

Point Table				
Point #	Row Description	Elevation	Northing	Easting
100	CP SET1/2IRWRC	1242.900	13849062.9300	2209359.2700
101	CP SET1/2IRWRC	1070.650	13851943.1060	2209979.1590
102	CP SET1/2IRWRC	1089.160	13851775.7690	2209446.8110
103	CP SET1/2IRWRC	1076.020	13851183.5860	2208378.2710
104	CP SET1/2IRWRC	1093.690	13851358.6030	2208702.4320

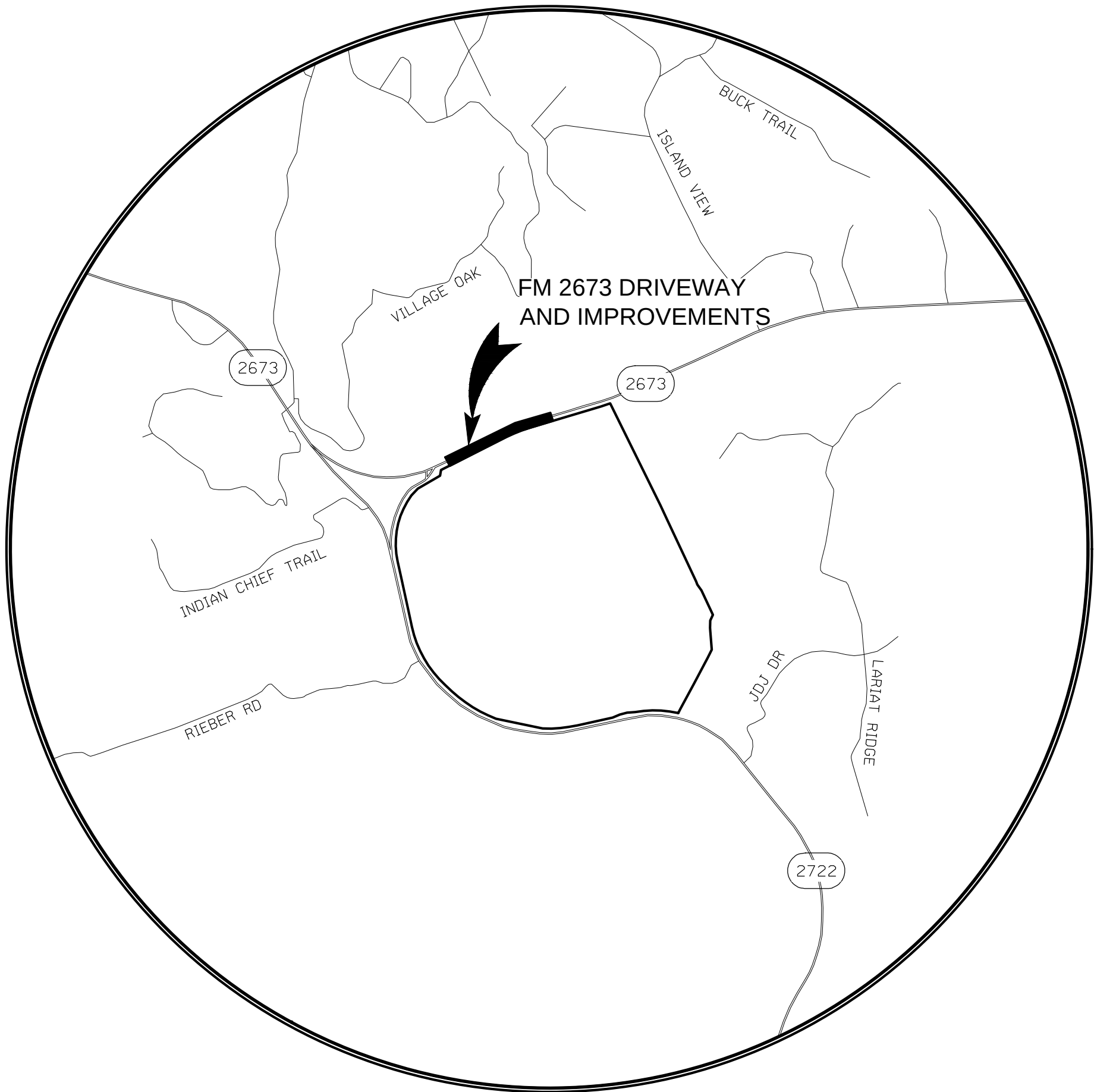
THE ROCK UNIT 1 TXDOT IMPROVEMENTS

COMAL COUNTY, TEXAS
FM 2673 IMPROVEMENT PROJECT

OWNER/DEVELOPER:
NORSELAND COMAL LLC
11777 KATY FREEWAY STE 300 S
HOUSTON, TX 77079

ENGINEER/SURVEYOR:
INK CIVIL
JAMES INGALLS, P.E. - ENGINEER
2021 SH 46 W. STE 105.
NEW BRAUNFELS, TX. 78130
(830) 581-7127

CDS MUERY
DARRYL L ZERCHER, R.P.L.S. - SURVEYOR
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SAN ANTONIO, TEXAS 78216
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3.1	PROPOSED DRAINAGE AREA MAP
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FM 2673 DESIGN SPEED = 55 MPH

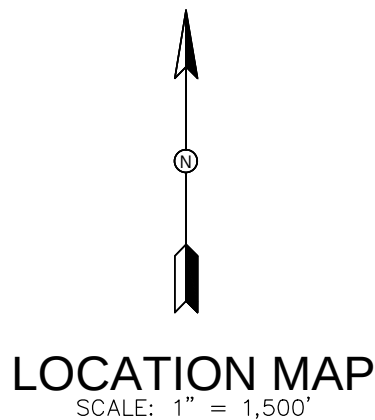
GENERAL NOTES:

- ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, COMAL COUNTY MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
- NO PORTION OF THE PROJECT IS LOCATED WITHIN THE EXISTING SPECIAL FLOOD HAZARD ZONE A, 100-YEAR FLOOD BOUNDARY, AS DEFINED BY THE COMAL COUNTY, TEXAS MAP NUMBER 48091C0255F, AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, EFFECTIVE DATE SEPTEMBER 2, 2009.
- THIS PROJECT IS LOCATED WITHIN THE EAA JURISDICTIONAL BOUNDARY AND IS LOCATED WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.
- THE MOST CURRENT EDITIONS OF THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS AND THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES SHALL BE FOLLOWED FOR ALL CONSTRUCTION EXCEPT AS AMENDED BY COMAL COUNTY STANDARD DETAILS.

NOTE TO CONTRACTOR:

BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH OF THE INDIVIDUAL UTILITIES FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.



PREPARED BY:



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SUBMITTED BY:

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SUBMITTAL DATE: 5-14-1024

NO	DATE	ISSUES AND REVISIONS
1	5-14-2024	SITE REVISIONS
2		
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THE ROCK UNIT 1 TXDOT IMPROVEMENTS
PERMIT SET

TXDOT GENERAL CONSTRUCTION NOTES

1. THE DESIGN AND CONSTRUCTION WILL PROVIDE FOR PRESERVING ALL EXISTING FEATURES IN OR NEAR THE STATE RIGHT OF WAY BEING AFFECTED BY THE WIDENING. THIS INCLUDES, BUT IS NOT LIMITED TO, EXISTING DRIVEWAY GATE, SET-BACKS, RELOCATION OF ELECTRONIC PRIVATE PROPERTY GATES, MAILBOX, TURNOUTS, MAILBOXES AND SUPPORTS, CATTLE GUARDS, ROADWAY SIGNING, EXISTING RIP-RAP OR OTHER PERMANENT EROSION CONTROL FEATURES, DIVERSIONARY BERMS, SWALES, DITCHES, AMOUNT AND CONFIGURATION OF DRIVEWAY FLARES AND DRIVEWAY CENTERLINE PROFILE, METAL BEAM GUARD FENCE AND END TREATMENTS, ETC. EXISTING DRIVEWAY, CULVERTS AND SAFETY END TREATMENTS. IF EFFECTED BY ROADWAY WIDENING WILL BE RECONSTRUCTED TO PRESERVE EXISTING FRONT SLOPE RATES. THE COORDINATION OF ITEMS THAT EFFECT EXISTING PRIVATE PROPERTY ACCESS, MAIL DELIVERY, ETC. IS THE RESPONSIBILITY OF THE DEVELOPER. THE WRITTEN CONCURRENCE OF ANY EFFECTED PROPERTY OWNERS FOR CONSTRUCTION EFFECTING THEIR DRIVEWAYS OR MAILBOX TURNOUTS MUST BE OBTAINED AND PROVIDED TXDOT PRIOR TO TXDOT DRIVEWAY PERMITS BEING ISSUED.
2. FOR WORK IN STATE RIGHT OF WAY, THE DEVELOPER IS RESPONSIBLE FOR COORDINATION OF, OBTAINING PERMITS FOR, AND COMPLYING WITH ANY AND ALL STATE AND FEDERAL REGULATORY AGENCIES AND ALL APPLICABLE LAWS, RULES AND REGULATIONS PERTAINING TO THE REGULATION OF DRAINAGE, PRESERVATION OF CULTURAL RESOURCES, NATURAL RESOURCES AND THE ENVIRONMENT. THE DEVELOPER IS RESPONSIBLE FOR DETERMINING IF THE PROJECT IS IN AN ENVIRONMENTALLY SENSITIVE AREA SUCH AS WITHIN THE RECHARGE OR CONTRIBUTING ZONE OF PROTECTED AQUIFERS, AND ACT IN ACCORDANCE WITH ALL RESOURCE AGENCY REGULATIONS.
- A. IF TXDOT HAS A CZP OR WPAP ON FILE WITH TCEQ, THE DEVELOPER IS RESPONSIBLE FOR A ENDING TXDOTS PER IT, OBTAINING TCEQ APPROVAL AND PROVIDING TXDOT WITH THE APPROVED AMENDED PERMIT. THE A ENDED PER IT WILL ADDRESS THE RELOCATION OF TXDOT PERMANENT BMP'S INCLUDING VEGETATIVE FILTER STRIPS THAT MAY BE IMPACTED BY WORK DONE WITHIN TXDOT.
- B. IF TXDOT DOES NOT HAVE A CZP OR WPAP ON FILE WITH TCEQ, ANY PERMANENT BMP'S INCLUDING VEGETATIVE FILTER STRIPS THAT MAY BE REQUIRED IN ORDER TO TREAT ADDITIONAL IMPERVIOUS COVER PLACED IN TXDOT ROW WILL BE LOCATED IN PRIVATE PROPERTY AND THE DEVELOPER WILL PROVIDE TXDOT WITH EVIDENCE OF TCEQ APPROVAL OF THE ADDITIONAL IMPERVIOUS COVER.
- C. THE DEVELOPER MAY NOT OPERATE UNDER RESOURCE AGENCY ENVIRONMENTAL CLEARANCE OF A PREVIOUS OR ONGOING TXDOT PROJECT, BUT WILL BE REQUIRED TO OBTAIN SEPARATE RESOURCE/ENVIRONMENTAL AGENCY CLEARANCE.
3. IF WASTE AREAS OR MATERIAL SOURCE AREAS RESULT FROM THIS PROJECT, THE CONTRACTOR IS REMINDED TO FOLLOW SUPERSEDES ALL OTHER SPECIFICATIONS IN THE PLANS THE REQUIREMENTS OF THE TEXAS AGGREGATE QUARRY AND PIT SAFETY ACT. IN ADDITION, IT IS REQUESTED THAT THESE AREAS NOT BE VISIBLE FROM ANY HIGHWAY ON THE STATE SYSTEM.
- A. ANY MATERIALS REMOVED AND NOT REUSED AND DETERMINED TO BE SALVAGEABLE SHALL BE STORED WITHIN THE PROJECT LIMITS AT AN APPROVED LOCATION OR DELIVERED UNDAAMGED TO THE STORAGE YARD AS DIRECTED. PROPERLY DISPOSE UNSALVAGEABLE MATERIALS IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. DEFACE TRAFFIC SIGNS SO THAT THEY WILL NOT REAPPEAR IN PUBLIC AS SIGNS.
4. ANY TREES EXISTING WITHIN STATE RIGHT OF WAY ARE THE NATURAL RESOURCES OF THE STATE AND WILL BE PROTECTED. IN THE EVENT THAT TREES MUST BE REMOVED, TXDOT WRITTEN PERMISSION WILL BE RECEIVED IN ADVANCE AND WILL IDENTIFY THE TREES BY SPECIES, SIZE AND LOCATION TO BE REMOVED. THE DEVELOPER WILL BE FINED FOR ANY UNPERMITTED REMOVAL OF TREES.
- A. IN THE EVENT THAT THERE ARE AREAS OF PUBLIC ROW DEDICATION RESULTING FROM THE PLATING PROCESS, THE AREA WITHIN THE PUBLIC ROW DEDICATION DOES NOT PASS INTO TXDOT OWNERSHIP AS A RESULT OF PLATING. HOWEVER, THE DEVELOPER WILL REMOVE ANY OLD FENCING, GATES AND UNSUITABLE VEGETATION WITHIN THE AREA OF THE ROW DEDICATION, LEAVING IT IN AN AESTHETICALLY PLEASING CONDITION. THE AREA OF ROW DEDICATION WILL NOT BE MOVED OR OTHERWISE MAINTAINED BY TXDOT. PRIOR TO REMOVAL OF TREES IN THE AREA OF ROW DEDICATION, THE TREES WILL FIRST BE EVALUATED IN ACCORDANCE WITH THE REQUIREMENTS OF LOCAL TREE PROTECTION ORDINANCES AND THE WRITTEN CONCURRENCE OF THE LOCAL JURISDICTION WILL BE PROVIDED TO TXDOT.
5. THE DEVELOPER WILL MAINTAIN AT THE PROJECT SITE, AND MAKE AVAILABLE UPON REQUEST, COPIES OF ALL APPROVED JOINT ENVIRONMENTAL PLANS AND PERMITS RELATING TO WORK IN STATE RIGHT OF WAY.
6. PRIOR TO BEGINNING GRADING ACTIVITY, THE CONTRACTOR WILL SET AND MAINTAIN ROADWAY STATIONING, CONTROL POINTS, MARKS, STAKES TO ESTABLISH LINES, SLOPES, GRADES AND CENTERLINES.
7. ANY SLOPES IN STATE RIGHT OF WAY WHICH BECOME STEEPER THAN 3:1 AS A RESULT OF THE WORK WILL BE TREATED WITH 4" THICK REINFORCED CONCRETE RIP-RAP AND BE TREATED WITH METAL BEAM GUARD FENCE. THIS WILL EXANTIL ADDITIONAL RIP-RAP BEYOND THAT SHOWN IN THE PLANS.
- A. UNLESS OTHERWISE SHOWN ON THE PLANS, WHERE EXISTING CONCRETE RIP-RAP IS REMOVED, MODIFIED OR EXTENDED, THE PORTION TO BE REMOVED WILL BE NEATLY SAW-CUT PRIOR TO REMOVAL AND THE NEW RIP-CUT BRIDGE WILL BE FORMED TO MATCH THE EXISTING LINES AND GRADES OF THE EXISTING RIP-RAP AND WILL BE DOWELED INTO THE EXISTING RIP-RAP WITH #3 BARS ON 12" CENTERS. THE DOWEL BARS WILL BE EPOXIED IN PLACE WITH EPOXY MEETING TXDOT REQUIREMENTS. THE ENCLOSED IN THE PLANS.
8. DUANE HOFFERLICHTER (830) 609-0707 IN NEW BRAUNFELS, TRAVIS YOUNG (830) 303-0130 IN SEGUIN, CHAD LUX (830) 816-2430 IN BOERNE, MARK ANDREWS (830) 393-1144 IN FLORESVILLE. TXDOT MAINTENANCE OFFICE WILL BE CONTACTED BY THE CONTRACTOR 48 HOURS PRIOR TO WORK OCCURRING IN STATE RIGHT OF WAY.
9. STATE RIGHT OF WAY WILL NOT BE USED AS AN AREA FOR CONTRACTOR PARKING OR FOR STAGING THE RECEIPT OF MATERIALS OR EQUIPMENT.
10. TRAFFIC CONTROL AND CONSTRUCTION BARRICADES WILL MEET THE REQUIREMENTS OF THE TEXAS MUTCD.
11. THE CONTRACTOR WILL PROVIDE ADVANCE NOTIFICATION TO THE ENGINEER OF IMPENDING/UPCOMING LANE CLOSURES FOR ALL TEMPORARY AND/OR PERMANENT LANE, RAMP, CONNECTOR, FRONTAGE, SHOULDER, MEDIAN CROSSOVER, ETC. CLOSURES OR DETOURS.
12. ACCESS TO ADJOINING PROPERTY MUST BE MAINTAINED AT ALL TIMES.
13. UNLESS OTHERWISE NOTED IN THE PLANS AND/OR AS DIRECTED BY THE AREA ENGINEER OR MAINTENANCE SUPERVISOR, DAILY LANE CLOSURES SHALL BE LIMITED ACCORDING TO THE FOLLOWING RESTRICTIONS:
 - A. NIGHTTIME: MAINTENANCE SUPERVISOR AND/OR AREA ENGINEER APPROVAL REQUIRED. (WITH UNIFORMED OFF DUTY LAW ENFORCEMENT OFFICERS)
 - B. WEEKEND CLOSURES: MAINTENANCE SUPERVISOR AND/OR AREA ENGINEER APPROVAL REQUIRED.
14. NO LANE CLOSURES OR ROADWAY CLOSURES WILL BE PERMITTED FOR THE FOLLOWING KEY DATES AND/OR SPECIAL EVENTS:
 - A. BETWEEN DECEMBER 15 AND JANUARY 1.
 - B. WEDNESDAY BEFORE THANKSGIVING THRU THE SUNDAY AFTER THANKSGIVING
 - C. SATURDAY AND SUNDAY BEFORE MEMORIAL DAY AND LABOR DAY
 - D. SATURDAY OR SUNDAY WHEN JULY 4 FALLS ON A FRIDAY OR MONDAY.
15. AT NO TIME WILL THE ROADWAY TRAVEL WAY BE BLOCKED.
16. LANE CLOSURES WILL ONLY BE PERMITTED WITH 48 HOUR PRIOR APPROVAL OF THE TXDOT MAINTENANCE SUPERVISOR. LANE CLOSURES WILL BE PERMITTED ONLY BETWEEN 9:00 A.M. AND 4:00 P.M. MONDAY THROUGH FRIDAY.
 - A. FOR LANE CLOSURES ON TWO-LANE TWO-WAY ROADWAYS, INCLUDING DURING PILOT CAR OPERATIONS, FLAGGERS WILL BE PLACED AT THE BEGINNING AND END OF THE WORK ZONE AS WELL AS AT EACH INDIVIDUAL DRIVEWAY AND SIDE ROAD INTERSECTION WITHIN THE LIMITS OF THE WORK ZONE AND EXTENDING FOR A MINIMUM OF THE BEGINNING OF ADVANCED WARNING SIGNS EITHER END OF THE WORK ZONE TO CONTROL, WARN AND DIRECT SIDE ROAD AND DRIVEWAY TRAFFIC OF THE CHANGE IN TRAFFIC OPERATIONS. WHENEVER ONE WAY TRAFFIC CONTROL IS ACCOMPLISHED BY TRAFFIC SIGNALS WORK ZONE FLAGGERS WILL BE SIMILARLY STATIONED AT EACH INDIVIDUAL DRIVEWAY AND SIDE ROAD INTERSECTION WITHIN THE LIMITS OF THE WORK ZONE AND EXTENDING FOR A MINIMUM OF THE BEGINNING OF THE ADVANCED WARNING SIGNS EITHER END OF THE WORK ZONE. ALL FLAGGERS WILL BE IN CONSTANT RADIO CONTACT.
17. A MINIMUM 3:1(H:V) TEMPORARY SAFETY SLOPE OF STABLE COMPACTED MATERIAL WILL BE REQUIRED ADJACENT TO THE STATE HIGHWAY EDGE OF PAVEMENT AT ALL TIMES DURING NON-WORKING HOURS.
18. ONLY ONE SIDE OF THE ROADWAY WILL BE OPEN TO CONSTRUCTION AT A TIME. WORK WILL BE COMPLETED AND PAVEMENT EDGES BACKFILLED ON ONE SIDE OF THE ROAD BEFORE WORK WILL BEGIN ON THE OPPOSITE SIDE OF THE ROADWAY.
19. ALL MILLING, PAVING AND SEAL COAT OPERATIONS SHALL PROCEED IN THE DIRECTION OF TRAFFIC.
20. ANY PAVEMENT EDGE DROP-OFFS BETWEEN 1 AND 2 INCHES IN HEIGHT WILL HAVE CW 8-11 WARNING SIGNS. ANY PAVEMENT EDGE DROP-OFF 2 INCHES OR GREATER WILL HAVE A 5:1 COMPACTED SAFETY SLOPE AND CW 8-9A OR CW 8-11 SIGNS PLUS CHANNELIZING DEVICES. PAVEMENT EDGES WILL BE SHOULDERED UP WITH COMPACTED EMBANKMENT MATERIAL AND 4 INCHES OF TOPSOIL AS SOON AS POSSIBLE AFTER PAVING IS COMPLETED ON THE SIDE OF THE ROAD BEING WIDENED.
21. PROOF ROLLING OF SUBGRADE IS REQUIRED AND SHALL BE WITNESSED BY TXDOT PRIOR TO PLACEMENT OF PAVEMENT STRUCTURE UNLESS OTHERWISE APPROVED BY THE TXDOT MAINTENANCE SUPERVISOR. THE REQUIREMENT FOR PROOF-ROLLING OF SUBGRADE IS NOT SUPERSEDED BY ANY OTHER REQUIREMENTS INCLUDING THOSE OF ANY GEOTECHNICAL REPORT.
22. ALL FLEXIBLE BASE WILL HAVE A MINIMUM PLASTICITY INDEX OF 4.
23. ALL COURSES OF ASPHALTIC CONCRETE PAVEMENT (REGARDLESS OF TYPE) WILL BE PLACED WITH AN ASPHALT PAVING EQUIPMENT MEETING THE REQUIREMENTS OF TXDOT ITEM 320, "EQUIPMENT FOR ASPHALT CONCRETE PAVEMENT", UNLESS OTHERWISE APPROVED BY THE MAINTENANCE SUPERVISOR.
 - A. TACK COAT WILL BE APPLIED WITH AN ASPHALT DISTRIBUTOR AND SPREAD ACROSS THE SURFACE RECEIVING THE TACK COAT BY MULTIPLE PASSES OF A PNEUMATIC ROLLER. THE APPLICATION OF TACK COAT AND THE NUMBER OF PASSES OF THE PNEUMATIC ROLLER WILL BE SUFFICIENT TO MAKE THE SURFACE AND EXPOSED EDGES CONSISTENTLY BLACK WITH NO AREAS DEVOID OF TACK. ASPHALT FOR TACK COAT SHALL MEET TXDOT SPECS AND BE FROM A TXDOT APPROVED SOURCE.
24. ALL SURFACE AGGREGATES WILL MEET THE REQUIREMENTS OF TXDOT FRICTION CLASSIFICATION "B" AND WILL MEET PG BINDER GRADE 70-22.
25. ALL SURFACE ASPHALT CONCRETE PAVEMENT WILL BE UNDER-SEALED WITH A ONE COURSE SURFACE TREATMENT.
26. ALL ASPHALTIC CONCRETE PAVEMENT USED IN BASE COURSES WILL BE TYPE "A" OR "B" AND WILL MEET PG BINDER GRADE 64-22.
27. ALL PAVEMENT WIDENING INCLUDING SHOULDERS WILL MATCH THE EXISTING PAVEMENT CROSS SLOPE.
28. ALL PAVEMENT MARKINGS WILL BE TYPE 1 THERMOPLASTIC (100MIL) WILL UNDER-SEAL MEETING THE REQUIREMENTS OF TXDOT ITEM 666, REFLECTORIZED PAVEMENT MARKINGS. THE CONTRACTOR WILL PLACE GUIDE MARKS IN ACCORDANCE WITH ITEM 666 AND WILL MAKE ARRANGEMENTS FOR TXDOT INSPECTION OF THE PAVEMENT MARKING LAYOUT PRIOR TO PLACEMENT OF STRIPING. EQUIPMENT USED FOR THE PLACEMENT OF STRIPING WILL MEET THE PRODUCTION REQUIREMENTS OF ITEM 666 UNLESS OTHERWISE APPROVED IN ADVANCE BY THE TXDOT MAINTENANCE SUPERVISOR.
29. EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH PROPOSED PAVEMENT MARKINGS WILL BE LIGHTLY GROUND IN A MANNER THAT DOES NOT DAMAGE THE PAVEMENT SURFACE. TO REMOVE ANY PAVEMENT MARKING ACCUMULATION, AND WILL BE COVERED WITH A STRIP SEAL OF 18" MINIMUM WIDTH, CONSISTING OF PRECOATED GRADE 5, FRICTION CLASS B AGGREGATE.
30. ALL MATERIALS AND CONSTRUCTION METHODS USED IN STATE RIGHT OF WAY WILL MEET TXDOT SPECIFICATIONS. THIS SUPERSEDES ALL OTHER SPECIFICATIONS IN THE PLANS.
31. ALL TURN LANE CONCRETE PAVEMENT IN STATE ROW WILL MEET THE REQUIREMENTS OF TXDOT ITEM 360 CONCRETE AND WILL BE BATCHED AT CONCRETE PLANTS HAVING A CURRENT APPROVED MIX DESIGN. CLASS P CONCRETE SHALL HAVE 7 AND 28 DAY COMPRESSIVE STRENGTH OF 3200 PSI AND 4400 PSI RESPECTIVELY.
32. WHEN WIDENING EXISTING CONCRETE PAVEMENTS, JOINTS IN THE NEW PAVEMENT WILL MATCH JOINTS IN EXISTING PAVEMENT AND CURB.
33. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT TXDOT APPROVED MATERIALS, MIX DESIGNS, APPROVED SOURCES AND PRODUCTS ARE USED FOR ALL WORK IN STATE ROW. THE CONTRACTOR WILL ARRANGE FOR THE SERVICES OF A QUALIFIED TESTING LABORATORY FOR ALL ITEMS REQUIRING TESTING AND WILL NOTIFY TXDOT OF ANY DISCREPANCIES BETWEEN TEST RESULTS AND TXDOT SPECS IN A TIMELY MANNER. THE CONTRACTOR WILL PROVIDE TO TXDOT INVOICES AND TESTING RESULTS AS SOON THEY ARE AVAILABLE. FAILURE TO DO THIS WILL RESULT IN REJECTION OF THE WORK.
34. SAWING OF CONTRACTION/CONSTRUCTION JOINTS IN CONCRETE PAVEMENT WILL BE ACCOMPLISHED AS SOON AS PERSONNEL CAN WALK ON THE CONCRETE WITHOUT DAMAGING THE SURFACE REGARDLESS OF TIME OF DAY OR WEATHER CONDITIONS. STAND-BY POWER DRIVEN CONCRETE SAWS WILL BE PROVIDED DURING THE SAWING OPERATION. CURING COMPOUND WILL BE RE-APPLIED TO THE SAWED JOINT IMMEDIATELY UPON SAWING THE JOINT.
35. GUARDRAIL SETS WILL BE TYPE 3 UNLESS OTHERWISE APPROVED BY THE TXDOT MAINTENANCE SUPERVISOR. GUARDRAIL MOWSTRIP PLACED ADJACENT TO OTHER CONCRETE RIP-RAP WILL BE SEPARATED BY A FORMED CONSTRUCTION JOINT.
36. ANY CONCRETE CURB TO BE REMOVED WILL BE SAW-CUT AT THE LIMITS OF REMOVAL AND BE REMOVED ENTIRELY, SLICING THE TOP PORTION OF THE CURB OFF AND LEAVING REMAINING PORTION OF CURB IN PLACE IS UNACCEPTABLE.
37. ANY DAMAGE TO TXDOT FACILITIES WILL BE REPAIRED AT NO EXPENSE TO THE STATE, TO TXDOT'S SATISFACTION.
38. SIDEWALKS PLACED IN THE HIGHWAY RIGHT-OF-WAY WILL BE A MINIMUM WIDTH OF FIVE FEET OR COMPLY WITH THE MORE STRINGENT WIDTH AS REQUIRED BY CITY ORDINANCE AND WILL MEET ALL OTHER REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT. PEDESTRIAN RAMP WILL BE PROVIDED AT STREET AND DRIVEWAY INTERSECTIONS AS SHOWN ON THE CURRENT STATE STANDARD FOR PEDESTRIAN FACILITIES. COLOR CONTRAST AND TEXTURING OF PEDESTRIAN RAMP WILL BE PLACED AT STREET INTERSECTION RAMP ONLY AS SHOWN ON THE CURRENT STATE STANDARD FOR PEDESTRIAN FACILITIES. PEDESTRIAN RAMP AT DRIVEWAY INTERSECTIONS WILL NOT RECEIVE ANY CONTRAST OR TEXTURING. METAL PLATING FOR SIDEWALK BRIDGES WILL MATCH THE TYPICAL WIDTH OF THE APPROACH SIDEWALK. THIS WILL RESULT IN A WIDTH THAT IS GREATER THAN SHOWN IN THE STANDARD DETAILS INCLUDED IN THE PLANS.
39. THE CONTRACTOR WILL USE BEST MANAGEMENT PRACTICES (BMP'S) TO MINIMIZE EROSION AND SEDIMENTATION IN THE STATE RIGHT OF WAY RESULTING FROM THE PROPOSED CONSTRUCTION. RE-VEGETATION OF DISTURBED AREAS WILL BE COMPLETED IN ACCORDANCE WITH TXDOT STANDARD SPECIFICATIONS. PERMANENT VEGETATIVE COVER MUST ACHIEVE 70% COVERAGE PRIOR TO PROJECT ACCEPTANCE. SOIL RETENTION BLANKETS MAY BE REQUIRED TO PREVENT EROSION OF TOPSOIL PRIOR TO VEGETATION RE-ESTABLISHMENT.
40. PRIOR TO SEEDING OR RE-VEGETATION THE FRONT SLOPES WILL BE SHOULDERED UP WITH TOPSOIL TO ELIMINATE ANY PAVEMENT EDGE DROP-OFF.
41. MUD TRACKED ONTO THE ROADWAY FROM THE SITE WILL BE IMMEDIATELY REMOVED TO THE SATISFACTION OF TXDOT.
42. IT WILL BE THE DEVELOPER/OWNER'S RESPONSIBILITY TO CLEAN OUT, TO THE STATE'S SATISFACTION, ANY DRAINAGE STRUCTURE OR STORM SEWER SYSTEM THAT BECOMES SILTED AS A RESULT OF THEIR OPERATIONS.
43. THE ADJUSTMENT OF ANY UTILITIES IN STATE RIGHT OF WAY OR ADJACENT PRIVATE EASEMENT WILL BE THE RESPONSIBILITY OF THE DEVELOPER/OWNER.
44. THE CONTRACTOR IS RESPONSIBLE FOR PLACING AND MAINTAINING EXISTING SIGNS ON TXDOT APPROVED TEMPORARY MOUNTS UNTIL PERMANENT SIGNS ARE PLACED.
45. THE FINAL PLACEMENT OF PERMANENT SIGNS WILL BE COORDINATED PRIOR TO PLACEMENT WITH THE LOCAL TXDOT MAINTENANCE SUPERVISOR.
46. FOR WORK WITHIN THE STATE RIGHT OF WAY WHERE REMOVAL OF MATERIALS OR DEBRIS WITHIN THE CONSTRUCTION LIMITS AND NOT INCORPORATED IN THE FINISHED ROADWAY SECTION OF RIGHT OF WAY, WILL BE DISPOSED OF IN A MANNER ACCEPTABLE TO THE MAINTENANCE SUPERVISOR AT NO EXPENSE TO THE STATE. MATERIALS THAT ARE NOT DETERMINED TO BE SALVAGEABLE BY THE MAINTENANCE SUPERVISOR BECOME THE PROPERTY OF THE CONTRACTOR FOR PROPER DISPOSAL AT THEIR EXPENSE. MATERIALS DETERMINED TO BE SALVAGEABLE WILL BE RETURNED TO THE STATE AND DELIVERED TO THE LOCATION AS DETERMINED BY THE MAINTENANCE SUPERVISOR.
47. REGARDLESS OF ERRORS AND OMISSIONS IN INFORMATION PROVIDED IN THE PLANS OR CROSS-SECTIONS THE PERMITTEE IS RESPONSIBLE FOR PROVIDING FOR POSITIVE DRAINAGE OUTFALLS WITHIN AND OFF THE LIMITS OF THE PROJECT.
 - A. KEEP THE SIGNALS IN OPERATION AT ALL TIMES EXCEPT WHEN NECESSARY FOR SPECIFIC INSTALLATION OPERATIONS INCLUDING ANY MODIFICATIONS TO EXISTING SIGNAL HEADS TO MAINTAIN CLEAR VISIBILITY AT ALL TIMES. WHEN IT IS NECESSARY FOR A SIGNAL TO BE TURNED OFF, HIRE OFF DUTY POLICE OFFICERS TO CONTROL THE TRAFFIC UNTIL THE SIGNALS ARE BACK IN SATISFACTORY CONDITION.
48. (FOR WORK IN CITY OF NEW BRAUNFELS) ALL TRAFFIC SIGNALS ON THE STATE HIGHWAY SYSTEM WITHIN THE CITY OF NEW BRAUNFELS, WITH THE EXCEPT OF THE SIGNALS ON IH 35, ARE THE RESPONSIBILITY OF THE CITY OF NEW BRAUNFELS AND THE CITY OF NEW BRAUNFELS WILL PERFORM CONSTRUCTION INSPECTION. CONTACT GARRY FORD, P.E. AT (830) 221-4645, 48 HOURS PRIOR TO THE NEED FOR ANY INSPECTIONS. ALSO WHEN NON- TRAFFIC SIGNAL WORK IS BEING PERFORMED WITHIN 400 FEET OF AN EXISTING SIGNALIZED INTERSECTION, FLASHING BEACON OR SCHOOL ZONE FLASHER OR OTHER TYPE OF SIGNAL, IF WITHIN THE CITY OF NEW BRAUNFELS AREA OF RESPONSIBILITY CONTACT GARRY FORD, P.E. TO DETERMINE/VERIFY THE LOCATION OF LOOP DETECTORS, CONDUIT, GROUND-BOXES, ETC. FOR ALL OTHER LOCATIONS, CONTACT TXDOT REPRESENTATIVE, MIKE GARZA, AT (210) 615-6028. E-MAIL IS MIKE.GARZA@TXDOT.GOV. THE CONTRACTOR IS RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ANY SIGNAL EQUIPMENT DAMAGED BY CONSTRUCTION OPERATIONS. THE METHOD OF REPAIR OR REPLACEMENT SHALL BE PRE-APPROVED AND INSPECTED. DEPENDING ON THE TYPE AND EXTENT OF THE DAMAGE, TXDOT RESERVE THE RIGHT TO PERFORM THE REPAIR OR REPLACEMENT WORK AND THE CONTRACTOR WILL BE BILLED FOR THIS WORK. WHEN WORKING NEAR AERIAL ELECTRICAL LINES OR UTILITY POLES, COMPLY WITH FEDERAL, STATE AND LOCAL REGULATIONS.
49. (FOR AREAS OTHER THAN CITY OF NEW BRAUNFELS) WHEN NON- TRAFFIC SIGNAL WORK IS BEING PERFORMED WITHIN 400 FEET OF AN EXISTING SIGNALIZED INTERSECTION, FLASHING BEACON OR SCHOOL ZONE FLASHER OR OTHER TYPE OF SIGNAL, CONTACT TXDOT REPRESENTATIVE, MIKE GARZA, AT (210) 615-6028, E-MAIL IS MIKE.GARZA@TXDOT.GOV. THE CONTRACTOR IS RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ANY SIGNAL EQUIPMENT DAMAGED BY CONSTRUCTION OPERATIONS. THE METHOD OF REPAIR OR REPLACEMENT SHALL BE PRE-APPROVED AND INSPECTED. DEPENDING ON THE TYPE AND EXTENT OF THE DAMAGE, TXDOT RESERVE THE RIGHT TO PERFORM THE REPAIR OR REPLACEMENT WORK AND THE CONTRACTOR WILL BE BILLED FOR THIS WORK. WHEN WORKING NEAR AERIAL ELECTRICAL LINES OR UTILITY POLES, COMPLY WITH FEDERAL, STATE AND LOCAL REGULATIONS.



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THE ROCK UNIT 1 TXDOT
IMPROVEMENTS

TXDOT NOTES

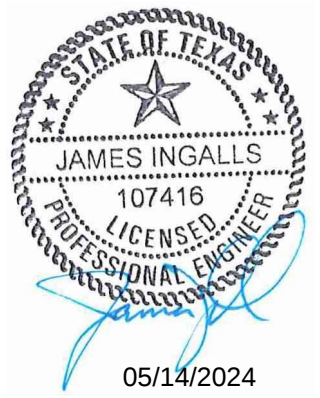
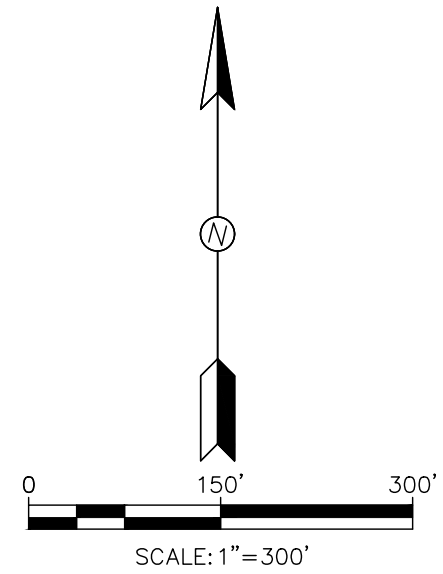
SHEET 1 of 25

NO	DATE	ISSUES AND REVISIONS
1	5-14-2024	SITE REVISIONS



2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
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Drawing Name: N:\Projects\WATROD\ Watersheds\ Texas\ Civil\ Construction\ Drawings\ TxDOT\ Set\ 2\ AERIAL EXHIBIT.dwg User: chadfraserham May 14, 2024 - 8:27am



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THE ROCK UNIT 1 TXDOT
IMPROVEMENTS

AERIAL EXHIBIT

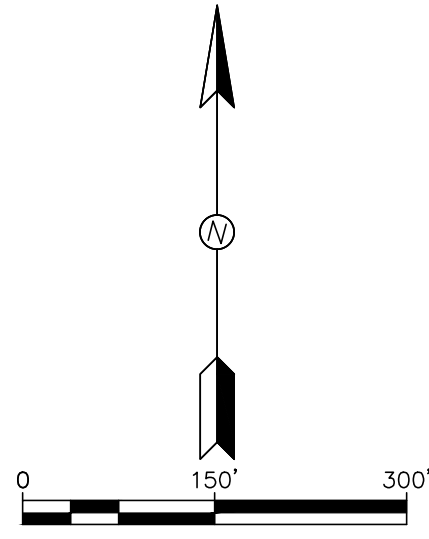
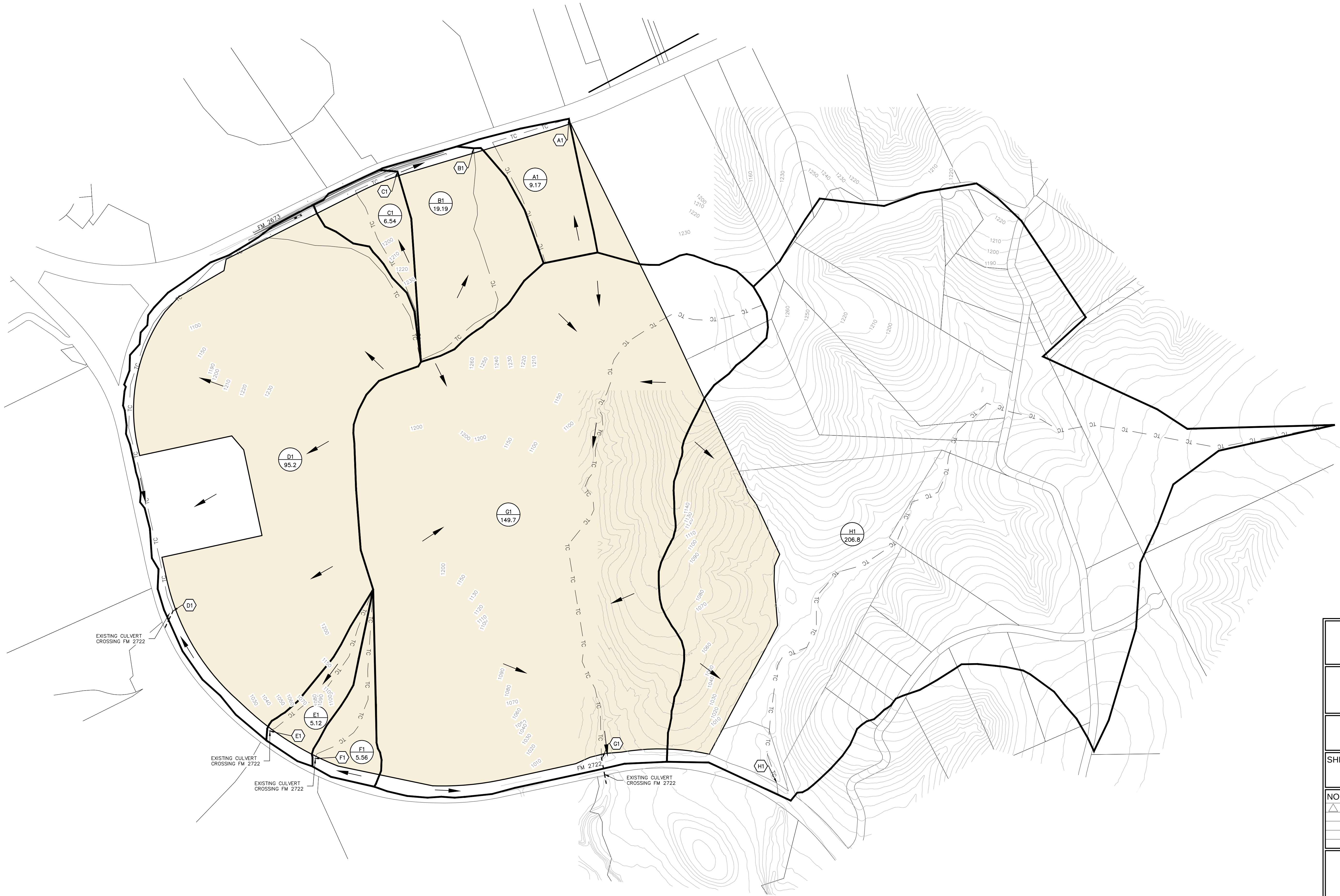
SHEET
2 OF 25

NO	DATE	ISSUES AND REVISIONS
1		



2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
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Drawing Name: N:\Projects\VA18001 - Watersheds\Texas\Civil\Construction Drawings\TxDOT Set\2.1 EXISTING DRAINAGE AREA MAP.dwg User: chadfishman Date: May 14, 2024 - 8:42am



LEGEND

- LIMITS OF DRAINAGE AREA
- TC — TC — TIME OF CONCENTRATION
- 900 — EXISTING CONTOURS
- ← FLOW ARROWS
- A

9.0

 DRAINAGE BASIN LABEL
BASIN AREA (AC)
- A1

2.0

 SUB-DRAINAGE AREA LABEL
SUB-DRAINAGE AREA (AC)
- A1

 INLET LABEL
- A1

 ANALYSIS POINT LABEL



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THE ROCK UNIT 1 TXDOT
IMPROVEMENTS

EXISTING DRAINAGE
AREA MAP

SHEET
3.0 OF 25

NO	DATE	ISSUES AND REVISIONS
1		
2		
3		
4		

INK
CIVIL

2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351

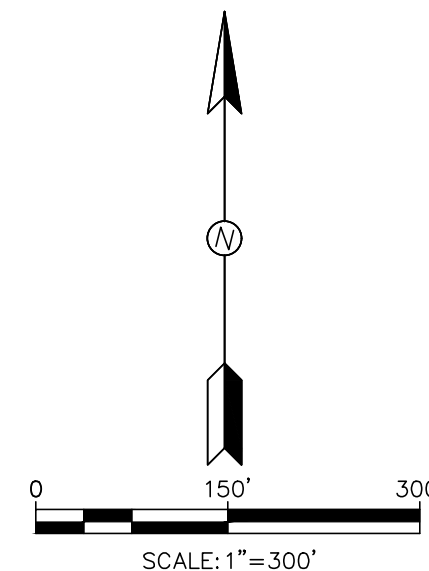
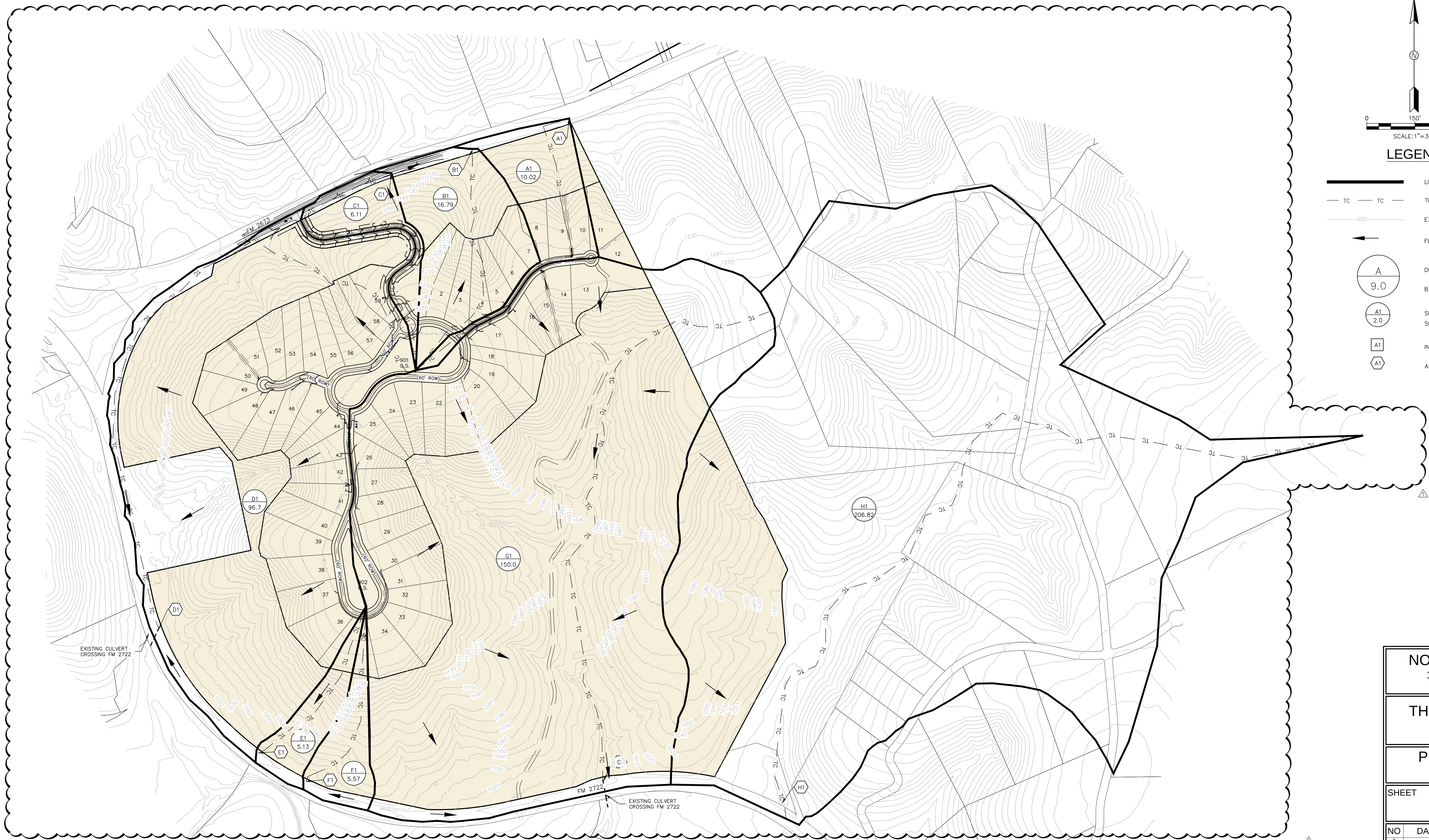
The Rock - Existing Conditions

Point	AREA ID	Area (ac)	C	T _c (min)	Q ₂ (cfs)	Q ₅ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₅₀ (cfs)	Q ₁₀₀ (cfs)	Location	Method
A1	EX-A1	9.17	0.62	22	18.53	24.90	29.85	36.73	42.13	47.93	FM 2673 ROADSIDE SWALE	Rational
B1	EX-B1	19.19	0.62	26	35.46	47.71	57.35	70.67	81.26	92.56	FM 2673 24" CMP	Rational
C1	EX-C1	6.54	0.62	26	14.27	19.10	22.87	28.06	32.15	36.49	FM 2673 18" CMP	Rational
D1	EX-D1	95.20	0.62	26	175.89	236.69	284.50	350.60	403.13	459.21	FM 2722 5x5' CULVERT	Rational
E1	EX-E1	5.12	0.65	11	14.84	19.78	23.56	28.66	32.63	36.77	FM 2722 30" CMP CULVERT	Rational
F1	EX-F1	5.56	0.65	11	16.27	21.68	25.82	31.42	35.78	40.32	FM 2722 25" CMP CULVERT	Rational
G1	EX-G1	149.7	0.62	32	245.96	331.35	399.10	493.77	568.95	649.70	FM 2722 6x6' CULVERT	Rational
H1	EX-H1	206.82	77.7	39	240.34	387.98	538.99	776.73	993.03	1240.38	FM 2722 5x6' CULVERT	SCS

EXISTING CONDITIONS

SCALE: 1"=300'

Drawing Name: N:\Projects\WATROD\ Watersheds Texas\Civil\Construction Drawings\TxDOT Set\3 DRAINAGE AREA MAP.dwg User: chad.kreishahn May 14, 2024 8:41am



LEGEND

- LIMITS OF DRAINAGE AREA
- TC — TC — TIME OF CONCENTRATION
- 900 — EXISTING CONTOURS
- FLOW ARROWS
- A 9.0 DRAINAGE BASIN LABEL
BASIN AREA (AC)
- A1 2.0 SUB-DRAINAGE AREA LABEL
SUB-DRAINAGE AREA (AC)
- A1 INLET LABEL
- A1 ANALYSIS POINT LABEL



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THE ROCK UNIT 1 TxDOT
IMPROVEMENTS

PROPOSED DRAINAGE
AREA MAP

SHEET
3.1 OF 25

NO	DATE	ISSUES AND REVISIONS
1	5-14-2024	SITE REVISIONS



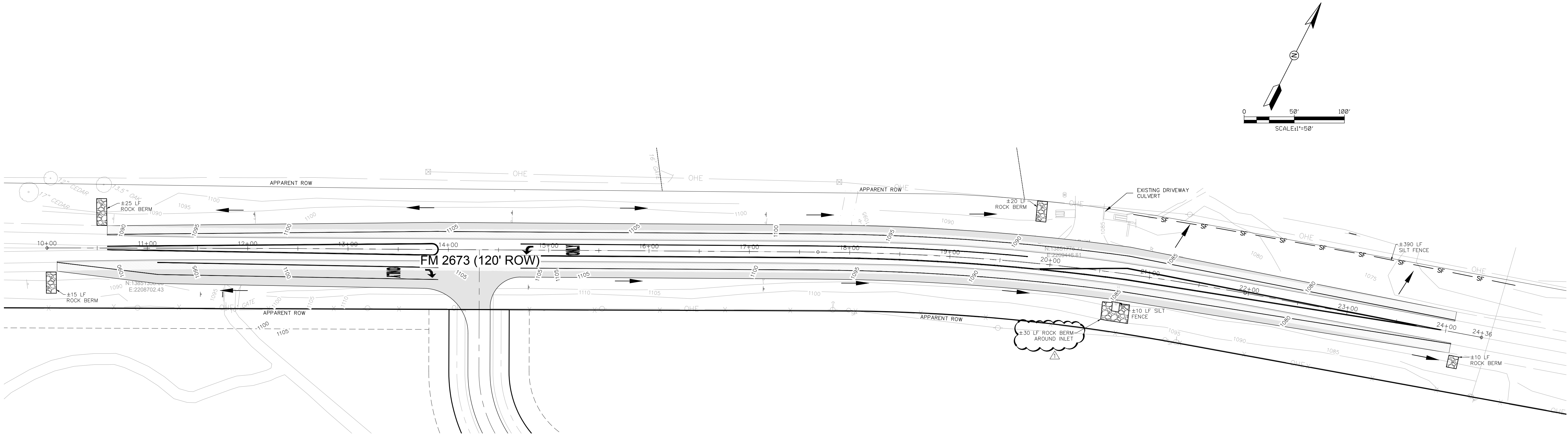
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PH: 830-358-7127 ink-civil.com
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PROPOSED CONDITIONS
SCALE: 1"=300'

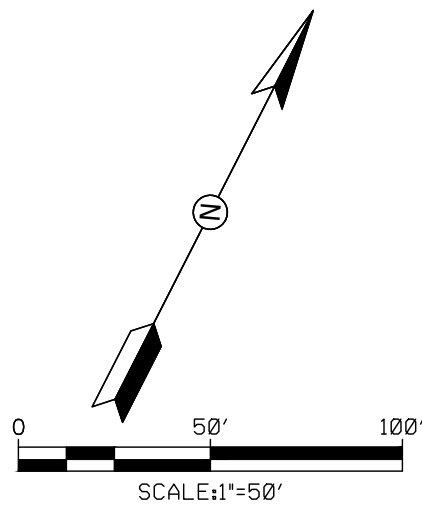
The Rock - Proposed Conditions												
Point	AREA ID	Area (ac)	C	T _c (min)	Q ₂ (cfs)	Q ₅ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₅₀ (cfs)	Q ₁₀₀ (cfs)	Location	Method
A1	PRO-A1	10.02	0.65	28	18.74	25.22	30.34	37.41	43.05	49.14	FM 2673 ROADSIDE SWALE	Rational
B1	PRO-B1	16.79	0.65	26	32.76	44.08	52.99	65.30	75.08	85.53	FM 2673 24" CMP	Rational
C1	PRO-C1	6.11	0.67	22	13.27	17.83	21.38	26.30	30.17	34.33	FM 2673 18" CMP	Rational
D1	PRO-D1	96.70	0.65	26	186.08	250.39	300.97	370.91	426.48	485.80	FM 2722 5x5' CULVERT	Rational
E1	PRO-E1	5.13	0.66	11	15.24	20.31	24.19	29.42	33.51	37.76	FM 2722 30" CMP CULVERT	Rational
F1	PRO-F1	5.57	0.66	11	16.48	21.94	26.13	31.78	36.19	40.79	FM 2722 25" CMP CULVERT	Rational
G1	PRO-G1	150.00	0.64	32	253.01	340.85	410.54	507.93	585.26	668.33	FM 2722 6x6' CULVERT	Rational
H1	PRO-H1	206.82	77.7	39	240.34	387.98	538.99	776.73	993.03	1240.38	FM 2722 5x6' CULVERT	SCS

Flow Comparison - Existing VS Proposed						
Area ID	Q ₂ (cfs)	Q ₅ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₅₀ (cfs)	Q ₁₀₀ (cfs)
A1	0.20	0.32	0.49	0.68	0.92	1.21
B1	-2.70	-3.63	-4.36	-5.37	-6.18	-7.04
C1	-1.00	-1.26	-1.49	-1.76	-1.98	-2.17
D1	10.19	13.71	16.48	20.30	23.35	26.59
E1	0.40	0.53	0.63	0.77	0.87	0.98
F1	0.19	0.25	0.30	0.37	0.42	0.47
G1	7.05	9.50	11.44	14.16	16.31	18.63
H1	0.00	0.00	0.00	0.00	0.00	0.00

Drawing Name: N:\Projects\VA TR001 Watersheds\Texas\Civil\Construction Drawings\TxDOT Set\4 EROSION CONTROL PLAN.dwg User: chadfrishman May 14, 2024 8:28am



- LEGEND**
- SF SILT FENCE
 - 900 EXISTING CONTOURS
 - 900 PROPOSED CONTOURS
 - FLOW ARROWS



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**THE ROCK UNIT 1 TxDOT
IMPROVEMENTS**

EROSION CONTROL PLAN

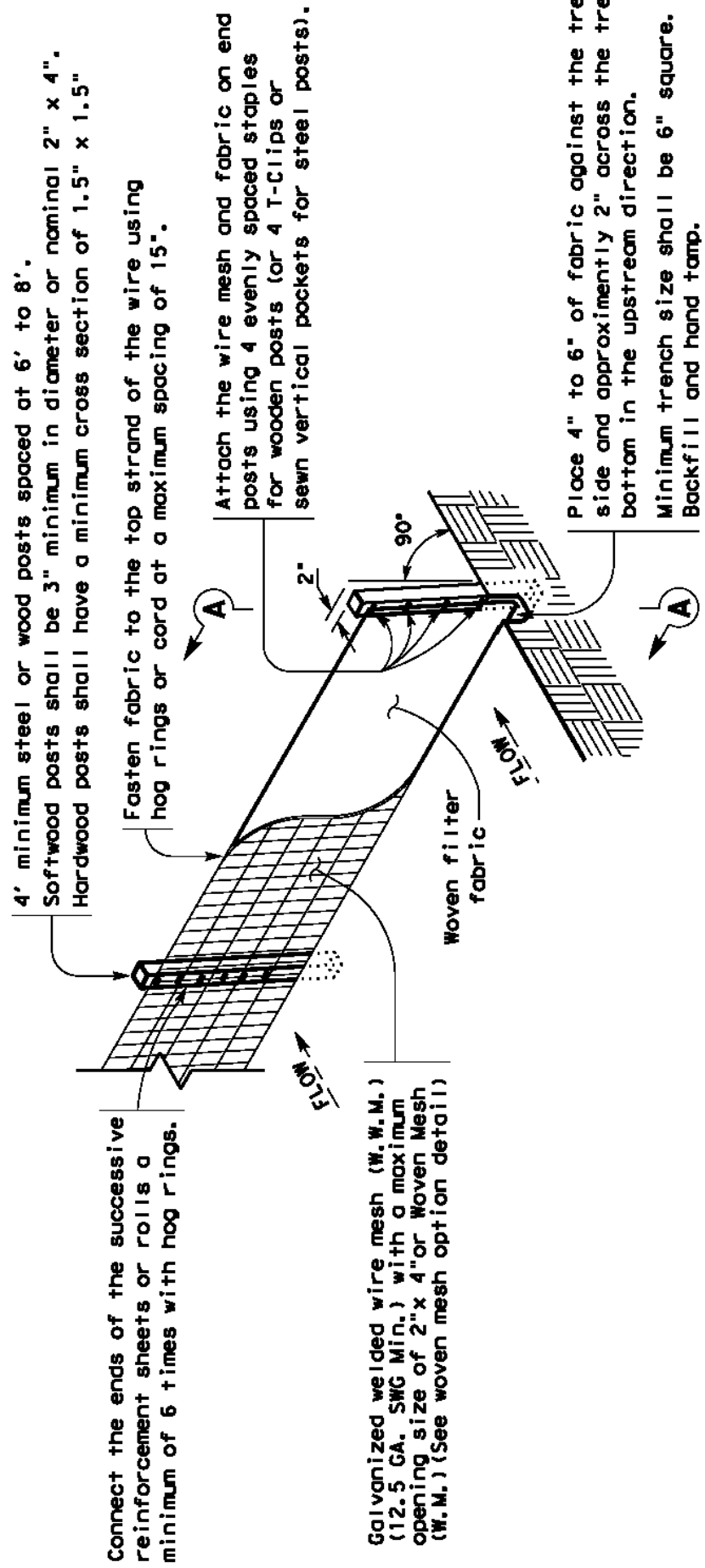
SHEET
4 OF 25

NO	DATE	ISSUES AND REVISIONS
1	5-14-2024	SITE REVISIONS



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DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty or for incorrect results or damages resulting from the use. TXDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from the use. The use of this standard is governed by the "Texas Engineering Practice Act". No warranty or for incorrect results or damages resulting from the use. TXDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from the use.

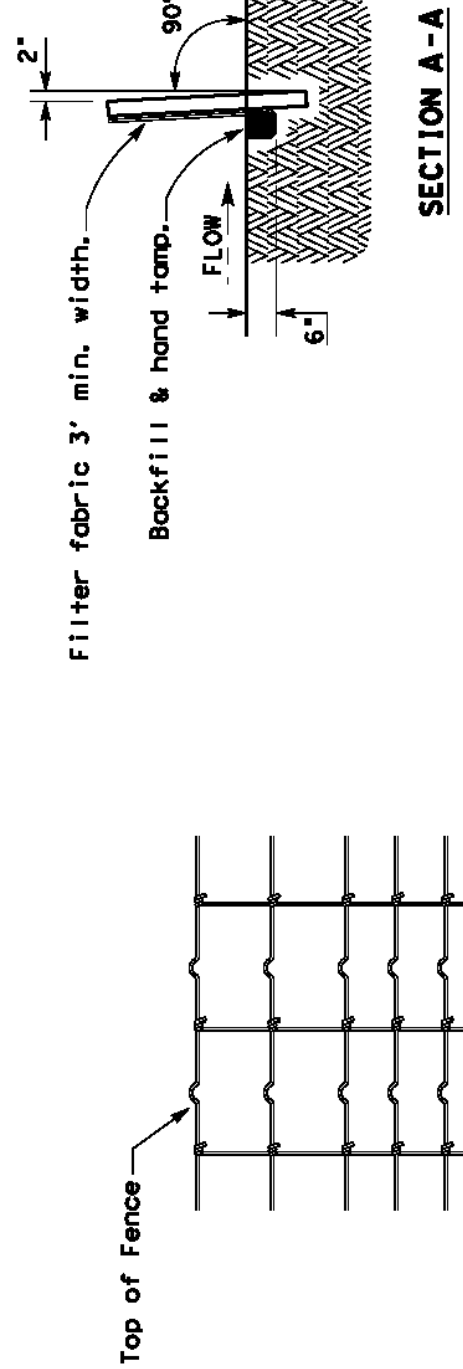


TEMPORARY SEDIMENT CONTROL FENCE

SCF

HINGE JOINT KNOT WOVEN MESH (OPTION) DETAIL

Galvanized hinge joint knot woven mesh (12.5 GA SMC Min.) requires a minimum of five horizontal wires spaced at a maximum of 12 inches apart and all vertical wires spaced at a maximum of 12 inches apart.



SEDIMENT CONTROL FENCE USAGE GUIDELINES

A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

Sediment control fence should be sized to filter a maximum flow through rate of 100 gpm/ft². Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.

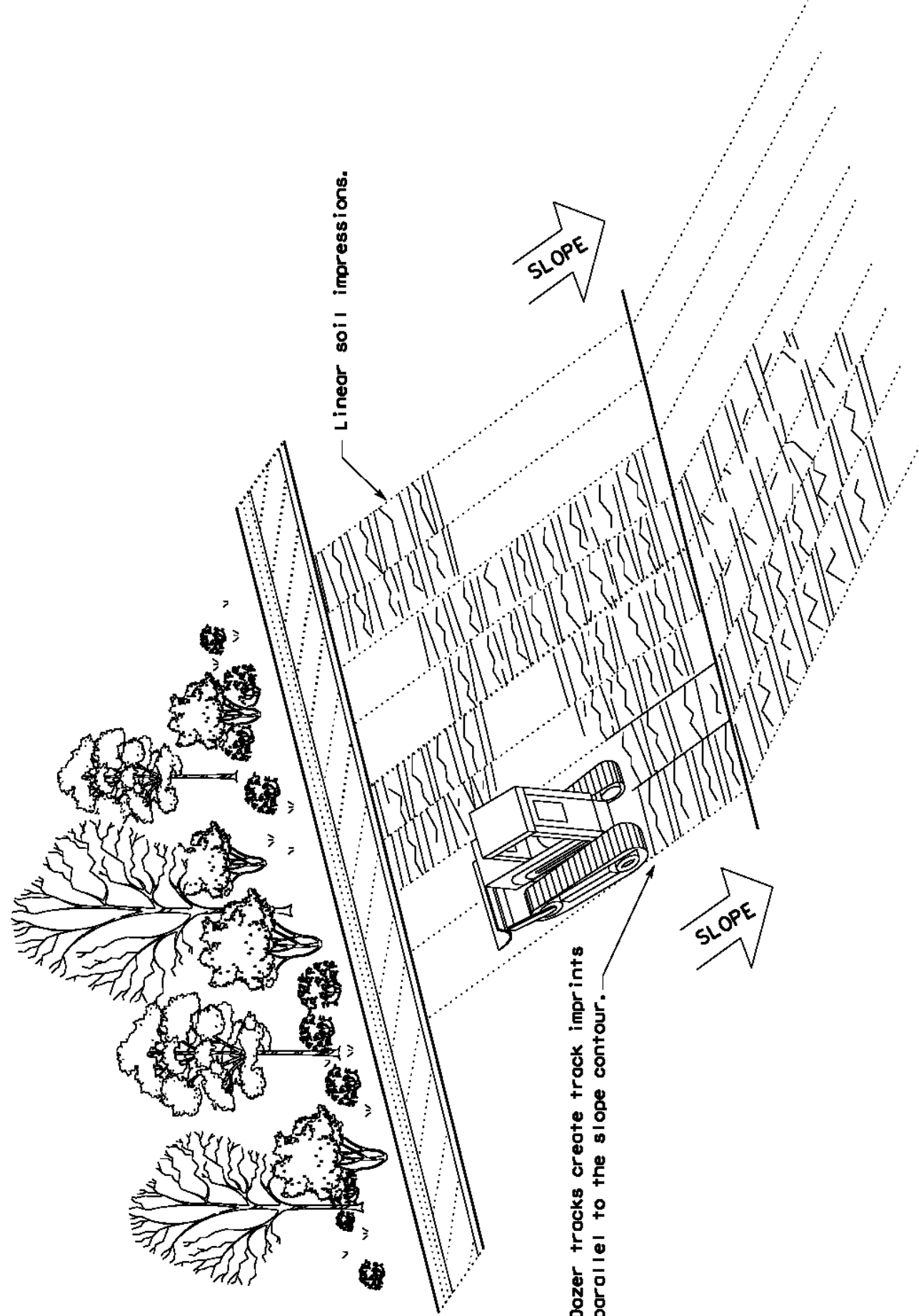
LEGEND

Sediment Control Fence

SCF

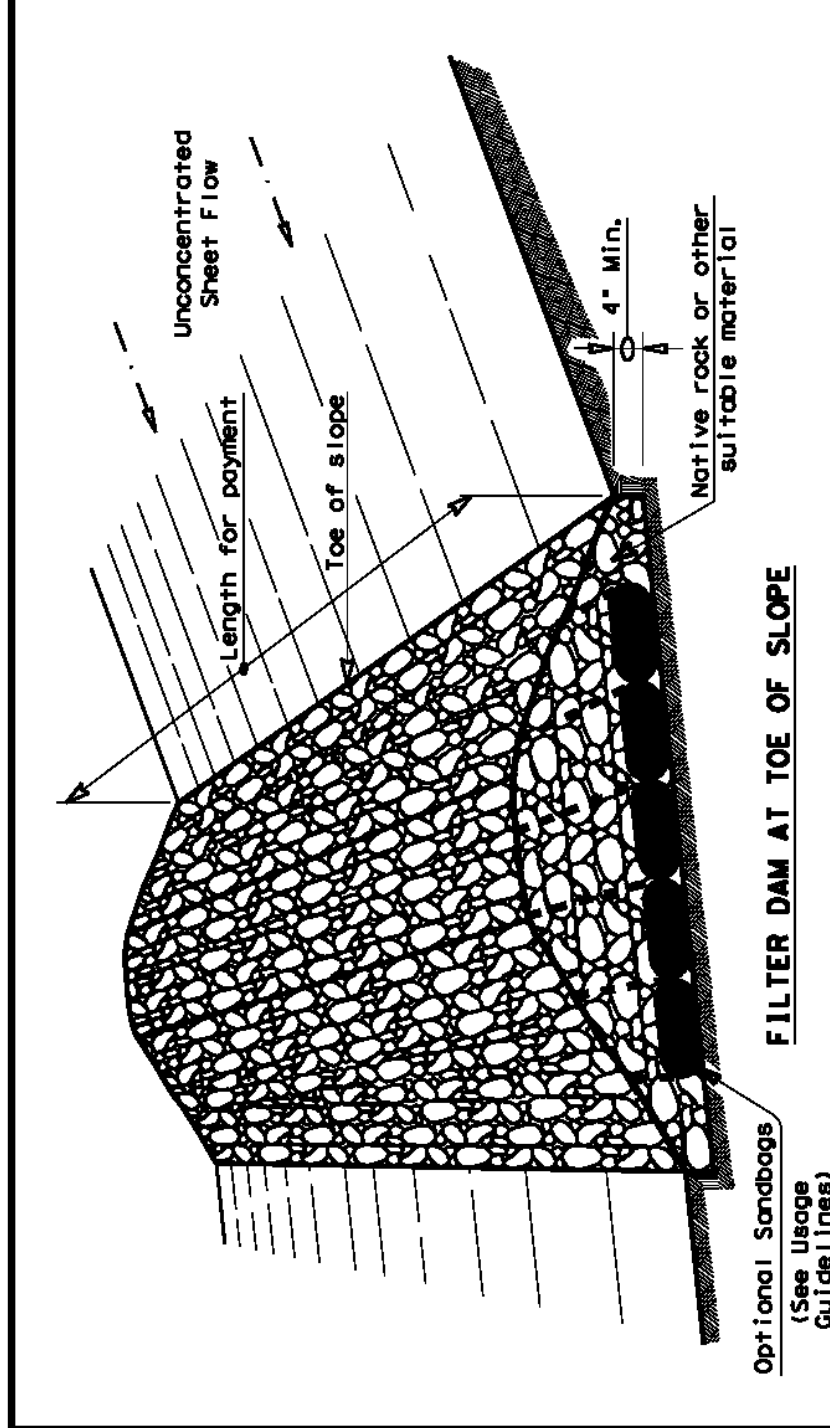
GENERAL NOTES

- Vertical tracking is required on projects where soil distributing activities have occurred unless otherwise approved.
- Perform vertical tracking on slopes to temporarily stabilize soil.
- Provide equipment with a track undercarriage capable of producing linear soil impressions measuring a minimum of 12" in length by 2" to 4" in width by 1/2" to 2" in depth.
- Do not exceed 12" between track impressions.
- Install continuous linear track impressions where the minimum 12" length impressions are perpendicular to the slope or direction of water flow.

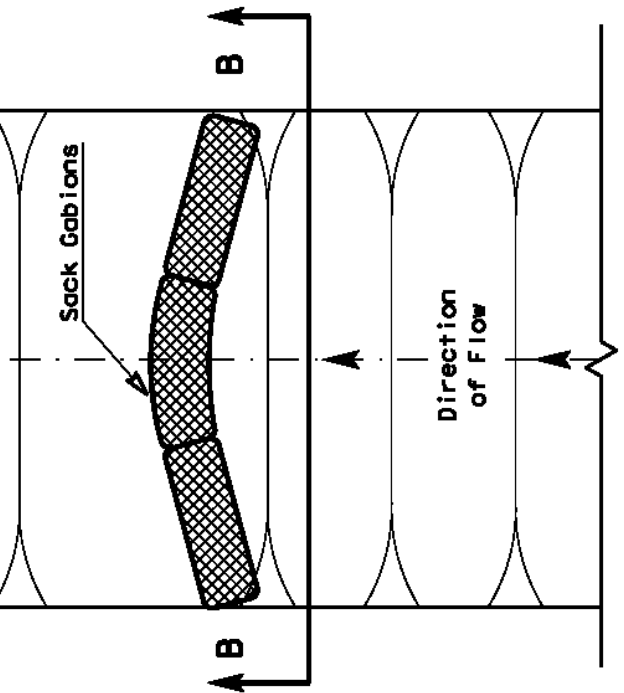
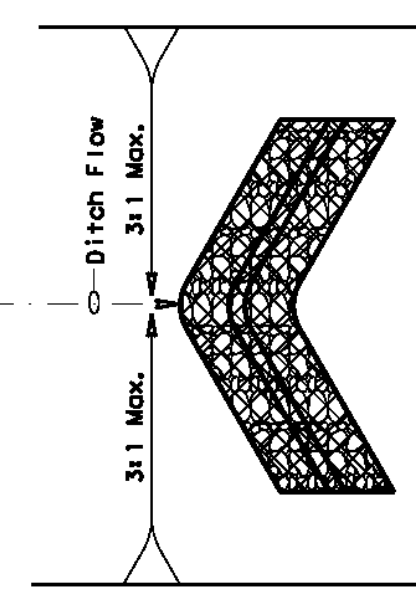


VERTICAL TRACKING

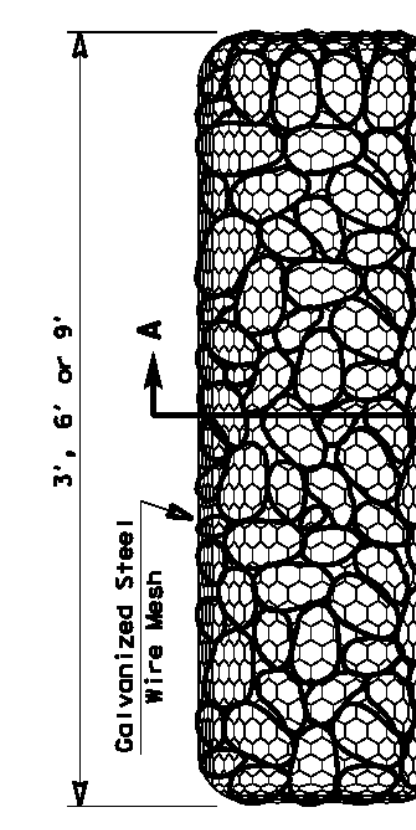
Texas Department of Transportation		Design Division Standard	
TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES FENCE & VERTICAL TRACKING EC (1) - 16			
FILE: ec216	REV: 001	DATE: JULY 2016	BY: JLP
PROJECT: TXDOT	CONTRACT: 100	SECTION: 100	DATE: 07/16
COUNTY: 0101		SHEET NO. 5	



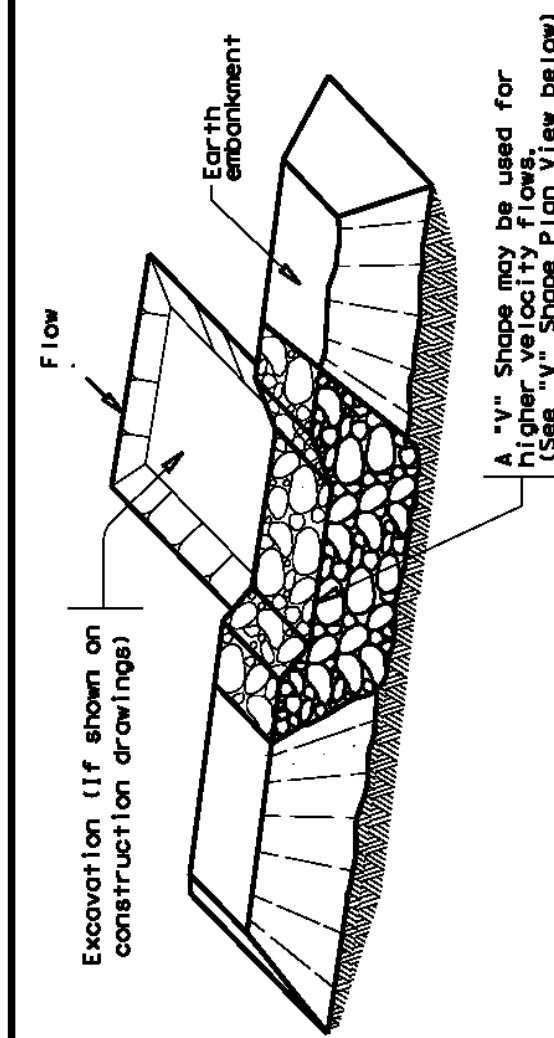
RD2



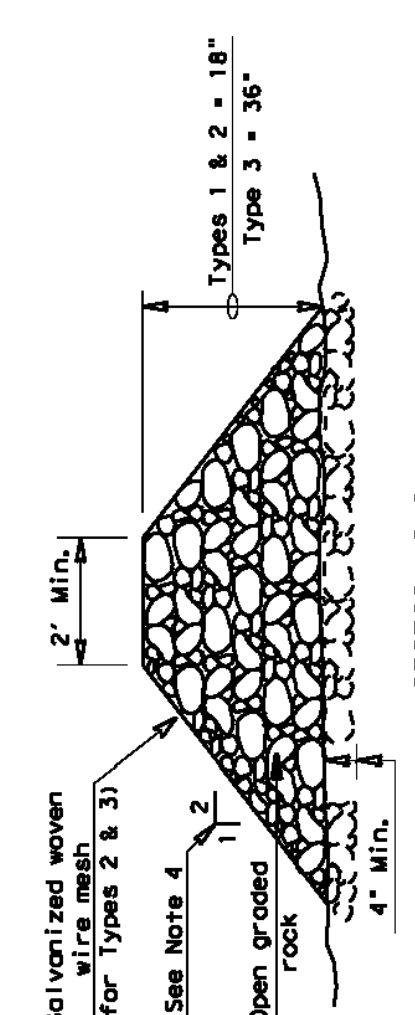
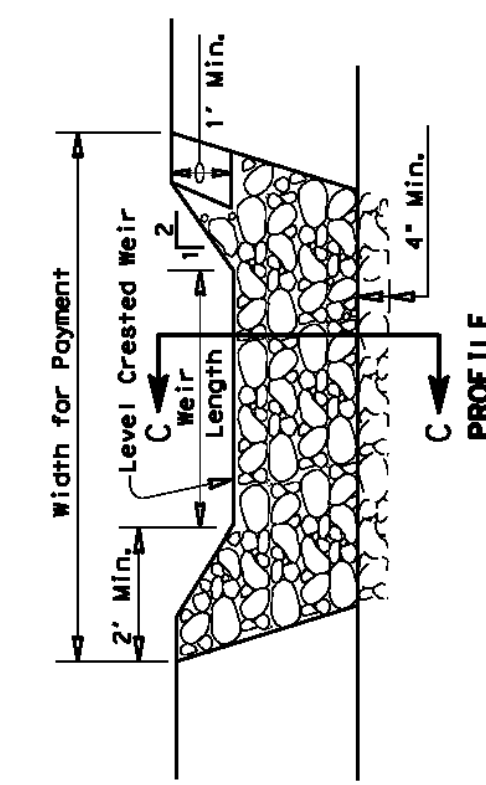
3', 6' or 9'



SECTION A-A



RD2 OR RD3



ROCK FILTER DAM USAGE GUIDELINES

Rock Filter Dams should be constructed downstream from disturbed areas to intercept sediment from overland runoff and/or concentrated flow. The dams should be sized to filter a maximum flow through rate of 60 gpm/ft² of cross sectional area. A 2 year storm frequency may be used to calculate the flow rate.

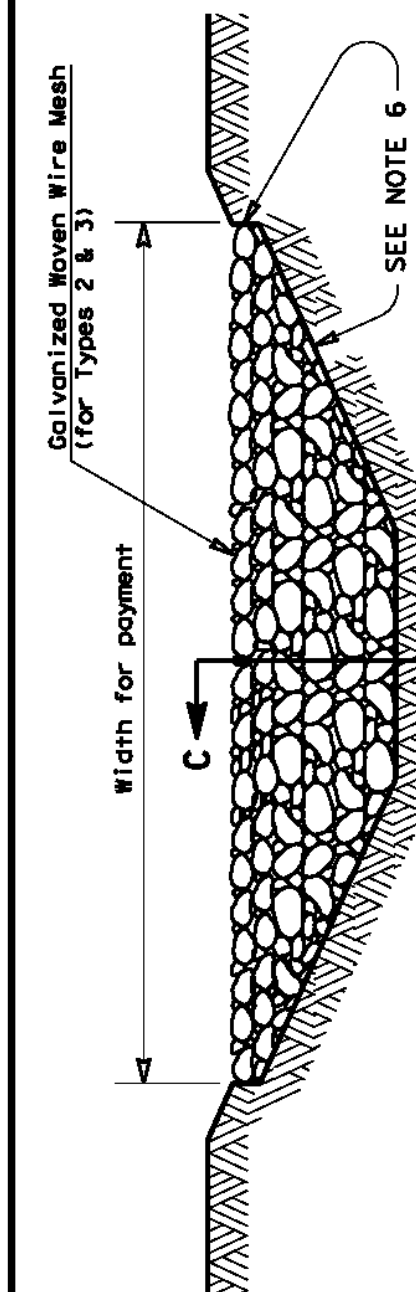
Type 1 (18" high with no wire mesh) (3" to 6" aggregate): Type 1 may be used at the toe of slopes, ground inlets, in small ditches, and at dikes or levees. Type 1 may not be used in concentrated flow areas where high velocity flows (approximately 8 ft/sec or more) in which aggregate wash out may occur. Sandbags may be used at the embedded foundation (4" deep min.) for better filtering efficiency of low flows if called for on the plans or directed by the Engineer.

Type 2 (18" high with wire mesh) (3" to 6" aggregate): Type 2 may be used in ditches and at dikes or levee outlets.

Type 3 (36" high with wire mesh) (4" to 8" aggregate): Type 3 may be used in stream flow and should be secured to the stream bed.

Type 4 (Sack Gabions) (3" to 6" aggregate): Type 4 may be used in ditches and smaller channels to form an erosion control dam.

Type 5: Provide rock filter dams as shown on plans.



FILTER DAM AT CHANNEL SECTIONS

RD2 OR RD3 OR RD4

GENERAL NOTES

- If shown on the plans or directed by the Engineer, filter dams should be placed near the toe of slopes where erosion is anticipated, upstream from culverts, bridges, structures, and in roadway ditches and channels to collect sediment.
- Materials (aggregate, wire mesh, sandbags, etc.) shall be as indicated on the plans.
- The rock filter dam dimensions shall be as indicated on the SGP plans.
- Side slopes should be 2:1 or flatter. Dams within the safety zone shall have side slopes of 6:1 or flatter.
- Maintain a minimum of 1' between top of rock filter dam weir and top of embankment for filter dams at sediment traps.
- Filter dams should be embedded a minimum of 4" into existing ground.
- The sediment trap for ponding of sediment laden runoff shall be of the dimensions shown on the plans.
- Rock filter dam types 2 & 3 shall be secured with 20 gauge galvanized wire mesh with 1" diameter mesh openings. The aggregate shall be placed on the mesh to the height & slopes specified. The mesh shall be folded at the upstream side over the aggregate and tightly secured to itself on the downstream side using wire ties or staples. The mesh shall be secured to the stream bed prior to aggregate placement.
- Sack gabions should be stacked down with 3/4" dia. rebar stakes, and have a double-twisted hexagonal weave with a nominal mesh opening of 2 1/2" x 3 1/4".
- Flow outlet should be onto a stabilized area (vegetation, rock, etc.).
- The guidelines shown herein are suggestions only and may be modified by the Engineer.

PLAN SHEET LEGEND

- Type 1 Rock Filter Dam (RD1)
- Type 2 Rock Filter Dam (RD2)
- Type 3 Rock Filter Dam (RD3)
- Type 4 Rock Filter Dam (RD4)

Texas Department of Transportation		Design Division Standard	
TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES ROCK FILTER DAMS EC (2) - 16			
FILE: ec216	REV: 001	DATE: JULY 2016	BY: JLP
PROJECT: TXDOT	CONTRACT: 100	SECTION: 100	DATE: 07/16
COUNTY: 0101		SHEET NO. 5	



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THE ROCK UNIT 1 TXDOT IMPROVEMENTS

EROSION CONTROL DETAILS

SHEET 5 OF 25

NO DATE ISSUES AND REVISIONS

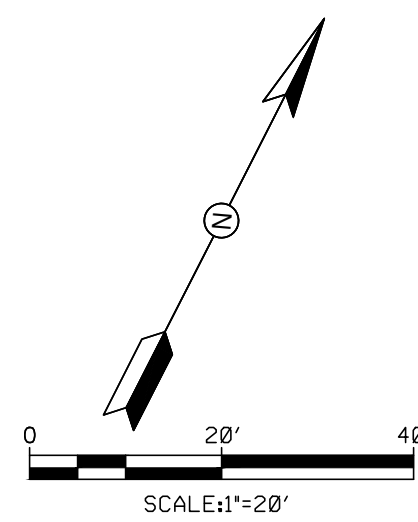
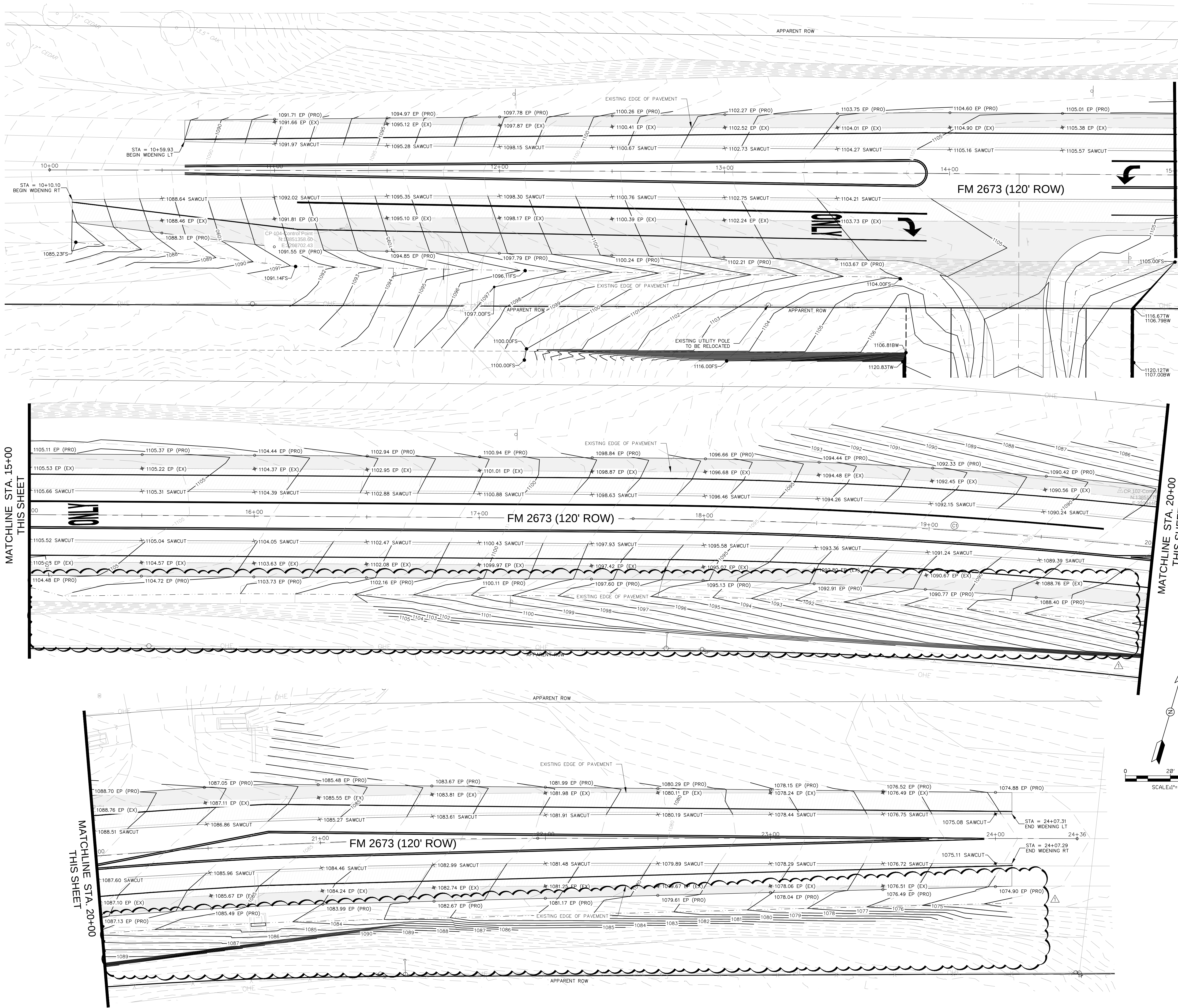
NO	DATE	ISSUES AND REVISIONS

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05/14/2024

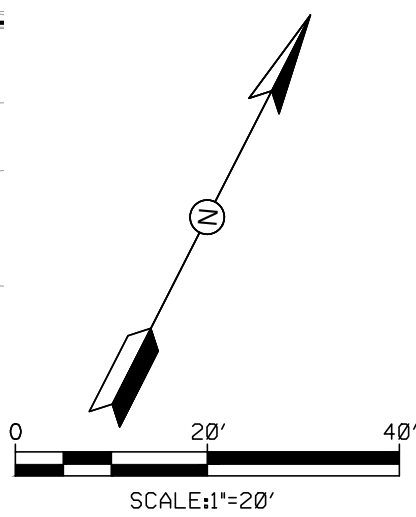
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LEGEND

- 900 PROPOSED CONTOUR
- 900 EXISTING CONTOUR
- DRAINAGE FLOW ARROW
- GRADE BREAK/SWALE
- PAVEMENT WIDENING
- SAWCUT & MILL EXISTING PAVEMENT
- EXISTING UTILITY POLE

- NOTES:
- SEE SHEET 12 FOR STREET SECTION AND PAVEMENT DETAILS.
 - SEE SHEET 7-8 FOR ADDITIONAL CROSS SECTIONS.
 - ALL NEW TRAVEL LANE PAVEMENT SLOPES ARE TO MATCH EXISTING TRAVEL LANE PAVEMENT SLOPES. SHOULDERS ARE TO BE GRADED AT -2%. SPOT ELEVATIONS SHOWN ARE APPROXIMATE AND ARE INCLUDED FOR REFERENCE.



Curve Table					
Curve #	Radius	Length	Delta	Chord length	Chord Direction
C1	2400.00	428.22	N68° 29' 52.23"E	427.66	N68°29'52.23"E



05/14/2024

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THE ROCK UNIT 1 TXDOT
IMPROVEMENTS

FM 2673 GRADING PLAN

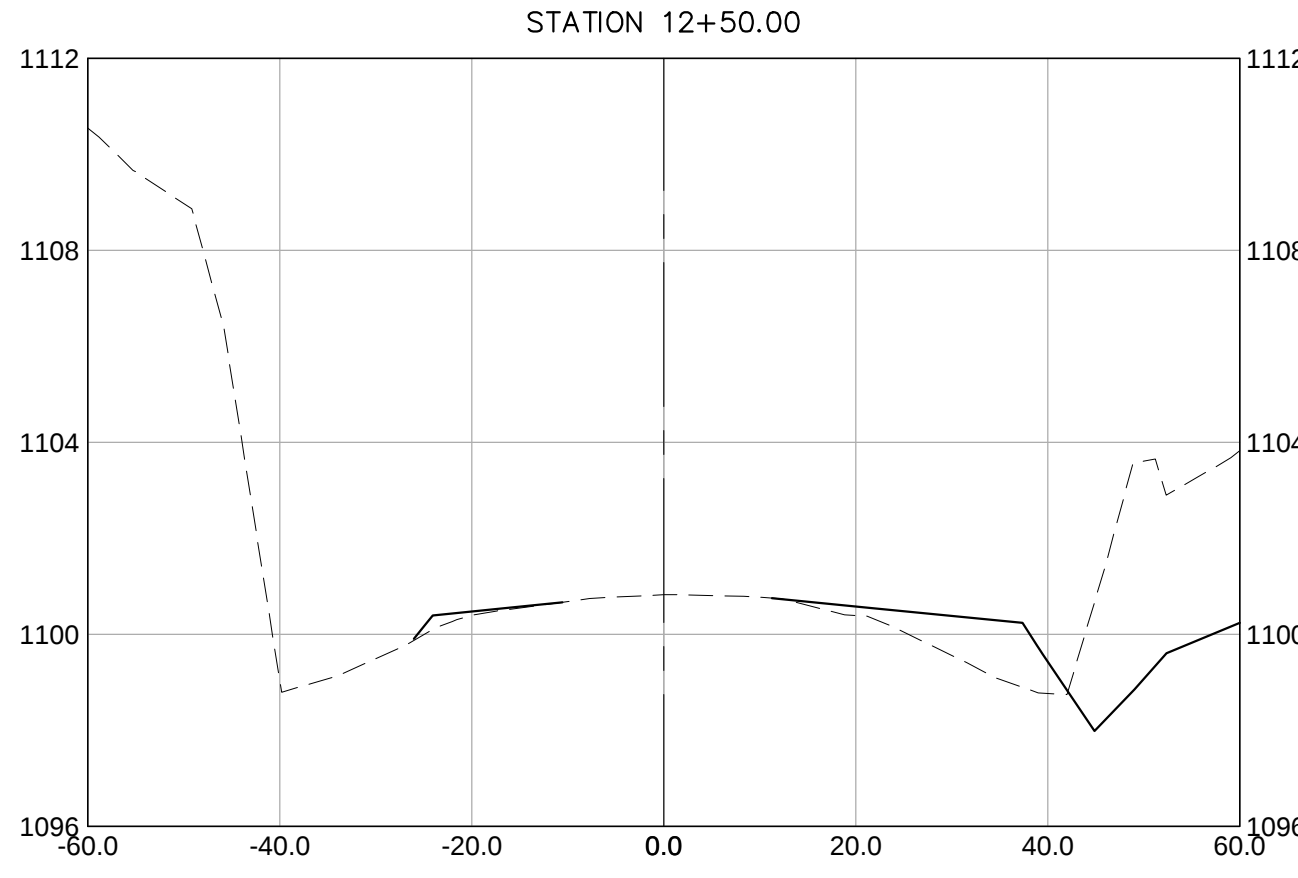
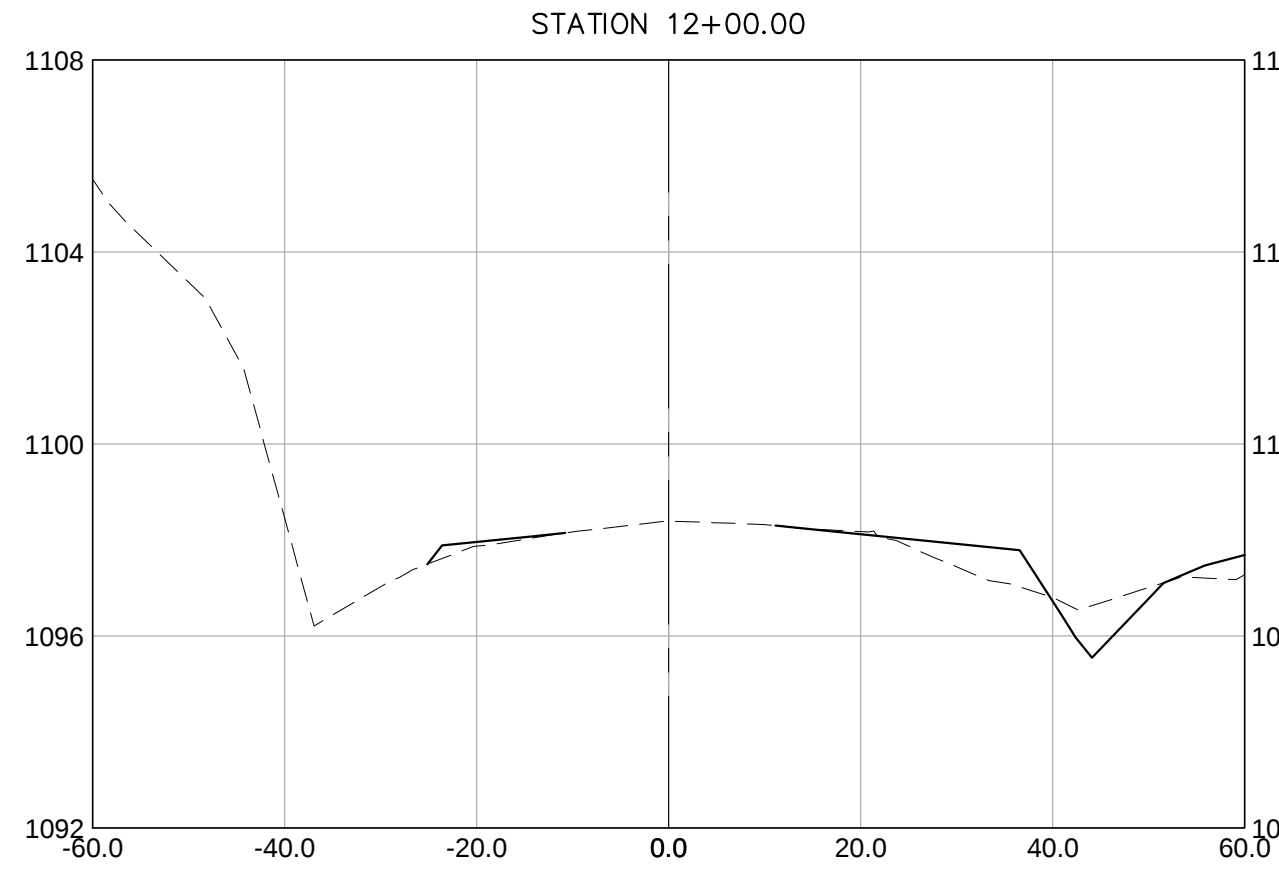
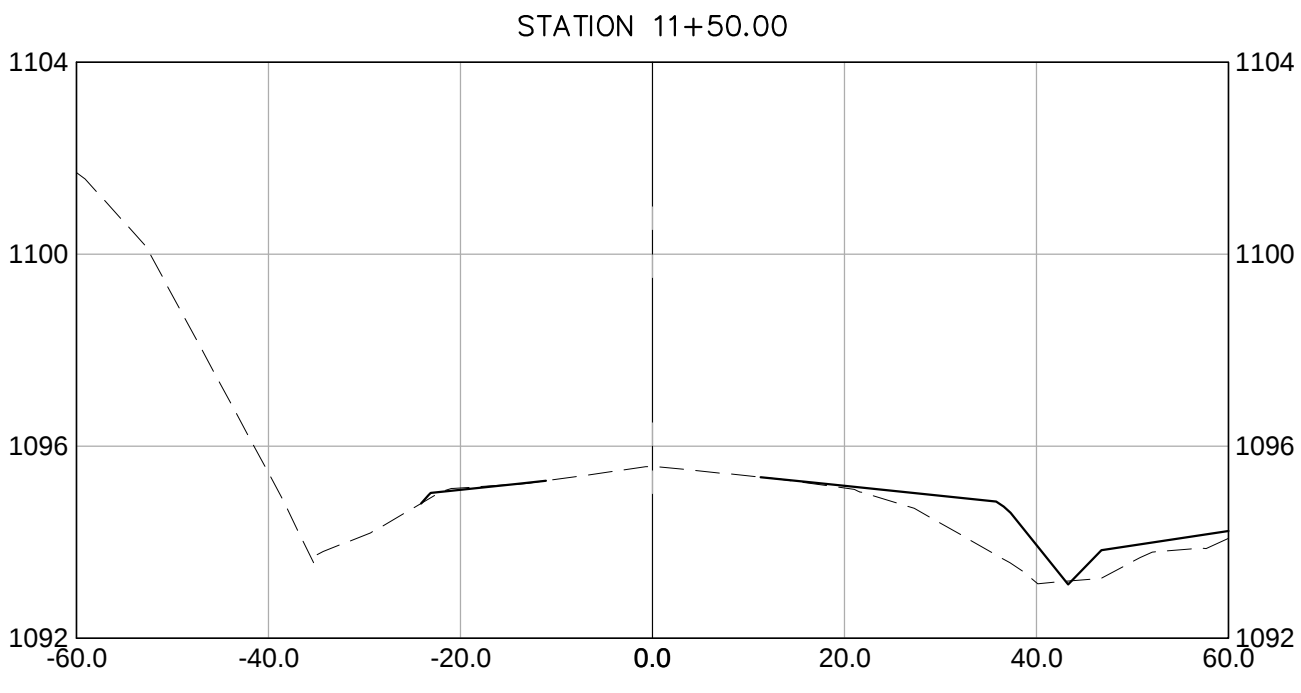
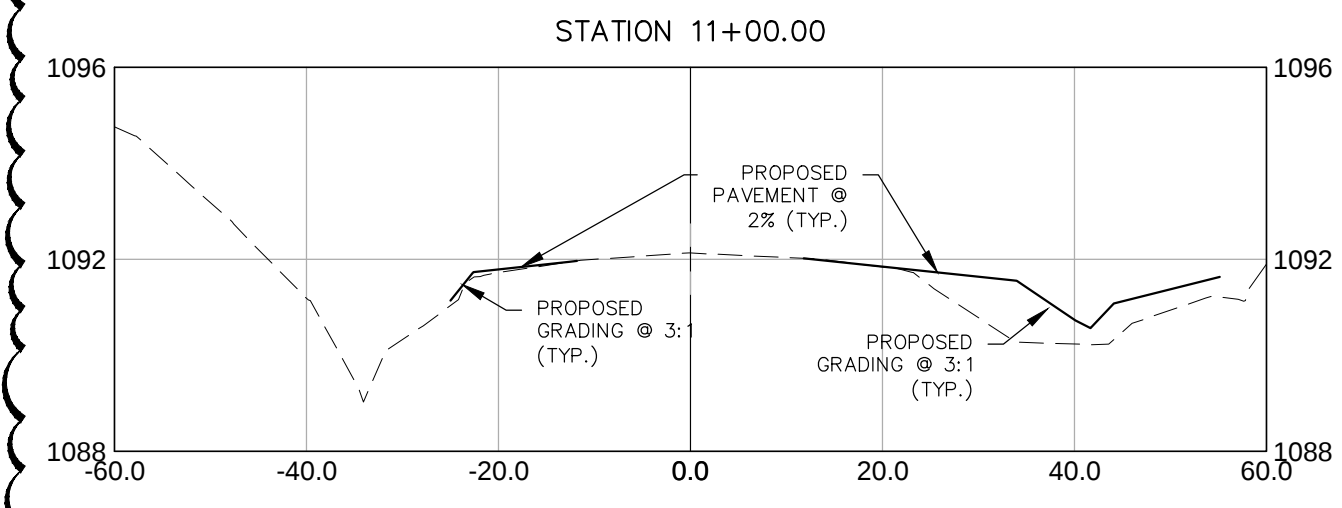
SHEET
6 OF 25

NO	DATE	ISSUES AND REVISIONS
1	5-14-2024	SITE REVISIONS

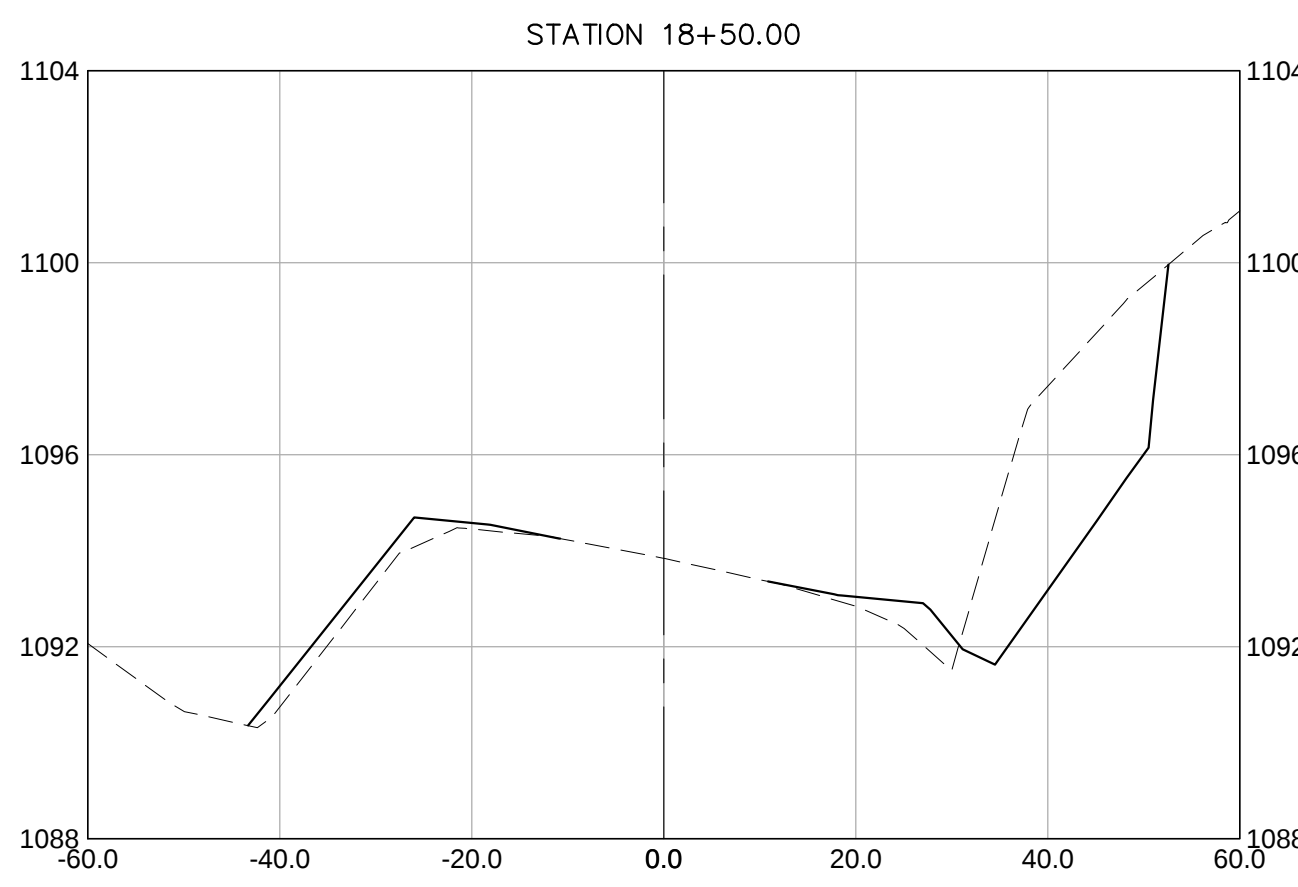
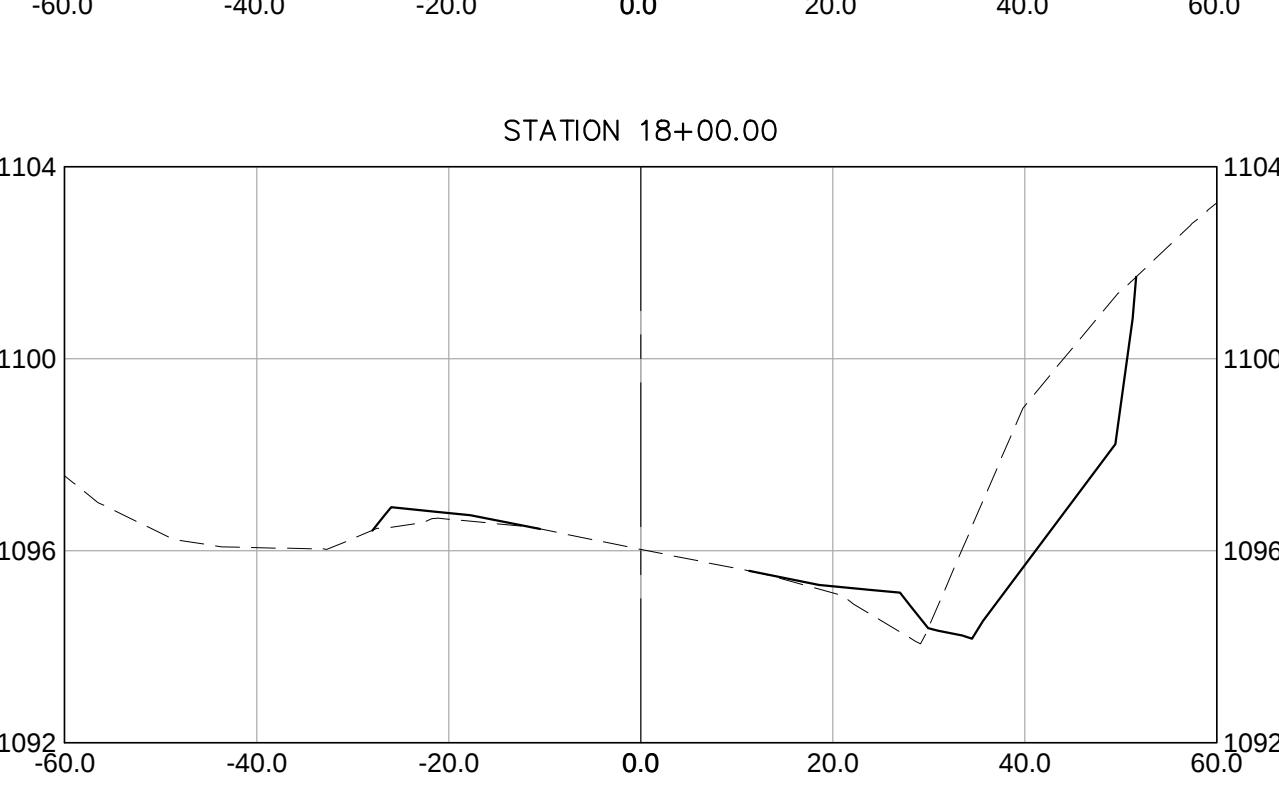
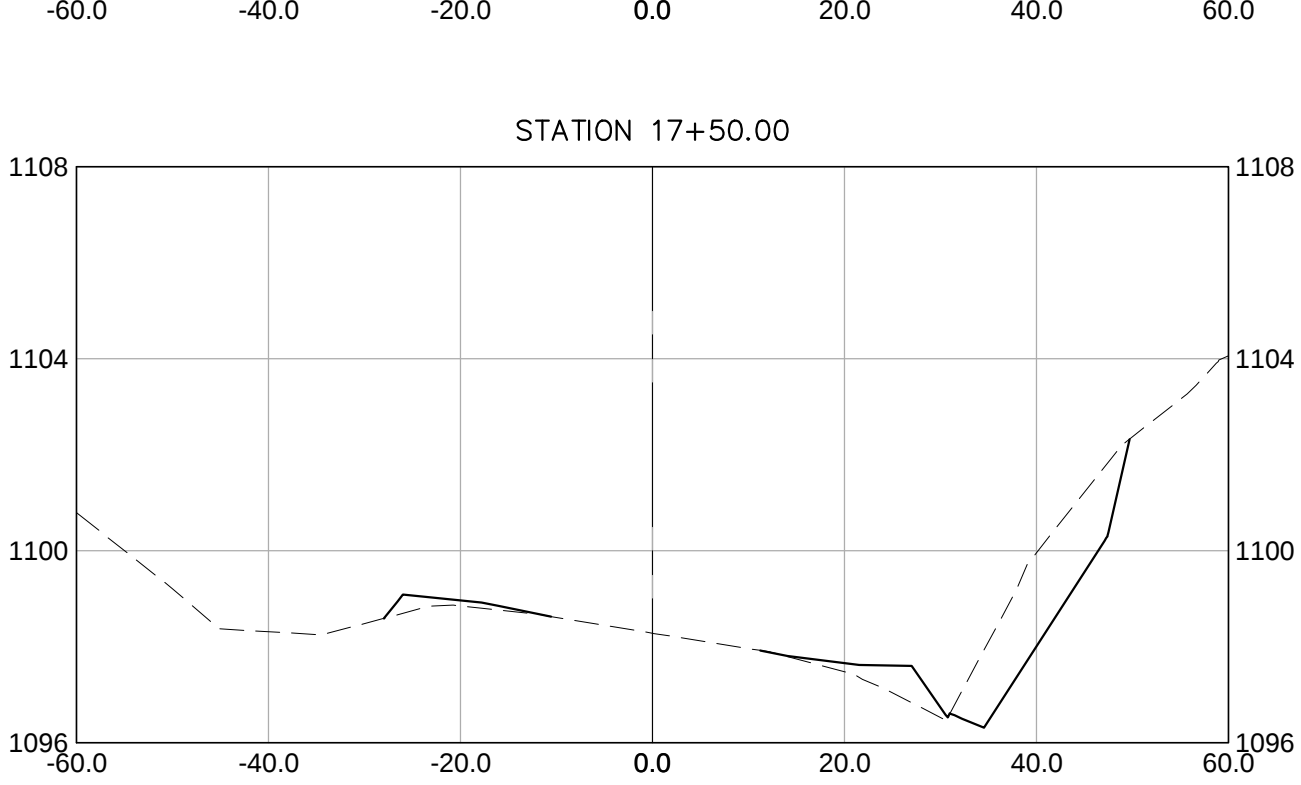
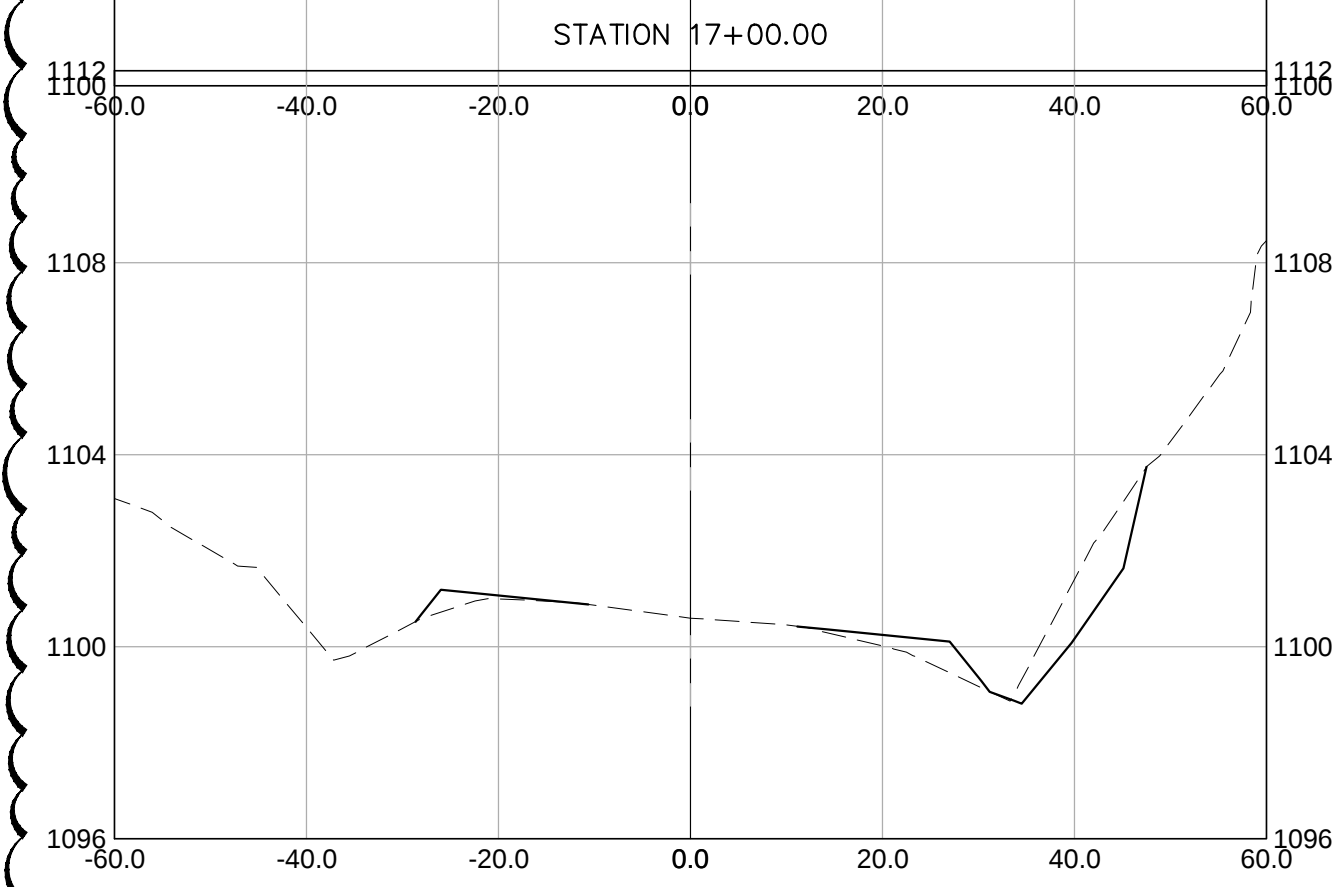
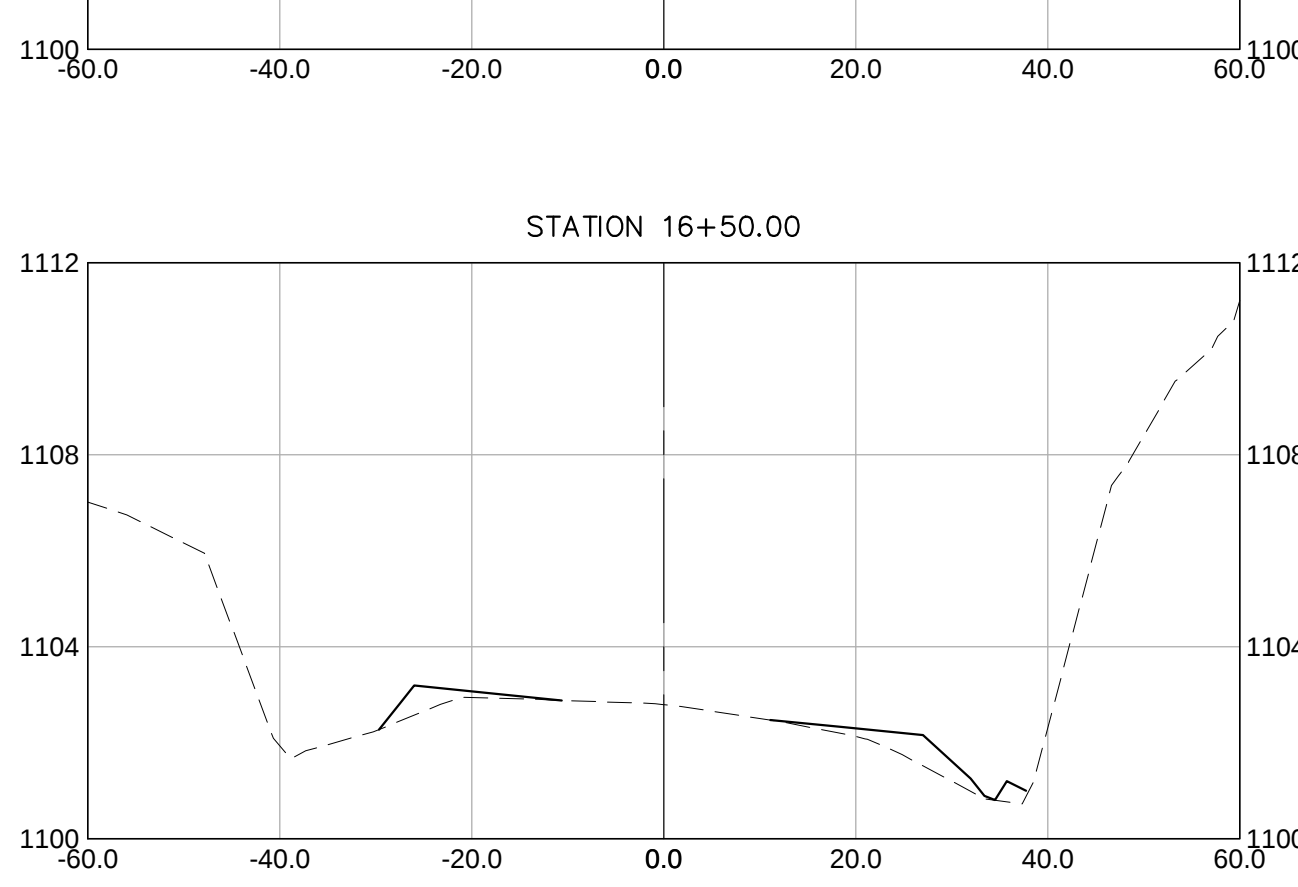
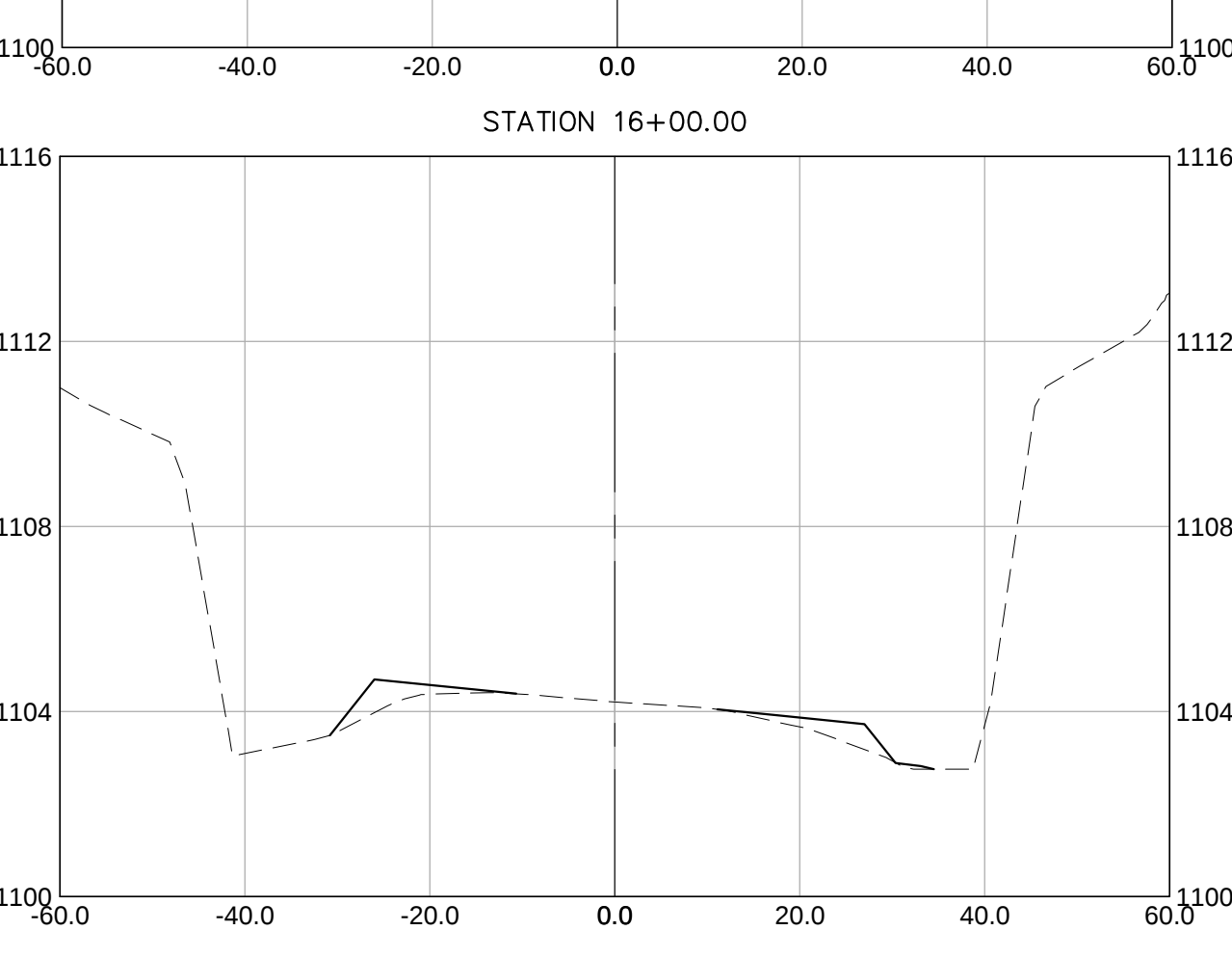
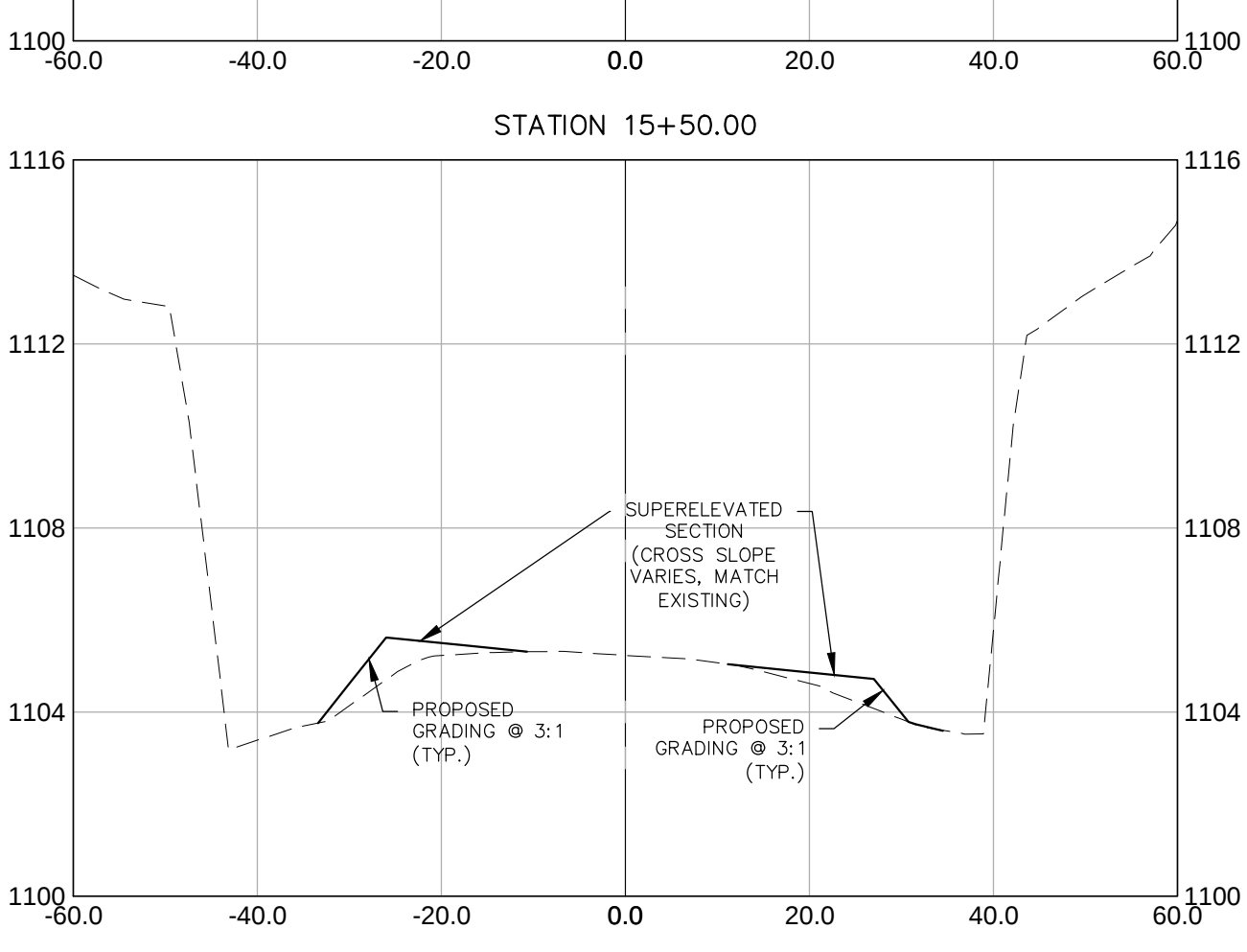
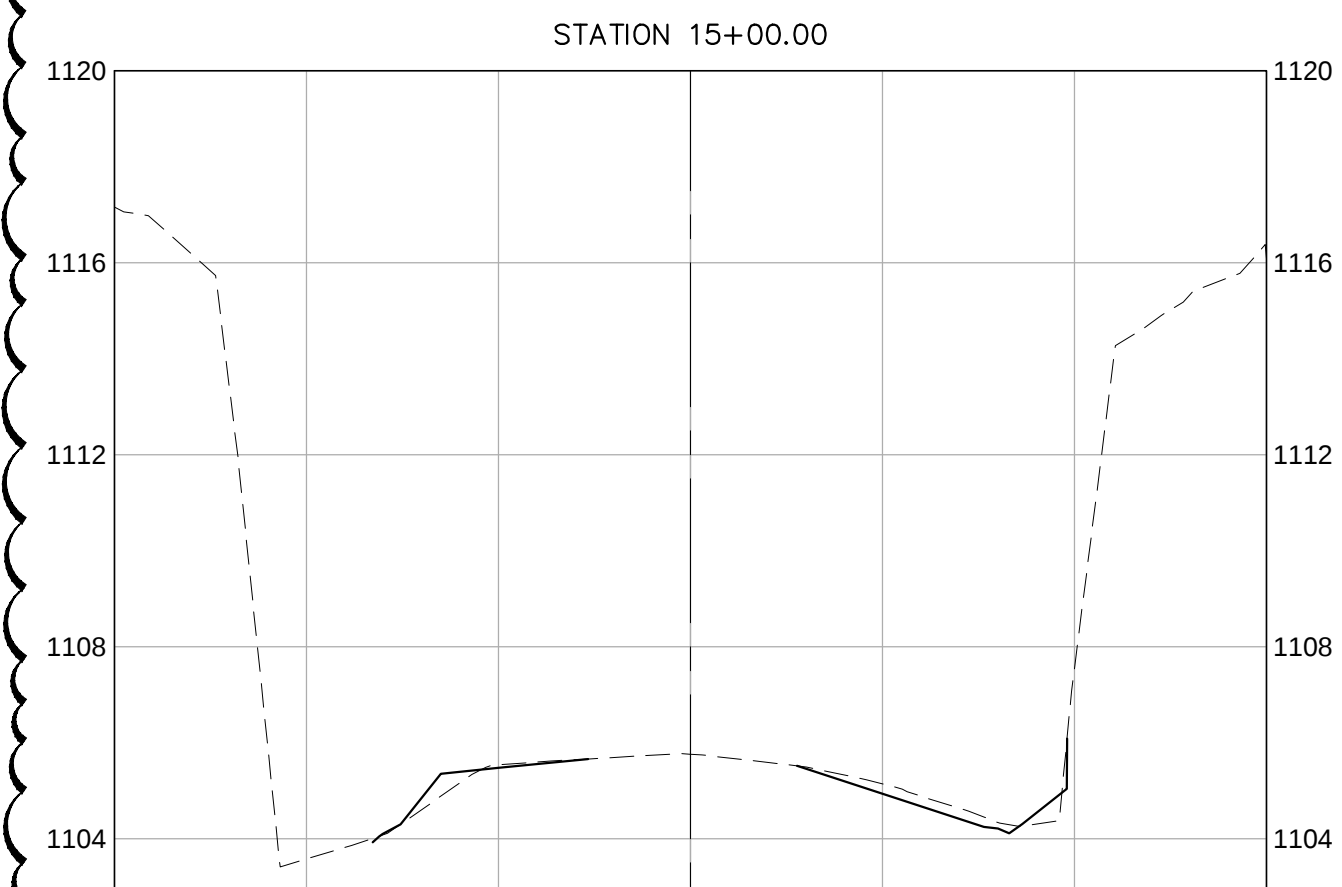
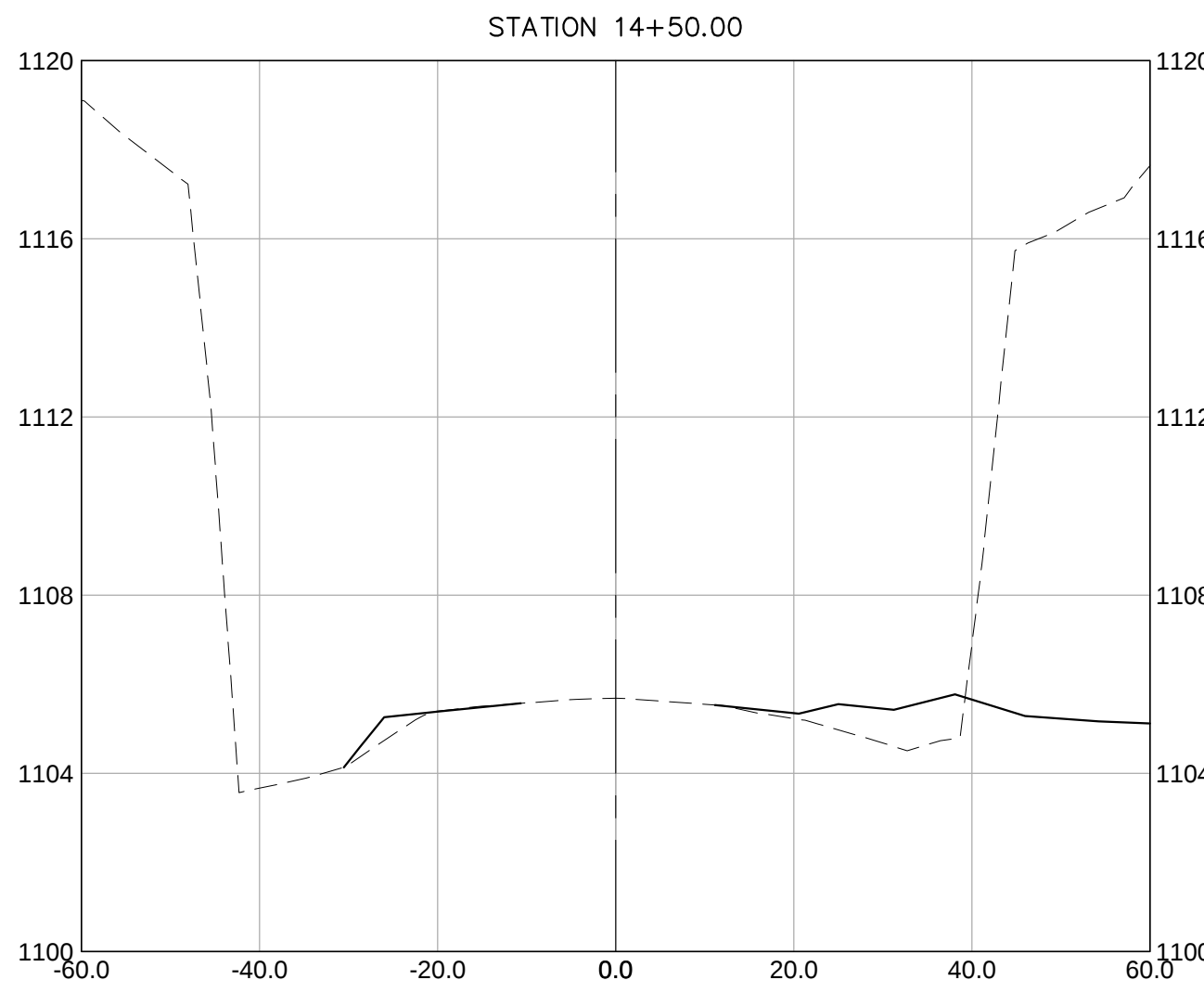
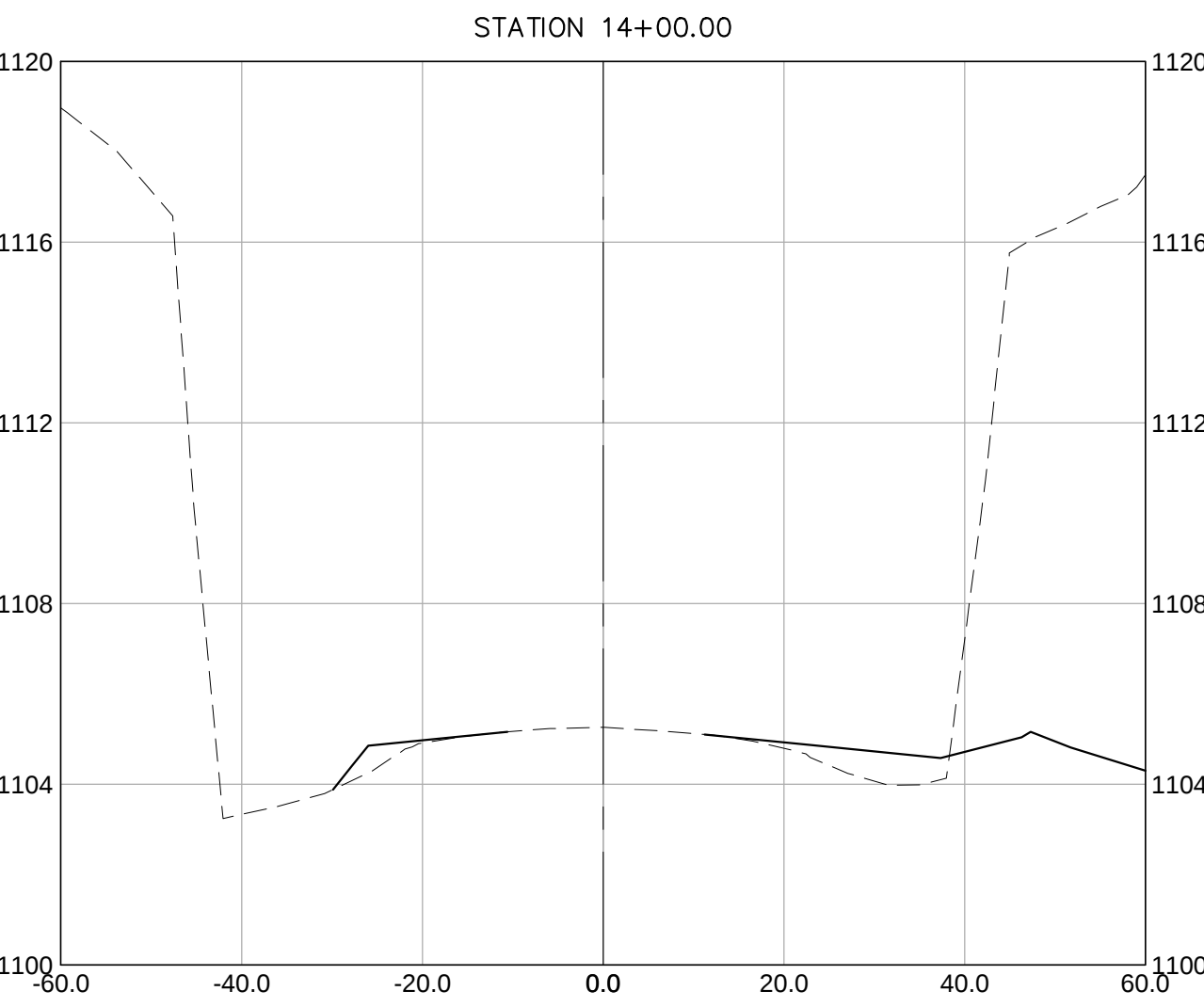
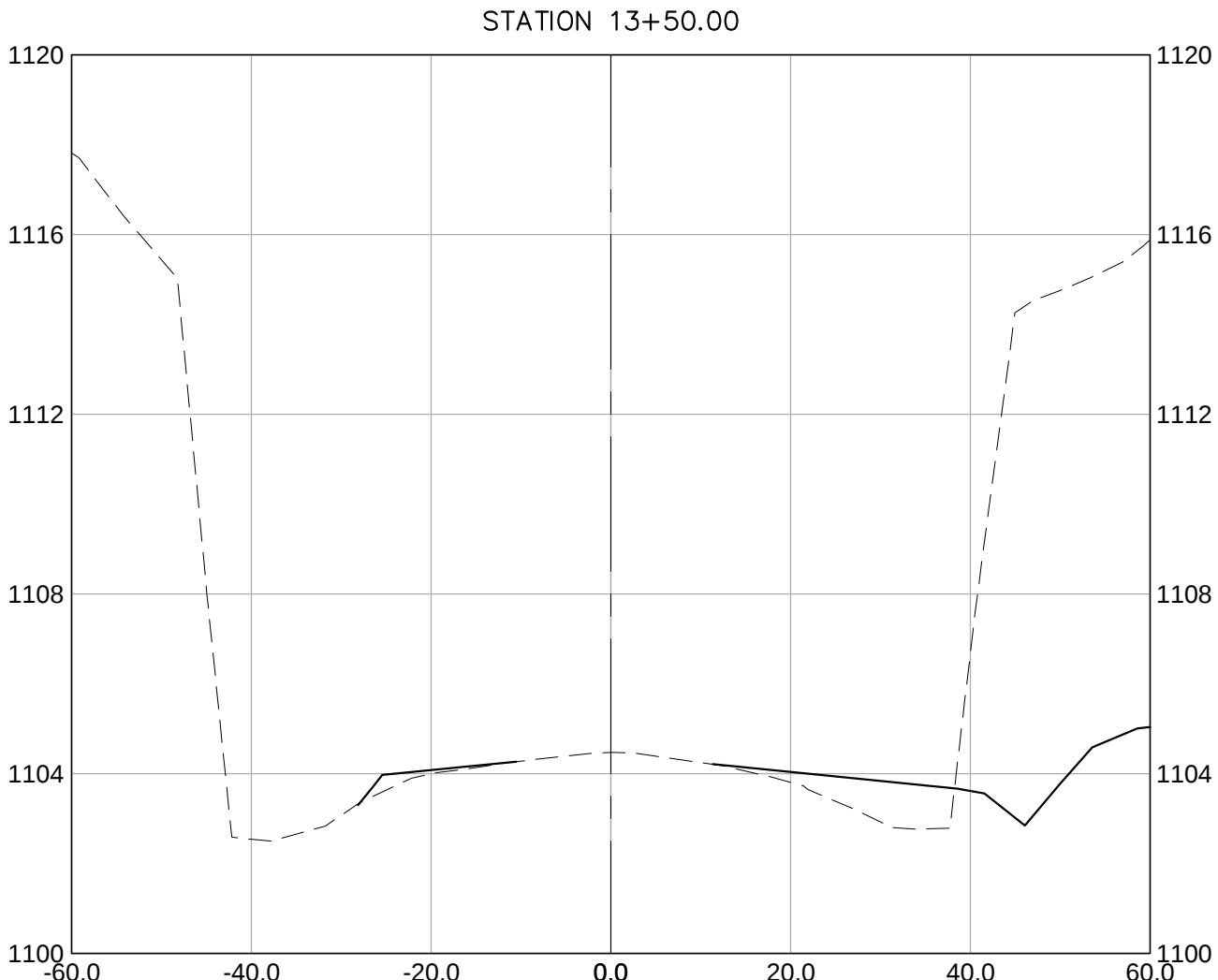
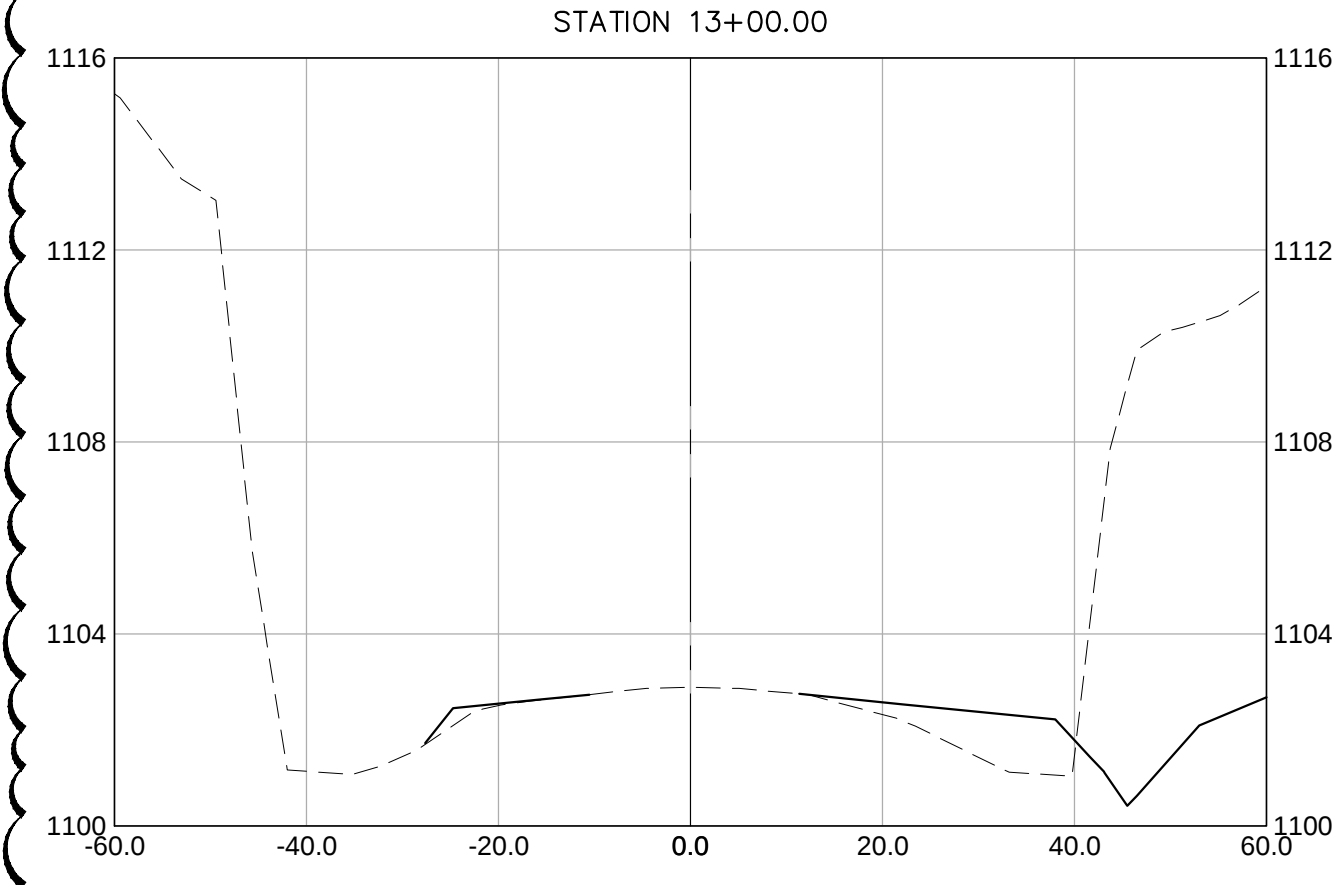
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Drawing Name: N:\Projects\WATROD\Watersheds\Texas\Civil\Construction Drawings\TODT Set\8 FM 2673 XS STA 18+50 TO 19+00.dwg User: andreasenhan May 15, 2024 - 10:30am



NOTE:
LABELS SHOWN ON PROFILE ARE TYPICAL FOR EVERY SECTION.
FM 2673 VARIES FROM A 2% CROWN TO A SUPERELEVATED
SECTION AS SHOWN IN THE CROSS SECTIONS. CONTRACTOR TO
MATCH EXISTING CROSS SLOPES. SHOULDERS ARE TO BE 2%.
TYPICAL EARTHEN SIDE SLOPES ARE TO BE 3:1.



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THE ROCK UNIT 1 TXDOT
IMPROVEMENTS

FM 2673 XS STA
10+00 TO 18+50

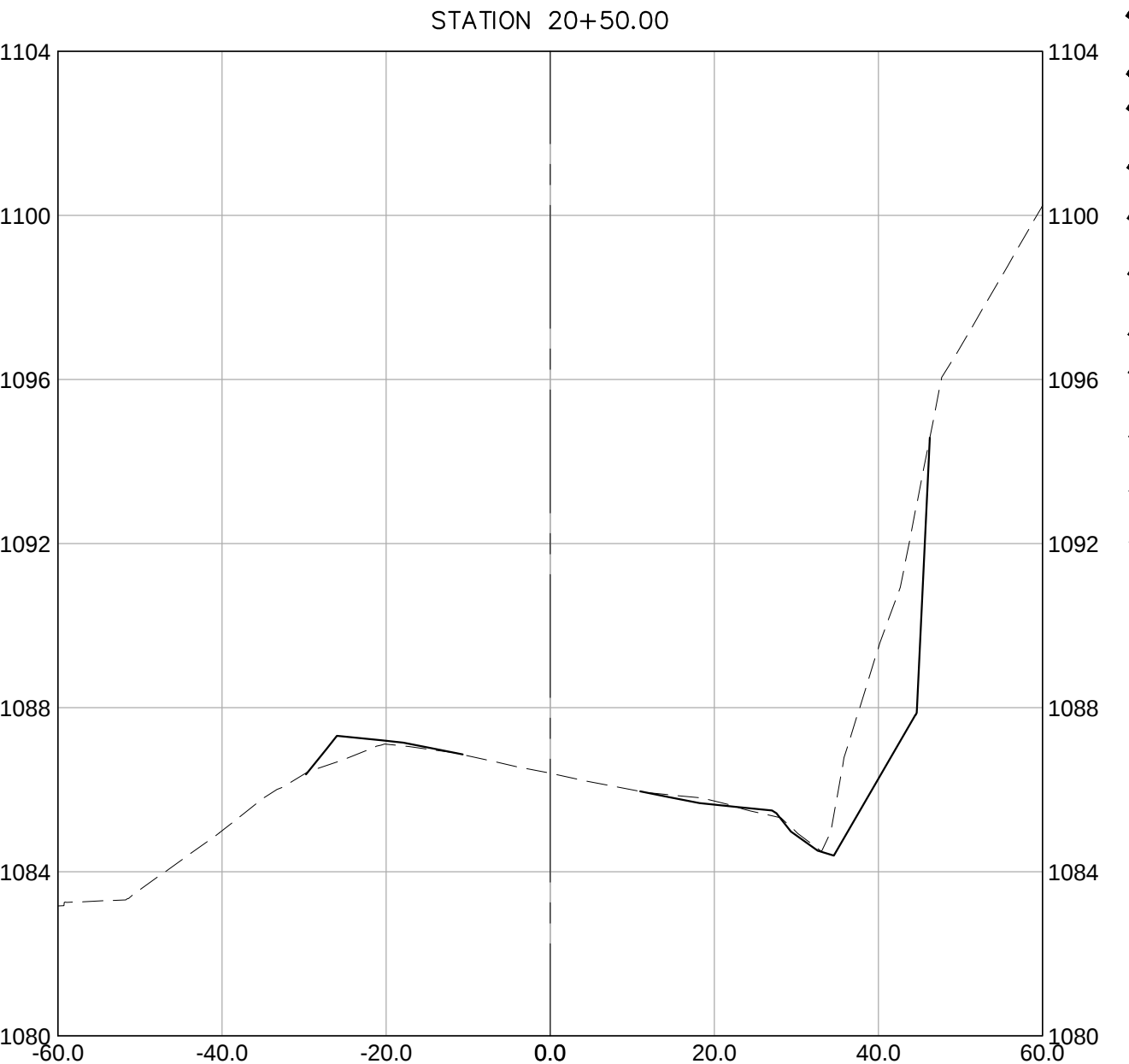
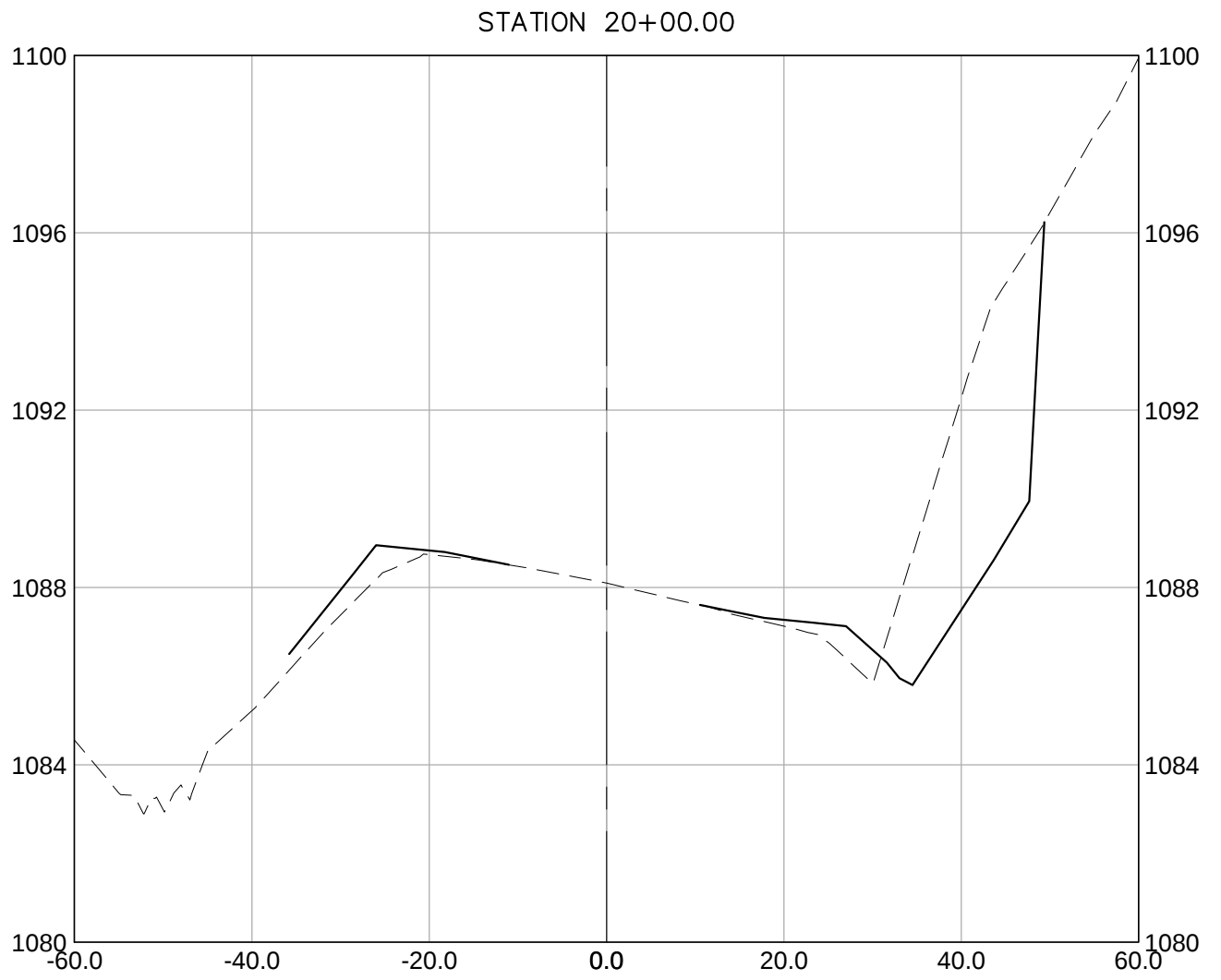
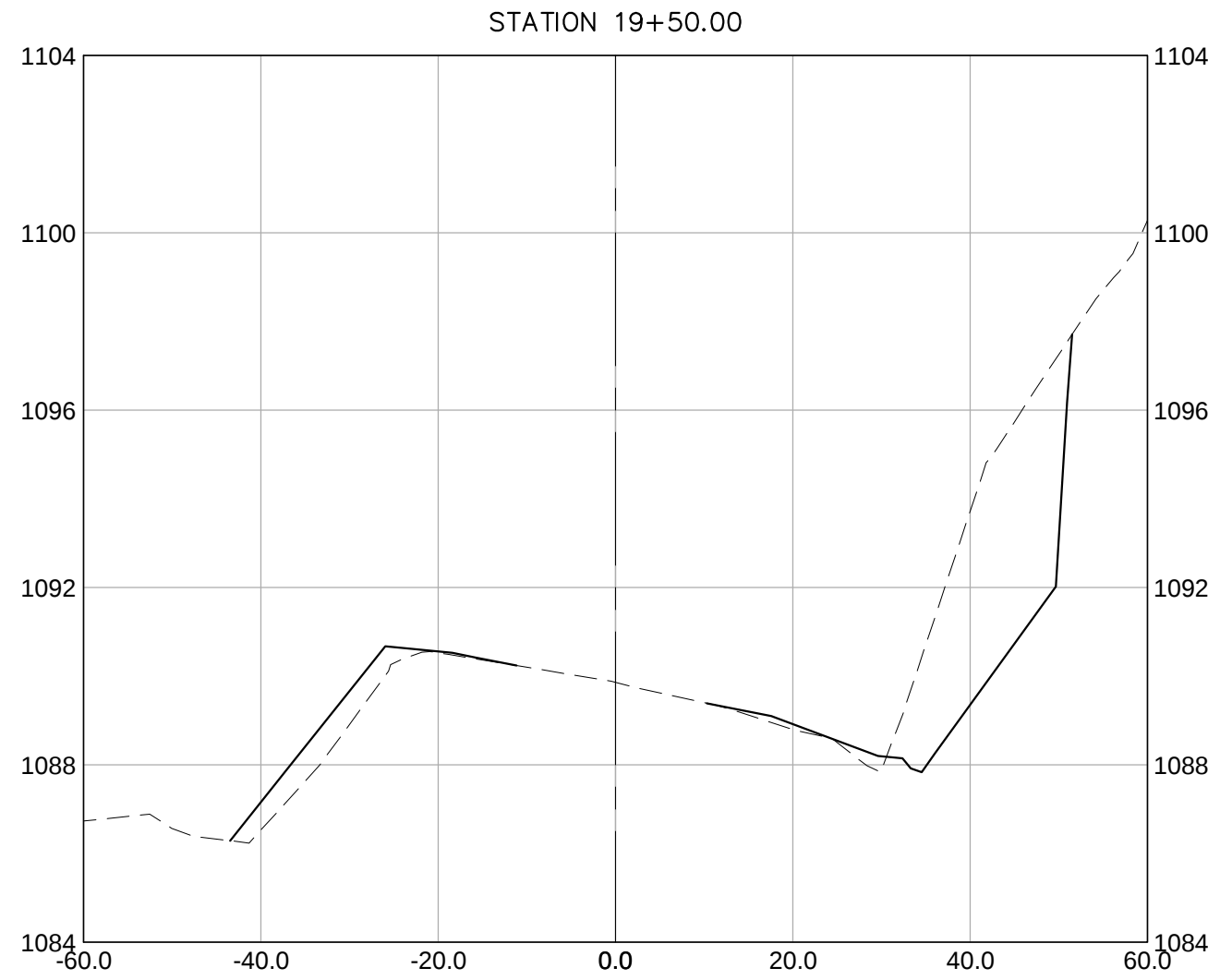
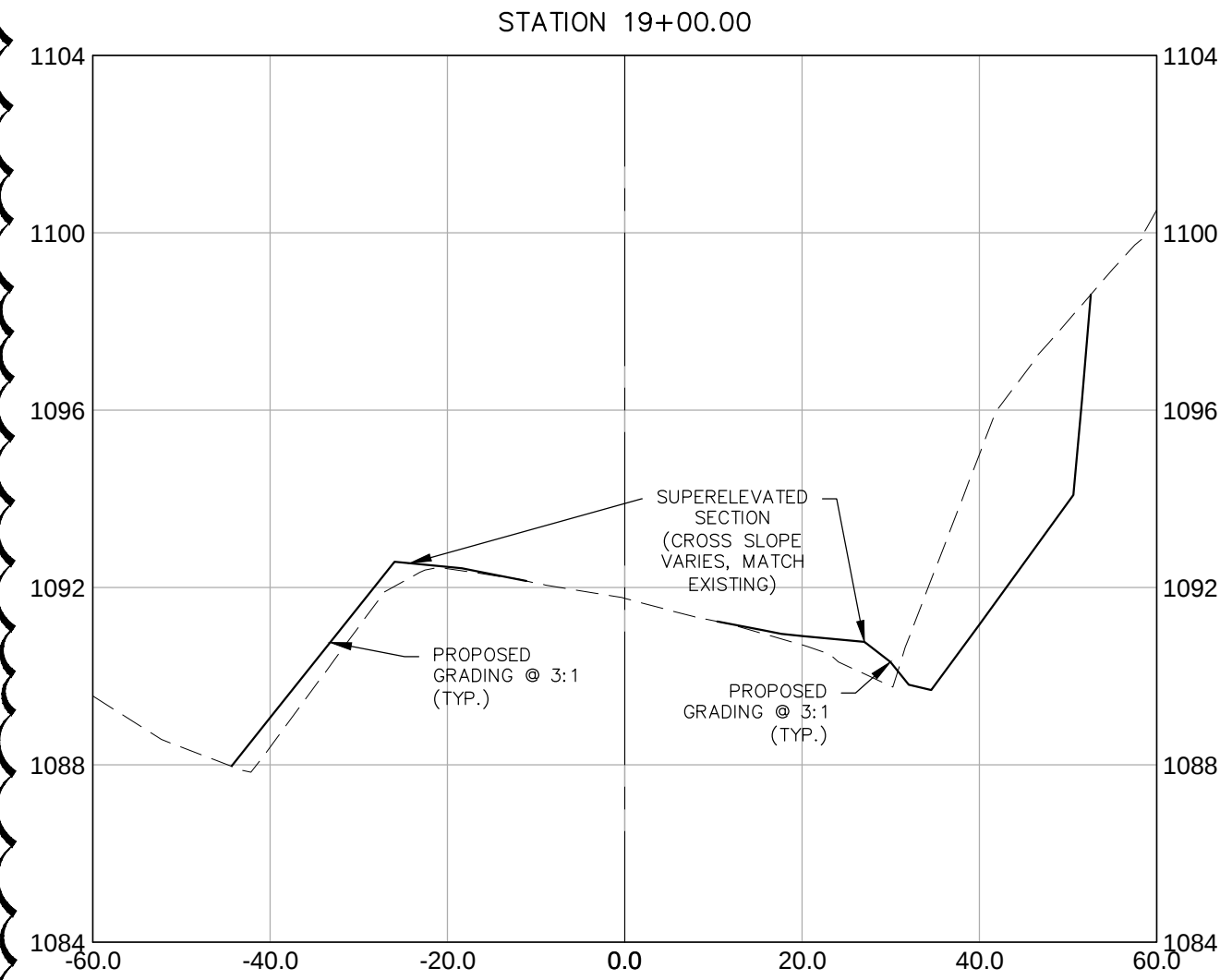
SHEET
7 OF 25

NO	DATE	ISSUES AND REVISIONS
1	5-14-2024	SITE REVISIONS

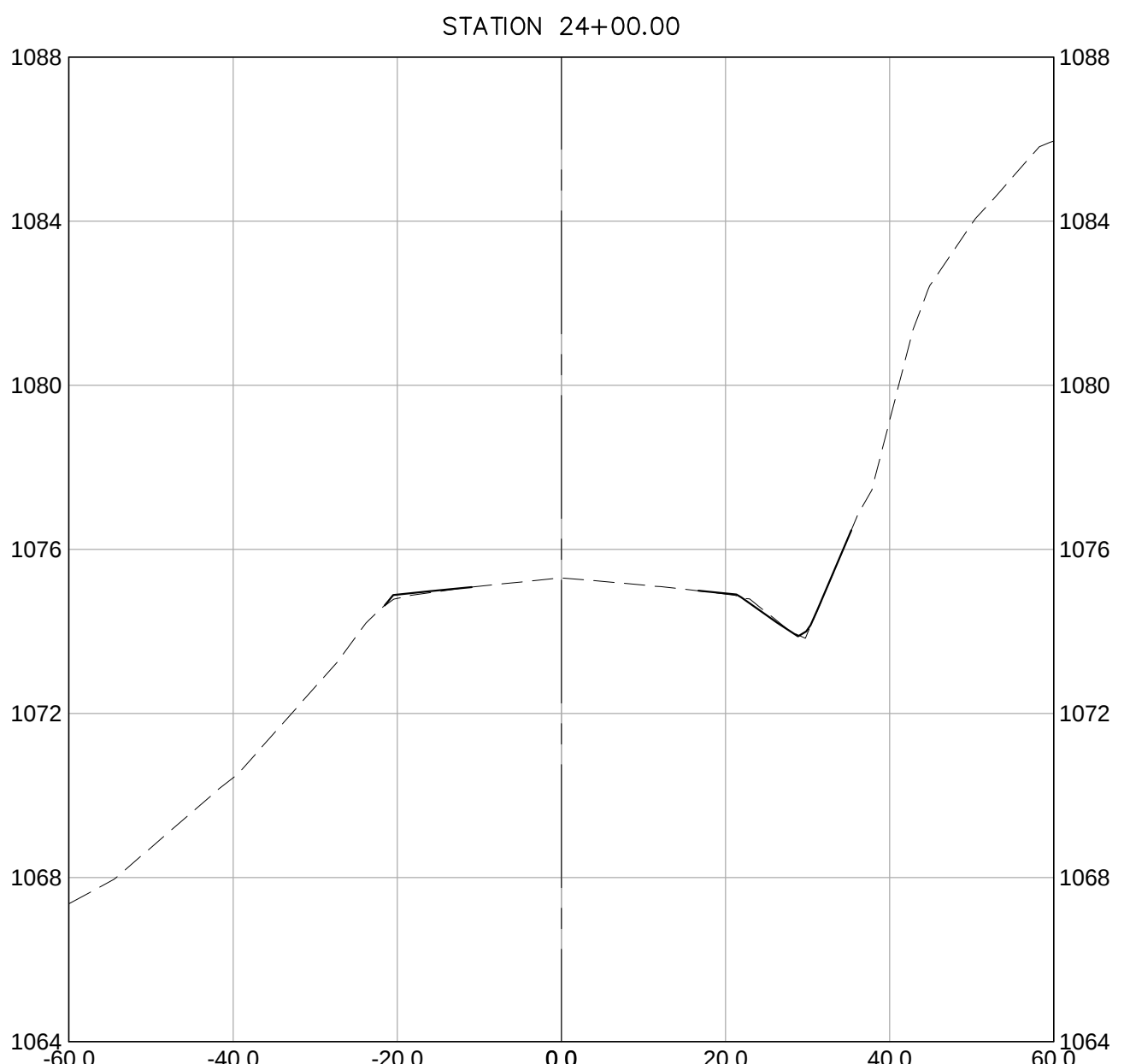
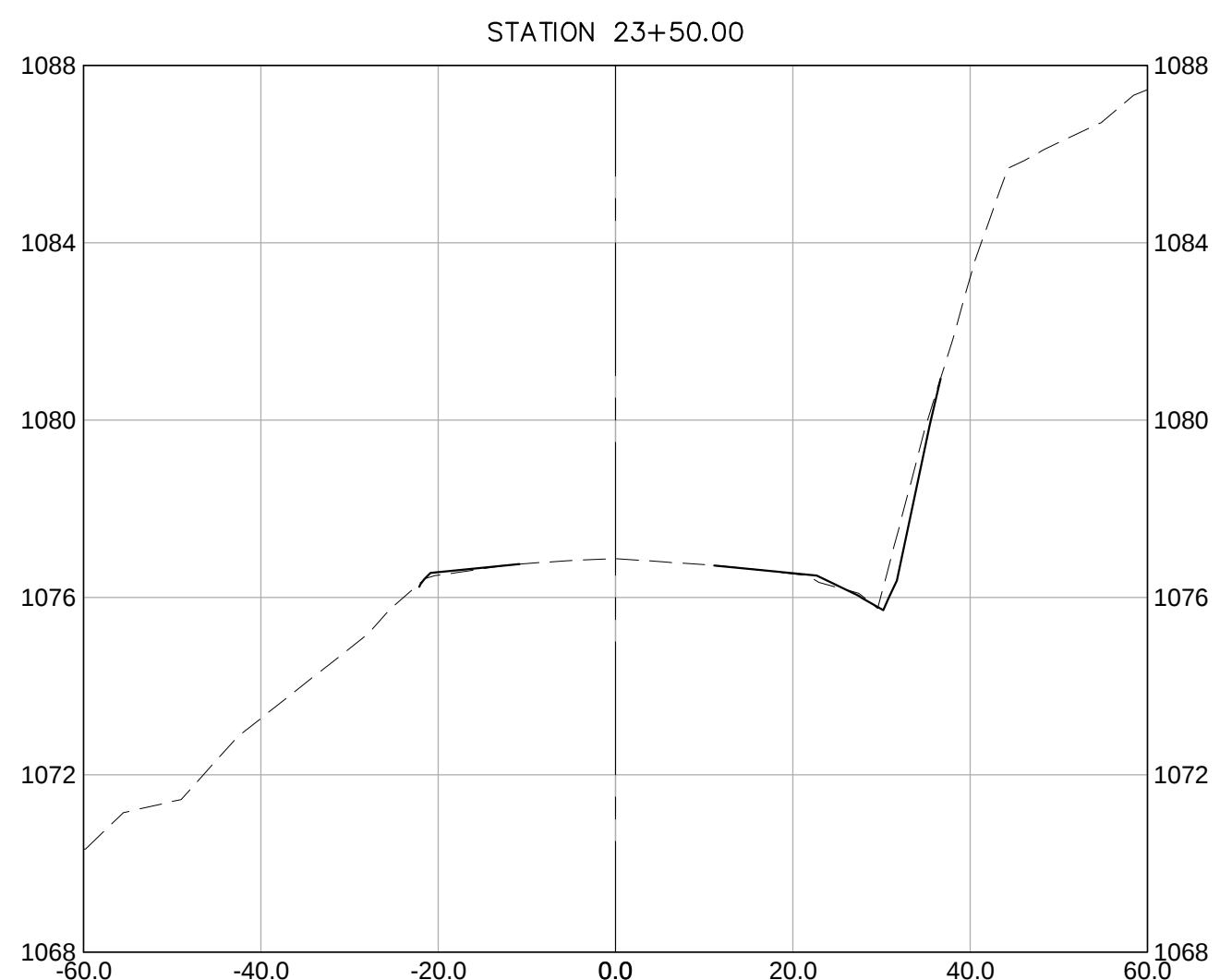
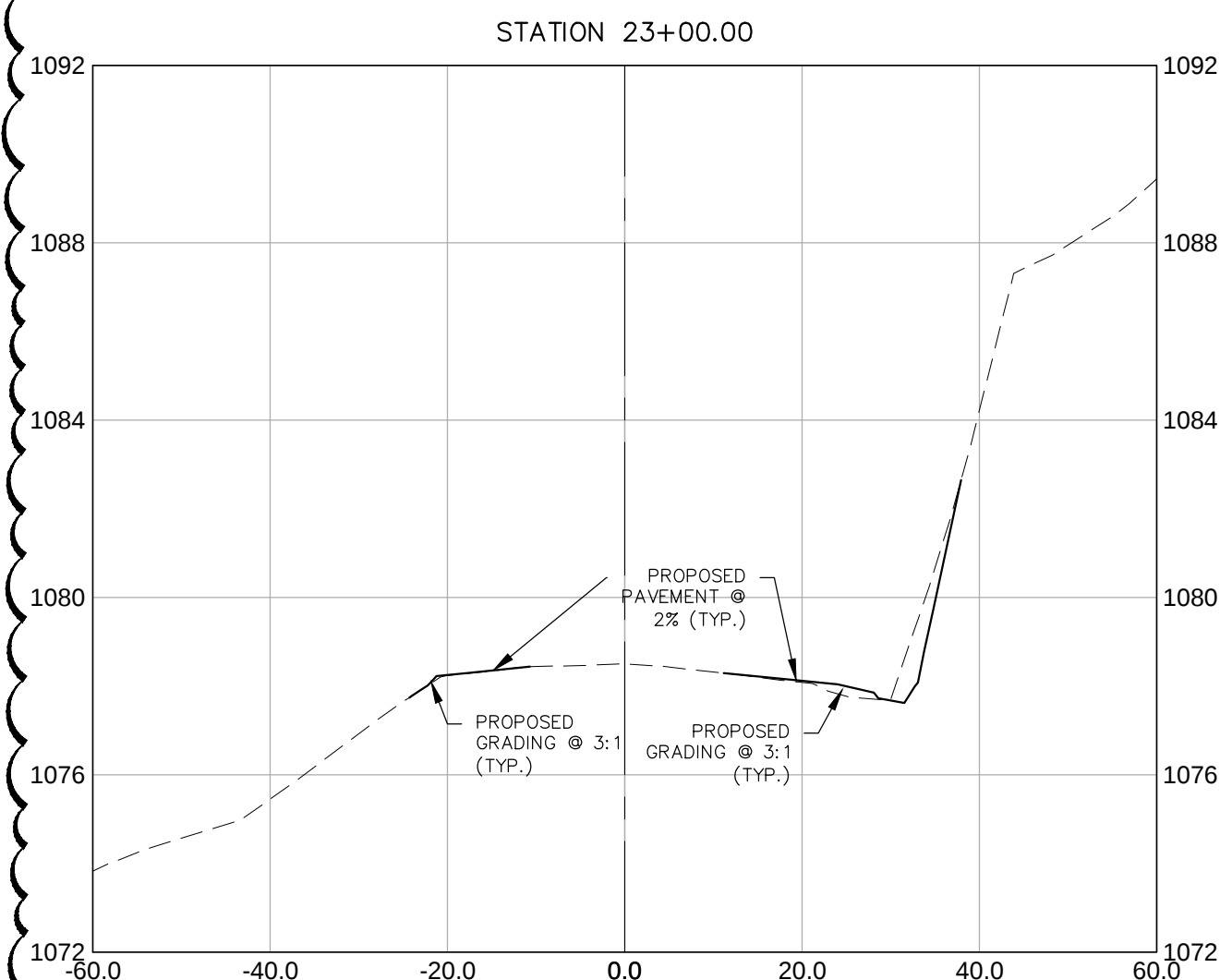
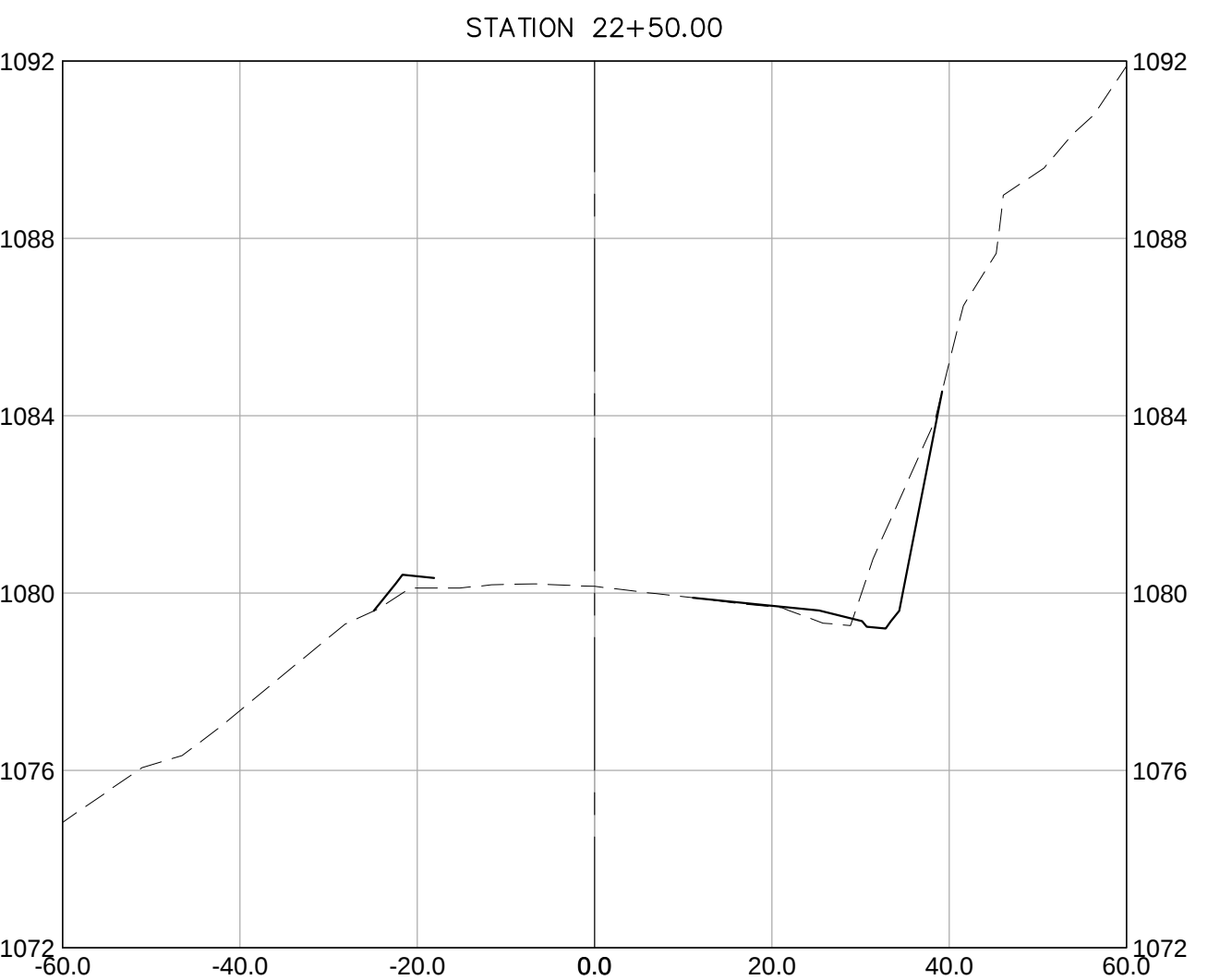
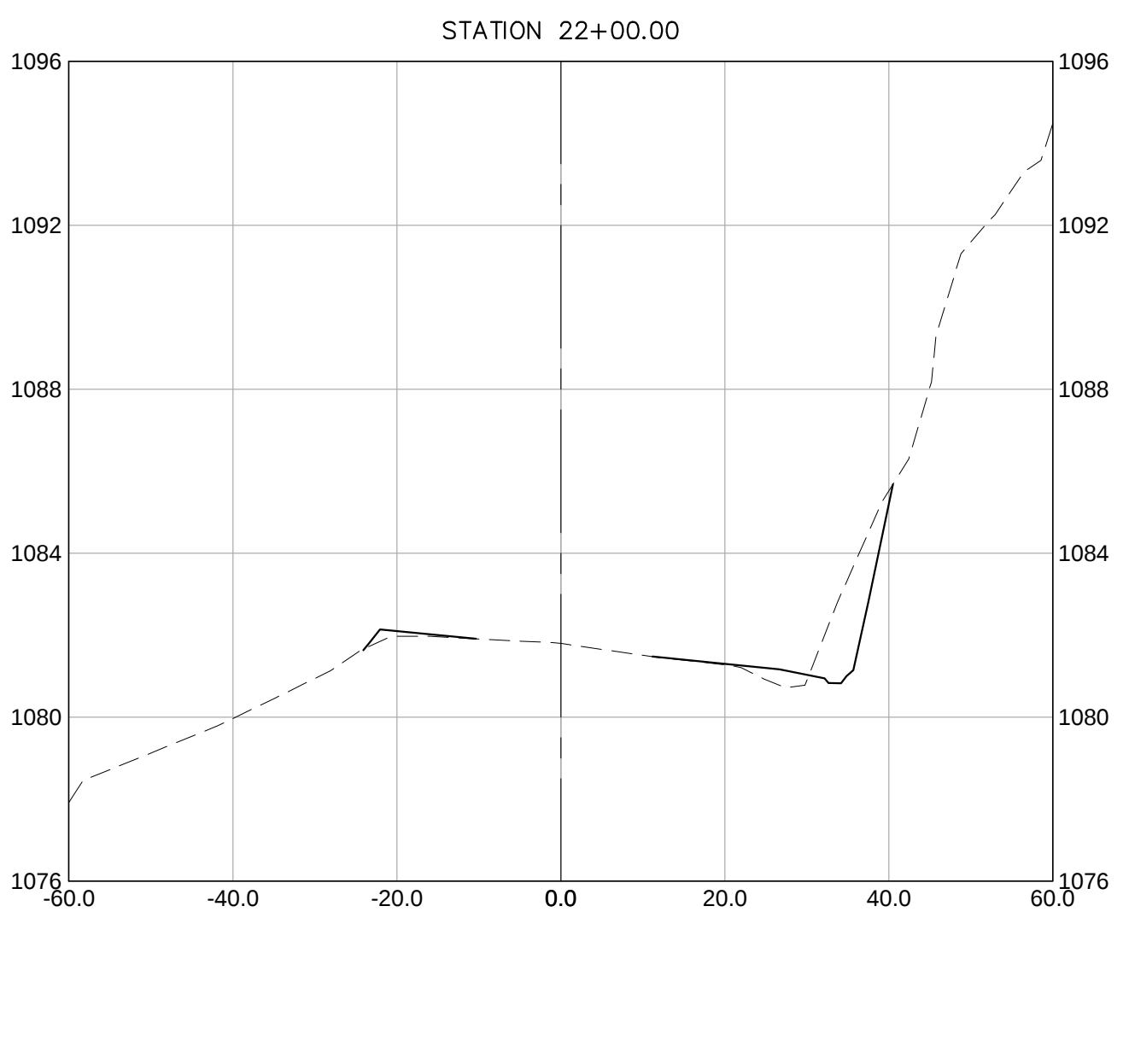
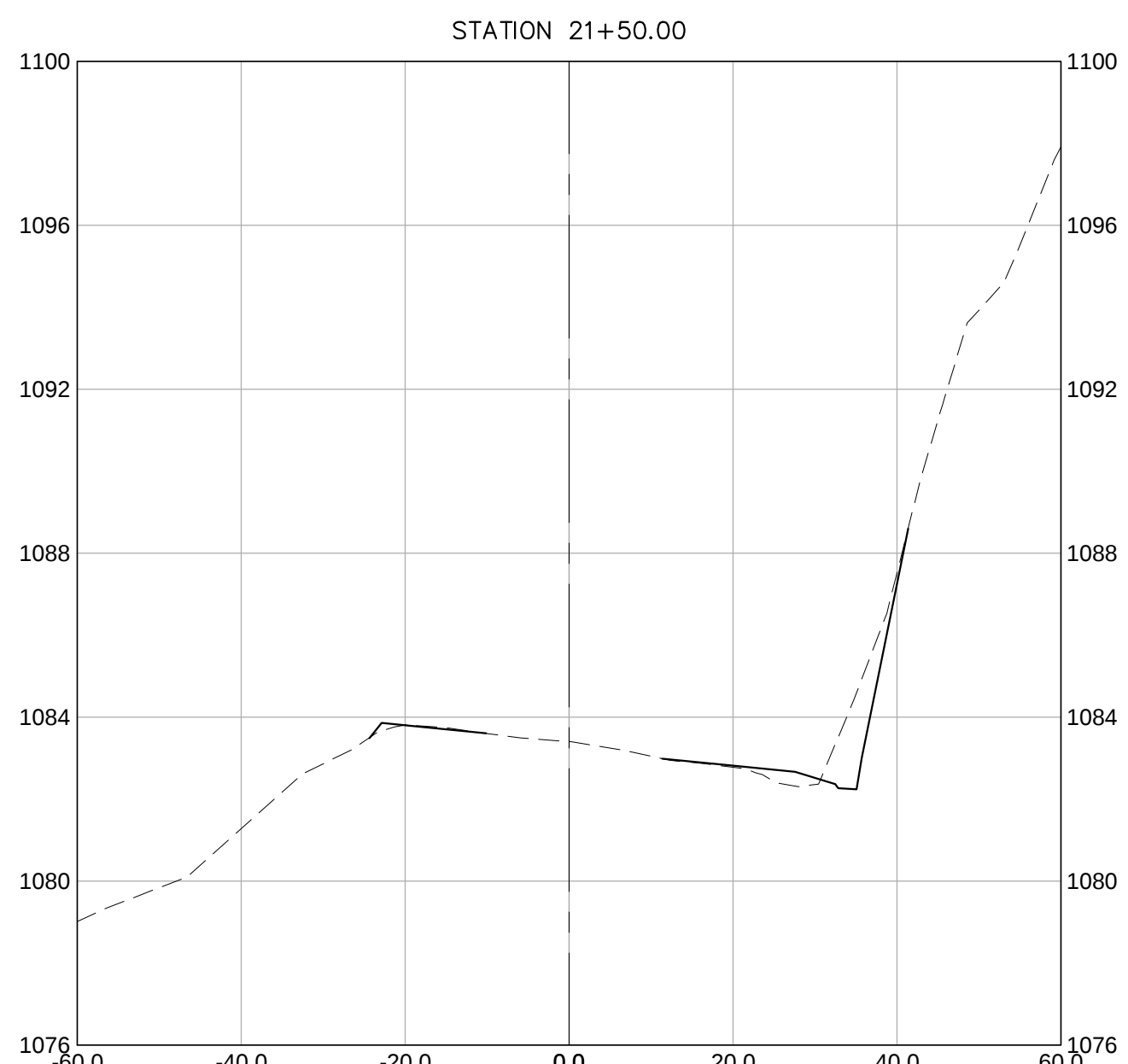
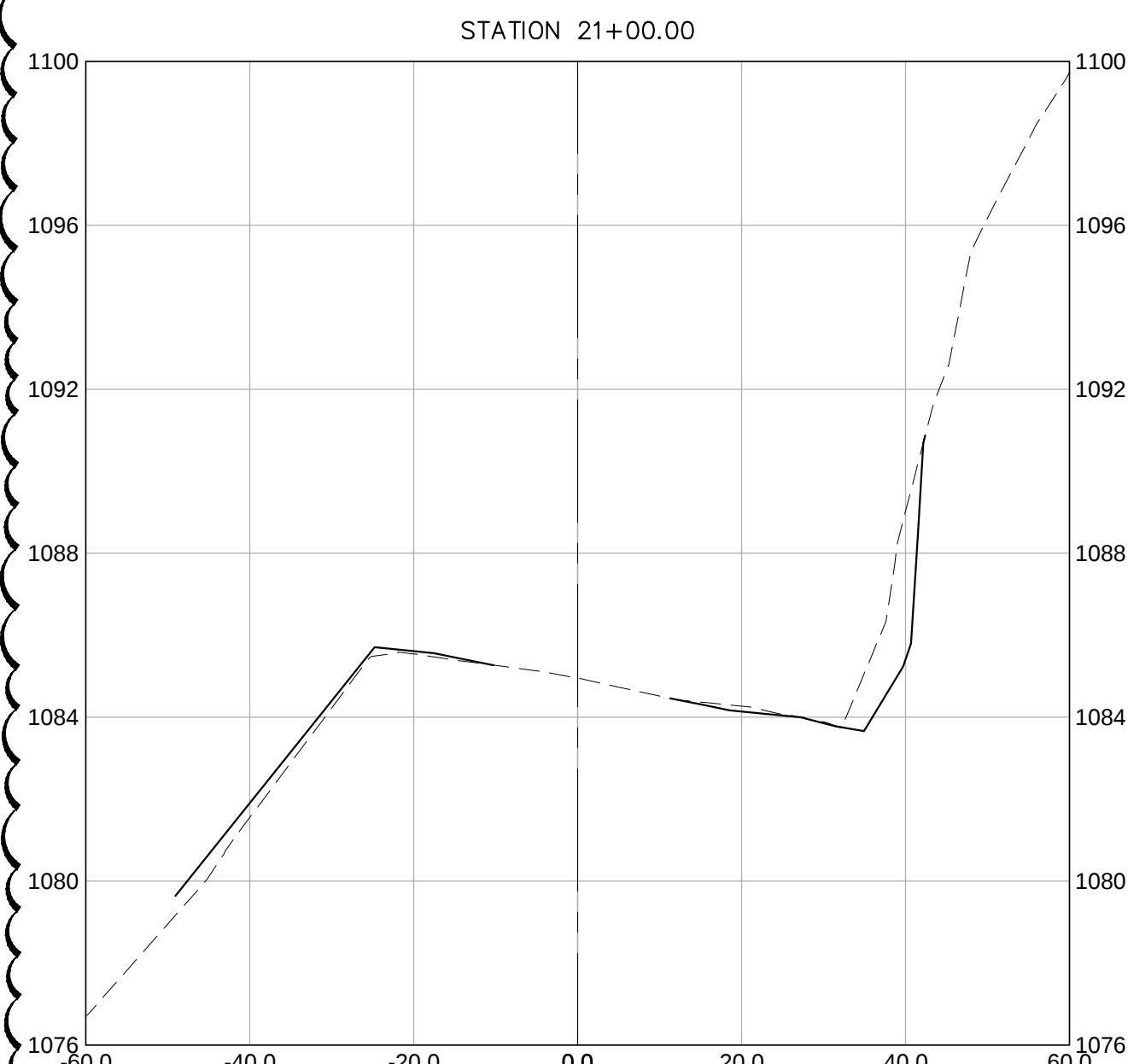
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NOTE:
LABELS SHOWN ON PROFILE ARE TYPICAL FOR EVERY SECTION. FM 2673 VARIES FROM A 2% CROWN TO A SUPERELEVATED SECTION AS SHOWN IN THE CROSS SECTIONS. CONTRACTOR TO MATCH EXISTING CROSS SLOPES. SHOULDERS ARE TO BE 2% TYPICAL EARTHEN SIDE SLOPES ARE TO BE 3:1.



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THE ROCK UNIT 1 TxDOT
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FM 2673 XS STA 19+00 TO END

SHEET
8 OF 25

NO	DATE	ISSUES AND REVISIONS
1	5-13-2024	SITE REVISIONS

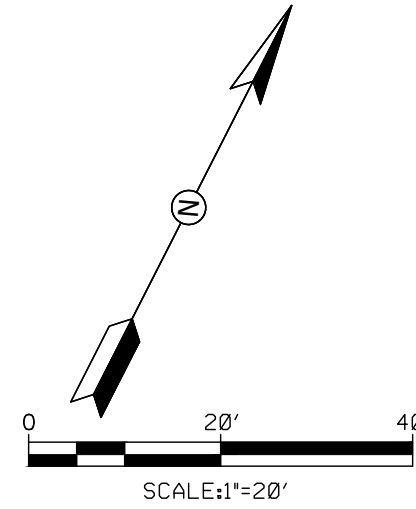
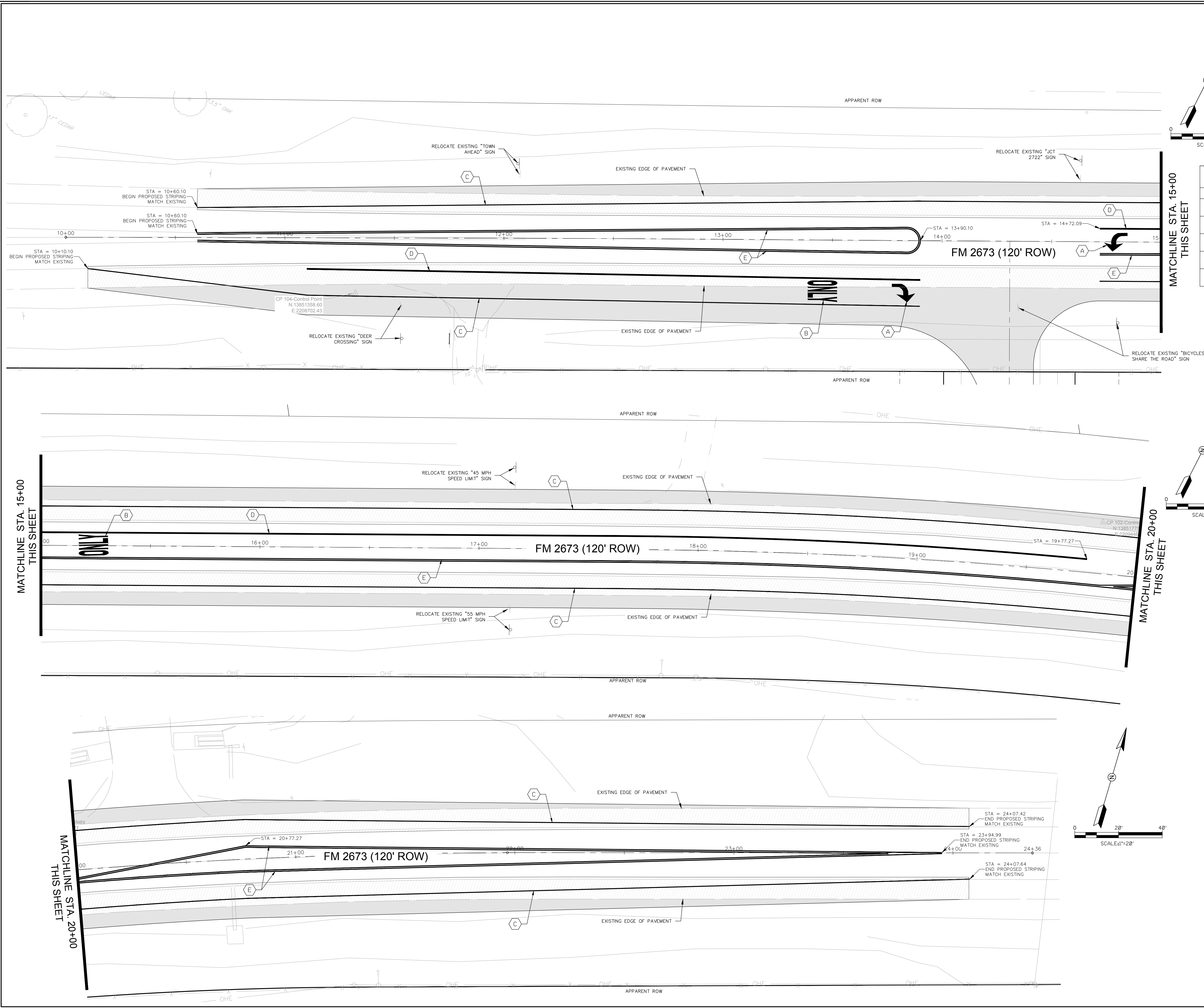
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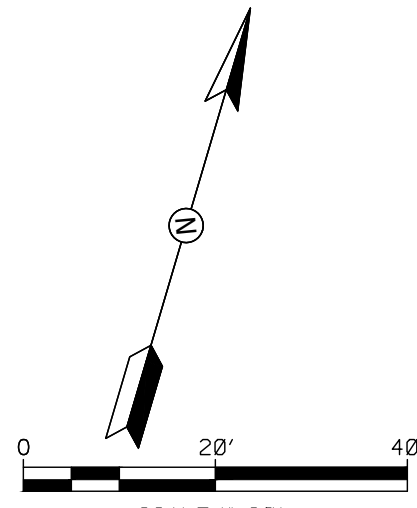
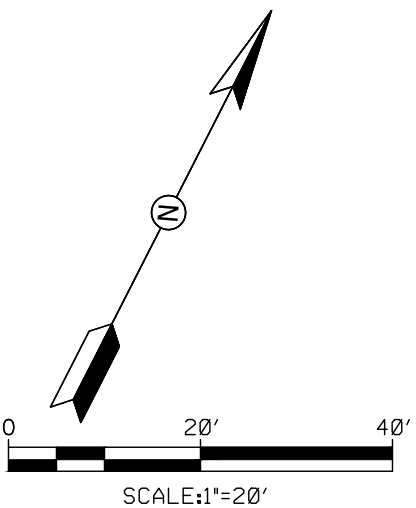
NOTES:

- SEE SHEETS 13-16 FOR TXDOT STANDARD PAVEMENT MARKING, SIGN, AND OBJECT MARKER DETAIL SHEETS.
- THE EXISTING FM 2673 CENTERLINE STRIPING WILL BE THE ALIGNMENT LINE AND CONTROL FOR STRIPING LAYOUT. CONTRACTOR IS REQUIRED TO PROVIDE OFFSET STAKING TO ENSURE RECOVERY OF THE EXISTING CENTERLINE AFTER FM 2673 IS REPAVED.
- CONTRACTOR TO REMOVE EXISTING RAISED REFLECTORS AS NEEDED PRIOR TO FINAL ONE COURSE SURFACE TREATMENT.

STRIPING PLAN KEYNOTES

ITEM	DESCRIPTION
A	REFL PAV MRK TY 1 (W) (ARROW)
B	REFL PAV MRK TY 1 (W) (WORD)
C	REFL PAV MRK TY 1 (W) 4" (SLD)
D	REFL PAV MRK TY 1 (W) 8" (SLD) W/ REFL PAV MRKR TY 1-C SPACED @ 20' O.C.
E	RE PM W/RET REQ TY 1 (Y) 4" (SLD) DOUBLE YELLOW WITH REFL PAV MRKR TY II-A-A SPACED @ 20' O.C.

*NOTE: ALL PAVEMENT STRIPING TO BE 100MIL THICKNESS.



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FM 2673 STRIPING PLAN

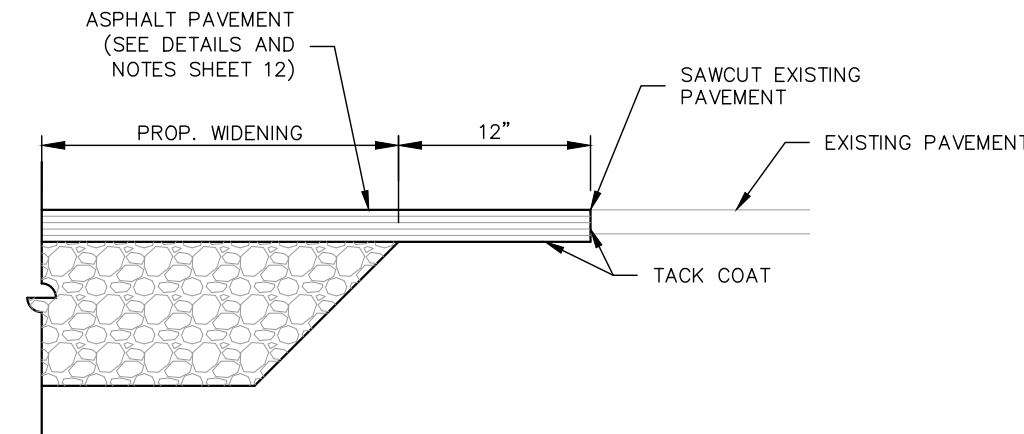
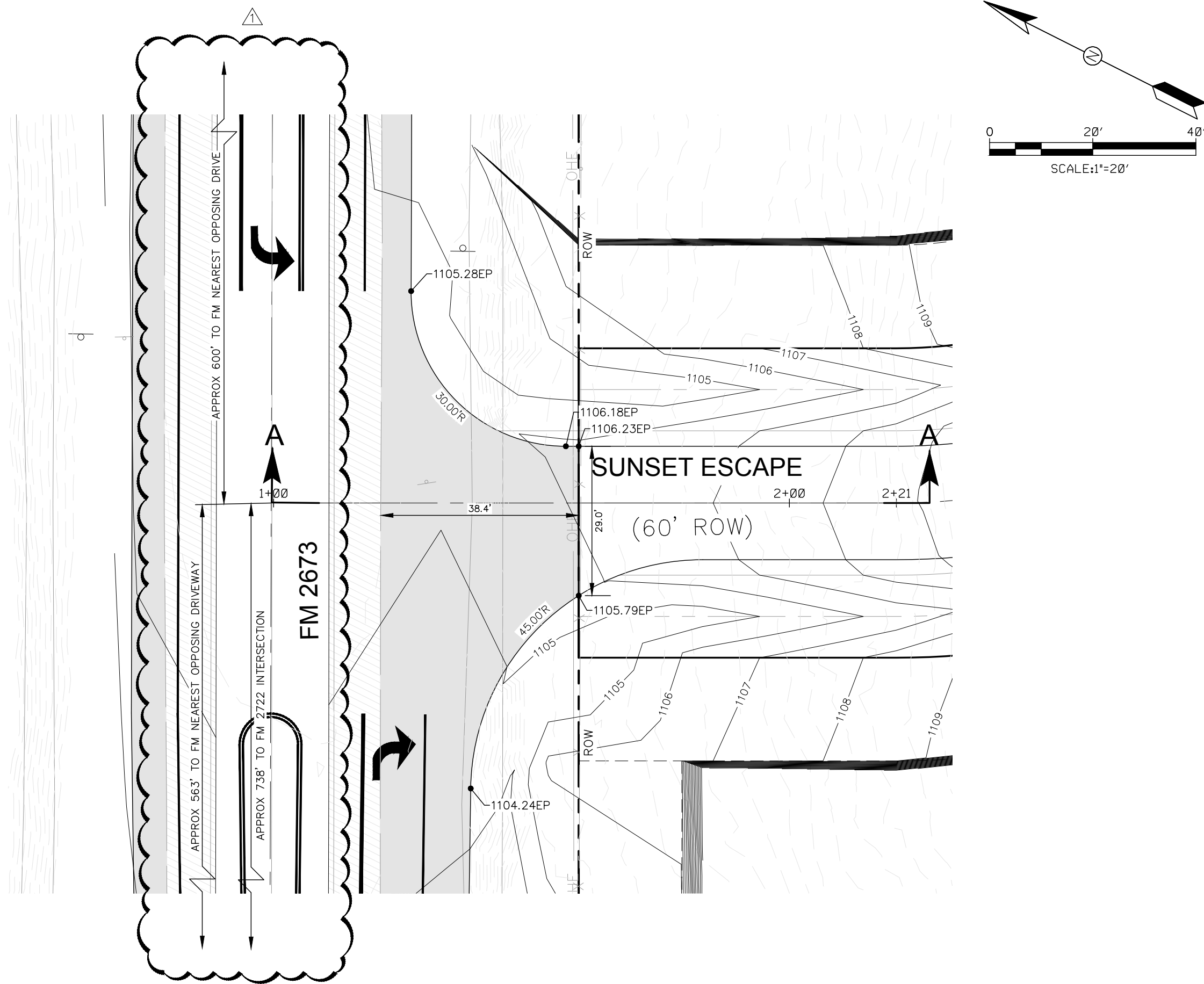
SHEET

9 OF 25

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NEW PAVEMENT TO EXISTING
SCALE: NTS

- LEGEND**
- 900 — PROPOSED CONTOUR
 - - - 900 - - - EXISTING CONTOUR
 - ← DRAINAGE FLOW ARROW
 - - - - - GRADE BREAK/SWALE
 - PAVEMENT WIDENING
 - SAWCUT & MILL EXISTING PAVEMENT



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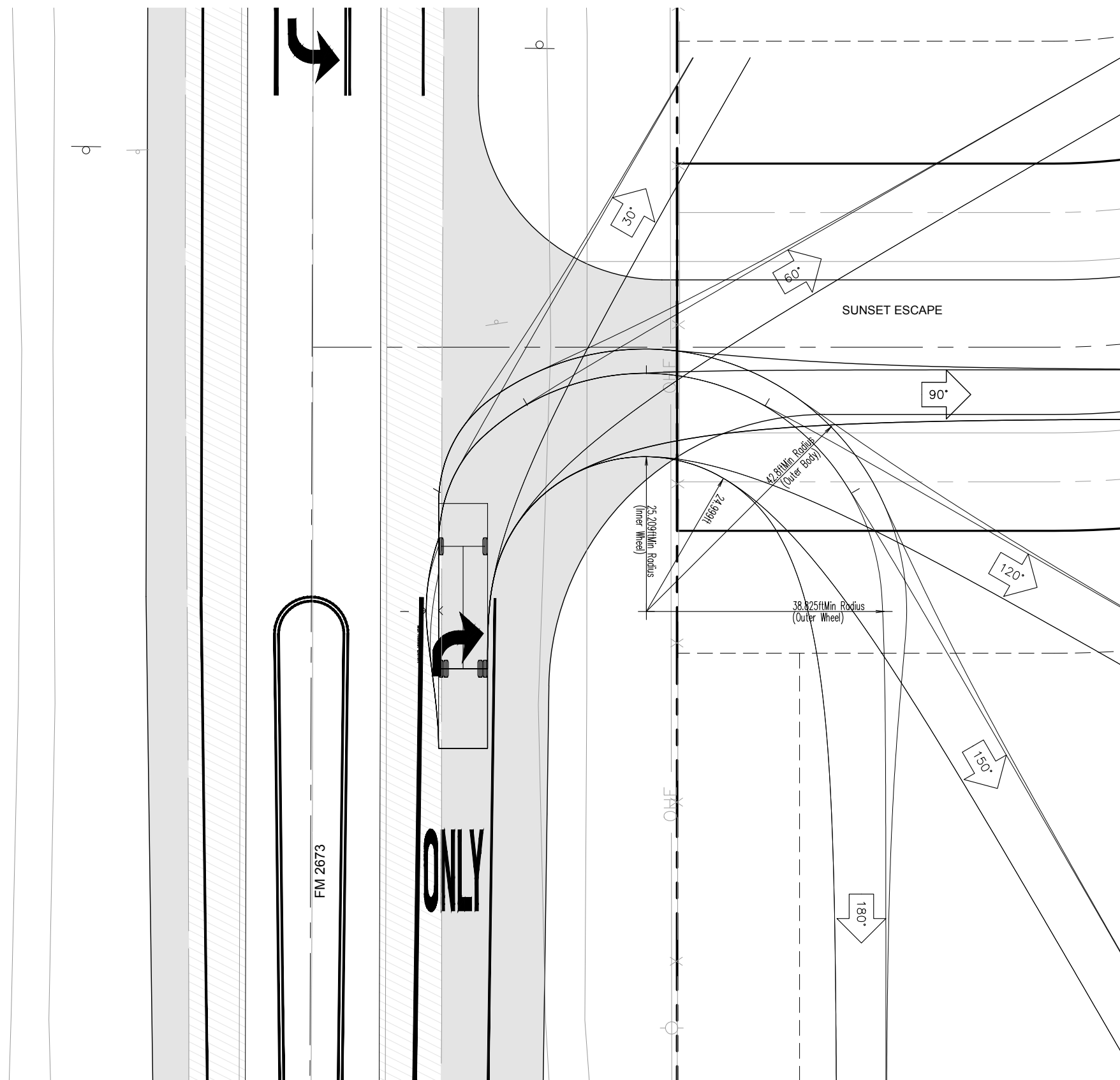
TXDOT DRIVEWAY

SHEET
10 OF 25

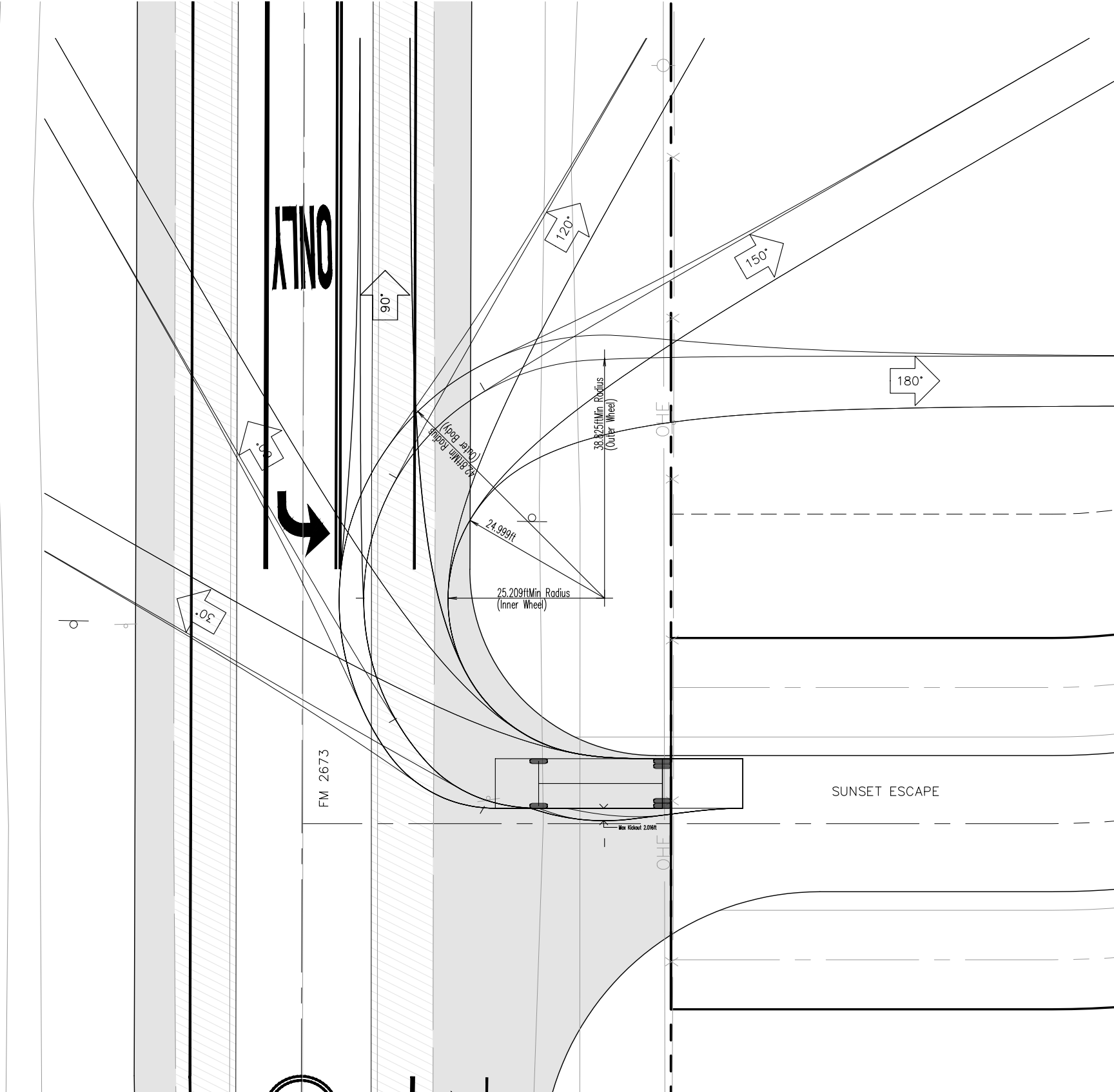
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1	5-14-2024	SITE REVISIONS



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RT FROM FM 2673 TO SUNSET ESCAPE



RT FROM SUNSET ESCAPE TO FM 2673

LEGEND	
	OVERHEAD ELECTRIC
	WATER LINE
	SANITARY SEWER LINE
	BOUNDARY LINE
	EXISTING GUY WIRE
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING TRAFFIC LIGHT/SIGNAL POLE
	EXISTING STORM DRAIN MANHOLE
	EXISTING SIGN
	EXISTING WATER METER
	EXISTING WATER VALVE
	EXISTING FIRE HYDRANT
	EXISTING TREE



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THE ROCK UNIT 1 TxDOT
IMPROVEMENTS

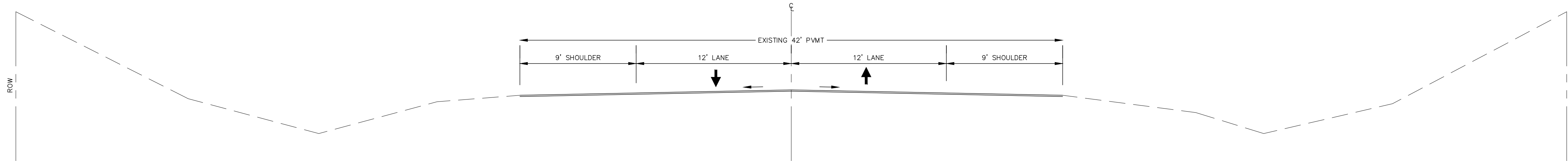
BUS TURNING SCHEMATIC

SHEET
11 OF 25

NO	DATE	ISSUES AND REVISIONS
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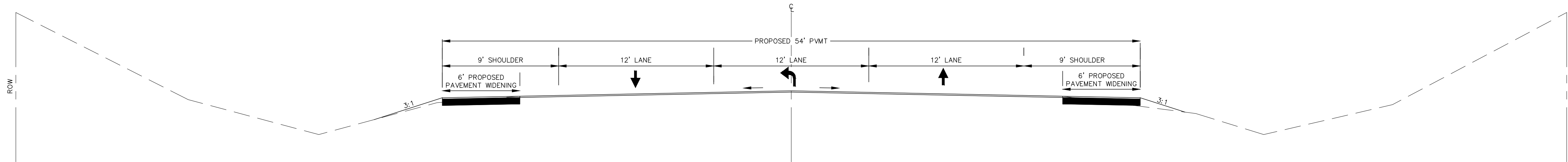


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FM 2673 TYPICAL EXISTING SECTION

Scale: 1" = 5'



FM 2673 TYPICAL SECTION W/ LTL

Scale: 1" = 5'

NOTE: ALL NEW PAVEMENT FOR PROPOSED TRAVEL LANES ARE TO MATCH THE EXISTING TRAVEL LANE PAVEMENT SLOPES INCLUDING ANY SUPERELEVATED SECTIONS. THE PROPOSED SHOULDER IS TO BE 2%. SEE GRADING PLAN FOR ELEVATIONS AND SLOPES.



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THE ROCK UNIT 1 TXDOT
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STREET SECTIONS AND DETAILS

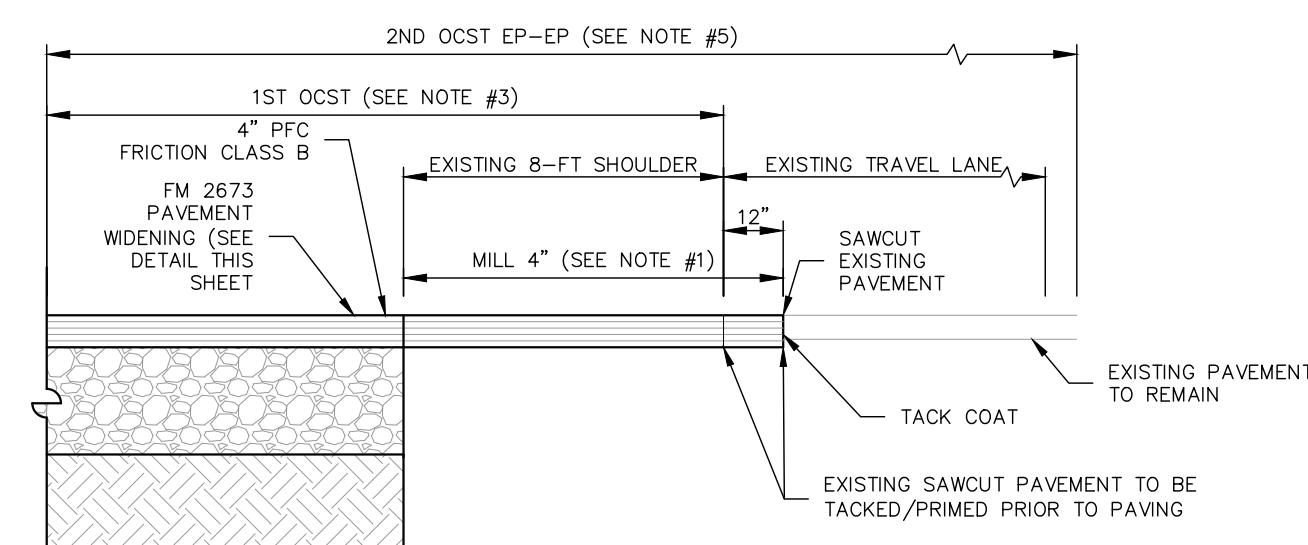
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12 OF 25

NO	DATE	ISSUES AND REVISIONS
1	5-14-2024	SITE REVISIONS



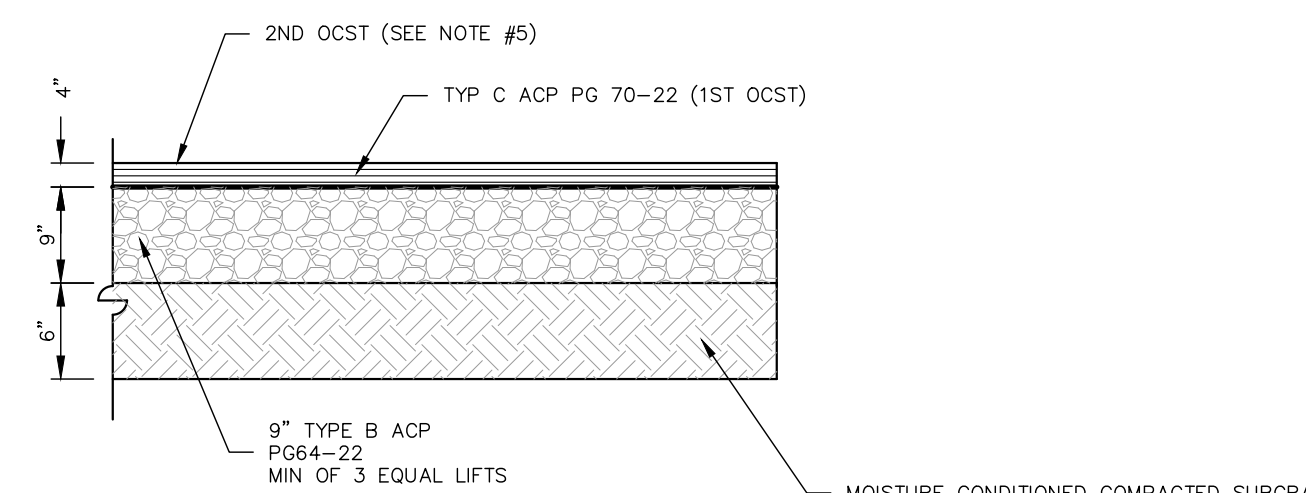
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- TXDOT PAVEMENT NOTE:
1. WITHIN STATE ROW THE DRIVEWAY INCLUDING SHOULDERS AS WELL AS THE RIGHT TURN LANE SHOULDERS WILL BE PAVED WITH FRICTION CLASS B PERMEABLE FRICTION COURSE (PFC) MEETING TXDOT REQUIREMENTS.
 2. PAVEMENT STRUCTURE FOR WIDENING WILL CONSIST OF SECTION AS SHOWN IN FM 2673 PAVEMENT WIDENING STRUCTURE DETAIL.
 3. MILL 4" OF EXISTING PAVEMENT EXTENDING 1'-FT INTO THE EXISTING TRAVEL LANE AND REPAVE WITH A ONE COURSE SURFACE TREATMENT - 4" TYP C ACP PG 70-22 AS SHOWN IN THE FM 2673 NEW PAVEMENT TO EXISTING DETAIL.
 4. THE PAVEMENT BASE COURSE WILL BE 9" TYPE B ACP PG BINDER 64-22 IN 3 EQUAL LIFTS.
 5. THERE WILL BE A ONE COURSE SURFACE TREATMENT UNDER THE PFC TO CONSIST OF ASPHALT (AC 20-51R) AND AGGREGATE (PB GR 4 SAC B).
 6. PFC IS A DRAINING PAVEMENT SURFACE. CARE MUST BE TAKEN WITH WIDENING OF THE PAVEMENT TO PRESERVE THE DRAINAGE CHARACTERISTICS AT THE JOINT BETWEEN THE EXISTING AND NEW PFC SURFACE.



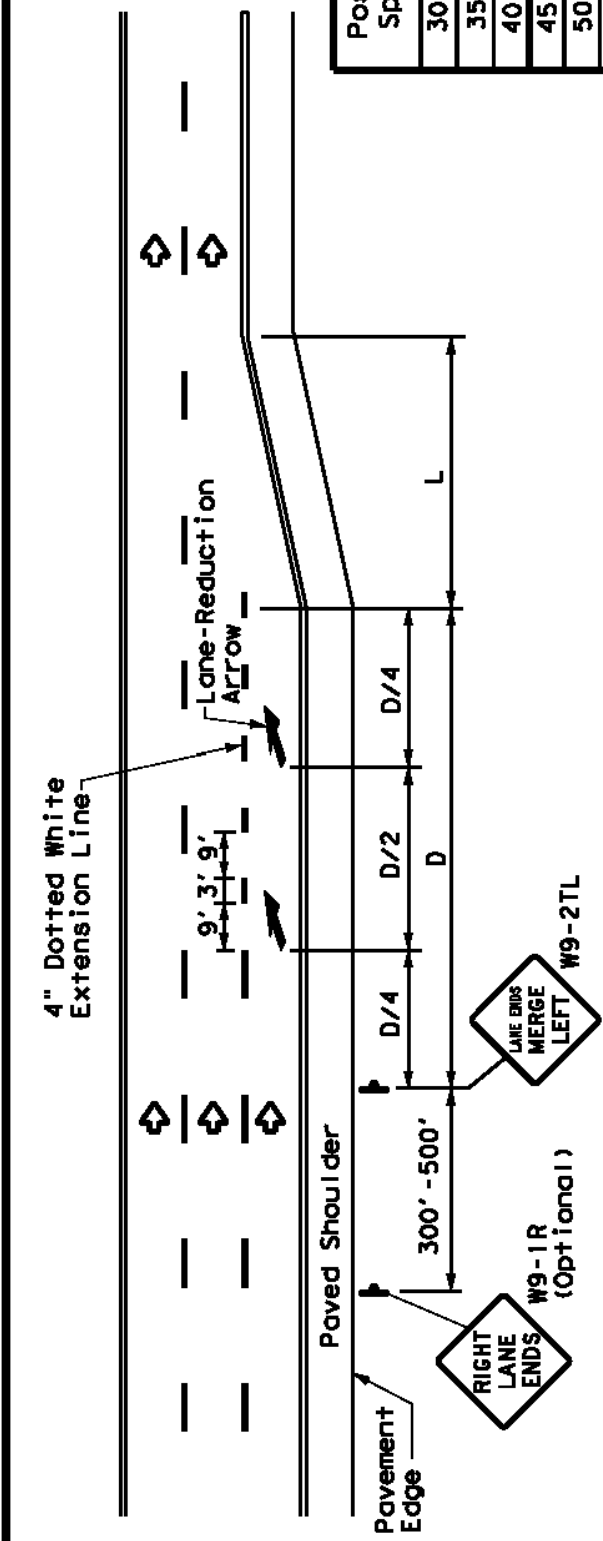
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SCALE: NTS

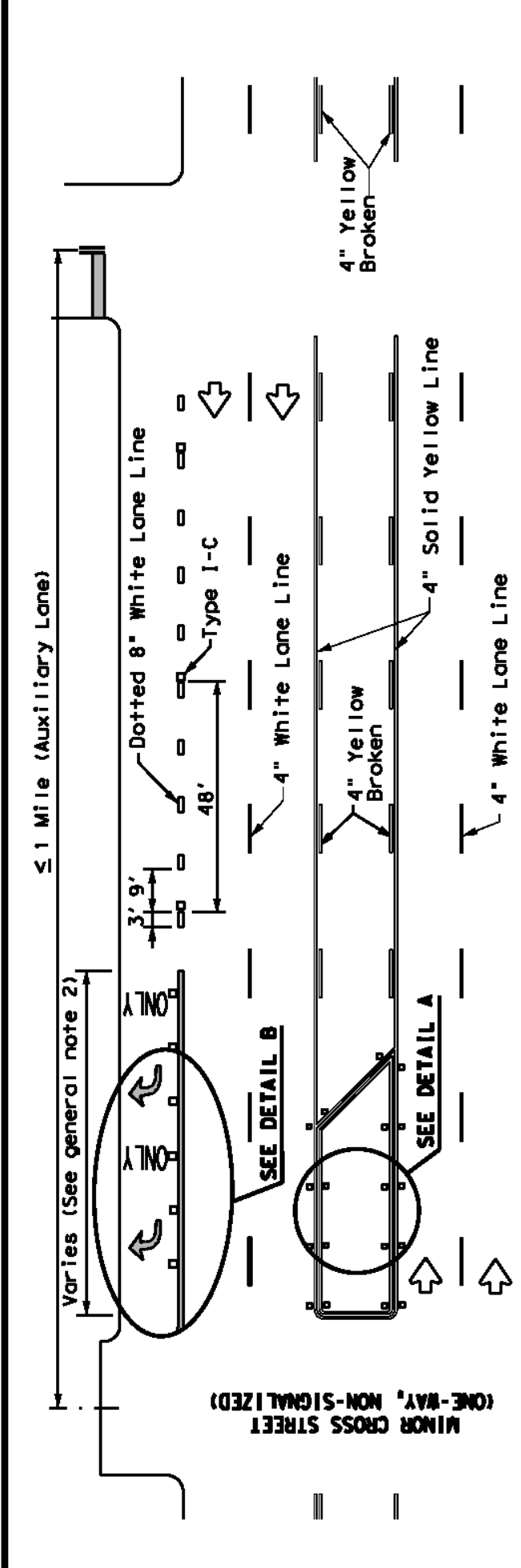


FM 2673 PAVEMENT WIDENING STRUCTURE

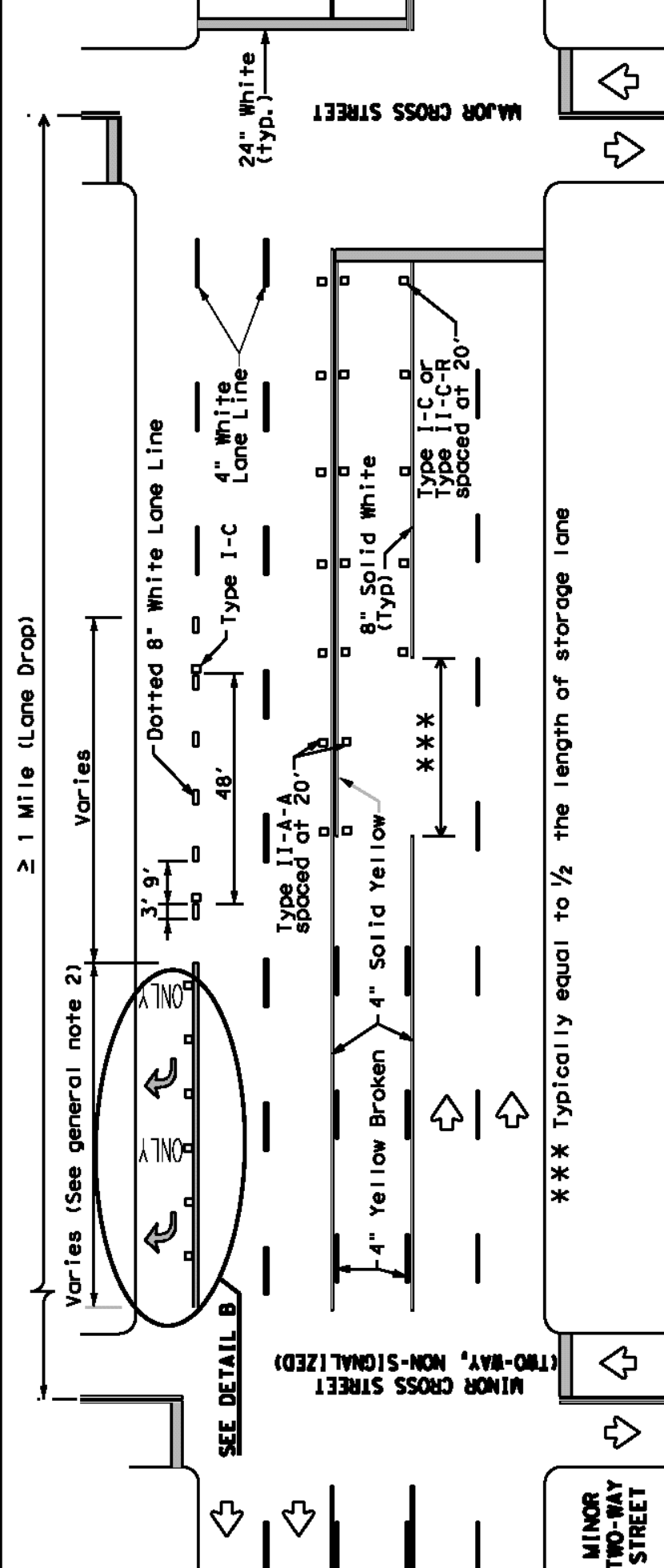
Scale: NTS



LANE REDUCTION

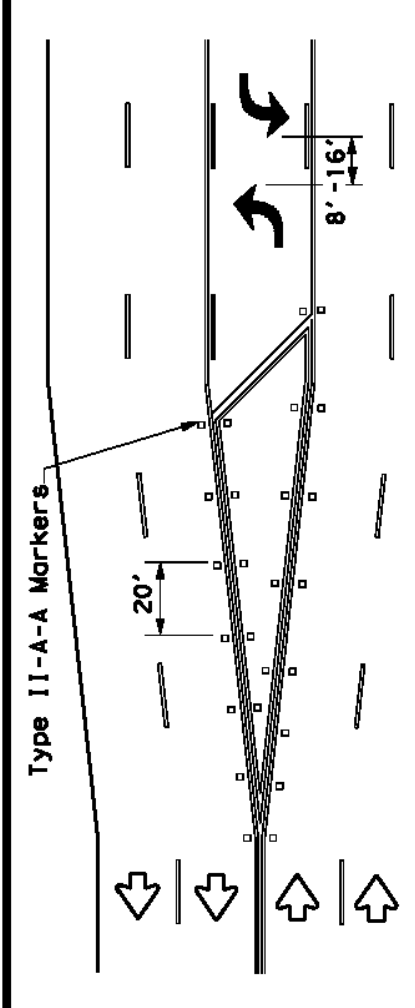


TYPICAL TWLTL AT ONE-WAY STREET AND RIGHT TURN AUXILIARY LANE



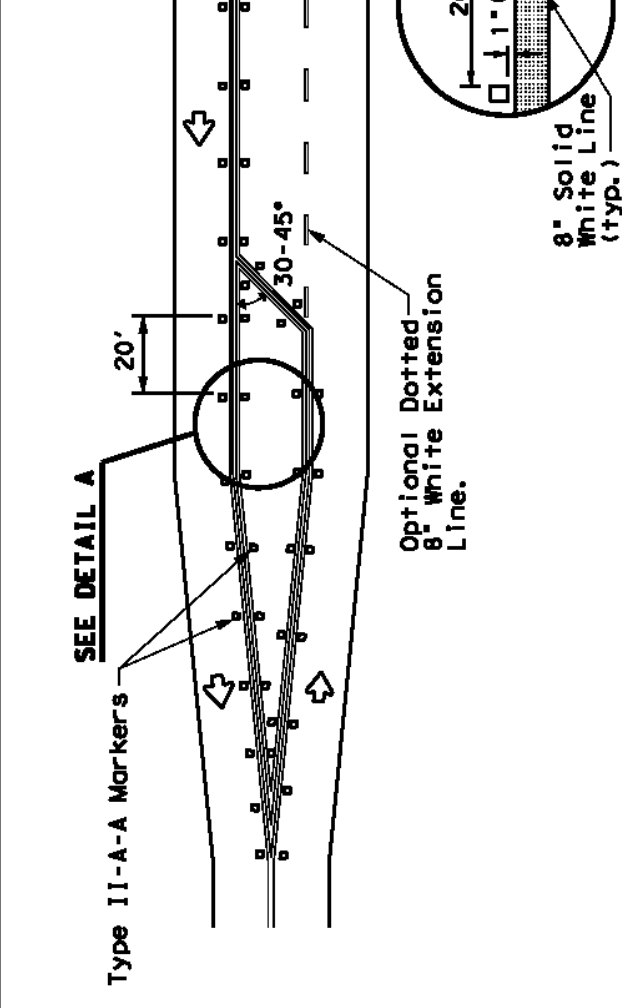
TYPICAL TWLTL AT TWO-WAY CROSS STREET AND RIGHT TURN LANE DROP

- NOTES**
- Lane reduction pavement markings are used where the number of through lanes is reduced because of narrowing of the roadway or the elimination of a through lane. For Texas Super 2 Passing Lanes, see TS2 (PL) standard sheets.
 - 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.
 - Lane reduction markings are used to reduce speeds of 45 mph or more on two-lane left-turn lanes within a corridor. Roadway marking after each intersection or dedicated turn bay is not required unless stored elsewhere in the plans.
 - For lane reductions on Freeways and Expressways, signing shall conform to the TxDOT Freeway Signing Handbook.

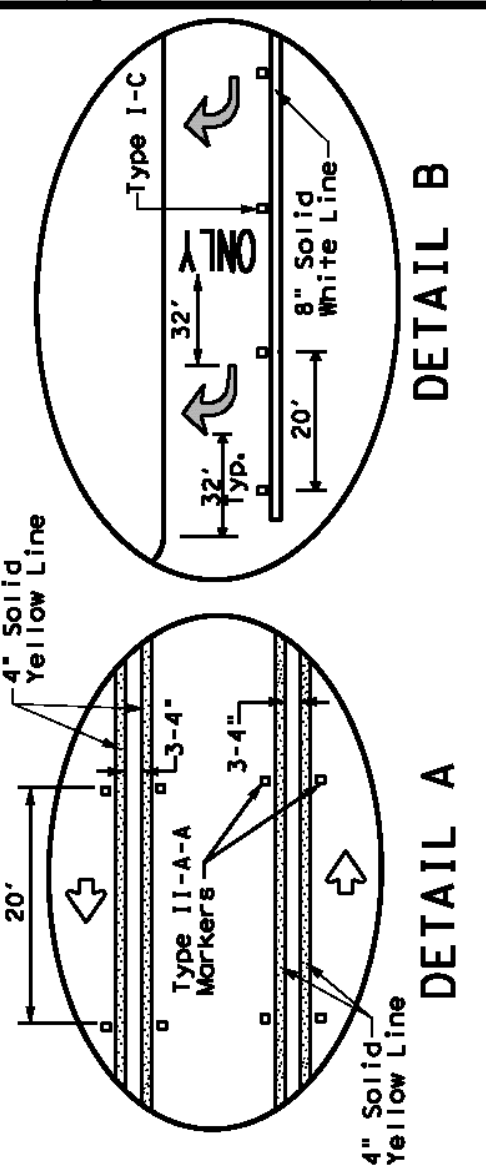


A two-way left-turn (TWLTL) lane-use arrow pavement marking is used to indicate a two-way left-turn lane within a corridor. Roadway marking after each intersection or dedicated turn bay is not required unless stored elsewhere in the plans.

TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY



TYPICAL TWO-LANE HIGHWAY INTERSECTION WITH LEFT TURN BAYS



TWO-WAY LEFT TURN LANES, RURAL LEFT TURN BAYS, AND LANE REDUCTION PAVEMENT MARKINGS (PM13)-20

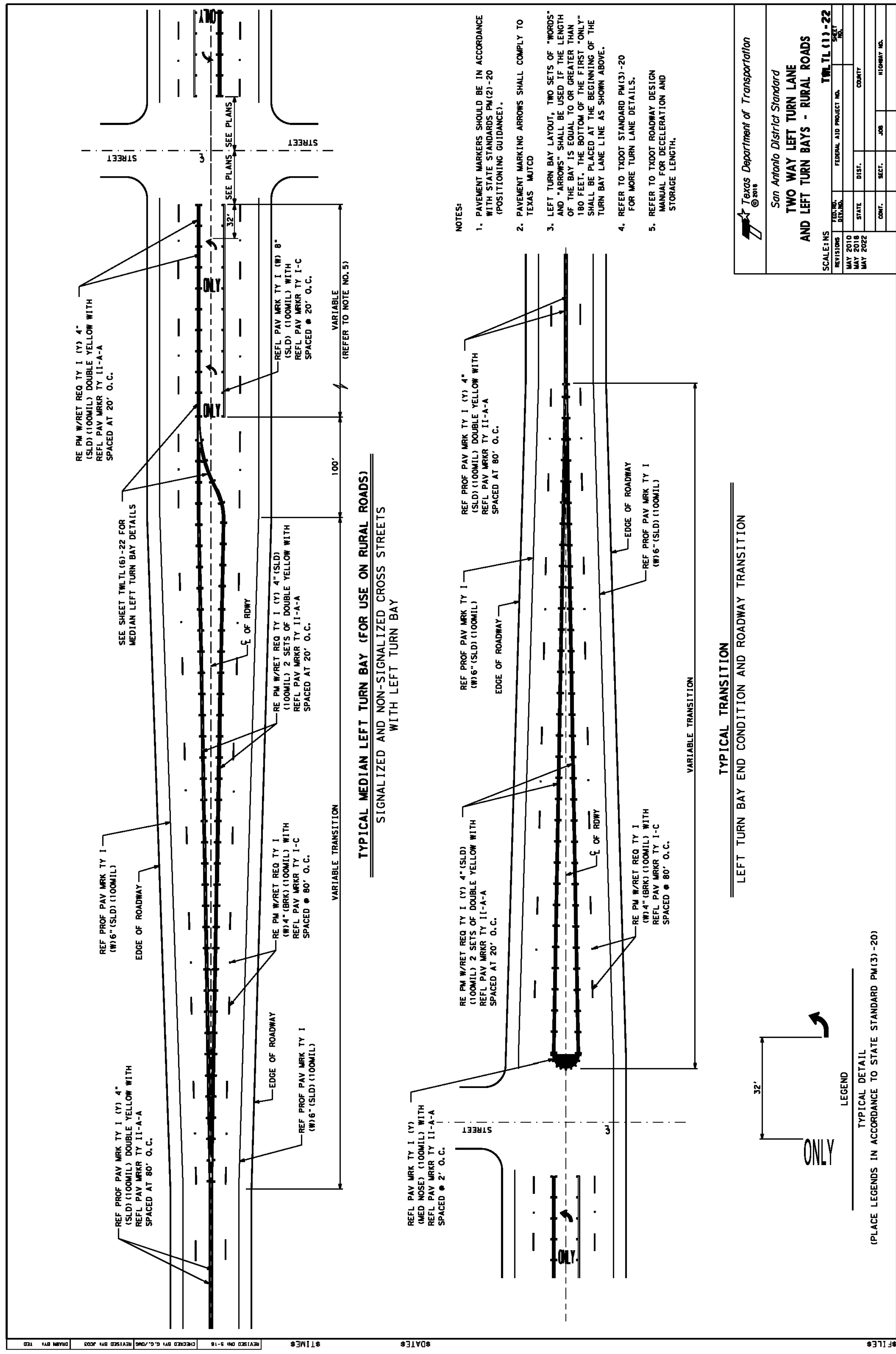
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PROJECT	11-09-2018	DESIGNER	11-09-2018
REVISIONS	5-00 2-10	DATE	11-09-2018
5-00 2-12	DATE	11-09-2018	
5-00 5-20	DATE	11-09-2018	

GENERAL NOTES

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

PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
PAVEMENT MARKERS (REFLECTORIZED)	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOI 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.



LEGEND
TYPICAL DETAIL
(PLACE LEGENDS IN ACCORDANCE TO STATE STANDARD PM13)-20)



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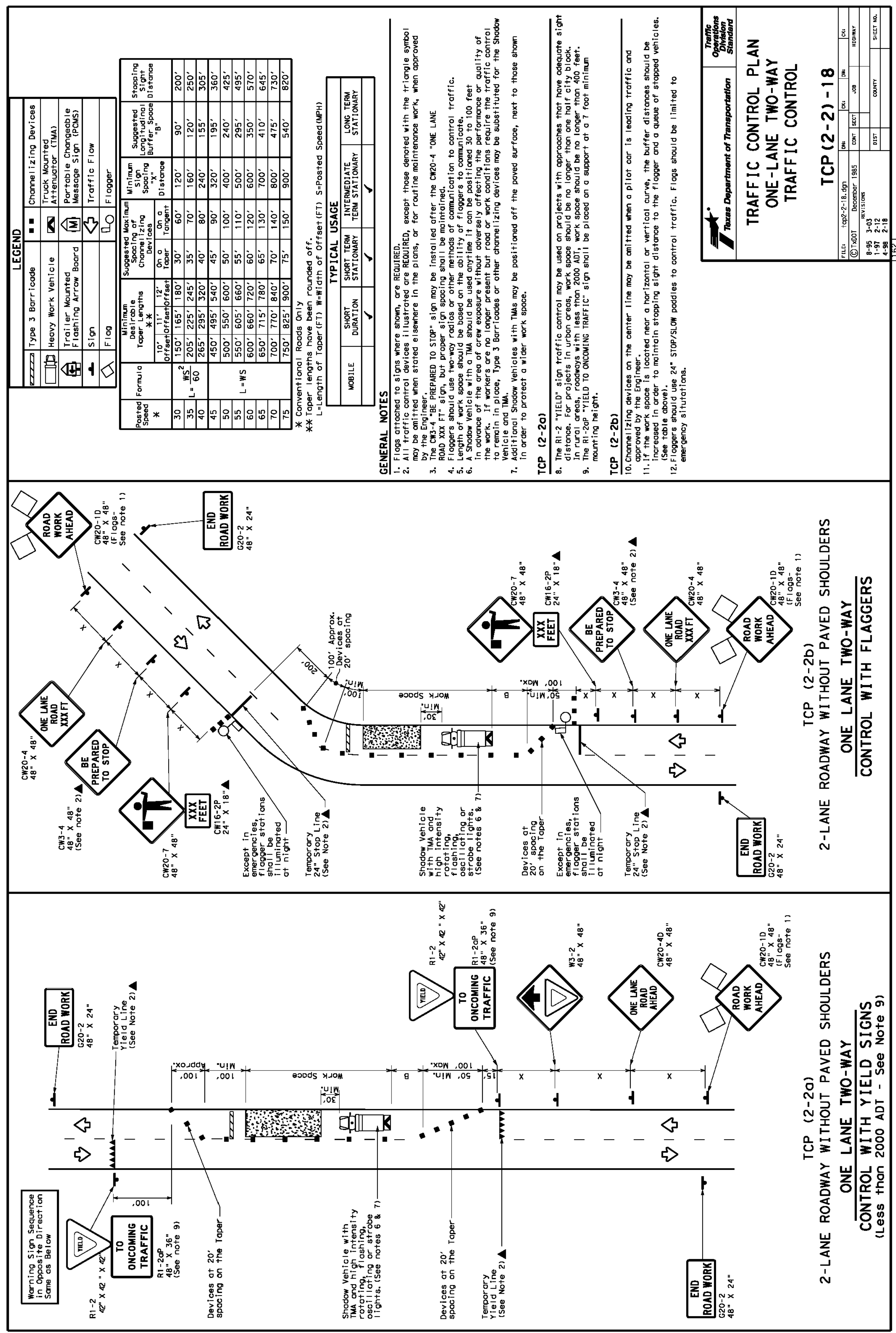
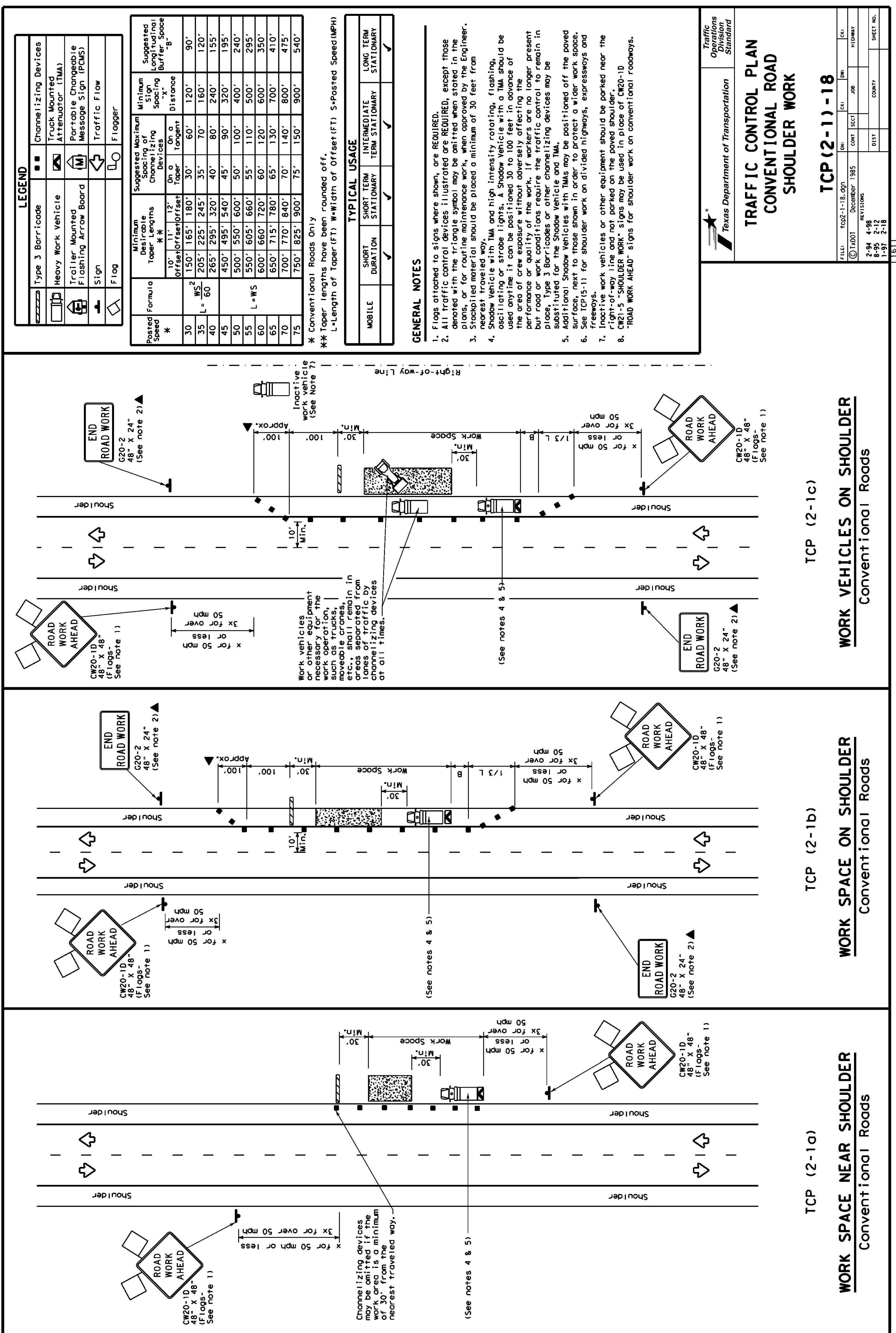
SIGN AND PAVEMENT MARKING DETAILS II

SHEET 14 OF 25

NO	DATE	ISSUES AND REVISIONS
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THE ROCK UNIT 1 TXDOT IMPROVEMENTS

TCP DETAILS I

SHEET 19 OF 25

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05/14/2024

JAMES INGALLS
107416
LICENSED PROFESSIONAL ENGINEER

DATE: FILE:

BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

- The Barricade and Construction Standard Sheets (BC sheets) are intended to provide 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).
- The development and design of the Traffic Control Plan (TCP) is the responsibility of the Engineer.
- 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.
- 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.
- 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), "Roadway Design Manual" or engineering judgment.
- When projects about, 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.
- 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.
- 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.
- 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.
- 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.
- Traffic control devices should be in place only while work is actually in progress or a definite need exists.
- The Engineer has the final decision on the location of all traffic control devices.
- Inactive equipment and work vehicles, including workers' private vehicles should 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:

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

COMPLIANT WORKZONE TRAFFIC CONTROL DEVICES

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

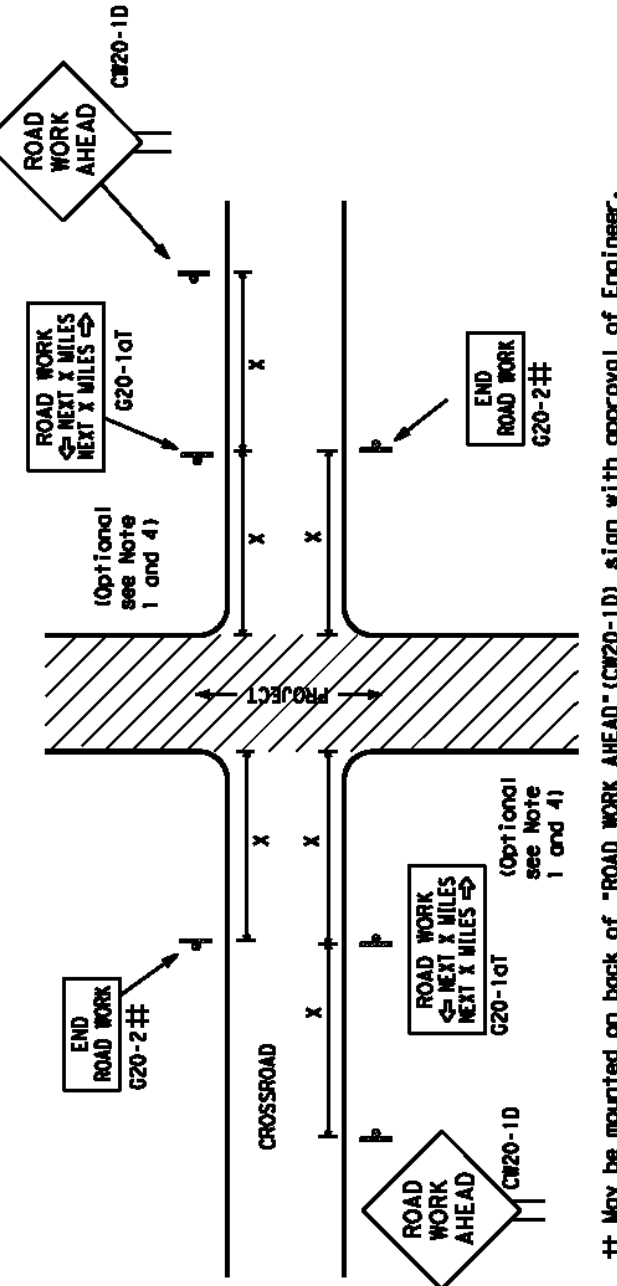


BARRICADE AND CONSTRUCTION
GENERAL NOTES
AND REQUIREMENTS

BC (1) - 21

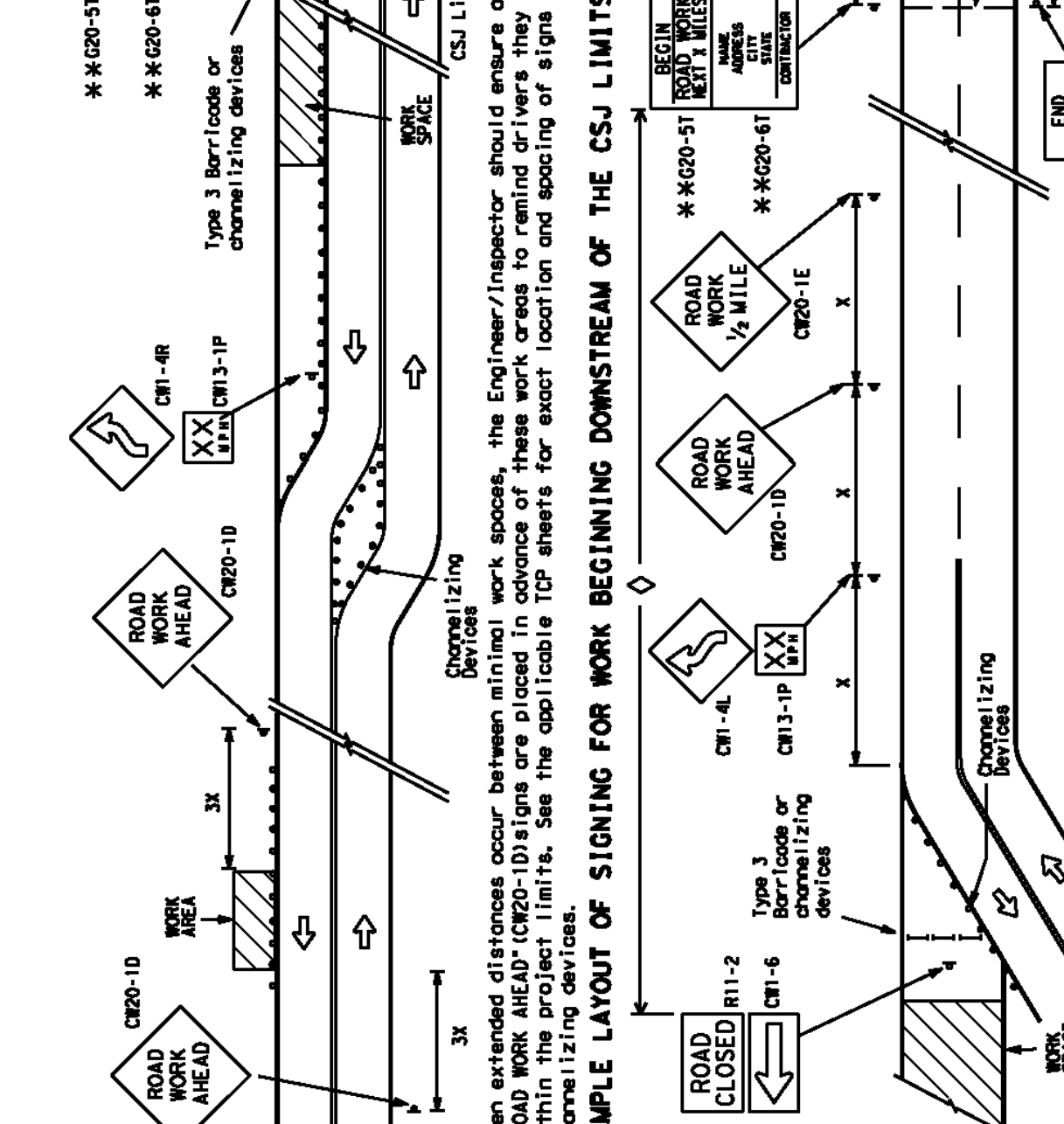
FILE: BC-21.dgn	DATE: November 2002	BY: T00T	FOR: T00T	IN: T00T	IN: T00T
4-03	7-15-03	CWZ	SECT	JOB	1-COMM
9-07	8-14		DIST	COUNTY	
	5-10				SHEET NO.
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TYPICAL LOCATION OF CROSSROAD SIGNS



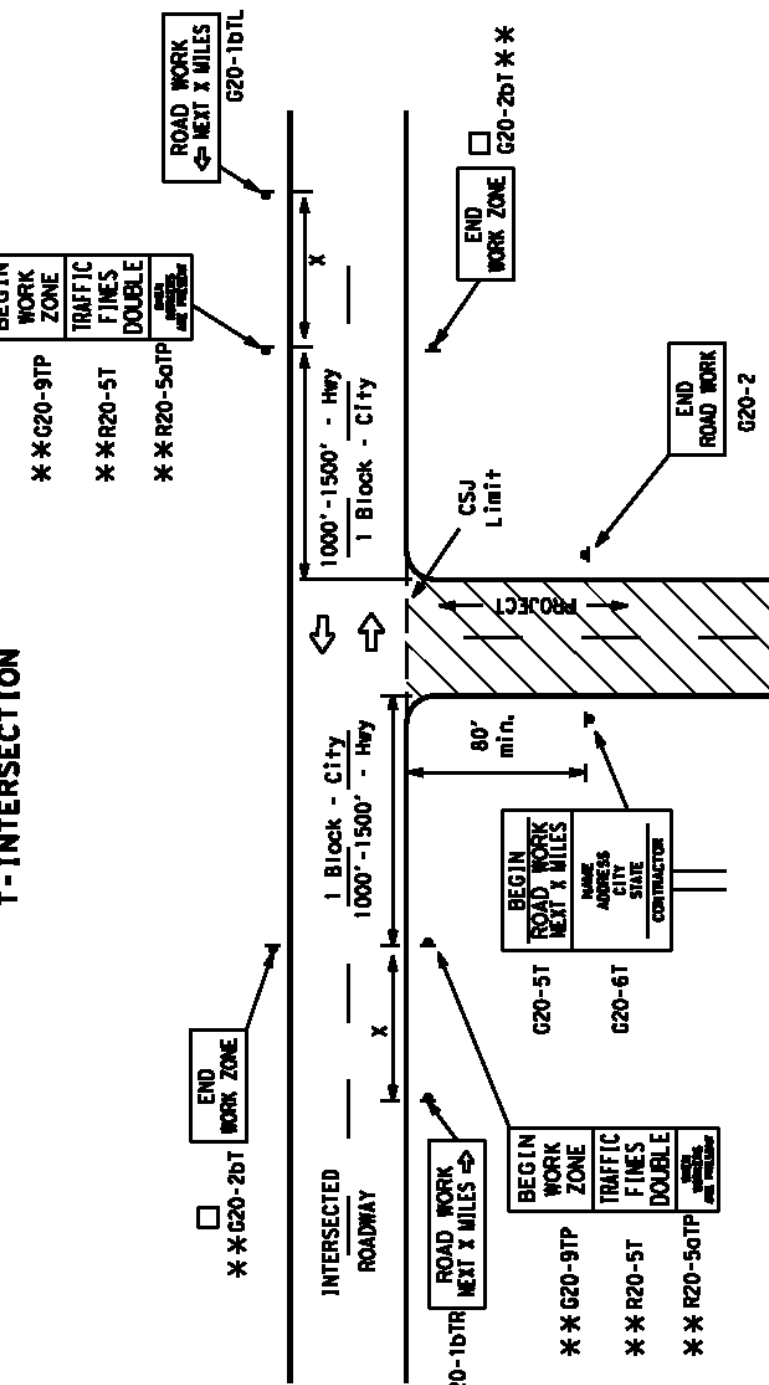
- ## May be omitted on back of "ROAD WORK AHEAD" (G20-10) sign with approval of Engineer.
- The typical advance signing on a crossroad approach should be a "ROAD WORK AHEAD" (G20-10) sign and a "ROAD WORK NEXT 1/2 MILE" (G20-10T) sign, unless noted otherwise in plans.
 - The Engineer may use the reduced size 35" x 35" "ROAD WORK AHEAD" (G20-10) sign on low volume crossroads (see Note 1 under "Notes" in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) 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.
 - When 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 Manual.
 - The "ROAD WORK NEXT X MILES" (G20-10) 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.
 - 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.

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" (G20-10) 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

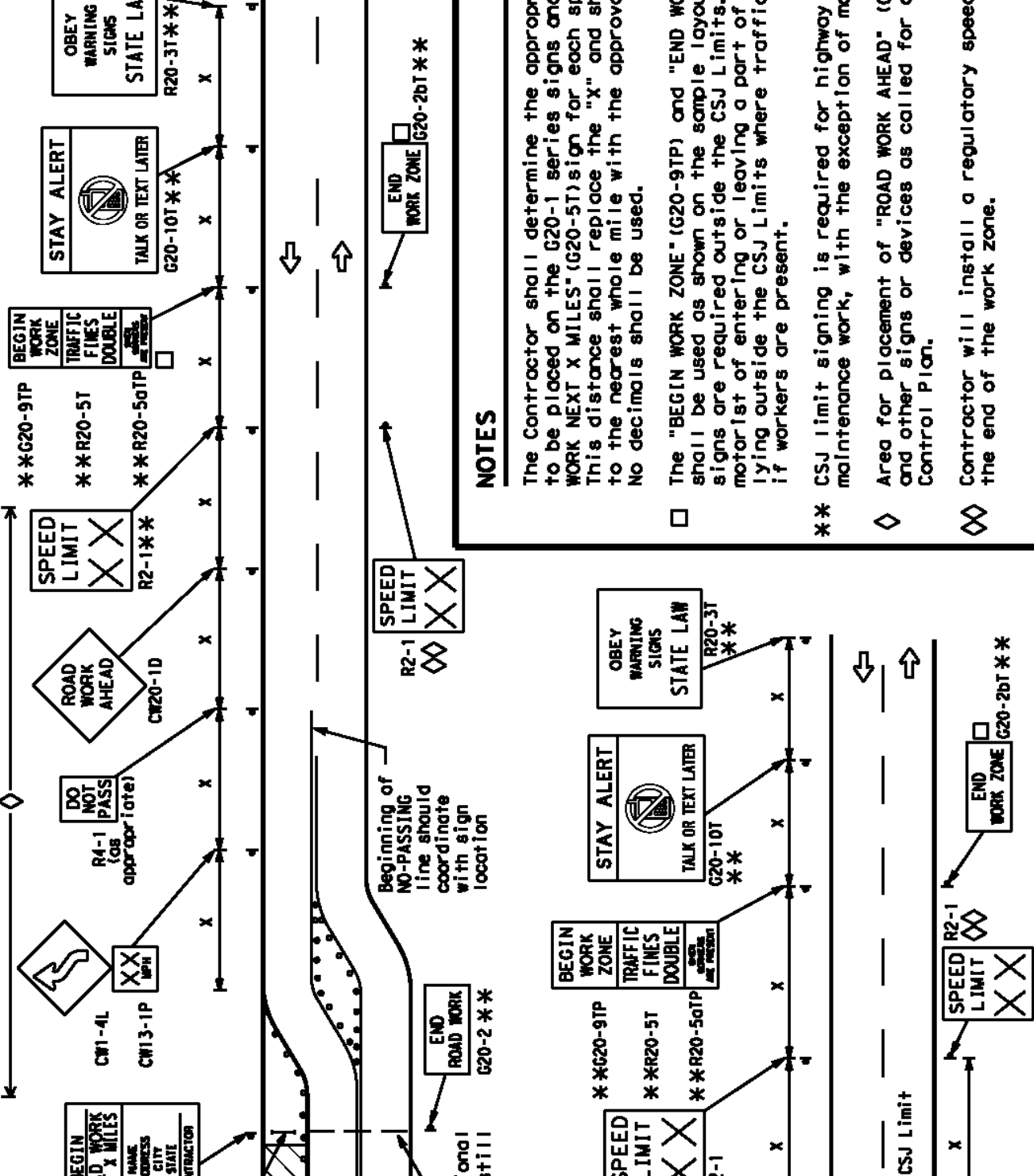
T-INTERSECTION



CSJ LIMITS AT T-INTERSECTION

- 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.
- If construction closes the road at a T-intersection, the Contractor shall place the "CONTRACTOR NAME" (G20-6T) sign behind the Type 3 Barricade for the road closure (see BC(10) also). The "ROAD WORK NEXT X MILES" (G20-10T) and "ROAD WORK NEXT X MILES" (G20-10T) signs shall be replaced by the detour signing called for in the plans.

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT THE CSJ LIMITS



NOTES
The Contractor shall determine the appropriate distances to be placed on the G20-1 series signs and "BEGIN ROAD WORK NEXT X MILES" (G20-10T) sign for each specific project. This distance shall replace the "x" and shall be rounded. No decimal shall be used.
□ The "BEGIN WORK ZONE" (G20-5T) and "END WORK ZONE" (G20-20T) signs are required outside the CSJ limits. They inform the motorist of entering or leaving a part of the work zone 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" (G20-10) sign and "ROAD WORK NEXT X MILES" (G20-10T) sign shall be shown on the Control Plan.
◇ Contractor will install a regulatory speed limit sign at the end of the work zone.

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THE ROCK UNIT 1 TxDOT
IMPROVEMENTS

TCP DETAILS II

SHEET		
20 OF 25		
NO	DATE	ISSUES AND REVISIONS



05/14/2024

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FULL MATRIX PQMS SIGNS

1. When Full Matrix PQMS signs are used, they must be accompanied by a CHANGEABLE MESSAGE SIGN.
2. When symbol signs, such as the "A" sign, are used, they shall maintain the legibility of the sign.
3. When symbol signs are replaced for, or replace that sign.
4. A full matrix PQMS may be used in place of a symbol sign of the same size arrow.

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THE ROCK UNIT 1 TXDOT IMPROVEMENTS

TCP DETAILS IV

SHEET 22 OF 25

NO	DATE	ISSUES AND REVISIONS
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RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

Road/Lane/Ramp Closure List		Other Condition List	
FREWAY CLOSED X MILE	FRONTAGE CLOSED CLOSED	ROADWORK XXX FT	ROAD REPAIRS XXXX FT
ROAD CLOSED AT SH XXX	SHOULDER CLOSED XXX FT	FLAGGER XXXX FT	LANE NARROWS XXXX FT
ROAD CLSD AT FM XXXX	RIGHT LN CLOSED XXX FT	RIGHT LN NARROWS XXXX FT	TWO-WAY TRAFFIC XX MILE
RIGHT X LANES CLOSED	RIGHT X LANES OPEN	MERGING TRAFFIC XXXX FT	CONST TRAFFIC XXXX FT
CENTER LANE CLOSED	DAYTIME LANE CLOSURES	LOOSE GRAVEL XXXX FT	UNEVEN LANES XXXX FT
NIGHT LANE CLOSURES	1-XX SOUTH EXIT CLOSED	DETOUR X MILE	ROUGH ROAD XXXX FT
VARIOUS LANES CLOSED	EXIT XXX CLOSED X MILE	ROADWORK NEXT SH XXXX	ROADWORK FRI-SUN
EXIT CLOSED	RIGHT LN CLOSED CLOSED	BUMP XXXX FT	US XXX X MILE X MILES
MALL DRIVEWAY CLOSED	X LANES CLOSED TUE - FRI	TRAFFIC SIGNAL XXXX FT	LANES SHIFT
XXXXXXX BLVD CLOSED			

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

Action to Take/Effect on Travel	List	Location	Warning Notice List
MERGE RIGHT	FORM X LINES RIGHT USE XXXX RD EXIT DETOUR NEXT X EXITS	AT FM XXXX BEFORE RAILROAD CROSSING	SPEED LIMIT XX MPH MAXIMUM SPEED XX MPH
USE EXIT XXX	USE EXIT I-X NORTH	NEXT X MILES	MINIMUM SPEED XX MPH
STAY ON US XXX SOUTH	USE I-XXX TO I-XX N	PAST US XXX EXIT	ADVISORY SPEED XX MPH
TRUCKS USE US XXX N	WATCH FOR TRUCKS	XXXXXXX TO XXXXXX	RIGHT OF WAY LANE EXIT
WATCH FOR TRUCKS	EXPECT DELAYS	US XXX TO FM XXXX	USE CAUTION
EXPECT DELAYS	PREPARE TO STOP		DRIVE SAFELY
REDUCE SPEED XXX FT	END SHOULDER USE		DRIVE WITH CARE
USE OTHER ROUTES	WATCH FOR WORKERS		TONIGHT TUE AM

1. Only 1 or 2 phases are to be used on a PDS.
2. The 1st phase for both should be selected from the "Road/Run/Climp Closure List" and the "Other Condition List".
3. A 2nd phase can be selected from the "Action to Take/Eject/Phase List".
4. A Location Phase is necessary only if a distance or location is not included in the first phase selected.
5. PDSs are coded so that they may be separated by a minimum of 1000 feet. This may be limited to two phases, and should be understandable by themselves.
6. For advance notation, when the current date is within seven days of the actual work date, calendar dates should be replaced with the day of the week or month. Calendar dates should typically be replaced with the day of the week or month when the work date is to the year.

1. The words RIGHT, LEFT, and ALL can be interchanged as appropriate.
2. Roadway designations I, U, S, SK, FM and LT can be interchanged as appropriate.
3. EAST, WEST, NORTH and SOUTH for abbreviations E, W, N and S can be interchanged as appropriate.
4. ROADWAY, HIGHWAY and FREEWAY can be interchanged as appropriate.
5. RIGHT, HIGHWAY and FREEWAY may 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. FT, BEFORE, and AFTER may be interchanged as needed.
9. DISTANCE may be eliminated from the message if a location alone is used.

POMS 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 POMS, WHEN EXPOSED TO ONE DIRECTION OF TRAFFIC. WHEN EXPOSED TO TWO WAY TRAFFIC, THE FOUR DRUMS BE PLACED WITH ONE DRUM AT EACH OF THE FOUR CORNERS OF

1. When Full Matrix PDS signs are used, the character height and legibility/visibility requirements shall be maintained as listed in Note 15 under "PORTABLE CONSUMABLE MESSAGE SIGNS".
2. When symbol signs, such as the "Flipping Symbol" (CGO-7), are represented graphically on the Full Matrix PDS sign and, with the approval of the Engineer, it shall maintain the legibility/visibility requirements listed above.
3. When symbol signs are represented graphically on the Full Matrix PDS, they shall only supplement the use of the static sign represented, and shall not substitute for, or replace that sign.
4. A Full Matrix PDS may be used to simulate a flashing arrow board provided it meets the visibility, flash rate and dimming requirements on BG-77, for the same size arrow.

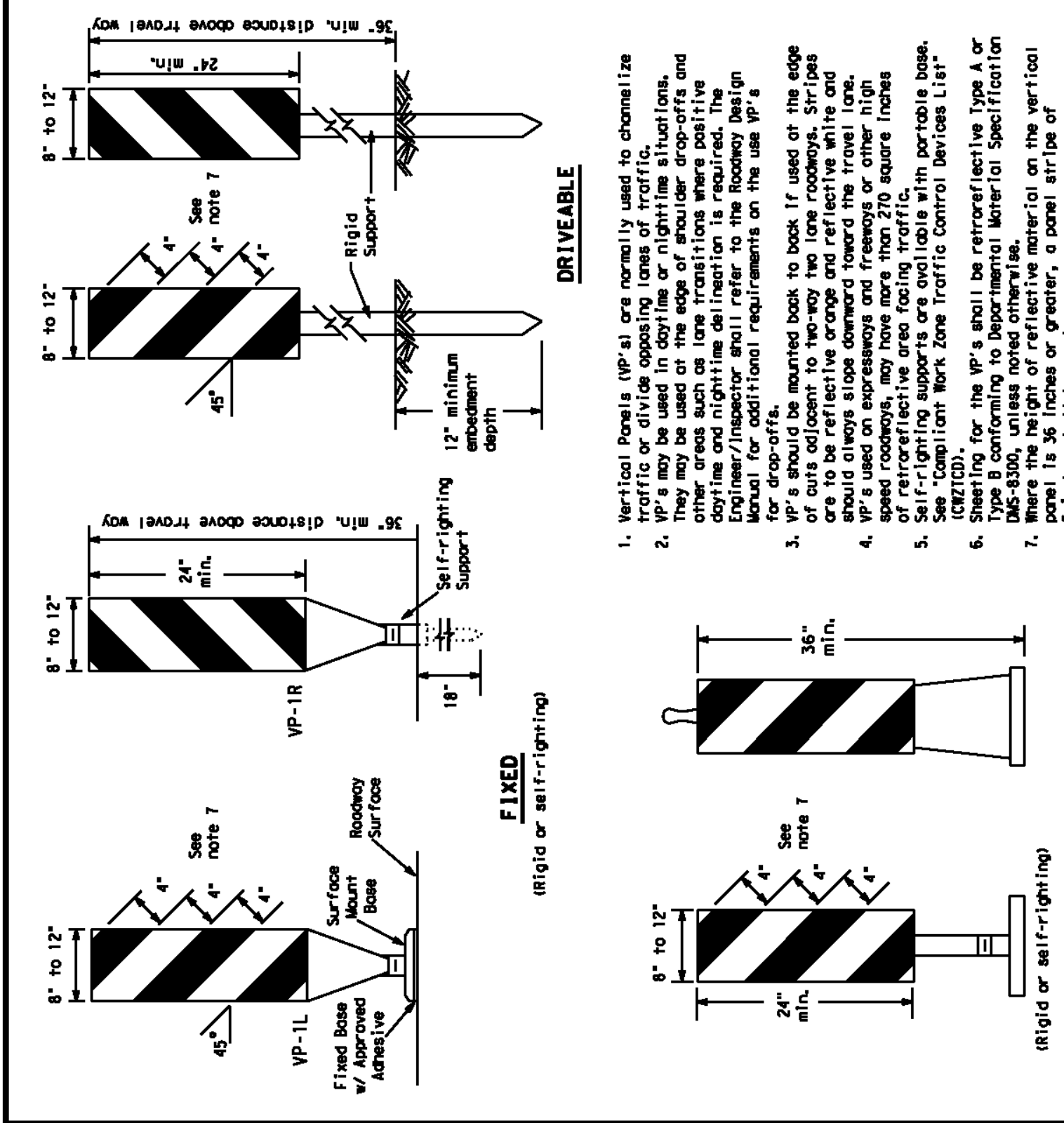
DATE: _____
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**BARRICADE AND CONSTRUCTION
PORTABLE CHANGEABLE
MESSAGE SIGN (PCMS)**

FILE:	ba-21, dgn	DWG	T'XDOT	DWG	T'XDOT	Csk	T'XDOT
	2) T'XDOT	November 2002	CON'T	SHEET	JOB	H'CHWAY	
REVISIONS							
9-07	8-14						
7-13	5-21				COUNTY		SHEET NO.

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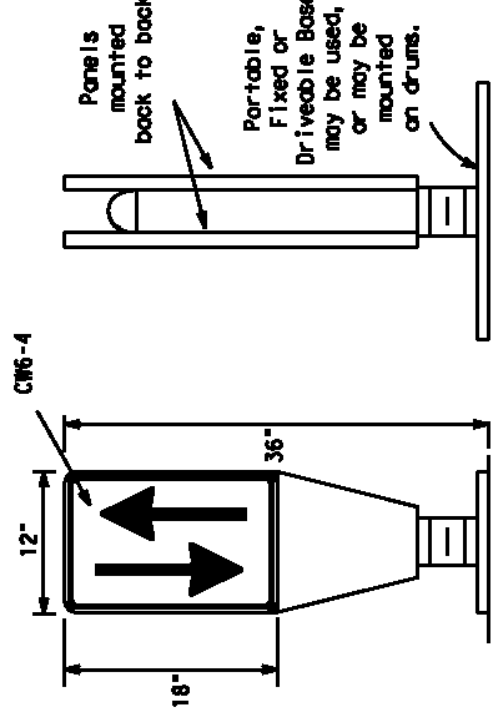
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- Vertical Panels (VPs) are normally used to channelize traffic on one-way roadways.
- VPs may be used in day-time or nighttime situations. They may be used on the edge of shoulder drop-offs and other areas where traffic is likely to be confused.
- VPs are used on one-way roadways where positive channelization is required. The Engineer/Inspector shall refer to the Roadway Design Manual for additional requirements on the use of VP's.
- VP's should be mounted back to back if used at the edge of a one-way roadway.
- VP's are to be reflective orange and reflective white and reflective yellow.
- VP's are used on expressways and freeways or other high speed roadways, may have more than 270 square inches of reflective area.
- VP's are used on one-way roadways.
- VP's are used on one-way roadways.

VERTICAL PANELS (VPs)

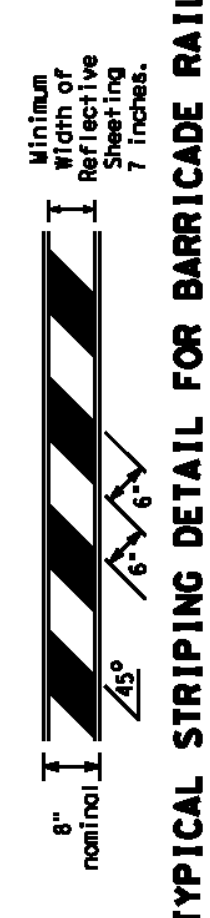
- Operating Traffic Lane Dividers (OTLDs) are used to separate traffic on two-way roadways.
- OTLDs are used on two-way roadways.
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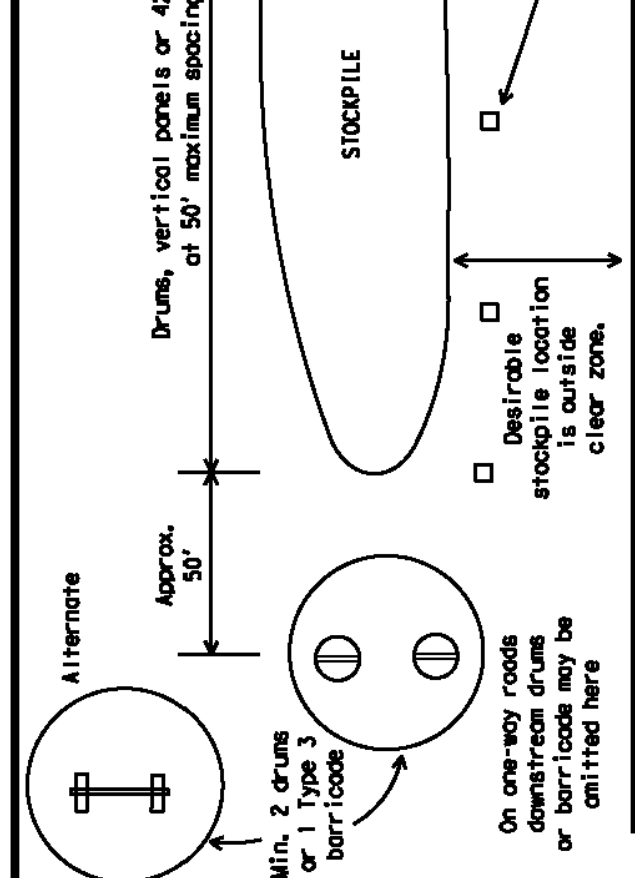
OPPOSING TRAFFIC LANE DIVIDERS (OTLD)

TYPE 3 BARRICADES

- Refer to the Compliant Work Zone Traffic Control Devices List (CWTCDL) for details of the Type 3 Barricade and a list of all materials.
- Type 3 Barricades shall be used at each end of construction projects closed to all traffic.
- Barricades extending across a roadway should have stripes that slope downward in both directions from the center of the barricade. When both right and left turns are provided, the chevron striping may be used on the left side of the barricade.
- Striping of rolls, for the right side of the roadway, should slope downward to the left, for the left side of the roadway, should slope downward to the right.
- Identification markings may be shown only on the back of the barricade rolls. The maximum height of letter and/or company logos shall not exceed 100 feet.
- Barricade rolls shall not be used as a sign support.
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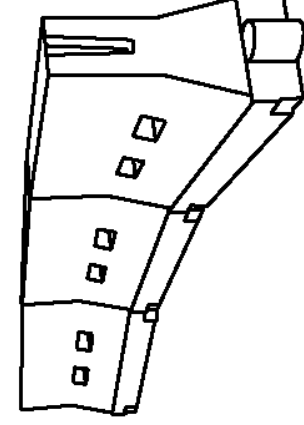
TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES



TRAFFIC CONTROL FOR MATERIAL STOCKPILES

- The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
- Chevron are intended to give notice of a sharp change in the direction of travel.
- Chevron are used on one-way roadways.
- Chevron, when used, shall be erected on the outside of the curve.
- Chevron shall be placed in line with the centerline of the roadway.
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CHEVRONS



LONGITUDINAL CHANNELIZING DEVICES (LCD)

- LCDs are constructed of lightweight, deformable devices that are slightly visible, have good target value and can be connected together. They are not designed to contain or deflect a vehicle on impact.
- LCDs may be used instead of a line of cones or drums.
- LCDs shall be placed on the roadway.
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WATER BALLASTED SYSTEMS USED AS BARRIERS

- Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the roadway.
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If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems shall not be less than 32 inches in height.

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

- The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
- Chevron are intended to give notice of a sharp change in the direction of travel.
- Chevron are used on one-way roadways.
- Chevron, when used, shall be erected on the outside of the curve.
- Chevron shall be placed in line with the centerline of the roadway.
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- Chevron are intended to give notice of a sharp change in the direction of travel.
- Chevron are used on one-way roadways.
- Chevron, when used, shall be erected on the outside of the curve.
- Chevron shall be placed in line with the centerline of the roadway.
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- Chevron shall be placed in line with the centerline of the roadway.

Posted Speed	Formula	Minimum	Desirable	Channelizing	Suggested Maximum
30	$L = \frac{WS^2}{150}$	10'	11'	12'	On a tangent
35	$L = \frac{WS^2}{150}$	15'	16'	18'	On a tangent
40	$L = \frac{WS^2}{150}$	20'	22'	24'	On a tangent
45	$L = \frac{WS^2}{150}$	25'	28'	30'	On a tangent
50	$L = \frac{WS^2}{150}$	30'	34'	36'	On a tangent
55	$L = \frac{WS^2}{150}$	35'	40'	42'	On a tangent
60	$L = \frac{WS^2}{150}$	40'	46'	48'	On a tangent
65	$L = \frac{WS^2}{150}$	45'	52'	54'	On a tangent
70	$L = \frac{WS^2}{150}$	50'	58'	60'	On a tangent
75	$L = \frac{WS^2}{150}$	55'	64'	66'	On a tangent
80	$L = \frac{WS^2}{150}$	60'	70'	72'	On a tangent

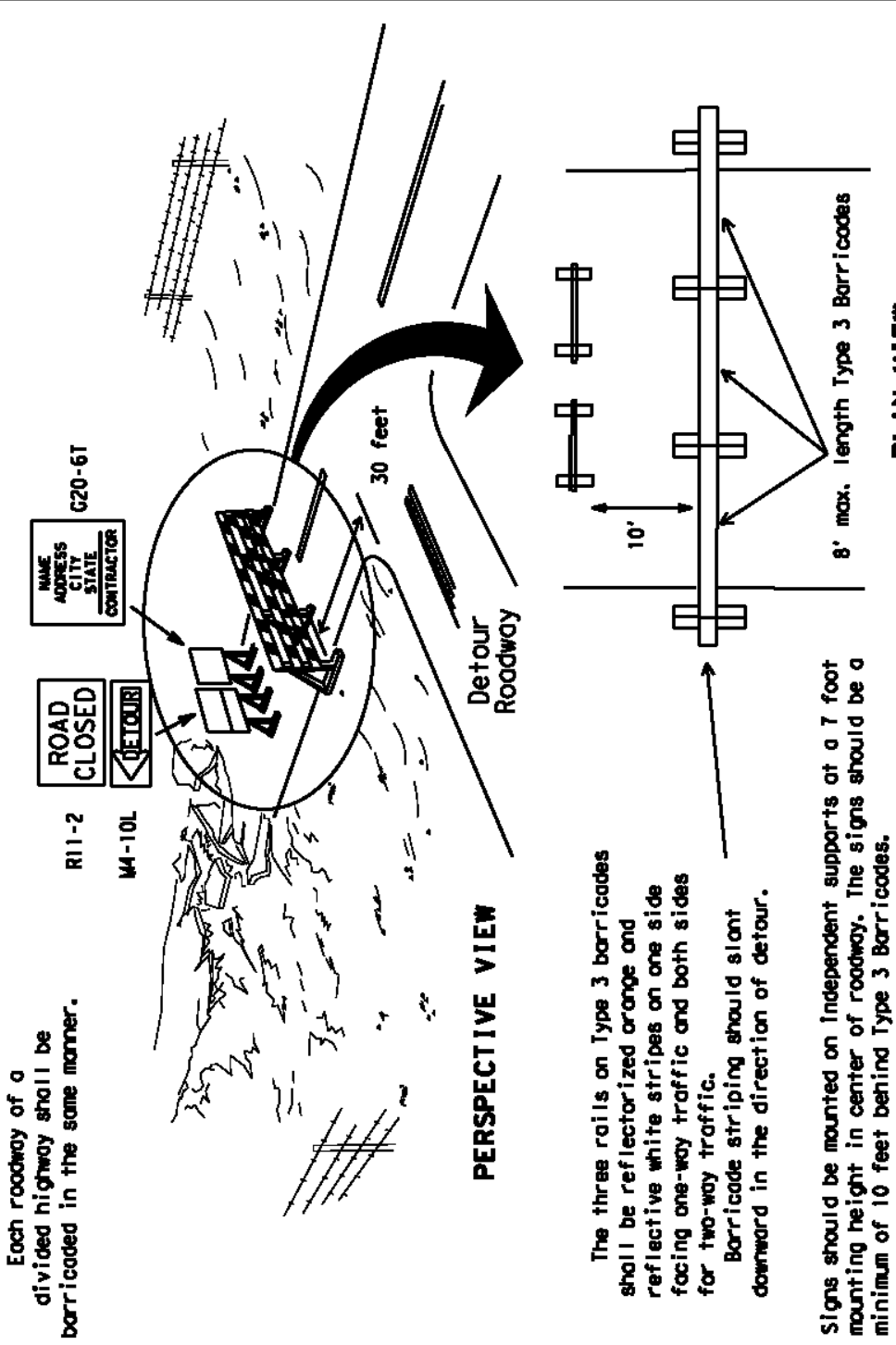
SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

Posted Speed	Formula	Minimum	Desirable	Channelizing	Suggested Maximum
30	$L = \frac{WS^2}{150}$	10'	11'	12'	On a tangent
35	$L = \frac{WS^2}{150}$	15'	16'	18'	On a tangent
40	$L = \frac{WS^2}{150}$	20'	22'	24'	On a tangent
45	$L = \frac{WS^2}{150}$	25'	28'	30'	On a tangent
50	$L = \frac{WS^2}{150}$	30'	34'	36'	On a tangent
55	$L = \frac{WS^2}{150}$	35'	40'	42'	On a tangent
60	$L = \frac{WS^2}{150}$	40'	46'	48'	On a tangent
65	$L = \frac{WS^2}{150}$	45'	52'	54'	On a tangent
70	$L = \frac{WS^2}{150}$	50'	58'	60'	On a tangent
75	$L = \frac{WS^2}{150}$	55'	64'	66'	On a tangent
80	$L = \frac{WS^2}{150}$	60'	70'	72'	On a tangent

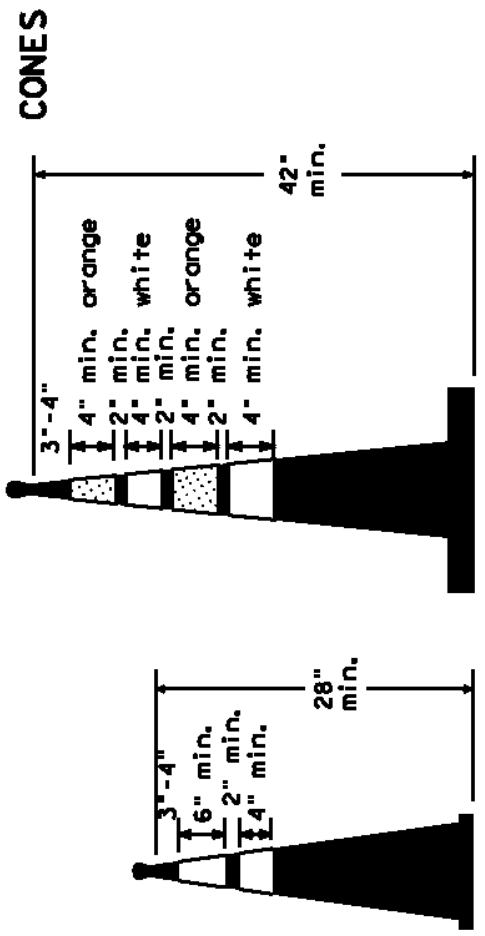
BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC (19) - 21

FILE	DATE	BY	CHK	APP	DATE	BY	CHK	APP	DATE	BY	CHK	APP
BC (19) - 21	09-07	8-14	7-13	5-21	09-07	8-14	7-13	5-21	09-07	8-14	7-13	5-21



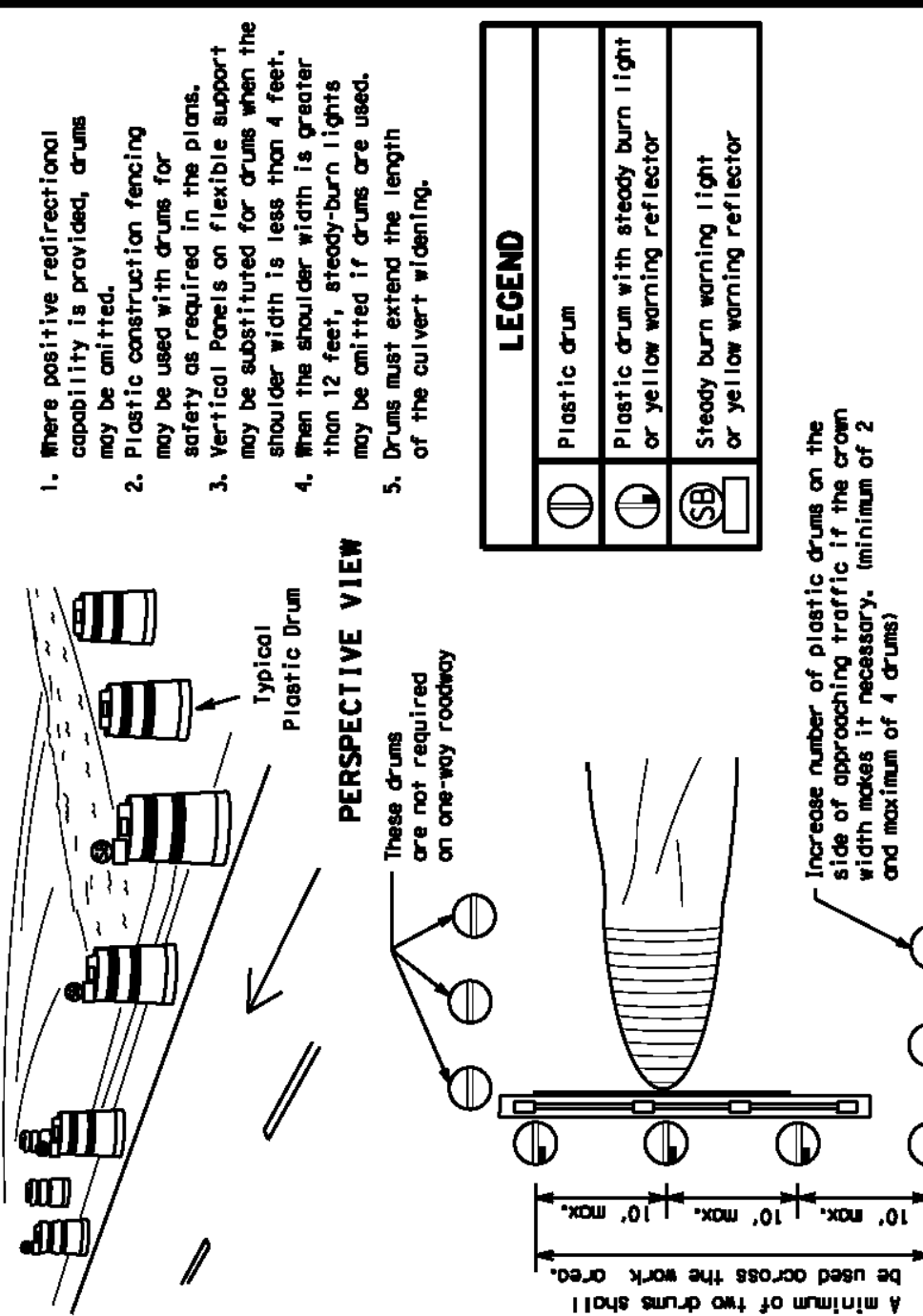
TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION



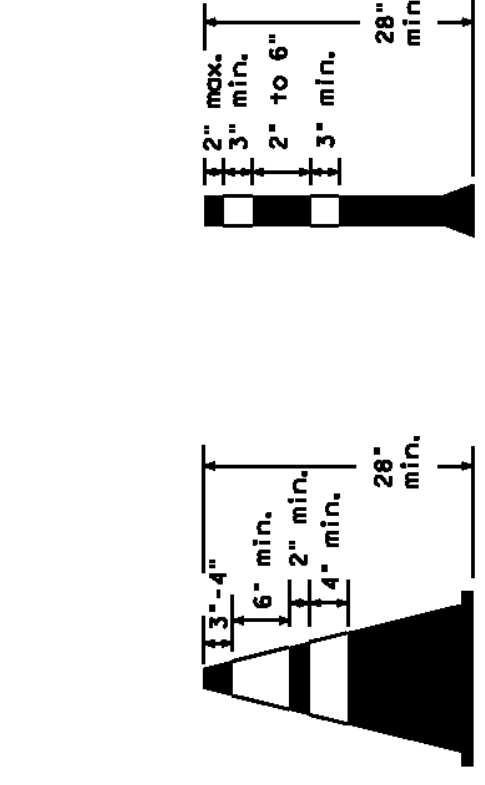
Two-Piece Cones

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.

- Traffic cones and tubular markers shall be predominantly orange, and meet the height and weight requirements shown above.
- 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.
- 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.
- Cones or tubular markers shall have white or orange reflective material on the upper surface and meet the requirements of Departmental Material Specification DMS-8300 Type A or Type B.
- Two-piece cones shall be used for short duration and start-term stationary work as defined on BC(1). 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.
- 42" Two-piece cones, vertical panels or drums are suitable for all work zone and shap.



CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



FILE	DATE	BY	CHK	APP	DATE	BY	CHK	APP	DATE	BY	CHK	APP
BC (10) - 21	09-07	8-14	7-13	5-21	09-07	8-14	7-13	5-21	09-07	8-14	7-13	5-21

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC (10) - 21

FILE	DATE	BY	CHK	APP	DATE	BY	CHK	APP	DATE	BY	CHK	APP
BC (10) - 21	09-07	8-14	7-13	5-21	09-07	8-14	7-13	5-21	09-07	8-14	7-13	5-21



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THE ROCK UNIT 1 TxDOT
IMPROVEMENTS

TCP DETAILS VI

SHEET 24 OF 25

NO DATE ISSUES AND REVISIONS

WORK ZONE PAVEMENT MARKINGS

REMOVAL OF PAVEMENT MARKINGS

1. Pavement markings that are no longer applicable, could create confusion and/or are a major safety hazard, shall be removed before the work zone is opened to traffic.
2. The contractor shall apply to remove in place any markings that are no longer applicable, and shall remove them before the work zone is opened to traffic.
3. Pavement markings shall be removed to the fullest extent possible, 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. Back-out marking tape may be used to cover conflicting existing markings for periods less than two weeks when approved by the Engineer.
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.

RAISED PAVEMENT MARKERS

1. Raised pavement markers are to be placed according to the patterns on BC1127.
2. All raised pavement markers used for work zone markings shall meet the requirements of Item 677, "RAISED PAVEMENT MARKERS" and Departmental Standard Specification DMS-4200 or DMS-4200.

PREFABRICATED PAVEMENT MARKINGS

1. Removable prefabricated pavement markings shall meet the requirements of DMS-8241.
2. Non-removable prefabricated pavement markings (roll 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 395.
3. The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 100 feet when visibility is reduced to less than 1000 feet. At night, unless light distance is restricted by roadway geometry.
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 682.

GENERAL

1. The Contractor shall be responsible for maintaining work zone and work zone traffic control devices in accordance with the standard specifications and sections unless otherwise stated in the plans.
2. Color, patterns and dimensions shall be in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUD). "Texas Manual on Uniform Traffic Control Devices" (TMUD).
3. Additional supplemental pavement marking details may be found in the plans or specifications.
4. Pavement markings shall be installed in accordance with the TMUD and as shown on the plans.
5. When short term markings are required on the plans, short term markings shall conform with the TMUD. The plans and details as shown on the Standard Plan Sheet B2127M.
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 posting is prohibited and PASS signs shall be erected at the beginning of sections where posting is permitted.
7. All work zone pavement markings shall be installed in accordance with Item 682, "Work Zone Pavement Markings."

1. Raised pavement markers used for work zone markings shall meet the requirements of Item 677, "RAISED PAVEMENT MARKERS" and Departmental Standard Specification DMS-4200 or DMS-4200.

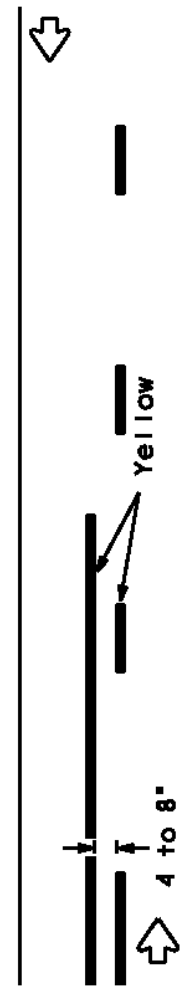
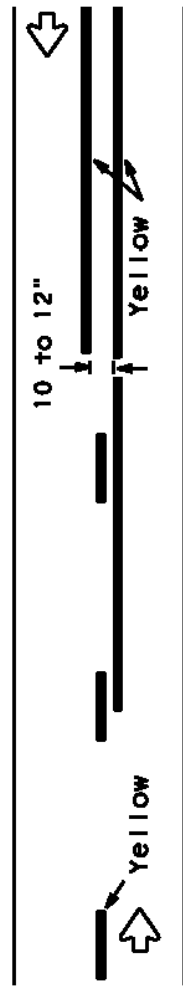
PREFABRICATED PAVEMENT MARKINGS

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

MAINTAINING WORK ZONE PAVEMENT MARKINGS

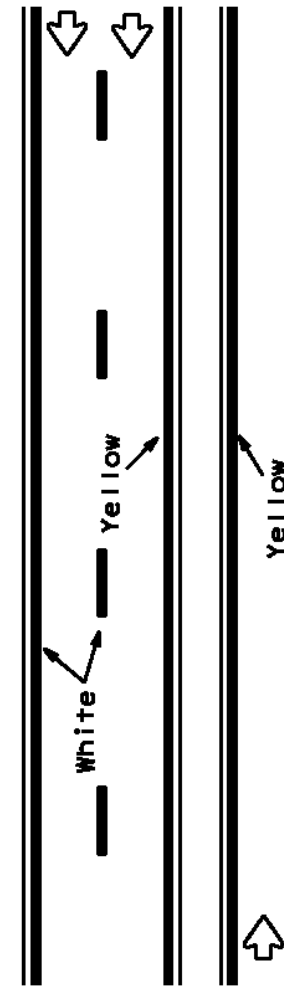
1. The Contractor will be responsible for maintaining work zone pavement markings within the work limits.
2. Work zone pavement markings shall be inspected in accordance with the frequency and reporting requirements of work zone traffic control device inspections as required by Form 395.
3. The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 100 feet when visibility is reduced to less than 1000 feet. At night, unless light distance is restricted by roadway geometry.
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 682.

PAVEMENT MARKING PATTERNS



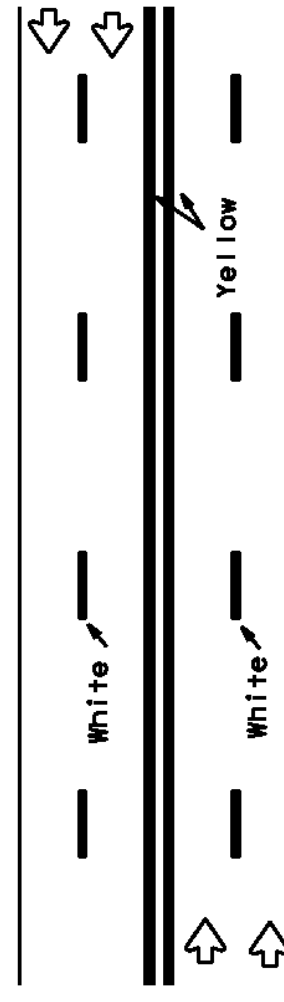
Pattern A is the TxDOT Standard, however Pattern B may be used if approved by the Engineer. Prefabricated markings may be substituted for reflectORIZED pavement markings.

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



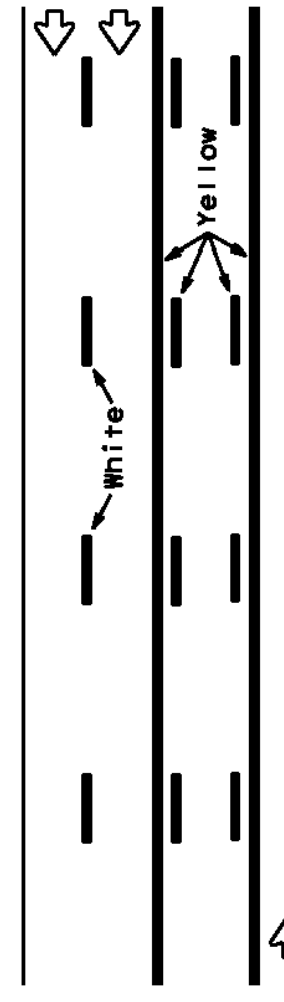
Prefabricated markings may be substituted for reflectORIZED pavement markings.

EDGE & LANE LINES FOR DIVIDED HIGHWAY



Prefabricated markings may be substituted for reflectORIZED pavement markings.

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS

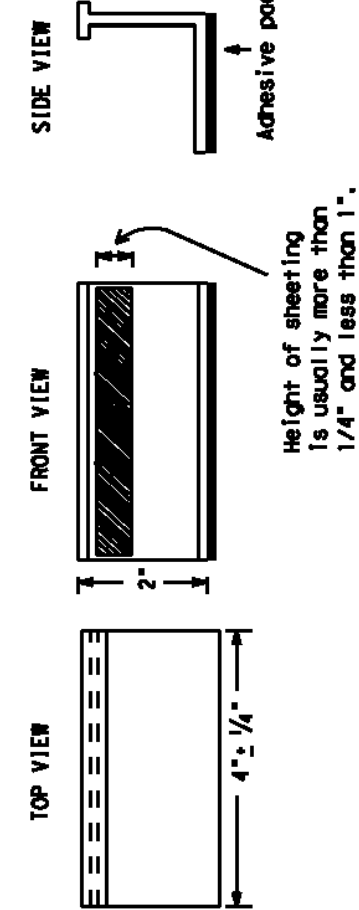


Prefabricated markings may be substituted for reflectORIZED pavement markings.

TWO-WAY LEFT TURN LANE

Prefabricated markings may be substituted for reflectORIZED pavement markings.

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 applied to ensure quality before placement on the roadway.
3. Select five (5) or more tabs at random from each lot or shipment and perform the following test. A minimum of five (5) tabs shall be tested.
4. Select five (5) tabs and perform the following test. A minimum of five (5) tabs shall be tested.
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 20 to 30 mph. The tabs shall be inspected and accepted by the Engineer or designated representative. The tabs shall be inspected and accepted by the Engineer or designated representative.
6. Tabs shall be inspected and accepted by the Engineer or designated representative.
7. Tabs shall be inspected and accepted by the Engineer or designated representative.
8. Tabs shall be inspected and accepted by the Engineer or designated representative.
9. Tabs shall be inspected and accepted by the Engineer or designated representative.
10. Tabs shall be inspected and accepted by the Engineer or designated representative.

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 (not applied or buried) rubber pad for all surfaces, or thermoplastic for concrete surfaces.

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

SHEET 11 OF 12

BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

BC(11)-21

DATE: 10-21-09

BY: TxDOT

CHK: TxDOT

APP: TxDOT

DATE: 10-21-09

BY: TxDOT

CHK: TxDOT

APP: TxDOT

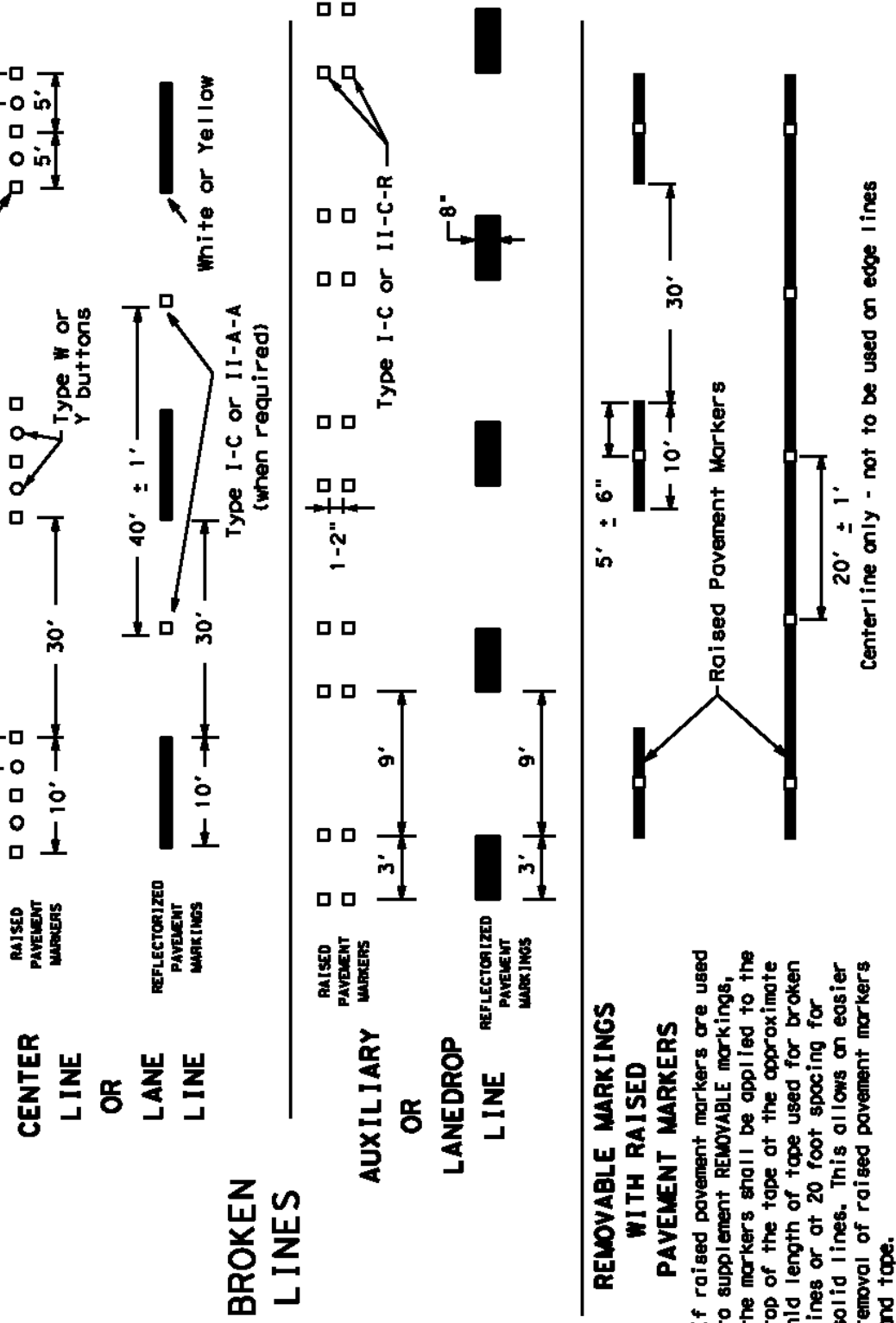
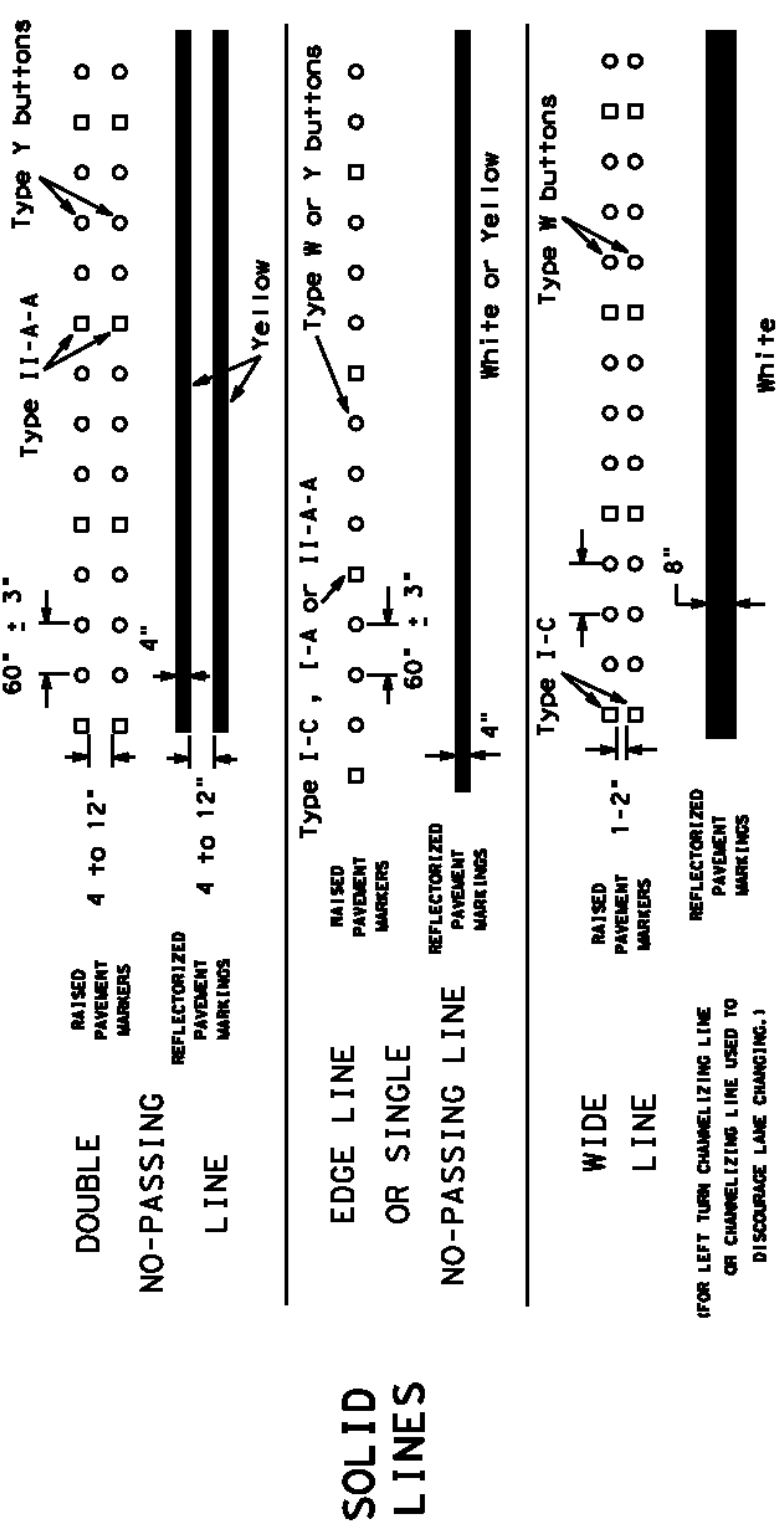
DATE: 10-21-09

BY: TxDOT

CHK: TxDOT

APP: TxDOT

STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS



SHEET 12 OF 12

BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

BC(12)-21

DATE: 10-21-09

BY: TxDOT

CHK: TxDOT

APP: TxDOT

DATE: 10-21-09

BY: TxDOT

CHK: TxDOT

APP: TxDOT

DATE: 10-21-09

BY: TxDOT

CHK: TxDOT

APP: TxDOT

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."



NORSELAND COMAL LLC
11777 KATY FRWY STE. 300 S
HOUSTON, TX 77079.

THE ROCK UNIT 1 TxDOT IMPROVEMENTS

TCP DETAILS VII

SHEET 25 OF 25

NO DATE ISSUES AND REVISIONS

NO	DATE	ISSUES AND REVISIONS
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351



05/14/2024