CK:
DW:
CK:
DN:

INDEX OF SHEETS

SEE SHEET No. 2

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

FEDERAL AID PROJECT NO.			
C 65-14-28, ETC.			
CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		1

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

STATE AID PROJECT. NO.: C 65-14-28
CSJ 0065-14-028, ETC.

BEAUMONT DISTRICT SEAL COAT PROJECT 2022
HARDIN COUNTY ETC.

DESIGN CRITERIA = PM

FINAL PLANS

LETTING DATE: _____

DATE CONTRACTOR BEGAN WORK: _____

DATE WORK WAS COMPLETED & ACCEPTED: _____

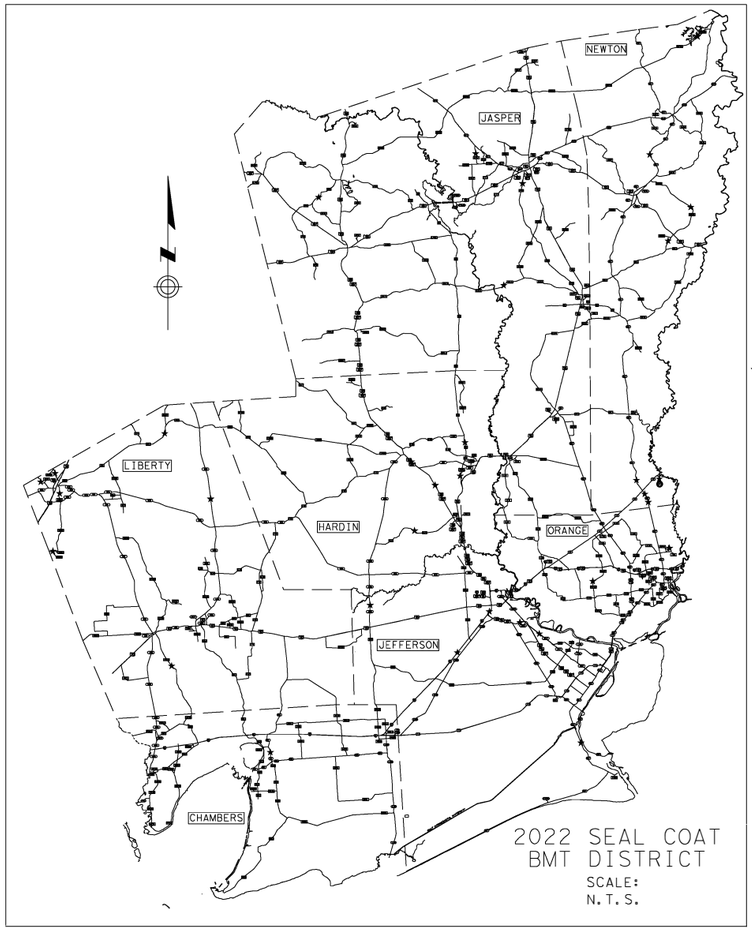
FINAL CONTRACT COST: $ _____

CONTRACTOR : _____

NET LENGTH OF PROJECT= 838110.24 FT. = 158.733 MI.

FOR THE CONSTRUCTION OF A SEAL COAT PROJECT

CONSISTING OF ONE COURSE SURFACE TREATMENT, STRIPING, AND RAISED PAVEMENT MARKERS



★ DENOTES PROJECT LOCATION - FOR EXACT DESCRIPTION AND LOCATION SEE LOCATION MAP SHEETS

REQUIRED SIGNS SHALL BE IN ACCORDANCE WITH BC (1)-21 THRU BC (12)-21 AND THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

NO EXCEPTIONS
NO EQUATIONS
RAILROAD CROSSINGS: 0307-01-154 SH 87 (STA. 55+38)
0601-02-026 SH 326 (STA. 224+04)
1582-02-024 FM 1725 (STA. 118+53)
1284-01-081 FM 1442 (STA. 159+23)
0065-14-028 BU 96F (STA. 0+00/20+07)

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, JUNE 1, 2004 AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS, SHALL GOVERN ON THIS PROJECT: REQUIRED SPECIAL LABOR PROVISIONS FOR ALL STATE CONSTRUCTION PROJECTS. (SP000--008)

Texas Department of Transportation

SUBMITTED FOR LETTING: 8/6/2021
DocuSigned by:
P.E.
DB12FD46C9F04E5...
DISTRICT ENGINEER

RECOMMENDED FOR LETTING: 8/9/2021
DocuSigned by:
Adam Jack
81DC230BA99F4E4...
DISTRICT DIRECTOR OF TRANSPORTATION
PLANNING AND DEVELOPMENT

APPROVED FOR LETTING: 8/9/2021
DocuSigned by:
Chad Bohne
60E553771502FA...
DISTRICT ENGINEER

DATE: 8/2/2021 2:53:14 PM
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	GENERAL
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2	INDEX OF SHEETS
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101-106	RAILROAD SCOPE OF WORK

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER

THE STANDARD SHEETS SPECIFICALLY IDENTIFIED WITH A "##" HAVE BEEN ISSUED BY ME AND ARE APPLICABLE TO THIS PROJECT.

P.E.

NAME

08/06/2021

DATE

INDEX OF SHEETS

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		2

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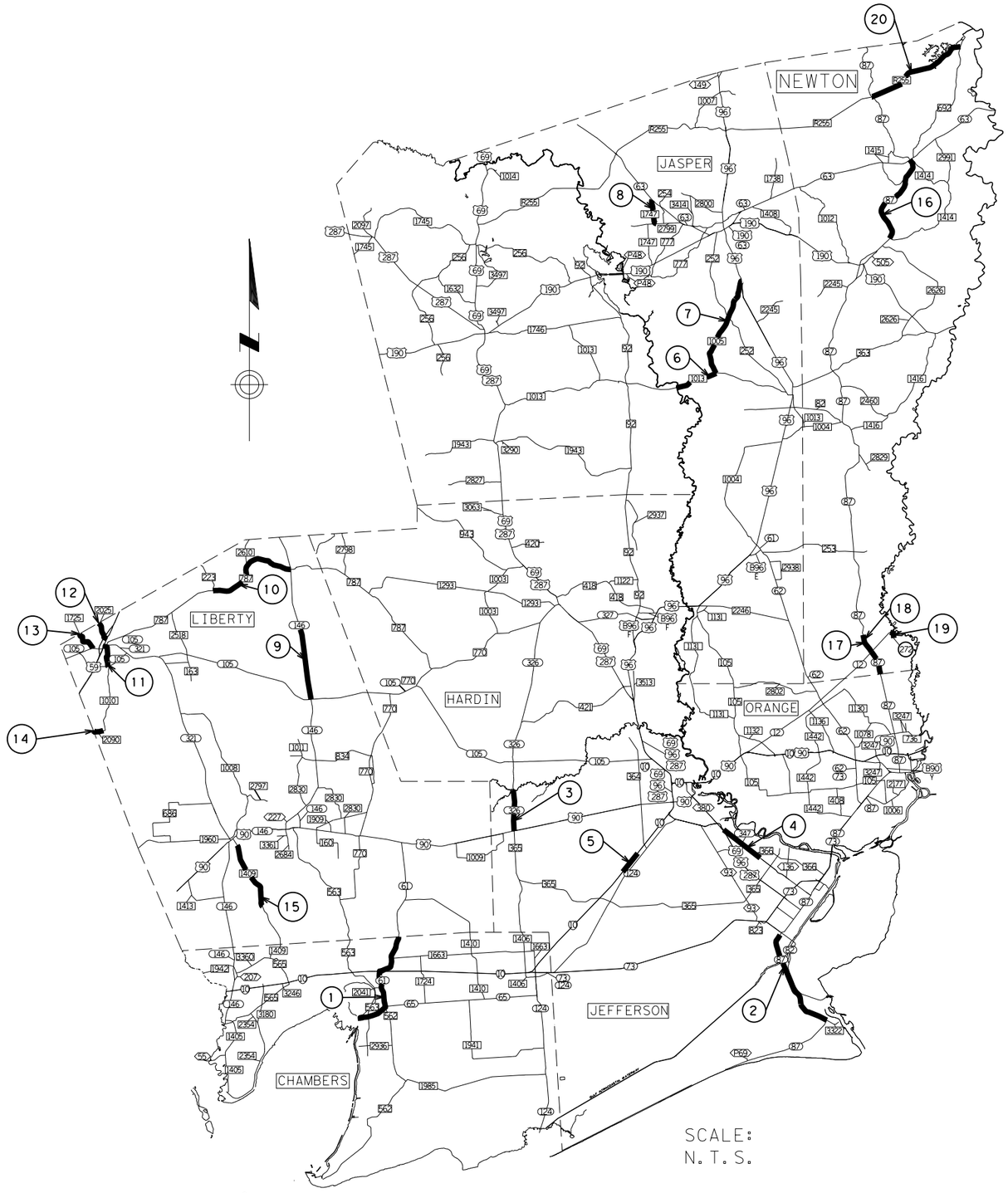

PROJ REF NO.	CSJ	HWY	COUNTY	LENGTH		REF MK		STA NO. BEGINNING AND END OF PROJECT LIMITS
				FEET	MILES	BEGIN	END	
①	0242-03-077	SH 61	CHAMBERS	60123.36	11.387	460+0.020	470+1.363	STA 0+00 TO 601+23.36 FROM LIBERTY COUNTY LINE, SOUTH TO END OF MAINTENANCE
②	0307-01-154	SH 87	JEFFERSON	58718.88	11.121	502+0.644	512+1.760	STA 0+00 TO 587+18.88 FROM 200' SOUTH OF SH 82, SOUTH TO FM 3322
③	0601-02-026	SH 326	JEFFERSON	22529.76	4.267	444+0.113	450+0.247	STA 0+00 TO 225+29.76 FROM HARDIN COUNTY LINE, SOUTH TO US 90
④	0667-01-124	SH347	JEFFERSON	22640.64	4.288	448+0.042	452+0.306	STA 0+00 TO TO 226+40.64 FROM 0.1 MILES SOUTH OF US 69 TO 0.1 MILES SOUTH OF FM
⑤	0739-02-176	IH 10	JEFFERSON	2993.76	0.567	843+0.641	844+0.210	STA 0+00 TO 29+93.76 FROM SMITH ROAD TO SMITH ROAD
⑥	1237-02-018	FM 1013	JASPER	23459.04	4.443	754+0.564	760+0.454	STA 0+00 TO 234+59.04 FROM TYLER COUNTY LINE, EAST TO FM1005
⑦	1275-01-043	FM 1005	JASPER	54938.40	10.405	390-0.074	400+0.452	STA 0+00 TO 549+38.40 FROM US 96, SOUTH TO FM 1013
⑧	0244-07-008	FM 1747	JASPER	13759.68	2.606	384-0.032	386+0.626	STA 0+00 TO 137+59.68 FROM SH 63, SOUTH TO FM 2799
⑨	0388-02-068	SH 146	LIBERTY	32186.88	6.096	432+1.181	438+1.254	STA 0+00 TO 321+86.88 FROM 6 MILES NORTH OF SH 105, SOUTH TO SH 105
⑩	0813-01-108	FM 787	LIBERTY	52963.68	10.031	708+0.466	718+0.569	STA 0+00 TO 529+63.68 FROM FM 223, EAST TO SH 146
⑪	1061-01-034	FM 1010	LIBERTY	11352.00	2.15	428+0.000	430+0.164	STA 0+00 TO 113+52 FROM SH 321, SOUTH TO SH 105
⑫	1459-03-014	FM 2025	LIBERTY	9942.24	1.883	428+0.345	430+0.063	STA 0+00 TO 99+42.24 FROM SAN JACINTO COUNTY LINE, SOUTH TO SL 573
⑬	1582-02-024	FM 1725	LIBERTY	12344.64	2.338	434+0.327	436+0.666	STA 0+00 TO 123+44.64 FROM SAN JACINTO COUNTY LINE, SOUTH TO BS 105 T
⑭	1912-03-011	FM 2090	LIBERTY	5544.00	1.05	696+0.309	698+0.796	STA 0+00 TO 55+44 FROM MONTGOMERY COUNTY LINE, EAST TO FM 1010
⑮	0762-02-052	FM 1409	LIBERTY	10259.04	1.943	448+0.084	450+0.040	STA 0+00 TO 102+59.04 FROM 0.12 MILES SOUTH OF US 90, SOUTH TO 2.0 MILES SOUTH
⑯	0304-06-079	SH 87	NEWTON	51543.36	9.762	410+0.628	420+0.401	STA 0+00 TO 515+43.36 FROM SH 63, SOUTH TO FM 1414
⑰	0305-05-046	SH 87	NEWTON	4831.20	0.915	466+0.528	466+1.443	STA 0+00 TO 48+31.20 FROM CR 4173, SOUTH TO SH 12
⑱	0305-06-029	SH 87	NEWTON	11885.28	2.251	466+1.447	470+0.000	STA 0+00 TO 118+85.28 FROM SH 12, SOUTH TO ORANGE COUNTY LINE
⑲	0305-09-012	SS 272	NEWTON	4171.20	0.79	428-0.144	428+0.637	STA 0+00 TO 41+71.20 FROM SH 12, SOUTH TO END OF MAINTENANCE
⑳	3197-03-015	RE 255	NEWTON	56855.04	10.768	780+0.045	791 +0.03	STA 0+00 TO 568+55.04 FRO, SH 87, EAST TO FM 692
BASE BID SHEET TOTAL				523042.08	99.061			

LOCATION MAP

SHEET 1 OF 2

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		3

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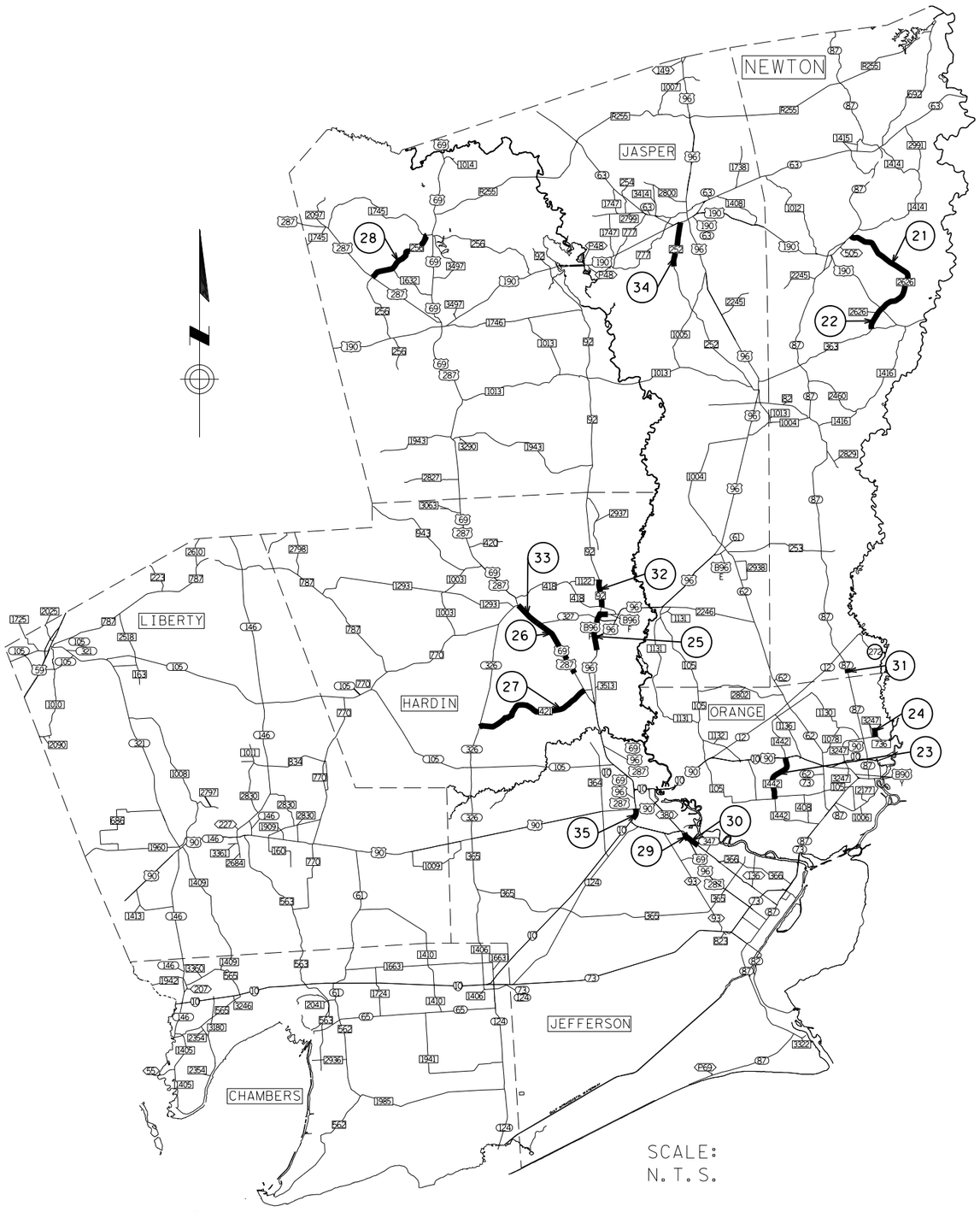

PROJ REF NO.	CSJ	HWY	COUNTY	LENGTH		REF MK		STA NO. BEGINNING AND END OF PROJECT LIMITS
				FEET	MILES	BEGIN	END	
(21)	2618-01-017	FM 2626	NEWTON	60809.76	11.517	386+0.000	396+1.757	STA 0+00 TO 608+09.76 SH 87, SOUTH TO US 190
(22)	2618-02-006	FM 2626	NEWTON	12165.12	2.304	396+1.763	400+0.115	STA 0+00 TO 121+65.12 FROM US 190, SOUTH TO FM 363
(23)	1284-01-081	FM 1442	ORANGE	25512.96	4.832	438+0.676	442+1.604	STA 0+00 TO 255+12.96 FROM IH 10, SOUTH TO FM 105
(24)	1284-02-020	FM 3247	ORANGE	4810.08	0.911	444-0.004	444+0.907	STA 0+00 TO 48+10.08 FROM BEGIN OF MAINTENANCE, SOUTH TO FM 736
(25)	0065-14-028	BU 96F	HARDIN	18226.56	3.452	424+1.784	428+1.016	STA 0+00 TO 182+26.56 FROM BNSF RR IN SILSBE, SOUTH TO US 96 SOUTH OF SILSBEE
(26)	0200-10-087	US 69	HARDIN	25217.28	4.776	502+1.238	508+0.000	STA 0+00 TO 252+17.28 FROM SH 327, SOUTH TO WALTON ROAD
(27)	0813-03-045	FM 421	HARDIN	69226.08	13.111	736-0.038	748+1.160	STA 0+00 TO 692+26.08 FROM SH 326, EAST US 96
(28)	0877-03-026	FM 256	TYLER	41780.64	7.913	738+0.950	746+0.897	STA 0+00 TO 417+80.64 FROM US 287, NORTH TO US 69
(29)	0200-14-094	US 69	JEFFERSON	2397.12	0.454	530+1.916	532+0.304	STA 0+00 TO 23+97.12 FROM SULPHUR PLANT ROAD, SOUTH TO 0.5 MILES SOUTH
(30)	0667-01-125	SH 347	JEFFERSON	2032.80	0.385	448-0.07	448+0.315	STA 0+00 TO 20+32.8 FROM 0.5 MI SOUTH OF SULPHUR PLANT RD, SOUTH TO AMACO
(31)	0305-06-030	SH 87	NEWTON	1325.28	0.251	468+1.042	468+1.293	STA 0+00 TO 13+25.28 AT HARTBURG OVERPASS TURNAROUND
(32)	0703-02-063	FM 92	HARDIN	14176.80	2.685	424+0.839	426+1.528	STA 0+00 TO 141+76.80 FROM FM 1122, SOUTH TO FM 418
(33)	0200-10-088	US 69	HARDIN	14662.56	2.777	500+0.747	502+1.311	STA 0+00 TO 146+62.56 FROM SH 326, SOUTH TO SH 327
(34)	0785-01-036	FM 252	JASPER	18068.16	3.422	386+0.000	388+1.483	STA 0+00 TO 180+68.19 FROM US 190, SOUTH TO 3.42 MILES SOUTH OF US 190
(35)	0739-02-178	IH 10	JEFFERSON	4656.96	0.882	850+0.244	851+0.136	STA 0+00 TO 46+56.96 FROM COLLEGE ST, SOUTH TO WASHINGTON AVE.
BASE BID SHEET TOTAL				315068.16	59.672			

LOCATION MAP

SHEET 2 OF 2

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028,ETC.	BU 96F,ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN,ETC.		4

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GENERAL NOTES:

Contractor questions on this project are to be addressed to the following individual(s):

Name Vada Byford, Jasper Area Engineer

Email Vada.Byford@txdot.gov

Name Jim Grissom, Jasper Assistant Area Engineer

Email Jim.Grissom@txdot.gov

Contractor questions will be accepted through email, phone and in person by the above individuals.

All contractor questions will be reviewed by the Area Engineer or Assistant Area Engineer. Once a response is developed, it will be posted to TxDOT's Public FTP at the following Address: https://ftp.dot.state.tx.us/pub/txdot-info/Pre-Letting%20Responses/

All questions submitted that generate a response will be posted through this site. The site is organized by District, Project Type (Construction or Maintenance), Letting Date, CCSJ/Project Name.

Item 4 Scope of Work

It is the contractors responsibility to mark the location of all existing striping and place proposed striping back in the same location or as shown in the plans.

Item 5 Control of the Work

Station the project before commencing work. Mark the stations every 100 feet. Maintain stationing throughout the duration of the project. Remove the station markings at the completion of the project. Consider this work to be subsidiary to the various bid items of the contract.

BNSF, KCS, SRN, TR, AND UPRR.

The ***BNSF and UPRR*** Railroad right of way is located within this project. End seal coat at Railroad Right of Way.

Item 6 Control of Materials

Flammable/combustible materials must be stored at a designated location as approved.

Do not store flammable/combustible materials under or adjacent to Bridge class structures. Daily removal of these materials will be considered incidental work.

County: Hardin, Etc. **Sheet** 5

Highway: BU 96F, Etc. **Control: 0065-14-028, Etc.**

Mixing of materials, storing of materials, storing of equipment, or repairing of equipment on top of concrete pavement or bridge decks will not be permitted unless specifically authorized.

Item 7 Legal Relations and Responsibilities

Furnish all materials, labor and incidentals required to provide for traffic across the highway and for temporary ingress and egress to private property in accordance with article 7.2.4 of the standard specifications at no additional cost to the state. Maintain ingress and egress to the adjacent property at all times. Consider this work to be subsidiary to the various bid items of the contract.

The Contractor will be completely responsible for the immediate removal of any material that gets upon any vehicle as a result of their operation.

No significant traffic generator events have been identified in the project limits.

Railroad coordination will be required on this project. Complete coordination, including any required training, prior to performing work on railroad property.

Partial acceptance of each project location will be allowed in accordance with article 7.17.5 of the standard specifications.

Item 8 Prosecution and Progress

Compute and charge working days in accordance with Section 8.3.1.4 Standard Workweek.

Adjoining projects may be in progress during the construction of a portion of this project. Plan and prosecute the sequence of construction and the traffic control plan with adjacent construction projects, if applicable. Manage construction of all phases to minimize disruption to traffic.

Maintain one lane open to traffic during construction, unless otherwise approved.

Schedule work so that all travel lanes are open during non-working hours, nights, and weekends, unless otherwise approved.

Complete all work at one location before proceeding to a new location unless otherwise approved. If additional locations are approved, erect barricades only for those additional locations. Maintain barricades at each of these locations until all work at the site is completed and accepted.

Work will not be permitted when impending bad weather or low temperatures may impair the quality of work.

HURRICANE

In the event of the declaration of a hurricane watch, warning, other severe weather warning or national or state emergency that requires the roadways in the vicinity be used as evacuation routes, cease all work that requires the Contractor's, sub-contractors' or material suppliers' vehicles to enter the stream of traffic on these primary or secondary evacuation routes. This work includes material hauling and delivery, and mobilization or demobilization of equipment.

This project is on a hurricane evacuation route. Furnish at the pre-construction meeting a written plan outlining procedures to suspend work, secure the jobsite and safely handle traffic through and across the project in the event of a hurricane evacuation.

Item 302 Aggregates for Surface Treatments

The Contractor will designate a responsible person for receiving and resolving damage claims from the public. This person must be available to receive calls during normal business hours every day, Monday through Friday, during the course of this project. Before beginning work this person's name, mailing address, and a toll free number will be provided to the Engineer to be made available to persons who contact the Department with claims

The aggregate for the surface treatment will be surface dry before application unless otherwise directed.

Aggregate stockpile locations will be approved before stockpiling.

When directed, flush aggregate stockpiled for surface treatment with water to remove excessive dust particles, in such sequence that will permit free water to drain from the stockpiled aggregate before surfacing operations. This work will be considered subsidiary to various bid items.

After the completion of the work, the Contractor will be required to clean and manicure stockpile areas and repair damages to the Engineer's approval prior to removal of barricades.

Item 316 Seal Coat

With the exception of bridges noted in the plans, it is the intent of these plans and specifications to provide a seal coat as needed on all portions of existing surfaced pavement, including paved side road turnouts, intersections, curve widening, transitions and other miscellaneous areas. Usual surface widths are shown for estimating purposes only. No payment except as provided for in the governing specifications will be made for the inclusion or exclusion of any miscellaneous areas that the Engineer may choose to seal or omit from sealing, or for the authorized variations in rates of application.

Furnish medium pneumatic-tire rollers in accordance with Item 210, "Rolling."

County: Hardin, Etc. **Sheet** 5A

Highway: BU 96F, Etc. **Control: 0065-14-028, Etc.**

For this project, a minimum of six (6) rollers (light pneumatic tire) or four (4) (medium pneumatic rollers) in good working order will be required at all times.

All trucks hauling materials to be paid for by truck measurement will be "struck off" before delivery to the project.

Remove all vegetation from pavement edges, intersections, curbs and gutters and driveways before planing or ACP operations. This work will not be paid for directly but will be subsidiary to the various bid items.

The open season for the application of asphalt is **May 1st through September 15th** unless otherwise directed in writing.

Seal intersections and driveways before sealing the main lanes. Seal all existing roadway surfaces, including extra widths, crossovers, roadside parks, picnic areas, mailbox turnouts, public road intersections, and public drives, within the limits of each project. Do not seal intersections or driveways surfaced with ACP or constructed of concrete.

Sweep all roadways with a powered rotary broom before placement of the surface treatment to remove all loose or excess material or debris. After rolling, sweep as soon as aggregate has sufficiently bonded to remove excess. Use a vacuum broom on all roadway sections with curb and gutter and all roadway sections within the city limits of any city.

Station limits may be adjusted as directed to meet varying field conditions

Protect all existing bridges, curbs, and other exposed concrete surfaces within the limits of the project from asphalt materials by any method that is acceptable. Remove any excessive asphalt materials deposited on these surfaces in a manner approved at the Contractor's expense.

Cover or protect any sealed expansion joints or rail on bridges and any railroad tracks encountered on this project, as directed. Clean any of these items not properly protected. This work will not be paid for directly but will be considered subsidiary to Item 316.

When applying surface treatment at railroad crossings, a strip of paper will be placed over the rail and flange areas across the pavement.

Observe the posted load ratings for all load zoned bridges and roadways. Do not exceed the posted tandem axle weight limit of load zoned roads and bridges at any time during construction.

Vehicles used to haul aggregate from the stockpile to the chip spreader will not be overloaded. Any damage to the roadway caused by the vehicles will be repaired by the Contractor at his expense and subsequent loads will be reduced so as not to cause further damage.

All asphaltic material delivered to the projects will have one supply source per type of asphalt.

Payment of material on hand for delivered aggregate will be contingent upon quality testing, proper stockpiling, and barricading.

Prior to beginning, aggregate stockpiling operations, the Contractor will contact the TxDOT Area Engineer administering the project to review the potential stockpile locations.

The Engineer will be provided with a copy of the "stockpile information sheet" for each stockpile. This information sheet will include the location and limits of the stockpile area, the reference number(s) where the stockpiled material will be used and the maintenance section where the stockpile is located.

The Contractor must secure the Engineer's approval of stockpile locations prior to the commencement of aggregate delivery.

Aggregate stockpiled for this project will be placed in locations that will not interfere with TxDOT maintenance activities, proper ditch drainage or the safe passage of traffic. Do not stockpile aggregate within 10 feet of any surfaced roadway. Refer to the BC(10)-21 standard for required barricades and/or channelizing devices.

The surface aggregate classifications for sources on the aggregate quality monitoring program (AQMP) are listed in the rated source quality catalog (RSQC). When the aggregates are supplied from a source which is not listed on the AQMP, the aggregate will be sampled and tested prior to use. The procedure will be in accordance with the AQMP. The surface aggregate classification for all Tier I will be "A" and for Tier II will be "B".

Use transverse variance rates as directed. Provide an asphalt distributor capable of applying a transversely varied asphalt rate. Demonstrate that the distributor can apply an asphalt rate outside the wheel path of between 22 and 32 percent higher than the asphalt rate applied in the wheel paths. Provide verification of this capacity and description of the spray bar(s) and nozzles to be used. Provide the percentage difference in asphalt rate applied by each tested spray bar and nozzle arrangement. Apply transversely varied asphalt rate to pavements selected.

Item 502 Barricades, Signs, and Traffic Handling

Construct all work zone signs, sign supports, and barricades from material other than wood unless approved otherwise. Metal posts, if used, are to be galvanized. Aluminum signs, if used, will meet the following minimum thickness requirements:

Square Feet	Minimum Thickness
Less than 7.5	0.080 inches
7.5 to 15	0.100 inches
Greater than 15	0.125 inches

County: Hardin, Etc. **Sheet** 5B

Highway: BU 96F, Etc. **Control: 0065-14-028, Etc.**

The Contractor Force Account "Safety Contingency" that has been established for this project is intended to be used for work zone enhancements, to improve the effectiveness of the Traffic Control Plan, that could not be foreseen in the project planning and design stage. These enhancements will be mutually agreed upon by the Engineer and the Contractor's Responsible Person based on weekly or more frequent traffic management reviews on the project. The Engineer may choose to use existing bid items if it does not slow the implementation of enhancement.

Restrict work to one side of the roadway at a time. Perform all seal coat operations in the same direction as the direction of traffic for the lane being sealed.

Remove all traffic control devices from the right of way when they are not in use. Devices scheduled to be used within 3 days may be placed along the shoulder of the roadway or along the right of way when not in use, or stored in other approved areas on the project. Cover any construction signs that are not in effect and are installed in a fashion that will not allow them to be removed from the right of way easily.

Arrange construction operations to prevent the hauling of materials through the completed pavement sections unless otherwise approved.

A pilot car is required. Provide a "queue time" of no longer than 10 minutes during sealcoat operations. Equip pilot car with a portable mounted sign type G20-4 with two revolving or blinking type lights. Consider this work subsidiary to pertinent bid Items.

Provide all flaggers and pilot vehicle drivers with two-way radio communication capability. Provide flaggers at each side road intersection.

Cover or remove temporary CW 8-12 "No Center Stripe" signs immediately upon completion of striping of the roadway.

Place portable CW 21-2 "Fresh Oil" signs prior to the placing of asphalt onto roadway and remove signs when they are no longer needed.

All barricades and appropriate signing will remain in place on each reference until permanent pavement markings have been installed on that roadway, aggregate stockpile areas are cleaned, and the removal of signing is approved.

Item 506 Temporary Erosion, Sedimentation, and Environmental Controls

It is not anticipated that any erosion, sedimentation, or environmental control devices will be needed on this project. The Contractor Force Account "SW3P Contingency" that has been established for this project is intended to be used in the event that such controls become necessary. The SW3P for this project will consist of the use of any temporary erosion control

measures deemed necessary and as specified under this Item. This work will be paid for in accordance with Article 4.4., "Changes in the Work".

Care will be taken when crossing streams and waterways to prevent any Rock/Asphalt or other material from falling into the water.

Item 666 Retroreflectorized Pavement Markings

Furnish Type II drop-on glass beads.

Item 672 Raised Pavement Markers

Remove all existing traffic buttons before the application of the seal coat. Consider this work to be subsidiary to the various bid items of the contract. Location and details of the existing buttons are available at the Area Engineer 's office.

Item 677 Eliminating Existing Pavement Markings and Markers

Remove all contaminates and loose material. Consider this work to be subsidiary to the various bid items of the contract.

Remove existing raised pavement markers before the addition of the seal coat. Dispose of the removed markers form the project at the end of each workday. Consider this work to be subsidiary to the various bid items of the contract.

Item 6185

Shadow vehicles with TMA and high intensity rotating, flashing, oscillating or strobe lights are required. Use one TMA preceding every stationary work zone and two TMA's for mobile operations.

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0065-14-028

DISTRICT Beaumont **COUNTY** Chambers, Hardin, Jasper, Jefferson, Liberty, Newton, Orange, Tyler

HIGHWAY BU 96F, FM 1005, FM 1010, FM 1013, FM 1409, FM 1442, FM 1725, FM 1747, FM 2025, FM 2090, FM 252, FM 256, FM 2626, FM 3247, FM 421, FM 787, FM 92, IH 10, RE 255, SH 146, SH 326, SH 347, SH 61, SH 87, SS 272, US 69

			CONTROL SECTION JOB		**0065-14-028**		**0200-10-087**		**0200-10-088**		**0200-14-094**		**0242-03-077**		**0244-07-008**	
			PROJECT ID		**A00129517**		**A00129521**		**A00133186**		**A00129625**		**A00129251**		**A00129279**	
			COUNTY		**Hardin**		**Hardin**		**Hardin**		**Jefferson**		**Chambers**		**Jasper**	
			HIGHWAY		**BU 96F**		**US 69**		**US 69**		**US 69**		**SH 61**		**FM 1747**	
ALT	**BID CODE**	**DESCRIPTION**	**UNIT**	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
	316-6035	ASPH (TIER I)	TON	235.000		196.000		217.000				78.000			
	316-6036	ASPH (TIER II)	TON	10.000						283.000		294.000		54.000	
	316-6398	AGGR (TY-PD GR-4 OR TY-PL GR-4)(SAC-B)	CY	50.000						1,422.000		1,472.000		272.000	
	316-6404	AGGR (TY-PB GR-4 OR TY-PL GR-4 SAC-A)	CY	1,183.000		546.000		1,014.000				317.000			
	316-6424	AGGR (TY-PD GR-5 OR TY-PL GR-5)(SAC-B)	CY			396.000						38.000			
	500-6001	MOBILIZATION	LS	1.000											
	502-6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	9.000											
	530-6003	INTERSECTIONS (SURF TREAT)	SY	1,210.000		5,074.000		3,298.000		1,142.000		4,976.000		545.000	
	662-6109	WK ZN PAV MRK SHT TERM (TAB)TY W	EA	3,146.000		77.000		1,818.000		408.000				50.000	
	662-6111	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	2,232.000		5,742.000		1,750.000		408.000		3,267.000		376.000	
	666-6006	REFL PAV MRK TY I (W)4"(DOT)(100MIL)	LF												
	666-6036	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF	2,287.000		98.000		2,147.000				1,378.000		488.000	
	666-6300	RE PM W/RET REQ TY I (W)4"(BRK)(100MIL)	LF	7,440.000		260.000		6,060.000							
	666-6303	RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	LF	22,315.000		41,030.000		27,949.000		6,978.000		101,839.000		26,999.000	
	666-6312	RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	LF	5,140.000		11,380.000		2,500.000		860.000		7,680.000		540.000	
	666-6315	RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	LF	31,772.000		47,302.000		19,686.000		1,196.000		64,216.000		24,617.000	
	668-6074	PREFAB PAV MRK TY C (W) (12") (SLD)	LF	402.000				276.000				164.000			
	668-6076	PREFAB PAV MRK TY C (W) (24") (SLD)	LF	1,098.000		248.000		271.000				182.000		76.000	
	668-6077	PREFAB PAV MRK TY C (W) (ARROW)	EA	25.000		7.000		14.000							
	668-6078	PREFAB PAV MRK TY C (W) (DBL ARROW)	EA	2.000								2.000			
	668-6080	PREFAB PAV MRK TY C (W) (UTURN ARROW)	EA												
	668-6084	PREFAB PAV MRK TY C (W) (NUMBER)	EA												
	668-6085	PREFAB PAV MRK TY C (W) (WORD)	EA	15.000				9.000				3.000		2.000	
	668-6089	PREFAB PAV MRK TY C (W) (RR XING)	EA	8.000											
	668-6092	PREFAB PAV MRK TY C (W) (36")(YLD TRI)	EA									5.000		14.000	
	668-6108	PREFAB PAV MRK TY C (Y) (24") (SLD)	LF												
	668-6116	PREFAB PAV MRK TY C(EVAC SYM, BLUE/WHT)	EA			5.000									
	672-6007	REFL PAV MRKR TY I-C	EA	401.000		19.000		311.000						24.000	
	672-6009	REFL PAV MRKR TY II-A-A	EA	690.000		754.000		489.000		70.000		260.000		358.000	
	6185-6002	TMA (STATIONARY)	DAY	5.000		6.000		4.000		1.000		6.000		1.000	
	6185-6005	TMA (MOBILE OPERATION)	DAY	3.000		3.000		2.000		1.000		4.000		2.000	
	02	RAILROAD FLAGGING: RAILROAD FORCE ACCOUNT WORK	LS	1.000											
	18	ENVIRONMENTAL: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS	1.000											
		SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS	1.000											

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0065-14-028

DISTRICT Beaumont **COUNTY** Chambers, Hardin, Jasper, Jefferson, Liberty, Newton, Orange, Tyler

HIGHWAY BU 96F, FM 1005, FM 1010, FM 1013, FM 1409, FM 1442, FM 1725, FM 1747, FM 2025, FM 2090, FM 252, FM 256, FM 2626, FM 3247, FM 421, FM 787, FM 92, IH 10, RE 255, SH 146, SH 326, SH 347, SH 61, SH 87, SS 272, US 69

			CONTROL SECTION JOB		**0304-06-079**		**0305-05-046**		**0305-06-029**		**0305-06-030**		**0305-09-012**		**0307-01-154**	
			PROJECT ID		**A00129373**		**A00129375**		**A00129379**		**A00132812**		**A00129381**		**A00129257**	
			COUNTY		**Newton**		**Newton**		**Newton**		**Newton**		**Newton**		**Jefferson**	
			HIGHWAY		**SH 87**		**SH 87**		**SH 87**		**SH 87**		**SS 272**		**SH 87**	
ALT	**BID CODE**	**DESCRIPTION**	**UNIT**	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
	316-6035	ASPH (TIER I)	TON	202.000		36.000		84.000		6.000				33.000	
	316-6036	ASPH (TIER II)	TON									21.000		304.000	
	316-6398	AGGR (TY-PD GR-4 OR TY-PL GR-4)(SAC-B)	CY									104.000		1,472.000	
	316-6404	AGGR (TY-PB GR-4 OR TY-PL GR-4 SAC-A)	CY	1,016.000				230.000		26.000				149.000	
	316-6424	AGGR (TY-PD GR-5 OR TY-PL GR-5)(SAC-B)	CY			170.000		176.000							
	500-6001	MOBILIZATION	LS												
	502-6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO												
	530-6003	INTERSECTIONS (SURF TREAT)	SY	1,095.000		870.000		741.000		3,937.000		1,157.000		1,392.000	
	662-6109	WK ZN PAV MRK SHT TERM (TAB)TY W	EA											297.000	
	662-6111	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	3,160.000		339.000		182.000		31.000		328.000		4,057.000	
	666-6006	REFL PAV MRK TY I (W)4"(DOT)(100MIL)	LF												
	666-6036	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF			396.000		703.000						3,938.000	
	666-6300	RE PM W/RET REQ TY I (W)4"(BRK)(100MIL)	LF					520.000							
	666-6303	RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	LF	99,198.000		8,406.000		22,936.000		2,521.000		7,465.000		115,257.000	
	666-6312	RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	LF	7,080.000		880.000		2,670.000		270.000		370.000		10,600.000	
	666-6315	RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	LF	62,926.000		3,433.000		7,047.000		254.000		4,338.000		54,301.000	
	668-6074	PREFAB PAV MRK TY C (W) (12") (SLD)	LF					38.000				24.000		196.000	
	668-6076	PREFAB PAV MRK TY C (W) (24") (SLD)	LF	12.000		24.000		88.000		27.000		142.000		189.000	
	668-6077	PREFAB PAV MRK TY C (W) (ARROW)	EA			1.000		1.000						13.000	
	668-6078	PREFAB PAV MRK TY C (W) (DBL ARROW)	EA												
	668-6080	PREFAB PAV MRK TY C (W) (UTURN ARROW)	EA												
	668-6084	PREFAB PAV MRK TY C (W) (NUMBER)	EA												
	668-6085	PREFAB PAV MRK TY C (W) (WORD)	EA												
	668-6089	PREFAB PAV MRK TY C (W) (RR XING)	EA											1.000	
	668-6092	PREFAB PAV MRK TY C (W) (36")(YLD TRI)	EA			15.000		16.000		4.000		5.000		13.000	
	668-6108	PREFAB PAV MRK TY C (Y) (24") (SLD)	LF												
	668-6116	PREFAB PAV MRK TY C(EVAC SYM, BLUE/WHT)	EA			2.000		4.000							
	672-6007	REFL PAV MRKR TY I-C	EA											53.000	
	672-6009	REFL PAV MRKR TY II-A-A	EA	1,181.000		78.000		213.000		35.000		73.000		1,099.000	
	6185-6002	TMA (STATIONARY)	DAY	4.000		2.000				1.000		1.000		6.000	
	6185-6005	TMA (MOBILE OPERATION)	DAY	4.000		1.000				1.000		1.000		4.000	
	02	RAILROAD FLAGGING: RAILROAD FORCE ACCOUNT WORK	LS												
	18	ENVIRONMENTAL: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS												
		SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS												

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0065-14-028

DISTRICT Beaumont **COUNTY** Chambers, Hardin, Jasper, Jefferson, Liberty, Newton, Orange, Tyler

HIGHWAY BU 96F, FM 1005, FM 1010, FM 1013, FM 1409, FM 1442, FM 1725, FM 1747, FM 2025, FM 2090, FM 252, FM 256, FM 2626, FM 3247, FM 421, FM 787, FM 92, IH 10, RE 255, SH 146, SH 326, SH 347, SH 61, SH 87, SS 272, US 69

			CONTROL SECTION JOB		**0388-02-068**		**0601-02-026**		**0667-01-124**		**0667-01-125**		**0703-02-063**		**0739-02-176**	
			PROJECT ID		**A00129282**		**A00129265**		**A00129266**		**A00129634**		**A00132813**		**A00129268**	
			COUNTY		**Liberty**		**Jefferson**		**Jefferson**		**Jefferson**		**Hardin**		**Jefferson**	
			HIGHWAY		**SH 146**		**SH 326**		**SH 347**		**SH 347**		**FM 92**		**IH 10**	
ALT	**BID CODE**	**DESCRIPTION**	**UNIT**	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
	316-6035	ASPH (TIER I)	TON			166.000		265.000		18.000		159.000		45.000	
	316-6036	ASPH (TIER II)	TON	238.000											
	316-6398	AGGR (TY-PD GR-4 OR TY-PL GR-4)(SAC-B)	CY	654.000											
	316-6404	AGGR (TY-PB GR-4 OR TY-PL GR-4 SAC-A)	CY			459.000		1,240.000		85.000		740.000		225.000	
	316-6424	AGGR (TY-PD GR-5 OR TY-PL GR-5)(SAC-B)	CY	545.000		340.000									
	500-6001	MOBILIZATION	LS												
	502-6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO												
	530-6003	INTERSECTIONS (SURF TREAT)	SY	259.000		556.000		7,928.000		534.000		3,937.000			
	662-6109	WK ZN PAV MRK SHT TERM (TAB)TY W	EA			1,605.000		3,027.000		4,707.000		373.000		90.000	
	662-6111	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	2,251.000						2,104.000		52.000		250.000	
	666-6006	REFL PAV MRK TY I (W)4"(DOT)(100MIL)	LF												
	666-6036	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF					7,108.000		6,145.000		435.000			
	666-6300	RE PM W/RET REQ TY I (W)4"(BRK)(100MIL)	LF					10,090.000		10,720.000		1,240.000		300.000	
	666-6303	RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	LF			44,568.000		41,579.000		27,080.000		28,171.000		14,489.000	
	666-6312	RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	LF	6,120.000		5,350.000						6,507.000		780.000	
	666-6315	RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	LF	97,600.000		1,490.000		35,867.000		41,798.000		28,088.000		7,639.000	
	668-6074	PREFAB PAV MRK TY C (W) (12") (SLD)	LF									288.000			
	668-6076	PREFAB PAV MRK TY C (W) (24") (SLD)	LF			125.000		372.000		400.000		342.000		91.000	
	668-6077	PREFAB PAV MRK TY C (W) (ARROW)	EA					9.000		15.000		1.000			
	668-6078	PREFAB PAV MRK TY C (W) (DBL ARROW)	EA					2.000		2.000					
	668-6080	PREFAB PAV MRK TY C (W) (UTURN ARROW)	EA					8.000							
	668-6084	PREFAB PAV MRK TY C (W) (NUMBER)	EA												
	668-6085	PREFAB PAV MRK TY C (W) (WORD)	EA	38.000		2.000				4.000		6.000			
	668-6089	PREFAB PAV MRK TY C (W) (RR XING)	EA												
	668-6092	PREFAB PAV MRK TY C (W) (36")(YLD TRI)	EA			6.000								27.000	
	668-6108	PREFAB PAV MRK TY C (Y) (24") (SLD)	LF									288.000			
	668-6116	PREFAB PAV MRK TY C(EVAC SYM, BLUE/WHT)	EA												
	672-6007	REFL PAV MRKR TY I-C	EA					860.000		781.000		69.000		18.000	
	672-6009	REFL PAV MRKR TY II-A-A	EA	551.000		291.000		468.000		764.000		759.000		108.000	
	6185-6002	TMA (STATIONARY)	DAY	5.000		4.000		5.000		1.000		3.000		1.000	
	6185-6005	TMA (MOBILE OPERATION)	DAY	1.000		2.000		2.000		1.000		2.000		1.000	
	02	RAILROAD FLAGGING: RAILROAD FORCE ACCOUNT WORK	LS												
	18	ENVIRONMENTAL: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS												
		SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS												

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0065-14-028

DISTRICT Beaumont **COUNTY** Chambers, Hardin, Jasper, Jefferson, Liberty, Newton, Orange, Tyler

HIGHWAY BU 96F, FM 1005, FM 1010, FM 1013, FM 1409, FM 1442, FM 1725, FM 1747, FM 2025, FM 2090, FM 252, FM 256, FM 2626, FM 3247, FM 421, FM 787, FM 92, IH 10, RE 255, SH 146, SH 326, SH 347, SH 61, SH 87, SS 272, US 69

				0739-02-178		0762-02-052		0785-01-036		0813-01-108		0813-03-045		0877-03-026	
		CONTROL SECTION JOB													
		PROJECT ID		A00133192		A00129363		A00133188		A00129298		A00129525		A00129607	
		COUNTY		Jefferson		Liberty		Jasper		Liberty		Hardin		Tyler	
		HIGHWAY		IH 10		FM 1409		FM 252		FM 787		FM 421		FM 256	
ALT	**BID CODE**	**DESCRIPTION**	**UNIT**	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
	316-6035	ASPH (TIER I)	TON	44.000		588.000						366.000			
	316-6036	ASPH (TIER II)	TON					88.000		293.000				154.000	
	316-6398	AGGR (TY-PD GR-4 OR TY-PL GR-4)(SAC-B)	CY					409.000		1,474.000				775.000	
	316-6404	AGGR (TY-PB GR-4 OR TY-PL GR-4 SAC-A)	CY	205.000		2,750.000						1,811.000			
	316-6424	AGGR (TY-PD GR-5 OR TY-PL GR-5)(SAC-B)	CY									32.000			
	500-6001	MOBILIZATION	LS												
	502-6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO												
	530-6003	INTERSECTIONS (SURF TREAT)	SY	364.000		686.000		1,395.000		1,092.000		5,677.000		2,181.000	
	662-6109	WK ZN PAV MRK SHT TERM (TAB)TY W	EA	753.000				12.000				5,554.000			
	662-6111	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	17.000		1,165.000		924.000		3,292.000		22.000		4,159.000	
	666-6006	REFL PAV MRK TY I (W)4"(DOT)(100MIL)	LF	460.000											
	666-6036	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF	1,320.000				385.000				381.000			
	666-6300	RE PM W/RET REQ TY I (W)4"(BRK)(100MIL)	LF	2,510.000				30.000							
	666-6303	RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	LF	1,216.000		15,587.000		36,363.000		105,202.000		129,765.000			
	666-6312	RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	LF			1,940.000		1,840.000		6,306.000		11,030.000		1,470.000	
	666-6315	RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	LF	327.000		9,635.000		32,010.000		13,098.000		82,250.000		13,575.000	
	668-6074	PREFAB PAV MRK TY C (W) (12") (SLD)	LF					70.000						40.000	
	668-6076	PREFAB PAV MRK TY C (W) (24") (SLD)	LF	30.000				48.000				126.000		55.000	
	668-6077	PREFAB PAV MRK TY C (W) (ARROW)	EA	5.000				4.000				12.000			
	668-6078	PREFAB PAV MRK TY C (W) (DBL ARROW)	EA	6.000								2.000			
	668-6080	PREFAB PAV MRK TY C (W) (UTURN ARROW)	EA	3.000											
	668-6084	PREFAB PAV MRK TY C (W) (NUMBER)	EA									7.000			
	668-6085	PREFAB PAV MRK TY C (W) (WORD)	EA	2.000				2.000		4.000		18.000			
	668-6089	PREFAB PAV MRK TY C (W) (RR XING)	EA												
	668-6092	PREFAB PAV MRK TY C (W) (36")(YLD TRI)	EA	44.000				11.000				6.000			
	668-6108	PREFAB PAV MRK TY C (Y) (24") (SLD)	LF	290.000											
	668-6116	PREFAB PAV MRK TY C(EVAC SYM, BLUE/WHT)	EA												
	672-6007	REFL PAV MRKR TY I-C	EA	129.000				5.000							
	672-6009	REFL PAV MRKR TY II-A-A	EA	10.000		136.000		451.000		1,120.000		332.000		1,706.000	
	6185-6002	TMA (STATIONARY)	DAY	1.000		2.000		1.000				7.000		3.000	
	6185-6005	TMA (MOBILE OPERATION)	DAY	2.000		1.000		1.000				5.000		2.000	
	02	RAILROAD FLAGGING: RAILROAD FORCE ACCOUNT WORK	LS												
	18	ENVIRONMENTAL: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS												
		SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS												

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0065-14-028

DISTRICT Beaumont **COUNTY** Chambers, Hardin, Jasper, Jefferson, Liberty, Newton, Orange, Tyler

HIGHWAY BU 96F, FM 1005, FM 1010, FM 1013, FM 1409, FM 1442, FM 1725, FM 1747, FM 2025, FM 2090, FM 252, FM 256, FM 2626, FM 3247, FM 421, FM 787, FM 92, IH 10, RE 255, SH 146, SH 326, SH 347, SH 61, SH 87, SS 272, US 69

			CONTROL SECTION JOB		**1061-01-034**		**1237-02-018**		**1275-01-043**		**1284-01-081**		**1284-02-020**		**1459-03-014**	
			PROJECT ID		**A00129324**		**A00129269**		**A00129273**		**A00129396**		**A00129398**		**A00129331**	
			COUNTY		**Liberty**		**Jasper**		**Jasper**		**Orange**		**Orange**		**Liberty**	
			HIGHWAY		**FM 1010**		**FM 1013**		**FM 1005**		**FM 1442**		**FM 3247**		**FM 2025**	
ALT	**BID CODE**	**DESCRIPTION**	**UNIT**	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
	316-6035	ASPH (TIER I)	TON	51.000						182.000				58.000	
	316-6036	ASPH (TIER II)	TON			94.000		241.000				17.000			
	316-6398	AGGR (TY-PD GR-4 OR TY-PL GR-4)(SAC-B)	CY			473.000		1,214.000				84.000			
	316-6404	AGGR (TY-PB GR-4 OR TY-PL GR-4 SAC-A)	CY	235.000						468.000				271.000	
	316-6424	AGGR (TY-PD GR-5 OR TY-PL GR-5)(SAC-B)	CY							412.000					
	500-6001	MOBILIZATION	LS												
	502-6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO												
	530-6003	INTERSECTIONS (SURF TREAT)	SY	1,463.000		125.000		1,314.000		1,369.000		71.000		966.000	
	662-6109	WK ZN PAV MRK SHT TERM (TAB)TY W	EA							7.000				15.000	
	662-6111	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	874.000		1,879.000		2,667.000		2,027.000		386.000		868.000	
	666-6006	REFL PAV MRK TY I (W)4"(DOT)(100MIL)	LF												
	666-6036	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF							266.000				510.000	
	666-6300	RE PM W/RET REQ TY I (W)4"(BRK)(100MIL)	LF												
	666-6303	RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	LF			45,743.000				48,008.000				33,936.000	
	666-6312	RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	LF	1,040.000		4,620.000		11,900.000		4,860.000		1,180.000		56.000	
	666-6315	RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	LF	12,232.000		17,417.000		86,578.000		11,416.000		668.000		22,378.000	
	668-6074	PREFAB PAV MRK TY C (W) (12") (SLD)	LF					142.000							
	668-6076	PREFAB PAV MRK TY C (W) (24") (SLD)	LF	325.000						203.000		28.000		178.000	
	668-6077	PREFAB PAV MRK TY C (W) (ARROW)	EA	2.000						2.000				4.000	
	668-6078	PREFAB PAV MRK TY C (W) (DBL ARROW)	EA												
	668-6080	PREFAB PAV MRK TY C (W) (UTURN ARROW)	EA												
	668-6084	PREFAB PAV MRK TY C (W) (NUMBER)	EA	2.000											
	668-6085	PREFAB PAV MRK TY C (W) (WORD)	EA												
	668-6089	PREFAB PAV MRK TY C (W) (RR XING)	EA							2.000					
	668-6092	PREFAB PAV MRK TY C (W) (36")(YLD TRI)	EA					10.000		10.000					
	668-6108	PREFAB PAV MRK TY C (Y) (24") (SLD)	LF												
	668-6116	PREFAB PAV MRK TY C(EVAC SYM, BLUE/WHT)	EA												
	672-6007	REFL PAV MRKR TY I-C	EA							7.000				22.000	
	672-6009	REFL PAV MRKR TY II-A-A	EA	247.000		450.000		1,032.000		385.000		68.000			
	6185-6002	TMA (STATIONARY)	DAY	1.000		2.000		5.000		3.000		1.000		1.000	
	6185-6005	TMA (MOBILE OPERATION)	DAY	1.000		2.000		1.000		2.000		1.000		1.000	
	02	RAILROAD FLAGGING: RAILROAD FORCE ACCOUNT WORK	LS												
	18	ENVIRONMENTAL: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS												
		SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS												

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0065-14-028

DISTRICT Beaumont **COUNTY** Chambers, Hardin, Jasper, Jefferson, Liberty, Newton, Orange, Tyler

HIGHWAY BU 96F, FM 1005, FM 1010, FM 1013, FM 1409, FM 1442, FM 1725, FM 1747, FM 2025, FM 2090, FM 252, FM 256, FM 2626, FM 3247, FM 421, FM 787, FM 92, IH 10, RE 255, SH 146, SH 326, SH 347, SH 61, SH 87, SS 272, US 69

														TOTAL EST.	TOTAL FINAL
		CONTROL SECTION JOB		**1582-02-024**		**1912-03-011**		**2618-01-017**		**2618-02-006**		**3197-03-015**			
		PROJECT ID		**A00129354**		**A00129357**		**A00129390**		**A00129392**		**A00129388**			
		COUNTY		**Liberty**		**Liberty**		**Newton**		**Newton**		**Newton**			
		HIGHWAY		**FM 1725**		**FM 2090**		**FM 2626**		**FM 2626**		**RE 255**			
ALT	**BID CODE**	**DESCRIPTION**	**UNIT**	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL		
	316-6035	ASPH (TIER I)	TON			19.000								3,048.000	
	316-6036	ASPH (TIER II)	TON	57.000				254.000		60.000		264.000		2,726.000	
	316-6398	AGGR (TY-PD GR-4 OR TY-PL GR-4)(SAC-B)	CY	283.000				1,278.000		298.000		1,328.000		13,062.000	
	316-6404	AGGR (TY-PB GR-4 OR TY-PL GR-4 SAC-A)	CY			87.000								13,057.000	
	316-6424	AGGR (TY-PD GR-5 OR TY-PL GR-5)(SAC-B)	CY											2,109.000	
	500-6001	MOBILIZATION	LS											1.000	
	502-6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO											9.000	
	530-6003	INTERSECTIONS (SURF TREAT)	SY	595.000		717.000		1,801.000		193.000		649.000		59,309.000	
	662-6109	WK ZN PAV MRK SHT TERM (TAB)TY W	EA											21,939.000	
	662-6111	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	111.000		250.000		6,461.000		1,304.000		6,355.000		59,290.000	
	666-6006	REFL PAV MRK TY I (W)4"(DOT)(100MIL)	LF											460.000	
	666-6036	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF					88.000						28,073.000	
	666-6300	RE PM W/RET REQ TY I (W)4"(BRK)(100MIL)	LF											39,170.000	
	666-6303	RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	LF	27,264.000		4,328.000		122,164.000		24,177.000		112,880.000		1,345,413.000	
	666-6312	RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	LF	370.000		500.000		6,800.000		2,470.000		10,260.000		135,369.000	
	666-6315	RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	LF	14,514.000		5,796.000		84,935.000		11,272.000		65,656.000		1,017,327.000	
	668-6074	PREFAB PAV MRK TY C (W) (12") (SLD)	LF											1,640.000	
	668-6076	PREFAB PAV MRK TY C (W) (24") (SLD)	LF	84.000				202.000		80.000		102.000		5,148.000	
	668-6077	PREFAB PAV MRK TY C (W) (ARROW)	EA											115.000	
	668-6078	PREFAB PAV MRK TY C (W) (DBL ARROW)	EA											16.000	
	668-6080	PREFAB PAV MRK TY C (W) (UTURN ARROW)	EA											11.000	
	668-6084	PREFAB PAV MRK TY C (W) (NUMBER)	EA											9.000	
	668-6085	PREFAB PAV MRK TY C (W) (WORD)	EA											105.000	
	668-6089	PREFAB PAV MRK TY C (W) (RR XING)	EA	2.000										13.000	
	668-6092	PREFAB PAV MRK TY C (W) (36")(YLD TRI)	EA							5.000				191.000	
	668-6108	PREFAB PAV MRK TY C (Y) (24") (SLD)	LF											578.000	
	668-6116	PREFAB PAV MRK TY C(EVAC SYM, BLUE/WHT)	EA											11.000	
	672-6007	REFL PAV MRKR TY I-C	EA							10.000				2,709.000	
	672-6009	REFL PAV MRKR TY II-A-A	EA	293.000		105.000		1,400.000		280.000		1,658.000		17,914.000	
	6185-6002	TMA (STATIONARY)	DAY	2.000		1.000		5.000		1.000		5.000		97.000	
	6185-6005	TMA (MOBILE OPERATION)	DAY	1.000		1.000		5.000		1.000		4.000		66.000	
	02	RAILROAD FLAGGING: RAILROAD FORCE ACCOUNT WORK	LS											1.000	
	18	ENVIRONMENTAL: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS											1.000	
		SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS											1.000	

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0065-14-028

DISTRICT Beaumont

COUNTY Chambers, Hardin, Jasper, Jefferson, Liberty, Newton, Orange, Tyler

HIGHWAY BU 96F, FM 1005, FM 1010, FM 1013, FM 1409, FM 1442, FM 1725, FM 1747, FM 2025, FM 2090, FM 252, FM 256, FM 2626, FM 3247, FM 421, FM 787, FM 92, IH 10, RE 255, SH 146, SH 326, SH 347, SH 61, SH 87, SS 272, US 69

SUMMARY OF SURFACE TREATMENT

PROJECT REFERENCE	CSJ	COUNTY	HIGHWAY NUMBER	SURFACE AREA GR 5	SURFACE AREA GR 4	316- AGGREGATE			316 - ASPHALT		530
						6398	6404	6424	6035	6036	6003
						AGGR (TY-PD GR-4 OR TY-PL GR-4)(SAC-B)	AGGR (TY-PB GR-4 OR TY-PL GR-4 SAC-A)	AGGR (TY. PD OR TY. PL GR. 5) (SAC B)	ASPH (TIER I)	ASPH (TIER II)	INTERSECTIONS (SURF TREAT)
						1 CY/130 SY	1 CY/140 SY	1 CY/130 SY	1 TON/655 SY	1 TON/655 SY	
				SY	SY	CY	CY	CY	TON	TON	SY
1	0242-03-077	CHAMBERS	SH 61		208,059	1,472	317		78	294	4,976
2	0307-01-154	JEFFERSON	SH 87		210,062	1,472	149		33	304	1,392
3	0601-02-026	JEFFERSON	SH 326	44,190	64,198		459	340	166		556
4	0667-01-124	JEFFERSON	SH 347		173,500		1,240		265		7,928
5	0739-02-176	JEFFERSON	IH 10		26,929		193		42		
6	1237-02-018	JASPER	FM 1013		61,445	473				94	125
7	1275-01-043	JASPER	FM 1005		157,775	1,214				241	1,314
8	0244-07-008	JASPER	FM 1747		35,273	272				54	545
9	0388-02-068	LIBERTY	SH 146	70,822	84,987	654		545		238	259
10	0813-01-108	LIBERTY	FM 787		191,564	1,474				293	1,092
11	1061-01-034	LIBERTY	FM 1010		32,795		235		51		
12	1459-03-014	LIBERTY	FM 2025		37,827		271		58		966
13	1582-02-024	LIBERTY	FM 1725		36,715	283				57	595
14	1912-03-011	LIBERTY	FM 2090		12,174		87		19		717
15	0762-02-052	LIBERTY	FM 1409		384,920		2,750		588		686
16	0304-06-079	NEWTON	SH 87		132,073	1,016				202	1,095
17	0305-05-046	NEWTON	SH 87	8,833	14,269		102	68	36		870
18	0305-06-029	NEWTON	SH 87	22,849	32,129		230	176	84		741
19	0305-09-012	NEWTON	SS 272		13,433	104				21	1,157
20	3197-03-015	NEWTON	RE 255		172,587	1,328				264	649
21	2618-01-017	NEWTON	FM 2626		166,125	1,278				254	1,801
22	2618-02-006	NEWTON	FM 2626		38,697	298				60	193
23	1284-01-081	ORANGE	FM 1442	53,547	65,504		468	412	182		1,369
24	1284-02-020	ORANGE	FM 3247		10,886	84				17	71
25	0065-14-028	HARDIN	BU 96F		153,351	50	1,183		235	10	1,210
26	0200-10-087	HARDIN	US 69	51,425	76,369		546	396	196		5,074
27	0813-03-045	HARDIN	FM 421	4,880	235,165	1,472	317	38	78	294	6,577
28	0877-03-026	TYLER	FM 256		100,711	775				154	2,181
29	0200-14-094	JEFFERSON	US 69		184,829	1,422				283	1,142
30	0667-01-125	JEFFERSON	SH 347		11,767		85		18		534
31	0305-06-030	NEWTON	SH 87		3,534		26		6		3,937
32	0703-02-063	HARDIN	FM 92		103,588		740		159		3,937
33	0200-10-088	HARDIN	US 69		141,839		1,014		217		3,298
34	0785-01-036	JASPER	FM 252		57,215		409		88		1,395
35	0739-02-178	JEFFERSON	IH 10		28,679		205		44		364
PROJECT TOTALS						13,669	10,709	1,974	2,565	2,840	58,746

SUMMARY OF TMA

PROJECT REFERENCE	CSJ	COUNTY	HIGHWAY NUMBER	6185	
				6002	6005
				TMA (STATIONARY)	TMA (MOBILE OPERATION)
				DAY	DAY
1	0242-03-077	CHAMBERS	SH 61	6	4
2	0307-01-154	JEFFERSON	SH 87	6	4
3	0601-02-026	JEFFERSON	SH 326	4	2
4	0667-01-124	JEFFERSON	SH 347	5	2
5	0739-02-176	JEFFERSON	IH 10	1	1
6	1237-02-018	JASPER	FM 1013	2	2
7	1275-01-043	JASPER	FM 1005	5	1
8	0244-07-008	JASPER	FM 1747	1	2
9	0388-02-068	LIBERTY	SH 146	5	1
10	0813-01-108	LIBERTY	FM 787	6	1
11	1061-01-034	LIBERTY	FM 1010	1	1
12	1459-03-014	LIBERTY	FM 2025	1	1
13	1582-02-024	LIBERTY	FM 1725	2	1
14	1912-03-011	LIBERTY	FM 2090	1	1
15	0762-02-052	LIBERTY	FM 1409	11	1
16	0304-06-079	NEWTON	SH 87	4	4
17	0305-05-046	NEWTON	SH 87	1	1
18	0305-06-029	NEWTON	SH 87	2	1
19	0305-09-012	NEWTON	SS 272	1	1
20	3197-03-015	NEWTON	RE 255	5	4
21	2618-01-017	NEWTON	FM 2626	5	5
22	2618-02-006	NEWTON	FM 2626	1	1
23	1284-01-081	ORANGE	FM 1442	4	2
24	1284-02-020	ORANGE	FM 3247	1	1
25	0065-14-028	HARDIN	BU 96F	5	2
26	0200-10-087	HARDIN	US 69	4	3
27	0813-03-045	HARDIN	FM 421	7	5
28	0877-03-026	TYLER	FM 256	3	2
29	0200-14-094	JEFFERSON	US 69	6	2
30	0667-01-125	JEFFERSON	SH 347	1	1
31	0305-06-030	NEWTON	SH 87	1	1
32	0703-02-063	HARDIN	FM 92	3	2
33	0200-10-088	HARDIN	US 69	4	2
34	0785-01-036	JASPER	FM 252	2	2
35	0739-02-178	JEFFERSON	IH 10	1	1
PROJECT TOTALS				118	68

QUANTITY SUMMARIES

SHEET 1 OF 3

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028,ETC.	BU 96F,ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN,ETC.		$SS1$

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SUMMARY OF PAVEMENT MARKINGS

PROJECT REFERENCE	CSJ	COUNTY	HIGHWAY NUMBER	ITEM 662		ITEM 666						ITEM 668									
				6109	6111	6300	6030	6303	6036	6312	6315	6074	6076	6077	6078	6089	6085	6092	6108	6084	6116
				WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	REFL PAV MRT TY I (W) 4" (BRK) (100MIL)	REFL PAV MRK TY I (W)8"(DOT)(100MIL)	REFL PAV MRT TY I (W) 4" (SLD) (100MIL)	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	PREFAB PAV MRK TY C (W) (12") (SLD)	PREFAB PAVMRK TY C (W) (24") (SLD)	PREFAB PAVMRK TY C (W) (ARROW)	PREFAB PAVMRK TY C (W) (DBL ARR)	PREFAB PAV MRK TY C (W) (RR XING)	PREFAB PAV MRK TY C (W) (WORD)	PREFAB PAV MRK TY C (W) (36")(YLD TRI)	6108 PREFAB PAV MRK TY C (Y) (24") (SLD)	6084 PREFAB PAVMRK TY C (W) (NUMBER)	PREFAB PAVMRK TY C (W) (EVAC SYM BLUE/WHT)
				EA	EA	LF	LF	LF	SF	LF	LF	LF	LF	EA	EA	EA	EA	EA	LF	EA	EA
1	0242-03-077	CHAMBERS	SH 61		3,267			101,839	1,378	7,680	62,649	164	182				3				
2	0307-01-154	JEFFERSON	SH 87	297	4,057			115,257	3,938	10,600	54,301	196	189	13		1		13			
3	0601-02-026	JEFFERSON	SH 326		1,605			44,568	139	5,350	1,490		125				2	6			
4	0667-01-124	JEFFERSON	SH 347	3,027				41,579	7,108		35,867		372	9	2		2				
5	0739-02-176	JEFFERSON	IH 10	90	250	300		14,489		780	7,639		91					27			
6	1237-02-018	JASPER	FM 1013		1,879			45,743		4,620	17,417										
7	1275-01-043	JASPER	FM 1005		2,667					3,679	14,688	1						5			
8	0244-07-008	JASPER	FM 1747	50	376			26,999	488	540	24,617		76				2	14			
9	0388-02-068	LIBERTY	SH 146		2,251					1,129	4,502						2				
10	0813-01-108	LIBERTY	FM 787		3,292					3,278	13,098										
11	1061-01-034	LIBERTY	FM 1010		874					580	2,307		2,721	2						2	
12	1459-03-014	LIBERTY	FM 2025	15	868			21,270	410	56	224		178	4						4	
13	1582-02-024	LIBERTY	FM 1725		111			27,264		370	14,514		84			2					
14	1912-03-011	LIBERTY	FM 2090		250			4,328		500	5,796										
15	0762-02-052	LIBERTY	FM 1409		1,165			9,635		1,940	9,635										
16	0304-06-079	NEWTON	SH 87		3,160			99,198		7,080	62,926		12								
17	0305-05-046	NEWTON	SH 87		339			8,406	396	880	3,433		24	1				15			2
18	0305-06-029	NEWTON	SH 87		182	520		22,936		2,670	7,047	38	88	1				16			4
19	0305-09-012	NEWTON	SS 272		328			7,465		370	4,338		142					5			
20	3197-03-015	NEWTON	RE 255		6,355			112,880		10,260	65,656		102								
21	2618-01-017	NEWTON	FM 2626		6,461			122,164	88	6,800	84,935		202								
22	2618-02-006	NEWTON	FM 2626		1,304			24,177		2,470	11,272		80					5			
23	1284-01-081	ORANGE	FM 1442	7	2,027			48,008	266	4,860	11,416		203	2		2		10			
24	1284-02-020	ORANGE	FM 3247		386					1,180	668		28								
25	0065-14-028	HARDIN	BU 96F	2,232	3,146	7,440	38	22,315	2,287	5,140	31,772	402	1,197	25	2	8	15				
26	0200-10-087	HARDIN	US 69	77	5,742	260		41,030	98	11,380	47,302		248	35	0		4				5
27	0813-03-045	HARDIN	FM 421	22	5,554			129,765	381	11,030	82,250		126	12	2		18	6		7	
28	0877-03-026	TYLER	FM 256		4,159			81,700		1,470	13,575	40	55								
29	0200-14-094	JEFFERSON	US 69	4,707	2,104	10,720		27,080	6,145		41,798		400	15	2		4				
30	0667-01-125	JEFFERSON	SH 347	147	147	600		4,066	1,065		4,066										
31	0305-06-030	NEWTON	SH 87		31			2,470		270	254		27					4			
32	0703-02-063	HARDIN	FM 92	373	52	1,240		28,171	435	6,570	28,088	288	342	1			6				
33	0200-10-088	HARDIN	US 69	1,818	1,750	6,060		27,949	2,147	2,500	19,686	276	271	14			9				
34	0785-01-036	JASPER	FM 252	288	924			36,363	288	1,840	32,010			4							
35	0739-02-178	JEFFERSON	IH 10	753	17	2,510			1,320		327		30	5	6		2				

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QUANTITY SUMMARIES

SHEET 2 OF 3

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028,ETC.	BU 96F,ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN,ETC.		8

DN: DW: CK: CK:

SUMMARY OF PAVEMENT MARKINGS							
PROJECT REFERENCE	CSJ	COUNTY	HIGHWAY NUMBER	ITEM 671		ITEM 677	ITEM 6056
				6007	6009	6028	6001
				REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	ELIM EXIST PAV MRK (RUMBLE STRIP)	PERFORM IN-LANE (TRANS) RUMBLE STRIP
				EA	EA	LF	LF
1	0242-03-077	CHAMBERS	SH 61	0	260		
2	0307-01-154	JEFFERSON	SH 87	53	1,099		
3	0601-02-026	JEFFERSON	SH 326		291		
4	0667-01-124	JEFFERSON	SH 347	860	468		
5	0739-02-176	JEFFERSON	IH 10		450		
6	1237-02-018	JASPER	FM 1013		380	60	60
7	1275-01-043	JASPER	FM 1005		1,032		
8	0244-07-008	JASPER	FM 1747	24	358		
9	0388-02-068	LIBERTY	SH 146		551		
10	0813-01-108	LIBERTY	FM 787		1,120		
11	1061-01-034	LIBERTY	FM 1010		247		
12	1459-03-014	LIBERTY	FM 2025	22	340		
13	1582-02-024	LIBERTY	FM 1725		293		
14	1912-03-011	LIBERTY	FM 2090		105		
15	0762-02-052	LIBERTY	FM 1409		136		
16	0304-06-079	NEWTON	SH 87		1,181		
17	0305-05-046	NEWTON	SH 87		78		
18	0305-06-029	NEWTON	SH 87		213		
19	0305-09-012	NEWTON	SS 272		73		
20	3197-03-015	NEWTON	RE 255		1,658		
21	2618-01-017	NEWTON	FM 2626		1,400		
22	2618-02-006	NEWTON	FM 2626	10	280		
23	1284-01-081	ORANGE	FM 1442	7	385		
24	1284-02-020	ORANGE	FM 3247		68		
25	0065-14-028	HARDIN	BU 96F	401	690		
26	0200-10-087	HARDIN	US 69	19	754		
27	0813-03-045	HARDIN	FM 421		332		
28	0877-03-026	TYLER	FM 256		1,706		
29	0200-14-094	JEFFERSON	US 69	781	764		
30	0667-01-125	JEFFERSON	SH 347	30			
31	0305-06-030	NEWTON	SH 87		35		
32	0703-02-063	HARDIN	FM 92	69	759		
33	0200-10-088	HARDIN	US 69	311	489		
34	0785-01-036	JASPER	FM 252		451		
35	0739-02-178	JEFFERSON	IH 10	129	10		

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QUANTITY SUMMARIES

SHEET 3 OF 3

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		9

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SEAL COAT MATERIAL SELECTION TABLE

TIER I: HEAVY USE - USE ONLY THE SELECTED MATERIALS.

TYPE	ASPHALT RUBBER (A-R)	ASPHALT CEMENT (AC)
	☐ A-R ONLY	☒ AC ONLY
ASPHALT	☐ A-R TY II ☐ A-R TY III ☐ SP 300-	☒ AC-20-5TR ☒ AC-20XP ☐ AC-15P ☐ SP 300-

TIER II: MODERATE USE - USE THESE MATERIALS OR ANY SELECTED TIER I MATERIAL COMBINATIONS OF THE ALLOWED TYPES.

TYPE	ASPHALT CEMENT (AC)	ASPHALT EMULSION
	☒ AC ONLY	☐ EMULSION ONLY
ASPHALT	☒ AC-10-2TR ☐ AC-15P ☒ AC-20XP ☐ AC-10 W/2%SBR ☐ AC-5 W/2%SBR ☐ SP 300-	☐ CHFRS-2P ☐ HFRS-2P ☐ CRS-2P ☐ SP 300-

TIER III: LIGHT USE - USE THESE MATERIALS OR ANY SELECTED TIER I OR TIER II MATERIAL COMBINATIONS OF THE ALLOWED TYPES.

TYPE	ASPHALT CEMENT (AC)	ASPHALT EMULSION
	☐ AC ONLY	☐ EMULSION ONLY
ASPHALT	☐ AC-10 ☐ AC-5 ☐ SP 300-	☐ CRS-2 ☐ CRS-2H ☐ HFRS-2 ☐ SP 300-

DISTRICTWIDE SEAL COAT PROJECT SEASONS: REFER TO ITEM 316 FOR TEMPERATURE AND WEATHER RESTRICTIONS.

SEASON 1:	AMA, CHS, LBB	MAY 15 TO AUG 31
SEASON 2:	ABL, ATL, BWD, DAL, FTW, LFK, ODA, PAR, SJT, TYL, WAC, WFS	MAY 1 TO AUG 31
SEASON 3:	AUS, BMT, BRY, ELP, HOU, SAT, YKM	MAY 1 TO SEP 15
SEASON 4:	CRP, LRD, PHR	APR 1 TO SEPT 30

NOTE: SEAL COATS ON ROUTINE MAINTENANCE CONTRACTS MUST BE COMPLETED BY AUGUST 31 UNLESS OTHERWISE SHOWN ON THE PLANS.

INSTRUCTIONS TO THE CONTRACTOR:

1. PROVIDE MATERIALS ACCORDING TO THE ALTERNATES SELECTED FOR THE ROADWAY TIER DESIGNATIONS SPECIFIED AT VARIOUS ROADWAY LOCATIONS SHOWN ON THE PLANS;
2. ALTERNATELY, SUPPLY SELECTED BINDERS FROM A HIGHER TIER, BUT ONLY IF THE TYPE OF MATERIAL IS ALLOWED FOR THE DESIGNATED TIER; PAYMENT WILL ONLY BE MADE FOR THE TIER DESIGNATED FOR THE PAVEMENT;
3. SUPPLY THE AGGREGATE TYPE, GRADE AND SURFACE AGGREGATE CLASS SHOWN ON THE PLANS; AND
4. ADHERE TO THE APPLICATION SEASON SELECTED.

THERE ARE 80 WORKING DAYS ALLOWED FOR THIS PROJECT.
THE LATEST ROADWAY START WORK DATE IS MAY 1, 2022.

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER

SEAL COAT MATERIAL SELECTION TABLE

SCTABLE

FILE: sctable.dgn	DN: TxDOT	CK:	DW:		CK:
© TxDOT: March 2014	CONT	SECT	JOB		HIGHWAY
REVISIONS	0065	14	028, ETC.		BU 96F, ETC.
	DIST	COUNTY			SHEET NO.
	BMT	HARDIN, ETC.			10

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BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

1. The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).

2. The development and design of the Traffic Control Plan (TCP)is the responsibility of the Engineer.

3. The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.

4. The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.

5. Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets," the TxDOT "Roadway Design Manual" or engineering judgment.

6. When projects abut, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.

7. The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.

8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.

9. The temporary traffic control devices shown in the illustrations of the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices to be used.

10. Where highway construction or maintenance work is being undertaken, other than mobile operations as defined by the Texas Manual on Uniform Traffic Control Devices, CSJ limit signs are required. CSJ limit signs are shown on BC(2). The OBEY WARNING SIGNS STATE LAW sign, STAY ALERT TALK OR TEXT LATER and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits. For mobile operations, CSJ limit signs are not required.

11. Traffic control devices should be in place only while work is actually in progress or a definite need exists.

12. The Engineer has the final decision on the location of all traffic control devices.

13. Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.

WORKER SAFETY NOTES:

1. Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shall wear high-visibility safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel," or equivalent revisions, and labeled as ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Class 3 garments should be considered for high traffic volume work areas or night time work.

2. Except in emergency situations, flagger stations shall be illuminated when flagging is used at night.

COMPLIANT WORKZONE TRAFFIC CONTROL DEVICES

1. Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources.

2. Work zone traffic control devices shall be compliant with the Manual for Assessing safety Hardware (MASH).

THE DOCUMENTS BELOW CAN BE FOUND ON-LINE AT http://www.txdot.gov
COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICES LIST (CWZTCD)
DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS)
MATERIAL PRODUCER LIST (MPL)
ROADWAY DESIGN MANUAL - SEE "MANUALS (ONLINE MANUALS)"
STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS (SHSD)
TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD)
TRAFFIC ENGINEERING STANDARD SHEETS

SHEET 1 OF 12

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS

BC(1)-21

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©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.
4-03 7-13	DIST	COUNTY		SHEET NO.
9-07 8-14	BMT	HARDIN,ETC.		11
5-10 5-21				

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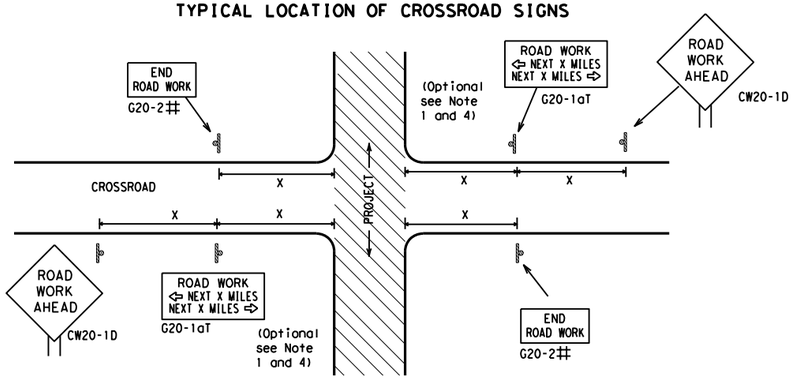
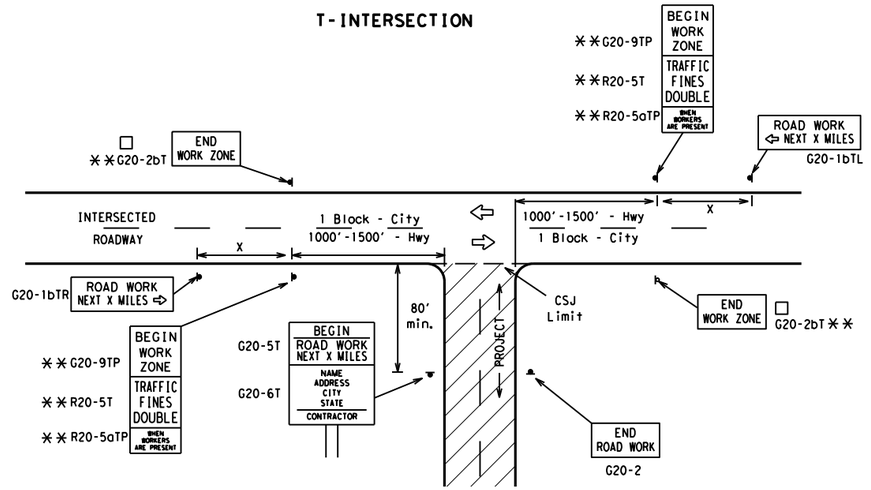
TYPICAL LOCATION OF CROSSROAD SIGNS



May be mounted on back of "ROAD WORK AHEAD"(CW20-1D) sign with approval of Engineer. (See note 2 below)

1. The typical minimum signing on a crossroad approach should be a "ROAD WORK AHEAD" (CW20-1D)sign and a (G20-2) "END ROAD WORK" sign, unless noted otherwise in plans.
2. The Engineer may use the reduced size 36" x 36" ROAD WORK AHEAD (CW20-1D) sign mounted back to back with the reduced size 36" x 18" "END ROAD WORK"(G20-2) sign on low volume crossroads (see Note 4 under "Typical Construction Warning Sign Size and Spacing"). See the "Standard Highway Sign Designs for Texas" manual for sign details. The Engineer may omit the advance warning signs on low volume crossroads. The Engineer will determine whether a road is low volume as per TMUTCD Part 5. This information shall be shown in the plans.
3. Based on existing field conditions, the Engineer/Inspector may require additional signs such as FLAGGER AHEAD, LOOSE GRAVEL, or other appropriate signs. When additional signs are required, these signs will be considered part of the minimum requirements. The Engineer/Inspector will determine the proper location and spacing of any sign not shown on the BC sheets, Traffic Control Plan sheets or the Work Zone Standard Sheets.
4. The "ROAD WORK NEXT X MILES"(G20-1aT)sign shall be required at high volume crossroads to advise motorists of the length of construction in either direction from the intersection. The Engineer will determine whether a roadway is considered high volume.
5. Additional traffic control devices may be shown elsewhere in the plans for higher volume crossroads.
6. When work occurs in the intersection area, appropriate traffic control devices, as shown elsewhere in the plans or as determined by the Engineer/Inspector, shall be in place.

T-INTERSECTION



CSJ LIMITS AT T-INTERSECTION

1. The Engineer will determine the types and location of any additional traffic control devices, such as a flagger and accompanying signs, or other signs, that should be used when work is being performed at or near an intersection.
2. If construction closes the road at a T-intersection, the Contractor shall place the "CONTRACTOR NAME"(G20-6T) sign behind the Type 3 Barricades for the road closure (see BC(10) also). The "ROAD WORK NEXT X MILES" left arrow(G20-1bTL) and "ROAD WORK NEXT X MILES" right arrow (G20-1bTR)" signs shall be replaced by the detour signing called for in the plans.

TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING[1,5,6]

SIZE

Sign Number or Series	Conventional Road	Expressway/ Freeway
CW20[4] CW21 CW22 CW23 CW25	48" x 48"	48" x 48"
CW1, CW2, CW7, CW8, CW9, CW11, CW14	36" x 36"	48" x 48"
CW3, CW4, CW5, CW6, CW8-3, CW10, CW12	48" x 48"	48" x 48"

SPACING

Posted Speed	Sign △ Spacing "X"
MPH	Feet (Apprx.)
30	120
35	160
40	240
45	320
50	400
55	500[2]
60	600[2]
65	700[2]
70	800[2]
75	900[2]
80	1000[2]
*	*[3]

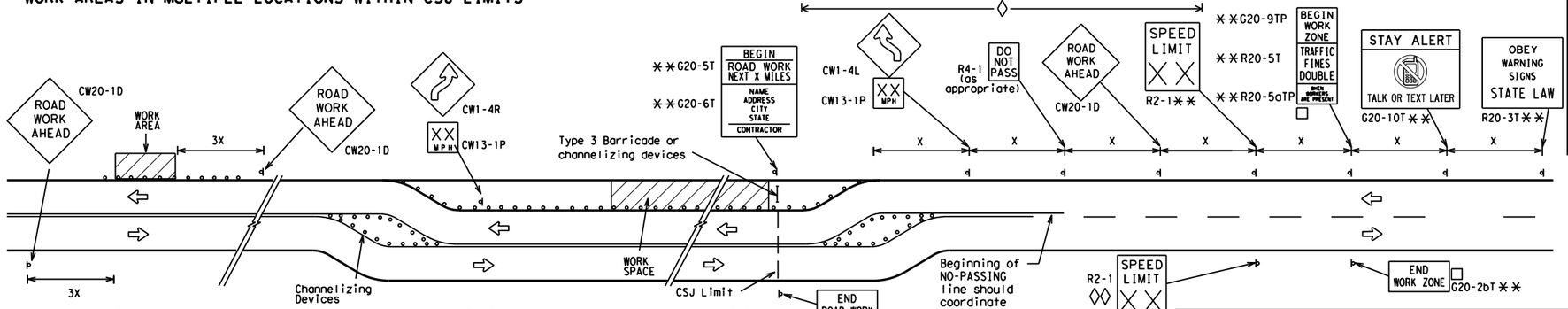
* For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

△ Minimum distance from work area to first Advance Warning sign nearest the work area and/or distance between each additional sign.

GENERAL NOTES

1. Special or larger size signs may be used as necessary.
2. Distance between signs should be increased as required to have 1500 feet advance warning.
3. Distance between signs should be increased as required to have 1/2 mile or more advance warning.
4. 36" x 36" "ROAD WORK AHEAD" (CW20-1D)signs may be used on low volume crossroads at the discretion of the Engineer as per TMUTCD Part 5. See Note 2 under "Typical Location of Crossroad Signs".
5. Only diamond shaped warning sign sizes are indicated.
6. See sign size listing in "TMUTCD", Sign Appendix or the "Standard Highway Sign Designs for Texas" manual for complete list of available sign design sizes.

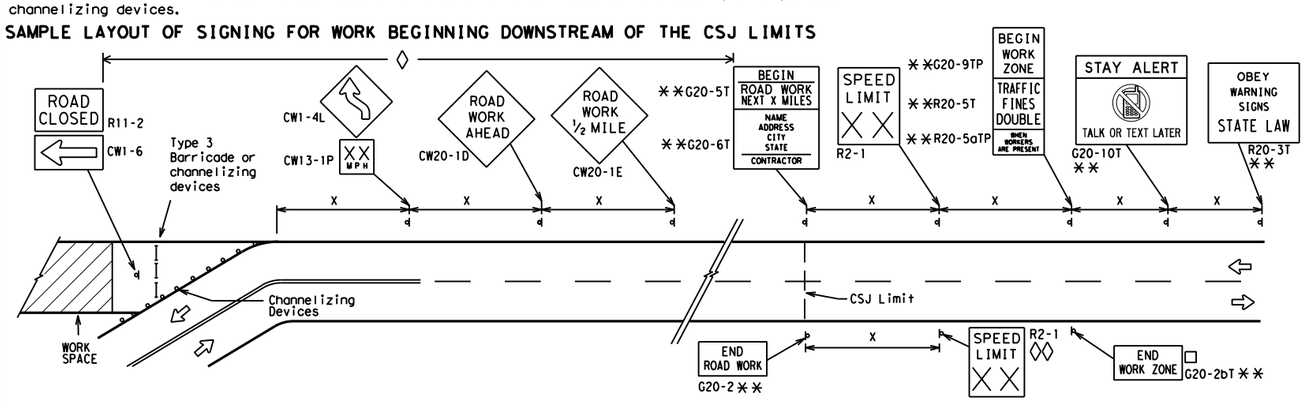
WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS



When extended distances occur between minimal work spaces, the Engineer/Inspector should ensure additional "ROAD WORK AHEAD"(CW20-1D)signs are placed in advance of these work areas to remind drivers they are still within the project limits. See the applicable TCP sheets for exact location and spacing of signs and channelizing devices.

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT THE CSJ LIMITS

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING DOWNSTREAM OF THE CSJ LIMITS



NOTES

The Contractor shall determine the appropriate distance to be placed on the G20-1 series signs and "BEGIN ROAD WORK NEXT X MILES"(G20-5T)sign for each specific project. This distance shall replace the "X" and shall be rounded to the nearest whole mile with the approval of the Engineer. No decimals shall be used.

□ The "BEGIN WORK ZONE"(G20-9TP) and "END WORK ZONE" (G20-2bT) shall be used as shown on the sample layout when advance signs are required outside the CSJ Limits. They inform the motorist of entering or leaving a part of the work zone lying outside the CSJ Limits where traffic fines may double if workers are present.

** CSJ limit signing is required for highway construction and maintenance work, with the exception of mobile operations.

◊ Area for placement of "ROAD WORK AHEAD" (CW20-1D)sign and other signs or devices as called for on the Traffic Control Plan.

◊◊ Contractor will install a regulatory speed limit sign at the end of the work zone.

LEGEND

⊢⊣	Type 3 Barricade
○ ○ ○	Channelizing Devices
▬	Sign
X	See Typical Construction Warning Sign Size and Spacing chart or the TMUTCD for sign spacing requirements.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PROJECT LIMIT

BC(2)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	BMT	HARDIN,ETC.		12

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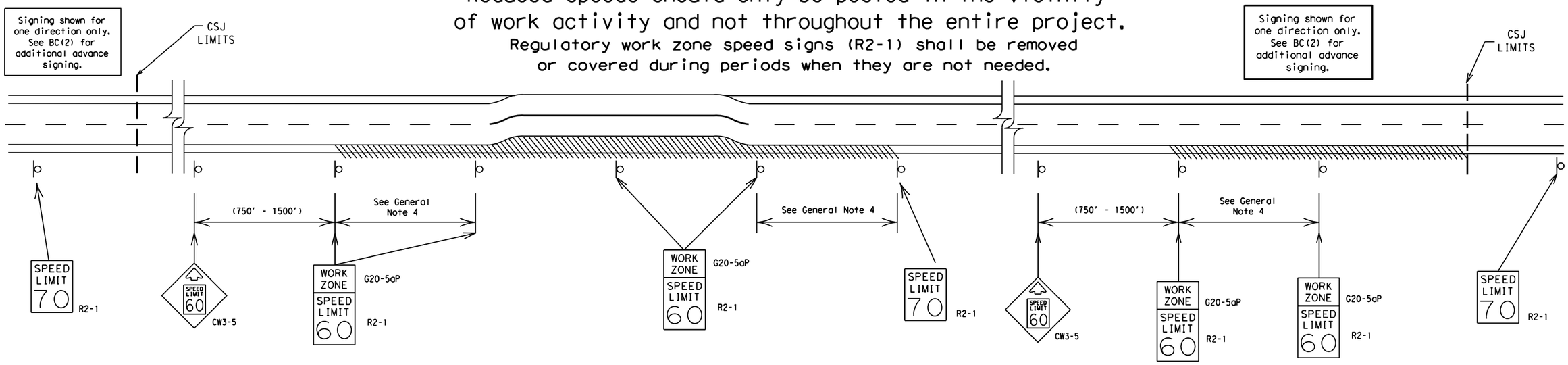
TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

Work zone speed limits shall be regulatory, established in accordance with the "Procedures for Establishing Speed Zones," and approved by the Texas Transportation Commission, or by City Ordinance when within Incorporated City Limits.

Reduced speeds should only be posted in the vicinity of work activity and not throughout the entire project.

Regulatory work zone speed signs (R2-1) shall be removed or covered during periods when they are not needed.



GUIDANCE FOR USE:

LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit should be included on the design of the traffic control plans when restricted geometrics with a lower design speed are present in the work zone and modification of the geometrics to a higher design speed is not feasible.

Long/Intermediate Term Work Zone Speed Limit signs, when approved as described above, should be posted and visible to the motorist when work activity is present. Work activity may also be defined as a change in the roadway that requires a reduced speed for motorists to safely negotiate the work area, including:

a) rough road or damaged pavement surface
b) substantial alteration of roadway geometrics (diversions)
c) construction detours
d) grade
e) width
f) other conditions readily apparent to the driver

As long as any of these conditions exist, the work zone speed limit signs should remain in place.

SHORT TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit may be included on the design of the traffic control plans when workers or equipment are not behind concrete barrier, when work activity is within 10 feet of the traveled way or actually in the traveled way.

Short Term Work Zone Speed Limit signs should be posted and visible to the motorists only when work activity is present. When work activity is not present, signs shall be removed or covered.
(See Removing or Covering on BC(4)).

GENERAL NOTES

1. Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance.
2. Regulatory work zone speed limit signs shall be placed on supports at a 7 foot minimum mounting height.
3. Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
4. Frequency of work zone speed limit signs should be:
   40 mph and greater 0.2 to 2 miles
   35 mph and less 0.2 to 1 mile
5. Regulatory speed limit signs shall have black legend and border on a white reflective background (See "Reflective Sheeting" on BC(4)).
6. Fabrication, erection and maintenance of the"ADVANCE SPEED LIMIT"(CW3-5)sign, "WORK ZONE"(G20-5aP) plaque and the "SPEED LIMIT"(R2-1)signs shall not be paid for directly, but shall be considered subsidiary to Item 502.
7. Turning signs from view, laying signs over or down will not be allowed, unless as otherwise noted under "REMOVING OR COVERING" on BC(4).
8. Techniques that may help reduce traffic speeds include but are not limited to:
   A. Law enforcement.
   B. Flagger stationed next to sign.
   C. Portable changeable message sign (PCMS).
   D. Low-power (drone) radar transmitter.
   E. Speed monitor trailers or signs.
9. Speeds shown on details above are for illustration only. Work Zone Speed Limits should only be posted as approved for each project.
10. For more specific guidance concerning the type of work, work zone conditions and factors impacting allowable regulatory construction speed zone reduction see TxDOT form #1204 in the TxDOT e-form system.

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT

BC(3)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	BMT	HARDIN,ETC.		13

DATE: 7/13/2021 9:44:02 AM
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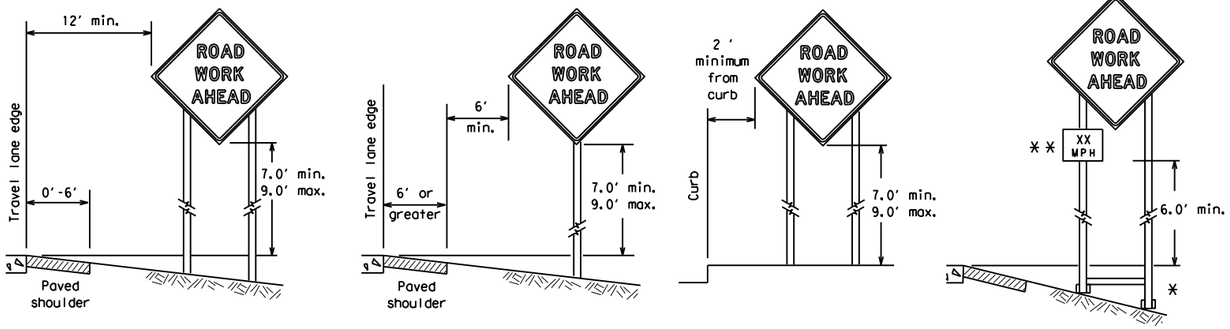
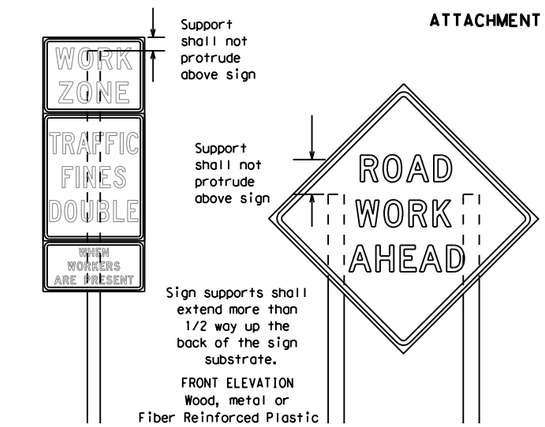
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS

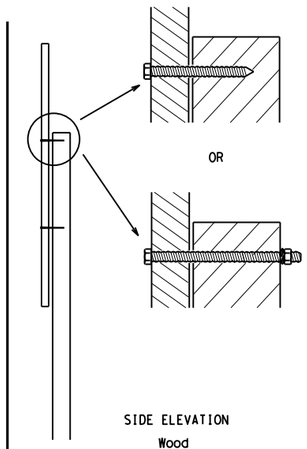


* When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

** When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance) should not cover the surface of the parent sign.

ATTACHMENT FOR SIGN SUPPORTS





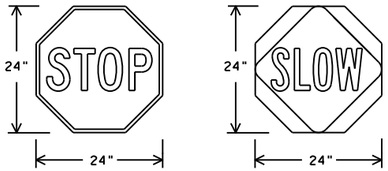
Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

Nails shall NOT be allowed. Each sign shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Wood supports shall not be extended or repaired by splicing or other means.

Splicing embedded perforated square metal tubing in order to extend post height will only be allowed when the splice is made using four bolts, two above and two below the spice point. Splice must be located entirely behind the sign substrate, not near the base of the support. Splice insert lengths should be at least 5 times nominal post size, centered on the splice and of at least the same gauge material.

STOP/SLOW PADDLES

1. STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24".
2. STOP/SLOW paddles shall be retroreflectorized when used at night.
3. STOP/SLOW paddles may be attached to a staff with a minimum length of 6' to the bottom of the sign.
4. Any lights incorporated into the STOP or SLOW paddle faces shall only be as specifically described in Section 6E.03 Hand Signaling Devices in the TMUTCD.



SHEETING REQUIREMENTS (WHEN USED AT NIGHT)		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	RED	TYPE B OR C SHEETING
BACKGROUND	ORANGE	TYPE B_{FL} OR C_{FL} SHEETING
LEGEND & BORDER	WHITE	TYPE B OR C SHEETING
LEGEND & BORDER	BLACK	ACRYLIC NON-REFLECTIVE FILM

CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

1. Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, specific service (LOGO), or cultural information. Drivers proceeding through a work zone need the same, if not better route guidance as normally installed on a roadway without construction.
2. When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent signs until the permanent sign message matches the roadway condition. For details for covering large guide signs see the TS-CD standard.
3. When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
4. If existing signs are to be relocated on their original supports, they shall be installed on crashworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards. This work should be paid for under the appropriate pay item for relocating existing signs.
5. If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC standard sheets, TLRS standard sheets or the CWZTCD list. The signs shall meet the required mounting heights shown on the BC, or the SMD standard sheets during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
6. Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.

GENERAL NOTES FOR WORK ZONE SIGNS

1. Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
5. The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD). The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the TMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes.
6. The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD) for small roadside signs. Supports for temporary large roadside signs shall meet the requirements detailed on the Temporary Large Roadside Signs (TLRS) standard sheets. The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so the Engineer can verify the correct procedures are being followed.
7. The Contractor is responsible for installing signs on approved supports and replacing signs with damaged or cracked substrates and/or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
8. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1 inch.
9. The Contractor shall replace damaged wood posts. New or damaged wood sign posts shall not be spliced.

DURATION OF WORK (as defined by the "Texas Manual on Uniform Traffic Control Devices" Part 6)

1. The types of sign supports, sign mounting height, the size of signs, and the type of sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type of work being performed. The Contractor is responsible for ensuring the sign support, sign mounting height and substrate meets manufacturer's recommendations in regard to crashworthiness and duration of work requirements.
   a. Long-term stationary - work that occupies a location more than 3 days.
   b. Intermediate-term stationary - work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than one hour.
   c. Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
   d. Short, duration - work that occupies a location up to 1 hour.
   e. Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

SIGN MOUNTING HEIGHT

1. The bottom of Long-term/Intermediate-term signs shall be at least 7 feet, but not more than 9 feet, above the paved surface, except as shown for supplemental plaques mounted below other signs.
2. The bottom of Short-term/Short Duration signs shall be a minimum of 1 foot above the pavement surface but no more than 2 feet above the ground.
3. Long-term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
4. Short-term/Short Duration signs shall be used only during daylight and shall be removed at the end of the workday or raised to appropriate Long-term/Intermediate sign height.
5. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

SIZE OF SIGNS

1. The Contractor shall furnish the sign sizes shown on BC (2) unless otherwise shown in the plans or as directed by the Engineer.

SIGN SUBSTRATES

1. The Contractor shall ensure the sign substrate is installed in accordance with the manufacturer's recommendations for the type of sign support that is being used. The CWZTCD lists each substrate that can be used on the different types and models of sign supports.
2. "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
3. All wooden individual sign panels fabricated from 2 or more pieces shall have one or more plywood cleat, 1/2" thick by 6" wide, fastened to the back of the sign and extending fully across the sign. The cleat shall be attached to the back of the sign using wood screws that do not penetrate the face of the sign panel. The screws shall be placed on both sides of the splice and spaced at 6" centers. The Engineer may approve other methods of splicing the sign face.

REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 for rigid signs or DMS-8310 for roll-up signs. The web address for DMS specifications is shown on BC(1).
2. White sheeting, meeting the requirements of DMS-8300 Type A, shall be used for signs with a white background.
3. Orange sheeting, meeting the requirements of DMS-8300 Type B_{FL} or Type C_{FL}, shall be used for rigid signs with orange backgrounds.

SIGN LETTERS

1. All sign letters and numbers shall be clear, and open rounded type uppercase alphabet letters as approved by the Federal Highway Administration (FHWA) and as published in the "Standard Highway Sign Design for Texas" manual. Signs, letters and numbers shall be of first class workmanship in accordance with Department Standards and Specifications.

REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
2. Long-term stationary or intermediate stationary signs installed on square metal tubing may be turned away from traffic 90 degrees when the sign message is not applicable. This technique may not be used for signs installed in the median of divided highways or near any intersections where the sign may be seen from approaching traffic.
3. Signs installed on wooden skids shall not be turned at 90 degree angles to the roadway. These signs should be removed or completely covered when not required.
4. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night, without damaging the sign sheeting.
5. Burlap shall NOT be used to cover signs.
6. Duct tape or other adhesive material shall NOT be affixed to a sign face.
7. Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

SIGN SUPPORT WEIGHTS

1. Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall NOT be used.
6. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
7. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
8. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

FLAGS ON SIGNS

1. Flags may be used to draw attention to warning signs. When used, the flag shall be 16 inches square or larger and shall be orange or fluorescent red-orange in color. Flags shall not be allowed to cover any portion of the sign face.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

BC(4)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	BMT	HARDIN,ETC.		14

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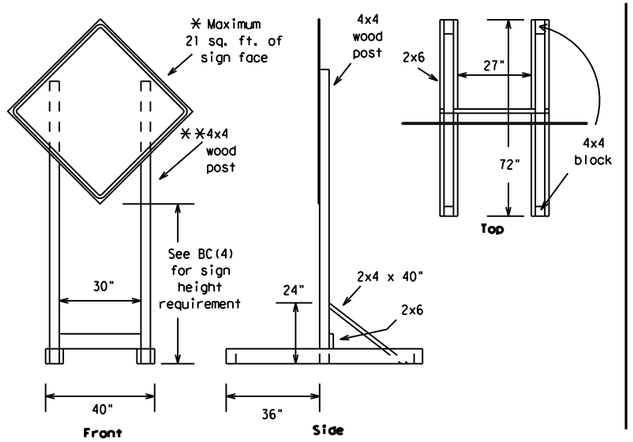
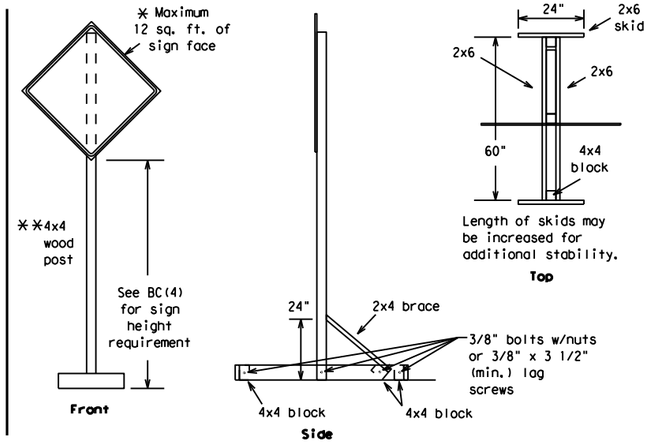
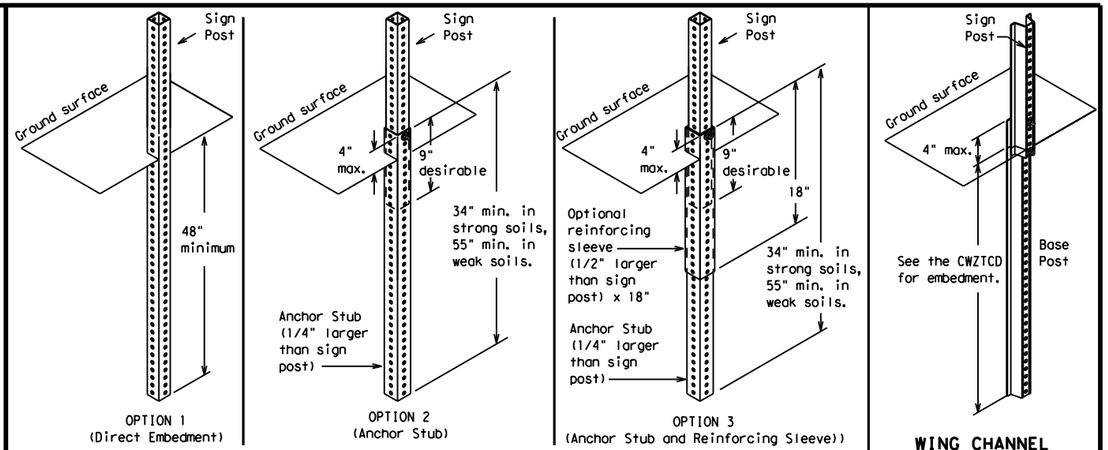




SKID MOUNTED WOOD SIGN SUPPORTS

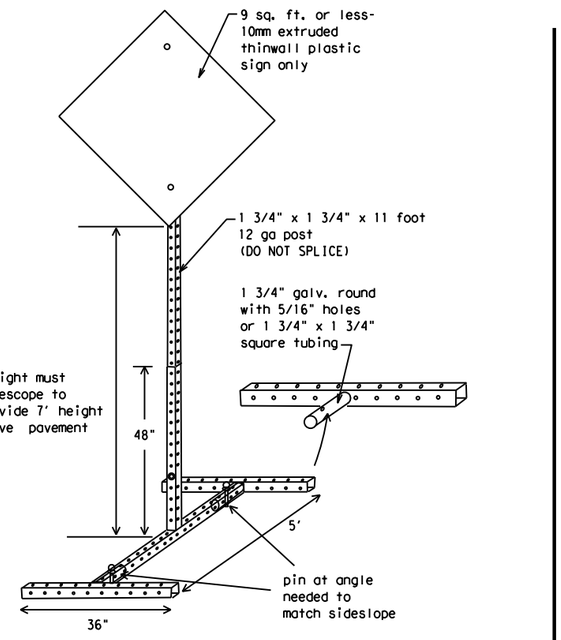
* LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS

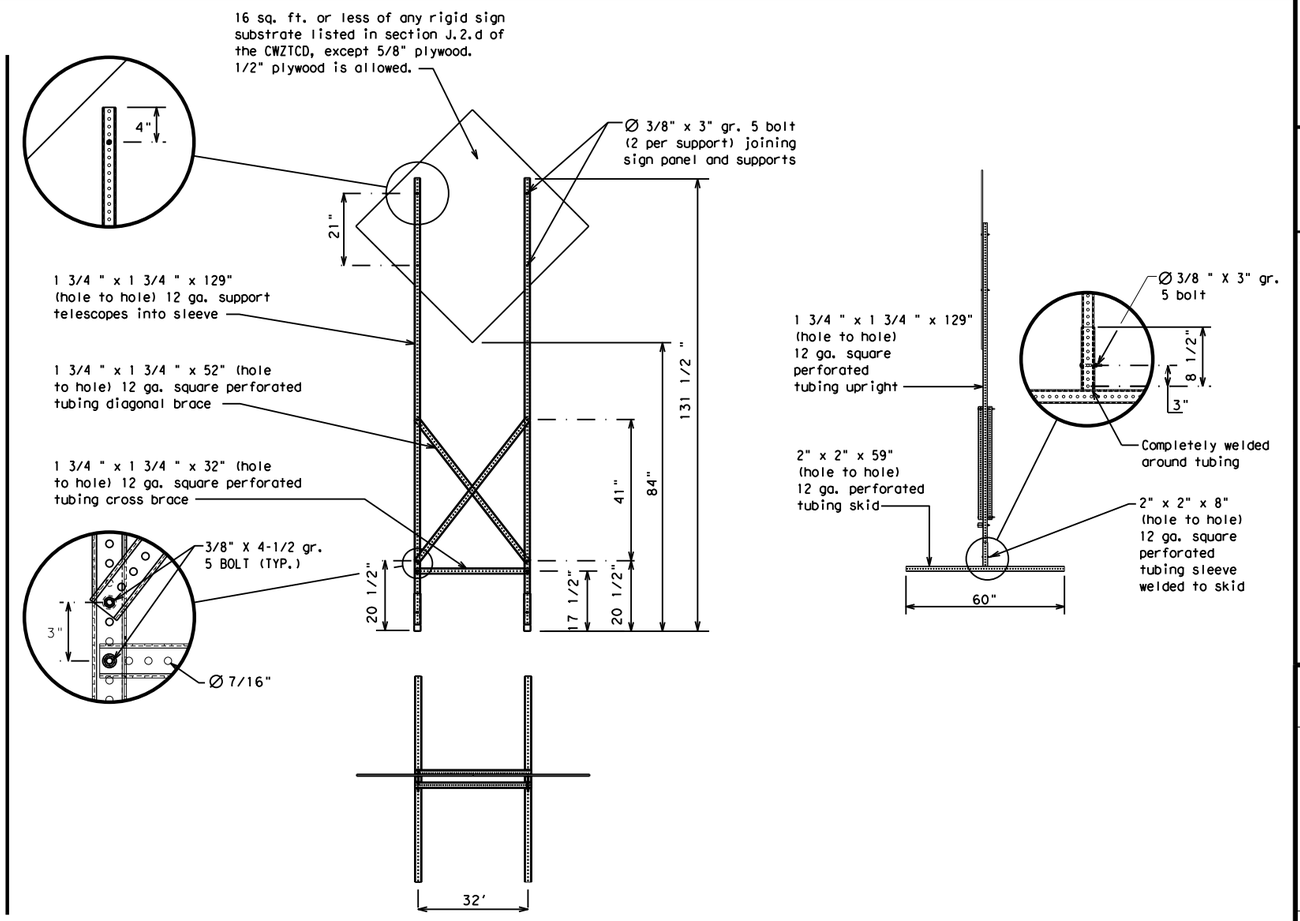


PERFORATED SQUARE METAL TUBING

GROUND MOUNTED SIGN SUPPORTS

Refer to the CWZTCD and the manufacturer's installation procedure for each type sign support.
The maximum sign square footage shall adhere to the manufacturer's recommendation.
Two post installations can be used for larger signs.





SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS

* LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS

WEDGE ANCHORS

Both steel and plastic Wedge Anchor Systems as shown on the SMD Standard Sheets may be used as temporary sign supports for signs up to 10 square feet of sign face. They may be set in concrete or in sturdy soils if approved by the Engineer. (See web address for "Traffic Engineering Standard Sheets" on BC(1)).

OTHER DESIGNS

MORE DETAILS OF APPROVED LONG/INTERMEDIATE AND SHORT TERM SUPPORTS CAN BE FOUND ON THE CWZTCD LIST. SEE BC(1) FOR WEBSITE LOCATION.

GENERAL NOTES

1. Nails may be used in the assembly of wooden sign supports, but 3/8" bolts with nuts or 3/8" x 3 1/2" lag screws must be used on every joint for final connection.
2. No more than 2 sign posts shall be placed within a 7 ft. circle, except for specific materials noted on the CWZTCD List.
3. When project is completed, all sign supports and foundations shall be removed from the project site. This will be considered subsidiary to Item 502.

* See BC(4) for definition of "Work Duration."

** Wood sign posts MUST be one piece. Splicing will NOT be allowed. Posts shall be painted white.

☐ See the CWZTCD for the type of sign substrate that can be used for each approved sign support.

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC(5)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	BMT	HARDIN,ETC.		15

DATE: 7/13/2021 9:44:06 AM
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WHEN NOT IN USE, REMOVE THE PCMS FROM THE RIGHT-OF-WAY OR PLACE THE PCMS BEHIND BARRIER OR GUARDRAIL WITH SIGN PANEL TURNED PARALLEL TO TRAFFIC

PORTABLE CHANGEABLE MESSAGE SIGNS

1. The Engineer/Inspector shall approve all messages used on portable changeable message signs (PCMS).
2. Messages on PCMS should contain no more than 8 words (about four to eight characters per word), not including simple words such as "TO," "FOR," "AT," etc.
3. Messages should consist of a single phase, or two phases that alternate. Three-phase messages are not allowed. Each phase of the message should convey a single thought, and must be understood by itself.
4. Use the word "EXIT" to refer to an exit ramp on a freeway; i.e., "EXIT CLOSED." Do not use the term "RAMP."
5. Always use the route or interstate designation (IH, US, SH, FM) along with the number when referring to a roadway.
6. When in use, the bottom of a stationary PCMS message panel should be a minimum 7 feet above the roadway, where possible.
7. The message term "WEEKEND" should be used only if the work is to start on Saturday morning and end by Sunday evening at midnight. Actual days and hours of work should be displayed on the PCMS if work is to begin on Friday evening and/or continue into Monday morning.
8. The Engineer/Inspector may select one of two options which are available for displaying a two-phase message on a PCMS. Each phase may be displayed for either four seconds each or for three seconds each.
9. Do not "flash" messages or words included in a message. The message should be steady burn or continuous while displayed.
10. Do not present redundant information on a two-phase message; i.e., keeping two lines of the message the same and changing the third line.
11. Do not use the word "Danger" in message.
12. Do not display the message "LANES SHIFT LEFT" or "LANES SHIFT RIGHT" on a PCMS. Drivers do not understand the message.
13. Do not display messages that scroll horizontally or vertically across the face of the sign.
14. The following table lists abbreviated words and two-word phrases that are acceptable for use on a PCMS. Both words in a phrase must be displayed together. Words or phrases not on this list should not be abbreviated, unless shown in the TMUTCD.
15. PCMS character height should be at least 18 inches for trailer mounted units. They should be visible from at least 1/2 (.5) mile and the text should be legible from at least 600 feet at night and 800 feet in daylight. Truck mounted units must have a character height of 10 inches and must be legible from at least 400 feet.
16. Each line of text should be centered on the message board rather than left or right justified.
17. If disabled, the PCMS should default to an illegible display that will not alarm motorists and will only be used to alert workers that the PCMS has malfunctioned. A pattern such as a series of horizontal solid bars is appropriate.

WORD OR PHRASE	ABBREVIATION
Access Road	ACCS RD
Alternate	ALT
Avenue	AVE
Best Route	BEST RTE
Boulevard	BLVD
Bridge	BRDG
Cannot	CANT
Center	CTR
Construction Ahead	CONST AHD
CROSSING	XING
Detour Route	DETOUR RTE
Do Not	DONT
East	E
Eastbound	(route) E
Emergency	EMER
Emergency Vehicle	EMER VEH
Entrance, Enter	ENT
Express Lane	EXP LN
Expressway	EXPWY
XXXX Feet	XXXX FT
Fog Ahead	FOG AHD
Freeway	FRWY, FWY
Freeway Blocked	FWY BLKD
Friday	FRI
Hazardous Driving	HAZ DRIVING
Hazardous Material	HAZMAT
High-Occupancy	HOV
Vehicle Highway	HWY
Hour(s)	HR, HRS
Information	INFO
It Is	ITS
Junction	JCT
Left	LFT
Left Lane	LFT LN
Lane Closed	LN CLOSED
Lower Level	LWR LEVEL
Maintenance	MAINT

WORD OR PHRASE	ABBREVIATION
Major	MAJ
Miles	MI
Miles Per Hour	MPH
Minor	MNR
Monday	MON
Normal	NORM
North	N
Northbound	(route) N
Parking	PKING
Road	RD
Right Lane	RT LN
Saturday	SAT
Service Road	SERV RD
Shoulder	SHLDR
Slippery	SLIP
South	S
Southbound	(route) S
Speed	SPD
Street	ST
Sunday	SUN
Telephone	PHONE
Temporary	TEMP
Thursday	THURS
To Downtown	TO DWNTN
Traffic	TRAF
Travelers	TRVLRS
Tuesday	TUES
Time Minutes	TIME MIN
Upper Level	UPR LEVEL
Vehicles (s)	VEH, VEHS
Warning	WARN
Wednesday	WED
Weight Limit	WT LIMIT
West	W
Westbound	(route) W
Wet Pavement	WET PVMT
Will Not	WONT

Roadway designation * IH-number, US-number, SH-number, FM-number

RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

(The Engineer may approve other messages not specifically covered here.)

Phase 1: Condition Lists

Road/Lane/Ramp Closure List

- FREEWAY CLOSED X MILE
- FRONTAGE ROAD CLOSED
- ROAD CLOSED AT SH XXX
- SHOULDER CLOSED XXX FT
- ROAD CLSD AT FM XXXX
- RIGHT LN CLOSED XXX FT
- RIGHT X LANES CLOSED
- RIGHT X LANES OPEN
- CENTER LANE CLOSED
- DAYTIME LANE CLOSURES
- NIGHT LANE CLOSURES
- I-XX SOUTH EXIT CLOSED
- VARIOUS LANES CLOSED
- EXIT XXX CLOSED X MILE
- EXIT CLOSED
- RIGHT LN TO BE CLOSED
- MALL DRIVEWAY CLOSED
- X LANES CLOSED TUE - FRI
- XXXXXXXX BLVD CLOSED

Other Condition List

- ROADWORK XXX FT
- ROAD REPAIRS XXXX FT
- FLAGGER XXXX FT
- LANE NARROWS XXXX FT
- RIGHT LN NARROWS XXXX FT
- TWO-WAY TRAFFIC XX MILE
- MERGING TRAFFIC XXXX FT
- CONST TRAFFIC XXX FT
- LOOSE GRAVEL XXXX FT
- UNEVEN LANES XXXX FT
- DETOUR X MILE
- ROUGH ROAD XXXX FT
- ROADWORK PAST SH XXXX
- ROADWORK NEXT FRI-SUN
- BUMP XXXX FT
- US XXX EXIT X MILES
- TRAFFIC SIGNAL XXXX FT
- LANES SHIFT *

* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

Phase 2: Possible Component Lists

Action to Take/Effect on Travel List

- MERGE RIGHT
- FORM X LINES RIGHT
- DETOUR NEXT X EXITS
- USE XXXXX RD EXIT
- USE EXIT XXX
- USE EXIT I-XX NORTH
- STAY ON US XXX SOUTH
- USE I-XX E TO I-XX N
- TRUCKS USE US XXX N
- WATCH FOR TRUCKS
- WATCH FOR TRUCKS
- EXPECT DELAYS
- EXPECT DELAYS
- PREPARE TO STOP
- REDUCE SPEED XXX FT
- END SHOULDER USE
- USE OTHER ROUTES
- WATCH FOR WORKERS
- STAY IN LANE *

Location List

- AT FM XXXX
- BEFORE RAILROAD CROSSING
- NEXT X MILES
- PAST US XXX EXIT
- XXXXXXX TO XXXXXXX
- US XXX TO FM XXXX

Warning List

- SPEED LIMIT XX MPH
- MAXIMUM SPEED XX MPH
- MINIMUM SPEED XX MPH
- ADVISORY SPEED XX MPH
- RIGHT LANE EXIT
- USE CAUTION
- DRIVE SAFELY
- DRIVE WITH CARE

** Advance Notice List

- TUE-FRI XX AM- X PM
- APR XX-XX X PM-X AM
- BEGINS MONDAY
- BEGINS MAY XX
- MAY X-X XX PM - XX AM
- NEXT FRI-SUN
- XX AM TO XX PM
- NEXT TUE AUG XX
- TONIGHT XX PM- XX AM

* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

** See Application Guidelines Note 6.

APPLICATION GUIDELINES

1. Only 1 or 2 phases are to be used on a PCMS.
2. The 1st phase (or both) should be selected from the "Road/Lane/Ramp Closure List" and the "Other Condition List".
3. A 2nd phase can be selected from the "Action to Take/Effect on Travel, Location, General Warning, or Advance Notice Phase Lists".
4. A Location Phase is necessary only if a distance or location is not included in the first phase selected.
5. If two PCMS are used in sequence, they must be separated by a minimum of 1000 ft. Each PCMS shall be limited to two phases, and should be understandable by themselves.
6. For advance notice, when the current date is within seven days of the actual work date, calendar days should be replaced with days of the week. Advance notification should typically be for no more than one week prior to the work.

WORDING ALTERNATIVES

1. The words RIGHT, LEFT and ALL can be interchanged as appropriate.
2. Roadway designations IH, US, SH, FM and LP can be interchanged as appropriate.
3. EAST, WEST, NORTH and SOUTH (or abbreviations E, W, N and S) can be interchanged as appropriate.
4. Highway names and numbers replaced as appropriate.
5. ROAD, HIGHWAY and FREEWAY can be interchanged as needed.
6. AHEAD may be used instead of distances if necessary.
7. FT and MI, MILE and MILES interchanged as appropriate.
8. AT, BEFORE and PAST interchanged as needed.
9. Distances or AHEAD can be eliminated from the message if a location phase is used.

PCMS SIGNS WITHIN THE R.O.W. SHALL BE BEHIND GUARDRAIL OR CONCRETE BARRIER OR SHALL HAVE A MINIMUM OF FOUR (4) PLASTIC DRUMS PLACED PERPENDICULAR TO TRAFFIC ON THE UPSTREAM SIDE OF THE PCMS, WHEN EXPOSED TO ONE DIRECTION OF TRAFFIC. WHEN EXPOSED TO TWO WAY TRAFFIC, THE FOUR DRUMS SHOULD BE PLACED WITH ONE DRUM AT EACH OF THE FOUR CORNERS OF THE UNIT.

FULL MATRIX PCMS SIGNS

1. When Full Matrix PCMS signs are used, the character height and legibility/visibility requirements shall be maintained as listed in Note 15 under "PORTABLE CHANGEABLE MESSAGE SIGNS" above.
2. When symbol signs, such as the "Flagger Symbol"(CW20-7) are represented graphically on the Full Matrix PCMS sign and, with the approval of the Engineer, it shall maintain the legibility/visibility requirement listed above.
3. When symbol signs are represented graphically on the Full Matrix PCMS, they shall only supplement the use of the static sign represented, and shall not substitute for, or replace that sign.
4. A full matrix PCMS may be used to simulate a flashing arrow board provided it meets the visibility, flash rate and dimming requirements on BC(7), for the same size arrow.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

BC(6)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
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9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	BMT	HARDIN,ETC.		16

DATE: 7/13/2021 9:44:08 AM
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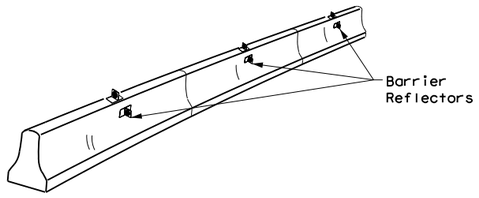
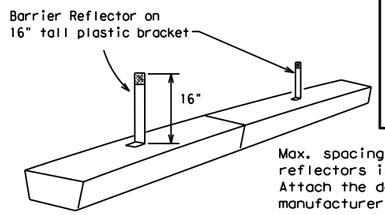
1. Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on BC(1).
2. Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost of the reflectors shall be considered subsidiary to Item 512.



CONCRETE TRAFFIC BARRIER (CTB)

3. Where traffic is on one side of the CTB, two (2) Barrier Reflectors shall be mounted in approximately the midsection of each section of CTB. An alternate mounting location is uniformly spaced at one end of each CTB. This will allow for attachment of a barrier grapple without damaging the reflector. The Barrier Reflector mounted on the side of the CTB shall be located directly below the reflector mounted on top of the barrier, as shown in the detail above.
4. Where CTB separates two-way traffic, three barrier reflectors shall be mounted on each section of CTB. The reflector unit on top shall have two yellow reflective faces (Bi-Directional)while the reflectors on each side of the barrier shall have one yellow reflective face, as shown in the detail above.
5. When CTB separates traffic traveling in the same direction, no barrier reflectors will be required on top of the CTB.
6. Barrier Reflector units shall be yellow or white in color to match the edgeline being supplemented.
7. Maximum spacing of Barrier Reflectors is forty (40) feet.
8. Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as CTB delineation.
9. Attachment of Barrier Reflectors to CTB shall be per manufacturer's recommendations.
10. Missing or damaged Barrier Reflectors shall be replaced as directed by the Engineer.
11. Single slope barriers shall be delineated as shown on the above detail.

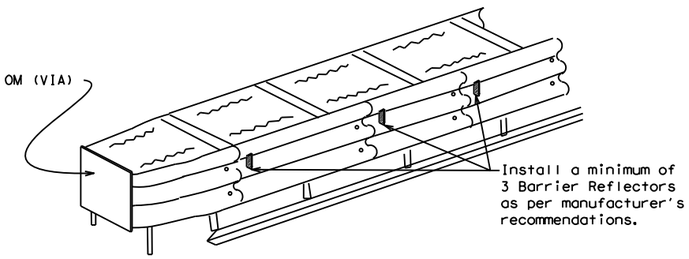


Max. spacing of barrier reflectors is 20 feet. Attach the delineators as per manufacturer's recommendations.

LOW PROFILE CONCRETE BARRIER (LPCB) USED IN WORK ZONES

LPCB is approved for use in work zone locations, where the posted speed is 45mph, or less. See Roadway Standard Sheet LPCB.

LOW PROFILE CONCRETE BARRIER (LPCB)

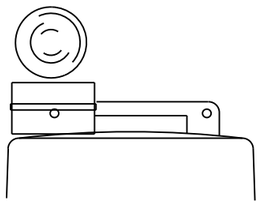


DELINEATION OF END TREATMENTS

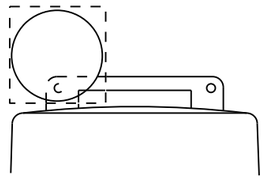
END TREATMENTS FOR CTB'S USED IN WORK ZONES

End treatments used on CTB's in work zones shall meet the apppropriate crashworthy standards as defined in the Manual for Assessing Safety Hardware (MASH). Refer to the CWZTCD List for approved end treatments and manufacturers.

BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS



Type C Warning Light or approved substitute mounted on a drum adjacent to the travel way.



Warning reflector may be round or square.Must have a yellow reflective surface area of at least 30 square inches

WARNING LIGHTS

1. Warning lights shall meet the requirements of the TMUTCD.
2. Warning lights shall NOT be installed on barricades.
3. Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "FL". The Type A Warning Lights shall not be used with signs manufactured with Type B_{FL} or C_{FL} Sheeting meeting the requirements of Departmental Material Specification DMS-8300.
4. Type-C and Type D 360 degree Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "SB".
5. The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices.
6. When required by the Engineer, the Contractor shall furnish a copy of the warning lights certification. The warning light manufacturer will certify the warning lights meet the requirements of the latest ITE Purchase Specifications for Flashing and Steady-Burn Warning Lights.
7. When used to delineate curves, Type-C and Type D Steady Burn Lights should only be placed on the outside of the curve, not the inside.
8. The location of warning lights and warning reflectors on drums shall be as shown elsewhere in the plans.

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

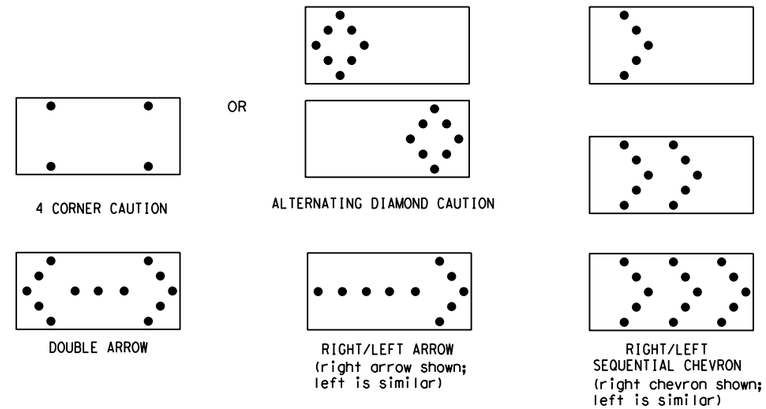
1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
3. A series of sequential flashing warning lights placed on channelizing devices to form a merging taper may be used for delineation. If used, the successive flashing of the sequential warning lights should occur from the beginning of the taper to the end of the merging taper in order to identify the desired vehicle path. The rate of flashing for each light shall be 65 flashes per minute, plus or minus 10 flashes.
4. Type C and D steady-burn warning lights are intended to be used in a series to delineate the edge of the travel lane on detours, on lane changes, on lane closures, and on other similar conditions.
5. Type A, Type C and Type D warning lights shall be installed at locations as detailed on other sheets in the plans.
6. Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
7. The maximum spacing for warning lights on drums should be identical to the channelizing device spacing.

WARNING REFLECTORS MOUNTED ON PLASTIC DRUMS AS A SUBSTITUTE FOR TYPE C (STEADY BURN) WARNING LIGHTS

1. A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, steady burn warning light at the discretion of the Contractor unless otherwise noted in the plans.
2. The warning reflector shall be yellow in color and shall be manufactured using a sign substrate approved for use with plastic drums listed on the CWZTCD.
3. The warning reflector shall have a minimum retroreflective surface area (one-side) of 30 square inches.
4. Round reflectors shall be fully reflectorized, including the area where attached to the drum.
5. Square substrates must have a minimum of 30 square inches of reflectorized sheeting. They do not have to be reflectorized where it attaches to the drum.
6. The side of the warning reflector facing approaching traffic shall have sheeting meeting the color and retroreflectivity requirements for DMS 8300-Type B or Type C.
7. When used near two-way traffic, both sides of the warning reflector shall be reflectorized.
8. The warning reflector should be mounted on the side of the handle nearest approaching traffic.
9. The maximum spacing for warning reflectors should be identical to the channelizing device spacing requirements.

Arrow Boards may be located behind channelizing devices in place for a shoulder taper or merging taper, otherwise they shall be delineated with four (4) channelizing devices placed perpendicular to traffic on the upstream side of traffic.

1. The Flashing Arrow Board should be used for all lane closures on multi-lane roadways, or slow moving maintenance or construction activities on the travel lanes.
2. Flashing Arrow Boards should not be used on two-lane, two-way roadways, detours, diversions or work on shoulders unless the "CAUTION" display (see detail below) is used.
3. The Engineer/Inspector shall choose all appropriate signs, barricades and/or other traffic control devices that should be used in conjunction with the Flashing Arrow Board.
4. The Flashing Arrow Board should be able to display the following symbols:



5. The "CAUTION" display consists of four corner lamps flashing simultaneously, or the Alternating Diamond Caution mode as shown.
6. The straight line caution display is NOT ALLOWED.
7. The Flashing Arrow Board shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute.
8. Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and equal intervals of 25 percent for each sequential phase of the flashing chevron.
9. The sequential arrow display is NOT ALLOWED.
10. The flashing arrow display is the TxDOT standard; however, the sequential chevron display may be used during daylight operations.
11. The Flashing Arrow Board shall be mounted on a vehicle, trailer or other suitable support.
12. A Flashing Arrow Board SHALL NOT BE USED to laterally shift traffic.
13. A full matrix PCMS may be used to simulate a Flashing Arrow Board provided it meets visibility, flash rate and dimming requirements on this sheet for the same size arrow.
14. Minimum mounting height of trailer mounted Arrow Boards should be 7 feet from roadway to bottom of panel.

REQUIREMENTS			
TYPE	MINIMUM SIZE	MINIMUM NUMBER OF PANEL LAMPS	MINIMUM VISIBILITY DISTANCE
B	30 x 60	13	3/4 mile
C	48 x 96	15	1 mile

ATTENTION

Flashing Arrow Boards shall be equipped with automatic dimming devices.

WHEN NOT IN USE, REMOVE THE ARROW BOARD FROM THE RIGHT-OF-WAY OR PLACE THE ARROW BOARD BEHIND CONCRETE TRAFFIC BARRIER OR GUARDRAIL.

FLASHING ARROW BOARDS

TRUCK-MOUNTED ATTENUATORS

1. Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the Manual for Assessing Safety Hardware (MASH).
2. Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
3. Refer to the CWZTCD for a list of approved TMAs.
4. TMAs are required on freeways unless otherwise noted in the plans.
5. A TMA should be used anytime that it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the work performance.
6. The only reason a TMA should not be required is when a work area is spread down the roadway and the work crew is an extended distance from the TMA.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS & ATTENUATOR

BC(7)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	BMT	HARDIN,ETC.		17

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GENERAL NOTES

1. For long term stationary work zones on freeways, drums shall be used as the primary channelizing device.
2. For intermediate term stationary work zones on freeways, drums should be used as the primary channelizing device but may be replaced in tangent sections by vertical panels, or 42" two-piece cones. In tangent sections, one-piece cones may be used with the approval of the Engineer but only if personnel are present on the project at all times to maintain the cones in proper position and location.
3. For short term stationary work zones on freeways, drums are the preferred channelizing device but may be replaced in tapers, transitions and tangent sections by vertical panels, two-piece cones or one-piece cones as approved by the Engineer.
4. Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
5. Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
6. The Contractor shall have a maximum of 24 hours to replace any plastic drums identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

GENERAL DESIGN REQUIREMENTS

Pre-qualified plastic drums shall meet the following requirements:

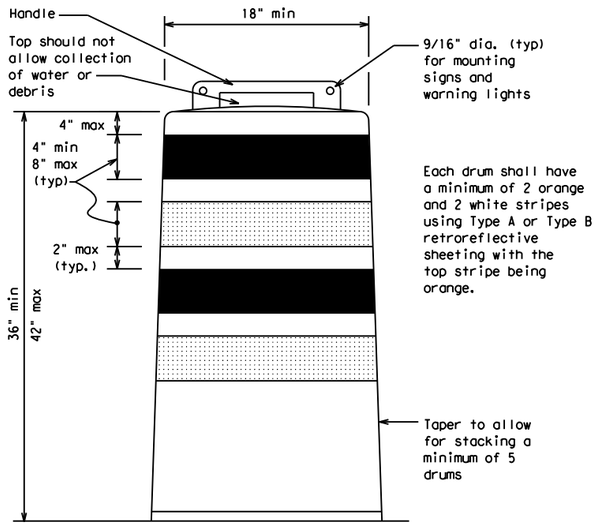
1. Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents accidental separation due to normal handling and/or air turbulence created by passing vehicles.
3. Plastic drums shall be constructed of lightweight flexible, and deformable materials. The Contractor shall NOT use metal drums or single piece plastic drums as channelization devices or sign supports.
4. Drums shall present a profile that is a minimum of 18 inches in width at the 36 inch height when viewed from any direction. The height of drum unit (body installed on base) shall be a minimum of 36 inches and a maximum of 42 inches.
5. The top of the drum shall have a built-in handle for easy pickup and shall be designed to drain water and not collect debris. The handle shall have a minimum of two widely spaced 9/16 inch diameter holes to allow attachment of a warning light, warning reflector unit or approved compliant sign.
6. The exterior of the drum body shall have a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches nor greater than 8 inches in width. Any non-reflectorized space between any two adjacent stripes shall not exceed 2 inches in width.
7. Bases shall have a maximum width of 36 inches, a maximum height of 4 inches, and a minimum of two footholds of sufficient size to allow base to be held down while separating the drum body from the base.
8. Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.
9. Drum body shall have a maximum unballasted weight of 11 lbs.
10. Drum and base shall be marked with manufacturer's name and model number.

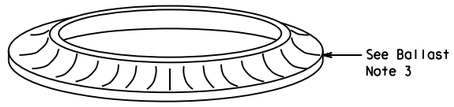
RETROREFLECTIVE SHEETING

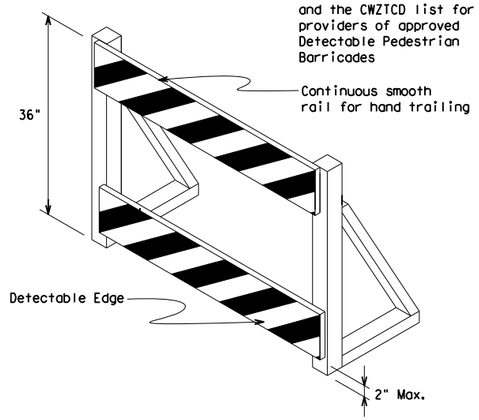
1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials," Type A or Type B reflective sheeting shall be supplied unless otherwise specified in the plans.
2. The sheeting shall be suitable for use on and shall adhere to the drum surface such that, upon vehicular impact, the sheeting shall remain adhered in-place and exhibit no delaminating, cracking, or loss of retroreflectivity other than that loss due to abrasion of the sheeting surface.

BALLAST

1. Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other ballasting devices as approved by the Engineer. Stacking of sandbags will be allowed, however height of sandbags above pavement surface may not exceed 12 inches.
2. Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs. Built-in ballast can be constructed of an integral crumb rubber base or a solid rubber base.
3. Recycled truck tire sidewalls may be used for ballast on drums approved for this type of ballast on the CWZTCD list.
4. The ballast shall not be heavy objects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck by a vehicle.
5. When used in regions susceptible to freezing, drums shall have drainage holes in the bottoms so that water will not collect and freeze becoming a hazard when struck by a vehicle.
6. Ballast shall not be placed on top of drums.
7. Adhesives may be used to secure base of drums to pavement.

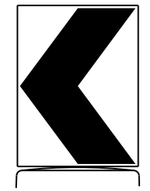




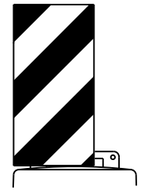


DETECTABLE PEDESTRIAN BARRICADES

1. When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility. Refer to WZ(BTS-2) for Pedestrian Control requirements for Sidewalk Diversions, Sidewalk Detours and Crosswalk Closures.
2. Where pedestrians with visual disabilities normally use the closed sidewalk, a Detectable Pedestrian Barricade shall be placed across the full width of the closed sidewalk instead of a Type 3 Barricade.
3. Detectable pedestrian barricades similar to the one pictured above, longitudinal channelizing devices, some concrete barriers, and wood or chain link fencing with a continuous detectable edging can satisfactorily delineate a pedestrian path.
4. Tape, rope, or plastic chain strung between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines (ADAAG)" and should not be used as a control for pedestrian movements.
5. Warning lights shall not be attached to detectable pedestrian barricades.
6. Detectable pedestrian barricades should use 8" nominal barricade rails as shown on BC(10) provided that the top rail provides a smooth continuous rail suitable for hand trailing with no splinters, burrs, or sharp edges.



18" x 24" Sign
(Maximum Sign Dimension)
Chevron CW1-8, Opposing Traffic Lane Divider, Driveway sign D70a, Keep Right R4 series or other signs as approved by Engineer



12" x 24"
Vertical Panel
mount with diagonals sloping down towards travel way

Plywood, Aluminum or Metal sign substrates shall NOT be used on plastic drums

SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

1. Signs used on plastic drums shall be manufactured using substrates listed on the CWZTCD.
2. Chevrons and other work zone signs with an orange background shall be manufactured with Type B_{FL} or Type C_{FL} Orange sheeting meeting the color and retroreflectivity requirements of DMS-8300, "Sign Face Material," unless otherwise specified in the plans.
3. Vertical Panels shall be manufactured with orange and white sheeting meeting the requirements of DMS-8300 Type A or Type B. Diagonal stripes on Vertical Panels shall slope down toward the intended traveled lane.
4. Other sign messages (text or symbolic) may be used as approved by the Engineer. Sign dimensions shall not exceed 18 inches in width or 24 inches in height, except for the R9 series signs discussed in note 8 below.
5. Signs shall be installed using a 1/2 inch bolt (nominal) and nut, two washers, and one locking washer for each connection.
6. Mounting bolts and nuts shall be fully engaged and adequately torqued. Bolts should not extend more than 1/2 inch beyond nuts.
7. Chevrons may be placed on drums on the outside of curves, on merging tapers or on shifting tapers. When used in these locations, they may be placed on every drum or spaced not more than on every third drum. A minimum of three (3) should be used at each location called for in the plans.
8. R9-9, R9-10, R9-11 and R9-11a Sidewalk Closed signs which are 24 inches wide may be mounted on plastic drums, with approval of the Engineer.

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(8)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.
4-03 8-14	DIST	COUNTY		SHEET NO.
9-07 5-21	BMT	HARDIN,ETC.		18
7-13				

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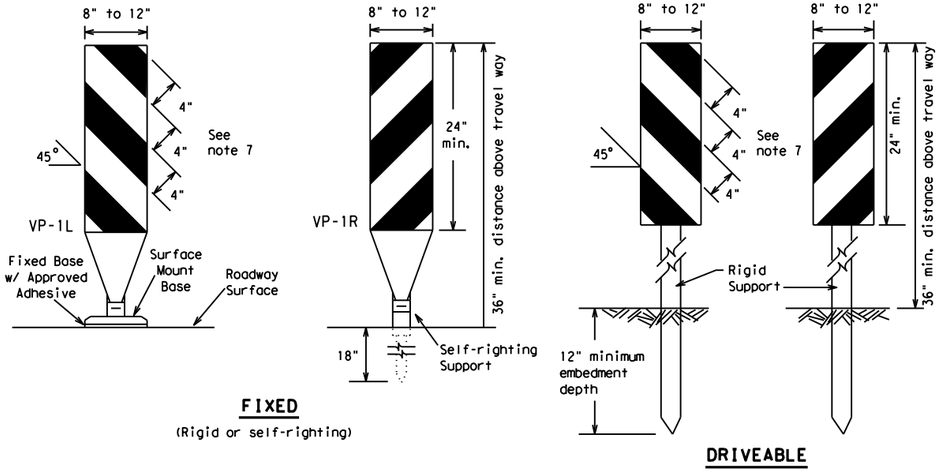
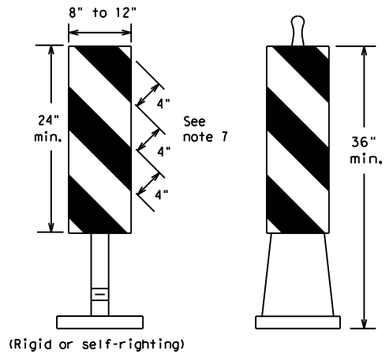


FIXED
(Rigid or self-righting)

DRIVEABLE

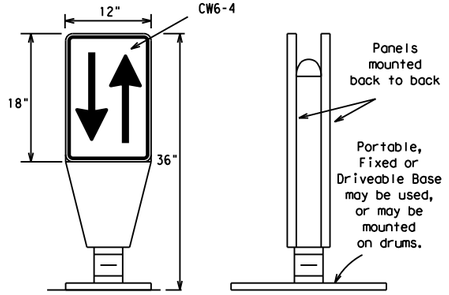


(Rigid or self-righting)

PORTABLE

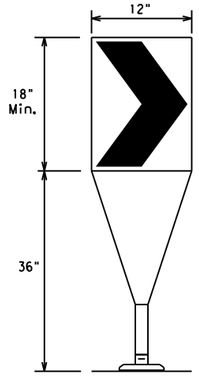
1. Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
2. VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is required. The Engineer/Inspector shall refer to the Roadway Design Manual for additional requirements on the use VP's for drop-offs.
3. VP's should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the travel lane.
4. VP's used on expressways and freeways or other high speed roadways, may have more than 270 square inches of retroreflective area facing traffic.
5. Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
6. Sheeting for the VP's shall be retroreflective Type A or Type B conforming to Departmental Material Specification DMS-8300, unless noted otherwise.
7. Where the height of reflective material on the vertical panel is 36 inches or greater, a panel stripe of 6 inches shall be used.

VERTICAL PANELS (VPs)



1. Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation. OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by a vehicle impact or wind gust.
2. The OTLD may be used in combination with 42" cones or VPs.
3. Spacing between the OTLD shall not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
4. The OTLD shall be orange with a black non-reflective legend. Sheeting for the OTLD shall be retroreflective Type B_{FL} or Type C_{FL} conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.

OPPOSING TRAFFIC LANE DIVIDERS (OTLD)



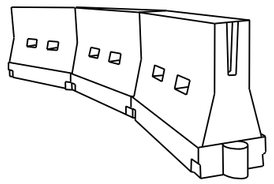
Fixed Base w/ Approved Adhesive (Driveable Base, or Flexible Support can be used)

1. The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
2. Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
3. Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shall be in line with and at right angles to approaching traffic. Spacing should be such that the motorist always has three in view, until the change in alignment eliminates its need.
4. To be effective, the chevron should be visible for at least 500 feet.
5. Chevrons shall be orange with a black nonreflective legend. Sheeting for the chevron shall be retroreflective Type B_{FL} or Type C_{FL} conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.
6. For Long Term Stationary use on tapers or transitions on freeways and divided highways, self-righting chevrons may be used to supplement plastic drums but not to replace plastic drums.

CHEVRONS

GENERAL NOTES

1. Work Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. The Engineer/Inspector shall ensure that spacing and placement is uniform and in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
2. Channelizing devices shown on this sheet may have a driveable, fixed or portable base. The requirement for self-righting channelizing devices must be specified in the General Notes or other plan sheets.
3. Channelizing devices on self-righting supports should be used in work zone areas where channelizing devices are frequently impacted by errant vehicles or vehicle related wind gusts making alignment of the channelizing devices difficult to maintain. Locations of these devices shall be detailed elsewhere in the plans. These devices shall conform to the TMUTCD and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
4. The Contractor shall maintain devices in a clean condition and replace damaged, nonreflective, faded, or broken devices and bases as required by the Engineer/Inspector. The Contractor shall be required to maintain proper device spacing and alignment.
5. Portable bases shall be fabricated from virgin and/or recycled rubber. The portable bases shall weigh a minimum of 30 lbs.
6. Pavement surfaces shall be prepared in a manner that ensures proper bonding between the adhesives, the fixed mount bases and the pavement surface. Adhesives shall be prepared and applied according to the manufacturer's recommendations.
7. The installation and removal of channelizing devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface integrity. Driveable bases shall not be permitted on final pavement surfaces. The Engineer/Inspector shall approve all application and removal procedures of fixed bases.



LONGITUDINAL CHANNELIZING DEVICES (LCD)

1. LCDs are crashworthy, lightweight, deformable devices that are highly visible, have good target value and can be connected together. They are not designed to contain or redirect a vehicle on impact.
2. LCDs may be used instead of a line of cones or drums.
3. LCDs shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. LCDs should not be used to provide positive protection for obstacles, pedestrians or workers.
5. LCDs shall be supplemented with retroreflective delineation as required for temporary barriers on BC(7) when placed roughly parallel to the travel lanes.
6. LCDs used as barricades placed perpendicular to traffic should have at least one row of reflective sheeting meeting the requirements for barricade rails as shown on BC(10). Place reflective sheeting near the top of the LCD along the full length of the device.

WATER BALLASTED SYSTEMS USED AS BARRIERS

1. Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the work space per the appropriate Manual for Assessing Safety Hardware (MASH) crashworthiness requirements based on roadway speed and barrier application.
2. Water ballasted systems used to channelize vehicular traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
3. Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. Water ballasted systems used as barriers should not be used for a merging taper except in low speed (less than 45 MPH) urban areas. When used on a taper in a low speed urban area, the taper shall be delineated and the taper length should be designed to optimize road user operations considering the available geometric conditions.
5. When water ballasted systems used as barriers have blunt ends exposed to traffic, they should be attenuated as per manufacturer recommendations or flared to a point outside the clear zone.

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long canes and the top of the unit shall not be less than 32 inches in height.

HOLLOW OR WATER BALLASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS

Posted Speed	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent
30	$L = \frac{WS^2}{60}$	150′	165′	180′	30′	60′
35		205′	225′	245′	35′	70′
40		265′	295′	320′	40′	80′
45	L = WS	450′	495′	540′	45′	90′
50		500′	550′	600′	50′	100′
55		550′	605′	660′	55′	110′
60		600′	660′	720′	60′	120′
65		650′	715′	780′	65′	130′
70		700′	770′	840′	70′	140′
75		750′	825′	900′	75′	150′
80		800′	880′	960′	80′	160′

** Taper lengths have been rounded off.
L=Length of Taper (FT.) W=Width of Offset (FT.)
S=Posted Speed (MPH)

SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

SHEET 9 OF 12

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(9)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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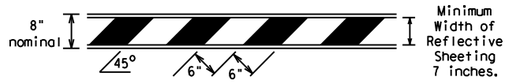
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	BMT	HARDIN,ETC.		19

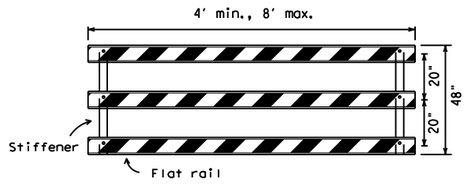
TYPE 3 BARRICADES

1. Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type 3 Barricades and a list of all materials used in the construction of Type 3 Barricades.
2. Type 3 Barricades shall be used at each end of construction projects closed to all traffic.
3. Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade. Where no turns are provided at a closed road, striping should slope downward in both directions toward the center of roadway.
4. Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope downward to the right.
5. Identification markings may be shown only on the back of the barricade rails. The maximum height of letters and/or company logos used for identification shall be 1".
6. Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided.
7. Warning lights shall NOT be installed on barricades.
8. Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight. Sand bags shall not be stacked in a manner that covers any portion of a barricade rails reflective sheeting. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall not be used for sandbags. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.
9. Sheeting for barricades shall be retroreflective Type A or Type B conforming to Departmental Material Specification DMS-8300 unless otherwise noted.

Barricades shall NOT be used as a sign support.



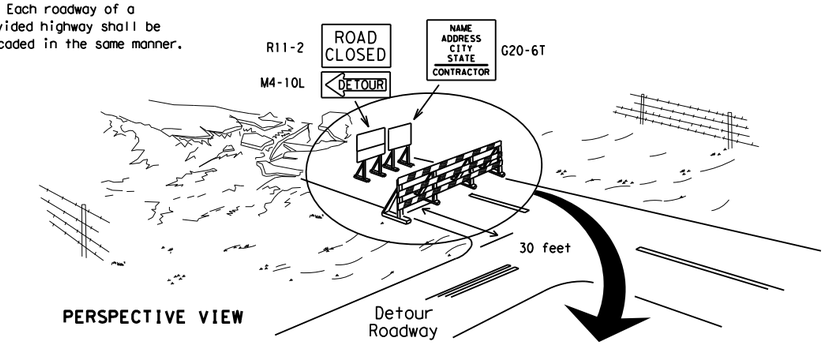
TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



Stiffener may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

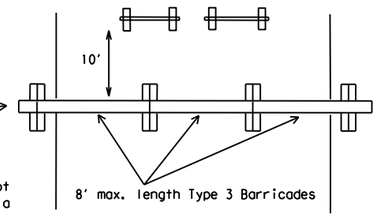
TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES

Each roadway of a divided highway shall be barricaded in the same manner.



PERSPECTIVE VIEW

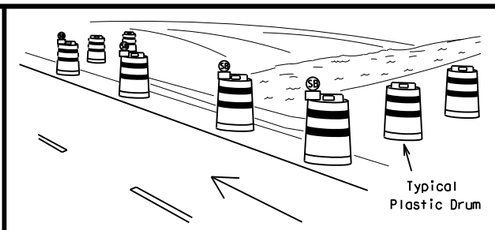
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.
Barricade striping should slant downward in the direction of detour.



PLAN VIEW

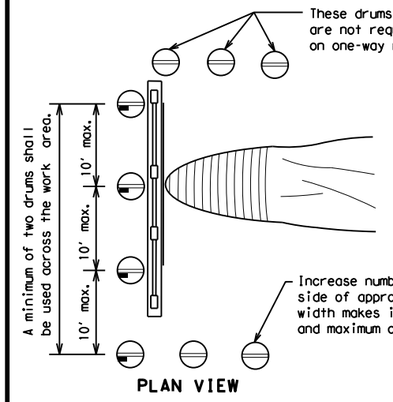
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION



PERSPECTIVE VIEW

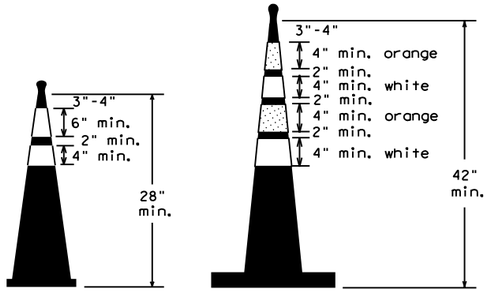
1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder width is greater than 12 feet, steady-burn lights may be omitted if drums are used.
5. Drums must extend the length of the culvert widening.



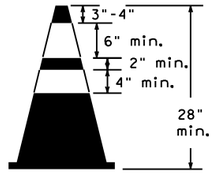
LEGEND	
	Plastic drum
	Plastic drum with steady burn light or yellow warning reflector
SB	Steady burn warning light or yellow warning reflector

PLAN VIEW

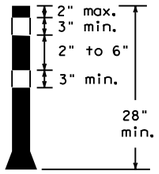
CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



Two-Piece cones



One-Piece cones

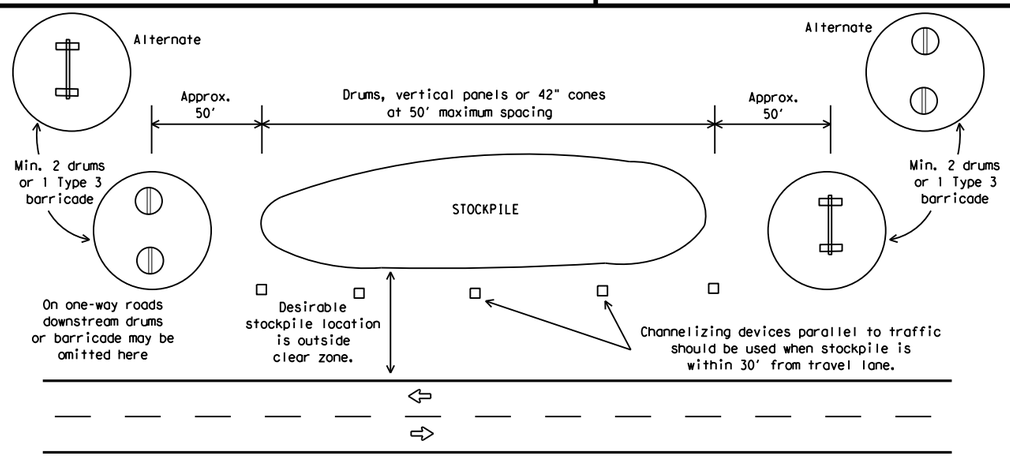


Tubular Marker

28" Cones shall have a minimum weight of 9 1/2 lbs.

42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

1. Traffic cones and tubular markers shall be predominantly orange, and meet the height and weight requirements shown above.
2. One-piece cones have the body and base of the cone molded in one consolidated unit. Two-piece cones have a cone shaped body and a separate rubber base, or ballast, that is added to keep the device upright and in place.
3. Two-piece cones may have a handle or loop extending up to 8" above the minimum height shown, in order to aid in retrieving the device.
4. Cones or tubular markers shall have white or white and orange reflective bands as shown above. The reflective bands shall have a smooth, sealed outer surface and meet the requirements of Departmental Material Specification DMS-8300 Type A or Type B.
5. 28" cones and tubular markers are generally suitable for short duration and short-term stationary work as defined on BC(4). These should not be used for intermediate-term or long-term stationary work unless personnel is on-site to maintain them in their proper upright position.
6. 42" two-piece cones, vertical panels or drums are suitable for all work zone durations.
7. Cones or tubular markers used on each project should be of the same size and shape.



TRAFFIC CONTROL FOR MATERIAL STOCKPILES

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(10)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS 9-07 8-14 7-13 5-21	0065	14	028,ETC.	BU 96F,ETC.
	DIST	COUNTY		SHEET NO.
	BMT	HARDIN,ETC.		20

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WORK ZONE PAVEMENT MARKINGS

GENERAL

1. The Contractor shall be responsible for maintaining work zone and existing pavement markings, in accordance with the standard specifications and special provisions, on all roadways open to traffic within the CSJ limits unless otherwise stated in the plans.
2. Color, patterns and dimensions shall be in conformance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
3. Additional supplemental pavement marking details may be found in the plans or specifications.
4. Pavement markings shall be installed in accordance with the TMUTCD and as shown on the plans.
5. When short term markings are required on the plans, short term markings shall conform with the TMUTCD, the plans and details as shown on the Standard Plan Sheet WZ(STPM).
6. When standard pavement markings are not in place and the roadway is opened to traffic, DO NOT PASS signs shall be erected to mark the beginning of the sections where passing is prohibited and PASS WITH CARE signs at the beginning of sections where passing is permitted.
7. All work zone pavement markings shall be installed in accordance with Item 662, "Work Zone Pavement Markings."

RAISED PAVEMENT MARKERS

1. Raised pavement markers are to be placed according to the patterns on BC(12).
2. All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and Departmental Material Specification DMS-4200 or DMS-4300.

PREFABRICATED PAVEMENT MARKINGS

1. Removable prefabricated pavement markings shall meet the requirements of DMS-8241.
2. Non-removable prefabricated pavement markings (foil back) shall meet the requirements of DMS-8240.

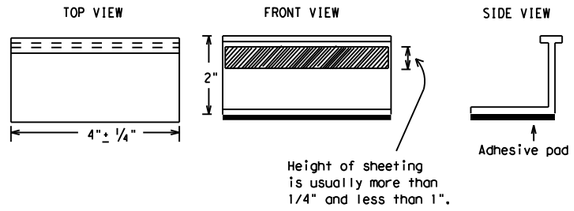
MAINTAINING WORK ZONE PAVEMENT MARKINGS

1. The Contractor will be responsible for maintaining work zone pavement markings within the work limits.
2. Work zone pavement markings shall be inspected in accordance with the frequency and reporting requirements of work zone traffic control device inspections as required by Form 599.
3. The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 160 feet when illuminated by automobile low-beam headlights at night, unless sight distance is restricted by roadway geometrics.
4. Markings failing to meet this criteria within the first 30 days after placement shall be replaced at the expense of the Contractor as per Specification Item 662.

REMOVAL OF PAVEMENT MARKINGS

1. Pavement markings that are no longer applicable, could create confusion or direct a motorist toward or into the closed portion of the roadway shall be removed or obliterated before the roadway is opened to traffic.
2. The above shall not apply to detours in place for less than three days, where flaggers and/or sufficient channelizing devices are used in lieu of markings to outline the detour route.
3. Pavement markings shall be removed to the fullest extent possible, so as not to leave a discernable marking. This shall be by any method approved by TxDOT Specification Item 677 for "Eliminating Existing Pavement Markings and Markers".
4. The removal of pavement markings may require resurfacing or seal coating portions of the roadway as described in Item 677.
5. Subject to the approval of the Engineer, any method that proves to be successful on a particular type pavement may be used.
6. Blast cleaning may be used but will not be required unless specifically shown in the plans.
7. Over-painting of the markings SHALL NOT BE permitted.
8. Removal of raised pavement markers shall be as directed by the Engineer.
9. Removal of existing pavement markings and markers will be paid for directly in accordance with Item 677, "ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS," unless otherwise stated in the plans.
10. Black-out marking tape may be used to cover conflicting existing markings for periods less than two weeks when approved by the Engineer.

Temporary Flexible-Reflective Roadway Marker Tabs



STAPLES OR NAILS SHALL NOT BE USED TO SECURE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS TO THE PAVEMENT SURFACE

1. Temporary flexible-reflective roadway marker tabs used as guidemarks shall meet the requirements of DMS-8242.
2. Tabs detailed on this sheet are to be inspected and accepted by the Engineer or designated representative. Sampling and testing is not normally required, however at the option of the Engineer, either "A" or "B" below may be imposed to assure quality before placement on the roadway.
   A. Select five (5) or more tabs at random from each lot or shipment and submit to the Construction Division, Materials and Pavement Section to determine specification compliance.
   B. Select five (5) tabs and perform the following test. Affix five (5) tabs at 24 inch intervals on an asphaltic pavement in a straight line. Using a medium size passenger vehicle or pickup, run over the markers with the front and rear tires at a speed of 35 to 40 miles per hour, four (4) times in each direction. No more than one (1) out of the five (5) reflective surfaces shall be lost or displaced as a result of this test.
3. Small design variances may be noted between tab manufacturers.
4. See Standard Sheet WZ(STPM) for tab placement on new pavements. See Standard Sheet TCP(7-1) for tab placement on seal coat work.

RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

1. Raised pavement markers used as guidemarks shall be from the approved product list, and meet the requirements of DMS-4200.
2. All temporary construction raised pavement markers provided on a project shall be of the same manufacturer.
3. Adhesive for guidemarks shall be bituminous material hot applied or butyl rubber pad for all surfaces, or thermoplastic for concrete surfaces.

Guidemarks shall be designated as:
YELLOW - (two amber reflective surfaces with yellow body).
WHITE - (one silver reflective surface with white body).

DEPARTMENTAL MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
TRAFFIC BUTTONS	DMS-4300
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
TEMPORARY REMOVABLE, PREFABRICATED PAVEMENT MARKINGS	DMS-8241
TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS	DMS-8242

A list of prequalified reflective raised pavement markers, non-reflective traffic buttons, roadway marker tabs and other pavement markings can be found at the Material Producer List web address shown on BC(1).

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

BC(11)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.
2-98 9-07 5-21	DIST	COUNTY		SHEET NO.
1-02 7-13	BMT	HARDIN,ETC.		21
11-02 8-14				

105

DATE: 7/13/2021 9:44:18 AM
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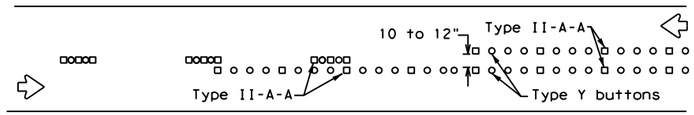
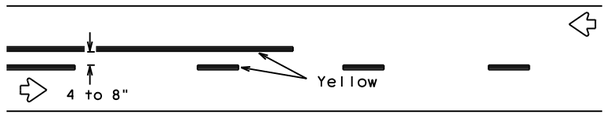
PAVEMENT MARKING PATTERNS

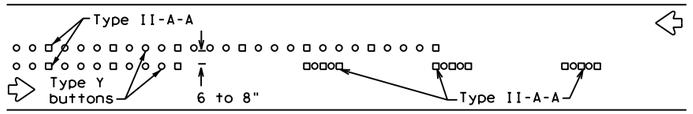
REFLECTORIZED PAVEMENT MARKINGS - PATTERN A



RAISED PAVEMENT MARKERS - PATTERN A



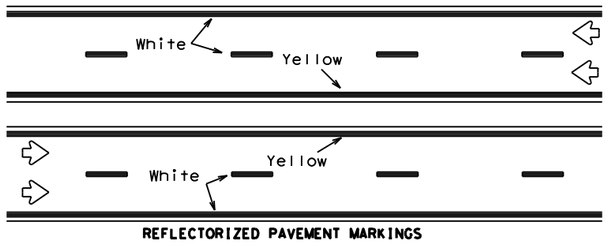
REFLECTORIZED PAVEMENT MARKINGS - PATTERN B



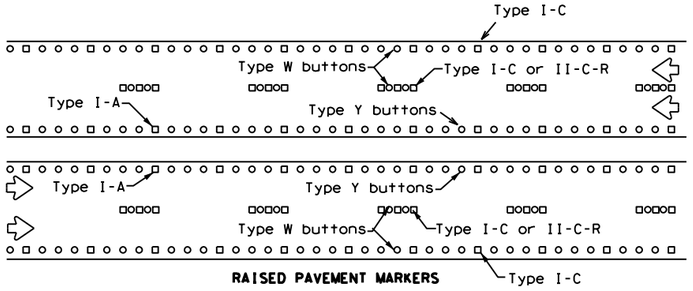
RAISED PAVEMENT MARKERS - PATTERN B

Pattern A is the TXDOT Standard, however Pattern B may be used if approved by the Engineer.
Prefabricated markings may be substituted for reflectorized pavement markings.

CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO-LANE, TWO-WAY HIGHWAYS



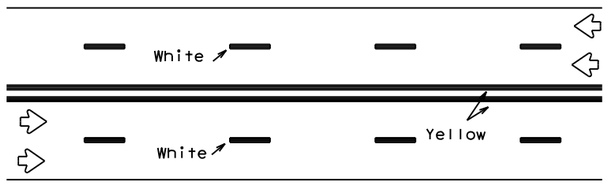
REFLECTORIZED PAVEMENT MARKINGS



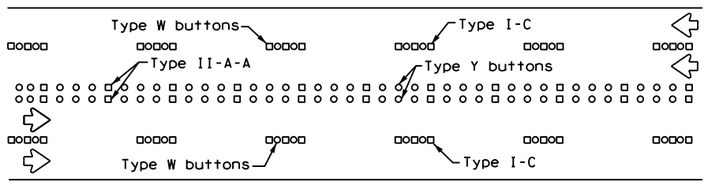
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

EDGE & LANE LINES FOR DIVIDED HIGHWAY



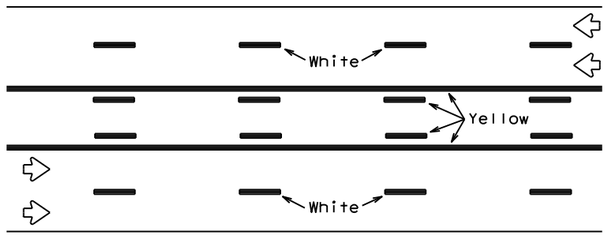
REFLECTORIZED PAVEMENT MARKINGS



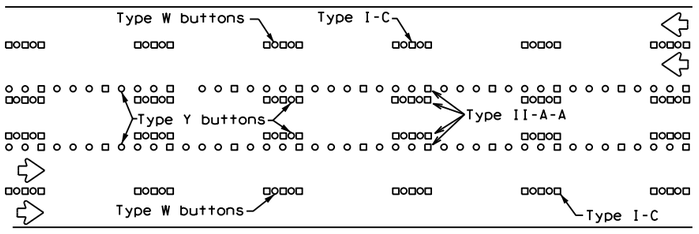
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



REFLECTORIZED PAVEMENT MARKINGS



RAISED PAVEMENT MARKERS

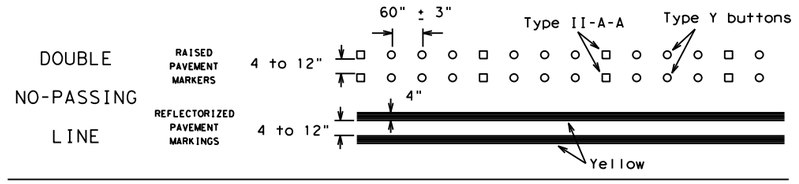
Prefabricated markings may be substituted for reflectorized pavement markings.

TWO-WAY LEFT TURN LANE

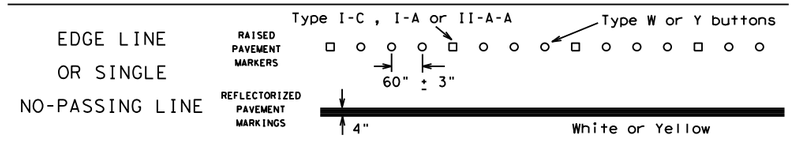
STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS

SOLID LINES

DOUBLE NO-PASSING LINE

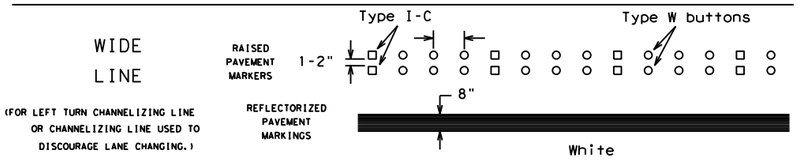


EDGE LINE OR SINGLE NO-PASSING LINE



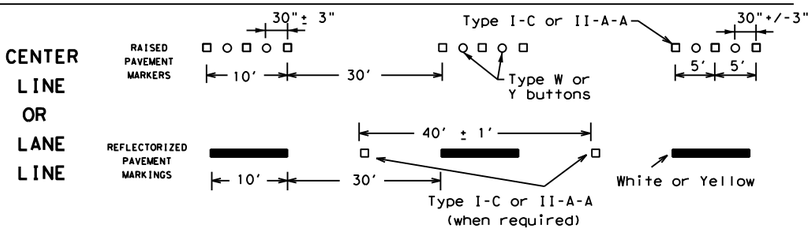
WIDE LINE

(FOR LEFT TURN CHANNELIZING LINE OR CHANNELIZING LINE USED TO DISCOURAGE LANE CHANGING.)

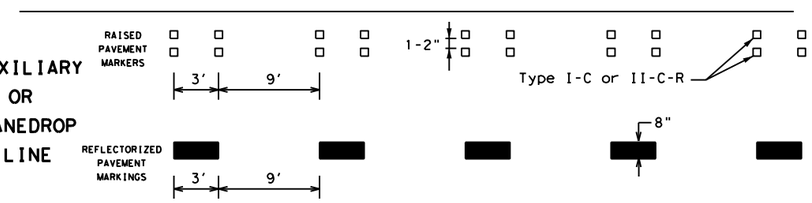


BROKEN LINES

CENTER LINE OR LANE LINE

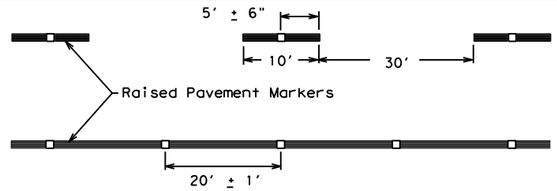


AUXILIARY OR LANEDROP LINE



REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

If raised pavement markers are used to supplement REMOVABLE markings, the markers shall be applied to the top of the tape at the approximate mid length of tape used for broken lines or at 20 foot spacing for solid lines. This allows an easier removal of raised pavement markers and tape.



Centerline only - not to be used on edge lines

Raised pavement markers used as standard pavement markings shall be from the approved products list and meet the requirements of Item 672 "RAISED PAVEMENT MARKERS."

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

BC(12)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
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2-98 7-13	DIST	COUNTY		SHEET NO.
11-02 8-14	BMT	HARDIN,ETC.		22

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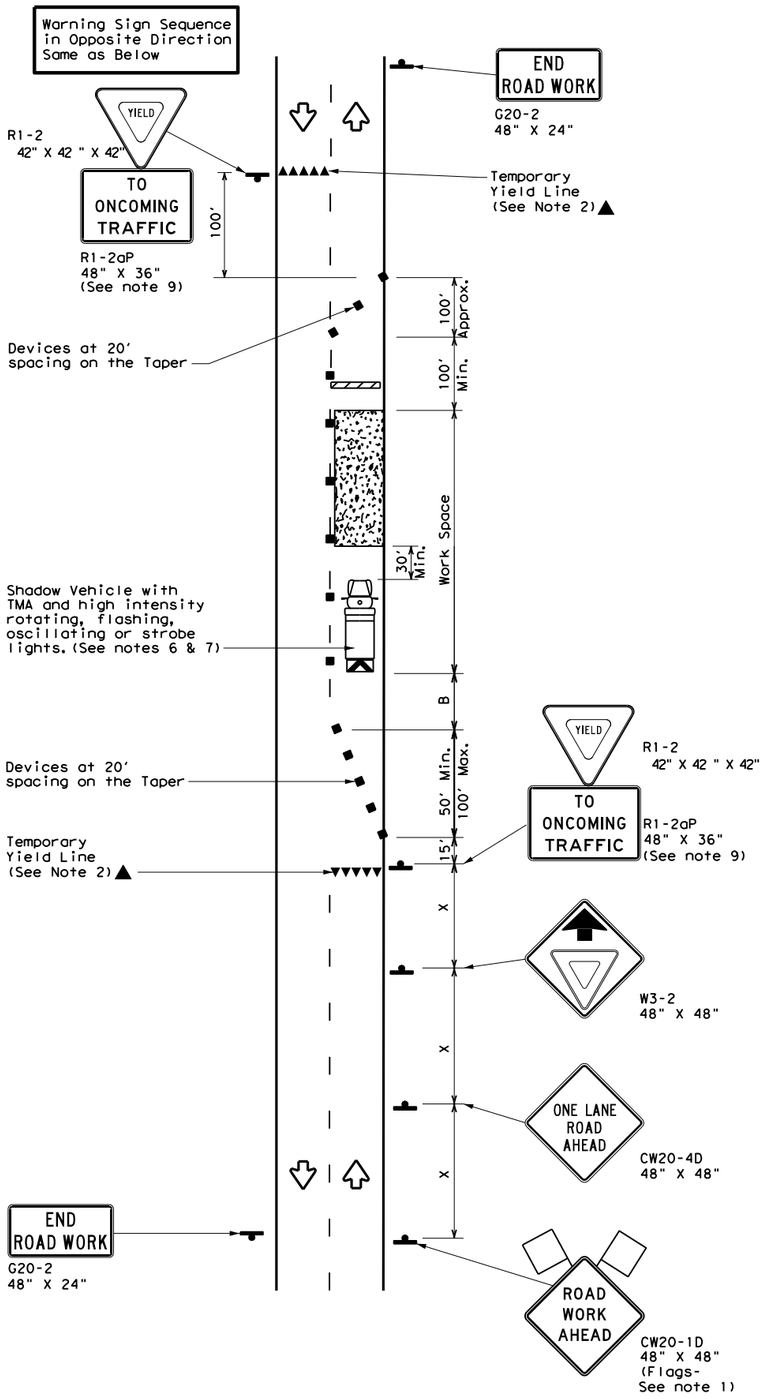
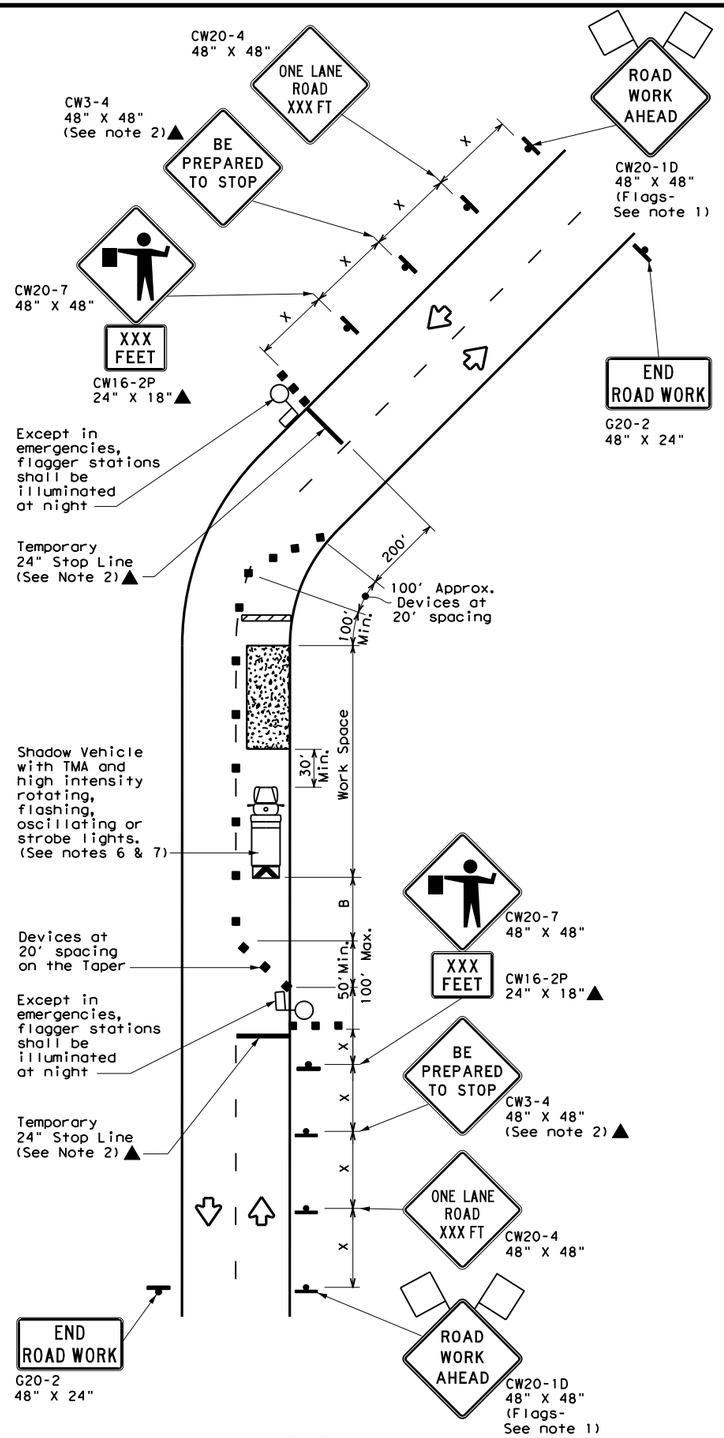


TCP (2-2a)
2-LANE ROADWAY WITHOUT PAVED SHOULDERS
ONE LANE TWO-WAY
CONTROL WITH YIELD SIGNS
(Less than 2000 ADT - See Note 9)



TCP (2-2b)
2-LANE ROADWAY WITHOUT PAVED SHOULDERS
ONE LANE TWO-WAY
CONTROL WITH FLAGGERS

LEGEND

	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L=WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE

MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4 "ONE LANE ROAD XXX FT" sign, but proper sign spacing shall be maintained.
4. Flaggers should use two-way radios or other methods of communication to control traffic.
5. Length of work space should be based on the ability of flaggers to communicate.
6. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
7. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.

TCP (2-2a)

8. The R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work space should be no longer than one half city block. In rural areas, roadways with less than 2000 ADT, work space should be no longer than 400 feet.
9. The R1-2aP "YIELD TO ONCOMING TRAFFIC" sign shall be placed on a support at a 7 foot minimum mounting height.

TCP (2-2b)

10. Channelizing devices on the center line may be omitted when a pilot car is leading traffic and approved by the Engineer.
11. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain stopping sight distance to the flagger and a queue of stopped vehicles. (See table above).
12. Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situtations.

Texas Department of Transportation
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
ONE-LANE TWO-WAY
TRAFFIC CONTROL

TCP(2-2)-18

FILE: tcp2-2-18.dgn	DN:	CK:	DW:	CK:
©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 8-95 3-03 1-97 2-12 4-98 2-18	0065	14	028,ETC.	BU 96F,ETC.
	DIST	COUNTY		SHEET NO.
	BMT	HARDIN,ETC.		23

DATE: 7/13/2021 9:44:23 AM
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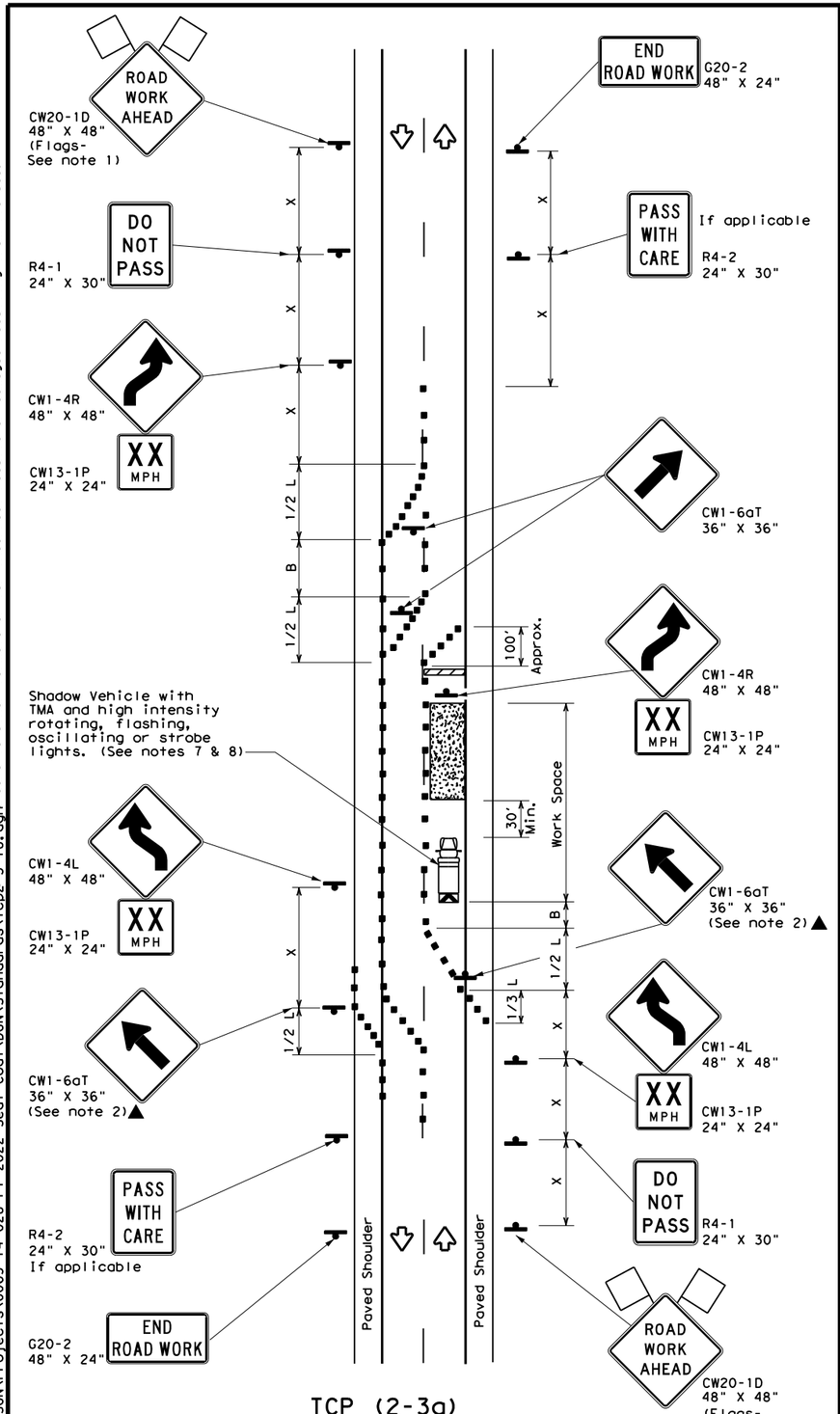
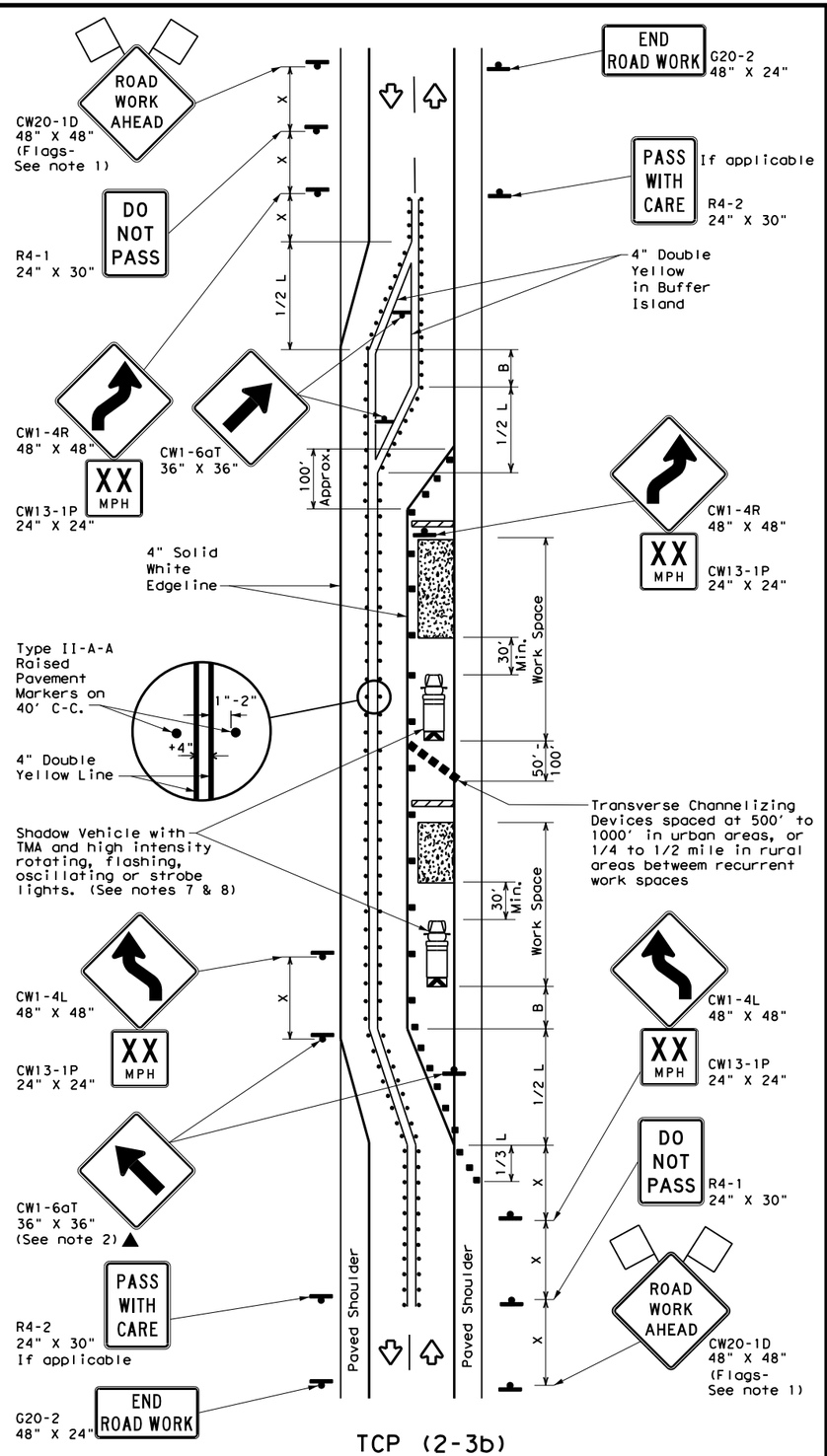


TCP (2-3a)
2-LANE ROADWAY WITH PAVED SHOULDERS

ONE LANE CLOSED
ADEQUATE FIELD OF VIEW



TCP (2-3b)
2-LANE ROADWAY WITH PAVED SHOULDERS

ONE LANE CLOSED
INADEQUATE FIELD OF VIEW

LEGEND			
	Type 3 Barricade	■ ■	Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	• • • •	Raised Pavement Markers Ty II-AA
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
				TCP(2-3b)ONLY
			✓	✓

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. When work space will be in place less than three days existing pavement markings may remain in place. Channelizing devices shall be used to separate traffic.
4. Flagger control should NOT be used unless roadway conditions or heavy traffic volume require additional emphasis to safely control traffic. Flagger should be positioned at end of traffic queue.
5. The R4-1 "DO NOT PASS," R4-2 " PASS WITH CARE" and construction regulatory speed zone signs may be installed within CW20-1D "ROAD WORK AHEAD" signs. Proper spacing of signs shall be maintained.
6. Conflicting pavement marking shall be removed for long term projects.
7. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted.
8. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.

TCP (2-3a)

9. Conflicting pavement markings shall be removed for long-term projects. For shorter durations where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2(S) where S is the speed in mph. This tighter device spacing is intended for the area of the conflicting markings, not the entire work zone.

Texas Department of Transportation — Traffic Operations Division Standard

TRAFFIC CONTROL PLAN TRAFFIC SHIFTS ON TWO-LANE ROADS

TCP(2-3)-18

FILE: tcp(2-3)-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.
8-95 3-03	DIST	COUNTY		SHEET NO.
1-97 2-12	BMT	HARDIN,ETC.		24
4-98 2-18				

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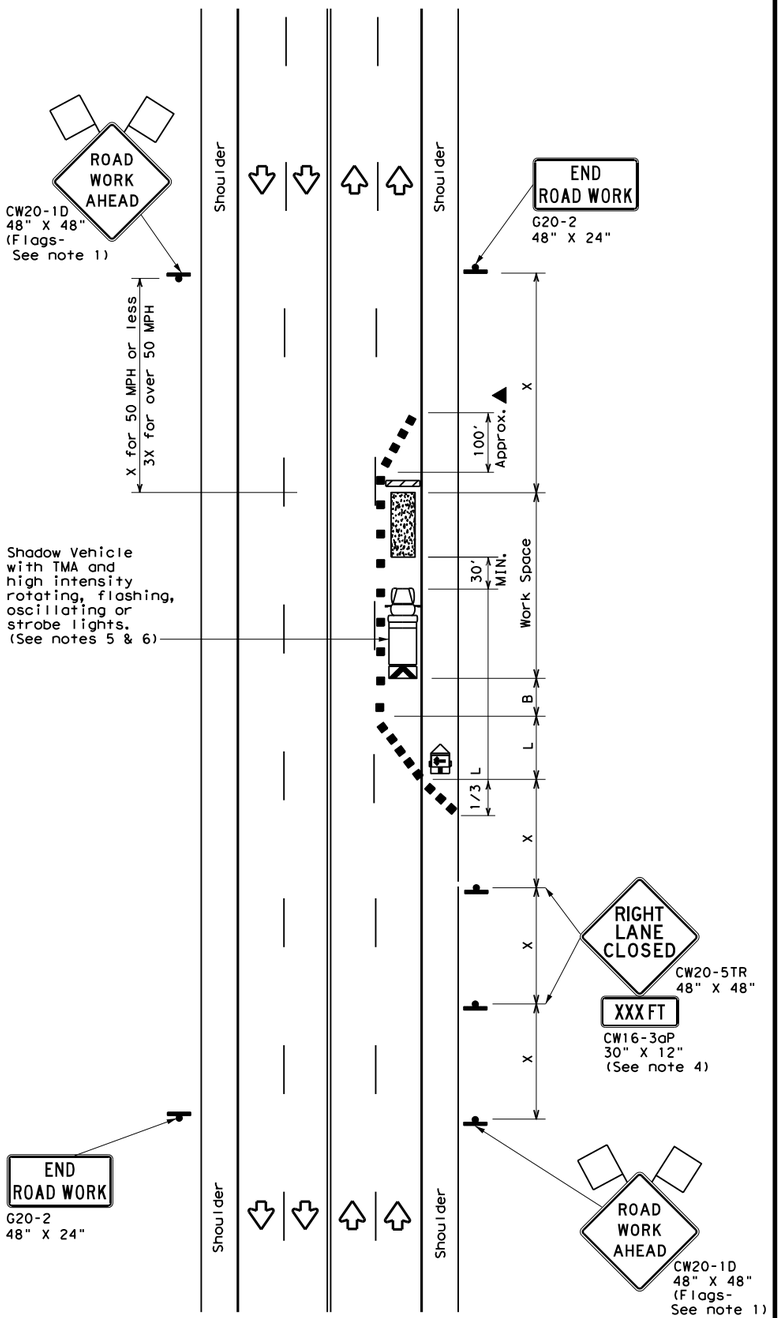
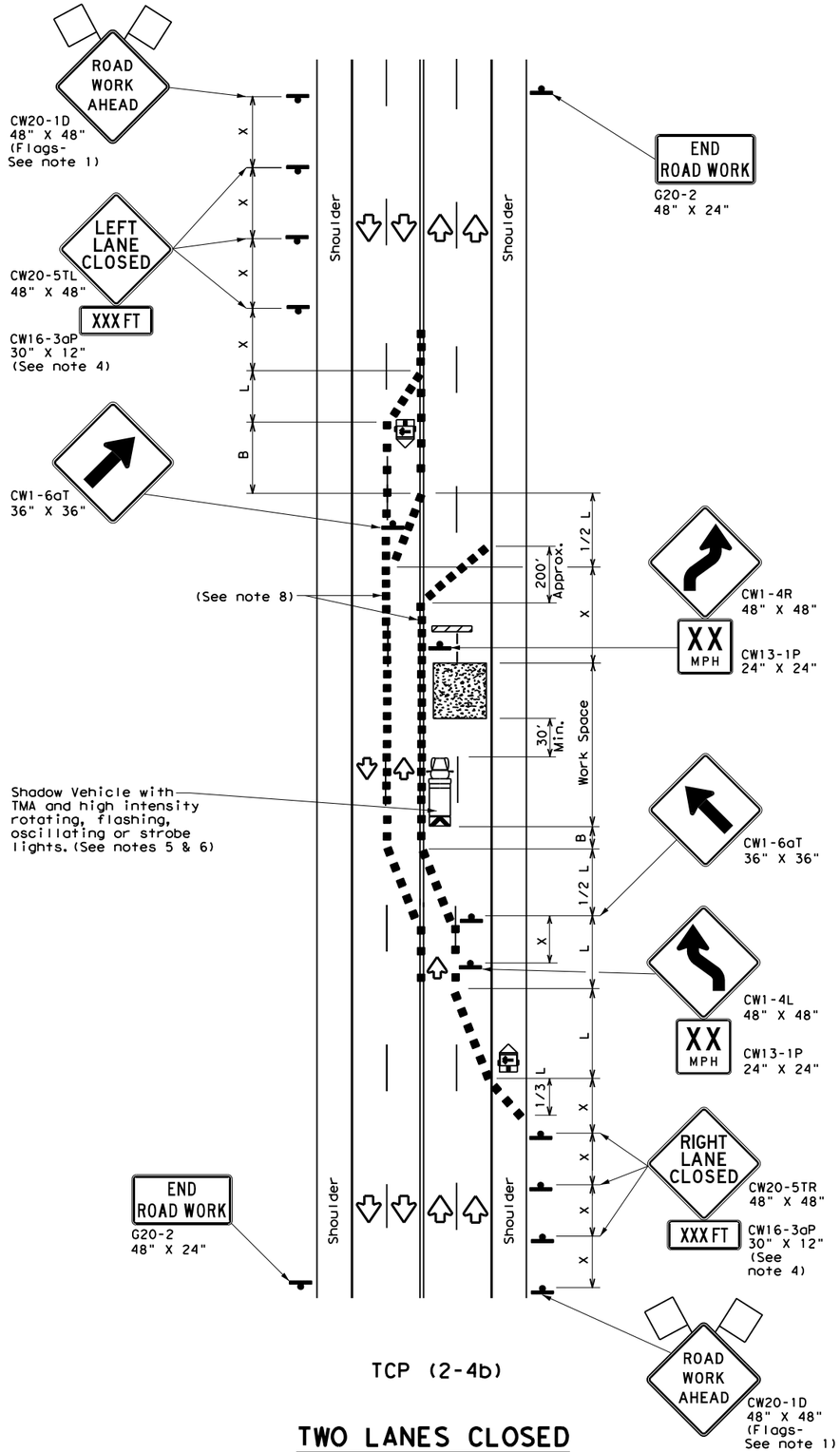


TCP (2-4a)

ONE LANE CLOSED



TCP (2-4b)

TWO LANES CLOSED

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
		✓	✓	

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The downstream taper is optional. When used, it should be 100 feet minimum length per lane.
4. For short term applications, when post mounted signs are not used, the distance legend may be shown on the sign face rather than on a CW16-3aP supplemental plaque.
5. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
6. Additional Shadow Vehicles with TMAs may be positioned in each closed lane, on the shoulder or off the paved surface, next to those shown in order to protect a wider work space.

TCP (2-4a)

7. If this TCP is used for a left lane closure, CW20-5TL "LEFT LANE CLOSED"signs shall be used and channelizing devices shall be placed on the centerline to protect the work space from opposing traffic with the arrow board placed in the closed lane near the end of the merging taper.

TCP (2-4b)

8. For shorter durations where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2(S) where S is the speed in mph. This tighter devices spacing is intended for the area of conflicting markings, not the entire work zone.

Texas Department of Transportation | Traffic Operations Division Standard

TRAFFIC CONTROL PLAN LANE CLOSURES ON MULTILANE CONVENTIONAL ROADS

TCP(2-4)-18

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© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
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1-97 2-12	DIST	COUNTY		SHEET NO.
4-98 2-18	BMT	HARDIN,ETC.		25

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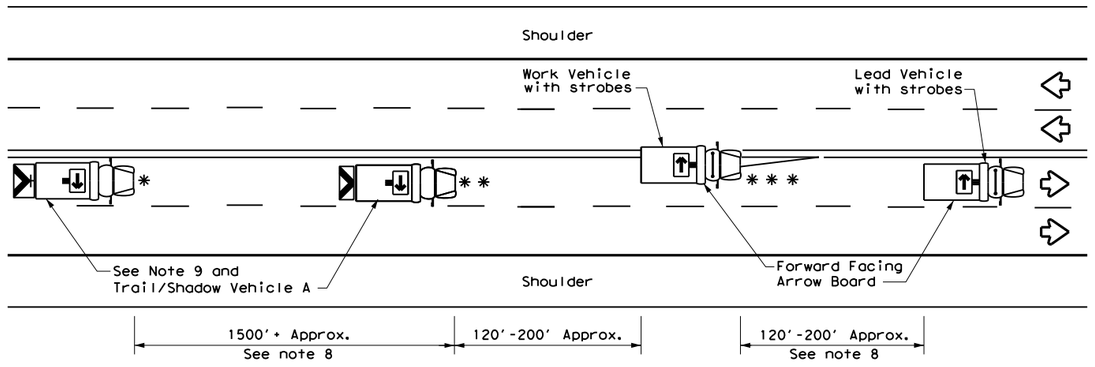
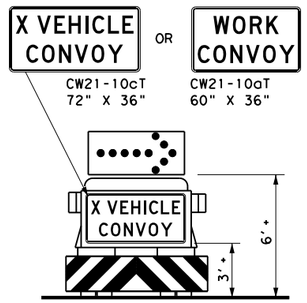


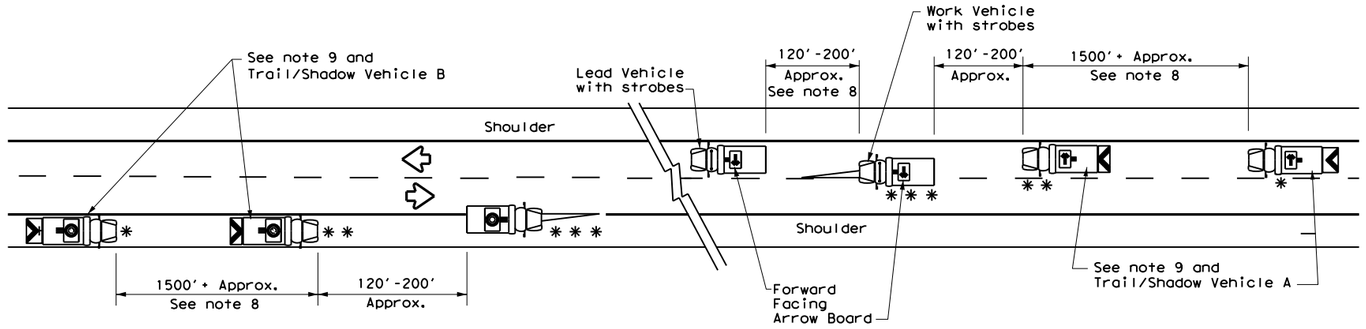
TCP (3-1a)

UNDIVIDED MULTILANE ROADWAY



TRAIL/SHADOW VEHICLE A

with RIGHT Directional display Flashing Arrow Board

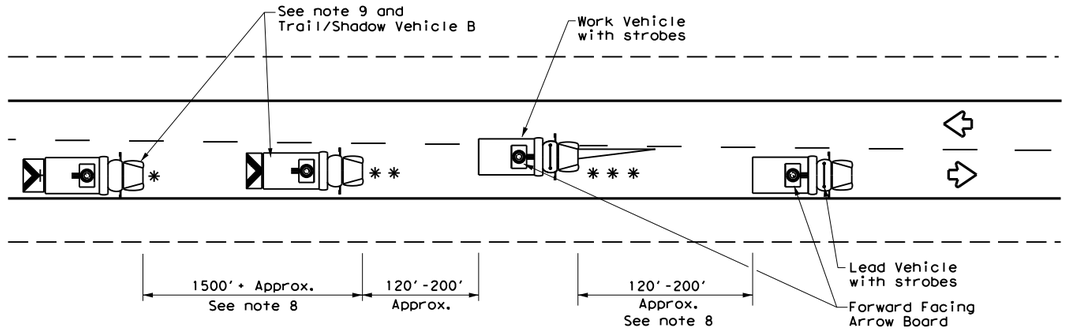


WORK ON SHOULDER

WORK ON TRAVEL LANE

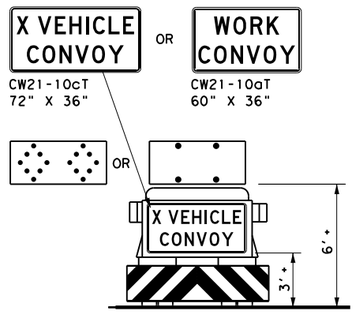
TCP (3-1b)

TWO-WAY ROADWAY WITH PAVED SHOULDERS



TCP (3-1c)

TWO-WAY ROADWAY WITHOUT PAVED SHOULDERS



TRAIL/SHADOW VEHICLE B

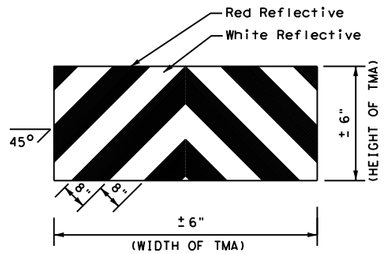
with Flashing Arrow Board in CAUTION display

LEGEND			
*	Trail Vehicle	ARROW BOARD DISPLAY	
**	Shadow Vehicle		
***	Work Vehicle		RIGHT Directional
	Heavy Work Vehicle		LEFT Directional
	Truck Mounted Attenuator (TMA)		Double Arrow
	Traffic Flow		CAUTION (Alternating Diamond or 4 Corner Flash)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
✓				

GENERAL NOTES

1. TRAIL, SHADOW, and LEAD vehicles shall be equipped with arrow boards as illustrated. When a LEAD vehicle is not used the WORK vehicle must be equipped with an arrow board. The Engineer will determine if the LEAD VEHICLE and/or TRAIL VEHICLE are required based on prevailing roadway conditions, traffic volume, and sight distance restrictions.
2. The use of amber high intensity rotating, flashing, oscillating, or strobe lights on vehicles are required. Blue high intensity rotating, flashing, oscillating or strobe lights when mounted on the driver's side of the vehicle may be operated simultaneously with the amber beacons or strobe lights.
3. The use of truck mounted attenuators (TMA) on the SHADOW VEHICLE and TRAIL VEHICLE are required.
4. Reflective sheeting on the rear of the TMA shall meet or exceed the reflectivity and color requirements of DEPARTMENTAL MATERIAL SPECIFICATION DMS 8300, Type A.
5. Flashing arrow boards shall be Type B or Type C as per the Barricade and Construction (BC) standards. The board shall be controlled from inside the vehicle.
6. Each vehicle shall have two-way radio communication capability.
7. When work convoys must change lanes, the TRAIL VEHICLE should change lanes first to shadow the other convoy vehicles.
8. Vehicle spacing between the TRAIL VEHICLE and the SHADOW VEHICLE will vary depending on sight distance restrictions. Motorists approaching the work convoy should be able to see the TRAIL VEHICLE in time to slow down and/or change lanes as they approach the TRAIL VEHICLE. Vehicle spacing between the WORK VEHICLE and SHADOW VEHICLE and vehicle spacing between WORK VEHICLE and LEAD VEHICLE may vary according to terrain, work activity and other factors.
9. "X VEHICLE CONVOY" (CW21-10cT) or "WORK CONVOY" (CW21-10aT) signs shall be used on TRAIL VEHICLES and SHADOW VEHICLES as shown. As an option 48" X 48" diamond shaped "WORK CONVOY"(CW21-10T) or "X VEHICLE CONVOY" (CW21-10bT) signs may be used where adequate mounting space exists. When used, the X VEHICLE CONVOY sign shall have the number of the convoy vehicles displayed on the sign in the number designation "X" location. The "X VEHICLE CONVOY" sign shall not be used on the SHADOW VEHICLE if a TRAIL VEHICLE is used.
10. On two-lane two-way roadways, the work and protection vehicles should pull over periodically to allow motor vehicle traffic to pass. If motorists are not allowed to pass the work convoy, a "DO NOT PASS" (R4-1) sign should be placed on the back of the rearmost protection vehicle.



STRIPING FOR TMA

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN MOBILE OPERATIONS UNDIVIDED HIGHWAYS

TCP(3-1)-13

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©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 7-13 1-97	0065	14	028,ETC.	BU 96F,ETC.
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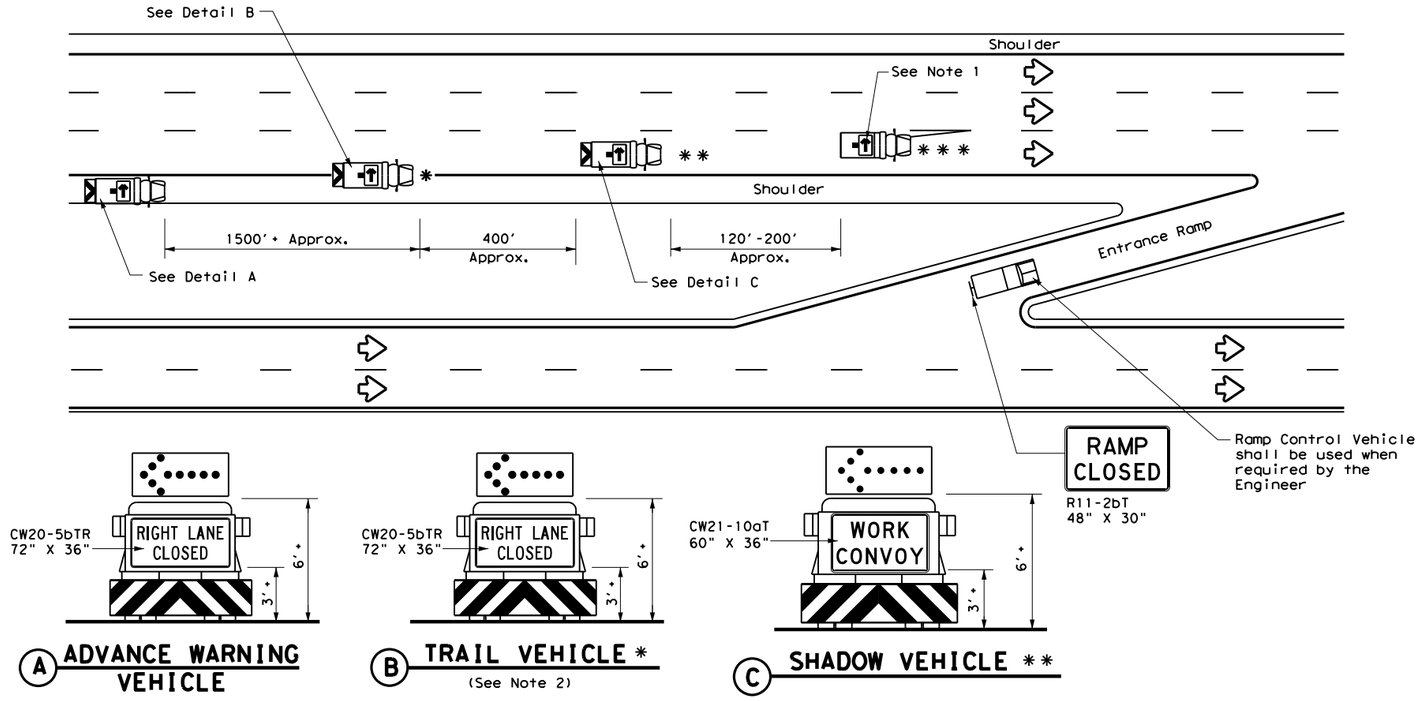
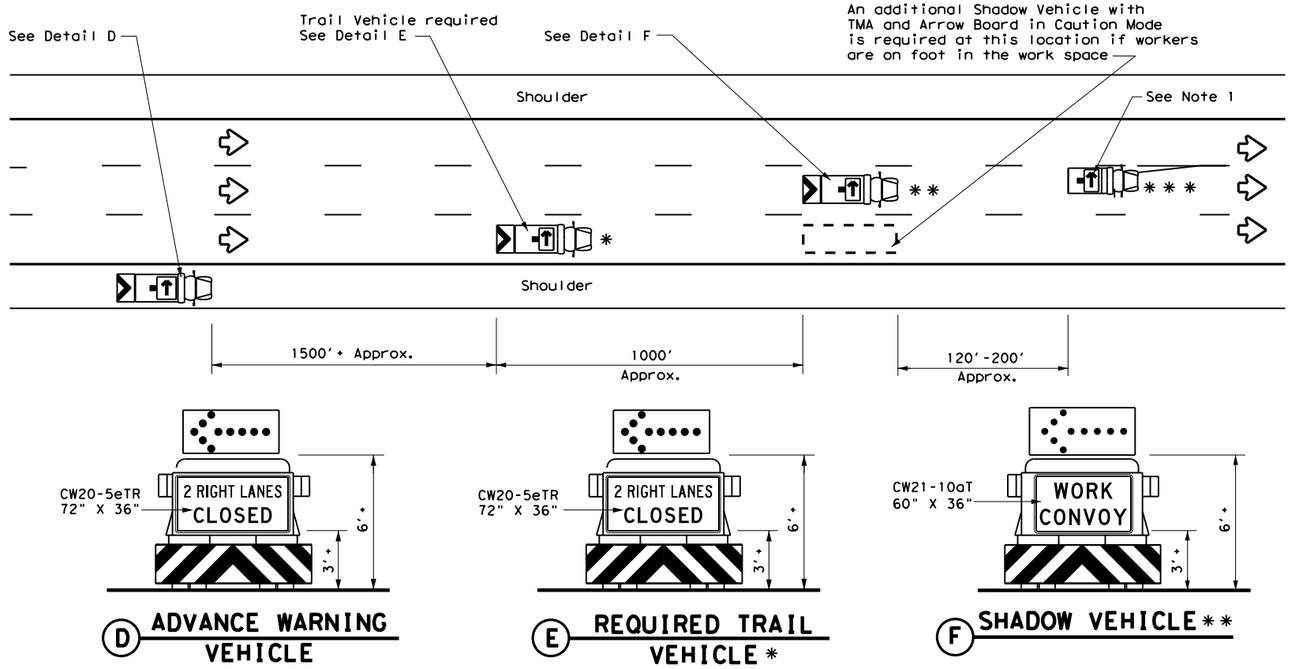


RIGHT LANE CLOSURE ON DIVIDED HIGHWAY - TCP(3-2a)



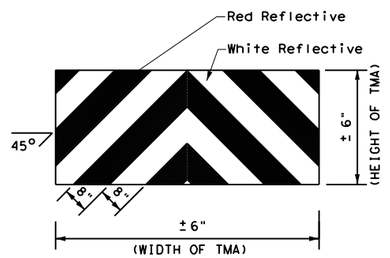
INTERIOR LANE CLOSURE ON MULTI-LANE DIVIDED HIGHWAY - TCP(3-2b)

LEGEND			
*	Trail Vehicle	ARROW BOARD DISPLAY	
**	Shadow Vehicle		
***	Work Vehicle		RIGHT Directional
	Heavy Work Vehicle		LEFT Directional
	Truck Mounted Attenuator (TMA)		Double Arrow
	Traffic Flow		CAUTION (Alternating Diamond or 4 Corner Flash)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
✓				

GENERAL NOTES

1. ADVANCE WARNING, TRAIL and SHADOW vehicles shall be equipped with Type B or Type C flashing arrow boards as per the Barricade and Construction (BC) standards. Arrow boards on WORK vehicles will be optional based on the type of work being performed. The arrow boards shall be operated from inside the vehicle.
2. For TCP(3-2a) the Engineer will determine if the TRAIL VEHICLE is required based on prevailing roadway conditions, traffic volume, and sight distance restrictions. All other vehicles shown for both TCP(3-2a) and TCP(3-2b) are required.
3. The use of amber high intensity rotating, flashing, oscillating, or strobe lights on vehicles are required. Blue high intensity rotating, flashing, oscillating or strobe lights when mounted on the driver's side of the vehicle may be operated simultaneously with the amber beacons or strobe lights.
4. The use of truck mounted attenuators (TMA) on the ADVANCE WARNING, SHADOW, and TRAIL vehicles are required.
5. Reflective sheeting on the rear of the TMA shall meet or exceed the reflectivity and color requirements of DMS 8300, Type A.
6. Each vehicle shall have two-way radio communication capability.
7. When work convoys must change lanes, the TRAIL VEHICLE should change lanes first to shadow the other convoy vehicles.
8. Vehicle spacing between the TRAIL VEHICLE and the SHADOW VEHICLE will vary depending on sight distance restrictions. Motorists approaching the work convoy should be able to see the TRAIL VEHICLE in time to slow down and/or change lanes as they approach the TRAIL VEHICLE. Vehicle spacing between the WORK VEHICLE and SHADOW VEHICLE may vary according to terrain, work activity and other factors.
9. Standard 48" X 48" diamond shaped warning signs with the same message as those shown may be used where adequate mounting space exists.
10. The signs shown should be used on the Advance Warning Vehicle. As an option, a portable changeable message sign (PCMS) or a truck mounted changeable message sign (TMCMS) with a minimum character height of 12", and displaying the same legend may be substituted for these signs. An appropriate directional arrow display, simulating the size and legibility of the flashing arrow board, must be used in the second phase of the PCMS/TMCMS message. When this is done, the arrow board will not be required on the Advance Warning Vehicle.
11. Standard diamond shape versions of the CW20-5 series signs may be used as an option if the rectangular signs shown are not available.
12. The principles on this sheet may be used to close lanes from the left side of the roadway considering the number of lanes, shoulder width, sight distance, and ramp frequency.
13. Signs and flashing arrow board modes shall be appropriately altered when implementing left lane closures or interior closures which close the left lanes.
14. The Advance Warning Vehicle may straddle the edgeline when shoulder width makes it necessary.



STRIPING FOR TMA

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN MOBILE OPERATIONS DIVIDED HIGHWAYS

TCP(3-2)-13

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2-94 4-98	DIST	COUNTY		SHEET NO.
8-95 7-13	BMT	HARDIN,ETC.		27
1-97				

176

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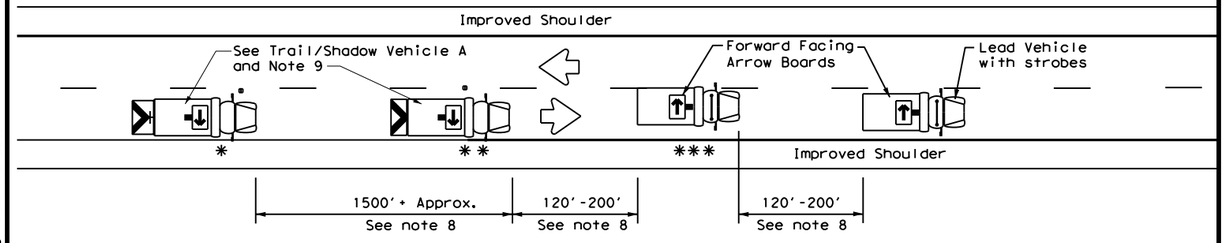
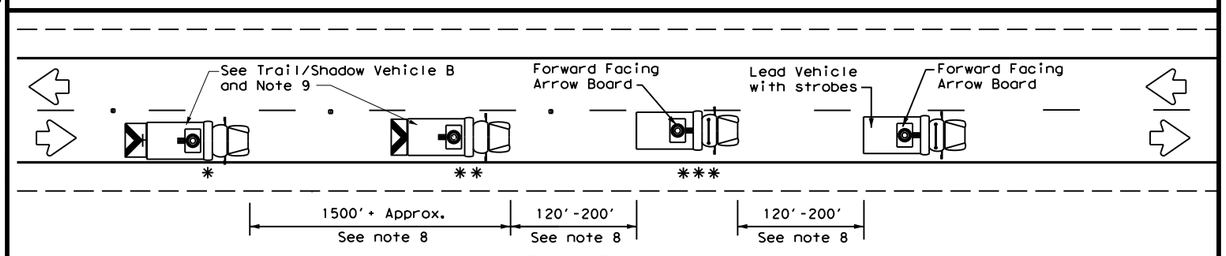


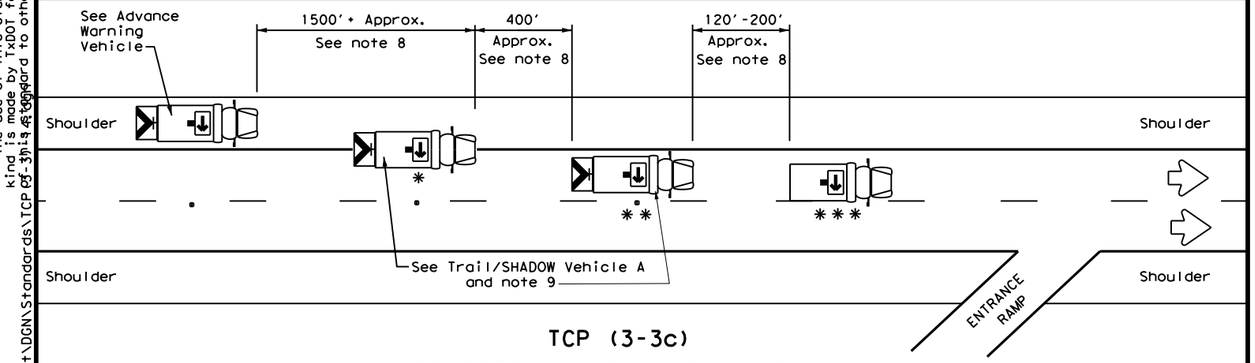
TCP (3-3a)

TWO LANE HIGHWAY WITH PAVED SHOULDERS
(WORK ON TRAVEL LANE)



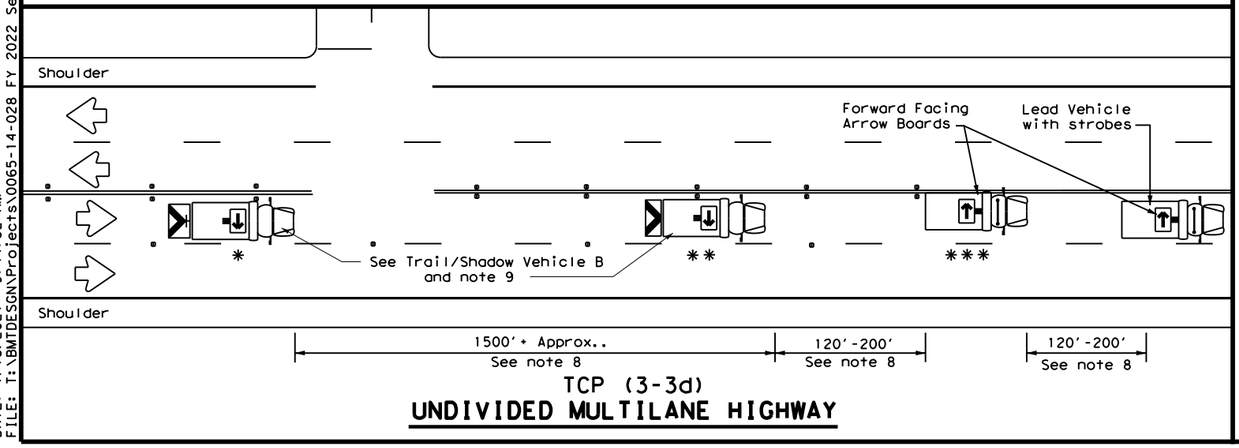
TCP (3-3b)

TWO LANE HIGHWAY WITHOUT PAVED SHOULDERS
(WORK ON TRAVEL LANE)



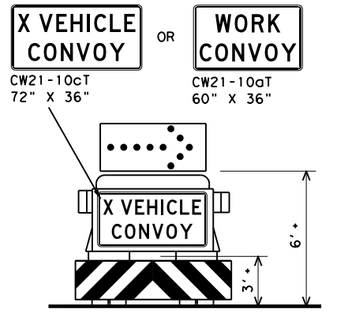
TCP (3-3c)

DIVIDED MULTILANE HIGHWAY



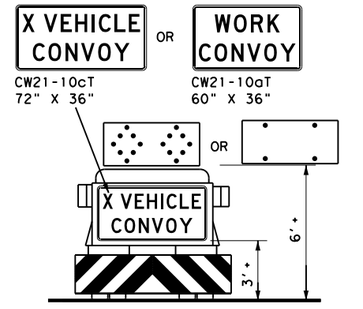
TCP (3-3d)

UNDIVIDED MULTILANE HIGHWAY



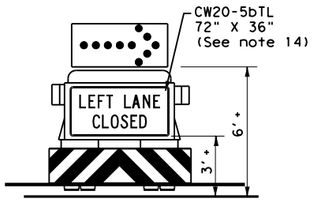
TRAIL/SHADOW VEHICLE A

with RIGHT Directional display
Flashing Arrow Board

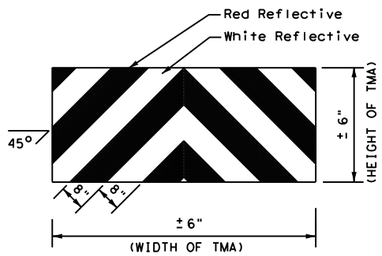


TRAIL/SHADOW VEHICLE B

with Flashing Arrow Board
in Caution Mode



ADVANCE WARNING VEHICLE



STRIPING FOR TMA

LEGEND			
*	Trail Vehicle	ARROW BOARD DISPLAY	
**	Shadow Vehicle		
***	Work Vehicle		RIGHT Directional
	Heavy Work Vehicle		LEFT Directional
	Truck Mounted Attenuator (TMA)		Double Arrow
	Traffic Flow		CAUTION (Alternating Diamond or 4 Corner Flash)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
✓				

GENERAL NOTES

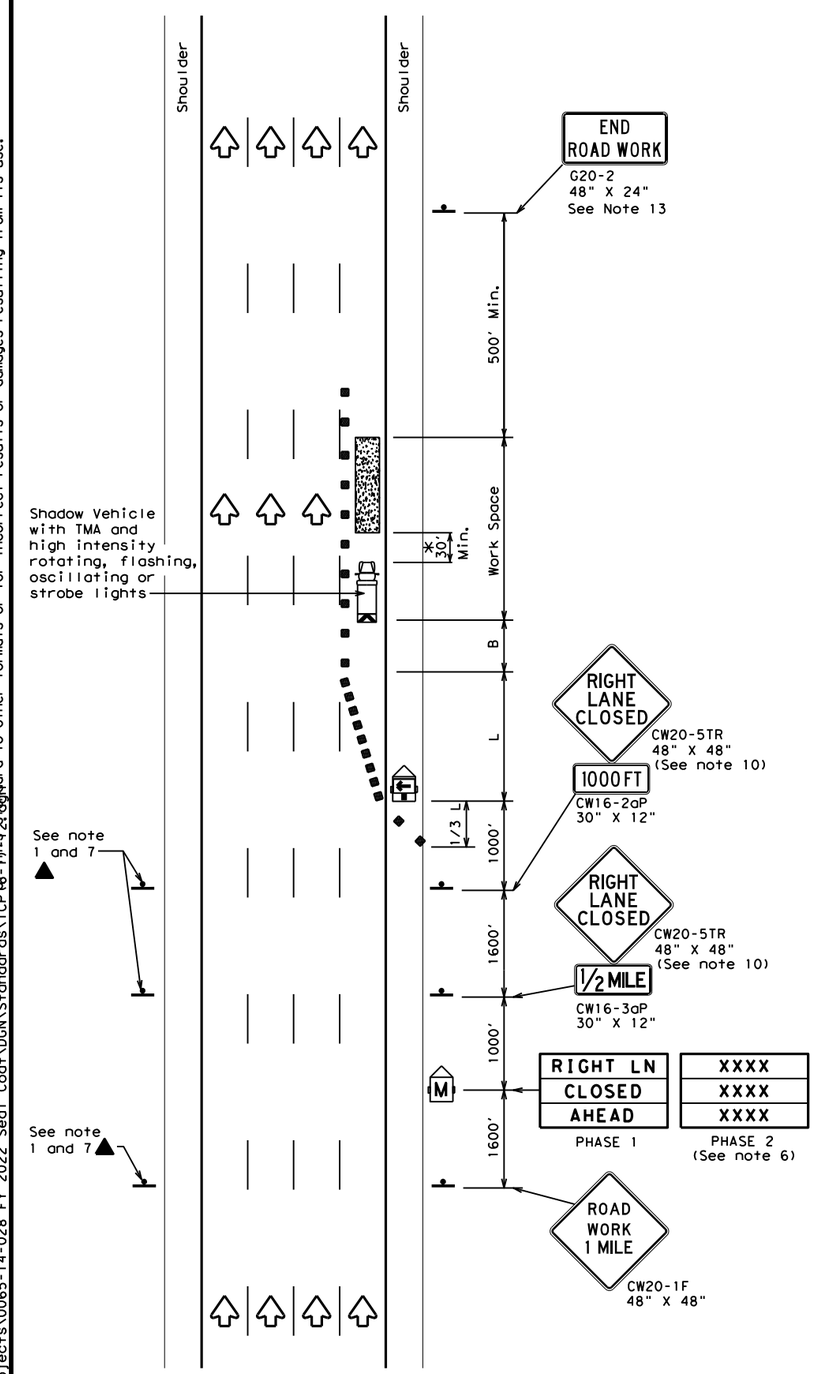
1. TRAIL, SHADOW, and LEAD vehicles shall be equipped with arrow boards as illustrated. When a LEAD vehicle is not used on two way roads the WORK vehicle must have an arrow board. For divided roadways, the arrow board on the WORK vehicle is optional based on the type of work being performed. The Engineer will determine if the LEAD vehicle and/or TRAIL vehicle are required based on prevailing roadway conditions, traffic volume, and sight distance restrictions.
2. The use of amber high intensity rotating, flashing, oscillating, or strobe lights on vehicles are required. Blue high intensity rotating, flashing, oscillating, or strobe lights when mounted on the driver's side of the vehicle may be operated simultaneously with the amber beacons or strobe lights.
3. The use of truck mounted attenuators (TMA) on the SHADOW VEHICLE, ADVANCE WARNING and TRAIL VEHICLE are required.
4. Reflective sheeting on the rear of the TMA shall meet or exceed the reflectivity and color requirements of DEPARTMENTAL MATERIAL SPECIFICATION DMS 8300, Type A.
5. Flashing arrow boards shall be Type B or Type C as per the Barricade and Construction (BC) standards. The board shall be controlled from inside the vehicle.
6. Each vehicle shall have two-way radio communication capability.
7. When work convoys must change lanes, the TRAIL VEHICLE should change lanes first to shadow the other convoy vehicles.
8. Vehicle spacing between the TRAIL VEHICLE and the SHADOW VEHICLE will vary depending on sight distance restrictions. Motorists approaching the convoy should be able to see the TRAIL VEHICLE in time to slow down and/or change lanes as they approach the TRAIL VEHICLE. Vehicle spacing between the WORK VEHICLE and SHADOW VEHICLE and vehicle spacing between WORK VEHICLE and LEAD VEHICLE may vary according to terrain, work activity and other factors.
9. X VEHICLE CONVOY (CW21-10cT) or WORK CONVOY (CW21-10aT) signs shall be used on TRAIL VEHICLES and SHADOW VEHICLES as shown. As an option 48" x 48" diamond shaped WORK CONVOY (CW21-10T) or X VEHICLE CONVOY (CW21-10bT) signs may be used where adequate mounting space exists. When used, the X VEHICLE CONVOY sign shall have the number of the convoy vehicles displayed on the sign in the number designation "X" location. The X VEHICLE CONVOY sign shall not be used on the SHADOW VEHICLE if a TRAIL VEHICLE is used.
10. For divided highways with two or three lanes in one direction, the appropriate LEFT LANE CLOSED (CW20-5bTL), RIGHT LANE CLOSED (CW20-5bTR), or CENTER LANE CLOSED (CW20-5dT) sign should be used on the Advance Warning Vehicle. As an option, a portable changeable message sign (PCMS) or truck mounted changeable message sign (TMCMS) with a minimum character height of 12", and displaying the same legend may be substituted for these signs. An appropriate directional arrow display, simulating the size and legibility of the flashing arrow board may be used in the second phase of the PCMS/TMCMS message. When this is done, the arrow board will not be required on the Advance Warning Vehicle.
11. A double arrow shall not be displayed on the arrow board on the Advance Warning Vehicle.
12. For divided highways with three or four lanes in each direction, use TCP(3-2).
13. Standard diamond shape versions of the CW20-5 series signs may be used as an option if the rectangular signs shown are not available.
14. The Advance Warning Vehicle may straddle the edgeline when Shoulder width makes it necessary.
15. On two-lane two-way roadways, the work and protection vehicles should pull over periodically to allow motor vehicle traffic to pass. If motorists are not allowed to pass the work convoy, a DO NOT PASS (R4-1) sign should be placed on the back of the rearmost protection vehicle.

Texas Department of Transportation

Traffic Operations Division Standard

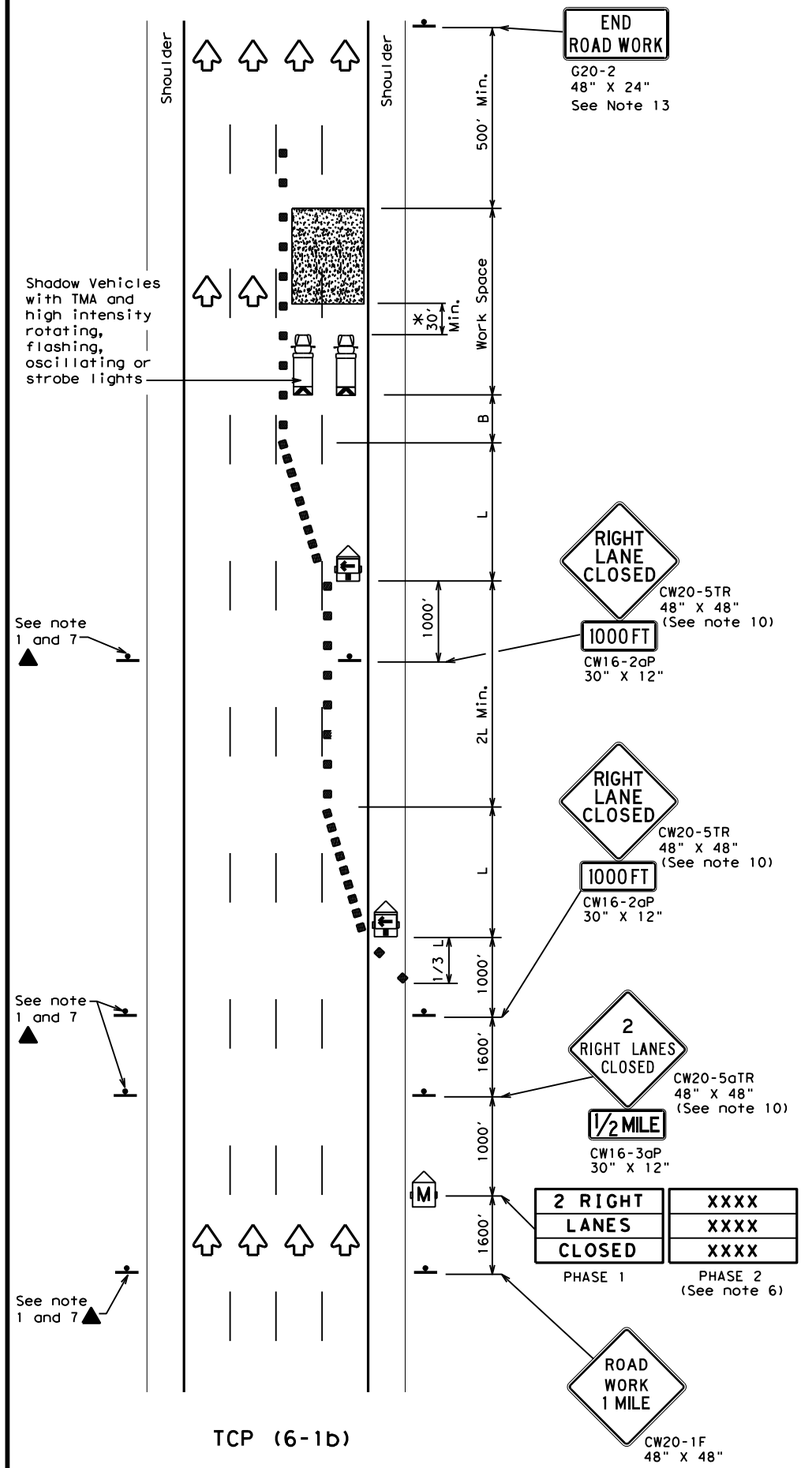
TRAFFIC CONTROL PLAN
MOBILE OPERATIONS
RAISED PAVEMENT MARKER INSTALLATION/ REMOVAL
TCP(3-3)-14

FILE: tcp3-3.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT September 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.
2-94 4-98	DIST	COUNTY		SHEET NO.
8-95 7-13	BMT	HARDIN,ETC.		28
1-97 7-14				



TCP (6-1a)

TYPICAL FREEWAY ONE LANE CLOSURE



TCP (6-1b)

TYPICAL FREEWAY TWO LANE CLOSURE

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed	Formula	Minimum Desirable Taper Lengths "L" ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Suggested Longitudinal Buffer Space "B"
45	L=WS	450'	495'	540'	45'	90'	195'
50		500'	550'	600'	50'	100'	240'
55		550'	605'	660'	55'	110'	295'
60		600'	660'	720'	60'	120'	350'
65		650'	715'	780'	65'	130'	410'
70		700'	770'	840'	70'	140'	475'
75		750'	825'	900'	75'	150'	540'
80		800'	880'	960'	80'	160'	615'

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	

GENERAL NOTES

1. All traffic control devices illustrated are REQUIRED. Devices denoted with the triangle symbol may be omitted when stated elsewhere in the plans.
2. Drums or 42"cones are the typical channelizing devices. For Intermediate Term Stationary work, drums shall be used on tapers with drums or 42" cones used on tangent sections. Other channelizing devices may be used as directed by the Engineer.
3. All construction signs and barricades placed during any phase of work shall remain in place until removal is approved by the Engineer.
4. The Engineer may direct the Contractor to furnish additional signs and barricades as required to maintain traffic flow, detours and motorist safety during construction.
5. Static message boards or changeable message signs stating the date and duration of ramp or freeway lane closures shall be placed a minimum of seven (7) calendar days in advance of the actual closure.
6. Phase 2 of the PCMS message should include appropriate information formatted as shown on BC(6), such as "MERGE LEFT," recommended advisory speed, delay information, or other specific warnings.
7. Duplicate construction warning signs should be erected on the medians side of freeways where median width will permit and traffic volume justifies the signing.
8. The number of closed lanes may be increased provided the spacing of traffic control devices, taper lengths and tangent lengths meet the requirements of the TMUTCD.
9. Warning signs for intermediate term stationary work should be mounted at 7' to the bottom of the sign.
10. Warning signs shown shall be appropriately altered for left lane closures. When signs are mounted at 1' height for short term stationary or short duration work, sign versions shown in the SHSD for Texas with distances on the sign face rather than mounted on a plaque below the sign may be used.
11. When possible, PCMS units should be located in advance of the last available exit ramp prior to the lane closure to allow motorists an alternate route. They may also be relocated to improve advance warning in case of unanticipated queuing or congestion.
12. For Intermediate Term Stationary work at night, floodlights should be used to illuminate the work area and equipment crossings. Floodlights shall not produce a disabling glare condition for road users or workers.
13. The END ROAD WORK (G20-2) sign may be omitted when it conflicts with G20-2 signs already in place on the project.

* A shadow vehicle equipped with a Truck Mounted Attenuator is typically required. A shadow vehicle equipped with a TMA shall be used if it can be positioned 30' to 100' in advance of the area of crew exposure without adversely affecting the work performance.

Texas Department of Transportation
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN FREEWAY LANE CLOSURES

TCP(6-1)-12

FILE: tcp6-1.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS 8-12	0065	14	028,ETC.	BU 96F,ETC.
	DIST	COUNTY		SHEET NO.
	BMT	HARDIN,ETC.		29

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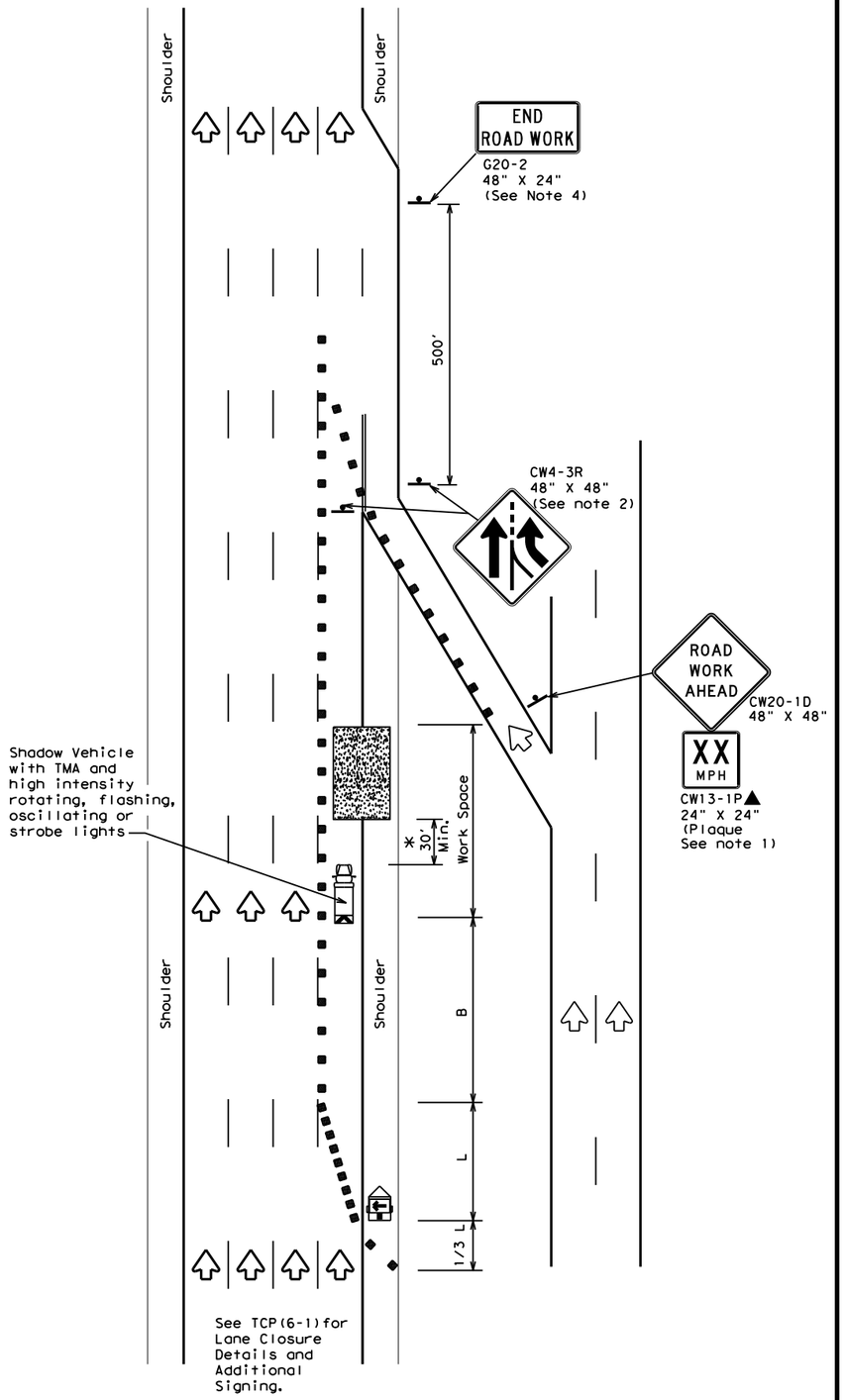
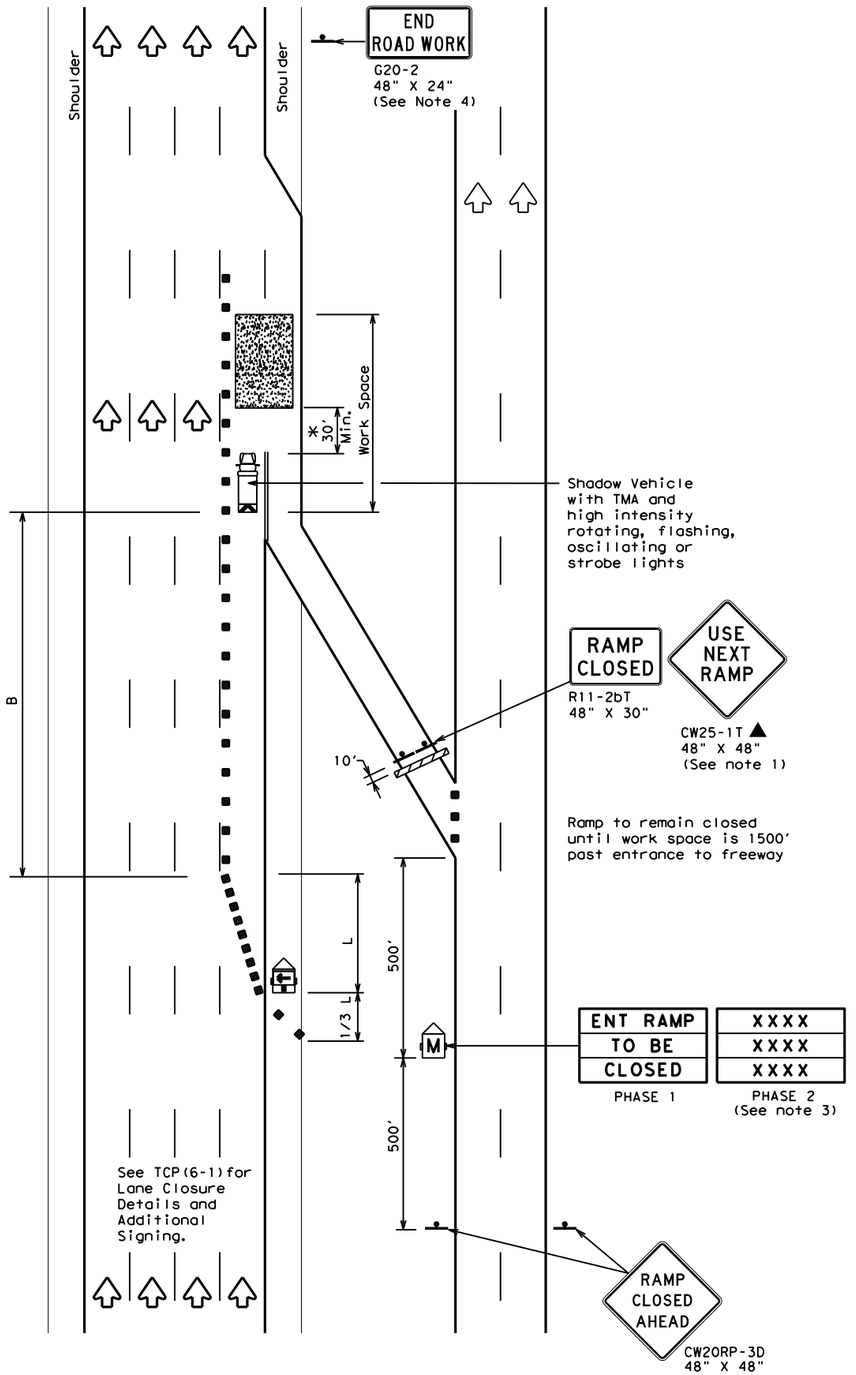


TCP (6-2a)

ENTRANCE RAMP OPEN
WORK WITHIN 500' OF RAMP



TCP (6-2b)

ENTRANCE RAMP CLOSED

LEGEND

	Type 3 Barricade	■ ■	Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed	Formula	Minimum Desirable Taper Lengths "L" ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Suggested Longitudinal Buffer Space "B"
45	L=WS	450'	495'	540'	45'	90'	195'
50		500'	550'	600'	50'	100'	240'
55		550'	605'	660'	55'	110'	295'
60		600'	660'	720'	60'	120'	350'
65		650'	715'	780'	65'	130'	410'
70		700'	770'	840'	70'	140'	475'
75		750'	825'	900'	75'	150'	540'
80		800'	880'	960'	80'	160'	615'

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE

MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	

GENERAL NOTES

1. All traffic control devices illustrated are REQUIRED. Devices denoted with the triangle symbol may be omitted when stated elsewhere in the plans.
2. ADDED LANE Symbol (CW4-3) sign may be omitted when sign between ramp and mainlane can be seen from both roadways.
3. See "Advance Notice List" on BC(6) for recommended date and time formatting options for PCMS Phase 2 message.
4. The END ROAD WORK (G20-2) sign may be omitted when it conflicts with G20-2 signs already in place on the project.

*A shadow vehicle equipped with a Truck Mounted Attenuator is typically required. A shadow vehicle equipped with a TMA shall be used if it can be positioned 30' to 100' in advance of the area of crew exposure without adversely affecting the work performance.

Additional requirements for lane closures and advance signing shall be as shown on TCP (6-1) or as directed by the Engineer.

Texas Department of Transportation
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
WORK AREA NEAR RAMP

TCP(6-2)-12

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©TxDOT February 1994	CONT	SECT	JOB	HIGHWAY
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.
1-97 8-98	DIST	COUNTY		SHEET NO.
4-98 8-12	BMT	HARDIN,ETC.		30

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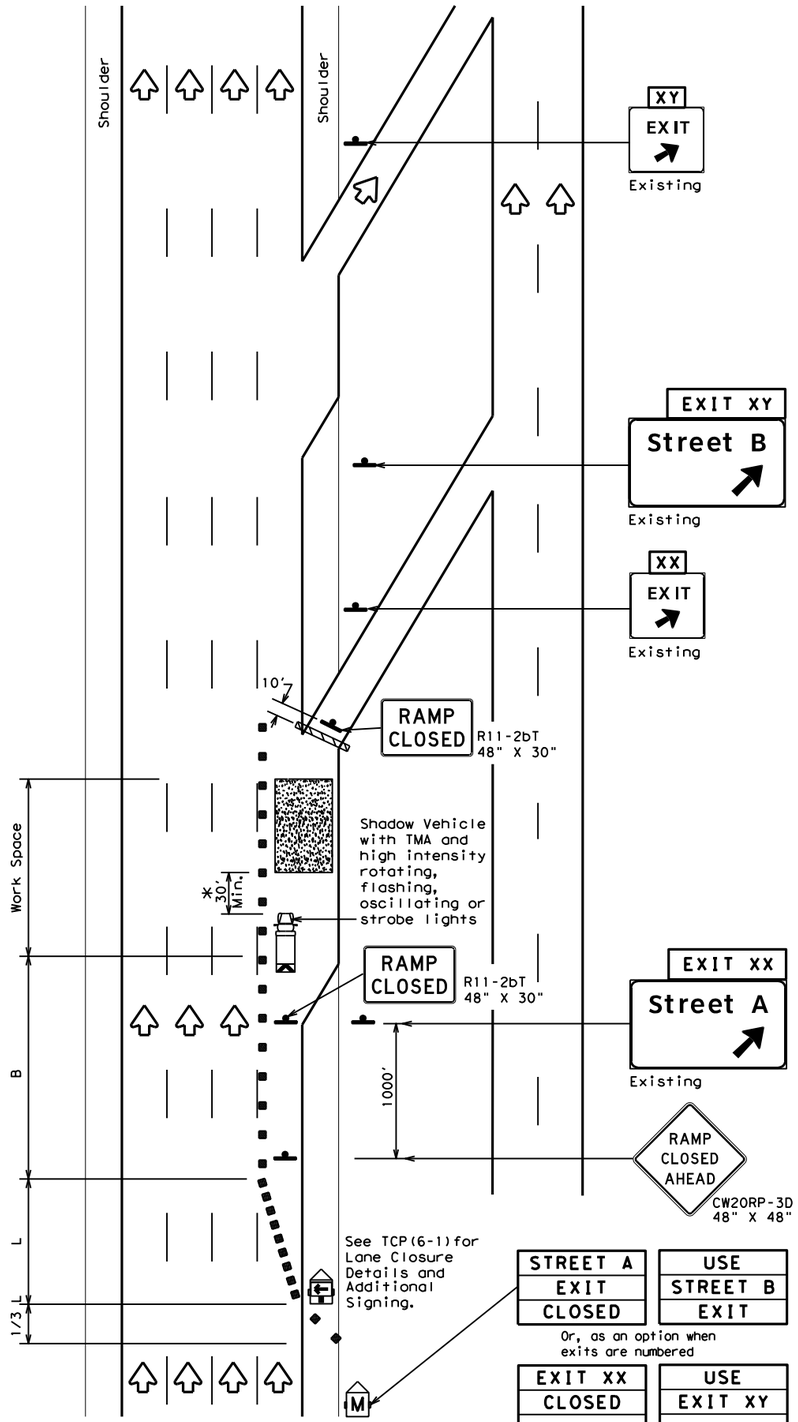
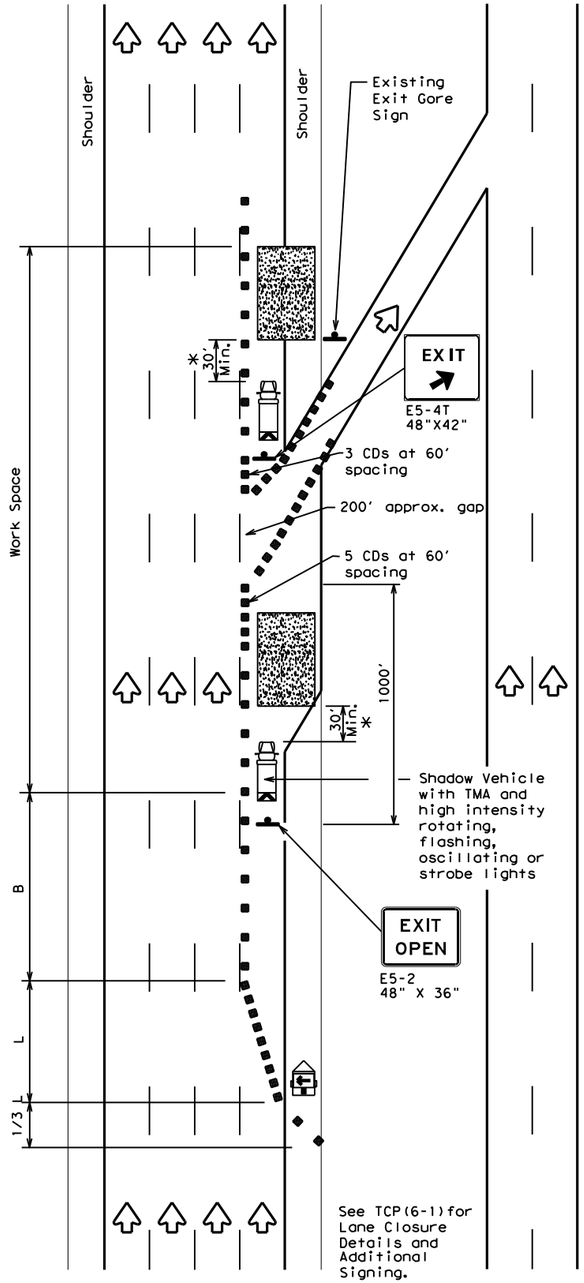


TCP (6-4a)

EXIT RAMP CLOSED
TRAFFIC EXITS PAST CLOSED RAMP



TCP (6-4b)

EXIT RAMP OPEN

LEGEND

	Type 3 Barricade		Channelizing Devices (CDs)
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed	Formula	Minimum Desirable Taper Lengths "L" ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Suggested Longitudinal Buffer Space "B"
45	L=WS	450'	495'	540'	45'	90'	195'
50		500'	550'	600'	50'	100'	240'
55		550'	605'	660'	55'	110'	295'
60		600'	660'	720'	60'	120'	350'
65		650'	715'	780'	65'	130'	410'
70		700'	770'	840'	70'	140'	475'
75		750'	825'	900'	75'	150'	540'
80		800'	880'	960'	80'	160'	615'

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE

MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	

GENERAL NOTES

1. All traffic control devices illustrated are REQUIRED. Devices denoted with the triangle symbol may be omitted when stated elsewhere in the plans.
2. See BC Standards for sign details.

*A shadow vehicle equipped with a Truck Mounted Attenuator is typically required. A shadow vehicle equipped with a TMA shall be used if it can be positioned 30' to 100' in advance of the area of crew exposure without adversely affecting the work performance.

Additional requirements for lane closures and advance signing shall be as shown on TCP (6-1) or as directed by the Engineer.

Texas Department of Transportation
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
WORK AREA AT EXIT RAMP

TCP(6-4)-12

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©TxDOT Feburary 1994	CONT	SECT	JOB	HIGHWAY
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1-97 8-98	DIST	COUNTY		SHEET NO.
4-98 8-12	BMT	HARDIN,ETC.		31

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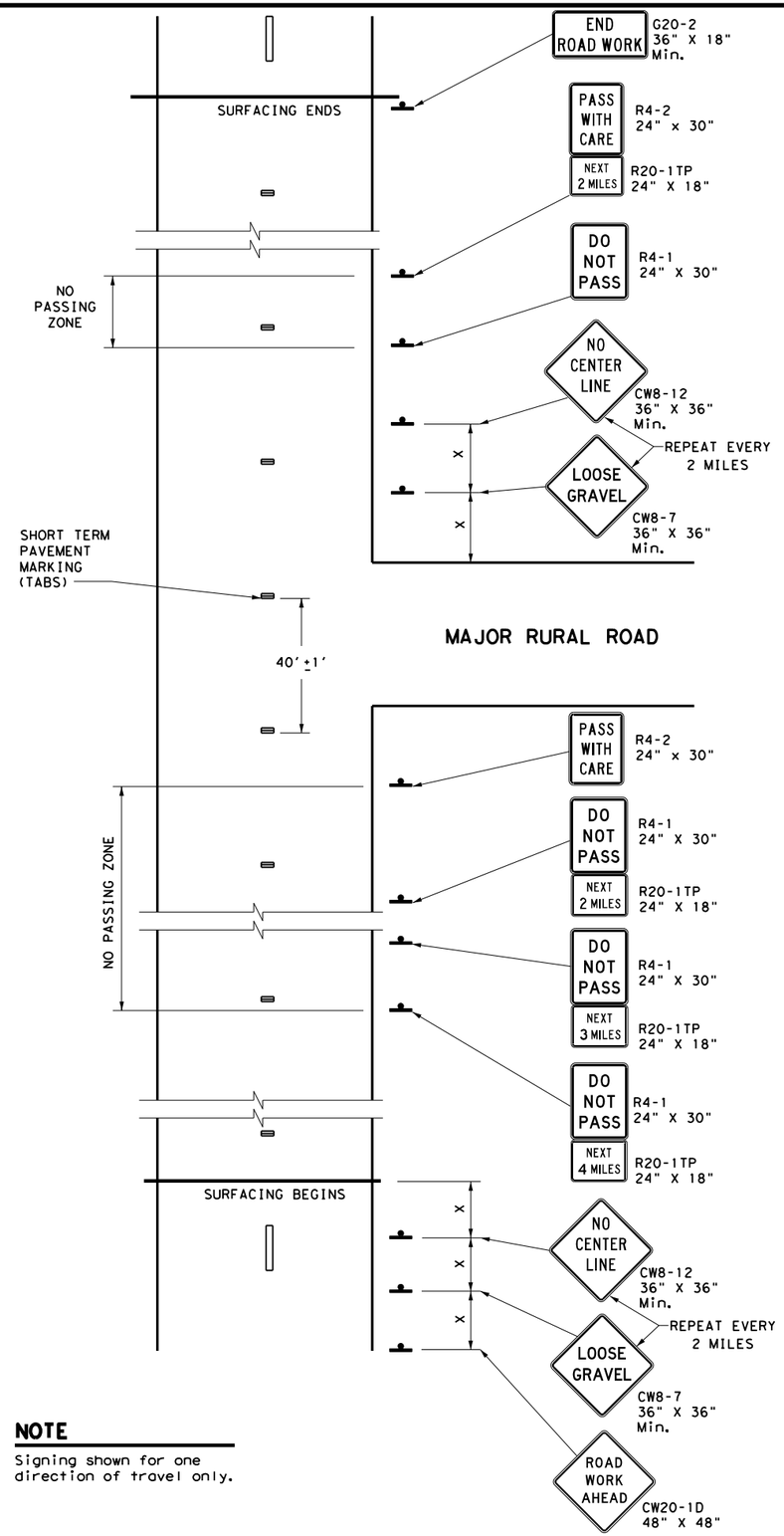
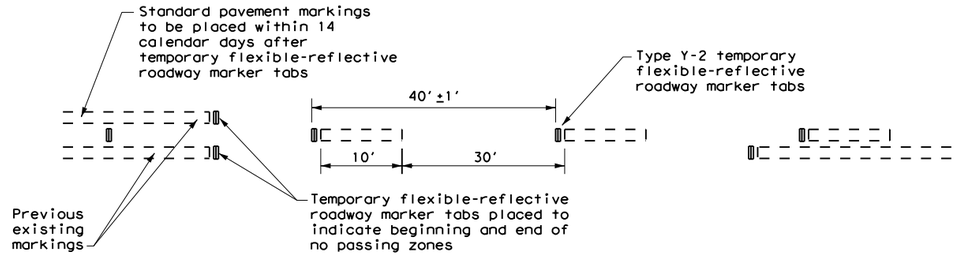


NOTE

Signing shown for one direction of travel only.

NO PASSING ZONES ON TWO-LANE TWO-WAY ROADS



TABS ON CENTERLINES OF TWO-LANE TWO-WAY ROADS

For seal coat, micro-surface or similar operations

"DO NOT PASS" SIGN (R4-1) and NO-PASSING ZONES

A. Prior to the beginning of construction, all currently striped no-passing zones shall be signed with the DO NOT PASS (R4-1) signs and PASS WITH CARE (R4-2) signs placed at the beginning and end of each zone for each direction of travel except as otherwise provided herein. Signs marking these individual no-passing zones need not be covered prior to construction if the signs supplement the existing pavement markings.

B. At the discretion of the Engineer, in areas of numerous no-passing zones, several zones may be combined as a single zone. If passing is to be prohibited over one or more lengthy sections, a DO NOT PASS sign and a NEXT XX MILES (R20-1TP) plaque may be used at the beginning of such zones. The DO NOT PASS sign and the NEXT XX MILES plaque should be repeated every mile to the end of the no-passing zone. In areas where there is considerable distance between no-passing zones, the end of the no-passing zone may be signed with a PASS WITH CARE sign and a NEXT XX MILES plaque.

C. Depending on traffic volumes and length of sections, it may be desirable to prohibit passing throughout the project to prevent damage to windshield and lights. The DO NOT PASS sign and NEXT XX MILES plaque should be used and repeated as often as necessary for this purpose. Where several existing zones are to be combined into one individual no-passing zone, the sign at the beginning of the zone should be covered until the surfacing operation has passed this location so as not to have the DO NOT PASS sign conflict with the existing pavement markings. Also, unless one days operation completes the entire length of such combined zones, appropriate DO NOT PASS and PASS WITH CARE signs should be placed at the beginning and end of the no-passing zones where the surfacing operation has stopped for the day.

D. R4-1 and R4-2 are to remain in place until standard pavement markings are installed.

"NO CENTER LINE" SIGN (CW8-12)

A. Center line markings are yellow pavement markings that delineate the separation of travel lanes that have opposite directions of travel on a roadway. Divided highways do not typically have center line markings.

B. At the time construction activity obliterates the existing center line markings(low volume roads may not have an existing centerline), a NO CENTER LINE (CW8-12) sign should be erected at the beginning of the work area, at approximately 2 mile intervals within the work area, beyond major intersections and other locations deemed necessary by the Engineer.

C. The NO CENTER LINE signs are to remain in place until standard pavement markings are installed.

"LOOSE GRAVEL" SIGN (CW8-7)

A. When construction begins, a LOOSE GRAVEL (CW8-7) sign should be erected at each end of the work area and repeated at intervals of approximately 2 miles in rural areas and closer in urban areas.

B. The LOOSE GRAVEL signs are to remain in place until the condition no longer exists.

PAVEMENT MARKINGS

A. Temporary markings for surfacing projects shall be Temporary Flexible-reflective Roadway Marker Tabs unless otherwise approved by the Engineer. Tabs are to be installed to provide true alignment for striping crews or as directed by the Engineer. Tabs will be placed at the spacing indicated. Tabs should be applied to the pavement
no more than two (2) days before the surfacing is applied. After the surfacing is rolled and swept, the cover over the reflective strip shall be removed.

B. Tabs shall not be used to simulate edge lines.

C. Tab placement for overlay/inlay operations shall be as shown on the WZ(STPM) standard sheet.

COORDINATION OF SIGN LOCATIONS

A. The location of warning signs at the beginning and end of a work area are to be coordinated with other signing typically shown on the Barricade and Construction Standards for project limits to ensure adequate sign spacing.

B. Where possible the ROAD WORK AHEAD (CW20-1D), LOOSE GRAVEL (CW8-7), and NO CENTER LINE (CW8-12) signs should be placed in the sequence shown following the OBEY WARNING SIGNS STATE LAW (R20-3T) and the TRAFFIC FINES DOUBLE (R20-5T) sign, and one "X" sign spacing prior to the CONTRACTOR (G20-6T)sign typically located at or near the limits of surfacing. LOOSE GRAVEL and NO CENTER LINE signs will then be repeated as described above.

Posted Speed *	Minimum Sign Spacing "X" Distance
30	120'
35	160'
40	240'
45	320'
50	400'
55	500'
60	600'
65	700'
70	800'
75	900'

* Conventional Roads Only

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
			✓	✓

GENERAL NOTES

1. The traffic control devices detailed on this sheet will be furnished and erected as directed by the Engineer on sections of roadway where tabs must be placed prior to the surfacing operation which will cover or obliterate the existing pavement markings.
2. The devices shown on this sheet are to be used to supplement those required by the BC Standards or others required elsewhere in the plans.
3. Signs shall be erected as detailed on the BC Standards or the Compliant Work Zone Traffic Control Devices List (CWZTCD) on supports approved for Long-Term / Intermediate-Term Work Zone Sign Supports.
4. When surfacing operations take place on divided highways, freeways or expressways, the size of diamond shaped construction warning signs shall be 48" x 48".
5. Signs on divided highways, freeways and expressways will be placed on both right and left sides of the roadway based on roadway conditions as directed by the Engineer.

Texas Department of Transportation — Traffic Operations Division Standard

TRAFFIC CONTROL DETAILS FOR SURFACING OPERATIONS

TCP(7-1)-13

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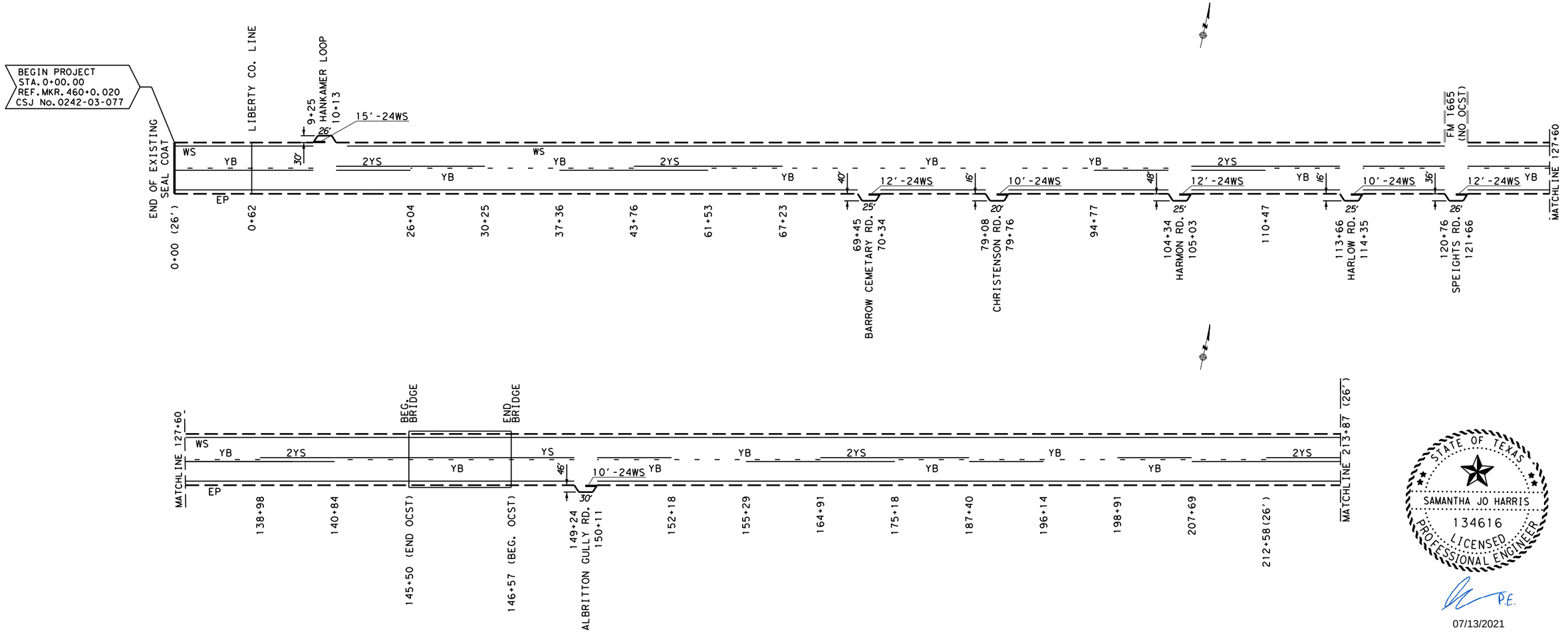
©TxDOT March 1991	CONT	SECT	JOB	HIGHWAY
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.
4-92 4-98	DIST	COUNTY		SHEET NO.
1-97 7-13	BMT	HARDIN,ETC.		32

210

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	INTERSECTION (SY)	662 6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2 EA	666 6036 REFL PAV MRK TY I (W)8"(SLD)(100MIL) LF	666 6303 RE PM W/RET REQ TY I (W)4"(SLD)(100MIL) LF	666 6312 RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL) LF	666 6315 RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) LF	668 6074 PREFAB PAV MRK TY C (W) (12") (SLD) LF	668 6076 PREFAB PAV MRK TY C (W) (24") (SLD) LF	668 6077 PREFAB PAV MRK TY C (W) (ARROW) EA	668 6078 PREFAB PAV MRK TY C (W) (DBL ARROW) EA	668 6085 PREFAB PAV MRK TY C (W) (WORD) EA	668 6092 PREFAB PAV MRK TY C (W) (36")(YLD TRI) EA	672 6009 REFL PAV MRKR TY II-A-A EA
1	SH61	CHAMBERS	50', 48', 24' 26', 20 '34'	208,059	29	3267	1378	101839	7680	62649	164	182	12	2	3	5	260

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



LINE DIAGRAM AND ROADWAY DATA

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
P.E.
07/13/2021

NTS

PROJECT LOCATION No. 1

SHEET 1 OF 59

Texas Department of Transportation

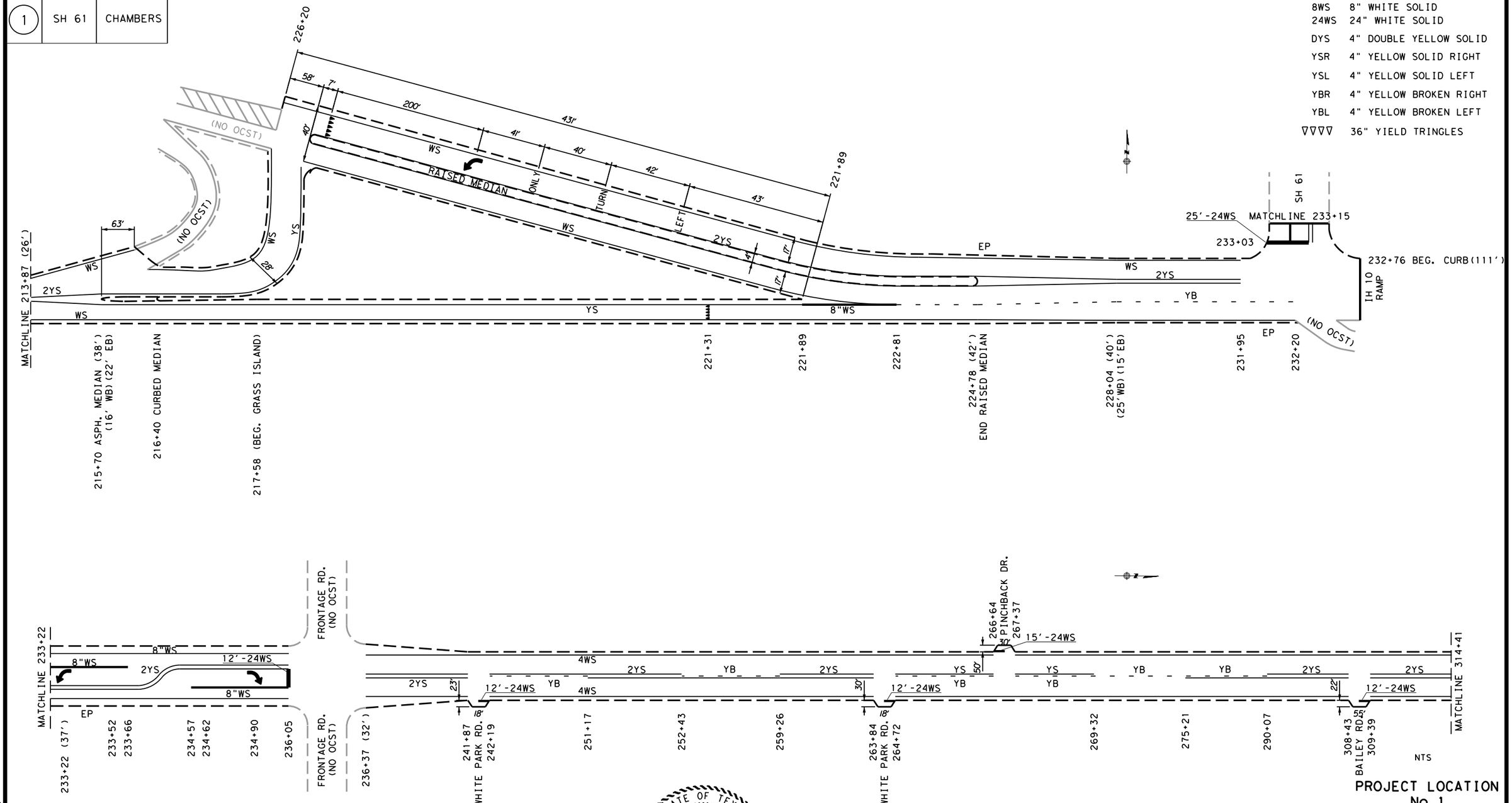
CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		33

DATE: 7/13/2021 3:07:37 PM
FILE: T:\BMTDESGN\Projects\0065-14-028 FY 2022 Seal Coat\DGN\PM1.dgn

PROJ. REF. NO.	HWY.	COUNTY
1	SH 61	CHAMBERS

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



PROJECT LOCATION No. 1

SHEET 2 OF 59

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DATE: 7/13/2021 3:07:39 PM

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED PROFESSIONAL ENGINEER

07/13/2021

P.E.

LINE DIAGRAM AND ROADWAY DATA

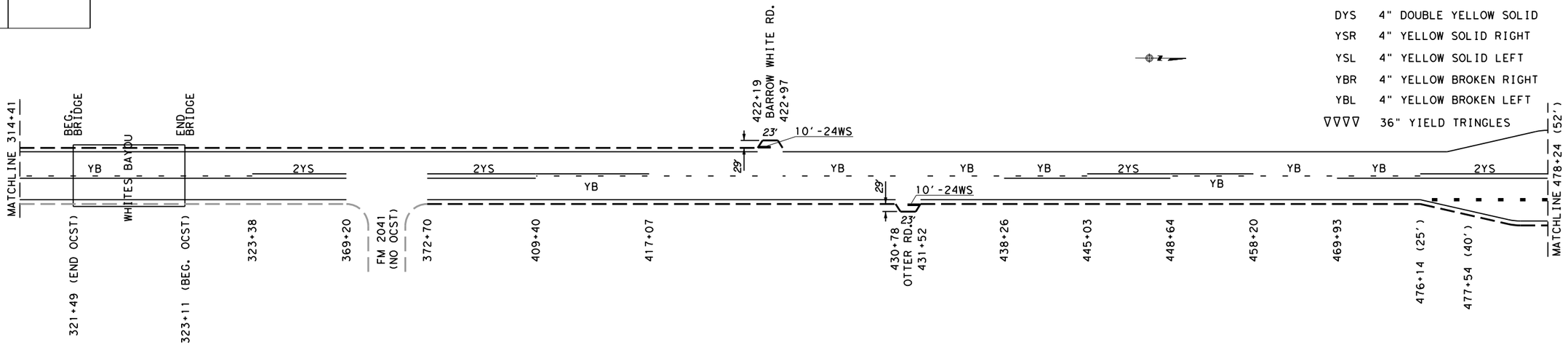
Texas Department of Transportation

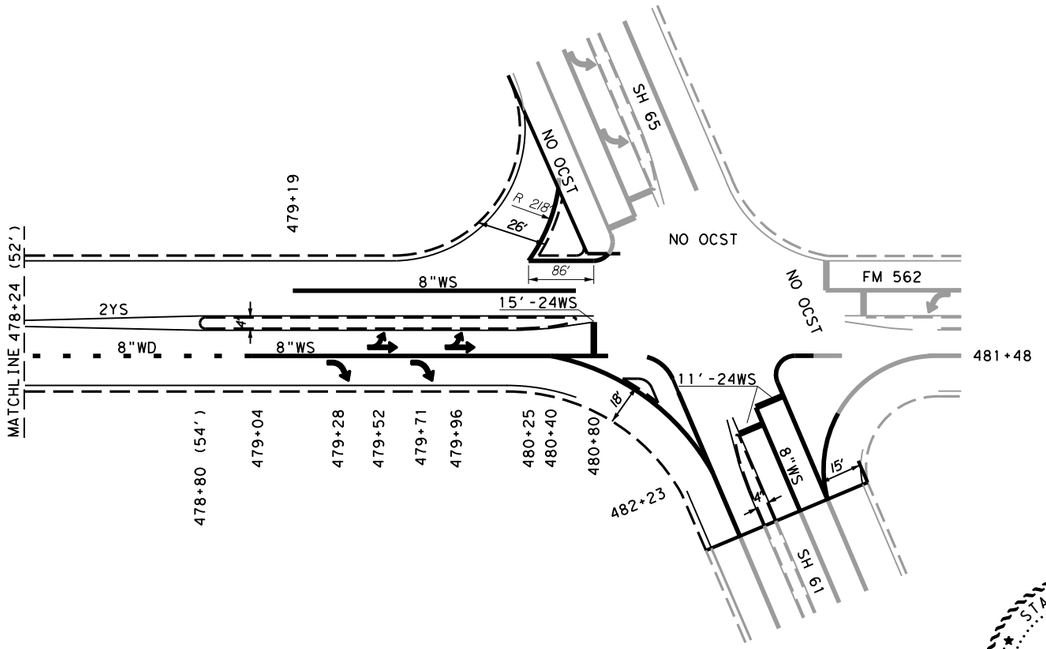
CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		34

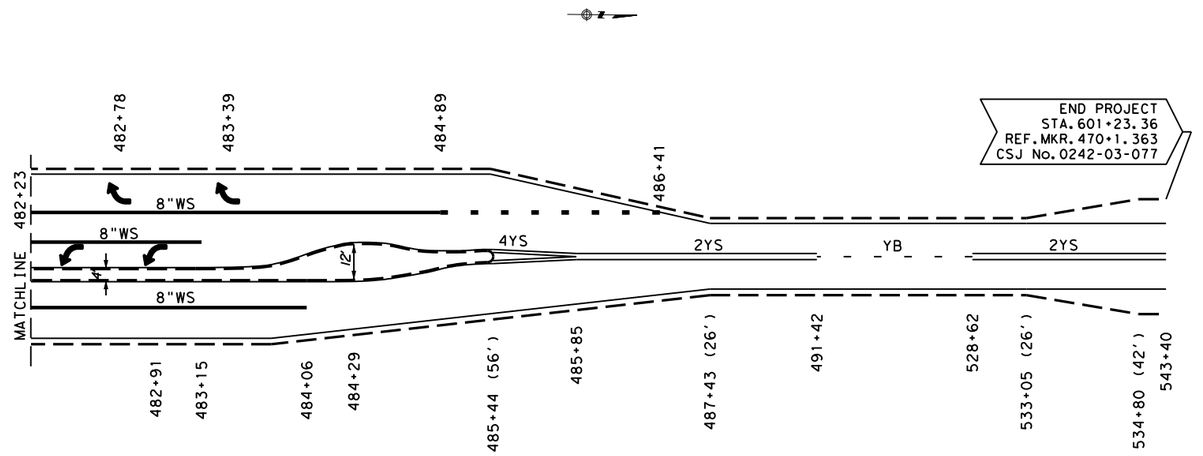
PROJ. REF. NO.	HWY.	COUNTY
1	SH 61	

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES







STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
07/13/2021
P.E.

NTS

PROJECT LOCATION No. 1

SHEET 3 OF 59

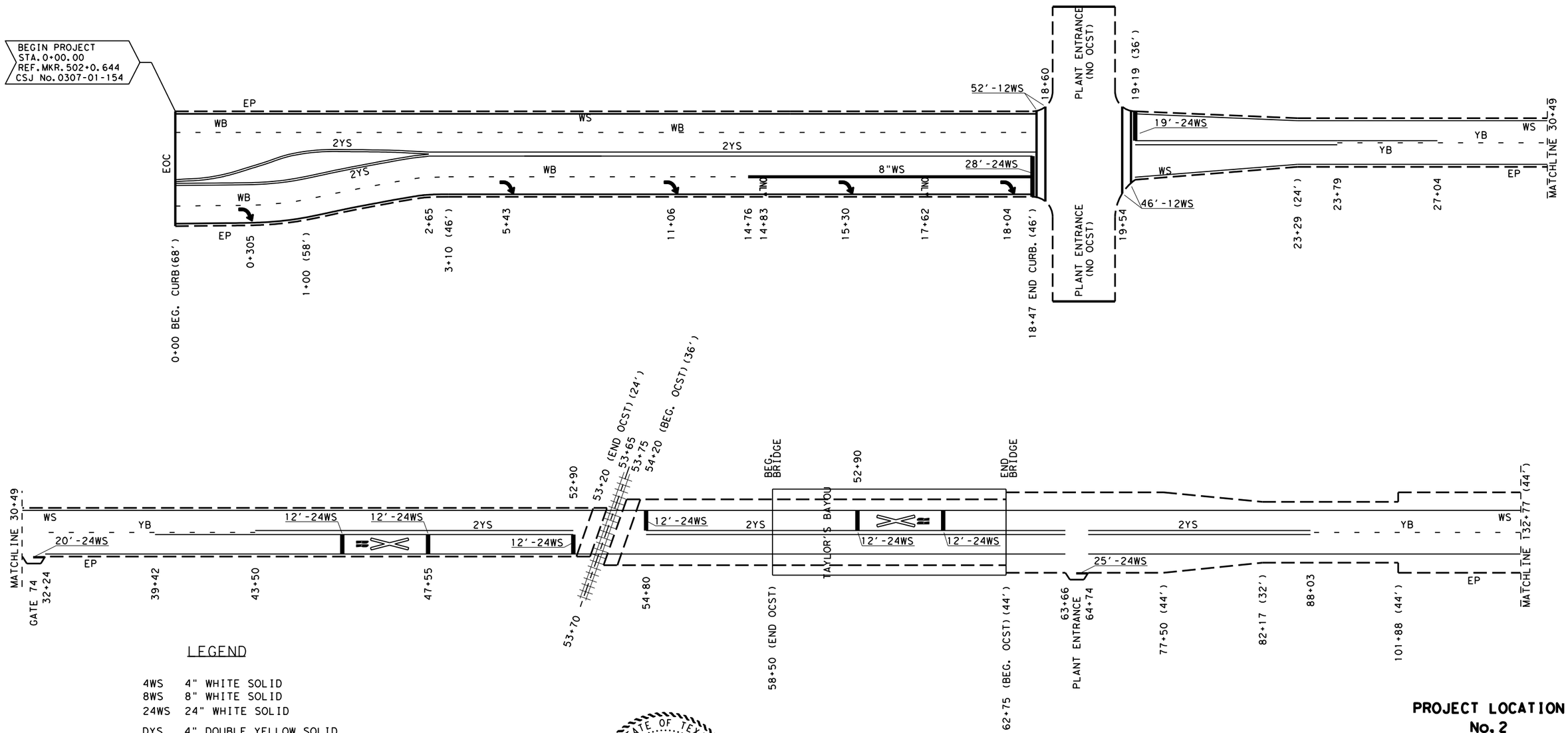
LINE DIAGRAM AND ROADWAY DATA

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		35

FILE: T:\BMTDESGN\Projects\0065-14-028 FY 2022 Seal Coat\DGN\PM1.dgn
DATE: 7/13/2021 3:07:41 PM

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	INTERSECTION (SY)	662		666				668					672	
						6109	6111	6036	6303	6312	6315	6074	6076	6077	6089	6092	6007	6009
						WK ZN PAV MRK SHT TERM (TAB) TY W	WK ZN PAV MRK SHT TERM (TAB) TY Y-2	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	PREFAB PAV MRK TY C (W) (12") (SLD)	PREFAB PAV MRK TY C (W) (24") (SLD)	PREFAB PAV MRK TY C (W) (ARROW)	PREFAB PAV MRK TY C (W) (RR XING)	PREFAB PAV MRK TY C (W) (36")(YLD TRI)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A
						EA	EA	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA
(2)	SH 87	JEFFERSON	24', 32', 42',44'	210,062	11	297	4057	3938	115257	10600	54301	196	189	13	1	13	53	1099



LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED PROFESSIONAL ENGINEER

08/05/2021

P.E.

LINE DIAGRAM AND ROADWAY DATA

PROJECT LOCATION No. 2

SHEET 4 OF 59

Texas Department of Transportation

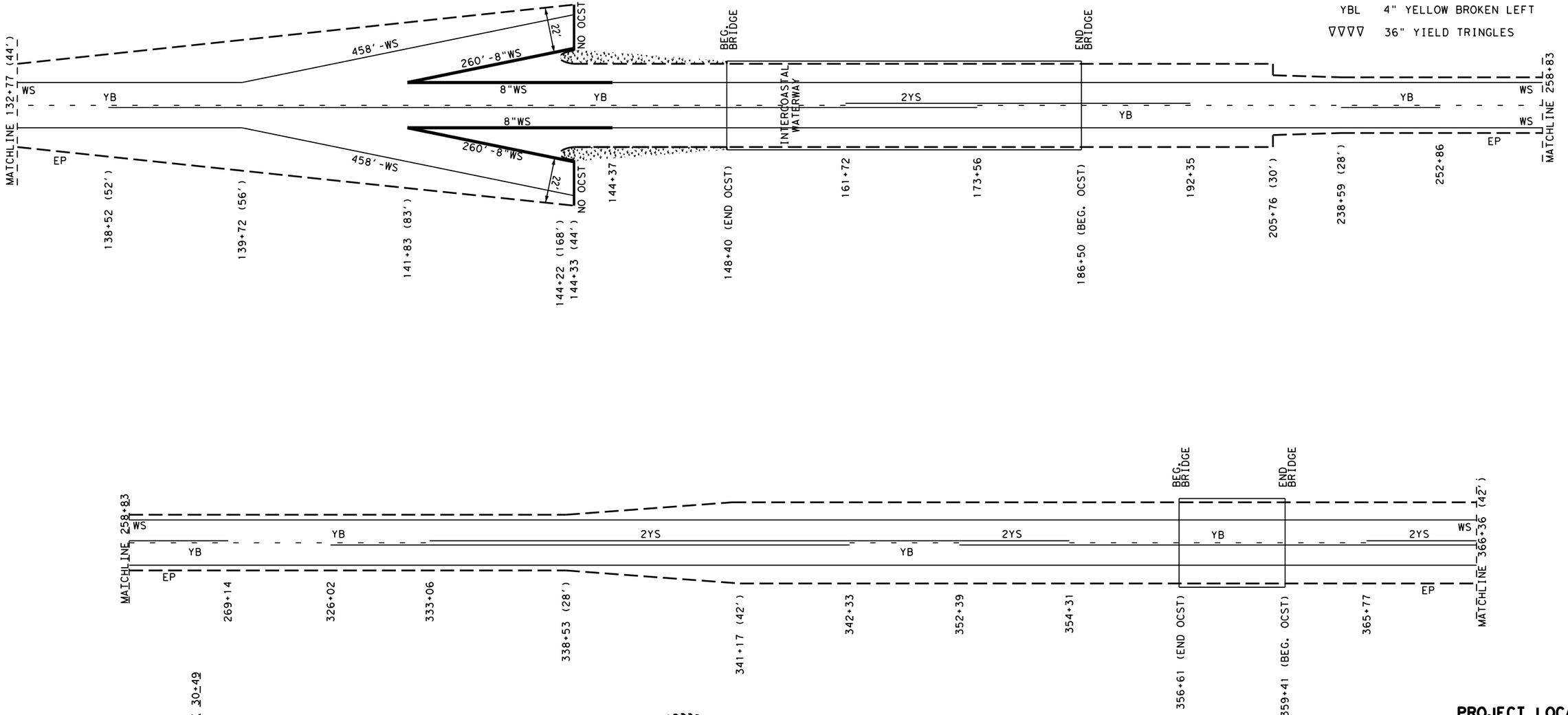
CONT	SECT	JOB	HIGHWAY
0065	14	028,ETC.	BU 96F,ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN,ETC.		36

FILE: c:\txdot\pw*online\txdot5\samantha.harris\d0533163\PM2.dgn
DATE: 8/5/2021 4:12:59 PM

PROJ. REF. NO.	HWY.	COUNTY
2	SH 87	JEFFERSON

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED PROFESSIONAL ENGINEER

07/19/2021

P.E.

LINE DIAGRAM AND ROADWAY DATA

PROJECT LOCATION No. 2

SHEET 5 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		37

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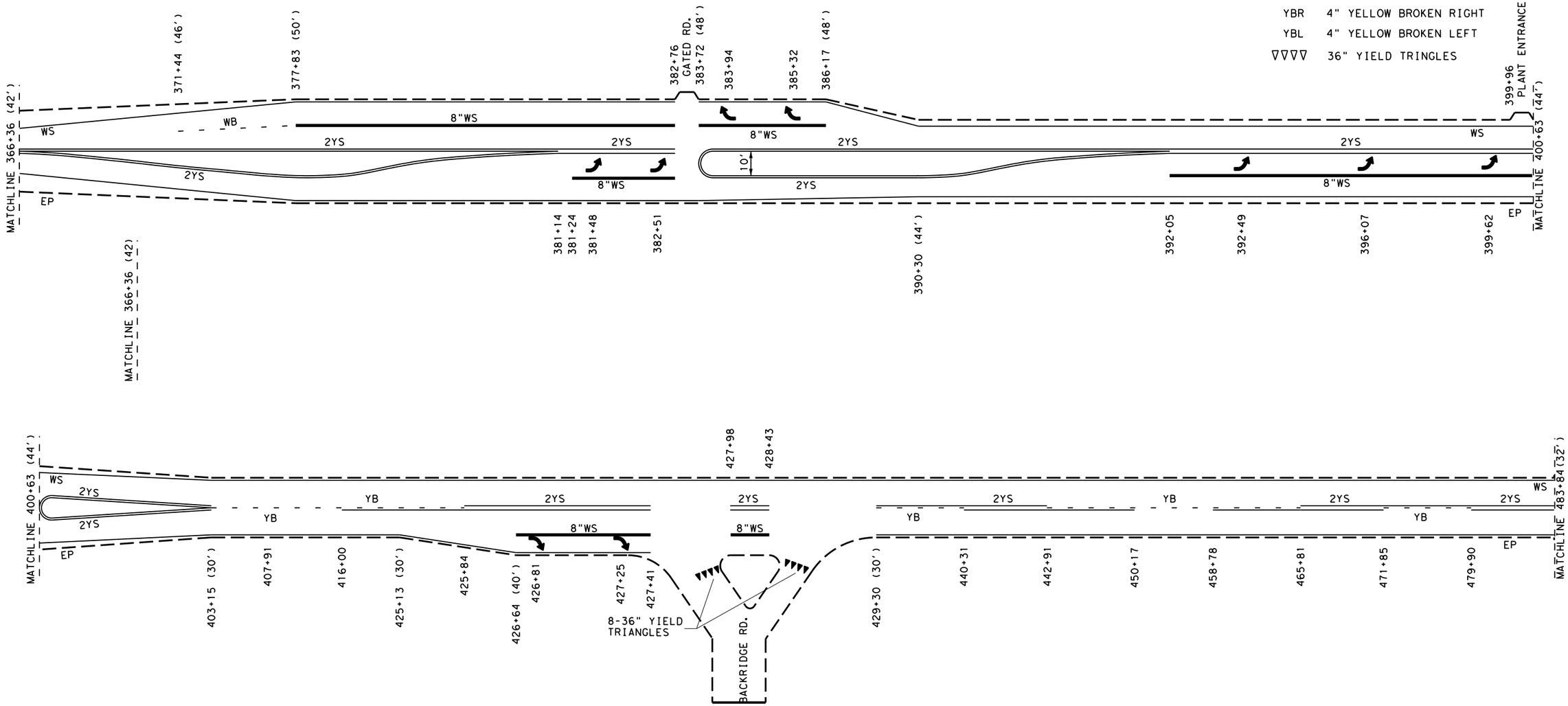
DATE: 7/19/2021 11:55:26 AM

PROJ. REF. NO.	HWY.	COUNTY
2	SH 87	JEFFERSON

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED PROFESSIONAL ENGINEER

07/19/2021

P.E.

LINE DIAGRAM AND ROADWAY DATA

PROJECT LOCATION No. 2

SHEET 6 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		38

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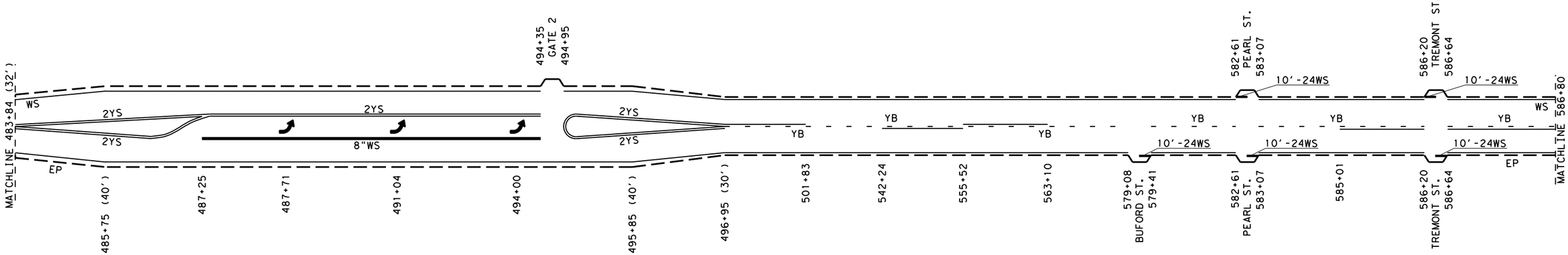
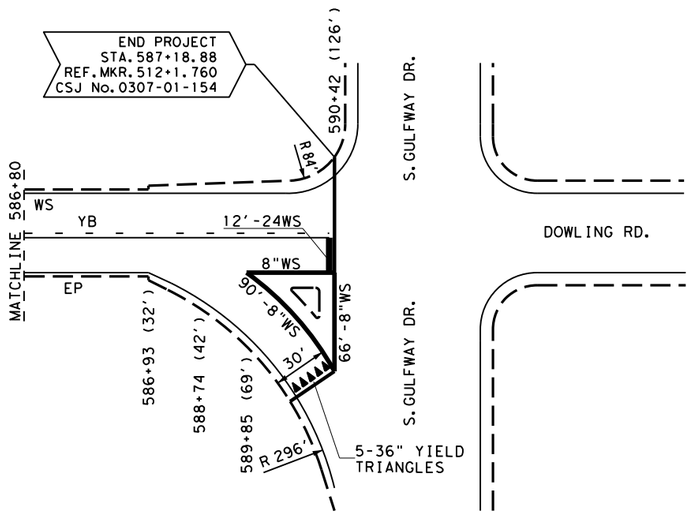
PROJ. REF. NO.	HWY.	COUNTY
2	SH 87	JEFFERSON





LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
P.E.
07/19/2021

PROJECT LOCATION No. 2

SHEET 7 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		39

LINE DIAGRAM AND ROADWAY DATA

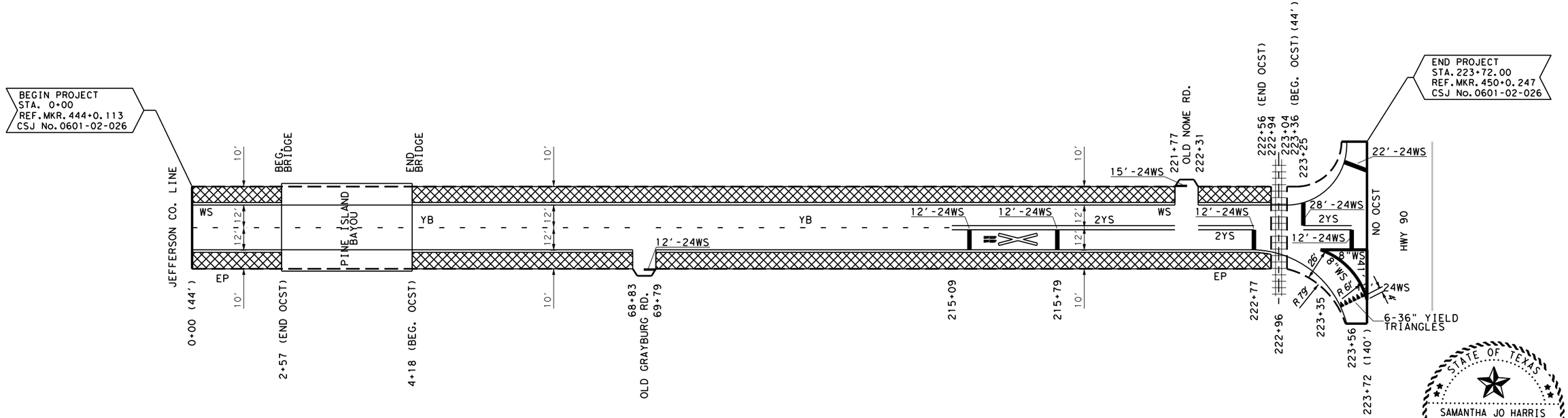
FILE: c:\txdot\pw*online\txdot5\samantha.harris\d0533163\PM2.dgn
DATE: 7/19/2021 11:56:04 AM

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	TURNOUT EA	662 6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2	666 6036 REFL PAV MRK TY I (W)8"(SLD)(100MIL)	666 6303 RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	666 6312 RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	666 6315 RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	668 6076 PREFAB PAV MRK TY C (W) (24") (SLD)	668 6085 PREFAB PAV MRK TY C (W) (WORD)	668 6092 PREFAB PAV MRK TY C (W) (36")(YLD TRI)	672 6009 REFL PAV MRKR TY II-A-A
						EA	LF	LF	LF	LF	LF	EA	EA	EA
3	SH 326	JEFFERSON	44'	110,563	2	1605	139	44,568	5,350	1,490	125	2	6	291

*O.C.S.T AREA: 64,198 SY
*GR 5 AREA: 44,190 SY

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES
	GR 5 9' OF SHOULDER



STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
P.E.

08/05/2021
NTS

PROJECT LOCATION
No. 3

SHEET 8 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		40

LINE DIAGRAM AND ROADWAY DATA

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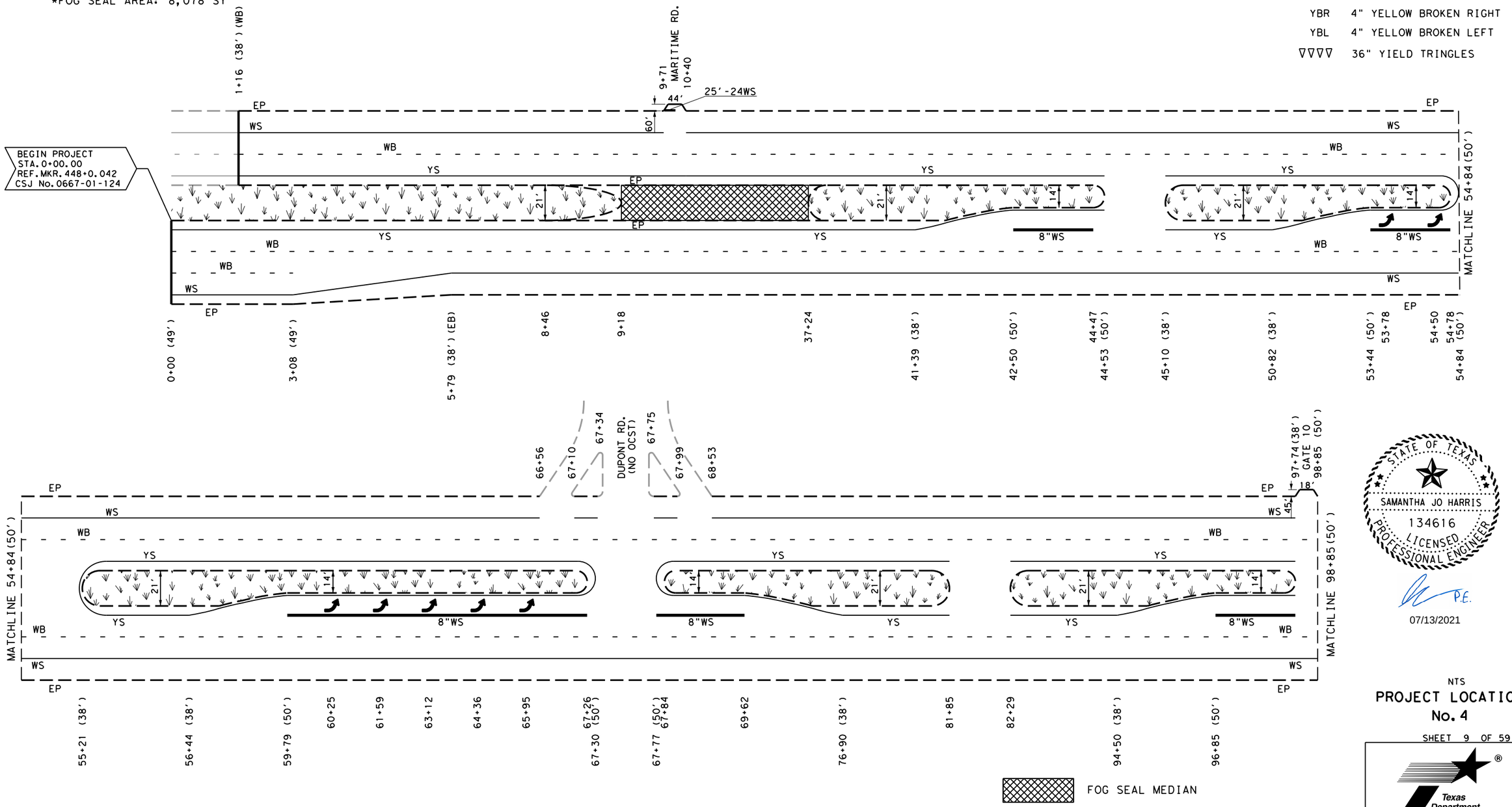
DATE: 8/5/2021 4:11:32 PM

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	TURNOUT EA	662 6109 WK ZN PAV MRK SHT TERM (TAB) TY W EA	662 6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2 EA	666 6036 REFL PAV MRK TY I (W)8"(SLD)(100MIL) LF	668 6077 PREFAB PAV MRK TY C (W) (ARROW) EA	668 6078 PREFAB PAV MRK TY C (W) (DBL ARROW) EA	672 6007 REFL PAV MRKR TY I-C EA
(4)	SH347	JEFFERSON	38', 50'	173,500	27	3,081	0	493	6	2	518

*OCST AREA: 205,248 SY
*FOG SEAL AREA: 8,078 SY

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



LINE DIAGRAM AND ROADWAY DATA

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED PROFESSIONAL ENGINEER
P.E.
07/13/2021

NTS

PROJECT LOCATION No. 4

SHEET 9 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028,ETC.	BU 96F,ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN,ETC.		41

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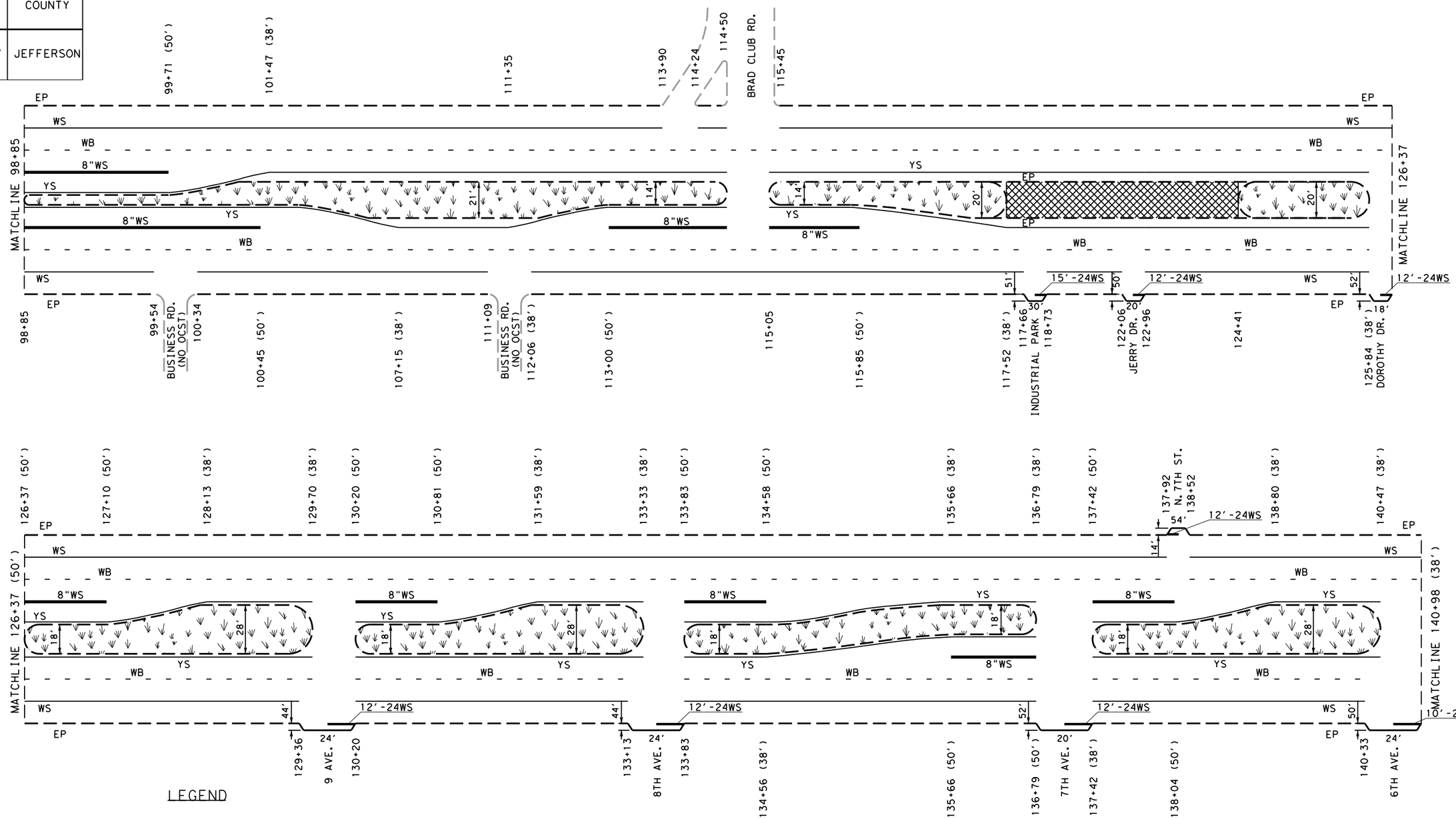
PROJ. REF. NO.	HWY.	COUNTY
4	SH 347	JEFFERSON



LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
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07/13/2021

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FOG SEAL MEDIAN

NTS

PROJECT LOCATION
No. 4

SHEET 10 OF 59

LINE DIAGRAM AND ROADWAY DATA

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		42

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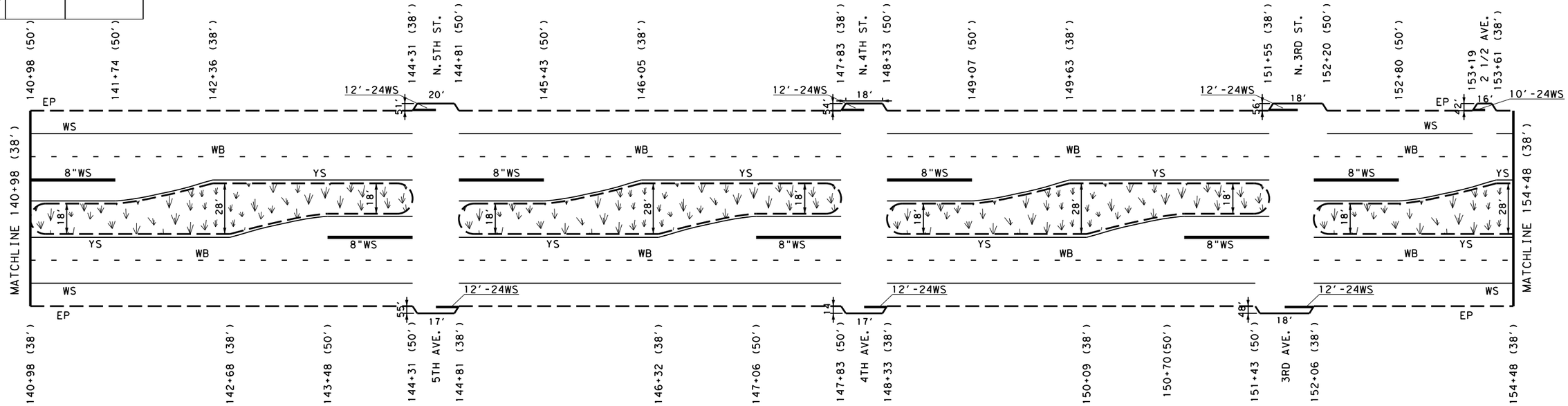
DATE: 7/13/2021 3:07:57 PM

PROJ. REF. NO.	HWY.	COUNTY
4	SH 347	JEFFERSON



NTS

PROJECT LOCATION
No. 4

SHEET 11 OF 59

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
P.E.
07/13/2021

LINE DIAGRAM AND ROADWAY DATA

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		43

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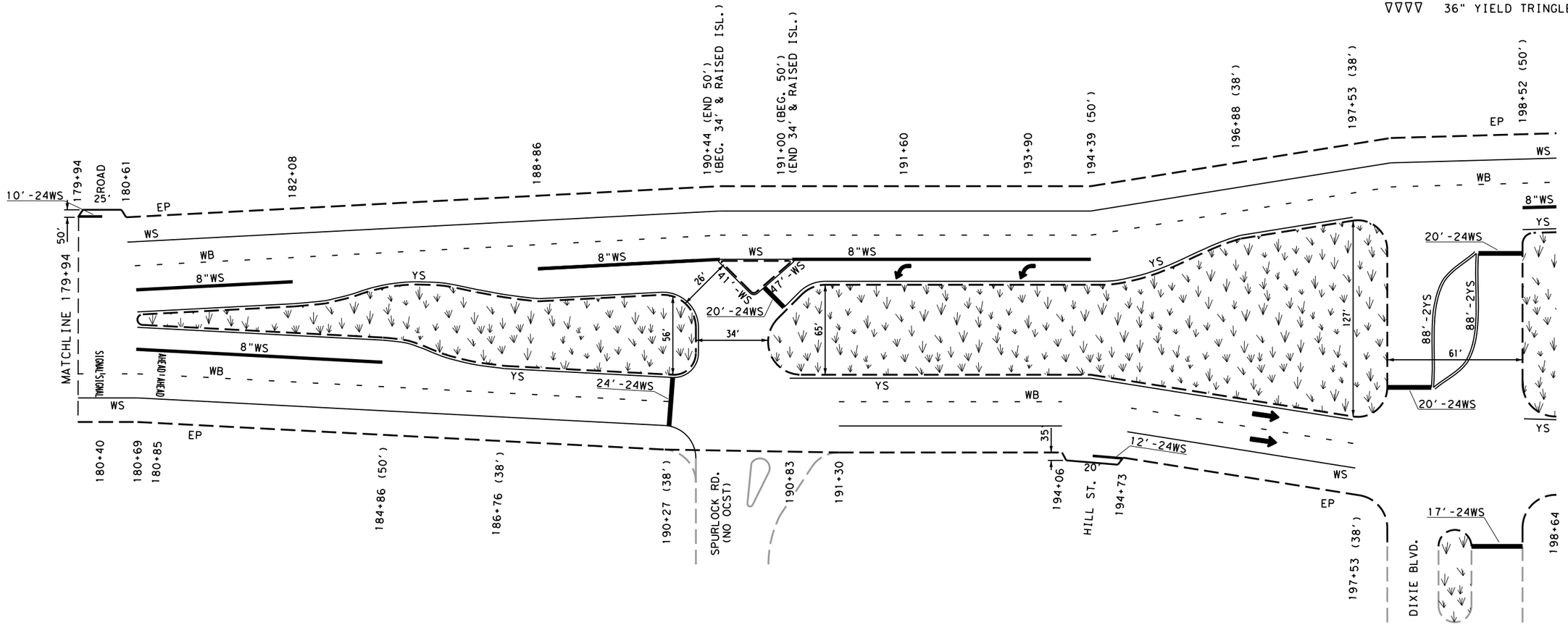
DATE: 7/13/2021 3:07:59 PM

PROJ. REF. NO.	HWY.	COUNTY
4	SH 347	JEFFERSON

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED PROFESSIONAL ENGINEER
P.E.
07/13/2021

NTS

PROJECT LOCATION
No. 4

SHEET 12 OF 59

LINE DIAGRAM AND ROADWAY DATA

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028,ETC.	BU 96F,ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN,ETC.		44

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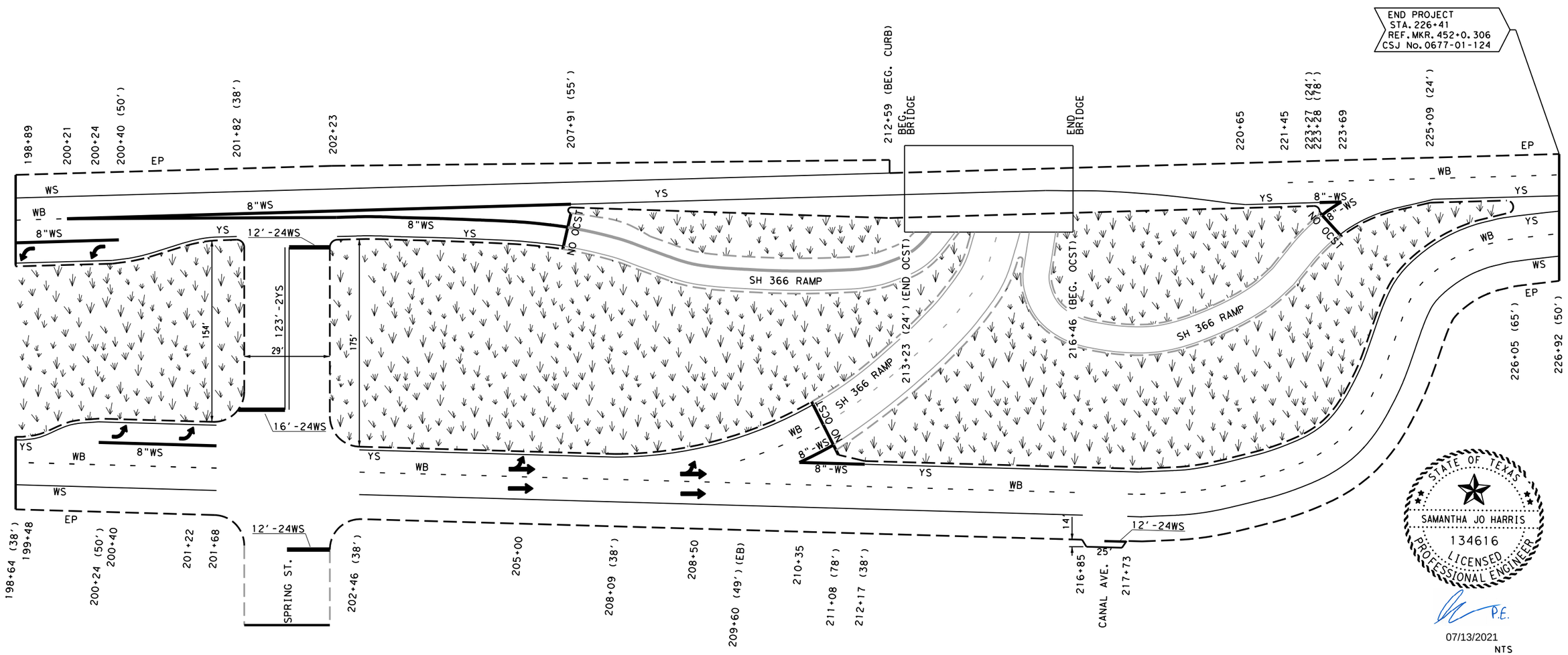
DATE: 7/13/2021 3:08:02 PM

PROJ. REF. NO.	HWY.	COUNTY
4	SH 347	JEFFERSON

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS

P.E.

07/13/2021
NTS

PROJECT LOCATION
No. 4

SHEET 13 OF 59

Texas Department of Transportation

CONT.	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		45

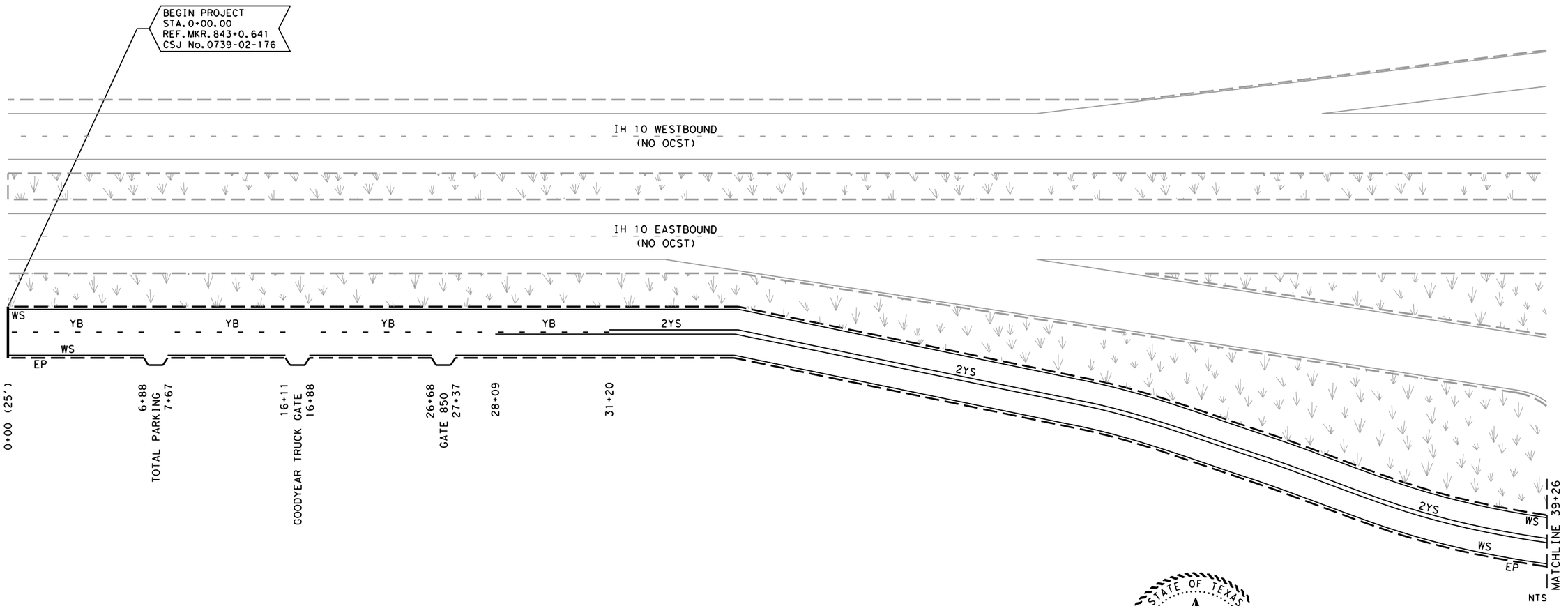
LINE DIAGRAM AND ROADWAY DATA

FILE: T:\BMTDESGN\Projects\0065-14-028 FY 2022 Seal Coat\DGN\PM4.dgn
DATE: 7/13/2021 3:08:04 PM

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH FT	TOTAL AREA (SY)	TURNOUT EA	662		666				668		672	
						6109	6111	6300	6303	6312	6315	6076	6092	6007	6009
						WK ZN PAV MRK SHT TERM (TAB) TY W	WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM W/RET REQ TY I (W)4"(BRK)(100 MIL)	RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	RE PM W/RET REQ TY I (Y)4"(BRK)(100 MIL)	RE PM W/RET REQ TY I (Y)4"(SLD)(100 MIL)	PREFAB PAV MRK TY C (W) (24") (SLD)	PREFAB PAV MRK TY C (W) (36")(YLD	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A
						EA	EA	LF	LF	LF	LF	LF	EA	EA	EA
(5)	IH 10 FRTG RD	JEFFERSON	25'	26,929	0	90	250	300	14489	780	7639	91	27	18	108

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER

08/05/2021

P.E.

LINE DIAGRAM AND ROADWAY DATA

PROJECT LOCAITON No. 5

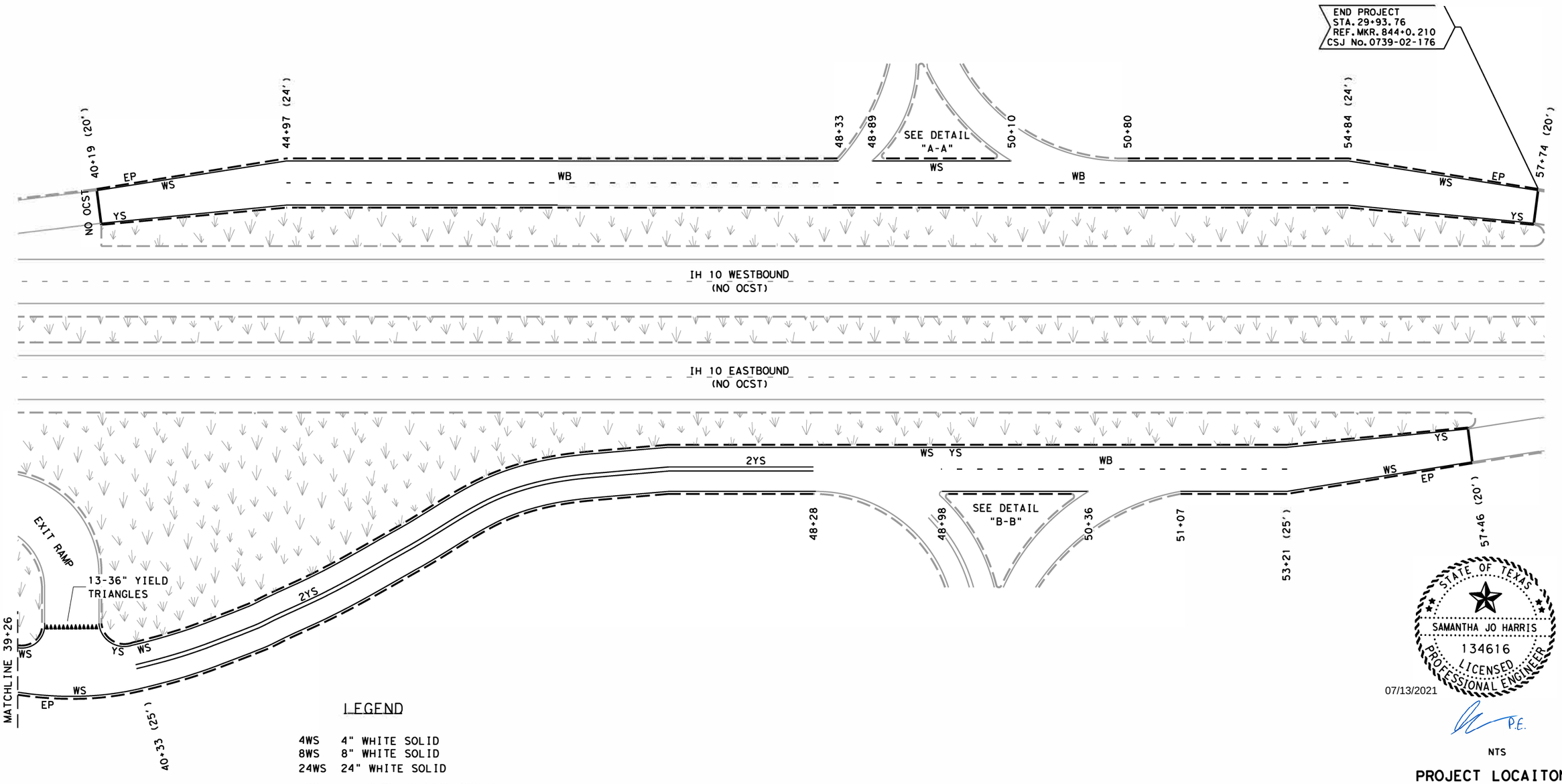
SHEET 14 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		46

FILE: c:\txdot\pw*online\txdot5\samantha.harris\d0533163\PM5.dgn
DATE: 8/5/2021 4:07:25 PM

PROJ. REF. NO.	HWY.	COUNTY
5	IH 10 FRTG RD.	JEFFERSON



LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
∇∇∇∇	36" YIELD TRINGLES

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED PROFESSIONAL ENGINEER

07/13/2021

P.E.

NTS

PROJECT LOCAITON No. 5

SHEET 15 OF 59

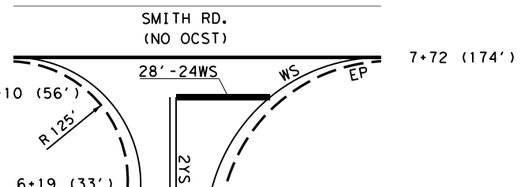
Texas Department of Transportation

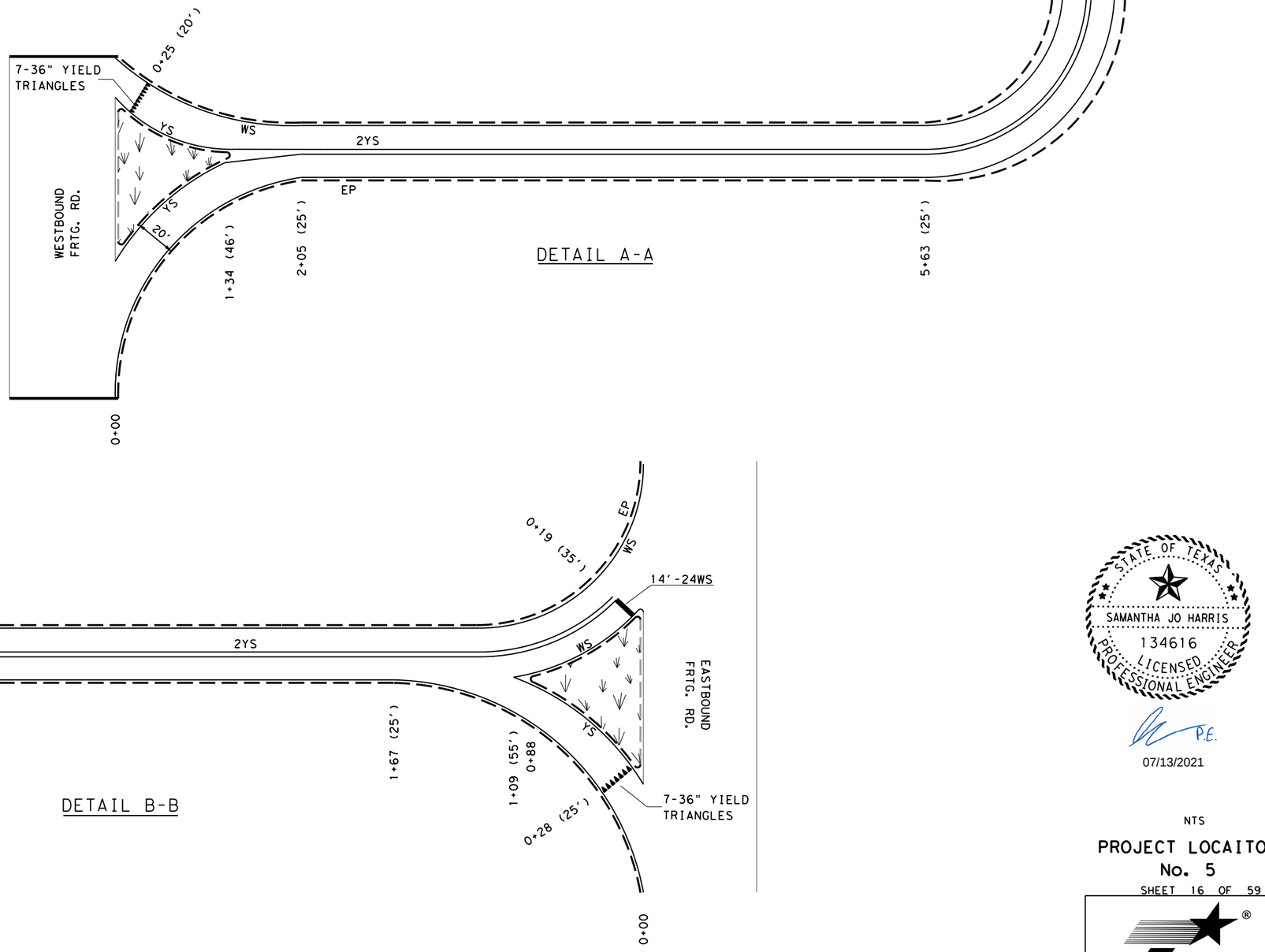
CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		47

LINE DIAGRAM AND ROADWAY DATA

FILE: T:\BMTDESGN\Projects\0065-14-028 FY 2022 Seal Coat\DGN\PM5.dgn
DATE: 7/13/2021 3:08:09 PM

PROJ. REF. NO.	HWY.	COUNTY
5	IH 10 FRTG RD.	JEFFERSON





LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES

LINE DIAGRAM AND ROADWAY DATA

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER

P.E.

07/13/2021

NTS

PROJECT LOCAITON
No. 5

SHEET 16 OF 59

Texas Department of Transportation

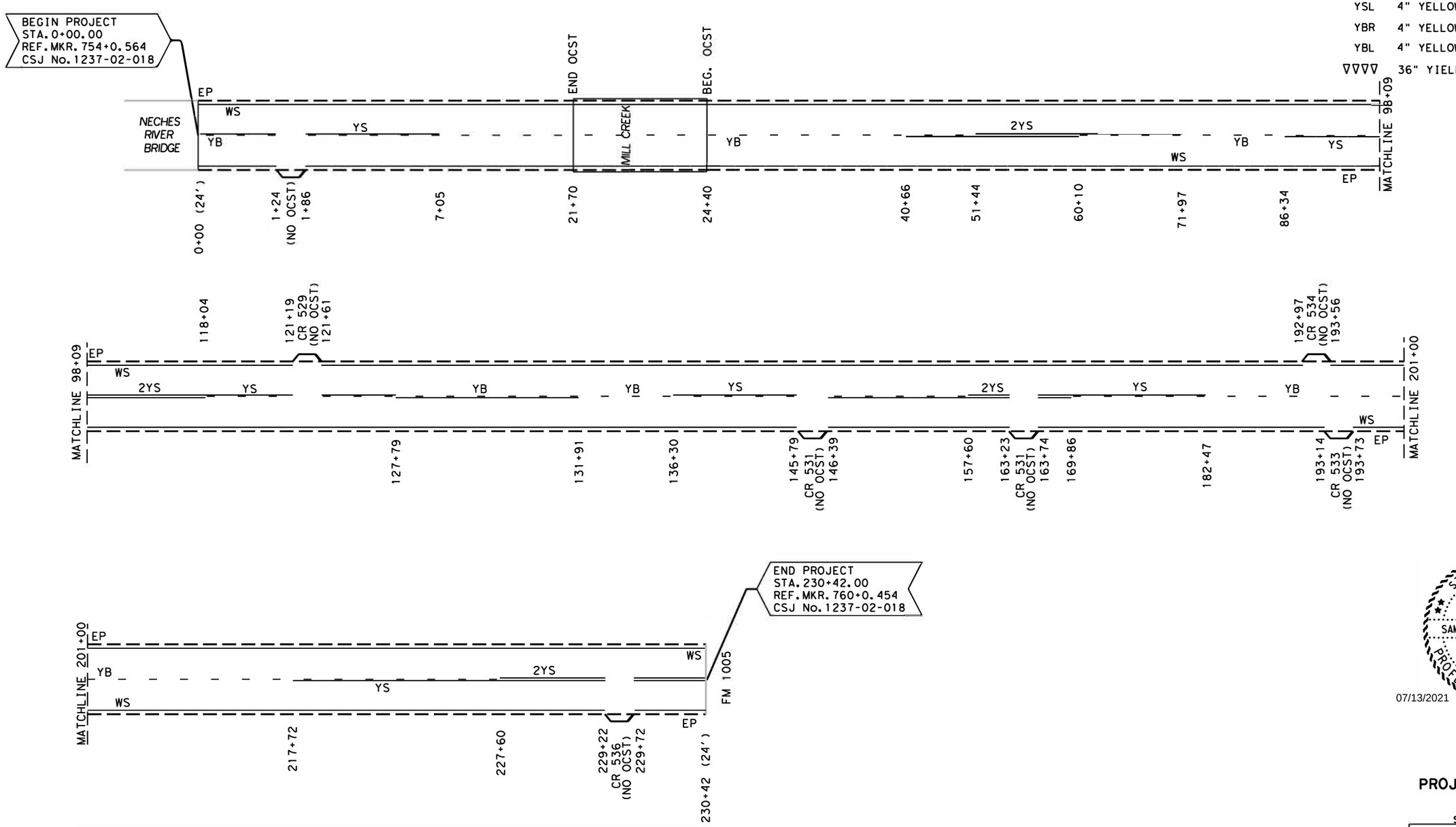
CONT	SECT	JOB	HIGHWAY
0065	14	028,ETC.	BU 96F,ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN,ETC.		48

FILE: T:\BMTDESGN\Projects\0065-14-028 FY 2022 Seal Coat\DGN\PM5.dgn
DATE: 7/13/20213:08:11 PM

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	INTERSECTION (SY)	662 6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2 EA	666 6303 RE PM W/RET REQ TY I (W)4"(SLD)(100MIL) LF	666 6312 RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL) LF	666 6315 RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) LF	672 6009 REFL PAV MRKR TY II-A-A EA
(6)	FM 1013	JASPER	24'	61445	0	1879	45743	4620	17417	450

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER

07/13/2021

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PROJECT LOCAITON No. 6

SHEET 17 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		49

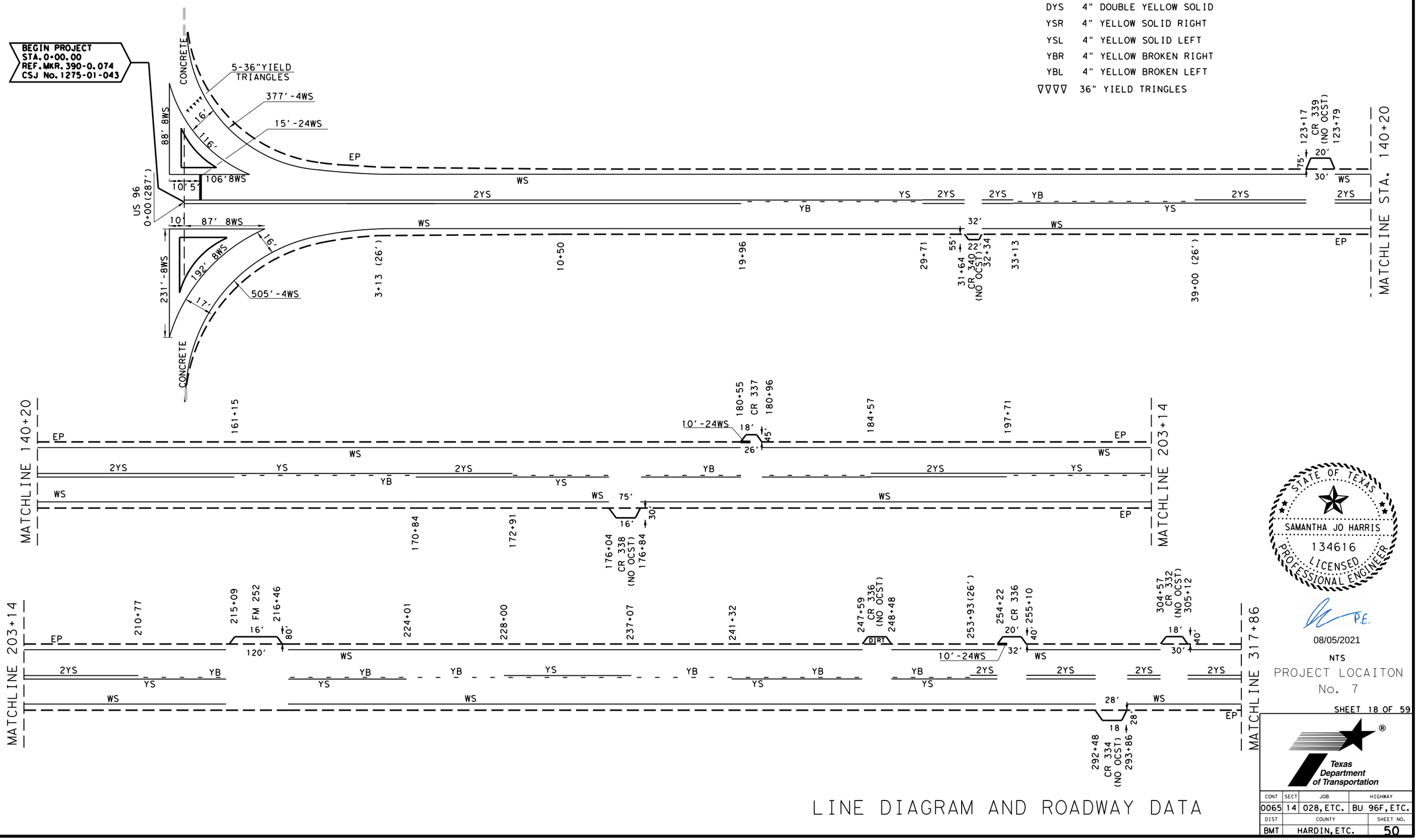
LINE DIAGRAM AND ROADWAY DATA

FILE: T:\BMTDESGN\Projects\0065-14-028 FY 2022 Seal Coat\DGN\PM6.dgn
DATE: 7/13/2021 3:08:13 PM

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	INTERSECTION (SY)	6303 RE PM W/RET REQ TY I (W)4"(SLD)(100 LF	6312 RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL LF	6315 RE PM W/RET REQ TY I (Y)4"(SLD)(100M LF	6076 PREFAB PAV MRK TY C (W) (24") (SLD) LF	668 6092 PREFAB PAV MRK TY C (W) (36")(YLD TRI) EA	672 6006 REFL PAV MRKR TY I-A EA
7	FM 1005	JASPER	26	157,775	8	109,429	11,900	86,578	142	10	1,032

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



LINE DIAGRAM AND ROADWAY DATA

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED PROFESSIONAL ENGINEER
P.E.
08/05/2021

NTS

PROJECT LOCAITON No. 7

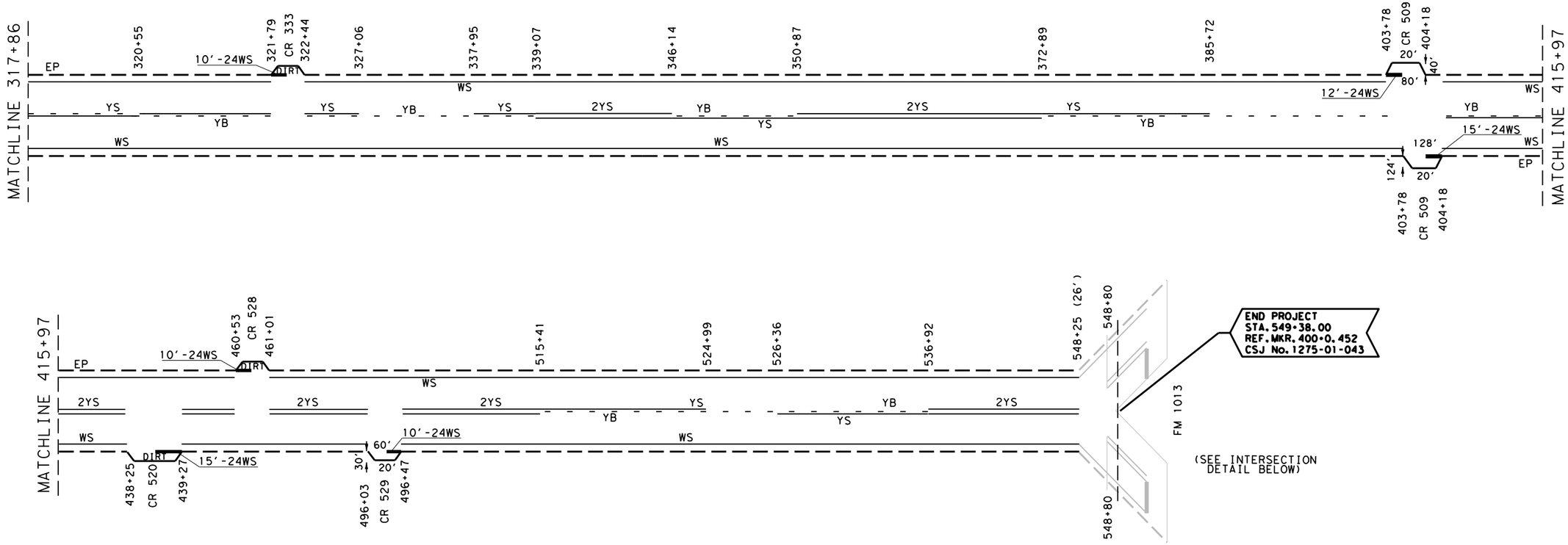
SHEET 18 OF 59

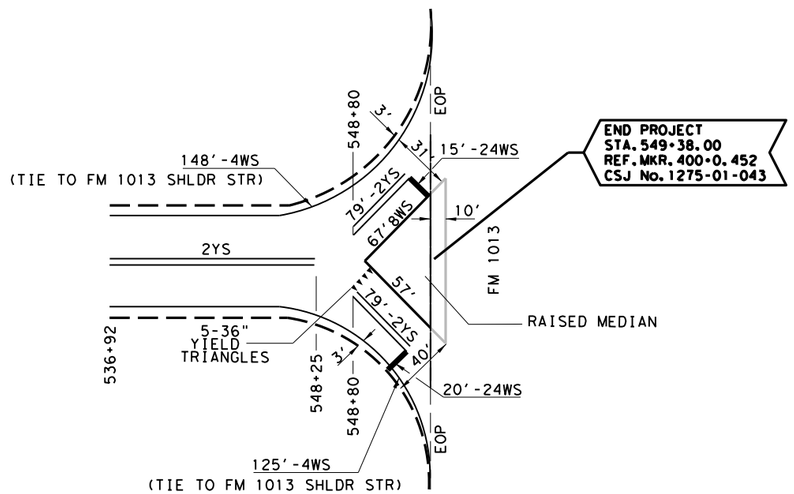
Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		50

DATE: 8/5/2021 4:16:37 PM
FILE: c:\txdot\pw_online\txdot5\samantha.harris\d0533163\PM7.dgn

PROJ. REF. NO.	HWY.	COUNTY
7	FM 1005	JASPER





LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽	36" YIELD TRINGLES

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
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P.E.

07/19/2021
NTS

PROJECT LOCAITON
No. 7

SHEET 19 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		51

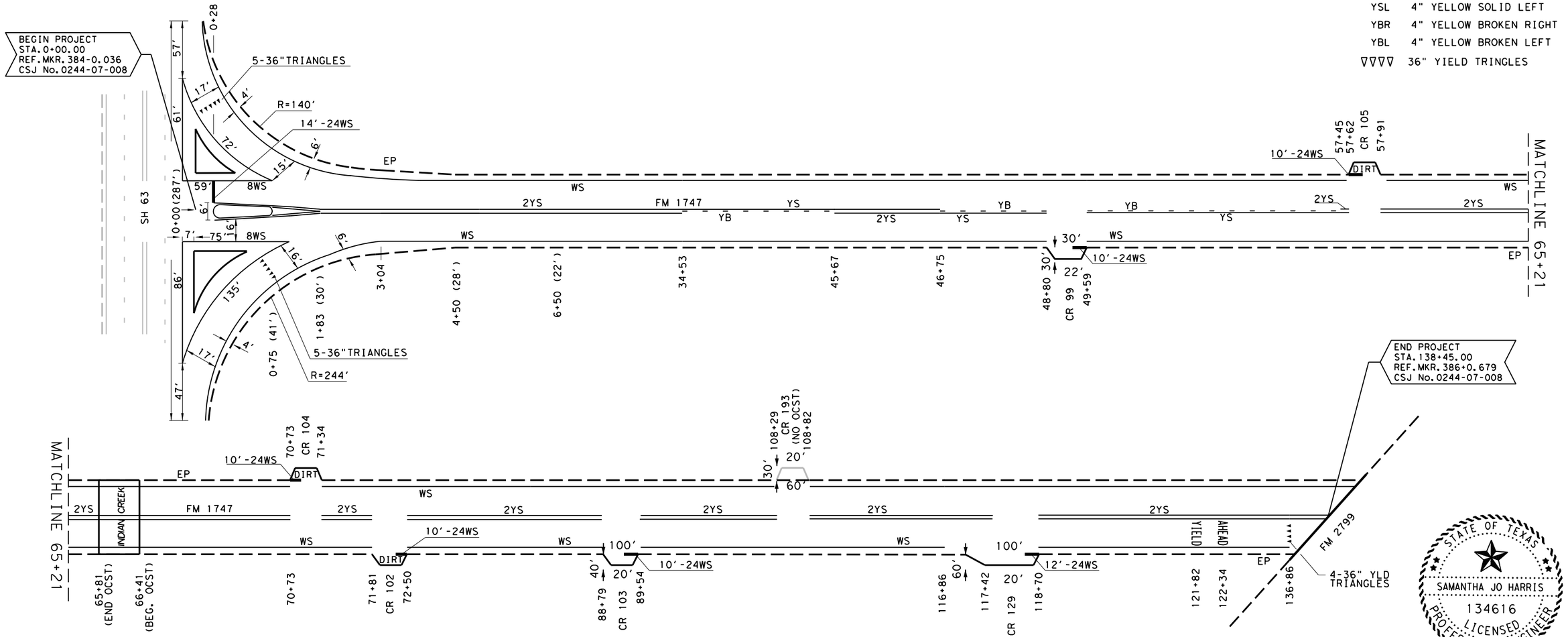
LINE DIAGRAM AND ROADWAY DATA

DATE: 7/19/2021 11:51:10 AM
FILE: c:\txdot\pw_online\txdot5\samantha.harris\d0533163\PM7.dgn

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	INTERSECTION (SY)	662		666				688			672	
						6019	6111	6036	6303	6312	6315	6076	6085	6092	6006	6007
						WK ZN PAV MRK SHT TERM (TAB) TY W	WK ZN PAV MRK SHT TERM (TAB) TY Y-2	REFL PAV MRK TY I (W)8"(SLD)(100 MIL)	RE PM W/RET REQ TY I (W)4"(SLD)(100 MIL)	RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	RE PM W/RET REQ TY I (Y)4"(SLD)(100M IL)	PREFAB PAV MRK TY C (W) (24") (SLD)	PREFAB PAV MRK TY C (W) (WORD)	PREFAB PAV MRK TY C (W) (36")(YLD TRI)	REFL PAV MRKR TY I-A	REFL PAV MRKR TY I-C
						EA	EA	LF	LF	LF	LF	LF	EA	EA	EA	EA
(8)	FM 1747	JASPER	22	35,273	6	50	376	488	26,999	540	24,231	76	2	15	358	24

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



STATE OF TEXAS
SAMANTHA JO HARRIS
134616
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07/19/2021

P.E.

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PROJECT LOCAITON
No. 8

SHEET 20 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		52

LINE DIAGRAM AND ROADWAY DATA

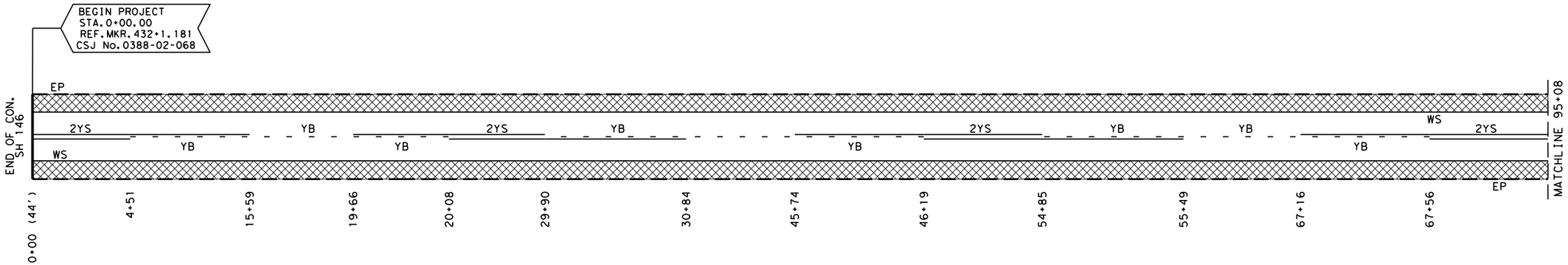
DATE: 7/19/2021 11:48:47 AM
FILE: c:\txdot\pw_online\txdot5\samantha.harris\d0533163\PM8.dgn

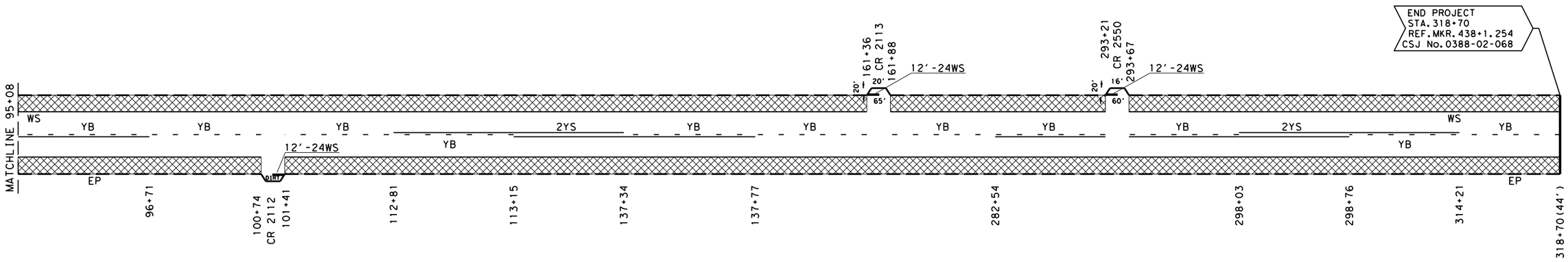
PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	INTERSECTION (SY)	6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2	6303 RE PM W/RET REQ TY I (W)4"(SLD)(100 MIL)	6312 RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	6315 RE PM W/RET REQ TY I (Y)4"(SLD)(100M IL)	6076 PREFAB PAV MRK TY C (W) (24") (SLD)
						EA	LF	LF	LF	LF
9	SH 146	LIBERTY	44'	155,809	3	2,251	63,590	6,120	9,767	36

*OCST AREA = 84,987 SY
*GR 5 AREA = 70,822 SY

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES





GR 5

NTS

PROJECT LOCAITON
No. 9

SHEET 21 OF 59

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
P.E.
08/05/2021

LINE DIAGRAM AND ROADWAY DATA

Texas Department of Transportation

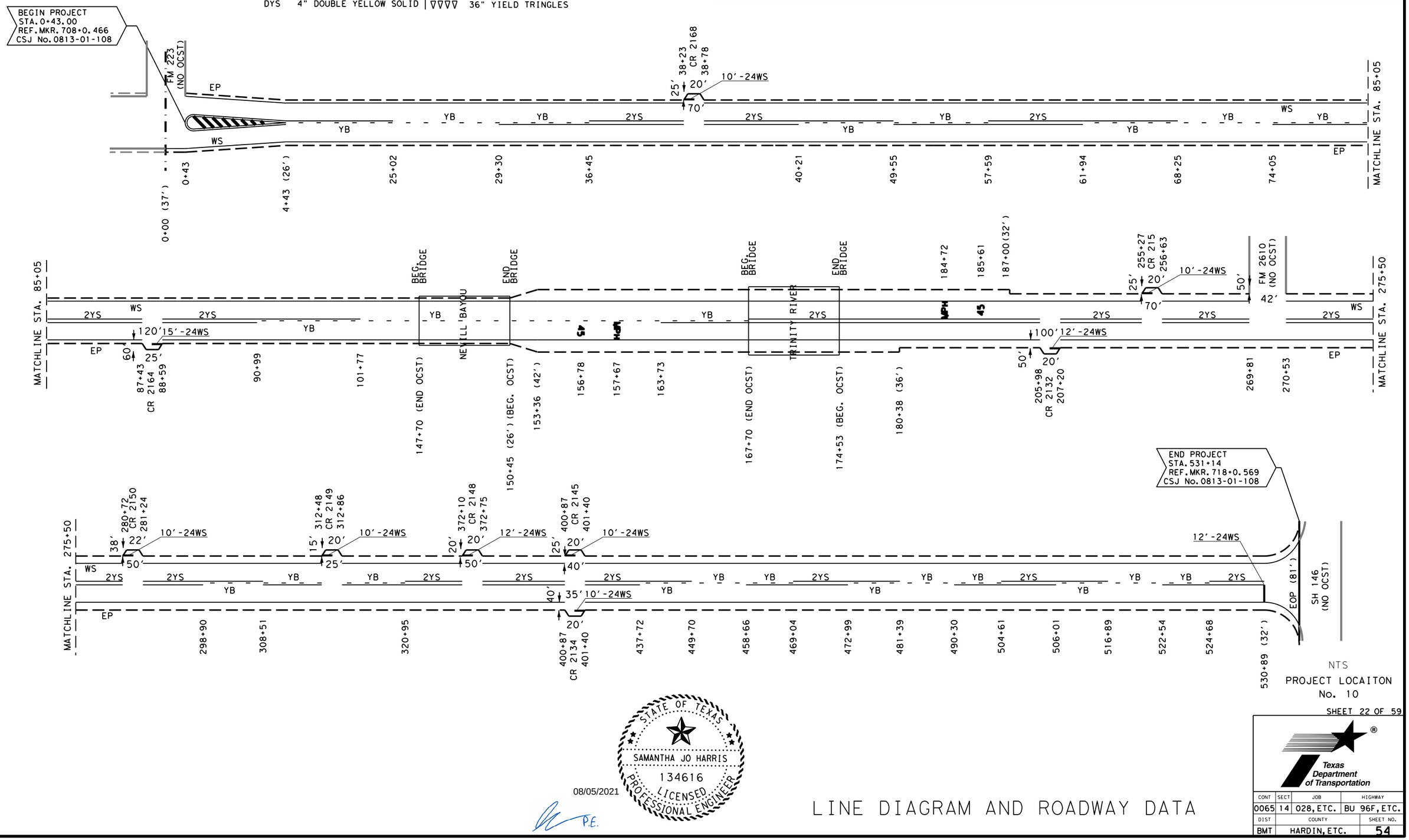
CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		53

DATE: 8/5/2021 4:28:18 PM
FILE: c:\txdot\pw_online\txdot5\samantha.harris\d0533163\PM9.dgn

LEGEND

4WS	4" WHITE SOLID	YSR	4" YELLOW SOLID RIGHT
8WS	8" WHITE SOLID	YSL	4" YELLOW SOLID LEFT
24WS	24" WHITE SOLID	YBR	4" YELLOW BROKEN RIGHT
DYS	4" DOUBLE YELLOW SOLID	YBL	4" YELLOW BROKEN LEFT
		▽▽▽▽	36" YIELD TRINGLES

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	INTERSECTION (SY)	662 6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2	666 6303 RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	666 6312 RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	666 6315 RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	668 6085 PREFAB PAV MRK TY C (W) (WORD)	672 6066 REFL PAV MRKR TY I-A
						EA	LF	LF	LF	EA	EA
(10)	FM 787	LIBERTY	26', 32', 36', 42'	191,564	9	3,292	105200	6,360	62147	4	1,120



NTS

PROJECT LOCAITON No. 10

SHEET 22 OF 59

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED PROFESSIONAL ENGINEER

08/05/2021

P.E.

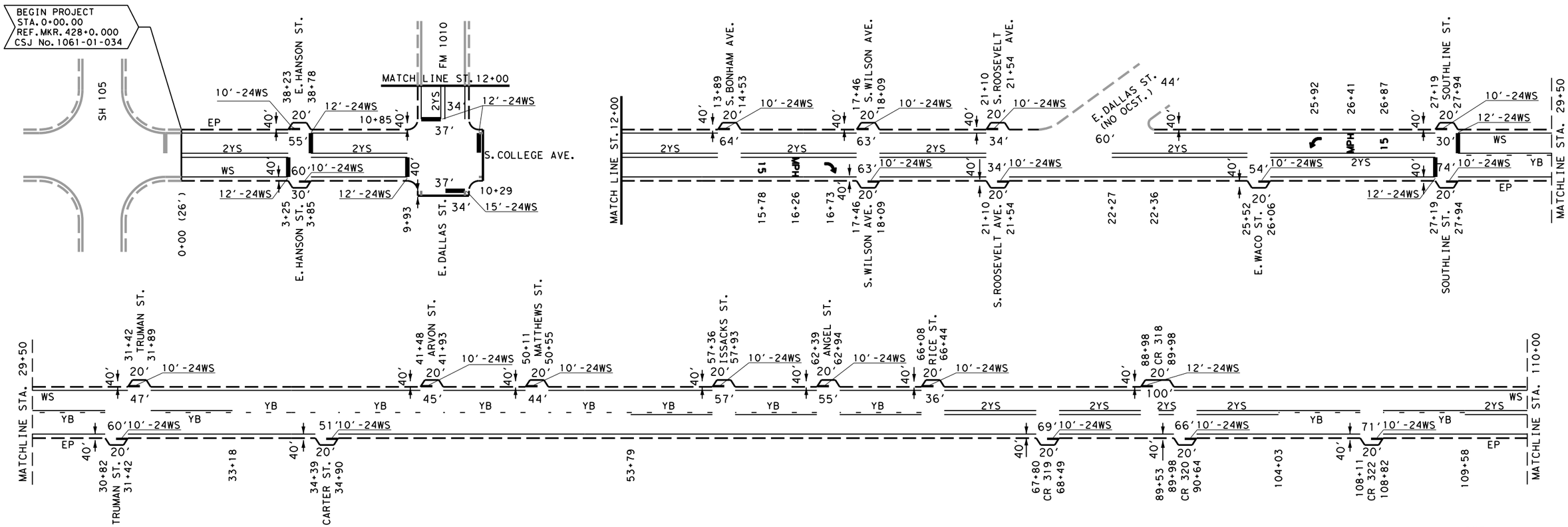
LINE DIAGRAM AND ROADWAY DATA

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		54

DATE: 8/5/2021 4:31:34 PM
FILE: c:\txdot\pw_online\txdot5\samantha.harris\d0533163\PM10.dgn

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	INTERSECTION (SY)	662	666			668	672		
						6111	6303	6312	6315	6076	6077	6085	6007
						WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	PREFAB PAV MRK TY C (W) (24") (SLD)	PREFAB PAV MRK TY C (W) (ARROW)	PREFAB PAV MRK TY C (W) (WORD)	REFL PAV MRKR TY I-C
						EA	LF	LF	LF	LF	EA	EA	EA
(11)	FM 1010	LIBERTY	26'	32,795	37	874	20858	1040	12,232	325	2	2	247



LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
P.E.

08/05/2021
N.T.S.

PROJECT LOCAITON
No. 11
SHEET 23 OF 59

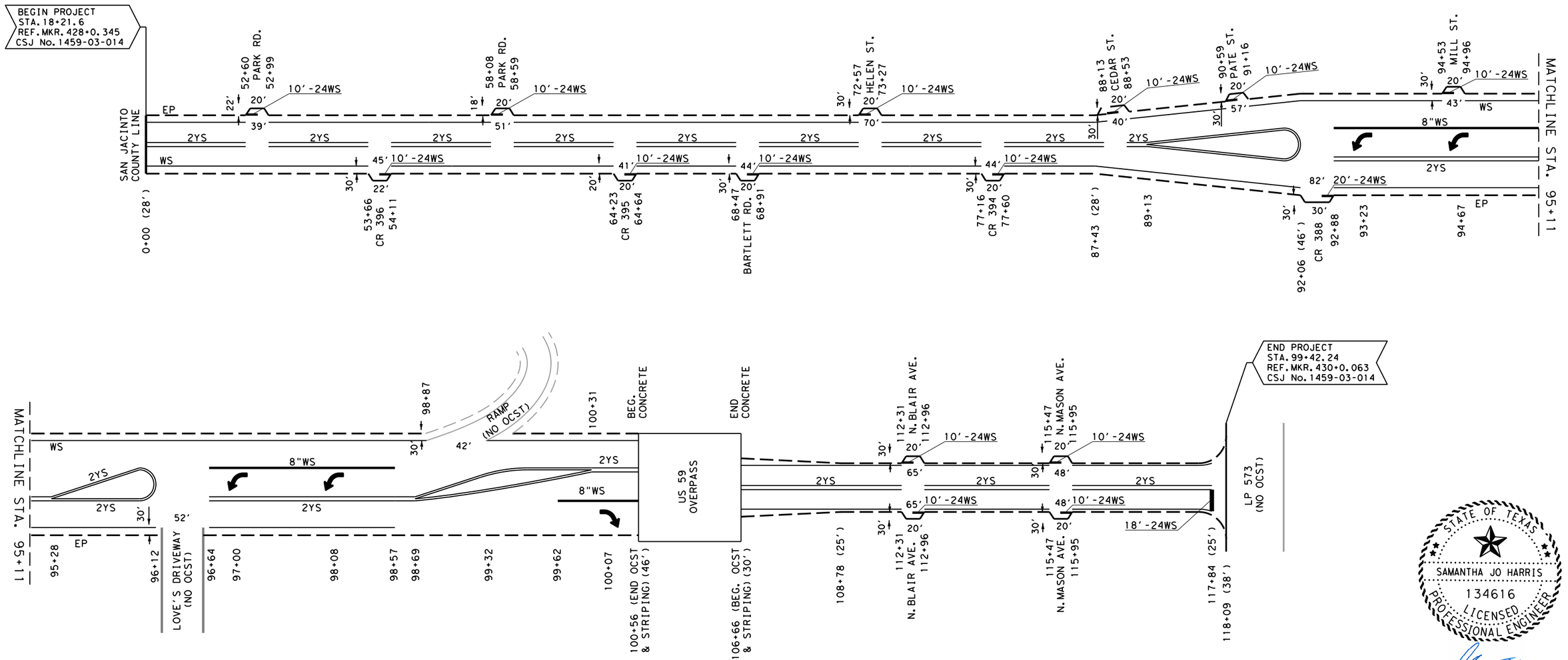
Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		55

LINE DIAGRAM AND ROADWAY DATA

FILE: c:\txdot\pw*online\txdot5\samantha.harris\d0533163\PM11.dgn
DATE: 8/5/2021 4:33:11 PM

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	INTERSECTION (SY)	662		666				668		672	
						6019	6111	6036	6303	6312	6315	6076	6077	6066	6007
						WK ZN PAV MRK SHT TERM (TAB) TY W	WK ZN PAV MRK SHT TERM (TAB) TY Y-2	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	PREFAB PAV MRK TY C (W) (24") (SLD)	PREFAB PAV MRK TY C (W) (ARROW)	TRUE	REFL PAV MRKR TY I-C
						EA	EA	LF	LF	LF	LF	LF	EA	EA	EA
(12)	FM 2025	LIBERTY	25', 28', 30', 46'	37,827	15	15	967	510	33,936	56	22,378	178	4	340	22



LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES

FILE: c:\txdot\pw*online\txdot5\samantha.harris\d0533163\PM12.dgn
DATE: 8/5/2021 4:35:05 PM

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
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P.E.

08/05/2021

N. T. S.

PROJECT LOCAITON
No. 12

SHEET 24 OF 59

LINE DIAGRAM AND ROADWAY DATA

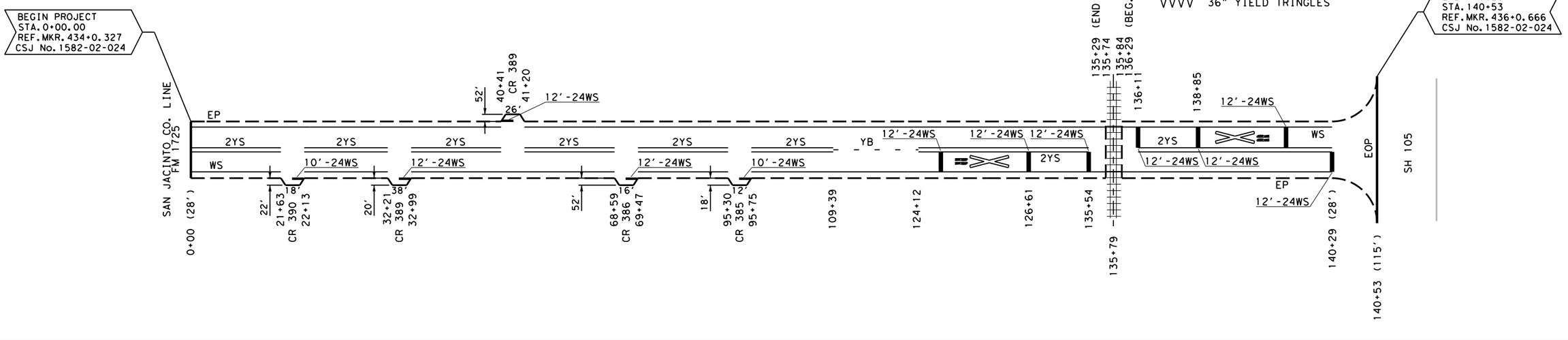
Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		56

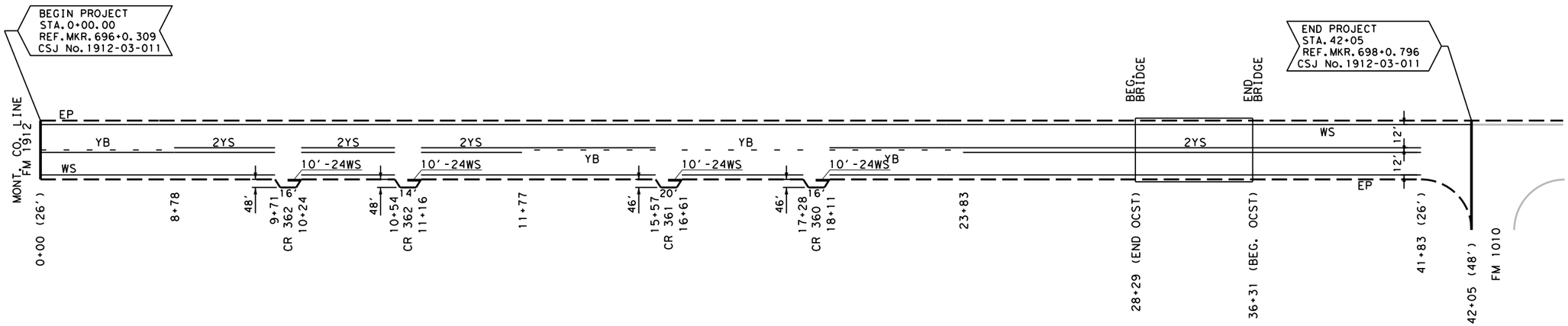
PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	INTERSECTION (SY)	662 6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2 EA	666 6312 RE PM W/RET REQ TY I (Y)4"(BRK) (100MIL) LF	666 6315 RE PM W/RET REQ TY I (Y)4"(SLD) (100MIL) LF	6303 RE PM W/RET REQ TY I (W)4"(SLD) (100MIL) LF	668 6076 PREFAB PAV MRK TY C (W) (24") (SLD) LF	668 6089 PREFAB PAV MRK TY C (W) (RR XING) EA	671 6009 REFL PAV MRKR TY II-A-A EA
13	FM 1725	LIBERTY	28′	36,715	595	111	370	14,514	27,264	84	2	293

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
∇∇∇∇	36" YIELD TRINGLES



PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	INTERSECTION (SY)	662 6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2 EA	666 6312 RE PM W/RET REQ TY I (Y)4"(BR LF	666 6315 RE PM W/RET REQ TY I (Y)4"(BRK) (100MIL) LF	6303 RE PM W/RET REQ TY I (W)4"(SLD) (100MIL) LF	672 6009 REFL PAV MRKR TY II-A-A EA
14	FM 2090	LIBERTY	26′	12,174	717	250	500	5,796	4,328	105



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STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
P.E.
08/05/2021

PROJECT LOCAITON
No. 13 & 14

N. T. S.

SHEET 25 OF 59

Texas Department of Transportation

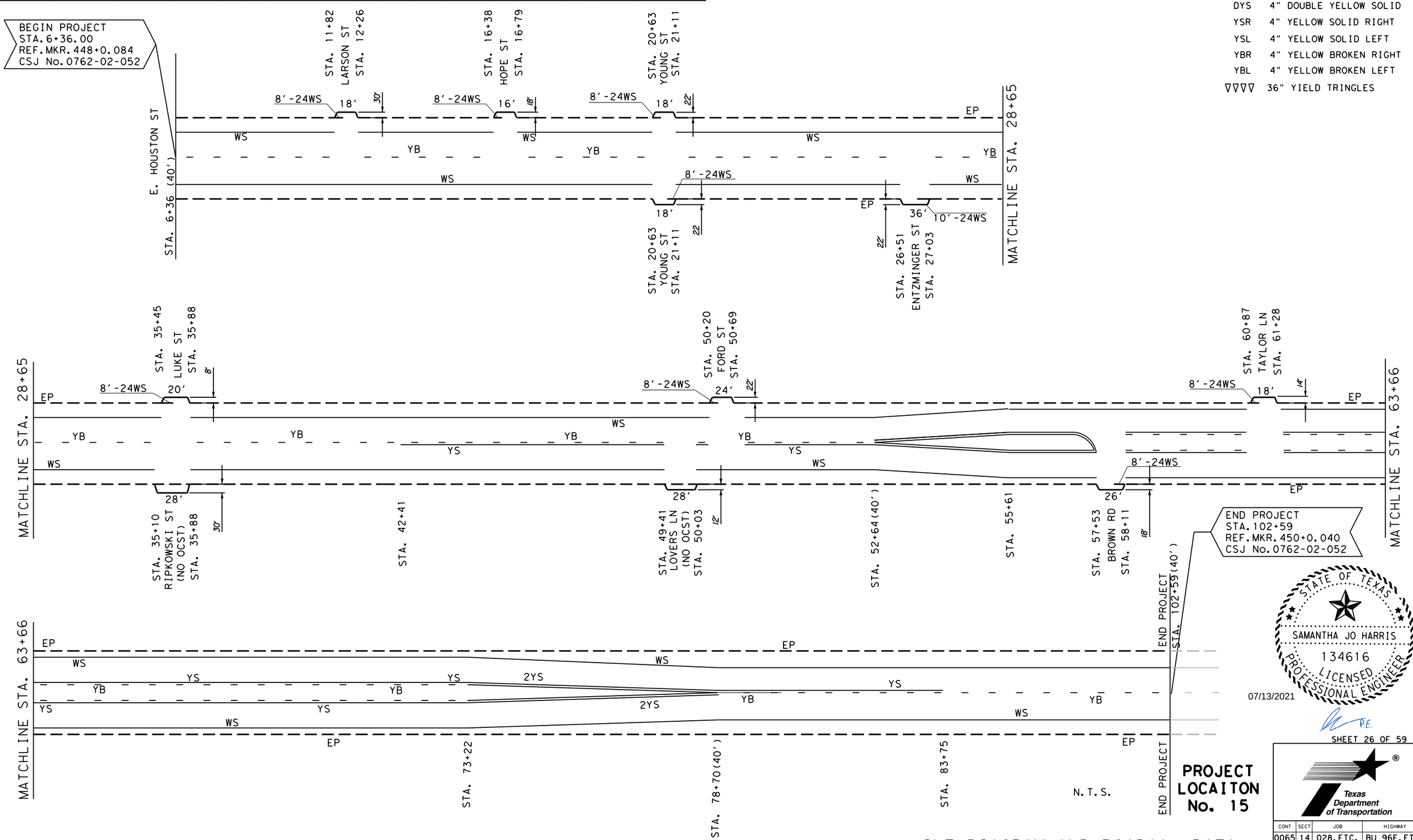
CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		57

LINE DIAGRAM AND ROADWAY DATA

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	INTERSECTION (SY)	662 6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2 EA	666 6303 RE PM W/RET REQ TY I (W)4"(SLD) (100MIL) LF	666 6312 RE PM W/RET REQ TY I (Y)4"(BRK) (100MIL) LF	666 6315 RE PM W/RET REQ TY I (Y)4"(BRK) (100MIL) LF	672 6009 REFL PAV MRKR TY II-A-A EA
15	FM 1409	LIBERTY	40	384,920	686	1,165	15,587	1,940	9,635	136

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



N.T.S.

PROJECT LOCAITON No. 15

LINE DIAGRAM AND ROADWAY DATA

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED PROFESSIONAL ENGINEER
07/13/2021
P.E.

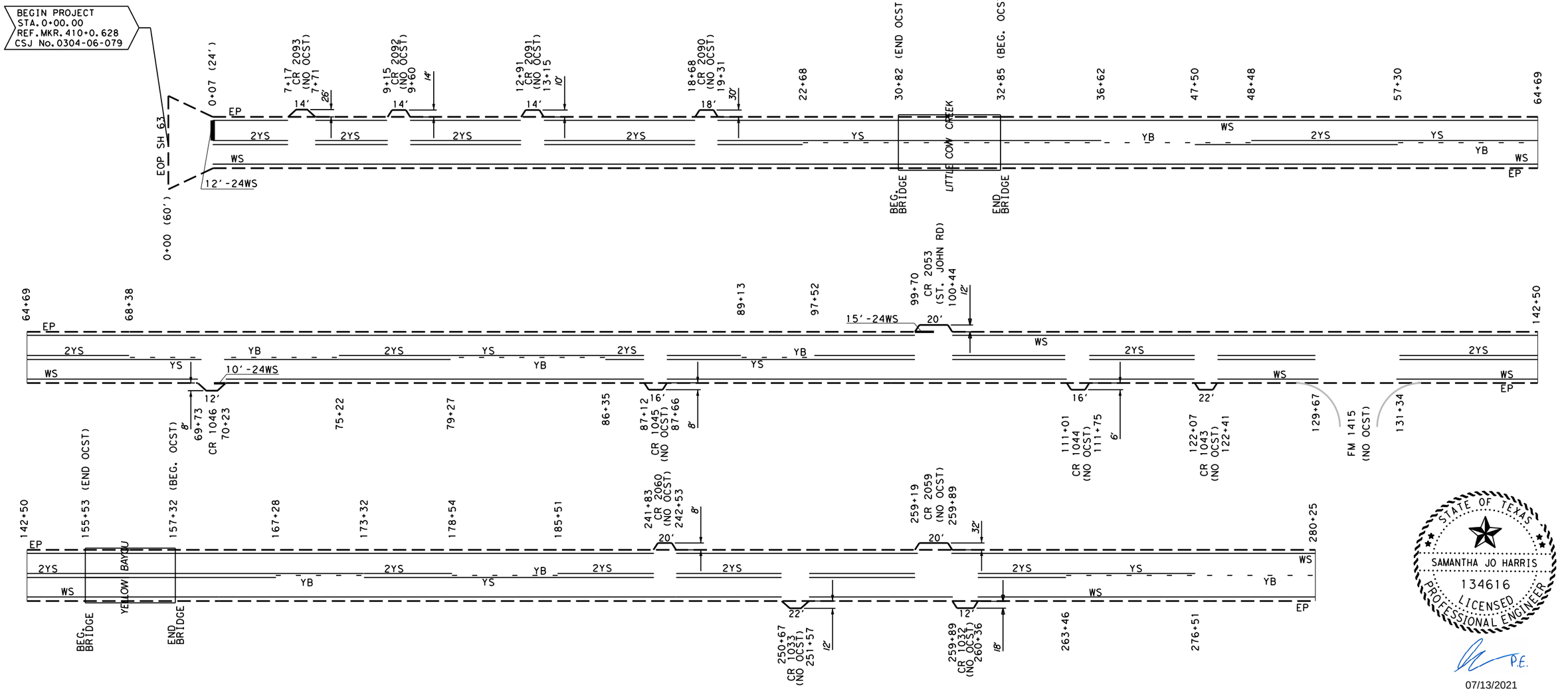
SHEET 26 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		58

DATE: 7/13/2021 3:08:39 PM
FILE: T:\BMTDESGN\Projects\0065-14-028 FY 2022 Seal Coat\DGN\PM15.dgn

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	INTERSECTION (SY)	662 6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2 EA	6303 REFL PAV MRT TY I (W) 4" (SLD) (100MIL) LF	666 6312 RE PM W/RET REQ TY I (Y)4"(BRK) (100MIL) LF	6315 RE PM W/RET REQ TY I (Y)4"(BRK) (100MIL) LF	668 6076 PREFAB PAVMRK TY C (W) (24") (SLD) LF	672 6009 REFL PAV MRKR TY II-A-A EA
16	SH 87	NEWTON	24,44	132,073	1,095	3,160	99,198	7,080	62,926	12	1,181



LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES

LINE DIAGRAM AND ROADWAY DATA

SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS

P.E.

07/13/2021

PROJECT LOCAITON No. 16

NTS

SHEET 27 OF 59

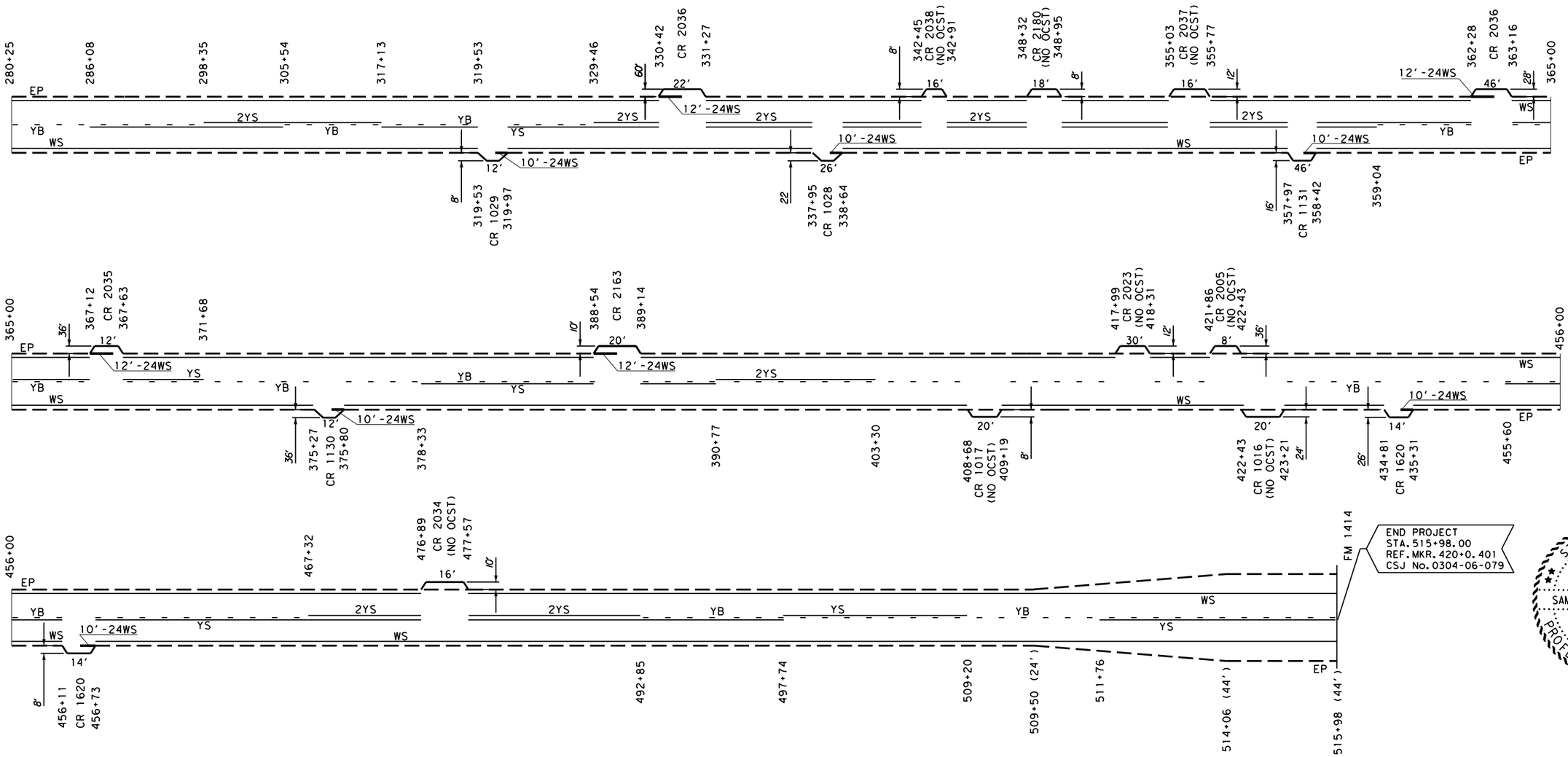
Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		59

DATE: 7/13/2021 3:08:42 PM
FILE: T:\BMTDESGN\Projects\0065-14-028 FY 2022 Seal Coat\DGN\PM16.dgn

CK:
DW:
CK:
DN:

PROJ REF No.	HWY	COUNTY
16	SH 87	NEWTON



LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES

LINE DIAGRAM AND ROADWAY DATA

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
P.E.
07/13/2021

PROJECT LOCAITON No. 16

NTS

SHEET 28 OF 59

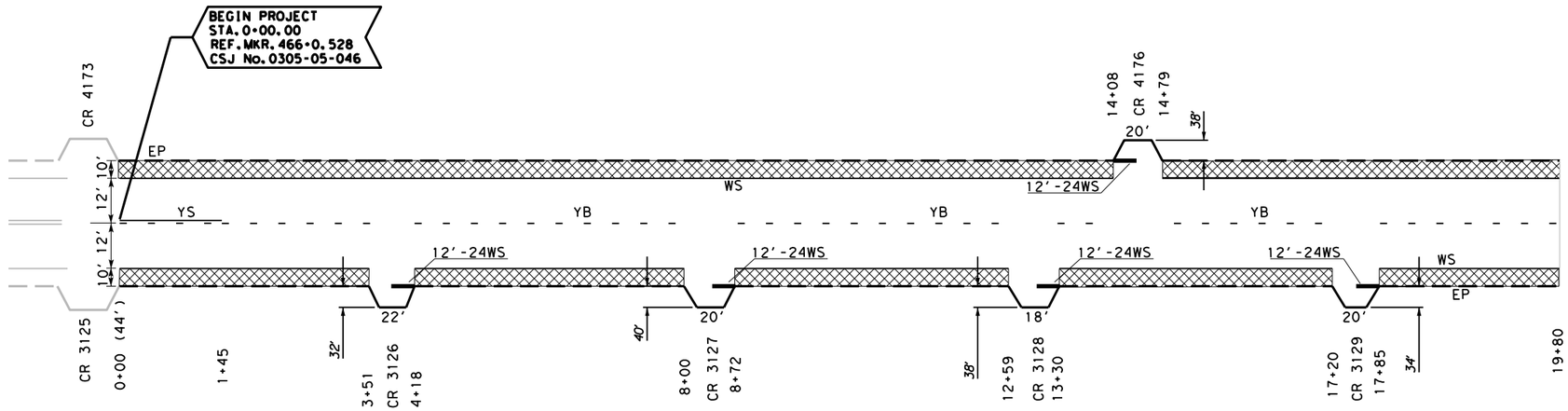
Texas Department of Transportation

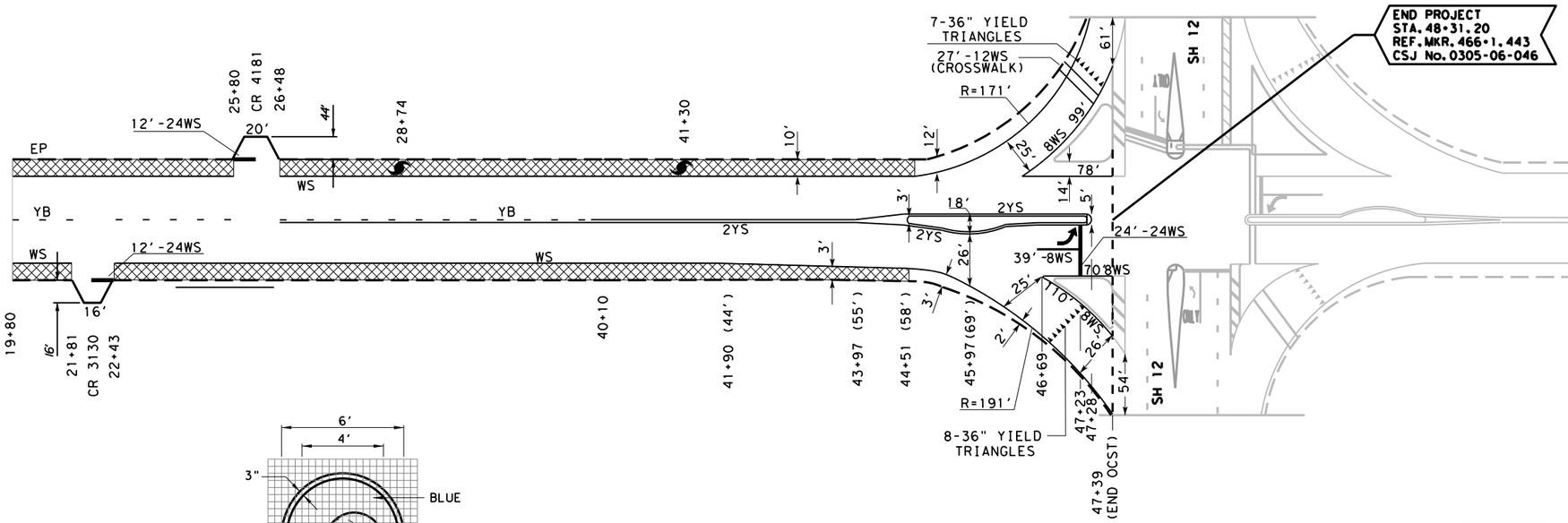
CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		60

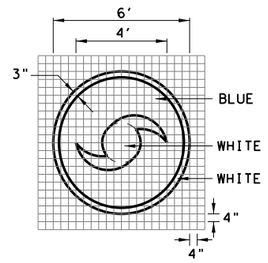
DATE: 7/13/2021 3:08:44 PM
FILE: T:\BMTDESGN\Projects\0065-14-028 FY 2022 Seal Coat\DGN\PM16.dgn

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	INTERSECTION (SY)	662 6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2 EA	666 6036 REFL PAV MRK TY I (W)8" (SLD) (100MIL) LF	666 6303 REFL PAV MRT TY I (W) 4" (SLD) (100MIL) LF	666 6312 RE PM W/RET REQ TY I (Y)4"(BRK) (100MIL) LF	666 6315 RE PM W/RET REQ TY I (Y)4" (SLD) (100MIL) LF	668 6076 PREFAB PAV MRK TY C (W) (24") (SLD) LF	668 6077 PREFAB PAV MRK TY C (W) (ARROW) EA	668 6092 PREFAB PAV MRK TY C (W) (36") (YLD TRI) EA	668 6116 PREFAB PAV MRK TY C(EVAC SYM, BLUE/WHT) EA	672 6009 REFL PAV MRKR TY II-A-A EA
17	SH 87	NEWTON	44	23,102	870	339	396	8,406	880	3,433	24	1	15	2	78

* OCST AREA = 14,269 SY
* GR-5 = 8,833 SY







HURRICANE EVACUATION PAVEMENT MARKING DETAIL

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES

GR-5

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
P.E.
07/13/2021

PROJECT LOCATION No. 17

NTS

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		61

LINE DIAGRAM AND ROADWAY DATA

DATE: 7/13/2021 3:08:47 PM
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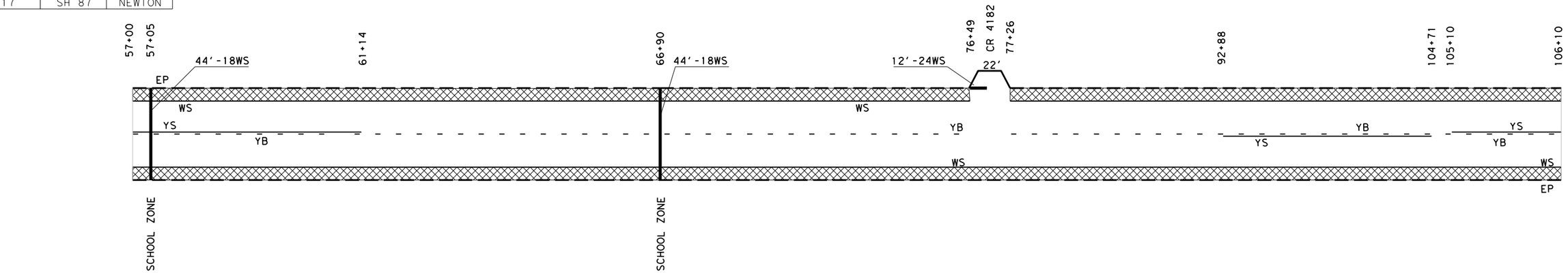
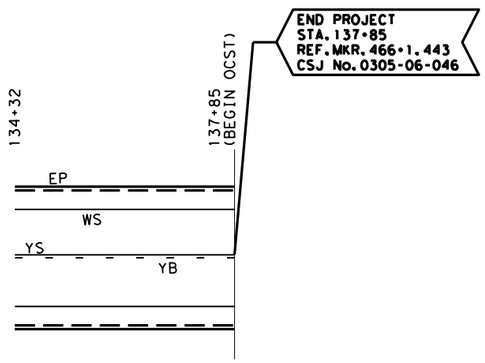
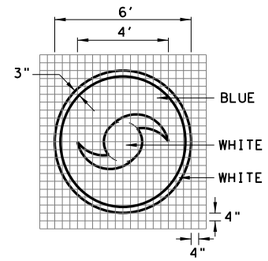
PROJ REF No.	HWY	COUNTY
17	SH 87	NEWTON





LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



HURRICANE EVACUATION
PAVEMENT MARKING DETAIL

FOG SEALED SHOULDER

SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS
P.E.
07/13/2021

PROJECT LOCATION No. 17

SHEET 30 OF 59

Texas Department of Transportation

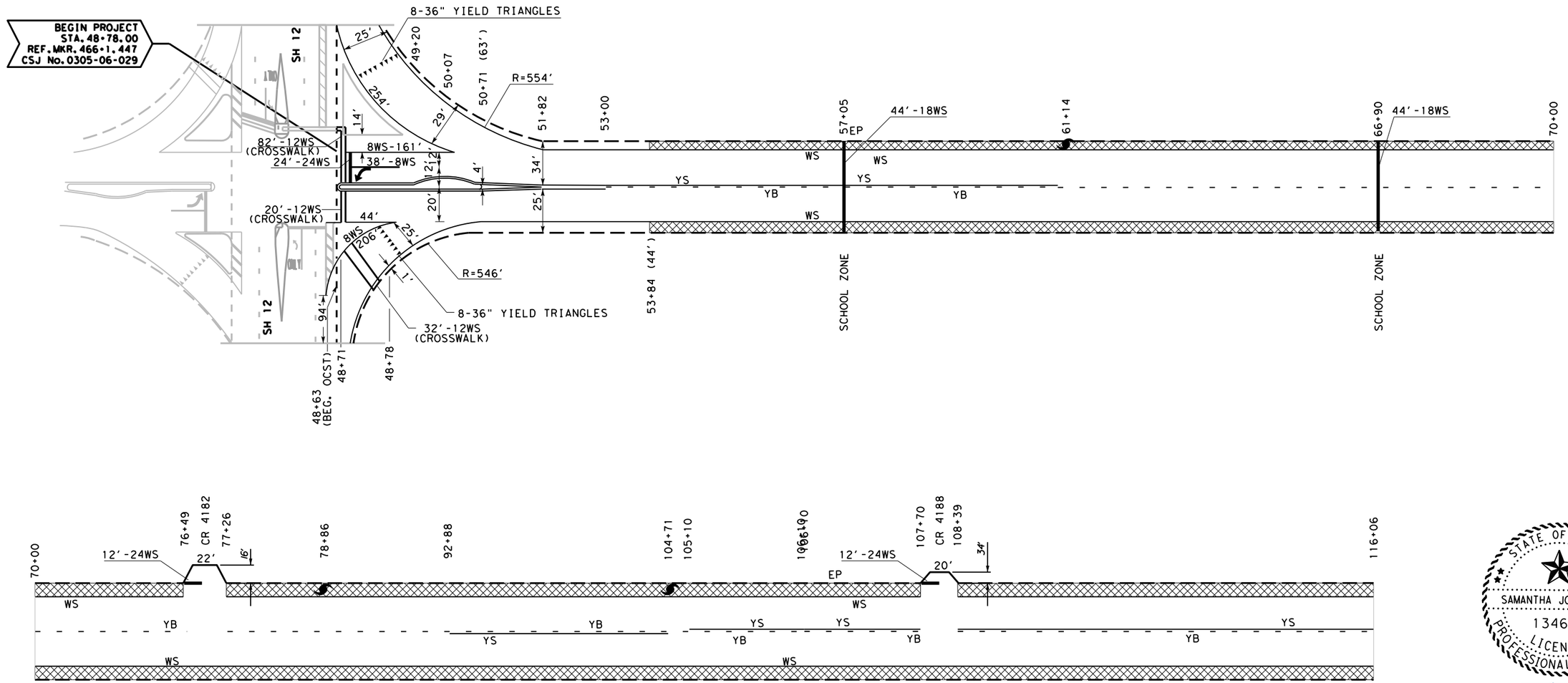
CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		62

LINE DIAGRAM AND ROADWAY DATA NTS

DATE: 7/13/2021 3:08:49 PM
FILE: \\FS-BMTHQ.dot.state.tx.us\DATA1\DATA\BMT\GROUPS\BMTDESGN\Projects\0065-14-028 FY 2022 Seal Coat\DGN\PM17.dgn

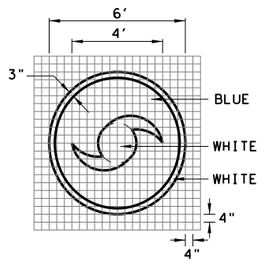
PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	INTERSECTION (SY)	662 6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2 EA	666 6300 RE PM W/RET REQ TY I (W)4"(BRK) (100MIL) LF	666 6303 RE PM W/RET REQ TY I (W)4"(SLD) (100MIL) LF	666 6312 RE PM W/RET REQ TY I (Y)4"(BRK) (100MIL) LF	666 6315 RE PM W/RET REQ TY I (Y)4"(SLD) (100MIL) LF	668 6074 PREFAB PAV MRK TY C (W) (12") (SLD) LF	668 6076 PREFAB PAV MRK TY C (W) (24") (SLD) LF	668 6077 PREFAB PAV MRK TY C (W) (ARROW) EA	668 6092 PREFAB PAV MRK TY C (W) (36")(YLD TRI) EA	668 6116 PREFAB PAV MRK TY C(EVAC SYM, BLUE/WHT) EA	672 6009 REFL PAV MRKR TY II-A-A EA
18	SH 87	NEWTON	44	54,978	741	182	520	22,936	2,670	7,047	38	88	1	16	4	213

* OCST AREA = 32,129 SY
* GR-5 = 22,849 SY



LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



HURRICANE EVACUATION
PAVEMENT MARKING DETAIL

GR-5

LINE DIAGRAM AND ROADWAY DATA

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
P.E.
07/13/2021

NTS

PROJECT LOCATION
No. 18

SHEET 31 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028,ETC.	BU 96F,ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN,ETC.		63

DATE: 7/13/2021 3:08:52 PM
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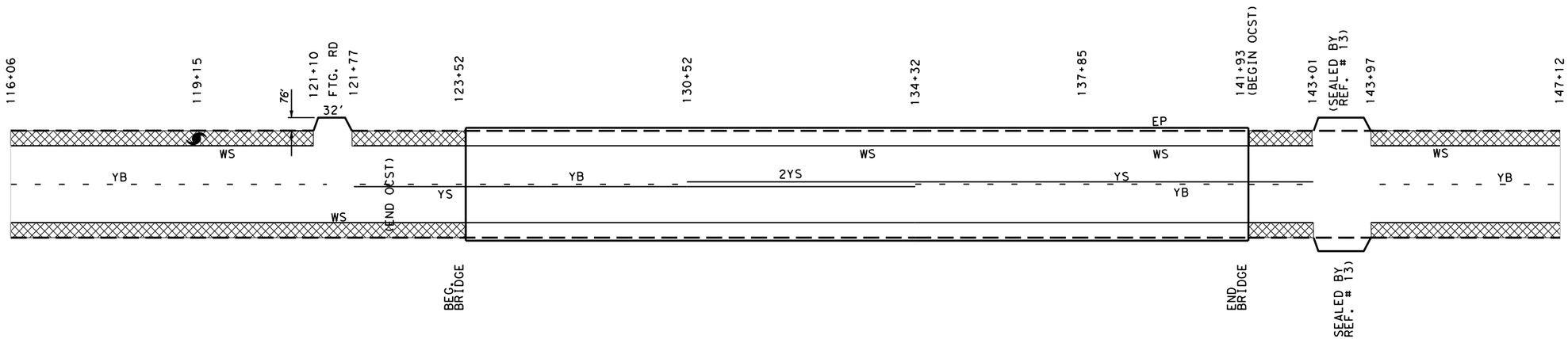
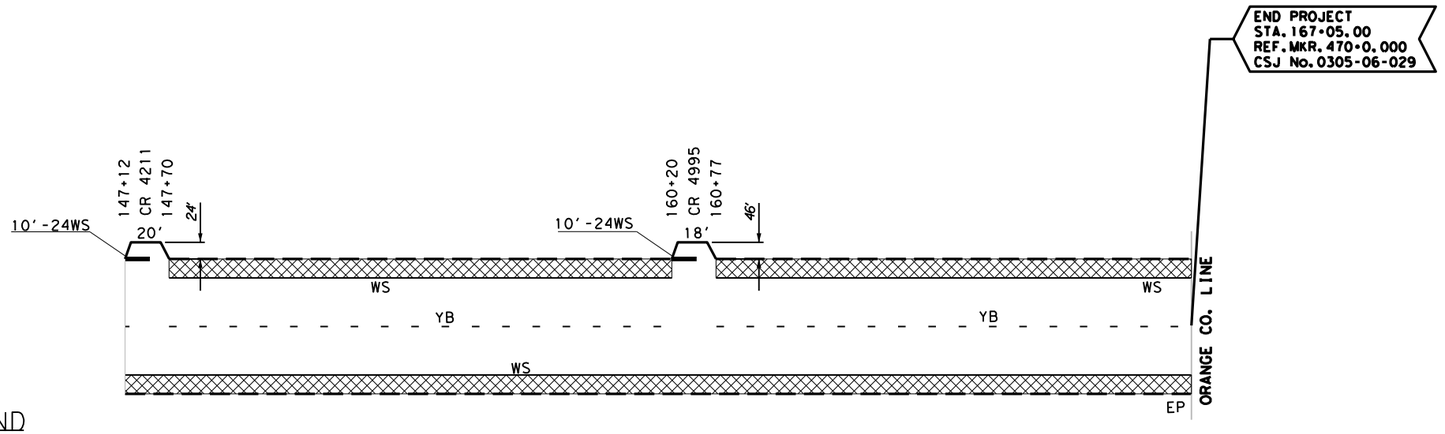
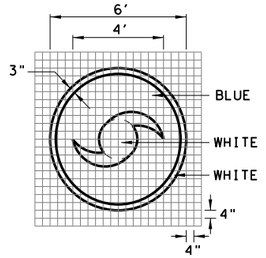
PROJ REF No.	HWY	COUNTY
18	SH 87	NEWTON







HURRICANE EVACUATION
PAVEMENT MARKING DETAIL

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES

GR-5

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
P.E.
07/13/2021

PROJECT LOCATION
No. 18

NTS

SHEET 32 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		64

LINE DIAGRAM AND ROADWAY DATA

DATE: 7/13/2021 3:08:54 PM
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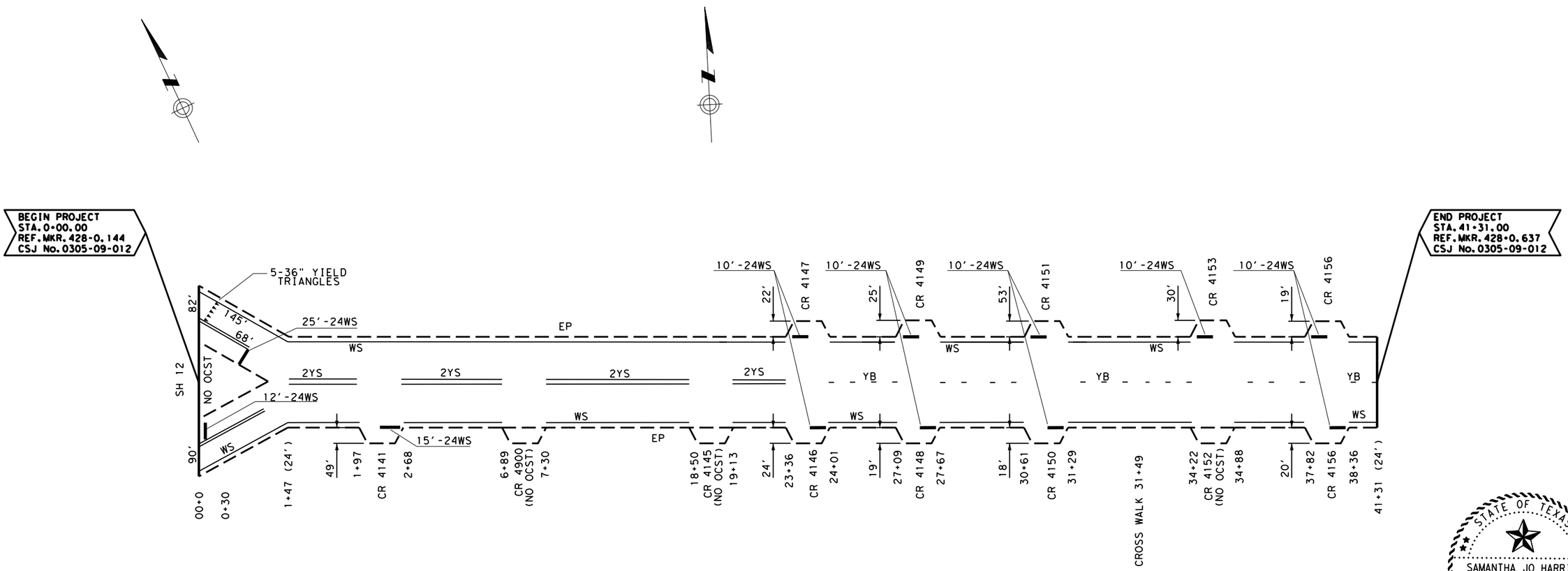
PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	TURNOUT (EA)	662 6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2 EA	666 6303 RE PM W/RET REQ TY I (W)4"(SLD)(100 MIL) LF	666 6312 RE PM W/RET REQ TY I (Y)4"(BRK)(100 MIL) LF	666 6315 RE PM W/RET REQ TY I (Y)4"(SLD)(100 MIL) LF	668 6076 PREFAB PAV MRK TY C (W) (24") (SLD) LF	668 6092 PREFAB PAV MRK TY C (W) (36")(YLD TRI) EA	672 6009 REFL PAV MRKR TY II-A-A EA
19	SP 272	NEWTON	24	13,433	10	328	7,465	370	4,338	142	5	73

LEGEND

WS	4" WHITE SOLID
12WS	12" WHITE SOLID
24WS	24" WHITE SOLID
YS	4" YELLOW SOLID
YB	4" YELLOW BROKEN
2YS	4" DOUBLE YELLOW SOLID
EP	EDGE OF PAVEMENT



NOTE: THE STRIPING ON THESE LAYOUTS ARE APPROXIMATE, IT IS THE CONTRACTORS RESPONSIBILITY TO RECORD THE STRIPING IN ITS EXISTING LOCATION.

LINE DIAGRAM AND ROADWAY DATA

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER

P.E.

07/13/2021

NTS

PROJECT LOCATION
No. 19

SHEET 33 OF 59

Texas Department of Transportation

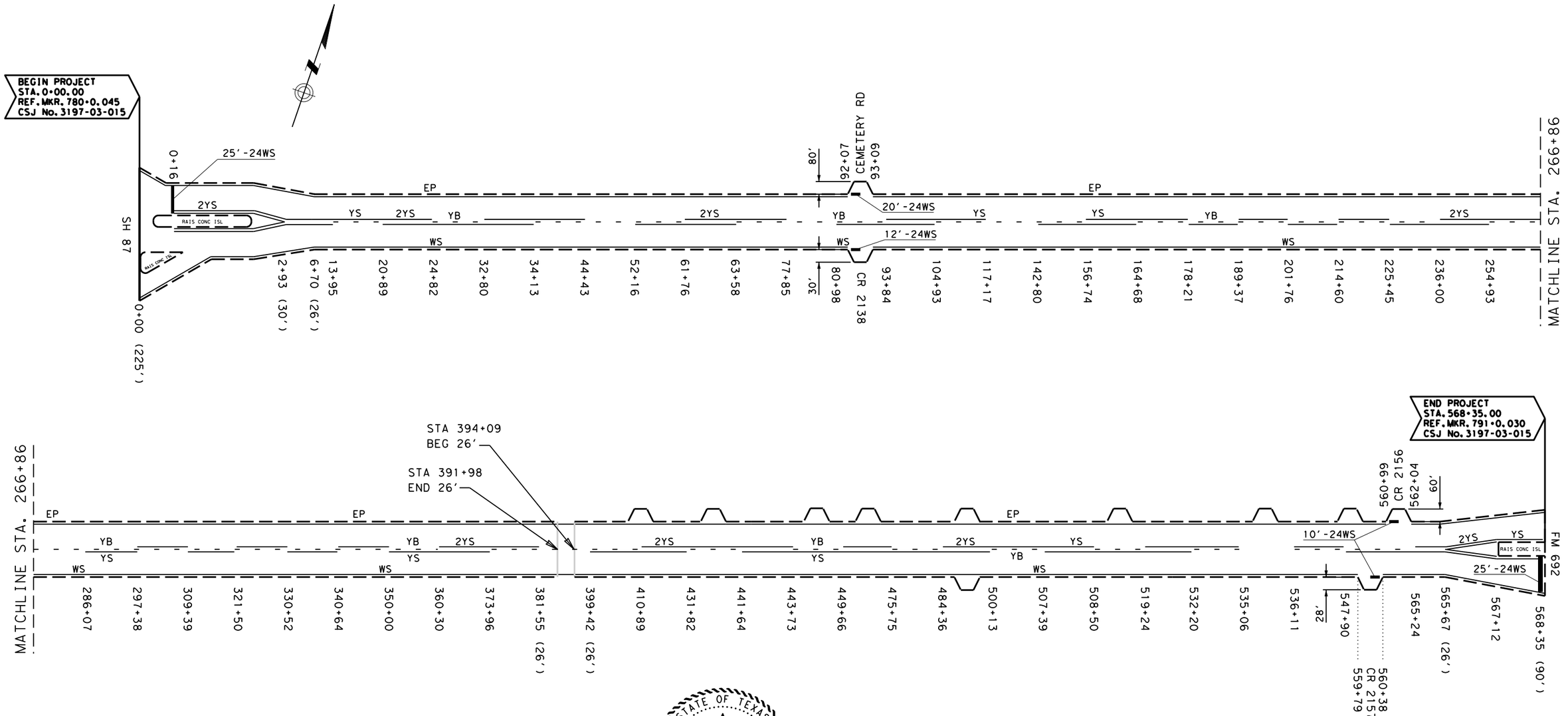
CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		65

FILE: T:\BMTDESGN\Projects\0065-14-028 FY 2022 Seal Coat\DGN\PM19.dgn
DATE: 7/13/2021 3:08:57 PM

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	TURNOUT (EA)	662	666			668	672
						6111	6303	6312	6315	6076	6009
						WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM W/RET REQ TY I (W)4"(SLD)(100 MIL)	RE PM W/RET REQ TY I (Y)4"(BRK)(100 MIL)	RE PM W/RET REQ TY I (Y)4"(SLD)(100 MIL)	PREFAB PAV MRK TY C (W) (24") (SLD)	REFL PAV MRKR TY II-A-A
						EA	LF	LF	LF	LF	EA
20	R 255	NEWTON	26	172,587	4	6,355	112,880	10,260	65,656	102	1,658

LEGEND

WS	4" WHITE SOLID
12WS	12" WHITE SOLID
24WS	24" WHITE SOLID
YS	4" YELLOW SOLID
YB	4" YELLOW BROKEN
2YS	4" DOUBLE YELLOW SOLID
EP	EDGE OF PAVEMENT



STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER

P.E.

08/05/2021

NOTE: THE STRIPING ON THESE LAYOUTS ARE APPROXIMATE, IT IS THE CONTRACTORS RESPONSIBILITY TO RECORD THE STRIPING IN ITS EXISTING LOCATION.

NTS

PROJECT LOCAITON
No. 20

SHEET 34 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028,ETC.	BU 96F,ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN,ETC.		66

LINE DIAGRAM AND ROADWAY DATA

FILE: c:\txdot\pw*online\txdot5\samantha.harris\d0533163\PM20.dgn
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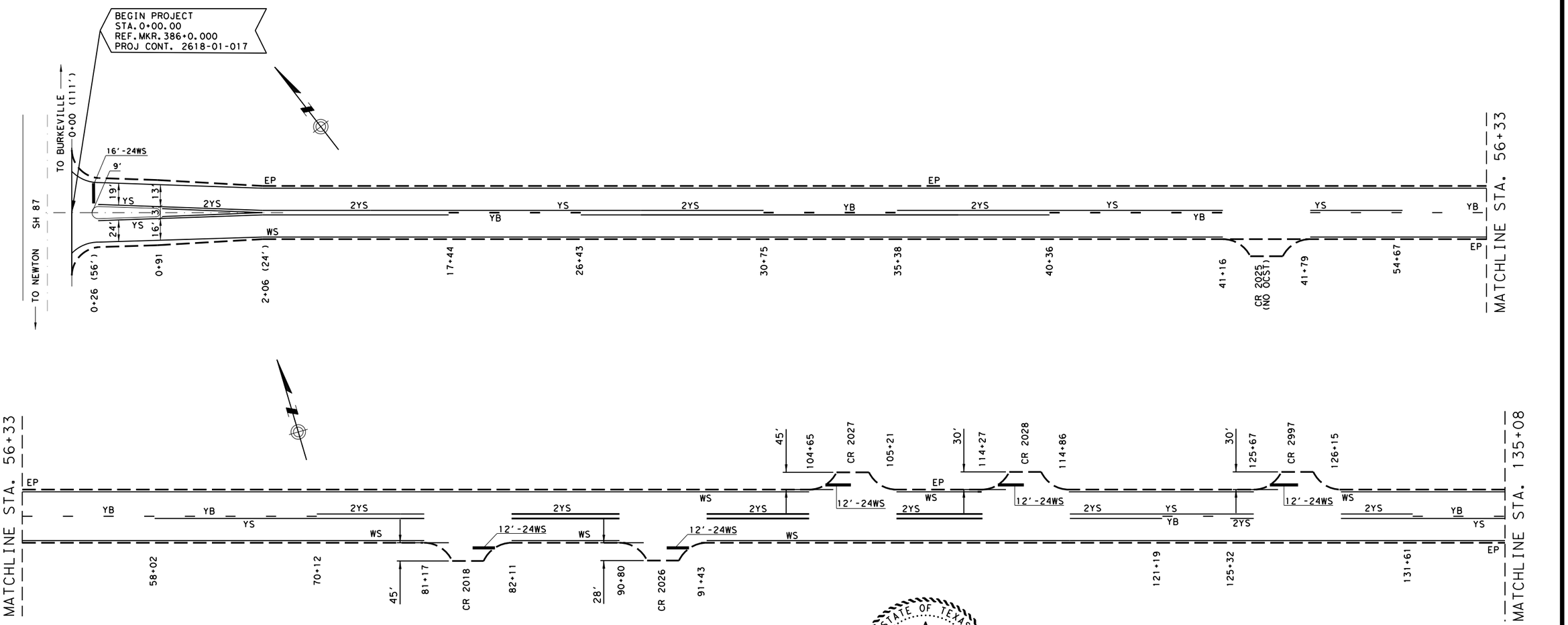
PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	TURNOUT (EA)	662	666				668	672
						6111	6036	6303	6312	6315	6076	6009
						WK ZN PAV MRK SHT TERM (TAB) TY Y-2	REFL PAV MRK TY I (W)8"(SLD)(100 MIL)	RE PM W/RET REQ TY I (W)4"(SLD)(100 MIL)	RE PM W/RET REQ TY I (Y)4"(BRK)(100 MIL)	RE PM W/RET REQ TY I (Y)4"(SLD)(100 MIL)	PREFAB PAV MRK TY C (W)(24")(SLD)	REFL PAV MRKR TY II-A-A
						EA	LF	LF	LF	LF	LF	EA
21	FM2626	NEWTON	24	166,125	14	6,461	88	122,164	6,800	84,935	202	1,400

LEGEND

WS	4" WHITE SOLID
12WS	12" WHITE SOLID
24WS	24" WHITE SOLID
YS	4" YELLOW SOLID
YB	4" YELLOW BROKEN
2YS	4" DOUBLE YELLOW SOLID
EP	EDGE OF PAVEMENT



NOTE: THE STRIPING ON THESE LAYOUTS ARE APPROXIMATE, IT IS THE CONTRACTORS RESPONSIBILITY TO RECORD THE STRIPING IN ITS EXISTING LOCATION.

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER

P.E.

08/05/2021

NTS

PROJECT LOCATION
No. 21

SHEET 35 OF 59

LINE DIAGRAM AND ROADWAY DATA

Texas Department of Transportation

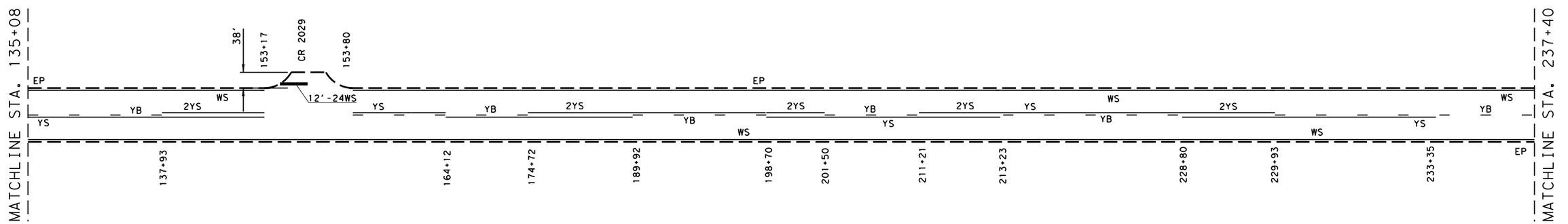
CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		67

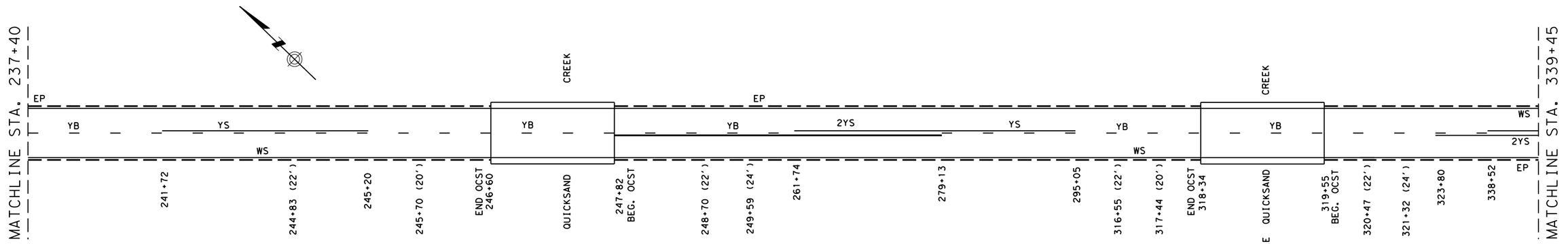
FILE: c:\txdot\pw*online\txdot5\samantha.harris\d0533163\PM21.dgn
DATE: 8/5/2021 4:50:21 PM

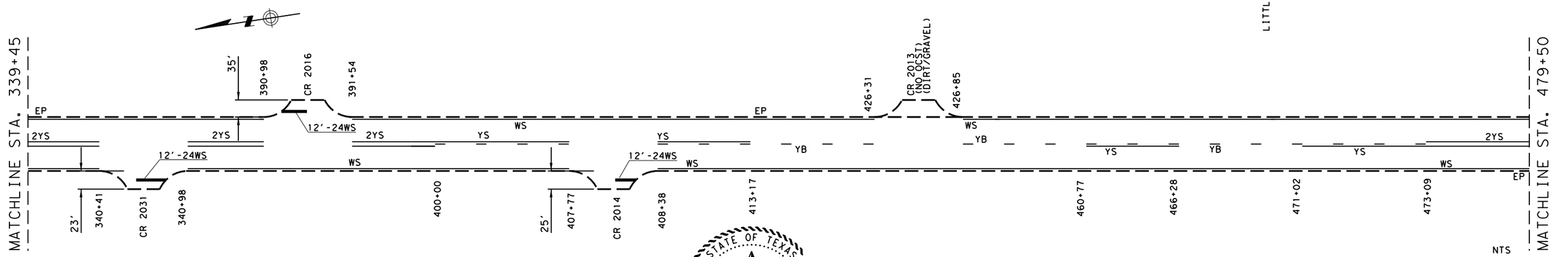
PROJ REF No.	HWY	COUNTY
21	FM2626	NEWTON

LEGEND

WS	4" WHITE SOLID
12WS	12" WHITE SOLID
24WS	24" WHITE SOLID
YS	4" YELLOW SOLID
YB	4" YELLOW BROKEN
2YS	4" DOUBLE YELLOW SOLID
EP	EDGE OF PAVEMENT







NTS

PROJECT LOCATION
No. 21

SHEET 36 OF 59

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER

P.E.

07/13/2021

NOTE: THE STRIPING ON THESE LAYOUTS ARE APPROXIMATE, IT IS THE CONTRACTORS RESPONSIBILITY TO RECORD THE STRIPING IN ITS EXISTING LOCATION.

LINE DIAGRAM AND ROADWAY DATA

Texas Department of Transportation

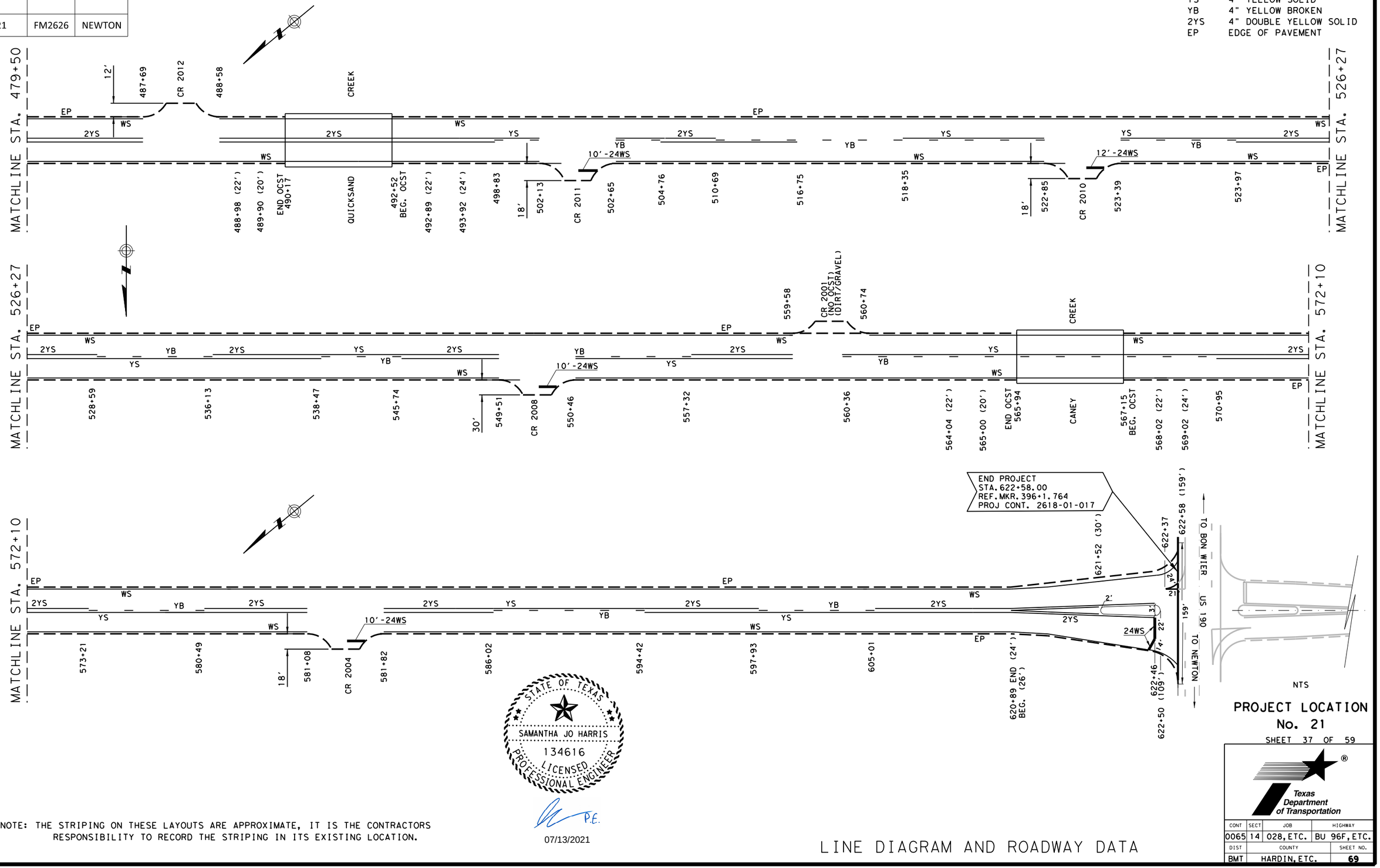
CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		68

FILE: T:\BMTDESGN\Projects\0065-14-028 FY 2022 Seal Coat\DGN\PM21.dgn
DATE: 7/13/2021 3:09:05 PM

PROJ REF No.	HWY	COUNTY
21	FM2626	NEWTON

LEGEND

WS	4" WHITE SOLID
12WS	12" WHITE SOLID
24WS	24" WHITE SOLID
YS	4" YELLOW SOLID
YB	4" YELLOW BROKEN
2YS	4" DOUBLE YELLOW SOLID
EP	EDGE OF PAVEMENT



NTS

PROJECT LOCATION
No. 21

SHEET 37 OF 59

NOTE: THE STRIPING ON THESE LAYOUTS ARE APPROXIMATE, IT IS THE CONTRACTORS RESPONSIBILITY TO RECORD THE STRIPING IN ITS EXISTING LOCATION.

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER

P.E.

07/13/2021

LINE DIAGRAM AND ROADWAY DATA

Texas Department of Transportation

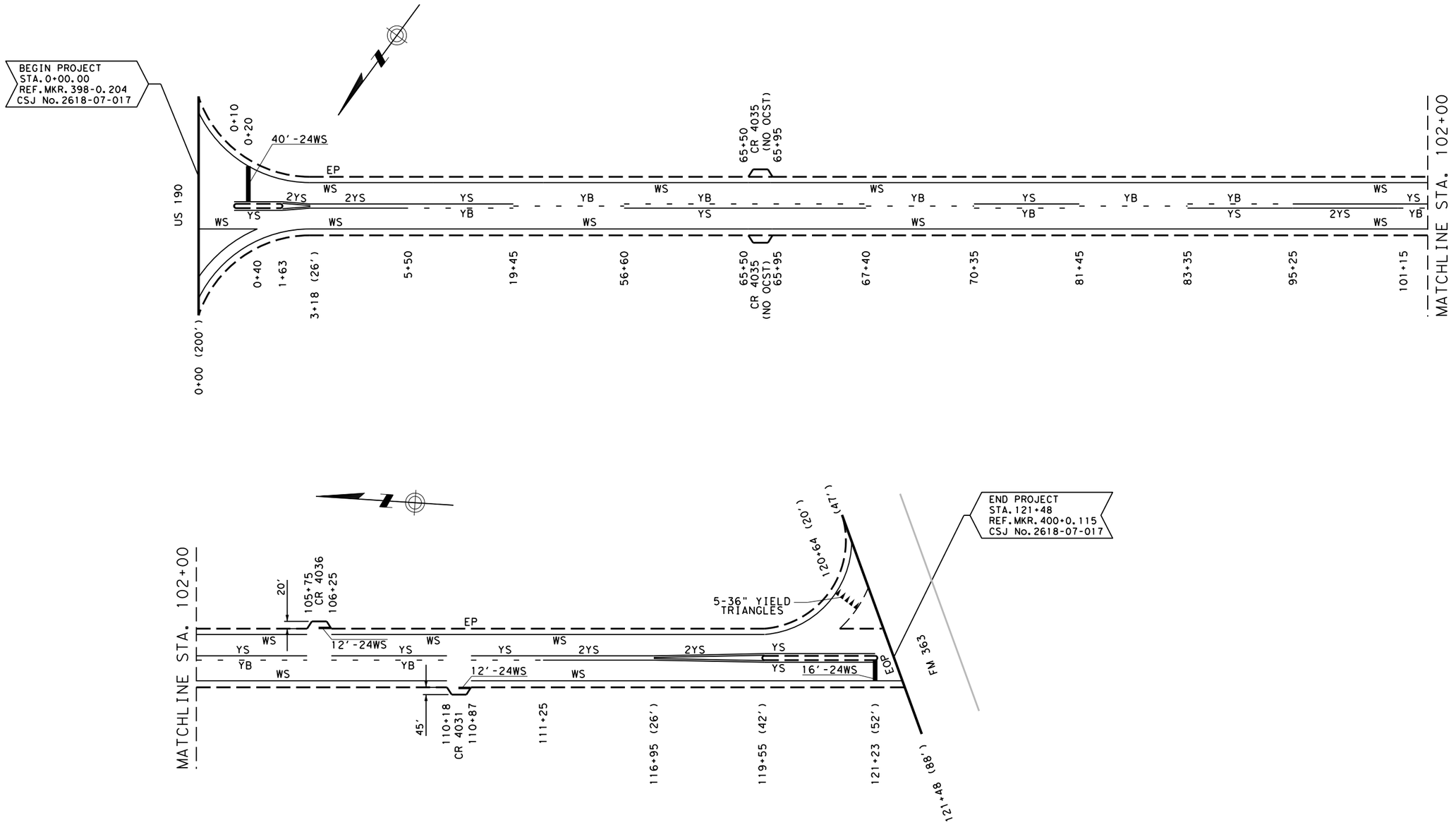
CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		69

FILE: T:\BMTDESGN\Projects\0065-14-028 FY 2022 Seal Coat\DGN\PM21.dgn
DATE: 7/13/2021 3:09:07 PM

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	TURNOUT (EA)	662	666			668		672	
						6111	6303	6312	6315	6076	6092	6007	6009
						WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM W/RET REQ TY I (W)4"(SLD)(100 MIL)	RE PM W/RET REQ TY I (Y)4"(BRK)(100 MIL)	RE PM W/RET REQ TY I (Y)4"(SLD)(100 MIL)	PREFAB PAV MRK TY C (W) (24") (SLD)	PREFAB PAV MRK TY C (W) (36")(YLD TRI)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A
						EA	LF	LF	LF	LF	EA	EA	EA
22	FM 2626	NEWTON	26	38,697	2	1,304	24,177	2,470	11,272	80	5	10	280

LEGEND

WS	4" WHITE SOLID
12WS	12" WHITE SOLID
24WS	24" WHITE SOLID
YS	4" YELLOW SOLID
YB	4" YELLOW BROKEN
2YS	4" DOUBLE YELLOW SOLID
EP	EDGE OF PAVEMENT



NOTE: THE STRIPING ON THESE LAYOUTS ARE APPROXIMATE, IT IS THE CONTRACTORS RESPONSIBILITY TO RECORD THE STRIPING IN ITS EXISTING LOCATION.

LINE DIAGRAM AND ROADWAY DATA

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER

P.E.

08/05/2021

NTS

PROJECT LOCATION
No. 22

SHEET 38 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		70

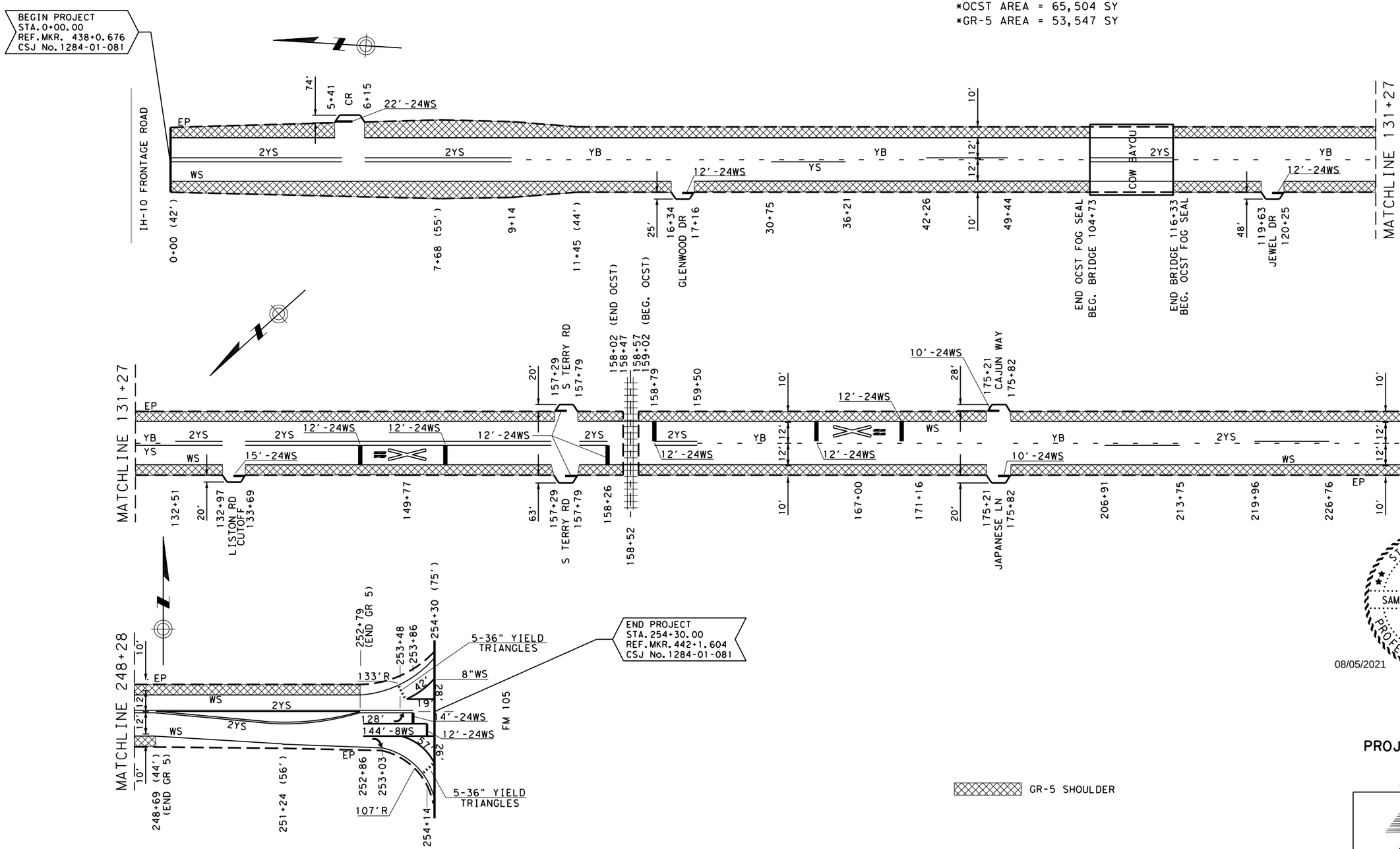
FILE: c:\txdot\pw*online\txdot5\samantha.harris\d0533163\PM22.dgn
DATE: 8/4/2021 4:04:09 PM

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	TURNOUT (EA)	662		666				668				672	
						6109	6111	6036	6303	6312	6315	6076	6077	6089	6092	6007	6009
						WK ZN PAV MRK SHT TERM (TAB) TY W	WK ZN PAV MRK SHT TERM (TAB) TY Y-2	REFL PAV MRK TY I (W)8"(SLD)(100 MIL)	RE PM W/RET REQ TY I (W)4"(SLD)(100 MIL)	RE PM W/RET REQ TY I (Y)4"(BRK)(100 MIL)	RE PM W/RET REQ TY I (Y)4"(SLD)(100 MIL)	PREFAB PAV MRK TY C (W) (24") (SLD)	PREFAB PAV MRK TY C (W) (ARROW)	PREFAB PAV MRK TY C (W) (RR XING)	PREFAB PAV MRK TY C (W) (36")(YLD TRI)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A
						EA	EA	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA
23	FM 1442	ORANGE	44	119,051	8	7	2,027	266	48,008	4,860	11,416	203	2	2	10	7	385

*OCST AREA = 65,504 SY
*GR-5 AREA = 53,547 SY

LEGEND

WS	4" WHITE SOLID
12WS	12" WHITE SOLID
24WS	24" WHITE SOLID
YS	4" YELLOW SOLID
YB	4" YELLOW BROKEN
2YS	4" DOUBLE YELLOW SOLID
EP	EDGE OF PAVEMENT



GR-5 SHOULDER

NOTE: THE STRIPING ON THESE LAYOUTS ARE APPROXIMATE, IT IS THE CONTRACTORS RESPONSIBILITY TO RECORD THE STRIPING IN ITS EXISTING LOCATION.

LINE DIAGRAM AND ROADWAY DATA

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED PROFESSIONAL ENGINEER

08/05/2021

P.E.

NTS

PROJECT LOCATION
No. 23

SHEET 39 OF 59

Texas Department of Transportation

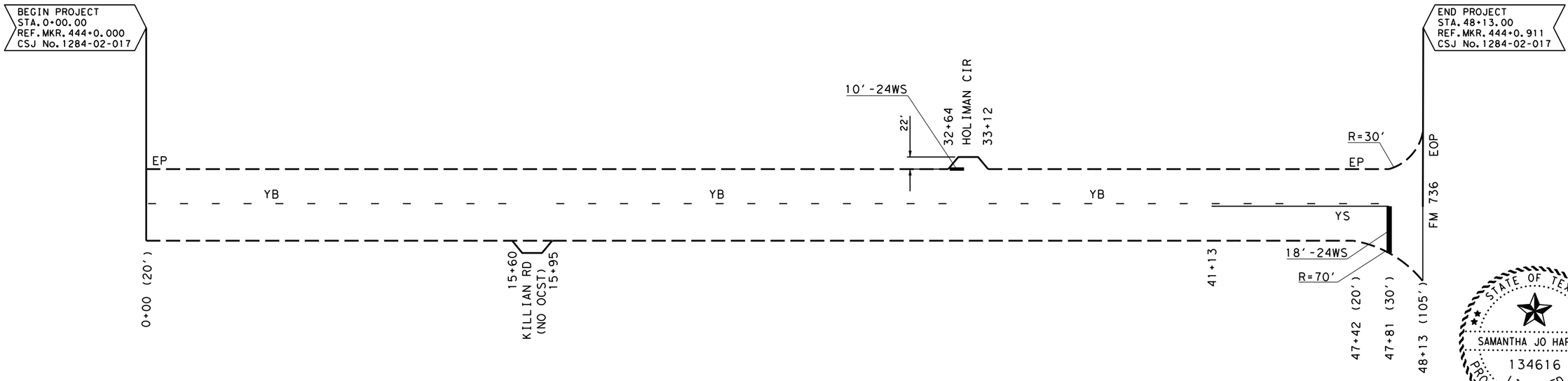
CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		71

FILE: c:\txdot\pw*online\txdot5\samantha.harris\d0533163\PM23.dgn
DATE: 8/4/2021 3:50:59 PM

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	TURNOUT (EA)	662	666		668	672
						6111	6312	6315	6076	6009
						WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM W/RET REQ TY I (Y)4"(BRK)(100 MIL)	RE PM W/RET REQ TY I (Y)4"(SLD)(100 MIL)	PREFAB PAV MRK TY C (W) (24") (SLD)	REFL PAV MRKR TY II-A-A
						EA	LF	LF	LF	EA
24	FM 3247	ORANGE	20	10,886	1	386	1,180	668	28	68

LEGEND

WS	4" WHITE SOLID
12WS	12" WHITE SOLID
24WS	24" WHITE SOLID
YS	4" YELLOW SOLID
YB	4" YELLOW BROKEN
2YS	4" DOUBLE YELLOW SOLID
EP	EDGE OF PAVEMENT



STATE OF TEXAS
SAMANTHA JO HARRIS
134616
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PROFESSIONAL ENGINEER

P.E.

08/05/2021

NTS

PROJECT LOCATION No. 24

SHEET 40 OF 59

NOTE: THE STRIPING ON THESE LAYOUTS ARE APPROXIMATE, IT IS THE CONTRACTORS RESPONSIBILITY TO RECORD THE STRIPING IN ITS EXISTING LOCATION.

LINE DIAGRAM AND ROADWAY DATA

Texas Department of Transportation

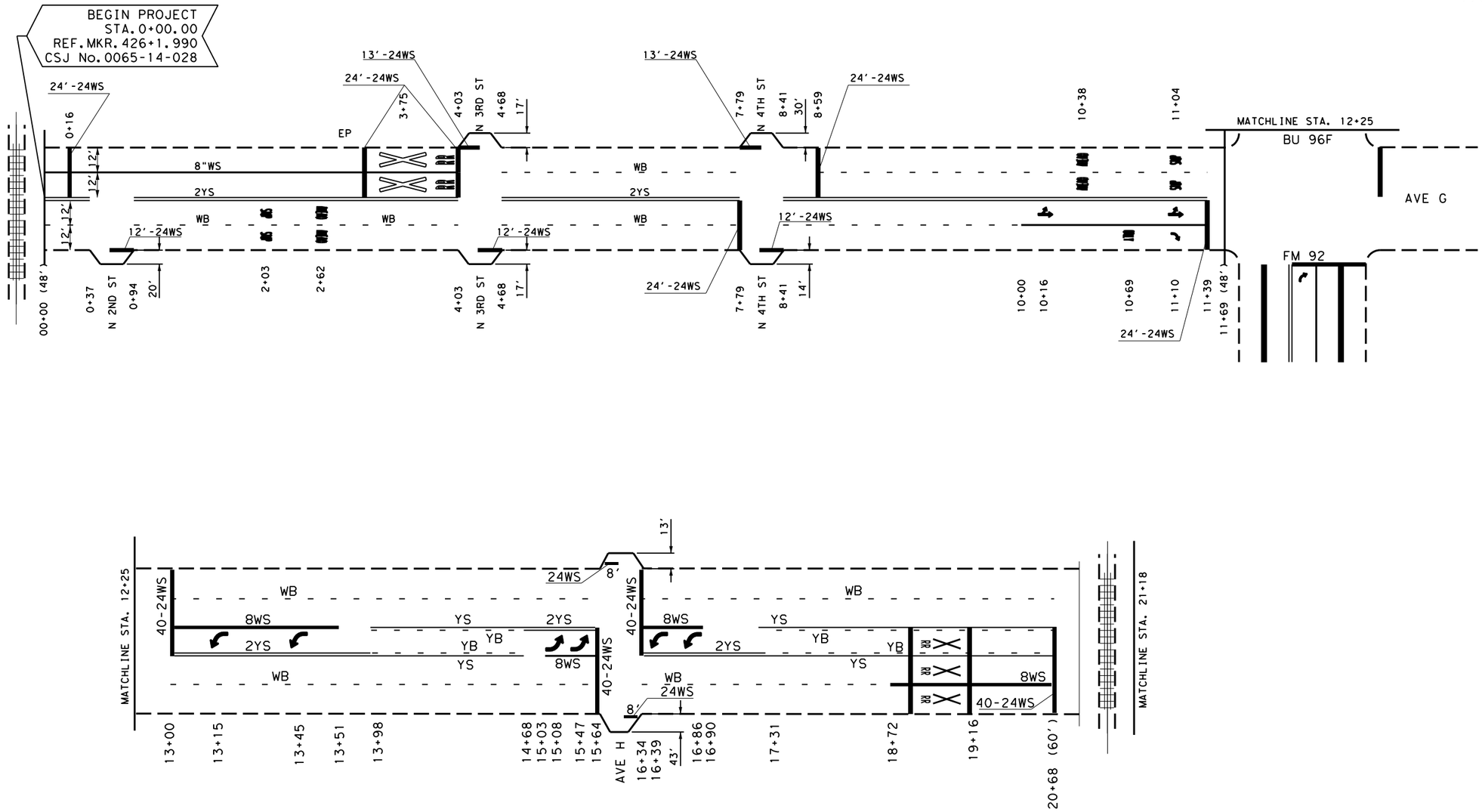
CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		72

FILE: c:\txdot\pw*online\txdot5\samantha.harris\d0533163\VPM24.dgn
DATE: 8/4/2021 3:55:10 PM

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	662 6109 WK ZN PAV MRK SHT TERM (TAB) TY W	662 6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2	666 6036 REFL PAV MRK TY I (W)8"(SLD)(100MIL)	666 6300 RE PM W/RET REQ TY I (W)4"(BRK)(100MIL)	666 6303 RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	666 6312 RE PM W/RET REQ TY I (Y)4"(BRK)(10OMIL)	666 6315 RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	668 6074 PREFAB PAV MRK TY C (W) (12") (SLD)	668 6076 PREFAB PAV MRK TY C (W) (24") (SLD)	668 6077 PREFAB PAV MRK TY C (W) (ARROW)	668 6078 PREFAB PAV MRK TY C (W) (DBL ARROW)	668 6085 PREFAB PAV MRK TY C (W) (WORD)	668 6089 PREFAB PAV MRK TY C (W) (RR XING)	672 6007 REFL PAV MRKR TY I-C	672 6009 REFL PAV MRKR TY II-A-A
					EA	EA	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA
25	BU 96F	HARDIN	VAR	0	2232	3146	2287	7440	22315	5140	31772	402	1197	25	2	15	8	401	690

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



LINE DIAGRAM AND ROADWAY DATA

SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS
P.E.
07/13/2021

PROJECT LOCATION
No. 25
NTS

SHEET 41 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		73

DATE: 7/13/2021 3:09:19 PM
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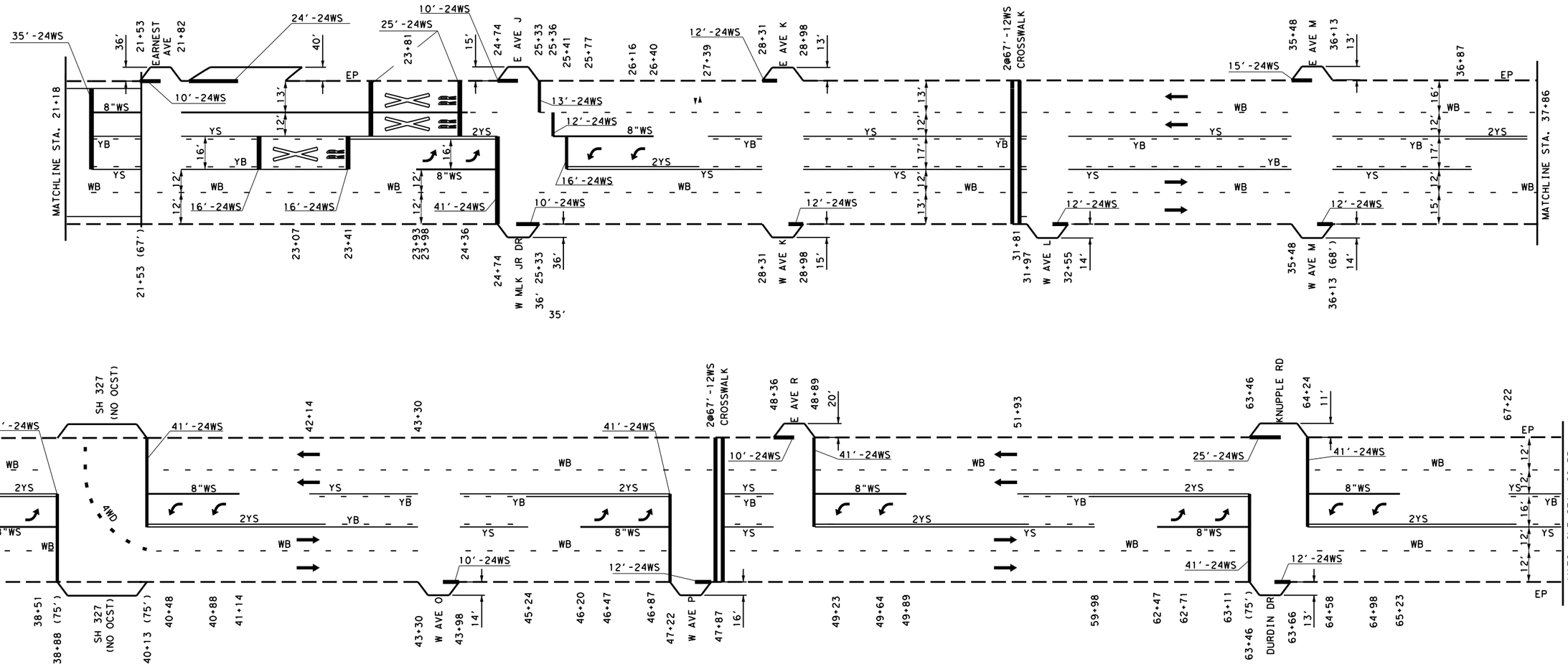
CK:	PROJ REF No.	HWY	COUNTY	SURFACE WIDTH
DW:	25	BU 96F	HARDIN	VAR
CK:				
DN:				

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



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STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
07/13/2021
P.E.

LINE DIAGRAM AND ROADWAY DATA

PROJECT LOCATION
No. 25
NTS

SHEET 42 OF 59

Texas Department of Transportation

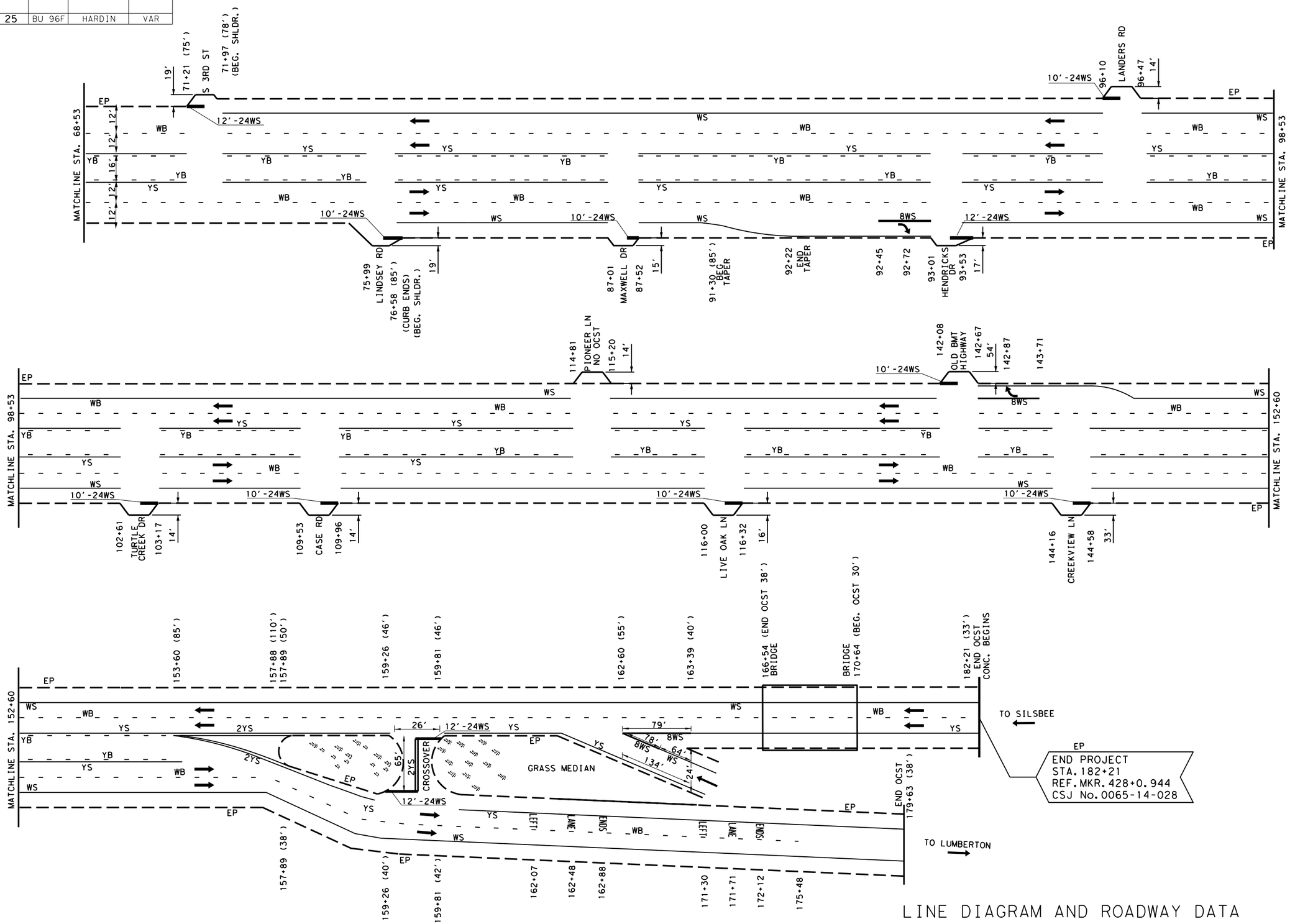
CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		74

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH
25	BU 96F	HARDIN	VAR

CK:
DW:
CK:
DN:

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



LINE DIAGRAM AND ROADWAY DATA

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
P.E.

07/13/2021

PROJECT LOCATION
No. 25
NTS

SHEET 43 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		75

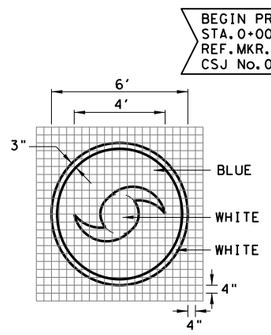
DATE: 7/13/2021 3:09:24 PM
FILE: T:\BMTDESGN\Projects\0065-14-028 FY 2022 Seal Coat\DGN\PM25.dgn

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	662 6109 WK ZN PAV MRK SHT TERM (TAB) TY W	662 6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2	666 6036 REFL PAV MRK TY I (W)8"(SLD)(100MIL)	666 6300 RE PM W/RET REQ TY I (W)4"(BRK)(100MIL)	666 6303 RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	666 6312 RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	666 6315 RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	668 6060 PREFAB PAV MRK TY B (EVAC SYM, BLUE/WHTE)	668 6076 PREFAB PAV MRK TY C (W) (24") (SLD)	668 6077 PREFAB PAV MRK TY C (W) (ARROW)	668 6078 PREFAB PAV MRK TY C (W) (DBL ARROW)	668 6085 PREFAB PAV MRK TY C (W) (WORD)
					EA	EA	LF	LF	LF	LF	LF	EA	LF	EA	EA	EA
26	US 69	HARDIN	VAR	181,566	77	5742	98	260	41,030	11,380	47,302	5	248	1	17	4

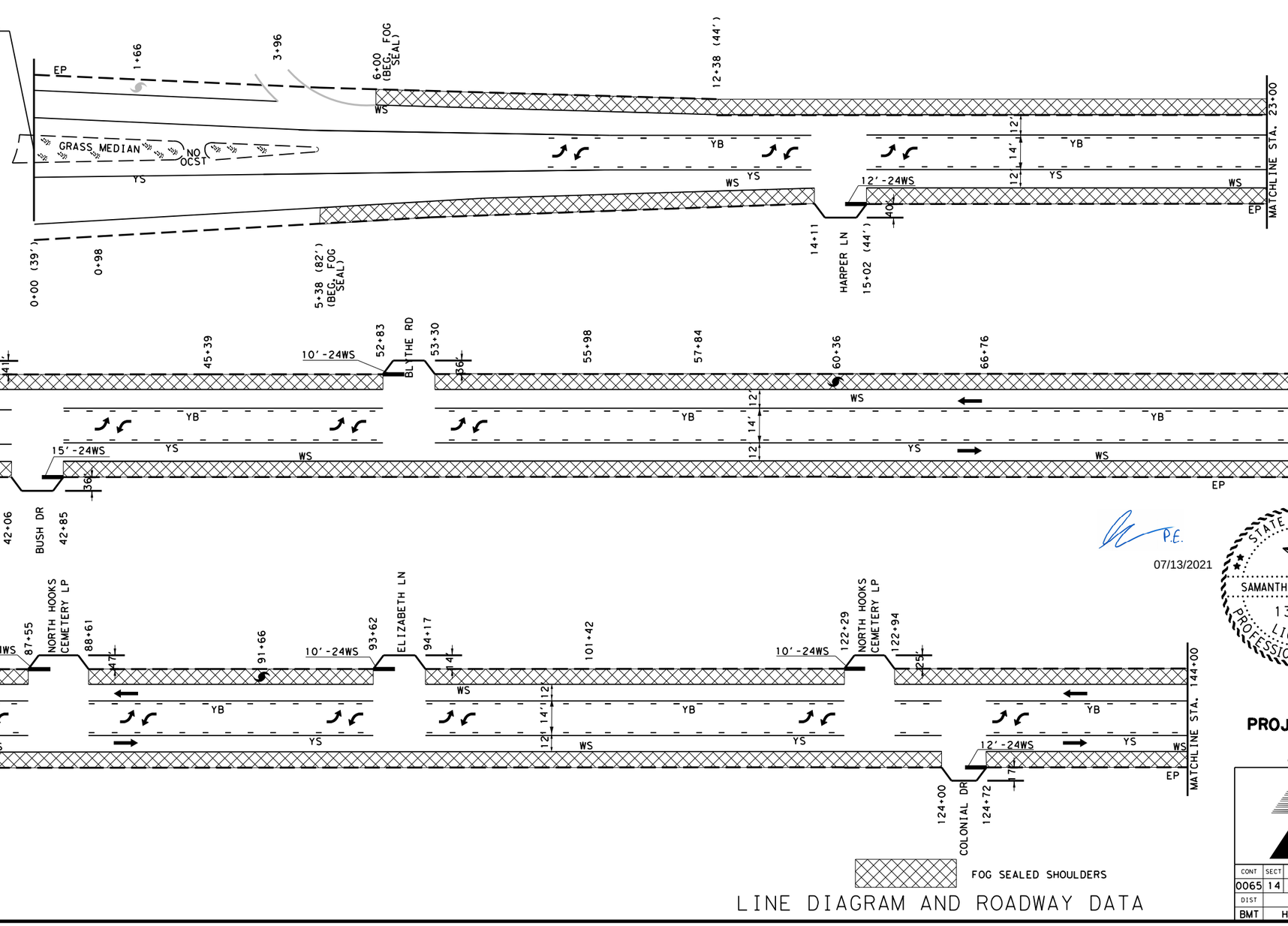
*OCST AREA = 91,010 SY
*FOG SEAL AREA = 45,127 SY

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



HURRICANE EVACUATION PAVEMENT MARKING DETAIL



LINE DIAGRAM AND ROADWAY DATA

P.E.
07/13/2021

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED PROFESSIONAL ENGINEER

NTS
PROJECT LOCATION
No. 26
SHEET 44 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028,ETC.	BU 96F,ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN,ETC.		76

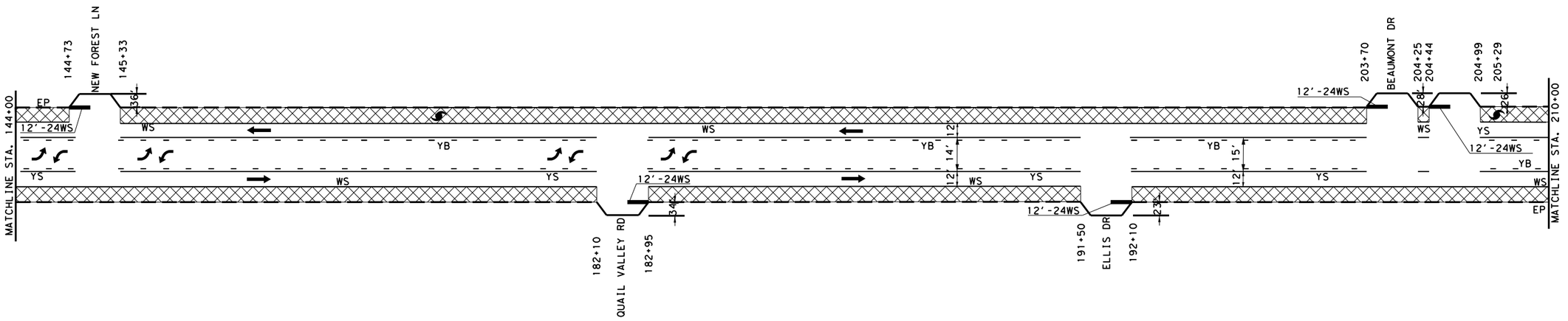
DATE: 7/13/2021 3:09:27 PM
FILE: T:\BMTDESGN\Projects\0065-14-028 FY 2022 Seal Coat\DGN\PM26.dgn

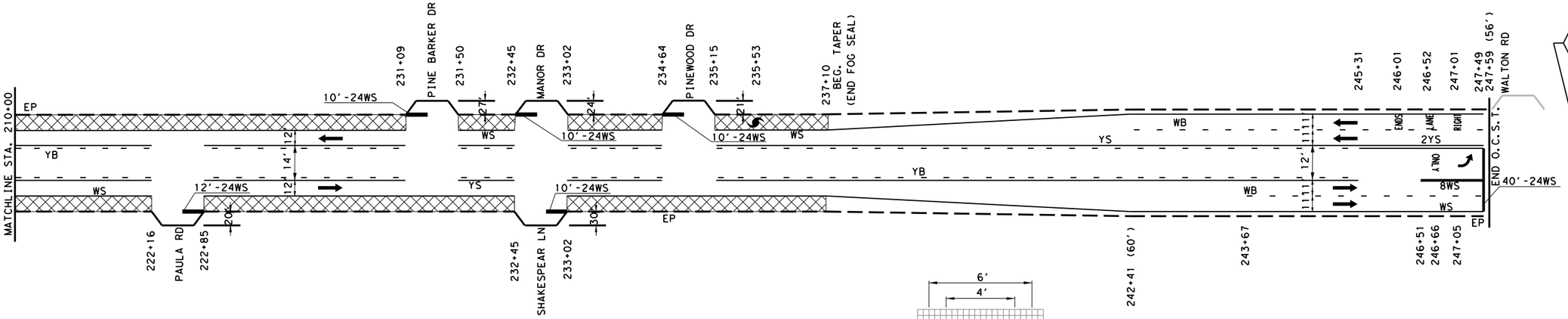
CK:	DW:	CK:	DN:

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)
26	US 69	HARDIN	VAR	181,566

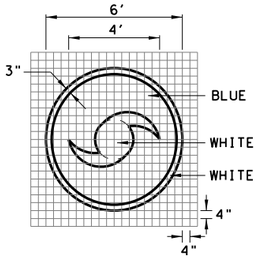
LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES





END PROJECT
STA. 248+54.00
REF. MKR. 508+0.000
CSJ No. 0200-10-087



FOG SEALED SHOULDERS

HURRICANE EVACUATION PAVEMENT MARKING DETAIL

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
P.E.
07/13/2021

NTS

PROJECT LOCATION
No. 26

SHEET 45 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		77

LINE DIAGRAM AND ROADWAY DATA

DATE: 7/13/2021 3:09:29 PM
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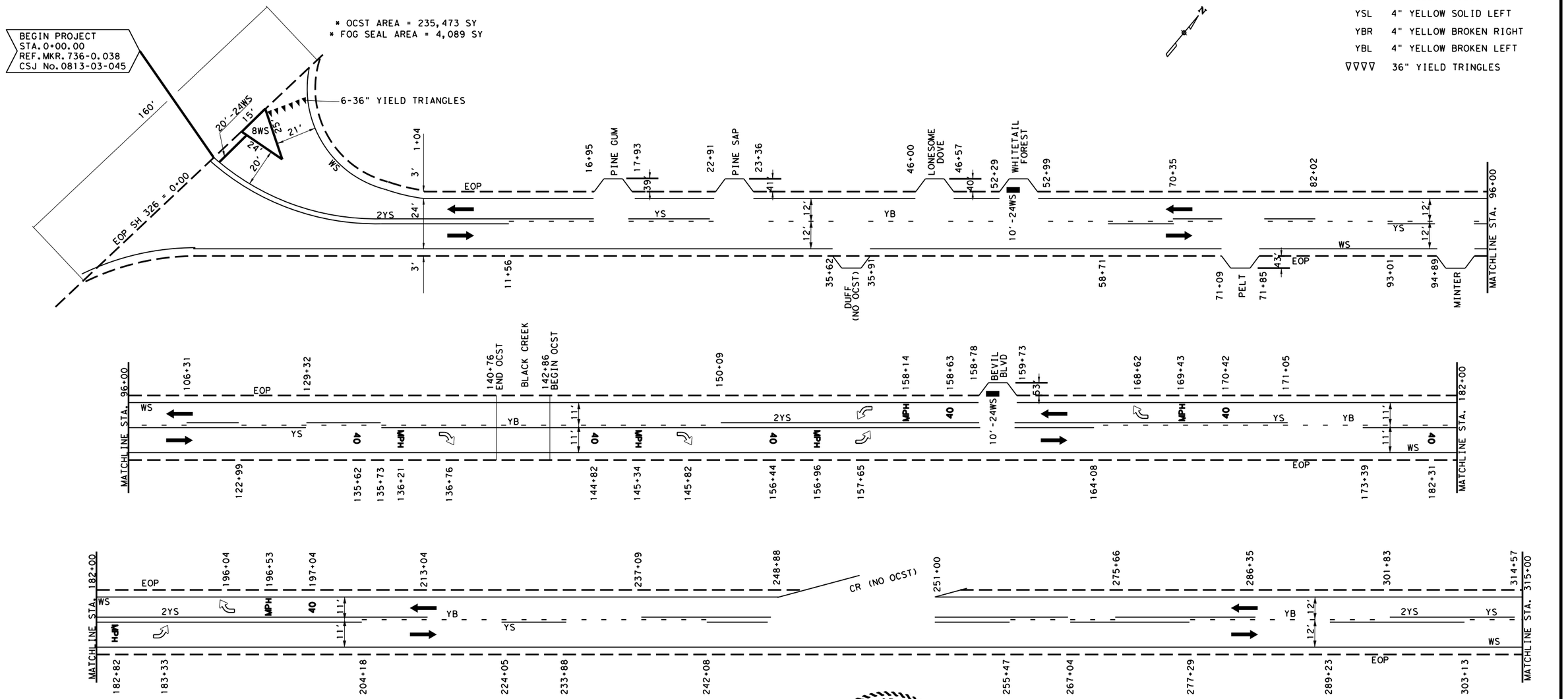
PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	662		666				668					672
					6109	6111	6036	6303	6312	6315	6076	6077	6078	6085	6092	6009
					WK ZN PAV MRK SHT TERM (TAB) TY W	WK ZN PAV MRK SHT TERM (TAB) TY Y-2	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	PREFAB PAV MRK TY C (W) (24") (SLD)	PREFAB PAV MRK TY C (W) (ARROW)	PREFAB PAV MRK TY C (W) (DBL ARROW)	PREFAB PAV MRK TY C (W) (WORD)	PREFAB PAV MRK TY C (W) (36")(YLD TRI)	REFL PAV MRKR TY II-A-A
					EA	EA	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA
27	FM 421	HARDIN	VAR	206,048	22	5,554	381	129,765	11,030	82,250	126	12	2	18	6	332

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
P.E.
07/13/2021

NTS

LINE DIAGRAM AND ROADWAY DATA

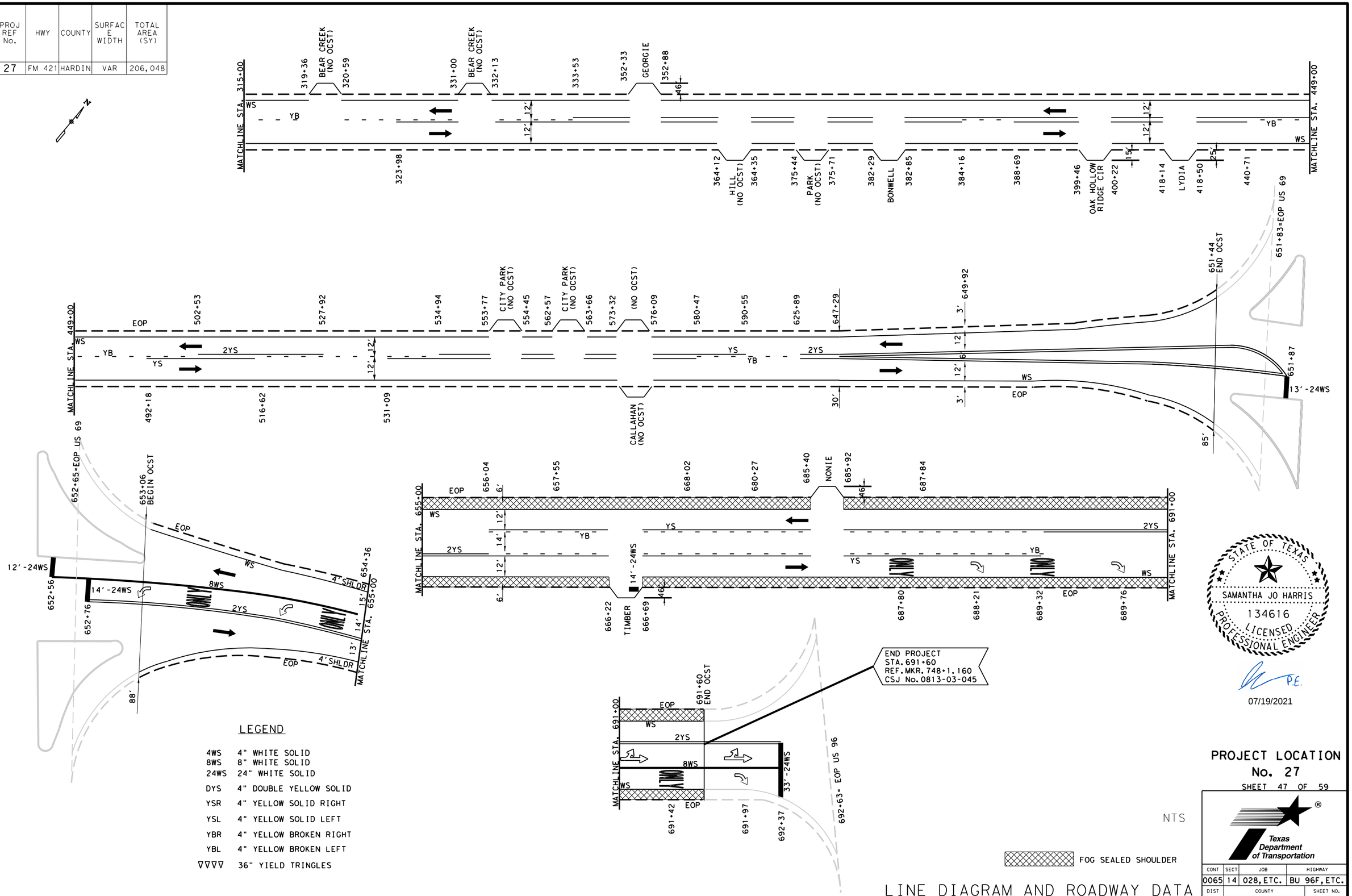
PROJECT LOCATION
No. 27

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028,ETC.	BU 96F,ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN,ETC.		78

DATE: 7/13/2021 3:09:32 PM
FILE: T:\BMTDESGN\Projects\0065-14-028 FY 2022 Seal Coat\DGN\PM27.dgn

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)
27	FM 421	HARDIN	VAR	206,048



LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES

NTS

FOG SEALED SHOULDER

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED PROFESSIONAL ENGINEER
P.E.
07/19/2021

PROJECT LOCATION
No. 27

SHEET 47 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		79

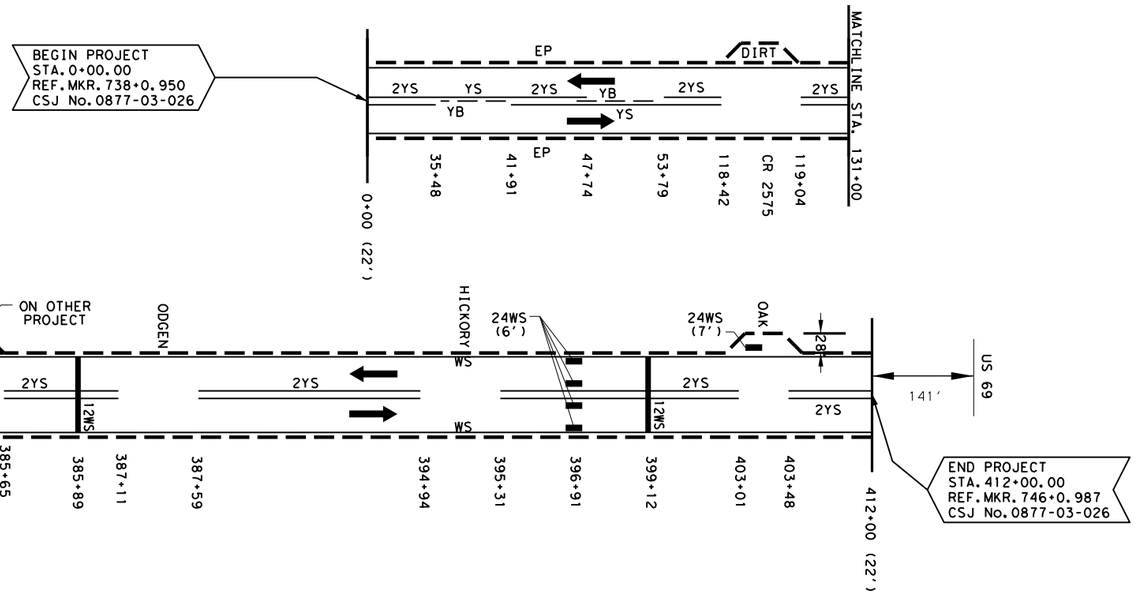
LINE DIAGRAM AND ROADWAY DATA

DATE: 7/19/2021 11:57:24 AM
FILE: c:\txdot\pw_online\txdot5\samantha.harris\d0533163\PM27.dgn

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	6111	6303	6312	6315	6074	6076	6009
					WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	PREFAB PAV MRK TY C (W) (12") (SLD)	PREFAB PAV MRK TY C (W) (24") (SLD)	REFL PAV MRKR TY II-A-A
					EA	LF	LF	LF	LF	LF	EA
28	FM 256	TYLER	22	100,945	4159	81,700	1470	71,110	40	55	1706

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



NTS

PROJECT LOCATION
No. 28

SAMANTHA JO HARRIS
134616
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
P.E.
07/13/2021

LINE DIAGRAM AND ROADWAY DATA

SHEET 48 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		80

DATE: 7/13/2021 3:09:36 PM
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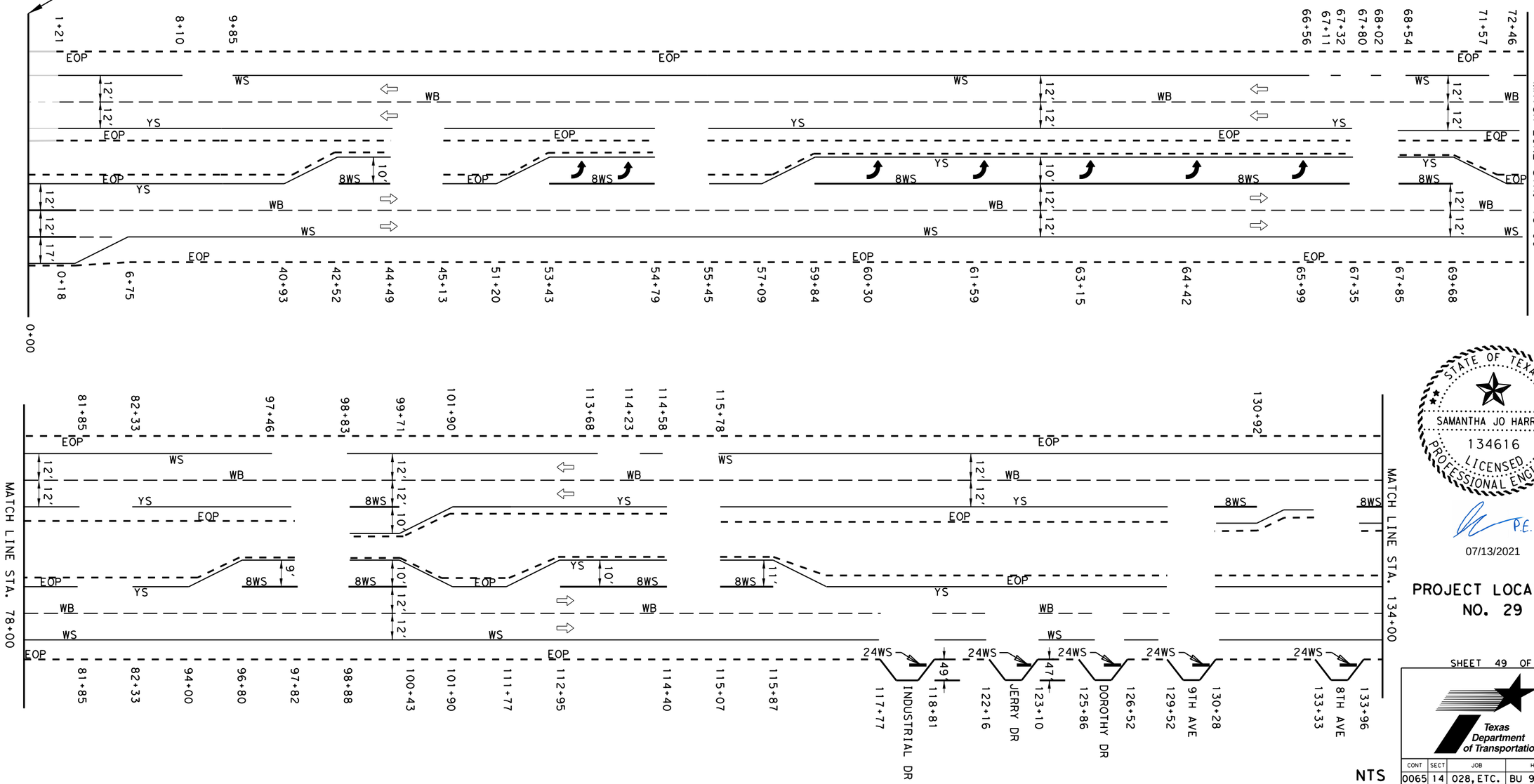
CK1: DW1: CK2: DN1:

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	662 6109 WK ZN PAV MRK SHT TERM (TAB) TY W	662 6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2	6036 REFL PAV MRK TY I (W)8"(SLD)(100 MIL)	6300 RE PM W/RET REQ TY I (W)4"(BRK)(100 MIL)	6303 RE PM W/RET REQ TY I (W)4"(SLD)(100 MIL)	6315 RE PM W/RET REQ TY I (Y)4"(SLD)(100 MIL)	6076 PREFAB PAV MRK TY C (W)(24") (SLD)	6077 PREFAB PAV MRK TY C (W) (ARROW)	6078 PREFAB PAV MRK TY C (W) (DBL ARROW)	6085 PREFAB PAV MRK TY C (W) (WORD)	6007 REFL PAV MRKR TY I-C	6009 REFL PAV MRKR TY II-A-A
					EA	EA	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA
29	US 69	JEFFERSON	VAR	184829	4707	2104	6145	10720	27080	41798	400	15	2	4	781	764

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES

BEGIN PROJECT
STA. 0+00.00
REF. MKR. 448-0.07
CSJ No. 0667-01-125



NTS

LINE DIAGRAM AND ROADWAY DATA

SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS
P.E.
07/13/2021

PROJECT LOCATION NO. 29

SHEET 49 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		81

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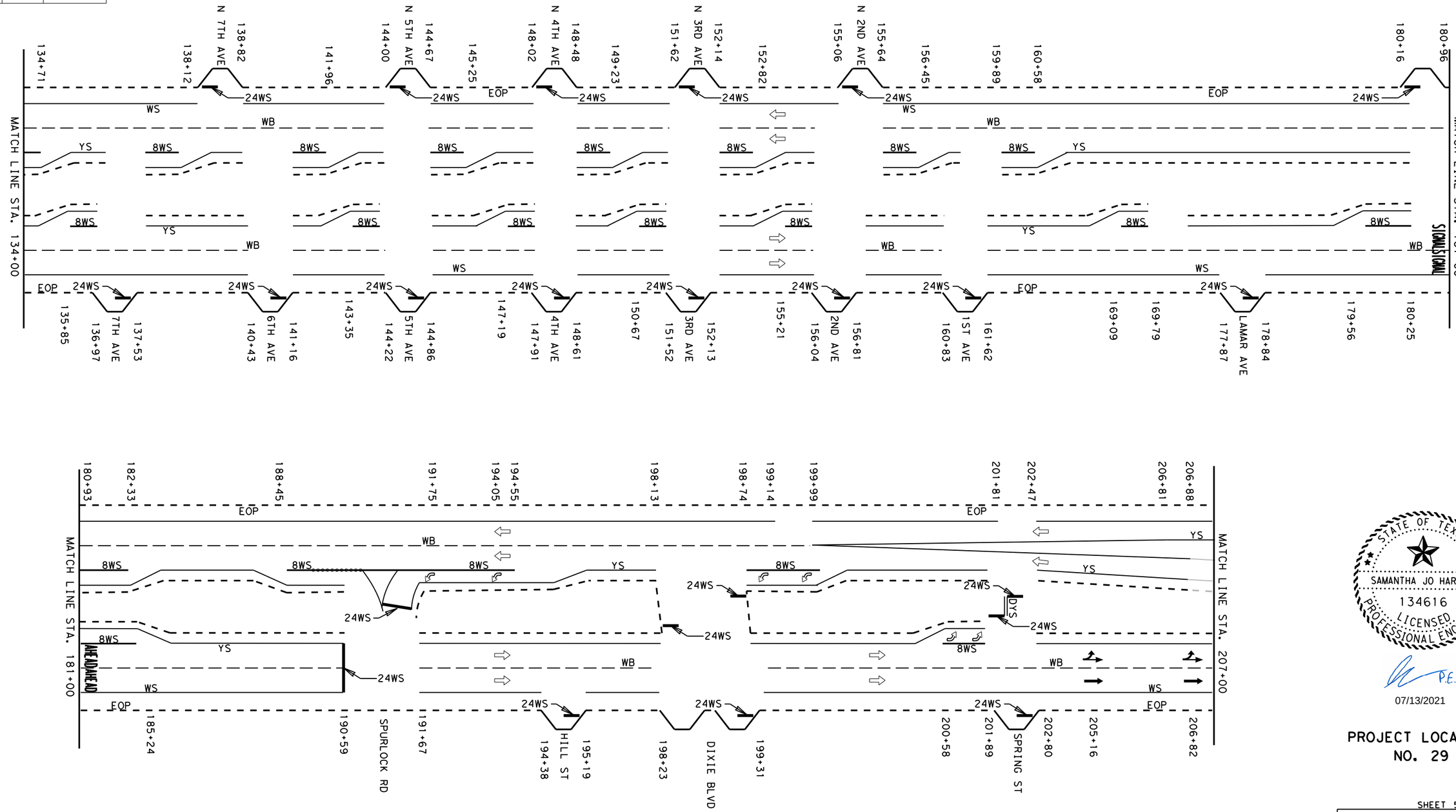
PROJ REF No.	HWY	COUNTY
29	US 69	JEFFERSON



PROJECT LOCATION
NO. 29

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		82

NTS

LINE DIAGRAM AND ROADWAY DATA

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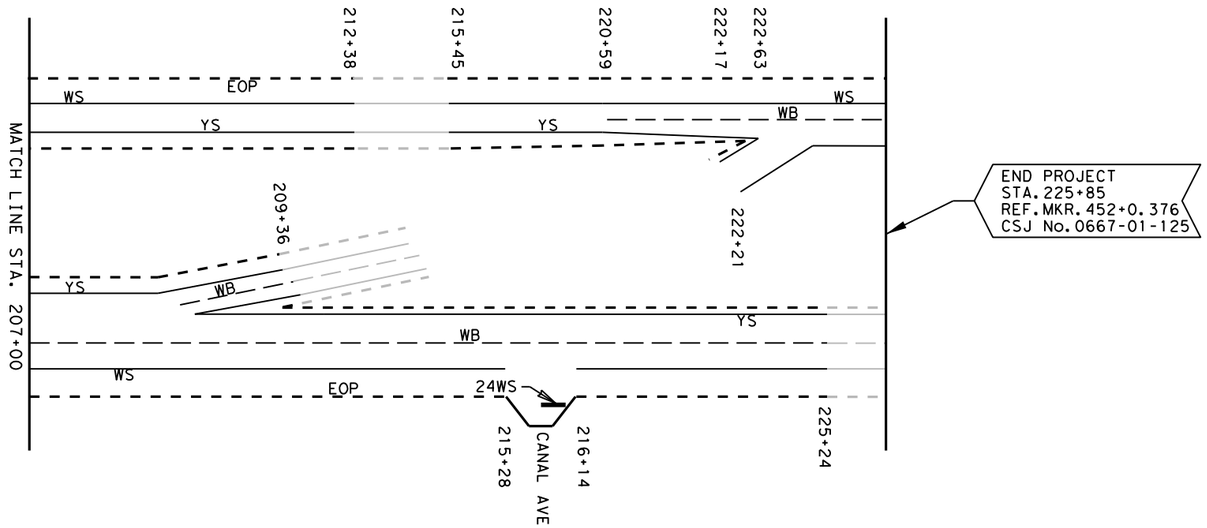
PROJ REF No.	HWY	COUNTY
29	US 69	JEFFERSON



NTS

LINE DIAGRAM AND ROADWAY DATA

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER

P.E.

07/13/2021

PROJECT LOCATION
NO. 29

SHEET 51 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		83

DATE: 7/13/2021 5:35:37 PM
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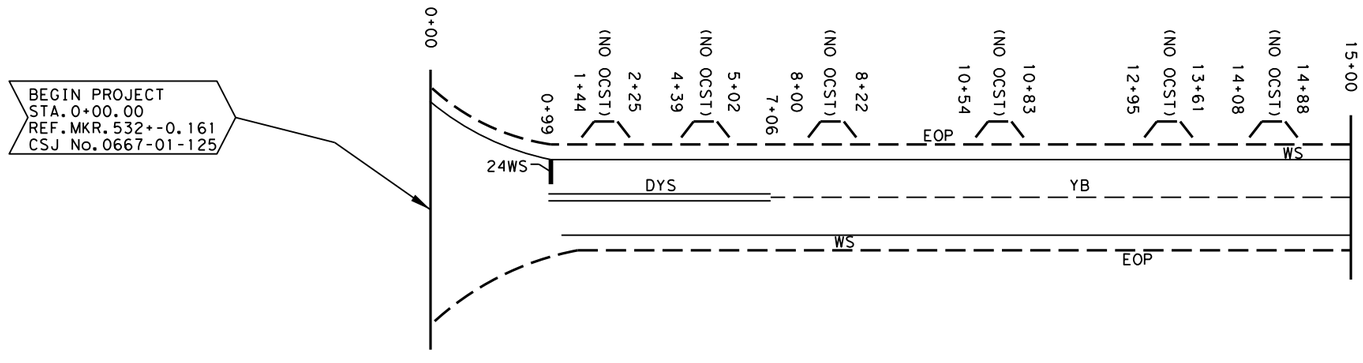
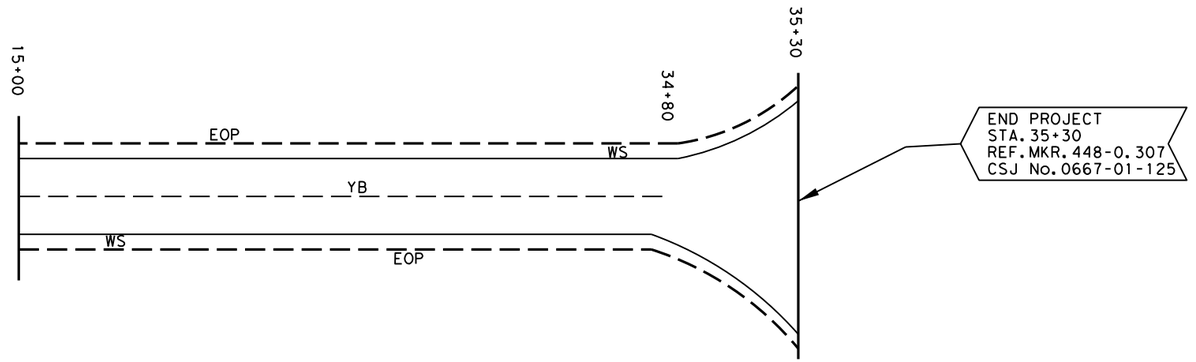
PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2	6303 RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	6312 RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	6315 RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	6076 PREFAB PAV MRK TY C (W)(24")(SLD)	6009 REFL PAV MRKR TY II-A-A
					EA	LF	LF	LF	LF	EA
30	SH 347	JEFFERSON	28	2,728	270	7,060	700	1,214	16	51

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
∇∇∇	36" YIELD TRINGLES





STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
P.E.
07/13/2021

NTS

PROJECT LOCATION
No. 30

SHEET 52 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		84

LINE DIAGRAM AND ROADWAY DATA

DATE: 7/13/2021 3:09:50 PM
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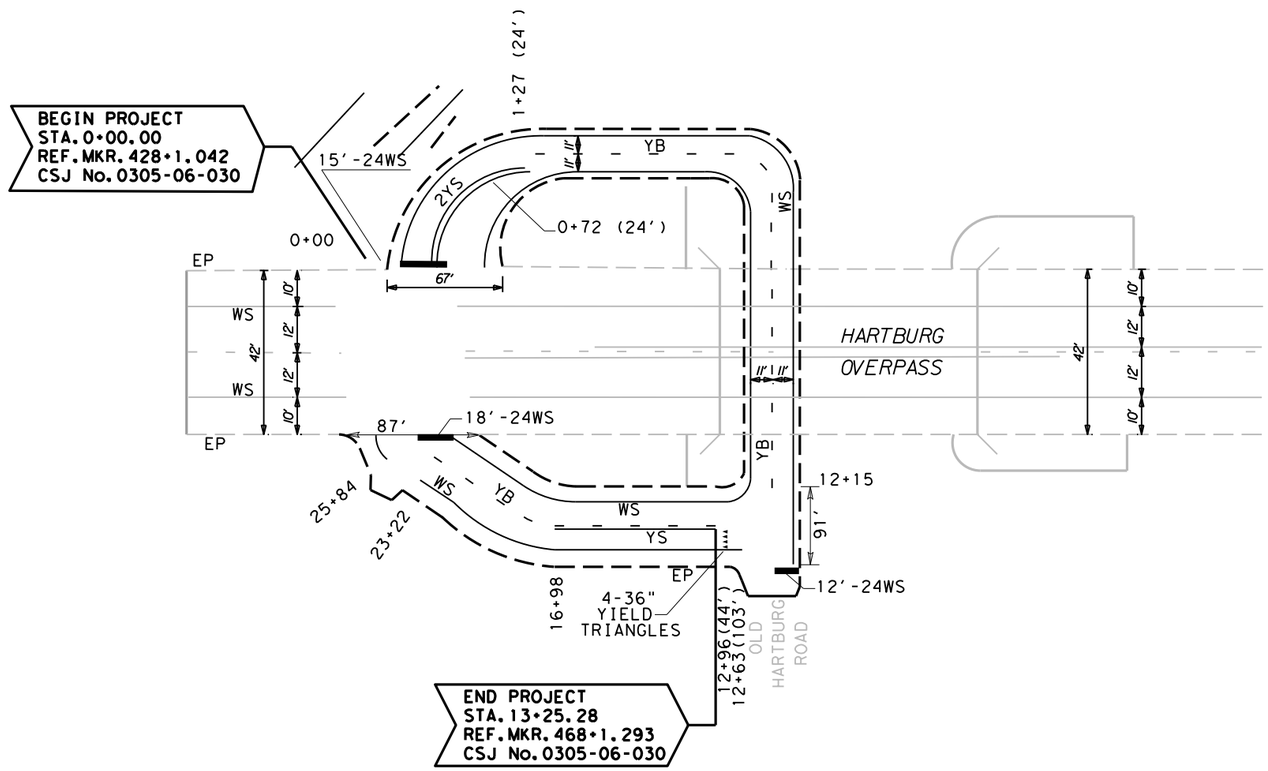
PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	TURNOUT EA	ITEM 662	ITEM 666			ITEM 668		ITEM 672
						6111	6303	6312	6315	6076	6092	6009
						WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM W/RET REQ TY I (W)4"(SLD) (100MIL)	RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	PREFAB PAV MRK TY C (W) (24") (SLD)	PREFAB PAV MRK TY C (W) (36")(YLD TRI)	REFL PAV MRKR TY II-A-A
						EA	LF	LF	LF	LF	EA	EA
(31)	HARTBURG TURN-AROUN	NEWTON	24, 44	3534	2	31	2521	270	254	27	4	35

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED PROFESSIONAL ENGINEER
P.E.

07/13/2021
N. T. S.

PROJECT LOCATION No. 31

SHEET 53 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		85

LINE DIAGRAM AND ROADWAY DATA

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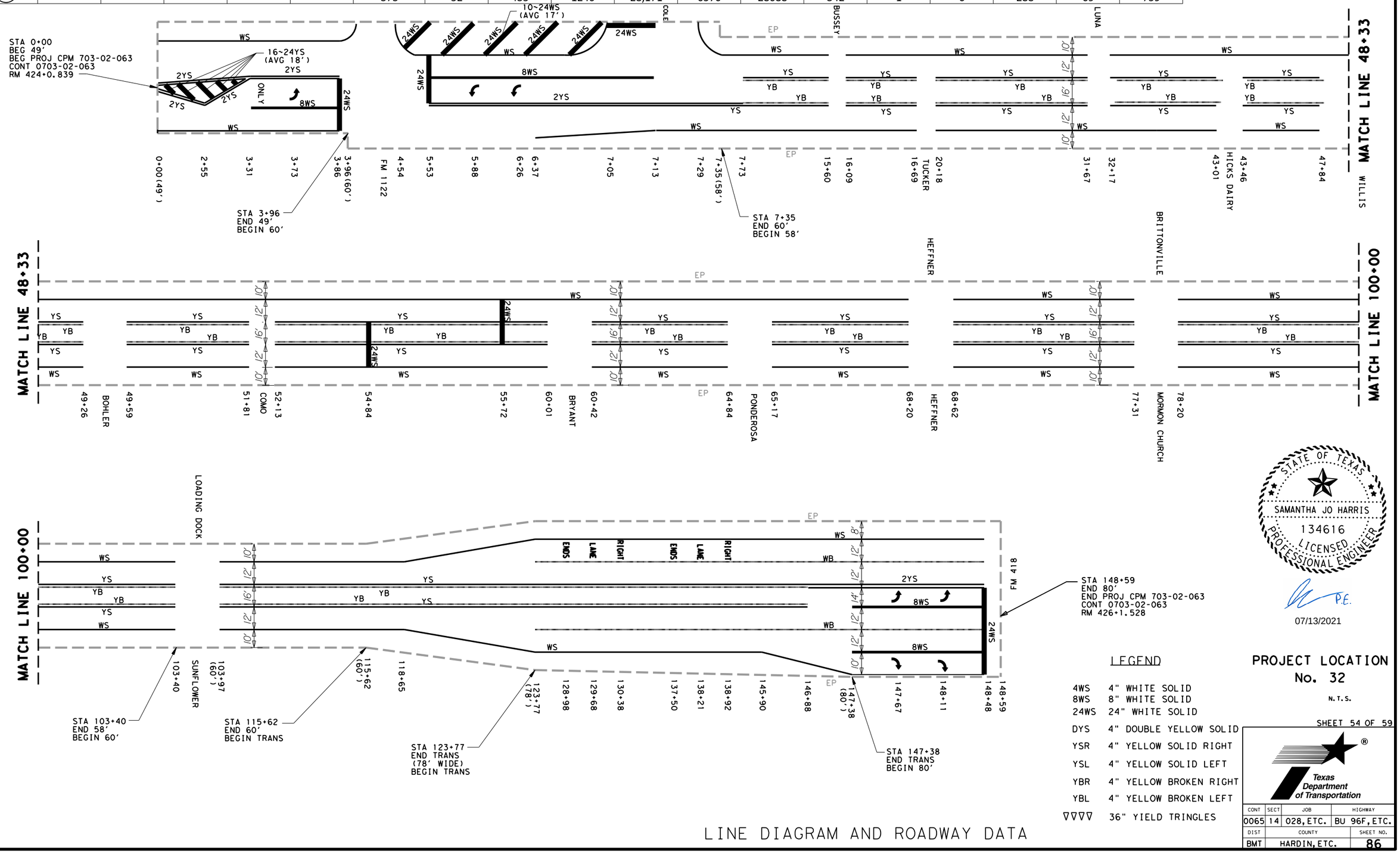
CK1: DW1: CK2: DN1:

PROJ REF No.	HWY	COUNTY	SURFACE WIDTH	TOTAL AREA (SY)	TURNOUT EA	ITEM 662		ITEM 666					ITEM 668				ITEM 672	
						6109	6111	6036	6300	6303	6312	6315	6076	6077	6085	6108	6007	6009
						WK ZN PAV MRK SHT TERM (TAB) TY W	WK ZN PAV MRK SHT TERM (TAB) TY Y-2	REFL PAV MRK TY I (W)8"(SLD) (100MIL)	RE PM W/RET REQ TY I (W)4"(BRK) (100MIL)	RE PM W/RET REQ TY I (W)4"(SLD) (100MIL)	RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL)	RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	PREFAB PAV MRK TY C (W) (24") (SLD)	PREFAB PAV MRK TY C (W) (ARROW)	PREFAB PAV MRK TY C (W) (WORD)	PREFAB PAV MRK TY C (Y) (24") (SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A
32	FM 92	HARDIN	49 TO 80	103,588	0	EA	EA	LF	LF	LF	LF	LF	LF	EA	EA	LF	EA	EA
						373	52	435	1240	28,171	6570	28088	342	1	6	288	69	759



SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS
P.E.
07/13/2021

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES

PROJECT LOCATION
No. 32
N.T.S.

SHEET 54 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028,ETC.	BU 96F,ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN,ETC.		86

LINE DIAGRAM AND ROADWAY DATA

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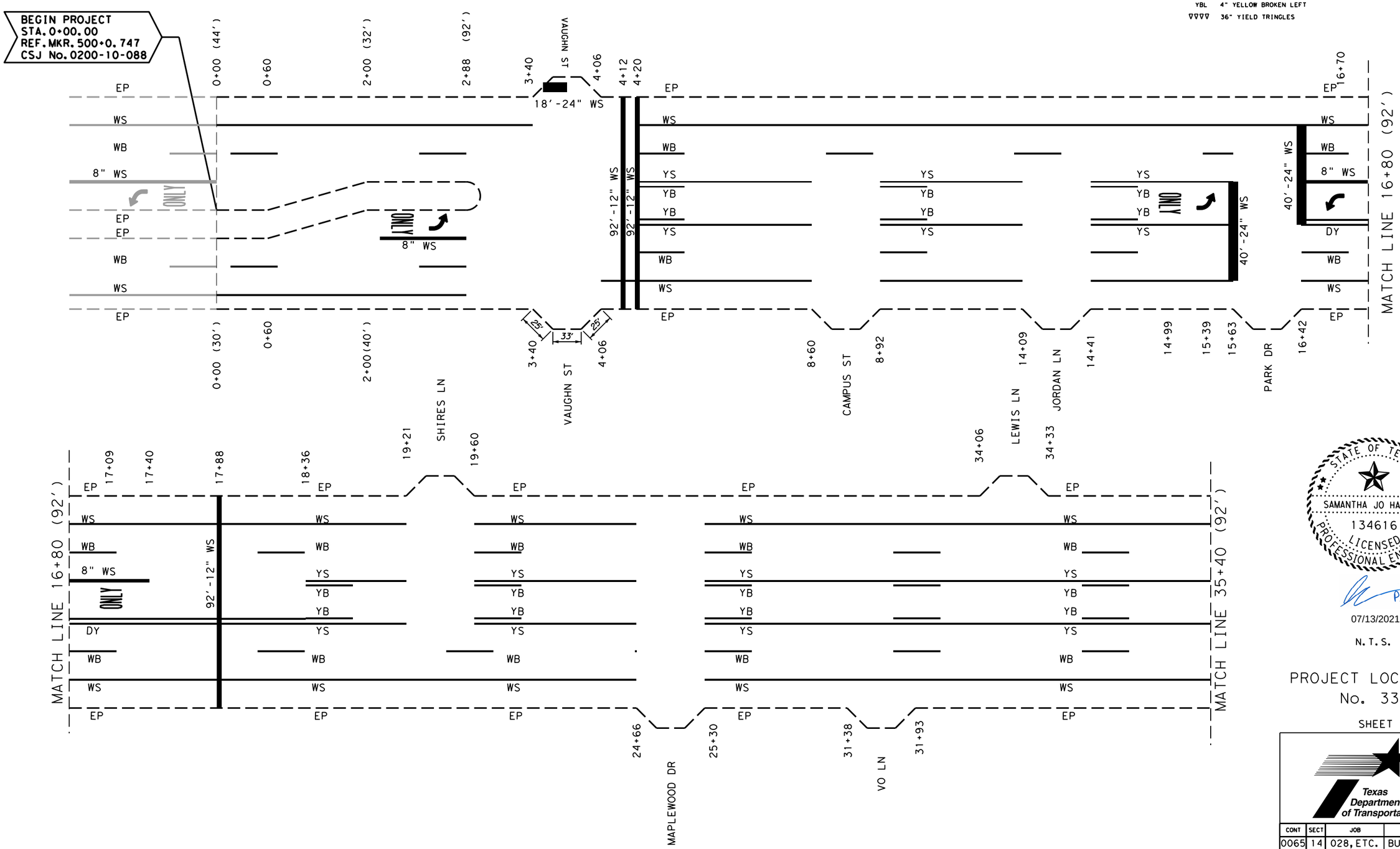
PROJ REF No.	HWY	COUNTY	SURFACE WIDTH FT	TOTAL AREA (SY)	TURNOUT EA	ITEM 662		ITEM 666					ITEM 668			ITEM 672		
						6109	6111	6036	6300	6303	6312	6315	6074	6076	6077	6085	6007	6009
						WK ZN PAV MRK SHT TERM (TAB) TY W	WK ZN PAV MRK SHT TERM (TAB) TY Y-2	REFL PAV MRK TY I (W)8"(SLD) (100MIL)	RE PM W/RET REQ TY I (W)4"(BRK)(100MIL)	RE PM W/RET REQ TY I (W)4"(SLD)(1 00MIL)	RE PM W/RET REQ TY I (Y)4"(BRK)(100 MIL)	RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	PREFAB PAV MRK TY C (W) (12") (SLD)	PREFAB PAV MRK TY C (W) (24") (SLD)	PREFAB PAV MRK TY C (W) (ARROW)	PREFAB PAV MRK TY C (W) (WORD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A
(33)	US 69	HARDIN	VARIES	141,839	15	EA	EA	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA
						1,818	1,750	2,147	6,060	27,949	2,500	19,686	276	271	14	9	311	489

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
P.E.

07/13/2021

N. T. S.

PROJECT LOCATION
No. 33

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		87

LINE DIAGRAM AND ROADWAY DATA

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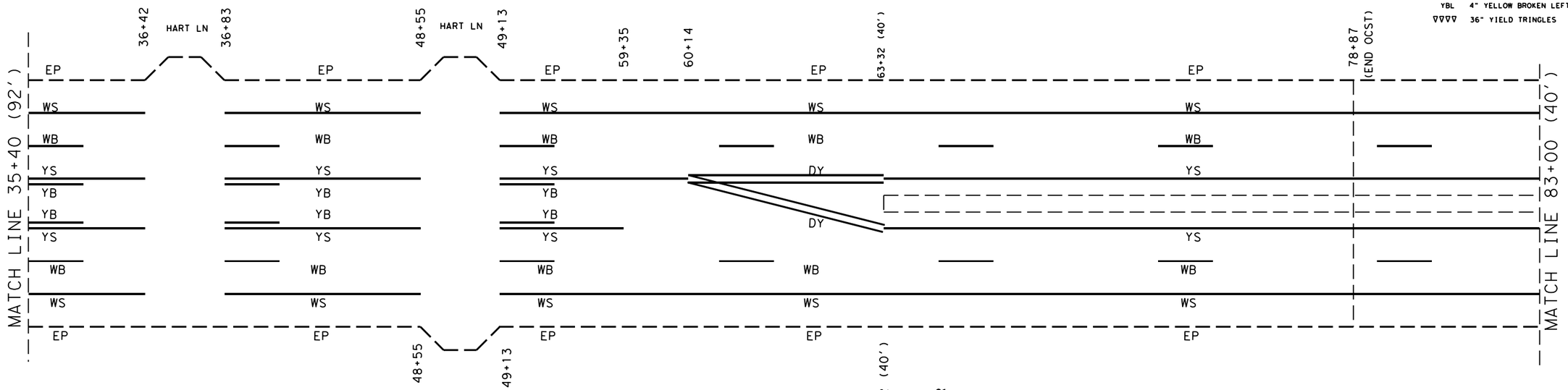
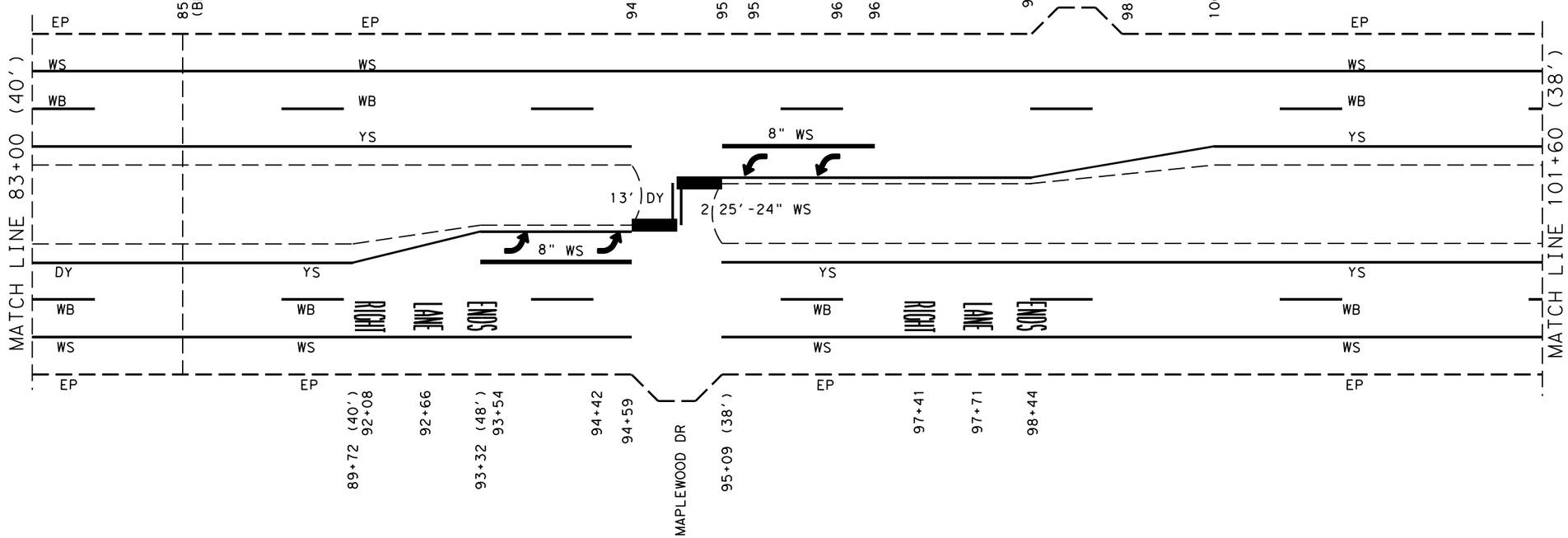
DATE: 7/13/2021 3:09:58 PM

PROJ REF No.	HWY	COUNTY
33	US 69	HARDIN

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES





LINE DIAGRAM AND ROADWAY DATA

SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS
P.E.
07/13/2021

N. T. S.

PROJECT LOCATION
No. 33

SHEET 56 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		88

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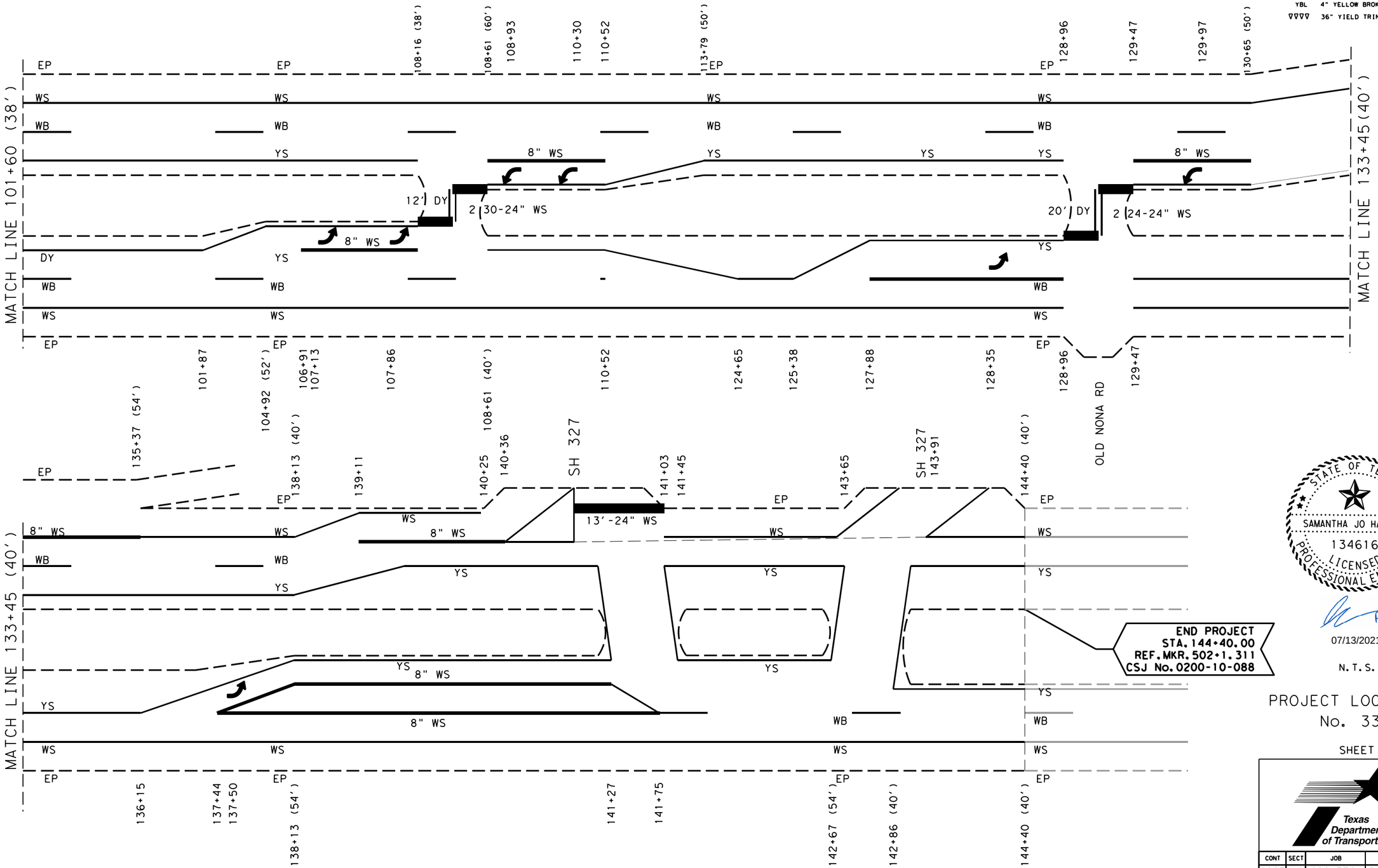
PROJ REF No.	HWY	COUNTY
33	US 69	HARDIN

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES



LINE DIAGRAM AND ROADWAY DATA

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER

P.E.

07/13/2021

N. T. S.

PROJECT LOCATION
No. 33

SHEET 57 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		89

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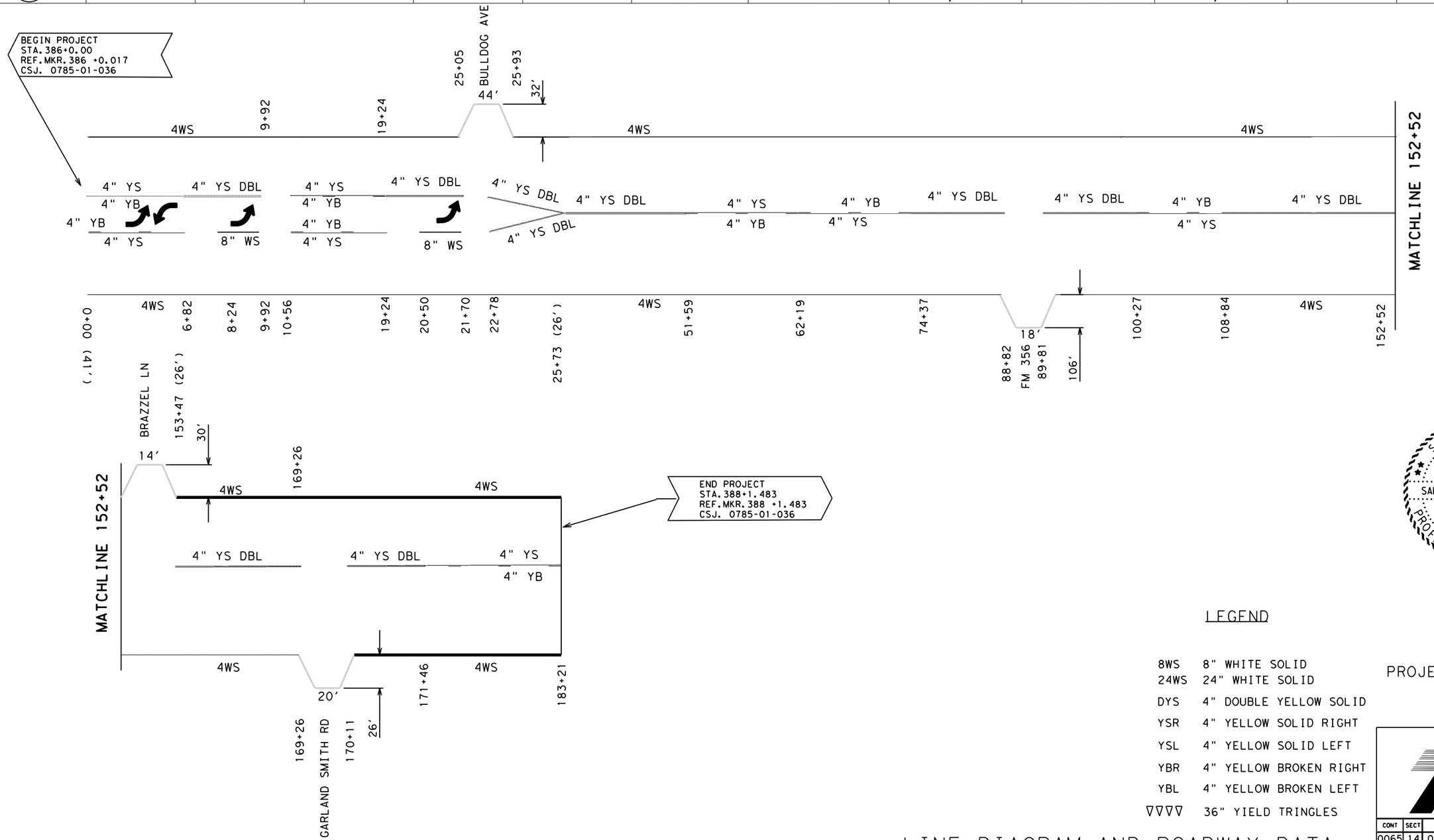
PROJ REF No.	HWY	COUNTY	SURFACE WIDTH FT	TOTAL AREA (SY)	TURNOUT EA	ITEM 662	ITEM 666				ITEM 668	ITEM 672
						6111	6036	6303	6312	6315	6077	6009
						WK ZN PAV MRK SHT TERM (TAB) TY Y-2	REFL PAV MRK TY I (W)8"(SLD)(100 MIL)	RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	RE PM W/RET REQ TY I (Y)4"(BRK)(100 MIL)	RE PM W/RET REQ TY I (Y)4"(SLD)(100 MIL)	PREFAB PAV MRK TY C (W) (ARROW)	REFL PAV MRKR TY II-A-A
34	FM 252	JASPER	24	57,215	18	EA	LF	LF	LF	LF	EA	EA
						924	288	36,363	1840	32,010	4	451



LEGEND

8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES

SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS

P.E.

07/20/2021

N. T. S.

PROJECT LOCATION
No. 34

SHEET 58 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		90

LINE DIAGRAM AND ROADWAY DATA

FILE: T:\BMTDESGN\Projects\0065-14-028 FY 2022 Seal Coat\DGN\PM34.dgn
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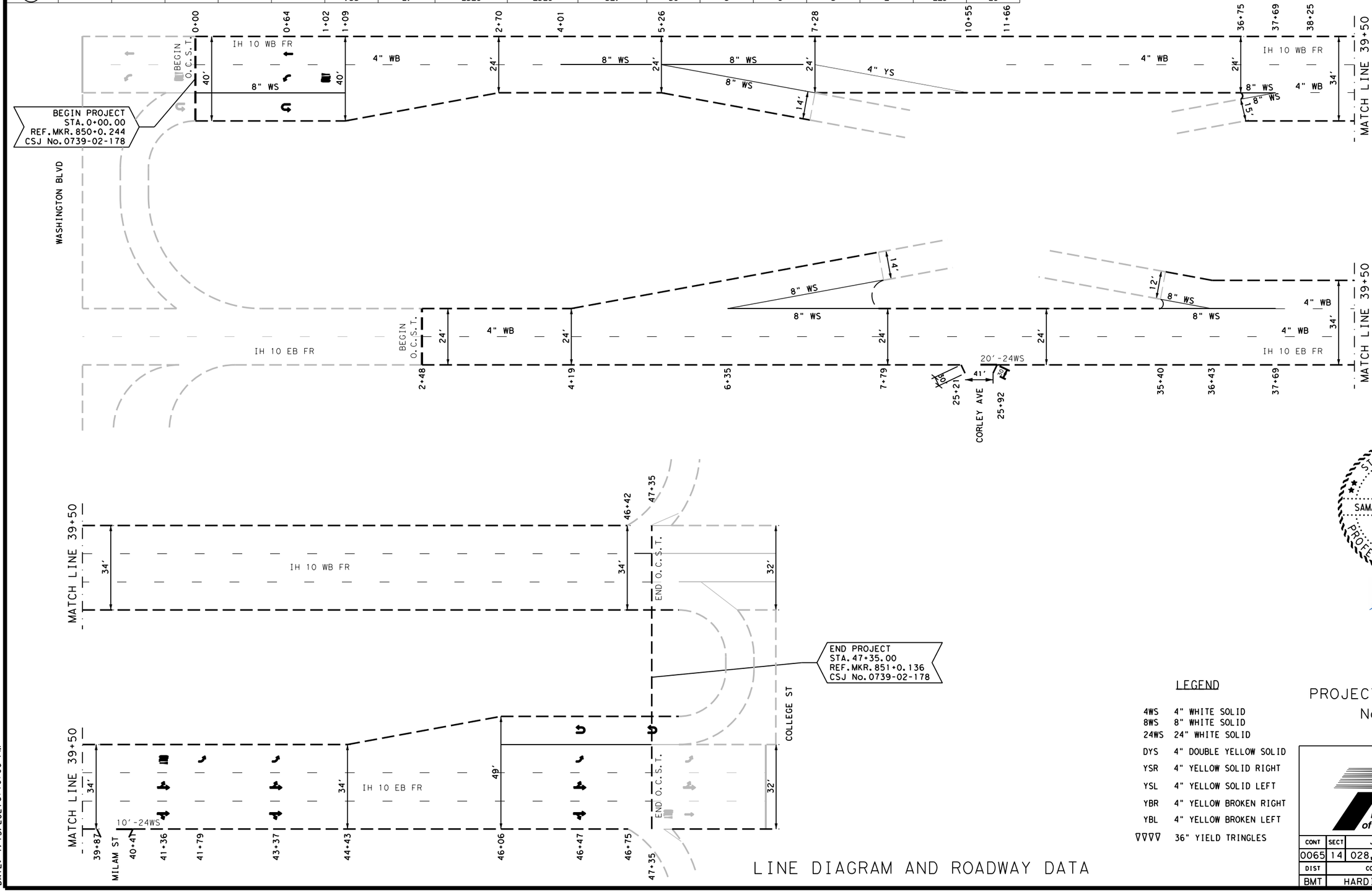
PROJ REF No.	HWY	COUNTY	SURFACE WIDTH FT	TOTAL AREA (SY)	TURN-OUT	ITEM 662		ITEM 666			ITEM 668					ITEM 672	
						6109	6111	6036	6300	6315	6076	6077	6078	6080	6085	6007	6009
						WK ZN PAV MRK SHT TERM (TAB) TY W	WK ZN PAV MRK SHT TERM (TAB) TY Y-2	REFL PAV MRK TY I (W)8"(SLD)(100 MIL)	RE PM W/RET REQ TY I (W)4"(BRK)(100 MIL)	RE PM W/RET REQ TY I (Y)4"(SLD)(100 MIL)	PREFAB PAV MRK TY C (W) (24") (SLD)	PREFAB PAV MRK TY C (W) (ARROW)	PREFAB PAV MRK TY C (W) (DBL ARROW)	PREFAB PAV MRK TY C (W) (UTURN ARROW)	PREFAB PAV MRK TY C (W) (WORD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A
(35)	IH 10 FR	JEFFERSON	24, 34, 40,	28,413	1	EA	EA	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA
						753	17	1320	2510	327	30	5	6	3	2	129	10



LINE DIAGRAM AND ROADWAY DATA

LEGEND

4WS	4" WHITE SOLID
8WS	8" WHITE SOLID
24WS	24" WHITE SOLID
DYS	4" DOUBLE YELLOW SOLID
YSR	4" YELLOW SOLID RIGHT
YSL	4" YELLOW SOLID LEFT
YBR	4" YELLOW BROKEN RIGHT
YBL	4" YELLOW BROKEN LEFT
▽▽▽▽	36" YIELD TRINGLES

STATE OF TEXAS
SAMANTHA JO HARRIS
134616
LICENSED
PROFESSIONAL ENGINEER
P.E.
07/13/2021

N. T. S.

PROJECT LOCATION
No. 35

SHEET 59 OF 59

Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0065	14	028, ETC.	BU 96F, ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN, ETC.		91

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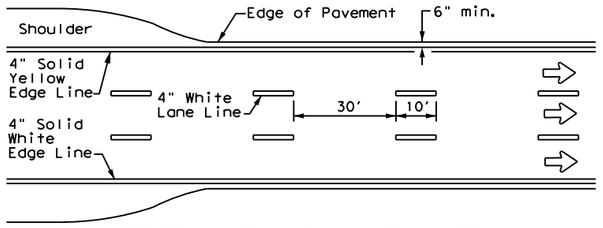
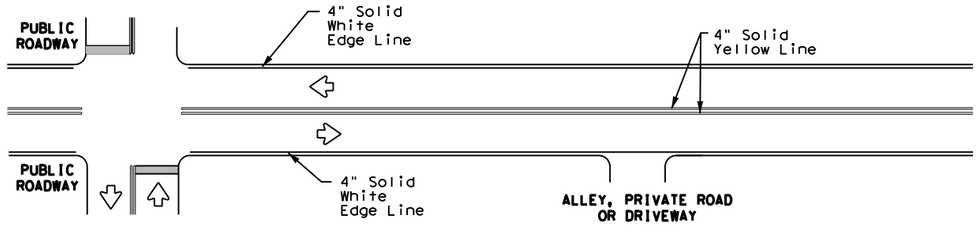
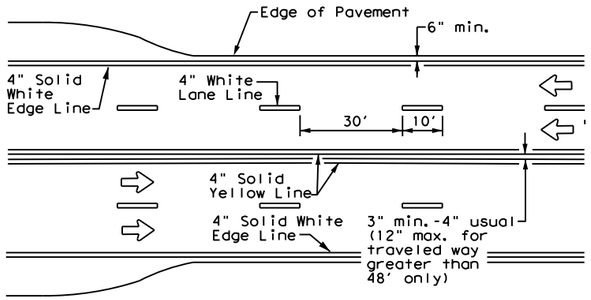


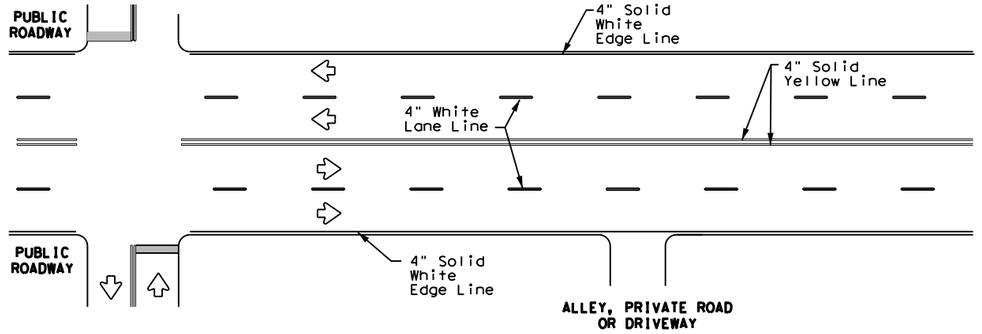
EDGE LINE AND LANE LINES ONE-WAY ROADWAY WITH OR WITHOUT SHOULDERS



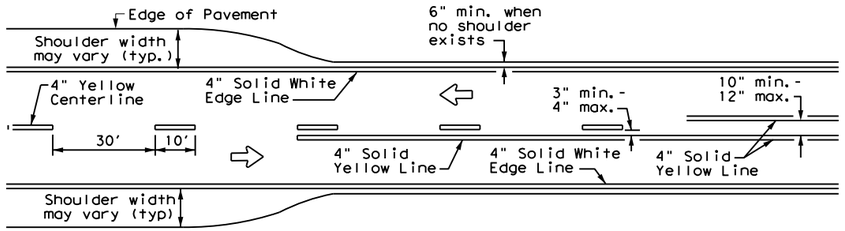
TYPICAL TWO-LANE, TWO-WAY PAVEMENT MARKINGS THROUGH INTERSECTIONS



CENTERLINE AND LANE LINES FOUR LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS

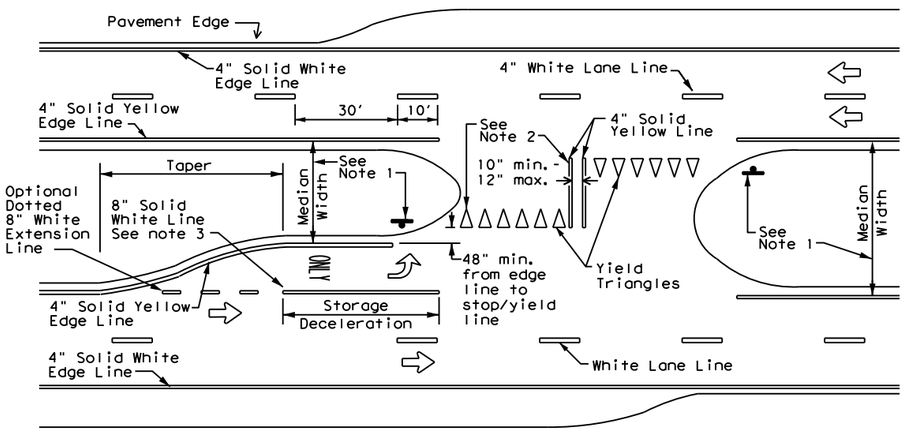


TYPICAL MULTI-LANE, TWO-WAY PAVEMENT MARKINGS THROUGH INTERSECTIONS



TWO LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS

YIELD LINES



FOUR LANE DIVIDED ROADWAY CROSSOVERS

NOTES

1. Where divided highways are separated by median widths at the median opening itself of 30 feet or more, median openings shall be signed as two separate intersections. Each median opening has two width measurements, with one measurement for each approach. The narrow median width will be the controlling width to determine if signs are required. Yield signs are the typical intersection control. Stop signs are optional as determined by the Engineer.

2. Install median striping (double yellow centerlines and stop bars/yield triangles) when a 50' or greater median centerline can be placed. Stop bars shall only be used with stop signs. Yield traingles shall only be used with yield signs.

3. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.

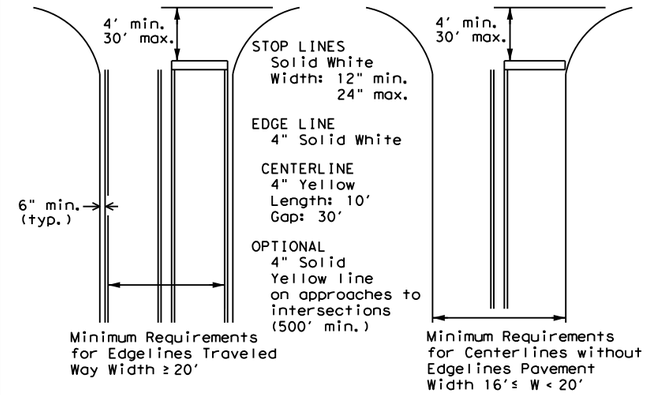
GENERAL NOTES

1. Edgeline striping shall be as shown in the plans or as directed by the Engineer. The edgeline should not be placed less less than 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edgelines are not required in curb and gutter sections of roadways.

2. The traveled way includes only that portion of the roadway used for vehicular travel. It does not include the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the inside of edgeline to the inside of edgeline of a two lane roadway.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



GUIDE FOR PLACEMENT OF STOP LINES, EDGE LINE & CENTERLINE

Based on Traveled Way and Pavement Widths for Undivided Highways

Texas Department of Transportation

Traffic Safety Division Standard

TYPICAL STANDARD PAVEMENT MARKINGS

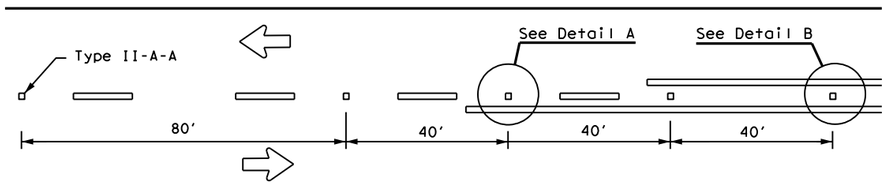
PM(1)-20

FILE: pm1-20.dgn	DN:	CK:	DW:	CK:
© TxDOT November 1978	CONT	SECT	JOB	HIGHWAY
REVISIONS 8-95 3-03	0065	14	028,ETC.	BU 96F,ETC.
5-00 2-12	DIST	COUNTY		SHEET NO.
8-00 6-20	BMT	HARDIN, ETC.		92

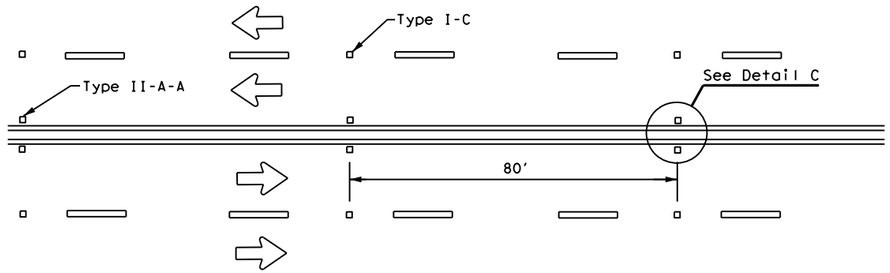
22A

DATE: 7/13/2021 3:10:09 PM
FILE: T:\BMTDESGN\Projects\0065-14-028 FY 2022 Seal Coat\DGN\Standards\PM(1)-20.dgn

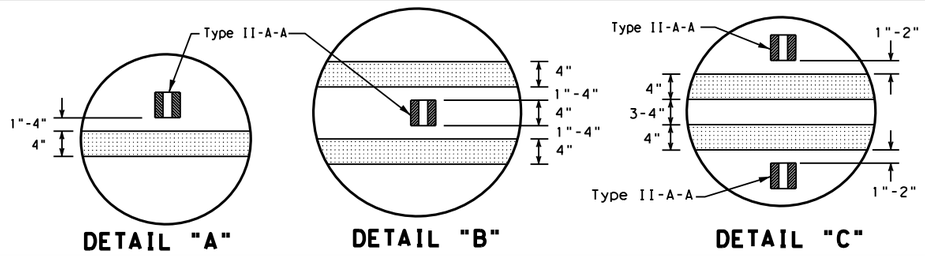
REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE



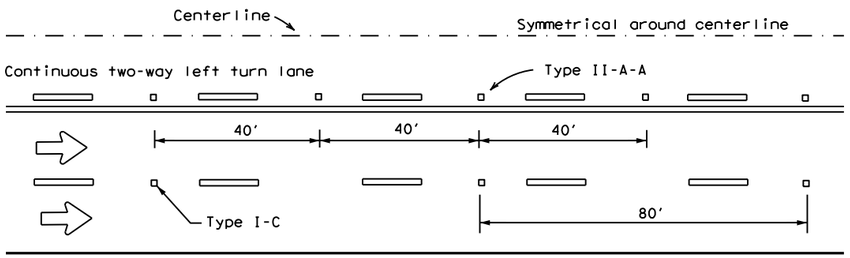
CENTERLINE FOR ALL TWO LANE ROADWAYS



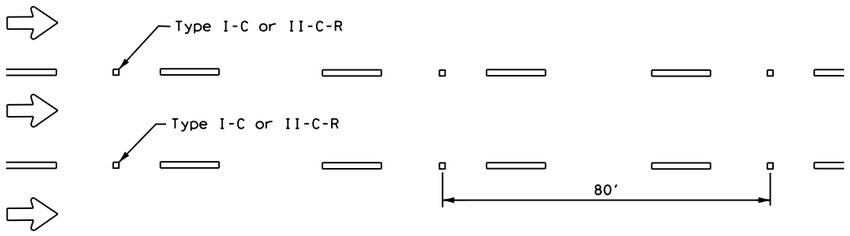
CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY HIGHWAYS



DETAIL "A" **DETAIL "B"** **DETAIL "C"**

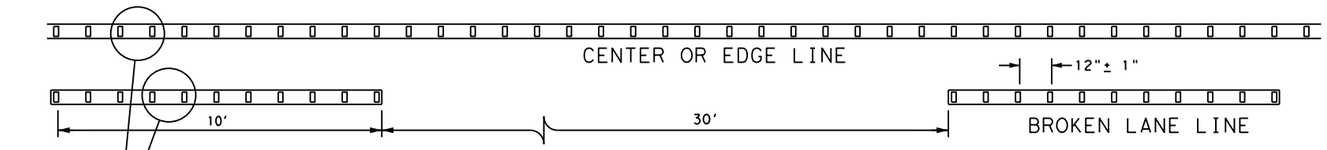


CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



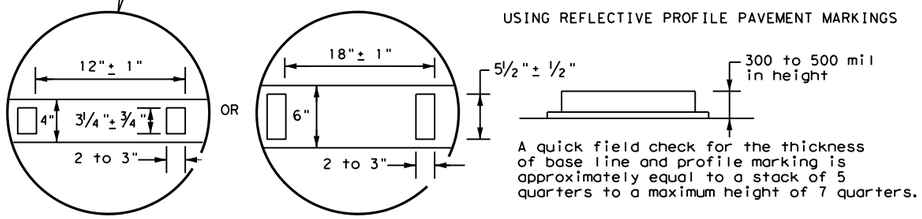
LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.



REFLECTORIZED PROFILE PATTERN DETAIL

USING REFLECTIVE PROFILE PAVEMENT MARKINGS



4" EDGE LINE, CENTER LINE OR LANE LINE

OPTIONAL 6" EDGE LINE, CENTER LINE OR LANE LINE

A quick field check for the thickness of base line and profile marking is approximately equal to a stack of 5 quarters to a maximum height of 7 quarters.

NOTE

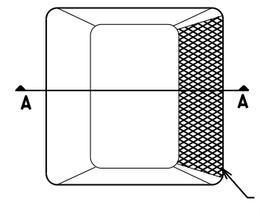
Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

GENERAL NOTES

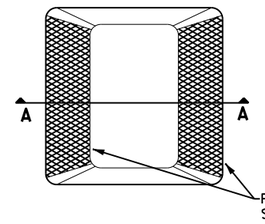
1. All raised pavement markers placed in broken lines shall be placed in line with and midway between the stripes.
2. On concrete pavements the raised pavement markers should be placed to one side of the longitudinal joints.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

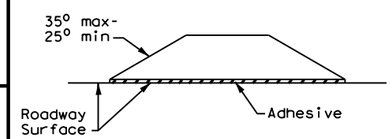
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)



Type II (Top View)



SECTION A

RAISED PAVEMENT MARKERS

Texas Department of Transportation

Traffic Safety Division Standard

POSITION GUIDANCE USING RAISED MARKERS RELECTORIZED PROFILE MARKINGS PM(2)-20

FILE: pm2-20.dgn	DN:	CK:	DW:	CK:
©TxDOT April 1977	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-92 2-10 5-00 2-12 8-00 6-20	0065	14	028,ETC.	BU 96F,ETC.
	DIST	COUNTY		SHEET NO.
	BMT	HARDIN,ETC.		93

22B

DATE: 7/13/2021 3:10:11 PM
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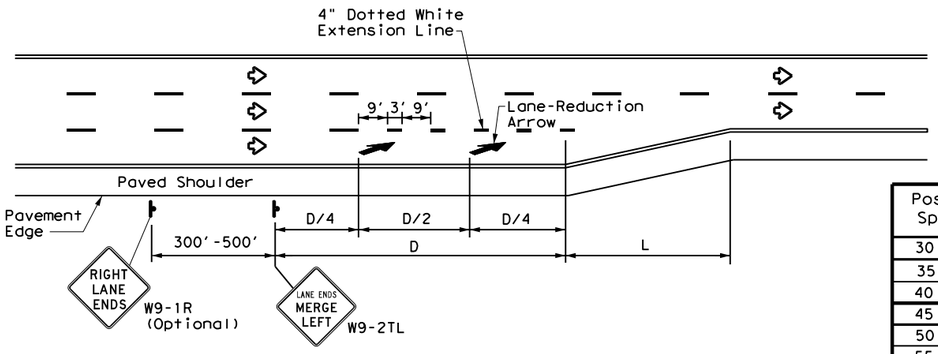
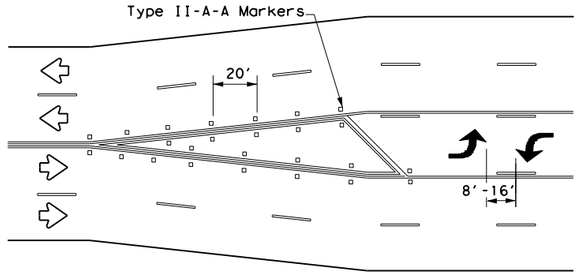


LANE REDUCTION

Posted Speed	D (ft)	L (ft)
30 MPH	460	$L=\frac{WS^2}{60}$
35 MPH	565	
40 MPH	670	
45 MPH	775	L=WS
50 MPH	885	
55 MPH	990	
60 MPH	1,100	
65 MPH	1,200	
70 MPH	1,250	
75 MPH	1,350	

NOTES

1. Lane reduction pavement markings are used where the number of through lanes is reduced because of narrowing of the roadway or because of a section of on-street parking in what would otherwise be a through lane. For Texas Super 2 Passing Lanes, see TS2(PL) standard sheets.
2. On divided highways, an additional W9-1R "RIGHT LANE ENDS" sign may be installed in the median aligned with the W9-1R sign on the right side of the highway.
3. Lane reduction arrows are required for speeds of 45 mph or greater. An optional third lane reduction arrow may be added based on engineering judgement. If used, the optional third lane reduction arrow should be centered between the first and last lane reduction arrows.
4. For lane reductions on Freeways and Expressways, signing shall conform to the TxDOT Freeway Signing Handbook.



A two-way left-turn (TWLT) lane-use arrow pavement marking should be used at or just downstream from the beginning of a two-way left-turn lane within a corridor. Repeating the marking after each intersection or dedicated turn bay is not required unless stated elsewhere in the plans.

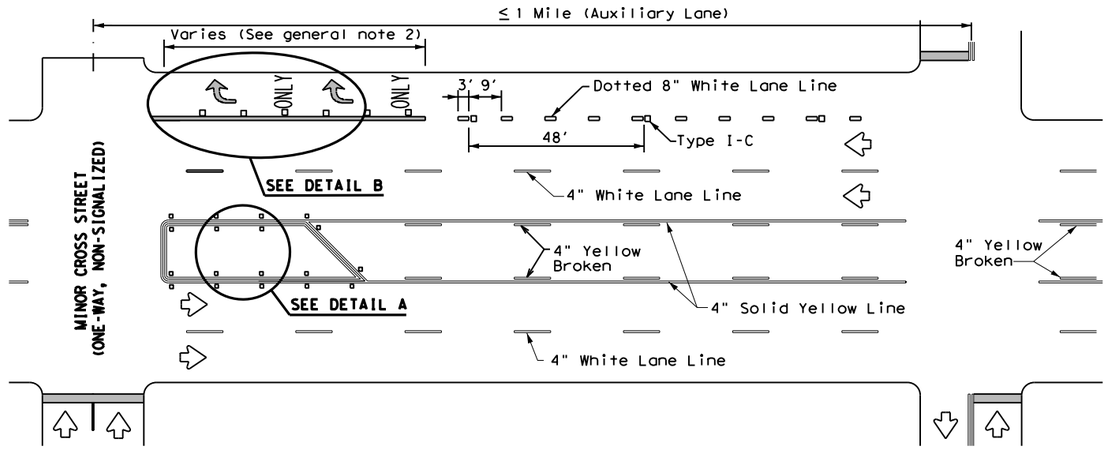
TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY

GENERAL NOTES

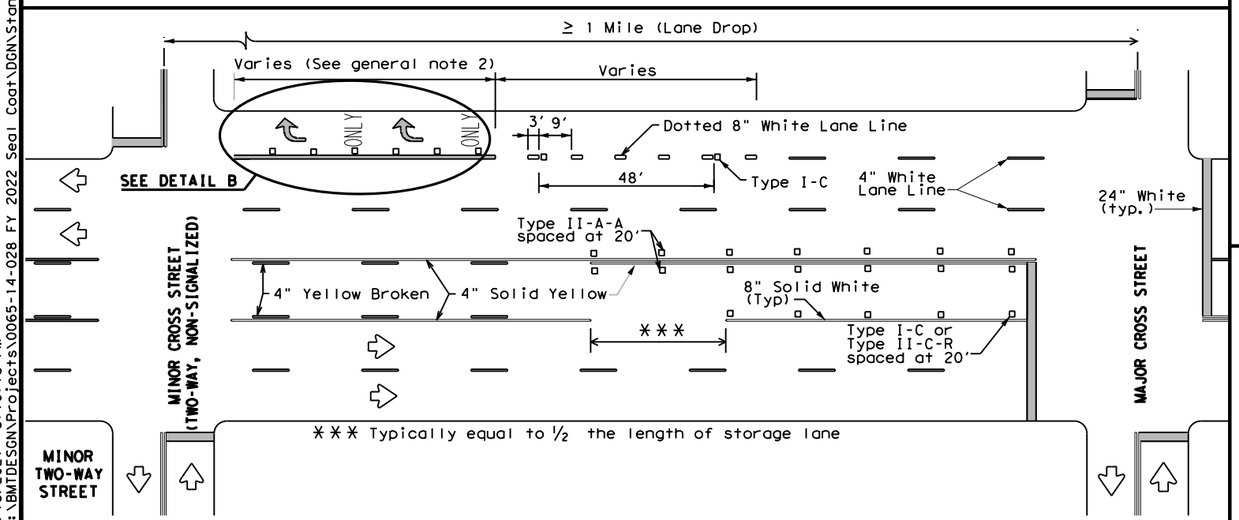
1. Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows are as shown in the Standard Highway Sign Designs for Texas.
2. When lane-use words and arrow markings are used, two sets of arrows should be used if the length of the bay is greater than 180 feet. When a single lane use arrow or word and arrow marking is used for a short turn lane, it should be located at or near the upstream end of the full-width turn lane.
3. Use raised pavement marker Type I-C with undivided highways, flush medians and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.
4. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

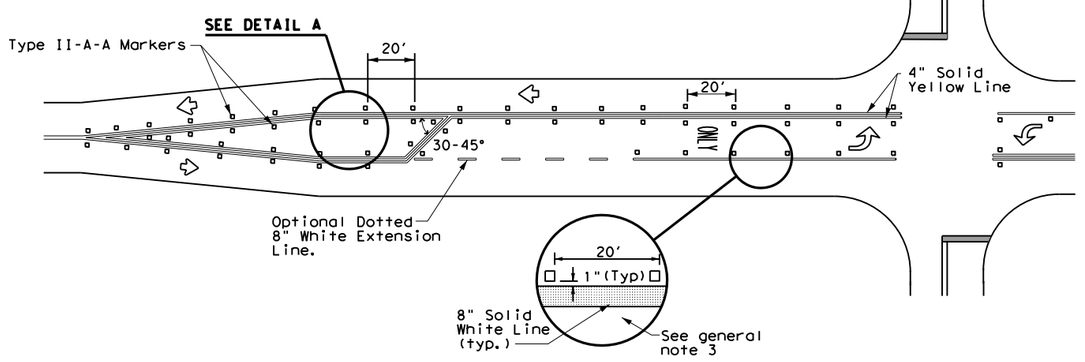
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



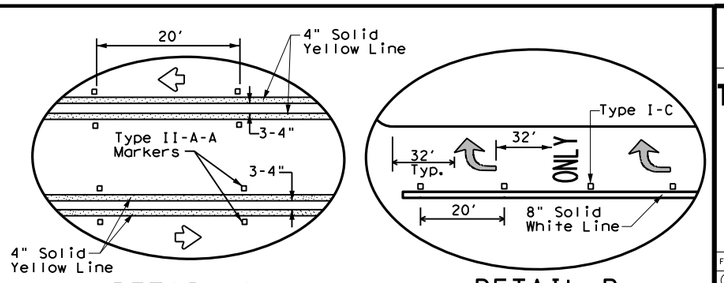
TYPICAL TWLTL AT ONE-WAY STREET AND RIGHT TURN AUXILIARY LANE



TYPICAL TWLTL AT TWO-WAY CROSS STREET AND RIGHT TURN LANE DROP



TYPICAL TWO-LANE HIGHWAY INTERSECTION WITH LEFT TURN BAYS



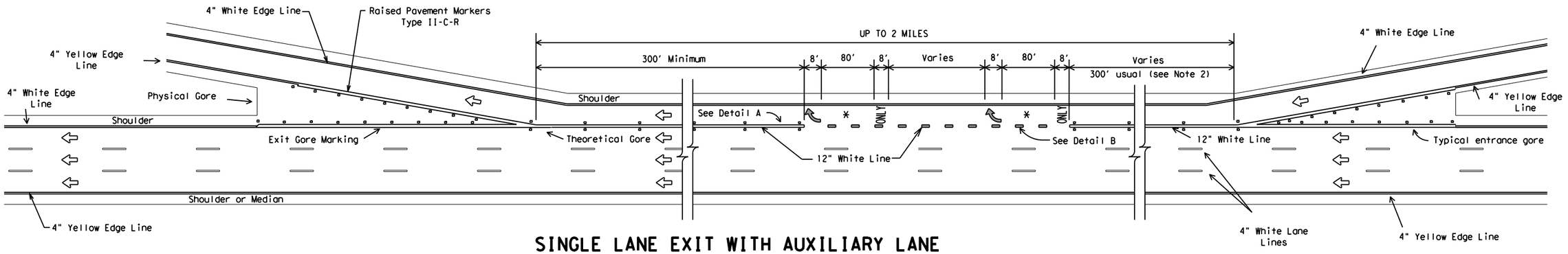
Texas Department of Transportation

Traffic Safety Division Standard

TWO-WAY LEFT TURN LANES, RURAL LEFT TURN BAYS, AND LANE REDUCTION PAVEMENT MARKINGS PM(3)-20

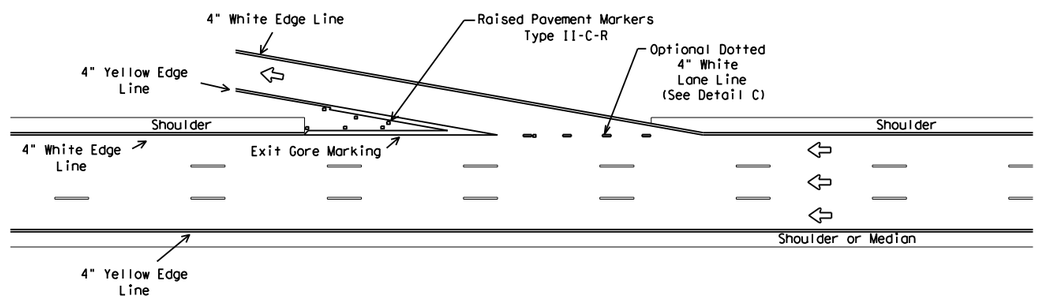
FILE: pm3-20.dgn	DN:	CK:	DW:	CK:
© TxDOT April 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.
5-00 2-10	DIST	COUNTY		SHEET NO.
8-00 2-12	BMT	HARDIN,ETC.		94
3-03 6-20				

22C

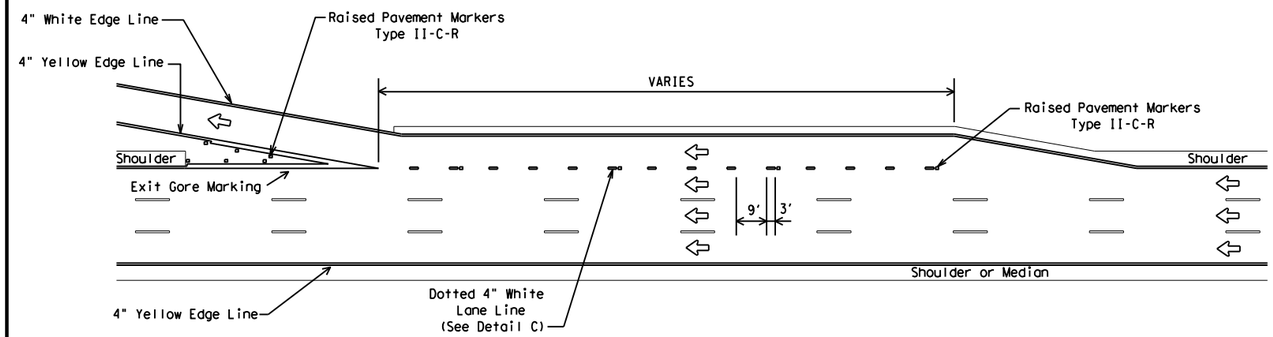


SINGLE LANE EXIT WITH AUXILIARY LANE

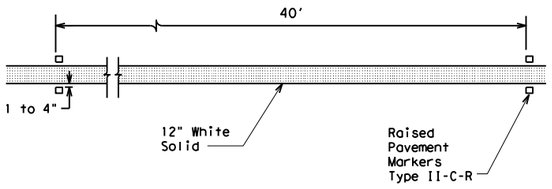
(See Note 2)



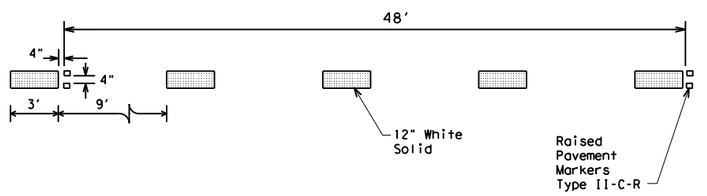
TAPERED DECELERATION LANE



PARALLEL DECELERATION LANE

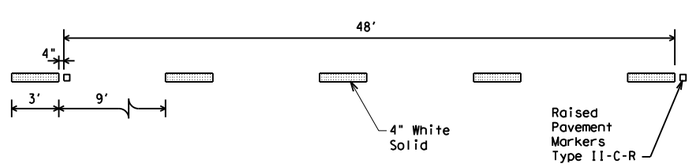


DETAIL A



DETAIL B

Wide (12") Dotted Lane Line (See Note 3)



DETAIL C

Normal (4") Dotted Lane Line (See Note 4)

GENERAL NOTES

1. Pavement markings shall be white except as otherwise noted.
2. Length of 12" white line may vary depending on location.
3. Wide (12") Dotted Lane Line (See Detail B) is used to separate a through lane from a lane drop at normal exit ramp and from an auxiliary lane between an entrance and exit ramp.
4. Normal (4") Dotted Lane Line (See Detail C) is used at parallel acceleration and deceleration lanes.

LEGEND	
⇦	Denotes direction of traffic.
⬏	Pavement marking arrows (white)
✳	Arrow markings are optional, however "ONLY" is required if arrow is used

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

Texas Department of Transportation
Traffic Operations Division

TYPICAL STANDARD FREEWAY PAVEMENT MARKINGS ENTRANCE AND EXIT RAMPS

FPM(2)-12

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

REVISIONS
4-92 2-10
8-95 2-12
5-00
8-00

CONT	SECT	JOB	HIGHWAY
0065	14	028,ETC.	BU 96F,ETC.
DIST	COUNTY		SHEET NO.
BMT	HARDIN,ETC.		95

23B

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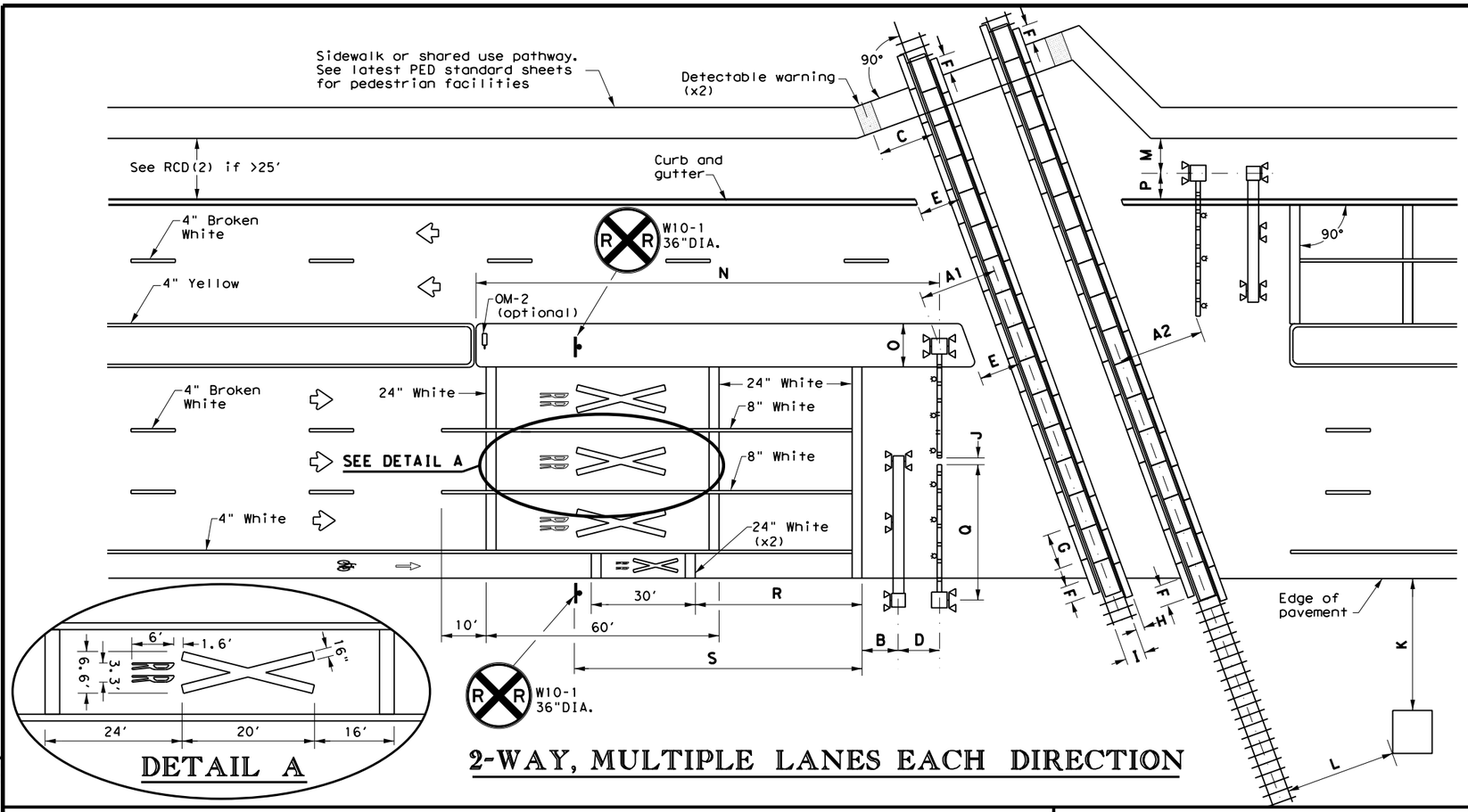


DETAIL A

2-WAY, MULTIPLE LANES EACH DIRECTION

NOTES

A1: Center of RR mast to center of rail: 12' minimum, 15' typical.

A2: Tip of gate to center of rail: 12' minimum, 15' typical.

B: Center of mast (cantilever, gate, or mast flasher) of nearest active traffic control device to stop line: 8' (NOTE: Stop line may be moved as needed, but should be at least 8' back from gates, if present).

C: Center of detectable warning device to nearest rail: 6' minimum

D: Center of gate mast to center of cantilever mast: 6' typical.
NOTE: Cantilever may be located in front or behind gates.

E: Edge of median or curb to nearest rail: 10' typical.
NOTE: Design median edge to be parallel with rail.

F: Edge of planking panel from edge of pavement or sidewalk: 3' minimum.
NOTE: Field panels need not be in line with gauge panels.

G: Length of panels along rail: 8' typical.

H: Width of field panel: 2' typical (check with railroad company).

I: Distance between rails: 4'-8.5".

J: Tip of gate to tip of gate: 2' maximum for Quiet Zone SSM or 90% of traveled way covered by gates for all other locations.

K: Nearest edge of RR cabin from edge of pavement: 30' typical.
NOTE: Cabinet not required to be parallel to edge of pavement.

L: Nearest edge of RR cabin from nearest rail: 25' typical.

M: Center of RR mast to edge of sidewalk: 6' minimum.

N: Center of gate mast to leading edge of non-traversable median: 100' minimum to qualify as a Quiet Zone SSM. NOTE: 60'will suffice if there is a street intersection within the 100' and all street intersections within 60' are closed.

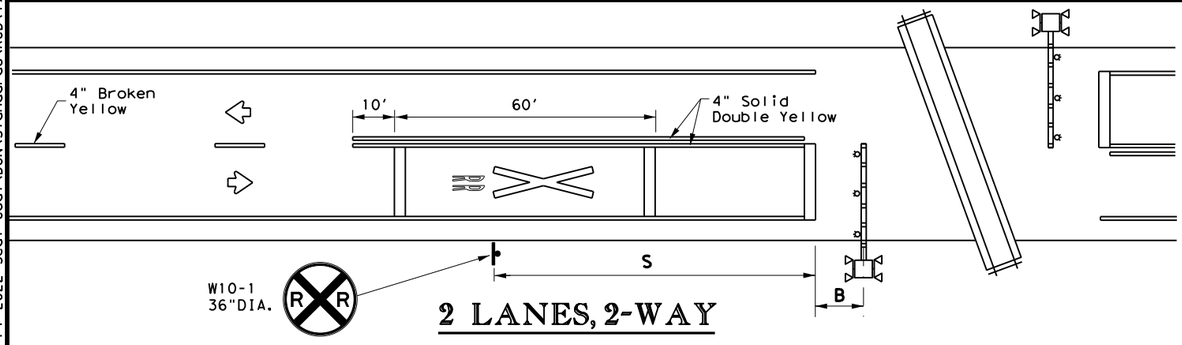
O: Width of median: 8'-6" minimum, 10' typical when using median gates.
NOTE: Center of gate mast minimum 4'-3" from face of curb.

P: Center of RR mast to face of curb: 4'-3" minimum.
Center of RR mast to edge of pavement (with shoulder): 6' minimum
Center of RR mast to edge of pavement (no shoulder): 8'-3" minimum
NOTE: BNSF prefers 5'-3", 7', and 9'-3" minimums, respectively.

Q: Gate length: 28' or less typical, but railroad company may allow up to 32'under special circumstances.

R: Stop line to first RR Crossing transverse line (bike lane): 50' typical.

S: Stop line to GRADE CROSSING ADVANCE WARNING (W10-1) sign and adjacent RR Crossing pavement markings. See Table 1. See RCD(2) for other signs.



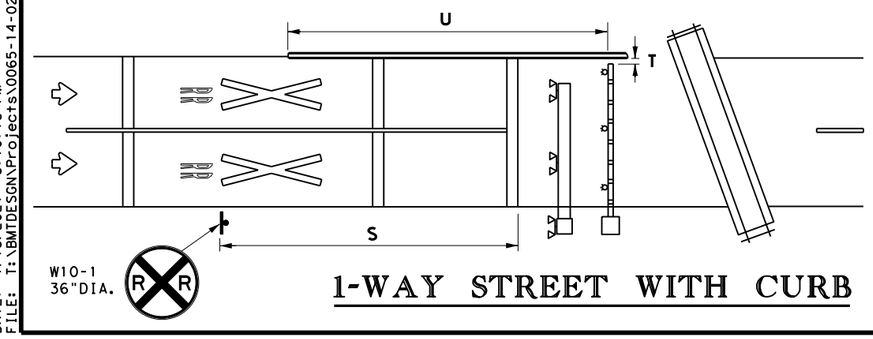
2 LANES, 2-WAY

TABLE 1	
Approach Speed (mph)	Desirable Placement (feet)
20	100
25	100
30	100
35	100
40	125
45	175
50	250
55	325
60	400
65	475
70	550
75	650

LEGEND	
	Sign
	Object Marker
	Traffic Flow
	Cantilever
	Gate Assembly
	Mast Flasher Pair

GENERAL NOTES

1. Medians and curbs must be non-traversable to qualify as a Quiet Zone Supplementary Safety Measure (SSM). Non-traversable curbs in Quiet Zones are 6" tall minimum and used on roadways where speed does not exceed 40 mph.
2. Raised pavement markers may be used to supplement striping. See PM(2) and PM(3) standard sheets.
3. Medians preferred whenever possible to prevent vehicles from driving around gates.
4. Longitudinal edge striping may be continued thru crossing as needed. Illumination may also be considered for nighttime visibility.
5. See SMD standard sheets for sign mounting details.
6. See the Standard Highway Sign Design for Texas (SHSD) manual for sign and pavement marking details.

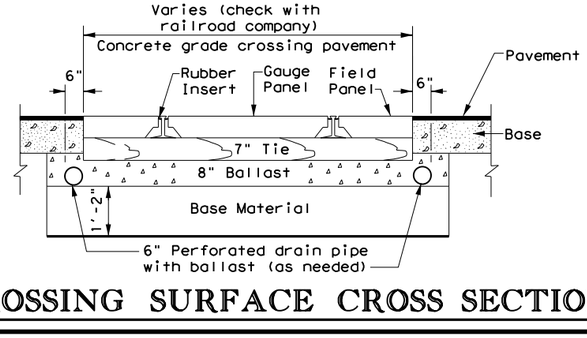


1-WAY STREET WITH CURB

NOTES

T: Tip of gate to edge of curb: 1' max for Quiet Zone SSM, 90% of traveled way covered by gates for all other locations

U: Non-traversable curb length from gate: 100' min. for a Quiet Zone SSM, 10' min for all other locations.



CROSSING SURFACE CROSS SECTION

Texas Department of Transportation

Traffic Operations Division Standard

RAILROAD CROSSING DETAILS SIGNING, STRIPING, AND DEVICE PLACEMENT RCD(1)-16

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©TxDOT FEBRUARY 2016	CONT	SECT	JOB	HIGHWAY
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.
	DIST	COUNTY		SHEET NO.
	BMT	HARDIN,ETC.		96

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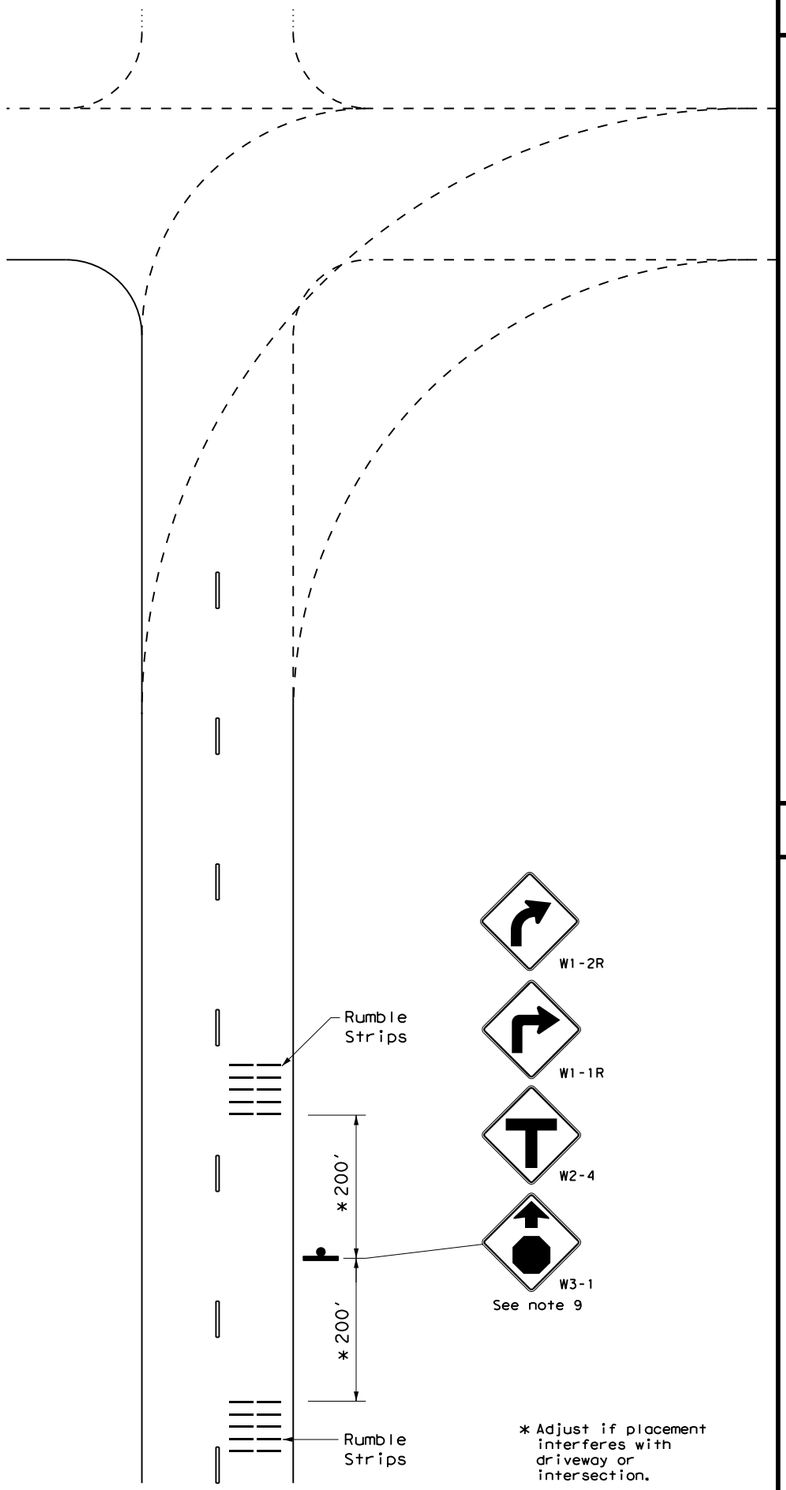
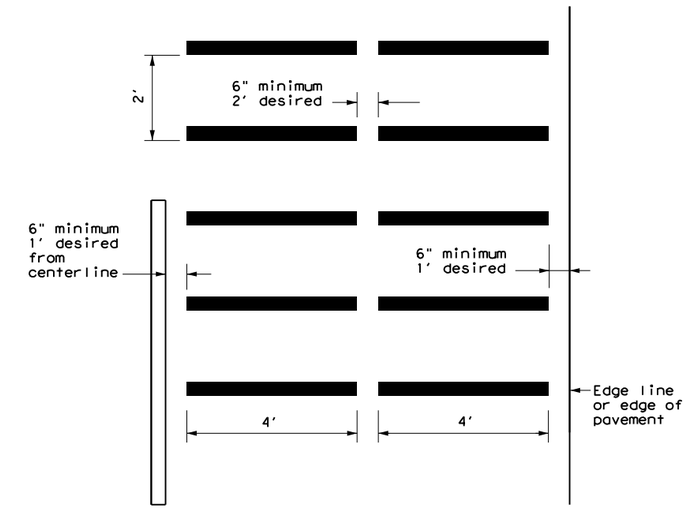
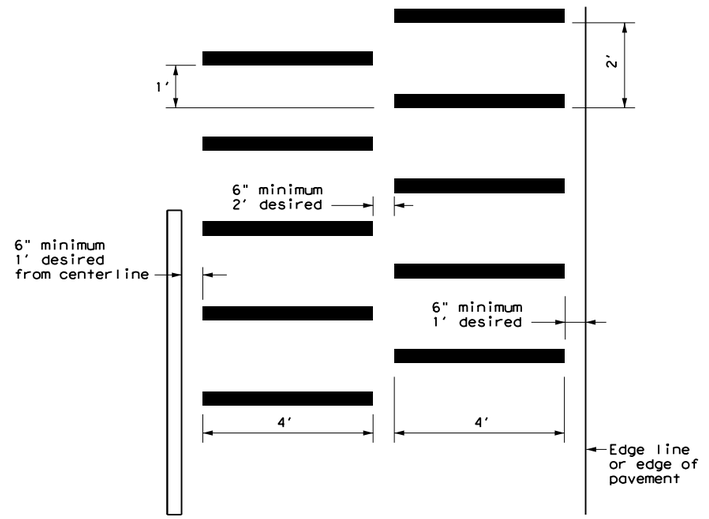


STANDARD PATTERN



ALTERNATIVE PATTERN



GENERAL NOTES

1. Transverse or in-lane rumble strips should only be used at high incident and special geometric locations. These special geometric locations may include: approaches to rural, high speed signalized or Stop -controlled intersections with sight restrictions and/or high crash rates, approaches to unexpected urban intersections, approaches to newly installed Stop or signalized controlled intersections, approaches to toll plazas, approaches to hazardous horizontal curves, and approaches to railroad grade crossings.

2. When used, the rumble strips shall be placed 200 feet prior to and after the placement of the warning device.

3. The use of rumble strips should not be widespread or used indiscriminately.

4. Preformed black raised rumble strips should be used. They should be installed in accordance with the manufacturer's recommendations.

5. A list of approved, preformed raised rumble strips can be obtained from the Traffic Operations Division.

6. Consideration should be given to noise levels when in -lane or transverse rumble strips are installed near residential areas, schools, churches, etc.

7. The use of the "Rumble Strips Ahead" sign may be used in advance of in -lane or transverse rumble strips, based on engineering judgement. This sign is typically not necessary for rumble strip installations built to the guidelines on this standard sheet. When used, this sign should be spaced in advance of the rumble strips based on the guidelines for advance placement of warning sign included in the "Texas Manual on Uniform Traffic Control Devices".

8. Consideration should be given to bicyclists. A 12 inch gap from the edge line may be used to accommodate bicyclists when a usable shoulder is not available. Additional gaps in the in -lane or transverse rumble strips are not recommended since they could cause motorists to swerve to avoid the rumble strips.

9. Other signs can be used as conditions warrant.

Texas Department of Transportation

Traffic Operations Division Standard

TRANSVERSE OR IN-LANE RUMBLE STRIPS

RS(5)-13

FILE: rs(5)-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT April 2006	CONT	SECT	JOB	HIGHWAY
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.
2-10	DIST	COUNTY		SHEET NO.
10-13	BMT	HARDIN,ETC.		97

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I. STORMWATER POLLUTION PREVENTION-CLEAN WATER ACT SECTION 402

TPDES TXR 150000: Stormwater Discharge Permit or Construction General Permit required for projects with 1 or more acres disturbed soil. Projects with any disturbed soil must protect for erosion and sedimentation in accordance with Item 506.

List MS4 Operator(s) that may receive discharges from this project. They may need to be notified prior to construction activities.

1. TxDOT - Beaumont District

2. Cities of Beaumont, Lumberton, Nederland, Port Arthur, and Silsbee.

☐ No Action Required ☒ Required Action

Action No.

1. Prevent stormwater pollution by controlling erosion and sedimentation in accordance with TPDES Permit TXR 150000
2. Comply with the SW3P and revise when necessary to control pollution or as required by the Engineer.
3. The project is estimated to involve less than one acre of soil disturbance. In the event the project disturbance acreage becomes equal to or greater than one acre, the CGP is applicable. Contact TxDOT project inspector for coordination with DEQC for necessary action.
4. Take measures to prevent construction materials and debris including, but not limited to wastewater (i.e., cooling liquid, etc.) associated with concrete removal from entering any inlets, ditches, or waterways.

II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404

USACE Permit required for filling, dredging, excavating or other work in any water bodies, rivers, creeks, streams, wetlands or wet areas.

The Contractor must adhere to all of the terms and conditions, including Regional conditions for the State of Texas, associated with the following permit(s):

☒ No Permit Required

☐ Nationwide Permit 14 - PCN not Required (less than 1/10th acre waters or wetlands affected)

☐ Nationwide Permit 14 - PCN Required (1/10 to <1/2 acre, 1/3 in tidal waters)

☐ Individual 404 Permit Required: Permit # _____

☐ Other Nationwide Permit Required: NWP# _____

Required Actions: List waters of the US permit applies to, location in project and check Best Management Practices planned to control erosion, sedimentation and post-project TSS.

1. Maintain a neat and clean worksite next to the water and do not allow any debris to fall into the water.
2. Comply with "Work In or Near Waters/Wetlands Regulatory Requirements and Best Management Practices" section found in the Beaumont District Environmental Field Guide.

The elevation of the ordinary high water marks of any areas requiring work to be performed in the waters of the US requiring the use of a nationwide permit can be found on the Bridge Layouts.

Best Management Practices:

Erosion	Sedimentation	Post-Construction TSS
☐ Temporary Vegetation	☐ Silt Fence	☐ Vegetative Filter Strips
☐ Blankets/Matting	☐ Rock Berm	☐ Retention/Irrigation Systems
☐ Mulch	☐ Triangular Filter Dike	☐ Extended Detention Basin
☐ Sodding	☐ Sand Bag Berm	☐ Constructed Wetlands
☐ Interceptor Swale	☐ Straw Bale Dike	☐ Wet Basin
☐ Diversion Dike	☐ Brush Berms	☐ Erosion Control Compost
☐ Erosion Control Compost	☐ Erosion Control Compost	☐ Mulch Filter Berm and Socks
☐ Mulch Filter Berm and Socks	☐ Mulch Filter Berm and Socks	☐ Compost Filter Berm and Socks
☐ Compost Filter Berm and Socks	☐ Compost Filter Berm and Socks	☐ Vegetation Lined Ditches
	☐ Stone Outlet Sediment Traps	☐ Sand Filter Systems
	☐ Sediment Basins	

III. CULTURAL RESOURCES

☐ No Action Required ☒ Required Action

Action No.

1. Refer to TxDOT Standard Specifications in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the immediate area and contact the Engineer immediately.

IV. VEGETATION RESOURCES

☐ No Action Required ☒ Required Action

Action No.

1. No tree or vegetation removal/trimming of any kind is allowed. Exceptions are allowed for mowed and maintained grass.

V. FEDERAL LISTED, PROPOSED THREATENED, ENDANGERED SPECIES, CRITICAL HABITAT, STATE LISTED SPECIES, CANDIDATE SPECIES AND MIGRATORY BIRDS.

☐ No Action Required ☒ Required Action

Action No.

1. If any animal enters the work area, do not harm, harass, or attempt to handle; let the animal leave on its own.
2. If caves or sinkholes are discovered on site, cease work in the area and contact the TxDOT Inspector or DEQC for guidance.
3. Comply with "Wildlife: Regulatory Requirements and Best Management Practices" section found in the Beaumont District Environmental Field Guide.
4. Contractor shall maintain compliance with the Migratory Bird Treaty Act (MBTA) and TPW Code Section 64.002. The full TxDOT MBTA guidance may be found here: https://ftp.txdot.gov/pub/txdot-info/env/toolkit/350-01-gui.pdf
5. Roadside Appurtenance Maintenance Program BMPs from the Maintenance EA Best Management Practices Summary Report shall be reviewed and implemented where appropriate.

VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES

☐ No Action Required ☒ Required Action

General (applies to all projects):

Comply with the Hazard Communication Act (the Act) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used.

Obtain and keep on-site Material Safety Data Sheets (MSDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: Paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bare ground and covered, for products which may be hazardous. Maintain product labelling as required by the Act.

Maintain an adequate supply of on-site spill response materials, as indicated in the MSDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the District Spill Coordinator immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Contact the Engineer if any of the following are detected:

* Dead or distressed vegetation (not identified as normal)
* Trash piles, drums, canister, barrels, etc.
* Undesirable smells or odors
* Evidence of leaching or seepage of substances
* Any other evidence indicating possible hazardous materials or contamination discovered on site.

List below any bridge class structure(s), not including box culverts, being replaced, rehabilitated, removed, extended or modified as part of this project, or state "None", if applicable.
If "None", then no further action is required. Otherwise TxDOT is responsible for completing asbestos assessment/inspection and evaluation for presence of lead.

Provide results below:

Structure Location	PSN	Element	Lead	Asbestos
None				

If Asbestos is present, then TxDOT must retain a DSHS licensed asbestos consultant to assist with the notification, develop abatement/mitigation procedures, and perform management activities as necessary.

If Asbestos is not present, then TxDOT is still required to notify DSHS prior to any scheduled demolition.

In either case, the Contractor is responsible for providing the date(s) for abatement activities and/or demolition with careful coordination between the Engineer and asbestos consultant in order to minimize construction delays and subsequent claims.

Hazardous Materials or Contamination Issues Specific to this Project:

Action No.

1. Comply with TxDOT Standard Specification 7.12 and Special Provision 006-012 if evidence of hazardous materials or contamination is noted during construction.
2. Notify TxDOT Inspector or DEQC of any hazardous materials spills including fuel, hydraulic fluid, etc.

VII. OTHER ENVIRONMENTAL ISSUES

(includes regional issues such as Edwards Aquifer District, etc.)

☐ No Action Required ☒ Required Action

Action No.

1. Comply with "General Construction" section found in the Beaumont District Environmental Field Guide.

LIST OF ABBREVIATIONS

BMP:	Best Management Practice	SPCC:	Spill Prevention Control and Countermeasure
CGP:	Construction General Permit	SW3P:	Storm Water Pollution Prevention Plan
DSHS:	Texas Department of State Health Services	PCN:	Pre-Construction Notification
FHWA:	Federal Highway Administration	PSL:	Project Specific Location
MOA:	Memorandum of Agreement	TCEQ:	Texas Commission on Environmental Quality
MOU:	Memorandum of Understanding	TPDES:	Texas Pollutant Discharge Elimination System
MS4:	Municipal Separate Stormwater Sewer System	TPWD:	Texas Parks and Wildlife Department
MBTA:	Migratory Bird Treaty Act	TxDOT:	Texas Department of Transportation
NOT:	Notice of Termination	T&E:	Threatened and Endangered Species
NWP:	Nationwide Permit	USACE:	U.S. Army Corps of Engineers
NOI:	Notice of Intent	USFWS:	U.S. Fish and Wildlife Service

Jared Simpson — APPROVED BY
7/14/2021 — DATE
DISTRICT ENVIRONMENTAL DEPARTMENT

Texas Department of Transportation

Beaumont District Standard

ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS

EPIC

FILE: epic.dgn	DN: TxDOT	CK: AM	DW: VP	CK: AR
©TxDOT February 2019	CONT	SECT	JOB	HIGHWAY
	0065	14	028,ETC.	BU 96F,ETC.
	DIST	COUNTY		SHEET NO.
	BMT	HARDIN,ETC.		98

PART 1 - GENERAL

1.01 DESCRIPTION

This project includes construction work within the right of way and/or properties of the Railroad and adjacent to its tracks, wire lines and other facilities. These sheets describe the minimum special requirements for coordination with the Railroad when working upon, over or under Railroad Right of Way or when impacting current or future Railroad operations. Coordinate with the Railroad while performing the work outlined herein, and afford the same cooperation with the Railroad as with TxDOT. Complete all submittals and work in accordance with TxDOT Standard Specifications, Railroad Guidelines and AREMA recommendations as modified by these minimum special requirements or as directed in writing by the Railroad Designated Representative.

For purposes of this project, the Railroad Designated Representative is the person or persons designated by the Railroad Manager of Industry and Public Projects to handle specific tasks related to the project.

1.02 REQUEST FOR INFORMATION / CLARIFICATION

Submit Requests for Information ("RFI") involving work within any Railroad Right of Way to the TxDOT Engineer. The TxDOT Engineer will submit the RFI to the Railroad Designated Representative for review and approval for RFI's corresponding to work within Railroad Right of Way. Allow six (6) weeks total time for review and approval, which includes four (4) weeks for review and approval by the Railroad.

1.03 PLANS / SPECIFICATIONS

TxDOT has received written Railroad approval of the plans and specifications for this project. Any revisions or changes in the plans after award of the Contract must have the approval of TxDOT and the Railroad.

PART 2 - UTILITIES AND FIBER OPTIC

Construct all utility installations in accordance with current AREMA recommendations, Railroad, TxDOT and owning utility specifications and requirements. Railroad general guidelines can be found on the Railroad website or by contacting the Railroad Designated Representative.

PART 3 - CONSTRUCTION

3.01 GENERAL

A. Perform all work in compliance with all applicable Railroad, Federal Railroad Administration (FRA), and TxDOT rules and regulations. Arrange and conduct work in a manner that does not endanger or interfere with the safe operation of the tracks and property of the Railroad and the traffic moving on such tracks, or the wires, signals and other property of the Railroad, its tenants or licensees, at or in the vicinity of the Work. The safe operation of railroad train movements takes precedence over any work to be performed by the Contractor. The Contractor is responsible for train delay cost and lost revenue claims due to any delays or interruption of train operations resulting from Contractor's construction or other activities.

B. Construction activities within 15 feet of the operational tracks will only be allowed if absolutely necessary and the Railroad's Designated Representative grants approval. Construction activities within 15 feet of the operational track(s) preferably allow the tracks to stay operational. In such cases, coordination and approval by the Railroad Track Manager is required with regard to schedule, flagging, and slow orders. See Sections 3.07 and 3.08 for additional information.

C. Provide track protection for all work equipment (including rubber tired equipment) operating within 25 feet from nearest rail. When not in use, keep Contractor machinery and materials at least 50 feet from the Railroad's nearest track.

D. Vehicular crossings of railroad track are allowed only at existing crossings, or haul road crossings developed with Railroad approval.

E. The Contractor is also advised that new railroad facilities within the project may be built by the Railroad. If applicable, these facilities are delineated in the plans. Be aware of the limits of responsibilities and coordinate efforts with the Railroad and TxDOT.

F. Railroad requirements do not allow work within 50 feet of track centers when a train passes the work site and all personnel must clear the area within 50 feet of the track centerline and secure all equipment. Additional allowances may be pursued as outlined in 3.02 and 3.03.

G. All permanent clearances shall be verified before project closing.

3.02 RAILROAD OPERATIONS

A. Trains and/or equipment are expected on any track, at any time, in either direction. Become familiar with the train schedules in this location and structure bid assuming intermittent track windows in this period, as defined in Paragraph B that follows.

B. All railroad tracks within and adjacent to the contract site are active, and rail traffic over these facilities shall be maintained throughout the Project. Activities may include both through moves and switching moves to local customers. railroad traffic and operations will occur continuously throughout the day and night on these tracks and shall be maintained at all times as defined herein. Coordinate and schedule the work so that construction activities do not interfere with railroad operations.

C. Coordinate work windows with TxDOT and the Railroad's Designated Representative. Types of work windows include Conditional Work Windows and Absolute Work Windows, as defined below:

1. Conditional Work Window: A Conditional Work Window is a period of time that railroad operations have priority over construction activities. When construction activities may occur on and/or adjacent to the railroad tracks within 25 feet of the nearest track, a railroad flag person will be required. At the direction of the railroad flag person, upon approach of a train, and when trains are present on the tracks, the tracks must be cleared (i.e., no construction equipment, materials or personnel within 25 feet, or as directed by the Railroad Designated Representative, from the tracks). Conditional Work Windows are available for the Project.

2. Absolute Work Window: An Absolute Work Window is a period of time that construction activities are given priority over railroad operations. During this time frame, the designated railroad track(s) will be inactive for train movements and may be fouled by the Contractor. At the end of an Absolute Work Window, the railroad tracks and/or signals must be completely operational for train operations and all Railroad, Public Utilities Commission (PUC) and FRA requirements, codes and regulations for operational tracks must be satisfied. In the situation where the operating tracks and/or signals have been affected, the Railroad will perform inspections of the work prior to placing that track back into service. Railroad flag persons will be required for construction activities requiring an Absolute Work Window. Absolute Work Windows will not generally be granted. Any request will require a detailed explanation for Railroad review.

3.03 RIGHT OF ENTRY, ADVANCE NOTICE AND WORK STOPPAGES

A. Do not perform any work within Railroad Right of Way without a valid executed Right of Entry Agreement if required on this project.

B. Give advance notice to the Railroad as required in the "Contractor's Right of Entry Agreement" before commencing work in connection with construction upon or over Railroad Right of Way and observe the Railroad's rules and regulations with respect thereto.

C. Perform all work upon Railroad Right of Way in a manner to avoid interference with or endanger the operations of the Railroad. Whenever work may affect the operations or safety of trains, submit the work method to the Railroad Designated Representative for approval. Approval does not relieve the Contractor from liability. Do not commence any work which requires flagging service or inspection service until the flagging protection required by the Railroad is available at the job site. See Section 3.15 for railroad flagging requirements.

D. Make requests in writing for both Absolute and Conditional Work Windows, at least 30 days in advance of any work. Include in the written request:
1. Exactly what the work entails.
2. The days and hours that work will be performed.
3. The exact location of work, and proximity to the tracks.
4. The type of window requested and the amount of time requested.
5. The designated contact person.

Provide a written confirmation notice to the Railroad at least 48 hours before commencing work in connection with approved work windows when work is within 25 feet of nearest rail. Perform all work in accordance with previously approved work plans.

E. Make provisions to protect operations and property of the Railroad should a condition arising from, or in connection with the work, require immediate and unusual action. If in the judgment of the Railroad Designated Representative such provisions are insufficient, the Railroad Designated Representative may require or provide such provisions as deemed necessary. In any event, such provisions shall be at the Contractor's expense and without cost to the Railroad or TxDOT. The Railroad or TxDOT shall have the right to order the Contractor to temporarily cease operations in the event of an emergency or, if in the opinion of the Railroad Designated Representative, the Contractor's operations could endanger railroad operations. In the event of such an order, immediately notify TxDOT of the order.

3.04 INSURANCE

Do not begin work upon or over Railroad Right of Way until furnishing the Railroad with the insurance policies, binders, certificates and endorsements required by the "Contractor's Right of Entry Agreement", and until the Railroad Designated Representative has advised TxDOT that such insurance is in accordance with the Agreement.

3.05 RAILROAD SAFETY ORIENTATION

A. Complete the railroad course "Orientation for Contractor's Safety", and maintain current registration prior to working on railroad property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

"UPRR, BNSF, KCS/TEXMEX will not accept on-track safety training certificates from other railroads. Refer to Railroad specific contractor right of entry for training information."

B. Know and follow the "Contractor's Right of Entry Agreement" EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

3.06 COOPERATION

The Railroad will cooperate with Contractor so that work may be conducted in an efficient manner, and will cooperate with Contractor in enabling use of Railroad Right of Way in performing the work.

3.07 MINIMUM CONSTRUCTION CLEARANCES FOR FALSEWORK AND OTHER TEMPORARY STRUCTURES

Abide by the following minimum temporary clearances during the course of construction:
A. 15' - 0" (BNSF)(UPRR)and 14'-0" (KCS) horizontal from centerline of track
B. 22' (KCS) and 21' - 6" (UPRR & BNSF) vertically above top of rail.

For construction clearance less than listed above, obtain local Railroad Operating Unit review and approval.

3.08 APPROVAL OF REDUCED CLEARANCES

A. Maintain minimum track clearances during construction as specified in Section 3.07.

B. Submit any proposed infringement on the specified minimum clearances to the Railroad Designated Representative through TxDOT at least 30 days in advance of the work. Do not proceed with such infringement without written approval by the Railroad Designated Representative.

C. Do not commence work involving an approved infringement without receiving written assurance from the Railroad Designated Representative that arrangements have been made for any necessary flagging service.

Texas Department of Transportation | Rail Division

RAILROAD REQUIREMENTS FOR NON-BRIDGE CONSTRUCTION PROJECTS

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REVISIONS March 2020	0065	14	028,ETC.	BU 96F,ETC.
	DIST	COUNTY		SHEET NO.
	BMT	HARDIN,ETC.		99

DATE:
FILE:

3.09 MAINTENANCE OF RAILROAD FACILITIES

A. Maintain all ditches and drainage structures free of silt or other obstructions resulting from Contractor's operations. Repair eroded areas and any other damage within Railroad Right of Way and repair any other damage to the property of the Railroad, or its tenants.

B. Perform all such maintenance and repair of damages due to the Contractors's operations at Contractor's expense.

C. Submit a proposed method of erosion control for review by the Railroad prior to beginning any grading on the project site. Comply with all applicable local, state and federal regulations when developing and implementing such erosion control.

3.10 SITE INSPECTIONS BY RAILROAD's DESIGNATED REPRESENTATIVE

A. In addition to the office reviews of construction submittals, site inspections may be performed by the Railroad Designated Representative at significant points during construction, including the following if applicable:
   1. Pre-construction meetings.
   2. Pile driving/drilling of caissons or drilled shafts.
   3. Reinforcement and concrete placement for railroad bridge substructure and/or superstructure.
   4. Erection of precast concrete or steel bridge superstructure.
   5. Placement of waterproofing (prior to placing ballast on bridge deck).
   6. Completion of the bridge structure.

B. Site inspection is not limited to the milestone events listed above. Site visits to check progress of the work may be performed at any time throughout the construction as deemed necessary by the Railroad.

C. Provide a detailed construction schedule, including the proposed temporary horizontal and vertical clearances and construction sequence for all work to TxDOT for submittal to the Railroad Designated Representative for review prior to commencement of work. Include the anticipated dates when the above listed events will occur. Update this schedule for the above listed events as necessary and each month at a minimum to allow the Railroad to schedule site inspections.

3.11 RAILROAD REPRESENTATIVES

Railroad representatives, conductors, flag person or watch person will be provided by the Railroad at expense of TxDOT to protect Railroad facilities, property and movements of its trains or engines. In general, the Railroad will furnish such personnel or other protective services as follows:

A. When any part of any equipment is standing or being operated within 25 feet, measured horizontally, from nearest rail of any track on which trains may operate, or when any object is off the ground and any dimension thereof could extend inside the 25 foot limit, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.

B. For any excavation below elevation of track subgrade if, in the opinion of the Railroad Designated Representative, track or other railroad facilities may be subject to settlement or movement.

C. During any clearing, grubbing, excavation or grading in proximity to railroad facilities, which, in the opinion of the Railroad Designated Representative, may endanger railroad facilities or operations.

D. During any Contractor's operations when, in the opinion of the Railroad Designated Representative, railroad facilities, including, but not limited to, tracks, buildings, signals, wire lines, or pipe lines, may be endangered.

E. Arrange with the Railroad Designated Representative to provide the adequate number of flag persons to accomplish the work.

3.12 COMMUNICATIONS AND SIGNAL LINES

If required, the Railroad will rearrange its communications and signal lines, its grade crossing warning devices, train signals and tracks, and facilities that are in use and maintained by the Railroad's forces in connection with its operation at expense of TxDOT. This work by the Railroad will be done by its own forces and it is not a part of the Work under this Contract.

3.13 TRAFFIC CONTROL

Coordinate any operations that control traffic across or around railroad facilities with the Railroad Designated Representative.

3.14 CONSTRUCTION EXCAVATIONS AND BORING ACTIVITIES UNDER TRACK

A. Take special precaution and care in connection with excavating and shoring. Excavations for construction of footings, piers, columns, walls or other facilities that require shoring shall comply with requirements of TxDOT, OSHA, AREMA and Railroad "Guidelines for Temporary Shoring".

B. The project plans indicate whether there are fiber optic lines or other such telecommunications systems that require consideration. Regardless, contact the necessary call center to determine if such cable systems are present:

   UPRR 1-800-336-9193
   7:00 AM to 9:00 PM CST Monday-Friday except holidays,
   staffed 24 hrs/day for emergencies
   48 hrs notice required

   BNSF 1-800-533-2891
   24 hour number
   5 working days notice required

   KCS 1-800-344-8377
   Texas One Call, a 24 hour number
   48 hrs notice required, excluding weekends and holidays

   If a telecommunications system is buried anywhere on or near railroad property, coordinate with TxDOT, the Railroad and the Telecommunication Company(ies) to arrange for relocation or protective measures prior to beginning work on or near railroad property. Refer to the project General Notes for additional information.

C. Projects involving a boring or jack and bore operation under track such as drainage pipes or culverts and utilities require an installation plan reviewed and approved by the Railroad and TxDOT prior to proceeding with such construction. A railroad inspector and contractor assisted monitoring of ground and track movement is required to maintain safe passage of rail traffic. Stop installation and do not allow passage of trains if movements in excess of 1/4 inch vertical or horizontal is detected in the tracks. Immediately repair the damage to the satisfaction of TxDOT and the Railroad before proceeding.

3.15 RAILROAD FLAGGING

Per the Right of Entry Agreement for flagging, notify the Railroad Representative at least 10 working days in advance of Contractor's work and at least 30 working days in advance of any Contractor's work in which any person or equipment will be within 25 feet of nearest rail or as specified in the Contractor Right of Entry (CROE).

3.16 CLEANING OF RIGHT-OF-WAY

When work is complete, remove all tools, implements, and other materials brought into Railroad Right of Way and leave the right of Way in a clean and presentable condition to the satisfaction of TxDOT and the Railroad.

Texas Department of Transportation | Rail Division

RAILROAD REQUIREMENTS FOR NON-BRIDGE CONSTRUCTION PROJECTS

FILE:	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT October 2018	CONT	SECT	JOB	HIGHWAY
REVISIONS March 2020	0065	14	028, ETC.	BU 96F, ETC.
	DIST	COUNTY		SHEET NO.
	BMT	HARDIN, ETC.		100

DATE:
FILE:

DATE: 7/23/2021 9:24:46 AM
FILE: c:\txdot\pw\online\txdot5\samantha.harris\d0533158\RAILROAD SCOPE OK.dgn

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

DOT #: 762519T
Crossing Type: ** AT GRADE
RR Company Owning Track at Crossing: UNION PACIFIC RAILROAD COMPANY
Operating RR Company at Track: UNION PACIFIC RAILROAD COMPANY
RR MP: 12.30
RR Subdivision: SABINE IND LD
City: PORT ARTHUR
County: JEFFERSON
CSJ at this Crossing: 0307-01-154
Highway/Roadway name crossing the railroad: SH 87
# of regularly scheduled trains per day at this crossing: N/A
# of switching movements per day at this crossing: N/A
% of estimated contract cost of work within railroad ROW: 0.00084

Scope of Work at this Crossing to Be Performed by State Contractor:
PLACE SEAL COAT AND PAVEMENT MARKINGS ON EXSTING ROADWAY FULL-WIDTH UP TO RAILROAD RIGHT OF WAY. NO WORK WILL BE DONE ON RAILROAD RIGHT OF WAY.

Scope of Work at this Crossing to Be Performed by Railroad Company:
FLAGGING DURING SEAL COAT OPERATIONS.

** Choose: Highway Overpass, Highway Underpass, At Grade, Pedestrian, or Closed/Abandoned

II. OTHER PROJECT WORK WITHIN RAILROAD RIGHTS-OF-WAY (ROW)

III. FLAGGING & INSPECTION

of Days of Railroad Flagging Expected: 0

On this project, night or weekend flagging is:

☐ Expected
☒ Not Expected

Flagging services will be provided by:

☒ Railroad Company: TxDOT will pay flagging invoices
☐ Outside Party: Contractor will pay flagging invoices, to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30 day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☒ UPRR - UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging

☐ BNSF - BNSF.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging

☐ KCS - KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
- Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS

Contractor must incorporate Construction Inspection into anticipated construction schedule.

☒ Not Required

☐ Required: Contact Information for Construction Inspection:

IV. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

On this project, construction work to be performed by a railroad company is:

☐ Required
☒ Not Required

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

V. RAILROAD INSURANCE REQUIREMENTS

Railroad reference number shall be provided by TxDOT CST or DO.

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies must be issued for and on behalf of the Railroad. Where more than one Railroad Company is operating on the same right of way or where several Railroad Companies are involved and operate on their own separate rights of way, provide separate insurance policies in the name of each Railroad Company.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000 combined single limit
Railroad Protective Liability	
☒ Not Required	
☐ Non - Bridge Projects	$2,000,000 / $6,000,000
☐ Bridge Projects	$5,000,000 / $10,000,000
☐ Other	

VI. CONTRACTOR'S RIGHT OF ENTRY (ROE) AGREEMENT

On this project, an ROE agreement is:

☒ Not Required
☐ Required: TxDOT CST to assist in obtaining with the UPRR (see Item 5, Article 8.3)
☐ Required: Contractor to obtain (see Item 5, Article 8.4)
With the following railroad companies: UNION PACIFIC RAILROAD COMPANY

To view previously approved ROE Agreement templates agreed upon between the State and Railroad, see:

http://www.txdot.gov/inside-txdot/division/rail/samples.html

Approved ROE Agreement templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed ROE agreement between the Contractor and the Railroad if required on project.

VII. RAILROAD COORDINATION MEETING

On this project, a Railroad Coordination Meeting is:

☒ Not Required
☐ Required

See Item 5, Article 8.1 for more details.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are required to maintain the same insurance coverage as required of the Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call UNION PACIFIC RAILROAD COMPANY
Railroad Emergency Line at 1-800-848-8715
Location: DOT 762519T
RR Milepost 12.30
Subdivision SABINE IND LD

Texas Department of Transportation | Rail Division

REF 10 - SH 87
RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: RR Scope of Work.dgn	DN: TxDOT	CK:	DW:	CK:
©TxDOT June 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.
3/2020	DIST	COUNTY		SHEET NO.
	BMT	HARDIN,ETC.		101

DATE: 7/23/2021 9:25:00 AM
FILE: G:\txdot\pw\online\txdot5\samantha.harris\d0533158\RAILROAD SCOPE OK.dgn

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

DOT #: 762743D
Crossing Type: ** AT GRADE
RR Company Owning Track at Crossing: UNION PACIFIC RAILROUND COMPANY
Operating RR Company at Track: UNION PACIFIC RAILROAD COMPANY
RR MP: 297.11
RR Subdivision: HOUSTON
City: NOME
County: JEFFERSON
CSJ at this Crossing: 0601-02-026
Highway/Roadway name crossing the railroad: SH 326
# of regularly scheduled trains per day at this crossing: N/A
# of switching movements per day at this crossing: N/A
% of estimated contract cost of work within railroad ROW: 0.00084

Scope of Work at this Crossing to Be Performed by State Contractor:
PLACE SEAL COAT AND PAVEMENT MARKINGS ON EXSTING ROADWAY FULL-WIDTH UP TO RAILROAD RIGHT OF WAY. NO WORK WILL BE DONE ON RAILROAD RIGHT OF WAY.

Scope of Work at this Crossing to Be Performed by Railroad Company:
FLAGGING DURING SEAL COAT OPERATIONS.

** Choose: Highway Overpass, Highway Underpass, At Grade, Pedestrian, or Closed/Abandoned

II. OTHER PROJECT WORK WITHIN RAILROAD RIGHTS-OF-WAY (ROW)

III. FLAGGING & INSPECTION

of Days of Railroad Flagging Expected: 0

On this project, night or weekend flagging is:

☐ Expected
☒ Not Expected

Flagging services will be provided by:

☒ Railroad Company: TxDOT will pay flagging invoices
☐ Outside Party: Contractor will pay flagging invoices, to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30 day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☒ UPRR - UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging

☐ BNSF - BNSF.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging

☐ KCS - KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
- Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS

Contractor must incorporate Construction Inspection into anticipated construction schedule.

☒ Not Required

☐ Required: Contact Information for Construction Inspection:

IV. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

On this project, construction work to be performed by a railroad company is:

☐ Required
☒ Not Required

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

V. RAILROAD INSURANCE REQUIREMENTS

Railroad reference number shall be provided by TxDOT CST or DO.

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies must be issued for and on behalf of the Railroad. Where more than one Railroad Company is operating on the same right of way or where several Railroad Companies are involved and operate on their own separate rights of way, provide separate insurance policies in the name of each Railroad Company.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000 combined single limit
Railroad Protective Liability	
☒ Not Required	
☐ Non - Bridge Projects	$2,000,000 / $6,000,000
☐ Bridge Projects	$5,000,000 / $10,000,000
☐ Other	

VI. CONTRACTOR'S RIGHT OF ENTRY (ROE) AGREEMENT

On this project, an ROE agreement is:

☒ Not Required
☐ Required: TxDOT CST to assist in obtaining with the UPRR (see Item 5, Article 8.3)
☐ Required: Contractor to obtain (see Item 5, Article 8.4)
With the following railroad companies: _____

To view previously approved ROE Agreement templates agreed upon between the State and Railroad, see:

http://www.txdot.gov/inside-txdot/division/rail/samples.html

Approved ROE Agreement templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed ROE agreement between the Contractor and the Railroad if required on project.

VII. RAILROAD COORDINATION MEETING

On this project, a Railroad Coordination Meeting is:

☒ Not Required
☐ Required

See Item 5, Article 8.1 for more details.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are required to maintain the same insurance coverage as required of the Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call UNION PACIFIC RAILROAD COMPANY
Railroad Emergency Line at 1-800-848-8715
Location: DOT 762743D
RR Milepost 297.11
Subdivision HOUSTON

Texas Department of Transportation — Rail Division

REF 10 - SH 326
RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: RR Scope of Work.dgn	DN: TxDOT	CK:	DW:	CK:	
©TxDOT June 2014	CONT	SECT	JOB	HIGHWAY	
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.	
3/2020	DIST	COUNTY		SHEET NO.	
	BMT	HARDIN,ETC.		102	

DATE: 7/23/2021 9:25:19 AM
FILE: g:\txdot\pw*online\txdot5\samantha.harris\d0533158\RAILROAD SCOPE OK.dgn

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

DOT #: 024381J
Crossing Type: ** AT GRADE
RR Company Owning Track at Crossing: BNSF RAILWAY COMPANY
Operating RR Company at Track: BNSF RAILWAY COMPANY
RR MP: 93.24
RR Subdivision: CONROE
City: CLEVELAND
County: LIBERTY
CSJ at this Crossing: 1582-01-081
Highway/Roadway name crossing the railroad: FM 1725
# of regularly scheduled trains per day at this crossing: N/A
# of switching movements per day at this crossing: N/A
% of estimated contract cost of work within railroad ROW: 0.00084

Scope of Work at this Crossing to Be Performed by State Contractor:
PLACE SEAL COAT AND PAVEMENT MARKINGS ON EXSTING ROADWAY FULL-WIDTH UP TO RAILROAD RIGHT OF WAY. NO WORK WILL BE DONE ON RAILROAD RIGHT OF WAY.

Scope of Work at this Crossing to Be Performed by Railroad Company:
FLAGGING DURING SEAL COAT OPERATIONS.

** Choose: Highway Overpass, Highway Underpass, At Grade, Pedestrian, or Closed/Abandoned

II. OTHER PROJECT WORK WITHIN RAILROAD RIGHTS-OF-WAY (ROW)

III. FLAGGING & INSPECTION

of Days of Railroad Flagging Expected: 0

On this project, night or weekend flagging is:

☐ Expected
☒ Not Expected

Flagging services will be provided by:

☒ Railroad Company: TxDOT will pay flagging invoices
☐ Outside Party: Contractor will pay flagging invoices, to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30 day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ UPRR - UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging

☒ BNSF - BNSF.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging

☐ KCS - KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
- Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS

Contractor must incorporate Construction Inspection into anticipated construction schedule.

☒ Not Required

☐ Required: Contact Information for Construction Inspection:

IV. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

On this project, construction work to be performed by a railroad company is:

☐ Required
☒ Not Required

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

V. RAILROAD INSURANCE REQUIREMENTS

Railroad reference number shall be provided by TxDOT CST or DO.

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies must be issued for and on behalf of the Railroad. Where more than one Railroad Company is operating on the same right of way or where several Railroad Companies are involved and operate on their own separate rights of way, provide separate insurance policies in the name of each Railroad Company.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000 combined single limit
Railroad Protective Liability	
☒ Not Required	
☐ Non - Bridge Projects	$2,000,000 / $6,000,000
☐ Bridge Projects	$5,000,000 / $10,000,000
☐ Other	

VI. CONTRACTOR'S RIGHT OF ENTRY (ROE) AGREEMENT

On this project, an ROE agreement is:

☒ Not Required
☐ Required: TxDOT CST to assist in obtaining with the UPRR (see Item 5, Article 8.3)
☐ Required: Contractor to obtain (see Item 5, Article 8.4)
With the following railroad companies: BNSF RAILWAY COMPANY

To view previously approved ROE Agreement templates agreed upon between the State and Railroad, see:

http://www.txdot.gov/inside-txdot/division/rail/samples.html

Approved ROE Agreement templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed ROE agreement between the Contractor and the Railroad if required on project.

VII. RAILROAD COORDINATION MEETING

On this project, a Railroad Coordination Meeting is:

☒ Not Required
☐ Required

See Item 5, Article 8.1 for more details.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are required to maintain the same insurance coverage as required of the Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call BNSF RAILWAY COMPANY
Railroad Emergency Line at 1-800-832-5452
Location: DOT 024381J
RR Milepost 93.24
Subdivision CONROE

Texas Department of Transportation | Rail Division

REF 10 - FM 1725
RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: RR Scope of Work.dgn	DN: TxDOT	CK:	DW:	CK:	
©TxDOT June 2014	CONT	SECT	JOB	HIGHWAY	
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.	
3/2020	DIST	COUNTY		SHEET NO.	
	BMT	HARDIN,ETC.		103	

DATE: 7/23/2021 9:25:35 AM
FILE: G:\txdot\pw\online\txdot5\samantha.harris\d0533158\RAILROAD SCOPE OK.dgn

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

DOT #: 762969P
Crossing Type: ** AT GRADE
RR Company Owning Track at Crossing: UNION PACIFIC RAILROAD COMPANY
Operating RR Company at Track: UNION PACIFIC RAILROAD COMPANY
RR MP: 266.49
RR Subdivision: LAFAYETTE
City: VIDOR
County: ORANGE
CSJ at this Crossing: 1284-01-081
Highway/Roadway name crossing the railroad: FM 1442
# of regularly scheduled trains per day at this crossing: N/A
# of switching movements per day at this crossing: N/A
% of estimated contract cost of work within railroad ROW: 0.00084

Scope of Work at this Crossing to Be Performed by State Contractor:
PLACE SEAL COAT AND PAVEMENT MARKINGS ON EXSTING ROADWAY FULL-WIDTH UP TO RAILROAD RIGHT OF WAY. NO WORK WILL BE DONE ON RAILROAD RIGHT OF WAY.

Scope of Work at this Crossing to Be Performed by Railroad Company:
FLAGGING DURING SEAL COAT OPERATIONS.

** Choose: Highway Overpass, Highway Underpass, At Grade, Pedestrian, or Closed/Abandoned

II. OTHER PROJECT WORK WITHIN RAILROAD RIGHTS-OF-WAY (ROW)

III. FLAGGING & INSPECTION

of Days of Railroad Flagging Expected: 0

On this project, night or weekend flagging is:

☐ Expected
☒ Not Expected

Flagging services will be provided by:

☒ Railroad Company: TxDOT will pay flagging invoices
☐ Outside Party: Contractor will pay flagging invoices, to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30 day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☒ UPRR - UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging

☐ BNSF - BNSF.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging

☐ KCS - KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
- Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS

Contractor must incorporate Construction Inspection into anticipated construction schedule.

☒ Not Required

☐ Required: Contact Information for Construction Inspection:

IV. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

On this project, construction work to be performed by a railroad company is:

☐ Required
☒ Not Required

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

V. RAILROAD INSURANCE REQUIREMENTS

Railroad reference number shall be provided by TxDOT CST or DO.

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No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000 combined single limit
Railroad Protective Liability	
☒ Not Required	
☐ Non - Bridge Projects	$2,000,000 / $6,000,000
☐ Bridge Projects	$5,000,000 / $10,000,000
☐ Other	

VI. CONTRACTOR'S RIGHT OF ENTRY (ROE) AGREEMENT

On this project, an ROE agreement is:

☒ Not Required
☐ Required: TxDOT CST to assist in obtaining with the UPRR (see Item 5, Article 8.3)
☐ Required: Contractor to obtain (see Item 5, Article 8.4)
With the following railroad companies: _____

To view previously approved ROE Agreement templates agreed upon between the State and Railroad, see:

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Approved ROE Agreement templates are not to be modified by the Contractor.

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VII. RAILROAD COORDINATION MEETING

On this project, a Railroad Coordination Meeting is:

☒ Not Required
☐ Required

See Item 5, Article 8.1 for more details.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are required to maintain the same insurance coverage as required of the Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call UNION PACIFIC RAILROAD COMPANY
Railroad Emergency Line at 1-800-848-8715
Location: DOT 762969P
RR Milepost 266.49
Subdivision LAFAYETTE

Texas Department of Transportation | Rail Division

REF 10 - FM 1442
RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: RR Scope of Work.dgn	DN: TxDOT	CK:	DW:	CK:		
©TxDOT June 2014	CONT	SECT	JOB	HIGHWAY		
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.		
3/2020	DIST	COUNTY		SHEET NO.		
	BMT	HARDIN,ETC.		104		

DATE: 7/23/2021 9:25:51 AM
FILE: G:\txdot\pw*online\txdot5\samantha.harris\d0533158\RAILROAD SCOPE OK.dgn

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

DOT #: 024450P
Crossing Type: ** AT GRADE
RR Company Owning Track at Crossing: BNSF RAILWAY COMPANY
Operating RR Company at Track: BNSF RAILWAY COMPANY
RR MP: 152.13
RR Subdivision: CONROE
City: SILSBEE
County: HARDIN
CSJ at this Crossing: 0065-14-028
Highway/Roadway name crossing the railroad: BU 96F
# of regularly scheduled trains per day at this crossing: N/A
# of switching movements per day at this crossing: N/A
% of estimated contract cost of work within railroad ROW: 0.00084

Scope of Work at this Crossing to Be Performed by State Contractor:
PLACE SEAL COAT AND PAVEMENT MARKINGS ON EXSTING ROADWAY FULL-WIDTH UP TO RAILROAD RIGHT OF WAY. NO WORK WILL BE DONE ON RAILROAD RIGHT OF WAY.

Scope of Work at this Crossing to Be Performed by Railroad Company:
FLAGGING DURING SEAL COAT OPERATIONS.

** Choose: Highway Overpass, Highway Underpass, At Grade, Pedestrian, or Closed/Abandoned

II. OTHER PROJECT WORK WITHIN RAILROAD RIGHTS-OF-WAY (ROW)

III. FLAGGING & INSPECTION

of Days of Railroad Flagging Expected: 0

On this project, night or weekend flagging is:

☐ Expected
☒ Not Expected

Flagging services will be provided by:

☒ Railroad Company: TxDOT will pay flagging invoices
☐ Outside Party: Contractor will pay flagging invoices, to be reimbursed by TxDOT

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Call Center 877-315-0513, Select #1 for flagging

☒ BNSF - BNSF.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging

☐ KCS - KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
- Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS

Contractor must incorporate Construction Inspection into anticipated construction schedule.

☒ Not Required

☐ Required: Contact Information for Construction Inspection:

IV. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

On this project, construction work to be performed by a railroad company is:

☐ Required
☒ Not Required

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

V. RAILROAD INSURANCE REQUIREMENTS

Railroad reference number shall be provided by TxDOT CST or DO.

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Type of Insurance	Amount of Coverage (Minimum)
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Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000 combined single limit
Railroad Protective Liability	
☒ Not Required	
☐ Non - Bridge Projects	$2,000,000 / $6,000,000
☐ Bridge Projects	$5,000,000 / $10,000,000
☐ Other	

VI. CONTRACTOR'S RIGHT OF ENTRY (ROE) AGREEMENT

On this project, an ROE agreement is:

☒ Not Required
☐ Required: TxDOT CST to assist in obtaining with the UPRR (see Item 5, Article 8.3)
☐ Required: Contractor to obtain (see Item 5, Article 8.4)
With the following railroad companies: BNSF RAILWAY COMPANY

To view previously approved ROE Agreement templates agreed upon between the State and Railroad, see:

http://www.txdot.gov/inside-txdot/division/rail/samples.html

Approved ROE Agreement templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed ROE agreement between the Contractor and the Railroad if required on project.

VII. RAILROAD COORDINATION MEETING

On this project, a Railroad Coordination Meeting is:

☒ Not Required
☐ Required

See Item 5, Article 8.1 for more details.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are required to maintain the same insurance coverage as required of the Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call BNSF RAILWAY COMPANY
Railroad Emergency Line at 1-800-832-5452
Location: DOT 024450P
RR Milepost 152.13
Subdivision CONROE

Texas Department of Transportation — Rail Division

REF 10 - BU 96F RAILROAD SCOPE OF WORK

PROJECT SPECIFIC DETAILS

FILE: RR Scope of Work.dgn	DN: TxDOT	CK:	DW:	CK:
©TxDOT June 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS	0065	14	028,ETC.	BU 96F,ETC.
3/2020	DIST	COUNTY		SHEET NO.
	BMT	HARDIN,ETC.		105

DATE: 7/23/2021 9:26:05 AM
FILE: G:\txdot\pw\online\txdot5\samantha.harris\d0533158\RAILROAD SCOPE OK.dgn

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

DOT #: 024452D
Crossing Type: ** AT GRADE
RR Company Owning Track at Crossing: BNSF RAILWAY COMPANY
Operating RR Company at Track: BNSF RAILWAY COMPANY
RR MP: 21.05
RR Subdivision: LONGVIEW
City: SILSBEE
County: HARDIN
CSJ at this Crossing: 0065-14-028
Highway/Roadway name crossing the railroad: BU 96F
# of regularly scheduled trains per day at this crossing: N/A
# of switching movements per day at this crossing: N/A
% of estimated contract cost of work within railroad ROW: 0.00084

Scope of Work at this Crossing to Be Performed by State Contractor:
PLACE SEAL COAT AND PAVEMENT MARKINGS ON EXSTING ROADWAY FULL-WIDTH UP TO RAILROAD RIGHT OF WAY. NO WORK WILL BE DONE ON RAILROAD RIGHT OF WAY.

Scope of Work at this Crossing to Be Performed by Railroad Company:
FLAGGING DURING SEAL COAT OPERATIONS.

** Choose: Highway Overpass, Highway Underpass, At Grade, Pedestrian, or Closed/Abandoned

II. OTHER PROJECT WORK WITHIN RAILROAD RIGHTS-OF-WAY (ROW)

III. FLAGGING & INSPECTION

of Days of Railroad Flagging Expected: 0

On this project, night or weekend flagging is:

☐ Expected
☒ Not Expected

Flagging services will be provided by:

☒ Railroad Company: TxDOT will pay flagging invoices
☐ Outside Party: Contractor will pay flagging invoices, to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30 day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ UPRR - UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging

☒ BNSF - BNSF.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging

☐ KCS - KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
- Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS

Contractor must incorporate Construction Inspection into anticipated construction schedule.

☒ Not Required

☐ Required: Contact Information for Construction Inspection:

IV. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

On this project, construction work to be performed by a railroad company is:

☐ Required
☒ Not Required

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

V. RAILROAD INSURANCE REQUIREMENTS

Railroad reference number shall be provided by TxDOT CST or DO.

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies must be issued for and on behalf of the Railroad. Where more than one Railroad Company is operating on the same right of way or where several Railroad Companies are involved and operate on their own separate rights of way, provide separate insurance policies in the name of each Railroad Company.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000 combined single limit
Railroad Protective Liability	
☒ Not Required	
☐ Non - Bridge Projects	$2,000,000 / $6,000,000
☐ Bridge Projects	$5,000,000 / $10,000,000
☐ Other	

VI. CONTRACTOR'S RIGHT OF ENTRY (ROE) AGREEMENT

On this project, an ROE agreement is:

☒ Not Required
☐ Required: TxDOT CST to assist in obtaining with the UPRR (see Item 5, Article 8.3)
☐ Required: Contractor to obtain (see Item 5, Article 8.4)
With the following railroad companies: BNSF RAILWAY COMPANY

To view previously approved ROE Agreement templates agreed upon between the State and Railroad, see:

http://www.txdot.gov/inside-txdot/division/rail/samples.html

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	BMT	HARDIN,ETC.		106		