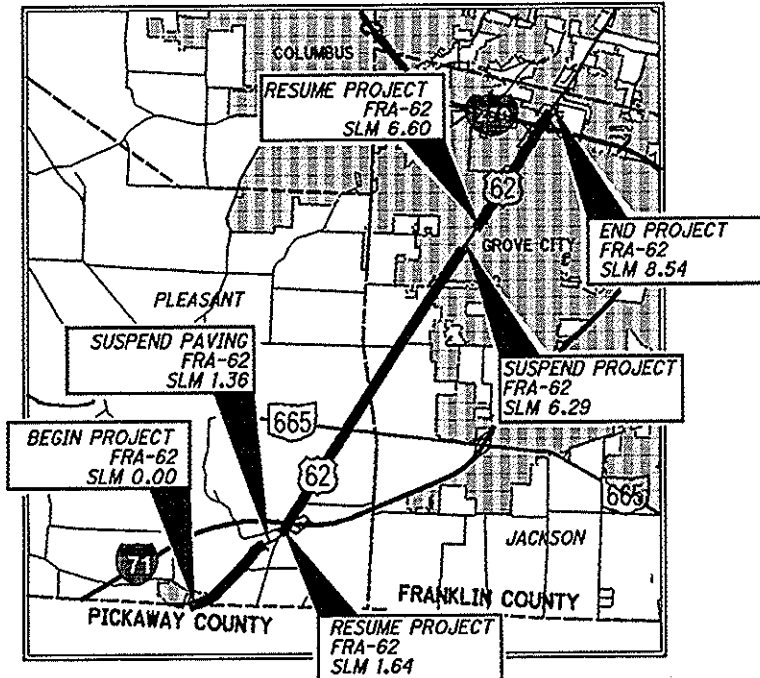


FRA - 62 - 0.00
138006 PID - 86643
DIST 06 2/14/2013

Contract Proposal Available @www.
contracts.dot.state.oh.us / home



LOCATION MAP
LATITUDE: 39° 51' 20" LONGITUDE: 86° 06' 57"
SCALE IN MILES
0 1 2 3 4

PORTION TO BE IMPROVED
INTERSTATE & DIVIDED HIGHWAYS
UNDIVIDED STATE & FEDERAL ROUTES
OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2013) 41,895
DESIGN YEAR ADT (2025) 55,725
DESIGN HOURLY VOLUME (2025) 2,322
DIRECTIONAL DISTRIBUTION 50%
TRUCKS (24 HOUR B&C) 6%
DESIGN SPEED 25-60
LEGAL SPEED 25 TO 55

DESIGN FUNCTIONAL CLASSIFICATION / FUNDING SPLITS:

(01/STR/PV) RURAL STP 80% FED / 20% STATE
(02/S>2/PV/F-ST) URBAN STP 80% FED / 20% STATE
(03/S>2/PV/F-LC) URBAN STP 80% FED / 20% LOCAL
(04/S>2/PV/GRDV) URBAN STP 100% LOCAL GROVE CITY
*SEE SCHEMATIC FOR MORE INFORMATION

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: 1-800-925-0988

PLAN PREPARED BY:

Ohio Department of
Transportation
District 6

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
FRA-62-0.00
CITY OF GROVE CITY
JACKSON / PLEASANT TOWNSHIPS
FRANKLIN COUNTY

INDEX OF SHEETS:

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ENGINEERS SEAL:

STEVEN
D
FELLENGER
#71781
REGISTERED
PROFESSIONAL ENGINEER
SIGNED: *Steven D. Fellingenger*
DATE: 9/05/12

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS	
BP-3.1	07/18/01	TC-41.20	01/19/01	MT-95.30	07/20/12	800	01/18/13
BP-4.1	07/16/04	TC-52.10	01/19/07	MT-95.31	07/20/12	823	07/15/11
BP-5.1	07/28/00	TC-52.20	01/19/07	MT-95.32	07/20/12	832	05/05/09
		TC-81.10	04/20/12	MT-95.60	07/20/12		
GR-1.1	07/20/12	TC-65.10	04/20/12	MT-97.10	07/20/12		
GR-2.1	07/20/12	TC-65.11	04/20/12	MT-99.20	07/20/12		
GR-4.1	07/20/12	TC-71.10	01/21/11	MT-101.90	10/21/11		
GR-4.2	07/20/12	TC-73.10	04/20/12	MT-105.10	07/20/12		
GR-5.1	04/16/10	TC-82.10	01/21/11	MT-101.70	04/15/11		
GR-5.2	04/16/10	TC-83.10	01/19/07				
GR-5.3	04/16/10	TC-83.20	04/20/12	PCB-91	07/19/02		
		TC-84.20	01/21/11				
RM-1.1	07/15/11	TC-84.21	01/19/07				
RM-4.2	10/15/10						

PROJECT DESCRIPTION

RESURFACING OF 7.95 MI OF US-62 IN FRANKLIN COUNTY BEGINNING AT THE FRANKLIN/PICKAWAY COUNTY LINE AND CONTINUING THROUGH THE CITY OF GROVE CITY AND ENDING AT THE GROVE CITY (FAR EAST) CORP.

THIS PROJECT INCORPORATES THE USE OF A "SAFETY EDGE" ON THE SHOULDER OF THE OVERLAY SECTIONS AS DETAILED IN THE PLAN.

THIS PROJECT ALSO INCLUDES WORK ASSOCIATED WITH INSTALLING STOP BAR DETECTION AND ADVANCE DILEMMA ZONE PROTECTION AT SIGNALIZED INTERSECTIONS AS DETAILED IN THE PLAN.

THIS PROJECT ALSO INCLUDES WORK ASSOCIATED WITH UPGRADING GUARDRAIL SYSTEMS AT SPECIFIC LOCATIONS AS DETAILED IN THE PLAN.

EARTH DISTURBED AREA:

PROJECT EARTH DISTURBED AREA N/A *
EST. CONTRACTOR EARTH DISTURBED AREA N/A *
NOTICE OF INTENT EARTH DISTURBED AREA N/A *
* MAINTENANCE PROJECT

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2010 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVED THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

PLANS CERTIFIED BY:
NAME: *David H. Barkin* DATE: 9/05/12
DISTRICT 6
OHIO DEPT. OF TRANSPORTATION

APPROVED *[Signature]*
DATE 10-29-12
DISTRICT DEPUTY DIRECTOR

APPROVED *[Signature]*
DATE 1-14-13
DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO.
E090 (833)

PID NO.
86643

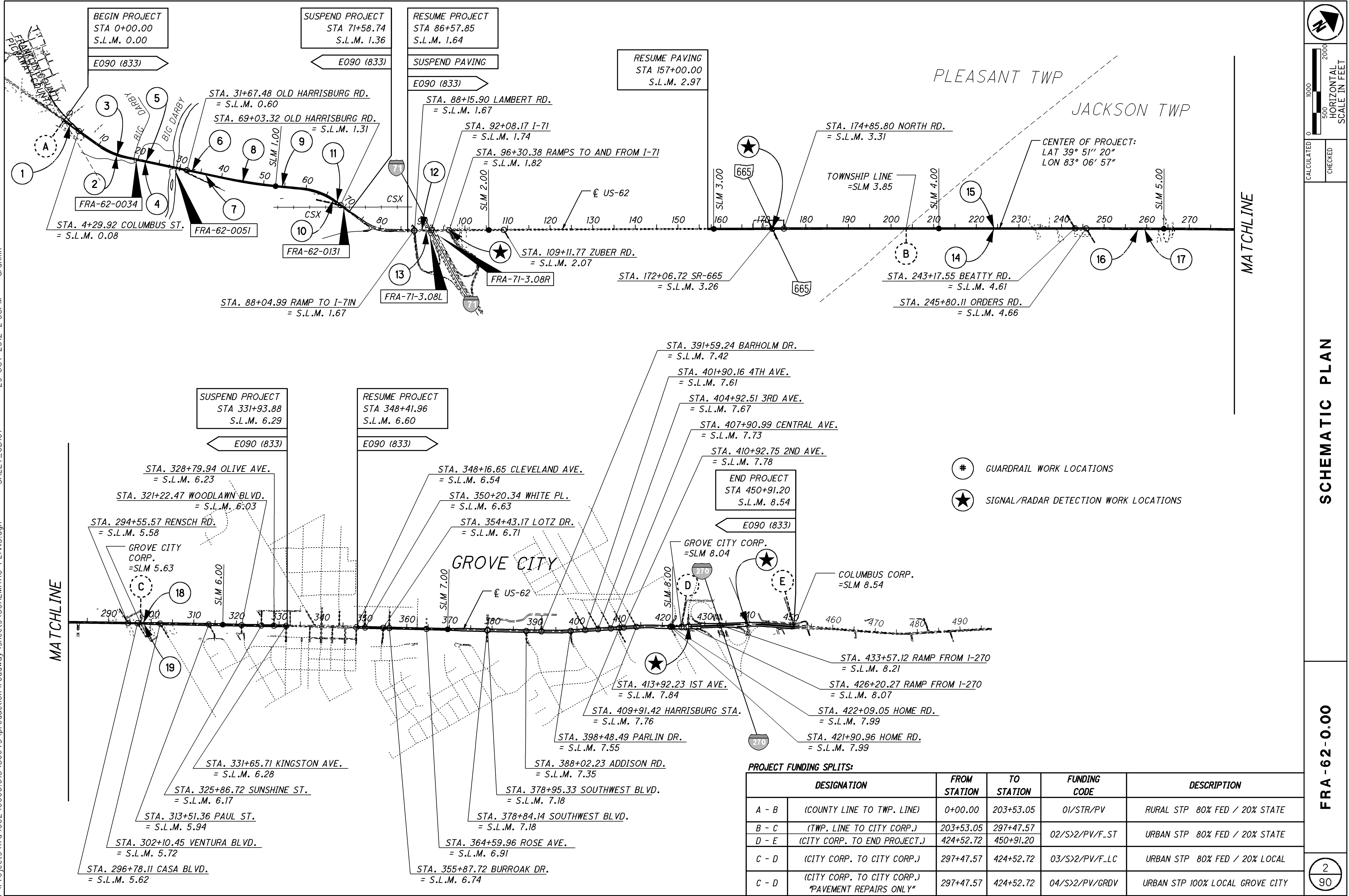
CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT

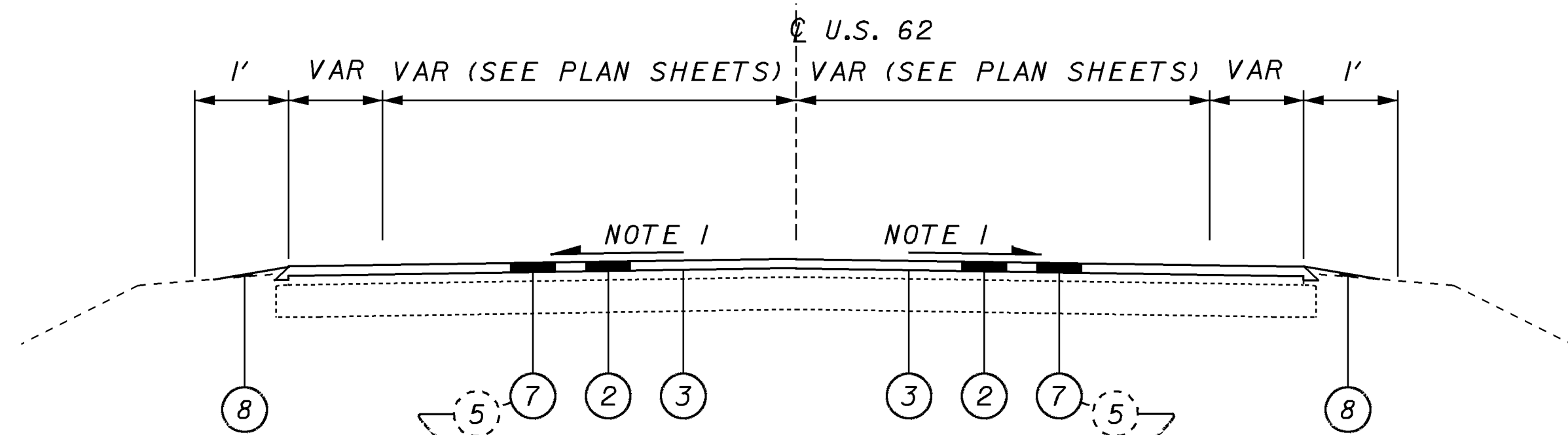
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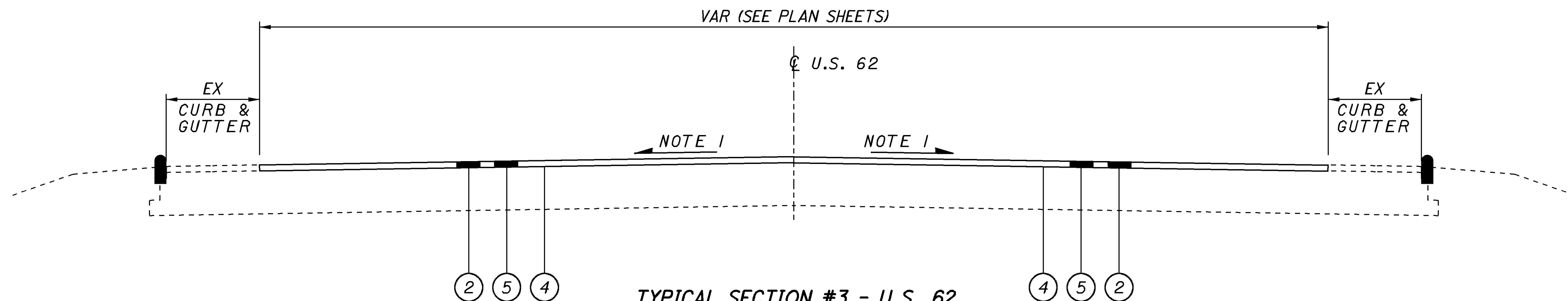
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TYPICAL SECTION #1 - U.S. 62

SECTION APPLIES TO THE FOLLOWING STATIONS:

FRA-62	STA.	0+00.00	TO	STA.	5+29.75	=	529.75 FT
FRA-62	STA.	17+49.21	TO	STA.	18+24.21	=	75.00 FT
FRA-62	STA.	20+86.21	TO	STA.	27+47.87	=	661.66 FT
FRA-62	STA.	29+93.47	TO	STA.	32+73.46	=	279.99 FT
FRA-62	STA.	67+05.16	TO	STA.	71+58.74	=	453.58 FT (NOTE 2)
FRA-62	STA.	297+47.57	TO	STA.	298+22.57	=	75.00 FT
							TOTAL = 2,074.98 FT



TYPICAL SECTION #3 - U.S. 62

SECTION APPLIES TO THE FOLLOWING STATIONS:

FRA 62	STA.	298+22.57	TO	STA.	331+93.88	=	3,371.31 FT
FRA 62	STA.	348+41.96	TO	STA.	422+68.06	=	7,426.10 FT
							TOTAL = 10,797.41 FT

LEGEND:

- ITEM 209 - PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN
- ITEM 254 - (1.5") PAVEMENT PLANING, ASPHALT CONCRETE
- ITEM 407 - TACK COAT @ 0.075 GAL/SQ YD
- ITEM 407 - TACK COAT, TRACKLESS TACK, SURFACE COURSE @ 0.075 GAL/SQ YD
- ITEM 442 - (1.5") ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
- ITEM 442 - (1.5") ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN
- ITEM 442 - (1.5") ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448)
- ITEM 617 - (2") COMPACTED AGGREGATE

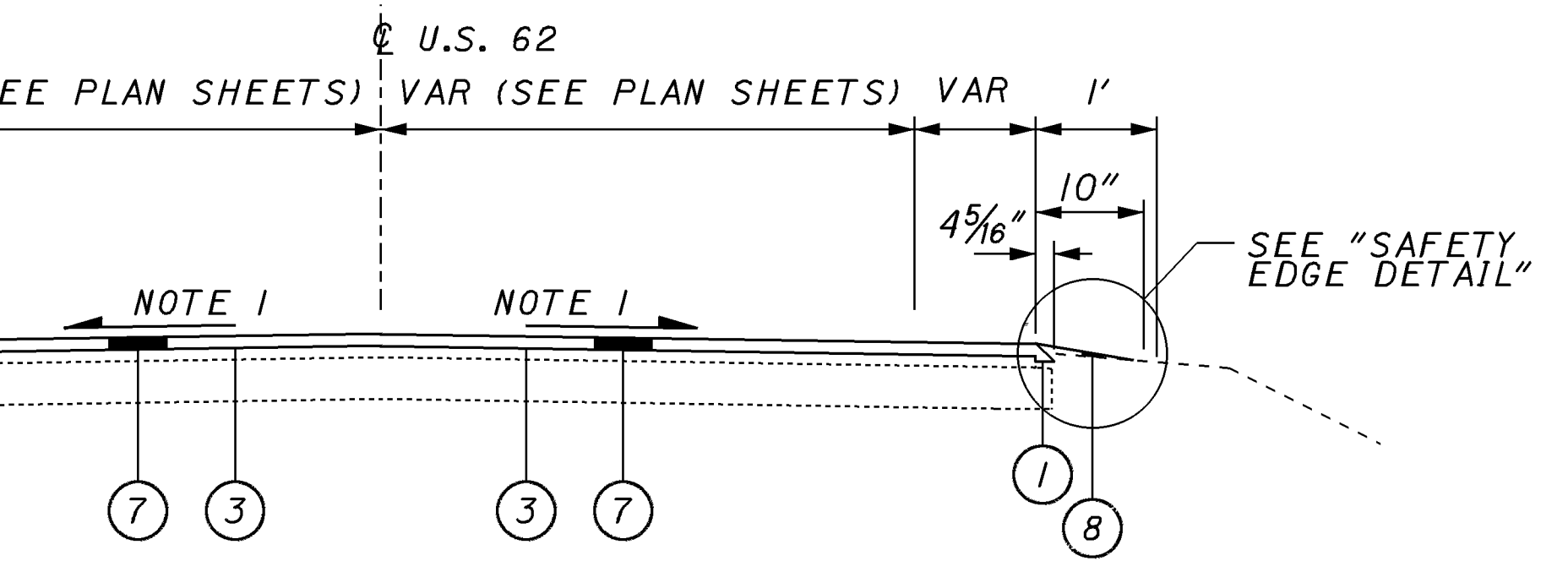
SAFETY EDGE:

SAFETY EDGES ARE REQUIRED AT THE OUTSIDE EDGES OF THE PAVED SHOULDER AT LOCATIONS DESIGNATED IN THIS PLAN.

CONSTRUCT A SAFETY EDGE TO A TOTAL DEPTH OF 2.5" AS DETAILED.

BLADE AND SHAPE EXISTING SHOULDER MATERIAL TO FORM A UNIFORM SURFACE UNDER THE SAFETY EDGE PRIOR TO PLACEMENT OF THE ASPHALT CONCRETE OVERLAY.

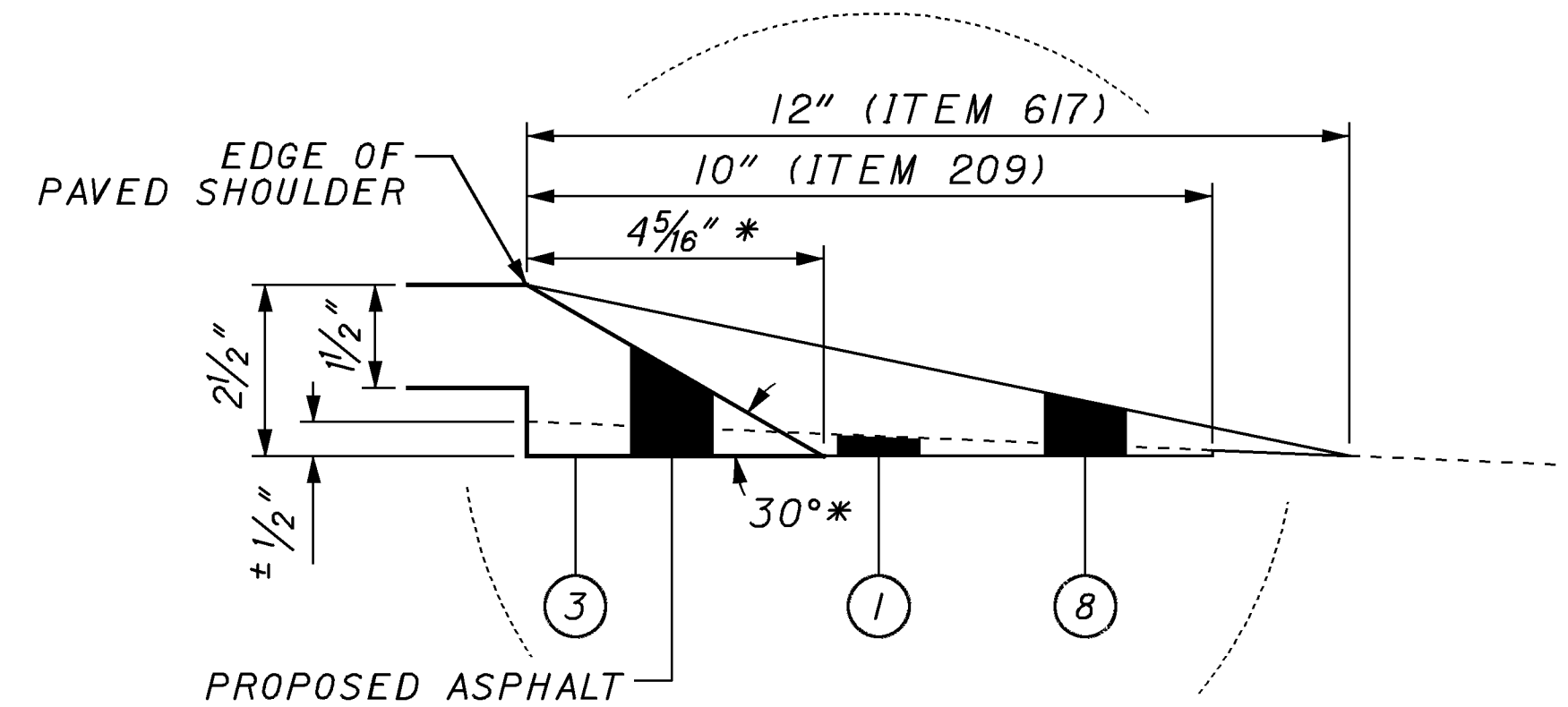
* QUANTITIES ARE BASED ON AN IDEAL SAFETY EDGE ANGLE OF 30° PRODUCING A WIDTH OF APPROX. 4 5/16". ACTUAL ANGLE OF PROPOSED SAFETY EDGE SHALL NOT EXCEED 40°.



TYPICAL SECTION #2 - U.S. 62

SECTION APPLIES TO THE FOLLOWING STATIONS:

FRA-62	STA.	5+29.75	TO	STA.	17+49.21	=	1,219.46 FT
FRA-62	STA.	32+73.46	TO	STA.	67+05.16	=	3,431.70 FT
FRA-62	STA.	157+00.00	TO	STA.	297+47.57	=	14,047.57 FT
							TOTAL = 18,698.73 FT



SAFETY EDGE DETAIL

(MIRROR FOR OPPOSITE SIDE)
SEE SAFETY EDGE NOTES BELOW.
FOR MORE INFORMATION REGARDING SAFETY EDGE,
SEE GENERAL NOTES SHEET 7/90.

NOTES:

NOTE 1:
PROPOSED PAVEMENT CROSS SLOPES AT THIS LOCATION TO REMAIN SAME AS EXISTING.

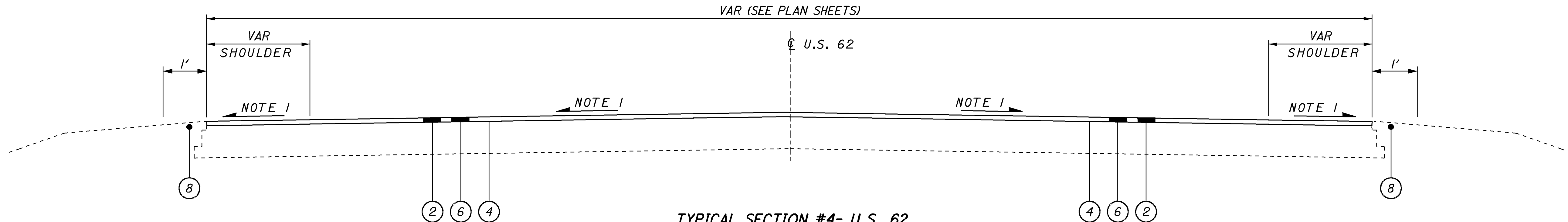
NOTE 2:
FROM STA. 67+05.16 - 71+58.74 USE ITEM 442 - (1.5") ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446).

TYPICAL SECTIONS

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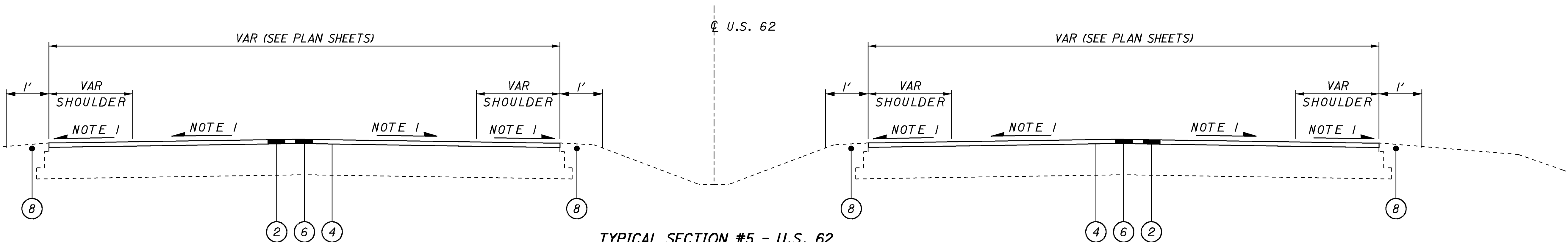
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TYPICAL SECTION #4- U.S. 62

SECTION APPLIES TO THE FOLLOWING STATIONS:

FRA 62 STA. 422+68.06 TO STA. 426+71.29 = 403.23 FT
TOTAL = 403.23 FT



TYPICAL SECTION #5 - U.S. 62

SECTION APPLIES TO THE FOLLOWING STATIONS:

FRA 62 STA. 426+71.29 TO STA. 450+91.20 = 2,419.91 FT
TOTAL = 2,419.91 FT

LEGEND:

- ① ITEM 209 - PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN
- ② ITEM 254 - (1.5") PAVEMENT PLANING, ASPHALT CONCRETE
- ③ ITEM 407 - TACK COAT @ 0.075 GAL/SQ YD
- ④ ITEM 407 - TACK COAT, TRACKLESS TACK, SURFACE COURSE @ 0.075 GAL/SQ YD
- ⑤ ITEM 442 - (1.5") ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
- ⑥ ITEM 442 - (1.5") ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN
- ⑦ ITEM 442 - (1.5") ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448)
- ⑧ ITEM 617 - (2") COMPACTED AGGREGATE

NOTES:

NOTE 1:
PROPOSED PAVEMENT CROSS SLOPES AT THIS LOCATION TO REMAIN
SAME AS EXISTING.

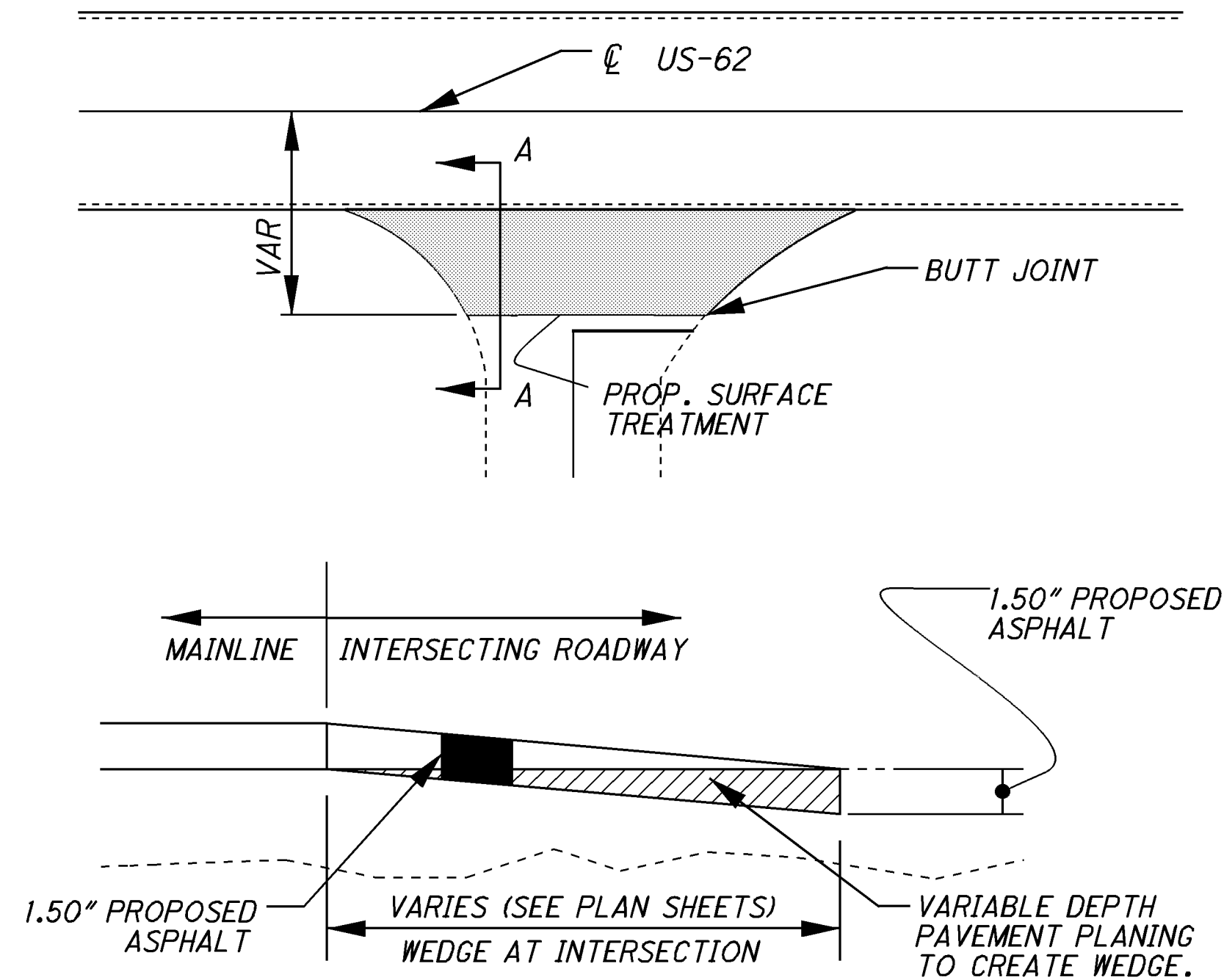
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TYPICAL SECTIONS

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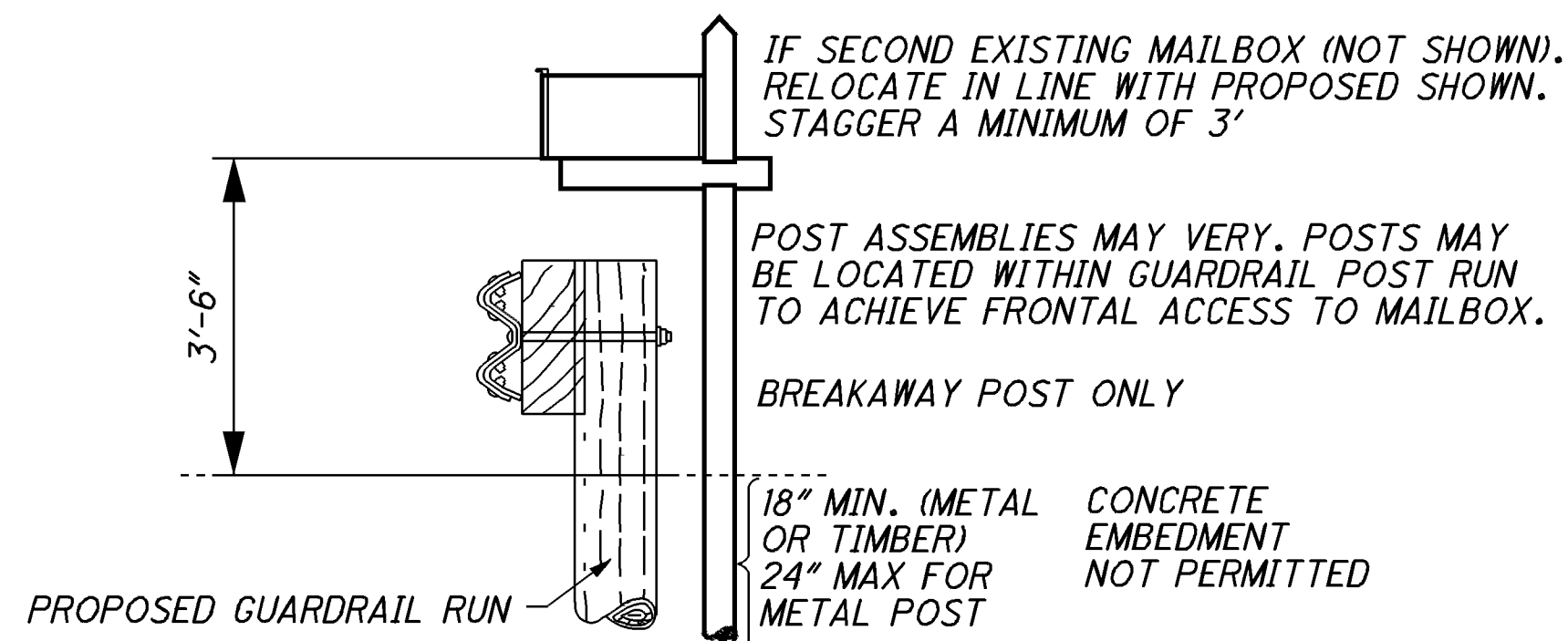


SECTION A-A

TYPICAL INTERSECTION DETAIL

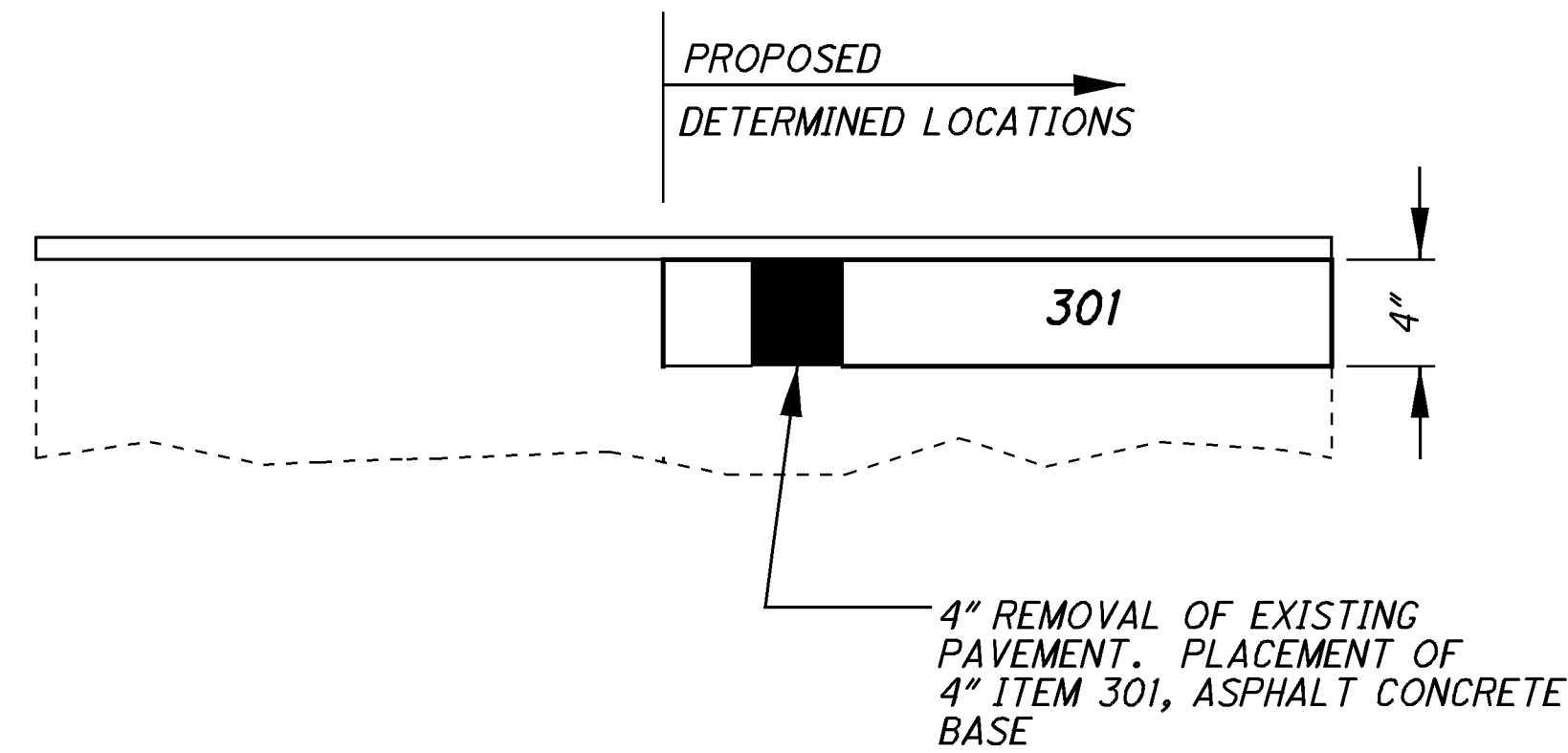
FRA-62	SLM	3.26	AT SR-665	RT & LT
FRA-62	SLM	3.31	AT NORTH RD	LT
FRA-62	SLM	4.61	AT BEATTY RD	LT
FRA-62	SLM	4.66	AT ORDERS RD	RT
FRA-62	SLM	5.58	AT RENSCH RD	LT
FRA-62	SLM	5.62	AT CASA BLVD	RT

FOR THESE INTERSECTIONS AND INTERSECTIONS NOT LISTED,
SEE PLAN SHEETS FOR DETAILS



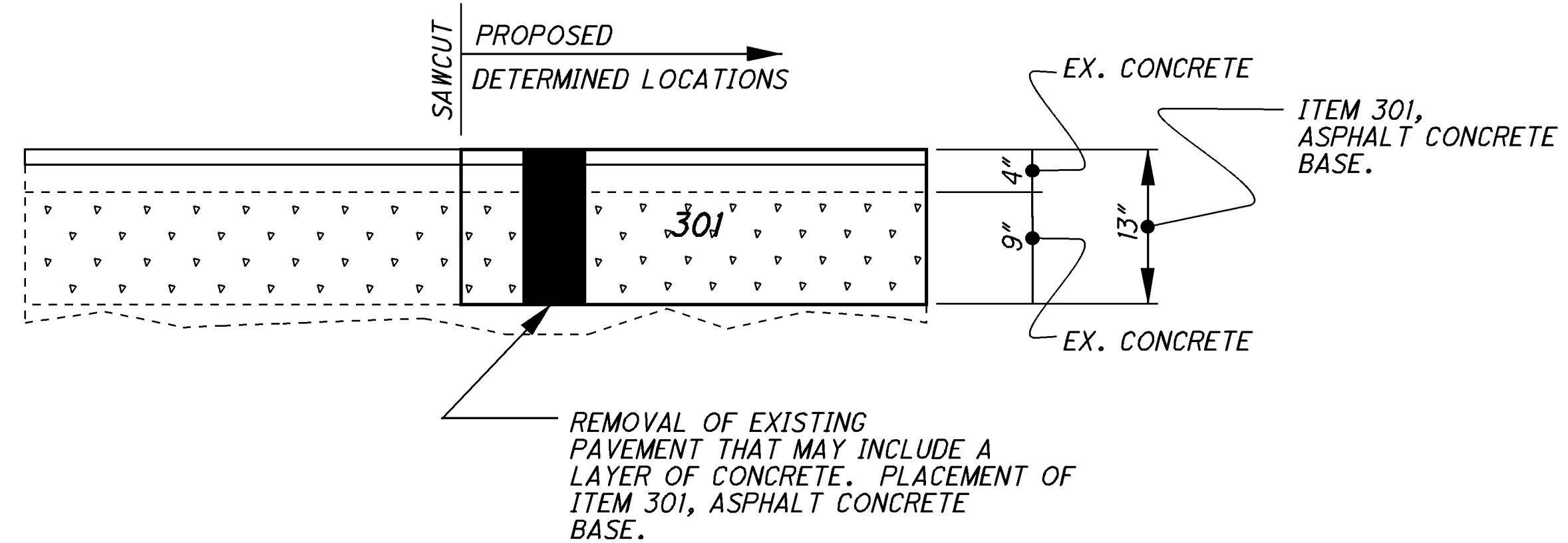
MAILBOX REMOVED AND RESET DETAIL

EXISTING MAILBOX ASSEMBLY RELOCATED
TO ALIGN WITH PROPOSED GUARDRAIL RUN.
DAMAGE RESULTING IN THE REMOVAL SHALL BE
REPLACED AT THE EXPENSE OF THE CONTRACTOR.
HOLES LEFT AT THE REMOVAL LOCATION SHALL BE
FILLED WITH MATERIAL REMOVED FROM THE PROPOSED
LOCATION.



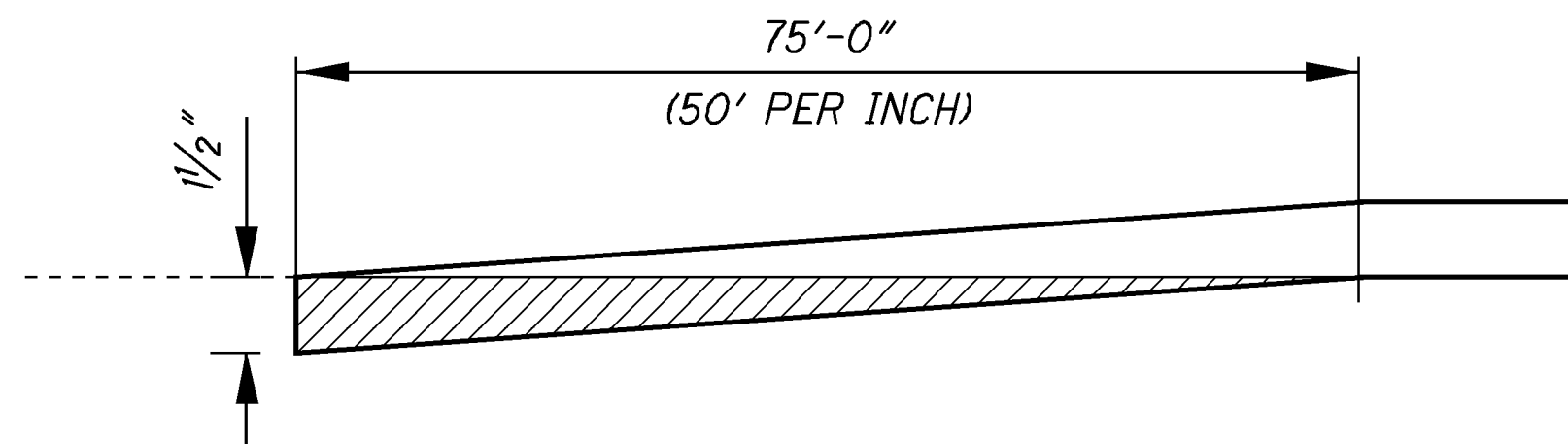
PARTIAL DEPTH PAVEMENT REPAIR DETAIL

SEE GENERAL NOTES SHEET 8/90 FOR MORE INFORMATION
REGARDING ITEM 251-PARTIAL DEPTH
PAVEMENT REPAIR, AS PER PLAN.



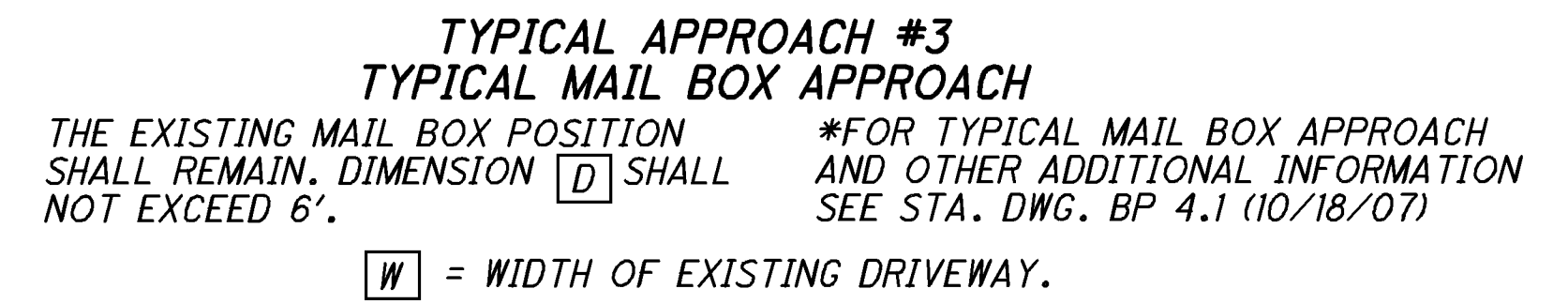
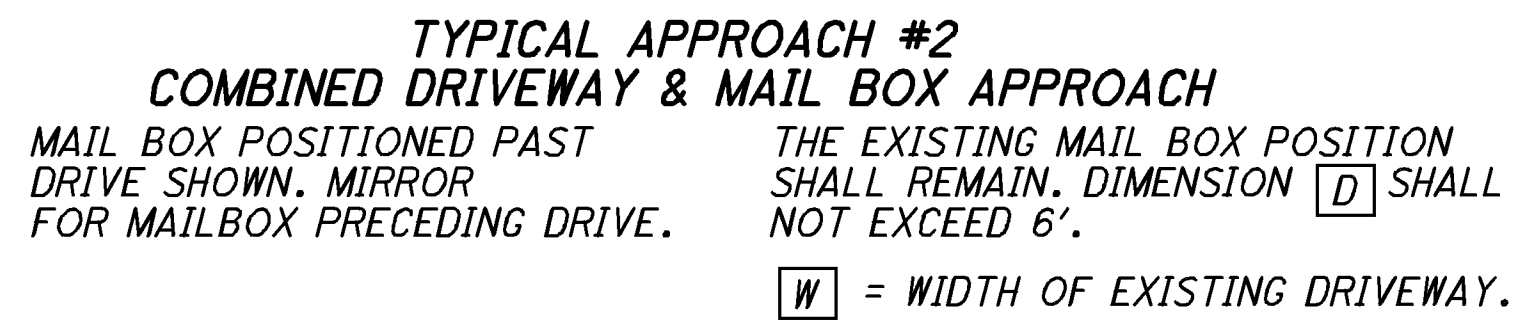
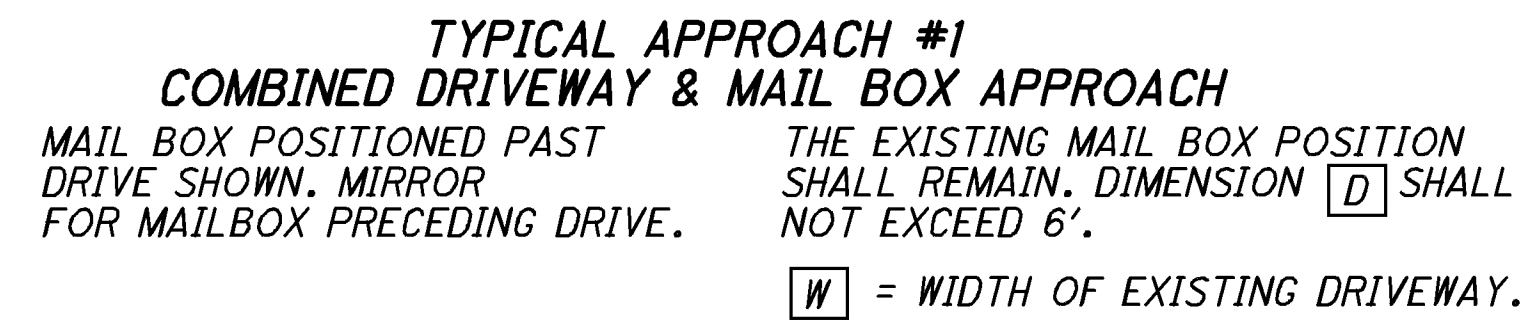
PAVEMENT REPAIR DETAIL

SEE GENERAL NOTES SHEET 8/90 FOR MORE INFORMATION
REGARDING ITEM 253-
PAVEMENT REPAIRS.



PAVEMENT PLANING TRANSITION DETAIL

VARIABLE DEPTH PAVEMENT PLANING TO ACHIEVE
PROPER TRANSITION BETWEEN PLANED AND NON-PANED
TREATMENTS. THIS DETAIL ALSO INCLUDES BUTT JOINTS
AT BEGIN AND END LOCATIONS AND AT STRUCTURES. FOR
SPECIFIC LOCATIONS OF THIS VARIABLE DEPTH PLANING,
SEE PLAN SHEETS 22-76 .



IT MAY BE NECESSARY FOR THE CONTRACTOR TO PAVE AN INTERMEDIATE LAYER OF THE PROPOSED ASPHALT MATERIAL PRIOR TO THE "WING OUT" IN ORDER TO MEET LIFT REQUIREMENTS.

NOTIFICATION OF CONSTRUCTION INITIATION:

AT LEAST FOURTEEN DAYS PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL ADVISE THE DISTRICT OFFICE OF COMMUNICATIONS VIA EMAIL AT d06.pio@dot.state.oh.us, THE DISTRICT WORK ZONE TRAFFIC MANAGER VIA EMAIL AT d06.mot@dot.state.oh.us AND THE CITY OF GROVE CITY (FOR WORK WITHIN CITY LIMITS) OF THE ANTICIPATED START DATE OF ANY CONSTRUCTION ACTIVITIES, INCLUDING BUT NOT LIMITED TO THE PLACING OF WORK ZONE SIGNS. THE NOTIFICATION SHALL ALSO INCLUDE THE PROJECT NUMBER, PID, NAME AND PHONE NUMBER OF THE CONTRACTOR, A POINT OF CONTACT AND THE ANTICIPATED IMPACT ON TRAFFIC. THE CONTRACTOR WILL IMMEDIATELY INFORM THE DISTRICT OFFICE OF COMMUNICATIONS AND THE DISTRICT WORK ZONE TRAFFIC MANAGER OF ANY AND ALL DELAYS AND/OR CHANGES REGARDING THE CONSTRUCTION INITIATION DATE.

GENERAL:

THE CONTRACTOR SHALL SUBMIT IN WRITING A SCHEDULE OF OPERATIONS TO THE ENGINEER (SEE 108.02) AND RECEIVE APPROVAL IN WRITING BEFORE WORK IS STARTED ON THIS PROJECT. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

ALIGNMENT AND PROFILE:

THE MAJORITY OF WORK INVOLVED IN THIS PROJECT IS TO PLANE PAVEMENT AT AN EQUAL DEPTH TO THE PROPOSED PAVEMENT WHILE MAINTAINING THE EXISTING CROSS-SLOPE (CROWN). EXISTING CROSS SLOPES WILL CHANGE AT THE APPROACH INTERSECTIONS OF HOME ROAD AND HYATTS/SHANAHAN ROADS. THESE CHANGES IN CROSS SLOPES WILL BE IDENTIFIED WITHIN THESE PLANS.

CONSTRUCTION SEQUENCE:

STOP BAR DETECTION RADAR SHALL BE INSTALLED AND FULLY FUNCTIONAL BEFORE ANY OF THE MILLING OF THE PAVEMENT IS PERFORMED OR EXISTING LOOP DETECTORS ARE DAMAGED.

CONTRACTORS EQUIPMENT - OPERATION AND STORAGE:

THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC WHERE PRACTICAL. EQUIPMENT SHALL HAVE AT LEAST ONE AMBER FLASHING LIGHT. WHEN PARKED ALONG THE HIGHWAY, THE EQUIPMENT SHALL BE LOCATED EITHER A MINIMUM OF THIRTY FEET FROM THE EDGE OF PAVEMENT OR SIX FEET BEHIND GUARDRAIL WITH A MINIMUM OF 125 FEET OF GUARDRAIL PRECEDING THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT AN APPROVED CONTRACTOR'S STORAGE AREA.

CONTINGENCY QUANTITIES:

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

REMOVAL ITEMS:

UNLESS OTHERWISE INSTRUCTED, GUARDRAIL, POSTS, ASPHALT AND MISCELLANEOUS HARDWARE DESIGNATED FOR REMOVAL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE REMOVED ITEM.

PART-WIDTH CONSTRUCTION:

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXTREME CARE SHALL BE TAKEN TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LONGITUDINAL JOINTS SHALL BE LAPPED AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

WORK LIMITS:

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

THERE IS A SUSPEND AND RESUME (ALL WORK) FROM SLM 1.36 TO SLM 1.64 AND FROM SLM 6.29 TO SLM 6.60.

THERE IS A SUSPEND AND RESUME (PAVING ONLY) FROM SLM 1.64 TO SLM 2.97.

SAFETY EDGE:

IN ADDITION TO THE REQUIREMENTS OF 401.12, ATTACH A DEVICE TO THE SCREED OF THE PAVER THAT CONFINES THE MATERIAL AT THE END GATE AND EXTRUDES THE ASPHALT MATERIAL IN SUCH A WAY THAT RESULTS IN A COMPACTED WEDGE SHAPE PAVEMENT EDGE OF APPROXIMATELY 30 DEGREES (NOT STEEPER THAN 40 DEGREES) AS DETAILED ON TYPICAL SECTION SHEET 3/90. ENSURE THE DEVICE MAINTAINS CONTACT WITH THE EXISTING SURFACE, AND ALLOW FOR AUTOMATIC TRANSITION TO CROSS ROADS, DRIVEWAYS AND OBSTRUCTIONS. DO NOT USE CONVENTIONAL SINGLE PLATE STRIKE OFF.

CONSTRUCTION OF SAFETY EDGE HAS BEEN OMITTED AT LOCATIONS WHERE PAVEMENT PLANING IS BEING PERFORMED. PLAN PREPARATION HAS MADE EVERY REASONABLE ATTEMPT TO IDENTIFY THE SAFETY EDGE LOCATIONS WITHIN THE PROJECT LIMITS.

USE THE TRANSTECH SHOULDER WEDGE MAKER, THE CARLSON SAFETY EDGE END GATE, THE ADVANT-EDGER, THE TROXLER SAFETSIOPE OR A SIMILAR APPROVED-EQUAL DEVICE THAT PRODUCES THE SAME WEDGE CONSOLIDATION RESULTS. CONTACT INFORMATION FOR THESE WEDGE SHAPE COMPACTION DEVICES IS THE FOLLOWING:

TRANSTECH SYSTEMS, INC.
1594 STATE STREET
SCHENECTADY, NY 12304
1-800-724-6306
WWW.TRANSTECHSYS.COM

ADVANT-EDGE PAVING EQUIPMENT LLC P.O. BOX 9163
NISKAYUNA, NY 12309-0163
518-280-6090
WWW.ADVANTEDGEPAVING.COM

CARLSON SAFETY EDGE END GATE
18425 501 AVENUE EAST
TACOMA, WA 98446
253-875-8000

TROXLER ELECTRONIC LABORATORIES, INC.
3008 E. CORNWALLIS RD.
RESEARCH TRIANGLE PARK, NC 27709
1-877-TROXLER
WWW.TROXLERLABS.COM

IF ELECTING TO USE A SIMILAR DEVICE, PROVIDE PROOF THAT THE DEVICE HAS BEEN USED ON PREVIOUS PROJECTS WITH ACCEPTABLE RESULTS OR CONSTRUCT A TEST SECTION PRIOR TO THE BEGINNING OF WORK AND DEMONSTRATE WEDGE COMPACTION TO THE SATISFACTION OF THE ENGINEER. SHORT SECTIONS OF HANDWORK WILL BE ALLOWED WHEN NECESSARY FOR TRANSITIONS AND TURNOUTS OR OTHERWISE AUTHORIZED BY THE ENGINEER.

IN ADDITION TO THE REQUIREMENTS OF 401.16, MAKE THE FIRST ROLLER PASS 8 TO 12 INCHES (200 TO 300 MM) AWAY FROM TAPERED EDGE. DO NOT ROLL THE TAPER.

FIRE HYDRANTS:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS AND FEES THAT ARE REQUIRED FOR THE USE OF ANY FIRE HYDRANTS. A SIAMESE VALVE IS TO BE USED ON THE HYDRANT OUTLET IF A HOSE IS TO BE LEFT CONNECTED AND UNATTENDED.

UNDERGROUND UTILITIES:

THE IDENTITY AND THE LOCATION OF SOME OF THE EXISTING UNDERGROUND FACILITIES KNOWN TO BE LOCATED IN THE CONSTRUCTION AREA HAVE BEEN IDENTIFIED. THE CONTRACTOR SHALL GIVE NOTICE OF INTENT TO CONSTRUCT TO THE OHIO UTILITIES PROTECTION SERVICE, PRODUCERS UNDERGROUND PROTECTION SERVICE, AND OWNERS OF UNDERGROUND FACILITIES THAT ARE NOT MEMBERS OF A REGISTERED PROTECTION SERVICE IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE. THE ABOVE, MENTIONED NOTICE SHALL BE GIVEN AT LEAST TWO WORKING DAYS PRIOR TO THE START OF CONSTRUCTION THE FOLLOWING UTILITIES ARE LOCATED WITHIN THE WORK LIMITS OF THE PROJECT AND THE OWNERS SUBSCRIBE TO REGISTERED UNDERGROUND PROTECTION SERVICE.

OHIO UTILITY PROTECTION SERVICE 1-800-362-2764
PRODUCERS UNDERGROUND PROTECTION SERVICE 1-614-587-0486
NON-MEMBERS MUST BE CALLED DIRECTLY.

UTILITIES OWNERSHIP:

LISTED ON SHEET BELOW ARE THE KNOWN UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS.

WIDE OPEN WEST	COLUMBIA GAS OF OHIO
3765 CORPORATE DR	3550 JOHNNY APPLESEED CT
COLUMBUS, OH 43231	COLUMBUS, OH 43231
614.948.4653	614.818.2107
SOUTH CENTRAL POWER	AEP(COLUMBUS SOUTHERN POWER)
2780 COONPATH RD	1 RIVERSIDE PLAZA
LANCASTER, OH 43130	COLUMBUS, OH 43215
740.689.6119	614.716.2531
FRANKLIN CTY ENGS	GROVE CITY - CITY OF
970 DUBLIN RD	4035 BROADWAY
COLUMBUS, OH 43215	GROVE CITY, OH 43123
614.525.3030	614.277.3000
MCI (VERIZON BUSINESS)	AT&T - OHIO
2400 NORTH GLENVILLE	111 NORTH FOURTH ST
RICHARDSON, TX 75082	COLUMBUS, OH 43215
	614.223.7162
ODOT TRAFFIC (DIST 6)	MARATHON PIPE LINE
400 EAST WILLIAM ST	539 SOUTH MAIN ST
DELAWARE, OH 43015	FINDLAY, OH 45840
740.833.8332	419.421.2211
PLEASANT TOWNSHIP	COLUMBUS DEPT OF UTILITIES
5373 NORTON ROAD	109 NORTH FRONT ST
GROVE CITY, OHIO 43123	COLUMBUS, OH 43215
614.877.4338	
TIME WARNER CABLE	
3760 INTERCHANGE DR	
COLUMBUS, OH 43204	
614.255.6349	

DRAINAGE AT INTERSECTING STREETS:

AT INTERSECTING STREETS WHERE THE DRAINAGE IS TOWARD OR INTO THE PROJECT, SPECIAL CARE SHALL BE TAKEN BY THE CONTRACTOR TO MAINTAIN PROPER GRADE ALONG THE EDGE OF PAVEMENT SO THAT WATER WILL NOT POND. AT INTERSECTING STREETS, WHERE THE EDGE OF PAVEMENT CONTINUES ACROSS THE STREET, CARE SHALL BE TAKEN TO FEATHER DOWN AND FORM A NEAT SEAM WITH THE PROPER GRADE.

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REVIEW OF DRAINAGE FACILITIES:

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE OF THE PROJECT BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, SHALL INSPECT ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED, AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER SHALL CORRECT ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS.

REVIEW OF DOWNTOWN BRICK CROSSWALK FACILITIES:

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE OF THE PROJECT BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL INSPECT ALL EXISTING BRICK CROSSWALKS IN THE DOWNTOWN AREA WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING BRICKS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL EXISTING BRICKS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER SHALL CORRECT ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS.

DRAIN PIPES:

AT ALL DRAIN PIPES LOCATED IN EXISTING CURB AND THAT DRAIN INTO THE GUTTER, SPECIAL CARE SHALL BE TAKEN BY THE CONTRACTOR SO THAT THESE DRAINS WILL NOT BE CLOSED OR OTHERWISE RENDERED INOPERATIVE. ANY DAMAGE DONE TO THE DRAIN PIPE WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL:

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN IN AASHTO M 180. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

GUARDRAIL POST HOLES:

ALL HOLES REMAINING AFTER REMOVAL OF GUARDRAIL POSTS SHALL BE FILLED WITH GRANULAR MATERIAL, EXCESS MATERIAL RESULTING FROM GUARDRAIL RECONSTRUCTION, OR EXCESS MATERIAL FROM BERM RESHAPING. FILL MATERIAL CONTAINING SOD SHALL NOT BE USED. ALL FILL MATERIAL SHALL BE APPROVED BY THE ENGINEER. MATERIAL PLACED IN HOLES SHALL BE THOROUGHLY COMPACTED AND LEVELED OFF AS DIRECTED BY THE ENGINEER. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPLICABLE GUARDRAIL ITEM.

ITEM 202 - GUARDRAIL REMOVED, AS PER PLAN:

IN ADDITION TO THE REQUIREMENTS OF ITEM 202 - GUARDRAIL REMOVED, THE CONTRACTOR SHALL REMOVE THE FOLLOWING GUARDRAIL ITEMS AT LOCATIONS SPECIFIED IN THIS PLAN. REMOVAL OF SPECIFIED GUARDRAIL SHALL INCLUDE BUT NOT BE LIMITED TO TERMINAL ASSEMBLIES, AND ANY ATTACHED POSTS, SIGNS AND DELINEATORS. THIS REMOVAL WILL INCLUDE ALL POSTS, ANCHORS AND HARDWARE UNDER GROUND WITH THE EXCEPTION OF ANY CONCRETE FOUNDATIONS. CONCRETE FOUNDATIONS SHALL BE REMOVED TO A MINIMUM OF 1 FOOT BELOW THE GRADE OF THE SURROUNDING AREA.

ALL HOLES AND VOIDS REMAINING AFTER REMOVAL OF GUARDRAIL ITEMS SHALL BE FILLED WITH GRANULAR MATERIAL. FILL MATERIAL CONTAINING SOD SHALL NOT BE USED. ALL FILL MATERIAL SHALL BE APPROVED BY THE ENGINEER. MATERIAL PLACED IN HOLES SHALL BE THOROUGHLY COMPACTED AND LEVELED OFF AS DIRECTED BY THE ENGINEER.

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE THE EXISTING GUARDRAIL, PREPARE THE SITE, AND INSTALL NEW GUARDRAIL IN A CONTINUOUS OPERATION. NO GUARDRAIL SHALL BE REMOVED UNTIL THE REPLACEMENT MATERIAL IS ON SITE, READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED UNTIL SUCH TIME AS THE ENGINEER IS ASSURED OF COMPLIANCE.

PAVEMENT FOR THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE PER FEET OF ITEM 202, GUARDRAIL REMOVED, AS PER PLAN.

ITEM 202 - CURB REMOVED, AS PER PLAN:

THIS ITEM SHALL BE USED AS DIRECTED BY THE PROJECT ENGINEER AT LOCATIONS SPECIFIED IN THE PLAN. THIS ITEM IS TO BE USED AS PREP WORK FOR THE CONSTRUCTION OF FULL HEIGHT CURB WHERE EXISTING DRIVEWAYS HAVE BEEN ABANDONED. THE CONTRACTOR SHALL PROVIDE ALL MATERIAL, LABOR, EQUIPMENT, AND HARDWARE NECESSARY TO REMOVE THE EXISTING CURB BELOW ASPHALT SUBGRADE.

ITEM 203 - EMBANKMENT:

A QUANTITY OF ITEM 203 - EMBANKMENT HAS BEEN PROVIDED TO BUILD UP FORE-SLOPES WHERE NECESSARY IN ORDER TO INSTALL GUARDRAIL. THE CONTRACTOR SHALL BE PREPARED TO USE EMBANKMENT AT ALL THE LOCATIONS WITHIN THIS PLAN. THIS ITEM SHALL BE DIRECTED BY THE ENGINEER. THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY FOR THIS PURPOSE.

ITEM 203 - EMBANKMENT =180 CU YD

ITEM 209 - PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN:

PREPARE THE SHOULDER FOR PAVING A CONSISTENT SAFETY EDGE IN BOTH THICKNESS AND WIDTH.

PRIOR TO PAVING THE SAFETY EDGE, GRADE AN AREA 10 INCHES WIDE, BEGINNING AT THE EDGE OF THE PAVED ROADWAY, TO PROVIDE A LEVEL SURFACE FREE OF VEGETATION (AS DETAILED ON TYPICAL SECTION SHEET 3/90. IF NECESSARY, EXCAVATE THE GRADED AREA TO THE DEPTH NECESSARY TO CONSTRUCT THE SAFETY EDGE. COMPACT THE GRADED SHOULDER ACCORDING TO 617.05, OR AS DIRECTED BY THE ENGINEER.

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN:

ALL REPAIR AREAS WILL BE IDENTIFIED AND MARKED OUT BY THE PROJECT ENGINEER. THE REPAIR AREAS SHALL BE OF VARYING LENGTH AND THE AVERAGE WIDTH SHALL NOT BE LESS THAN 3 FEET. THE AVERAGE DEPTH OF EACH REPAIR SHALL BE 4 INCHES. ALL AREAS SHALL BE REFILLED WITH AN EQUAL AMOUNT OF ITEM 301 - ASPHALT CONCRETE BASE. FOR MORE INFORMATION SEE DETAIL ON SHEET 5/90. NO MORE PARTIAL PAVEMENT REPAIR, AS PER PLAN SHALL BE STARTED AND PERFORMED THAN CAN BE COMPLETED IN THE SAME WORKING DAY.

REPAIRS OUTSIDE GROVE CITY LIMITS:	144	SQ YD
REPAIRS INSIDE GROVE CITY LIMITS:	56	SQ YD
TOTAL	200	SQ YD

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN
= 200 SQ YD

ITEM 253 - PAVEMENT REPAIR:

THIS ITEM SHALL BE USED AS DIRECTED BY THE CITY ENGINEER/ODOT PROJECT ENGINEER. THESE PAVEMENT REPAIRS SHALL CONSIST OF REMOVING THE EXISTING PAVEMENT TO A DEPTH OF 13" (9" CONCRETE AND APPROXIMATELY 4" ASPHALT). THE PERIMETER OF THE REPAIR AREA SHALL BE SAWED FULL DEPTH WITH A DIAMOND SAW BLADE. THE FULL DEPTH PAVEMENT REPAIR AREA SHALL BE FILLED WITH AN EQUAL AMOUNT OF ITEM 301 - ASPHALT CONCRETE BASE. FOR MORE INFORMATION SEE DETAIL ON SHEET 5/90. TACK COAT SHALL BE APPLIED TO ALL VERTICAL SURFACES AT A RATE OF 0.075 PER SQ YD PRIOR TO THE PLACING ITEM 301 - ASPHALT CONCRETE BASE. ALL PAVEMENT REPAIRS SHALL BE PERFORMED PRIOR TO MILLING. NO MORE PAVEMENT REPAIR SHALL BE STARTED THAN CAN BE COMPLETED IN THE SAME WORKING DAY.

THE SPECIFIC LOCATIONS OF THE FOLLOWING REPAIRS CAN BE FOUND ON SHEETS 63-71:

STATION	LENGTH	WIDTH	AVG DEPTH	VOLUME	UNIT
318+69.32	80'	5'	13"	16.05	CU YD
320+19.94	160'	5'	13"	32.10	CU YD
322+84.52	220'	5'	13"	44.14	CU YD
350+20.34	25'	10'	13"	10.03	CU YD
355+37.89	100'	10'	13"	40.12	CU YD
359+40.00	10'	25'	13"	10.03	CU YD
370+00.00	80'	5'	13"	16.05	CU YD
379+67.66	50'	15'	13"	30.09	CU YD
382+48.15	40'	5'	13"	8.02	CU YD
384+87.50	25'	5'	13"	5.02	CU YD
387+44.25	40'	5'	13"	8.02	CU YD
390+99.24	120'	5'	13"	24.07	CU YD
395+12.03	140'	5'	13"	28.09	CU YD
387+92.40	40'	10'	13"	16.05	CU YD
TOTAL				287.88	CU YD

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
= 287.88 CU YD

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ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE:
THE CONTRACTOR SHALL BE TOTALLY RESPONSIBLE FOR ANY AND ALL DAMAGE TO THE CONTRACTORS EQUIPMENT THAT MAY RESULT FROM THE PLANING OPERATION, INCLUDING DAMAGE CAUSED BY CASTINGS AND LOOP DETECTORS. THE DEPTH OF PLANING CLOSE TO THE CASTINGS SHALL BE AS DIRECTED; TO ACHIEVE A SMOOTH RIDING FINISHED PAVEMENT. GREAT CARE SHALL BE TAKEN TO PREVENT THE REMOVAL OF THE EXISTING PAVEMENT CROSS-SLOPE (CROWN) DURING THE PLANING OPERATIONS.

ALL PLANED PAVEMENT BETWEEN SLM 5.63 (ENTER GROVE CITY) AND SLM 8.54 (END PROJECT) SHALL BE PLANED AND RESURFACED WITHIN THE SAME WORK PERIOD.

ITEM 407 - TACK COAT:
ITEM 407 - TACK COAT, TRACKLESS TACK, SURFACE COURSE:
THE RATE OF APPLICATION OF ITEM 407 - TACK COAT AND ITEM 407 - TACK COAT, TRACKLESS TACK, SURFACE COURSE SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. FOR ESTIMATING PURPOSES ONLY, THE PLAN INDICATES AN AVERAGE APPLICATION RATE OF BOTH TACK COATS AT 0.075 GALLON PER SQUARE YARD. A COVER AGGREGATE SHALL BE USED IF HEAVY TRACKING OF THE TACK COAT ON TO THE EXISTING PAVEMENT SHOULD OCCUR DURING THE PAVING OPERATIONS. THE COST OF THE COVER AGGREGATE SHALL BE INCLUDED IN THE COST OF THIS ITEM.

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446), AS PER PLAN:
ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446), AS PER PLAN MIX SHALL REQUIRE A PG76-22M BINDER.

ITEM 604 - CATCH BASIN ADJUSTED TO GRADE:
THIS ITEM IS A CONTINGENCY QUANTITY TO BE USED AS DIRECTED BY THE PROJECT ENGINEER AT VARIOUS LOCATIONS AND PROVIDE ALL MATERIAL, LABOR, EQUIPMENT, AND HARDWARE NECESSARY TO ADJUST TO GRADE THE EXISTING CATCH BASIN TO THE PROPOSED ASPHALT ELEVATION. THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL CARRIED TO THE GENERAL SUMMARY.

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 604 - CATCH BASIN ADJUSTED TO GRADE = 2 EACH

ITEM 604 - CATCH BASIN RECONSTRUCTED TO GRADE:
THIS ITEM IS A CONTINGENCY QUANTITY TO BE USED AS DIRECTED BY THE PROJECT ENGINEER AT VARIOUS LOCATIONS AND PROVIDE ALL MATERIAL, LABOR, EQUIPMENT, AND HARDWARE NECESSARY TO RECONSTRUCT TO GRADE THE EXISTING CATCH BASIN TO THE PROPOSED ASPHALT ELEVATION. THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL CARRIED TO THE GENERAL SUMMARY.

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 604 - CATCH BASIN RECONSTRUCTED TO GRADE = 2 EACH

ITEM 604 - INLET ADJUSTED TO GRADE:
THIS ITEM IS A CONTINGENCY QUANTITY TO BE USED AS DIRECTED BY THE PROJECT ENGINEER AT VARIOUS LOCATIONS AND PROVIDE ALL MATERIAL, LABOR, EQUIPMENT, AND HARDWARE NECESSARY TO ADJUST TO GRADE THE EXISTING INLET TO THE PROPOSED ASPHALT ELEVATION. THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL CARRIED TO THE GENERAL SUMMARY.

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 604 - INLET ADJUSTED TO GRADE = 2 EACH

ITEM 604 - INLET RECONSTRUCTED TO GRADE:
THIS ITEM IS A CONTINGENCY QUANTITY TO BE USED AS DIRECTED BY THE PROJECT ENGINEER AT VARIOUS LOCATIONS AND PROVIDE ALL MATERIAL, LABOR, EQUIPMENT, AND HARDWARE NECESSARY TO RECONSTRUCT TO GRADE THE EXISTING INLET TO THE PROPOSED ASPHALT ELEVATION. THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL CARRIED TO THE GENERAL SUMMARY.

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 604 - INLET RECONSTRUCTED TO GRADE = 2 EACH

ITEM 604 - MANHOLE ADJUSTED TO GRADE:
THE CASTING TOPS OF MANHOLES, VALVE BOXES, AND OTHER STRUCTURES OWNED BY PUBLIC SERVICE CORPORATIONS WILL BE ADJUSTED TO GRADE BY THEIR RESPECTIVE OWNERS. THE WORK MAY BE DONE PRIOR TO THE CONSTRUCTION OF THE SURFACE COURSE. THE CONTRACTOR SHALL NOTIFY SUCH PUBLIC SERVICE CORPORATIONS AT LEAST ONE WEEK IN ADVANCE OF WORK OPERATIONS SO THAT WORK MAY BE PROPERLY SCHEDULED. ANY ADDITIONAL CASTINGS IDENTIFIED DURING THE VARIOUS CONSTRUCTION OPERATIONS BY THE PROJECT ENGINEER AND/OR CONTRACTOR SHALL BE RAISED BY THE CONTRACTOR AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THAT RESPECTIVE ITEM.

THIS ITEM IS A CONTINGENCY QUANTITY TO BE USED AS DIRECTED BY THE PROJECT ENGINEER AT VARIOUS LOCATIONS. ANY ADDITIONAL COST FOR ALL MATERIAL, LABOR, EQUIPMENT, AND HARDWARE NECESSARY TO ADJUST TO GRADE THE EXISTING MANHOLE TO THE PROPOSED ASPHALT ELEVATION AND PLACE AN ONE FOOT CONCRETE COLLAR AROUND THE EXISTING MANHOLE.

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 604 - MANHOLE ADJUSTED TO GRADE = 2 EACH

ITEM 604 - MANHOLE RECONSTRUCTED TO GRADE:
THIS ITEM IS A CONTINGENCY QUANTITY TO BE USED AS DIRECTED BY THE PROJECT ENGINEER AT VARIOUS LOCATIONS AND PROVIDE ALL MATERIAL, LABOR, EQUIPMENT, AND HARDWARE NECESSARY TO RECONSTRUCT TO GRADE THE EXISTING MANHOLE TO THE PROPOSED ASPHALT ELEVATION. THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL CARRIED TO THE GENERAL SUMMARY.

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 604 - MANHOLE RECONSTRUCTED TO GRADE = 2 EACH

ITEM 606 - GUARDRAIL, MISC.: ALTERNATIVE GUARDRAIL PLACEMENT:
THIS ITEM SHALL BE USED WHEN THE CONTRACTOR IS REQUIRED TO USE AN ALTERNATE METHOD TO SET POSTS TO PREVENT DAMAGE TO AN UNDERGROUND OBSTACLE, SUCH AS A UTILITY. THE USE OF THIS ITEM WILL BE AS DEEMED NECESSARY BY THE ENGINEER. THIS ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIAL NEEDED TO SET AND BACKFILL POSTS WHILE MEETING THE REQUIREMENTS OF THE APPLICABLE GUARDRAIL ITEM BEING PERFORMED. APPLICABLE GUARDRAIL ITEMS INCLUDE BUT ARE NOT LIMITED TO SETTING POSTS (AND SLEEVES) FOR TYPE 5, BARRIER DESIGN, ANCHOR ASSEMBLIES, AND BRIDGE TERMINAL ASSEMBLIES. PAYMENT SHALL BE AT THE UNIT BID PRICE OF EACH AND SHALL BE PAID FOR IN ADDITION TO THE APPLICABLE GUARDRAIL PLACEMENT ITEM LISTED ABOVE.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED:
ITEM 606 - GUARDRAIL, MISC.: ALTERNATIVE GUARDRAIL PLACEMENT: = 50 FT

ITEM 606 - CURVED RAIL ELEMENTS:
ALL RADII OF CURVED RAIL ARE ESTIMATED AND ACTUAL RADII OF PROPOSED RAIL SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING. LENGTH OF CURVED RAIL ELEMENTS, WHERE CALLED FOR IN A RUN, SHALL BE INCLUDED IN THE TOTAL LENGTH OF RUN SHOWN IN THE GUARDRAIL COLUMN AND THE CURVED RAIL ELEMENT TOTAL ARE INCLUDED WITH THE GUARDRAIL TOTALS ON THE GENERAL SUMMARY SHEET.

ITEM 606 - ANCHOR ASSEMBLY, TYPE B:
THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27.75 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

THE FACE OF THE TYPE B IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE B, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E:
THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27.75 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 609 - CURB, MISC. (VARIOUS TYPES OF CURBS) :
THIS ITEM IS TO BE USED TO CONSTRUCT A FULL HEIGHT CURB AT LOCATIONS SPECIFIED IN THESE PLANS WHERE EXISTING DRIVEWAYS HAVE BEEN ABANDONED.

THIS ITEM SHALL INCLUDE THE COST OF FURNISHING ALL MATERIALS, GRADING, FORMING AND FINISHING OF THE CURB TO MATCH THE EXISTING CURB ON EITHER SIDE OF THE ABANDONED DRIVE.

ITEM 617 - WATER:
THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 617 - WATER = 2 MGAL

ITEM 620 - DELINEATOR, POST MOUNTED:
TYPE C DELINEATORS SHALL BE INSTALLED ON A FLEXIBLE POST AT THE HEAD OF ALL ANCHOR ASSEMBLY, TYPE E UNITS LOCATED ON THE RIGHT SIDE OF THE THROUGH ROADWAY. DELINEATORS SHALL COMPLY WITH STANDARD CONSTRUCTION DRAWING TC-61.10 AND CMS 620.

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 620 - DELINEATOR, POST MOUNTED = 8 EACH

ITEM 626 - BARRIER REFLECTOR:
AN ESTIMATED QUANTITY OF TYPE A2 BARRIER REFLECTORS HAVE BEEN PROVIDED FOR LOCATIONS THAT ARE RECEIVING NEW GUARDRAIL.

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 626 - BARRIER REFLECTOR = 180 EACH

ITEM 632, POWER SERVICE:
THE PROPOSED POWER SERVICE DROP SHALL BE AT THE APPROXIMATE LOCATION INDICATED ON THE PLANS.

THE ADDRESSES ARE:
FRA US-62 AT I-71 RAMPS "A" & "C"
7004 HARRISBURG PIKE (US-62/SR-3), ORIENT, OH 43146.

FRA US-62 AT SR-665
6009 HARRISBURG PIKE (US-62/SR-3), GROVE CITY, OH 43123.

FRA US-62 AT I-270 RAMP "L"
3020 HARRISBURG PIKE (US-62/SR-3), URBANCREST, JACKSON TOWNSHIP, OHIO 43123.

THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE POWER COMPANY MAY REQUIRE FOR THE POWER SERVICE HOOK UP. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE POWER COMPANY FOR THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE POWER CABLE INTO THE POWER COMPANY'S CIRCUITS. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120 VOLTS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND THE PAYING OF ALL FEES. THE TRAFFIC SIGNALS POWER CHARGES ARE CURRENTLY PAID BY ODOT AND SHALL REMAIN IN ODOT'S NAME.

ITEM 632, REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN:
IN ADDITION TO 632.26, THE CONTRACTOR SHALL REMOVE AND STORE ON SITE FOR PICK UP: CONTROLLER AND CABINET ALONG WITH ALL CONTENTS INSIDE THE CABINET. CONTACT THE ODOT D6 TRAFFIC ENGINEER AT 740-833-8198 FOR PICK UP. IN THE EVENT THAT THE ITEMS ARE DEEMED UNSALVAGABLE BY THE ODOT D6 TRAFFIC ENGINEER, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROPERLY DISPOSE OF THE ITEMS. ALL ITEMS NOT DESIGNATED FOR SALVAGE SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR SUCH AS VEHICULAR SIGNAL HEADS, ALL LOOP LEAD-IN CABLE OVERHEAD AND UNDERGROUND, MESSENGER WIRE, SIGNAL CABLE, LASHING RODS, AND POWER SERVICES. INCIDENTAL TO THIS ITEM IS THE INSTALLATION OF PULL WIRES IN ANY EMPTY CONDUITS BETWEEN ALL SPLICE POINTS AND LABELING THEM AS SUCH.

ITEM 633 - CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS2, AS PER PLAN:
THE ELECTRICAL TRAFFIC CONTROL EQUIPMENT PROVIDED SHALL MEET THE FOLLOWING SPECIFICATIONS AND BE MANUFACTURED BY EAGLE TRAFFIC CONTROL SYSTEMS. THE EQUIPMENT PROVIDED AS PART OF THIS CONTRACT SHALL BE THE LATEST MODEL, CURRENTLY UNDER PRODUCTION AND NEW. THE CONTROLLER CABINET AND ACCESSORIES SHALL MEET THE NEMA TS-2, 1992 STANDARD FOR ACTUATED CONTROLLER UNITS. THE CATALOG NUMBER FOR THE GROUND MOUNTED P CABINET SHALL BE EL 712 OR NEWER. THE CABINET SHALL BE ALUMINUM WITH THE NATURAL ALUMINUM FINISH INSIDE AND OUTSIDE. THE LOAD BAY SHALL BE THE TF5016 OR NEWER, WITH 16 LOAD SWITCH POSITIONS. PROVIDE ONLY THE EXACT NUMBER OF LOAD SWITCHES REQUIRED. EACH LOAD SWITCH SHALL HAVE LIGHT EMITTING DIODES (LEDS) FOR THE CONTROLLER OUTPUT AND LOAD SWITCH OUTPUT. ALSO PROVIDE 8 FLASH RELAY POSITIONS (BUT ONLY SUPPLY THE EXACT NUMBER OF RELAYS NEEDED FOR EACH SPECIFIC INTERSECTION), 1 NEMA 2-CIRCUIT FLASHER, AND AN MMU MONITOR. EACH CABINET SHALL COME EQUIPPED WITH A CABINET DETECTOR RACK (CDR) INCLUDING A BUS INTERFACE UNIT (BIU) AND THE EXACT NUMBER OF FOUR CHANNEL DETECTOR CARDS WITH SOFTWARE REQUIRED FOR EACH INTERSECTION. THE CABINET SHALL BE EQUIPPED WITH A CABINET POWER SUPPLY (CPS). THE POLICE PANEL ON THE INSIDE OF THE CABINET DOOR SHALL HAVE A FLASH SWITCH AND A SWITCH FOR AUTOMATIC OR MANUAL OPERATION. A CABINET DOOR OPEN SWITCH AND A CABINET LIGHT ON / OFF SWITCH SHALL ALSO BE SUPPLIED. THE CONTROLLER CABINET SHALL HAVE A SLIDE OUT LAPTOP SHELF AND HAVE INTERIOR UNDERSHELF LED CABINET LIGHTING.

CONTROLLER CABINET LABELING TO IDENTIFY THE WIRING AND FUNCTION LOOP DETECTOR LEAD-IN CABLE PHASE NUMBER SERVICE, DIRECTION, MOVEMENT TYPE, AND LOOP PLAN NUMBER. SIGNAL HEAD FIELD WIRING PHASE NUMBER, DIRECTION, MOVEMENT TYPE, AND COLOR (RED, YELLOW, GREEN, YELLOW ARROW, GREEN ARROW) OR PEDESTRIAN MOVEMENT. THE CONTROLLER TIMER SHALL BE THE GENESIS, EPAC3##M52 (OR MOST CURRENT MODEL) NEMA TS-2 TYPE 2 AND COME EQUIPPED WITH ALL INTERNAL COMPONENTS TO MAKE IT FULLY SYSTEM READY FOR THE ACTRA (OR LATEST) SYSTEM, INCLUDING THE INTERNAL MODEM. EACH CONTROLLER TIMER SHALL HAVE 6 MODES OF COORDINATION, ADAPTIVE TRAFFIC CONTROL, REPORTS, PREEMPTION / PRIORITY, DIAGNOSTICS AND INTERNAL TIME BASE CONTROL. THE CONTROLLER SHALL HAVE THE "PORT 3 MODULE" AND AN ETHERNET PORT.

EACH CONDUIT ENTRANCE TO THE CABINET SHALL BE SEALED WITH A RUBBER PIPE/CONDUIT SEAL GASKET. THE SEAL SHALL BE OF A MATERIAL AND TYPE TIGHTLY FITTING AND ABLE TO SEAL OUT WATER, INSECTS, RODENTS, AND DIRT. THE SEAL SHALL BE EASILY REMOVED FOR SERVICE INSTALLATIONS OR CABLE REPLACEMENTS.

THE CABINET SHALL BE POLE MOUNTED.

PAYMENT FOR ITEM 633 - CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS2, AS PER PLAN, WILL BE AT THE CONTRACT BID PRICE COMPLETE AND IN PLACE AND CONNECTIONS TESTED AND ACCEPTED.

ITEM 633 - ADVANCE/DILEMMA ZONE DETECTION SYSTEM:
THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A ADVANCE/DILEMMA ZONE DETECTION UNIT CAPABLE OF INTERSECTION ADVANCE DETECTION CONTROL UTILIZING ABOVE GROUND DIGITAL WAVE RADAR TECHNIQUES. THE UNIT SHALL BE NON-INTRUSIVE AND SHALL DETECT VEHICLES FROM 50 FT. (15.2 M) UP TO 500 FT. (152.4 M) FROM THE UNIT. THE UNIT SHALL PROVIDE UP TO 8 DETECTION ZONES SIMULTANEOUSLY FOR INTERSECTION CONTROL. ONE UNIT SHALL BE PROVIDED PER APPROACH, WHERE SPECIFIED IN THE PLANS, COVERING MULTIPLE LANES WHERE ADVANCE DETECTION IS REQUIRED. THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING LIST OF FEATURES AND CAPABILITIES:

- THE UNIT SHALL PROVIDE ACCURATE PRESENCE-DETECTION OF BOTH STOPPED AND MOVING VEHICLES. THE UNIT SHALL BE MOUNTED IN A FORWARD-FIRE, LOOKING AT EITHER APPROACHING OR DEPARTING TRAFFIC AND SHALL ONLY DETECT VEHICLES IN ONE DIRECTION OF TRAVEL.
- THE UNIT SHALL BE TESTED TO MEET NEMA TS2 ENVIRONMENTAL STANDARDS AND MAINTAIN ACCURATE PERFORMANCE IN THE FOLLOWING OPERATING CONDITIONS:
 - RAIN UP TO 4 IN. (10.2 CM) PER HOUR
 - FREEZING RAIN
 - SNOW
 - WIND
 - DUST
 - FOG
 - CHANGING TEMPERATURE
 - CHANGING LIGHTING
- THE RADAR DESIGN FOR EACH UNIT SHALL CONFORM TO THE FOLLOWING:
 - OPERATING FREQUENCY: 10.5-10.55 GHZ (X-BAND)
 - MATRIX OF A MINIMUM OF 16 RADARS
 - NO MANUAL TUNING TO CIRCUITRY
 - TRANSMITS MODULATED SIGNALS GENERATED DIGITALLY
 - NO TEMPERATURE-BASED COMPENSATION NECESSARY
 - BANDWIDTH STABLE WITHIN 1%
 - PRINTED CIRCUIT BOARD ANTENNAS
 - ANTENNA VERTICAL 6 DB BEAM WIDTH (TWO-WAY PATTERN): 80 DEGREES
 - ANTENNA HORIZONTAL 6 DB BEAM WIDTH (TWO-WAY PATTERN): 10.5 DEGREES
 - ANTENNA TWO-WAY SIDELOBES: -40 DB
 - TRANSMIT BANDWIDTH: 45 MHZ
 - UN-WINDOWED RESOLUTION: 11 FT. (3.4 M)
 - RF CHANNELS: 4
- THE UNIT SHALL INCLUDE A SIMPLE SETUP ROUTINE THAT SHALL AUTOMATICALLY CONFIGURE AND CALIBRATE THE UNIT FOR PROPER OPERATION DURING INSTALLATION. THE UNIT SHALL ALSO BE CAPABLE OF BEING PROGRAMMED AND UPDATED FROM A LAPTOP COMPUTER OR OTHER PORTABLE PROGRAMMING DEVICE, SUCH AS A POCKET PC, VIA A LOCAL OR REMOTE ETHERNET CONNECTION USING VENDOR SUPPLIED SOFTWARE. THE SOFTWARE SHALL SUPPORT TCP/IP CONNECTIVITY, UNIT CONFIGURATION BACK-UP AND RESTORE, AND VIRTUAL SENSOR CONNECTIONS. THE GRAPHICAL USER INTERFACE SHALL OPERATE ON A WINDOWS PLATFORM.
- THE UNIT SHALL HAVE ONE FULL-DUPLEX RS2-232 AND ONE HALF-DUPLEX RS-485 COMMUNICATION PORTS AND SHALL HAVE THE ABILITY TO UPGRADE FIRMWARE OVER ANY COMMUNICATION PORT.
- THE UNIT SHALL BE CAPABLE OF ETHERNET COMMUNICATION.

- THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.
- SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER, SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.
- POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET. THE UNIT SHALL CONSUME LESS THAN 10 WATTS AND OPERATE FROM A DC INPUT BETWEEN 9 VDC AND 28 VDC. COMPLETE AND AUTOMATIC RECOVERY FROM A POWER FAILURE SHALL BE WITHIN 15 SECONDS AFTER RESUMPTION OF NORMAL POWER.
- ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.
- THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION, AND MAINTENANCE OF THE UNIT.
- THE UNIT SHALL COME WITH A 2-YEAR MANUFACTURER SUPPLIED WARRANTY.
- PRIOR TO PROGRAMMING, THE CONTRACTOR SHALL CONTACT THE ODOT DISTRICT 6 DISTRICT TRAFFIC ENGINEER AT 740-833-8198. A DISTRICT 6 TRAFFIC DEPARTMENT REPRESENTATIVE SHALL BE PRESENT DURING THE PROGRAMMING OF THE SYSTEM.

PAYMENT FOR ITEM 633 ADVANCE/DILEMMA ZONE DETECTION SYSTEM SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT, CONNECTIONS TESTED AND ACCEPTED, AND ANY OTHER NECESSARY HARDWARE TO ESTABLISH A FULLY FUNCTIONAL DETECTION SYSTEM. INCIDENTAL WORK INCLUDES UNLASHING/RELASHING OF THE MESSENGER WIRE. THE CONTRACTOR SHALL REMOVE EXISTING MESSENGER WIRE LASHING RODS AND REINSTALL THEM AS NECESSARY FOR THE INSTALLATION OF ANY NEW CABLES ON THE EXISTING INTERSECTION SIGNAL SPANS. THE CABLES SHALL ENTER THE EXISTING STRAIN POLE THROUGH THE POLE CABLE ENTRANCE FITTING AND USE THE EXISTING CONDUIT SYSTEM TO GET TO THE CONTROLLER CABINET. THE NEW CABLES SHALL BE SUPPORTED BY A NEW CABLE SUPPORT ASSEMBLY AT THE TOP OF THE STRAIN POLE.

ITEM 633 - STOP BAR DETECTION RADAR:

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING STOP BAR DETECTION UNIT CAPABLE OF INTERSECTION DETECTION CONTROL UTILIZING ABOVE GROUND DIGITAL WAVE RADAR TECHNIQUES. THE UNIT SHALL BE NON-INTRUSIVE AND SHALL DETECT VEHICLES FROM 6 FT. (1.8 M) UP TO 140 FT. (42.7 M) FOR A 90 DEGREE FIELD OF VIEW FROM THE UNIT. THE UNIT SHALL PROVIDE REAL-TIME PRESENCE DATA FOR AT LEAST 10 LANES. THE UNIT SHALL PROVIDE AT LEAST SIXTEEN DETECTION ZONES SIMULTANEOUSLY FOR INTERSECTION CONTROL. ONE UNIT SHALL BE PROVIDED PER APPROACH, WHERE SPECIFIED IN THE PLANS, COVERING MULTIPLE LANES WHERE STOP BAR DETECTION IS REQUIRED. THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING LIST OF FEATURES AND CAPABILITIES:

- THE UNIT SHALL PROVIDE ACCURATE PRESENCE-DETECTION OF BOTH MOVING AND STOPPED VEHICLES. THE UNIT SHALL BE MOUNTED IN A FORWARD-FIRE OR SIDE-FIRE POSITION, LOOKING AT EITHER APPROACHING OR DEPARTING TRAFFIC AND SHALL ONLY DETECT VEHICLES IN ONE DIRECTION OF TRAVEL.

- THE UNIT SHALL BE TESTED TO MEET NEMA TS2 ENVIRONMENTAL STANDARDS AND MAINTAIN ACCURATE PERFORMANCE IN THE FOLLOWING OPERATING CONDITIONS:
 - RAIN UP TO 1 IN. (2.5 CM) PER HOUR
 - FREEZING RAIN
 - SNOW
 - WIND
 - DUST
 - FOG
 - CHANGING TEMPERATURE
 - CHANGING LIGHTING
- THE RADAR DESIGN FOR EACH UNIT SHALL CONFORM TO THE FOLLOWING:
 - OPERATING FREQUENCY: 24.0-24.25 GHZ (K-BAND)
 - MATRIX OF 16 RADARS
 - NO MANUAL TUNING TO CIRCUITRY
 - TRANSMITS MODULATED SIGNALS GENERATED DIGITALLY
 - NO TEMPERATURE-BASED COMPENSATION NECESSARY
 - BANDWIDTH STABLE WITHIN 1%
 - PRINTED CIRCUIT BOARD ANTENNAS
 - ANTENNA VERTICAL 6 DB BEAM WIDTH (TWO-WAY PATTERN): 65 DEGREES
 - HORIZONTAL FIELD OF VIEW: 90 DEGREES
 - ANTENNA TWO-WAY SIDELOBES: -40 DB
 - TRANSMIT BANDWIDTH: 245 MHZ
 - UN-WINDOWED RESOLUTION: 2 FT. (0.6 M)
 - RF CHANNELS: 8
 - SELF-TEST FOR VERIFYING HARDWARE FUNCTIONALITY
 - DIAGNOSTICS MODE FOR VERIFYING SYSTEM FUNCTIONALITY
- THE UNIT SHALL INCLUDE A SIMPLE SETUP ROUTINE THAT SHALL AUTOMATICALLY CONFIGURE AND CALIBRATE THE UNIT FOR PROPER OPERATION DURING INSTALLATION. THE UNIT SHALL ALSO BE CAPABLE OF BEING PROGRAMMED AND UPDATED FROM A LAPTOP COMPUTER OR OTHER PORTABLE PROGRAMMING DEVICE, SUCH AS A POCKET PC, VIA A LOCAL OR REMOTE ETHERNET CONNECTION USING VENDOR SUPPLIED SOFTWARE. THE SOFTWARE SHALL SUPPORT TCP/IP CONNECTIVITY, UNIT CONFIGURATION BACK-UP AND RESTORE, AND REAL-TIME TRAFFIC VISUALIZATION FOR PERFORMANCE VERIFICATION AND TRAFFIC DISPLAY. THE GRAPHICAL USER INTERFACE SHALL OPERATE ON A WINDOWS PLATFORM.
- THE UNIT SHALL HAVE TWO HALF-DUPLEX RS-485 COMMUNICATION PORTS AND SHALL HAVE THE ABILITY TO UPGRADE FIRMWARE OVER ANY COMMUNICATION PORT.
- THE UNIT SHALL BE CAPABLE OF ETHERNET COMMUNICATION.
- THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.
- SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER, SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.
- POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET. THE UNIT SHALL CONSUME LESS THAN 10 WATTS AND OPERATE FROM A DC INPUT BETWEEN 9 VDC AND 28 VDC. COMPLETE AND AUTOMATIC RECOVERY FROM A POWER FAILURE SHALL BE WITHIN 15 SECONDS AFTER RESUMPTION OF NORMAL POWER.

- ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.
- THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION, AND MAINTENANCE OF THE UNIT.
- THE UNIT SHALL COME WITH A 2-YEAR MANUFACTURER SUPPLIED WARRANTY.
- PRIOR TO PROGRAMMING, THE CONTRACTOR SHALL CONTACT THE ODOT DISTRICT 6 DISTRICT TRAFFIC ENGINEER AT 740-833-8198. A DISTRICT 6 TRAFFIC DEPARTMENT REPRESENTATIVE SHALL BE PRESENT DURING THE PROGRAMMING OF THE SYSTEM.

PAYMENT FOR ITEM 633 STOP BAR DETECTION RADAR SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT, AND CONNECTIONS TESTED AND ACCEPTED. INCIDENTAL WORK INCLUDES UNLASHING/RELASHING OF THE MESSENGER WIRE. THE CONTRACTOR SHALL REMOVE EXISTING MESSENGER WIRE LASHING RODS AND REINSTALL THEM AS NECESSARY FOR THE INSTALLATION OF ANY NEW CABLES ON THE EXISTING INTERSECTION SIGNAL SPANS. THE CABLES SHALL ENTER THE EXISTING STRAIN POLE THROUGH THE POLE CABLE ENTRANCE FITTING AND USE THE EXISTING CONDUIT SYSTEM TO GET TO THE CONTROLLER CABINET. THE NEW CABLES SHALL BE SUPPORTED BY A NEW CABLE SUPPORT ASSEMBLY AT THE TOP OF THE STRAIN POLE.

ITEM 633, CONTROLLER ITEM, MISC.: REUSE UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT:

IN ADDITION TO 633.18 AND 733.09, IT IS INTENDED THAT THE EXISTING UPS AT THE EXISTING CONTROLLER CABINET SHALL BE REUSED FOR THE COMPLETED INSTALLATION. THIS ITEM INCLUDES REWIRING ALL COMPONENTS BETWEEN THE CABINET AND UPS SO THAT IT IS FULLY FUNCTIONAL. IN THE EVENT THE CONTRACTOR DAMAGES THE UPS DURING THE COURSE OF CONSTRUCTION OR REUSE OF THE UPS, THE CONTRACTOR SHALL REPLACE THE UPS AT THE CONTRACTOR'S EXPENSE.

BATTERIES SHALL BE REPLACED WITH FRESH UNITS AT THE COMPLETION OF ALL TRAFFIC SIGNAL WORK. THE EXISTING BATTERIES SHALL BE DISPOSED OF BY THE CONTRACTOR.

PAYMENT SHALL BE MADE AT THE LUMP SUM PRICE BID, COMPLETE AND IN PLACE, ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM 633, CONTROLLER ITEM, MISC.: REUSE OF SPREAD SPECTRUM RADIO:

IT IS INTENDED THAT THE EXISTING SPREAD SPECTRUM RADIO, ALL ASSOCIATED ATTACHMENTS, AND HARDWARE AT THE EXISTING CONTROLLER CABINET SHALL BE REUSED FOR THE COMPLETED INSTALLATION. THIS ITEM INCLUDES REWIRING ALL COMPONENTS BETWEEN THE ANTENNA AND THE RADIO SO THAT IT IS FULLY FUNCTIONAL. IN THE EVENT THE CONTRACTOR DAMAGES THE SPREAD SPECTRUM RADIO OR ANY OF ITS COMPONENTS DURING THE COURSE OF CONSTRUCTION OR REUSE OF THE SPREAD SPECTRUM RADIO, THE CONTRACTOR SHALL REPLACE THE SPREAD SPECTRUM RADIO AT THE CONTRACTOR'S EXPENSE.

PAYMENT SHALL BE MADE AT THE LUMP SUM PRICE BID, COMPLETE AND IN PLACE, ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM 638 - VALVE BOX ADJUSTED TO GRADE:

THIS ITEM IS A CONTINGENCY QUANTITY TO BE USED AS DIRECTED BY THE PROJECT ENGINEER AT VARIOUS LOCATIONS AND PROVIDE ALL MATERIAL, LABOR, EQUIPMENT, AND HARDWARE NECESSARY TO ADJUST TO GRADE THE EXISTING CATCH BASIN TO THE PROPOSED ASPHALT ELEVATION. THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL CARRIED TO THE GENERAL SUMMARY.

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 638 - VALVE BOX ADJUSTED TO GRADE = 4 EACH

ITEM 644 - CENTER LINE:

THE PROPER PLACEMENT OF ALL PASSING AND NO PASSING ZONES AS SHOWN ON PLAN SHEETS 81/90 THROUGH 82/90 SHALL BE CONFIRMED BY THE CONTRACTOR AND PLACED BY USING THE CONTROL POINTS SHOWN ON THE PLAN SHEETS LISTED ABOVE. THIS COULD BE DIFFERENT THAN THE SLM'S SHOWN ON SHEETS 22-76. ALL START AND STOP SLM LOCATIONS SHALL BE WITHIN 0.005 MILES OF THE LOCATIONS SHOWN ON THE PLAN SHEETS LISTED ABOVE. A LETTER OF VERIFICATION OF ALL PASSING AND NO PASSING ZONES SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR PLACEMENT IN THE PROJECT RECORDS. ANY IMPROPERLY PLACED PASSING OR NO PASSING ZONES SHALL BE IMMEDIATELY CORRECTED.

ITEM 644 - THERMOPLASTIC PAVEMENT MARKING:

THE LOCATIONS, SIZES AND SHAPES OF PROPOSED AUXILIARY PAVEMENT MARKINGS WILL BE THE SAME AS EXISTING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION, SIZE AND SHAPE OF THESE EXISTING PAVEMENT MARKINGS BEFORE THE PAVEMENT PLANING AND RESURFACING OBLITERATES THEM. ANY PAVEMENT MARKING WHICH IS PLACED AT THE WRONG LOCATION SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

TRANSVERSE/DIAGONAL LINE SHALL BE SPACED AS DETAILED ON SHEET 77/90.

ITEM 644 - PAVEMENT MARKING, MISC.: 25 MPH:

"25 MPH" AUXILIARY MARKINGS SHALL BE AS DETAILED ON SHEET 78/90. EXACT LOCATIONS OF THESE MARKINGS WILL BE AS DIRECTED BY THE PROJECT AND CITY ENGINEER.

NORTHBOUND "AS DIRECTED"	2	EACH
SOUTHBOUND "AS DIRECTED"	2	EACH
TOTAL	4	EACH

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 644 - PAVEMENT MARKING, MISC.: 25 MPH =4 EACH

ITEM 653 - TOPSOIL FURNISHED AND PLACED:

ITEM 659 - GRADING AND EROSION CONTROL:

AREAS DISTURBED BY GUARDRAIL ACTIVITIES AND AREAS WHERE EMBANKMENT HAVE BEEN PLACED SHALL BE REPAIRED WITH THE FOLLOWING QUANTITIES, AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED:

ITEM	QUANTITY	UNIT	DESCRIPTION
653	230	CU YD	TOPSOIL FURNISHED AND PLACED
659	0.08	TON	COMMERCIAL FERTILIZER
659	1000	SQ YD	SEEDING AND MULCHING
659	0.25	ACRE	LIME
659	1	MGAL	WATER

ITEM 690 - MAILBOX REMOVED AND RESET:

THIS ITEM IS A CONTINGENCY QUANTITY TO BE USED AS DIRECTED BY THE PROJECT ENGINEER FOR MAILBOXES ENCROACHING INTO THE PROPOSED GUARDRAIL RUNS. THE CONTRACTOR SHALL PROVIDE ALL MATERIAL, LABOR, EQUIPMENT, AND HARDWARE NECESSARY TO REMOVE AND RESET EXISTING MAILBOXES. IT IS EXPECTED THAT THE CONTRACTOR WILL PROVIDE A NEW SUPPORT.

WOOD POSTS SHALL BE NOMINAL 4 INCHES BY 4 INCHES SQUARE OR 4.5 INCHES DIAMETER ROUND, AND CONFORM TO 710.14. STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2 INCHES I.D., AND CONFORM TO AASHTO M 181. ALL HARDWARE INCLUDING BUT NOT LIMITED TO PLATES, SCREWS, BOLTS, AND ETC. SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL. POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE. SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST.

THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

THIS ITEM IS NOT INTENDED FOR MAILBOX OR MAILBOX POSTS WHICH BECOME DAMAGED BY THE CONTRACTOR. GREAT CARE SHALL BE TAKEN TO PREVENT DAMAGE TO ANY OF THE EXISTING MAILBOXES OR MAILBOX POSTS DURING THE PAVING OPERATIONS. ANY MAILBOX OR MAILBOX POST WHICH BECOMES DAMAGED BY THE CONTRACTOR'S PAVING OPERATIONS SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY:
ITEM 690 - MAILBOX REMOVED AND RESET = 4 EACH

ITEM 823 - MONUMENT BOX ADJUSTED TO GRADE:

THIS ITEM OF WORK WILL PROVIDE ALL MATERIAL, LABOR, EQUIPMENT, AND HARDWARE NECESSARY TO ADJUST TO GRADE THE EXISTING MONUMENT BOX TO 1/4 INCH BELOW THE PROPOSED ASPHALT ELEVATION AT THE FOLLOWING LOCATIONS.

SLM	INTERSECTION	QUANTITY	UNIT
4.61	BEATTY RD.	1	EACH
TOTAL		1	EACH

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 823 - MONUMENT BOX ADJUSTED TO GRADE = 1 EACH

WATER QUALITY PROTECTION:

NO TOXIC OR HAZARDOUS MATERIALS SUCH AS SEALANTS, PAINT, SOLVENTS, CLEANING AGENTS, EARTHEN MATERIALS, WASTE-WATER FUELS OR DEBRIS OF ANY KIND SHALL BE DISCHARGED TO ANY STREAMS, DRAINAGE COURSES OR BODIES OF WATER. ALL ASPHALT OR CONCRETE GRINDINGS, EXCESS ASPHALT OR CONCRETE MATERIALS OR ANY OTHER DEBRIS GENERATED DURING RESURFACING OR OTHER SIMILAR ACTIVITIES SHALL NOT BE DISPOSED OF WITHIN A FLOODPLAIN BELOW THE 100-YEAR FLOOD ELEVATION. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT LIQUIDS USED TO REPAIR, CLEAN, SEAL, OR TREAT ANY BRIDGE STRUCTURE (E.G. PAINT, SEALER, SOLVENT) FROM ENTERING STREAMS, WETLANDS OR OTHER "WATERS OF THE UNITED STATES" AND TAKE THE APPROPRIATE ACTIONS IN THE EVENT OF A RELEASE.

WATERSHED PROTECTION:

THE PROJECT IS LOCATED WITHIN VARIOUS SOURCE WATER PROTECTION AREAS. IT IS ESSENTIAL THAT ALL ACTIVITIES ASSOCIATED WITH THIS WORK BE PERFORMED IN A MANNER CONSISTENT WITH BEST WATERSHED MANAGEMENT PRACTICES INCLUDING, BUT NOT LIMITED TO: AREAS OF DISTURBED GROUND SHALL HAVE APPROPRIATE EROSION AND SEDIMENT CONTROLS. IF HAZARDOUS/TOXIC MATERIALS INCLUDING BUT NOT LIMITED TO FUELS, OILS, BITUMEN'S PAINTS, SEALANTS, OR OTHER CHEMICALS, ARE STORED ON SITE, THEY SHALL BE STORED IN A DOUBLE-CONTAINMENT MANNER. ALL EQUIPMENT REPAIRS, MAINTENANCE, AND MECHANICAL WORK THAT COULD RESULT IN THE RELEASE OF HAZARDOUS/TOXIC MATERIALS SHALL BE PERFORMED IN AN APPROPRIATELY CONTAINED AREA, PREFERABLY OFF SITE OR AN APPROPRIATE OFF-SITE FACILITY. IN THE EVENT THAT ANY HAZARDOUS/TOXIC MATERIALS INCLUDING, BUT NOT LIMITED TO FUELS, OILS, BITUMEN'S PAINTS, SEALANTS, OR OTHER CHEMICALS ARE SPILLED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY EMERGENCY SERVICES BY CALLING 911 AND THE OHIO EPA @ (800) 282-9378. THE CONTRACTOR SHOULD BE PREPARED TO PROVIDE DETAILED INFORMATION RELATIVE TO THE TYPE AND QUANTITY OF MATERIAL THAT HAS BEEN SPILLED AS WELL AS THE EXACT LOCATION AND THE EXACT TIME AT WHICH THE SPILL OCCURRED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR INFORMING ALL SUBCONTRACTORS AND OTHER AGENTS OF THESE RESPONSIBILITIES, PRECAUTIONS, AND PROHIBITIONS.

SCENIC RIVER PROTECTION:

NO TOXIC OR HAZARDOUS MATERIALS SUCH AS SEALANTS, PAINT, SOLVENTS, CLEANING AGENTS, EARTHEN MATERIALS, WASTE-WATER, FUELS OR DEBRIS OF ANY KIND SHALL BE DISCHARGED TO THE BIG DARBY CREEK. ALL ASPHALT OR CONCRETE GRINDINGS, EXCESS ASPHALTIC OR CONCRETE MATERIALS OR ANY OTHER DEBRIS GENERATED DURING RESURFACING OR OTHER SIMILAR ACTIVITIES SHALL BE REMOVED IMMEDIATELY FROM WITHIN 1,000 FEET OF THE BIG DARBY CREEK AND DISPOSED OF AT AN APPROPRIATE FACILITY ABOVE THE FEMA 100-YEAR FLOOD ELEVATION AND NOT WITHIN 1,000 FEET OF THE BIG DARBY CREEK.

IF PAINTING, WELDING, SAND AND/OR WATER BLASTING (CLEANING) IS INCORPORATED AS PART OF THE PROJECT AT OR OVER THE BIG DARBY CREEK, THEN APPROPRIATE APRONS SHALL BE UTILIZED TO PROVIDE FOR COMPLETE CONTAINMENT OF ALL PAINT, WELDING SLAG AND/OR SEALANT OVER SPRAY AND OTHER DEBRIS. APRONS SHALL BE UTILIZED ON ALL DECK REPLACEMENT PROJECTS WHEN USING HYDRO-DEMOLITION TECHNIQUES. ALL DEBRIS COLLECTED SHALL BE DISPOSED OF AT AN APPROPRIATE FACILITY ABOVE THE FEMA 100-YEAR FLOOD PLAIN AND NOT WITHIN 1,000 FEET OF THE BIG DARBY CREEK

NO WASTEWATER OF ANY KIND SHALL BE DIRECTLY DISCHARGED TO THE BIG DARBY CREEK OR ANY WATERCOURSE DRAINING DIRECTLY INTO THE BIG DARBY CREEK. IDLE EQUIPMENT, FUELS, LUBRICANTS OR STORAGE FOR AND/OR STORAGE OF POTENTIALLY TOXIC OR HAZARDOUS MATERIALS SHALL BE KEPT ABOVE THE FEMA 100 YEAR FLOOD PLAIN AND NOT WITHIN 1,000 FEET OF THE BIG DARBY CREEK.

DEBRIS REMOVAL SHALL BE CONDUCTED BY PULLING DEBRIS OUT OF THE STREAM CHANNEL WITH EQUIPMENT FROM THE BRIDGE DECK WHENEVER POSSIBLE. ALL DEBRIS COLLECTED SHALL BE DISPOSED OF AT AN APPROPRIATE FACILITY ABOVE THE FEMA 100-YEAR FLOOD PLAIN AND NOT WITHIN 1,000 FEET OF BIG DARBY CREEK. IF DEBRIS REMOVAL CAN NOT BE CONDUCTED FROM THE BRIDGE DECK, THEN ALL WORK SHALL BE ACCOMPLISHED FROM THE STREAM BANK BY CABLING AND PULLING MATERIALS FROM THE CHANNEL. NO HEAVY EQUIPMENT WILL BE PERMITTED IN THE STREAM.

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GENERAL:

ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (CURRENT EDITION). COPIES ARE AVAILABLE FROM:

THE OHIO DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC,
1980 WEST BROAD STREET
COLUMBUS, OHIO 43223.

MAINTENANCE OF TRAFFIC (HOLIDAYS AND SPECIAL EVENTS) :

NO WORK SHALL BE PERFORMED AND ALL THROUGH LANES (EACH DIRECTION) SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING HOLIDAYS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THE PERIOD:

DAY OF HOLIDAY OR EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM FRIDAY
THURSDAY (THANKSGIVING ONLY)	5:0AM WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

ALL LANES OF TRAFFIC SHALL BE OPEN IN GROVE CITY DURING THE FOLLOWING EVENTS:

GROVE CITY’S BALLOONS & TUNES FESTIVAL (END AUGUST)

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

NOTIFICATION OF TRAFFIC RESTRICTIONS:

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW. THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE BUT IS NOT LIMITED TO ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHOULD LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, DETOUR ROUTES IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

ITEM	DURATION OF CLOSURE	NOTIFICATION DUE TO DISTRICT 6 COMMUNICATIONS OFFICE
RAMP AND ROAD CLOSURES	>= 2 WEEKS	14 BUSINESS DAYS PRIOR TO CLOSURE
	> 12 HOURS AND < 2 WEEKS	7 BUSINESS DAYS PRIOR TO CLOSURE
	< 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE

LANE CLOSURES/ RESTRICTIONS	>= 2 WEEKS	7 BUSINESS DAYS PRIOR TO CLOSURE
	< 2 WEEKS	2 BUSINESS DAYS PRIOR TO CLOSURE

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME FRAME TABLE.

USE OF STANDARD DRAWINGS

FOR THE PURPOSE OF THIS PROJECT, "MOVING OPERATION" SHALL BE LIMITED TO PAVEMENT MARKING STRIPING.

IT MAY BE NECESSARY TO EXTEND THE ADVANCE WARNING AND BUFFER ZONES BEYOND THE MINIMUM DISTANCES SHOWN ON THE STANDARD DRAWINGS. THIS MAY BE DUE TO HORIZONTAL ALIGNMENT, VERTICAL ALIGNMENT, RAMP LOCATIONS, OR OTHER SIGHT OBSTRUCTIONS. LOCATIONS OF THE TAPER ZONES MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER, BUT TAPER LENGTHS MUST MEET THE MINIMUM STANDARDS. TAPERS SHOULD BE PLACED IN TANGENT SECTIONS WHENEVER POSSIBLE. ADDITIONAL YIELD SIGNS MAY BE REQUIRED FOR RAMPS WITHIN 1,000 FEET OF A WORK ZONE. PAYMENT SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

FOR ANY MULTILANE HIGHWAY, DEVICE SPACING SHALL BE A MAXIMUM OF 40' CENTER ON CENTER IN THE TAPERS AND 80' CENTER ON CENTER IN THE TANGENT SECTIONS.

WORK SITE LIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR, AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS. PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

USE OF WEIGHTED CHANNELIZERS

THE WEIGHTED CHANNELIZERS MAY BE USED IN ACCORDANCE WITH THIS SECTION. THE WEIGHTED CHANNELIZERS SHALL BE PREDOMINANTLY ORANGE IN COLOR AND SHALL BE MADE OF LIGHTWEIGHT, FLEXIBLE, AND DEFORMABLE MATERIAL. THEY SHALL BE AT LEAST 42 INCHES IN HEIGHT WITH A WEIGHTED BASE. THEY MAY HAVE A HANDLE OR LIFTING DEVICE, WHICH EXTENDS ABOVE THE 42" MINIMUM HEIGHT.

THE MARKINGS ON THE WEIGHTED CHANNELIZERS SHALL BE HORIZONTAL, CIRCUMFERENTIAL, ALTERNATING ORANGE AND WHITE RETRO REFLECTIVE STRIPES 6 INCHES WIDE. EACH WEIGHTED CHANNELIZERS SHALL HAVE A MINIMUM OF TWO ORANGE AND TWO WHITE STRIPES. ANY NON-RETRO REFLECTIVE SPACES BETWEEN THE HORIZONTAL ORANGE AND WHITE STRIPES SHALL NOT EXCEED 2 INCHES WIDE. THE WEIGHTED CHANNELIZERS SHALL HAVE A 4-INCH MINIMUM WIDTH, REGARDLESS OF ORIENTATION.

USE OF WEIGHTED CHANNELIZERS ON FREEWAYS AND MULTILANE HIGHWAYS SHALL BE LIMITED TO SHORT-TERM OPERATION FOR EITHER DAY OR NIGHT. UPON COMPLETION OF WORK, THE WEIGHTED CHANNELIZERS SHALL BE REMOVED. THE WEIGHTED CHANNELIZERS MAY AGAIN BE PLACED ON THE HIGHWAY WHEN THE WORK IS TO RESUME ON THE FOLLOWING DAY OR NIGHT. ANY LANE CLOSURE USING CHANNELIZATION DEVICES, EXPECTED TO REMAIN FOR MORE THAN TWELVE HOURS, SHALL REQUIRE THE USE OF DRUMS OR BARRIERS. WORK IS TO RESUME ON THE FOLLOWING DAY OR NIGHT.

WHEN USED AT NIGHT, WEIGHTED CHANNELIZERS SHALL ONLY BE PLACED IN THE TANGENT AREA. THE TANGENT AREA IS DEFINED AS THE AREA AFTER THE TRANSITION TAPER WHERE THE WORK TAKES PLACE. DRUMS SHALL BE USED IN THE TRANSITION TAPERS FOR NIGHT OPERATIONS. MAXIMUM SPACING OF THE WEIGHTED CHANNELIZERS SHALL BE 40 FEET.

STEPS SHOULD BE TAKEN TO ENSURE THAT THE WEIGHTED CHANNELIZERS WILL NOT BE BLOWN OVER OR DISPLACED BY WIND OR MOVING TRAFFIC. BALLASTS SHOULD NOT PRESENT A HAZARD IF THE WEIGHTED CHANNELIZERS ARE INADVERTENTLY STRUCK, NOR SHOULD THEY AFFECT THE VISIBILITY OF THE WEIGHTED CHANNELIZERS. ALL BALLASTS USED SHOULD BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

PUBLIC NOTIFICATION

THE CONTRACTOR IS TO BE RESPONSIBLE FOR NOTIFYING, BY LETTER WITH HIS COMPANY LETTERHEAD, RESIDENTS, AND BUSINESSES ON US- 62 WHERE DRIVEWAYS WILL BE IMPACTED DURING THE RESURFACING. ADVANCED NOTICE SHALL BE TWO WEEKS PRIOR TO THE FIRST DAY OF WORK AT THAT LOCATION. A COPY OF THE LETTER TO BE CIRCULATED SHALL BE PRESENTED AT THE PRE-CONSTRUCTION MEETING. THE CONTRACTOR IS TO NOTIFY THE PROJECT ENGINEER OF THE DATES WHEN THIS NOTIFICATION IS DISTRIBUTED.

PERMITTED LANE CLOSURE TIMES

MAINTAIN AT LEAST ONE LANE OF TWO WAY TRAFFIC WITH FLAGGERS. ALL LANES OF MULTI-LANE TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR THE ALLOWABLE TIMES SHOWN.

LANE CLOSURES ARE PERMITTED ANY TIME EXCEPT 6AM-8AM AND 4PM-6PM MONDAY - FRIDAY.

A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT SHOWN IN THE UNAUTHORIZED LANE USED TABLE FOR EACH PERIOD OF TIME THAT A LANE REDUCTION, LANE RESTRICTION, RAMP REDUCTION OR RAMP RESTRICTION REMAINS BEYOND THE PERMITTED WORKING HOURS SHOWN IN THE PERMITTED LANE CLOSURE TABLE.

DISINCENTIVE

THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE AS DESIGNATED IN THE UNAUTHORIZED LANE USE TABLE LOCATED BELOW FOR EACH UNIT OF TIME A CRITICAL LANE / RAMP IS CLOSED BY THE CONTRACTOR'S ACTION WHILE NOT OTHERWISE PERMITTED BY THE CONTRACT. THE DISINCENTIVE WILL BE FOR ANY LANE CLOSURES CAUSED BY THE CONTRACTOR DURING TIMES AND LOCATIONS NOT SPECIFICALLY PERMITTED BY THIS CONTRACT. THERE SHALL BE NO WORK PERFORMED, NO LANE REDUCTIONS OR NO LANE RESTRICTIONS OUTSIDE OF THE WORKING HOURS GIVEN WITH IN THIS PLAN. THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVE AS SHOWN IN THE UNAUTHORIZED LANE USE TABLE.

UNAUTHORIZED LANE USE

THE PERMITTED LANE CLOSURE TIMES PREVIOUSLY LISTED SHALL BE SUBJECT TO DISINCENTIVES AS PER THE UNAUTHORIZED LANE USED TABLE BELOW FOR ANY TIME PERIOD OR PORTION THEREOF IN WHICH THE MINIMUM OF OPEN LANES PER DIRECTION IS VIOLATED.

UNAUTHORIZED LANE USE TABLE		
DESCRIPTION OF WORK	TIME PERIOD	DISINCENTIVE \$ PER TIME PERIOD
LANE CLOSURE/ LANE REDUCTION	EACH MINUTE	\$75

PARKING RESTRICTIONS:

"NO PARKING" SIGNS SHALL BE INSTALLED "AS DIRECTED BY THE ENGINEER" BY THE CONTRACTOR 48 HOURS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES IN THE AFFECTED AREAS IN NEW BLOOMINGTON. THE DATE OF INSTALLATION, AND THE DATES / HOURS THAT THE WORK WILL BE PERFORMED SHALL BE LISTED ON EACH SIGN. ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THE COST OF THIS ITEM OF WORK SHALL INCLUDE ALL SERVICES, MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS, INCLUDING THE REMOVAL, NECESSARY TO COMPLETE THIS ITEM AND WILL BE PAID FOR AT THE CONTRACT LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC.

ACCESS TO SIDE STREETS:

MAINTAIN ACCESS TO ANY SIDE STREETS THAT DEAD END AT ALL TIMES BY USE OF PART WIDTH CONSTRUCTION. IN THE EVENT IT IS NECESSARY TO CLOSE ACCESS TO A SIDE STREET IN NEW BLOOMINGTON, THE CONTRACTOR SHALL BE LIMITED TO ONLY ONE SIDE STREET CLOSURE AT ONE TIME AND THE DURATION OF CLOSURE SHALL BE LIMITED TO THE TIME IT TAKES TO COMPLETE THE WORK. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS WILL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614 - MAINTAINING TRAFFIC.

ACCESS TO PRIVATE PROPERTY:

MAINTAIN ACCESS TO COMMERCIAL PROPERTIES WITH ONLY ONE DRIVEWAY AT ALL TIMES BY USE OF PART WIDTH CONSTRUCTION. FOR COMMERCIAL PROPERTIES WITH MULTIPLE DRIVEWAYS, DO NOT CLOSE MORE THAN ONE DRIVEWAY AT A TIME.

MAINTAIN ACCESS TO RESIDENTIAL PROPERTIES AT ALL TIMES. WHEN A RESIDENTIAL DRIVE IS CLOSED FOR CONSTRUCTION, MAINTAIN ALTERNATE ACCESS TO THE PROPERTY.

SUCCESSFULLY NOTIFY THE OCCUPANTS/OWNERS OF COMMERCIAL OR RESIDENTIAL DRIVES TO BE CLOSED AND COORDINATE THE CLOSURE AT LEAST 48 HOURS BEFORE THE CLOSURE BEGINS (SIMPLY LEAVING A WRITTEN NOTICE OR PHONE MESSAGE IS NOT SUFFICIENT). COORDINATE ALTERNATE ACCESS TO RESIDENTIAL PROPERTIES WITH THE OWNER/OCCUPANT. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS WILL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614 - MAINTAINING TRAFFIC.

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS: USE OF LEOS BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE PROJECT ENGINEER. LAW ENFORCEMENT OFFICERS (LEOS) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

1. FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED. IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

2. THE USE OF A LAW ENFORCEMENT OFFICER WITH PATROL CAR IS REQUIRED WHERE A COMPLETE BLOCKAGE OF APPROACH TRAFFIC IS REQUIRED

3. THE USE OF A LAW ENFORCEMENT OFFICER WITH PATROL CAR IS REQUIRED IF THE CONTRACTOR TURNS THE INTERSECTION SIGNALS OFF OR PUTS THE INTERSECTION IN FLASHING OPERATION, AND WHEN THE LEO DIRECTS TRAFFIC THROUGH THE INTERSECTION CONTRARY TO THE SIGNAL DISPLAY.

LAW ENFORCEMENT OFFICERS SHOULD NOT FORSAKE THEIR TRAFFIC CONTROL RESPONSIBILITIES TO CHASE MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF THE MOTORISTS ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST MAY BE ACCEPTABLE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEO'S AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEO. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THEIR RESPECTIVE DUTIES, PLACEMENT AND WILL RESOLVE ANY ISSUES BETWEEN THE TWO PARTIES THAT MAY ARISE. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE SERVICES WITH:

THE OHIO HIGHWAY PATROL 1-614-466-2660
GROVE CITY DIVISION OF POLICE 1-614-277-1710

THE LEO SHOULD REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING THE SHIFT. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF THE SHIFT.

LAW ENFORCEMENT OFFICERS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF A L.E.O. ARE INCLUDED WITHIN THE BID UNIT PRICE FOR ITEM-614 LAW ENFORCEMENT OFFICER WITH PATROL CAR. THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.
THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED:

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE = 200 HOUR

ITEM 614 - WORK ZONE MARKING SIGN, AS PER PLAN: "DO NOT PASS" AND "PASS WITH CARE" SIGNS SHALL BE PLACED TO REFLECT THE EXISTING PASSING AND NO PASSING ZONES. THESE SIGNS SHALL BE COVERED OR REMOVED WITHIN 24 HOURS OF THE CORRECTED CENTERLINE MARKINGS AT LOCATIONS SHOWN ON PLAN SHEET 81 - 82.

LOC	BEGIN SLM	END SLM	SIDE	R4-1-18	R4-2-18	W8-H12A-36
				NO EDGE LINES	DO NOT PASS	PASS WITH CARE
				EACH	EACH	EACH
				6	7	7
FRA-62	0.00	8.54	NB	6	7	7
FRA-62	0.00	8.54	SB	6	7	7
TOTAL				12	14	14

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 614 - WORK ZONE MARKING SIGN = 40 EACH

ITEM 614 - WORK ZONE LANE LINE, CLASS III, 642 PAINT: WORK ZONE LANE LINE SHALL BE PLACED TO REFLECT THE PROPOSED LANE LINE AS DETERMINED FROM THE PROPOSED MARKINGS WITHIN THE PROJECT LIMITS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION, SIZE, AND TYPE OF WORK ZONE MARKINGS NEEDED MEETING THE REQUIREMENTS OF ITEM 614 BEFORE THE REMOVAL OR RESURFACING OBLITERATES THE EXISTING.

LOCATION	BEGIN SLM	END SLM	SIDE	APP	TOTAL	UNIT
FRA-62	5.64	8.07	NB/SB	2	8.39	MI
FRA-62	8.07	8.54	NB/SB	2	1.89	MI
TOTAL					10.28	MI

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 614 - WORK ZONE LANE LINE, CLASS III, 642 PAINT = 10.28 MI

ITEM 614 - WORK ZONE CENTER LINE, CLASS II, 642 PAINT:
THIS ITEM IS TO BE USED ON THE PLANED AREAS OF ASPHALT. WORK ZONE CENTER LINE SHALL BE PLACED TO REFLECT THE PROPOSED CENTER LINE AS DETERMINED FROM THE PROPOSED MARKINGS WITHIN THE PROJECT LIMITS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION, SIZE, AND TYPE OF WORK ZONE MARKINGS NEEDED MEETING THE REQUIREMENTS OF ITEM 614 BEFORE THE REMOVAL OR RESURFACING OBLITERATES THE EXISTING.

LOCATION	BEGIN SLM	END SLM	TOTAL	UNIT
FRA-62	0.00	0.10	0.10	MI
FRA-62	0.40	0.62	0.22	MI
FRA-62	1.27	1.36	0.09	MI
FRA-62	5.63	6.29	0.70	MI
FRA-62	6.60	8.04	2.34	MI
FRA-62	8.04	8.35	0.10	MI
TOTAL			3.55	MI

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 614 - WORK ZONE CENTER LINE, CLASS II, 642 PAINT
= 3.55 MI

ITEM 614 - WORK ZONE CENTER LINE, CLASS II, 740.06, TYPE I:
THIS ITEM IS TO BE USED ON THE PROPOSED SURFACE COURSE. WORK ZONE CENTER LINE SHALL BE PLACED TO REFLECT THE PROPOSED CENTER LINE AS DETERMINED FROM THE PROPOSED MARKINGS WITHIN THE PROJECT LIMITS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION, SIZE, AND TYPE OF WORK ZONE MARKINGS NEEDED MEETING THE REQUIREMENTS OF ITEM 614 BEFORE THE REMOVAL OR RESURFACING OBLITERATES THE EXISTING.

LOCATION	BEGIN SLM	END SLM	TOTAL	UNIT
FRA-62	0.00	1.36	1.36	MI
FRA-62	2.97	3.85	0.88	MI
FRA-62	3.85	5.63	1.78	MI
FRA-62	5.63	6.29	0.70	MI
FRA-62	6.60	8.04	2.34	MI
FRA-62	8.04	8.35	0.10	MI
TOTAL			7.16	MI

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 614 - WORK ZONE CENTER LINE, CLASS II, 740.06, TYPE I
= 7.16 MI

ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT:
WORK ZONE CHANNELIZING LINE SHALL BE PLACED TO REFLECT THE PROPOSED CHANNELIZING LINE AS DETERMINED FROM THE PROPOSED MARKINGS WITHIN THE PROJECT LIMITS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION, SIZE, AND TYPE OF WORK ZONE MARKINGS NEEDED MEETING THE REQUIREMENTS OF ITEM 614 BEFORE THE REMOVAL OR RESURFACING OBLITERATES THE EXISTING.

LOCATION	APPROX. SLM	APP	TOTAL	UNIT
FRA-62	5.72	2	354	FT
FRA-62	6.27	2	60	FT
FRA-62	7.07	2	750	FT
FRA-62	7.18	2	250	FT
FRA-62	7.55	2	200	FT
FRA-62	7.97	2	320	FT
FRA-62	8.04	2	754	FT
FRA-62	8.22	2	1,098	FT
TOTAL			3,786	FT

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT
= 3,786 FT

ITEM 614 - WORK ZONE STOP LINE, CLASS III, 642 PAINT:
WORK ZONE STOP LINE SHALL BE PLACED TO REFLECT THE EXISTING STOP LINE AS DETERMINED FROM THE EXISTING MARKINGS WITHIN THE PROJECT LIMITS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION, SIZE, AND TYPE OF WORK ZONE MARKINGS NEEDED MEETING THE REQUIREMENTS OF ITEM 614 BEFORE THE REMOVAL OR RESURFACING OBLITERATES THE EXISTING.

LOCATION	SLM	SIDE	APP	TOTAL	UNIT
FRA-62	0.08	LT	2	86	FT
FRA-62	3.26	RT/LT	2	48	FT
FRA-62	5.72	RT/LT	2	42	FT
FRA-62	5.94	RT	2	24	FT
FRA-62	6.03	RT	2	24	FT
FRA-62	6.17	LT	2	24	FT
FRA-62	6.23	LT	2	24	FT
FRA-62	6.28	RT	2	40	FT
FRA-62	6.71	RT	2	26	FT
FRA-62	6.91	LT	2	20	FT
FRA-62	7.18	RT/LT	2	146	FT
FRA-62	7.55	RT/LT	2	144	FT
FRA-62	7.99	RT/LT	2	194	FT
FRA-62	8.33	RT/LT	2	182	FT
TOTAL				1,024	FT

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 614 - WORK ZONE STOP LINE, CLASS III, 642 PAINT
= 1,024 FT

ITEM 614 -PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN:
THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND REMOVE WHEN NO LONGER NEEDED, CHANGEABLE MESSAGE SIGNS, ON SITE, TO BE USED AS DIRECTED AT THE INTERSTATE LOCATIONS.

THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR. ONLY CLASS I OR II SIGNS WILL BE PERMITTED. EACH SIGN SHALL BE TRAILER MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM TO DIM THE SIGN DURING DARKNESS AND A TEMPER AND VANDAL PROOF ENCLOSURE.

EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLE SHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PLACEMENT OF THE PCMS'S SHALL BE AS DIRECTED BY THE ENGINEER.

SIGN ACTIVATION SHALL BE 7 DAYS PRIOR TO CONSTRUCTION INITIATION OR AS DIRECTED BY THE ENGINEER. OPERATION AND MAINTENANCE OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS WILL BE OFF, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE HIGH INTENSITY YELLOW REFLECTIVE SHEETING SURFACES OF 9 INCHES BY 15 INCHES MINIMUM, FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLE SHOOT THE UNIT AND TO REVISE SIGN MESSAGES, IF NEEDED. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHOULD BE SUPPORTED, BUT NORMALLY, NOT MORE THAT TWO MESSAGE PHASES SHOULD BE EMPLOYED, ALTHOUGH THREE PHASES MAY BE USED IN UNUSUAL CONDITIONS. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST ONCE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED, OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 614.03. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS TO ASSURE PROMPT SERVICE IN THE EVENT OF A FAILURE. ANY FAILURE SHALL NOT RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC AND THE ENTIRE COST TO CONTROL TRAFFIC ACCRUED BY THE DEPARTMENT WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON THE CONTRACT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24 HOURS PER DAY OPERATIONS AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

THE REQUIREMENT TO FURNISH, INSTALL, MAINTAIN, AND REMOVE A PCMS UNIT ON THIS PROJECT SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF ITS RESPONSIBILITIES AS OUTLINED IN 104.04. PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT BID PRICE PER MONTH FOR EACH ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE, AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

THE FOLLOWING QUANTITY HAS BEEN CALCULATED AT 2 FOR 30 DAYS:

LOCATION	# OF PCMS	DAYS	TOTAL	UNIT
FRA-62	2	30	60	DAYS
TOTAL			60	DAYS

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN
= 60 DAYS

ITEM 614 - BARRIER REFLECTORS/OBJECT MARKERS:
BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER WITHIN THE RIGHT-OF-WAY IN ACCORDANCE WITH THE STANDARD DELINEATION METHOD SHOWN ON STANDARD CONSTRUCTION DRAWING MT-101.70. BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE SPACED AT 50' INTERVALS AND INSTALLATION SHALL CONFORM TO CMS 626.02 AND 626.04.

ITEM 614 - WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (BIDIRECTIONAL), AS PER PLAN:
THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ONE OF THE FOLLOWING IMPACT ATTENUATORS LISTED BELOW:

1. THE QUADGUARD CZ, (24 INCHES (610 MILLIMETERS) WIDE SIX-BAY) WORK ZONE IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., 35 EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

THE LENGTH OF THE SIX-BAY QUADGUARD CZ IS 20'-9" (6.33 METERS). INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER	DRAWING NAME	DRAWING/ REVISION DATE	ODOT APPROVAL DATE
QSCZCVR-T4	QUADGUARD CZ SYSTEM FOR CONSTRUCTION ZONES	5/13/99 REV. J	8/27/99
35-40-10	QUADGUARD SYSTEM CONCRETE PAD, CZ, QG	11/19/97 REV. D	8/27/99
35-4-16	QUADGUARD SYSTEM BACKUP ASSEMBLY, CZ, QG	7/30/99 REV. F	8/27/99
354051Z	QUADGUARD CZ SYSTEM NOSE ASSEMBLY, CZ, QG, 24, 30, 36	5/17/99	8/27/99
35-40-18	TRANSITION ASSEMBLY, 4 OFFSET, QG	6/25/99 REV. F	8/27/99
35400260	QUADGUARD SYSTEM PCMB ANCHOR ASSEMBLY	11/19/97 REV. C	8/27/99

2. THE TRACC (TRINITY ATTENUATING CRASH CUSHION) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE TRACC IS 21'-0" (6.4 METERS) LONG AND 2'-7" (0.8 METER) WIDE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER	DRAWING NAME	DRAWING/ REVISION DATE	ODOT APPROVAL DATE
SS450	CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS	3/12/99 REV. 1	8/27/99
SS455	TRACC TRANSITION TO W-BEAM MEDIAN BARRIER PLAN, ELEVATION & SECTIONS	2/18/1999	8/27/99

SS461	TRACC TRANSITION TO CONCRETE SAFETY SHAPE BARRIER PLAN, ELEVATION & SECTIONS	6/30/99 REV. 1	8/27/99
SS462	TRACC TRANSITION TO CONCRETE BARRIER SINGLE SLOPE PLAN, ELEVATION & SECTIONS	6/30/1999	8/27/99

AFTER COMPLETION AND ACCEPTANCE OF THIS WORK, THE PROPOSED WORK ZONE IMPACT ATTENUATORS (BIDIRECTIONAL), SHALL BECOME PROPERTY OF ODOT AND SHALL REMAIN IN PLACE TO BE USED WITH FUTURE BRIDGE PROJECT (FRA-62-0034 PID#87301).

ITEM 202 - REMOVAL MISC.: PORTABLE CONCRETE BARRIER:
EXISTING PCB (PLACED BY OTHERS) SHALL BE REMOVED IN CONJUNCTION WITH THE PLACEMENT OF THE PROPOSED PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED. THESE EXISTING PCB'S SHALL BECOME PROPERT OF THE CONTRACTOR AND SHALL NOT BE USED AS PROPOSED PCB.

ITEM 518 - SCUPPER, MISC.: SCUPPER CLEANOUT:
PRIOR TO THE PLACEMENT OF THE PROPOSED PORTABLE CONCRETE BARRIER, THE AREA WHERE THE PCB WILL BE PLACED AND THE AREA BEHIND IT WILL BE CLEANED OF ALL DEBRIS BY THE CONTRACTOR. INCLUDED IN THIS AREA SHALL BE CLEANOUT OF THE EXISTING SCUPPERS. METHOD OF THIS CLEANOUT SHALL BE AS DIRECTED BY THE ENGINEER.

ITEM 622 - PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED, AS PER PLAN:
THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING 32 INCH PORTABLE CONCRETE BARRIER (BRIDGE MOUNTABLE) AT THE LOCATIONS SHOWN AND DETAILED ON SHEETS 17-18. PORTABLE CONCRETE BARRIER SHALL BE OF THE BRIDGE MOUNTABLE TYPE BUT WILL NOT REQUIRE ANCHORS FOR THIS INSTALLATION. CONCRETE BARRIER SHALL BE OF UNIFORM LENGTH SECTIONS AND SHALL NOT BE LESS THAN 10' LONG OR GREATER THAN 12' LONG. BARRIER SHALL MEET THE APPROVAL OF THE ENGINEER AND SHALL NOT SHOW SIGNS OF DAMAGE, SPALLS, DEFECTS OR CRACKS (STEEL BARRIER IS NOT PERMITTED). THE PROPOSED PORTABLE CONCRETE WILL NOT REQUIRE ANCHORING EXCEPT AT ENDS ADJACENT TO THE PROPOSED IMPACT ATTENUATOR. THIS ANCHORING SHALL BE APPROVED BY THE ENGINEER. BARRIER PLACEMENT IS SHOWN OFFSET 6" FROM TOE OF CURB TO PREVENT RESTRICTION TO THE EXISTING SCUPPERS BUT MAY BE ADJUSTED BY THE ENGINEER IN THE FIELD. FOR DETAILS, SEE SCD RM-4.2 AND PCB-91.

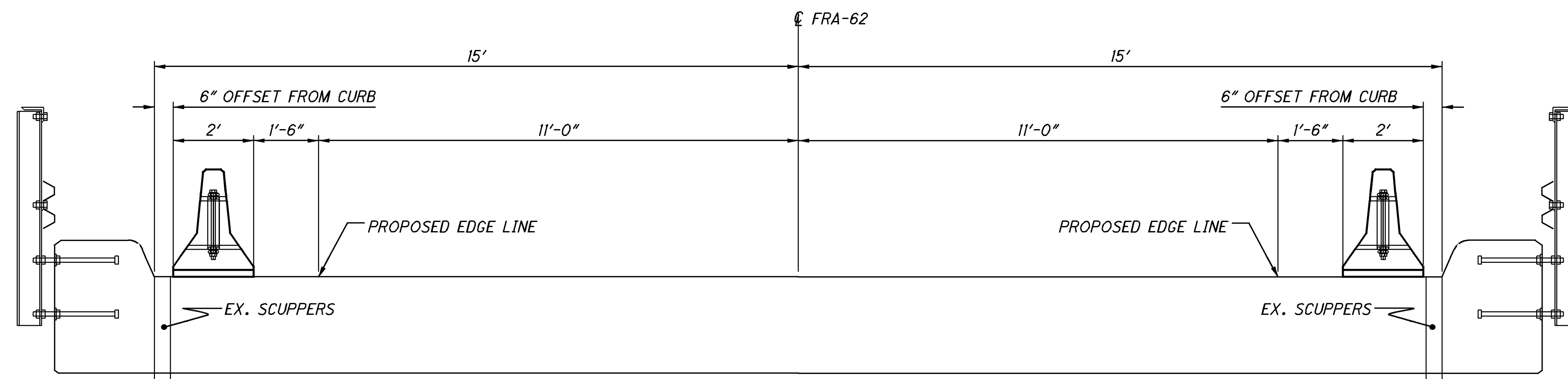
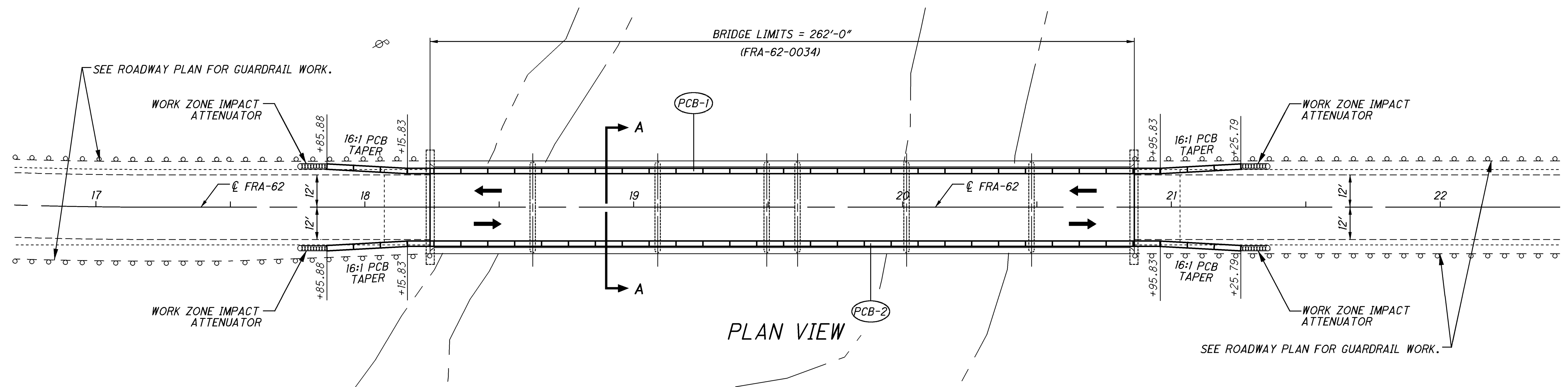
AFTER COMPLETION AND ACCEPTANCE OF THIS WORK, THE PROPOSED PORTABLE CONCRETE BARRIER, 32" SHALL BECOME PROPERTY OF ODOT AND SHALL REMAIN IN PLACE TO BE USED WITH FUTURE BRIDGE PROJECT (FRA-62-0034 PID#87301).

PAYMENT SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO PERFORM THE WORK AND SHALL BE PAID FOR AT THE CONTRACT PRICE.

INTERIM COMPLETION DATES:
THE CONTRACTOR SHALL HAVE AN INTERIM COMPLETION DATE FOR THE PLACEMENT OF THE PORTABLE CONCRETE BARRIER AND ALL WORK ASSOCIATED AS DESCRIBED ON SHEETS 17 & 18. PCB AND APPROPRIATE ATTENUATORS SHALL BE IN PLACE AND ACCEPTED BY THE ENGINEER BY 05/15/2013.

IF THE CONTRACTOR FAILS TO COMPLETE BY THIS INTERIM COMPLETION DATES, HE WILL BE ASSESSED DAMAGES IN THE AMOUNT LISTED IN TABLE 108.07-1 OF THE CMS.




ALL OTHER WORK SHALL BE PERFORMED DURING THE CONSTRUCTION SEASON AND HAVE A FINAL COMPLETION DATE OF SEPTEMBER 15, 2013.



SECTION A-A
(NOT TO SCALE)

QUANTITIES FOR THIS LOCATION CAN BE FOUND ON SHEET 18/90 .

LEGEND:

-  32" PORTABLE CONCRETE BARRIER
 WORK ZONE IMPACT ATTENUATOR
 DIRECTION OF TRAVEL

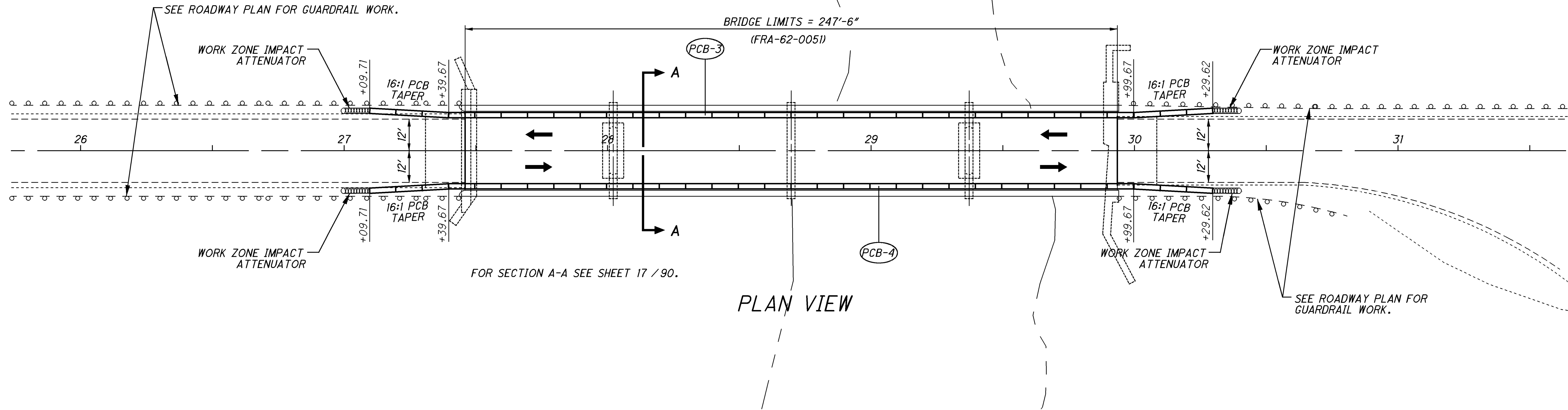


CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC PLAN
FRA - 62 - 0034

FRA-62-0.00

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- LEGEND:
- 32" PORTABLE CONCRETE BARRIER
 - WORK ZONE IMPACT ATTENUATOR
 - DIRECTION OF TRAVEL

REF NO.	STATION		SIDE	202	518	614	614	614	622
	FROM	TO		REMOVAL MISC.: PORTABLE CONCRETE BARRIER	SCUPPER, MISC.: SCUPPER CLEANOUT	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL), AS PER PLAN	BARRIER REFLECTOR, TYPE B2	OBJECT MARKER, TWO WAY	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED, AS PER PLAN
				FT	EACH	EACH	EACH	EACH	FT
PCB-1	17+75	21+37	LT		27	2	8	8	340
PCB-2	17+75	21+37	RT	48	27	2	8	8	340
PCB-3	26+99	30+40	RT		14	2	8	8	320
PCB-4	26+99	30+40	RT		14	2	8	8	320
TOTALS CARRIED TO GENERAL SUMMARY				48	82	8	32	32	1,320

SHEET NUMBER											PARTICIPATION				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	GENERAL SUMMARY
											01/STR/PV	02/S2/PV/F-ST	03/S2/PV/F-LC	04/S2/PV/GRDV							
7 - 12	13 - 16	18	21	79	80	84	86	88	90												
			40										40		202	32001	40	FT	ROADWAY		
			7412.5								6,900	512.5			202	38001	7412.5	FT	CURB REMOVED, AS PER PLAN	8	
			29								21	8			202	42000	29	EACH	ANCHOR ASSEMBLY REMOVED, TYPE A	8	
		48									48				202	98200	48	FT	REMOVAL MISC.: PORTABLE CONCRETE BARRIER	16	
180											160	20			203	20000	180	CU YD	EMBANKMENT		
			90.77								81.55	9.22			209	15000	90.77	STATION	RESHAPING UNDER GUARDRAIL		
			373.97								183.02	190.95			209	72001	373.97	STATION	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	8	
			8118.75								7,350	768.75			606	13000	8118.75	FT	GUARDRAIL, TYPE 5		
			456.25								456.25				606	13050	456.25	FT	GUARDRAIL, TYPE 5A		
			3								2	1			606	25000	3	EACH	ANCHOR ASSEMBLY, TYPE A		
			6								5	1			606	26000	6	EACH	ANCHOR ASSEMBLY, TYPE B		
			8								4	4			606	26100	8	EACH	ANCHOR ASSEMBLY, TYPE E		
			16								9	7			606	26500	16	EACH	ANCHOR ASSEMBLY, TYPE T		
50											25	25			606	98000	50	FT	GUARDRAIL, MISC.: ALTERNATIVE GUARDRAIL PLACEMENT	9	
			40										40		609	98000	40	FT	CURB, MISC.:VARIOUS TYPE	10	
4											3	1			SPECIAL	69050350	4	EACH	MAILBOX REMOVED AND RESET	12	
1												1			823	39500	1	EACH	MONUMENT BOX ADJUSTED TO GRADE		
230											207	23			653	10000	230	CU YD	EROSION CONTROL		
1000											900	100			659	00500	1,000	SQ YD	TOPSOIL FURNISHED AND PLACED		
0.08											0.07	0.01			659	20000	0.08	TON	SEEDING AND MULCHING, CLASS 1		
0.25											0.23	0.02			659	31000	0.25	ACRE	COMMERCIAL FERTILIZER		
1											0.9	0.1			659	35000	1	M GAL	LIME		
																			WATER		
											450	270	280		832	30000	1,000	EACH			
2													2		604	09000	2	EACH	EROSION CONTROL		
2													2		604	09500	2	EACH	DRAINAGE		
2													2		604	20600	2	EACH	CATCH BASIN ADJUSTED TO GRADE		
2													2		604	20800	2	EACH	CATCH BASIN RECONSTRUCTED TO GRADE		
2													2		604	20800	2	EACH	INLET ADJUSTED TO GRADE		
2													2		604	20800	2	EACH	INLET RECONSTRUCTED TO GRADE		
2													2		604	34500	2	EACH	MANHOLE ADJUSTED TO GRADE		
2													2		604	34500	2	EACH	MANHOLE RECONSTRUCTED TO GRADE		
200											90	54		56	251	01001	200	SQ YD	PAVEMENT		
287.88														287.88	253	02000	287.88	CU YD	PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN	8	
			95685								7892	22303	65490		254	01000	95685	SQ YD	PAVEMENT REPAIR		
			5725								3044	2676	5		407	10000	5725	GALLON	PAVEMENT PLANING, ASPHALT CONCRETE		
			6537									1631	4906		407	20100	6537	GALLON	TACK COAT		
																			TACK COAT, TRACKLESS TACK, SURFACE COURSE		
			2654								74		2580		442	10000	2654	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)		
			1048									906	142		442	10001	1048	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446), AS PER PLAN	9	
			3067								1600	1464	3		442	20000	3067	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (448)		
			393								229	160	4		617	10100	393	CU YD	COMPACTED AGGREGATE		
2											1	1			617	25000	2	M GAL	WATER		
4													4		638	10800	4	EACH	WATER WORK		
																			VALVE BOX ADJUSTED TO GRADE		

SHEET NUMBER											PARTICIPATION				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED	CHECKED
											01/STR/PV	02/S2/PV/F-ST	03/S2/PV/F-LC	04/S2/PV/GRDV								
7 - 12	13 - 16	18	21	79	80	84	86	88	90													
8					495						4	4			620	00500	8	EACH	TRAFFIC CONTROL			
					444						182	313			621	00100	495	EACH	DELINEATOR, POST MOUNTED			
											147	297			621	54000	444	EACH	RPM			
180											160	20			626	00100	180	EACH	RAISED PAVEMENT MARKER REMOVED			
				12.64							7.10	5.40	0.14		644	00100	12.64	MILE	BARRIER REFLECTOR			
																			EDGE LINE, 4"			
				5.14								0.94	4.20		644	00204	5.14	MILE				
				8.52							3.55	1.93	3.04		644	00300	8.52	MILE	LANE LINE, 6"			
				3067							117	1229	1721		644	00400	3067	FT	CENTER LINE			
				556							101	101	354		644	00500	556	FT	CHANNELIZING LINE, 8"			
				1263									1263		644	00600	1263	FT	STOP LINE			
																			CROSSWALK LINE			
				644								139	505		644	00700	644	FT				
				2									2		644	01110	2	EACH	TRANSVERSE/DIAGONAL LINE			
				35								4	31		644	01300	35	EACH	SCHOOL SYMBOL MARKING, 96"			
				98								98			644	01510	98	FT	LANE ARROW			
4													4		644	50100	4	EACH	DOTTED LINE, 6"			
																			PAVEMENT MARKING, MISC.: 25 MPH	12		
						1	1	2	2		2	4			625	18510	6	EACH	TRAFFIC SIGNALS			
						1	1	1			2	1			625	32000	3	EACH	BRACKET ARM, 30'			
							8				8				632	05000	8	EACH	GROUND ROD			
							15				15				632	30000	15	FT	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY			
						120	150	160			270	160			632	30200	430	FT	MESSANGER WIRE, 3 STRAND, 1/4" DIAMETER WITH ACCESSORIES			
																			MESSANGER WIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES			
						389	461	530			850	530			632	40700	1380	FT				
						110	110	110			220	110			632	68100	330	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG			
							15				15				632	69500	15	FT	POWER CABLE, 1 CONDUCTOR, NO. 6 AWG			
						1	1	1			2	1			632	70000	3	EACH	SERVICE CABLE, 2 CONDUCTOR, NO. 6 AWG			
						1	1	1			2	1			632	90101	3	EACH	POWER SERVICE			
																			REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	10		
						1	1	1			2	1			633	01551	3	EACH				
						3	4	3	3		7	6			633	69000	13	EACH	CONTROLLER UNIT, TYPE TS2/A2 WITH CABINET, TYPE TS2, AS PER PLAN	10		
						1	2	1	4		3	5			633	69100	8	EACH	ADVANCE/DILEMMA ZONE DETECTION SYSTEM	10		
						1	1	1			2	1			633	99000	3	EACH	STOP BAR DETECTION RADAR	11		
								1				1			633	99000	1	EACH	CONTROLLER ITEM MISC.: REUSE OF UNINTERRUPTIBLE POWER SUPPLY	11		
																			CONTROLLER ITEM MISC.: REUSE OF SPREAD SPECTRUM RADIO	11		
		82									82				518	12500	82	EACH	STRUCTURES OVER 20'			
																			SCUPPER, MISC.: SCUPPER CLEANOUT	16		
	200										90	54	56		614	11110	200	HOURL	MAINTENANCE OF TRAFFIC			
		8									8				614	12339	8	EACH	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE			
	40										6	34			614	12461	40	EACH	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL), AS PER PLAN	16		
		32									32				614	13302	32	EACH	WORK ZONE MARKING SIGN, AS PER PLAN	14		
		32									32				614	13360	32	EACH	BARRIER REFLECTOR, TYPE B2			
																			OBJECT MARKER, TWO WAY			
	60										30	30			614	18401	60	DAY				
	10.28											1.89	8.39		614	20550	10.28	MILE	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	15		
	3.55										0.41	0.10	3.04		614	21500	3.55	MILE	WORK ZONE LANE LINE, CLASS III, 642 PAINT			
	7.16										2.24	1.88	3.04		614	21600	7.16	MILE	WORK ZONE CENTER LINE, CLASS II, 740.06, TYPE I			
	3786											1852	1934		614	23680	3786	FT	WORK ZONE CENTER LINE, CLASS II, 740.06, TYPE I			
																			WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT			
	1024										134	182	708		614	26610	1024	FT				
		1320									1320				622	40041	1320	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT			
																			PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED, AS PER PLAN	16		
	LUMP										0.45	0.27	0.28		614	11000	LUMP		MAINTAINING TRAFFIC			
											5	2	2		619	16000	9	MONTH	FIELD OFFICE, TYPE A			
											0.45	0.27	0.28		624	10000	LUMP		MOBILIZATION			
											0.45	0.27	0.28		823	10000	LUMP		CONSTRUCTION LAYOUT STAKES			

GENERAL SUMMARY

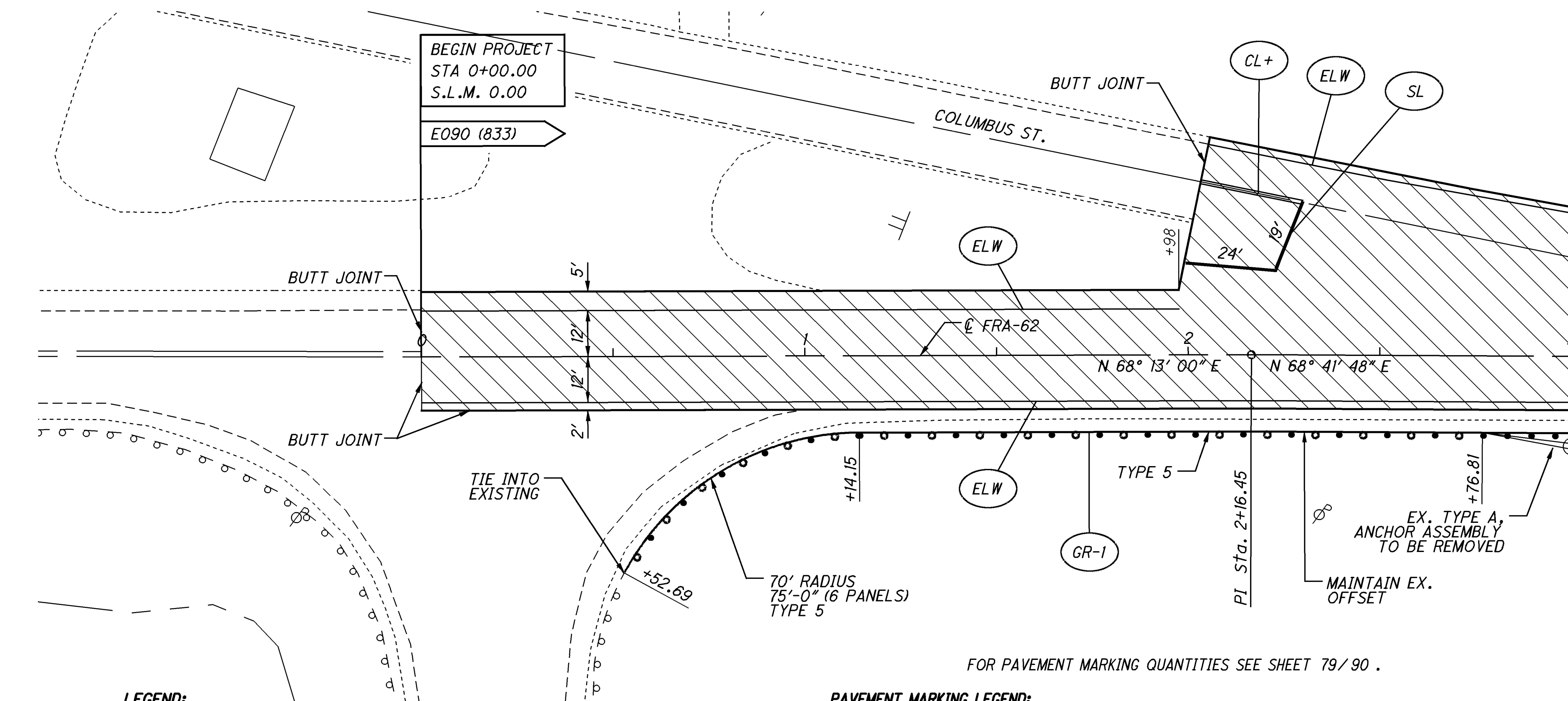
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SHEET NUMBER	ROADWAY												PAVEMENT														CALCULATED	CHECKED
	202	202	202	209	209	606	606	606	606	606	606	609		254	407	407	442	442	442	617								
	CURB REMOVED, AS PER PLAN	GUARDRAIL REMOVED, AS PER PLAN	ANCHOR ASSEMBLY REMOVED, TYPE A	RESHAPING UNDER GUARDRAIL	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE 5A	ANCHOR ASSEMBLY, TYPE A	ANCHOR ASSEMBLY, TYPE B	ANCHOR ASSEMBLY, TYPE E	ANCHOR ASSEMBLY, TYPE T	CURB, MISC.: VARIOUS TYPE		PAVEMENT PLANING, ASPHALT CONCRETE	TACK COAT (0.075 GAL/SQ YD)	TACK COAT, TRACKLESS TACK, SURFACE COURSE (0.075 GAL/SQ YD)	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446) (1.5")	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446), AS PER PLAN (1.5")	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (448) (1.5")	COMPACTED AGGREGATE (2")								
	FT	FT	EACH	STA	STA	FT	FT	EACH	EACH	EACH	EACH	FT		SQ YD	GALLON	GALLON	CU YD	CU YD	CU YD	CU YD								
22		237.50	1	2.93	3.41	275.00				1				2,334	227				125	8								
23		612.50	2	6.98	16.00	525.00		2							223				122	10								
24		962.50	2	10.19	4.98	987.50					2			898	132				73	7								
25		1312.50	1	13.44		1343.75				1				1,695	127				71	7								
26		2081.25	5	26.35	12.53	2712.50					2			676	191				105	10								
27				1.49	16.00	112.50				1	1				194				106	10								
28		443.75	2	4.97	16.00	468.75		1			1				206				114	10								
29					16.00										231				127	10								
30		468.75	4	6.28	8.10	575.00		1	1		2			1,558	237		66		65	10								
31														183	14		8			5								
32		781.25	4	8.92		350.00	456.25		2	2									10									
33																			10									
34																			10									
35																			10									
36																			11									
37																			10									
38																			10									
39																			10									
40					10.00									250	129				70	11								
41					16.00										208				115	10								
42					16.00									298	254				140	10								
43					16.00										231				127	10								
44					16.00										220				120	10								
45					16.00										220				120	10								
46					16.00										222				123	10								
47					16.00										222				121	10								
48		206.25	4	4.31	16.00	362.50				2	2				220				120	10								
49					16.00										221				121	10								
50					16.00										221				121	10								
51					16.00									260	239				130	10								
52					16.00										223				122	10								
53		87.50	1	1.85	16.00	150.00				1	3				222				121	10								
54					16.00										222				121	10								
55					16.00										223				122	10								
56					16.00										222				122	10								
57		218.75	3	3.06	14.95	256.25		1	1	1	2			296	219				120	10								
58														3,869	5	285	158		3									
59														4,025		303	167											
60														3,859		289	160											
61														3,671		275	153											
62														874		66	37											
63														2,480		186	103											
64														3,623		271	151											
65														3,606		270	150											
66														4,947		371	206											
67														5,717		428	238											
68														5,510		414	229											
69														5,436		408	226											
70														5,334		400	222											
71	40											40		5,334		400	222											
72														7,205		540	158	142		4								
73														7,498		562		313		19								
74														7,414		556		308		10								
75														6146		461		256		10								
76														689		52		29		1								
TOTAL	40	7412.5	29	90.77	373.97	8118.75	456.25	3	6	8	16	40		95685	5725	6537	2654	1048	3067	393								
TOTALS CARRIED TO GENERAL SUMMARY																												



PLAN SUBSUMMARY

FRA - 62 - 0.00



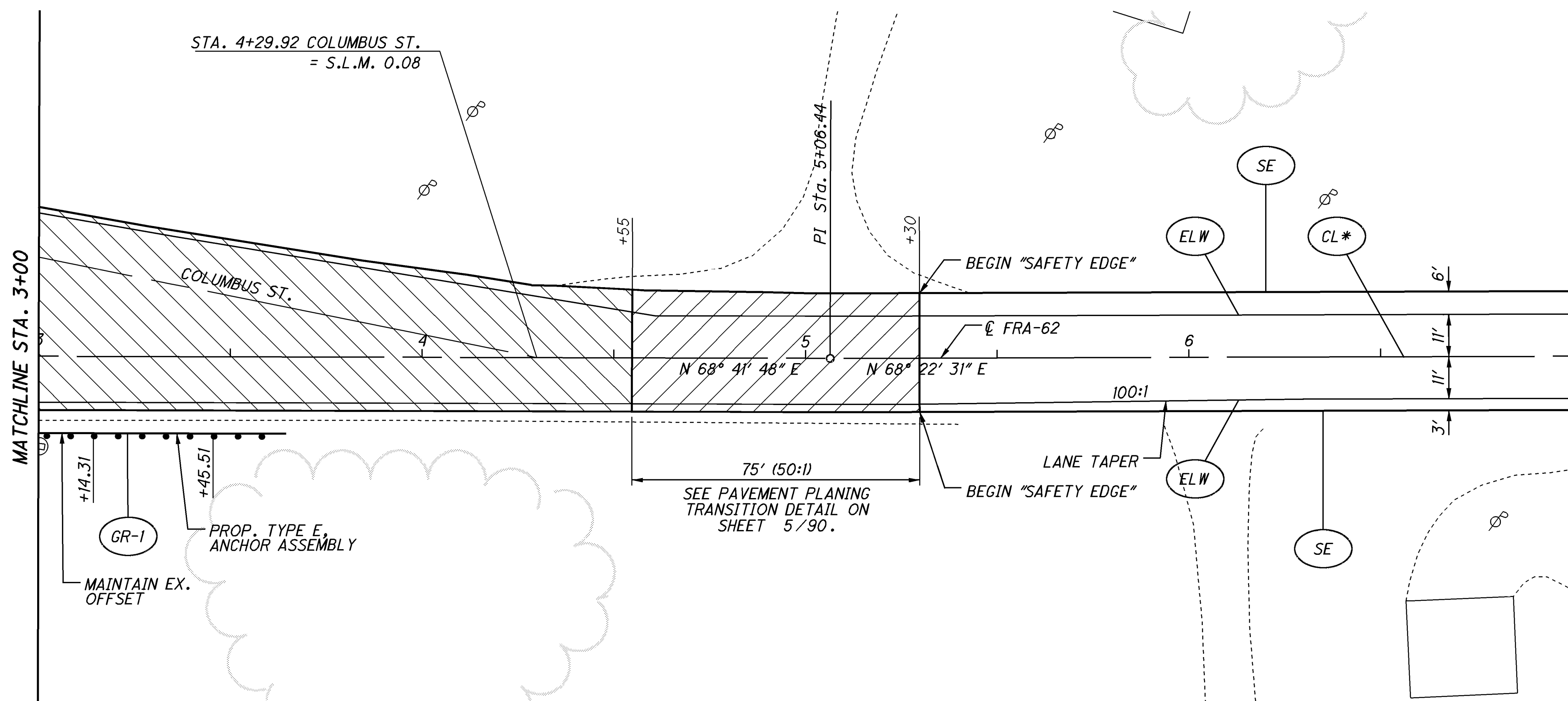
FOR PAVEMENT MARKING QUANTITIES SEE SHEET 79/90 .

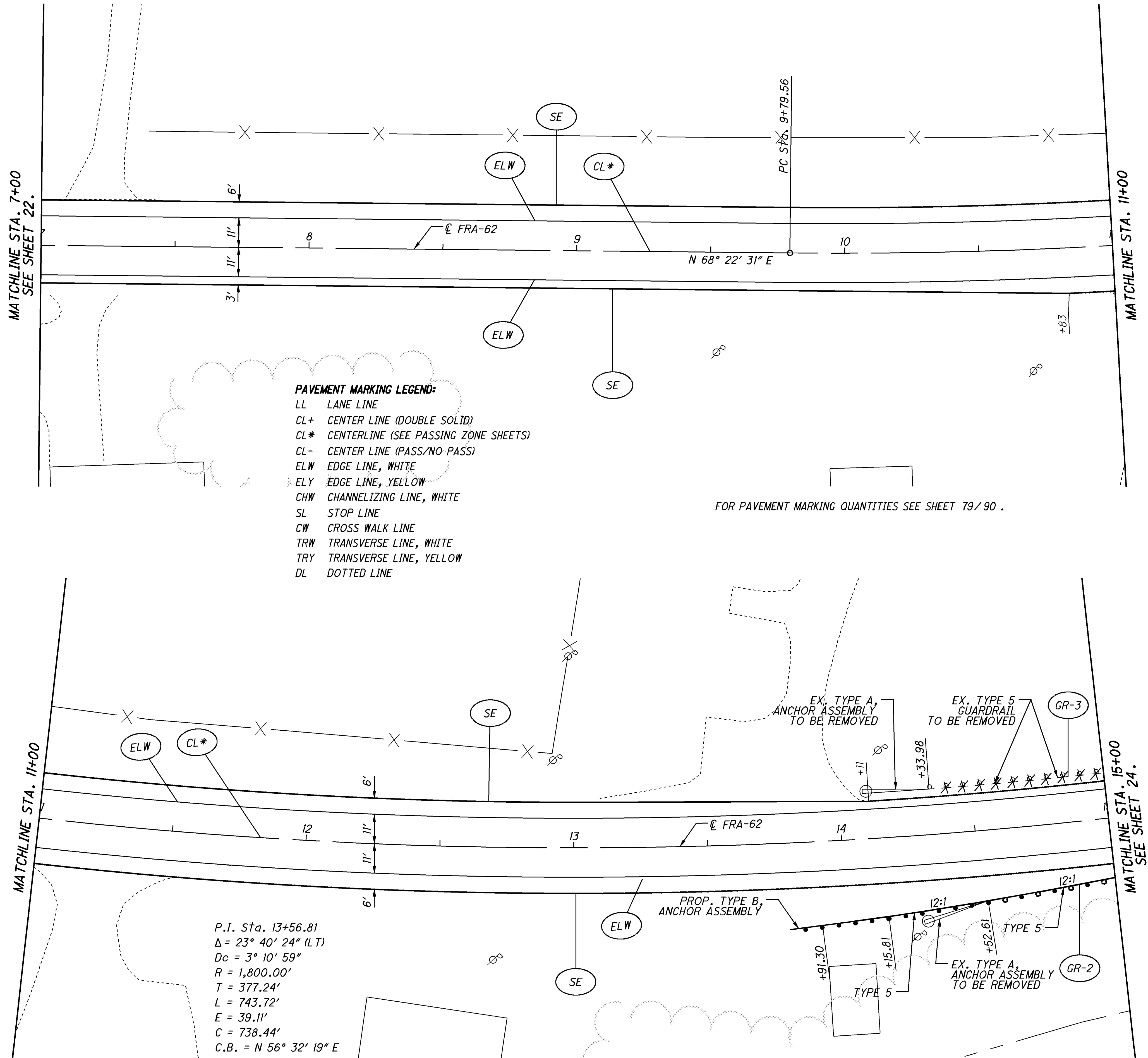
LEGEND:

-  (1.5") CONSTANT DEPTH PAVEMENT PLANING
 -  (0" - 1.5") VARIABLE DEPTH PAVEMENT PLANING

PAVEMENT MARKING LEGEND:

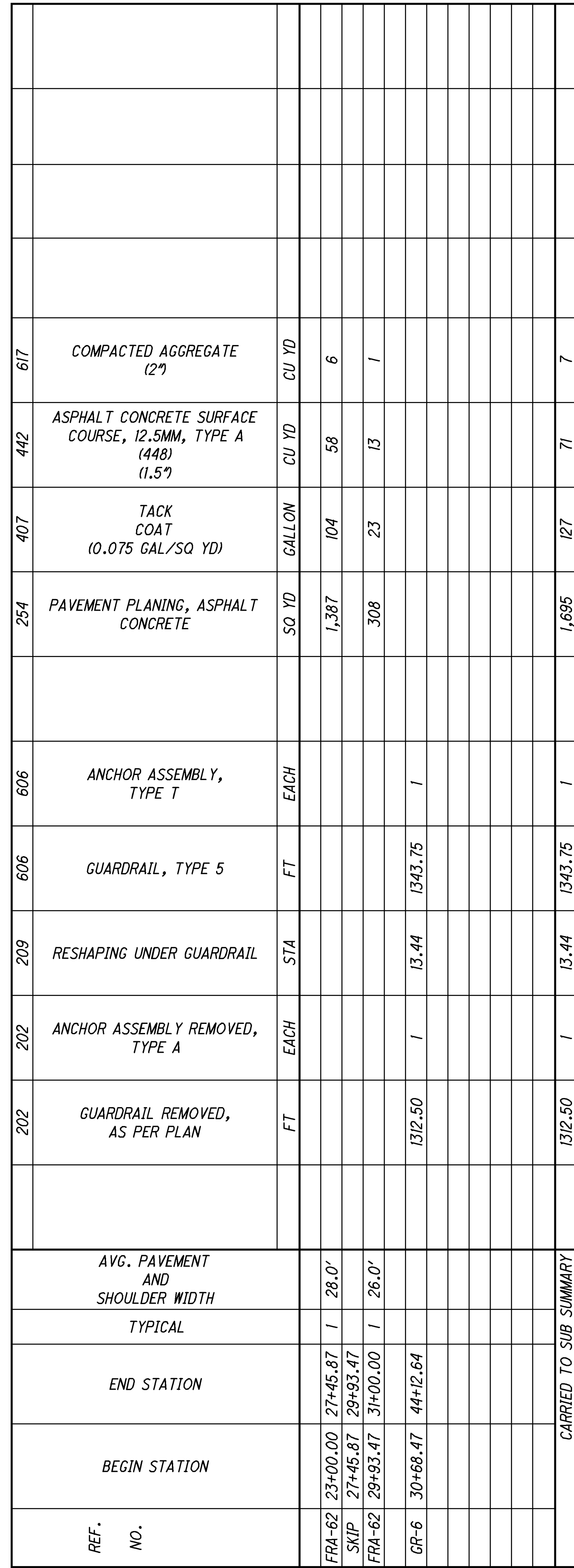
- | | | | |
|-----|--------------------------------------|-----|--------------------------|
| LL | LANE LINE | CHW | CHANNELIZING LINE, WHITE |
| CL+ | CENTER LINE (DOUBLE SOLID) | SL | STOP LINE |
| CL* | CENTERLINE (SEE PASSING ZONE SHEETS) | CW | CROSS WALK LINE |
| CL- | CENTER LINE (PASS/NO PASS) | TRW | TRANSVERSE LINE, WHITE |
| ELW | EDGE LINE, WHITE | TRY | TRANSVERSE LINE, YELLOW |
| ELY | EDGE LINE, YELLOW | DL | DOTTED LINE |

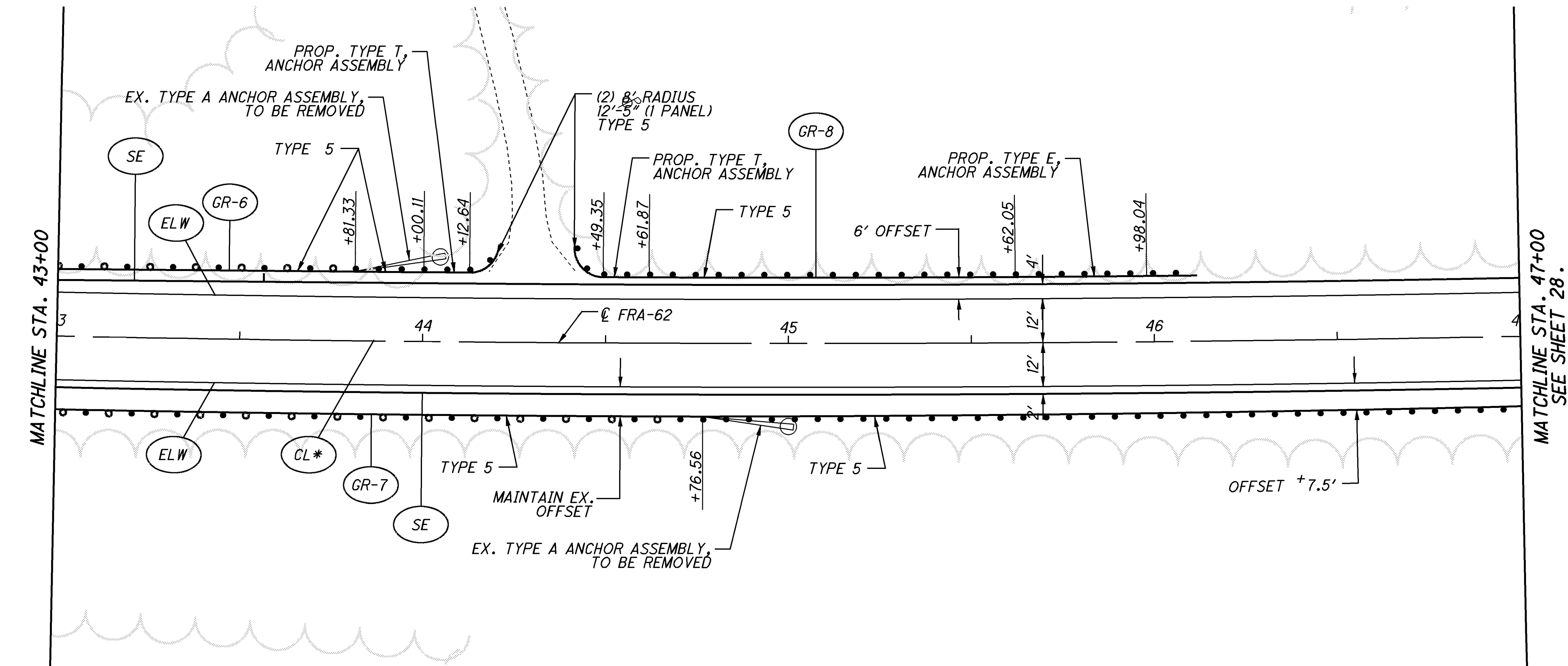
[illegible]

[illegible]

0 20 40
HORIZONTAL
SCALE IN FEET

[illegible]

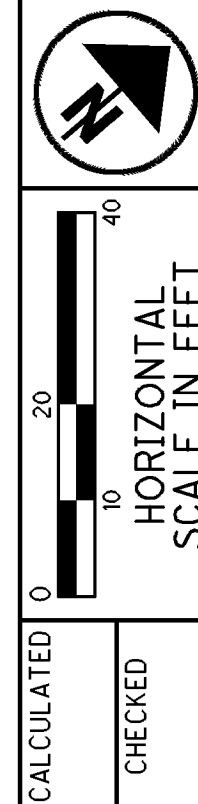


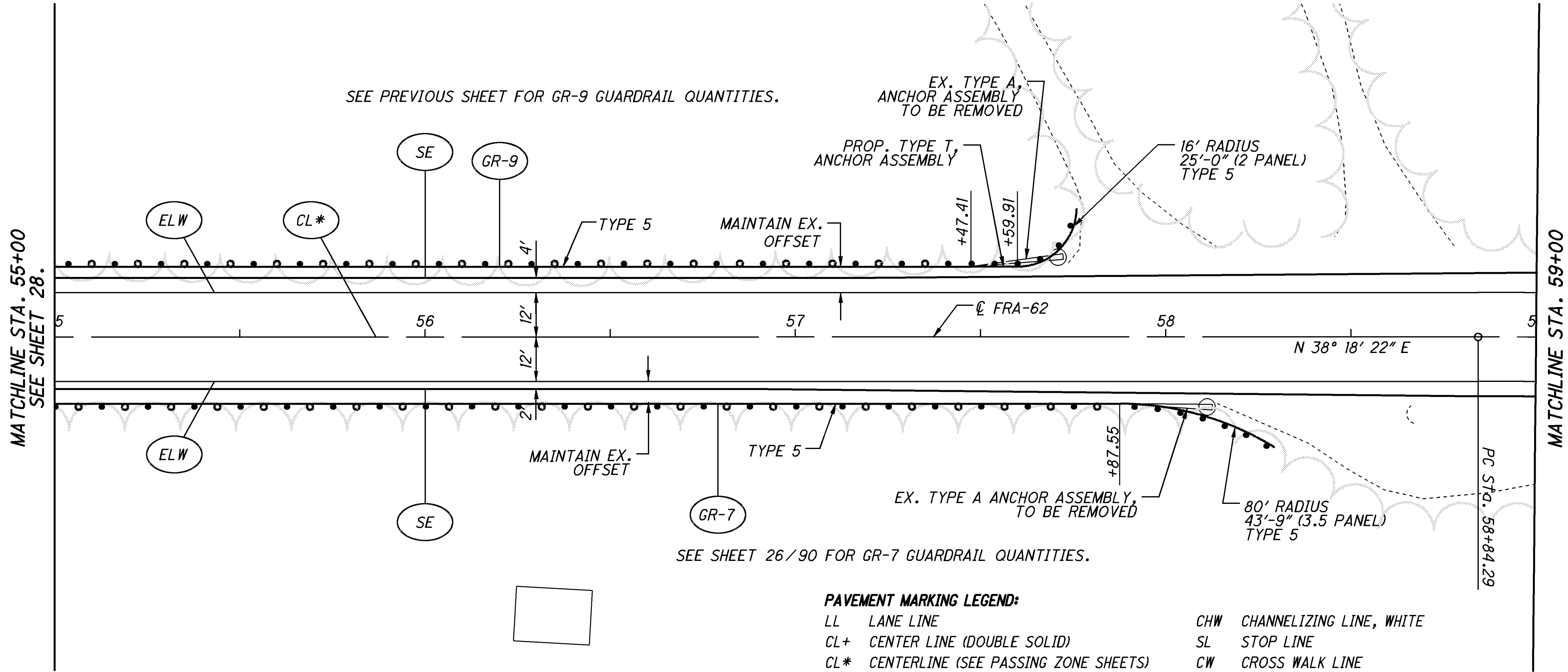
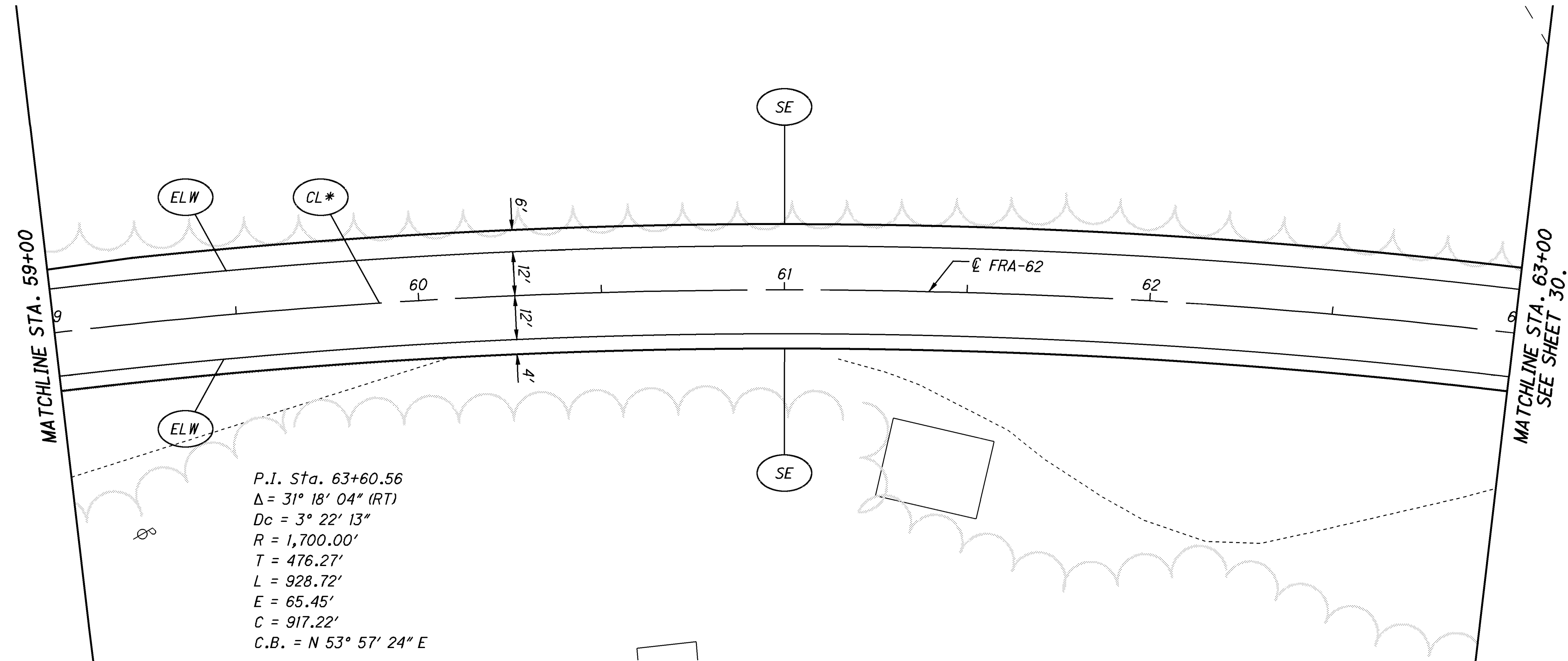
[illegible]



28	90	FRA - 62 - 0.00
		<i>CARRIED TO SUB SUMMARY</i>

FRA-62 PLAN
STA. 47+00 TO STA. 55+00



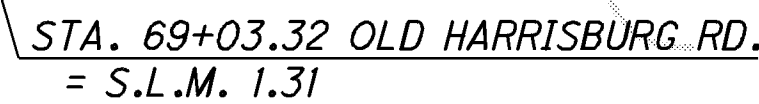


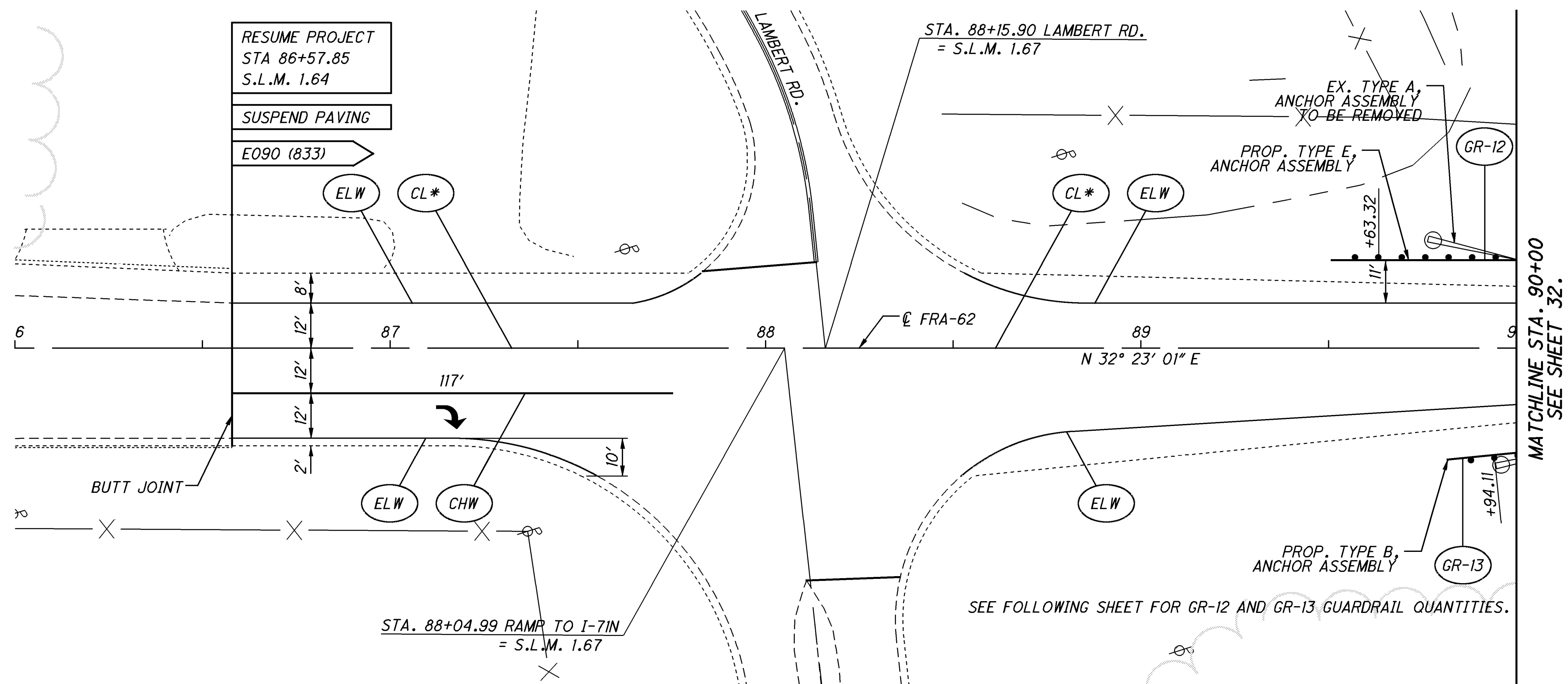
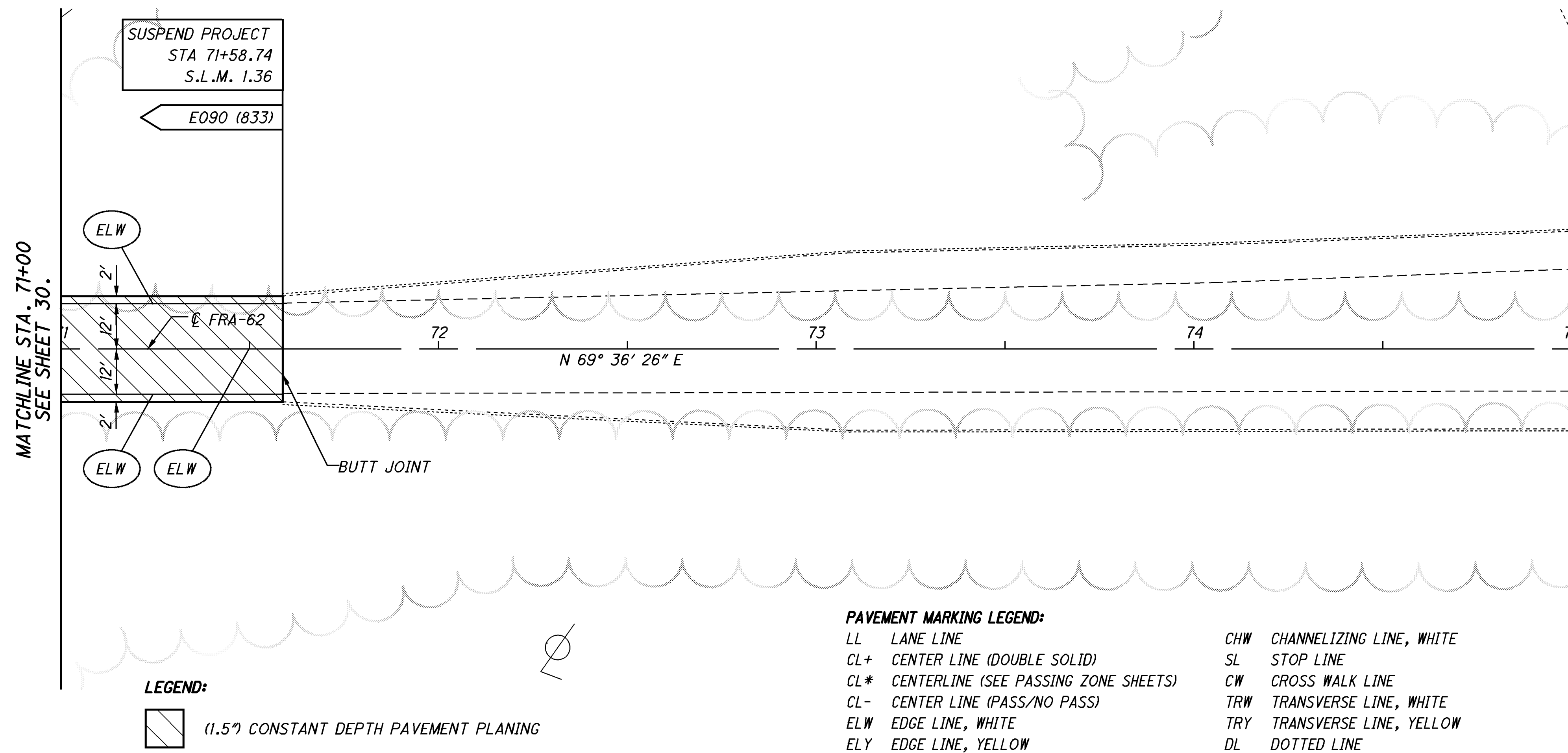
PAVEMENT MARKING LEGEND:

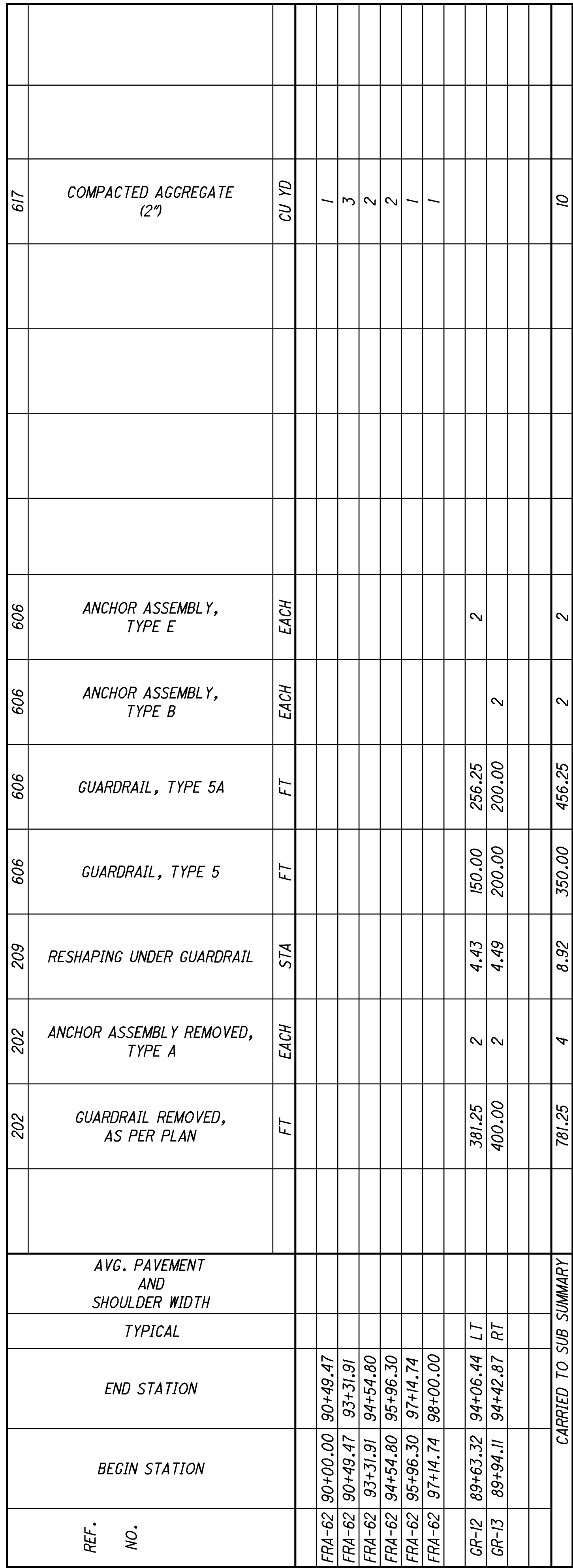
- | | | | |
|-----|--------------------------------------|-----|--------------------------|
| LL | LANE LINE | CHW | CHANNELIZING LINE, WHITE |
| CL+ | CENTER LINE (DOUBLE SOLID) | SL | STOP LINE |
| CL* | CENTERLINE (SEE PASSING ZONE SHEETS) | CW | CROSS WALK LINE |
| CL- | CENTER LINE (PASS/NO PASS) | TRW | TRANSVERSE LINE, WHITE |
| ELW | EDGE LINE, WHITE | TRY | TRANSVERSE LINE, YELLOW |
| ELY | EDGE LINE, YELLOW | DL | DOTTED LINE |

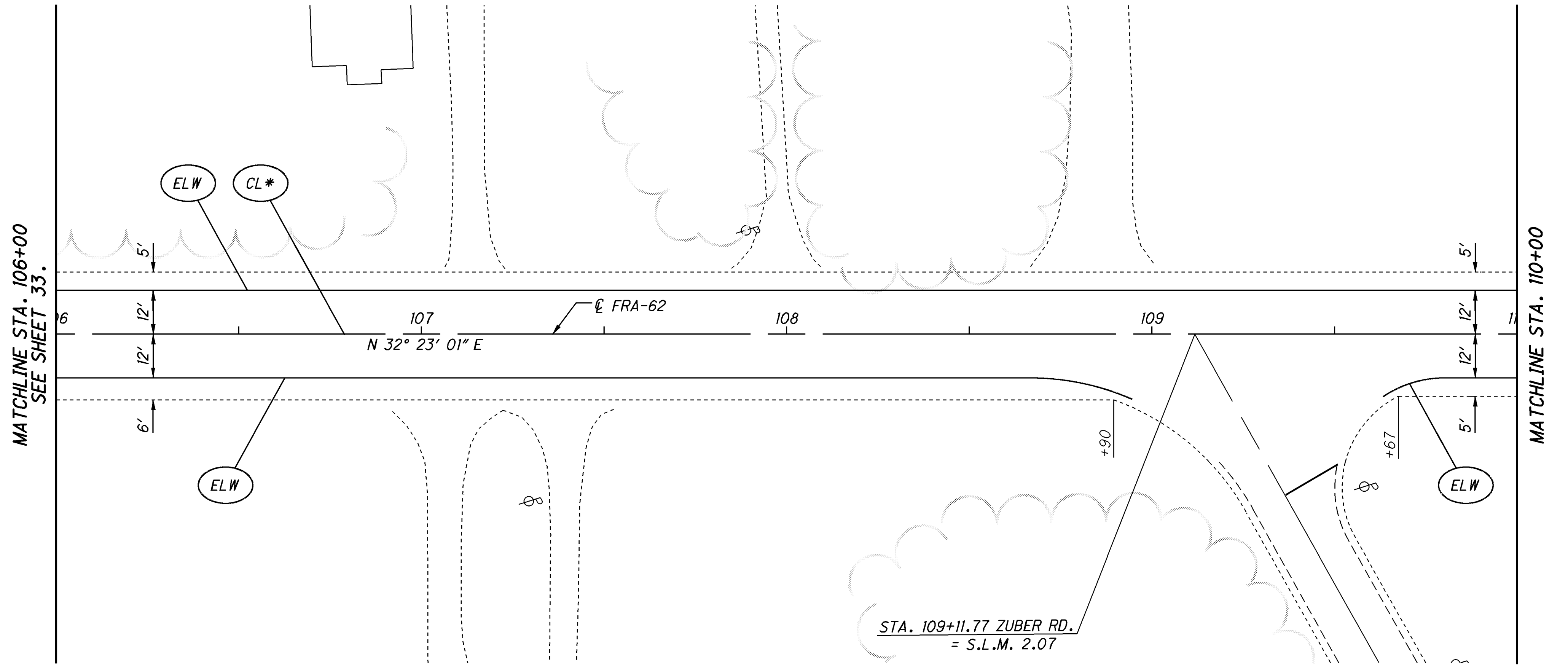
FOR PAVEMENT MARKING QUANTITIES SEE SHEET 79/90 .

REF. NO.	BEGIN STATION	END STATION	TYPICAL	AVG. PAVEMENT AND SHOULDER WIDTH		CARRIED TO SUB SUMMARY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

[illegible]

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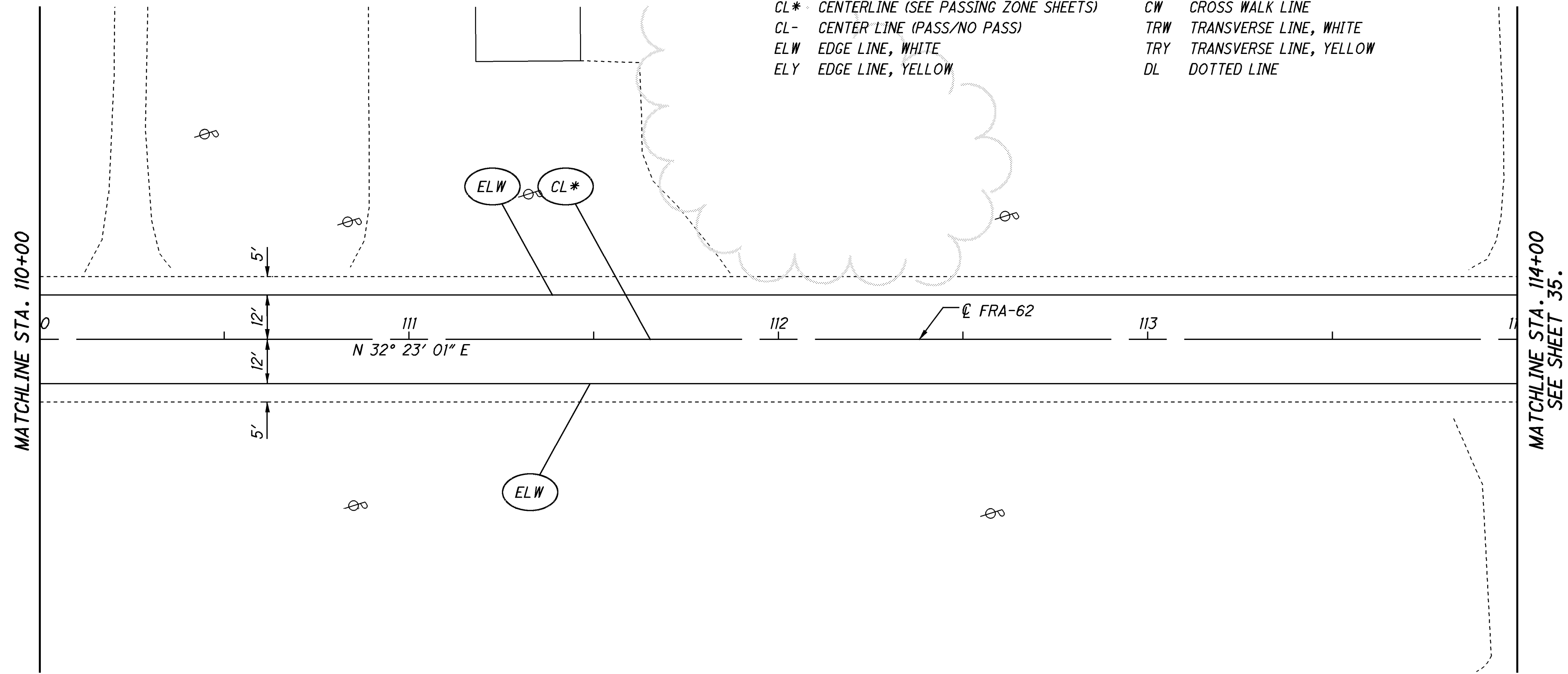


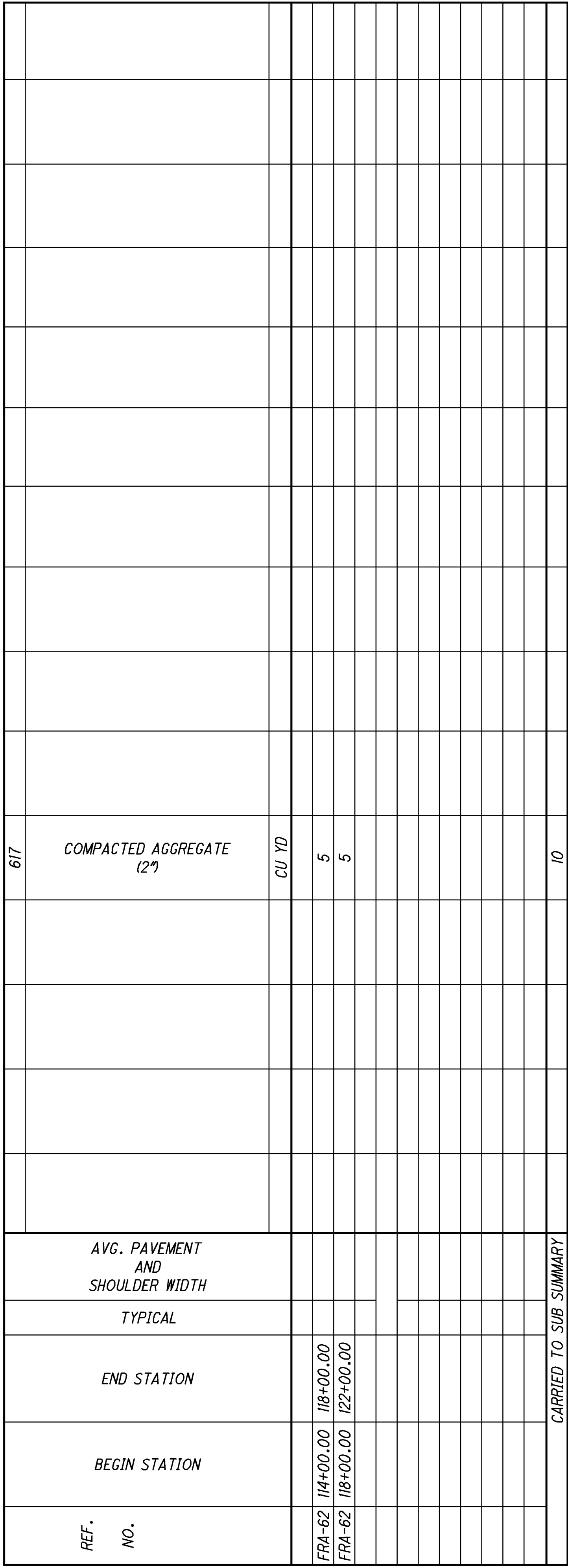
FOR PAVEMENT MARKING QUANTITIES SEE SHEET 79/90 .

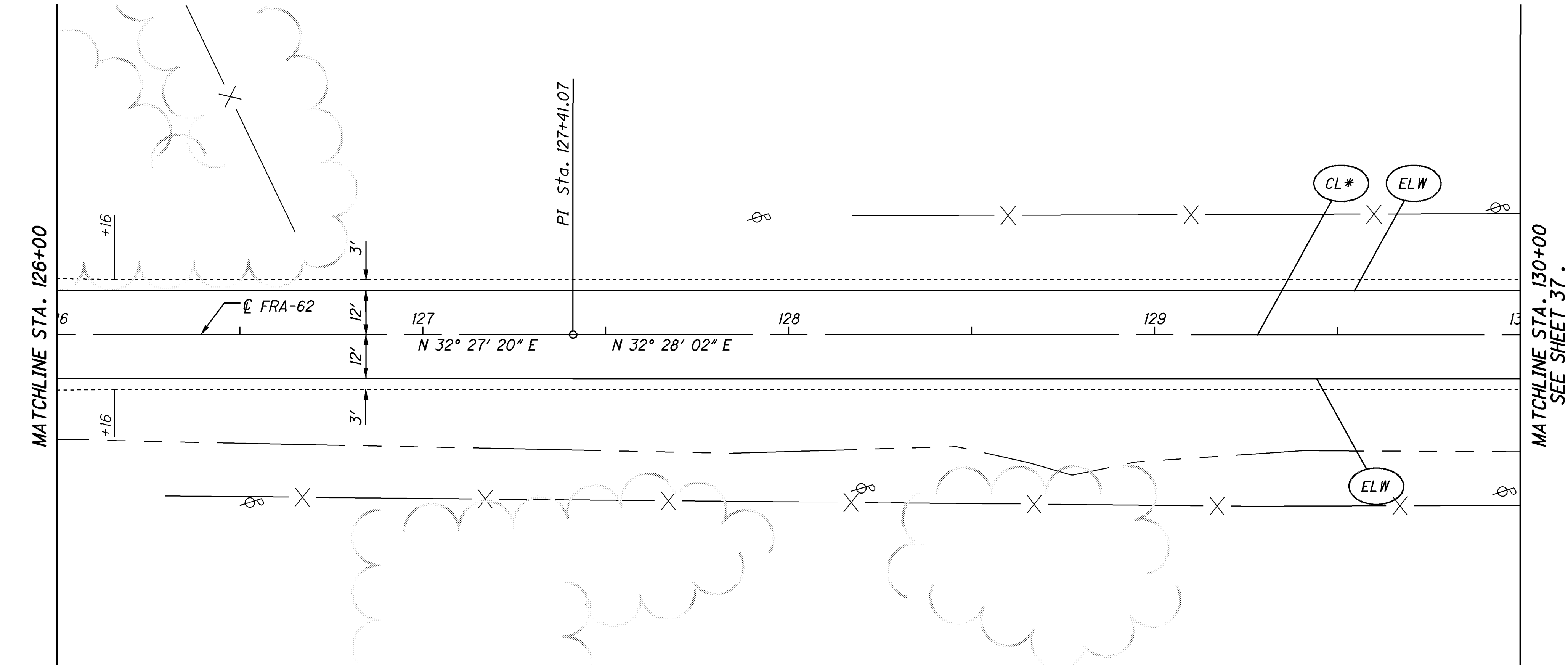
PAVEMENT MARKING LEGEND:

LL LANE LINE
CL+ CENTER LINE (DOUBLE SOLID)
CL* CENTERLINE (SEE PASSING ZONE SHEETS)
CL- CENTER LINE (PASS/NO PASS)
ELW EDGE LINE, WHITE
ELY EDGE LINE, YELLOW

CHW	CHANNELIZING LINE, WHITE
SL	STOP LINE
CW	CROSS WALK LINE
TRW	TRANSVERSE LINE, WHITE
TRY	TRANSVERSE LINE, YELLOW
DL	DOTTED LINE

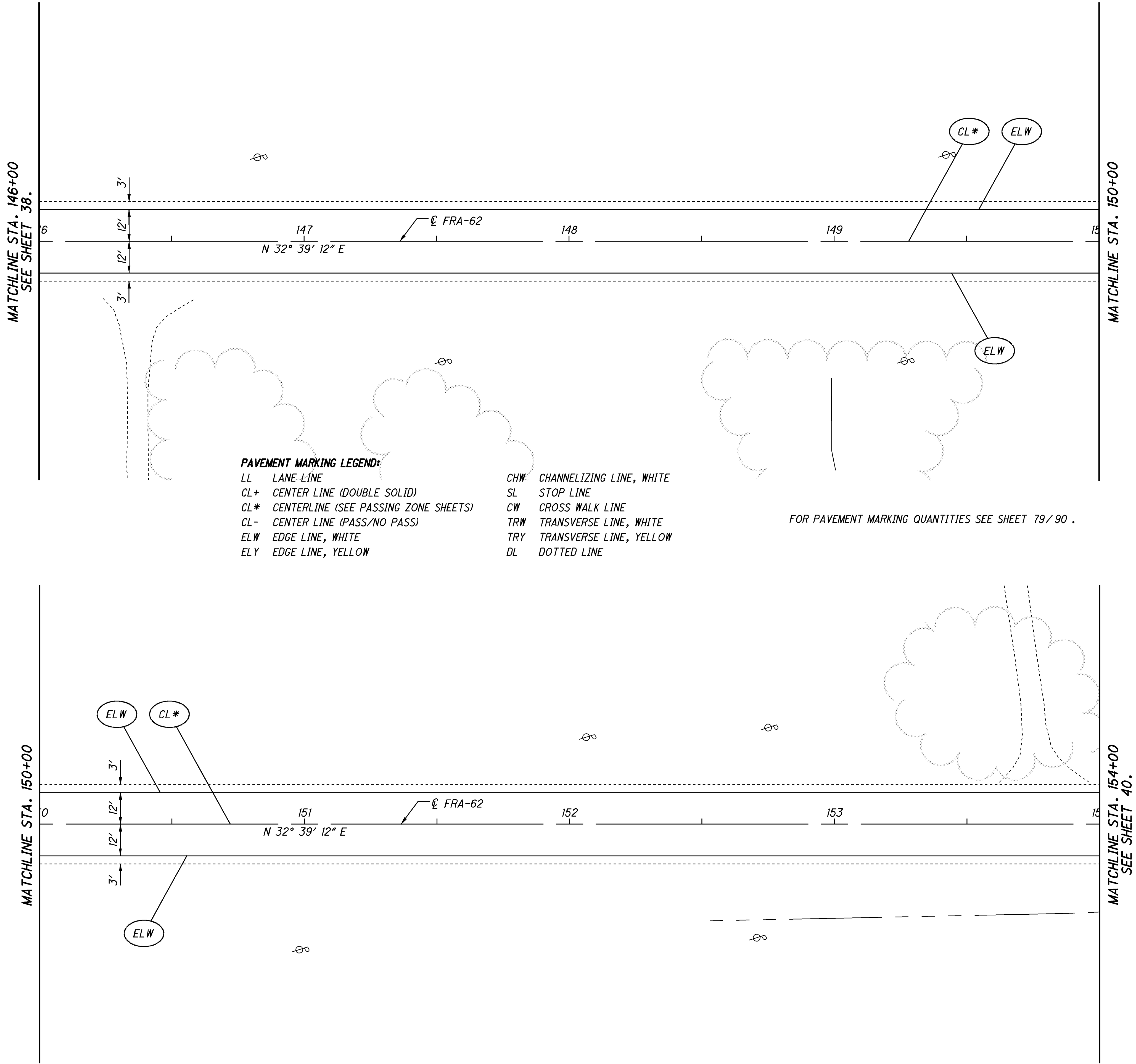
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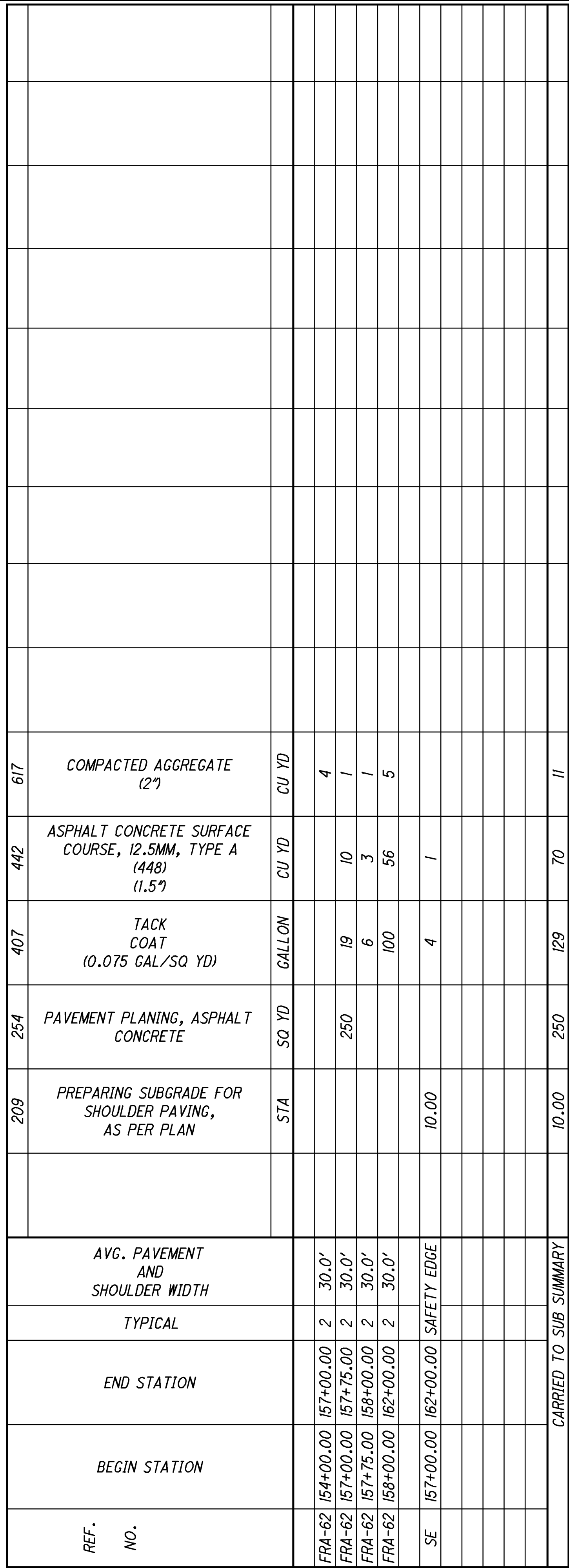


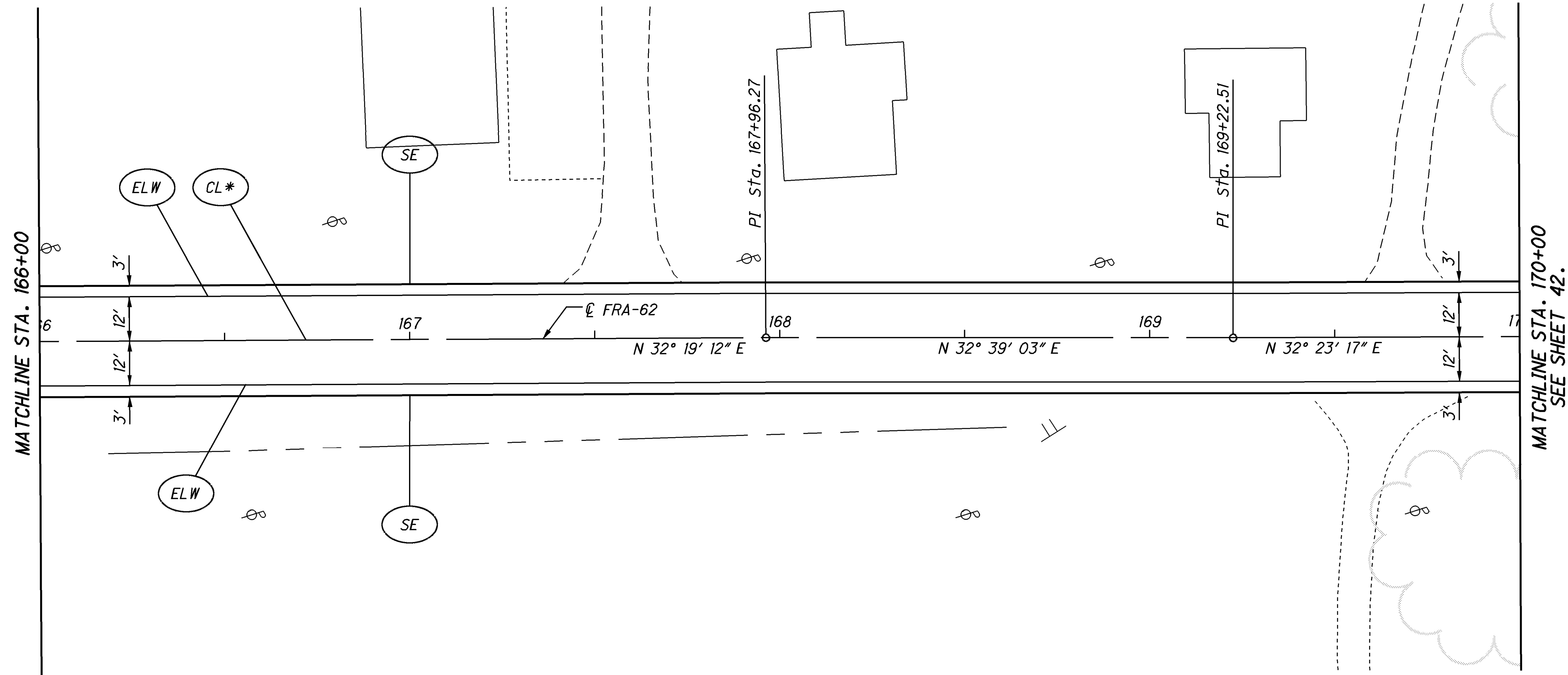
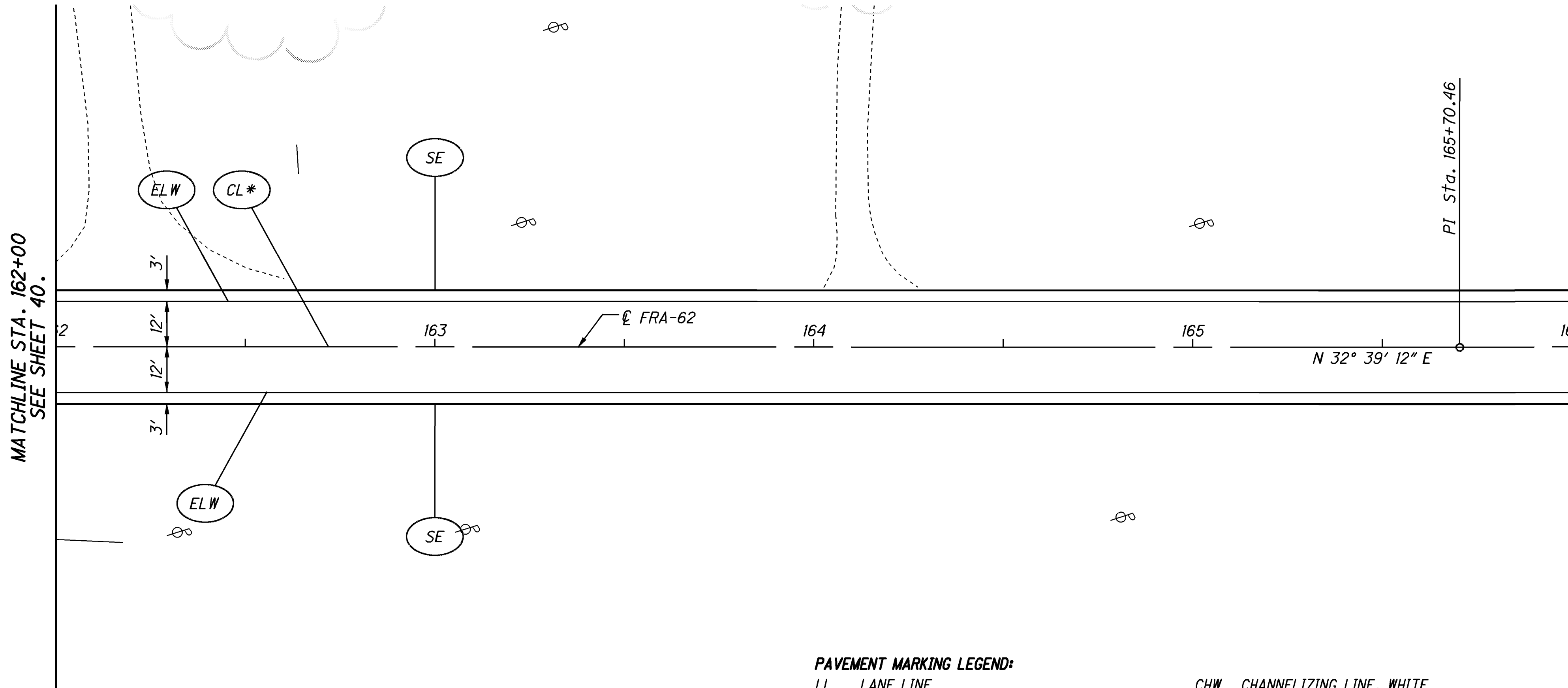
[illegible]

[illegible]

[illegible]

[illegible]



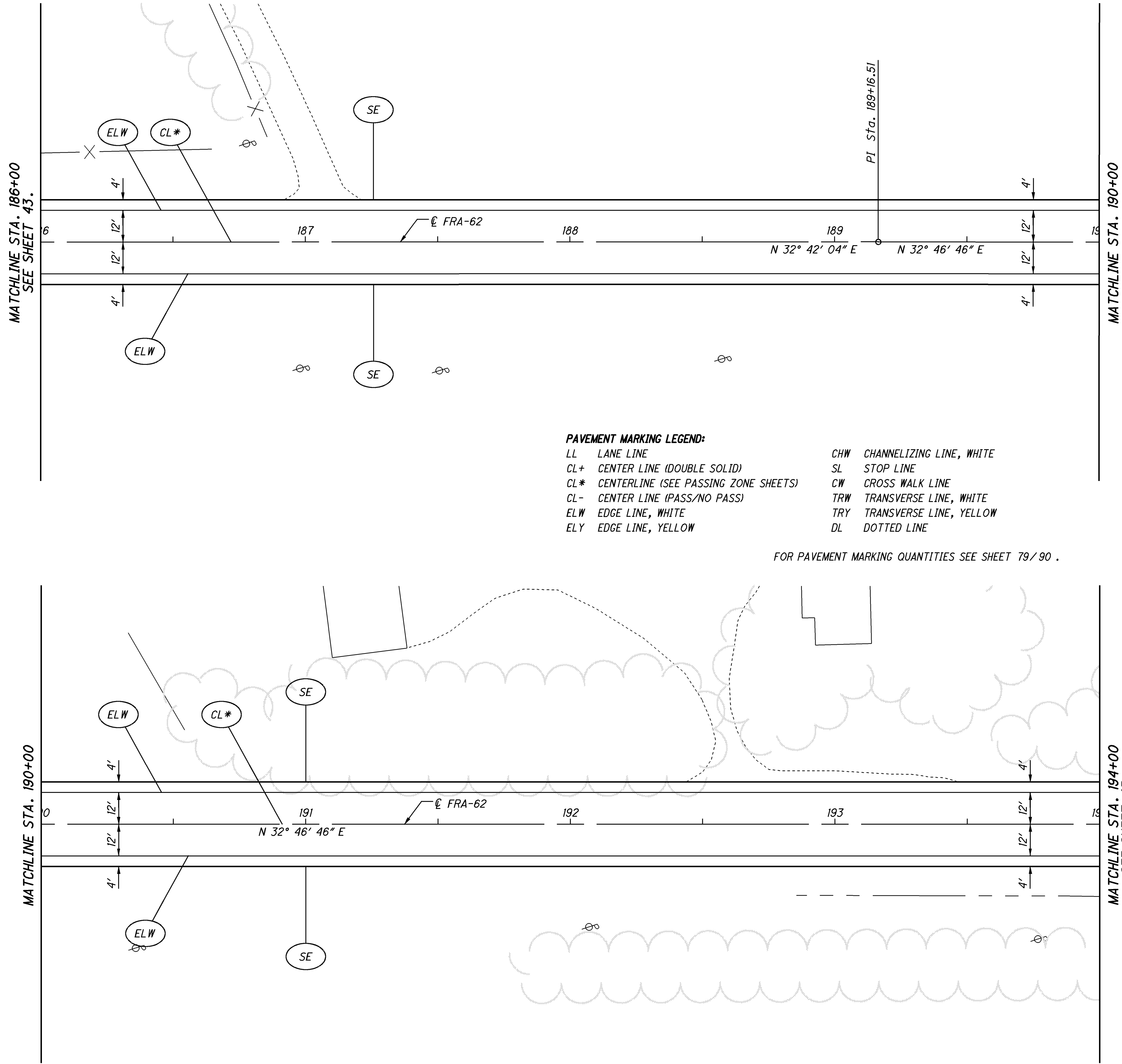
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$$\frac{42}{90}$$

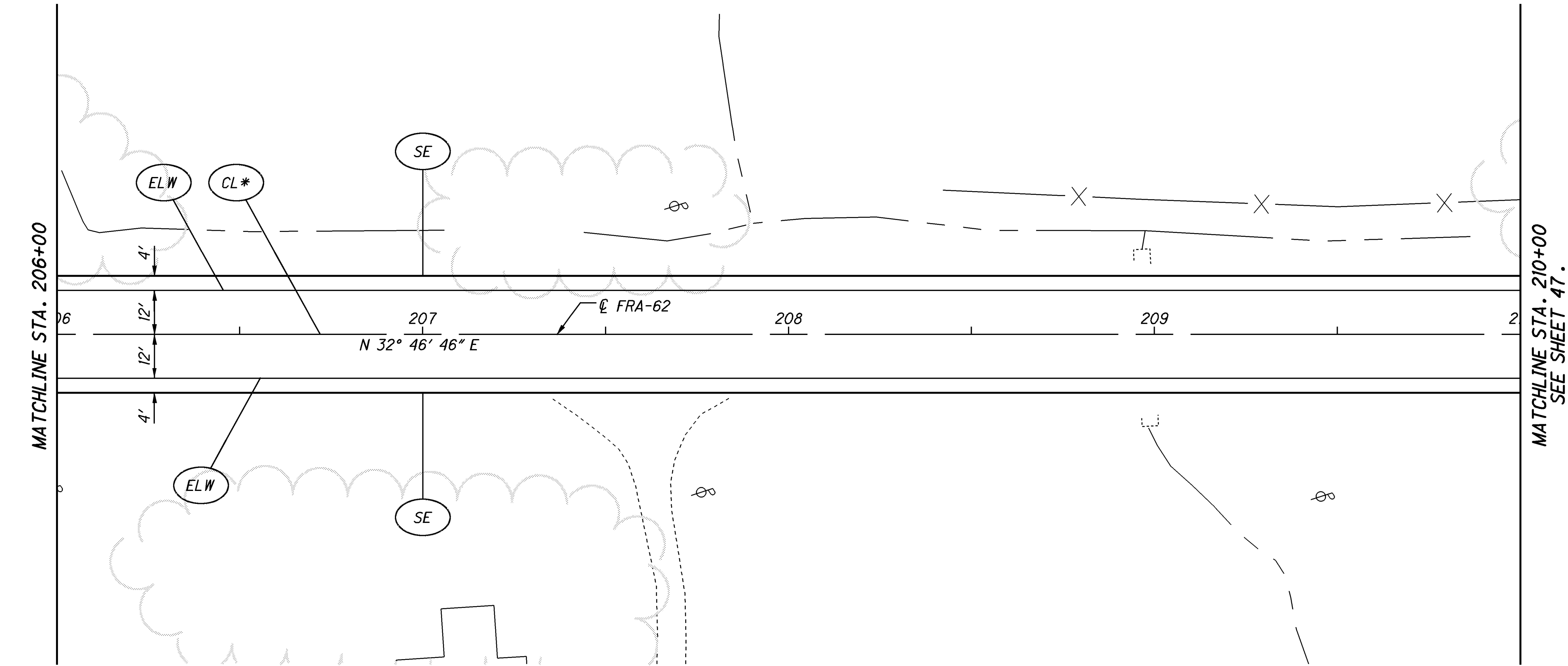
FRA-62 PLAN
STA: 170+00 TO STA: 178+00

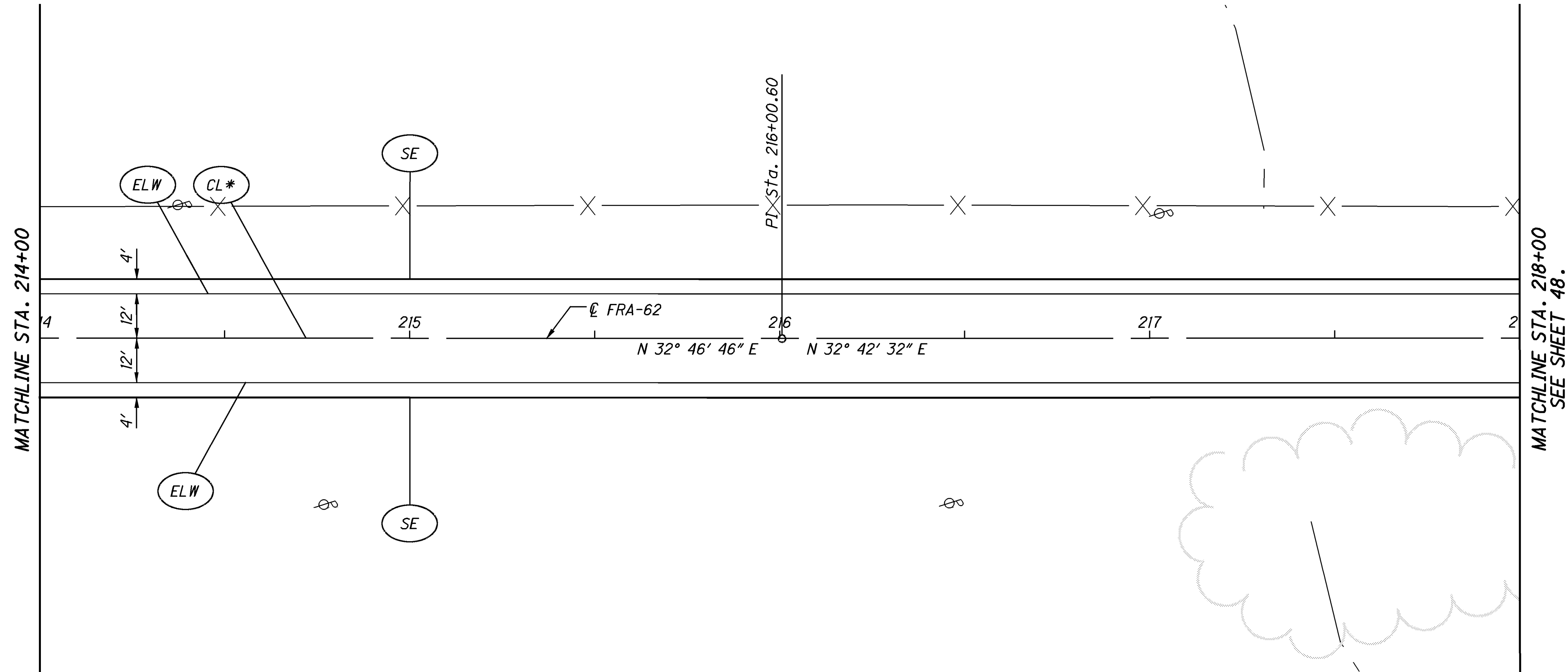
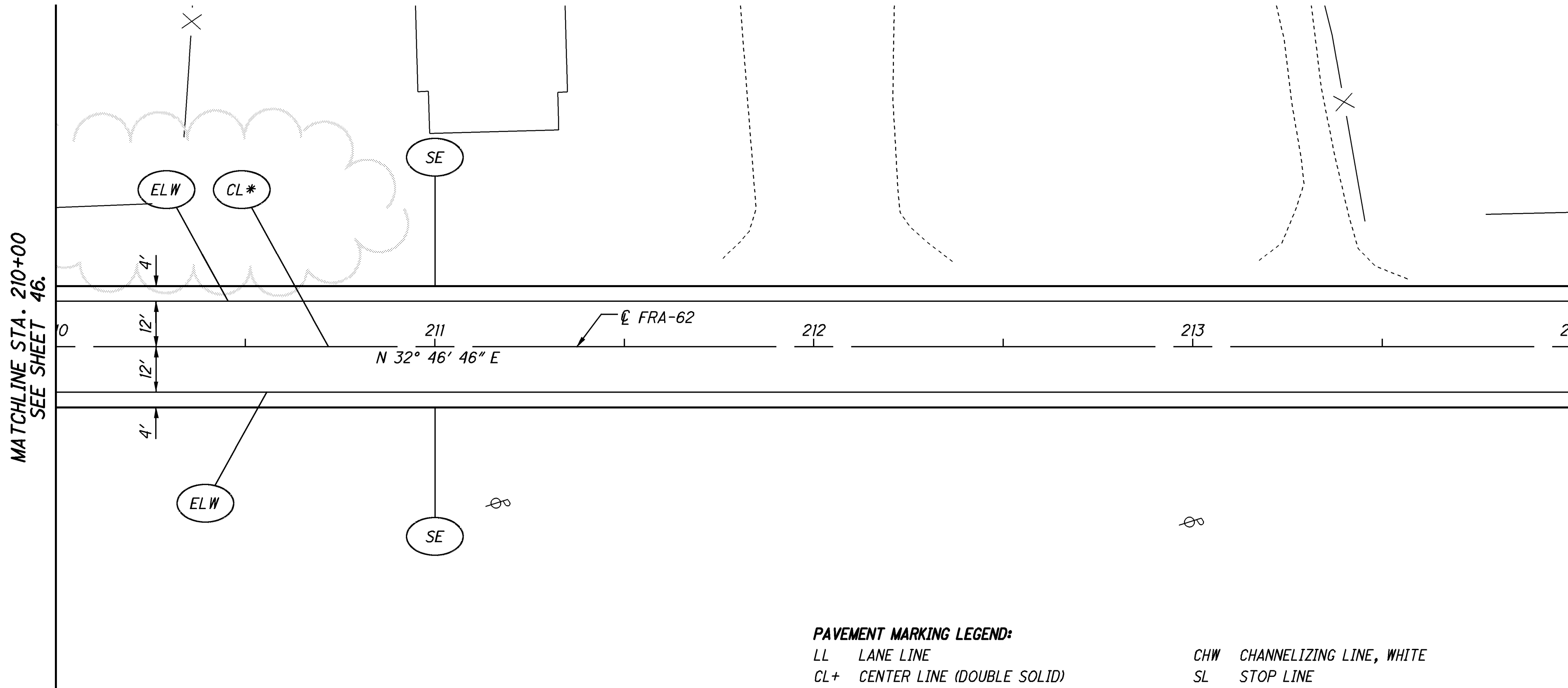


[illegible]

[illegible]

[illegible]

[illegible]

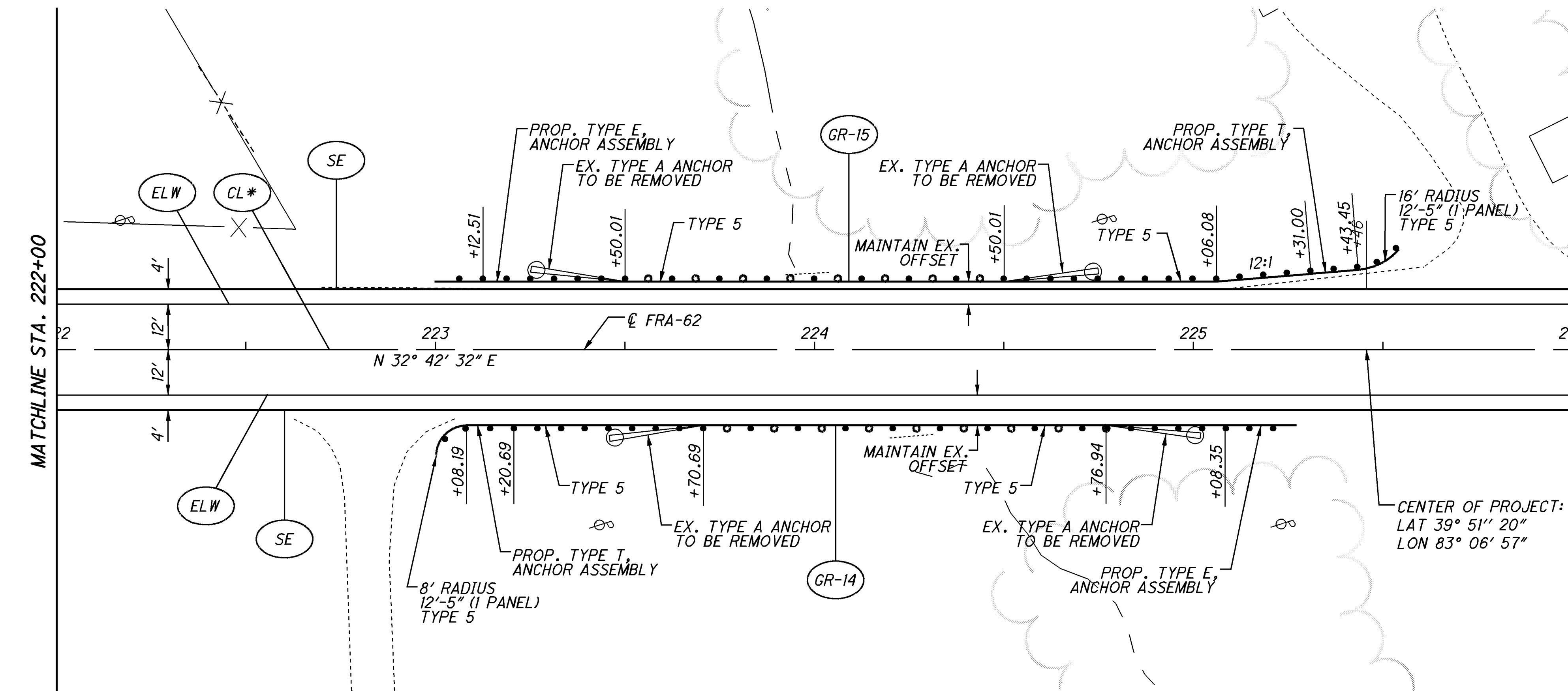


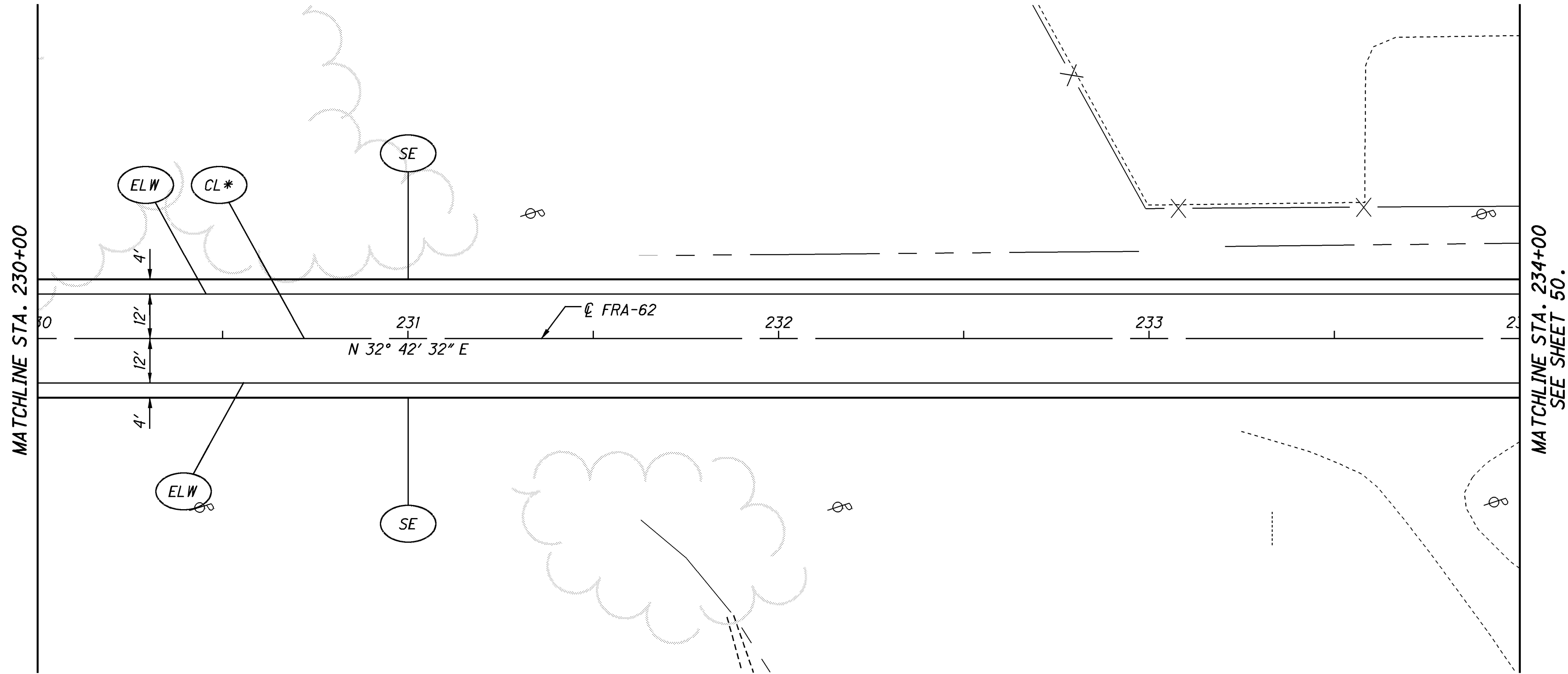
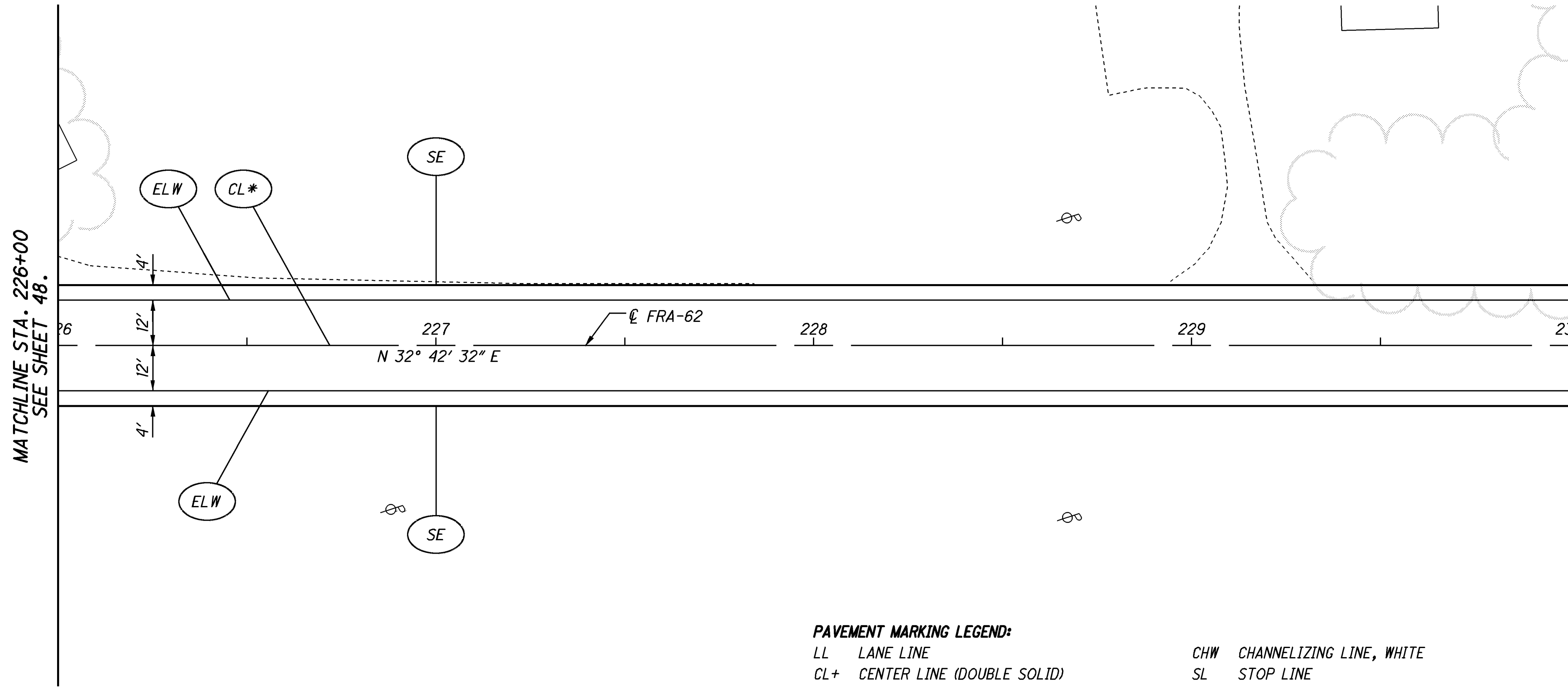
PAVEMENT MARKING LEGEND:

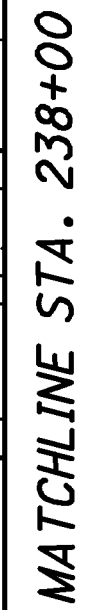
LL	LANE LINE	CHW	CHANNELIZING LINE, WHITE
CL+	CENTER LINE (DOUBLE SOLID)	SL	STOP LINE
CL*	CENTERLINE (SEE PASSING ZONE SHEETS)	CW	CROSS WALK LINE
CL-	CENTER LINE (PASS/NO PASS)	TRW	TRANSVERSE LINE, WHITE
ELW	EDGE LINE, WHITE	TRY	TRANSVERSE LINE, YELLOW
ELY	EDGE LINE, YELLOW	DL	DOTTED LINE

FOR PAVEMENT MARKING QUANTITIES SEE SHEET 79/90 .

[illegible]

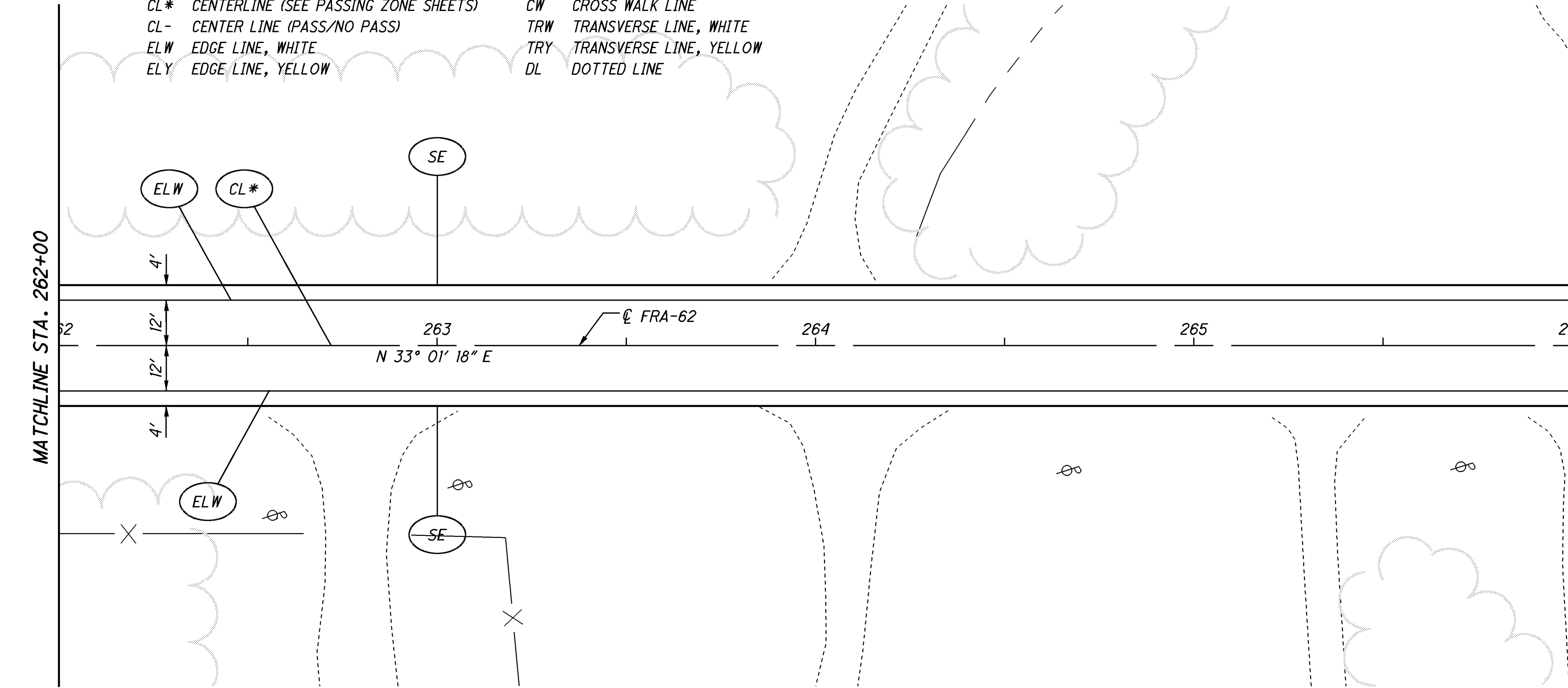
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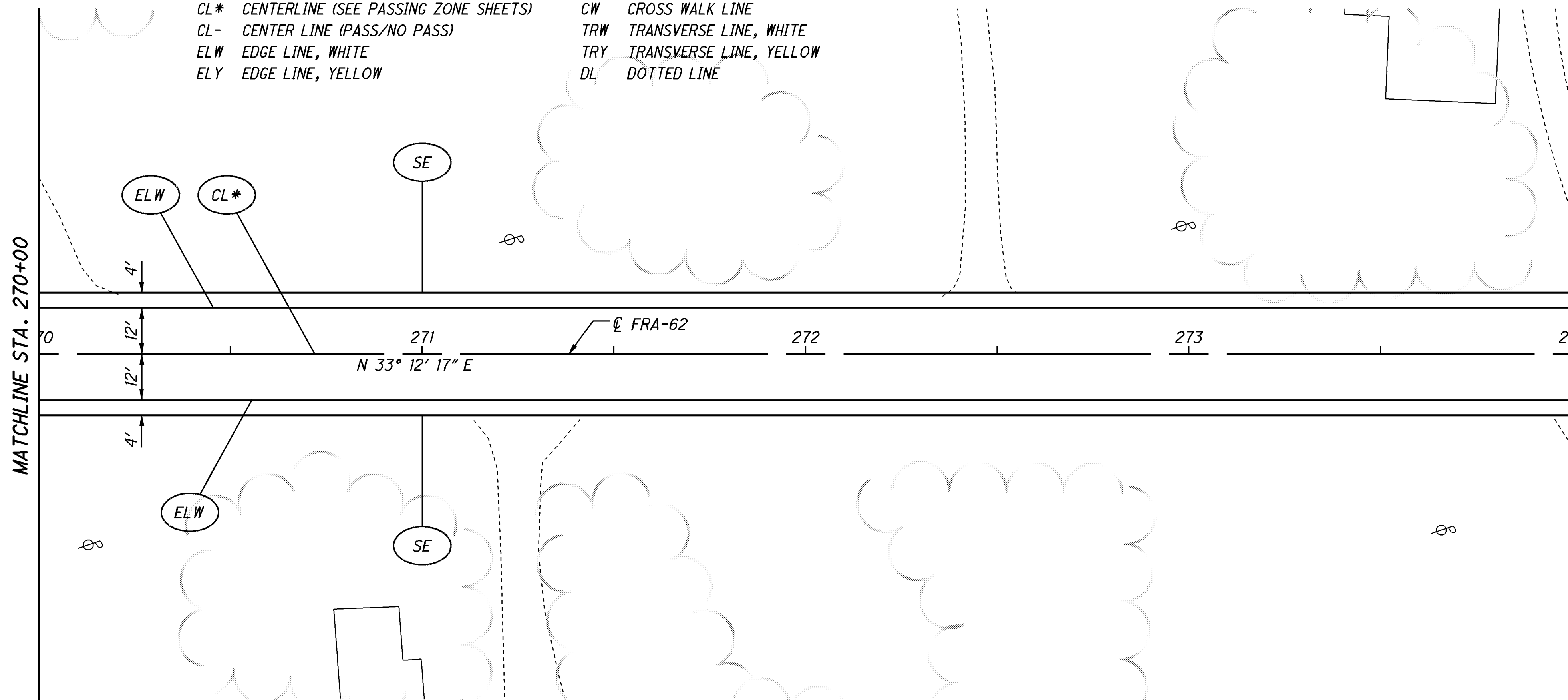
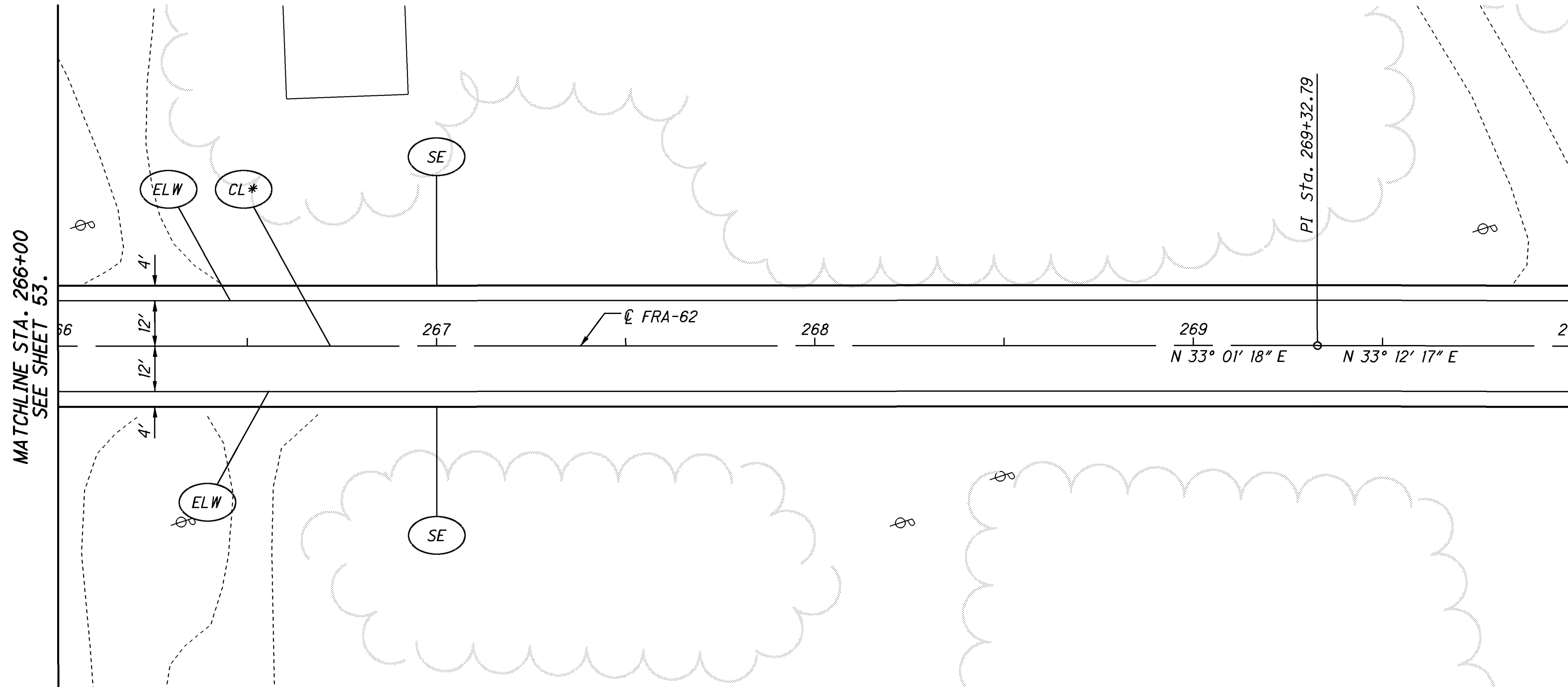
[illegible]



<div style="display: flex; justify-content: space-between;"> <div> <p>CALCULATED</p> <p>CHECKED</p> </div> <div>  <p>HORIZONTAL SCALE IN FEET</p> </div> <div>  </div> </div>	
	

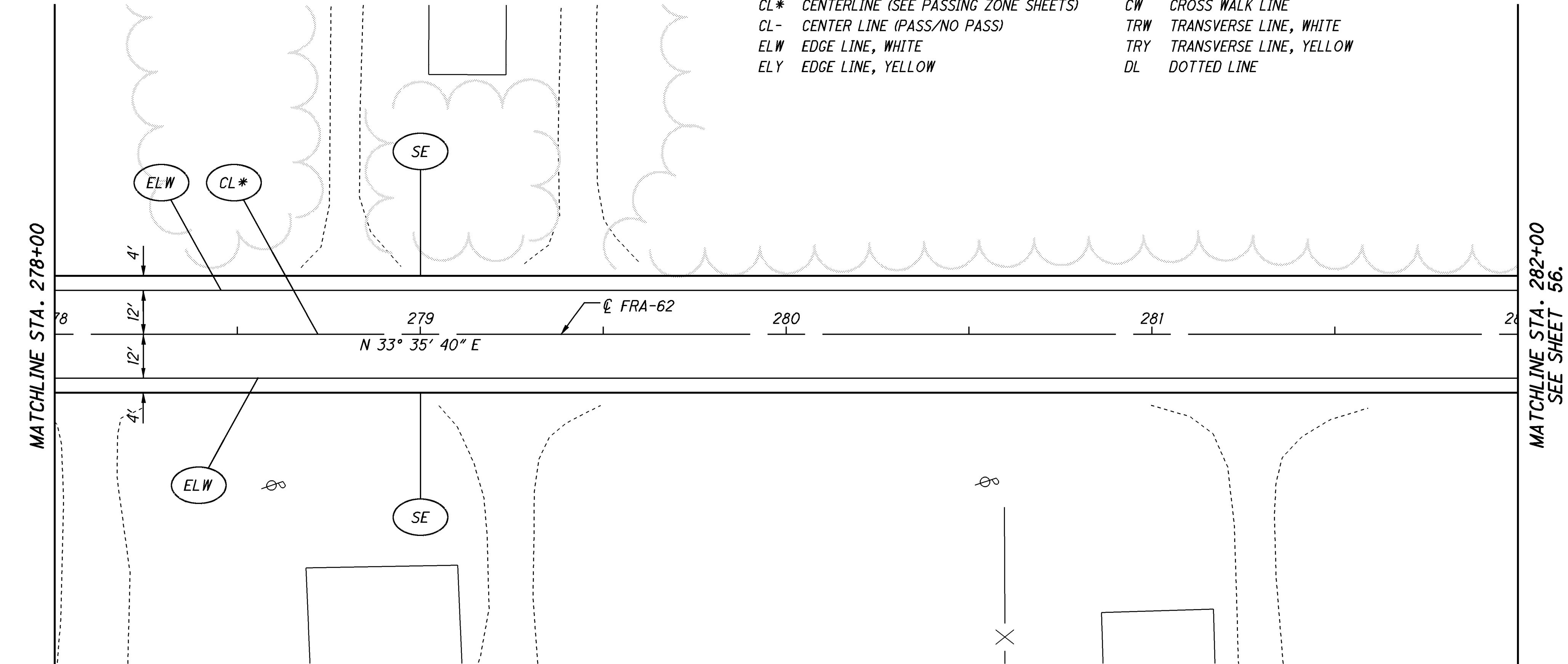
[illegible]

[illegible]



FOR PAVEMENT MARKING QUANTITIES SEE SHEET 79/90.

[illegible]

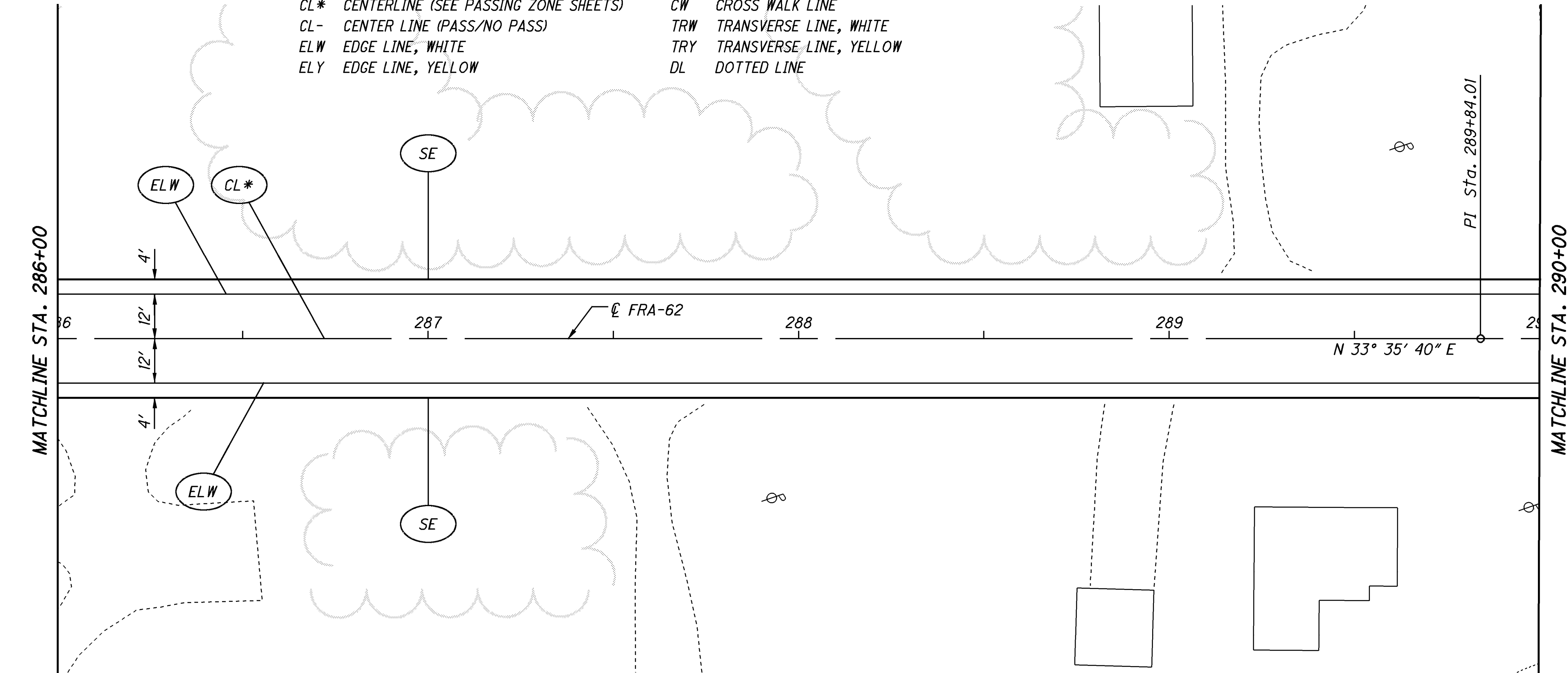


FOR PAVEMENT MARKING QUANTITIES SEE SHEET 79/90.

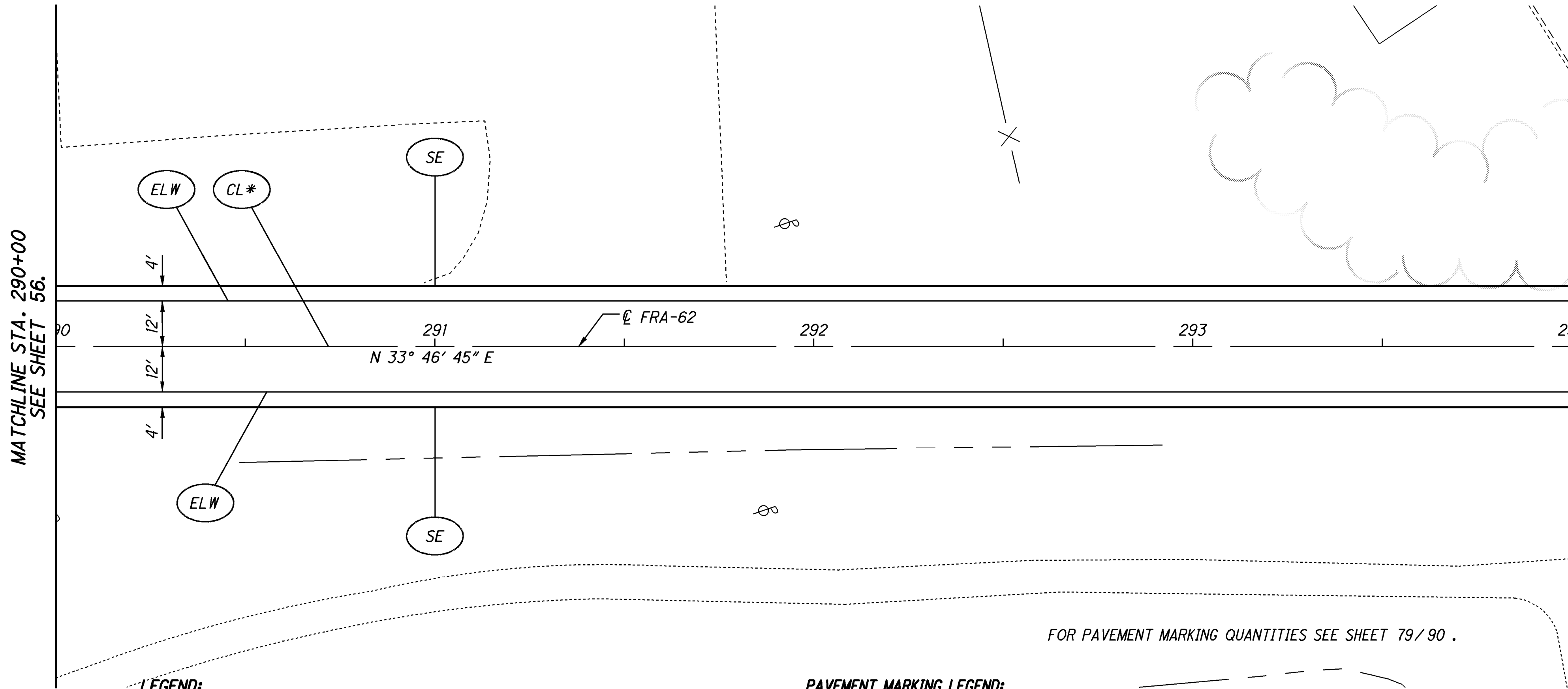
PAVEMENT MARKING LEGEND:

- | | | | |
|-----|--------------------------------------|-----|--------------------------|
| LL | LANE LINE | CHW | CHANNELIZING LINE, WHITE |
| CL+ | CENTER LINE (DOUBLE SOLID) | SL | STOP LINE |
| CL* | CENTERLINE (SEE PASSING ZONE SHEETS) | CW | CROSS WALK LINE |
| CL- | CENTER LINE (PASS/NO PASS) | TRW | TRANSVERSE LINE, WHITE |
| ELW | EDGE LINE, WHITE | TRY | TRANSVERSE LINE, YELLOW |
| ELY | EDGE LINE, YELLOW | DL | DOTTED LINE |

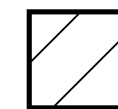
[illegible]

[illegible]

**MATCHLINE STA. 290+00
SEE SHEET 56.**



LEGEND:



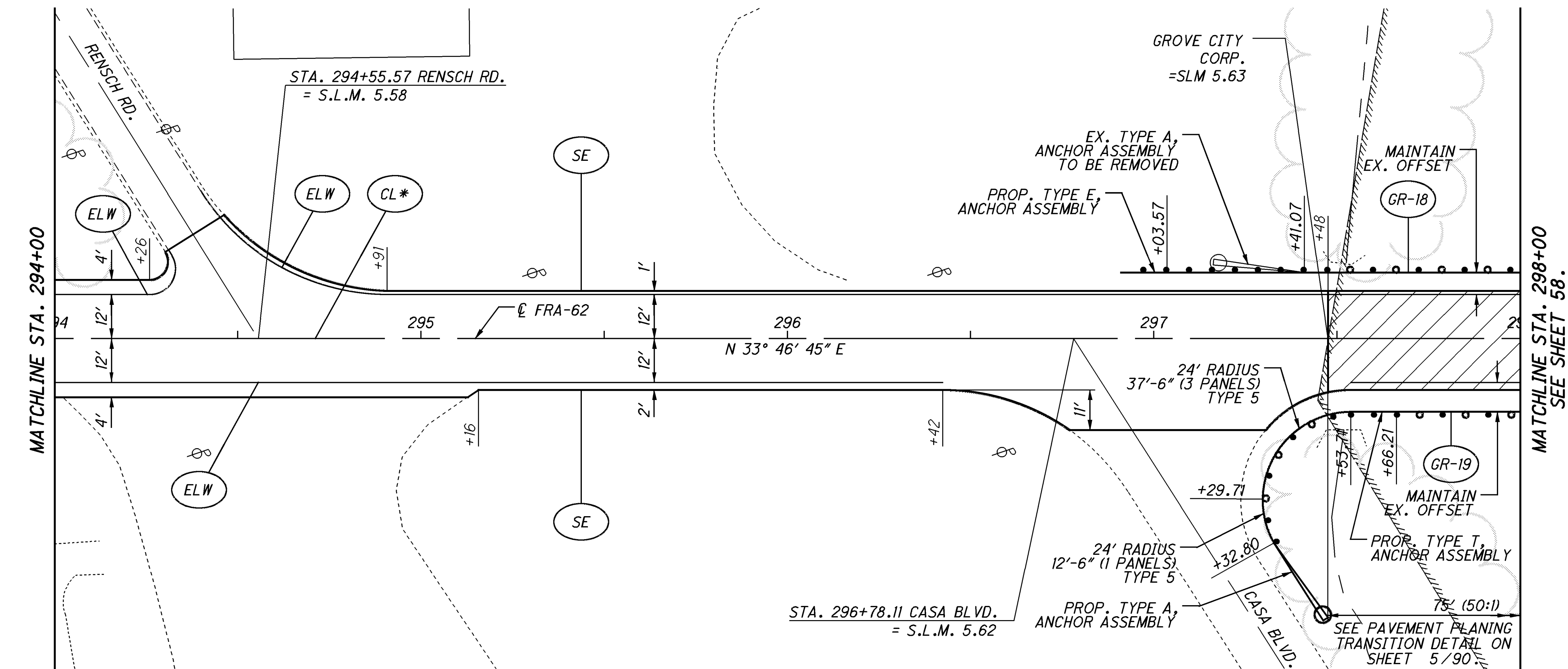
(0" - 1.5") VARIABLE DEPTH PAVEMENT PLANING

PAVEMENT MARKING LEGEND:

LL LANE LINE
CL+ CENTER LINE (DOUBLE SOLID)
CL* CENTERLINE (SEE PASSING ZONE SHEETS)
CL- CENTER LINE (PASS/NO PASS)
ELW EDGE LINE, WHITE
ELY EDGE LINE, YELLOW

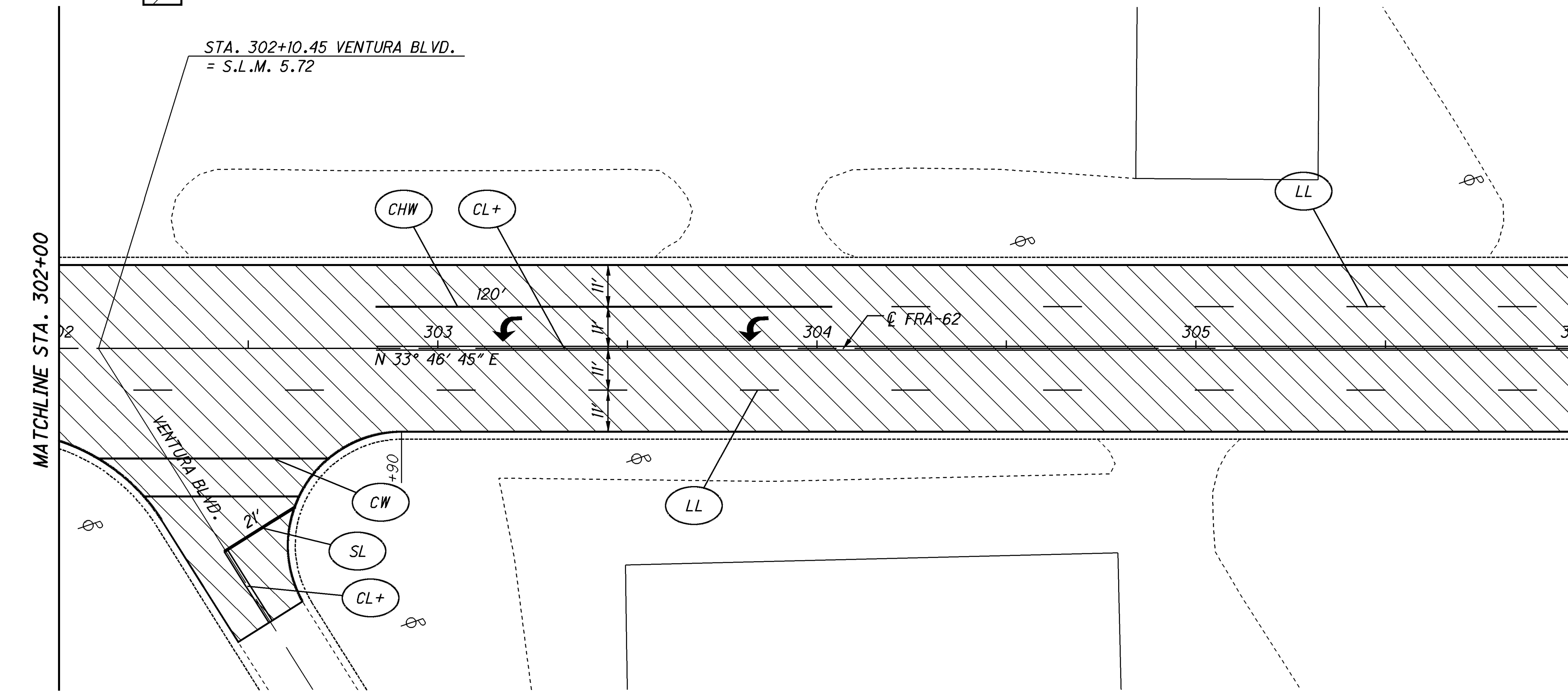
CHW	CHANNELIZING LINE, WHITE
SL	STOP LINE
CW	CROSS WALK LINE
TRW	TRANSVERSE LINE, WHITE
TRY	TRANSVERSE LINE, YELLOW
DL	DOTTED LINE

FOR PAVEMENT MARKING QUANTITIES SEE SHEET 79/90 .



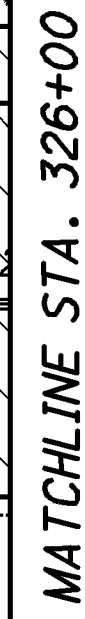
MATCHLINE STA. 298+00
SEE SHEET 58.

[illegible]

[illegible]

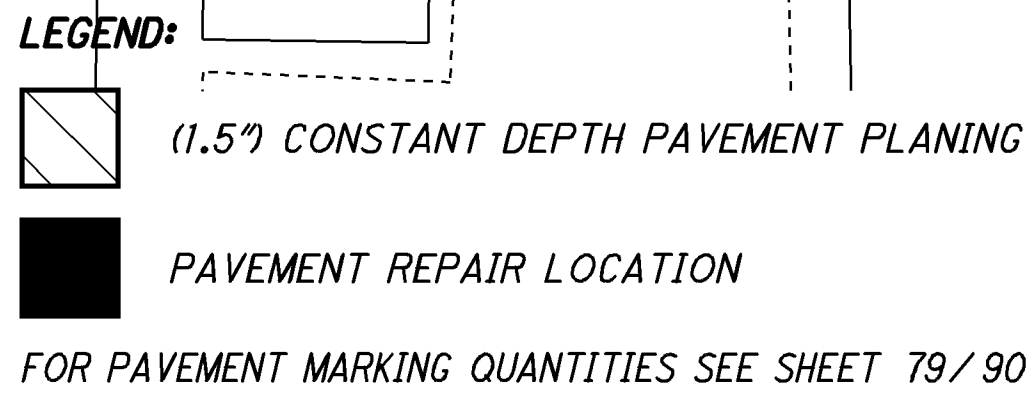
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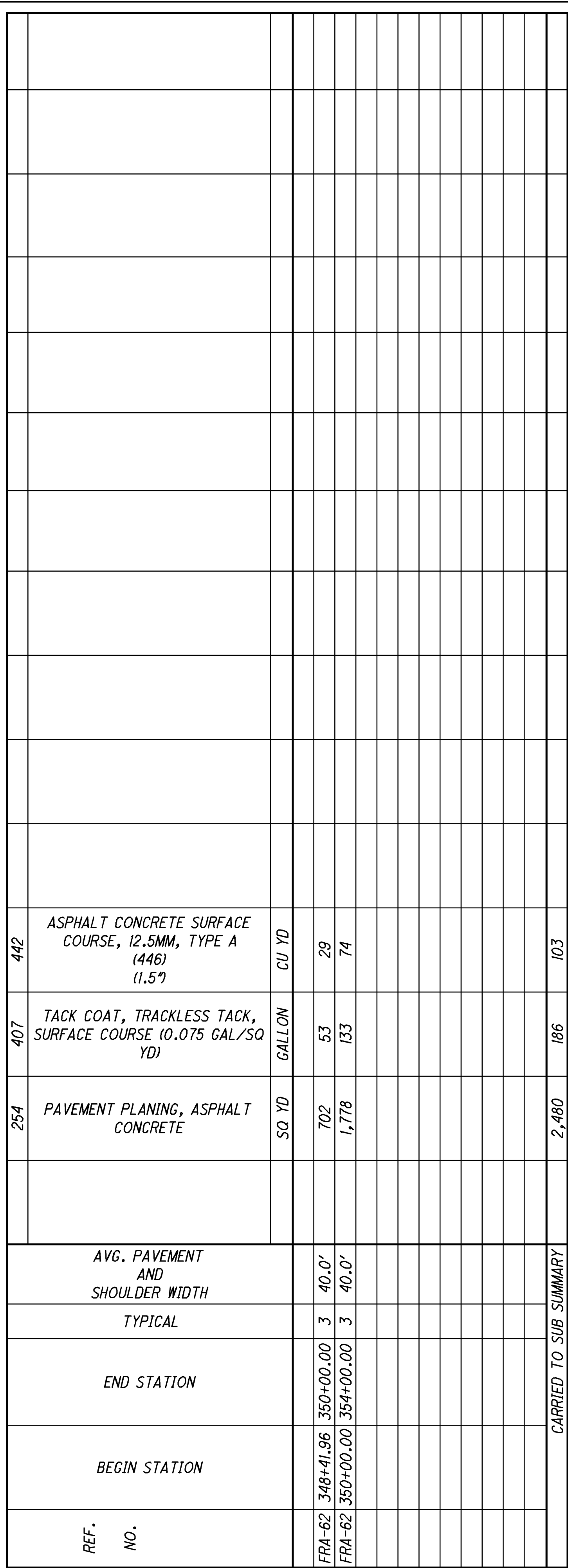
**MATCHLINE STA. 322+00
SEE SHEET 60.**



61 90	FRA-62-0.00
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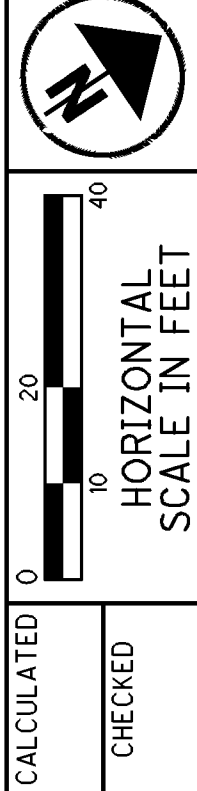
CALCULATED		

[illegible]



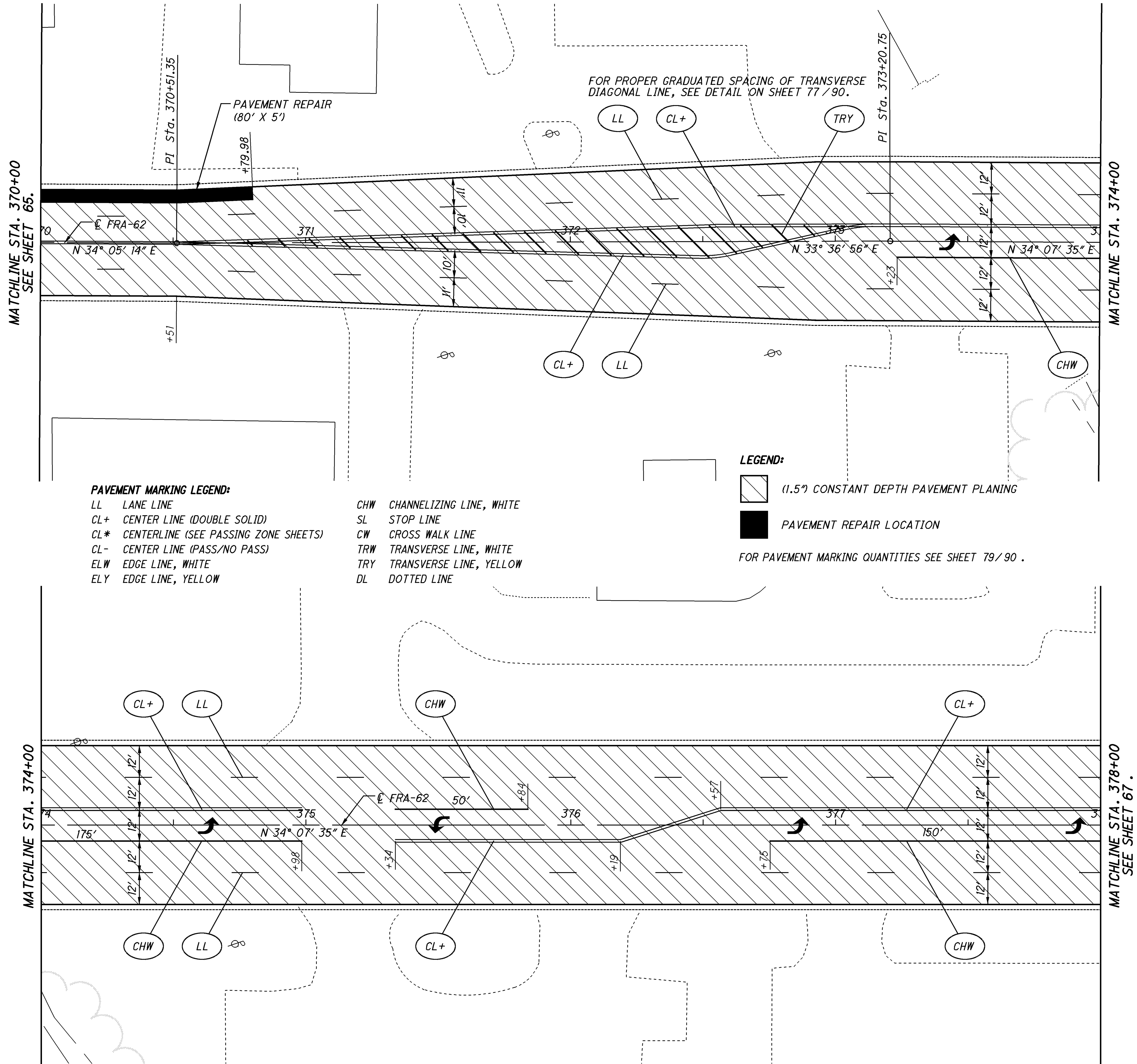

$$\frac{64}{90}$$

FRA-62 PLAN
STA. 354+00 TO STA. 362+00

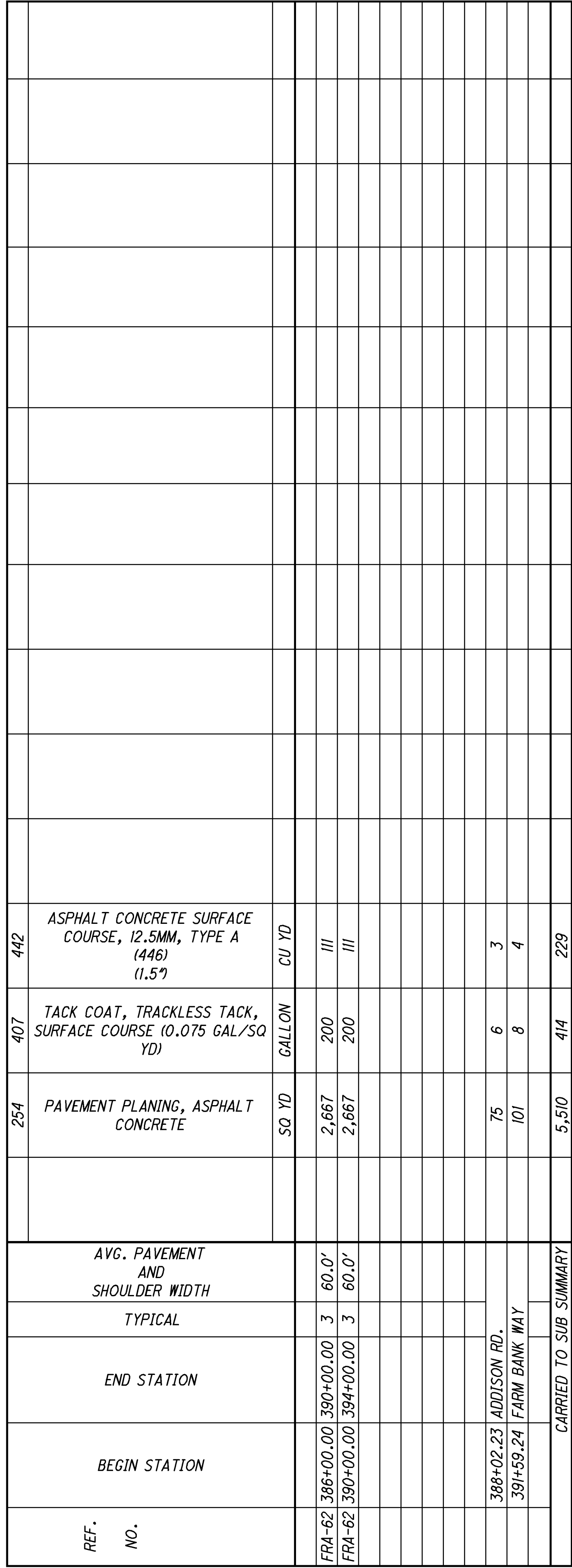




PAVEMENT PLANING, ASPHALT
CONCRETE

[illegible]

CARRIED TO SUB SUMMARY





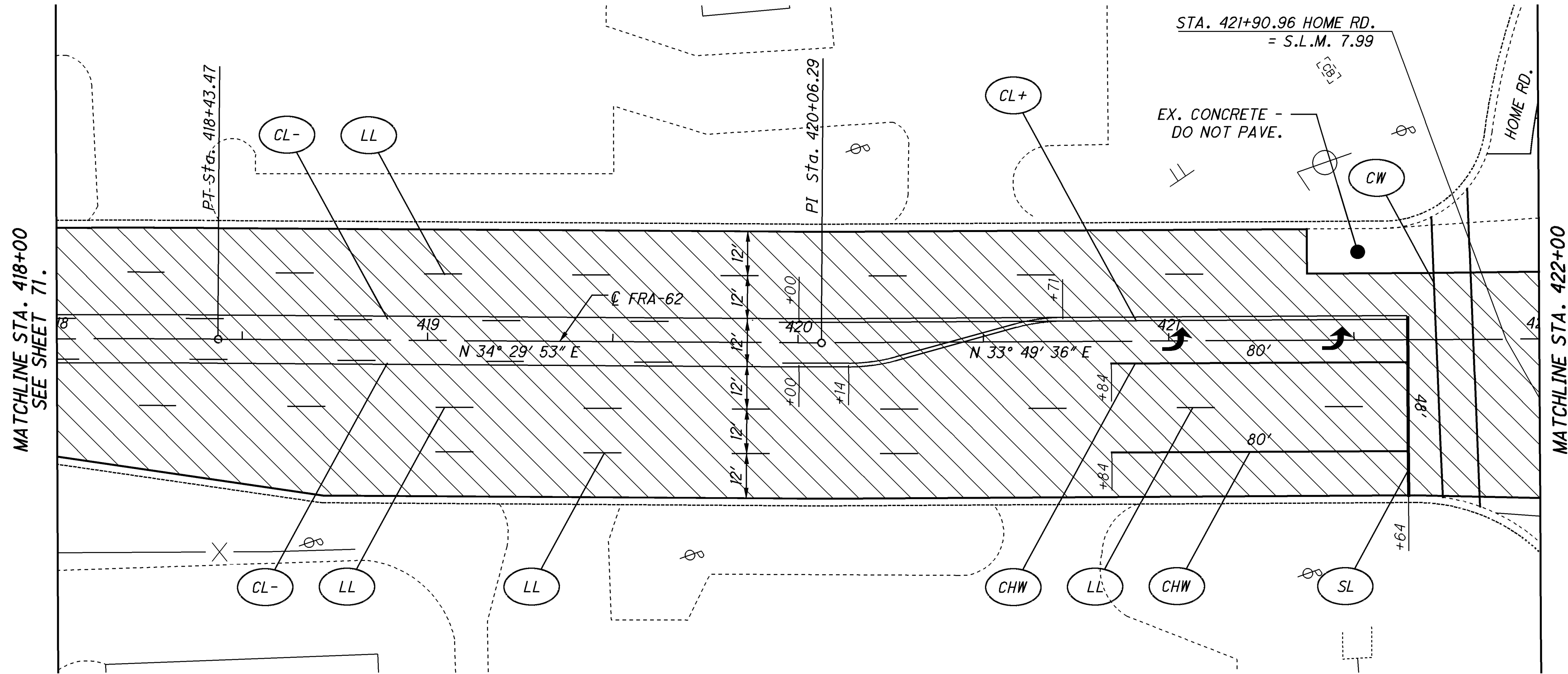
69
90





70	FRA - 62 - 0.00
90	
CARRIED TO SUB SUMMARY	

[illegible]

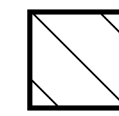


PAVEMENT MARKING LEGEND:

LL LANE LINE
CL+ CENTER LINE (DOUBLE SOLID)
CL* CENTERLINE (SEE PASSING ZONE SHEETS)
CL- CENTER LINE (PASS/NO PASS)
ELW EDGE LINE, WHITE
ELY EDGE LINE, YELLOW

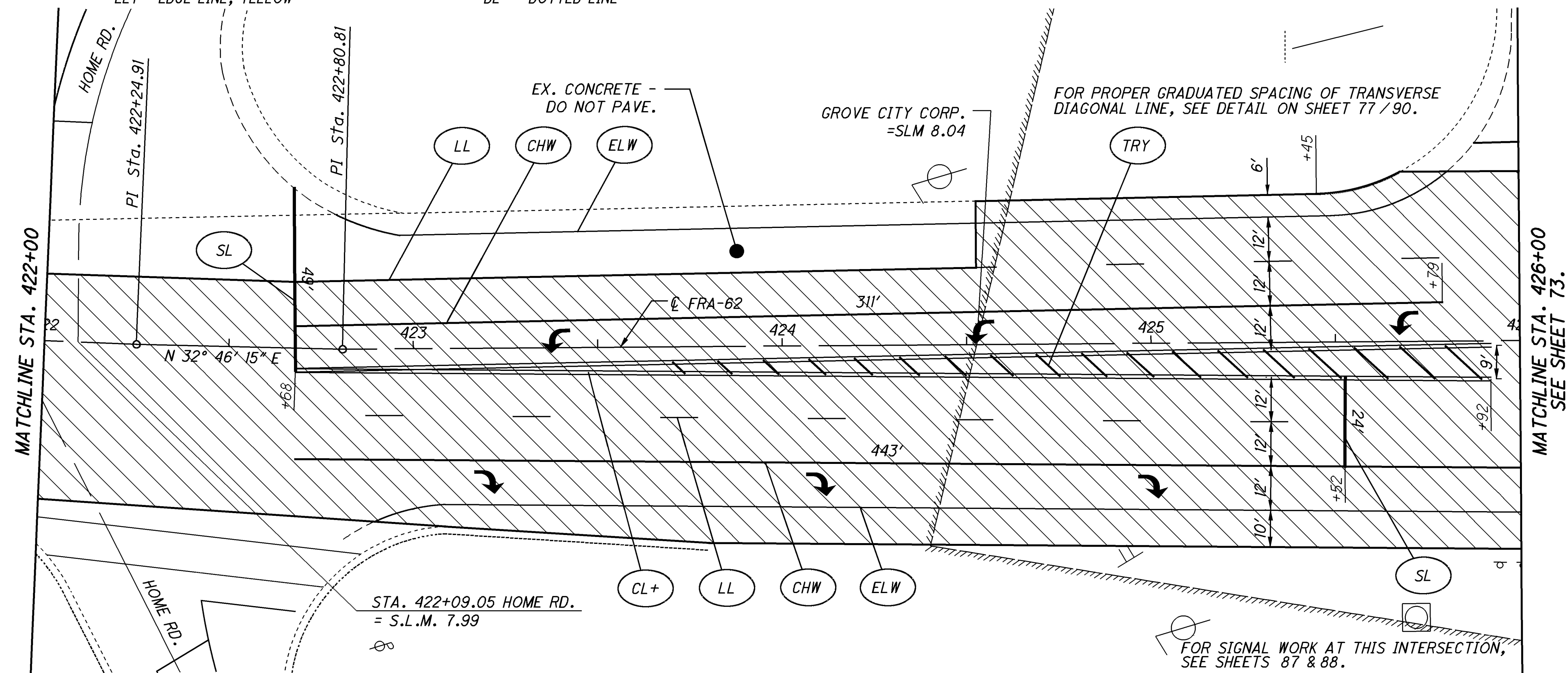
CHW	CHANNELIZING LINE, WHITE
SL	STOP LINE
CW	CROSS WALK LINE
TRW	TRANSVERSE LINE, WHITE
TRY	TRANSVERSE LINE, YELLOW
DL	DOTTED LINE

LEGEND:




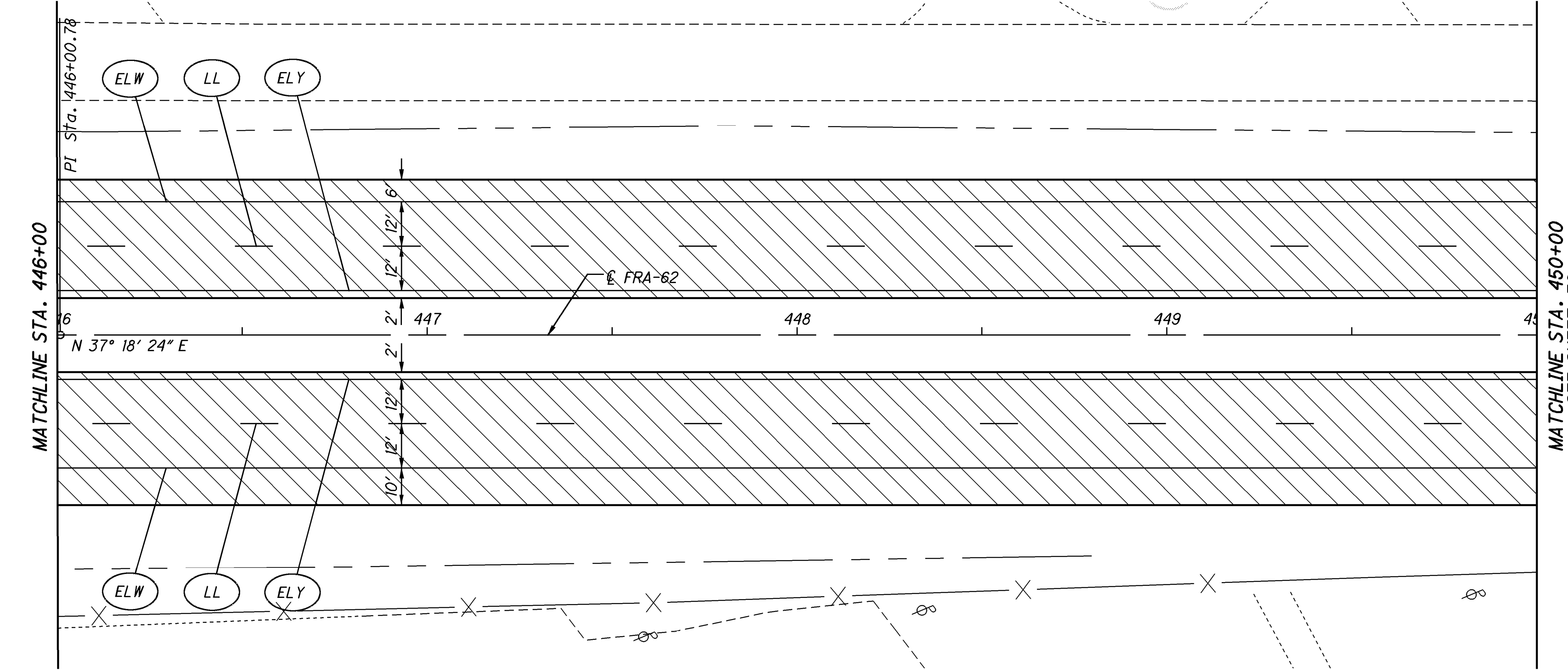
(1.5") CONSTANT DEPTH PAVEMENT PLANING

FOR PAVEMENT MARKING QUANTITIES SEE SHEET 79/90 .

[illegible]

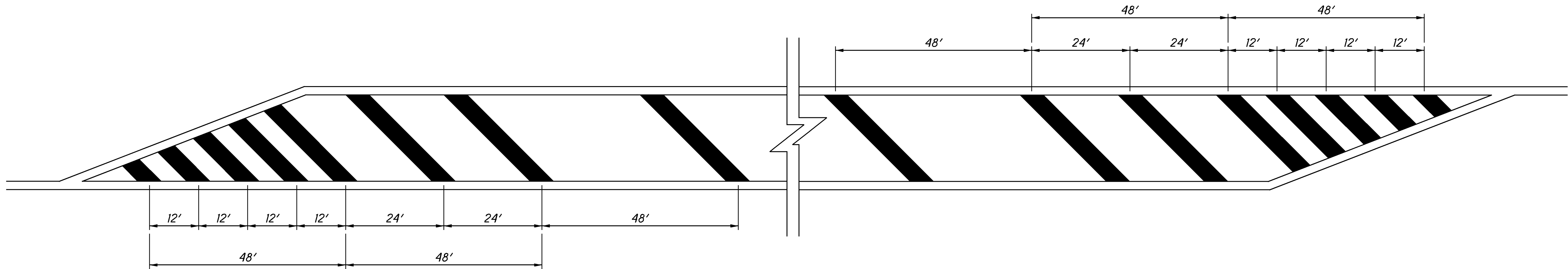


<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <div style="border: 1px solid black; border-radius: 50%; width: 60px; height: 60px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> <div style="border-right: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;">74</div> <div style="width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;">90</div> </div> </div> <div style="text-align: center;"> <p>FRA-62-0.00</p> </div> </div>	<p>FRA-62 PLAN</p> <p>STA. 434+00 TO STA. 442+00</p>	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <div style="border: 1px solid black; width: 100px; height: 20px; display: flex; align-items: center; justify-content: center;"> <div style="border-right: 1px solid black; width: 50px; height: 20px; display: flex; align-items: center; justify-content: center;">CALCULATED</div> <div style="width: 50px; height: 20px; display: flex; align-items: center; justify-content: center;">CHECKED</div> </div> </div> <div style="text-align: center;"> <p>0 20 40</p> <p>HORIZONTAL SCALE IN FEET</p> </div> </div> <div style="text-align: right; margin-top: 10px;">  </div>
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[illegible]

76 90	FRA - 62 - 0.00
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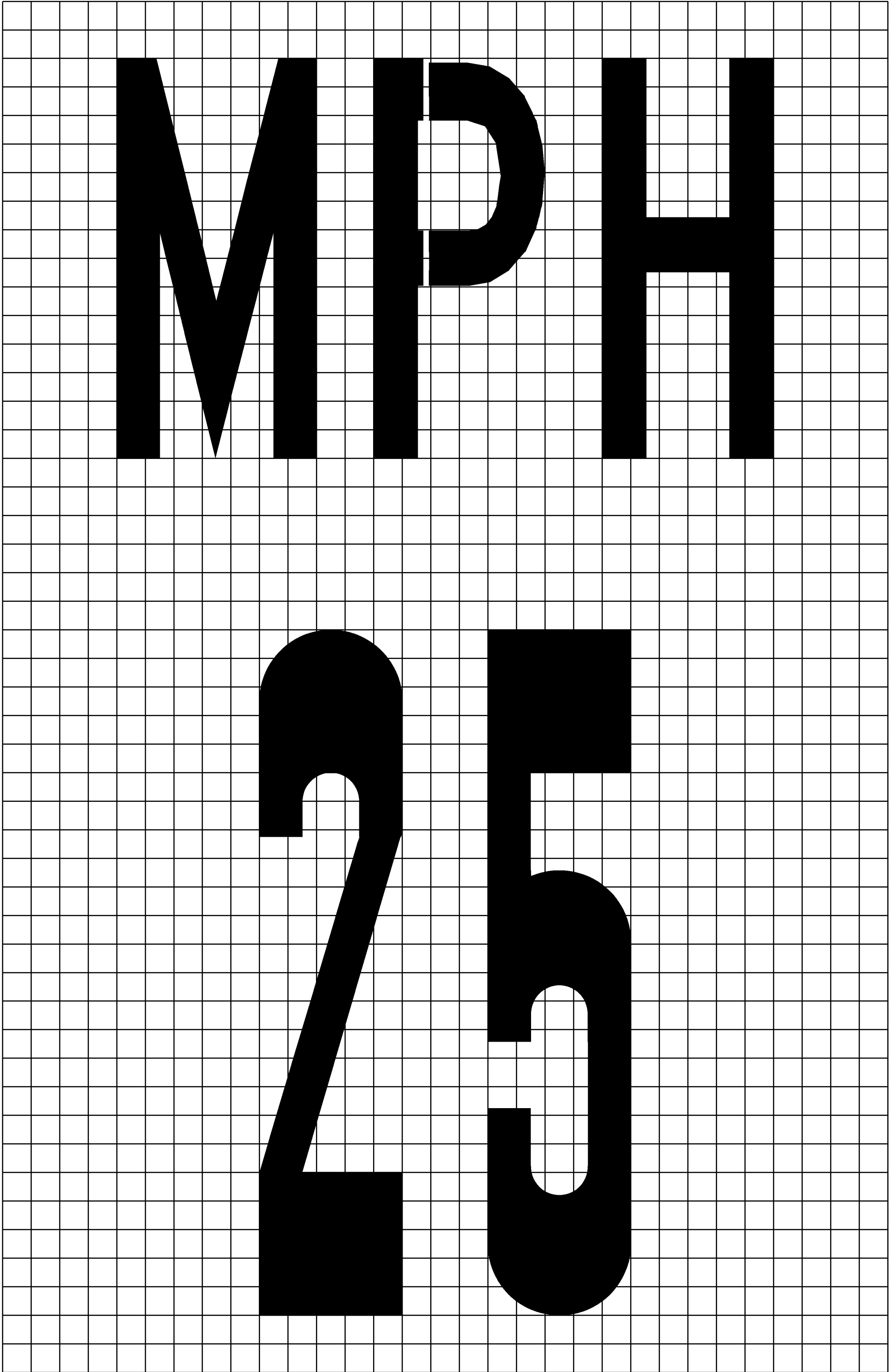
I:\Projects\fra\062\0000.013\86643\production\roadway\sheets\TYPICAL_DETAILS.dgn SHEET_ID001 29-OCT-2012 3:02PM drankin




TYPICAL TRANSVERSE LINE SPACING
ALL PROPOSED TRANSVERSE LINE TO BE SPACED AS DETAILED

DIAGONAL LINE SPACING TABLE FOR TRANSVERSE LINE		
FROM	TO	DIAGONAL LINE SPACING
0 FEET	48 FEET	12 FEET
49 FEET	96 FEET	24 FEET
97 FEET	>97 FEET	48 FEET

I:\Projects\fra\062\0000.013\86643\production\roadway\sheets\TYPICAL_DETAILS.dgn SHEET_ID002 29-OCT-2012 3:02PM drankin



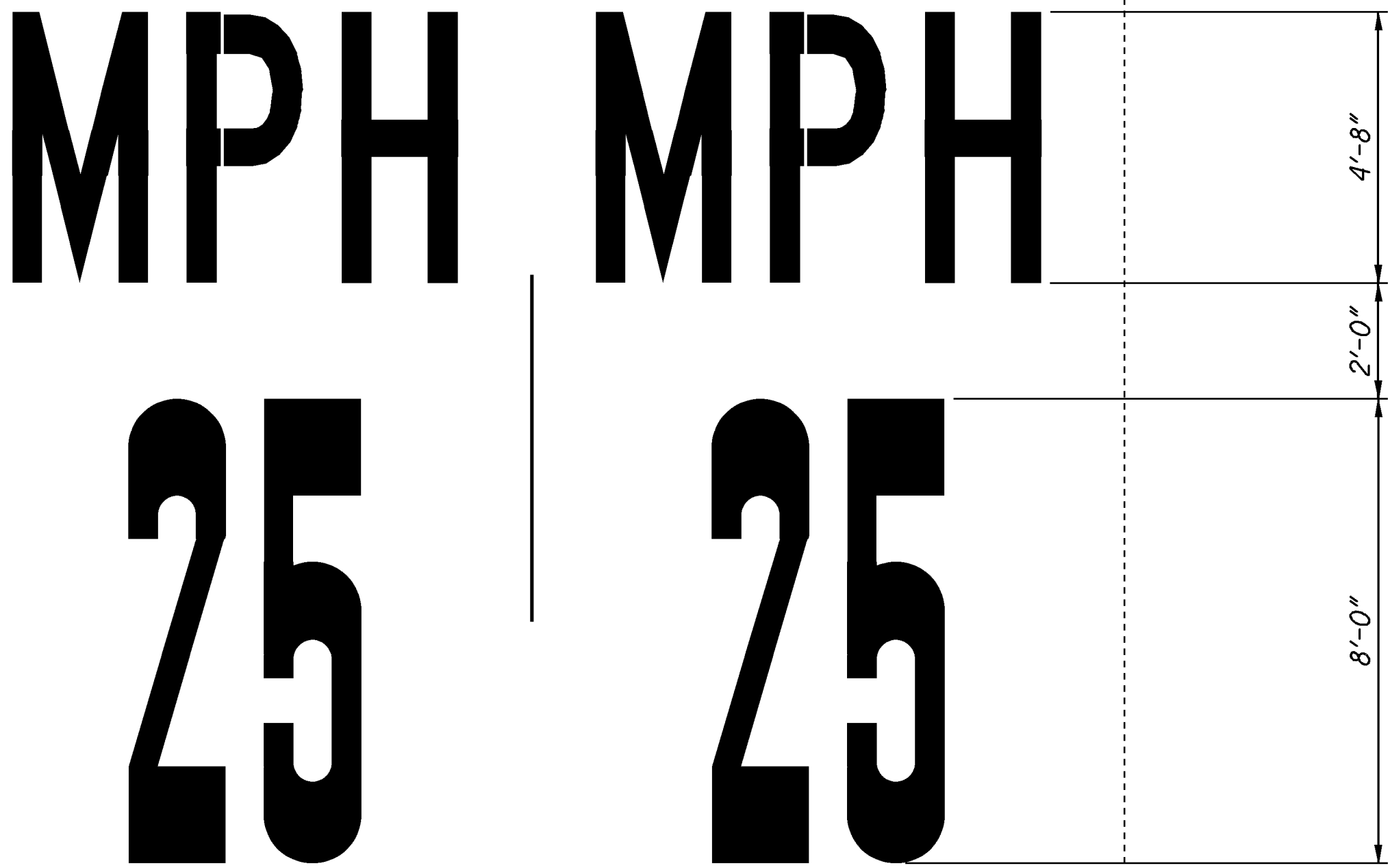
ITEM 644 - PAVEMENT MARKING MISC:
25 MPH

 = 4" X 4"


CENTER LINE
(FRA-62)

LANE LINE

EDGE OF PAVEMENT
(CURB & GUTTER)



25 MPH AUXILLIARY MARKING SPACING DETAIL



SLM LOCATIONS GIVEN ON THIS SHEET ARE INDEPENDANT OF THE SLM'S GIVEN THROUGHOUT THIS PLAN. CONTROL POINTS ARE GIVEN TO VERIFY THE PROPER STATIONING OF THESE SLM'S. FOR MORE INFORMATION SEE "PROPOSED NO PASSING ZONES" IN THE GENERAL NOTES.

ACCUM. TOTAL = 0.877MI


ACCUM. TOTAL = 2.748 MI

ACCUM. TOTAL = 3.539 MI

SLM LOCATIONS GIVEN ON THIS SHEET ARE INDEPENDANT OF THE SLM'S GIVEN THROUGHOUT THIS PLAN. CONTROL POINTS ARE GIVEN TO VERIFY THE PROPER STATIONING OF THESE SLM'S. FOR MORE INFORMATION SEE "PROPOSED NO PASSING ZONES" IN THE GENERAL NOTES.

CHECKED	
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FRA-62-0.00

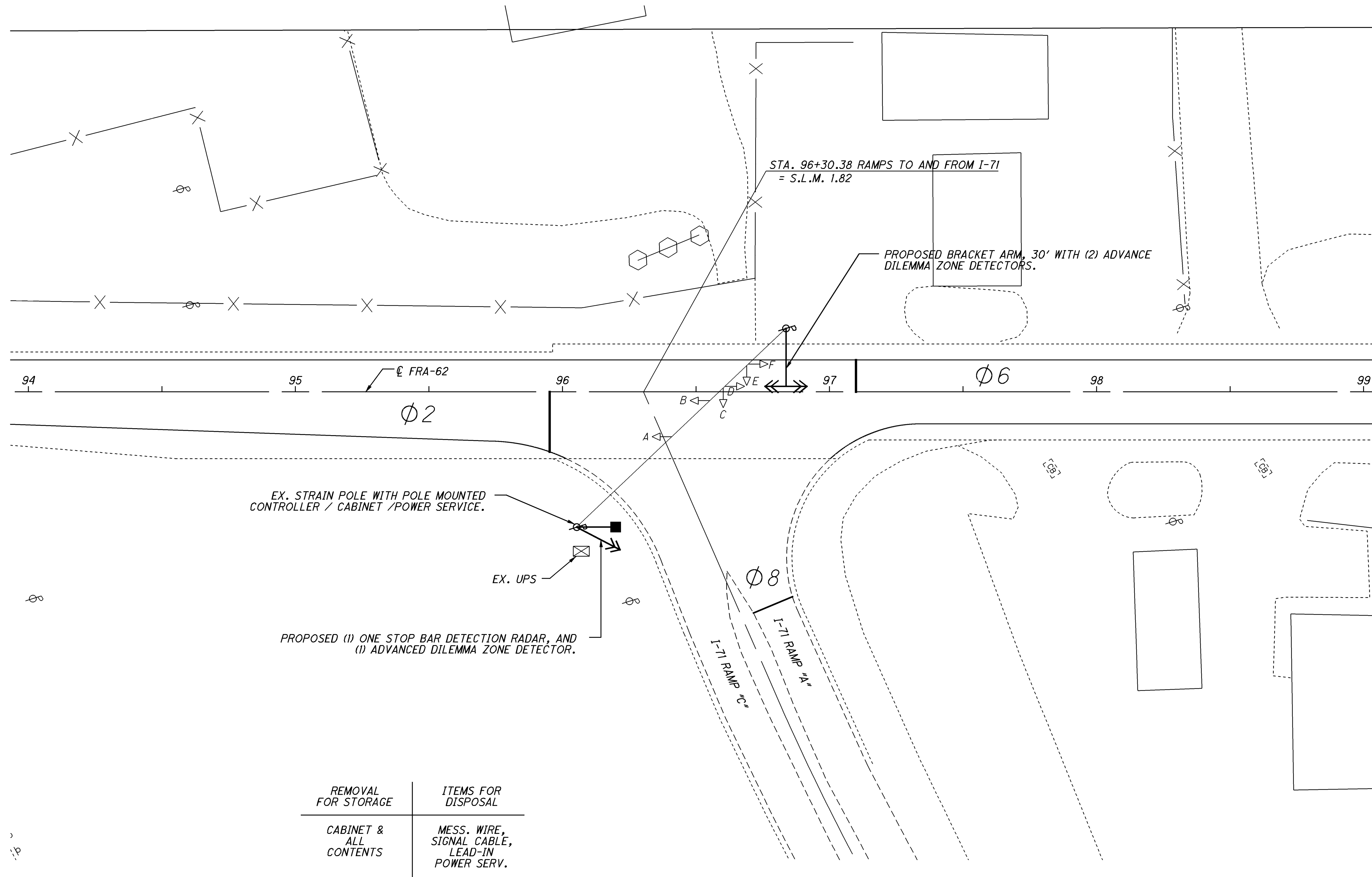


A horizontal number line is shown with tick marks at 0.00, 1.00, 2.00, 3.00, and 4.00. The region between 1.00 and 3.00 is shaded with diagonal lines. A vertical line segment is drawn at 2.00, extending from the number line to the top of the page.



ACCUM. TOTAL = 4.694 MI

ACCUM. TOTAL = 6.308 MI

ACCUM. TOTAL = 8.177 MI



LEGEND:

 ADVANCED DILEMMA ZONE DETECTOR
 STOP BAR DETECTION RADAR

REMOVAL
FOR STORAGE

*CABINET &
ALL
CONTENTS*

ITEMS FOR
DISPOSAL

MESS. WIRE,
SIGNAL CABLE,
LEAD-IN
POWER SERV.

FOR TRAFFIC SIGNAL QUANTITIES AT THIS LOCATION, SEE SHEET 84/90 .

FRA-62-0.00

TRAFFIC SIGNAL PLAN

US-62 AT I-71 RAMPS "A" & "C"

CHECKED	
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0005



HORIZONTAL
SCALE IN FEET

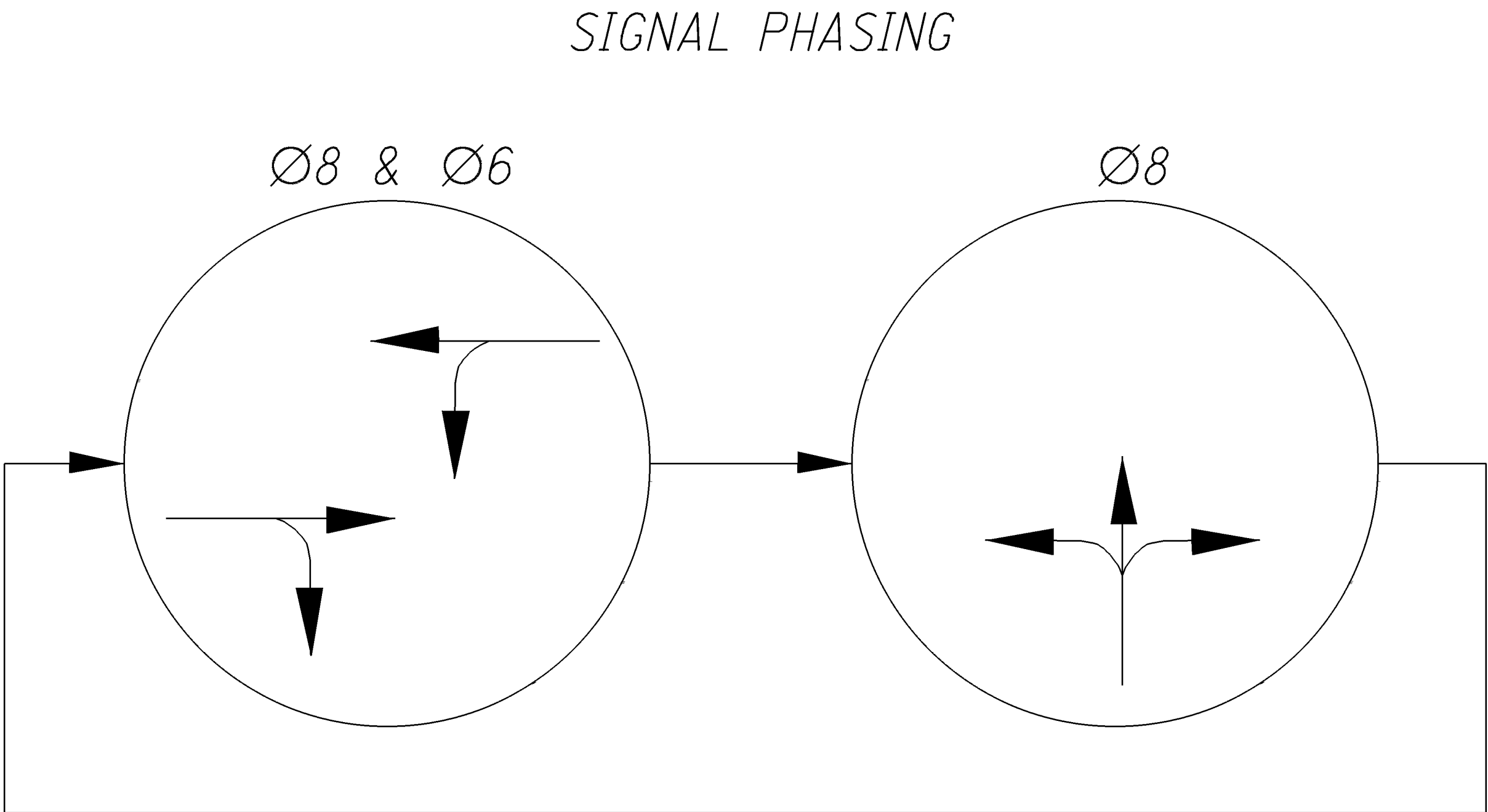
10 40

$$\frac{83}{90}$$

FIELD WIRING HOOK-UP CHART			
SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
A, B (NB)	R	Ø2 R	Y
	Y	Ø2 Y	
	G	Ø2 G	
C, E (WB)	R	Ø8 R	R
	Y	Ø8 Y	
	G	Ø8 G	
D, F (SB)	R	Ø6 R	Y
	Y	Ø6 Y	
	G	Ø6 G	

SIGNAL TIMING IN SECONDS			
TIMING INTERVAL	NB	SB	WB
	Ø2	Ø6	Ø8
MIN. GREEN	15	15	15
VEH. EXTENSION	*	*	*
MAX. GREEN I	35	35	35
MAX. GREEN II	50	50	50
YELLOW CLEAR	4.5	4.5	3
RED CLEAR	2	2	3
RECALL	MIN	NONE	MIN
LOCK/NON-LOCK	NON-LOCK	NON-LOCK	NON-LOCK

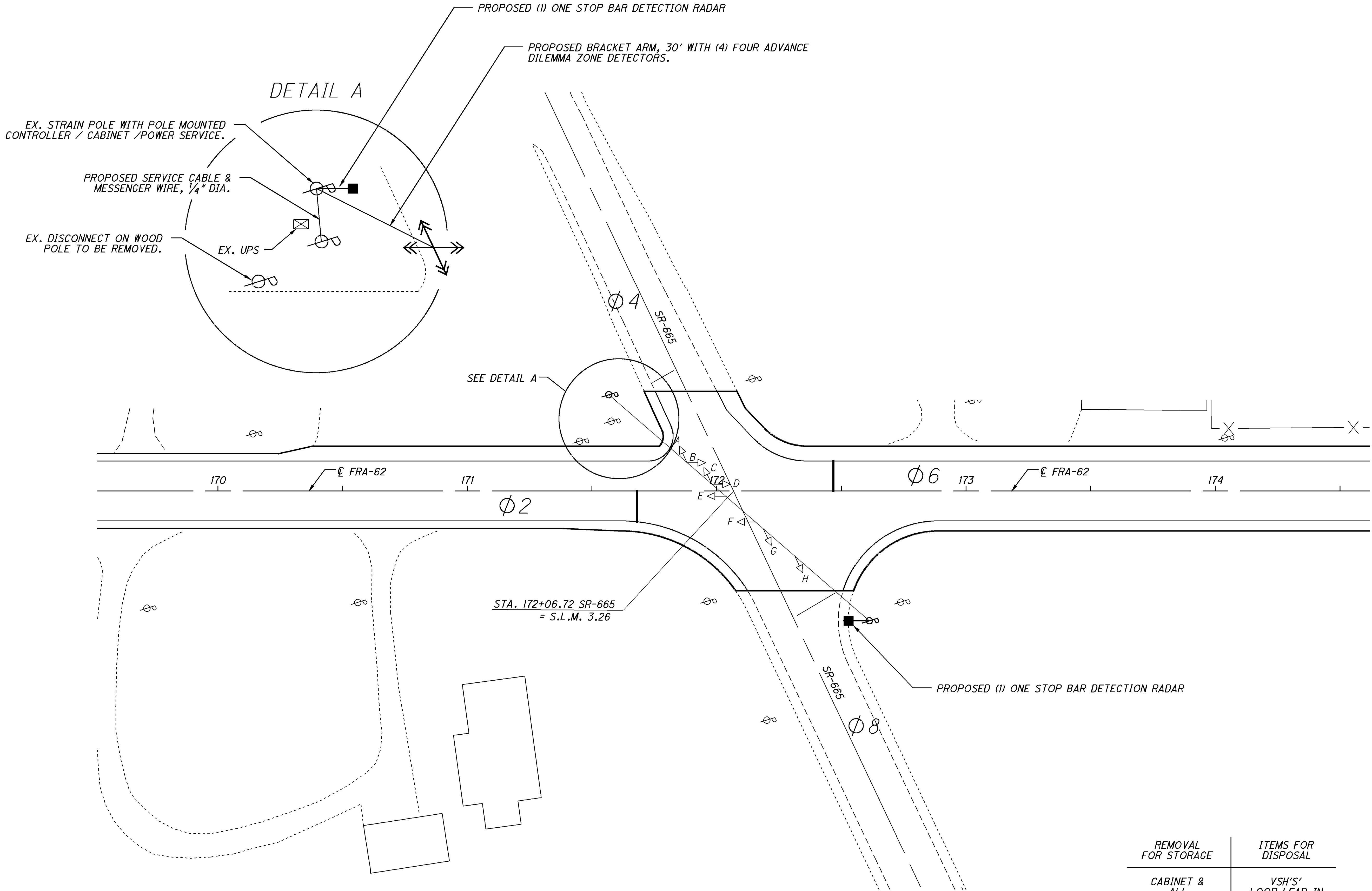
* - RADAR DILEMMA ZONE DETECTORS SHALL BE PROGRAMMED TO CAPTURE APPROACHING VEHICLES FOR VEHICLE EXTENSION.



Item	Extension	Quantity	Unit	Item Description
625	18510	1	EA	BRACKET ARM, 30'
625	32000	1	EA	GROUND ROD
632	30200	120	FT	MESSENGER WIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES
632	40700	389	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
632	68100	110	FT	POWER CABLE, 1 CONDUCTOR, NO. 6 AWG
632	70000	1	EA	POWER SERVICE
632	90101	1	EA	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN
633	01551	1	EA	CONTROLLER UNIT, TYPE TS2/A2 WITH CABINET, TYPE TS2, AS PER PLAN
633	69000	3	EA	ADVANCE/DILEMMA ZONE DETECTION SYSTEM
633	69100	1	EA	STOP BAR DETECTION RADAR
633	99000	1	EA	CONTROLLER ITEM MISC.: REUSE OF UNINTERRUPTIBLE POWER SUPPLY

QUANTITIES CARRIED TO THE GENERAL SUMMARY.

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LEGEND:	
	ADVANCED DILEMMA ZONE DETECTOR
	STOP BAR DETECTION RADAR

REMOVAL FOR STORAGE	ITEMS FOR DISPOSAL
CABINET & ALL CONTENTS	VSH'S' LOOP LEAD-IN MESS. WIRE, SIGNAL CABLE, POWER SERV.

FOR TRAFFIC SIGNAL QUANTITIES AT THIS LOCATION, SEE SHEET 86/90 .

02040

HORIZONTAL
SCALE IN FEET

CALCULATED

CHECKED

TRAFFIC SIGNAL PLAN
US-62 AT SR-665

FRA-62-0.00

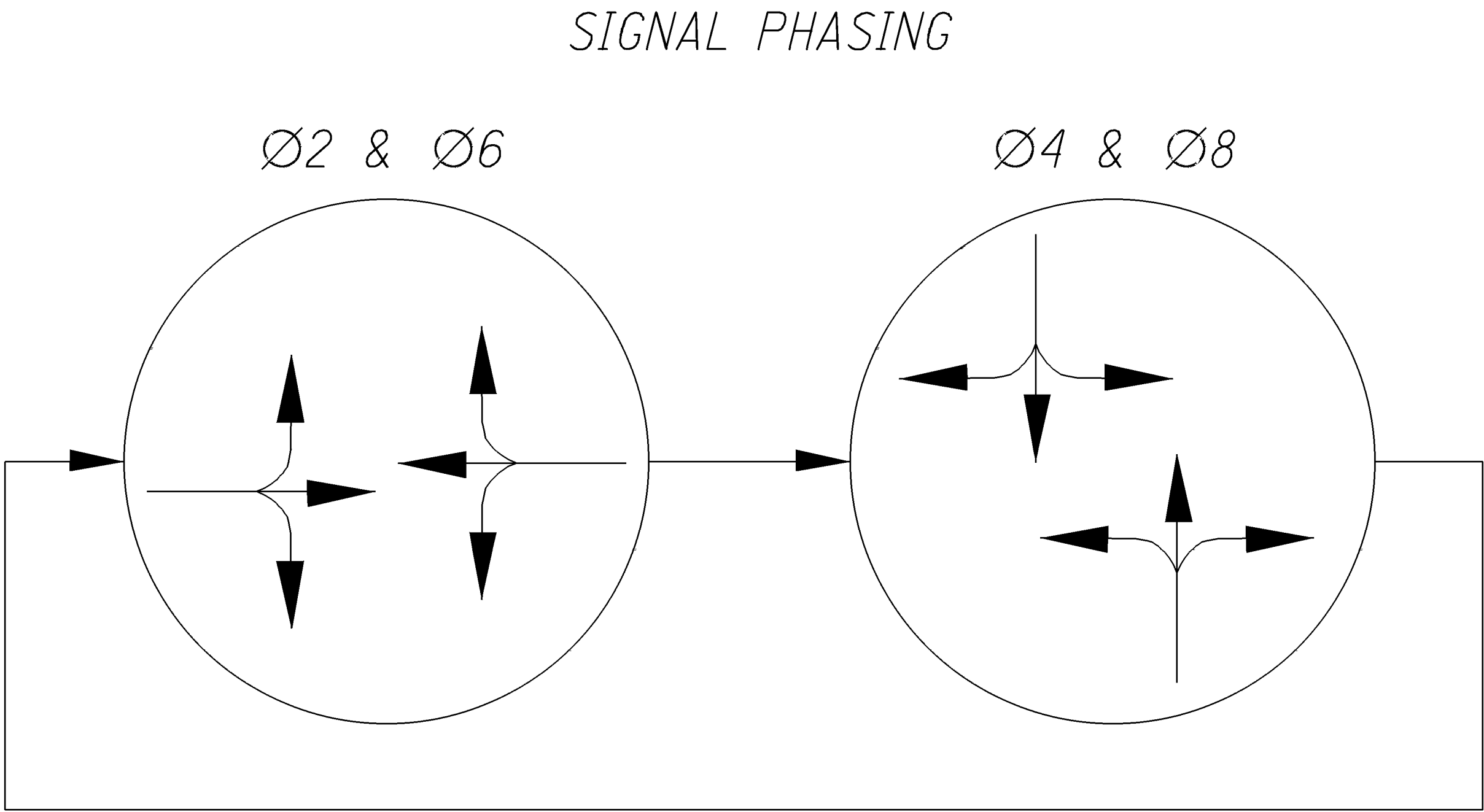
85

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FIELD WIRING HOOK-UP CHART			
SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
A, C (EB)	R	Ø4 R	R
	Y	Ø4 Y	
	G	Ø4 G	
B, D (SB)	R	Ø6 R	Y
	Y	Ø6 Y	
	G	Ø6 G	
E, F (NB)	R	Ø2 R	Y
	Y	Ø2 Y	
	G	Ø2 G	
G, H (WB)	R	Ø8 R	R
	Y	Ø8 Y	
	G	Ø8 G	

SIGNAL TIMING IN SECONDS				
TIMING INTERVAL	NB	EB	SB	WB
	Ø2	Ø4	Ø6	Ø8
MIN. GREEN	15	15	15	15
VEH. EXTENSION	*	*	*	*
MAX. GREEN I	35	35	35	35
MAX. GREEN II	50	50	50	50
YELLOW CLEAR	4	4	4	4
RED CLEAR	2	2	2	2
RECALL	MIN	NONE	MIN	NONE
LOCK/NON-LOCK	NON-LOCK	NON-LOCK	NON-LOCK	NON-LOCK

* - RADAR DILEMMA ZONE DETECTORS SHALL BE PROGRAMMED TO CAPTURE APPROACHING VEHICLES FOR VEHICLE EXTENSION.



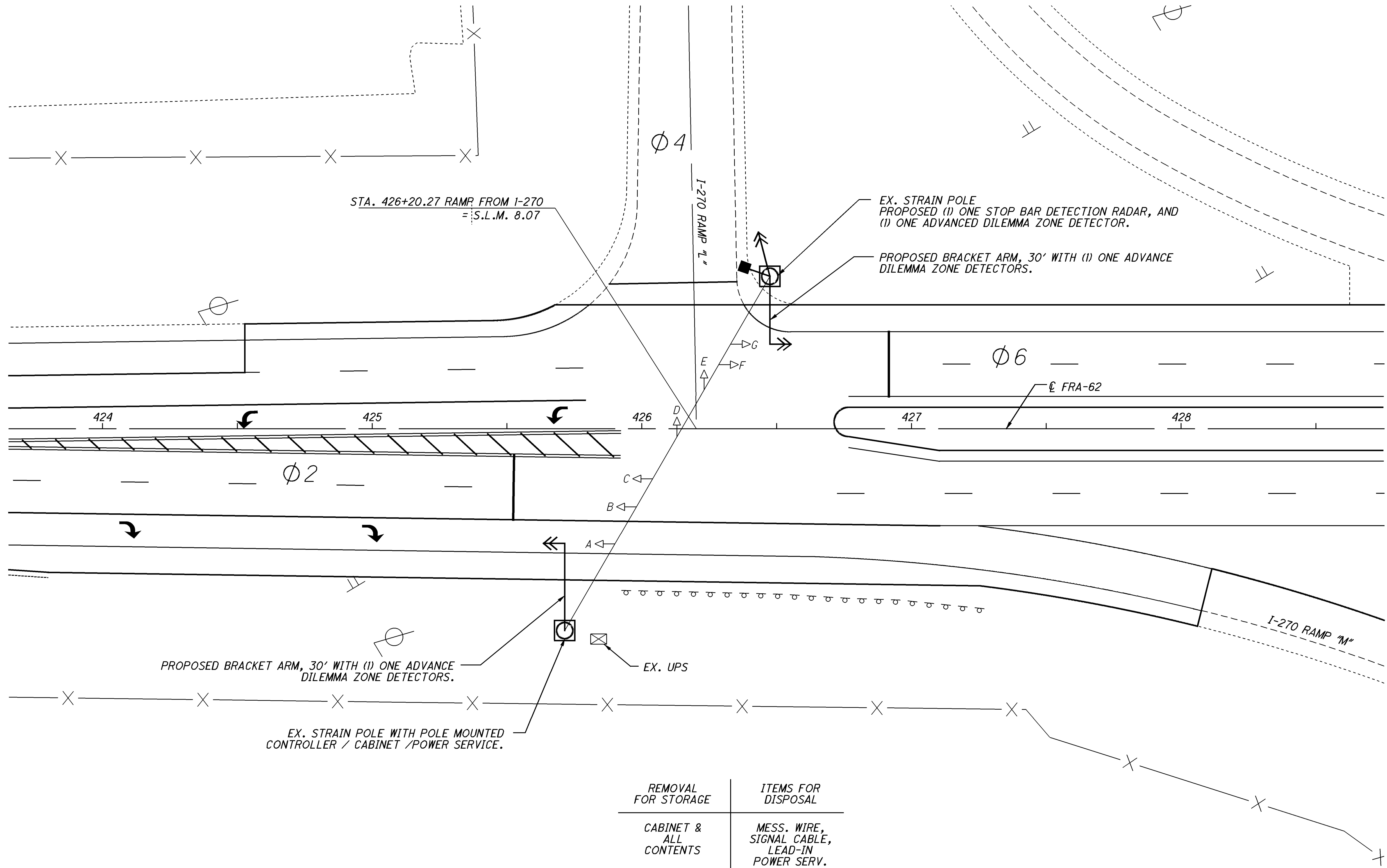
Item	Extension	Quantity	Unit	Item Description
625	18510	1	EA	BRACKET ARM, 30'
625	32000	1	EA	GROUND ROD
632	05000	8	EA	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY
632	30000	15	FT	MESSENGER WIRE, 3 STRAND, 1/4" DIAMETER WITH ACCESSORIES
632	30200	150	FT	MESSENGER WIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES
632	40700	461	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
632	68100	110	FT	POWER CABLE, 1 CONDUCTOR, NO. 6 AWG
632	69500	15	FT	SERVICE CABLE, 2 CONDUCTOR, NO. 6 AWG
632	70000	1	EA	POWER SERVICE
632	90101	1	EA	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN
633	01551	1	EA	CONTROLLER UNIT, TYPE TS2/A2 WITH CABINET, TYPE TS2, AS PER PLAN
633	69000	4	EA	ADVANCE/DILEMMA ZONE DETECTION SYSTEM
633	69100	2	EA	STOP BAR DETECTION RADAR
633	99000	1	EA	CONTROLLER ITEM MISC.: REUSE OF UNINTERRUPTIBLE POWER SUPPLY

QUANTITIES CARRIED TO THE GENERAL SUMMARY.

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LEGEND:

ADVANCED DILEMMA ZONE DETECTOR

STOP BAR DETECTION RADAR

FOR TRAFFIC SIGNAL QUANTITIES AT THIS LOCATION, SEE SHEET 88/90 .

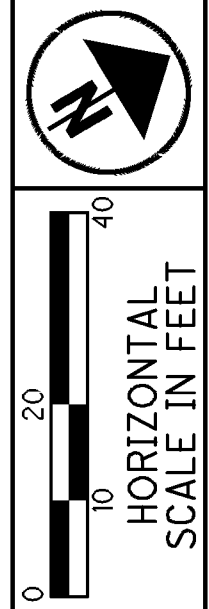
CALCULATED

CHECKED

TRAFFIC SIGNAL PLAN
US-62 AT I-270 RAMP "L"

FRA-62-0.00

87
90



FIELD WIRING HOOK-UP CHART			
SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
A (NBT)	↑ G	SPECIAL	OUT
B, C (NB)	R	Ø2 R	Y
	Y	Ø2 Y	
	G	Ø2 G	
D, E (EB)	R	Ø4 R	R
	Y	Ø4 Y	
	G	Ø4 G	
F, G (SB)	R	Ø6 R	Y
	Y	Ø6 Y	
	G	Ø6 G	

SIGNAL TIMING IN SECONDS			
TIMING INTERVAL	NB	EB	SB
	Ø2	Ø4	Ø6
MIN. GREEN	20	15	20
VEH. EXTENSION	*	*	*
MAX. GREEN I	50	35	50
MAX. GREEN II	50	50	50
YELLOW CLEAR	4.5	3.5	4.5
RED CLEAR	2	2	2
RECALL	MIN	NONE	MIN
LOCK/NON-LOCK	NON-LOCK	NON-LOCK	NON-LOCK

* - RADAR DILEMMA ZONE DETECTORS SHALL BE PROGRAMMED TO CAPTURE APPROACHING VEHICLES FOR VEHICLE EXTENSION.

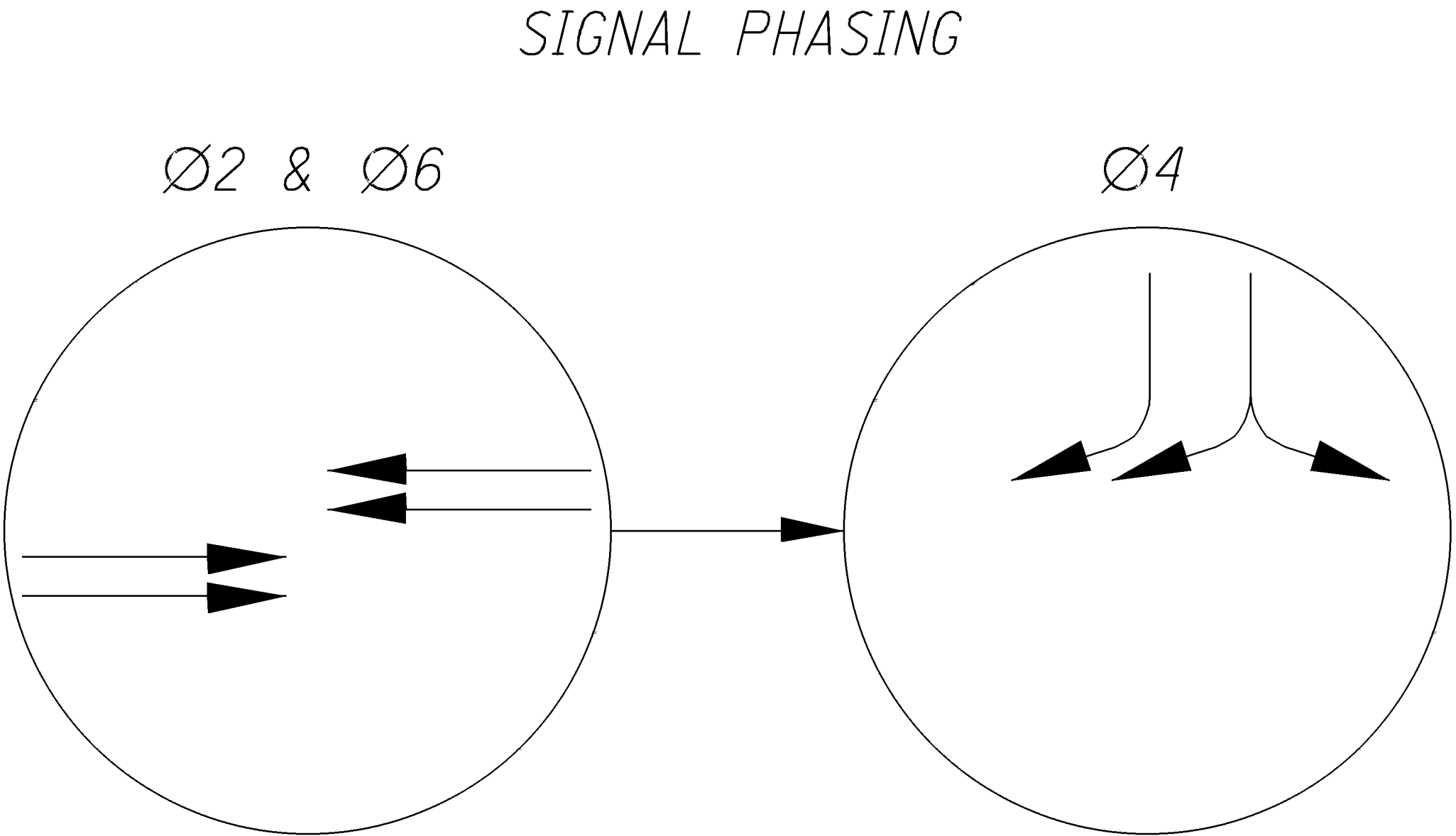
DIAL	SPLIT	CYCLE	OFFSET	SPLIT		
				Ø2	Ø4	Ø6
1	1	1	8	50	40	50
2	1	1	5	51	49	51
3	1	1	7	65	50	65

DAY 1=DAY 7, DAY 2=DAY 3, 4, 5, 6

EVENT	DAY	TIME	D/S/O
1	1	00:01	FREE
2	1	8:00	1/1/1
3	1	9:00	1/1/1
4	1	20:00	FREE
5	1	22:00	FREE
6	2	00:01	FREE
7	2	6:00	3/1/1
8	2	9:00	1/1/1
9	2	15:00	2/1/1
10	2	19:00	FREE
11	2	22:00	FREE

Item	Extension	Quantity	Unit	Item Description
625	18510	2	EA	BRACKET ARM, 30'
625	32000	1	EA	GROUND ROD
632	30200	160	FT	MESSANGER WIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES
632	40700	530	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
632	68100	110	FT	POWER CABLE, 1 CONDUCTOR, NO. 6 AWG
632	70000	1	EA	POWER SERVICE
632	90101	1	EA	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN
633	01551	1	EA	CONTROLLER UNIT, TYPE TS2/A2 WITH CABINET, TYPE TS2, AS PER PLAN
633	69000	3	EA	ADVANCE/DILEMMA ZONE DETECTION SYSTEM
633	69100	1	EA	STOP BAR DETECTION RADAR
633	99000	1	EA	CONTROLLER ITEM MISC.: REUSE OF UNINTERRUPTIBLE POWER SUPPLY
633	99000	1	EA	CONTROLLER ITEM MISC.: REUSE OF SPREAD SPECTRUM RADIO

QUANTITIES CARRIED TO THE GENERAL SUMMARY.

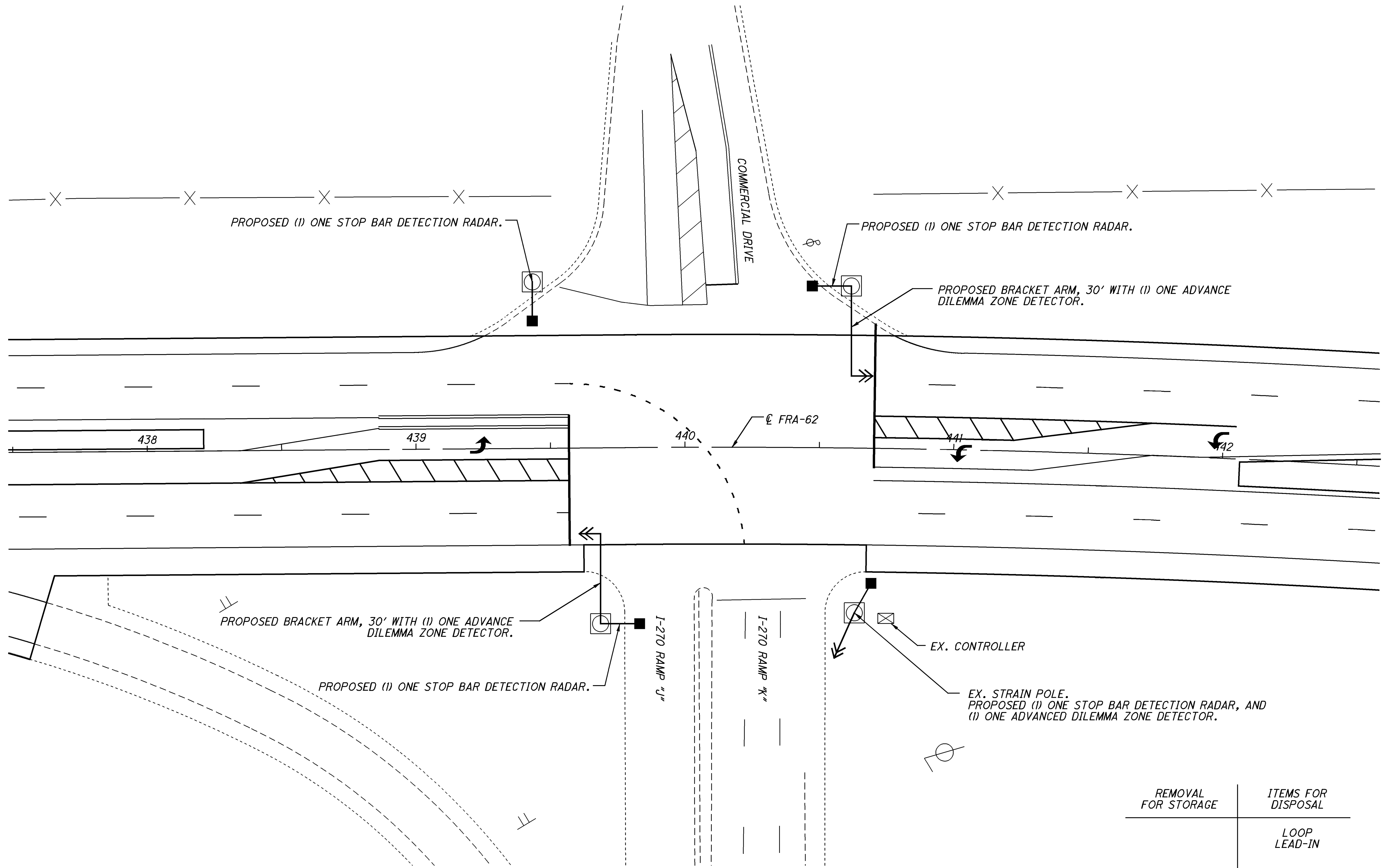


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LEGEND:

ADVANCED DILEMMA ZONE DETECTOR

STOP BAR DETECTION RADAR



FOR TRAFFIC SIGNAL QUANTITIES AT THIS LOCATION, SEE SHEET 90/90 .

89

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FRA - 62 - 0.00

TRAFFIC SIGNAL PLAN
US-62 AT I-270 RAMP "J" & "K"

CALCULATED

CHECKED

0

10

20

40

HORIZONTAL
SCALE IN FEET

Item	Extension	Quantity	Unit	Item Description
625	18510	2	EA	BRACKET ARM, 30'
633	69000	3	EA	ADVANCE/DILEMMA ZONE DETECTION SYSTEM
633	69100	4	EA	STOP BAR DETECTION RADAR

QUANTITIES CARRIED TO THE GENERAL SUMMARY.