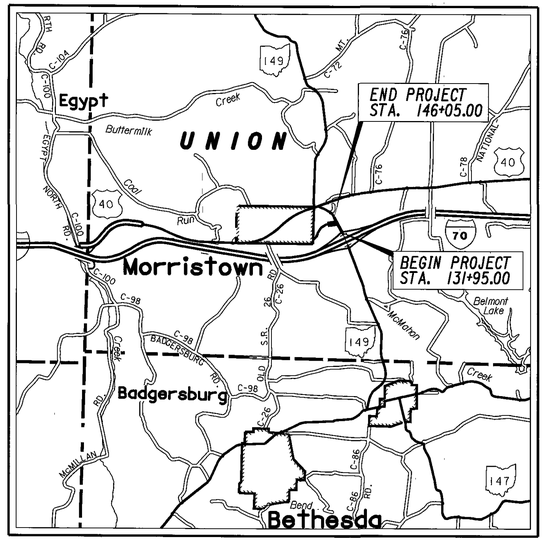


LOCATION MAP

LATITUDE: N40°03'45" LONGITUDE: W81°03'15"

SCALE IN MILES
0 1 2 3 4

PORTION TO BE IMPROVED
STATE & FEDERAL ROUTES
OTHER ROADS

FOR DESIGN DESIGNATION & DESIGN EXCEPTIONS - SEE SHEET NO. 2.

PROJECT EDA	1.38 Acres
CONTRACTOR EDA	0.47 Acres
NOI EDA	4.90 Acres

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:
O.D.O.T.
DISTRICT 11
NEW PHILADELPHIA, OHIO

ENGINEERS SEAL:
STATE OF OHIO
TIMOTHY EARL STILLION
61138
REGISTERED PROFESSIONAL ENGINEER
SIGNED: Timothy E Stillion
DATE: 10-7-04

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BEL-149-23.77

UNION TOWNSHIP
BELMONT COUNTY

INDEX OF SHEETS

PROJECT DESCRIPTION

IMPROVEMENT OF 389.44' (0.07 MILES) OF TR 1569 AND 1410' (0.27 MILES) OF SR 149 IN BELMONT COUNTY BY THE CONSTUCTION OF NEW PAVEMENT AND SHOULDERS ON TR 1569 AND THE WIDENING OF SR 149 TO ADD BOTH LEFT AND RIGHT TURN LANES INCLUDING ADDING A SIGNAL AT THE INTERSECTION OF TR 1569 AND SR 149.

2002 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 THE PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED _____
DATE 10-8-04 DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE 1-10-05 DIRECTOR, DEPARTMENT OF TRANSPORTATION

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	7-16-04	GR-1.1	7-16-04	MT-97.12	4-19-02	TC-42.10	1-19-01	TC-83.10	5-01-00	832	4-17-04
						TC-42.20	7-16-04			833	2-12-03
BP-4.1	7-16-04	GR-2.1	1-16-04	MT-101.20	10-18-02			TC-83.20	1-16-04	908	4-18-03
						TC-52.10	4-20-01			1003	4-19-02
BP-5.1	7-28-00	GR-4.1	4-18-03	MT-101.60	10-18-02	TC-52.20	4-20-01	TC-84.20	5-01-00	1046	1-16-04
CB-1.1	7-19-02							TC-84.21	3-06-00	1048	4-19-02
CB-2.1	7-19-02	HW-2.1	7-19-02	MT-105.10	10-18-02	TC-65.10	10-19-01			1049	1-17-03
CB-2.2	7-19-02	HW-2.2	7-19-02	MT-105.11	10-18-02	TC-65.12	10-19-01	TC-85.20	5-01-00	1063	4-19-02
CB-2.3	7-19-02										
				MT-120.00	3-01-00	TC-71.10	4-19-02				
CB-3.1	7-19-02	MH-1.2	7-19-02								
DM-1.1	7-18-03			HL-30.11	4-19-02	TC-73.10	1-19-01				
DM-1.2	7-19-02										
DM1.4	7-19-02			TC-41.10	1-19-01	TC-81.10	5-01-00				
DM-4.3	7-19-02			TC-41.20	1-19-01						
DM-4.4	7-19-02					TC-82.10	4-19-02				

SUPPLEMENTAL SPECIFICATIONS

SPECIAL PROVISIONS

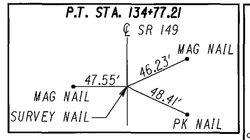
FEDERAL PROJECT NO. E040(932)
PID NO. 76265
CONSTRUCTION PROJECT NO. BEL-149-23.77
RAILROAD INVOLVEMENT NONE
1/84

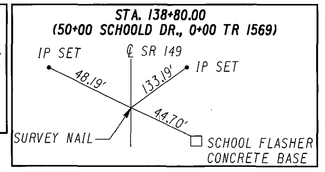
BEL - SR 149-23.77
050175 PID - 76265
Dist 11 3/23/2005

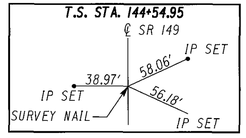
HORIZONTAL CONTROL POINTS

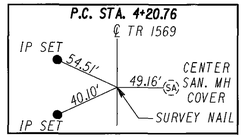
STATION	OFFSET	NORTH	EAST	ELEVATION	REMARKS
134+77.21	℄	6142.96	6731.37	--	℄ REFERENCE
138+80.00*	℄	6504.28	6553.34	--	℄ REFERENCE
144+54.95	℄	7020.01	6299.21	--	℄ REFERENCE
4+20.76	℄	6469.13	6150.28	--	℄ REFERENCE
54+00.00	℄	6522.83	6947.89	--	℄ REFERENCE
140+05.51	44.63' Rt.	6636.58	6537.90	1225.34	BENCH MARK
134+51.59	41.03' Rt.	6137.93	6779.52	1216.41	BENCH MARK

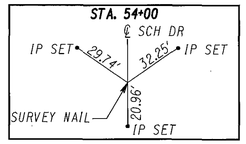
* = STA. 50+00 SCHOOL DRIVE
= STA. 0+00 TR 1569





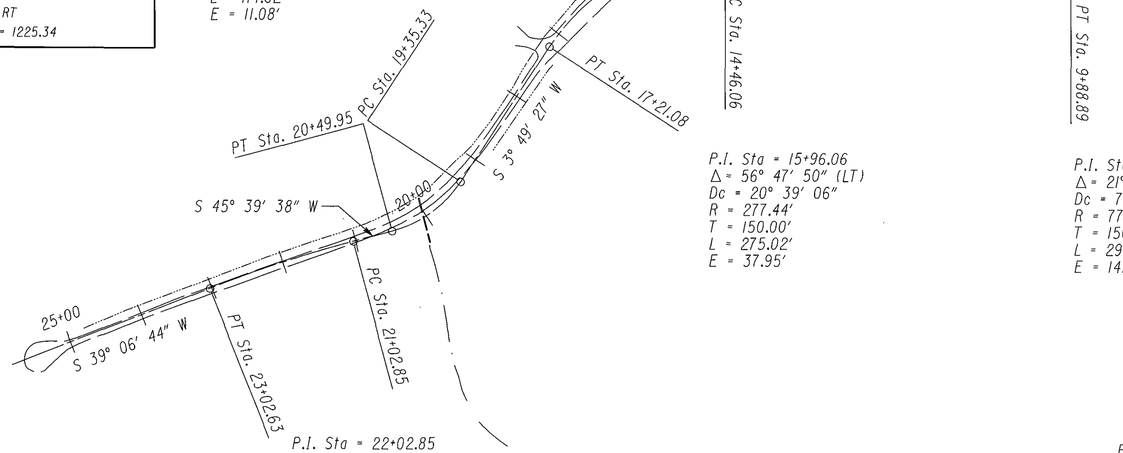






BENCH MARK STA. 134+51.59
PK NAIL SET
41.02' RT.
ELEV. = 1216.41

BENCH MARK STA. 140+05.51
IRON PIN SET
44.63' RT
ELEV. = 1225.34



THERE ARE NO LANDSCAPED AREAS WITHIN THE PROJECT LIMITS.

DESIGN DESIGNATION

SR 149	
CURRENT ADT (2005)	6300
DESIGN YEAR ADT (2025)	8750
DESIGN HOURLY VOLUME (2025)	875
DIRECTIONAL DISTRIBUTION	0.59
TRUCKS (24 HOUR B&C)	6%
DESIGN SPEED	55 MPH
LEGAL SPEED	55 MPH

DESIGN FUNCTIONAL CLASSIFICATION - RURAL COLLECTOR
NHS PROJECT - NO

DESIGN EXCEPTION	APPROVAL DATE	SHEET
SUPERELEVATION	8/9/04	2

TR 1569	
CURRENT ADT (2005)	720
DESIGN YEAR ADT (2025)	1060
DESIGN HOURLY VOLUME (2025)	127
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS (24 HOUR B&C)	4%
DESIGN SPEED	55 MPH
LEGAL SPEED	55 MPH

DESIGN FUNCTIONAL CLASSIFICATION - LOCAL
NHS PROJECT - NO

DESIGN EXCEPTION	APPROVAL DATE	SHEET
SUPERELEVATION	8/9/04	2
HORIZONTAL ALIGNMENT	8/9/04	2
CURVE WIDENING	8/9/04	5

N

0 50 100 200
HORIZONTAL
SCALE IN FEET

CALCULATED TES
CHECKED JPB

SCHEMATIC PLAN

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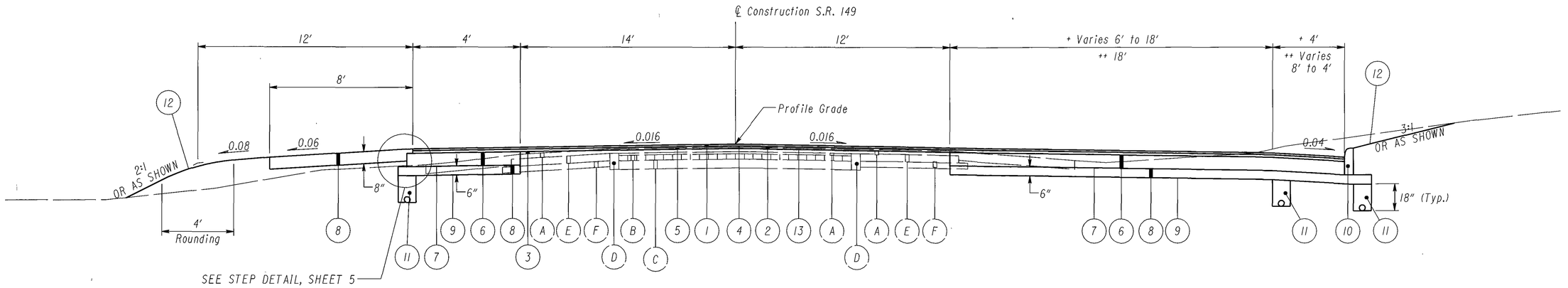
2
84



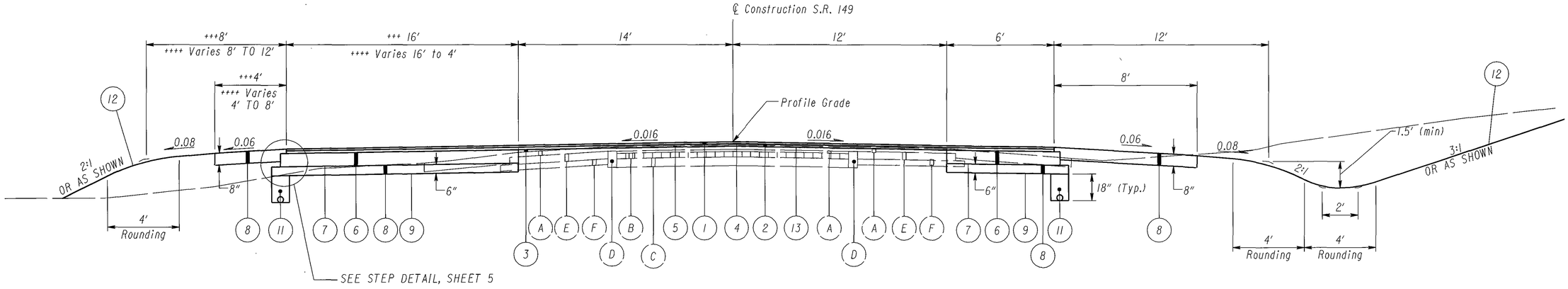
NORMAL SECTION (SR 149)

\+ Sta. 135+69.50 to Sta. 136+19.50 = 50.00 Ft.
++ Sta. 136+19.50 to Sta. 138+80.00 = 260.50 Ft.
TOTAL = 310.50 Ft.

EXISTING LEGEND

- (A) EXISTING 3" ASPHALT CONCRETE (MINIMUM)
- (B) EXISTING 4" BRICK PAVEMENT
- (C) EXISTING 6" SANDSTONE BASE
- (D) EXISTING 6" x 12" STONE CURB
- (E) EXISTING 5" AGGREGATE BASE
- (F) EXISTING 5" SUBBASE
- (G) EXISTING CURB AND GUTTER

FOR PROPOSED LEGEND SEE SHEET 5.
FOR PAVEMENT BUILD-UP DETIAL SEE SHEET 5.



NORMAL SECTION (SR 149)

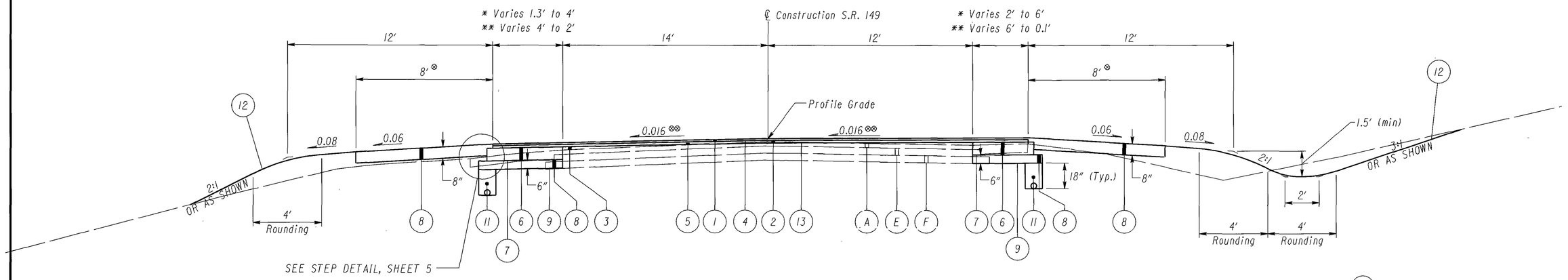
+++ Sta. 138+80.00 to Sta. 142+25.00 = 345.00 Ft.
++++ Sta. 142+25.00 to Sta. 142+75.00 = 50.00 Ft.
TOTAL = 395.00 Ft.

CALCULATED TES
CHECKED SKW

TYPICAL SECTIONS

BEL-149-23.77

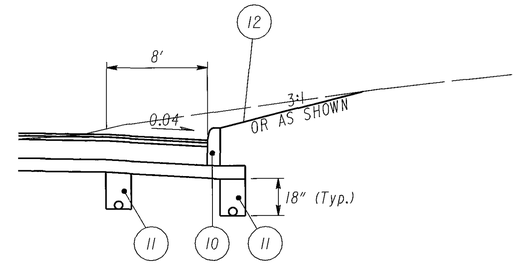
⊗ Varies from 4′ to 8′ from Station 131+95.00 to 132+60.00 Lt.
Varies from 8′ to 4′ from Station 145+85.00 to 146+05.00 Lt. & Rt.



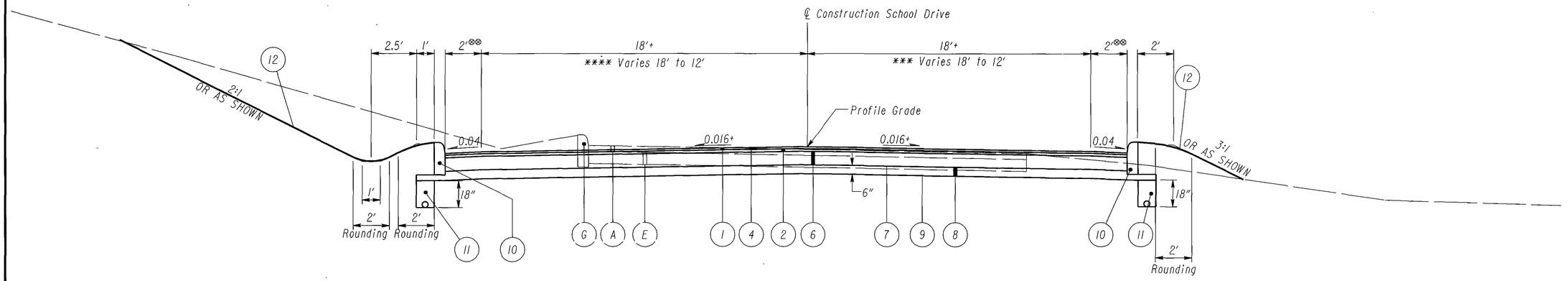
SUPERELEVATED SECTION (SR 149)

⊗⊗ SEE PAVEMENT TRANSITION TABLE, SHEET 36.

* Sta. 131+95.00 To Sta. 135+69.50 = 374.50 Ft.
** Sta. 142+75.00 To Sta. 146+05.00 = 330.00 Ft.
TOTAL = 704.50 Ft.



Curbed section applies from Sta. 131+95.00 TO Sta. 135+69.50 RT.



NORMAL SECTION (SCHOOL DRIVE)

Sta. 50+30.50 to Sta. 53+75.00 = 344.50 Ft.
TOTAL = 344.50 Ft.

*** Sta. 52+50.00 to Sta. 53+75.00 Rt.
**** Sta. 53+00.00 to Sta. 53+75.00 Lt.

⊗⊗ VARIES 8′ TO 4′ FROM STA. 50+55.23 TO STA. 50+95.23 LT
4′ FROM STA. 50+95.23 TO STA. 51+84 LT
VARIES 4′ TO 2′ STA. 51+84.00 TO STA. 52+00.00 LT.

4′ FROM STA. 50+30.50 TO STA. 51+42.50 RT
VARIES 4′ TO 2′ FROM STA. 51+42.50 TO STA. 52+00.00 RT

\+ OR AS SHOWN ON INTERSECTION DETAIL, SHEET 37.

FOR EXISTING LEGEND SEE SHEET 3.
FOR PROPOSED LEGEND SEE SHEET 5.
FOR PAVEMENT BUILD-UP DETIAL SEE SHEET 5.

CALCULATED TES
CHECKED SKW

TYPICAL SECTIONS

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4
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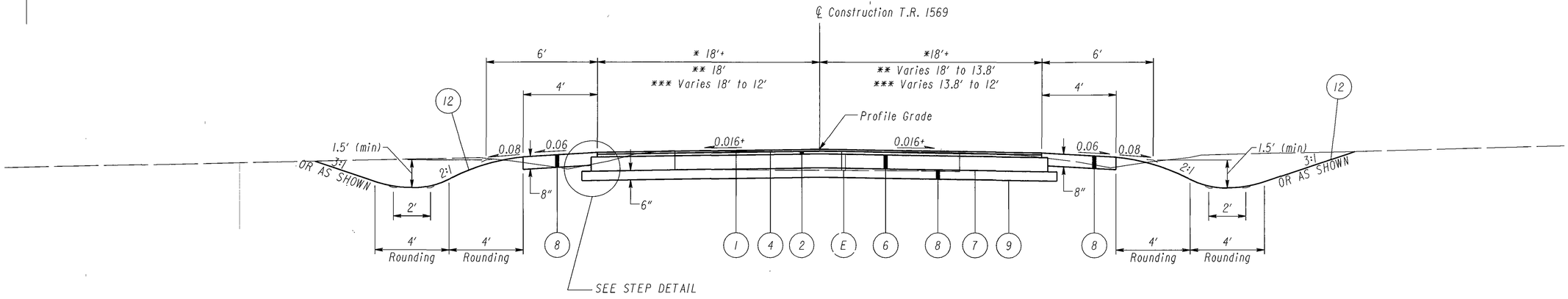


NORMAL SECTION (TR 1569)

* Sta. 0+30.50 To Sta. 2+26.52 (BK) = 196.02 Ft.
** Sta. 2+37.08 (AH) To Sta. 3+50.00 = 112.92 Ft.
***Sta. 3+50.00 To Sta. 4+00.00 = 50.00 Ft.

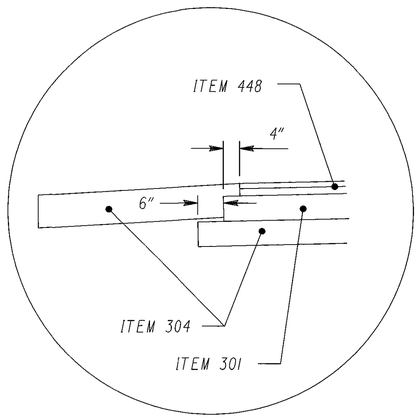
TOTAL = 358.94 Ft.

+ OR AS SHOWN ON INTERSECTION DETAIL, SHEET 37

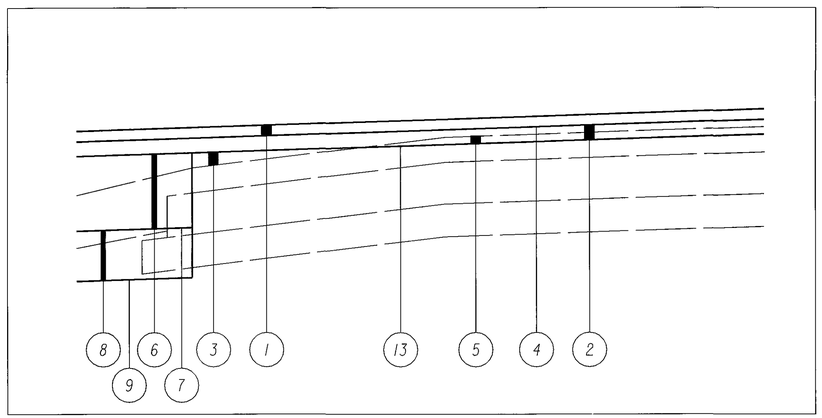
FOR EXISTING LEGEND SEE SHEET 3

PROPOSED LEGEND

(1) ITEM 448 - 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN
(2) ITEM 448 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
(3) ITEM 448 - 0" MINIMUM ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
(4) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (APPLIED AT THE RATE OF 0.04 Gal/S.Y.)
(5) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE
(6) ITEM 301 - 9" ASPHALT CONCRETE BASE, PG 64-22
(7) ITEM 408 - PRIME COAT (APPLIED AT THE RATE OF 0.4 Gal/S.Y.)
(8) ITEM 304 - AGGREGATE BASE
(9) ITEM 204 - SUBGRADE COMPACTION
(10) ITEM 609 - CURB, TYPE 6
(11) ITEM 605 - 4" SHALLOW PIPE UNDERDRAINS
(12) ITEM 659 - SEEDING AND MULCHING, AND WATER
(13) ITEM 407 - TACK COAT (APPLIED AT THE RATE OF 0.075 Gal/S.Y.)



STEP DETAIL



PAVEMENT BUILD-UP DETAIL

CALCULATED TES
CHECKED SKW

TYPICAL SECTIONS

BEL-149-23.77

5
84

CALCULATED TES
CHECKED RDA

GENERAL NOTES

UTILITIES

Listed below are all utilities located within the project construction limits together with their respective owners:

South-Central Power Company
37801 Barnesville-Bethesda Road
Barnesville, Ohio 43713-0270
Ph: 740-425-4018

Belmont County Sanitary Sewer District
P.O. Box 457
St. Clairsville, Ohio 43950
Ph: 740-695-3144

AEP Ohio Power Company
P.O. Box 99
47687 National Road
St. Clairsville, Ohio 43950
Ph: 740-699-7845

SBC
3935 Northpointe Road
Zanesville, Ohio 43701
Ph: 740-454-3455

Verizon
6223 Norwalk Road
Medina, Ohio 44256
Ph: 330-364-0501

Comcast
908 National Road
P.O. Box 469
Bridgeport, Ohio 43912
Ph: 740-699-5636

Columbia Gas of Ohio, Inc.
2429 Linden Avenue
Zanesville, Ohio 43701
Ph: 740-450-1205

Ohio Department of Transportation
Roadway Services Manager
2201 Reiser Ave SE
New Philadelphia, Ohio 44663
Ph: 330-308-7809

The location of the underground utilities shown on the plans are as obtained from the owners as required by O.R.C. Section 153.64.

ELEVATION DATUM

All elevations are based on U.S.G.S. (NAV 88) datum.

ROUNDING

The rounding at slope breakpoints shown on the Typical Sections apply to all cross-sections even though otherwise shown.

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.

CONTINGENCY QUANTITIES

The Contractor shall not order materials or perform work for items designated by plan note to be used "as directed by the Engineer" unless authorized by the Engineer. The actual work locations and quantities used for such items shall be incorporated into the final change order governing completion of this project.

CLEARING AND GRUBBING

Although there are no trees or stumps specifically marked for removal within the limits of the 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.

ITEM 448, ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG64-22, AS PER PLAN
ITEM 448, ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG64-22, (DRIVEWAYS) AS PER PLAN

Materials furnished for fine and coarse aggregates used in this item shall exclude all stone and crushed carbonate stone.

RESIDENTIAL AND COMMERCIAL DRAINAGE CONNECTIONS

Existing roof drains, footer drains, or yard drains, disturbed by the work, shall be provided with unobstructed outlets by connecting a conduit through the curb or into a drainage structure. The location, type, size, and grade of the new conduit required to replace or extend the existing drain will be determined by the Engineer.

The following conduit types may be used: 707.33, 707.41 non-perforated, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, or 707.52 PS46 Min.

The following estimated quantities have been included in the General Summary for use as directed by the Engineer for the work noted above:

Item 603, 4" Conduit, Type F - - - - 100 Feet

ITEM 203, EMBANKMENT

The following quantity has been carried to the General Summary and is to be used as directed by the Engineer for placing embankment material around the radius returns and drive stem :

Item 203 - Embankment - - - - - - - - - - - - - 100.0 Cu. Yards

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 of 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 appurtenances 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 603 conduit items.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

Where plans provide for a proposed conduit to be connected to, or cross over 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 of the existing conduit, or existing appurtenance to be connected, differs from the plan elevation 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 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 will be affected by the interference with an existing facility.

Payment for all the operations described above shall be included in the contract price bid for the pertinent 603 conduit item.

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 easement. Quantity calculations for seeding and mulching are based on these limits.

UNTREATED SEPTIC CONNECTIONS

This plan makes no provision for connecting, nor shall the Engineer or Contractor connect, any untreated septic drainage into the highway drainage system. Any pipe carrying untreated septic flow shall be plugged with Class C concrete at the right-of-way line. Payment for plugging shall be included in the contract price for Item 203, Excavation.

PART-WIDTH CONSTRUCTION

Because of the necessity to build this project under traffic, and to construct the full pavement width in stages, extreme care shall be taken to prevent the construction of a butt joint in the base courses. Longitudinal joints shall be lapped as shown on Standard Construction Drawing BP-3.1.

ITEM 603 - 4" CONDUIT, TYPE E, AS PER PLAN

This item shall consist of installing a 4 inch conduit Type E underdrain at new pull boxes, as called for in this plan. Reference is made to HL-30.11 for details of draining pull boxes.

Payment will be at the contract unit price per foot.

PROFILE AND ALIGNMENT

The proposed pavement resurfacing of S.R. 149 shall follow the alignment and profile of the existing pavement. The proposed asphalt concrete overlay shall have a uniform thickness as shown on the Typical Sections.

SCHOOL SPEED LIMIT SIGN ASSEMBLY, AS PER PLAN

This item shall consist of removing the existing school flasher and all hardware at station 138+42.75 and placing it on a new foundation at station 135+75.00. Any items damaged by the Contractor shall be replaced by the Contractor at his expense. All labor, material, and incidentals necessary to perform this work shall be included in the cost for Item 632 School Speed Limit Sign Assembly, As Per Plan.

ITEM 625 - TRENCH, AS PER PLAN

This item shall consist of excavating the trench to a depth of twenty-four (24) inches, backfilling, and restoring the area. Identifying tape shall be used to identify where underground cable has been installed.

The identifying tape shall be an inert material, approximately six (6) inches wide, composed of polyethylene plastics highly resistant to alkalis, acid or other chemical compounds likely to be encountered in soils. The tape shall be red with identifying printing "ELECTRIC" in black letters, one side only. The tape shall be supplied in continuous rolls with the identifying lettering repeated continuously the full length of the tape. The tape shall be Allen Systems, Terra Tape, Tecta Tape, or equal approved by the Engineer.

The tape shall be buried in the electric line trench with one strip placed no less than two (2) or more than twelve (12) inches below the final finished grade of the trench. The tape shall be placed with the printed side up and shall be essentially parallel with the final grade.

Payment will be made at contract unit price per foot.

ITEM 625 - LIGHT POLE FOUNDATION, 24" X 6' DEEP, AS PER PLAN

This Item of work shall consist of constructing a light pole foundation, 24" x 6' and providing grading and fill around the foundation. The foundation shall conform to the requirements of 625.06. The foundation shall be constructed to accept the existing school flasher.

Payment will be made at the contract unit price per each foundation including equipment, labor, materials and incidentals required to do the above work.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

When it is neccessary 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.

ABANDONMENT AND RECONSTRUCTION OF GROUNDWATER MONITORING WELLS

A total of four (4) groundwater monitoring wells are present within the construction limits near the Lawson-Porter, Ltd. property. These wells shall be abandoned in accordance with the Ohio Department of Natural resources (ODNR) Technical Guidelines for Sealing Unused Wells. Upon completion of roadway construction these wells shall be reconstructed near their original locations in accordance with the Ohio Department of Natural Resources (ODNR) Technical Guidelines for Well Construction and Groundwater Protection. The final location of the wells will be determined by the Engineer through consultation with the ODOT District 11 Environmental Coordinator.

Payment for this work shall be as per Item Special - Ground Water Monitoring Wells Abandonment and Item Special - Ground Water Monitoring Wells Reconstruction.

Basis of Payment:

The Contractor shall furnish all the labor, equipment, and materials necessary to perform the aforementioned work. The following estimated quantities have been included in the General Summary for the work noted above:

Item Special - Misc: Ground Water Monitoring Well Abandonment - - - - - 4 Each

Item Special - Misc: Ground Water monitoring Well Reconstruction - - - - 4 Each

POTENTIAL DEWATERING OF EXCAVATED AREAS

If the removal or reconstruction of the aforementioned wells require de-watering, the Contractor shall dewater, containerize, test, and subsequently dispose of waters by methods approved by the Engineer. The Contractor shall obtain all the necessary permits and/or authorizations needed to store, test, transport and dispose of the water in accordance with applicable local, state, or federal regulations. The following item has been included in the General Summary for this work:

Item Special - Work Involving Regulated Water - - - - - 1300 Gallon

ITEM SPECIAL - MAILBOX SUPPORT

DESCRIPTION

This work shall consist of furnishing and erecting mailbox supports and associated mounting hardware in accordance with plan details, and attaching an owner supplied mailbox, at locations specified in the plan or otherwise established by the Engineer.

MATERIALS

Wood post shall be nominal 4"x4" square or 4½" diameter round, and conform to 710.14. Steel post shall be nominal pipe size 2" I.D. and conform to AASHTO M 181. Hardware (plates, screws, bolts, ect.) shall be commercial - grade galvanized steel.

SETTING POSTS

Posts shall be set per the first paragraph of 606.03, and shall in no instance be encased in concrete.

MOUNTING BOXES

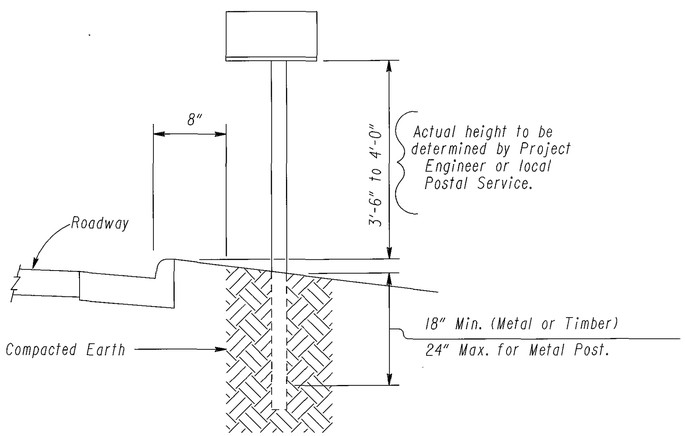
Support hardware shall accommodate a single mailbox installation, and no more than two boxes may be mounted on a single post. As directed by the Engineer, in multiple mailbox situations (2 or more) the "*Grouped Mailbox Installation" shall be used, rather than single supports. The mailbox shall be securely and neatly attached by the Contractor to the new support. The Contractor shall furnish all necessary attachment hardwear (nuts, bolts, plates and washers) as necessary to accommodate the complete installation. In the absence of a new box supplied by the owner, the Contractor shall salvage the existing box and install it on the new support. Due care shall be exercised during the operation, and the Contractor shall be held responsible for repairing any box damaged by improper handling on his part, as judged and directed by the Engineer. The Contractor shall be resposible for coordinating with the local postmaster regarding the timing of the movement of any mailbox to a new location. The Contractor shall also be responsible for notifing the property owner three (3) days in advance of the new installation. A form letter will be provided to the Contractor at the pre-construction conference to give to each affected property owner.

BASIS OF PAYMENT

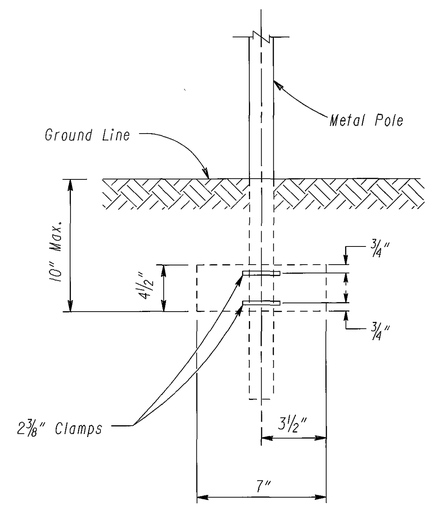
Payment under this item shall be limited to final permanent installations. Temporary installations shall be in accordance with 107.12. However, the same material and size limitations as for permanent installations shall apply. Mailbox supports complete in place will be paid for at the Contract unit price bid per each, Item Special, Mailbox Support.

QUANTITIES CARRIED TO GENERAL SUMMARY

Station	Side	Single	Double	Grouped
134+04.00	Rt	1		
136+84.00	Lt	1		
141+93.00	Lt	1		
TOTAL		3		



ELEVATION AT MAILBOX APPROACH



ANTI-TWIST PLATE

CALCULATED TES CHECKED RDA

GENERAL NOTES

BEL-149-23.77

7/84

CALCULATED TES CHECKED SKW

MAINTENANCE OF TRAFFIC NOTES

ITEM 614 - MAINTAINING TRAFFIC

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, 615 PAVEMENT FOR MAINTAINING TRAFFIC, 615 ROADS FOR MAINTAINING TRAFFIC, AND TEMPORARY SURFACES USING 410, 614 AND 616.

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

THE SEQUENCE OF CONSTRUCTION OPERATIONS FOR THIS PROJECT ARE SHOWN ON SHEET 9.

THE CONTRACTOR AND THE ENGINEER SHALL MEET WITH THE LOCAL BUSINESSES AND UNION LOCAL SCHOOL OFFICIALS TO DETERMINE WHEN THEY MAY HAVE THE HEAVIEST TRAFFIC VOLUMES ENTERING OR EXITING THEIR FACITLITIES. THE CONTRACTOR SHALL COOPORATE BY SCHEDULING HIS WORK TO MINIMIZE CONFLICTS.

ACCESS TO LOCAL RESIDENTIAL AND BUSINESS DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.

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

410, TRAFFIC COMPACTED SURFACE, TYPE A OR B - - - - - 40 CU. YD.

614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC - - - - 3 CU. YD.

614 WORK ZONE CENTERLINE, CLASS I, 642 PAINT - - - - - 0.40 MILES

614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT - - - - - 0.80 MILES

616, WATER - 1 M. GAL.

THE CONTRACTOR SHALL NOT START ANY WORK UNTIL MAY 1ST, 2005. ALL WORK ITEMS IN THIS PLAN SHALL BE COMPLETED BEFORE AUGUST 21, 2005 EXCEPT SEEDING AND CLEAN-UP. THIS DATE SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE AND LIQUIDATED DAMAGES SHALL BE ASSESSED IN ACCORDANCE WITH CMS 108.07 FOR EACH CLANDER DAY THAT ALL LANES ARE NOT OPEN AND AVAILABLE TO TRAFFIC

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

TEMPORARY ROAD EARTHWORK

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

TEMPORARY EARTHWORK EXCAVATION - - - - 141 CU. YDS.

TEMPORARY EARTHWORK EMBANKMENT - - - 375 CU. YDS.

WORK ZONE SIGNING

IN ADDITION TO THE SIGNS SHOWN FOR THE MAINTENANCE OF TRAFFIC ON SHEETS 11 THRU 21, ALL ADVANCED WARNING SIGNS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE STANDARD CONSTRUCTION DRAWINGS AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OUMTCD).

DUST CONTROL

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

616, WATER - - - - - - - - - - - - - 5 M. GAL.

616, CALCIUM CHLORIDE - - - - - - 1 TON

PLACEMENT OF ASPHALT CONCRETE

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

TRENCH FOR WIDENING

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 5 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR)

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER (AND OFFICIAL PATROL CAR WITH WORKING TOP-MOUNTED EMERGENCY FLASHING LIGHTS) SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

1. DIRECT TRAFFIC AT THE INTERSECTION OF SR 149, TR 1569, AND THE SCHOOL DRIVE WHEN DIRECTED BY THE ENGINEER.
2. WHEN INSTALLING OVERHEAD TRAFFIC SIGNAL SPAN WIRE AND SIGNAL HEADS.
3. WHEN TRAFFIC SIGNAL IS PLACED IN THE STOP/GO MODE.

LAW ENFORCEMENT OFFICERS (LEOS) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEOS 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 ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:

OHIO STATE HIGHWAY PATROL
51400 NATIONAL ROAD
ST. CLAIRSVILLE, OHIO 43950
PHONE: (740) 695-0915

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

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR 200 HOURS

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

IF CONTRACTORS WISH TO UTILIZE LEOS FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, THEY MAY DO SO AT THEIR OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614, MAINTAINING TRAFFIC.

ITEM 614, MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

FOURTH OF JULY
LABOR DAY
MEMORIAL DAY
JAMBOREE IN THE HILLS, JULY 13-18, 2005

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

DAY OF THE WEEK	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH (6:00 AM) MONDAY
MONDAY	12:00N FRIDAY THROUGH (6:00 AM) TUESDAY
TUESDAY	12:00N MONDAY THROUGH (6:00 AM) WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH (6:00 AM) THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH (6:00 AM) MONDAY
FRIDAY	12:00N THURSDAY THROUGH (6:00 AM) MONDAY
SATURDAY	12:00N FRIDAY THROUGH (6:00 AM) MONDAY

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH CMS 108.07.

NOTIFICATION OF WORK ZONE LANE RESTRICTIONS

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

THE ENGINEER SHALL IMMEDIATELY NOTIFY THE DISTRICT ROADWAY SERVICES MANAGER TO ADVISE THE OFFICE OF HIGHWAY MANAGEMENT OF THE RESTRICTIONS.

CONSTRUCTION SEQUENCE

PHASE ONE:

THE CONTRACTOR SHALL FURNISH AND INSTALL THE NECESSARY ADVANCED WARNING SIGNS.

WHEN THE ABOVE REQUIREMENTS HAVE BEEN SATISFIED THE CONTRACTOR SHALL COMPLETE THE PROPOSED PAVEMENT GRINDING AND RESURFACING. THE PAVEMENT SHALL BE CONSTRUCTED UP TO AND INCLUDING ITEM 448 INTERMEDIATE COURSE.

TRAFFIC SHALL BE MAINTAINED BY THE USE OF FLAGGERS PER STANDARD CONSTRUCTION DRAWING MT97.12.

PHASE TWO:

BEFORE BEGINNING WORK FOR PHASE TWO ALL CHANNELIZING DEVICES, WORK ZONE SIGNS, WORK ZONE PAVEMENT MARKINGS, AND WORK ZONE RAISED PAVEMENT MARKERS SHOWN FOR PHASE TWO SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

WHEN THE ABOVE REQUIREMENTS HAVE BEEN SATISFIED, TWO- WAY TRAFFIC SHALL BE MAINTAINED ON THE LEFT PORTION OF THE EXISTING PAVEMENT AS SHOWN ON SHEETS 11 AND 12.

THE CONTRACTOR SHALL COMPLETE ALL DRAINAGE ITEMS, DRIVES AND THE PROPOSED PAVEMENT WIDENING AS SHOWN FOR PHASE TWO. THE PAVEMENT SHALL BE CONSTRUCTED UP TO AND INCLUDING THE 448 INTERMEDIATE COURSE.

IN ADDITION THE CONTRACTOR SHALL CLOSE THE SCHOOL DRIVE AND COMPLETE ALL DRAINAGE ITEMS AND THE PAVEMENT UP TO AND INCLUDING THE 448 INTERMEDIATE COURSE. THE SCHOOL DRIVE MAY BE CLOSED BETWEEN JUNE 14, 2005 AND AUGUST 20, 2005, OTHERWISE ACCESS MUST BE MAINTAINED AT ALL TIMES.

PHASE THREE:

THE CONTRACTOR SHALL REMOVE ANY CONFLICTING SIGNS AND PAVEMENT MARKINGS AND FURNISH AND INSTALL ALL WORK ZONE SIGNS, WORK ZONE RAISED PAVEMENT MARKERS, AND WORK ZONE PAVEMENT MARKINGS AS SHOWN FOR PHASE THREE.

WHEN THE ABOVE REQUIREMENTS HAVE BEEN SATISFIED, TWO- WAY TRAFFIC SHALL BE MAINTAINED ON THE COMPLETED PORTION OF THE PROPOSED PAVEMENT AND THE EXISTING PAVEMENT AS SHOWN ON SHEETS 13 AND 14.

THE CONTRACTOR SHALL COMPLETE THE PROPOSED PAVEMENT WIDENING AND DRIVES AS SHOWN FOR PHASE THREE ON SHEETS 13 AND 14. THE PAVEMENT SHALL BE CONSTRUCTED UP TO AND INCLUDING THE 448 INTERMEDIATE COURSE.

PHASE FOUR:

THE CONTRACTOR SHALL REMOVE ANY CONFLICTING SIGNS AND PAVEMENT MARKINGS AND FURNISH AND INSTALL ALL WORK ZONE SIGNS, WORK ZONE RAISED PAVEMENT MARKERS, AND WORK ZONE PAVEMENT MARKINGS ALONG BOTH S.R. 149 AND T.R. 1569 AS SHOWN FOR PHASE FOUR. THE CONTRACTOR SHALL CONSTRUCT THE ROADS FOR MAINTAINING TRAFFIC AS SHOWN ON SHEETS 15.

WHEN THE ABOVE REQUIREMENTS HAVE BEEN SATISFIED, TWO- WAY TRAFFIC SHALL BE MAINTAINED ON THE COMPLETED PORTION OF THE PROPOSED PAVEMENT, THE EXISTING PAVEMENT, AND THE WORK ZONE PAVEMENT AS SHOWN ON SHEETS 15-18.

THE CONTRACTOR SHALL COMPLETE THE PROPOSED PAVEMENT, DRIVES, AND DRAINAGE ITEMS ALONG THE RIGHT SIDE OF T.R. 1569 AS SHOWN FOR PHASE FOUR ON SHEETS 15. THE PAVEMENT SHALL BE CONSTRUCTED UP TO AND INCLUDING THE 448 INTERMEDIATE COURSE.

PHASE FIVE:

THE CONTRACTOR SHALL REMOVE ANY CONFLICTING SIGNS AND PAVEMENT MARKINGS AND FURNISH AND INSTALL ALL WORK ZONE SIGNS, WORK ZONE RAISED PAVEMENT MARKERS, PAVEMENT FOR MAINTAINING TRAFFIC, AND WORK ZONE PAVEMENT MARKINGS ALONG T.R. 1569 AS SHOWN FOR PHASE FIVE. THE WORK ZONE SIGNS, WORK ZONE PAVEMENT MARKINGS, AND WORK ZONE RAISED PAVEMENT MARKERS FROM PHASE FOUR ALONG S.R. 149 SHALL REMAIN IN PLACE DURING PHASE FIVE.

WHEN THE ABOVE REQUIREMENTS HAVE BEEN SATISFIED, TWO- WAY TRAFFIC SHALL BE MAINTAINED ON THE COMPLETED PORTION OF THE PROPOSED PAVEMENT AND THE PAVEMENT FOR MAINTAINING TRAFFIC.

THE CONTRACTOR SHALL COMPLETE THE PROPOSED PAVEMENT, DRAINAGE ITEMS, AND DRIVE ALONG THE LEFT SIDE OF T.R. 1569 AS SHOWN FOR PHASE FIVE ON SHEETS 19. THE PAVEMENT SHALL BE CONSTRUCTED UP TO AND INCLUDING THE 448 INTERMEDIATE COURSE.

PHASE SIX:

THE CONTRACTOR SHALL COMPLETE ALL REMAINING WORK INCLUDING BUT NOT LIMITED TO SEEDING AND MULCHING, 448 SURFACE COURSE, ALL THE REMAINING SIGNING, PERMANENT PAVEMENT MARKINGS, AND PERMANENT SIGNALS AS REQUIRED BY THE PLAN. TRAFFIC SHALL BE MAINTAINED WITH THE USE OF FLAGGERS PER STANDARD CONSTRUCTION DRAWING MT97.12.

MISCELLANOUS WORK:

ALL WORK THAT DOES NOT REQUIRE THE MAINTAINING OF TRAFFIC MAY BE DONE SEPERATE OR AS A PART OF ANY OTHER PHASE.

FROM SHEET NO.	STATION FROM	STATION TO	614 Work Zone Raised Pavement Marker Yellow Each		614 Work Zone Centerline, Class I, 642 Paint Mile	614 Work Zone Edge Line, Class I, 642 Paint Mile	614 Work Zone Stop Line, Class I, 642 Paint Ft.		615 Pavement For Maintaining Traffic, Class B Sq. Yd.	615 Roads For Maintaining Traffic LUMP		642 Removal of Pavement Marking Ft.		REMARKS
PHASE TWO														
11	131+00.00	139+00.00	20		0.14	0.25						2040		
12	139+00.00	147+00.00	21		0.15	0.30						2400		
PHASE THREE														
13	131+00.00	139+00.00	20		0.14	0.26								
14	139+00.00	147+00.00	21		0.15	0.30			50					
PHASE FOUR														
17	131+00.00	139+00.00	19		0.13	0.24								
18	139+00.00	147+00.00	21		0.15	0.30								
15	10+00.00	15+76.10			0.10	0.19	13		1293	LUMP				
PHASE FIVE														
20	131+00.00	139+00.00	2		0.02	0.03								
19	0+00.00	5+32.50			0.07	0.13	13		513	LUMP				
TOTALS (Carried to General Summary)			124		1.05	2.00	26		1856	LUMP		4440		

CALCULATED TES CHECKED SKW

MAINTENANCE OF TRAFFIC NOTES AND QUANTITIES

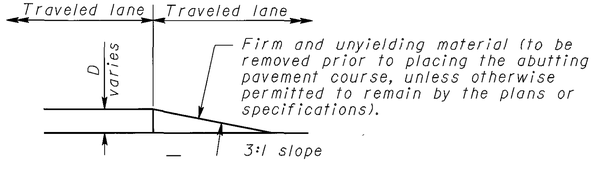
BEL-149-23.77

GENERAL NOTES

1. It is intended that this drawing be used for treatment of drop-offs that develop during construction operations, and that are not otherwise provided for in the construction plans. The suggested treatments are intended for high volume projects that will last at least seven days and have an active work zone 1 mile [1.6 km] or less in length. For guidance on the use of this sheet, see L&D Manual Volume One, Section 500. Where the plans do not provide specific items for labor, equipment, or materials to implement the drop-off treatments specified hereon, they shall be included for payment in the lump sum bid for **Item 614 - Maintaining Traffic.**
2. While the need for certain advisory signing is noted hereon, it is not intended that this be indicative of all signing that may be required to advise or warn motorists, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) must be fulfilled.
3. In urban or otherwise heavily developed areas where pedestrians and/or bicyclists may be present in significant numbers, additional signing and protective measures other than those shown hereon may be required.
4. The drop-off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.
5. Where concrete barrier is specified, it shall be in accordance with **SCD RM-4.2** and Item 622.
6. When drums are specified for a drop-off condition, a minimum number of four drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD.
7. When OW-151 (Low Shoulder) signs or OW-155 (Shoulder Drop-Off) signs or OW-171 (Uneven Lanes) signs are required, they shall be placed 750' [230 m] in advance of the condition, on all intersecting entrance ramps within the limits of the condition and immediately beyond all inter secting roadways within the limits of the condition. When the drop-off condition extends more than 0.5 mile [800 m], additional signs should be erected at intervals of 1.0 mile [1600 m] or less.
8. For locations, such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate a difference in elevation between pavements, a 3:1 slope treatment similar to the Optional Wedge Treatment shall be provided.
9. Portable concrete barrier shall be placed on the same level as the traffic surface and shall not encroach on lane width(s) designated as the minimum required for traffic use. Where drums are used, and their presence would reduce traveled lane widths to less than 10' [3.0 m], drums may be placed on the opposite level from that of traffic provided the dropoff depth does not exceed 5" [125] and approval is granted by the Project Engineer.
10. Pavement Repairs (or similar work):
    a. Lengths greater than 60' [18 m] - utilize appropriate treatment from Condition I.
    b. Lengths of 60' [18 m] or less - repairs shall be effected in accordance with CMS 255.08. Drums may be used as a separtor adjacent to the traveled lane.

OPTIONAL WEDGE TREATMENT
(MILLING OR RESURFACING)

1. This treatment may be used when permitted for Condition I only.
2. OW-171 sign required.

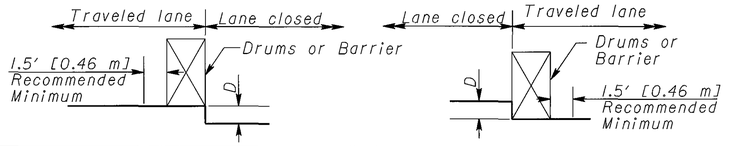


CONDITION I
DROP-OFFS BETWEEN TRAVELED LANES

1. These treatments are to be used for resurfacing, pavement planing, excavation, etc. between or within traveled lanes.

D	Treatment
≤1½" [≤40]	Erect OW-171 sign.
1½"-3" [40-75]	1) Lane closure utilizing drums* as shown below OR 2) Optional Wedge Treatment
>3"-5" [>75-125]	Lane closure utilizing drums as shown below.
>5" [>125]	Lane closure utilizing portable concrete barrier as shown below.

* Cones may be used for daytime only conditions.

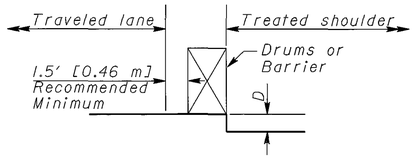


CONDITION II
DROP-OFFS WITHIN GRADED SHOULDER AREA

1. The treatments indicated below are for use in conjunction with resurfacing, planing, or excavations within the graded shoulder area.
2. The graded shoulder area is that flat or gradually sloping area between the edge of a normally traveled lane and the more steeply sloping ditch foreslope or embankment slope. Its surface may be soil or turf, and/or it may be inclusive of a "treated" area (improved with aggregates, asphaltic materials or concrete). For the purpose herein, its maximum width shall be considered to be 12' [3.6 m].

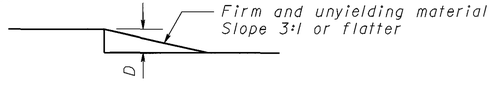
D	Treatment
≤1½" [≤40]	1) Erect OW-155 signs.
>1½"-5" [>40-125]	1) If minimum lane width* requirements can be met, maintain lanes utilizing drums as shown below OR 2) If minimum. lane width* requirements cannot be met, close adjacent lane utilizing drums OR 3) Optional Shoulder Treatment.
>5"-12" [125-305] Daylight only	If minimum lane width* requirements can be met, maintain lanes utilizing drums as shown below.
>5"-24" [>125-610]	1) If minimum lane width* requirements can be met, maintain lanes utilizing portable concrete barrier as shown below. OR 2) If minimum lane width* requirements cannot be met, close adjacent lane utilizing drums.
>24" [>610]	Lane closure utilizing portable concrete barrier as shown below.

* Minimum lane widths shall be 10' [3.0 m] unless otherwise specified in the plans.



OPTIONAL SHOULDER TREATMENT

1. This treatment may not be used within a bitumunos shoulder where a hot longitudnal joint per CMS 401.15 is required.
2. OW-151 signs required.

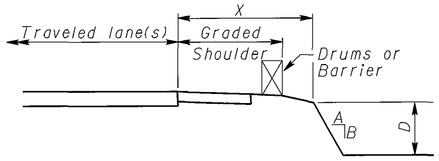


CONDITION III
DROP-OFFS BEYOND GRADED SHOULDER OR BACK OF CURB

1. See Note 2 under Condition II.
2. Use Chart A or B below, as applicable.

CHART A

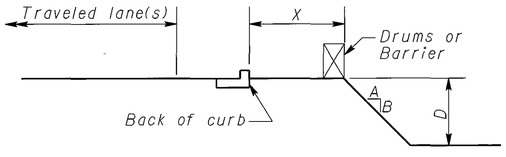
USE FOR: 1. Uncurbed Facilities.
2. Curbed Facilities, where:
   a. Curbs are less than 6" [150] in height.
   b. Curbs are 6" [150] or greater in height and the legal speed is greater than 40 mph [70 km/h].



X	D	A/B	Treatment Required	
			Day	Night
0-4' [0-1.2 m]	Any	Any	(a)	(a)
4'-30' [1.2-9.1 m]	Any	3:1 or Flatter	None	None
4'-12' [1.2-3.6 m]	≤3" [≤75]	Steeper than 3:1	None	None
4'-12' [1.2-3.6 m]	>3"-≤12" [>75-≤305]	Steeper than 3:1	Drums	Drums
4'-12' [1.2-3.6 m]	>12" [>305]	Steeper than 3:1	Drums	Barrier
>12'-20' [>3.6-6.1 m]	<12" [<305]	Steeper than 3:1	None	None
>12'-20' [>3.6-6.1 m]	>12"-<24" [>305-<610]	Steeper than 3:1	Drums	Drums
>12'-20' [>3.6-6.1 m]	>24" [>610]	Steeper than 3:1	Drums	Barrier
>20'-30' [>6.1-9.1 m]	<24" [<610]	Steeper than 3:1	None	None
>20'-30' [>6.1-9.1 m]	>24" [>610]	Steeper than 3:1	Drums	Barrier
>30' [>9.1 m]	Any	Any	None	None
(a) Use treatment specified under Condition II.				

CHART B

USE FOR: Curbed facilities, where the curb is 6" [150] or greater in height and the legal speed is 40 mph [70 km/h] or less.



X	D	A/B	Treatment Required	
			Day	Night
0-10' [0-3.0 m]	<12" [<305]	Any	None	Drums
0-10' [0-3.0 m]	>12" [>305]	Any	Drums	Drums
>10' [>3.0 m]	Any	Any	None	None

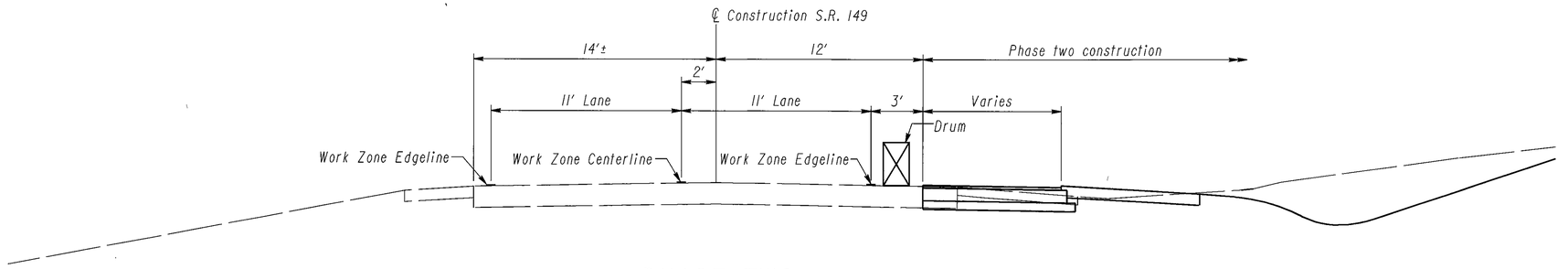
NOTE: All metric dimensions (in brackets [ ]) are in millimeters unless otherwise noted.

CALCULATED / CHECKED

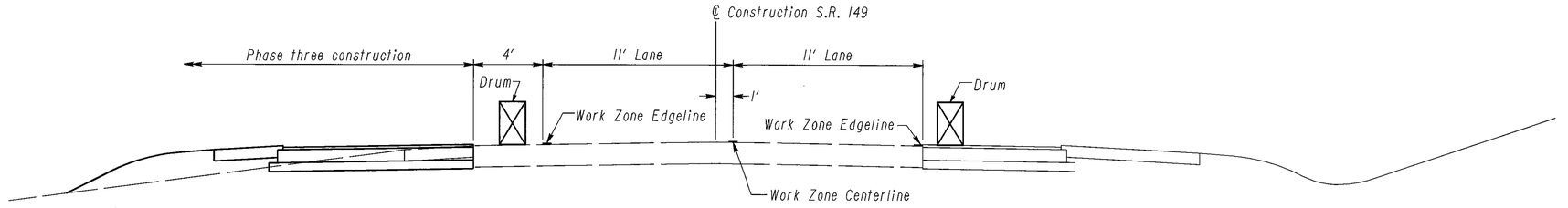
DROPOFFS IN WORK ZONES

BEL-149-23.77

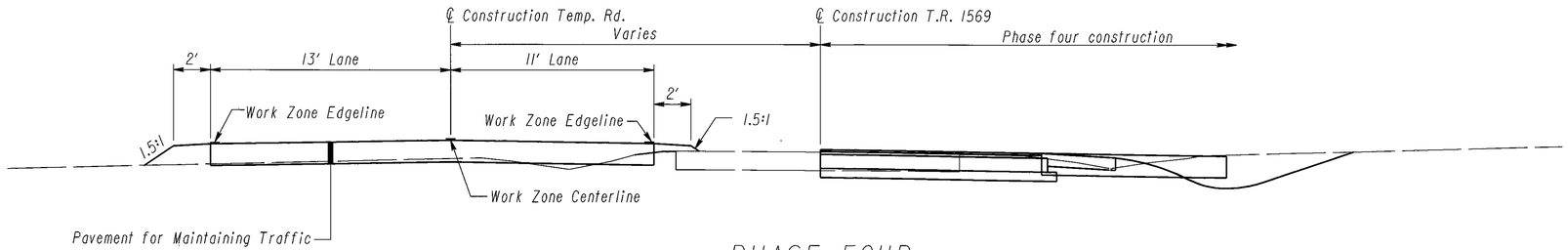
9A / 84



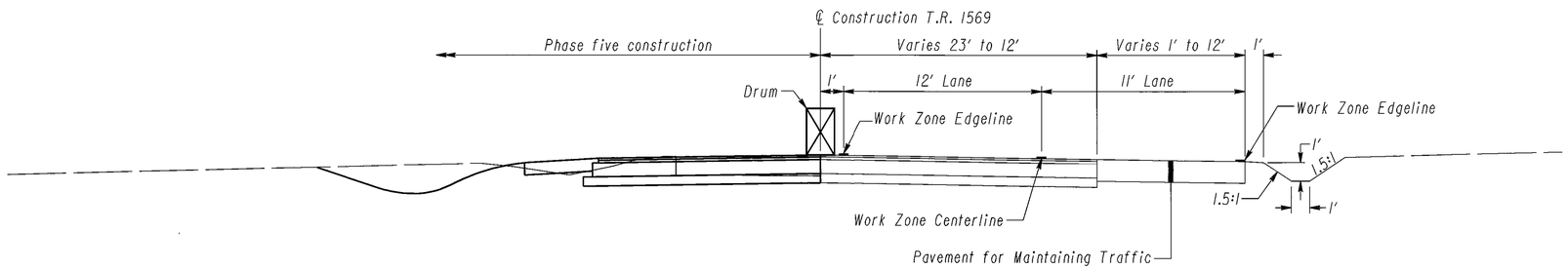
PHASE TWO



PHASE THREE



PHASE FOUR



PHASE FIVE

CALCULATED TES
CHECKED SKW

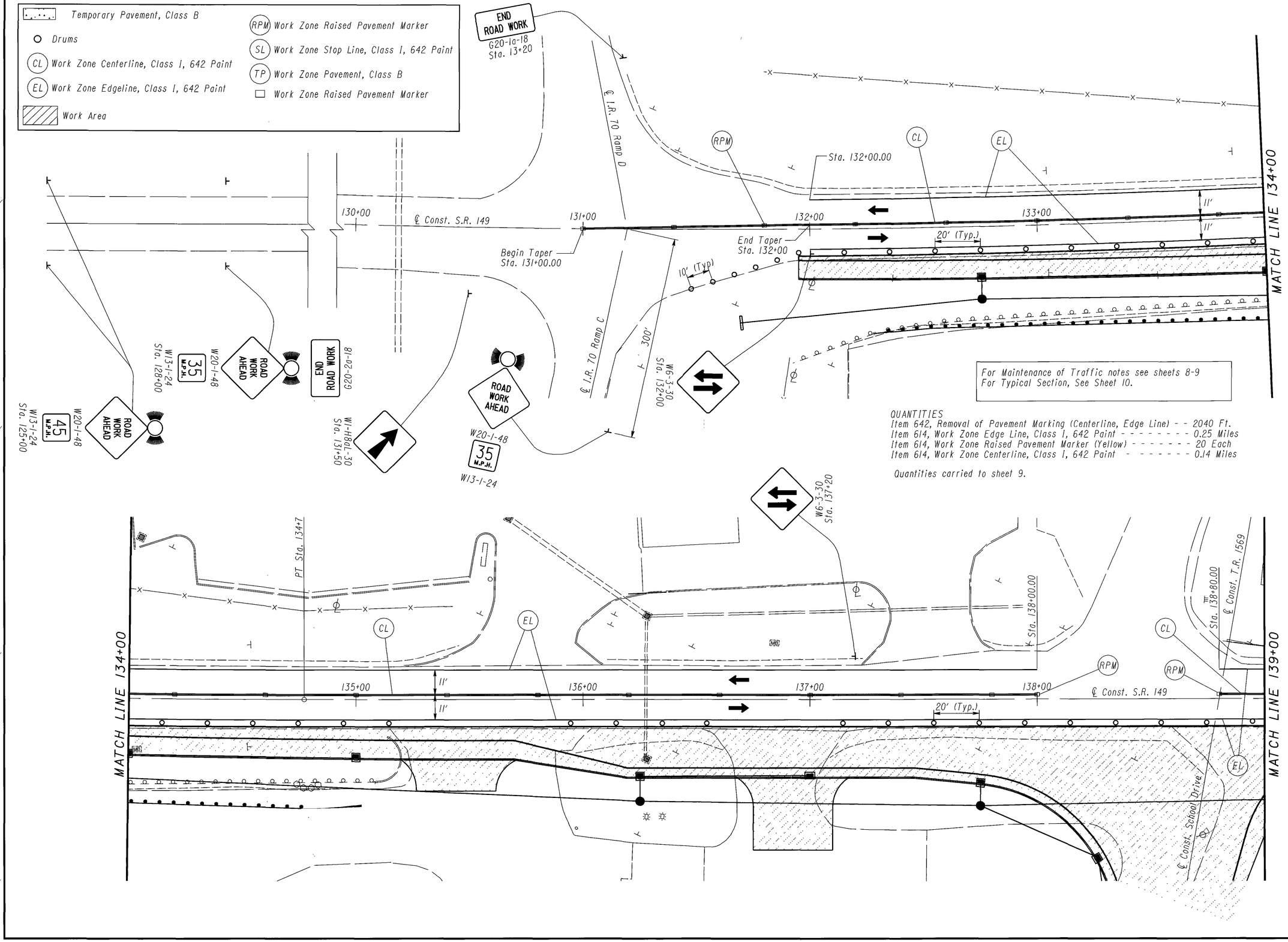
MAINTENANCE OF TRAFFIC

BEL-149-23.77

10
84

LEGEND

- Temporary Pavement, Class B
- Drums
- (CL) Work Zone Centerline, Class I, 642 Paint
- (EL) Work Zone Edgeline, Class I, 642 Paint
- Work Area
- (RPM) Work Zone Raised Pavement Marker
- (SL) Work Zone Stop Line, Class I, 642 Paint
- (TP) Work Zone Pavement, Class B
- Work Zone Raised Pavement Marker



For Maintenance of Traffic notes see sheets 8-9
For Typical Section, See Sheet 10.

QUANTITIES

Item 642, Removal of Pavement Marking (Centerline, Edge Line) - - 2040 Ft.
Item 614, Work Zone Edge Line, Class I, 642 Paint - - - - - - - - 0.25 Miles
Item 614, Work Zone Raised Pavement Marker (Yellow) - - - - - - - 20 Each
Item 614, Work Zone Centerline, Class I, 642 Paint - - - - - - - 0.14 Miles

Quantities carried to sheet 9.

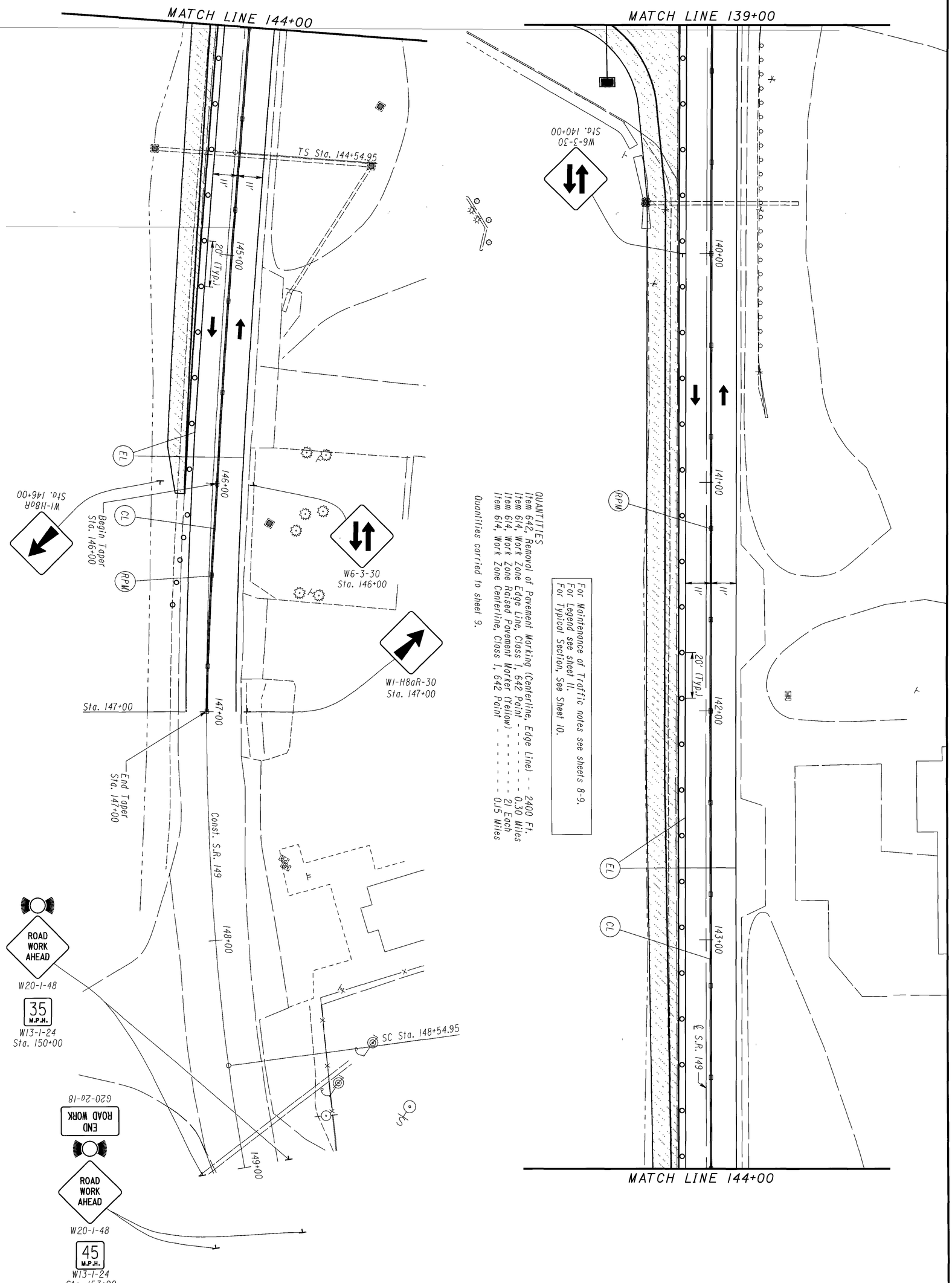
HORIZONTAL SCALE IN FEET
0 20 40

CALCULATED TES
CHECKED RDA

MAINTENANCE OF TRAFFIC PHASE TWO
STA. 125+00.00 TO STA. 139+00.00

BEL-149-23.77

11
84



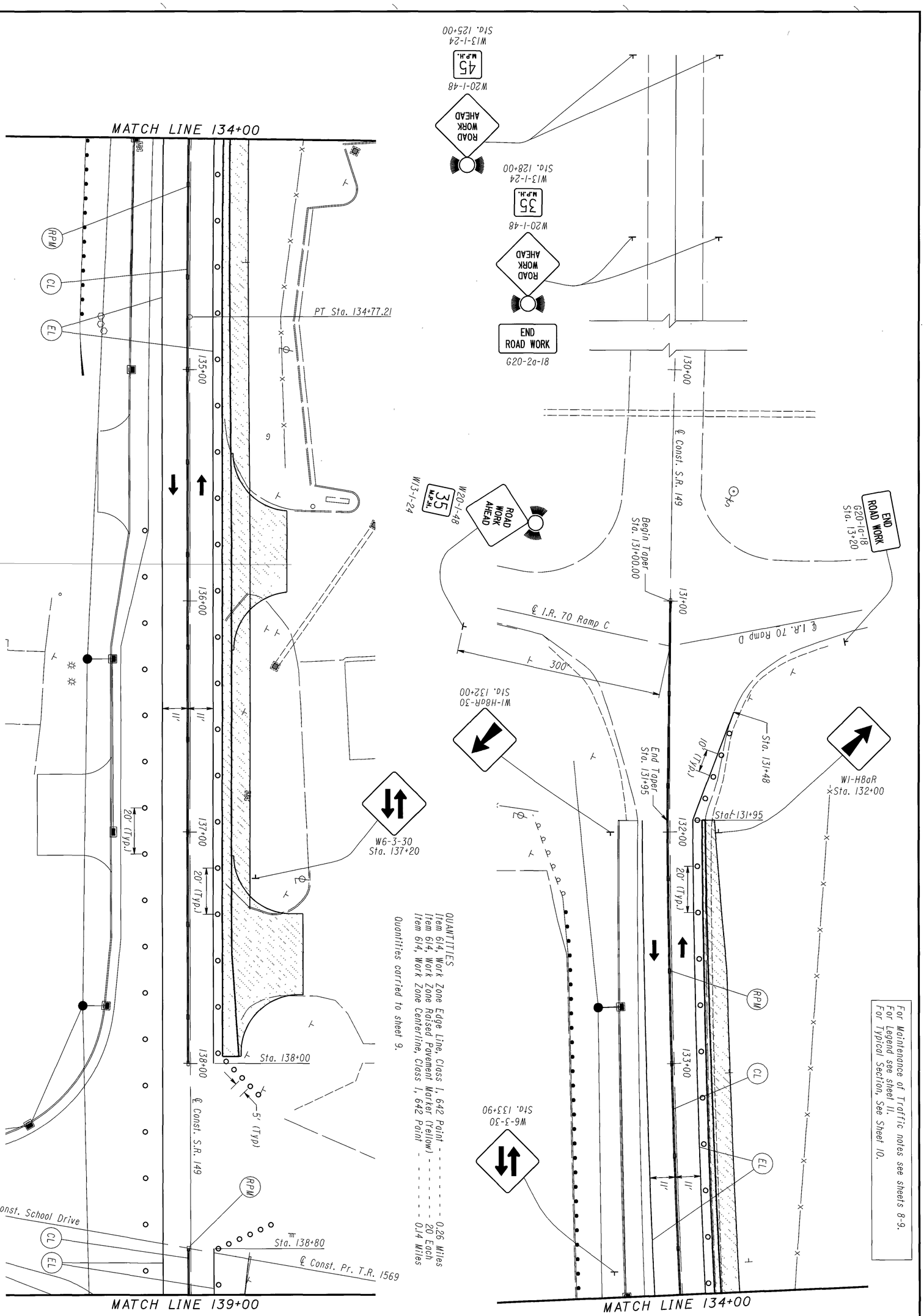
QUANTITIES

Item 642, Removal of Pavement Marking (Centerline, Edge Line) - - 2400 Ft.
Item 614, Work Zone Edge Line, Class 1, 642 Paint - - - - - - - - 0.30 Miles
Item 614, Work Zone Raised Pavement Marker (Yellow) - - - - - - - 21 Each
Item 614, Work Zone Centerline, Class 1, 642 Paint - - - - - - - - 0.15 Miles

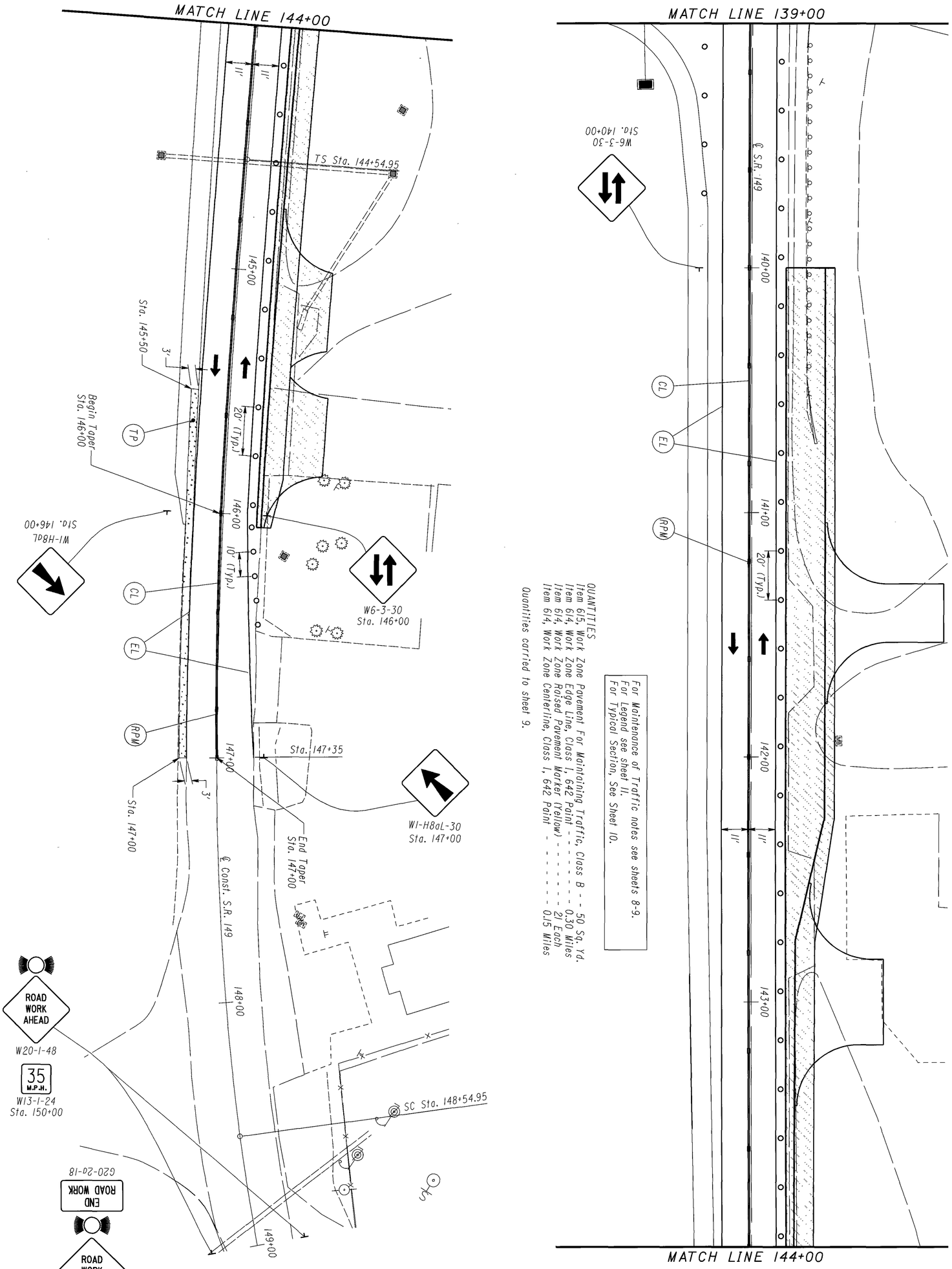
Quantities carried to sheet 9.

For Maintenance of Traffic notes see sheets 8-9.
For Legend see sheet 11.
For Typical Section, See Sheet 10.

12 / 84	BEL-149-23.77	MAINTENANCE OF TRAFFIC PHASE TWO STA. 139+00.00 TO STA. 153+00.00	CALCULATED TES CHECKED RDA	0 20 10 40 HORIZONTAL SCALE IN FEET



13/84	BEL-149-23.77	MAINTENANCE OF TRAFFIC PHASE THREE STA. 125+00.00 TO STA. 139+00.00	CALCULATED TES CHECKED RDA	0 20 10 40 HORIZONTAL SCALE IN FEET

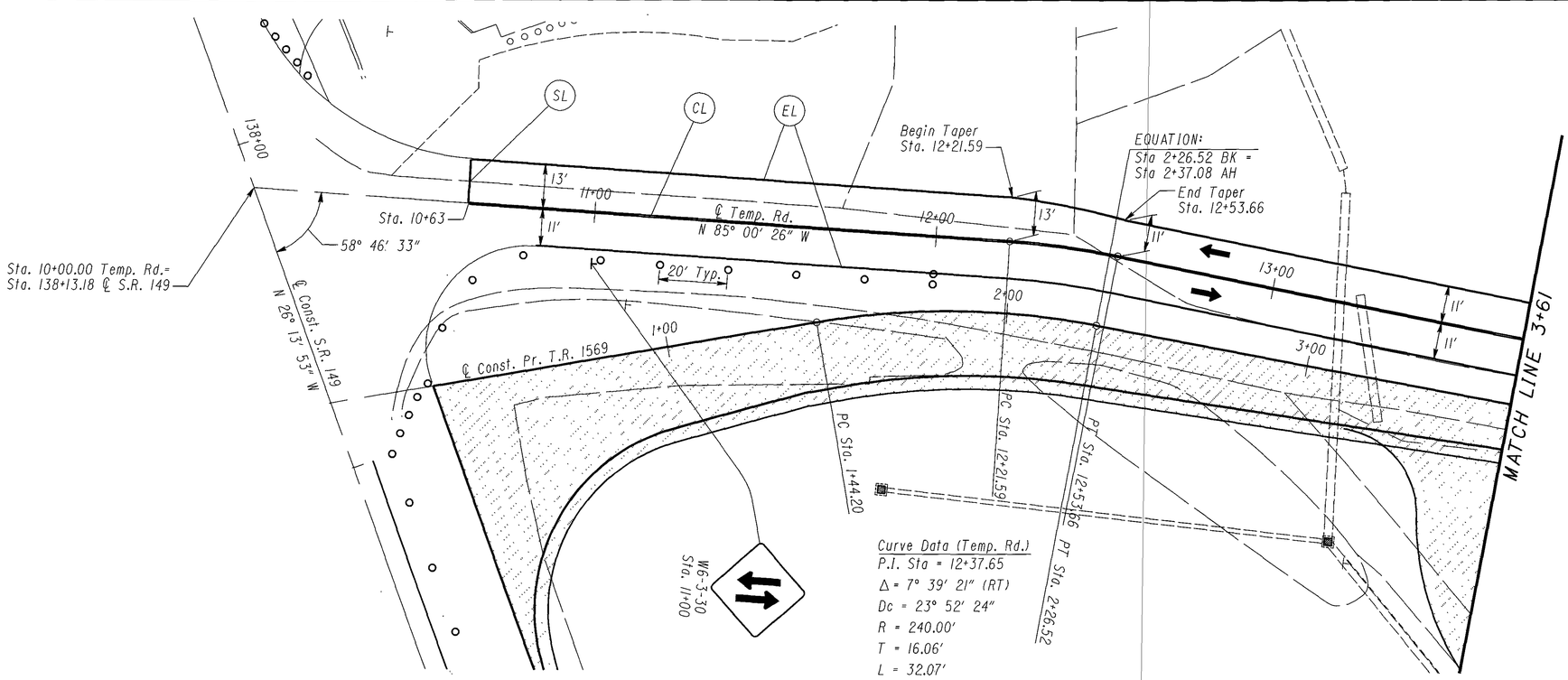


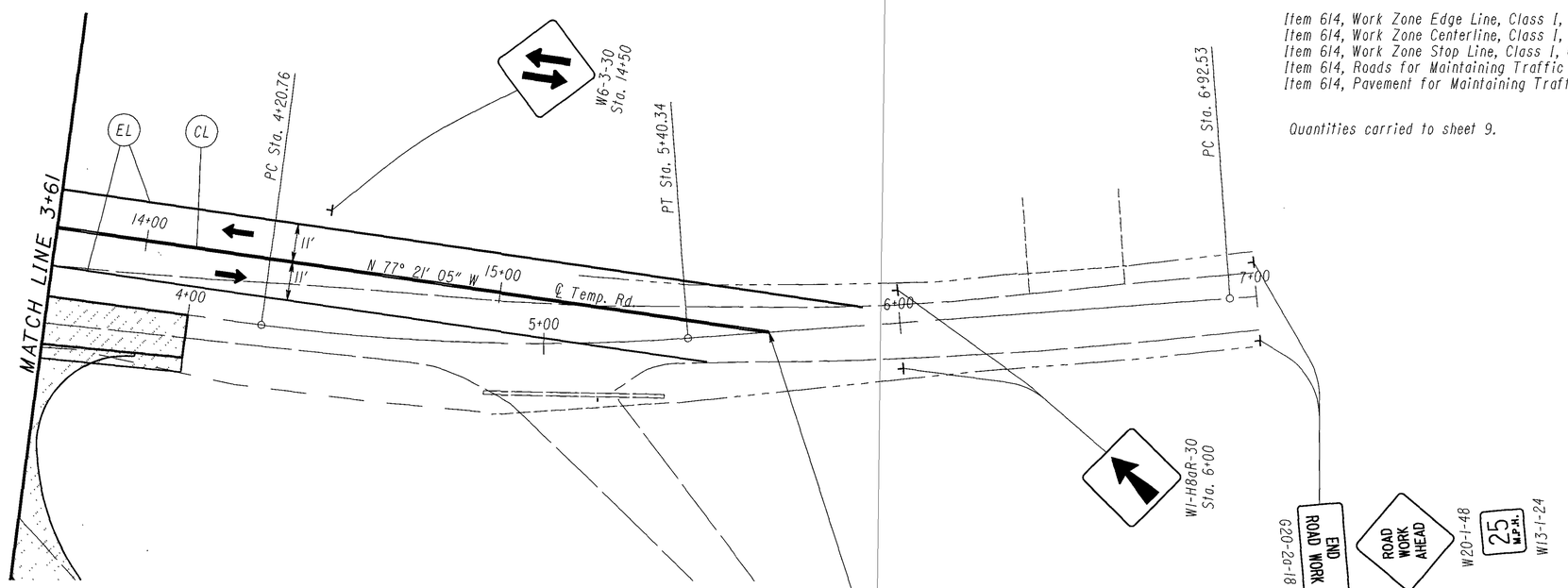
For Maintenance of Traffic notes see sheets 8-9.
For Legend see sheet 11.
For Typical Section, See Sheet 10.

QUANTITIES
Item 615, Work Zone Pavement For Maintaining Traffic, Class B - - 50 Sq. Yd.
Item 614, Work Zone Edge Line, Class 1, 642 Paint - - - - 0.30 Miles
Item 614, Work Zone Raised Pavement Marker (Yellow) - - - - - - - 21 Each
Item 614, Work Zone Centerline, Class 1, 642 Paint - - - - - - - 0.15 Miles

Quantities carried to sheet 9.

14 / 84	BEL-149-23.77	MAINTENANCE OF TRAFFIC PHASE THREE STA. 139+00.00 TO STA. 153+00.00	CALCULATED TES CHECKED RDA	0 20 10 40 HORIZONTAL SCALE IN FEET





For Maintenance of Traffic notes see sheets 8-9.
For Legend see sheet 11.
For Typical Section, See Sheet 10.

QUANTITIES

Item 614, Work Zone Edge Line, Class I, 642 Paint - - - - - - - - - 0.19 Miles
Item 614, Work Zone Centerline, Class I, 642 Paint - - - - - - - - 0.10 Miles
Item 614, Work Zone Stop Line, Class I, 642 Paint - - - - - - - - 13 Ft.
Item 614, Roads for Maintaining Traffic - - - - - - - - - - - - - LUMP
Item 614, Pavement for Maintaining Traffic, Class B - - - - - - - - 1293 Sq. Yd.

Quantities carried to sheet 9.

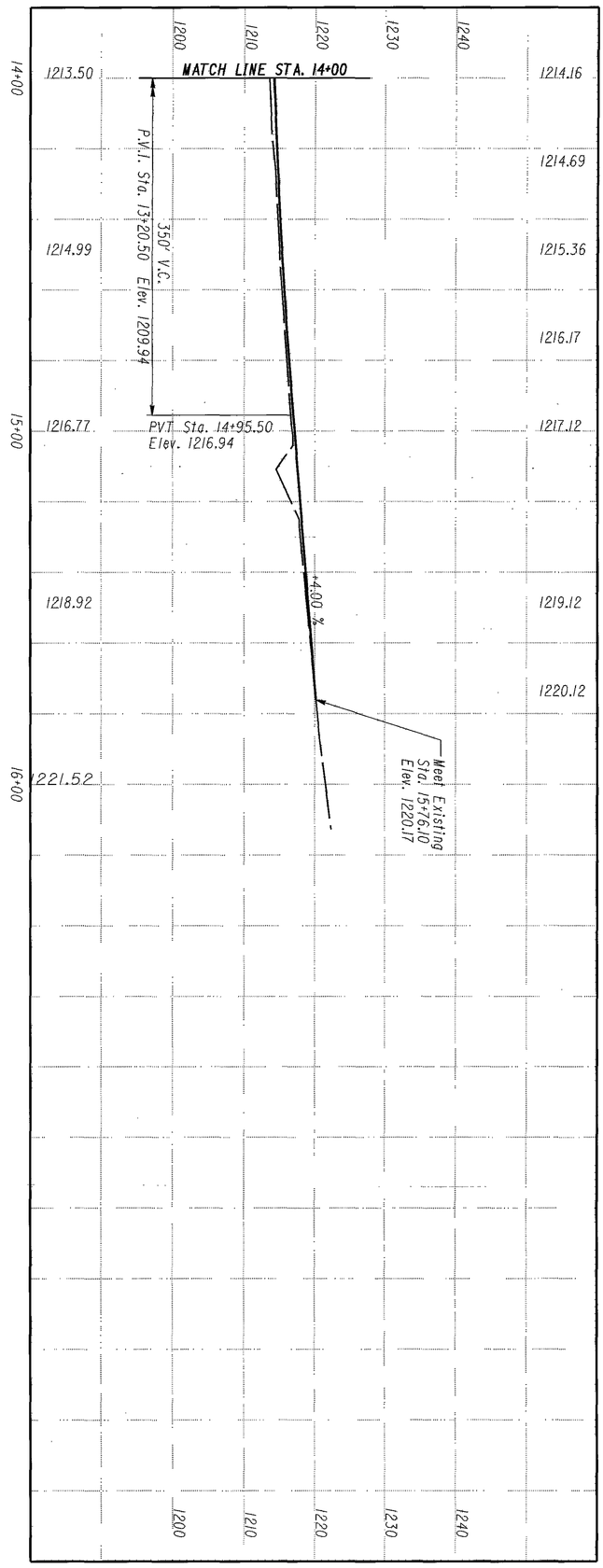
HORIZONTAL SCALE IN FEET
0 10 20 40

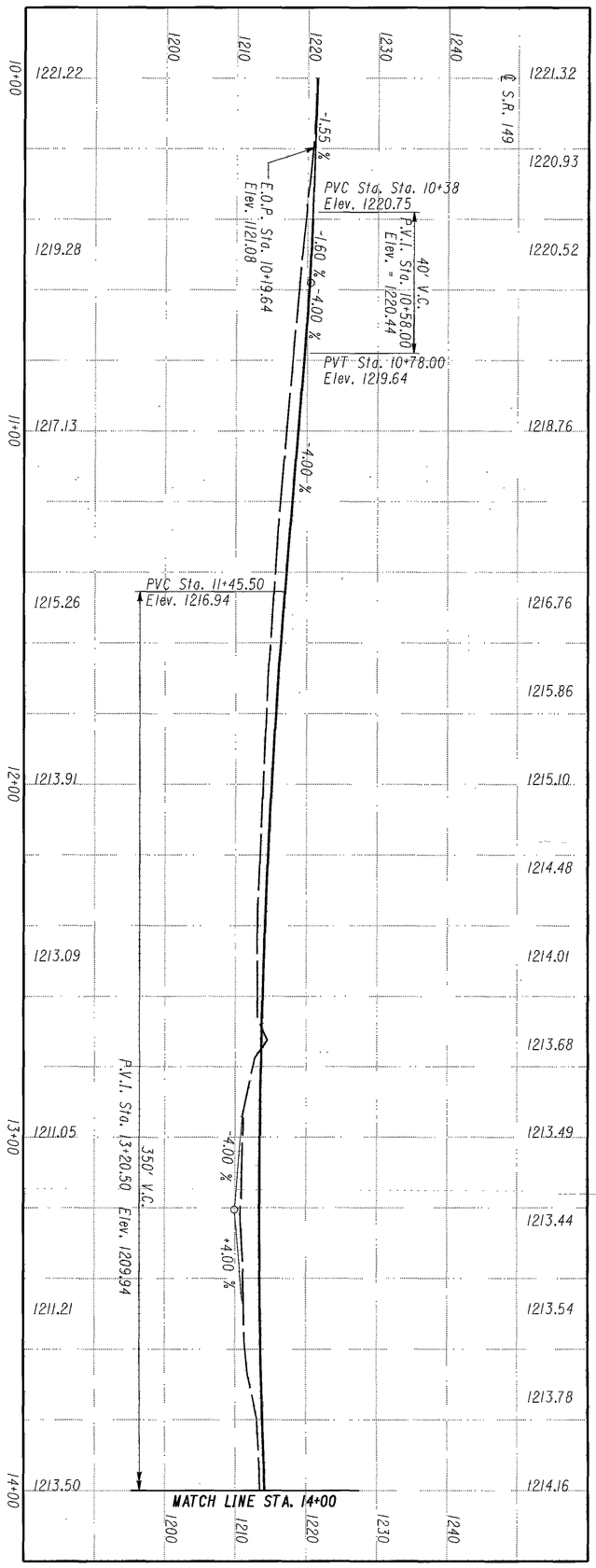
CALCULATED TES
CHECKED RDA

MAINTENANCE OF TRAFFIC PHASE FOUR
STA. 0+00.00 TO STA. 7+00.00

BEL-149-23.77

15
84

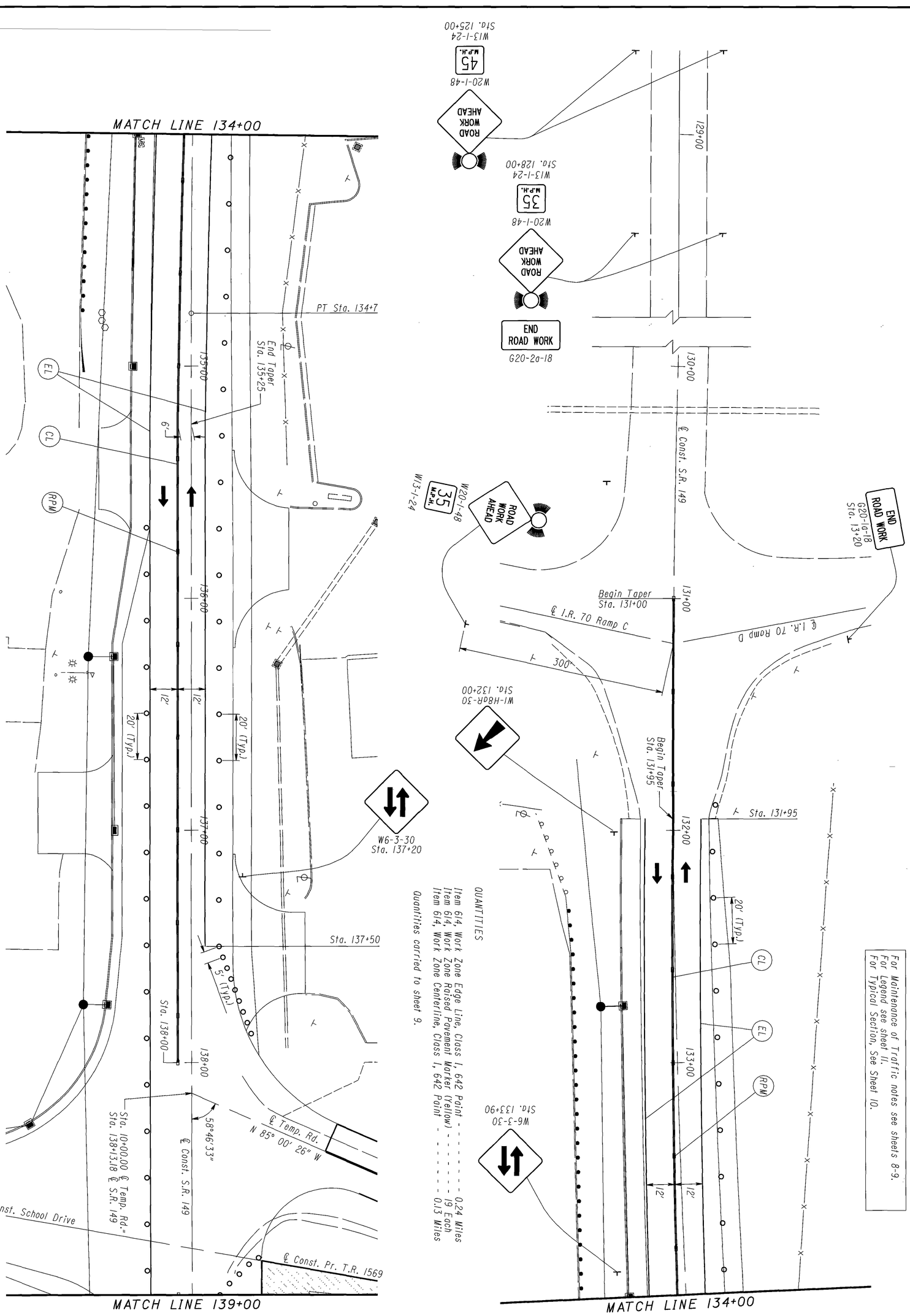




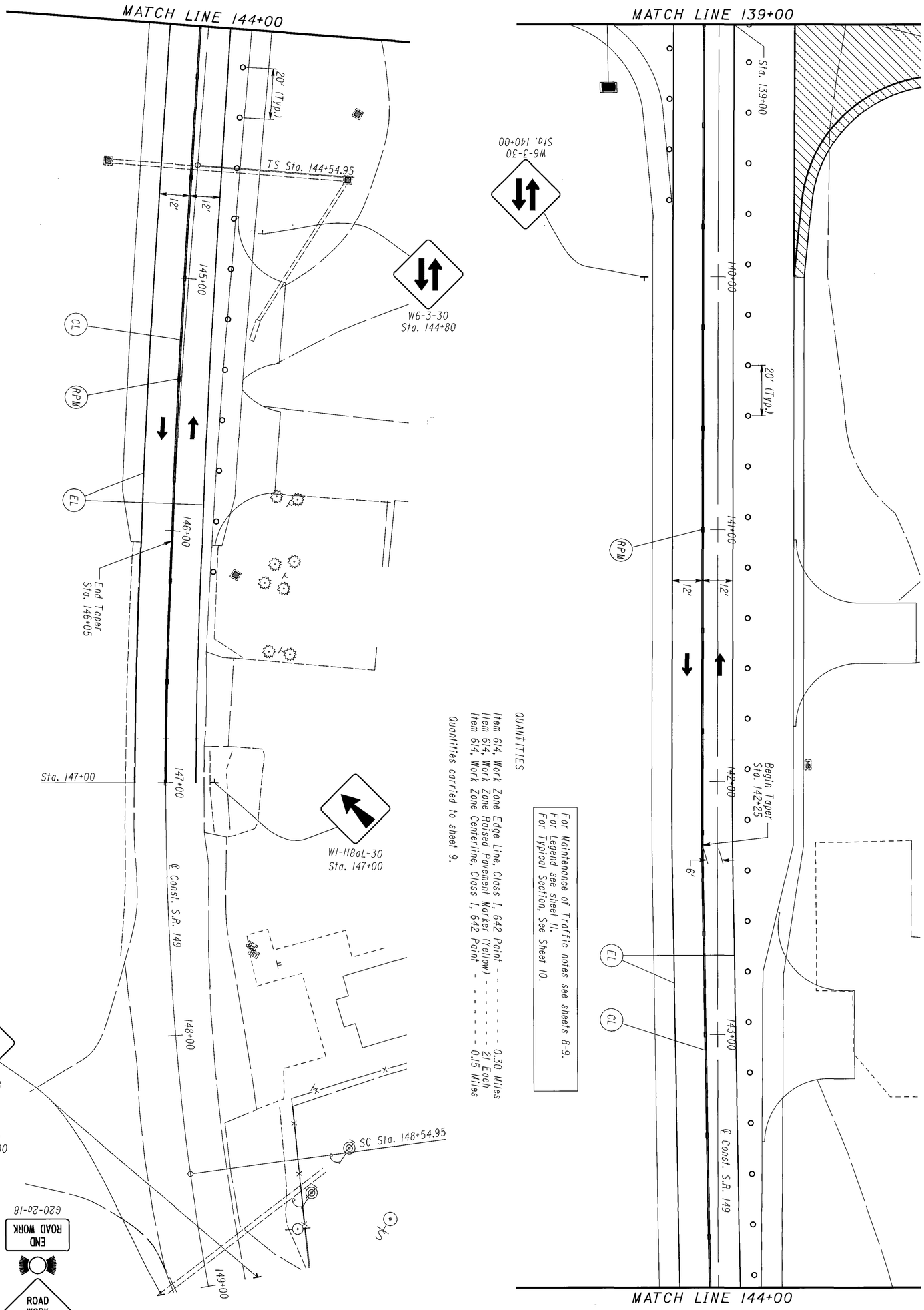
BEL-149-23.77

MAINTENANCE OF TRAFFIC PHASE FOUR
STA. 10+00.00 TO STA. 16+00.00

CALCULATED TES
CHECKED SKW



17 / 84	BEL-149-23.77	MAINTENANCE OF TRAFFIC PHASE FOUR STA. 125+00.0 TO STA. 139+00.00	CALCULATED TES CHECKED RDA	0 20 10 40 HORIZONTAL SCALE IN FEET



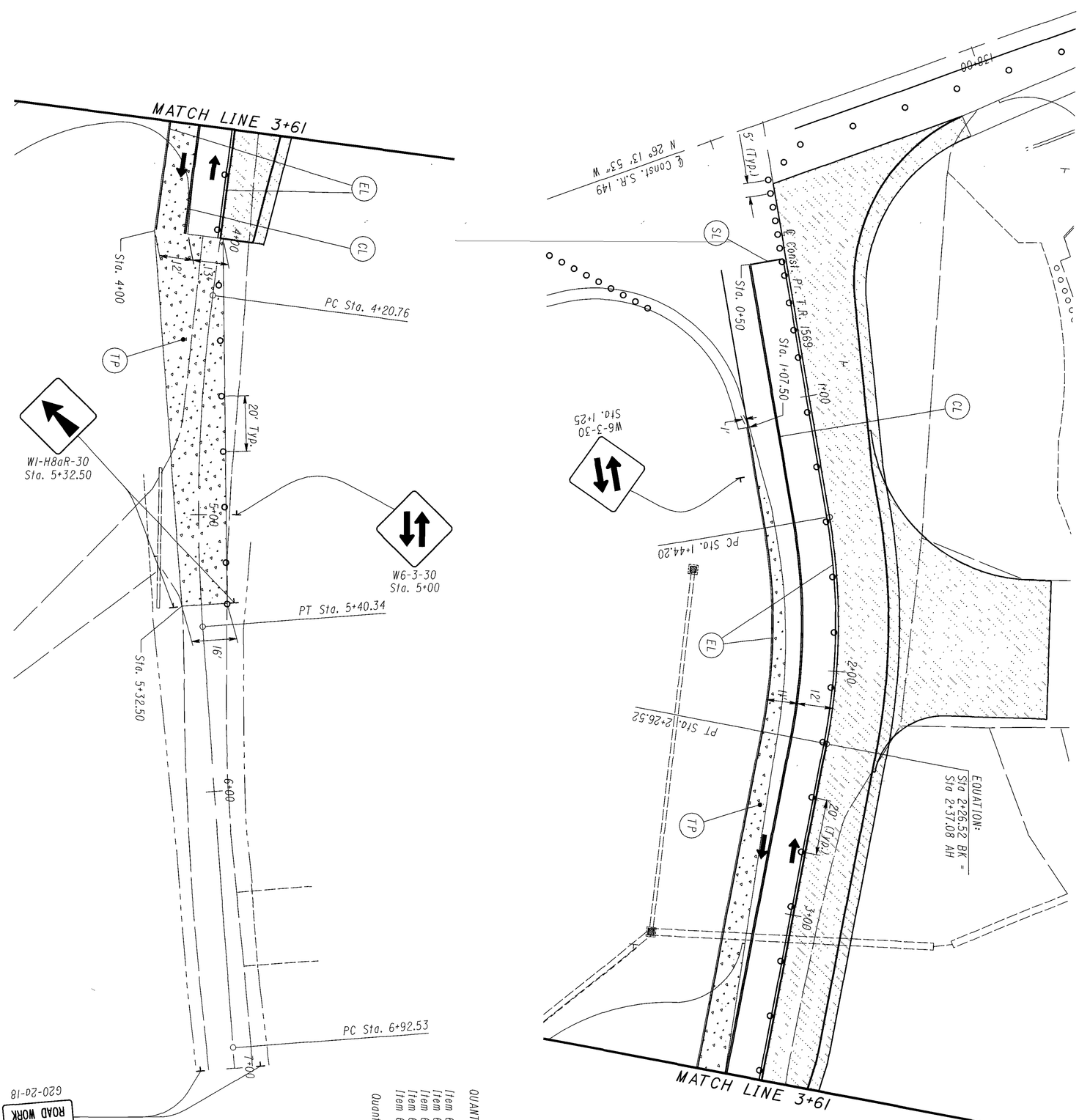
QUANTITIES

Item 614, Work Zone Edge Line, Class I, 642 Paint - - - - - - - - - 0.30 Miles
Item 614, Work Zone Raised Pavement Marker (Yellow) - - - - - - - 21 Each
Item 614, Work Zone Centerline, Class I, 642 Paint - - - - - - - - 0.15 Miles

Quantities carried to sheet 9.

For Maintenance of Traffic notes see sheets 8-9.
For Legend see sheet 11.
For Typical Section, See Sheet 10.

18 / 84	BEL-149-23.77	MAINTENANCE OF TRAFFIC PHASE FOUR STA. 139+00.00 TO STA. 153+00.00	CALCULATED TES CHECKED RDA	0 20 10 40 HORIZONTAL SCALE IN FEET



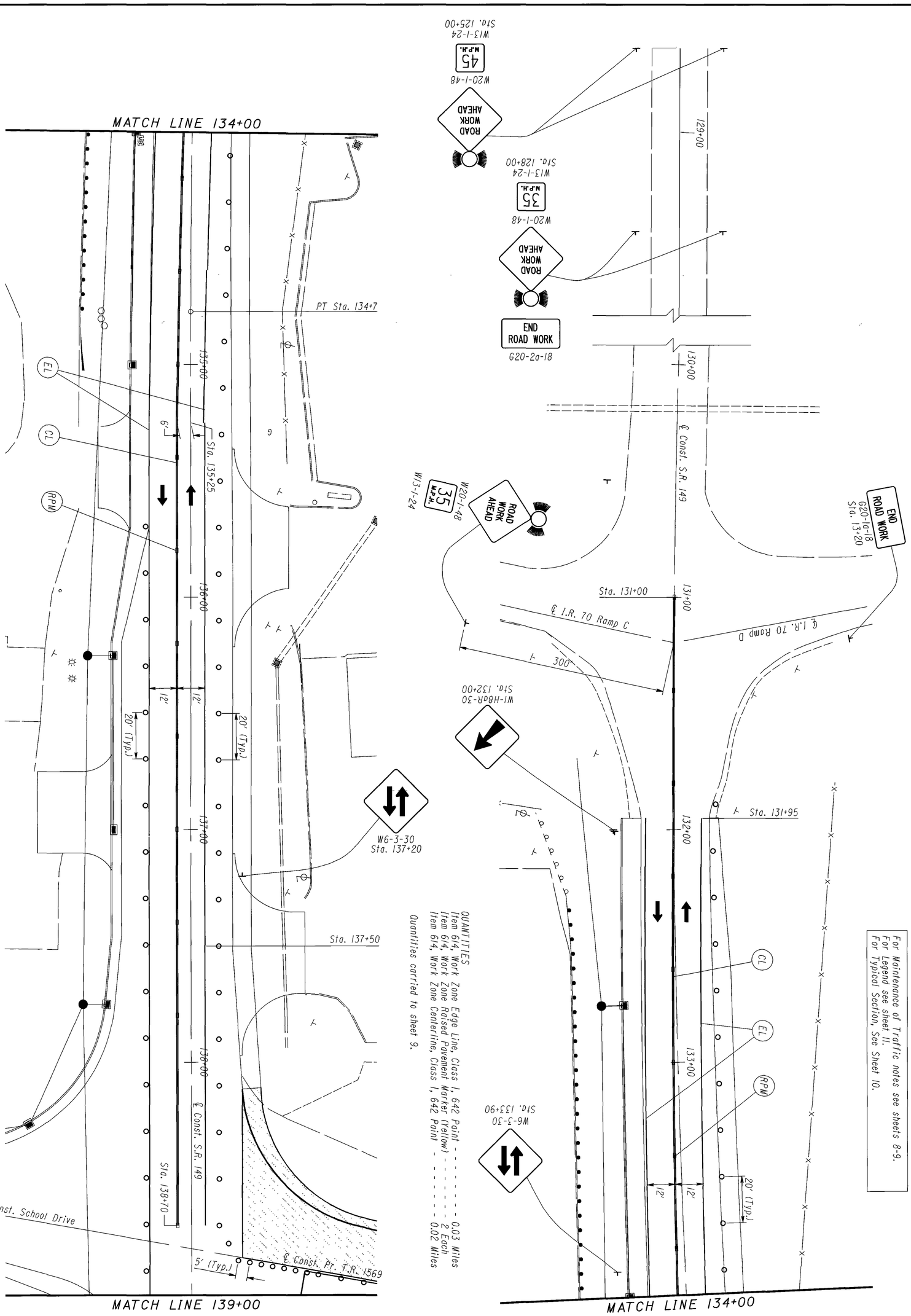
QUANTITIES

Item 614, Work Zone Edge Line, Class I, 642 Paint	0.13 Miles
Item 614, Work Zone Centerline, Class I, 642 Paint	0.07 Miles
Item 614, Work Zone Stop Line, Class I, 642 Paint	13 Ft.
Item 615, Work Zone Pavement, Class B	513 Sq. Ft.
Item 615, Roads for Maintaining Traffic	LUMP

Quantities carried to sheet 9.

For Maintenance of Traffic notes see sheets 8-9.
For Legend see sheet 11.
For Typical Section, See Sheet 10.

84 / 19	BEL-149-23.77	MAINTENANCE OF TRAFFIC PHASE FIVE STA. 0+00.00 TO STA. 7+00.00	CALCULATED TES CHECKED RDA	0 20 10 40 HORIZONTAL SCALE IN FEET

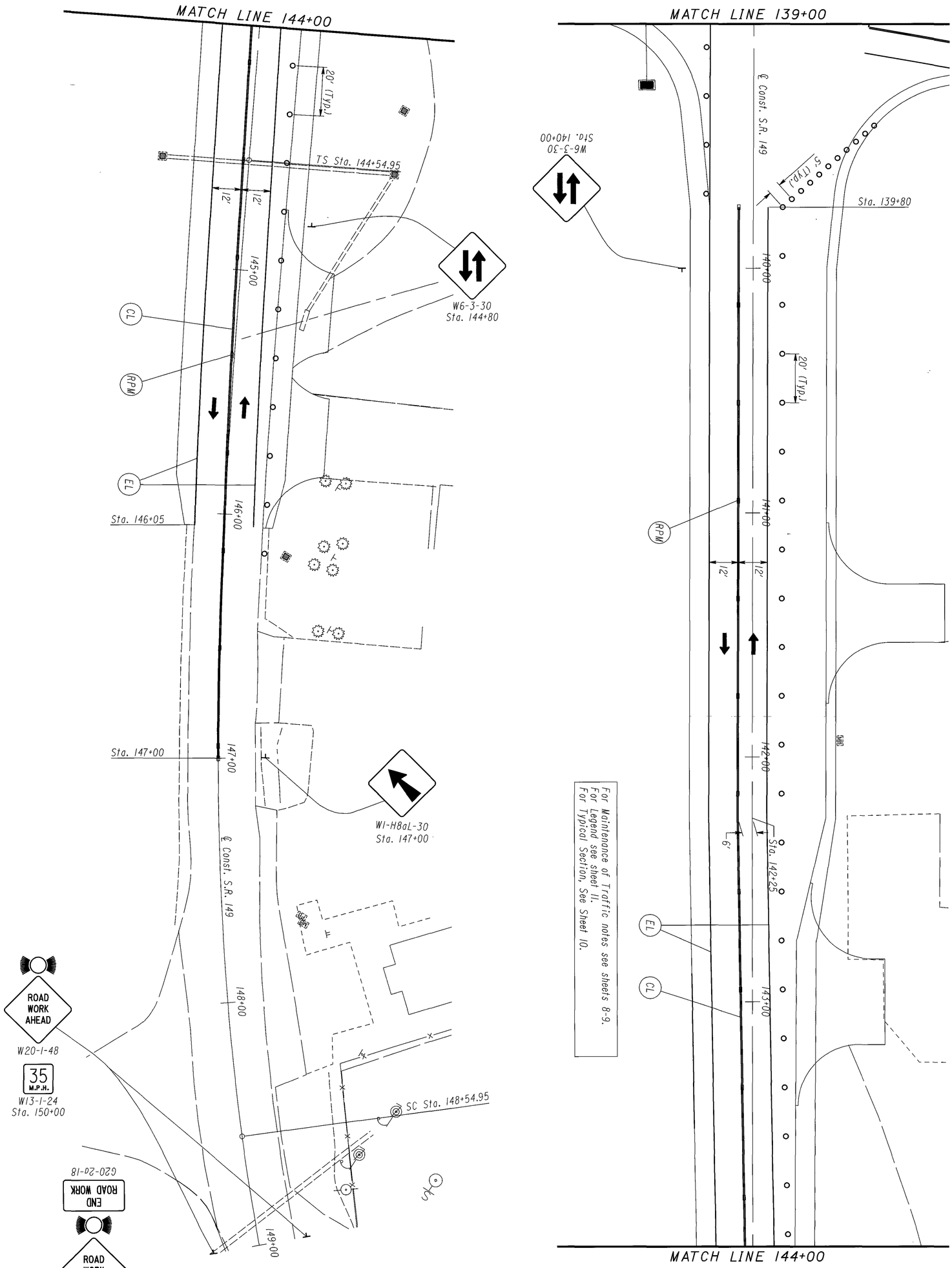


QUANTITIES
Item 614, Work Zone Edge Line, Class I, 642 Paint - - - - - - - - 0.03 Miles
Item 614, Work Zone Raised Pavement Marker (Yellow) - - - - - - 2 Each
Item 614, Work Zone Centerline, Class I, 642 Paint - - - - - - - - 0.02 Miles

Quantities carried to sheet 9.

For Maintenance of Traffic notes see sheets 8-9.
For Legend see sheet 11.
For Typical Section, See Sheet 10.

20 84	BEL-149-23.77	MAINTENANCE OF TRAFFIC PHASE FIVE STA. 125+00.0 TO STA. 139+00.00	CALCULATED TES CHECKED RDA	0 20 10 40 HORIZONTAL SCALE IN FEET



21 / 84	BEL-149-23.77	MAINTENANCE OF TRAFFIC PHASE FIVE STA. 139+00.00 TO STA. 153+00.00	CALCULATED TES CHECKED RDA	0 20 10 40 HORIZONTAL SCALE IN FEET

SHEET NUMBER															ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
6	7							26	27		34	35		54						
																			ROADWAY	
LUMP															201	11000	LUMP		CLEARING AND GRUBBING	
														380	202	23000	380	SQ YD	PAVEMENT REMOVED	
												370			202	32000	370	FT	CURB REMOVED	
												459			202	35100	459	FT	PIPE REMOVED, 24" AND UNDER	
												38			202	35200	38	FT	PIPE REMOVED, OVER 24"	
												476			202	38000	476	FT	GUARDRAIL REMOVED	
												2			202	58100	2	EACH	CATCH BASIN REMOVED	
									3076					2085	203	10000	5164	CU YD	EXCAVATION	
100									1793						203	20000	1893	CU YD	EMBANKMENT	
								7004						1811	204	10000	8815	SQ YD	SUBGRADE COMPACTION	
												250			606	13000	250	FT	GUARDRAIL, TYPE 5	
												1			606	25000	1	EACH	ANCHOR ASSEMBLY, TYPE A	
												1364			609	26000	1364	FT	CURB, TYPE 6	
	3														SPECIAL	69050000	3	EACH	MAILBOX SUPPORT	7
	1300														SPECIAL	69065024	1300	GALLON	WORK INVOLVING REGULATED WATER	7
	4														SPECIAL	69098000	4	EACH	MISC.: GROUND WATER MONITORING WELL ABANDONMENT	7
	4														SPECIAL	69098000	4	EACH	MISC.: GROUND WATER MONITORING WELL RECONSTRUCTION	7
																			EROSION CONTROL	
									2						659	00100	2	EACH	SOIL ANALYSIS TEST	
									732						659	00300	732	CU YD	TOPSOIL	
									6591						659	10000	6591	SQ YD	SEEDING AND MULCHING	
									0.89						659	20000	0.89	TON	COMMERCIAL FERTILIZER	
									1.36						659	31000	1.36	ACRE	LIME	
									36						659	35000	36	M GAL	WATER	
															832	10000	1	EACH	STORM WATER POLLUTION PREVENTION PLAN	
															832	30000	3000	EACH	EROSION CONTROL	
																			DRAINAGE	
											1.9				602	20000	1.9	CU YD	CONCRETE MASONRY	
100															603	00406	100	FT	4" CONDUIT, TYPE F	
												164			603	00510	164	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
											63				603	04200	63	FT	12" CONDUIT, TYPE A	
											184				603	04400	184	FT	12" CONDUIT, TYPE B	
											114				603	04600	114	FT	12" CONDUIT, TYPE C	
											125				603	07400	125	FT	18" CONDUIT, TYPE B	
											21				603	07600	21	FT	18" CONDUIT, TYPE C	
											96				603	07900	96	FT	18" CONDUIT, TYPE D	
											108				603	13200	108	FT	30" CONDUIT, TYPE A	
											150				603	13400	150	FT	30" CONDUIT, TYPE B	
											501				603	13600	501	FT	30" CONDUIT, TYPE C	
											107				603	16600	107	FT	36" CONDUIT, TYPE C	
											4				604	00400	4	EACH	CATCH BASIN, NO. 3	
											4				604	00800	4	EACH	CATCH BASIN, NO. 3A	
											1				604	01200	1	EACH	CATCH BASIN, NO. 4	
											1				604	02000	1	EACH	CATCH BASIN, NO. 6	
											1				604	04500	1	EACH	CATCH BASIN, NO. 2-2B	
											5				604	31500	5	EACH	MANHOLE, NO. 3	
												7			604	36600	7	EACH	PRECAST REINFORCED CONCRETE OUTLET	
												2620			605	11100	2620	FT	6" SHALLOW PIPE UNDERDRAIN	
												1103			605	13300	1103	FT	6" UNCLASSIFIED PIPE UNDERDRAIN	

CALCULATED TES
CHECKED RDA

GENERAL SUMMARY

BEL-149-23.77

SHEET NUMBER																ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
6		8	9			24	25	26				35		54	54						
																				PAVEMENT	
						4074										254	01000	4074	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
							1597									301	46000	1597	CU YD	ASPHALT AGGREGATE BASE, PG64-22	
								1554						373		304	20000	1927	CU YD	AGGREGATE BASE	
						306										407	10000	306	GALLON	TACK COAT	
						415								67		407	14000	482	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
							2555							674		408	10000	3229	GALLON	PRIME COAT	
														80		448	46024	80	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (DRIVEWAYS)	
						504										448	46050	504	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
								6								448	46050	6	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (LEVELING COURSE)	
						360										448	47021	360	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN	6
														59		448	48021	59	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS), AS PER PLAN	6
																				FOR TRAFFIC CONTROL GENERAL SUMMARY SEE SHEET 59	
																				FOR TRAFFIC SIGNAL GENERAL SUMMARY SEE SHEET 66	
																				MAINTENANCE OF TRAFFIC	
		40														410	12000	40	CU YD	TRAFFIC COMPACTED SURFACE, TYPE A OR B	
		200													30	614	11100	230	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
			124													614	12800	124	EACH	WORK ZONE RAISED PAVEMENT MARKER	
		3														614	13000	3	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
		0.40	1.05													614	21100	1.45	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	
		0.80	2.00													614	22100	2.80	MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	
			26													614	26200	26	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	
			LUMP													615	10000	LUMP		ROADS FOR MAINTAINING TRAFFIC	
			1856													615	25000	1856	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B	
		6														616	10000	6	M GAL	WATER	
		1														616	20000	1	TON	CALCIUM CHLORIDE	
			4440													642	30000	4440	FT	REMOVAL OF PAVEMENT MARKING	
		LUMP														614	11000	LUMP		MAINTAINING TRAFFIC	
																619	16010	8	MONTH	FIELD OFFICE, TYPE B	
																623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
																624	10000	LUMP		MOBILIZATION	

CALCULATED TES
CHECKED RDA

GENERAL SUMMARY

BEL-149-23.77

ITEM 448 - ASPHALT CONCRETE SURFACE COURSE TYPE I, PG 64-22, AS PER PLAN

Sta. 131+95.00 to Sta. 135+69.50 Lt.
374.50' x (15.3' + 18') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 24.06

Sta. 131+95.00 to Sta. 135+69.50 Rt.
374.50' x (14' + 18') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 23.12

Sta. 135+69.50 to Sta. 136+19.50
50' x (36' + 48') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 8.10

Sta. 136+19.50 to Sta. 142+25.00
605.50' x 48' x 1.25" ÷ 12 ÷ 27 = 112.13

Sta. 142+25.00 to Sta. 142+75.00
50' x (48' + 36') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 8.10

Sta. 142+75.00 to Sta. 146+05.00 Lt.
330' x (18' + 16') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 21.64

Sta. 142+75.00 to Sta. 146+05.00 Rt.
330' x (18' + 12.1') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 19.16

Sta. 0+68.56 to Sta. 1+28.56 Lt. (TR 1569)
60' x (22' + 18') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 4.63

Sta. 1+28.56 to Sta. 3+50.00 Lt. (TR 1569)
210.88' x 18' x 1.25" ÷ 12 ÷ 27 = 14.64

Sta. 3+50.00 to Sta. 4+00.00 Lt. (TR 1569)
50' x (18' + 12') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 2.89

Sta. 0+97.49 to Sta. 1+37.49 Rt. (TR 1569)
40' x (24' + 20') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 3.40

Sta. 1+37.49 to Sta. 2+26.52 Rt. (TR 1569)
89.03' x (20' + 18') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 6.53

Sta. 2+37.08 to Sta. 4+00.00 Rt. (TR 1569)
162.92' x (18' + 12') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 9.43

Sta. 50+55.23 to Sta. 50+95.23 Lt. (Sch. Dr.)
40' x (22' + 18') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 3.09

Sta. 50+95.23 to Sta. 53+00.00 Lt. (Sch. Dr.)
204.77' x 18' x 1.25" ÷ 12 ÷ 27 = 14.22

Sta. 53+00.00 to Sta. 53+75.00 Lt. (Sch. Dr.)
75' x (18' + 12') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 4.34

Sta. 51+42.79 to Sta. 51+96.27 Rt. (Sch. Dr.)
53.48' x (20.19' + 18') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 3.94

Sta. 51+96.27 to Sta. 52+50.00 Rt. (Sch. Dr.)
53.73' x 18' x 1.25" ÷ 12 ÷ 27 = 3.73

Sta. 52+50.00 to Sta. 53+75.00 Rt. (Sch. Dr.)
125' x (18' + 12') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 7.23

Sta. 137+45.63 to Sta. 139+75.23 Rt. (Intersection)
5496.17* s.f. x 1.25" ÷ 12 ÷ 27 = 21.20

Sta. 137+51.44 to Sta. 139+99.94 Lt. (Intersection)
4712.18* s.f. x 1.25" ÷ 12 ÷ 27 = 18.18

Sta. 131+95.00 to Sta. 135+69.50 Rt. (Shoulder)
374.50' x 8' x 1.25" ÷ 12 ÷ 27 = 11.56

Sta. 135+69.50 to Sta. 136+19.50 Rt. (Shoulder)
50' x (8' + 4') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 1.16

Sta. 136+19.50 to Sta. 137+75.63 Rt. (Shoulder)
156.28 x 4' x 1.25" ÷ 12 ÷ 27 = 2.41

Sta. 137+75.63 to Sta. 51+42.79 Rt. (Shoulder)
133.53' x 4' x 1.25" ÷ 12 ÷ 27 = 2.06

Sta. 51+42.79 to Sta. 52+00.00 Rt. (Shoulder)
53.97' x (4' + 2') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 0.62

Sta. 52+00.00 to Sta. 53+59.00 Rt. (Shoulder)
159' x 2' x 1.25" ÷ 12 ÷ 27 = 1.23

Sta. 53+59.00 to Sta. 53+75.00 Rt. (Shoulder)
16' x (2' + 4') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 0.19

Sta. 139+75.23 to Sta. 50+55.23 (Shoulder)
100.05' x 8' x 1.25" ÷ 12 ÷ 27 = 3.09

Sta. 50+55.23 to Sta. 50+95.23 Lt. (Shoulder)
40.20' x (8' + 4') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 0.93

Sta. 50+95.23 to Sta. 51+84.00 Lt. (Shoulder)
88.77' x 4' x 1.25" ÷ 12 ÷ 27 = 1.37

ITEM 448 - ASPHALT CONCRETE SURFACE COURSE TYPE I, PG 64-22, AS PER PLAN

Sta. 51+84.00 to Sta. 52+00.00 Lt. (Shoulder)
16' x (4' + 2') ÷ 2 x 1.25" ÷ 12 ÷ 27 = 0.19

Sta. 52+00.00 to Sta. 53+50.00 Lt. (Shoulder)
150' x 2' x 1.25" ÷ 12 ÷ 27 = 1.16

Sta. 53+50.00 to Sta. 53+75.00 Lt. (Shoulder)
25' x (2' + 0') 2 x 1.25" ÷ 12 ÷ 27 = 0.10

TOTAL = 359.83 Cu. Yd.

(Use 360 Cu. Yd.)

ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2, PG 64-22

Sta. 131+95.00 to Sta. 135+69.50 Lt.
374.50' x (15.3' + 18') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 33.68

Sta. 131+95.00 to Sta. 135+69.50 Rt.
374.50' x (14' + 18') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 32.36

Sta. 135+69.50 to Sta. 136+19.50
50' x (36' + 48') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 11.34

Sta. 136+19.50 to Sta. 142+25.00
605.50' x 48' x 1.75" ÷ 12 ÷ 27 = 156.98

Sta. 142+25.00 to Sta. 142+75.00
50' x (48' + 36') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 11.34

Sta. 142+75.00 to Sta. 146+05.00 Lt.
330' x (18' + 16') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 30.30

Sta. 142+75.00 to Sta. 146+05.00 Rt.
330' x (18' + 12.1') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 26.83

Sta. 0+68.56 to Sta. 1+28.56 Lt. (TR 1569)
60' x (22' + 18') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 6.48

Sta. 1+28.56 to Sta. 3+50.00 Lt. (TR 1569)
210.88' x 18' x 1.75" ÷ 12 ÷ 27 = 20.50

Sta. 3+50.00 to Sta. 4+00.00 Lt. (TR 1569)
50' x (18' + 12') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 4.05

Sta. 0+97.49 to Sta. 1+37.49 Rt. (TR 1569)
40' x (24' + 20') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 4.75

Sta. 1+37.49 to Sta. 2+26.52 Rt (TR 1569)
89.03' x (20' + 18') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 9.14

Sta. 2+37.08 to Sta. 4+00.00 Rt. (TR 1569)
162.92' x (18' + 12') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 13.20

Sta. 50+55.23 to Sta. 50+95.23 Lt. (Sch. Dr.)
40' x (22' + 18') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 4.32

Sta. 50+95.23 to Sta. 53+00.00 Lt. (Sch. Dr.)
204.77' x 18' x 1.75" ÷ 12 ÷ 27 = 19.91

Sta. 53+00.00 to Sta. 53+75.00 Lt. (Sch. Dr.)
75' x (18' + 12') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 6.08

Sta. 51+42.79 to Sta. 51+96.27 Rt. (Sch. Dr.)
53.48' x (20.19' + 18') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 5.52

Sta. 51+96.27 to Sta. 52+50.00 Rt. (Sch. Dr.)
53.73' x 18' x 1.75" ÷ 12 ÷ 27 = 5.22

Sta. 52+50.00 to Sta. 53+75.00 Rt. (Sch. Dr.)
125' x (18' + 12') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 10.13

Sta. 137+45.63 to Sta. 139+75.23 Rt. (Intersection)
5496.17* s.f. x 1.75" ÷ 12 ÷ 27 = 29.69

Sta. 137+51.44 to Sta. 139+99.94 Lt. (Intersection)
4712.18* s.f. x 1.75" ÷ 12 ÷ 27 = 25.45

Sta. 131+95.00 to Sta. 135+69.50 Rt. (Shoulder)
374.50' x 8' x 1.75" ÷ 12 ÷ 27 = 16.18

Sta. 135+69.50 to Sta. 136+19.50 Rt. (Shoulder)
50' x (8' + 4') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 1.62

* CADD Area
Totals Carried to General Summary

ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2, PG 64-22

Sta. 136+19.50 to Sta. 137+75.63 (Shoulder)
156.28' x 4' x 1.75" ÷ 12 ÷ 27 = 3.38

Sta. 137+75.63 to Sta. 51+42.79 (Shoulder)
133.53' x 4' x 1.75" ÷ 12 ÷ 27 = 2.88

Sta. 51+42.79 to Sta. 52+00.00 Rt. (Shoulder)
53.97' x (4' + 2') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 0.87

Sta. 52+00.00 to Sta. 53+59.00 Rt. (Shoulder)
159' x 2' x 1.75" ÷ 12 ÷ 27 = 1.72

Sta. 53+59.00 to Sta. 53+75.00 Rt. (Shoulder)
16' x (2' + 4') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 0.26

Sta. 139+75.23 to Sta. 50+55.23 (Shoulder)
100.05' x 8' x 1.75" ÷ 12 ÷ 27 = 4.32

Sta. 50+55.23 to Sta. 50+95.23 Lt. (Shoulder)
40.20' x (8' + 4') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 1.30

Sta. 50+95.23 to Sta. 51+84.00 Lt. (Shoulder)
88.77' x 4' x 1.75" ÷ 12 ÷ 27 = 1.92

Sta. 51+84.00 to Sta. 52+00.00 Lt. (Shoulder)
16' x (4' + 2') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 0.26

Sta. 52+00.00 to Sta. 53+50.00 Lt. (Shoulder)
150' x 2' x 1.75" ÷ 12 ÷ 27 = 1.62

Sta. 53+50.00 to Sta. 53+75.00 Lt. (Shoulder)
25' x (2' + 0') ÷ 2 x 1.75" ÷ 12 ÷ 27 = 0.14

TOTAL = 503.74 Cu. Yd.

(Use 504 Cu. Yd.)

ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

Sta. 131+95.00 to Sta. 135+69.50 Lt.
374.50' x (15.3' + 18') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 27.71

Sta. 131+95.00 to Sta. 135+69.50 Rt.
374.50' x (14' + 18') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 26.63

Sta. 135+69.50 to Sta. 136+19.50
50' x (36' + 48') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 9.33

Sta. 136+19.50 to Sta. 142+25.00
605.50' x 48' ÷ 9 x 0.04 Gal/s.y. = 129.17

Sta. 142+25.00 to Sta. 142+75.00
50' x (48' + 36') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 9.33

Sta. 142+75.00 to Sta. 146+05.00 Lt.
330' x (18' + 16') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 24.93

Sta. 142+75.00 to Sta. 146+05.00 Rt.
330' x (18' + 12.1') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 22.07

Sta. 0+68.56 to Sta. 1+28.56 Lt. (TR 1569)
60' x (22' + 18') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 5.33

Sta. 1+28.56 to Sta. 3+50.00 Lt. (TR 1569)
210.88' x 18' ÷ 9 x 0.04 Gal/s.y. = 16.87

Sta. 3+50.00 to Sta. 4+00.00 Lt. (TR 1569)
50' x (18' + 12') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 3.33

Sta. 0+97.49 to Sta. 1+37.49 Rt. (TR 1569)
40' x (24' + 20') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 3.91

Sta. 1+37.49 to Sta. 2+26.52 Rt. (TR 1569)
89.03' x (20' + 18') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 7.52

Sta. 2+37.08 to Sta. 4+00.00 Rt. (TR 1569)
162.92' x (18' + 12') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 10.86

Sta. 50+55.23 to Sta. 50+95.23 Lt. (Sch. Dr.)
40' x (22' + 18') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 3.56

Sta. 50+95.23 to Sta. 53+00.00 Lt. (Sch. Dr.)
204.77' x 18' ÷ 9 x 0.04 Gal/s.y. = 16.38

ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

Sta. 53+00.00 to Sta. 53+75.00 Lt. (Sch. Dr.)
75' x (18' + 12') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 5.00

Sta. 51+42.79 to Sta. 51+96.27 Rt. (Sch. Dr.)
53.48' x (20.19' + 18') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 4.54

Sta. 51+96.27 to Sta. 52+50.00 Rt. (Sch. Dr.)
53.73' x 18' ÷ 9 x 0.04 Gal/s.y. = 4.30

Sta. 52+50.00 to Sta. 53+75.00 Rt. (Sch. Dr.)
125' x (18' + 12') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 8.33

Sta. 137+45.63 to Sta. 139+75.23 Rt. (Intersection)
5496.17* s.f. ÷ 9 x 0.04 Gal/s.y. = 24.43

Sta. 137+51.44 to Sta. 139+99.94 Lt. (Intersection)
4712.18* s.f. ÷ 9 x 0.04 Gal/s.y. = 20.94

Sta. 131+95.00 to Sta. 135+69.50 Rt. (Shoulder)
374.50' x 8' ÷ 9 x 0.04 Gal/s.y. = 13.32

Sta. 135+69.50 to Sta. 136+19.50 Rt. (Shoulder)
50' x (8' + 4') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 1.33

Sta. 136+19.50 to Sta. 137+75.63 (Shoulder)
156.28' x 4' ÷ 9 x 0.04 Gal/s.y. = 2.78

Sta. 137+75.63 to Sta. 51+42.79 (Shoulder)
133.53' x 4' ÷ 9 x 0.04 Gal/s.y. = 2.37

Sta. 51+42.79 to Sta. 52+00.00 Rt. (Shoulder)
53.97' x (4' + 2') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 0.72

Sta. 52+00.00 to Sta. 53+59.00 Rt. (Shoulder)
159' x 2' ÷ 9 x 0.04 Gal/s.y. = 1.41

Sta. 53+59.00 to Sta. 53+75.00 Rt. (Shoulder)
16' x (2' + 4') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 0.21

Sta. 139+75.23 to Sta. 50+55.23 (Shoulder)
100.05' x 8' ÷ 9 x 0.04 Gal/s.y. = 3.56

Sta. 50+55.23 to Sta. 50+95.23 Lt. (Shoulder)
40.20' x (8' + 4') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 1.07

Sta. 50+95.23 to Sta. 51+84.00 Lt. (Shoulder)
88.77' x 4' ÷ 9 x 0.04 Gal/s.y. = 1.58

Sta. 51+84.00 to Sta. 52+00.00 Lt. (Shoulder)
16' x (4' + 2') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 0.21

Sta. 52+00.00 to Sta. 53+50.00 Lt. (Shoulder)
150' x 2' ÷ 9 x 0.04 Gal/s.y. = 1.33

Sta. 53+50.00 to Sta. 53+75.00 Lt. (Shoulder)
25' x (2' + 0') ÷ 2 ÷ 9 x 0.04 Gal/s.y. = 0.11

TOTAL = 414.47 Gal

(Use 415 Gal.)

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE

Sta. 131+95.00 to Sta. 146+05.00 Rt.
1410' x 14' ÷ 9 = 2193.33

Sta. 131+95.00 to Sta. 146+05.00 Lt.
1410' x 12' ÷ 9 = 1880.00

TOTAL = 4073.33 Sq. Yd.

(Use 4074 Sq. Yd.)

ITEM 407 - TACK COAT

Sta. 131+95.00 to Sta. 146+05.00 Rt.
1410' x 14' ÷ 9 x 0.075 Gal/s.y. = 164.50

Sta. 131+95.00 to Sta. 146+05.00 Lt.
1410' x 12' ÷ 9 x 0.075 Gal/s.y. = 141.00

TOTAL = 305.50 Gal.

(Use 306 Gal.)

CALCULATED TES
CHECKED RDA

CALCULATIONS

BEL-149-23.77

24
84

ITEM 301 - ASPHALT AGGREGATE BASE, PG 64-22

Sta. 131+95.00 to Sta. 135+69.50 Lt.
374.50' x (1.63' + 4.33') ÷ 2 x 9" ÷ 12 ÷ 27 = 31.00

Sta. 135+69.50 to Sta. 137+51.44 Lt.
181.94' x 4.33' x 9" ÷ 12 ÷ 27 = 21.88

Sta. 131+95.00 to Sta. 135+69.50 Rt.
374.50' x (2' + 6') ÷ 2 x 9" ÷ 12 ÷ 27 = 41.61

Sta. 135+69.50 to Sta. 136+19.50 Rt.
50' x (6' + 18') ÷ 2 x 9" ÷ 12 ÷ 27 = 16.67

Sta. 136+19.50 to Sta. 137+45.63 Rt.
126.13' x 18' x 9" ÷ 12 ÷ 27 = 63.07

Sta. 139+99.94 to Sta. 142+25.00 Lt.
225.06' x 16.33' x 9" ÷ 12 ÷ 27 = 102.09

Sta. 142+25.00 to Sta. 142+75.00 Lt.
50' x (16.33' + 4.33') ÷ 2 x 9" ÷ 12 ÷ 27 = 14.35

Sta. 142+75.00 to Sta. 146+05.00 Lt.
330' x (4.33' + 2.33') ÷ 2 x 9" ÷ 12 ÷ 27 = 30.53

Sta. 139+75.23 to Sta. 142+75.00 Rt.
299.77' x 6.33' x 9" ÷ 12 ÷ 27 = 52.71

Sta. 142+75.00 to Sta. 146+05.00 Rt.
330' x (6.33' + 0.43') ÷ 2 x 9" ÷ 12 ÷ 27 = 30.98

0+97.49 to Sta. 1+37.49 Rt. (TR 1569)
40' x (24.33' + 20.33') ÷ 2 x 9" ÷ 12 ÷ 27 = 24.81

Sta. 1+37.49 to Sta. 2+26.52 Rt. (TR 1569)
89.03' x (20.33' + 18.33') ÷ 2 x 9" ÷ 12 ÷ 27 = 47.80

Sta. 2+37.08 to Sta. 4+00.00 Rt. (TR 1569)
162.92' x (18.33 + 12.33) ÷ 2 x 9" ÷ 12 ÷ 27 = 69.38

Sta. 0+68.56 to Sta. 1+28.56 Lt. (TR 1569)
60' x (22.33' + 18.33') ÷ 2 x 9" ÷ 12 ÷ 27 = 33.88

Sta. 1+28.56 to Sta. 3+50.00 Lt. (TR 1569)
210.88' x 18.33' x 9" ÷ 12 ÷ 27 = 107.37

Sta. 3+50.00 to Sta. 4+00.00 Lt. (TR 1569)
50' x (18.33' + 12.33') ÷ 2 x 9" ÷ 12 ÷ 27 = 21.29

Sta. 51+42.79 to Sta. 51+96.27 Rt. (Sch. Dr.)
53.48' x (20.19' + 18') ÷ 2 x 9" ÷ 12 ÷ 27 = 28.37

Sta. 51+96.27 to Sta. 52+50.00 Rt. (Sch. Dr.)
53.73' x 18' x 9" ÷ 12 ÷ 27 = 26.87

Sta. 52+50.00 to Sta. 53+75.00 Rt. (Sch. Dr.)
125' x (18' + 12') ÷ 2 x 9" ÷ 12 ÷ 27 = 52.08

Sta. 50+55.23 to Sta. 50+95.23 Lt. (Sch. Dr.)
40' x (22' + 18') ÷ 2 x 9" ÷ 12 ÷ 27 = 22.22

Sta. 50+95.23 to Sta. 53+00.00 Lt. (Sch. Dr.)
204.77' x 18' x 9" ÷ 12 ÷ 27 = 102.39

Sta. 53+00.00 to Sta. 53+75.00 Lt. (Sch. Dr.)
75' x (18' + 12') ÷ 2 x 9" ÷ 12 ÷ 27 = 31.25

Sta. 137+45.63 to Sta. 139+75.23 Rt. (Intersection)
8486.27* x 9" ÷ 12 ÷ 27 = 235.73

Sta. 137+51.44 to Sta. 139+99.94 Lt. (Intersection)
7230.19* x 9" ÷ 12 ÷ 27 = 200.84

Sta. 131+95.00 to Sta. 135+69.50 Rt. (Shoulder)
374.50' x 8' x 9" ÷ 12 ÷ 27 = 83.22

Sta. 135+69.50 to Sta. 136+19.50 Rt. (Shoulder)
50' x (8' + 4') ÷ 2 x 9" ÷ 12 ÷ 27 = 8.33

Sta. 136+19.50 to Sta. 137+75.63 Rt. (Shoulder)
156.28' x 4' x 9" ÷ 12 ÷ 27 = 17.36

Sta. 137+75.63 to Sta. 51+42.79 (Shoulder)
133.53' x 4' x 9" ÷ 12 ÷ 27 = 14.84

Sta. 51+42.79 to Sta. 52+00.00 Rt. (Shoulder)
53.97' x (4' + 2') ÷ 2 x 9" ÷ 12 ÷ 27 = 4.50

Sta. 52+00.00 to Sta. 53+59.00 Rt. (Shoulder)
159' x 2' x 9" ÷ 12 ÷ 27 = 8.83

ITEM 301 - ASPHALT AGGREGATE BASE, PG 64-22

Sta. 53+59.00 to Sta. 53+75.00 Rt. (Shoulder)
16' x (2' + 4') ÷ 2 x 9" ÷ 12 ÷ 27 = 1.33

Sta. 139+75.23 to Sta. 50+55.23 (Shoulder)
100.05' x 8' x 9" ÷ 12 ÷ 27 = 22.23

Sta. 50+55.23 to Sta. 50+95.23 Lt. (Shoulder)
40.20' x (8' + 4') ÷ 2 x 9" ÷ 12 ÷ 27 = 6.70

Sta. 50+95.23 to Sta. 51+84.00 Lt. (Shoulder)
88.77' x 4' x 9" ÷ 12 ÷ 27 = 9.86

Sta. 51+84.00 to Sta. 52+00.00 Lt. (Shoulder)
16' x (4' + 2') ÷ 2 x 9" ÷ 12 ÷ 27 = 1.33

Sta. 52+00.00 to Sta. 53+50.00 Lt. (Shoulder)
150' x 2' x 9" ÷ 12 ÷ 27 = 8.33

Sta. 53+50.00 to Sta. 53+75.00 Lt. (Shoulder)
25' x (2' + 0') ÷ 2 x 9" ÷ 12 ÷ 27 = 0.69

TOTAL = 1596.72 Cu. Yd.

(Use 1597 Cu. Yd.)

ITEM 408 - PRIME COAT

Sta. 131+95.00 to Sta. 135+69.50 Lt.
374.50' x (1.63' + 4.33') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 49.60

Sta. 135+69.50 to Sta. 137+51.44 Lt.
181.94' x 4.33' ÷ 9 x 0.4 Gal/s.y. = 35.01

Sta. 131+95.00 to Sta. 135+69.50 Rt.
374.50' x (2' + 6') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 66.58

Sta. 135+69.50 to Sta. 136+19.50 Rt.
50' x (6' + 18') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 26.67

Sta. 136+19.50 to Sta. 137+45.63 Rt.
126.13' x 18' ÷ 9 x 0.4 Gal/s.y. = 100.90

Sta. 139+99.94 to Sta. 142+25.00 Lt.
225.06' x 16.33' ÷ 9 x 0.4 Gal/s.y. = 163.34

Sta. 142+25.00 to Sta. 142+75.00 Lt.
50' x (16.33' + 4.33') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 22.96

Sta. 142+75.00 to Sta. 146+05.00 Lt.
330' x (4.33' + 2.33') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 48.84

Sta. 139+75.23 to Sta. 142+75.00 Rt.
299.77' x 6.33' ÷ 9 x 0.4 Gal/s.y. = 84.34

Sta. 142+75.00 to Sta. 146+05.00 Rt.
330' x (6.33' + 0.43') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 49.57

Sta. 0+97.49 to Sta. 1+37.49 Rt. (TR 1569)
40' x (24.33' + 20.33') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 39.70

Sta. 1+37.49 to Sta. 2+26.52 Rt. (TR 1569)
89.03' x (20.33' + 18.33') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 76.49

Sta. 2+37.08 to Sta. 4+00.00 Rt. (TR 1569)
162.92' x (18.33 + 12.33) ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 111.00

Sta. 0+68.56 to Sta. 1+28.56 Lt. (TR 1569)
60' x (22.33' + 18.33') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 54.21

Sta. 1+28.56 to Sta. 3+50.00 Lt. (TR 1569)
210.88' x 18.33' ÷ 9 x 0.4 Gal/s.y. = 171.80

Sta. 3+50.00 to Sta. 4+00.00 Lt. (TR 1569)
50' x (18.33' + 12.33') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 34.07

Sta. 51+42.79 to Sta. 51+96.27 Rt. (Sch. Dr.)
53.48' x (20.19' + 18') ÷ 2 ÷ 9 x 0.4 gal/s.y. = 45.39

Sta. 51+96.27 to Sta. 52+50.00 Rt. (Sch. Dr.)
53.73' x 18' ÷ 9 x 0.4 Gal/s.y. = 42.98

Sta. 52+50.00 to Sta. 53+75.00 Rt. (Sch. Dr.)
125' x (18' + 12') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 83.33

ITEM 408 - PRIME COAT

Sta. 50+55.23 to Sta. 50+95.23 Lt. (Sch. Dr.)
40' x (22' + 18') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 35.56

Sta. 50+95.23 to Sta. 53+00.00 Lt. (Sch. Dr.)
204.77' x 18' ÷ 9 x 0.4 Gal/s.y. = 163.82

Sta. 53+00.00 to Sta. 53+75.00 Lt. (Sch. Dr.)
75' x (18' + 12') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 50.00

Sta. 137+45.63 to Sta. 139+75.23 Rt. (Intersection)
8486.27* ÷ 9 x 0.4 Gal/s.y. = 377.17

Sta. 137+51.44 to Sta. 139+99.94 Lt. (Intersection)
7230.19* ÷ 9 x 0.4 Gal/s.y. = 321.34

Sta. 131+95.00 to Sta. 135+69.50 Rt. (Shoulder)
374.50' x 8' ÷ 9 x 0.4 Gal/s.y. = 133.16

Sta. 135+69.50 to Sta. 136+19.50 Rt. (Shoulder)
50' x (8' + 4') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 13.33

Sta. 136+19.50 to Sta. 137+75.63 Rt. (Shoulder)
156.28 x 4' ÷ 9 x 0.4 Gal/s.y. = 27.78

Sta. 137+75.63 to Sta. 51+42.79 (Shoulder)
133.53' x 4' ÷ 9 x 0.4 Gal/s.y. = 23.74

Sta. 51+42.79 to Sta. 52+00.00 Rt. (Shoulder)
53.97' x (4' + 2') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 7.20

Sta. 52+00.00 to Sta. 53+59.00 Rt. (Shoulder)
159' x 2' ÷ 9 x 0.4 Gal/s.y. = 14.13

Sta. 53+59.00 to Sta. 53+75.00 Rt. (Shoulder)
16' x (2' + 4') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 2.13

Sta. 139+75.23 to Sta. 50+55.23 (Shoulder)
100.05' x 8' ÷ 9 x 0.4 Gal/s.y. = 35.57

Sta. 50+55.23 to Sta. 50+95.23 Lt. (Shoulder)
40.20' x (8' + 4') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 10.72

Sta. 50+95.23 to Sta. 51+84.00 Lt. (Shoulder)
88.77' x 4' ÷ 9 x 0.4 Gal/s.y. = 15.78

Sta. 51+84.00 to Sta. 52+00.00 Lt. (Shoulder)
16' x (4' + 2') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 2.13

Sta. 51+84.00 to Sta. 52+00.00 Lt. (Shoulder)
16' x (4' + 2') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 2.13

Sta. 52+00.00 to Sta. 53+50.00 Lt. (Shoulder)
150' x 2' ÷ 9 x 0.4 Gal/s.y. = 13.33

Sta. 53+50.00 to Sta. 53+75.00 Lt. (Shoulder)
25' x (2' + 0') ÷ 2 ÷ 9 x 0.4 Gal/s.y. = 1.11

TOTAL = 2554.78 Gal.

(Use 2555 Gal.)

* CADD Area
Totals Carried to General Summary

CALCULATED TES
CHECKED RDA

CALCULATIONS

BEL-149-23.77

ITEM 304 - AGGREGATE BASE

Sta. 131+95.00 to Sta. 135+69.50 Lt.
374.50' x (2.13' + 4.83') ÷ 2 x 6" ÷ 12 ÷ 27 = 24.13

Sta. 135+69.50 to Sta. 137+51.44 Lt.
181.94' x 4.83' x 6" ÷ 12 ÷ 27 = 16.27

Sta. 131+95.00 to Sta. 135+69.50 Rt.
374.50' x (2' + 6') ÷ 2 x 6" ÷ 12 ÷ 27 = 27.74

Sta. 135+69.50 to Sta. 136+19.50 Rt.
50' x (6' + 18') ÷ 2 x 6" ÷ 12 ÷ 27 = 11.11

Sta. 136+19.50 to Sta. 137+45.63 Rt.
126.13' x 18' x 6" ÷ 12 ÷ 27 = 42.04

Sta. 139+99.94 to Sta. 142+25.00 Lt.
225.06' x 16.83' x 6" ÷ 12 ÷ 27 = 70.14

Sta. 142+25.00 to Sta. 142+75.00 Lt.
50' x (16.83' + 4.83') ÷ 2 x 6" ÷ 12 ÷ 27 = 10.03

Sta. 142+75.00 to Sta. 146+05.00 Lt.
330' x (4.83' + 2.83') ÷ 2 x 6" ÷ 12 ÷ 27 = 23.41

Sta. 139+75.23 to Sta. 142+75.00 Rt.
299.77' x 6.83' x 6" ÷ 12 ÷ 27 = 37.92

Sta. 142+75.00 to Sta. 146+05.00 Rt.
330' x (6.83' + 0.93') ÷ 2 x 6" ÷ 12 ÷ 27 = 23.71

Sta. 0+97.49 to Sta. 1+37.49 Rt. (TR 1569)
40' x (24.83' + 20.83') ÷ 2 x 6" ÷ 12 ÷ 27 = 16.91

Sta. 1+37.49 to Sta. 2+26.52 Rt. (TR 1569)
89.03' x (20.83' + 18.83') ÷ 2 x 6" ÷ 12 ÷ 27 = 32.69

Sta. 2+37.08 to Sta. 4+00.00 Rt. (TR 1569)
162.92' x (18.83 + 12.83) ÷ 2 x 6" ÷ 12 ÷ 27 = 47.76

Sta. 0+68.56 to Sta. 1+28.56 Rt. (TR 1569)
60' x (22.83' + 18.83') ÷ 2 x 6" ÷ 12 ÷ 27 = 23.14

Sta. 1+28.56 to Sta. 3+50.00 Lt. (TR 1569)
210.88' x 18.83' x 6" ÷ 12 ÷ 27 = 73.53

Sta. 3+50.00 to Sta. 4+00.00 Lt. (TR 1569)
50' x (18.83' + 12.83') ÷ 2 x 6" ÷ 12 ÷ 27 = 14.66

Sta. 51+42.79 to Sta. 51+96.27 Rt. (Sch. Dr.)
53.48 x (20.19' + 18') ÷ 2 x 6" ÷ 12 ÷ 27 = 18.91

Sta. 51+96.27 to Sta. 52+50.00 Rt. (Sch. Dr.)
53.73' x 18' x 6" ÷ 12 ÷ 27 = 17.91

Sta. 52+50.00 to Sta. 53+75.00 Rt. (Sch. Dr.)
125' x (18' + 12') ÷ 2 x 6" ÷ 12 ÷ 27 = 34.72

Sta. 50+55.23 to Sta. 50+95.23 Lt. (Sch. Dr.)
40' x (22' + 18') ÷ 2 x 6" ÷ 12 ÷ 27 = 14.81

Sta. 50+95.23 to Sta. 53+00.00 Lt. (Sch. Dr.)
204.77' x 18' x 6" ÷ 12 ÷ 27 = 68.26

Sta. 53+00.00 to Sta. 53+75.00 Lt. (Sch. Dr.)
75' x (18' + 12') ÷ 2 x 6" ÷ 12 ÷ 27 = 20.83

Sta. 137+45.63 to Sta. 139+75.23 Rt. (Intersection)
9007.05* x 6" ÷ 12 ÷ 27 = 166.80

Sta. 137+51.44 to Sta. 139+99.94 Lt.(Intersection)
7357.99* x 6" ÷ 12 ÷ 27 = 136.26

Sta. 131+95.00 to Sta. 132+60.00 Lt. (Shoulder)
65' x (4' + 8') ÷ 2 x 8" ÷ 12 ÷ 27 = 9.63

Sta. 132+60.00 to Sta. 138+11.44 Lt. (Shoulder)
551.57' x 8' x 8" ÷ 12 ÷ 27 = 108.95

Sta. 139+99.94 to Sta. 142+25.00 Lt (Shoulder)
225.06' x 4' x 8" ÷ 12 ÷ 27 = 22.23

Sta. 142+25.00 to Sta. 142+75.00 Lt. (Shoulder)
50' x (4' + 8') ÷ 2 x 8" ÷ 12 ÷ 27 = 7.41

Sta. 142+75.00 to Sta. 145+85.00 Lt. (Shoulder)
310' x 8' x 8" ÷ 12 ÷ 27 = 61.23

Sta. 145+85.00 to Sta. 146+05.00 Lt. (Shoulder)
20' x (8' + 4') ÷ 2 x 8" ÷ 12 ÷ 27 = 2.96

ITEM 304 - AGGREGATE BASE

Sta. 131+95.00 to Sta. 135+69.50 Rt. (Shoulder)
374.50' x 9.5' x 6" ÷ 12 ÷ 27 = 65.88

Sta. 135+69.50 to Sta. 136+19.50 Rt. (Shoulder)
50' x (9.5' + 5.5') ÷ 2 x 6" ÷ 12 ÷ 27 = 6.94

Sta. 136+19.50 to Sta. 137+75.63 Rt. (Shoulder)
156.28' x 5.5' x 6" ÷ 12 ÷ 27 = 15.92

Sta. 139+75.23 to Sta. 145+85.00 Rt. (Shoulder)
609.77' x 8' x 8" ÷ 12 ÷ 27 = 120.45

Sta. 145+85.00 to Sta. 146+05.00 Rt. (Shoulder)
20' x (8' + 4') ÷ 2 x 8" ÷ 12 ÷ 27 = 2.96

Sta. 138+11.44 to Sta. 0+68.56 (Shoulder)
82.10' x (8' + 4') ÷ 2 x 8" ÷ 12 ÷ 27 = 12.16

Sta. 0+68.56 to Sta. 4+00.00 Lt. (Shoulder)
320.88' x 4' x 8" ÷ 12 ÷ 27 = 31.69

Sta. 136+99.94 to Sta. 0+97.49 (Shoulder)
85.03' x 4' x 8" ÷ 12 ÷ 27 = 8.40

Sta. 0+97.49 to Sta. 4+00.00 Rt. (Shoulder)
291.95' x 4' x 8" ÷ 12 ÷ 27 = 28.83

Sta. 137+75.63 to Sta. 51+42.79 (Shoulder)
133.53' x 5.5' x 6" ÷ 12 ÷ 27 = 13.60

Sta. 51+42.79 to Sta. 52+00.00 Rt. (Shoulder)
53.97' x (5.5' + 3.5') ÷ 2 x 6" ÷ 12 ÷ 27 = 4.50

Sta. 52+00.00 to Sta. 53+59.00 Rt. (Shoulder)
159' x 3.5' x 6" ÷ 12 ÷ 27 = 10.31

Sta. 53+59.00 to Sta. 53+75.00 Rt. (Shoulder)
16' x (3.5' + 5.5') ÷ 2 x 6" ÷ 12 ÷ 27 = 1.33

Sta. 139+75.23 to Sta. 50+55.23 (Shoulder)
100.05' x 9.5' x 6" ÷ 12 ÷ 27 = 17.60

Sta. 50+55.23 to Sta. 50+95.23 Lt. (Shoulder)
40.20' x (9.5' + 5.5') ÷ 2 x 6" ÷ 12 ÷ 27 = 5.58

Sta. 50+95.23 to Sta. 51+84.00 Lt. (Shoulder)
88.77' x 5.5' x 6" ÷ 12 ÷ 27 = 9.04

Sta. 51+84.00 to Sta. 52+00.00 Lt. (Shoulder)
16' x (5.5' + 3.5') ÷ 2 x 6" ÷ 12 ÷ 27 = 1.33

Sta. 52+00.00 to Sta. 53+50.00 Lt. (Shoulder)
150' x 3.5' x 6" ÷ 12 ÷ 27 = 9.72

Sta. 53+50.00 to Sta. 53+75.00 Lt. (Shoulder)
25' x (3.5' + 1.5') ÷ 2 x 6" ÷ 12 ÷ 27 = 1.16

TOTAL = 1553.50 Cu. Yd.

(Use 1554 Cu. Yd.)

ITEM 203 - SUBGRADE COMPACTION

Sta. 131+95.00 to Sta. 135+69.50 Lt.
374.50' x (2.8' + 5.5') ÷ 2 ÷ 9 = 172.69

Sta. 135+69.50 to Sta. 137+51.44 Lt.
181.94' x 5.5' ÷ 9 = 111.19

Sta. 131+95.00 to Sta. 135+69.50 Rt.
374.50' x (2' + 6') ÷ 2 ÷ 9 = 166.44

Sta. 135+69.50 to Sta. 136+19.50 Rt.
50' x (6' + 18') ÷ 2 ÷ 9 = 66.67

Sta. 136+19.50 to Sta. 137+45.63 Rt.
126.13' x 18' ÷ 9 = 252.26

Sta. 139+99.94 to Sta. 142+25.00 Lt.
225.06' x 17.5' ÷ 9 = 437.62

Sta. 142+25.00 to Sta. 142+75.00 Lt.
50' x (17.5' + 5.5') ÷ 2 ÷ 9 = 63.89

Sta. 142+75.00 to Sta. 146+05.00 Lt.
330' x (5.5' + 3.5') ÷ 2 ÷ 9 = 165.00

Sta. 139+75.23 to Sta. 142+75.00 Rt.
299.77' x 7.5' ÷ 9 = 249.81

Sta. 142+75.00 to Sta. 146+05.00 Rt.
330' x (7.5' + 1.6') ÷ 2 ÷ 9 = 166.83

Sta. 0+97.49 to Sta. 1+37.49 Rt. (TR 1569)
40' x (25.5' + 21.5') ÷ 2 ÷ 9 = 104.44

Sta. 1+37.49 to Sta. 2+26.52 Rt. (TR 1569)
89.03' x (21.5' + 19.5') ÷ 2 ÷ 9 = 202.79

Sta. 2+37.08 to Sta. 4+00.00 Rt. (TR 1569)
162.92' x (19.5 + 13.5) ÷ 2 ÷ 9 = 298.69

Sta. 0+68.56 to Sta. 1+28.56 Lt. (TR 1569)
60' x (23.5' + 19.5') ÷ 2 ÷ 9 = 143.33

Sta. 1+28.56 to Sta. 3+50.00 Lt. (TR 1569)
210.88' x 19.5' ÷ 9 = 456.91

Sta. 3+50.00 to Sta. 4+00.00 Lt. (TR 1569)
50' x (19.5' + 13.5') ÷ 2 ÷ 9 = 91.67

Sta. 51+42.79 to Sta. 51+96.27 Rt. (Sch. Dr.)
53.48' x (20.19' + 18') ÷ 2 ÷ 9 = 113.47

Sta. 51+96.27 to Sta. 52+50.00 Rt. (Sch. Dr.)
53.73' x 18' ÷ 9 = 107.46

Sta. 52+50.00 to Sta. 53+75.00 Rt. (Sch. Dr.)
125' x (18' + 12') ÷ 2 ÷ 9 = 208.33

Sta. 50+55.23 to Sta. 50+95.23 (Sch. Dr.)
40' x (22' + 18') ÷ 2 ÷ 9 = 88.89

Sta. 50+95.23 to Sta. 53+00.00 Lt. (Sch. Dr.)
204.77' x 18' ÷ 9 = 409.54

Sta. 53+00.00 to Sta. 53+75.00 Lt. (Sch. Dr.)
75' x (18' + 12') ÷ 2 ÷ 9 = 125.00

Sta. 137+45.63 to Sta. 137+95.23 Rt. (Intersection)
8878.11* ÷ 9 = 986.46

Sta. 137+51.44 to Sta. 139+99.94 Lt. (Intersection)
7528.00* ÷ 9 = 836.44

Sta. 131+95.00 to Sta. 135+69.50 Rt. (Shoulder)
374.50' x 9.5' ÷ 9 = 395.31

Sta. 135+69.50 to Sta. 136+19.50 Rt. (Shoulder)
50' x (9.5' + 5.5') ÷ 2 ÷ 9 = 41.67

Sta. 136+19.50 to Sta. 137+75.63 Rt. (Shoulder)
156.28' x 5.5' ÷ 9 = 95.50

Sta. 137+75.63 to Sta. 51+42.79 (Shoulder)
133.53' x 5.5' ÷ 9 = 81.60

Sta. 51+42.79 to Sta. 52+00.00 Rt. (Shoulder)
53.97' x (5.5' + 3.5') ÷ 2 ÷ 9 = 26.99

Sta. 52+00.00 to Sta. 53+59.00 Rt. (Shoulder)
159' x 3.5' ÷ 9 = 61.83

ITEM 203 - SUBGRADE COMPACTION

Sta. 53+59.00 to Sta. 53+75.00 Rt. (Shoulder)
16' x (3.5' + 5.5') ÷ 2 ÷ 9 = 8.00

Sta. 139+75.23 to Sta. 50+55.23 (Shoulder)
100.05 x 9.5' ÷ 9 = 105.61

Sta. 50+55.23 to Sta. 50+95.23 Lt. (Shoulder)
40.20' x (9.5' + 5.5') ÷ 2 ÷ 9 = 33.50

Sta. 50+95.23 to Sta. 51+84.00 Lt. (Shoulder)
88.77' x 5.5' ÷ 9 = 54.25

Sta. 51+84.00 to Sta. 52+00.00 Lt. (Shoulder)
16' x (5.5' + 3.5') ÷ 2 ÷ 9 = 8.00

Sta. 52+00.00 to Sta. 53+50.00 Lt (Shoulder)
150' x 3.5' ÷ 9 = 58.33

Sta. 53+50.00 to Sta. 53+75.00 Lt. (Shoulder)
25' x (3.5' + 1.5') ÷ 2 ÷ 9 = 6.94

TOTAL = 7003.35 Sq. Yd.

(Use 7004 Sq. Yd.)

ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2, PG 64-22, LEVELING COURSE

Sta. 135+00.00 to Sta. 135+50.00 Lt.
50' x (0' + 8.4') ÷ 2 x 0.11' (Avg.) ÷ 27 = 0.86

Sta. 135+50.00 to Sta. 136+00.00 Lt.
50' x (8.4' + 8.29') ÷ 2 x 0.14' (Avg.) ÷ 27 = 2.16

Sta. 136+00.00 to Sta. 136+50.00 Lt.
50' x (8.29' + 7.37') ÷ 2 x 0.12' (Avg.) ÷ 27 = 1.74

Sta. 136+50.00 to Sta. 137+00.00 Lt.
50' x (7.37' + 4.69') ÷ 2 x 0.06' (Avg.) ÷ 27 = 0.67

Sta. 137+00.00 to Sta. 137+50.00 Lt.
50' x (4.69' + 0') ÷ 2 x 0.03' (Avg.) ÷ 27 = 0.13

TOTAL = 5.56 Cu. Yd.

(Use 6 Cu. Yd.)

* CADD Area

Totals Carried to General Summary

CALCULATED TES CHECKED RDA

CALCULATIONS

BBEL-149-23.77

CENTERLINE S.R. 149

LEFT SIDE				STATION	RIGHT SIDE				
EDGE ELEVATION	PAVEMENT CROSS SLOPE	PLANING DEPTH (Ft.)	EXISTING PAVEMENT EDGE OFFSET		PLANING DEPTH (Ft.) ℄	EXISTING PAVEMENT EDGE OFFSET	PLANING DEPTH (Ft.)	PAVEMENT CROSS SLOPE	EDGE ELEVATION
1207.93	-0.0218	0.14	14.0'	131+95.00	0.14	12.0'	0.14	-0.0053	1208.17
1208.22	-0.0217	0.14	14.0'	132+00.00	0.14	12.0'	0.13	-0.0039	1208.48
1209.51	-0.0209	0.11	14.0'	132+50.00	0.14	12.0'	0.08	0.0100	1209.93
1210.72	-0.0202	0.14	14.0'	133+00.00	0.14	12.0'	0.07	0.0100	1211.13
1211.95	-0.0194	0.14	14.0'	133+50.00	0.14	12.0'	0.17	0.0100	1212.34
1213.18	-0.0186	0.09	14.0'	134+00.00	0.14	12.0'	0.11	0.0100	1213.56
1214.40	-0.0179	0.03	14.0'	134+50.00	0.14	12.0'	0.07	0.0100	1214.77
1215.44	-0.0160	0.13	14.0'	135+00.00	0.14	12.0'	0.19	-0.0090	1215.56
1216.31	↑	0.00	14.0'	135+50.00	0.14	12.0'	0.64	-0.0160	1216.34
1217.17	↑	0.00	14.0'	136+00.00	0.14	12.0'	0.33	↑	1217.20
1208.07	↑	0.00	14.0'	136+50.00	0.14	12.0'	0.19	↑	1218.10
1218.90	↑	0.00	14.0'	137+00.00	0.14	12.0'	0.28	↑	1218.93
1219.79	↑	0.11	14.0'	137+50.00	0.14	12.0'	0.25	↑	1219.82
1220.74	↑	0.01	14.0'	138+00.00	0.14	12.0'	0.24	↑	1220.77
1221.68	↑	0.07	14.0'	138+50.00	0.14	12.0'	0.29	↑	1221.71
1222.53	↑	0.15	14.0'	139+00.00	0.14	12.0'	0.31	↑	1222.56
1223.27	↑	0.22	14.0'	139+50.00	0.14	12.0'	0.24	↑	1223.30
1224.13	↑	0.18	14.0'	140+00.00	0.14	12.0'	0.23	↑	1224.16
1225.15	↑	0.17	14.0'	140+50.00	0.14	12.0'	0.12	↑	1225.18
1226.15	↑	0.24	14.0'	141+00.00	0.14	12.0'	0.07	↑	1226.18
1227.14	↑	0.23	14.0'	141+50.00	0.14	12.0'	0.00	↑	1227.17
1228.04	↑	0.24	14.0'	142+00.00	0.14	12.0'	0.00	↑	1228.07
1228.87	↑	0.30	14.0'	142+50.00	0.14	12.0'	0.00	↓	1228.90
1229.76	↑	0.27	14.0'	143+00.00	0.14	12.0'	0.10	-0.0160	1229.79
1230.87	↑	0.24	14.0'	143+50.00	0.14	12.0'	0.32	-0.0122	1230.95
1232.16	↓	0.18	14.0'	144+00.00	0.14	12.0'	0.15	-0.0045	1232.33
1233.66	-0.0160	0.06	14.0'	144+50.00	0.14	12.0'	0.04	0.0032	1233.94
1235.14	-0.0246	0.13	14.0'	145+00.00	0.14	12.0'	0.02	0.0109	1235.62
1236.99	-0.0303	0.22	14.0'	145+50.00	0.14	12.0'	0.09	0.0185	1237.64
1238.77	-0.0360	0.14	14.0'	146+00.00	0.14	12.0'	0.14	0.0262	1239.59
1239.96	-0.0360	0.14	14.0'	146+05.00	0.14	12.0'	0.14	0.0262	1239.78

Note:
Edge Elevations shown at bottom of proposed Asphalt Concrete Surface Course.

SEEDING AND EARTHWORK TABLE

SHEET	659 SEEDING & MULCHING SQ. YD.	203 EXCAVATION CU. YD.	203 EMBANKMENT CU. YD.
38	428	65	210
39	491	92	153
40	409	225	55
41	613	250	56
42	178	247	31
43	764	289	513
44	900	312	98
45	490	129	63
46	228	27	21
47	386	52	376
48	348	204	52
49	444	301	97
50	114	58	0
51	315	377	28
52	266	289	22
53	217	162	18
TOTAL	6591	3079	1793

ITEM 659 - SOIL ANALYSIS TEST
2 Each

ITEM 659 - TOPSOIL
6591 S.Y. x 111 Cu. Yd./1000 S.Y. = 731.6 Cu. Yd.
(Use 732 Cu. Yd.)

ITEM 659 - COMMERCIAL FERTILIZER
6591 S.Y. x 9 x 30 lbs/1000 S.F. x (1/2000) = 0.89 Ton

ITEM 659 - AGRICULTURAL LIMING
6591 S.Y. x 9 ÷ 43560 s.f./acre = 1.36 Acre

ITEM 659 - WATER
6591 S.Y. x 9 x 300 Gal/1000/1000 x 2 app. = 35.59 Gal
(Use 36 M Gal)

CALCULATED TES
CHECKED RDA

CALCULATIONS

BEL-149-23.77

P.I. Sta = 130+52.16
Δ = 8° 31′ 00″ (LT)
Dc = 1° 00′ 00″
R = 5,729.58′
T = 426.62′
L = 851.67′
E = 15.86′
emax = 0.029
P.C. Sta. 126+25.54

I.R. 70 Ramp D
N 53°39′29″ E
Ex. R/W
Chain Link Fence
Begin Pavement Width Taper (LT & RT)
Begin Shoulder Taper (LT & RT)
Sta. 131+95.00
Precast Reinforced Concrete Outlet
℄ Elev. = 1210.07
33.6′ Lt.
PT Sta. 134+77.21
Sta. 131+19.45 S.R. 149 =
Sta. 13+94.41 Ramp D
Sta. 0+00 Ramp C
Precast Reinforced Concrete Outlet
℄ Elev. = 1205.16
33.0′ Lt.
End Shoulder Taper
Sta. 132+60.00
Work Limits
6″x19′-F
4.0′
8.0′
15.3′
14.0′
6″ 90° Elbow
6″x198′-605
6″x16′-F
6″ 90° Elbow
6″x44′-605
6″ 90° Elbow
6″x7′-F
6″x295′-605
6″ 45° Elbow
18″-C
18″-B
12″-B
6″ 45° Elbow
6″x116′-605
30″-C
30″-C
6″x88′-605
36″-C
6″x11′-F
6″x13′-F
Work Limits
HW-2.1 or
HW-2.2
Ex. R/W
Sta. 134+75.81
N 26° 13′ 53″ W
MATCH LINE STA. 135+00
℄ Construction S.R. 149
130+00
131+00
132+00
133+00
134+00
8″ W
8″ SAN
SAN
W
T
G
E
Y
℄ SR 149
MAG NAIL
46.23′
47.55′
48.41′
MAG NAIL
SURVEY NAIL
PK NAIL
P.T. STA. 134+77.21
BENCH MARK STA. 134+51.59
PK NAIL SET
41.02′ RT.
ELEV. = 1216.41
BEGIN WORK
STA. 131+65.00
BEGIN PROJECT
STA. 131+95.00
SLM 23.77
FED E040932
I.R. 70 Ramp C
N 76°32′25″ E
1+00
Chain Link Fence
Meet Existing Guardrail
Sta. 132+27.88
Type A, Anchor Assembly
1D
1C
2D
5UD
1UD
2UD
4UD
3D
4D
1R
3UD
1GR
1GD
5D
For Drainage details see sheet 57-58.
For Quantities see sheet 34-35.
For Calculations see sheet 24-27.
For Drives see sheet 54-56.

1240
1230
1220
1210
1200
1190
1180
1170
1207.04
1207.04
1207.04
1207.36
1208.63
1208.59
1209.91
1209.80
1211.11
1211.00
1212.33
1212.23
1213.54
1213.43
1214.75
1214.65
1215.77
1215.66
130+00
131+00
132+00
133+00
134+00
135+00
30′ Feather
Match Existing
Sta. 131+90.00
Elev. 1208.34
Butt Joint
2UD ℄ Elev. = 1205.16
2UD ℄ Elev. = 1205.61
5UD ℄ Elev. = 1207.65
5UD ℄ Elev. = 1207.62
1UD ℄ Elev. = 1207.33
1UD ℄ Elev. = 1207.53
1UD ℄ Elev. = 1210.32
3UD ℄ Elev. = 1210.38
3UD ℄ Elev. = 1210.62
2UD ℄ Elev. = 1210.52
3UD ℄ Elev. = 1212.27
4UD ℄ Elev. = 1210.14
4UD ℄ Elev. = 1210.52

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED TES
CHECKED RDA

PLAN AND PROFILE
STA. 130+00.00 TO STA. 135+00.00

BEL-149-23.77

28
84

MATCH LINE STA. 135+00

MATCH LINE STA. 140+00

SEE SHT. 32

SEE SHT. 33

EQUATION:
Sta 0+00.00 AH
Sta 10+17.27 BK =

Sta. 138+80 ℄ S.R. 149 =
Sta. 0+00 ℄ Pr. T.R. 1569
Sta. 50+00 ℄ School Drive

Sta. 139+03.72 ℄ S.R. 149 =
Sta. 10+00 ℄ Ex. T.R. 1569

℄ Construction S.R. 149
N 26° 13' 53" W

N 85° 43' 30" W
℄ Ex. T.R. 1569

N 73° 46' 07" W
℄ Const. Pr. T.R. 1569

℄ School Drive

Temp. R/W

Work Limits

Ex. R/W

Catch Basin
(Do Not Disturb)

Ex. 24" RCP

Ex. 12" RCP

Ex. 18" RCP

6"x441'-605

6"x240'-605

6"x295'-605

6"x118'-605, Unclassified

6"x138'-605

6"x58'-605, Unclassified

6"x274'-605

6"x310'-605 Unclassified

6"x19'-F

6"x8'-F

6"x14'-F

6" 90° Elbow

6" 45° Elbow

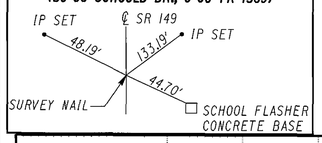
End Taper
Sta. 136+19.50

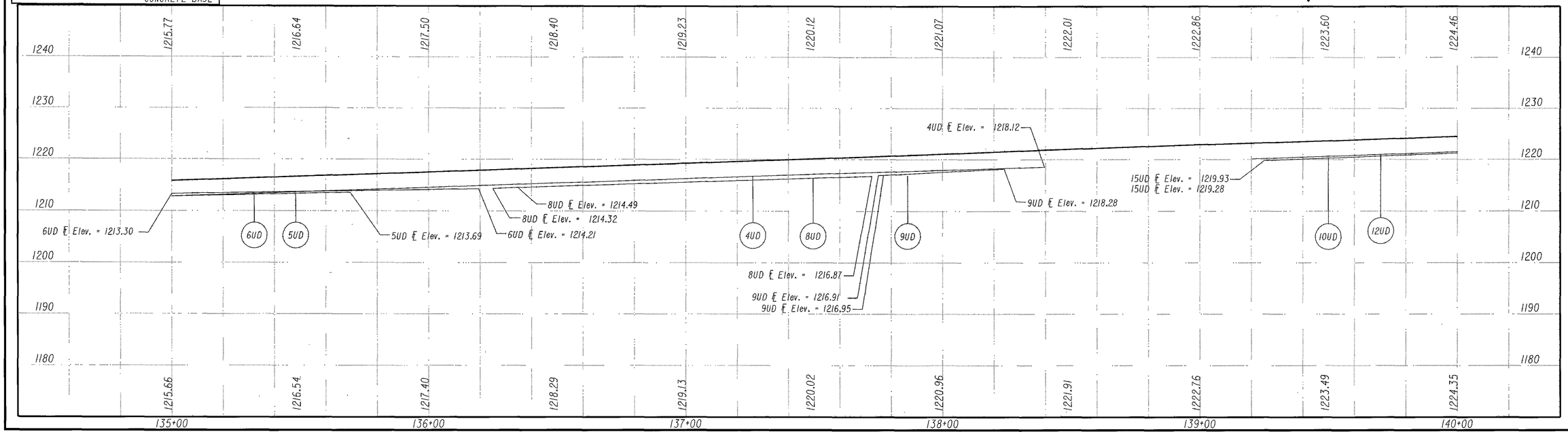
End Pavement Width Transition (LT & RT)
Begin Pavement Taper
Sta. 135+69.50

For Drainage details see sheet 57-58.
For Quantities see sheet 34-35.
For Calculations see sheet 24-27.
For Intersection Detail see sheet 37.
For Drives see sheet 54-56.

BENCH MARK STA. 140+05.51
IRON PIN SET
44.63' RT
ELEV. = 1225.34

STA. 138+80.00
(50+00 SCHOOLD DR., 0+00 TR 1569)





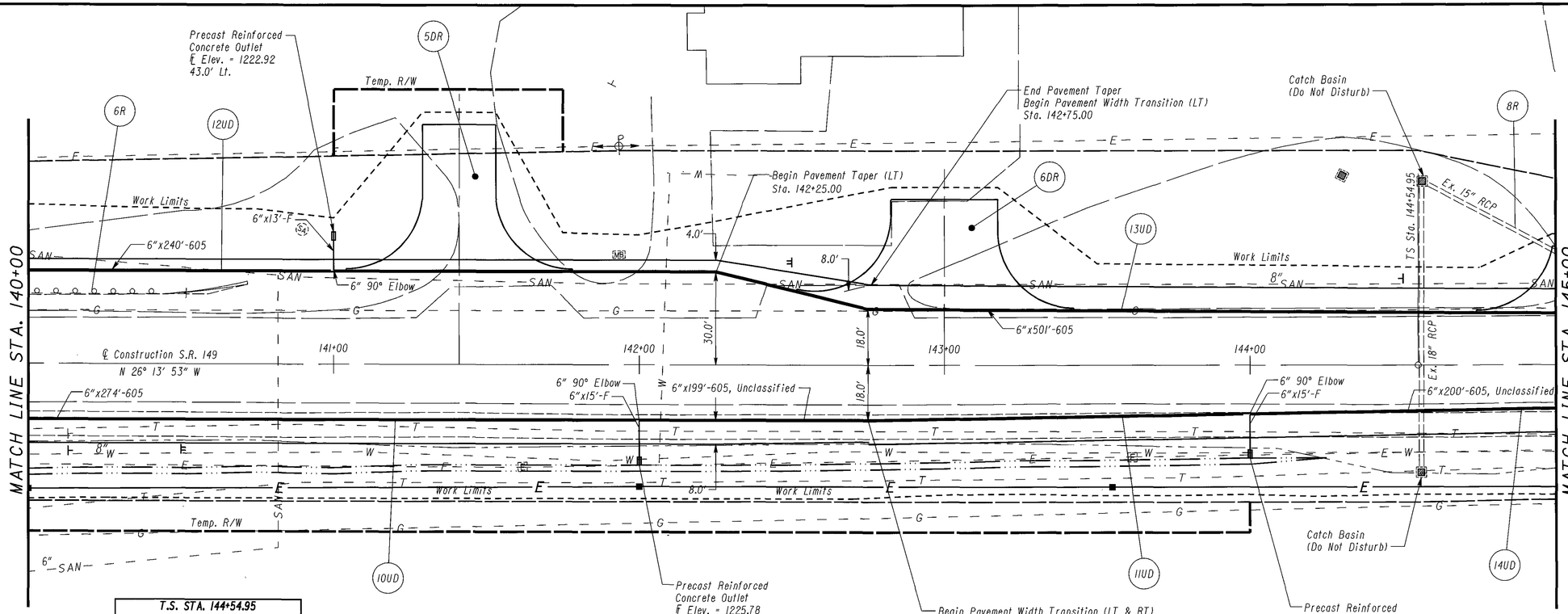
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED TES
CHECKED RDA

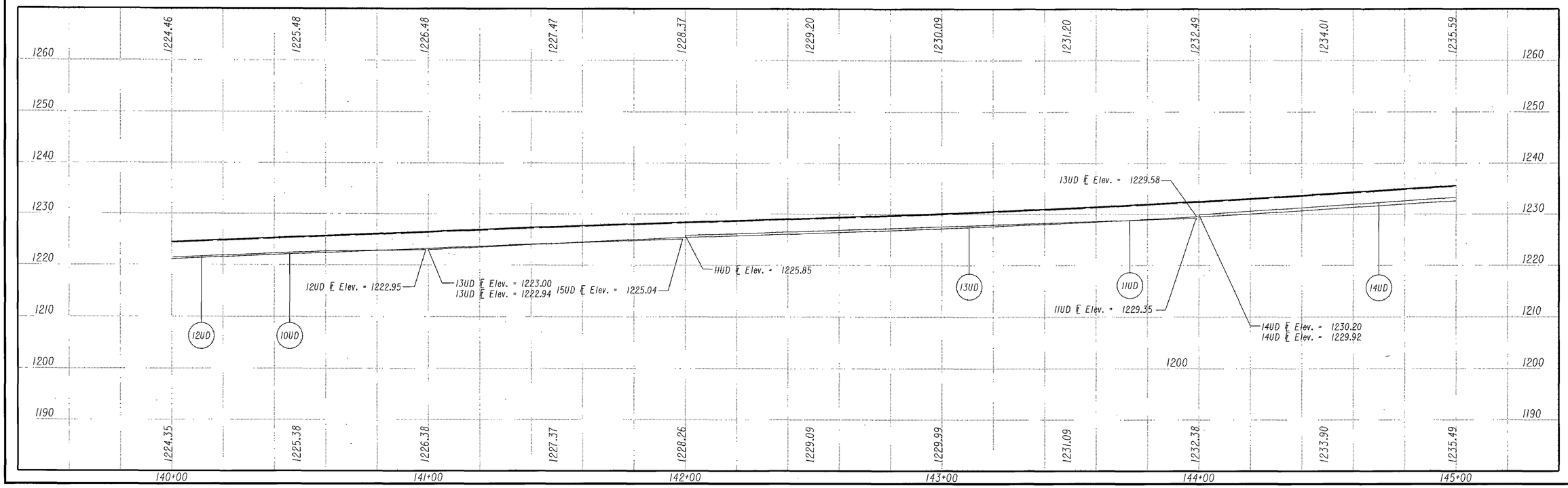
PLAN AND PROFILE
STA. 135+00.00 TO STA. 140+00.00

BEL-149-23.77

29
84



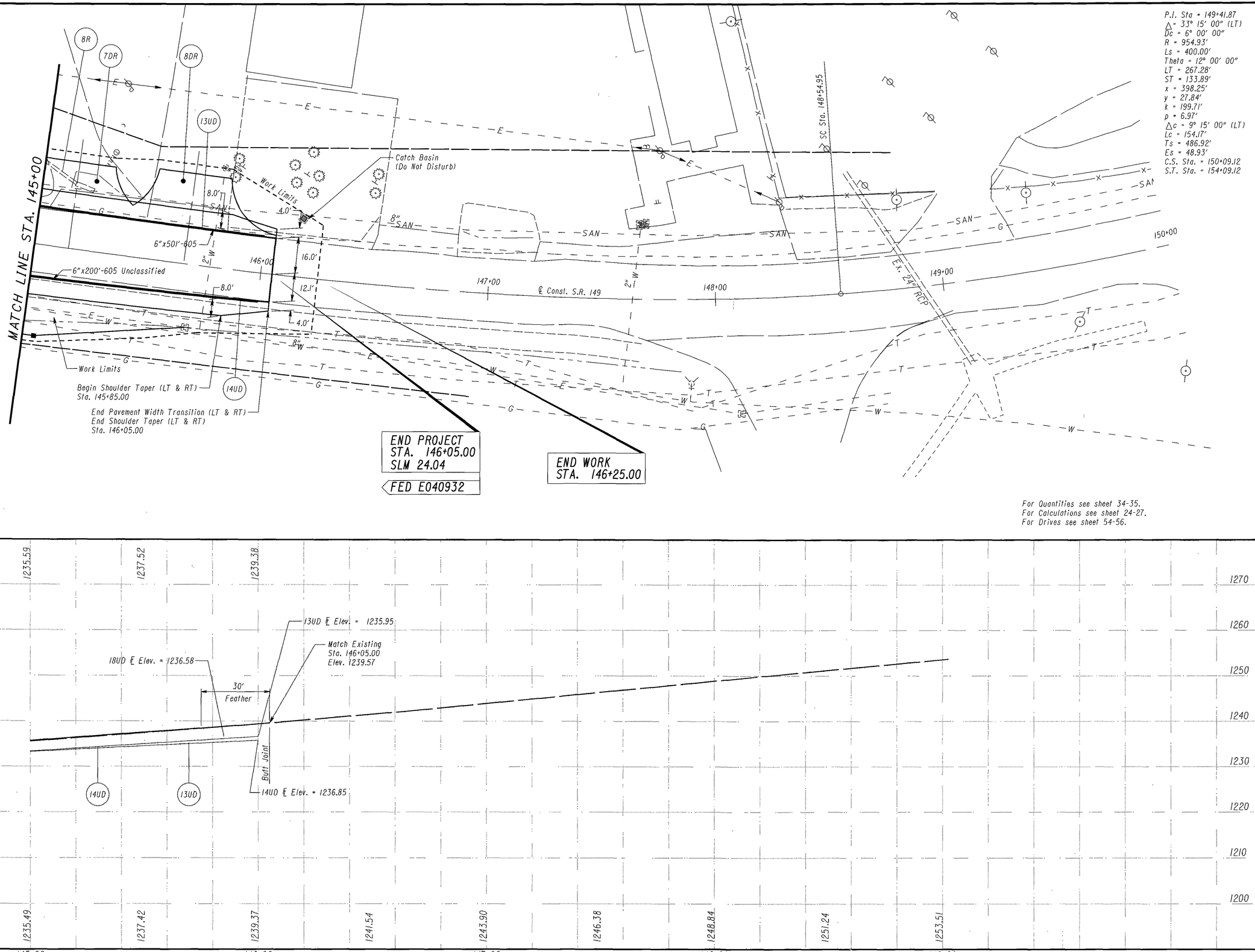
For Quantities see sheet 34-35.
For Calculations see sheet 24-27.
For Drives see sheet 54-56.



HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED TES
CHECKED RDA

PLAN AND PROFILE
STA. 140+00.00 TO STA. 145+00.00

BEL-149-23.77



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED TES
CHECKED RDA

PLAN AND PROFILE
STA. 145+00.00 TO STA. 150+00.00

BEL-149-23.77

31
84

EQUATION:
Sta 10+17.27 BK =
Sta 0+00.00 AH

Sta. 139+03.72 ℄ S.R. 149=
Sta. 10+00 ℄ Ex. T.R. 1569

59°29'37"

Sta. 138+80.00 ℄ S.R. 149=
Sta. 0+00.00 ℄ Proposed T.R. 1569

80°

℄ Construction S.R. 149
N 26° 13' 53" W

℄ Ex. T.R. 1569
N 85° 43' 30" W

S 73° 46' 07" W
℄ Const. Pr. T.R. 1569

Temp. R/W

Concrete Drive

Work Limits

Ex. R/W

R/W

Ex. 30" Steel (Do Not Disturb)

Ex. 30" CMP

Ex. 18" Steel (Do Not Disturb)

Catch Basin (Do Not Disturb)

Precast Reinforced Concrete Outlet
℄ Elev. = 1215.39
32.3' Rt.

P.I. Sta = 1+85.80
△ = 20° 30' 23" (RT)
Dc = 24° 54' 40"
R = 230.00'
T = 41.60'
L = 82.32'
E = 3.73'
emax = NC (NDC = 0.078)

Begin Pavement Width Transition (RT)
Sta. 2+26.52

EQUATION:
Sta 2+26.52 BK =
Sta 2+37.08 AH

Begin Pavement Width Transition (LT)
Sta. 3+50.00

End Pavement Width Transition (LT & RT)
Sta. 4+00.00

Precast Reinforced Concrete Outlet
℄ Elev. = 1210.14
31.5' Lt.

P.I. Sta = 4+80.76
△ = 11° 47' 56" (LT)
Dc = 9° 52' 02"
R = 580.67'
T = 60.00'
L = 119.58'
E = 3.09'
P.T. Sta. 5+40.34

PC Sta. 4+20.76

6"x329'-605

6"x240'-605

6"x14'-F

6"x10'-F

6" 90° Elbow

18"-D

12"-A

30"-A

8" SAN

6" W

4.0'

18.0'

12.0'

PC Sta. 1+44.20

PT Sta. 2+26.52

Agg. Drive

Ex. 24" Steel (Do Not Disturb)

END WORK
STA. 4+00.00

P.C. STA. 4+20.76
℄ TR 1569
IP SET
54.51'
49.16'
40.10'
CENTER SAN. MH COVER
SURVEY NAIL
IP SET

4R, 4UD, 7UD, 13D, 9DR, 14D, 15D, 1SS, 12UD, 7R, 6R, 9R, 10DR

For Quantities see sheet 34-35.
For Calculations see sheet 24-27.
For Intersection details see sheet 37.
For Drives see sheet 54-56.

SSD = 460' (NDC = 495')
P.V.I. Sta. 0+40.50
Elev. = 1222.0
20' V.C.

PVC Sta. 0+30.50
Elev. 1222.16

PVT Sta. 0+50.50
Elev. 1221.60

-1.60 %

-4.00 %

-4.00 %

+2.50 %

2.62%

℄ S.R. 149

7UD ℄ Elev. = 1218.12

12UD ℄ Elev. = 1215.28

7UD ℄ Elev. = 1210.14

STATION EQUATION:
Sta 2+26.52 BK =
Sta 2+37.08 AH

Meet Existing Butt End Joint
Sta. 4+00.00
Elev. 1214.33

P.V.C. Sta. 1+95.44
Elev. 1215.79

P.V.I. Sta. 3+03.00 Elev. = 1211.91
194' V.C.
SSD = 173' (NDC = 495')

P.V.T. Sta. 4+00.00
Elev. 1214.33

1222.54 1222.23 1221.62 1220.62 1219.62 1218.62 1217.61 1216.61 1215.62 1214.71 1214.36 1213.83 1213.51 1213.40 1213.50 1213.81 1214.33

1222.42 1217.43 1215.42 1215.25 1214.24 1213.92 1213.83 1213.50 1213.68 1214.33 1215.64

1240 1230 1220 1210 1200 1190 1180

0+00 1+00 2+00 3+00 4+00 4+00

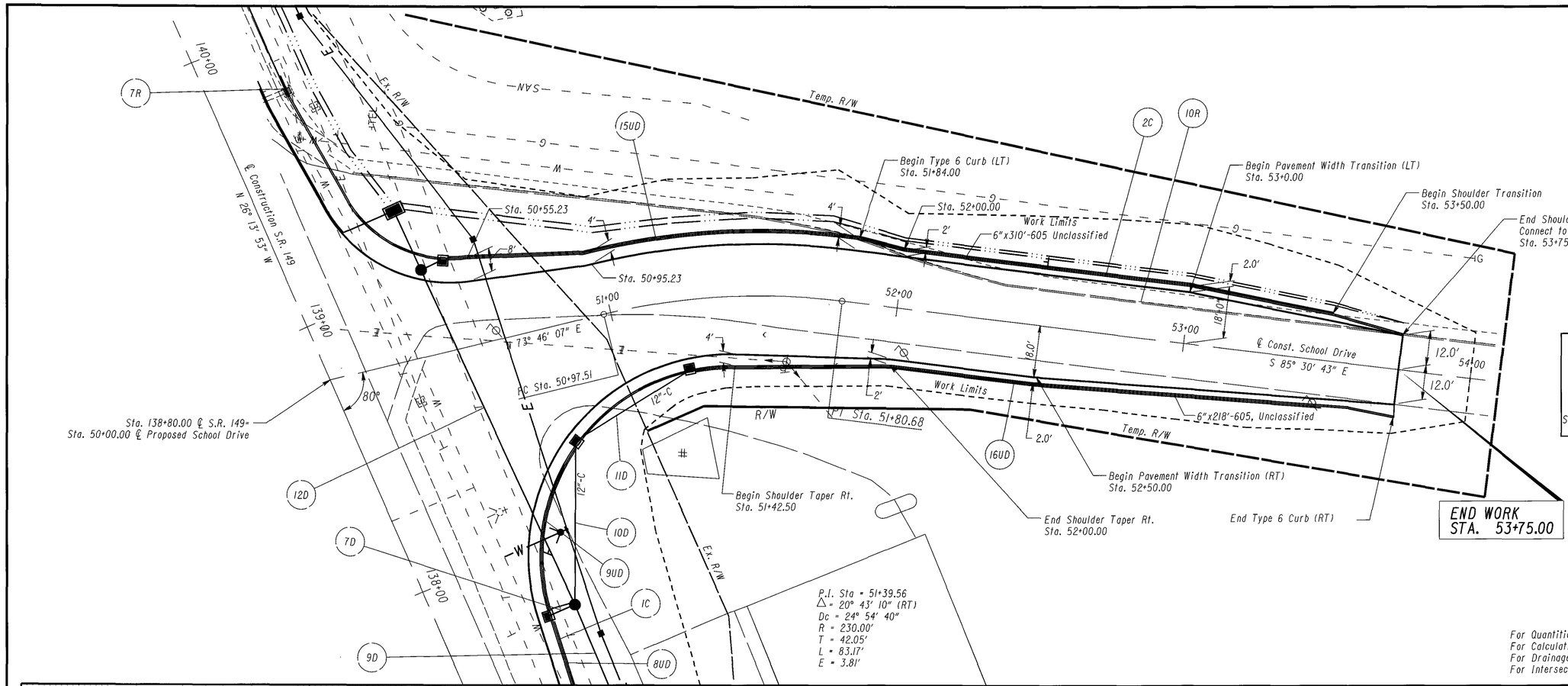
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED TES
CHECKED RDA

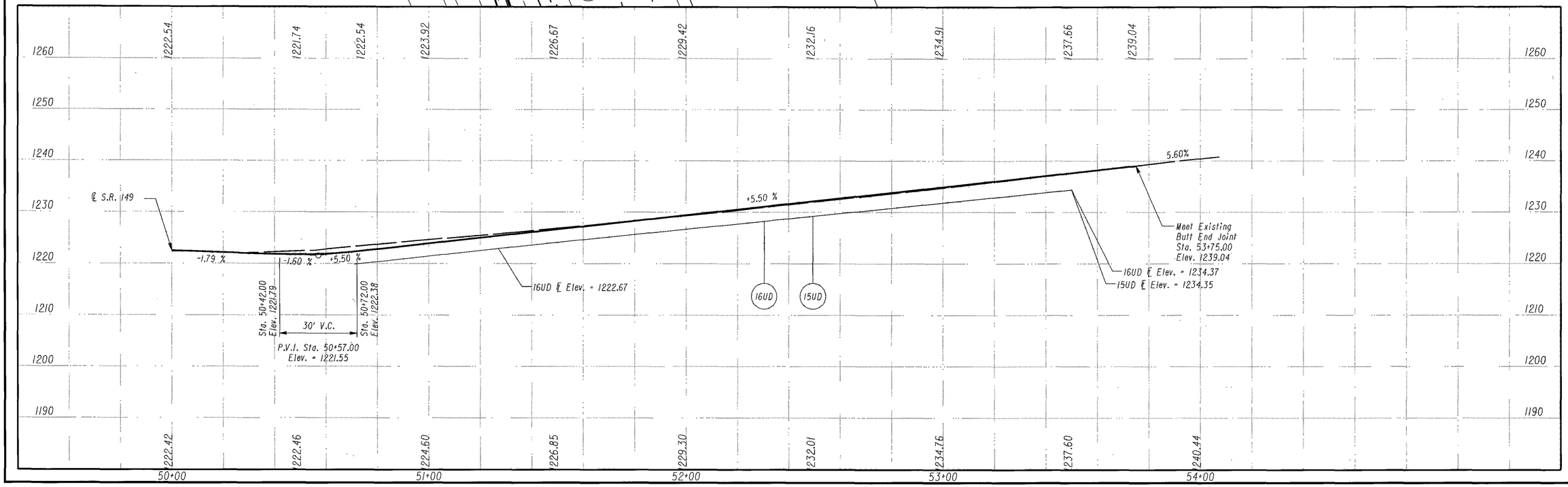
PLAN AND PROFILE (TR 1569) STA. 0+00 TO STA. 5+00.00

BEL-149-23.77

32
84



For Quantities see sheets 34-35.
For Calculations see sheets 24-27.
For Drainage Details see sheets 57-58.
For Intersection details see sheet 37.



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED TES
CHECKED RDA

PLAN AND PROFILE FILE (SCHOOL DRIVE)
STA. 50+00.00 TO STA. 54+10.00

BEL-149-23.77

33
84

REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	602 CONCRETE MASONRY		603 12" CONDUIT TYPE A	603 12" CONDUIT TYPE B	603 12" CONDUIT TYPE C	603 18" CONDUIT TYPE B	603 18" CONDUIT TYPE C	603 18" CONDUIT TYPE D	603 30" CONDUIT TYPE A	603 30" CONDUIT TYPE B	603 30" CONDUIT TYPE C	603 36" CONDUIT TYPE C	604 CATCH BASIN NO. 3	604 CATCH BASIN NO. 3A	604 MANHOLE NO. 3	604 CATCH BASIN NO. 6	604 CATCH BASIN NO. 2-2B	604 CATCH BASIN NO. 4
					CU. YD.		FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	EACH	EACH	EACH	EACH	EACH	EACH
1D	28,57	131+69.70 (SR 149)	132+75.00 (SR 149)	RT	0.76											107			1			
2D	28,57	132+75.00 (SR 149)	132+75.00 (SR 149)	RT							10						1					
3D	28,57	132+75.00 (SR 149)	134+00.00 (SR 149)	RT											125				1			
4D	28,57	132+75.00 (SR 149)	134+00.00 (SR 149)	RT						125							1					
5D	28,57	134+00.00 (SR 149)	135+00.00 (SR 149)	RT				100										1				
6D	29,57	136+25.00 (SR 149)	136+25.00 (SR 149)	RT							11						1					
7D	29,57	136+25.00 (SR 149)	137+75.00 (SR 149)	RT											150				1			
8D	29,57	136+25.00 (SR 149)	137+00.00 (SR 149)	RT				75												1		
9D	29,57	137+75.00 (SR 149)	137+75.00 (SR 149)	RT					10								1					
10D	29,57	137+75.00 (SR 149)	138+26.00 (SR 149)	RT					57									1				
11D	29,33,57	138+26.00 (SR 149)	51+25.00 (SCH DR)	RT					47									1				
12D	29,57	137+75.00 (SR 149)	139+02.50 (SR 149)	RT										127.5					1			
13D	32,58	1+35.00 (TR 1569)	2+25.00 (TR 1569)	LT	0.33							96									1	
14D	32,58	2+75.00 (TR 1569)	2+75.00 (TR 1569)	RT-LT	0.21		63															
15D	32,58	3+08.64 (TR 1569)	4+00.00 (TR 1569)	RT-LT	0.60								108									
16D	28,29,57	134+00.00 (SR 149)	136+25.00 (SR 149)	RT											226				1			
17D	29,57	139+02.50 (SR 149)	139+02.80 (SR 149)	RT				8.5										1				
18D	29,57	139+02.50 (SR 149)	139+25.00 (SR 149)	RT										22.5								1
TOTALS CARRIED TO GENERAL SUMMARY					1.90		63	183.5	114	125	21	96	108	150	501	107	4	4	5	1	1	1

CALCULATED TES CHECKED RDA

ESTIMATED QUANTITIES

BEL-149-23.77

REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 GUARDRAIL REMOVED	202 CATCH BASIN REMOVED	202 PIPE REMOVED 24" AND UNDER	202 PIPE REMOVED OVER 24"	202 CURB REMOVED		603 6" CONDUIT TYPE F FOR UNDERDRAIN OUTLETS	604 MANHOLE ADJUSTED TO GRADE	604 PRECAST REINFORCED CONCRETE OUTLET	605 6" SHALLOW PIPE UNDERDRAIN	605 6" UNCLASSIFIED PIPE UNDERDRAIN		606 GUARDRAIL TYPE 5	606 TYPE A ANCHOR ASSEMBLY		609 CURB TYPE 6		
		FROM	TO		FT.	EACH	FT.	FT.	FT.		FT.	EACH	EACH	FT.	FT.		FT.	FT.		FT.		
1C	28,29,33	131+95.00 (SR 149)	53+75 (SCH DR)	RT																938		
2C	29,33	53+75 (Sch. Dr.)	139+75.23 (SR 149)	RT																426		
1GR	28,29	132+27.88 (SR 149)	135+00.81 (SR 149)	RT													250	1				
1UD	28	132+75.00 (SR 149)	133+97.50 (SR 149)	RT							11			116								
2UD	28	132+00.00 (SR 149)	133+97.50 (SR 149)	LT							19		1	198								
3UD	28	134+00.00 (SR 149)	134+97.50 (SR 149)	RT							13			88								
4UD	28,29	134+00.00 (SR 149)	138+40.00 (SR 149)	LT							16		1	441								
5UD	28,29	132+75.00 (SR 149)	135+69.50 (SR 149)	RT							7			295								
6UD	29	135+00.00 (SR 149)	136+19.50 (SR 149)	RT											118							
7UD	29,32	0+23.28 (TR 1569)	3+50.00 (TR 1569)	LT							14		1	329								
8UD	29	136+25.00 (SR 149)	137+72.50 (SR 149)	RT							14			138								
9UD	29	137+75.00 (SR 149)	138+24.00 (SR 149)	RT							8				58							
10UD	29,30	139+25.00 (SR 149)	141+97.50 (SR 149)	RT							19			274								
11UD	30	142+00.00 (SR 149)	143+97.50 (SR 149)	RT							15		1		199							
12UD	29,30,32	1+25.00 (TR 1569)	140+97.50 (SR 149)	RT-LT							10		1	240								
13UD	30,31	141+00.00 (SR 149)	146+00.00 (SR 149)	LT							13		1	501								
14UD	30,31	144+00.00 (SR 149)	146+00.00 (SR 149)	RT							15		1		200							
15UD	29,33	50+36.80 (SCH DR)	53+50.00 (SCH DR)	LT											310							
16UD	33	51+25.00 (SCH DR)	53+50.00 (SCH DR)	RT											218							
1R	28,29	132+27.88 (SR 149)	135+08.66 (SR 149)	RT	287																	
2R	29	136+28.00 (SR 149)		LT-RT		1	62															
3R	29	136+28.00 (SR 149)	137+29.30 (SR 149)	RT			101															
4R	29	136+28.00 (SR 149)	137+93.80 (SR 149)	LT			166															
5R	NOT USED																					
6R	29,30	138+83.46 (SR 149)	140+71.77 (SR 149)	LT	189																	
7R	29	139+78.00 (SR 149)		LT-RT		1	66															
8R	30,31	144+56.00 (SR 149)	145+15.00 (SR 149)	LT			64															
9R	32	3+10.10 (TR 1569)	3+24.57 (TR 1569)	LT-RT				38														
10R	33	50+24.60 (SCH DR)	53+75.00 (SCH DR)	LT					370													
TOTALS CARRIED TO GENERAL SUMMARY					476	2	459	38	370		164	1	7	2620	1103		250	1		1364	20	1

CALCULATED TES
CHECKED RDA

ESTIMATED QUANTITIES

BEL-149-23.77

PAVEMENT TRANSITION TABLE
STA. 131+95 TO STA. 135+69.50 ℄ S.R. 149

EDGE	DIFF	SLOPE	WIDTH	STATION	PG	WIDTH	SLOPE	DIFF	EDGE
1208.32	-0.334	-0.0218	15.30	131+95.00	1208.34	14.00	-0.0053	-0.074	1208.27
1208.61	-0.333	-0.0217	15.34	132+00.00	1208.63	14.05	-0.0039	-0.055	1208.58
1209.29	-0.331	-0.0213	15.52	132+25.00	1209.31	14.32	0.0030	0.044	1209.35
1209.89	-0.329	-0.0209	15.70	132+50.00	1209.91	14.59	0.0100	0.146	1210.05
1210.48	-0.326	-0.0206	15.88	132+75.00	1210.51	14.85	0.0100	0.149	1210.65
1211.09	-0.324	-0.0202	16.06	133+00.00	1211.11	15.12	0.0100	0.151	1211.26
1211.70	-0.321	-0.0198	16.24	133+25.00	1211.72	15.39	0.0100	0.154	1211.87
1212.31	-0.318	-0.0194	16.42	133+50.00	1212.33	15.66	0.0100	0.157	1212.49
1212.92	-0.316	-0.0190	16.60	133+75.00	1212.94	15.92	0.0100	0.159	1213.10
1213.52	-0.312	-0.0186	16.78	134+00.00	1213.54	16.19	0.0100	0.162	1213.70
1214.12	-0.309	-0.0182	16.96	134+25.00	1214.14	16.46	0.0100	0.165	1214.31
1214.74	-0.306	-0.0179	17.14	134+50.00	1214.75	16.72	0.0100	0.167	1214.92
1215.25	-0.302	-0.0175	17.32	134+75.00	1215.26	16.99	0.0046	0.077	1215.34
1215.75	-0.280	-0.0160	17.50	135+00.00	1215.77	17.26	-0.009	-0.015	1215.75
1216.19	-0.283	-0.0160	17.68	135+25.00	1216.21	17.52	-0.0063	-0.111	1216.10
1216.62	-0.286	-0.0160	17.86	135+50.00	1216.64	17.79	-0.0160	-0.285	1216.36
1216.96	-0.288	-0.0160	18.00	135+69.50	1216.97	18.00	-0.0160	-0.288	1216.69

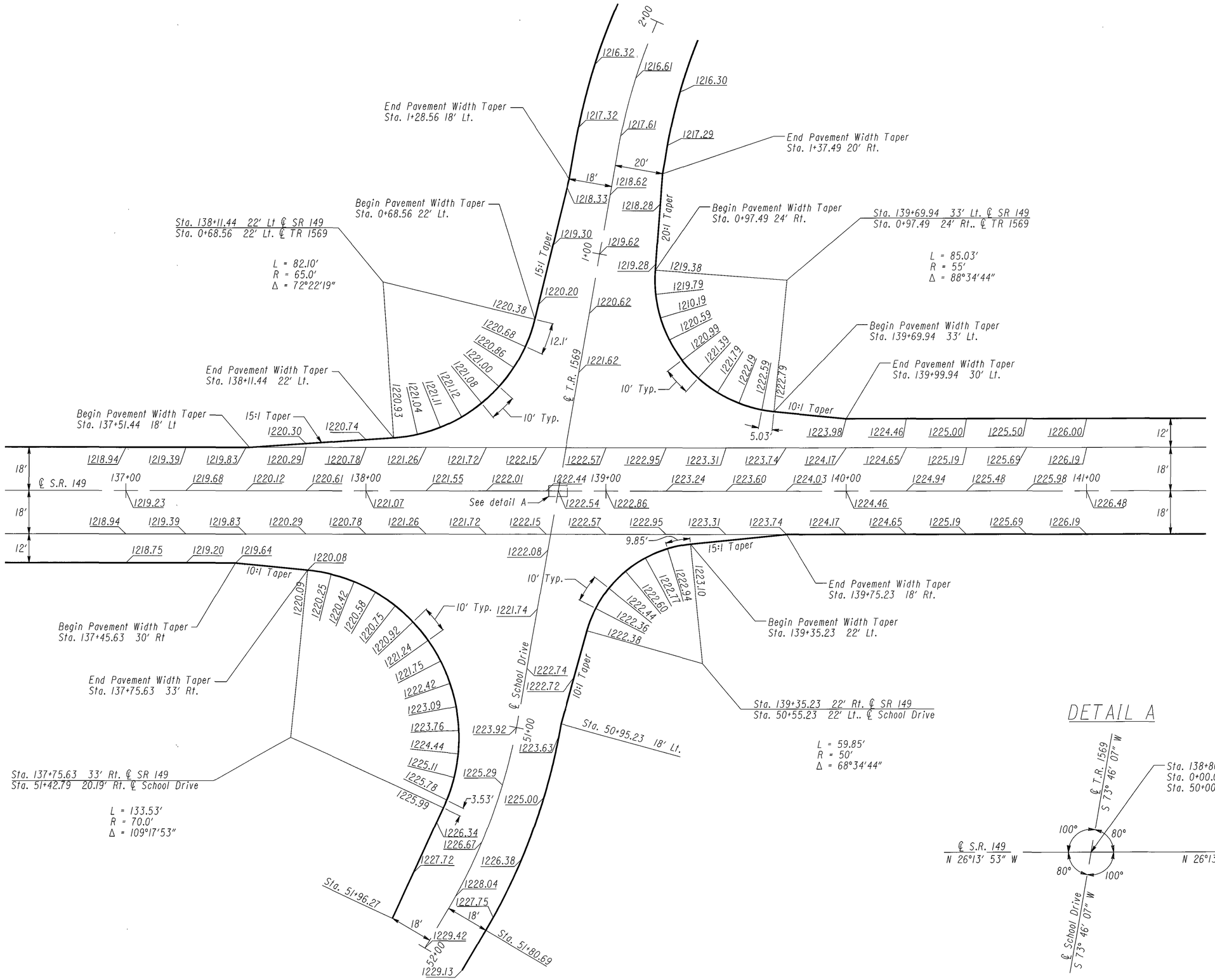
PAVEMENT TRANSITION TABLE
STA. 142+75 TO STA. 146+05 ℄ S.R. 149

EDGE	DIFF	SLOPE	WIDTH	STATION	PG	WIDTH	SLOPE	DIFF	EDGE
1229.36	-0.288	-0.0160	18.00	142+75.00	1229.65	18.00	-0.0160	-0.288	1229.36
1229.81	-0.286	-0.0160	17.85	143+00.00	1230.09	17.55	-0.0160	-0.281	1229.81
1230.37	-0.283	-0.0160	17.70	143+25.00	1230.65	17.11	-0.0160	-0.274	1230.38
1230.91	-0.281	-0.0160	17.55	143+50.00	1231.20	16.66	-0.0122	-0.203	1230.99
1231.55	-0.278	-0.0160	17.39	143+75.00	1231.82	16.21	-0.0083	-0.135	1231.69
1232.21	-0.276	-0.0160	17.24	144+00.00	1232.49	15.77	-0.0045	-0.071	1232.42
1232.92	-0.273	-0.0160	17.09	144+25.00	1233.20	15.32	-0.0007	-0.010	1233.19
1233.73	-0.271	-0.0160	16.94	144+50.00	1234.01	14.87	0.0032	0.047	1234.05
1234.48	-0.325	-0.0193	16.79	144+75.00	1234.80	14.42	0.0070	0.101	1234.90
1235.18	-0.409	-0.0246	16.64	145+00.00	1235.59	13.98	0.0109	0.152	1235.74
1236.11	-0.452	-0.0274	16.48	145+25.00	1236.57	13.53	0.0147	0.199	1236.76
1237.03	-0.495	-0.0303	16.33	145+50.00	1237.52	13.08	0.0185	0.242	1237.77
1237.96	-0.536	-0.0331	16.18	145+75.00	1238.50	12.64	0.0224	0.283	1238.78
1238.95	-0.577	-0.0360	16.03	146+00.00	1239.38	12.19	0.0262	0.319	1239.85
1238.99	-0.576	-0.0360	16.00	146+05.00	1239.57	12.10	0.0262	0.317	1239.89

CALCULATED TES
CHECKED SKW

PAVEMENT TRANSITION TABLE

BEL-149-23.77



HORIZONTAL SCALE IN FEET
0 10 20 40

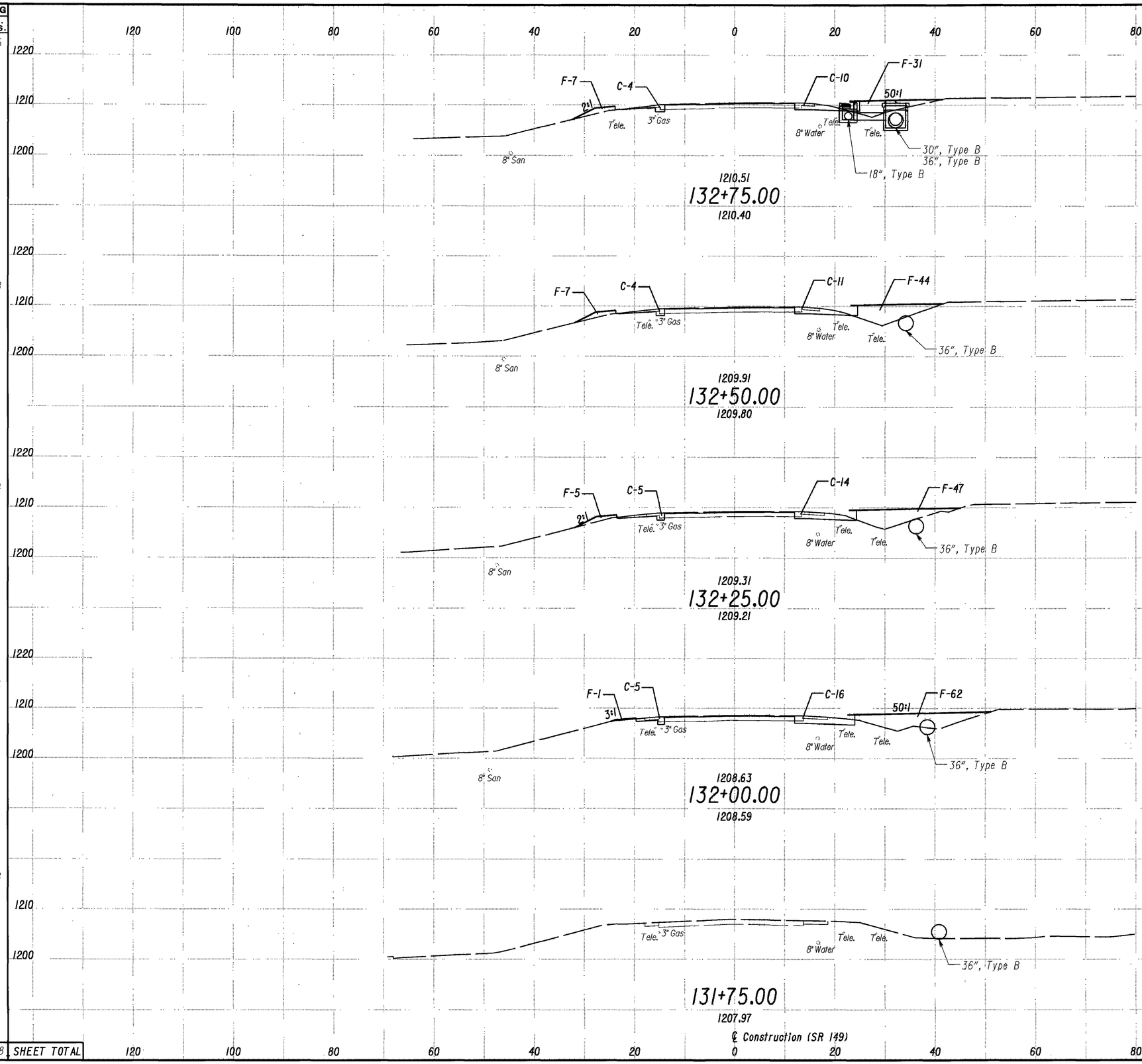
CALCULATED TES
CHECKED SKW

INTERSECTION DETAIL

BEL-149-23.77

37
84

SEEDING END WIDTH	SEEDING SQ. YDS.
	85
31	
	88
32	
	94
36	
	103
38	
	58
4	
SHEET TOTAL	428



Quantities carried to sheet 27.

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		13	33
14	38		
		13	41
15	51		
		16	48
19	52		
		19	53
21	63		
		4	12
Sta. 131+95.00 AHEAD	21	63	
Sta. 131+95.00 BACK	0	63	
		0	23
0	0		
SHEET TOTAL		65	210

CALCULATED TES
CHECKED RDA

CROSS SECTION SHEET

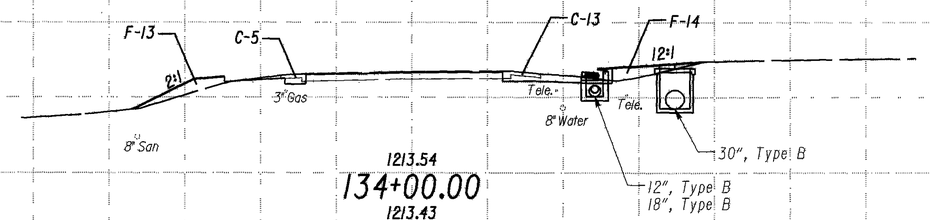
STA. 131+75.00 TO STA. 132+75.00

BEL-149-23.77

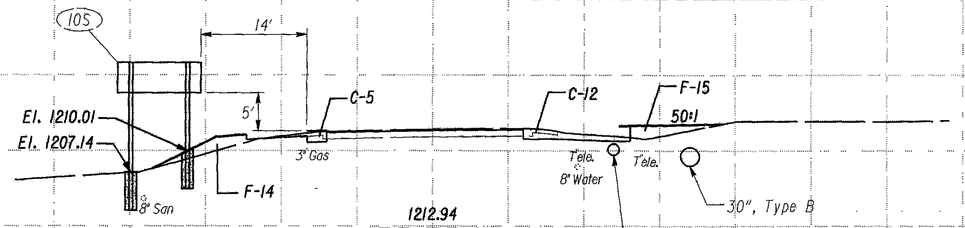
SEEDING END WIDTH	SEEDING SQ. YDS.
150	
31	86
31	86
31	169
30	86
SHEET TOTAL	491

120 100 80 60 40 20 0 20 40 60 80 100 120

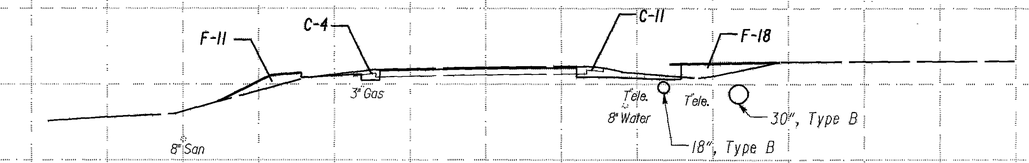
1220 / 1210 / 1200



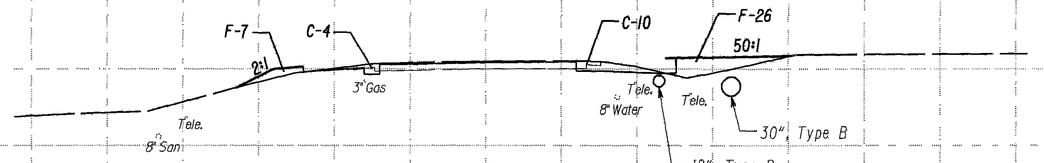
1213.54
134+00.00
1213.43



1212.94
133+75.00
1212.83



1212.33
133+50.00
1212.23



1211.11
133+00.00
1211.00

℄ Construction (SR 149)

Quantities carried to sheet 27.

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		34	43
18	27		
		16	26
17	29		
		15	27
15	29		
		27	57
14	33		
SHEET TOTAL		92	153

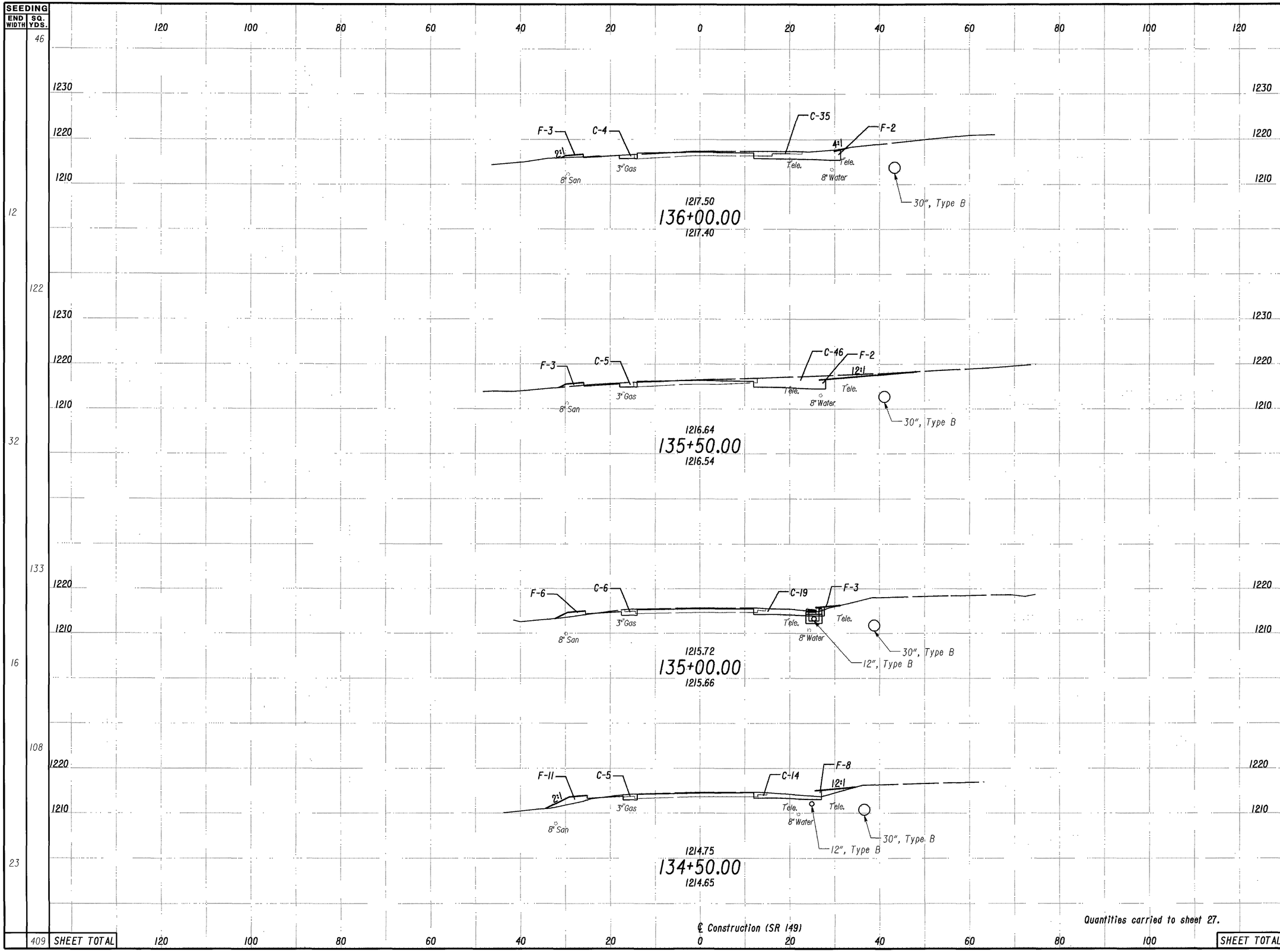
CALCULATED TES
CHECKED RDA

CROSS SECTION SHEET
STA. 133+00.00 TO STA. 134.00.00

BEL-149-23.77

39
84

SEEDING END WIDTH	SEEDING SQ. YDS.
	46
12	122
32	133
16	108
23	
	409



Quantities carried to sheet 27.

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		31	7
39	5		
		83	9
51	5		
25	9	70	13
19	19	41	26
		225	55

CALCULATED TES

CHECKED RDA

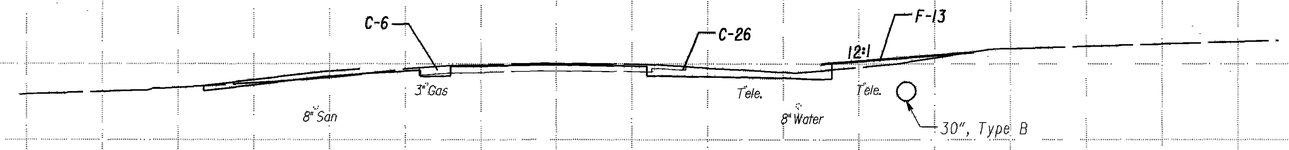
CROSS SECTION SHEET

STA. 134+50.00 TO STA. 136+00.00

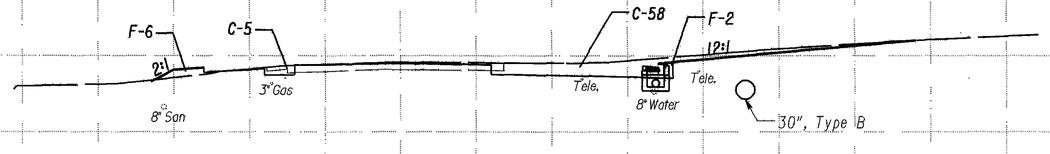
BEL-149-23.77

40
84

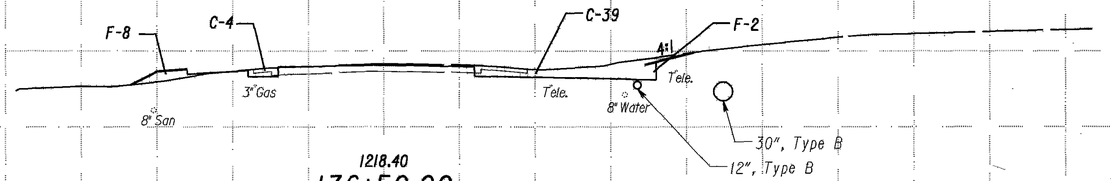
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	107			31	10
53		32	13		
	272			88	19
45		63	8		
	178			98	17
19		43	10		
	56			33	10
21		29	11		
	613 SHEET TOTAL			250	56 SHEET TOTAL



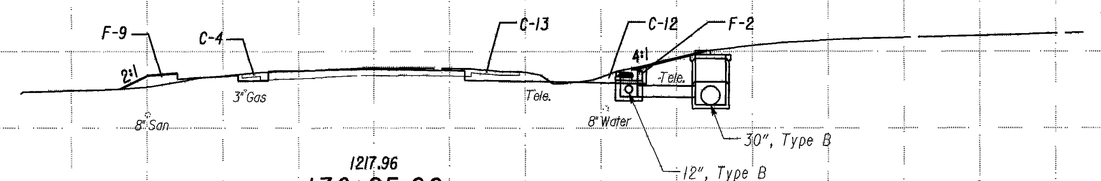
1220.12
137+50.00
1220.02



1219.23
137+00.00
1219.13



1218.40
136+50.00
1218.29



1217.96
136+25.00
1217.85

Quantities carried to sheet 27.

℄ Construction (SR 149)

CALCULATED TES
CHECKED RDA

CROSS SECTION SHEET
STA. 136+25.00 TO STA. 137+50.00

BEL-149-23.77

41
84

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	44			60	1
0		38	0		
	0			67	0
0		34	0		
	67			80	17
24		52	18		
	67			40	13
24		35	9		
	178			247	31

SHEET TOTAL

SHEET TOTAL

CALCULATED TES

CHECKED RDA

CROSS SECTION SHEET

STA. 137+75.00 TO STA. 139+00.00

BEL-149-23.77

42
84

120 100 80 60 40 20 0 20 40 60 80 100 120

1230
1220
1210

Quantities carried with TR 1569 See Sheets 47-50.

C-10

C-28

Quantities carried with School Drive See Sheets 51-53.

3"Gas

8" San

T"ele.

8" Water

T"ele.

30", Type B

1222.86
139+00.00
1222.76

Quantities carried with TR 1569 See Sheets 47-50.

C-14

C-20

Quantities carried with School Drive See Sheets 51-53.

3"Gas

8" San

T"ele.

8" Water

T"ele.

30", Type B

1222.01
138+50.00
1221.91

F-15

2:1

C-8

C-44

F-3

12:1

3"Gas

8" San

T"ele.

8" Water

T"ele.

30", Type B

1221.06
138+00.00
1220.96

F-3

2:1

C-7

C-28

F-6

12:1

3"Gas

8" San

T"ele.

8" Water

T"ele.

30", Type B

1220.58
137+75.00
1220.48

℄ Construction (SR 149)

Quantities carried to sheet 27.

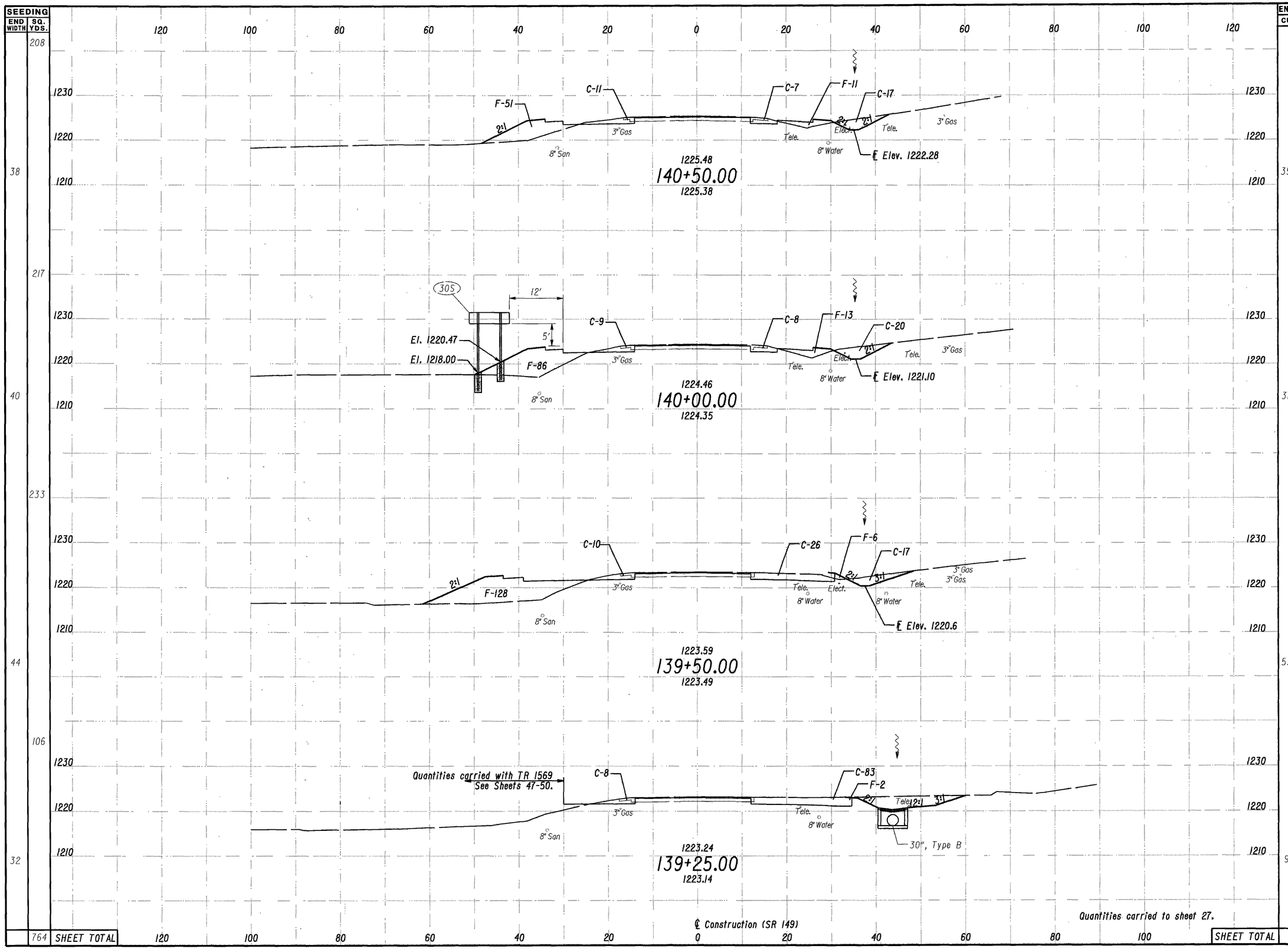
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	208			72	85
38		35	62		
	217			67	149
40		37	99		
	233			83	216
44		53	134		
	106			67	63
32		91	2		
	764 SHEET TOTAL			289	513

CALCULATED TES
CHECKED RDA

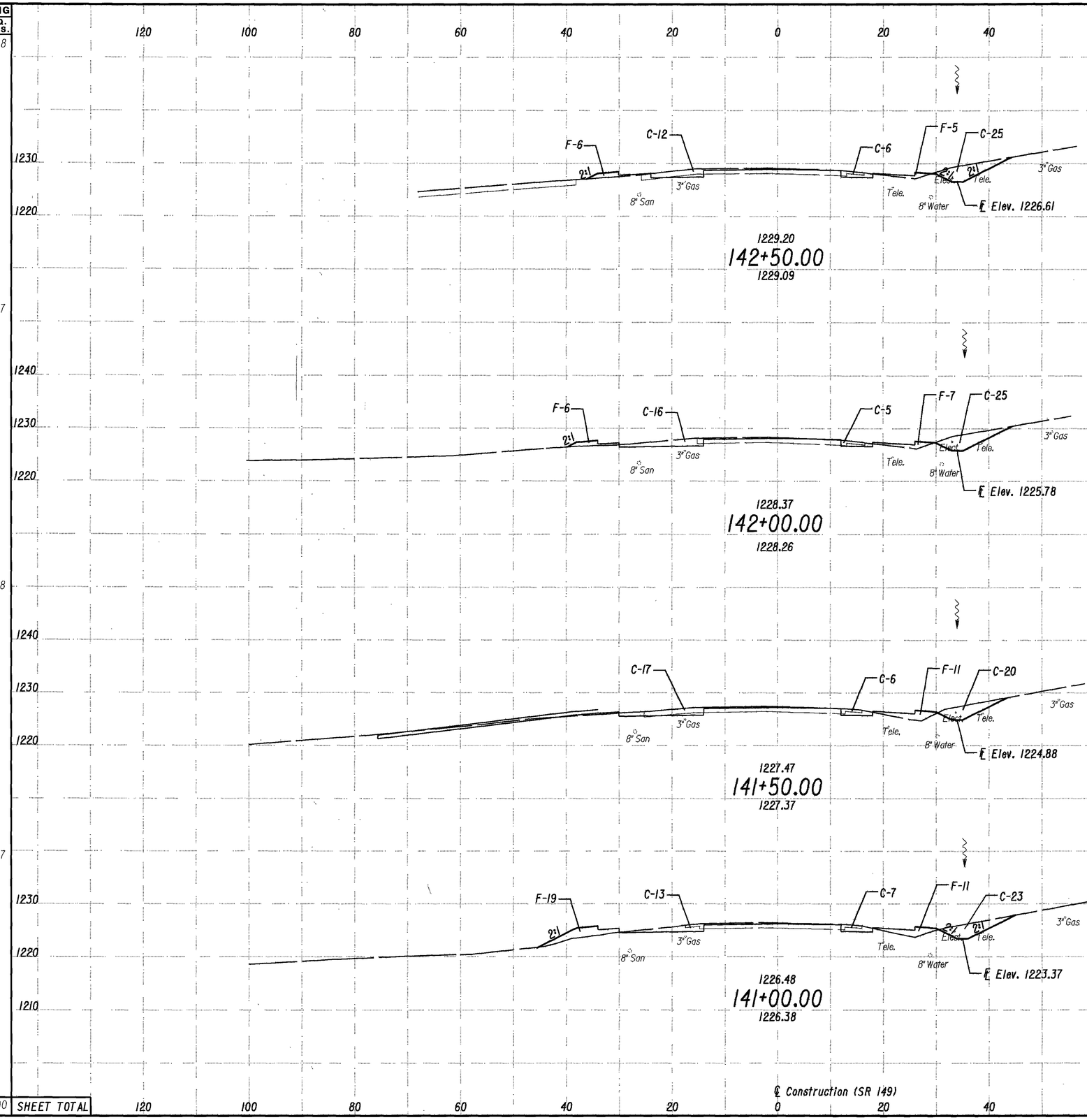
CROSS SECTION SHEET

STA. 139+25.00 TO STA. 140+50.00

BEL-149-23.77



SEEDING END WIDTH	SEEDING SQ. YDS.
	158
30	
	167
30	
	278
70	
	297
37	
	900



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		68	16
43	11		
		82	22
46	13		
		82	22
43	11		
		80	38
43	30		
		312	98

Quantities carried to sheet 27.

CALCULATED TES

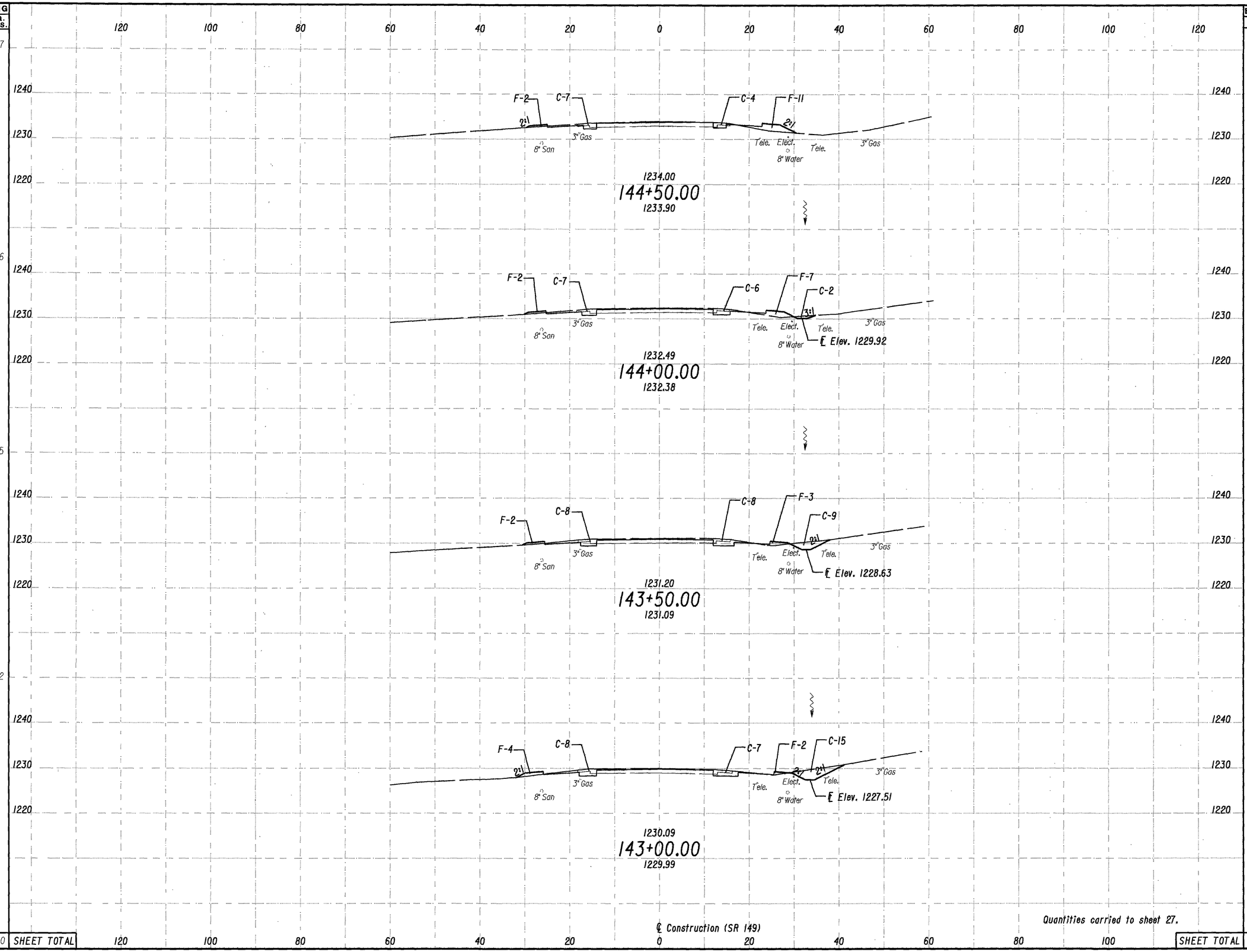
CHECKED RDA

CROSS SECTION SHEET
STA. 141+00.00 TO STA. 142+50.00

BEL-149-23.77

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	117			17	20
17		11	13		
	106			24	20
21		15	9		
	125			37	13
24		25	5		
	142			51	10
27		30	6		
	490			129	63

CALCULATED TES
CHECKED RDA

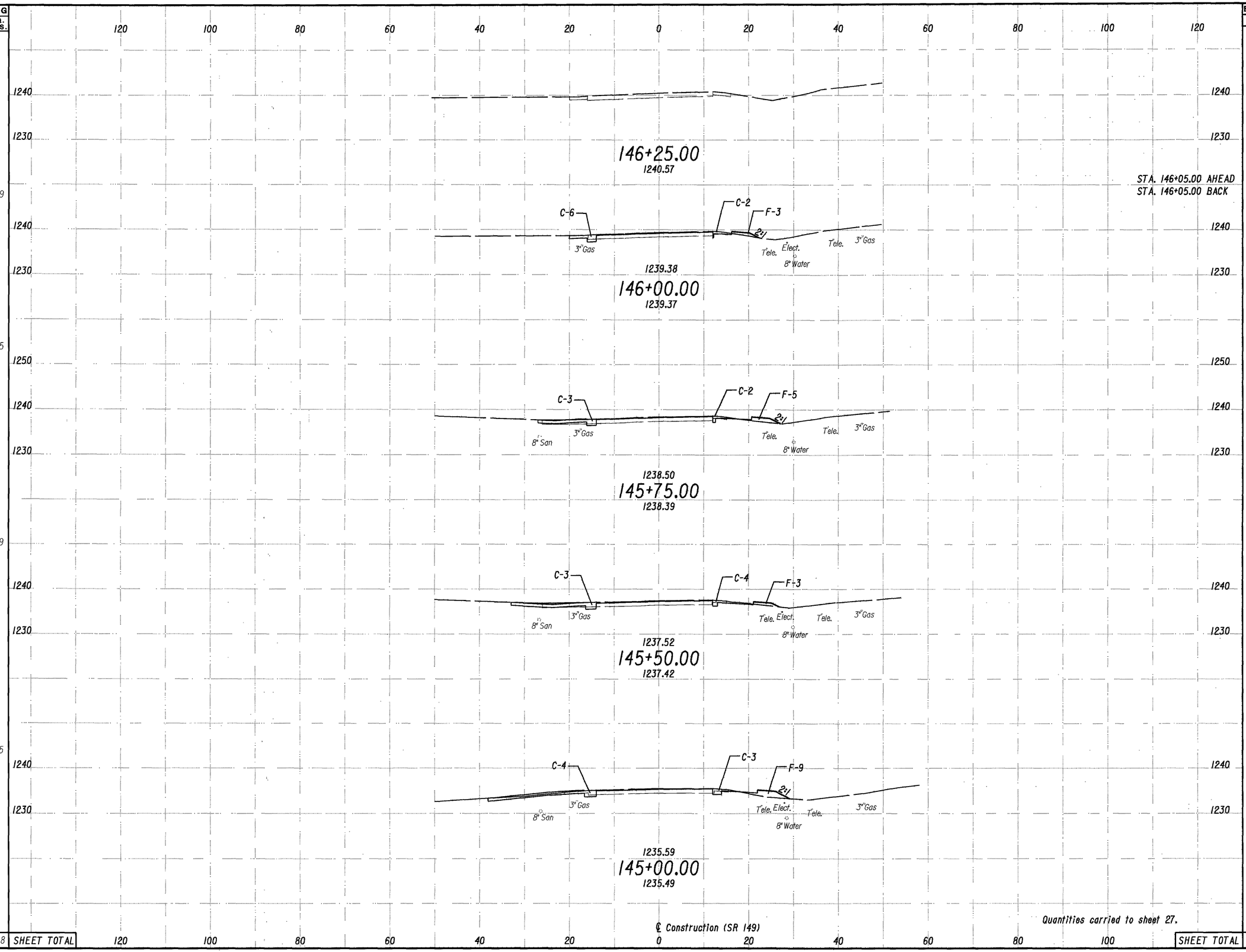


CROSS SECTION SHEET
STA. 143+00.00 TO STA. 144+50.00

BEL-149-23.77

45
84

SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		146+25.00	0	0	0	1
		STA. 146+05.00 AHEAD	0	3		
		STA. 146+05.00 BACK	8	3		
4	19				2	1
10		146+00.00	8	3		
	35				6	4
15	49	145+75.00	5	5	6	4
20	125	145+50.00	7	3	13	11
25		145+00.00	7	9		
	228	SHEET TOTAL			27	21



CALCULATED TES

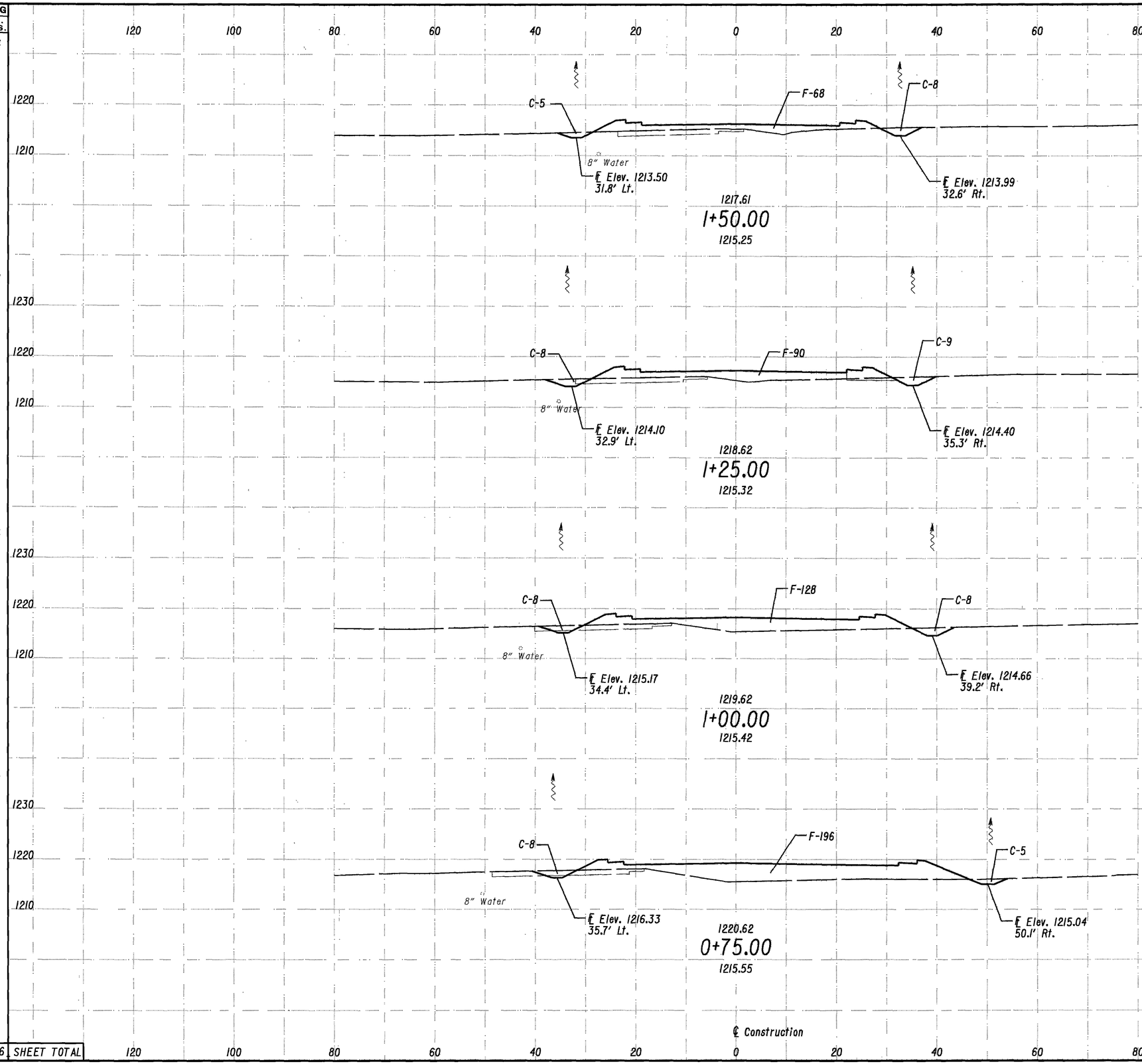
CHECKED RDA

CROSS SECTION SHEET
STA. 145+00.00 TO STA. 146+25.00

BEL-149-23.77

46
84

SEEDING END WIDTH	SEEDING SQ. YDS.
	74
36	
	101
37	
	104
38	
	107
39	
	386



Quantities carried to sheet 27.

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		10	52
13	68		
		14	73
17	90		
		15	101
16	128		
		13	150
13	196		
SHEET TOTAL		52	376

CALCULATED TES

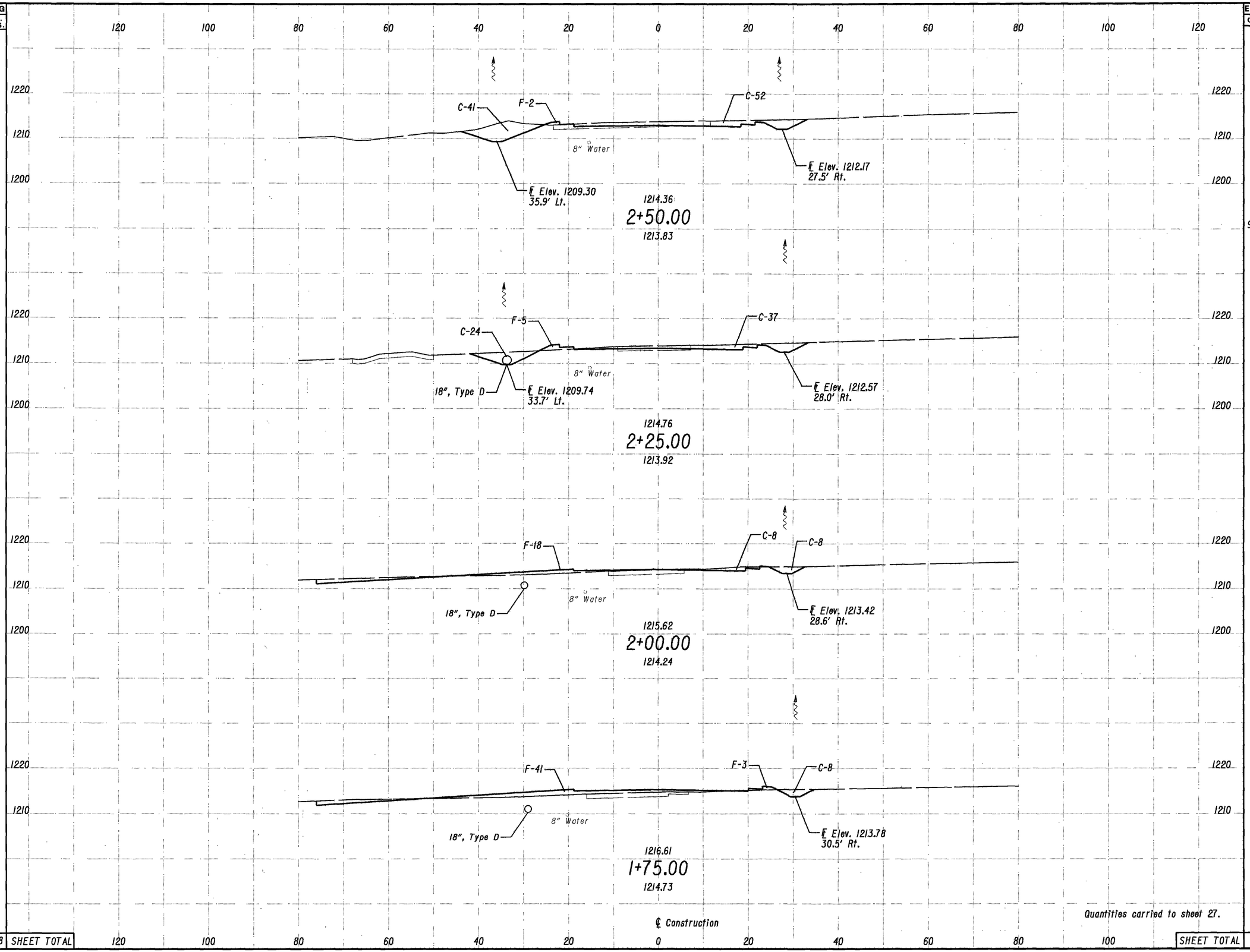
CHECKED RDA

CROSS SECTION SHEET (TR 1569)
STA. 0+75.00 YO STA. 1+50.00

BEL-149-23.77

47
84

SEEDING END WIDTH	SEEDING SQ. YDS.
	124
38	
	106
38	
	74
15	
	44
17	
	348



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		86	9
93	2		
		71	3
61	5		
		36	11
16	18		
		11	29
8	44		
		204	52

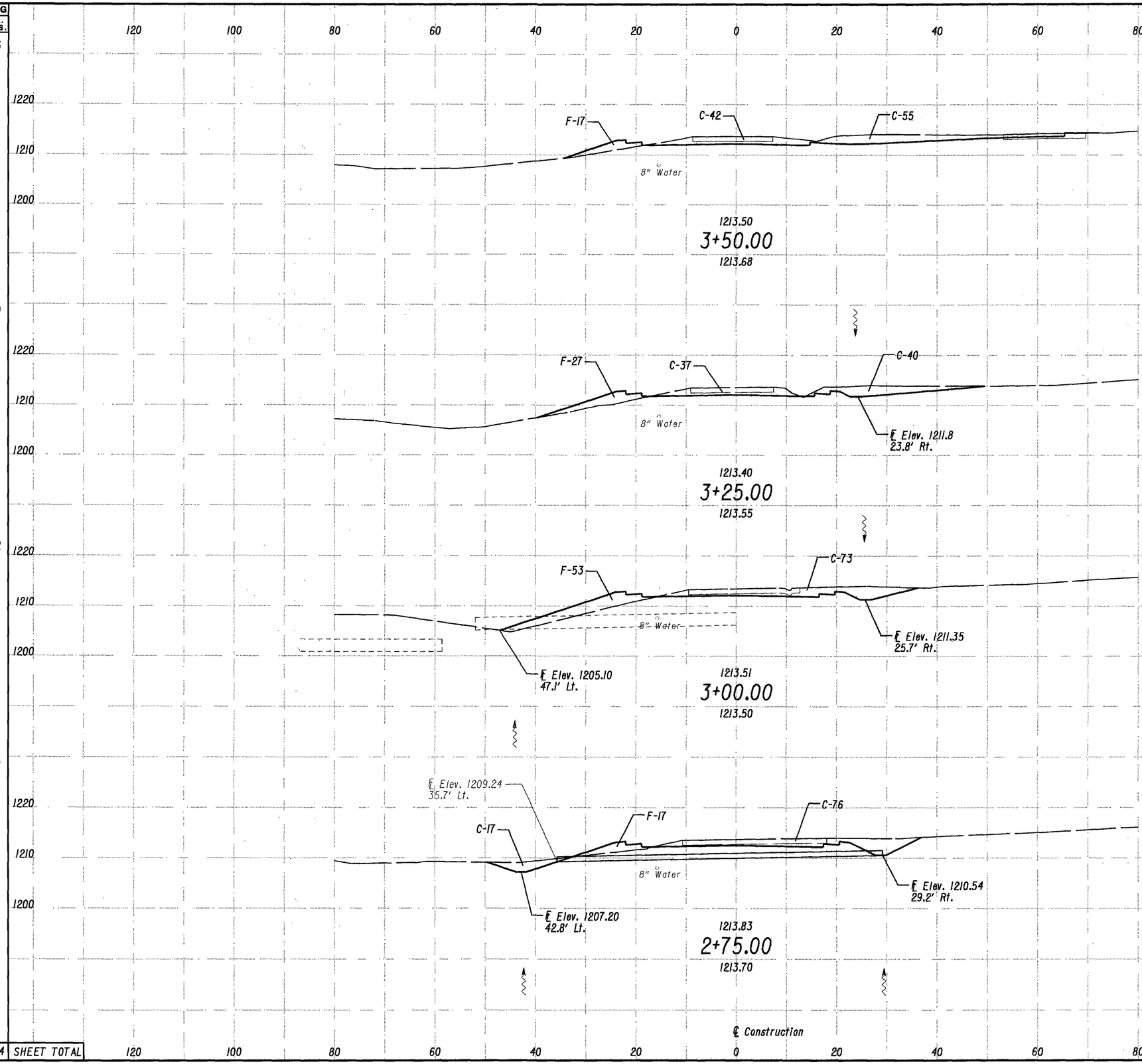
CALCULATED TES
CHECKED RDA

CROSS SECTION SHEET (TR 1569)
STA. 1+75.00 TO STA. 2+50.00

BEL-149-23.77

48
84

SEEDING END WIDTH	SEEDING SQ. YDS.
	65
17	
	99
54	
	142
48	
	138
51	
	444



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		74	8
97	17		
		81	20
77	27		
		69	37
73	53		
		77	32
93	17		
		301	97

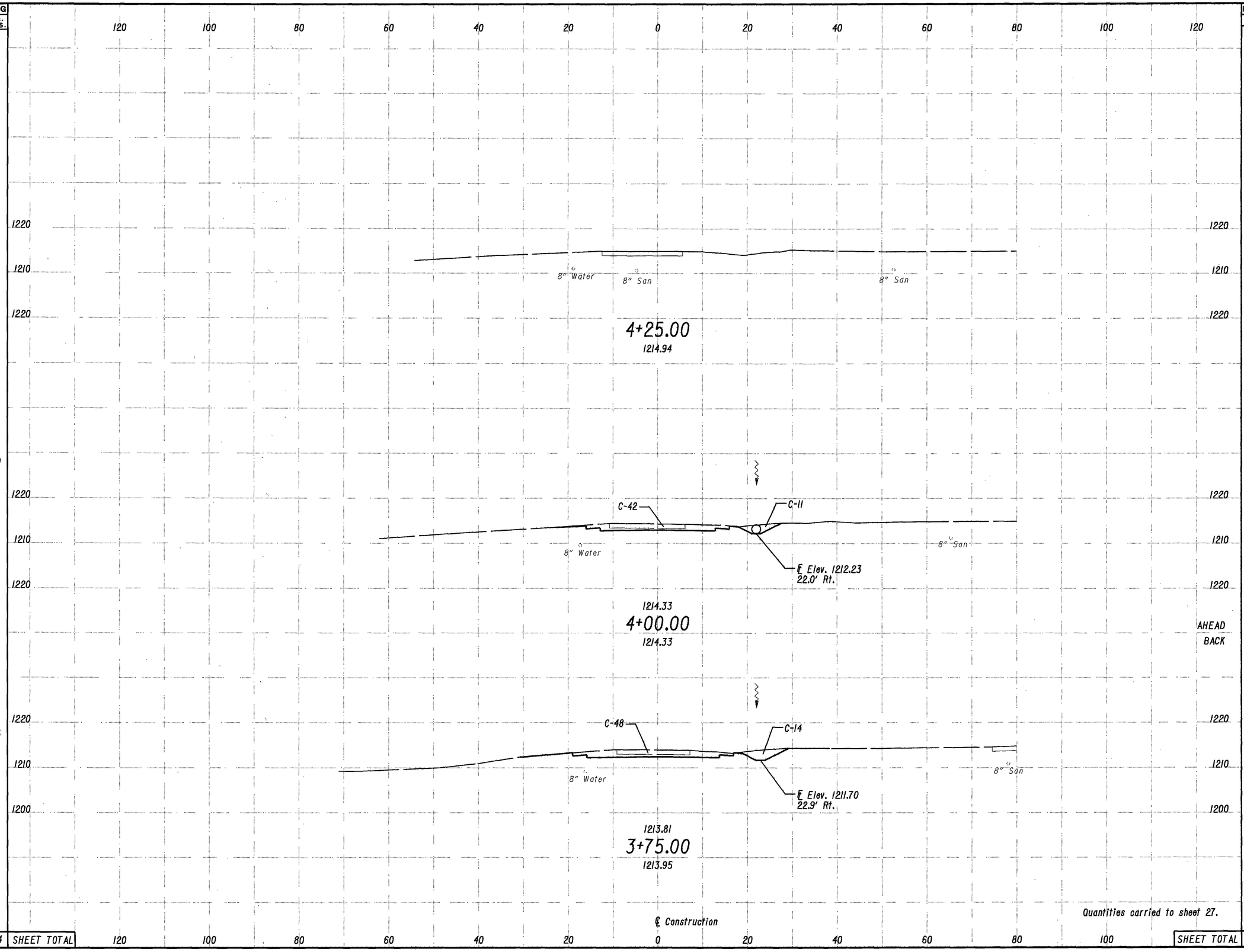
CALCULATED TES
CHECKED RDA

CROSS SECTION SHEET (TR 1569)
STA. 2+75.00 TO STA. 3+50.00

BEL-149-23.77

49
84

SEEDING END WIDTH	SEEDING SQ. YDS.
4	
39	
24	
75	
30	
	114



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0		
		5	0
AHEAD 11	0		
BACK 53	0		
		53	0
62	0		
SHEET TOTAL		58	0

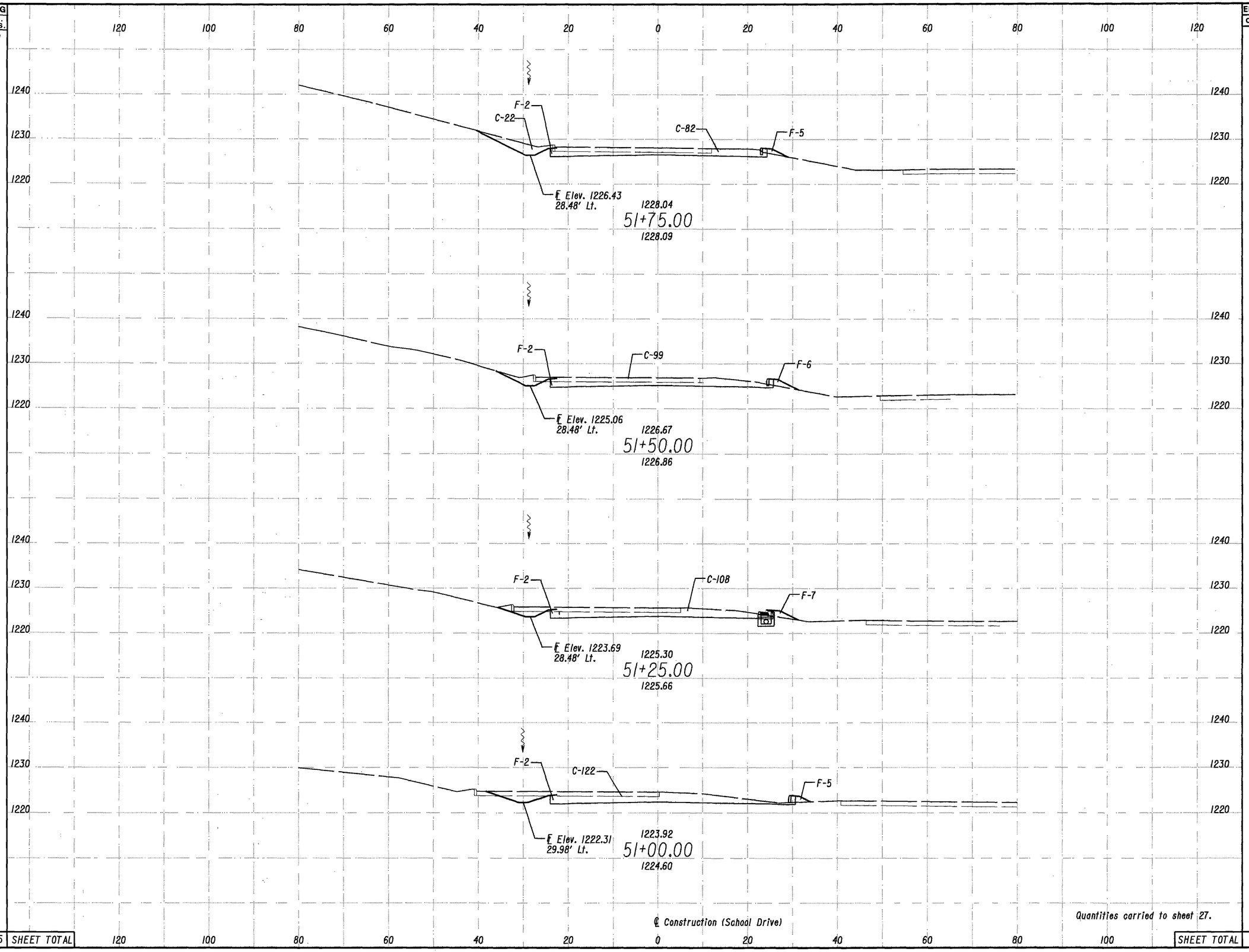
CALCULATED TES
CHECKED RDA

CROSS SECTION SHEET (TR 1569)
STA. 3+75.00 TO STA. 4+25.00

BEL-149-23.77

50
84

SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	71				81	6
32		51+75.00	104	7		
	85				94	7
29		51+50.00	99	6		
	81				96	8
29		51+25.00	108	9		
	78				106	7
27		51+00.00	122	5		
	315	SHEET TOTAL			377	28



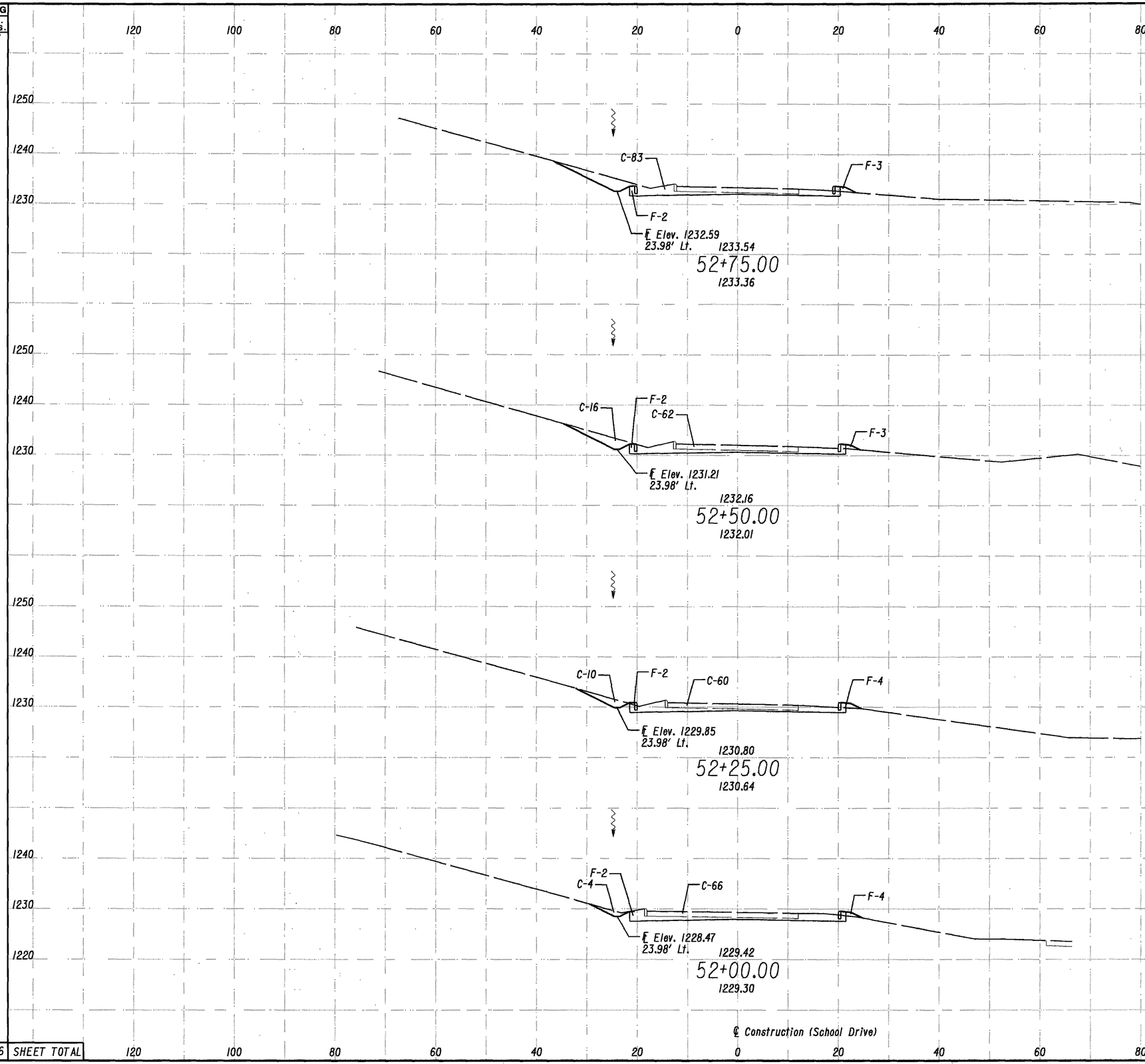
CALCULATED TES
CHECKED RDA

CROSS SECTION SHEET (SCHOOL DRIVE)
STA. 51+00.00 TO STA. 51+75.00

BEL-149-23.77

51
84

SEEDING END WIDTH	SEEDING SQ. YDS.
	78
26	
	69
24	
	63
21	
	56
19	
	266



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		80	6
83	5		
		75	5
78	5		
		69	5
70	6		
		65	6
70	6		
		289	22

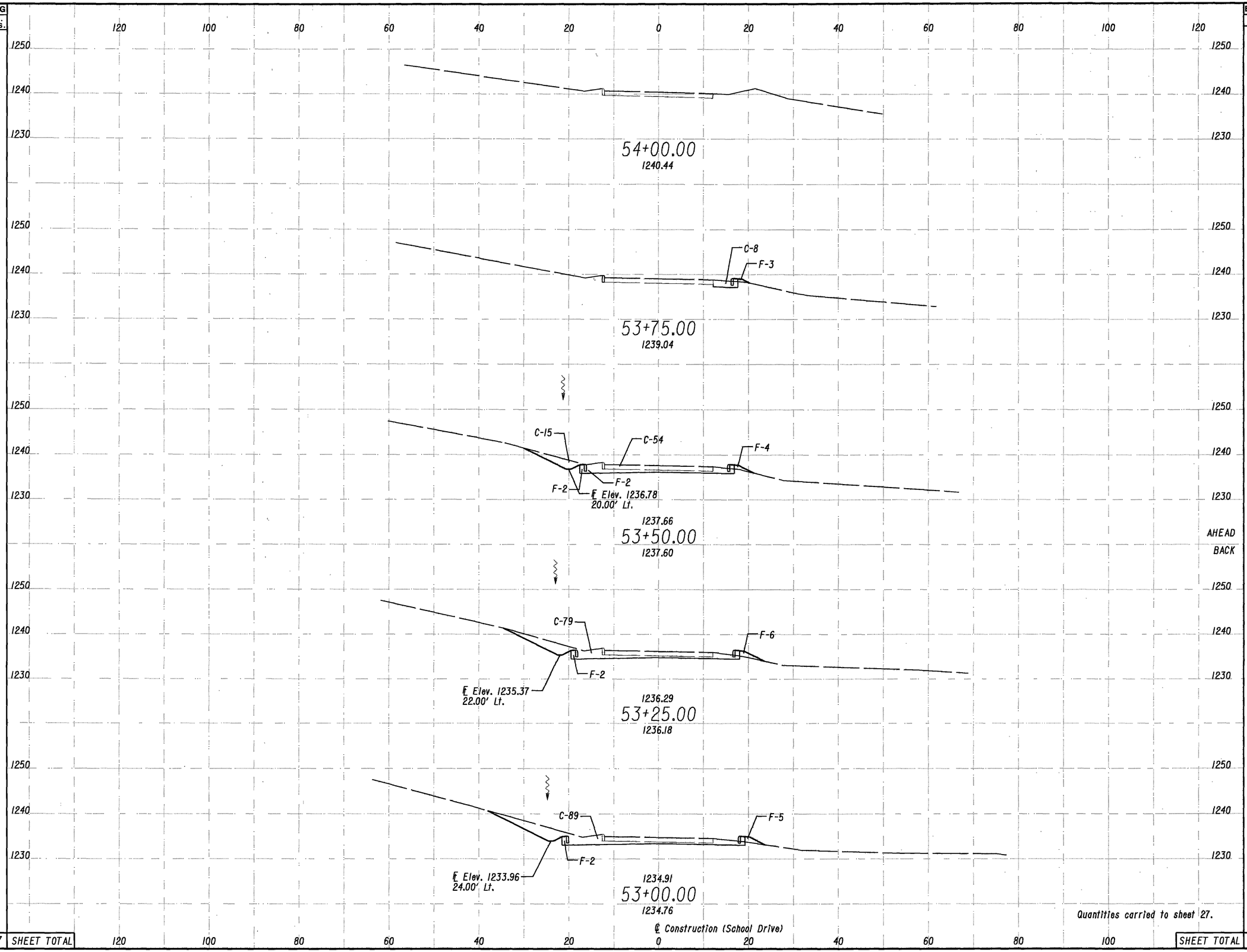
CALCULATED TES
CHECKED RDA

CROSS SECTION SHEET (SCHOOL DRIVE)
STA. 52+00.00 TO STA. 52+75.00

BEL-149-23.77

52
84

SEEDING END WIDTH	SEEDING SQ. YDS.
2	14
8	46
25	75
29	82
30	
	217



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0		
		4	1
8	3		
		11	3
AHEAD 15	4		
BACK 69	8		
		69	7
79	8		
		78	7
89	7		
SHEET TOTAL		162	18

Quantities carried to sheet 27.

CALCULATED TES
CHECKED RDA

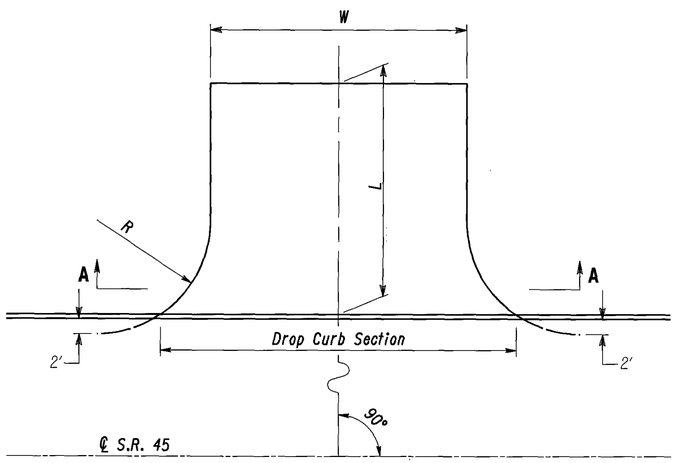
CROSS SECTION SHEET (SCHOOL DRIVE)
STA. 53+00.00 TO STA. 54+00.00

BEL-149-23.77

53
84

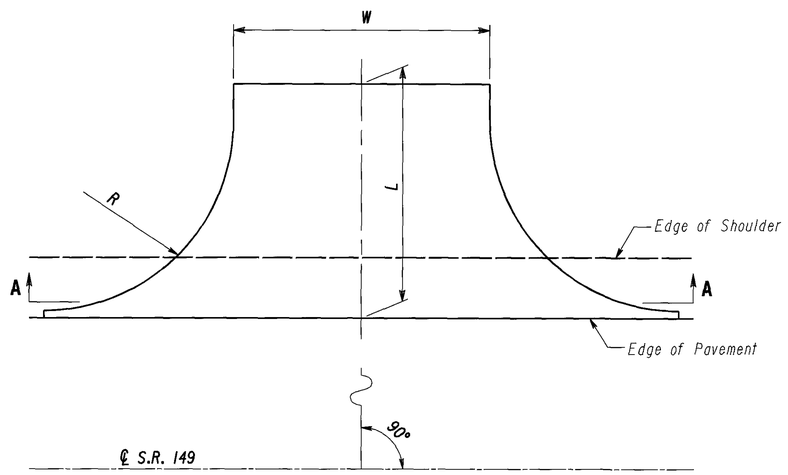
PLAN SHEET NO.	REFERENCE NO.	STATION	DRIVE TYPE	SIDE	APRON LENGTH "L"	INTERSECTION ANGLE	DRIVE AREA	STEM WIDTH "W"	R1 (LEFT SIDE RADII OF DRIVE LOOKING FROM ℄)	R2 (RIGHT SIDE RADII OF DRIVE LOOKING FROM ℄)	202 PAVEMENT REMOVED	203 EXCAVATION	204 SUBGRADE COMPACTION		304 THICKNESS	304 AGGREGATE BASE	407 TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL/S.Y.)	408 PRIME COAT (0.4 GAL/S.Y.)	448 THICKNESS	448 ASPHALT CONCRETE SURFACE COURSE, TYPE I PG64-22 (DRIVEWAYS) AS PER PLAN	448 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 PG64-22 (DRIVEWAYS)			
					FT	DEG.	SQ FT	FT	FT	FT	SQ YD	CU YD	SQ YD		IN	CU YD	GAL	GAL	IN	CU YD	CU YD			
29	1DR	135+44.00	Commercial	RT	13.5	90	532.3	35	15	15		75	65		8"	13	3	24	1.25"	2	3			
29	2DR	136+92.50	Commercial	RT	31.5	90	1152.2	35	15	15		161	140		8"	29	5	52	1.25"	5	6			
29	3DR	135+78.00	Commercial	LT	24.0	90	1158.7	35	25	25		162	141		8"	29	5	53	1.25"	4	6			
29	4DR	137+52.80	Commercial	LT	31.0	90	1415.1	35	25	25		198	172		8"	36	6	64	1.25"	6	8			
30	5DR	141+41.00	Commercial	LT	48.5	90	1482.2	24	25	25		213	185		8"	38	7	68	1.25"	6	8			
30	6DR	143+00.00	Commercial	LT	36.2	90	1683.1	35	25	25		235	204		8"	42	8	76	1.25"	7	9			
31	7DR	146+15.00	Commercial	LT	22.0	90	973.0	32	25	25		135	117		8"	24	4	44	1.25"	4	5			
31	8DR	145+66.00	Commercial	LT	23.9	90	1044.3	32	25	25		144	125		8"	26	5	47	1.25"	4	6			
32	9DR	1+90.00	Commercial	LT	54.0	90	3408.0	50	25	60	380	466	405		8"	85	15	154	1.25"	13	18			
32	10DR	3+50.00	Commercial	RT	*	90	2007.1	*	25	25		296	257		8"	51	9	92	1.25"	8	11			
TOTALS (CARRIED TO SHEET GENERAL SUMMARY.)											380	2085	1811			373	67	674		59	80			

* See sheet 55 for 10DR details.



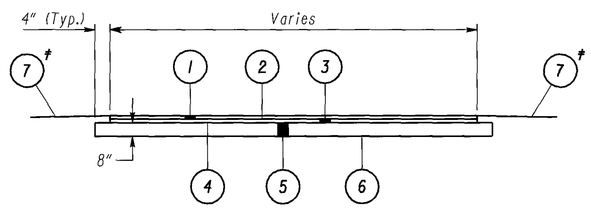
TYPICAL COMMERCIAL DRIVEWAY

(1 DR) (2 DR)



TYPICAL COMMERCIAL DRIVEWAY

(3 DR) THRU (9 DR)



SEC. A-A

♯ Grading limits and slopes to be as directed by the Engineer.

PROPOSED LEGEND

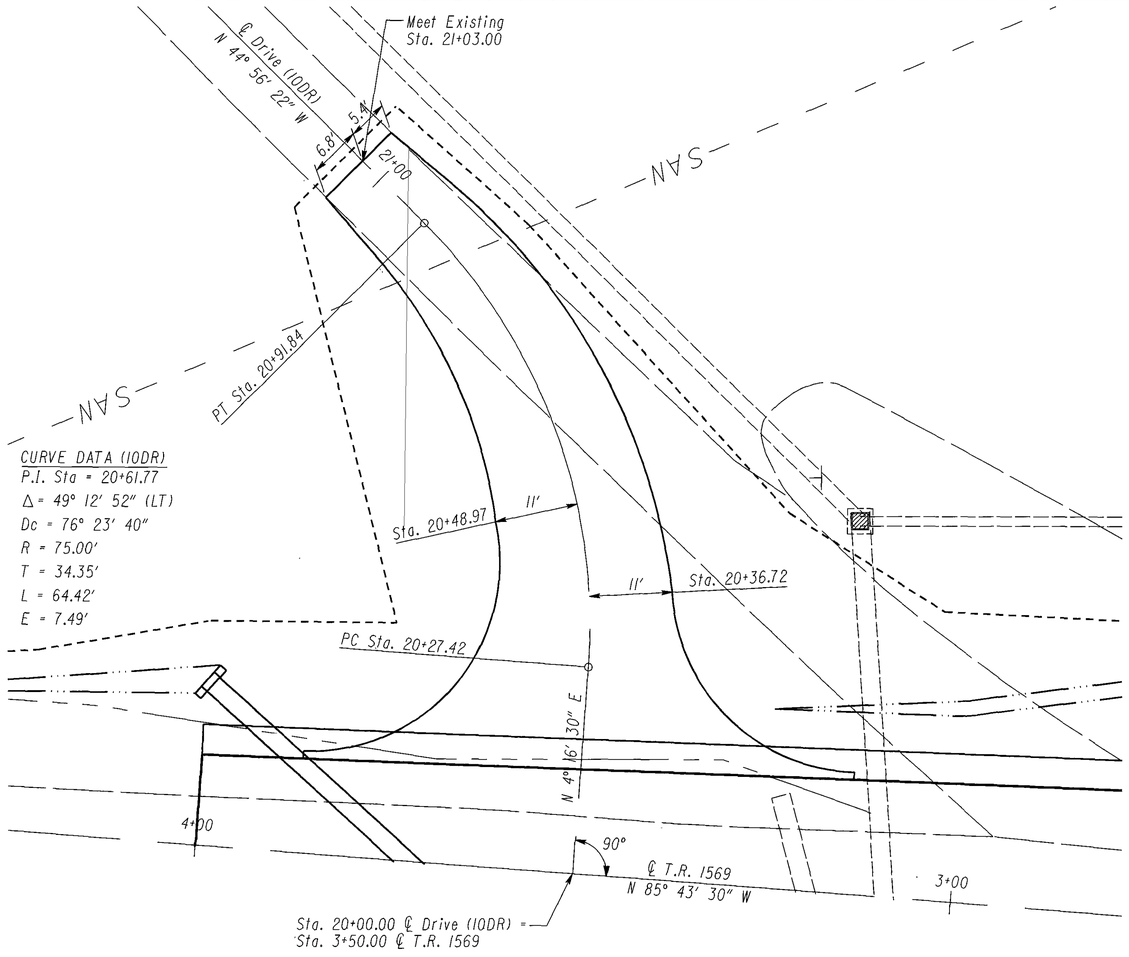
1. Item 448 - 1¼" Asphalt Concrete Surface Course, Type I, PG64-22 (Driveways), As Per Plan
2. Item 407 - Tack Coat for Intermediate Course
3. Item 448 - 1¾" Asphalt Concrete Intermediate Course, Type 2, PG64-22 (Driveways)
4. Item 408 - Prime Coat
5. Item 304 - Aggregate Base
6. Item 204 - Subgrade Compaction
7. Item 659 - Seeding & Mulching, and Water

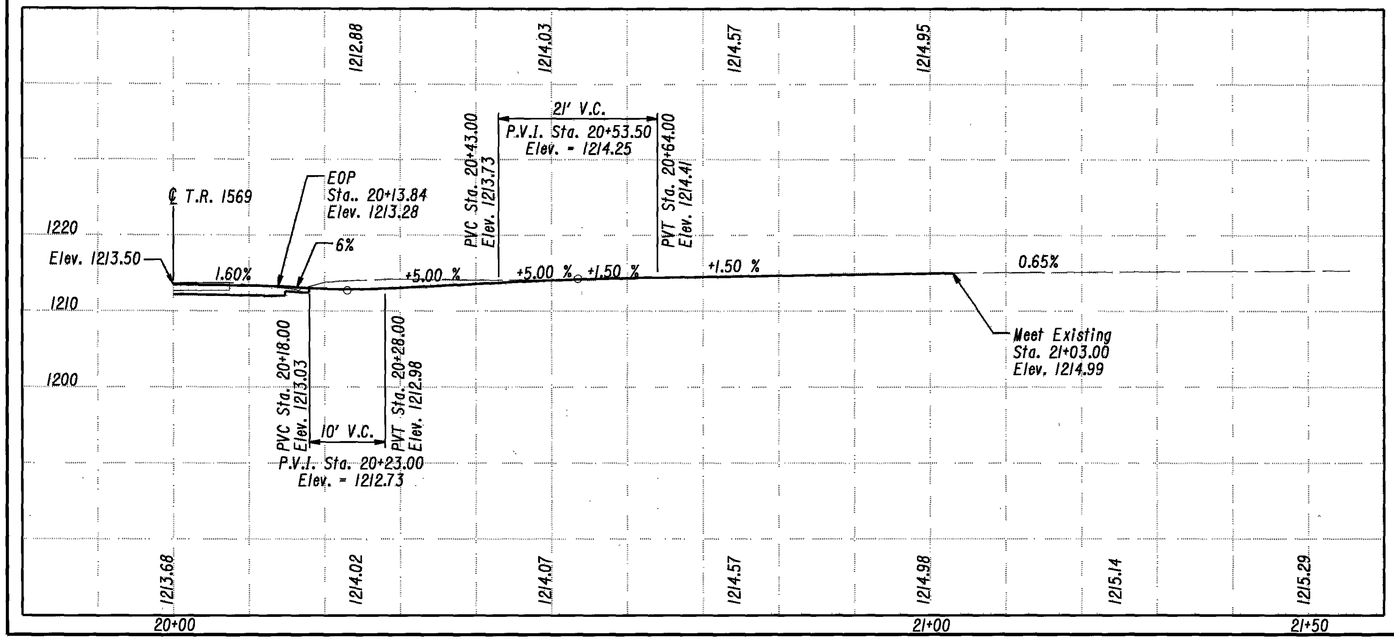
CALCULATED TES
CHECKED RDA

DRIVE DETAILS AND QUANTITIES

BEL-149-23.77

54/84





N

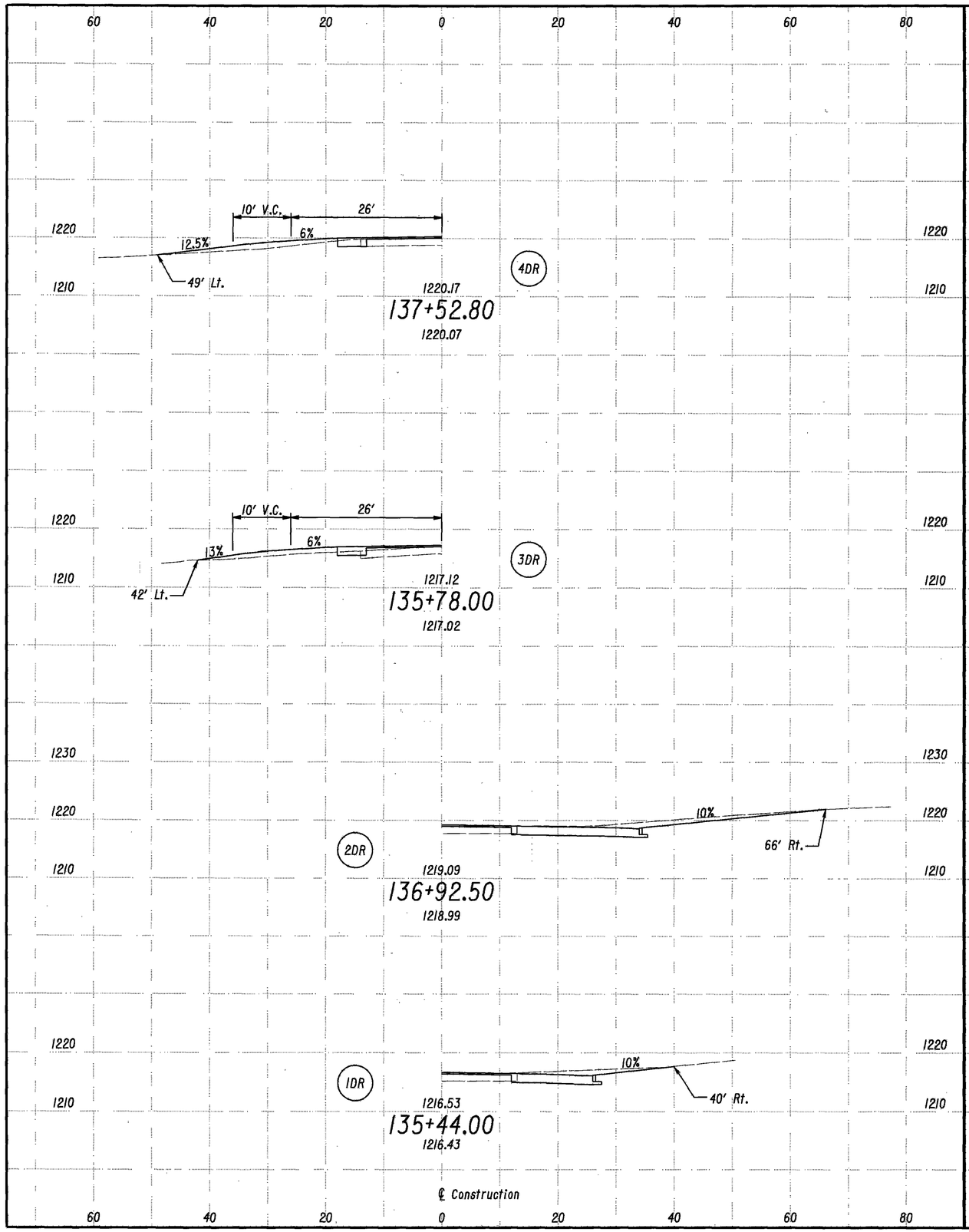
HORIZONTAL SCALE IN FEET
0 5 10 20

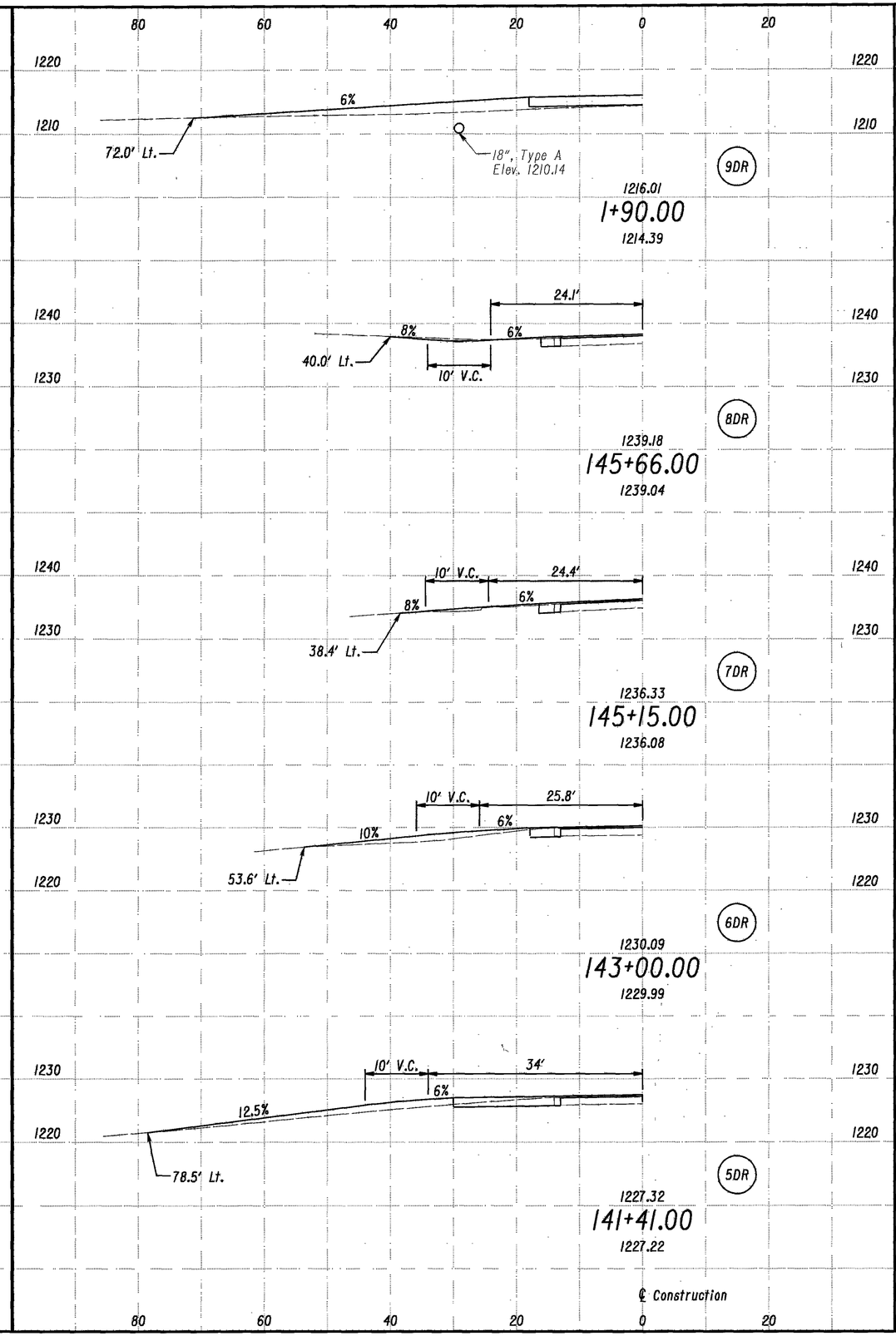
CALCULATED TES
CHECKED SKW

DRIVE DETAILS (10DR)
STA. 20+00.00 to STA. 21+30.00

BEL-149-23.77

55
84

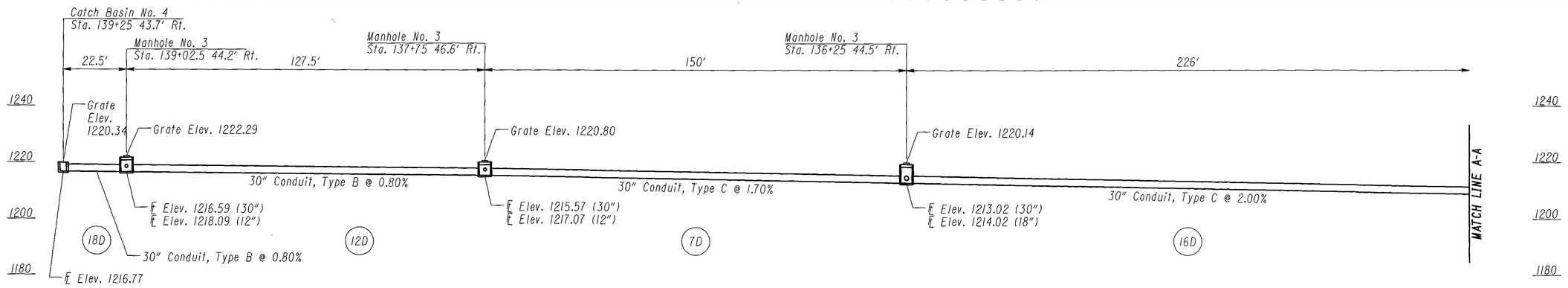


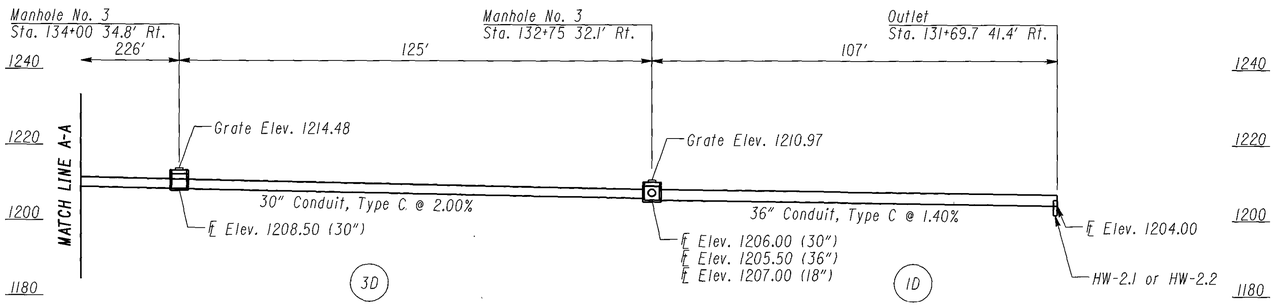


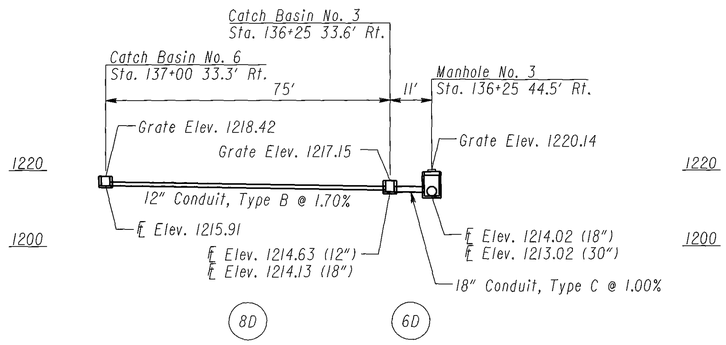
CALCULATED TES
CHECKED SKW

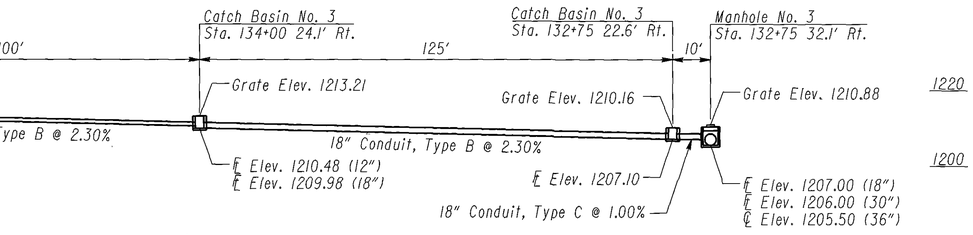
DRIVE PROFILES
1DR THRU 9DR

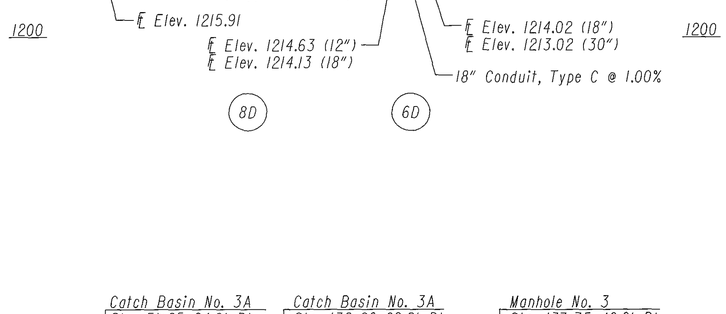
BEL-149-23.77

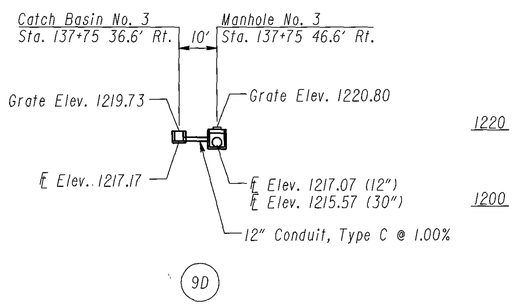










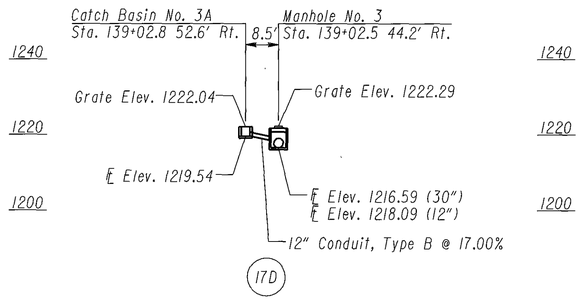


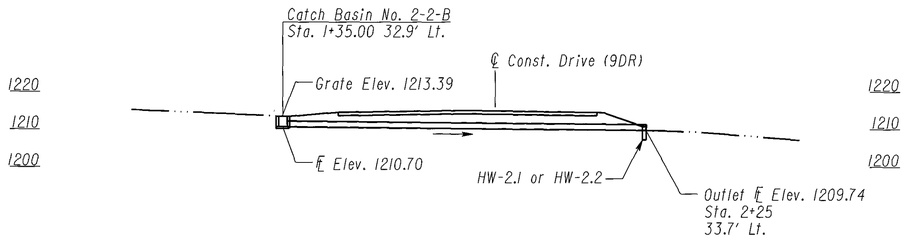
For Quantities see sheet 34.

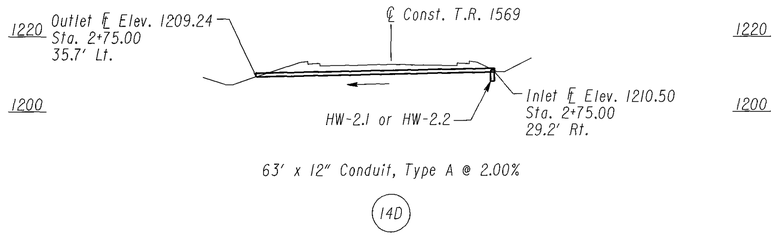
CALCULATED TES
CHECKED SKW

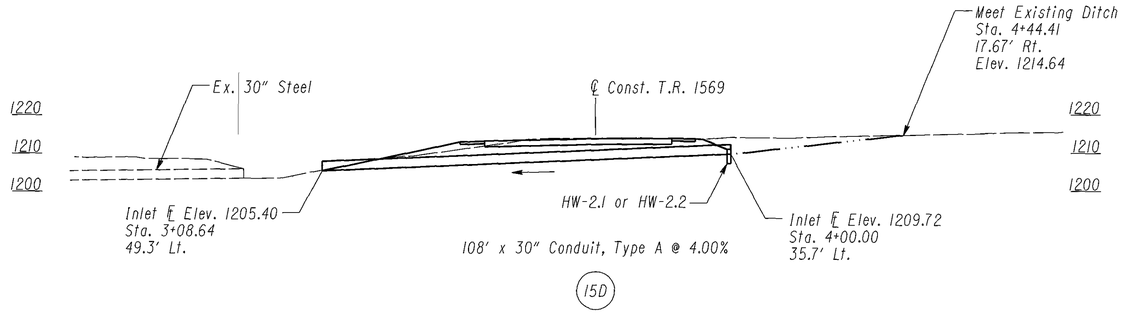
DRAINAGE DETAILS
STORM SEWER PROFILES

BEL-149-23.77









For Quantities see sheet 34.

CALCULATED TES
CHECKED SKW

DRAINAGE DETAILS
STORM SEWER PROFILES

BEL-149-23.77

SHEET NUMBER 60	SHEET NUMBER 61	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
140		603	00401	140	FT	4" CONDUIT, TYPE E, AS PER PLAN	6
1		625	01200	1	EACH	CONNECTOR KIT, TYPE VIII, CU	
1		625	01501	1	EACH	CABLE SPLICING KIT, AS PER PLAN	6
1		625	14001	1	EACH	LIGHT POLE FOUNDATION, 24" X 6' DEEP, AS PER PLAN	6
1016		625	25400	1016	FT	CONDUIT, 2", 725.04	
1016		625	29001	1016	FT	TRENCH, AS PER PLAN	6
7		625	30700	7	EACH	PULL BOX, 725.08, 18"	
3		625	31510	3	EACH	PULL BOX REMOVED	
248.0		630	02100	248.0	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
73.3		630	03100	73.3	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
32.7		630	06400	32.7	FT	GROUND MOUNTED SUPPORT, S4x7.7 BEAM	
36.3		630	06500	36.3	FT	GROUND MOUNTED SUPPORT, S6X9 BEAM	
4		630	09000	4	EACH	BREAKAWAY BEAM CONNECTION	
98		630	80100	98	SQ FT	SIGN, FLAT SHEET	
20		630	84900	20	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
3		630	85100	3	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
19		630	86002	19	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
4		630	86102	4	EACH	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	
1		631	93201	1	EACH	SCHOOL SPEED LIMIT SIGN ASSEMBLY, AS PER PLAN	6
1094		632	52300	1094	FT	INTERCONNECT CABLE, 3 CONDUCTOR, NO. 12 AWG	
	0.77	642	00100	0.77	MILE	EDGE LINE, TYPE I	
	0.53	642	00300	0.53	MILE	CENTER LINE, TYPE I	
	1361	642	00400	1361	FT	CHANNELIZING LINE, TYPE I	
	166	642	00500	166	FT	STOP LINE, TYPE I	
	553	642	00700	553	FT	TRANSVERSE LINE, TYPE I	
	12	642	01300	12	EACH	LANE ARROW, TYPE I	

CALCULATED TES
CHECKED RDA

TRAFFIC CONTROL GENERAL SUMMARY

BEL-149-23.77

SHEET NO.	REF. NO.	STATION	SIDE OF ℄	SIGN CODE	SIGN DIMENSION (INCHES)	603	625							631	632	630													
						4" CONDUIT, TYPE E, AS PER PLAN	LIGHT POLE FOUNDATION, 24" X 6' DEEP, AS PER PLAN	CONDUIT 2" 725.04	TRENCH, AS PER PLAN	PULL BOX, 18"	CONNECTOR KIT, TYPE VIII CU	PULL BOX REMOVED	CABLE SPLICING KIT, AS PER PLAN	SCHOOL SPEED LIMIT SIGN ASSEMBLY, AS PER PLAN	INTERCONNECT CABLE, 3 CONDUCTOR, NO 12 AWG	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT NO. 3 POST	SIGN, FLAT SHEET.		REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT & DISPOSAL	GROUND MOUNTED SUPPORT, S8x9 BEAM	GROUND MOUNTED SUPPORT, S4X7.7 BEAM	REMOVAL OF GROUND MOUNTED BEAM SUPPORT & DISPOSAL	BREAKAWAY BEAM CONNECTION					
						FT.	EACH	FT.	FT	FT.	EACH	EACH	EACH	EACH	FT	Ft	Ft	Sq. Ft.		Each	Each	Each	Ft	Ft	Each	Each					
62	1S	131+92.00	LT																		1	1							
62	2S	132+25.00	RT	S1-1-36	36 X 36												15.2/15.2	9											
				W16-9p	36 X 20													5											
62	3S	132+36.16	RT																		1	1							
62	4S	133+00.00	LT	R7-1-12	12 X 18											11.1		1.5											
62	5S	133+04.69	LT																		1	1							
62	6S	133+00.00	RT	R7-1-12	12 X 18											12		1.5											
62	7S	133+04.48	RT																		1	1							
62	8S	133+50.00	RT	M3-1-30	30 X 15											13.8/13.8		3.1											
				M1-H5E-16	30 X 24													5											
62	9S	133+52.23	RT																		2	1							
62	10S	133+86.98 TO 133+75.00	LT																	1				16.7/19.6		2	2		
62	11S	134+50.00	RT	R7-1-12	12 X 18											12		1.5											
62	12S	134+53.59	LT																		1	1							
62	13S	134+52.26	RT																		1	1							
62	14S	135+00.00	LT	R7-1-12	12 X 18											11.1		1.5											
62	15S	134+50.00	RT	R3-8B-48	48 X 30											13/13		10											
62	16S	136+40.00	RT	R7-1-12	12 X 18											12		1.5											
62	17S	135+45.00	LT	S5-2-24	24 X 30											12		5											
62	18S	136+48.05	LT																		1	1							
62	19S	136+40.81	RT																		1	1							
63	20S	136+70.00	LT	R7-1-12	12 X 18											11.1		1.5											
63	21S	137+96.28	LT																		1	1							
63	22S	138+11.28	LT																		1	1							
63	23S	137+74.25	RT																		1	1							
63	24S	137+95.00	RT	R7-1-12	12 X 18											12		1.5											
63	25S	138+25.00	LT	R7-1-12	12 X 18											11.1		1.5											
63	26S	0+98.98 (TR 1569)	LT																		1	1							
63	27S	138+93.60	LT																		1	1							
63	28S	139+56.67	RT																		1	1							
63	29S	139+80.77	RT																		1	1							
63	30S	140+00.00	LT																	1				15.1/17.6		2	2		
63	31S	140+13.00	RT													10				1		1							
63	32S	139+80.88	LT																		1	1							
63	33S	140+51.67	LT																		2	1							
63	34S	140+50.00	RT	S4-3-36	36 X 12												15/15.8	3											
				R2-1-36	36 X 48													12											
				S4-H5-36	36 X 15													3.8											
64	35S	142+50.00	LT	R3-8B-48	48 X 30											12.1/13.3		10											
64	36S	144+50.00	LT	M2-1-21	21 X 15												12.1	2.2											
				M1-1-24	24 X 15													2.5											
65	37S	2+40.00 (TR 1569)	RT	R3-H8BH-36	36 X 30											13.8/14.8		7.5											
65	38S	52+50.00 (SCH DR)	RT	R3-H8BH-36	36 X 30											13/13		7.5											
62	1PB	135+75.00	RT			20				1																			
62	1SF-1PB	135+75.00	RT					15.6	15.6						25														
63	2PB	137+40.00	RT			20				1																			
62,63	1PB-2PB	135+75.00 TO 137+40.00	RT					187.4	187.4						197														
63	3PB	139+05.00	RT			20				1																			
63	2PB-3PB	137+40.00 TO 139+05.00	RT					143.4	143.4						153														
63	4PB	140+00.00	RT			20				1																			
63	3PB-4PB	139+05.00 TO 140+00.00	RT					98	98						108														
63	5PB	142+00.00	RT			20				1																			
63,64	4PB-5PB	140+00.00 TO 142+00.00	RT					200	200						210														
64	6PB	143+55.00	RT			20				1																			
64	5PB-6PB	142+00.00 TO 143+55.00	RT					155	155						165														
64	7PB	145+05.00	RT			20				1																			
64	6PB-7PB	143+55.00 TO 145+05.00	RT					150.1	150.1						160														
64	7PB-EX.	145+05.00 TO 145+69.90	RT					66.4	66.4				1		76														
62,63	1SF	138+42.75 TO 135+75.00	RT				1				1			1															
63	1R	139+68.85	RT									1																	
63	2R	141+61.61	RT									1																	
64	3R	143+61.48	RT									1																	
TOTAL CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY						140	1	1015.9	1015.9	7	1	3	1	1	1094	248	73.3	97.6		3	20	19	36.3	32.7	4	4			

CALCULATED TES
CHECKED RDA

SIGNING SUB-SUMMARY

BEL-149-23.77

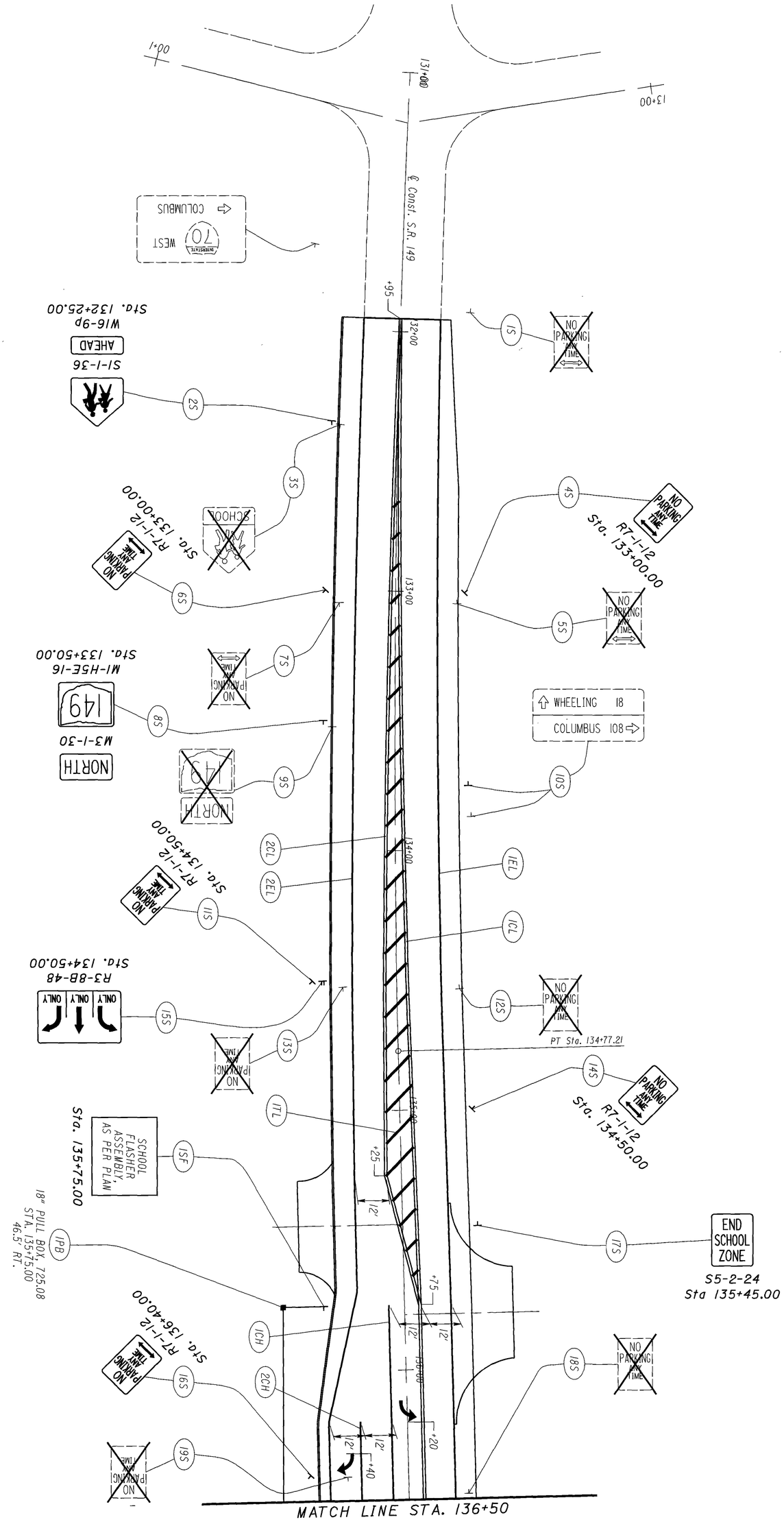
60/84

CALCULATED TES
CHECKED RDA

PAVEMENT MARKING SUB-SUMMARY

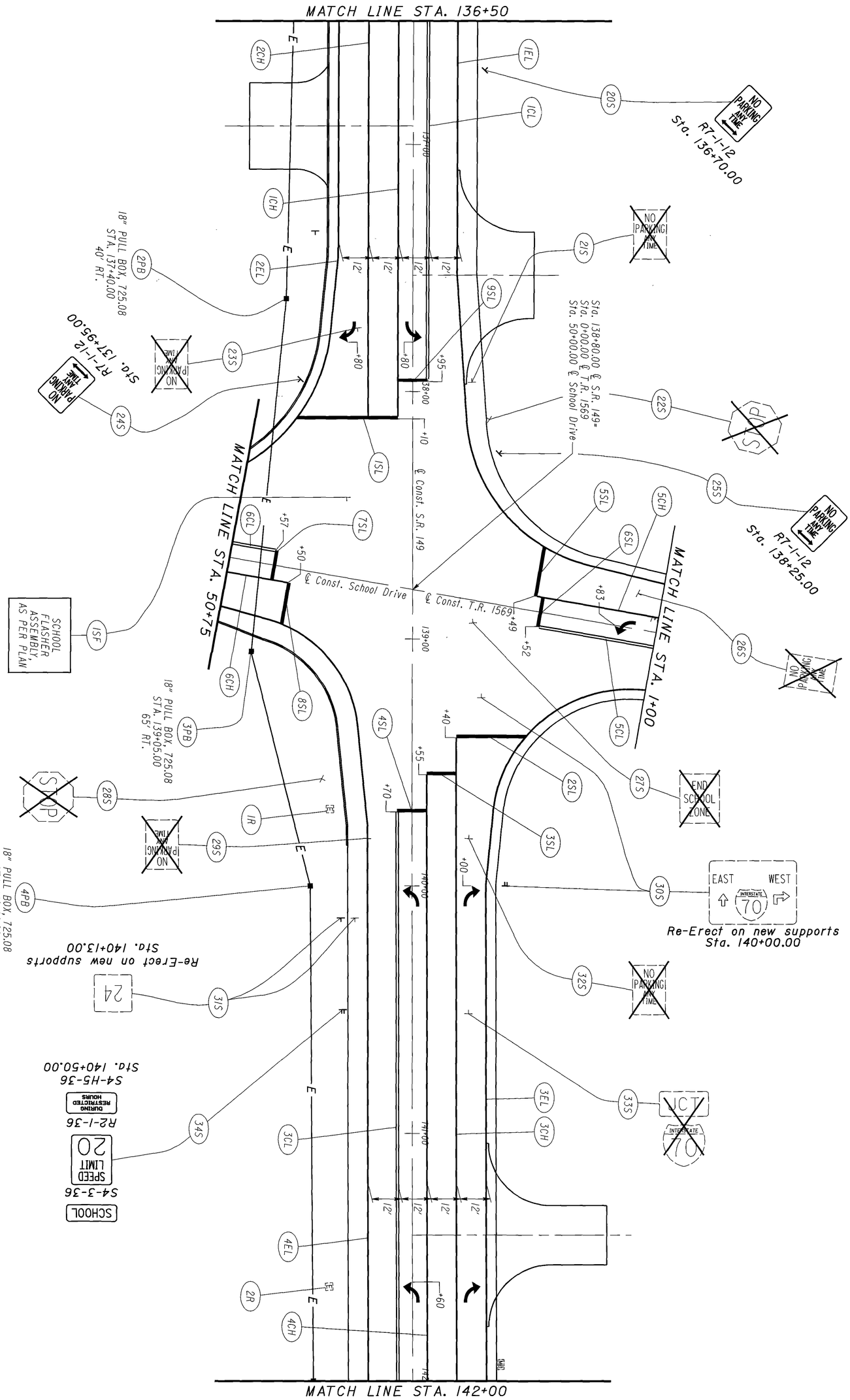
SHEET NO..	REFERENCE NO..	LOCATION	STATION FROM	STATION TO	SIDE	642 Edge Line, Type 1 Ft.	642 Center line, Double Solid, Type 1 Ft.	642 Stop Line, Type 1 Ft.	642 Lane Arrow, Type 1 Each	642 Transverse Line, Yellow, Type 1 Ft.	Channelizing Line, Type 1 Ft.
62,63	1EL	SR 149	131+95.00	138+50.00	LT	658.2					
62,63	2EL	SR 149	131+95.00	138+25.00	RT	641.5					
62,63	1CL	SR 149	131+95.00	137+95.00	LT		600.0				
62,63	2CL	SR 149	131+95.00	135+75.00	RT-LT		381.6				
62,63	1CH	SR 149	135+75.00	138+10.00	RT						235
62,63	2CH	SR 149	136+20.00	138+10.00	RT						190
62			136+20.00		℄				1		
62			136+40.00		RT				1		
62	1TL	SR 149	131+95.00	135+75.00	RT-LT					245	
63	1SL	SR 149	138+10.00		RT			41			
63	2SL	SR 149	139+40.00		LT			28			
63	3SL	SR 149	139+55.00		LT			12			
63	4SL	SR 149	139+70.00		RT-LT			12			
63,65	5SL	TR 1569	1+49.00		LT			20			
63,65	6SL	TR 1569	1+52.00		RT-LT			12			
63,65	7SL	SCH DR	50+57.00		LT-RT			12			
63,65	8SL	SCH DR	50+50.00		LT			17			
63	9SL	SR 149	137+95.00		RT-LT			12			
63		SR 149	137+80.00		RT				2		
63		SR 149	140+00.00		LT				2		
63		SR 149	141+60.00		LT				2		
63,64	3CH	SR 149	139+40.00	142+25.00	LT						285
63,64	4CH	SR 149	139+55.00	142+25.00	LT						270
63,64	3CL	SR 149	139+70.00	146+05.00	RT		635.1				
64	4CL	SR 149	142+25.00	146+05.00	RT-LT		381.4				
63,64	3EL	SR 149	139+40.00	146+05.00	LT	669.1					
63,64	4EL	SR 149	139+00.00	146+05.00	RT	712.1					
64	2TL	SR 149	142+25.00	146+05.00	LT-RT					239	
65		TR 1569	0+83.00		℄				1		
65		TR 1569	2+10.00		℄				1		
65		SCH DR	50+87.00		℄				1		
65		SCH DR	52+40.00		℄				1		
65	5CL	TR 1569	0+53.00	4+00.00	RT		334.4				
65	6CL	SCH DR	50+43.00	53+75.00	RT		316.0				
65	7CL	SCH DR	52+50.00	53+75.00	LT-RT		126.7				
65	3TL	SCH DR	52+50.00	53+75.00	LT-RT					69	
65	5CH	TR 1569	0+50.00	2+26.52	LT						179
65	6CH	SCH DR	50+50.00	52+50.00	LT						202
65	5EL	TR 1569	0+32.22	4+00.00	LT	367.4					
65	6EL	TR 1569	0+55.37	4+00.00	RT	337.5					
65	7EL	SCH DR	50+69.73	53+75.00	RT	304.1					
65	8EL	SCH DR	50+37.92	53+75.00	LT	344.8					
TOTALS CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY						4034.7 FT. 0.77 MILE		2775.2 FT. 0.53 MILE	166	12	553	1361

BEL-149-23.77

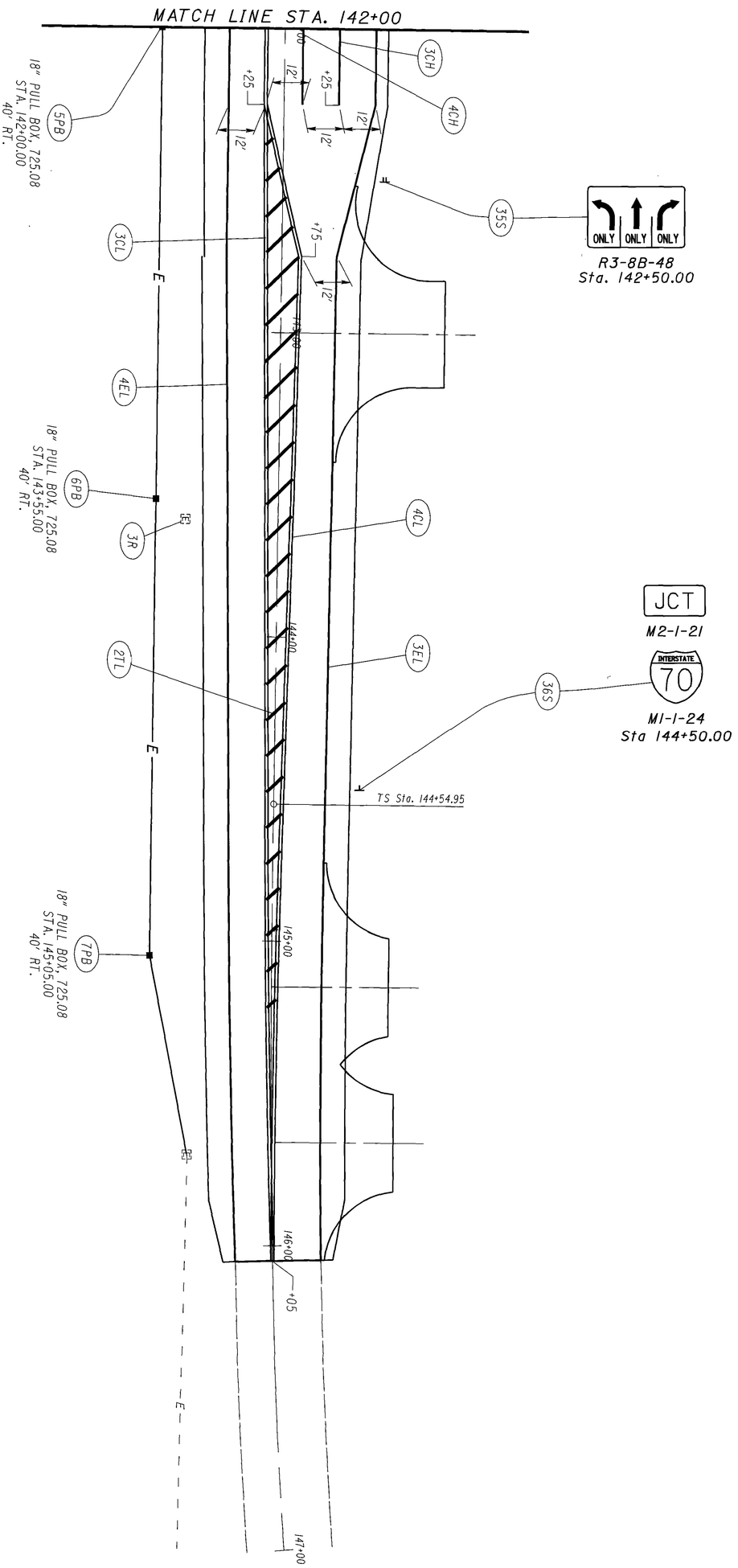


For Signing sub-summary see sheet 60.
For Pavement Marking sub-summary see sheet 61.

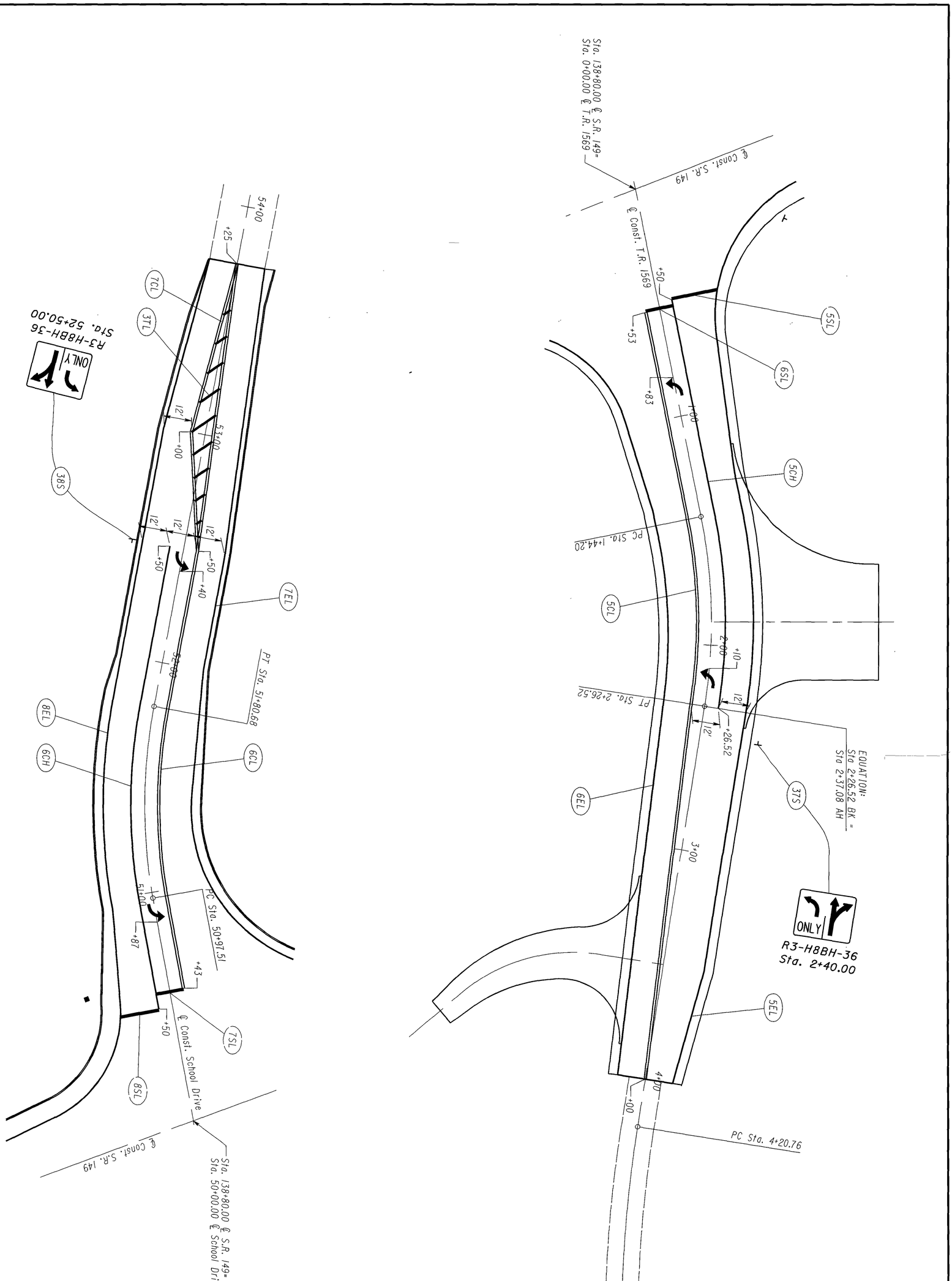
62 / 84	BEL-149-23.77	TRAFFIC CONTROL PLAN STA. 131+00 TO STA. 136+50	CALCULATED TES CHECKED RW	0 20 10 40 HORIZONTAL SCALE IN FEET



63 / 84	BEL-149-23.77	TRAFFIC CONTROL PLAN STA. 136+50 TO STA. 142+00	CALCULATED TES CHECKED RW	0 20 10 40 HORIZONTAL SCALE IN FEET



64/84	BEL-149-23.77	TRAFFIC CONTROL PLAN STA. 142+00 TO STA. 147+00	CALCULATED TES CHECKED RW	0 20 10 40 HORIZONTAL SCALE IN FEET



65/84	BEL-149-23.77	TRAFFIC CONTROL PLAN T.R. 1569 AND SCHOOL DRIVE	CALCULATED TES CHECKED RW	0 20 10 40 HORIZONTAL SCALE IN FEET

SHEET NUMBER 77	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
968	625	25400	968	FT	CONDUIT, 2", 725.04	
30	625	25500	30	FT	CONDUIT, 3", 725.04	
995	625	29000	995	FT	TRENCH	
10	625	30700	10	EACH	PULL BOX, 725.08, 18"	
1	625	30706	1	EACH	PULL BOX, 725.08, 24"	
5	625	32000	5	EACH	GROUND ROD	
995	SPECIAL	62536000	995	FT	PLASTIC CAUTION TAPE	
6	630	79000	6	EACH	SIGN HANGER ASSEMBLY, SPAN WIRE	
45	630	80100	45	SQ FT	SIGN, FLAT SHEET	
8	632	00301	8	EACH	VEHICULAR SIGNAL HEAD, 3 SECTION, 12" LENS, 1-WAY, AS PER PLAN	68
8	632	20101	8	EACH	PEDESTRIAN SIGNAL HEAD , TYPE A2, AS PER PLAN	68
8	632	25000	8	EACH	COVERING OF VEHICULAR SIGNAL HEAD	
8	632	25010	8	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD	
4	632	26000	4	EACH	PEDESTRIAN PUSHBUTTON	
8	632	26500	8	EACH	DETECTOR LOOP	
383	632	30200	383	FT	MESSENGER WIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES	68
837	632	40300	837	FT	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	
1747	632	40500	1747	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
701	632	40700	701	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
4	632	64000	4	EACH	STRAIN POLE FOUNDATION	
3386	632	65200	3386	FT	LOOP DETECTOR LEAD-IN CABLE	
54	632	68300	54	FT	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	
1	632	70001	1	EACH	POWER SERVICE, AS PER PLAN	68
3	632	82800	3	EACH	STRAIN POLE, TYPE TC-81.10, DESIGN 8	
1	632	83000	1	EACH	STRAIN POLE, TYPE TC-81.10, DESIGN 10	
1	633	01601	1	EACH	CONTROLLER UNIT, TYPE 170E, WITH CABINET, TYPE 332, AS PER PLAN	69
1	633	67000	1	EACH	CABINET RISER	
1	633	67101	1	EACH	CABINET FOUNDATION, AS PER PLAN	68
1	633	67200	1	EACH	CONTROLLER WORK PAD	

CALCULATED TES
CHECKED RDA

SIGNAL GENERAL SUMMARY

TRAFFIC SIGNAL

BEL-149-23.77

SCOPE

THESE NOTES AND SPECIFICATIONS SUPPLEMENT THE STATE OF OHIO CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE SUPPLEMENTAL SPECIFICATIONS NOTES ON THE TITLE SHEET. THE WORK TO BE PERFORMED BY THE CONTRACTOR IN CONNECTION WITH FURNISHING LABOR, SUPPLIES, EQUIPMENT, MATERIALS, AND PERFORMING ALL OPERATIONS NECESSARY FOR THE ACCEPTABLE INSTALLATION OF THE TRAFFIC CONTROL DEVICES, SHALL BE IN STRICT ACCORDANCE WITH THESE PLANS, NOTES, AND SPECIFICATIONS. THESE NOTES, SCHEDULES AND DRAWINGS ARE INTENDED TO PROVIDE ALL MATERIAL AND LABOR REQUIRED TO FURNISH AND INSTALL A COMPLETE TRAFFIC CONTROL SYSTEM.

UTILITIES

BEFORE ANY WORK IS STARTED THAT MAY INTERFERE WITH THE EXISTING UTILITIES, THE CONTRACTOR SHALL CALL THE "OHIO UTILITIES PROTECTION SERVICES", AT 1-800-362-2764, FORTY-EIGHT (48) HOURS IN ADVANCE OF THE WORK. NON-MEMBER UTILITIES MUST BE CONTACTED DIRECTLY. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING UNDERGROUND AND OVERHEAD UTILITY LINES DURING THE ENTIRE PROJECT. IN THE EVENT OF DAMAGE TO EXISTING PUBLIC AND/OR PRIVATE UTILITIES, THE AGENCY CONCERNED SHALL BE NOTIFIED IMMEDIATELY AND ALL REPAIR WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE RESPECTIVE AGENCY AT NO ADDITIONAL EXPENSE TO THE STATE OF OHIO, *INCLUDING ANY INSPECTION FEES OR MAINTENANCE CREWS.*

ITEM 614 MAINTENANCE OF TRAFFIC SIGNAL INSTALLATION

BEFORE ANY WORK IS STARTED REPRESENTATIVES OF THE STATE, THE MAINTAINING AGENCY, AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING SIGNAL/FLASHER INSTALLATIONS TO BE MAINTAINED. DURING THIS INSPECTION A WRITTEN RECORD OF THE CONDITION OF THE EXISTING SIGNAL/FLASHER SHALL BE MADE BY THE STATE'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL ITEMS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF THE STATE, THE MAINTAINING AGENCY, AND THE CONTRACTOR.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL INSTALLATIONS, WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

NEW OR REUSED SIGNAL/FLASHER INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. AT THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL PROVIDE THE MAINTAINING AGENCY AND THE PROJECT ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. THE CONTRACTOR SHALL HAVE THE MALFUNCTION CORRECTED AND/OR REPAIRED TO THE SATISFACTION OF THE ENGINEER WITHIN EIGHT HOURS OF THE NOTIFICATION OR LIQUIDATED DAMAGES OF $500 PER HOUR SHALL BE ASSESSED THE CONTRACTOR.

ALL LAMP OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE PROJECT ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN EIGHT HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGES

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE PROJECT ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN EIGHT HOURS AFTER THE CONTRACTOR IS NOTIFIED OF THE OUTAGE.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED EIGHT HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION, THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY DAMAGES FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGES AS PER 107.15.

WHERE THE CONTRACTOR HAS FAILED TO OR CANNOT RESPOND TO AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE PROJECT ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE OF OHIO FOR POLICE SERVICES AND MAINTENANCE SERVICES BY STATE OF OHIO FORCES SHALL BE DEDUCTED FROM MONEYS DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15. IN ADDITION TO THESE BILLINGS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES OF $500/HOUR FOR EACH HOUR BEYOND THE ALLOWED EIGHT HOUR PERIOD THAT THE SIGNAL IS INOPERATIVE.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICES ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A MUTUALLY ACCEPTABLE AGREEMENT WITH THE MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE.

THE CONTRACTOR SHALL INFORM THE PROJECT ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DUE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM.

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED FOUR HOURS AND SHALL NOT INCLUDE THE HOURS OF 6:00AM TO 8:00AM AND 4:00PM TO 6:00PM. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED, AS DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING: 1. TIME OF NOTIFICATION OF MALFUNCTION; 2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION; 3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED; 4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE; AND 5. TIME OF COMPLETION OF REPAIR AND SYSTEM RESTORED TO FULL SERVICE. A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

CONTINGENCY QUANTITIES

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

ITEM 614 LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD). A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS SHOULD BE PROVIDED FOR CONTROLLING TRAFFIC AS DIRECTED BY ENGINEER FOR THE FOLLOWING TASKS:

WHEN TRAFFIC IS STOPPED IN ALL DIRECTIONS FOR THE INSTALLATION OF THE OVERHEAD SIGNAL SPAN WIRE.

WHEN THE TRAFFIC SIGNAL IS PLACED IN THE "STOP-AND-GO" MODE.

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. 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.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:

OHIO STATE HIGHWAY PATROL

IF AFTER CONTACTING THE OHIO HIGHWAY PATROL, IT IS DETERMINED THAT THEY CANNOT SUPPLY THE LEO, THEN AN AUTHORIZED MUNICIPAL OR COUNTY POLICE OFFICER WITH A MARKED AND FLASHER-LIGHT EQUIPPED OFFICIAL POLICE OR PATROL CAR SHALL BE PROVIDED.

LAW ENFORCEMENT OFFICERS WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON AN 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 30 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 THIS OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

ITEM 614 "STOP-AND-GO" ACTUATION

THE CONTRACTOR SHALL GIVE THE ODOT DISTRICT TRAFFIC OFFICE, 10 WORKING DAYS NOTICE PRIOR TO THE SIGNAL BEING PLACED IN THE "FLASH" MODE.

THE CONTRACTOR SHALL FOLLOW SCD MT-120.00 FOR ACTIVATION OF THE TRAFFIC SIGNAL.

THE SIGNAL INSTALLATION SHALL BE INSPECTED BY ODOT DISTRICT PERSONNEL PRIOR TO BEING PLACED IN THE "STOP-AND-GO" MODE. ALL DEFICIENCIES OF AN OPERATIONALLY CRITICAL NATURE SHALL BE CORRECTED AND APPROVED BY THE TRAFFIC OFFICE BEFORE PLACING THE SIGNAL IN THE "STOP-AND-GO" MODE.

UNDERDRAINS FOR PULL BOXES

REFERENCE IS MADE TO THE STANDARD CONSTRUCTION DRAWING HL-30.11 FOR DETAILS OF DRAINING PULL BOXES. UNDERDRAINS FOR PULL BOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR SATISFACTORY OUTLET DOES NOT EXCEED APPROXIMATELY 25 FEET. AN ESTIMATED QUANTITY OF 250 FEET OF ITEM 603-4" CONDUIT, TYPE E IS INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE.

EQUIPMENT AND MATERIAL STORAGE

IN ORDER TO PROVIDE FOR SAFETY OF THE TRAVELING PUBLIC THE CONTRACTOR'S ATTENTION IS DIRECTED TO 614.03. IN ADDITION THE FOLLOWING PROVISIONS SHALL APPLY:

1. ANY REMOVED ITEMS SHALL NOT BE STORED ON THE RIGHT OF WAY FOR MORE THAN THIRTY DAYS.
2. THE STORAGE OF EQUIPMENT, MATERIALS, AND VEHICLES WITHIN THE HIGHWAY RIGHT-OF-WAY WILL BE PROHIBITED. THE NUMBER OF AREAS AND EXACT LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
3. ALL DISTURBED AREAS SHALL BE RETURNED TO THEIR ORIGINAL CONDITIONS AT NO EXPENSE TO THE STATE.

STATE OF OHIO
ANDREW J. PIERSON
E66690
REGISTERED
PROFESSIONAL ENGINEER

ANDREW J. PIERSON, REG. ENGINEER NO. E66690

CALCULATED AJP
CHECKED TKI

TRAFFIC SIGNAL GENERAL NOTES

BEL-149-23.77

ITEM 632 - POWER SERVICE, AS PER PLAN

POWER SERVICE SHALL BE AS PER SPECIFICATION 632 AND STANDARD CONSTRUCTION DRAWING TC-83.10 WITH THE FOLLOWING EXCEPTIONS: 1) THE METER BASE MOUNTING HEIGHT SHALL BE NO MORE THAN FIVE (5) FEET HIGH TO THE CENTER OF THE METER BASE FROM THE GROUND. 2) THE CONTRACTOR SHALL SUPPLY THE NECESSARY METER BASES. 3) ALL POWER SERVICES SHALL BE METERED. THE METER SHALL HAVE A LEVER OPERATED BYPASS.

POWER SERVICE WIRES FROM THE DISCONNECT SWITCH ENCLOSURE TO THE CONTROLLER CABINET SHALL BE ROUTED THROUGH THE STRAIN POLE. DISCONNECT SWITCH ENCLOSURES FURNISHED IN ACCORDANCE WITH ITEM 632, POWER SERVICE, AS PER PLAN, SHALL INCLUDE A PADLOCK EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNON 660, WITH LOCK BODY OF BRONZE OR BRASS AND KEYING SHALL BE TO THE STATE MASTER(WILSON-BOHANNON 'A').

THE CONTRACTOR SHALL CONTACT THE METER SECTION OF THE POWER COMPANY FOR INFORMATION REGARDING THE METER BASE INSTALLATION PRIOR TO ORDERING POLES. THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE POWER COMPANY MAY REQUIRE FOR THE POWER SERVICE HOOK UP. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE POWER COMPANY FOR THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE POWER CABLE INTO THE POWER COMPANY'S CIRCUITS. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120 VOLTS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND THE PAYING OF ALL FEES.

ITEM 632 - MESSENGER WIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES

THE MESSENGER WIRE SHALL BE AS PER SPECIFICATION 632 AND STANDARD CONSTRUCTION DRAWING TC - 84.20 EXCEPT THE "ALTERNATE MESSENGER WIRE ASSEMBLY" SHALL NOT BE USED.

THE MINIMUM CLEARANCE FROM PAVEMENT TO THE BOTTOM OF THE SIGNAL HEADS SHALL BE 16.5'.

ITEM 632 - VEHICULAR SIGNAL HEAD, BY TYPE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY:

LAMPS:

ALL LAMP UNITS SHALL BE THE 12 INCH SIZE. FURNISH GLASS LENSES.

SIGNAL SECTIONS:

1. THE ENTRANCE FITTING SHALL BE OF THE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.
2. BALANCE ADJUSTERS SHALL ONLY BE USED WHERE NECESSARY. BALANCE ADJUSTERS SHALL NOT BE USED ON ONE-WAY HEADS.
3. FURNISH ALUMINUM SIGNAL HEADS.

MOUNTING HARDWARE:

1. ALL UPPER SIGNAL SUPPORT HARDWARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL FOR SIGNAL DISPLAYS OF TWO OR MORE SECTIONS.

THE CONTRACTOR SHALL PROVIDE ODOT, IN WRITING, THE LED MANUFACTURER NAME SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS TO BE USED IN THE TRAFFIC SIGNAL HEADS PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.

THE DEPARTMENT WILL MEASURE ITEM 632-VEHICULAR SIGNAL HEAD WITH LED LENSES, BY TYPE, AS PER PLAN BY THE NUMBER OF COMPLETE UNITS FURNISHED AND INSTALLED, AND WILL INCLUDE ALL SUPPORT AND MOUNTING HARDWARE, DISCONNECT HANGERS, CLOSURE CAPS, DIMMERS, AND LAMPS AS SPECIFIED.

ITEM 633-CABINET FOUNDATION, AS PER PLAN

THE CABINET FOUNDATION SHALL BE ORIENTED WITH RESPECT TO THE INTERSECTION IN A MANNER THAT WILL PROVIDE MAINTENANCE PERSONNEL WITH A VIEW OF THE INTERSECTION WHILE WORKING ON THE CONTROLLER. THE CABINET FOUNDATION SHALL EXTEND 0.25 FEET ABOVE GROUND LEVEL RATHER THAN THE ONE FOOT AS STATED ON STANDARD CONSTRUCTION DRAWING TC-83.20.

PAYMENT FOR ITEM 633-CABINET FOUNDATION, AS PER PLAN WILL BE AT THE CONTRACT BID PRICE PER EACH FOUNDATION COMPLETE AND IN PLACE.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 90 DAYS FOLLOWING COMPLETION OF THE 10 DAY PERFORMANCE TEST. IN THE EVENT OF AN UNSATISFACTORY OPERATION, THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS, AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY EQUIPMENT. MATERIALS AND LABOR INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

THE GUARANTEE SHALL COVER THE FOLLOWING ITEMS OF THE TRAFFIC CONTROL SYSTEM: CONTROLLERS AND ASSOCIATED EQUIPMENT, AND DETECTOR UNITS. CUSTOMARY MAUNFACTURER'S GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 11 OFFICE FOLLOWING ACCEPTANCE OF THE EQUIPMENT.

THE COST OF GUARANTEEING THE TRAFFIC CONTROL SYSTEM SHALL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

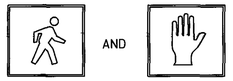
ITEM SPECIAL - PLASTIC CAUTION TAPE

THE LOCATION OF UNDERGROUND DUCT CABLE OR NON-METALLIC CONDUIT SHALL BE MARKED BY THE USE OF A CONTINUOUS IDENTIFYING TAPE BURIED IN THE TRENCH ABOVE THE LINE. THE IDENTIFYING TAPE SHALL BE AN INERT MATERIAL, APPROXIMATELY 6 INCHES WIDE, COMPOSED OF POLYETHYLENE PLASTIC, HIGHLY RESISTANT TO ALKALIS, ACIDS, OR OTHER CHEMICAL COMPONETS LIKELY TO BE ENCOUNTERED IN SOILS. THE TAPE SHALL BE BRIGHT RED WITH IDENTIFYING PRINTING "ELECTRIC" IN BLACK LETTERS, ONE SIDE ONLY. TAPE SHALL BE SUPPLIED IN CONTINUOUS ROLL WITH THE IDENTIFING LETTERING REPEATED CONTINUOUSLY THE FULL LENGTH OF THE TAPE. IDENTIFYING TAPE SHALL BE BURIED ON THE ELECTRIC LINE TRENCH WITH ONE STRIP APPROXIMATELY 8 INCHES TO 12 INCHES BELOW THE FINAL FINISHED GRADE. THE TAPE SHALL BE PLACED IN THE TRENCH WITH THE PRINTED SIDE UP AND SHALL BE ESSENTIALLY PARALLEL WITH THE FINISHED SURFACE. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO INSURE THAT THE TAPE IS NOT PULLED DISTORTED, OR OTHERWISE MISPLACED IN COMPLETEING THE TRENCH BACKFILL. TAPE SHALL BE ALLEN SYSTEM'S TERRA TAPE, OR EQUAL, AS APPROVED BY THE ENGINEER. THE TAPE SHALL BE PAID FOR PER LINEAR FOOT OF ITEM SPECIAL - PLASTIC CAUTION TAPE COMPLETE AND IN PLACE.

ITEM 632 - PEDESTRIAN SIGNAL HEAD, TYPE A2, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY:

1. FURNISH GLASS LENSES AND ALUMINUM SIGNAL HEADS.
2. FURNISH SIGNAL HEAD HOUSING CAPABLE OF DISPLAYING TWO INDICATIONS, AS PER CMS 732, SEPARATELY AS SHOWN BELOW:
3. OUTLINE STYLE TYPE SYMBOLS SHALL NOT BE USED.



CALCULATED AJP
CHECKED TKI

TRAFFIC SIGNAL GENERAL NOTES

BEL-149-23.77

633 CONTROLLER UNIT, TYPE I70E, WITH CABINET, TYPE 332, AS PER PLAN

THE CONTROLLER SUPPLIED SHALL BE COMPLETE WITH THE SPECIFIED CABINET INCLUDING ALL NECESSARY COMPONENTS AND CABLES NOT SPECIFICALLY MENTIONED BELOW. ALL EQUIPMENT AND CABINETS SHALL CONFORM TO ODOT SPECIFICATIONS 633, 733 AND THE FOLLOWING:

GENERATOR POWER PANEL:

THIS ITEM SHALL ALLOW SIGNAL ELECTRICIANS TO OPERATE THE TRAFFIC SIGNAL DURING POWER OUTAGES, WITHOUT OPENING THE CABINET DOOR OR CONNECTING OR DISCONNECTING PERMANENT POWER CABLES. THE ENCLOSURE SHALL BE INSTALLED ON THE POWER PANEL SIDE OF THE CONTROLLER CABINET. DESIGN AND LAYOUT OF THE CONTROLLER CABINET SHALL DETERMINE EXACT PLACEMENT OF THE ENCLOSURE BUT IT SHOULD BE PLACED NEAR THE TOP OF GROUND MOUNTED CABINETS AND ABOUT 5 FEET(1.5 M) FROM THE GROUND ON POLE MOUNTED CABINETS. THE ENCLOSURE SHALL BE SEALED WITH A HIGH QUALITY SILICON CAULK AND ALL HOLES DRILLED INTO THE SIDE OF THE CONTROLLER CABINET SHALL BE CAULKED AND SEALED AFTER THE ELECTRICAL EQUIPMENT IS INSTALLED. ALL ELECTRICAL CONNECTIONS, SOLDERED OR SCREW TYPE TERMINALS, SHALL BE COVERED WITH A CLEAR SILICON CAULK.

THE GENERATOR INLET SHALL BE 30 AMP, LOCKING, FOUR WIRE GROUNDING AND MEET THE NEMA 114-30-P 30A 125/250V SPECIFICATION. THE INLET SHALL BE A HUBBLE CATALOG #2715.

THE LINE VOLTAGE GENERATOR SWITCH SHALL BE 30 AMP, 125/250V AC, TWO (2) POLE, THREE (3) POSITION, (ON, OFF, ON).

THE LINE VOLTAGE INDICATOR LIGHT SHALL BE A 125V AC LIGHT EMITTING DIODE WITH A RED LENS.

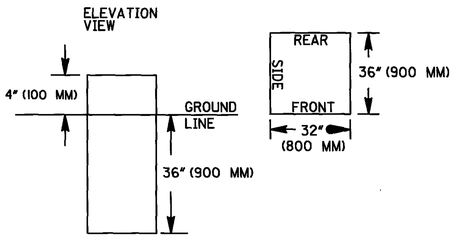
THE LINE VOLTAGE CIRCUIT BREAKER SHALL BE SINGLE POLE SINGLE THROW AND A MINIMUM OF 30 AMPS. THE AMPERAGE SHALL BE INCREASED TO ACCOMMODATE GREATER LOADS, IF NECESSARY. THE GAUGE OF THE POWER CABLE SHALL BE OF PROPER SIZE PER THE NATIONAL ELECTRICAL CODE (NEC).

PAYMENT:

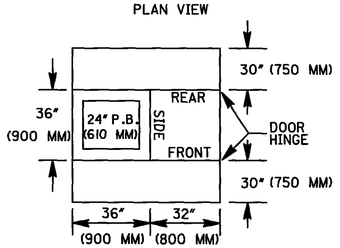
COST FOR ALL OF THE ABOVE INCLUDING LABOR, MATERIAL, TOOLS AND EQUIPMENT TO PROVIDE AND INSTALL A COMPLETELY OPERATIONAL CABINET AND CONTROLLER SHALL BE INCLUDED IN THE BID ITEM PRICE FOR 633 CONTROLLER UNIT, TYPE I70E, WITH CABINET, TYPE 332, AS PER PLAN.

(WHEN GROUND MOUNTING SPECIFIED)

332 CABINET FOUNDATION



633 CONTROLLER WORK PAD



NOTE: PULLBOX SHALL BE PLACED ON OPPOSITE SIDE OF DOOR HINGE

SEPARATE BID ITEMS:
625 PULLBOX, 713.08, 24"
633 CONTROLLER WORK PAD
633 CONC. FOR CAB. FOUNDATION

INPUT FILE TERMINAL ASSIGNMENT

TERM.	PIN	FUNCTION
1	SP	SPARE
2	F	CHANNEL 1 OUTPUT
3	W	CHANNEL 2 OUTPUT
4	D	CHANNEL 1 INPUT
5	E	CHANNEL 1 INPUT
6	J	CHANNEL 2 INPUT
7	K	CHANNEL 2 INPUT
8	L	EQUIPMENT GROUND

INPUT FILE INFORMATION FOR THE 332 CABINET (rev. 05-26-99)

UPPER INPUT FILE (File = I)

UPPER / LOWER															
	Phase Function	1 Ext-Call	2 Ext-Call	2 Ext-Call	2 Call	3 Ext-Call	4 Ext-Call	4 Ext-Call	4 Call	1 Ext-Call	Spare	Manual Control Adv.	2 PED	6 PED	Flash
	Keystroke for Delay	D-2-0	D-2-2	D-2-4	D-2-6	D-2-7	D-2-9	D-2-B	D-2-D	D-2-1					
	Keystroke for Extension	D-4-0	D-4-2	D-4-4	—	D-4-7	D-4-9	D-4-B	—	D-4-1					
	Detector Log No.	1 (2 ch.)	5	—	—	2 (2 ch.)	7	—	—	—					
	Failed Detector ID No.	1 (2 ch.)	9	11	13 (2 ch.)	3 (2 ch)	14	16	18 (2 ch)	2					
	C1 Pin Number	56	39	63	47	58	41	65	49	60		80	67	68	81
	Field Terminals	1-D,E	2-D,E	3-D,E	4-D,E	5-D,E	6-D,E	7-D,E	8-D,E	9-D,E	10-D,E	11-D,E	12-D,E	13-D,E	14-D,E
	SLOT NUMBER	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
	Phase Function	1 Ext-Call	2 Ext-Call	2 Ext	2 Call	3 Ext-Call	4 Ext-Call	4 Ext	4 Call	3 Ext-Call	Spare	Adv. Enable	4 PED	8 PED	Stop
	Keystroke for Delay	D-2-0	D-2-3	—	D-2-6	D-2-7	D-2-A	—	D-2-D	D-2-8					
	Keystroke for Extension	D-4-0	D-4-3	D-4-5	—	D-4-7	D-4-A	D-4-C	—	D-4-8					
	Detector Log No.	1 (2 ch.)	6	—	—	2 (2 ch.)	8	—	—	—					
	Failed Detector ID No.	1 (2 ch.)	10	12	13 (2 ch.)	3 (2 ch)	15	17	18 (2 ch)	4					
	C1 Pin Number	56	43	76	47	58	45	78	49	62		53	69	70	82
	Field Terminals	1-J,K	2-J,K	3-J,K	4-J,K	5-J,K	6-J,K	7-J,K	8-J,K	9-J,K	10-J,K	11-J,K	12-J,K	13-J,K	14-J,K

LOWER INPUT FILE (File = J)

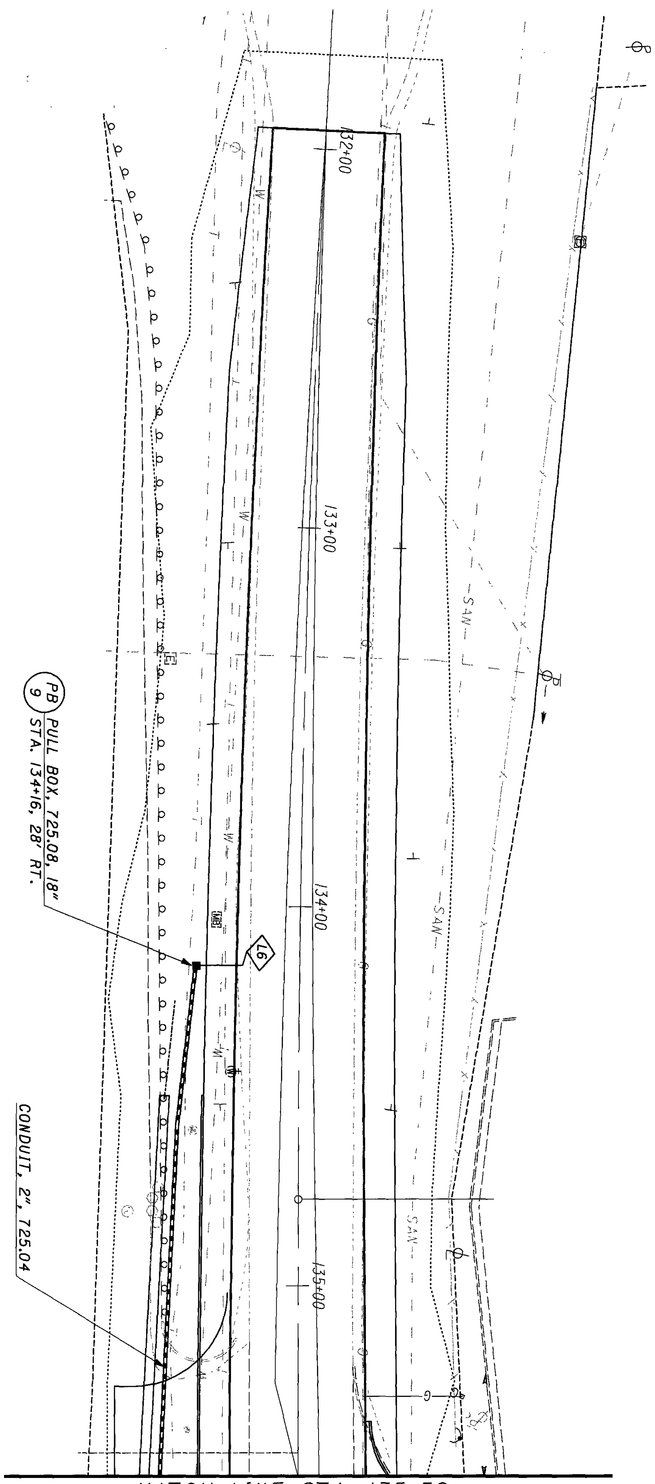
UPPER / LOWER															
	Phase Function	5 Ext-Call	6 Ext-Call	6 Ext-Call	6 Call	7 Ext-Call	8 Ext-Call	8 Ext-Call	8 Call	5 Ext-Call	Spare	Spare	EV - A	EV - B	RR - 1
	Keystroke for Delay	D-3-0	D-3-2	D-3-4	D-3-6	D-3-7	D-3-9	D-3-B	D-3-D	D-3-1					
	Keystroke for Extension	D-5-0	D-5-2	D-5-4	—	D-5-7	D-5-9	D-5-B	—	D-5-1					
	Detector Log No.	3 (2 ch.)	9	—	—	4 (2 ch.)	11	—	—	—					
	Failed Detector ID No.	5 (2 ch.)	19	21	23 (2 ch)	7 (2 ch)	24	26	28 (2 ch)	6					
	C1 Pin Number	55	40	64	48	57	42	66	50	59		54	71	72	51
	Field Terminals	1-D,E	2-D,E	3-D,E	4-D,E	5-D,E	6-D,E	7-D,E	8-D,E	9-D,E	10-D,E	11-D,E	12-D,E	13-D,E	14-D,E
	SLOT NUMBER	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
	Phase Function	5 Ext-Call	6 Ext-Call	6 Ext	6 Call	7 Ext-Call	8 Ext-Call	8 Ext	8 Call	7 Ext-Call	Spare	Spare	EV - C	EV - D	RR - 2
	Keystroke for Delay	D-3-0	D-3-3	—	D-3-6	D-3-7	D-3-A	—	D-3-D	D-3-8					
	Keystroke for Extension	D-5-0	D-5-3	D-5-5	—	D-5-7	D-5-A	D-5-C	—	D-5-8					
	Detector Log No.	3 (2 ch.)	10	—	—	4 (2 ch.)	12	—	—	—					
	Failed Detector ID No.	5 (2 ch.)	20	22	23 (2 ch)	7 (2 ch)	25	27	28 (2 ch)	8					
	C1 Pin Number	55	44	77	48	57	46	79	50	61		75	73	74	52
	Field Terminals	1-J,K	2-J,K	3-J,K	4-J,K	5-J,K	6-J,K	7-J,K	8-J,K	9-J,K	10-J,K	11-J,K	12-J,K	13-J,K	14-J,K

TERMINATION OF FIELD WIRING SHALL CONFORM TO THE ABOVE CHART. THE CONTRACTOR SHALL DUPLICATE THE INPUT ASSIGNMENT CHART AND INCLUDE IT IN THE CABINET DOCUMENTATION. THE CHART SHALL CLEARLY INDICATE WHICH INPUT FILE SLOTS AND CHANNEL TERMINALS ARE USED IN THE CABINET. A RED PEN SHALL BE USED TO CIRCLE SLOT NUMBERS AND CHANNEL TERMINALS THAT ARE USED.

CALCULATED AJP CHECKED TKI

TRAFFIC SIGNAL GENERAL NOTES

BEL-149-23.77



70 / 84	BEL-149-23.77	**TRAFFIC SIGNAL PLAN** **STA. 132+00.00 TO STA. 135+50.00**	CALCULATED AJP CHECKED JPB	0 20 10 40 HORIZONTAL SCALE IN FEET

LEGEND

- SIGNAL POLE
- GROUND MOUNTED CONTROLLER W/WORK PAD
- PULL BOX
- VEHICULAR SIGNAL 3-SECTION
- LOOP DETECTOR
- CONDUIT

SIGNALS

POWER POLE
AEP OWNED
POLE No. 41902/51
STA. 139+34, 66' LT.
(MOVED BY OTHERS)

PB 5 PULL BOX, 725.08, 18"
STA. 138+64, 78' LT.

CONDUIT, 2", 725.04

SP 3 SIGNAL POLE W/ PUSHBUTTON
STA. 138+35, 42' LT.

TR 1569

℄ TR 1569

PC Sta. 1+44.20

AERIAL POWER SERVICE

SIGNAL POLE W/ PUSHBUTTON SP 4
STA. 139+40, 62' LT.

CONDUIT, 2", 725.04
(POWER SERVICE)

CONTROLLER WITH C 1
WORK PAD
STA. 139+53, 59' LT.

2 - CONDUIT, 3", 725.04

PULL BOX, 725.08, 24" PB 8
STA. 139+52, 57' LT.

CONDUIT, 2", 725.04

PULL BOX, 725.08, 18" PB 7
STA. 139+79, 40' LT.

CONDUIT, 2", 725.04

PULL BOX, 725.08, 18" PB 6
STA. 139+49, 50' LT.

2 - CONDUIT, 3", 725.04

SEE SHEET NO. 70
MATCH LINE STA. 135+50

MATCH LINE STA. 141+00
SEE SHEET NO. 72

S.R. 149

℄ S.R. 149

136+00 137+00 138+00 139+00 140+00 141

L1 L2 L3 L4 L5

PC Sta. 50+97.51

50+00

PT Sta. 51+80.68

50+00

SCHOOL DRIVE

PB 4 PULL BOX, 725.08, 18"
STA. 135+67, 37' RT.

PB 3 PULL BOX, 725.08, 18"
STA. 137+45, 42' RT.

CONDUIT, 2", 725.04

SP 2 SIGNAL POLE W/ PUSHBUTTON
STA. 138+04, 68' RT.

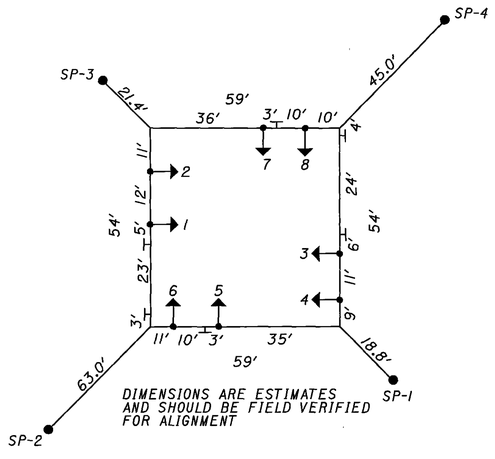
CONDUIT, 2", 725.04

PULL BOX, 725.08, 18" PB 1
STA. 139+37, 36' RT.

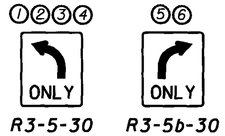
SIGNAL POLE W/ PUSHBUTTON SP 1
STA. 139+26, 38' RT.

CONDUIT, 2", 725.04

PULL BOX, 725.08, 18" PB 2
STA. 50+84, 31' LT.



SIGNS



FOR TIMING, PHASING, DETECTOR, AND POLE CHARTS, SEE SHEET No. 73.

FOR WIRING DIAGRAM SEE SHEET No. 76.

FOR QUANTITIES SEE SHEET No. 77.

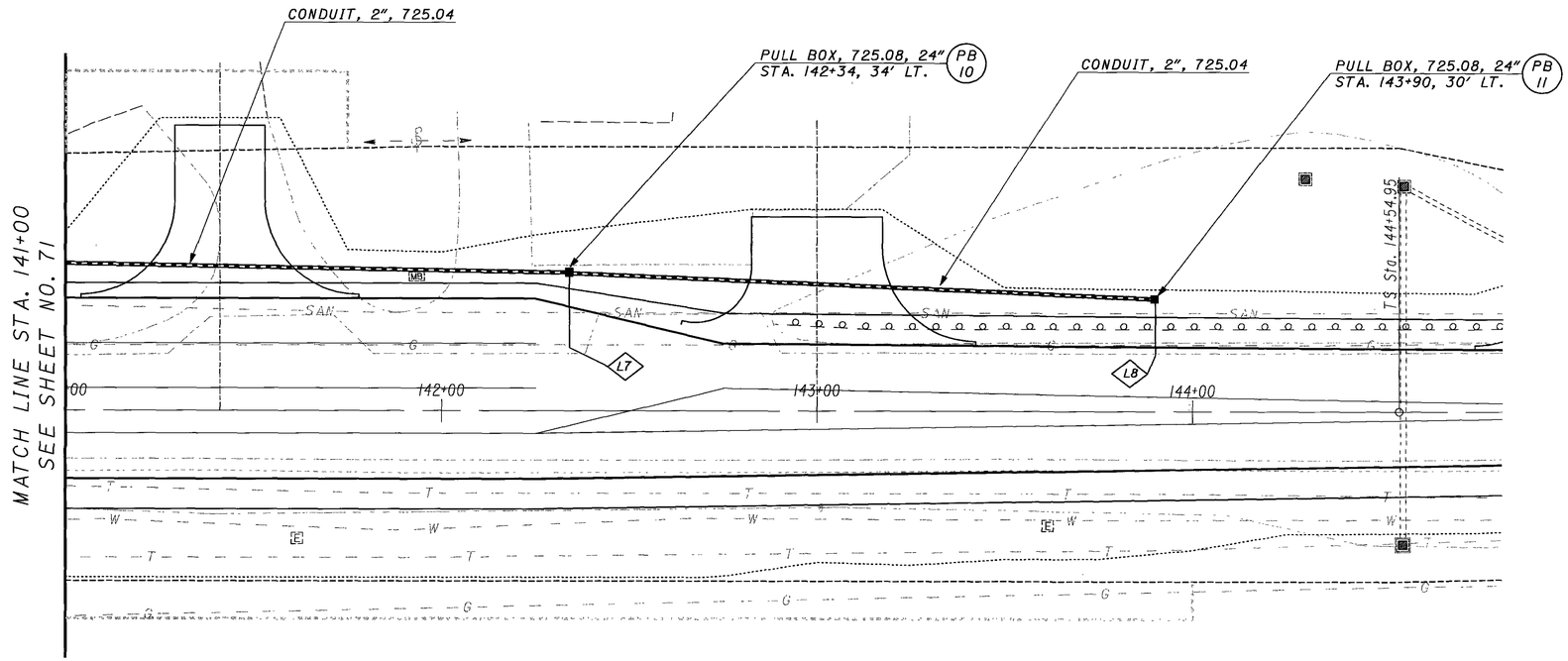
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AJP
CHECKED TKI

TRAFFIC SIGNAL PLAN
STA. 135+50.00 TO STA. 141+00.00

BEL-149-23.77

71
84



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AJP
CHECKED JPB

TRAFFIC SIGNAL PLAN
STA. 141+00.00 TO STA. 145+00.00

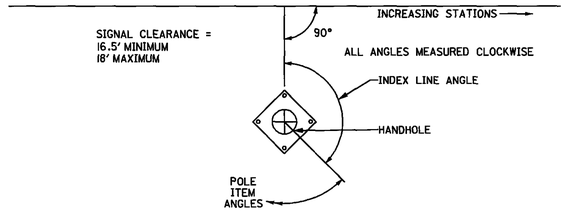
BEL-149-23.77

72
84

DETECTOR CHART

LOOP DESIGNATION	SIZE (FEET)	NUMBER OF TURNS	PULSE OR PRESENCE	DELAY (SECONDS)	CONNECT TO TERMINAL	ASSOCIATED CONTROLLER PHASE	REMARKS
L-1	8x30	3	PRESENCE	5	J-6 D,E	8	WB RIGHT
L-2	6x25	3	PRESENCE	-	J-6 J,K	8	WB LEFT
L-3	8x30	3	PRESENCE	5	I-6 D,E	4	EB RIGHT
L-4	6x25	3	PRESENCE	-	I-6 J,K	4	EB LEFT
L-5	6x6	4	PULSE	-	I-2 D,E	2	EXTENSION LOOP
L-6	6x6	4	PULSE	-	I-2 J,K	2	EXTENSION LOOP
L-7	6x6	4	PULSE	-	J-2 D,E	6	EXTENSION LOOP
L-8	6x6	4	PULSE	-	J-2 J,K	6	EXTENSION LOOP

NOTE: DETECTOR DELAY SETTINGS WILL BE ENTERED INTO THE CONTROLLER SOFTWARE.

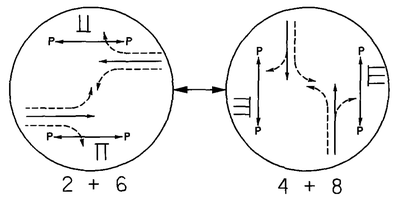


SIGNAL SUPPORT TYPE TC-81.10

POLE NUMBER	DESIGN NUMBER	POLE HEIGHT (FEET)	FOUNDATION ELEVATION	GROUND ELEVATION AT FOUNDATION	MESSENGER WIRE ATTACHMENT HEIGHT	INDEX LINE ANGLE (HANDHOLE)	ANGLES (DEGREE) FROM INDEX LINE								
							MESSENGER WIRE	MESSENGER WIRE	CABLE ENTRANCE (12" FROM TOP)	PEDESTRIAN SIGNAL *	PEDESTRIAN PUSHBUTTON	PEDESTRIAN SIGNAL	PEDESTRIAN PUSHBUTTON	LUMINAIRE BRACKET ARM	POWER SERVICE
SP1	8	30	1221.61	1221.36	25.94'	130	180	-	180	140	230	-	-	-	-
SP2	8	32	1222.20	1221.95	31.33'	230	180	-	180	130	130	-	-	-	-
SP3	8	30	1220.07	1219.57	27.95'	130	180	-	180	140	230	-	-	-	-
SP4	10	34	1218.66	1217.66	32.57'	220	180	-	180	140	140	-	-	-	270

* PEDESTRIAN SIGNAL HEAD BRACKET ARMS SHALL BE ATTACHED TO THE SIGNAL POLES AS PER NOTE 4.A ON STANDARD CONSTRUCTION DRAWING TC-85.10.

PHASING DIAGRAM



2 + 6
(RECALL)

4 + 8

DISPLAY CHART

PHASE	2 + 6				4 + 8				
DISPLAY	R/W	R/W	C1	C2	R/W	R/W	C1	C2	FLASH
SIGNAL									
1,2,3,4	G	G	Y	R	R	R	R	R	Y
5,6,7,8	R	R	R	R	G	G	Y	R	R
a,a*	DW	DW	DW	DW	W	FDW	DW	DW	OFF
b,b	W	FDW	DW	DW	DW	DW	DW	DW	OFF
c,c*	DW	DW	DW	DW	W	FDW	DW	DW	OFF
d,d	W	FDW	DW	DW	DW	DW	DW	DW	OFF

* - UPON PEDESTRIAN ACTUATION ONLY

CALCULATED AJP
CHECKED TKI

TIMING, PHASING, DETECTOR, AND POLE CHART

BEL-149-23.77

TABLE 1 - PHASE FUNCTION, PHASE TIMING

0 + Key									
FUNCTION	KEY	PHASE NUMBER USE CAD LIGHTS							
		1	2	3	4	5	6	7	8
Vehicle Recall	0								
Ped. Recall	1		X				X		
Red Lock	2								
Yellow Lock	3								
Permit Phase	4		X		X		X		X
Ped. Phase	5		X		X		X		X
Lead Phase	6	X		X		X		X	
Double Entry	7				X				X
Seq. Timing	8								
Start-Up Green	9		X				X		
Overlap A	A								
Overlap B	B								
Overlap C	C								
Overlap D	D								
Exclusive Phase	E								
Simultaneous Gap	F								

Phase + Key									
FUNCTION	KEY	PHASE							
		1	2	3	4	5	6	7	8
MAX. I	0		40		24		40		24
MAX. II/HFDW	1								
Walk	2		5		5		5		5
Flash DW	3		17		21		17		21
Maximum Initial	4								
Minimum Green	5		25		7		25		7
Time Before Reduc.	6								
Time to Reduce	7								
Gap Observe	8	///	///	///	///	///	///	///	///
Passage	9		3.5		3		3.5		3
Minimum Gap	A								
Added Actuation	B								
Yellow	C		5		3.6		5		3.6
Red Clear	D		2.5		2.1		2.5		2.1
Red Revert	E								
Walk II	F								

TABLE 2 - MISCELLANEOUS

9 + key		
FUNCTION	K	VALUE
Short Power Down	0	
Long Power Down	1	
RR Delay Type	6	
Ped. Inhibit	7	
OLA Green	8	
OLA Yellow	9	
OLB Green	A	
OLB Yellow	B	
OLC Green	C	
OLC Yellow	D	
OLD Green	E	
OLD Yellow	F	

C + F + key									
FUNCTION	K	V							
Page ID	0								
OLA Red	4								
OLB Red	5								
OLC Red	6		Phase No.						
OLD Red	7		Use CAD Lts.						
		1	2	3	4	5	6	7	8
Overlap E	8								
Overlap F	9								
Red Rest	A								
Maximum Recall	B								
Flash Green	C								
Flash Walk	D								
Advance Walk	E								
Restrictive Phase	F								

TABLE 3

E + Key		
FUNCTION	K	V
OL Red Revert	8	
RR Delay	9	
RR Clear	A	

	Phase No. Use CAD Lts.							
	1	2	3	4	5	6	7	8
RR Clear Phase	B							
RR Permit	C							
RR OL Permit	D							
NEMA Hold Phase	E							

C+ Key									
FUNCTION	K	V	Phase No. Use CAD Lts.						
Trigs on Flash	8	2	1	2	3	4	5	6	7	8
Start Up Yellow	9								
Handicap Ped	E								

TABLE 4 - MODEL 332 CABINET DETECTOR MAP

The 332 cabinet has two input files: the top file is I, the bottom file is J.

D+ column + key							
DETECTOR TYPE	DELAY				CARRYOVER			
COLUMN NO.	2		3		4		5	
KEY	CHANNEL	PHASE	TIME	PHASE	TIME	PHASE	TIME	PHASE	TIME
0	------ 1	1 E/C		5 E/C		1 E/C		5 E/C	
1	Upper 9	1 E/C		5 E/C		1 E/C		5 E/C	
2	Upper 2	2 E/C		6 E/C		2 E/C		6 E/C	
3	Lower 2	2 E/C		6 E/C		2 E/C		6 E/C	
4	Upper 3	2 E/C		6 E/C		2 E/C		6 E/C	
5	Lower 3	////	////	////	////	2 Ext.		6 Ext.	
6	------ 4	2 Call		6 Call		////	////	////	////
7	------ 5	3 E/C		7 E/C		3 E/C		7 E/C	
8	Lower 9	3 E/C		7 E/C		3 E/C		7 E/C	
9	Upper 6	4 E/C	5	8 E/C	5	4 E/C		8 E/C	
A	Lower 6	4 E/C		8 E/C		4 E/C		8 E/C	
B	Upper 7	4 E/C		8 E/C		4 E/C		8 E/C	
C	Lower 7	////	////	////	////	4 Ext.		8 Ext.	
D	------ 8	4 Call		8 Call		////	////	////	////
INPUT FILE		I		J		I		J	

E/C = Extend and Call Ext. = Extend Only

D + 9 + 4 + 0	DETECTOR FAIL ON	
D + 9 + 4 + 1	DETECTOR FAIL OFF	

TABLE 5 - TIME CLOCK CONTROL

A + CODE										
EVENT NO.	S 1	M 2	T 3	W 4	T 5	F 6	S 7	HR	MIN	FUNC
		80						81	82	83
		84						85	86	87
		88						89	8A	8B
		8C						8D	8E	8F
		90						91	92	93
		94						95	96	97
		98						99	9A	9B
		9C						9D	9E	9F
		A0						A1	A2	A3
		A4						A5	A6	A7

TABLE 6

B +0 + Key									
FUNCTION	K	V							
Mode (0 - 4)	4		Phase No. Use CAD Lts.						
Master (0 = OFF)	5								
		1	2	3	4	5	6	7	8
Future	C								
NEMA CNA Phase	D								
Adv Warning Phase	E								
MRI Phase	F								

D+ Key 1 + Key 2		
FUNCTION	K	V
Floating Ped	2E	
ID Number	2F	
No Coord Ped Recall	3E	
Rest in Walk	3F	
Adv Warn EoG	4E	
Adv Warn SoG	4F	
RR Red Clear	5E	
RR Clear Color	5F	

TABLE 7 - COORDINATION TIMING

B + Plan + Key					
FUNCTION	K	PLAN 1	2	3	4
Cycle Length	0				
Forceoff 01	1				
Forceoff 02	2				
Forceoff 03	3				
Forceoff 04	4				
Forceoff 05	5				
Forceoff 06	6				
Forceoff 07	7				
Forceoff 08	8				
Offset	9				
Perm. Length	A				
Max Dwell	B				

FUNCTION	K	PLAN 1							
		1	2	3	4	5	6	7	8
Lead Ph. S	C								
Coord. Ph. S	D								
Perm. 2 Ph. S	E								
Min. Recall	F								
PLAN 2									
Lead Ph. S	C								
Coord. Ph. S	D								
Perm. 2 Ph. S	E								
Min. Recall	F								
PLAN 3									
Lead Ph. S	C								
Coord. Ph. S	D								
Perm. 2 Ph. S	E								
Min. Recall	F								
PLAN 4									
Lead Ph. S	C								
Coord. Ph. S	D								
Perm. 2 Ph. S	E								
Min. Recall	F								
		Phase No. Use CAD Lts.							

TABLE 8

B +A + Key		
FUNCTION	K	V
Perm. 2 P1	9	
Perm. 2 P2	A	
Perm. 2 P3	B	

	Phase No. Use CAD Lts.							
	1	2	3	4	5	6	7	8
Flash Yellow	C							
Flash Circuit	D							
TOD/DOW Ped	E							
OLB Switchpack	F							

B +B + Key		
FUNCTION	K	V
Perm. 2 P4	9	
Perm. 2 P5	A	
Perm. 2 P6	B	

	Phase No. Use CAD Lts.							
	1	2	3	4	5	6	7	8
OL Flash Yel.	C							
OL Flash Clear	D							
TOO/DOW Ped	E							
OLC Switchpack	F							

B +C + Key		
FUNCTION	K	V
Perm. 2 P7	9	
Perm. 2 P8	A	
Perm. 2 P9	B	

	Phase No. Use CAD Lts.							
	1	2	3	4	5	6	7	8
Coord Max	C							
TOO Red Rest	D							
OLA Switchpack	E							
OLD Switchpack	F							

TABLE 9 - INPUT REASSIGNMENT

A+ 4 + Key		
CI PIN	K	CODE
39	0	
40	1	
41	2	
42	3	
43	4	
44	5	
45	6	
46	7	
47	8	
48	9	
49	A	
50	B	
51	C	
52	D	
53	E	
54	F	

A+ 5 + Key		
CI PIN	K	CODE
55	0	
56	1	
57	2	
58	3	
59	4	
60	5	
61	6	
62	7	
	8	
	9	
	A	
	B	
63	C	
64	D	
65	E	
66	F	

A+ 6 + Key		
CI PIN	K	CODE
67	0	
68	1	
69	2	
70	3	
71	4	
72	5	
73	6	
74	7	
75	8	
76	9	
77	A	
78	B	
79	C	
80	D	
81	E	
82	F	

TABLE 10 - OUTPUT REASSIGNMENT

A+ 0 + Key		
FUNCTION	K	CODE
04 D/W	0	
04 WALK	1	
04 RED	2	
04 YEL	3	
04 GRN	4	
03 RED	5	
03 YEL	6	
03 GRN	7	
02 D/W	8	
02 WALK	9	
02 RED	A	
02 YEL	B	
02 GRN	C	
01 RED	D	
01 YEL	E	
01 GRN	F	

A+ 1 + Key		
FUNCTION	K	CODE
08 D/W	0	
08 WALK	1	
08 RED	2	
08 YEL	3	
08 GRN	4	
07 RED	5	
07 YEL	6	
07 GRN	7	
06 D/W	8	
06 WALK	9	
06 RED	A	
06 YEL	B	
06 GRN	C	
05 RED	D	
05 YEL	E	
05 GRN	F	

A+ 2 + Key		
FUNCTION	K	CODE
02 PED Y	0	
06 PED Y	1	
04 PED Y	2	
08 PED Y	3	
03 PED Y	4	
01 PED Y	5	
FLASH	6	
WATCHDOG	7	
03 D/W	8	
03 WALK	9	
OLD RED	A	
OLD YEL	B	
OLD GRN	C	
OLC RED	D	
OLC YEL	E	
OLC GRN	F	

A+ 3 + Key		
FUNCTION	K	CODE
01 D/W	0	
01 WALK	1	
OLB RED	2	
OLB YEL	3	
OLB GRN	4	
OLA RED	5	
OLA YEL	6	
OLA GRN	7	
	8	
SD	9	
LTT	A	2

TABLE 11 - EXTENDED OUTPUT REASSIGNMENT

D+ B + 0 + Key		
FUNCTION	K	V
05 D/W	0	
05 WALK	1	
OLL RED	2	
OLL YELLOW	3	
OLL GREEN	4	
OLK RED	5	
OLK YELLOW	6	
OLK GREEN	7	
07 D/W	8	
07 WALK	9	
OLJ RED	A	
OLJ YELLOW	B	
OLJ GREEN	C	
OLH RED	D	
OLH YELLOW	E	
OLH GREEN	F	

D+ B + 1 + Key		
FUNCTION	K	V
OLE GREEN	0	
OLF GREEN	1	
OLE YELLOW	2	
OLF YELLOW	3	
ADV WARNING	4	
RR FL YELLOW	5	
DET. RESET	6	
RR ON	7	

D+ B + 2 + Key		
FUNCTION	K	V
CYCLE 2	0	
CYCLE 3	1	
OFFSET 1	2	
OFFSET 2	3	
OFFSET 3	4	
---------	5	
FREE	6	
FLASH	7	

TABLE 13 - PED. PERMISSIVE

E + F + Key		
FUNCTION	K	V
RR MAX II	0	
PED PERM PI 1	1	
PED PERM PI 2	2	
PED PERM PI 3	3	
PED PERM PI 4	4	
PED PERM PI 5	5	
PED PERM PI 6	6	
PED PERM PI 7	7	
PED PERM PI 8	8	
PED PERM PI 9	9	

TABLE 14 - COMMAND BOX

KEYSTROKES

D + 9 +Key1 + Key2

KI = 8	
K2	V
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
A	
B	
C	
D	
E	
F	

KI = 9	
K2	V
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
A	
B	
C	
D	
E	
F	

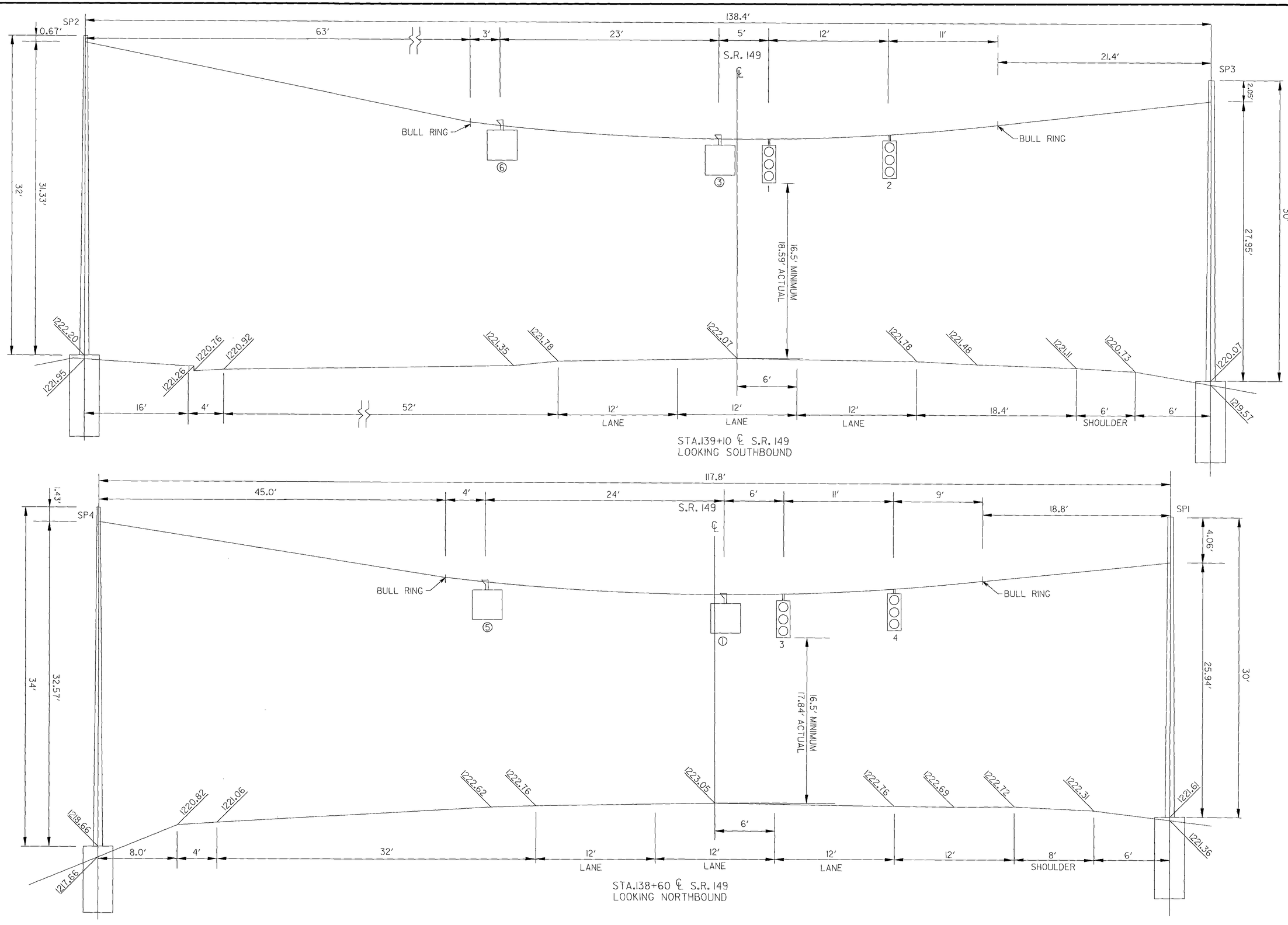
TABLE 15 - COMMAND BOX OUTPUT

D +B + 3 + Key		
FUNCTION	K	V
CB OUTPUT #1	0	
CB OUTPUT #2	1	
CB OUTPUT #3	2	
CB OUTPUT #4	3	
CB OUTPUT #5	4	
CB OUTPUT #6	5	
CB OUTPUT #7	6	
CB OUTPUT #8	7	
CB FLSH OUTPUT #9	8	
CB FLSH OUTPUT #10	9	
CB FLSH OUTPUT #11	A	
CB FLSH OUTPUT #12	B	

WAPITI SOFTWARE INTERSECTION TIMING
332 CABINET
01-03-01

OFFICE OF TRAFFIC ENGINEERING

BEL-149-23.77



CALCULATED AJP
CHECKED TKI

SIGNAL ELEVATION VIEW

BEL-149-23.77

POWER POLE
FEC OWNED
POLE No. 60BWIB-514

TO TOP OF STRAIN POLE

METER ON SP-3

DISCONNECT SWITCH
ON SP-3

CONTROLLER

TR 1569

L3

L4

PB-5

SP-4

SP-3

PB-8

PB-6

PB-7

PB-10

PB-11

L7

L8

d

a

c

d

SP-4

S.R. 149

S.R. 149

2

7

8

1

3

4

6

5

L6

L5

a

b

PB-9

PB-4

PB-3

SP-2

SCHOOL DRIVE

SP-1

c

b

L2

L1

PB-1

PB-2

LEGEND

- SIGNAL CABLE, 7 CONDUCTOR NO.14 AWG
- SIGNAL CABLE, 5 CONDUCTOR NO.14 AWG
- SIGNAL CABLE, 3 CONDUCTOR NO.14 AWG
- LOOP DETECTOR LEAD-IN CABLE
- POWER CABLE, 3 CONDUCTOR NO.6 AWG
- VEHICULAR SIGNAL 3-SECTION
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSHBUTTON
- LOOP DETECTOR

CALCULATED AJP
CHECKED TKI

WIRING DIAGRAM

BEL-149-23.77

76
84

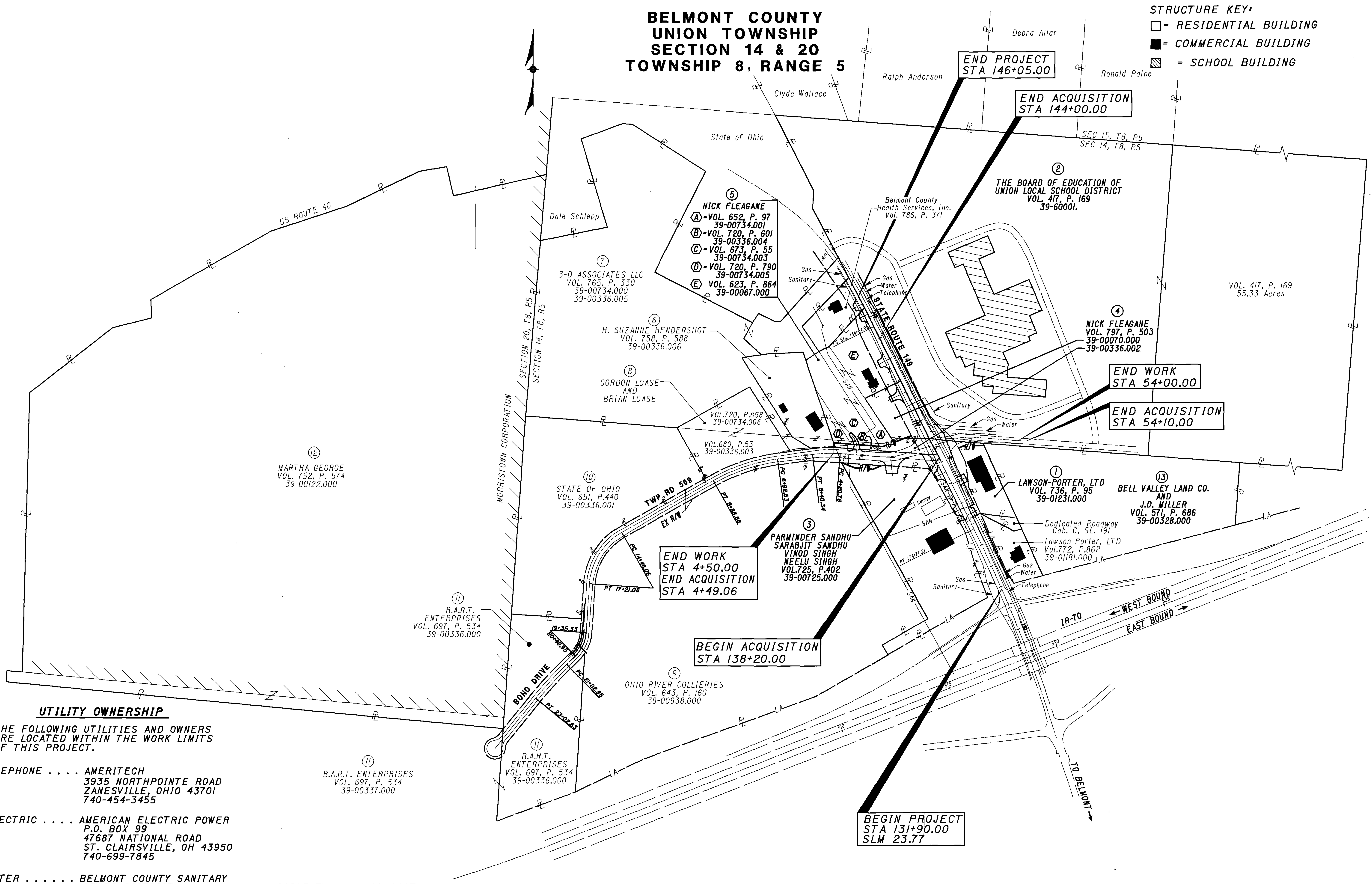
TRAFFIC SIGNAL SUBSUMMARY

CALCULATED AJP
CHECKED TKI

SHEET NO.	LOCATION	625 CONDUIT, 2", 725.04 FEET	625 CONDUIT, 3", 725.04 FEET	625 TRENCH FEET	625 PULL BOX, 725.08, 18" EACH	625 PULL BOX, 725.08, 24" EACH	625 GROUND ROD EACH			SPEC SPECIAL-PLASTIC CAUTION TAPE FEET		630 SIGN HANGER ASSEMBLY, SPAN WIRE EACH	630 SIGN, FLAT SHEET S.F.		632 VEHICULAR SIGNAL HEAD, 3 SECTION, 12" LENS, 1-WAY, AS PER PLAN EACH	632 COVERING OF VEHICULAR SIGNAL HEAD EACH	632 COVERING OF PEDESTRIAN SIGNAL HEAD EACH	632 DETECTOR LOOP EACH		632 MESSENGER WIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES FEET	632 SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG FEET	632 SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG FEET	632 SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG FEET	632 STRAIN POLE FOUNDATION EACH	632 LOOP DETECTOR LEAD-IN CABLE FEET	632 PEDESTRIAN PUSHBUTTON EACH	632 PEDESTRIAN SIGNAL HEAD, TYPE A2, AS PER PLAN EACH	632 POWER CABLE, 3 CONDUCTOR, NO. 6 AWG FEET	632 POWER SERVICE, AS PER PLAN EACH	632 STRAIN POLE, TYPE TC-81.10, DESIGN 8 EACH	632 STRAIN POLE, TYPE TC-81.10, DESIGN 10 EACH			633 CONTROLLER UNIT, TYPE 170E, WITH CABINET, TYPE 332, AS PER PLAN EACH	633 CABINET FOUNDATION, AS PER PLAN EACH	633 CONTROLLER WORK PAD EACH	633 CABINET RISER EACH
6	C-1 STA.139+65, LT.						1																									1	1	1	1
6	PB-8 STA.139+52, LT.		6	3		1				3																										
6	PB-8 STA.139+52, LT. TO SP-4 STA.139+38, LT.		24	12			1			12										383				1											
6	PB-8 STA.139+52, LT. TO PB-6 STA.139+47, LT.	8		8	1					8																									
6	PB-6 STA.139+47, LT. TO PB-7 STA.139+84, LT.	132		132	1					132																									
6 & 7	PB-7 STA.139+84, LT. TO PB-10 STA.141+85, LT.	155		155	1					155																									
6	PB-10 STA.141+85, LT. TO PB-11 STA.143+90, LT.	156		156	1					156																									
6	SP3 STA.139+38, LT.						1																	1				1							
6	SP-3 STA.139+38, LT. TO PB-5 STA.138+65, LT.	46		46	1					46																									
6	SP-1 STA.139+26, RT.						1																	1				1							
6	SP-1 STA.139+26, LT. TO PB1 STA.139+34, RT.	12		12	1					12																									
6	PB-1 STA.139+34, RT. TO PB-2 STA.50+90, RT. SCHOOL DRIVE	65		65	1					65																									
6	SP-2 STA.138+04, RT.						1																	1				1							
5 & 6	SP-2 STA.138+04, RT. TO PB-3 STA.137+83, RT.	65		65	1					65																									
6	PB-3 STA.137+83, RT. TO PB-4 STA.136+41, RT.	179		179	1					179																									
6	PB-4 STA.136+41, RT. TO PB-9 STA.134+16, RT.	150		150	1					150																									
	C-1 TO POWER POLE			12						12																				54	1				
	C-1 TO PEDESTRIAN SIGNAL (SP-4)																2					88						2							
	C-1 TO PEDESTRIAN PUSHBUTTON (SP-4)																		38								1								
	C-1 TO PEDESTRIAN SIGNAL (SP-3)																2					456						2							
	C-1 TO PEDESTRIAN PUSHBUTTON (SP-3)																		233								1								
	C-1 TO PEDESTRIAN SIGNAL (SP-2)																2					668						2							
	C-1 TO PEDESTRIAN PUSHBUTTON (SP-2)																		339								1								
	C-1 TO PEDESTRIAN SIGNAL (SP-1)																2					444						2							
	C-1 TO PEDESTRIAN PUSHBUTTON (SP-1)																		227								1								
	C-1 TO VEHICULAR SIGNALS 1 AND 2														2	2						22	198												
	C-1 TO VEHICULAR SIGNALS 3 AND 4														2	2						21	153												
	C-1 TO VEHICULAR SIGNALS 5 AND 6														2	2						24	217												
	C-1 TO VEHICULAR SIGNALS 7 AND 8														2	2						24	133												
	C-1 TO LOOP DETECTOR L1																	1							324										
	C-1 TO LOOP DETECTOR L2																	1							324										
	C-1 TO LOOP DETECTOR L3																	1							294										
	C-1 TO LOOP DETECTOR L4																	1							294										
	C-1 TO LOOP DETECTOR L5																	1							593										
	C-1 TO LOOP DETECTOR L6																	1							748										
	C-1 TO LOOP DETECTOR L7																	1							324										
	C-1 TO LOOP DETECTOR L8																	1							485										
	R3-5 SIGNS 1 - 4											4	30																						
	R3-5b SIGNS 5 - 6											2	15																						
	TOTALS CARRIED TO GENERAL SUMMARY	968	30	995	10	1	5			995		6	45		8	8	8	8		383	837	1747	701	4	3386	4	8	54	1	3	1			1	1	1	1

BEL-149-23.77

BELMONT COUNTY
UNION TOWNSHIP
SECTION 14 & 20
TOWNSHIP 8, RANGE 5



UTILITY OWNERSHIP

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

TELEPHONE . . . . AMERITECH
3935 NORTHPOINTE ROAD
ZANESVILLE, OHIO 43701
740-454-3455

ELECTRIC . . . . AMERICAN ELECTRIC POWER
P.O. BOX 99
47687 NATIONAL ROAD
ST. CLAIRSVILLE, OH 43950
740-699-7845

WATER . . . . . . BELMONT COUNTY SANITARY SEWER DISTRICT
P.O. BOX 457
ST.CLAIRVILLE, OHIO 43950
740-695-3144

GAS . . . . COLUMBIA GAS OF OHIO
2429 LINDEN AVE.
ZANESVILLE, OHIO 43701

CABLE TV . . . . COMCAST
908 NATIONAL ROAD
P.O. BOX 469
BRIDGEPORT, OHIO 43912
740-699-5635

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

REV.	DATE	DESCRIPTION
DII-SML	05/05/04	FIVE SHEETS WERE ELIMINATED AND REMAINING SHEETS WERE RENUMBERED
DII-SML	05/05/04	PARCELS 6, 7, 8, 9, 10, 11 & 12 WERE ELIMINATED
DII-SML	02/25/04	REVISED TOPO

DATE OF COMPLETION 12/08/2003

PID NO. 76265

STATE PROJECT NO. 515547

PROPERTY MAP AND UTILITY PLAN

BEL-149-23.91

1/7

78/84

TOTAL NUMBER OF:
5 OWNERSHIPS
0 TOTAL TAKES
0 OWNERSHIPS WITH STRUCTURES INVOLVED
0 OWNERSHIPS WITH "P" ITEMS

SUMMARY OF ADDITIONAL RIGHT OF WAY

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA(AC.)	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1SH	LAWSON - PORTER, LTD.	5	736	95	39-01231.000	1.575	0	0.045	0	0.045	-		1.521	STATE	* Signs (2)	798	553
	A LIMITED LIABILITY COMPANY																
			772	862	39-01181.000	0.822									Tract Not Involved * Vent Pipes		
2T	THE BOARD OF EDUCATION OF	5, 6, 12	417	169	39-60001.000	45.000	1.072	0.805	0	0.805			45.000		For Drive Connection, Grading, Seeding and Provide Work Area		
	UNION LOCAL SCHOOL DISTRICT					55.330									Tract Not Involved		
3SH	VINOD SINGH AND NEELU SINGH	5, 7	725	402	39-00725.000	5.383	0	0.051	0	0.051	-	5.332			* Signs (5)	801	307
	PARMINDER J. SANDHU AND SARABJIT SANDHU		681	171													
3T								0.172	0	0.172					For Drive Connection, Grading, Seeding and Provide Work Area		
4SH	NICK FLEAGANE	5, 7	797	503	39-00070.000	0.871	0.403	0.004	0	0.004	-	0.464				801	312
			797	503	39-00336.002	0.465	0.151	0.177	0	0.177		0.137					
	TOTAL 4SH					1.336	0.554	0.181	0	0.181		0.601					
4T		5, 6			39-00070.000			0.036	0	0.036					For Drive Connection and Provide Work Area		
5SH	NICK FLEAGANE	5, 7	652	97	39-00734.001	0.632	0	0.003	0	0.003	-	0.629				801	302
5SH-1		7	720	601	39-00336.004	0.305	0	0.087	0	0.087	-	0.218					
5T		7	673	55	39-00734.003	0.955	0	0.050	0	0.050		0.955			For Drive Connection, Grading, Seeding and Provide Work Area		
			720	790	39-00734.005	0.209	0	0.004	0	0.004		0.209					
			720	601	39-00336.004	0.305		0.039	0	0.039							
	TOTAL 5T							0.093	0	0.093							
			623	864	39-00067.000	1.16	0.530								Tract Not Involved		
6	(NOT USED)																
7	(NOT USED)																
8	(NOT USED)																
9	(NOT USED)																
10	(NOT USED)																
11	(NOT USED)																
12	(NOT USED)																
13T	BELL VALLEY LAND CORPORATION, INC.	12	571	686	39-00328.000	16.182	0	0.055	0	0.055	-		16.182		For Grading, Seeding and Provide Work Area		
	AN OHIO CORPORATION																
	and																
	J.D. MILLER		550	961													
														STATE			

NOTES:

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

* = ENCROACHMENT

ALL TEMPORARY PARCELS ARE TO BE FOR 12 MONTHS DURATION.

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF STATE OF OHIO UNLESS OTERWISE SHOWN.

REV.	DATE	DESCRIPTION
DII-SML	10/12/04	RECORDING DATA ADDED
DII-SML	05/05/04	SHEETS RENUMBERED
DII-SML	05/05/04	PARCEL 4 OWNERS RECORD BOOK AND PAGE WAS REVISED
DII-SML	05/05/04	PARCELS 6, 7, 8, 9, 10, 11, AND 12 WERE REMOVED
DII-SML	02/25/04	PARCELS 1SH, 3T, 4SH, 5SH, 5SH-1 REVISED and 3SH ADDED

DATE OF COMPLETION 12/08/2003

FEDERAL PROJECT NO. NON-FEDERAL

PID NO. 76265

STATE PROJECT NO. 515547

SUMMARY OF ADDITIONAL RIGHT OF WAY

BEL-149-23.91

2 / 7

79 / 84

BELMONT COUNTY
UNION TOWNSHIP
SECTION 14, TOWNSHIP 8, RANGE 5

EXISTING RIGHT OF WAY LOCATION AND WIDTH DETERMINED FROM:
1. STATE ROUTE 149
BEL-149-(0.70-2.83) RIGHT OF WAY PLAN ON FILE AT THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT II OFFICE
2. PLAN OF BOND DRIVE
CABINET E, SLIDE 5 OF THE BELMONT COUNTY PLAT RECORDS

BEGIN PROJECT
STA 131+90.00
SLM 23.77

P.I. = 130+52.16
Δ = 8°31'00"(LT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 426.62'
L = 851.67'
E = 15.86'

131+80.10
70.41'LT

133+50.00
60.00'LT

AT 134+77.21

134+77.21
40.00'LT

BEGIN WORK
STA 131+75.00

131+92.18
59.08'RT

132+49.77
49.74'RT

135+25.07
54.14'RT

③ PARMINDER SANDHU
SARABJIT SANDHU
VINOD SINGH
NEELU SINGH
39-00725.000

① LAWSON-PORTER, LTD
VOL. 736, P. 95
39-01231.000

LAWSON-PORTER, LTD
VOL. 772, P. 862
39-01181.000

℄ SURVEY SR 149

N26°13'53"W

MATCHLINE STA 136+00 SEE SHEET 4

BP Gas Station and McDonald's
Asphalt Parking Lot
Concrete
Conc. Curb
Sign
(Asphalt Parking Lot)
Conc. Curb/Gutter
EX R/W
(Asphalt Drive)
Const. Limits
EX LA
SAN
36"Conduit
30"Conduit
Monitor Well
Vent Pipes
Bollards
Curb
Schlepps Restaurant
Dedicated Private Roadway Cab. C, SL. 191
Easement line
West Bound On Ramp
West Bound Off Ramp

NOTE:
* = RIGHT OF WAY ENCROACHMENT

REV.	DATE	DESCRIPTION
DII-SML	05/05/04	FIVE SHEETS WERE ELIMINATED AND REMAINING SHEETS WERE RENUMBERED
DII-SML	05/05/04	PARCELS 6, 7, 8, 9, 10, 11, 12 WERE ELIMINATED
DII-SML	02/25/04	REVISED TOPO

DATE OF COMPLETION 12/08/2003

HORIZONTAL SCALE IN FEET
0 20 40

PID NO. 76265

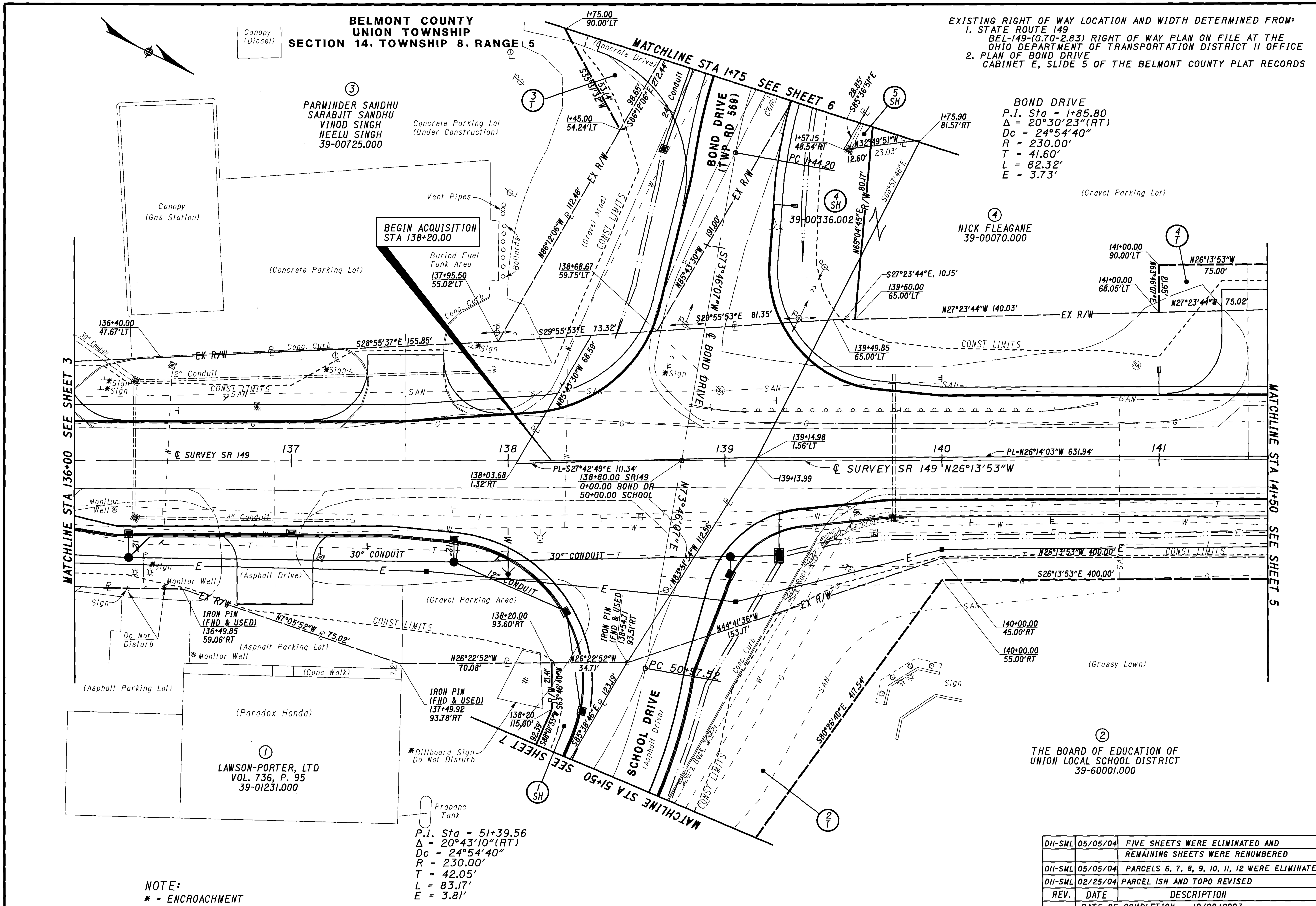
STATE PROJECT NO. 515547

RIGHT OF WAY PLAN
STA 131+00 TO STA 136+00

BEL-149-23.91

3 / 7

80 / 84



RIGHT OF WAY PLAN
STA 136+00 TO STA 141+50

PID NO. 76265

STATE PROJECT NO. 51547

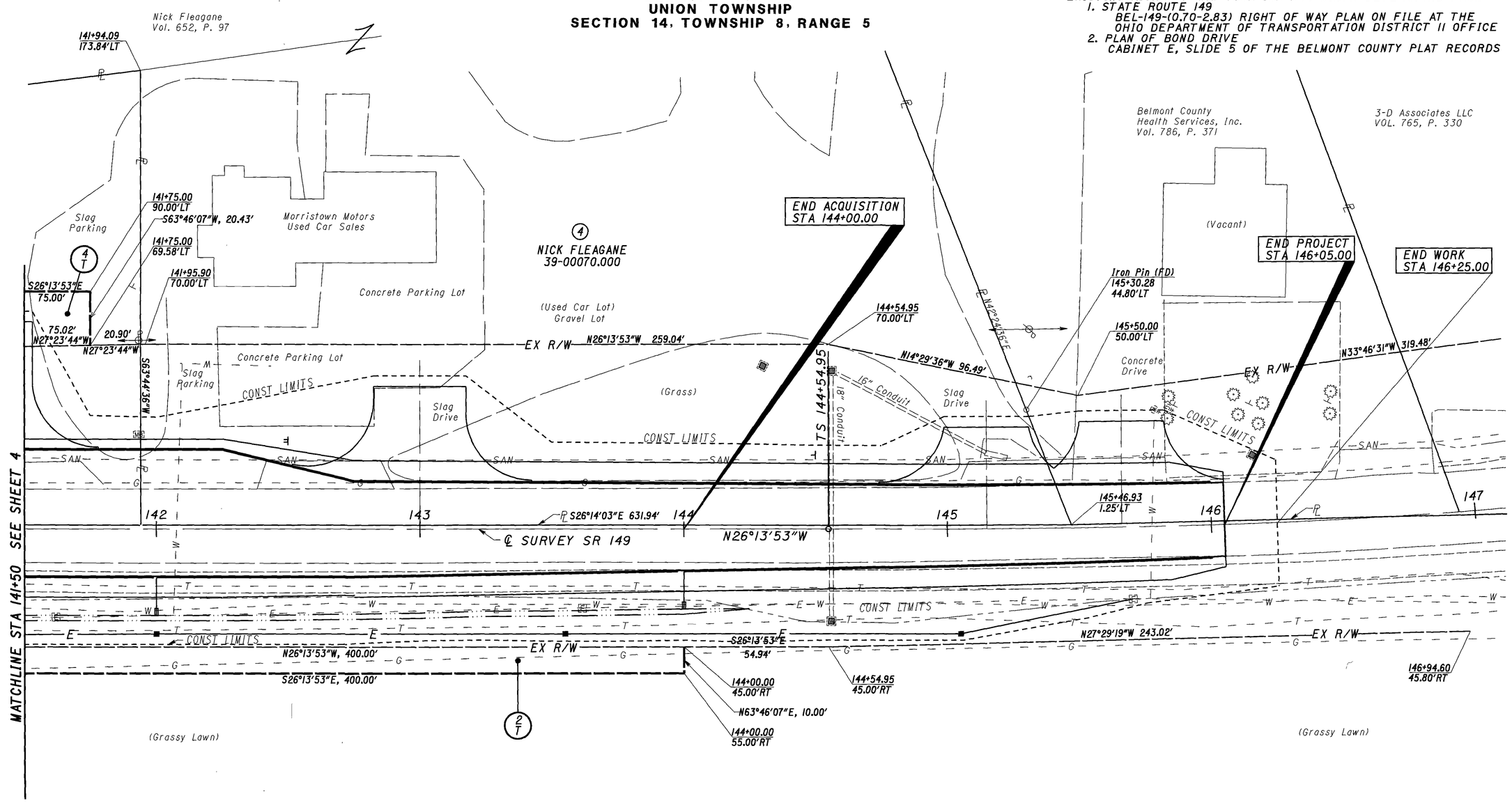
BEL-149-23.91

REV.	DATE	DESCRIPTION
D11-SML	05/05/04	FIVE SHEETS WERE ELIMINATED AND REMAINING SHEETS WERE RENUMBERED
D11-SML	05/05/04	PARCELS 6, 7, 8, 9, 10, 11, 12 WERE ELIMINATED
D11-SML	02/25/04	PARCEL 1SH AND TOPO REVISED

DATE OF COMPLETION 12/08/2003

BELMONT COUNTY
UNION TOWNSHIP
SECTION 14, TOWNSHIP 8, RANGE 5

EXISTING RIGHT OF WAY LOCATION AND WIDTH DETERMINED FROM:
1. STATE ROUTE 149
BEL-149-(0.70-2.83) RIGHT OF WAY PLAN ON FILE AT THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 11 OFFICE
2. PLAN OF BOND DRIVE
CABINET E, SLIDE 5 OF THE BELMONT COUNTY PLAT RECORDS



(2)
THE BOARD OF EDUCATION OF
UNION LOCAL SCHOOL DISTRICT
39-60001.000

REV.	DATE	DESCRIPTION
DII-SML	05/05/04	FIVE SHEETS WERE ELIMINATED AND REMAINING SHEETS WERE RENUMBERED
DII-SML	05/05/04	PARCELS 6, 7, 8, 9, 10, 11, 12 WERE ELIMINATED
DII-SML	02/25/04	TOPO REVISED

DATE OF COMPLETION 12/08/2003

HORIZONTAL SCALE IN FEET
0 20 40

PID NO. 76265

STATE PROJECT NO. 515547

RIGHT OF WAY PLAN
STA 141+50 TO STA 147+00

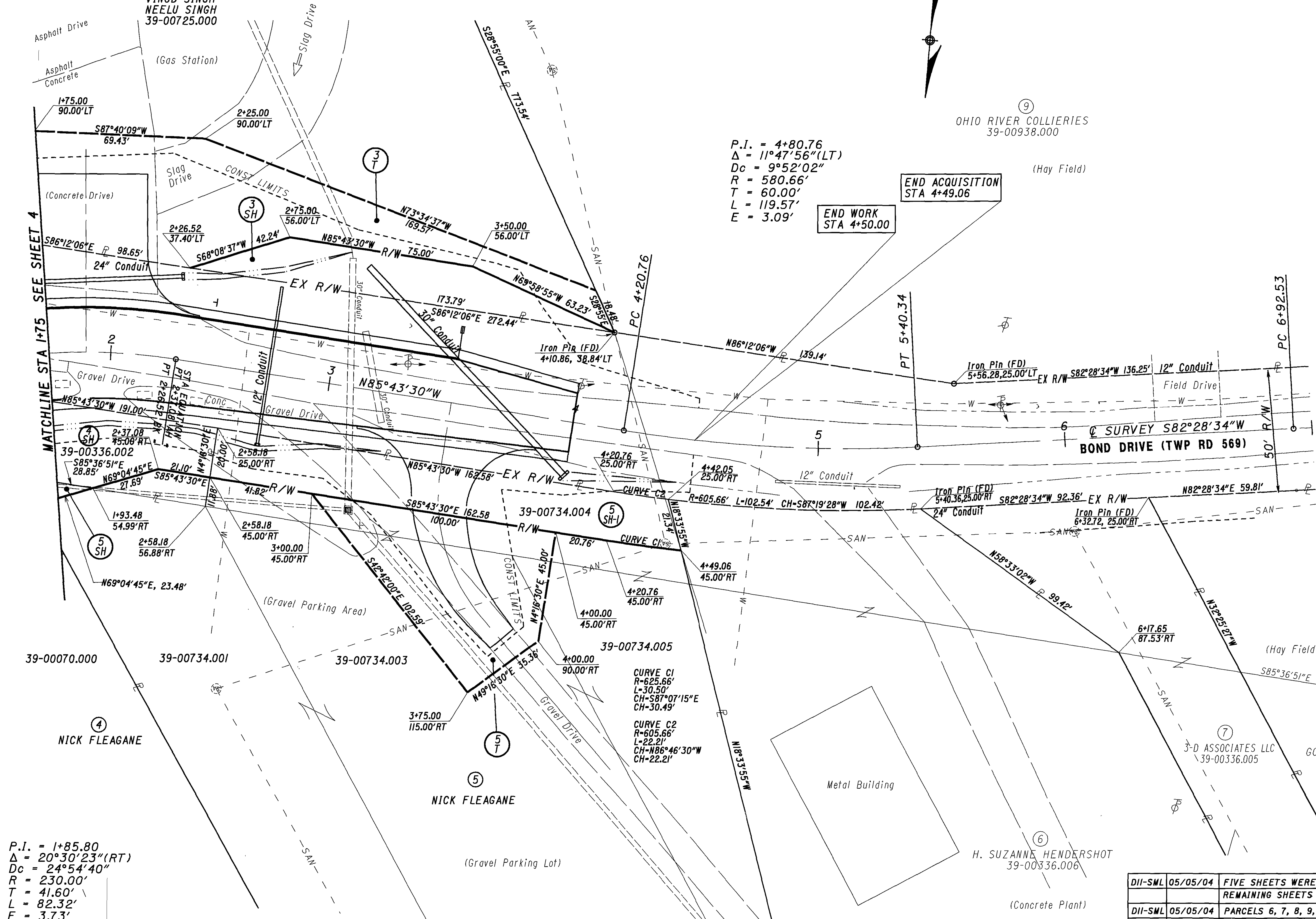
BEL-149-23.91

5 / 7

82
84

BELMONT COUNTY
UNION TOWNSHIP
SECTION 14, TOWNSHIP 8, RANGE 5

EXISTING RIGHT OF WAY LOCATION AND WIDTH DETERMINED FROM:
1. STATE ROUTE 149
BEL-149-(0.70-2.83) RIGHT OF WAY PLAN ON FILE AT THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 11 OFFICE
2. PLAN OF BOND DRIVE
CABINET E, SLIDE 5 OF THE BELMONT COUNTY PLAT RECORDS



REV.	DATE	DESCRIPTION
D11-SML	05/05/04	FIVE SHEETS WERE ELIMINATED AND REMAINING SHEETS WERE RENUMBERED
D11-SML	05/05/04	PARCELS 6, 7, 8, 9, 10, 11 & 12 WERE ELIMINATED
D11-SML	02/25/04	REVISED PARCEL 3T, TOPO AND PARCEL 3SH ADDED

DATE OF COMPLETION 12/08/2003

HORIZONTAL SCALE IN FEET 0 20 40

PID NO. 76265

STATE PROJECT NO. 515547

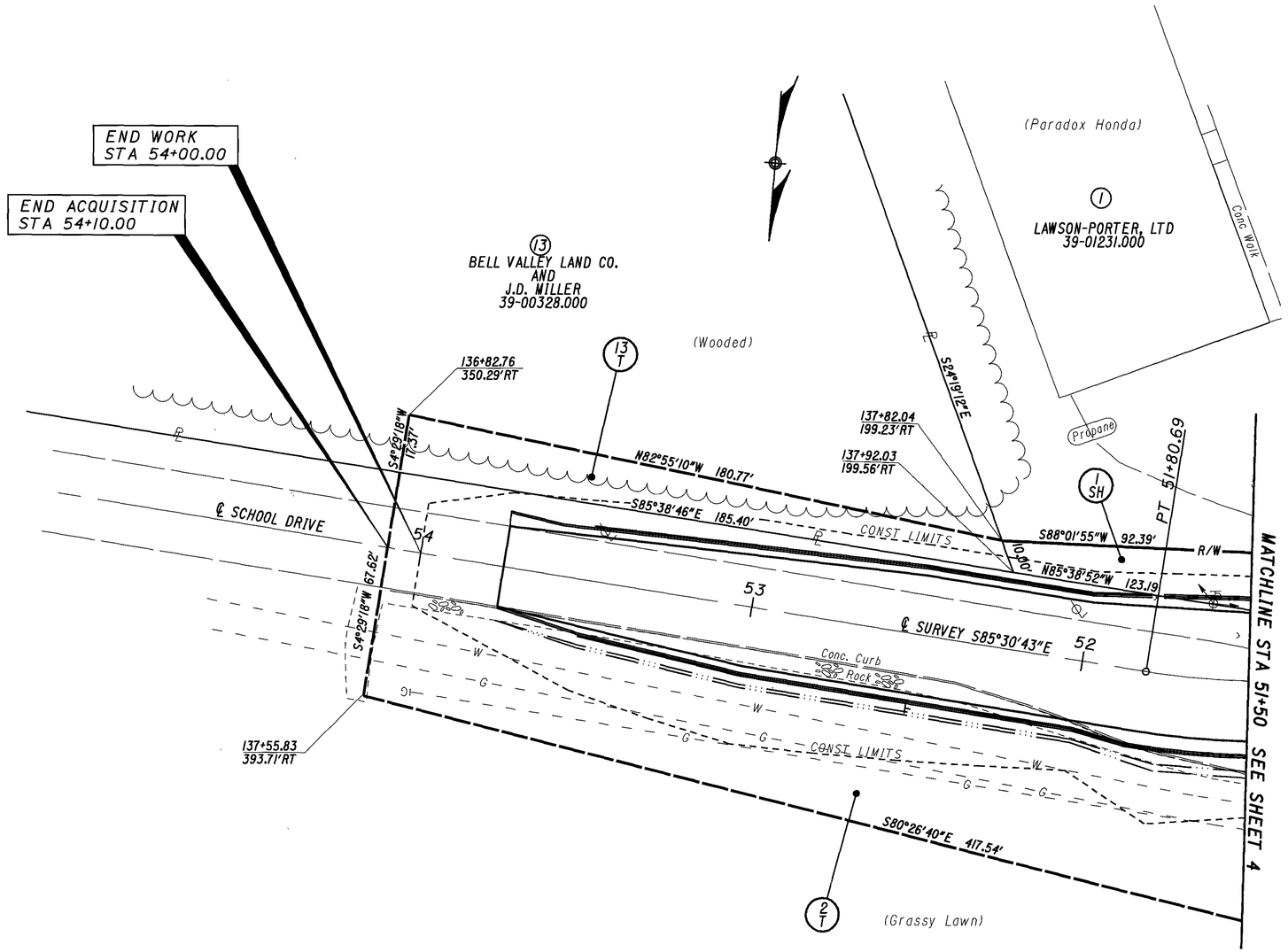
RIGHT OF WAY PLAN
BOND DRIVE (TWP RD 569)
STA 1+75 TO STA 7+00

BEL-149-23.91

6/7

83/84

BELMONT COUNTY
UNION TOWNSHIP
SECTION 14, TOWNSHIP 8, RANGE 5



(2)
THE BOARD OF EDUCATION OF
UNION LOCAL SCHOOL DISTRICT
39-60001.000

REV.	DATE	DESCRIPTION
DII-SML	05/05/04	FIVE SHEETS WERE ELIMINATED AND REMAINING SHEETS WERE RENUMBERED
DII-SML	05/05/04	PARCELS 6, 7, 8, 9, 10, 11, 12 WERE ELIMINATED
DII-SML	02/25/04	PARCEL ISH AND TOPO REVISED

DATE OF COMPLETION 12/08/2003

HORIZONTAL SCALE IN FEET
0 20 40

PID NO. 76265

STATE PROJECT NO. 515547

RIGHT OF WAY PLAN
SCHOOL DRIVE
STA 51+50 TO STA 54+00

BEL-149-23.91

7 / 7

84
84