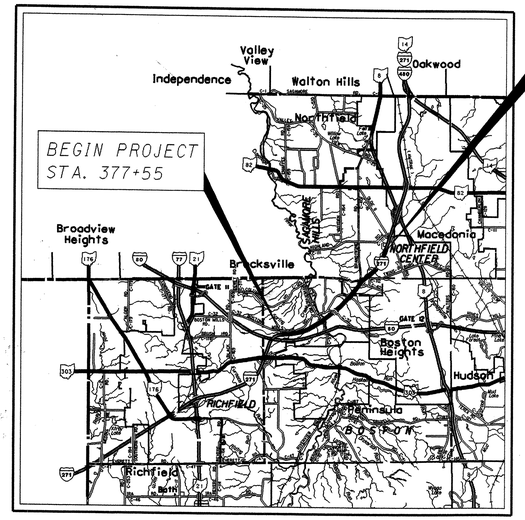
SUM-271-7.18
970429
33PGS
06-04-97
DIST. 04



LOCATION MAP

LATITUDE: N41°25'00" LONGITUDE: W81°32'25"

SCALE IN MILES

0 1 2 3 4

PORTION TO BE IMPROVED

STATE & FEDERAL ROUTES

OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (1997)	23740
DESIGN YEAR ADT (2017)	31480
DESIGN HOURLY VOLUME (2017)	3148
DIRECTIONAL DISTRIBUTION	60%
TRUCKS (24 HOUR B&C)	12%
DESIGN SPEED	70 MPH
LEGAL SPEED	65 MPH

DESIGN FUNCTIONAL CLASSIFICATION - RURAL INTERSTATE

DESIGN EXCEPTIONS - NONE

MICROFILMED MAR 17 1998

MICROFILMED MAR 17 1998

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

SUM-271-7.18

BOSTON TWP.
SAGAMORE HILLS TWP.
SUMMIT COUNTY

INDEX OF SHEETS:

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PROJECT DESCRIPTION

SLOPE CORRECTION AND CULVERT RECONSTRUCTION ALONG WESTBOUND I-271 BY RESTORATION OF 2:1 SLOPE INCLUDING INSTALLATION OF SLOPE DRAINS, RECONSTRUCTION OF THE PAVED SHOULDER, GUARDRAIL AND UNDER DRAINS.

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 REVISED CODE OF OHIO.

1997 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 APPROVE 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.

APPROVED David R Dreger
DATE 2-12-97 DISTRICT DEPUTY DIRECTOR

APPROVED
DATE 3-12-97 DIRECTOR, DEPARTMENT OF TRANSPORTATION

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

PLAN PREPARED BY:

DISTRICT FOUR
PRODUCTION

STANDARD CONSTRUCTION DRAWINGS

								SUPPLEMENTAL SPECIFICATIONS	
GR-1.1	5-6-91	MT-95.30	10-10-88					921	6-14-95
GR-1.2	10-30-92	MT-95.40	10-1-92						
GR-2.1	5-6-91	MT-105.10	7-1-92						
		MT-105.11	7-1-92						
HW-4a	4-1-80								
		TC-35.10	8-29-84						
MC-4	7-26-76	TC-41.20	6-21-94						
MC-9.2	5-6-91	TC-42.20	3-26-79						
MC-11	8-1-78	TC-52.10	4-3-79						
		TC-52.20	4-3-79						

FEDERAL PROJECT NO.

PID NO. 16668

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT

SUM-271-7.18

CURVE DATA

P.I. STA. 397+73.97
Δ = 28°53'34"
D_c = 0°45'
R = 7639.44'
T = 1968.07'
L = 3852.37
E = 249.43'

CURVE DATA

P.I. STA. 350+57.87

Δ = 63°21'00"	T_c = 918.13'
D_c = 3°00'	E_c = 209.23'
R = 1909.86'	L_s = 400'
T_s = 1380.49'	θ_s = 6°
E_s = 338.39	L.T. = 266.82'
Δ_c = 51°21'00"	S.T. = 133.47'
L_c = 1711.67'	

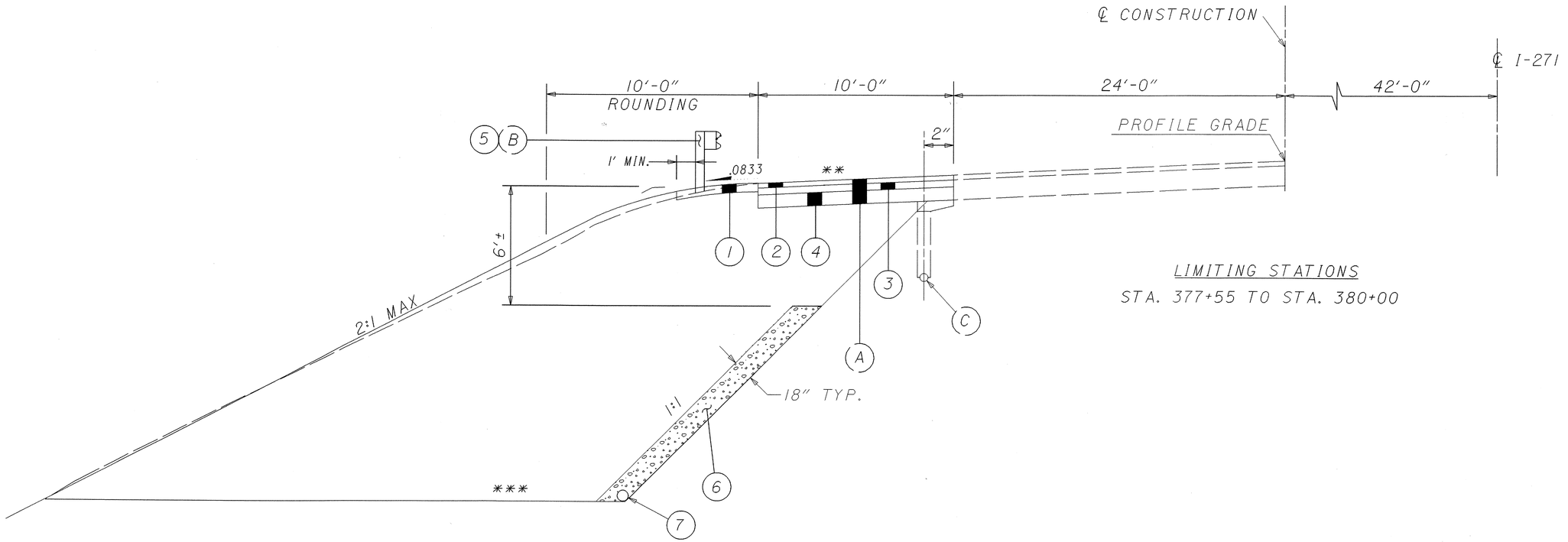
HORIZONTAL SCALE IN FEET
0 100 200 300 400 500

SCHEMATIC PLAN

SUM-271-7.18

CURVE DATA
P.I. STA. 546+66.40
Δ = 31°57'19"
D_c = 2°00'
R = 2864.79'
T_s = 970.61'
E_s = 116.47'
Δ_c = 25°57'19"
L_c = 1297.76'
T_c = 660.21'
E_c = 75.09'
L_s = 300'
θ_s = 3°
L.T. = 200.03'
S.T. = 100.03'
STA. 589+01.60 ℄ I-271 =
STA. 718+47.19 AKRON CLEVE. RD.
590+00
580+00
570+00
560+00
550+00
540+00
530+00
N18°21'19"E
AKRON CLEVE. RD.
STRUCTURE SUM-271-1080
STA. 568+45
BEGIN 84' MEDIAN
S.T. STA. 555+93.55
END MEDIAN TRANSITION
C.S. STA. 552+93.55
S.C. STA. 539+95.79
BEGIN MEDIAN TRANSITION
T.S. STA. 536+95.79
END 70' MEDIAN
END WORK
548+00
SLIDE AREA
CULVERT PIPE REPAIR
STA. 534+45
STRUCTURE SUM-271-1014
STA. 533+91
N.Y.C. R/R
℄ I-271
N50°18'38"E
RESUME PROJECT
STA. 534+25
S.L.M. 10.15
END PROJECT
STA. 547+75
S.L.M. 10.40
IM 271 06
CULVERT PIPE REPAIR
STA. 547+00
STA. 522+35.30 ℄ I-271 =
STA. 713+25.24 N.Y.C. R/R
HORIZONTAL
SCALE IN FEET
0
100
200
300
400
500
SCHEMATIC PLAN
SUM-271-7.18
3
33

** .0416 OR SUPER ELEVATION RATE
WHICHEVER IS GREATER



LIMITING STATIONS

STA. 377+55 TO STA. 380+00

*** SEE CROSS SECTIONS
FOR BENCH ELEVATION

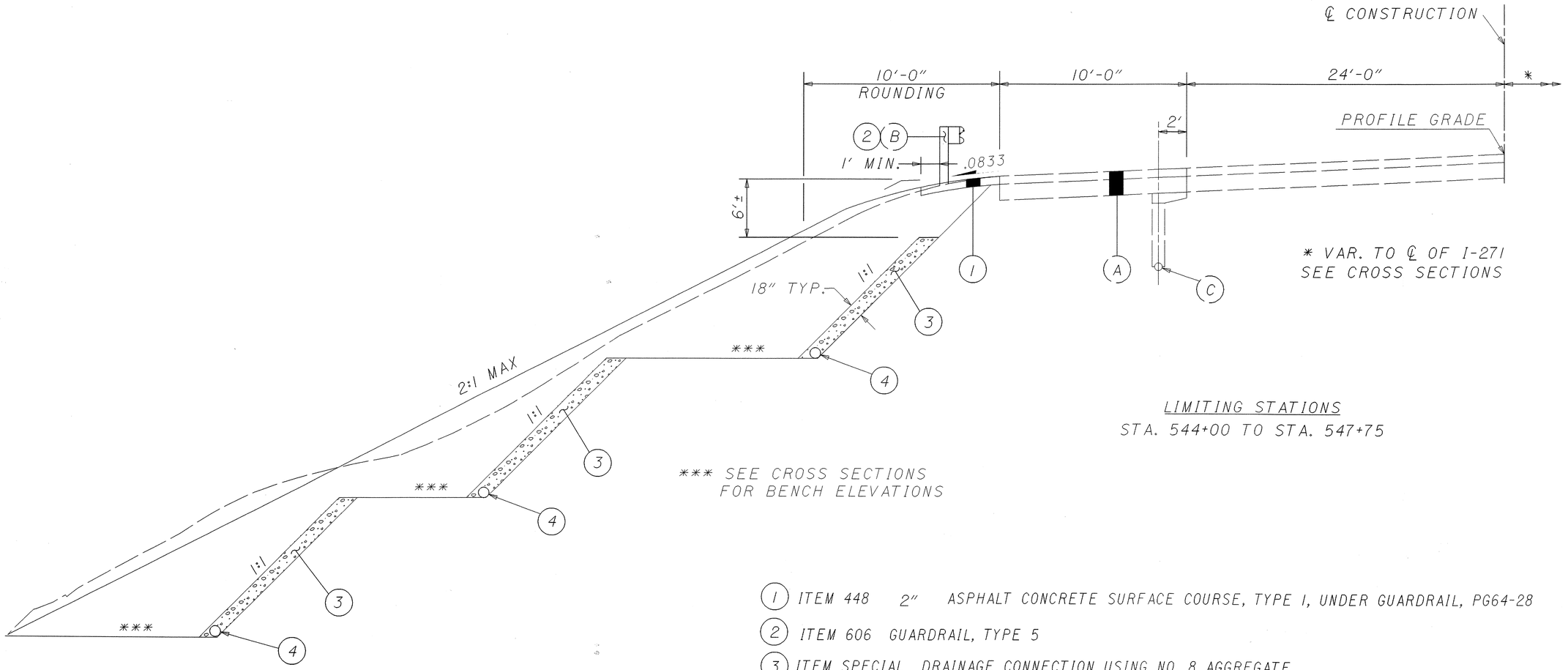
NOTES:

1. SEE CROSS SECTIONS FOR VARIATIONS TO TYPICAL TREATMENT.
2. DUE TO THE UNSTABLE SLIDE CONDITION IT MAY BE NECESSARY TO ADJUST THE ELEVATIONS AND WIDTHS OF THE BENCHES SHOWN ON THE CROSS SECTIONS AS DIRECTED BY THE ENGINEER.
3. THE EXCAVATED MATERIAL MAY BE USED FOR EMBANKMENT CONSTRUCTION PROVIDED IT HAS THE PROPERTIES IN ACCORDANCE WITH 203.08.

(1) ITEM 448 2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-28
(2) ITEM 448 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-28
(3) ITEM 448 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28
(4) ITEM 301 6" BITUMINOUS AGGREGATE BASE, PG64-22
(5) ITEM 606 GUARDRAIL, TYPE 5
(6) ITEM SPECIAL DRAINAGE CONNECTION USING NO. 8 AGGREGATE
(7) ITEM 603 6" CONDUIT, TYPE B, 707.41, PERFORATED
(A) VAR. DEPTH EXISTING PAVED SHOULDER
(B) GUARDRAIL
(C) 6" PIPE UNDERDRAIN

TYPICAL SECTIONS

SUM-271-7.18



*** SEE CROSS SECTIONS FOR BENCH ELEVATIONS

LIMITING STATIONS

STA. 544+00 TO STA. 547+75

(1) ITEM 448 2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-28

(2) ITEM 606 GUARDRAIL, TYPE 5

(3) ITEM SPECIAL DRAINAGE CONNECTION USING NO. 8 AGGREGATE

(4) ITEM 603 6" CONDUIT, TYPE B, 707.41, PERFORATED

(A) VAR. DEPTH EXISTING PAVED SHOULDER

(B) GUARDRAIL

(C) 6" PIPE UNDERDRAIN

NOTES:

1. SEE CROSS SECTIONS FOR VARIATIONS TO TYPICAL TREATMENT.

2. DUE TO THE UNSTABLE SLIDE CONDITION IT MAY BE NECESSARY TO ADJUST THE ELEVATIONS AND WIDTHS OF THE BENCHES SHOWN ON THE CROSS SECTIONS AS DIRECTED BY THE ENGINEER.

3. THE EXCAVATED MATERIAL MAY BE USED FOR EMBANKMENT CONSTRUCTION PROVIDED IT HAS THE PROPERTIES IN ACCORDANCE WITH 203.08.

TYPICAL SECTIONS

SUM-271-7.18

ORIGINAL CONSTRUCTION PLANS

THIS PROJECT INCLUDES CONSTRUCTION PROJECTS AS LISTED BELOW, WITH COPIES ON FILE IN THE DISTRICT 4 OFFICE, 705 OAKWOOD STREET, RAVENNA, OHIO 44266.

SUM - 271 - 2.98
SUM - 271 - 8.29

CONTINGENCY PLANS

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ROUNDING

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

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

WORK LIMITS

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

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 ON STANDARD CONSTRUCTION DRAWING GR-1.1 PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 659 - SEEDING AND MULCHING

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 EASMENT. QUANTITY CALCULATIONS FOR ITEM 659 - SEEDING AND MULCHING, ARE BASED ON THESE LIMITS.

UNDERGROUND UTILITIES

THERE ARE NO UNDERGROUND UTILITIES SHOWN ON THIS PLAN. THE NATURE OF THE WORK REQUIRED BY THIS PROJECT WILL NOT AFFECT ANY UNDERGROUND UTILITIES THAT MAY EXIST UNDER OR ADJACENT TO THE WORK AREA. IN THE EVENT OF UNFORSEEN CIRCUMSTANCES OR UNUSUAL CONDITIONS, THE FOLLOWING LIST OF ALL UTILITY OWNERS IS PROVIDED TO THE CONTRACTOR AND PROJECT ENGINEER FOR NOTIFICATION OF UTILITY OWNERS.

UTILITY OWNERSHIP

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

AT&T
C/O CARL JACKSON
15821 COUNTY RD. 15
BLUFTON, OHIO 45817
419-859-2196

BUCKEYE PIPELINE
5002 BUCKEYE ROAD
P.O. BOX 368
EMMAUS PA. 18049
610-770-5215

EAST OHIO GAS
2100 EASTWOOD AVE.
AKRON, OHIO 44305
C/O GEORGE TURNER
216-798-7104

LCI INTERNATIONAL
C/O JAYTEL
2666 LEXINGTON AVE.
P.O. BOX 3168
MANSFIELD, OHIO 44904
419-884-0400

MCI
12300 RIDGE RD.
NORTH ROYALTON, OHIO 44133
C/O TOM WILLIAMS
216-237-8410

BELDEN & BLAKE
P.O. BOX 2500
5200 STONEHAM ROAD
NORTH CANTON, OHIO 44720
330-499-1660

AMERITECH
50 W. BOWERY, 4TH FLOOR
AKRON, OHIO 44308
C/O JIM HOLDEN
330-384-8057

WESTERN RESERVE TELEPHONE
245 NORTH MAIN STREET
HUDSON, OHIO 44236
C/O DICK KREJCI
216-650-8371

WORLD COM
1468 W. 9TH, SUITE 100
CLEVELAND, OHIO 44113
C/O AL GUEST
216-241-3702

OHIO EDISON
1910 WEST MARKET STREET
AKRON, OHIO 44313
C/O STEVE VANCHOFF
330-384-4750

SUMMIT COUNTY ENVIRONMENTAL
25 N. MAIN STREET
AKRON, OHIO 44308
330-643-2477

UTILITIES NOTIFICATION

AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN AN AREA WHICH MAY INVOLVE UNDERGROUND UTILITY FACILITIES, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE REGISTERED UTILITY PROTECTION SERVICE AND THE OWNERS OF EACH UNDERGROUND UTILITY FACILITY SHOWN IN THE PLANS.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES AND/OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THIS PROJECT, A LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER, FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

207 TEMPORARY SEEDING AND MULCHING	1288 SQ.YD.
207 STRAW OR HAY BALES	200 EACH
659 COMMERCIAL FERTILIZER	3.06 TON
659 REPAIR SEEDING AND MULCHING	322 SQ.YD.
659 WATER	2.8 M.GAL.

QUANTITIES ARE CARRIED FROM CALCULATION SHEET AND ARE FOR CONTRACTORS INFORMATION ONLY.

CALCULATED DAY
CHECKED KS

GENERAL NOTES

SUM-271-7.18

ITEM SPECIAL - DRAINAGE CONNECTION USING NO. 8 AGGREGATE

THE EARTHWORK SHALL INCLUDE A BACKSLOPE DRAIN CONSISTING OF AN 18" THICK BLANKET OF NO. 8 AGGREGATE TO THE LIMITS SHOWN IN THE TYPICAL SECTION AND CROSS SECTIONS SHOWN IN THE PLAN. DUE TO THE ACTIVE NATURE OF THE SLIDE CONDITION, IT MAY BE NECESSARY FOR THE LOCATION OF THE DRAINAGE BLANKET TO BE ALTERED AS DIRECTED BY THE ENGINEER. THE NO. 8 AGGREGATE MATERIAL SHALL CONSIST OF DURABLE NATURAL AGGREGATE.

PAVING UNDER GUARDRAIL

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 448 TO THE DEPTH SPECIFIED USING ONE OF THE FOLLOWING METHODS:

METHOD A: 1) SET GUARDRAIL POSTS
2) PLACE ITEM 448

METHOD B: 1) PLACE ITEM 448
2) BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POSTS ARE USED)
3) SET GUARDRAIL POSTS
4)PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE A BITUMINOUS CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 448 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (UNDER GUARDRAIL)

ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN

THIS ITEM IS PROVIDED, TO BE USED FOR REPLACEMENT OF THE EXISTING PIPE UNDERDRAIN AS DIRECTED BY THE ENGINEER, IN CASE THE EXCAVATION BETWEEN STATION 377+55 AND 380+00 HAS DISTURBED OR DAMAGED THE EXISTING PIPE UNDERDRAIN.

A QUANTITY OF 245 LIN.FT. OF ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN IS PROVIDED ADN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

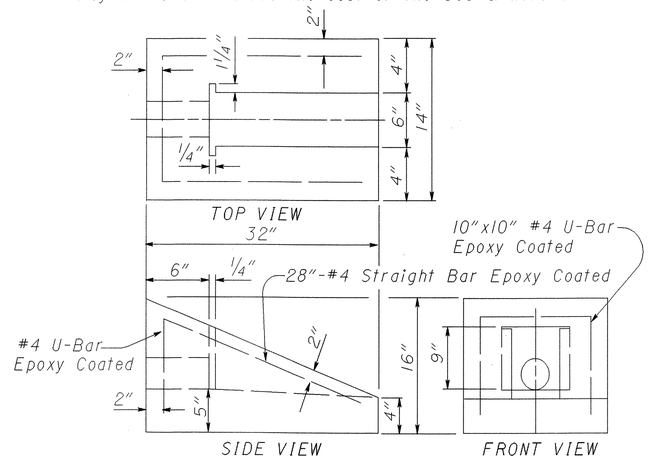
REPLACEMENT OF UNSUITABLE MATERIAL

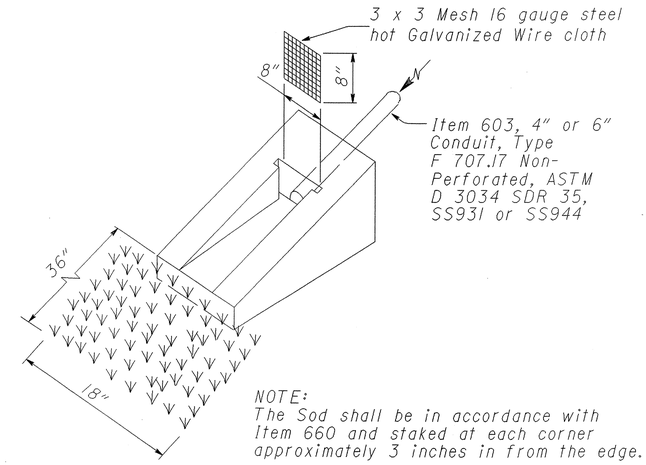
IF THE EXCAVATION FOR THE CONDUIT AT STATION 534+45 REVEALS ANY UNSUITABLE MATERIAL, AT THE DIRECTION OF THE ENGINEER, THE UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL AS PER 203.08.

A QUANTITY OF 40 CU. YDS. OF ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION AND 40 CU. YDS OF ITEM 203 - EMBANKMENT HAS BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY, TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM 604 - PRECAST REINFORCED CONCRETE OUTLET

The Concrete outlet shall meet the requirements of CMS 604. Payment shall be made on an Each basis. Payment shall include the cost of the Sod & Wire Cloth.





NOTE:
The Sod shall be in accordance with Item 660 and staked at each corner approximately 3 inches in from the edge.

CALCULATED DAY
CHECKED KS

GENERAL NOTES

SUM-271-7.18

CALCULATED KJG
CHECKED LAJ

LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE CURRENT EDITION, LATEST REVISION OF THE OHIO MANUAL OF UNIFORM TRAFFIC DEVICES (OMUTCD), THE CONTRACTOR SHALL PROVIDE THE SERVICE OF LAW ENFORCEMENT OFFICERS (LEO) WITH AN OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS, AT THE ENGINEER'S REQUEST, FOR THE PURPOSE OF CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.

THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

INFORMATION REGARDING ARRANGEMENTS AND PAYMENTS BY THE CONTRACTOR FOR THE LEO MAY BE OBTAINED BY CONTACTING THE OHIO HIGHWAY PATROL 660 EAST MAIN STREET, COLUMBUS, OHIO, TELEPHONE: 614-466-2300. IF AFTER CONTACTING THE OHIO HIGHWAY PATROL, IT IS DETERMINED THAT THEY CANNOT SUPPLY THE LEO, THEN AN AUTHORIZED MUNICIPAL OR COUNTY POLICE OFFICER EQUIPPED WITH A MARKED AND FLASHER-LIGHT EQUIPPED OFFICIAL POLICE OR PATROL CAR SHALL BE PROVIDED.

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

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR 32 HOURS

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

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, HE MAY DO SO AT HIS OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

SHOULDER CLOSURE

WHEN GUARDRAIL IS REMOVED ALONG IR271, THE SHOULDER SHALL BE CLOSED AS PER THE DETAIL ON SHEET 10 AND PLATE C-12 IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, EXCEPT THAT PORTABLE CONCRETE BARRIER SHALL BE USED INSTEAD OF CONES AND THE APPROACH TAPER SHALL EXTEND TO THE EDGE OF THE SHOULDER.

TRAFFIC CONTROL INSPECTOR

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL OTHER THAN THE SUPERINTENDENT AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO CONTINUOUSLY INSPECT ALL TRAFFIC CONTROL DEVICES WHENEVER CONSTRUCTION WORK IS BEING PERFORMED WITHIN THE WORK LIMITS OF THE PROJECT. THE DESIGNATED INDIVIDUAL SHALL ALSO INSPECT ALL TRAFFIC DEVICES AT THE BEGINNING AND AT THE END OF EACH WORK DAY. THE DESIGNATED INDIVIDUAL OR A QUALIFIED REPRESENTATIVE SHALL ALSO BE AVAILABLE ON AN AROUND THE CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. THESE INDIVIDUALS SHALL BE EQUIPPED WITH CELLULAR PHONES AND THEIR NAMES AND PHONE NUMBERS SHALL BE GIVEN TO THE PROJECT ENGINEER AT THE PRE-CONSTRUCTION MEETING. THE DESIGNATED INDIVIDUAL MAY HAVE OTHER CONSTRUCTION RELATED DUTIES AS LONG AS IMMEDIATE ATTENTION IS GIVEN TO TRAFFIC CONTROL. PAYMENT FOR THE SERVICES OF THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC. A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY: OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE L/A, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PARKED EITHER 50 FEET FROM THE EDGE OF PAVEMENT OR 6 FEET BEHIND GUARDRAIL WITH A MINIMUM OF 125 FEET OF GUARDRAIL PRECEDING THE EQUIPMENT. NO EQUIPMENT SHALL BE PARKED IN THE MEDIAN OF THE HIGHWAY. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA.

METHOD OF PAYMENT

PAYMENT FOR THE MAINTENANCE OF TRAFFIC ITEMS, UNLESS SPECIFIED SEPARATELY, SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM- 614 MAINTAINING TRAFFIC, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT AND INCIDENTALS TO COMPLETE THE WORK AS DETAILED IN THE PLANS.

ITEM 614 MAINTAINING TRAFFIC LUMP SUM

MAINTENANCE OF TRAFFIC NOTES

SUM-271-7.18

MAINTENANCE OF TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMPS 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. A MINIMUM OF ONE 12 FOOT LANE OF TRAFFIC SHALL BE MAINTAINED ON THE EXISTING PAVEMENT IN THE WB LANES DURING CONSTRUCTION OF THE WORK.

2. THE CONTRACTOR SHALL INFORM THE DISTRICT TRAFFIC DEPARTMENT (330) 297-0801 EXT 498, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

3. CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS THAT ARE IN OPERATION ONE-HALF HOUR AFTER SUNSET OR ONE HALF-HOUR BEFORE SUNRISE. ALL NIGHTTIME LANE RESTRICTIONS SHALL REQUIRE DRUMS OR BARRICADES AT A MAXIMUM SPACING OF FIFTY (50) FEET.

4. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO.

5. AN ESTIMATED QUANTITY OF 2100 LIN. FT. OF ITEM 622 PORTABLE CONCRETE BARRIER, 32" HAS BEEN PROVIDED FOR THIS PROJECT. THE BARRIER SHALL BE PLACED AS SHOWN ON SHEETS 10 WHEN WORK IS BEING DONE ON THE SLIDES.

6. ONLY DURING OFF-PEAK PERIODS (ie. ANY PERIOD OTHER THAN 7-9AM AND 4-6PM) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL NECESSARY FOR MAINTAINING TRAFFIC EACH CONSTRUCTION PHASE.

7. A QUANTITY OF 15 CU. YDS. OF 614 BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC SHALL BE PROVIDED FOR USE IN MAINTAINING PAVEMENT, SHOULDERS AND OTHER LOCATIONS PRIOR TO RESURFACING, AS DIRECTED BY THE ENGINEER. (SS 921 OR HPM MAY BE USED AS ALTERNATE MATERIAL WHEN 404 IS NOT AVAILABLE.

8. THE USE OF SHOULDERS TO MAINTAIN TRAFFIC IS PROHIBITED. SHOULD ANY EXISTING SHOULDER AREAS BECOME DAMAGED OR DESTROYED DUE TO THE CONTRACTOR'S NEGLIGENCE OR FAILURE TO PROVIDE ADEQUATE SIGNS, BARRICADES, CONES, FLAGGERS OR OTHER TRAFFIC CONTROL DEVICES, THE RESTORATION OF THE SHOULDERS WILL BE AT THE CONTRACTORS EXPENSE, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE PAVEMENT MARKINGS PER REQUIREMENTS OF THE STANDARD CONSTRUCTION DRAWINGS:

ITEM 614	TEMPORARY EDGE LINE, CLASS I 740.06 TYPE II	0.73 MI.

614 - BARRIER REFLECTORS AND OBJECT MARKERS

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO PROPOSAL NOTE 622-92 AND ITEM 626 EXCEPT THAT THE SPACING SHALL BE 25 FEET (8 M.). AN ESTIMATED QUANTITY OF 84 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE B, AND 84 EACH OF ITEM 614 OBJECT MARKERS HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR SHALL BE ADVISED THAT OTHER PROJECTS MAY BE ONGOING IN AREAS IMMEDIATELY ADJACENT TO AND WITHIN THE PROJECT LIMITS OF THIS PROJECT. THE CONTRACTOR SHALL SCHEDULE HIS WORK SO AS TO CAUSE A MINIMUM OF DELAY OR CONFLICT WITH THE OTHER PROJECT(S). IN ACCORDANCE WITH 105.07 THE CONTRACTOR SHALL ARRANGE WITH THE OTHER CONTRACTORS, A MUTUALLY ACCEPTABLE WORK SCHEDULE, SUBJECT TO THE APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL RECEIVE DAILY APPROVAL FROM THE ENGINEER PRIOR TO COMMENCING ANY OPERATIONS. ANY CONFLICT BETWEEN CONTRACTORS INVOLVING WORK SCHEDULES, WORK AREA OR COOPERATION SHALL BE RESOLVED BY THE ENGINEER. COMPENSATION FOR THE ABOVE COOPERATION SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS INCLUDED WITHIN THIS PROJECT.

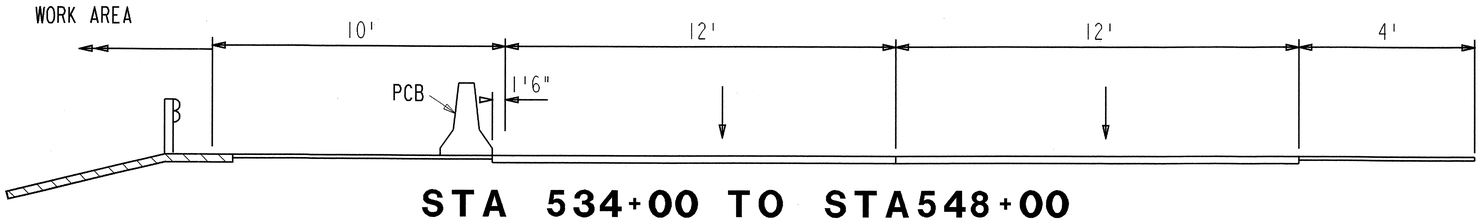
TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWINGS

REFERENCES TO SUPPLEMENTAL SPECIFICATIONS 857, 858, 861, 847, 957, 958, 961, 947 AND ITEM 621 ON THE TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWINGS IN THESE PLANS SHALL BE CONSIDERED TO READ AS RESPECTIVE REFERENCES TO ITEMS 630, 631, 633, 645, 730, 731, 733, 740 AND 641.

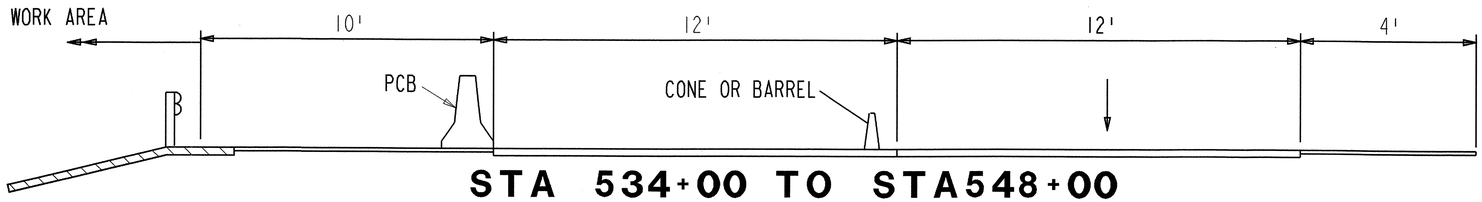
CALCULATED KJG CHECKED LAJ

MAINTENANCE OF TRAFFIC NOTES

SUM-271-7.18

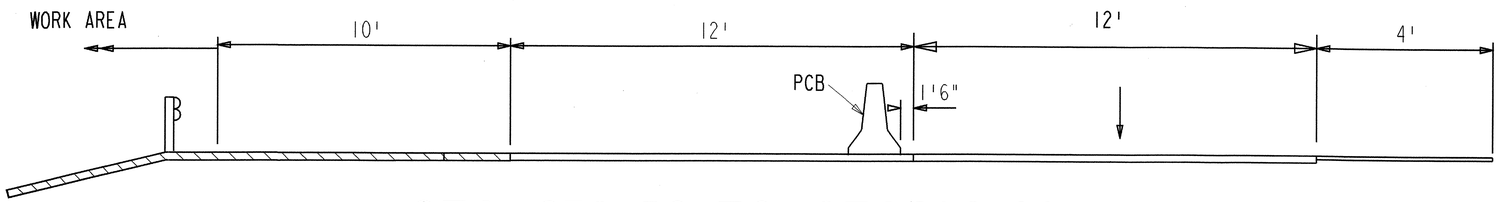


STA 534+00 TO STA548+00
WB LANES



STA 534+00 TO STA548+00
WB LANES

OPTIONAL MAINTENANCE OF TRAFFIC, AS DIRECTED BY THE ENGINEER
BOTH LANES MUST BE OPEN AT END OF EACH WORK DAY



STA 378+50 TO STA380+00
WB LANES

MAINTENANCE OF TRAFFIC NOTES

SUM-271-7.18

PAVEMENT MARKINGS

GENERAL

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND WHEN NECESSARY, REMOVE WORK ZONE RETROREFLECTIVE PAVEMENT MARKINGS ON EXISTING, RECONSTRUCTED, RESURFACED OR TEMPORARY ROADS WITHIN THE WORK LIMITS, IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE MARKINGS SHALL BE EVALUATED BY THE ENGINEER IN ACCORDANCE WITH THE THREE PERFORMANCE PARAMETERS CONTAINED IN SUPPLEMENT 1047. THE MARKINGS SHALL BE REPAIRED OR REPLACED WHEN THE NUMERICAL RATING OF A PARAMETER IS (a) SIX OR LOWER FOR DURABILITY, (b) FOUR OR LOWER FOR VISUAL EFFECTIVENESS AND (c) FOUR OR LOWER FOR NIGHT VISIBILITY. THE CONTRACTOR SHALL REPAIR OR REPLACE UNSATISFACTORY MARKINGS IMMEDIATELY AND AT NO ADDITIONAL COST TO THE STATE.

TEMPORARY PAVEMENT MARKING MATERIALS

UNLESS OTHERWISE INDICATED ON THE PLANS, TEMPORARY PAVEMENT MARKINGS MAY BE EITHER 621.02 PAINT OR 947.03 TYPE B OR TYPE C PREFORMED MATERIAL.

PAINT

PAINTED MARKINGS SHALL BE IN ACCORDANCE WITH 621 EXCEPT THAT (a) PARAGRAPH 621.14 SHALL NOT APPLY, (b) WHERE THE MARKINGS ARE NOT LIABLE TO BE TRACKED, EITHER CONVENTIONAL OR FAST DRY PAINT MAY BE USED FOR 621.02 AND (c) WHEN APPLYIED TO NEW ASPHALT PAVEMENT SURFACES PLACED BY THIS PROJECT, THE SPECIFIED APPLICATION RATE SHALL BE AS FOLLOWS:

GALLONS PER MILE OF LINE	WIDTH OF LINE (INCHES) 4	8	12		
SOLID LINE	20	40	60		
10 FOOT DASHED LINE	5				
4 FOOT DASHED LINE	2				
DOTTED LINE	6.7				

(d) WHEN APPLIED TO PLANED ASPHALT PAVEMENT SURFACES THE SPECIFIED APPLICATION RATE SHALL BE AS FOLLOWS:

GALLONS PER MILE OF LINE	WIDTH OF LINE (INCHES) 4	8	12		
SOLID LINE	24	48	72		
10 FOOT DASHED LINE	6				
4 FOOT DASHED LINE	2.4				
DOTTED LINE	8				

TYPE B AND TYPE C PREFORMED MATERIAL

PREFORMED MATERIAL SHALL COMPLY WITH 947.03 EXCEPT THAT NO PREFORMED MATERIAL CONTAINING METAL SHALL BE PLACED ON ANY SURFACE UNLESS IT WILL BE REMOVED LATER BY THE CONTRACTOR. TEMPORARY PAVEMENT MARKINGS OF 947.03 PREFORMED MATERIAL SHALL BE REMOVED PRIOR TO PLACEMENT OF 621 OR 847 SURFACE COURSE MARKINGS AT THAT LOCATION. PREFORMED MATERIAL SHALL BE IN ACCORDANCE WITH 847 EXCEPT AS MODIFIED HEREIN.

PLACEMENT

TEMPORARY MARKINGS SHALL BE COMPLETE AND IN PLACE ON ALL PAVEMENT, INCLUDING RAMPS, PRIOR TO EXPOSING IT TO TRAFFIC. WHEN TEMPORARY MARKINGS CONFLICT WITH THE TRAFFIC PATTERN, THEY SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH 621.134.

LINE PLACEMENT TOLERANCE FOR FINAL SURFACES SHALL BE IN ACCORDANCE WITH 621.052. ON SURFACES OTHER THAN THE FINAL, THE TOLERANCE PERMITTED SHALL BE TWICE THAT IN 621.052. LAYOUT AND PREMARKING SHALL BE IN ACCORDANCE WITH 621.051.

TEMPORARY MARKING CLASSES

CLASS I MARKINGS

CLASS I MARKINGS SHALL BE APPLIED TO THE STANDARD DIMENSIONS AS DEFINED IN 621 WITH THE FOLLOWING EXCEPTION:

1. TRANSVERSE LINES SHALL BE 8-INCHES IN WIDTH.
2. STOP LINES SHALL BE 12-INCHES IN WIDTH.
3. CROSSWALK LINES SHALL BE 8-INCHES IN WIDTH.

CLASS II MARKINGS

CLASS II MARKINGS (ABBREVIATED) SHALL BE DEFINED AS FOLLOWS

CENTER LINES SHALL CONSIST OF SINGLE, YELLOW 4-INCH WIDE BY A MINIMUM OF 4 FOOT LONG DASHES SPACED AT A MAXIMUM OF 40 FOOT INTERVALS.

LANE LINES SHALL CONSIST OF WHITE 4-INCH WIDE BY A MINIMUM OF 4 FOOT LONG DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

GORE MARKINGS SHALL BE CONTINUOUS, WHITE 4-INCH LINES PLACED AT THE THEORETICAL GORE OF AN EXIT RAMP OR DIVERGING ROADWAYS.

CONFLICTING EXISTING MARKINGS

THE CONTRACTOR SHALL, PRIOR TO PLACING TEMPORARY MARKINGS, REMOVE ALL CONFLICTING EXISTING MARKINGS VISIBLE TO THE TRAVELING PUBLIC DURING DAYLIGHT OR NIGHTTIME HOURS IN ACCORDANCE WITH 621.134. THE COST FOR REMOVAL OF CONFLICTING MARKINGS SHALL BE INCLUDED IN 614 MAINTAINING TRAFFIC UNLESS SPECIFICALLY ITEMIZED.

THE CONTRACTOR SHALL ALSO REMOVE THE PRISMATIC RETRO-REFLECTOR WITHIN ANY RAISED PAVEMENT MARKER (RPM) WHICH IS IN CONFLICT WITH THE TEMPORARY PAVEMENT MARKINGS. WHEN THE TEMPORARY PAVEMENT MARKINGS ARE REMOVED AND THE RPM IS NO LONGER IN CONFLICT, THE CONTRACTOR SHALL THOROUGHLY CLEAN THE RECESSED REFLECTOR ATTACHMENT AREA OF THE CASTING AND INSTALL A NEW PRISMATIC RETRO-REFLECTOR OF THE SAME KIND AND COLOR. THE COST FOR THIS WORK SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS.

ALLOWABLE DURATION OF CLASS II CENTER LINES

EXCEPT AS NOTED BELOW, ANYTIME EXISTING PERMANENT NO PASSING ZONE MARKINGS HAVE BEEN REMOVED OR OBLITERATED AS THE RESULT OF A CONSTRUCTION OPERATION (PAVEMENT GRINDING, ASPHALT PAVEMENT OVERLAYS, ETC,) AND THE SECTION OF PAVEMENT CONTINUES TO BE USED BY THE TRAVELING PUBLIC, THE CONTRACTOR MUST WITHIN 3 CALENDAR DAYS PLACE FINAL CENTER LINE MARKINGS AS SPECIFIED BY THE PLAN. EQUIVALENT 614 CLASS I CENTER LINE MARKINGS MAY BE USED IN LIEU OF FINAL MARKINGS. IN THIS EVENT, THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, AND MATERIAL NECESSARY TO PLACE AND MAINTAIN 614 CLASS I MARKINGS AS PART OF THE LUMP SUM BID FOR MAINTAINING TRAFFIC.

IF AFTER THE ORIGINAL MARKINGS ARE REMOVED OR OBLITERATED, THE CONTRACTOR RETURNS TO THE SUBJECT NO PASSING ZONE AND PLACES A PLAN SPECIFIED PAVEMENT COURSE WITHIN THE 3 CALENDAR DAY LIMIT, OR PERFORMS WORK IN PREPARATION FOR A SUBSEQUENT PAVEMENT COURSE, THE CONTRACTOR WILL HAVE TEMPORARILY SATISFIED THE CONDITIONS OF THE PREVIOUS PARAGRAPH. IN THIS EVENT THE 3 CALENDAR DAY LIMIT WILL BEGIN AGAIN.

SECTIONS OF PAVEMENT WHERE PASSING IS PERMITTED IN BOTH DIRECTIONS SHALL BE GOVERNED BY THE 21 DAY LIMIT DESCRIBED BELOW IN THE PARAGRAPH ENTITLED "ALLOWABLE DURATION OF CLASS II LANE LINES, GORE MARKINGS AND ABSENCE OF EDGE LINES."

FOR EACH CALENDAR DAY BEYOND 3 DAYS THAT THIS WORK SHALL REMAIN UNCOMPLETED, THE SUM OF $200 PER CALENDAR DAY WILL BE DEDUCTED FROM ANY MONEY DUE THE CONTRACTOR, NOT AS A PENALTY BUT AS LIQUIDATED DAMAGES.

ALLOWABLE DURATION OF CLASS II LANE LINES AND GORE MARKINGS AND ABSENCE OF EDGE LINES

ANYTIME EXISTING PERMANENT LANE LINES, GORE MARKINGS OR EDGE LINES HAVE BEEN REMOVED OR OBLITERATED AS THE RESULT OF A CONSTRUCTION OPERATION (PAVEMENT GRINDING, ASPHALT PAVEMENT OVERLAYS, PAVEMENT WIDENING, ETC.) AND THE SECTION OF PAVEMENT CONTINUES TO BE USED BY THE TRAVELING PUBLIC, THE CONTRACTOR MUST WITHIN 21 CALENDAR DAYS PLACE FINAL PAVEMENT MARKINGS AS SPECIFIED BY THE PLAN. EQUIVALENT 614 CLASS I MARKINGS MAY BE USED IN LIEU OF FINAL MARKINGS. IN THIS EVENT, THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, AND MATERIAL NECESSARY TO PLACE AND MAINTAIN 614 CLASS I MARKINGS AS PART OF THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC.

IF, AFTER THE ORIGINAL MARKINGS ARE REMOVED OR OBLITERATED, THE CONTRACTOR RETURNS TO THE SUBJECT SECTION OF PAVEMENT AND PLACES A PLAN SPECIFIED PAVEMENT COURSE WITHIN THE 21 CALENDER DAY LIMIT, OR PERFORMS SPECIFIED WORK WHICH REQUIRES A LANE CLOSURE, EXCEPT ROUTINE MAINTENANCE REQUIRED BY 614.02, THE CONTRACTOR WILL HAVE TEMPORARILY SATISFIED THE CONDITIONS OF THE PREVIOUS PARAGRAPH. IN THIS EVENT, THE 21 DAY CALENDER LIMIT WILL BEGIN AGAIN.

FOR EACH CALENDAR DAY BEYOND 21 DAYS THAT THIS WORK SHALL REMAIN UNCOMPLETED, THE SUM OF $200 PER CALENDER DAY WILL BE DEDUCTED FROM ANY MONEY DUE THE CONTRACTOR, NOT AS A PENALTY BUT AS LIQUADATDED DAMAGES.

IF A SECTION OF PAVEMENT IS IN A CONTINUOUS PART OF THE PROJECT THEN A NEW 21 DAY LIMIT FOR RENEWED WORK ON A SECTION SHALL APPLY TO ALL SECTIONS IN THAT PART. IF THE PROJECT IS IN PARTS AND THE TRAVELING PUBLIC WOULD NOT DISCERN THE PARTS AS ONE CONTINUOUS PROJECT, THEN A NEW 21 DAY LIMIT IN ONE PART WUKK NOT APPLY TO THE OTHER PARTS. THE TWO DIRECTIONAL SIDES OF A FREEWAY SHALL BE TREATED AS SEPARATE PARTS. WORK ON ONE SIDE OF A FREEWAY SHALL NOT CREATE A NEW 21 DAY LIMIT FOR THE OTHER SIDE.

METHOD OF MEASUREMENT

TEMPORARY PAVEMENT MARKINGS WILL BE MEASURED COMPLETE IN PLACE, BY CLASS AND MATERIAL, IN THE UNITS DESIGNATED. LINE QUANTITIES WILL BE THE LENGTH OF THE COMPLETED STRIPE, INCLUDING GAPS, INTERSECTIONS, AND OTHER SECTIONS OF PAVEMENT NOT NORMALLY MARKED. TEMPORARY PAVEMENT MARKINGS WILL INCLUDE THE LAYOUT, APPLICATION, AND REMOVAL OF THE MARKINGS WHEN REQUIRED.

BASIS OF PAYMENT

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 PLACEMENT, MAINTENANCE, AND REMOVAL OF THE MARKINGS.

ITEM	UNIT	DESCRIPTION
614	MILE	TEMPORARY LANE LINES, CLASS I *
614	MILE	TEMPORARY CENTER LINES, CLASS I *
614	LIN FT	TEMPORARY CHANNELIZING LINES, CLASS I *
614	MILE	TEMPORARY EDGE LINES, CLASS I *
614	LIN FT	TEMPORARY GORE MARKINGS, CLASS II *
614	LIN FT	TEMPORARY STOP LINES, CLASS I, *
614	LIN FT	TEMPORARY CROSSWALK LINES, CLASS I *
614	LIN FT	TEMPORARY DOTTED LINES, CLASS I *

* TYPE MATERIAL (642 PAINT, 740.05 TYPE B OR 740.05 TYPE C OR LEFT BLANK TO PERMIT ANY OF THE THREE)

614 - WORK ZONE MARKING SIGNS

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND SUBSEQUENTLY REMOVE WORK ZONE MARKING SIGNS (OW-167, R-33 AND R-34) AND THEIR SUPPORTS WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

THE CONTRACTOR SHALL,IN ADVANCE OF ANY SECTION OF ROADWAY LACKING OMUTCD STANDARD EDGE LINE MARKINGS, ERECT A "NO EDGE LINES" (OW-167-36) SIGN. ON FREEWAYS AND EXPRESSWAYS AN OW-167-48 SIGN SHALL BE USED. THESE SIGNS SHALL BE IN PLACE PRIOR TO EXPOSING THE ROADWAY TO TRAFFIC. THESE SIGNS SHALL ALSO BE ERECTED ON EACH ENTRANCE RAMP, AT INTERSECTIONS OF THROUGH ROADS TO WARN ENTERING OR TURNING TRAFFIC OF THE CONDITIONS AND AT LEAST ONCE EVERY 2 MILES ALONG THE ROADWAY. THESE SIGNS SHALL BE REMOVED WHEN THEY DO NOT APPLY.

THE CONTRACTOR SHALL AT THE BEGINNING OF EACH NO-PASSING ZONE LACKING OMUTCD STANDARD CENTERLINE MARKINGS, ERECT A "DO NOT PASS" (R-33-30) SIGN AND AT THE END OF EACH NO-PASSING ZONE, ERECT A "PASS WITH CARE" (R-34-30) SIGN.

MATERIALS

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED BUT GOOD CONDITION. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF 730.19. WORK ZONE MARKING SIGNS SHALL BE PROVIDED WITH SUITABLE YIELDING SUPPORTS OF SUFFICIENT STRENGTH AND STABILITY.

METHOD OF MEASUREMENT

WORK ZONE MARKING SIGNS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN, NECESSARY SUPPORTS, AND ALL ATTACHMENT HARDWARE. ALL OTHER WORK ZONE SIGNS SHALL BE INCLUDED IN 614 - MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED.

BASIS OF PAYMENT

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 PLACEMENT, MAINTENANCE, AND REMOVAL OF THE SIGNS.

UNIT	DESCRIPTION
EACH	WORK ZONE MARKING SIGNS

REVISED BY: KJG DATE: 12-16-96

PLAN INSERT SHEET 209910 DATE: 03/03/88

WORK ZONE PAVEMENT MARKINGS AND SIGNS

SUM-271-7.18

QUANTITIES CARRIED FROM CROSS SECTION SHEETS				
SHEET No.	STATION		659 SEEDING AND MULCHING	203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	203 EMBANKMENT
	FROM	TO	SQ.YD.	CU.YD.	CU.YD.
	377+55	377+75	78	279	248
	377+75	378+25	380	1331	1206
	378+25	378+75	369	1198	1141
	378+75	379+25	353	1080	1045
	379+25	379+75	317	911	881
	379+75	380+00	74	208	197
	534+25	534+35	56		33
	534+35	534+50	231	2	274
	534+50	534+65	162		136
	544+00	544+25	125	247	228
	544+25	544+75	500	1025	905
	544+75	545+25	500	1053	914
	545+25	545+75	619	1358	1264
	545+75	546+25	994	2781	2448
	546+25	547+00	1130	2024	3468
	547+00	547+75	552	966	1025
TOTALS ##			6440	14463	15413

AREA FOR 448 AND 301
L = 245', W = 10', AREA = 245' x 10' = 2450 S.F.

ITEM 448 - 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPEI, PG 64-28
1.25"/12 x 2450 S.F. / 27 = 9.45 CU. YD. *

ITEM 448 - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-28
1.75"/12 x 2450 S.F. / 27 = 13.23 CU. YD. *

ITEM 301 - 6" BITUMINOUS AGGREGATE BASE, PG 64-28
6"/12 x 2450 S.F. / 27 = 45.37 CU. YD. *

ITEM 448 - 2" ASPHALT CONCRETE SURFACE COURSE, TYPEI, UNDER GUARDRAIL, PG 64-28.
FOR GR-1, AREA = 300' x 4.5' = 1350 S.F.
2"/12 x 1350 S.F. / 27 = 8.33 CU. YD. *
FOR GR-2, AREA = 50' x 4.5' = 225 S.F.
2"/12 x 225 S.F. / 27 = 1.39 CU. YD. **
FOR GR-3, AREA = 425' x 4.5' = 1912.5 S.F.
2"/12 x 1912.5 S.F. / 27 = 11.81 CU. YD. ***

ITEM SPECIAL - DRAINAGE CONNECTION USING No. 8 AGGREGATE
FOR D-1, AVG. L = 24.20', W = 1.5', DISTANCE = 200'
24.20' x 1.5' x 200' / 27 = 179.26 CU. YD. *
FOR D-2, AVG. L = 26.29', W = 1.5', DISTANCE = 325'
26.29' x 1.5' x 325' / 27 = 316.49 CU. YD. ***
FOR D-3, AVG. L = 24.90', W = 1.5', DISTANCE = 250'
24.90' x 1.5' x 250' / 27 = 230.56 CU. YD. ***
FOR D-4, AVG. L = 25.93', W = 1.5', DISTANCE = 75'
25.93' x 1.5' x 75' / 27 = 72.01 CU. YD. ***

ITEM 601 - ROCK CHANNEL PROTECTION W/O FILTER, TYPE C
FOR P-5,
L = 10', W = 4', D = 1.5'
VOLUME = 10' x 4' x 1.5' / 27 = 2.22 CU. YD. **
FOR P-6,
L = 10', W = 4', D = 1.5'
VOLUME = 10' x 4' x 1.5' / 27 = 2.22 CU. YD. #

TEMPORARY EROSION CONTROL
DRAINAGE AREA FROM CONSTRUCTION @ 7.18
L = 300', W = 70'+34' = 104'
AREA = 300' x 104' / 43560 = 0.72 ACRES
USE STRAW OR HAY BALES FOR FILTER DIKE
LENGTH OF DIKE = 245'
No. OF BALES = 245' / 3.5' = 70 EACH
DRAINAGE AREA FROM CONSTRUCTION @ 10.13
L = 50', W = 105'+22' = 127'
AREA = 50' x 127' / 43560 = 0.15 ACRES
USE STRAW OR HAY BALES FOR FILTER DIKE
LENGTH OF DIKE = 35'
No. OF BALES = 35' / 3.5' = 10 EACH
DRAINAGE AREA FROM CONSTRUCTION @ 10.33
L = 425', AVG. W = 114'+34' = 148'
AREA = 425' x 148' / 43560 = 1.44 ACRES
USE STRAW OR HAY BALES FOR DITCH CHECK AND FILTER DIKE
DITCH CHECK: No. = 1 CHECK, 7 BALES / CHECK
No. OF BALES = 7 EACH
LENGTH OF DIKE = 350'
No. OF BALES = 350' / 3.5' = 100 EACH

ITEM 207 - STRAW OR HAY BALES
70 + 10 + 7 + 100 = 187 EACH => USE 200 EACH ##

ITEM 207 - TEMPORARY SEEDING AND MULCHING
20% OF PERMANENT SEEDING (4420 S.Y.)
0.20 x 6440 S.Y. = 1288 S.Y. ##

ITEM 659 - REPAIR SEEDING AND MULCHING
5% OF PERMANENT SEEDING (4420 S.Y.)
0.05 x 6440 S.Y. = 322 S.Y. ##

ITEM 659 - COMMERCIAL FERTILIZER
10 lbs./1000 S.F. OF TEMPORARY SEEDING AREA +
20 lbs./1000 S.F. OF PERMANENT SEEDING AREA
1288 S.Y. x 9 x 10 lbs./1000 S.F. +
6440 S.Y. x 9 x 20 lbs./1000 S.F. = 1275.12 lbs. = 0.64 TONS ##

ITEM 659 - WATER
2 APPLICATIONS OF 120 GAL./1000 S.F. OF TEMPORARY AND PERMANENT SEEDING AREA
2x(1288 S.Y.+6440 S.Y.) x 9 x 120 GAL./1000 S.F./1000 = 16.7 M-GAL ##

ITEM 659 - AGRICULTURAL LIMING
100 lbs. / 1000 S.F. OF PERMANENT SEEDING AREA
6440 S.Y. x 9 x 100 lbs. / 1000 S.F. = 5796 lbs = 2.90 TONS ##

ITEM 626 - BARRIER REFLECTOR, TYPE A
FOR GR-1, LENGTH = 300', SPACING = 100'
300'/100'+1 = 4 EACH
FOR GR-2, LENGTH = 50', SPACING = 100'
50'/100' = 0.50 EACH, USE 1 EACH
FOR GR-3, LENGTH = 425', SPACING = 100'
425'/100' = 4.25 EACH, USE 5 EACH
TOTAL = 4+1+5 = 10 EACH ##

* QUANTITY CARRIED TO SHEET No. 14.
** QUANTITY CARRIED TO SHEET No. 32.
*** QUANTITY CARRIED TO SHEET No. 15.
\# QUANTITY CARRIED TO SHEET No. 33.
QUANTITY CARRIED TO GENERAL SUMMARY SHEET No. 13.

CALCULATED DAY
CHECKED KS

CALCULATIONS

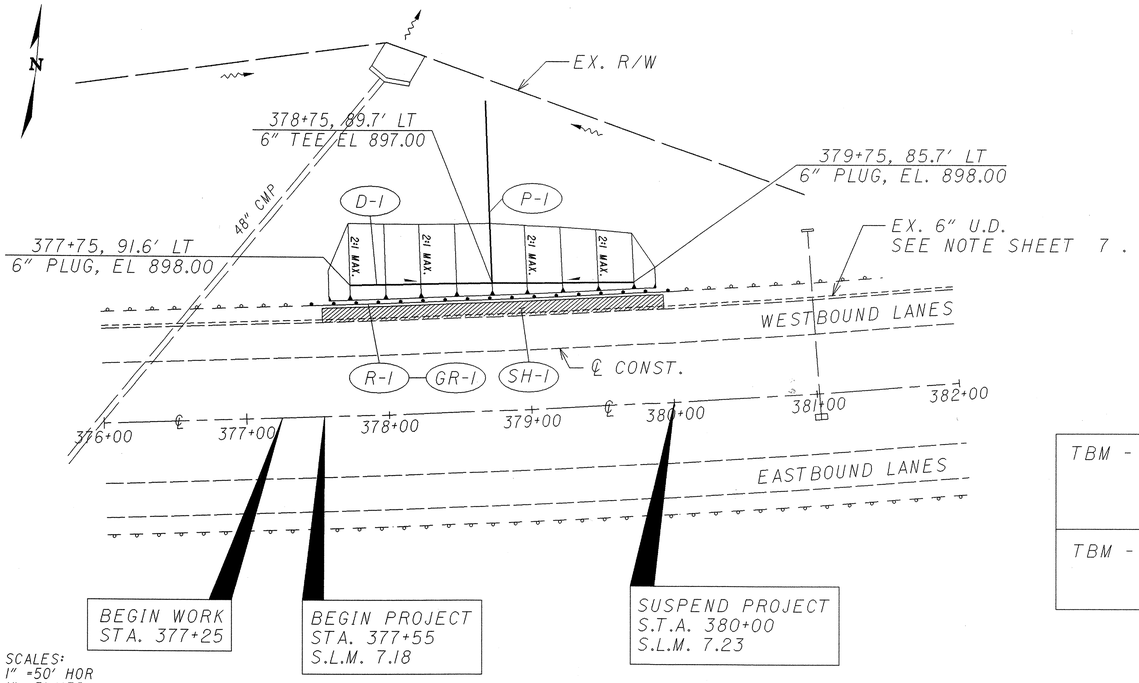
SUM-271-7.18

SHEET NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
7		8	9	12		14	15	32	33							
															ROADWAY	
											201	11000	LUMP		CLEARING AND GRUBBING	
						300	425	50			202	38000	775	LIN FT	GUARDRAIL REMOVED	
							150				202	75000	150	LIN FT	FENCE REMOVED	
40				14463							203	12000	14503	CU YD	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	
40				15413							203	20000	15453	CU YD	EMBANKMENT	
						300	425	50			606	13000	775	LIN FT	GUARDRAIL, TYPE 5	
				10							626	00100	10	EACH	BARRIER REFLECTOR, TYPE A	
															EROSION CONTROL	
				1288							207	10000	1288	SQ YD	TEMPORARY SEEDING AND MULCHING	
				200							207	70000	200	EACH	STRAW OR HAY BALES	
								2	2		601	34200	4	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	
						1	2				604	36600	3	EACH	PRECAST REINFORCED CONCRETE OUTLET	
				6440							659	10000	6440	SQ YD	SEEDING AND MULCHING	
				322							659	14000	322	SQ YD	REPAIR SEEDING AND MULCHING	
				0.64							659	20000	0.64	TON	COMMERCIAL FERTILIZER	
				2.90							659	30000	2.90	TON	AGRICULTURAL LIMING	
				17							659	35000	17	M GAL	WATER	
															DRAINAGE	
								0.3	0.3		602	20000	0.6	CU YD	CONCRETE MASONRY	
						200	650				603	00900	850	LIN FT	6" CONDUIT, TYPE B, 707.41 PERFORATED	
						140	330				603	01500	470	LIN FT	6" CONDUIT, TYPE F, 707.41 NON-PERFORATED	
								90			603	06700	90	LIN FT	15" CONDUIT, TYPE F, 707.07 TYPE C	
									56		603	08200	56	LIN FT	18" CONDUIT, TYPE F, 707.07 TYPE C	
245											605	11100	245	LIN FT	6" SHALLOW PIPE UNDERDRAIN	
						179	619				SPECIAL	60532504	798	CU YD	DRAINAGE CONNECTION USING NO. 8 AGGREGATE	
															PAVEMENT	
						45					301	46000	45	CU YD	BITUMINOUS AGGREGATE BASE, PG64-22	
						13					448	46040	13	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28	
						9					448	47010	9	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-28	
						8	12	1			448	47070	21	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-28	
															MAINTENANCE OF TRAFFIC	
		32									614	11100	32	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
		15									614	13000	15	CU YD	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC	
		84									614	13300	84	EACH	BARRIER REFLECTOR, TYPE B	
		84									614	13350	84	EACH	OBJECT MARKER	
		0.73									614	22300	0.73	MILE	TEMPORARY EDGE LINE, CLASS 1, 740.06, TYPE II	
		2100									622	40020	2100	LIN FT	PORTABLE CONCRETE BARRIER, 32"	
											614	11000	LUMP		MAINTAINING TRAFFIC	
											619	15010	LUMP		FIELD OFFICE, TYPE B	
											SPECIAL	61925010	LUMP		COMPUTER EQUIPMENT FOR TYPE B OR C OFFICE	
											623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
											624	10000	LUMP		MOBILIZATION	

CALCULATED DAY
CHECKED KS

GENERAL SUMMARY

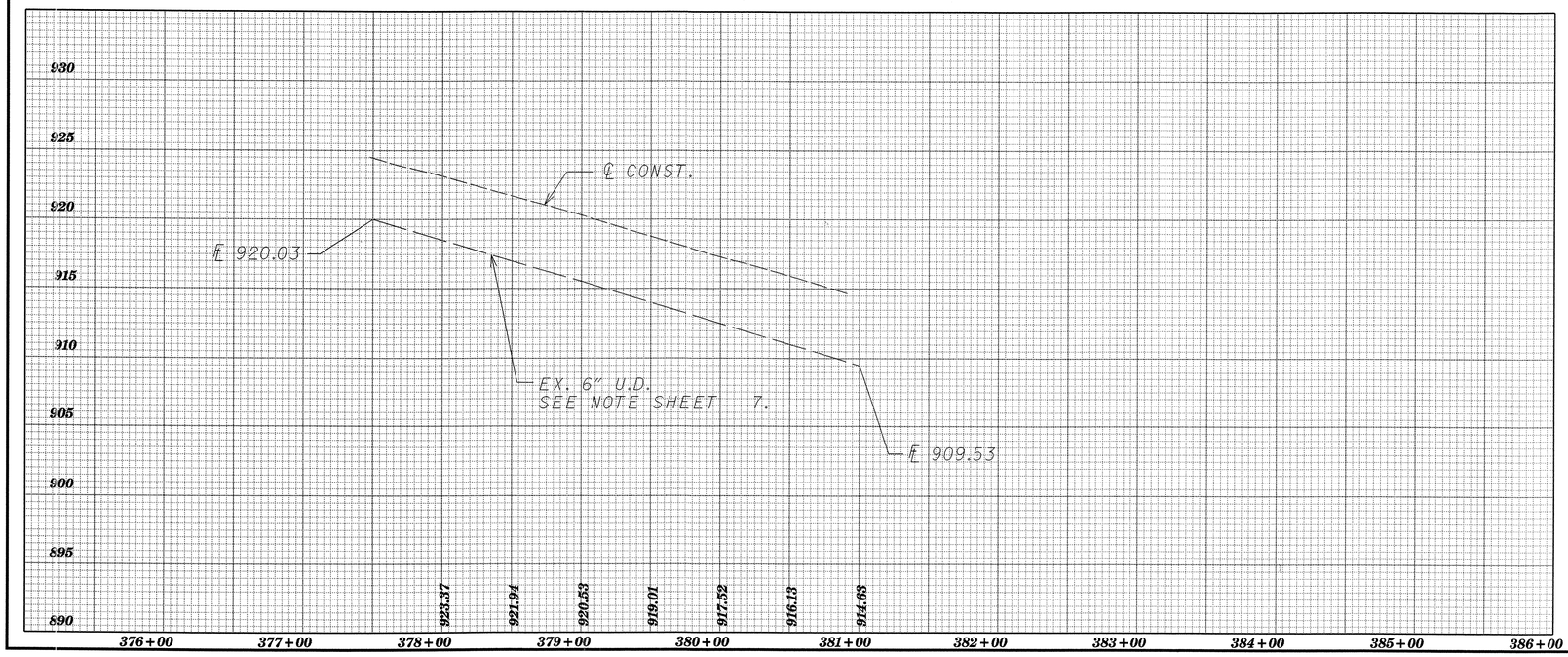
SUM-271-7.18



SCALES:
1" =50' HOR
1" =5' VER

TBM - ALUMINUM DISK SET (9-13-96) ON TOP OF CONC. HEADWALL @ STA. 378+01, 235.35' LT. STAMPED "SUM-271-7.2 1996" ELEV. = 845.88 FT.

TBM - TOP OF ½" SOLID PIN IN CONC. STA. 378+05.90, ℄ I-271 ELEV. = 913.78 FT.



ESTIMATED QUANTITIES

MARK	STATION FROM	STATION TO	202 GUARDRAIL REMOVED LIN.FT.	301 BITUMINOUS AGGREGATE BASE P664-28 6" CU.YD.	448 ASPHALT CONC. INTERMEDIATE COURSE, TYPE 2 (PG64-28) 1.75" CU.YD.	448 ASPHALT CONC. SURFACE COURSE, TYPE 1 (PG64-28) 1.25" CU.YD.	603 6" CONDUIT, TYPE F, 707.41 NON-PERFORATED LIN.FT.	603 6" CONDUIT, TYPE B, 707.41 PERFORATED LIN.FT.	606 GUARDRAIL TYPE 5 LIN.FT.	SPECIAL DRAINAGE CONNECTION USING NO. 8 AGGREGATE CU.YD.	SPECIAL PRECAST REINFORCED CONCRETE OUTLET EACH
D-1	377+75	379+75					140	200	300	179	1
P-1	378+75										
R-1	377+25	380+25	300								
GR-1	377+25	380+25				8.3			300		
SH-1	377+55	380+00		45.4	13.2	9.5					
TOTALS			300	45	13	8	140	200	300	179	1

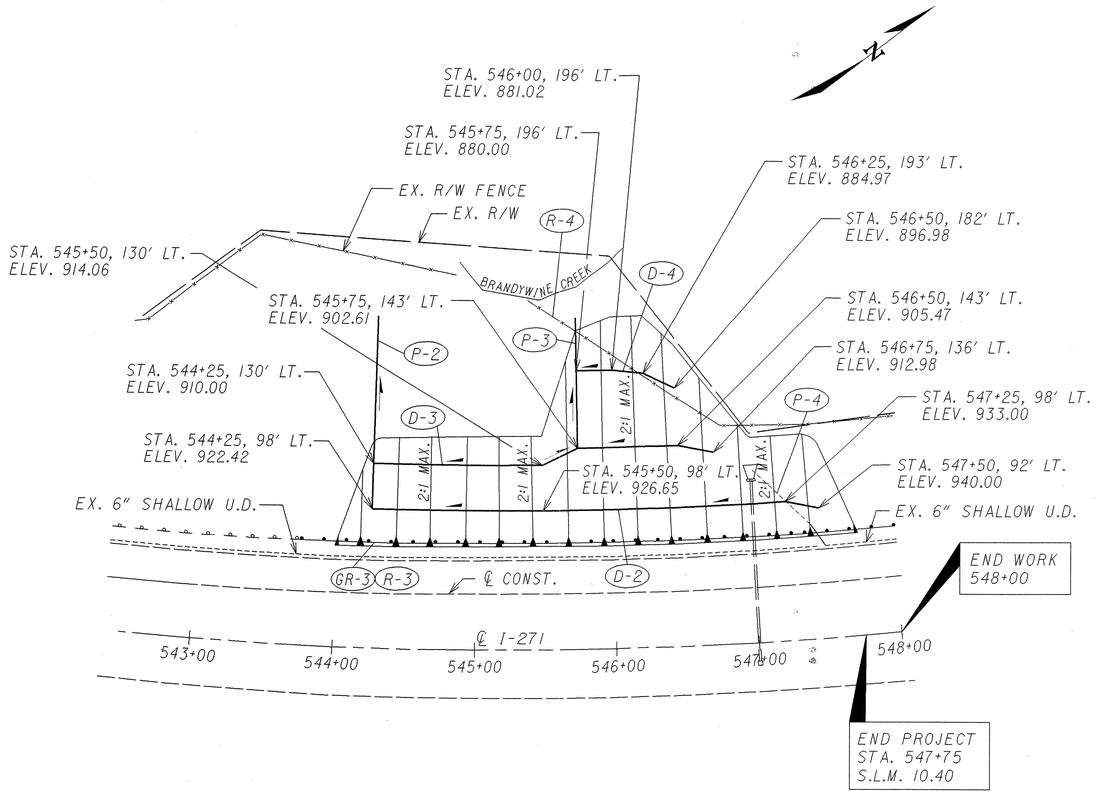
NOTE: TOTALS CARRIED TO GENERAL SUMMARY

HORIZONTAL SCALE IN FEET
0

CALCULATED DAY
CHECKED KS

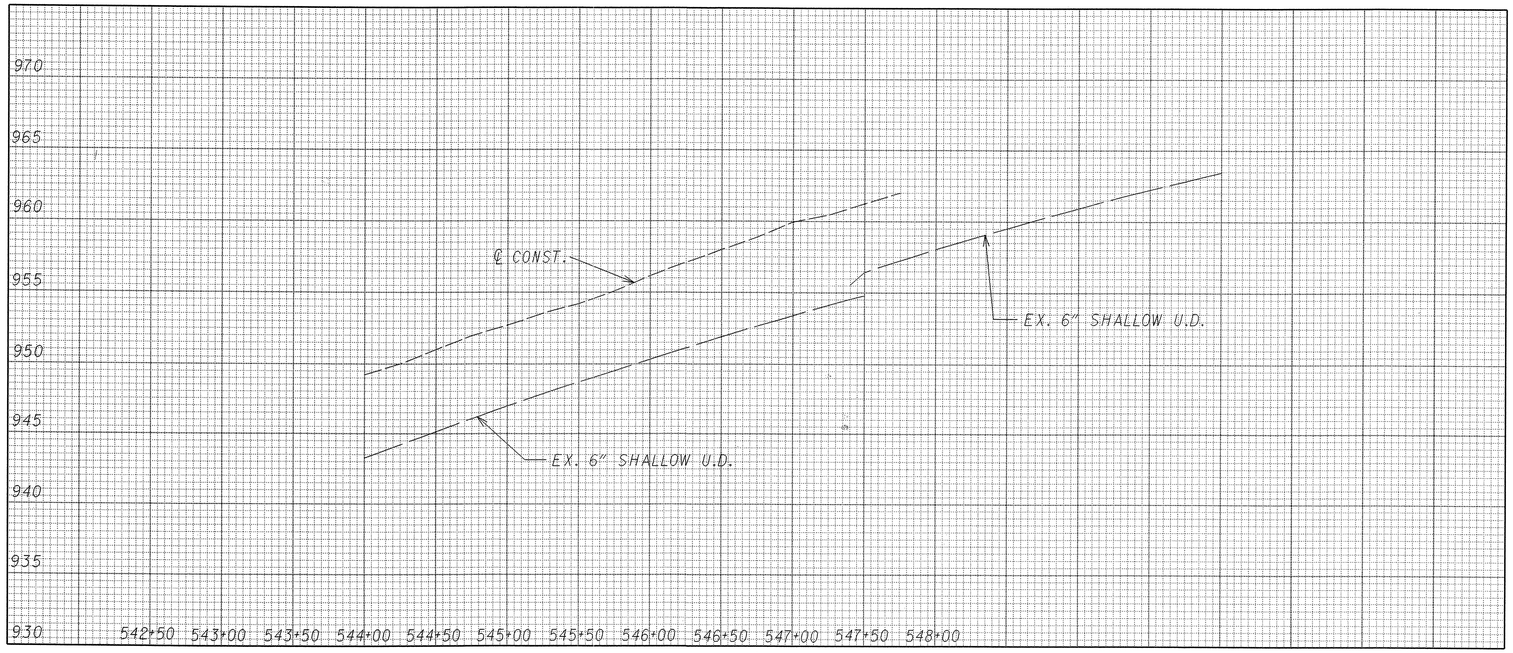
PLAN AND PROFILE

SUM-271-7.18



NOTE:
** RIGHT-OF-WAY FENCE WILL BE REPLACED ON FENCE CONTRACT.
* REPAIR AND EXTEND UNDERDRAIN OUTLET TO ROCK CHANNEL PROTECTION FOR P-6.

TBM - TOP OF ½" SOLID PIN IN CONC.
STA. 546+44.66, ℄ I-271
ELEV. = 953.88 FT.



ESTIMATED QUANTITIES

MARK	STATION FROM	STATION TO	202 GUARDRAIL REMOVED LIN.FT.	202 FENCE REMOVED LIN.FT.	448 ASPHALT CONC. SURFACE COURSE, TYPE I (PG64-28) UNDER GUARDRAIL CU.YD.	603 6" CONDUIT, TYPE F, 707.41 NON-PERFORATED LIN.FT.	606 GUARDRAIL TYPE 5 LIN.FT.	SPECIAL DRAINAGE CONNECTION USING NO. 8 AGGREGATE CU.YD.	SPECIAL PRECAST REINFORCED CONCRETE OUTLET EACH
D-2	544+25	547+50				325		316	
D-3	544+25	546+75				250		231	
D-4	545+75	546+50				75		72	
P-2	544+25								1
P-3	545+75					160			1
P-4*	547+40					110			
R-3	543+75	548+00	425			60			
R-4	545+50	547+00		150					
GR-3	543+75	548+00			11.8		425		
TOTALS			425	150	12	330	425	619	2

NOTE: TOTALS CARRIED TO GENERAL SUMMARY

HORIZONTAL SCALE IN FEET
0

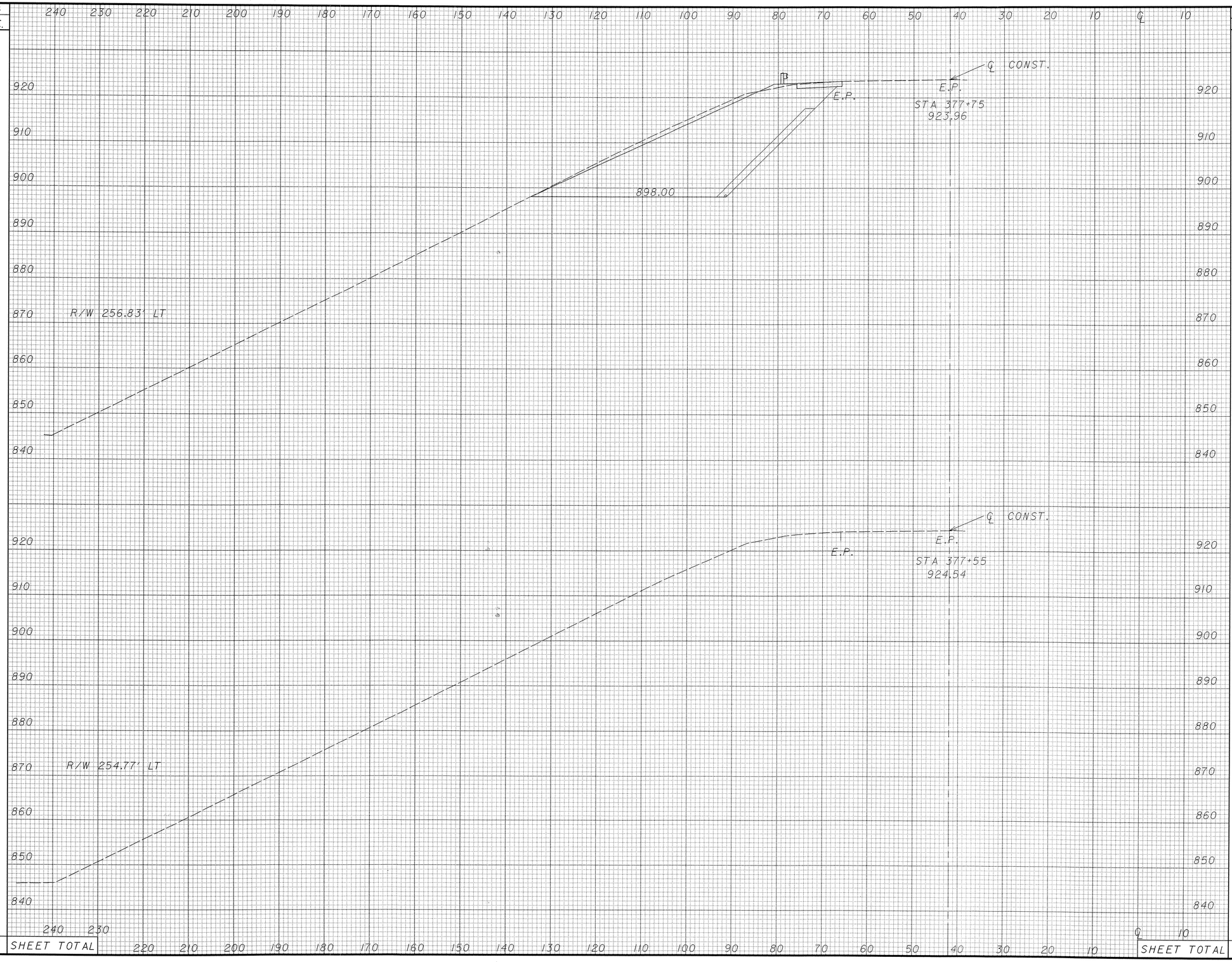
CALCULATED DAY
CHECKED KS

PLAN AND PROFILE

SUM-271-7.18

15
33

SEEDING END WIDTH	SEEDING SQ. YDS.
70	
	78
0	
	78



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
752	670		
		279	248
0	0		
SHEET TOTAL		279	248

CALCULATED DAY
CHECKED KS

CROSS SECTIONS
STA. 377+55 TO STA. 377+75

SUM-271-7.18

16
33

SEEDING END WIDTH	SEEDING SQ. YDS.
67	
	188
68	
	192
70	
	380

240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10

920 910 900 890 880 870 860 850 840

℄ CONST.
E.P.
E.P.
STA 378+25
922.66
897.50
R/W 252.21' LT

℄ CONST.
E.P.
E.P.
STA 378+00
923.37
897.75
R/W 259.39' LT

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
677	631		
		648	594
722	652		
		683	612
FROM STA 377+75 752	670		
SHEET TOTAL		1331	1206

CALCULATED DAY
CHECKED KS

CROSS SECTIONS
STA. 378+00 TO STA. 378+25

SUM-271-7.18

17
33

SEEDING END WIDTH	SEEDING SQ. YDS.
66	
	184
66	
	185
67	
	369

240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10

920 910 900 890 880 870 860 850 840

R/W 231.81' LT

℄ ELEV. 895.91
125.7 LT

897.00

℄ ELEV. 852.81
210.5 LT

℄ ELEV. 852.55
219.2 LT

E.P.

℄ CONST.

E.P.
STA 378+75
921.24

R/W 242.01' LT

897.25

E.P.

℄ CONST.

E.P.
STA 378+50
921.94

SHEET TOTAL

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
612	604		
		584	564
649	614		
		614	577
FROM STA 378+25 677	631		
SHEET TOTAL		1198	1141

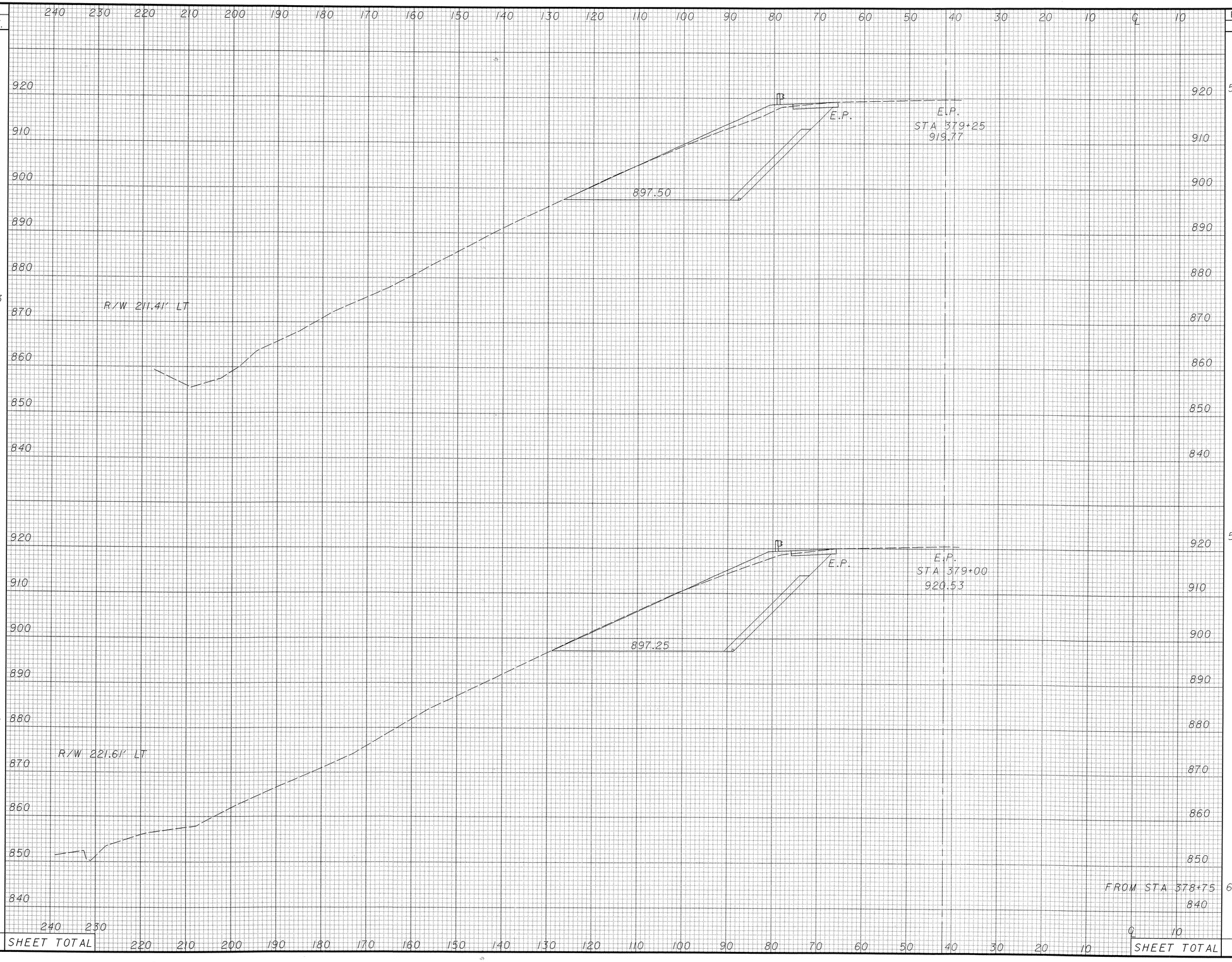
CALCULATED DAY
CHECKED KS

CROSS SECTIONS
STA. 378+50 TO STA. 378+75

SUM-271-7.18

18
33

SEEDING END WIDTH	SEEDING SQ. YDS.	
61		
	173	
63		
	180	
66		
	353	SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
540	525		
		523	504
590	563		
		557	541
612	604		
		1080	1045

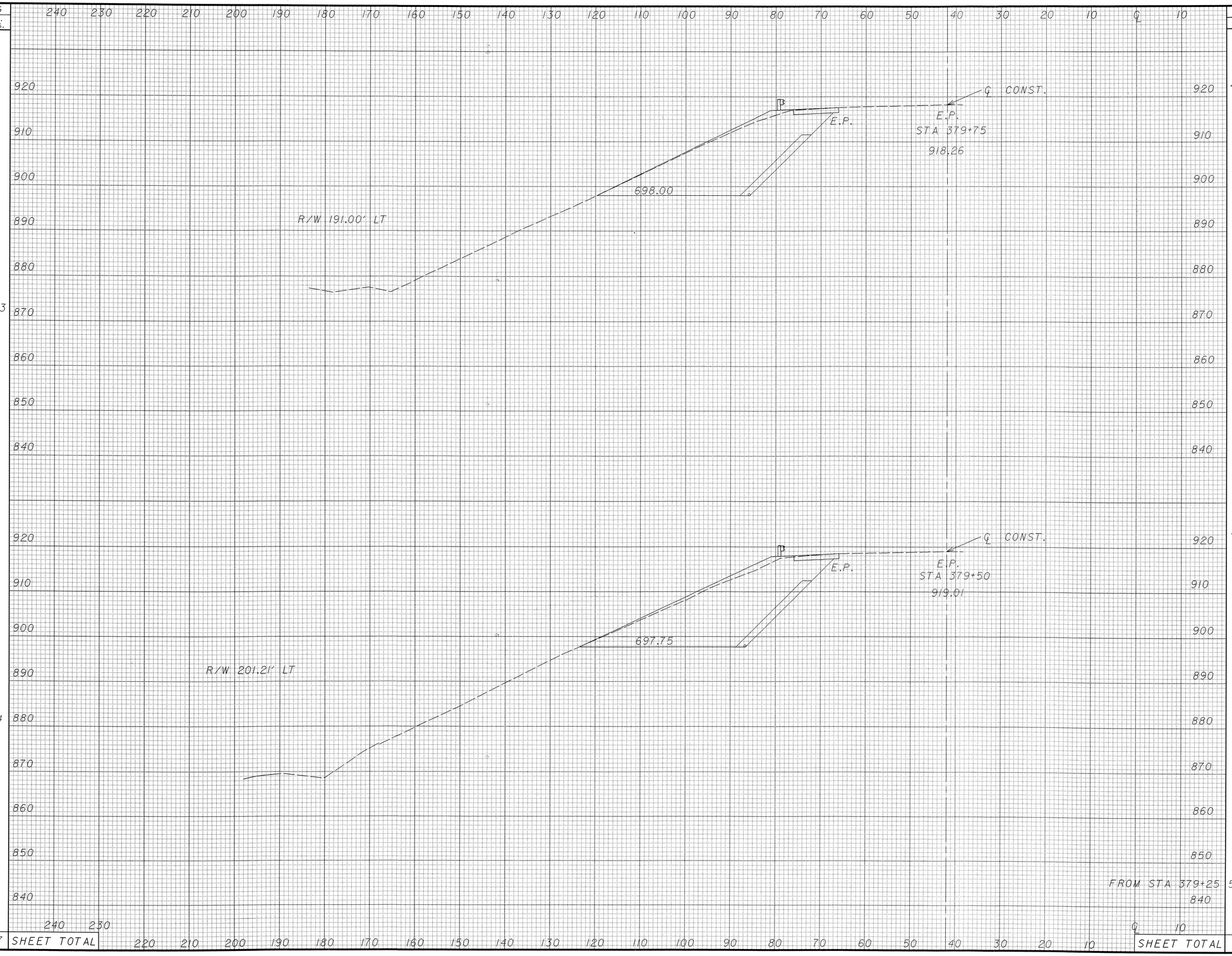
CALCULATED DAY
CHECKED KS

CROSS SECTIONS STA. 379+00 TO STA. 379+25

SUM-271-7.18

19
33

SEEDING END WIDTH	SEEDING SQ. YDS.
53	
	153
57	
	164
61	
	317



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
446	424		
		434	417
489	477		
		477	464
FROM STA 379+25			
540	525		
SHEET TOTAL		911	881

CALCULATED DAY
CHECKED KS

CROSS SECTIONS
STA. 379+50 TO STA. 379+75

SUM-271-7.18

20
33

SEEDING	
END WIDTH	SQ. YDS.
0	
	74
53	
	74

240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10

920 910 900 890 880 870 860 850 840

R/W 180.80' LT

℄ CONST.

E.P.

E.P. STA 380+00

917.52

240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10

SHEET TOTAL 74

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		208	197
FROM STA 379+75			
446	424		
SHEET TOTAL		208	197

CALCULATED DAY

CHECKED KS

CROSS SECTIONS STA. 380+00

SUM-271-7.18

21/33

SEEDING	
END WIDTH	SQ. YDS.
100	
	56
0	
56	SHEET TOTAL

240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 $\mathcal{Q}_L$ 10

920 910 900 890 880 870 860 850

R/W 173.00' LT

AS PER 203.09 OF '97 CMS

P

E.P.

$\mathcal{Q}_L$ CONST.

E.P.
STA 534+35
912.72

R/W 175.00' LT

P

E.P.

E.P.
STA 534+25
912.42

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	176		
		0	33
0	0		
SHEET TOTAL		0	33

CALCULATED DAY
CHECKED KS

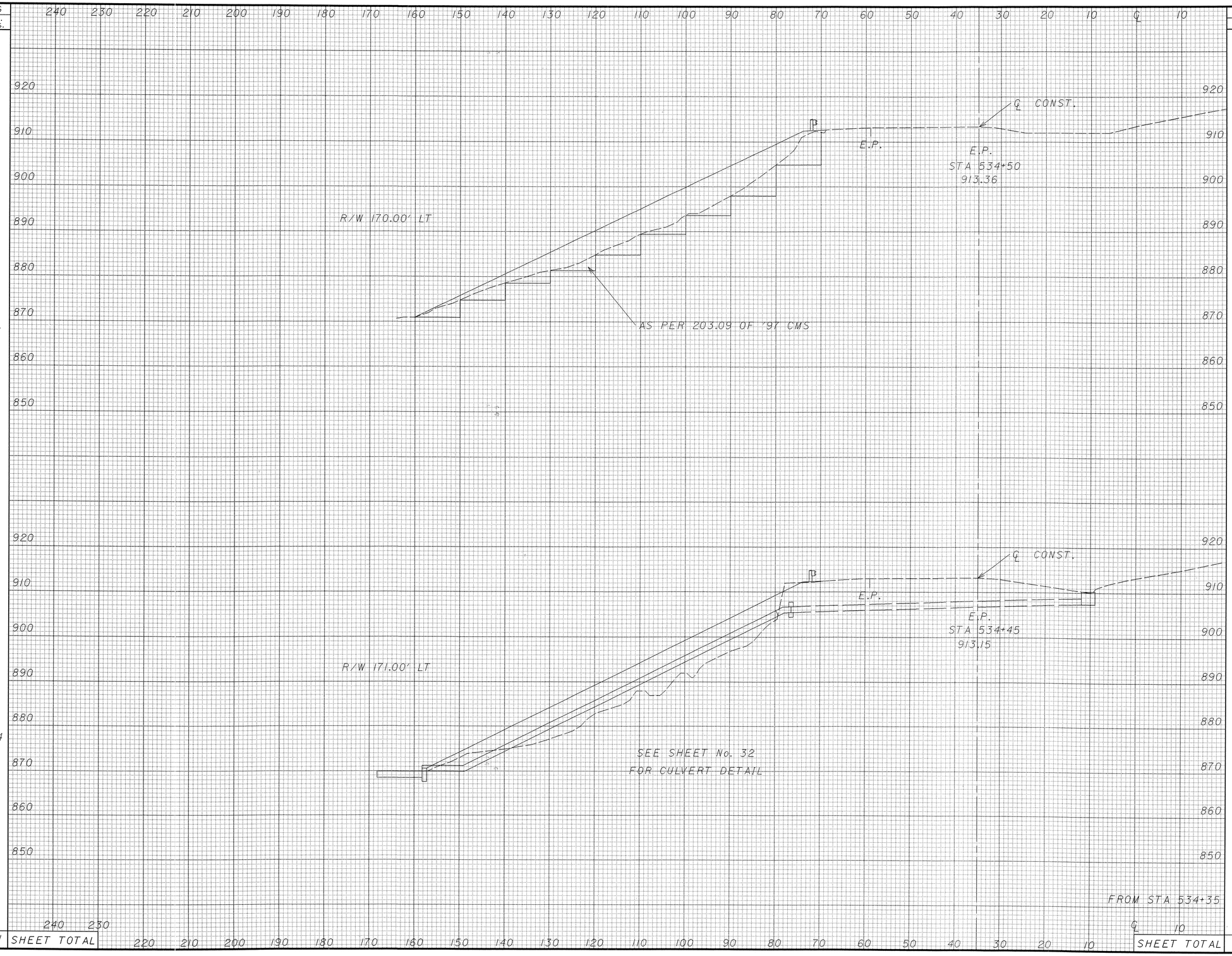
CROSS SECTIONS STA. 534+25 TO STA. 534+35

SUM-271-7.18

STA. 534+35

22
33

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
105						
	117				1	155
105			0	370		
	114				1	119
105			4	464		
100		FROM STA 534+35	0	176		
	231	SHEET TOTAL			2	274



CALCULATED DAY

CHECKED KS

CROSS SECTIONS

STA. 534+45 TO STA. 534+50

SUM-271-7.18

23
33

SEEDING			END AREA		VOLUME	
END WIDTH	SO. YDS.		CUT	FILL	CUT	FILL
0		240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10	0	0		
	52	R/W 167.00' LT			0	34
93		R/W 169.00' LT	0	181		
	110	AS PER 203.09 OF 97 CMS			0	102
105		FROM STA 534+50	0	370		
	162	SHEET TOTAL			0	136

CALCULATED DAY
CHECKED KS

CROSS SECTIONS
STA. 534+55 TO STA. 534+65

SUM-271-7.18

24
33

SEEDING	
END WIDTH	SQ. YDS.
90	
	125
0	
125	SHEET TOTAL

250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄

950 940 930 920 910 900 890 880 870

R/W 283.40' LT

℄ ELEV. 871.33
217.91' LT

℄ ELEV. 870.92
231.53' LT

910.00

922.42

℄ ELEV. 909.42
142.52' LT

℄ ELEV. 921.77
119.33' LT

℄ CONST.
(37.69' LT)

E.P.
STA 544+25
950.02

E.P.

℄ CONST.
(37.60' LT)

E.P.
STA 544+00
949.24

E.P.

R/W 284.60' LT

END AREA		VOLUME	
CUT	FILL	CUT	FILL
533	491		
		247	228
0	0		
		247	228

CALCULATED DAY
CHECKED KS

CROSS SECTIONS STA. 544+00 TO STA. 544+25

SUM-271-7.18

STA.

25/33

SEEDING	
END WIDTH	SQ. YDS.
90	
	250
90	
	250
90	
500	SHEET TOTAL

250 240 250 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄

950 940 930 920 910 900 890 880 870

R/W 281.00' LT

924.31

911.72

℄ CONST. (37.87' LT)

E.P.

E.P. STA 544+75 951.88

R/W 282.20' LT

923.46

910.87

℄ CONST. (37.78' LT)

E.P.

E.P. STA 544+50 951.03

END AREA		VOLUME	
CUT	FILL	CUT	FILL
549	480		
		516	450
565	491		
FROM STA 544+25	533	491	
		509	455
SHEET TOTAL		1025	905

CALCULATED DAY

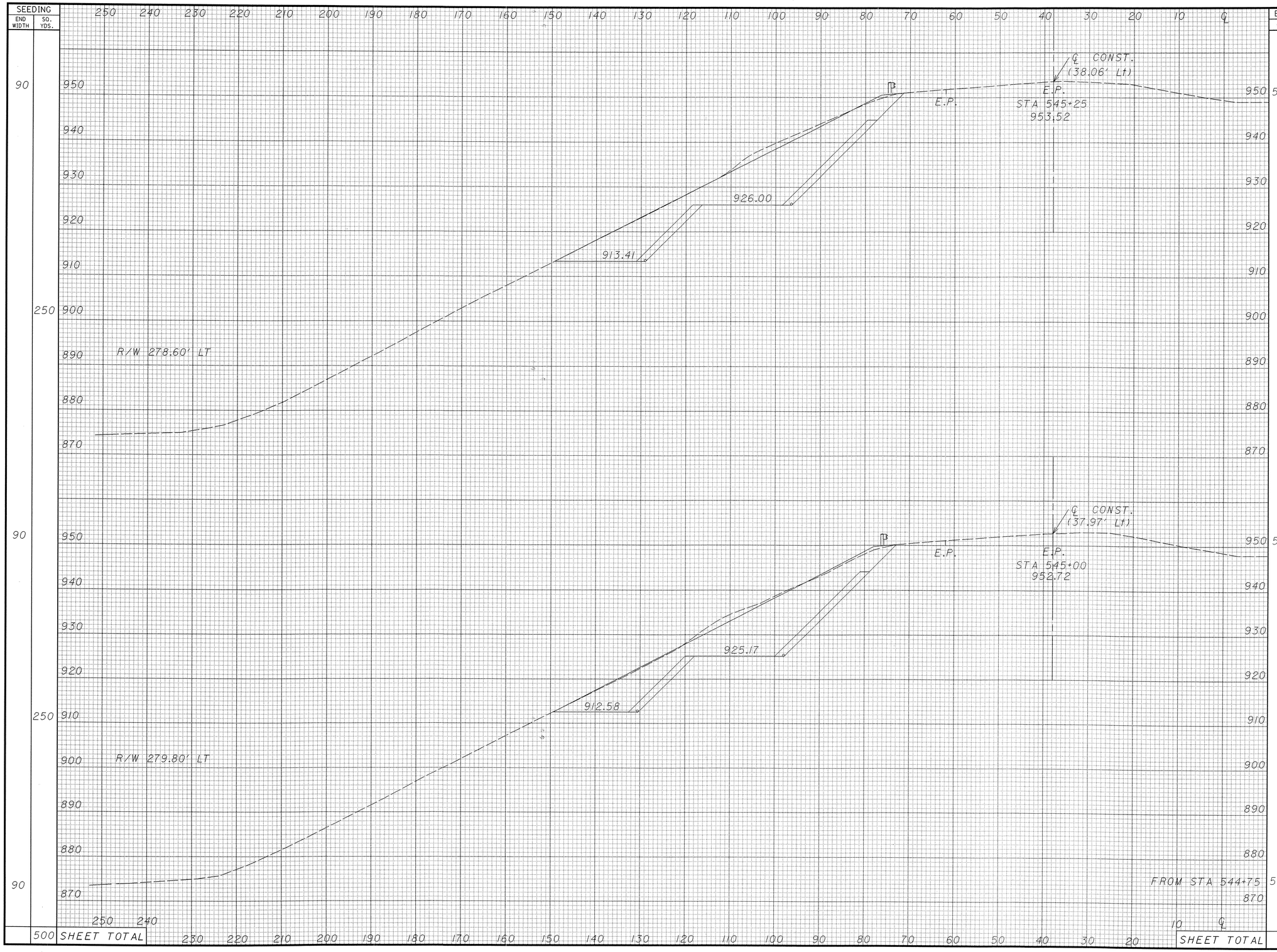
CHECKED KS

CROSS SECTIONS STA. 544+50 TO STA. 544+75

SUM-271-7.18

26
33

SEEDING END WIDTH	SEEDING SQ. YDS.
90	
	250
90	
	250
90	
	500



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
599	515		
		538	465
563	489		
		515	449
549	480		
		1053	914

CALCULATED DAY
CHECKED KS

CROSS SECTIONS
STA. 545+00 TO STA. 545+25

SUM-271-7.18

SEEDING END WIDTH	SEEDING SQ. YDS.
173	
	367
91	
	252
90	
	619

250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄

950 940 930 920 910 900 890 880 870

R/W 276.20' LT

902.61

℄ ELEV. 901.71
172.93' LT

880.00

℄ ELEV. 879.32
218.03' LT

℄ ELEV. 879.00
226.00' LT

927.61

E.P.

℄ CONST.
(38.24' LT)

E.P.
STA 545+75
955.09

914.06

926.65

R/W 277.40' LT

℄ CONST.
(38.15' LT)

E.P.

E.P.
STA 545+50
954.18

FROM STA 545+25

SHEET TOTAL

SHEET TOTAL

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	1223	1211	
		0	0
	555	501	
	535	471	
	599	515	
	1358	1264	

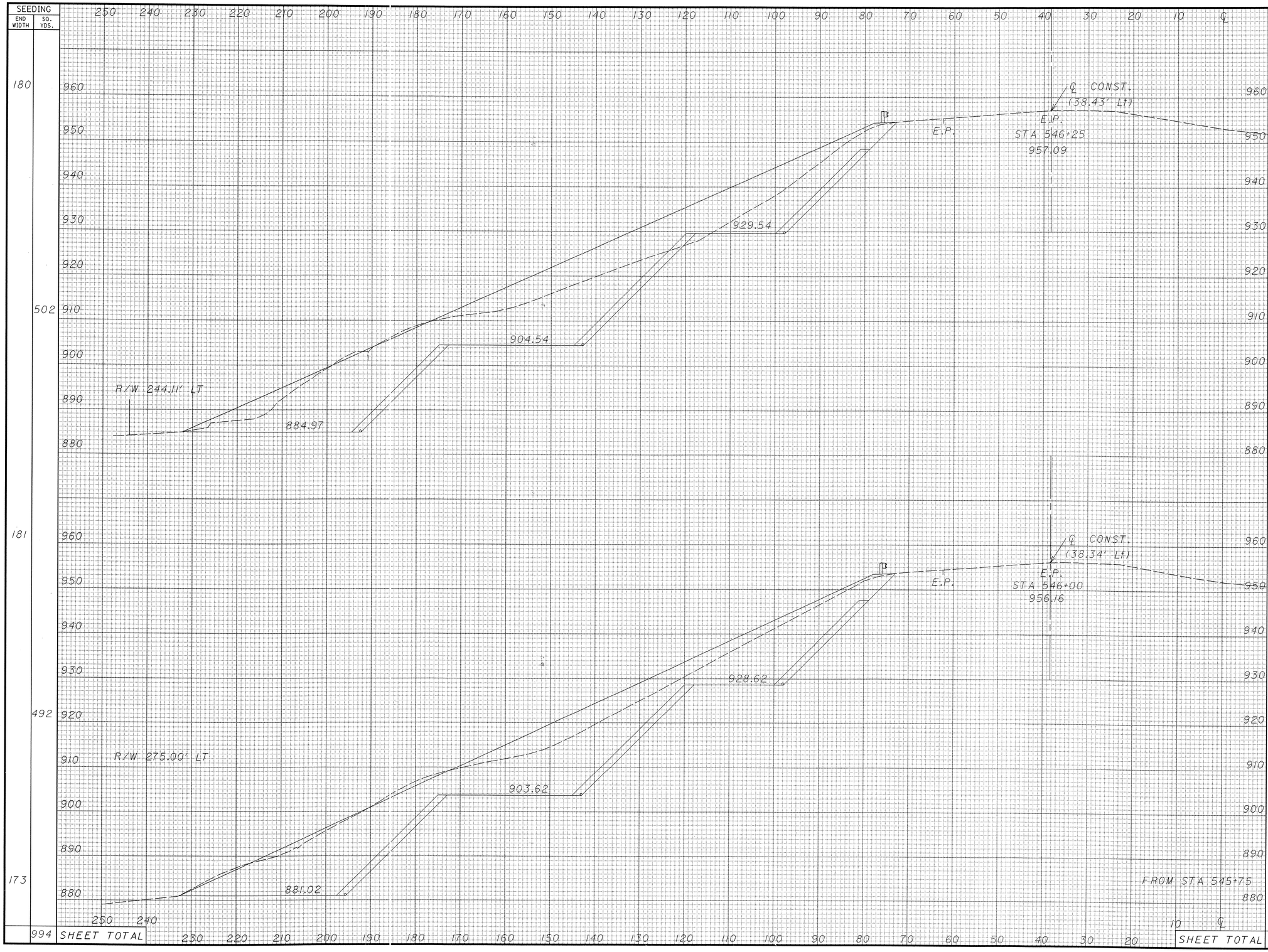
CALCULATED DAY
CHECKED KS

CROSS SECTIONS
STA. 545+50 TO STA. 545+75

SUM-271-7.18

28
33

SEEDING END WIDTH	SEEDING SQ. YDS.
180	
	502
181	
	492
173	
	994



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
1215	1675		
		1222	1498
1424	1561		
		1226	1283
1223	1211		
		2448	2781

SHEET TOTAL

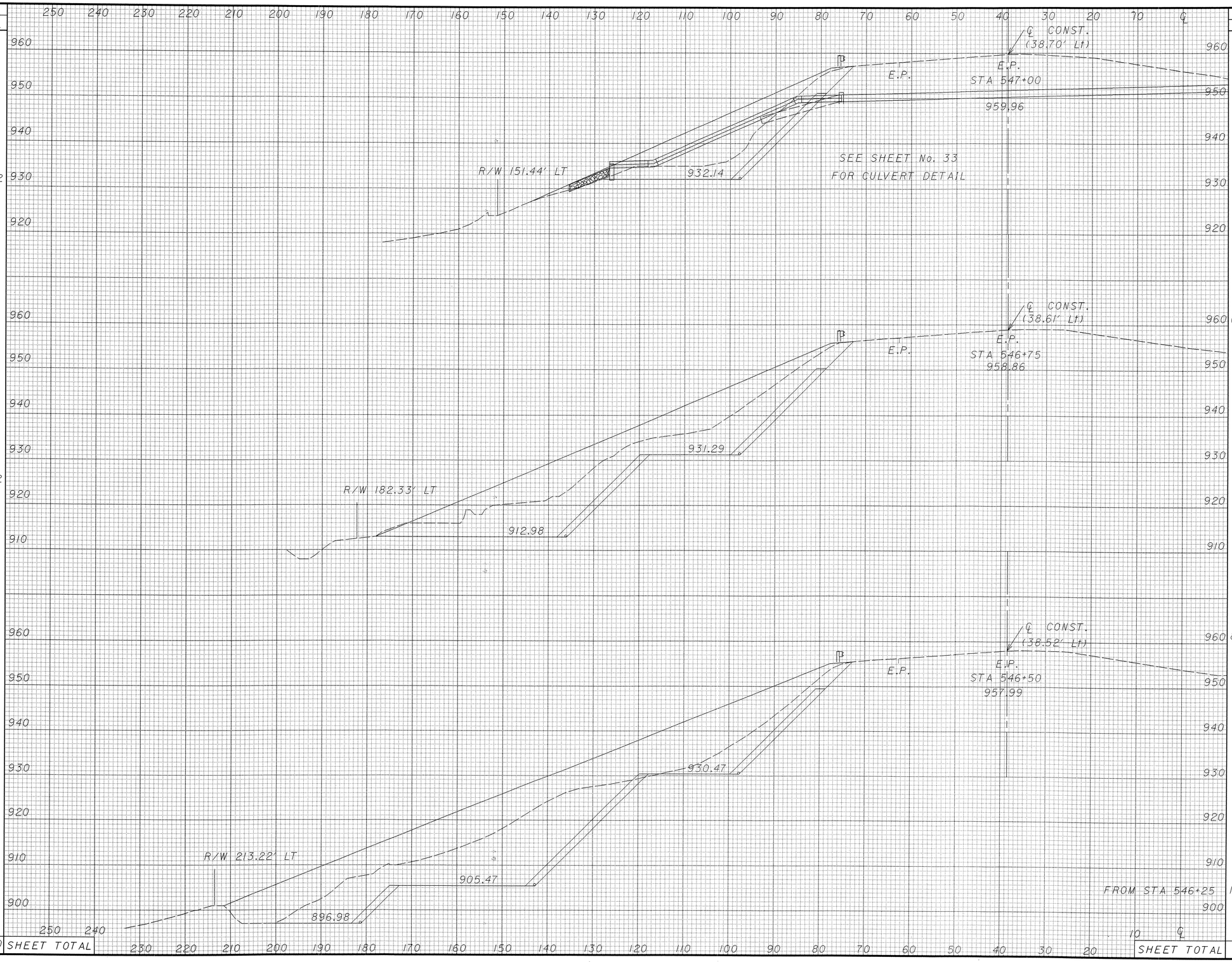
CALCULATED DAY
CHECKED KS

CROSS SECTIONS
STA. 546+00 TO STA. 546+25

SUM-271-7.18

29
33

SEEDING END WIDTH	SEEDING SQ. YDS.
83	
	282
120	
	382
155	
	466
180	
	1130



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
215	463		
		389	671
625	985		
		681	1239
846	1690		
		954	1558
1215	1675		
		2023	3468

SHEET TOTAL

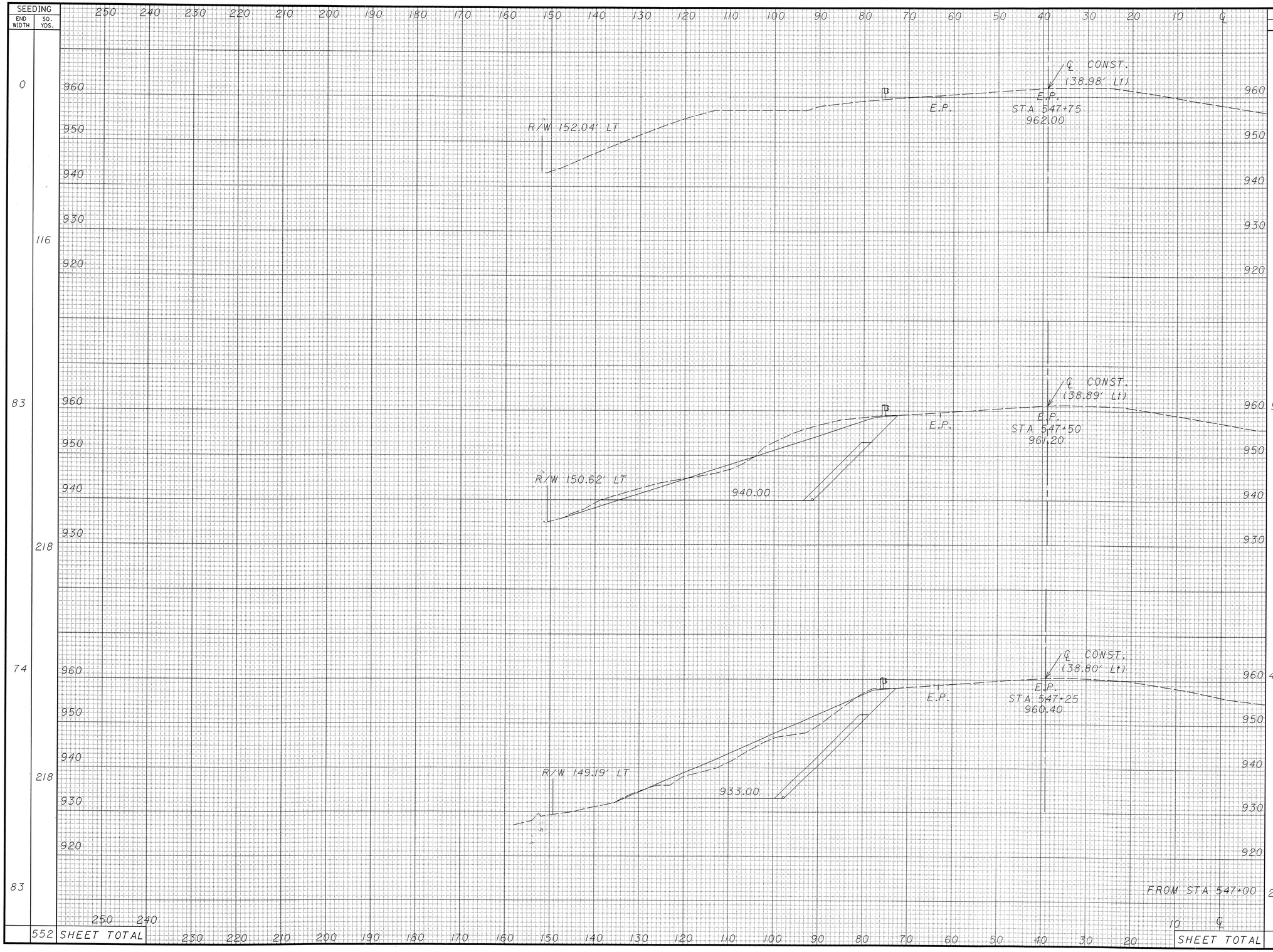
CALCULATED DAY
CHECKED KS

CROSS SECTIONS
STA. 546+50 TO STA. 547+00

SUM-271-7.18

30
33

SEEDING END WIDTH	SEEDING SQ. YDS.
0	
	116
83	
	218
74	
	218
83	
	552



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0		
		235	194
506	418		
		433	405
429	456		
		298	426
215	463		
		966	1025

CALCULATED DAY

CHECKED KS

CROSS SECTIONS
STA. 547+25 TO STA. 547+75

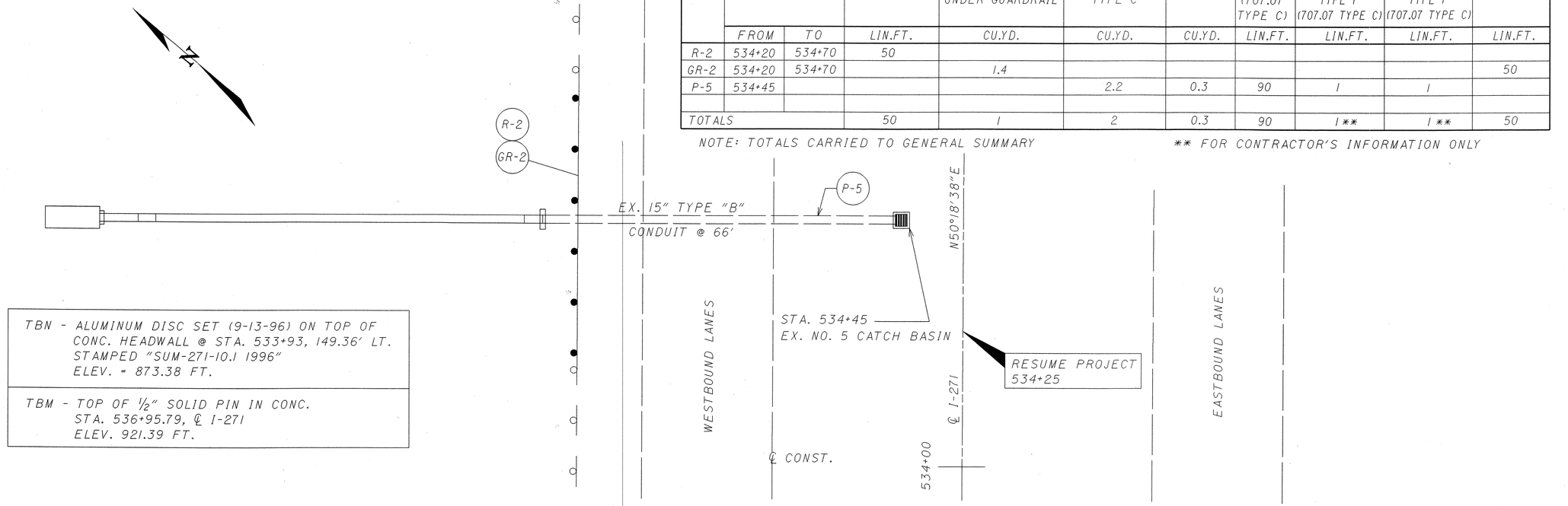
SUM-271-7.18

ESTIMATED QUANTITIES

MARK	STATION		202 GUARDRAIL REMOVED	448 ASPHALT CONC. SURFACE COURSE, TYPE I (PG64-28) UNDER GUARDRAIL	601 ROCK CHANNEL PROTECTION, W/O FILTER, TYPE C	602 CONCRETE MASONRY	603 15" CONDUIT, TYPE F (707.07 TYPE C)	603 15" BENDS @ 25 DEGREES TYPE F (707.07 TYPE C)	603 15" BENDS @ 27 DEGREES TYPE F (707.07 TYPE C)	606 GUARDRAIL TYPE 5
	FROM	TO	LIN.FT.	CU.YD.	CU.YD.	CU.YD.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.
R-2	534+20	534+70	50							
GR-2	534+20	534+70		1.4						50
P-5	534+45				2.2	0.3	90	1	1	
TOTALS			50	1	2	0.3	90	1**	1**	50

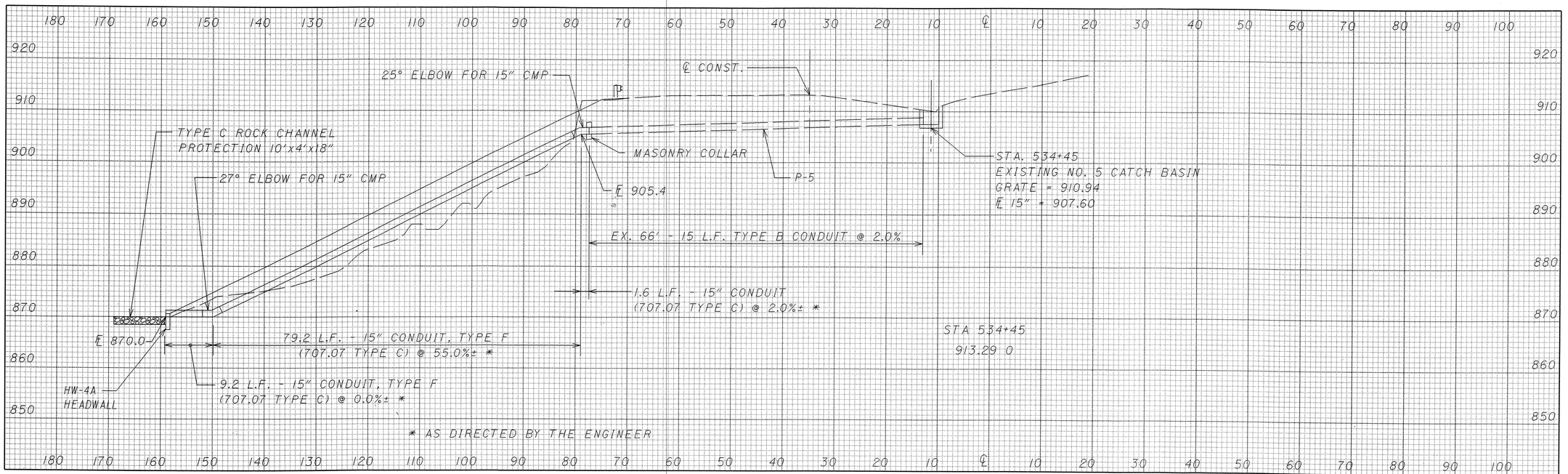
NOTE: TOTALS CARRIED TO GENERAL SUMMARY

** FOR CONTRACTOR'S INFORMATION ONLY



TBN - ALUMINUM DISC SET (9-13-96) ON TOP OF CONC. HEADWALL @ STA. 533+93, 149.36' LT. STAMPED "SUM-271-10.1 1996" ELEV. = 873.38 FT.

TBM - TOP OF ½" SOLID PIN IN CONC. STA. 536+95.79, ℄ I-271 ELEV. 921.39 FT.



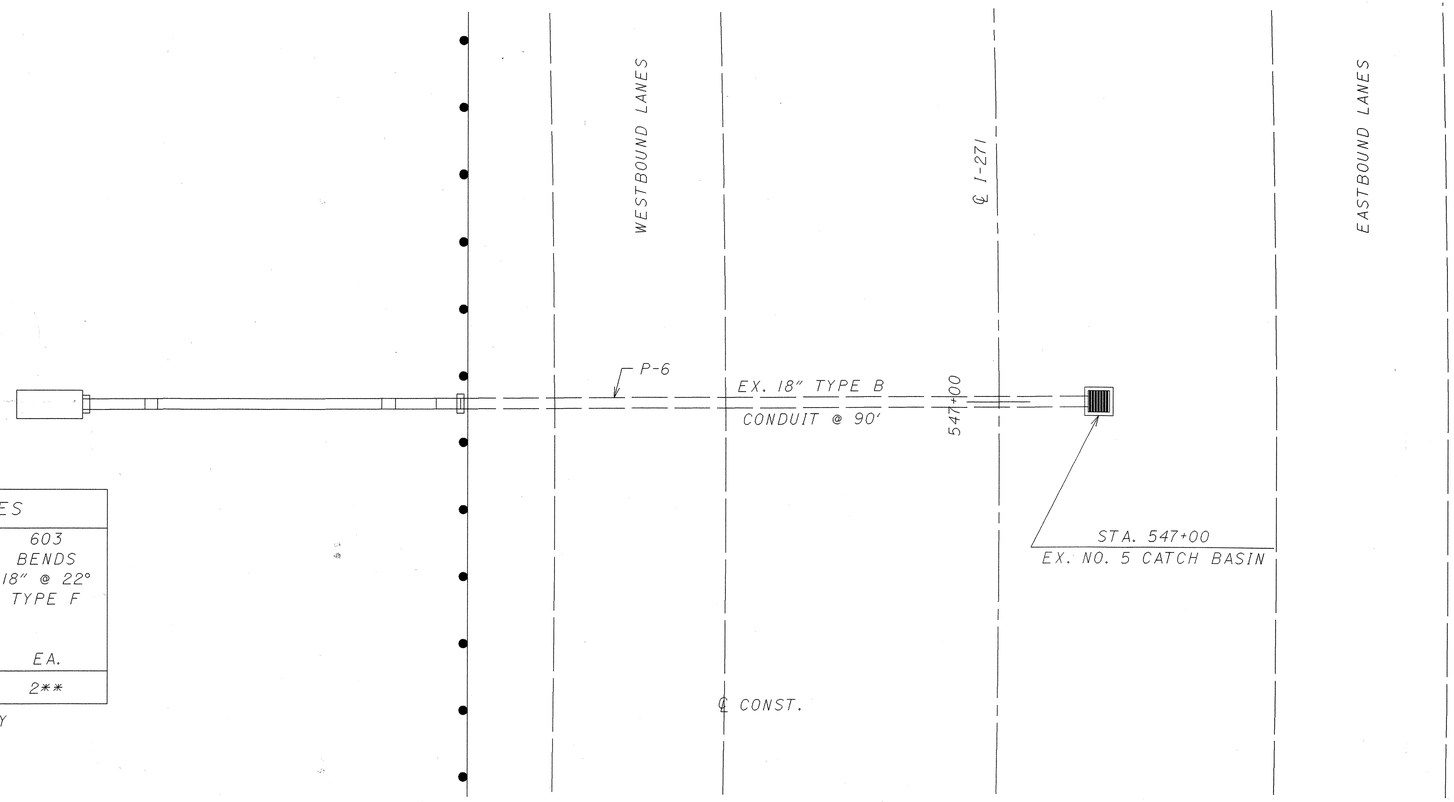
HORIZONTAL SCALE IN FEET

CALCULATED DAY

CHECKED KS

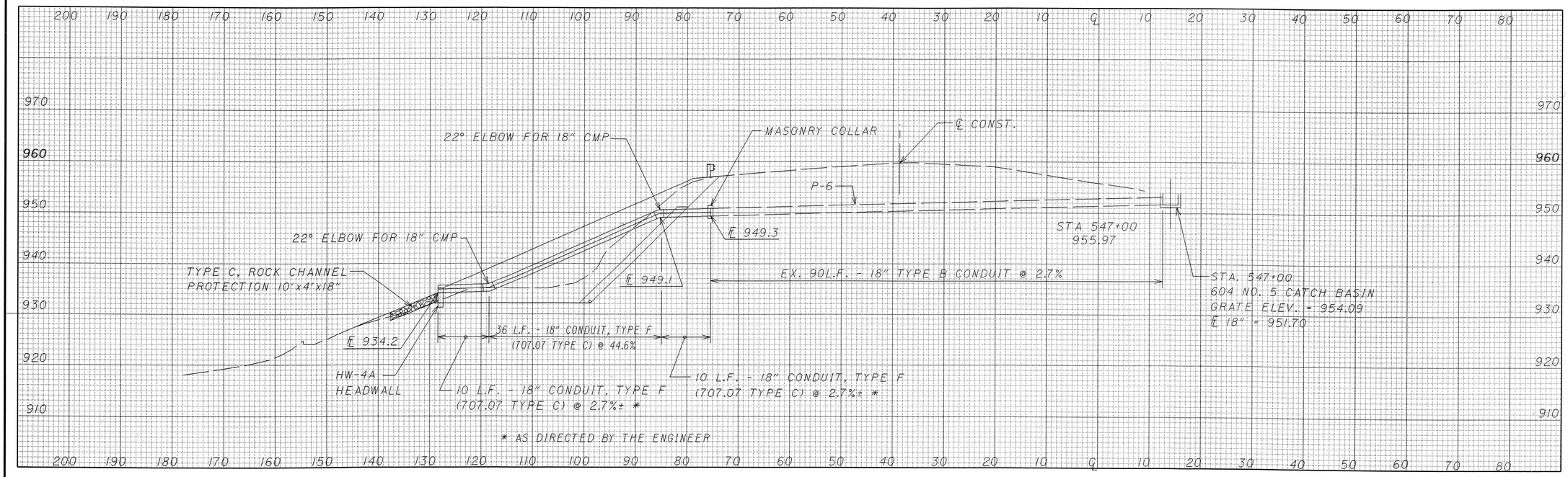
CULVERT REPAIR STA. 534+45

SUM-271-7.18



SUMMARY OF QUANTITIES			
601 ROCK CHANNEL PROTECTION W/O FILTER TYPE C C.Y.	602 CONCRETE MASONRY C.Y.	603 18" CONDUIT, TYPE F (707.07 TYPE C) L.F.	603 BENDS 18" @ 22° TYPE F EA.
2	0.3	56'	2**

NOTE: TOTALS CARRIED TO GENERAL SUMMARY
** FOR CONTRACTOR'S INFORMATION ONLY



HORIZONTAL SCALE IN FEET
0 10 20

CALCULATED DAY
CHECKED KS

CULVERT REPAIR STA. 547+00

SUM-271-7.18

33
33