HAS - US 22-21.47
190610 PID - 105281
Dist 11 12/12/2019

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

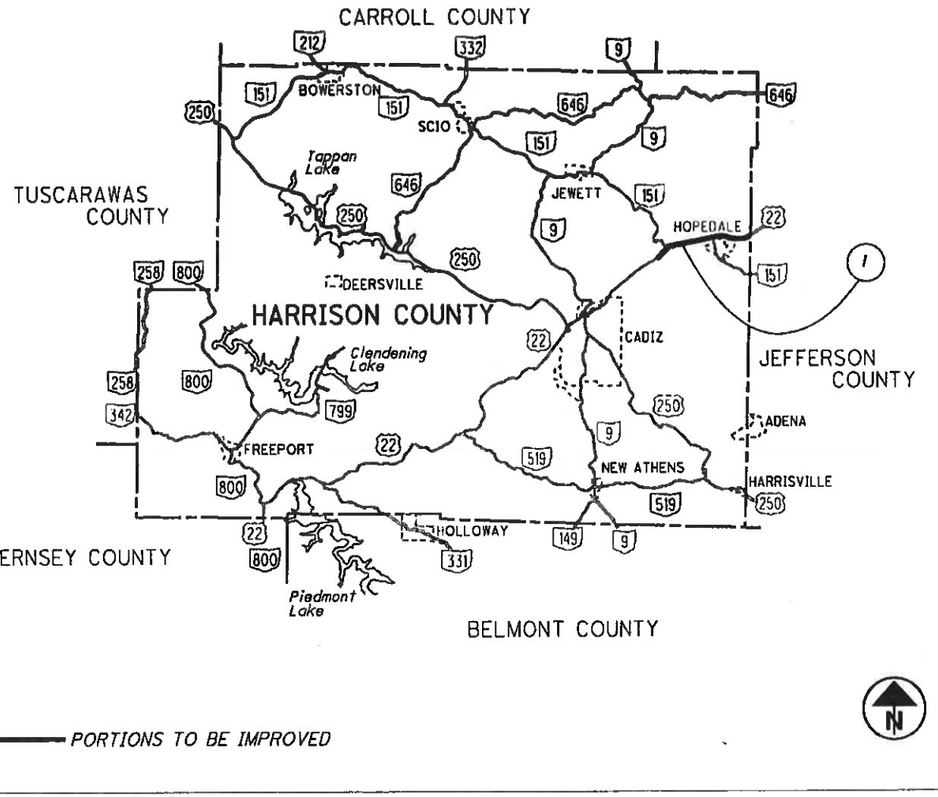
I:\ProjectData\10528\Design\Roadway\Sheets\10528LGTOC1.dgn Sheet 13-SEP-2019 10:33AM dhoffman

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

HAS-22-21.47
442 4-LANE RESURFACING

PART	COUNTY	ROUTE	SECTIONS	PROJECT TERMINI BEGIN	PROJECT TERMINI END	NET LENGTH MILES	VILLAGE(CITY)
1	HAS	U.S. 22	21.47	21.47	25.23	3.76	HOPEDALE

PROJECT EARTH DISTURBED AREA = N/A (MAINTENANCE PROJECT)
ESTIMATED CONTRACTOR EARTH DISTURBED AREA = N/A (MAINTENANCE PROJECT)
NOTICE OF INTENT EARTH DISTURBED AREA = N/A (MAINTENANCE PROJECT)



LOCATION MAP

LATITUDE: N 40° 19' 40" LONGITUDE: W 80° 54' 35"

2019 SPECIFICATIONS

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

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.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THESE IMPROVEMENTS WILL NOT REQUIRE THE CLOSING OF THE HIGHWAYS TO TRAFFIC AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED DATE 9-13-19 — Thomas D Grey — DISTRICT DEPUTY DIRECTOR

APPROVED DATE 9/23/19 — DIRECTOR, DEPARTMENT OF TRANSPORTATION

CONFORMED SET

INDEX OF SHEETS

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)

PLAN PREPARED BY:
ODOT DISTRICT 11
ENGINEERING

STANDARD CONSTRUCTION DRAWINGS

BP-2.1	7-17-15	MT-95.30	7-19-19	TC-41.20	10-18-13
BP-2.5	7-19-13	MT-95.45	4-19-19	TC-42.20	10-18-13
BP-3.1	7-18-14	MT-98.10	1-20-17	TC-52.10	10-18-13
BP-5.1	1-18-19	MT-98.11	4-19-19	TC-52.20	7-20-18
BP-9.1	1-18-19	MT-98.20	4-19-19	TC-65.10	1-17-14
		MT-98.22	1-20-17	TC-65.11	7-21-17
		MT-98.28	1-20-17	TC-71.10	1-19-18
DM-4.3	1-15-16	MT-99.20	4-19-19	TC-72.20	7-20-18
DM-4.4	1-15-16	MT-101.90	7-21-17	TC-73.20	1-21-17
		MT-104.10	10-16-15		
		MT-105.10	7-19-13		

SUPPLEMENTAL SPECIFICATIONS

800-19	7-19-19
808	1-18-19
821	4-20-12
832	10-19-18
843	1-15-16
844	4-20-18
875	1-18-19
908	10-20-17
921	4-20-12

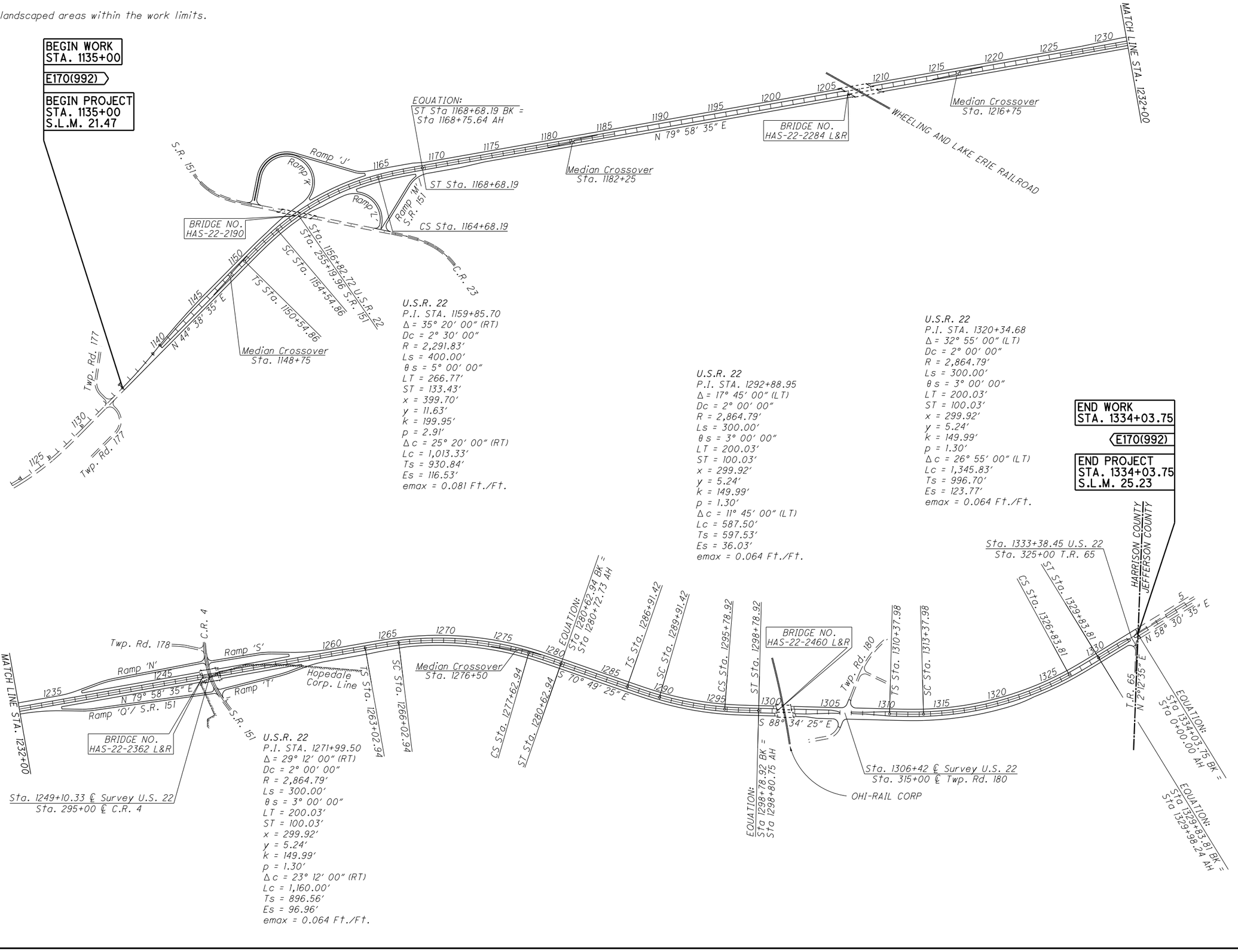
SPECIAL PROVISIONS

ENGINEER'S SEAL:
STATE OF OHIO
DAVID A. HOFFMAN
E-79007
REGISTERED PROFESSIONAL ENGINEER
SIGNED: D.A. Hoffman
DATE: 9-13-19

DESIGN DESIGNATION IS SHOWN ON SHEET 5.

FEDERAL PROJECT NO. E170(992)
PID NO. 105281
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
HAS-22-21.47
1/46

There are no existing landscaped areas within the work limits.



0 200 400 800
HORIZONTAL SCALE IN FEET

CALCULATED JJF
CHECKED DAH

SCHEMATIC PLAN
STA. 1122+00 TO STA. 6+00

HAS-22-21.47

2
46

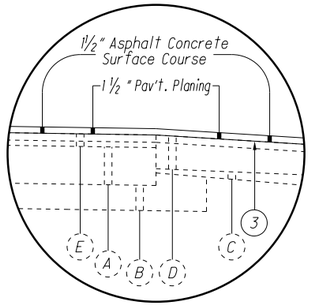
I:\ProjectData\10528\Design\Roadway\Sheets\10528LGB001.dgn Sheet 16-SEP-2019 10:02AM dhoffmal

PROPOSED LEGEND

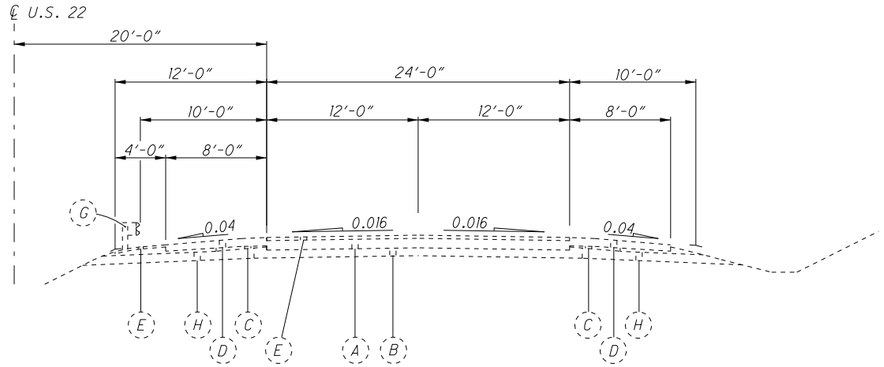
1. ITEM 442 - 1 ½" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (447), AS PER PLAN
2. ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, (1 ½"), AS PER PLAN
3. ITEM 407 - NON-TRACKING TACK COAT (0.085 GAL./S.Y.)
4. ITEM 209 - LINEAR GRADING, AS PER PLAN
5. ITEM 408 - PRIME COAT, AS PER PLAN
6. ITEM 617 - COMPACTED AGGREGATE

EXISTING LEGEND

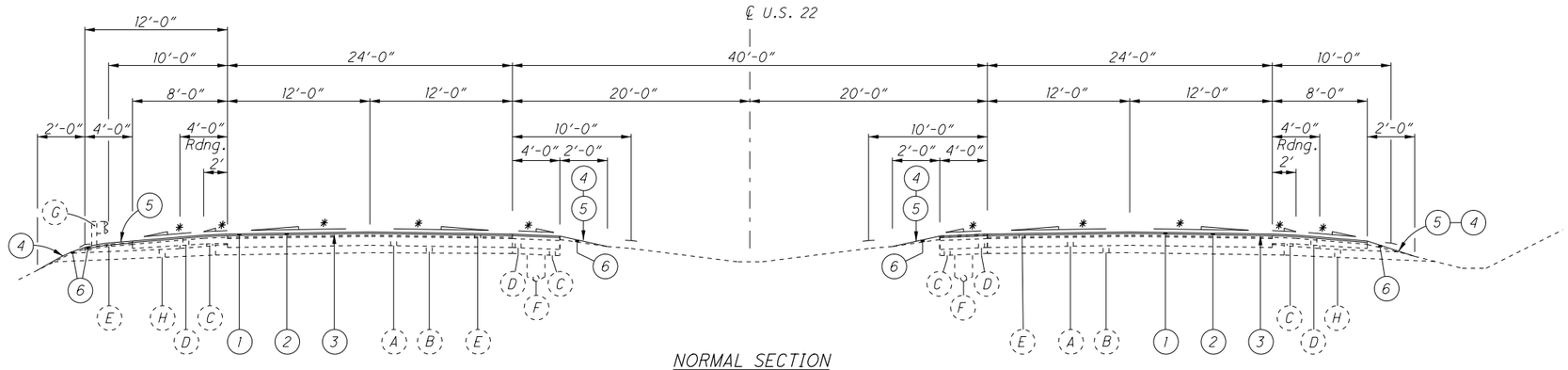
- A — EXISTING ±9" REINFORCED CONCRETE PAVEMENT
- B — EXISTING SUBBASE
- C — EXISTING AGGREGATE BASE
- D — EXISTING BITUMINOUS AGGREGATE BASE
- E — EXISTING ±4 ½" ASPHALT CONCRETE
- F — EXISTING UNDERDRAIN
- G — EXISTING GUARDRAIL
- H — EXISTING AGGREGATE DRAIN



TYPICAL RESURFACING DETAIL
(MAINLINE & SHOULDER)



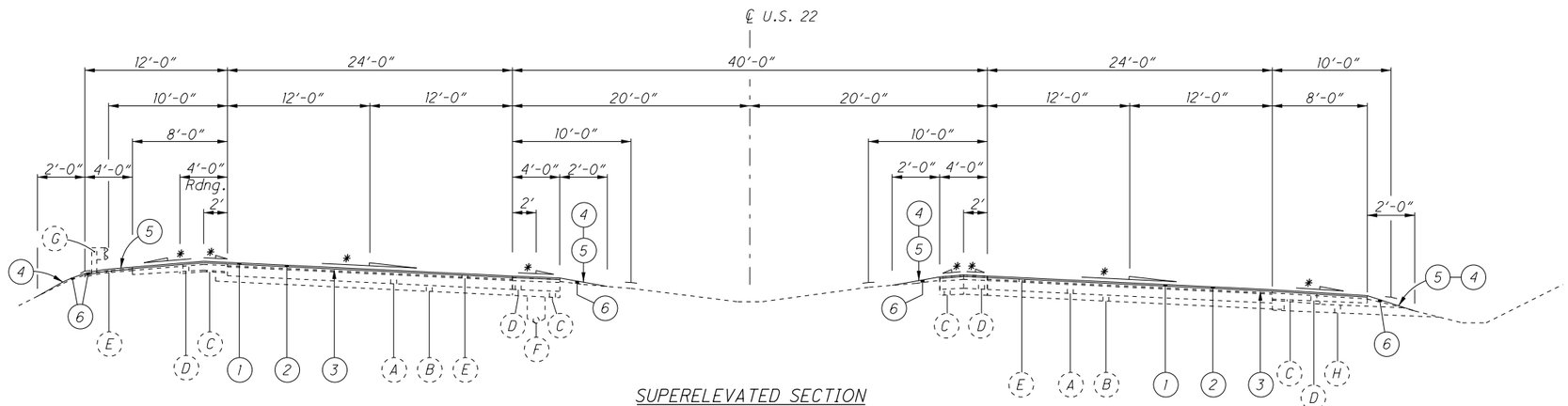
ADJOINING SECTION
STA. 1130+25.00 TO STA. 1135+00.00



NORMAL SECTION

STA. 1135+00.00 TO STA. 1150+50.00 (TWO LANE TO FOUR LANE TRANSITION)
STA. 1168+75.64 AH. TO STA. 1262+03.90 (EQUATION: STA. 1168+68.19 BK. = STA. 1168+75.64 AH.)
STA. 1280+75.00 TO STA. 1287+00.00
STA. 1298+75.00 TO STA. 1310+50.00 (EQUATION: STA. 1298+78.92 BK. = STA. 1298+80.75 AH.)
STA. 1330+00.00 TO STA. 1334+03.75

✱ SAME SLOPE AS EXISTING



SUPERELEVATED SECTION

STA. 1150+50.00 TO STA. 1168+68.19 BK. (EQUATION: STA. 1168+68.19 BK. = STA. 1168+75.64 AH.)
STA. 1262+03.90 TO STA. 1280+75.00 (EQUATION: STA. 1280+62.94 BK. = STA. 1280+72.73 AH.)
STA. 1287+00.00 TO STA. 1298+75.00
STA. 1310+50.00 TO STA. 1330+00.00 (EQUATION: STA. 1329+83.81 BK. = STA. 1329+98.24 AH.)

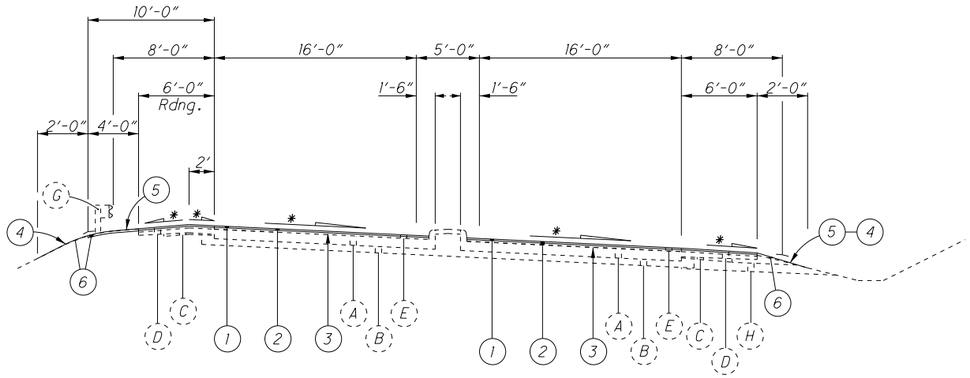
CALCULATED JJF
CHECKED DAH

TYPICAL SECTIONS

HAS-22-21.47

3
46

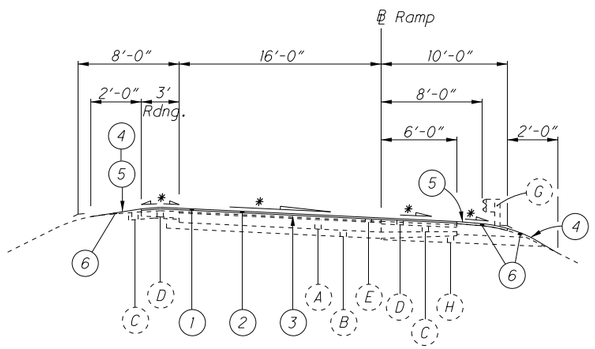
I:\ProjectData\10528\Design\Roadway\Sheets\10528LGY001.dgn Sheet 16-SEP-2019 10:02AM dhoffmal



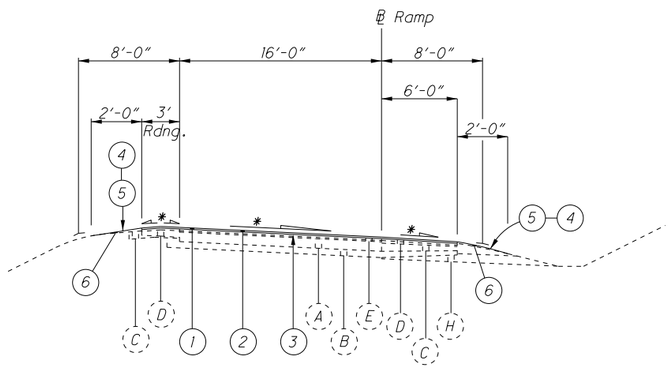
INTERCHANGE RAMPS (TWO WAY)

NOTE: PAVEMENT PLANING (1 ½ " NOMINAL DEPTH)

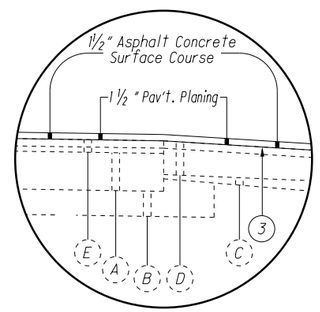
* SAME SLOPE AS EXISTING



INTERCHANGE RAMPS WITH GUARDRAIL



INTERCHANGE RAMPS WITHOUT GUARDRAIL



TYPICAL RESURFACING DETAIL
(RAMP & RAMP SHOULDER)

FOR LEGEND SEE SHEET NO. 3

CALCULATED JJF
CHECKED DAH

TYPICAL SECTIONS

HAS-22-21.47

UTILITIES

THERE ARE NO UNDERGROUND UTILITIES SHOWN ON THIS PLAN. THE NATURE OF THE WORK REQUIRED BY THIS PROJECT WILL NOT AFFECT ANY KNOWN UNDERGROUND UTILITIES THAT EXIST UNDER OR ADJACENT TO THE WORK AREA.

PROFILE AND ALIGNMENT

PLACE THE PROPOSED PAVEMENT TO FOLLOW THE PROFILE AND ALIGNMENT OF THE EXISTING PAVEMENT. PLACE THE PROPOSED ASPHALT CONCRETE OVERLAY AS SHOWN ON THE TYPICAL SECTIONS.

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B, (447), AS PER PLAN

THE CONTRACTOR SHALL FOLLOW THE SPECIFICATIONS OF CMS 703.05, EXCEPT DO NOT USE COARSE AGGREGATE FROM A SOURCE DESIGNATED "SR" OR "SRH" AS DEFINED BY THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM OF WORK.

ITEM 201 - CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING.

ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

ITEM 621 - RAISED PAVEMENT MARKER REMOVED

EXISTING RAISED PAVMENT MARKERS SHALL BECOME THE PROPERTY OF THE CONTRACTOR FOR DISPOSAL OFF THE PROJECT. IN AREAS OF PAVEMENT PLANING ONLY, THE REQUIRMENT TO FILL THE DEPRESSIONS SHALL BE WAIVED.

PREVIOUS CONSTRUCTION PLANS

THE FOLLOWING EXISTING PLANS ARE AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 11 OFFICE IN NEW PHILADELPHIA:

HAS-22-18.97/JEF-22-0.00 ORIGINAL CONSTRUCTION PLAN, 1960
HAS-22-20.07 4-LANE RESURFACING PLAN, 1980
HAS-22-21.47 (PID 77348) 4-LANE RESURFACING PLAN, 2009
HAS-22-22.83 L&R BRIDGE RECONSTRUCTION PLAN, 1993
HAS-22-23.60 (PID 20466) BRIDGE UPGRADE PLAN, 2003
HAS-22-23.87 4-LANE UPGRADE PLAN, 1969

THESE EXISTING PLANS CAN ALSO BE DOWNLOADED FROM THE FOLLOWING FTP SITE:
FTP://FTP.DOT.STATE.OH.US/PUB/CONTRACTS/ATTACH

ITEM 617 - COMPACTED AGGREGATE

GRADED SHOULDERS SHALL BE RESHAPED AS PER THE REQUIREMENTS OF ITEM 617, COMPACTED AGGREGATE. GRINDINGS MAY BE USED IN LIEU OF ITEM 617, COMPACTED AGGREGATE. THE COST FOR STORING THE GRINDINGS ON THE PROJECT AND PLACING THE GRINDINGS SHALL ALSO BE INCLUDED IN THIS ITEM.

ITEM 408 - PRIME COAT, AS PER PLAN

THIS ITEM OF WORK SHALL BE PERFORMED IN ACCORDANCE WITH CMS "ITEM 408 - PRIME COAT," EXCEPT THE CONTRACTOR SHALL APPLY "MC-70" AT A RATE OF 0.4 GALLONS PER SQUARE YARD, OR AS DETERMINED BY THE ENGINEER, TO THE COMPLETED COMPACTED AGGREGATE SHOULDER.

ITEM 646 - EPOXY PAVEMENT MARKINGS

THE CONTRACTOR SHALL REPLACE THE EXISTING PAVEMENT MARKINGS WITHIN THE PROJECT LIMITS WITH NEW PAVEMENT MARKINGS AT THE SAME LOCATIONS AS PER CMS 641.06. SEE STANDARD DRAWING TC-71.10 FOR PAVEMENT MARKING DETAILS.

SURFACE COURSE COMPLETION REQUIREMENTS

ANY GIVEN LENGTH OF WORK ON WHICH RESURFACING OPERATIONS HAVE BEEN STARTED IN A CONSTRUCTION SEASON SHALL HAVE THE SURFACE COURSE PLACED THAT SAME SEASON.

COORDINATION OF RESURFACING AND PLANING OPERATIONS

ONCE THE PAVEMENT PLANING OPERATIONS HAVE COMMENCED, THE CONTRACTOR SHALL PLANE CONTINUOUSLY UNTIL ALL ELEMENTS OF WORK ASSOCIATED WITH THE PAVEMENT PLANING OPERATIONS ARE CONCLUDED. THE PAVEMENT PLANING OPERATIONS SHALL BE COMPLETED IN A TIMELY MANNER, OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR MUST BEGIN PAVING OPERATIONS NO LATER THAN 4 DAYS AFTER THE START OF THE PAVEMENT PLANING.

IF ASPHALT CONCRETE IS TO BE APPLIED DIRECTLY ONTO PORTLAND CEMENT, CONCRETE, OR BRICK PAVEMENT, THE CONTRACTOR SHALL TACK THE EXISTING PAVEMENT WITH RUBBERIZED ASPHALT EMULSION CONFORMING TO CMS 702.13.

ALL GRINDINGS SHALL BECOME THE PROPERTY OF THE CONTRACTOR EXCEPT FOR WHAT MAY BE USED FOR SHOULDER MATERIAL INDICATED IN ITEM 617 - COMPACTED AGGREGATE AND WHAT IS TO BE DELIVERED TO THE HARRISON COUNTY GARAGE.

SHIELD

THE CONTRACTOR SHALL PROVIDE A SHIELD TO PREVENT THE SPRAYING OR DRIFTING OF LIQUID BITUMINOUS MATERIAL ONTO THE EDGE OF THE PAVEMENT OR EDGELINE. THE CONTRACTOR SHALL ADHERE TO THE PROVISIONS SET FORTH IN CMS 107.10 CONCERNING THE PROTECTION AND RESTORATION OF ALL PUBLIC AND PRIVATE PROPERTY IMPACTED BY CONSTRUCTION OPERATIONS.

CONCRETE ISLAND RESTORATION

THE FOLLOWING QUANTITIES SHALL BE USED AT THE DIRECTION OF THE ENGINEER AND HAVE BEEN PROVIDED FOR THE RESTORATION OF THE CONCRETE TRAFFIC ISLAND AT THE INTERCHANGE OF U.S. 22 AND S.R. 151 BETWEEN RAMP 'J' AND RAMP 'K':

ITEM 202 - TRAFFIC ISLAND REMOVED	15 SQ. YD.
ITEM 609 - 4" CONCRETE TRAFFIC ISLAND	15 SQ. YD.

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, (1 ½"), AS PER PLAN

THIS ITEM SHALL INCLUDE HAULING THE GRINDINGS FROM THE PAVEMENT PLANING OPERATION TO THE ADDRESS LISTED BELOW AND STOCKPILING THE MATERIAL IN A MANNER ACCEPTABLE TO THE ENGINEER. CONTINUOUS END DUMPING WILL NOT BE PERMITTED.

3,000 TOTAL TONS DELIVERED TO:

HARRISON COUNTY GARAGE
43041 S. INDUSTRIAL PARK RD.
CADIZ, OH 43907
CONTACT: J.D. MARLATT
330-308-6560

ALL LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK SHALL BE INCLUDED IN THE SQUARE YARD BID PRICE FOR ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN.

DESIGN DESIGNATION (21.47 TO 21.98)

CURRENT ADT (2020)	9,200
DESIGN ADT (2032)	12,000
DESIGN HOURLY VOLUME (2032)	1,100
DIRECTIONAL DISTRIBUTION	70%
TRUCKS (24 HOUR B&C)	29%
Td	18%
DESIGN SPEED	55 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	03 - RURAL PRINCIPAL ARTERIAL
NHS PROJECT	YES

DESIGN DESIGNATION (21.98 TO 23.65)

CURRENT ADT (2020)	11,000
DESIGN ADT (2032)	13,000
DESIGN HOURLY VOLUME (2032)	1,300
DIRECTIONAL DISTRIBUTION	70%
TRUCKS (24 HOUR B&C)	16%
Td	8%
DESIGN SPEED	55 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	03 - RURAL PRINCIPAL ARTERIAL
NHS PROJECT	YES

DESIGN DESIGNATION (23.65 TO 23.82)

CURRENT ADT (2020)	12,000
DESIGN ADT (2032)	15,500
DESIGN HOURLY VOLUME (2032)	1,600
DIRECTIONAL DISTRIBUTION	70%
TRUCKS (24 HOUR B&C)	12%
Td	6%
DESIGN SPEED	55 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	03 - RURAL PRINCIPAL ARTERIAL
NHS PROJECT	YES

DESIGN DESIGNATION (23.82 TO 25.23)

CURRENT ADT (2020)	12,000
DESIGN ADT (2032)	15,500
DESIGN HOURLY VOLUME (2032)	1,600
DIRECTIONAL DISTRIBUTION	70%
TRUCKS (24 HOUR B&C)	12%
Td	6%
DESIGN SPEED	65 MPH
LEGAL SPEED	65 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	03 - RURAL MINOR ARTERIAL
NHS PROJECT	YES

CALCULATED JJF
CHECKED DAH

GENERAL NOTES

HAS-22-21.47

ITEM 614 - MAINTAINING TRAFFIC, AS PER PLAN

THE CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES IN ACCORDANCE WITH THE REQUIREMENTS OF CMS ITEM 614, THESE MAINTENANCE OF TRAFFIC NOTES AND DETAILS, THE STANDARD CONSTRUCTION DRAWINGS, AND THE TRAFFIC CONTROL DETAILS DESCRIBED IN THESE PLANS.

THE MINIMUM LANE WIDTH FOR TRAFFIC CONTROL SHALL BE 11 FEET AT ALL TIMES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ORGANIZE HIS WORK IN SUCH A MANNER TO PROVIDE THE MOST SAFETY WITH THE LEAST INCONVENIENCE TO THE TRAVELING PUBLIC.

THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING THE MAINTENANCE OF TRAFFIC SCHEME. THE CONTRACTOR SHALL SUBMIT, IN WRITING, THIS MAINTENANCE OF TRAFFIC SCHEME AND A SCHEDULE OF OPERATIONS TO THE ENGINEER AND RECEIVE APPROVAL BEFORE WORK IS STARTED ON THE PROJECT.

ANY OPEN PAVEMENT TRENCH OR DROPOFF SHALL BE ADEQUATELY MAINTAINED AND PROTECTED. THE PROTECTION USED SHALL MEET THE REQUIREMENTS OF STANDARD CONSTRUCTION DRAWING MT-101.90.

UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE PERMITTED TO HAVE WORK ZONES WHICH ALTERNATELY CLOSE BOTH THE PASSING AND TRAVEL LANE UNLESS THE DISTANCE BETWEEN THE LANE RESTRICTIONS EXCEEDS 2 MILES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR SMOOTH AND ORDERLY FLOW OF TRAFFIC THROUGH THE PROJECT AREA 24 HOURS PER DAY FOR THE DURATION OF THE PROJECT. THIS CONSISTS OF NOTIFYING THE OHIO STATE PATROL AFTER ENCOUNTERING ANY ACCIDENTS OR DISABLED VEHICLES OR OBJECTS HINDERING THE FLOW OF TRAFFIC.

THE CONTRACTOR SHALL DESIGNATE TO THE ENGINEER A PERSON RESPONSIBLE FOR MAINTENANCE OF TRAFFIC CONTROL DURING NON-WORK HOURS WHO SHALL BE AVAILABLE WITHIN (30) MINUTES AFTER NOTIFICATION.

PAYMENT FOR PROVIDING WATCHMEN, FURNISHING, ERECTING, MAINTAINING AND REMOVING SIGNS, CONES, MARKERS, PORTABLE CONCRETE BARRIER, BARRIER REFLECTORS, OBJECT MARKERS, WORK ZONE IMPACT ATTENUATORS, SPECIAL LIGHTING, FLOODLIGHTING WORK ZONE PAVEMENT MARKINGS, WORK ZONE RAISED PAVEMENT MARKERS, ECT., SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC, AS PER PLAN.

UNLESS THE ENGINEER DEEMS IT PHYSICALLY IMPOSSIBLE, ALL CONSTRUCTION EQUIPMENT SHALL EXIT ALL WORK ZONES FROM THE DOWNSTREAM END OF THE WORK ZONE OR BY INTERCHANGE RAMPS. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE PERMITTED TO DIRECTLY TRANSPORT OR OPERATE ANY EQUIPMENT ACROSS THE OPEN LANES OF THE ROADWAY.

THE PLANING AND RESURFACING OPERATIONS WILL PROCEED CONTINUOUSLY A MINIMUM OF FIVE (5) DAYS PER WEEK, WEATHER PERMITTING. NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

MEMORIAL DAY, FOURTH OF JULY, LABOR DAY

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

DAY OF THE WEEK	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)	6:00 AM WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

ITEM 614 - MAINTAINING TRAFFIC, AS PER PLAN (CONTINUED)

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF $7,200 FOR EACH HOUR THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

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.

WHEN RAISED PAVEMENT MARKERS ARE TO BE INSTALLED, THE REQUIRED LANE CLOSURE SHALL REMAIN IN EFFECT UNTIL THE EPOXY IS DRY AND ALL FOREIGN MATTER OR DEBRIS CREATED BY THE INSTALLATION OF THE RPM CASTING IS REMOVED FROM THE ROADWAY.

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, AS PER PLAN, 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 TO INFORM THE SPECIAL HAULING PERMITS SECTION (Hauling.Permits@dot.ohio.gov) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). 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 SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION TIME TABLE		
ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
RAMP & ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	<= 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

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

MOVEMENT OF DRUMS

THE ROW OF DRUMS ALONG A CLOSED LANE SHALL BE MOVED OUT OF THE OPEN LANE ONTO THE NEW PAVEMENT AS SOON AS PAVING OPERATIONS PERMIT.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

IN ADDITION TO THE REQUIREMENTS OF SECTION 614.03 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS THE FOLLOWING SHALL APPLY. THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC WHERE PRACTICAL. A FLAGGER SHALL BE USED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S VEHICLES AND EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT.

EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY, THIRTY FEET (30') FROM THE EDGE OF TRAVELED HIGHWAY UNLESS BEHIND GUARDRAIL, WHEN VARIOUS OPERATIONS ARE SCHEDULED TO CONTINUE THE NEXT WORKDAY. ON WEEKENDS OR AT OTHER TIMES OF SUSPENSION OF WORK, THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA REMOVED FROM THE STATE ROUTE RIGHT OF WAY. NO EQUIPMENT SHALL BE PARKED IN THE MEDIAN OF THE HIGHWAY. ADEQUATE BARRICADES AND LIGHT SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA.

ITEM 614 - REPLACEMENT DRUM

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - REPLACEMENT DRUM ---------- **10 EACH**

FLOODLIGHTING

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.

CALCULATED JJF CHECKED DAH

MAINTENANCE OF TRAFFIC

HAS-22-21.47

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

- DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.
- FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT, SHORT DURATION CLOSURE OF A MULTI-LANE DIVIDED HIGHWAY AS INDICATED ON THE PLAN INSERT SHEET OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).
- WHEN CONSTRUCTION VEHICLES ARE ENTERING/EXITING THE ZONE DIRECTLY FROM/INTO AN OPEN LANE OF TRAFFIC. IF A LANE HAS BEEN CLOSED TO PROVIDE AN ACCELERATION/DECELERATION LANE FOR THE VEHICLE, THE LEO WILL NOT BE REQUIRED.

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.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

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

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (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) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS (CONTINUED)

PART 1 (01/NHS/PV)
ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE--- **250 HOURS**

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

ITEM 614 - REPLACEMENT SIGN

FLATSHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE USED, BUT GOOD, CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF **3 EACH** HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614 - WORK ZONE PAVEMENT MARKINGS, CLASS III, 642 PAINT
ITEM 614 - WORK ZONE MARKING SIGNS

THE CONTRACTOR SHALL BE REQUIRED TO INSTALL WORK ZONE MARKINGS AND SIGNS AT LOCATIONS IDENTIFIED BY THE ENGINEER PER THE REQUIREMENTS OF CMS 614.04 AND 614.11.

WORK ZONE PAVEMENT MARKINGS SHALL BE 642 PAINT.

PRIOR TO THE PLACEMENT OF ANY WORK ZONE PAVEMENT MARKINGS, THE CONTRACTOR SHALL COMPLETELY OBLITERATE, AS PER 641.10, ALL EXISTING PAVEMENT MARKINGS THAT WOULD CREATE CONFUSION OR CONFLICT WITH WORK ZONE PAVEMENT MARKINGS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR WORK ZONE PAVEMENT MARKINGS:

PART 1 (01/NHS/PV)
ITEM 614 - WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT (WHITE) - - - 17.76 MILE
ITEM 614 - WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT (YELLOW) - - 17.13 MILE
34.89 MILE

PART 1 (01/NHS/PV)
ITEM 614 - WORK ZONE LANE LINE, CLASS III, 6", 642 PAINT - - - - - - - 22.58 MILE

PART 1 (01/NHS/PV)
ITEM 614 - WORK ZONE CENTER LINE, CLASS III, 6", 642 PAINT - - - - - - 0.33 MILE

PART 1 (01/NHS/PV)
ITEM 614 - WORK ZONE STOP LINE, CLASS III, 642 PAINT - - - - - - - - - - - 328 FT

PART 1 (01/NHS/PV)
ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS III, 12", 642 PAINT - - - 3,639 FT

WORK ZONE RAISED PAVEMENT MARKERS CANNOT BE USED TO SIMULATE (REPLACE) ANY TYPE OF WORK ZONE PAVEMENT MARKING.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR WORK ZONE SIGNS:

PART 1 (01/NHS/PV)
ITEM 614 - WORK ZONE MARKING SIGN (W8-11-48 OR W8-H12a-48) - - - - - - - - - 12 EACH

CALCULATED JJF
CHECKED DAH

MAINTENANCE OF TRAFFIC

HAS-22-21.47

WORK ZONE SPEED ZONES (WZSZS)

THE FOLLOWING WORK ZONE SPEED ZONE (WZSZ) SPEED LIMIT REVISION(S) HAVE BEEN APPROVED FOR USE ON THIS PROJECT WHEN WORK ZONE CONDITIONS AND FACTORS ARE MET AS DESCRIBED BELOW:

WZSZ REVISION NUMBER(S)	COUNTY-ROUTE-SECTION(S)	DIRECTION(S)
WZ-60574	HAS-22-21.25 TO JEF-22-0.22	EB & WB

POTENTIAL WZSZ LOCATIONS SHALL HAVE AN ORIGINAL (PRECONSTRUCTION) POSTED SPEED LIMIT OF 55 MPH OR GREATER, A QUALIFYING WORK ZONE CONDITION OF AT LEAST 0.5 MILE IN LENGTH, AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS, AND A WORK ZONE CONDITION IN PLACE THAT REDUCES THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS (I.E., LANE CLOSURE, LANE SHIFT, CROSSOVER, CONTRAFLOW AND/OR SHOULDER CLOSURE). THE LENGTH OF THE WORK ZONE CONDITION IS MEASURED FROM THE BEGINNING OF THE TAPER FOR THE SUBJECT WORK ZONE CONDITION IMPACTING THE TRAVEL LANES AND/OR SHOULDER TO THE END OF THE DOWNSTREAM TAPER, WHERE DRIVERS ARE RETURNED TO TYPICAL ALIGNMENT. AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS IS REQUIRED TO BALANCE THE ADDITIONAL EXPOSURE CREATED BY INSTALLING AND REMOVING WZSZ SIGNING WITH THE TIME NEEDED TO COMPLETE THE WORK.

IF THE WORK ZONE MEETS THESE MINIMUM CRITERIA, IT SHALL BE ANALYZED FURTHER USING TABLE 1 BELOW TO DETERMINE IF AND WHEN IT QUALIFIES FOR A SPEED LIMIT REDUCTION. DEPENDING ON THE ORIGINAL POSTED SPEED LIMIT, THE TYPE OF TEMPORARY TRAFFIC CONTROL USED, AND WHETHER OR NOT WORKERS ARE PRESENT, A WARRANTED WZSZ WILL VARY IN THE APPROVED SPEED LIMIT TO BE POSTED OVER TIME.

C&MS ITEM 614, PARAGRAPH 614.02(B), INDICATES THAT TWO DIRECTIONS OF A DIVIDED HIGHWAY ARE CONSIDERED SEPARATE HIGHWAY SECTIONS. THEREFORE, IF THE WORK ON A MULTI-LANE DIVIDED HIGHWAY IS LIMITED TO ONLY ONE DIRECTION, A SPEED LIMIT REDUCTION IN THE DIRECTION OF THE WORK DOES NOT AUTOMATICALLY CONSTITUTE A SPEED LIMIT REDUCTION IN THE OPPOSITE DIRECTION. EACH DIRECTION SHALL BE ANALYZED INDEPENDENTLY FROM EACH OTHER.

ALL WZSZS FLUCTUATE BETWEEN TWO APPROVED REDUCED SPEED LIMITS OR BETWEEN AN APPROVED REDUCED SPEED LIMIT AND THE ORIGINAL POSTED SPEED LIMIT. ONLY ONE OF TWO SIGNING STRATEGIES SHALL BE USED TO IMPLEMENT A WZSZ.

WZSZS USING DSL SIGN ASSEMBLIES SHALL BE IN ACCORDANCE WITH THE NOTE, THE APPROVED LIST, SUPPLEMENTAL SPECIFICATIONS (SS) 808 AND 908, AND TRAFFIC SCD MT-104.10.

ONLY ONE WARRANTED SPEED LIMIT APPLIES AT ANY ONE TIME; SPEED LIMIT REDUCTIONS ARE NOT CUMULATIVE. WZSZS SHALL NOT BE USED FOR MOVING/MOBILE ACTIVITIES, AS DEFINED IN OMUTCD PART 6.

WHEN LOOKING UP THE WARRANTED WORK ZONE SPEED LIMITS, ALWAYS USE THE ORIGINAL, PRECONSTRUCTION, POSTED SPEED LIMIT. DO NOT USE A PRIOR OR CURRENT WORK ZONE SPEED LIMIT AS A LOOK UP VALUE IN THE TABLE. POSITIVE PROTECTION IS GENERALLY REGARDED AS PORTABLE BARRIER OR OTHER RIGID BARRIER IN USE ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WITHOUT POSITIVE PROTECTION IS GENERALLY REGARDED AS USING DRUMS, CONES, SHADOW VEHICLE, ETC., ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WORKERS ARE CONSIDERED AS BEING PRESENT WHEN ON-SITE, WORKING WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WHEN THE WORK ZONE CONDITION REDUCING THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS IS REMOVED, THE SPEED LIMIT DISPLAYED SHALL RETURN TO THE ORIGINAL POSTED SPEED LIMIT.

WORK ZONE SPEED ZONES (WZSZS) (CONT.)

TABLE 1: WARRANTED WORK ZONE SPEED LIMITS (MPH) FOR WORK ZONES ON HIGH-SPEED (55 MPH OR GREATER) MULTI-LANE HIGHWAYS

ORIGINAL POSTED SPEED LIMIT	WITH POSITIVE PROTECTION		WITHOUT POSITIVE PROTECTION	
	WORKERS PRESENT	WORKERS NOT PRESENT	WORKERS PRESENT	WORKERS NOT PRESENT
70	60	65	55	65
65	55	60	50	60
60	55	60	50	60
55	50	55	45	55

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 808, DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY [ASSUMING 8 DSL SIGN ASSEMBLIES FOR 3 MONTHS] — 24 SIGN MNTH

WORK ZONE INCREASED PENALTIES SIGN (R11-H5A)

R11-H5A-48 SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITION AND/OR REPLACED AS NECESSARY AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. SIGNS SHALL BE MOUNTED AT THE APPROPRIATE OFFSETS AND ELEVATIONS AS PRESCRIBED BY THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THEY SHALL BE MAINTAINED ON SUPPORTS MEETING CURRENT SAFETY CRITERIA.

THE SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE CONSECUTIVE CALENDAR DAYS, SUCH AS DURING WINTER SHUTDOWNS.

(THE SIGNS ON THE MAINLINE SHALL BE DUAL MOUNTED UNLESS NOT PHYSICALLY POSSIBLE. THE FIRST SIGN SHALL BE PLACED BETWEEN THE ROAD WORK AHEAD (W20-1) SIGN AND THE NEXT SIGN IN THE SEQUENCE. SIGNS SHALL BE ERECTED ON EACH ENTRANCE RAMP AND EVERY 2 MILES THROUGH THE CONSTRUCTION WORK LIMITS. SIGNS ON THE MAINLINE SHALL BE R11-H5A-48. SIGNS USED ON THE RAMPS SHALL BE R11-H5A-24. R11-H5A-24 SIGNS MAY BE USED IN THE MEDIAN IN LIEU OF R11-H5A-48 SIGNS IF IT IS NOT PHYSICALLY POSSIBLE TO PROVIDE R11-H5A-48 SIGNS IN THE MEDIAN.)

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD, CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE RETROREFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF C&MS 730.19.

WORK ZONE INCREASED PENALTIES SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVAL OF THE SIGN AND SUPPORT.

ITEM 614, WORK ZONE INCREASED PENALTIES SIGN — 15 EACH

WORK ZONE INCREASED PENALTIES SIGNS WILL BE PLACED AT THE FOLLOWING LOCATIONS:

<u>EASTBOUND U.S. 22</u>
BEGIN PROJECT (x2)
SLM 23.47 (x2)
RAMP 'M'
RAMP 'T'

<u>WESTBOUND U.S. 22</u>
BEGIN PROJECT (x2)
SLM 23.23 (x2)
RAMP 'K'
RAMP 'N'

<u>INTERSECTIONS</u>
T.R. 180 (x2)
T.R. 65

CALCULATED JJF CHECKED DAH

MAINTENANCE OF TRAFFIC

HAS-22-21.47

SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
5			11		31	32		36		43		01/NHS/PV	02/NHS/BR						
																		ROADWAY	
LS												LS		201	11000	LS		CLEARING AND GRUBBING	
15												15		202	30800	15	SY	TRAFFIC ISLAND REMOVED	
			16.81									16.81		209	60500	16.81	MILE	LINEAR GRADING	
																		EROSION CONTROL	
												1,000		832	30000	1,000	EACH	EROSION CONTROL	
																		DRAINAGE	
					100							100		605	31100	100	FT	AGGREGATE DRAINS	
																		PAVEMENT	
					100							100		251	01010	100	CY	PARTIAL DEPTH PAVEMENT REPAIR (441)	
			184,651			1,151						185,802		254	01001	185,802	SY	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (1.5")	5
					2,550							2,550		255	10011	2,550	SY	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS QC1, AS PER PLAN	31
					8,500							8,500		255	20000	8,500	FT	FULL DEPTH PAVEMENT SAWING	
			15,698			98						15,796		407	20000	15,796	GAL	NON-TRACKING TACK COAT	
			7,880									7,880		408	10001	7,880	GAL	PRIME COAT, AS PER PLAN	5
			4,737									4,737		442	00100	4,737	CY	ANTI-SEGREGATION EQUIPMENT	
			7,717			48						7,765		442	10351	7,765	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (447), AS PER PLAN	5
15												15		609	50000	15	SY	4" CONCRETE TRAFFIC ISLAND	
			824									824		617	10100	824	CY	COMPACTED AGGREGATE	
			72,066									72,066		618	40100	72,066	FT	RUMBLE STRIPS, SHOULDER (ASPHALT CONCRETE)	
																		TRAFFIC CONTROL	
								530				530		621	00100	530	EACH	RPM	
								530				530		621	54000	530	EACH	RAISED PAVEMENT MARKER REMOVED	
								17.66				17.66		646	10010	17.66	MILE	EDGE LINE, 6"	
								7.66				7.66		646	10110	7.66	MILE	LANE LINE, 6"	
								0.18				0.18		646	10200	0.18	MILE	CENTER LINE	
								1,881				1,881		646	10310	1,881	FT	CHANNELIZING LINE, 12"	
								199				199		646	10400	199	FT	STOP LINE	
								119				119		646	10600	119	FT	TRANSVERSE/DIAGONAL LINE	
								1,380				1,380		646	10700	1,380	FT	CURB MARKING	
								4				4		646	20320	4	EACH	WRONG WAY ARROW	

CALCULATED JJF
CHECKED DAH

GENERAL SUMMARY

HAS-22-21.47

SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	6	7	8		42	43	44	45	46			01/NHS/ PV	02/NHS/ BR						
																		STRUCTURE REPAIR (HAS-22-2284 L&R, SFN: 3401294, 3401324)	
						220							220	512	10100	220	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
						2,094							2,094	512	10300	2,094	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	
						220							220	512	74000	220	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
					21								21	609	24001	21	FT	CURB, TYPE 4-A, AS PER PLAN	43
						1,128							1,128	SPECIAL	69098100	1,128	FT	DEBRIS REMOVAL	43
					20								20	843	50000	20	SF	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR	
					197								197	844	10001	197	SF	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN	43
																		STRUCTURE REPAIR (HAS-22-2362 L&R, SFN: 3401359, 3401383)	
							1,428						1,428	512	10300	1,428	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	
							642						642	SPECIAL	69098100	642	FT	DEBRIS REMOVAL	43
																		STRUCTURE REPAIR (HAS-22-2460 L&R, SFN: 3401413, 3401448)	
									1,174				1,174	512	10300	1,174	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	
								28					28	519	12200	28	SY	PATCHING CONCRETE BRIDGE DECK - TYPE A	
									528				528	SPECIAL	69098100	528	FT	DEBRIS REMOVAL	43
																		MAINTENANCE OF TRAFFIC	
		250										250		614	11110	250	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		12										12		614	12460	12	EACH	WORK ZONE MARKING SIGN	
			15									15		614	12484	15	EACH	WORK ZONE INCREASED PENALTIES SIGN	
		3										3		614	12500	3	EACH	REPLACEMENT SIGN	
	10											10		614	12600	10	EACH	REPLACEMENT DRUM	
		22.58										22.58		614	20560	22.58	MILE	WORK ZONE LANE LINE, CLASS III, 6", 642 PAINT	
		0.33										0.33		614	21550	0.33	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
		34.89										34.89		614	22360	34.89	MILE	WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT	
		3,639										3,639		614	23690	3,639	FT	WORK ZONE CHANNELIZING LINE, CLASS III, 12", 642 PAINT	
		328										328		614	26610	328	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	
			24									24		808	18700	24	SNMT	DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY	
																		INCIDENTALS	
	LS											LS		614	11001	LS		MAINTAINING TRAFFIC, AS PER PLAN	6
												4		619	16010	4	MNTH	FIELD OFFICE, TYPE B	
												LS		623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
												LS		624	10000	LS		MOBILIZATION	

CALCULATED JJF
CHECKED DAH

GENERAL SUMMARY

HAS-22-21.47

U.S. 22 PAVEMENT RESURFACING SUBSUMMARY

SHEET NO.	209	254	407	408	442		617	618	FUNDING
	LINEAR GRADING	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	NON-TRACKING TACK COAT	PRIME COAT, AS PER PLAN	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (447), AS PER PLAN	ANTI-SEGREGATION EQUIPMENT	COMPACTED AGGREGATE	RUMBLE STRIPS, SHOULDER, (ASPHALT CONCRETE)	
		1 1/2"	0.085 GAL/SY	0.4 GAL/SY					
	MILE	SQ. YD.	GAL.	GAL.	CU. YD.	CU. YD.	CU. YD.	FT	
SUB-TOTALS CARRIED FROM SHEET 12		58,676	4,989		2,445	2,445			
SUB-TOTALS CARRIED FROM SHEET 13	3.53	8,290	704	1,656	346		175	18,575	
SUB-TOTALS CARRIED FROM SHEET 14	3.33	15,518	1,319	1,551	647		163	17,396	
SUB-TOTALS CARRIED FROM SHEET 15		55,033	4,678		2,292	2,292			
SUB-TOTALS CARRIED FROM SHEET 16	3.52	8,258	702	1,653	343		172	18,580	
SUB-TOTALS CARRIED FROM SHEET 17	3.33	15,569	1,325	1,558	649		162	17,515	
SUB-TOTALS CARRIED FROM SHEET 18		13,559	1,152		566				
SUB-TOTALS CARRIED FROM SHEET 19	3.10	9,748	829	1,462	429		152		
TOTALS (CARRIED TO GENERAL SUMMARY)	**16.81**	**184.651**	**15.698**	**7.880**	**7.717**	**4.737**	**824**	**72.066**	**01/NHS/PV**

CALCULATED JJF
CHECKED DAH

U.S. 22 PAVEMENT SUBSUMMARY

HAS-22-21.47

EASTBOUND U.S. 22 PAVEMENT RESURFACING QUANTITIES

LOCATION	STATION FROM	STATION TO	LENGTH (** ADJUSTED FOR STATION EQUATION) FT.	WIDTH FT.	PAVEMENT AREA (* CADD GENERATED AREA) SQ. YD.			PROPOSED PAVEMENT TREATMENT									
								254	407		442				442	FUNDING	REMARKS
								PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	NON-TRACKING TACK COAT		THICKNESS	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (447), AS PER PLAN			ANTI-SEGREGATION EQUIPMENT		
								1 1/2"	0.085 GAL/SY								
								SQ. YD.	GAL.		IN.	CU. YD.			CU. YD.		
MAINLINE	1135+00.00	1207+07.02	7,199.57 **	24	19,199			19,199	1,632		1 1/2	800			800		
BR. NO. HAS-22-2284 R																	OMIT PROPOSED TREATMENT FROM DECK AND APPROACH SLABS
MAINLINE	1209+89.12	1248+37.38	3848.26	24	10,262			10,262	872		1 1/2	428			428		
BR. NO. HAS-22-2362 R																	OMIT PROPOSED TREATMENT FROM DECK AND APPROACH SLABS
MAINLINE	1249+97.94	1300+41.70	5,014.23 **	24	13,371			13,371	1,137		1 1/2	557			557		
APPROACH SLABS	1300+41.70	1300+66.70	25.00	24	67			67	6		1 1/2	3			3		
BR. NO. HAS-22-2460 R																	OMIT PROPOSED TREATMENT FROM DECK
APPROACH SLABS	1301+51.30	1301+76.30	25.00	24	67			67	6		1 1/2	3			3		
MAINLINE	1301+76.30	1303+00.00	91.61	24	244			244	21		1 1/2	10			10		
MAINLINE	1303+00.00	1304+00.00	100.00	32.89 AVG.	365			365	31		1 1/2	15			15		
MAINLINE	1304+00.00	1305+25.00	125.00	45.39 AVG.	630			630	54		1 1/2	26			26		
TWP. RD. 180 INTERSECTION	1305+25.00	1307+25.14	200.14	VARIES	1,522.01 *			1,522	129		1 1/2	63			63		FOR DETAILS. SEE SHEET 29.
MAINLINE	1307+25.14	1308+25.00	99.86	49	544			544	46		1 1/2	23			23		
MAINLINE	1308+25.00	1310+50.00	225.00	42.50 AVG.	1,063			1,063	90		1 1/2	44			44		
MAINLINE	1310+50.00	1321+00.00	1050.00	36	4,200			4,200	357		1 1/2	175			175		
MAINLINE	1321+00.00	1323+25.00	225.00	30.00 AVG.	750			750	64		1 1/2	31			31		
MAINLINE	1323+25.00	1332+65.68	926.25 **	24	2,470			2,470	210		1 1/2	103			103		
TWP. RD. 65 INTERSECTION	1332+65.68	1334+03.75	138.07	VARIES	783.98 *			784	67		1 1/2	33			33		FOR DETAILS, SEE SHEET 30.
DECEL. LANE - RAMP 'L'	1158+04.62	1162+49.59	444.97	VARIES	646.08 *			646	55		1 1/2	27			27		
ACCEL. LANE - RAMP 'M'	1168+00.00	1174+25.00	625.00	VARIES	764.58 *			765	65		1 1/2	32			32		
DECEL. LANE - RAMP 'Q'	1232+00.00	1235+70.81	370.81	VARIES	494.28 *			494	42		1 1/2	21			21		
ACCEL. LANE - RAMP 'T'	1257+25.10	1266+75.00	949.90	VARIES	1,232.97 *			1,233	105		1 1/2	51			51		
SUB-TOTALS: CARRIED TO SHEET 11								**58,676**	**4,989**			**2,445**			**2,445**	**01/NHS/PV**	

CALCULATED JJF
CHECKED DAH

ESTIMATED QUANTITIES

HAS-22-21.47

EASTBOUND U.S. 22 MEDIAN SHOULDER RESURFACING QUANTITIES

CALCULATED JJF
CHECKED DAH

LOCATION	STATION FROM	STATION TO	LENGTH (** ADJUSTED FOR STATION EQUATION)	PAVEMENT WIDTH	PAVEMENT AREA	GRADING WIDTH	GRADING AREA	PROPOSED PAVEMENT TREATMENT									FUNDING	REMARKS
								209	254	407	408	442		617		618		
								LINEAR GRADING	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	NON-TRACKING TACK COAT	PRIME COAT, AS PER PLAN	THICKNESS	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B, (447), AS PER PLAN	THICKNESS	COMPACTED AGGREGATE	RUMBLE STRIPS, SHOULDER (ASPHALT CONCRETE)		
									1 1/2"	0.085 GAL/SY	0.4 GAL/SY							
	FROM	TO	FT.	FT.	SQ. YD.	FT.	SQ. YD.	MILE	SQ. YD.	GAL.	GAL.	IN.	CU. YD.	IN.	CU. YD.	FT		
MEDIAN SHOULDER	1140+26.00	1206+89.93	6,656.48 **	4	2,958	2	1,479	1.26	2,958	251	592	1 1/2	123	1 1/2	62	6,656		
BR. NO. HAS-22-2284 R																		OMIT PROPOSED TREATMENT FROM DECK AND APPROACH SLABS
MEDIAN SHOULDER	1209+72.03	1248+35.23	3863.20	4	1,717	2	858	0.73	1,717	146	343	1 1/2	72	1 1/2	36	3,863		
BR. NO. HAS-22-2362 R																		OMIT PROPOSED TREATMENT FROM DECK AND APPROACH SLABS
MEDIAN SHOULDER	1249+95.78	1300+41.70	5,013.29 **	4	2,228	2	1,114	0.95	2,228	189	446	1 1/2	93	1 1/2	46	5,013		
APPROACH SLAB	1300+41.70	1300+66.70	25.00	6	17	2	6	0.01	17	1	2	1 1/2	1	1 1/2	1			
BR. NO. HAS-22-2460 R																		OMIT PROPOSED TREATMENT FROM DECK
APPROACH SLAB	1301+51.30	1301+76.30	25.00	6	17	2	6	0.01	17	1	2	1 1/2	1	1 1/2	1			
MEDIAN SHOULDER	1301+76.30	1305+98.62	393.33	4	175	2	87	0.07	175	15	35	1 1/2	7	1 1/2	4	393		
TWP. RD. 180 INTERSECTION																		SEE SHEET 29 FOR DETAILS AND SHEET 11 FOR QUANTITIES.
MEDIAN SHOULDER	1306+97.23	1333+20.65	2,608.99 **	4	1,160	2	580	0.49	1,160	99	232	1 1/2	48	1 1/2	24	2,609		
TWP. RD. 65 INTERSECTION																		SEE SHEET 30 FOR DETAILS AND SHEET 11 FOR QUANTITIES.
MEDIAN SHOULDER	1333+62.94	1334+03.75	40.81	4	18	2	9	0.01	18	2	4	1 1/2	1	1 1/2	1	41		
SUB-TOTALS: CARRIED TO SHEET 11								3.53	8,290	704	1,656		346		175	18,575	01/NHS/PV	

ESTIMATED QUANTITIES

HAS-22-21.47

EASTBOUND U.S. 22 OUTSIDE SHOULDER RESURFACING QUANTITIES

LOCATION	STATION FROM	STATION TO	LENGTH (** ADJUSTED FOR STATION EQUATION)	PAVEMENT WIDTH	PAVEMENT AREA	GRADING WIDTH	GRADING AREA	PROPOSED PAVEMENT TREATMENT 209 LINEAR GRADING	254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	407 NON-TRACKING TACK COAT	408 PRIME COAT, AS PER PLAN	442 THICKNESS	442 ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (447), AS PER PLAN	617 THICKNESS	617 COMPACTED AGGREGATE	618 RUMBLE STRIPS, SHOULDER, (ASPHALT CONCRETE)	FUNDING	REMARKS
									1 1/2"	0.085 GAL/SY	0.4 GAL/SY							
	FROM	TO	FT.	FT.	SQ. YD.	FT.	SQ. YD.	MILE	SQ. YD.	GAL.	GAL.	IN.	CU. YD.	IN.	CU. YD.	FT		
OUTSIDE SHOULDER	1135+00.00	1159+04.62	2404.62	8	2,137	2	534	0.46	2,137	182	214	1 1/2	89	1 1/2	22	2,405		
OUTSIDE SHOULDER	1162+49.59	1168+00.00	550.41	8	489	2	122	0.10	489	42	49	1 1/2	20	1 1/2	5	550		
OUTSIDE SHOULDER	1172+00.00	1207+26.56	3526.56	8	3,135	2	784	0.67	3,135	266	314	1 1/2	131	1 1/2	33	3,527		
BR. NO. HAS-22-2284 R																		OMIT PROPOSED TREATMENT FROM DECK AND APPROACH SLABS
OUTSIDE SHOULDER	1210+08.66	1232+00.00	2191.34	8	1,948	2	487	0.42	1,948	166	195	1 1/2	81	1 1/2	20	2,191		
OUTSIDE SHOULDER	1235+70.81	1248+39.85	1269.04	8	1,128	2	282	0.24	1,128	96	113	1 1/2	47	1 1/2	12	1,269		
BR. NO. HAS-22-2362 R																		OMIT PROPOSED TREATMENT FROM DECK AND APPROACH SLABS
OUTSIDE SHOULDER	1250+00.40	1257+25.10	724.70	8	644	2	161	0.14	644	55	64	1 1/2	27	1 1/2	7	725		
OUTSIDE SHOULDER	1263+25.00	1300+27.34	3,690.72 **	8	3,281	2	820	0.70	3,281	279	328	1 1/2	137	1 1/2	34	3,691		
APPROACH SLAB	1300+27.34	1300+52.34	25.00	10	28	2	6	0.01	28	2	2	1 1/2	1	1 1/2	1			
BR. NO. HAS-22-2460 R																		OMIT PROPOSED TREATMENT FROM DECK
APPROACH SLAB	1301+86.94	1302+11.94	25.00	10	28	2	6	0.01	28	2	2	1 1/2	1	1 1/2	1			
OUTSIDE SHOULDER	1302+11.94	1305+64.57	352.63	8	313	2	78	0.07	313	27	31	1 1/2	13	1 1/2	3	353		
TWP. RD. 180 INTERSECTION																		SEE SHEET 29 FOR DETAILS AND SHEET 12 FOR QUANTITIES.
OUTSIDE SHOULDER	1306+38.40	1332+92.81	2,639.98 **	8	2,347	2	587	0.50	2,347	199	235	1 1/2	98	1 1/2	24	2,640		
TWP. RD. 65 INTERSECTION																		SEE SHEET 30 FOR DETAILS AND SHEET 12 FOR QUANTITIES.
OUTSIDE SHOULDER	1333+58.37	1334+03.75	45.38	8	40	2	10	0.01	40	3	4	1 1/2	2	1 1/2	1	45		
SUB-TOTALS: CARRIED TO SHEET 11								3.33	15,518	1,319	1,551		647		163	17,396	01/NHS/PV	

CALCULATED JJF
CHECKED DAH

ESTIMATED QUANTITIES

HAS-22-21.47

WESTBOUND U.S. 22 PAVEMENT RESURFACING QUANTITIES

CALCULATED JJF | CHECKED DAH

LOCATION	STATION FROM	STATION TO	LENGTH (** ADJUSTED FOR STATION EQUATION)	WIDTH	PAVEMENT AREA (* CADD GENERATED AREA)			PROPOSED PAVEMENT TREATMENT								FUNDING	REMARKS
								254	407		442				442		
								PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	NON-TRACKING TACK COAT		THICKNESS	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (447), AS PER PLAN			ANTI-SEGREGATION EQUIPMENT		
								1 1/2"	0.085 GAL/SY								
	FROM	TO	FT.	FT.	SQ. YD.			SQ. YD.	GAL.		IN.	CU. YD.			CU. YD.		
MAINLINE	1135+00.00	1140+26.00	526.00	17.18 AVG.	1,004			1,004	85		1 1/2	42			42		INCLUDES TRANSITION GORE AREA
MAINLINE	1140+26.00	1146+10.39	584.39	18.27 AVG.	1,186			1,186	101		1 1/2	49			49		
MAINLINE	1146+10.39	1206+28.88	6,011.04 **	24	16,029			16,029	1,362		1 1/2	668			668		
BR. NO. HAS-22-2284 L																	OMIT PROPOSED TREATMENT FROM DECK AND APPROACH SLABS
MAINLINE	1209+10.98	1248+27.53	3916.55	24	10,444			10,444	888		1 1/2	435			435		
BR. NO. HAS-22-2362 L																	OMIT PROPOSED TREATMENT FROM DECK AND APPROACH SLABS
MAINLINE	1249+88.09	1300+10.89	5,011.18 **	24	13,363			13,363	1,136		1 1/2	557			557		
BR. NO. HAS-22-2460 L																	OMIT PROPOSED TREATMENT FROM DECK AND APPROACH SLABS
MAINLINE	1301+92.93	1305+20.43	327.50	24	873			873	74		1 1/2	36			36		
TWP. RD. 180 INTERSECTION	1305+20.43	1307+40.20	219.77	VARIES	1,247.54 *			1,248	106		1 1/2	52			52		FOR DETAILS, SEE SHEET 29.
MAINLINE	1307+40.20	1308+02.23	62.03	36	248			248	21		1 1/2	10			10		
MAINLINE	1308+02.23	1310+50.23	248.00	30.00 AVG.	827			827	70		1 1/2	34			34		
MAINLINE	1310+50.23	1332+37.93	2,173.27 **	24	5,795			5,795	493		1 1/2	241			241		
TWP. RD. 65 INTERSECTION	1332+37.93	1334+03.75	165.82	VARIES	676.51 *			677	58		1 1/2	28			28		FOR DETAILS, SEE SHEET 30.
ACCEL. LINE - RAMP 'K'	1153+75.00	1158+41.19	466.19	VARIES	628.29 *			628	53		1 1/2	26			26		
DECEL. LANE - RAMP 'J'	1163+65.35	1169+00.00	534.65	VARIES	976.37 *			976	83		1 1/2	41			41		
ACCEL. LINE - RAMP 'N'	1228+00.00	1237+69.51	969.51	VARIES	1,241.23 *			1,241	106		1 1/2	52			52		
DECEL. LANE - RAMP 'S'	1256+29.20	1260+00.00	370.80	VARIES	494.44 *			494	42		1 1/2	21			21		
SUB-TOTALS: CARRIED TO SHEET 11								55,033	4,678			2,292			2,292	01/NHS/PV	

ESTIMATED QUANTITIES

HAS-22-21.47

WESTBOUND U.S. 22 MEDIAN SHOULDER RESURFACING QUANTITIES

LOCATION	STATION FROM	STATION TO	LENGTH (** ADJUSTED FOR STATION EQUATION)	PAVEMENT WIDTH	PAVEMENT AREA	GRADING WIDTH	GRADING AREA	PROPOSED PAVEMENT TREATMENT 209 LINEAR GRADING	254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN 1 1/2"	407 NON-TRACKING TACK COAT 0.085 GAL/SY	408 PRIME COAT, AS PER PLAN 0.4 GAL/SY	442 THICKNESS	442 ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (447), AS PER PLAN	617 THICKNESS	617 COMPACTED AGGREGATE	618 RUMBLE STRIPS, SHOULDER, (ASPHALT CONCRETE)	FUNDING	REMARKS
	FROM	TO	FT.	FT.	SQ. YD.	FT.	SQ. YD.	MILE	SQ. YD.	GAL.	GAL.	IN.	CU. YD.	IN.	CU. YD.	FT		
MEDIAN SHOULDER	1140+26.00	1206+45.97	6,612.52 **	4	2,939	2	1,469	1.25	2,939	250	588	1 1/2	122	1 1/2	61	6,613		
BR. NO. HAS-22-2284 L																		OMIT PROPOSED TREATMENT FROM DECK AND APPROACH SLABS
MEDIAN SHOULDER	1209+28.07	1248+29.69	3901.62	4	1,734	2	867	0.74	1,734	147	347	1 1/2	72	1 1/2	36	3,902		
BR. NO. HAS-22-2362 L																		OMIT PROPOSED TREATMENT FROM DECK AND APPROACH SLABS
MEDIAN SHOULDER	1249+90.24	1300+13.99	5,012.13 **	4	2,228	2	1,114	0.95	2,228	189	446	1 1/2	93	1 1/2	46	5,012		
BR. NO. HAS-22-2460 L																		OMIT PROPOSED TREATMENT FROM DECK AND APPROACH SLABS
MEDIAN SHOULDER	1301+96.03	1305+98.62	402.59	4	179	2	89	0.08	179	15	36	1 1/2	7	1 1/2	4	403		
TWP. RD. 180 INTERSECTION																		SEE SHEET 15 FOR QUANTITIES AND SHEET 29 FOR DETAILS.
MEDIAN SHOULDER	1306+97.23	1333+20.65	2,608.99 **	4	1,160	2	580	0.49	1,160	99	232	1 1/2	48	1 1/2	24	2,609		
TWP. RD. 65 INTERSECTION																		SEE SHEET 15 FOR QUANTITIES AND SHEET 30 FOR DETAILS.
MEDIAN SHOULDER	1333+62.94	1334+03.75	40.81	4	18	2	9	0.01	18	2	4	1 1/2	1	1 1/2	1	41		
SUB-TOTALS: CARRIED TO SHEET 11								3.52	8,258	702	1,653		343		172	18,580	01/NHS/PV	

CALCULATED JJF
CHECKED DAH

ESTIMATED QUANTITIES

HAS-22-21.47

16
46

I:\ProjectData\10528\Design\Roadway\Sheets\10528L_GQ006.dgn Sheet 16-SEP-2019 10:02AM dhoffmal

WESTBOUND U.S. 22 OUTSIDE SHOULDER RESURFACING QUANTITIES

LOCATION	STATION FROM	STATION TO	LENGTH (** ADJUSTED FOR STATION EQUATION)	PAVEMENT WIDTH	PAVEMENT AREA	GRADING WIDTH	GRADING AREA	PROPOSED PAVEMENT TREATMENT 209 LINEAR GRADING	254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN 1 1/2"	407 NON-TRACKING TACK COAT 0.085 GAL/SY	408 PRIME COAT, AS PER PLAN 0.4 GAL/SY	442 THICKNESS	442 ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (447), AS PER PLAN	617 THICKNESS	617 COMPACTED AGGREGATE	618 RUMBLE STRIPS, SHOULDER, (ASPHALT CONCRETE)	FUNDING	REMARKS
	FROM	TO	FT.	FT.	SQ. YD.	FT.	SQ. YD.	MILE	SQ. YD.	GAL.	GAL.	IN.	CU. YD.	IN.	CU. YD.	FT		
OUTSIDE SHOULDER	1135+00.00	1156+00.00	2100.00	8	1,867	2	467	0.40	1,867	159	187	1 1/2	78	1 1/2	19	2,100		
OUTSIDE SHOULDER	1158+41.19	1163+66.35	525.16	8	467	2	117	0.10	467	40	47	1 1/2	19	1 1/2	5	525		
OUTSIDE SHOULDER	1167+92.55	1206+09.34	3,809.34 *	8	3,386	2	847	0.72	3,386	288	339	1 1/2	141	1 1/2	35	3,809		
BR. NO. HAS-22-2284 L																		OMIT PROPOSED TREATMENT FROM DECK AND APPROACH SLABS
OUTSIDE SHOULDER	1208+91.44	1231+50.00	2258.56	8	2,008	2	502	0.43	2,008	171	201	1 1/2	84	1 1/2	21	2,259		
OUTSIDE SHOULDER	1237+69.51	1248+25.07	1055.56	8	938	2	235	0.20	938	80	94	1 1/2	39	1 1/2	10	1,056		
BR. NO. HAS-22-2362 L																		OMIT PROPOSED TREATMENT FROM DECK AND APPROACH SLABS
OUTSIDE SHOULDER	1249+85.62	1256+29.20	643.58	8	572	2	143	0.12	572	49	57	1 1/2	24	1 1/2	6	644		
OUTSIDE SHOULDER	1260+00.00	1300+07.34	3,995.72 *	8	3,552	2	888	0.76	3,552	302	355	1 1/2	148	1 1/2	37	3,996		
BR. NO. HAS-22-2460 L																		OMIT PROPOSED TREATMENT FROM DECK AND APPROACH SLABS
OUTSIDE SHOULDER	1301+89.38	1306+39.49	450.11	8	400	2	100	0.09	400	34	40	1 1/2	17	1 1/2	4	450		
TWP. RD. 180 INTERSECTION																		SEE SHEET 15 FOR QUANTITIES AND SHEET 29 FOR DETAILS.
OUTSIDE SHOULDER	1307+13.07	1334+03.75	2,676.25 *	8	2,379	2	595	0.51	2,379	202	238	1 1/2	99	1 1/2	25	2,676		
SUB-TOTALS CARRIED TO SHEET 11								3.33	15,569	1,325	1,558		649		162	17,515	01/NHS/PV	

CALCULATED JJF
CHECKED DAH

ESTIMATED QUANTITIES

HAS-22-21.47

17
46

RAMPS - RESURFACING QUANTITIES

LOCATION	STATION FROM	STATION TO	LENGTH FT.	WIDTH FT.	PAVEMENT AREA (* CADD GENERATED AREA) SQ. YD.			254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN 1 1/2" SQ. YD.	407 NON-TRACKING TACK COAT 0.085 GAL/SY GAL.		442 THICKNESS IN.	442 ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (447), AS PER PLAN CU. YD.				FUNDING	REMARKS
S.R. 151 INTERCHANGE																	
RAMP 'J'																	
	13+10.71 'K'	*12+70.70 'K'*	*40.01*	*VARIES*	*118.85 **			*119*	*10*		*1 1/2*	*5*					
	12+70.70 'K'	*6+82.18 'K'*	*588.52*	*17*	*1,112*			*1,112*	*95*		*1 1/2*	*46*					
	0+00.00	*0+62.00*	*62.00*	*17*	*117*			*117*	*10*		*1 1/2*	*5*					
	0+62.00	*6+61.03*	*599.03*	*16*	*1,065*			*1,065*	*91*		*1 1/2*	*44*					
RAMP 'K'																	
	2+43.77	*6+23.60*	*379.83*	*16*	*675*			*675*	*57*		*1 1/2*	*28*					
	6+23.60	*12+60.71*	*637.11*	*17*	*1,203*			*1,203*	*102*		*1 1/2*	*50*					
	12+60.71	*13+10.71*	*50.00*	*VARIES*	*158.98 **			*159*	*14*		*1 1/2*	*7*					
RAMP 'L'																	
	3+33.08	*6+65.56*	*332.48*	*16*	*591*			*591*	*50*		*1 1/2*	*25*					
	6+65.56	*7+56.66*	*91.10*	*VARIES*	*241.89 **			*242*	*21*		*1 1/2*	*10*					
RAMP 'M'																	
	0+11.67	*0+92.05*	*80.38*	*VARIES*	*310.36 **			*310*	*26*		*1 1/2*	*13*					
	0+92.05	*5+66.07*	*474.02*	*16*	*843*			*843*	*72*		*1 1/2*	*35*					
C.R. 4 INTERCHANGE																	
RAMP 'N'																	
	6+18.17	*16+98.30*	*1080.13*	*16*	*1,920*			*1,920*	*163*		*1 1/2*	*80*					
	16+98.30	*17+45.74*	*47.44*	*VARIES*	*157.71 **			*158*	*13*		*1 1/2*	*7*					
RAMP 'Q'																	
	3+70.13	*16+00.00*	*1229.87*	*16*	*2,186*			*2,186*	*186*		*1 1/2*	*91*					
RAMP 'S'																	
	0+12.00	*0+52.02*	*40.02*	*VARIES*	*133.52 **			*134*	*11*		*1 1/2*	*6*					
	0+52.02	*7+35.15*	*683.13*	*16*	*1,214*			*1,214*	*103*		*1 1/2*	*51*					
RAMP 'T'																	
	0+12.55	*0+83.90*	*71.35*	*VARIES*	*273.20 **			*273*	*23*		*1 1/2*	*11*					
	0+83.90	*7+80.23*	*696.33*	*16*	*1,238*			*1,238*	*105*		*1 1/2*	*52*					
SUB-TOTALS CARRIED TO SHEET 11								**13.559**	**1.152**			**566**				**01/NHS/PV**	

CALCULATED JJF CHECKED DAH

ESTIMATED QUANTITIES

HAS-22-21.47

RAMPS - RESURFACING QUANTITIES

LOCATION	STATION FROM	STATION TO	LENGTH (* CADD GENERATED AREA)	PAVEMENT WIDTH	PAVEMENT AREA (* CADD GENERATED AREA)	GRADED WIDTH	GRADED AREA	209 LINEAR GRADING	254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	407 NON-TRACKING TACK COAT	408 PRIME COAT, AS PER PLAN	442 THICKNESS	442 ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (447), AS PER PLAN	617 THICKNESS	617 COMPACTED AGGREGATE		FUNDING	REMARKS
									1 1/2"	0.085 GAL/SY	0.4 GAL/SY							
	FROM	TO	FT.	FT.	SQ. YD.	FT.	SQ. YD.	MILE	SQ. YD.	GAL.	GAL.	IN.	CU. YD.	IN.	CU. YD.			
S.R. 151 INTERCHANGE																		
RAMP 'J'																		
RIGHT SHOULDER	13+10.71 'K'	12+70.70 'K'	58.10 *	6	39	2	13	0.01	39	3	5	1 1/2	2	1 1/2	0.5			
RIGHT SHOULDER	12+70.70 'K'	6+82.18 'K'	588.52	6	392	2	131	0.11	392	33	52	1 1/2	17	1 1/2	5.5			
RIGHT SHOULDER	0+00.00	5+46.81	546.81	6	365	2	122	0.10	365	31	49	1 1/2	16	1 1/2	5.1			
RIGHT SHOULDER	5+46.81	6+46.81	100.00	7 AVG.	78	2	22	0.02	78	7	9	1 1/2	4	1 1/2	0.9			
RIGHT SHOULDER	6+46.81	10+68.36	421.55	8	375	2	94	0.08	375	32	38	1 1/2	16	1 1/2	3.9			
LEFT SHOULDER	0+62.00	6+61.03	599.03	3	200	2	133	0.11	200	17	53	1 1/2	9	1 1/2	5.5			
RAMP 'K'																		
RIGHT SHOULDER	0+00.00	1+75.00	175.00	8	156	2	39	0.03	156	13	16	1 1/2	7	1 1/2	1.6			
RIGHT SHOULDER	1+75.00	2+15.00	40.00	7 AVG.	31	2	9	0.01	31	3	4	1 1/2	2	1 1/2	0.4			
RIGHT SHOULDER	2+15.00	12+60.71	1045.71	6	697	2	232	0.20	697	59	93	1 1/2	30	1 1/2	9.7			
RIGHT SHOULDER	12+60.71	13+10.71	73.80 *	6	49	2	16	0.01	49	4	6	1 1/2	3	1 1/2	0.7			
LEFT SHOULDER	2+43.77	6+23.60	379.83	3	127	2	84	0.07	127	11	34	1 1/2	6	1 1/2	3.5			
RAMP 'L'																		
RIGHT SHOULDER	0+00.00	3+17.35	317.35	8	282	2	71	0.06	282	24	28	1 1/2	12	1 1/2	3.0			
RIGHT SHOULDER	3+17.35	4+17.35	100.00	7 AVG.	78	2	22	0.02	78	7	9	1 1/2	4	1 1/2	0.9			
RIGHT SHOULDER	4+17.35	6+65.56	248.21	6	165	2	55	0.05	165	14	22	1 1/2	7	1 1/2	2.3			
RIGHT SHOULDER	6+65.56	7+56.66	106.80 *	6	71	2	24	0.02	71	6	10	1 1/2	3	1 1/2	1.0			
LEFT SHOULDER	3+33.08	7+08.00	374.92	3	125	2	83	0.07	125	11	33	1 1/2	6	1 1/2	3.5			
RAMP 'M'																		
RIGHT SHOULDER	0+11.67	0+92.05	100.30 *	6	67	2	22	0.02	67	6	9	1 1/2	3	1 1/2	0.9			
RIGHT SHOULDER	0+92.05	5+75.02	482.97	6	322	2	107	0.09	322	27	43	1 1/2	14	1 1/2	4.5			
RIGHT SHOULDER	5+75.02	6+15.02	40.00	7 AVG.	31	2	9	0.01	31	3	4	1 1/2	2	1 1/2	0.4			
RIGHT SHOULDER	6+15.02	9+54.83	339.81	8	302	2	76	0.06	302	26	30	1 1/2	13	1 1/2	3.2			
LEFT SHOULDER	0+54.60	5+66.07	511.47	3	170	2	114	0.10	170	14	46	1 1/2	8	1 1/2	4.8			
C.R. 4 INTERCHANGE																		
RAMP 'N'																		
RIGHT SHOULDER	0+00.00	5+18.17	518.17	8	461	2	115	0.10	461	39	46	1 1/2	20	1 1/2	4.8			
RIGHT SHOULDER	5+18.17	5+58.17	40.00	7 AVG.	31	2	9	0.01	31	3	4	1 1/2	2	1 1/2	0.4			
RIGHT SHOULDER	5+58.17	16+98.30	1140.13	6	760	2	253	0.22	760	65	101	1 1/2	32	1 1/2	10.5			
RIGHT SHOULDER	16+98.30	17+45.74	70.60 *	6	47	2	16	0.01	47	4	6	1 1/2	2	1 1/2	0.7			
LEFT SHOULDER	6+18.17	16+98.30	1080.13	3	360	2	240	0.20	360	31	96	1 1/2	15	1 1/2	10.0			
LEFT SHOULDER	16+98.30	17+45.74	61.50 *	3	21	2	14	0.01	21	2	6	1 1/2	1	1 1/2	0.6			
RAMP 'Q'																		
RIGHT SHOULDER	0+00.00	3+58.89	358.89	8	319	2	80	0.07	319	27	32	1 1/2	14	1 1/2	3.3			
RIGHT SHOULDER	3+58.89	4+58.89	100.00	7 AVG.	78	2	22	0.02	78	7	9	1 1/2	4	1 1/2	0.9			
RIGHT SHOULDER	4+58.89	16+00.00	1141.11	6	761	2	254	0.22	761	65	102	1 1/2	32	1 1/2	10.6			
LEFT SHOULDER	3+70.13	16+00.00	1229.87	3	410	2	273	0.23	410	35	109	1 1/2	18	1 1/2	11.4			
RAMP 'S'																		
RIGHT SHOULDER	0+12.00	0+52.02	57.50 *	6	38	2	13	0.01	38	3	5	1 1/2	2	1 1/2	0.5			
RIGHT SHOULDER	0+52.02	6+44.38	592.36	6	395	2	132	0.11	395	34	53	1 1/2	17	1 1/2	5.5			
RIGHT SHOULDER	6+44.38	7+44.38	100.00	7 AVG.	78	2	22	0.02	78	7	9	1 1/2	4	1 1/2	0.9			
RIGHT SHOULDER	7+44.38	11+03.27	358.89	8	319	2	80	0.07	319	27	32	1 1/2	14	1 1/2	3.3			
LEFT SHOULDER	0+12.00	0+52.02	55.30 *	3	18	2	12	0.01	18	2	5	1 1/2	1	1 1/2	0.5			
LEFT SHOULDER	0+52.02	7+35.15	683.13	3	228	2	152	0.13	228	19	61	1 1/2	10	1 1/2	6.3			
RAMP 'T'																		
RIGHT SHOULDER	0+12.55	0+83.90	91.80 *	6	61	2	20	0.02	61	5	8	1 1/2	3	1 1/2	0.8			
RIGHT SHOULDER	0+83.90	8+40.23	756.33	6	504	2	168	0.14	504	43	67	1 1/2	21	1 1/2	7.0			
RIGHT SHOULDER	8+40.23	8+80.23	40.00	7 AVG.	31	2	9	0.01	31	3	4	1 1/2	2	1 1/2	0.4			
RIGHT SHOULDER	8+80.23	13+78.71	498.48	8	443	2	111	0.09	443	38	44	1 1/2	19	1 1/2	4.6			
LEFT SHOULDER	0+12.55	0+83.90	91.50 *	3	31	2	20	0.02	31	3	8	1 1/2	2	1 1/2	0.8			
LEFT SHOULDER	0+83.90	7+80.23	696.33	3	232	2	155	0.13	232	20	62	1 1/2	10	1 1/2	6.5			
SUB-TOTALS CARRIED TO SHEET 11								**3.10**	**9,748**	**829**	**1,462**		**429**		**152**		**01/NHS/PV**	

CALCULATED JJF
CHECKED DAH

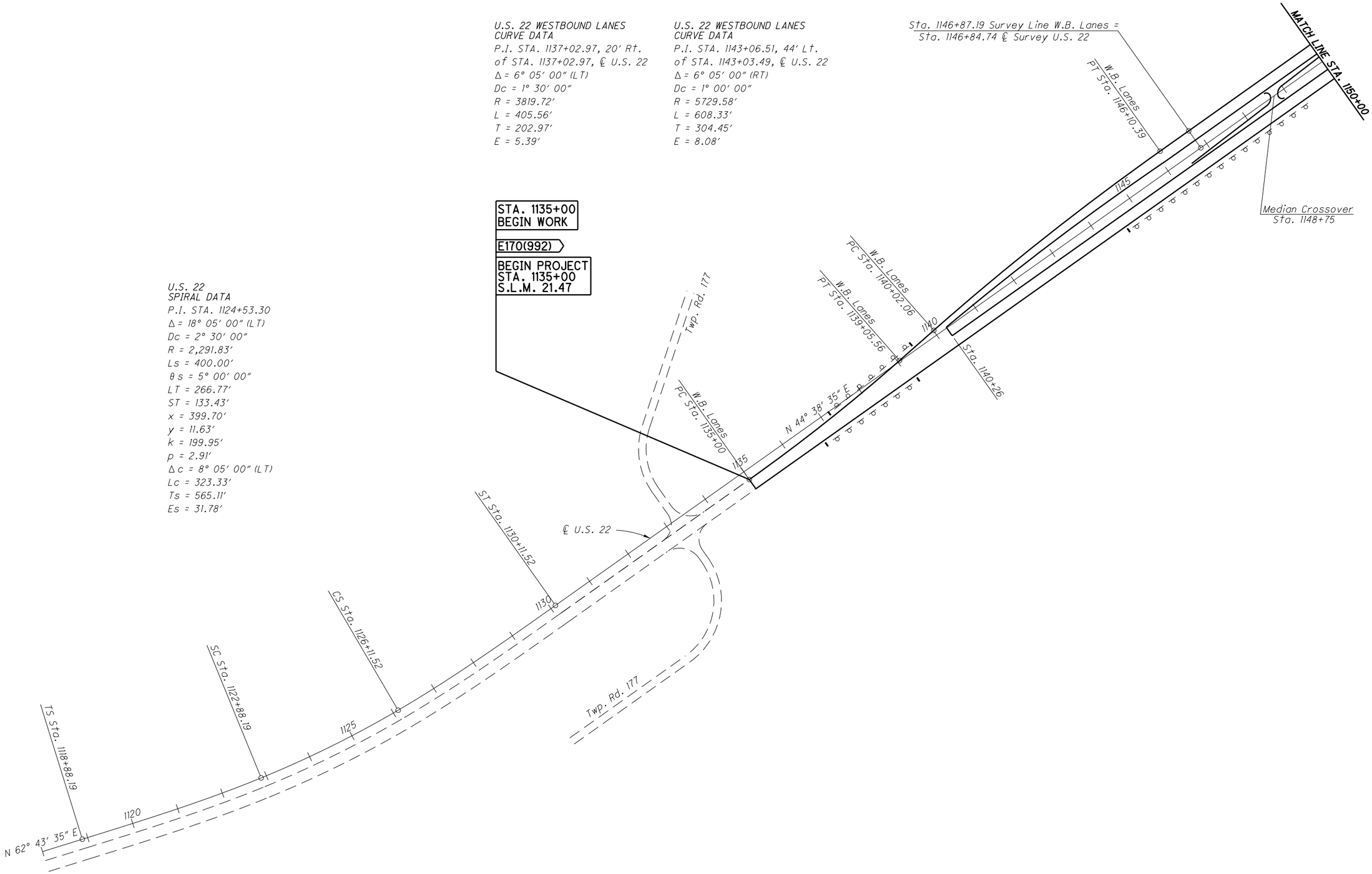
ESTIMATED QUANTITIES

HAS-22-21.47

U.S. 22 WESTBOUND LANES
CURVE DATA
P.I. STA. 1137+02.97, 20' Rt.
of STA. 1137+02.97, ℄ U.S. 22
Δ = 6° 05' 00" (LT)
Dc = 1° 30' 00"
R = 3819.72'
L = 405.56'
T = 202.97'
E = 5.39'

U.S. 22 WESTBOUND LANES
CURVE DATA
P.I. STA. 1143+06.51, 44' Lt.
of STA. 1143+03.49, ℄ U.S. 22
Δ = 6° 05' 00" (RT)
Dc = 1° 00' 00"
R = 5729.58'
L = 608.33'
T = 304.45'
E = 8.08'

U.S. 22
SPIRAL DATA
P.I. STA. 1124+53.30
Δ = 18° 05' 00" (LT)
Dc = 2° 30' 00"
R = 2,291.83'
Ls = 400.00'
θs = 5° 00' 00"
LT = 266.77'
ST = 133.43'
x = 399.70'
y = 11.63'
k = 199.95'
p = 2.91'
Δc = 8° 05' 00" (LT)
Lc = 323.33'
Ts = 565.11'
Es = 31.78'



FOR RESURFACING QUANTITIES, SEE SHEET NO. 11-19.
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 33-41.

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED JJF
CHECKED DAH

PLAN SHEET
STA. 1118+00 TO STA. 1150+00

HAS-22-21.47

20
46

I:\Project Data\10528\Design\Roadway\Sheets\10528L_GP001.dgn Sheet 16-SEP-2019 10:03AM dhoffmal

RAMP 'K'
CURVE DATA
P.C. STA. 1+75
P.T. STA. 10+62.57
Δ = 221° 53′ 37″
Dc = 25° 00″
R = 229.18′
L = 887.57′

RAMP 'J'
CURVE DATA
P.I. STA. 6+01.20
84.08′ Lt. of ℄ Survey, Sta. 1163+34.27
Δ = 26° 30′ (LT)
Dc = 25° 00″
R = 229.18′
T = 53.97′
L = 106.00′
E = 6.27′

S.R. 151
SPIRAL DATA
P.I. STA. 248+45.27
Dc = 11° 30″
θs = 23° 00′
Ls = 400′
L.T. = 268.95′
S.T. = 135.42′
Xc = 393.60′
Yc = 52.91′

Sta. 6+82.18 - Ramp 'K'
Sta. 0+00 - Ramp 'J'
End Concrete Median
Sta. 0+62

Ramp Nose Sta. 6+61.03
Mainline Sta. 1163+66.35

Begin Taper Sta. 1167+92.55, 56.08′ Lt.
End Ramp 'J' Sta. 10+68.36

End Taper Sta. 1169+00

MATCH LINE STA. 1177+00

CS Sta. 247+09.85

℄ S.R. 151

PC Sta. 5+47.24

PT Sta. 6+53.24

Ramp 'J'

Ramp 'K'

PT Sta. 10+62.57

PC Sta. 1+75.00 - U.S. 22, 62.51′ Lt.
Sta. 1157+70.51

Ramp Nose Sta. 2+43.77
Mainline Sta. 1158+41.19

ST Sta. 251+09.85

Sta. 251+39.01 S.R. 151
Sta. 13+22.71 Ramp 'K'

Sta. 1156+00 U.S. 22
Sta. 0+00 Ramp 'K'

Sta. 1153+75

℄ U.S. 22

Overhead Sign

BRIDGE NO.
HAS-22-2190

Sta. 1156+82.72 U.S. 22
Sta. 256+19.96 S.R. 151

SC Sta. 1154+54.86

MATCH LINE STA. 1150+00

TS Sta. 1150+54.86

PC Sta. 2+15.00
Sta. 1161+25
U.S. 22, 56′ Rt.

Ramp Nose
Sta. 3+33.08
Mainline
Sta. 1162+49.59

CS Sta. 1164+68.19

Ramp 'L'

Ramp 'M'

PC Sta. 4+73.68

PT Sta. 7+14.93

End Taper Sta. 1159+04.62
Begin Ramp 'L' Sta. 0+00

Begin Taper Sta. 1158+04.62

Sta. 7+68.12 Ramp 'L'
Sta. 262+48.38 S.R. 151

Sta. 0+00 Ramp 'M'
Sta. 262+80.13 S.R. 151

TS Sta. 263+63.80

SC Sta. 267+63.80

℄ Co. Rd. 23

Sta. 1169+13.24 U.S. 22
PT Sta. 6+68.07

EQUATION:
ST Sta 1168+68.19 BK =
Sta 1168+75.64 AH

Ramp Nose Sta. 5+66.07
Mainline Sta. 1168+00

End Ramp 'M' Sta. 9+54.83
Begin Taper Sta. 1172+00

End Taper Sta. 1174+25

N 79° 58′ 35″ E

U.S. 22
SPIRAL DATA
P.I. STA. 1159+85.70
Δ = 35° 20′ 00″ (RT)
Dc = 2° 30′ 00″
R = 2,291.83′
Ls = 400.00′
θs = 5° 00′ 00″
LT = 266.77′
ST = 133.43′
x = 399.70′
y = 11.63′
k = 199.95′
p = 2.91′
Δc = 25° 20′ 00″ (RT)
Lc = 1,013.33′
Ts = 930.84′
Es = 116.53′

C.R. 23
SPIRAL DATA
P.I. STA. 266+31.82
Dc = 9° 30′
θs = 19° 00′
Ls = 400′
L.T. = 268.22′
S.T. = 134.75′
Xc = 395.62′
Yc = 43.87′

RAMP 'L'
CURVE DATA
P.I. STA. 6+55.08, 13.10′ RT.
Sta. 1165+70.41 - U.S. 22
Δ = 124° 58′ 53″ (RT)
Dc = 25° 00″
R = 229.18′
T = 440.08′
L = 499.93′

RAMP 'M'
CURVE DATA
P.I. STA. 5+77.16
Δ = 48° 35′ 54″ (RT)
Dc = 25° 00″
R = 229.18′
T = 103.48′
L = 194.39′
E = 22.28′

FOR RESURFACING QUANTITIES, SEE SHEET NO. 11-19.
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 33-41.

HORIZONTAL SCALE IN FEET
0 50 100 200

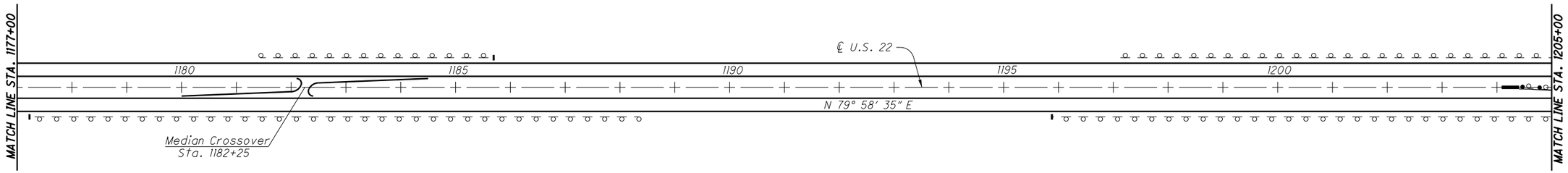
CALCULATED JJF
CHECKED DAH

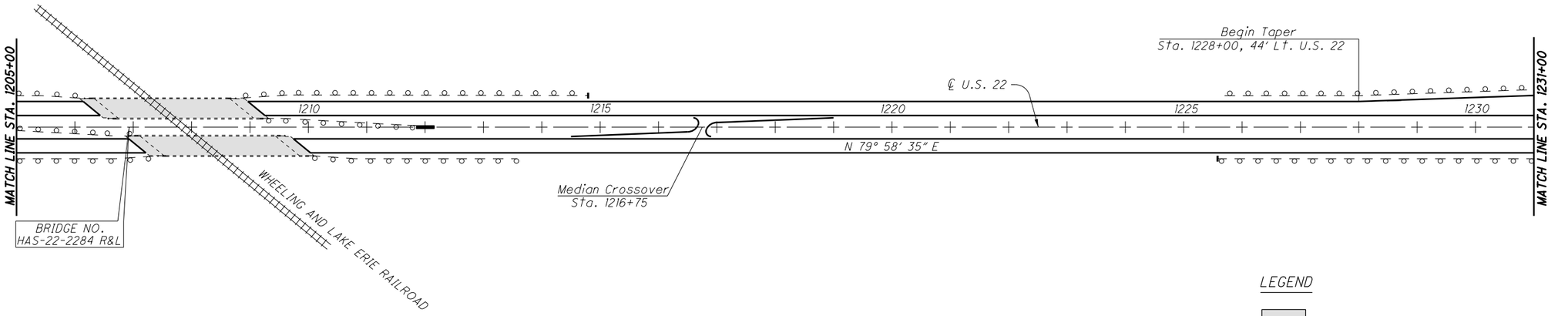
PLAN SHEET
STA. 1150+00 TO STA. 1177+00

HAS-22-21.47

21
46

I:\Project Data\10528\Design\Roadway\Sheets\10528L_GP002.dgn Sheet 16-SEP-2019 10:03AM dhoffmal





LEGEND

LIMITS OF DECK SEALING. SEE SHEET 42.

FOR RESURFACING QUANTITIES, SEE SHEET NO. 11-19.
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 33-41.

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED JJF
CHECKED DAH

PLAN SHEET
STA. 1177+00 TO STA. 1231+00

HAS-22-21.47

22
46

I:\ProjectData\10528\Design\Roadway\Sheets\10528_GP003.dgn Sheet 16-SEP-2019 10:07AM dhoffmal

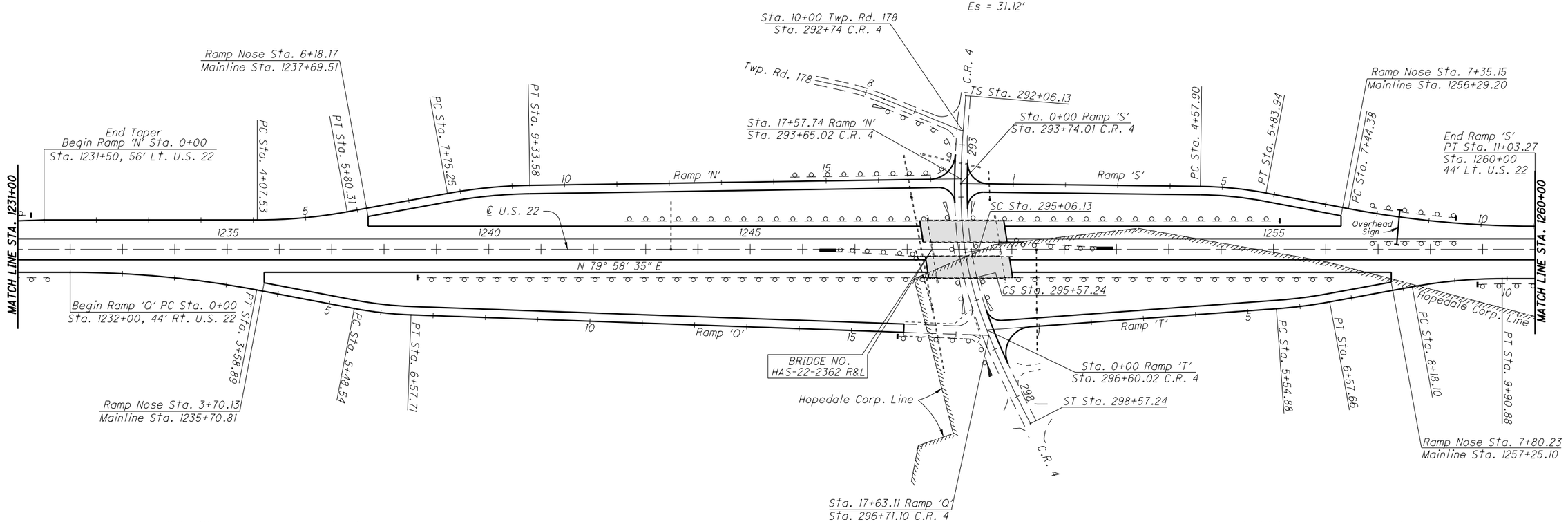
RAMP 'N'
CURVE DATA
P.I. Sta. 4+94.16 Ramp 'N' =
56' Lt. Sta. 1236+44.16 U.S. 22
Δ = 10° 22' 00" (LT)
Dc = 6° 00' 00"
R = 954.93'
T = 86.63'
L = 172.78'
E = 3.92'

RAMP 'N'
CURVE DATA
P.I. Sta. 8+54.60
Δ = 9° 30' 00" (RT)
Dc = 6° 00' 00"
R = 954.93'
T = 79.35'
L = 158.33'
E = 3.27'

C.R. 4
SPIRAL DATA
P.I. Sta. 295+37.67
Δ = 31° 36' 00" (LT)
Dc = 9° 00' 00"
R = 636.62'
Ls = 300.00'
Theta = 13° 30' 00"
LT = 200.58'
ST = 100.53'
x = 298.34'
y = 23.47'
k = 149.72'
p = 5.88'
Δc = 4° 36' 00" (LT)
Lc = 51.11'
Ts = 331.54'
Es = 31.12'

RAMP 'S'
CURVE DATA
P.I. Sta. 5+21.08
Δ = 10° 05' 00" (RT)
Dc = 8° 00' 00"
R = 716.20'
T = 63.18'
L = 126.04'
E = 2.78'

RAMP 'S'
CURVE DATA
P.I. Sta. 9+24.35
Δ = 10° 46' 00" (LT)
Dc = 3° 00' 00"
R = 1,909.86'
T = 179.97'
L = 358.89'
E = 8.46'



RAMP 'O'
CURVE DATA
P.I. Sta. 1+79.97
Δ = 10° 46' 00" (RT)
Dc = 3° 00' 00"
R = 1,909.86'
T = 179.97'
L = 358.89'
E = 8.46'

RAMP 'O'
CURVE DATA
P.I. Sta. 6+03.23
Δ = 8° 44' 01" (LT)
Dc = 8° 00' 00"
R = 716.20'
T = 54.69'
L = 109.17'
E = 2.09'

RAMP 'T'
CURVE DATA
P.I. Sta. 6+06.32
Δ = 6° 10' 00" (LT)
Dc = 6° 00' 00"
R = 954.93'
T = 51.44'
L = 102.78'
E = 1.38'

RAMP 'T'
CURVE DATA
P.I. Sta. 9+04.73
Δ = 10° 22' 00" (RT)
Dc = 6° 00' 00"
R = 954.93'
T = 86.63'
L = 172.78'
E = 3.92'

LEGEND

LIMITS OF DECK SEALING. SEE SHEET 44.

FOR RESURFACING QUANTITIES, SEE SHEET NO. 11-19.
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 33-41.

HORIZONTAL SCALE IN FEET
0 50 100 200

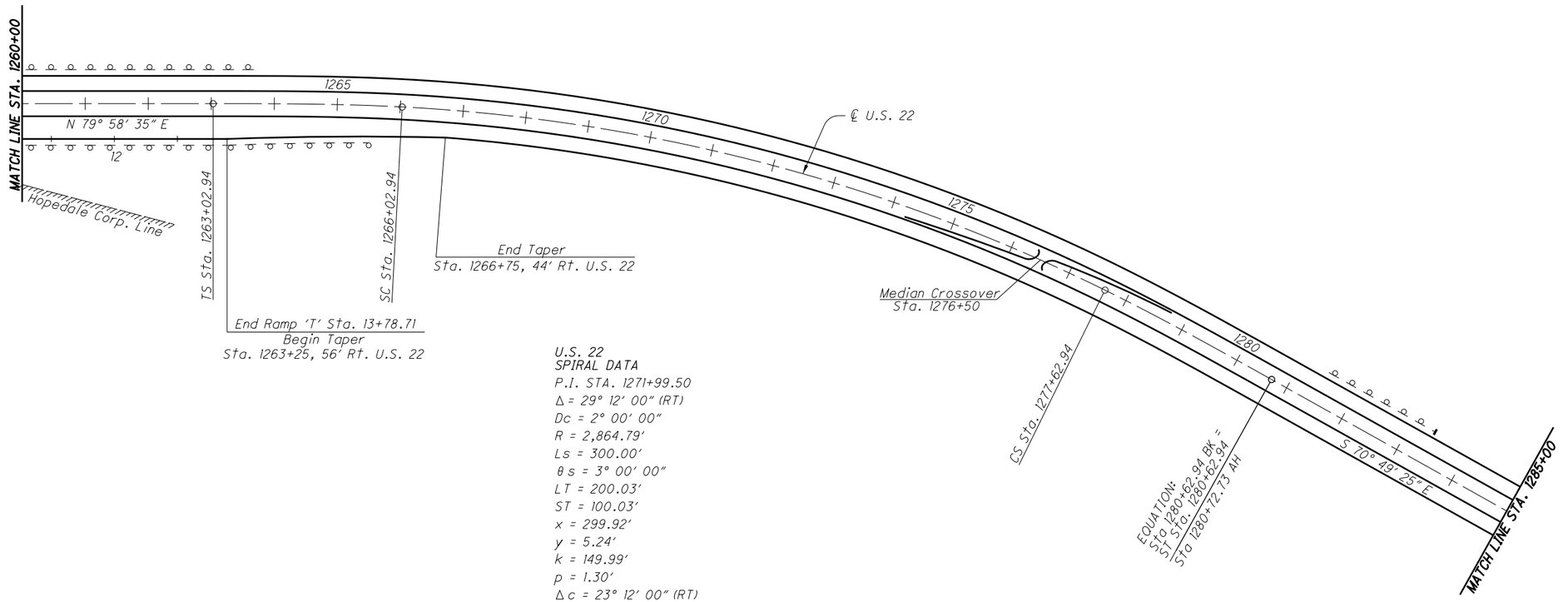
CALCULATED JJF
CHECKED DAH

PLAN SHEET
STA. 1231+00 TO STA. 1260+00

HAS-22-21.47

23
46

I:\ProjectData\10528\Design\Roadway\Sheets\10528LGP004.dgn Sheet 16-SEP-2019 10:08AM dhoffmal



U.S. 22
SPIRAL DATA
P.I. STA. 1271+99.50
Δ = 29° 12' 00" (RT)
Dc = 2° 00' 00"
R = 2,864.79'
Ls = 300.00'
θs = 3° 00' 00"
LT = 200.03'
ST = 100.03'
x = 299.92'
y = 5.24'
k = 149.99'
p = 1.30'
Δc = 23° 12' 00" (RT)
Lc = 1,160.00'
Ts = 896.56'
Es = 96.96'

HORIZONTAL SCALE IN FEET
0 50 100 200

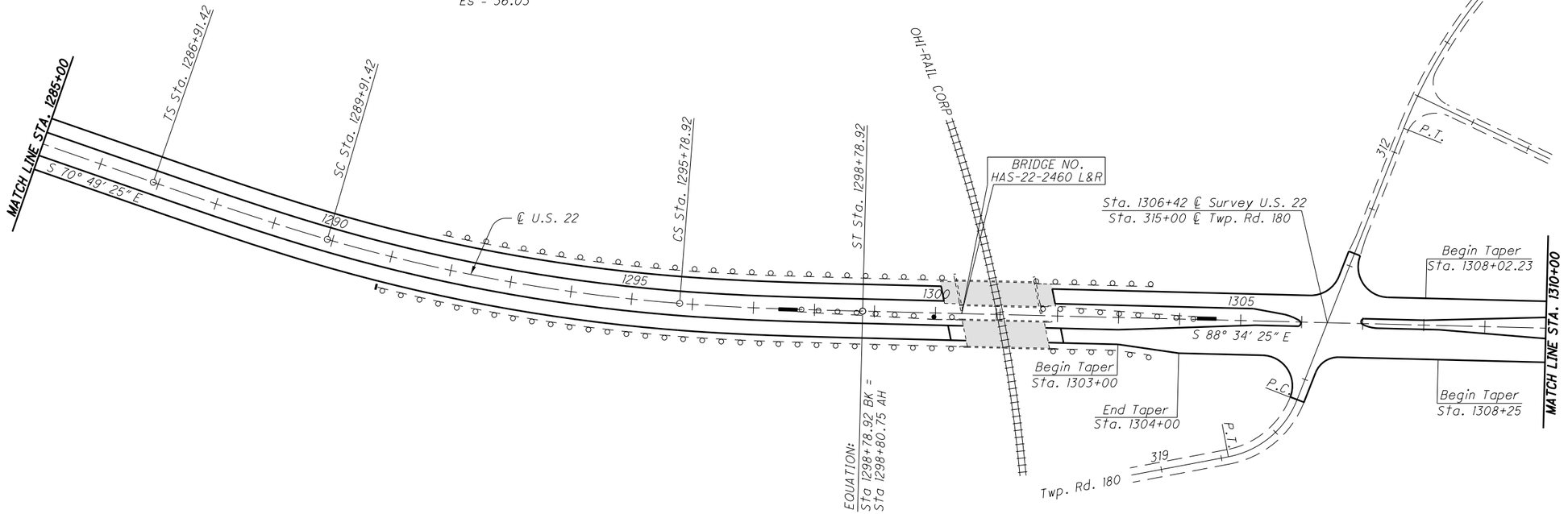
CALCULATED JJF
CHECKED DAH

PLAN SHEET
STA. 1260+00 TO STA. 1285+00

HAS-22-21.47

FOR RESURFACING QUANTITIES, SEE SHEET NO. 11-19.
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 33-41.

U.S. 22
SPIRAL DATA
P.I. STA. 1292+88.95
Δ = 17° 45′ 00″ (LT)
Dc = 2° 00′ 00″
R = 2,864.79′
Ls = 300.00′
θs = 3° 00′ 00″
LT = 200.03′
ST = 100.03′
x = 299.92′
y = 5.24′
k = 149.99′
p = 1.30′
Δc = 11° 45′ 00″ (LT)
Lc = 587.50′
Ts = 597.53′
Es = 36.03′



LEGEND

LIMITS OF DECK SEALING. SEE SHEET 45.

FOR RESURFACING QUANTITIES, SEE SHEET NO. 11-19.
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 33-41.

HORIZONTAL SCALE IN FEET
0 50 100 200

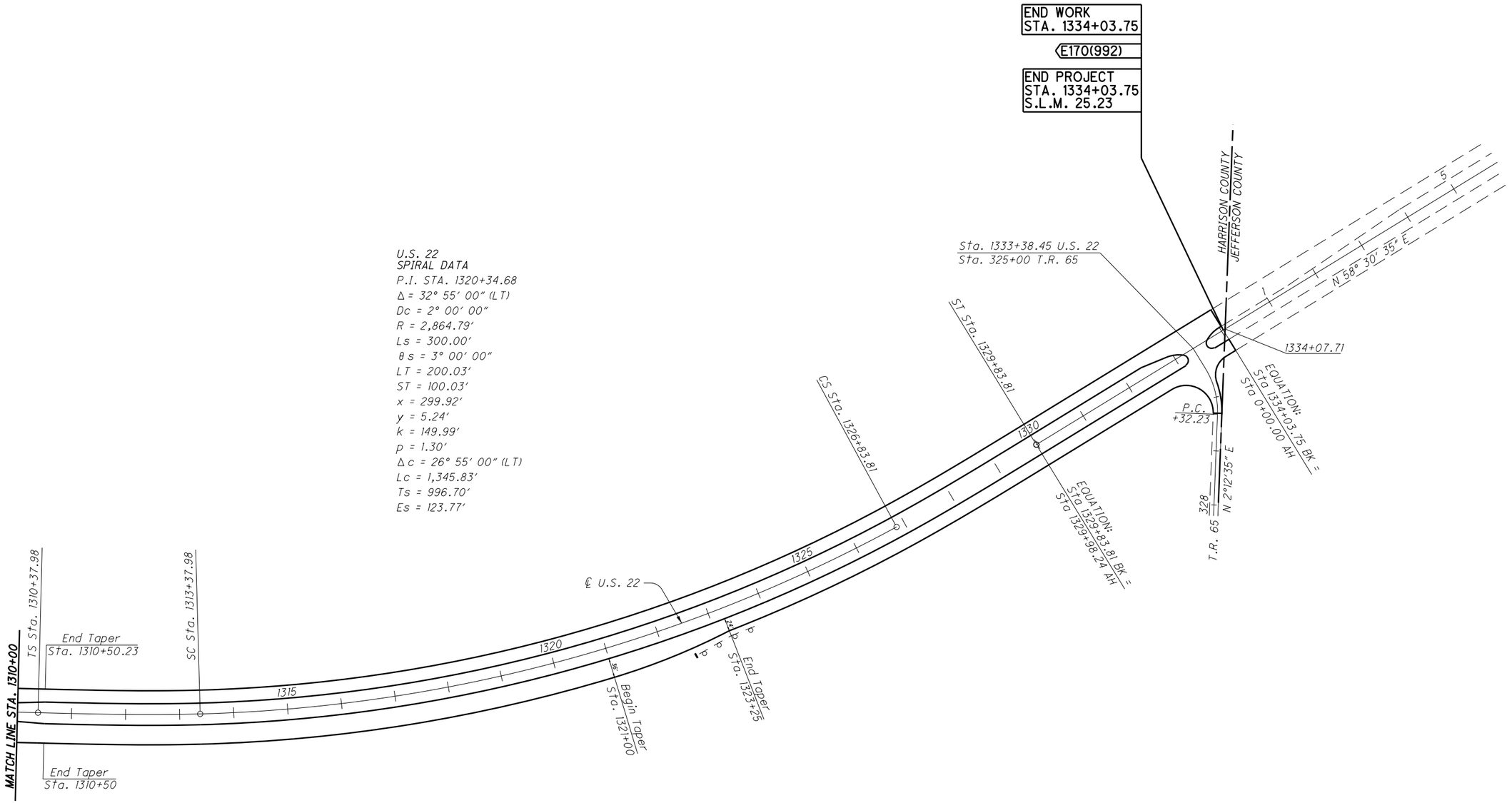
CALCULATED JJF
CHECKED DAH

PLAN SHEET
STA. 1285+00 TO STA. 1310+00

HAS-22-21.47

25
46

I:\ProjectData\10528\Design\Roadway\Sheets\10528L_GP006.dgn Sheet 16-SEP-2019 10:10AM dhoffmal



U.S. 22
SPIRAL DATA
P.I. STA. 1320+34.68
Δ = 32° 55′ 00″ (LT)
Dc = 2° 00′ 00″
R = 2,864.79′
Ls = 300.00′
θs = 3° 00′ 00″
LT = 200.03′
ST = 100.03′
x = 299.92′
y = 5.24′
k = 149.99′
p = 1.30′
Δc = 26° 55′ 00″ (LT)
Lc = 1,345.83′
Ts = 996.70′
Es = 123.77′

FOR RESURFACING QUANTITIES, SEE SHEET NO. 11-19.
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 33-41.

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED JJF
CHECKED DAH

PLAN SHEET
STA. 1310+00 TO STA. 6+00

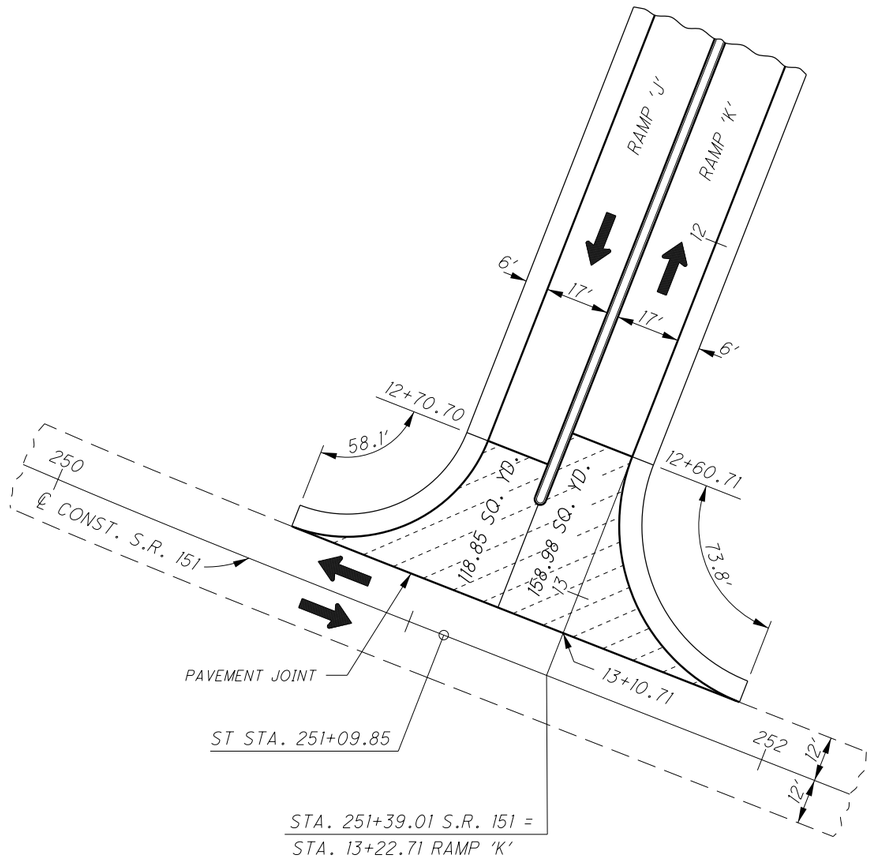
HAS-22-21.47

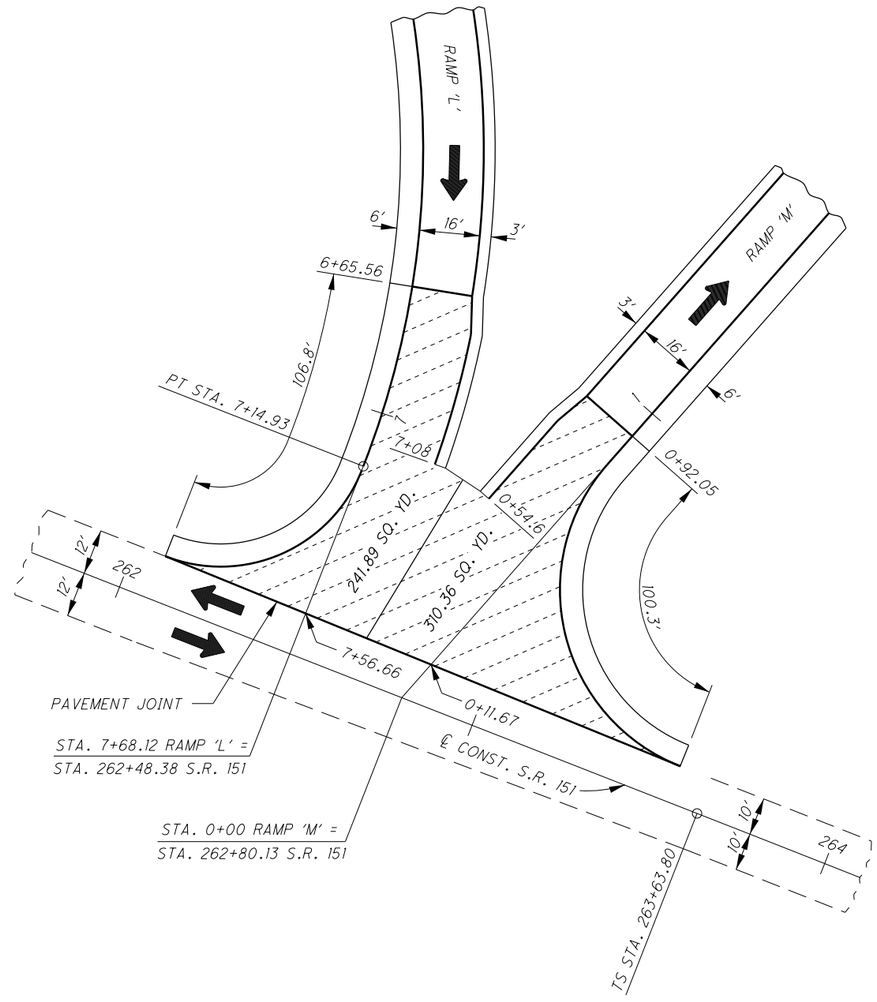
26
46

FOR RESURFACING QUANTITIES, SEE SHEET NO. 11-19.

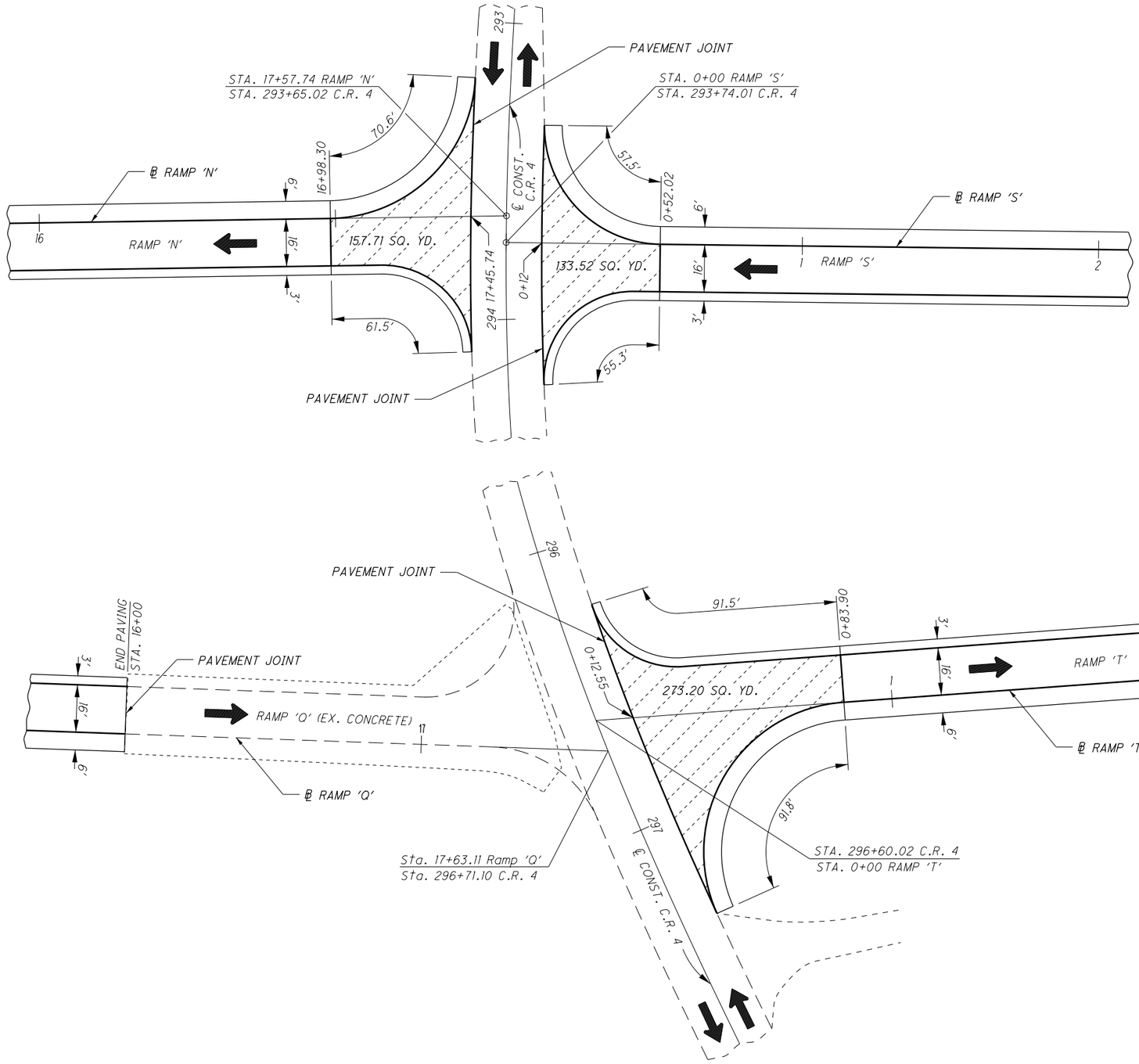
LEGEND

CADD Generated Area





FOR RESURFACING QUANTITIES, SEE SHEET NO. 11-19.



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JJF
CHECKED DAH

INTERSECTION DETAILS
C.R. 4 INTERCHANGE

HAS-22-21.47

FOR RESURFACING QUANTITIES, SEE SHEET NO. 11-19.

LEGEND

CADD Generated Area

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JJF
CHECKED DAH

INTERSECTION DETAILS
TWP. RD. 180 INTERSECTION

HAS-22-21.47

29
46

STA. 1306+42 ℄ SURVEY U.S. 22
STA. 315+00 ℄ TWP. RD. 180

℄ TWP. RD. 180
10'
10'
STA. 313+78.13
PAVEMENT JOINT
314

Sta. 1305+20.43
STA. 1306+39.49
STA. 1307+13.07
STA. 1307+40.20

8' OUTSIDE SHOULDER
8' OUTSIDE SHOULDER

WESTBOUND LANES
24'
1247.54 SQ. YD.
(LT. OF ℄ U.S. 22)
Sta. 1306+97.23
36'
WESTBOUND LANES

1303
4' MEDIAN SHOULDER
S 88° 34' 25" E
℄ U.S. 22
1305
4' MEDIAN SHOULDER

24'
EASTBOUND LANES
41.78'
49'
Sta. 1305+98.62
1522.01 SQ. YD.
(RT. OF ℄ U.S. 22)
49'
EASTBOUND LANES

8' OUTSIDE SHOULDER
8' OUTSIDE SHOULDER

BEGIN TAPER
STA. 1303+00

END TAPER
STA. 1304+00

STA. 1305+25
STA. 1305+64.57
316
STA. 1306+38.40
STA. 1307+25.14

P.C. STA. 316+36.07
STA.316+35.37
12'
12'
PAVEMENT JOINT

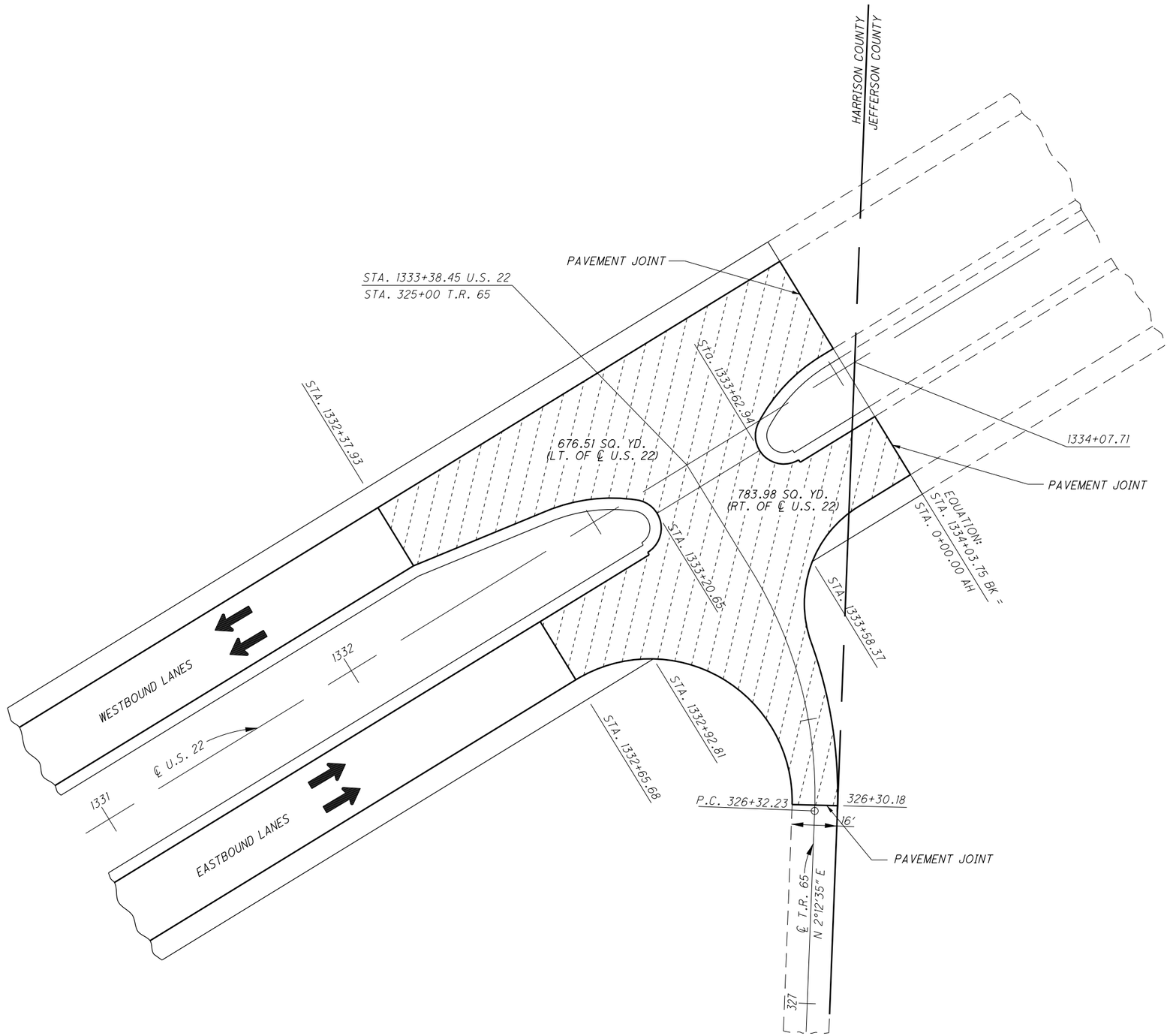
P.T. STA. 317+88.39
℄ TWP. RD. 180
317
318

I:\ProjectData\10528\Design\Roadway\Sheets\10528_GI003.dgn Sheet 16-SEP-2019 10:03AM dhoffmal

FOR RESURFACING QUANTITIES, SEE SHEET NO. 11-19.

LEGEND

CADD Generated Area



I:\ProjectData\10528\Design\Roadway\Sheets\10528L_GI004.dgn Sheet 16-SEP-2019 10:03AM dhoffmal

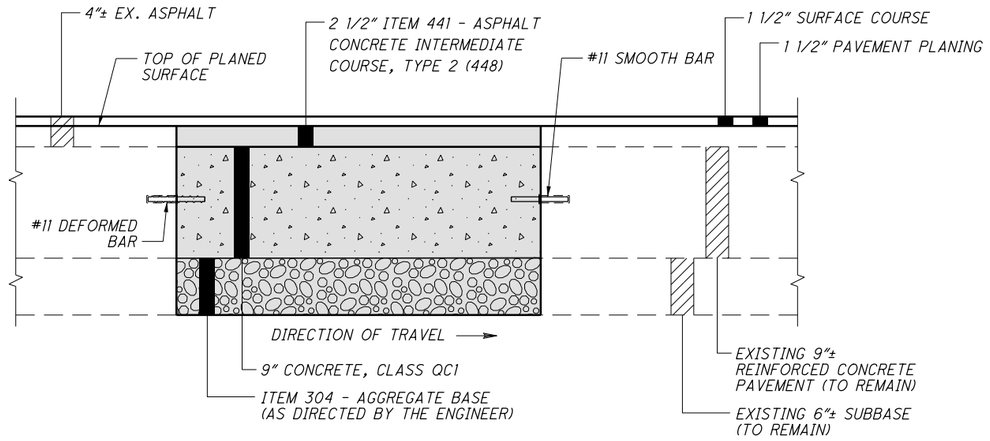
N

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JJF
CHECKED DAH

INTERSECTION DETAILS
TWP. RD. 65 INTERSECTION

HAS-22-21.47



MAINLINE PAVEMENT REPAIR TYPICAL (CONCRETE)

FOR DETAILS NOT SHOWN SEE STANDARD CONSTRUCTION DRAWING BP-2.5
FOR TRANSVERSE JOINT REPAIR DETAILS AND BP-2.1 FOR LONGITUDINAL JOINT DETAILS
NOTE: INCLUDE SHOULDERS WITH THIS REPAIR WHERE CONCRETE SHOULDERS ARE PRESENT

ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS QC1, AS PER PLAN

THE ESTIMATED QUANTITIES ARE TO BE CONSIDERED APPROXIMATE. A FINAL FIELD REVIEW WILL BE PERFORMED BY ODOT PRIOR TO CONSTRUCTION AND FINAL LOCATIONS WILL BE GIVEN TO THE CONTRACTOR PRIOR TO CONSTRUCTION.

THIS WORK CONSISTS OF REMOVING THE EXISTING ASPHALT CONCRETE, REINFORCED CONCRETE, AND THE AGGREGATE BASE COURSES; SHAPING AND COMPACTING THE EXPOSED MATERIAL; PLACING ITEM 304 AGGREGATE BASE; THEN INSTALLING DOWEL RODS FOLLOWED BY CONCRETE PAVEMENT, CLASS QC1. FINALLY, PLACE ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE,TYPE 2 (448) (WITH A MAXIMUM LIFT THICKNESS OF 3 INCHES) UP TO THE LEVEL OF THE EXISTING ASPHALT CONCRETE SURFACE.

THIS WORK SHALL BE COMPLETED BEFORE RESURFACING BEGINS.

ALL OTHER PROVISIONS OF STANDARD CONSTRUCTION DRAWINGS BP-2.1 AND BP-2.5 APPLY.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED FOR INFORMATION ONLY.

9" CONCRETE, CLASS QC1 ---------- 638 CU. YD.
ITEM 304 - AGGREGATE BASE ---------- 425 CU. YD.
ITEM 441 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 (448) ---------- 177 CU. YD.
ITEM 509 - EPOXY COATED REINFORCING ---------- 29629 POUNDS
ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT ---------- 4780 EACH

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER. FINAL PAYMENT FOR THESE ITEMS SHALL BE FOR THE ACCEPTED QUANTITY COMPLETED IN PLACE.

PART 1 (01/NHS/PV)
ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS QC1, AS PER PLAN - 2550 SQ. YD.

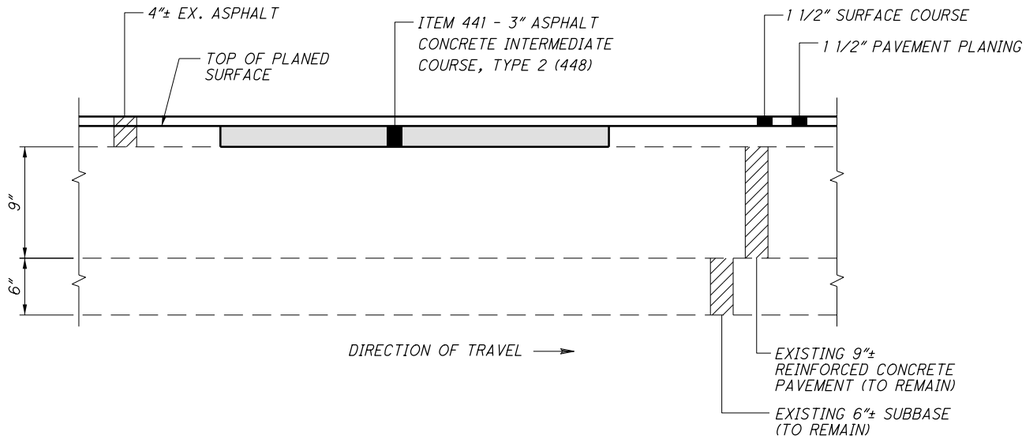
USE: 2550 SQ. YD.

PART 1 (01/NHS/PV)
ITEM 255 - FULL DEPTH PAVEMENT SAWING --------- 8500 FT.

USE: 8500 FT.

PART 1 (01/NHS/PV)
ITEM 605 - AGGREGATE DRAINS ---------- 100 FT.

USE: 100 FT.



PARTIAL DEPTH PAVEMENT REPAIR TYPICAL

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (441)

PARTIAL DEPTH PAVEMENT REPAIRS SHALL BE 2 1/2" INCHES DEEP AND FILLED WITH ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448). THE ESTIMATED QUANTITY IS TO BE CONSIDERED APPROXIMATE. A FINAL FIELD REVIEW WILL BE PERFORMED BY ODOT AND FINAL LOCATIONS WILL BE GIVEN TO THE CONTRACTOR PRIOR TO CONSTRUCTION.

ALL PARTIAL DEPTH REPAIRS ARE TO BE COMPLETED PRIOR TO THE SURFACE COURSE PAVING.

THE ESTIMATED QUANTITY IS TO BE USED AS DIRECTED BY THE ENGINEER. THE ENGINEER WILL DETERMINE THE SIZE AND LOCATION OF EACH PAVEMENT REPAIR. FINAL PAYMENT FOR THE ABOVE ITEMS SHALL BE FOR THE ACCEPTED QUANTITY COMPLETED IN PLACE.

PART 1 (01/NHS/PV)
ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (441) - 100 CU. YD.

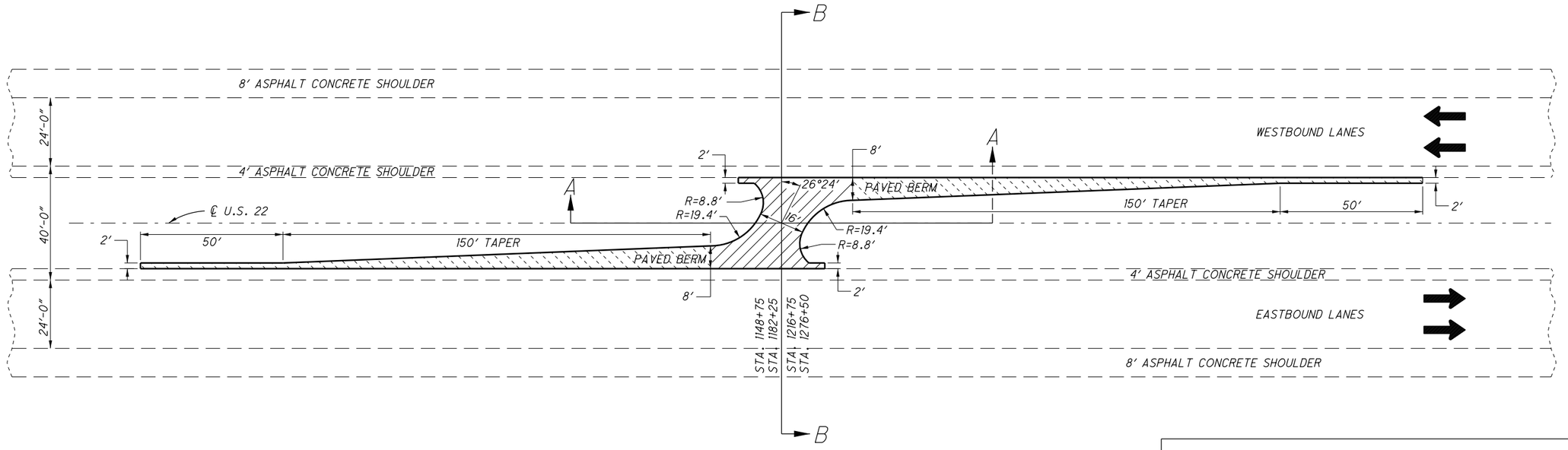
USE: 100 CU. YD.

(TOTALS CARRIED TO GENERAL SUMMARY)

CALCULATED JJF CHECKED DAH

PAVEMENT REPAIR DETAILS

HAS-22-21.47



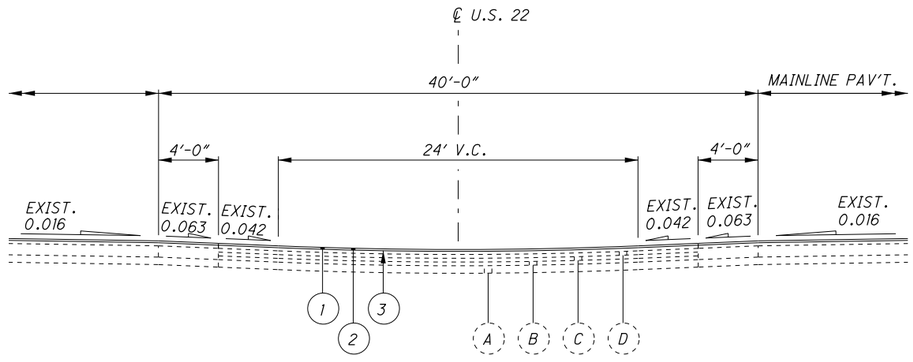
PLAN
SCALE 1:200

PROPOSED LEGEND

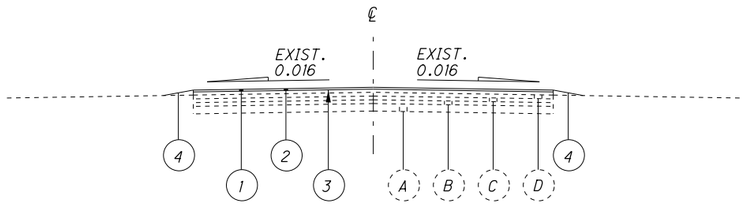
1. ITEM 442 - 1 ½" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (447), AS PER PLAN
2. ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, (1 ½"), AS PER PLAN
3. ITEM 407 - NON-TRACKING TACK COAT (APPLIED @ 0.085 GALS./SQ.YD.)
4. ITEM 209 - LINEAR GRADING

EXISTING LEGEND

- A — EXISTING SUBBASE
- B — EXISTING AGGREGATE BASE
- C — EXISTING BITUMINOUS AGGREGATE BASE
- D — EXISTING ASPHALT CONCRETE



SECTION B-B
SCALE 1:50



SECTION A-A
SCALE 1:50

CADD GENERATED AREA	= 889 SQ. FT.
CADD GENERATED AREA (850 SQ. FT. x 2 TAPERS)	= 1700 SQ. FT.

TOTAL MEDIAN CROSS-OVER AREA = 2589 SQ. FT.
2589 SQ. FT. x 4 LOCATIONS = 10,356 SQ. FT.

CALCULATIONS

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, (1 ½"), AS PER PLAN
10,356 SQ. FT. ÷ 9 = 1151 SQ. YD.
USE 1151 SQ. YD.

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (447), AS PER PLAN
10,356 SQ. FT. x 1½" ÷ 12 ÷ 27 = 47.94 CU. YD.
USE 48 CU. YD.

ITEM 407 - NON-TRACKING TACK COAT
10,356 SQ. FT ÷ 9 x 0.085 = 97.81 GALLON
USE 98 GALLON

LINEAR GRADING QUANTITIES ARE CALCULATED WITH QUANTITIES ON SHEETS 13 AND 16.

QUANTITIES CARRIED TO THE GENERAL SUMMARY.
(FUNDING: 01/NHS/PV)

CALCULATED JJF
CHECKED DAH

MEDIAN CROSSOVER DETAILS

HAS-22-21.47

U.S. 22 EASTBOUND LANES TRAFFIC CONTROL SUBSUMMARY

SHEET NO.	LOCATION	STATION FROM	STATION TO	SIDE (DIRECTION OF TRAVEL)	621 RPM SPACING FT.	621 RPM 1-WAY WHITE EACH	621 RPM WHITE/RED EACH	621 RPM YELLOW/YELLOW EACH	621 RPM YELLOW/RED EACH	621 RAISED PAVEMENT MARKER REMOVED EACH	646 EDGE LINE, 6" (WHITE) FT.	646 EDGE LINE, 6" (YELLOW) FT.	646 LANE LINE, 6" FT.	646 CENTER LINE FT.	646 STOP LINE FT.	646 CHANNELIZING LINE, 12" FT.	646 TRANSVERSE/DIAGONAL LINE FT.				FUNDING
	MAINLINE EASTBOUND																				
37		1135+00.00	1135+96.00	CTR.				2		2				96							
37		1135+96.00	1140+26.00	CTR.	80			11		11				860			119				
		1140+26.00	1168+68.19 Bk.	CTR.	120		25			25			2842.19								
		1168+75.64 Ah.	1280+62.94 Bk.	CTR.	120		94			94			11187.30								
		1280+72.73 Ah.	1298+78.92 Bk.	CTR.	120		16			16			1806.19								
		1298+80.75 Ah.	1306+00.00	CTR.	120		7			7			719.25								
40	RIGHT TURN LANE	1304+00.00	1305+37.44	CTR.	40		5			5						138					
40	LEFT TURN LANE	1305+25.00	1305+94.00	CTR.	40		3			3						69					
		1306+62.40	1329+83.81 Bk.	CTR.	120		20			20			2321.41								
		1329+98.24 Ah.	1333+20.65	CTR.	120		4			4			322.41								
	THIRD LANE	1306+62.40	1321+00.00	CTR.	120		13			13			1437.60								
		1333+62.94	1334+03.75	CTR.	120		1			1			40.81								
37	2-LANE TO 4-LANE TRANSITION	1135+00.00	1140+26.00	LT.	80		8			8	526.00										
		1140+26.00	1168+68.19 Bk.	LT.								2842.19									
		1168+75.64 Ah.	1280+62.94 Bk.	LT.								11187.30									
		1280+72.73 Ah.	1298+78.92 Bk.	LT.								1806.19									
		1298+80.75 Ah.	1305+98.62	LT.								717.87									
		1306+97.23	1329+83.81 Bk.	LT.								2286.58									
		1329+98.24 Ah.	1333+20.65	LT.								322.41									
		1333+62.94	1334+03.75	LT.								40.81									
37	2-LANE TO 4-LANE TRANSITION	1135+00.00	1140+26.00	RT.							526.00										
		1140+26.00	1168+68.19 Bk.	RT.							2842.19										
		1168+75.64 Ah.	1280+62.94 Bk.	RT.							11187.30										
		1280+72.73 Ah.	1298+78.92 Bk.	RT.							1806.19										
		1298+80.75 Ah.	1305+37.44	RT.							656.69										
40	T.R.180 INTERSECTION	1305+37.44	1306+62.40	RT.							196.99 *				18						
		1306+62.40	1329+83.81 Bk.	RT.							2321.41										
		1329+98.24 Ah.	1332+65.68	RT.							267.44										
41	T.R.65 INTERSECTION	1332+65.68	1333+82.37	RT.							220.61 *				18						
		1333+82.37	1334+03.75	RT.							21.38										
											SUB-TOTALS										
											20572.20	19203.35	20677.16	956							
											CONVERTED TO MILES										
SUB-TOTALS CARRIED TO SHEET 36						209				209	7.53		3.92	0.18	36	207	119				01/NHS/PV

* CADD MEASURED AREA

CALCULATED JJF CHECKED DAH

TRAFFIC CONTROL SUB-SUMMARY

HAS-22-21.47

U.S. 22 WESTBOUND LANES TRAFFIC CONTROL SUBSUMMARY

SHEET NO.	LOCATION	STATION FROM	STATION TO	SIDE (DIRECTION OF TRAVEL)	621 RPM SPACING FT.	621 RPM 1-WAY WHITE EACH	621 RPM WHITE/RED EACH	621 RPM YELLOW/YELLOW	621 RPM YELLOW/RED EACH	621 RAISED PAVEMENT MARKER REMOVED EACH	646 EDGE LINE, 6" (WHITE) FT.	646 EDGE LINE, 6" (YELLOW) FT.	646 LANE LINE, 6" FT.	646 CENTER LINE FT.	646 STOP LINE FT.	646 CHANNELIZING LINE, 12" FT.	FUNDING
										PART 1							
	MAINLINE WESTBOUND																
		1146+10.39	1168+68.19 Bk.	CTR.	120		20			20			2257.80				
		1168+75.64 Ah.	1280+62.94 Bk.	CTR.	120		94			94			11187.30				
		1280+72.73 Ah.	1298+78.92 Bk.	CTR.	120		16			16			1806.19				
		1298+80.75 Ah.	1306+12.36	CTR.	120		7			7			731.61				
40	LEFT TURN LANE	1307+02.23	1308+02.23	CTR.	120		4			4						100	
		1306+97.23	1329+83.81 Bk.	CTR.	120		20			20			2286.58				
		1329+98.24 Ah.	1334+03.75	CTR.	120		4			4			405.51				
41		1333+98.45	1334+03.75	CTR.												6	
		1140+26.00	1168+68.19 Bk.	LT.								2842.19					
		1168+75.64 Ah.	1280+62.94 Bk.	LT.								11187.30					
		1280+72.73 Ah.	1298+78.92 Bk.	LT.								1806.19					
		1298+80.75 Ah.	1306+00.00	LT.								719.25					
		1306+97.23	1329+98.24 Bk.	LT.								2301.01					
		1329+98.24 Ah.	1333+20.65	LT.								322.41					
		1333+62.94	1334+03.75	LT.								40.81					
		1140+26.00	1168+68.19 Bk.	RT.	80		10			10	2842.19						
		1168+75.64 Ah.	1280+62.94 Bk.	RT.							11187.30						
		1280+72.73 Ah.	1298+78.92 Bk.	RT.							1806.19						
		1298+80.75 Ah.	1306+12.36	RT.							731.61						
40	T.R.180 INTERSECTION	1306+12.36	1307+40.05	RT.							200.71 *				20		
		1307+40.05	1329+83.81 Bk.	RT.							2243.76						
		1329+98.24 Ah.	1334+03.75	RT.							405.51						
											SUB-TOTALS						
											19417.27	19219.16	18674.99				
											CONVERTED TO MILES						
SUB-TOTALS CARRIED TO SHEET 36						175			175		7.32		3.54		20	106	01/NHS/PV

* CADD MEASURED AREA

CALCULATED JJF CHECKED DAH

TRAFFIC CONTROL SUB-SUMMARY

HAS-22-21.47

RAMPS AND SIDE ROADS TRAFFIC CONTROL SUBSUMMARY

SHEET NO.	LOCATION	STATION FROM	STATION TO	SIDE (DIRECTION OF TRAVEL)	621 RPM SPACING FT.		621 RPM WHITE/RED EACH		621 RPM YELLOW/RED EACH	621 RAISED PAVEMENT MARKER REMOVED EACH	646 EDGE LINE, 6" (WHITE) MILE	646 EDGE LINE, 6" (YELLOW) MILE	646 LANE LINE, 6" MILE		646 STOP LINE FT.	646 CHANNELIZING LINE, 12" FT.		646 CURB MARKING FT.	646 WRONG-WAY ARROW EACH		FUNDING
	PART 1																				
	S.R. 151 INTERCHANGE																				
	RAMP 'J'	*13+10.71*	*12+70.70*	*RT.*							*58.10 **										
	RAMP 'J'	*12+70.70 'K'*	*6+82.18 'K'*	*RT.*							*588.52*										
	RAMP 'J'	*0+00.00*	*6+61.03*	*RT.*							*661.03*										
38	*RAMP 'J'*	*13+00.00 'K'*		*CTR.*											*32*				*1*		
	RAMP 'J'	*12+81.50 'K'*	*0+62.00*	*LT.*														*690*			
	RAMP 'J'	*13+00.00 'K'*	*6+82.18 'K'*	*LT.*	*80*				*9*	*9*		*617.82*									
	RAMP 'J'	*0+00.00*	*6+61.03*	*LT.*	*40*				*9*	*9*		*661.03*									
	DECEL. LANE RAMP 'J'	*6+61.03*	*8+63.06*	*LT.*	*40*		*12*			*12*						*454.65 **					
	DECEL. LANE RAMP 'J'	*8+63.06*	*9+65.71*	*LT.*									*165.00*								
	ACCEL. LANE RAMP 'K'	*0+68.27*	*1+36.48*	*LT.*									*68.21*								
	ACCEL. LANE RAMP 'K'	*1+36.48*	*2+43.77*	*LT.*	*40*		*4*			*4*						*58.00 **					
	RAMP 'K'	*2+43.77*	*12+60.71*	*RT.*							*1016.94*										
	RAMP 'K'	*12+60.71*	*13+10.71*	*RT.*							*73.80 **										
	RAMP 'K'	*2+43.77*	*13+00.00*	*LT.*	*80*				*14*	*14*		*1056.23*									
	RAMP 'K'	*6+23.60*	*12+81.50*	*LT.*														*690*			
	DECEL. LANE RAMP 'L'	*1+30.71*	*2+58.88*	*LT.*									*131.41 **								
	DECEL. LANE RAMP 'L'	*2+58.88*	*3+33.08*	*LT.*	*40*		*6*			*6*						*190.00 **					
	RAMP 'L'	*3+33.08*	*7+50.00*	*LT.*	*80*				*6*	*6*		*416.92*									
	RAMP 'L'	*3+33.08*	*6+65.56*	*RT.*							*332.48*										
	RAMP 'L'	*6+65.56*	*7+56.66*	*RT.*							*106.80 **										
38	*RAMP 'L'*	*7+46.66*		*CTR.*											*35*				*1*		
	RAMP 'M'	*0+12.52*	*5+66.07*	*LT.*	*80*				*8*	*8*		*553.55*									
	RAMP 'M'	*0+11.67*	*0+92.05*	*RT.*							*100.30 **										
	RAMP 'M'	*0+92.05*	*5+66.07*	*RT.*							*474.02*										
	ACCEL. LANE RAMP 'M'	*5+66.07*	*6+26.60*	*LT.*	*40*		*3*			*3*						*55.00 **					
	ACCEL. LANE RAMP 'M'	*6+26.60*	*7+89.35*	*LT.*									*200*								
											SUB-TOTALS										
											3411.99	***3305.55***	***564.62***								
													CONVERTED TO MILES								
SUB-TOTALS CARRIED TO SHEET 36						**71**				**71**	**1.27**		**0.11**		**67**	**758**		**1,380**	**2**		**01/NHS/PV**

* CADD MEASURED AREA

CALCULATED JJF CHECKED DAH

TRAFFIC CONTROL SUB-SUMMARY

HAS-22-21.47

RAMPS AND SIDE ROADS TRAFFIC CONTROL SUBSUMMARY

SHEET NO.	LOCATION	STATION FROM	STATION TO	SIDE (DIRECTION OF TRAVEL)	621 RPM SPACING	621 RPM 1-WAY WHITE	621 RPM WHITE/RED	621 RPM YELLOW/RED	621 RPM YELLOW/YELLOW	621 RAISED PAVEMENT MARKER REMOVED	646 EDGE LINE, 6" (WHITE)	646 EDGE LINE, 6" (YELLOW)	646 LANE LINE, 6"	646 CENTER LINE	646 STOP LINE	646 CHANNELIZING LINE, 12"	646 TRANSVERSE/DIAGONAL LINE	646 CURB MARKING	646 WRONG-WAY ARROW		FUNDING
		FROM	TO		FT.	EACH	EACH	EACH	EACH	EACH	MILE	MILE	MILE	MILE	FT.	FT.	FT.	FT.	EACH		
										PART 1											
	C.R.4 INTERCHANGE																				
	ACCEL. LANE RAMP 'N'	2+47.80	4+94.26	LT.									247.80 *								
	ACCEL. LANE RAMP 'N'	4+94.26	6+18.17	LT.	40		4			4						60.00 *					
	RAMP 'N'	6+18.17	16+98.30	RT.	80			15		15		1080.13									
	RAMP 'N'	16+98.30	17+45.74	RT.								70.60 *									
	RAMP 'N'	6+18.17	16+98.30	LT.							1080.13										
	RAMP 'N'	16+98.30	17+45.74	LT.							61.50 *										
	DECEL. LANE RAMP 'Q'	2+46.38	3+70.13	LT.	40		7			7						320.00 *					
	RAMP 'Q'	3+70.13	17+00.00	LT.	80			18		18		1329.87									
	RAMP 'Q'	17+00.00	17+50.00	LT.								56.32 *									
	RAMP 'Q'	3+70.13	17+24.00	RT.							1353.87										
	RAMP 'Q'	17+24.00	17+50.00	RT.							46.08 *										
39	RAMP 'Q'	17+39.09		CTR.											38				1		
39	RAMP 'S'	0+22.00		CTR.											38				1		
	RAMP 'S'	0+12.00	0+52.02	LT.							55.30 *										
	RAMP 'S'	0+52.02	7+35.15	LT.							683.13										
	RAMP 'S'	0+12.00	0+52.02	RT.								57.50 *									
	RAMP 'S'	0+52.02	7+35.15	RT.	80			10		10		683.13									
	DECEL. LANE RAMP 'S'	7+35.15	8+56.90	LT.	40		7			7						310.00 *					
	RAMP 'T'	0+12.65	0+83.90	LT.								91.50 *									
	RAMP 'T'	0+83.90	7+80.23	LT.	80			10		10		696.33									
	RAMP 'T'	0+12.65	0+83.90	RT.							91.80 *										
	RAMP 'T'	0+83.90	7+80.23	RT.							696.33										
	ACCEL. LANE RAMP 'T'	7+80.23	9+03.94	LT.	40		4			4						120.00 *					
	ACCEL. LANE RAMP 'T'	9+03.94	11+40.63	LT.									238.02 *								
											SUB-TOTALS										
											4068.14	4065.38	485.82								
											CONVERTED TO MILES										
	SUB TOTALS FROM THIS SHEET					**75**				**75**	**1.54**		**0.09**		**76**	**810**	**0**	**0**	**2**		**01/NHS/PV**
	SUB TOTALS FROM SHEET 33					**209**				**209**	**7.53**		**3.92**	**0.18**	**36**	**207**	**119**	**0**	**0**		**01/NHS/PV**
	SUB TOTALS FROM SHEET 34					**175**				**175**	**7.32**		**3.54**	**0.00**	**20**	**106**	**0**	**0**	**0**		**01/NHS/PV**
	SUB TOTALS FROM SHEET 35					**71**				**71**	**1.27**		**0.11**	**0.00**	**67**	**758**	**0**	**1,380**	**2**		**01/NHS/PV**
	TOTALS CARRIED TO GENERAL SUMMARY					**530**				**530**	**17.66**		**7.66**	**0.18**	**199**	**1.881**	**119**	**1.380**	**4**		**01/NHS/PV**

* CADD MEASURED AREA

CALCULATED JJF CHECKED DAH

TRAFFIC CONTROL SUB-SUMMARY

HAS-22-21.47

STA. 1135+00
BEGIN WORK

E170(992)

BEGIN PROJECT
STA. 1135+00
S.L.M. 21.47

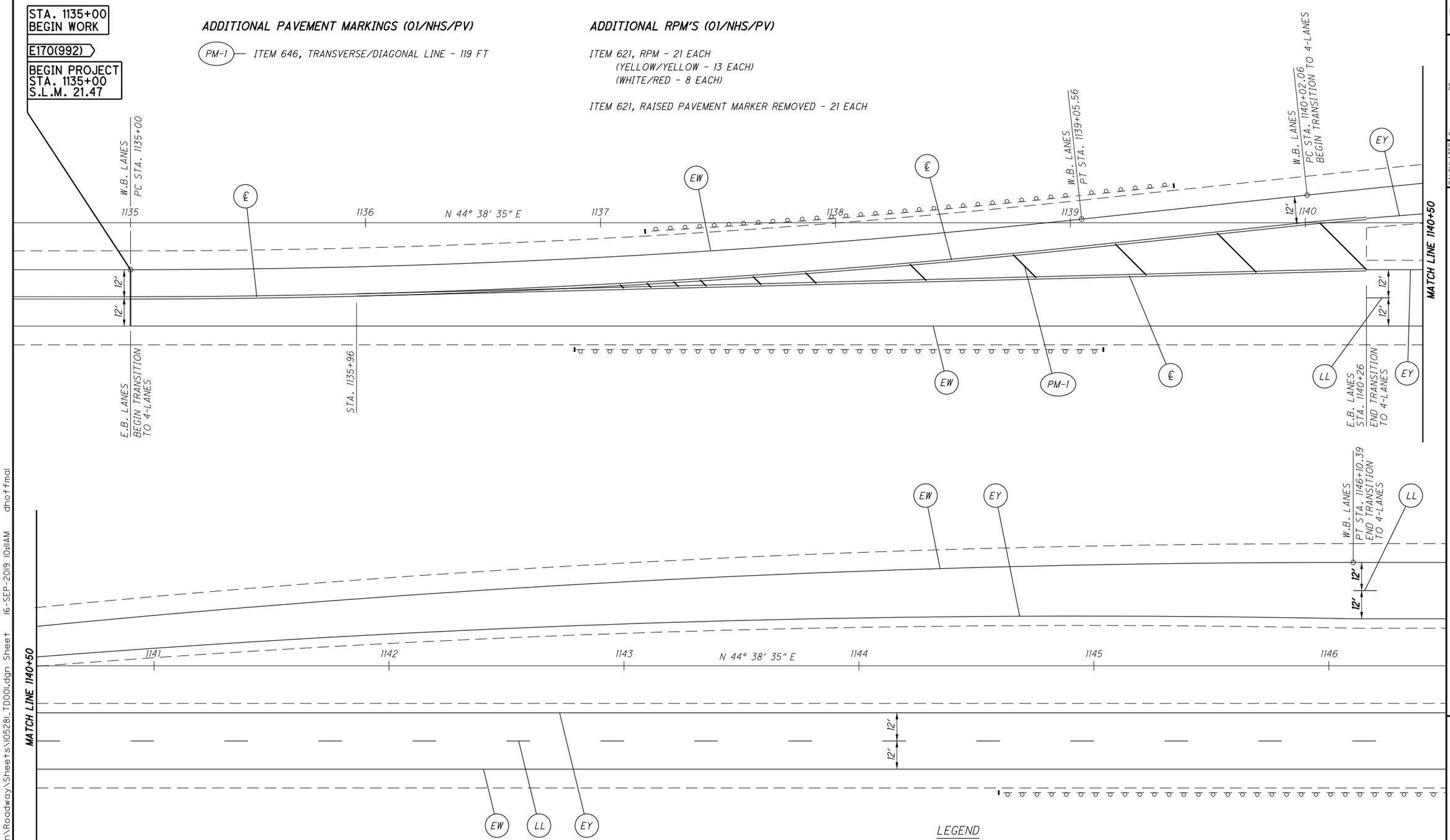
ADDITIONAL PAVEMENT MARKINGS (01/NHS/PV)

PM-1 — ITEM 646, TRANSVERSE/DIAGONAL LINE - 119 FT

ADDITIONAL RPM'S (01/NHS/PV)

ITEM 621, RPM - 21 EACH
(YELLOW/YELLOW - 13 EACH)
(WHITE/RED - 8 EACH)

ITEM 621, RAISED PAVEMENT MARKER REMOVED - 21 EACH



NOTES:

1. FOR TRAFFIC CONTROL DETAILS NOT SHOWN ON THIS SHEET OR DETAILED IN THE TRAFFIC CONTROL SUBSUMMARY, SEE STANDARD CONSTRUCTION DRAWINGS TC-65.11, TC-71.10, AND TC-72.20.

2. ALL QUANTITIES CARRIED TO TRAFFIC CONTROL SUBSUMMARY, SEE SHEETS 33-36.

LEGEND

℄ — ITEM 646 - CENTER LINE (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)

EW — ITEM 646 - EDGE LINE (WHITE) (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)

EY — ITEM 646 - EDGE LINE (YELLOW) (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)

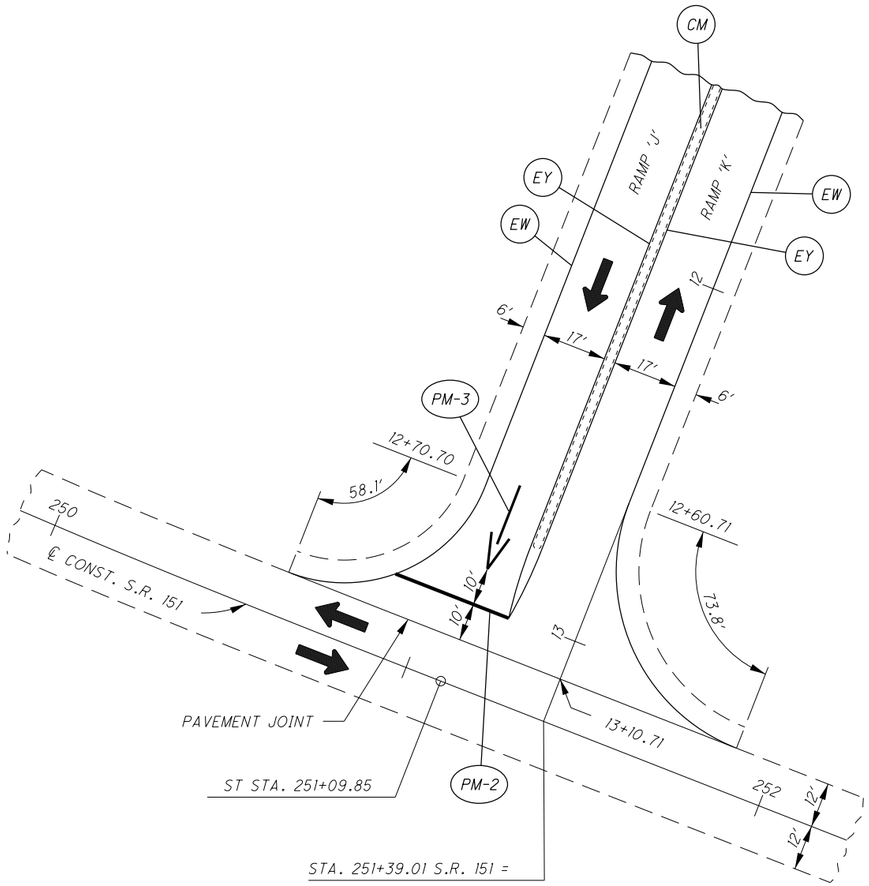
LL — ITEM 646 - LANE LINE (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)

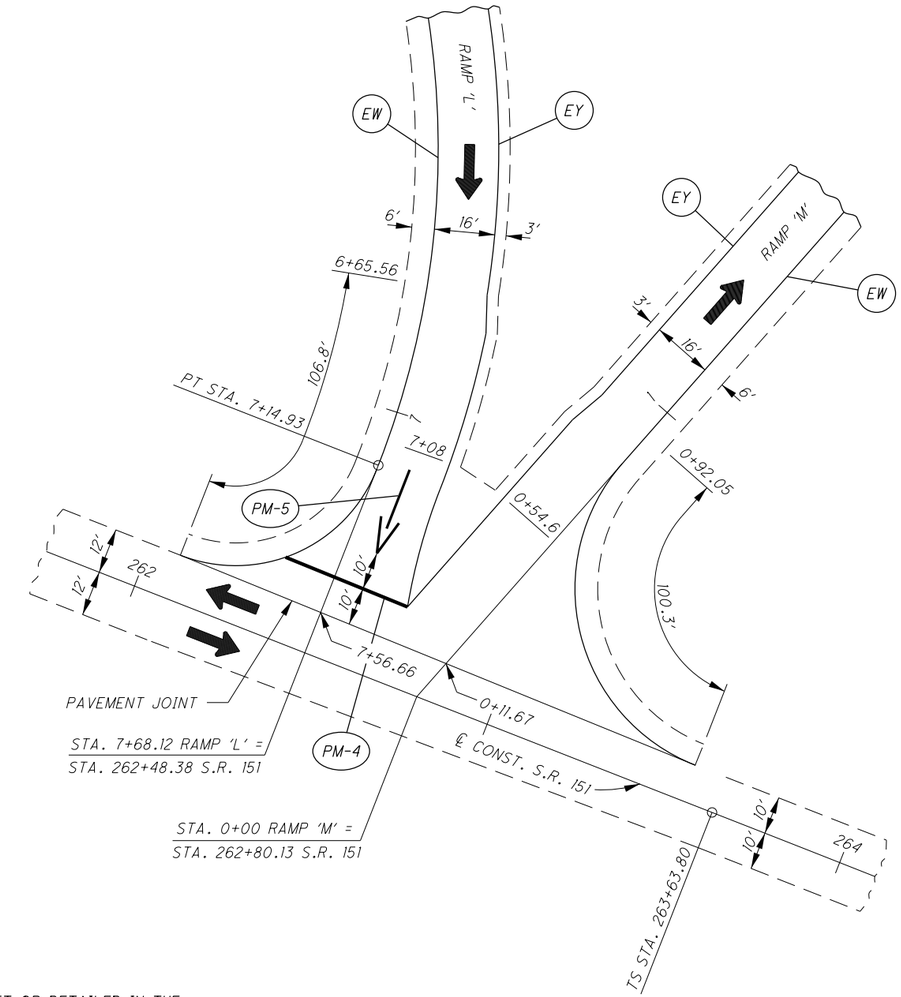
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JJF
CHECKED DAH

PAVEMENT MARKING DETAILS
2-LANE TO 4-LANE TRANSITION

HAS-22-21.47





LEGEND

- ℄ — ITEM 646 - CENTER LINE (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)
- EW — ITEM 646 - EDGE LINE (WHITE) (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)
- EY — ITEM 646 - EDGE LINE (YELLOW) (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)
- LL — ITEM 646 - LANE LINE (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)
- CM — ITEM 646 - CURB MARKING (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)

ADDITIONAL PAVEMENT MARKINGS (01/NHS/PV)

- PM-2 — ITEM 646, STOP LINE - 32 FT
- PM-3 — ITEM 646, WRONG-WAY ARROW - 1 EACH
- PM-4 — ITEM 646, STOP LINE - 35 FT
- PM-5 — ITEM 646, WRONG-WAY ARROW - 1 EACH

NOTES:

1. FOR TRAFFIC CONTROL DETAILS NOT SHOWN ON THIS SHEET OR DETAILED IN THE TRAFFIC CONTROL SUBSUMMARY, SEE STANDARD CONSTRUCTION DRAWINGS TC-65.11, TC-71.10, TC-72.20, AND TC-73.20.

2. ALL QUANTITIES CARRIED TO TRAFFIC CONTROL SUBSUMMARY, SEE SHEETS 33-36.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JJF
CHECKED DAH

PAVEMENT MARKING DETAILS
S.R. 151 INTERCHANGE

HAS-22-21.47

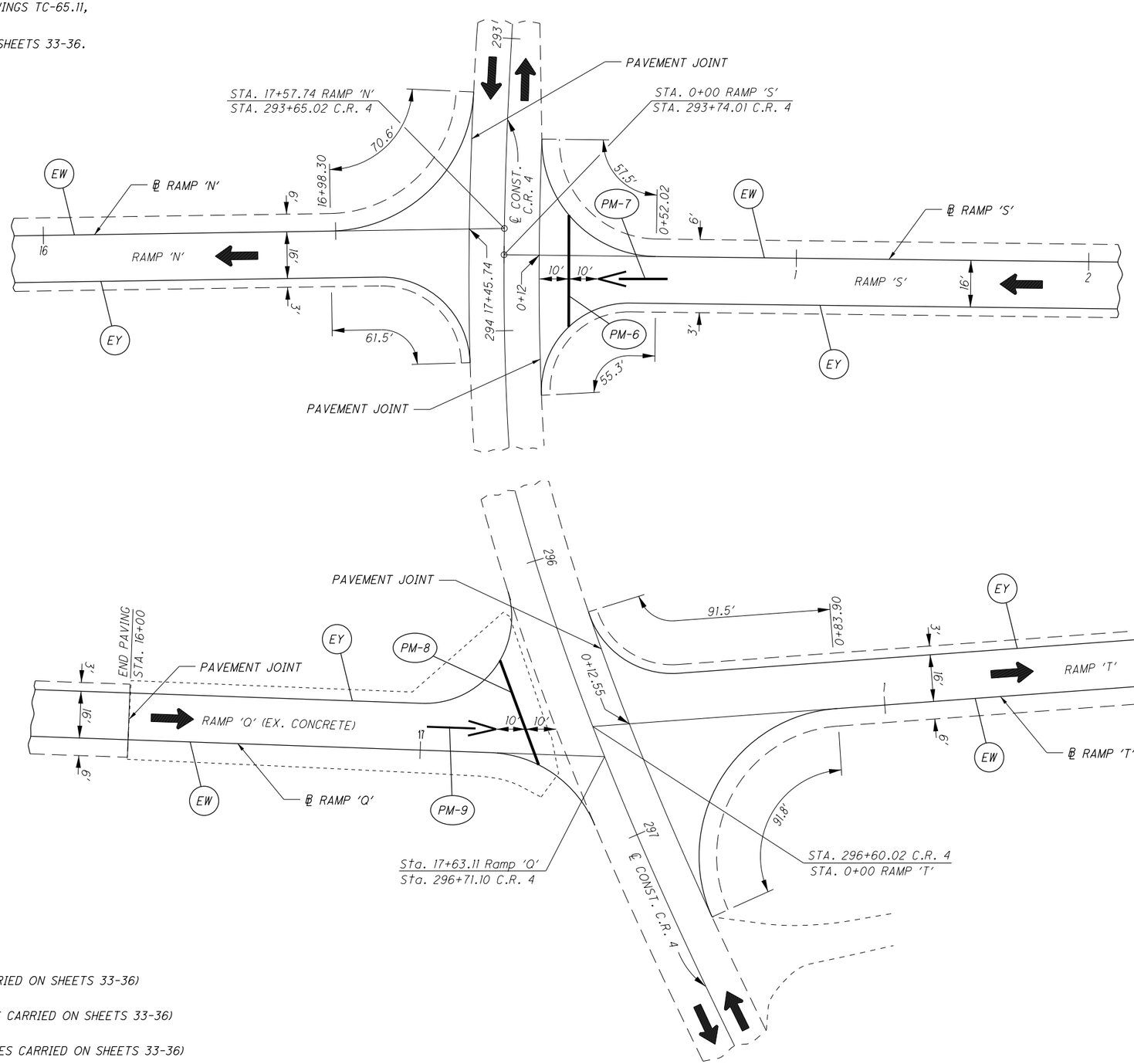
NOTES:

1. FOR TRAFFIC CONTROL DETAILS NOT SHOWN ON THIS SHEET OR DETAILED IN THE TRAFFIC CONTROL SUBSUMMARY, SEE STANDARD CONSTRUCTION DRAWINGS TC-65.11, TC-71.10, TC-72.20, AND TC-73.20.

2. ALL QUANTITIES CARRIED TO TRAFFIC CONTROL SUBSUMMARY, SEE SHEETS 33-36.

ADDITIONAL PAVEMENT MARKINGS (01/NHS/PV)

- (PM-6) — ITEM 646, STOP LINE - 38 FT
- (PM-7) — ITEM 646, WRONG-WAY ARROW - 1 EACH
- (PM-8) — ITEM 646, STOP LINE - 38 FT
- (PM-9) — ITEM 646, WRONG-WAY ARROW - 1 EACH



LEGEND

- (℄) — ITEM 646 - CENTER LINE (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)
- (EW) — ITEM 646 - EDGE LINE (WHITE) (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)
- (EY) — ITEM 646 - EDGE LINE (YELLOW) (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)
- (LL) — ITEM 646 - LANE LINE (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JJF
CHECKED DAH

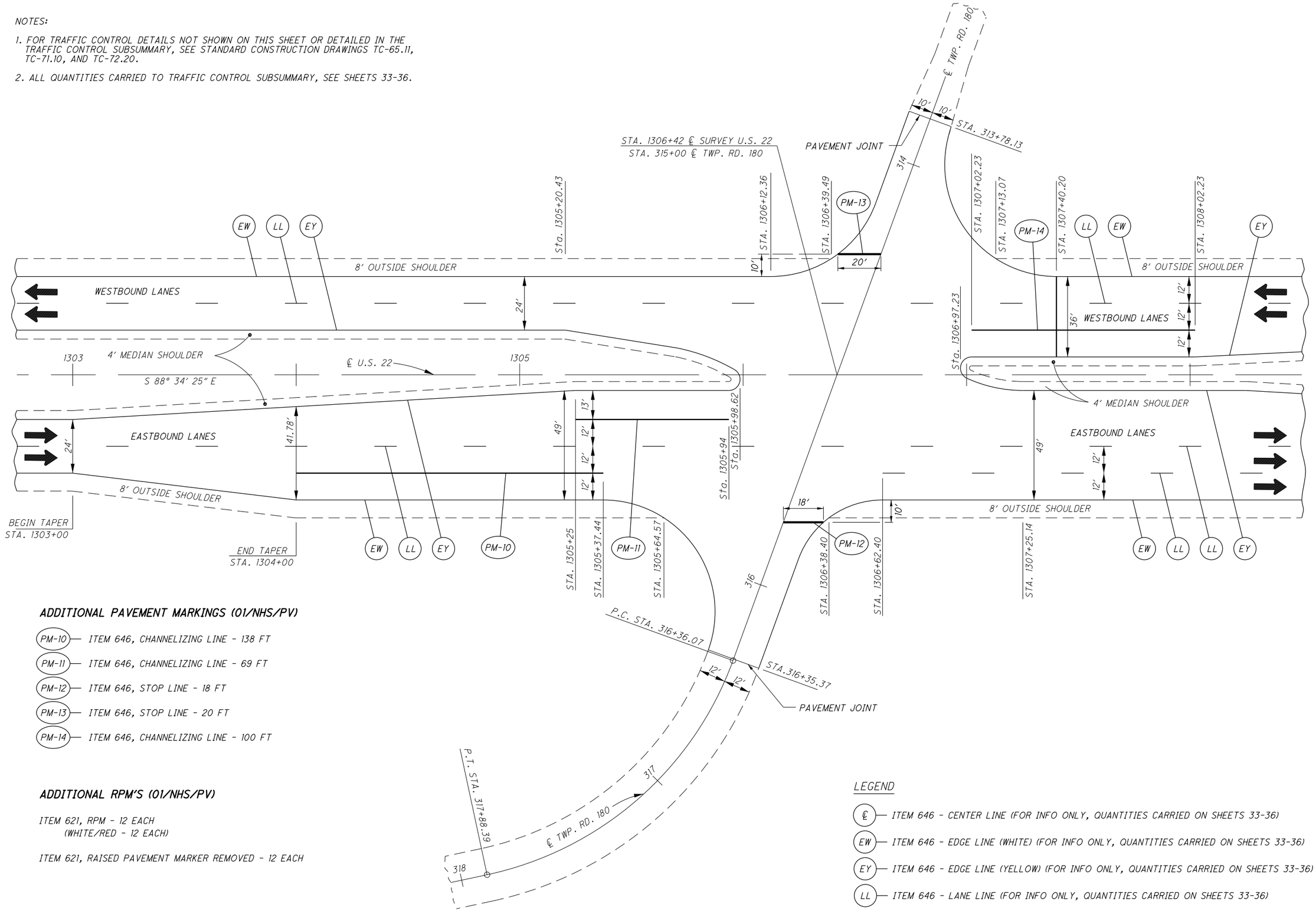
PAVEMENT MARKING DETAILS
C.R. 4 INTERCHANGE

HAS-22-21.47

NOTES:

1. FOR TRAFFIC CONTROL DETAILS NOT SHOWN ON THIS SHEET OR DETAILED IN THE TRAFFIC CONTROL SUBSUMMARY, SEE STANDARD CONSTRUCTION DRAWINGS TC-65.11, TC-71.10, AND TC-72.20.

2. ALL QUANTITIES CARRIED TO TRAFFIC CONTROL SUBSUMMARY, SEE SHEETS 33-36.



ADDITIONAL PAVEMENT MARKINGS (01/NHS/PV)

- PM-10 — ITEM 646, CHANNELIZING LINE - 138 FT
- PM-11 — ITEM 646, CHANNELIZING LINE - 69 FT
- PM-12 — ITEM 646, STOP LINE - 18 FT
- PM-13 — ITEM 646, STOP LINE - 20 FT
- PM-14 — ITEM 646, CHANNELIZING LINE - 100 FT

ADDITIONAL RPM'S (01/NHS/PV)

ITEM 621, RPM - 12 EACH
(WHITE/RED - 12 EACH)

ITEM 621, RAISED PAVEMENT MARKER REMOVED - 12 EACH

LEGEND

- ℄ — ITEM 646 - CENTER LINE (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)
- EW — ITEM 646 - EDGE LINE (WHITE) (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)
- EY — ITEM 646 - EDGE LINE (YELLOW) (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)
- LL — ITEM 646 - LANE LINE (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JJF
CHECKED DAH

PAVEMENT MARKING DETAILS
TWP. RD. 180 INTERSECTION

HAS-22-21.47

NOTES:

1. FOR TRAFFIC CONTROL DETAILS NOT SHOWN ON THIS SHEET OR DETAILED IN THE TRAFFIC CONTROL SUBSUMMARY, SEE STANDARD CONSTRUCTION DRAWINGS TC-65.11, TC-71.10, AND TC-72.20.

2. ALL QUANTITIES CARRIED TO TRAFFIC CONTROL SUBSUMMARY, SEE SHEETS 33-36.

ADDITIONAL PAVEMENT MARKINGS (01/NHS/PV)

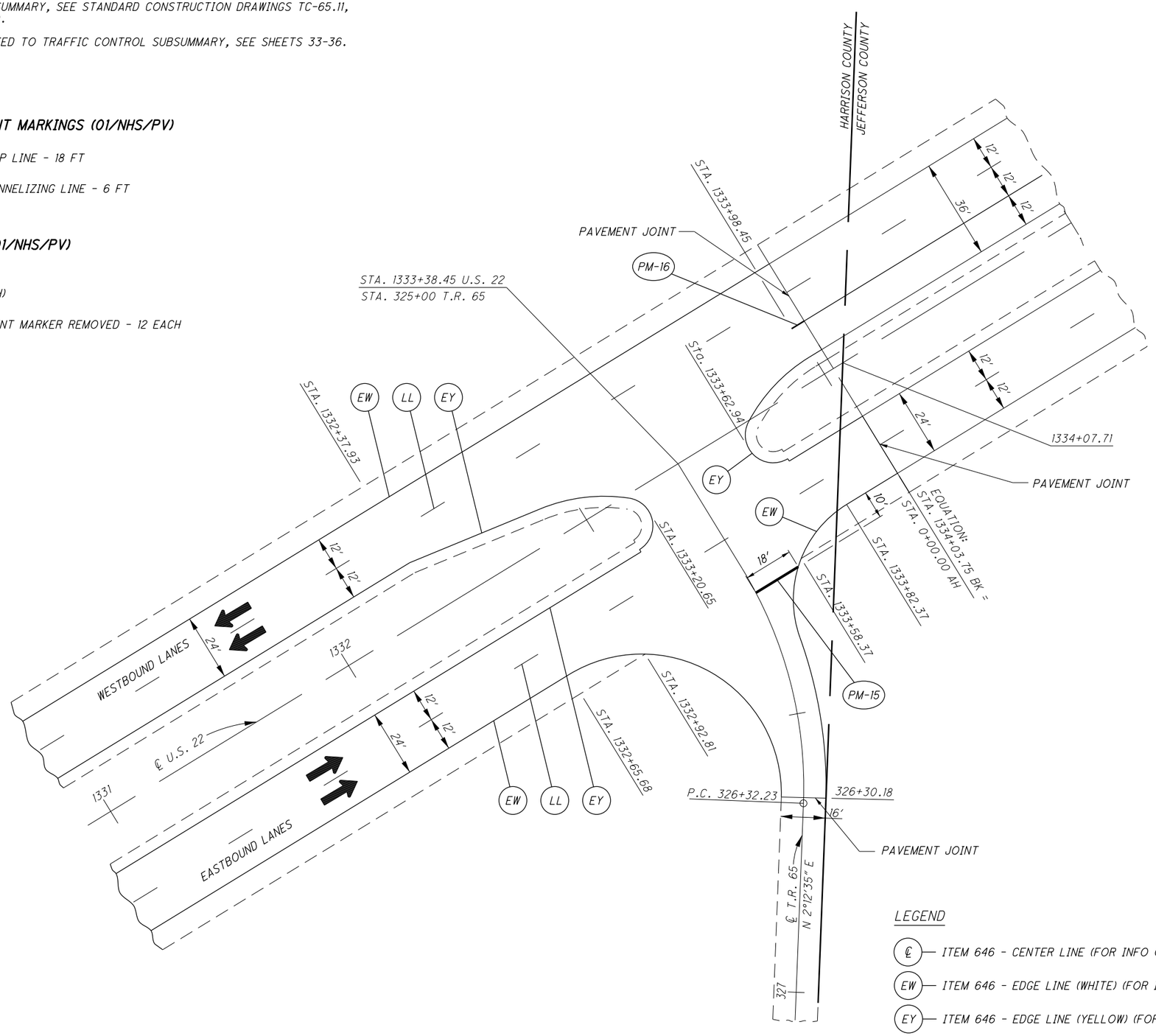
(PM-15) — ITEM 646, STOP LINE - 18 FT

(PM-16) — ITEM 646, CHANNELIZING LINE - 6 FT

ADDITIONAL RPM'S (01/NHS/PV)

ITEM 621, RPM - 1 EACH
(WHITE/RED - 1 EACH)

ITEM 621, RAISED PAVEMENT MARKER REMOVED - 12 EACH



LEGEND

(℄) — ITEM 646 - CENTER LINE (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)

(EW) — ITEM 646 - EDGE LINE (WHITE) (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)

(EY) — ITEM 646 - EDGE LINE (YELLOW) (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)

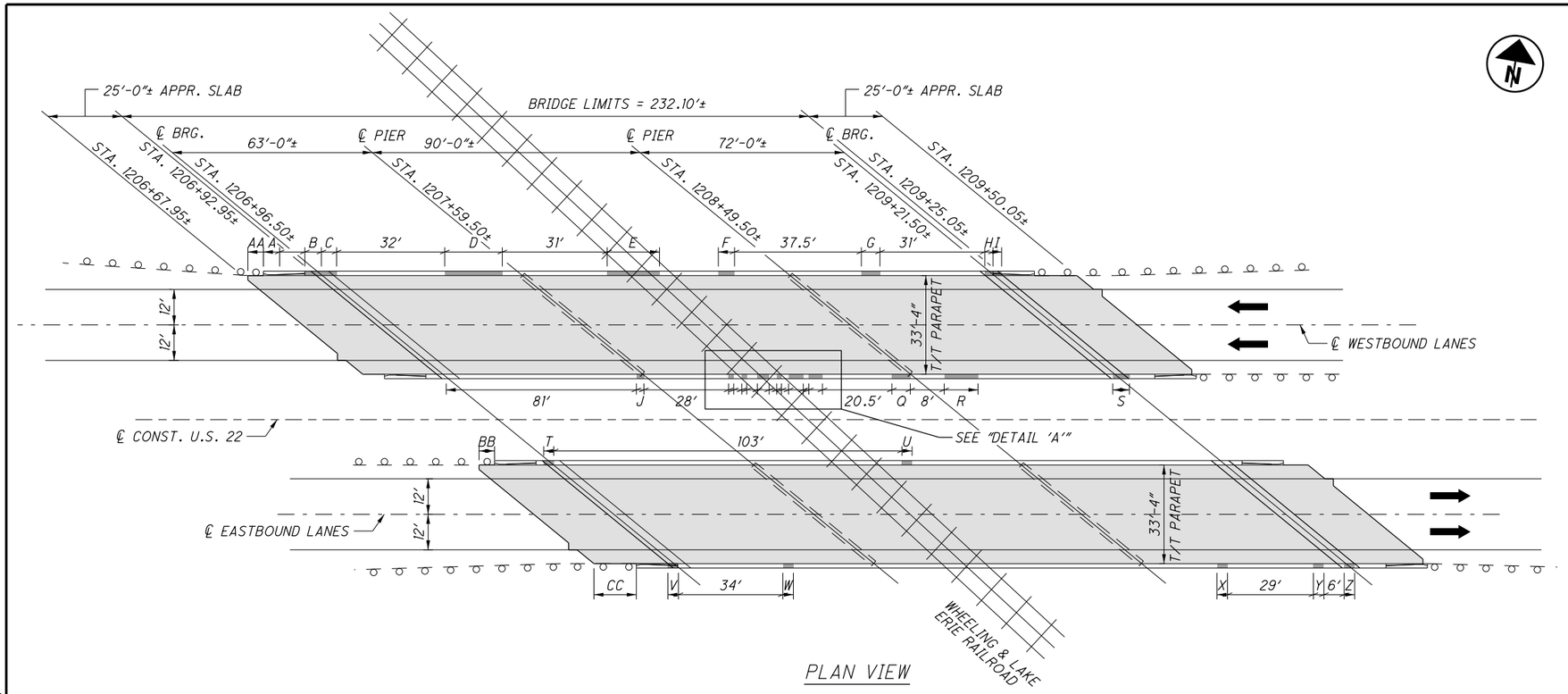
(LL) — ITEM 646 - LANE LINE (FOR INFO ONLY, QUANTITIES CARRIED ON SHEETS 33-36)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JJF
CHECKED DAH

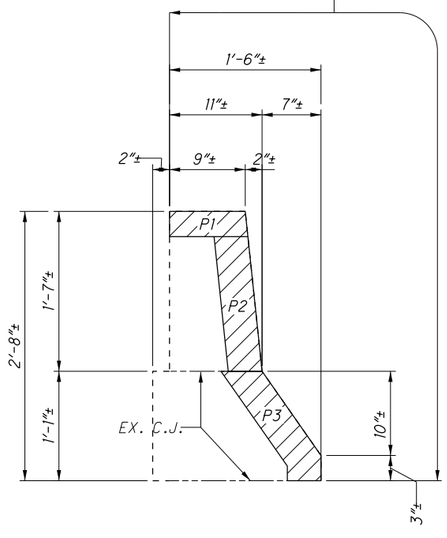
PAVEMENT MARKING DETAILS
TWP. RD. 65 INTERSECTION

HAS-22-21.47



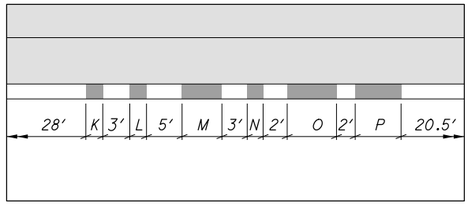
PLAN VIEW

ITEM 512, REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES AND ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) (SEE NOTE 3)



TYPICAL PARAPET PATCHING DETAIL

ITEM 844, CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN



DETAIL 'A'

CALCULATIONS:

ITEM 609, CURB, TYPE 4-A, AS PER PLAN

(AA) 5 FT
(BB) 2 FT
(CC) 14 FT

TOTAL = 21 FT

USE 21 FT (02/NHS/BR)

ITEM 843, PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR

USE 20 SQ. FT. (02/NHS/BR)

LEGEND

ITEM 844, CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN

ITEM 512, SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN

EXISTING STRUCTURE

TYPE: THREE SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK SLAB & REINFORCED CONCRETE SUBSTRUCTURE.
SPANS: 63'-0"±, 90'-0"±, 72'-0"± C/C BEARINGS
ROADWAY: 33'-4"± F/F CURBS WITH DEFLECTOR PARAPETS
LOADING: HS20-44 (CASE II) AND ALTERNATE MILITARY LOADING
SKEW: 50° 41' 00"± R.F.
APPROACH SLABS: 25'-0"± (AS-1-81)
ALIGNMENT: TANGENT
WEARING SURFACE: 1"± MONOLITHIC CONCRETE
SUPERELEVATION: 3/16"±/FT.
STRUCTURAL FILE NUMBERS: 3401294, 3401324
DATE BUILT: 1962
DISPOSITION: TO BE REPAIRED
DECK AREA: 7752 S.F. (BOTH LT. & RT.)
LATITUDE: N 40° 19' 33.01"
LONGITUDE: W 80° 55' 06.45"

PROPOSED WORK

1. REPAIR PARAPETS.
2. REMOVE DEBRIS.
3. SEAL BRIDGE DECK WITH HMWM RESIN.

NOTES:

1. THE BRIDGE PARAPET PATCHING AREAS WERE OBTAINED BY FIELD INSPECTION ARE TO BE CONSIDERED APPROXIMATE. ACTUAL AREAS SHALL BE IN ACCORDANCE WITH PROPOSAL NOTE 512, AND AS DIRECTED BY THE ENGINEER. ALLOWANCES FOR DETERIORATION AFTER INSPECTION HAVE BEEN INCLUDED IN THE QUANTITY.
2. ALL DEPRESSION, OR SPALLED AREAS ON THE BRIDGE PARAPET SHALL BE FILLED WITH ITEM 843, PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR. THESE AREAS SHALL BE AS DIRECTED BY THE ENGINEER. A CONTINGENCY QUANTITY IS SET UP FOR THIS PURPOSE.
3. FOR ITEM 512, SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN QUANITITIES, SEE SHEET 43.
4. ALL QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN

PARAPET PATCHING (3401294, HAS-22-2284L)				PARAPET PATCHING (3401294, HAS-22-2284L)			
LOCATION	TYPE	DIMENSIONS	AREA (SQ. FT.)	LOCATION	TYPE	DIMENSIONS	AREA (SQ. FT.)
A	P3	2'x1.08'	2.16	T	P3	3'x1.08'	3.24
B	P3	4'x1.08'	4.32	U	P1	3'x0.75'	2.25
C	P3	0.75'x1.08'	0.81				
D	P1 & P2	17'x0.75' & 17'x1.58'	39.61	V	P3	0.75'x1.08'	0.81
E	P1 & P2	15.5'x0.75' & 15.5'x1.58'	36.12	W	P1 & P2	3'x0.75' & 3'x1.58'	6.99
F	P3	0.75'x1.08'	0.81	X	P3	2.5'x1.08'	2.7
G	P3	0.75'x1.08'	0.81	Y	P1 & P2	2'x0.75' & 2'x1'	3.5
H	P1 & P2	5.5'x0.75' & 5.5'x1.58'	12.82	Z	P1 & P2	6'x0.75' & 6'x1.58'	13.98
I	P1 & P2	1.5'x0.75' & 1.5'x1'	2.63				
J	P1 & P2	2'x0.75' & 2'x1'	3.5				
K	P3	1.5'x1.08'	1.62				
L	P2/P3	1.5'x1'	1.5				
M	P3	3.5'x1.08'	3.78				
N	P3	1.5'x1.08'	1.62				
O	P1 & P2	5'x0.75' & 5'x1.58'	11.65				
P	P1 & P2	4'x0.75' & 4'x1.58'	9.32				
Q	P3	5.5'x1.08'	5.94				
R	P1 & P2	10'x0.75' & 10'x1.58'	23.3				
S	P3	0.75'x1.08'	0.81				
		COLUMN SUB-TOTALS =	163.13			COLUMN SUB-TOTALS =	33.47
TOTALS CARRIED TO THE GENERAL SUMMARY (FUNDING: 02/NHS/BR)			196.6				

DESIGN AGENCY
O.D.O.T. DISTRICT 11
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
JJF	JJF	RPT	9/4/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DAH	XXX	3401294, 3401324	

SITE PLAN
BRIDGE NO. HAS-22-2284 L&R
U.S. 22 OVER WHEELING & LAKE ERIE RR

HAS-22-21.47
PID No. 105281

HAS-22-2284 L&R (SFN: 3401294, 3401324) DECK SEALING SUBSUMMARY

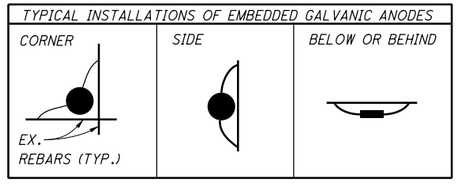
PART	SFN	BR. NO.	STATION FROM	STATION TO	SIDE	LENGTH FT.	WIDTH FT.	AREA SQ. FT.	SPECIAL NO. OF SHOULDERS	SPECIAL DEBRIS REMOVAL FT.	512 SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) SQ. YD.	512 SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN SQ. YD.	512 REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES SQ. YD.	FUNDING
1	3401294	HAS-22-2284L	1206+67.95	1206+92.95	W.B.	25	33.4	835	2	50	6	93	6	
			1206+92.95	1209+25.05		232.1	33.4	7752	2	464	93	861	93	
			1209+25.05	1209+50.05		25	33.4	835	2	50	10	93	10	
1	3401324	HAS-22-2284R	1206+67.95	1206+92.95	E.B.	25	33.4	835	2	50	8	93	8	
			1206+92.95	1209+25.05		232.1	33.4	7752	2	464	93	861	93	
			1209+25.05	1209+50.05		25	33.4	835	2	50	10	93	10	
TOTALS CARRIED TO GENERAL SUMMARY										1,128	220	2,094	220	02/NHS/BR

ITEM 844, CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN

PRIOR TO THE SURFACE CLEANING SPECIFIED IN CMS 519.04 AND SS844 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

GALVANIC ANODES SHALL BE INSTALLED TO THE EXISTING REINFORCEMENT ALONG THE PERIMETER OF THE REPAIRS AT 30-INCH SPACING. REFER TO SS844 FOR MORE DETAILS.

TYPICAL INSTALLATIONS OF EMBEDDED GALVANIC ANODES

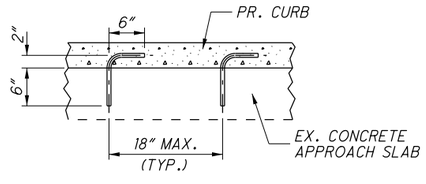


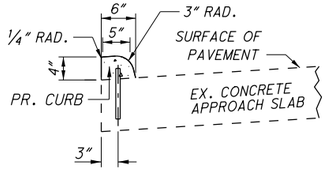
ITEM 609, CURB, TYPE 4-A, AS PER PLAN

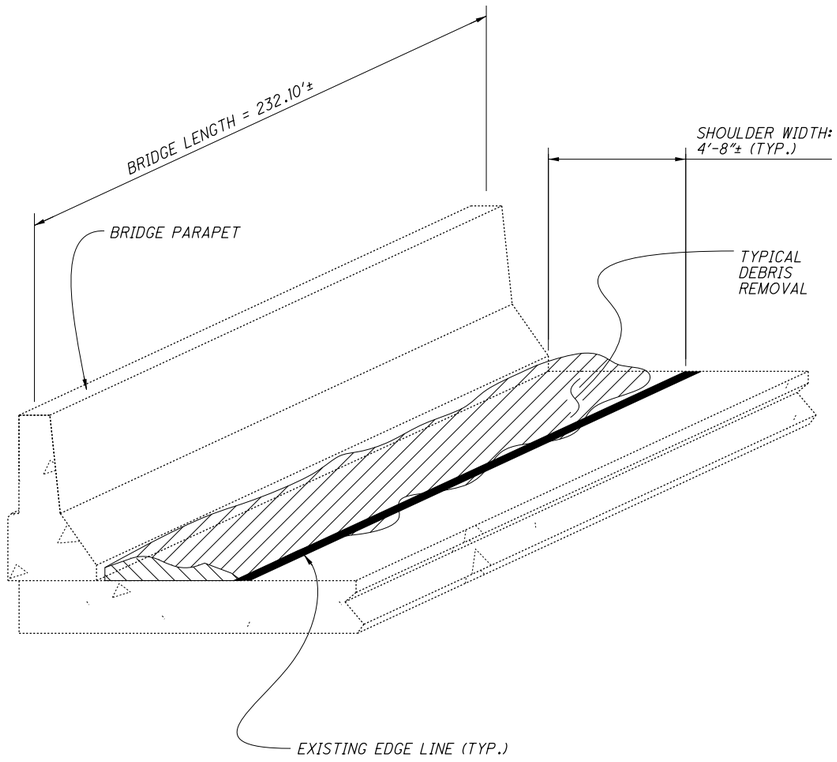
THIS ITEM SHALL INCLUDE THE REMOVAL OF ANY EXISTING CURB AND CONNECTING DOWEL BARS FROM THE EXISTING BRIDGE APPROACH SLABS. NEW TYPE 4-A CURB SHALL BE PLACED AT THE LOCATIONS INDICATED ON SHEET 38 OF THE PLANS. THE NEW CURB SHALL BE ANCHORED INTO THE EXISTING APPROACH SLAB WITH NO. 3 DOWEL BARS AS PER THE DETAILS BELOW AND CMS 510. FOR TYPE 4-A CURB DETAILS NOT SHOWN, SEE SCD BP-5.1.

ALL LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK SHALL BE IN THE LINEAR FOOT BID PRICE FOR ITEM 609 - CURB, TYPE 4-A, AS PER PLAN.

DIMENSIONS FOR TYPICAL DOWEL BAR			FOR INFORMATION ONLY		
X	Y	LENGTH	WEIGHT PER BAR	# BARS REQ.	TOTAL WEIGHT
6″	8″	12.375″	0.39	16	6.24







DEBRIS REMOVAL DETAIL

(INCLUDE APPROACH SLABS ON EACH SIDE OF STRUCTURE.)

ITEM SPECIAL - DEBRIS REMOVAL

THIS WORK SHALL INCLUDE THE REMOVAL OF ALL ACCUMULATED DEBRIS ALONG THE BRIDGE PARAPETS. THE CONTRACTOR SHALL REMOVE ALL ACCUMULATED DEBRIS IN FRONT OF AND INSIDE OF THE BRIDGE SCUPPERS. VEGETATION GROWING IN ALL LONGITUDINAL AND TRANSVERSE JOINTS WITHIN THE SWEEPING AREA SHALL BE INCLUDED FOR REMOVAL BY SWEEPING, SHOVELING, ETC. AS SHOWN IN THE DETAILS OF THIS PLAN. THE MATERIAL REMOVED SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT-OF-WAY IN ACCORDANCE WITH CMS 105.17.

IF THE CONTRACTOR CHOOSES MECHANICAL MEANS OF PERFORMING THE WORK, CARE SHALL BE TAKEN TO AVOID DAMAGE TO PASSING TRAFFIC.

THE CONTRACTOR SHALL BE AWARE OF EXISTING DRAINAGE STRUCTURES AND NOT SWEEP DEBRIS INTO THEM.

THE DEPARTMENT WILL MEASURE DEBRIS REMOVAL BASED ON THE LENGTH OF SHOULDER CLEANED, COMPLETED AND ACCEPTED, ALONG THE GIVEN STRUCTURE, AND WILL INCLUDE ALL WORK DONE ON SCUPPERS AND JOINTS WITHIN THE SHOULDER LIMITS.

ALL OF THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM SPECIAL - DEBRIS REMOVAL.

DESIGN AGENCY
O.D.O.T. DISTRICT 11
PLANNING AND ENGINEERING

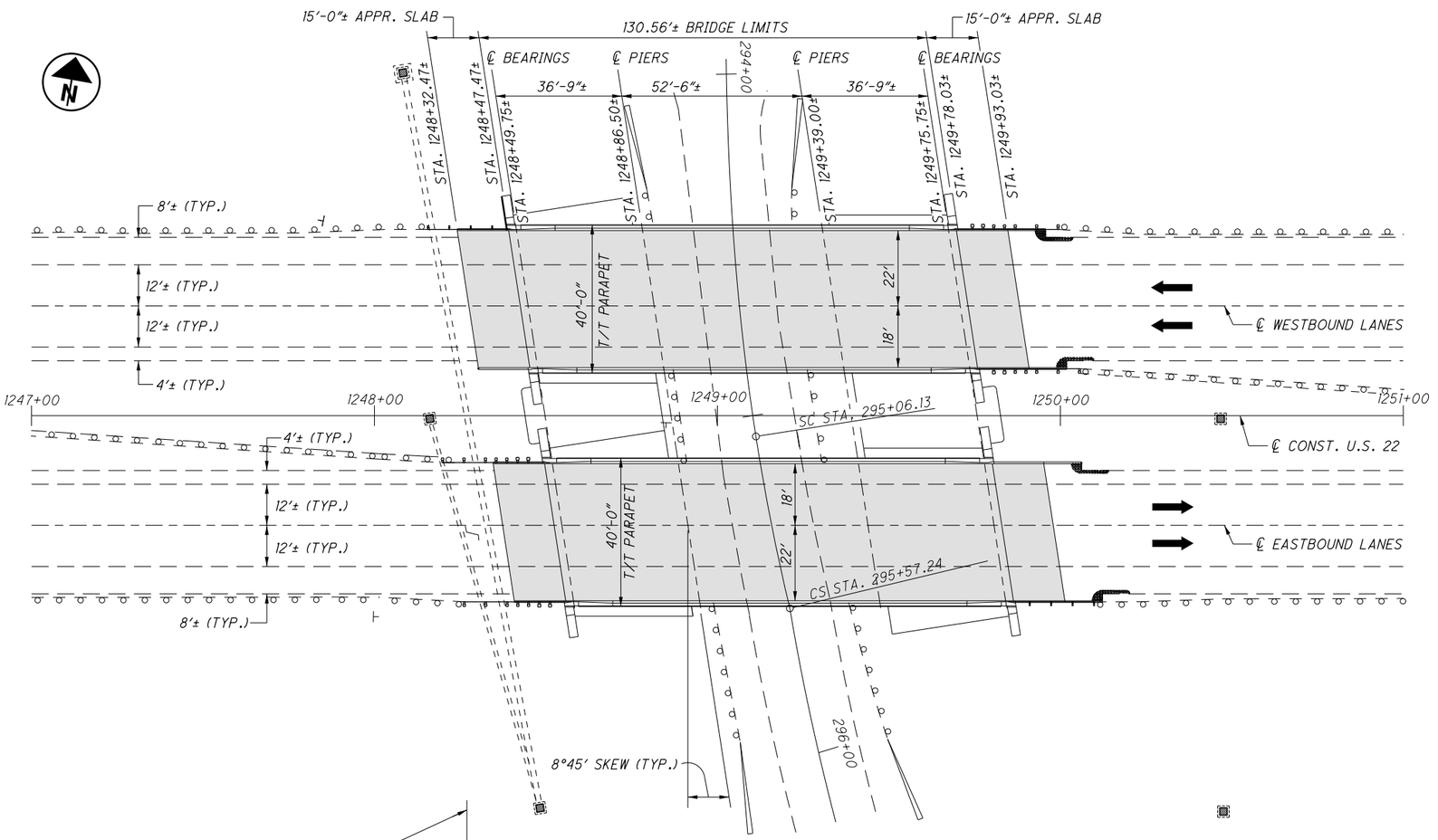
DESIGNED JJF | DRAWN JJF | REVIEWED RPT | DATE 9/4/19
CHECKED DAH | REVISED XXX | STRUCTURE FILE NUMBER 3401294, 3401324

STRUCTURE DETAILS
BRIDGE NO. HAS-22-2284 L&R
U.S. 22 OVER WHEELING & LAKE ERIE R.R.

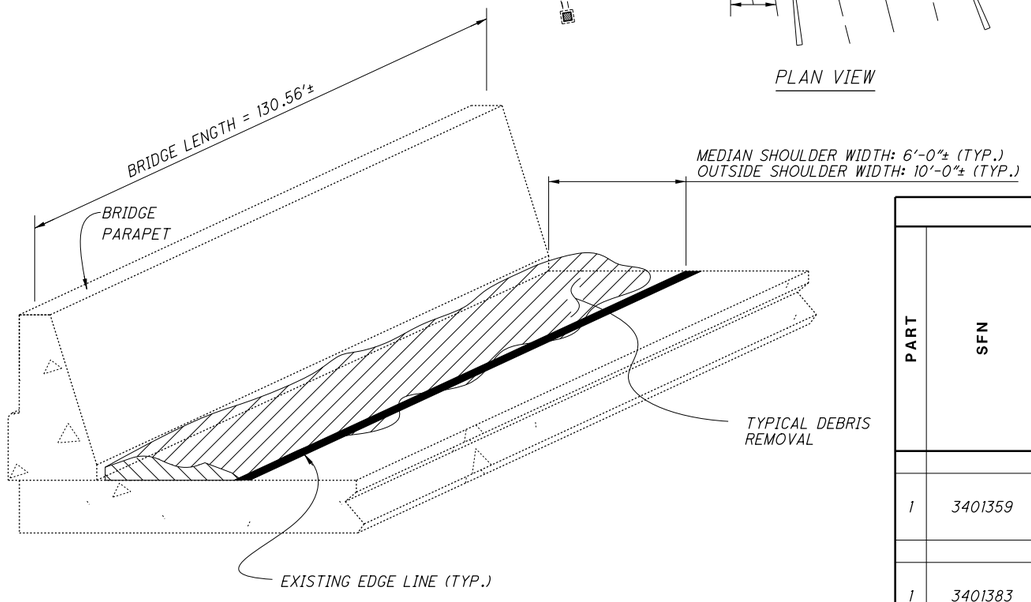
HAS-22-21.47
PID No. 105281

2 / 2

43
46



PLAN VIEW



DEBRIS REMOVAL DETAIL

(INCLUDE APPROACH SLABS ON EACH SIDE OF STRUCTURE.)

NOTES:

1. FOR ITEM SPECIAL - DEBRIS REMOVAL NOTE, SEE SHEET 43.

LEGEND

ITEM 512, SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN

EXISTING STRUCTURE

TYPE: COMPOSITE REINFORCED CONCRETE DECK ON STEEL BEAMS WITH SEMI-INTEGRAL ABUTMENTS
SPANS: 36'-9"±, 52'-6"±, 36'-9"± C/C BEARINGS
ROADWAY: 40'-0"± T/T PARAPET
LOADING: HS25 (CASE I) AND ALTERNATE MILITARY LOADING
SKEW: 8° 45' 00"± R.F.
APPROACH SLABS: 15'-0"± (AS-1-81)
ALIGNMENT: TANGENT
WEARING SURFACE: 1"± MONOLITHIC CONCRETE
SUPERELEVATION: 3/16"/FT.
STRUCTURAL FILE NUMBERS: 3401359, 3401383
DATE BUILT: 1962
DISPOSITION: TO BE REPAIRED
DECK AREA: 5222 S.F. (BOTH LT. & RT.)
LATITUDE: N 40° 19' 40.14"
LONGITUDE: W 80° 54' 13.85"

PROPOSED WORK

1. REMOVE DEBRIS.
2. SEAL BRIDGE DECK AND APPROACH SLABS WITH HMWM RESIN.

HAS-22-2362 L&R (SFN: 3401359, 3401359) DECK SEALING SUBSUMMARY

PART	SFN	BR. NO.	STATION FROM	STATION TO	SIDE	LENGTH FT.	WIDTH FT.	AREA SQ. FT.	SPECIAL NO. OF SHOULDERS	SPECIAL DEBRIS REMOVAL FT.	512 SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN SQ. YD.	FUNDING
			1248+32.47	1248+47.47		15	40	600	2	30	67	
1	3401359	HAS-22-2362	1248+47.47	1249+78.03	W.B.	130.56	40	5222	2	261	580	
			1249+78.03	1249+93.03		15	40	600	2	30	67	
											0	
			1248+32.47	1248+47.47		15	40	600	2	30	67	
1	3401383	HAS-22-2362	1248+47.48	1249+78.03	E.B.	130.56	40	5222	2	261	580	
			1249+78.03	1249+93.03		15	40	600	2	30	67	
TOTALS CARRIED TO GENERAL SUMMARY										642	1,428	02/NHS/BR

DESIGN AGENCY
O.D.O.T. DISTRICT 11
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
JJF	JJF	RPT	9/4/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DAH	XXX	3401359, 3401383	

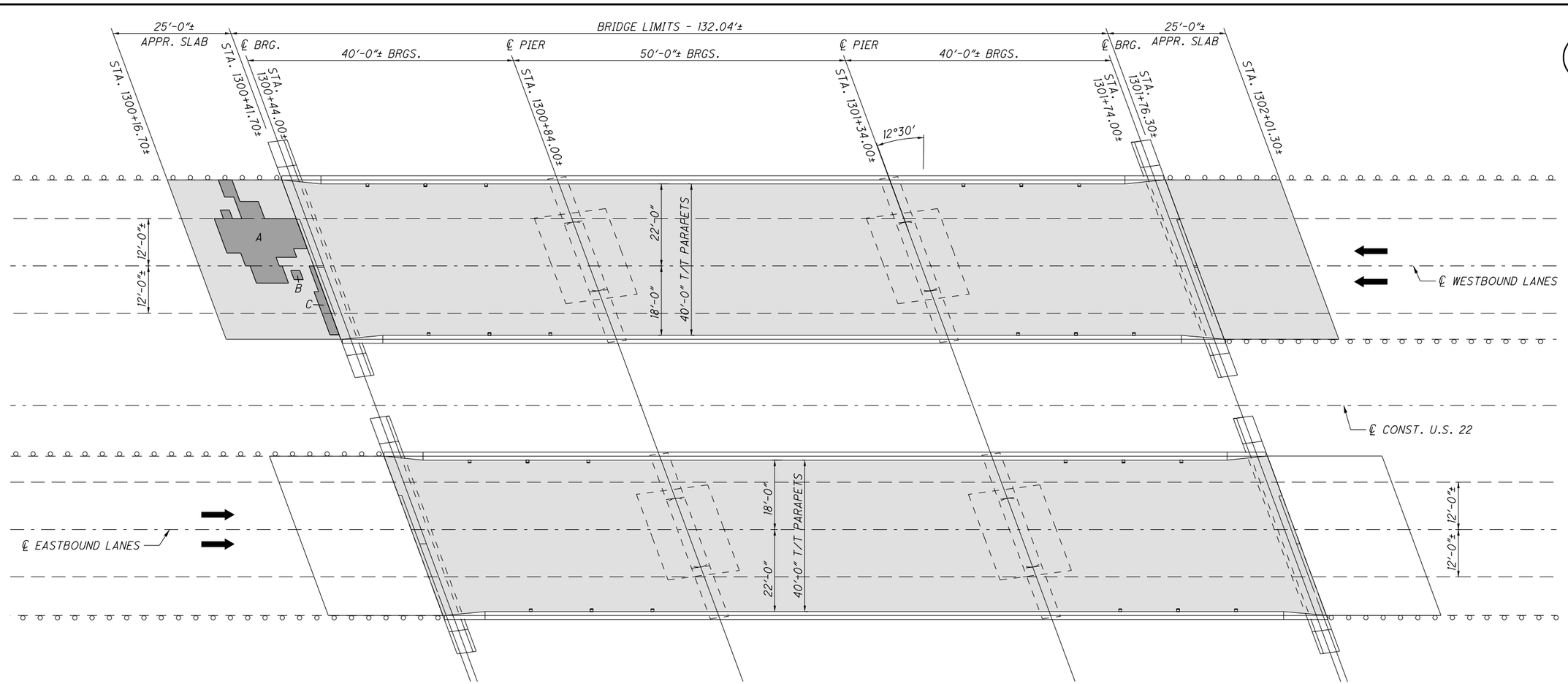
SITE PLAN
BRIDGE NO. HAS-22-2362 L&R
U.S. 22 OVER S.R. 151

HAS-22-21.47
PID No. 105281

1 / 1

44
46

I:\Project Data\10528\Design\Roadway\Sheets\10528LST002.dgn Sheet 16-SEP-2019 10:15AM dhoffmal



PLAN VIEW

LEGEND

- ITEM 844, CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
- ITEM 512, SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN

CALCULATIONS:

ITEM 519, PATCHING CONCRETE BRIDGE DECK - TYPE A

- (A) 217 SQ FT
- (B) 4 SQ FT
- (C) 25 SQ FT

TOTAL = 246 SQ FT

246 SQ FT ÷ 9 = 27.33 SQ YD **USE 28 SQ YD**

(02/NHS/BR)

NOTES:

1. THE APPROACH SLAB PATCHING AREAS WERE OBTAINED BY FIELD INSPECTION ARE TO BE CONSIDERED APPROXIMATE. ACTUAL AREAS SHALL BE IN ACCORDANCE WITH PROPOSAL NOTE 512, AND AS DIRECTED BY THE ENGINEER. ALLOWANCES FOR DETERIORATION AFTER INSPECTION HAVE BEEN INCLUDED IN THE QUANTITY.
3. FOR ITEM 512, SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN QUANITITIES, SEE SHEET 46.
4. ALL QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

EXISTING STRUCTURE (HAS-22-2460L)

TYPE: THREE SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK SLAB & PIERS AND INTEGRAL ABUTMENTS
SPANS: 40'-0"±, 50'-0"±, 40'-0"± C/C BEARINGS
ROADWAY: 40'-0"± F/F PARAPETS
LOADING: HS20-44
SKEW: 12° 00' 00"± R.F.
APPROACH SLABS: 25'-0"± (AS-1-67)
ALIGNMENT: TANGENT
WEARING SURFACE: 1"± MONOLITHIC CONCRETE
SUPERELEVATION: 3/16"/FT.
STRUCTURAL FILE NUMBER: 3401413
DATE BUILT: 1970
DISPOSITION: TO BE REPAIRED
DECK AREA: 5282 S.F.
LATITUDE: N 40° 19' 37.38"
LONGITUDE: W 80° 53' 07.06"

PROPOSED WORK

1. REPAIR APPROACH SLAB.
2. REMOVE DEBRIS.
3. SEAL BRIDGE DECK AND APPROACH SLABS WITH HMWM RESIN.

EXISTING STRUCTURE (HAS-22-2460R)

TYPE: THREE SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 40'-0"±, 50'-0"±, 40'-0"± C/C BEARINGS
ROADWAY: 44'-0"± F/F PARAPETS
LOADING: HS20
SKEW: 12° 00' 00"± R.F.
APPROACH SLABS: 25'-0"± (AS-1-54)
ALIGNMENT: TANGENT
WEARING SURFACE: 1"± MONOLITHIC CONCRETE
SUPERELEVATION: 3/16"/FT.
STRUCTURAL FILE NUMBER: 3401448
DATE BUILT: 1962
DISPOSITION: TO BE REPAIRED
DECK AREA: 5282 S.F.
LATITUDE: N 40° 19' 37.38"
LONGITUDE: W 80° 53' 07.06"

PROPOSED WORK

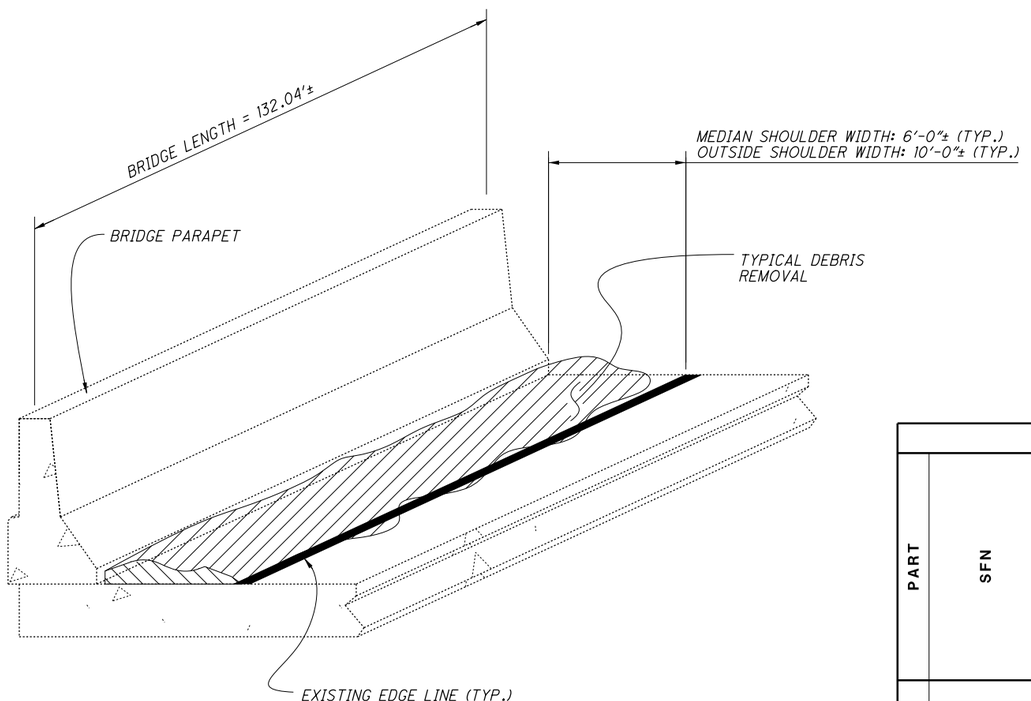
1. MILL AND FILL APPROACH SLABS.
2. REMOVE DEBRIS.
3. SEAL BRIDGE DECK WITH HMWM RESIN.

DESIGN AGENCY
O.D.O.T. DISTRICT 11
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
JJF	JJF	RPT	9/4/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DAH	XXX	3401413, 3401448	

SITE PLAN
BRIDGE NO. HAS-22-2460 L&R
U.S. 22 OVER OHI-RAIL CORP.

HAS-22-21.47
PID No. 105281



DEBRIS REMOVAL DETAIL

(INCLUDE APPROACH SLABS ON EACH SIDE OF STRUCTURE.)

NOTES:

1. FOR ITEM SPECIAL - DEBRIS REMOVAL NOTE, SEE SHEET 43.

HAS-22-2460 L&R (SFN:3401413, 3401448) DECK SEALING SUBSUMMARY

PART	SFN	BR. NO.	STATION FROM	STATION TO	SIDE	BRIDGE LENGTH FT.	DECK WIDTH FT.	BRIDGE DECK AREA SQ. FT.	SPECIAL NO. OF SHOULDERS	SPECIAL DEBRIS REMOVAL FT.	512 SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN SQ. YD.	FUNDING
1	3401413	HAS-22-2460L	1300+41.70	1301+76.30	W.B.	132.04	40	5282	2	264	587	
1	3401448	HAS-22-2460R	1300+41.70	1301+76.30	E.B.	132.04	40	5282	2	264	587	
				TOTALS CARRIED TO GENERAL SUMMARY						528	1,174	02/NHS/BR

DESIGNED JJF | DRAWN JJF | REVIEWED RPT | DATE 9/4/19
CHECKED DAH | REVISED XXX | STRUCTURE FILE NUMBER 3401413,3401448

DESIGN AGENCY
O.D.O.T. DISTRICT 11
PLANNING AND ENGINEERING

STRUCTURE DETAILS
BRIDGE NO. HAS-22-2460 L&R
U.S. 22 OVER OHI-RAIL CORP.

HAS-22-21.47
PID No. 105281

2 / 2

46
46