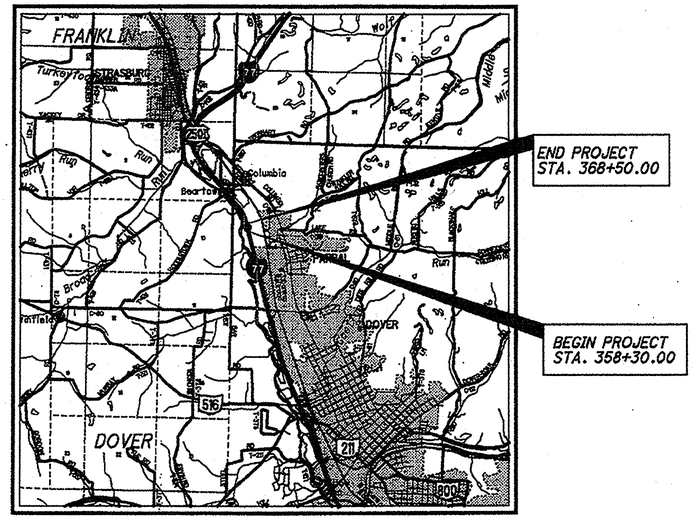
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

TUS-77-25.95

DOVER TOWNSHIP
TUSCARAWAS COUNTY



LOCATION MAP

LATITUDE: 40°33'50" LONGITUDE: 81°30'30"

SCALE IN MILES

0 1 2 3 4

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2015)	36300
DESIGN YEAR ADT (2035)	43200
DESIGN HOURLY VOLUME (2035)	3890
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	19%
DESIGN SPEED	70 MPH
LEGAL SPEED	70 MPH
DESIGN FUNCTIONAL CLASSIFICATION: RURAL INTERSTATE	
NHS PROJECT	YES

DESIGN EXCEPTIONS

NONE

INDEX OF SHEETS:

PROJECT DESCRIPTION

REMOVE BRIDGES IDENTIFIED AS TUS-77-2595 L&R OVER AN ACCESS ROAD AND ABANDONED RAILROAD. CONSTRUCT EMBANKMENT AND ASSOCIATED ROADWAY FEATURES. TRAFFIC MAINTAINED BY CONSTRUCTION OF A TEMPORARY ROAD.

PROJECT EARTH DISTURBED AREA:	13.1 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	9.3 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	22.4 ACRES

LIMITED ACCESS

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

2013 SPECIFICATIONS

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

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

UNDER AUTHORITY OF SECTION 4511.21, DIVISION (H) OF THE OHIO REVISED CODE, THE REVISED PRIMA FACIE SPEED LIMITS AS INDICATED HEREIN ARE DETERMINED TO BE REASONABLE AND SAFE, AND ARE HEREBY ESTABLISHED FOR THE DURATION OF THIS PROJECT. THE PRIMA FACIE SPEED LIMIT OF LIMITS HEREBY ESTABLISHED SHALL BECOME EFFECTIVE WHEN APPROPRIATE SIGNS GIVING NOTICE THEREOF ARE ERECTED.

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS UNDERGROUND
PROTECTION SERVICE CALL: **1-800-925-0988**

PLAN PREPARED BY:
Gannett Fleming
4151 EXECUTIVE PARKWAY, SUITE 350
WESTERVILLE, OHIO 43081

ENGINEERS SEAL:

STATE OF OHIO
MATTHEW T. O'DONNELL
E-55646
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Matthew T. O'Donnell
DATE: 10/29/13

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
										800	1/17/14	WATERWAY
BP-3.1	4/20/12	RM-1.1	1/18/13	DM-1.1	1/18/13	TC-41.20	10/18/13	MT-95.30	7/19/13			PERMIT
BP-9.1	7/19/13	RM-4.2	10/15/10	DM-1.2	1/18/13	TC-41.30	10/18/13	MT-95.40	7/19/13	832	1/17/14	CONDITIONS
				DM-1.4	1/18/13	TC-41.40	10/18/13	MT-95.71	7/19/13	836	1/18/13	4/22/13
				DM-4.2	7/20/12	TC-41.50	10/18/13	MT-99.20	7/19/13	863	10/19/12	
F-2.1	7/19/13	HW-1.1	1/18/13	DM-4.3	7/19/13	TC-42.20	10/18/13	MT-99.30	7/19/13			
F-3.3	7/19/13	HW-2.1	1/18/13	DM-4.4	7/20/12							
F-3.4	7/19/13	HW-2.2	1/18/13			TC-52.10	10/18/13	MT-100.00	7/19/13			
						TC-52.20	1/17/14	MT-101.70	1/17/14			
MGS-1.1	7/19/13							MT-102.20	7/19/13			
MGS-2.1	7/19/13					TC-61.10	1/17/14	MT-102.30	7/19/13			
MGS-5.3	7/19/13					TC-61.30	1/17/14	MT-105.10	7/19/13			
						TC-65.10	1/17/14					
						TC-65.11	1/17/14					

APPROVED Lloyd V. Machlin P.E., P.S.
DATE 1/31/14 DISTRICT DEPUTY DIRECTOR

APPROVED Jerry Wray
DATE 3-3-14 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E101(050)
PID NO. 87890
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
TUS-77-25.95
1/105

TUS - IR 77 25.950
140328 PID - 87890
Dist 11 5/22/2014

10/29/2013 2:16:28 PM
C:\PWWORK\NO\GFPW01\MRODWELL\DMS0280\A07998078\01.DGN

SOUTH CROSSOVER

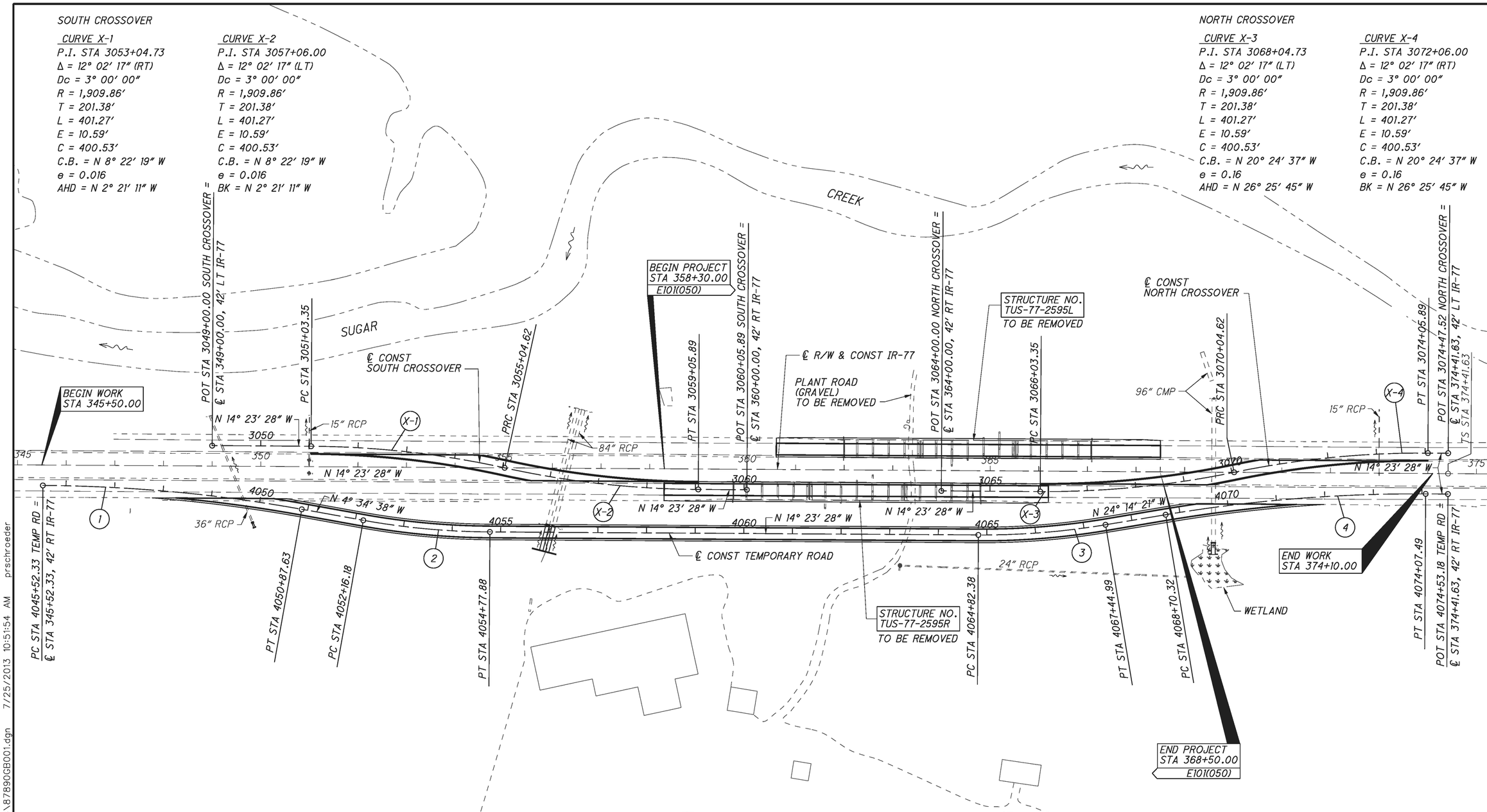
CURVE X-1
P.I. STA 3053+04.73
Δ = 12° 02′ 17″ (RT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 201.38′
L = 401.27′
E = 10.59′
C = 400.53′
C.B. = N 8° 22′ 19″ W
e = 0.016
AHD = N 2° 21′ 11″ W

CURVE X-2
P.I. STA 3057+06.00
Δ = 12° 02′ 17″ (LT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 201.38′
L = 401.27′
E = 10.59′
C = 400.53′
C.B. = N 8° 22′ 19″ W
e = 0.016
BK = N 2° 21′ 11″ W

NORTH CROSSOVER

CURVE X-3
P.I. STA 3068+04.73
Δ = 12° 02′ 17″ (LT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 201.38′
L = 401.27′
E = 10.59′
C = 400.53′
C.B. = N 20° 24′ 37″ W
e = 0.16
AHD = N 26° 25′ 45″ W

CURVE X-4
P.I. STA 3072+06.00
Δ = 12° 02′ 17″ (RT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 201.38′
L = 401.27′
E = 10.59′
C = 400.53′
C.B. = N 20° 24′ 37″ W
e = 0.16
BK = N 26° 25′ 45″ W



TEMPORARY ROAD

CURVE 1
P.I. STA 4048+20.64
Δ = 9° 48′ 50″ (RT)
Dc = 1° 50′ 00″
R = 3,125.22′
T = 268.31′
L = 535.30′
E = 11.50′
C = 534.65′
C.B. = N 9° 29′ 03″ W
e = 0.038
BK = N 14° 23′ 28″ W

CURVE 2
P.I. STA 4053+47.35
Δ = 9° 48′ 50″ (LT)
Dc = 3° 45′ 00″
R = 1,527.89′
T = 131.17′
L = 261.70′
E = 5.62′
C = 261.38′
C.B. = N 9° 29′ 03″ W
e = 0.056

CURVE 3
P.I. STA 4066+14.01
Δ = 9° 50′ 53″ (LT)
Dc = 3° 45′ 00″
R = 1,527.89′
T = 131.63′
L = 262.61′
E = 5.66′
C = 262.29′
C.B. = N 19° 18′ 55″ W
e = 0.056

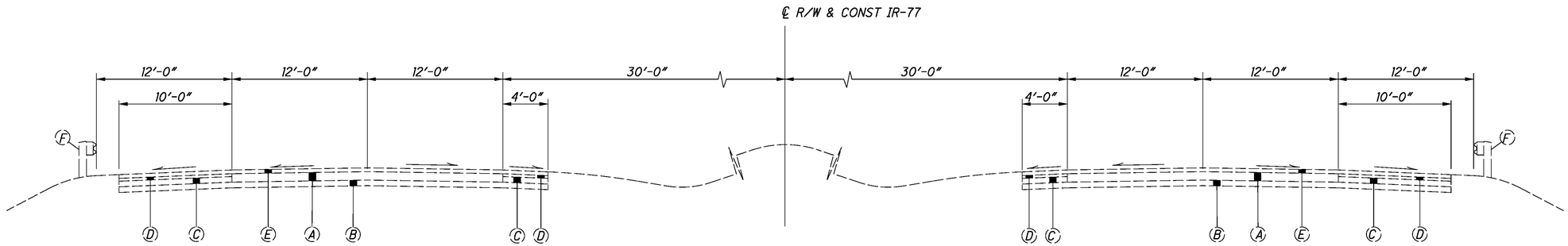
CURVE 4
P.I. STA 4071+39.57
Δ = 9° 50′ 53″ (RT)
Dc = 1° 50′ 00″
R = 3,125.22′
T = 269.25′
L = 537.17′
E = 11.58′
C = 536.50′
C.B. = N 19° 18′ 55″ W
e = 0.038

THERE ARE NO EXISTING LANDSCAPED AREAS WITHIN THE WORK LIMITS.

HORIZONTAL SCALE IN FEET
0 50 100 200

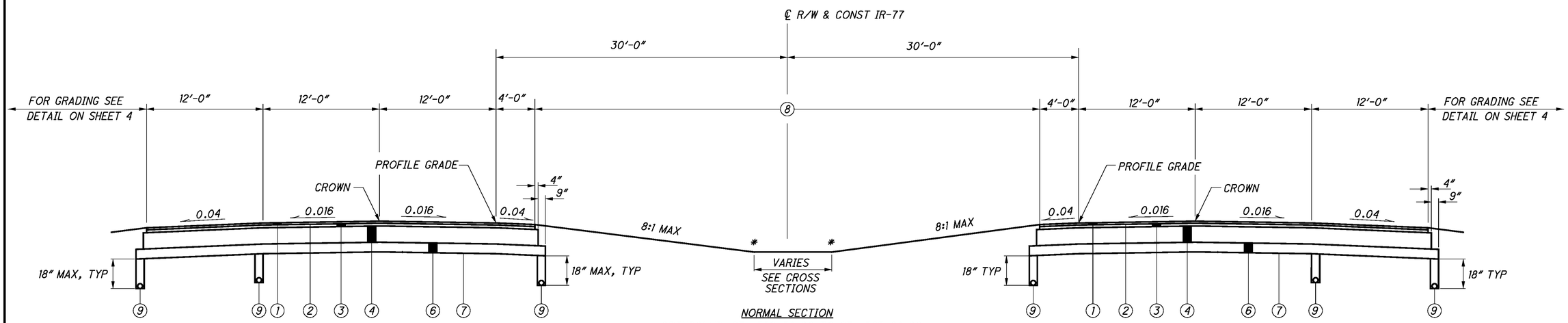
SCHEMATIC PLAN

TUS-77-25.95



EXISTING NORMAL SECTION

STA 358+30.00 TO STA 368+50.00



NORMAL SECTION

NORTHBOUND: STA 359+30.00 TO STA 365+20.00
SOUTHBOUND: STA 361+60.00 TO STA 367+50.00

EXISTING LEGEND

- (A) EXISTING 9" REINFORCED CONCRETE PAVEMENT
- (B) EXISTING SUBBASE
- (C) EXISTING AGGREGATE BASE
- (D) EXISTING BITUMINOUS AGGREGATE BASE
- (E) EXISTING 4" ASPHALT CONCRETE
- (F) EXISTING GUARDRAIL

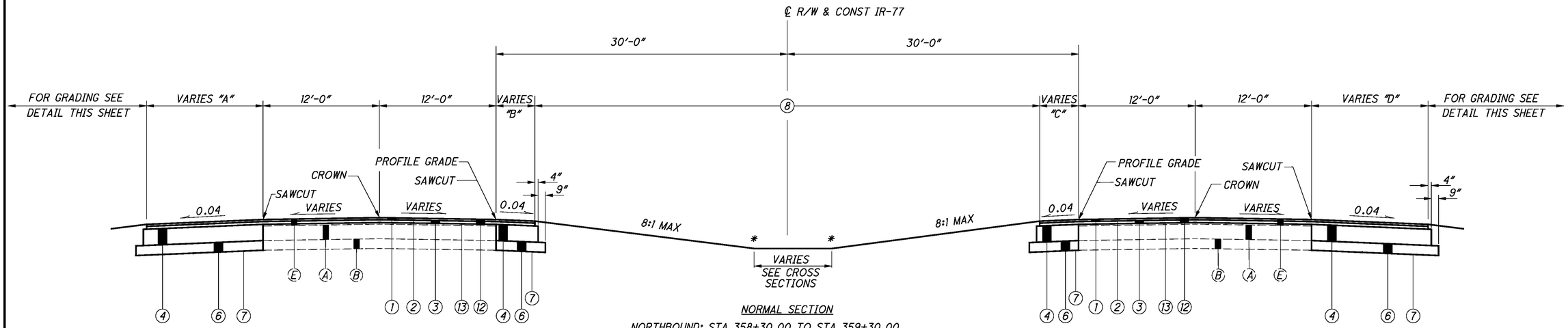
LEGEND

1. ITEM 442 - 1¼" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446), AS PER PLAN
2. ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL/SY)
3. ITEM 442 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446)
4. ITEM 301 - 9" ASPHALT CONCRETE BASE, PG 64-22
5. NOT USED
6. ITEM 304 - 6" AGGREGATE BASE
7. ITEM 204 - SUBGRADE COMPACTION
8. ITEM 659 - SEEDING AND MULCHING
9. ITEM 605 - 6" BASE PIPE UNDERDRAINS
10. ITEM 606 - GUARDRAIL, TYPE MGS
11. ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
12. ITEM 254 - 3" PAVEMENT PLANING, ASPHALT CONCRETE
13. ITEM 407 - TACK COAT (0.075 GAL/SY)

* 4' ROUNDING

TYPICAL SECTIONS

TUS-77-25.95



NORMAL SECTION

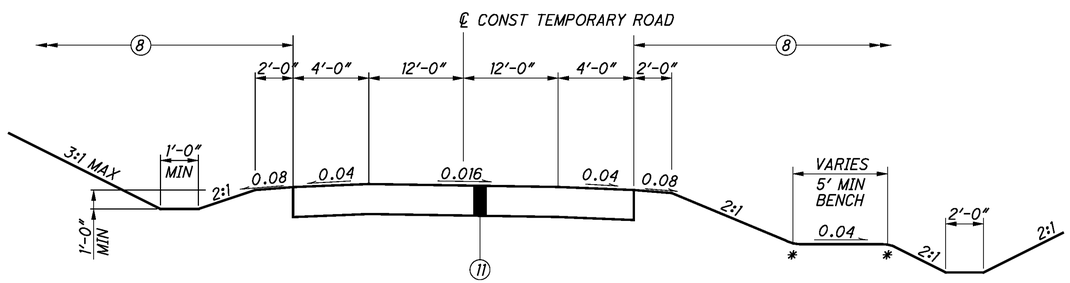
NORTHBOUND: STA 358+30.00 TO STA 359+30.00
STA 365+20.00 TO STA 366+20.00
SOUTHBOUND: STA 360+60.00 TO STA 361+60.00
STA 367+50.00 TO STA 368+50.00

STA TO STA	A	B
360+60.00 TO 360+92.50 360+92.50 TO 361+60.00	10.70' TO 12.0' 12.0'	
360+60.00 TO 360+69.00 360+69.00 TO 361+60.00		4.36' TO 4.0' 4.0'
367+50.00 TO 368+12.75 368+12.75 TO 368+50.00	12.0' 12.0' TO 10.51'	
367+50.00 TO 368+42.75 368+42.75 TO 368+50.00		4.0' 4.0' TO 4.29'

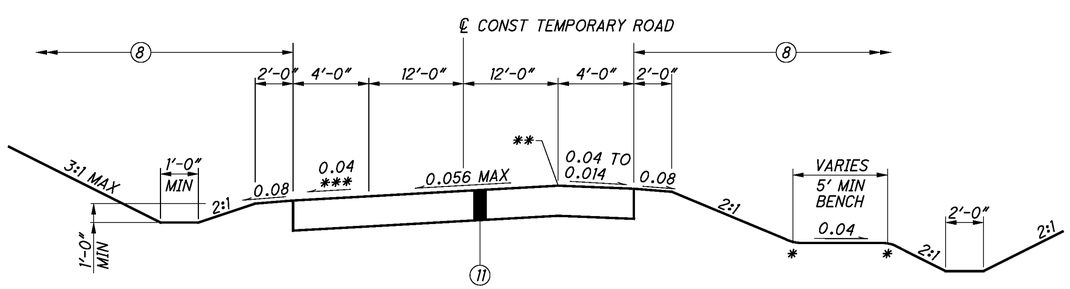
ALL SHOULDER TAPERS ARE 25:1

STA TO STA	C	D
358+30.00 TO 358+38.50 358+38.50 TO 359+30.00	3.66' TO 4.0' 4.0'	
358+30.00 TO 358+46.75 358+46.75 TO 359+30.00		11.33' TO 12.0' 12.0'
365+20.00 TO 366+13.00 366+13.00 TO 366+20.00	4.0' 4.0' TO 3.72'	
365+20.00 TO 365+80.50 365+80.50 TO 366+20.00		12.0' 12.0' TO 10.42'

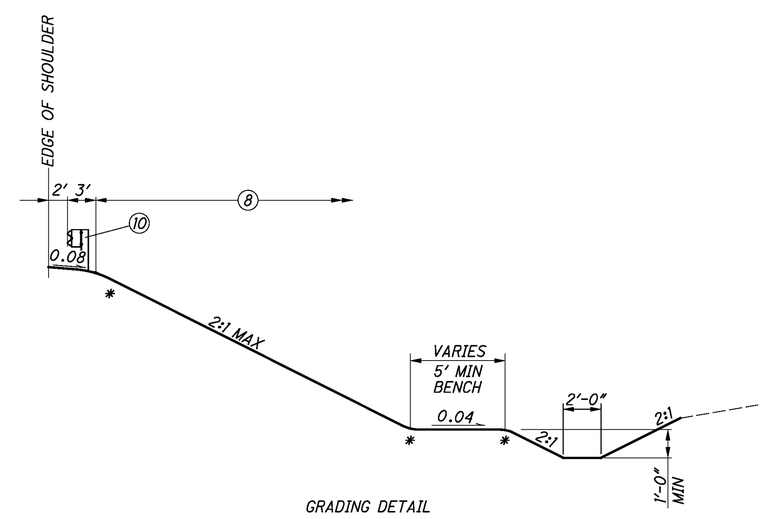
ALL SHOULDER TAPERS ARE 25:1



TEMPORARY ROAD NORMAL SECTION
STA 4056+01.00 TO STA 4063+59.00



TEMPORARY ROAD SUPERELEVATED SECTION
STA 4049+40.02 TO STA 4056+01.00
STA 4063+59.00 TO STA 4070+26.12



GRADING DETAIL

* 4' ROUNDING
** MAX GRADE BREAK 0.07
*** OR MATCH PAVEMENT CROSS SLOPE IF GREATER THAN 0.04

FOR LEGEND SEE SHEET 3

TYPICAL SECTIONS

TUS-77-25.95

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

RED HILL DEVELOPMENT
3596 STATE ROUTE #39 NW
DOVER, OH 44622
MR. CHRISTOPHER KIMBLE
330-343-1226

BRENDEL PRODUCING COMPANY
P.O. BOX 517
8215 ARLINGTON AVENUE NW
CANAL FULTON, OH 44614
MR. FRANK BRENDEL
330-854-4151 / 800-321-4000

AEP OHIO
301 CLEVELAND AVENUE SW
P. O. BOX 24400
CANTON, OH 44701
MR. RAY ZITNEY
330-438-7718

ENERVEST OPERATING, LLC
125 STATE ROUTE 43
SUITE 100
HARTVILLE, OH 44632
MR. ED HASS
330-587-1221

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE THE RIGHT OF WAY PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL
POSITIONING METHOD: GPS
MONUMENT TYPE: 3J ALUMINUM DISK STAMPED PROJECT CONTROL ON 36J LONG #6 REBAR SET IN CONCRETE

VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: 2009

HORIZONTAL POSITIONING
REFERENCE FRAME: NAD83 (CORS96)
ELLIPSOID: WGS84
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO NORTH ZONE (3401)
COMBINED SCALE FACTOR: 1.000096961
ORIGIN OF COORDINATE SYSTEM: N 0.00, E 0.00

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR:
1 METER = 3.280833333 U.S. SURVEY FEET.

EXISTING PLANS

EXISTING PLANS ENTITLED TUS-21-30.64 (1962) MAY BE INSPECTED IN THE ODOT DISTRICT 11 OFFICE IN NEW PHILADELPHIA.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CLEARING AND GRUBBING

THE DEPARTMENT HAS NOT MARKED INDIVIDUAL TREES AND STUMPS FOR REMOVAL. UNLESS SPECIFICALLY DESIGNATED AS "DO NOT DISTURB" IN THE PLANS, REMOVE ALL TREES AND STUMPS WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201 CLEARING AND GRUBBING.

PROTECTION OF RIGHT-OF-WAY LANDSCAPING

PRIOR TO BEGINNING WORK, THE CONTRACTOR, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY WILL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT OF WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS) A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE.

CONSTRICT ALL ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED AS 30 FEET FROM THE EDGE OF PAVEMENT.

SUBMIT A WRITTEN REQUEST TO THE PROJECT ENGINEER TO USE ANY AREA OUTSIDE THESE LIMITS. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREA AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. USE OF THESE AREAS FOR DISPOSAL OF WASTE MATERIAL AND CONSTRUCTION DEBRIS, EXCAVATION OF BORROW MATERIAL AND PLACEMENT OF PORTABLE PLANTS IS PROHIBITED. THE REQUEST MUST BE APPROVED, IN WRITING, BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA.

ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION LIMITS AS DEFINED ABOVE WILL BE REPLACED IN KIND OR AS APPROVED BY THE PROJECT ENGINEER.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SEEDING AND MULCHING	52617 SQ. YD.
659, REPAIR SEEDING AND MULCHING	2631 SQ. YD.
659, INTER-SEEDING	2631 SQ. YD.
659, COMMERCIAL FERTILIZER	7.11 TON
659, LIME	10.88 ACRES
659, WATER	143 M. GAL.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

MONUMENT ASSEMBLIES

CONSTRUCT MONUMENT ASSEMBLIES IN ACORDANCE WITH THE DETAILS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON THE RIGHT OF WAY PLANS.

THE FOLLOWING QUANTITY FROM THE RIGHT OF WAY PLANS IS PROVIDED IN THE GENERAL SUMMARY:

ITEM 623, MONUMENT ASSEMBLY 3 EACH

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204, PROOF ROLLING 4 HOURS

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 607.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

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

ITEM 606 - ANCHOR ASSEMBLY, TYPE E

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

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

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

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

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

ITEM 442 ASPHALT CONCRETE SURFACE COURSE,12.5MM, TYPE B (446), AS PER PLAN

FOLLOW SPECIFICATION 703.05 EXCEPT DO NOT USE COARSE AGGREGATE FROM A SOURCE DESIGNATED 'SR' OR 'SRH' ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM.

REVIEW OF DRAINAGE FACILITIES

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

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

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

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

SURVEY CONTROL POINTS

POINT NO.	DESCRIPTION	STATION	OFFSET	SIDE	PROJECT GROUND COORDINATES (FT.)		OHIO STATE PLANE GRID COORDINATES (M)		ELEVATION
					NORTHING	EASTING	NORTHING	EASTING	
3	5/8" REBAR W/RED CAP MARKED TRAVERSE POINT	340+45.38	69.16	RT	326341.5512	2245075.5164	99469.1038	684300.3861	897.91
4	5/8" REBAR W/RED CAP MARKED TRAVERSE POINT	348+66.08	71.94	RT	327137.1970	2244874.2340	99711.6171	684239.0351	904.26
5	RAILROAD SPIKE	353+00.24	66.02	RT	327556.2595	2244760.5897	99839.3476	684204.3962	913.08
6	RAILROAD SPIKE	358+67.22	60.38	RT	328104.0487	2244614.2125	100006.3141	684159.7804	924.53
1	3/4" REBAR W/3" ALUMINUM DISC MARKED PROJECT CONTROL CP01	360+53.99	67.76	LT	328253.1040	2244443.6750	100051.7462	684107.8004	926.70
7	COTTON GIN SPIKE	366+12.76	59.77	RT	328826.0558	2244428.3211	100226.3823	684103.1205	930.37
8	COTTON GIN SPIKE	368+45.00	65.01	RT	329052.2931	2244375.6752	100295.3395	684087.0740	929.34
2	3/4" REBAR W/3" ALUMINUM DISC MARKED PROJECT CONTROL CP02	368+76.88	70.12	LT	329049.5870	2244236.8650	100294.5147	684044.7646	928.45
9	COTTON GIN SPIKE	371+51.70	61.56	RT	329348.5106	2244296.1102	100385.6268	684062.8226	926.72
10	COTTON GIN SPIKE	379+40.64	62.28	RT	330113.6380	2244076.7744	100618.8381	683995.9689	914.61

CALCULATED PRS
CHECKED SSC

GENERAL NOTES

TUS-77-25.95

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSSOVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION, AND/OR LOCATION, OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION, AND/OR LOCATION, OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING LOCATION AND/OR ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

PIPE CONNECTIONS TO CORRUGATED METAL STRUCTURES

CONNECTIONS OF PROPOSED LONGITUDINAL DRAINAGE TO CORRUGATED METAL STRUCTURES SHALL BE MADE BY MEANS OF A SHOP FABRICATED OR FIELD WELDED STUB ON THE STRUCTURE. THE STUB SHALL MEET THE REQUIREMENTS OF 707 AND HAVE A MINIMUM LENGTH OF 2 FEET AND A MINIMUM WALL THICKNESS OF 0.064 INCHES.

THE LOCATION AND ELEVATION OF THE STUB ARE TO BE CONSIDERED APPROXIMATE AND MAY BE ADJUSTED BY THE ENGINEER TO AVOID CUTTING THROUGH JOINTS IN THE STRUCTURE.

THE FIELD WELDED JOINT, IF USED, SHALL BE THOROUGHLY CLEANED AND REGALVANIZED OR OTHERWISE SUITABLY REPAIRED. WELDING SHALL MEET THE REQUIREMENTS OF 513.21.

A MASONRY COLLAR, AS PER STANDARD DRAWING DM-1.1, WILL BE REQUIRED TO CONNECT THE LONGITUDINAL DRAINAGE TO THE STUB, WHEN PIPE OTHER THAN CORRUGATED METAL IS PROVIDED FOR THE LONGITUDINAL DRAINAGE.

PAYMENT FOR CUTTING INTO THE STRUCTURE AND PROVIDING THE CONNECTION DESCRIBED, SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 611 OR 522.

TEMPORARY DRAINAGE ITEMS

TEMPORARY DRAINAGE ITEMS LABELED ON THE MAINTENANCE OF TRAFFIC PLAN ARE ITEMIZED ON THE MOT PLANS. PAYMENT FOR THE TEMPORARY DRAINAGE ITEMS ARE INCLUDED IN ITEM 615 LUMP SUM.

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT. ENHANCED BANKFULL WIDTH DITCHES WILL BE CONSTRUCTED IN THE MEDIAN FROM STA.351+00 TO STA.373+00.

INSPECTION OF BRIDGE FOR BATS

PRIOR TO ANY DEMOLITION/REMOVAL OF THE EXISTING BRIDGE, THE CONTRACTOR SHALL CAREFULLY EXAMINE THE UNDERSIDE OF THE STRUCTURE FOR THE PRESENCE OF BATS. IF ANY BATS ARE FOUND, THE ODOT DISTRICT 11 ENVIRONMENTAL COORDINATOR SHALL BE CONTACTED AT 330-339-6633 BEFORE COMMENCING WITH THE BRIDGE'S DEMOLITION.

DRINKING WATER SOURCE PROTECTION AREA

THE PROJECT LIES WITHIN THE DRINKING WATER SOURCE PROTECTION AREA MANAGED BY THE CITY OF DOVER. BEST MANAGEMENT PRACTICES SHALL BE EXERCISED WITH REGARD TO CONDUCTING VEHICLE MAINTENANCE, REFUELING, AND THE STORAGE OF POTENTIAL WATER CONTAMINANTS WITHIN THE PROJECT AREA. IN THE EVENT OF A SPILL OF A POTENTIAL WATER CONTAMINANT THE CONTRACTOR SHALL CONTACT THE OHIO EPA SPILL RESPONSE SECTION AT 1-800-282-9378 AND THE CITY OF DOVER ASSISTANT WATER SUPERINTENDENT, RICK KEMPHFER AT 330-795-8564.

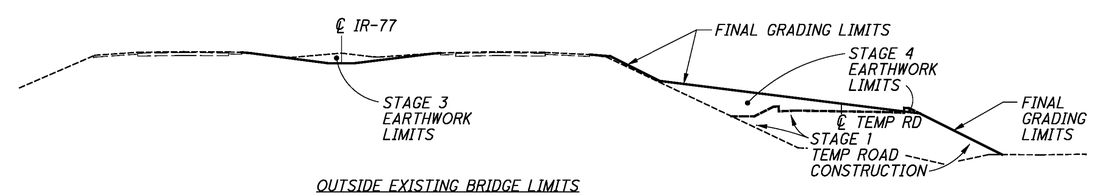
WETLAND AVOIDANCE

A WETLAND AREA HAS BEEN IDENTIFIED IN THE PROJECT VICINITY. THIS WETLAND IS SHOWN ON SHEET 65 OF THE PLANS. THE CONTRACTOR SHALL EXERCISE CAUTION TO ASSURE THAT NO IMPACTS OCCUR TO THIS WETLAND AREA BEYOND THE CONSTRUCTION LIMITS SHOWN IN THE PLANS.

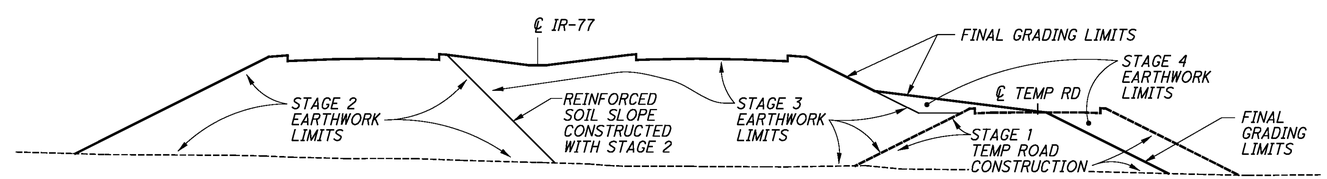
CROSS SECTION LEGEND

THE CROSS SECTION SHOWN BELOW HAS BEEN PROVIDED TO INDICATE THE EARTHWORK AREAS ASSOCIATED WITH THE MAINTENANCE OF TRAFFIC STAGED CONSTRUCTION AS OUTLINED IN THE PLANS FOR THE PROJECT.

PROPOSED DITCHES NOT SHOWN.



OUTSIDE EXISTING BRIDGE LIMITS



WITHIN EXISTING BRIDGE LIMITS

CALCULATED PRS
CHECKED SSC

GENERAL NOTES

TUS-77-25.95

ITEM 614, MAINTAINING TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON ROADWAYS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

1. ONLY DURING OFF-PEAK PERIODS (IE. ANY PERIOD OTHER THAN 6-9AM AND 3-6PM) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL NECESSARY FOR THE WORK ZONE FOR EACH CONSTRUCTION PHASE.
2. LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER AND AS OUTLINED IN THE SEQUENCE OF CONSTRUCTION NOTES BELOW. 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
3. THIS PROJECT SHALL BE CONSTRUCTED PER THE SEQUENCE OF CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE ENGINEER.
4. TWO (2) 12' LANES SHALL BE MAINTAINED AT ALL TIMES IN BOTH DIRECTIONS. PROVIDE A MINIMUM OF 1.5' SHY DISTANCE TO THE FACE OF THE PORTABLE CONCRETE BARRIER.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

SEQUENCE OF CONSTRUCTION

STAGE-1

TRAFFIC ON IR-77 SHALL BE MAINTAINED ON EXISTING LANES. NO LANE CLOSURES OUTSIDE OF THE PERMITTED LANE CLOSURE TIMES WILL BE ALLOWED.

1. PLACE PORTABLE CONCRETE BARRIER (PCB) ON THE RIGHT SHOULDER OF NB IR-77 AS SHOWN AND CONSTRUCT THE TEMPORARY ROADWAY, INCLUDING ALL DRAINAGE CONDUITS REQUIRED FOR MOT. THE RIGHT LANE MAY BE CLOSED WITHIN THE PERMITTED LANE CLOSURE TIMES AS CONTAINED IN http://plcm.dot.state.oh.us/ FOR THE PURPOSE OF REMOVING THE RUMBLE STRIPS AND PLACING THE PCB.
2. PLACE PCB ON THE LEFT SHOULDERS OF IR-77 AS SHOWN AND CONSTRUCT THE CROSSOVERS, INCLUDING ALL DRAINAGE CONDUITS AND CROSSOVER LIGHTING REQUIRED FOR MOT. THE LEFT LANE MAY BE CLOSED WITHIN THE PERMITTED LANE CLOSURE TIMES FOR THE PURPOSE OF REMOVING THE RUMBLE STRIPS, MINIMAL CONSTRUCTION OF THE ADJOINING PAVEMENT, AND PLACING OF THE PCB.

STAGE-2

1. SHIFT NB IR-77 TRAFFIC ONTO THE TEMPORARY ROADWAY CONSTRUCTED IN STAGE-1 AS SHOWN.
2. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY PIER SUPPORTS UNDER THE NB IR-77 BRIDGE FROM STA. 362+00 TO STA. 363+00. SEE SHEETS 79 AND 80 FOR DETAILS.
3. SHIFT SB IR-77 TRAFFIC ONTO THE EXISTING NB IR-77 LANES AS SHOWN, USING CROSSOVERS CONSTRUCTED IN STAGE-1.
4. PERFORM BRIDGE DEMOLITION WORK IN THE EXISTING SB IR-77 LANES BETWEEN APPROX. STA. 360+00 AND STA. 369+00 AND BUILD NEW EMBANKMENT AND PAVEMENT.
5. INSTALL PROPOSED GUARDRAIL FOR THE SB IR-77 LANES.

STAGE-3

NB IR-77 SHALL BE MAINTAINED AS IN STAGE-2 ON THE TEMPORARY ROADWAY. SB IR-77 SHALL BE MAINTAINED ON THE NEWLY COMPLETED SB IR-77 LANES.

1. REMOVE THE CROSSOVERS BETWEEN THE EXISTING NB AND SB IR-77 INSTALLED IN STAGE-1.
2. PERFORM BRIDGE DEMOLITION WORK IN THE EXISTING NB IR-77 LANES BETWEEN APPROX. STA. 358+00 AND STA. 366+00 AND BUILD NEW EMBANKMENT AND PAVEMENT.
3. PERFORM MEDIAN GRADING TO THE FINAL ELEVATION.
4. INSTALL PROPOSED GUARDRAIL FOR THE NB IR-77 LANES.

STAGE-4

SB IR-77 SHALL BE MAINTAINED IN THE PROPOSED CONDITION. ALL WORK ZONE SIGNING, OTHER THAN "WORK ZONE AHEAD" AND "END ROAD WORK" SHALL BE REMOVED FOR THE SB DIRECTION. NB IR-77 SHALL BE MAINTAINED ON THE NEWLY COMPLETED NB LANES. THE FOLLOWING WORK SHALL BE PERFORMED:

1. REMOVE THE TEMPORARY ROAD, INSTALL PROPOSED GUARDRAIL AND COMPLETE GRADING AS SHOWN IN THE PLANS.

NOTIFICATION OF WORK ZONE LANE RESTRICTIONS

THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST EIGHTEEN (18) DAYS PRIOR TO IMPLEMENTATION OF ANY WORK ZONE RESTRICTIONS THAT WILL REDUCE THE WIDTH OR VERTICAL CLEARANCE OF ANY LANE ON WHICH TRAFFIC WILL BE MAINTAINED DURING CONSTRUCTION.

ITEM 614, MAINTAINING TRAFFIC (ESTIMATED QUANTITIES)

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	200 CU. YD.
ITEM 616, WATER	50 M. GAL.

EARTHWORK FOR MAINTAINING TRAFFIC

THE CROSS SECTION QUANTITIES ON SHEETS 60 TO 62 CONTAIN THE EARTHWORK QUANTITIES FOR EACH STAGE OF CONSTRUCTION.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PLAN FOR INFORMATION ONLY.

EXCAVATION FOR MAINTAINING TRAFFIC	9359 CU YD
EMBANKMENT FOR MAINTAINING TRAFFIC	9385 CU YD

WHEN UNDERCUTS ARE NECESSARY FOR MAINLINE PAVEMENT OR EMBANKMENT CONSTRUCTION, EVALUATE THE NEED FOR TEMPORARY ROAD UNDERCUTS IF WITHIN A CLOSE PROXIMITY TO THE MAINLINE UNDERCUTS. A GEOTECHNICAL EVALUATION SHOULD BE CONSIDERED TO DETERMINE IF THE EXISTING SOIL CONDITIONS ARE ADEQUATE TO SUPPORT THE TEMPORARY ROAD. ADDITIONAL SOIL BORINGS ALONG THE TEMPORARY ROAD ARE NOT NORMALLY REQUIRED.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER	2000 M. GAL

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 CMS 730.19.

WORK ZONE INCREASED PENALITIES 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 PENALITIES SIGN	4 EACH

ITEM 614, WORK ZONE SPEED LIMIT SIGN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, COVER DURING SUSPENSION OF WORK, AND SUBSEQUENTLY REMOVE WORK ZONE SPEED LIMIT (R2-1) (55 SPEED LIMIT) SIGNS AND SUPPORTS WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SPEED LIMIT SIGNS WITHIN THE REDUCED SPEED ZONE(S). THESE SIGNS SHALL BE RESTORED DURING SUSPENSION OR TERMINATION OF THE REDUCED SPEED LIMIT. THE EXPENSE OF COVERING OR REMOVAL AND RESTORATION OF EXISTING SPEED LIMIT OR MINIMUM SPEED LIMIT SIGNS SHALL BE INCLUDED IN THE PAY ITEM FOR THE WORK ZONE SPEED LIMIT SIGNS.

THE WORK ZONE SPEED LIMIT SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK THAT CAUSES THE WARRANTING CONDITION(S) TO OCCUR. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING REMOVAL OF THE WARRANTING CONDITION(S), OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY REMOVAL OF WARRANTING CONDITION(S) SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE.

CONSTRUCTION AND MATERIAL SPECIFICATIONS ITEM 614, PARAGRAPH 614.02(B), INDICATES THAT THE 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 REDUCTION IN THE DIRECTION OF THE WORK DOES NOT AUTOMATICALLY CONSTITUTE A SPEED REDUCTION IN THE OPPOSITE DIRECTION. A SPEED LIMIT REDUCTION IN THE OPPOSITE DIRECTION, IN SUCH CASE, IS APPROPRIATE ONLY IF CONDITIONS ARE EXPECTED TO HAVE AN IMPACT ON THE DIRECTIONAL TRAFFIC FLOW, AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL ERECT A WORK ZONE SPEED LIMIT SIGN IN ADVANCE OF THE WARRANTING CONDITION, AS DETAILED IN THE PLANS OR AS DIRECTED BY THE ENGINEER. THE SIGN SHALL BE MOUNTED ON BOTH SIDES OF A DIRECTIONAL ROADWAY OF DIVIDED HIGHWAYS. THE FIRST WORK ZONE SPEED LIMIT SIGN SHALL BE PLACED APPROXIMATELY 500 FEET IN ADVANCE OF THE LANE REDUCTION, SHIFT TAPER, OR OTHER ROADWAY OR SHOULDER RESTRICTION THAT WARRANTED THE WORK ZONE SPEED ZONE. ON UNDIVIDED HIGHWAYS THE SIGN SHALL BE MOUNTED ON THE RIGHT SIDE, APPROXIMATELY 250 FEET IN ADVANCE OF SUCH RESTRICTIONS. THE SIGN SHALL BE REPEATED EVERY 1 MILE FOR 55 MPH ZONES AND EVERY ONE-HALF MILE FOR 50 MPH AND 45 MPH ZONES. THESE SIGNS SHALL ALSO BE ERECTED IMMEDIATELY AFTER EACH OPEN ENTRANCE RAMP WITHIN THE ZONE.

THE SPEED LIMIT REDUCTION SHALL BE LIMITED TO ONLY THE PORTION OF THE PROJECT AND THE WORK THAT WARRANTED THE WORK ZONE SPEED LIMIT REDUCTION.

SPEED REDUCTION (SPEED ZONE AHEAD SYMBOL) SIGNS (W3-5) SHALL BE ERECTED IN ADVANCE OF THE SPEED REDUCTION, APPROXIMATELY 1250 FEET ON MULTI-LANE HIGHWAYS AND 500 FEET ON TWO-LANE HIGHWAYS.

A SIGN(S) TO INDICATE THE RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE ERECTED AT THE END OF ANY REDUCED SPEED ZONE. 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 CMS 730.19.

WORK ZONE SPEED LIMIT SIGNS SHALL BE MOUNTED ON TWO ITEM 630, GROUND MOUNTED SUPPORTS, NO. 3 POSTS, UNLESS MOUNTED ON A TEMPORARY SIGN SUPPORT PER SCD MT 105.10.

WORK ZONE SPEED LIMIT AND RELATED SIGN SIZES, PLACEMENT, SUPPORTS, ETC. SHALL BE PER THE OMUTCD, WITH TWO EXCEPTIONS: 1) EXPRESSWAY SIZE SPEED LIMIT SIGNS MAY BE USED ON FREEWAYS AND EXPRESSWAYS, IF NECESSARY; 2) THE HEIGHT OF SIGNS MOUNTED ON PORTABLE SUPPORTS SHOULD BE THE HEIGHT REQUIRED FOR GROUND-MOUNTED SIGNS BUT SHALL NOT BE MORE THAN 1 FOOT LOWER THAN THE HEIGHT REQUIRED BY THE OMUTCD, OR AS DIRECTED BY THE ENGINEER. PORTABLE SUPPORTS SHOULD NOT BE USED FOR A DURATION OF MORE THAN 3 DAYS.

WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGNS AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION WITHIN THE PROJECT DUE TO CHANGES IN THE SPEED ZONE AS DETAILED IN THE PLANS OR 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 REMOVING THE SIGNS AND SUPPORTS. SPEED LIMIT SIGNING FOR THE POINT OF RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE PAID FOR AS WORK ZONE SPEED LIMIT SIGNS. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, WORK ZONE SPEED LIMIT SIGN	4 EACH
ITEM 614, SPEED ZONE AHEAD SYMBOL SIGN	4 EACH

CALCULATED AT
CHECKED JFM

MAINTENANCE OF TRAFFIC GENERAL NOTES

TUS-77-25.95

WORKSITE TRAFFIC SUPERVISOR

SUBJECT TO APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL EMPLOY AND IDENTIFY (SOMEONE OTHER THAN THE SUPERINTENDENT) A CERTIFIED WORKSITE TRAFFIC SUPERVISOR (WTS) BEFORE STARTING WORK IN THE FIELD. THE WTS MAY BE CERTIFIED FROM ONE OF THE FOLLOWING ORGANIZATIONS:

1. AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION (ATSSA), PHONE NUMBER 1-800-272-8772, CERTIFIED TRAFFIC CONTROL SUPERVISOR (TCS).
2. NATIONAL HIGHWAY INSTITUTE, DESIGN AND OPERATION OF WORK ZONE TRAFFIC CONTROL, PHONE NUMBER 1-703-235-0528.
3. THE OHIO CONTRACTORS ASSOCIATION, TRAFFIC CONTROL SUPERVISOR (OCA/TCS) WORK ZONE CLASS, ONLY IF TAKEN AFTER MAY 5, 2004, PHONE NUMBER 1-800-229-1388.
4. OHIO LABORERS TRAINING, TRAFFIC CONTROL SUPERVISORS CLASS, PHONE NUMBER 1-740-599-7915.

A COPY OF EACH WTSS CERTIFICATION AND 24-HOUR CONTACT INFORMATION SHALL BE PROVIDED TO THE ENGINEER AT THE PRECONSTRUCTION CONFERENCE. IF THE DESIGNATED WTS WILL NOT BE AVAILABLE FULL TIME (24/7) THE CONTRACTOR MAY DESIGNATE AN ALTERNATE WTS TO BE AVAILABLE WHEN THE PRIMARY IS OFF DUTY. EACH WTS SHALL HAVE A CURRENT WTS CERTIFICATION (WITH AN EXPIRATION DATE NO MORE THAN 5 YEARS FROM THE DATE OF ISSUE) FROM ANY OF THE APPROVED ORGANIZATIONS.

THE WTS POSITION HAS THE RESPONSIBILITY OF MONITORING TRAFFIC CONTROL DEFICIENCIES FOR THE ENTIRE WORK ZONE. THE DUTIES OF THE WTS ARE AS FOLLOWS:

1. BE AVAILABLE ON A 24-HOUR PER DAY BASIS, AND BE ABLE TO BE ON SITE FOR ALL EMERGENCY TRAFFIC CONTROL NEEDS WITHIN ONE HOUR OF NOTIFICATION BY POLICE OR PROJECT STAFF AND BE PREPARED TO EFFECT CORRECTIVE MEASURES IMMEDIATELY ON EXISTING WORK ZONE TRAFFIC CONTROL DEVICES.
2. ATTEND PRECONSTRUCTION MEETING AND ALL PROJECT MEETINGS WHERE TRAFFIC CONTROL MANAGEMENT IS DISCUSSED.
3. BE AVAILABLE FOR MEETINGS OR DISCUSSIONS WITH THE ENGINEER UPON REQUEST OR WITHIN 36 HOURS.
4. BE AWARE OF, AND COORDINATE IF NECESSARY, ALL TRAFFIC CONTROL OPERATIONS, INCLUDING THOSE OF SUBCONTRACTORS AND SUPPLIERS.
5. COORDINATE PROJECT ACTIVITIES WITH ALL LAW ENFORCEMENT OFFICERS (LEOS). A WTS SHALL ALSO BE THE MAIN CONTACT PERSON WITH THE LEOS WHILE THEY ARE ON THE PROJECT.
6. COORDINATE MEETINGS WITH ODOT PERSONNEL, LEOS AND OTHER APPLICABLE ENTITIES BEFORE EACH PLAN PHASE SWITCH TO DISCUSS WORK ZONE TRAFFIC CONTROL.
7. ENSURE COMPLIANCE WITH THE CONTRACT DOCUMENTS FOR SIGNS, BARRICADES, TEMPORARY CONCRETE BARRIER, PAVEMENT MARKINGS, PORTABLE MESSAGE SIGNS, AND OTHER TRAFFIC CONTROL DEVICES ON A DAILY BASIS; AND FACILITATE ANY CORRECTIVE ACTION NECESSARY.
8. NOTIFY THE CONTRACTOR OF THE NEED FOR CLEANING AND MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES, INCLUDING THE COVERING AND REMOVAL OF INAPPLICABLE SIGNS.
9. INSPECT, EVALUATE, PROPOSE NECESSARY MODIFICATIONS TO, AND DOCUMENT THE EFFECTIVENESS OF, THE TRAFFIC CONTROL DEVICES AND/OR TRAFFIC OPERATIONS ON A DAILY BASIS (7 DAYS A WEEK). IN ADDITION, A WEEKLY NIGHT INSPECTION OF THE WORK ZONE SETUP FOR DAYTIME WORK OPERATIONS; AND ONE DAYTIME INSPECTION PER WEEK FOR NIGHTTIME PROJECTS. THIS SHALL INCLUDE (BUT NOT BE LIMITED TO) DOCUMENTATION ON THE FOLLOWING PROJECT EVENTS:
   - A. INITIAL TRAFFIC CONTROL SETUP (DAY AND NIGHT REVIEW).
   - B. DAILY TRAFFIC CONTROL SETUP AND REMOVAL.
   - C. WHEN CONSTRUCTION STAGING CAUSES A CHANGE IN THE TRAFFIC CONTROL SETUP.
   - D. CRASH OCCURRENCES WITHIN THE CONSTRUCTION AREA.
   - E. REMOVAL OF TRAFFIC CONTROL DEVICES AT THE END OF A PHASE OR PROJECT.
   - F. ALL OTHER EMERGENCY TRAFFIC CONTROL NEEDS.
10. COMPLETE THE DEPARTMENT APPROVED LONG TERM INSPECTION FORM (CA-D-8) AFTER EACH INSPECTION AS REQUIRED IN # 9 AND SUBMIT IT TO THE ENGINEER THE FOLLOWING WORK DAY. THESE REPORTS SHALL INCLUDE A CHECKLIST OF ALL TRAFFIC CONTROL MAINTENANCE ITEMS TO BE REVIEWED. A COPY OF THE FORM WILL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING. ANY DEFICIENCIES OBSERVED SHALL BE NOTED, ALONG WITH RECOMMENDED CORRECTIVE ACTIONS AND THE DATES BY WHICH SUCH CORRECTIONS WERE, OR WILL BE, COMPLETED. A COPY OF THIS DOCUMENT CAN BE FOUND IN THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION INSPECTION FORMS MANUAL DATED 10/15/06 OR CURRENT REVISION.
11. VERIFY THAT ALL FLAGGING OPERATIONS ARE BEING CONDUCTED PER THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
12. HAVE COPIES OF THE ODOT TEMPORARY TRAFFIC CONTROL MANUAL AND APPLICABLE STANDARDS AND SPECIFICATIONS INCLUDED IN THE CONTRACT DOCUMENTS AVAILABLE AT ALL TIMES ON THE PROJECT.

WORKSITE TRAFFIC SUPERVISOR (CONT.)

THE DEPARTMENT WILL NOT PAY THE UNIT PRICE BID FOR THE WTS FOR ANY DAY ON WHICH THE CONTRACTOR FAILS TO PERFORM THE DUTIES SET FORTH ABOVE. SHOULD THE CONTRACTOR'S FAILURE TO PERFORM ANY OF THE DUTIES DESCRIBED ABOVE RESULT IN A MAINTENANCE OF TRAFFIC SAFETY ISSUE, THE DEPARTMENT WILL DEDUCT THE PRORATED DAILY AMOUNT FOR ITEM 614 MAINTENANCE OF TRAFFIC FROM THE CONTRACTOR'S NEXT SCHEDULED ESTIMATE.

IF THREE OR MORE FAILURES TO PERFORM THE DUTIES SET FORTH ABOVE OCCUR, THE WTS SHALL BE IMMEDIATELY REMOVED FROM THE WORK IN ACCORDANCE WITH C&MS 108.05.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED FOR THE WORKSITE TRAFFIC SUPERVISOR:

ITEM 614, WORKSITE TRAFFIC SUPERVISOR 16 MONTHS

ITEM 614, WORK ZONE CROSSOVER LIGHTING SYSTEM

THIS WORK SHALL CONSIST OF FURNISHING, ERECTING, OPERATING, MAINTAINING AND REMOVING A WORK ZONE LIGHTING SYSTEM FOR A SINGLE CROSSOVER, OR OVERLAPPING A PAIR OF CROSSOVERS. THE SYSTEM SHALL BE AS SHOWN ON SCD MT-100.00. THE CONTRACTOR SHALL ARRANGE FOR AND PAY FOR POWER. ALL MATERIALS AND CONSTRUCTION SHALL COMPLY WITH APPLICABLE PORTIONS OF 625 AND 725 EXCEPT: THE PERFORMANCE TEST OF 625.19F, AND CERTIFIED DRAWING REQUIREMENT OF 625.04, ARE WAIVED AND USED MATERIALS IN GOOD CONDITION ARE ACCEPTABLE.

POLES WHICH ARE NOT PROTECTED BY GUARDRAIL OR PORTABLE BARRIER SHALL BE LOCATED OUTSIDE THE CLEAR ZONE, AND SHOULD BE LOCATED AT LEAST 30 FT (PREFERABLY 40 FEET) FROM THE EDGE OF PAVEMENT WHEN POSSIBLE. ADDITIONAL POLE LINES, CABLES AND APPURTENANCES NECESSARY TO FURNISH POWER TO THE LIGHTING SYSTEM SHALL BE INCLUDED IN THIS ITEM. SERVICE POLES SHALL BE POSITIONED WITH THE SAME CONSTRAINTS AS THE LIGHTING POLES AS A MINIMUM.

PAYMENT WILL BE MADE AT THE UNIT PRICE PER EACH FOR ITEM 614, WORK ZONE CROSSOVER LIGHTING SYSTEM THROUGHOUT ALL PHASES OF WORK WHEN THE CROSSOVER ROADWAYS ARE USED.

ITEM 614 - WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN

WORK ZONE RAISED PAVEMENT MARKERS, AS PER PLAN, AND THEIR INSTALLATION SHALL CONFORM TO CMS 614 OR CMS 621 AS SPECIFIED HEREIN.

RAISED PAVEMENT MARKERS IN USE DURING THE SNOW-PLOWING SEASON SHALL CONFORM TO 621.

RAISED PAVEMENT MARKERS IN USE DURING THE NON-SNOW-PLOW SEASON SHALL CONFORM TO EITHER 614 OR TO 621.

THE SNOW-PLOWING SEASON SHALL RUN FROM NOVEMBER THROUGH MARCH.

IF PROJECT DELAYS, NOT THE FAULT OF ODOT, CAUSE THE WORK TO EXTEND INTO THE SNOW-PLOWING SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WORK ZONE RAISED PAVEMENT MARKERS (WZRPMS) CONFORMING TO CMS 614, WITH RAISED PAVEMENT MARKERS CONFORMING TO 621, AS DETERMINED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN, INCLUDING FILLING OF ANY DEPRESSIONS CREATED IN THE PAVEMENT AS PER CMS 621.08.

THE FOLLOWING BID ITEMS SHOULD BE INCLUDED IN THE PLANS:

ITEM 614, WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN 50 EACH

PAYMENT FOR RESURFACING WITHIN THE TRANSITION AREA SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEMS FOR THE WORK REQUIRED, AS PROVIDED FOR IN THE PLANS

ITEM 614, BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET. AN ESTIMATED QUANTITY OF 210 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE B AND 210 EACH OF ITEM 614 OBJECT MARKER, ONE-WAY HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

LINEAR DELINEATION AS PER PLAN

INCREASED DELINEATION, AS SPECIFIED HEREIN, SHALL BE INSTALLED ON ALL PORTABLE BARRIER AND CONCRETE PERMANENT BARRIER LOCATED WITHIN 5-FEET OF THE EDGE OF THE TRAVELED LANE UNDER EITHER OF THE FOLLOWING CONDITIONS:

ALONG TAPERS AND TRANSITION AREAS

ALONG CURVES (OUTSIDE ONLY) WITH DEGREE OF CURVATURE GREATER THAN OR EQUAL TO 3 DEGREES

THE INCREASED DELINEATION SHALL CONSIST OF EITHER LINEAR DELINEATION PANELS OR THE TRIPLE STACKING OF WORK ZONE BARRIER REFLECTORS.

THE LINEAR DELINEATION PANELS SHALL CONSIST OF PANELS OF DELINEATION, APPROXIMATELY 34 INCHES LONG AND 6-INCHES WIDE AND SHALL BE "CRIMPED". PANELS SHALL BE PROVIDED AT THE RATE OF ONE PANEL EVERY 10 FEET ON PORTABLE BARRIER AND PERMANENT CONCRETE BARRIER, SPACED EVENLY ALONG THE LENGTH OF THE RUN. THE PANELS SHALL BE MOUNTED SUCH THAT THE TOPS OF THE PANELS ARE 26 INCHES ABOVE THE PAVEMENT.

TRIPLE STACKED BARRIER REFLECTORS SHALL CONSIST OF THREE BARRIER REFLECTORS STACKED VERTICALLY IN THEIR ATTACHMENT TO PORTABLE BARRIER. THERE SHALL BE NO OPEN SPACE BETWEEN THE ADJACENT BARRIER REFLECTORS. THE TOP OF THE MIDDLE BARRIER REFLECTOR SHALL BE LOCATED 26 IN ABOVE THE PAVEMENT.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING LINEAR DELINEATION.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE PLANS:

ITEM 614, LINEAR DELINEATION AS PER PLAN 3940 FOOT

GUARDRAIL DELINEATION

OBJECT MARKERS SHALL BE INSTALLED ON ALL GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKER SPACING SHALL BE APPROXIMATELY 50 FEET.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING OBJECT MARKERS.

AN ESTIMATED QUANTITY OF 10 EACH OF ITEM 614 OBJECT MARKERS, ONE-WAY HAS BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

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.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS. THE APPROVED LIST IS AVAILABLE AT THE "ROADWAY STANDARDS: PROPRIETARY ROADSIDE SAFETY DEVICES" WEB PAGE ON THE OFFICE OF ROADWAY ENGINEERING WEBSITE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE (OFFICE OF MATERIALS MANAGEMENT WEB PAGE). THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 650 FEET AND 475 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHALL BE DELINEATED ON A PERMANENT BASIS BY AFFIXING CONSPICUITY TAPE CONFORMING TO CMS 614.03, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE 300' AHEAD OF ROAD WORK AHEAD SIGNS IN EACH DIRECTION OF IR-77. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE TYPE G YELLOW RETROREFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE. THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF CMS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

A QUANTITY OF TWO (2) PCMS SHALL BE PROVIDED FOR A TOTAL OF 16 MONTHS EACH.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 32 SIGN MONTH

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 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:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

IN ADDITION TO THE REQUIREMENT 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) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). 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.

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.

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 LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

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. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. 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 QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 200 HOURS

THE HOURS PAID SHALL INCLUDE ANY 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.

WORK ZONE MARKINGS AND SIGNS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF CMS 614.04 AND 614.11.

FOR SOUTHBOUND IR-77 BEFORE THE START OF STAGE 3 AND NORTHBOUND IR-77 BEFORE THE START OF STAGE 4.

ITEM 614, WORK ZONE EDGE LINE, CLASS I	2.62 MILE
ITEM 614, WORK ZONE LANE LINE, CLASS I	1.31 MILE

ITEM 630 SPECIFIC SERVICE AND TOURIST-ORIENTED DIRECTIONAL SIGNS REMOVAL AND REINSTALLATION

IN THE EVENT THAT THIS PROJECT NECESSITATES THE REMOVAL OF ANY SPECIFIC SERVICE (LOGO) SIGNS AND/OR TOURIST-ORIENTED DIRECTIONAL SIGNS (TODS) THAT ARE NOT SPECIFICALLY DESCRIBED IN OTHER ITEMS OF WORK, THE CONTRACTOR SHALL CAREFULLY REMOVE SUCH SIGNS. REMOVED LOGO SIGNS AND TODS SHALL BE IMMEDIATELY RE-ERECTED ON APPROVED TEMPORARY SUPPORTS IN THE SAME GENERAL VICINITY ALONG THE ROADWAY TO BE VIEWED BY THE MOTORING PUBLIC. UNLESS THE ORIGINAL SUPPORTS WILL BE REUSED, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE SUPPORTS AND FOUNDATIONS IN ACCORDANCE WITH ITEM 630.12. THE CONTRACTOR SHALL NOTIFY OHIO LOGOS, INC. AT (800) 860-5646 AT LEAST 60 DAYS PRIOR TO PROJECT COMPLETION TO ALERT THEM THAT ONE OR MORE LOGO SIGNS AND/OR TODS ARE ON TEMPORARY SUPPORTS. OHIO LOGOS, INC. WILL MAKE ARRANGEMENTS TO HAVE THE SIGNS INSTALLED ON PERMANENT SUPPORTS AT THE COMPLETION OF THE PROJECT.

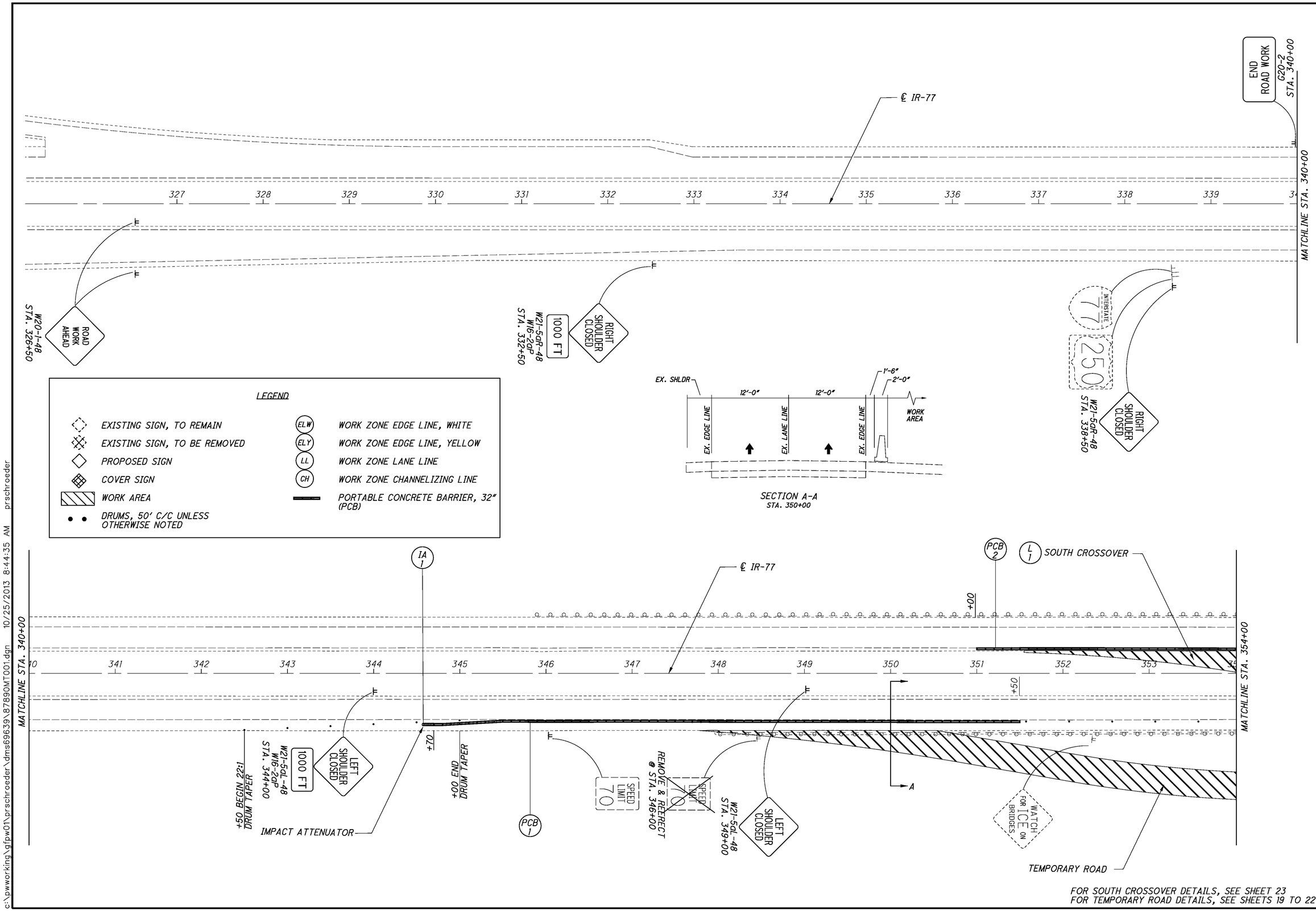
THIS ITEM OF WORK INCLUDES REMOVAL AND TEMPORARY RE-ERECTION OF LOGO SIGNS AND TODS, FURNISHING AND INSTALLATION OF TEMPORARY SUPPORTS, REMOVAL AND DISPOSAL OF THE ORIGINAL SUPPORTS AND FOUNDATIONS, AND PROVIDING NOTIFICATION TO OHIO LOGOS, INC. THIS WORK WILL BE INCLUDED IN THE LUMP SUM PAYMENT FOR ITEM 614, MAINTAINING TRAFFIC.

REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	614 WORK ZONE CROSSOVER LIGHTING SYSTEM	614 WORK ZONE RAISED PAVEMENT MARKER	614 WORK ZONE EDGE LINE, CLASS I	614 WORK ZONE CHANNELIZING LINE, CLASS I		622 PORTABLE BARRIER, 32"			601 ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	611 15" CONDUIT, TYPE B
					EACH	EACH	EACH	MILE	FT		FT			CU YD	FT
		STAGE-1													
PCB1	11	344+70.00	351+50.00	RT							680				
PCB2	11-12	351+00.00	356+00.00	LT							500				
PCB3	12	354+20.00	359+50.00	RT							530				
PCB4	12	365+00.00	370+20.00	RT							520				
PCB5	12	367+50.00	373+00.00	RT							550				
PCB6	12	369+50.00	374+50.00	LT							500				
IA1	11	344+70.00		RT	1										
IA2	12	356+00.00		LT	1										
IA3	12	354+20.00		RT	1										
IA4	12	365+00.00		RT	1										
IA5	12	367+50.00		RT	1										
IA6	12	374+50.00		LT	1										
D1	12	357+00.00		RT										5.6	66
D2	12	360+00.00		RT										2.8	71
D3	12	365+00.00		RT										3.3	90
L1	11-12	3051+00.00	3059+00.00	LT/RT		1									
L2	12	3066+00.00	3074+00.00	LT/RT		1									
		STAGE-2													
CH1	13-14	342+50.00	377+00.00	RT			160		3463						
CH2	13-14	348+00.00	377+50.00	LT			150		2950						
ELY1	13-14	4045+50.00	374+00.00	RT				0.54							
ELY2	13-14	351+00.00	374+00.00	LT				0.45							
ELW1	13-14	4045+50.00	374+00.00	RT				0.54							
ELW2	13-14	351+00.00	374+00.00	LT				0.45							
PCB1	13-14	4047+70.00	4072+10.00	RT							2440				
PCB2	14	4059+00.00	4065+50.00	RT							650				
PCB3	14	3066+00.00	3070+50.00	LT							450				
IA1	13	4047+70.00		RT	1										
IA2	14	4059+00.00		RT	1										
IA3	14	3070+50.00		LT	1										
		STAGE-3													
PCB1	15-16	351+00.00	374+50.00	LT							2350				
IA1	16	374+50.00		LT	1										
		STAGE-4													
PCB1	17	344+70.00	351+50.00	RT							680				
PCB2	18	367+50.00	373+00.00	RT							550				
IA1	17	344+70.00		RT	1										
IA2	18	367+50.00		RT	1										
SUBTOTAL					12	2	310	1.98	6413		10400			11.7	227
TOTALS CARRIED TO GENERAL SUMMARY					12	2	310	1.98	6413		10400			12	227

CALCULATED AT
CHECKED JFM

MAINTENANCE OF TRAFFIC QUANTITIES

TUS-77-25.95



FOR SOUTH CROSSOVER DETAILS, SEE SHEET 23
FOR TEMPORARY ROAD DETAILS, SEE SHEETS 19 TO 22

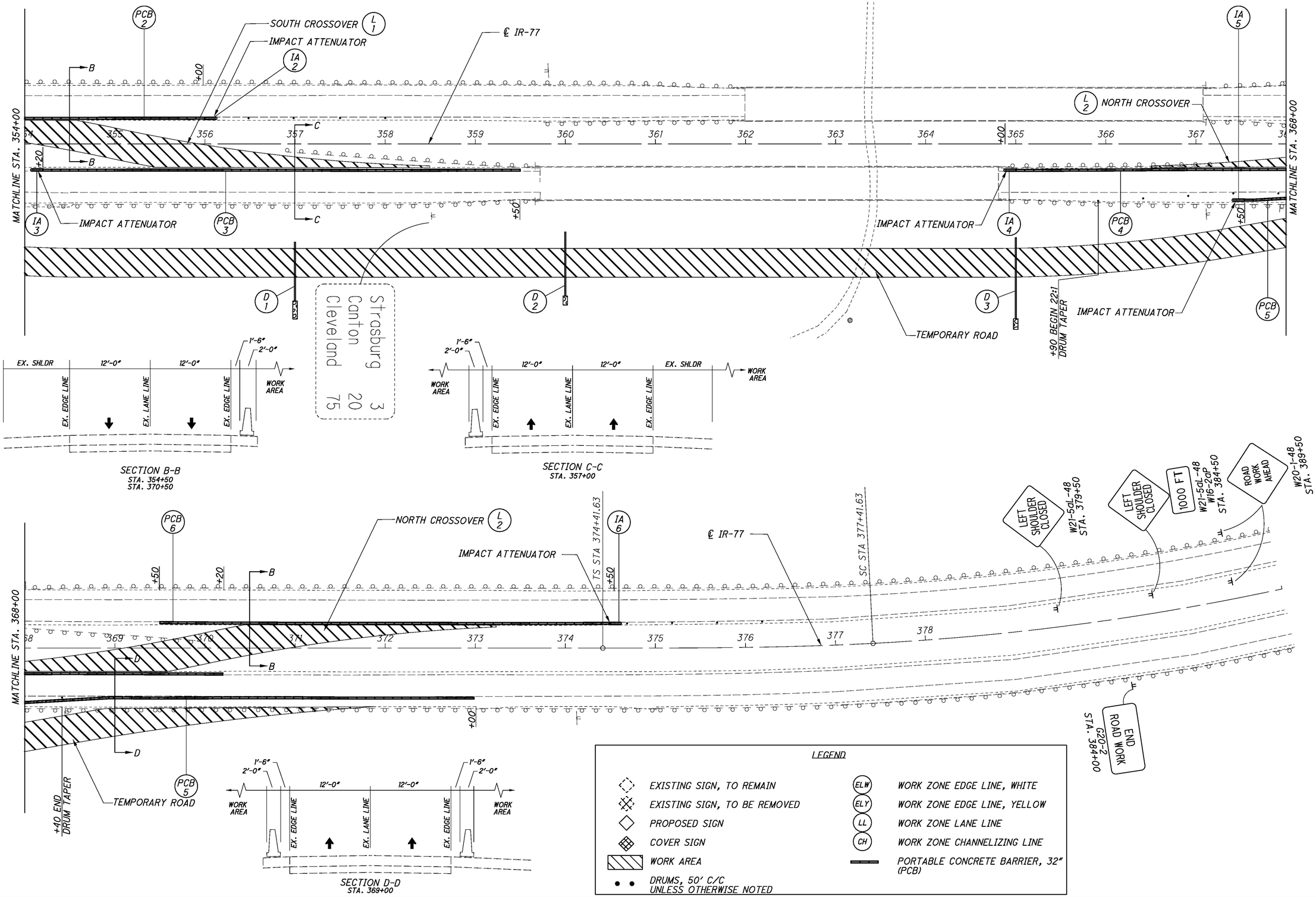
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AT
CHECKED JFM

MAINTENANCE OF TRAFFIC PLAN
STAGE 1

TUS-77-25.95

FOR SOUTH CROSSOVER DETAILS, SEE SHEET 23
FOR TEMPORARY ROAD DETAILS, SEE SHEETS 19 TO 22
FOR NORTH CROSSOVER DETAILS, SEE SHEET 24



LEGEND

- EXISTING SIGN, TO REMAIN
- EXISTING SIGN, TO BE REMOVED
- PROPOSED SIGN
- COVER SIGN
- WORK AREA
- DRUMS, 50' C/C UNLESS OTHERWISE NOTED
- ELW — WORK ZONE EDGE LINE, WHITE
- ELY — WORK ZONE EDGE LINE, YELLOW
- LL — WORK ZONE LANE LINE
- CH — WORK ZONE CHANNELIZING LINE
- PORTABLE CONCRETE BARRIER, 32" (PCB)

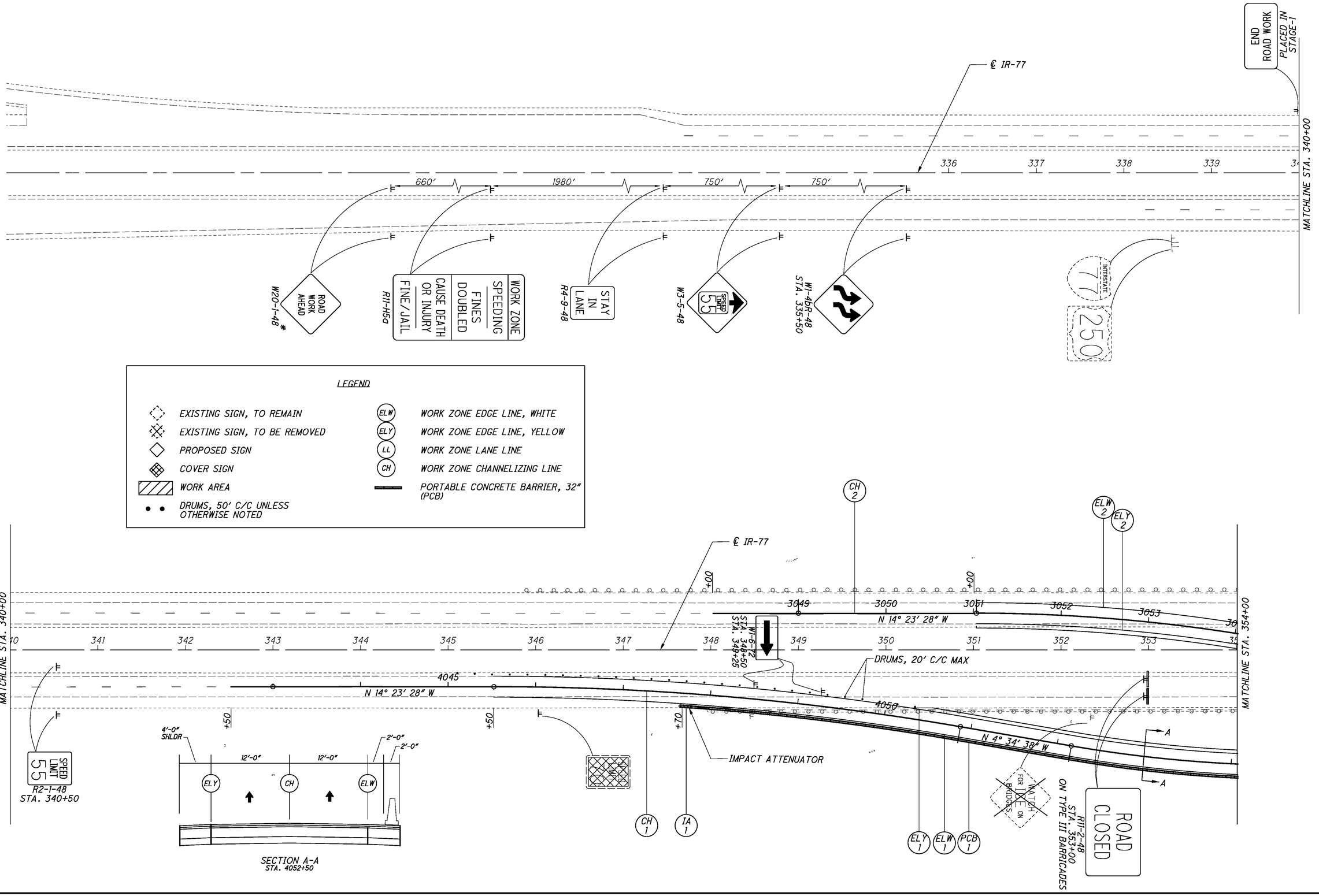
HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED AT
CHECKED JFM

MAINTENANCE OF TRAFFIC PLAN
STAGE 1

TUS-77-25.95

SIGNING NOTE: ADJUSTMENTS TO ADVANCE WORK ZONE SIGN SPACINGS SHALL CONFORM TO SCD MT-102.30
* AN ADDITIONAL 'ROAD WORK AHEAD' SIGN SHALL BE PROVIDED AT SCHNEIDERS CROSSING RD TO IR-77 NB ON RAMP.



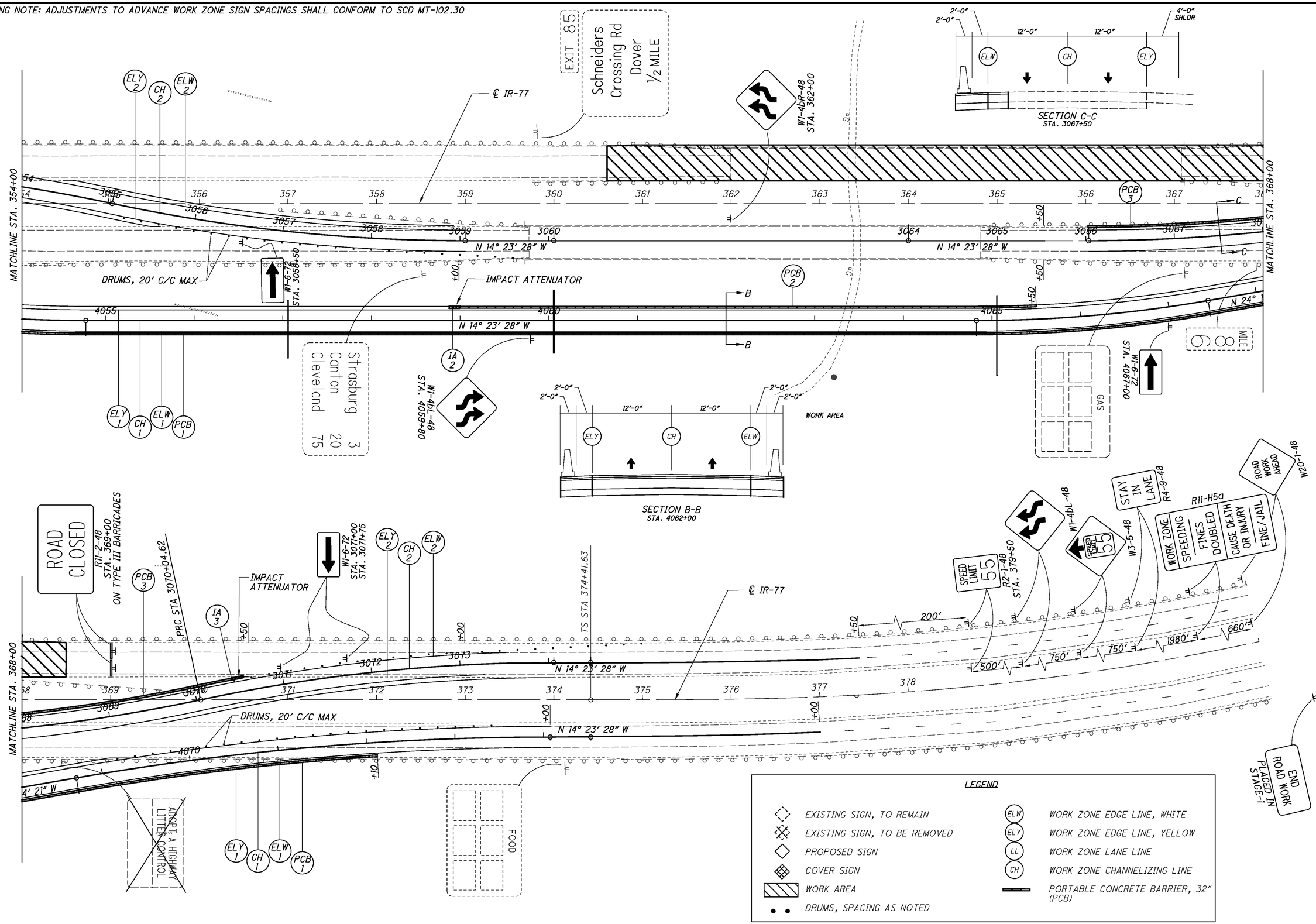
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AT
CHECKED JFM

MAINTENANCE OF TRAFFIC PLAN
STAGE 2

TUS-77-25.95

SIGNING NOTE: ADJUSTMENTS TO ADVANCE WORK ZONE SIGN SPACINGS SHALL CONFORM TO SCD MT-102.30



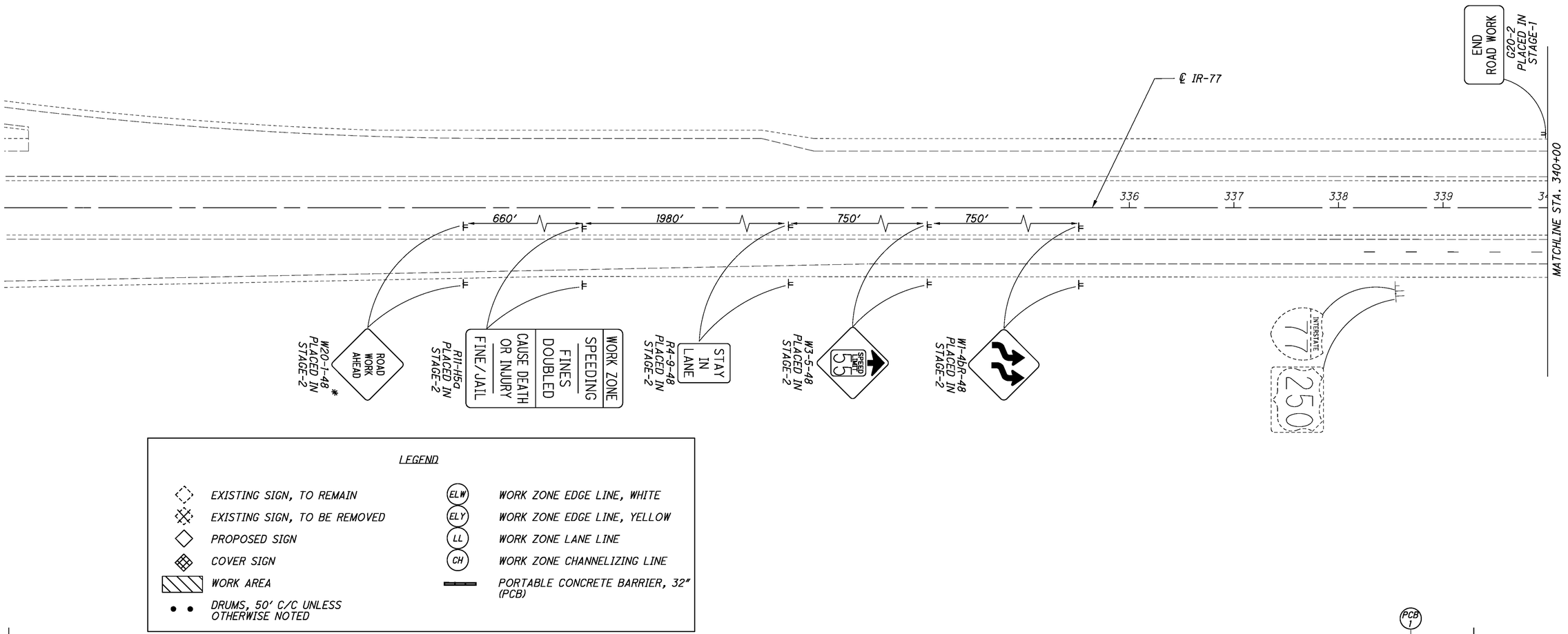
HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED AT CHECKED JFM

MAINTENANCE OF TRAFFIC PLAN STAGE 2

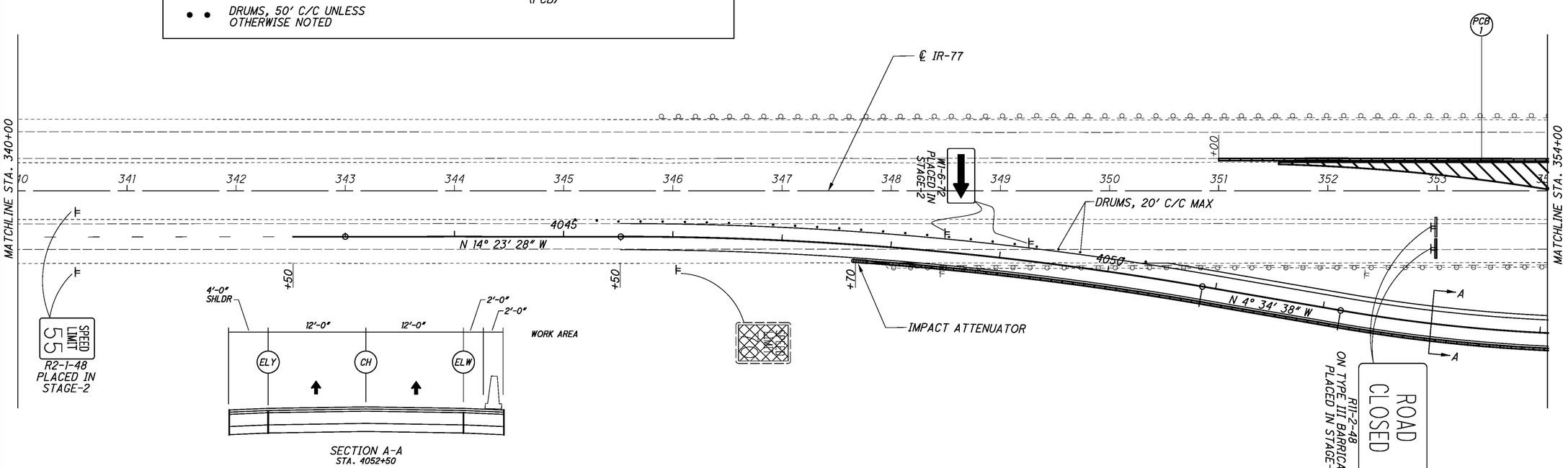
TUS-77-25.29

SIGNING NOTE: ADJUSTMENTS TO ADVANCE WORK ZONE SIGN SPACINGS SHALL CONFORM TO SCD MT-102.30
* AN ADDITIONAL 'ROAD WORK AHEAD' SIGN SHALL BE PROVIDED AT SCHNEIDERS CROSSING RD TO IR-77 NB ON RAMP.



LEGEND

- EXISTING SIGN, TO REMAIN
- EXISTING SIGN, TO BE REMOVED
- PROPOSED SIGN
- COVER SIGN
- WORK AREA
- DRUMS, 50' C/C UNLESS OTHERWISE NOTED
- ELW — WORK ZONE EDGE LINE, WHITE
- ELY — WORK ZONE EDGE LINE, YELLOW
- LL — WORK ZONE LANE LINE
- CH — WORK ZONE CHANNELIZING LINE
- PORTABLE CONCRETE BARRIER, 32" (PCB)



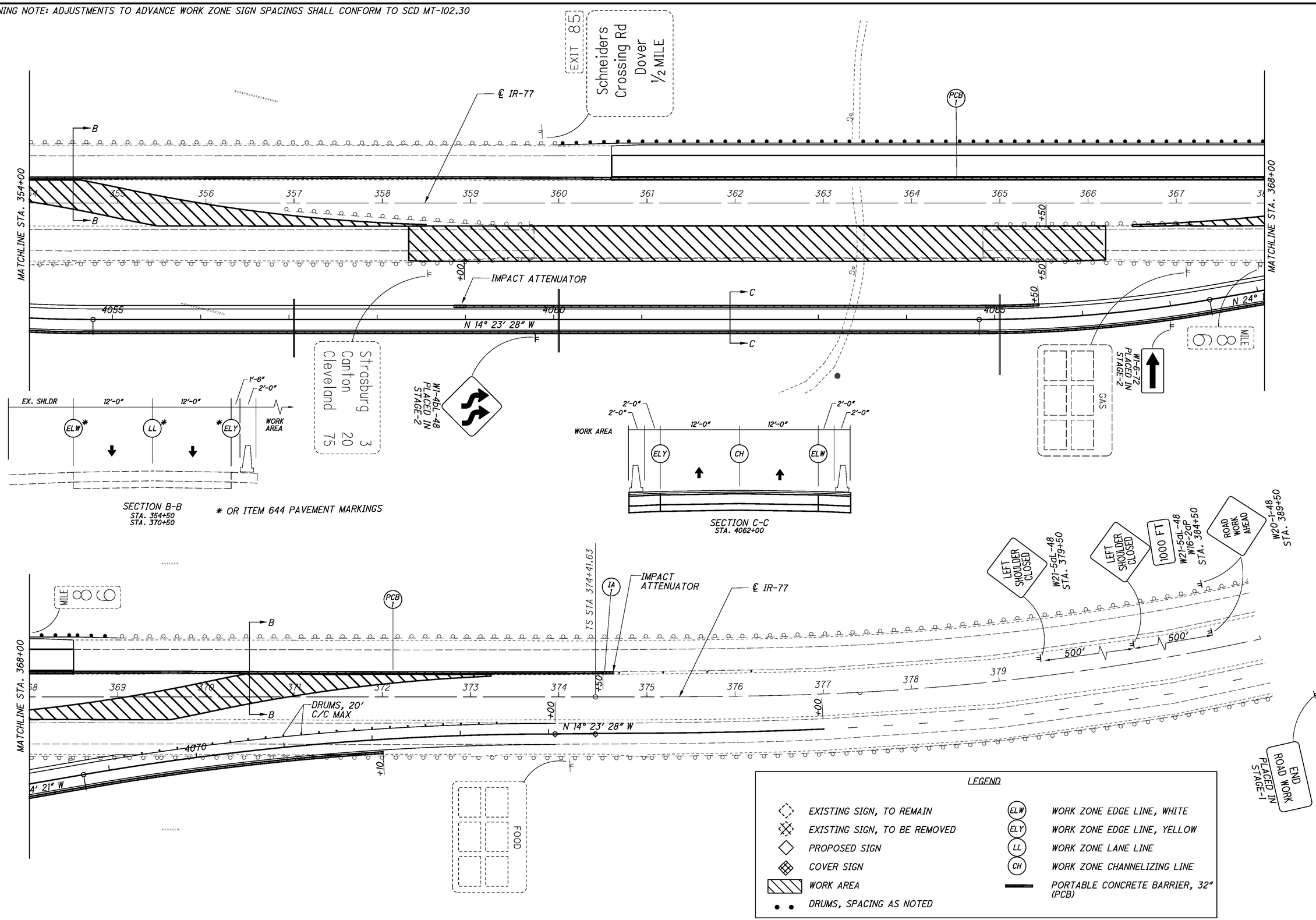
HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED AT
CHECKED JFM

MAINTENANCE OF TRAFFIC PLAN STAGE 3

TUS-77-25.95

SIGNING NOTE: ADJUSTMENTS TO ADVANCE WORK ZONE SIGN SPACINGS SHALL CONFORM TO SCD MT-102.30

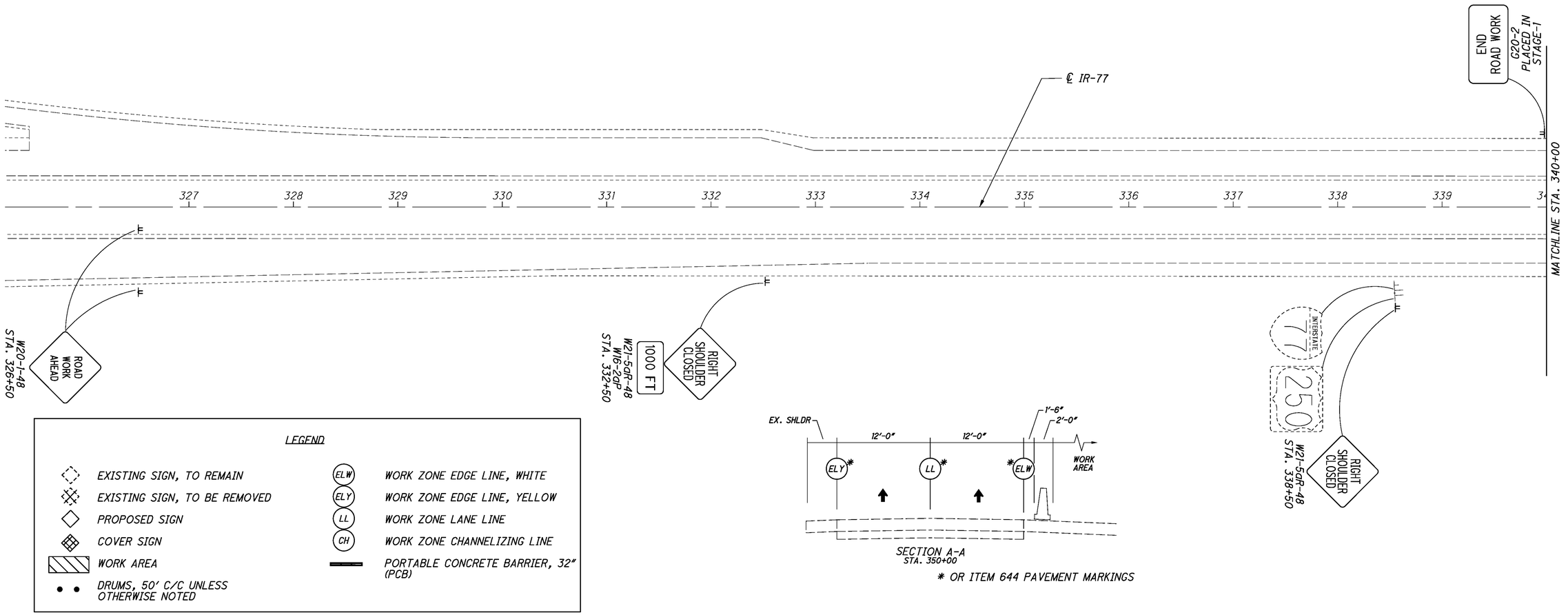


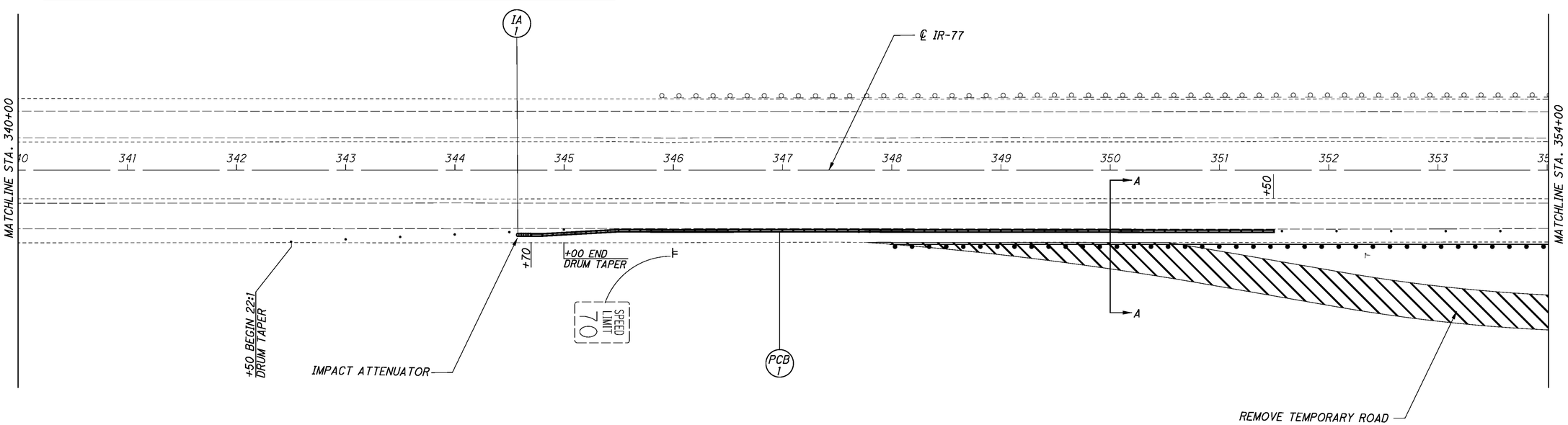
HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED AT
CHECKED JFM

MAINTENANCE OF TRAFFIC PLAN STAGE 3

TUS-77-25.29



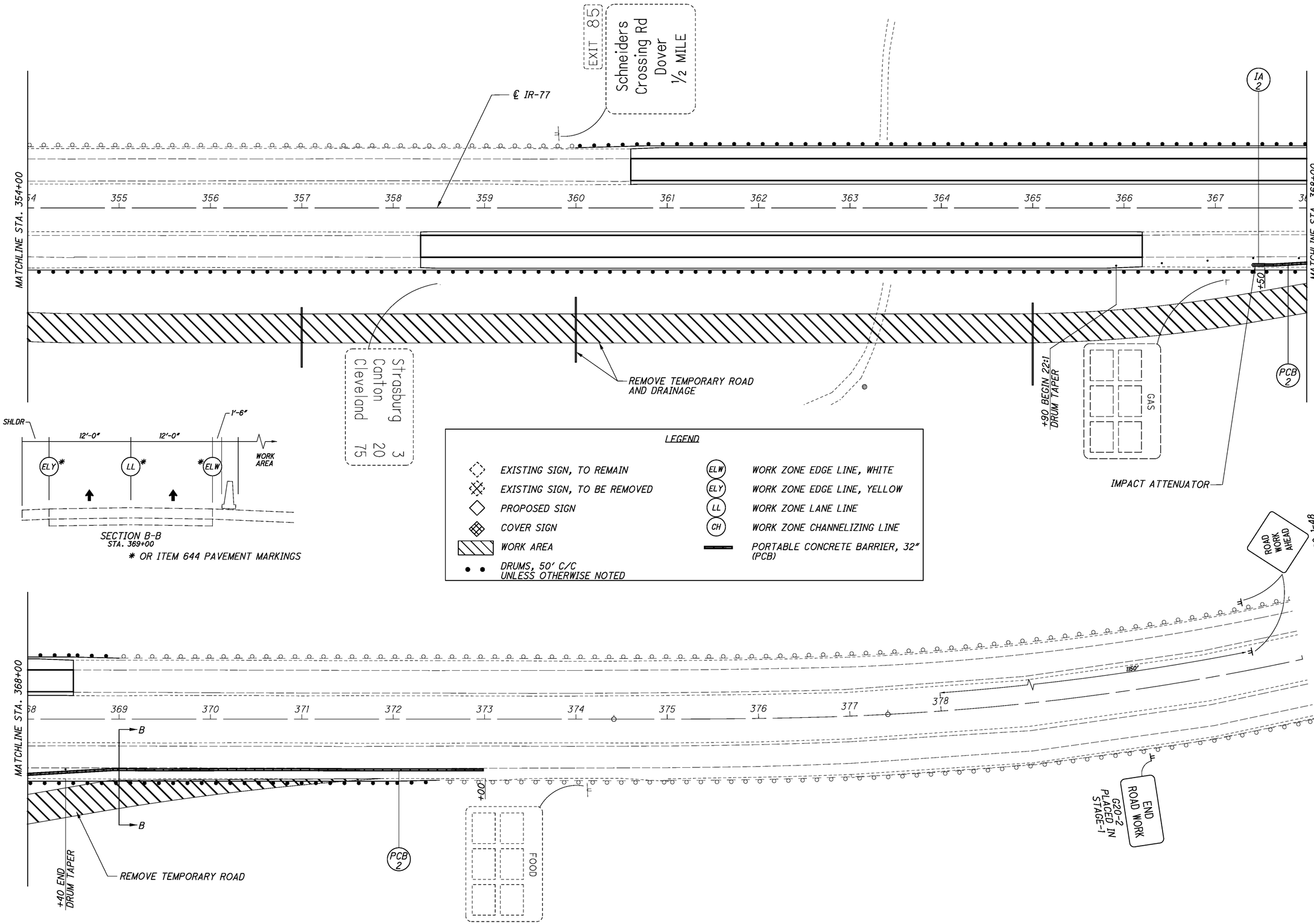


HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AT
CHECKED JFM

MAINTENANCE OF TRAFFIC PLAN
STAGE 4

TUS-77-25.95

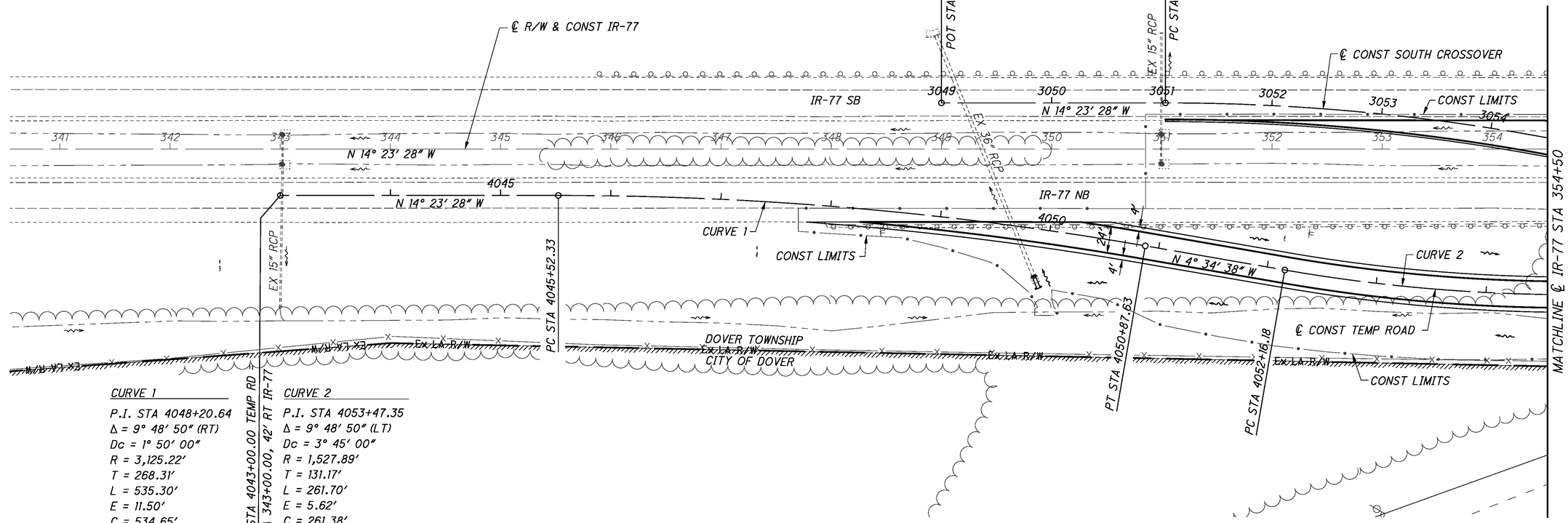


HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AT
CHECKED JFM

MAINTENANCE OF TRAFFIC PLAN STAGE 4

TUS-77-25.95



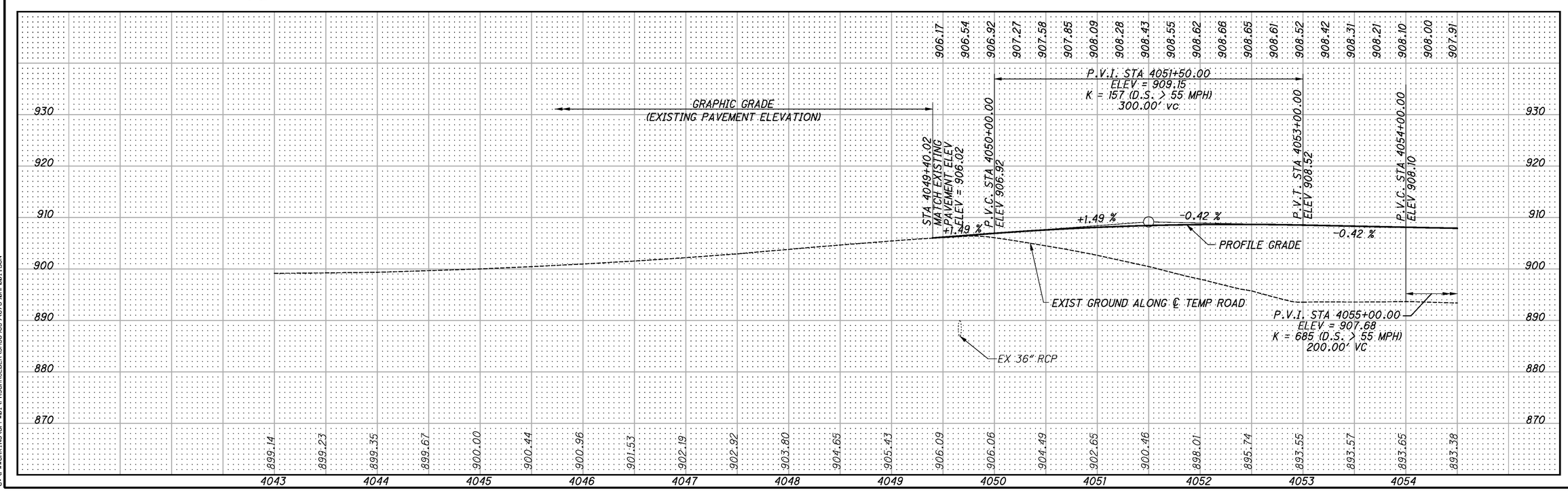
CURVE 1

P.I. STA 4048+20.64
Δ = 9° 48' 50" (RT)
Dc = 1° 50' 00"
R = 3,125.22'
T = 268.31'
L = 535.30'
E = 11.50'
C = 534.65'
e = 0.038

CURVE 2

P.I. STA 4053+47.35
Δ = 9° 48' 50" (LT)
Dc = 3° 45' 00"
R = 1,527.89'
T = 131.17'
L = 261.70'
E = 5.62'
C = 261.38'
e = 0.056

FOR SOUTH CROSSOVER DETAILS SEE SHEET 23.

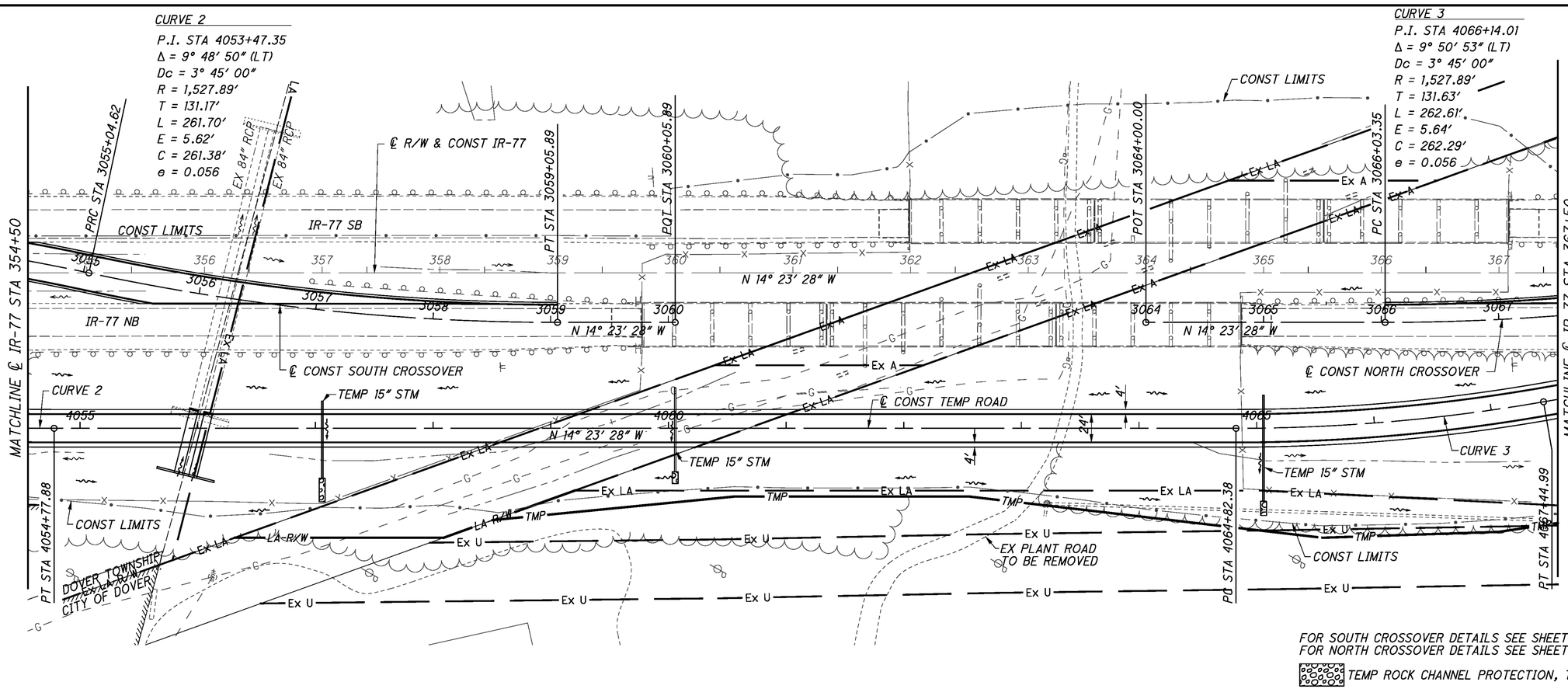


HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED PRS
CHECKED PEK

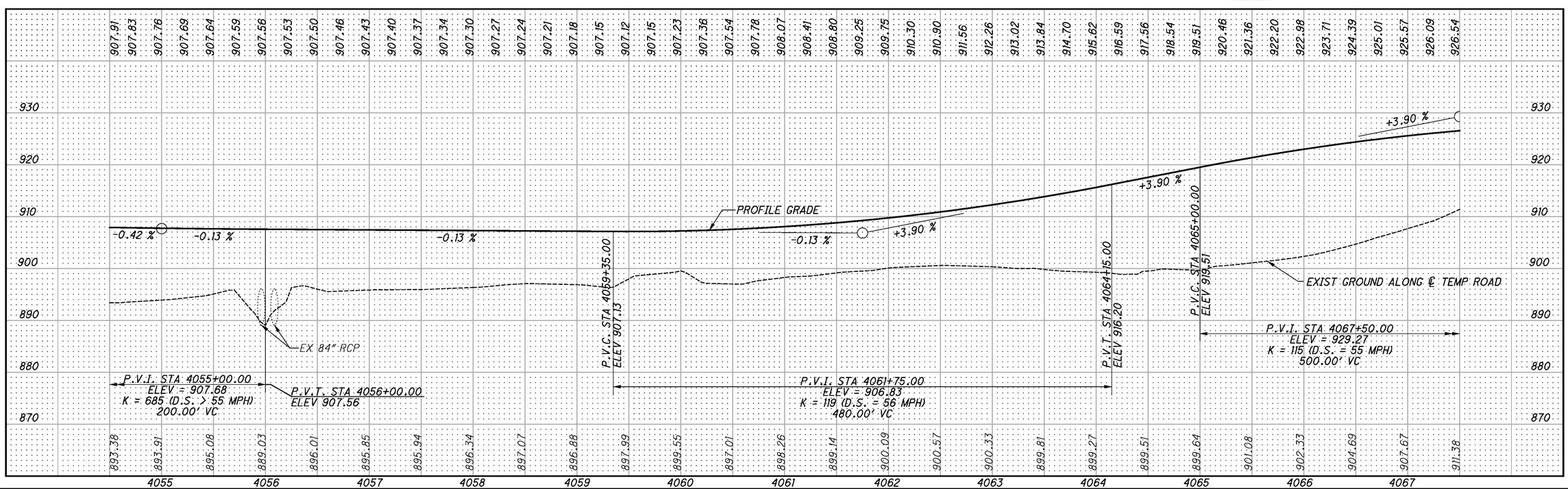
MAINTENANCE OF TRAFFIC
TEMPORARY ROAD - PLAN AND PROFILE

TUS-77-25.95



FOR SOUTH CROSSOVER DETAILS SEE SHEET 23.
FOR NORTH CROSSOVER DETAILS SEE SHEET 24.

TEMP ROCK CHANNEL PROTECTION, TYPE C



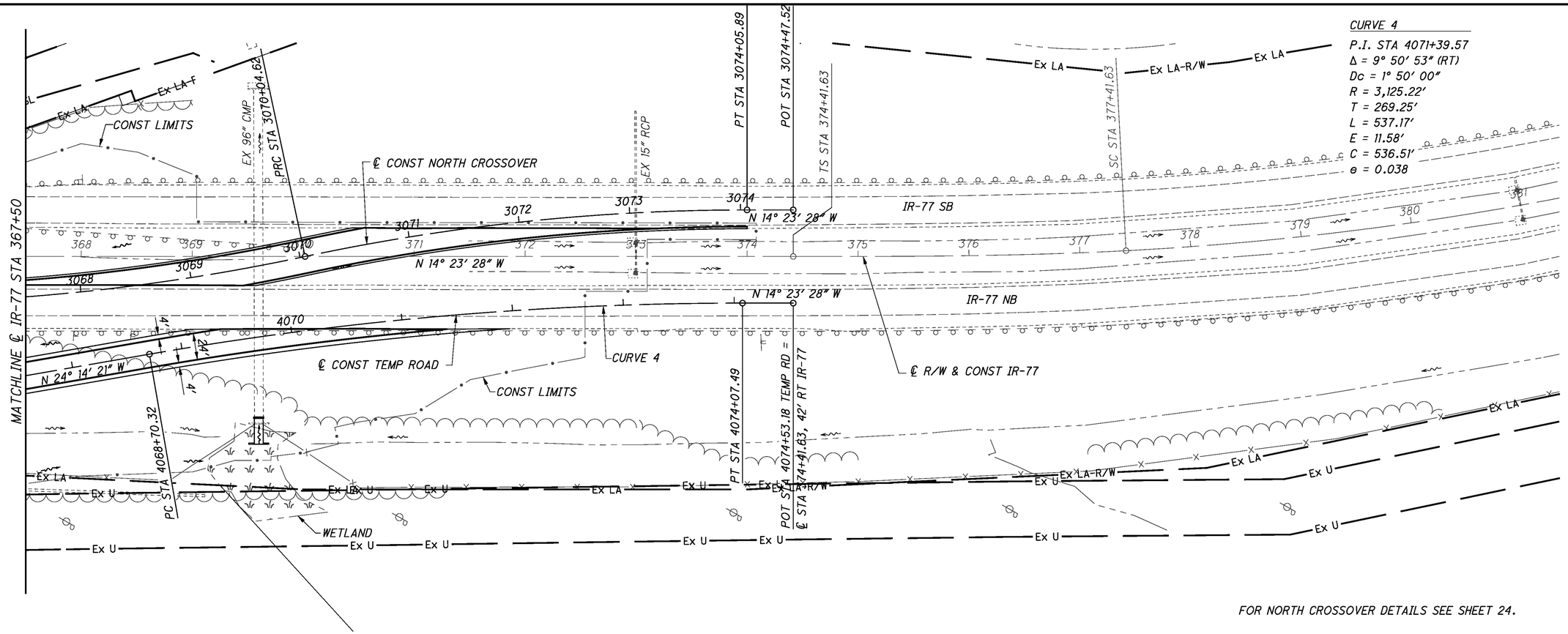
HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED PRS
CHECKED PEK

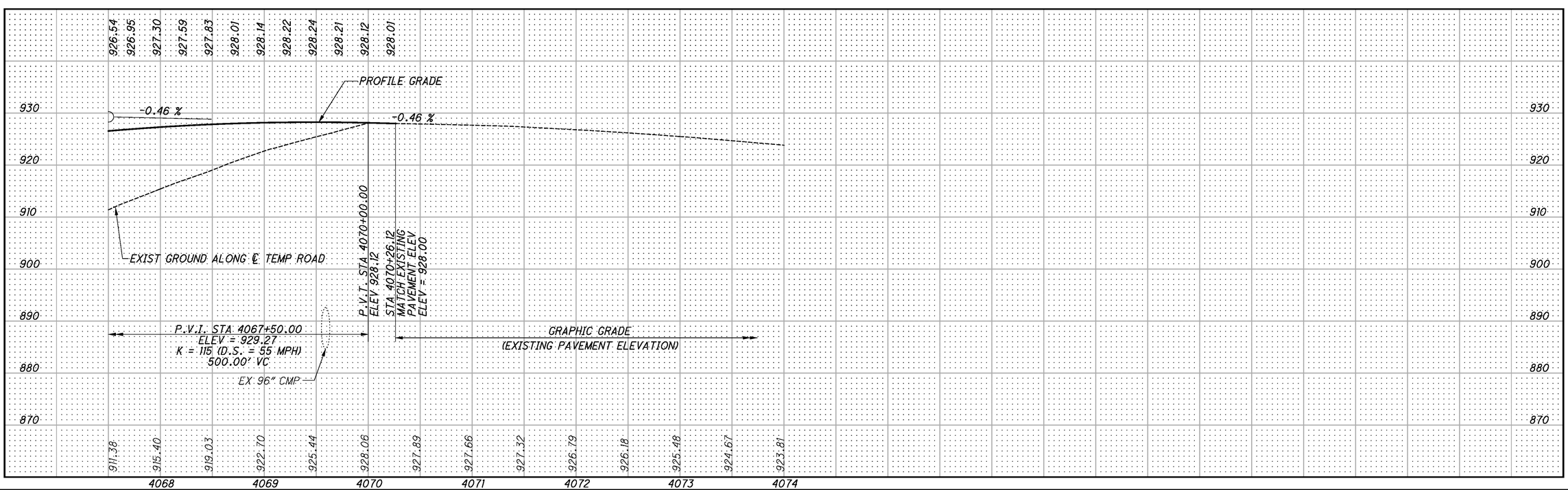
MAINTENANCE OF TRAFFIC
TEMPORARY ROAD - PLAN AND PROFILE

TUS-77-25.95

10/21/2013 9:51:18 AM
C:\PWWORKING\GFP001\PRSCHROEDER\D0658639\B7950MP002.DGN



FOR NORTH CROSSOVER DETAILS SEE SHEET 24.



CALCULATED PRS
CHECKED PEK

MAINTENANCE OF TRAFFIC
TEMPORARY ROAD - PLAN AND PROFILE

TUS-77-25.95

10/21/2013 9:52:19 AM
C:\PWWORK\ND\DGP\W01\PRSCHROEDER\DMS69639\879204P2003.DGN

S = 0.038'/' L = 96'
S = 0.056'/' L = 143'

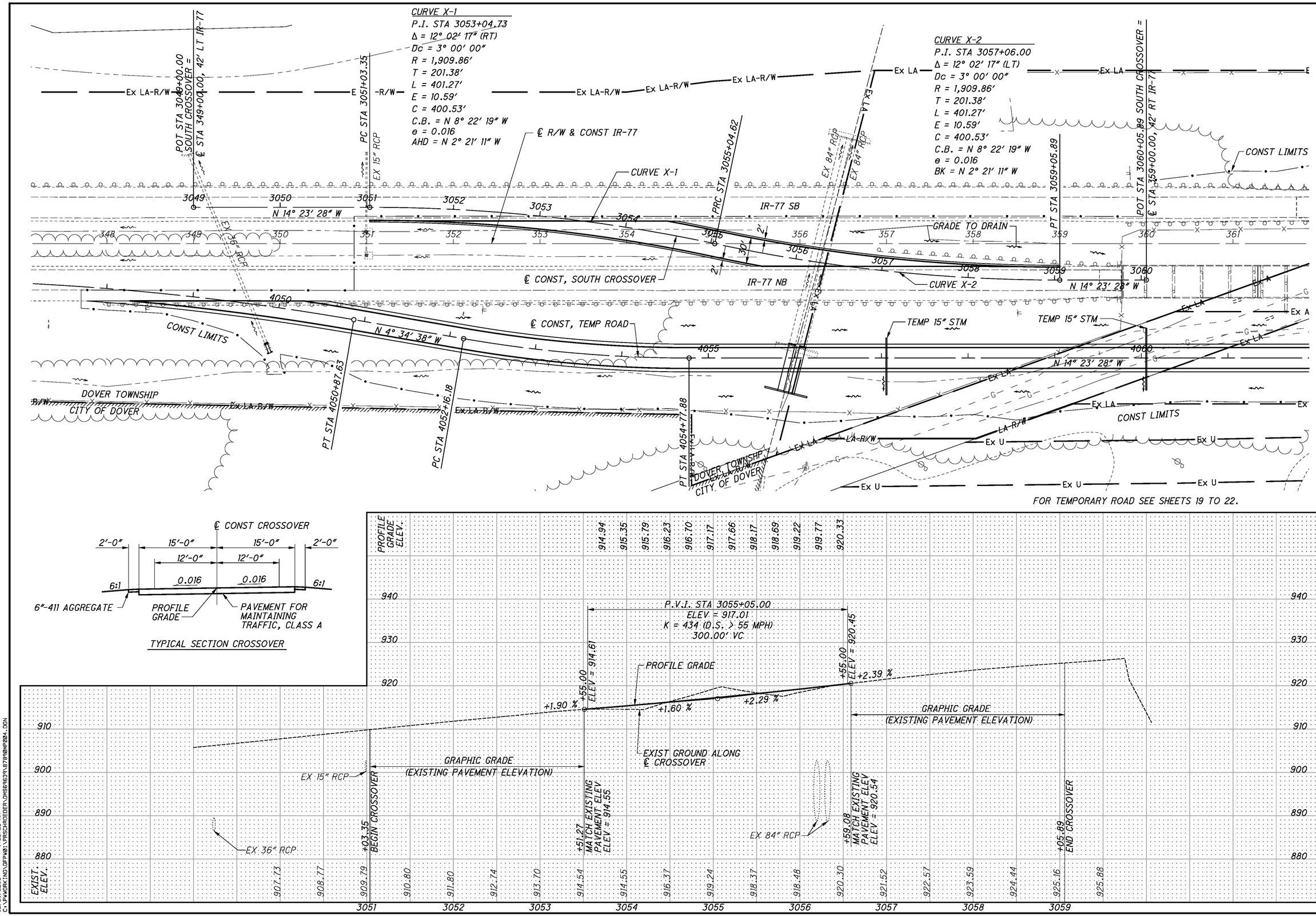
LEFT LANE					CENTERLINE CONTROL		RIGHT LANE					REMARKS
EDGE ELEV	TRANS RATE	ELEV CORR	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEV CORR	TRANS RATE	EDGE ELEV	
					4048+25.00	904.23						
					4048+28.07	904.28	12.00	-0.040	-0.48		903.80	
					4048+50.00	904.65	12.00	-0.040	-0.48		904.17	
					4048+75.00	905.04	12.00	-0.040	-0.48		904.56	
					4049+00.00	905.43	12.00	-0.040	-0.48		904.95	
					4049+25.00	905.80	12.00	-0.040	-0.48		905.32	
MATCH EXISTING PAVEMENT ELEVATION				**0.00**	**4049+40.02**	906.02	12.00	-0.040	-0.48		905.54	
				1.29	4049+50.00	906.17	12.00	-0.040	-0.48		905.69	
				4.49	4049+75.00	906.54	12.00	-0.040	-0.48		906.06	
				7.88	4050+00.00	906.92	12.00	-0.040	-0.48		906.44	
				11.60	4050+25.00	907.27	12.00	-0.040	-0.48		906.79	
907.78	1:213	0.48	**0.040**	**12.00**	**4050+27.59**	907.30	12.00	**-0.040**	-0.48	1:213	906.82	
908.04	1:213	0.46	0.038	12.00	4050+50.00	907.58	12.00	-0.038	-0.46	1:213	907.12	
908.08	**1:213**	**0.46**	**0.038**	**12.00**	**4050+54.00**	**907.63**	**12.00**	**-0.038**	**-0.46**	**1:213**	**907.17**	**END FS / BEGIN TRANSITION**
908.21	1:213	0.36	0.030	12.00	4050+75.00	907.85	12.00	-0.030	-0.36	1:213	907.50	
908.33	1:213	0.24	0.020	12.00	4051+00.00	908.09	12.00	-0.020	-0.24	1:213	907.84	
908.41	1:213	0.13	0.010	12.00	4051+25.00	908.28	12.00	-0.010	-0.13	1:213	908.15	
908.44	1:213	0.01	0.001	12.00	4051+50.00	908.43	12.00	-0.001	-0.01	1:213	908.42	
908.44	**1:213**	**0.00**	**0.000**	**12.00**	**4051+52.00**	**908.44**	**12.00**	**0.000**	**0.00**	**1:213**	**908.44**	**FLAT**
908.44	1:213	-0.11	-0.009	12.00	4051+75.00	908.55	12.00	0.009	0.11	1:213	908.65	
908.40	1:213	-0.22	-0.019	12.00	4052+00.00	908.62	12.00	0.019	0.22	1:213	908.85	
908.32	1:213	-0.34	-0.028	12.00	4052+25.00	908.66	12.00	0.028	0.34	1:213	909.00	
908.19	1:213	-0.46	-0.038	12.00	4052+50.00	908.65	12.00	0.038	0.46	1:213	909.11	
908.03	1:213	-0.57	-0.048	12.00	4052+75.00	908.61	12.00	0.048	0.57	1:213	909.18	
907.86	**1:213**	**-0.67**	**-0.056**	**12.00**	**4052+96.00**	**908.54**	**12.00**	**0.056**	**0.67**	**1:213**	**909.21**	**END TRANSITION / BEGIN FS (0.056)**
907.85		-0.67	-0.056	12.00	4053+00.00	908.52	12.00	0.056	0.67		909.19	
907.74		-0.67	-0.056	12.00	4053+25.00	908.42	12.00	0.056	0.67		909.09	
907.64		-0.67	-0.056	12.00	4053+50.00	908.31	12.00	0.056	0.67		908.98	
907.53		-0.67	-0.056	12.00	4053+75.00	908.21	12.00	0.056	0.67		908.88	
907.43		-0.67	-0.056	12.00	4054+00.00	908.10	12.00	0.056	0.67		908.77	
907.36	**1:213**	**-0.67**	**-0.056**	**12.00**	**4054+16.00**	**908.03**	**12.00**	**0.056**	**0.67**	**1:213**	**908.71**	**END FS (0.056) / BEGIN TRANSITION**
907.37	1:213	-0.63	-0.052	12.00	4054+25.00	908.00	12.00	0.052	0.63	1:213	908.63	
907.40	1:213	-0.51	-0.043	12.00	4054+50.00	907.91	12.00	0.043	0.51	1:213	908.42	
907.43	1:213	-0.40	-0.033	12.00	4054+75.00	907.83	12.00	0.033	0.40	1:213	908.22	
907.48	1:213	-0.28	-0.023	12.00	4055+00.00	907.76	12.00	0.023	0.28	1:213	908.04	
907.53	1:213	-0.16	-0.014	12.00	4055+25.00	907.69	12.00	0.014	0.16	1:213	907.85	
907.59	1:213	-0.05	-0.004	12.00	4055+50.00	907.64	12.00	0.004	0.05	1:213	907.68	
907.66	1:213	0.07	0.006	12.00	4055+75.00	907.59	12.00	-0.006	-0.07	1:213	907.52	
907.75	1:213	0.19	0.016	12.00	4056+00.00	907.56	12.00	-0.016	-0.19	1:213	907.37	
907.74	**1:213**	**0.19**	**0.016**	**12.00**	**4056+01.00**	**907.55**	**12.00**	**-0.016**	**-0.19**	**1:213**	**907.36**	**END TRANSITION / BEGIN NC (0.016)**
907.72		0.19	0.016	12.00	4056+25.00	907.53	12.00	-0.016	-0.19		907.34	
907.69		0.19	0.016	12.00	4056+50.00	907.50	12.00	-0.016	-0.19		907.31	
907.65		0.19	0.016	12.00	4056+75.00	907.46	12.00	-0.016	-0.19		907.27	
907.62		0.19	0.016	12.00	4057+00.00	907.43	12.00	-0.016	-0.19		907.24	
907.59		0.19	0.016	12.00	4057+25.00	907.40	12.00	-0.016	-0.19		907.20	
907.56		0.19	0.016	12.00	4057+50.00	907.37	12.00	-0.016	-0.19		907.17	
907.53		0.19	0.016	12.00	4057+75.00	907.34	12.00	-0.016	-0.19		907.15	
907.49		0.19	0.016	12.00	4058+00.00	907.30	12.00	-0.016	-0.19		907.11	
907.46		0.19	0.016	12.00	4058+25.00	907.27	12.00	-0.016	-0.19		907.08	
907.43		0.19	0.016	12.00	4058+50.00	907.24	12.00	-0.016	-0.19		907.05	
907.40		0.19	0.016	12.00	4058+75.00	907.21	12.00	-0.016	-0.19		907.02	
907.37		0.19	0.016	12.00	4059+00.00	907.18	12.00	-0.016	-0.19		906.98	
907.34		0.19	0.016	12.00	4059+25.00	907.15	12.00	-0.016	-0.19		906.96	
907.31		0.19	0.016	12.00	4059+50.00	907.12	12.00	-0.016	-0.19		906.93	
907.34		0.19	0.016	12.00	4059+75.00	907.15	12.00	-0.016	-0.19		906.96	

LEFT LANE					CENTERLINE CONTROL		RIGHT LANE					REMARKS
EDGE ELEV	TRANS RATE	ELEV CORR	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEV CORR	TRANS RATE	EDGE ELEV	
907.42		0.19	0.016	12.00	4060+00.00	907.23	12.00	-0.016	-0.19		907.04	
907.55		0.19	0.016	12.00	4060+25.00	907.36	12.00	-0.016	-0.19		907.17	
907.73		0.19	0.016	12.00	4060+50.00	907.54	12.00	-0.016	-0.19		907.35	
907.97		0.19	0.016	12.00	4060+75.00	907.78	12.00	-0.016	-0.19		907.59	
908.26		0.19	0.016	12.00	4061+00.00	908.07	12.00	-0.016	-0.19		907.87	
908.60		0.19	0.016	12.00	4061+25.00	908.41	12.00	-0.016	-0.19		908.22	
908.99		0.19	0.016	12.00	4061+50.00	908.80	12.00	-0.016	-0.19		908.61	
909.44		0.19	0.016	12.00	4061+75.00	909.25	12.00	-0.016	-0.19		909.06	
909.94		0.19	0.016	12.00	4062+00.00	909.75	12.00	-0.016	-0.19		909.55	
910.49		0.19	0.016	12.00	4062+25.00	910.30	12.00	-0.016	-0.19		910.10	
911.09		0.19	0.016	12.00	4062+50.00	910.90	12.00	-0.016	-0.19		910.71	
911.75		0.19	0.016	12.00	4062+75.00	911.56	12.00	-0.016	-0.19		911.36	
912.46		0.19	0.016	12.00	4063+00.00	912.26	12.00	-0.016	-0.19		912.07	
913.22		0.19	0.016	12.00	4063+25.00	913.02	12.00	-0.016	-0.19		912.83	
914.03		0.19	0.016	12.00	4063+50.00	913.84	12.00	-0.016	-0.19		913.64	
914.33	**1:213**	**0.19**	**0.016**	**12.00**	**4063+59.00**	**914.14**	**12.00**	**-0.016**	**-0.19**	**1:213**	**913.95**	**END NC (0.016) / BEGIN TRANSITION**
914.82	1:213	0.12	0.010	12.00	4063+75.00	914.70	12.00	-0.010	-0.12	1:213	914.59	
915.62	1:213	0.00	0.000	12.00	4064+00.00	915.62	12.00	0.000	0.00	1:213	915.62	
916.47	1:213	-0.12	-0.010	12.00	4064+25.00	916.59	12.00	0.010	0.12	1:213	916.70	
917.33	1:213	-0.23	-0.019	12.00	4064+50.00	917.56	12.00	0.019	0.23	1:213	917.80	
918.19	1:213	-0.35	-0.029	12.00	4064+75.00	918.54	12.00	0.029	0.35	1:213	918.89	
919.05	1:213	-0.47	-0.039	12.00	4065+00.00	919.51	12.00	0.039	0.47	1:213	919.98	
919.88	1:213	-0.58	-0.049	12.00	4065+25.00	920.46	12.00	0.049	0.58	1:213	921.05	
920.47	**1:213**	**-0.67**	**-0.056**	**12.00**	**4065+44.00**	**921.15**	**12.00**	**0.056**	**0.67**	**1:213**	**921.82**	**END TRANSITION / BEGIN FS (0.056)**
920.68		-0.67	-0.056	12.00	4065+50.00	921.36	12.00	0.056	0.67		922.03	
921.52		-0.67	-0.056	12.00	4065+75.00	922.20	12.00	0.056	0.67		922.87	
922.31		-0.67	-0.056	12.00	4066+00.00	922.98	12.00	0.056	0.67		923.65	
923.04		-0.67	-0.056	12.00	4066+25.00	923.71	12.00	0.056	0.67		924.38	
923.71		-0.67	-0.056	12.00	4066+50.00	924.39	12.00	0.056	0.67		925.06	
924.07	**1:213**	**-0.67**	**-0.056**	**12.00**	**4066+64.00**	**924.74**	**12.00**	**0.056**	**0.67**	**1:213**	**925.41**	**END FS (0.056) / BEGIN TRANSITION**
924.39	1:213	-0.62	-0.052	12.00	4066+75.00	925.01	12.00	0.052	0.62	1:213	925.63	
925.07	1:213	-0.50	-0.042	12.00	4067+00.00	925.57	12.00	0.042	0.50	1:213	926.08	
925.70	1:213	-0.39	-0.032	12.00	4067+25.00	926.09	12.00	0.032	0.39	1:213	926.47	
926.27	1:213	-0.27	-0.023	12.00	4067+50.00	926.54	12.00	0.023	0.27	1:213	926.81	
926.79	1:213	-0.15	-0.013	12.00	4067+75.00	926.95	12.00	0.013	0.15	1:213	927.10	
927.26	1:213	-0.04	-0.003	12.00	4068+00.00	927.30	12.00	0.003	0.04	1:213	927.34	
927.39	**1:213**	**0.00**	**0.000**	**12.00**	**4068+08.00**	**927.39**	**12.00**	**0.000**	**0.00**	**1:213**	**927.39**	**FLAT**
927.67	1:213	0.08	0.007	12.00	4068+25.00	927.59	12.00	-0.007	-0.08	1:213	927.51	
928.02	1:213	0.20	0.016	12.00	4068+50.00	927.83	12.00	-0.016	-0.20	1:213	927.63	
928.33	1:213	0.31	0.026	12.00	4068+75.00	928.01	12.00	-0.026	-0.31	1:213	927.70	
928.57	1:213	0.43	0.036	12.00	4069+00.00	928.14	12.00	-0.036	-0.43	1:213	927.72	
928.62	**1:213**	**0.46**	**0.038**	**12.00**	**4069+06.00**	**928.17**	**12.00**	**-0.038**	**-0.46**	**1:213**	**927.71**	**END TRANSITION / BEGIN FS**
928.69	1:213	0.47	0.039	12.00	4069+25.00	928.22	12.00	-0.039	-0.47	1:213	927.75	
928.72	1:213	0.48	0.040	12.00	**4069+37.13**	928.24	12.00	-0.040	-0.48	1:213	927.76	
MATCH EXISTING PAVEMENT ELEVATION				**10.14**	4069+50.00	928.24	12.00	-0.040	-0.48		927.76	
				6.61	4069+75.00	928.21	12.00	-0.040	-0.48		927.73	
				3.23	4070+00.00	928.12	12.00	-0.040	-0.48		927.64	
				0.13	4070+25.00	928.01	12.00	-0.040	-0.48		927.53	
				0.00	**4070+26.12**	928.00	12.00	-0.040	-0.48		927.52	
					4070+50.00	927.89	12.00	-0.040	-0.48		927.41	
					4070+75.00	927.78	12.00	-0.040	-0.48		927.30	
					4071+00.00	927.66	12.00	-0.040	-0.48		927.18	
					4071+25.00	927.49	12.00	-0.040	-0.48		927.01	
					4071+39.50	927.39	12.00	-0.040	-0.48		926.91	
					4071+50.00	927.32						

CALCULATED PEK
CHECKED PRS

MAINTENANCE OF TRAFFIC
TEMPORARY ROAD - SUPERELEVATION TABLE

TUS-77-25.95



HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED PRS
CHECKED PEK

MAINTENANCE OF TRAFFIC CROSSOVER (SOUTH) - PLAN AND PROFILE

TUS-77-25.95

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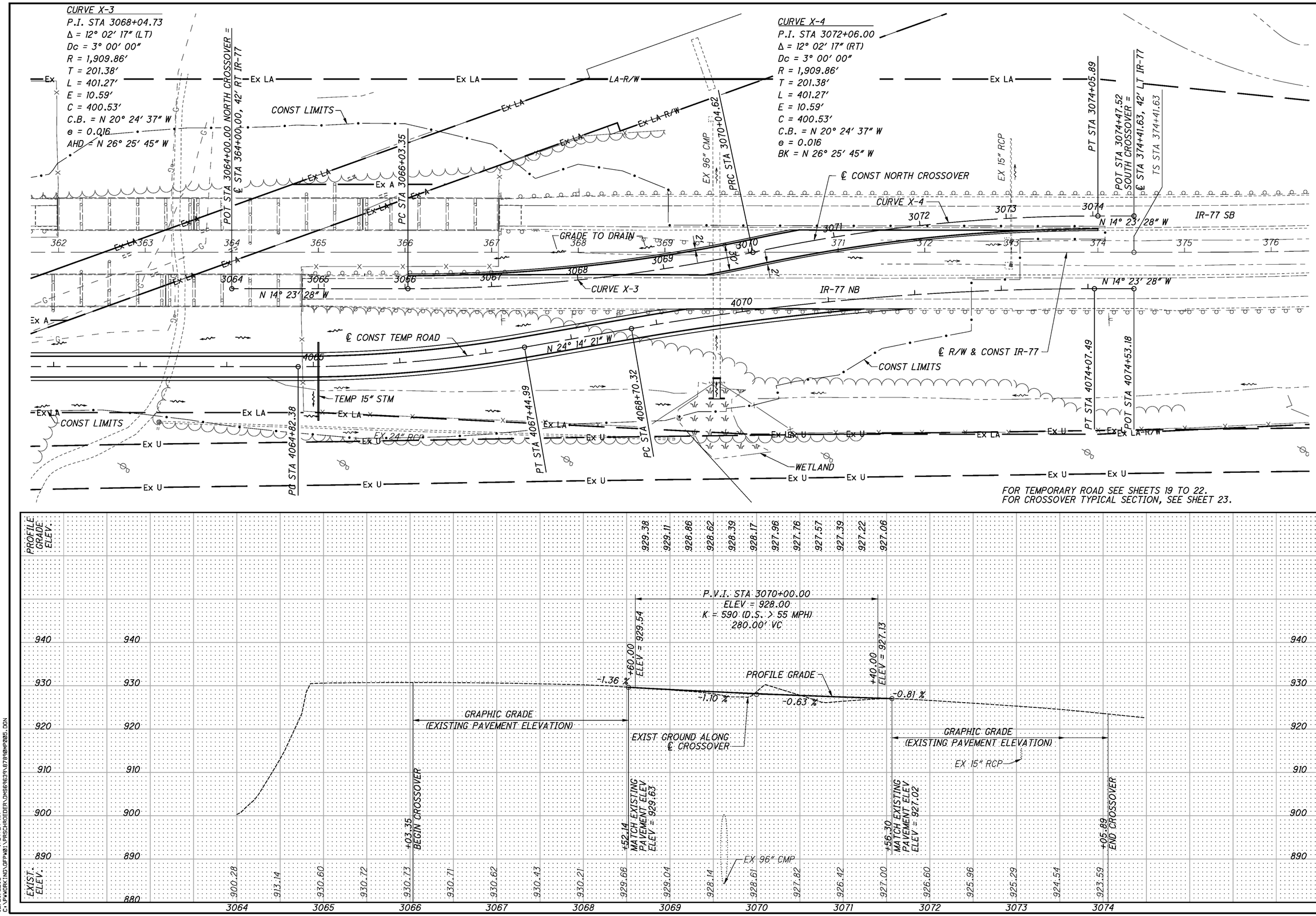

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED PRS
CHECKED PEK

MAINENANCE OF TRAFFIC CROSSOVER (NORTH) - PLAN AND PROFILE

TUS-77-25.95

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OFFICE CALCS	SHEET NUMBER 5	32	62	63	64	65	71	72								01/IMS/BR	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
																					ROADWAY	
	LUMP															LUMP	201	11000	LUMP		CLEARING AND GRUBBING	
				1	1	1										3	202	20010	3	EACH	HEADWALL REMOVED	
969																969	202	23000	969	SQ YD	PAVEMENT REMOVED	
				3	6	6										15	202	35200	15	FT	PIPE REMOVED, OVER 24"	
		3266														3266	202	38000	3266	FT	GUARDRAIL REMOVED	
		2155														2155	202	75000	2155	FT	FENCE REMOVED	
				13	54											67	202	98300	67	SQ YD	REMOVAL MISC.: 6" REINFORCED CONCRETE RIPRAP	
			7398													7398	203	10000	7398	CU YD	EXCAVATION	
			136871													136871	203	20000	136871	CU YD	EMBANKMENT	
6473																6473	204	10000	6473	SQ YD	SUBGRADE COMPACTION	
	4															4	204	45000	4	HOUR	PROOF ROLLING	
		3300														3300	606	15050	3300	FT	GUARDRAIL, TYPE MGS	
		1														1	606	26150	1	EACH	ANCHOR ASSEMBLY, MGS, TYPE E	
		2441														2441	607	15000	2441	FT	FENCE, TYPE 47	
	3															3	623	38500	3	EACH	MONUMENT ASSEMBLY	
							1099									1099	SPECIAL	69012010	1099	SQ YD	GEOTEXTILE FABRIC, (TYPE D)	
		8187														8187	863	00100	8187	SQ YD	GEOGRID, TYPE P1	
		1419														1419	863	00600	1419	SQ YD	GEOGRID, TYPE S1	
							5540									5540	863	00800	5540	CU YD	REINFORCED EMBANKMENT	
																					EROSION CONTROL	
				3	33	25										61	601	11000	61	SQ YD	RIPRAP USING 6" REINFORCED CONCRETE SLAB	
		4														4	601	21050	4	SQ YD	TIED CONCRETE BLOCK MAT, TYPE 1	
	52617															52617	659	10000	52617	SQ YD	SEEDING AND MULCHING	
	2631															2631	659	14000	2631	SQ YD	REPAIR SEEDING AND MULCHING	
	2631															2631	659	15000	2631	SQ YD	INTER-SEEDING	
	7.11															7.11	659	20000	7.11	TON	COMMERCIAL FERTILIZER	
	10.88															10.88	659	31000	10.88	ACRE	LIME	
	143															143	659	35000	143	M GAL	WATER	
		542														542	670	00710	542	SQ YD	DITCH EROSION PROTECTION MAT, TYPE A	
																LUMP	832	15000	LUMP		STORM WATER POLLUTION PREVENTION PLAN	
																75000	832	30000	75000	EACH	EROSION CONTROL	
		125														125	836	10000	125	SQ YD	SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1	
																					DRAINAGE	
				0.7		4.4										5.1	602	20000	5.1	CU YD	CONCRETE MASONRY	
					45.6											45.6	602	20001	45.6	CU YD	CONCRETE MASONRY, AS PER PLAN	64
		465														465	605	13300	465	FT	6" UNCLASSIFIED PIPE UNDERDRAINS	
		3063														3063	605	14000	3063	FT	6" BASE PIPE UNDERDRAINS	
		104														104	611	00510	104	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
				12												12	611	16200	12	FT	36" CONDUIT, TYPE A, 706.02	
					112											112	611	28000	112	FT	84" CONDUIT, TYPE A, 706.02	
						24										24	611	30000	24	FT	96" CONDUIT, TYPE A, 707.02	
		2														2	611	99710	2	EACH	PRECAST REINFORCED CONCRETE OUTLET	
																					PAVEMENT	
1067																1067	254	01000	1067	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
1516																1516	301	46000	1516	CU YD	ASPHALT CONCRETE BASE, PG64-22	
1055																1055	304	20000	1055	CU YD	AGGREGATE BASE	
82																82	407	10000	82	GALLON	TACK COAT	
281																281	407	14000	281	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
245																245	442	10051	245	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN	5
342																342	442	10150	342	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446)	
																					TRAFFIC CONTROL	
								59								59	621	00100	59	EACH	RPM	
								18								18	630	02100	18	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
								60								60	630	04100	60	FT	GROUND MOUNTED SUPPORT, NO. 4 POST	
								26								26	630	80100	26	SQ FT	SIGN, FLAT SHEET	
								8								8	630	84900	8	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
								1								1	630	85100	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	

CALCULATED PRS
CHECKED SSC

GENERAL SUMMARY

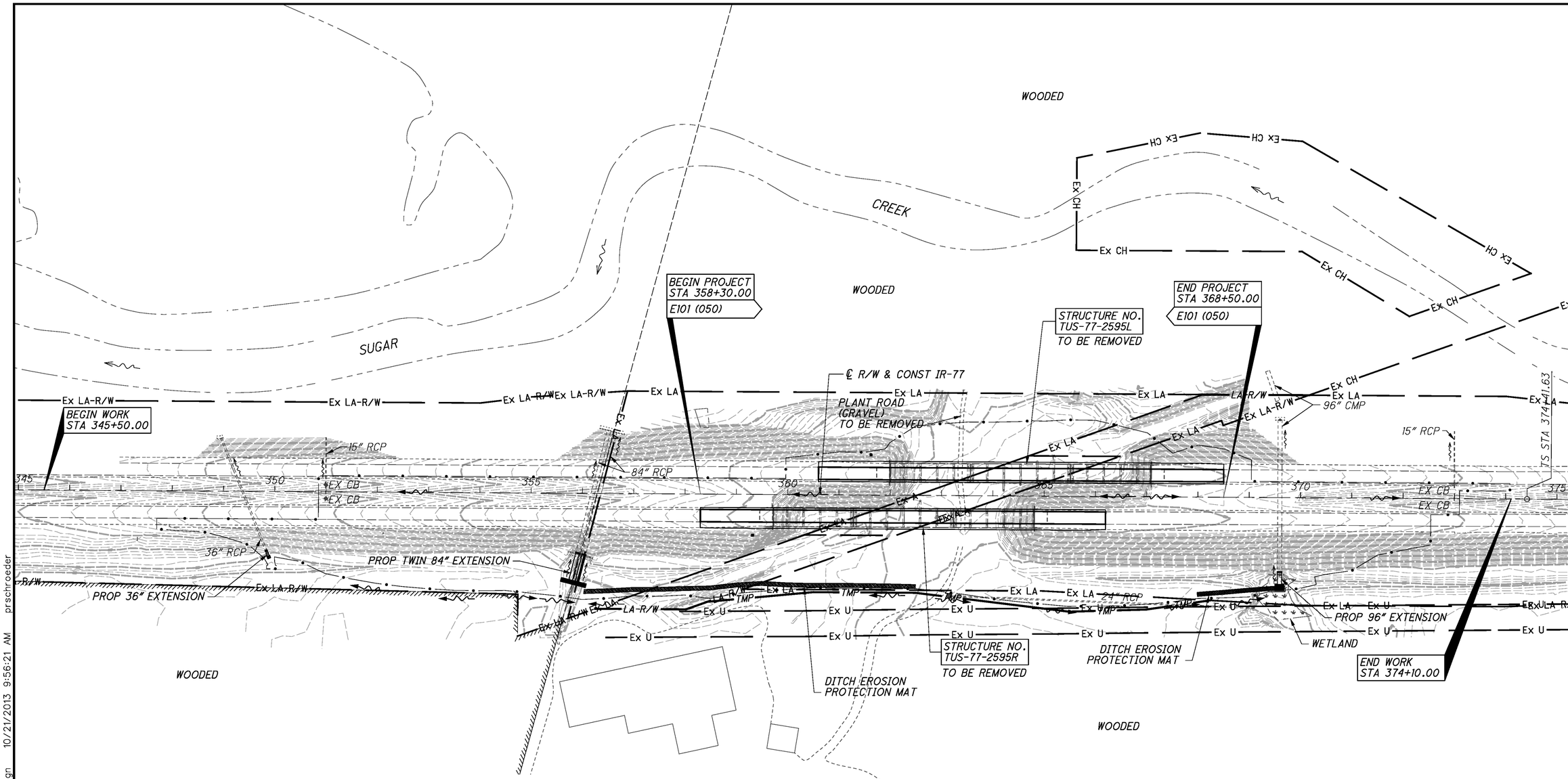
TUS-77-25.95

SHEET NUMBER																01/IMS/BR	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS	7	8	9	10	72	78																
																					TRAFFIC CONTROL - CONTINUED FROM PREVIOUS PAGE	
					12											12	630	86002	12	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
					2.62											2.62	644	00104	2.62	MILE	EDGE LINE, 6"	
					1.31											1.31	644	00204	1.31	MILE	LANE LINE, 6"	
																					STRUCTURES 20 FOOT SPAN AND OVER- BRIDGE NO. TUS-77-2595L	
						LUMP										LUMP	202	11003	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	77
						133										133	202	22900	133	SQ YD	APPROACH SLAB REMOVED	
																					STRUCTURES 20 FOOT SPAN AND OVER- BRIDGE NO. TUS-77-2595R	
						LUMP										LUMP	202	11003	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	77
						133										133	202	22900	133	SQ YD	APPROACH SLAB REMOVED	
						LUMP										LUMP	502	11101	LUMP		STRUCTURE FOR MAINTAINING TRAFFIC, AS PER PLAN	77
						6										6	512	33000	6	SQ YD	TYPE 2 WATERPROOFING	
						LUMP										LUMP	SPECIAL	53000200	LUMP		STRUCTURE, MISC.: STRUCTURE MONITORING DURING CONSTRUCTION	77
																					MAINTENANCE OF TRAFFIC	
				12												12	601	34200	12	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	
				227												227	611	05900	227	FT	15" CONDUIT, TYPE B	
			200													200	614	11110	200	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	9
		16														16	614	11500	16	MONTH	WORKSITE TRAFFIC SUPERVISOR	
		3940														3940	614	11621	3940	FT	LINEAR DELINEATION, AS PER PLAN	8
				12												12	614	12336	12	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
	4															4	614	12410	4	EACH	SPEED ZONE AHEAD SYMBOL SIGN	
	4															4	614	12470	4	EACH	WORK ZONE SPEED LIMIT SIGN	
	4															4	614	12484	4	EACH	WORK ZONE INCREASED PENALTIES SIGN	
				2												2	614	12756	2	EACH	WORK ZONE CROSSOVER LIGHTING SYSTEM	
				310												310	614	12800	310	EACH	WORK ZONE RAISED PAVEMENT MARKER	
		50														50	614	12801	50	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	8
	200															200	614	13000	200	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
		210														210	614	13300	210	EACH	BARRIER REFLECTOR, TYPE B	
		220														220	614	13350	220	EACH	OBJECT MARKER, ONE WAY	
			32													32	614	18601	32	SIGN MNTH	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	9
			1.31													1.31	614	20000	1.31	MILE	WORK ZONE LANE LINE, CLASS I	
			2.62	1.98												4.60	614	22000	4.60	MILE	WORK ZONE EDGE LINE, CLASS I	
				6413												6413	614	23000	6413	FT	WORK ZONE CHANNELIZING LINE, CLASS I	
	LUMP															LUMP	615	10000	LUMP		ROADS FOR MAINTAINING TRAFFIC	
10068																10068	615	20000	10068	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
	2050															2050	616	10000	2050	M GAL	WATER	
				10400												10400	622	41000	10400	FT	PORTABLE BARRIER, 32"	
																LUMP	614	11000	LUMP		MAINTAINING TRAFFIC	
																19	619	16010	19	MONTH	FIELD OFFICE, TYPE B	
																LUMP	623	10000	LUMP		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
																LUMP	624	10000	LUMP		MOBILIZATION	

CALCULATED PRS
CHECKED SSC

GENERAL SUMMARY

TUS-77-25.95



PROJECT DATA	
TOTAL AREA (RIGHT-OF-WAY)	25.05 ACRES
PROJECT EARTH DISTURBED AREA	13.09 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	9.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA	22.34 ACRES
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.52
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE	0.52
IMPERVIOUS AREA FOR PRE-CONSTRUCTION	1.32 ACRES
IMPERVIOUS AREA FOR POST-CONSTRUCTION	1.45 ACRES
IMMEDIATE RECEIVING WATERS	TRIBUTARIES TO SUGAR CREEK
SUBSEQUENT RECEIVING WATERS (WITHIN 200' OF ROW)	SUGAR CREEK
RECEIVING WATERS UNDER TOTAL MAXIMUM DAILY LOAD (TMDL) REGULATIONS	NONE

PROJECT DESCRIPTION

REMOVE BRIDGES IDENTIFIED AS TUS-77-2595 L&R OVER AN ACCESS ROAD AND ABANDONED RAILROAD. CONSTRUCT EMBANKMENT AND ASSOCIATED ROADWAY FEATURES. TRAFFIC MAINTAINED BY CONSTRUCTION OF A TEMPORARY ROAD.

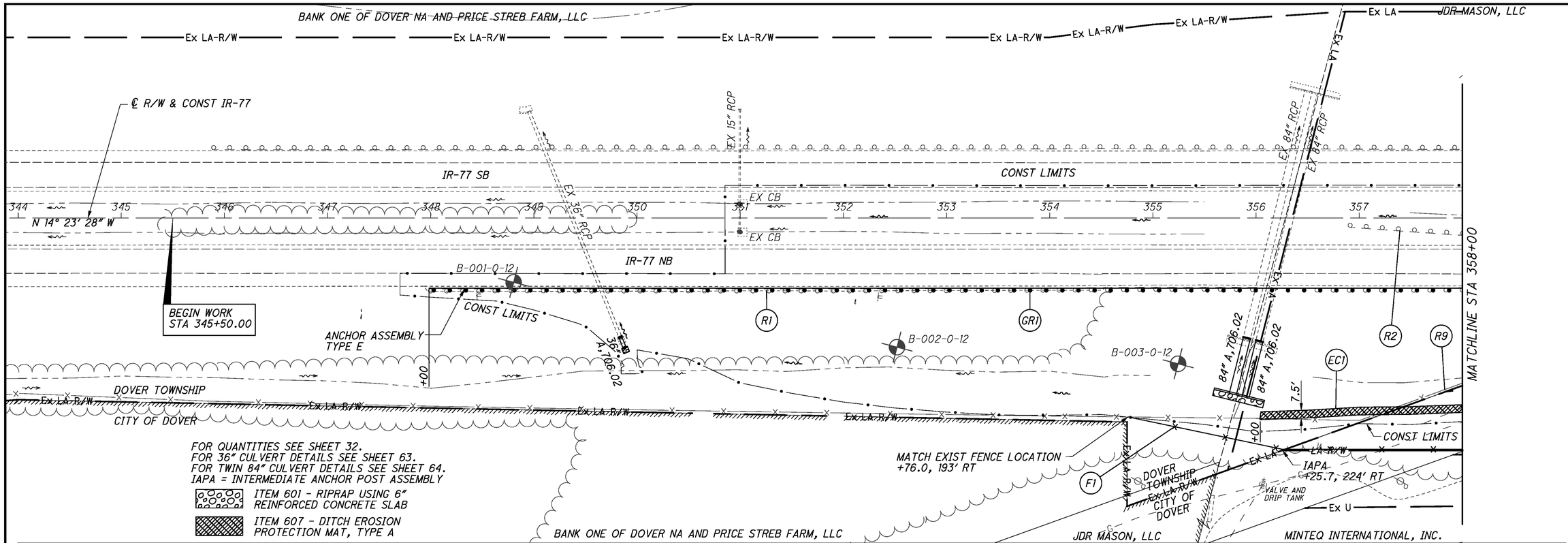
USGS QUADRANT:
STRASBURG, OHIO
LATITUDE: 40°33'50" N
LONGITUDE: 81°30'30" W
LATITUDE AND LONGITUDE TO APPROXIMATE MIDDLE OF PROJECT

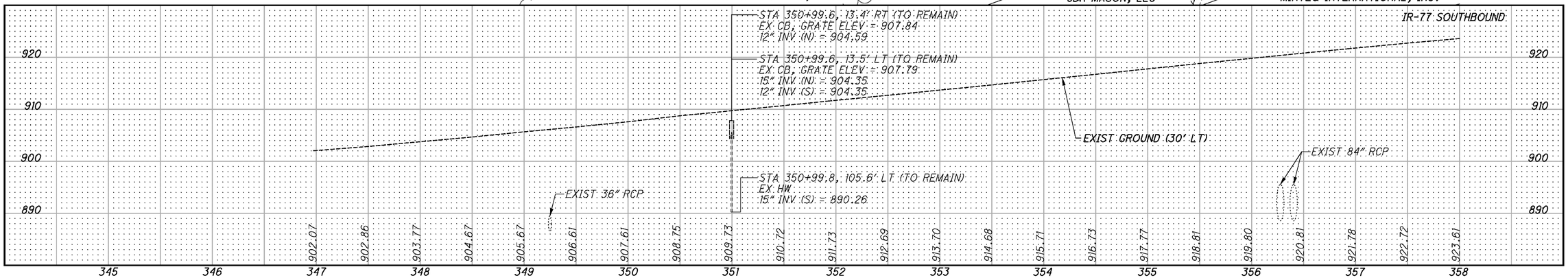
POST CONSTRUCTION BMP

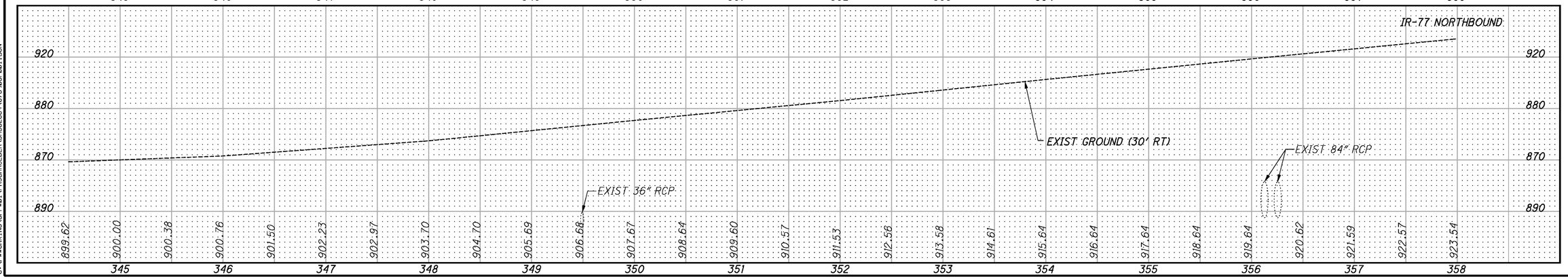
VEGETATED BIOFILTERS WERE PROVIDED TO MEET NPDES POST-CONSTRUCTION REQUIREMENTS. ENHANCED BANKFULL WIDTH DITCHES WILL BE CONSTRUCTED IN THE MEDIAN FROM STA 351+00 TO STA 373+00.

PROJECT SITE PLAN

TUS-77-25.95







HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED PRS
CHECKED PEK

PLAN AND PROFILE
STA 344+00 TO STA 358+00

TUS-77-25.95

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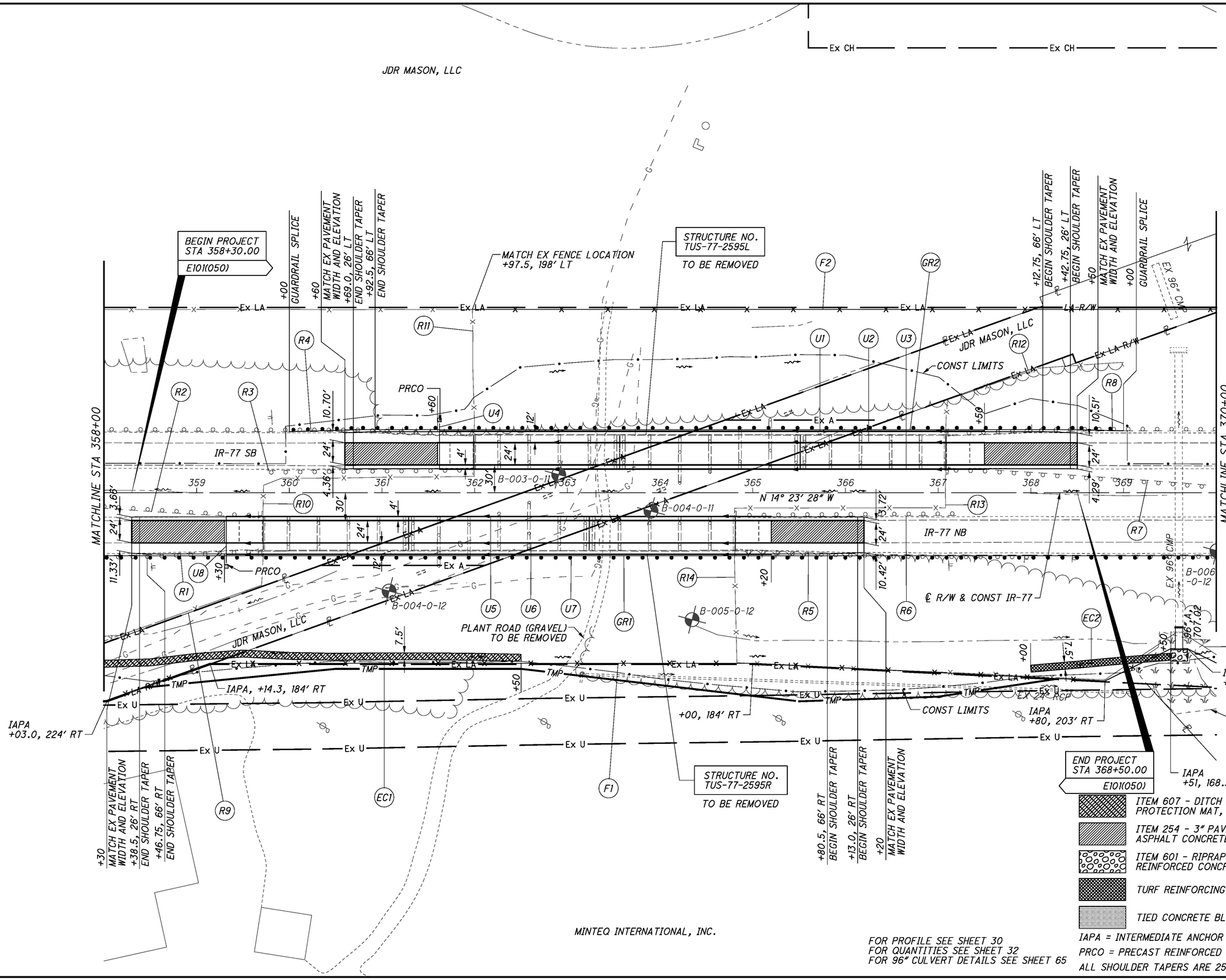
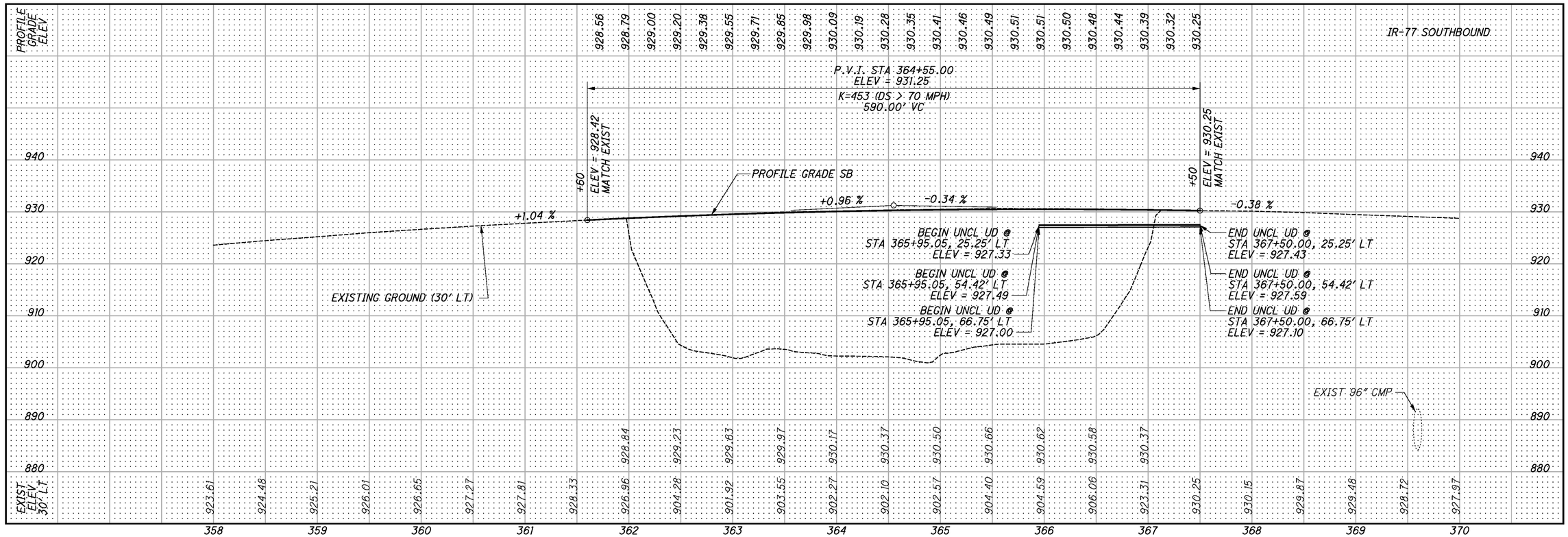
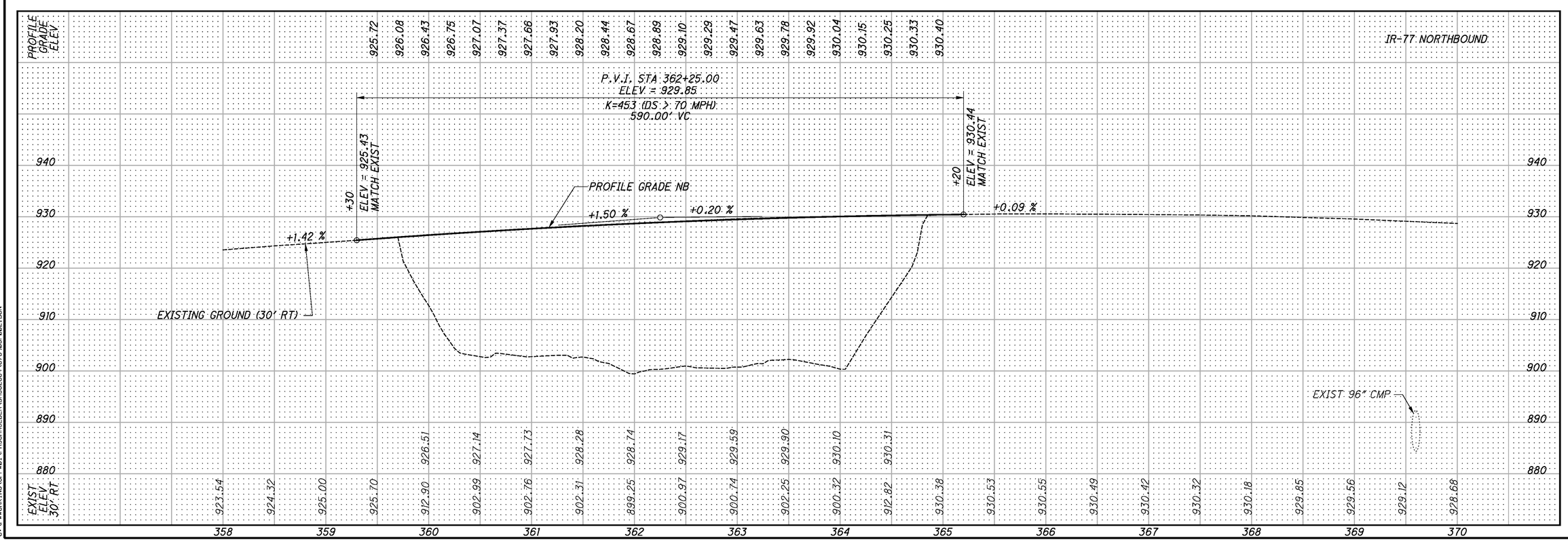


PLAN
STA 358+00 TO STA 370+00

TUS-77-25.95





CALCULATED PRS
CHECKED PEK

PROFILE
STA 358+00 TO STA 370+00

TUS-77-25.95

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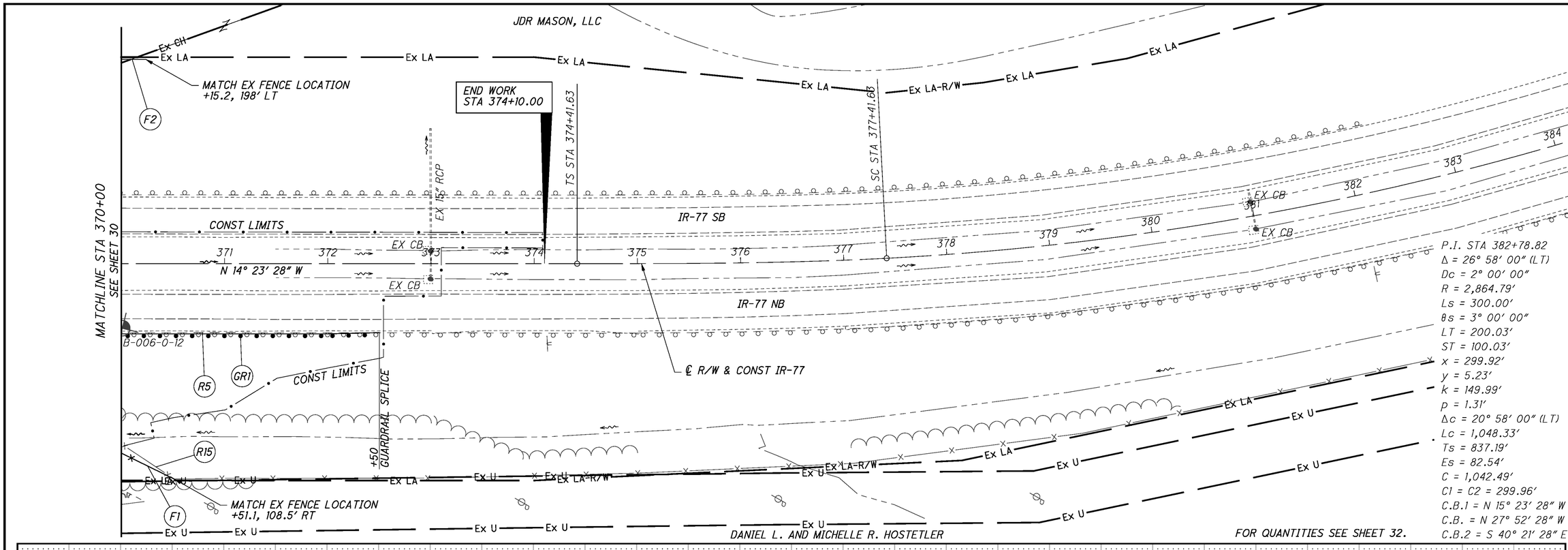
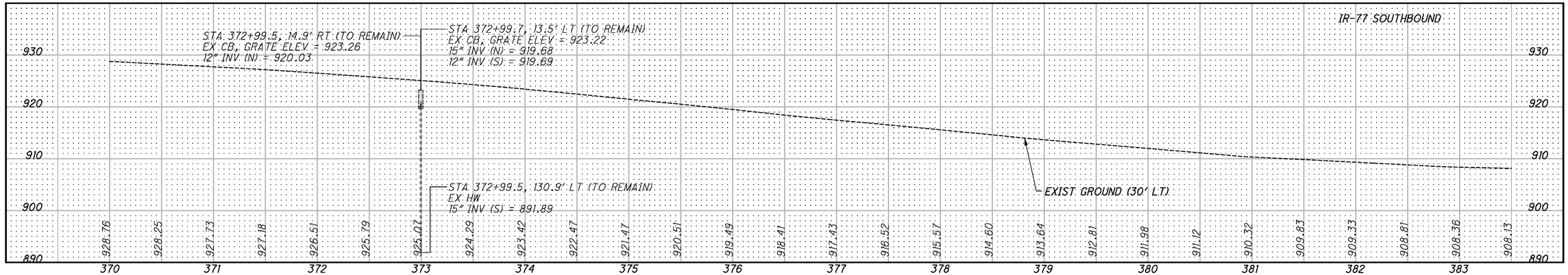
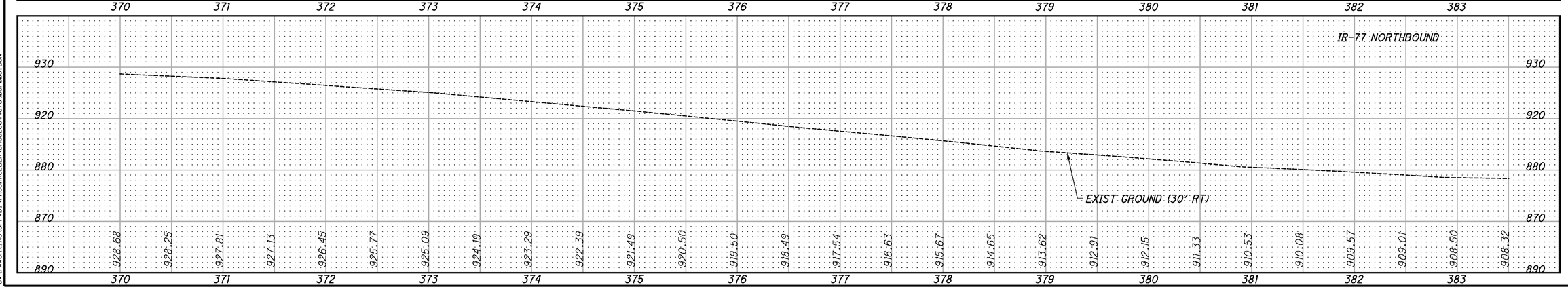






PLAN AND PROFILE
STA 370+00 TO STA 384+00

TUS-77-25.95

REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 GUARDRAIL REMOVED	202 FENCE REMOVED	601 TIED CONCRETE BLOCK MAT, TYPE 1	611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	611 PRECAST REINFORCED CONCRETE OUTLET	605 6" UNCLASSIFIED PIPE UNDERDRAINS	605 6" BASE PIPE UNDERDRAINS	606 GUARDRAIL, TYPE MGS	606 ANCHOR ASSEMBLY, MGS, TYPE E		607 FENCE, TYPE 47		670 DITCH EROSION PROTECTION MAT, TYPE A		836 SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1		863 GEOGRID, TYPE P1	863 GEOGRID, TYPE S1		FOR INFORMATION ONLY 605 6" TEE	FOR INFORMATION ONLY 605 6", 90° ELBOW	
					FT	FT	SQ YD	FT	EACH	FT	FT	FT	EACH		FT		SQ YD		SQ YD		SQ YD	SQ YD		EACH	EACH	
R1	28-29	348+00.00	359+60.00	RT	1160																					
R2	28-29	356+90.00	359+60.00	RT	270																					
R3	29	359+76.00	361+88.00	LT	212																					
R4	29	360+00.00	361+88.00	LT	188																					
R5	29,31	364+92.00	372+50.00	RT	758																					
R6	29	364+92.00	367+19.00	RT	227																					
R7	29	367+19.00	369+89.00	LT	270																					
R8	29	367+19.00	369+00.00	LT	181																					
R9	28-29	354+76.00	359+72.00	RT		545																				
R10	29	359+72.00	361+99.00	LT/RT		267																				
R11	29	361+99.00	361+97.00	LT		133																				
R12	29	367+08.00	369+00.00	LT		230																				
R13	29	364+80.00	367+08.00	LT/RT		269																				
R14	29	364+81.00	369+56.00	RT		607																				
R15	29,31	369+64.00	370+51.10	RT		104																				
GR1	28-29,31	348+00.00	372+50.00	RT								2400	1													
GR2	29	360+00.00	369+00.00	LT								900														
EC1	28-29	356+00.00	362+50.00	RT													542									
EC2	29	368+00.00	369+50.00	RT															125							
U1	29	361+62.00	367+50.00	LT						155	433															
U2	29	361+62.00	367+50.00	LT						155	433															
U3	29	361+62.00	367+50.00	LT						155	433															
U4	29	361+62.00	361+62.00	LT			1.8	52	1															1	1	
U5	29	359+32.00	365+20.00	RT							588															
U6	29	359+32.00	365+20.00	RT							588															
U7	29	359+32.00	365+20.00	RT							588															
U8	29	359+32.00	359+32.00	RT			1.8	52	1															1	1	
F1	28-29,31	354+76.00	370+51.10	RT											1603											
F2	29,31	361+97.50	370+15.20	LT											838											
RS1	66	362+00.00	365+00.00	LT/RT																	8187	1419				
SUBTOTAL					3266	2155	3.6	104	2	465	3063	3300	1		2441		542		125		8187	1419				
TOTALS CARRIED TO GENERAL SUMMARY					3266	2155	4	104	2	465	3063	3300	1		2441		542		125		8187	1419				

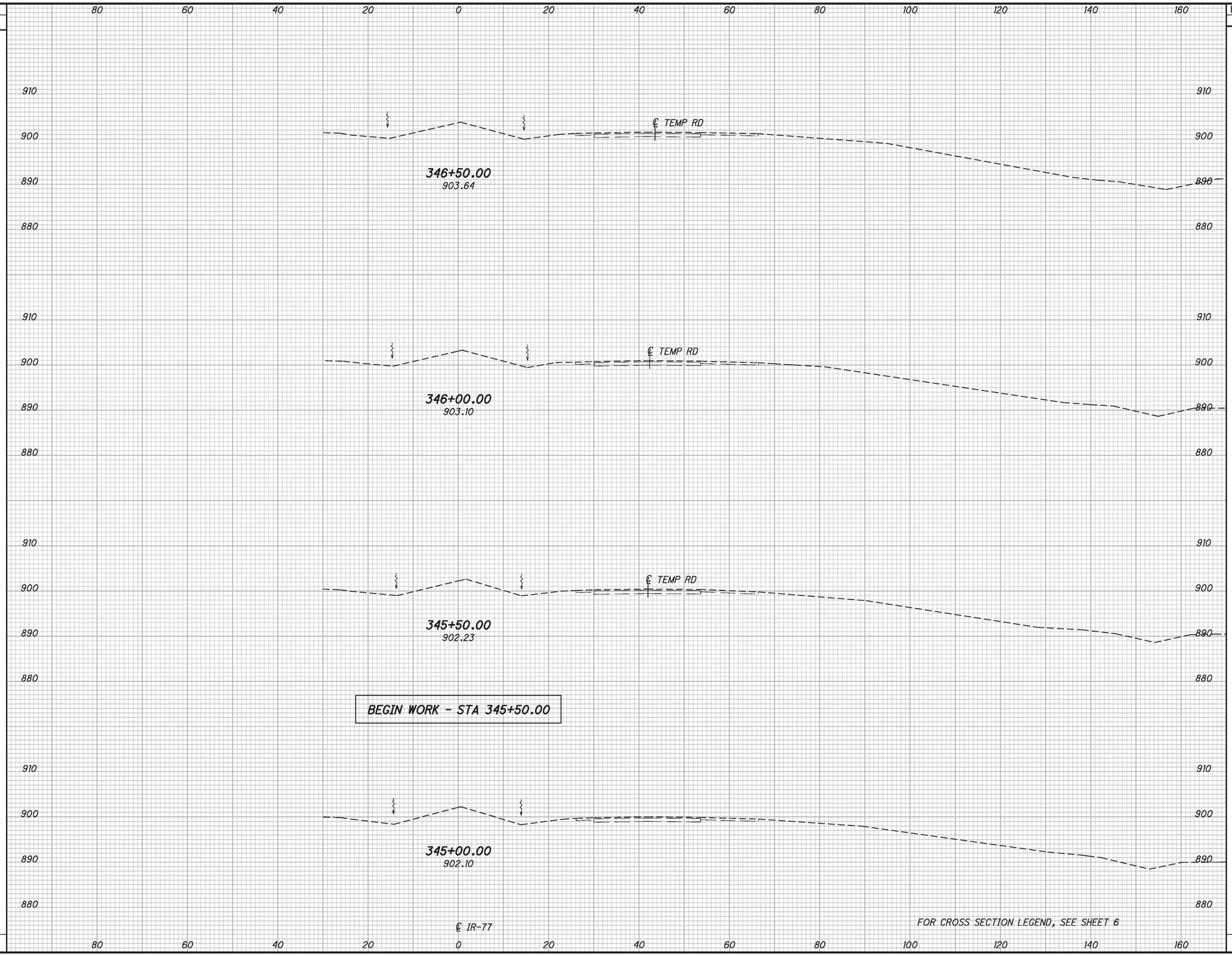
CALCULATED PEK
CHECKED PRS

ESTIMATED QUANTITIES

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62



END AREA	
CUT	FILL

VOLUME	
CUT	FILL

FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

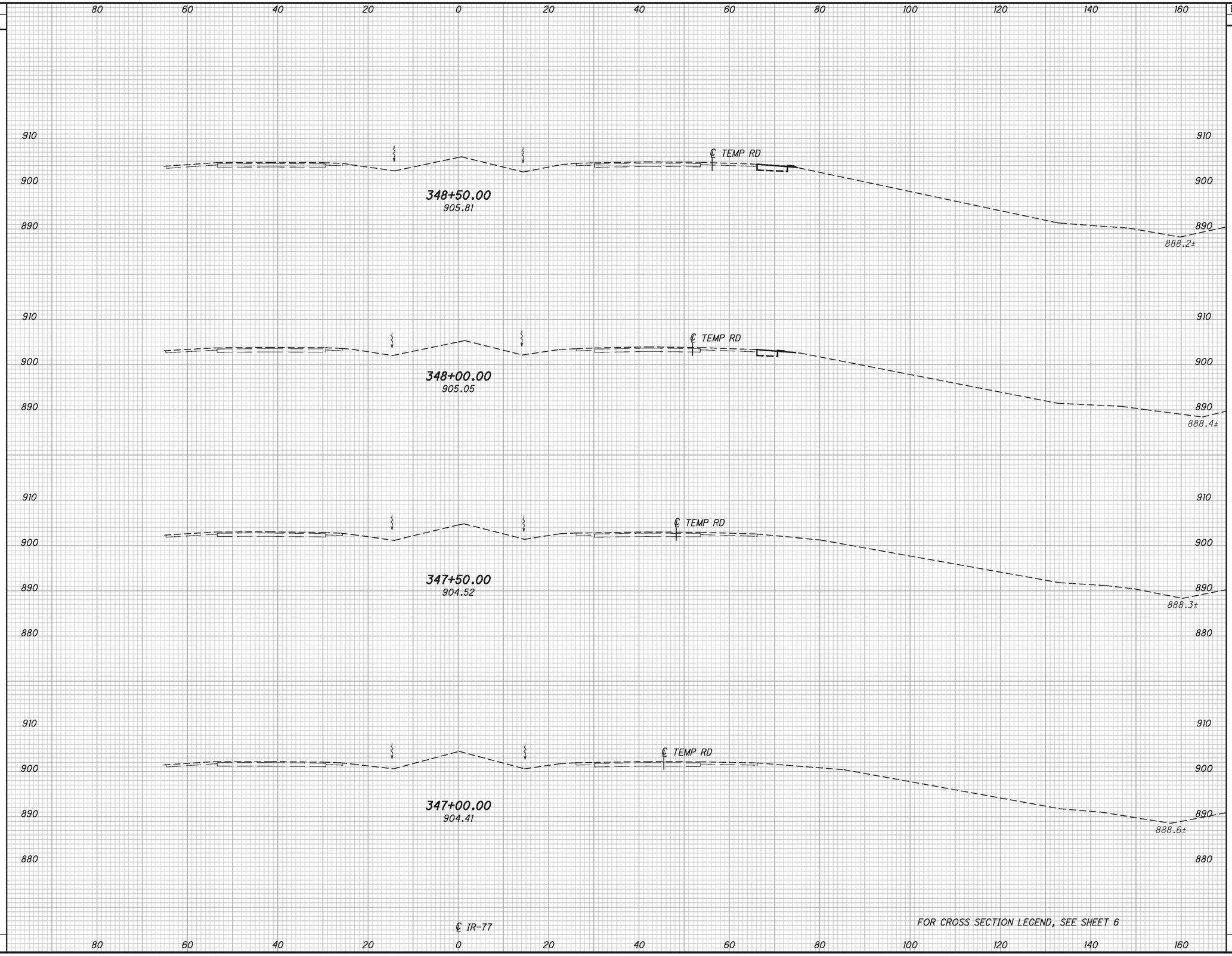
CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 345+00 TO STA 346+50

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62



END AREA	
CUT	FILL

VOLUME	
CUT	FILL

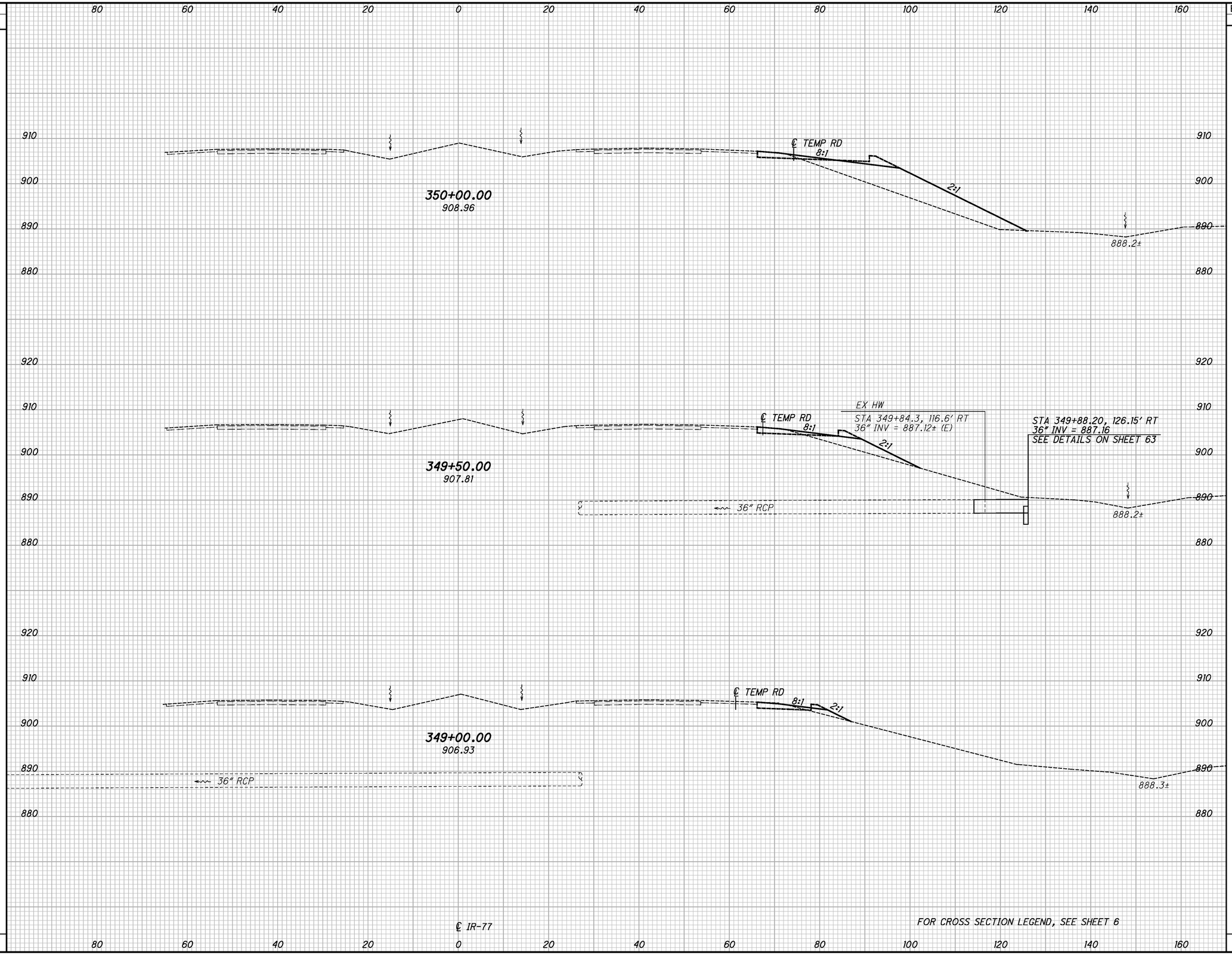
FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 347+00 TO STA 348+50

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED PEK
CHECKED PRS

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62

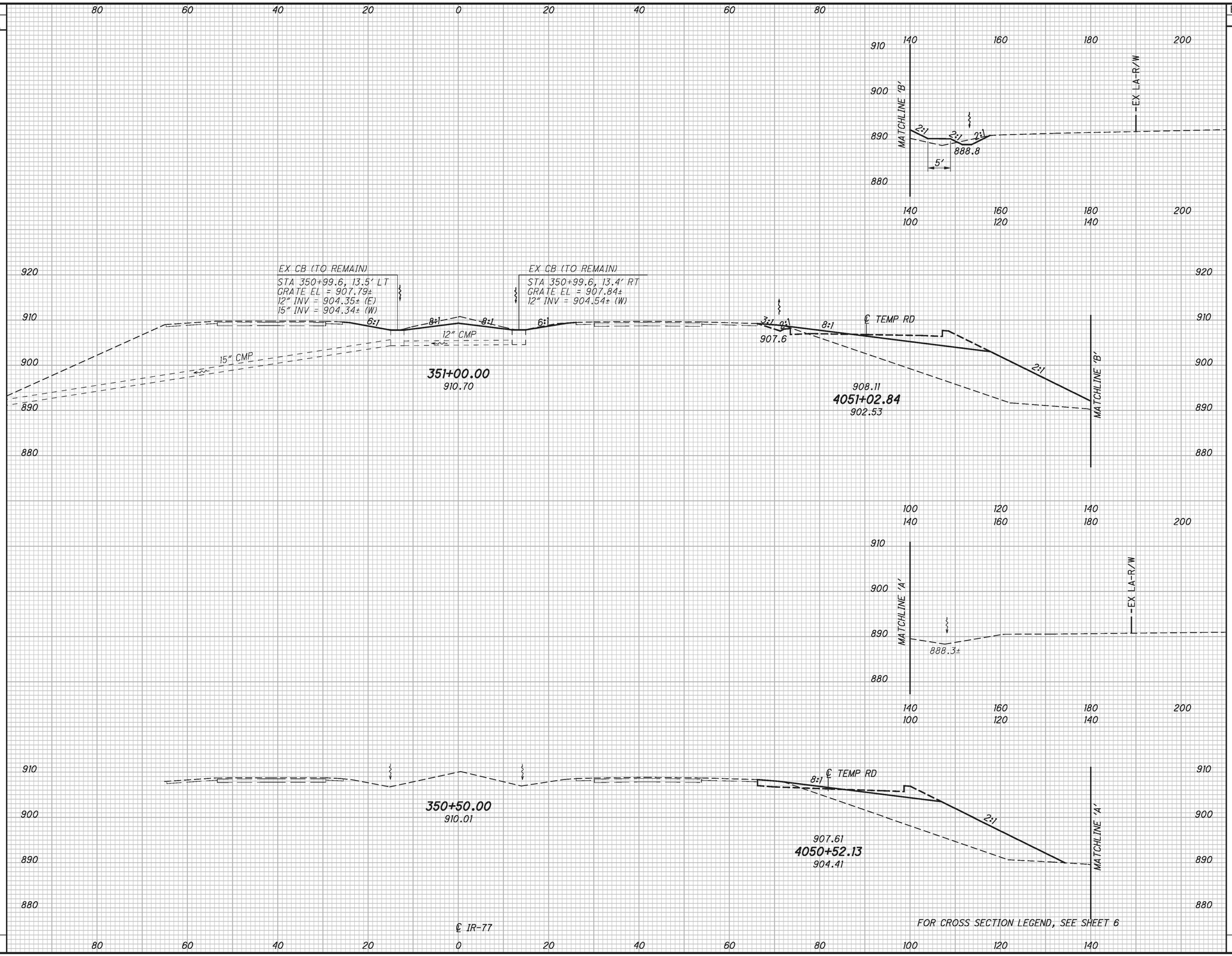
FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

CROSS SECTIONS
STA 349+00 TO STA 350+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62



END AREA		VOLUME	
CUT	FILL	CUT	FILL

FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

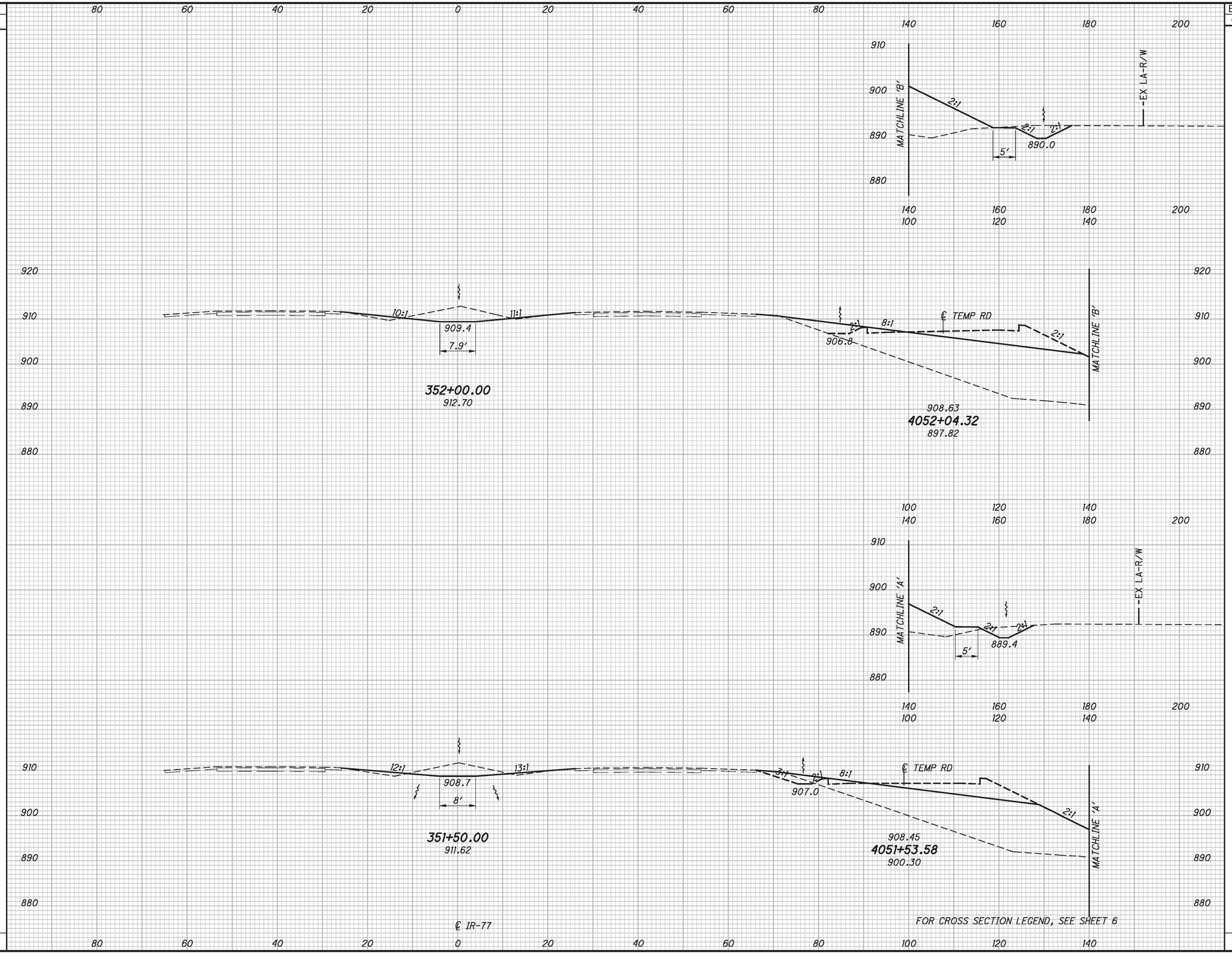
CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 350+50 TO STA 351+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62



END AREA		VOLUME	
CUT	FILL	CUT	FILL

FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

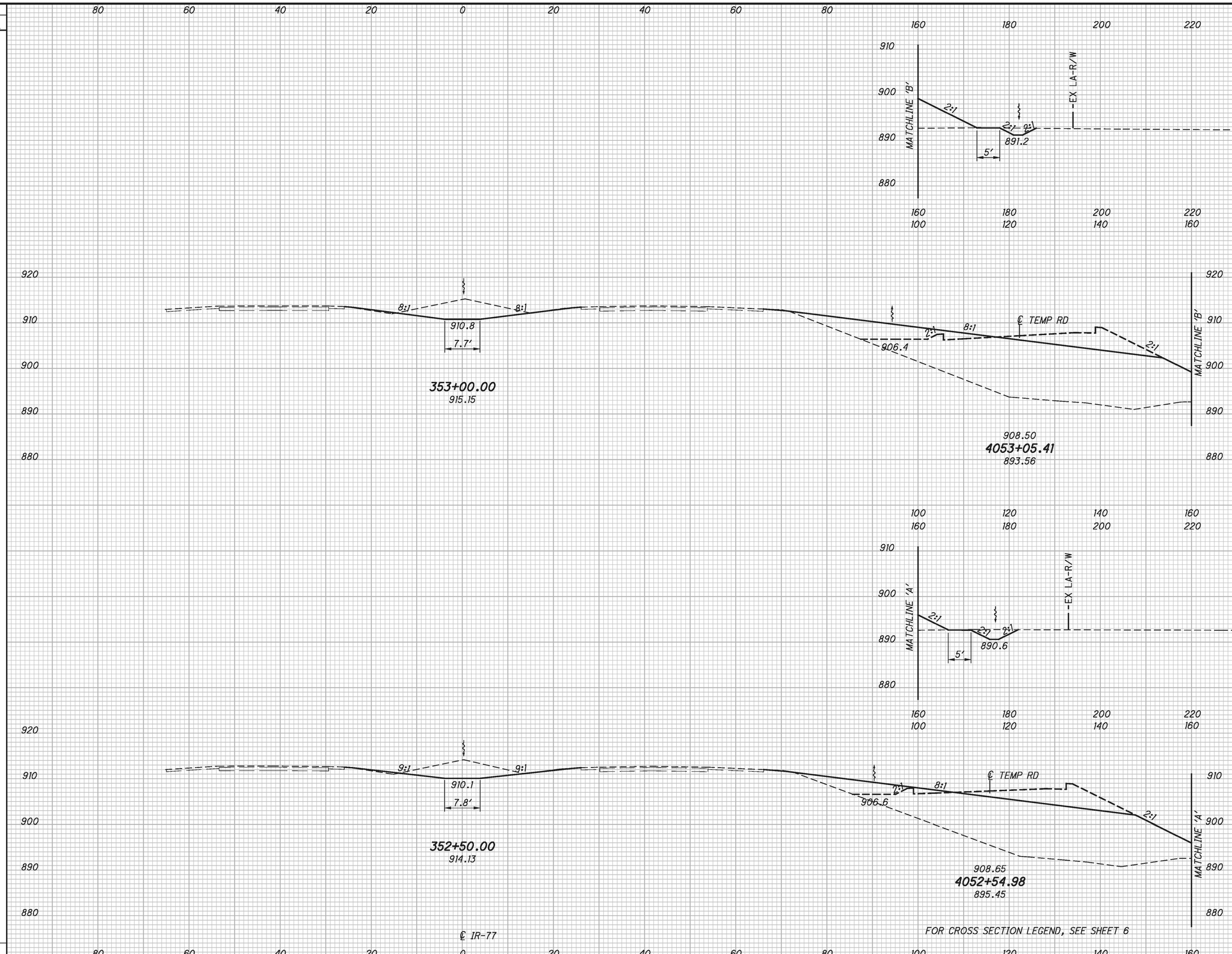
CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 351+50 TO STA 352+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62



END AREA		VOLUME	
CUT	FILL	CUT	FILL

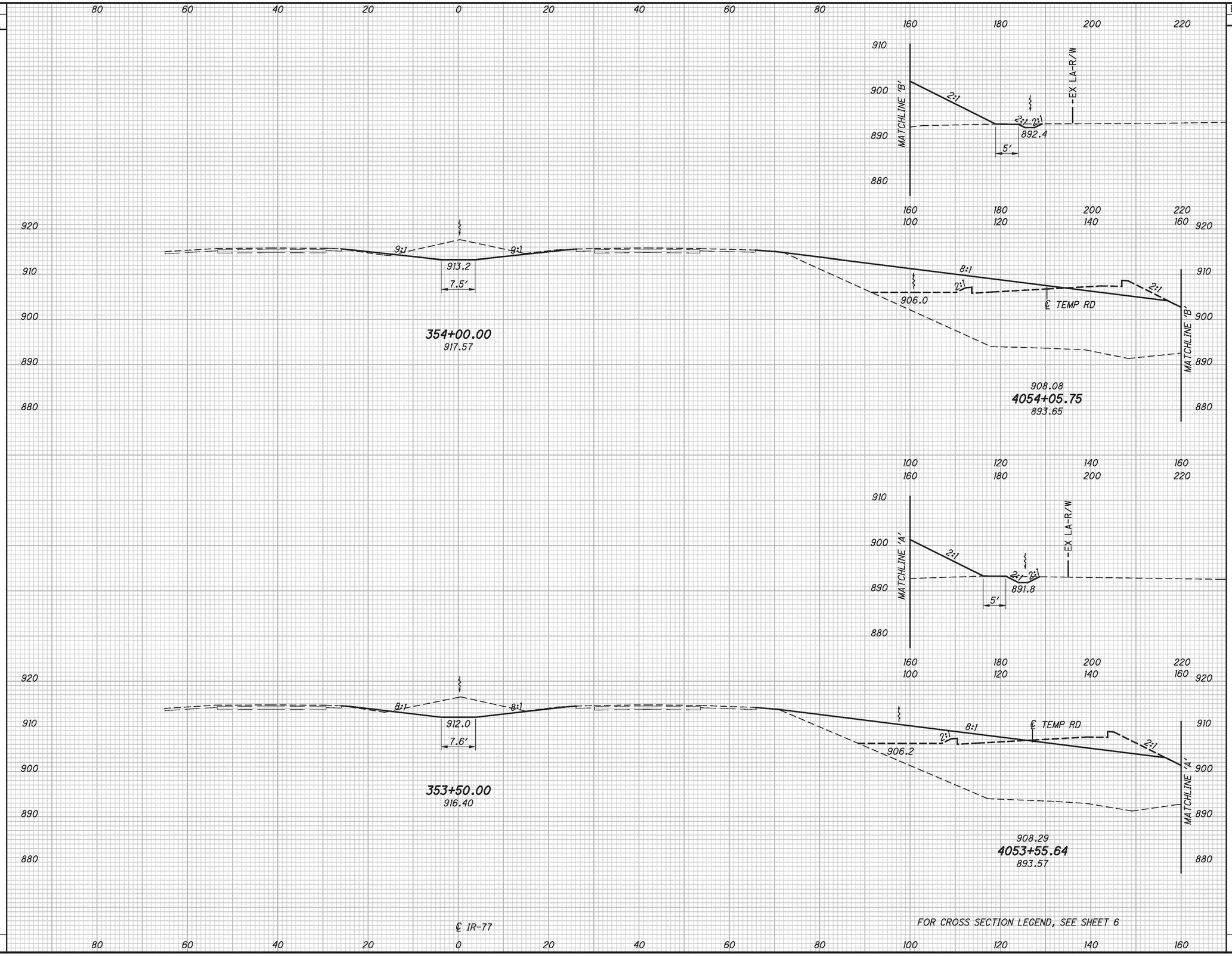
FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 352+50 TO STA 353+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED PEK
CHECKED PRS

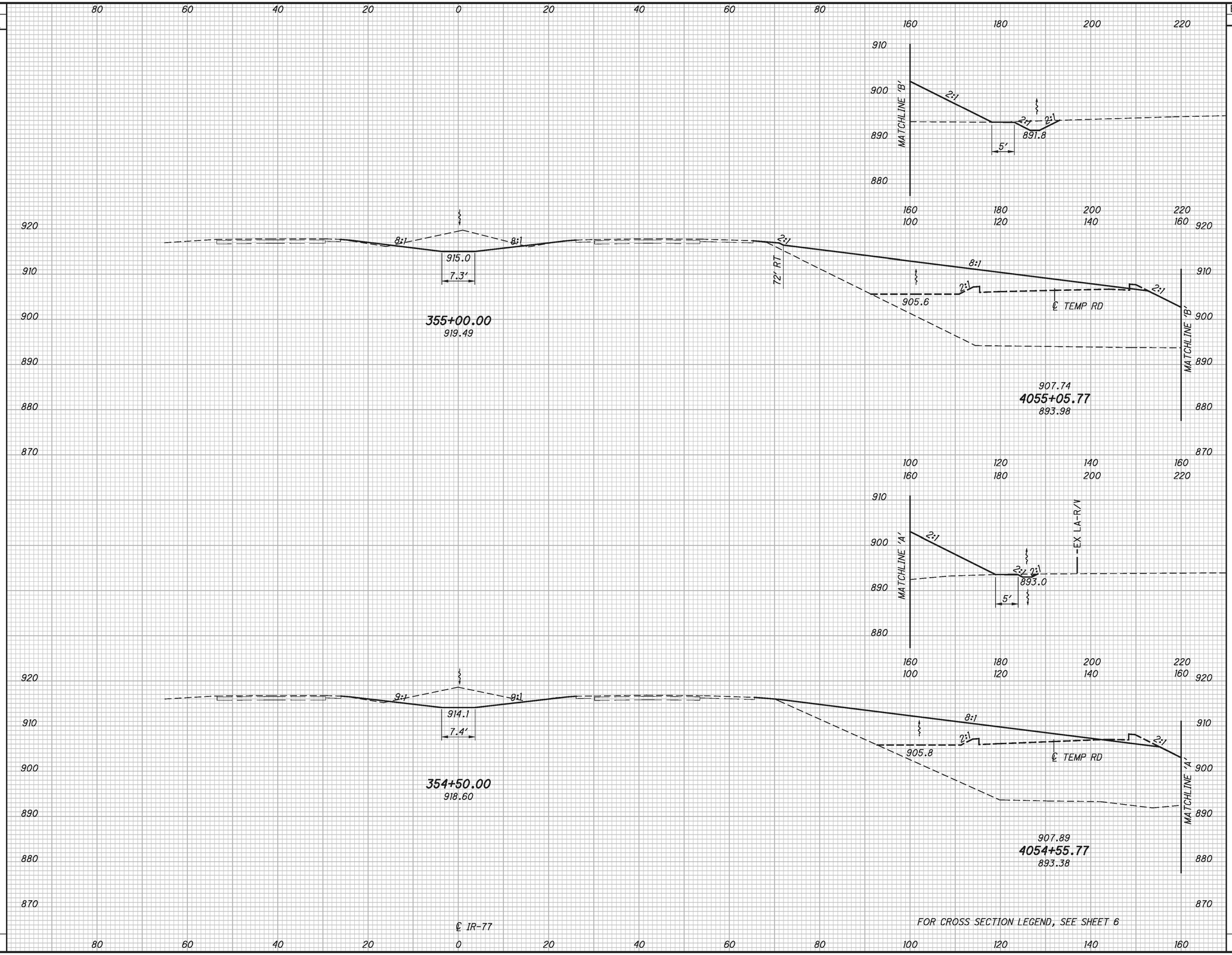
FOR SEEDING QUANTITES SEE SHEETS 60 TO 62

FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

CROSS SECTIONS
STA 353+50 TO STA 354+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED PEK
CHECKED PRS

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62

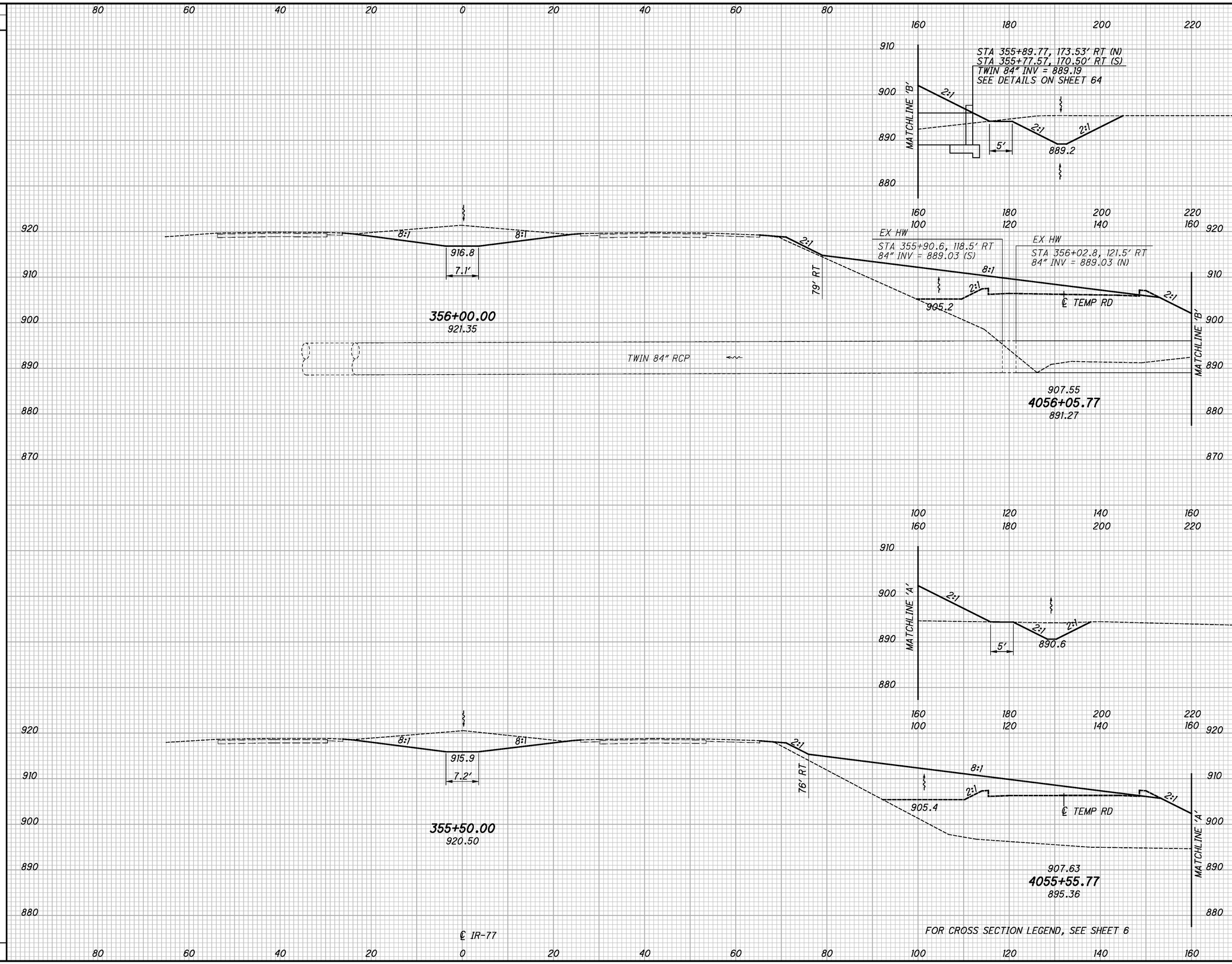
FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

CROSS SECTIONS
STA 354+50 TO STA 355+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62



END AREA		VOLUME	
CUT	FILL	CUT	FILL

FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

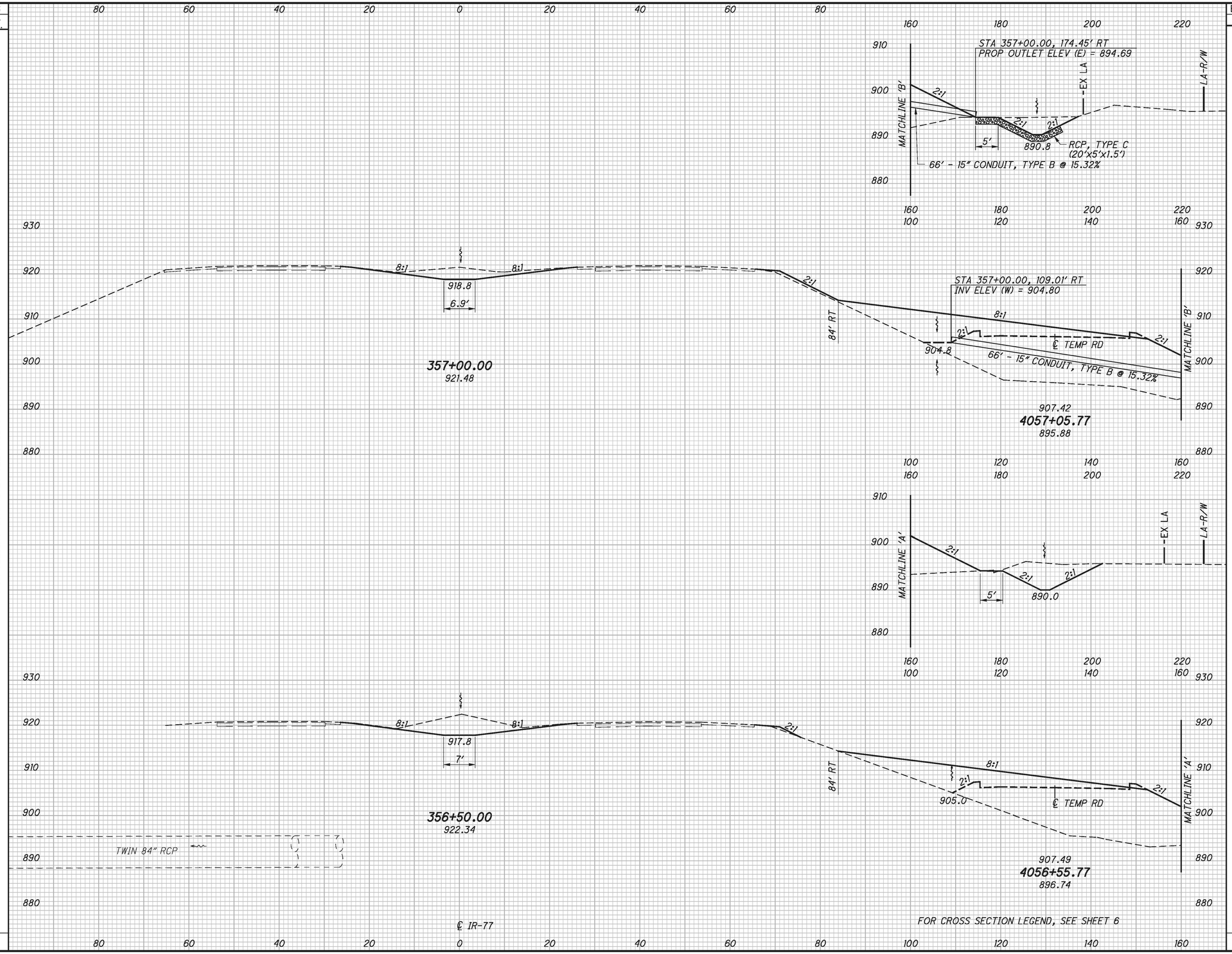
CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 355+50 TO STA 356+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62



END AREA		VOLUME	
CUT	FILL	CUT	FILL

FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

CALCULATED PEK
CHECKED PRS

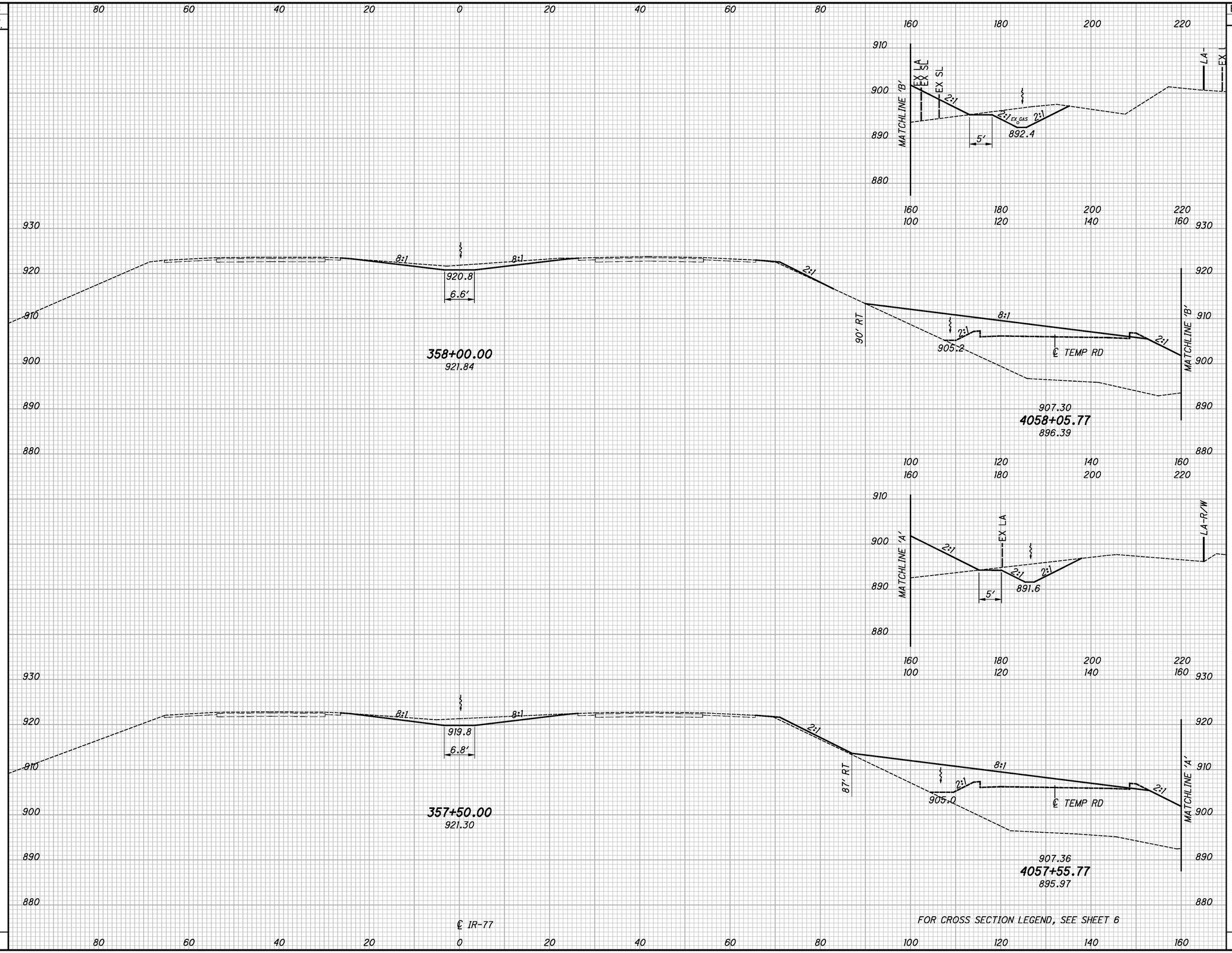
CROSS SECTIONS
STA 356+50 TO STA 357+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED PEK
CHECKED PRS



FOR SEEDING QUANTITES SEE SHEETS 60 TO 62

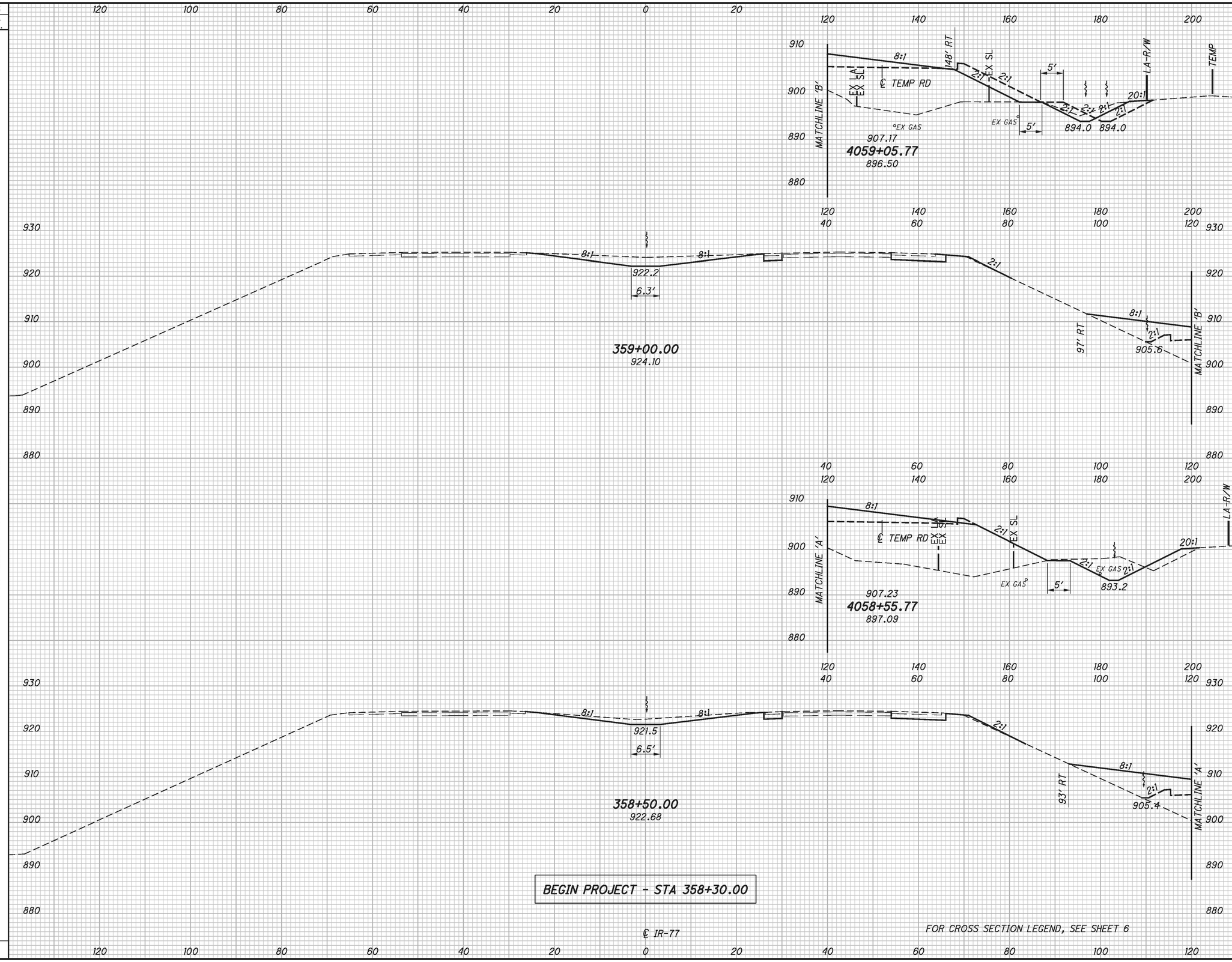
FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

CROSS SECTIONS
STA 357+50 TO STA 358+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62



END AREA		VOLUME	
CUT	FILL	CUT	FILL

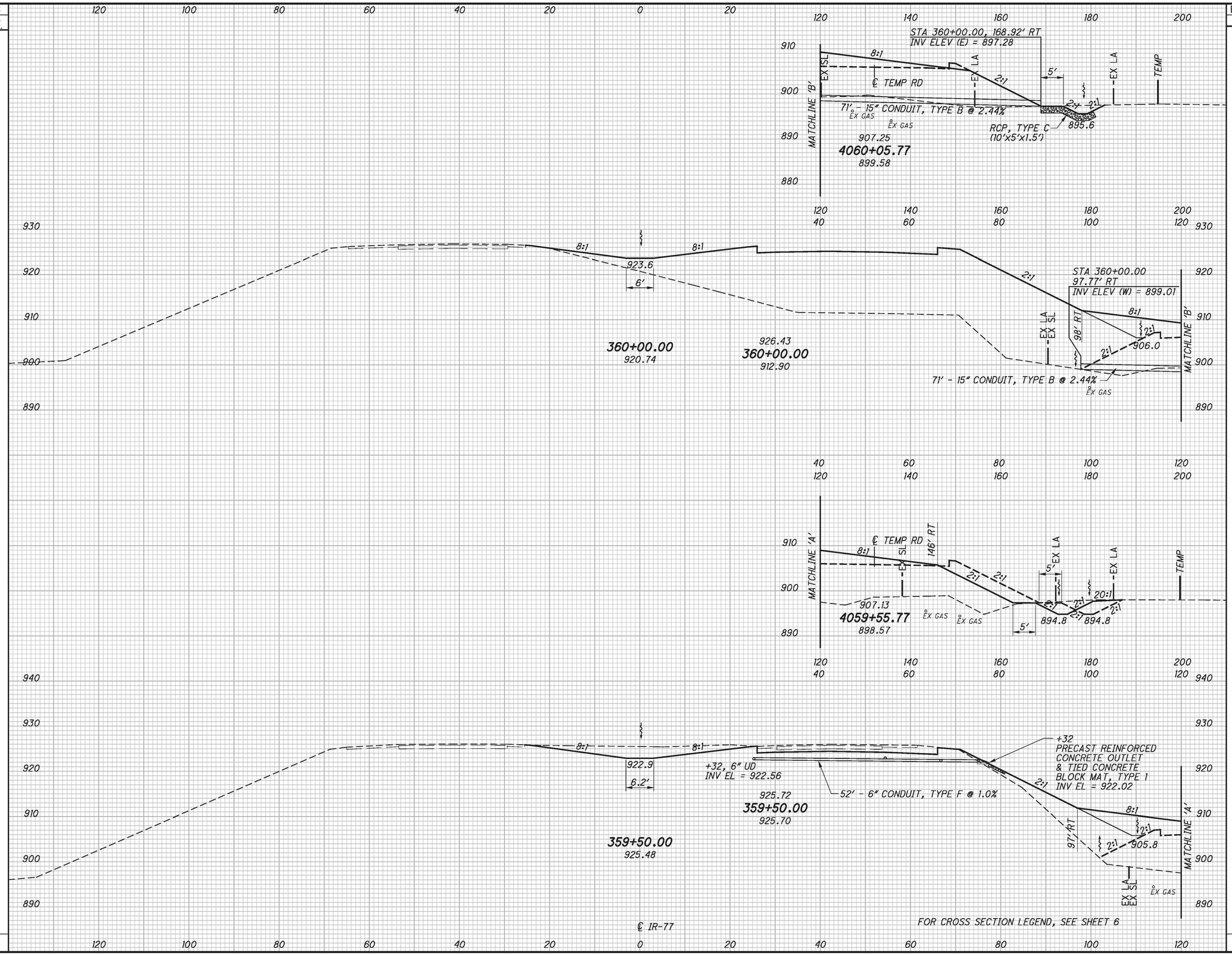
FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 358+50 TO STA 359+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED PRK
CHECKED PRS

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62

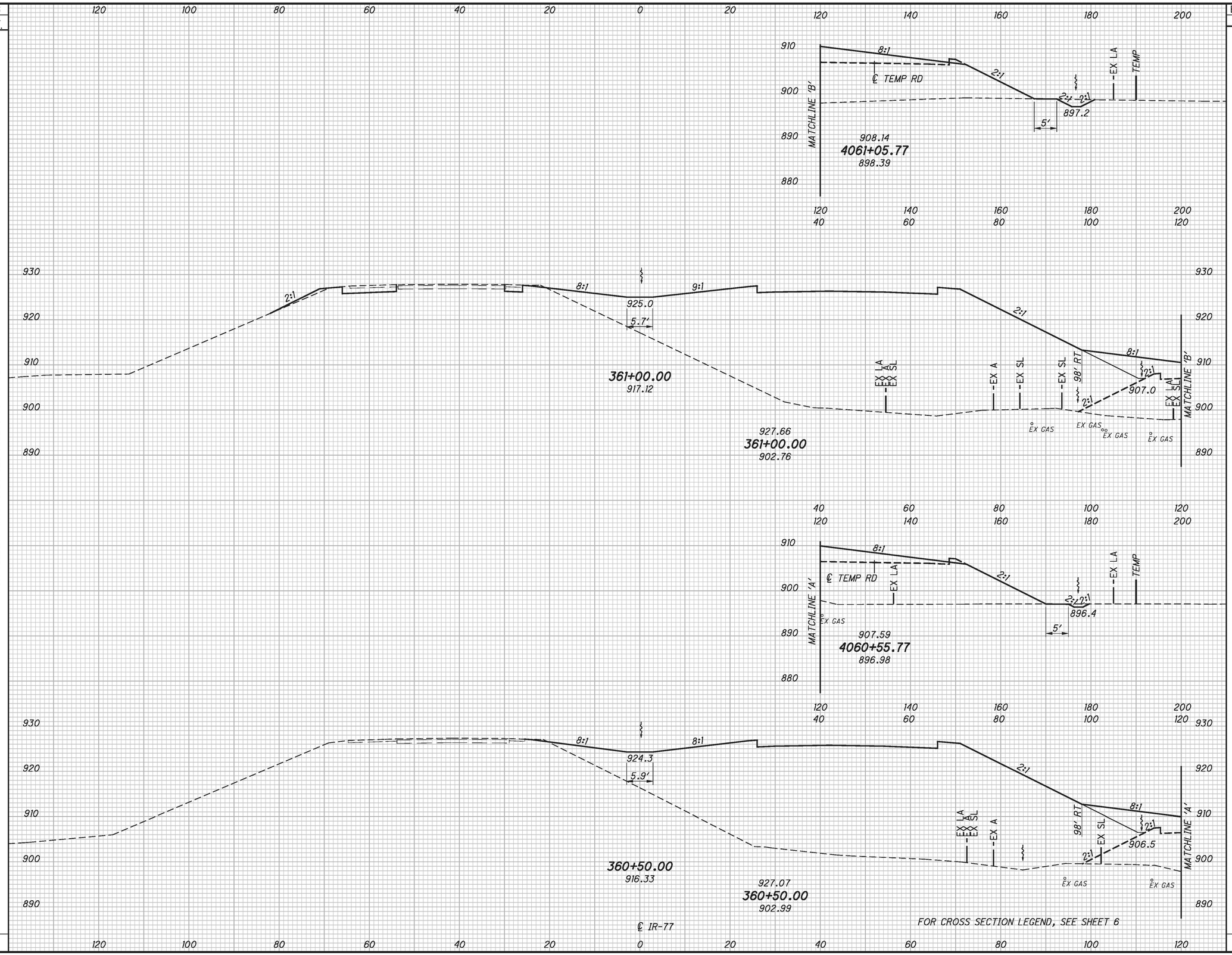
FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

CROSS SECTIONS
STA 359+50 TO STA 360+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62



END AREA		VOLUME	
CUT	FILL	CUT	FILL

FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

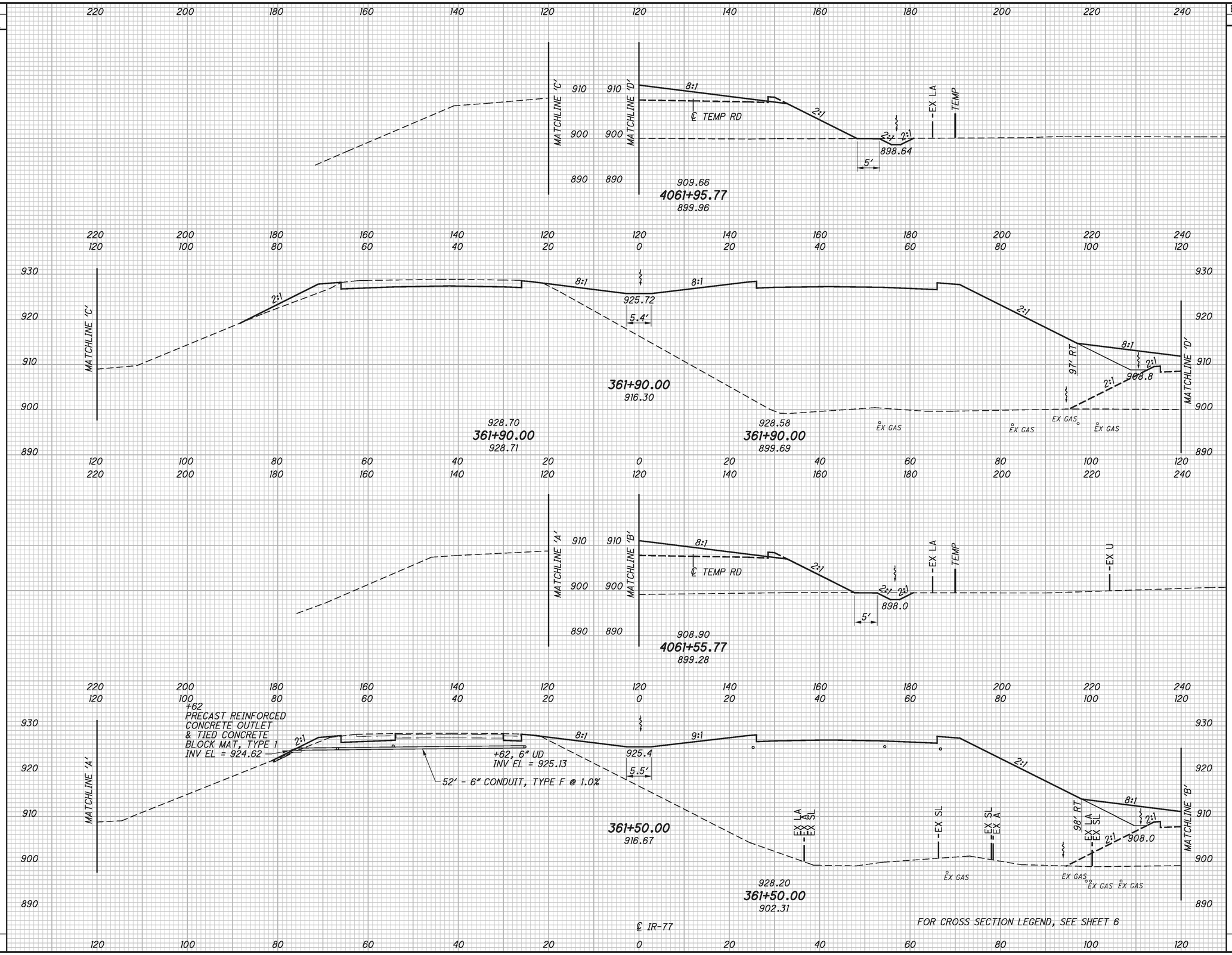
CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 360+50 TO STA 361+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62



END AREA		VOLUME	
CUT	FILL	CUT	FILL

FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

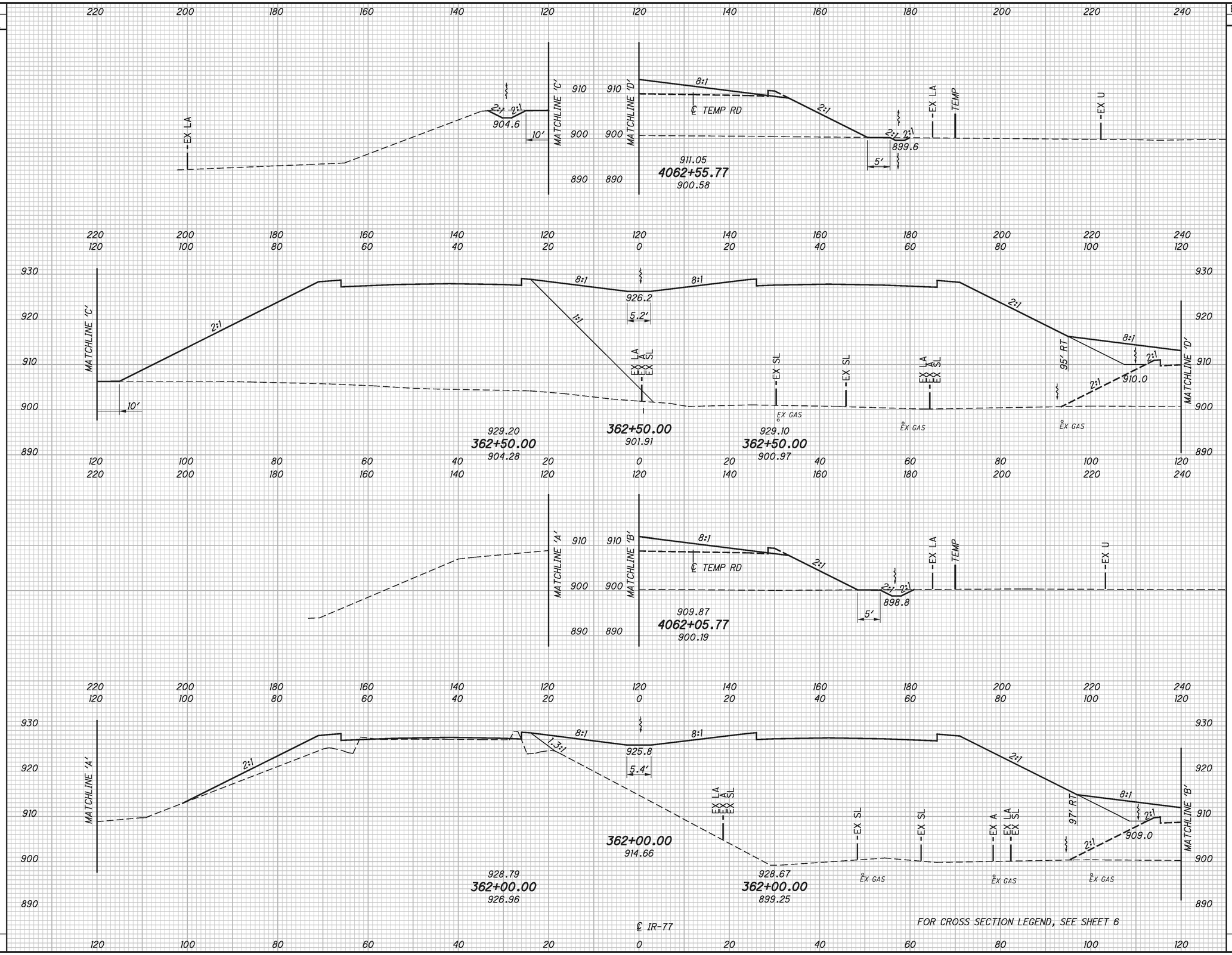
CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 361+50 TO STA 361+90

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITIES SEE SHEETS 60 TO 62



END AREA		VOLUME	
CUT	FILL	CUT	FILL

FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

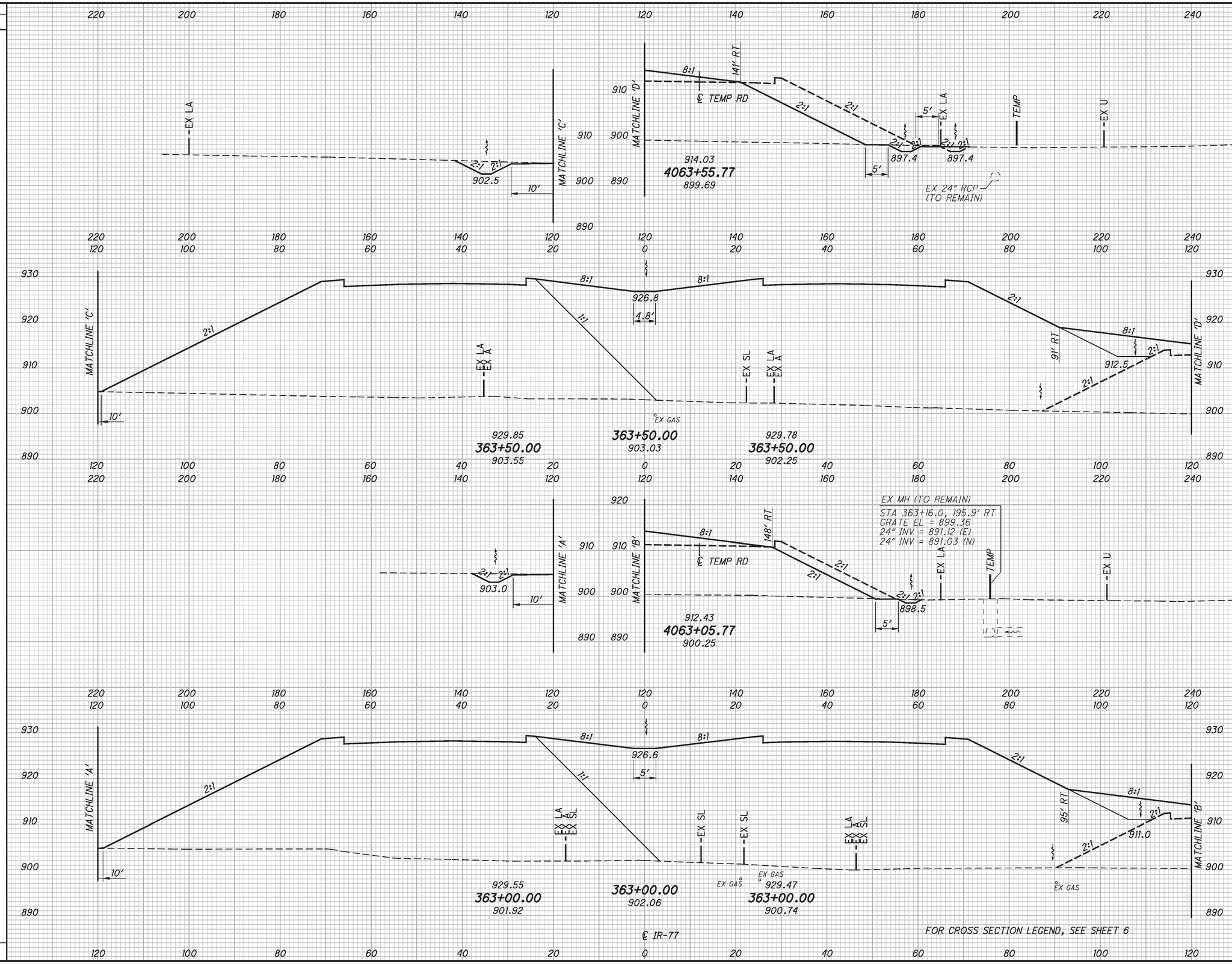
CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 362+00 TO STA 362+50

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITIES SEE SHEETS 60 TO 62



FOR CROSS SECTION LEGEND, SEE SHEET 6

END AREA		VOLUME	
CUT	FILL	CUT	FILL

FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

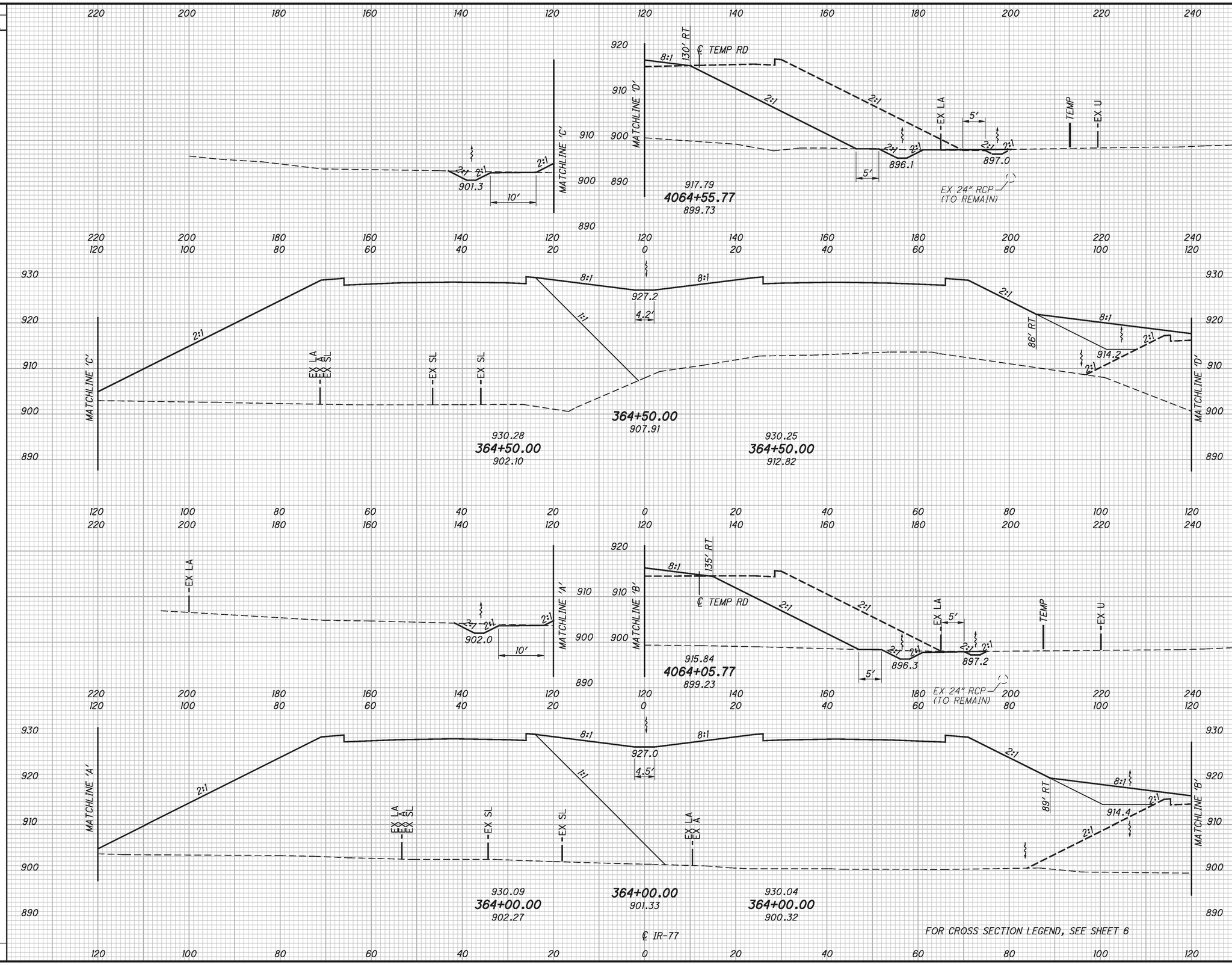
CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 363+00 TO STA 363+50

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62



END AREA		VOLUME	
CUT	FILL	CUT	FILL

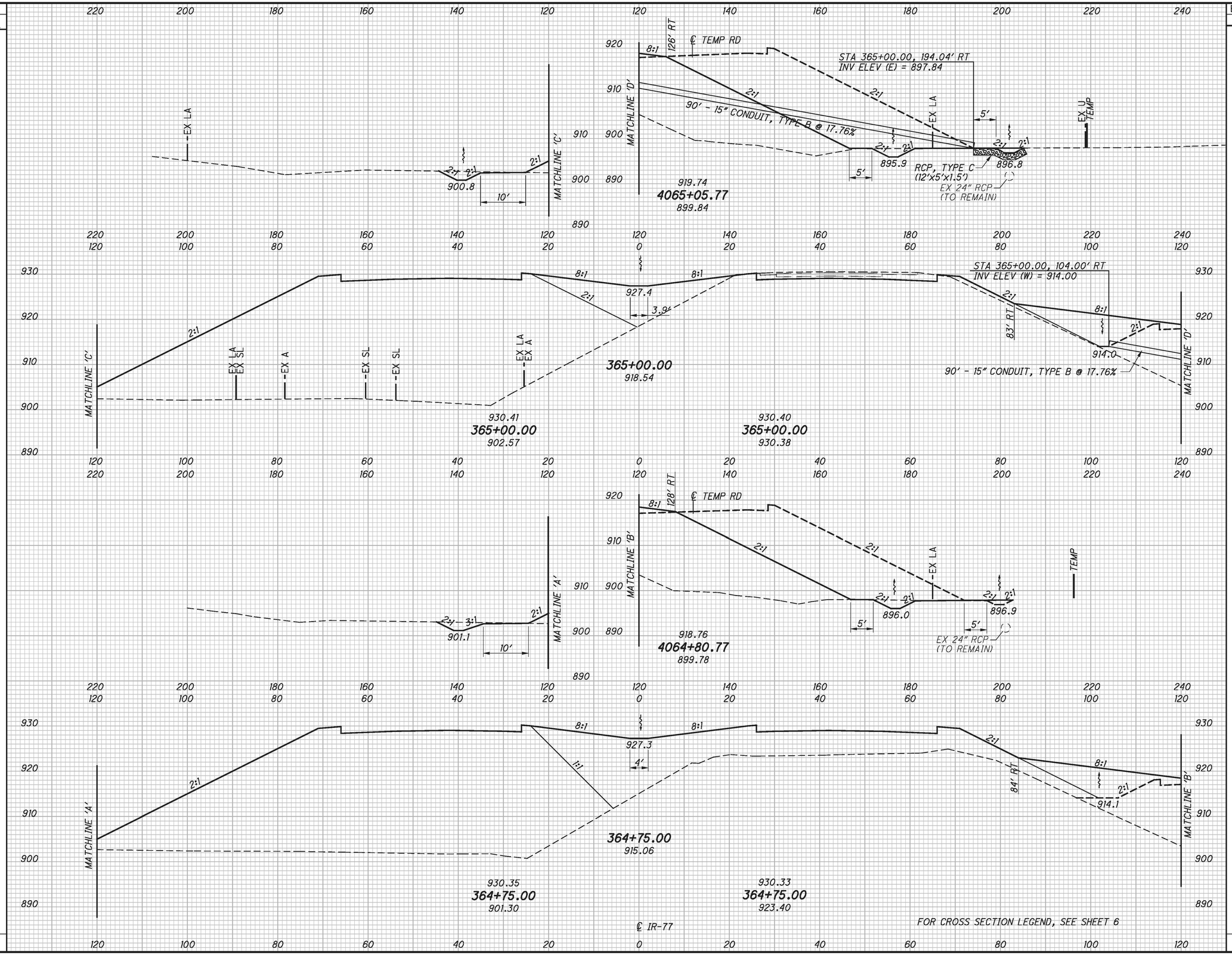
FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 364+00 TO STA 364+50

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED PEK
CHECKED PRS

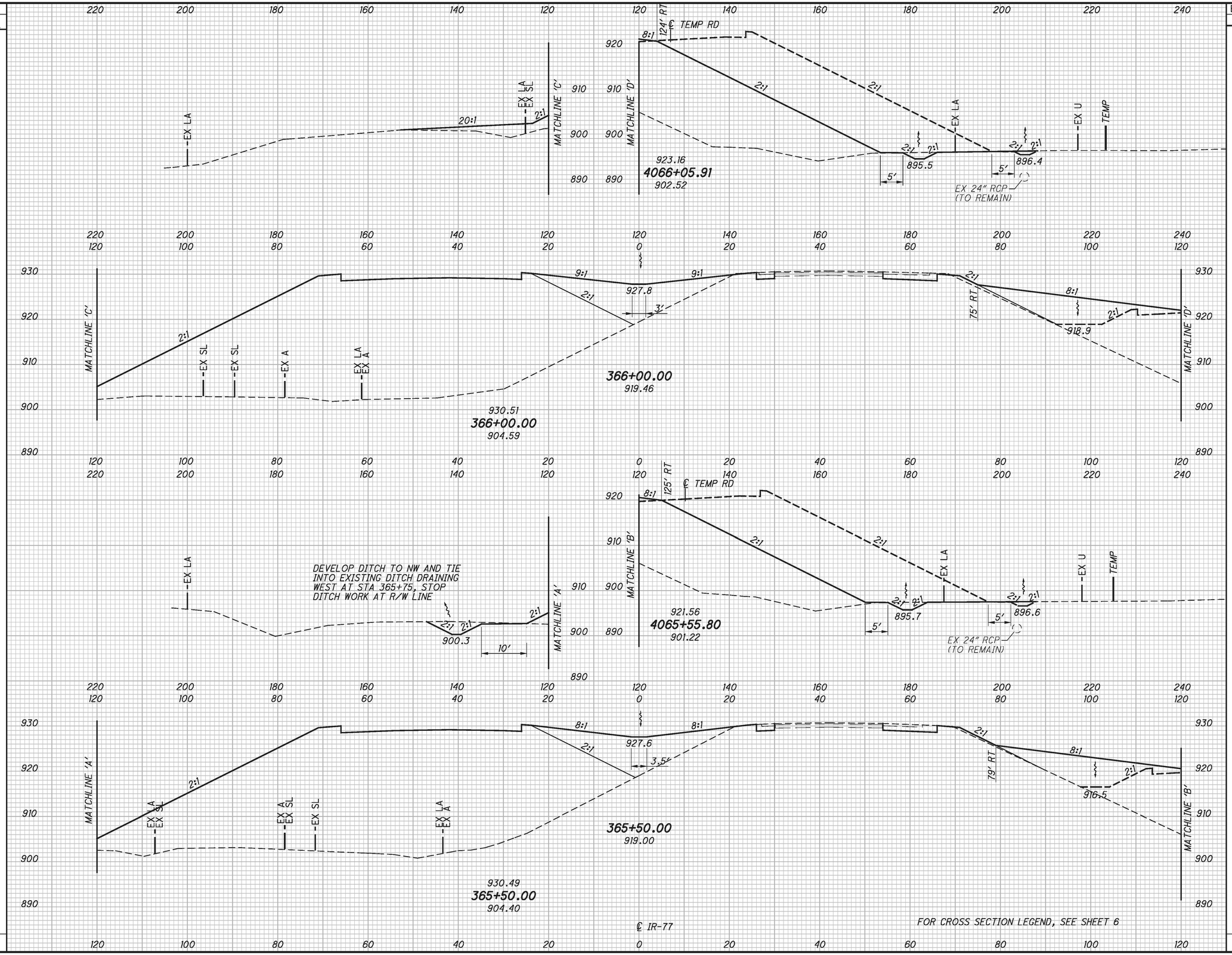
FOR SEEDING QUANTITES SEE SHEETS 60 TO 62

FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

CROSS SECTIONS
STA 364+75 TO STA 365+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED PEK
CHECKED PRS

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62

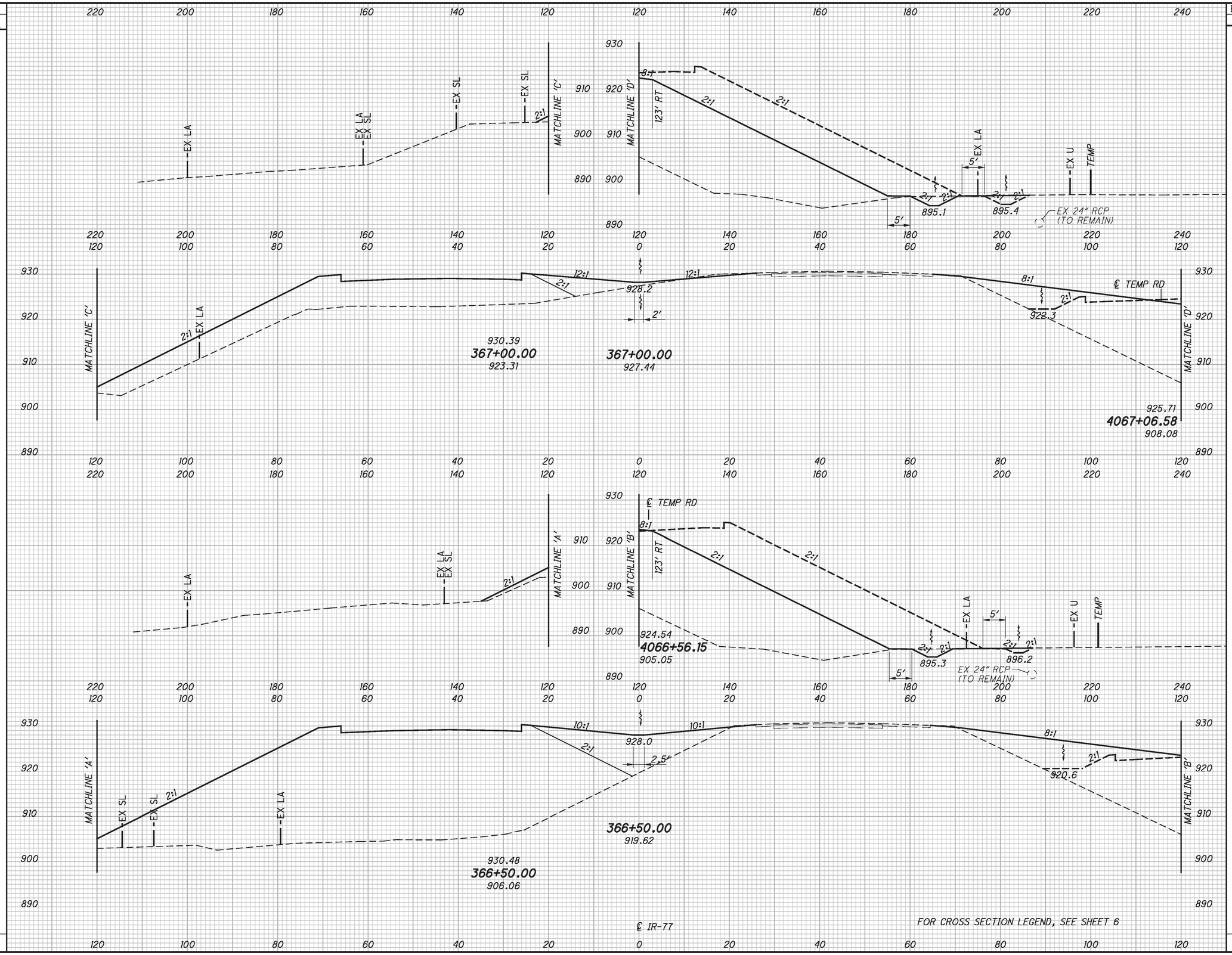
FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

CROSS SECTIONS
STA 365+50 TO STA 366+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62



END AREA		VOLUME	
CUT	FILL	CUT	FILL

FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

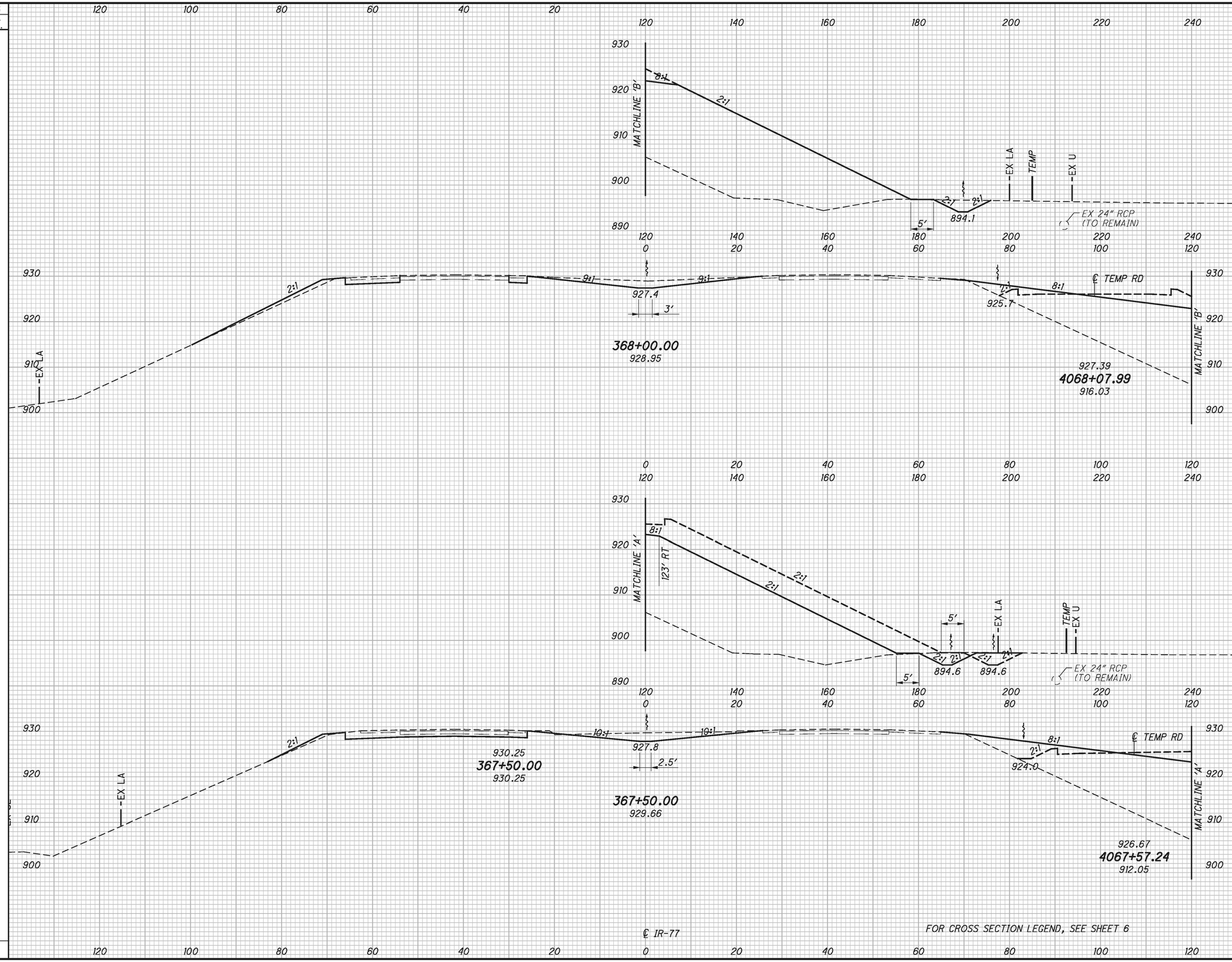
CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 366+50 TO STA 367+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62



END AREA		VOLUME	
CUT	FILL	CUT	FILL

FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

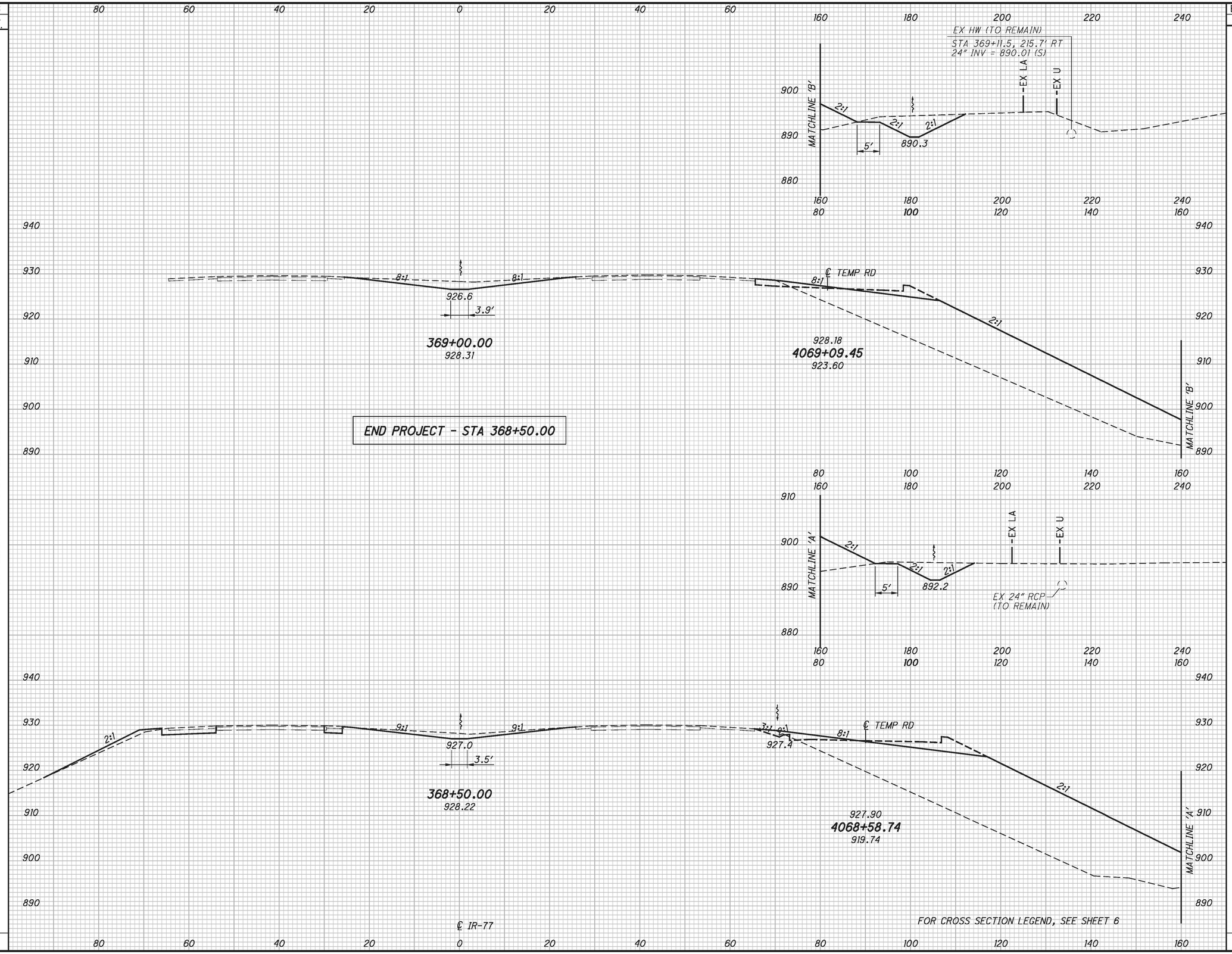
CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 367+50 TO STA 368+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62



END AREA		VOLUME	
CUT	FILL	CUT	FILL

FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

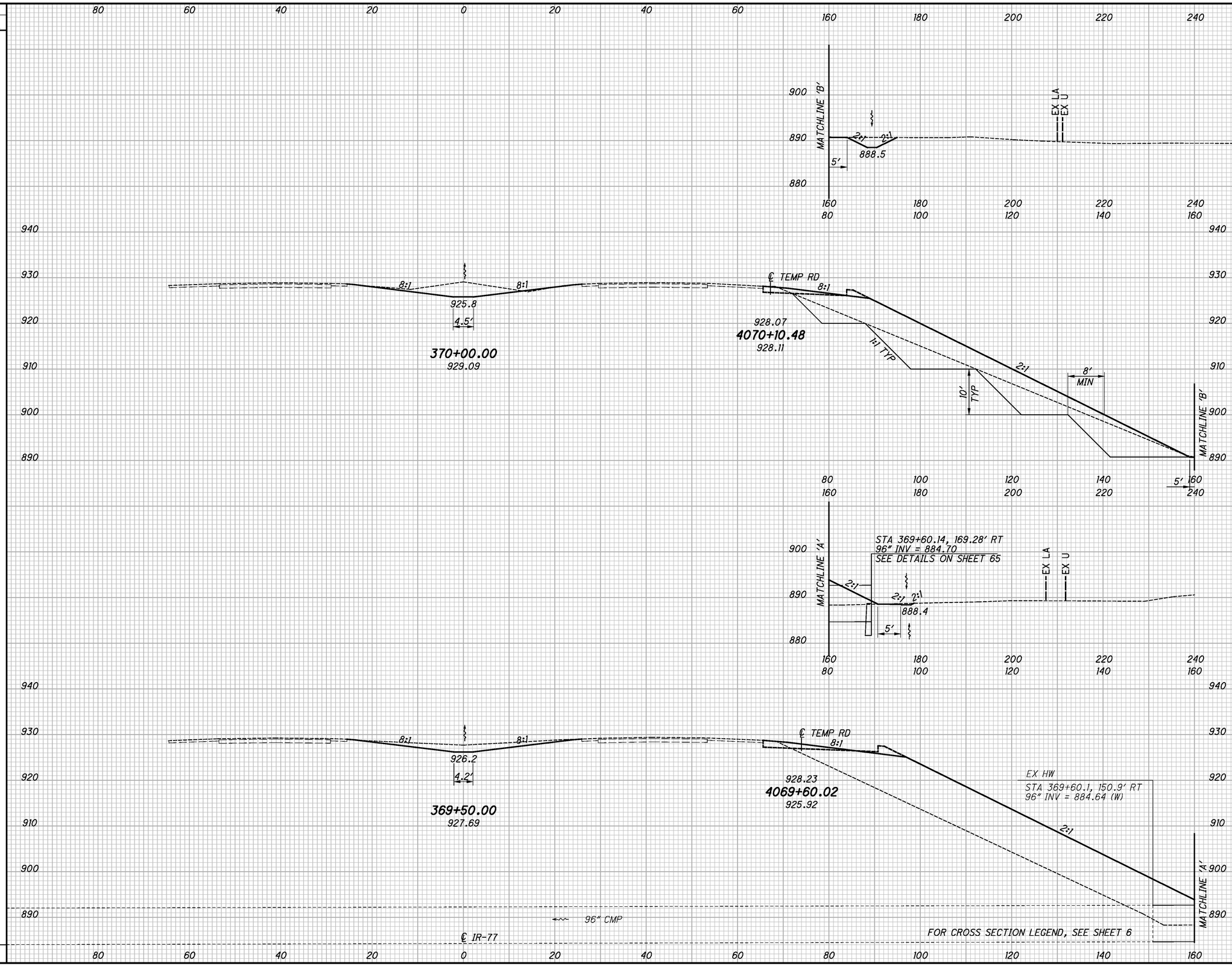
CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 368+50 TO STA 369+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62



END AREA		VOLUME	
CUT	FILL	CUT	FILL

FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

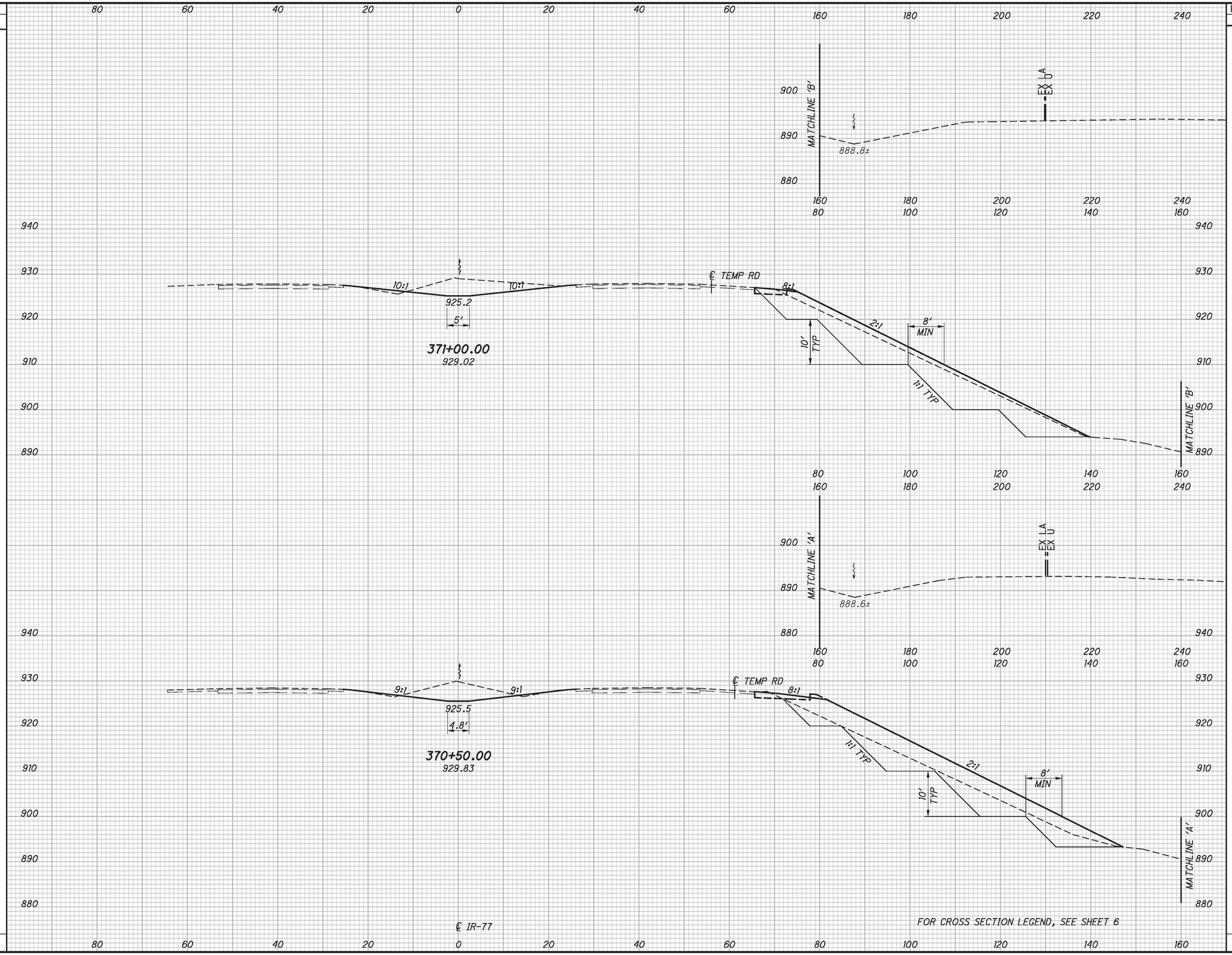
CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 369+50 TO STA 370+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62



END AREA	
CUT	FILL

VOLUME	
CUT	FILL

FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

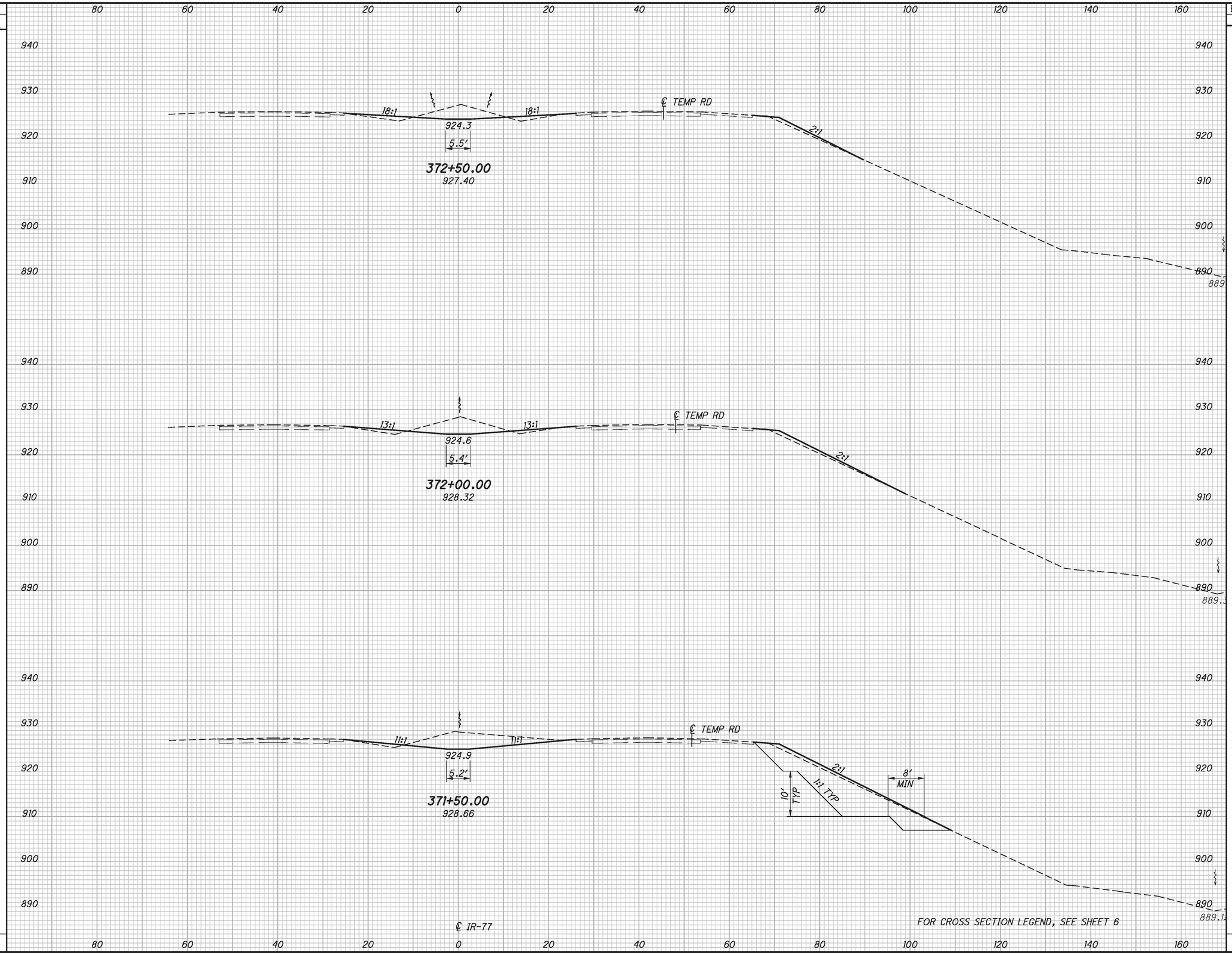
CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 370+50 TO STA 371+00

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITIES SEE SHEETS 60 TO 62



END AREA	
CUT	FILL

VOLUME	
CUT	FILL

FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

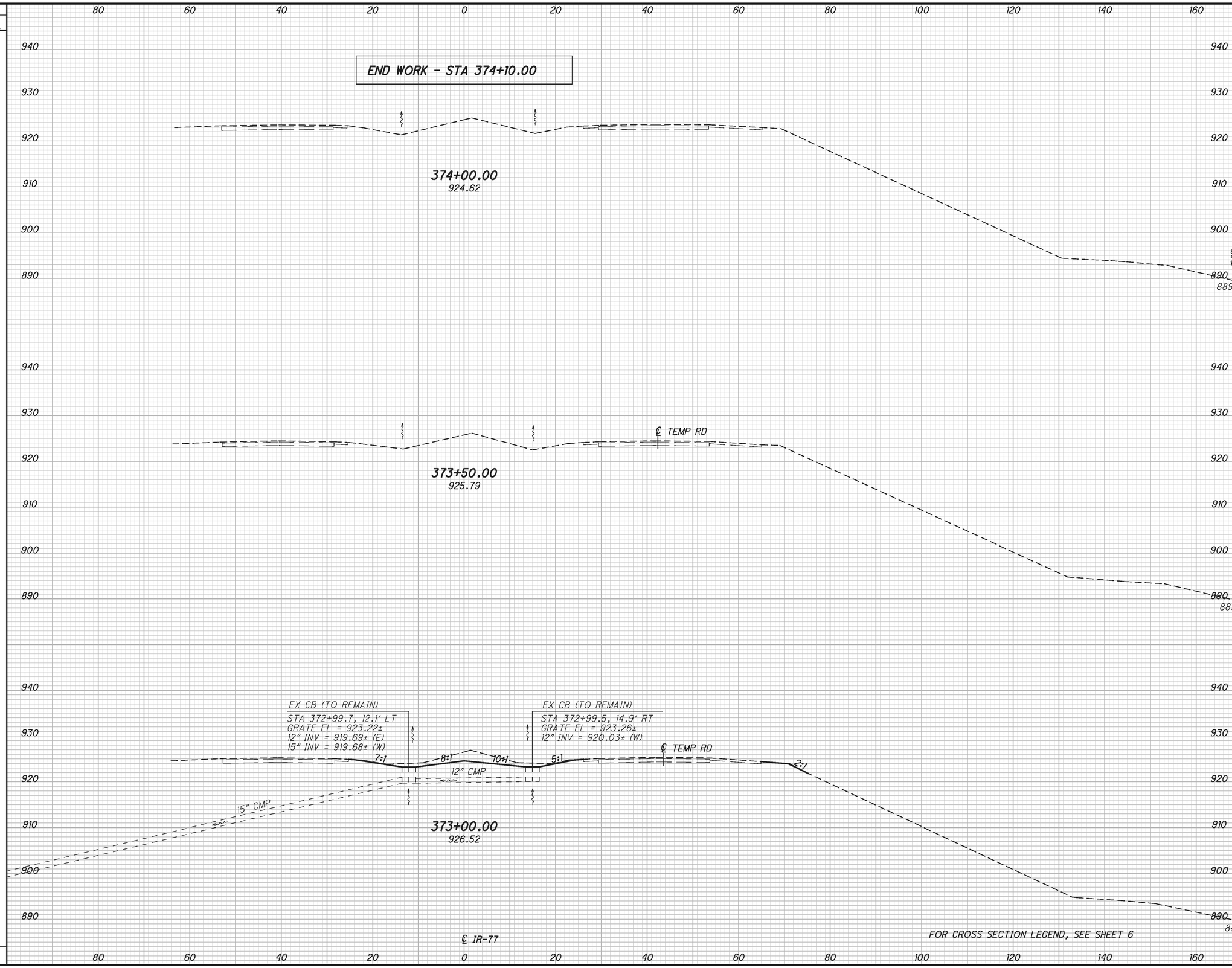
CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 371+50 TO STA 372+50

TUS-77-25.95

SEEDING	
END WIDTH	SQ. YDS.

FOR SEEDING QUANTITES SEE SHEETS 60 TO 62



END AREA		VOLUME	
CUT	FILL	CUT	FILL

FOR STAGED CONSTRUCTION EARTHWORK QUANTITIES SEE SHEETS 60 TO 62

CALCULATED PEK
CHECKED PRS

CROSS SECTIONS
STA 373+00 TO STA 374+00

TUS-77-25.95

FOR INFORMATION ONLY - FOR CROSS SECTION LEGEND SEE SHEET 6

STATION	EXCAVATION END AREA	EMBANKMENT END AREA	203 EXCAVATION	203 EMBANKMENT	ITEM 659 SEEDING AND MULCHING END LENGTH	ITEM 659 SEEDING AND MULCHING AREA	EARTHWORK QUANTITIES BY STAGE OF CONSTRUCTION: EXCAVATION - STAGE 1 END AREA	EXCAVATION - STAGE 1 VOLUME	EMBANKMENT - STAGE 1 END AREA	EMBANKMENT - STAGE 1 VOLUME	EXCAVATION - STAGE 2 END AREA	EXCAVATION - STAGE 2 VOLUME	EMBANKMENT - STAGE 2 END AREA	EMBANKMENT - STAGE 2 VOLUME	EXCAVATION - STAGE 3 END AREA	EXCAVATION - STAGE 3 VOLUME	EMBANKMENT - STAGE 3 END AREA	EMBANKMENT - STAGE 3 VOLUME	EXCAVATION - STAGE 4 END AREA	EXCAVATION - STAGE 4 VOLUME	EMBANKMENT - STAGE 4 END AREA	EMBANKMENT - STAGE 4 VOLUME
	SF	SF	CU YD	CU YD	FT	SQ YD	SF	CU YD	SF	CU YD	SF	CU YD	SF	CU YD	SF	CU YD	SF	CU YD	SF	CU YD	SF	CU YD
345+50.00																						
346+00.00																						
346+50.00																						
347+00.00																						
347+50.00	0.0	0.0			0.0		0.0		0.0										0.0		0.0	
			0.4	0.0		39.8		5.5		0.1										0.3		5.3
348+00.00	0.4	0.0			14.3		5.9		0.1										0.3		5.7	
			0.9	0.0		80.0		13.4		0.3										0.7		12.7
348+50.00	0.5	0.0			14.5		8.5		0.2										0.4		8.0	
			1.0	8.1		115.9		17.5		8.5										2.4		18.3
349+00.00	0.5	8.7			27.2		10.4		8.9										2.1		11.7	
			0.7	45.4		196.2		18.6		46.3										6.1		23.0
349+50.00	0.2	40.3			43.4		9.6		41.1										4.4		13.1	
			0.5	198.5		314.2		17.5		205.0										13.7		24.2
350+00.00	0.3	174.0			69.7		9.3		180.3										10.3		13.0	
			0.3	409.0		408.4		17.7		428.3										28.3		26.4
350+50.00	0.0	267.7			77.3		9.8		282.2						0.0		0.0		20.2		15.5	
			25.9	596.5		645.9		20.5		641.4						21.3		0.1		57.7		28.6
351+00.00	27.9	376.5			155.2		12.3		410.5						22.9		0.1		42.1		15.3	
			74.8	811.3		890.0		37.6		887.0						54.8		7.7		102.4		36.6
351+50.00	52.8	499.7			165.2		28.3		547.4						36.2		8.2		68.4		24.2	
			111.9	1030.5		941.2		46.9		1114.5						75.6		13.6		139.5		52.5
352+00.00	68.0	613.2			173.6		22.3		656.2						45.4		6.4		82.2		32.4	
			132.4	1215.5		980.0		33.2		1286.3						98.5		8.1		161.1		81.3
352+50.00	74.9	699.5			179.2		13.5		733.0						60.9		2.3		91.7		55.3	
			142.7	1400.4		1007.0		19.6		1415.4						122.6		3.9		161.6		141.9
353+00.00	79.2	812.9			183.3		7.6		795.6						71.5		1.9		82.8		97.9	
			148.9	1613.1		1026.2		13.2		1507.2						135.7		3.8		130.9		232.6
353+50.00	81.6	929.2			186.1		6.6		832.1						75.0		2.2		58.5		153.3	
			145.6	1795.5		1035.9		9.2		1539.7						136.1		4.6		84.5		335.3
354+00.00	75.6	1009.9			186.8		3.3		830.7						71.9		2.7		32.7		208.8	
			141.2	1929.6		1036.2		5.6		1516.3						135.2		4.6		40.4		448.7
354+50.00	76.8	1074.0			186.2		2.7		806.9						74.1		2.2		10.9		275.7	
			151.7	2028.3		1052.0		14.8		1464.2						137.0		5.6		12.7		571.2
355+00.00	87.0	1116.5			192.5		13.2		774.4						73.8		3.8		2.8		341.1	
			220.7	1927.3		1085.6		43.6		1340.7						177.2		3.6		6.2		589.2
355+50.00	151.3	964.9			198.3		33.8		673.5						117.5		0.0		3.8		295.2	
			330.5	1813.2		1124.8		112.3		1329.9						218.3		0.0		6.5		490.0
356+00.00	205.6	993.3			206.6		87.4		762.7						118.2		0.0		3.2		233.9	
			331.3	1543.9		1115.6		151.0		1169.9						180.4		2.2		5.3		377.5
356+50.00	152.2	674.1			195.0		75.6		500.7						76.6		2.3		2.5		173.7	
			220.4	1353.6		1092.5		105.0		997.3						115.4		12.3		5.0		359.2
357+00.00	85.8	787.7			198.3		37.8		576.3						48.0		10.9		2.8		214.2	
			156.3	1421.3		1105.0		74.2		1054.6						82.2		19.7		5.6		362.7
357+50.00	83.0	747.2			199.5		42.3		562.6						40.7		10.3		3.2		177.5	
			151.0	1303.8		1078.9		83.1		985.1						67.9		12.5		5.3		311.5
358+00.00	80.0	660.8			188.9		47.4		501.3						32.6		3.2		2.5		158.9	
SUBTOTAL			2489.1	22444.8		16371.3		860		18938						1758.2		102.3		976.2		4528.7
TOTALS CARRIED TO GRAND TOTAL ON SHEET 62			2490	22445		16372		860		18938						1759		103		977		4529

FOR INFORMATION ONLY - FOR CROSS SECTION LEGEND SEE SHEET 6

CALCULATED PRS
CHECKED SSC

CROSS SECTION QUANTITIES

TUS-77-25.95

FOR INFORMATION ONLY - FOR CROSS SECTION LEGEND SEE SHEET 6

STATION	EXCAVATION END AREA	EMBANKMENT END AREA	203 EXCAVATION	203 EMBANKMENT	ITEM 659 SEEDING AND MULCHING		EARTHWORK QUANTITIES BY STAGE OF CONSTRUCTION: EXCAVATION - STAGE 1		EMBANKMENT - STAGE 1		EXCAVATION - STAGE 2		EMBANKMENT - STAGE 2		EXCAVATION - STAGE 3		EMBANKMENT - STAGE 3		EXCAVATION - STAGE 4		EMBANKMENT - STAGE 4	
					END LENGTH	AREA	END AREA	VOLUME	END AREA	VOLUME	END AREA	VOLUME	END AREA	VOLUME	END AREA	VOLUME	END AREA	VOLUME	END AREA	VOLUME	END AREA	VOLUME
	SF	SF	CU YD	CU YD	FT	SQ YD	SF	CU YD	SF	CU YD	SF	CU YD	SF	CU YD	SF	CU YD	SF	CU YD	SF	CU YD	SF	CU YD
358+00.00	80.0	660.8			188.9		47.7		501.3						32.6		10.3		2.5		158.9	
			176.2	1152.4		1063.4		89.3		876.3						87.3		12.5		5.0		275.2
358+50.00	110.2	583.7			193.9		48.7		445.0						61.6		3.2		2.8		138.3	
			195.2	932.3		1119.2		72.3		754.5						133.0		4.2		54.2		237.6
359+00.00	100.6	423.1			209.0		29.3		369.8						82.0		1.3		55.7		118.3	
			242.9	976.7		1102.8		50.9		750.0						204.7		126.4		110.0		222.7
359+50.00	161.7	631.7			188.0		25.6		440.2						139.0		135.2		63.0		122.2	
			160.0	2317.4		1032.3		33.8		796.8						128.8		1370.7		61.7		214.3
360+00.00	11.0	1871.0			183.6		10.9		420.3		0.0		0.0		0.1		1345.1		3.6		109.2	
			13.3	4347.2		1010.3		12.4		843.4		0.9		0.0		0.1		3296.1		5.5		213.2
360+50.00	3.3	2823.9			180.1		2.4		490.5		0.9		0.0		0.0		2214.6		2.3		121.0	
			34.5	5266.4		1056.4		9.8		885.1		24.9		4.8		0.0		4155.0		4.1		225.7
361+00.00	33.9	2863.8			200.2		8.1		465.4		25.9		5.1		0.0		2272.7		2.1		122.7	
			62.0	5379.9		1110.0		14.7		870.9		47.5		11.6		0.0		4283.4		4.8		218.8
361+50.00	33.0	2946.4			199.4		7.7		475.1		25.4		7.4		0.0		2353.3		3.0		113.6	
			75.5	4440.8		926.5		10.9		704.4		64.7		21.4		0.0		3547.9		4.5		171.7
361+90.00	68.8	3048.6			217.5		6.9		475.8		61.9		21.4		0.0		2436.3		3.0		118.1	
			14.8	1157.0		254.1		2.6		176.3		12.2		23.5		0.0		915.6		1.3		42.9
362+00.00	10.7	3198.9			239.8		6.9		476.2		3.8		105.2		0.0		2507.7		3.5		113.4	
			20.6	7918.5		1446.2		8.2		939.9		12.5		1865.2		0.0		4901.2		6.5		218.9
362+50.00	11.5	5353.0			280.8		1.9		538.8		9.7		1909.2		0.0		2785.5		3.5		123.0	
			24.1	10243.5		1583.1		1.8		1133.8		19.9		3758.1		0.0		5176.1		55.2		228.2
363+00.00	14.5	5709.9			289.1		0.0		685.7		11.7		2149.5		0.0		2804.6		56.1		123.4	
			42.1	10534.7		1642.3		4.6		1434.9		31.7		3958.2		0.0		5110.2		196.9		222.6
363+50.00	30.9	5667.5			302.1		4.9		863.9		22.5		2125.3		0.0		2714.4		156.5		117.0	
			53.0	10834.3		1691.4		7.1		1813.8		34.2		4098.5		0.0		5131.0		419.2		198.9
364+00.00	26.3	6033.5			306.8		2.7		1094.9		14.4		2301.0		0.0		2827.0		296.2		97.8	
			46.0	10126.8		1722.8		6.4		2036.9		24.8		4289.9		0.0		4260.9		677.2		201.8
364+50.00	23.3	4903.4			313.4		4.2		1104.9		12.3		2332.0		0.0		1774.7		435.1		120.1	
			22.1	4023.4		875.5		3.8		1035.8		11.9		2132.5		0.0		1165.0		434.3		117.9
364+75.00	24.3	3787.0			316.9		3.9		1132.4		13.2		2274.0		0.0		741.5		502.9		134.5	
			50.9	3255.1		883.2		4.0		1070.0		11.9		2113.1		28.9		446.4		504.2		123.6
365+00.00	85.6	3243.9			319.0		4.6		1178.6		12.5		2290.2		62.3		222.7		586.1		132.4	
			131.3	6066.3		1719.5		7.7		2330.2		32.6		4205.9		80.2		396.5		1139.5		262.7
365+50.00	56.1	3307.7			300.0		3.7		1338.0		22.7		2252.1		24.3		205.5		644.5		151.3	
			82.3	6258.9		1679.5		6.6		2618.0		21.1		4157.6		46.6		383.2		1193.8		286.1
366+00.00	32.7	3451.9			304.6		3.4		1489.4		0.0		2238.1		26.0		208.3		644.7		157.6	
			40.5	6369.5		1643.9		7.3		2801.7		0.0		3997.5		24.3		379.0		1123.6		306.3
366+50.00	11.0	3427.1			287.2		4.4		1536.4		0.0		2079.2		0.2		201.0		568.7		173.1	
			26.0	4804.6		1554.8		15.4		2808.2		0.0		2450.2		3.6		240.1		965.8		265.0
367+00.00	17.0	1761.8			272.5		12.2		1496.4		0.0		567.0		3.6		58.3		474.3		113.1	
			131.8	2680.3		1379.5		30.5		2657.9		58.6		530.4		41.5		54.0		740.2		177.0
367+50.00	125.3	1132.9			224.1		20.7		1374.1		63.2		5.8		41.2		0.0		325.1		78.0	
			194.7	2155.0		1278.7		36.6		2387.0		81.1		21.3		76.3		0.0		349.1		95.2
368+00.00	84.9	1194.5			236.2		18.8		1203.8		24.3		17.2		41.2		0.0		51.9		24.8	
			164.7	2032.5		1285.0		58.8		2050.8		44.3		28.2		65.6		0.0		82.2		39.6
368+50.00	92.9	1000.5			226.4		44.6		1011.0		23.5		13.2		29.6		0.0		36.8		17.9	
			179.9	1603.7		1166.2		101.4		1623.9		21.8		12.3		68.6		0.0		52.1		31.3
369+00.00	101.3	731.4			193.4		64.9		742.8		0.0		0.0		44.4		0.0		19.4		15.9	
			134.2	1365.0		1035.6		67.2		1372.9						80.4		0.0		25.2		30.3
369+50.00	43.6	742.7			179.4		7.6		739.9						42.4		0.0		7.8		16.8	
SUBTOTAL			2318.6	116242.2		31262.2		664.1		36773.4		556.6		37680.2		1069.9		45355.4		8216.1		4627.5
TOTALS CARRIED TO GRAND TOTAL ON SHEET 62			2319	116243		31263		665		36774		557		37681		1070		45356		8217		4628

FOR INFORMATION ONLY - FOR CROSS SECTION LEGEND SEE SHEET 6

CALCULATED PRS
CHECKED SSC

CROSS SECTION QUANTITIES

TUS-77-25.95

FOR INFORMATION ONLY - FOR CROSS SECTION LEGEND SEE SHEET 6

EARTHWORK QUANTITIES BY STAGE OF CONSTRUCTION

STATION	EXCAVATION END AREA	EMBANKMENT END AREA	203 EXCAVATION	203 EMBANKMENT	ITEM 659 SEEDING AND MULCHING		EXCAVATION - STAGE 1		EMBANKMENT - STAGE 1		EXCAVATION - STAGE 2		EMBANKMENT - STAGE 2		EXCAVATION - STAGE 3		EMBANKMENT - STAGE 3		EXCAVATION - STAGE 4		EMBANKMENT - STAGE 4	
					END LENGTH	AREA	END AREA	VOLUME	END AREA	VOLUME	END AREA	VOLUME	END AREA	VOLUME	END AREA	VOLUME	END AREA	VOLUME	END AREA	VOLUME	END AREA	VOLUME
	SF	SF	CU YD	CU YD	FT	SQ YD	SF	CU YD	SF	CU YD	SF	CU YD	SF	CU YD	SF	CU YD	SF	CU YD	SF	CU YD	SF	CU YD
369+50.00	43.6	742.7			179.4		7.6		739.9						42.4		0.0		7.8		16.8	
			355.2	1190.0		987.3		268.6		1183.2						84.6		1.1		24.8		28.2
370+00.00	340.0	542.5			176.0		282.4		537.9						48.9		1.1		18.9		13.6	
			545.0	898.8		896.7		440.0		887.9						102.4		3.9		19.5		24.1
370+50.00	248.5	428.2			146.8		192.8		421.0						61.6		3.1		2.1		12.4	
			603.2	773.9		794.2		491.3		763.0						124.0		6.8		2.6		19.2
371+00.00	402.9	407.6			139.1		337.7		403.0						72.3		4.2		0.7		8.3	
			614.4	573.9		674.8		487.4		565.2						133.7		8.4		0.7		7.7
371+50.00	260.6	212.2			103.8		188.6		207.4						72.0		4.8		0.0		0.0	
			283.8	219.3		545.3		174.9		204.9						108.9		14.5				
372+00.00	45.8	24.6			92.5		0.2		13.8						45.6		10.8					
			74.7	44.5		485.0		0.5		21.0						74.2		23.6				
372+50.00	34.8	23.4			82.1		0.3		8.8						34.5		14.6					
			72.4	22.1		413.1		0.7		8.6						72.1		13.6				
373+00.00	43.3	0.4			66.6		0.4		0.4						43.3		0.0					
			40.1	0.4		185.0		0.4		0.4						40.1		0.0				
373+50.00	0.0	0.0			0.0		0.0		0.0						0.0		0.0					
374+00.00																						
374+10.00																						
ITEM 863 - REINFORCED EMBANKMENT				-5540.0										-5540.0								
(SEE SHEETS 68 TO 71 FOR CROSS SECTION DETAILS)																						
SUBTOTAL			2588.8	-1817.1		4981.4		1863.8		3634.2				-5540.0		740		71.9		47.6		79.2
TOTALS CARRIED TO THIS SHEET			2589	-1817		4982		1864		3635				-5540		740		72		48		80
TOTALS CARRIED FROM SHEET 60			2490	22445		16372		860		18938						1759		103		977		4529
TOTALS CARRIED FROM SHEET 61			2319	116243		31263		665		36774		557		32141		1070		45356		8217		4628
GRAND TOTAL CARRIED TO GENERAL SUMMARY			7398	136871				3389		59347		557		32141		3569		45531		9242		9237
GRAND TOTAL CARRIED TO GENERAL NOTES - SHEET 5						52617																

FOR INFORMATION ONLY

EARTHWORK SUMMARY TABLE (BY STAGE OF CONSTRUCTION) (CU YD)

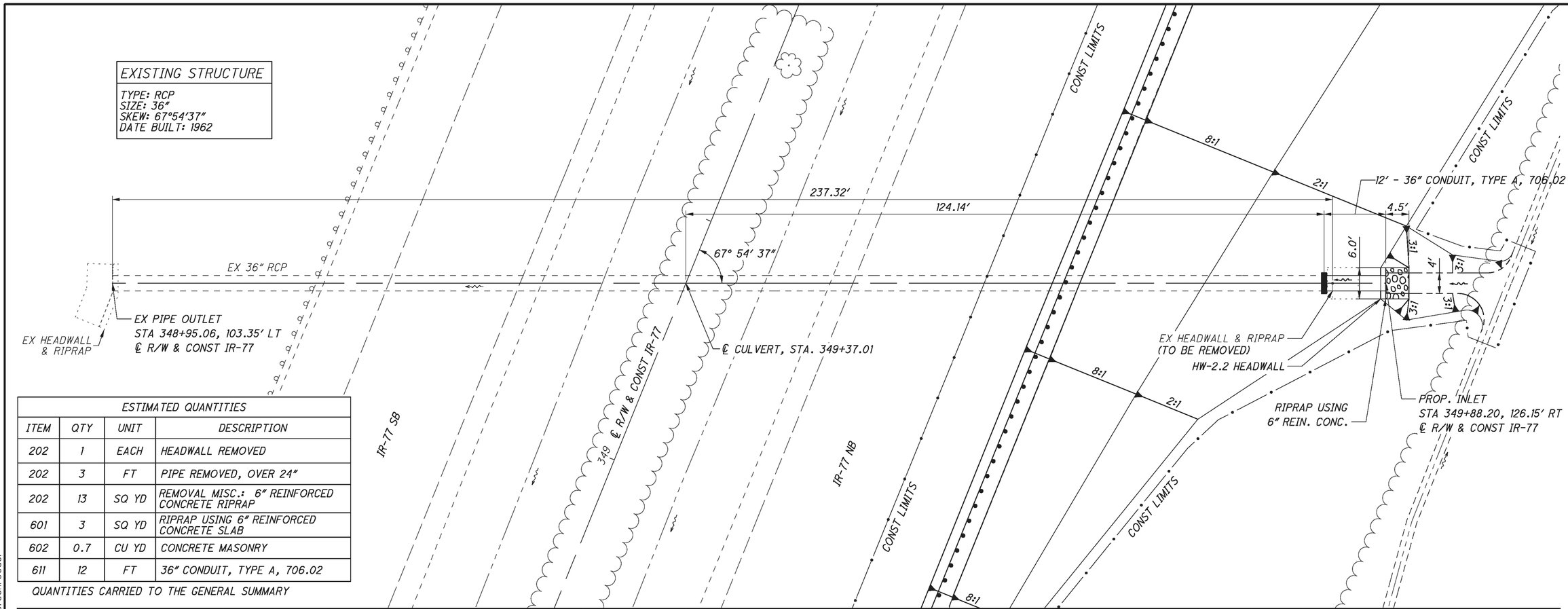
EXCAVATION	QTY	
STAGE 1	3389	
STAGE 2	557	
STAGE 3	3569	
STAGE 4	9242	
TOTAL ALL STAGES	16757	
(-) ITEM 302 - EXCAVATION		7398
EARTHWORK FOR MAINTAINING TRAFFIC		9359
EMBANKMENT	QTY	
STAGE 1	59347	
STAGE 2	32141	
STAGE 3	45531	
STAGE 4	9237	
TOTAL ALL STAGES	146256	
(-) ITEM 203 - EMBANKMENT		136871
EARTHWORK FOR MAINTAINING TRAFFIC		9385

FOR INFORMATION ONLY - FOR CROSS SECTION LEGEND SEE SHEET 6

CALCULATED PRS
CHECKED SSC

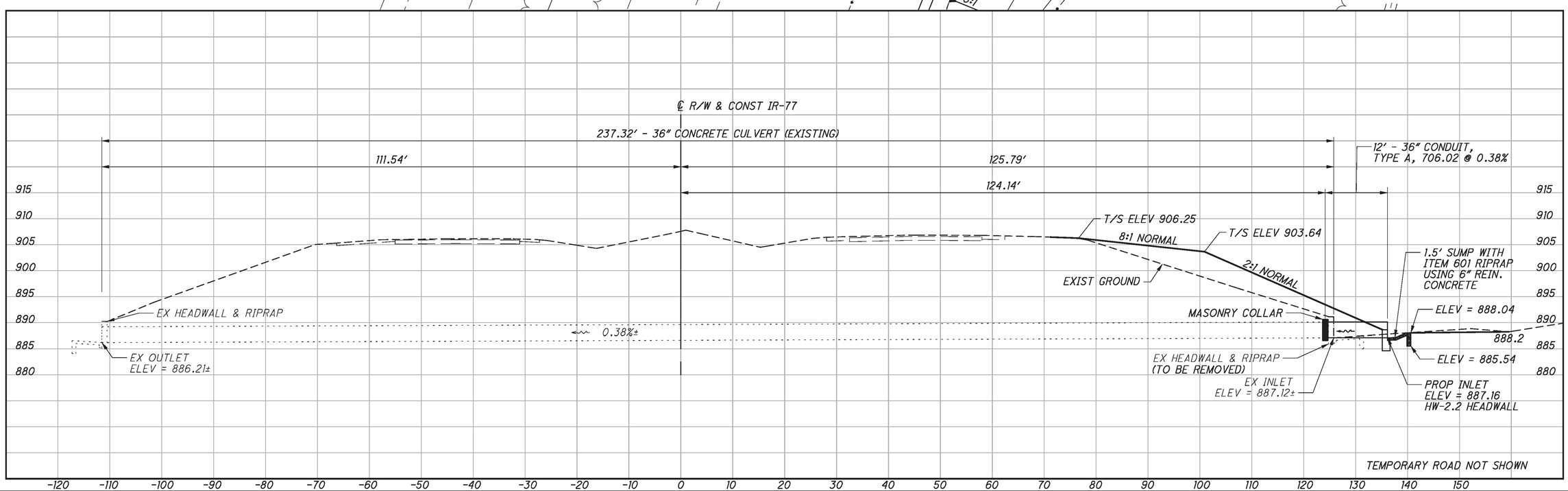
CROSS SECTION QUANTITIES

TUS-77-25.95



ESTIMATED QUANTITIES			
ITEM	QTY	UNIT	DESCRIPTION
202	1	EACH	HEADWALL REMOVED
202	3	FT	PIPE REMOVED, OVER 24"
202	13	SQ YD	REMOVAL MISC.: 6" REINFORCED CONCRETE RIPRAP
601	3	SQ YD	RIPRAP USING 6" REINFORCED CONCRETE SLAB
602	0.7	CU YD	CONCRETE MASONRY
611	12	FT	36" CONDUIT, TYPE A, 706.02

QUANTITIES CARRIED TO THE GENERAL SUMMARY



HORIZONTAL SCALE IN FEET
0 5 10 20

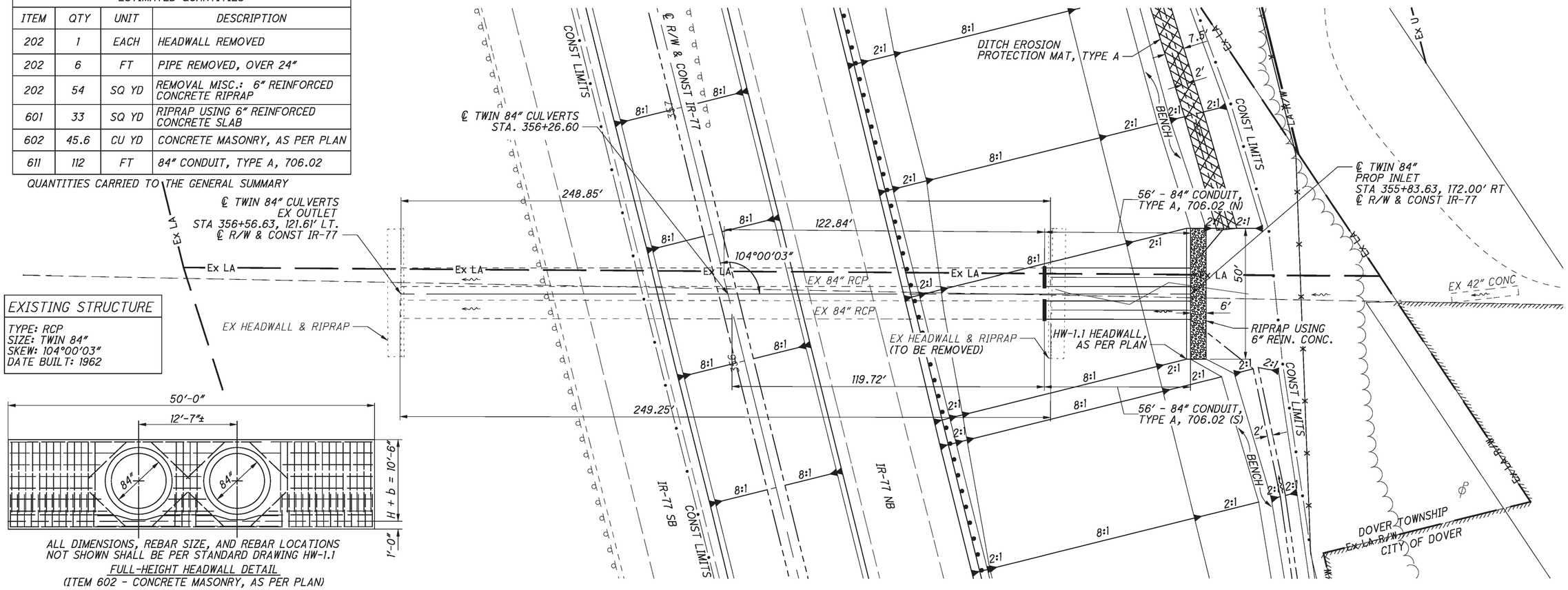
CALCULATED PEK
CHECKED PRS

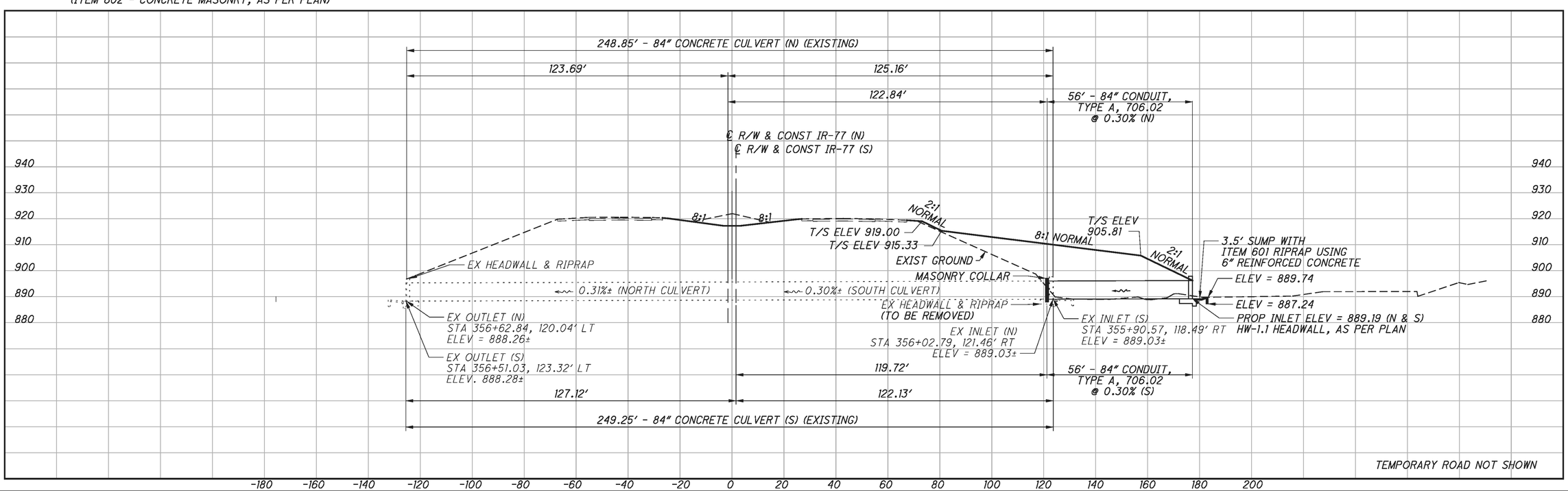
CULVERT DETAIL
STA. 349+37.01

TUS-77-25.95

ESTIMATED QUANTITIES			
ITEM	QTY	UNIT	DESCRIPTION
202	1	EACH	HEADWALL REMOVED
202	6	FT	PIPE REMOVED, OVER 24"
202	54	SQ YD	REMOVAL MISC.: 6" REINFORCED CONCRETE RIPRAP
601	33	SQ YD	RIPRAP USING 6" REINFORCED CONCRETE SLAB
602	45.6	CU YD	CONCRETE MASONRY, AS PER PLAN
611	112	FT	84" CONDUIT, TYPE A, 706.02

QUANTITIES CARRIED TO THE GENERAL SUMMARY





HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED PEK
CHECKED PRS

CULVERT DETAIL STA. 356+26.60

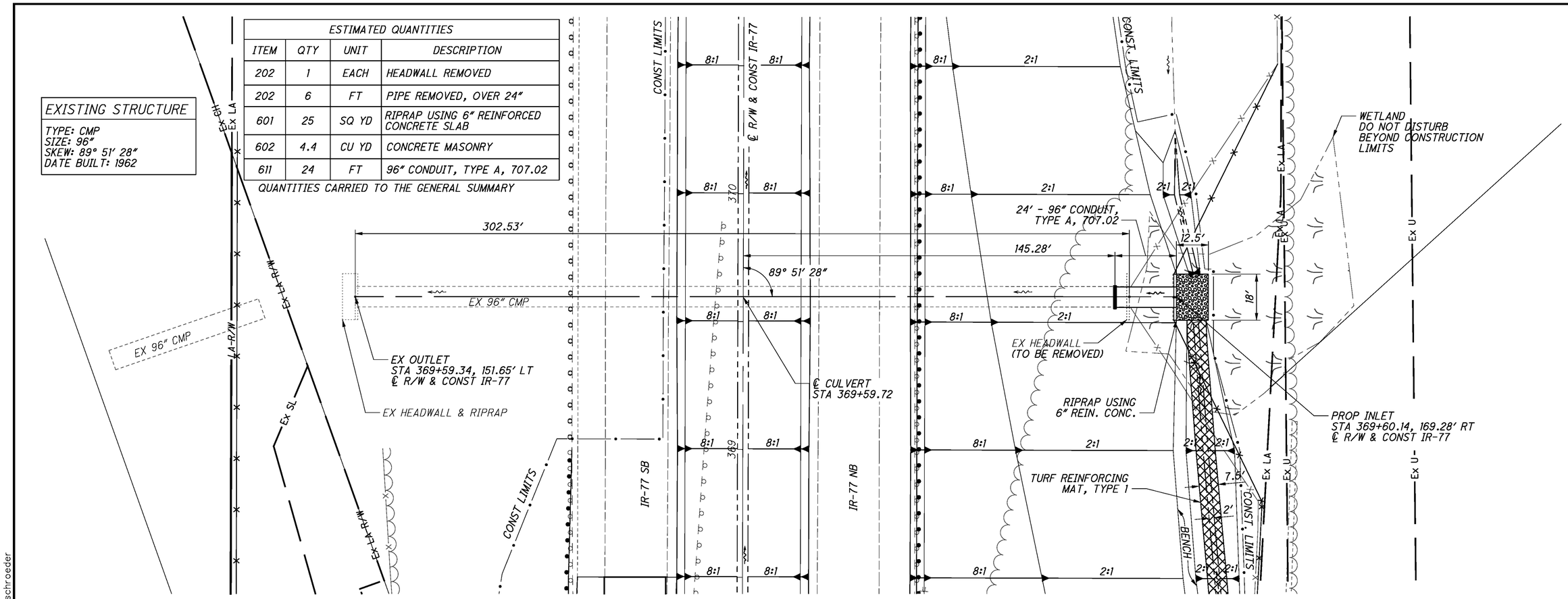
TUS-77-25.95

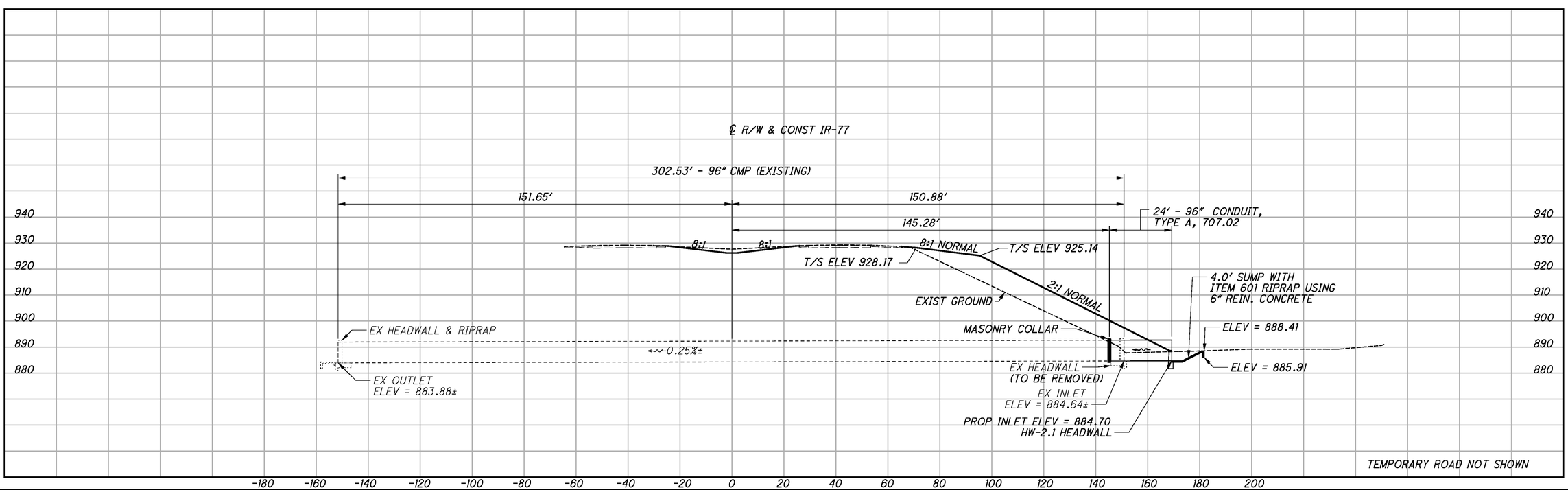
ESTIMATED QUANTITIES			
ITEM	QTY	UNIT	DESCRIPTION
202	1	EACH	HEADWALL REMOVED
202	6	FT	PIPE REMOVED, OVER 24"
601	25	SQ YD	RIPRAP USING 6" REINFORCED CONCRETE SLAB
602	4.4	CU YD	CONCRETE MASONRY
611	24	FT	96" CONDUIT, TYPE A, 707.02

QUANTITIES CARRIED TO THE GENERAL SUMMARY

EXISTING STRUCTURE

TYPE: CMP
SIZE: 96"
SKEW: 89° 51' 28"
DATE BUILT: 1962



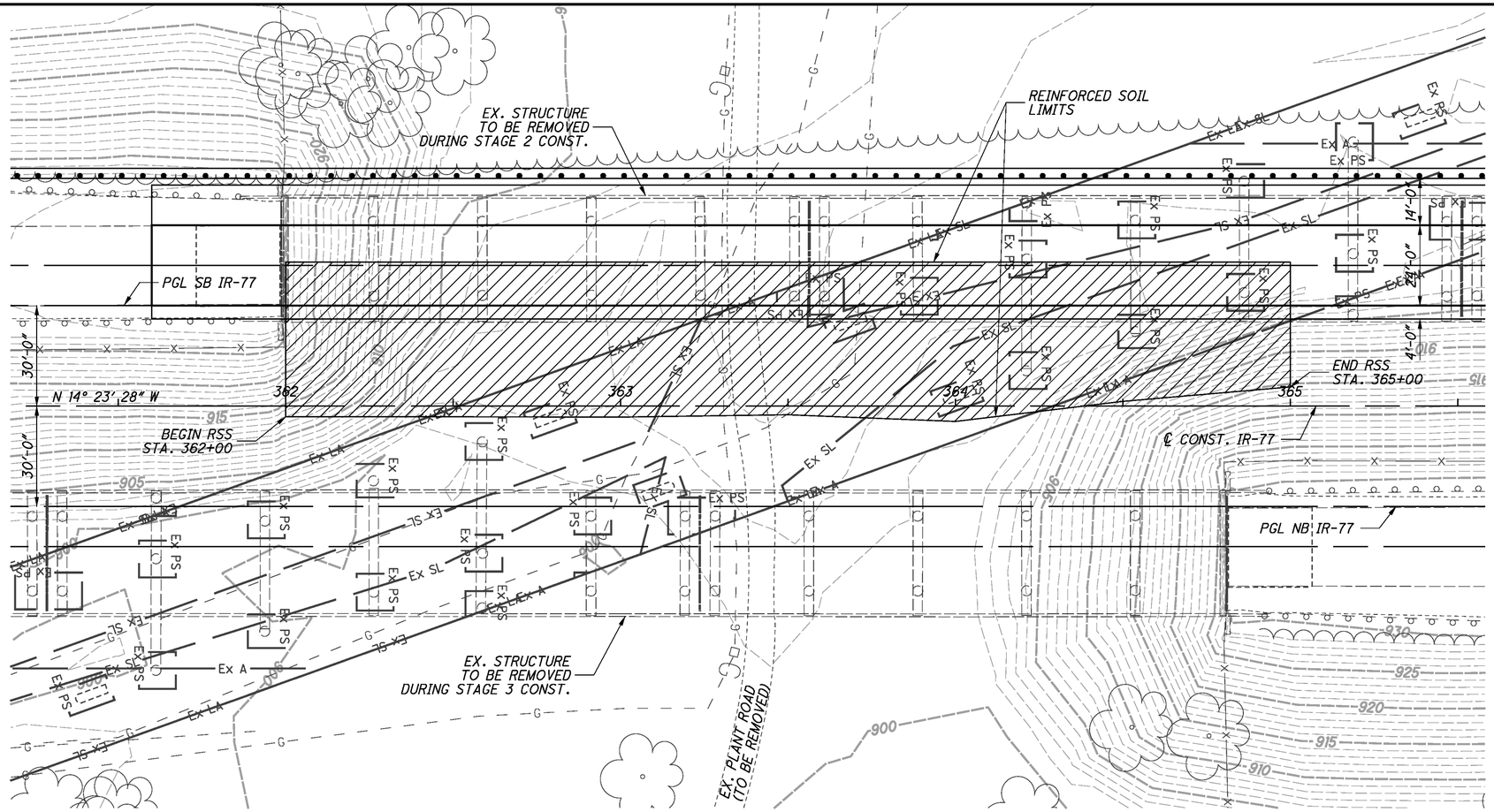


HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED PEK
CHECKED PRS

CULVERT DETAIL
STA 369+59.72

TUS-77-25.95



LEGEND

REINFORCED SOIL SLOPE

NOTES:

1. CONSTRUCT REINFORCED SOIL SLOPE ACCORDING TO SUPPLEMENTAL SPECIFICATION 863 AND THESE DETAILS.
2. PRIMARY REINFORCEMENT TO BE ITEM 863 GEOGRID, TYPE P1.
3. SECONDARY REINFORCEMENT TO BE ITEM 863 GEOGRID, TYPE S1.
4. REINFORCEMENT SPACED AT 1'-5". ALTERNATE PRIMARY AND SECONDARY LAYERS.
5. WRAP PRIMARY REINFORCEMENT UP THE SLOPE FACE AND LAP IT 6'-0" ONTO THE LAYER ABOVE.
6. AFTER CONSTRUCTION OF THE REINFORCED SOIL SLOPE IS COMPLETE, INSTALL A LAYER OF CMS 712.09 GEOTEXTILE FABRIC, TYPE D, ON THE SLOPE FACE FOR EROSION PROTECTION.
7. FOR RSS PROFILE, SEE SHEET 67.
8. FOR RSS CROSS SECTIONS, SEE SHEETS 68 TO 71.

PRIMARY REINFORCEMENT					
LAYER	ELEVATION	BEGIN STATION	END STATION	TOTAL LENGTH (FT)	QUANTITY (SY)
P1 (1)	904.00	362+29	364+44	41	979
P1 (2)	906.83	362+21	364+54	41	1062
P1 (3)	909.67	362+12	364+63	41	1143
P1 (4)	912.50	362+03	364+71	29	864
P1 (5)	915.33	362+00	364+84	29	916
P1 (6)	918.17	362+00	365+00	29	967
P1 (7)	921.00	362+00	365+00	29	967
P1 (8)	923.83	362+00	365+00	29	967
P1 (9)	926.67	364+00	365+00	29	322
			GEOGRID TYPE P1	TOTAL	8187

TOTAL CARRIED TO SHEET 32

SECONDARY REINFORCEMENT					
LAYER	ELEVATION	BEGIN STATION	END STATION	WIDTH (FT)	QUANTITY (SY)
S1 (1)	905.42	362+33	364+41	6	139
S1 (2)	908.25	362+25	364+51	6	151
S1 (3)	911.08	362+15	364+60	6	163
S1 (4)	913.92	362+04	364+69	6	177
S1 (5)	916.75	362+00	364+84	6	189
S1 (6)	919.58	362+00	365+00	6	200
S1 (7)	922.42	362+00	365+00	6	200
S1 (8)	925.25	362+00	365+00	6	200
			GEOGRID TYPE S1	TOTAL	1419

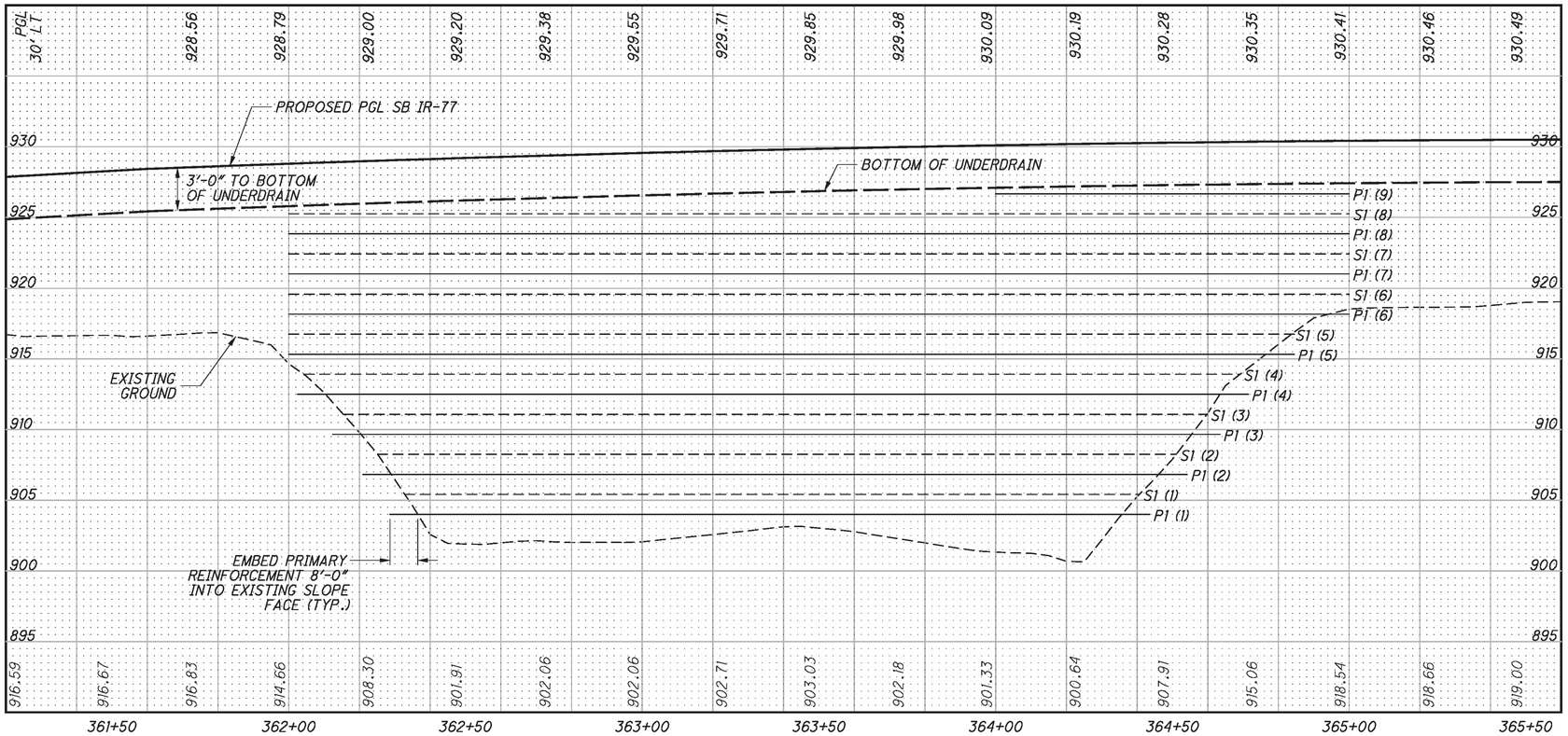
TOTAL CARRIED TO SHEET 32

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED CTM
CHECKED MTO

REINFORCED SOIL SLOPE PLAN STA 362+00 TO STA 365+00

TUS-77-25.95

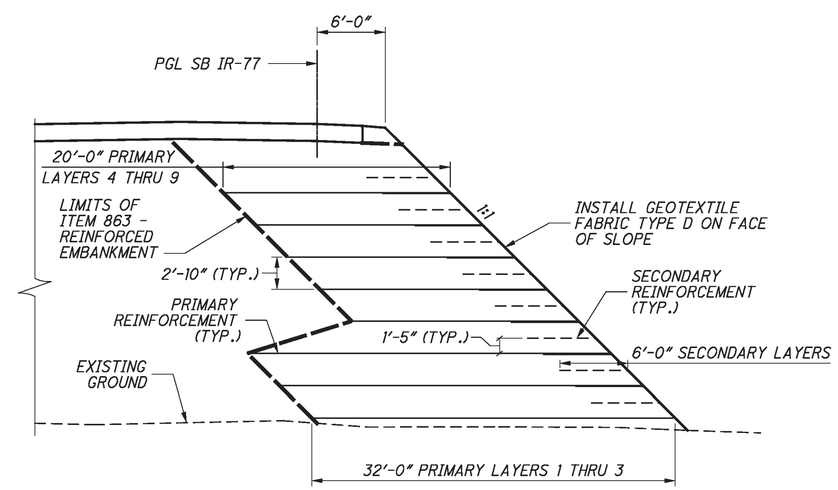


REINFORCED SOIL SLOPE PROFILE ALONG ℄ CONST. IR-77

LEGEND

——— PRIMARY REINFORCEMENT

– – – – SECONDARY REINFORCEMENT



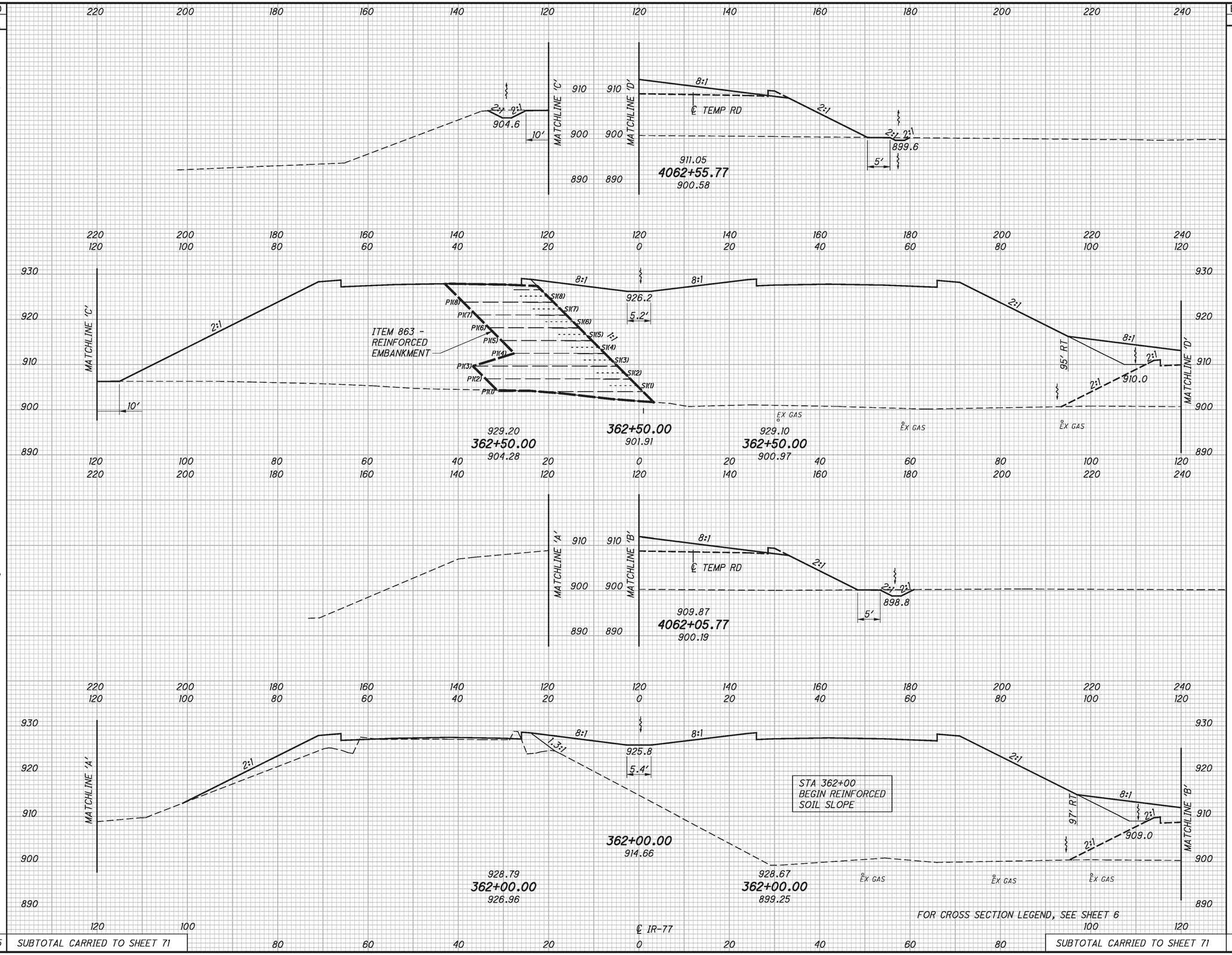
REINFORCED SOIL SLOPE TYPICAL SECTION

CALCULATED CTM
CHECKED MTO

REINFORCED SOIL SLOPE PROFILE
STA 362+00 TO STA 365+00

TUS-77-25.95

ITEM 690 END WIDTH	SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT (ITEM 863)	VOLUME FILL (ITEM 863)
	217			0	1126
39		0	585		
	128			0	542
7		0	0		
·	345	·	·	0	1668



SUBTOTAL CARRIED TO SHEET 71

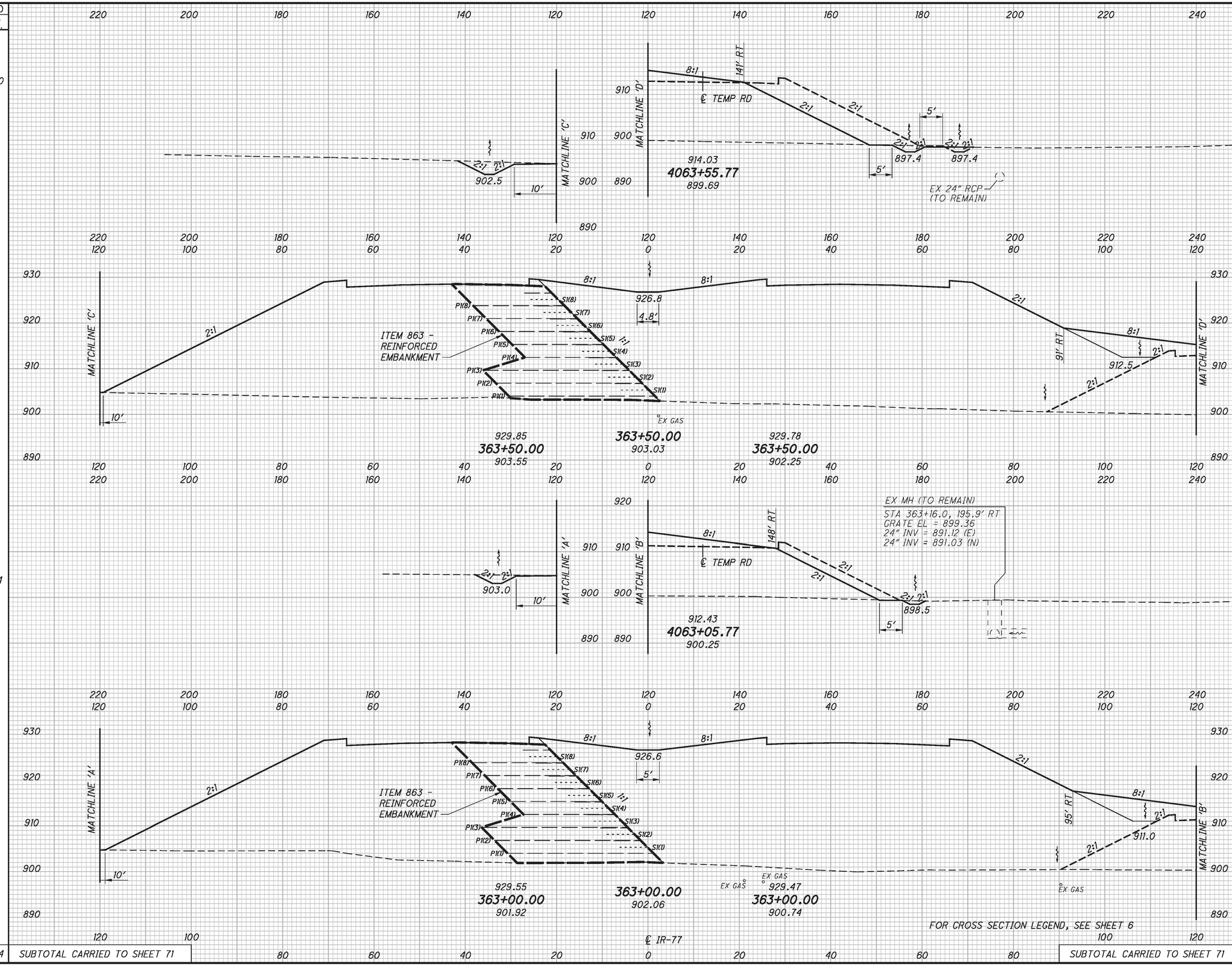
SUBTOTAL CARRIED TO SHEET 71

CALCULATED PEK
CHECKED PRS

CROSS SECTIONS - REINFORCED SOIL SLOPE
STA 362+00 TO STA 362+50

TUS-77-25.95

ITEM 690 END WIDTH	SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
				ITEM 863	
	220			0	1156
38		0	598		
	214			0	1138
39		0	631		
·	434	SUBTOTAL CARRIED TO SHEET 71		0	2294
			SUBTOTAL CARRIED TO SHEET 71	·	·



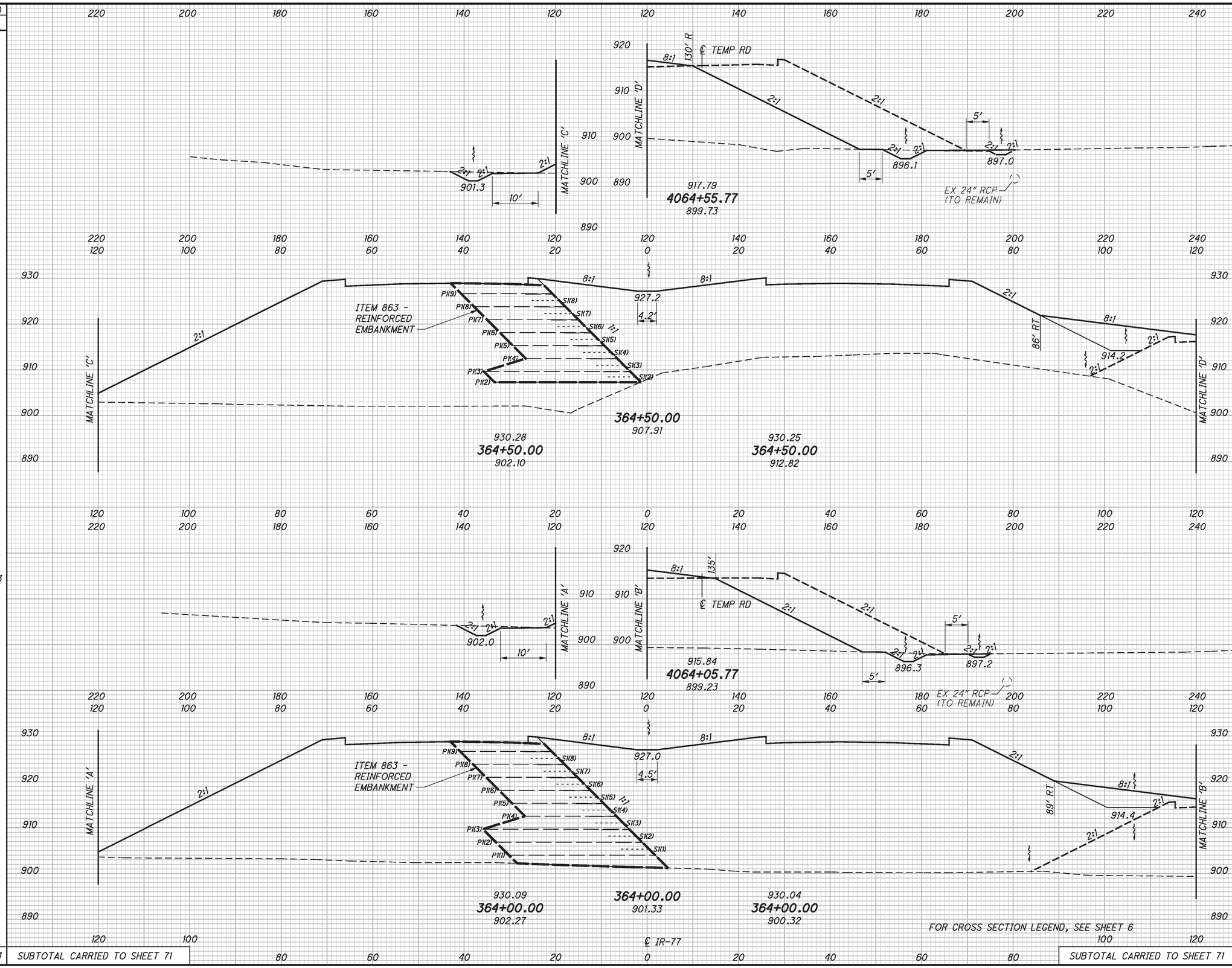
FOR CROSS SECTION LEGEND, SEE SHEET 6

CALCULATED PEK
CHECKED PRS

CROSS SECTIONS - REINFORCED SOIL SLOPE
STA 363+00 TO STA 363+50

TUS-77-25.95

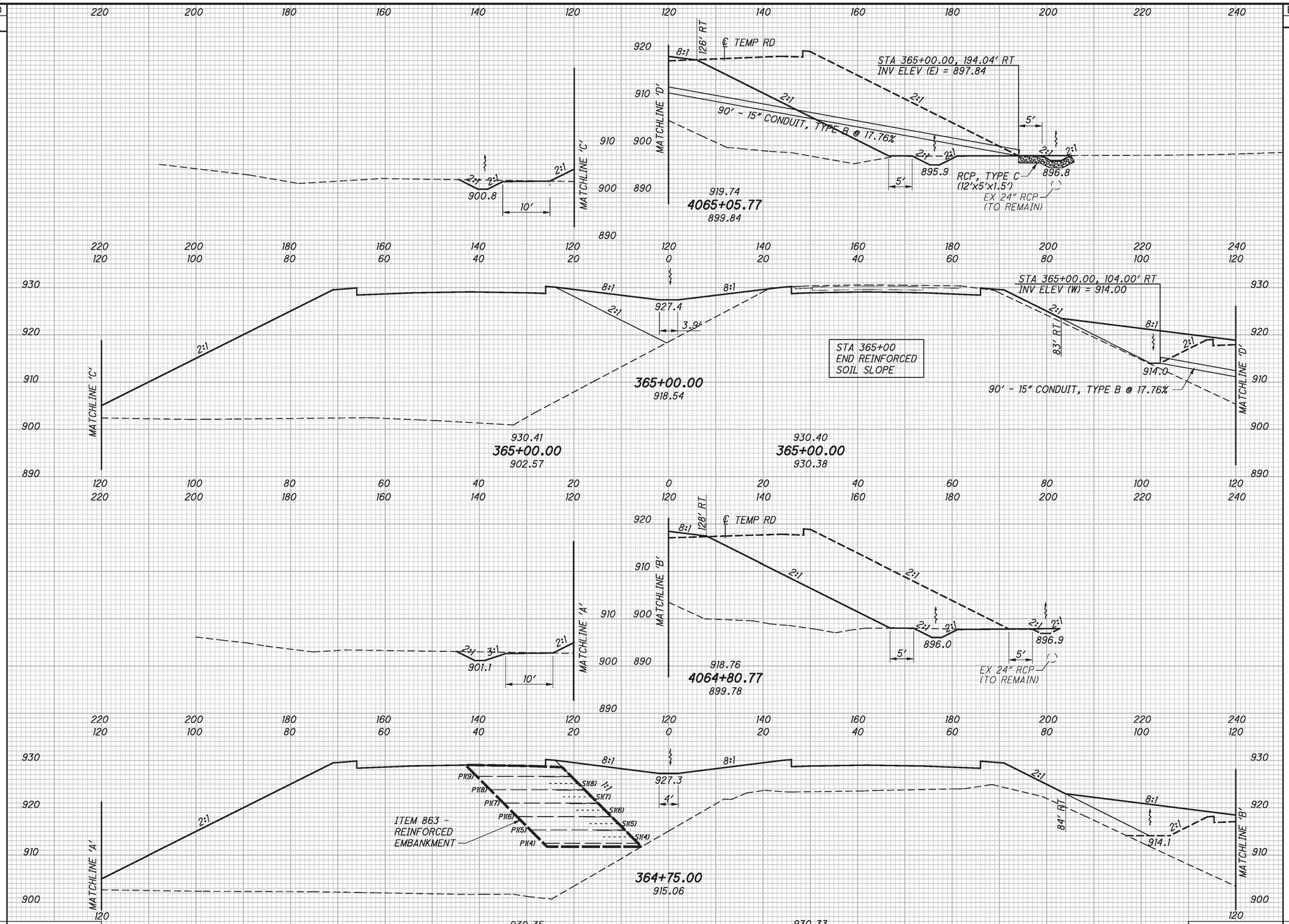
ITEM 690 END WIDTH	SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
				ITEM 863	
	81			0	378
32		0	474		
	203			0	1042
41		0	651		
·	284			0	1420



CALCULATED PEK
CHECKED PRS

CROSS SECTIONS - REINFORCED SOIL SLOPE STA 364+00 TO STA 364+50

TUS-77-25.95



FOR CROSS SECTION LEGEND, SEE SHEET 6

ITEM 690 END WIDTH	ITEM 690 SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	36		0	0	ITEM 863 0	158
	26		0	342		

36	SUBTOTAL	0	158	SUBTOTAL
345	SUBTOTAL FROM SHEET 68	0	1668	SUBTOTAL FROM SHEET 68
434	SUBTOTAL FROM SHEET 69	0	2294	SUBTOTAL FROM SHEET 69
284	SUBTOTAL FROM SHEET 70	0	1420	SUBTOTAL FROM SHEET 70
1099	TOTAL CARRIED TO GENERAL SUMMARY	0	5540	TOTAL CARRIED TO GENERAL SUMMARY

CALCULATED PEK
CHECKED PRS

CROSS SECTIONS - REINFORCED SOIL SLOPE STA 364+75 TO STA 365+00

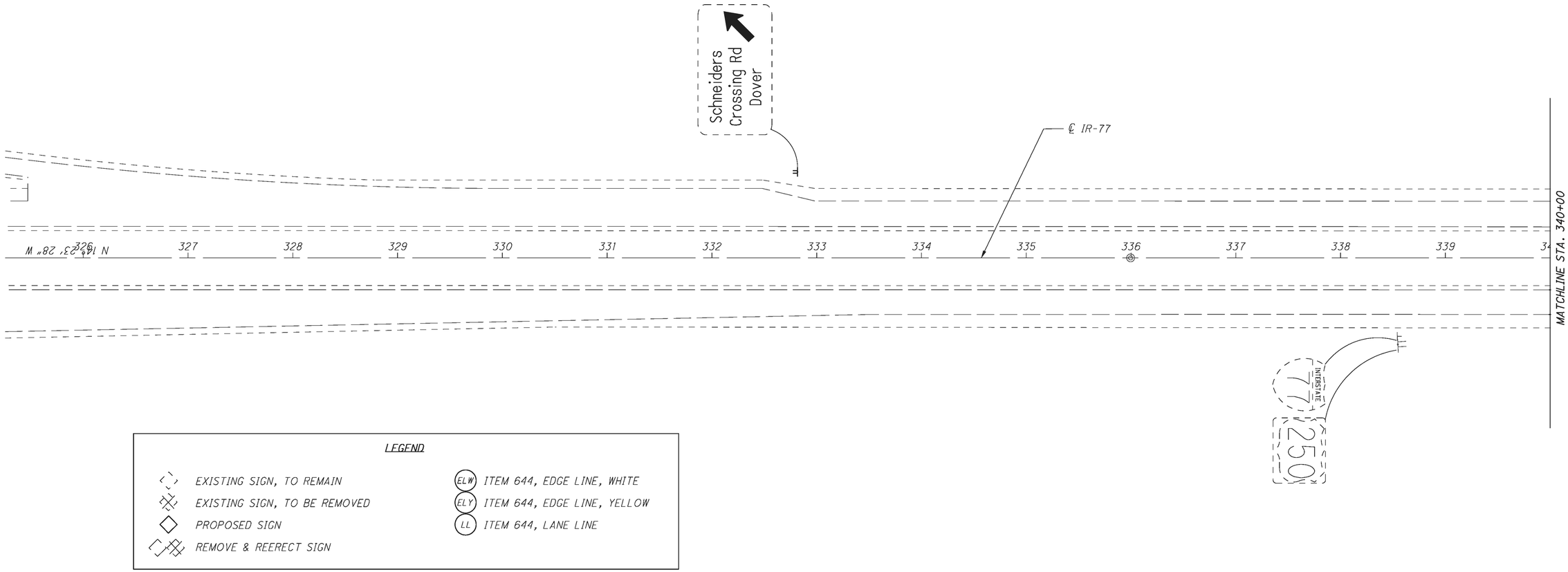
TUS-77-25.95

REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	CODE	SIZE (INCHES)	621 RPM	630 GROUND MOUNTED SUPPORT, NO. 2 POST	630 GROUND MOUNTED SUPPORT, NO. 4 POST	630 SIGN, FLAT SHEET	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	644 EDGE LINE, 6"	644 LANE LINE, 6"
							EACH	FT	FT	SQ FT	EACH	EACH	EACH	MILE	MILE
ELW1	73-74	346+00.00	377+50.00	LT										0.60	
ELW2	73-74	340+00.00	377+50.00	RT										0.71	
ELY1	73-74	346+00.00	377+50.00	LT										0.60	
ELY2	73-74	340+00.00	377+50.00	RT										0.71	
LL1	73-74	346+00.00	377+50.00	LT			27								0.60
LL2	73-74	340+00.00	377+50.00	RT			32								0.71
S1	73	348+45.00		RT	R2-1-48	48x60			30	20	1		2		
S2	74	368+00.00		RT	D10-2-12	12x36		9		3	1		1		
S3	74	368+00.00		LT	D10-2-12	12x36		9		3	1		1		
S4	74	368+50.00		RT	I-H14				30			1	2		
R1	73	352+34.00		RT							1		2		
R2	74	359+67.00		RT							2		2		
R3	74	367+11.00		LT							2		2		
SUBTOTAL							59	18	60	26	8	1	12	2.62	1.31
TOTALS CARRIED TO GENERAL SUMMARY							59	18	60	26	8	1	12	2.62	1.31

CALCULATED AT
CHECKED JFM

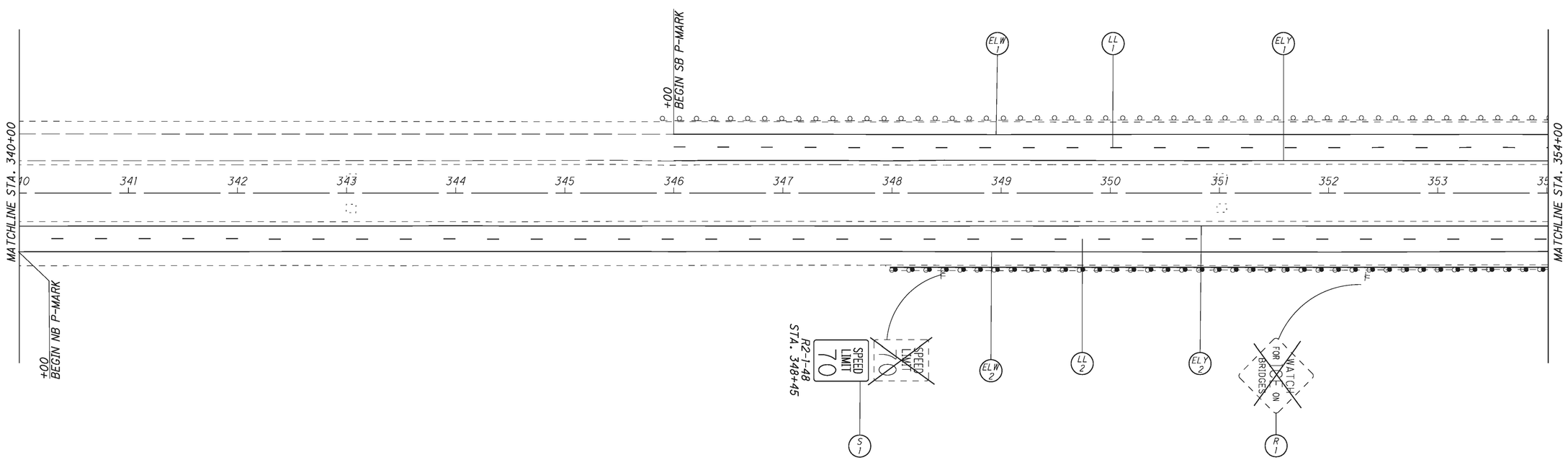
TRAFFIC CONTROL QUANTITIES

TUS-77-25.95



LEGEND

- EXISTING SIGN, TO REMAIN
- EXISTING SIGN, TO BE REMOVED
- PROPOSED SIGN
- REMOVE & REERECT SIGN
- (ELW) ITEM 644, EDGE LINE, WHITE
- (ELY) ITEM 644, EDGE LINE, YELLOW
- (LL) ITEM 644, LANE LINE

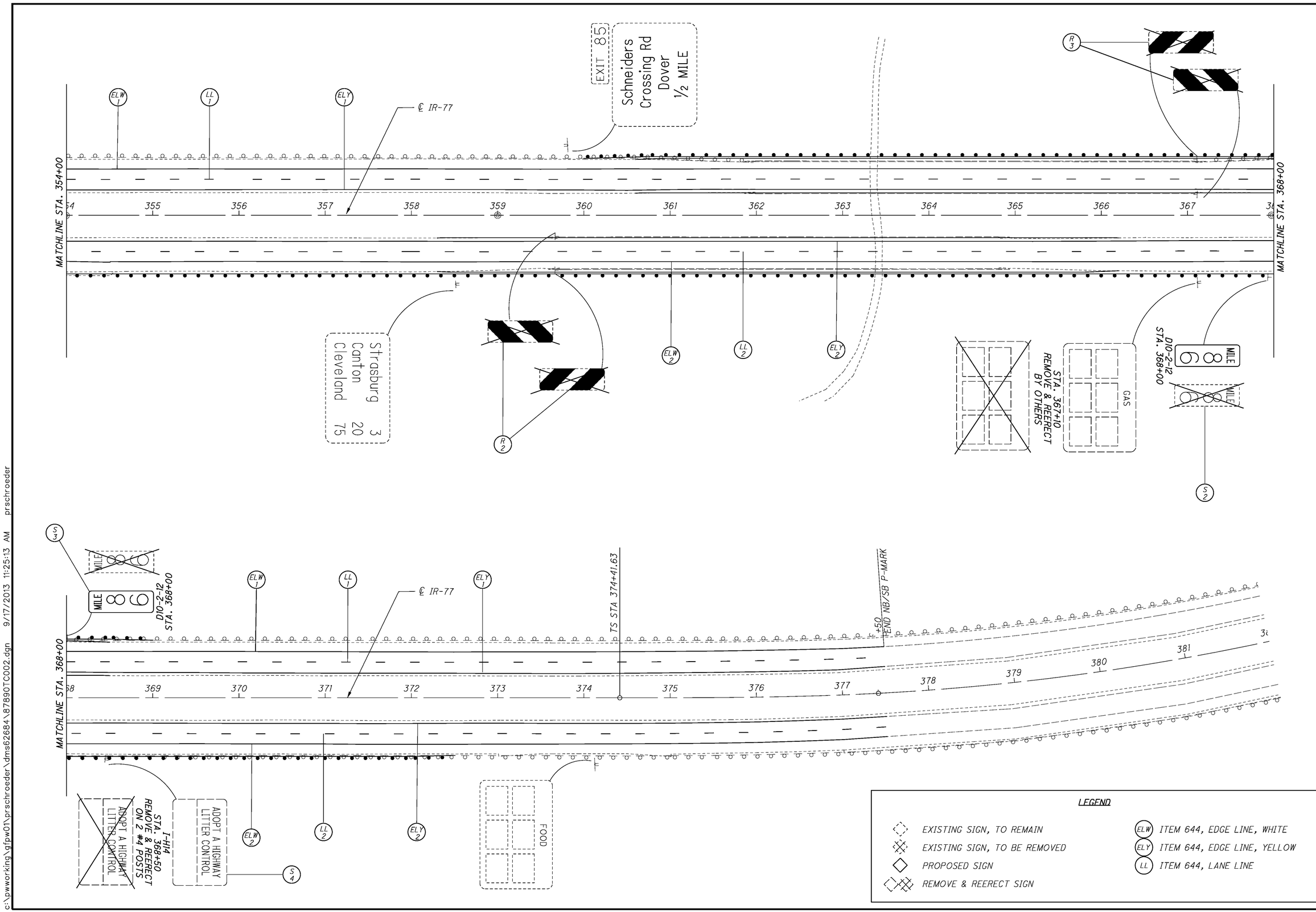


HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED AT
CHECKED JFM

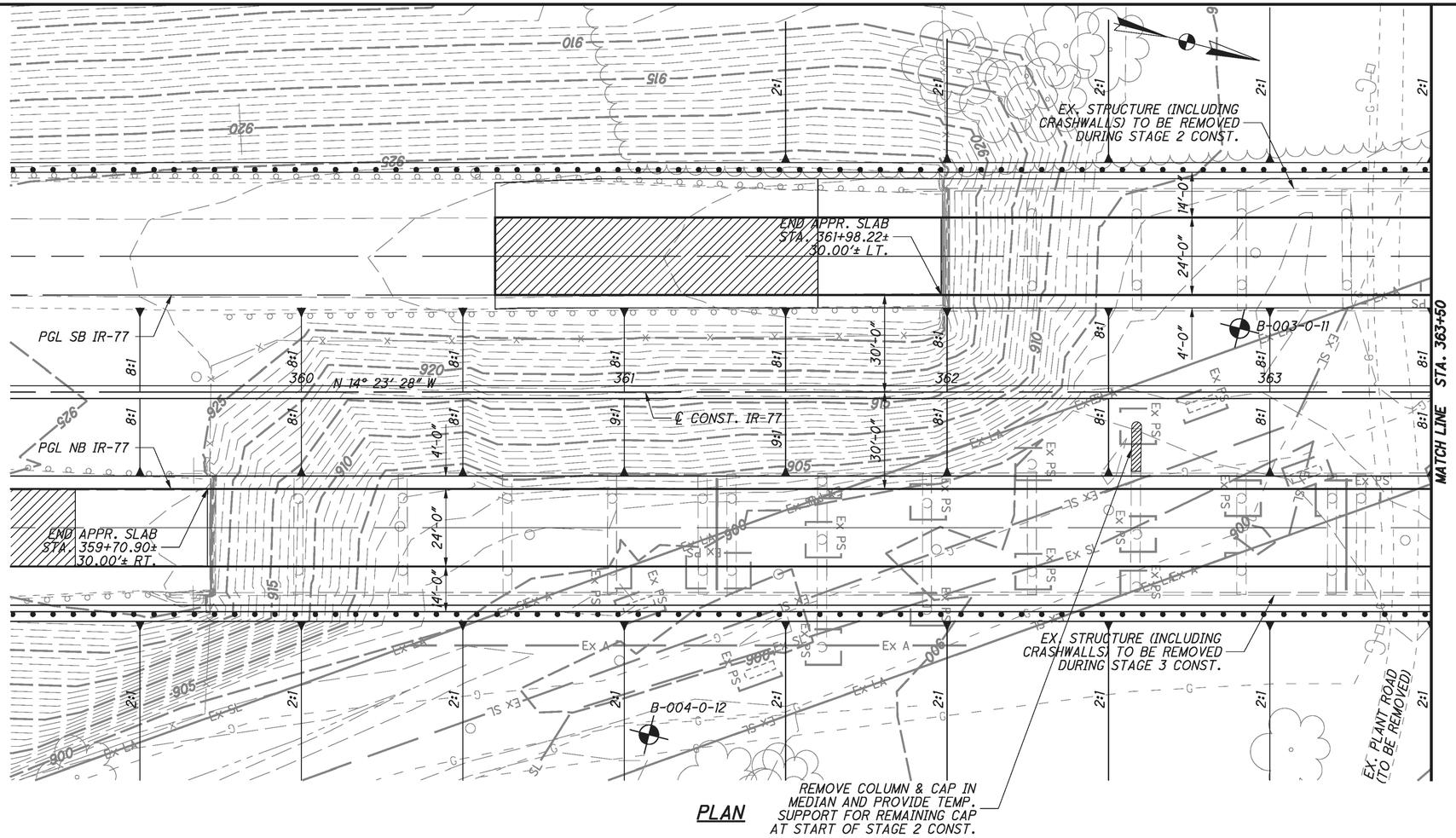
SIGNING & PAVEMENT MARKINGS PLAN
STA 326+00 TO STA 354+00

TUS-77-25.95

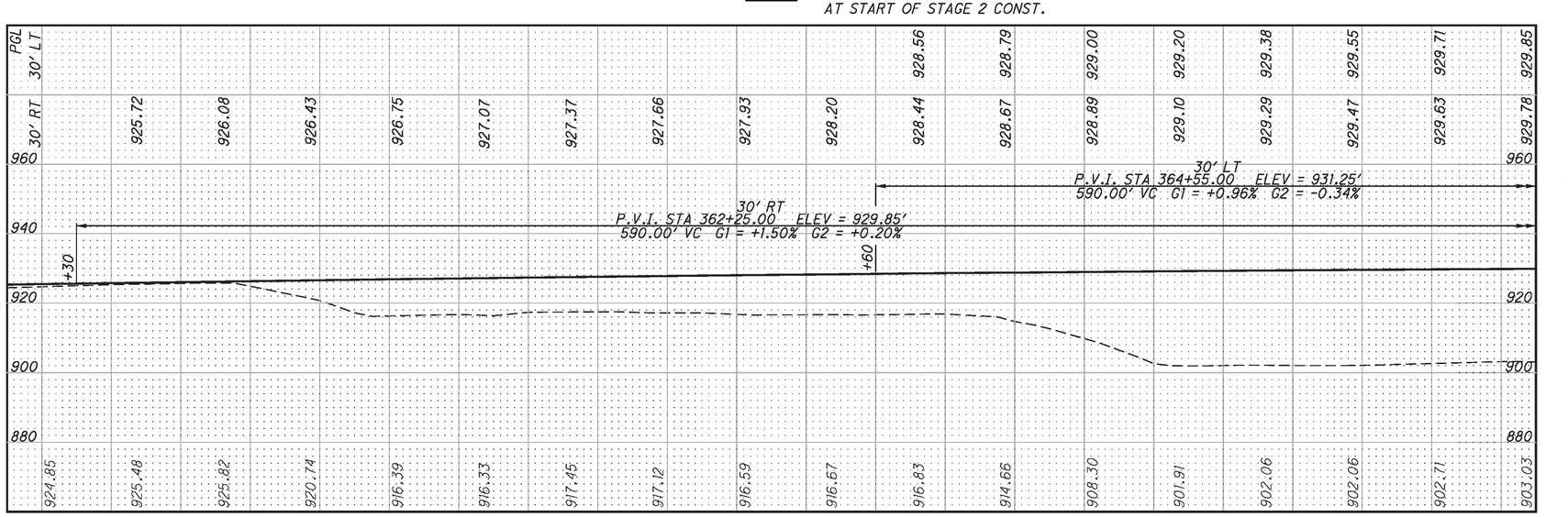


SIGNING & PAVEMENT MARKINGS PLAN
STA 354+00 TO STA 382+00

TUS-77-25.95



PLAN



PROFILE ALONG PROFILE GRADE LINE IR-77

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. DATUM ADJUSTMENT: EXISTING STRUCTURE ELEVATIONS ARE ±1.10 FEET LOWER THAN THOSE SHOWN ON THE ORIGINAL CONSTRUCTION PLANS DATED 1962.

TRAFFIC DATA

2015 ADT = 36,300 2015 ADTT = 6900
2035 ADT = 43,200 2035 ADTT = 8210
DIRECTIONAL DISTRIBUTION = 55%

LEGEND

⊕ - SOIL BORING LOCATION

BENCHMARK DATA

BM #1	BM #2
TOP OF 3" ALUMINUM DISK SET IN CONCRETE	TOP OF 3" ALUMINUM DISK SET IN CONCRETE
STA. 360+53.99, 67.76' LT.	STA. 368+76.88, 70.12' LT.
ELEV. 926.70	ELEV. 928.45

EXISTING STRUCTURES (LEFT & RIGHT)

TYPE: CONTINUOUS, REINFORCED CONCRETE SLAB ON STUB ABUTMENTS AND CAP AND COLUMN PIERS

SPANS: 26'-0"±, 3 @ 32'-6"±, 28'-0"±, 9'-0"±, 28'-0"±, 4 @ 32'-6"±, 28'-0"±, 9'-0"±, 28'-0"±, 3 @ 32'-6"±, 26'-0"± C/C BRGS

ROADWAY: 36'-0"± T/T PARAPETS

ORIGINAL DESIGN LOADING: CF-2000 (1957)

ALIGNMENT: TANGENT

SKEW: 0°00'±

WEARING SURFACE: 4"± SUPERPLASTICIZED DENSE CONCRETE OVERLAY (LEFT)
2"± DENSE CONCRETE (IOWA SYSTEM) OVERLAY (RIGHT)

CROWN: 0.0156±

APPROACH SLABS: AS-1-54 (25'± LONG)

YEAR BUILT: 1964

STRUCTURE FILE NUMBER: 7903391 (LEFT), 7903421 (RIGHT)

DISPOSITION: TO BE REPLACED WITH EMBANKMENT

PROPOSED STRUCTURES

TYPE: NONE

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY SUITE 350
WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
MTO	MTO	DEK	7/13
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		7903391 (LT.) 7903421 (RT.)	

TUSCARAWAS COUNTY
361+98.22± TO 367+09.12± LT.
359+70.90± TO 364+81.55± RT.

SITE PLAN 1
BRIDGE NO. TUS-77-2595 L&R
OVER ACCESS ROAD & ABANDONED RAILROAD

TUS-77-25.95
PID No. 87890

7/30/2013
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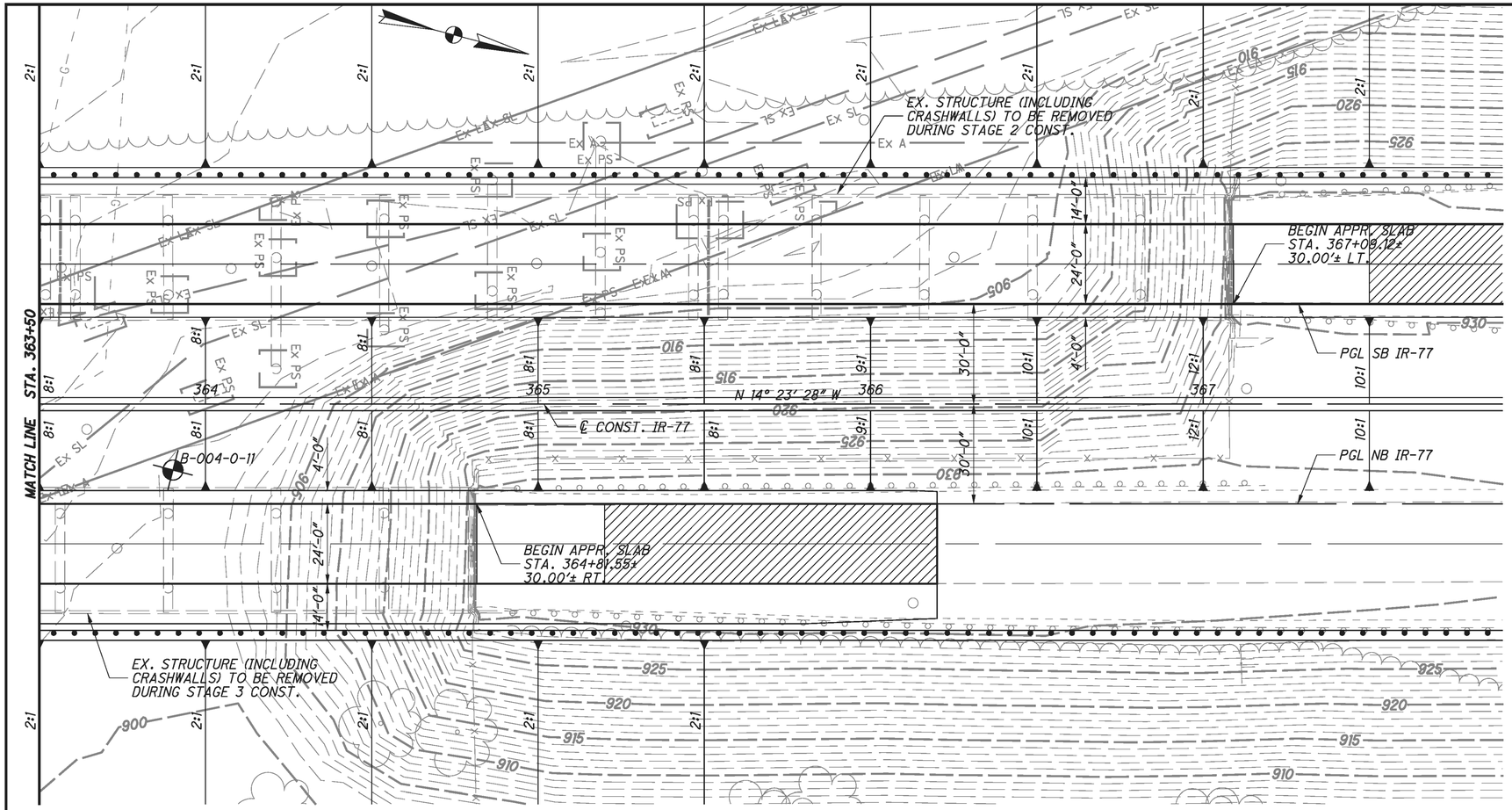
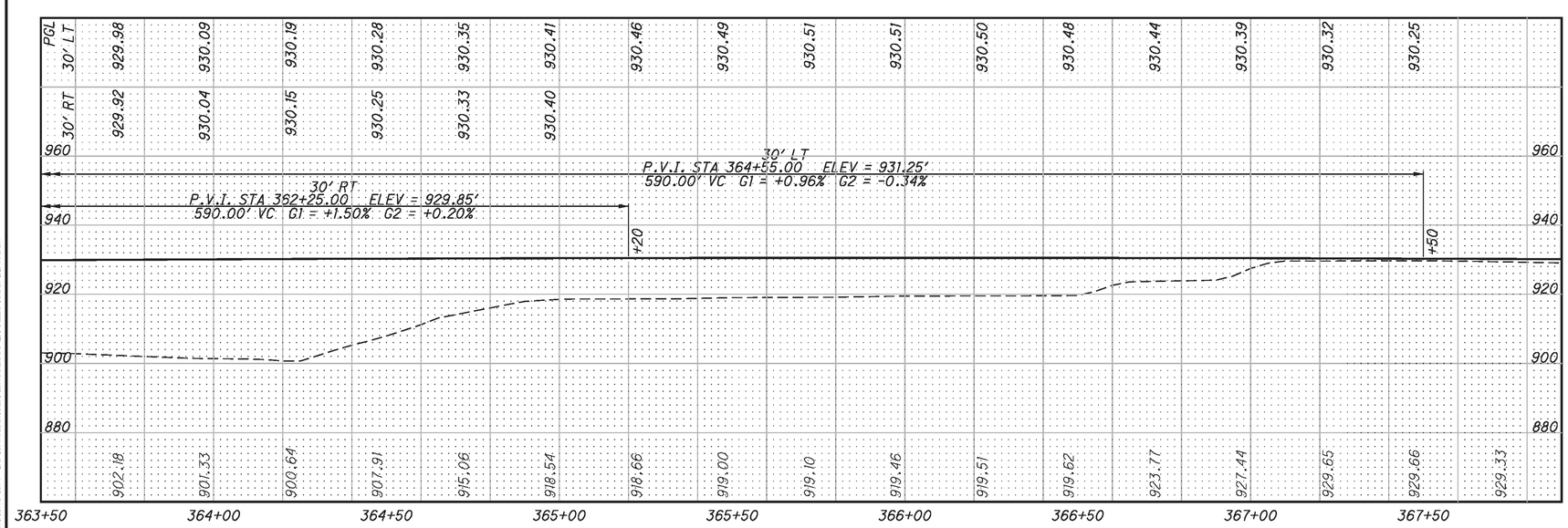


PLAN



PROFILE ALONG PROFILE GRADE LINE IR-77

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. DATUM ADJUSTMENT: EXISTING STRUCTURE ELEVATIONS ARE ±1.10 FEET LOWER THAN THOSE SHOWN ON THE ORIGINAL CONSTRUCTION PLANS DATED 1962.

BENCHMARK DATA

BM #1	BM #2
TOP OF 3" ALUMINUM DISK SET IN CONCRETE STA. 360+53.99, 67.76' LT. ELEV. 926.70	TOP OF 3" ALUMINUM DISK SET IN CONCRETE STA. 368+76.88, 70.12' LT. ELEV. 928.45

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY SUITE 350
WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
MTO	MTO	DEK	7/13
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		7903591 (LT) 7903421 (RT)	

TUSCARAWAS COUNTY
361+98.22± TO 367+09.12± LT.
359+70.90± TO 364+81.55± RT.

SITE PLAN 2
BRIDGE NO. TUS-77-2595 L&R
OVER ACCESS ROAD & ABANDONED RAILROAD

TUS-77-25.95
PID No. 87890

7/30/2013 5:58:11 PM
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BRIDGE GENERAL NOTES

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02.

BASE CONTRACT BID PRICES UPON RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

CUT-LINE CONCRETE REMOVAL AND SURFACE TREATMENT FOR PIER 10 RIGHT:

SAW-CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP, THEN REMOVE THE CONCRETE TO THE SAW-CUT LINE. CUT OFF THE EXISTING REINFORCING STEEL FLUSH WITH THE SAW-CUT LINE. THOROUGHLY CLEAN THE CONCRETE SURFACE AND EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE, LOOSE RUST, DIRT, DUST, AND OTHER FOREIGN MATERIALS BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. AFTER THE CONCRETE SURFACE AND EXPOSED REINFORCING HAS DRIED, APPLY TYPE 2 WATERPROOFING TO THE CONCRETE SURFACE AS SHOWN IN THE PLANS AND IN ACCORDANCE WITH ITEM 512.

THE DEPARTMENT WILL PAY FOR SAW-CUTTING AND CONCRETE REMOVAL AS PART OF ITEM 202 - STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN. THE DEPARTMENT WILL PAY FOR SURFACE PREPARATION AND APPLICATION OF TYPE 2 WATERPROOFING AS PART OF ITEM 512 - TYPE 2 WATERPROOFING.

SUBSTRUCTURE CONCRETE REMOVAL DURING STAGE 2 CONSTRUCTION:

FOR THE PORTIONS OF PIER 10 RIGHT THAT ARE TO BE REMOVED DURING STAGE 2 CONSTRUCTION, REMOVE THE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18-INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH THE REINFORCING STEEL IN THE PIER CAP.

MAINTENANCE OF TRAFFIC:

ALL STAGED CONSTRUCTION LANE WIDTHS, MAINTENANCE OF TRAFFIC DEVICES, CONSTRUCTION CLEARANCES, AND CONSTRUCTION ACCESS REQUIREMENTS MUST MATCH THE REQUIREMENTS IN THE MAINTENANCE OF TRAFFIC PLANS (SHEETS 7-24 OF 105).

ITEM 202 - STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN:

ALTHOUGH REMOVAL OF THE EXISTING STRUCTURES WILL BE DONE IN STAGES, INCLUDE ALL COSTS FOR REMOVING PORTIONS OF THE EXISTING RIGHT BRIDGE DURING STAGE 2 WITH ITEM 202 - STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN.

FOR BOTH STRUCTURES, REMOVE THE EXISTING ABUTMENTS TO THE TOPS OF THEIR RESPECTIVE FOOTINGS; REMOVE THE EXISTING PIERS TO 1 FOOT BELOW THE EXISTING GROUND SURFACE; AND REMOVE THE EXISTING CRASHWALLS IN THEIR ENTIRETY.

ITEM 502 - STRUCTURE FOR MAINTAINING TRAFFIC, AS PER PLAN:

THIS WORK CONSISTS OF PROVIDING, MAINTAINING, AND SUBSEQUENTLY REMOVING TEMPORARY SUPPORTS FOR THE PIER CAP AT PIER 10 RIGHT AS SHOWN IN THE PLANS. ALL PROVISIONS OF ITEM 502 SHALL APPLY EXCEPT AS MODIFIED HEREIN.

THE DESIGN SHOWN IN THE PLANS FOR TEMPORARY SUPPORT OF THE PIER CAP IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN IN THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE PIER. IF CONSTRUCTING AN ALTERNATE DESIGN FOR THE TEMPORARY SUPPORT, PREPARE AND PROVIDE DESIGN CALCULATIONS AND PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF THE PIER CAP AT THE CONTRACT LUMP SUM PRICE FOR ITEM 502 - STRUCTURE FOR MAINTAINING TRAFFIC, AS PER PLAN. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

IF CONSTRUCTING AN ALTERNATE DESIGN FOR THE TEMPORARY SUPPORT, DESIGN THE TEMPORARY SUPPORT ACCORDING TO THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS EXCEPT THAT THE DESIGN LIVE LOADING, HL-93, MAY BE REDUCED BY 25 PERCENT. USE AN OPERATIONAL IMPORTANCE LOAD MODIFIER OF 1.05 AND A REDUNDANCY LOAD MODIFIER OF 1.05 FOR THE DESIGN OF THE TEMPORARY SUPPORT.

DO NOT REMOVE THE TEMPORARY SUPPORTS UNTIL THE RIGHT BRIDGE IS DEMOLISHED AS PART OF STAGE 3 CONSTRUCTION.

ASBESTOS NOTIFICATION

AN ASBESTOS SURVEY OF THE BRIDGE STRUCTURES SCHEDULED FOR REMOVAL WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON EITHER BRIDGE STRUCTURE.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORMS, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO THE ADDRESS BELOW AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION.

MR. STEVE LOWRY
OHIO EPA, SEDO
2195 FRONT STREET
LOGAN, OHIO 43138

THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. INFORMATION REQUIRED ON THE FORM WILL INCLUDE: 1) THE CONTRACTORS NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED. COPIES OF THE OEPA FORM AND BRIDGE INSPECTION REPORT ARE AVAILABLE FOR REVIEW AT THE ODOT DISTRICT 11 OFFICE, 2201 REISER AVENUE S.E., NEW PHILADELPHIA, OHIO 44663.

BASIS FOR PAYMENT - THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

NON-USE OF ASBESTOS CONTAINING MATERIALS:

THE CONTRACTOR SHALL AT NO TIME INCORPORATE ANY MATERIALS WHICH ARE COMPOSED OF OR CONTAIN ANY AMOUNTS OF ASBESTOS. THE SUBSTITUTION OF MATERIALS WHICH CONTAIN ANY AMOUNTS OF ASBESTOS WILL IN NO CIRCUMSTANCES BE ACCEPTABLE. PRIOR TO FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF CERTIFICATION ASSERTING THAT NO ASBESTOS CONTAINING MATERIALS WERE USED IN ANY PORTION OF THE CONSTRUCTION.

ITEM 530 STRUCTURE, MISC.: STRUCTURE MONITORING DURING CONSTRUCTION:

THIS WORK CONSISTS OF INSTALLING AND MEASURING SURVEY MONUMENTS ON BRIDGE NO. TUS-77-2595 R TO MONITOR THE STRUCTURE'S POSITION AND POSSIBLE SETTLEMENT DURING CONSTRUCTION, AND PROVIDING SUMMARY REPORTS OF THE MONITORING DATA.

SURVEY MONUMENTS SHALL BE 3/8" DIAMETER, GALVANIZED STEEL ANCHORS CONFORMING TO CMS 711.10 OR 712.01. DOWEL MACHINE BOLTS 3" (MINIMUM) INTO THE EXISTING PIER COLUMNS IN ACCORDANCE WITH ITEM 510 USING NON-SHRINK, NON-METALLIC GROUT (CMS 705.20). DOWEL EXPANSION SHIELD ANCHORS INTO THE COLUMNS AS PER THE MANUFACTURER'S INSTRUCTIONS. INSTALL THE ANCHORS TO PROJECT AT LEAST 1" FROM THE FACE OF THE PIER COLUMN AND A MINIMUM OF 3' ABOVE THE EXISTING GROUND LINE. INSTALL THE SURVEY MONUMENTS IN EVERY COLUMN OF EVERY PIER EXCEPT FOR THE STRADDLE COLUMN THAT IS TO BE REMOVED FROM PIER 10 RIGHT.

ESTABLISH CONTROL POINTS TO DETERMINE THE LOCATIONS OF THE SURVEY MONUMENTS AT VARIOUS MONITORING PERIODS THROUGHOUT THE DURATION OF STAGE 1 AND STAGE 2 CONSTRUCTION WHEN TRAFFIC IS MAINTAINED ON BRIDGE NO. TUS-77-2595 R. THE CONTROL POINTS SHALL BE THE SAME THROUGHOUT THE PROJECT AND SHALL BE INDEPENDENT OF ALL EXISTING STRUCTURES.

OBTAIN MEASUREMENTS OF THE HORIZONTAL AND VERTICAL COORDINATES OF EACH MONUMENT AT THE FOLLOWING TIMES AND INTERVALS:

1. INITIAL READING IMMEDIATELY AFTER INSTALLATION OF THE MONUMENTS.
2. AT THE BEGINNING OF STAGE 1 EMBANKMENT CONSTRUCTION.
3. AT THE END OF STAGE 1 EMBANKMENT CONSTRUCTION.
4. AT THE BEGINNING OF STAGE 2 EMBANKMENT CONSTRUCTION, INCLUDING PLACEMENT OF THE REINFORCED SOIL SLOPE.
5. AT THE END OF STAGE 2 EMBANKMENT CONSTRUCTION.
6. AT TWO-WEEK INTERVALS FOR THE ENTIRE PERIOD THAT TRAFFIC IS MAINTAINED ON BRIDGE NO. TUS-77-2595 R.

RECORD AND STORE RAW INSTRUMENTATION DATA IN STANDARD UNITS OF MEASURE. CONVERT AND PRESENT THE MONITORING DATA IN A CONSISTENT SPREADSHEET FORMAT. FURNISH A SUMMARY REPORT TO THE ENGINEER WITHIN 24 HOURS OF THE COMPLETION OF EACH SET OF READINGS. INCLUDE IN THE SUMMARY REPORT THE TABULATED RAW DATA AND THE CONVERTED RESULTS IN A CHRONOLOGICAL FORMAT THAT COMPARES THE CURRENT DATA TO THE PREVIOUSLY REPORTED VALUES. HIGHLIGHT ANY SIGNIFICANT CHANGES IN MEASURED VALUES AND NOTE WHAT CONSTRUCTION OR ENVIRONMENTAL CHANGES OCCURRED THAT COULD HAVE PRODUCED THE CHANGE IN VALUES. PROVIDE THE SUMMARY REPORT IN BOTH HARD COPY AND DIGITAL FORMATS. THE COMPLETED SUMMARY REPORTS WILL BECOME PART OF THE DISTRICT'S PROJECT PLAN RECORDS.

IF AT ANY TIME DURING CONSTRUCTION IT IS DETERMINED THAT A PIER COLUMN HAS SETTLED MORE THAN 0.4" FROM ITS INITIAL READING, IMMEDIATELY SUSPEND ALL CONSTRUCTION ACTIVITIES AND NOTIFY THE ENGINEER. THE ENGINEER SHALL CONTACT THE ODOT OFFICE OF GEOTECHNICAL ENGINEERING (OGE) AND PROVIDE ALL MONITORING DOCUMENTATION FOR THEIR REVIEW. THE OGE WILL EVALUATE THE CONDITION(S) AND MAKE A RECOMMENDATION ON HOW TO PROCEED. DO NOT RESUME CONSTRUCTION UNTIL THE ENGINEER AND OGE HAVE PROVIDED FURTHER DIRECTION AND AUTHORIZED THE WORK.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT:

INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR INSTALLING THE SURVEY MONUMENTS, OBTAINING AND PROCESSING THE MONITORING DATA AND MEASUREMENTS, AND PROVIDING THE SUMMARY REPORTS OF THE MONITORING DATA, IN THE LUMP SUM PRICE FOR ITEM 530 STRUCTURE, MISC.: STRUCTURE MONITORING DURING CONSTRUCTION.

THE DEPARTMENT WILL MAKE PARTIAL PAYMENTS FOR THIS WORK, IN ACCORDANCE WITH CMS 109.09. THE PARTIAL PAYMENTS WILL BE BASED ON THE PERCENTAGE OF WORK PERFORMED ACCORDING TO THE ACCEPTED PROGRESS SCHEDULE WHILE TRAFFIC IS BEING MAINTAINED ON BRIDGE NO. TUS-77-2595 R, UP TO A MAXIMUM OF 80% OF THE LUMP SUM PRICE. THE DEPARTMENT WILL PAY THE FINAL 20% AFTER THE ENGINEER RECEIVES THE FINAL SUMMARY REPORT.

THE FOLLOWING IS A LIST OF ABBREVIATIONS USED IN THESE PLANS:

ABUT.	- ABUTMENT	F.F.	- FRONT FACE
AHD.	- AHEAD	FTG.	- FOOTING
APPR.	- APPROACH	FWD.	- FORWARD
B.F.	- BACK FACE	JT.	- JOINT
BOT.	- BOTTOM	LT.	- LEFT
BRG.	- BEARING	MAX.	- MAXIMUM
BTW.	- BETWEEN	MIN.	- MINIMUM
CONST.	- CONSTRUCTION	O.C.J.	- OPTIONAL CONSTRUCTION JOINT
CMS	- CONSTRUCTION & MATERIAL SPECIFICATIONS	P.E.J.F.	- PREFORMED EXPANSION JOINT FILLER
C.P.P.	- CORRUGATED POLYETHYLENE PIPE	R.A.	- REAR ABUTMENT
		RT.	- RIGHT
E.F.	- EACH FACE	SER.	- SERIES
EL./ELEV.	- ELEVATION	STA.	- STATION
EMBED.	- EMBEDMENT	SS	- SUPERSTRUCTURE
EXIST.	- EXISTING	TYP.	- TYPICAL
F.A.	- FORWARD ABUTMENT	UG	- UNDERGROUND
		W.P.	- WORK POINT

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY, SUITE 350
WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
MTO	MTO	DEK	7/13
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		7900321 (LT.) 7900321 (RT.)	

BRIDGE GENERAL NOTES
BRIDGE NO. TUS-77-2595 L&R
OVER ACCESS ROAD & ABANDONED RAILROAD

TUS-77-25.95
PID No. 87890

ESTIMATED BRIDGE QUANTITIES - BRIDGE NO. TUS-77-2595L

ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS	PIERS	APPR. SLABS	GENERAL	SEE STRUCT. SHT. NO.
202	11003	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					LUMP	3/6
202	22900	133	SQ YD	APPROACH SLAB REMOVED				133		

QUANTITIES CARRIED TO GENERAL SUMMARY

ESTIMATED BRIDGE QUANTITIES - BRIDGE NO. TUS-77-2595R

ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS	PIERS	APPR. SLABS	GENERAL	SEE STRUCT. SHT. NO.
202	11003	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					LUMP	3/6
202	22900	133	SQ YD	APPROACH SLAB REMOVED				133		
502	11101	LUMP		STRUCTURE FOR MAINTAINING TRAFFIC, AS PER PLAN					LUMP	3/6
512	33000	6	SQ YD	TYPE 2 WATERPROOFING			6			
SPECIAL	53000200	LUMP		STRUCTURE, MISC.: STRUCTURE MONITORING DURING CONSTRUCTION					LUMP	3/6

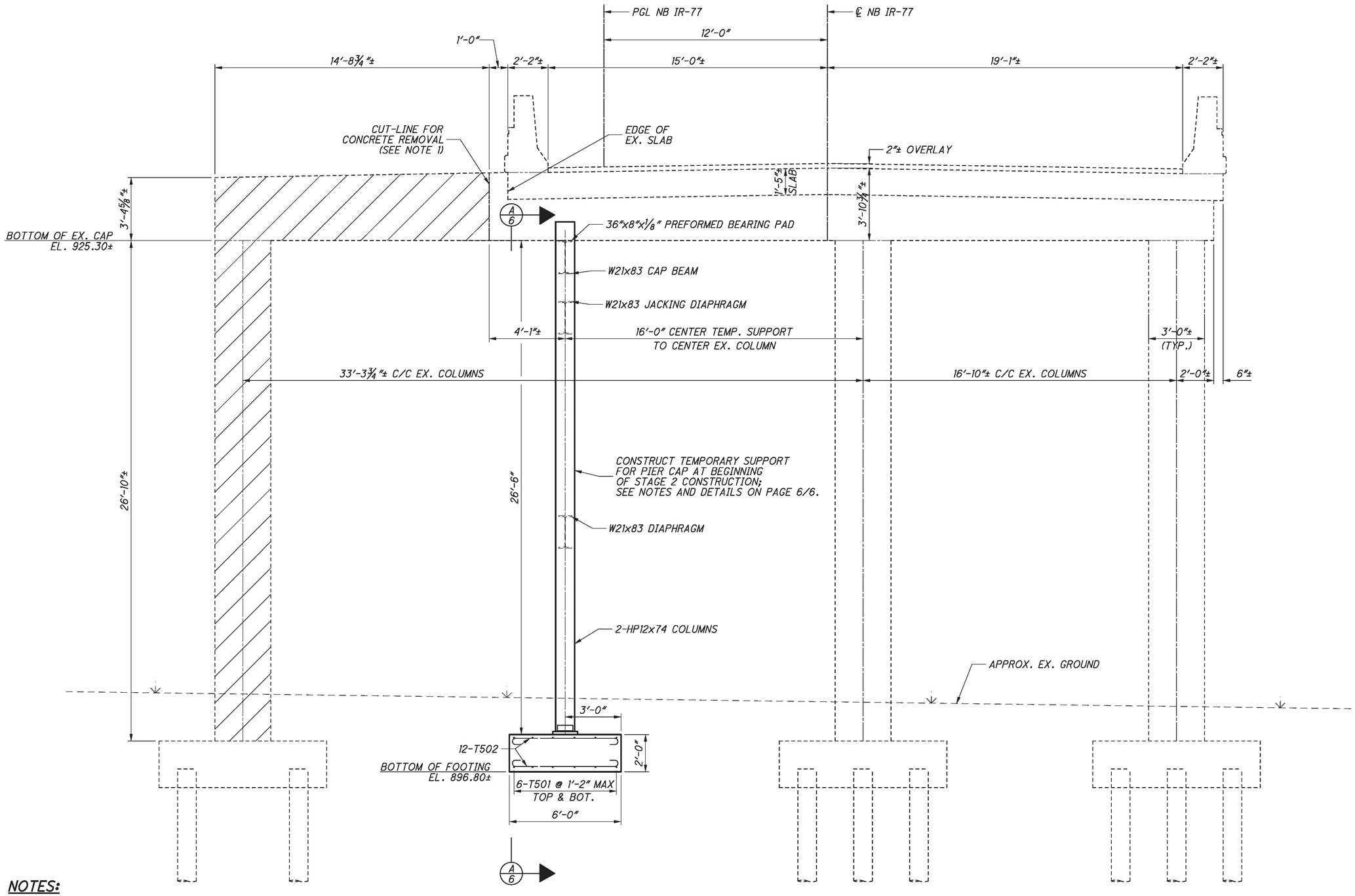
QUANTITIES CARRIED TO GENERAL SUMMARY

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY SUITE 350
WESTERVILLE, OHIO 43081

DESIGNED MTO | CHECKED CTM | DRAWN MTO | REVISED | REVIEWED DEK | DATE 7/13 | STRUCTURE FILE NUMBER 7903501 (LT) 7903421 (RT)

ESTIMATED BRIDGE QUANTITIES
BRIDGE NO. TUS-77-2595 L&R
OVER ACCESS ROAD & ABANDONED RAILROAD

TUS-77-25.95
PID No. 87890



NOTES:

1. APPLY TYPE 2 WATERPROOFING TO THE ENTIRE SURFACE OF THE CUT-LINE CONCRETE REMOVAL FACE. LAP THE WATERPROOFING MEMBRANE 1 FOOT ONTO THE TOP, BOTTOM, AND BOTH SIDE FACES OF THE REMAINING PIER CAP.
2. SEE SHEET 6 OF 6 FOR TEMPORARY SUPPORT DETAILS AND NOTES.
3. FOUNDATION BEARING RESISTANCE: THE TEMPORARY SUPPORT FOOTING, AS DESIGNED, PRODUCES A MAXIMUM SERVICE LOAD PRESSURE OF 3.13 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 4.03 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 9.7 KIPS PER SQUARE FOOT.

ELEVATION - EXISTING PIER 10 RIGHT

LEGEND:

PORTION OF EX. STRUCTURE TO BE REMOVED AFTER TEMPORARY SUPPORTS ARE CONSTRUCTED

7/30/2013 5:55:58 PM
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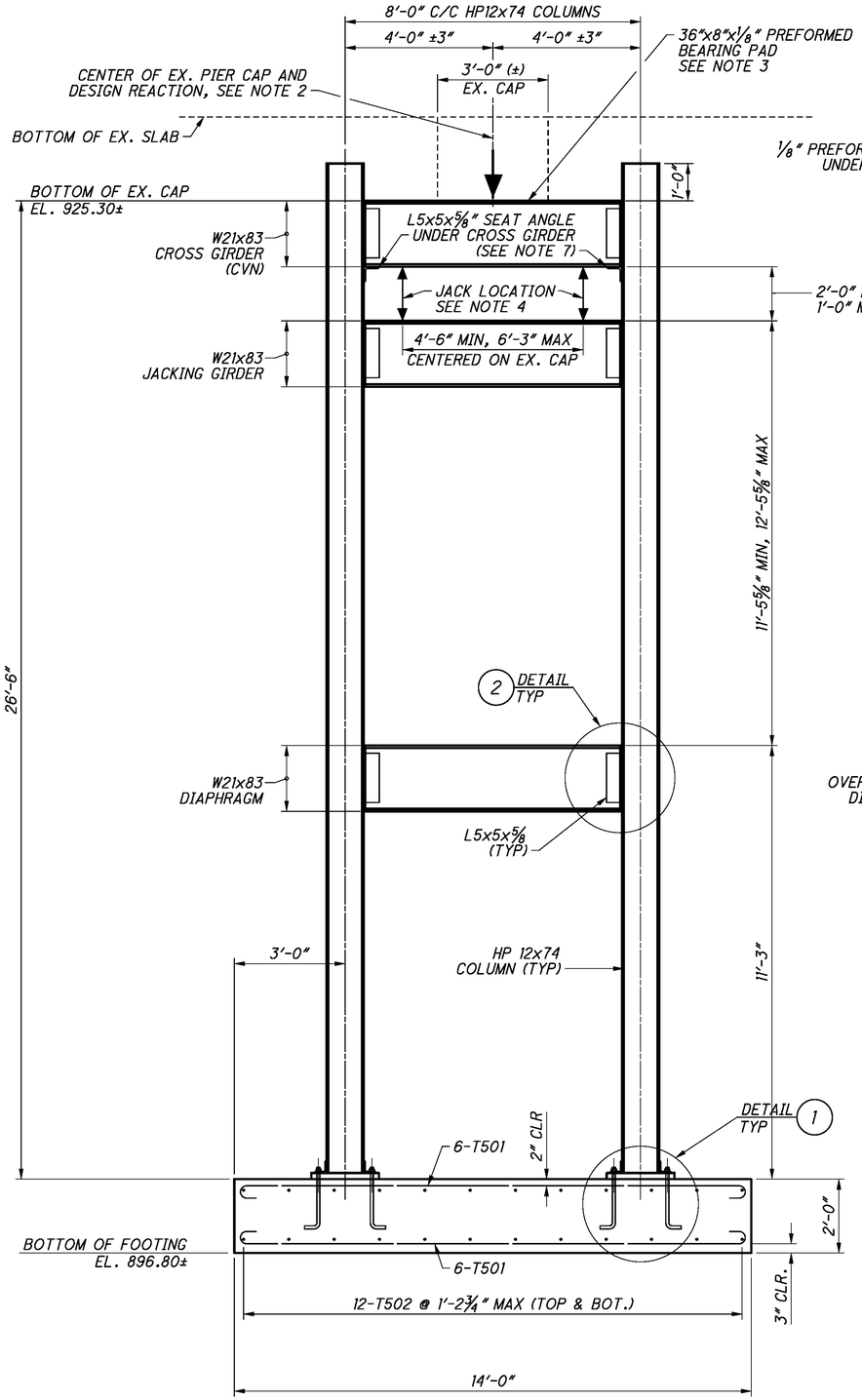
DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY, SUITE 350
WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
EFD	MTO/EFD	MTO	7/13
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JBR/CTM		7903591 (L.) 7903421 (R.)	

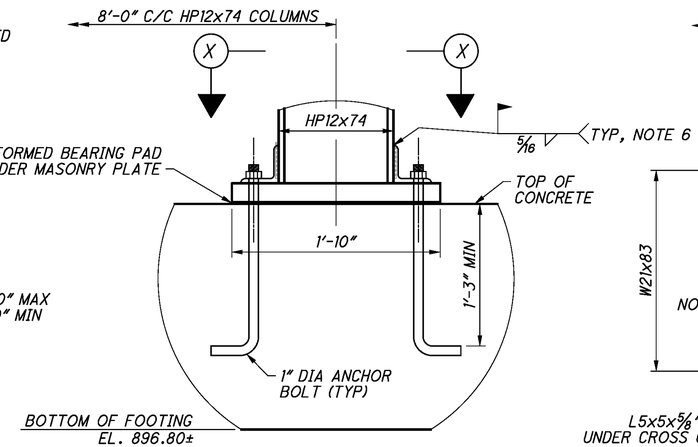
TEMPORARY SUPPORT DETAILS - PIER 10 RIGHT

BRIDGE NO. TUS-77-2595 L&R
OVER ACCESS ROAD & ABANDONED RAILROAD

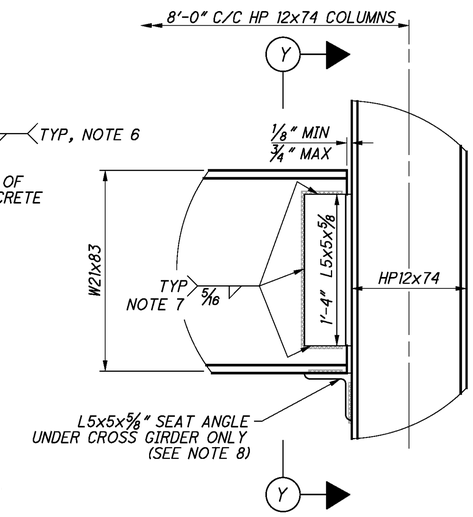
TUS-77-25.95
PID No. 87890



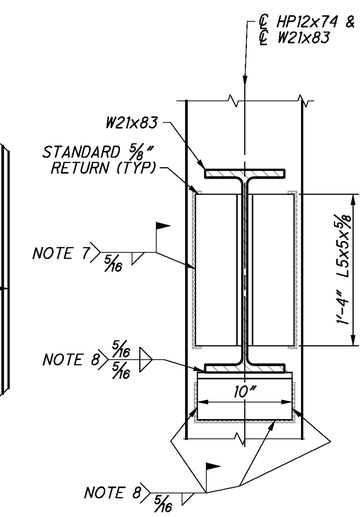
A 5 TEMPORARY SUPPORT ELEVATION



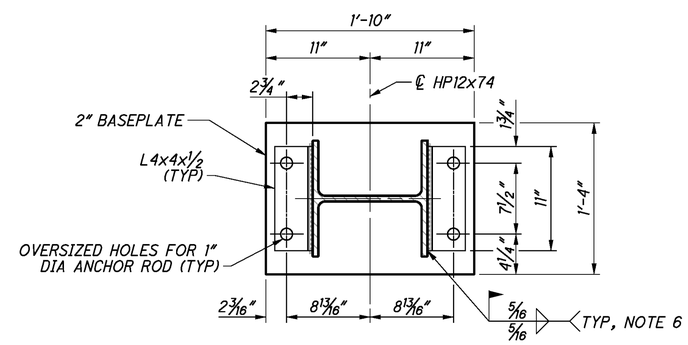
1 DETAIL
REINFORCING NOT SHOWN



2 DETAIL
TYPICAL



Y SECTION
TYPICAL



X PLAN

NOTES:

1. APPLY TYPE 2 WATERPROOFING TO THE ENTIRE SURFACE OF THE CUT-LINE CONCRETE REMOVAL FACE. LAP THE WATERPROOFING MEMBRANE 1 FOOT ONTO THE TOP, BOTTOM, AND BOTH SIDE FACES OF THE REMAINING PIER CAP.
2. THE TEMPORARY SUPPORT SHOWN IN THESE PLANS WAS DESIGNED FOR THE FOLLOWING VERTICAL AND LATERAL LOADS:

MAXIMUM VERTICAL LOADS (WITH IMPACT)	
FACTORED STRENGTH	SERVICE
293 KIPS	235 KIPS

MAXIMUM VERTICAL LOADS (NO IMPACT)	
FACTORED STRENGTH	SERVICE
262 KIPS	202 KIPS

MAXIMUM FACTORED LATERAL LOADS: 11 KIPS ACTING PARALLEL TO THE BRIDGE CENTERLINE AND 2 KIPS ACTING NORMAL TO THE BRIDGE CENTERLINE.

3. A 36"x8"x1/8" PREFORMED BEARING PAD, CMS 711.21, SHALL BE PLACED BETWEEN THE BOTTOM OF THE EXISTING CONCRETE PIER CAP AND THE TOP SURFACE OF THE CROSS GIRDER.
4. THE CROSS GIRDER SHALL BE JACKED TIGHT AGAINST THE BOTTOM OF THE EXISTING PIER CAP USING TWO JACKS TO A FORCE OF 40,000 (±1000) POUNDS EACH AND AT THE LOCATIONS SPECIFIED. THE JACKS SHALL BE LEFT IN PLACE FOR A MINIMUM OF 48 HOURS PRIOR TO BEGINNING TO WELD THE CROSS GIRDER TO THE COLUMNS. THE JACKING AND CROSS GIRDER WELDING SHALL OCCUR WITHOUT TRAFFIC ON THE BRIDGE. THE JACKS SHALL NOT BE REMOVED UNTIL AFTER THE CROSS GIRDER IS FULLY AFFIXED TO THE COLUMNS.
5. STRUCTURAL STEEL SHALL BE ASTM A36 OR A572 AND FABRICATED TO MEET THE REQUIREMENTS OF ODOT CMS 513, LEVEL 3. USED STRUCTURAL STEEL IN GOOD CONDITION MEETING THE REQUIREMENTS OF ASTM A6 MAY BE PROVIDED, ANCHOR BOLTS SHALL BE ASTM F1554, GRADE 36.
6. WELD COLUMNS TO BASEPLATE ANGLES ONLY AFTER ANCHOR BOLT NUTS ARE FULLY TIGHTENED.
7. W21x83 DIAPHRAGM AND/OR W21x83 JACKING GIRDER MAY BE SHOP WELDED TO HP12x74 COLUMNS AT THE CONTRACTOR'S OPTION.
8. THE CROSS GIRDER WEB AND SEAT ANGLES SHALL BE FULLY WELDED TO THE COLUMNS BEFORE THE EXISTING CAP IS CUT OR MODIFIED. CARE SHALL BE TAKEN TO PREVENT DEBRIS FROM IMPACTING THE TEMPORARY SUPPORT STRUCTURE DURING REMOVAL OF THE EXISTING PIER CAP AND COLUMN.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY SUITE 350
WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	MTO	7/13
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JBR/CTM		7903351 (L.L.) 7903421 (R.L.)	

TEMPORARY SUPPORT DETAILS - PIER 10 RIGHT

BRIDGE NO. TUS-77-2595 L&R
OVER ACCESS ROAD & ABANDONED RAILROAD

TUS-77-25.95
PID No. 87890

10/21/2013 10:32:19 AM
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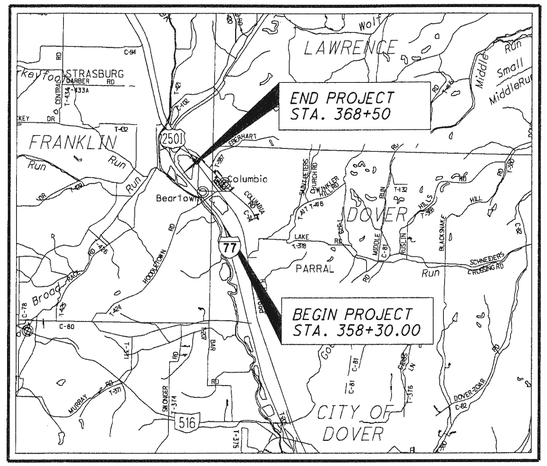
RIGHT OF WAY LEGEND SHEET TUS-77-25.95

TUSCARAWAS COUNTY
FRANKLIN TOWNSHIP
SECTION 1 & 10, T-9N, R-3W
DOVER TOWNSHIP
LOTS 20, 30, 40, 49 & 50
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY DISTRICT



LOCATION MAP

UTILITY OWNERS	
ELECTRIC:	AEP OHIO 301 CLEVELAND AVENUE SW P.O. BOX 24400 CANTON, OHIO 44701 (330) 438-7718
OIL & GAS:	BRENDEL PRODUCING COMPANY 8215 ARLINGTON AVENUE NW P.O. BOX 517 CANAL FULTON, OHIO 44614 (330) 854-4151 / (800) 321-4000 ENERVEST OPERATING, LLC 125 STATE ROUTE 43 SUITE 100 HARTVILLE, OHIO 44632 (330) 587-1221 RED HILL DEVELOPMENT 3596 STATE ROUTE 39 NW DOVER, OHIO 44622 (330) 343-1226

NOTES: THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE OBTAINED FROM THE OWNER OF THE UTILITIES AS REQUIRED BY SECTION 153.64 O.R.C.

MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
- EXISTING CONCRETE MONUMENT
- PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- I.R.F. IRON PIN FOUND
- I.R.F. IRON PIN FOUND W/ ID CAP
- I.R.S. IRON PIN SET W/ ID CAP
- P.F. IRON PIPE FOUND
- P.S. IRON PIPE SET
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET

INDEX OF SHEETS:

PROJECT DESCRIPTION

REMOVE BRIDGES NO. TUS-77-25.95 LEFT AND RIGHT OVER AN ACCESS ROAD AND AN ABANDONED RAILROAD.

LIMITED ACCESS

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

PROJECT CONTROL

THE BEARINGS EXPRESSED HEREIN ARE RELATIVE TO GRID NORTH OF THE OHIO STATE PLANE COORDINATE SYSTEM, NORTH ZONE NAD83 (CORS 96) DATUM WITH A PROJECT ADJUSTMENT FACTOR OF 1.000096961.

PARCEL LEGEND

WL = FEE SIMPLE WITH LIMITED ACCESS
SL = SLOPE EASEMENT
X, CH = CHANNEL EASEMENT
A = AERIAL EASEMENT
E = FEE SIMPLE EXCESS LAND
LA = LIMITED ACCESS EASEMENT

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

PLANS PREPARED BY:

FIRM NAME: ENGINEERING ASSOCIATES, INC.

PLANS PREPARED BY: WILLIAM D. THOMAS

FIELD REVIEW BY: WILLIAM D. THOMAS
DATE COMPLETED: 02/20/13

OWNERSHIP VERIFIED BY: WILLIAM D. THOMAS
DATE COMPLETED: 02/25/13

DATE COMPLETED: 02/25/13

CONVENTIONAL SYMBOLS

County Line
Township Line
Lot Line & Section Line
Corporation Line or
Fence Line (Ex) (Pr)
Center Line
Right of Way (Ex) Ex R/W
Right of Way (Pr) R/W
Standard Highway Ease. (Ex) Ex SH
Temporary Right of Way TMP
Channel Ease. (Pr) CH
Utility Ease. (Ex) Ex U
Railroad or
Guardrail (Ex) (Pr)
Construction Limits
Edge of Pavement (Ex)
Edge of Pavement (Pr)
Edge of Shoulder (Ex)
Edge of Shoulder (Pr)
Ditch / Creek (Ex)
Ditch / Creek (Pr)
Tree Line (Ex)
Ownership Hook Symbol , Example
Property Line Symbol , Example
Break Line Symbol , Example
Tree (Pr) , Tree (Ex) , Shrub (Ex)
Tree (Remove) , Shrub (Remove)
Evergreen (Ex) , Stump
Evergreen (Remove) , Stump (Remove)
Wetland (Pr) , Grass (Pr) , Aerial Target
Post (Ex) , Mailbox (Ex) MB , Mailbox (Pr) MB
Light (Ex) , Telephone Marker (Ex) TEL
Fire Hydrant (Ex) , Water Meter (Ex) WM
Water Valve (Ex) , Utility Valve Unknown (Ex.)
Telephone Pole (Ex) , Power Pole (Ex)
Light Pole (Ex)
Electric Line (Ex) E
Telephone Line (Ex) T
Cable Line (Ex) CTV
Gas Line (Ex) G
Fiber Optic Line (Ex) FO
Sanitary Sewer (Ex) SAN
Water Line (Ex) W
Storm Sewer (Ex) (Pr)

I, WILLIAM D. THOMAS, P. S. HAVE CONDUCTED A SURVEY OF THE EXISTING CONDITIONS FOR THE OHIO DEPARTMENT OF TRANSPORTATION IN JULY AND AUGUST OF 2011, AND APRIL, AUGUST AND SEPTEMBER OF 2012. THE RESULTS OF THAT SURVEY ARE CONTAINED HEREIN. UNDERGROUND UTILITY LOCATIONS ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. THOUGH THEY ARE BELIEVED TO BE ACCURATE, THEIR LOCATION IS AS MARKED ON THE GROUND BY THE UTILITY COMPANY PER OUPS CONFIRMATION NUMBERS A121300990 AND A121301004, AND OGPUPS CONFIRMATION NUMBER 90315, AND THOSE MARKINGS SUBSEQUENTLY BEING SURVEYED AS A PART OF THIS PROJECT.

THE HORIZONTAL COORDINATES EXPRESSED HEREIN ARE BASED ON THE OHIO STATE PLANE COORDINATES SYSTEM, NORTH ZONE, NAD83 (CORS 96) DATUM BY TIES TO THE OHIO VIRTUAL REFERENCE SYSTEM. THE PROJECT ADJUSTMENT FACTOR (PAF) OF 1.000096961 IS BASED ON AN AVERAGE COMBINED SCALE AND ELEVATION FACTOR FROM A GPS SURVEY PERFORMED IN JULY 2011, BY ENGINEERING ASSOCIATES, INC..

AS A PART OF THIS SURVEY I HAVE REESTABLISHED THE LOCATIONS OF THE EXISTING PROPERTY LINES AND CENTERLINE OF EXISTING RIGHT OF WAY FOR PROPERTY TAKES HEREIN. AS A PART OF THIS PROJECT I HAVE ESTABLISHED THE PROPOSED PROPERTY LINES, CALCULATED THE GROSS TAKE, PRESENT ROADWAY OCCUPIED (PRO), NET TAKE AND NET RESIDUE; AS WELL AS PREPARED THE LEGAL DESCRIPTIONS NECESSARY TO ACQUIRE THE PARCELS AS SHOWN HEREIN. AS A PART OF THIS WORK I HAVE SET MONUMENTS AT THE PROPOSED PROPERTY CORNERS, SECTION CORNERS AND OTHER POINTS SHOWN HEREIN.

THE CENTERLINE OF RIGHT OF WAY MONUMENTS WILL BE RESET IN THE EXISTING LOCATION BY THE CONSTRUCTION CONTRACTOR, AFTER THE COMPLETION OF CONSTRUCTION. THIS WORK WILL BE DONE IN ACCORDANCE WITH O.A.C. 4733-37, AS CITED BELOW.

ALL OF MY WORK CONTAINED HEREIN WAS CONDUCTED IN ACCORDANCE WITH OHIO ADMINISTRATIVE CODE 4733-37 COMMONLY KNOWN AS "A MINIMUM STANDARDS FOR BOUNDARY SURVEYS IN THE STATE OF OHIO" UNLESS SO NOTED.

THE WORDS "I" AND "MY" AS USED HEREIN ARE TO MEAN EITHER MYSELF OR SOMEONE WORKING UNDER MY DIRECT SUPERVISION.

William D Thomas
WILLIAM D. THOMAS, PROFESSIONAL LAND SURVEYOR 7590

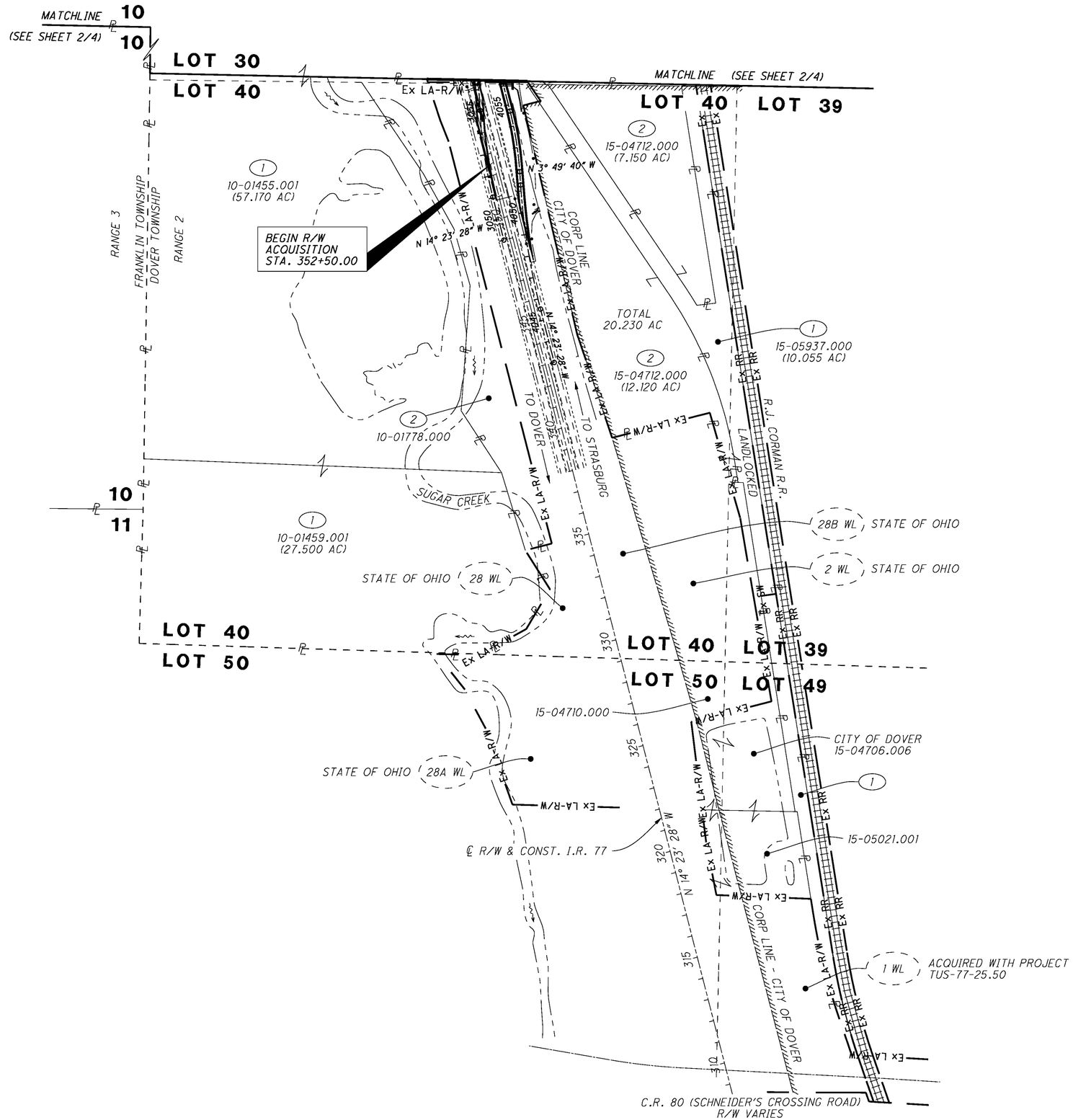
2/25/13
DATE

SURVEYORS SEAL

STATE OF OHIO
WILLIAM D. THOMAS
7590
REGISTERED
PROFESSIONAL SURVEYOR

SIGNED William D Thomas
DATE: 2/25/13

FEDERAL PROJECT NO. E101050
PID NO. 87890
CALCULATED MDG
CHECKED WDT
RIGHT OF WAY LEGEND SHEET
TUS-77-25.95



TUSCARAWAS COUNTY
FRANKLIN TOWNSHIP
SECTION 1 & 10 T-9N, R-3W
DOVER TOWNSHIP
LOTS 20, 30, 39, 40, 49 & 50
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY DISTRICT

PARCEL NO.	OWNER
1	JDR MASON, LLC
1A	THE ROBINSON CLAY PRODUCTS CO. - NO TAKE
1B	THE ROBINSON CLAY PRODUCTS CO. - NO TAKE
2	BANK ONE OF DOVER NA AND PRICE STREB FARM, LLC,
	AN OHIO LIMITED LIABILITY COMPANY - NO TAKE
3	MINTEQ INTERNATIONAL INC., A DELAWARE CORPORATION
4	DANIEL L. HOSTETLER AND MICHELLE R. HOSTETLER,
	HUSBAND AND WIFE - NO TAKE
5	ELLIOT J. METZ AND CHARALET L. METZ - NO TAKE
6	ELLIOT J. METZ AND KELLY LYNN METZ,
	HUSBAND AND WIFE - NO TAKE

XX PARCELS PREVIOUSLY ACQUIRED WITH PROJECT TUS-21-30.64 OR TUS-39-10.21

SEE PAGES 22-25 FOR ADDITIONAL PROPERTY DETAILS.

REV. BY	DATE	DESCRIPTION
DATE COMPLETED	02/25/13	

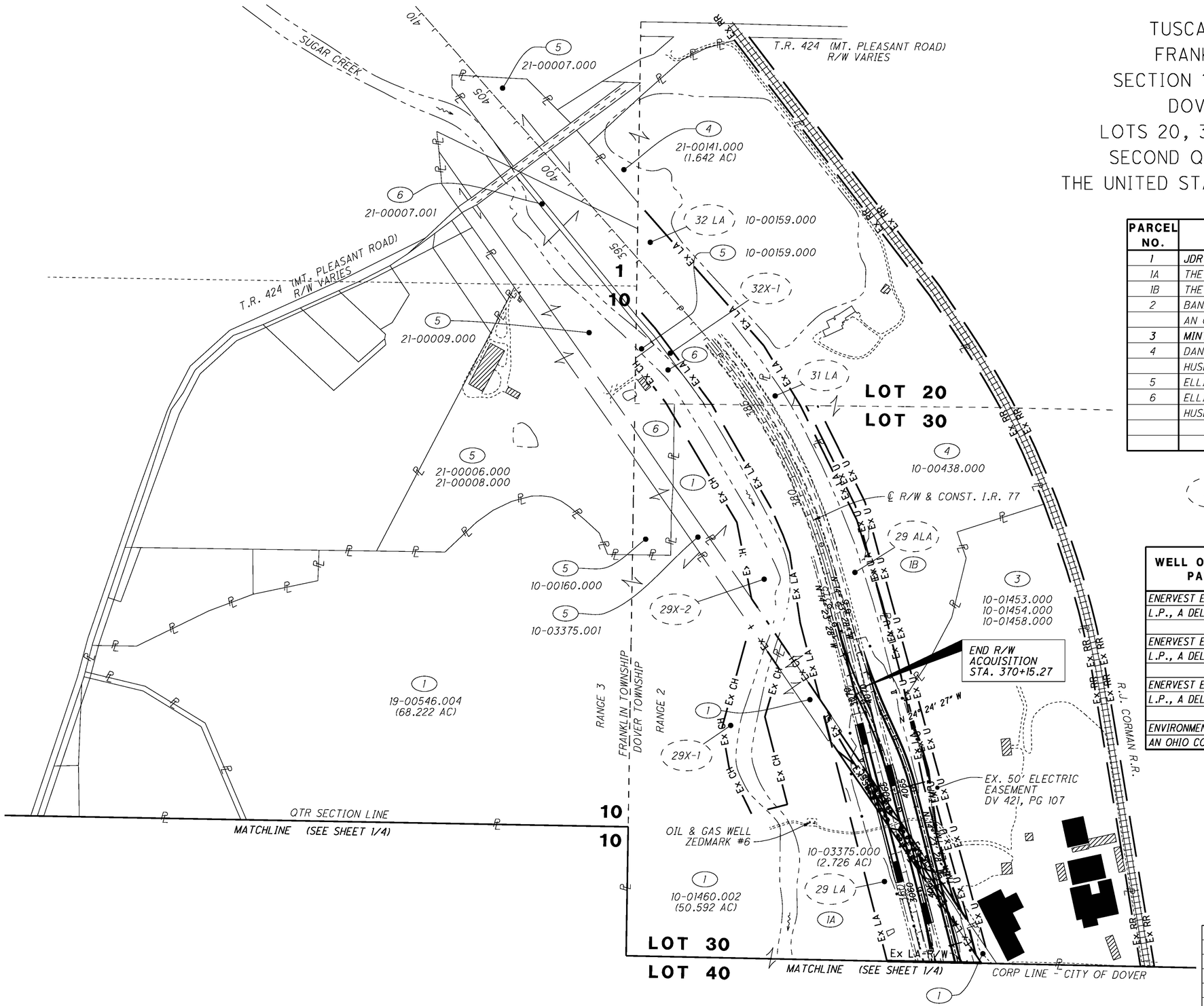
HORIZONTAL SCALE IN FEET 0 125 250 500

PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

PROPERTY MAP

TUS-77-25.95



TUSCARAWAS COUNTY
FRANKLIN TOWNSHIP
SECTION 1 & 10 T-9N, R-3W
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PARCEL NO.	OWNER
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	HUSBAND AND WIFE - NO TAKE

XX — PARCELS PREVIOUSLY ACQUIRED WITH PROJECT TUS-21-30.64 OR TUS-39-10.21

WELL OWNERSHIP TABLE ZEDMARK #6 PARCEL #1 APN 10-01460.002	AS ACQUIRED	
	BOOK	PAGE
ENERVEST ENERGY INSTITUTIONAL FUND XII-A,	OR 1398	1475
L.P., A DELAWARE LIMITED PARTNERSHIP		
ENERVEST ENERGY INSTITUTIONAL FUND XII-WIB,	OR 1398	1475
L.P., A DELAWARE LIMITED PARTNERSHIP		
ENERVEST ENERGY INSTITUTIONAL FUND XII-WIC,	OR 1398	1475
L.P., A DELAWARE LIMITED PARTNERSHIP		
ENVIRONMENTAL EXPLORATION COMPANY,	LV 146	122
AN OHIO CORPORATION		

SEE PAGES 22-25 FOR ADDITIONAL PROPERTY DETAILS.

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 02/25/13

HORIZONTAL SCALE IN FEET 0 125 250 500

PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

PROPERTY MAP

TUS-77-25.95

PARCEL NO.	EASMT. NAME	OWNER	AS ACQUIRED BOOK	AS ACQUIRED PAGE	EASEMENT DESCRIPTION
1	A	(RESERVATIONS WITHIN DEED)	DV 629	758	50' OIL AND GAS EASEMENT WITH DRILLING RIGHTS
					2 AERIAL EASEMENTS TO OHIO POWER
					1 AERIAL EASEMENT TO GENERAL TELEPHONE
	B	STATE OF OHIO	DV 651	199	EASEMENT FOR SEWER AND WATER MAIN
	C	DORIS KIMBLE, DBA RED HILL DEVELOPMENT	OR 1302	1611	RIGHT OF WAY FOR PIPELINE, BLANKET OVER PARCEL 1 IN DOVER TOWNSHIP
	D	DORIS KIMBLE, DBA RED HILL DEVELOPMENT	OR 1304	1193	RIGHT OF WAY FOR PIPELINE, BLANKET OVER PARCEL 1 IN DOVER TOWNSHIP
	E	THE COUNTY ELECTRIC COMPANY	LV 10	553	EASEMENT FOR THE CONSTRUCTION AND MAINTENANCE OF POWER LINE, BLANKET OVER PARCEL
	F	THE OHIO SERVICE COMPANY	LV 11	369	EASEMENT FOR THE CONSTRUCTION AND MAINTENANCE OF POWER LINE, BLANKET OVER PARCEL
	G	THE OHIO POWER COMPANY, AN OHIO CORPORATION	DV 226	243	EASEMENT FOR THE CONSTRUCTION AND MAINTENANCE OF AN ELECTRIC OR TELEGRAPH LINE
					FOR GUY ANCHORS IN FRANKLIN TOWNSHIP
	H	THE OHIO POWER COMPANY	DV 280	225	EASEMENT FOR THE CONSTRUCTION AND MAINTENANCE OF AN ELECTRIC OR TELEGRAPH LINE
					BLANKET OVER PARCEL
	J	OHIO POWER COMPANY, AN OHIO CORPORATION	DV 421	107	EASEMENT FOR THE CONSTRUCTION AND MAINTENANCE OF AN ELECTRIC OR TELEGRAPH LINE
					50' R/W CENTERED ON POLES
	K	STATE OF OHIO	DV 429	242	PERPETUAL EASEMENT AND RIGHT OF WAY FOR PUBLIC HIGHWAY AND ROAD PURPOSES, 29ALA, 29LA,
					ALSO CHANNEL EASEMENTS FOR THE CONSTRUCTION OF A DITCH, 29X1, 29X2
	L	DORIS KIMBLE, DBA RED HILL DEVELOPMENT	OR 1302	1612	RIGHT OF WAY FOR A PIPELINE, BLANKET OVER PARCEL LOTS 30 & 40, IN DOVER TOWNSHIP
2	A	THE CENTRAL DISTRICT AND PRINTING TELEGRAPH COMPANY	LV 8	464	EASEMENT FOR THE CONSTRUCTION AND MAINTENANCE OF TELEPHONE LINES
		OF PENNSYLVANIA			
	B	THE COUNTY ELECTRIC COMPANY	LV 10	547	EASEMENT FOR THE CONSTRUCTION AND MAINTENANCE OF ELECTRIC LINES
	C	THE STATE OF OHIO	DV 441	15	EASEMENT FOR THE CONSTRUCTION OF A PERPETUAL WATERCOURSE, DITCH, CHANNEL OR DRAINAGE FACILITY
3	A	THE COUNTY ELECTRIC COMPANY	LV 10	553	EASEMENT FOR THE CONSTRUCTION AND MAINTENANCE OF POWER LINE, BLANKET OVER PARCEL
	B	THE OHIO SERVICE COMPANY	LV 11	369	EASEMENT FOR THE CONSTRUCTION AND MAINTENANCE OF POWER LINE, BLANKET OVER PARCEL
	C	THE OHIO POWER COMPANY, AN OHIO CORPORATION	DV 226	243	EASEMENT FOR THE CONSTRUCTION AND MAINTENANCE OF AN ELECTRIC OR TELEGRAPH LINE
					FOR GUY ANCHORS IN FRANKLIN TOWNSHIP
	D	THE OHIO POWER COMPANY	DV 280	225	EASEMENT FOR THE CONSTRUCTION AND MAINTENANCE OF AN ELECTRIC OR TELEGRAPH LINE
					BLANKET OVER PARCEL
	E	OHIO POWER COMPANY, AN OHIO CORPORATION	DV 421	107	EASEMENT FOR THE CONSTRUCTION AND MAINTENANCE OF AN ELECTRIC OR TELEGRAPH LINE
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	G	DORIS KIMBLE, DBA RED HILL DEVELOPMENT	OR 1302	1612	RIGHT OF WAY FOR A PIPELINE, BLANKET OVER PARCEL LOTS 30 & 40, IN DOVER TOWNSHIP

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 02/25/13

PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

PROPERTY MAP
EASEMENT OVERLAP TABLE

TUS-77-25.95

3/5
4/25
84/105

EXISTING MONUMENTS FOUND

POINT NO.	DESCRIPTION	STATION	OFFSET	SIDE	PROJECT GROUND COORDINATES (FT.)		OHIO STATE PLANE GRID COORDINATES (M)	
		CL R/W & CONST. I.R. 77			NORTHING	EASTING	NORTHING	EASTING
252	ODOT R/W DURBIN 7528 N71°08'44"E, 0.23' FROM SE CORNER PARCEL 1E	308+83.11	599.28	RT	323410.2700	2246374.9560	98575.6475	684696.4561
253	ODOT R/W DURBIN 7528 HELD FOR WEST LINE PARCEL 1E	310+63.80	559.87	RT	323575.4880	2246291.8720	98626.0060	684671.1320
264	IP PYLE 6533 N81°03'11"E, 0.35' EAST OF PC ON EAST LINE PARCEL 1E	313+65.20	605.03	RT	323878.6540	2246260.7010	98718.4112	684661.6311
254	ODOT R/W DURBIN 7528 S76°51'17"W, 1.01' WEST OF PC ON WEST LINE PARCEL 1E	315+63.13	562.87	RT	324059.9020	2246170.6730	98773.6557	684634.1905
255	5/8" REBAR S84°43'03"E, 0.27' WEST OF CORNER PARCEL 1E	316+29.52	570.00	RT	324125.9820	2246161.0780	98793.7969	684631.2659
248	IP PYLE 6533 HELD FOR A NE CORNER PARCEL 1E	335+51.89	744.04	RT	326031.2860	2245851.8670	99374.5347	684537.0182
247	1/2" REBAR HELD FOR A SW CORNER PARCEL 1E	335+59.05	720.70	RT	326032.4190	2245827.4810	99374.8801	684529.5853
246	IP PYLE 6533 N.WEST OF WEST LINE PARCEL 1E N21°57'52"W, 1.11'	336+54.15	730.46	RT	326136.6460	2245810.8150	99406.6485	684524.5055
240	5/8" REBAR N43°49'45"E, 0.36' FROM PT OF CURVE IN WEST PL	344+72.35	629.26	RT	326894.3380	2245511.9210	99637.5935	684433.4025
243	ANGLE POST 0.025' SW OF NW LINE PARCEL 1E	344+89.92	707.39	RT	326930.7690	2245583.2330	99648.6977	684455.1384
245	IP PYLE 6533 ON A N LINE PARCEL 1E, S18°36'27"W, 0.72' FROM SE CORNER	355+38.92	329.95	RT	327853.0450	2244956.9190	99929.8080	684264.2375
244	IP PYLE 6533 ON A N LINE PARCEL 1E, N71°32'41"E, 0.65' FROM SW CORNER	355+42.77	319.24	RT	327854.1100	2244945.5860	99930.1326	684260.7832
263	IP PYLE 6533 S63°20'50"E FROM SW CORNER PARCEL 1	368+04.27	204.76	LT	328945.7900	2244124.4990	100262.8773	684010.5154
262	IP PYLE 6533 S69°01'48"E FROM SE CORNER PARCEL 1	368+09.13	196.04	LT	328952.6700	2244131.7340	100264.9744	684012.7206
261	IP PYLE 6533 N05°23'05"W FROM SE CORNER PARCEL 1	368+39.38	144.48	LT	328994.7860	2244174.1580	100277.8113	684025.6515
257	NOT USED	369+49.66	207.86	RT	329189.1790	2244488.0310	100337.0624	684121.3202
256	IP DIVERSIFIED ENGINEERING N11°27'28"W 74.35' FROM NW CORNER PARCEL 3	369+99.27	210.06	RT	329237.7780	2244477.8290	100351.8754	684118.2106
259	1/2" REBAR HELD FOR N LINE PARCEL 3	370+57.27	351.45	RT	329329.0970	2244600.3740	100379.7095	684155.5624
260	5/8" REBAR HELD FOR N LINE PARCEL 3	372+42.03	519.61	RT	329549.8500	2244717.3380	100446.9952	684191.2131

SURVEY CONTROL POINTS

POINT NO.	DESCRIPTION	STATION	OFFSET	SIDE	PROJECT GROUND COORDINATES (FT.)		OHIO STATE PLANE GRID COORDINATES (M)		ELEVATION
		CL R/W & CONST. I.R. 77			NORTHING	EASTING	NORTHING	EASTING	
3	5/8" REBAR W/RED CAP MARKED TRAVERSE POINT	340+45.38	69.16	RT	326341.5512	2245075.5164	99469.1038	684300.3861	897.91
4	5/8" REBAR W/RED CAP MARKED TRAVERSE POINT	348+66.08	71.94	RT	327137.1970	2244874.2340	99711.6171	684239.0351	904.26
5	RAILROAD SPIKE	353+00.24	66.02	RT	327556.2595	2244760.5897	99839.3476	684204.3962	913.08
6	RAILROAD SPIKE	358+67.22	60.38	RT	328104.0487	2244614.2125	100006.3141	684159.7804	924.53
1	3/4" REBAR W/3" ALUMINUM DISC MARKED PROJECT CONTROL CP01	360+53.99	67.76	LT	328253.1040	2244443.6750	100051.7462	684107.8004	926.70
7	COTTON GIN SPIKE	366+12.76	59.77	RT	328826.0558	2244428.3211	100226.3823	684103.1205	930.37
8	COTTON GIN SPIKE	368+45.00	65.01	RT	329052.2931	2244375.6752	100295.3395	684087.0740	929.34
2	3/4" REBAR W/3" ALUMINUM DISC MARKED PROJECT CONTROL CP02	368+76.88	70.12	LT	329049.5870	2244236.8650	100294.5147	684044.7646	928.45
9	COTTON GIN SPIKE	371+51.70	61.56	RT	329348.5106	2244296.1102	100385.6268	684062.8226	926.72
10	COTTON GIN SPIKE	379+40.64	62.28	RT	330113.6380	2244076.7744	100618.8381	683995.9689	914.61

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 02/25/13

PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

RIGHT OF WAY MONUMENTATION TABLES

TUS-77-25.95

CENTERLINE OF RIGHT OF WAY MONUMENTS FOUND

POINT NO.	DESCRIPTION	STATION	OFFSET	SIDE	PROJECT GROUND COORDINATES (FT.)		OHIO STATE PLANE GRID COORDINATES (M)		TO BE SET
		CL R/W & CONST. I.R. 77			NORTHING	EASTING	NORTHING	EASTING	CL MONUMENT
200	1/2" IRON PIN IN CONCRETE	318+00.20	0.14	LT	324149.5991	2245566.4058	98800.9954	684450.0095	
201	1/2" IRON PIN IN CONCRETE	335+99.62	0.00	CL	325892.5878	2245119.3148	99332.2594	684313.7358	
202	1/2" IRON PIN IN CONCRETE	341+99.56	0.17	RT	326473.7494	2244970.3745	99509.3978	684268.3388	
203	1/2" IRON PIN IN CONCRETE	348+00.84	0.34	RT	327056.2227	2244821.1497	99686.9361	684222.8549	
204	1/2" IRON PIN IN CONCRETE } THESE 3 WILL BE RESET IN EXIST.	353+99.61	0.33	RT	327636.1833	2244672.2670	99863.7084	684177.4754	1
211	1/2" IRON PIN IN CONCRETE } LOCATIONS AFTER CONSTRUCTION	359+00.00	0.04	LT	328120.7789	2244547.5352	100011.4134	684139.4571	1
210	1/2" IRON PIN IN CONCRETE } PER RM-1.1 TYPE A DESIGN 5	367+97.30	0.02	LT	328989.9305	2244324.5410	100276.3314	684071.4883	1
209	1/2" IRON PIN IN CONCRETE	374+38.34	0.02	RT	329610.8663	2244165.2617	100465.5930	684022.9399	
208	1/2" IRON PIN IN CONCRETE	377+40.69	0.07	LT	329902.3369	2244085.0207	100554.4334	683998.4824	
207	1/2" IRON PIN IN CONCRETE	381+99.00	0.17	RT	330327.0476	2243914.0740	100683.8855	683946.3777	
206	1/2" IRON PIN IN CONCRETE	390+81.57	2.96	RT	331049.0197	2243410.9339	100903.9430	683793.0203	
		CL EXIST. R/W C.R. 80							
233	1" PIN IN MONUMENT BOX	107+99.52	0.00	CL	323352.0370	2245573.4180	98557.8980	684452.1468	
234	1" PIN IN MONUMENT BOX	113+14.00	0.12	LT	323325.3650	2246087.2030	98549.7684	684608.7488	
235	1" PIN IN MONUMENT BOX	117+09.66	0.00	CL	323304.6320	2246482.3210	98543.4489	684729.1810	
	QUANTITIES CARRIED TO GENERAL SUMMARY ITEM 823 SHEET .							TOTAL	3

PROPERTY MONUMENTS TO BE SET PRIOR TO CONSTRUCTION

POINT NO.	DESCRIPTION	STATION	OFFSET	SIDE	PROJECT GROUND COORDINATES (FT.)		OHIO STATE PLANE GRID COORDINATES (M)		MON. EXPECTED
					NORTHING	EASTING	NORTHING	EASTING	TO BE DISTURBED
8210	3/4" REBAR 30" LONG WITH ALUM CAP STAMPED ODOT R/W ENGINEERING ASSOCIATES 7590	308+91.26	573.57	RT	323411.7725	2246348.0208	98576.1054	684688.2462	
8211	3/4" REBAR 30" LONG WITH ALUM CAP STAMPED ODOT ENGINEERING ASSOCIATES 7590	320+31.38	608.53	RT	324524.8080	2246098.5245	98915.3593	684612.1996	
8212	3/4" REBAR 30" LONG WITH ALUM CAP STAMPED ODOT ENGINEERING ASSOCIATES 7590	320+33.93	599.36	RT	324524.9986	2246089.0065	98915.4174	684609.2985	
8213	3/4" REBAR 30" LONG WITH ALUM CAP STAMPED ODOT ENGINEERING ASSOCIATES 7590	343+79.32	825.65	RT	326853.0362	2245725.2652	99625.0047	684498.4299	
8214	3/4" REBAR 30" LONG WITH ALUM CAP STAMPED ODOT ENGINEERING ASSOCIATES 7590	343+91.22	739.53	RT	326843.1518	2245638.8969	99621.9919	684472.1048	
8215	3/4" REBAR 30" LONG WITH ALUM CAP STAMPED ODOT ENGINEERING ASSOCIATES 7590	344+99.22	704.24	RT	326938.9942	2245577.8672	99651.2047	684453.5029	
8217	3/4" REBAR 30" LONG WITH ALUM CAP STAMPED ODOT ENGINEERING ASSOCIATES 7590	353+63.20	985.72	RT	327845.8259	2245635.7802	99927.6076	684471.1548	
8216	3/4" REBAR 30" LONG WITH ALUM CAP STAMPED ODOT ENGINEERING ASSOCIATES 7590	353+80.60	921.08	RT	327846.6086	2245568.8440	99927.8462	684450.7526	
8218	3/4" REBAR 30" LONG WITH ALUM CAP STAMPED ODOT R/W ENGINEERING ASSOCIATES 7590	354+75.00	268.54	RT	327775.8697	2244913.3251	99906.2849	684250.9501	
8219	3/4" REBAR 30" LONG WITH ALUM CAP STAMPED ODOT R/W ENGINEERING ASSOCIATES 7590	354+75.00	279.17	RT	327778.5107	2244923.6179	99907.0899	684254.0873	
8220	3/4" REBAR 30" LONG WITH ALUM CAP STAMPED ODOT R/W ENGINEERING ASSOCIATES 7590	358+03.13	225.00'	RT	328082.8851	2244789.5931	99999.8634	684213.2365	
8201	3/4" REBAR 30" LONG WITH ALUM CAP STAMPED ODOT R/W ENGINEERING ASSOCIATES 7590	356+25.73	225.00	RT	327911.0466	2244833.6854	99947.4869	684226.6758	
8204	3/4" REBAR 30" LONG WITH ALUM CAP STAMPED ODOT R/W ENGINEERING ASSOCIATES 7590	359+14.43	185.00	RT	328180.7516	2244723.1856	100029.6932	684192.9954	
8206	3/4" REBAR 30" LONG WITH ALUM CAP STAMPED ODOT R/W ENGINEERING ASSOCIATES 7590	368+08.30	200.00	LT	328950.8787	2244128.1054	100264.4284	684011.6146	
8207	3/4" REBAR 30" LONG WITH ALUM CAP STAMPED ODOT ENGINEERING ASSOCIATES 7590	368+33.73	145.38	LT	328989.0863	2244174.6887	100276.0741	684025.8132	
8208	3/4" REBAR 30" LONG WITH ALUM CAP STAMPED ODOT ENGINEERING ASSOCIATES 7590	368+37.11	135.97	LT	328994.7012	2244182.9635	100277.7855	684028.3354	
8209	3/4" REBAR 30" LONG WITH ALUM CAP STAMPED ODOT ENGINEERING ASSOCIATES 7590	370+15.27	200.00	LT	329151.3570	2244076.6644	100325.5343	683995.9354	
	QUANTITIES CARRIED TO GENERAL SUMMARY ITEM 823 SHEET .							TOTAL	0

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 02/25/13

PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

RIGHT OF WAY MONUMENTATION TABLES

TUS-77-25.95

TOTAL NUMBER OF :

2 OWNERSHIPS 0 TOTAL TAKES
3 PARCELS 0 OWNERSHIPS W/ STRUCTURES INVOLVED

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE
NET TAKE = GROSS TAKE - PRO IN TAKE

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS AQUIRED BOOK	AS AQUIRED PAGE
1WL	JDR MASON, LLC	2,12,14,15	OR 1298	2615	10-03375.000	2.756 (c)	0.000	1.771	0.000	1.771	NO	0.748	0.237	STATE	LOT 30 DOVER TOWNSHIP, LL		
		16,17,21													PART OF A DEED RECORD 18.149 AC PARCEL		
		22,23													2.726 AUDITOR RECORD AREA		
1E	JDR MASON, LLC	2,3,12,14			10-03375.000	2.756 (c)	0.000	0.237	0.000	0.237	NO				LOT 30 DOVER TOWNSHIP, LL 2.726 AC, AUDITOR REC. AREA		
		21,22,23			15-05937.000	10.029 (c)	0.000	10.029	0.000	10.029					LOT 39 DOVER TOWNSHIP, LL 2.405 AC, (10.055 RECORD AREA)		
	(FOR OWNERSHIP OF WELL ZEDMARK #6 ON		OR 1298	2624	10-01459.001	27.500	0.000	0.000							LOT 49 DOVER TOWNSHIP, LL 2.380 AC		
	PARCEL 10-01460.002, SEE OWNERSHIP TABLE				10-01455.001	57.170	0.000	0.000							LOT 40 DOVER TOWNSHIP, LL 5.244 AC		
	ON PAGE 3 / 25.)				10-01460.002	50.592	0.000	0.000									
					19-00546.004	68.222	0.094	0.000									
	TOTAL					216.269	0.094	10.266	0.000	10.266			205.909				
1A	THE ROBINSON CLAY PRODUCTS CO.	3,12,13,	DV 151	13	NO APN	17.975 (c)	17.975	17.975	17.975			0.000	0.000		ACQUIRED AS HIGHWAY EASEMENT 29 LA - NO TAKE		
		14,15,24															
1B	THE ROBINSON CLAY PRODUCTS CO.	3,15,16,17,	DV 172	345	NO APN	5.718 (c)	5.718	5.718	5.718			0.000	0.000		ACQUIRED AS HIGHWAY EASEMENT 29 ALA - NO TAKE		
		18,19,20,															
		21,24,25															
2	BANK ONE OF DOVER NA AND PRICE STREB FARM, LLC,	2,10,12	OR 1244	2639	15-04712.000	20.230							20.230		NO TAKE		
	AN OHIO LIMITED LIABILITY COMPANY	22,23			10-01778.000	9.080							9.080		LOT 39 AND LOT 40 DOVER TOWNSHIP, LL		
3T	MINTEQ INTERNATIONAL INC., A DELAWARE CORPORATION	3,12,14	DV 673	430	10-01458.000	36.285	0.000	0.371	0.000	0.371	NO			STATE	TO CONSTRUCT A TEMPORARY ROADWAY		
		16,18,23			10-01454.000	3.320	0.000	0.000	0.000	0.000					PART OF LOT 30 DOVER TOWNSHIP		
					10-01453.000	0.240	0.000	0.000	0.000	0.000					PART OF LOT 20 DOVER TOWNSHIP		
	TOTAL					39.845	0.000	0.371	0.000	0.371			39.474				
															TEMP EASEMENT OVERLAPS EX. UT. EASEMENT BY 0.026 AC		
															EX. 50' EASEMENT TO OHIO POWER CO., DV 421, PG 107		
															(TOTAL AREA OF EX. UTILITY EASEMENT = 1.413 AC)		
4	DANIEL L. HOSTETLER AND MICHELLE R. HOSTETLER,	3,18,20	OR 1316	2250	10-00438.000	54.680							54.680		NO TAKE, PART OF LOTS 20 & 30, DOVER TOWNSHIP		
	HUSBAND AND WIFE	23			21-00141.000	1.642							1.642		SE QTR. SECTION 1, FRANKLIN TOWNSHIP		
5	ELLIOT J. METZ AND CHARALET L. METZ	3,23,24	OR 1004	001	19-01581.000	1.761							1.761		NO TAKE NE QTR. SECTION 10, FRANKLIN TOWNSHIP		
					10-03375.001	3.998							3.998		PART OF LOT 30, DOVER TOWNSHIP		
					10-00159.000	6.824							6.824		PART OF LOT 30, DOVER TOWNSHIP, IN HWY EASEMENT		
					10-00159.002	0.566							0.566		PART OF LOT 30, DOVER TOWNSHIP, IN HWY EASEMENT		
					10-00159.003	0.179							0.179		PART OF LOT 30, DOVER TOWNSHIP, IN HWY EASEMENT		
					10-00160.000	1.465							1.465		PART OF LOT 30, DOVER TOWNSHIP		
					21-00006.000	25.874							25.874		SE QTR. SECTION 1, FRANKLIN TOWNSHIP		
					21-00007.000	5.360							5.360		SE QTR. SECTION 1, FRANKLIN TOWNSHIP		
					21-00007.002	0.434							0.434		PART OF SE QTR. SECTION 1, FRANKLIN TOWNSHIP		
					21-00008.000	0.166							0.166		NE QTR. SENCTION 10, FRANKLIN TOWNSHIP		
					21-00009.000	8.652							8.652				
6	ELLIOT J. METZ AND KELLY LYNN METZ,	3,24	OR 1044	1502	10-00159.001	2.756							2.756		NO TAKE		
	HUSBAND AND WIFE				21-00007.001	1.180							1.180				

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

(c) = CALCULATED AREA
DV = DEED VOLUME
OR = OFFICIAL RECORD VOLUME
LL = LANDLOCKED

PARCEL LEGEND

WL = FEE SIMPLE WITH LIMITED ACCESS
SL = SLOPE EASEMENT
X, CH = CHANNEL EASEMENT
A = AERIAL EASEMENT
E = FEE SIMPLE EXCESS LAND
LA = LIMITED ACCESS EASEMENT

REV. BY	DATE	DESCRIPTION
WDT	8/23/13	REVISED RESIDUE AREA PARCEL 1WL AND ADDED
		CALCULATED RECORD AREA PARCEL 1WL & 1E

FIELD REVIEW BY: WILLIAM D. THOMAS DATE: 02/20/13
OWNERSHIP VERIFIED BY: WILLIAM D. THOMAS DATE: 02/25/13
DATE COMPLETED 02/25/13

FEDERAL PROJECT NO. E101050
PID NO. 87890
STATE JOB NO. 516591
R/W DESIGNER MDG
R/W REVIEWER WDT

SUMMARY OF ADDITIONAL RIGHT OF WAY

TUS-77-25.95

TUSCARAWAS COUNTY
DOVER TOWNSHIP
LOT 40
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY DISTRICT

JDR MASON, LLC
APN 10-01455.001
WOODED

SUGAR CREEK

BANK ONE OF DOVER, NA
AND PRICE STREB FARM, LLC
AN OHIO LIMITED LIABILITY COMPANY
APN 10-01778.000
OR 1244, PG 2639
WOODED

Ex LA-R/W — ℄ — Ex LA-R/W — Ex LA-R/W — N 14° 23′ 28″ W — Ex LA-R/W — ℄ — Ex LA-R/W

XX — PARCEL PREVIOUSLY ACQUIRED WITH PROJECT TUS-21-30.64 OR TUS-39-10.21 TYPICAL ALL DETAIL SHEETS.

NOTE: PROPOSED RIGHT OF WAY STATIONS AND OFFSETS ARE FROM ℄ R/W & CONST. I.R. 77.

28 WL

STATE OF OHIO
DV480, PG 532
DV 441, PG 9

MATCHLINE STA. 348+00

THE BASIS OF EXISTING CENTERLINE OF RIGHT OF WAY AND RIGHT OF WAY WIDTHS:

CENTERLINE OF RIGHT OF WAY PLAN FOR I.R. 77 TUS-21-30.64, TUS-21-27.10 AND TUS-39-10.21, PLAT VOL 12, PG 53 & 54, AND PLAT VOL 12, PG 36 & 37. FOR SCHNEIDERS CROSSING ROAD (C.R. 80) TUS-77-24.50, PLAT VOL 37 PG 35 ON FILE AT ODOT DISTRICT 11, NEW PHILADELPHIA PLATS ON FILE AT THE TUSCARAWAS COUNTY RECORDERS OFFICE.

← SOUTHBOUND

BEGIN WORK
STA. 345+50.00

EX. ASPHALT PAVEMENT

12" CONC

343 — 344 — 345 — 346 — 347 — 348

203

N 14° 23′ 28″ W

℄ R/W & CONST. I.R. 77

ALL TREES WITHIN THE CONSTRUCTION LIMITS ARE TO BE REMOVED.

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 02/25/13

HORIZONTAL SCALE IN FEET 0 10 20 40

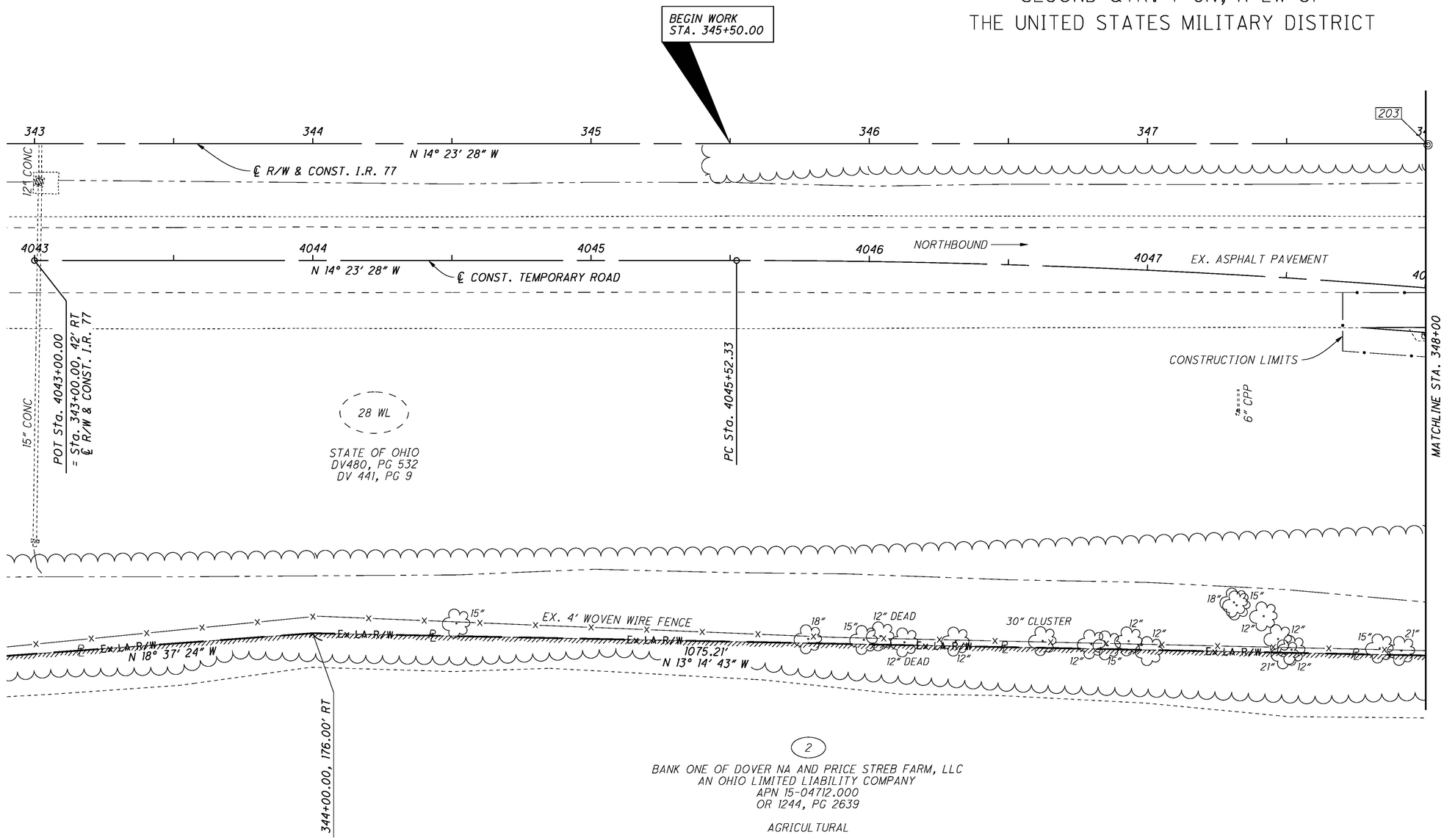
PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

RIGHT OF WAY DETAIL SHEET
STA. 343+00 TO STA. 348+00 LEFT

TUS-77-25.95

TUSCARAWAS COUNTY
DOVER TOWNSHIP
LOT 40
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY DISTRICT



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STA. 343+00 TO STA. 348+00 RIGHT

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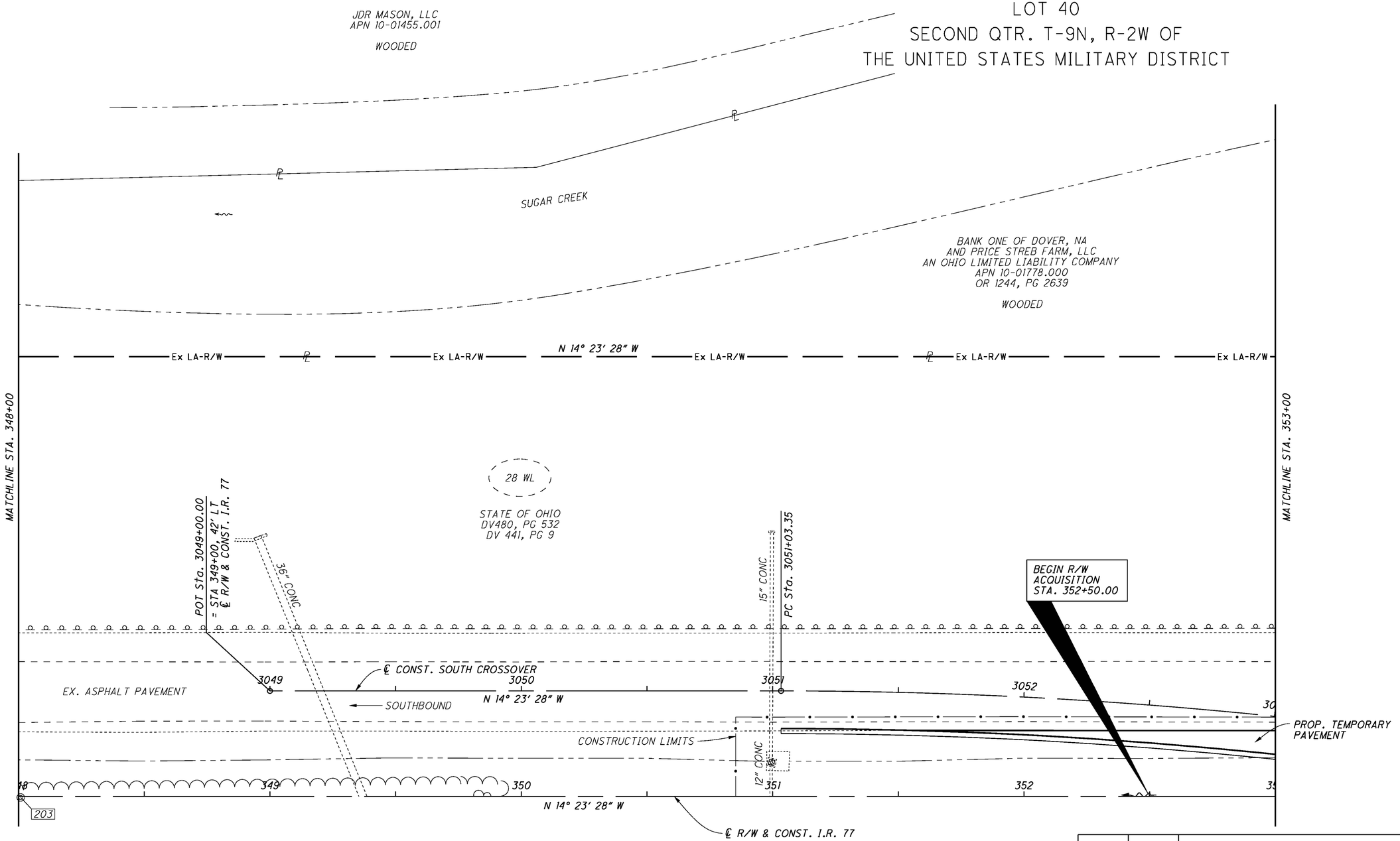
THE UNITED STATES MILITARY DISTRICT



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HORIZONTAL SCALE IN FEET 0 10 20 40

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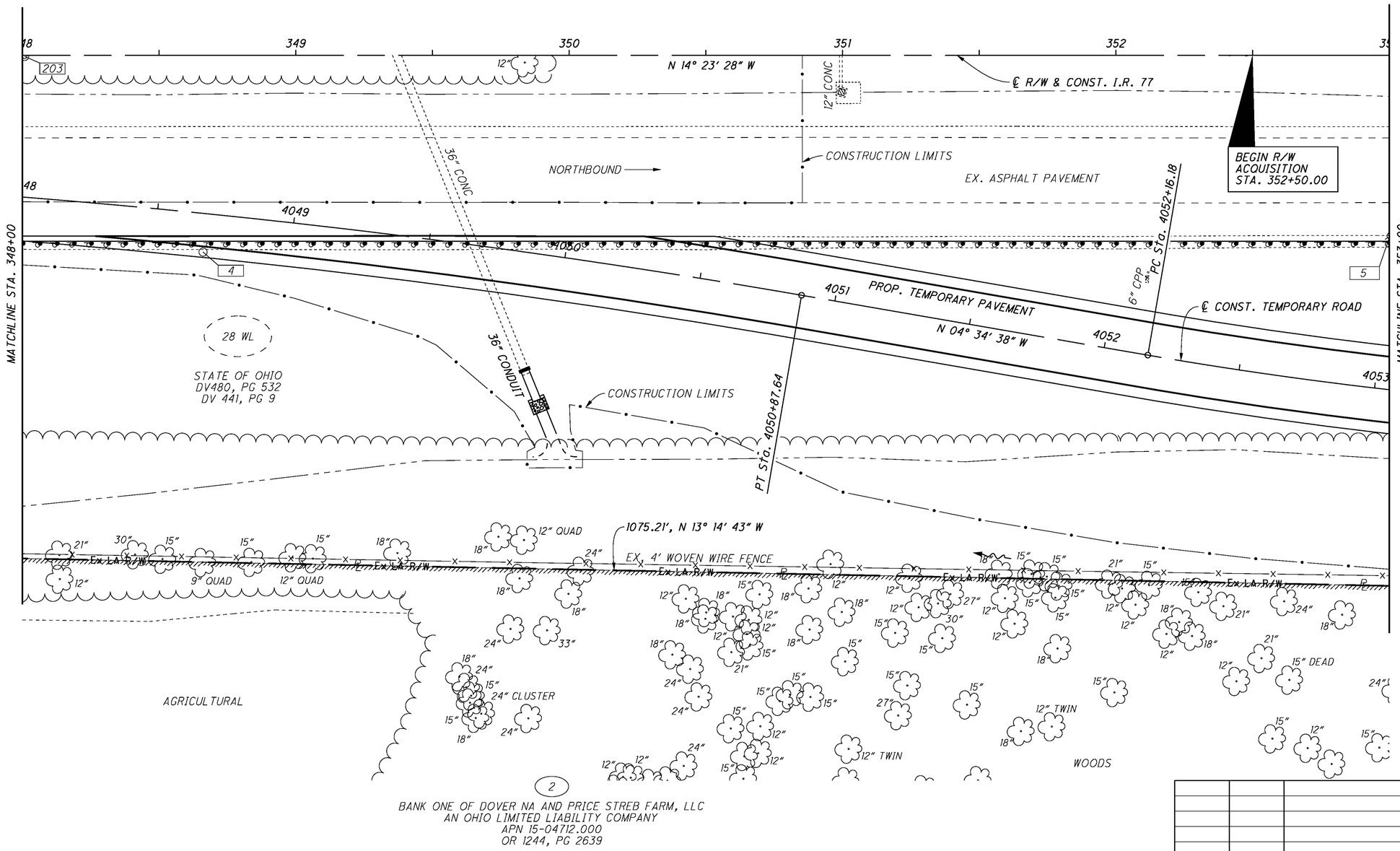
R/W REVIEWER WDT

RIGHT OF WAY DETAIL SHEET
STA. 348+00 TO STA. 353+00 LEFT

TUS-77-25.95

TUSCARAWAS COUNTY
DOVER TOWNSHIP
LOT 40
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY DISTRICT



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REV. BY	DATE	DESCRIPTION

DATE COMPLETED 02/25/13

HORIZONTAL SCALE IN FEET 0 10 20 40

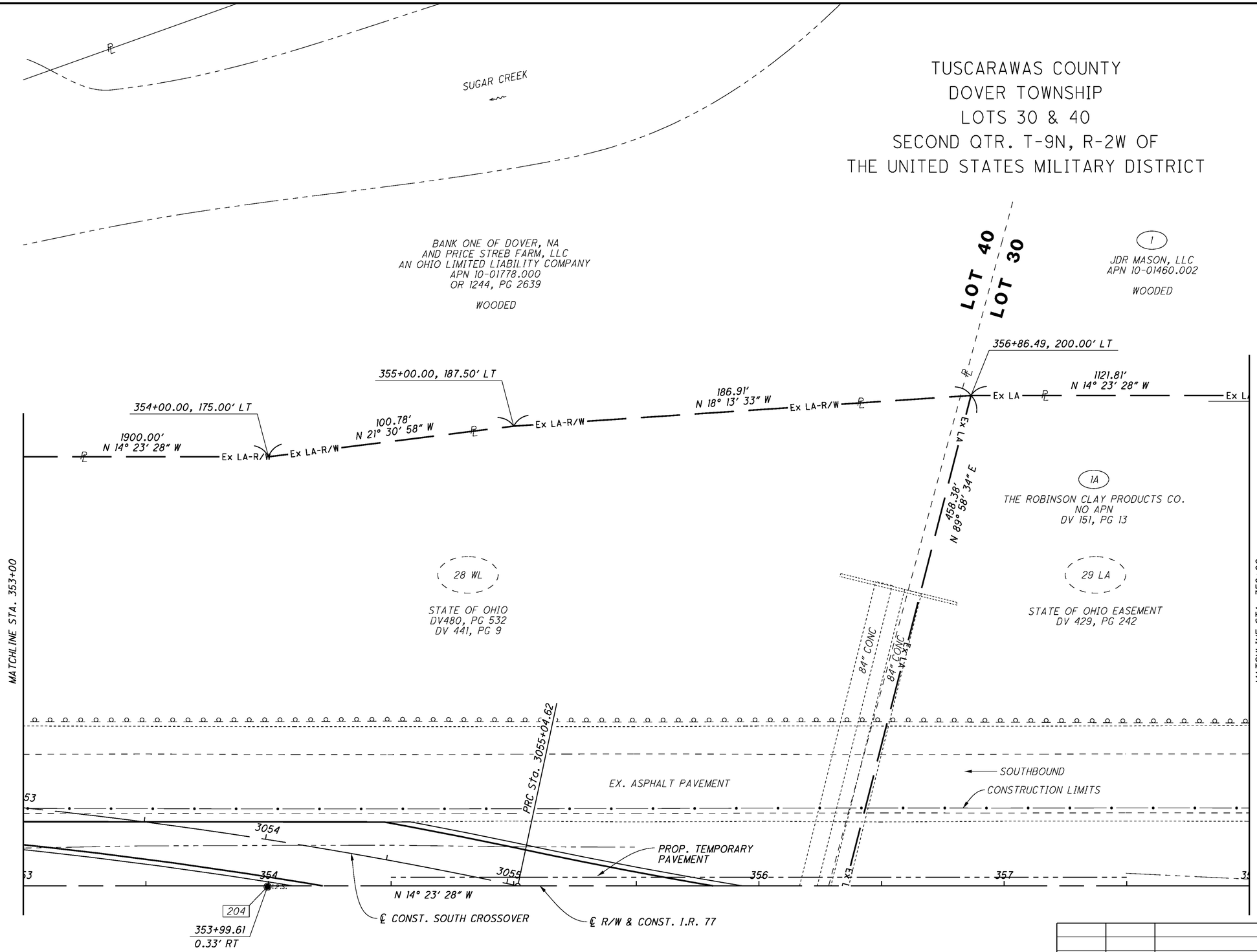
PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

RIGHT OF WAY DETAIL SHEET
STA. 348+00 TO STA. 353+00 RIGHT

TUS-77-25.95

TUSCARAWAS COUNTY
DOVER TOWNSHIP
LOTS 30 & 40
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY DISTRICT



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REV. BY	DATE	DESCRIPTION

DATE COMPLETED 02/25/13

HORIZONTAL SCALE IN FEET 0 10 20 40

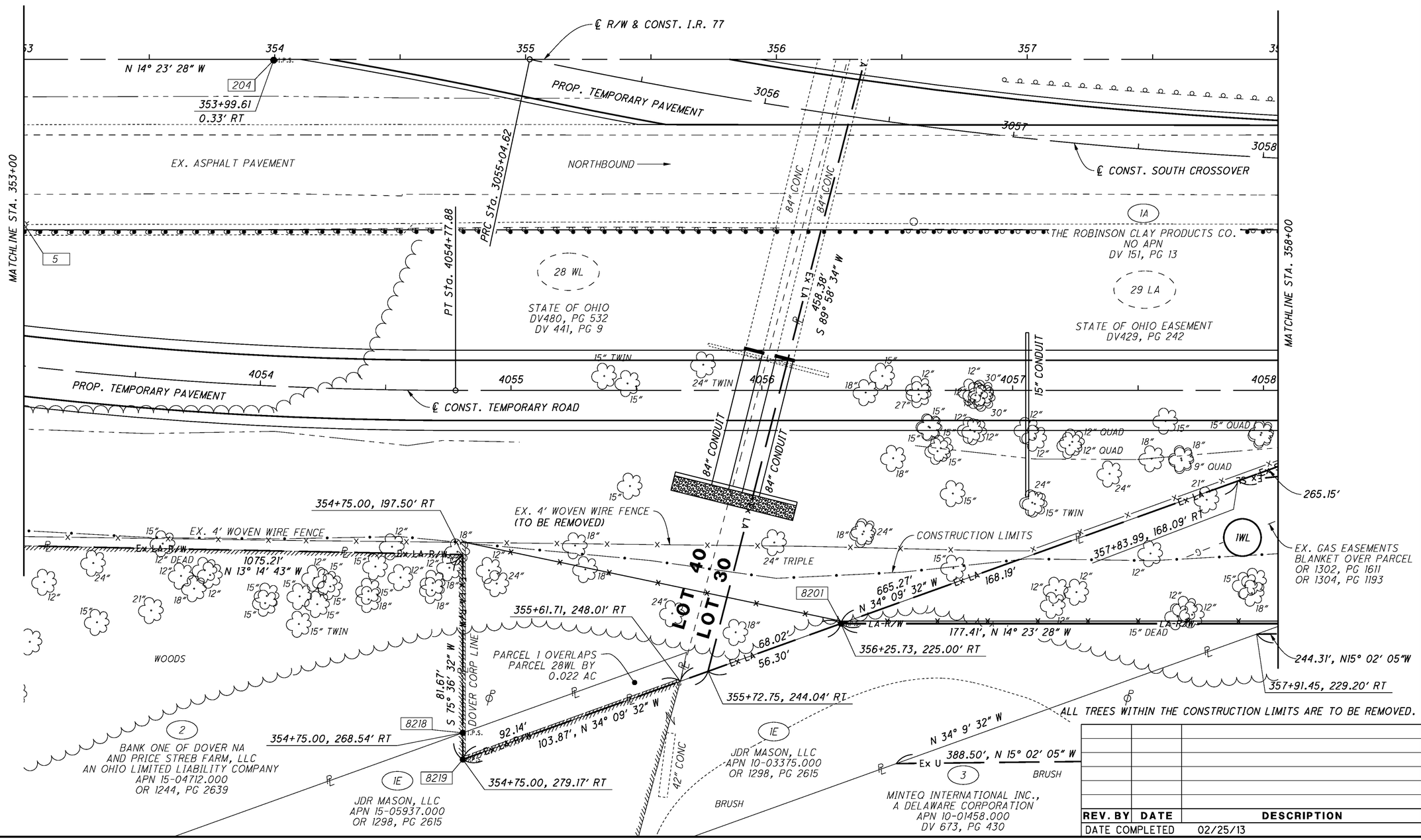
PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

RIGHT OF WAY DETAIL SHEET
STA. 353+00 TO STA. 358+00 LEFT

TUS-77-25.95

TUSCARAWAS COUNTY
DOVER TOWNSHIP
LOTS 30 & 40
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY DISTRICT



REV. BY	DATE	DESCRIPTION

DATE COMPLETED 02/25/13

HORIZONTAL SCALE IN FEET 0 10 20 40

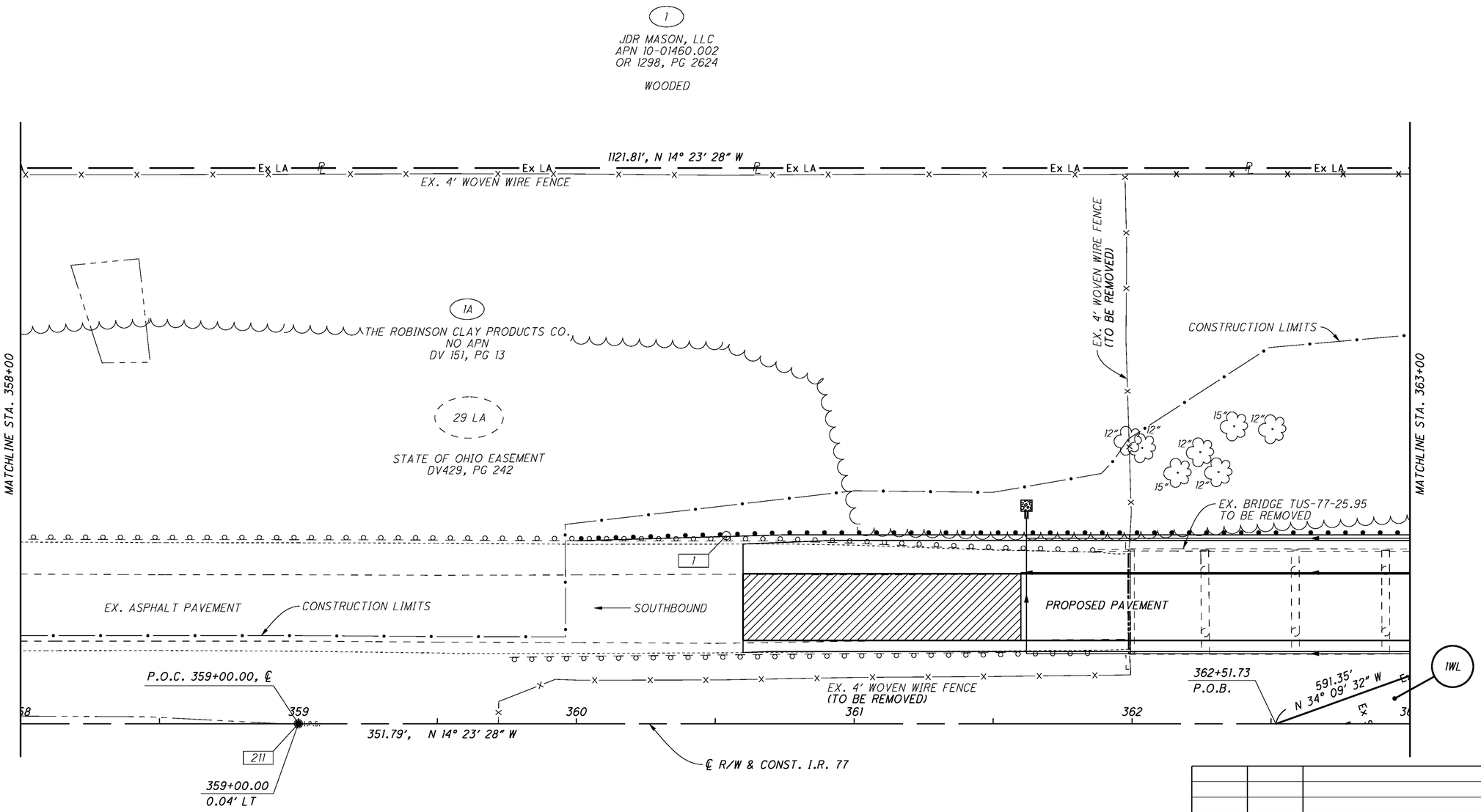
PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

RIGHT OF WAY DETAIL SHEET
STA. 353+00 TO STA. 358+00 RIGHT

TUS-77-25.95

TUSCARAWAS COUNTY
DOVER TOWNSHIP
LOT 30
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY DISTRICT



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REV. BY	DATE	DESCRIPTION

DATE COMPLETED 02/25/13

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

RIGHT OF WAY DETAIL SHEET
STA. 358+00 TO STA. 363+00 LEFT

TUS-77-25.95

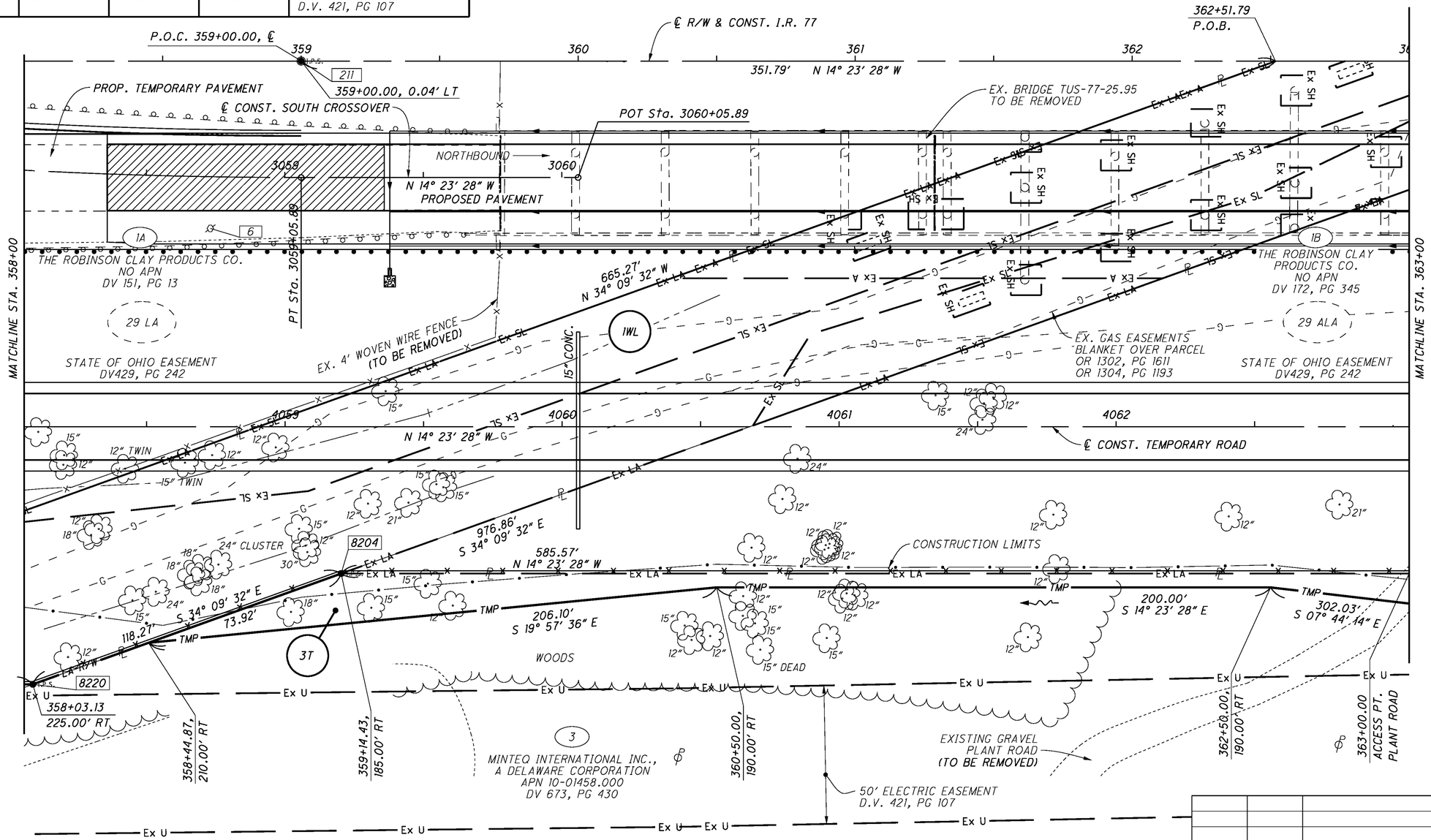
PARCEL NO.	TOTAL AREA	AREA OF EXIST. EASEMENT	EASEMENT TYPE
1-WL	77030.15 S.F. (1.768 AC)	0.00 S.F.	AERIAL (NOT AT GROUND LEVEL)
		43171.95 S.F.	SLOPE EASEMENTS
		591.95 S.F.	OCCUPATIONAL (NOT IN SLOPE EASEMENT)
TOTAL AREA LESS EXIST. EASEMENTS	33266.25 S.F. (0.764 AC)	43763.90 S.F. (1.004 AC)	TOTAL

ALL EXISTING EASEMENT DESIGNATION FROM STATE OF OHIO DEPARTMENT OF HIGHWAY TUS-21-30.64
EASEMENTS ACQUIRED BY DEED BOOK VOLUME 464 PAGE 246

EASEMENT OVERLAP TABLE

PARCEL NO.	EASEMENT REQUIRED	TOTAL AREA	AREA OF OVERLAP	CURRENT EASEMENT
3-T	TEMPORARY	0.371 AC	0.026 AC	ELECTRIC EASEMENT D.V. 421, PG 107

TUSCARAWAS COUNTY
DOVER TOWNSHIP
LOT 30
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY DISTRICT



ALL TREES WITHIN THE CONSTRUCTION LIMITS ARE TO BE REMOVED.

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 02/25/13

HORIZONTAL SCALE IN FEET 0 10 20 40

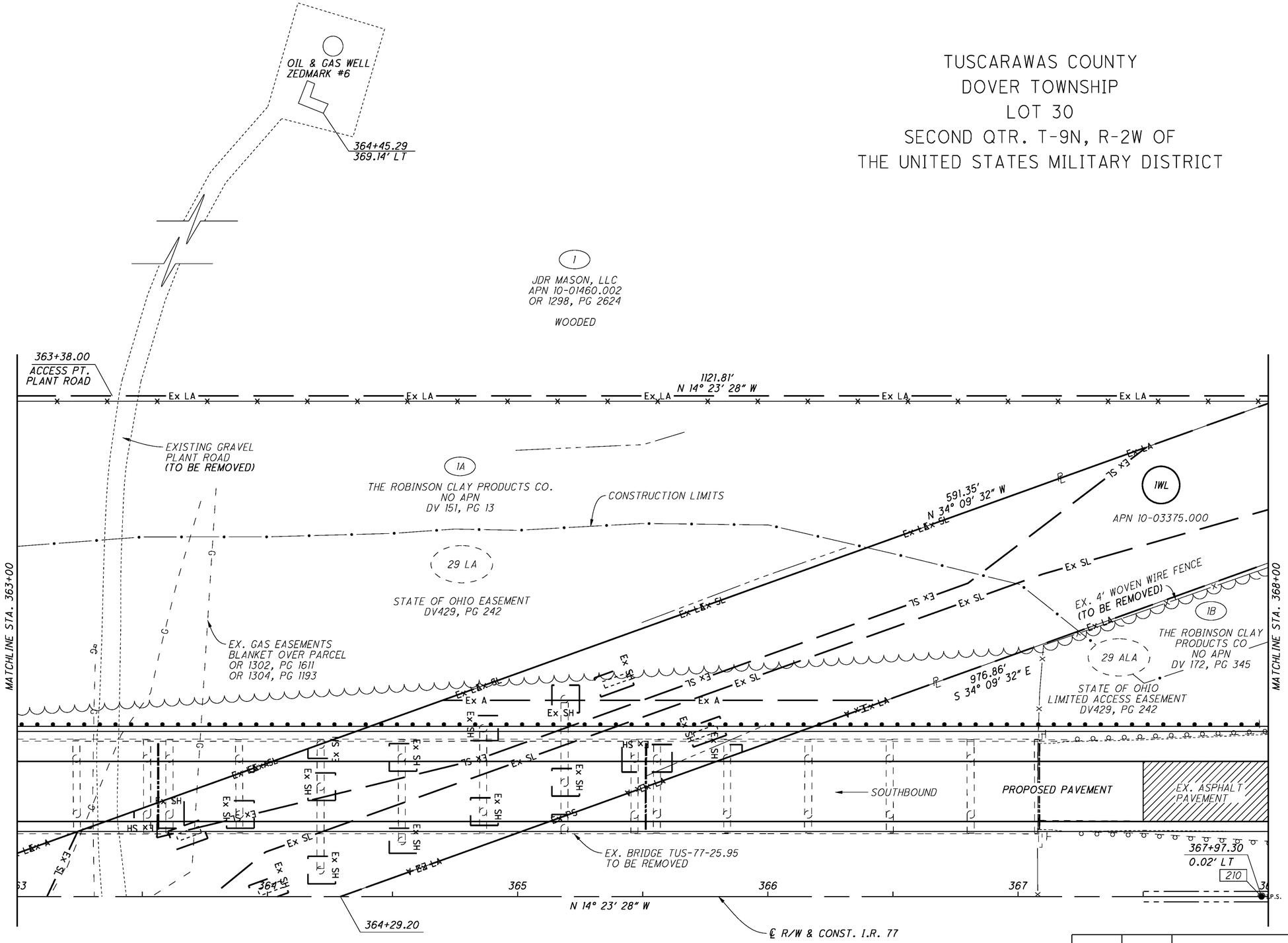
PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

RIGHT OF WAY DETAIL SHEET
STA. 358+00 TO STA. 363+00 RIGHT

TUS-77-25.95

TUSCARAWAS COUNTY
DOVER TOWNSHIP
LOT 30
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY DISTRICT



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REV. BY	DATE	DESCRIPTION

DATE COMPLETED 02/25/13

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

RIGHT OF WAY DETAIL SHEET
STA. 363+00 TO STA. 368+00 LEFT

TUS-77-25.95

PARCEL NO.	TOTAL AREA	AREA OF EXIST. EASEMENT	EASEMENT TYPE
1-WL	77030.15 S.F. (1.768 AC)	0.00 S.F.	AERIAL (NOT AT GROUND LEVEL)
		43171.95 S.F.	SLOPE EASEMENTS
		591.95 S.F.	OCCUPATIONAL (NOT IN SLOPE EASEMENT)
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ALL EXISTING EASEMENT DESIGNATION FROM STATE OF OHIO DEPARTMENT OF HIGHWAY TUS-21-30.64
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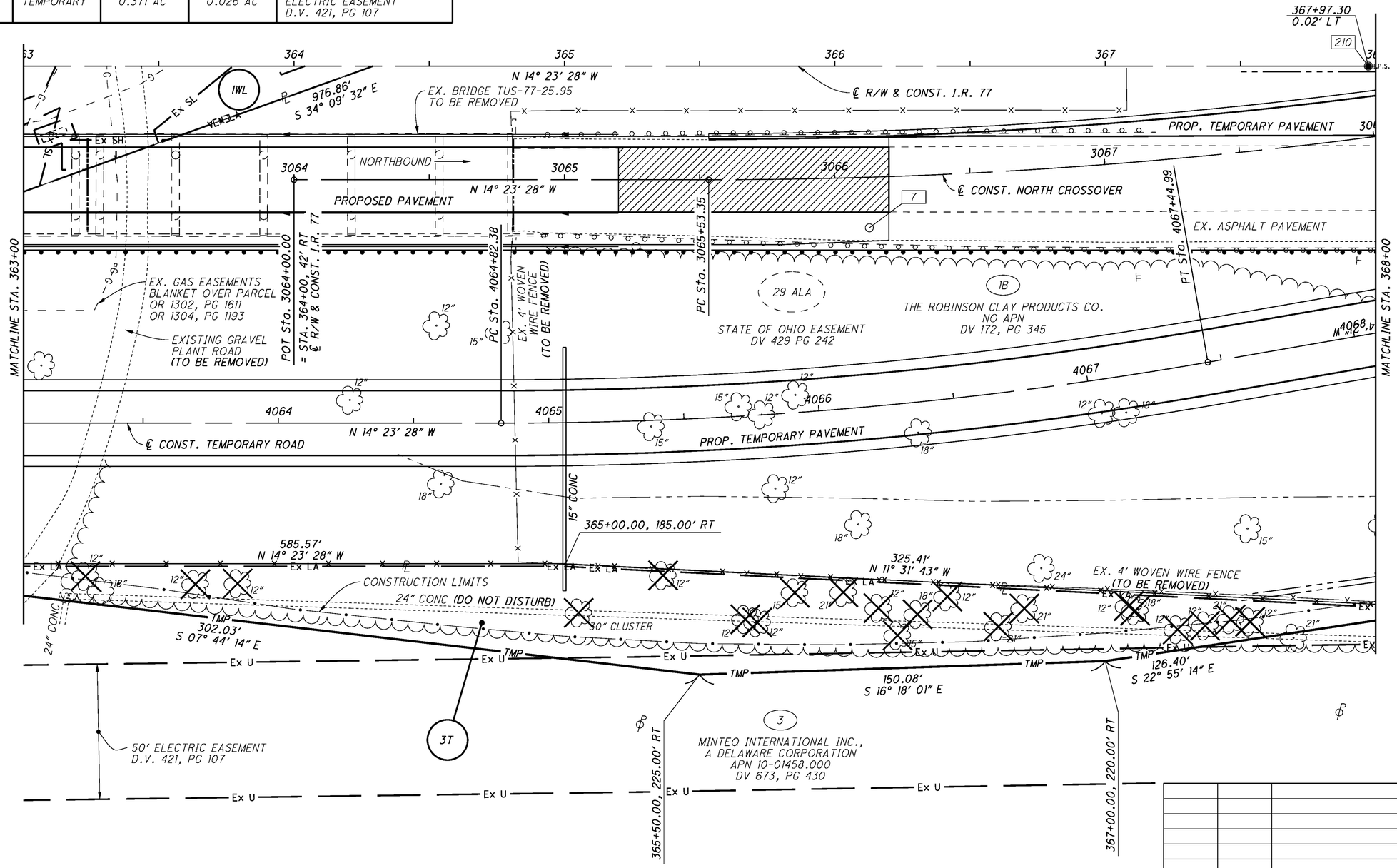
TUSCARAWAS COUNTY
DOVER TOWNSHIP
LOT 30
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY DISTRICT



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REV. BY	DATE	DESCRIPTION

DATE COMPLETED 02/25/13

HORIZONTAL SCALE IN FEET 0 10 20 40

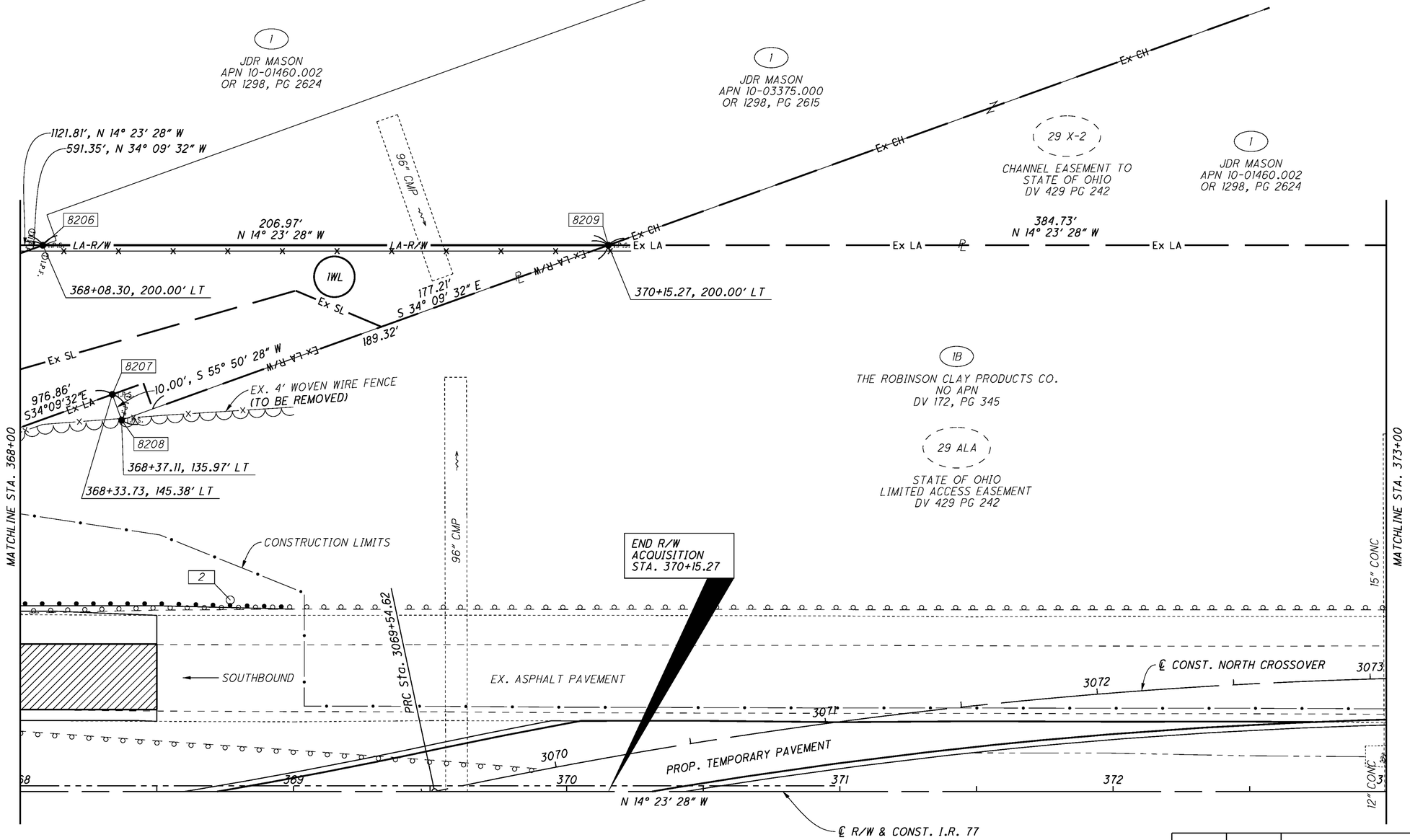
PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

RIGHT OF WAY DETAIL SHEET
STA. 363+00 TO STA. 368+00 RIGHT

TUS-77-25.95

TUSCARAWAS COUNTY
DOVER TOWNSHIP
LOT 30
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY DISTRICT



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REV. BY	DATE	DESCRIPTION

DATE COMPLETED 02/25/13

HORIZONTAL SCALE IN FEET 0 10 20 40

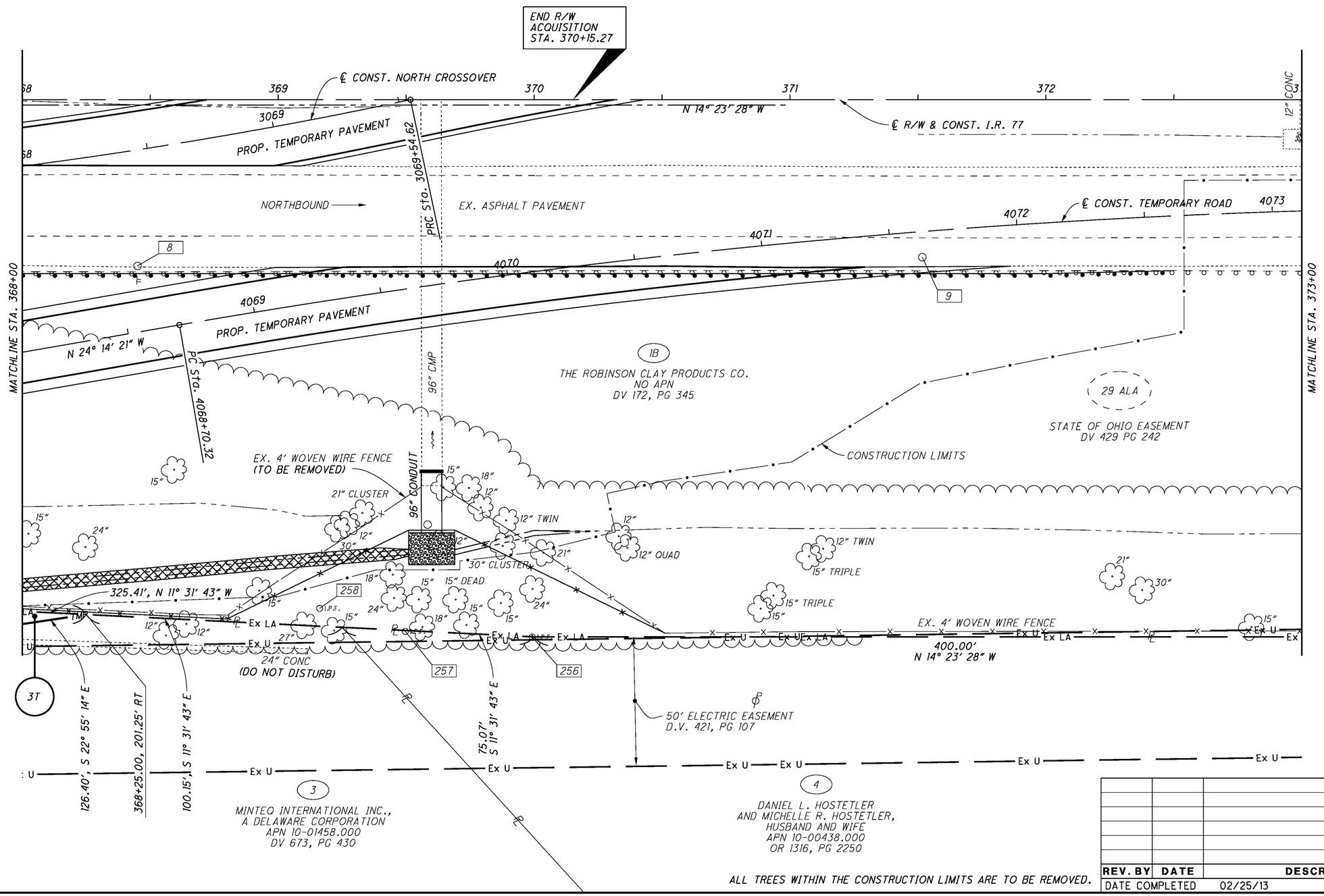
PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

RIGHT OF WAY DETAIL SHEET
STA. 368+00 TO STA. 373+00 LEFT

TUS-77-25.95

TUSCARAWAS COUNTY
DOVER TOWNSHIP
LOT 30
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY DISTRICT



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REV. BY	DATE	DESCRIPTION

DATE COMPLETED 02/25/13

HORIZONTAL SCALE IN FEET 0 10 20 40

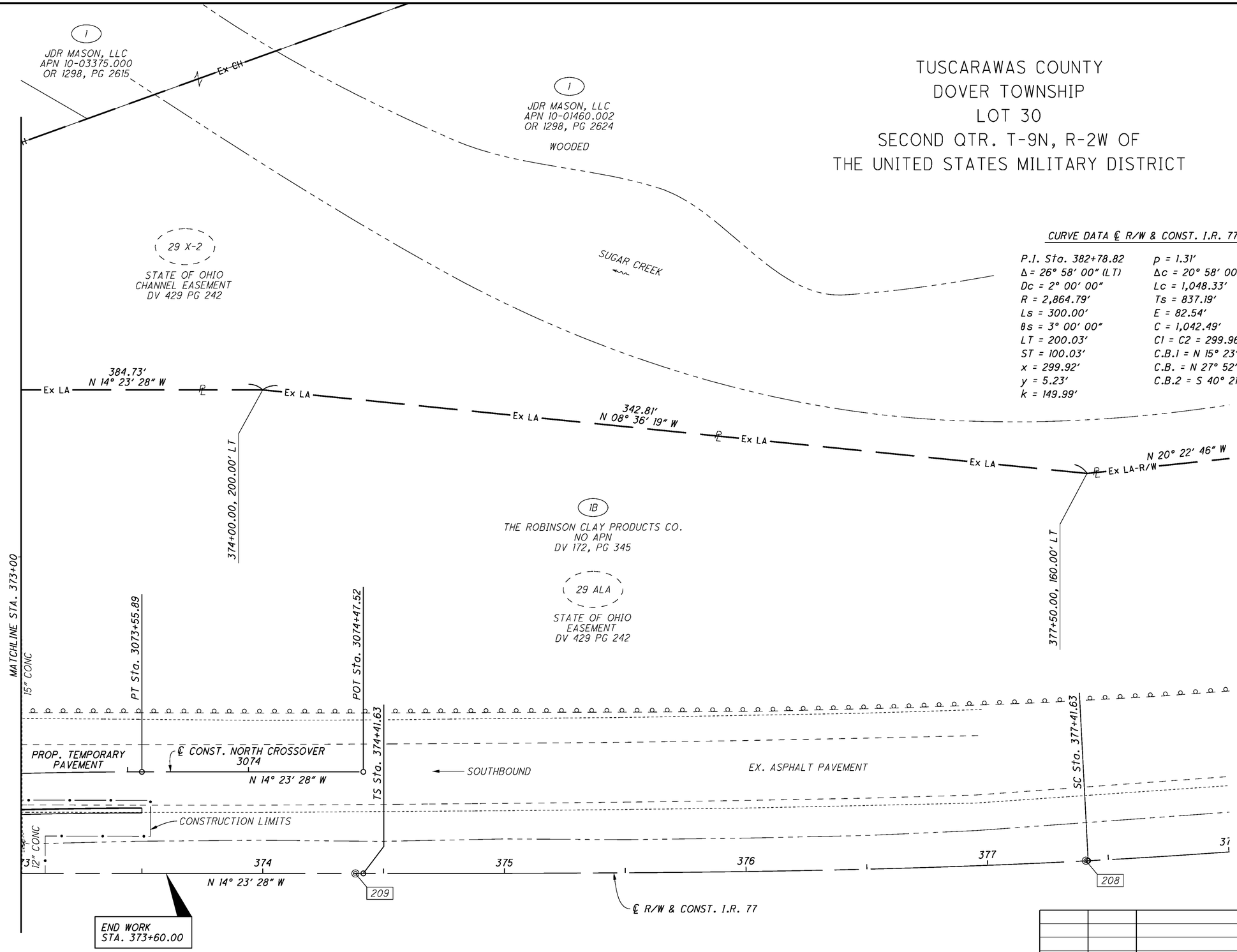
PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

RIGHT OF WAY DETAIL SHEET
STA. 368+00 TO STA. 373+00 RIGHT

TUS-77-25.95

TUSCARAWAS COUNTY
DOVER TOWNSHIP
LOT 30
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY DISTRICT



CURVE DATA ℄ R/W & CONST. I.R. 77

P.I. Sta. 382+78.82	p = 1.31'
Δ = 26° 58' 00" (LT)	Δc = 20° 58' 00" (LT)
Dc = 2° 00' 00"	Lc = 1,048.33'
R = 2,864.79'	Ts = 837.19'
Ls = 300.00'	E = 82.54'
θs = 3° 00' 00"	C = 1,042.49'
LT = 200.03'	C1 = C2 = 299.96'
ST = 100.03'	C.B.1 = N 15° 23' 28" W
x = 299.92'	C.B. = N 27° 52' 28" W
y = 5.23'	C.B.2 = S 40° 21' 28" E
k = 149.99'	

ALL TREES WITHIN THE CONSTRUCTION LIMITS ARE TO BE REMOVED.

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 02/25/13

HORIZONTAL SCALE IN FEET 0 10 20 40

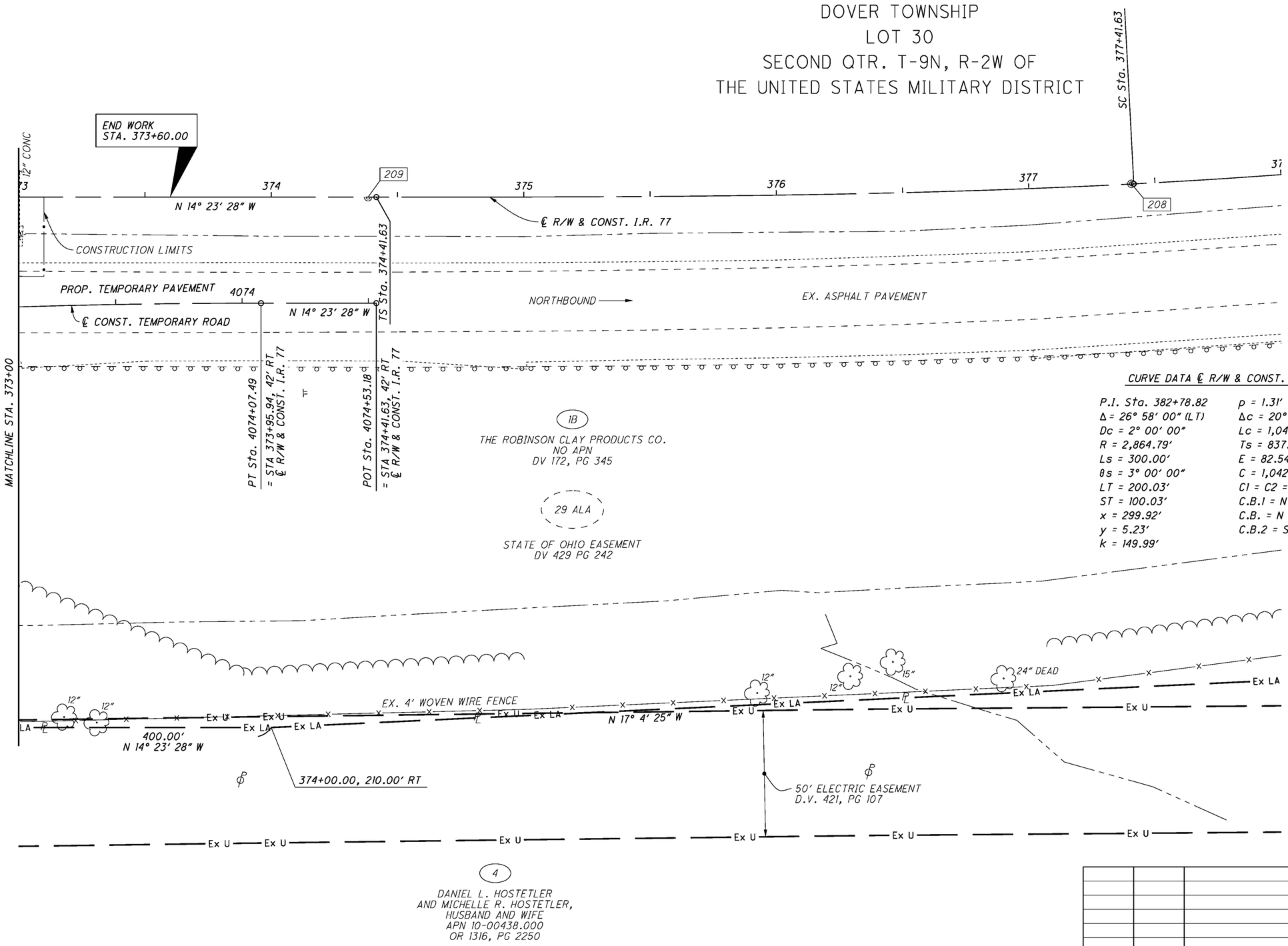
PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

RIGHT OF WAY DETAIL SHEET
STA. 373+00 TO STA. 378+00 LEFT

TUS-77-25.95

TUSCARAWAS COUNTY
DOVER TOWNSHIP
LOT 30
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY DISTRICT



CURVE DATA ℄ R/W & CONST. I.R. 77

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R = 2,864.79'	Ts = 837.19'
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REV. BY	DATE	DESCRIPTION
DATE COMPLETED	02/25/13	

HORIZONTAL SCALE IN FEET 0 10 20 40

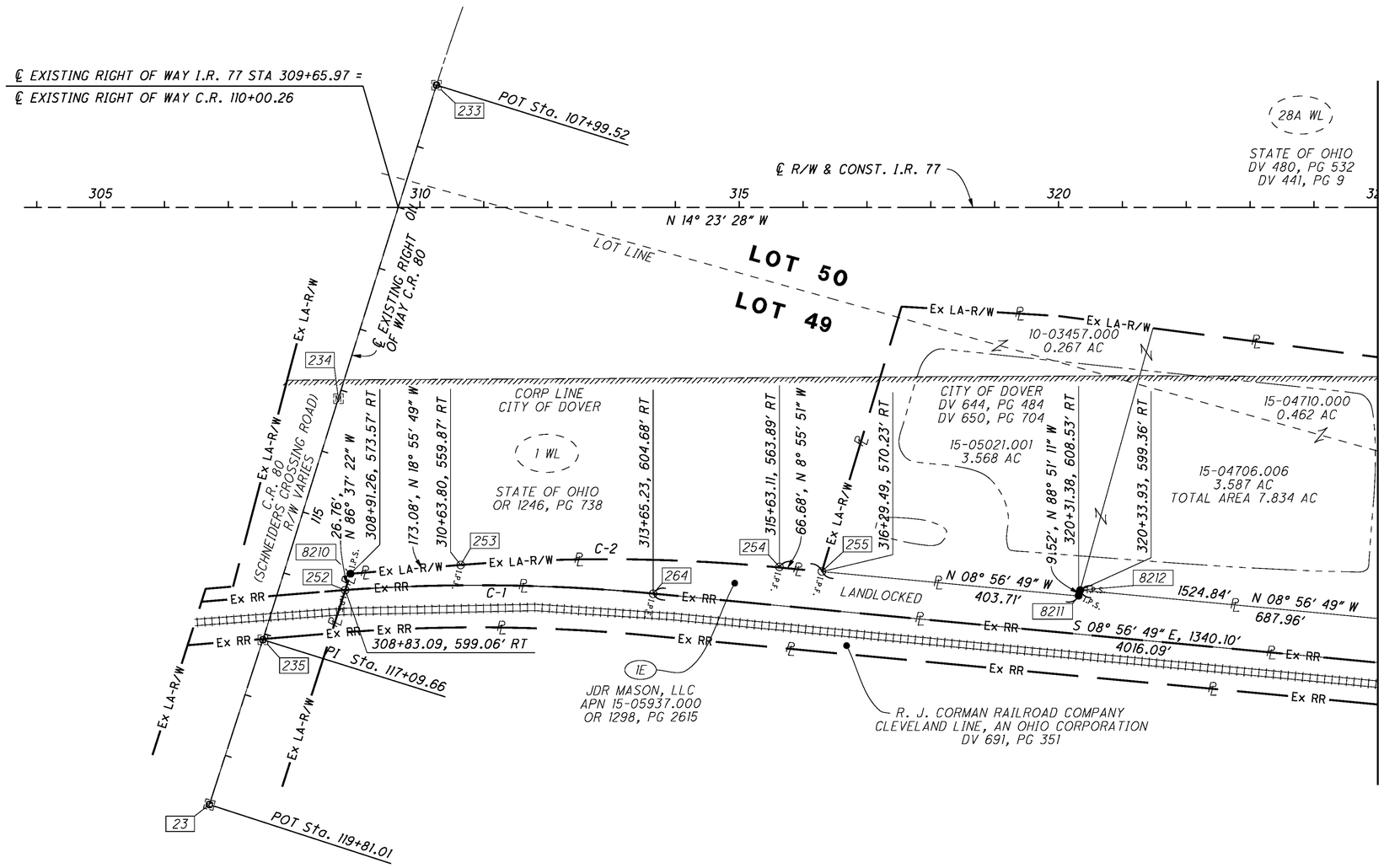
PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

RIGHT OF WAY DETAIL SHEET
STA. 373+00 TO STA. 378+00 RIGHT

TUS-77-25.95

TUSCARAWAS COUNTY
CITY OF DOVER
DOVER TOWNSHIP
LOTS 49 & 50
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY DISTRICT



RIGHT OF WAY CURVE DATA

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C-1	2897.79	482.73	482.17	S 13° 43' 24" E
C-2	2864.79	499.97	499.33	N 13° 55' 50" W

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 02/25/13

HORIZONTAL SCALE IN FEET 0 50 100 200

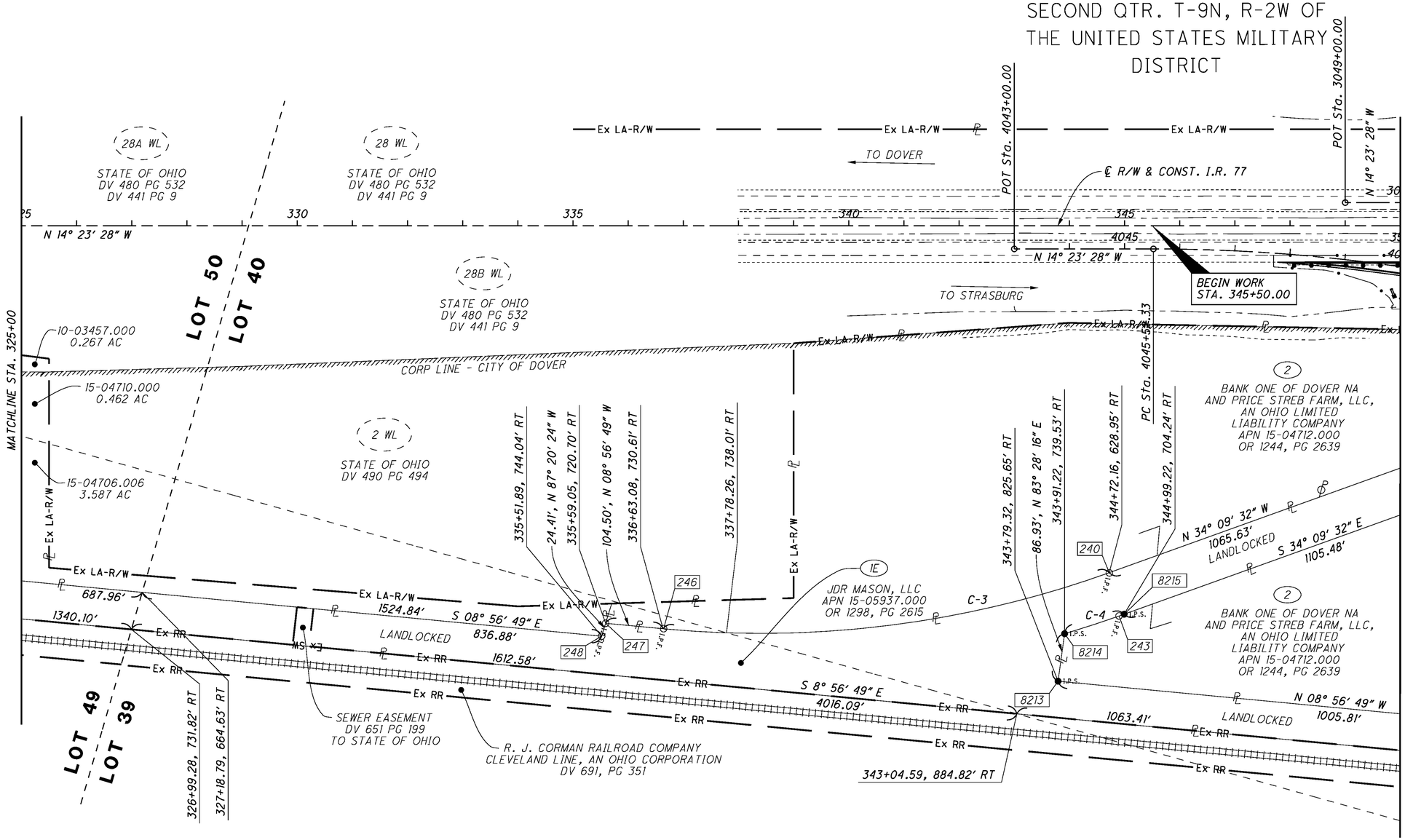
PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

PROPERTY DETAIL SHEET
STA 305+00 TO STA 325+00

TUS-77-25.95

TUSCARAWAS COUNTY
CITY OF DOVER
DOVER TOWNSHIP
LOTS 39, 40, 49 & 50
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY
DISTRICT



RIGHT OF WAY CURVE DATA

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C-3	1868.17	822.06	815.44	N 21° 33' 10" W
C-4	1948.17	113.64	113.62	S 32° 29' 16" E

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 02/25/13

HORIZONTAL SCALE IN FEET
0 50 100 200

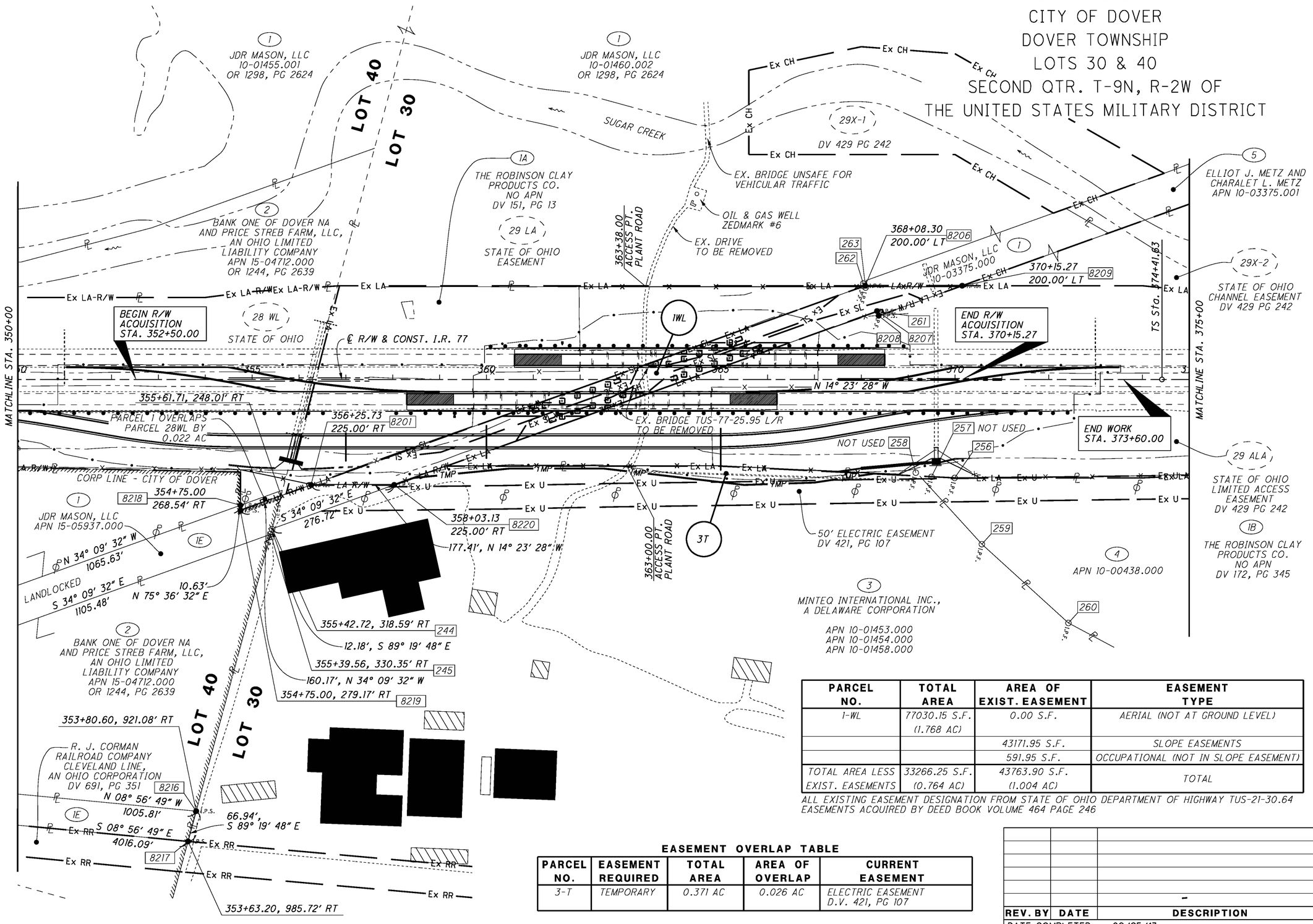
PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

PROPERTY DETAIL SHEET
STA 325+00 TO STA 350+00

TUS-77-25.95

TUSCARAWAS COUNTY
CITY OF DOVER
DOVER TOWNSHIP
LOTS 30 & 40
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY DISTRICT



PARCEL NO.	TOTAL AREA	AREA OF EXIST. EASEMENT	EASEMENT TYPE
1-WL	77030.15 S.F. (1.768 AC)	0.00 S.F.	AERIAL (NOT AT GROUND LEVEL)
		43171.95 S.F.	SLOPE EASEMENTS
		591.95 S.F.	OCCUPATIONAL (NOT IN SLOPE EASEMENT)
TOTAL AREA LESS EXIST. EASEMENTS	33266.25 S.F. (0.764 AC)	43763.90 S.F. (1.004 AC)	TOTAL

ALL EXISTING EASEMENT DESIGNATION FROM STATE OF OHIO DEPARTMENT OF HIGHWAY TUS-21-30.64
EASEMENTS ACQUIRED BY DEED BOOK VOLUME 464 PAGE 246

EASEMENT OVERLAP TABLE

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3-T	TEMPORARY	0.371 AC	0.026 AC	ELECTRIC EASEMENT D.V. 421, PG 107

REV. BY	DATE	DESCRIPTION
		-

DATE COMPLETED 02/25/13

HORIZONTAL SCALE IN FEET 0 50 100 200

PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

PROPERTY DETAIL SHEET
STA 350+00 TO STA 375+00

TUS-77-25.95

CURVE DATA ℄ R/W & CONST. I.R. 77

P.I.Sta. 382+78.82
Δ = 26° 58′ 00″ (LT)
Dc = 2° 00′ 00″
R = 2,864.79′
Ls = 300.00′
θs = 3° 00′ 00″
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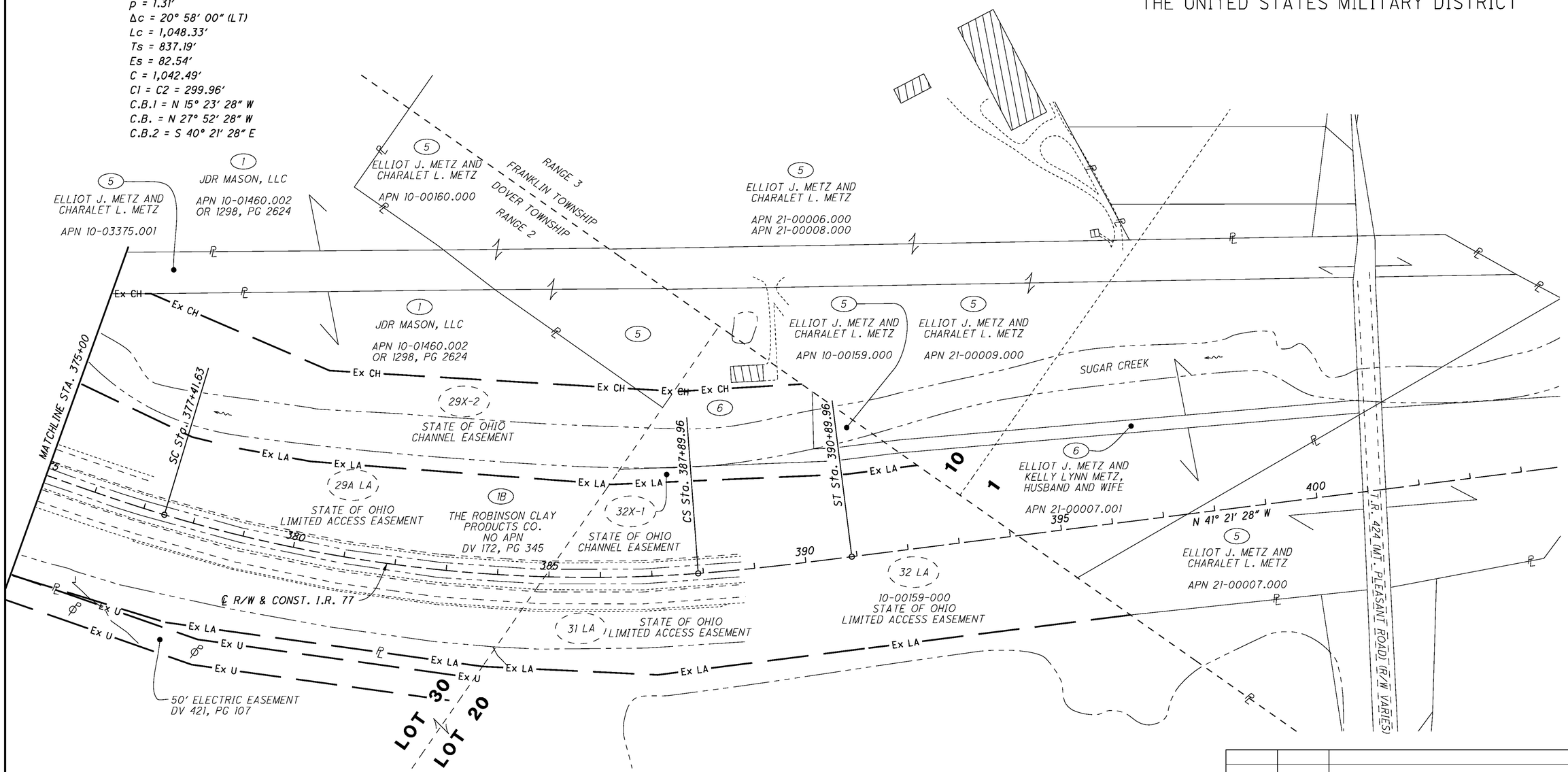
Lc = 1,048.33′
Ts = 837.19′
Es = 82.54′
C = 1,042.49′
C1 = C2 = 299.96′
C.B.1 = N 15° 23′ 28″ W
C.B. = N 27° 52′ 28″ W
C.B.2 = S 40° 21′ 28″ E

TUSCARAWAS COUNTY
FRANKLIN TOWNSHIP
SECTION 1 & 10 T-9N, R-3W
DOVER TOWNSHIP
LOTS 20 & 30
SECOND QTR. T-9N, R-2W OF
THE UNITED STATES MILITARY DISTRICT



REV. BY	DATE	DESCRIPTION

DATE COMPLETED 02/25/13

HORIZONTAL SCALE IN FEET 0 50 100 200

PID NO. 87890

R/W DESIGNER MDG
R/W REVIEWER WDT

PROPERTY DETAIL SHEET
STA 375+00 TO STA 400+00

TUS-77-25.95

PROJECT DESCRIPTION

THIS PROJECT IS THE REPLACEMENT OF THE TWO, MULTI-SPAN, BRIDGES WITH AN EMBANKMENT ON INTERSTATE ROUTE 77 AT STRAIGHT LINE MILE 25.95 IN TUSCARAWAS COUNTY.

HISTORIC RECORDS

1962 EXPLORATION PROGRAM. THE SOIL PROFILE FOR TUS-21-30.64, FED ID I-IG-77-3(10) 88 PERFORMED IN JUNE 1962 IS AVAILABLE IN THE ODOT ARCHIVES AND WAS REVIEWED AS PART OF THIS PROJECT. THE SUBSURFACE DATA FOR THESE BRIDGES WAS PART OF THE EXPLORATION PROGRAM FOR CONSTRUCTION OF IR-77 BEGINNING AT TUSCARAWAS COUNTY ROAD 80 AND ENDING AT US-250 SOUTHEAST OF STRASBURG, INCLUDING THE GRADE SEPERATIONS WITH THE PENNSYLVANIA RAILROAD COMPANY.

THE EXPLORATION DATA FOR THE TUS-21-3254 BRIDGES WAS PERFORMED JUNE 21-28, 1962. IT CONSISTED OF 5 SOIL BORINGS. THE BORINGS WERE IDENTIFIED AS B-4, B-10, B-15, B-22 AND B-29. BORING B-4 STARTED AT EL. 898.5 AND TERMINATED AT EL. 842.5. BORING B-10 STARTED AT EL. 907.2 AND TERMINATED AT EL. 856.2. BORING B-15 STARTED AT EL. 901.1 AND TERMINATED AT EL. 850.1. BORING B-22 STARTED AT EL. 902.8 AND TERMINATED AT EL. 851.8. BORING B-29 STARTED AT EL. 902.4 AND TERMINATED AT EL. 851.4. THESE ELEVATIONS WERE BASED ON THE NGVD 1929 DATUM. ALL FIVE BORING LOGS CAN BE FOUND IN THE GEOTECHNICAL REPORT FOR THIS BRIDGE REMOVAL PROJECT.

GEOLOGY

THIS STRUCTURE IS LOCATED IN THE MUSKINGUM-PITTSBURGH PLATEAU PHYSIOGRAPHIC REGION. THIS REGION IS DISSECTED PLATEAU HAVING BROAD MAJOR VALLEYS THAT CONTAIN OUTWASH TERRACES; MEDIUM GRAINED BEDROCK SEQUENCES OF SILTSTONE, SHALE, SANDSTONE, AND COAL.

RECONNAISSANCE

ON JULY 25, 2011 A SITE RECONNAISSANCE VISIT WAS MADE. THE EXISTING PAVEMENT WAS OBSERVED TO BE IN GOOD CONDITION. THE BRIDGE DECK AND PIERS WERE OBSERVED TO BE SPALLING AND FALLEN CONCRETE WAS OBSERVED AT MANY LOCATIONS.

THE SURROUNDING AREA IS DESCRIBED AS RURAL-INDUSTRIAL. THERE WAS CONSIDERABLE OVERGROWTH. STANDING WATER WAS OBSERVED ON THE ACCESS TRAIL FOR THE GAS WELL, AND IN LOW LYING AREAS OF THE SITE. THE SUBGRADE CONSISTS OF FILL THAT IS LIKELY OF VARIABLE PERMEABILITY. WALKING AND PROBING THE GROUND BETWEEN THE TWO BRIDGES WITH A SHARPENED STEEL ROD FOUND MANY INDICATIONS THAT UNCONTROLLED FILL, SUCH AS TRASH PITS, COAL FINE PILES, WASTE CONCRETE, AND DEEP (MORE THAN 2') VEGETATION PITS, ARE PRESENT ACROSS THE ENTIRE AREA.

SUBSURFACE EXPLORATION

THE FIELD EXPLORATION WAS CONDUCTED IN TWO PHASES. PHASE ONE OCCURRED BETWEEN JULY 26, 2011 AND JULY 28, 2011, WHEN TWO STRUCTURAL BORINGS (B-003-0-11 AND B-004-0-11) WERE ADVANCED BY TTL, INC. TO DEPTHS OF 105 AND 90 FEET, RESPECTIVELY. THE SECOND PHASE WAS PERFORMED BETWEEN SEPTEMBER 12, 2012 AND SEPTEMBER 14, 2012, WHEN SIX EMBANKMENT BORINGS WERE ADVANCED TO DEPTHS BETWEEN 20 AND 35 FEET (B-001-0-12 TO B-006-0-12).

THE BORINGS WERE DRILLED WITH AN ATV MOUNTED ROTARY DRILL RIG, USING 3¼-INCH I.D. HOLLOW STEM AUGERS TO ADVANCE THE HOLES THROUGH THE SOIL. DISTURBED SAMPLES WERE OBTAINED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT 2.5 TO 5.0-FOOT INTERVALS FOR THE FULL DEPTH OF THE BORINGS. THE HAMMER SYSTEM FOR PHASE ONE WAS LAST CALIBRATED IN DECEMBER 28, 2009, THE HAMMER SYSTEM FOR THE SECOND PHASE WAS CALIBRATED JANUARY 16, 2012. THE AVERAGE DRILL ROD ENERGY RATIO (ER) WAS 66% AND 79.8%, RESPECTIVELY.

EXPLORATION FINDINGS

THE TEST BORINGS DISCLOSED PREDOMINATELY COHESIONLESS SOILS (A-1-a, A-1-b, A-2-4, A-3, A-3a) WITH NEAR SURFACE FILL DEPOSITS. THE DEPOSITS RANGE FROM LOOSE TO HARD WITH AN AVERAGE RELATIVE DENSITY OF MEDIUM DENSE. ALL BORINGS WERE TERMINATED BEFORE ENCOUNTERING BEDROCK.

MANY OF THE BORINGS ENCOUNTERED AN UNCONTROLLED FILL THAT CONSISTED OF FINE GRAIN SOILS AND CONSTRUCTION DEBRIS (PRIMARILY BRICK FRAGMENTS) TO DEPTHS UP TO 13 FEET. FREE WATER WAS OBSERVED AT ELEVATIONS 882.0 TO 889.9, AND SAND "HEAVED" INTO THE AUGERS IN BORING B-003-0-11 AND B-004-0-11, AT THE FREE WATER ELEVATION.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JANUARY 2012.

AVAILABLE INFORMATION

ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE GEOTECHNICAL EXPLORATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL EXPLORATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1600 WEST BROAD STREET OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET.

LEGEND

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH.	CLASSIFIED VISUAL
GRAVEL AND/OR STONE FRAGMENTS	A-1-a	11	13
GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b	7	29
GRAVEL AND/OR STONE FRAG. WITH SAND AND SILT	A-2-4	0	4
FINE SAND	A-3	1	11
COARSE SAND AND GRAVEL	A-3a	2	10
SANDY SILT	A-4a	2	7
SILT AND CLAY	A-6a	1	7
	TOTAL	24	81
UNCONTROLLED FILL	VISUAL		
PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		
SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	VISUAL		

BORING LOCATION - PLAN VIEW.

HISTORIC BORING LOCATION - PLAN VIEW.

DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.

WC — INDICATES WATER CONTENT IN PERCENT.

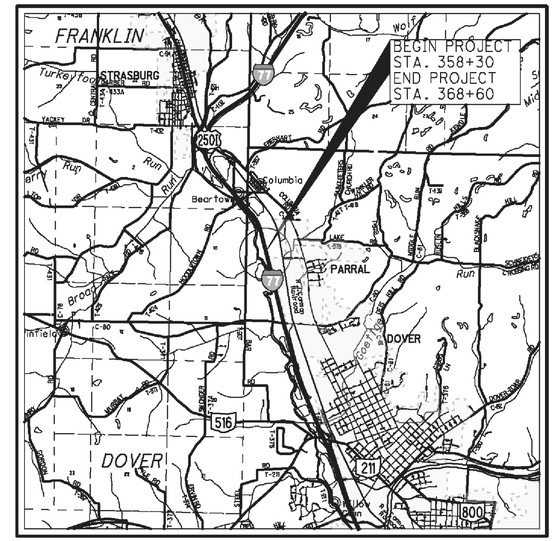
N_{60} — INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.

W — INDICATES FREE WATER ELEVATION.

⊖ — INDICATES A NON-PLASTIC MATERIAL WITH A MOISTURE CONTENT GREATER THAN 25 % OR GREATER THAN 19 % WITH A WET APPEARANCE.

SS — INDICATES A SPLIT SPOON SAMPLE.

NP — INDICATES A NON-PLASTIC SAMPLE.



LOCATION MAP

SCALE IN MILES

0 1 2 3 4

N

PARTICLE SIZE DEFINITIONS

BOULDERS	12"	COBBLES	3"	GRAVEL	2.0 mm (No. 10 SIEVE)	COARSE SAND	0.42 mm (No. 40 SIEVE)	FINE SAND	0.074 mm (No. 200 SIEVE)	SILT	0.005 mm	CLAY

RECON. - TLM 7/25/11
DRILLING - TTL, INC. 7/26/11 - 9/12/12
DRAWN - TLM 1/8/12
REVIEWED - MWW 1/8/12

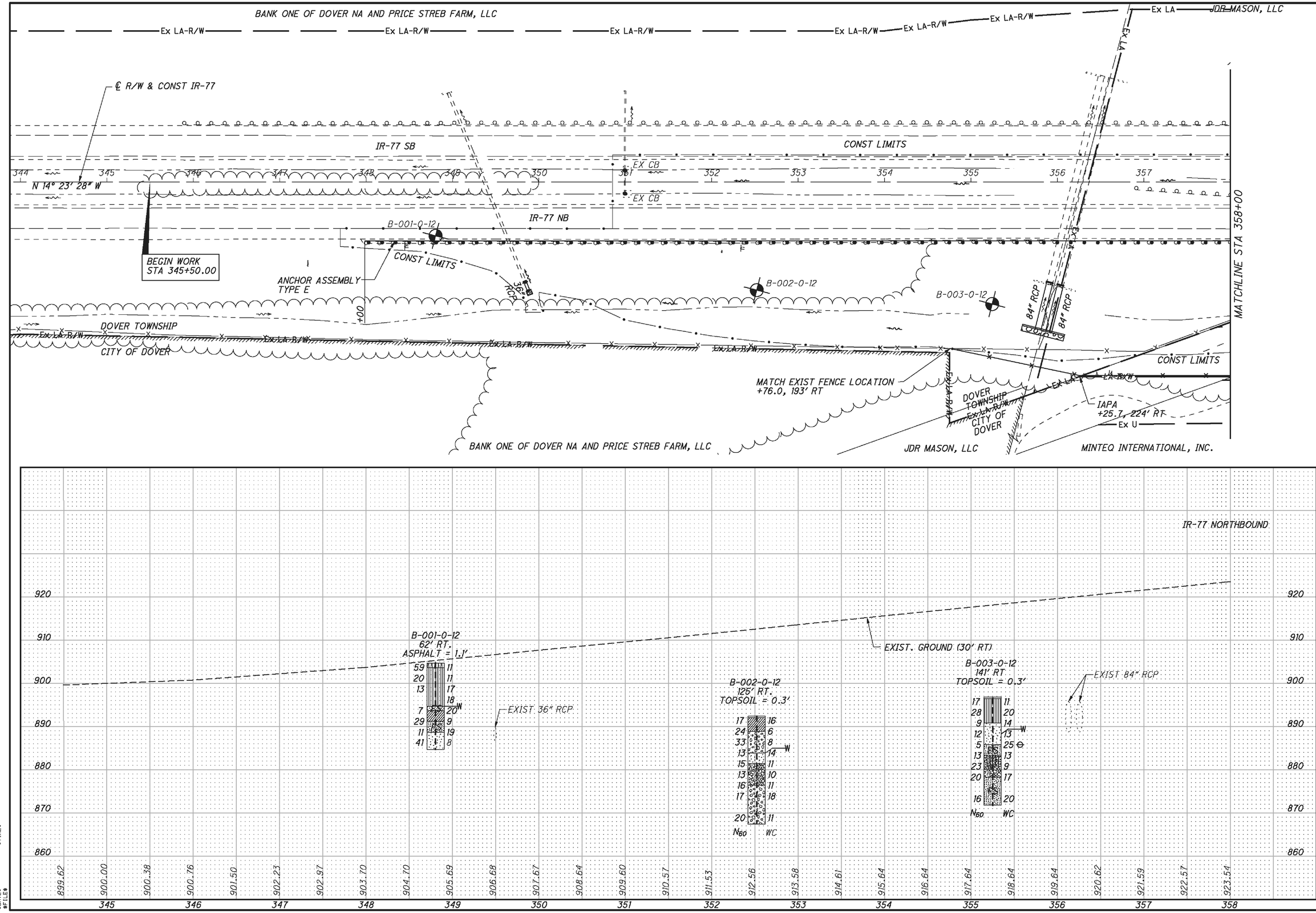
DESIGN AGENCY
GANNETT FLEMING ENGINEERS & ARCHITECTS, PC.
SUITE 104, 300 N. CLEVELAND MASSILLON ROAD
AKRON, OHIO 44333

PID NO. 87890

STRUCTURAL FOUNDATION EXPLORATION
BRIDGE NO. TUS-77-2595

TUS-77-25.95

7/31/2013 10:05:27 AM
D:\PWWORK\NDV\GFPW01\CHARBURGER\DMS62674\879902C001

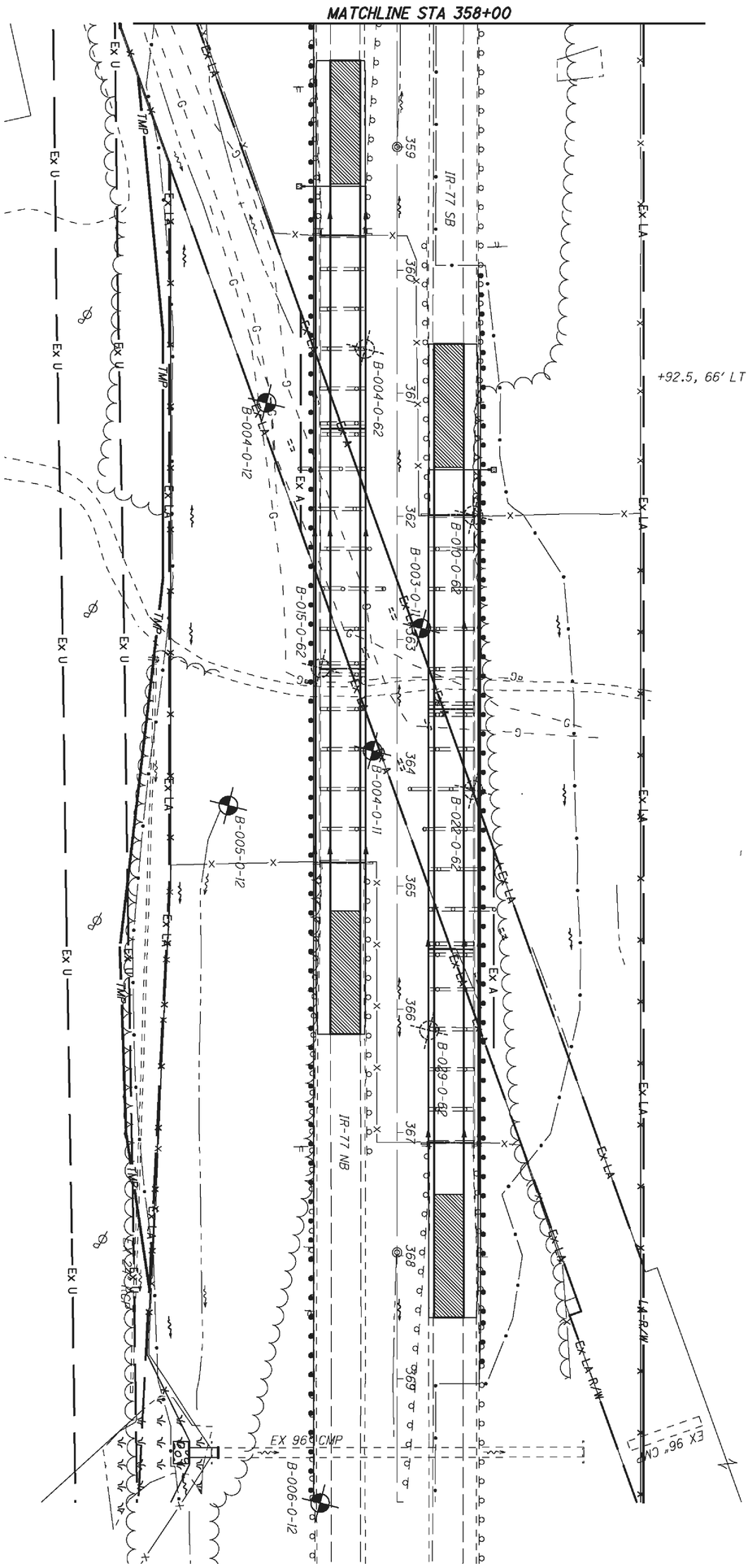


HORIZONTAL SCALE IN FEET

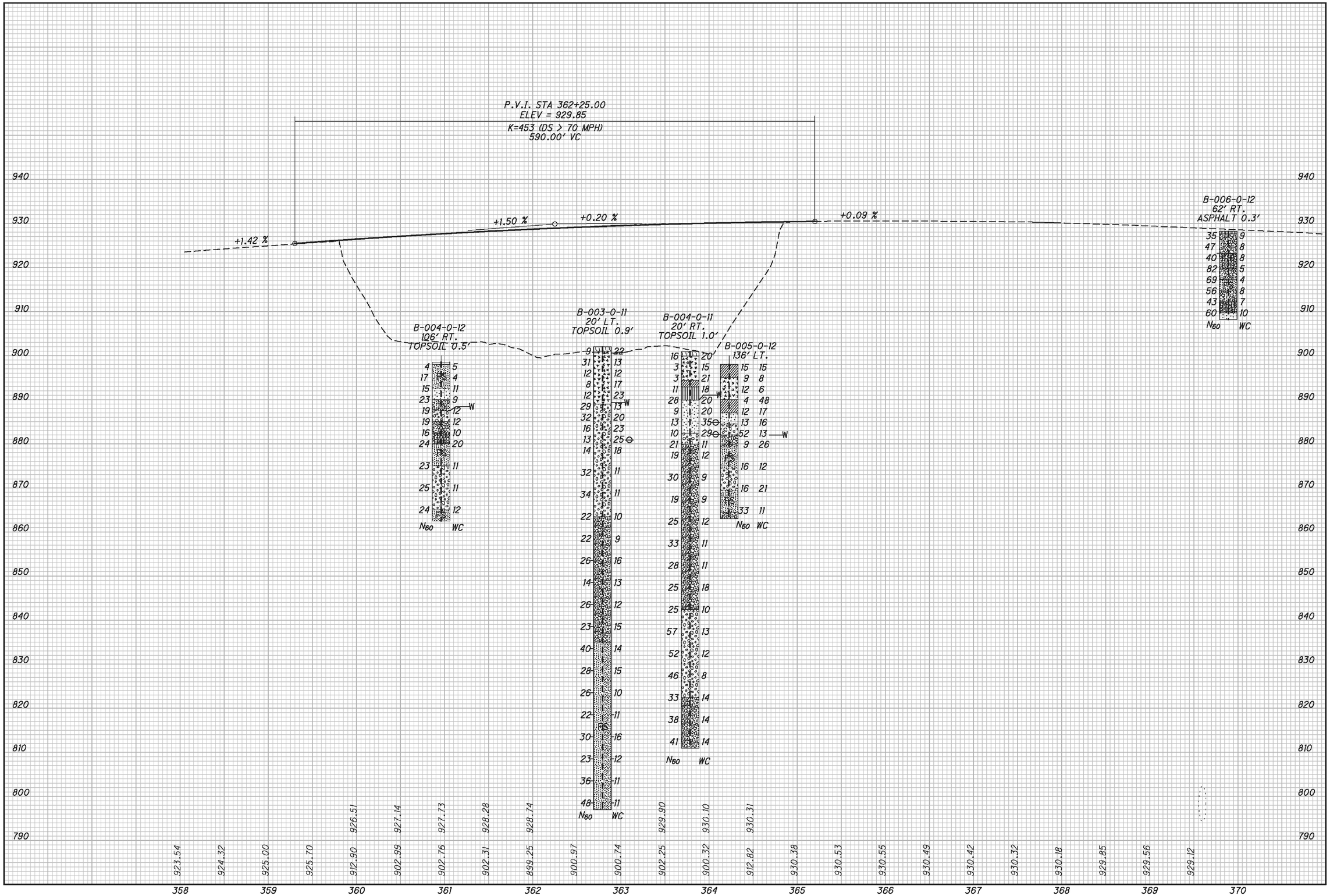
CALCULATED PRS
CHECKED PEK

PLAN AND PROFILE
STA 344+00 TO STA 358+00

TUS-77-25.95



3/14	TUS-77-25.95	PLAN STA 358+00 TO STA 370+50	CALCULATED PRS CHECKED PEK	0 25 50 100 HORIZONTAL SCALE IN FEET



DRAWN TLM
CHECKED MWW

PROFILE

TUS-77-25.95

$DATE$ $TIME$
$FILE$

PROJECT: TUS-77-25.92	DRILLING FIRM / OPERATOR: TTL / TB	DRILL RIG: CME 550X ATV	STATION / OFFSET: 362+91, 20 LT	EXPLORATION ID B-003-0-11
TYPE: BRIDGE REPLACEMENT	SAMPLING FIRM / LOGGER: TTL / TLM	HAMMER: CME AUTOMATIC	ALIGNMENT: SR-77	
PID: 87890 BR ID: TUS-77-25.92	DRILLING METHOD: HSA & MUD ROTARY	CALIBRATION DATE: 12/28/09	ELEVATION: 902.0 (MSL) EOB: 105.0 ft.	PAGE 1 OF 1
START: 7/26/11 END: 7/27/11	SAMPLING METHOD: SPT	ENERGY RATIO (%): 66	LAT / LONG: Not Recorded	

MATERIAL DESCRIPTION AND NOTES	ELEV. 902.0	DEPTHS	SPT/RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL - 11 INCHES	901.1																	
STIFF, DARK BROWN, **SILT AND CLAY**, SOME SAND AND TRACE BRICK FRAGMENTS, MOIST FILL	899.0	2.5	2 3 5	9	100	SS-1	1.25	-	-	-	-	-	-	-	-	22	A-6a (V)	
MEDIUM DENSE, DARK BROWN, **FINE SAND**, LITTLE SLAG AND TRACE SILT, MOIST FILL	896.0	5.0	10 11 17	31	100	SS-2	NP	-	-	-	-	-	-	-	-	13	A-3 (V)	
MEDIUM DENSE, RED, BRICK FRAGMENTS AND LITTLE SAND, MOIST FILL	894.0	7.5	3 5 6	12	100	SS-3	NP	-	-	-	-	-	-	-	-	12	A-1-b (V)	
MEDIUM STIFF, GRAY, **SANDY SILT**, LITTLE BRICK FRAGMENTS AND ROOTS, MOIST FILL	891.5	10.0	10 4 3	8	100	SS-4	NP	-	-	-	-	-	-	-	-	17	A-4a (V)	
STIFF, BROWN, **SILT AND CLAY**, SOME BRICK FRAGMENTS, MOIST FILL	889.0	12.5	4 5 6	12	100	SS-5	1.25	0	6	23	38	33	29	18	11	23	A-6a (8)	
MEDIUM DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS**, SOME SAND,LITTLE SILT,AND TRACE CLAY, MOIST		W 15.0	11 16 10	29	100	SS-6	NP	-	-	-	-	-	-	-	-	13	A-1-a (V)	
		17.5	8 14 15	32	100	SS-7	NP	60	13	12	13	2	NP	NP	NP	20	A-1-a (0)	
		20.0	11 10 5	16	100	SS-8	NP	-	-	-	-	-	-	-	-	23	A-1-a (V)	
-GRAY/BROWN		22.5	2 3 9	13	100	SS-9	NP	-	-	-	-	-	-	-	-	25	A-1-a (V)	
		25.0	4 6 7	14	100	SS-10	NP	-	-	-	-	-	-	-	-	18	A-1-a (V)	
		27.5																
-BROWN/GRAY TRACE SILT		30.0	10 12 17	32	100	SS-11	NP	65	21	7	5	2	NP	NP	NP	11	A-1-a (0)	
	868.5	32.5																
DENSE, BROWN/GRAY, **GRAVEL AND STONE FRAGMENTS**, LITTLE SAND AND TRACE SILT, MOIST		35.0	12 15 16	34	100	SS-12	NP	-	-	-	-	-	-	-	-	11	A-1-a (V)	
	863.5	37.5																
MEDIUM DENSE, BROWN/GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND**, LITTLE SILT AND TRACE CLAY, MOIST		40.0	13 9 11	22	100	SS-13	NP	45	27	13	13	2	NP	NP	NP	10	A-1-b (0)	
		42.5																
		45.0	8 9 11	22	100	SS-14	NP	-	-	-	-	-	-	-	-	9	A-1-b (V)	
		47.5																
		50.0	11 12 12	26	100	SS-15	NP	-	-	-	-	-	-	-	-	16	A-1-b (V)	
		52.5																
-GRAY TRACE SILT		55.0	2 4 9	14	100	SS-16	NP	46	35	10	7	2	NP	NP	NP	13	A-1-b (0)	
		57.5																
		60.0	9 9 15	26	100	SS-17	NP	-	-	-	-	-	-	-	-	12	A-1-b (V)	
		62.5																
-BROWN		65.0	12 10 11	23	100	SS-18	NP	-	-	-	-	-	-	-	-	15	A-1-b (V)	
	835.0	67.5																
DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT AND CLAY, MOIST		70.0	11 15 21	40	100	SS-19	NP	-	-	-	-	-	-	-	-	14	A-1-b (V)	
	830.0	72.5																
MEDIUM DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT AND CLAY, MOIST		75.0	6 13 12	28	100	SS-20	NP	-	-	-	-	-	-	-	-	15	A-1-b (V)	
		77.5																
		80.0	8 11 13	26	100	SS-21	NP	-	-	-	-	-	-	-	-	10	A-1-b (V)	
		82.5																
		85.0	6 9 11	22	100	SS-22	NP	47	29	13	8	3	NP	NP	NP	11	A-1-b (0)	
		87.5																
-TRACE GRAVEL		90.0	11 17 10	30	100	SS-23	NP	-	-	-	-	-	-	-	-	16	A-1-b (V)	
		92.5																
-LITTLE GRAVEL		95.0	15 11 10	23	100	SS-24	NP	-	-	-	-	-	-	-	-	12	A-1-b (V)	
	803.5	97.5																
DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT AND CLAY, MOIST		100.0	18 14 19	36	100	SS-25	NP	40	30	18	9	3	NP	NP	NP	11	A-1-b (0)	
		102.5																
	797.0	EOB 105.0	17 20 24	48	100	SS-26	NP	-	-	-	-	-	-	-	-	11	A-1-b (V)	

NOTES: HSA TO 25 FT., MUD ROTARY TO 45 FT., BACK TO HSA TO 85 FT., AND MUD ROTARY TO 105 FT. BOREHOLE CAVED AT 14 FT. DURING AUGER REMOVAL.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 24 CF CEMENT-BENTONITE GROUT

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 7/29/13 11:47 - C:\USERS\TMONACO\DESKTOP\GEOTECH\30 SUBSURFACE\7606.01.GPJ

$DATE$ $TIME$
$FILE$

PROJECT: TUS-77-25.92	DRILLING FIRM / OPERATOR: TTL / TB	DRILL RIG: CME 550X ATV	STATION / OFFSET: 363+90, 20 RT	EXPLORATION ID B-004-0-11
TYPE: BRIDGE REPLACEMENT	SAMPLING FIRM / LOGGER: TTL / TLM	HAMMER: CME AUTOMATIC	ALIGNMENT: SR-77	
PID: 87890 BR ID: TUS-77-25.92	DRILLING METHOD: HSA & MUD ROTARY	CALIBRATION DATE: 12/28/09	ELEVATION: 900.9 (MSL) EOB: 90.0 ft.	PAGE 1 OF 1
START: 7/27/11 END: 7/28/11	SAMPLING METHOD: SPT	ENERGY RATIO (%): 66	LAT / LONG: Not Recorded	

MATERIAL DESCRIPTION AND NOTES	ELEV. 900.9	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL - 12 INCHES	899.9																	
STIFF, DARK BROWN, **SANDY SILT**, LITTLE ROOTS AND GRAVEL, MOIST FILL	897.4	2.5	9 10 5	16	100	SS-1	1.50	-	-	-	-	-	-	-	-	20	A-4a (V)	
STIFF, BROWN, **SILT AND CLAY**, SOME SAND AND LITTLE BRICK FRAGMENTS, MOIST FILL	894.4	5.0	5 1 2	3	100	SS-2	1.25	-	-	-	-	-	-	-	-	15	A-6a (V)	
STIFF, BROWN, **SILT AND CLAY**, LITTLE SAND AND GRAVEL, MOIST	892.9	7.5	2 1 2	3	100	SS-3	1.75	-	-	-	-	-	-	-	-	21	A-6a (V)	
STIFF, BROWN, **SANDY SILT**, SOME GRAVEL AND LITTLE CLAY, MOIST	889.9	10.0	2 5 5	11	100	SS-4	0.75	29	20	14	26	11	25	18	7	18	A-4a (0)	
MEDIUM DENSE, BROWN, **COARSE AND FINE SAND**, SOME SILT,LITTLE GRAVEL,AND TRACE CLAY, MOIST	887.9	12.5	1 12 13	28	100	SS-5	NP	10	15	49	21	5	NP	NP	NP	20	A-3a (0)	
LOOSE, BROWN, **COARSE AND FINE SAND**, SOME SILT AND LITTLE GRAVEL, MOIST	884.9	15.0	2 4 4	9	100	SS-6	NP	-	-	-	-	-	-	-	-	20	A-3a (V)	
MEDIUM DENSE, BROWN, **COARSE AND FINE SAND**, SOME SILT AND LITTLE GRAVEL, WET FREE WATER IN JAR NOTED	882.4	17.5	3 6 6	13	100	SS-7	NP	-	-	-	-	-	-	-	-	35	A-3a (V)	
LOOSE, BROWN, **GRAVEL AND STONE FRAGMENTS**, SOME SAND, TRACE SILT,AND CLAY, WET FREE WATER IN JAR NOTED	879.9	20.0	4 4 5	10	100	SS-8	NP	61	18	9	9	3	NP	NP	NP	29	A-1-a (0)	
MEDIUM DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT AND CLAY, MOIST		22.5	8 8 11	21	100	SS-9	NP	-	-	-	-	-	-	-	-	11	A-1-b (V)	
		25.0	4 8 9	19	100	SS-10	NP	-	-	-	-	-	-	-	-	12	A-1-b (V)	
		27.5																
		30.0	7 13 14	30	100	SS-11	NP	-	-	-	-	-	-	-	-	9	A-1-b (V)	
		32.5																
		35.0	6 9 8	19	100	SS-12	NP	-	-	-	-	-	-	-	-	9	A-1-b (V)	
		37.5																
		40.0	7 9 14	25	100	SS-13	NP	45	29	16	8	2	NP	NP	NP	12	A-1-b (0)	
		42.5																
		45.0	5 10 20	33	100	SS-14	NP	-	-	-	-	-	-	-	-	11	A-1-b (V)	
		47.5																
		50.0	8 11 14	28	100	SS-15	NP	-	-	-	-	-	-	-	-	11	A-1-b (V)	
		52.5																
-GRAY/BROWN		55.0	7 8 15	25	100	SS-16	NP	-	-	-	-	-	-	-	-	18	A-1-b (V)	
	842.4	57.5																
MEDIUM DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS**, SOME SAND,TRACE SILT,AND CLAY, MOIST		60.0	6 10 13	25	100	SS-17	NP	62	20	11	5	2	NP	NP	NP	10	A-1-a (0)	
	837.4	62.5																
DENSE, BROWN/GRAY, **GRAVEL AND STONE FRAGMENTS**, SOME SAND,TRACE SILT,AND CLAY, MOIST		65.0	15 22 30	57	100	SS-18	NP	-	-	-	-	-	-	-	-	13	A-1-a (V)	
		67.5																
-BROWN		70.0	10 19 28	52	100	SS-19	NP	-	-	-	-	-	-	-	-	12	A-1-a (V)	
		72.5																
-GRAY/BROWN		75.0	12 20 22	46	100	SS-20	NP	65	20	8	5	2	NP	NP	NP	8	A-1-a (0)	
	822.4	77.5																
MEDIUM DENSE, BROWN/GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND**, LITTLE SILT AND TRACE CLAY, MOIST		80.0	10 12 18	33	100	SS-21	NP	-	-	-	-	-	-	-	-	14	A-1-b (V)	
	817.4	82.5																
DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT AND CLAY, MOIST		85.0	12 15 20	38	100	SS-22	NP	31	45	12	9	3	NP	NP	NP	14	A-1-b (0)	
		87.5																
	810.9	EOB 90.0	14 17 20	41	100	SS-23	NP	-	-	-	-	-	-	-	-	14	A-1-b (V)	

NOTES: HSA TO 83.5 FT., 3 FT. HEAVE AT 83.5 FT., SWITCH TO MUD ROTARY AT 83.5 FT. TO COMPLETE BORING.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 26 CF CEMENT-BENTONITE GROUT

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 7/29/13 11:47 - C:\USERS\TMONACO\DESKTOP\GEOTECH\30 SUBSURFACE\7606.01.GPJ

TUS-77-25.95

STRUCTURE FOUNDATION EXPLORATION

BRIDGE NO. TUS-77-2595

DRAWN TLM

CHECKED MWW

$DATE$ $TIME$
$FILE$

PROJECT: TUS-77-25.95	DRILLING FIRM / OPERATOR: TTL / NW	DRILL RIG: CME 550X ATV	STATION / OFFSET: 348+80, 62 RT	EXPLORATION ID B-001-0-12
TYPE: BRIDGE REPLACEMENT	SAMPLING FIRM / LOGGER: TTL / TLM	HAMMER: CME AUTOMATIC	ALIGNMENT: IR-77	
PID: 87890 BR ID: TUS-77-25.95	DRILLING METHOD: PAVE CORE W/3.25" HSA	CALIBRATION DATE: 1/16/12	ELEVATION: 905.0 (MSL) EOB: 20.0 ft.	PAGE 1 OF 1
START: 9/14/12 END: 9/14/12	SAMPLING METHOD: SPT / ST	ENERGY RATIO (%): 79.8	COORD: 327148.634 N, 2244861.306 E	

MATERIAL DESCRIPTION AND NOTES	ELEV. 905.0	DEPTHS	SPT/RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	ABAN-DONED
ASPHALT - 13 INCHES	903.9																	
DENSE, GRAY/BROWN, **COARSE AND FINE SAND**, SOME SILT AND LITTLE GRAVEL, DAMP **EMBANKMENT FILL**	903.7	2.5	8 20 24	59	33	SS-1	NP	-	-	-	-	-	-	-	-	11	A-3a (V)	
MEDIUM STIFF TO STIFF, GRAY/BROWN, **SANDY SILT**, LITTLE GRAVEL AND CLAY, DAMP **EMBANKMENT FILL**		5.0	9 9 6	20	100	SS-2	1.25	-	-	-	-	-	-	-	-	11	A-4a (V)	
@5': STIFF, GRAY		7.5	3 4 6	13	100	SS-3	1.00	-	-	-	-	-	-	-	-	17	A-4a (V)	
@8': BROWN, TRACE SLAG							1.50	-	-	-	-	-	-	-	-	18	A-4a (V)	
@8.5': GRAY/BROWN					92	ST-4												
@9': GRAY	895.0	10.0					1.00	17	12	32	24	15	19	15	4	18	A-4a (1)	
LOOSE, GRAY, **FINE SAND**, TRACE SILT, WET **EMBANKMENT FILL**	894.0																	
VERY STIFF, GRAY, **SILT AND CLAY**, "AND" SAND, MOIST **EMBANKMENT FILL**	891.5	12.5	7 2 3	7	100	SS-5	2.25	-	-	-	-	-	-	-	-	20	A-6a (V)	
MEDIUM DENSE, RED/BLACK, **FINE SAND**, SOME BRICK FRAGMENTS AND TRACE SILT, DAMP **EMBANKMENT FILL**	889.0	15.0	5 10 12	29	67	SS-6	NP	-	-	-	-	-	-	-	-	9	A-3 (V)	
MEDIUM DENSE, BROWN/GRAY, **COARSE AND FINE SAND**, SOME SILT, TRACE CLAY, AND GRAVEL, DAMP	886.5	17.5	3 3 5	11	100	SS-7	NP	1	19	49	23	8	NP	NP	NP	19	A-3a (0)	
DENSE, BROWN, **COARSE AND FINE SAND**, SOME SILT AND GRAVEL, DAMP	885.0	EOB 20.0	8 15 16	41	100	SS-8	NP	-	-	-	-	-	-	-	-	8	A-3a (V)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; PUMPED 5 CF CEMENT-BENTONITE GROUT

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - C:\USERS\TMONACO\DESKTOP\GEOTECH\30 SUBSURFACE\30 SUBSURFACE\7606.02.GPJ - OH DOT.GDT - 7/29/13 11:40

PROJECT: TUS-77-25.95	DRILLING FIRM / OPERATOR: TTL / NW	DRILL RIG: CME 550X ATV	STATION / OFFSET: 352+52, 125 RT	EXPLORATION ID B-002-0-12
TYPE: BRIDGE REPLACEMENT	SAMPLING FIRM / LOGGER: TTL / TLM	HAMMER: CME AUTOMATIC	ALIGNMENT: IR-77	
PID: 87890 BR ID: TUS-77-25.95	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 1/16/12	ELEVATION: 892.4 (MSL) EOB: 25.0 ft.	PAGE 1 OF 1
START: 9/13/12 END: 9/13/12	SAMPLING METHOD: SPT	ENERGY RATIO (%): 79.8	COORD: 327524.231 N, 2244829.789 E	

MATERIAL DESCRIPTION AND NOTES	ELEV. 892.4	DEPTHS	SPT/RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	ABAN-DONED
TOPSOIL - 3 INCHES	892.1																	
VERY STIFF, BROWN, **SILT AND CLAY**, "AND" SAND, DAMP	888.9	2.5	3 5 8	17	100	SS-1	2.50	-	-	-	-	-	-	-	-	16	A-6a (V)	
MEDIUM DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS**, "AND" SAND, TRACE SILT, DAMP		5.0	5 9 9	24	100	SS-2	NP	51	34	11	-	4 -	NP	NP	NP	6	A-1-a (0)	
@6': DENSE	883.9	7.5	14 14 11	33	100	SS-3	NP	-	-	-	-	-	-	-	-	8	A-1-a (V)	
MEDIUM DENSE, GRAY, **COARSE AND FINE SAND**, SOME SILT AND LITTLE GRAVEL, DAMP	881.4	10.0	3 4 6	13	100	SS-4	NP	-	-	-	-	-	-	-	-	14	A-3a (V)	
MEDIUM DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT, DAMP	878.9	12.5	4 4 7	15	100	SS-5	NP	-	-	-	-	-	-	-	-	11	A-1-b (V)	
MEDIUM DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT, DAMP	876.4	15.0	3 4 6	13	100	SS-6	NP	-	-	-	-	-	-	-	-	10	A-1-b (V)	
MEDIUM DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS**, SOME SAND AND TRACE SILT, MOIST		17.5	5 6 6	16	100	SS-7	NP	68	22	7	-	3 -	NP	NP	NP	11	A-1-a (0)	
		20.0	4 5 8	17	100	SS-8	NP	-	-	-	-	-	-	-	-	18	A-1-a (V)	
		22.5																
@23.5': DAMP	867.4	EOB 25.0	6 7 9	20	100	SS-9	NP	-	-	-	-	-	-	-	-	11	A-1-a (V)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 7 CF CEMENT-BENTONITE GROUT

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - C:\USERS\TMONACO\DESKTOP\GEOTECH\30 SUBSURFACE\30 SUBSURFACE\7606.02.GPJ - OH DOT.GDT - 7/29/13 11:40

TUS-77-25.95

STRUCTURE FOUNDATION EXPLORATION

BRIDGE NO. TUS-77-2595

DRAWN TLM
CHECKED MWW

$DATE$ $TIME$
$FILE$

PROJECT: TUS-77-25.95	DRILLING FIRM / OPERATOR: TTL / NW	DRILL RIG: CME 550X ATV	STATION / OFFSET: 355+32, 141 RT	EXPLORATION ID B-003-0-12
TYPE: BRIDGE REPLACEMENT	SAMPLING FIRM / LOGGER: TTL / TLM	HAMMER: CME AUTOMATIC	ALIGNMENT: IR-77	
PID: 87890 BR ID: TUS-77-25.95	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 1/16/12	ELEVATION: 896.8 (MSL) EOB: 25.0 ft.	PAGE 1 OF 1
START: 9/13/12 END: 9/13/12	SAMPLING METHOD: SPT	ENERGY RATIO (%): 79.8	COORD: 327792.152 N, 2244777.655 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	ABAN-DONED
TOPSOIL - 3 INCHES	896.5																	
VERY STIFF TO HARD, BROWN, **SANDY SILT**, TRACE ROOT HAIRS, DAMP **EMBANKMENT FILL**		2.5	3 5 8	17	100	SS-1	NP	-	-	-	-	-	-	-	-	11	A-4a (V)	
@3.5': MOIST	890.8	5.0	6 9 12	28	100	SS-2	4.50	-	-	-	-	-	-	-	-	20	A-4a (V)	
LOOSE, BROWN, **COARSE AND FINE SAND**, SOME SILT, DAMP		7.5	4 3 4	9	100	SS-3	NP	-	-	-	-	-	-	-	-	14	A-3a (V)	
@8.5': MEDIUM DENSE, TRACE GRAVEL AND ROOT	885.8	W 10.0	4 5 4	12	22	SS-4	NP	-	-	-	-	-	-	-	-	13	A-3a (V)	
LOOSE, BROWN, **FINE SAND**, SOME GRAVEL, TRACE SILT, AND CLAY, WET	883.3	12.5	1 1 3	5	100	SS-5	NP	20	19	53	7	1	NP	NP	NP	25	A-3 (0)	
MEDIUM DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT**, DAMP	880.8	15.0	2 5 5	13	100	SS-6	NP	-	-	-	-	-	-	-	-	13	A-2-4 (V)	
MEDIUM DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT, DAMP	878.3	17.5	5 8 9	23	100	SS-7	NP	-	-	-	-	-	-	-	-	9	A-1-b (V)	
MEDIUM DENSE, BROWN, **FINE SAND**, TRACE SILT AND GRAVEL, MOIST		20.0	7 6 9	20	100	SS-8	NP	-	-	-	-	-	-	-	-	17	A-3 (V)	
		22.5																
	871.8	EOB 25.0	3 4 9	16	100	SS-9	NP	-	-	-	-	-	-	-	-	20	A-3 (V)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 7 CF CEMENT-BENTONITE GROUT

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 7/29/13 11:40 - C:\USERS\TMONACO\DESKTOP\GEOTECH\30 SUBSURFACE\30 SUBSURFACE\7606.02.GPJ

PROJECT: TUS-77-25.95	DRILLING FIRM / OPERATOR: TTL / NW	DRILL RIG: CME 550X ATV	STATION / OFFSET: 361+08, 106 RT	EXPLORATION ID B-004-0-12
TYPE: BRIDGE REPLACEMENT	SAMPLING FIRM / LOGGER: TTL / TLM	HAMMER: CME AUTOMATIC	ALIGNMENT: IR-77	
PID: 87890 BR ID: TUS-77-25.95	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 1/16/12	ELEVATION: 898.5 (MSL) EOB: 35.0 ft.	PAGE 1 OF 1
START: 9/12/12 END: 9/12/12	SAMPLING METHOD: SPT	ENERGY RATIO (%): 79.8	COORD: 328348.295 N, 2244598.707 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	ABAN-DONED
TOPSOIL - 6 INCHES	898.0																	
VERY LOOSE, BROWN/RED, **FINE SAND**, TRACE SILT AND BRICK FRAGMENTS, DAMP **EMBANKMENT FILL**	896.0	2.5	1 1 2	4	33	SS-1	NP	-	-	-	-	-	-	-	-	5	A-3 (V)	
MEDIUM DENSE, BROWN/PINK, **FINE SAND**, LITTLE BRICK FRAGMENTS AND TRACE SILT, DAMP **EMBANKMENT FILL**	892.5	5.0	3 5 8	17	100	SS-2	NP	-	-	-	-	-	-	-	-	4	A-3 (V)	
MEDIUM DENSE, BROWN, **COARSE AND FINE SAND**, SOME SILT, DAMP	890.0	7.5	11 5 6	15	100	SS-3	NP	-	-	-	-	-	-	-	-	11	A-3a (V)	
MEDIUM DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT, DAMP	887.5	10.0	4 9 8	23	100	SS-4	NP	-	-	-	-	-	-	-	-	9	A-1-b (V)	
MEDIUM DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS**, SOME SAND AND TRACE SILT, DAMP	885.0	W 12.5	3 7 7	19	100	SS-5	NP	71	8	14	-	7 -	NP	NP	NP	12	A-1-a (0)	
MEDIUM DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT, DAMP	882.5	15.0	5 9 5	19	100	SS-6	NP	-	-	-	-	-	-	-	-	12	A-1-b (V)	
MEDIUM DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT**, DAMP	880.0	17.5	3 5 7	16	100	SS-7	NP	-	-	-	-	-	-	-	-	10	A-2-4 (V)	
MEDIUM DENSE, BROWN, **FINE SAND**, TRACE SILT, MOIST		20.0	8 7 11	24	22	SS-8	NP	-	-	-	-	-	-	-	-	20	A-3 (V)	
	875.0	22.5																
MEDIUM DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS**, "AND" SAND, TRACE SILT, DAMP		25.0	3 7 10	23	100	SS-9	NP	59	32	6	-	3 -	NP	NP	NP	11	A-1-a (0)	
		27.5																
		30.0	2 6 13	25	100	SS-10	NP	-	-	-	-	-	-	-	-	11	A-1-a (V)	
	865.0	32.5																
MEDIUM DENSE, BROWN, **FINE SAND**, TRACE SILT, DAMP	863.5	EOB 35.0	8 8 10	24	17	SS-11	NP	-	-	-	-	-	-	-	-	12	A-3 (V)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 10 CF CEMENT-BENTONITE GROUT

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 7/29/13 11:40 - C:\USERS\TMONACO\DESKTOP\GEOTECH\30 SUBSURFACE\30 SUBSURFACE\7606.02.GPJ

TUS-77-25.95

STRUCTURE FOUNDATION EXPLORATION

BRIDGE NO. TUS-77-2595

DRAWN TLM
CHECKED MWW

$DATE$ $TIME$
$FILE$

PROJECT: TUS-77-25.95	DRILLING FIRM / OPERATOR: TTL / NW	DRILL RIG: CME 550X ATV	STATION / OFFSET: 364+56, 137 RT	EXPLORATION ID B-005-0-12
TYPE: BRIDGE REPLACEMENT	SAMPLING FIRM / LOGGER: TTL / TLM	HAMMER: CME AUTOMATIC	ALIGNMENT: IR-77	
PID: 87890 BR ID: TUS-77-25.95	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 1/16/12	ELEVATION: 898.0 (MSL) EOB: 35.0 ft.	PAGE 1 OF 1
START: 9/13/12 END: 9/13/12	SAMPLING METHOD: SPT	ENERGY RATIO (%): 79.8	COORD: 328672.612 N, 2244547.356 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	ABAN-DONED
STIFF, BROWN, **SILT AND CLAY**, LITTLE SAND AND ROOT HAIRS, DAMP **EMBANKMENT FILL**	898.0 / 895.0	2.5	4 5 6	15	100	SS-1	1.50	-	-	-	-	-	-	-	-	15	A-6a (V)	
LOOSE, RED, **BRICK FRAGMENTS**, TRACE SAND, DAMP **EMBANKMENT FILL**		5.0	4 4 3	9	100	SS-2	NP	-	-	-	-	-	-	-	-	8	A-1-a (V)	
@6': TRACE ROOTS and ROOT HAIRS	890.0	7.5	4 5 4	12	33	SS-3	NP	-	-	-	-	-	-	-	-	6	A-1-a (V)	
MEDIUM STIFF, GRAY, **SILT AND CLAY**, TRACE SAND AND ORGANICS, MOIST (ORGANIC ODOR NOTED) LOI = 8.4%	887.0	10.0	1 1 2	4	67	SS-4	0.75	-	-	-	-	-	-	-	-	48	A-6a (V)	
MEDIUM DENSE, GRAY, **COARSE AND FINE SAND**, SOME SILT, MOIST	884.5	12.5	2 4 5	12	100	SS-5	NP	-	-	-	-	-	-	-	-	17	A-3a (V)	
MEDIUM DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS**, SOME SAND AND LITTLE SILT, MOIST	882.0	15.0	2 4 6	13	100	SS-6	NP	56	18	14	-	12 -	NP	NP	NP	16	A-1-a (0)	
VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT, MOIST	879.5	W 17.5	4 19 20	52	100	SS-7	NP	-	-	-	-	-	-	-	-	13	A-1-b (V)	
LOOSE, GRAY, **FINE SAND**, TRACE SILT, MOIST	874.5	20.0 / 22.5	3 3 4	9	100	SS-8	NP	-	-	-	-	-	-	-	-	26	A-3 (V)	
MEDIUM DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS**, SOME SAND AND TRACE SILT, MOIST	869.5	25.0 / 27.5	14 6 6	16	100	SS-9	NP	62	25	9	-	4 -	NP	NP	NP	12	A-1-a (0)	
MEDIUM DENSE, GRAY, **FINE SAND**, TRACE SILT, WET (FREE WATER NOTED IN JAR)	864.5	30.0 / 32.5	12 6 6	16	100	SS-10	NP	-	-	-	-	-	-	-	-	21	A-3 (V)	
DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT, MOIST	863.0	EOB 35.0	12 12 13	33	100	SS-11	NP	-	-	-	-	-	-	-	-	11	A-1-b (V)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 10 CF CEMENT-BENTONITE GROUT

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 7/29/13 11:40 - C:\USERS\TMONACO\DESKTOP\GEOTECH\30 SUBSURFACE\30 SUBSURFACE\7606.02.GPJ

PROJECT: TUS-77-25.95	DRILLING FIRM / OPERATOR: TTL / NW	DRILL RIG: CME 550X ATV	STATION / OFFSET: 370+01, 63 RT	EXPLORATION ID B-006-0-12
TYPE: BRIDGE REPLACEMENT	SAMPLING FIRM / LOGGER: TTL / TLM	HAMMER: CME AUTOMATIC	ALIGNMENT: IR-77	
PID: 87890 BR ID: TUS-77-25.95	DRILLING METHOD: PAVE CORE W/3.25" HSA	CALIBRATION DATE: 1/16/12	ELEVATION: 928.2 (MSL) EOB: 20.0 ft.	PAGE 1 OF 1
START: 9/14/12 END: 9/14/12	SAMPLING METHOD: SPT	ENERGY RATIO (%): 79.8	COORD: 329202.601 N, 2244334.506 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	ABAN-DONED
ASPHALT - 3.5 INCHES	927.9																	
DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT, MOIST **EMBANKMENT FILL**	923.2	2.5	6 10 16	35	67	SS-1	NP	-	-	-	-	-	-	-	-	9	A-1-b (V)	
DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT**, MOIST **EMBANKMENT FILL**	919.7	5.0	7 14 21	47	67	SS-2	NP	53	19	12	12	4	NP	NP	NP	8	A-1-b (0)	
VERY DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT, MOIST **EMBANKMENT FILL**	917.2	7.5	12 15 15	40	100	SS-3	NP	-	-	-	-	-	-	-	-	8	A-2-4 (V)	
VERY DENSE, BROWN, **FINE SAND**, TRACE SILT, MOIST **EMBANKMENT FILL**	914.7	10.0	22 32 30	82	100	SS-4	NP	-	-	-	-	-	-	-	-	5	A-1-b (V)	
VERY DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT, MOIST **EMBANKMENT FILL**	912.2	12.5	10 26 26	69	100	SS-5	NP	-	-	-	-	-	-	-	-	4	A-3 (V)	
DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT**, MOIST **EMBANKMENT FILL**	909.7	15.0	20 21 21	56	100	SS-6	NP	-	-	-	-	-	-	-	-	8	A-1-b (V)	
DENSE, BROWN, **COARSE AND FINE SAND**, SOME SILT, TRACE GRAVEL, AND WOOD, MOIST **EMBANKMENT FILL**	908.2	17.5	12 11 21	43	100	SS-7	NP	-	-	-	-	-	-	-	-	7	A-2-4 (V)	
		EOB 20.0	23 28 17	60	100	SS-8	NP	-	-	-	-	-	-	-	-	10	A-3a (V)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; PUMPED 5 CF CEMENT-BENTONITE GROUT

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 7/29/13 11:41 - C:\USERS\TMONACO\DESKTOP\GEOTECH\30 SUBSURFACE\30 SUBSURFACE\7606.02.GPJ

State of Ohio
Department of Highways
Testing Laboratory

LOG OF BORING

Date Started 6-21-62 Sampler: Type SS Dia. 1 3/8" Water Elev. 889.7
Date Completed 6-26-62 Casing: Length 55' Dia. 3 1/2"

Project Identification: TUSCARAWAS
TUS-21-30.64
TUS-21-3254 B
USR 21 OVER PENNA RR.

Boring No. B-4 Station & Offset 360+64, 26'RT (THIRD PIER) Surface Elev. 898.5

Elev	Depth	Std. Pen. (N)	Description	Field No.	Lab. Nos. So.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class
898.5	0													
	2													
	4													
893.5	6	12/14	Red & Brown Brickbats (Fill Material)	1			V	I	S	U	A	L		
	8													
888.5	10	10/11	Brown Sandy Gravel	2	70546	61	27	9	-3-		NP	NP	10	
886.0	12													
	14	13/20	Brown Silty Sandy Gravel	3	70547		V	I	S	U	A	L	13	
883.5	16	15/23	Brown Silty Sandy Gravel	4	70548		V	I	S	U	A	L	14	
	18													
878.5	20	6/12	Brown Sandy Gravel	5	70549	56	37	3	-4-		NP	NP	13	
	22													
	24													
873.5	26	16/17	Brown Sandy Gravel	6	70550	59	20	16	-5-		NP	NP	33	
	28													
868.5	30	17/18	No Sample Recovered											
	32													
	34													
862.5	36	12/18	No Sample Recovered											

Particle Sizes: Agg = >2.00mm, Coarse Sand = 2.00 - 0.42mm, Fine Sand = 0.42 - 0.074mm, Silt = 0.074 - 0.005mm, Clay = <0.005mm

SHEET 6 of 65 sheets

Boring No. B-4 Station & Offset 360+64, 26'RT Surface Elev. 898.5 Project: TUS-21-3254 B

Elev.	Depth	Std. Pen. (N)	Description	Field No.	Lab. Nos. So.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
	38													
858.5	40	10/16	Brown Sandy Gravel	7	70551	79	13	6	-2-		NP	NP	25	
	42													
	44													
853.5	46	18/20	Brown Sand (Wash Sample)	8			V	I	S	U	A	L		
	48													
848.5	50	25/43	Brown Sand (Wash Sample)	9			V	I	S	U	A	L		
	52													
	54													
842.5	56													
	58		BOTTOM OF BORING											
	60													
	62													
	64													
	66													
	68													
	70													
	72													
	74													
	76													
	78													
	80													

SHEET 7 of 65 sheets

State of Ohio
Department of Highways
Testing Laboratory

LOG OF BORING

Date Started 6-26-62 Sampler: Type SS Dia. 1 3/8" Water Elev.
Date Completed 6-27-62 Casing: Length 50' Dia. 3 1/2"

Project Identification: TUSCARAWAS
TUS-21-03.64
TUS-21-3254 B
US6 21 OVER PENNA RR

Boring No. B-15 Station & Offset 363+23, 62' Rt. (ELEVENTH PIER) Surface Elev. 901.1

Elev	Depth	Std. Pen. (N)	Description	Field No	Lab. Nos.So.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class
901.1	0													
	2													
	4													
896.1	6	2/3	Fill Material - Cinders & Ashes	1			V	I	S	U	A	L		
893.6	8	7/9	Brown Sandy Silt	2	70309	9	6	21	34	30	30	8	25	
891.1	10	7/10	Brown & Gray Sandy Clay	3	70310	6	9	18	40	27	43	23	28	
888.6	12	8/8	Brown & Gray Silty Sandy Gravel	4	70311	51	12	19	11	7	NP	NP	13	
886.1	14	9/6	Brown Sandy Gravel	5	70312	76	12	6	-6-		NP	NP	7	
883.6	16	8/10	Brown Sandy Gravel	6	70313	80	13	4	-3-		NP	NP	14	
881.1	18	22/24	Brown Sand (Wash Sample)	7			V	I	S	U	A	L		
	20													
	22													
876.1	24	20/18	Brown Sandy Gravel	8	70314	69	21	6	-4-		NP	NP	17	
	26													
	28													
871.1	30	23/27	Brown Silty Sandy Gravel	9	70315	61	21	7	-11-		NP	NP	12	
	32													
	34													
866.1	36	16/44	Brown & Gray Sand (Wash Sample)	10			V	I	S	U	A	L		

Particle Sizes: Agg = >2.00mm, Coarse Sand = 2.00 - 0.42mm, Fine Sand = 0.42 - 0.074mm, Silt = 0.074 - 0.005mm, Clay = < 0.005mm

SHEET 8 of 25 sheets

Boring No. B-15 Station & Offset 363+23, 62' Rt. Surface Elev. 901.1 Project: TUS-21-3254 B

Elev.	Depth	Std. Pen. (N)	Description	Field No.	Lab. Nos.So.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
	38													
861.1	40	18/42	Brown & Gray Silty Sandy Gravel	11	70316	61	19	8	-12-		NP	NP	10	
	42													
	44													
856.1	46	30/50	Brown Silty Gravelly Sand	12	70317	16	54	12	-18-		NP	NP	11	
	48													
851.1	50													
850.1		22/52	No Sample Recovered (Brown Sandy Gravel)				V	I	S	U	A	L		
	52		BOTTOM OF BORING											
	54													
	56													
	58													
	60													
	62													
	64													
	66													
	68													
	70													
	72													
	74													
	76													
	78													
	80													

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State of Ohio
Department of Highways
Testing Laboratory

LOG OF BORING

Date Started 6-21-62 Sampler Type SS Dia. 1 3/8" Water Elev. _____
Date Completed 6-26-62 Casing Length 45' Dia. 3 1/2"

Project Identification: TUSCARAWAS
TUS-21-03.64
TUS-21-3254 L
USR 21 OVER PENNA RR

Boring No. B-10 Station & Offset 361+99, 62' Lt. (REAR ABUTMENT) Surface Elev. 907.2

Elev.	Depth	Std. Pen. (N)	Description	Field No.	Lab. Nos. Sa.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL. Class.
907.2	0													
	2													
	4													
902.2	6	6/11	Brown & Black Cinders, Ashes & Brickbats				V	I	S	U	A	L		
899.7	8	2/5	No Sample Recovered											
897.2	10	3/3	Brown & Black Cinders, Ashes & Brickbats				V	I	S	U	A	L		
894.7	12													
	14	3/5	Brown Sandy Silt	4	70564		V	I	S	U	A	L	18	
892.2	16	15/7	Fill Material (Red Brickbats)				V	I	S	U	A	L		
889.7	18	23/43	Brown Silty Sandy Gravel	6	70565	66	15	8	6	5	NP	NP	14	
887.2	20	33/32	Brown Sandy Gravel	7	70566	67	10	13	5	5	NP	NP	12	
884.7	22	10/11	No Sample Recovered (Brown Sandy Gravel)				V	I	S	U	A	L		
882.2	24	50*	Gray Gravel	9			V	I	S	U	A	L		
	26													
	28													
877.2	30	50*	Brown Gravelly Sand (Wash Sample)	10			V	I	S	U	A	L		
	32													
	34													
872.2	36	50/*	Brown Gravelly Sand (Wash Sample)	11			V	I	S	U	A	L		

Fill Material

Particle Size: Agg. = >2.00mm, Coarse Sand=2.00 - 0.42mm, Fine Sand=0.42-0.074mm, Silt=0.074-0.005mm, Clay= <0.005mm

* Refusal

Sheet 2 of 2 Sheets

Boring No. B-10 Station & Offset 361+99, 62' Lt. Surface Elev. 907.2 Project: TUS-21-3254 L

Elev.	Depth	Std. Pen. (N)	Description	Field No.	Lab. Nos. Sa.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL. Class.
	38													
867.2	40	21/42	Brown Sandy Gravel	12	70567	66	20	8	-8-		NP	NP	7	
	42													
	44													
862.2	46	12/50	No Sample Recovered (Brown Sandy Gravel)				V	I	S	U	A	L		
	48													
857.2	50													
856.2		21/50	No Sample Recovered (Brown Sand)				V	I	S	U	A	L		
	52		BOTTOM OF BORING											
	54													
	56													
	58													
	60													
	62													
	64													
	66													
	68													
	70													
	72													
	74													
	76													
	78													
	80													

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State of Ohio
Department of Highways
Testing Laboratory

LOG OF BORING

Date Started 6-26-62 Sampler Type SS Dia 1 3/8" Water Elev 877.8
Date Completed 6-27-62 Casing: Length 50' Dia 3 1/2"

Project Identification: TUSCARAWAS
TUS-21-30.64
TUS-21-3254 L
USR 21 OVER PENNA RR.

Boring No. B-22 Station & Offset 364+22, 62'LT (THIRTEENTH PILR) Surface Elev. 902.8'

Elev	Depth	Std. Pen. (N)	Description	Field No.	Lab. Nos.So	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class
902.8	0													
	2													
	4													
897.8	6	3/2	Red & Brown Brickbats (Fill Material)	1			V	I	S	U	A	L		
	8													
892.8	10	4/3	Brown Sandy Silt	2	70557	0	16	12	24	48	NP	NP	26	
890.3	12													
	14	4/4	Brown Gravelly Sandy Silt	3	70558	23	5	25	26	21	NP	NP	25	
887.8	16	11/15	Brown Silty Sandy Gravel	4	70559	42	21	18	10	9	NP	NP	16	
	18													
882.8	20	15/5	Brown Sandy Gravel	5	70560		V	I	S	U	A	L	12	
880.3	22													
	24	12/10	Brown Sandy Gravel	6	70561	59	20	13	-8-		NP	NP	9	
877.8	26	50*	Brown Sandy Gravel (Wash Sample)	7			V	I	S	U	A	L		
	28													
872.8	30	50*	Gray Gravel	8			V	I	S	U	A	L		
	32													
	34													
867.8	36	50*	Gray Sandy Gravel	9	70562	61	28	6	-5-		NP	NP	24	

Particle Sizes: Agg.= >2.00mm, Coarse Sand=2.00-0.42mm, Fine Sand=0.42-0.074mm, Silt=0.074-0.005mm, Clay= <0.005mm
*Refusal

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Boring No. B-22 Station & Offset 364+22, 62'LT Surface Elev. 902.8 Project: TUS-21-3254 L

Elev.	Depth	Std. Pen. (N)	Description	Field No.	Lab. Nos.So.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
	38													
862.8	40	19/17	Brown & Gray Sandy Gravel	10	70563	75	17	6	-2-		NP	NP	11	
	42													
	44													
857.8	46	14/19	Brown & Gray Sandy Gravel (Wash Sample)	11			V	I	S	U	A	L		
	48													
	50													
852.8 851.8		22/19	Brown Sand (Wash Sample)	12			V	I	S	U	A	L		
	52		BOTTOM OF BORING											
	54													
	56													
	58													
	60													
	62													
	64													
	66													
	68													
	70													
	72													
	74													
	76													
	78													
	80													

SHEET 39 of 65 sheets

State of Ohio
Department of Highways
Testing Laboratory

LOG OF BORING

Date Started 6-27-62 Sampler Type SS Dia. 1 3/8" Water Elev. _____
Date Completed 6-28-62 Casing Length 50' Dia. 3 1/2"

Project Identification: TUSCARAWAS
TUS-21-30.64
TUS-21-3254 L
USR 21 OVER PENNA RR

Boring No. B-29 Station & Offset 366+17, 26' Lt. (FIFTEENTH PIER) Surface Elev. 902.4

Elev.	Depth	Std. Pen. (N)	Description	Field No.	Lab. Nos. So	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class
902.4	0													
	2													
	4													
897.4														
896.4	6	3/7	Fill Material - Red Brickbats	1			V	I	S	U	A	L		
	8													
892.4	10													
		12/19	Brown Silty Gravelly Sand	2	70476	20	17	46	-17-		NP	NP	9	
	12													
	14													
887.4														
	16	35/12	Brown Sandy Gravel (Wash Sample)	3			V	I	S	U	A	L		
884.9	18	24/17	Brown Sandy Gravel (Wash Sample)	4			V	I	S	U	A	L		
882.4	20	12/16	Brown Sandy Gravel (Wash Sample)	5			V	I	S	U	A	L		
879.9	22	9/11	Brown Sandy Gravel (Wash Sample)	6			V	I	S	U	A	L		
	24													
877.4	26	18/23	Brown Sandy Gravel (Wash Sample)	7			V	I	S	U	A	L		
	28													
872.4	30													
		25/34	Brown Sandy Gravel	8	70477	77	11	5	-7-		NP	NP	9	
	32													
	34													
867.4	36	16/20	Brown Gravelly Sand (Wash Sample)	9			V	I	S	U	A	L		

Particle Sizes: Agg = >2.00mm, Coarse Sand = 2.00 - 0.42mm, Fine Sand = 0.42 - 0.074mm, Silt = 0.074 - 0.005mm, Clay = <0.005mm

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Boring No. B-29 Station & Offset 366+17, 26' Lt. Surface Elev. 902.4 Project: TUS-21-3254 L

Elev.	Depth	Std. Pen. (N)	Description	Field No.	Lab. Nos. So	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
	38													
862.4	40													
		25/17	Brown Gravelly Sand (Wash Sample)	10			V	I	S	U	A	L		
	42													
	44													
857.4	46	21/17	Brownish-Gray Gravelly Sand (Wash Sample)	11			V	I	S	U	A	L		
	48													
852.4	50													
851.4		50*	Brown Sand (Wash Sample)	12			V	I	S	U	A	L		
	52		BOTTOM OF BORING											
	54		* Refusal											
	56													
	58													
	60													
	62													
	64													
	66													
	68													
	70													
	72													
	74													
	76													
	78													
	80													

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SPECIAL PROVISIONS

WATERWAY PERMITS CONDITIONS

C-R-S: TUS-77-25.95

PID: 87890

Date: 04/22/2013

1. Waterway Permit Time Restrictions:

Complete all work in streams and wetlands depicted in the plans, Special Provisions, and/or working drawings for temporary fill by October 23, 2014.

For work on streams and wetlands, the Department will consider the Contractor's submission of an extension to the waterway permit end date based on project constraints. In order to be considered, the Contractor must submit a justification to the Engineer at least two months prior to the waterway permit end date.

The Engineer will submit the request for a time extension to ODOT-Office of Environmental Services-Waterway Permits Unit (614-466-7100) for consideration and coordination with the USACE and/or Ohio EPA.

2. Deviations from Permitted Construction Activities:

No deviation from the requirements for work in streams and wetlands depicted in the plans, Special Provisions, and/or working drawings may be made unless a modification has been submitted to ODOT and approved by the appropriate agencies (i.e., USACE, Ohio EPA, USCG, ODNR, and USFWS).

For emergency situations resulting in unanticipated impacts to streams or wetlands, provide notification (verbal or written) to the Engineer as soon as possible following discovery of the situation. Written notification to the Engineer and notification to the ODOT- Office of Environmental Services-Waterway Permits Unit must be made within 24 hours.

For non-emergency situations, notify the Engineer in writing for submission to the ODOT-Office of Environmental Services-Waterway Permits Unit (614-466-7100) for consideration and coordination with the appropriate agencies. Notification must be made at least two months prior to planned, non-permitted activities. Consideration of the requested deviation is at the discretion of the Director and must be coordinated with the appropriate regulatory agencies.

3. In-Stream Work Restrictions:

Work in the following sensitive streams is further restricted as follows:

Steam Name /Description	Location	Work restriction dates (No in-stream work permitted)
UNT of Sugar Creek	STA 3069+54.62	none

In-stream work has been defined as the placement and/or removal of fill materials (temporary or permanent) below ordinary high water of a stream. Examples of "fill" include (but are not limited to) bridge piers, abutments, culverts, rock channel protection, scour protection, and temporary work pads.

Fills (such as temporary work pads) placed within a stream identified in the above table outside of the work restriction dates can continue to be worked from during the work restriction dates, but cannot be expanded, removed, or otherwise modified (below ordinary high water) until once again outside of the work restriction dates.

The Engineer will submit the request for a time extension to ODOT-Office of Environmental Services-Waterway Permits Unit (614-466-7100) for consideration and coordination with the USACE and/or Ohio EPA.

4. Materials:

Materials utilized in or adjacent to streams and wetlands on this project for temporary or permanent fill or bank protection shall consist of suitable material free from toxic contaminants in other than trace quantities. Broken asphalt is specifically excluded.

Cadmium, chromium, arsenate (CCA), creosote, and other pressure treated lumber shall not be used in structures that are placed in streams.

5. Cultural Resources:

If archeological sites or human remains are discovered, cease all work in the immediate area and notify the Engineer who will immediately contact the Office of Environmental Services–Cultural Resource Section (614-466-7100) and the Ohio Historic Preservation Office.

In the event of human remains are discovered the Engineer shall also contact the Tuscarawas County Sherriff's Office at (330) 339-2000.

6. Water Resource Demarcation:

A total of 0.04 acre of Wetland L 1 (located at STA 3069+54.62) is authorized to be impacted on this project. The remaining area of Wetland L 1 is not to be disturbed and require demarcation. All streams, wetlands, lakes, and ponds indicated on the plans shall be demarcated in the field as per SS 832 prior to site disturbance. The fence shall remain in place and be maintained throughout the construction process. Following the completion of the project, the fence and posts shall be removed.

7. Spill containment:

Provide and Maintain an Oil Spill Kit with a minimum capacity of 65 gallons. The Spill Kit shall contain:

- 6 - 3 in. X 8 ft. Oil only socks
- 4 - 18 in. X18 in. Oil only pillows
- 2 - 5 in. X 10ft. Booms
- 50 - 16in. X 20 in. Oil only pads
- 10- Disposable Bags
- 1- 65 Gallon drum with lid
- 25 pounds of Granular Oil Absorbent

The Oil Spill Kit shall be located within 150 feet of any equipment working in a stream or wetland. The oil Spill Kit shall be maintained for the life of the contract. Any materials utilized during the project will be replaced within 48 hours.

All costs associated with furnishing and maintaining the above referenced spill containment kit is incidental to work.

8. Blasting:

State law requires notification to the Ohio Department of Natural Resources should blasting be required within or near stream channels (See ORC 1533.58 & CMS 107.09).

Notify Engineer, in writing, for submission to ODOT Office of Environmental Services–Waterway Permits

Unit (614-466-7100) for coordination with the Ohio Department of Natural Resources.

9. Waterway Permits:

RGP Section B (Maintenance) and Section C (Temporary Construction, Access, and Dewatering) are authorized for TUS-77-25.95 PID 87890. A copy of the RGP shall be kept at the work site at all times and made available to all contractors and subcontractors. The Permit is effective starting: 04-22-2013. The Permit expires: 10-23-2014.

10. Bridge Inspection:

Prior to the removal of bridge structures, the underside must be carefully examined for the presence of birds and bats. Should any birds or bats be found roosting on the underside of the bridge, the Contractor is required to notify the Engineer for coordination with ODOT-Office of Environmental Services (614-466-7100).

11. Project Inspection:

Inspection of Work may include inspection by representatives of other government agencies or railroad corporations that pay a portion of the cost of the Work or regulate the Work through State and Federal law. Comments from the representatives of these agencies shall be directed to the Engineer. Please forward a copy to ODOT Office of Environmental Services. Waterway Permits Unit (614-466-7100).

12. Temporary Access Fills (Stream and River Crossings and Fills):

Special Provisions Notes:
Regional General Permit (RGP) for the State of Ohio Department of Transportation

Definitions:

Hydraulic Opening
The cross sectional area allowing an unimpeded discharge equal to twice the highest monthly flow without producing a rise in the backwater above the Ordinary High Water Mark (OHWM)*.

Standard Temporary Discharge
The hydraulic opening providing a capacity for a discharge equal to twice the *highest monthly flow* without producing a rise in the backwater above the OHWM shall be known as the Standard Temporary Discharge. The U.S. Geologic Service publication "Techniques for estimating Selected Streamflow Characteristics of Rural Unregulated Streams in Ohio" provides equations that estimate monthly flow for Ohio Waterways These flows are also available in a web application by USGS StreamStats, (http//water.usgs.gov/osw/streamstat/ohi.html).

Average Monthly Flow
The average monthly flow represents the estimated "normal" flow.

Temporary Access Fills (TAFs)
In Streams and Rivers may include, but are not limited to, causeways, cofferdams (as described by other items of work), access pads, temporary bridges, etc. The Contractor will make every attempt minimize disturbance to water bodies, stream banks, stream beds, and approach sections during the construction, maintenance, and removal of the TAFs. Fording of streams and rivers is prohibited. Construct TAFs in such a manner that will maintain flows, minimize upstream flooding, and avoid

overtopping the TAF on a regular basis. ***TAFs shall be designed and constructed so that the hydraulic opening provides capacity for a discharge equal to twice the highest monthly flow without producing a rise in the backwater above the Ordinary High Water Mark (OHWM)*.***

Do not exceed an overall length of 250 feet measured linearly upstream to downstream.

Requirements

21 calendar days prior to the initiation of any in-stream work, provide the Engineer with working drawings that include:

- Plan view drawing (200 scale or less) showing the location of all jurisdictional temporary fill proposed for use on the project
- Scaled Cross section and profile drawing showing the OHWM and the proposed compliant hydraulic opening.
- A description of the installation and staging of all temporary jurisdictional fill over the life of the contract.
- A description of the removal of all jurisdictional temporary fill and restoration of the channel and all areas impacted by the jurisdictional temporary fill.
- A schedule outlining the timing of the placement and removal of all TAF.
- Have an Ohio Registered Engineer prepare, sign, seal and date the working drawings. Have a second Ohio Registered Engineer check, sign, seal and date the working drawings. The preparer and checker are two different Engineers. Include the following statement on the working drawings:
  "These working drawings were prepared in compliance with the terms of the Regional General Permit and all contract documents."
- Include supporting hydraulic calculations developed by the engineer(s) who sealed the working drawings.
- Do not begin in-stream work until the Engineer has accepted the working drawings.

If the OHWM is not shown on the plans, the Department will establish the OHWM based on the definition of OHWM (as defined in SS 832) or the peak discharge from the 2 year event, using the method described in the most current version of the Department's Location and Design Manual Volume II.

If the Contractor proposes a TAF which does not provide for the Standard Temporary Discharge (discharge equal to twice the highest monthly flow without producing a rise in the backwater), the Contractor is required to coordinate the request for the contractor's proposed TAF with the Engineer and the ODOT Office of Environmental Services (OES). The Department makes no guarantee to grant the request. The contractor's proposed TAF request will be coordinated by OES with the U.S. Army Corps of Engineers and the Ohio Environmental Protection Agency, as appropriate.

In addition to the requirements described in SS 832, supply the Engineer/OES with the following:

1. A plan and Profile showing the temporary access fill(s) with the OHWM.
2. Cross section showing the hydraulic opening and the anticipated discharge flow.
3. A restoration plan for the area affected by the temporary access fill(s).
4. A schedule outlining the timing of the placement and removal of the temporary access fill(s)

The time frame allowed for the coordination of the contractor's proposed TAF will be a minimum of 60 days. Installation of any jurisdictional fill without a 404 Permit authorized by the USACE is strictly prohibited. All direct coordination with the USACE and/or OEPA will be performed through OES.

Temporary Access Fills Construction and Payment

Begin planning and installing causeways and access fills as early in construction as possible to avoid conflicts with 404/401 permits or other environmental commitments that have been included in the

construction plans.

Temporary Access Fills (TAFs) in Streams and Rivers may include, but are not limited to, causeways, cofferdams, access pads, temporary bridges, etc. Make every attempt minimize disturbance to water bodies, stream banks, stream beds, and approach sections during the construction, maintenance, and removal of the TAFs. Make every attempt to minimize disturbance to water bodies during construction, maintenance and removal of the causeway and access fills. Construct the causeway and access fills as narrow as practical. Install in-stream conduits parallel to the stream banks. Make the causeway and access fills in shallow areas rather than deep pools where possible. Minimize clearing, grubbing, and excavation of stream banks, bed, and approach sections. Construct the causeway and access fills as to not erode stream banks or allow sediment deposits in the channel.

Prior to the initiation of any in-stream work, establish a monument upstream of proposed temporary crossing or temporary construction access fill to visually monitor the water elevation in the waterway where the fill is permitted. Maintain the monument throughout the project. Provide a visual mark on the monument that identifies the elevation 1 foot above the OHWM. If the OHWM is not shown on the plans, the Department will establish the OHWM based on the definition of OHWM (SS 832.02) or the peak discharge from the 2 year event, using the method described in the most current version of the Department's Location and Design Manual Volume II.

Ensure that the monument can be read from the bank of the waterway. Have this elevation set and certified by an Ohio Registered Surveyor.

Temporary access fills placed by the contractor above the OHWM are not subject to the 404/401 permit constraints. All costs associated with furnishing and maintaining the above referenced monument is incidental to the work.

Should the water elevation of the waterway, exceed the elevation 1 foot above OHWM, the Department will compensate the Contractor for repair of any resulting damage to the permitted temporary access fill up to the elevation of 1 foot above the OHWM, except as noted. Follow the requirements in Item 502 for Structures for Maintaining Traffic and in Item 503 for Cofferdams and any modifications to these items as shown in the plans. The Department will not pay for repair and maintenance of temporary access structures that are related to the construction access fill.

Should the water elevation of the waterway exceed the elevation shown on the monument, the Department will recognize this event as an excusable, non-compensable delay in accordance with Section 108.06 of the Construction & Materials Specifications.

Construct the causeway and fills, not including cofferdams and temporary bridges, to a water elevation at least 1 foot (0.3 m) above the OHWM. If more than one-third the width of the stream is filled, then use culvert pipes to allow the movement of aquatic life. Ensure that any ponding of water behind the causeway and access fills will not damage property or threaten human health and safety.

The following minimum requirements apply to TAFs where culverts are used.

A. Furnish culverts on the existing stream bottom.
B. Avoid a drop in water elevation at the downstream end of the culvert.
C. Furnish a sufficient number of culverts in addition to stream openings to providing a discharge equal to twice the highest monthly flow without producing a rise in the backwater above the OHWM.
D. Furnish culverts with a minimum diameter of 18 inches (0.5 m)...

For all fill and surface material placed in the channel, around the culverts, or on the surface of the causeway and access fills furnish clean, non-erodible, nontoxic dumped rock fill, Type B, C, or D, as specified in C&MS 703.19.B. Extend rock fill up the slope from original stream bank for 50 feet (10 m) to catch and remove erodible material from equipment.

When the work requiring the TAFs is complete all portions of the TAF (including all rock and culverts)

will be removed in its entirety. The material will not be disposed in other waters of the US or isolated wetland. The stream bottom affected by the causeway and access fills will be restored to its pre-construction elevations. The TAF will not be paid as a separate item but will be included by the Contractor as part of the total project cost.

Unless specific Temporary Access Fill compensation is included in the plans, all environmental protection and control associated with the 404/401 permit activities, including but not limited to Temporary Access Fills, are incidental to the work within the boundaries of the 404/401 permit or as otherwise identified in the 404/401 permit application.

13. Excavation Activities:

Excavated material will be placed at the upland site and disposed of in such a manner that sediment and runoff to streams is controlled and minimized. If any changes to the proposed work are deemed necessary, you must notify and coordinate with the Office of Environmental Services-Waterway Permits Unit (614-466-7100).