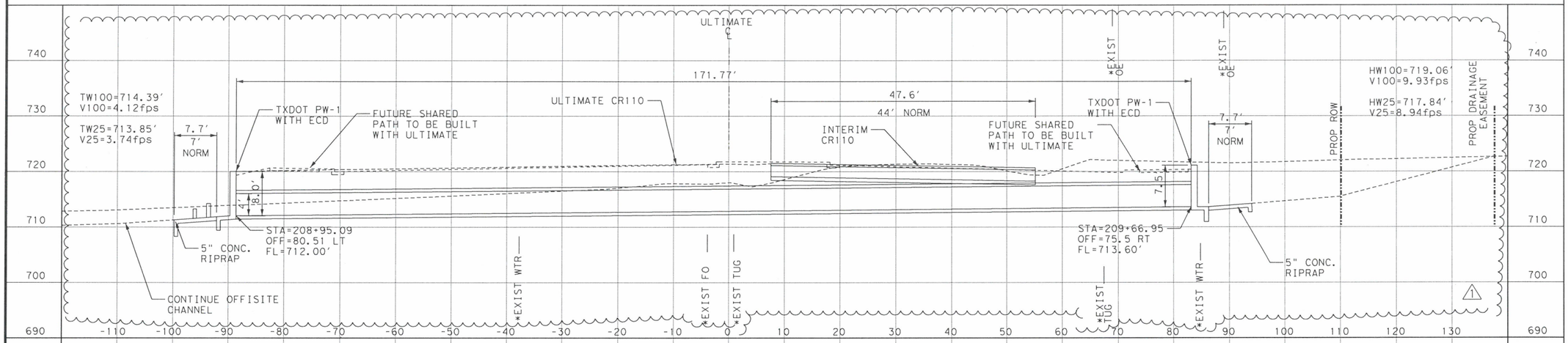

CROSSOVER STA 209+32.17
(STRUCTURE 6
6'X4' BOX CULVERT)

NOTES:

1. SEE HYDRAULIC CONFIGURATION AND DATA SHEETS FOR CULVERT HYDRAULIC DATA.
2. SEE TYPE RR8 RIPRAP DETAILS IN CRR STANDARD FOR 5" CONCRETE RIPRAP TOE WALL DETAILS.

*3. UTILITY ELEVATIONS UNKNOWN UNLESS OTHERWISE SHOWN.

STATE OF TEXAS
RAFAEL BECKMANN
108488
REGISTERED PROFESSIONAL ENGINEER
11/02/16

DATE	BY	REV	REVISION
11/02/16	NA	1	CULVERT REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY

CR 110 SOUTH

CULVERT CROSS SECTIONS

SCALE: HORIZONTAL 1"=20'
VERTICAL 1"=20'

SHEET 3 OF 3

DESIGNED:	RB
DRAWN:	RB
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	155

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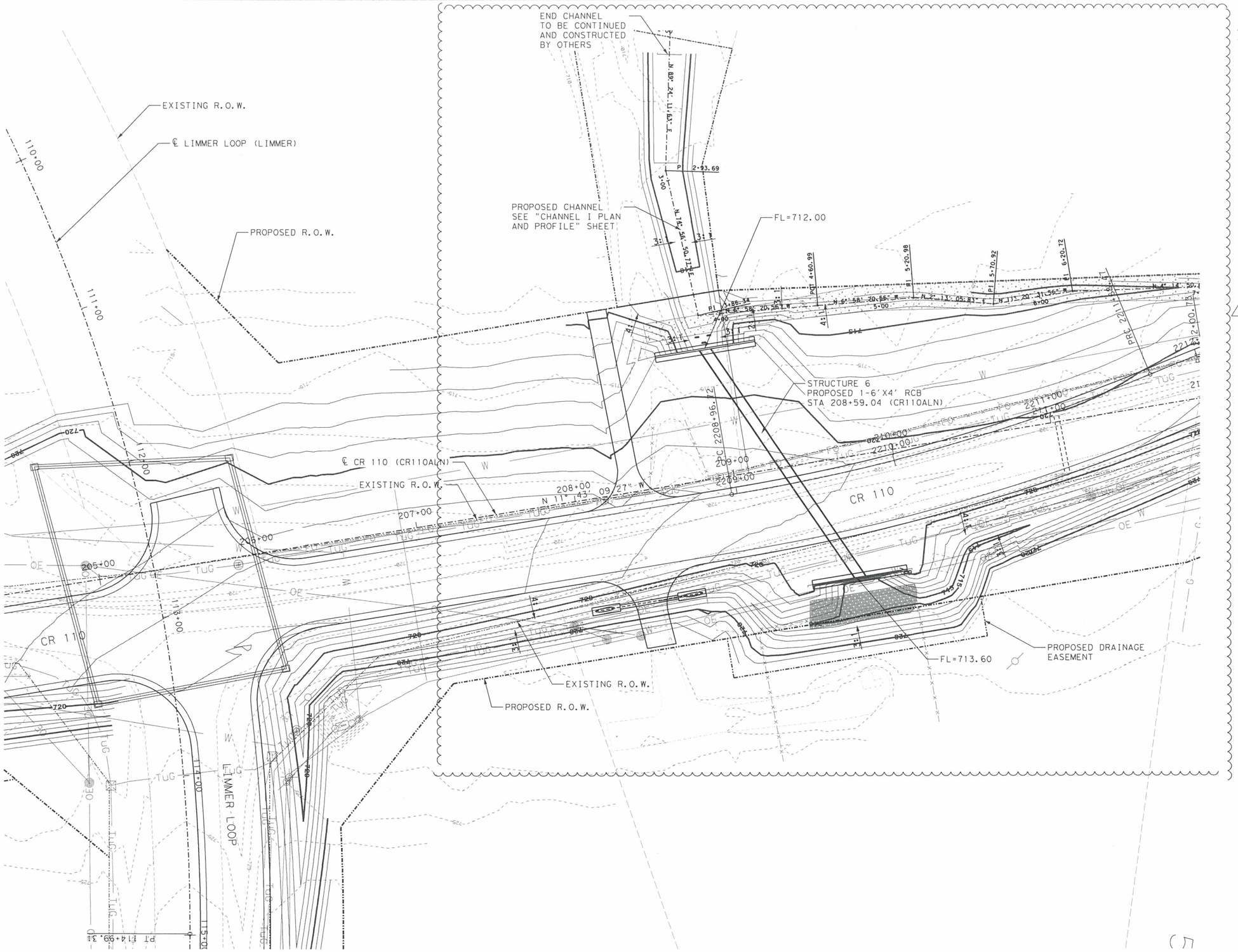

LEGEND

—720—	PROPOSED CONTOURS
- - 720 - -	EXISTING CONTOURS
	LIDAR CONTOURS (2FT INTERVAL)*

*OUTSIDE OF SURVEY. CONTRACTOR TO FIELD VERIFY ELEVATIONS AND STRUCTURES THAT MIGHT INTERFERE.

H: 0' 15' 30' 60'

STATE OF TEXAS
RAFAEL BECKMANN
108488
REGISTERED PROFESSIONAL ENGINEER
11/02/16

DATE	BY	REV	REVISION
11/02/16	NA	1	CULVERT REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY TEXAS

CR 110 SOUTH

CULVERT GRADING

SCALE: HORIZONTAL 1"=60'

SHEET 2 OF 2

DESIGNED:	RB
DRAWN:	RB
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	157

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CHANNEL 1

Beginning chain ZCHAN description

Point Z1	N	10,180,075.71 E	3,154,859.56 Sta	1+00.00	
Course from Z1 to Z2 N 8° 22′ 18.98" E Dist 102.82					
Point Z2	N	10,180,177.43 E	3,154,874.53 Sta	2+02.82	
Course from Z2 to Z3 N 89° 24′ 11.63" E Dist 90.88					
Point Z3	N	10,180,178.38 E	3,154,965.40 Sta	2+93.69	
Course from Z3 to Z4 N 74° 56′ 50.77" E Dist 92.65					
Point Z4	N	10,180,202.44 E	3,155,054.87 Sta	3+86.34	
Course from Z4 to Z5 N 6° 58′ 20.56" W Dist 74.65					
Point Z5	N	10,180,276.54 E	3,155,045.81 Sta	4+60.99	
Course from Z5 to Z11 N 6° 58′ 20.56" W Dist 59.99					
Point Z11	N	10,180,336.08 E	3,155,038.53 Sta	5+20.98	
Course from Z11 to Z12 N 2° 13′ 05.83" E Dist 49.95					
Point Z12	N	10,180,385.99 E	3,155,040.46 Sta	5+70.92	
Course from Z12 to Z13 N 11° 20′ 31.56" W Dist 49.79					
Point Z13	N	10,180,434.81 E	3,155,030.67 Sta	6+20.72	
Course from Z13 to Z14 N 4° 14′ 50.41" W Dist 140.01					
Point Z14	N	10,180,574.43 E	3,155,020.30 Sta	7+60.73	
Course from Z14 to Z15 N 14° 58′ 28.36" W Dist 131.91					
Point Z15	N	10,180,701.86 E	3,154,986.22 Sta	8+92.63	

Ending chain ZCHAN description

1

STATE OF TEXAS
RAFAEL BECKMANN
108488
REGISTERED PROFESSIONAL ENGINEER

11/02/16

DATE	BY	REV	REVISION
11/02/16	NA	1	CULVERT REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY TEXAS

CR 110 SOUTH

CHANNEL I ALIGNMENT DATA

DESIGNED:	RB
DRAWN:	EM
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	158

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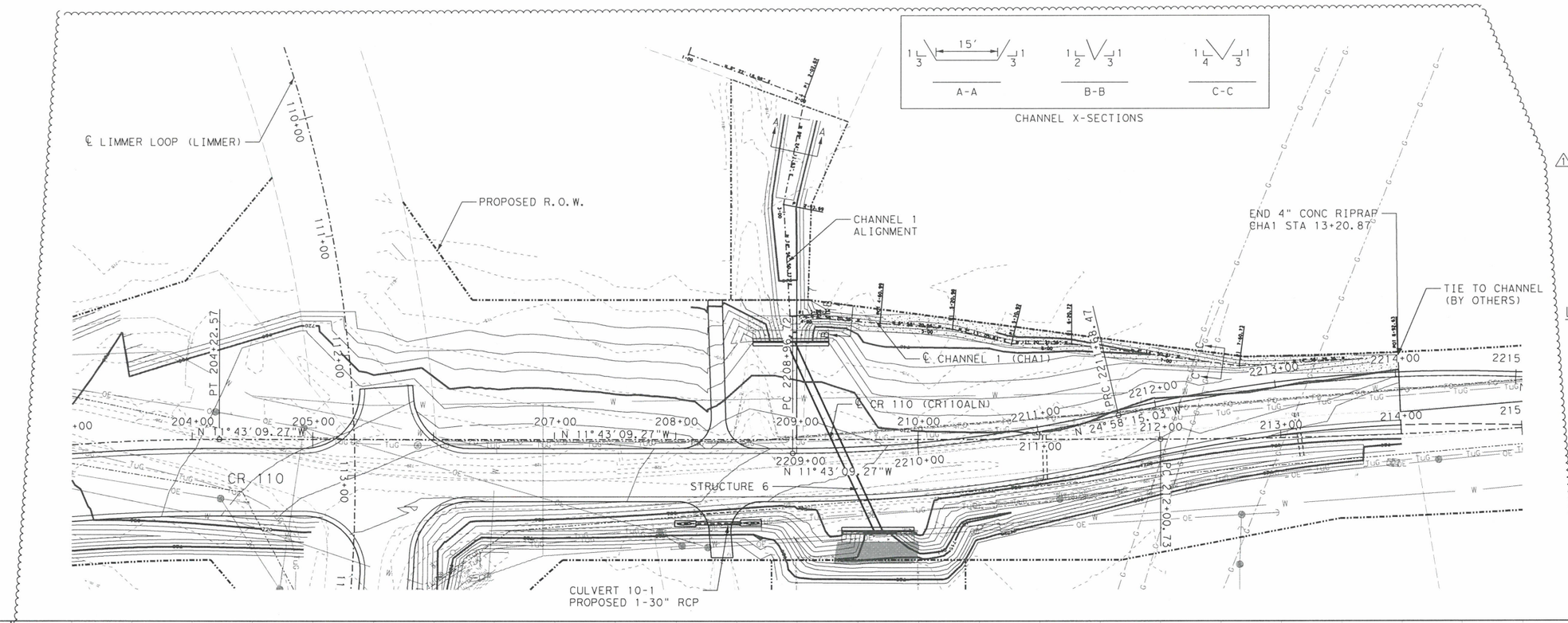
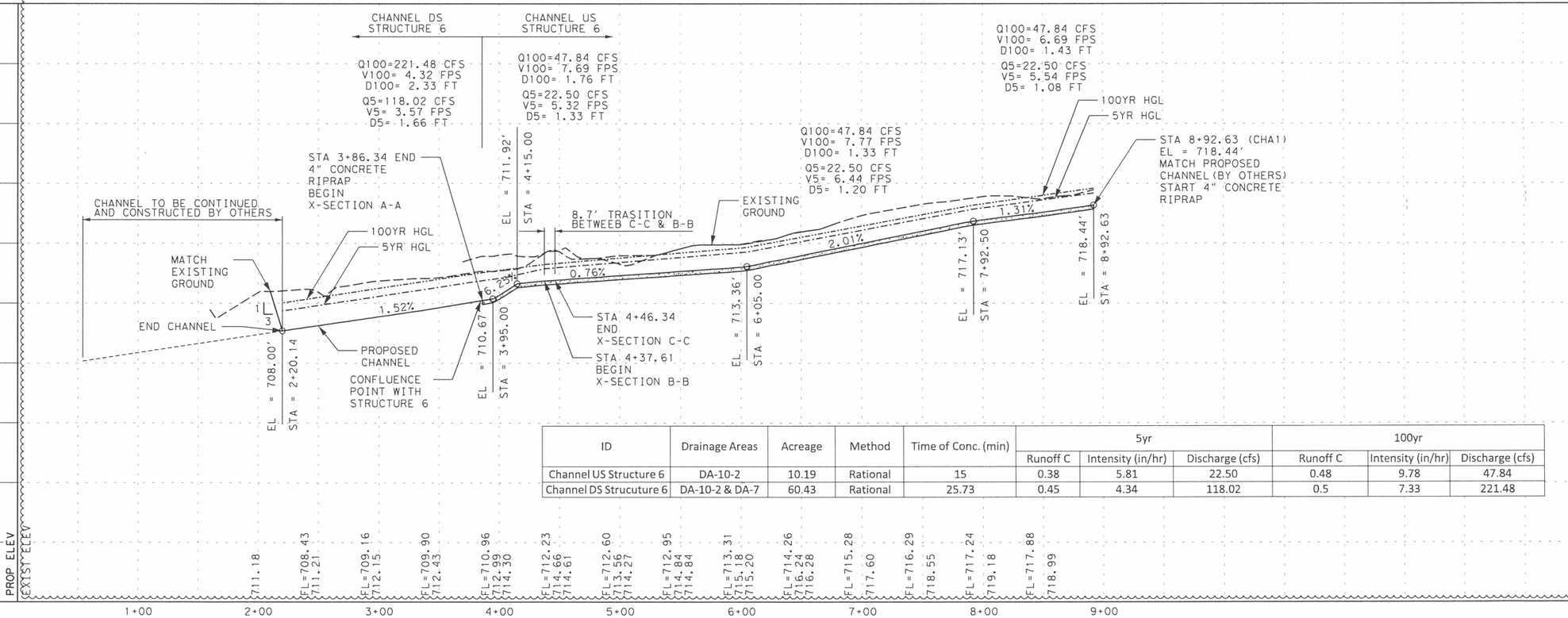


LEGEND

- PROPOSED CONTOUR
- EXISTING CONTOUR FROM SURVEY DATA
- EXISTING LIDAR CONTOURS



ID	Drainage Areas	Acreage	Method	Time of Conc. (min)	5yr			100yr		
					Runoff C	Intensity (in/hr)	Discharge (cfs)	Runoff C	Intensity (in/hr)	Discharge (cfs)
Channel US Structure 6	DA-10-2	10.19	Rational	15	0.38	5.81	22.50	0.48	9.78	47.84
Channel DS Strucuture 6	DA-10-2 & DA-7	60.43	Rational	25.73	0.45	4.34	118.02	0.5	7.33	221.48

STATE OF TEXAS
RAFAEL BECKMANN
108488
REGISTERED PROFESSIONAL ENGINEER
11/02/16

DATE	BY	REV	REVISION
11/02/16	NA	1	CULVERT REVISION

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3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY TEXAS

CR 110 SOUTH

CHANNEL 1 PLAN AND PROFILE

SCALE: HORIZONTAL 1"=100'
VERTICAL 1"=10'

DESIGNED:	RB
DRAWN:	EM
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	159

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DATE: 11/11/2016 TIME: 1:06:57 PM USER: najib.azouggagh

Culvert Station and/or Creek name followed by applicable end (Lt, Rt or Both)	Description of Box Culvert No. Spans ~ Span X Height	Max Fill Height (Ft)	Applicable Box Culvert Standard (4)	Applicable Wingwall or End Treatment Standard	Skew Angle (0°, 15°, 30° or 45°)	Side Slope or Channel Slope Ratio (SL:1)	T Culvert Top Slab Thickness (In)	U Culvert Wall Thickness (In)	C Estimated Curb Height (Ft)	Hw (1) Height of Wingwall (Ft)	A Curb to End of Wingwall (Ft)	B Offset of End of Wingwall (Ft)	Lw Length of Longest Wingwall (Ft)	Ltw Culvert Toewall Length (Ft)	Atw Anchor Toewall Length (Ft)	Riprap Apron (C.Y.)	Class (2) "C" Conc (Curb) (C.Y.)	Class (3) "C" Conc (Wingwall) (C.Y.)	Total Wingwall Area (S.F.)
Structure 3 STA 135+13.30 (Lt)	1 ~ 5'x 4'	9'	SCP-5	PW-1	45°	3:1	6"	6"	1 4.500'	1 9.000'	N/A	N/A	1 38.184'	8.485'	N/A	0.0	1 1.4	1 44.3	1 687
Structure 3 STA 135+13.30 (Rt)	1 ~ 5'x 4'	6.5'	SCP-5	PW-1	45°	3:1	6"	6"	1 2.000'	1 6.500'	N/A	N/A	1 27.577'	8.485'	N/A	0.0	1 0.9	1 21.8	1 359
Structure 4 STA 188+26.74 (Rt)	1 ~ 3'x 2'	4.25'	SCP-3	PW-1	15°	3:1	4"	4"	1.250'	3.583'	N/A	N/A	11.129'	3.796'	N/A	0.0	0.2	6.2	80
Structure 5 STA 188+26.75 (Rt)	1 ~ 3'x 2'	3.25'	SCP-3	PW-1	0°	3:1	4"	4"	0.250'	2.583'	N/A	N/A	7.750'	3.667'	N/A	0.0	0.0	3.5	40
Structure 6 STA 208+59.04 (Lt)	1 ~ 6'x 4'	8'	SCP-6	PW-1	30°	3:1	7"	7"	1 3.417'	1 8.000'	N/A	N/A	1 27.713'	8.275'	N/A	0.0	1 1.0	1 27.4	1 443
Structure 6 STA 208+59.04 (Rt)	1 ~ 6'x 4'	7.5'	SCP-6	PW-1	30°	3:1	7"	7"	1 2.917'	1 7.500'	N/A	N/A	1 25.981'	8.275'	N/A	0.0	1 0.9	1 24.2	1 390

NOTES:

Skew Angle = 0° for SW-0, FW-0, SETB-CD, SETB-SW-0, and SETB-FW-0 standards.
30° Maximum for Safety End Treatment

SL:1 = Horizontal:1 Vertical
Side Slope at culvert for Flared or Straight Wingwalls. Channel Slope for Parallel Wingwalls.
Slope shall be 3:1 or flatter for Safety End Treatments.

T = Box Culvert Top Slab Thickness. Dimension can be found on the applicable Box Culvert Standard.

U = Box Culvert Wall Thickness. Dimension can be found on the applicable Box Culvert Standard.

C = Curb Height.

See applicable wing or end treatment standards for calculations of Hw, A, B, Lw, Ltw, Atw, and Total Wingwall Area.
Hw = Height of Wingwall.
A = Distance from Face of Curb to End of Wingwall (Not applicable to Parallel or Straight Wingwalls).
B = Offset of End of Wingwall (Not applicable to Parallel or Straight Wingwalls).
Lw = Length of Longest Wingwall.
Ltw = Length of Culvert Toewall (Not applicable when using Riprap Apron).
Atw = Length of Anchor Toewall (Applicable to Safety End Treatment only).
Total Wingwall Area = Wingwall area in S.F. for two wingwalls (one structure end) if Lt or Rt.
Area for four wingwalls (two structure ends) if Both.

(1) The wall heights shown will be rounded to the nearest Foot for bidding purposes.

(2) Concrete volume shown is for box culvert curb only. For curbs using the RAC standard, quantities shown must be increased by a factor of 2. If Class "S" concrete is required for the top slab of the culvert, the curb concrete shall also be Class "S". Curb concrete is considered part of the Box Culvert for payment.

(3) Concrete volume shown is total of wing, footing, culvert toewall (if any), anchor toewall (if any) and wingwall toewall. Riprap apron, culvert and curb quantities are not included.

(4) Regardless of the type of culvert shown on this sheet, the Contractor shall have the option of furnishing cast-in-place or precast culverts unless otherwise shown elsewhere on the plans. If the Contractor elects to provide culverts of a different type than those shown on this sheet, it shall be the Contractor's responsibility to make the necessary adjustments to the dimensions and quantities shown.

STATE OF TEXAS
RAFAEL BECKMANN
108488
REGISTERED PROFESSIONAL ENGINEER

11/02/16

Texas Department of Transportation

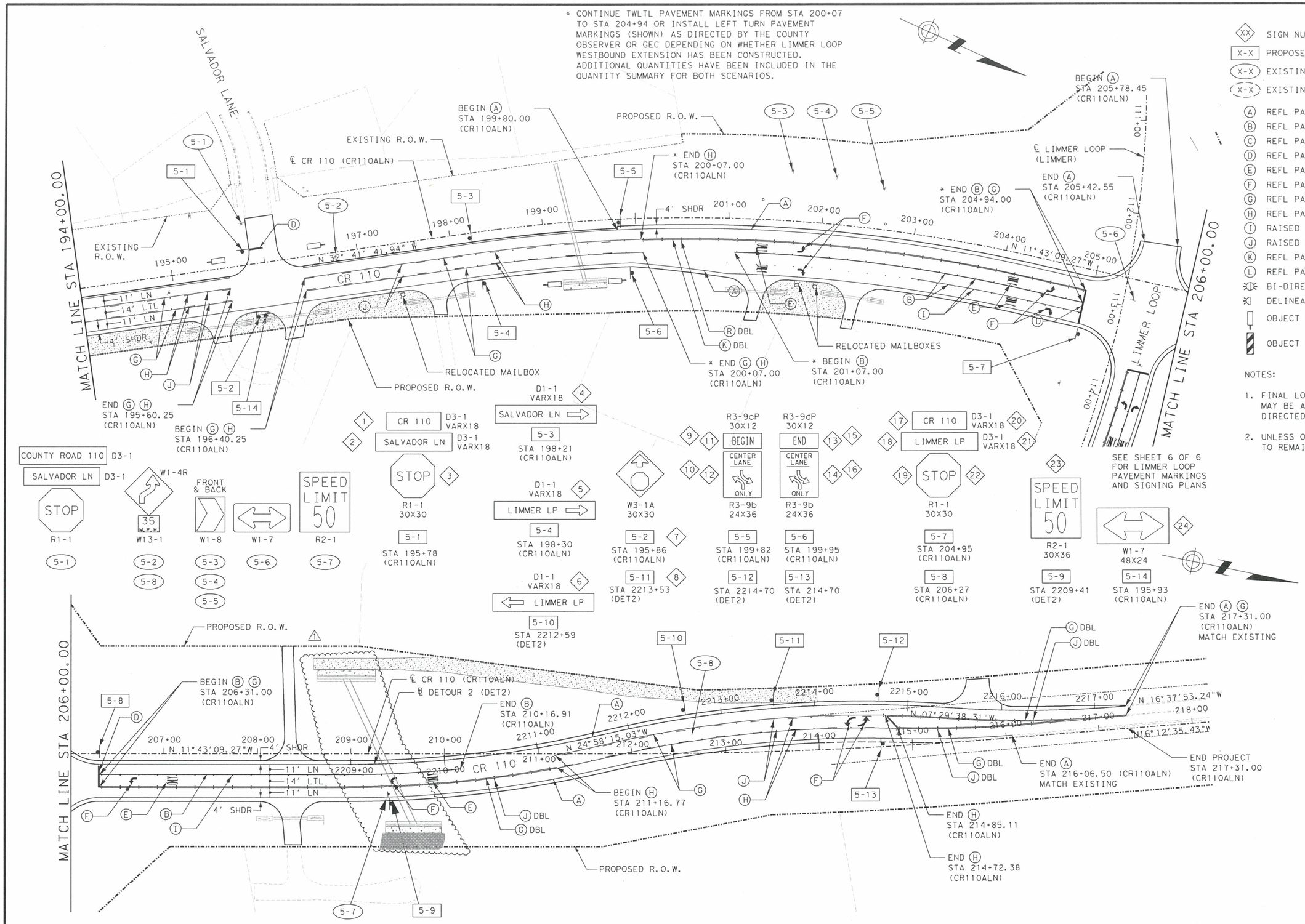
Bridge Division Standard

BOX CULVERT SUPPLEMENT
WINGS AND END TREATMENTS

BCS

FILE: bcsstde1.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: GAF
©TxDOT February 2010	CONT	SECT	JOB	HIGHWAY
REVISIONS				CR 110
	DIST	COUNTY		SHEET NO.
	14	WILLIAMSON		162

DATE:
FILE:



LEGEND

- (XX) SIGN NUMBER
- [X-X] PROPOSED SIGNS
- (X-X) EXISTING SIGN TO BE REMOVED
- (X-X) EXISTING SIGN TO BE RELOCATED
- (A) REFL PAV MRK TY I (W) (4") (SLD)
- (B) REFL PAV MRK TY I (W) (8") (SLD)
- (C) REFL PAV MRK TY I (W) (36") (YLD TRI)
- (D) REFL PAV MRK TY I (W) (24") (SLD)
- (E) REFL PAV MRK TY I (W) (WORD)
- (F) REFL PAV MRK TY I (W) (ARROW)
- (G) REFL PAV MRK TY I (Y) (4") (SLD)
- (H) REFL PAV MRK TY I (Y) (4") (BRK)
- (I) RAISED PAV MRK CL B (REFL) TY I-C
- (J) RAISED PAV MRK CL B (REFL) TY II-A-A
- (K) REFL PAV MRK TY I (W) 8" (DOT)
- (L) REFL PAV MRK TY II (Y) (4") (SLD)
- BI-DIRECTIONAL DELINEATOR
- DELINEATOR
- OBJECT MARKER (OM-2)
- OBJECT MARKER (OM-3)

NOTES:

1. FINAL LOCATION OF ALL PROPOSED SIGNS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.
2. UNLESS OTHERWISE NOTED, EXISTING SIGNS TO REMAIN IN PLACE.

H: 0' 25' 50' 100'

STATE OF TEXAS
TOMMY G. LEVARIO
81258
REGISTERED PROFESSIONAL ENGINEER
11/2/16

DATE	BY	REV	REVISION
11/02/16	NA	1	CULVERT REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY 1848

CR 110 SOUTH

PAVEMENT MARKINGS AND SIGNING PLANS

STA 194+00 TO END

SCALE: HORIZONTAL 1"=100'

SHEET 5 OF 6

DESIGNED:	TGL
DRAWN:	PRP
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	242

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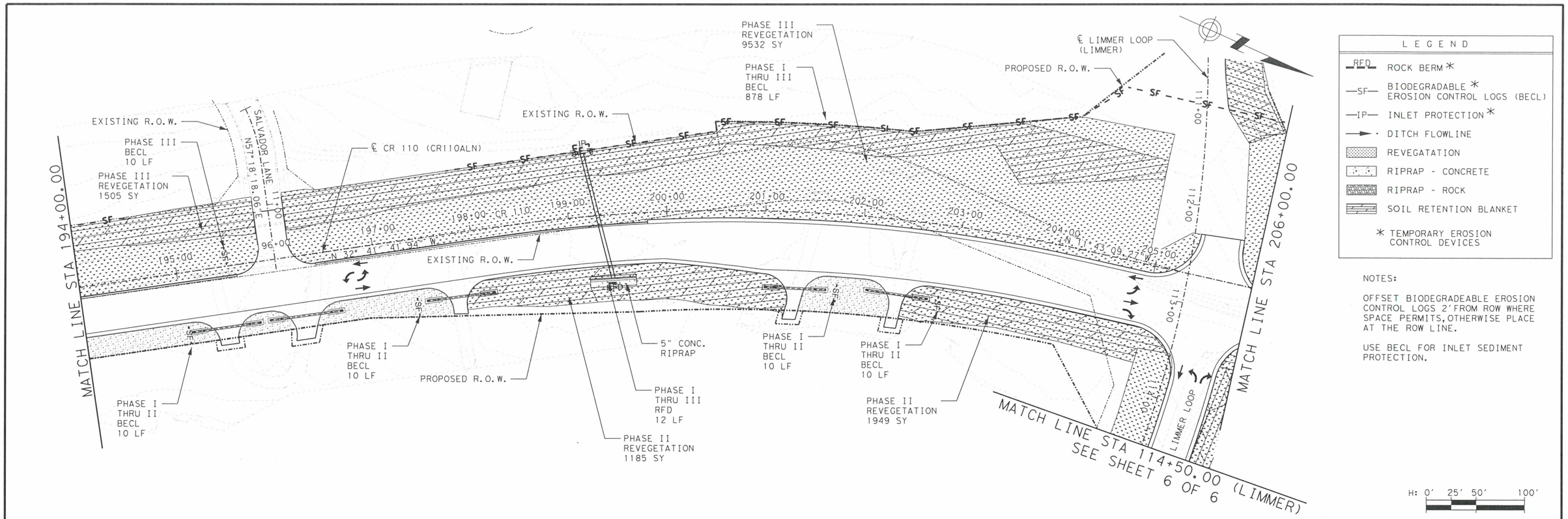

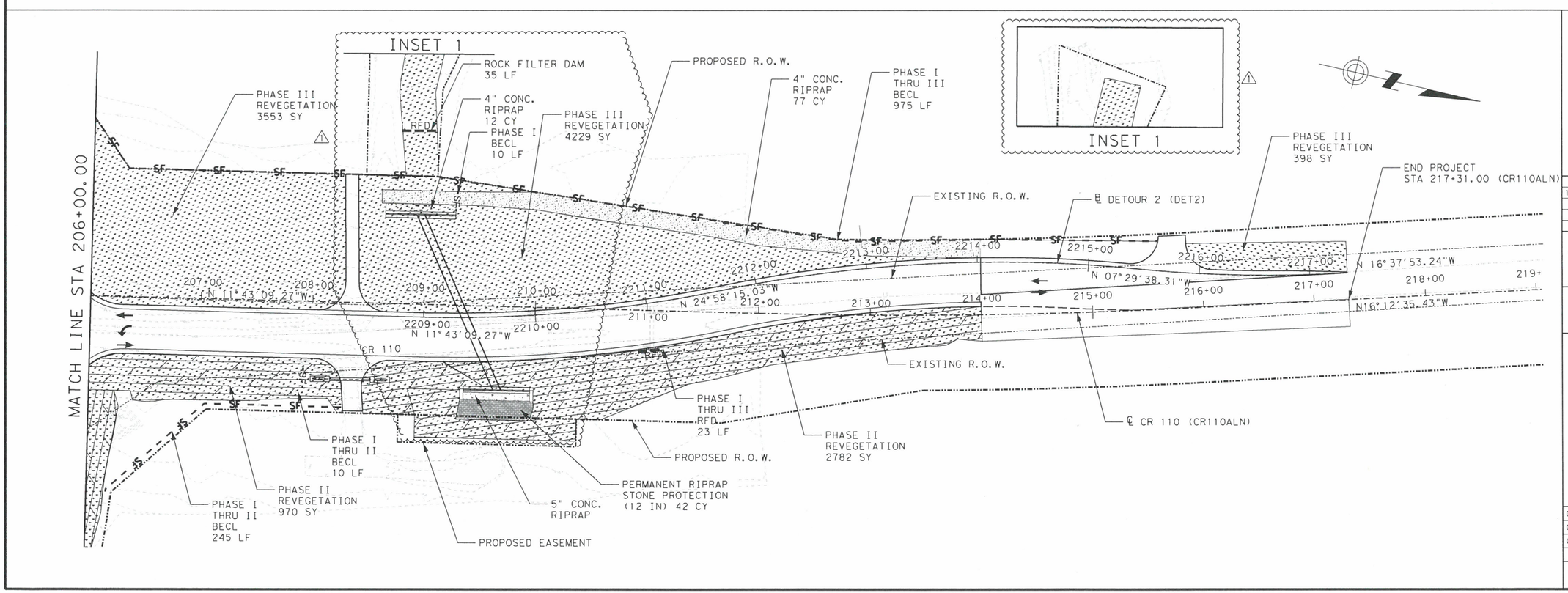

STATE OF TEXAS
RAFAEL BECKMANN
108488
REGISTERED PROFESSIONAL ENGINEER
11/02/16

DATE	BY	REV	REVISION
11/02/16	NA	1	CULVERT REVISION

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ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY 1848

CR 110 SOUTH

SW3P LAYOUT

STA 194+00 TO STA END
SCALE: HORIZONTAL 1"=100'

SHEET 5 OF 6

DESIGNED:	RB
DRAWN:	EM
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	265

FILE: pw:\\us-hou-pw01.dannenbaum.local:Dannenbaum\Documents\Transportation\4862-01\Design\E&S Sheets\4862SW3P-05
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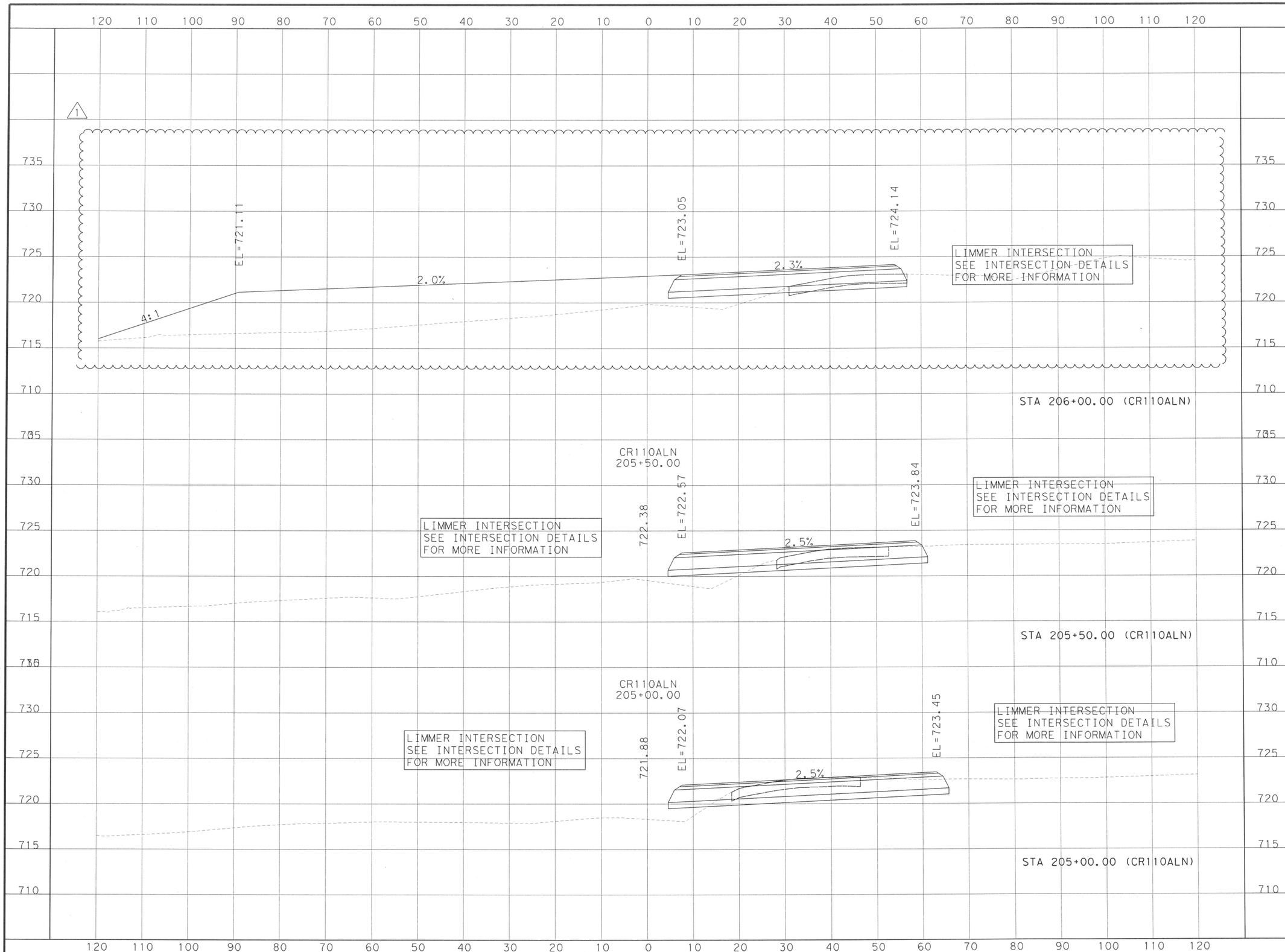

H: 0' 5' 10' 20'
V: 0' 5' 10'

STATE OF TEXAS
TOMMY G. LEVARIO
81258
REGISTERED PROFESSIONAL ENGINEER

Tommy Levario
11/2/16

DATE	BY	REV	REVISION
11/01/16	NA	1	CULVERT REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
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3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY TEXAS

CR 110 SOUTH

CR 110
CROSS SECTIONS

SCALE: HORIZONTAL 1"=20'
VERTICAL 1"=10'

SHEET 86 OF 95

DESIGNED:	JH
DRAWN:	JH
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	86

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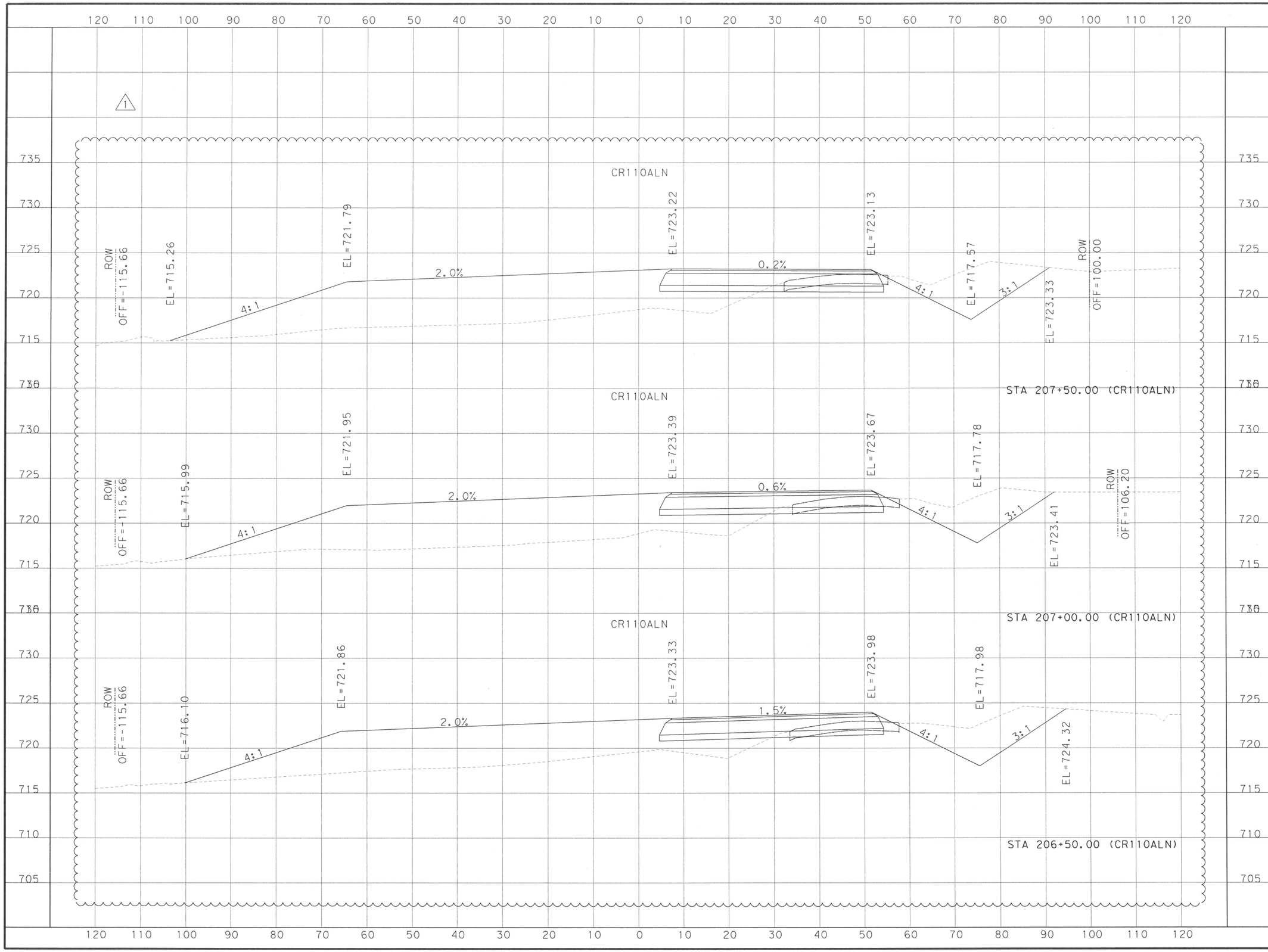

STATE OF TEXAS
TOMMY G. LEVARIO
81258
REGISTERED PROFESSIONAL ENGINEER

Tommy Levario
11/2/16

DATE	BY	REV	REVISION
11/01/16	NA	1	CULVERT REVISION

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3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY 1848

CR 110 SOUTH

CR 110
CROSS SECTIONS

SCALE: HORIZONTAL 1"=20'
VERTICAL 1"=10'

SHEET 87 OF 95

DESIGNED:	JH
DRAWN:	JH
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	87

FILE: pw:\\us-hau-pw01.dannenbaum.local:Dannenbaum\Documents\Transportation\4862-01\Geopak\CR110*XS Sheets.dgn
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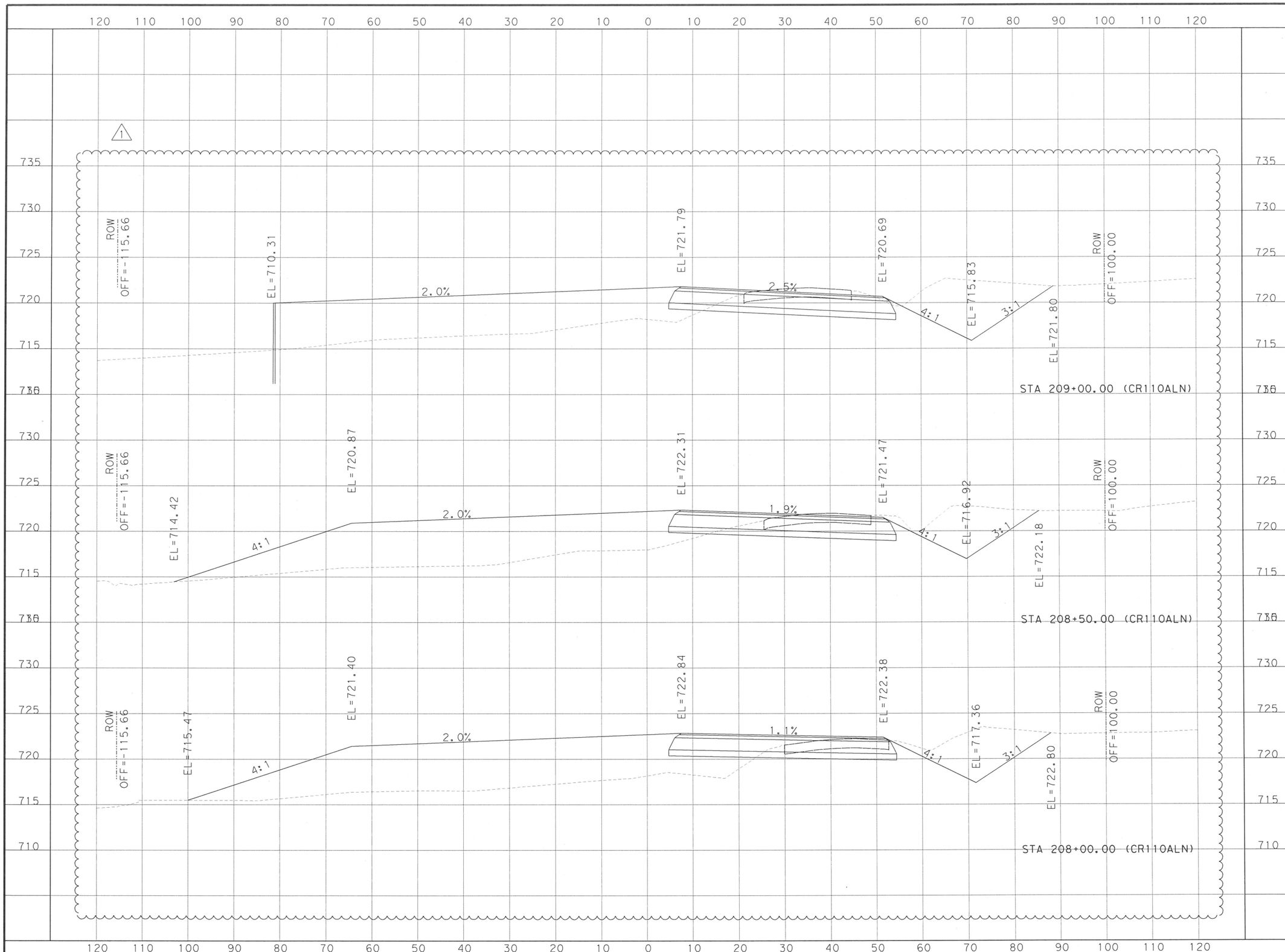

STATE OF TEXAS
TOMMY G. LEVARIO
81258
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Tommy Levario
11/2/16

DATE	BY	REV	REVISION
11/01/16	NA	1	CULVERT REVISION

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WILLIAMSON COUNTY TEXAS

CR 110 SOUTH

CR 110
CROSS SECTIONS

SCALE: HORIZONTAL 1"=20'
VERTICAL 1"=10'

SHEET 88 OF 95

DESIGNED:	JH
DRAWN:	JH
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	88

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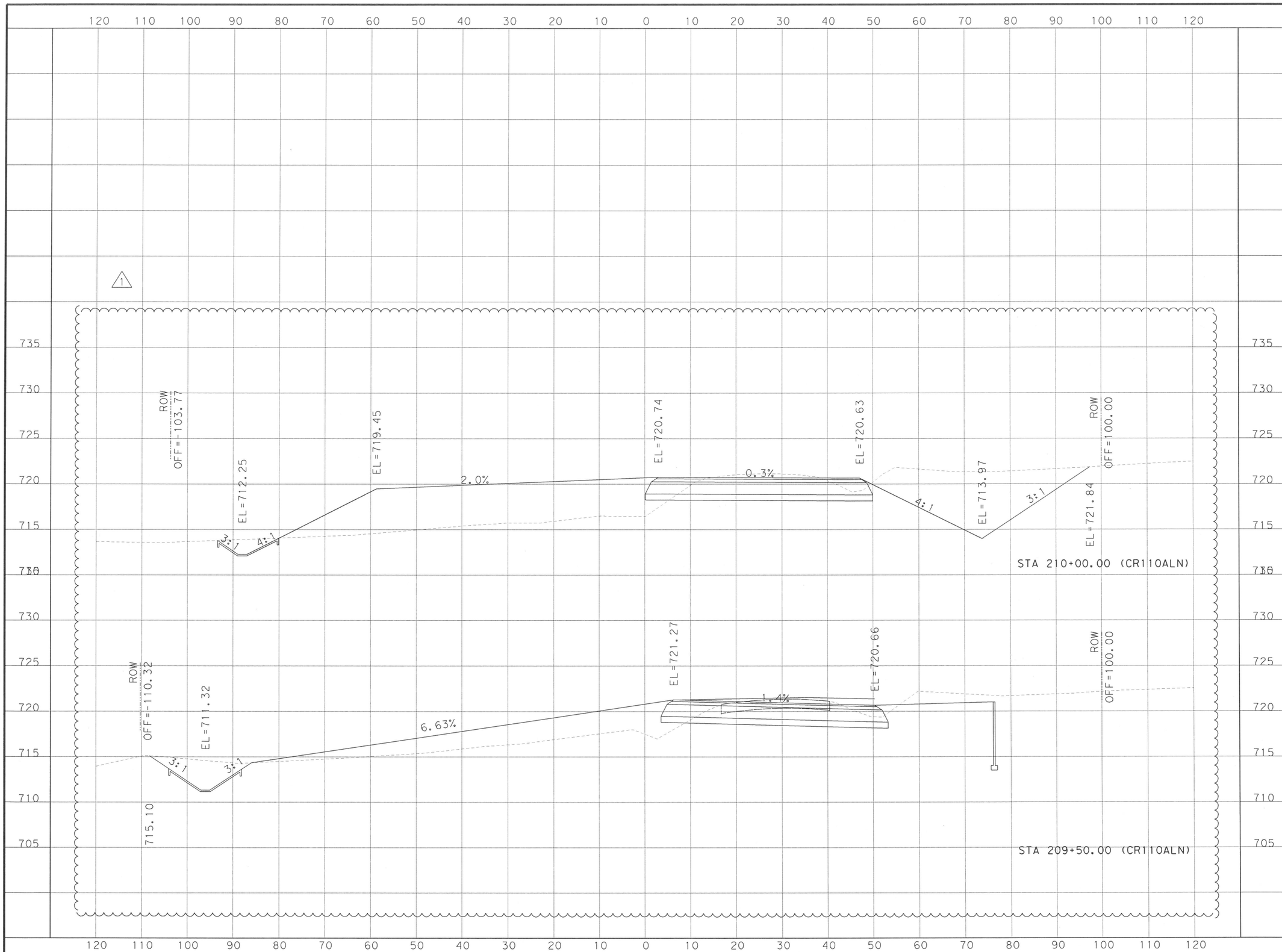

STATE OF TEXAS
TOMMY G. LEVARIO
81258
REGISTERED PROFESSIONAL ENGINEER

Tommy Levario
11/2/16

DATE	BY	REV	REVISION
11/01/16	NA	1	CULVERT REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY 1848

CR 110 SOUTH

CR 110
CROSS SECTIONS

SCALE: HORIZONTAL 1"=20'
VERTICAL 1"=10'

SHEET 89 OF 95

DESIGNED:	JH
DRAWN:	JH
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	89

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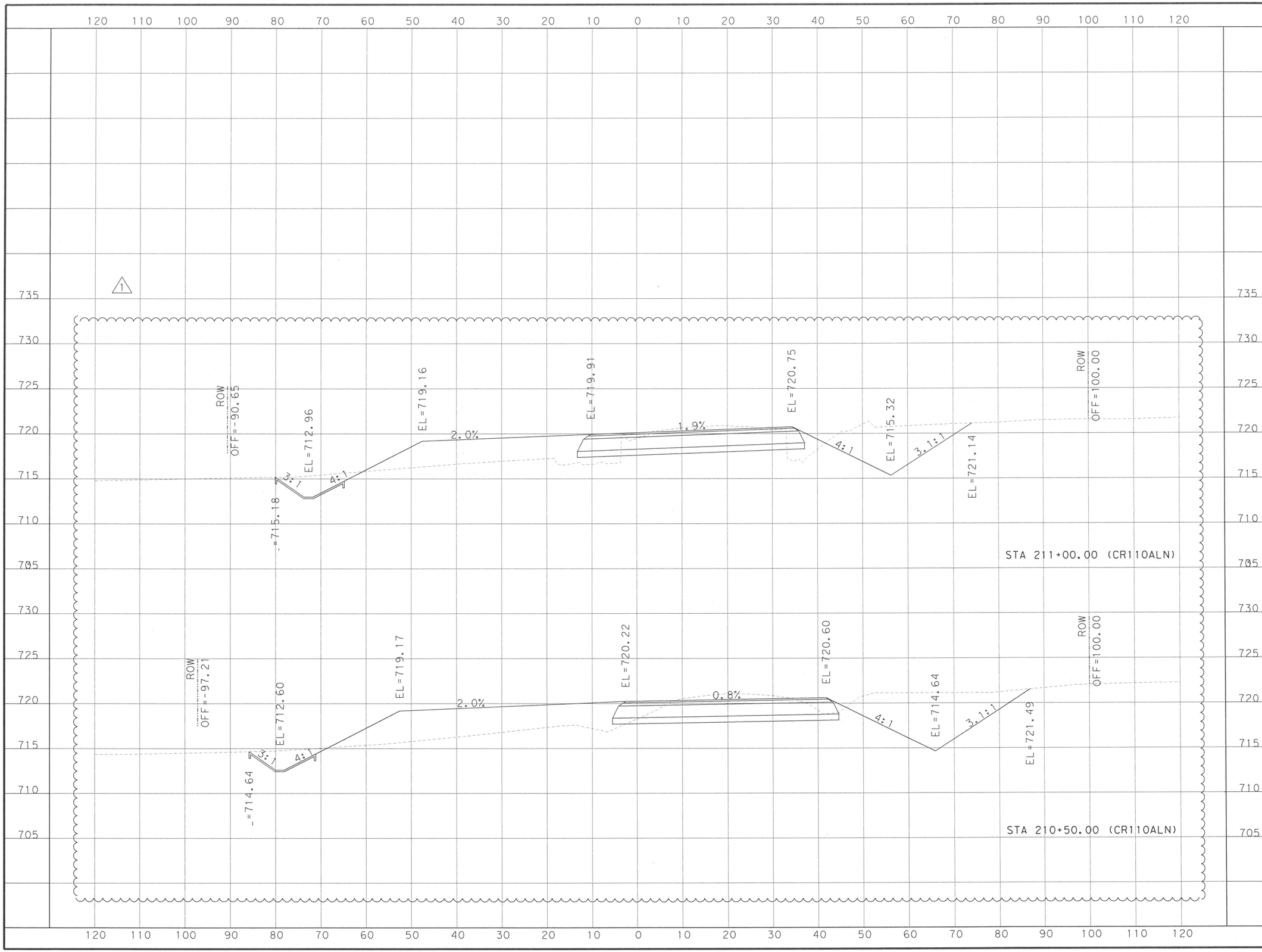

STATE OF TEXAS
TOMMY G. LEVARIO
81258
REGISTERED PROFESSIONAL ENGINEER
Tommy Levario
11/2/16

DATE	BY	REV	REVISION
11/01/16	NA	1	CULVERT REVISION

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WILLIAMSON COUNTY TEXAS

CR 110 SOUTH

CR 110
CROSS SECTIONS

SCALE: HORIZONTAL 1"=20'
VERTICAL 1"=10'

SHEET 90 OF 95

DESIGNED:	JH
DRAWN:	JH
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	90

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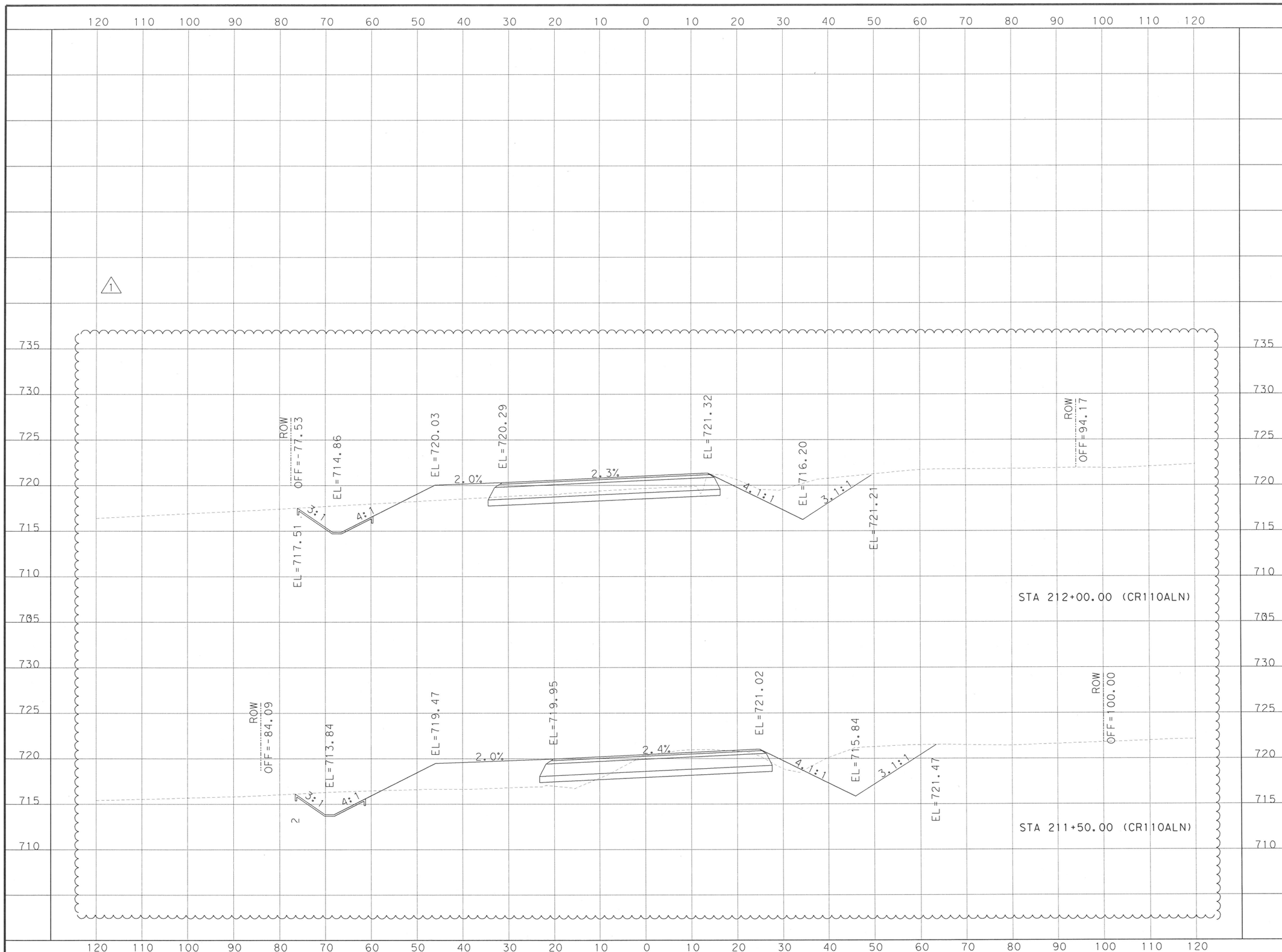

H: 0′ 5′ 10′ 20′
V: 0′ 5′ 10′

STATE OF TEXAS
TOMMY G. LEVARIO
81258
REGISTERED PROFESSIONAL ENGINEER

Tommy Levario
11/2/16

DATE	BY	REV	REVISION
11/01/16	NA	1	CULVERT REVISION

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WILLIAMSON COUNTY 1848

CR 110 SOUTH

CR 110
CROSS SECTIONS

SCALE: HORIZONTAL 1"=20′
VERTICAL 1"=10′

SHEET 91 OF 95

DESIGNED:	JH
DRAWN:	JH
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	91

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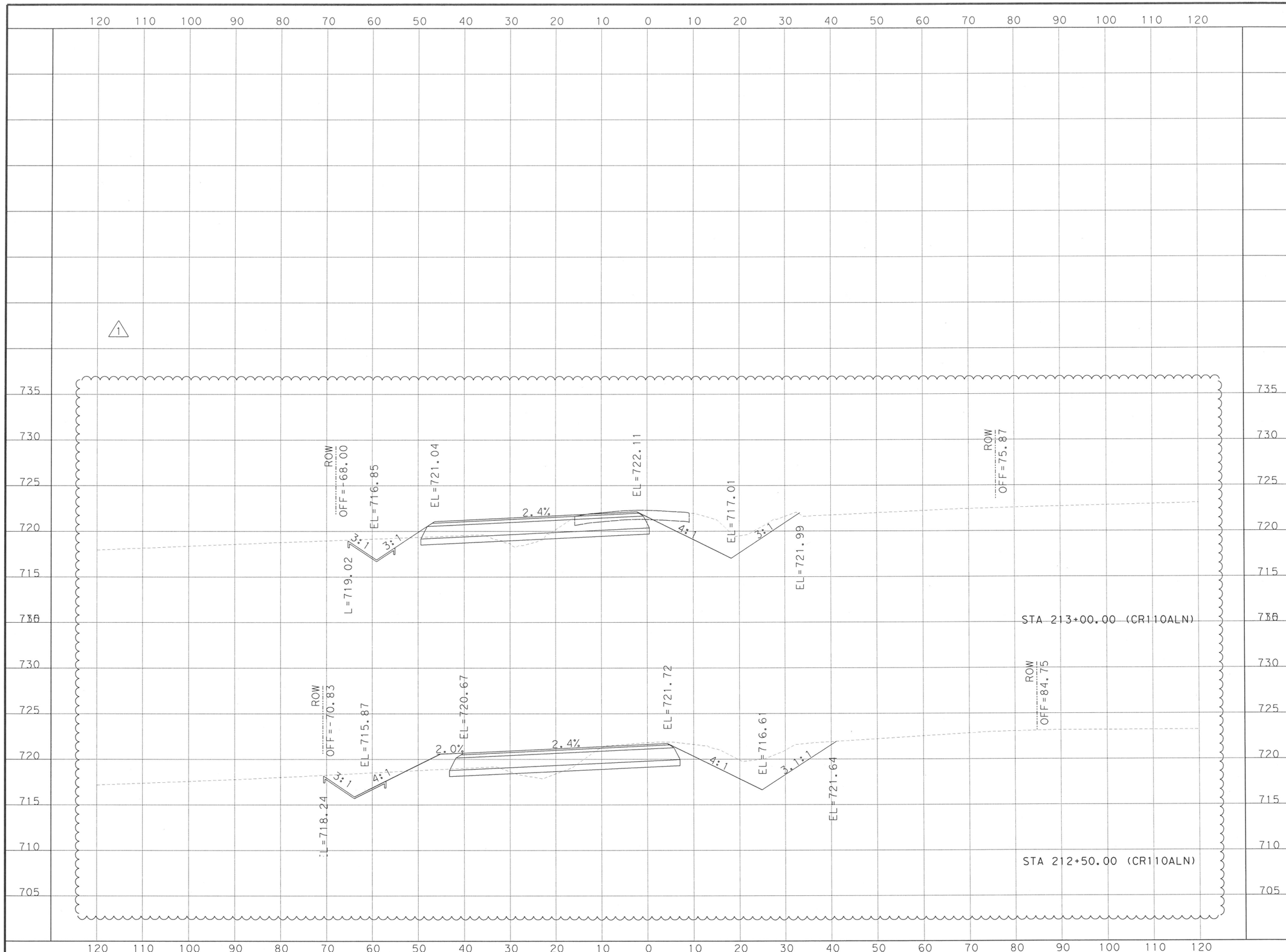

H: 0' 5' 10' 20'
V: 0' 5' 10'

STATE OF TEXAS
TOMMY G. LEVARIO
81258
REGISTERED PROFESSIONAL ENGINEER

11/2/16

DATE	BY	REV	REVISION
11/01/16	NA	1	CULVERT REVISION

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3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY 1848

CR 110 SOUTH

CR 110
CROSS SECTIONS

SCALE: HORIZONTAL 1"=20'
VERTICAL 1"=10'

SHEET 92 OF 95

DESIGNED:	JH
DRAWN:	JH
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	92

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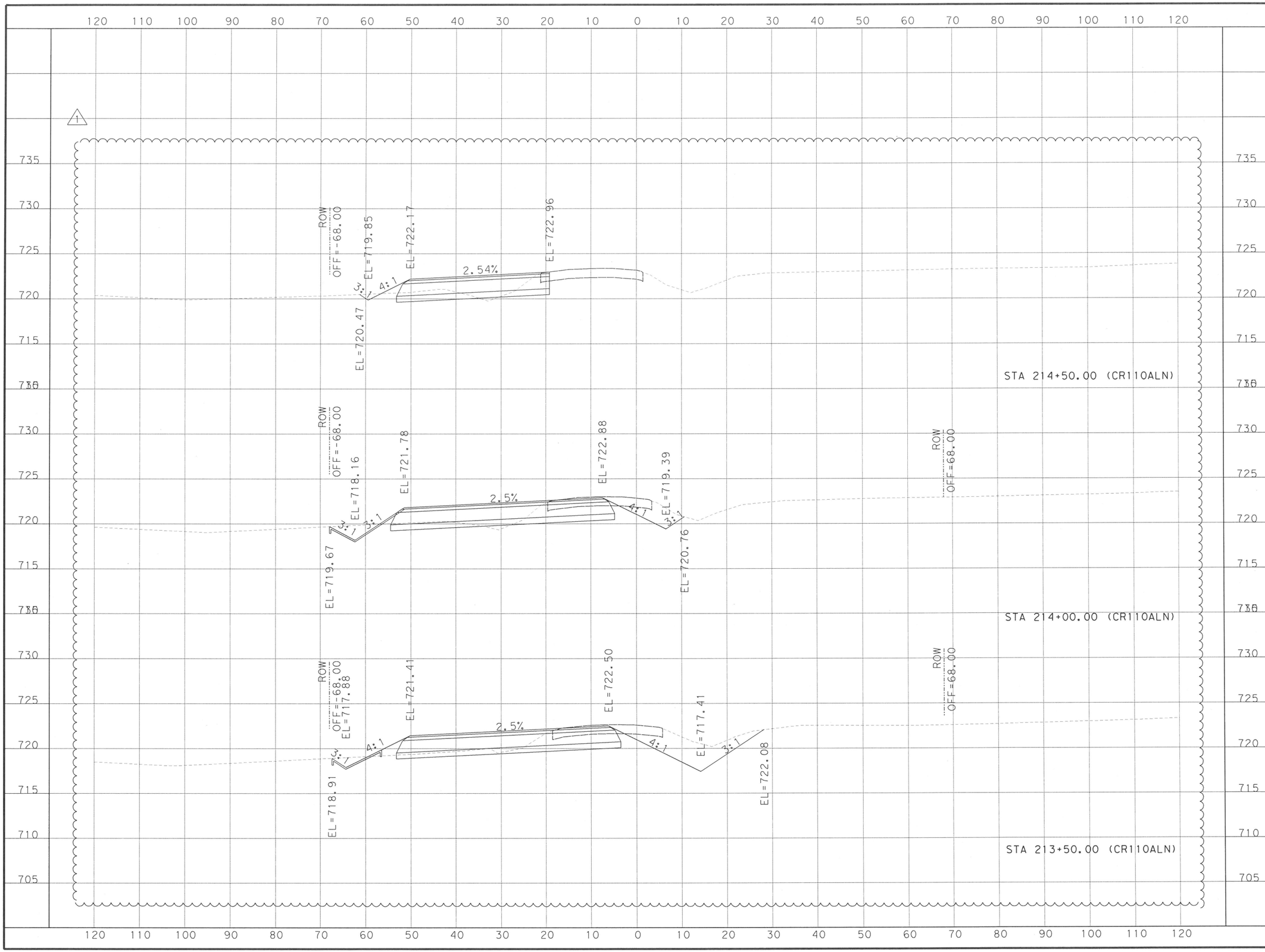

H: 0' 5' 10' 20'
V: 0' 5' 10'

STATE OF TEXAS
TOMMY G. LEVARIO
81258
REGISTERED PROFESSIONAL ENGINEER

Tommy Levario
11/2/16

DATE	BY	REV	REVISION
11/01/16	NA	1	CULVERT REVISION

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ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY TEXAS

CR 110 SOUTH

CR 110
CROSS SECTIONS

SCALE: HORIZONTAL 1"=20'
VERTICAL 1"=10'

SHEET 93 OF 95

DESIGNED:	JH
DRAWN:	JH
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	93

FILE: pw:\\us-hou-pw01.dannenbaum.local:Dannenbaum\Documents\Transportation\4862-01\Geopak\CR110*XS Sheets.dgn
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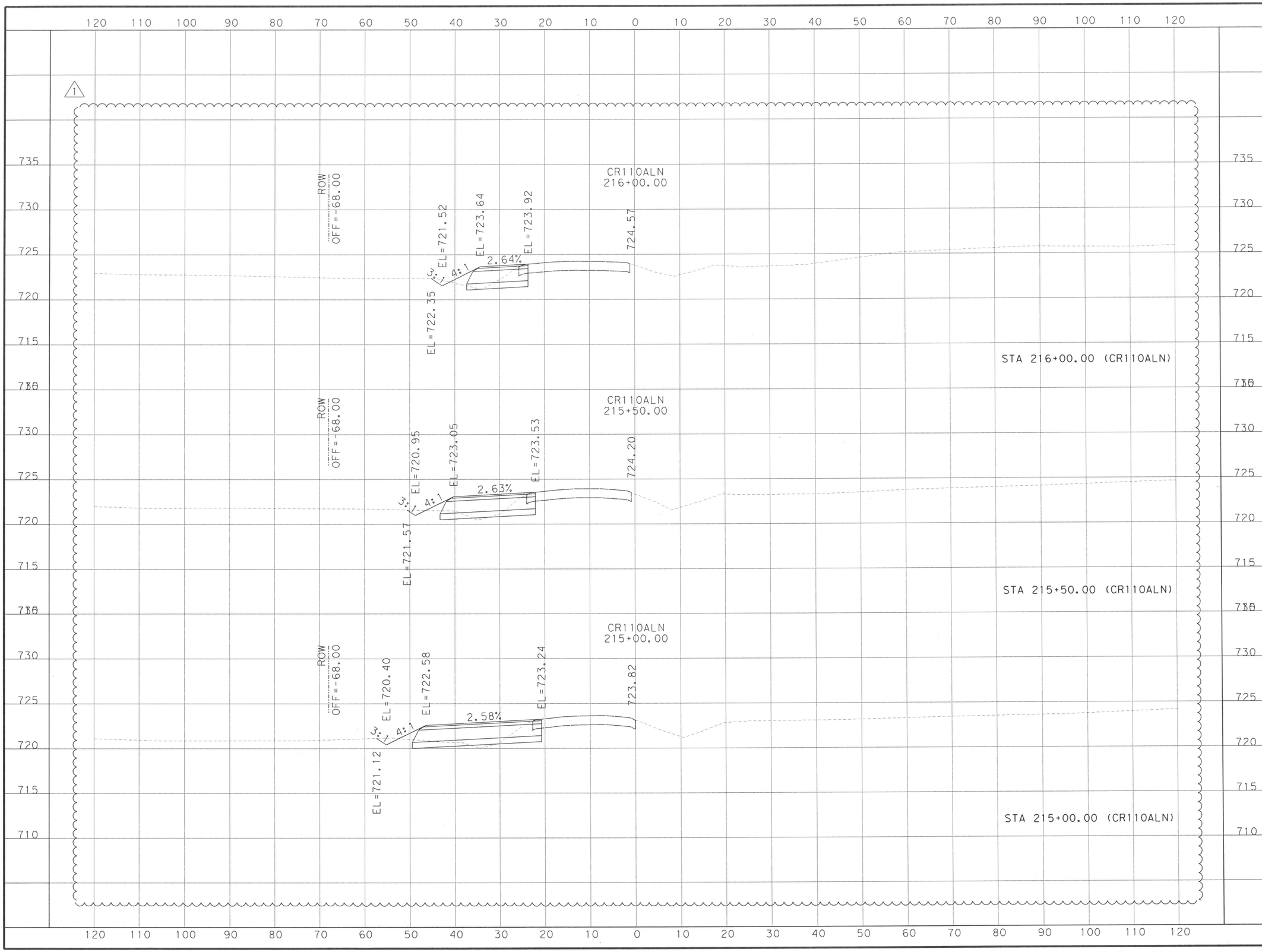

STATE OF TEXAS
TOMMY G. LEVARIO
81258
REGISTERED PROFESSIONAL ENGINEER

Tommy Levario
11/2/16

DATE	BY	REV	REVISION
11/01/16	NA	1	CULVERT REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY TEXAS

CR 110 SOUTH

CR 110
CROSS SECTIONS

SCALE: HORIZONTAL 1"=20'
VERTICAL 1"=10'

SHEET 94 OF 95

DESIGNED:	JH
DRAWN:	JH
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	94

FILE: pw:\\us-hou-pw01.dannenbaum.local:Dannenbaum\Documents\Transportation\4862-01\Geopak\CR110*XS Sheets.dgn
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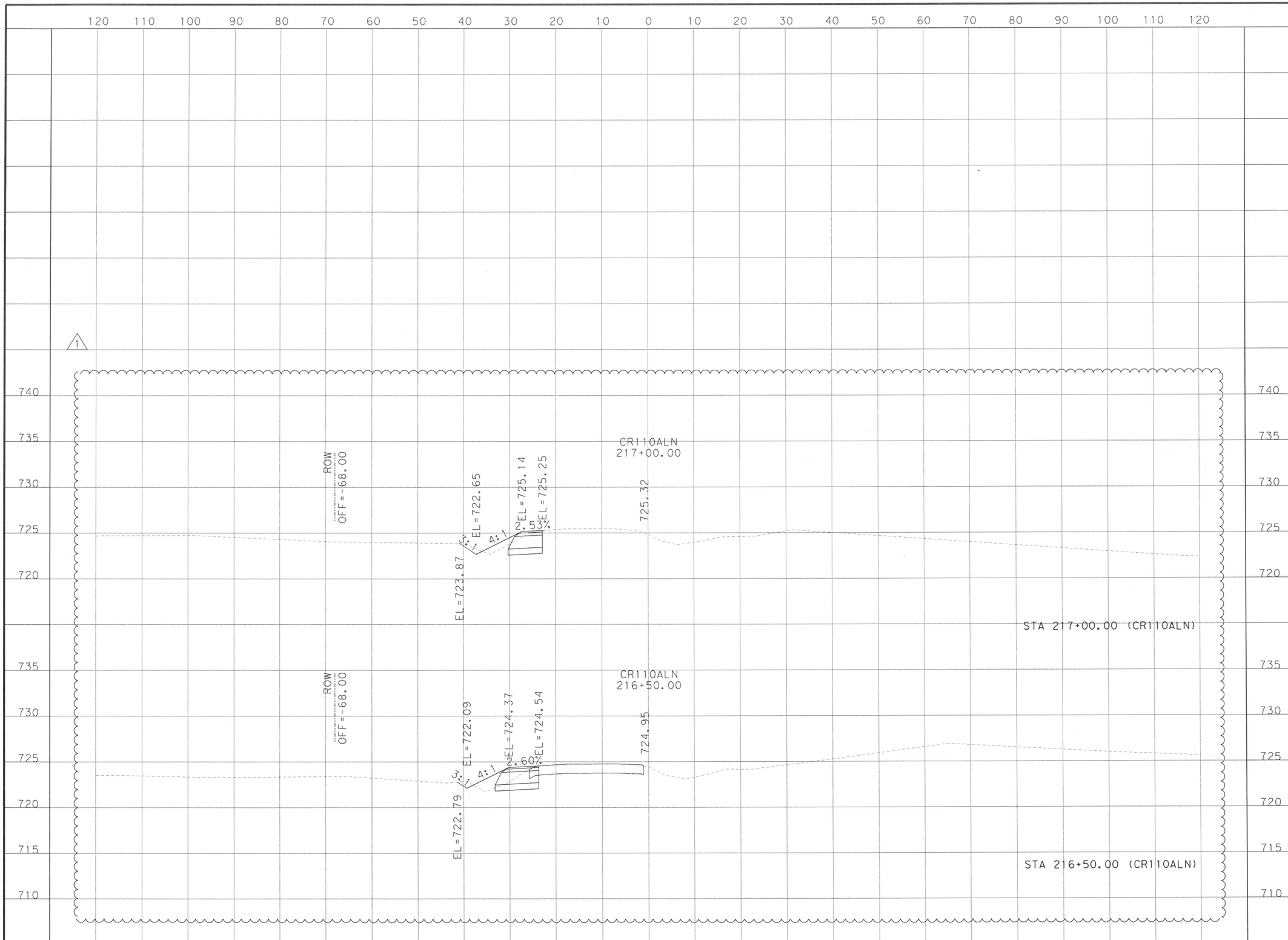

H: 0' 5' 10' 20'
V: 0' 5' 10'

STATE OF TEXAS
TOMMY G. LEVARIO
81258
REGISTERED PROFESSIONAL ENGINEER

Tommy Levario
11/2/16

DATE	BY	REV	REVISION
11/01/16	NA	1	CULVERT REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #8995
3409 EXECUTIVE CENTER DR., STE 129 AUSTIN, TX 78731 (512) 345-8505

WILLIAMSON COUNTY 1848

CR 110 SOUTH

CR 110
CROSS SECTIONS

SCALE: HORIZONTAL 1"=20'
VERTICAL 1"=10'

SHEET 95 OF 95

DESIGNED:	JH
DRAWN:	JH
CHECKED:	GV

STATE	COUNTY	PRECINCT	SHEET NO.
TEXAS	WILLIAMSON	4	95

FILE: pw:\\us-hou-pw01.dannenbaum.local:Dannenbaum\Documents\Transportation\4862-01\Geopak\CR110*XS Sheets.dgn
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