



STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
HOL-62-30.649
VILLAGE OF MILLERSBURG
HOLMES COUNTY

PROJECT DESCRIPTION

UPGRADING 1.522 KILOMETERS OF U.S. RT. 62 BY WIDENING AND RESURFACING, INCLUDING NEW CURB AND GUTTER, LEFT TURN LANE, STORM SEWER SYSTEM, TRAFFIC CONTROL SIGNS, TRAFFIC SIGNAL, AND PAVEMENT MARKINGS.

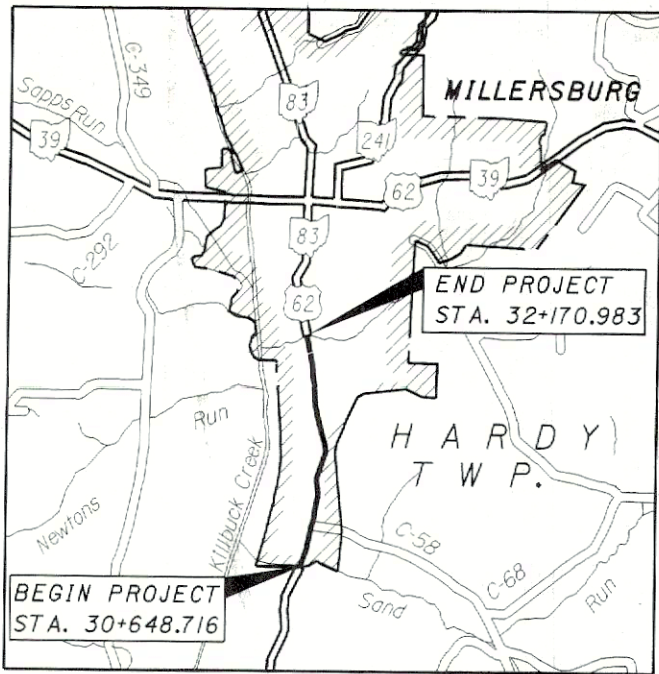
1997 SPECIFICATIONS

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

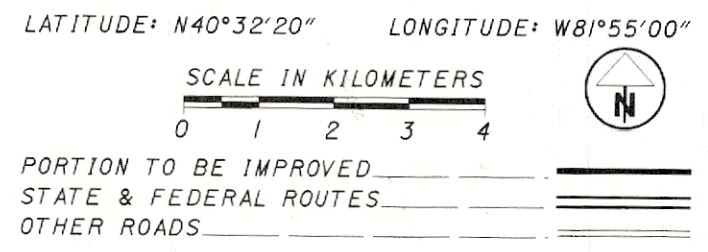
I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT THE PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED *[Signature]*
DATE 12/15/99 DISTRICT DEPUTY DIRECTOR

APPROVED *[Signature]*
DATE 12-22-99 DIRECTOR, DEPARTMENT OF TRANSPORTATION



LOCATION MAP



DESIGN DESIGNATION

CURRENT ADT (2000)	16,380
DESIGN YEAR ADT (2020)	24,400
DESIGN HOURLY VOLUME (2020)	2440
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	5%
DESIGN SPEED	60 km/h
LEGAL SPEED	35 MPH (56km/h)
DESIGN FUNCTIONAL CLASSIFICATION - MINOR ARTERIAL (URBAN)	

DESIGN EXCEPTION

NONE

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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

ENGINEERS SEAL:

SIGNED: *Shane C. Locke*
DATE: December 2, 1999

PLAN PREPARED BY:
O.D.O.T.
DISTRICT II
NEW PHILADELPHIA, OHIO

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS		
	MH-1.1M	10-21-97	HL-30.11M	03/31/95	806 9-9-97	
	MH-1.2M	09-06-95	HL-30.22M	03/31/95	830 10-21-98	
BP-4.1M	10-28-94		HL-50.11M	03/31/95	842 01-06-99	
	GR-2.1M	4-14-98		MT-99.10M	01/30/95	863 09-09-97
	GR-3.4M	10-21-97	TC-21.20M	12/10/96	877 04-13-99	
CB-1.1M	07-12-95	GR-4.1M	11-30-94	TC-41.20M	07/01/94	899 10-21-98
CB-1.2M	07-12-95		TC-41.40M	03/31/94	905 04-01-98	
CB-2.1M	07-12-95	DM-4.3	4-29-99	TC-42.20M	03/31/94	906 05-05-98
CB-2.2M	07-12-95	DM-4.4	4-29-99	TC-52.10M	07/29/94	907 10-21-98
CB-2.3M	07-12-95		TC-52.20M	07/29/94	908 01-06-99	
			TC-71.10M	09/01/93		
DM-1.1M	10-21-97		TC-81.20M	11/24/93		
			TC-82.20M	11/24/93		
HW-2.1M	07-12-95		TC-83.10M	11/24/93		
HW-2.2M	07-12-95		TC-85.20M	11/24/93		
					SPECIAL PROVISIONS	
					Waterway Permits	
					NWP #18 Minor Discharges	
					7-21-99	

FEDERAL PROJECT NO. TE21-G990(512)
PID NO. 9645
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
HOL-62-30.649
1/180

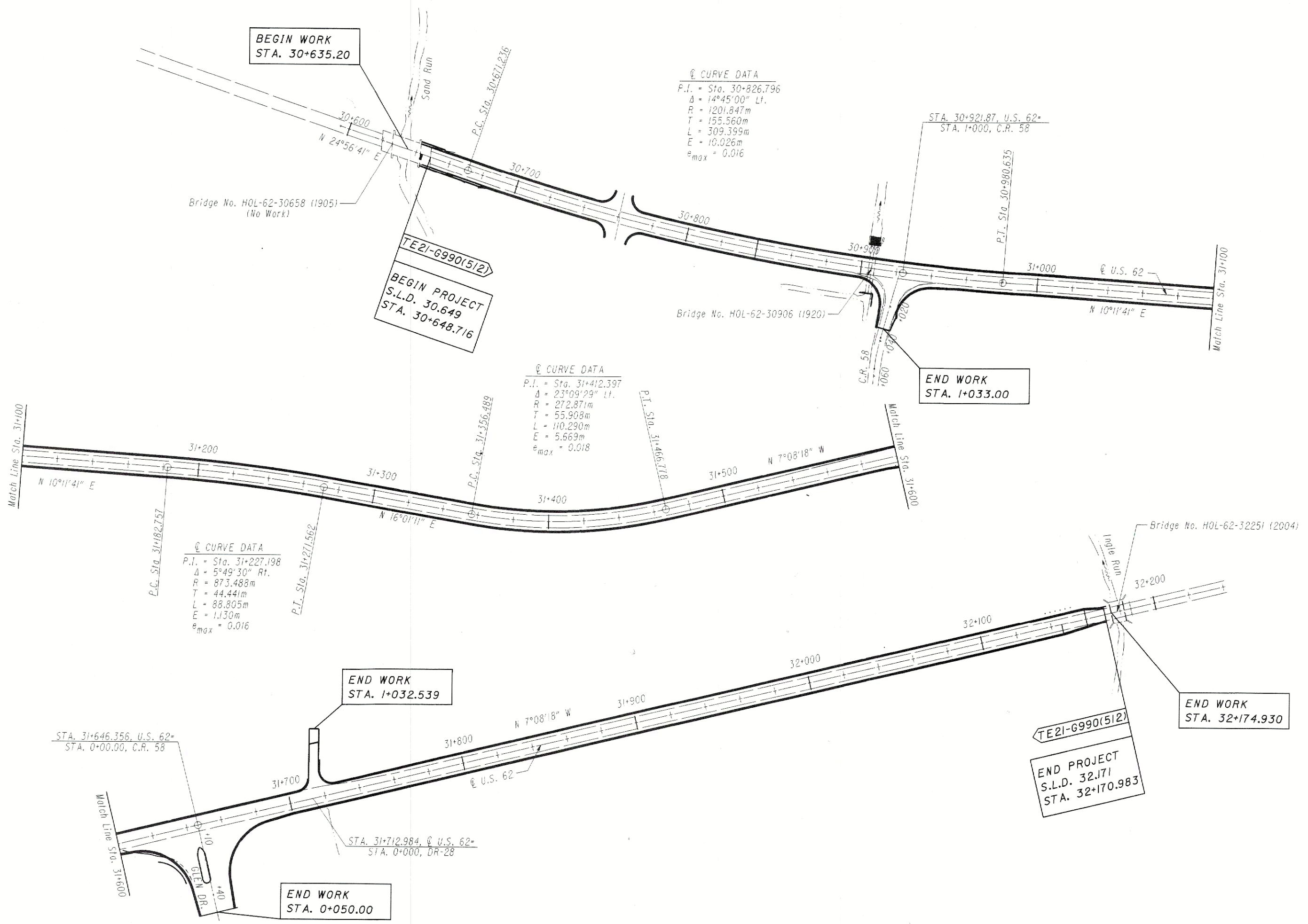


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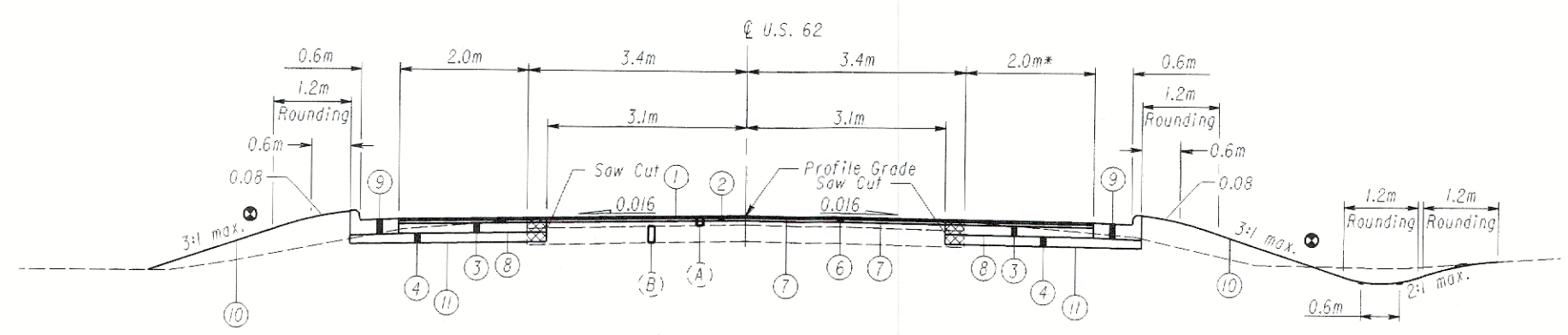
HORIZONTAL
SCALE IN METERS

SCHEMATIC PLAN

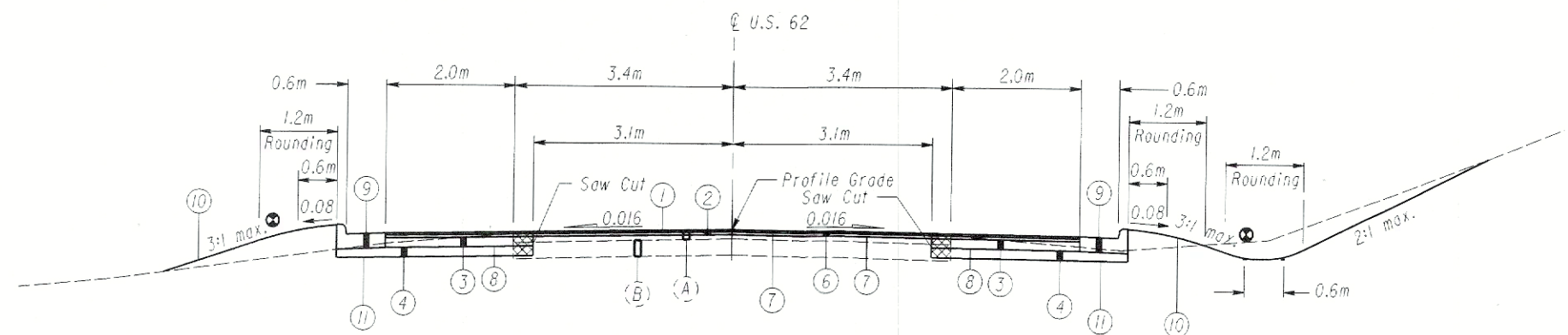
HOL-62-30.649



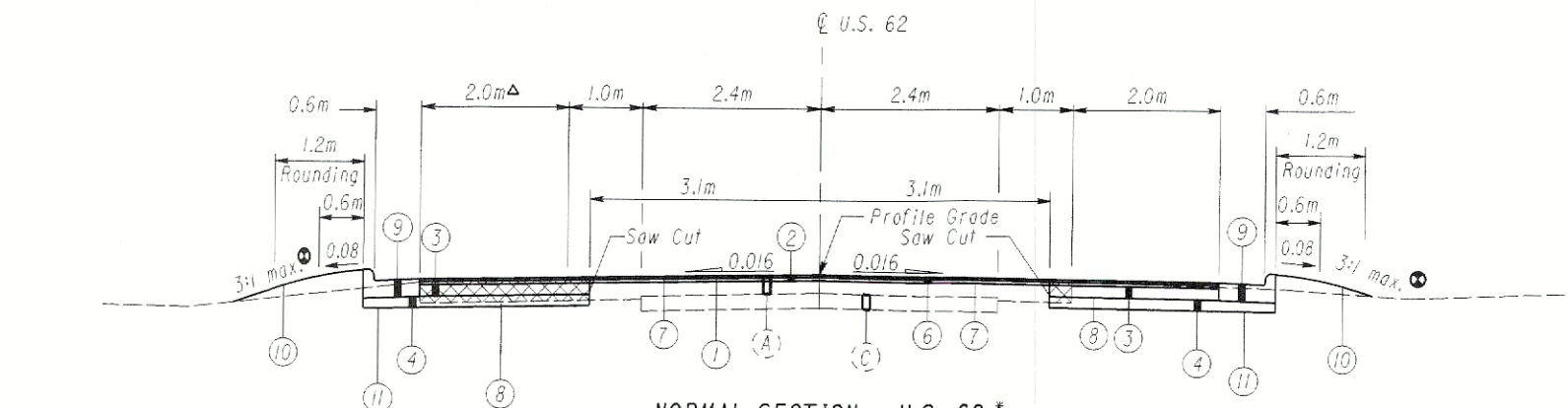
TYPICAL SECTIONS



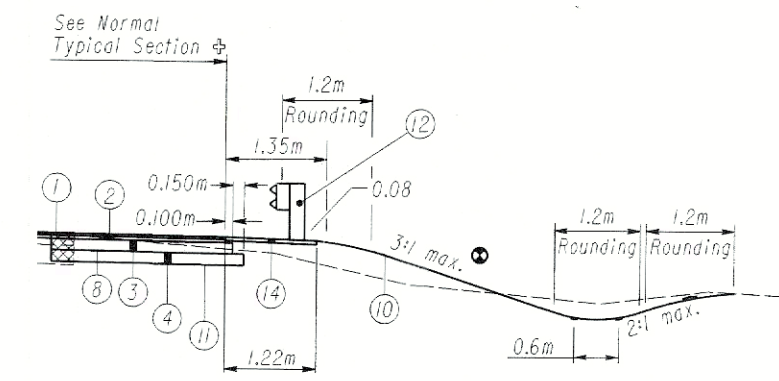
NORMAL SECTION - U.S. 62
Sta. 30+648.72 to Sta. 30+663.72 = 15.00 m



NORMAL SECTION - U.S. 62
Sta. 30+990.64 to Sta. 31+108.50 = 117.87 m



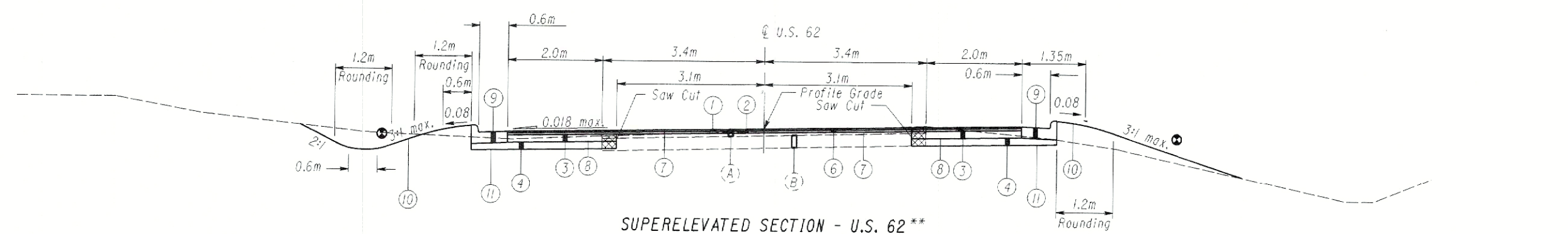
NORMAL SECTION - U.S. 62*
Sta. 31+525.02 to Sta. 31+768.79 = 243.77 m



SHOULDER TREATMENT DETAIL
Right Shoulder - Sta. 30+644.28 to Sta. 30+680.00 = 35.72m
Left Shoulder - Sta. 30+641.00 to Sta. 30+655.37 = 14.37m
Total Length = 50.09m

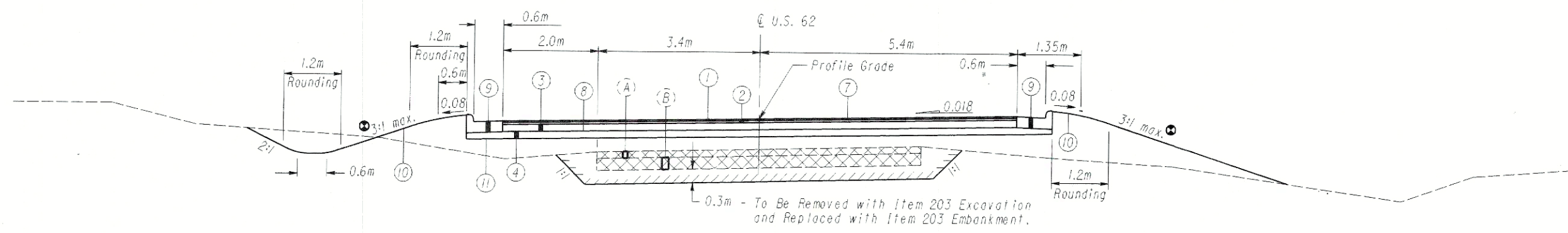
⊕ - At the forward approach slab for HOL-62-30658 (1905) place Item 448, Asphalt Concrete Under Guardrail, at the outside edges of the approach slab.

- △ - Existing pavement varies from 0 m at Sta. 31+525.02 to 2.0 m at Sta. 31+604.51; Existing pavement varies from 2.0 m at Sta. 31+722.23 to 0 m at Sta. 31+768.86
- ⊕ - Or as shown in Cross Sections
- * - For Pavement Transition Table, See Sheet No. 54. For Legend, See Sheet No. 5.



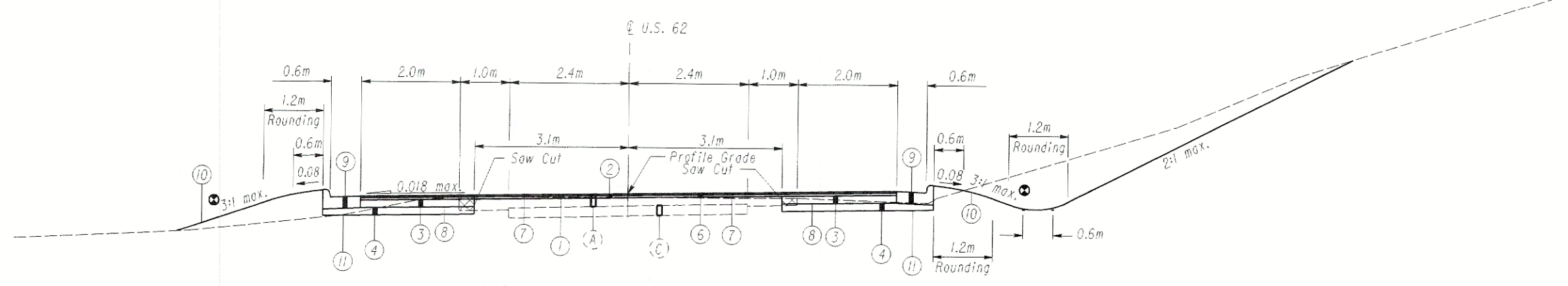
SUPERELEVATED SECTION - U.S. 62**

Section Applies:
 Sta. 30+663.72 to Sta. 30+692.80 = 29.08 m
 Sta. 30+856.00 to Sta. 30+990.64 = 134.64 m
 Total Length = 163.72 m



SUPERELEVATED SECTION - U.S. 62

Sta. 30+692.80 to Sta. 30+856.00 = 163.20 m



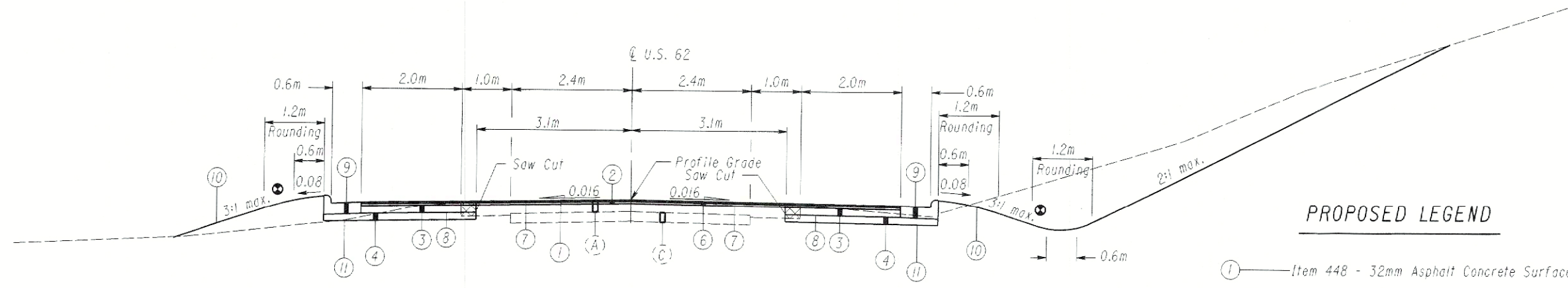
SUPERELEVATED SECTION - U.S. 62**

Section Applies:
 Sta. 31+172.76 to Sta. 31+281.56 = 108.80 m
 Sta. 31+345.55 to Sta. 31+477.72 = 132.17 m
 Total Length = 240.97 m

⊗ - Or as shown in Cross Sections
 For Legend, See Sheet No. 5.
 ** - Wedge Required, see Sheet No. 54a for Details.

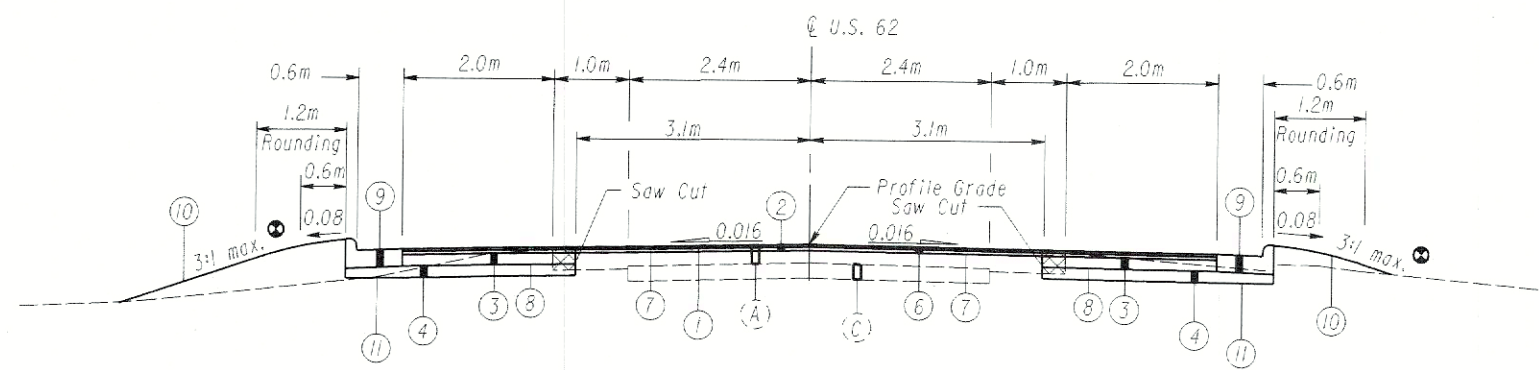
TYPICAL SECTIONS

HOL-62-30.649



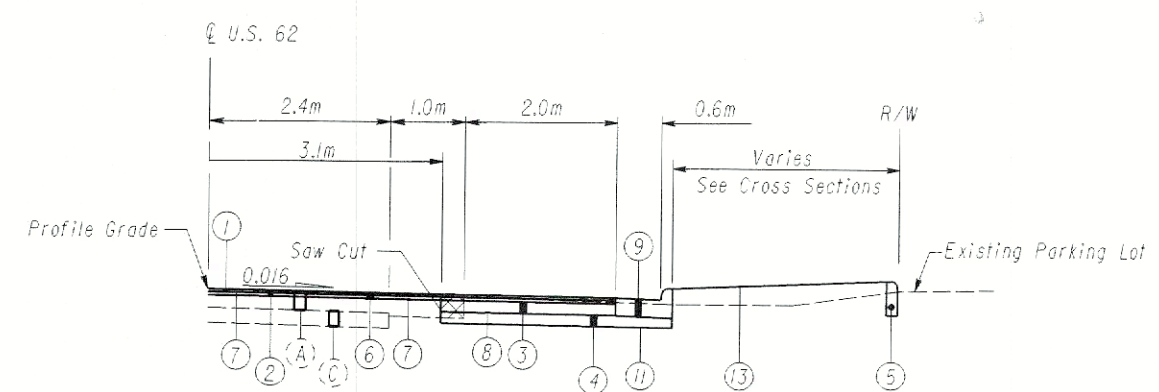
NORMAL SECTION - U.S. 62**

Section Applies:
 Sta. 31+108.50 to Sta. 31+120.00 = 11.50 m
 Sta. 31+120.00 to Sta. 31+172.76 = 52.76 m
 Sta. 31+281.56 to Sta. 31+345.55 = 63.99 m
 Total Length = 128.25 m



NORMAL SECTION - U.S. 62**

Section Applies:
 Sta. 31+477.72 to Sta. 31+525.02 = 47.30 m
 Sta. 31+768.79 to Sta. 32+170.98 = 402.19 m
 Total Length = 449.49 m



NORMAL HALF SECTION - U.S. 62 (Curbed Islands) Lt. & Rt.

For Locations, See Plan and Profile Sheets

PROPOSED LEGEND

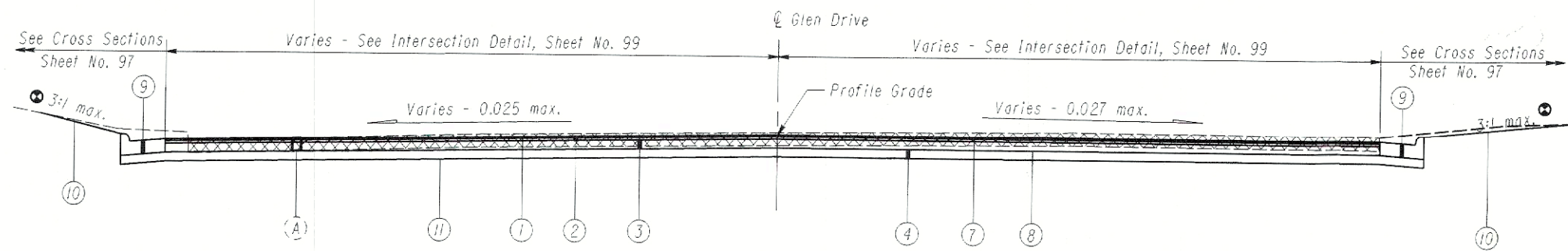
- ① — Item 448 - 32mm Asphalt Concrete Surface Course, Type 1, PG 64-22, As Per Plan
- ② — Item 448 - 45mm Asphalt Concrete Intermediate Course, Type 2, PG 64-22
- ③ — Item 301 - 150mm Bituminous Aggregate Base, PG 64-22
- ④ — Item 304 - 150mm Aggregate Base
- ⑤ — Item 830 - Curb, Type 6
- ⑥ — Item 254 - Pavement Planing, Bituminous (Variable Depth)
- ⑦ — Item 407 - Tack Coat For Intermediate
- ⑧ — Item 408 - Bituminous Prime Coat
- ⑨ — Item 830 - Combination Curb and Gutter, Type 2
- ⑩ — Item 659 - Seeding and Mulching
- ⑪ — Item 203 - Subgrade Compaction
- ⑫ — Item 606 - Guardrail, Type 5
- ⑬ — Item 660 - Sodding
- ⑭ — Item 448 - 50 mm Asphalt Concrete Intermediate Course, Type 1, Under Guardrail, PG 64-22, As Per Plan

EXISTING LEGEND

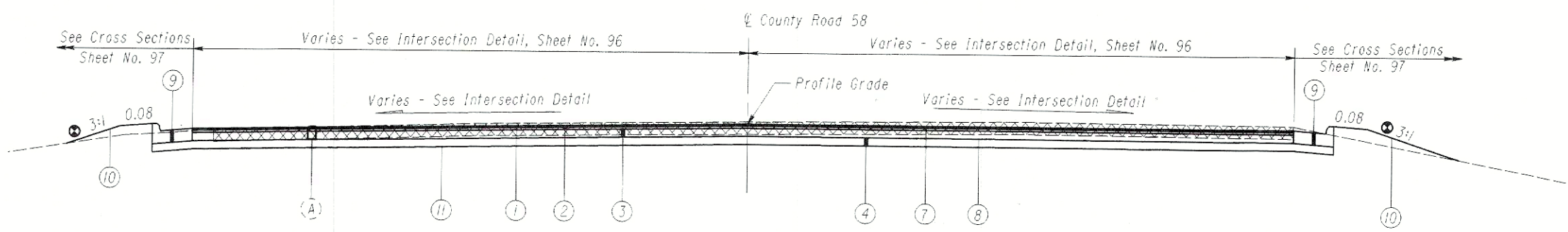
- (A) — 240mm± Existing Asphalt Concrete Pavement
- (B) — 254mm± Existing Aggregate Base
- (C) — 180mm± Existing Concrete Pavement

▨ Item 203 - Excavation

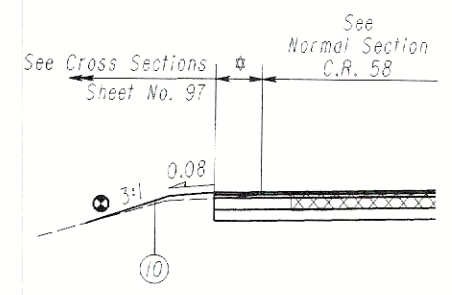
⊕ - Or as shown in Cross Sections
 ▲ - Existing pavement varies from 0 m at Sta. 31+525.02 to 2.0 m at Sta. 31+604.51; Existing pavement varies from 2.0 m at Sta. 31+722.23 to 0 m at Sta. 31+768.86
 * - See Pavement Transition Table on Sheet No. 54.
 ** - Wedge Required, see Sheet No. 54 for Details.



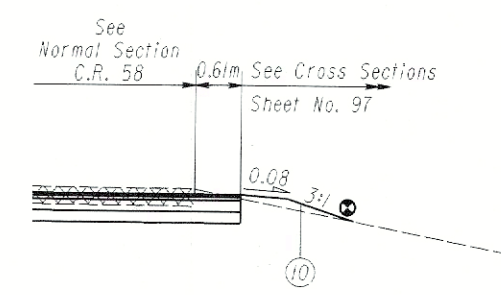
**NORMAL SECTION
Glen Drive**
Sta. 0+005.40 to Sta. 0+050



**NORMAL SECTION
County Road 58**
Sta. 1+005.467 to Sta. 1+025.473 Left / Sta. 1+024.642 Right



**SHOULDER TREATMENT
County Road 58**
Sta. 1+025.473 Left to Sta. 1+033



**SHOULDER TREATMENT
County Road 58**
Sta. 1+024.642 Right to Sta. 1+033

⊕ - Or as shown in Cross Sections
 ☆ - Varies from 0.914m to 0.61m
 For Legend, See Sheet No. 5.

UTILITIES

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

Village of Millersburg
6 N. Washington Street
Millersburg, Ohio 44654
Telephone: (330) 674-1886

AEP - Ohio Power Company
P.O. Box 24630
301 Cleveland Ave. SW
Canton, Ohio 44701-4360
Telephone: (330) 438-7823

Columbia Gas of Ohio Inc.
646 Main Street
Coshocton, Ohio 43812
Telephone: (740) 622-2464

ADELPHIA
640 Walnut Street
Coshocton, Ohio 43812
Telephone: (740) 622-9901 Fax: (740) 622-8740
Attn: Rosa Robertson

Sprint
3801 Elm Road NE
Warren, OH 44483
Telephone: (330) 841-1214

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, unless denoted "assumed elevation", are based on U.S.G.S. 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

All trees and stumps specifically marked for removal within the construction limits shall be removed under the lump sum bid for Item 201, Clearing and Grubbing. The following is an approximate estimate of the number of trees and stumps to be removed:

Size	No. of Trees	No. of Stumps	Total
0.5 m	4	4	4

CONSTRUCTION NOISE

Activities and land use adjacent to this project, from Glen Drive north to the end project, may be affected by construction noise. In order to minimize any adverse construction noise impacts in this area, any power-operated construction-type device shall not be operated between the hours of 10 p.m. and 6 a.m. In addition, any such device shall not be operated at any time in such a manner that the noise created substantially exceeds the noise customarily and necessarily attendant to the reasonable and efficient performance of such equipment.

TACK COAT APPLICATION

The rate of application of Item 407, Tack Coat for Intermediate Course, shall be subject to adjustment as directed by the Engineer. For estimating purposes only, the plan quantities indicate an average application rate of:

Item 407, Tack Coat for Intermediate Course 0.34 Liter per Sq. Meter

ITEM 448, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22, AS PER PLAN

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

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

When it is necessary to splice proposed guardrail to existing guardrail, only the existing guardrail shall be cut, drilled, or punched. The connection shall be made using a "W-Beam Rail Splice" as shown in AASHTO M 180. Payment shall be included in the contract price for the respective guardrail items.

CURB HEIGHT TRANSITION

Where proposed curb meets existing curb, the proposed curb height shall be tapered to meet the existing curb height within a 3.0 meter transition. Where no existing curb is present, the proposed curb height shall be tapered from 150 mm to 50 mm within a 3.0 meter transition.

The cost involved to transition the proposed curb height shall be incidental to, and included with, the cost of the proposed curb.

CONCRETE CURB CONSTRUCTION

In addition to the existing concrete or asphalt concrete pavement which must be removed in certain locations to construct the Type 6 curb, an additional width of concrete or asphalt concrete pavement may be removed to provide room for the curb forms.

If the Contractor elects to remove this additional width of pavement, a neat joint shall be sawed or otherwise cut at removal limits as approved by the Engineer.

After construction of the curb is complete, the void between the curb and the removal limits shall be cleaned of loose material and either coated with 407.02 bituminous material, filled with Item 448, Asphalt Concrete Surface Course, Type 1, leveled and compacted or filled with Item 452, 200mm Plain Concrete Pavement to match the curb flow line and adjacent pavement.

The following quantity, to be used as directed by the Engineer, has been carried to the General Summary for use as backfill material:

Item 448, Asphalt Concrete Surface Course, Type 1, PG64-22, As Per Plan - - - 3.0 Cu. Meter
Item 452, 200mm Plain Concrete Pavement - - - - - 15.0 Sq. Meter

All other costs to perform the above work shall be included in the contract price for Item 830, Curb, Type 6.

ITEM 203, EXCAVATION, NOT INCLUDING EMBANKMENT CONSTRUCTION

The following quantity has been carried to the General Summary and is to be used as directed by the Engineer for additional excavation of the drive stems and radius returns :

Item 203 - Excavation, Not Including Embankment Construction - - - - - 64.0 Cu. Meter

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 - - - - - 25.0 Cu. Meter

**ITEM 659, SEEDING AND MULCHING
ITEM 660, SODDING**

Seeding and mulching shall be applied to all areas of exposed soil, not treated with Item 660 Sodding, 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 Item 659, Seeding and Mulching are based on these limits.

The following estimated quantity has been carried to the General Summary:

Item 659, Seeding and Mulching - - - - - 11890 Sq. Meter
Item 660, Sodding Unstaked - - - - - 5851 Sq. Meter

SEEDING AND MULCHING OF LAWNS

In addition to "areas in front of residences" referred to in Section 659.09, the special preparation shall be extended to encompass all lawns and/or lawn-like areas as determined by the Engineer.

WATERING PERMANENT SEEDED AREAS

The estimated quantities are to be used as directed by the Engineer to promote growth, and to care for permanent seeded areas per Section 659.09:

For estimated quantities see sheet No.'s 7, 5, 56

EROSION CONTROL

Items 601, 660, and 667 are provided in the plans for erosion control. Rock of a stable nature shall not be removed in order to place any of these items, and turf of a stable nature shall not be removed in order to place 660 or 667. The Engineer shall check and non-perform quantities, or adjust locations and quantities of these items where indicated by field conditions during construction. In addition, these items shall meet the requirement of Section 108.04.

STORM WATER POLLUTION PREVENTION PLAN

The conditions of the NPDES construction Storm Water General Permit (see proposal) shall be met during all stages of construction. The location and timing of all erosion and sediment control items shall be field adjusted to prevent significant impacts on receiving waters. Implementation of this Storm Water Pollution Prevention Plan shall continue throughout the duration of the project or until such time that the upslope disturbed areas are stabilized.

Installation of sediment basins/dams, perimeter filter fabric fence, and ditch checks shall be concurrent with clearing and grubbing and/or grading operations.

All reasonable attempts should be made to minimize the total area of disturbed land.

Areas to remain dormant for more than 45 days should be immediately stabilized with temporary seeding and mulching, erosion control matting, or other appropriate erosion control measures.

Additional quantities of temporary soil erosion and sediment control items are given in the General Notes.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

The following estimated quantities are to be placed by the Contractor with the Engineer's concurrence for temporary erosion and sediment control measures:

877, Temporary Seeding And Mulching	2400 Sq. Meter
877, Temporary Slope Drains	18 Meter
877, Temporary Perimeter Filter Fabric Fence	850 Meters
877, Temporary Ditch Check Filter Fabric Fence	20 Meters
877, Temporary Inlet Protection Filter Fabric Fence	36 Meters
877, Temporary Dikes	90 Cu. Meter
877, Temporary Ditch Protection	100 Sq. Meter
877, Sediment Removal	181 Cu. Meter
659, Mowing	3000 Sq. Meter
659, Commercial Fertilizer	120 Kilogram
659, Repair Seeding And Mulching	600 Sq. Meter
659, Water	24 Cu. Meter

WATER WORK NOTIFICATION

The Contractor shall notify the Village of Millersburg Administrator, who in turn shall notify the local fire department, 7 days prior to proceeding with water valve box or water main work, which will require the interruption of service to the public. This notification will allow the village to notify the public of any interruptions in service and for the fire department to plan for emergencies should one arise. The Contractor shall also coordinate this work with the Village to minimize interruptions in service.

WATER WORK

The following quantity has been carried to the General Summary and is to be used as directed by the Engineer for relocating an existing water main under or around a proposed storm sewer facility, as shown in Detail 'A' on sheet no. 121 :

Item 638 - 100mm Water Main Polyvinyl Chloride Pipe and Fittings, AWWA Class 150 - - - 75 Meter
Item 638 - 250mm Water Main Polyvinyl Chloride Pipe and Fittings, AWWA Class 150 - - - 75 Meter

EXISTING BENCHMARK DISC

The Contractor will be required to notify the ODOT District II Survey Operations Manager 5 (five) working days prior to any activity that would disturb the location or elevation of benchmark monuments at Sta. 30+909.107, 8.50m Rt. and Sta. 31+570.783, 7.1m Rt.

The District office will furnish the Contractor with replacement disc monuments, which the Contractor will place in an accessible and preferably horizontal location, as directed by the Engineer, at the time of construction. The existing disc shall be salvaged and returned to the District office.

Payment for the above shall be included in the lump sum bid price for Item 623, Construction Layout Stakes.

INDIANA BAT HABITAT PLAN NOTE

The Indiana bat (*Myotis sodalis*) is a federally listed endangered species protected under the Endangered Species Act. Approximately 40 trees suitable as habitat for the Indiana bat have been identified within the project's construction limits. The ODOT District II office has arranged for the removal of these trees in accordance with the restrictions mandated by the Endangered Species Act. If it is determined that tree removal outside of the construction limits shown in this plan is necessary as part of this project, the contractor shall exercise caution to assure that all trees measuring 9 inches or more in diameter at chest height will be removed after September 30th and before April 1st.

Any other site proposed by the contractor for off project ancillary construction (staging areas, waste locations, and/or borrow locations) shall first be investigated by the contractor for environmental sensitivity. Any sites that are determined to be sensitive in nature shall not be disturbed unless clearance is made through the appropriate controlling agency/office and all federal, state, and local laws are complied with, including but not limited to the Endangered Species Act.

This does not set a precedence that the Department will always put this notice in all environmentally sensitive projects. Environmental documentation is always available upon request.

CALCULATED
JPB
CHECKED
TKD

GENERAL NOTES

HOL - 62 - 30.649

WETLANDS

A wetland area has been identified within close proximity of this project. 0.02 acres of wetland area lie within the construction limits from station 31+000 to 31+340. The contractor shall exercise caution to assure that no impacts occur to the wetland area adjacent to, but outside of the construction limits as identified in this plan. Any activities occurring in this wetland area would require special permits from the US Army Corp of Engineers and/or the Ohio EPA. Obtaining such permits would be the responsibility of the contractor.

Any other site proposed by the contractor for off project ancillary construction (staging areas, waste locations, and/or borrow locations) shall first be investigated by the contractor for environmental sensitivity. Any sites that are determined to be sensitive in nature shall not be disturbed unless clearance is made through the appropriate controlling agency/office and all federal, state, and local laws are complied with, including but not limited to the Clean Water Act and its amendments. The contractor is responsible for engaging an environmental consulting firm acceptable to the Department to field survey, evaluate, and clear the environmentally sensitive site with the US Army Corp of Engineers and/or the Ohio EPA.

This does not set a precedence that the Department will always put this notice in all environmentally sensitive projects. Environmental documentation is always available upon request.

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.

ITEM 604, CATCH BASINS

Precast catch basins shall not be permitted for this project. However, the top section of the catch basins shown on standard construction drawings CB-1.1M, CB-1.2M, CB-2.1M, CB-2.2M, and CB-2.3M shall be used.

CATCH BASINS REMOVED

All castings shall be carefully removed and stored within the right-of-way for salvage by the village forces.

Payment for all of the above shall be included in the contract price for the pertinent 202 item.

ITEM 604, MANHOLES

Manholes with flat top slabs located within the paved roadway shall be a minimum of 200mm thick.

MANHOLES, FIRE HYDRANTS AND VALVE BOXES ADJUSTED TO GRADE

Existing manholes, fire hydrants and water valves located within the construction limits shall be adjusted to grade as per sections 604.03, 638.15 and 638.19, respectfully.

The known locations of existing manholes, fire hydrants and valve boxes are shown on the Plan Sheets. However, there may be existing manholes and valve boxes present that are visibly undetectable due to the existing asphalt overlay and/or shoulder material buildup and have not been specifically located in the plan.

The following quantities have been carried to the General Summary to adjust catch basins, manholes, fire hydrants and valve boxes to grade :

- Item 604 - Manhole Adjusted to Grade - - - - - 18 Each
- Item 638 - Fire Hydrant Adjusted to Grade - - - - - 7 Each
- Item 638 - Valve Box Adjusted to Grade - - - - - 29 Each

The above totals reflect an additional quantity of 5 for each pay item, to be used as directed by the Engineer, for manholes and valve boxes that are not specifically located in the plan.

ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT

This item shall consist of constructing bulkheads in an existing conduit, and filling the area thus sealed with lean grout, Item 613, sand, or other material approved by the Engineer.

Bulkheads shall be located at the limits of the area to be filled as shown on the plans. The bulkheads shall consist of brick or concrete masonry with a minimum thickness of 300 mm.

The fill material shall be pumped into place, or placed by other means approved by the Engineer, so that, after settlement, at least 90 percent of the cross-sectional area of the conduit, for its entire length, shall be filled. The length of filled and plugged conduit to be paid for shall be the actual number of meters (measured along the centerline of the conduit from outer face to outer face of bulkheads) filled and plugged as described above.

In lieu of filling and plugging the existing conduit, the pipe may be crushed and backfilled according to the provisions of Section 203, or it may be removed.

The length, measured as described above, shall be paid for at the contract price per meter for Item Special, Fill and Plug Existing Conduit.

**ITEM 638 100mm GATE VALVE & VALVE BOX, AS PER PLAN
ITEM 638 150mm GATE VALVE & VALVE BOX, AS PER PLAN**

This item shall consist of removing the existing 100mm or 150mm gate valves and gate boxes that interfere with the proposed curb and gutter or the curbed radius returns of driveways, and installing a new 100mm or 150mm gate valve and valve box, on the existing water line, but outside the proposed work. New 100mm or 150mm water line will extend from the point that the existing gate valve is removed to the point the new gate valve is to be installed. The following locations apply for this item:

- Sta. 32+021.8, 6.9m Right (100mm)
- Sta. 32+068.3, 7.6m Right (100mm)
- Sta. 32+071.6, 5.7m Right (100mm)
- Sta. 32+096.2, 8.3m Right (150mm)

Payment for this work shall be made at the contract price bid of Each for Item 638, 100mm Gate Valve & Valve Box, As Per Plan and Item 638, 150mm Gate Valve & Valve Box, As Per Plan and shall include the cost of labor, tools, equipment, materials and incidentals to complete the work.

The following quantities have been carried to the General Summary for the work noted above:

- Item 638, 100mm Gate Valve & Valve Box, As Per Plan - - - - - 3 Each
- Item 638, 150mm Gate Valve & Valve Box, As Per Plan - - - - - 1 Each

PERPETUAL MAINTENANCE

The future maintenance of the catch basins at the following locations shall be the responsibility of the property owners:

- Sta. 30+754.846 32.415m Rt.
- Sta. 30+760.513 32.200m Lt.
- Sta. 31+443.720 9.800m Lt.
- Sta. 31+456.040 9.870m Lt.
- Sta. 31+500.470 9.144m Lt.
- Sta. 31+521.100 9.144m Rt.
- Sta. 31+546.150 10.000m Rt.
- Sta. 31+560.000 9.144m Ft.
- Sta. 31+649.660 10.250m Lt.
- Sta. 31+728.000 9.144m Lt.
- Sta. 32+061.000 7.620m Rt.
- Sta. 32+096.000 8.600m Rt.

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, 100mm Conduit, Type F, For Drainage Connection - - - - 30 Meter

ITEM SPECIAL, MAILBOX SUPPORT

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

Wood posts shall be nominal 100 mm by 100 mm square, or 115 mm diameter round, and conform to Section 710.14.

Steel posts shall be nominal pipe size 60.3 mm O.D., and conform to AASHTO M 181.

Hardware (plates, screws, bolts, etc.) shall be commercial-grade galvanized steel.

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

Support hardware shall accommodate either a single or a double mailbox installation, and no more than two boxes may be mounted on a single post.

The mailbox shall be securely and neatly attached by the Contractor to the new support. The Contractor shall furnish all necessary attachment hardware (nuts, bolts, plates, spacers, and washers) as necessary to accommodate the complete installation.

In the absence of a new mailbox supplied by the owner, the contractor shall salvage the existing box, and place it on the new support. Due care shall be exercised in such an operation, and the Contractor shall be responsible for repairing or replacing any box damaged by improper handling on his part, as judged and directed by the Engineer.

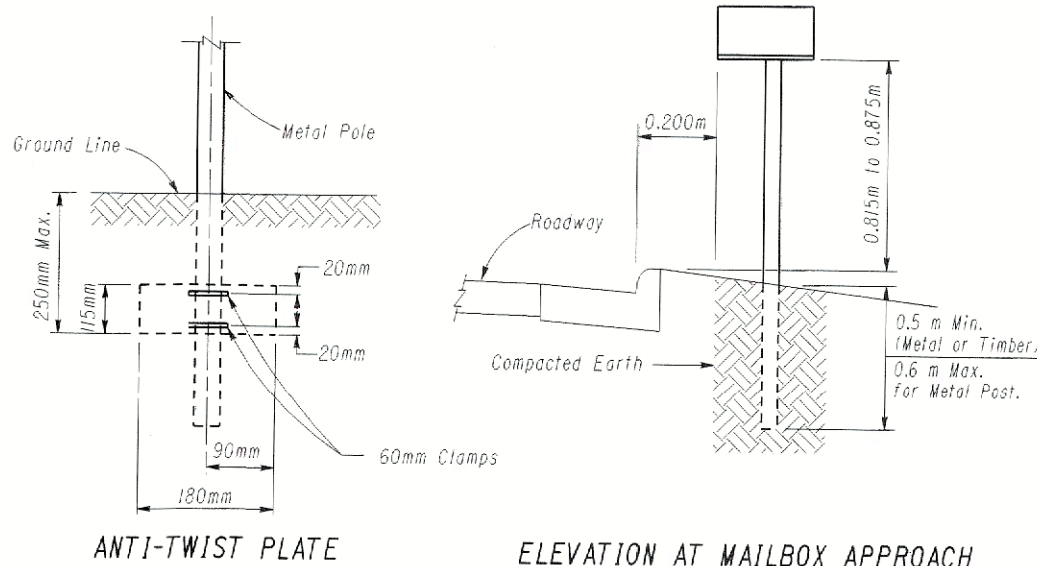
The Contractor shall be responsible for coordinating with the local post master regarding the timing of the movement of any mailbox to a new location. The local post office is located at 56 S. Washington Street, Millersburg, Ohio 44654.

Payment under this item shall be limited to final permanent installations. Temporary installations shall be in accordance with Section 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 per Each for Item Special, Mailbox support.

Payment will be under :

- Item Special, Mailbox Support, Single - - - - - 4 Each
- Item Special, Mailbox Support, Double - - - - - 7 Each
- Item Special, Mailbox Support, Multiple - - - - - 3 Each



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PAVING UNDER GUARDRAIL

This operation shall include preparation of the graded shoulder and paving under the guardrail using Item 448, Asphalt Concrete Intermediate Course, Type 1, PG64-22 (Under Guardrail), As Per Plan

The shoulder preparation shall include placing granular material and applying herbicide as specified in the plans and in accordance with the following:

Compactable granular material conforming to Section 203.02 shall be placed to grade as approved by the Engineer.

Herbicide shall be Treflan E. C., Spike, or an approved equal, and shall be applied to the prepared area that will be paved with asphalt concrete after final leveling and grading have been completed. The application shall be just prior to paving, and shall strictly adhere to the manufacturer's instructions.

Each successful bidder must be licensed by the Ohio Department of Agriculture as a commercial applicator, and all persons involved in the actual spraying shall be licensed as commercial operators in the appropriate spray category. Appropriate licenses shall be submitted to the Project Supervisor for verification prior to commencing work.

After the shoulder preparation, paving under the guardrail shall consist of placing a 50 mm course of Item 448 using the following:

- 1) Place Item 448*
- 2) Bore asphalt at post locations (may be omitted if steel posts are used)*
- 3) Set guardrail posts*
- 4) Patch around posts. The materials used for patching shall be a bituminous concrete approved by the Engineer. Patched areas shall be compacted using either hand or mechanical methods. Finished surfaces shall be smooth and sloped to drain away from the posts.*

All equipment, materials, and labor required to pave under the guardrail, with the exception of setting guardrail posts, shall be included in payment under Item 448, Asphalt Concrete Intermediate Course, Type 1, PG64-22 (Under Guardrail), As Per Plan.

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ITEM 614, MAINTAINING TRAFFIC

The Contractor shall maintain traffic in accordance with the requirements of the plan details, specifications, standard drawings, the Ohio Manual of Uniform Traffic Control Devices, current edition, with the latest revisions at the time of the award of the contract and Item 614.

Two-way, two-lane traffic shall be maintained at all times by use of the existing pavement, the completed pavement, and Item 615 temporary pavement as indicated on the plans. Phase construction shall be used in order to accomplish the desired traffic maintenance. The Contractor shall construct this project in four phases as described under the maintenance of traffic note "SEQUENCE OF CONSTRUCTION" on sheet no. 10.

For each phase temporary traffic control devices and temporary pavement markings shall be provided as indicated in the plan details, the specifications, standard drawings, and the Ohio Manual of Uniform Traffic Control Devices for Streets and Highways, current edition, with the latest revisions. Temporary pavement markings shall be paid under the unit bid price for Item 614 Work Zone Pavement Markings as shown on Sheets 16-45. The cost to provide, erect, maintain and remove all temporary traffic control devices shall be included in the lump sum price bid for Item 614, Maintaining Traffic, unless separately itemized in the plans.

If directed by the Engineer, Item 410 Traffic Compacted Surface, Type A or B, may be utilized to maintain driveways and intersections and Item 614 Bituminous Concrete may be used to maintain the existing pavement edge on U.S. 62 and the pavement for Glen Drive. Alternating one-way traffic will be permitted for brief periods of time during construction but will be held to an absolute minimum as directed by the Engineer. Two-way two-lane traffic shall be restored as quickly as possible and must be in effect by the end of the work day on U.S. 62.

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.

Although specific locations are shown in the plan for certain traffic control items, the Engineer may adjust the actual locations of any traffic control items to satisfy field conditions.

In addition to the quantities shown on sheet no. 49, the following estimated quantities have been included in the General Summary for use as directed by the Engineer for the maintenance of traffic:

- Item 410, Traffic Compacted Surface, Type A or B - - - - - 100 Cu. Meter
- Item 607, Fence Misc.: Temporary Orange Plastic Construction Fence - - 1000 Meter
- Item 614, Bituminous Concrete for Maintaining Traffic - - - - - 80 Cu. Meter
- Item 615, Temporary Road - - - - - Lump

COUNTY ROAD 58 & GLEN DRIVE: The Contractor shall maintain access to County Road 58 and Glen Drive at all times during all phases of the project. The Contractor shall submit his plan for maintaining traffic to the Engineer for written approval prior to implementing his plan.

All work shall be in accordance with Item 614 and other applicable portions of the Specifications, as well as the Ohio Manual of Uniform Traffic Control Devices, current edition. Payment for all labor, equipment, and materials shall be included in the lump sum contract price bid for Item 614, Maintaining Traffic, unless separately itemized in the plan.

ACCESS TO ADJACENT PROPERTIES

The Contractor shall maintain access to all residential and commercial driveways at all times in accordance with the requirements of Item 614. Driveways shall be closed to traffic for the actual time necessary to remove the existing pavement and construct the new driveway aprons. Residential or commercial properties that have multiple driveways shall have one maintained while the other(s) are being constructed. The Contractor shall give the affected property and business owners/occupants a seven day minimum written notice when the driveways will be closed for construction. Temporary access will be maintained using Item 410 Traffic Compacted Surface, Type A or B. Item 616 Calcium Chloride will be used to stabilize the aggregate. Where necessary and when directed by the Engineer Item 614, Bituminous Concrete for Maintaining Traffic may be used to provide temporary access to adjacent properties.

The following quantities have been included in the General Summary to be used as directed by the Engineer for maintaining access to adjacent properties:

- Item 410 Traffic Compacted Surface, Type A or B - - - - - 120 Cu. Meters
- Item 614 Bituminous Concrete for Maintaining Traffic - - - - 50 Cu. Meters
- Item 616 Calcium Chloride - - - - - 2 Metric Tons
- Item 616 Water - - - - - 50 Cu. Meters

ALTERNATE METHODS

If the Contractor so elects, he may submit alternate methods for the maintenance of traffic, provided the intent of the above provisions is followed and no additional inconvenience to the traveling public results therefrom. No alternate plan shall be placed into effect until approval has been granted in writing by the Engineer.

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 an official patrol car with working top-mounted emergency flashing lights shall be provided for controlling traffic for the following tasks:

- 1) For lane closures: during initial set-up periods, tear down periods, substantial shifts of a lane closure point, or when new lane closure arrangements are initiated.
- 2) During the entire advance preparation and closure sequence for
- 3) For patrolling any or all of the project area as deemed appropriate by the Engineer.

Law enforcement officers (LEO'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 the Village of Millersburg Police Department, 6 North Washington St., Millersburg, OH 44654 [330-674-5931] and the Ohio Highway Patrol, Wooster Patrol Post, 1786 Dover Road, Wooster, OH 44691 [330-264-0575].

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 quantity has been carried to the Maintenance of Traffic General Summary:

Item 614, Law Enforcement Officer With Patrol Car - - - - - 150 Hour

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 that required in these plans, he may do so at his own expense. Payment for the excess above the contract requirements will be included under item 614, Maintaining Traffic.

NOTIFICATION OF WORK ZONE LANE RESTRICTIONS

The Contractor shall notify the Engineer at least eighteen (18) days prior to implementing any work zone restrictions that 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.

ITEM SPECIAL, REPLACEMENT SIGN

Flat sheet signs furnished by the Contractor in accordance with the requirements of the plans, specifications, and proposal that become damaged by traffic for reasons beyond the control of the Contractor shall be replaced in kind when ordered by the Engineer. Replacement signs shall be new. Other materials may be in used but good condition subject to approval by the Engineer. Payment for the new signs shall be made at the contract price per square foot for Item Special, Replacement Sign, and shall include the cost of removing and disposing of damaged signs, hardware and supports, and providing the necessary replacement hardware, supports, etc.

An estimated quantity of 6 square meters has been provided in the Maintenance of Traffic General Summary.

ITEM SPECIAL, REPLACEMENT DRUM

Drums furnished by the Contractor in accordance with the requirements of the plans, specifications, and proposal which become damaged by traffic for reasons beyond the control of the Contractor shall be replaced in kind when ordered by the Engineer. Replacement drums shall be new.

Payment for the new drums shall be made at the contract price per each for Item Special, Replacement Drum, and shall include the cost of removing and disposing of the damaged drum, and providing and maintaining the replacement drum in accordance with the contract requirements for the original drum.

An estimated quantity of 15 each has been provided in the Maintenance of Traffic General Summary.

ITEM 622, BARRIER MISC.: PORTABLE BARRIER, AS PER PLAN

This item shall consist of furnishing, installing, and subsequently removing a water-filled plastic portable barrier system including all related hardware, not separately specified, as required by the manufacturer to install a complete and functional Triton Barrier system.

The Triton Barrier system shall be placed according to the manufacturer's specifications, and at the locations shown in the plans on sheet no's. 20-21. The Triton Barrier is manufactured by Energy Absorption Systems, Inc., and is distributed by Baldwin & Sours, 5263 Traube Road, Columbus, Ohio 43228, telephone (614) 851-8800.

Before installing the barrier sections, the Contractor shall clear the surface area on which the barrier sections will rest of all loose sand, gravel, dirt, and debris.

The top of the Triton Barrier shall be delineated with 229 mm x 381 mm object markers spaced at 6 m (every third barrier segment). The cost of the hardware accessories required to mount the object markers to the top of the barrier shall be incidental to the cost of the barrier.

The Contractor shall be responsible for maintaining and repairing the Triton Barrier system according to the manufacturer's maintenance instructions while it is in use during construction of the project. The Contractor shall bear all costs associated with supplying the necessary labor, materials, hardware, equipment, and incidentals required to maintain and repair the Triton Barrier system.

The quantity of Triton Barrier measured shall be the total number of meters for each application of the barrier placed according to the plans. Each reuse of barrier sections at a different location required by the plans shall be measured separately for payment.

Payment for the above work, including furnishing, installing, maintaining, repairing, and removing the barrier system, will be made at the contract price for item 622, Meter, Barrier Misc.: Portable Barrier, As Per Plan, and shall include the cost of all labor, materials, hardware, equipment, hardware, and incidentals necessary to complete the work.

ITEM 614, BARRIER REFLECTORS AND/OR OBJECT MARKERS

Barrier reflectors and/or object markers shall be installed on all portable barrier used for traffic control. Barrier reflectors, object markers and their installation shall conform to the appropriate proposal note, and Item 626, except that the spacing shall be 6 meters.

For quantities, see sheet no. 49.

FLOODLIGHTING

Floodlighting of the work site for operations conducted during night time periods shall be accomplished so that the lights do not cause glare to the drivers on the roadway. To ensure the adequacy of the floodlight placement, the Contractor and the Engineer shall drive throughout the work site each night when the lighting is in place and operative prior to commencing any work. If glare is detected, the light placement and shielding shall be adjusted to the satisfaction of the Engineer before work proceeds.

Payment for all labor, equipment and materials shall be included in the lump sum contract price for Item 614, Maintaining Traffic.

TEMPORARY ROAD EARTHWORK

The following quantities have been included in the plan for information only. These quantities are additional earthwork beyond what can be incorporated into the proposed work.

- Temporary earthwork excavation - - - - - 8.0 Cu. Meters
- Temporary earthwork embankment - - - - - 24.0 Cu. Meters

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 carried to the General Summary for dust control purposes:

- Item 616, Water - - - - - 200 Cu. Meter
- Item 616, Calcium Chloride - - - - - 5 Metric Ton

MAINTENANCE OF TRAFFIC GENERAL NOTES

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SEQUENCE OF CONSTRUCTION

The Contractor shall construct this project in four phases as follows:

PHASE 1:

1. The Engineer and Contractor shall inspect all lanes that will be used to maintain traffic and determine any areas that needs to be repaired by the Contractor to provide a pavement condition that is reasonably smooth and free from holes, ruts, ridges, bumps, dust, and standing water.
2. Construct Item 614, Temporary Pavement as shown on sheet no's. 16 thru 18, including the removal of any existing curbs and driveways as needed.
3. Install all temporary traffic control devices shown on sheet no's. 16 thru 18. The Contractor shall cover the temporary signing until they are needed to divert traffic, and any existing signing that conflict with the temporary signing.

Install temporary orange plastic construction fence around any removed approaches and driveways, as necessary to separate pedestrians from the active work areas. All the temporary fence installations and locations shall be approved by the Engineer.

4. Divert traffic onto the two-way, two-lane operation as shown in the plans.
5. Perform Phase 1 construction which will consist of 163.20 meters of profile correction and 104.00 meters of pavement widening. At no time during this work will more than 150 meters of the pavement base widening trench be open at one time. The profile correction work shall be completed up to, and including, Item 448, Asphalt Concrete Intermediate Course and the pavement base widening trench shall be completed up to, and including, the Item 301, Bituminous Aggregate Base Course. The Item 448 course for the profile correction shall be feathered into the Item 301 and the existing pavement of the pavement widening work area. All necessary embankment and excavation work, curb and gutter, guardrail, and culvert and/or drainage work that is required for the Phase 1 section shall also be completed. All driveways on the southbound side through the Phase 1 work area shall be completed prior to going to Phase 2.
6. Remove the temporary traffic control devices put in place under #3 above.

PHASE 2:

1. Construct Item 614, Temporary Pavement as shown on sheet no. 22, including the removal of any existing curbs and driveways as needed.
2. Install all temporary traffic control devices shown on sheet no's. 20 thru 23. The Contractor shall cover the temporary signing until they are needed to divert traffic, and any existing signing that conflict with the temporary signing.

Install temporary orange plastic construction fence around any removed approaches and driveways, as necessary to separate pedestrians from the active work areas. All the temporary fence installations and locations shall be approved by the Engineer.

3. Divert traffic onto the two-way, two-lane operation as shown in the plans.
4. Perform Phase 2 construction which will consist of 163.20 meters of profile correction and 124.00 meters of pavement widening. At no time during this work will more than 150 meters of the pavement base widening trench be open at one time. The profile correction work shall be completed up to, and including, Item 448, Asphalt Concrete Intermediate Course and the pavement base widening trench shall be completed up to, and including, the Item 301, Bituminous Aggregate Base Course. The Item 448 course for the profile correction shall be feathered into the Item 301 and the existing pavement of the pavement widening work area. All necessary embankment and excavation work, curb and gutter, guardrail, and culvert and/or drainage work that is required for the Phase 2 section shall also be completed. All driveways on the northbound side through the Phase 2 work area shall be completed prior to going to Phase 3.
5. Remove the temporary traffic control devices put in place under #2 above.

PHASE 3:

1. While maintaining alternating two-way traffic on one lane in accordance with Standard Drawing MT-97.11M complete the Item 254, Pavement Planing for both the northbound and the southbound lanes.
2. Construct Item 614, Temporary Pavement as shown on sheet no's. 25 thru 34, including the removal of any existing curbs and driveways as needed.
3. After completion of the pavement planing and placement of the temporary pavement install all temporary traffic control devices as shown on sheet no's. 25 thru 34. The Contractor shall cover the temporary signing until they are needed to detour traffic, and any existing signing that conflict with the temporary signing.

Install temporary orange plastic construction fence around any removed approaches and driveways, as necessary to separate pedestrians from the active work areas. All the temporary fence installations and locations shall be approved by the Engineer.

4. Divert traffic onto the two-way, two-lane operation as shown in the plans.

5. Construct the remaining pavement widening for the northbound lane. At no time during this work will more than 150 meters of the pavement base widening trench be open at one time. The pavement base widening trench shall be completed up to, and including, the Item 301, Bituminous Aggregate Base Course. All necessary embankment and excavation work, curb and gutter, and drainage work that is required for the Phase 3 section shall also be completed. All driveways on the northbound side through the Phase 3 work area shall be completed prior to going to Step #7.

6. Remove the temporary traffic control devices installed under #3 above.
7. While maintaining alternating two-way traffic on one lane in accordance with Standard Drawing MT-97.11M place the Item 448, Type 1 Leveling Course for both the northbound and southbound lanes. Then place the Item 448, Asphalt Concrete Intermediate Course for the northbound lane and for 3.1 meters left of the centerline for the southbound lane (to the sawcut joint for the pavement widening trench; see the Maintenance of Traffic typical section for Phase 4).
8. Apply temporary pavement markings to the newly completed pavement.

PHASE 4:

1. Install all temporary traffic control devices shown on sheet no. 35-45. The Contractor shall cover the temporary signing until they are needed to divert traffic, and any existing signing that conflict with the temporary signing.

Install temporary orange plastic construction fence around any removed approaches and driveways, as necessary to separate pedestrians from the active work areas. All the temporary fence installations and locations shall be approved by the Engineer.

2. Divert traffic onto the two-way, two-lane operation as shown in the plans.
3. Construct the remaining pavement widening for the southbound lane. At no time during this work will more than 150 meters of the pavement base widening trench be open at one time. The pavement base widening trench shall be completed up to, and including, the Item 448, Asphalt Concrete Intermediate Course. All necessary embankment and excavation work, curb and gutter, and drainage work that is required for the Phase 4 section shall also be completed. All driveways on the southbound side through the Phase 4 work area shall be completed.
4. Apply temporary pavement markings to the newly completed pavement as required.

After Phase 4 is complete, the Item 448, Surface Course shall be applied for the entire project. Traffic shall be maintained per Standard Construction Drawing MT-97.11M. Permanent pavement markings will then be completed. The Contractor may perform any signing and traffic signal work that occurs within the active work areas in each Phase.

During Phase 3, Step #1 and after Phase 4, when traffic is not being maintained by flaggers in accordance with Std. Dwg. MT-97.11M, the Contractor will ensure that all lanes of traffic will be open to the public.

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 that is open at any one time shall be held to a minimum, and shall at all times be subject to the approval of the Engineer.

ITEM 304 - AGGREGATE BASE

During the Pavement Base Widening the Contractor shall place the Item 304, Aggregate Base, for that portion of the widening trench that is open, by the end of each day.

ITEM SPECIAL, TEMPORARY GUARDRAIL

This item shall consist of furnishing, constructing, maintaining, and subsequently removing the temporary guardrail which consists of a Bridge Terminal Assembly, Type 4, Type 5 guardrail and a Type A Anchor Assembly. Refer to Standard Drawings GR-2.1M, GR-3.4M and GR-4.1M for additional information.

When no longer needed, the temporary guardrail shall become the property of the Contractor.

Payment for the above work, including the bridge terminal assembly and the anchor assembly, will be made at the contract price bid for Item Special, Linear Meter, Temporary Guardrail, and shall include the cost of all labor, materials, equipment, and incidentals as necessary to complete the work.

ITEM 614, TEMPORARY BARRIER REFLECTORS

Item 614, Temporary Barrier Reflectors will be furnished for the Item Special, Temporary Guardrail. These will be Type A2 bidirectional guardrail reflectors.

NEW SIGNAL ACTIVATION

The Contractor shall maintain traffic at all times while constructing the proposed signal at Glen Drive and U.S. 62 and refer to sheet no. 131 for new signal activation notes.

MAINTENANCE OF TRAFFIC GENERAL NOTES

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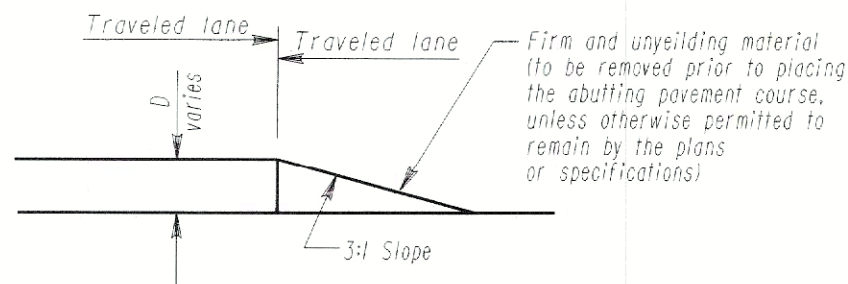
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GENERAL NOTES

- 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. 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.
- 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.
- 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.
- The drop-off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.
- Where concrete barrier is specified, it shall be in accordance with Standard Construction Drawing RM-4.2M and Item 622.
- When drums are specified for a dropoff condition, a minimum number of four drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD.
- When OW-151 (Low Shoulder) signs or OW-171 (Uneven Lanes) and OWP-171 Signs are required, they shall be placed 229m in advance of the construction, on all intersecting entrance ramps within the limits of the condition and immediately beyond all intersecting roadways within the limits of the condition. When the dropoff condition extends more than 0.80km, additional signs should be erected at intervals of 1.61km or less.
- For locations, such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate any difference in elevation between pavements, a 3:1 slope treatment similar to the Optional Wedge Treatment shall be provided.
- 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 3m, drums may be placed on the opposite level from that of traffic provided the dropoff depth does not exceed 127mm and approval is granted by the Project Engineer.
- Pavement repairs (or similar work):
 - Lengths greater than 18m - utilize appropriate treatment from Condition I.
 - Lengths of 18m or less - repairs shall be effected in accordance with 255.08. Drums may be used as a separator adjacent to the traveled lane.

OPTIONAL WEDGE TREATMENT (MILLING OR RESURFACING)

- This treatment may be used when permitted for Condition I only.
- OW-171 and OWP-171 signs required.

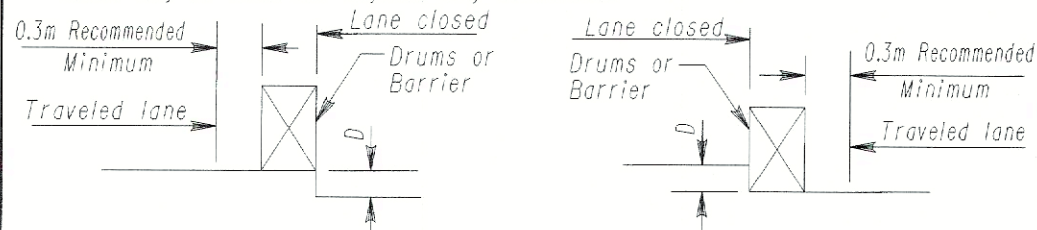


CONDITION I DROPOFFS BETWEEN TRAVELED LANES

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

D (mm)	Treatment
≤ 38	Erect OW-171 and OWP-171 signs.
>38 ≤76	1) Lane closure utilizing drums* as shown below or 2) Optional Wedge Treatment.
>76 ≤127	Lane closure utilizing drums as shown below.
>127	Lane closure utilizing portable concrete barrier as shown below

*Cones may be used for daytime only conditions.

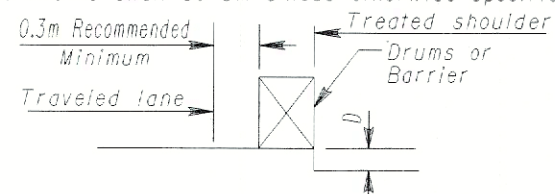


CONDITION II DROPOFFS WITHIN GRADED SHOULDER AREA

- The treatments indicated below are for use in conjunction with resurfacing, planing, or excavations within the graded shoulder area.
- The graded shoulder area is that flat or gradually sloping area between the edge of a normally traveling 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 purposes herein, its maximum width shall be considered to four (4) meters.

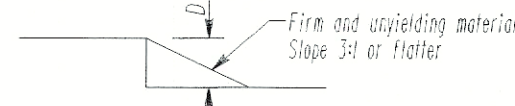
D (mm)	Treatment
≤ 38	1) If edgelines are present, no treatment necessary or 2) Erect OW-171 and OWP-171 signs.
>38 ≤127	1) If min. lane width* requirements can be met, maintain lanes utilizing drums as shown below or 2) If min. lane width* requirements cannot be met, close adjacent lane utilizing drums or 3) Optional Shoulder Treatment.
>127 <305 Daylight only	If min. lane width* requirements can be met, maintain lanes utilizing drums as shown below.
>127 ≤610	1) If min. lane width* requirements can be met, maintain lanes utilizing portable concrete barrier as shown below or 2) If min. lane width* requirements cannot be met, close adjacent lane utilizing drums.
>610	Lane closure utilizing portable concrete barrier as shown below.

*Minimum lane widths shall be 3m unless otherwise specified in the plans.



OPTIONAL SHOULDER TREATMENT

- This treatment may not be used within a bituminous shoulder where a hot longitudinal joint per 401.15 is required
- OW-151 signs required.



CONDITION III

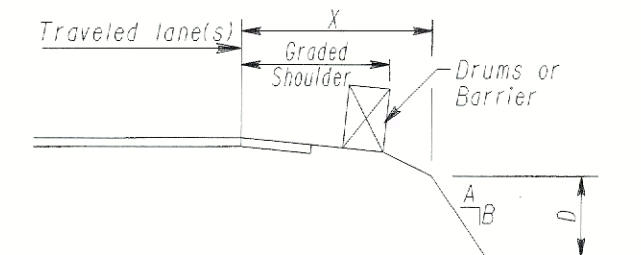
DROPOFFS BEYOND GRADED SHOULDER OR BACK OF CURB

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

CHART A

USE FOR:

- Uncurbed Facilities.
- Curbed Facilities, where:
 - Curbs are less than 152mm in height.
 - Curbs are 152mm or greater in height and the legal speed is greater than 64 kph.



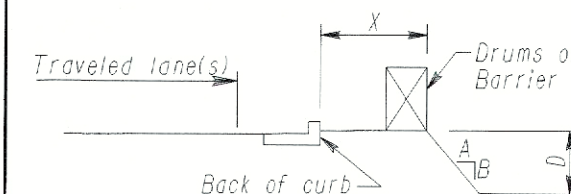
X (m)	D (mm.)	A/B	Treatment Required	
			Day	Night
<1	Any	Any	(a)	(a)
>1 <9	Any	3:1 or Flatter	None	None
>1 <4	<76	Steeper than 3:1	None	None
>1 <4	>79 <305	Steeper than 3:1	Drums	Drums
>1 <4	>305	Steeper than 3:1	Drums	Barrier
>4 <6	<305	Steeper than 3:1	None	None
>4 <6	>305 <610	Steeper than 3:1	Drums	Drums
>4 <6	>610	Steeper than 3:1	Drums	Barrier
>6 <9	<610	Steeper than 3:1	None	Drums
>6 <9	>610	Steeper than 3:1	Drums	Barrier
>9	Any	Any	None	None

(a) Use treatment specified under Condition II

CHART B

USE FOR:

- Curbed facilities where the curb is 152mm or greater in height and the legal speed is 64 kph or less.



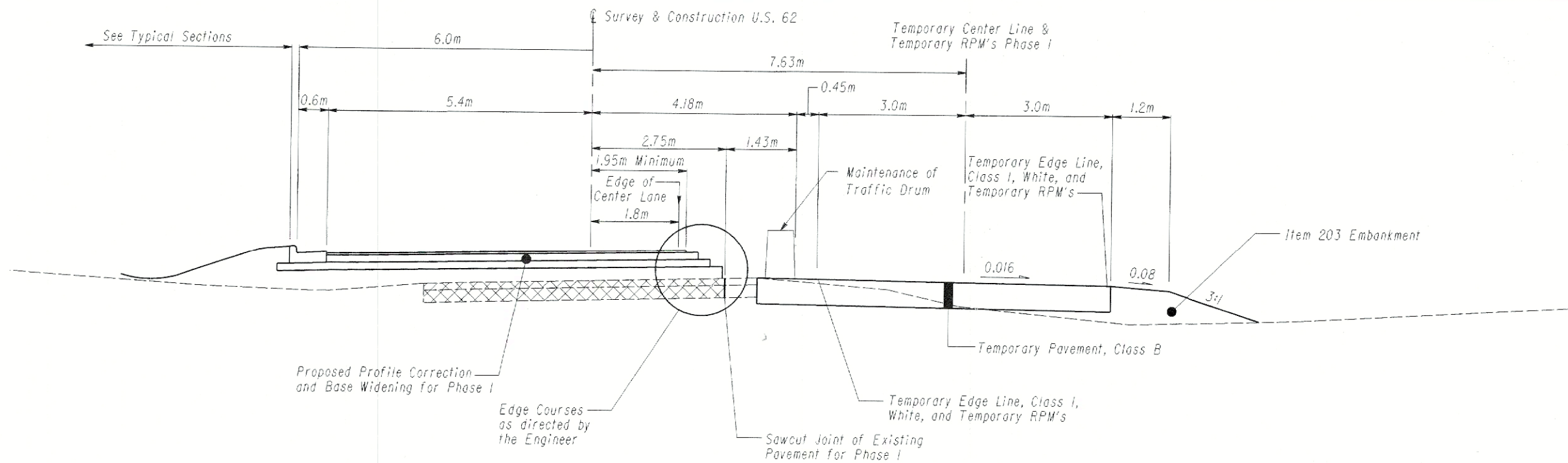
X (m)	D (mm.)	A/B	Treatment Required	
			Day	Night
0-3	<305	Any	None	Drums
0-3	>305	Any	Drums	Drums
>3	Any	Any	None	None

DROP OFFS IN WORK ZONES

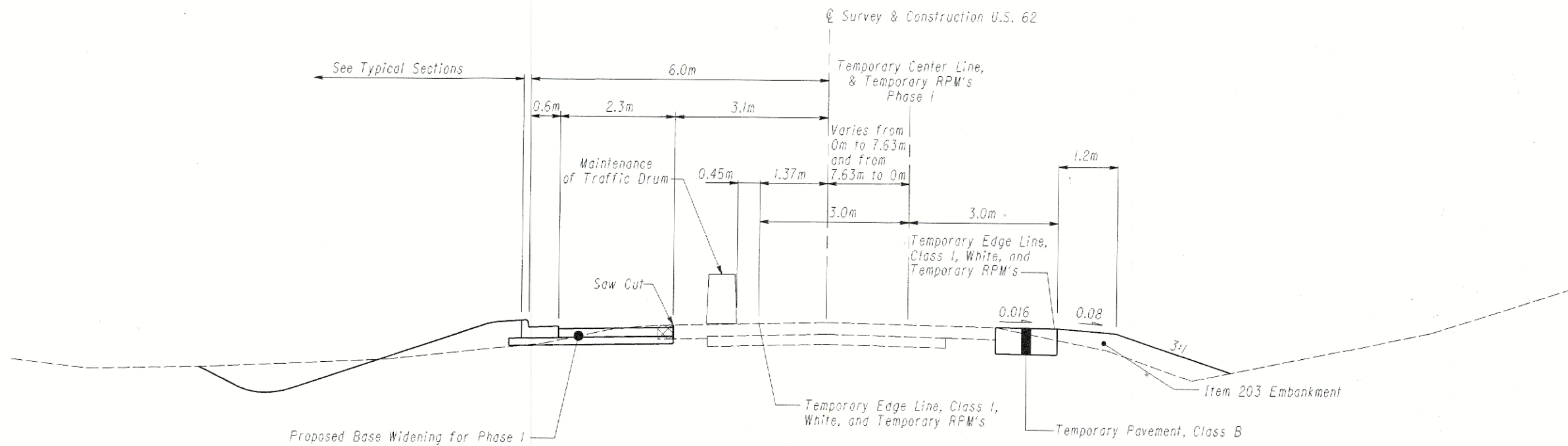
HOL-62-30.649

11
180

CALCULATED
SAL
CHECKED
SHG

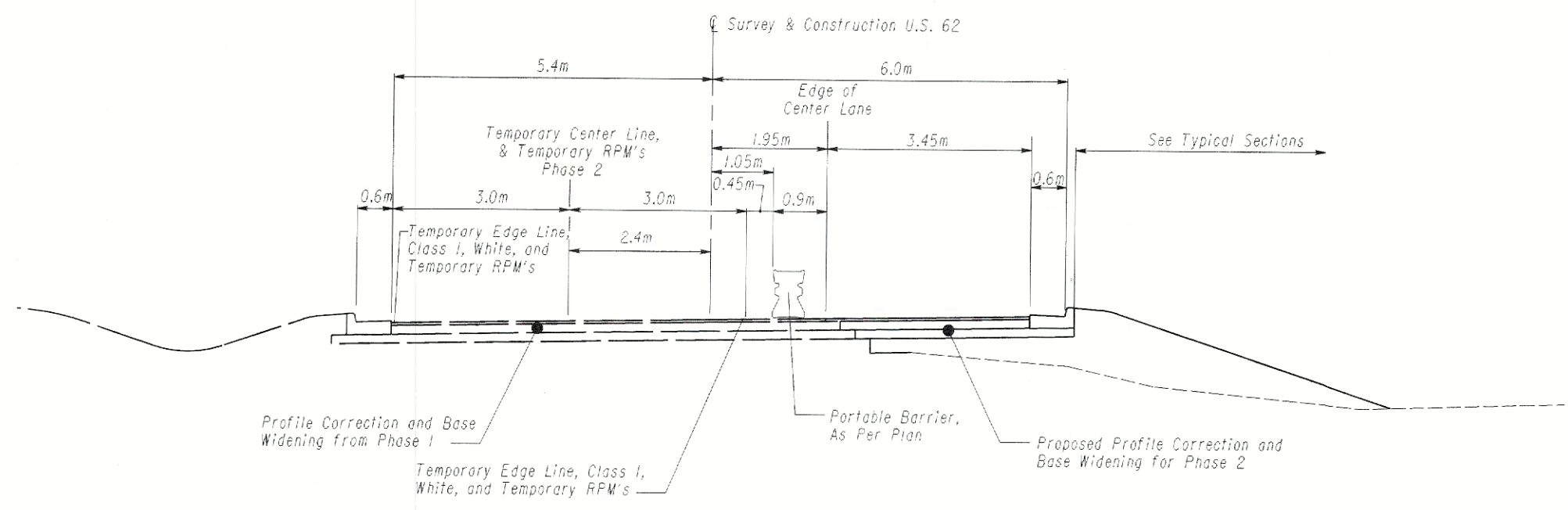


MAINTENANCE OF TRAFFIC THROUGH PROFILE CORRECTION & TRANSITION TO PAVEMENT WIDENING
 Sta. 30+692.800 to Sta. 30+870.000
 PHASE I MAINTENANCE OF TRAFFIC



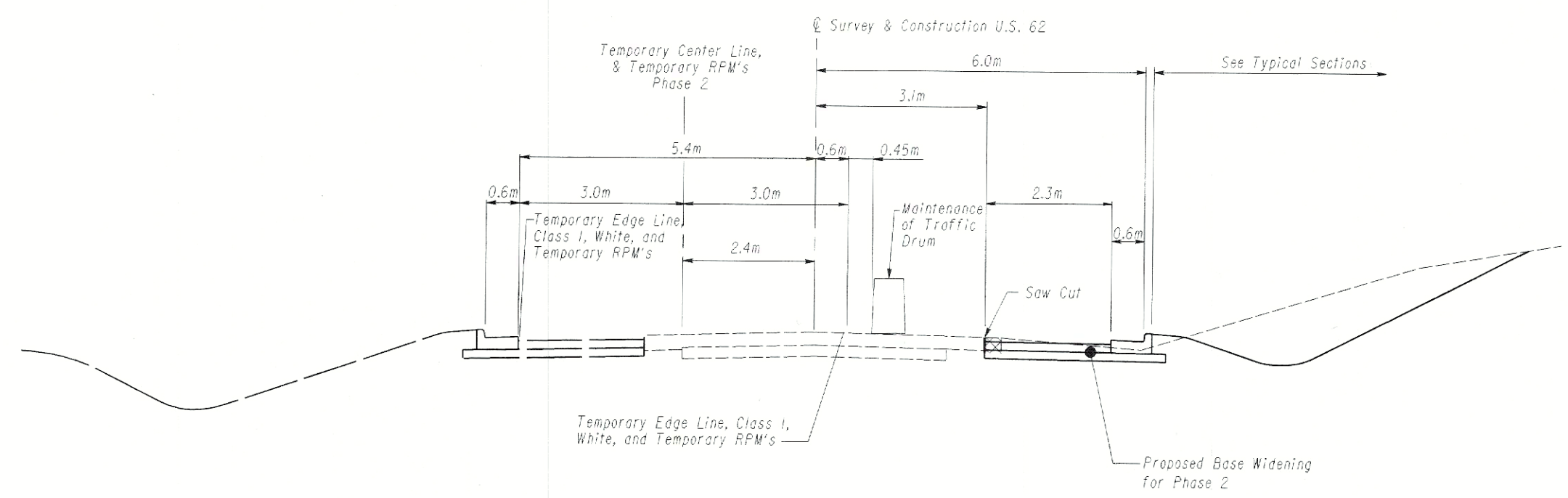
MAINTENANCE OF TRAFFIC THROUGH PAVEMENT WIDENING
 Sta. 30+648.720 to Sta. 30+692.800
 Sta. 30+870.000 to Sta. 30+960.000
 PHASE I MAINTENANCE OF TRAFFIC

CALCULATED SAL CHECKED RDA
 MAINTENANCE OF TRAFFIC TYPICAL SECTIONS
 HOL-62-30.649
 12/180



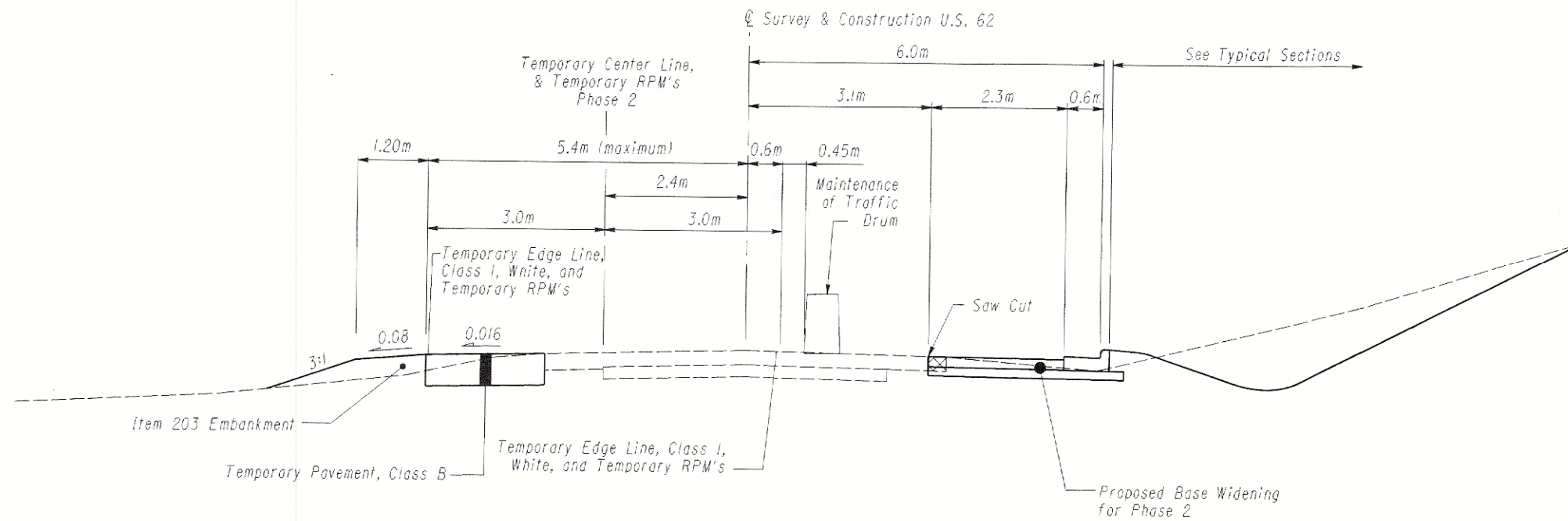
MAINTENANCE OF TRAFFIC THROUGH PROFILE CORRECTION
Sta. 30+692.800 to Sta. 30+856.000

PHASE 2 MAINTENANCE OF TRAFFIC



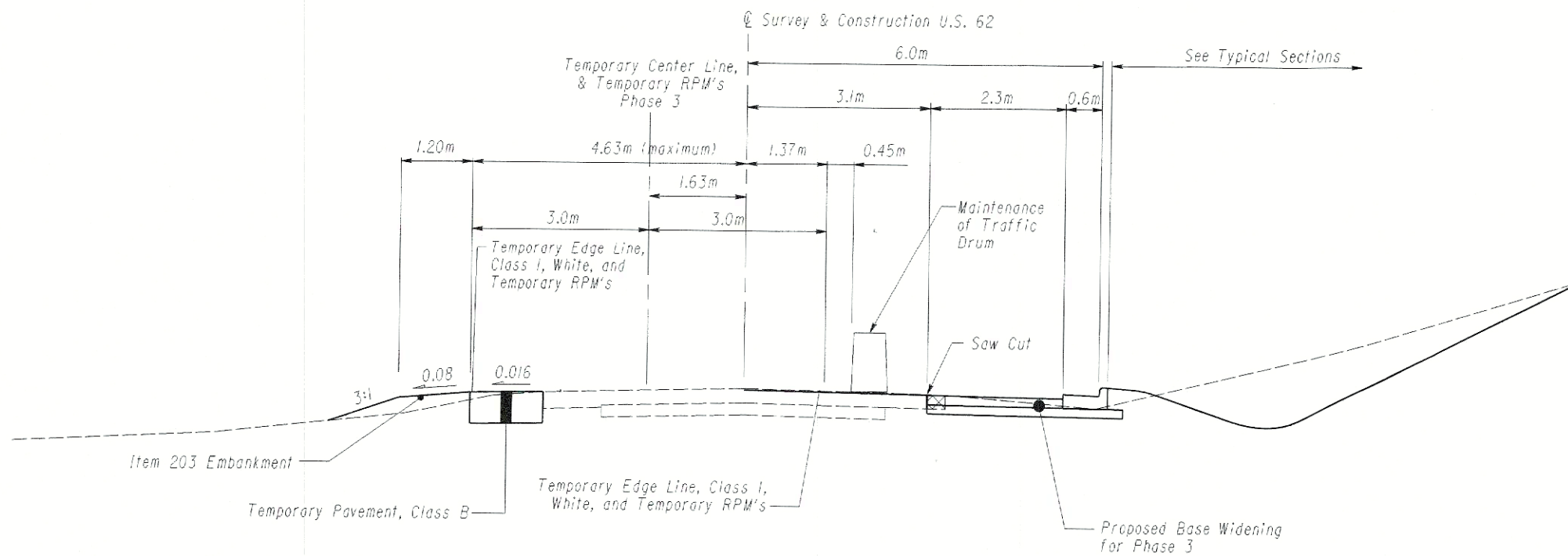
MAINTENANCE OF TRAFFIC THROUGH PAVEMENT WIDENING
Sta. 30+648.720 to Sta. 30+692.800
Sta. 30+856.000 to Sta. 30+960.000

PHASE 2 MAINTENANCE OF TRAFFIC



MAINTENANCE OF TRAFFIC THROUGH PAVEMENT WIDENING
Sta. 30+960.000 to Sta. 31+014.314

PHASE 2 MAINTENANCE OF TRAFFIC



MAINTENANCE OF TRAFFIC THROUGH PAVEMENT WIDENING
Sta. 30+980.000 to Sta. 32+165.000

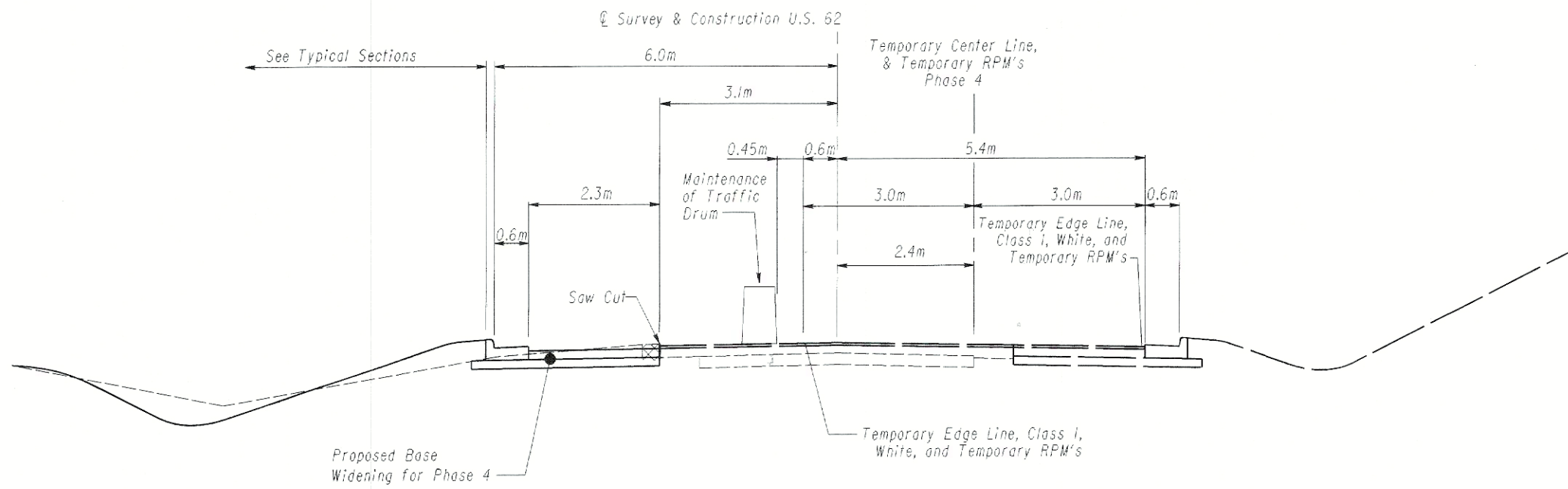
PHASE 3 MAINTENANCE OF TRAFFIC

MAINTENANCE OF TRAFFIC TYPICAL SECTIONS

HOL-62-30.649

14
180

CALCULATED
SAL
CHECKED
RDA



MAINTENANCE OF TRAFFIC THROUGH PAVEMENT WIDENING
 Sta. 30+960.000 to Sta. 32+165.000

PHASE 4 MAINTENANCE OF TRAFFIC


CALCULATED
 SAL
 CHECKED
 RDA

MAINTENANCE OF TRAFFIC TYPICAL SECTIONS

HOL-62-30.649

15
 180

LEGEND

- (CL-1) Temporary Centerline
- (EL-1) (EL-2) Temporary Edge Lines
- (R-3) Removal Items
- (GR-1) Guardrail
- (TP-1) Temporary Pavement
-  Temporary Pavement Areas

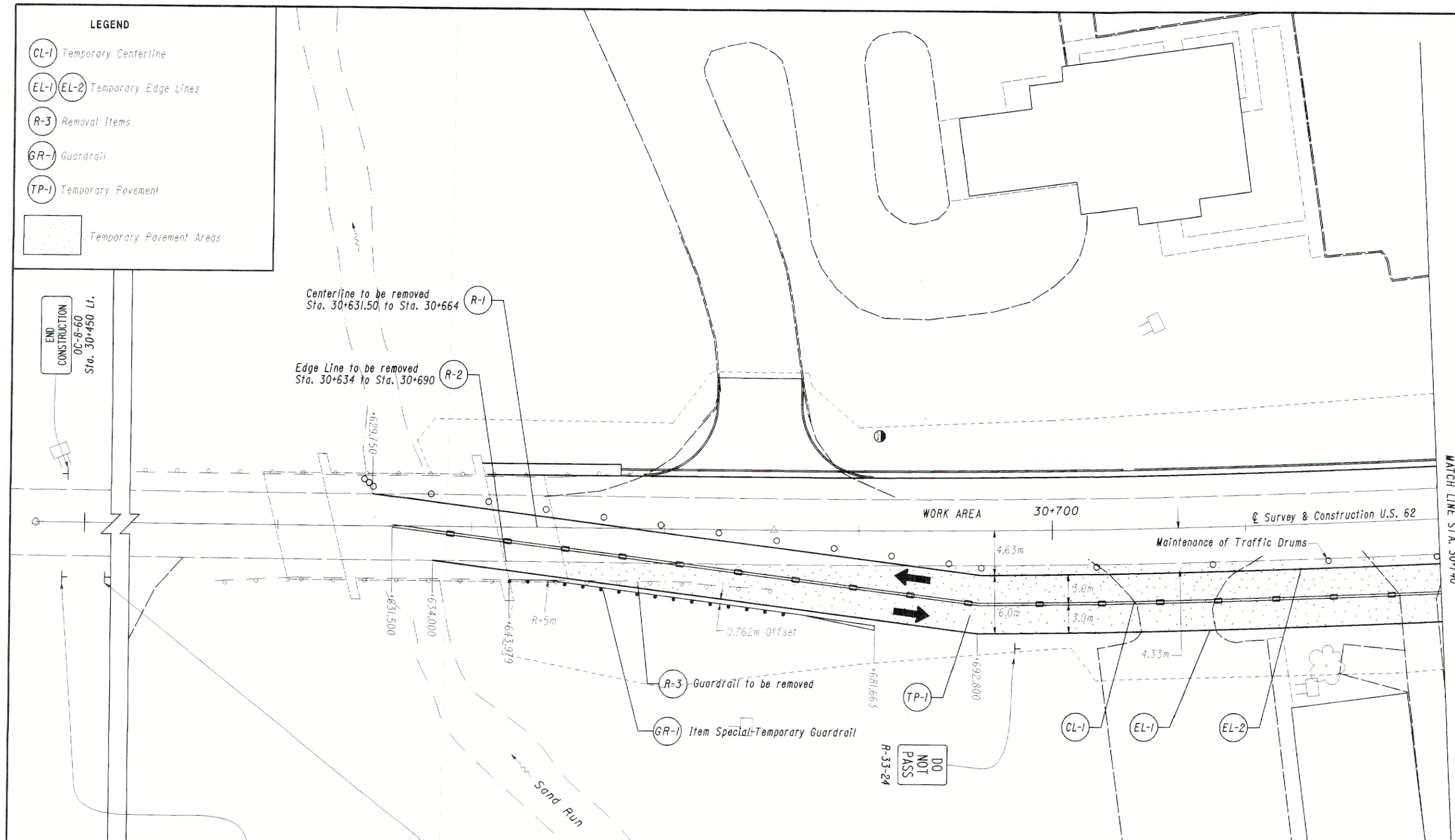


CALCULATED	SAL
PREPARED	TKD

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 30+408 to STA. 30+740

HOL-62-30.649

16
180



END
CONSTRUCTION
OC-8-60
Sta. 30+450 Lt.

OW-128-36
Sta. 30+408 Rt.

W-143-24
Sta. 30+530 Rt.

W-5-30
25
MPH

TYPE A FLASHING
WARNING LIGHT

QUANTITIES

(Carried to Sheet No. 49)

Item 202, Guardrail Removed	-----	27.3 Meter
Item Spec., Temporary Guardrail	-----	38.1 Meter
Item 614, Barrier Reflector, Type A2	-----	4 Each
Item 614, Temporary Raised Pavement Marker (Yellow)	-----	34 Each
Item 614, Temporary Centerline, Class 1, 642 Paint	-----	0.110 Kilometer
Item 614, Temporary Edge Line, Class 1, 642 Paint	-----	0.216 Kilometer
Item 615, Temporary Pavement, Class B	-----	529 Sq. Meters
Item 642, Removal of Pavement Marking (Centerline, Edge Line)	-----	88 Meter

NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70 .



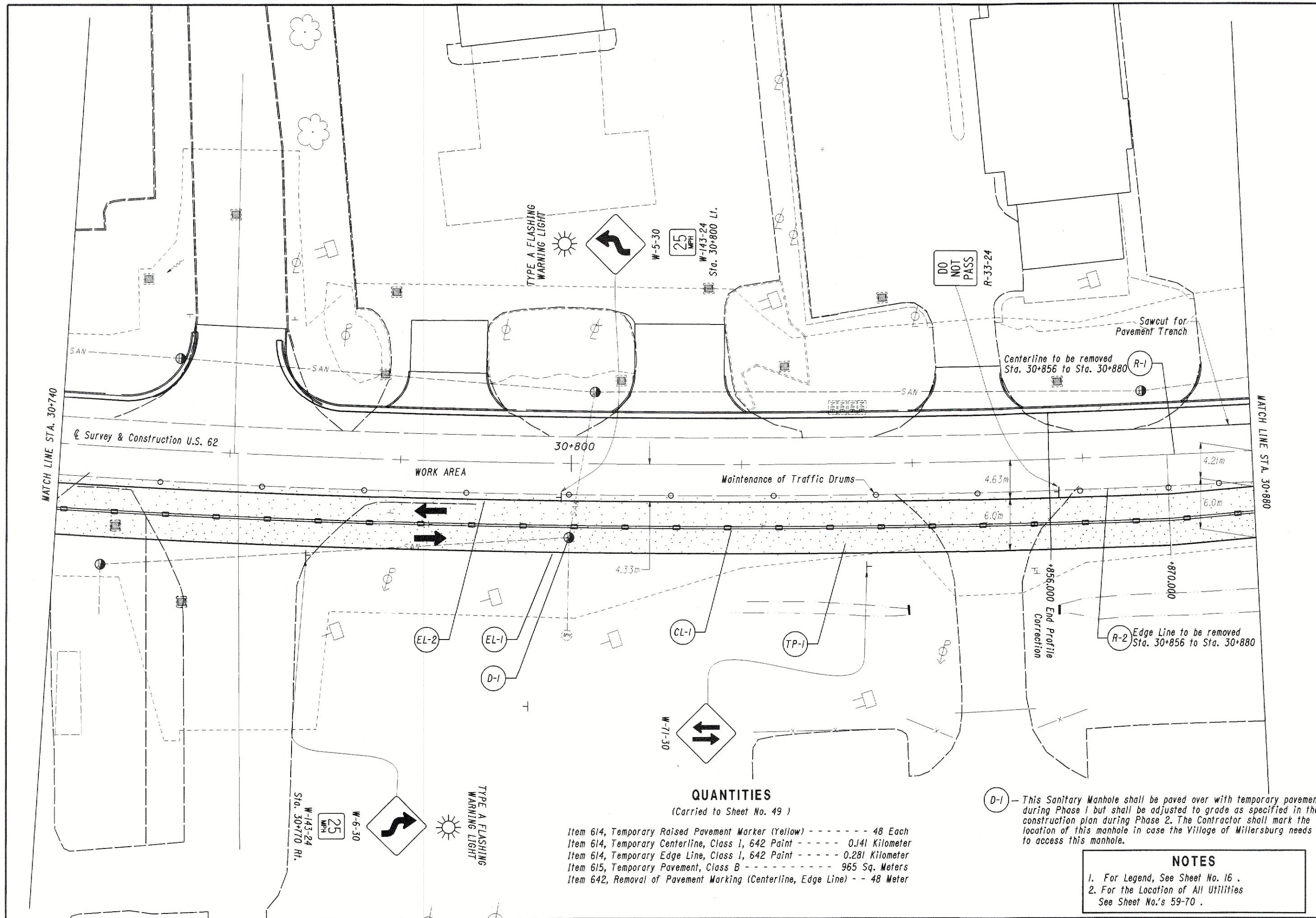
HORIZONTAL SCALE IN METERS

CALCULATED SAL
CHECKED TKD

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 30+740 to STA. 30+880

HOL-62-30.649

17
180



QUANTITIES

(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) ----- 48 Each
- Item 614, Temporary Centerline, Class 1, 642 Paint ----- 0.141 Kilometer
- Item 614, Temporary Edge Line, Class 1, 642 Paint ----- 0.281 Kilometer
- Item 615, Temporary Pavement, Class B ----- 965 Sq. Meters
- Item 642, Removal of Pavement Marking (Centerline, Edge Line) -- 48 Meter

(D-1) - This Sanitary Manhole shall be paved over with temporary pavement during Phase 1 but shall be adjusted to grade as specified in the construction plan during Phase 2. The Contractor shall mark the location of this manhole in case the Village of Millersburg needs to access this manhole.

NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70 .

MATCH LINE STA. 30+740

MATCH LINE STA. 30+880

Survey & Construction U.S. 62

W-143-24
25 MPH
Sta. 30+770 Rt.

W-6-30

W-71-30

W-5-30

25 MPH

W-143-24
Sta. 30+800 Lt.

R-33-24

Sawcut for Pavement Trench

Centerline to be removed
Sta. 30+856 to Sta. 30+880 (R-1)

(R-2) Edge Line to be removed
Sta. 30+856 to Sta. 30+880

+856.000
End Profile Correction

0000.00

WORK AREA

Maintenance of Traffic Drums

30+800

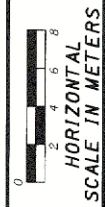
4.63m

6.0m

4.21m

6.0m

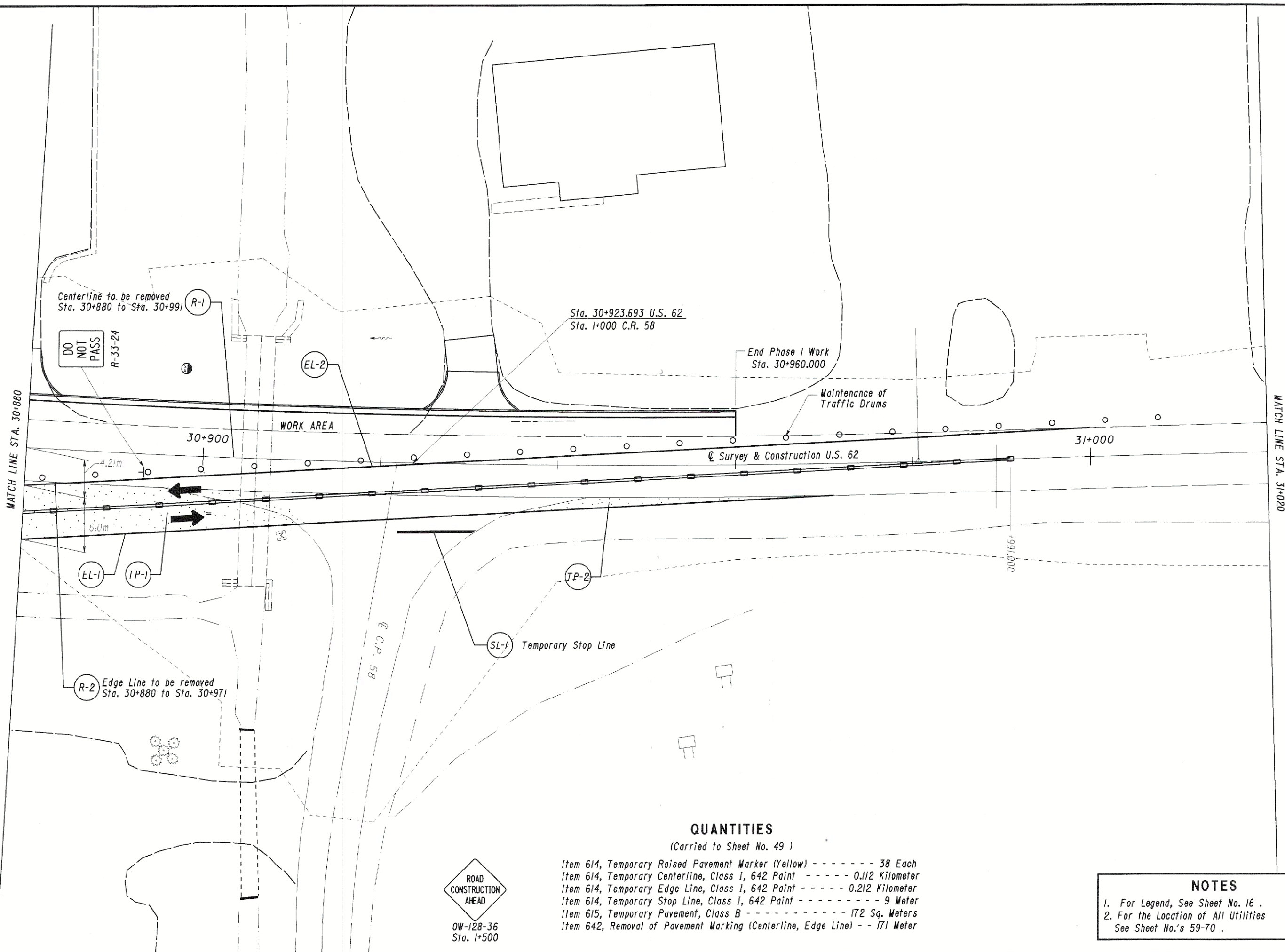
4.33m



CALCULATED SAL
CHECKED T.K.D.

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 30+880 to STA. 31+020

HOL-62-30.649



QUANTITIES

(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) ----- 38 Each
- Item 614, Temporary Centerline, Class 1, 642 Paint ----- 0.112 Kilometer
- Item 614, Temporary Edge Line, Class 1, 642 Paint ----- 0.212 Kilometer
- Item 614, Temporary Stop Line, Class 1, 642 Paint ----- 9 Meter
- Item 615, Temporary Pavement, Class B ----- 172 Sq. Meters
- Item 642, Removal of Pavement Marking (Centerline, Edge Line) -- 171 Meter



OW-128-36
Sta. 1+500

NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70 .

MATCH LINE STA. 31+020

Survey & Construction U.S. 62

31+100

TYPE A FLASHING
WARNING LIGHT



W-6-30

25
MPH

W-143-24
Sta. 30+990 Lt.



OW-128-36
Sta. 31+150

NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities
See Sheet No.'s 59-70 .

HOL -62 -30.649

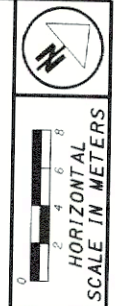
MAINTENANCE OF TRAFFIC - PHASE 1
STA. 31+020 to STA. 31+160

19
180

CALCULATED
SAL
CHECKED
TKD

HORIZONTAL
SCALE IN METERS



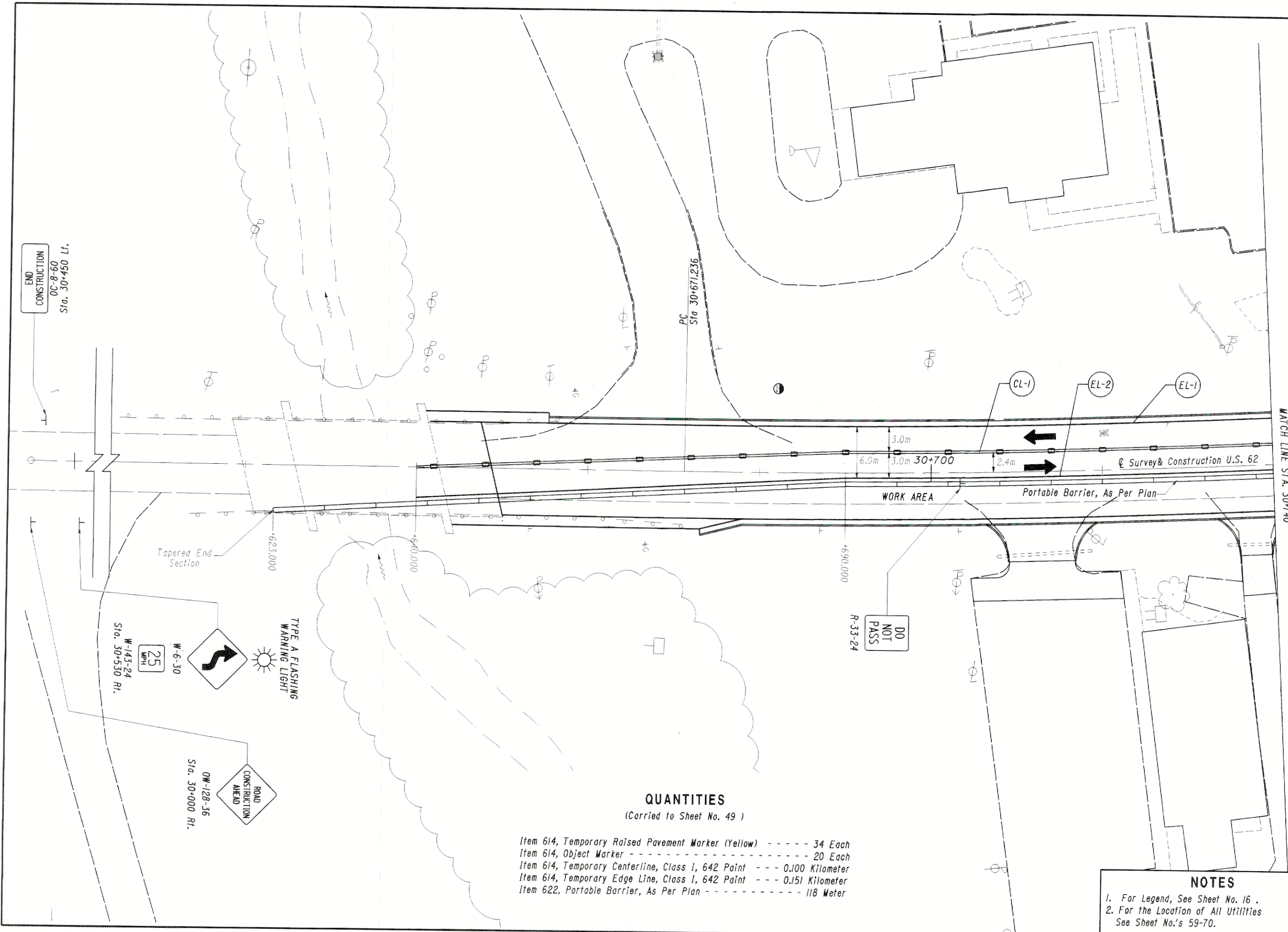


CALCULATED
SAL
CHECKED
TKD

MAINTENANCE OF TRAFFIC - PHASE 2 STA. 30+000 to STA. 30+740

HOL-62-30.649

20
180



END
CONSTRUCTION
OC-8-60
Sta. 30+450 Lt.

PC
Sta 30+671.236

30+700

Survey & Construction U.S. 62

WORK AREA

Portable Barrier, As Per Plan

MATCH LINE STA. 30+740

Tapered End Section

TYPE A FLASHING
WARNING LIGHT
W-6-30
W-143-24
Sta. 30+530 Rt.

ROAD
CONSTRUCTION
AHEAD
OW-128-36
Sta. 30+000 Rt.

DO
NOT
PASS
R-33-24

QUANTITIES

(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) - - - - - 34 Each
- Item 614, Object Marker - - - - - 20 Each
- Item 614, Temporary Centerline, Class 1, 642 Paint - - - 0.100 Kilometer
- Item 614, Temporary Edge Line, Class 1, 642 Paint - - - 0.151 Kilometer
- Item 622, Portable Barrier, As Per Plan - - - - - 118 Meter

NOTES

- For Legend, See Sheet No. 16 .
- For the Location of All Utilities See Sheet No.'s 59-70.

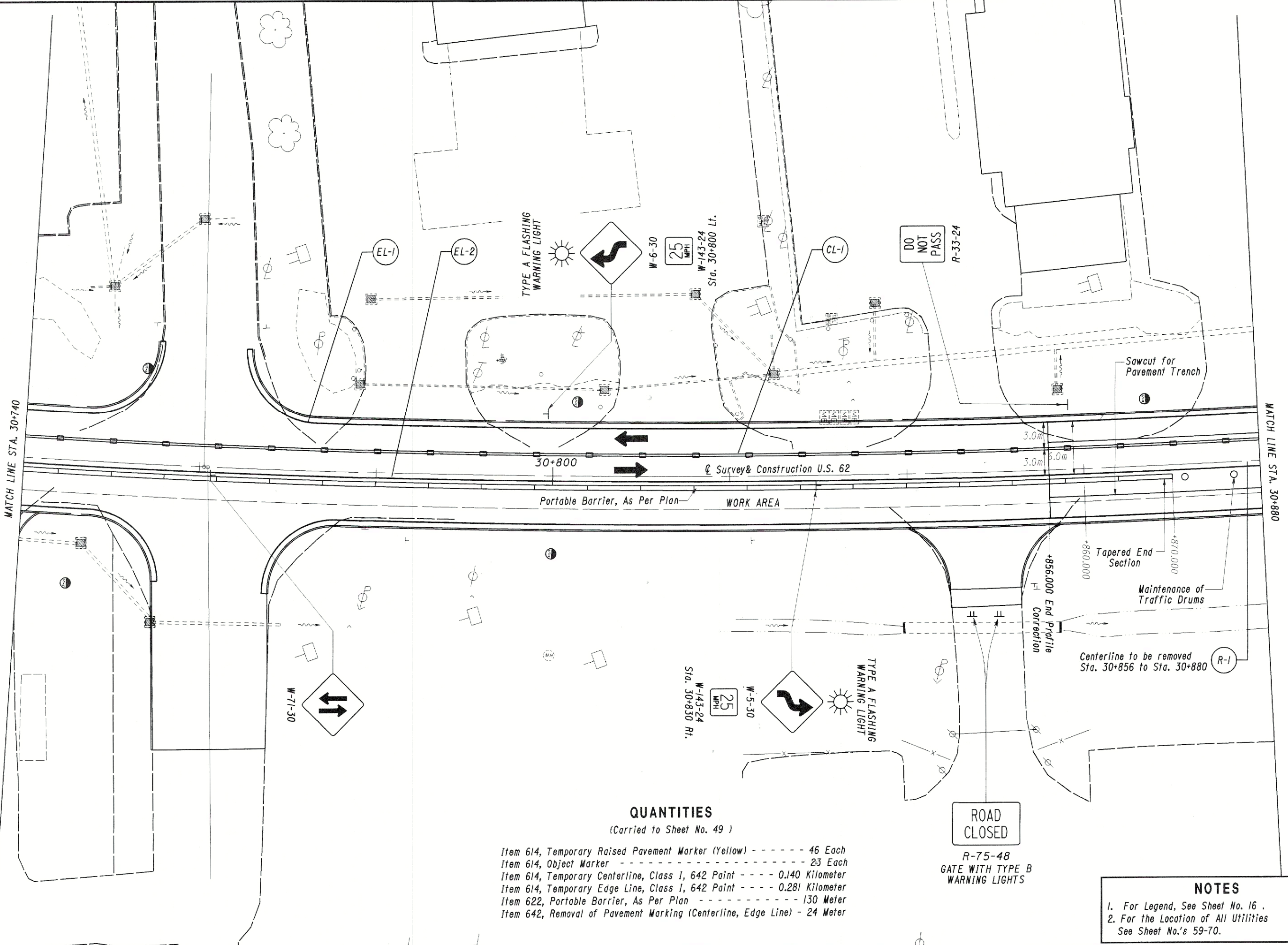


CALCULATED
SAL
CHECKED
TKD

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 30+740 to STA. 30+880

HOL-62-30.649

21
180



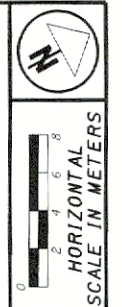
QUANTITIES

(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) - - - - - 46 Each
- Item 614, Object Marker - - - - - 23 Each
- Item 614, Temporary Centerline, Class I, 642 Point - - - - 0.140 Kilometer
- Item 614, Temporary Edge Line, Class I, 642 Point - - - - 0.281 Kilometer
- Item 622, Portable Barrier, As Per Plan - - - - - 130 Meter
- Item 642, Removal of Pavement Marking (Centerline, Edge Line) - 24 Meter

NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70.

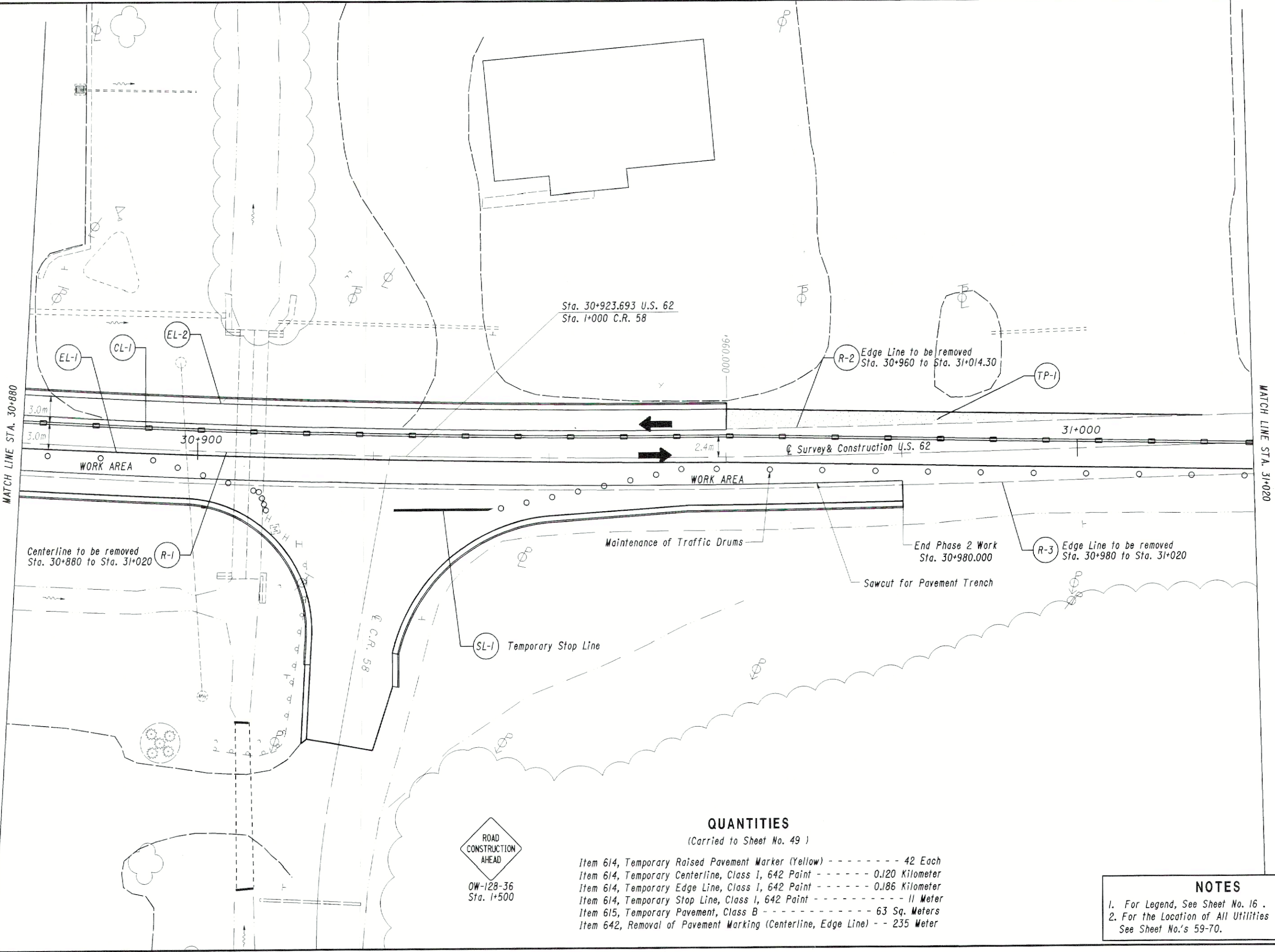


CALCULATED
SAL
CHECKED
TKD

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 30+880 to STA. 31+020

HOL-62-30.649

22
180



QUANTITIES

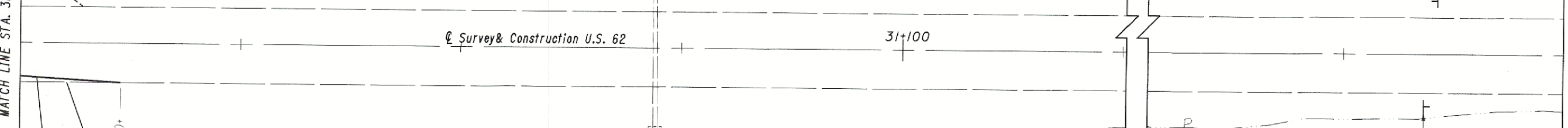
(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) - - - - - 42 Each
- Item 614, Temporary Centerline, Class 1, 642 Paint - - - - - 0.120 Kilometer
- Item 614, Temporary Edge Line, Class 1, 642 Paint - - - - - 0.186 Kilometer
- Item 614, Temporary Stop Line, Class 1, 642 Paint - - - - - 11 Meter
- Item 615, Temporary Pavement, Class B - - - - - 63 Sq. Meters
- Item 642, Removal of Pavement Marking (Centerline, Edge Line) - - 235 Meter



NOTES
1. For Legend, See Sheet No. 16.
2. For the Location of All Utilities See Sheet No.'s 59-70.

MATCH LINE STA. 31+020



R-1 Edge Line to be removed
Sta. 31+020 to Sta. 31+029.2

EL-1

TYPE A FLASHING
WARNING LIGHT



W-5-30



25
MPH

W-143-24
Sta. 31+100 Lt.



OW-128-36
Sta. 31+225 Lt.

END
CONSTRUCTION
OC-8-60
Sta. 32+190 Rt.

MATCH LINE STA. 31+160

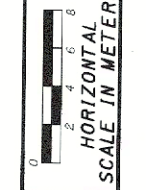
QUANTITIES

(Carried to Sheet No. 49)

Item 614, Temporary Edge Line, Class 1, 642 Point - - - 0.009 Kilometer
Item 642, Removal of Pavement Marking (Centerline, Edge Line) - 9 Meter

NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70.



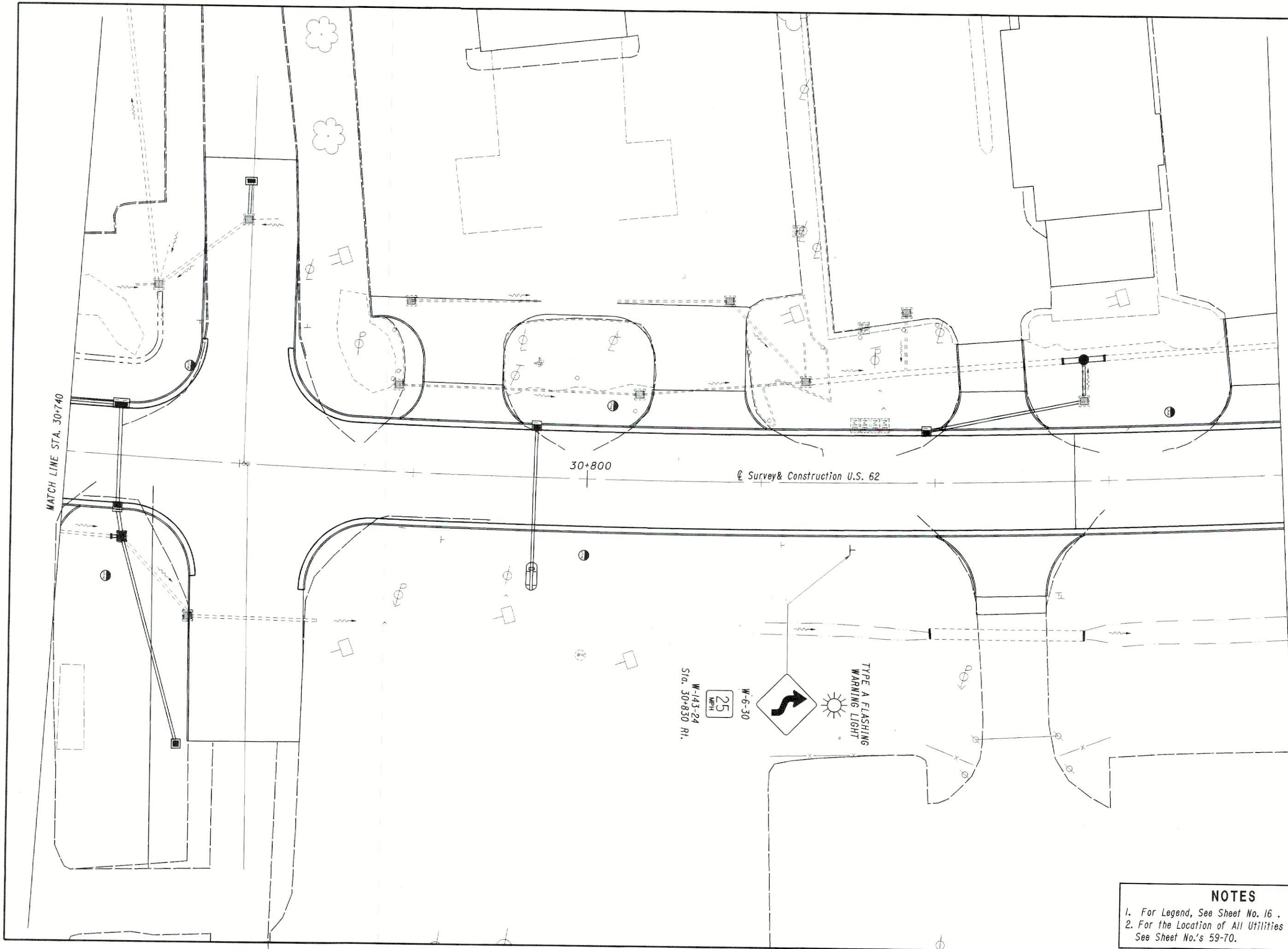
CALCULATED	SAL
CHECKED	TKD

MAINTENANCE OF TRAFFIC - PHASE 2

STA. 31+020 to STA. 31+160

HOL-62-30.649

23
180



MATCH LINE STA. 30+740

MATCH LINE STA. 30+880

30+800

Survey & Construction U.S. 62

W-143-24
Sta. 30+830 Rt.

W-6-30

25
MPH



TYPE A FLASHING
WARNING LIGHT

NOTES
 1. For Legend, See Sheet No. 16 .
 2. For the Location of All Utilities
 See Sheet No.'s 59-70.

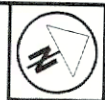
CALCULATED
SAL

CHECKED
TKD

HORIZONTAL
SCALE IN METERS

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 30+740 to STA. 30+880

HOL-62-30.649



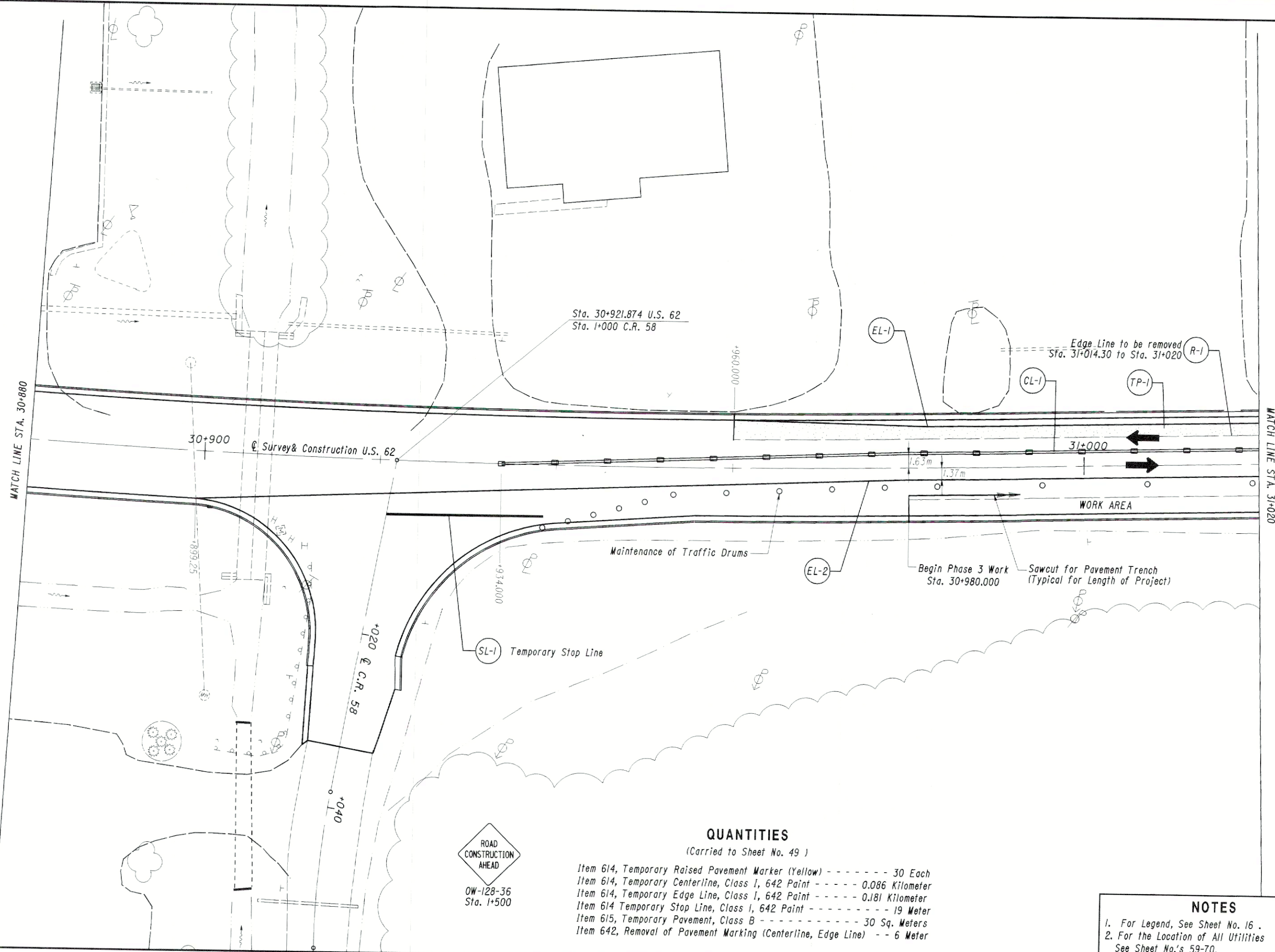
HORIZONTAL SCALE IN METERS

CALCULATED SAL
CHECKED TKD

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 30+880 to STA. 31+020

HOL-62-30.649

25
180



QUANTITIES

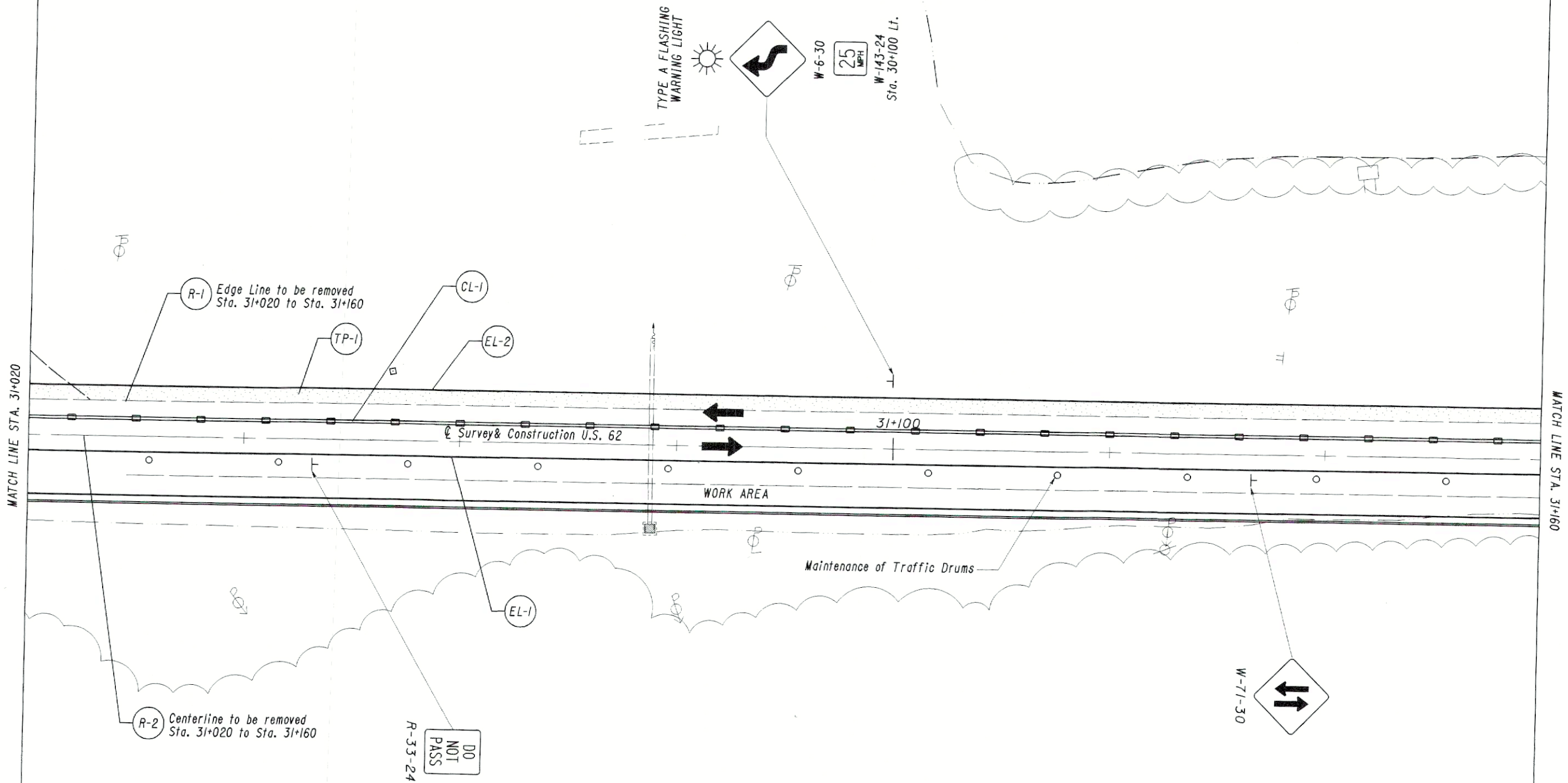
(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) ----- 30 Each
- Item 614, Temporary Centerline, Class I, 642 Paint ----- 0.086 Kilometer
- Item 614, Temporary Edge Line, Class I, 642 Paint ----- 0.181 Kilometer
- Item 614 Temporary Stop Line, Class I, 642 Paint ----- 19 Meter
- Item 615, Temporary Pavement, Class B ----- 30 Sq. Meters
- Item 642, Removal of Pavement Marking (Centerline, Edge Line) -- 6 Meter

NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70.



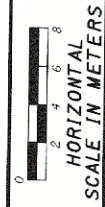
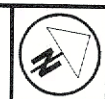


QUANTITIES
 (Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) - - - - - 46 Each
- Item 614, Temporary Centerline, Class 1, 642 Paint - - - - - 0.140 Kilometer
- Item 614, Temporary Edge Line, Class 1, 642 Paint - - - - - 0.280 Kilometer
- Item 615, Temporary Pavement, Class B - - - - - 194 Sq. Meters
- Item 642, Removal of Pavement Marking (Centerline, Edge Line) - 280 Meter

NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70.

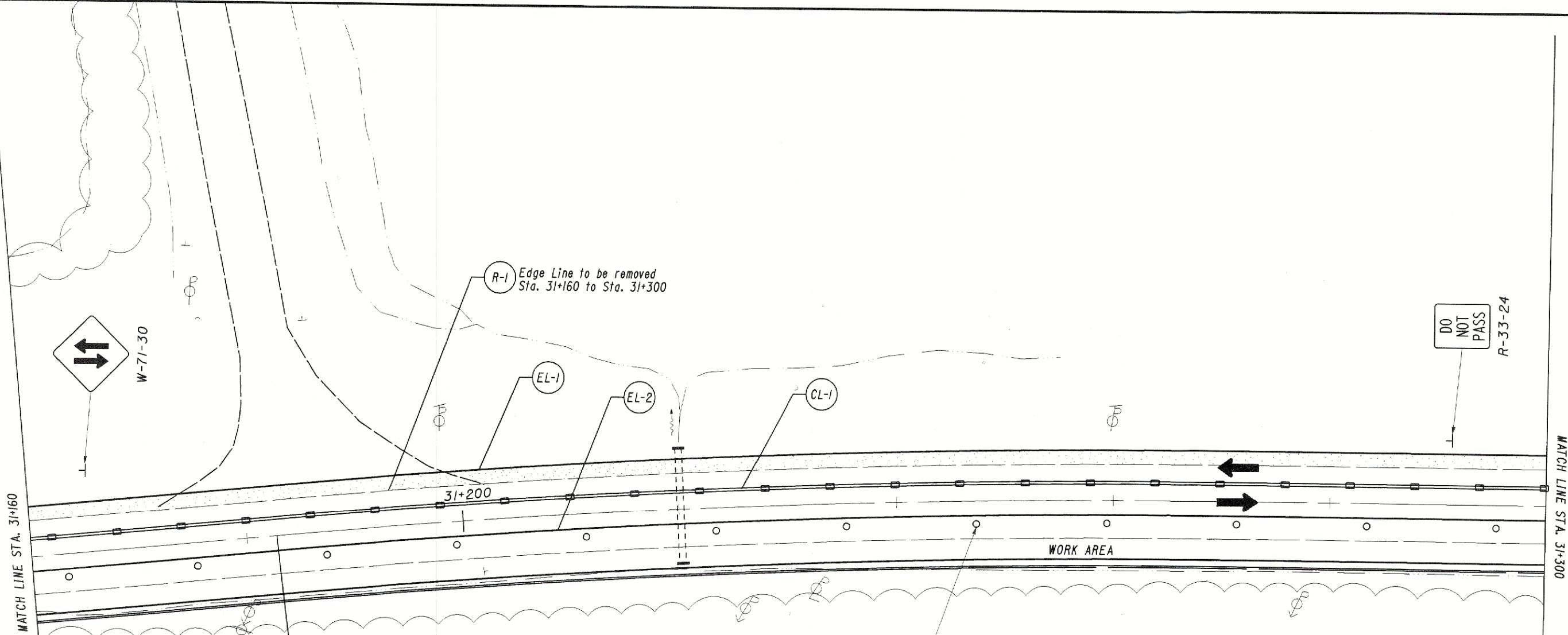


CALCULATED
SAL
CHECKED
TKD

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 31+160 to STA. 31+300

HOL-62-30.649

27
180



QUANTITIES

(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) - - - - - 48 Each
- Item 614, Temporary Centerline, Class I, 642 Paint - - - - 0.140 Kilometer
- Item 614, Temporary Edge Line, Class I, 642 Paint - - - - 0.280 Kilometer
- Item 615, Temporary Pavement, Class B - - - - - 184 Sq. Meters
- Item 642, Removal of Pavement Marking (Centerline, Edge Line) - 280 Meter

NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70.



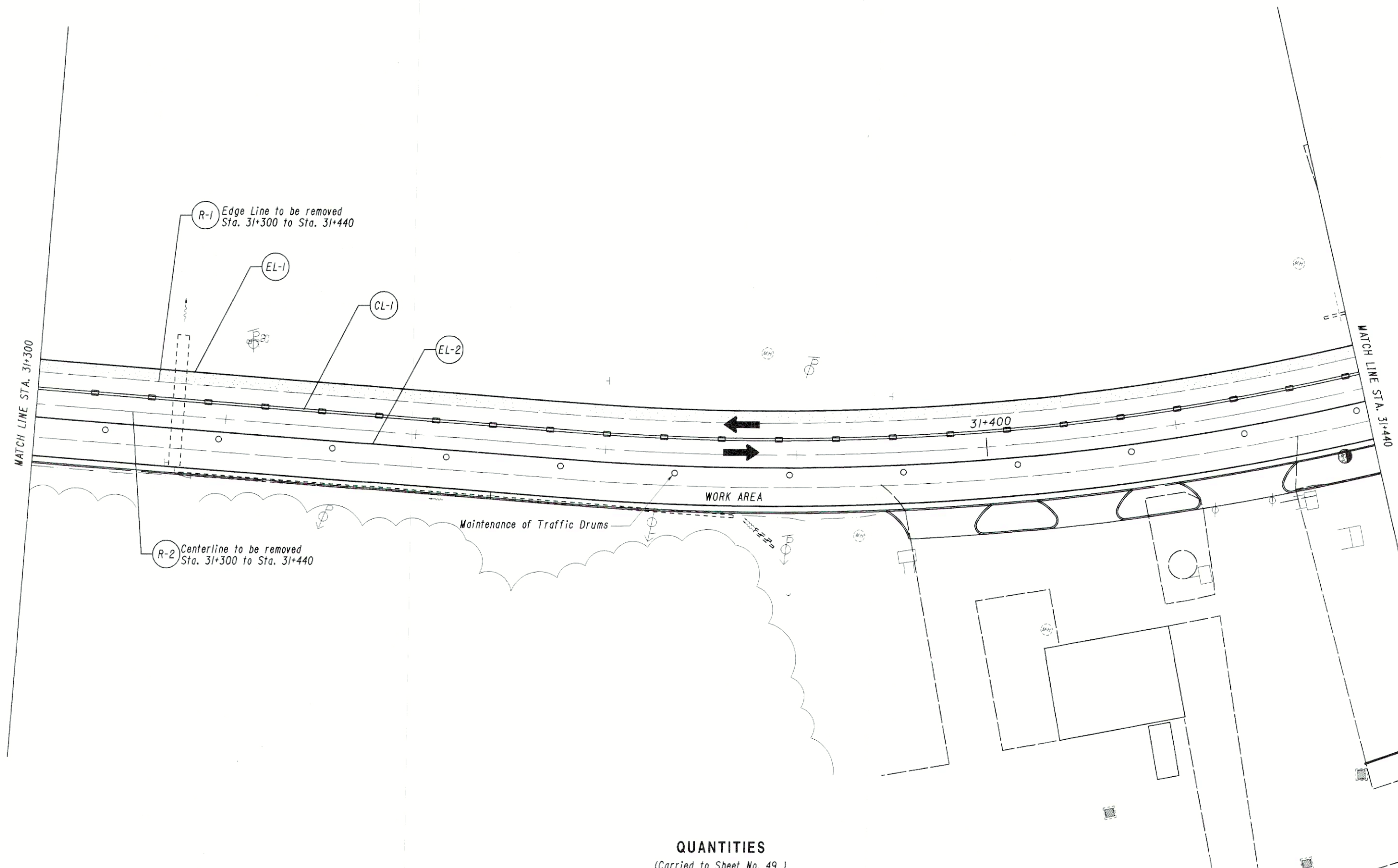
HORIZONTAL SCALE: 1 IN = 20 METERS

CHECKED: TMD
CALCULATED: SAL

**MAINTENANCE OF TRAFFIC - PHASE 3
STA. 31+300 to STA. 31+440**

HOL-62-30.649

28
180



QUANTITIES

(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) - - - - - 46 Each
- Item 614, Temporary Centerline, Class I, 642 Point - - - - 0.140 Kilometer
- Item 614, Temporary Edge Line, Class I, 642 Point - - - - 0.280 Kilometer
- Item 615, Temporary Pavement, Class B - - - - - 177 Sq. Meters
- Item 642, Removal of Pavement Marking (Centerline, Edge Line) - 280 Meter

NOTES

1. For Legend, See Sheet No. 16.
2. For the Location of All Utilities See Sheet No.'s 59-70.



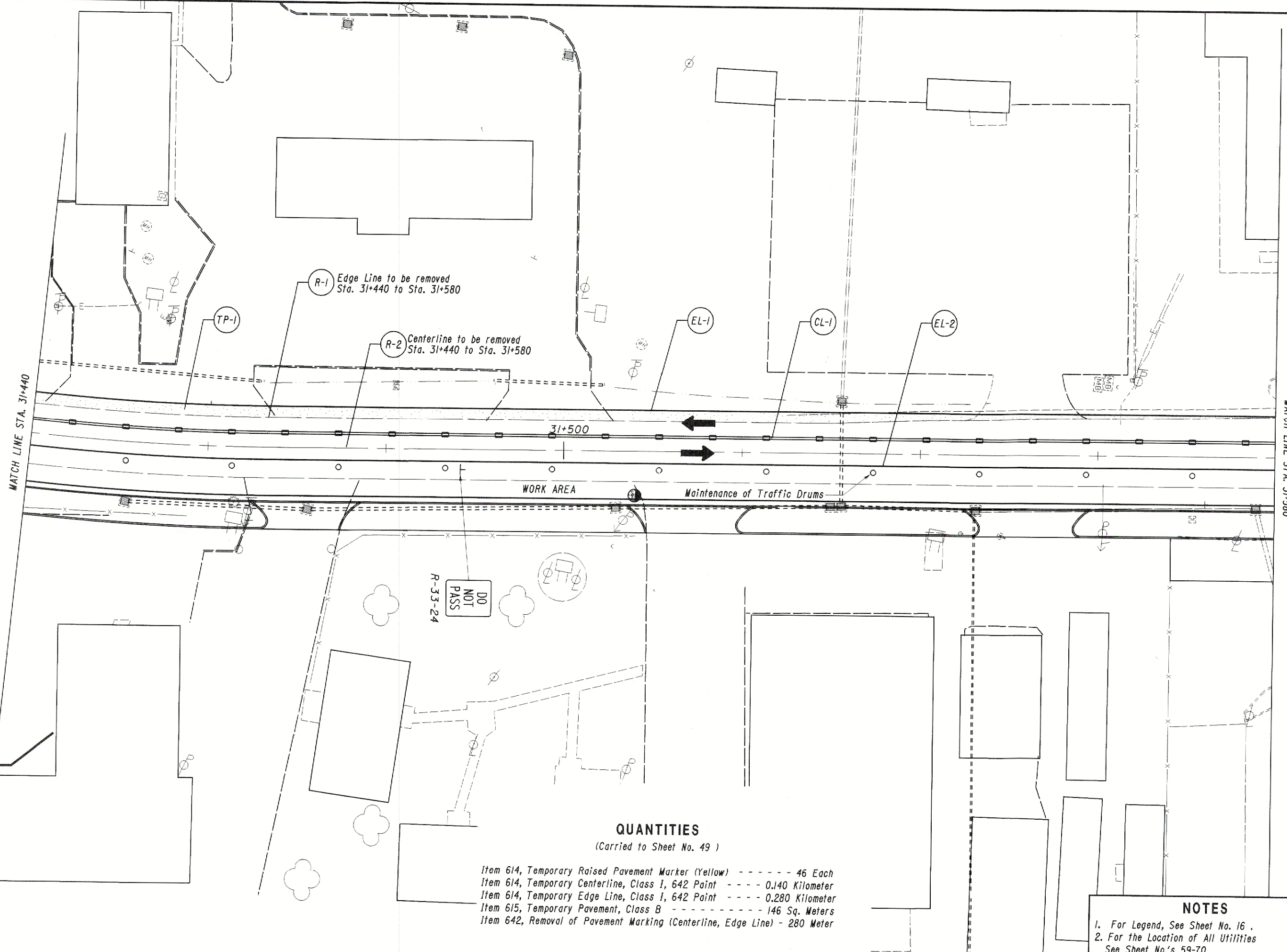
HORIZONTAL SCALE IN METERS
0 2 4 6 8

CALCULATED SAL
CHECKED TKD

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 31+440 to STA. 31+580

HOL-62-30.649

29
180



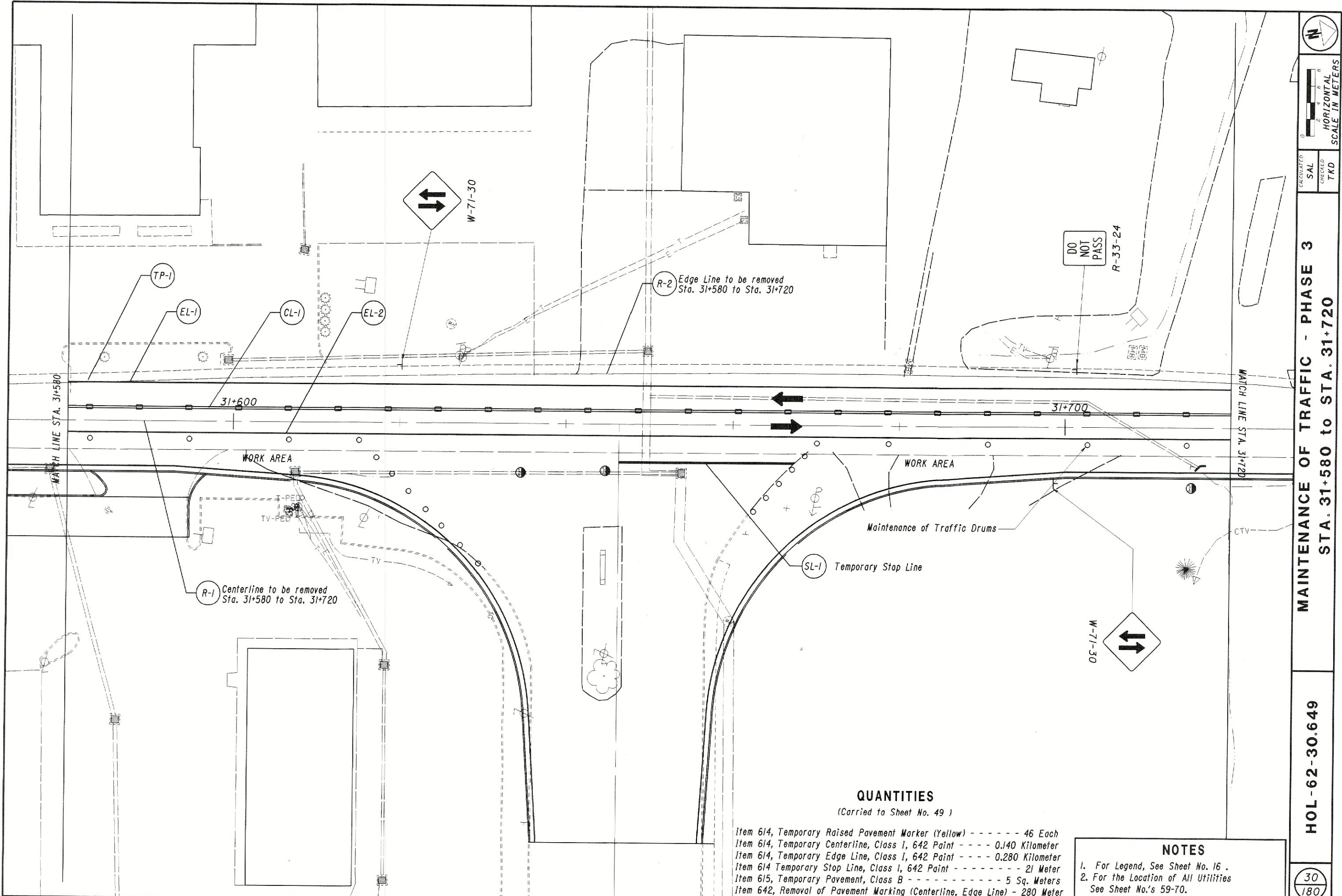
QUANTITIES

(Carried to Sheet No. 49)

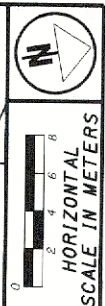
- Item 614, Temporary Raised Pavement Marker (Yellow) ----- 46 Each
- Item 614, Temporary Centerline, Class I, 642 Point ----- 0.140 Kilometer
- Item 614, Temporary Edge Line, Class I, 642 Point ----- 0.280 Kilometer
- Item 615, Temporary Pavement, Class B ----- 146 Sq. Meters
- Item 642, Removal of Pavement Marking (Centerline, Edge Line) - 280 Meter

NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70.



CALCULATOR
 SAL
 CHECKED
 TKD



MAINTENANCE OF TRAFFIC - PHASE 3
STA. 31+580 to STA. 31+720

HOL-62-30.649

30
 180

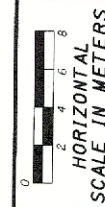
QUANTITIES

(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) - - - - - 46 Each
- Item 614, Temporary Centerline, Class 1, 642 Paint - - - - 0.140 Kilometer
- Item 614, Temporary Edge Line, Class 1, 642 Paint - - - - 0.280 Kilometer
- Item 614 Temporary Stop Line, Class 1, 642 Paint - - - - - 21 Meter
- Item 615, Temporary Pavement, Class B - - - - - 5 Sq. Meters
- Item 642, Removal of Pavement Marking (Centerline, Edge Line) - 280 Meter

NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70.

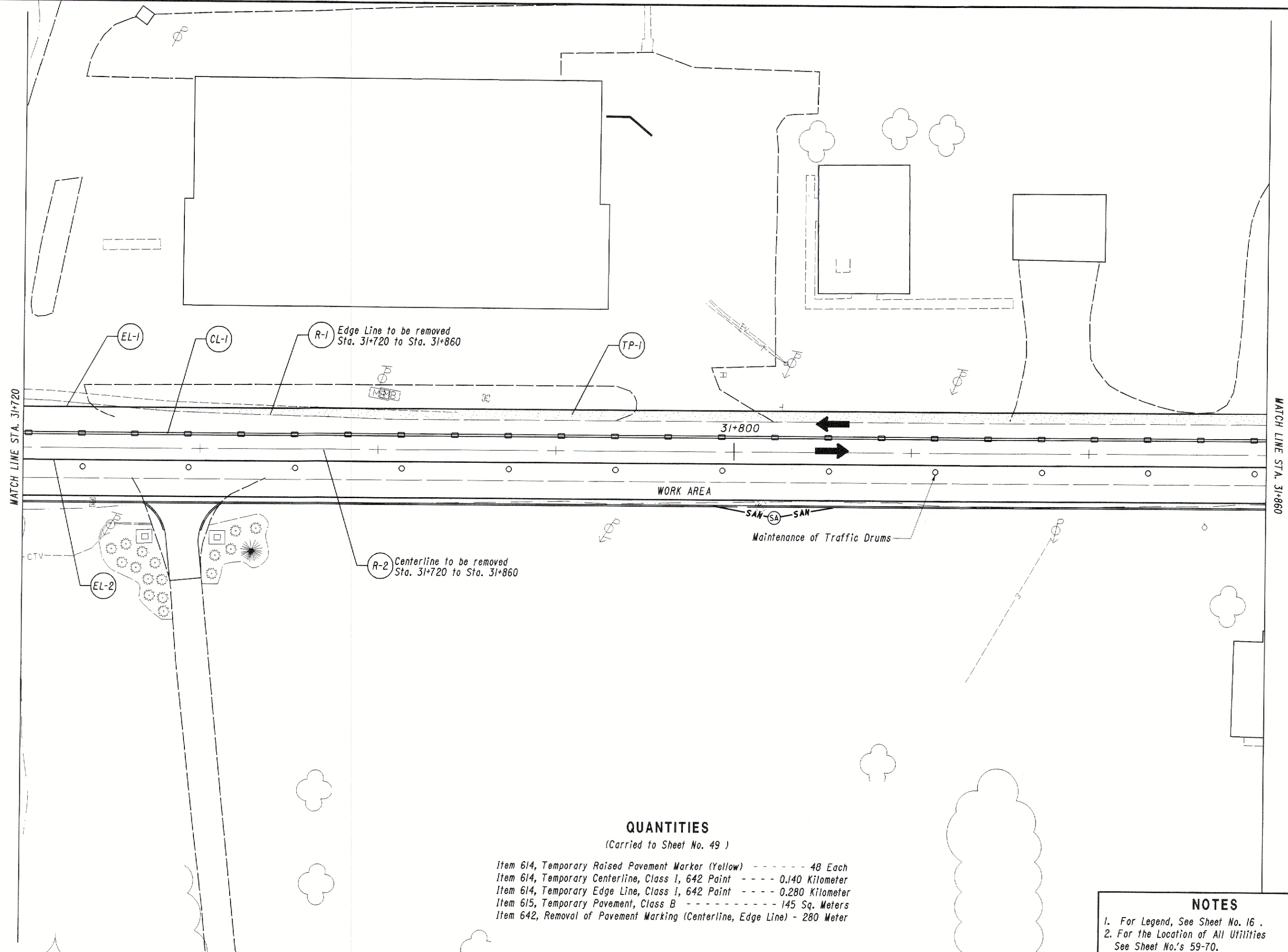


CALCULATED SAL
CHECKED TKD

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 31+720 to STA. 31+860

HOL-62-30.649

31
180



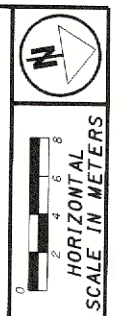
QUANTITIES

(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) ----- 48 Each
- Item 614, Temporary Centerline, Class I, 642 Paint ----- 0.140 Kilometer
- Item 614, Temporary Edge Line, Class I, 642 Paint ----- 0.280 Kilometer
- Item 615, Temporary Pavement, Class B ----- 145 Sq. Meters
- Item 642, Removal of Pavement Marking (Centerline, Edge Line) - 280 Meter

NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70.



CALCULATED
SAL
CHECKED
TKD

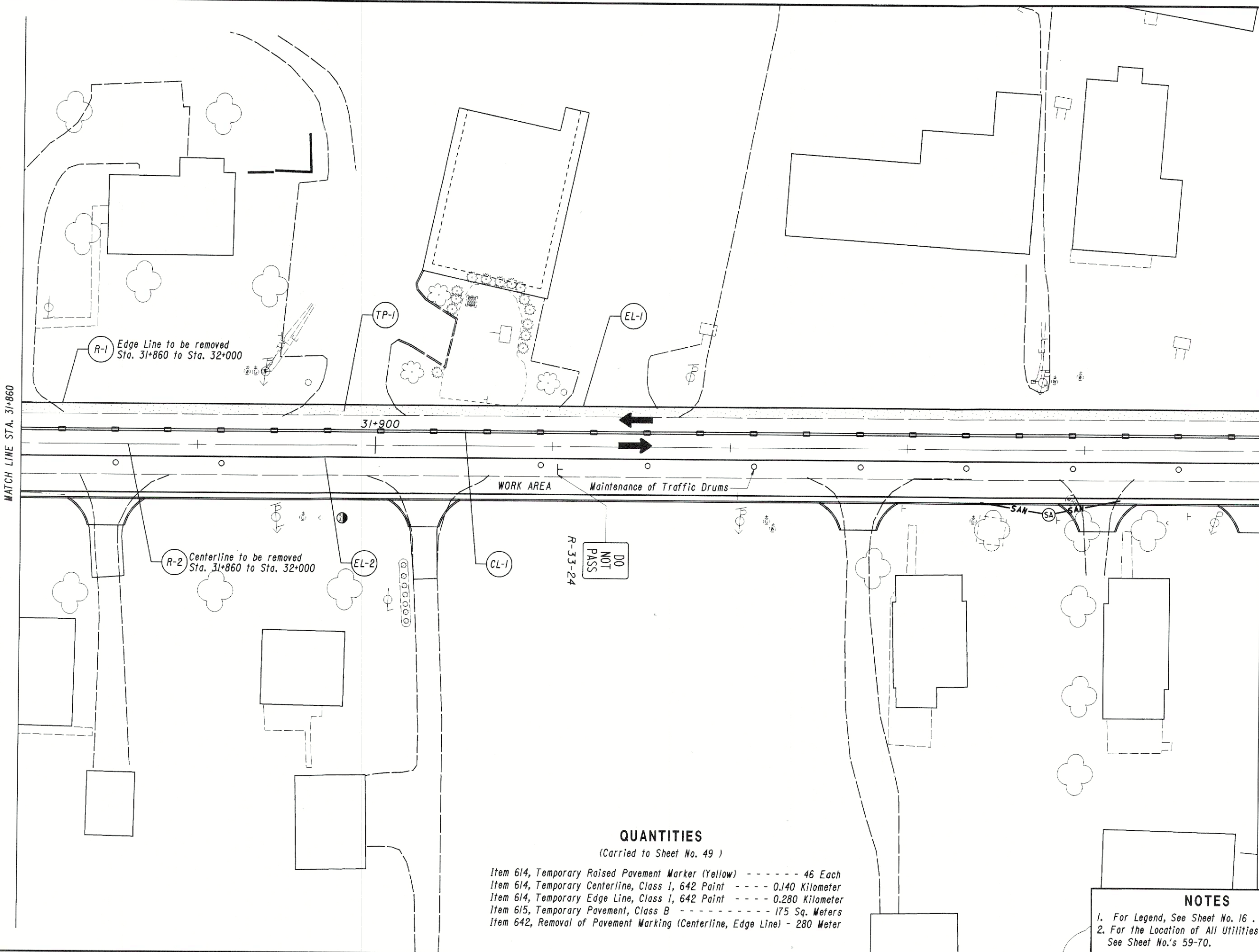
MAINTENANCE OF TRAFFIC - PHASE 3
STA. 31+860 to STA. 32+000

HOL-62-30.649

32
180

MATCH LINE STA. 31+860

MATCH LINE STA. 32+000



R-1 Edge Line to be removed
Sta. 31+860 to Sta. 32+000

R-2 Centerline to be removed
Sta. 31+860 to Sta. 32+000

DO NOT PASS
R-33-24

QUANTITIES

(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) ----- 46 Each
- Item 614, Temporary Centerline, Class 1, 642 Paint ----- 0.140 Kilometer
- Item 614, Temporary Edge Line, Class 1, 642 Paint ----- 0.280 Kilometer
- Item 615, Temporary Pavement, Class B ----- 175 Sq. Meters
- Item 642, Removal of Pavement Marking (Centerline, Edge Line) - 280 Meter

NOTES

1. For Legend, See Sheet No. 16.
2. For the Location of All Utilities See Sheet No.'s 59-70.



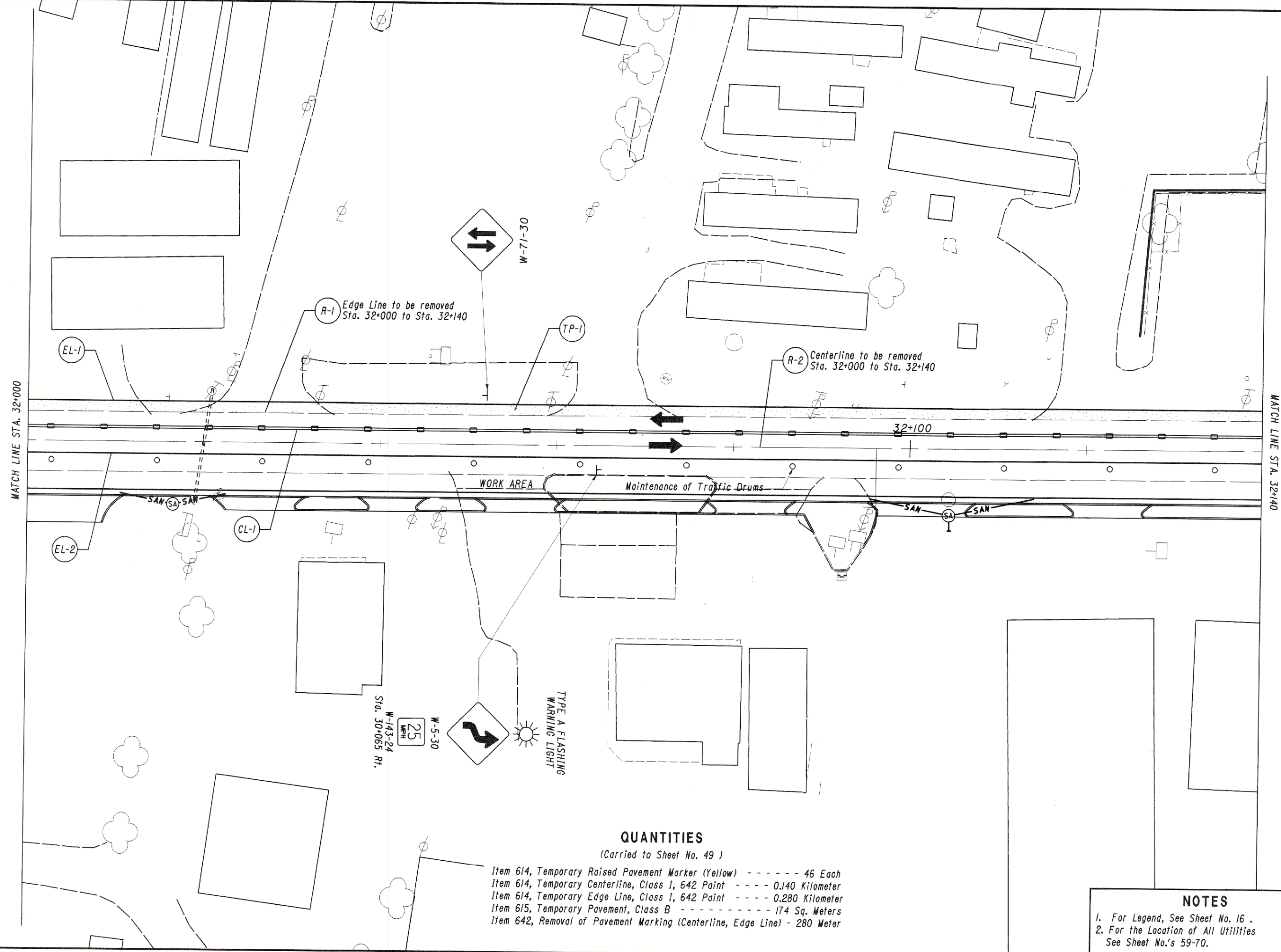
HORIZONTAL SCALE IN METERS
0 2 4 6 8

CHECKED BY: SAL
T.K.D.

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 32+000 to STA. 32+140

HOL-62-30.649

33
180



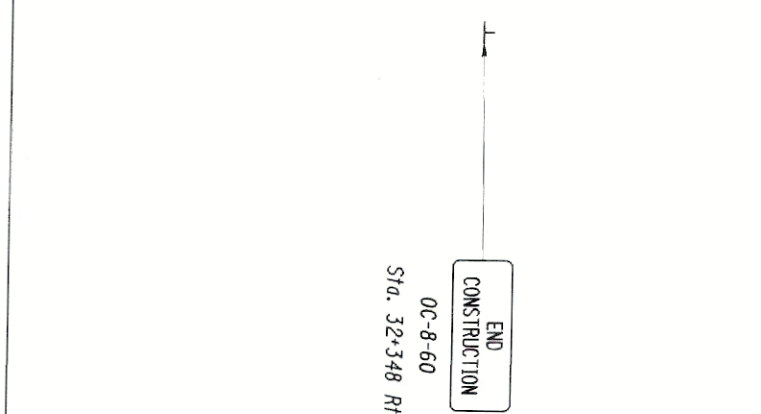
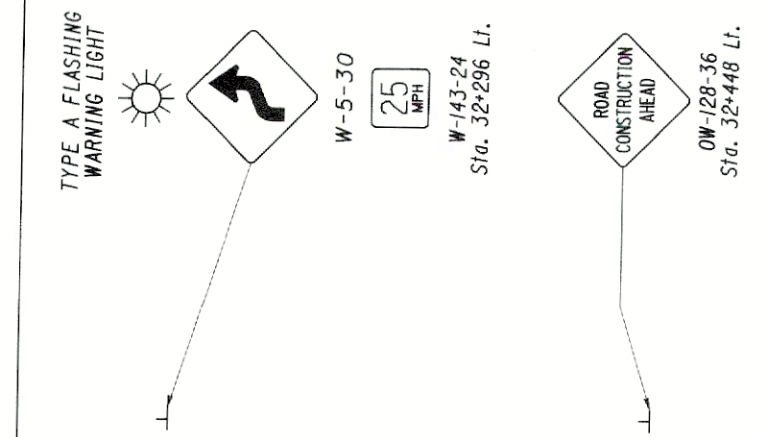
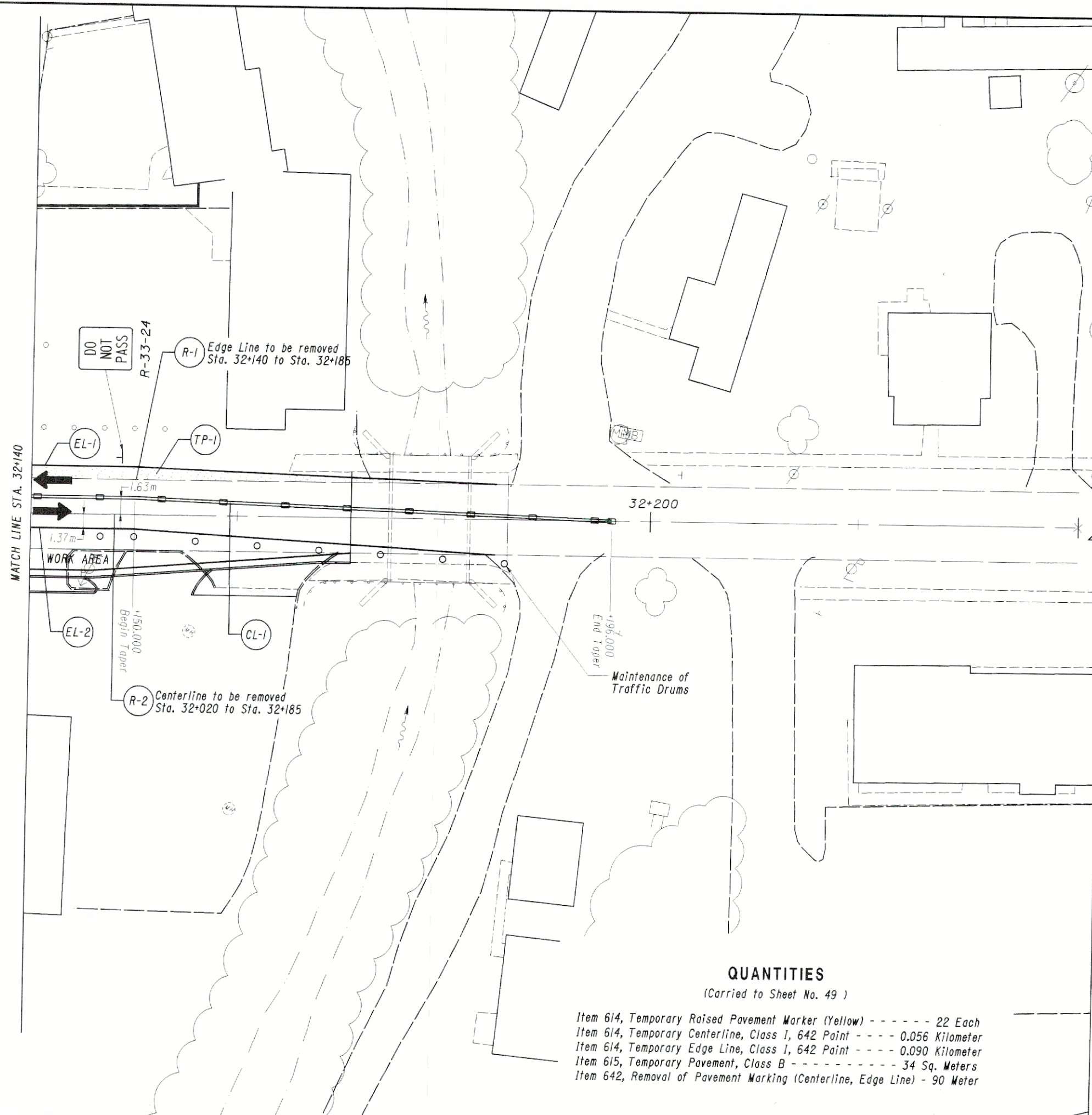
QUANTITIES

(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) ----- 46 Each
- Item 614, Temporary Centerline, Class I, 642 Paint ----- 0.140 Kilometer
- Item 614, Temporary Edge Line, Class I, 642 Paint ----- 0.280 Kilometer
- Item 615, Temporary Pavement, Class B ----- 174 Sq. Meters
- Item 642, Removal of Pavement Marking (Centerline, Edge Line) - 280 Meter

NOTES

1. For Legend, See Sheet No. 16.
2. For the Location of All Utilities See Sheet No.'s 59-70.



QUANTITIES
(Carried to Sheet No. 49)

Item 614, Temporary Raised Pavement Marker (Yellow) - - - - -	22 Each
Item 614, Temporary Centerline, Class I, 642 Paint - - - - -	0.056 Kilometer
Item 614, Temporary Edge Line, Class I, 642 Paint - - - - -	0.090 Kilometer
Item 615, Temporary Pavement, Class B - - - - -	34 Sq. Meters
Item 642, Removal of Pavement Marking (Centerline, Edge Line) -	90 Meter

NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70.

HOL - 62 - 30.649

34
180

MAINTENANCE OF TRAFFIC - PHASE 3

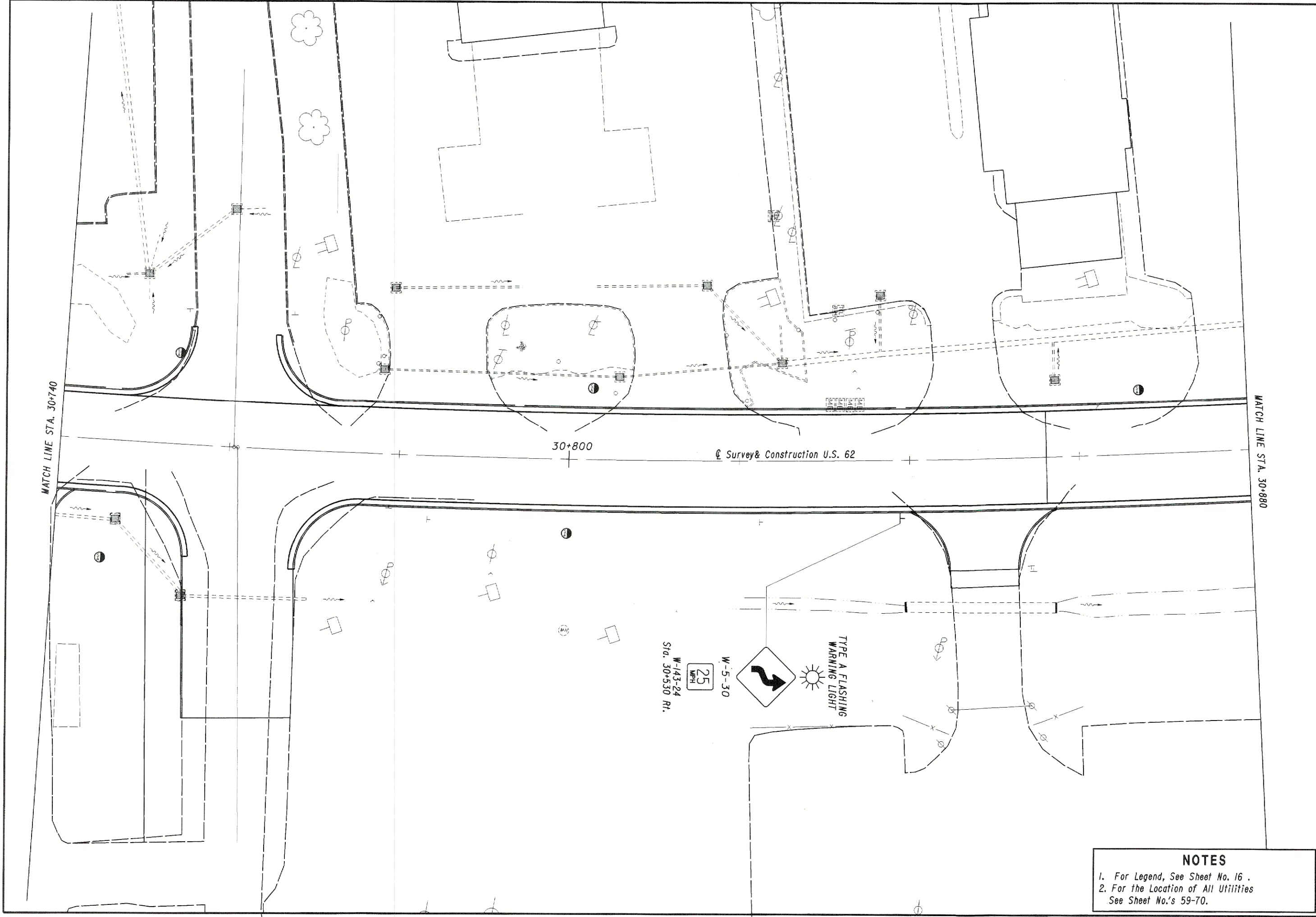
STA. 32+140 to STA. 32+240

CALCULATED
SAL

CREATED
TKD

HORIZONTAL
SCALE IN METERS

0 2 4 6 8



NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70.

	HORIZONTAL SCALE IN METERS
CALCULATED SAL	CHECKED TKD
MAINTENANCE OF TRAFFIC - PHASE 4 STA. 30+740 to STA. 30+880	
HOL - 62 - 30.649	



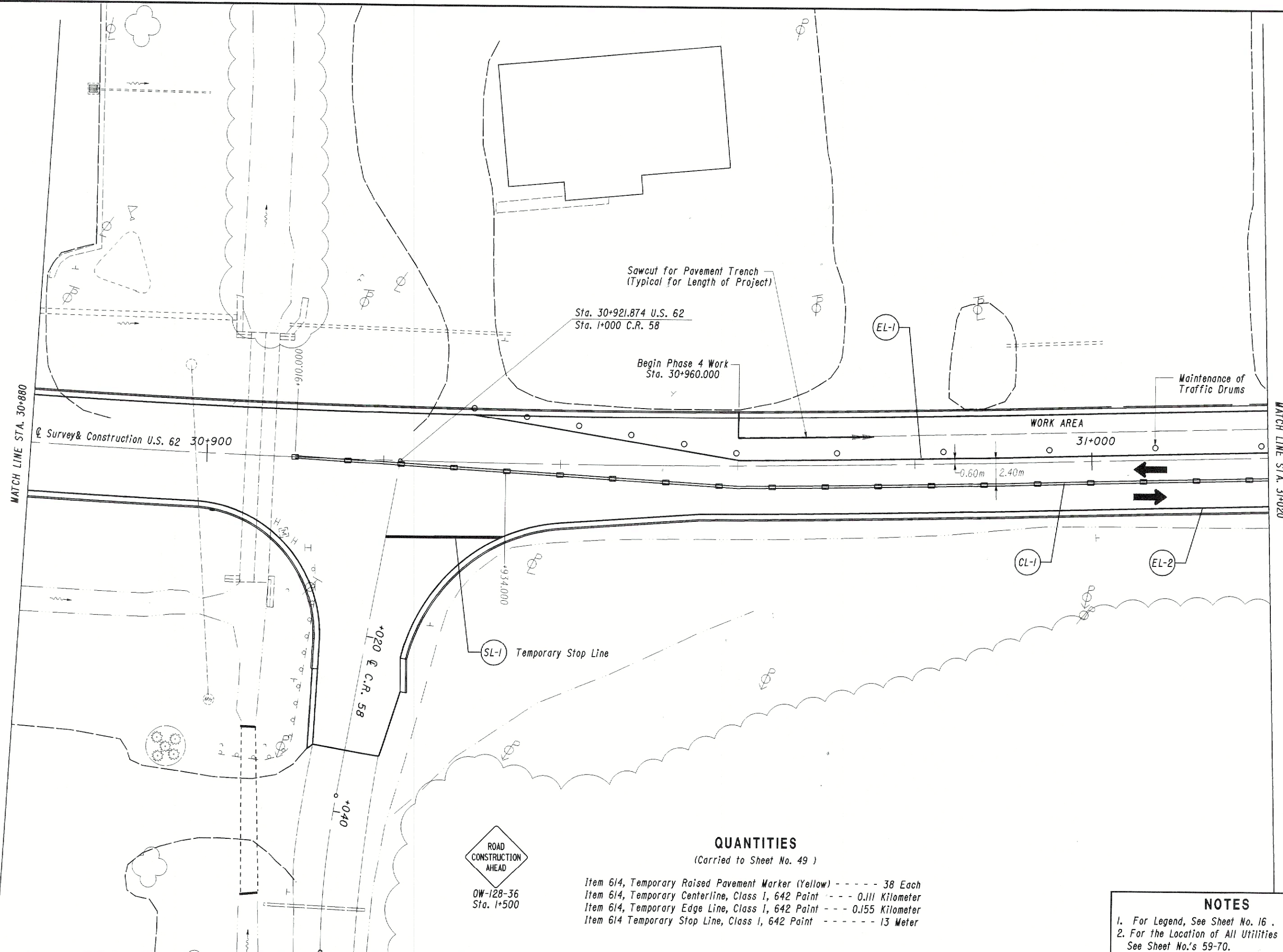
HORIZONTAL SCALE IN METERS

CALCULATED SAL
CHECKED TKD

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 30+880 to STA. 31+020

HOL-62-30.649

36
180



QUANTITIES
(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) - - - - - 38 Each
- Item 614, Temporary Centerline, Class I, 642 Paint - - - - 0.111 Kilometer
- Item 614, Temporary Edge Line, Class I, 642 Paint - - - - 0.155 Kilometer
- Item 614 Temporary Stop Line, Class I, 642 Paint - - - - - 13 Meter

NOTES

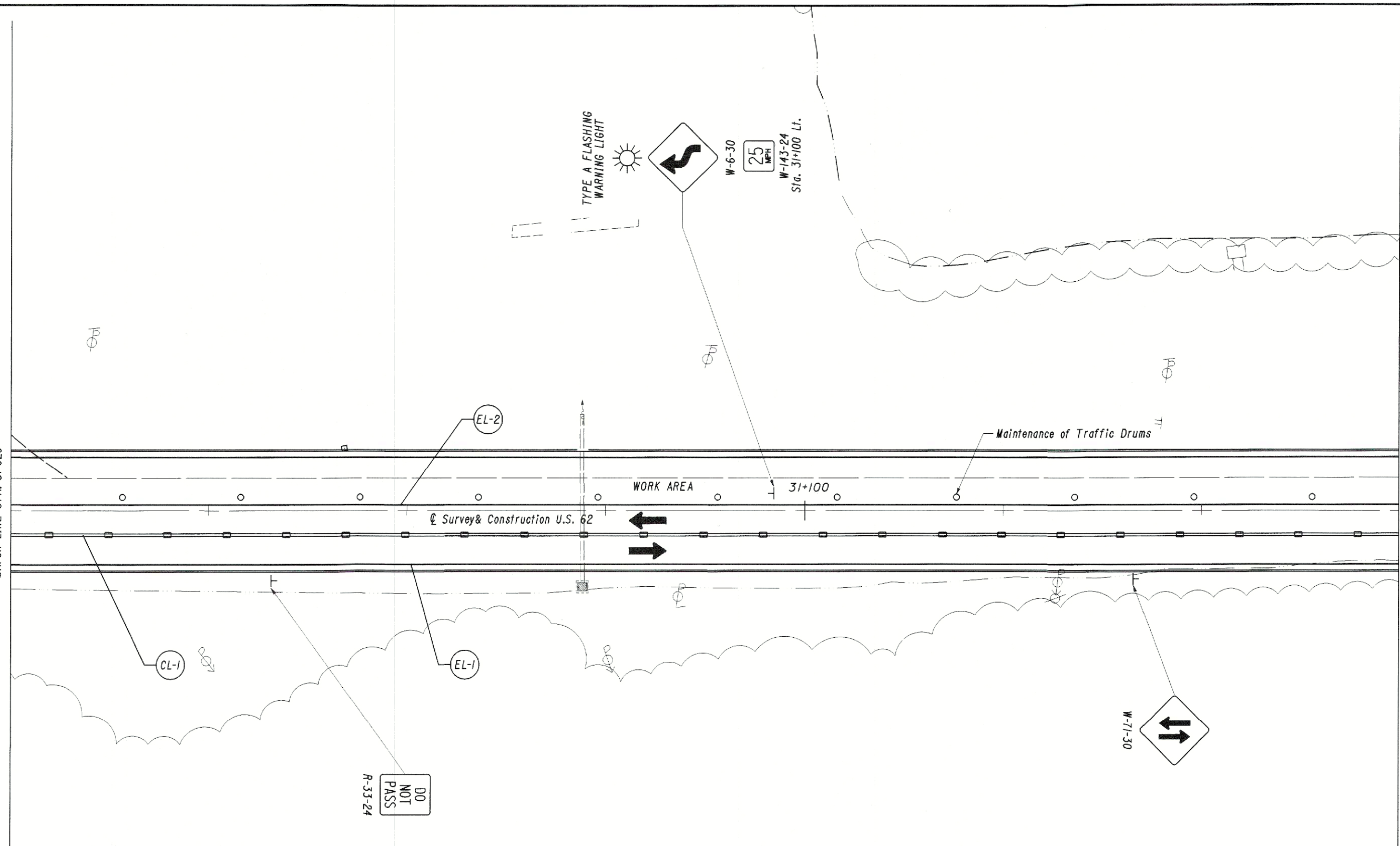
1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70.

ROAD
CONSTRUCTION
AHEAD

OW-128-36
Sta. 1+500

MATCH LINE STA. 31+020

MATCH LINE STA. 31+160



TYPE A FLASHING WARNING LIGHT

W-6-30
25 MPH
W-143-24
Sta. 31+100 Lt.

Maintenance of Traffic Drums

WORK AREA

31+100

Survey & Construction U.S. 62

W-71-30

R-33-24
DO NOT PASS

EL-2

EL-1

CL-1

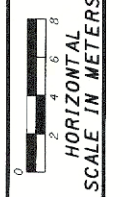
QUANTITIES

(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) - - - - - 46 Each
- Item 614, Temporary Centerline, Class 1, 642 Paint - - - 0.140 Kilometer
- Item 614, Temporary Edge Line, Class 1, 642 Paint - - - 0.280 Kilometer

NOTES

- For Legend, See Sheet No. 16 .
- For the Location of All Utilities See Sheet No.'s 59-70.

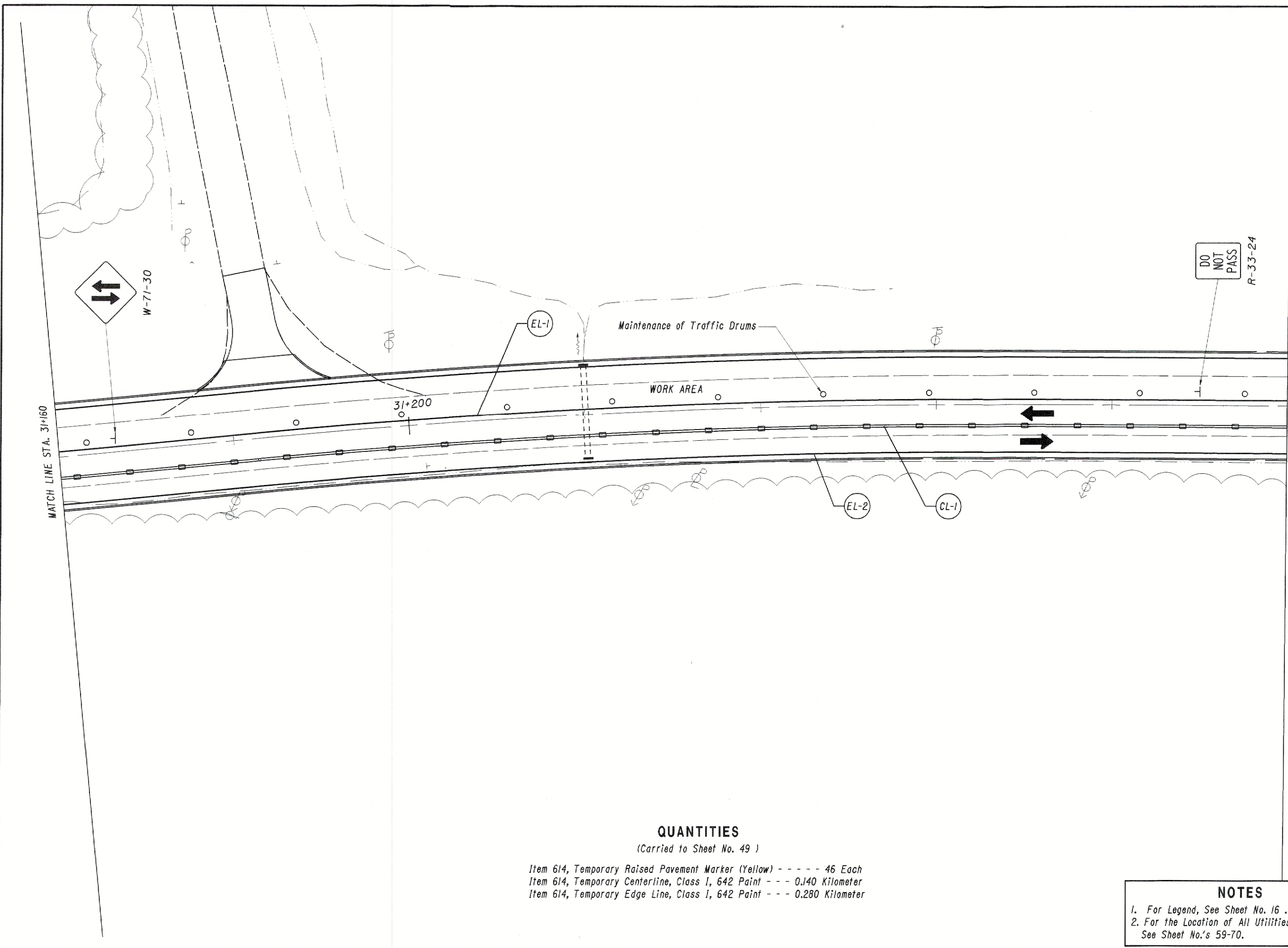



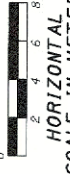
CALCULATED
SAL
CHECKED
TKD

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 31+020 to STA. 31+160

HOL -62-30.649

37
180





 HORIZONTAL SCALE IN METERS
 CALCULATED SAL
 CHECKED TKD

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 31+160 to STA. 31+300

HOL-62-30.649

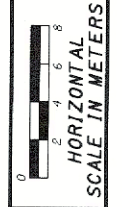
QUANTITIES

(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) - - - - - 46 Each
- Item 614, Temporary Centerline, Class 1, 642 Paint - - - 0.140 Kilometer
- Item 614, Temporary Edge Line, Class 1, 642 Paint - - - 0.280 Kilometer

NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70.

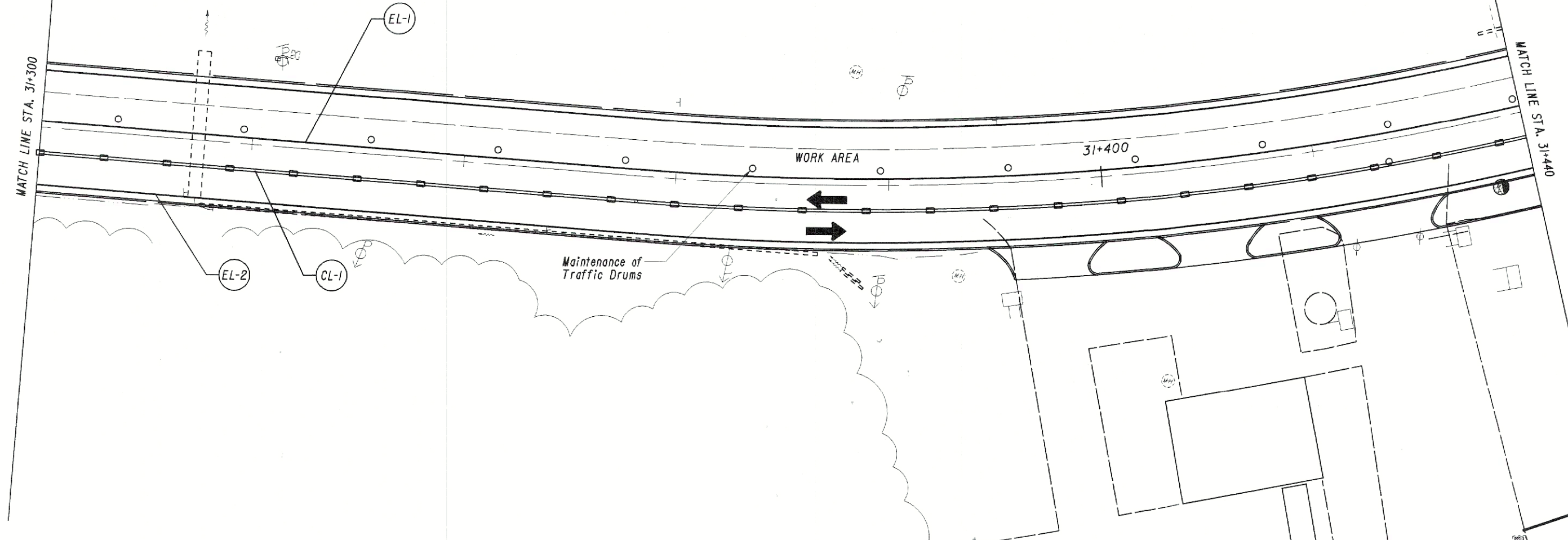


CALCULATED
SAL
CHECKED
TKD

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 31+300 to STA. 31+440

HOL-62-30.649

39
180



QUANTITIES

(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) - - - - 48 Each
- Item 614, Temporary Centerline, Class 1, 642 Paint - - - 0.140 Kilometer
- Item 614, Temporary Edge Line, Class 1, 642 Paint - - - 0.280 Kilometer

NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70.



HORIZONTAL SCALE IN METERS
0 2 4 6 8

PREPARED BY SAL
CHECKED BY TAD

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 31+440 to STA. 31+580

HOL-62-30.649

40
180

MATCH LINE STA. 31+440

MATCH LINE STA. 31+580

WORK AREA 31+500

Maintenance of Traffic Drums

CL-1

R-33-24
DO NOT PASS

EL-1

EL-2

QUANTITIES

(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) - - - - - 46 Each
- Item 614, Temporary Centerline, Class 1, 642 Point - - - 0.140 Kilometer
- Item 614, Temporary Edge Line, Class 1, 642 Point - - - 0.280 Kilometer

NOTES

- For Legend, See Sheet No. 16 .
- For the Location of All Utilities See Sheet No.'s 59-70.

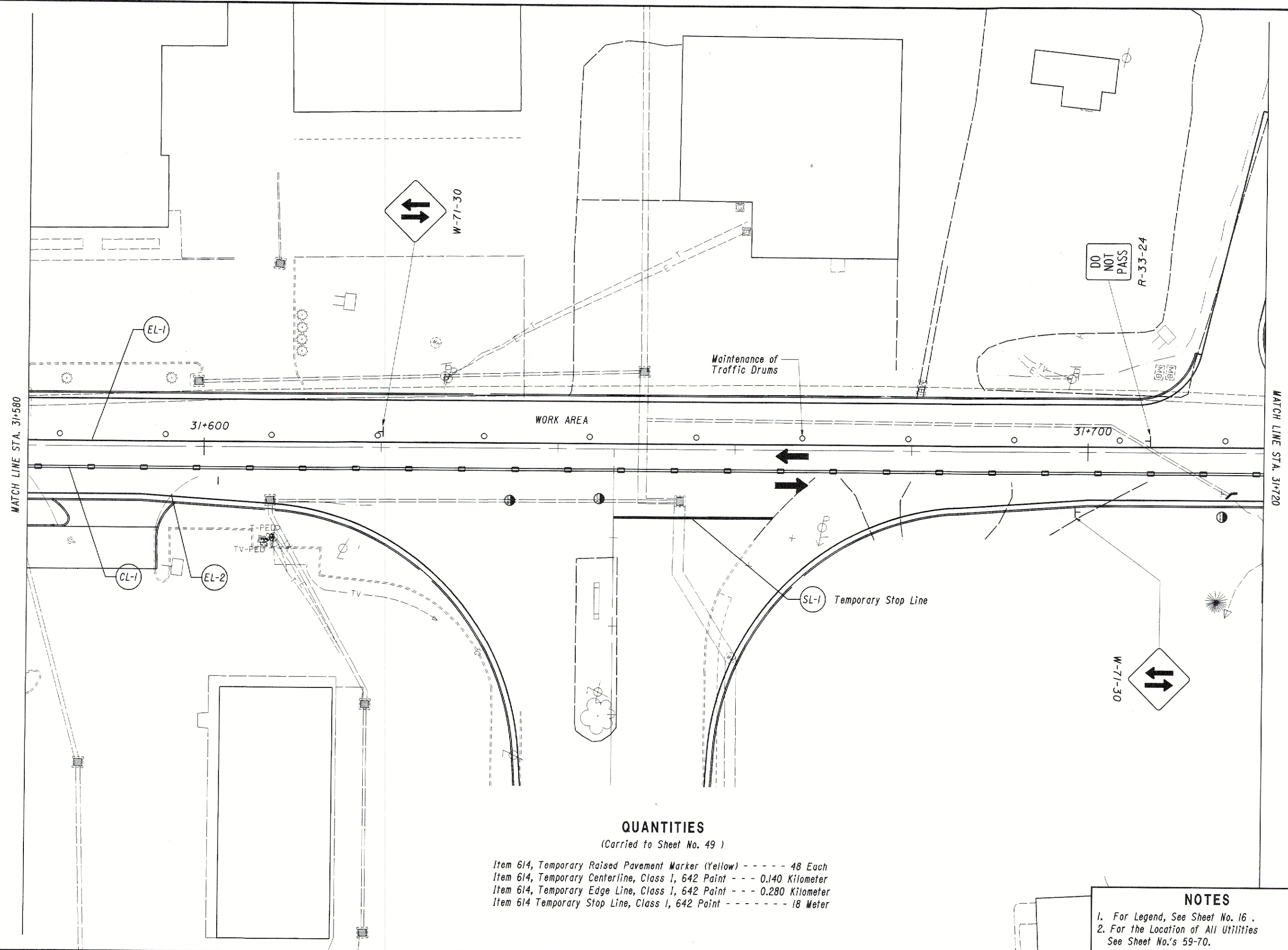


CALCULATED
SAL
CHECKED
TKD

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 31+580 to STA. 31+720

HOL-62-30.649

41
180



Maintenance of Traffic Drums

WORK AREA

SL-1 Temporary Stop Line

QUANTITIES

(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) - - - - - 48 Each
- Item 614, Temporary Centerline, Class I, 642 Paint - - - 0.140 Kilometer
- Item 614, Temporary Edge Line, Class I, 642 Paint - - - 0.280 Kilometer
- Item 614 Temporary Stop Line, Class I, 642 Paint - - - - - 18 Meter

NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70.

MATCH LINE STA. 31+580

MATCH LINE STA. 31+720

31+600

31+700

CL-1

EL-2

EL-1

W-71-30

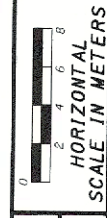
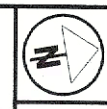
W-71-30

R-33-24

TV-PED

TV-PED

TV

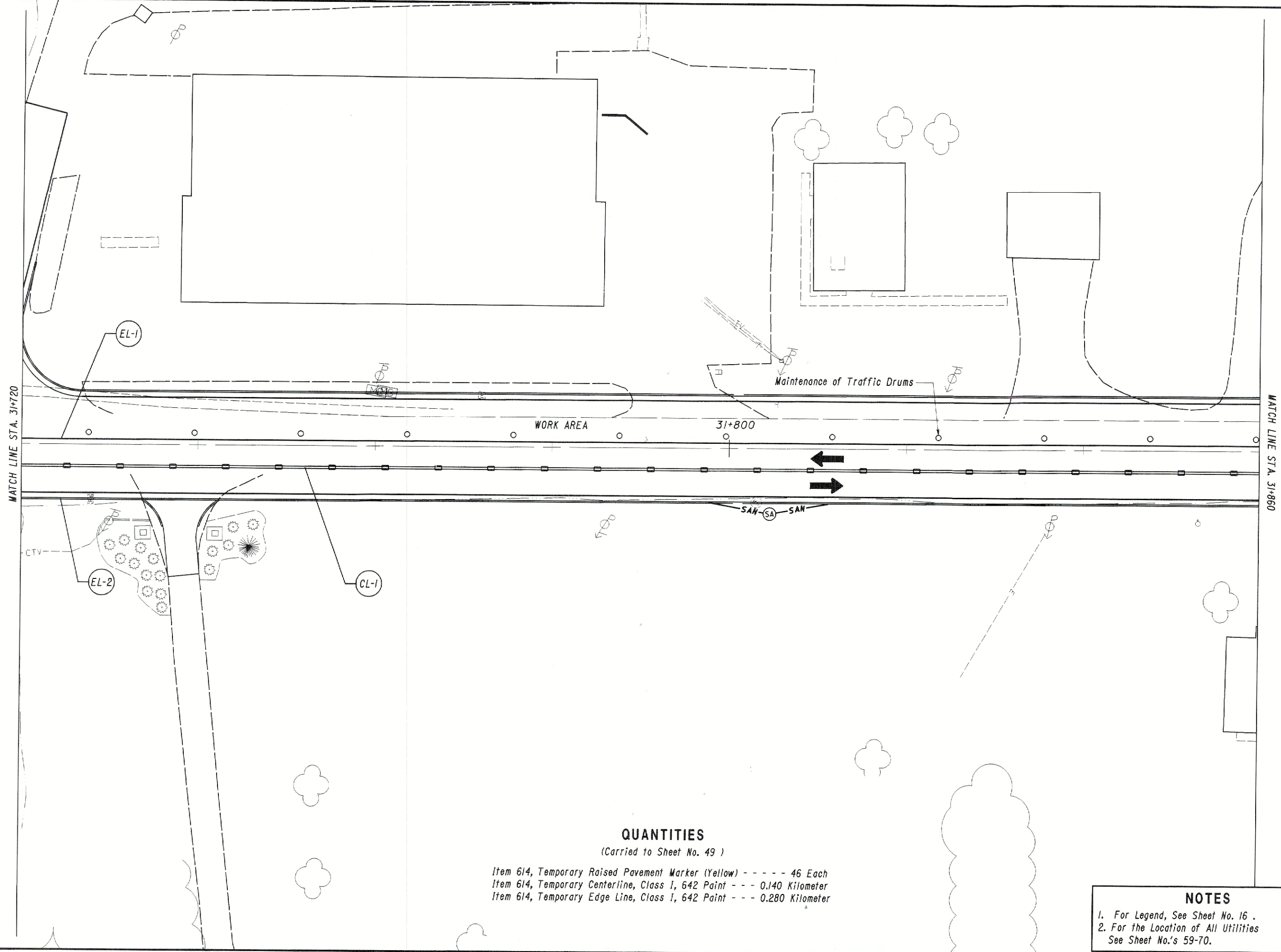


CALCULATED
SAL
CHECKED
TKD

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 31+720 to STA. 31+860

HOL-62-30.649

42
180



QUANTITIES

(Carried to Sheet No. 49)

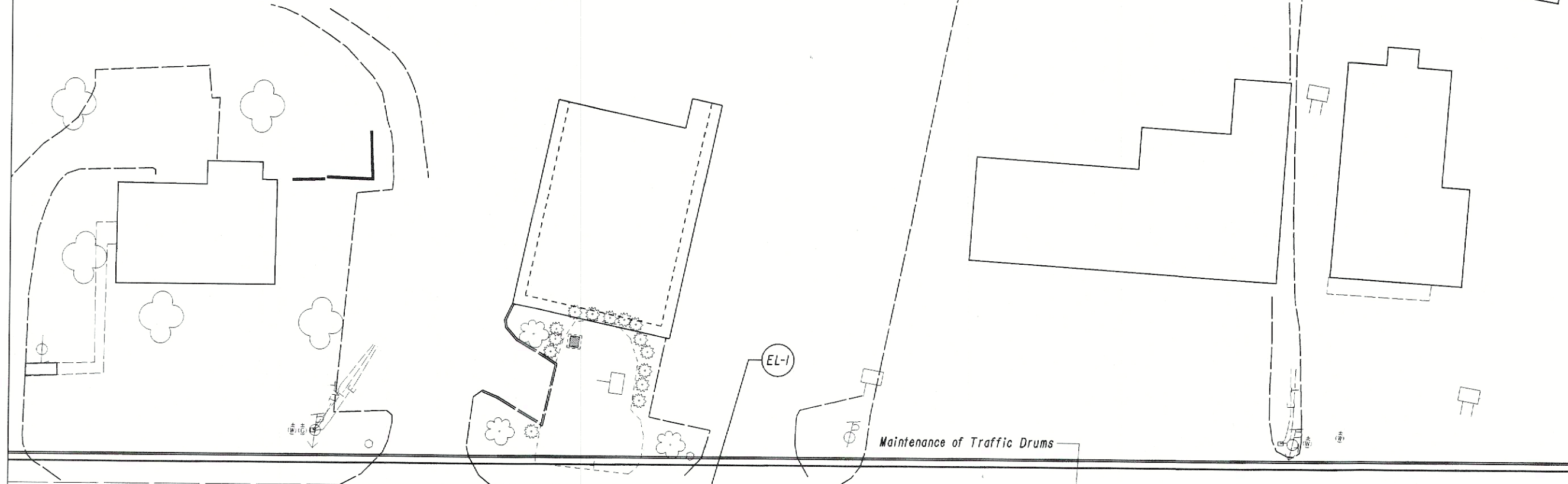
- Item 614, Temporary Raised Pavement Marker (Yellow) - - - - 46 Each
- Item 614, Temporary Centerline, Class 1, 642 Paint - - - 0.140 Kilometer
- Item 614, Temporary Edge Line, Class 1, 642 Paint - - - 0.280 Kilometer

NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70.

MATCH LINE STA. 31+860

MATCH LINE STA. 32+000



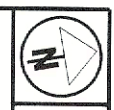
QUANTITIES

(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) - - - - - 46 Each
- Item 614, Temporary Centerline, Class 1, 642 Paint - - - 0.140 Kilometer
- Item 614, Temporary Edge Line, Class 1, 642 Paint - - - 0.280 Kilometer

NOTES

1. For Legend, See Sheet No. 16.
2. For the Location of All Utilities See Sheet No.'s 59-70.



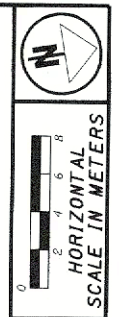
HORIZONTAL
SCALE IN METERS

INITIATED
SAL
CHECKED
TKD

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 31+860 to STA. 32+000

HOL-62-30.649

43
180

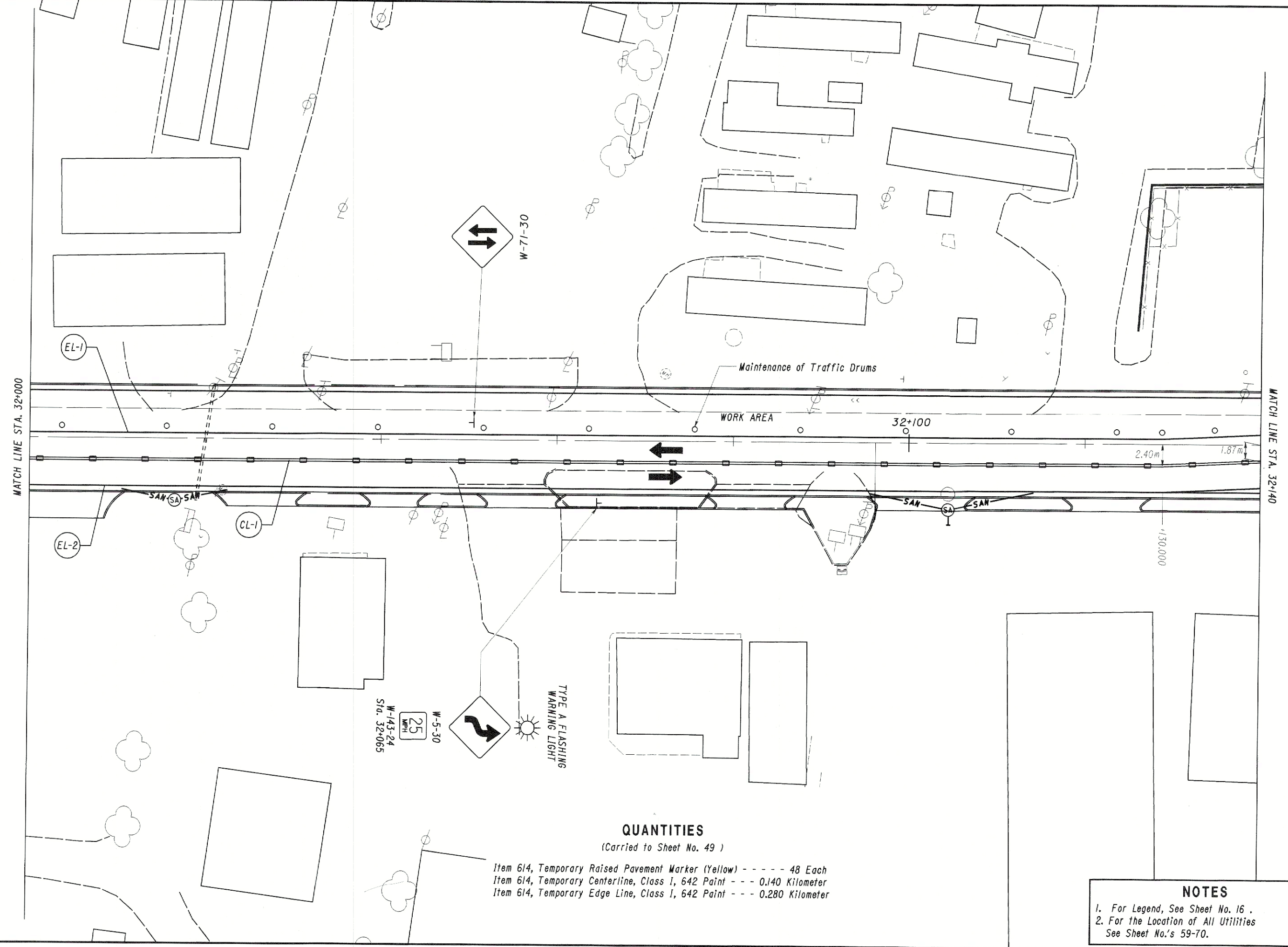


CALCULATED
SAL
CHECKED
TKD

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 32+000 to STA. 32+140

HOL-62-30.649

44
180



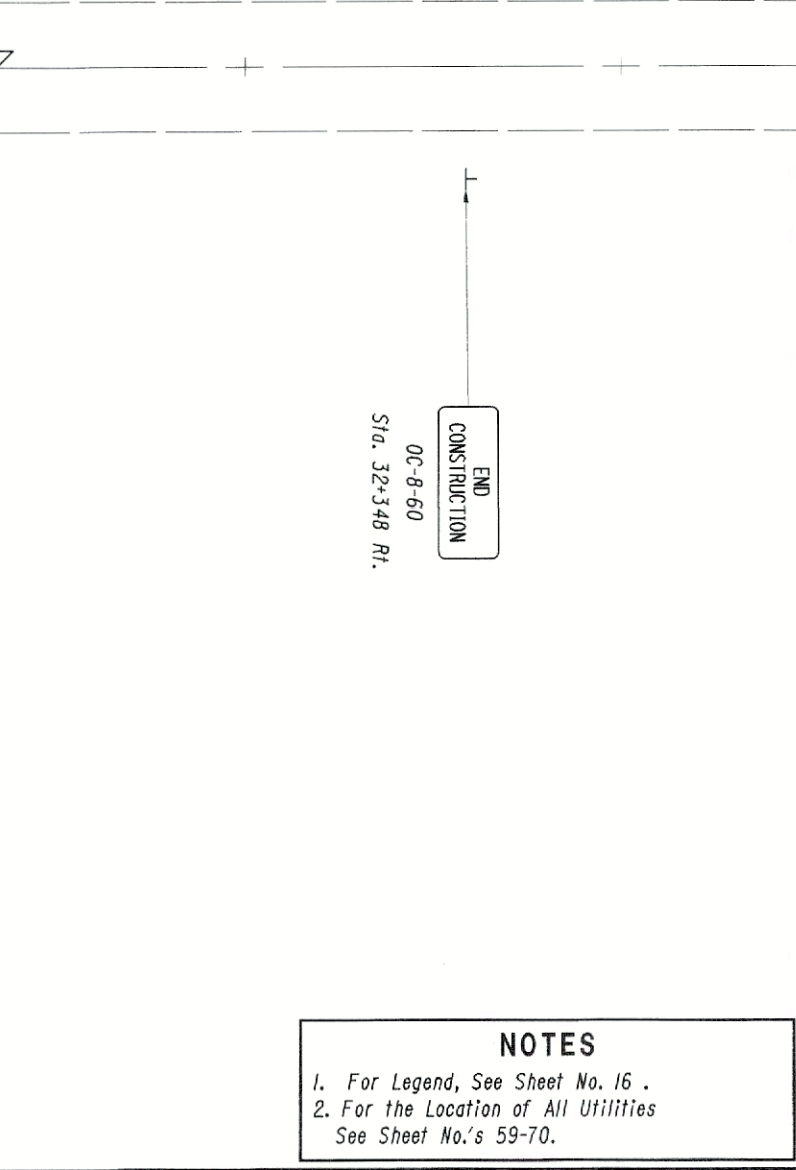
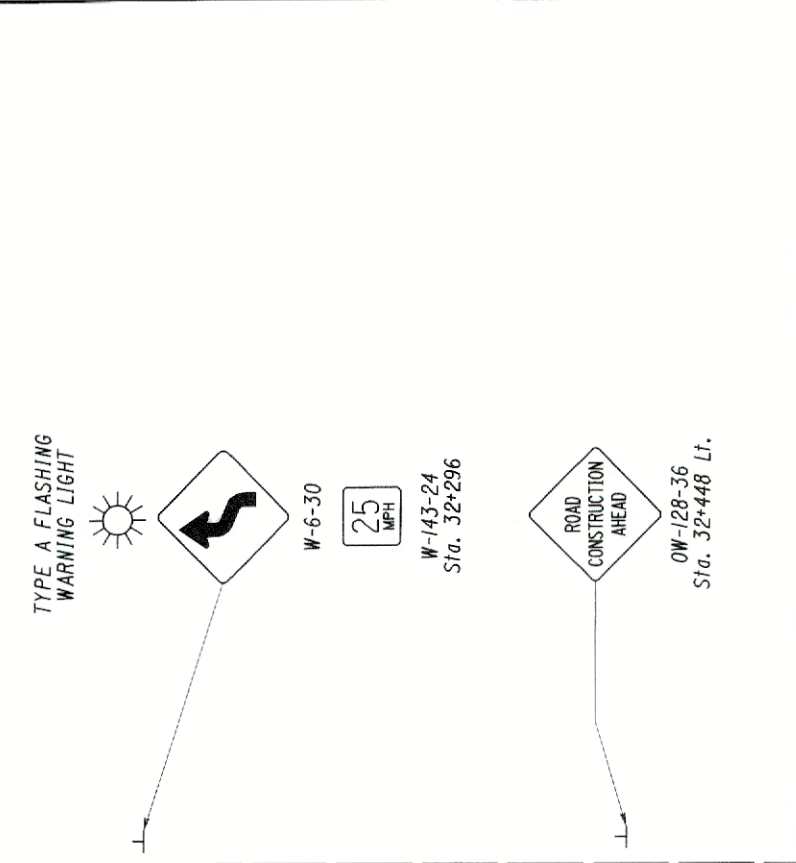
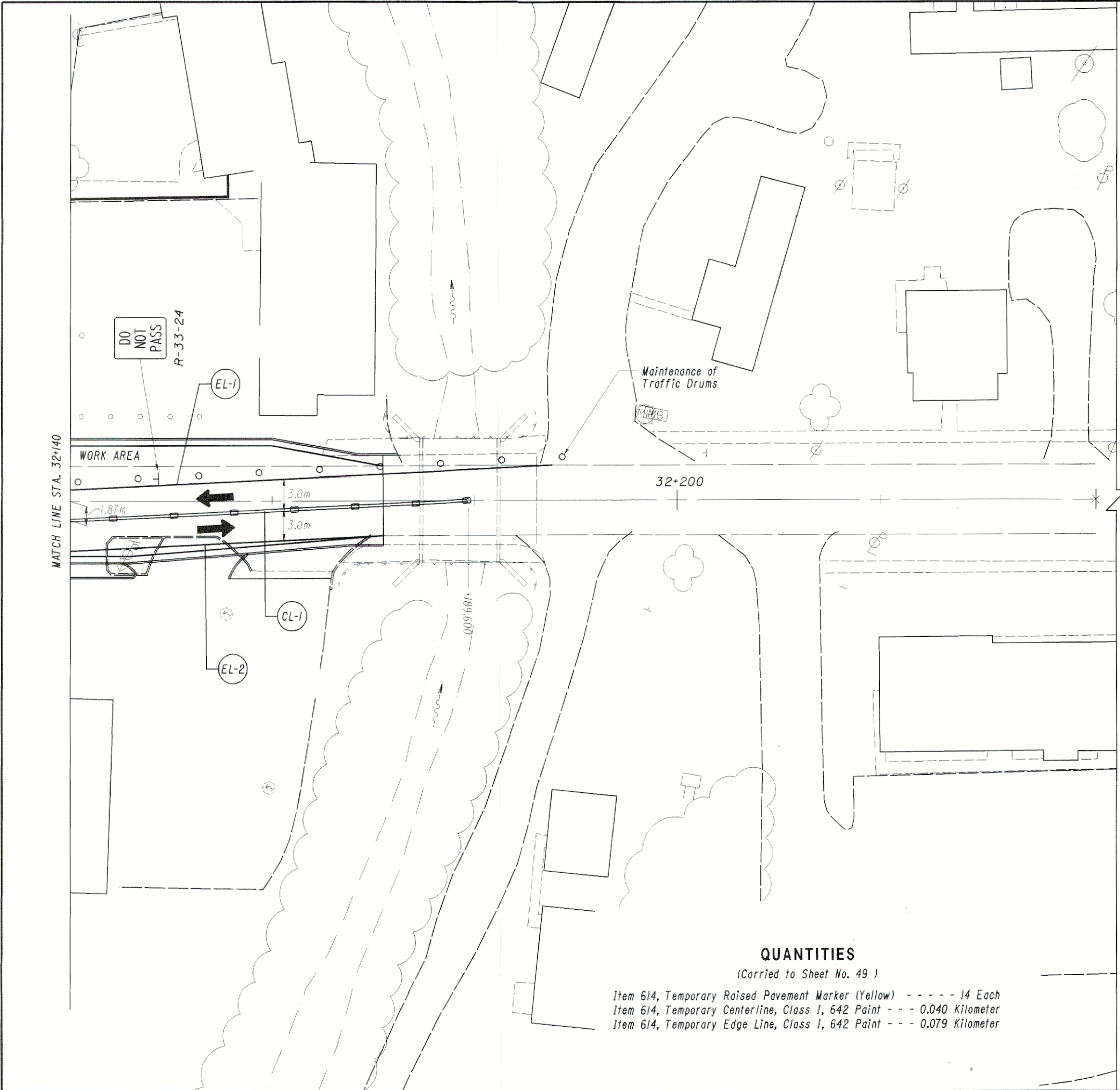
QUANTITIES

(Carried to Sheet No. 49)

- Item 614, Temporary Raised Pavement Marker (Yellow) - - - - 48 Each
- Item 614, Temporary Centerline, Class I, 642 Paint - - - 0.140 Kilometer
- Item 614, Temporary Edge Line, Class I, 642 Paint - - - 0.280 Kilometer

NOTES

1. For Legend, See Sheet No. 16 .
2. For the Location of All Utilities See Sheet No.'s 59-70.



QUANTITIES
 (Carried to Sheet No. 49)
 Item 614, Temporary Raised Pavement Marker (Yellow) - - - - - 14 Each
 Item 614, Temporary Centerline, Class 1, 642 Paint - - - 0.040 Kilometer
 Item 614, Temporary Edge Line, Class 1, 642 Paint - - - 0.079 Kilometer

NOTES
 1. For Legend, See Sheet No. 16 .
 2. For the Location of All Utilities
 See Sheet No.'s 59-70.

CALCULATED SAL CHECKED TKD		MAINTENANCE OF TRAFFIC - PHASE 4 STA. 32+140 to STA. 32+240	HOL-62-30.649	

SHEET NUMBER												ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	AS PER PLAN SHEET NO.	CALCULATED SHG	CHECKED SAL
7	8	49	50	51	55	56	58	95	98	122	155								
												ROADWAY							
LUMP												LUMP	201	11000	LUMP		CLEARING AND GRUBBING		
				1618								LUMP	202	11201	LUMP		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	155	
												202	23000	1618	SQ METER	PAVEMENT REMOVED			
									48			202	30000	48	SQ METER	WALK REMOVED			
				192					143			202	32000	335	METER	CURB REMOVED			
					476					65		202	35100	541	METER	PIPE REMOVED, 600 MM AND UNDER			
					62							202	35200	62	METER	PIPE REMOVED, OVER 600 MM			
		27.3			45.72							202	38000	73.02	METER	GUARDRAIL REMOVED			
					1					4		202	58000	5	EACH	MANHOLE REMOVED			
					15							202	58100	15	EACH	CATCH BASIN REMOVED			
					84							SPECIAL	20270000	84	METER	FILL AND PLUG EXISTING CONDUIT	8		
					1							202	98100	1	EACH	REMOVAL MISC.: CONCRETE HEADWALL			
64			125	745		6850						203	12000	7784	CU METER	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	7		
25			1	362		3719						203	20000	4107	CU METER	EMBANKMENT	7		
						10 063		444	1411			203	50000	11918	SQ METER	SUBGRADE COMPACTION			
					30.48							606	13000	30.48	METER	GUARDRAIL, TYPE 5			
					2							606	25000	2	EACH	ANCHOR ASSEMBLY, TYPE A			
	4											SPECIAL	69050100	4	EACH	MAILBOX SUPPORT SYSTEM, SINGLE	8		
	7											SPECIAL	69050200	7	EACH	MAILBOX SUPPORT SYSTEM, DOUBLE	8		
	3											SPECIAL	69050300	3	EACH	MAILBOX SUPPORT SYSTEM, MULTIPLE	8		
												EROSION CONTROL							
											24	601	32004	24	CU METER	ROCK CHANNEL PROTECTION, TYPE A WITH FABRIC FILTER			
			13									601	32100	13	CU METER	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER			
			5									601	32200	5	CU METER	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER			
11890			487									659	10000	12377	SQ METER	SEEDING AND MULCHING			
600												659	14000	600	SQ METER	REPAIR SEEDING AND MULCHING			
120			50			1774						659	20000	1944	KILOGRAM	COMMERCIAL FERTILIZER			
			275			9992						659	30000	10267	KILOGRAM	AGRICULTURAL LIMING			
24			5			119						659	35000	148	CU METER	WATER			
3000												659	40000	3000	SQ METER	MOWING			
5851												660	30000	5851	SQ METER	SODDING UNSTAKED			
			50									667	10000	50	SQ METER	SEEDING AND JUTE MATTING			
2400												877	10000	2400	SQ METER	TEMPORARY SEEDING AND MULCHING			
850							1698					877	30100	2548	METER	TEMPORARY PERIMETER FILTER FABRIC FENCE			
20							38					877	30200	58	METER	TEMPORARY DITCH CHECK FILTER FABRIC FENCE			
36							72					877	30300	108	METER	TEMPORARY INLET PROTECTION FILTER FABRIC FENCE			
18												877	40000	18	METER	TEMPORARY SLOPE DRAINS			
90												877	55000	90	CU METER	TEMPORARY DIKES			
100												877	55500	100	SQ METER	TEMPORARY DITCH PROTECTION			
181												877	60000	181	CU METER	SEDIMENT REMOVAL			
												DRAINAGE							
											49	SPECIAL	51267510	49	SQ METER	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)			
			3.4								27.4	602	20000	30.8	CU METER	CONCRETE MASONRY			
	30											603	00406	30	METER	100 MM CONDUIT, TYPE F, FOR DRAINAGE CONNECTION			
			461									603	04400	461	METER	300 MM CONDUIT, TYPE B			
			60									603	04600	60	METER	300 MM CONDUIT, TYPE C			
					11.5							603	04900	11.5	METER	300 MM CONDUIT, TYPE D			
					145							603	05900	145	METER	375 MM CONDUIT, TYPE B			

GENERAL SUMMARY

HOL-62-30.649

SHEET NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	AS PER PLAN SHEET NO.	
7	8	49	50	51	54	55	56	95	98	121							155
											DRAINAGE (CONT'D.)						
			256									603	07400	256	METER	450 MM CONDUIT, TYPE B	
			28.5									603	07600	28.5	METER	450 MM CONDUIT, TYPE C	
			127.5									603	08900	127.5	METER	525 MM CONDUIT, TYPE B	
			22									603	09100	22	METER	525 MM CONDUIT, TYPE C	
			72									603	10400	72	METER	600 MM CONDUIT, TYPE B	
			5									603	10400	5	METER	600 MM CONDUIT, TYPE B, 706.02	
			46.5									603	13600	46.5	METER	750 MM CONDUIT, TYPE C	
			92									603	19400	92	METER	1050 MM CONDUIT, TYPE B	
			4									603	20900	4	METER	1200 MM CONDUIT, TYPE B, 706.02	
											28	603	96550	28	METER	CONDUIT, FIELD PAVING OF EXISTING PIPE, 2075 MM x 3200 MM 707.03	
			17									604	00400	17	EACH	CATCH BASIN, NO. 3	
			25									604	00800	25	EACH	CATCH BASIN, NO. 3A	
			9									604	02000	9	EACH	CATCH BASIN, NO. 6	
			5									604	04500	5	EACH	CATCH BASIN, NO. 2-2B	
			6									604	04900	6	EACH	CATCH BASIN, NO. 2-3	
												604	09000	1	EACH	CATCH BASIN ADJUSTED TO GRADE	
			1									604	09500	1	EACH	CATCH BASIN RECONSTRUCTED TO GRADE	
			11									604	31500	11	EACH	MANHOLE, NO. 3	
	18											604	34500	18	EACH	MANHOLE ADJUSTED TO GRADE	
											PAVEMENT						
							8130					254	01000	8130	SQ METER	PAVEMENT PLANING, BITUMINOUS	
								987	60	195	15	301	46000	1257	CU METER	BITUMINOUS AGGREGATE BASE, PG64-22	
			360					1541	69	213	43	304	20000	2226	CU METER	AGGREGATE BASE	
			564					8443	136	442		407	14000	9585	LITER	TACK COAT FOR INTERMEDIATE COURSE	
			3054					14 361	722	2342	565	408	10000	21 044	LITER	BITUMINOUS PRIME COAT	
			75									448	46024	75	CU METER	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (DRIVEWAYS)	
								738	18	59	6	448	46050	821	CU METER	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
								3				448	46061	3	CU METER	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22 (UNDER GUARDRAIL) AS PER PLAN	
	3							525	13	42	4	448	47021	587	CU METER	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN	7
			55									448	48020	55	CU METER	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS)	
			110									452	09990	110	SQ METER	150 MM PLAIN CONCRETE PAVEMENT	
	15		1803									452	11500	1818	SQ METER	200 MM PLAIN CONCRETE PAVEMENT	
												830	12000	3166	METER	COMBINATION CURB AND GUTTER, TYPE 2	
			986									830	26000	1007	METER	CURB, TYPE 6	
												830	28000	45	METER	CURB, TYPE 7	

GENERAL SUMMARY

HOL-62-30.649

FROM SHEET NO.	STATION		202	614	614	SPECIAL	614	614	614	614	615	622	642	REMARKS
			Guardrail Removed	Temporary Raised Pavement Marker	Barrier Reflector, Type A2	Temporary Guardrail	Object Marker	Temporary Centerline, Class I, 642 Paint	Temporary Edge Line, Class I, 642 Paint	Temporary Stop Line, Class I, 642 Paint	Temporary Pavement, Class B	Barrier, Misc.: Portable Barrier, As Per Plan	Removal of Pavement Marking	
FROM	TO	Meter	Each	Each	Meter	Each	Kilometer	Kilometer	Meter	Sq. Meter	Meter	Meter		
PHASE 1														
16	30+629.75	30+740	27.3	34	4	38.1		0.110	0.216		529		88	
17	30+740	30+880		48				0.141	0.281		965		48	
18	30+880	30+991.00		38				0.112	0.212	9	172		171	
Phase 1 Totals:			27.3	120	4	38.1		0.363	0.709	9	1666		307	
PHASE 2														
20	30+623.00	30+740		34			20	0.100	0.151			118		
21	30+740	30+880		46			23	0.140	0.281			130	24	
22	30+880	31+020		42				0.120	0.186	11	63		235	
23	31+020	31+029.20							0.009				9	
Phase 2 Totals:				122			43	0.360	0.627	11	63	248	268	
PHASE 3														
25	30+899.25	31+020		30				0.086	0.181	19	30		6	
26	31+020	31+160		46				0.140	0.280		194		280	
27	31+160	31+300		48				0.140	0.280		184		280	
28	31+300	31+440		46				0.140	0.280		177		280	
29	31+440	31+580		46				0.140	0.280		146		280	
30	31+580	31+720		46				0.140	0.280	21	5		280	
31	31+720	31+860		48				0.140	0.280		145		280	
32	31+860	32+000		46				0.140	0.280		175		280	
33	32+000	32+140		46				0.140	0.280		174		280	
34	32+140	32+196.00		22				0.056	0.090		34		90	
Phase 3 Totals:				424				1.262	2.511	40	1264		2336	
PHASE 4														
36	30+910.00	31+020		38				0.111	0.155	13				
37	31+020	31+160		46				0.140	0.280					
38	31+160	31+300		46				0.140	0.280					
39	31+300	31+440		48				0.140	0.280					
40	31+440	31+580		46				0.140	0.280					
41	31+580	31+720		48				0.140	0.280	18				
42	31+720	31+860		46				0.140	0.280					
43	31+860	32+000		46				0.140	0.280					
44	32+000	32+140		48				0.140	0.280					
45	32+140	32+189.60		14				0.040	0.079					
Phase 4 Totals:				426				1.271	2.474	31				
TOTALS- Carried to General Summary			27.3	1092	4	38.1	43	3.256	6.321	91	2993	248	2911	

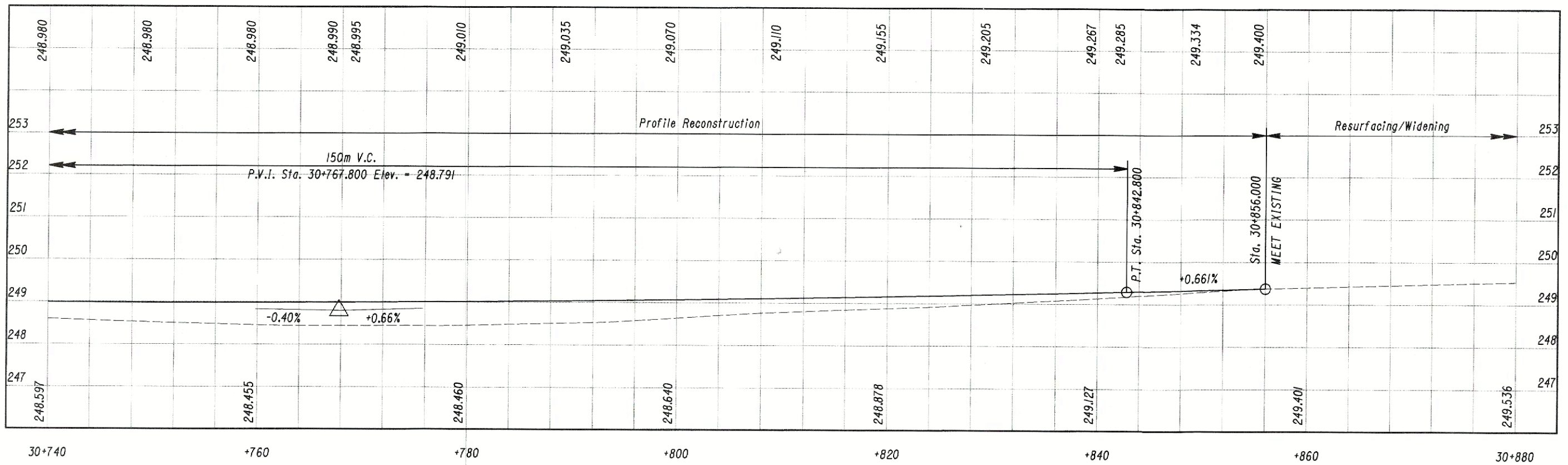
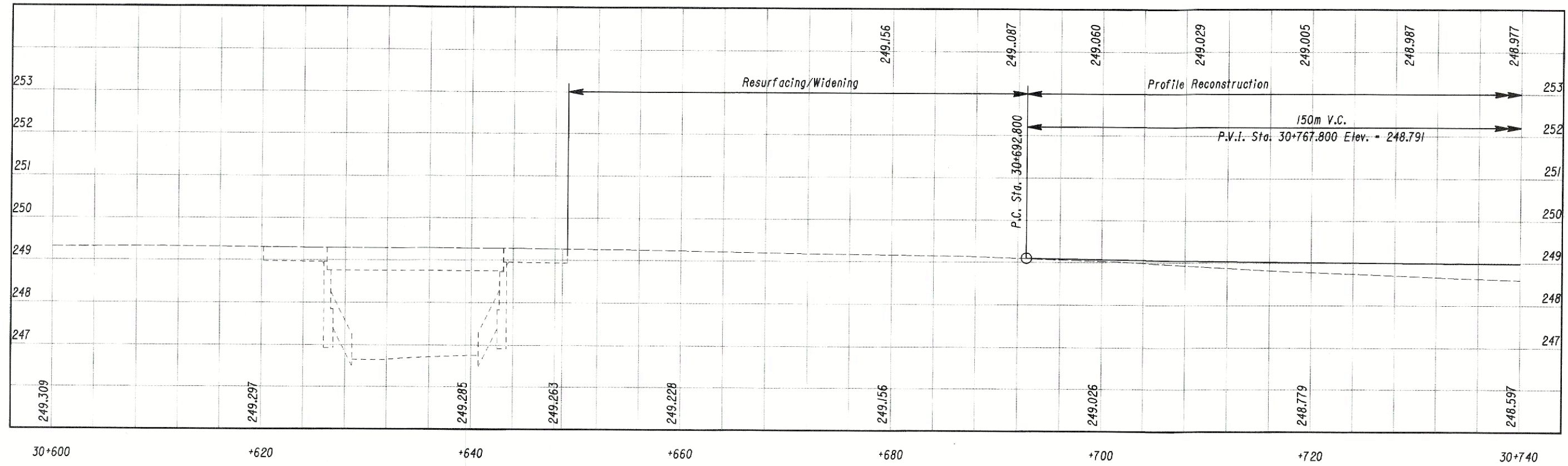
MAINTENANCE OF TRAFFIC SUBSUMMARY

HOL-62-30.649

CALCULATED
SAL
CHECKED
RDA

PLAN SHEET NO.	REFERENCE NO.	STATION	DRIVE TYPE <i>Residential</i>	SIDE	APRON	DRIVEWAY	STEM	R1 (LEFT SIDE RADI	R2 (RIGHT SIDE RADI	202	202	203	203	304	407	408	448	448	452	452	830	WORK LIMITS	SEE DETAIL SHEET NO.			
					LENGTH "L1"	LENGTH "L2"	WIDTH "W"	RI (LEFT SIDE RADI	DRIVE LOOKING FROM	PAVEMENT REMOVED	CURB REMOVED	EMBANKMENT	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	THICKNESS	AGGREGATE BASE	TACK COAT FOR INTERMEDIATE COURSE (0.34 LITER PER SQ. METER)	BITUMINOUS PRIME COAT (1.8 LITER PER SQ. METER)	THICKNESS	ASPHALT CONCRETE SURFACE COURSE, TYPE 1 P664-22 (DRIVEWAYS)	45 mm ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 P664-22 (DRIVEWAYS)	150mm PLAIN CONCRETE PAVEMENT			200mm PLAIN CONCRETE PAVEMENT	CURB, TYPE 6	
					METER	METER	METER	METER	METER	SQ. METER	METER	CU. METER	CU. METER	WILLIMETER	CU. METER	LITER	LITER	WILLIMETER	CU. METER	CU. METER	SQ. METER	SQ. METER	METER			
59	DR-1	30+669.57	Commercial	LT.	6.875	2.580	8.5	7.6	7.6		9.61		20.14	200	4.39	7.460	39.492	32	0.70	0.99		78.49	23.09			
59	DR-2	30+712.87	Commercial	RT.	4.245	4.505	7.7	5.0	5.0				21.50	200	12.90	21.937	116.136	32	2.06	2.90		38.50	10.77			
59,60	DR-3	30+737.26	Commercial	RT.	4.255	4.600	3.8	5.0	5.0				8.25	200	3.42	5.807	30.744	32	0.55	0.77		21.17	10.74			
60	DR-4	30+760.51	Commercial	LT.		34.800	10.5	7.6	7.6														42.27	102		
60	DR-5	30+760.95	Commercial	RT.		31.700	13.1	7.6	7.6		43.73												18.93	102		
60	DR-6	30+785.28	Commercial	LT.	4.260	9.590	9.0	5.0	5.0			22.00	56.72	200	24.83	42.211	223.470	32	3.97	5.59		44.33	21.98	Sta. 30+774.00 to Sta. 30+785.28		
60	DR-7	30+812.63	Commercial	LT.	4.240	9.610	10.5	5.0	5.0				34.89	200	23.86	40.569	214.776	32	3.82	5.37		50.48	10.77	Sta. 30+785.28 to Sta. 30+820.60		
60	DR-8	30+847.36	Commercial	LT.	4.249	5.580	7.4	5.0	5.0				16.33	200	8.26	14.039	74.322	32	1.32	1.86		37.40	21.88			
60	DR-9	30+848.43	Commercial	RT.	6.877	1.972	8.0	7.6	7.6				18.21	200	3.15	5.360	28.368	32	0.50	0.71		64.52	17.82			
60,61	DR-10	30+878.48	Commercial	LT.	4.256	7.925	6.5	5.0	5.0				17.63	200	10.21	17.350	91.854	32	1.63	2.30		33.42	26.53			
61	DR-11	30+931.38	Commercial	LT.	4.291	7.508	5.6	5.0	5.0				15.10	250	10.51								29.85	10.69		
61	DR-11A	31+004.55	Commercial	LT.	6.850		11.0	7.6	7.6				24.83										120.85	22.08		
63	DR-12	31+184.82	Commercial	LT.	3.000	9.810	4.9	7.6	9.1			34.00	51.56	200	10.36	17.609	93.222	32	1.66	2.33		31.16	10.08			
64	DR-13	31+393.40	Commercial	RT.	3.000		6.0	5.0	5.0				0.47										24.21	13.62	Sta. 31+389.9 to Sta. 31+401.6	
64	DR-14	31+409.00	Commercial	RT.	3.000		5.0	5.0	5.0				86.28										21.43	18.00	Sta. 31+401.6 to Sta. 31+416.7	
64	DR-15	31+425.63	Commercial	RT.	3.000		7.6	5.0	5.0				78.96										29.03	22.48	Sta. 31+416.7 to Sta. 31+432.4	
65	DR-16	31+448.00	Commercial	LT.	4.836		7.0	5.0	5.0				79.07										40.91	13.36	Sta. 31+441.00 to Sta. 31+454.50	
65	DR-17	31+462.00	Commercial	LT.	4.808		7.2	5.0	5.0				105.66										71.04	21.60	Sta. 31+454.50 to Sta. 31+478.20	
65	DR-18	31+471.00	Commercial	RT.	3.000		7.2	5.0	5.0				65.09										27.69	35.41		
65	DR-19	31+494.00	Commercial	LT.	4.848		7.2	5.0	5.0				110.48										72.20	26.05	Sta. 31+478.20 to Sta. 31+505.52	
65	DR-20	31+514.00	Commercial	RT.	3.000		9.14	5.0	5.0				6.95										33.52	17.36	Sta. 31+505.88 to Sta. 31+533.07	
65	DR-21	31+552.00	Commercial	RT.	3.000		9.14	5.0	5.0				7.06										34.04	32.13	Sta. 31+533.07 to Sta. 31+568.34	
65	DR-22	31+552.00	Commercial	LT.	3.000		7.2	5.0	5.0				5.79										27.77	13.50		
65	DR-23	31+573.00	Commercial	LT.	3.640		10.0	6.1	5.0				89.38										48.69	17.31	Sta. 31+562.53 to Sta. 31+580.00	
65,66	DR-24	31+589.00	Commercial	RT.	3.000	4.706	9.2	5.0	5.0														33.24	28.39	Sta. 31+568.34 to Sta. 31+597.71	
66	DR-25	31+605.00	Commercial	LT.	3.640		10.0	7.6	7.6				66.97										65.64	30.84	Sta. 31+580.00 to Sta. 31+634.69	
66	DR-26	31+642.04	Commercial	LT.	3.000		11.9	6.1	6.1				9.26										45.06	39.17	Sta. 31+632.54 to Sta. 31+678.23	
66	DR-27	31+689.00	Commercial	LT.	3.000	3.742	7.2	5.0	5.0				13.98	200	7.89	13.410	70.992	32	1.26	1.78		27.77	14.14			
66,67	DR-28	31+712.98	Commercial	LT.		38.900	5.5	6.9	7.1			30.67	15.50										64.22		104	
67	DR-29	31+737.00	Residential	RT.	3.000	5.538	3.6	5.0	5.0														16.65	8.17		
67	DR-30	31+793.00	Commercial	LT.	3.590		8.5	5.0	5.0			223.90											65.38	69.35	Sta. 31+726.71 to Sta. 31+804.41	
67	DR-31	31+836.50	Residential	LT.	3.000	3.860	6.0	5.0	5.0				11.22	200	5.64								23.71	8.21		
67,68	DR-32	31+858.74	Residential	LT.	3.000	6.970	4.5	5.0	5.0			2.98											22.24	8.21		
68	DR-33	31+869.00	Residential	RT.	3.000	5.854	3.6	5.0	5.0				8.17	150	3.20								16.61	8.20		
68	DR-34	31+898.00	Commercial	LT.	3.935		6.9	5.0	5.0			56.65												32.96	10.12	
68	DR-35	31+905.15	Residential	RT.	3.000	5.839	2.8	5.0	5.0				6.74	150	2.50								14.13	8.20		
68	DR-36	31+926.50	Commercial	LT.	3.000		6.9	5.0	5.0				53.41										26.80	12.75		
68	DR-37	31+944.00	Commercial	LT.	6.350		7.2	5.0	5.0			170.87											85.35	18.55	Sta. 31+934.17 to Sta. 31+955.50	
68	DR-38	31+954.50	Residential	RT.	3.000		3.6	5.0	5.0				3.54										16.54	8.20		
68	DR-39	31+967.00	Commercial	LT.	6.350		7.2	5.0	5.0			167.27											87.15	18.31	Sta. 31+955.50 to Sta. 31+975.00	
68	DR-40	31+981.50	Residential	RT.	3.000		3.6	5.0	5.0				3.54										16.54	8.20		
68	DR-41	31+983.00	Commercial	LT.	3.000		7.2	5.0	5.0				5.90										28.24	14.49	Sta. 31+975.00 to Sta. 31+990.67	
68,69	DR-42	32+000.00	Commercial	LT.	3.000		10.5	5.0	5.0				7.87										38.11	15.63	Sta. 31+990.67 to Sta. 32+013.70	
68,69	DR-43	32+003.00	Commercial	RT.	3.000		10.5	5.0	5.0				7.67										37.17	8.21		
69	DR-44	32+025.00	Commercial	LT.	3.050	0.612	4.5	5.0	5.0				4.90	200	0.61	1.044	5.526	32	0.10	0.14			20.11	8.21		
69	DR-45	32+026.25	Commercial	RT.	1.470		5.5	5.0	5.0				2.66										14.27	8.73		
69	DR-46	32+041.50	Commercial	RT.	1.470		2.6	5.0	5.0				1.84										8.65	12.34		
69	DR-47	32+056.00	Commercial	RT.	1.470		5.0	5.0	5.0			84.44	14.45										12.18	17.24	Sta. 32+048.08 to Sta. 32+069.00	
69	DR-48	32+082.00	Commercial	RT.	1.470		5.0	5.0	5.0			82.13	14.45										12.18	15.52	Sta. 32+069.00 to Sta. 32+090.12	
69	DR-49	32+065.70	Commercial	LT.	1.470	1.793	6.6	5.0	5.0				11.45	200	2.66	4.515	23.904	32	0.43	0.60			14.10	4.86		
69	DR-50	32+101.40	Commercial	RT.	1.470		7.2	5.0	5.0				3.17										15.40	12.80	Sta. 32+091.15 to Sta. 32+112.50	
69	DR-51	32+122.50	Commercial	RT.	1.470		5.0	5.0	5.0				2.53										12.18	32.85	Sta. 32+112.50 to Sta. 32+140.00	
69	DR-52	32+119.06	Commercial	LT.	1.327	4.209	6.0	5.0	5.0				8.25	200	5.44	9.241	48.924	32	0.87	1.22			12.16	4.50		
69	DR-53	32+132.00	Commercial	LT.	1.470	2.780	6.0																			

CALCULATED
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PROFILE CORRECTION DETAIL

HOL-62-30.649

P.I. STATION 30+826.796 R = 1,201.847m

LEFT SIDE				CENTERLINE CONTROL		RIGHT SIDE				REMARKS		
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION		TRANSITION RATE	EDGE ELEVATION
249.178		-0.086	-0.016	5.4	30+648.716	249.264	5.4	-0.016	-0.086	165/1	249.178	NC
249.175					30+650.000	249.261		-0.015	-0.081		249.180	
249.142					30+660.000	249.228		-0.004	-0.022		249.206	
249.126					30+663.716	249.212		LEVEL	0.000		249.212	1/2 LEVEL
249.098					30+670.000	249.184		0.007	0.038		249.222	
249.095					30+671.236	249.181		0.008	0.043		249.224	PC
249.074					30+678.716	249.160		0.016	0.086		249.246	RC/FS
249.070					30+680.000	249.156					249.242	
248.974					30+700.000	249.060					249.146	
248.919					30+720.000	249.005					249.091	
248.891					30+740.000	248.977					249.063	
248.893					30+760.000	248.978					249.065	
248.922					30+780.000	249.008					249.094	
248.980					30+800.000	249.066					249.152	
249.067					30+820.000	249.152					249.239	
249.182					30+840.000	249.267					249.354	
249.314					30+860.000	249.400					249.486	
249.450					30+880.000	249.536					249.622	
249.541					30+900.000	249.627					249.713	
249.577					30+920.000	249.663					249.749	
249.572					30+940.000	249.658					249.744	
249.558					30+960.000	249.644					249.730	
249.534					30+975.635	249.620		0.016	0.086		249.706	RC/FS
249.522					30+980.000	249.608		0.011	0.059		249.667	
249.520					30+980.635	249.606		0.011	0.059		249.665	PT
249.492					30+990.000	249.578		0.001	0.004		249.582	
249.490					30+990.635	249.576		LEVEL	0.000		249.576	1/2 LEVEL
249.480					31+000.000	249.566		-0.010	-0.054		249.512	
249.474		-0.086	-0.016	5.4	31+005.635	249.560	5.4	-0.016	-0.086		249.474	NC

P.I. STATION 31+227.198 R = 873.488m

LEFT SIDE				CENTERLINE CONTROL		RIGHT SIDE				REMARKS		
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION		TRANSITION RATE	EDGE ELEVATION
249.977		-0.086	-0.016	5.4	31+157.757	250.063	5.4	-0.016	-0.086		249.977	NC
249.994		-0.073	-0.014		31+160.000	250.067					249.981	
250.057		-0.016	-0.003		31+170.000	250.073					249.987	
250.075		0.000	LEVEL		31+172.757	250.075					249.989	1/2 LEVEL
250.122		0.043	0.008		31+180.000	250.079					249.993	
250.140		0.058	0.011		31+182.757	250.082					249.996	PC
250.169		0.086	0.016	5.4	31+187.757	250.083	5.4	-0.016	-0.086		249.997	CR/FS

- CONTINUED NEXT COLUMN -

P.I. STATION 31+227.198 R = 873.488m

LEFT SIDE				CENTERLINE CONTROL		RIGHT SIDE				REMARKS		
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION		TRANSITION RATE	EDGE ELEVATION
250.156		0.086	0.016	5.4	31+200.000	250.070	5.4	-0.016	-0.086		249.984	
250.123					31+220.000	250.037					249.951	
250.137					31+240.000	250.051					249.965	
250.141					31+260.000	250.055					249.969	
250.144		0.086	0.016		31+266.562	250.058					249.972	CR/FS
250.123		0.065	0.012		31+270.000	250.058					249.972	
250.117		0.059	0.011		31+271.562	250.058					249.972	PT
250.069		0.011	0.002		31+280.000	250.058					249.972	
250.058		0.000	LEVEL		31+281.562	250.058					249.972	1/2 LEVEL
250.019		-0.049	-0.009		31+290.000	250.068					249.982	
249.987		-0.086	-0.016	5.4	31+296.562	250.073	5.4	-0.016	-0.086		249.987	NC

P.I. STATION 31+412.397 R = 272.871m

LEFT SIDE				CENTERLINE CONTROL		RIGHT SIDE				REMARKS		
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION		TRANSITION RATE	EDGE ELEVATION
249.987		-0.086	-0.016	5.4	31+330.959	250.073	5.4	-0.016	-0.086		249.987	NC
249.987					31+340.000	250.073		-0.006	-0.032		250.041	
249.987					31+345.549	250.073		LEVEL	0.000		250.073	1/2 LEVEL
249.987					31+350.000	250.073		0.004	0.022		250.095	
249.987					31+356.489	250.073		0.012	0.065		250.138	PC
249.987					31+359.561	250.073		0.016	0.086		250.059	RC
249.987		-0.086	-0.016		31+360.000	250.073		0.016	0.086		250.159	
249.976		-0.097	-0.018		31+361.959	250.073		0.018	0.097		250.170	FS
249.976					31+370.000	250.073					250.170	
249.978					31+380.000	250.075					250.172	
249.966					31+400.000	250.063					250.160	
249.949					31+420.000	250.046					250.143	
249.951					31+440.000	250.048					250.145	
249.969					31+460.000	250.066					250.163	
249.971		-0.097	-0.018		31+461.308	250.068		0.018	0.097		250.165	FS
249.987		-0.086	-0.016		31+463.587	250.073		0.016	0.086		250.159	RC
249.984					31+466.778	250.070		0.012	0.065		250.135	PT
249.984					31+470.000	250.070		0.008	0.043		250.113	
249.984					31+477.718	250.070		LEVEL	0.000		250.070	1/2 LEVEL
249.985					31+480.000	250.071		-0.003	-0.016		250.055	
250.001					31+490.000	250.087		-0.013	-0.070		250.017	
250.005		-0.086	-0.016	5.4	31+492.308	250.091	5.4	-0.016	-0.086		250.005	NC

CALCULATED
TKD
CHECKED
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SUPERELEVATION TABLES

HOL - 62 - 30.649

U.S. 62 PAVEMENT PLANING TABLE

LEFT SIDE			STATION	RIGHT SIDE			LEFT SIDE			STATION	RIGHT SIDE		
EDGE ELEVATION	PLANING DEPTH (m)	EXISTING PAVEMENT EDGE OFFSET		EXISTING PAVEMENT EDGE OFFSET	PLANING DEPTH (m)	EDGE ELEVATION	EDGE ELEVATION	PLANING DEPTH (m)	EXISTING PAVEMENT EDGE OFFSET		EDGE ELEVATION	PLANING DEPTH (m)	EXISTING PAVEMENT EDGE OFFSET
249.134	0.106	3.10	30+650.000	3.10	0.088	249.134	249.945	0.028	3.1	31+480.000	3.1	0.028	249.985
249.102	0.104	3.10	30+660.000	3.10	0.055	249.138	249.964	0.015	3.1	31+500.000	3.1	0.048	249.964
249.030	0.068	3.10	30+680.000	3.10	0.029	249.128	249.957	0.036	3.1	31+520.000	3.1	0.068	249.957
PROFILE CORRECTION - FROM STA. 30+692.80 TO STA. 30+856.00							249.962	0.024	3.1	31+540.000	3.1	0.054	249.962
249.274*	0	2.31	30+860.000	3.10	0.075	249.373	249.971	0.039	3.1	31+560.000	3.1	0.048	249.971
249.410*	0	2.60	30+880.000	3.10	0.051	249.508	249.990	0.070	3.1	31+580.000	3.1	0.044	249.990
249.501*	0	2.46	30+900.000	3.10	0.069	249.463	250.024	0.052	3.1	31+600.000	3.1	0.038	250.024
249.508*	0	2.33	30+920.000	3.10	0.134	249.635	250.029	0.056	3.1	31+620.000	3.1	0.037	250.029
249.533*	0	1.91	30+940.000	3.10	0.114	249.632	250.015	0.039	3.1	31+640.000	3.1	0.032	250.015
249.518*	0	2.05	30+960.000	3.10	0.116	249.617	250.041	0.036	3.1	31+660.000	3.1	0.027	250.041
249.482	0.011	3.10	30+980.000	3.10	0.096	249.565	250.080	0.056	3.1	31+680.000	3.1	0.040	250.080
249.440	0.045	3.10	31+000.000	3.10	0.123	249.548	250.140	0.036	3.1	31+700.000	3.1	0.054	250.140
249.442	0.026	3.10	31+020.000	3.10	0.111	249.442	250.255	0.063	3.1	31+720.000	3.1	0.031	250.255
249.449	0.063	3.10	31+040.000	3.10	0.074	249.449	250.412	0.076	3.1	31+740.000	3.1	0	250.412
249.478	0.074	3.10	31+060.000	3.10	0.067	249.478	250.604	0.057	3.1	31+760.000	3.1	0.009	250.604
249.512	0.095	3.10	31+080.000	3.10	0.047	249.512	250.832	0.052	3.1	31+780.000	3.1	0.018	250.832
249.633	0.036	3.10	31+100.000	3.10	0.063	249.633	251.099	0.029	3.1	31+800.000	3.1	0.014	251.099
249.772	0.030	3.10	31+120.000	3.10	0.072	249.772	251.323	0.073	3.1	31+820.000	3.1	0.059	251.323
249.878	0.034	3.10	31+140.000	3.10	0.077	249.878	251.622	0.061	3.1	31+840.000	3.1	0.049	251.622
249.949	0.033	3.10	31+160.000	3.10	0.095	249.949	251.867	0.050	3.1	31+860.000	3.1	0.058	251.867
250.027*	0	2.11	31+180.000	3.10	0.105	249.953	251.984	0.094	3.1	31+880.000	3.1	0.071	251.984
250.043*	0	1.96	31+200.000	3.10	0.101	249.944	252.047	0.099	3.1	31+900.000	3.1	0.071	252.047
250.010*	0	1.82	31+220.000	3.10	0.097	249.911	252.011	0.097	3.1	31+920.000	3.1	0.055	252.011
250.023*	0	1.56	31+240.000	3.10	0.090	249.925	251.898	0.076	3.1	31+940.000	3.1	0.070	251.898
250.027*	0	1.54	31+260.000	3.10	0.105	249.928	251.694	0.082	3.1	31+960.000	3.1	0.081	251.694
249.987*	0	2.12	31+280.000	3.10	0.100	249.932	251.428	0.084	3.1	31+980.000	3.1	0.086	251.428
249.947	0.010	3.10	31+300.000	3.10	0.070	249.947	251.153	0.086	3.1	32+000.000	3.1	0.305	251.153
249.947*	0	2.62	31+320.000	3.10	0.067	249.947	250.922	0.062	3.1	32+020.000	3.1	0.086	250.922
249.947	0.126	3.10	31+340.000	3.10	0.061	249.947	250.896	0.094	3.1	32+040.000	3.1	0.082	250.896
249.946	0.049	3.10	31+360.000	3.10	0.012	250.045	251.035	0.073	3.1	32+060.000	3.1	0.059	251.035
249.942	0.010	3.10	31+380.000	3.10	0.087	250.054	251.150	0.059	3.1	32+080.000	3.1	0.063	251.150
249.931*	0	2.26	31+400.000	3.10	0.109	250.043	251.249	0.062	3.1	32+100.000	3.1	0.065	251.249
249.913*	0	1.87	31+420.000	3.10	0.110	250.025	251.365	0.051	3.1	32+120.000	3.1	0.052	251.365
249.915*	0	2.96	31+440.000	3.10	0.113	250.026	251.487	0.048	3.1	32+140.000	3.1	0.071	251.487
249.933	0.032	3.10	31+460.000	3.10	0.005	250.045	251.586	0.047	3.1	32+160.000	3.1	0.051	251.586

* - Wedge Required See Sheet No. 54a for Wedge Details.

Side	Station		Length Meter	Begin Width Meter	End Width Meter
	From	To			
RT	30+649.89	30+655.00	5.11	1.31	2.0
RT	32+145.98	32+170.98	25.00	2.0	0.0
LT	32+159.98	32+170.98	11.00	2.0	0.0

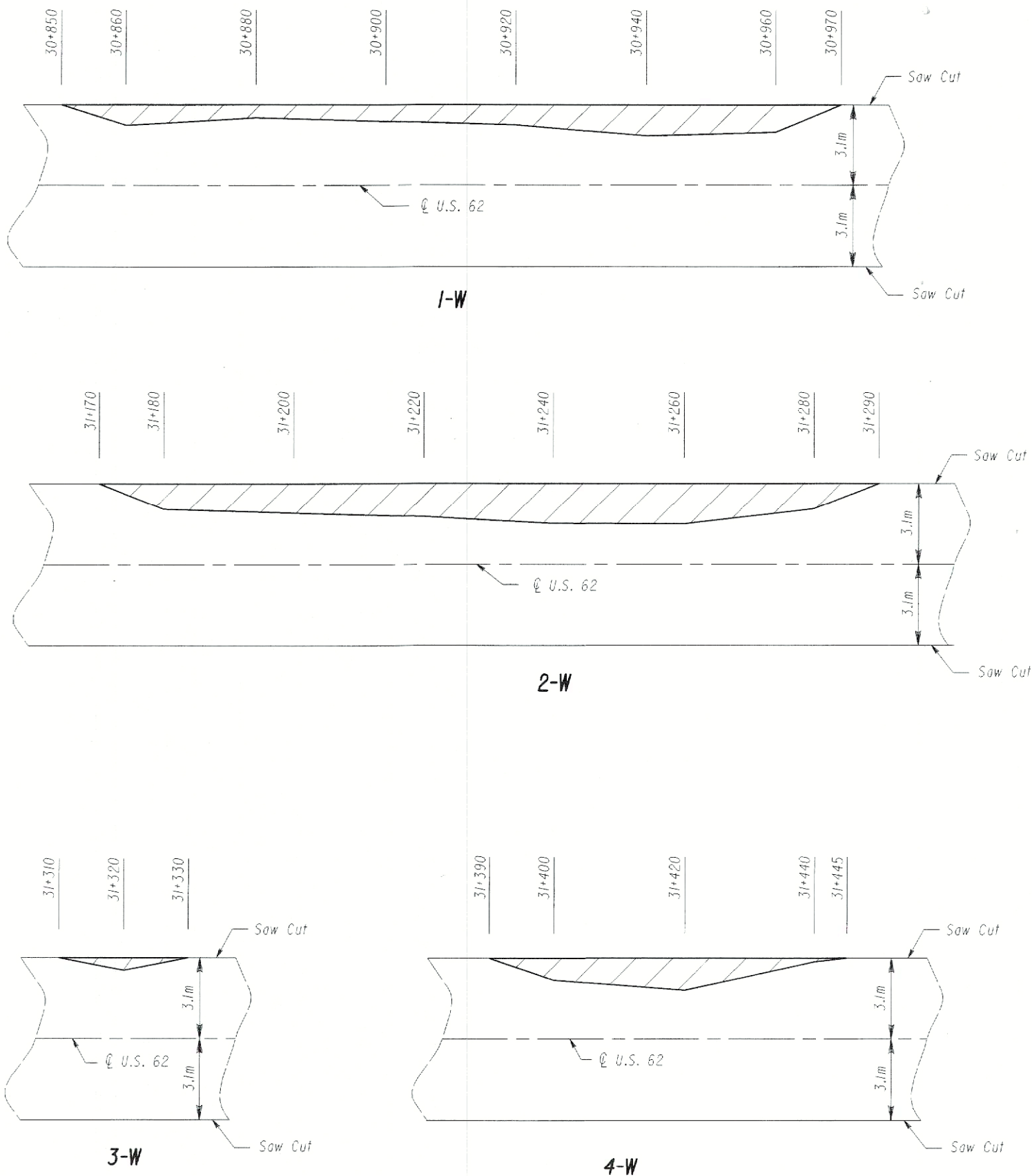
PAVEMENT PLANING QUANTITIES

SIDE	STATION	LENGTH	WIDTH	254	
				PAVEMENT PLANING, BITUMINOUS	
	FROM	TO	METER	METER	SQ. METER
RIGHT	30+648.72	30+692.80	44.08	3.10	136.65
	30+856.00	32+170.98	1314.98	3.10	4076.44
	30+648.72	30+692.80	44.08	3.10	136.65
	30+856.00	30+880.00	24	2.46 avg	59.04
	30+880.00	30+900.00	20	2.53 avg	50.60
	30+900.00	30+920.00	20	2.40 avg	48.00
	30+920.00	30+940.00	20	2.12 avg	42.40
	30+940.00	30+960.00	20	1.98 avg	39.60
	30+960.00	30+980.00	20	2.58 avg	51.60
	30+980.00	31+160.00	180	3.10	558
	31+160.00	31+180.00	20	2.61 avg	52.20
	31+180.00	31+200.00	20	2.04 avg	40.80
	31+200.00	31+220.00	20	1.89 avg	37.80
	31+220.00	31+240.00	20	1.69 avg	33.80
	31+240.00	31+260.00	20	1.55 avg	31.00
	LEFT	31+260.00	31+280.00	20	1.83 avg
31+280.00		31+300.00	20	2.61 avg	52.20
31+300.00		31+320.00	20	2.86 avg	57.20
31+320.00		31+340.00	20	2.86 avg	57.20
31+340.00		31+380.00	40	3.10	124
31+380.00		31+400.00	20	2.68 avg	53.60
31+400.00		31+420.00	20	2.07 avg	41.40
31+420.00		31+440.00	20	2.42 avg	48.40
31+440.00		31+460.00	20	3.03 avg	60.60
31+460.00		32+170.98	710.98	3.10	2204.04
TOTALS (CARRIED TO GENERAL SUMMARY)				8129.82	

PAVEMENT PLANING TABLE AND QUANTITIES

HOL - 62 - 30.649

CALCULATED
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▨ - Wedge area

NOT TO SCALE

REF NO.	STATION	SIDE	BEGIN WEDGE OFFSET	EDGE OF PAVEMENT	DEPTH	AREA	ITEM 448	
			meter	meter	meter	sq. meter	cu. meter	
1-W	30+850	Left	0	3.1	0	0	0.045	
	30+860	Left	2.31	3.1	0.024	0.009	0.130	
	30+880	Left	2.60	3.1	0.014	0.004	0.100	
	30+900	Left	2.46	3.1	0.020	0.006	0.170	
	30+920	Left	2.33	3.1	0.028	0.011	0.370	
	30+940	Left	1.91	3.1	0.043	0.026	0.440	
	30+960	Left	2.05	3.1	0.034	0.018	0.090	
	30+970	Left	0	3.1	0	0	0.080	
	2-W	31+170	Left	0	3.1	0	0	0.410
		31+180	Left	2.11	3.1	0.032	0.016	0.650
31+200		Left	1.96	3.1	0.044	0.025	0.990	
31+220		Left	1.82	3.1	0.062	0.040	1.200	
31+240		Left	1.56	3.1	0.076	0.059	0.780	
31+260		Left	1.54	3.1	0.078	0.061	0.085	
31+280		Left	2.12	3.1	0.035	0.017	0.015	
31+290		Left	0	3.1	0	0	0.015	
3-W		31+310	Left	0	3.1	0	0	0.015
		31+320	Left	2.62	3.1	0.012	0.003	0.015
	31+330	Left	0	3.1	0	0	0.075	
	4-W	31+390	Left	0	3.1	0	0	0.470
		31+400	Left	2.26	3.1	0.035	0.015	0.320
31+420		Left	1.87	3.1	0.052	0.032	0	
31+440		Left	2.96	3.1	0.005	0	0	
31+445	Left	0	3.1	0	0	0		
TOTALS CARRIED TO GENERAL SUMMARY							6.435	

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PAVEMENT WEDGE QUANTITY DETAILS

HOL-62-30.649

54A
180

REFERENCE NO.	PLAN SHEET NO.	STATION		SIDE	202	202	202	202	202	202	202	604	606	606	606	626	638	830	REMARKS
					PIPE REMOVED. 600MM & UNDER	PIPE REMOVED. OVER 600MM	GUARDRAIL REMOVED	CATCH BASIN REMOVED	MANHOLE REMOVED	ITEM SPECIAL FILL AND PLUG EXISTING CONDUIT	REMOVAL. MISC. CONCRETE HEADWALL	CATCH BASIN ADJUSTED TO GRADE	GUARDRAIL. TYPE 5	ANCHOR ASSEMBLY. TYPE A	BRIDGE TERMINAL ASSEMBLY TYPE 4	BARRIER REFLECTOR TYPE A	FIRE HYDRANT REMOVED AND RESET	COMBINATION CURB AND GUTTER. TYPE 2	
		METER	METER		METER	EACH	EACH	METER	EACH	EACH	METER	EACH	EACH	EACH	EACH	EACH	METER		
C-1	59 - 60	30+647.41	30+755.39	LT.															
C-2	59 - 60	30+680.00	30+755.76	RT.															
C-3	60 - 66	30+764.81	31+712.81	LT.														112.56	
C-4	60 - 61	30+767.57	30+913.52	RT.														105.43	
C-5	61 - 66	30+923.34	31+636.74	RT.														952.55	
C-6	66 - 70	31+656.18	32+170.99	RT.														163.66	
C-7	66 - 70	31+719.33	32+170.99	LT.														740.91	
C-7A	66 - 67	31+719.33	31+787.24	LT.														544.21	
																		457.72	
																		84.06	
R-1	59	30+707.619	30+718.624	RT.	11.10														
R-2	60	30+745.84	30+755.23	RT.	12.85														
R-3	60	30+755.23	30+769.83	RT.	14.58														
R-4	60	30+777.87	30+805.38	LT.	27.30														
R-5	61	30+908.50	30+934.01	LT.	25.20														
R-6	62	31+077.71		Q & RT.	16.98														
R-7	63	31+220.14		Q	10.61														
R-8	64	31+314.91		Q		13.78													
R-9	64	31+315.45	31+373.47	RT.	58.42														
R-10	65	31+437.58	31+465.88	LT.	27.47														
R-11	65	31+451.03	31+471.34	RT.	20.31														
R-12	65	31+471.34	31+506.01	RT.	34.67														
R-13	65	31+492.05	31+504.25	LT.	12.2														
R-14	65	31+506.01	31+530.62	RT.	25.61														
R-15	65	31+531.23		LT. & RT.	11.82														
R-16	65	31+531.23		LT.	3.3														
R-17	65	31+531.23	31+577.97	RT.	47.74														
R-18	65	31+577.97	31+578.33	RT.	2														
R-19	66	31+599.31	31+649.66	LT.	50														
R-20	66	31+607.51	31+607.99	RT.	4.0														
R-21	66	31+607.51	31+653.69	RT.	46.19														
R-22	66	31+659.66		RT.		12.87													
R-23	66	31+653.69	31+659.66	RT.		19.39													
R-24	66	31+649.66	31+653.69	RT.		4.79													
R-25	66	31+649.67		LT.		6.25													
R-26	66	31+716.05		RT.															
R-27	69	32+018.98	32+020.96	LT. & RT.	13.18														Remove up to back of proposed curb.
R-28	60	30+854.90	30+859.70	LT.		4.3													
R-29	61	1+013.17 C.R. 58	1+036.07 C.R. 58				30.48												
A-1	66	31+649.67																	
A-2	66	31+649.67	31+716.05																Fill and Plug under mainline and to the back of proposed curb.
GR-1	59	30+642.24	30+661.24	LT.															
GR-2	59	30+645.46	30+672.10	RT.															
CB-1	60	30+805.69		LT.															
FH-1	68	30+902.00		LT.															

TOTALS (CARRIED TO GENERAL SUMMARY)					475.53	61.88	45.72	15	1	83.69	1	1	30.48	2	2	4 *	1	3161.10	
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QUANTITIES

HOL-62-30.649

* - Carried to Sheet No. 132

ITEM 203 - SUBGRADE COMPACTION

Sta. 30+648.72 to Sta. 30+692.80 Rt.
(44.08) (3.05) = 134.44 Sq. M.

Sta. 30+692.80 to Sta. 30+747.14 Rt.
(54.34) (6.15) = 334.19 Sq. M.

Sta. 30+747.14 to Sta. 30+775.33 Rt.
(28.19) (5.4) = 152.21 Sq. M.

Sta. 30+775.33 to Sta. 30+856.00 Rt.
(80.67) (6.15) = 496.14 Sq. M.

Sta. 30+856.00 to Sta. 30+899.19 Rt.
(43.19) (3.05) = 131.74 Sq. M.

Sta. 30+899.19 to Sta. 30+955.72 Rt.
(56.53) (2.3) = 130.01 Sq. M.

Sta. 30+955.72 to Sta. 31+592.84 Rt.
(637.12) (3.05) = 1943.23 Sq. M.

Sta. 31+592.84 to Sta. 31+700.06 Rt.
(107.22) (2.3) = 246.60 Sq. M.

Sta. 31+700.06 to Sta. 32+145.98 Rt.
(445.92) (3.05) = 1360.06 Sq. M.

Sta. 32+145.98 to Sta. 32+161.61 Rt.
(15.63) (2.43 avg) = 37.98 Sq. M.

Sta. 30+648.72 to Sta. 30+692.80 Lt.
(44.08) (3.05) = 134.44 Sq. M.

Sta. 30+692.80 to Sta. 30+747.09 Lt.
(54.30) (6.15) = 333.93 Sq. M.

Sta. 30+747.09 to Sta. 30+773.10 Lt.
(26.01) (5.4) = 140.44 Sq. M.

Sta. 30+773.10 to Sta. 30+856.00 Lt.
(82.90) (6.15) = 509.81 Sq. M.

Sta. 30+856.00 to Sta. 31+705.57 Lt.
(849.57) (3.05) = 2591.19 Sq. M.

Sta. 31+705.57 to Sta. 31+726.63 Lt.
(21.06) (2.3) = 48.44 Sq. M.

Sta. 31+726.63 to Sta. 32+159.98 Lt.
(433.35) (3.05) = 1321.72 Sq. M.

Sta. 32+159.98 to Sta. 32+166.86 Lt.
(6.88) (2.43 avg) = 16.72 Sq. M.
USE 10 063 Sq. M.

ITEM 301 - 150mm BITUMINOUS AGGREGATE BASE, PG 64-22

Sta. 30+648.72 to Sta. 30+692.80 Rt.
(44.08) (2.3) (0.150) = 15.21 Cu. M.

Sta. 30+692.80 to Sta. 30+856.00 Rt.
(163.20) (5.4) (0.150) = 132.19 Cu. M.

Sta. 30+856.00 to Sta. 32+145.98 Rt.
(1289.98) (2.3) (0.150) = 445.04 Cu. M.

Sta. 32+145.98 to Sta. 32+170.98 Rt.
(25.00) (1.3 avg) (0.150) = 4.88 Cu. M.

Sta. 30+648.72 to Sta. 30+692.80 Lt.
(44.08) (2.3) (0.150) = 15.21 Cu. M.

Sta. 30+692.80 to Sta. 30+856.00 Lt.
(163.20) (5.4) (0.150) = 132.19 Cu. M.

Sta. 30+856.00 to Sta. 30+159.98 Lt.
(696.02) (2.3) (0.150) = 240.13 Cu. M.

Sta. 30+159.98 to Sta. 32+170.98 Lt.
(11.00) (1.3 avg) (0.150) = 2.15 Cu. M.
USE 987 Cu. M.

ITEM 304 - 150mm AGGREGATE BASE

Sta. 30+648.72 to Sta. 30+663.72 Rt.
(15.00) (3.05) (0.150) = 6.86 Cu. M.

Sta. 30+663.72 to Sta. 30+692.80 Rt.
(29.08) (3.05) (0.150) = 13.30 Cu. M.

Sta. 30+692.80 to Sta. 30+856.00 Rt.
(163.20) (6.15) (0.150) = 150.55 Cu. M.

Sta. 30+856.00 to Sta. 30+990.64 Rt.
(134.64) (3.05) (0.150) = 61.60 Cu. M.

Sta. 30+990.64 to Sta. 31+345.55 Rt.
(354.91) (3.05) (0.150) = 162.37 Cu. M.

Sta. 31+345.55 to Sta. 31+477.72 Rt.
(132.17) (3.05) (0.150) = 60.47 Cu. M.

Sta. 31+477.72 to Sta. 32+145.98 Rt.
(668.26) (3.05) (0.150) = 305.73 Cu. M.

Sta. 32+145.98 to Sta. 32+170.98 Rt.
(25.00) (2.30 avg) (0.150) = 8.63 Cu. M.

Sta. 30+648.72 to Sta. 30+692.80 Lt.
(44.08) (3.05) (0.150) = 20.17 Cu. M.

Sta. 30+692.80 to Sta. 30+856.00 Lt.
(163.20) (6.15) (0.150) = 150.55 Cu. M.

Sta. 30+856.00 to Sta. 31+727.76 Lt.
(316.76) (3.05) (0.150) = 144.92 Cu. M.

Sta. 31+727.76 to Sta. 31+281.56 Lt.
(108.80) (3.05) (0.150) = 49.78 Cu. M.

Sta. 31+281.56 to Sta. 32+159.98 Lt.
(878.42) (3.05) (0.150) = 401.88 Cu. M.

Sta. 32+159.98 to Sta. 32+170.98 Lt.
(11.00) (2.30 avg) (0.150) = 3.80 Cu. M.
USE 1541 Cu. M.

ITEM 408 - BITUMINOUS PRIME COAT

Sta. 30+648.72 to Sta. 30+692.80 Rt.
(44.08) (2.3) (1.8) = 182.49 Liter

Sta. 30+692.80 to Sta. 30+856.00 Rt.
(163.20) (5.4) (1.8) = 1586.30 Liter

Sta. 30+856.00 to Sta. 32+145.98 Rt.
(1289.98) (2.3) (1.8) = 5340.52 Liter

Sta. 32+145.98 to Sta. 32+170.98 Rt.
(25.00) (1.3 avg) (1.8) = 58.50 Liter

Sta. 30+648.72 to Sta. 30+692.80 Lt.
(44.08) (2.3) (1.8) = 182.49 Liter

Sta. 30+692.80 to Sta. 30+856.00 Lt.
(163.20) (5.4) (1.8) = 1586.30 Liter

Sta. 30+856.00 to Sta. 32+159.98 Lt.
(1303.98) (2.3) (1.8) = 5398.48 Liter

Sta. 30+159.98 to Sta. 32+170.98 Lt.
(11.00) (1.3 avg) (1.8) = 25.74 Liter
USE 14 361 Liter

ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

Sta. 30+648.72 to Sta. 32+145.98 Rt.
(1497.26) (5.4) (0.34) = 2748.97 Liter

Sta. 32+145.98 to Sta. 32+170.98 Rt.
(25.00) (4.4 avg) (0.34) = 37.4 Liter

Sta. 30+648.72 to Sta. 32+159.98 Lt.
(1511.26) (5.4) (0.34) = 2774.67 Liter

Sta. 32+159.98 to Sta. 32+170.98 Lt.
(11.00) (4.4 avg) (0.34) = 16.46 Liter

Sta. 30+648.72 to Sta. 30+692.80 Lt.
(44.08) (3.1) (0.34) = 46.46 Liter

Sta. 30+856.00 to Sta. 32+170.98 Lt.
(1314.98) (3.1) (0.34) = 1385.99 Liter

Sta. 30+648.72 to Sta. 30+692.80 Lt.
(44.08) (3.1) (0.34) = 46.46 Liter

Sta. 30+856.00 to Sta. 32+170.98 Lt.
(1314.98) (3.1) (0.34) = 1385.99 Liter
USE 8443 Liter

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

Sta. 30+648.72 to Sta. 32+145.98 Rt.
(1497.26) (5.4) (0.045) = 363.83 Cu. M.

Sta. 32+145.98 to Sta. 32+170.98 Rt.
(25.00) (4.4 avg) (0.045) = 4.95 Cu. M.

Sta. 30+648.72 to Sta. 32+159.98 Lt.
(1511.26) (5.4) (0.045) = 367.24 Cu. M.

Sta. 32+159.98 to Sta. 32+170.98 Lt.
(11.00) (4.4 avg) (0.045) = 2.18 Cu. M.
USE 738 Cu. M.

ITEM 448 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22, AS PER PLAN

Sta. 30+648.72 to Sta. 32+145.98 Rt.
(1497.26) (5.4) (0.032) = 258.73 Cu. M.

Sta. 32+145.98 to Sta. 32+170.98 Rt.
(25.00) (4.4 avg) (0.032) = 3.52 Cu. M.

Sta. 30+648.72 to Sta. 32+159.98 Lt.
(1511.26) (5.4) (0.032) = 261.15 Cu. M.

Sta. 32+159.98 to Sta. 32+170.98 Lt.
(11.00) (4.4 avg) (0.032) = 1.55 Cu. M.
USE 525 Cu. M.

ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG 64-22, AS PER PLAN

Right Shoulder - Sta. 30+644.28 to Sta. 30+680.00 = 35.72m

Left Shoulder - Sta. 30+641.00 to Sta. 30+655.37 = 14.37m

Total Length = 50.09m

(50.09m) (0.05m) (1.22m) = 3.06 Cu. M.

USE 3 Cu. M.

EARTHWORK SUMMARY

FROM SHEET NO.	203	
	EXCAVATION	EMBANKMENT
	CU. METER	CU. METER
72	252	95
73	581	662
74	407	612
75	188	221
76	115	204
77	169	94
78	102	150
79	718	125
80	764	75
81	498	282
82	370	248
83	96	150
84	139	180
85	184	91
86	132	68
87	169	70
88	205	31
89	181	81
90	124	98
91	163	43
92	144	50
93	108	42
94	116	29
97	190	18
100	735	0
	6850	3719

TOTALS CARRIED TO GENERAL SUMMARY

SEEDING AND SODDING

FROM SHEET NO.	203	
	SEEDING AND MULCHING	SODDING
	SQ. METER	SQ. METER
126	11890	5851

TOTALS CARRIED TO SHEET NO. 7

COMMERCIAL FERTILIZER

(17741 Sq.M.) (0.1 Kg./Sq.M.) = 1774.1Kg.

Use 1774 Kg.

AGRICULTURAL LIMING

(17741 Sq. M.) (256 Kg./1000 Sq. M.) (2.20) = 9991.73 Kg.

Use 9992 Kg.

WATER

(2) (11890 Sq. M.) (5 Cu. M./1000 Sq. M.) = 118.9 Cu. M.

Use 119 Cu. M.

TOTALS CARRIED TO GENERAL SUMMARY

PAVEMENT CALCULATIONS & QUANTITIES

.HOL-62-30.649

56
180

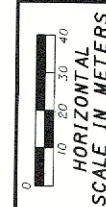
CALCULATED
TKD
CHECKED
SAL

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF UPGRADING 1.522 KILOMETERS OF U.S. RT. 62 BY WIDENING AND RESURFACING, INCLUDING NEW CURB AND GUTTER, LEFT TURN LANE, STORM SEWER SYSTEM, TRAFFIC CONTROL SIGNS, TRAFFIC SIGNAL, AND PAVEMENT MARKINGS.

U.S.G.S. QUADRANGLE MAP NO. 40081-E8-TF-024
MILLERSBURG, OHIO
LONGITUDE: 81° 55' 00" *
LATITUDE: 40° 32' 25" *

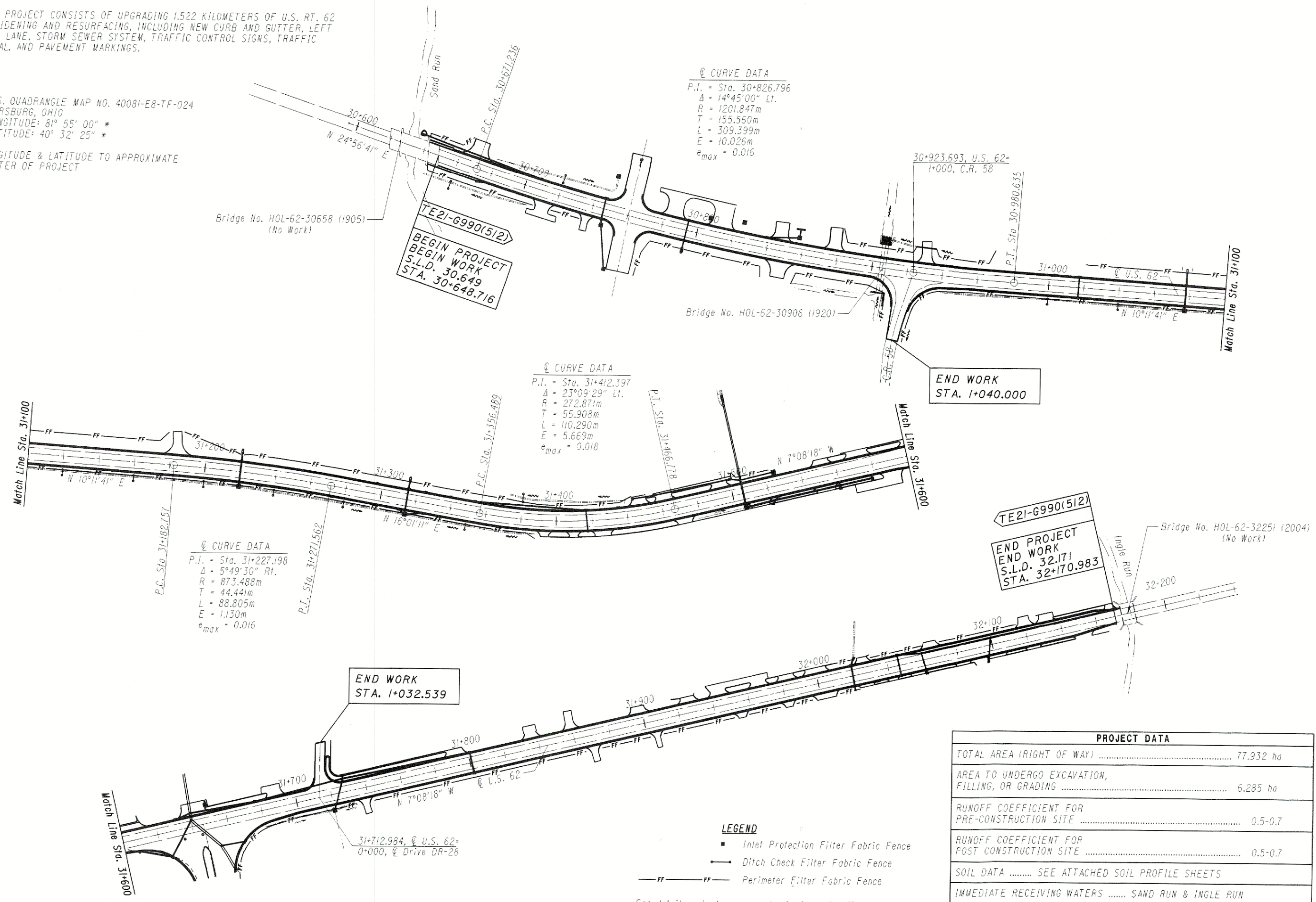
* LONGITUDE & LATITUDE TO APPROXIMATE CENTER OF PROJECT



CALCULATED
TKD
CHECKED
SAL

STORM WATER POLLUTION PREVENTION PLAN

HOL-62-30.649



PROJECT DATA	
TOTAL AREA (RIGHT OF WAY)	77.932 ha
AREA TO UNDERGO EXCAVATION, FILLING, OR GRADING	6.285 ha
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.5-0.7
RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE	0.5-0.7
SOIL DATA	SEE ATTACHED SOIL PROFILE SHEETS
IMMEDIATE RECEIVING WATERS	SAND RUN & INGLE RUN
SUBSEQUENT RECEIVING WATERS	KILLBUCK CREEK

For details not shown, see standard construction drawings DM-4.3M and DM4.4M.

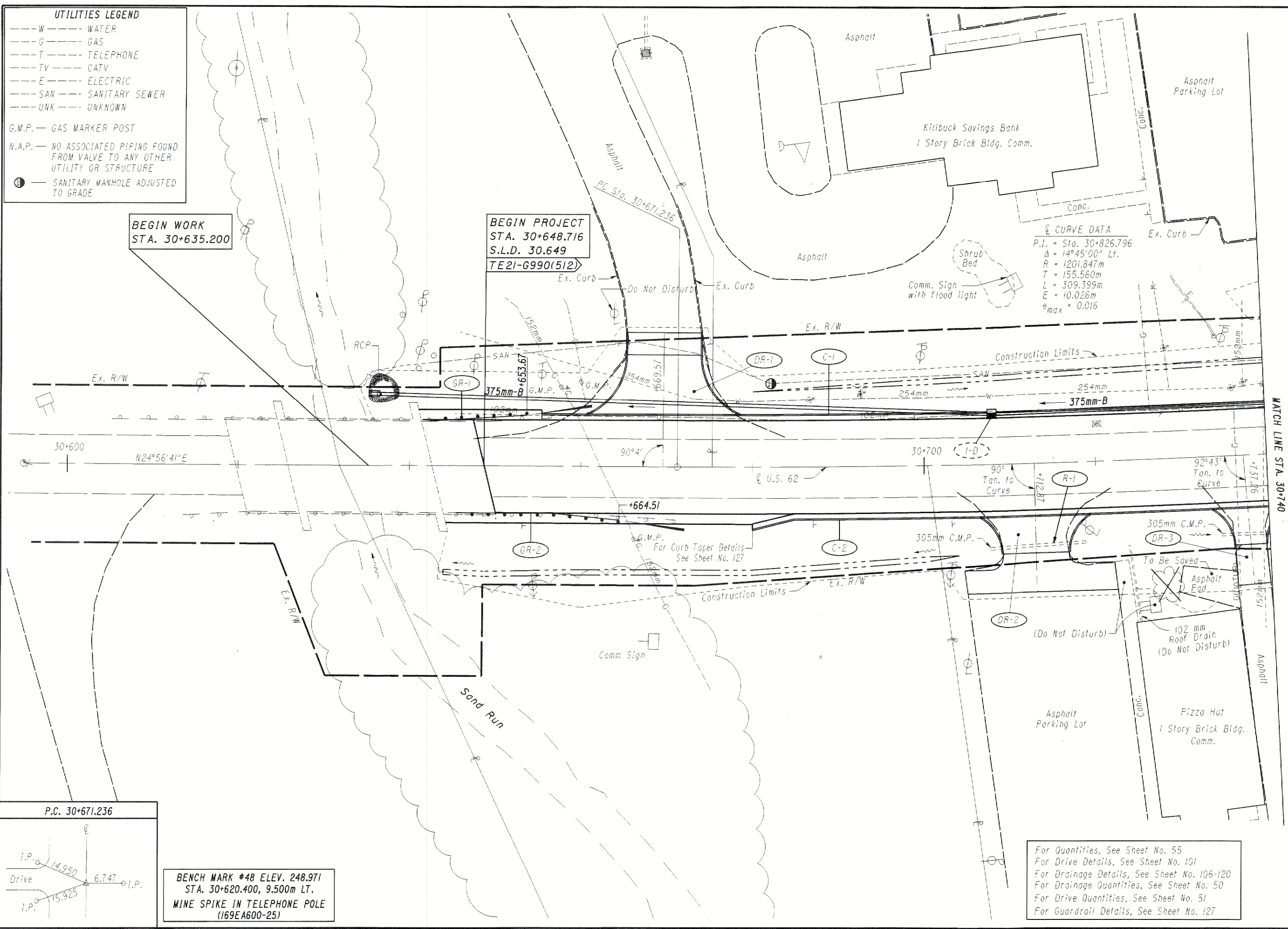
UTILITIES LEGEND

- W--- WATER
- G--- GAS
- T--- TELEPHONE
- TV--- CATV
- E--- ELECTRIC
- SAN--- SANITARY SEWER
- UNK--- UNKNOWN
- G.M.P. — GAS MARKER POST
- N.A.P. — NO ASSOCIATED PIPING FOUND FROM VALVE TO ANY OTHER UTILITY OR STRUCTURE
- ⊕ — SANITARY MANHOLE ADJUSTED TO GRADE

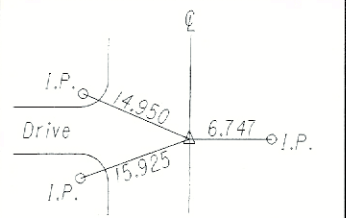
BEGIN WORK
STA. 30+635.200

BEGIN PROJECT
STA. 30+648.716
S.L.D. 30.649
TE21-G990(512)

⊕ CURVE DATA
P.I. = Sta. 30+826.796
Δ = 14°45'00" Lt.
R = 1201.847m
T = 155.560m
L = 309.399m
E = 10.026m
e_{max} = 0.016

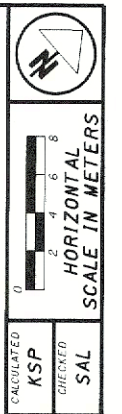


P.C. 30+671.236



BENCH MARK #48 ELEV. 248.971
STA. 30+620.400, 9.500m LT.
MINE SPIKE IN TELEPHONE POLE
(169EA600-25)

For Quantities, See Sheet No. 55
For Drive Details, See Sheet No. 101
For Drainage Details, See Sheet No. 105-120
For Drainage Quantities, See Sheet No. 50
For Drive Quantities, See Sheet No. 51
For Guardrail Details, See Sheet No. 127



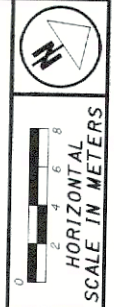
CALCULATED KSP
CHECKED SAL

PLAN SHEET
STA. 30+600 to STA. 30+740

HOL-62-30.649

59
180

@ CURVE DATA
 P.I. = Sta. 30+826.796
 $\Delta = 14^{\circ}45'00''$ Lt.
 $R = 1201.847m$
 $T = 155.560m$
 $L = 309.399m$
 $E = 10.026m$
 $e_{max} = 0.016$



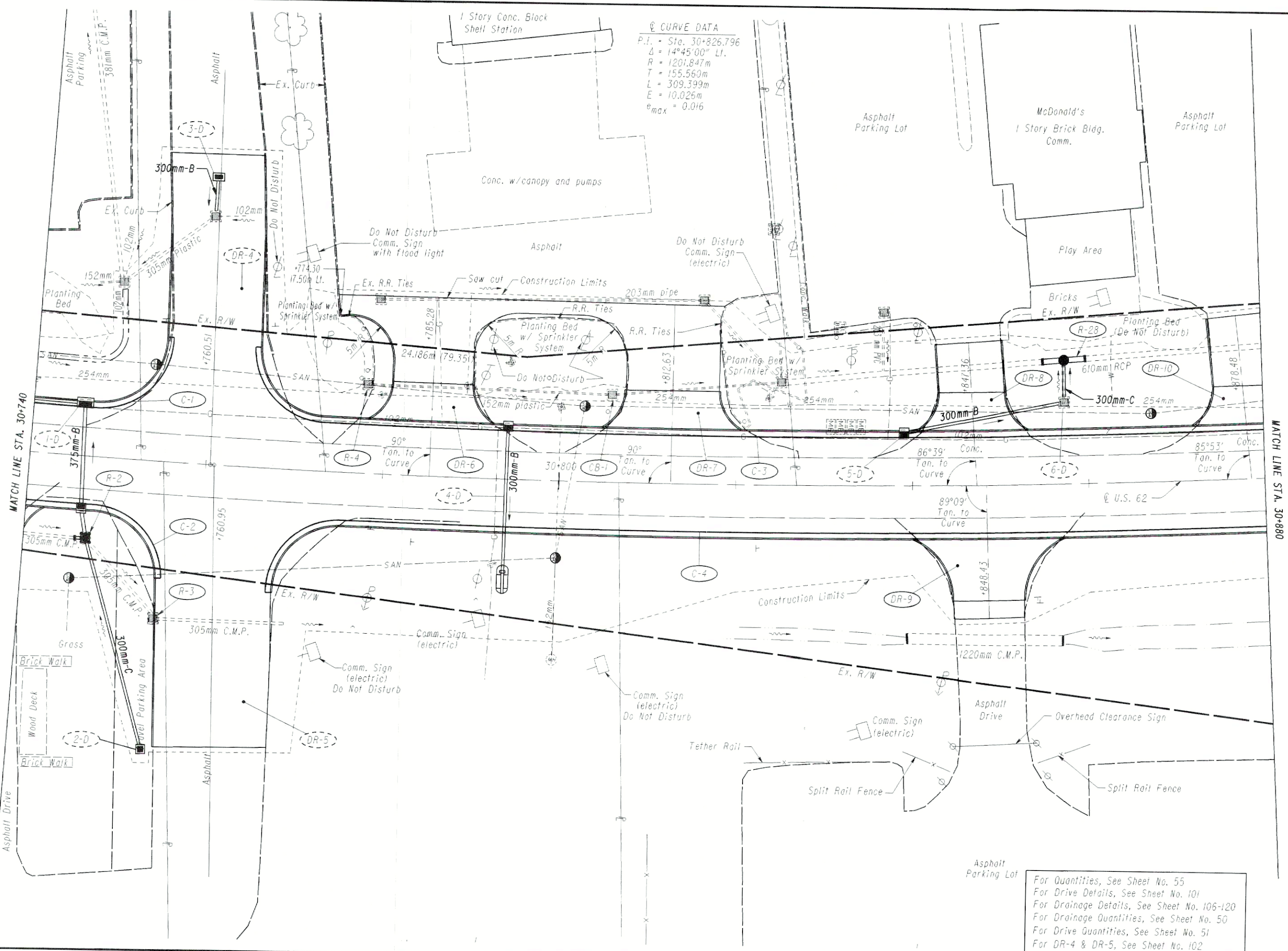
CALCULATED
 ASP
 CHECKED
 SAL

HORIZONTAL
 SCALE IN METERS

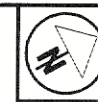
PLAN SHEET
STA. 30+740 to STA. 30+880

HOL-62-30.649

60
 180



For Quantities, See Sheet No. 55
 For Drive Details, See Sheet No. 101
 For Drainage Details, See Sheet No. 106-120
 For Drainage Quantities, See Sheet No. 50
 For Drive Quantities, See Sheet No. 51
 For DR-4 & DR-5, See Sheet No. 102



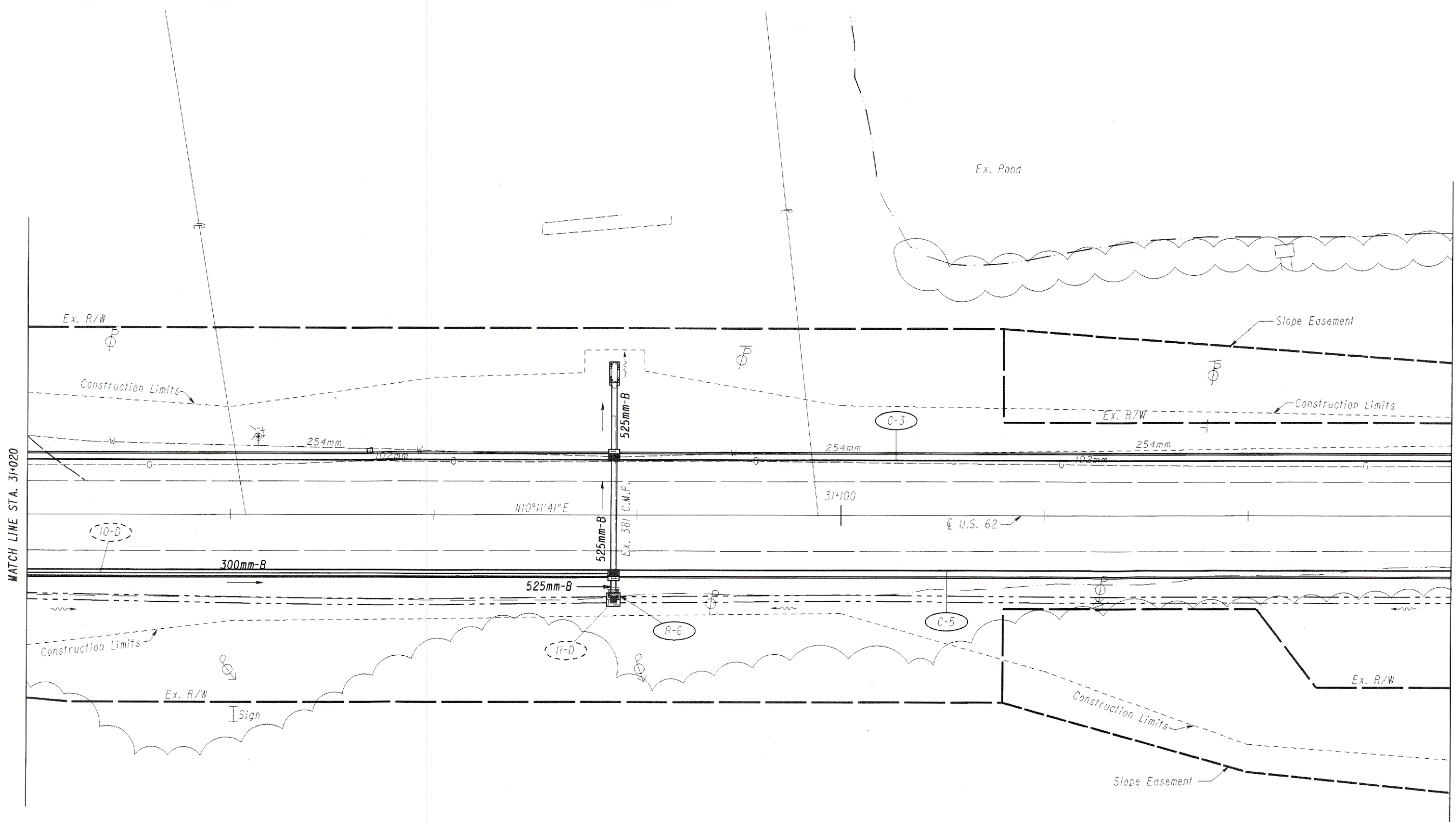
HORIZONTAL SCALE IN METERS

CALCULATED
KSP
CHECKED
SAL

PLAN SHEET
STA. 31+020 to STA. 31+160

HOL-62-30.649

62
180



BENCH MARK #38 ELEV. 248.275
 STA. 31+136.000, 14.000m LT.
 MINE SPIKE IN POWER POLE
 (1119-84)

For Quantities, See Sheet No. 55
 For Drainage Details, See Sheet No. 106-120
 For Drainage Quantities, See Sheet No. 50



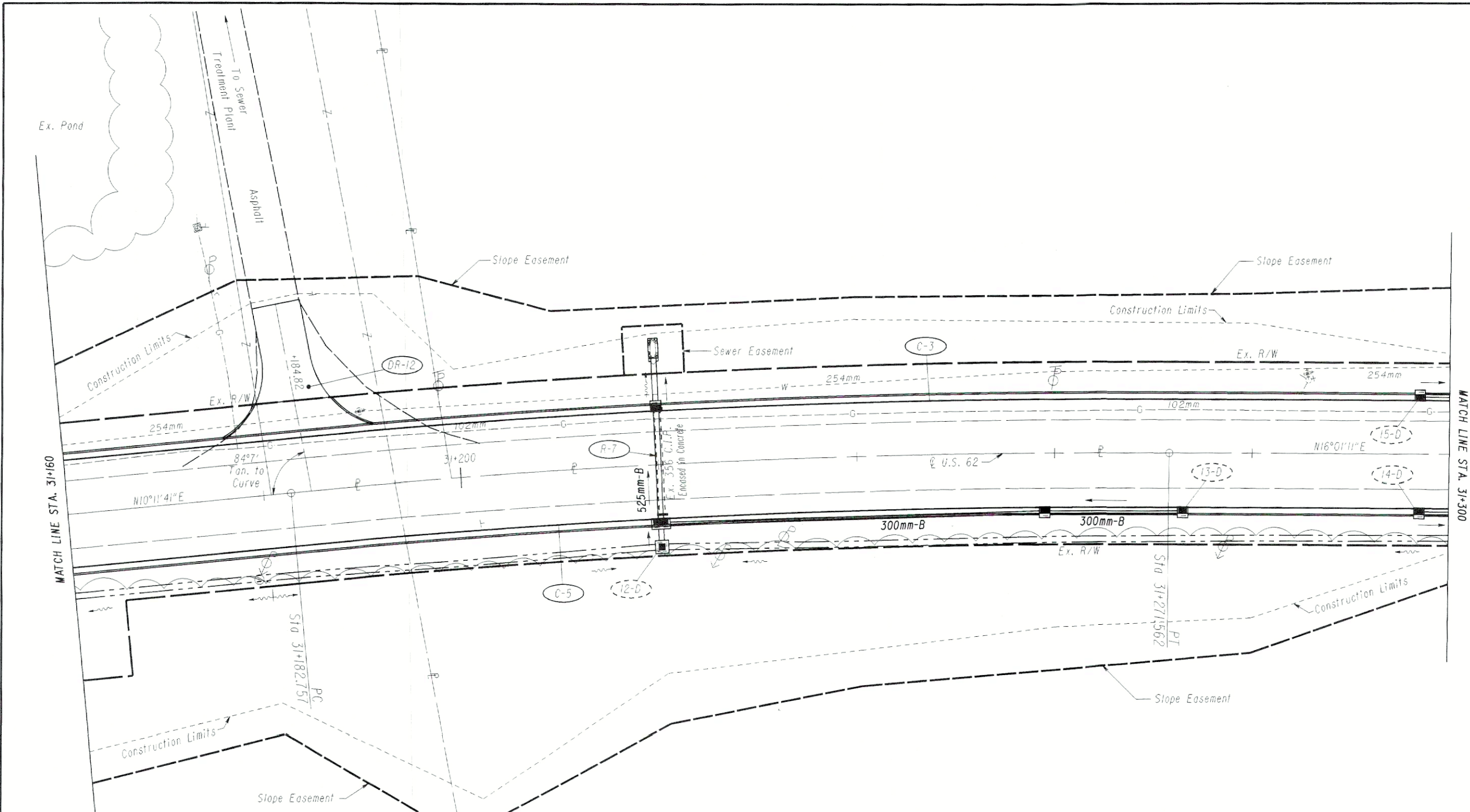
HORIZONTAL SCALE IN METERS

CALCULATED
TKD
CHECKED
SAL

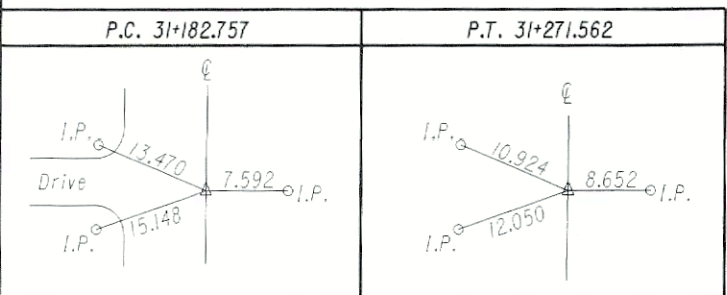
PLAN SHEET
STA. 31+160 to STA. 31+300

HOL-62-30.649

63
180



② CURVE DATA
 P.I. = Sta. 31+227.198
 $\Delta = 5^\circ 49' 30''$ Rt.
 $R = 873.488m$
 $T = 44.441m$
 $L = 88.805m$
 $E = 1.130m$
 $e_{max} = 0.016$

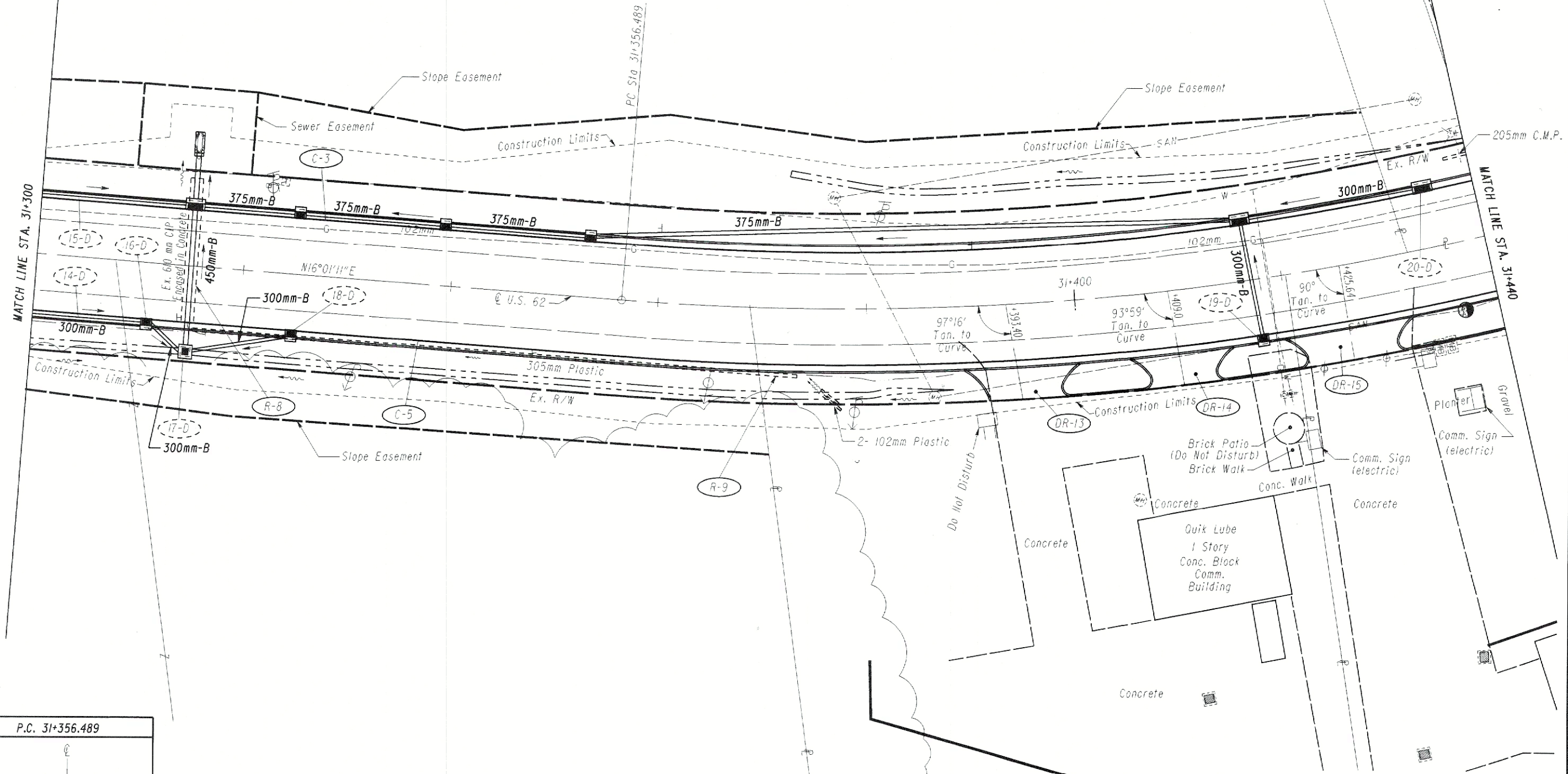


For Quantities, See Sheet No. 55
 For Drive Details, See Sheet No. 101
 For Drainage Details, See Sheet No. 106-120
 For Drainage Quantities, See Sheet No. 50
 For Drive Quantities, See Sheet No. 51

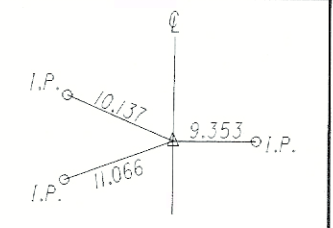


CALCULATED	TKD	ENTERED	SAL
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Q CURVE DATA
 P.I. = Sta. 31+42.397
 $\Delta = 23^{\circ}09'29''$ Lt.
 R = 272.871m
 T = 55.908m
 L = 110.290m
 E = 5.669m
 $e_{max} = 0.018$



P.C. 31+356.489



BENCH MARK #34 ELEV. 249.879
 STA. 31+380.800, 8.700m LT.
 MINE SPIKE IN POWER POLE
 (1119-80)

For Quantities, See Sheet No. 55
 For Drive Details, See Sheet No. 101
 For Drainage Details, See Sheet No. 106-120
 For Drainage Quantities, See Sheet No. 50
 For Drive Quantities, See Sheet No. 51

PLAN SHEET
STA. 31+300 to STA. 31+440

HOL-62-30.649

64
180



HORIZONTAL SCALE IN METERS

CHECKED KSP SAL

CHECKED KSP SAL

CHECKED KSP SAL

CHECKED KSP SAL

CHECKED KSP SAL

CHECKED KSP SAL

CHECKED KSP SAL

CHECKED KSP SAL

CHECKED KSP SAL

CHECKED KSP SAL

CHECKED KSP SAL

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CHECKED KSP SAL

CHECKED KSP SAL

CHECKED KSP SAL

CHECKED KSP SAL

CHECKED KSP SAL

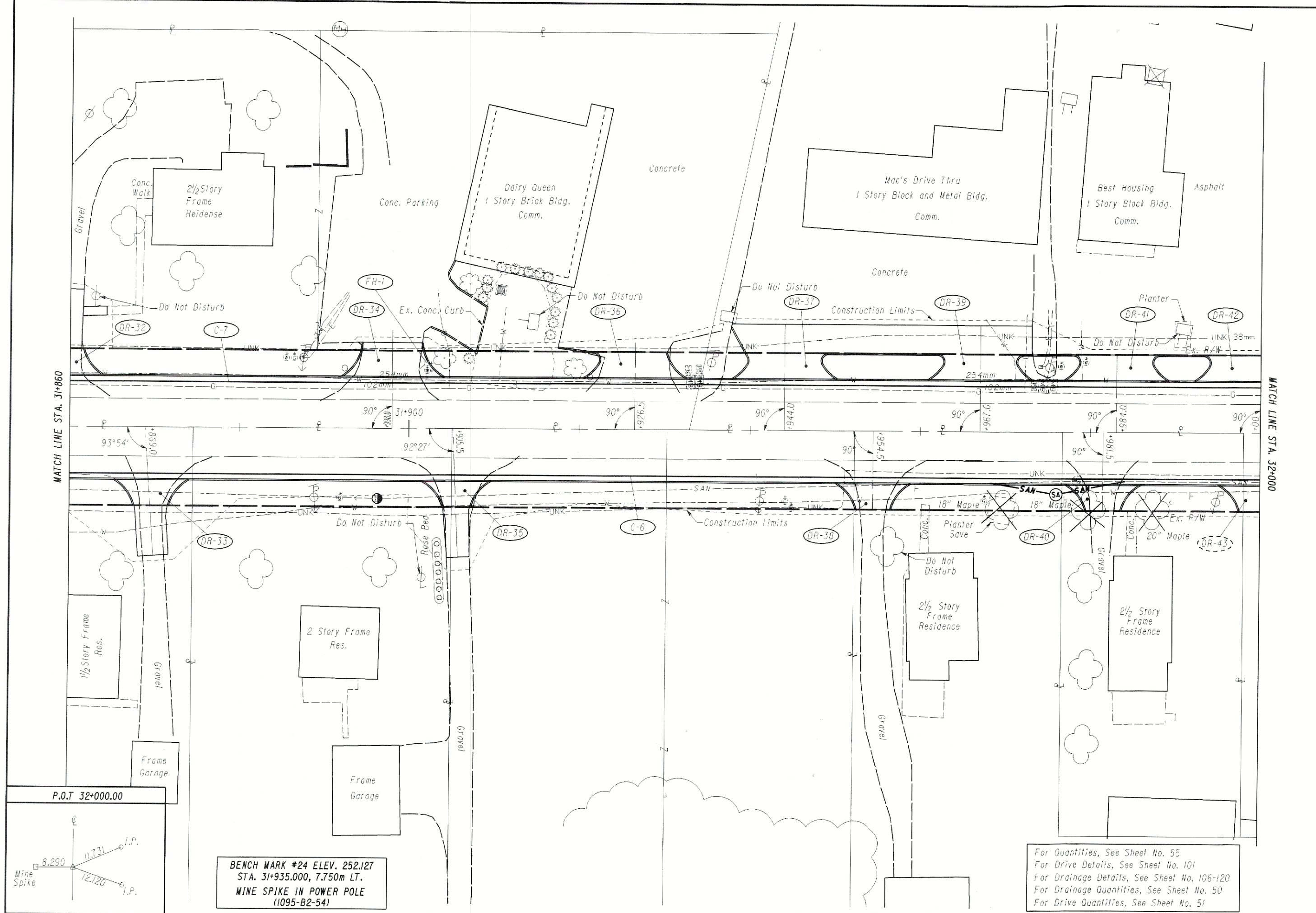
CHECKED KSP SAL

CHECKED KSP SAL

PLAN AND PROFILE SHEET
STA. 31+860 to STA. 32+000

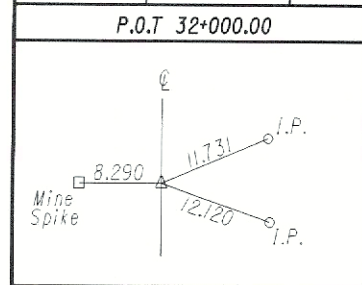
HOL-62-30.649

68
180



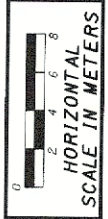
MATCH LINE STA. 31+860

MATCH LINE STA. 32+000



BENCH MARK #24 ELEV. 252.127
STA. 31+935.000, 7.750m LT.
MINE SPIKE IN POWER POLE
(1095-B2-54)

For Quantities, See Sheet No. 55
For Drive Details, See Sheet No. 101
For Drainage Details, See Sheet No. 106-120
For Drainage Quantities, See Sheet No. 50
For Drive Quantities, See Sheet No. 51

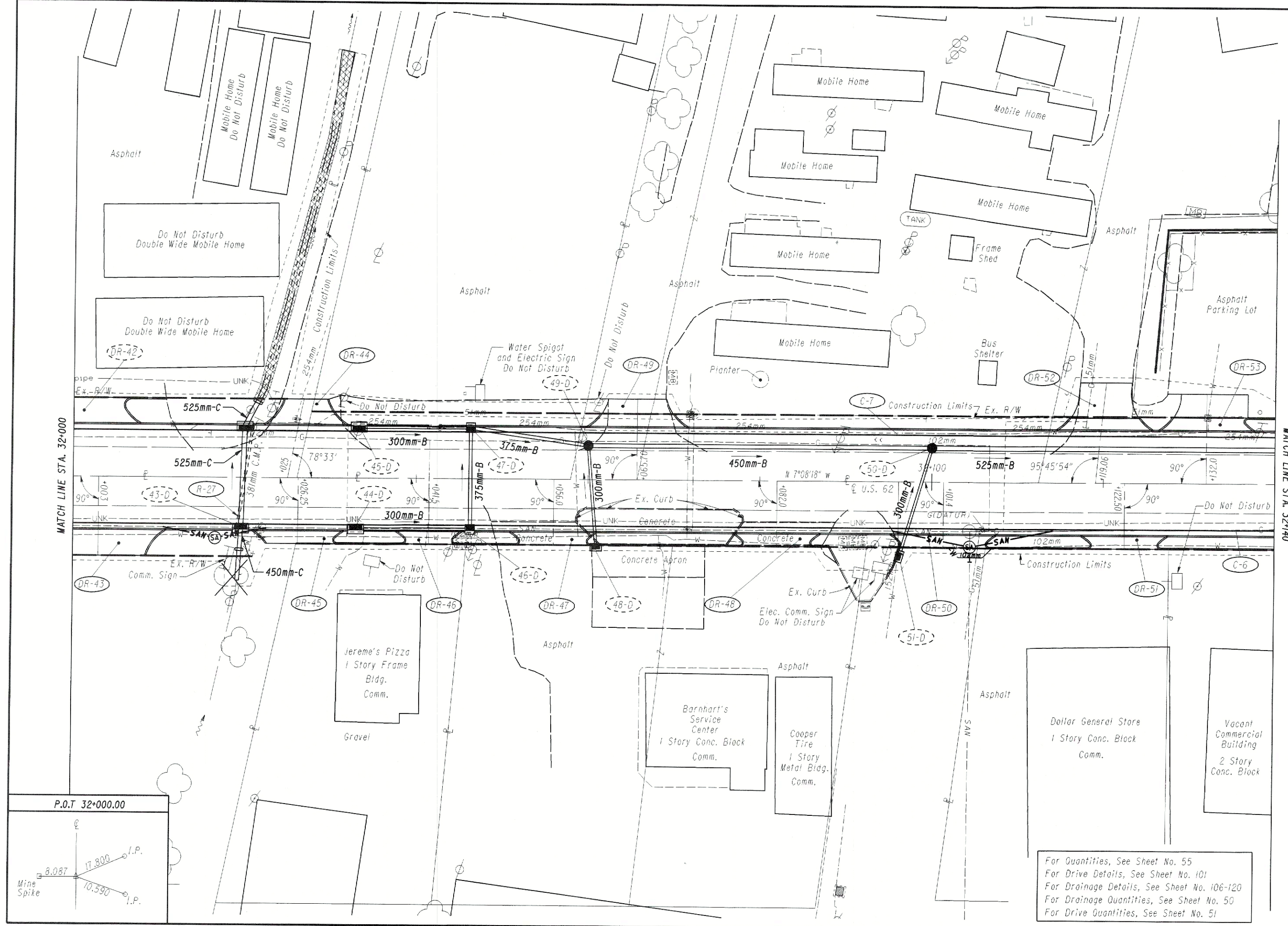


CALCULATED
TKD
CHECKED
SAL

PLAN SHEET
STA. 32+00 to STA. 32+140

HOL-62-30.649

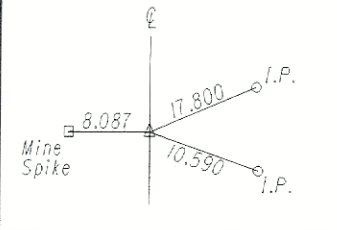
69
180



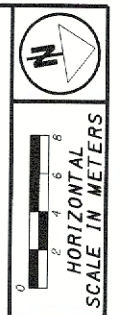
MATCH LINE STA. 32+000

MATCH LINE STA. 32+140

P.O.T 32+000.00



For Quantities, See Sheet No. 55
 For Drive Details, See Sheet No. 101
 For Drainage Details, See Sheet No. 106-120
 For Drainage Quantities, See Sheet No. 50
 For Drive Quantities, See Sheet No. 51

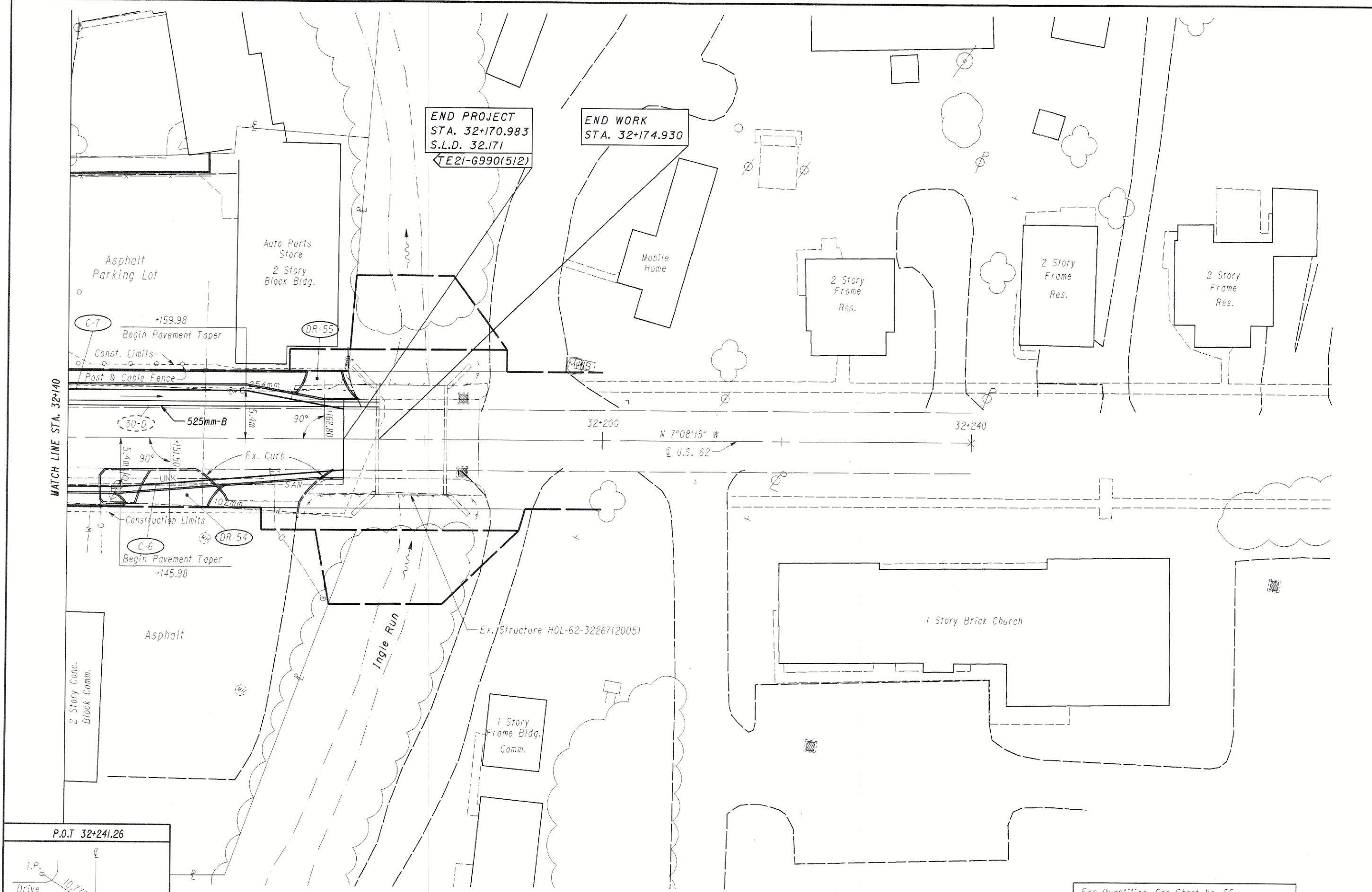


CALCULATED	TKD	CHECKED	SAL
------------	-----	---------	-----

PLAN SHEET
STA. 32+140 to STA. 32+240

HOL-62-30.649

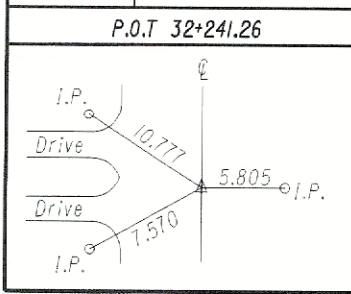
70
180



END PROJECT
 STA. 32+170.983
 S.L.D. 32.171
 (E21-6990(512))

END WORK
 STA. 32+174.930

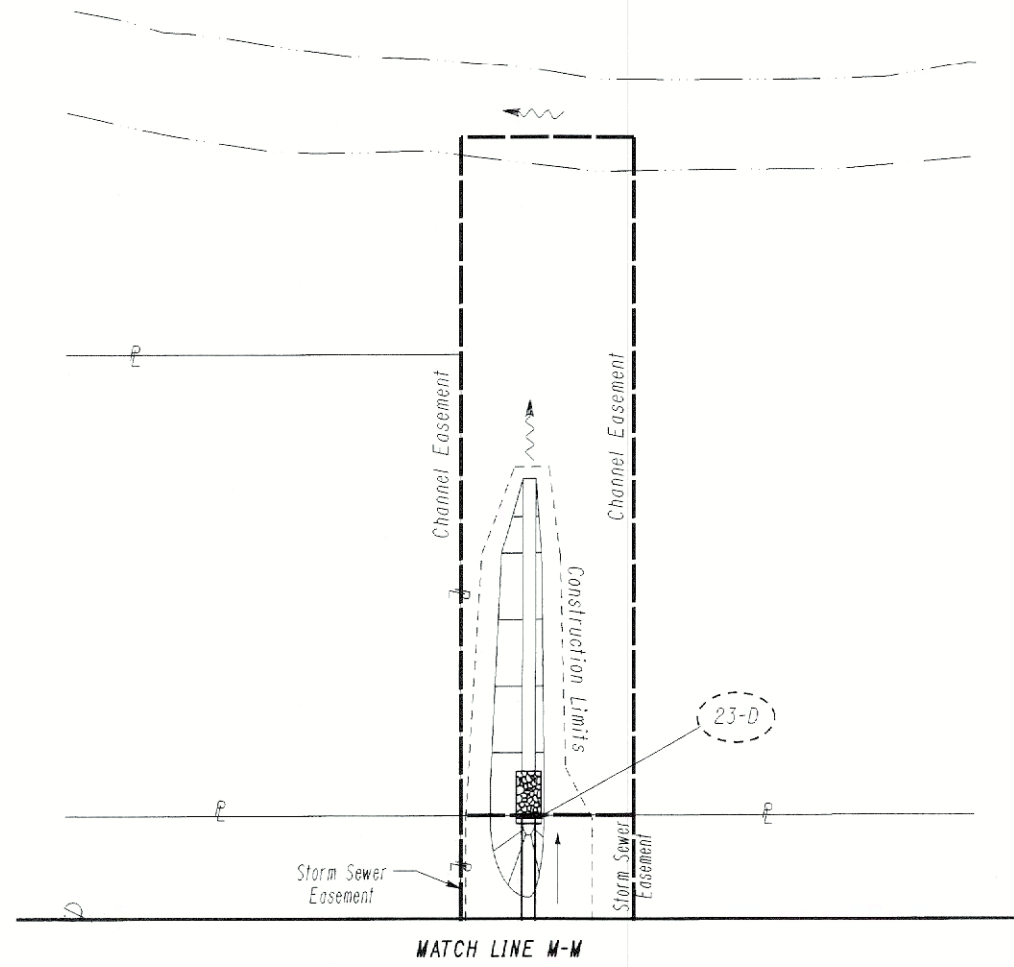
MATCH LINE STA. 32+140



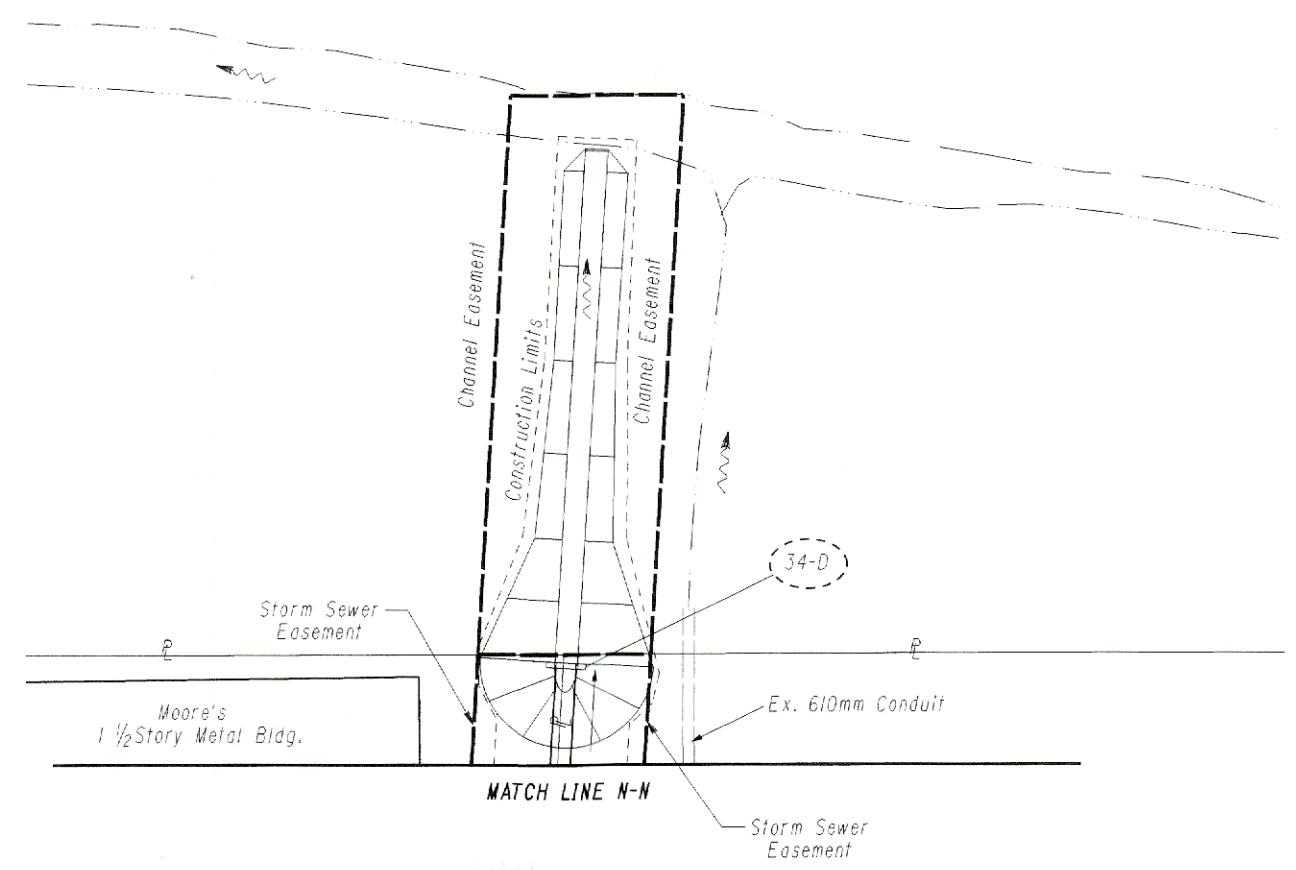
BENCH MARK #20 ELEV. 251.958
 STA. 32+174.000, 6.700m LT.
 U.S.G.S. RE-SET IN 1987 @ BRIDGE

BENCH MARK #16 ELEV. 254.208
 STA. 32+370.700, 4.400m LT.
 MINE SPIKE IN POWER POLE
 (1094-D3-24)

For Quantities, See Sheet No. 55
 For Drive Details, See Sheet No. 101
 For Drainage Details, See Sheet No. 106-120
 For Drainage Quantities, See Sheet No. 50
 For Drive Quantities, See Sheet No. 51



For Drainage Details and Quantities, See Sheet. No. 50 & 112.



For Drainage Details and Quantities, See Sheet. No. 50 & 115.



HORIZONTAL SCALE IN METERS
0 2 4 6 8

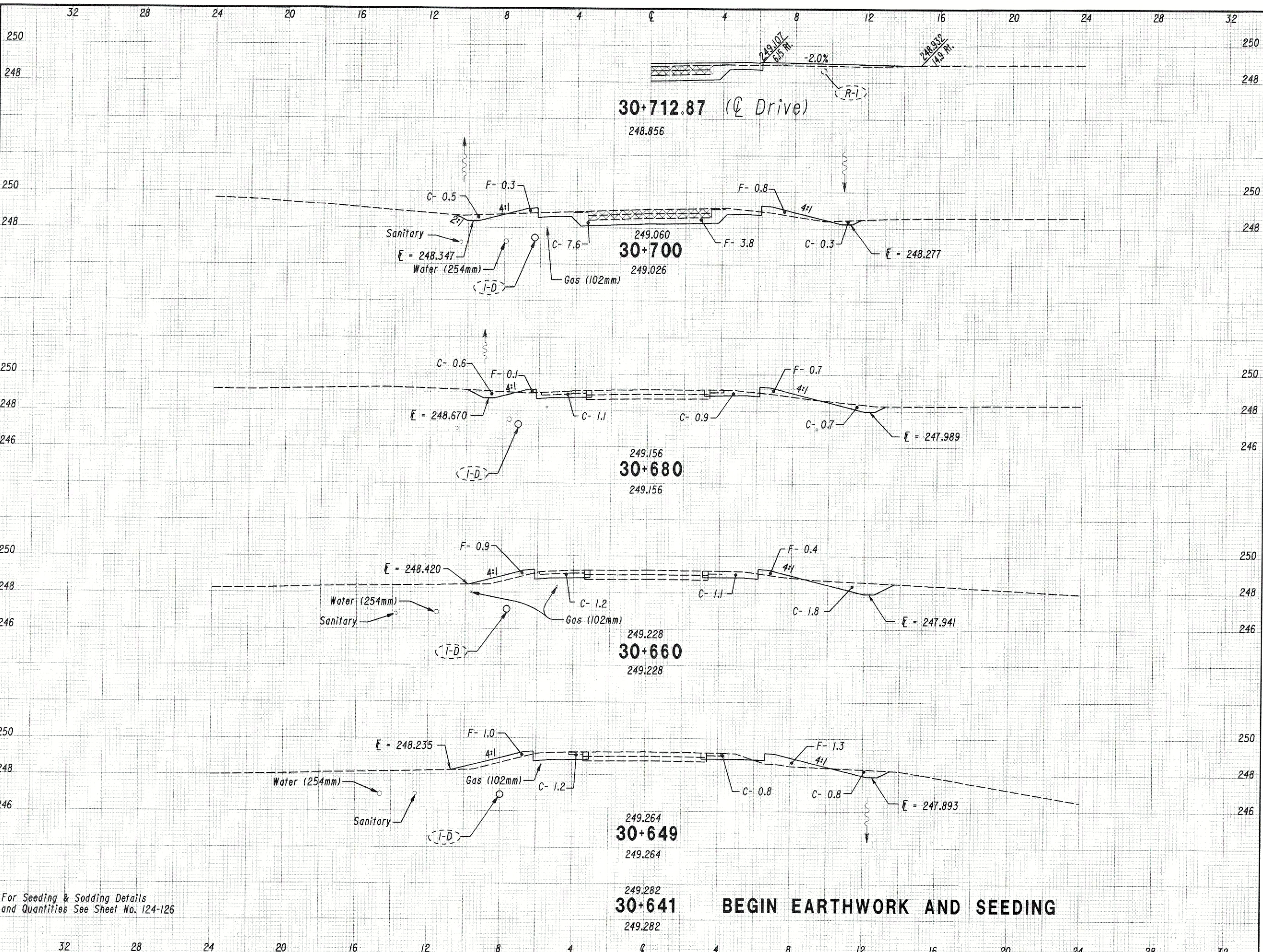
CALCULATED	JPB
	CHECKED
SAL	SAL

PLAN SHEET

HOL-62-30.649

71
180

SEEDING
END SQ.
WIDTH METER



END STA	AREA		VOLUME		CALCULATED TKD	CHECKED SAL
	CUT	FILL	CUT	FILL		
32						
28						
24						
20						
16						
12						
8						
4						
0						
4						
8						
12						
16						
20						
24						
28						
32						
SHEET TOTAL					72	180

CROSS SECTION SHEET
STA. 30+648.716 TO STA. 30+712.87

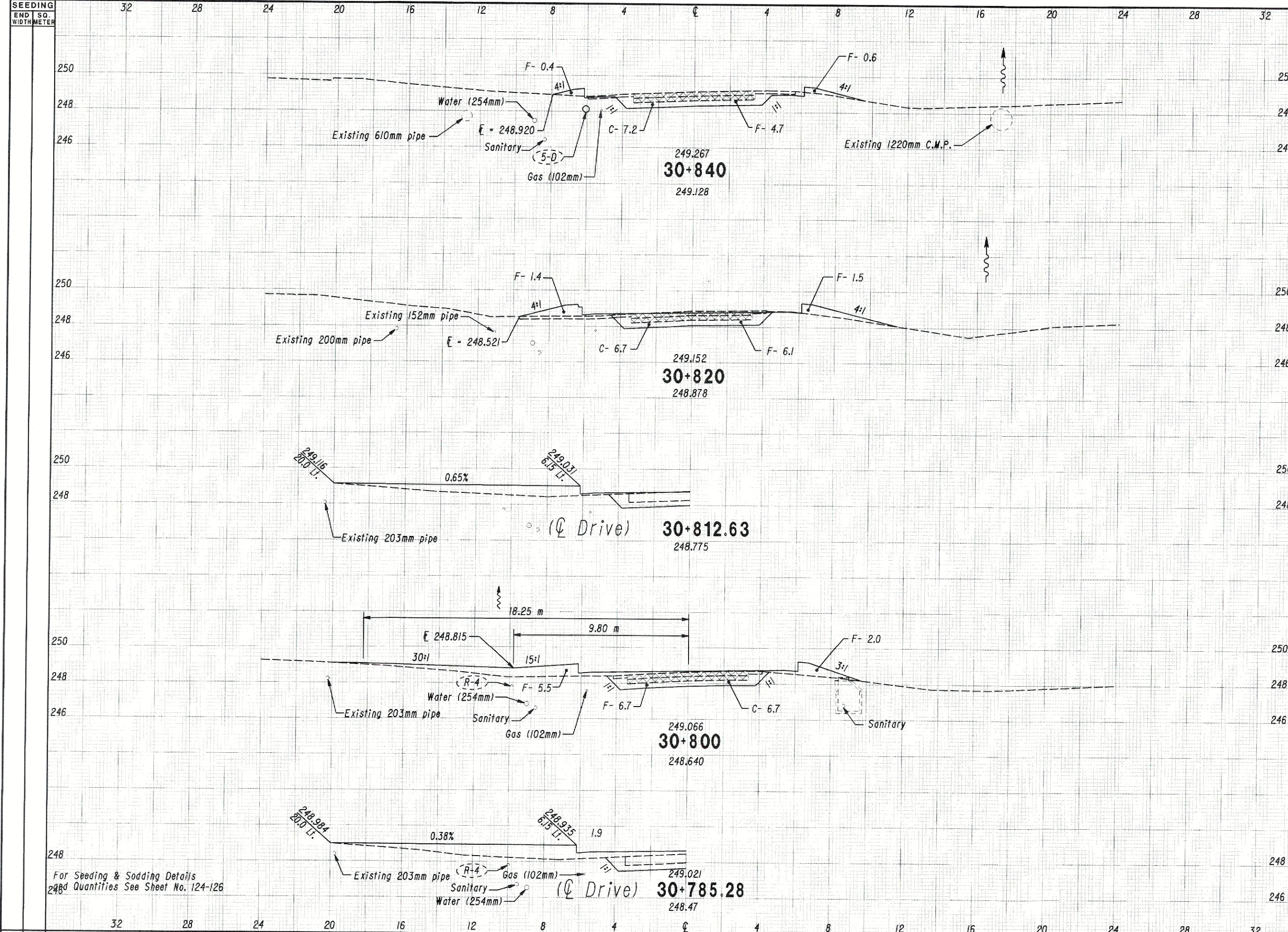
HOL-62-30.649

For Seeding & Sodding Details
and Quantities See Sheet No. 124-126

QUANTITIES CARRIED TO SHEET NO. 56.

SHEET TOTAL

SHEET TOTAL



END STA.	AREA		VOLUME		CALCULATED	CHECKED
	CUT	FILL	CUT	FILL		
30+840	7.2	5.7				
30+820	6.7	9.0	139	147		
30+812.63	134	232				
30+800	6.7	14.2				
30+785.28						
SHEET TOTAL			134	233	74	180

CROSS SECTION SHEET
STA. 30+785.28 TO STA. 30+840.00

HOL-62-30.649

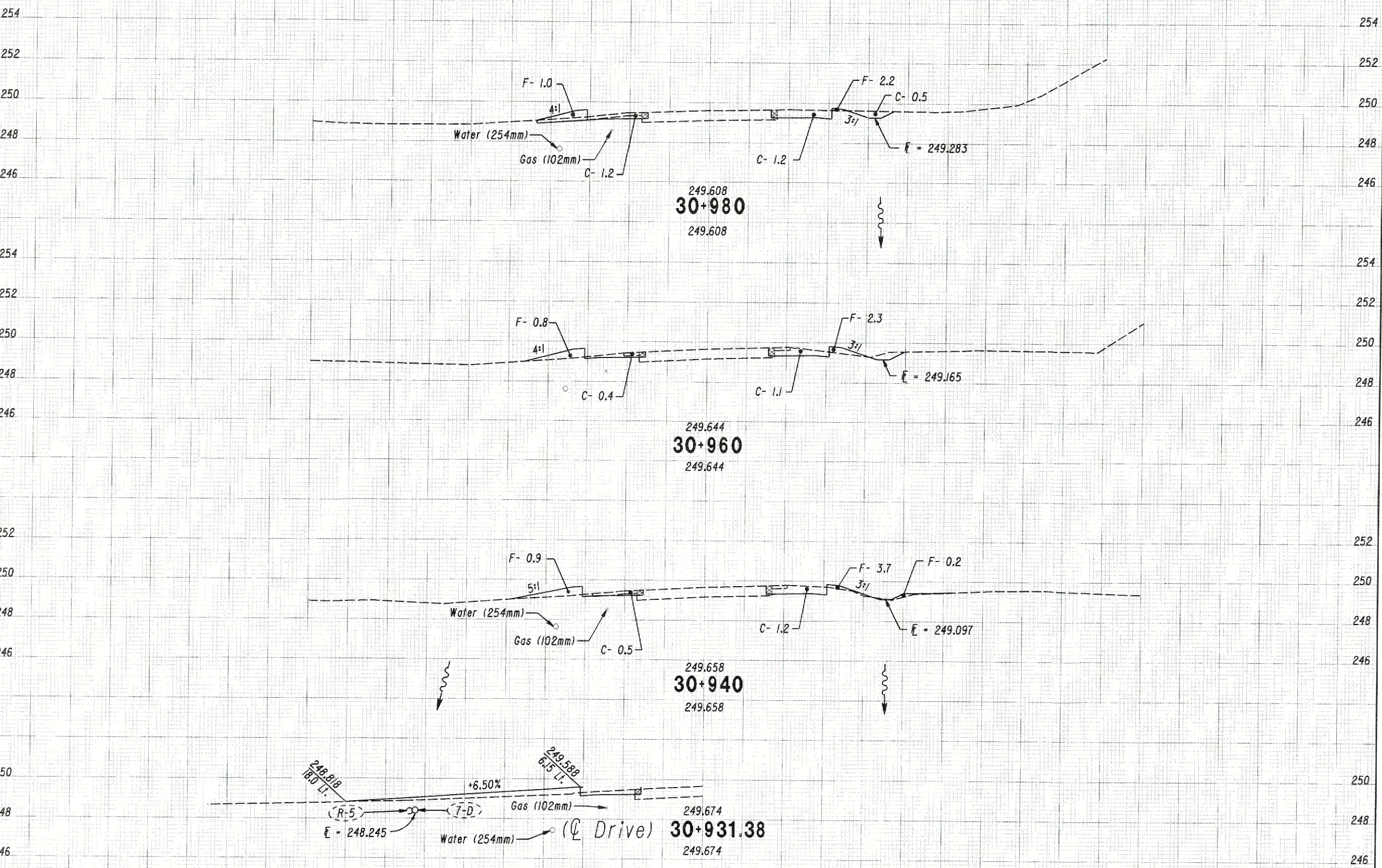
For Seeding & Sodding Details
 and Quantities See Sheet No. 124-126

QUANTITIES CARRIED TO SHEET NO. 56. SHEET TOTAL

SEEDING
END SQ.
WIDTH METER

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

END AREA VOLUME
CUT FILL CUT FILL



END AREA	VOLUME
CUT	FILL
2.9	3.2
44	63
1.5	3.1
32	79
1.7	4.8

CROSS SECTION SHEET
STA. 30+931.38 TO STA. 30+980

HOL-62-30.649

For Seeding & Sodding Details
and Quantities See Sheet No. 124-126

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

SHEET TOTAL

QUANTITIES CARRIED TO SHEET NO. 56. SHEET TOTAL

39	62
115	204

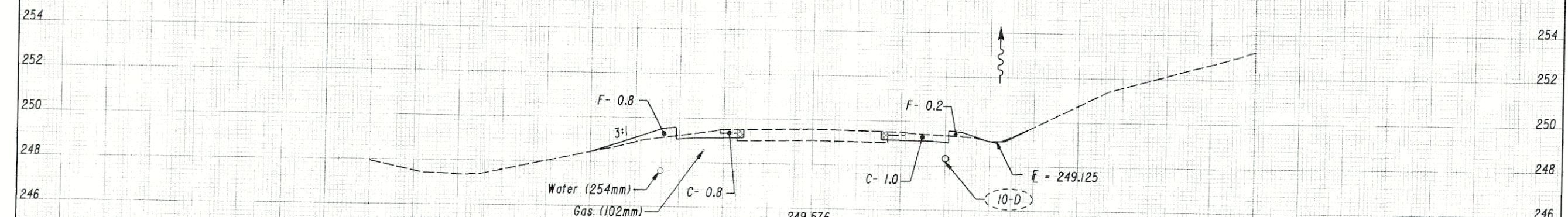
76
180

SEEDING
END SQ.
WIDTH METER

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

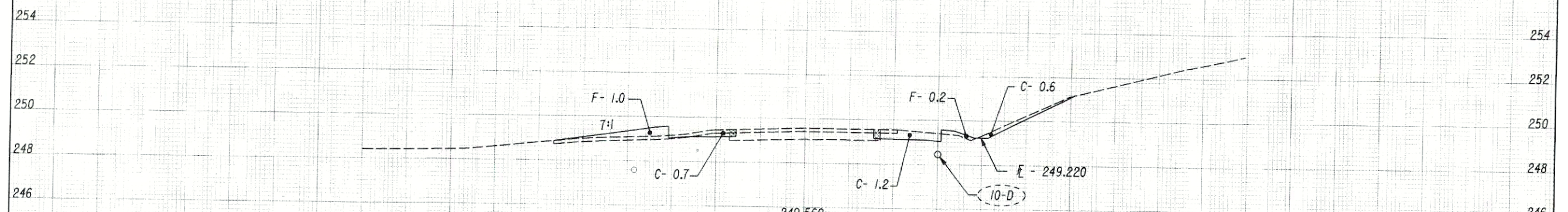
END AREA VOLUME
CUT FILL CUT FILL

CALCULATED
TAD
CHECKED
SAL



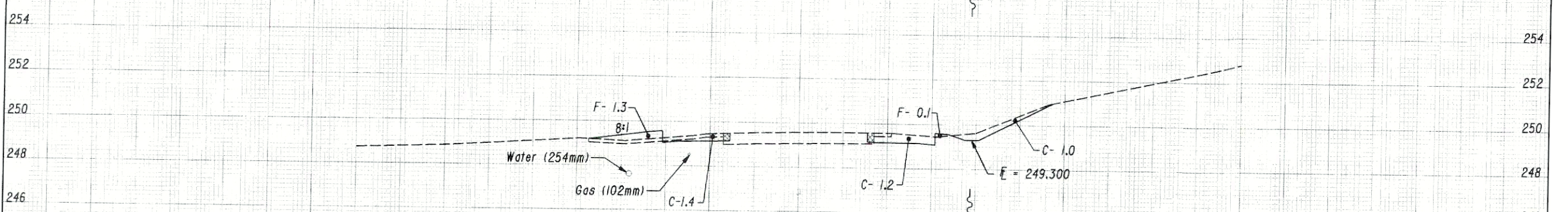
249.576
31+040
249.576

1.8 1.0



249.569
31+020
249.569

4.3 2.2



249.566
31+000
249.566

6.1 2.6

For Seeding & Sodding Details
and Quantities See Sheet No. 124-126

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

65 46

169 94

CROSS SECTION SHEET
STA. 31+000 TO STA. 31+040

HOL-62-30.649

77
180

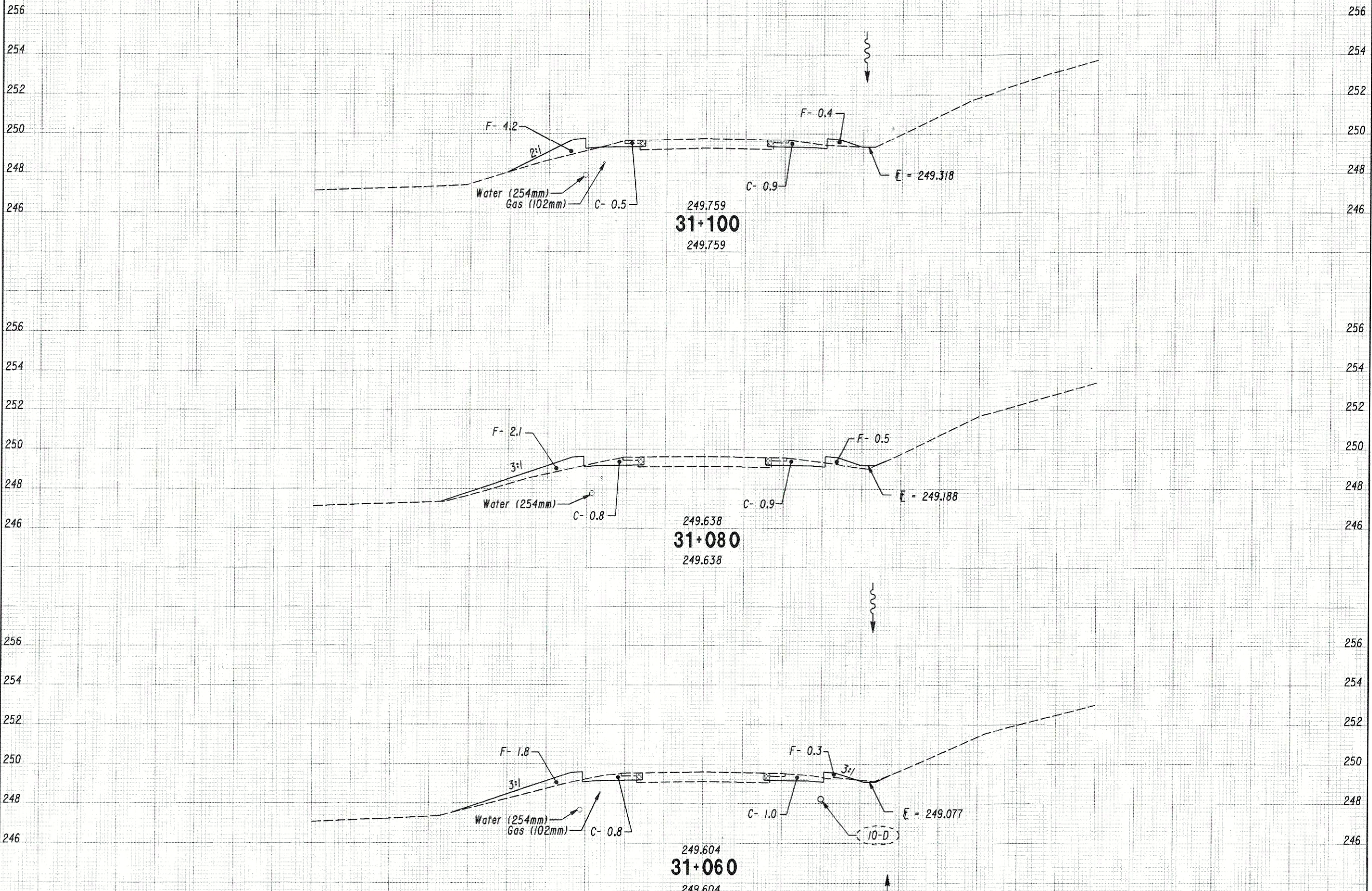
QUANTITIES CARRIED TO SHEET NO. 56. SHEET TOTAL

SEEDING
END SQ.
WIDTH METER

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

END AREA VOLUME
CUT FILL CUT FILL

CALCULATED
TKD
CHECKED
SAL



256	256		
254	254		
252	252		
250	250		
248	248		
246	246	1.4	4.6
256	256		
254	254		
252	252		
250	250	31	72
248	248		
246	246	1.7	2.6
256	256		
254	254		
252	252		
250	250		
248	248		
246	246	35	47
256	256		
254	254		
252	252		
250	250		
248	248		
246	246	1.8	2.1

CROSS SECTION SHEET
STA. 31+060 TO STA. 31+100

HOL-62-30.649

For Seeding & Sodding Details
and Quantities See Sheet No. 124-126

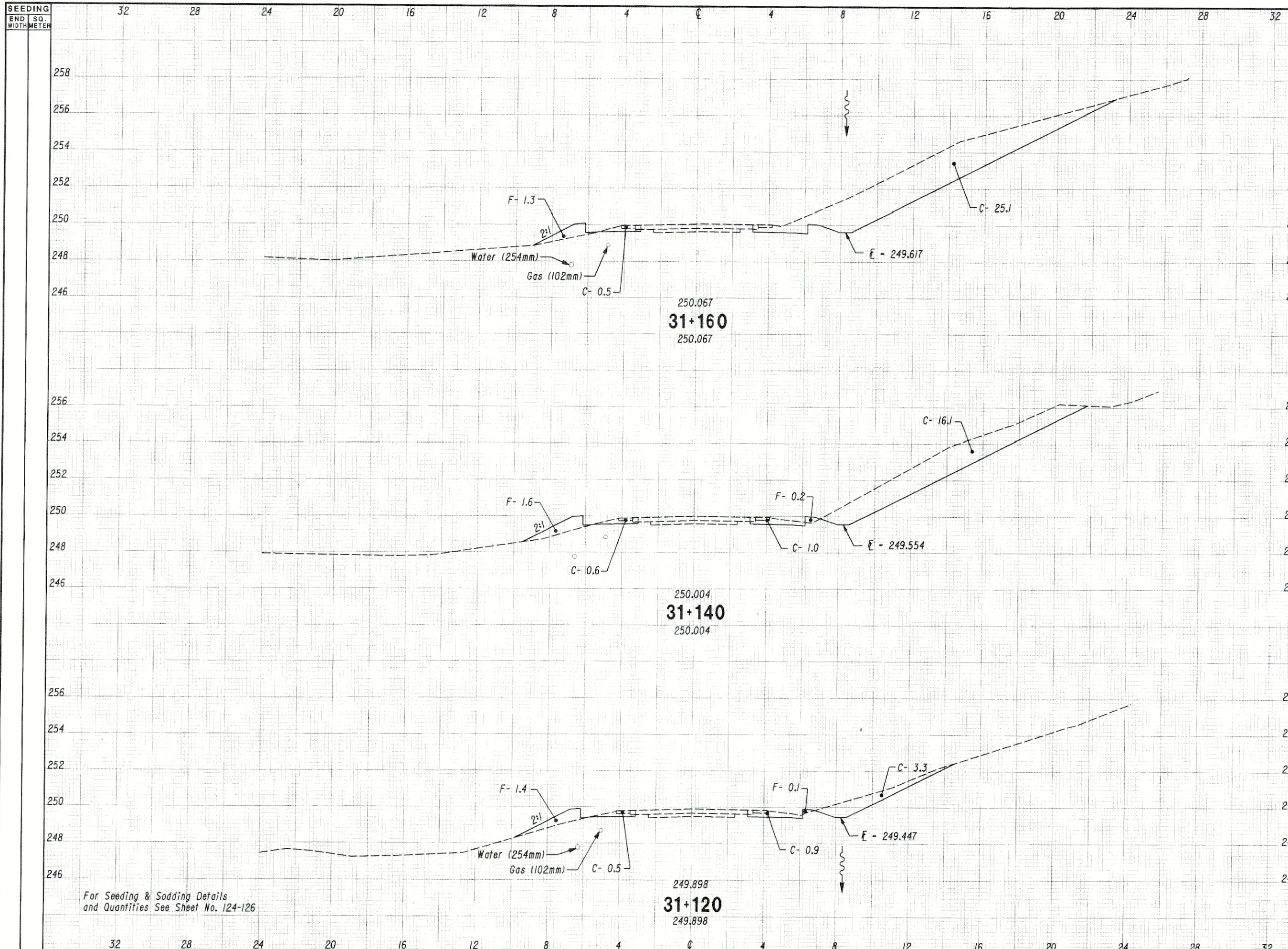
32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

SHEET TOTAL

QUANTITIES CARRIED TO SHEET NO. 56. SHEET TOTAL

36	31
102	150

78
180



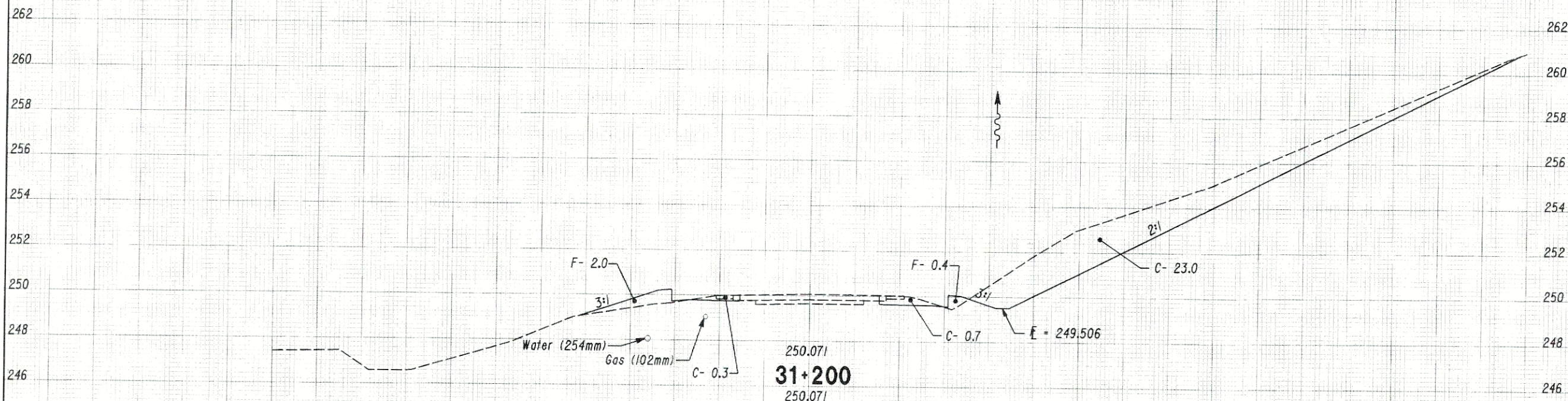
END STA.	AREA		VOLUME	
	CUT	FILL	CUT	FILL
31+120	4.7	1.5	61	61
31+140	17.7	1.8	433	31
31+160	25.6	1.3		
SHEET TOTAL	48.0	4.6	955	92

CROSS SECTION SHEET
STA. 31+120 TO STA. 31+160
HOL-62-30.649
 CALCULATED T&D
 CHECKED SAL
 79
 180

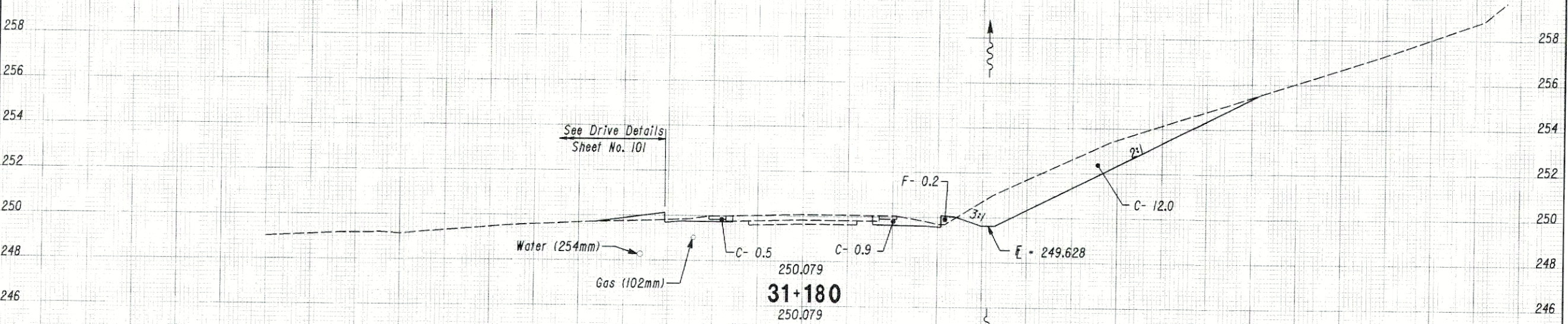
For Seeding & Sodding Details and Quantities See Sheet No. 124-126

SEEDING END SQ. WIDTH METER 32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

END AREA		VOLUME		CALCULATED TAD	CHECKED SAL
CUT	FILL	CUT	FILL		



24.0	2.4
------	-----



374	43
-----	----

13.4	1.9
------	-----

For Seeding & Sodding Details and Quantities See Sheet No. 124-126

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32 SHEET TOTAL

390	32
-----	----

* Additional Quantity Added For Beyond Limits of Drive

QUANTITIES CARRIED TO SHEET NO. 56. SHEET TOTAL

764	75
-----	----

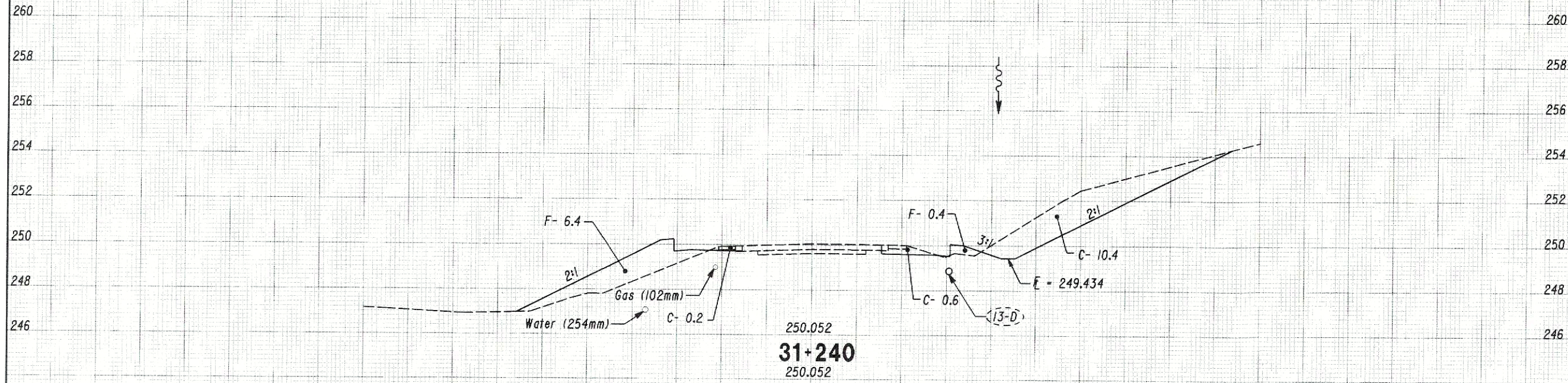
CROSS SECTION SHEET
STA. 31+180 TO STA. 31+200

HOL-62-30.649

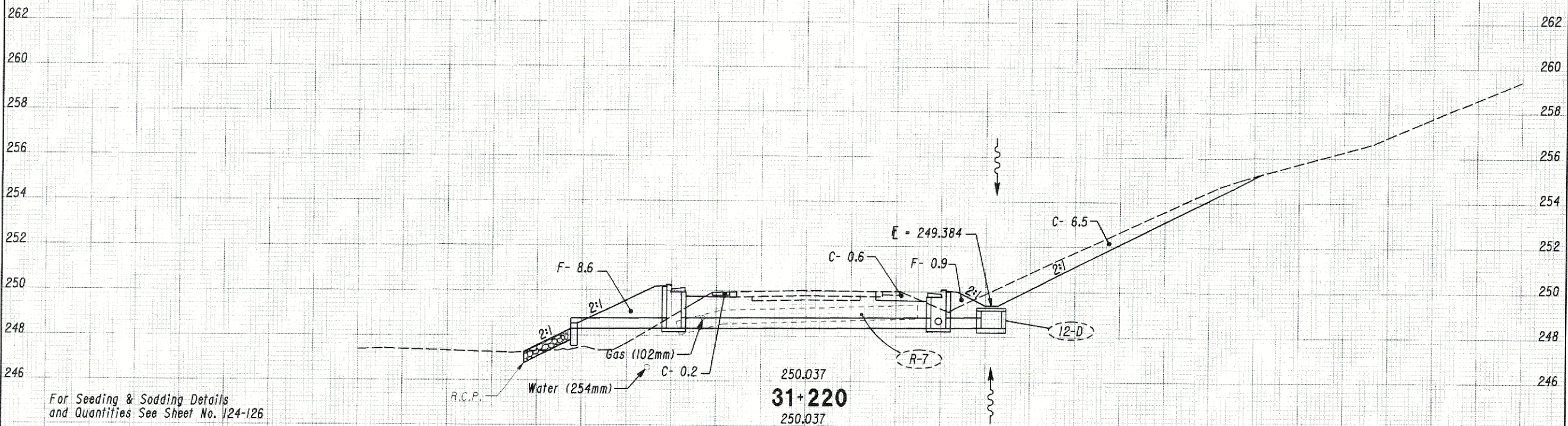
80
180

SEEDING END SO WIDTH METER 32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

END AREA VOLUME CALCULATED CHECKED TKD SAL CUT FILL CUT FILL



11.2 6.8



185 163

7.3 9.5

For Seeding & Sodding Details and Quantities See Sheet No. 124-126

CROSS SECTION SHEET STA. 31+220 TO STA. 31+240

HOL-62-30.649

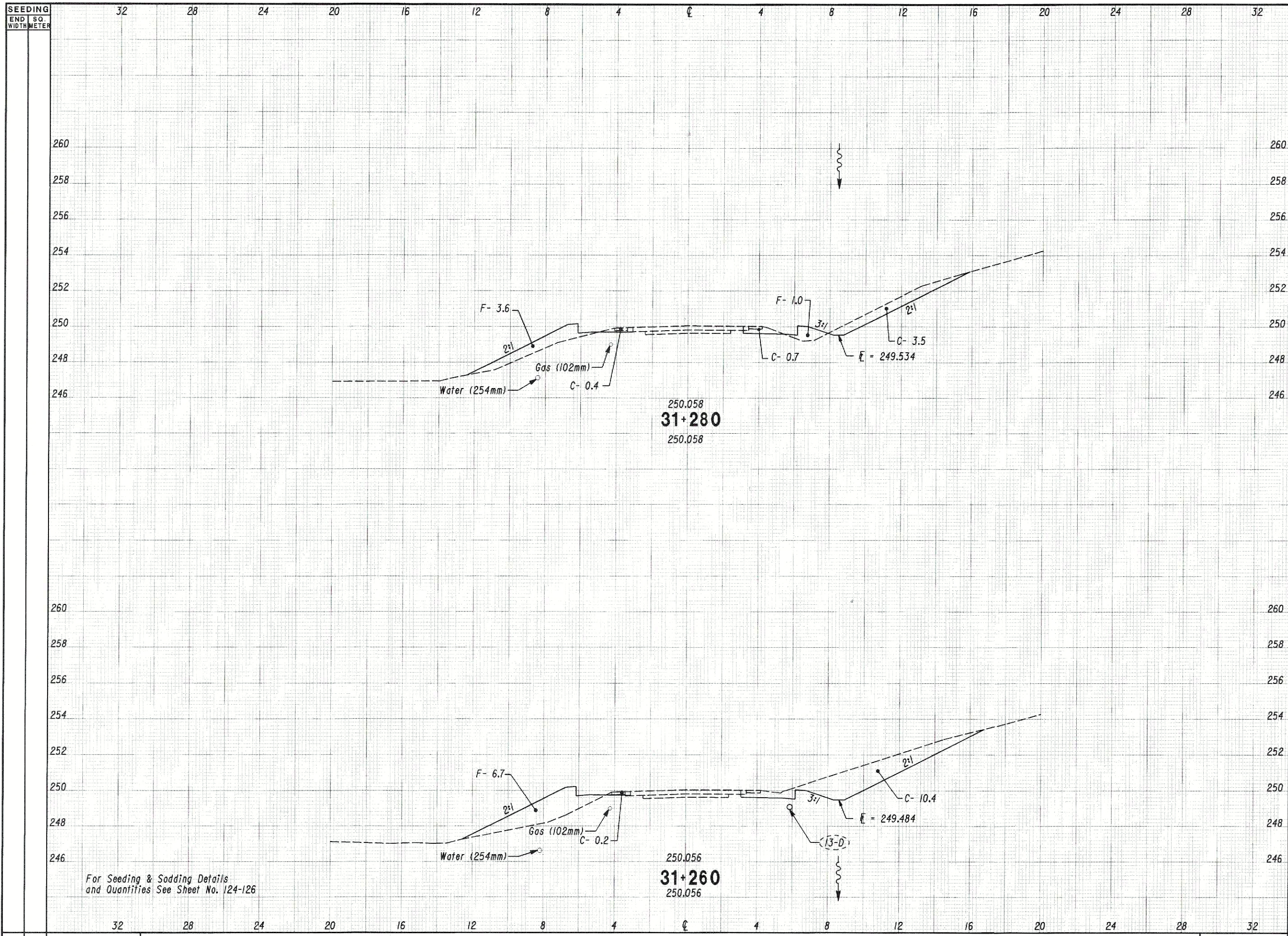
313 119 498 282

81 180

QUANTITIES CARRIED TO SHEET NO. 56. SHEET TOTAL

SHEET TOTAL

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32



END STA	AREA		VOLUME	
	CUT	FILL	CUT	FILL
250.058	4.6	4.6		
250.056	10.6	6.7	152	113
32	218	135	370	248

CALCULATED TKD CHECKED SAL
CROSS SECTION SHEET
STA. 31+260 TO STA. 31+280
HOL-62-30.649
 (82)
 (180)

For Seeding & Sodding Details and Quantities See Sheet No. 124-126

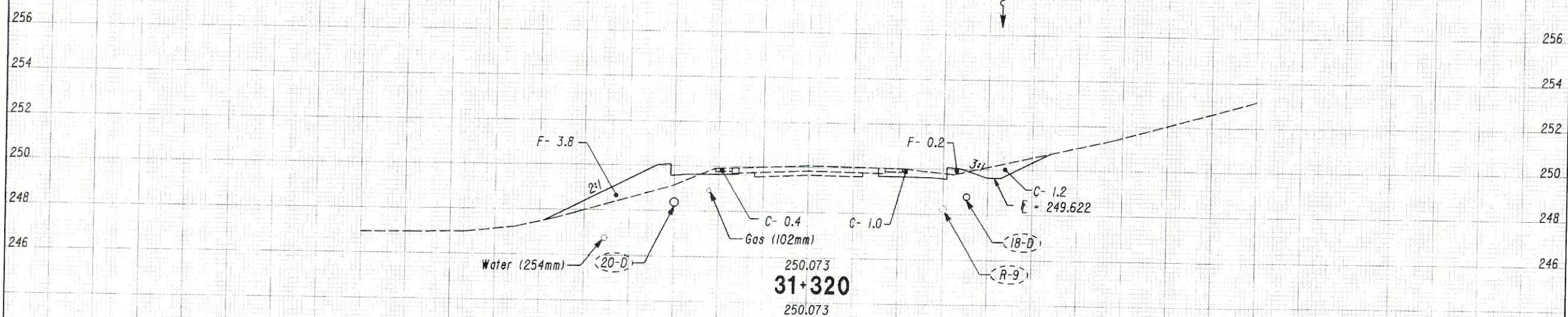
QUANTITIES CARRIED TO SHEET NO. 56. SHEET TOTAL

SHEET TOTAL

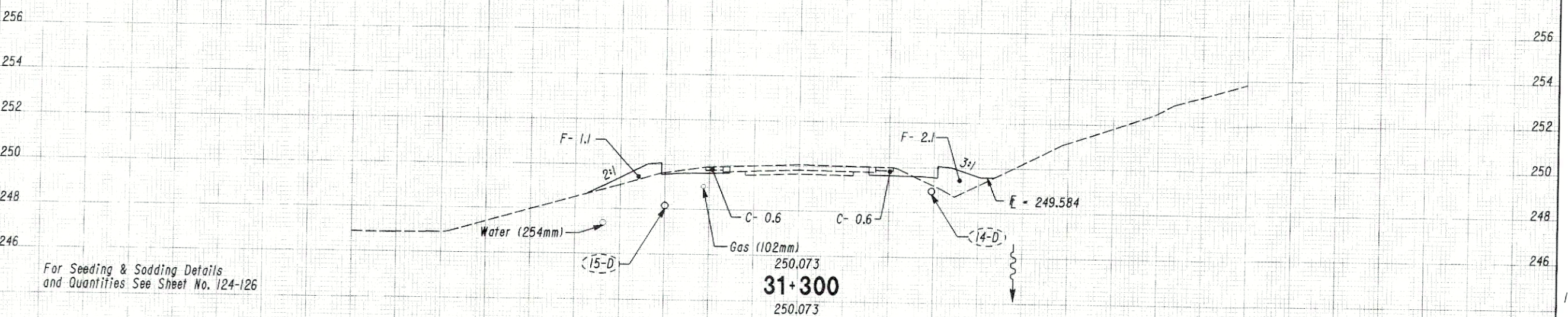
SHEET TOTAL

SEEDING END SQ. WIDTH METER 32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

END AREA		VOLUME		CHECKED	
CUT	FILL	CUT	FILL	TKD	KSP



2.6	4.0
-----	-----



1.2	3.2
-----	-----

CROSS SECTION SHEET
 STA. 31+300 TO STA. 31+320

HOL-62-30.649

For Seeding & Sodding Details
and Quantities See Sheet No. 124-126

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

SHEET TOTAL

QUANTITIES CARRIED TO SHEET NO. 56. SHEET TOTAL

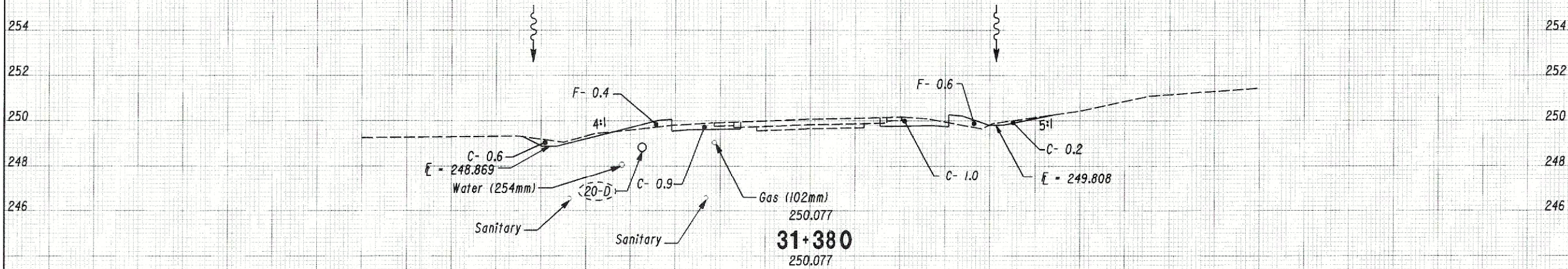
58	78
96	150

83
180

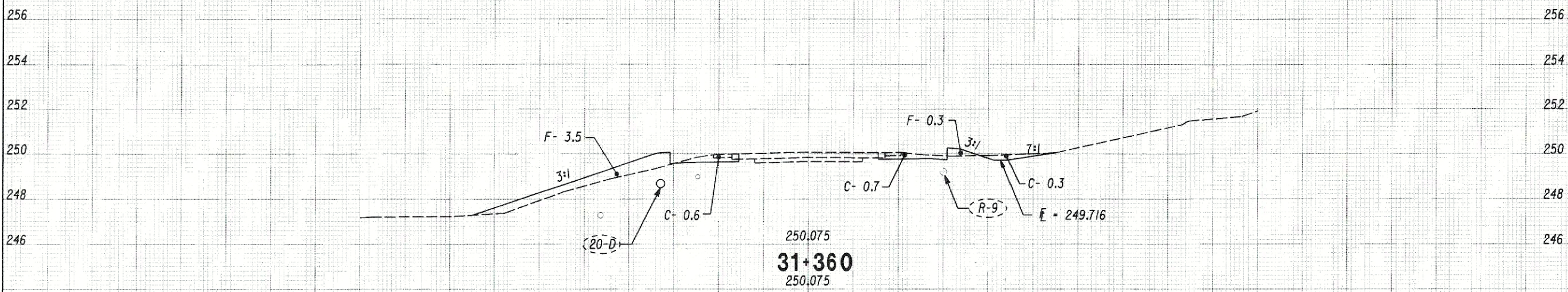
SEEDING
END SO.
WIDTH METER

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

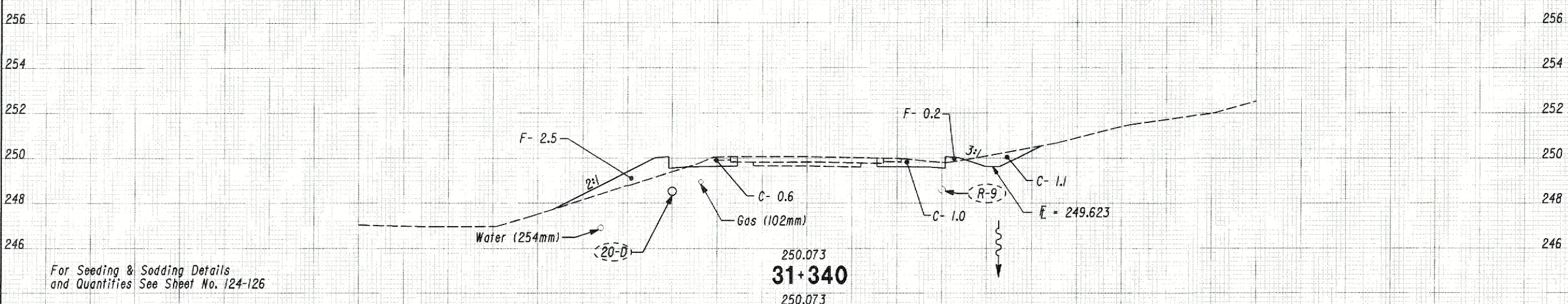
END AREA
CUT FILL
VOLUME
CUT FILL
CALCULATED
TKD
CHECKED
SAL



2.7 1.0



1.6 3.8



2.7 2.7

For Seeding & Sodding Details
and Quantities See Sheet No. 124-126

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

SHEET TOTAL

QUANTITIES CARRIED TO SHEET NO. 56.

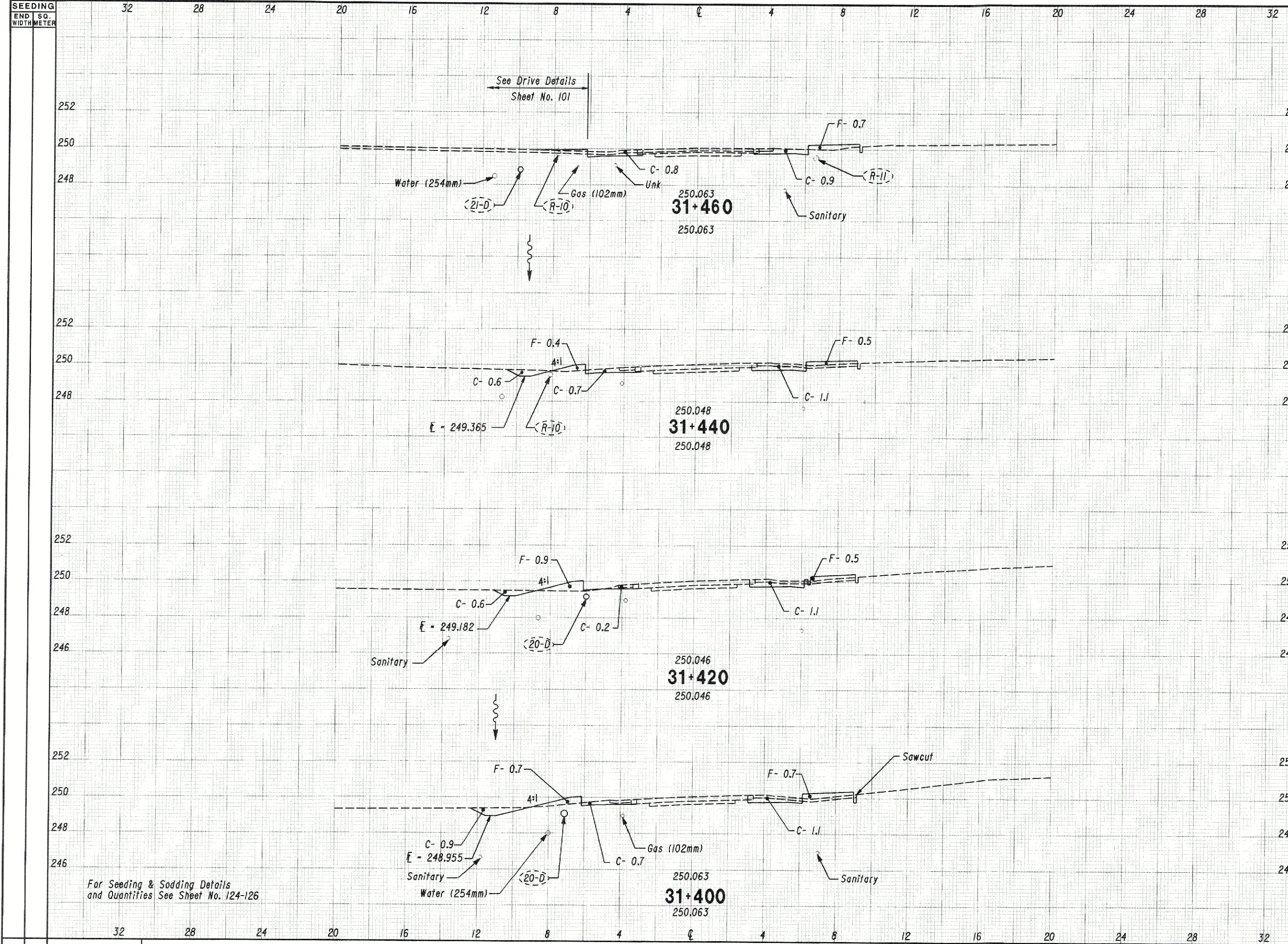
SHEET TOTAL

53 67
139 180

CROSS SECTION SHEET
STA. 31+340 TO STA. 31+380

HOL-62-30.649

84
180



END STA.	AREA		VOLUME		CALCULATED	CHECKED
	CUT	FILL	CUT	FILL		
31+460	1.7	0.7	41	16		
31+440	2.4	0.9	43	23		
31+420	1.9	1.4	46	28		
31+400	2.7	1.4	48	24		
SHEET TOTAL			184	91		

CROSS SECTION SHEET
 STA. 31+400 TO STA. 31+460

HOL - 62 - 30.649

85
 180

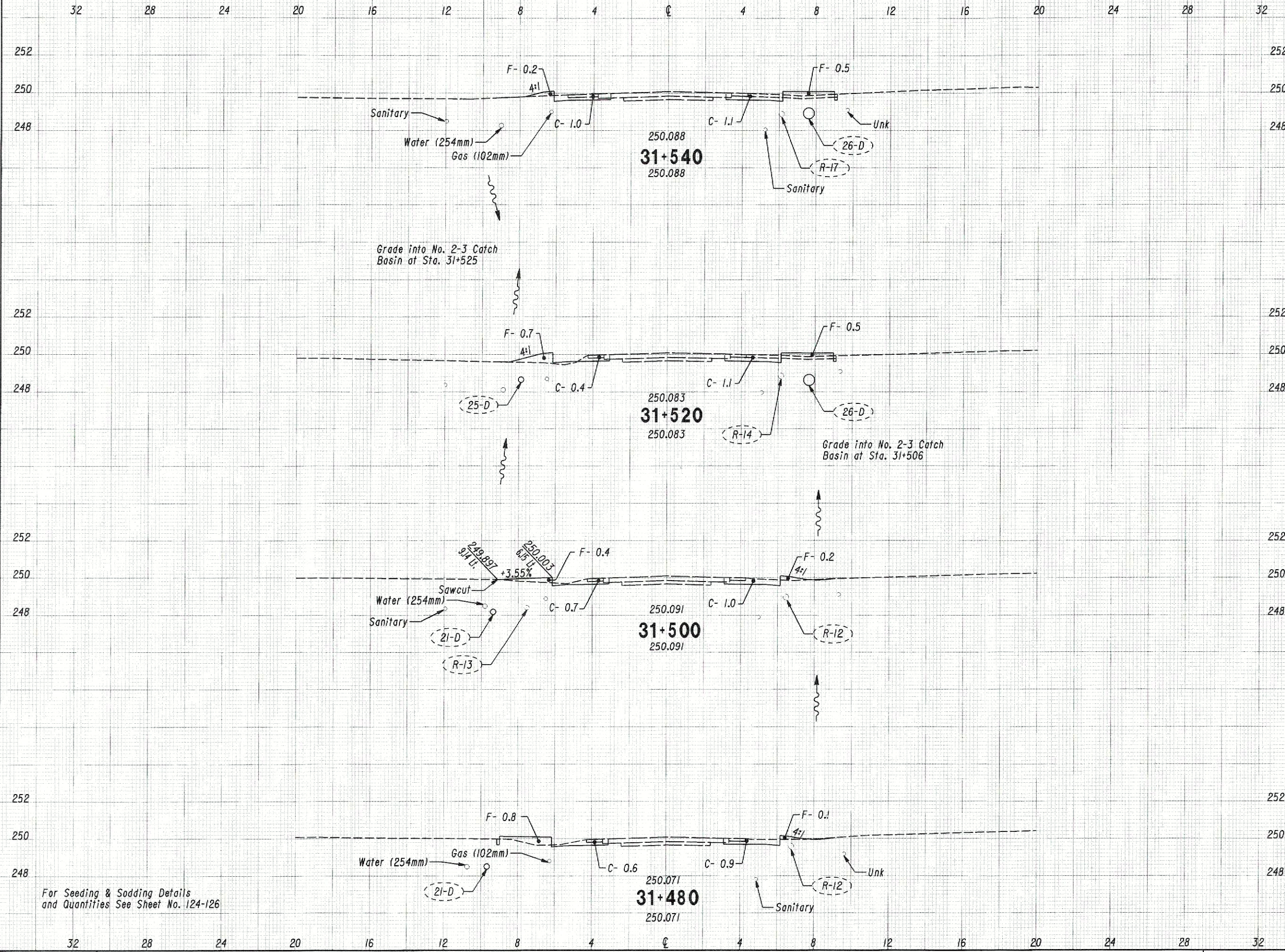
For Seeding & Sodding Details and Quantities See Sheet No. 124-126

See Drive Details
Sheet No. 101

QUANTITIES CARRIED TO SHEET NO. 56. SHEET TOTAL

SEEDING
METER WIDTH
SO. END

END AREA
CUT FILL
VOLUME
CUT FILL
CALCULATED
RDA
CHECKED
SAL



END AREA	VOLUME	CALCULATED	RDA	CHECKED	SAL
CUT	FILL	CUT	FILL		
2.1	0.7				
36	19				
1.5	1.2				
32	18				
1.7	0.6				
32	15				
1.5	0.9				
32	16				
132	68				

CROSS SECTION SHEET
STA. 31+480 TO STA. 31+540

HOL-62-30.649

86
180

For Seeding & Sodding Details
and Quantities See Sheet No. 124-126

SHEET TOTAL

QUANTITIES CARRIED TO SHEET NO. 56.

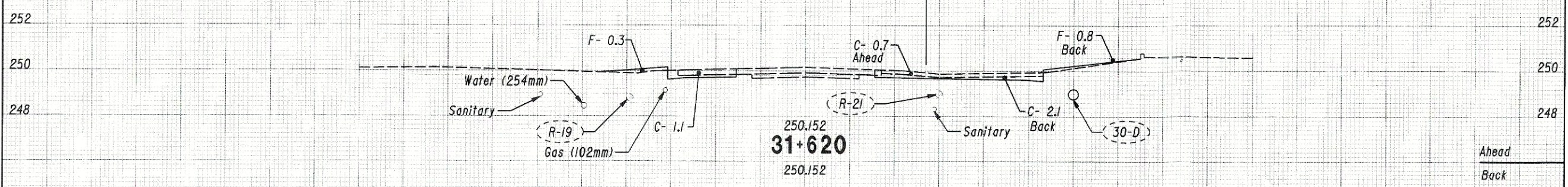
SHEET TOTAL

SEEDING
END SQ.
WIDTH METER

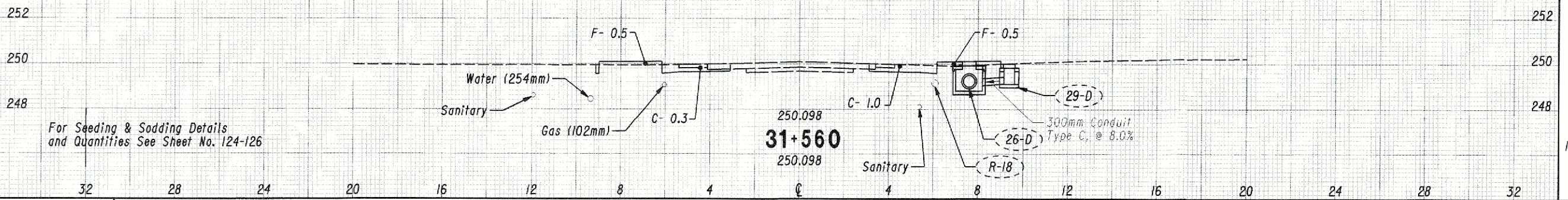
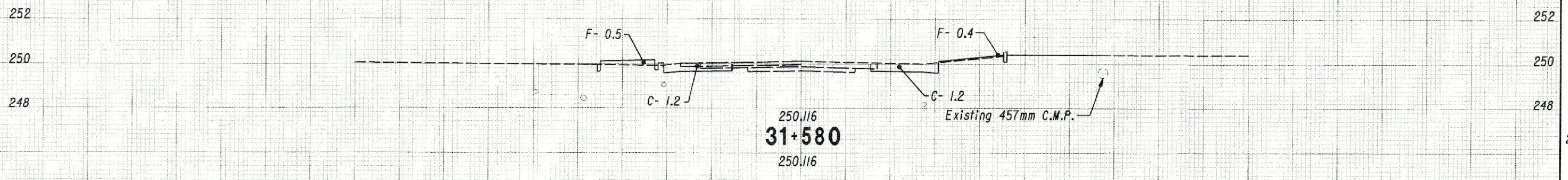
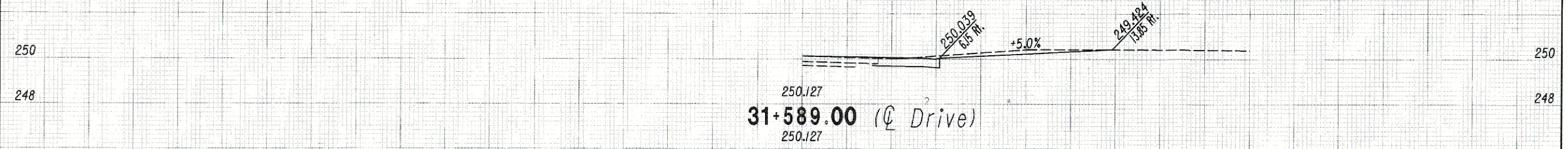
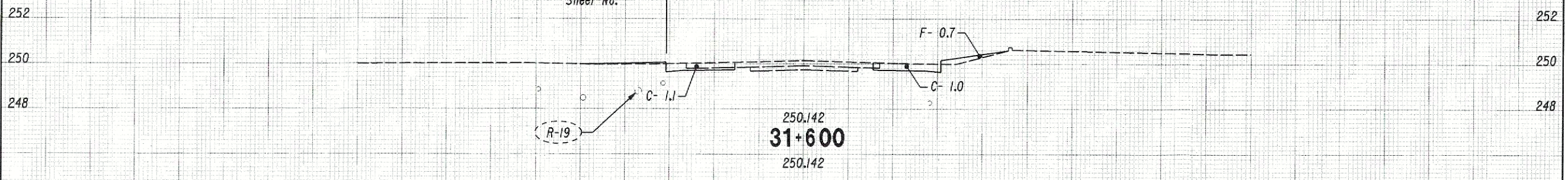
END AREA VOLUME
CUT FILL CUT FILL
CALCULATED
RDA
CHECKED
SAL

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

See Sheet No. 100 for Glen Dr. Cross Sections



Ahead
Back



32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

SHEET TOTAL

QUANTITIES CARRIED TO SHEET NO. 56. SHEET TOTAL

END AREA	VOLUME	CUT	FILL	CUT	FILL
1.8	0.3				
3.2	1.1				
	53	18			
2.1	0.7				
45	16				
2.4	0.9				
37	19				
1.3	1.0				
34	17				
169	70				

CROSS SECTION SHEET
STA. 31+560 TO 31+620

HOL-62-30.649

87
180

SEEDING
END SQ.
WIDTH METER

END AREA
CUT FILL
VOLUME
CUT FILL
CALCULATED
RDA
CHECKED
SAL

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

254 252 250 248

252 250 248

250 248

248

252 250 248

252 250 248

250 248

252 250 248

252 250 248

250 248

248

252 250 248

252 250 248

250 248

252 250 248

252 250 248

250 248

248

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250 248

248

250 248

248

250 248

248

250 248

248

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

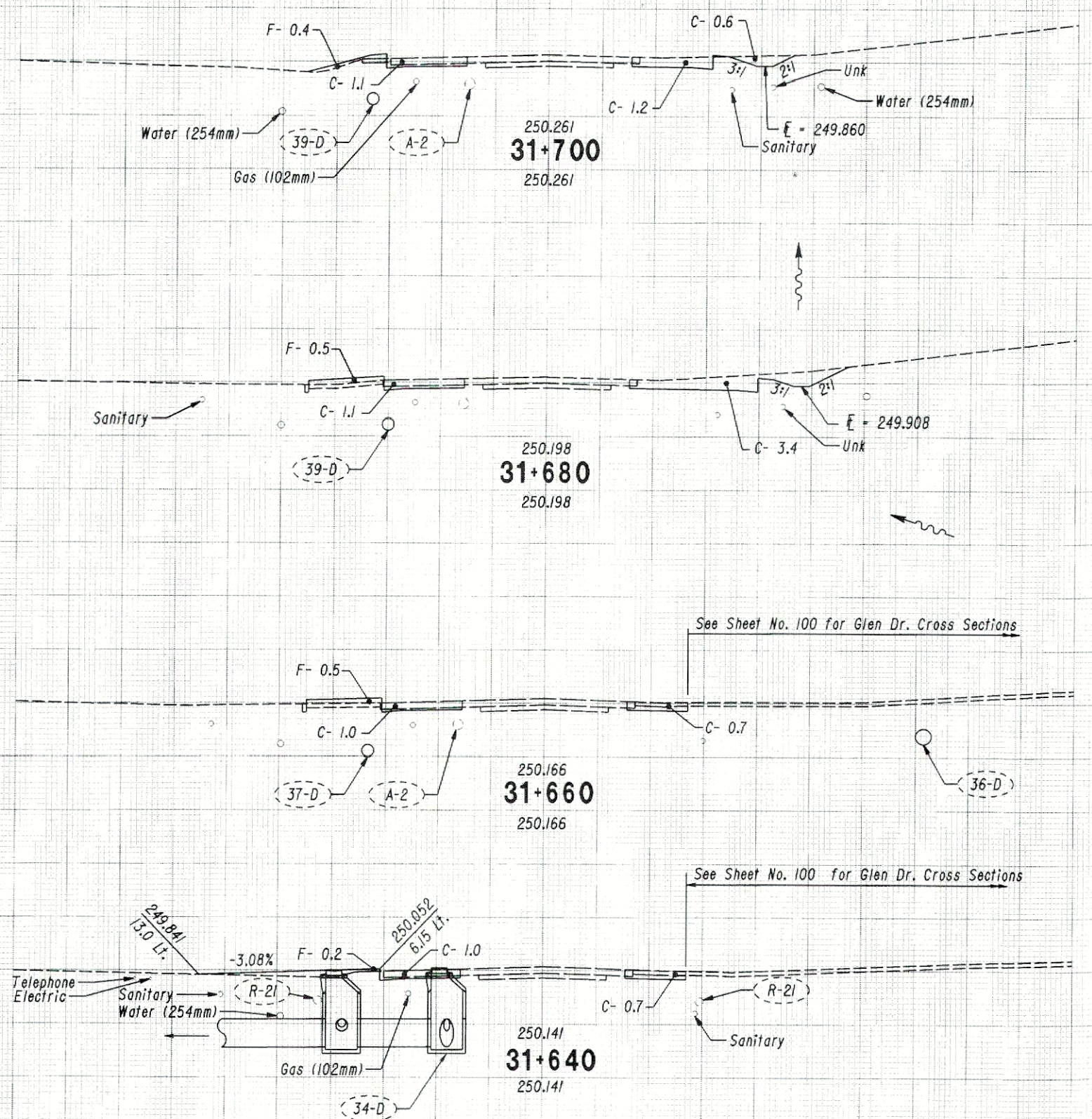
SHEET TOTAL

2.9	0.4	74	9	62	10	34	7	35	5
4.5	0.5	1.7	0.5	1.7	0.2	205	31		

CROSS SECTION SHEET
STA. 31+640 TO 31+700

HOL-62-30.649

88
180



For Seeding & Sodding Details
and Quantities See Sheet No. 124-126

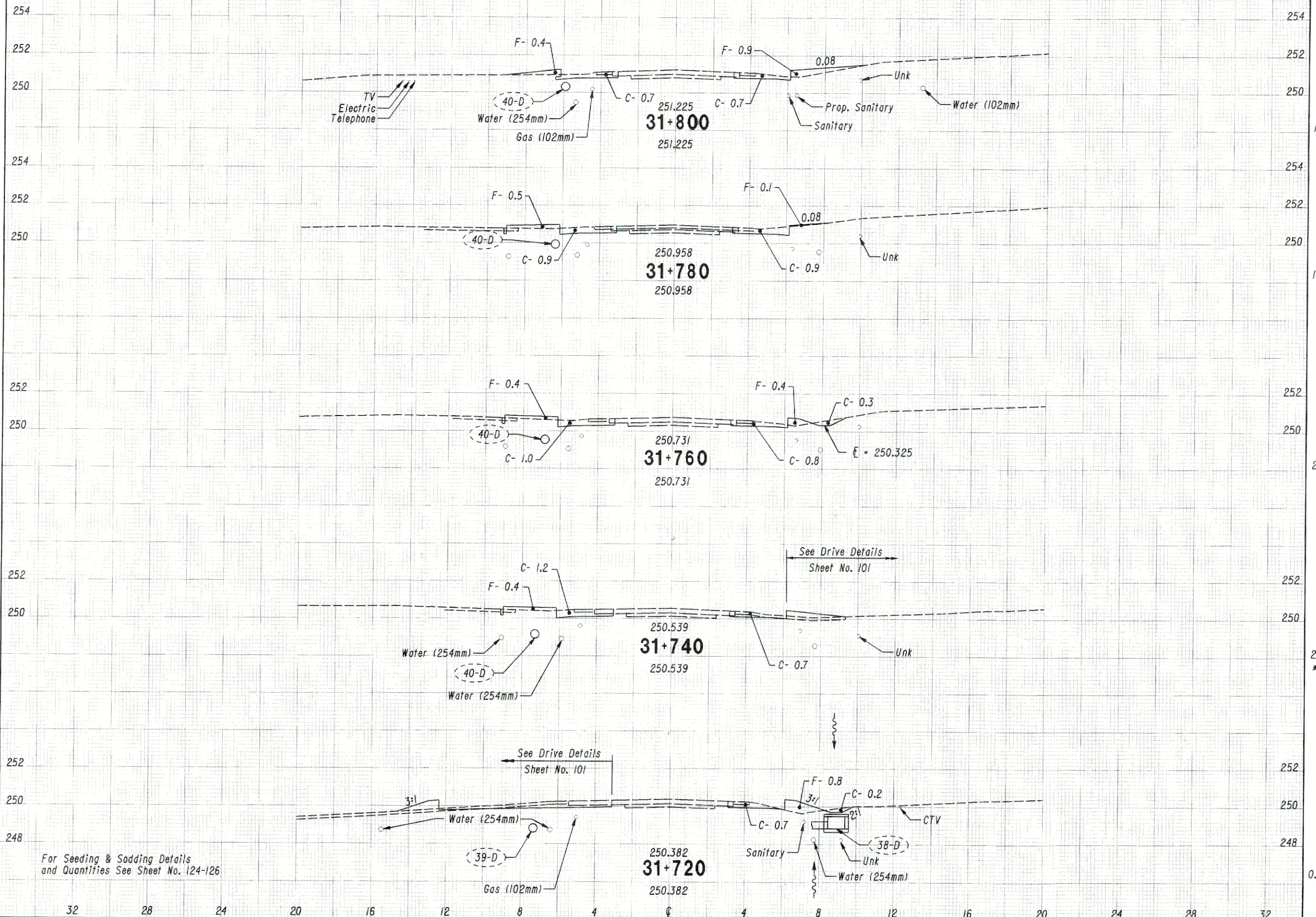
QUANTITIES CARRIED TO SHEET NO. 56. SHEET TOTAL

SEEDING
END SQ.
WIDTH METER

END AREA VOLUME
CUT FILL CUT FILL

CALCULATED
RDA
CHECKED
SAL

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32



END AREA	VOLUME
CUT	FILL
1.4	1.3
32	19
1.8	0.6
39	14
2.1	0.8
42	18
2.1*	1.0*
30	18
0.9	0.8

CROSS SECTION SHEET
STA. 31+720 TO STA. 31+800

HOL-62-30.649

SHEET TOTAL

* Additional Quantity Provided For Beyond Limits of Drive

QUANTITIES CARRIED TO SHEET NO. 56.

SHEET TOTAL

89
180

SEEDING
END SQ.
WIDTH METER

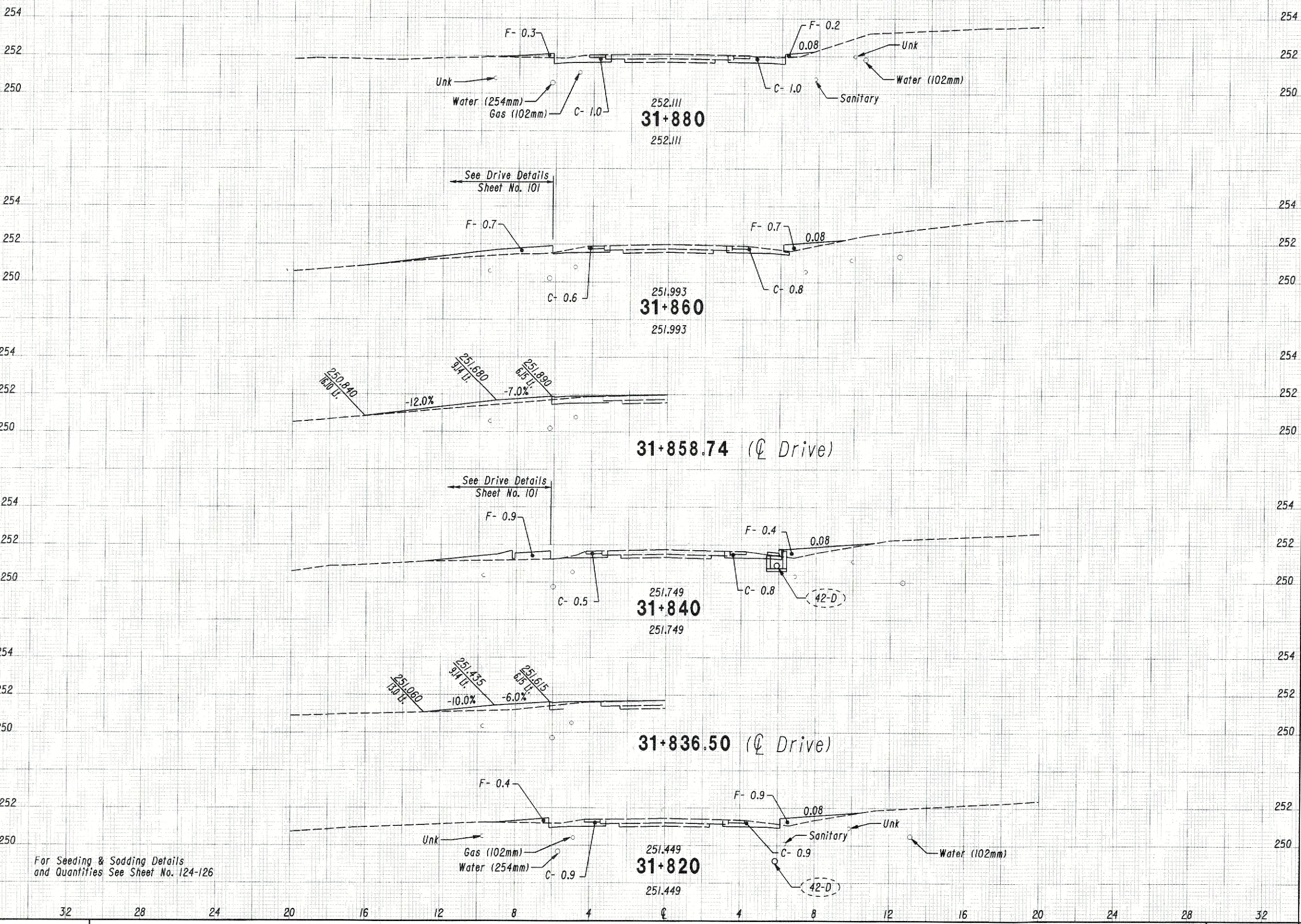
END AREA
CUT FILL

VOLUME
CUT FILL

CALCULATED
RDA

CHECKED
SAL

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32



END AREA	VOLUME
CUT	FILL
2.0	0.5
34	19
1.4	1.4
27	27
1.3	1.3
31	26
1.8	1.3
32	26
124	98

CROSS SECTION SHEET
STA. 31+820 TO 31+880

HOL-62-30.649

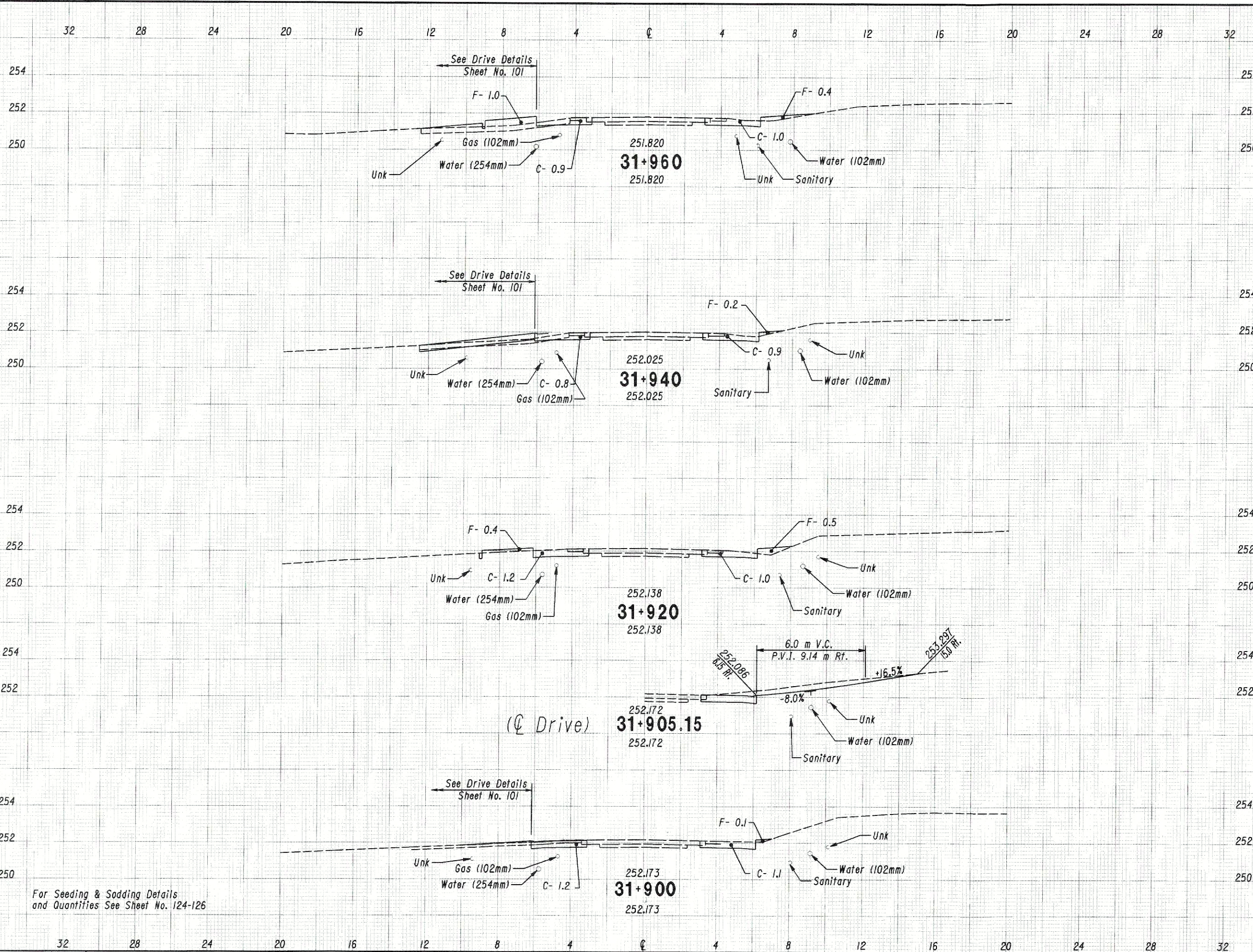
90
180

SHEET TOTAL

QUANTITIES CARRIED TO SHEET NO. 56.

SHEET TOTAL

SEEDING
END SQ.
WIDTH METER



END STA	AREA		VOLUME		CALCULATED RDA	CHECKED SAL
	CUT	FILL	CUT	FILL		
254						
252						
250	1.9	1.4				
254			36	16		
252						
250	1.7	0.2				
254			39	11		
252						
250	2.2	0.9				
254						
252						
250			45	10		
254						
252						
250	2.3	0.1				
254						
252						
250						
32	43	6	163	43		

CROSS SECTION SHEET
STA. 31+900 TO STA. 31+960

HOL-62-30.649

91
180

For Seeding & Sodding Details and Quantities See Sheet No. 124-126

SHEET TOTAL

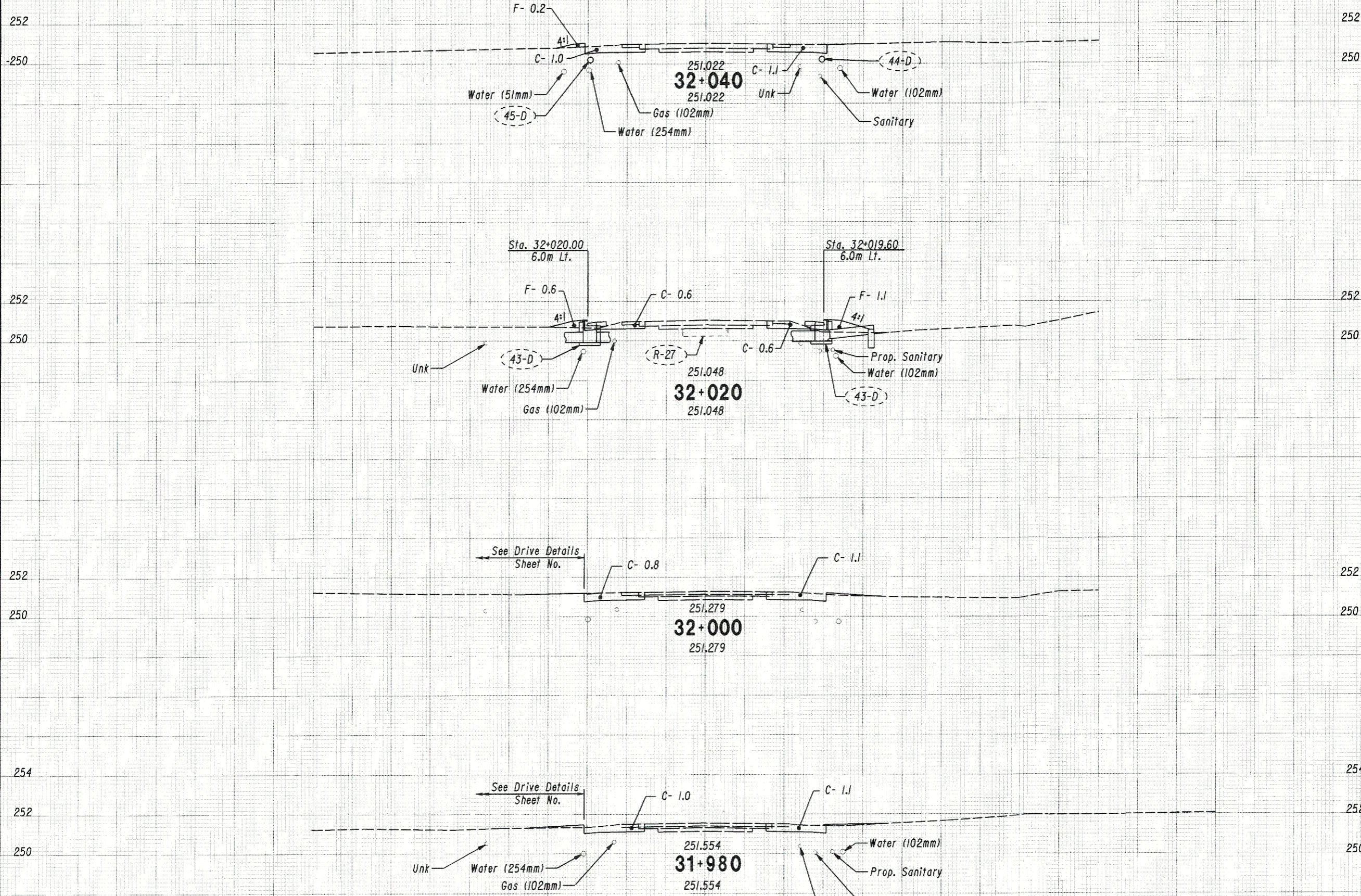
QUANTITIES CARRIED TO SHEET NO. 56.

SHEET TOTAL

SEEDING
END SQ.
WIDTH METER

END AREA VOLUME
CUT FILL CUT FILL
CALCULATED
RDA
CHECKED
SAL

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32



END	AREA	VOLUME	CUT	FILL	CUT	FILL
252						
250	2.1	0.2				
252						
250	3.3	1.9				
252						
250	1.2	1.7				
252						
250	3.1	1.7				
252						
250	1.9	0				
254						
252						
250	4.0	0				
254						
252						
250	2.1	0				
254						
252						
250	4.0	1.4				
254						
252						
250	14.4	5.0				

CROSS SECTION SHEET
STA. 31+980 TO STA. 32+040

HOL-62-30.649

92
180

For Seeding & Sodding Details
and Quantities See Sheet No. 124-126

SHEET TOTAL

QUANTITIES CARRIED TO SHEET NO. 56.

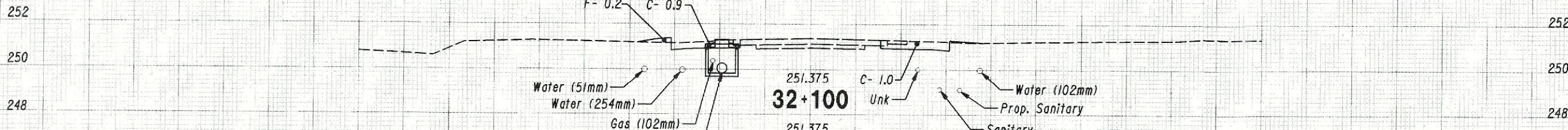
SHEET TOTAL

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

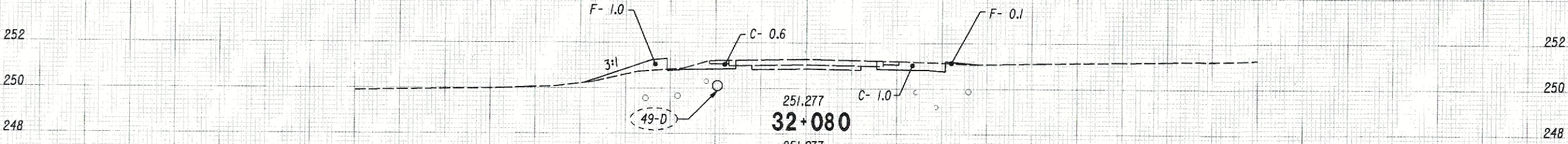
SEEDING
END SQ.
WIDTH METER

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

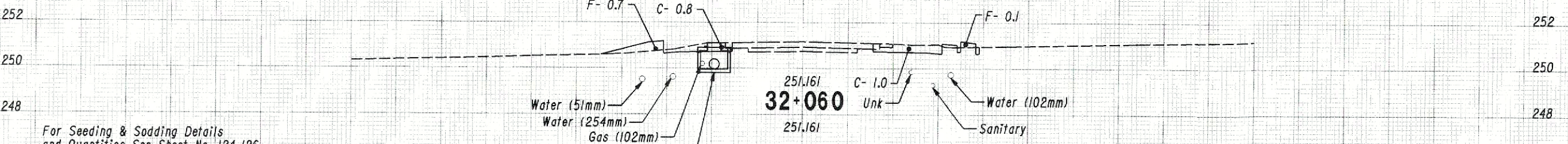
END AREA		VOLUME		CALCULATED RDA	CHECKED SAL
CUT	FILL	CUT	FILL		



1.9	0.2
-----	-----



1.6	1.1
-----	-----



1.8	0.8
-----	-----

For Seeding & Sodding Details
and Quantities See Sheet No. 124-126

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

39	10
----	----

SHEET TOTAL

SHEET TOTAL

QUANTITIES CARRIED TO SHEET NO. 56.

CROSS SECTION SHEET
STA. 32+060 TO STA. 32+100

HOL-62-30.649

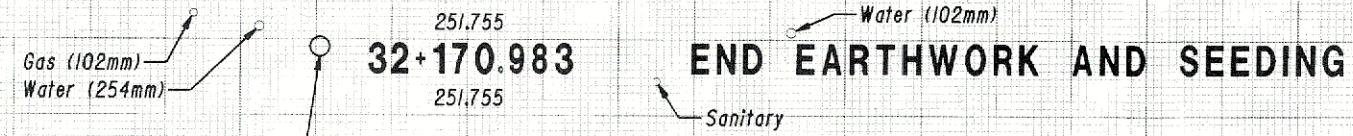
93
180

SEEDING
END SQ.
WIDTH METER

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

252 252

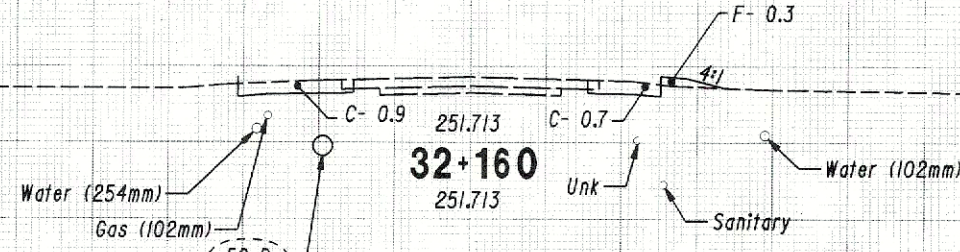
250 250



END EARTHWORK AND SEEDING

252 252

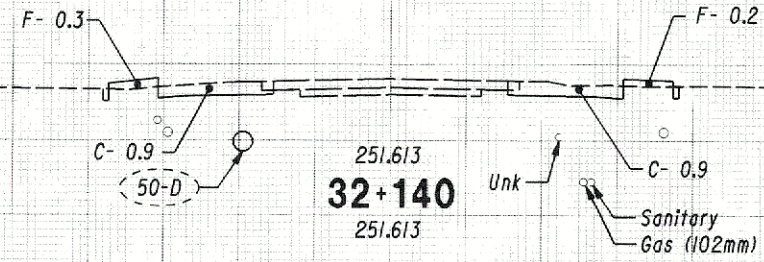
250 250



32+160

252 252

250 250

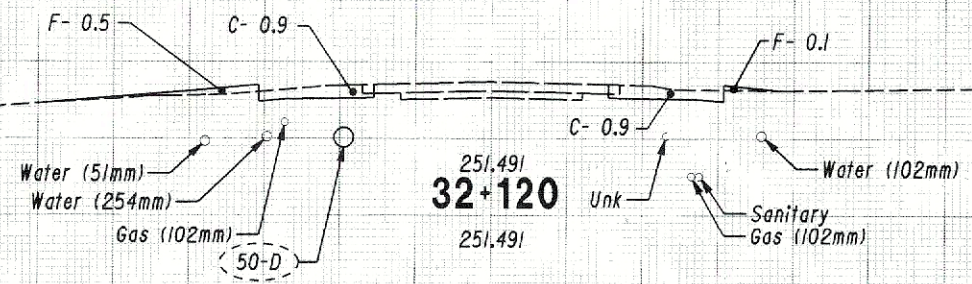


32+140

252 252

250 250

248 248



32+120

For Seeding & Sodding Details
and Quantities See Sheet No. 124-126

32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32

SHEET TOTAL

QUANTITIES CARRIED TO SHEET NO. 56.

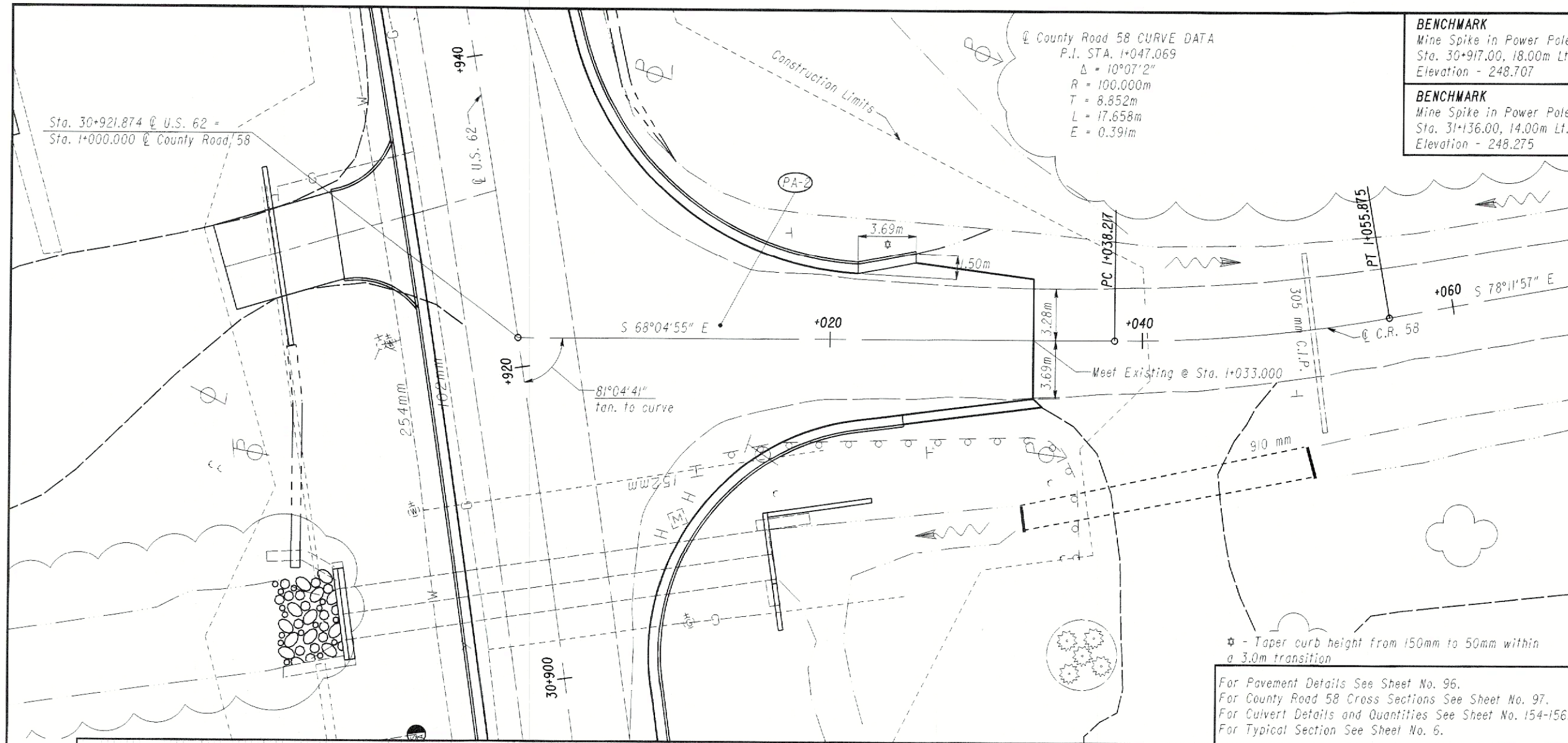
SHEET TOTAL

END STA.	AREA		VOLUME		CALCULATED RDA	CHECKED SAL
	CUT	FILL	CUT	FILL		
32+170.983	0	0	8.8	1.7		
32+160	1.6	0.3	34	8		
32+140	1.8	0.5	36	11		
32+120	1.8	0.6	37	8		
TOTAL			115.8	28.7		

**CROSS SECTION SHEET
STA. 32+120 TO STA. 32+170.983**

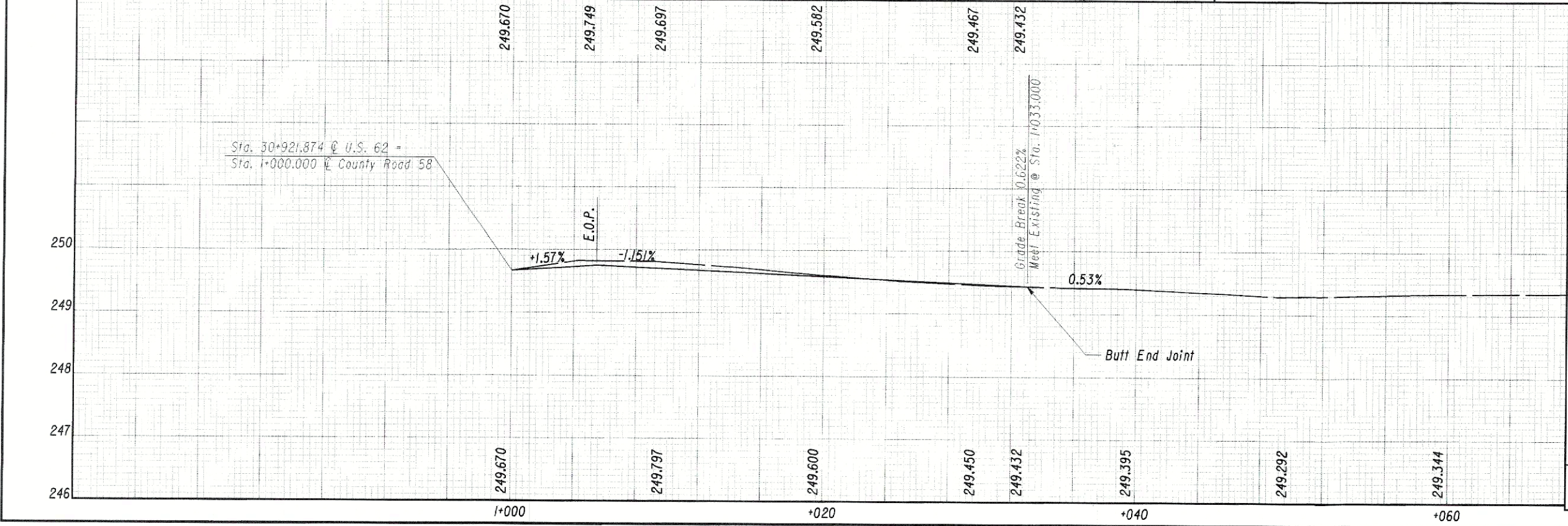
HOL-62-30.649

94
180



BENCHMARK
 Mine Spike in Power Pole
 Sta. 30+917.00, 18.00m Lt.
 Elevation - 248.707

BENCHMARK
 Mine Spike in Power Pole
 Sta. 31+136.00, 14.00m Lt.
 Elevation - 248.275



* - Taper curb height from 150mm to 50mm within a 3.0m transition

For Pavement Details See Sheet No. 96.
 For County Road 58 Cross Sections See Sheet No. 97.
 For Culvert Details and Quantities See Sheet No. 154-156.
 For Typical Section See Sheet No. 6.

REF NO.	STATION TO STATION	203	301	304	407	408	448	448	448
		Subgrade Bituminous Compaction	150mm Bituminous Aggregate Base PG 64-22	150mm Aggregate Base	Tack Coat For Bituminous Intermediate Course App. Rate 0.34 L/Sq. M T.B.L./Sq. M	Prime Coat App. Rate 1.8 L/Sq. M PG64-22	45mm Asphalt Conc. Intermediate Surface Course, Type 2 PG64-22	45mm Asphalt Conc. Intermediate Surface Course, Type 2 PG64-22	32mm Asphalt Conc. Surface Course, Type 1 PG64-22
		Sq. Meter	Cu. Meter	Cu. Meter	Liter	Liter	Cu. Meter	Cu. Meter	Cu. Meter
		444	401	457	401	401	401	401	401
PA-2	** STA. 0+005.467 TO STA. 0+033.0	444	60.15	68.55	136.34	721.80	18.05	18.05	12.83
TOTALS CARRIED TO GEN. SUMMARY		444	60.15	68.55	136.34	721.80	18.05	18.05	12.83

HOL-62-30.649

PLAN AND PROFILE SHEET

COUNTY ROAD 58 STA. 1+000 TO 1+070

95/180

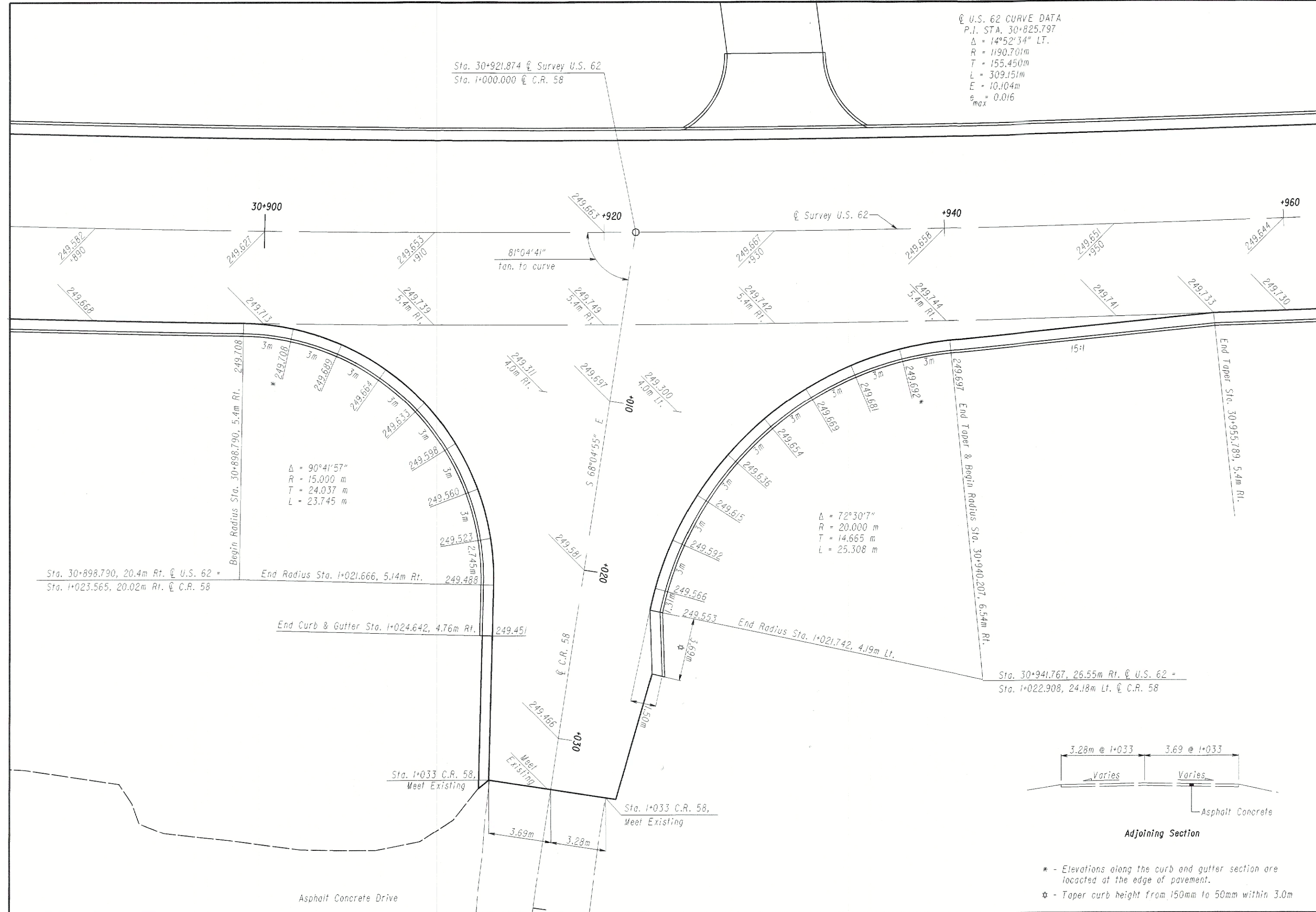
SCALE IN METERS

CALCULATED SAL
 CHECKED TKD

U.S. 62 CURVE DATA
 P.I. STA. 30+825.797
 $\Delta = 14^{\circ}52'34''$ LT.
 $R = 1190.701m$
 $T = 155.450m$
 $L = 309.151m$
 $E = 10.104m$
 $e_{max} = 0.016$



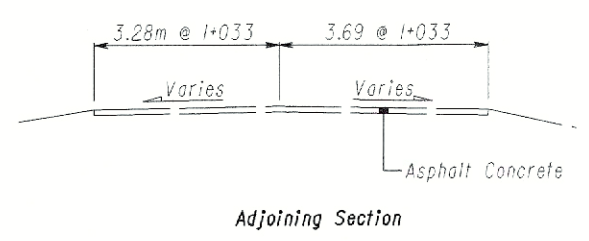
Sta. 30+921.874 @ Survey U.S. 62
 Sta. 1+000.000 @ C.R. 58



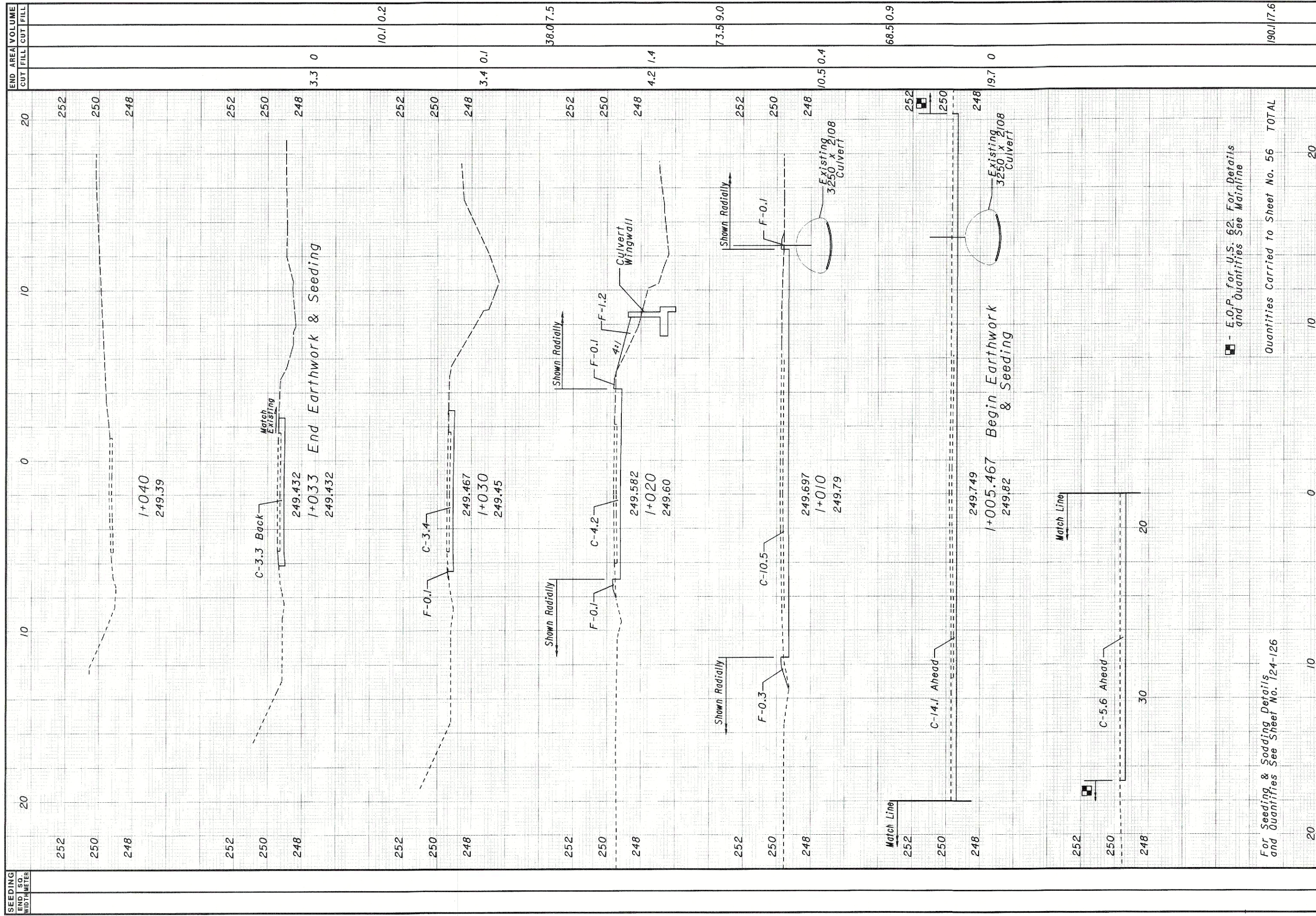
INTERSECTION DETAIL & PAVEMENT ELEVATIONS
U.S. 62 AND COUNTY ROAD 58

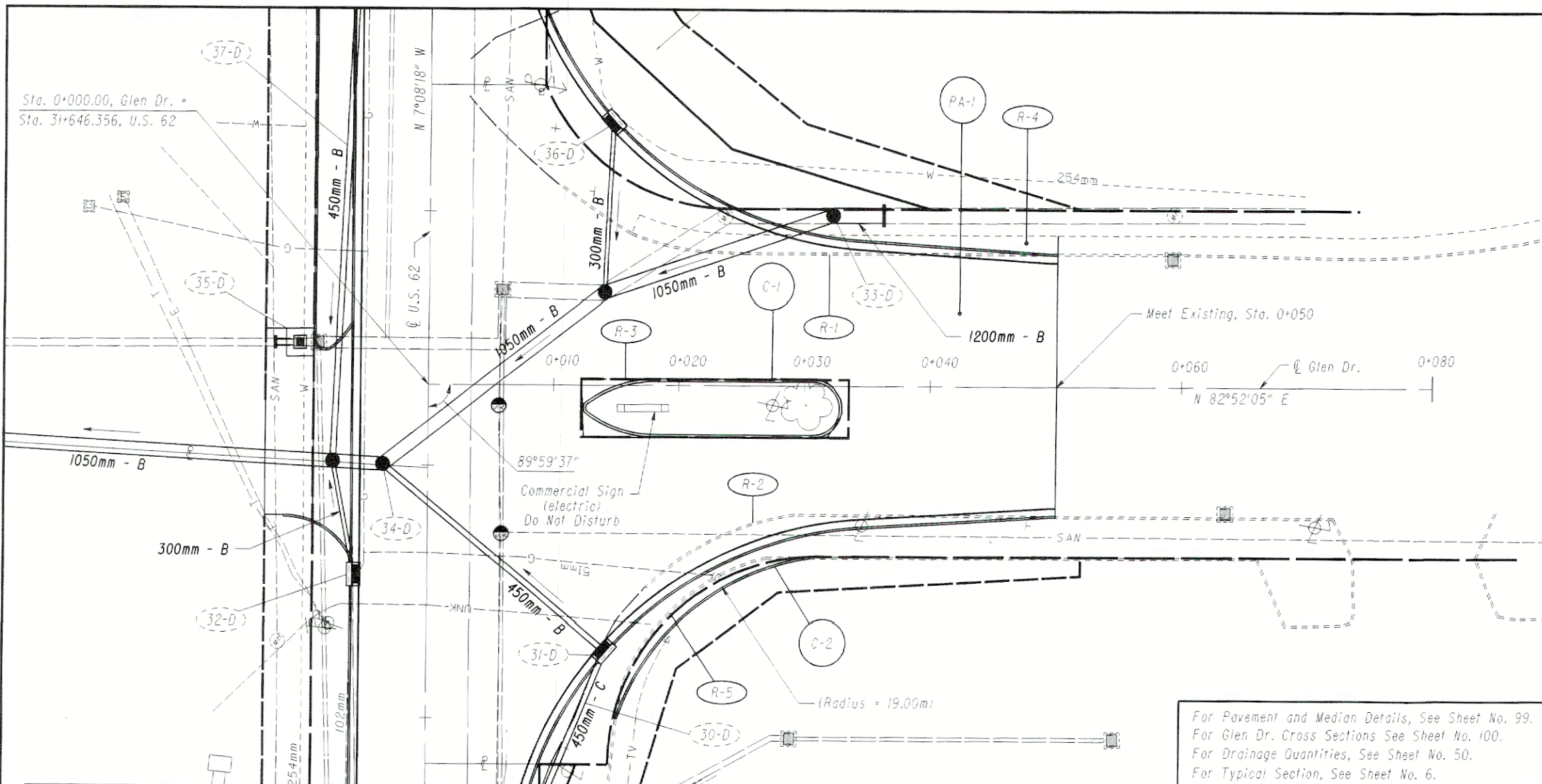
HOL-62-30.649

96
 180

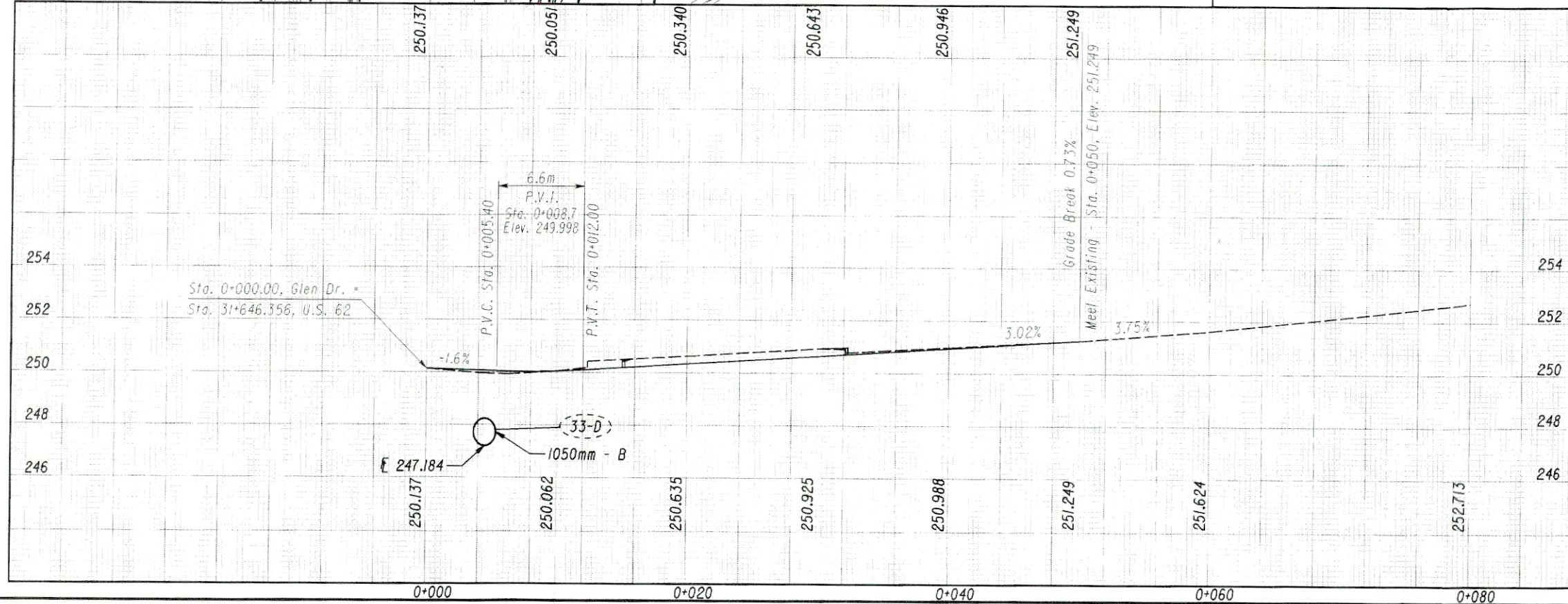


* - Elevations along the curb and gutter section are located at the edge of pavement.
 * - Taper curb height from 150mm to 50mm within 3.0m

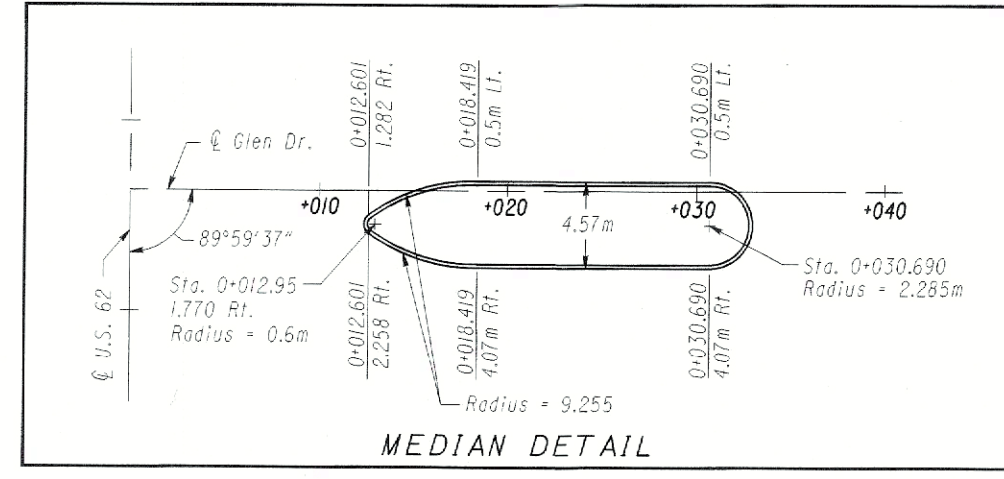
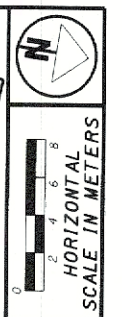




For Pavement and Median Details, See Sheet No. 99.
 For Glen Dr. Cross Sections See Sheet No. 100.
 For Drainage Quantities, See Sheet No. 50.
 For Typical Section, See Sheet No. 6.



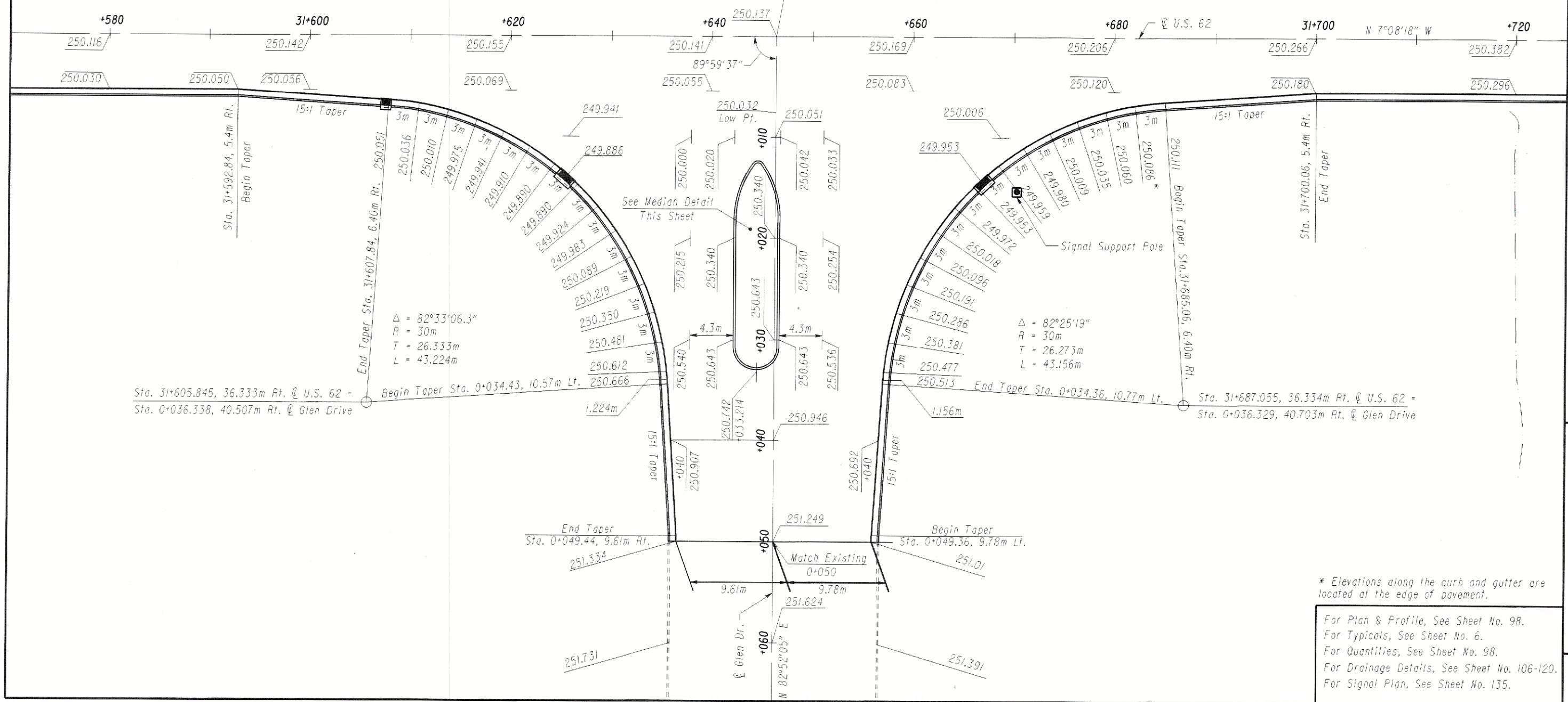
REF NO.	STATION TO STATION * - As Per Plan ** - Planimetered Area	Walk Removed Sq. Meter	Curb Removed Meter	Subgrade Compaction Sq. Meter	150mm Bituminous Aggregate Base PG 64-22 Cu. Meter	304 150mm Aggregate Base Cu. Meter	407 Tack Coat for Bituminous Intermediate Course App. Rate 0.84 L/Sq. M Liter	408 Bituminous Prime Coat App. Rate 1.8 L/Sq. M Liter	448 45mm Asphalt Conc. Intermediate Surface Course, Type 2 PG 64-22 Cu. Meter	448 32mm Asphalt Conc. Surface Course, Type 1 PG 64-22 Cu. Meter	830 Curb, Type 6 Meter	830 Curb, Type 7 Meter	TOTALS CARRIED TO GEN. SUMMARY		
													47.82	142.61	45.29
R-1	STA. 0+010.26 TO STA. 0+050.00		41.13												
R-2	STA. 0+017.45 TO STA. 0+050.00		34.11												
R-3	STA. 0+012.30 TO STA. 0+032.97		45.29												
R-4	STA. 0+016.08 TO STA. 0+050.00		47.82												
R-5	STA. 0+015.13 TO STA. 0+030.51		22.08												
C-1	STA. 0+012.35 TO STA. 0+032.99														
C-2	STA. 0+015.13 TO STA. 0+030.51														
PA-1	**STA. 0+005.40 TO STA. 0+050.00			141.07	195.19	212.67	442.44	2342.32	58.56	41.64	21.08	45.29			
TOTALS CARRIED TO GEN. SUMMARY		47.82	142.61	141.07	195.19	212.67	442.44	2342.32	58.56	41.64	21.08	45.29	45.29		



Sta. 31+646.356, @ U.S. 62
Sta. 0+000.000 @ Glen Drive

Signal Support Pole

Signal Support Pole



Sta. 31+605.845, 36.333m Rt. @ U.S. 62 =
Sta. 0+036.338, 40.507m Rt. @ Glen Drive

$\Delta = 82^\circ 33' 06.3''$
 $R = 30m$
 $T = 26.333m$
 $L = 43.224m$

$\Delta = 82^\circ 25' 19''$
 $R = 30m$
 $T = 26.273m$
 $L = 43.156m$

* Elevations along the curb and gutter are located at the edge of pavement.

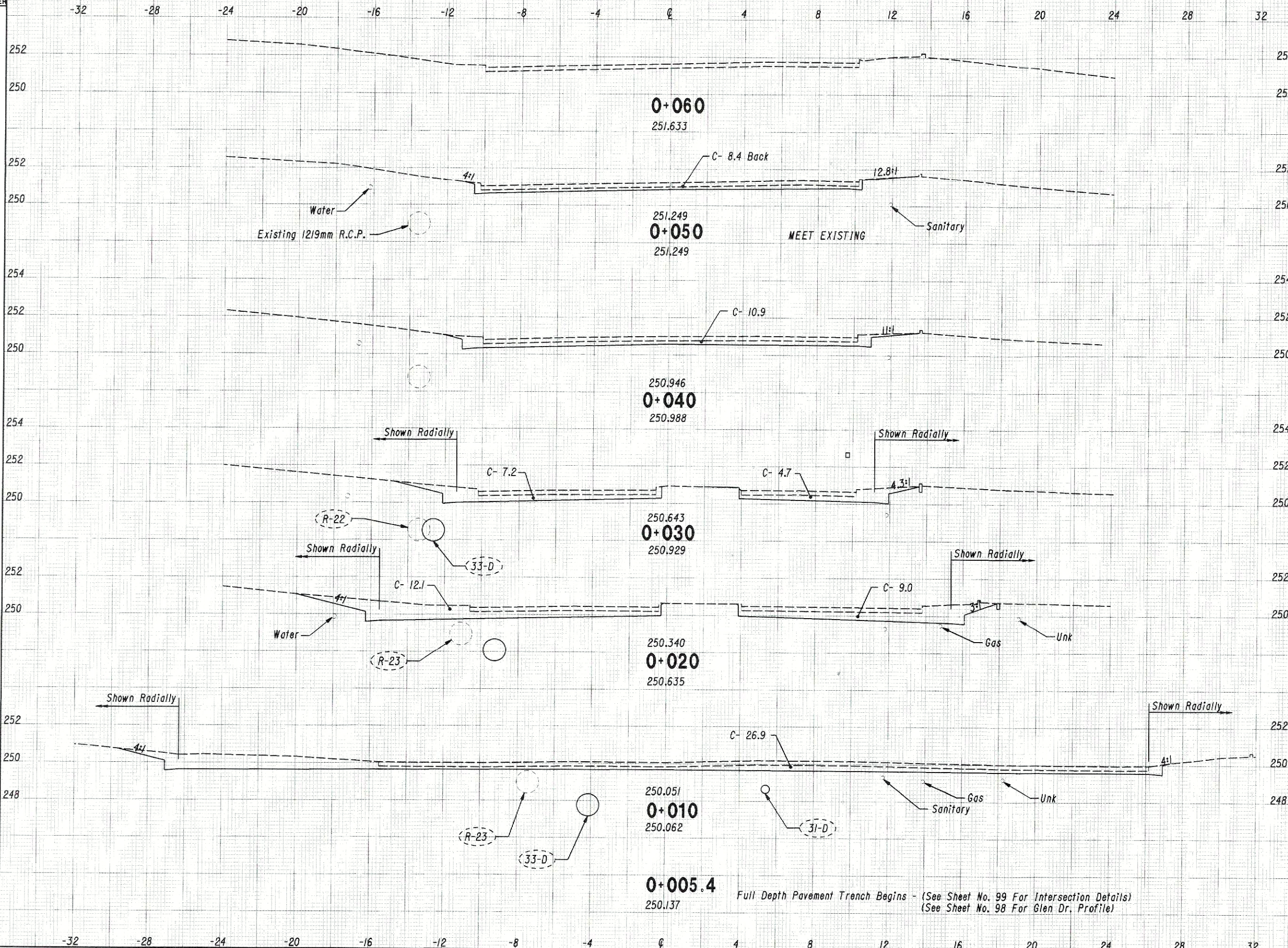
For Plan & Profile, See Sheet No. 98.
For Typical, See Sheet No. 6.
For Quantities, See Sheet No. 98.
For Drainage Details, See Sheet No. 106-120.
For Signal Plan, See Sheet No. 135.

INTERSECTION DETAIL AND PAVEMENT ELEVATIONS

HOL-62-30.649

SEEDING
END SQ.
WIDTH METER

END AREA
CUT FILL
VOLUME
CUT FILL
TKD
CHECKED
SAL



END AREA	VOLUME	TKD	CHECKED	SAL
CUT	FILL	CUT	FILL	
8.4	0			
96.5	0			
10.9	0			
114	0			
11.9	0			
165	0			
21.1	0			
240	0			
26.9	0			
119.8	0			
25.2	0			
735.3	0			

CROSS SECTION SHEET
GLEN DR. - STA. 0+005.4 TO STA. 0+060

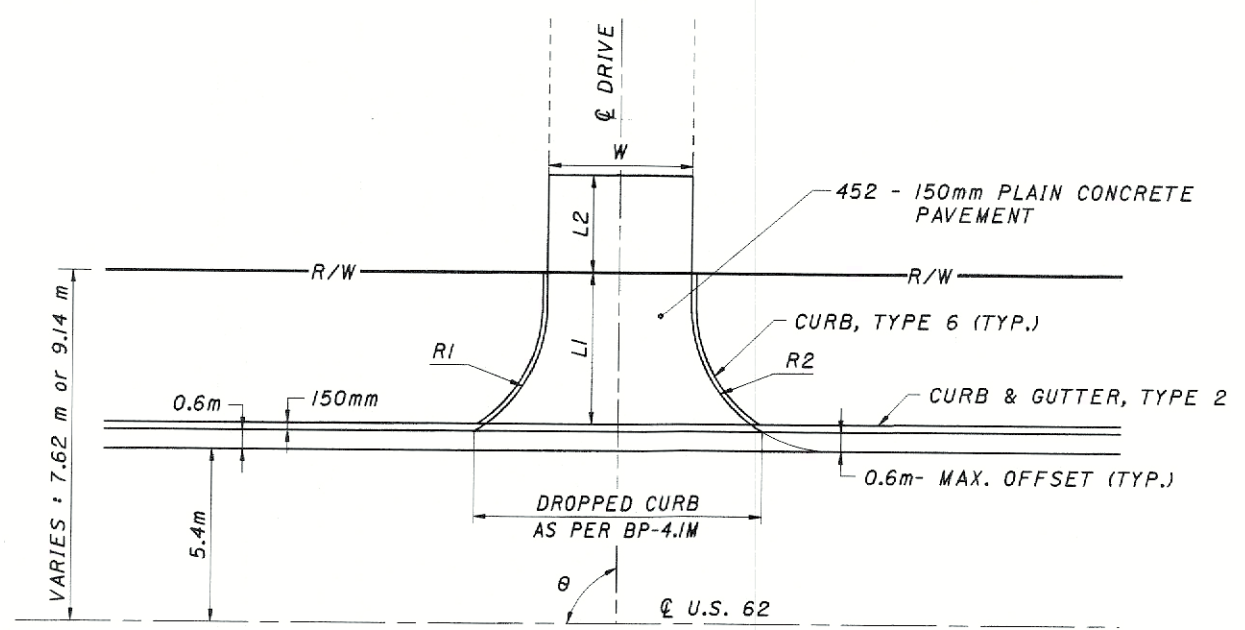
HOL-62-30.649

100
180

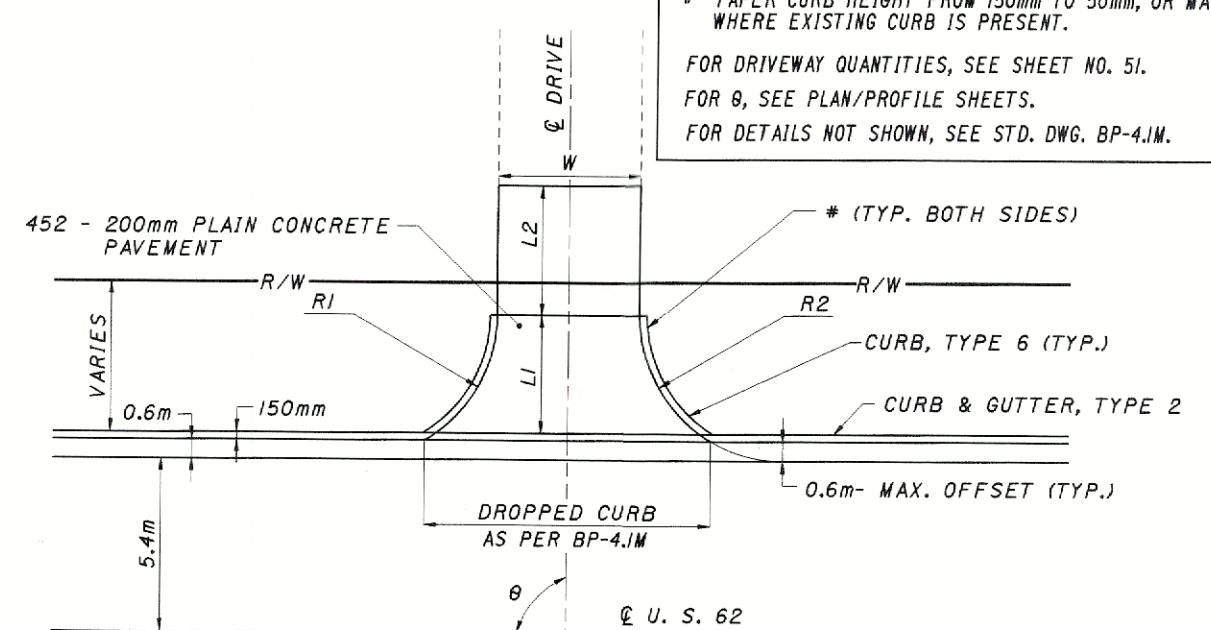
SHEET TOTAL FOR SEEDING AND SODDING QUANTITIES. SEE SHEET NO. 126

QUANTITIES CARRIED TO SHEET NO. 56 SHEET TOTAL

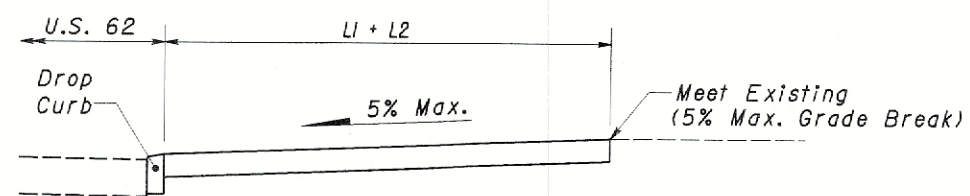
* 0.45mR WHERE R/W IS 7.62m OR LESS FROM ϕ OF ROADWAY.
 * TAPER CURB HEIGHT FROM 150mm TO 50mm, OR MATCH EXISTING CURB WHERE EXISTING CURB IS PRESENT.
 FOR DRIVEWAY QUANTITIES, SEE SHEET NO. 51.
 FOR θ , SEE PLAN/PROFILE SHEETS.
 FOR DETAILS NOT SHOWN, SEE STD. DWG. BP-4.1M.



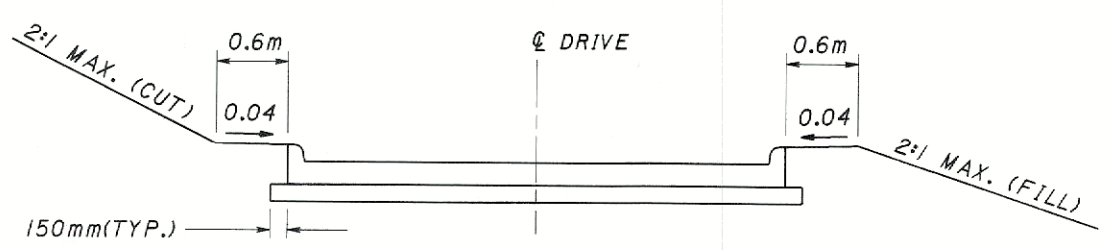
RESIDENTIAL DRIVES WITHOUT WRAP-AROUND CURB



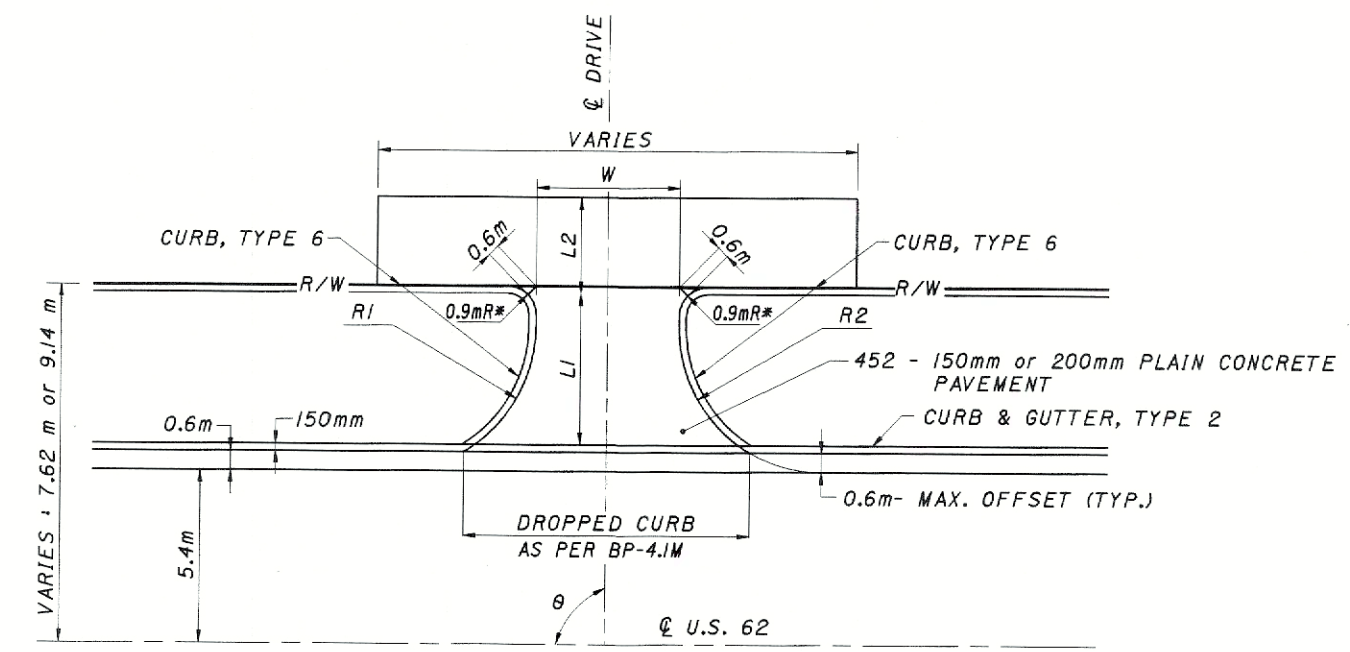
COMMERCIAL DRIVES WITHOUT WRAP-AROUND CURB



TYPICAL DRIVEWAY PROFILE
(UNLESS OTHERWISE SHOWN IN CROSS SECTIONS)



DRIVEWAY TYPICAL SECTION



COMMERCIAL OR RESIDENTIAL DRIVES WITH WRAP-AROUND CURB

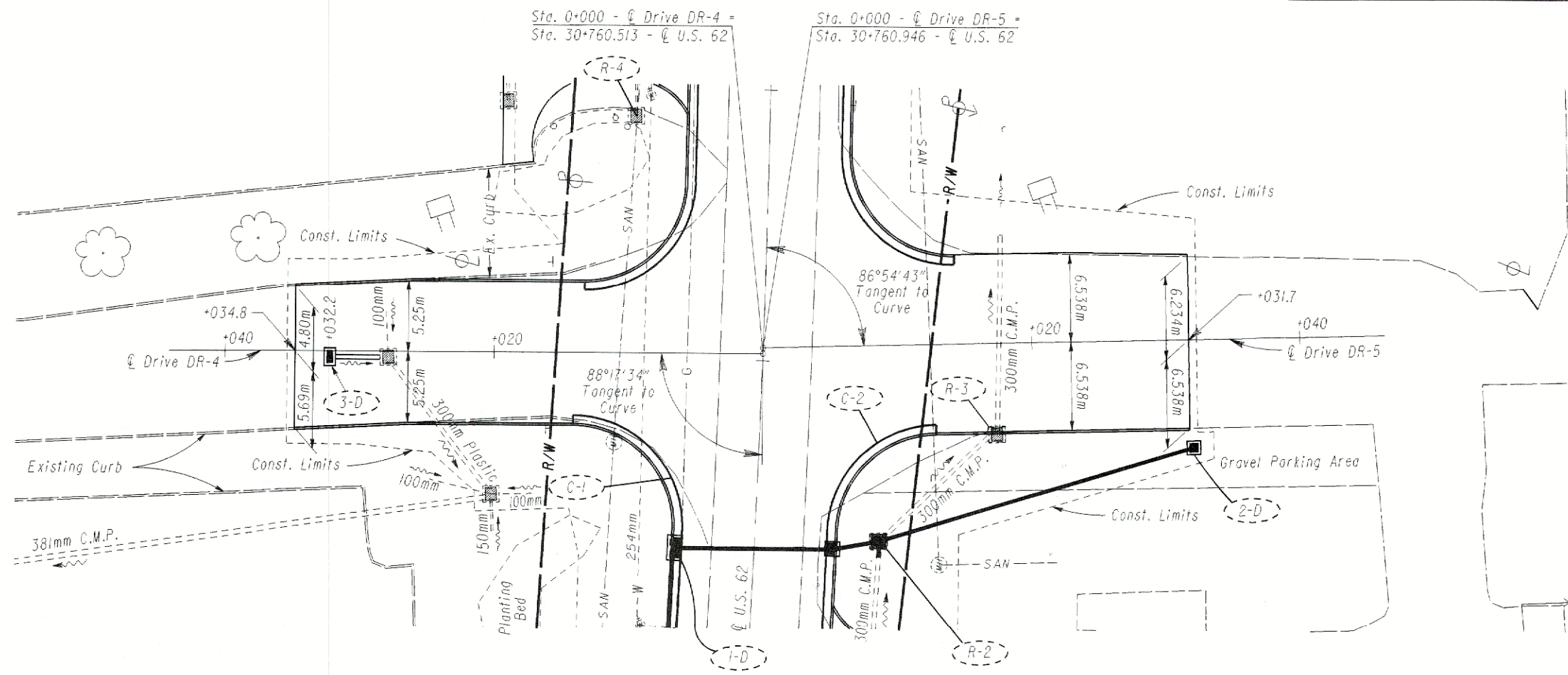
DRIVEWAY AND PARKING AREA PAVEMENTS

RESIDENTIAL:

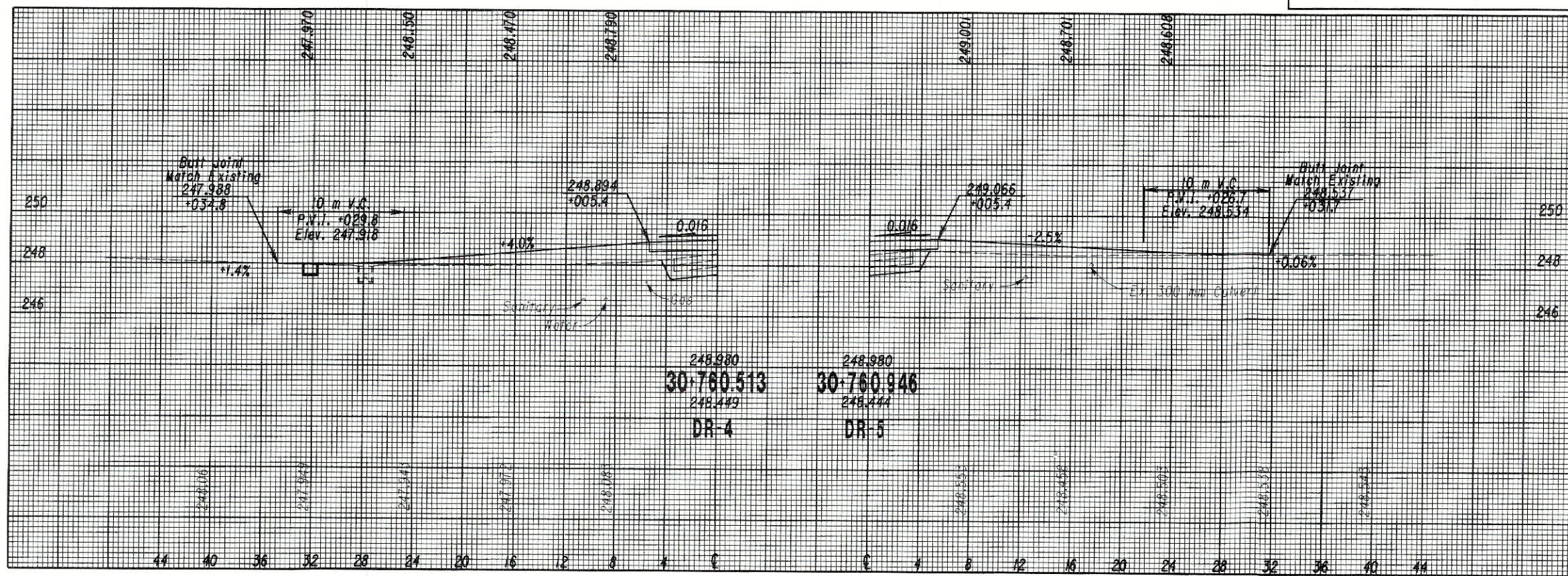
- EXISTING AGGREGATE DRIVES
 - 452 - 150mm PLAIN CONCRETE PAVEMENT (APRON)
 - 304 - 200mm AGGREGATE BASE
- EXISTING ASPHALT DRIVES
 - 452 - 150mm PLAIN CONCRETE PAVEMENT (APRON)
 - 448 - 50mm ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS)
 - 408 - PRIME COAT USING 1.8 LITER PER SQ. METER
 - 304 - 150mm AGGREGATE BASE
- EXISTING CONCRETE DRIVES
 - 452 - 150mm PLAIN CONCRETE PAVEMENT

COMMERCIAL AND SERVICE STATIONS:

- EXISTING AGGREGATE DRIVE
 - 452 - 200mm PLAIN CONCRETE PAVEMENT (APRON)
 - 304 - 250mm AGGREGATE BASE
- EXISTING ASPHALT DRIVE
 - 452 - 200mm PLAIN CONCRETE PAVEMENT (APRON)
 - 448 - 32mm ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS)
 - 448 - 45mm ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (DRIVEWAYS)
 - 408 - PRIME COAT USING 1.8 LITER PER SQ. METER
 - 304 - 200mm AGGREGATE BASE
- EXISTING CONCRETE DRIVE
 - 452 - 200mm PLAIN CONCRETE PAVEMENT



For Grading Plan, See Sheet No. 123
 For Drive Quantities, See Sheet No. 51
 For Drive Plan Sheet, See Sheet No. 60
 For Cross Sections, See Sheet No. 103

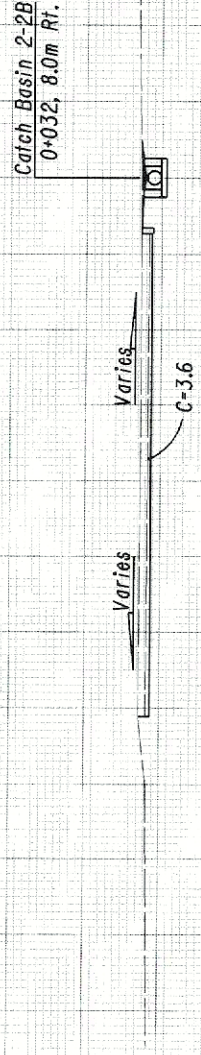


SEEDING
END ISO.
WIDTH/METER

10 8 6 4 2 0 2 4 6 8 10

END AREA VOLUME
CUT FILL CUT FILL

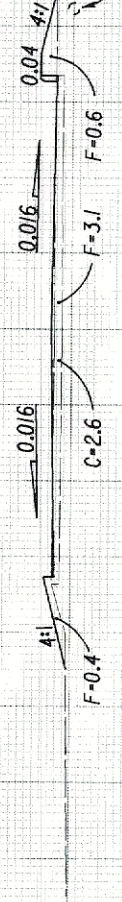
250
248



248.537
0+031.7
248.537
END EARTHWORK AND SEEDING

3.6 0

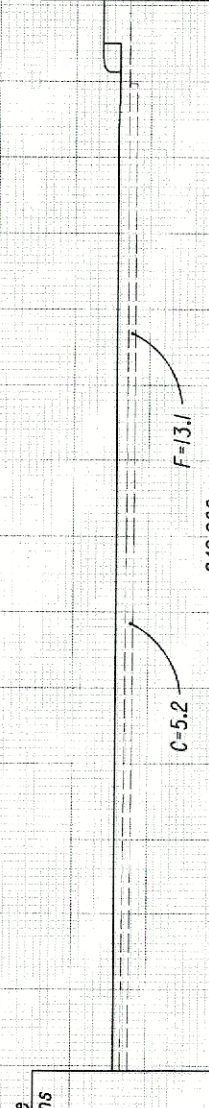
250
248



248.826
0+015
248.452

51.8 34.2

250
248



249.066
0+005.4
248.587
BEGIN EARTHWORK AND SEEDING

5.2 13.1

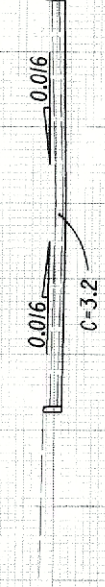
37.4 86.9

DR-5 - Drive to Save-A-Lot

TOTALS CARRIED TO SHEET NO. 51

89.2 121.1

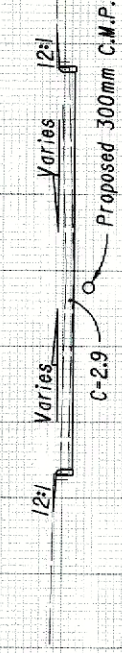
250
248



247.988
0+034.8
247.988
END EARTHWORK AND SEEDING

3.2 0

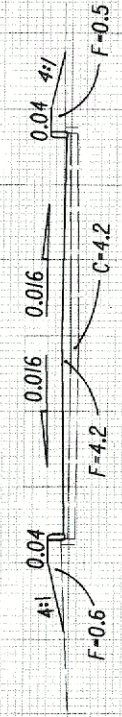
250
248



247.983
0+030
247.921

14.6 0

250
248



248.510
0+015
247.975

53.3 39.8

250
248



248.894
0+005.4
248.137
BEGIN EARTHWORK AND SEEDING

4.1 18.1

39.8 112.3

DR-4 - Drive to Walmart

TOTALS CARRIED TO SHEET NO. 51

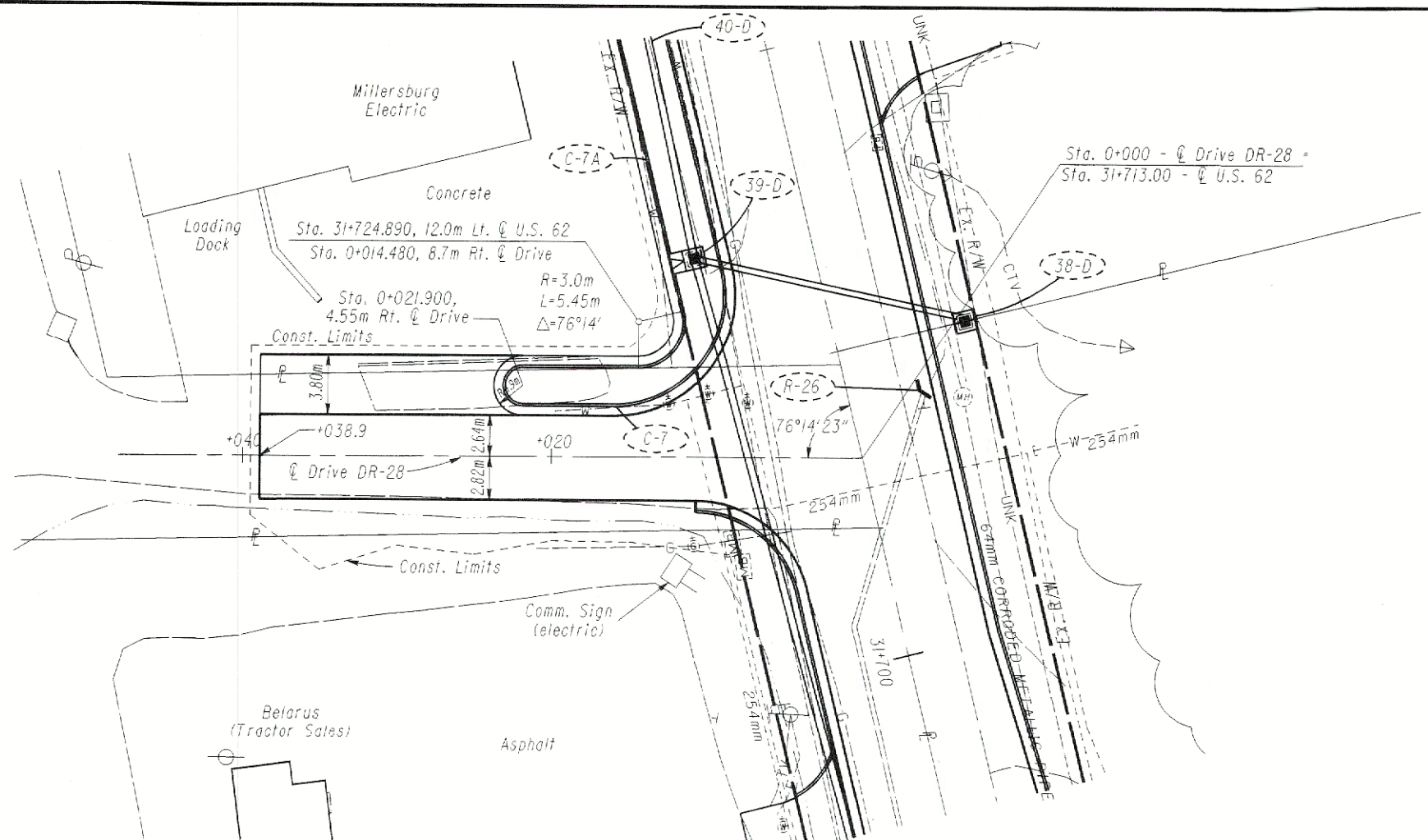
107.7 152.1

HOL-62-30.649

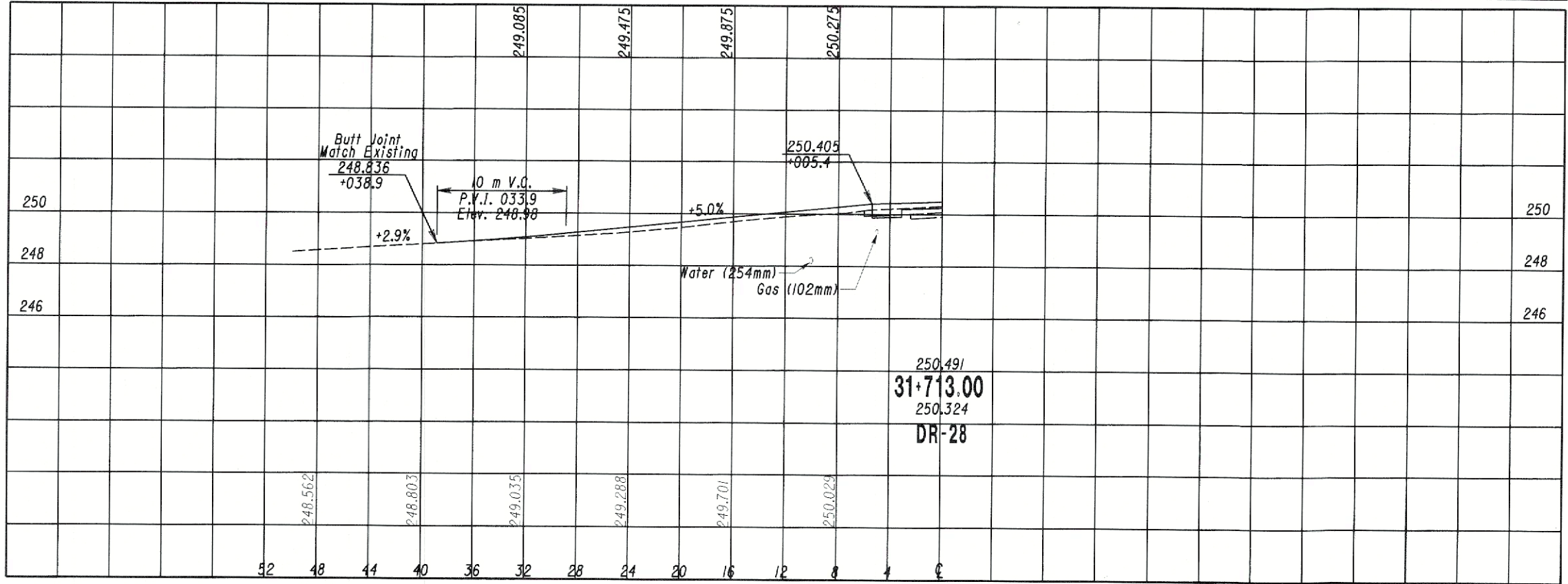
DRIVE CROSS SECTION SHEET
DR-4 AND DR-5

CALCULATED
RDA
CHECKED
TKD

103
180

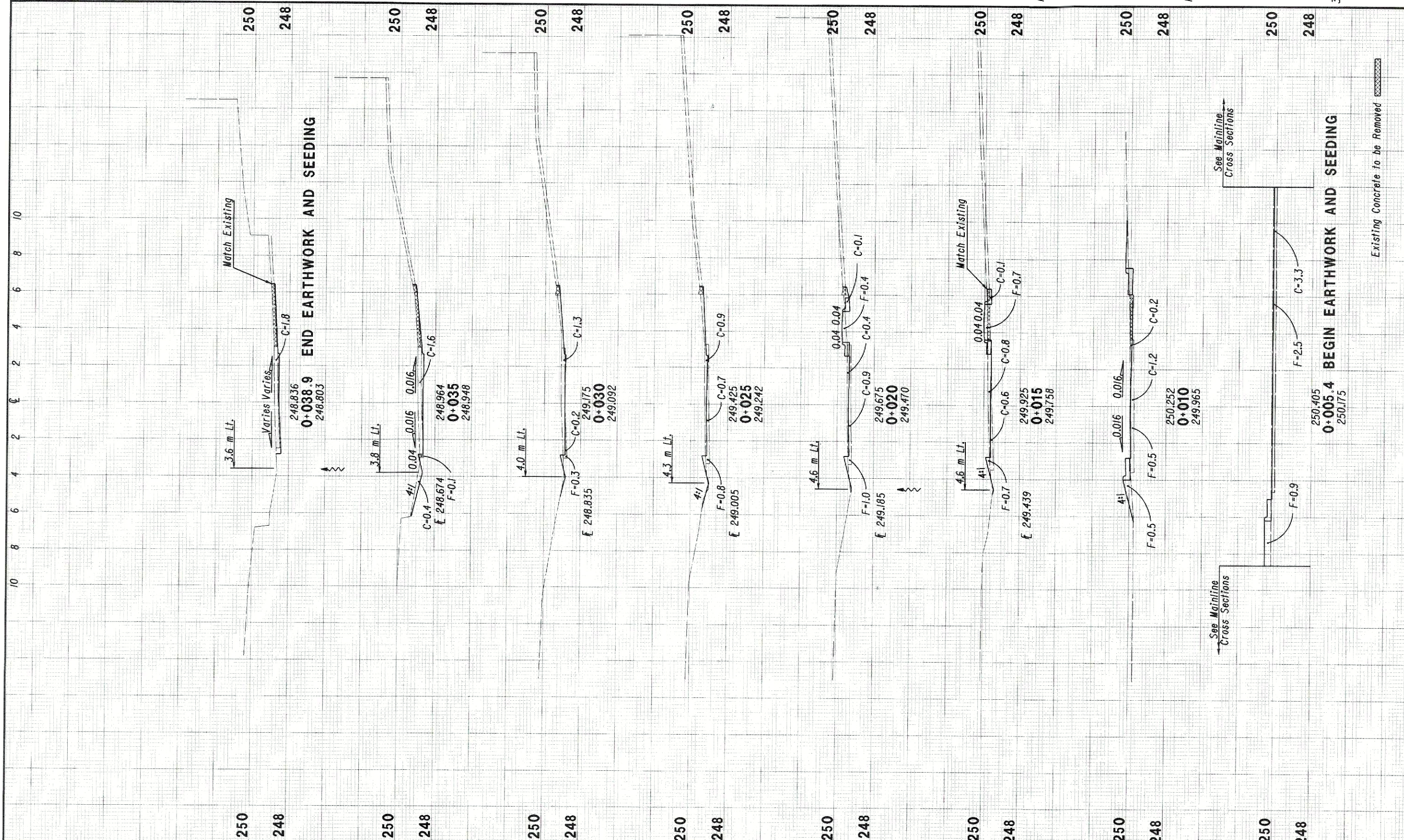


For Drive Quantities, See Sheet No. 51
 For Drive Plan Sheet, See Sheet No. 66
 For Cross Sections, See Sheet No. 105



SEEDING
END SQ.
WIDTH METER

END AREA VOLUME
CUT FILL CUT FILL



STATION	CUT	FILL	CUT	FILL
0+038.9	1.8	0	1.8	0
0+035	2.0	0.1	2.0	0.1
0+030	1.5	0.3	1.5	0.3
0+025	1.6	0.8	1.6	0.8
0+020	1.4	1.4	1.4	1.4
0+015	1.5	1.4	1.5	1.4
0+010	1.4	1.0	1.4	1.0
0+005.4	3.3	3.4	3.3	3.4
TOTALS	56.9	32.6	56.9	32.6

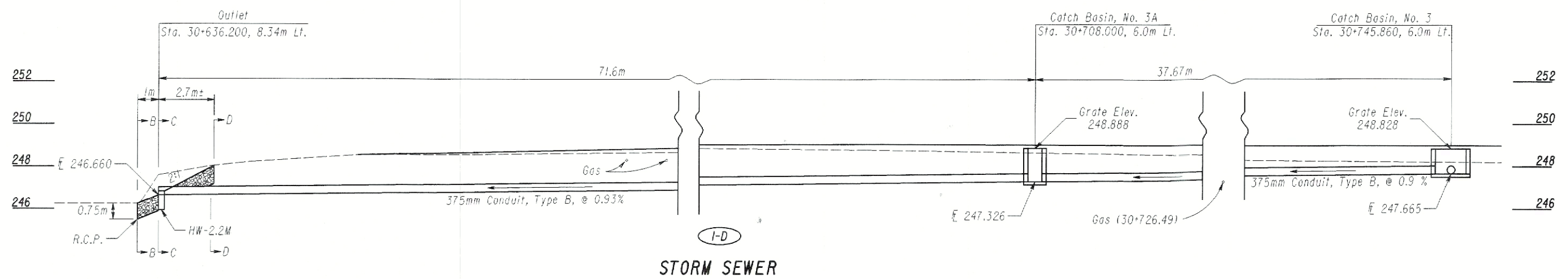
105
180

HOL - 62 - 30.649

DRIVE CROSS SECTION SHEET
DR-28

TOTALS CARRIED TO SHEET NO. 51

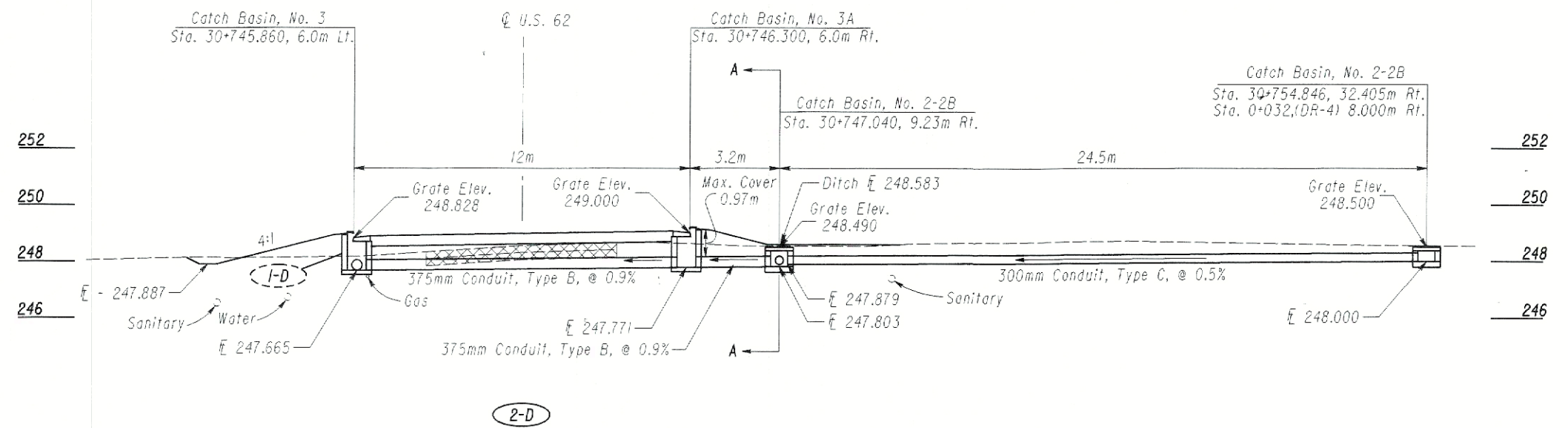
CHECKED
TKD



STORM SEWER
 STA. 30+636.200, 8.34m LT. to STA. 30+745.860, 6.00m LT.
 FOR PLAN VIEW, SEE SHEET NO. 59 & 60

Item 601 - Rock Channel Protection, Type B with Filter
 12.6 Sq. M. x 0.75m = 9.5 Cubic Meter

SEEDING END SO. WIDTH METER	AREA	VOL	CUT	CUT
4	2	2	4	
Culvert				
		248		
		246	0.0	
		248	2.4	
		246	1.8	
		248	1.4	
		246	0.0	
Culvert				
TOTALS (Carried to this sheet)				3.8

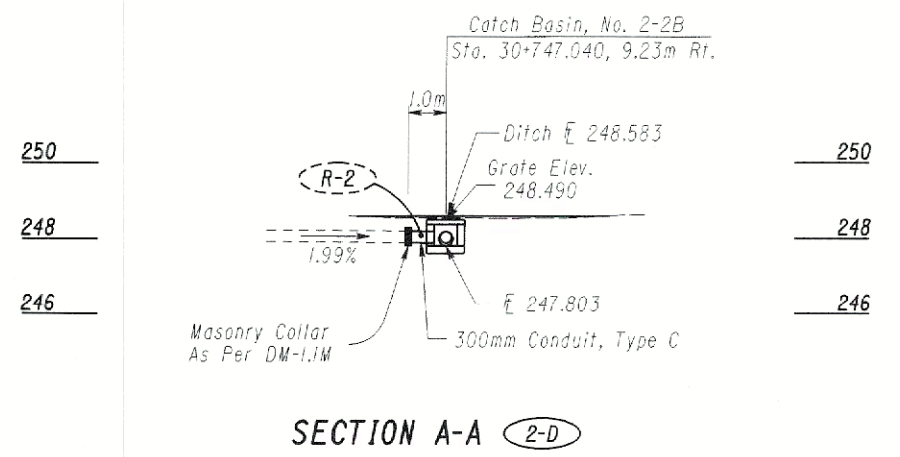


STORM SEWER
 STA. 30+745.860, 6.0m LT. to STA. 30+754.846, 32.405m RT.
 FOR PLAN VIEW, SEE SHEET NO. 60

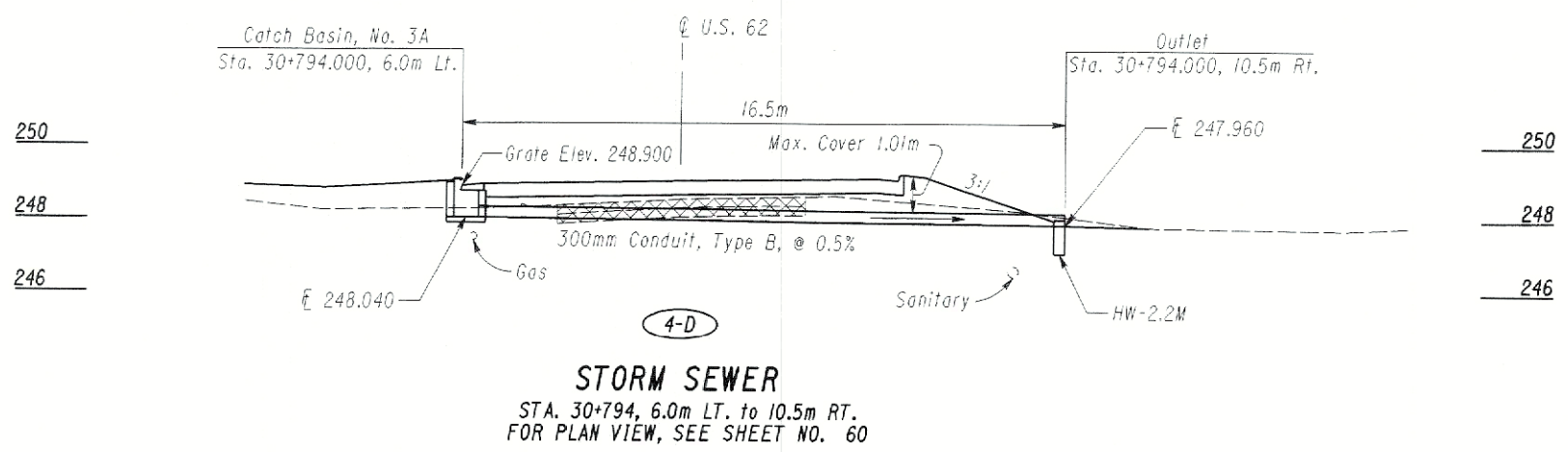
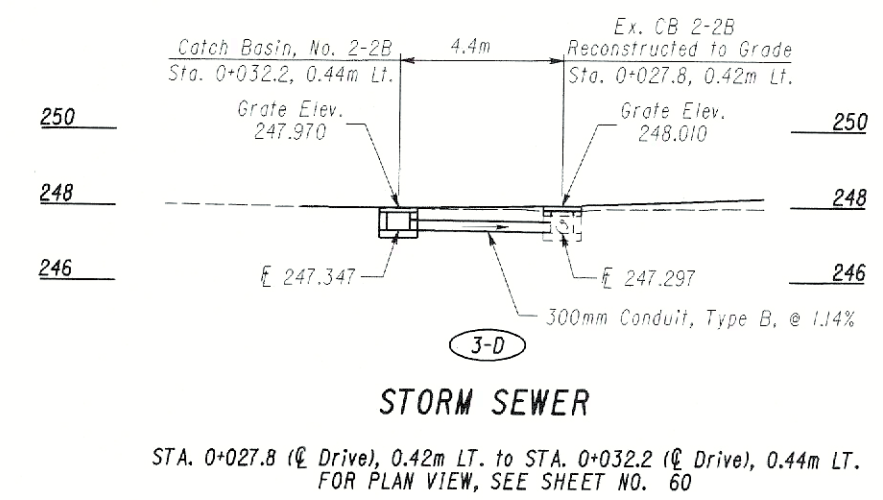
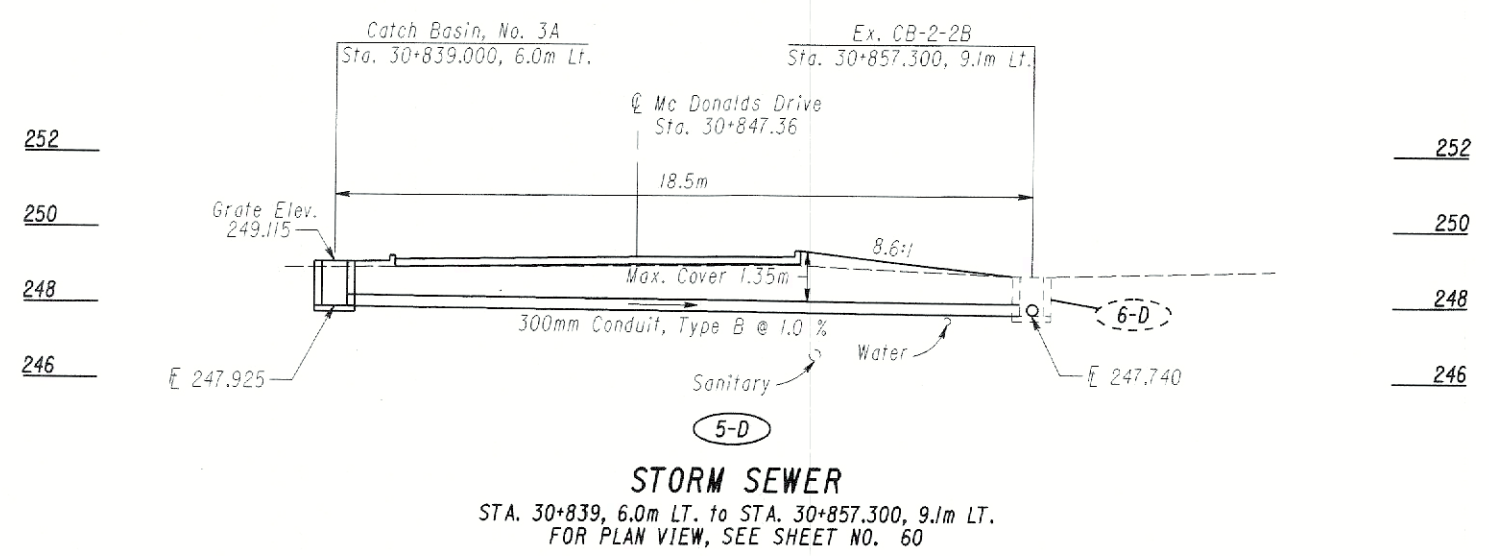
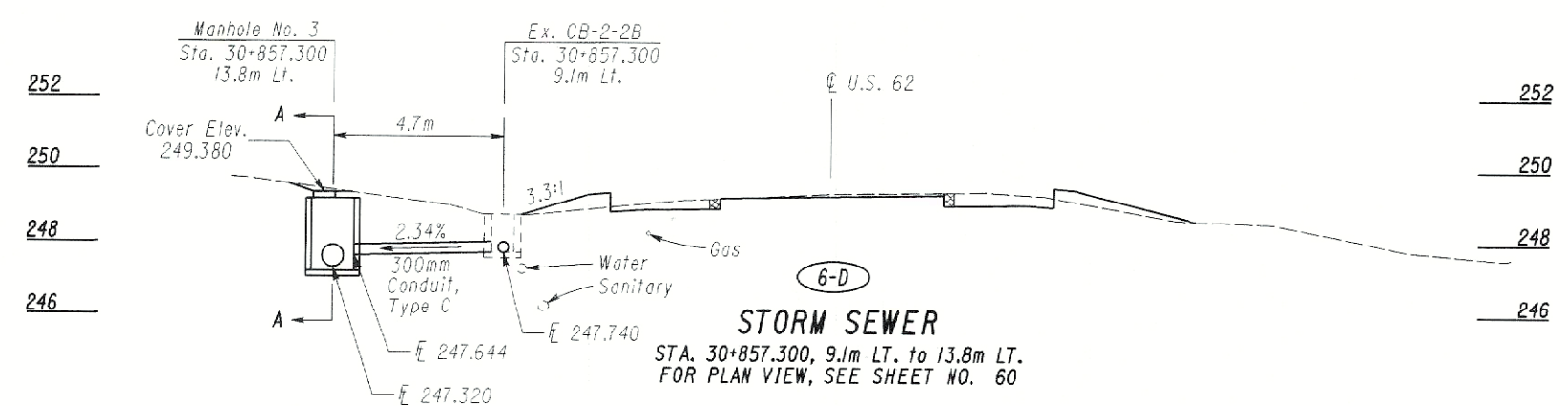
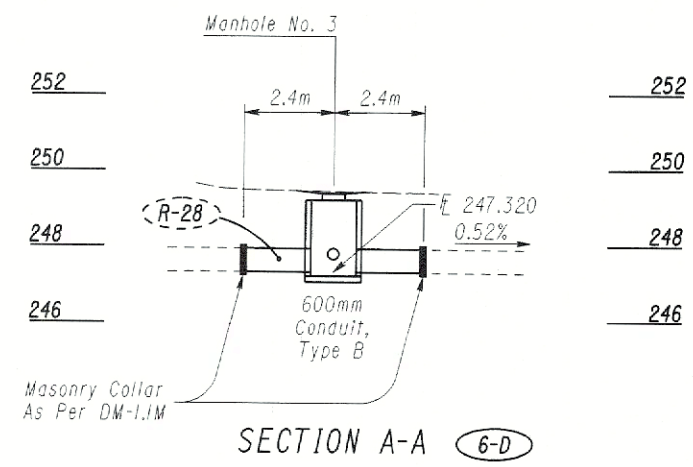
ESTIMATED QUANTITIES

(I-D)	Item 203 - Excavation Not Including Embankment Construction	3.8 Cu. Meter
	Item 601 - Rock Channel Protection, Type B with Filter	9.5 Cu. Meter
	Item 602 - Concrete Masonry	0.22 Cu. Meter
	Item 603 - 375mm Conduit, Type B	109.5 Meter
	Item 604 - Catch Basin, No. 3	1 Each
	Item 604 - Catch Basin, No. 3A	1 Each
(2-D)	Item 603 - 300mm Conduit, Type C	25.5 Meter
	Item 603 - 375mm Conduit, Type B	15.5 Meter
	Item 604 - Catch Basin, No. 2-2B	2 Each
	Item 604 - Catch Basin, No. 3A	1 Each

Quantities Carried To Sheet No. 50



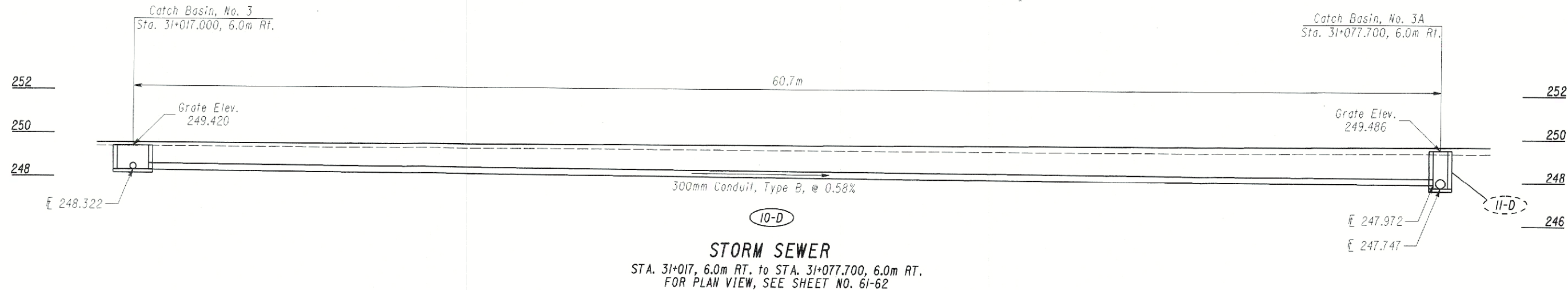
SECTION A-A (2-D)



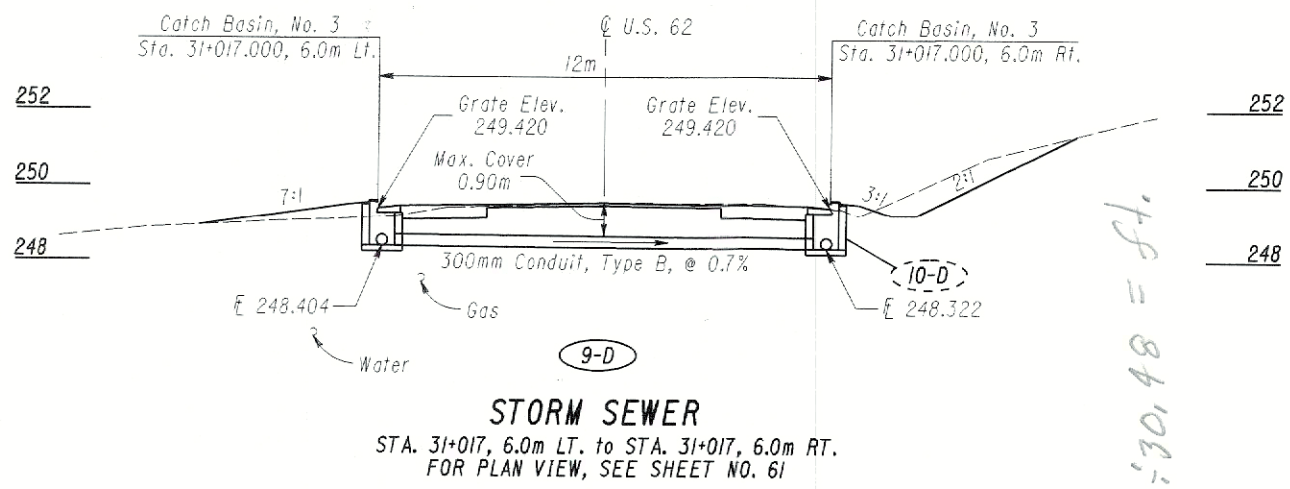
ESTIMATED QUANTITIES

(3-D)	Item 603 - 300mm Conduit, Type B	4.5 Meter
	Item 604 - Catch Basin, No. 2-2B	1 Each
	Item 604 - Catch Basin Reconstructed to Grade	1 Each
(4-D)	Item 203 - Excavation Not Including Embankment Construction	0.5 Cu. Meter
	Item 602 - Concrete Masonry	0.17 Cu. Meter
	Item 603 - 300mm Conduit, Type B	16.5 Meter
	Item 604 - Catch Basin, No. 3A	1 Each
(5-D)	Item 603 - 300mm Conduit, Type B	18.5 Meter
	Item 604 - Catch Basin, No. 3A	1 Each
(6-D)	Item 603 - 300mm Conduit, Type C	5.0 Meter
	Item 603 - 600mm Conduit, Type B, 706.02	5.0 Meter
	Item 604 - Manhole, No. 3	1 Each

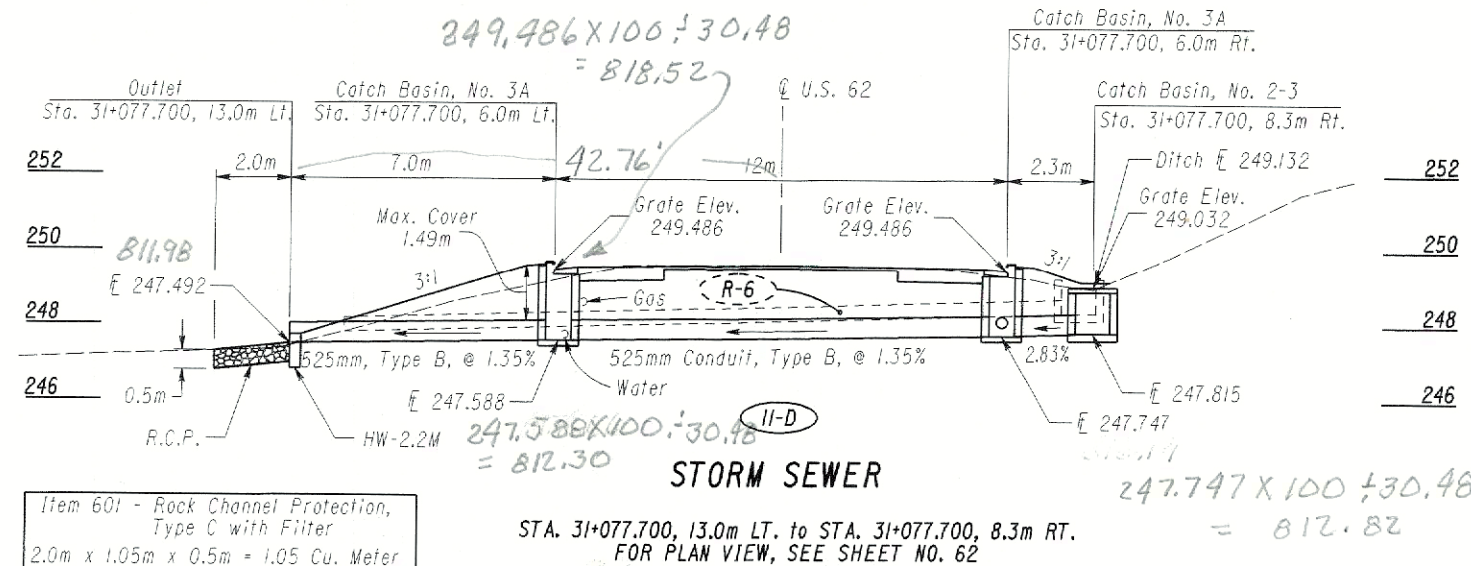
Quantities Carried To Sheet No. 50



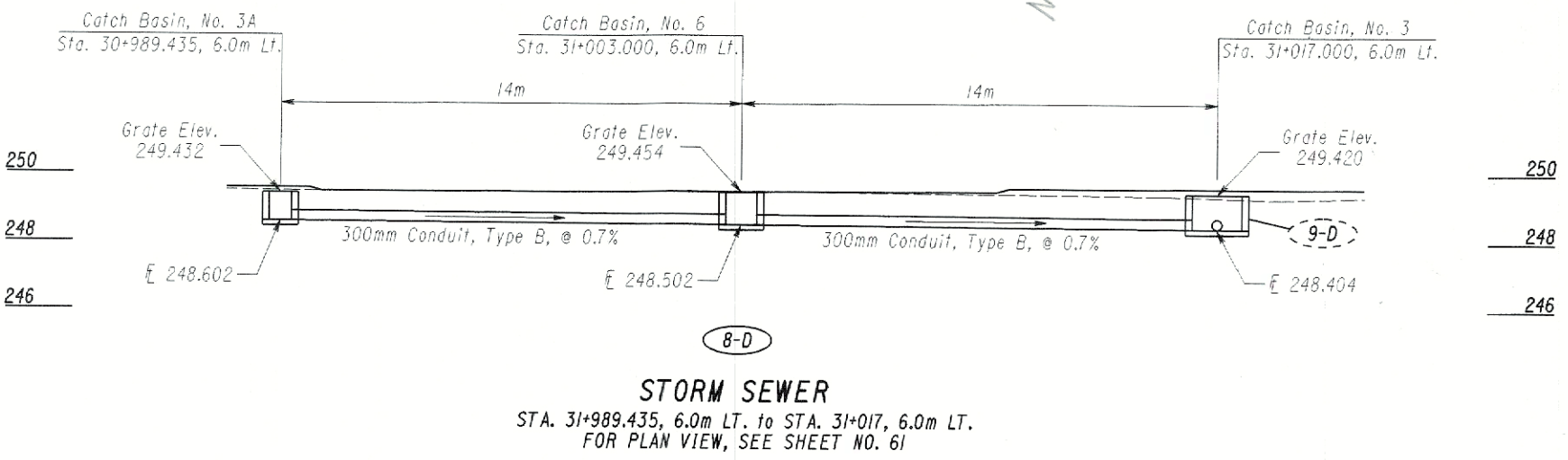
STORM SEWER
STA. 31+017, 6.0m RT. to STA. 31+077.700, 6.0m RT.
FOR PLAN VIEW, SEE SHEET NO. 61-62



STORM SEWER
STA. 31+017, 6.0m LT. to STA. 31+017, 6.0m RT.
FOR PLAN VIEW, SEE SHEET NO. 61



STORM SEWER
STA. 31+077.700, 13.0m LT. to STA. 31+077.700, 8.3m RT.
FOR PLAN VIEW, SEE SHEET NO. 62



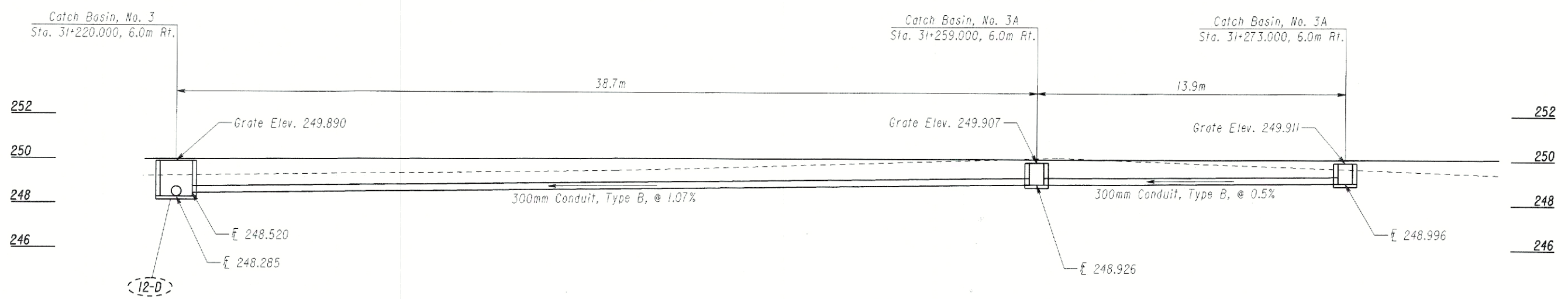
STORM SEWER
STA. 31+989.435, 6.0m LT. to STA. 31+017, 6.0m LT.
FOR PLAN VIEW, SEE SHEET NO. 61

For Pavement Replacement Quantities,
See Drainage Detail Sheet No. 121.

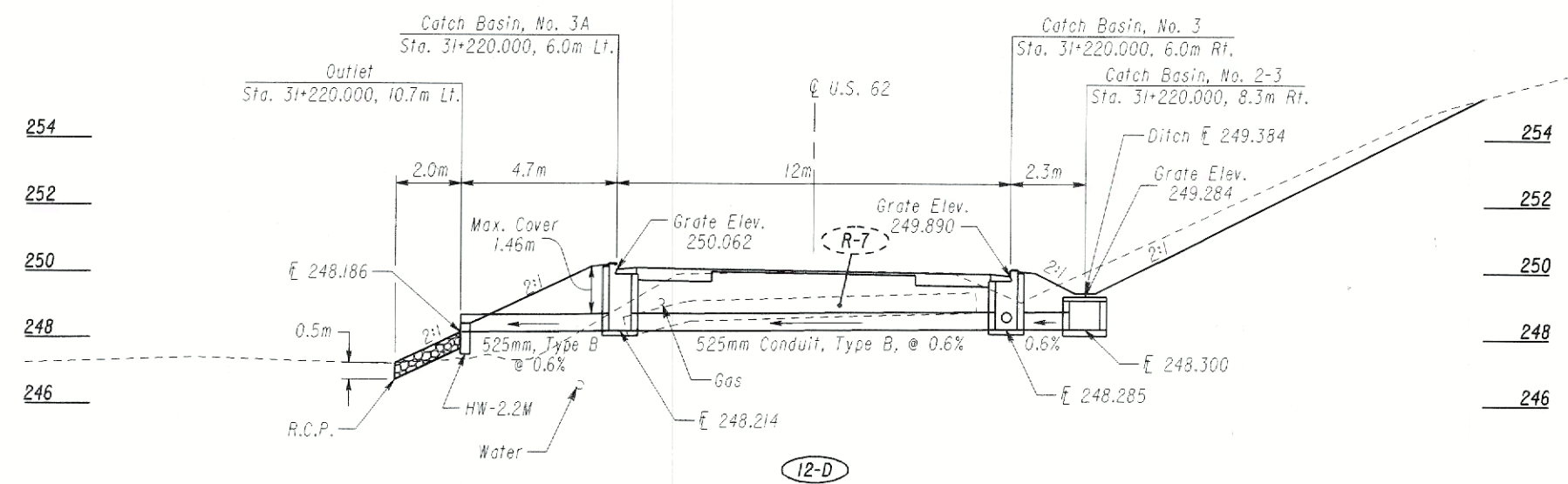
ESTIMATED QUANTITIES

8-D	Item 603 - 300mm Conduit, Type B	28 Meter
	Item 604 - Catch Basin, No. 3	1 Each
	Item 604 - Catch Basin, No. 3A	1 Each
	Item 604 - Catch Basin, No. 6	1 Each
9-D	Item 603 - 300mm Conduit, Type B	12 Meter
	Item 604 - Catch Basin, No. 3	1 Each
10-D	Item 603 - 300mm Conduit, Type B	61.0 Meter
	Item 604 - Catch Basin, No. 3	1 Each
11-D	Item 601 - Rock Channel Protection, Type C with Filter	1.05 Cu. Meter
	Item 602 - Concrete Masonry	0.32 Cu. Meter
	Item 603 - 525mm Conduit, Type B	21.5 Meter
	Item 604 - Catch Basin, No. 2-3	1 Each
	Item 604 - Catch Basin, No. 3A	2 Each

Quantities Carried To Sheet No. 50



(13-D)
STORM SEWER
STA. 31+220, 6.0m RT. to STA. 31+273, 6.0m RT.
FOR PLAN VIEW, SEE SHEET NO. 63



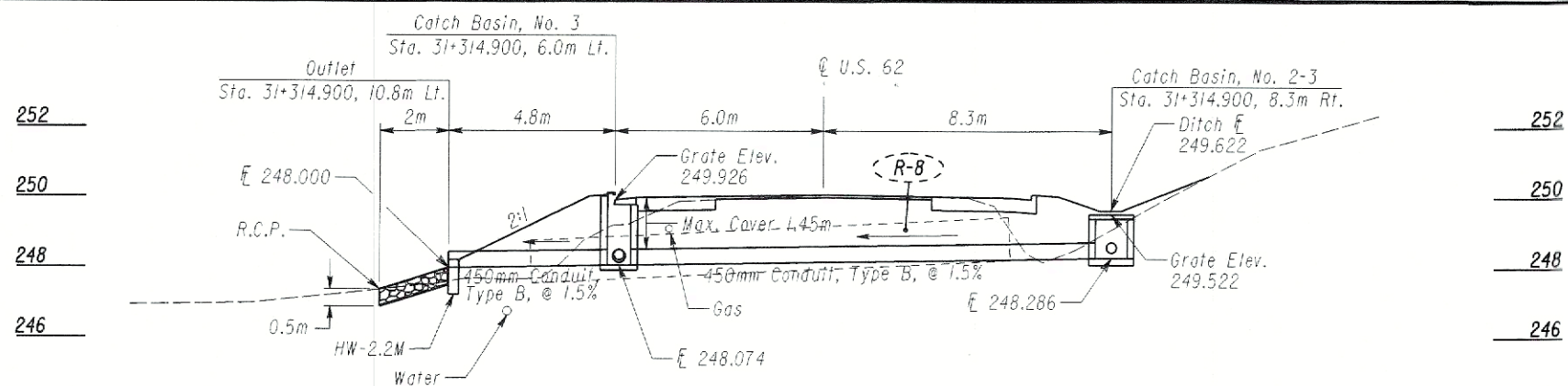
(12-D)
STORM SEWER
STA. 31+220, 6.0m RT. to STA. 31+220, 6.0m RT.
FOR PLAN VIEW, SEE SHEET NO. 63

ESTIMATED QUANTITIES

(12-D)	Item 601 - Rock Channel Protection, Type C with Filter	1.05 Cu. Meter
	Item 602 - Concrete Masonry	0.32 Cu. Meter
	Item 603 - 525mm Conduit, Type B	19 Meter
	Item 604 - Catch Basin, No. 2-3	1 Each
	Item 604 - Catch Basin, No. 3A	1 Each
	Item 604 - Catch Basin, No. 3	1 Each
(13-D)	Item 603 - 300mm Conduit, Type B	53.0 Meter
	Item 604 - Catch Basin, No. 3A	2 Each

Item 601 - Rock Channel Protection, Type C with Filter
2.0m x 1.05m x 0.5m = 1.05 Cu. Meter

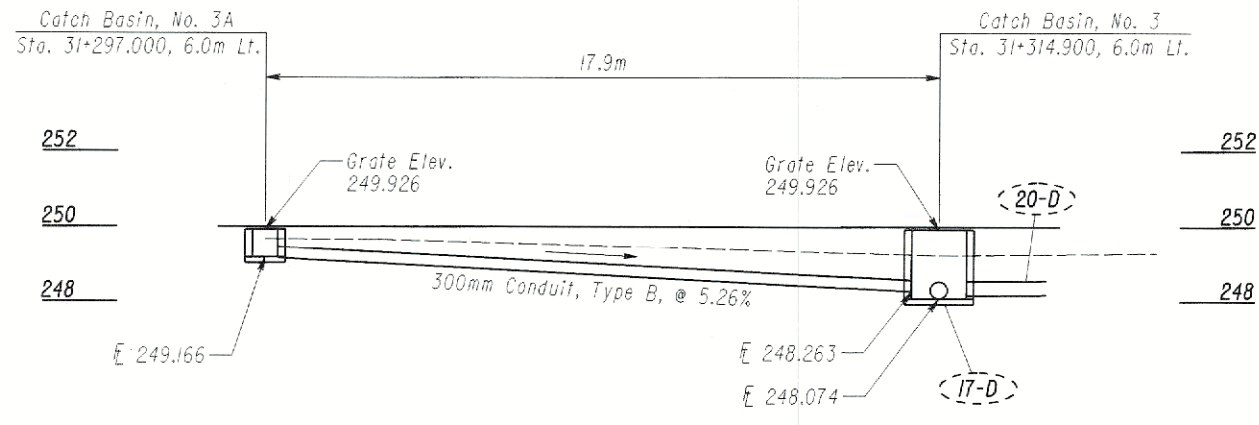
Quantities Carried To Sheet No. 50
For Pavement Replacement Quantities, See Drainage Detail Sheet No. 121



Item 601 - Rock Channel Protection,
Type C with Filter
2.0m x 0.9m x 0.5m = 0.9 Cubic Meter

STORM SEWER

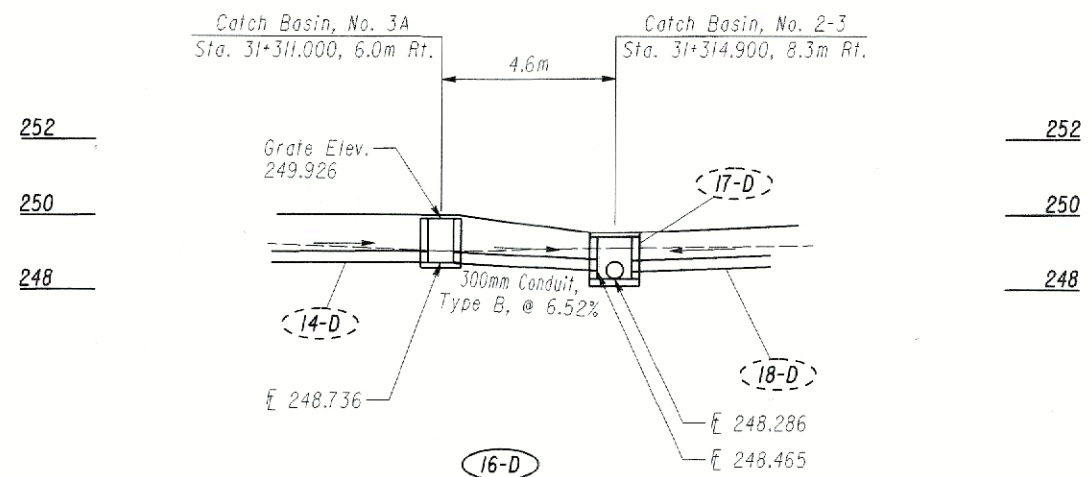
STA. 31+314.900, 10.8m LT. to STA. 31+314.900, 8.3m RT.
FOR PLAN VIEW, SEE SHEET NO. 64



15-D

STORM SEWER

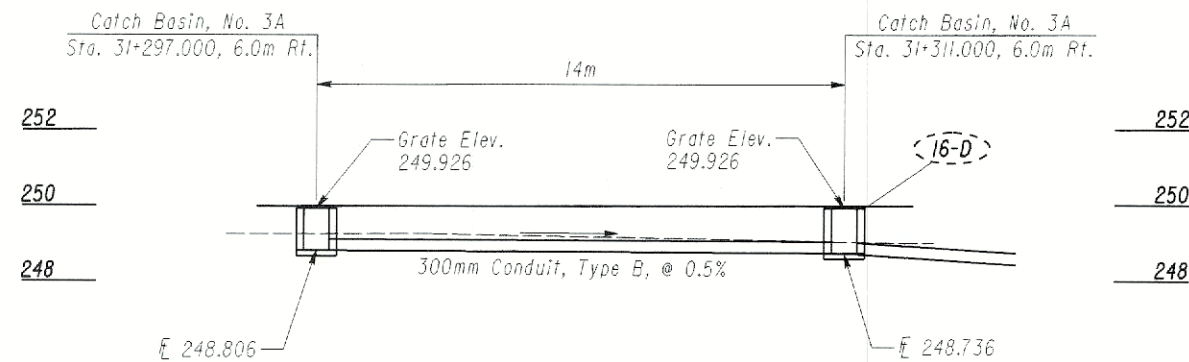
STA. 31+297, 6.0m LT. to STA. 31+314.900, 6.0m LT.
FOR PLAN VIEW, SEE SHEET NO. 63-64



16-D

STORM SEWER

STA. 31+311, 6.0m RT. to STA. 31+314.900, 8.3m RT.
FOR PLAN VIEW, SEE SHEET NO. 64



14-D

STORM SEWER

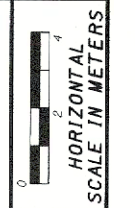
STA. 31+297, 6.0m RT. to STA. 31+311, 6.0m RT.
FOR PLAN VIEW, SEE SHEET NO. 63-64

For Pavement Replacement Quantities,
See Drainage Detail Sheet No. 121

ESTIMATED QUANTITIES

14-D	Item 603 - 300mm Conduit, Type B	14.0 Meter
	Item 604 - Catch Basin, No. 3A	1 Each
15-D	Item 603 - 300mm Conduit, Type B	18.0 Meter
	Item 604 - Catch Basin, No. 3A	1 Each
16-D	Item 603 - 300mm Conduit, Type B	5.0 Meter
	Item 604 - Catch Basin, No. 3A	1 Each
17-D	Item 601 - Rock Channel Protection, Type C with Filter	0.90 Cu. Meter
	Item 602 - Concrete Masonry	0.27 Cu. Meter
	Item 603 - 450mm Conduit, Type B	19.5 Meter
	Item 604 - Catch Basin, No. 3	1 Each
	Item 604 - Catch Basin, No. 2-3	1 Each

Quantities Carried To Sheet No. 50

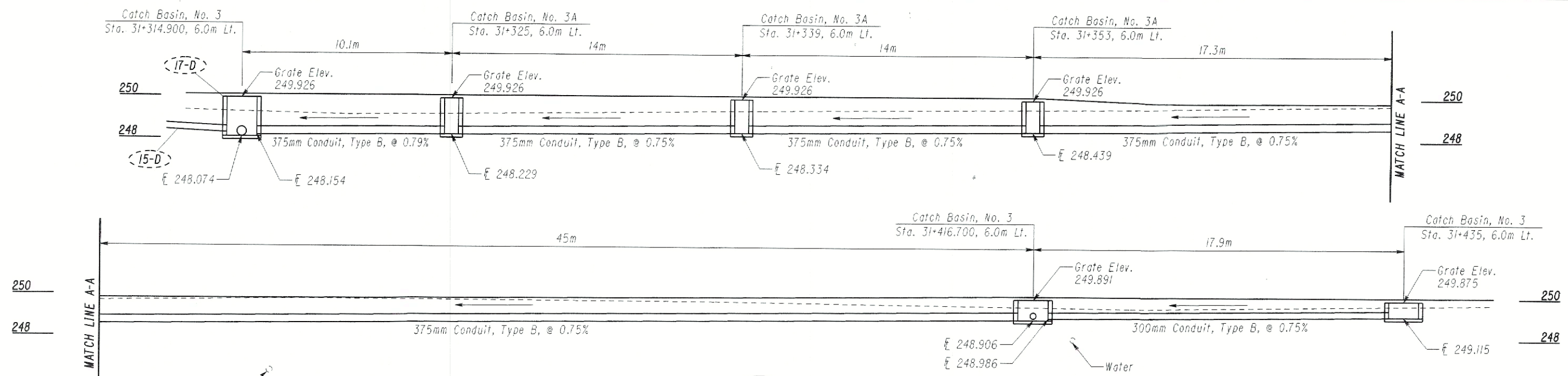


CALCULATED
JPB
CHECKED
RDA

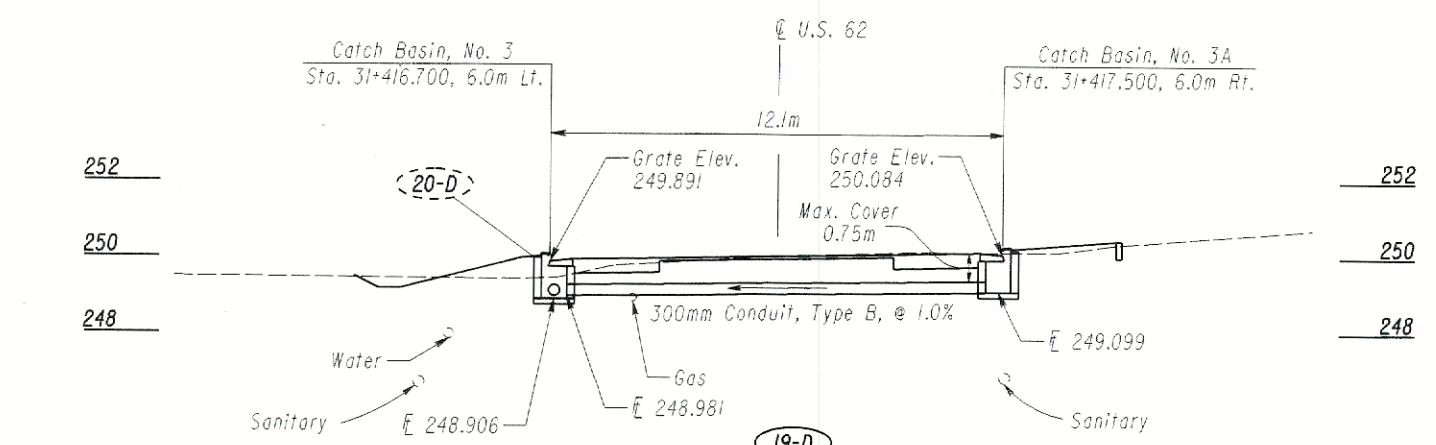
**DRAINAGE DETAILS
STORM SEWER PROFILES**

HOL-62-30.649

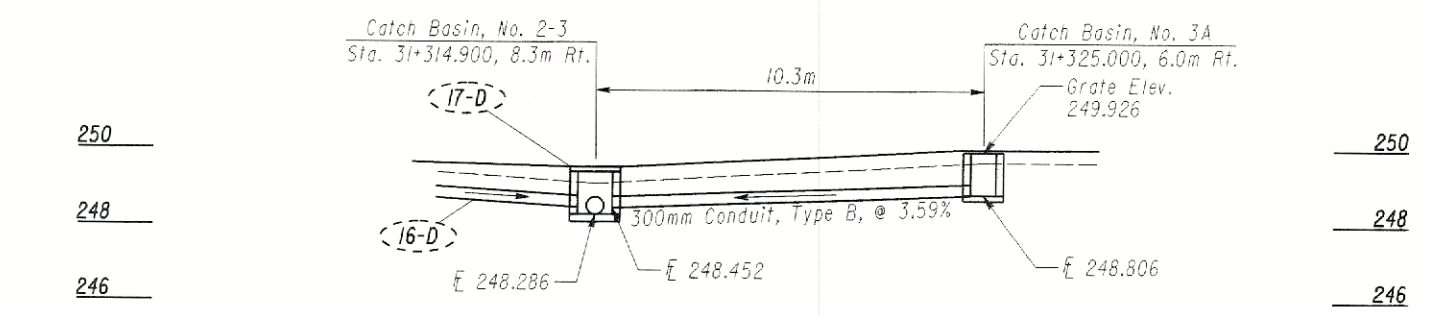
110
180



20-D
STORM SEWER
 STA. 31+314.900, 6.0m LT. to STA. 31+435.000, 6.0m LT.
 FOR PLAN VIEW, SEE SHEET NO. 64



19-D
STORM SEWER
 STA. 31+416.700, 6.0m LT. to STA. 31+417.500, 6.0m RT.
 FOR PLAN VIEW, SEE SHEET NO. 64



18-D
STORM SEWER
 STA. 31+314.900, 8.3m RT. to STA. 31+325.000, 6.0m RT.
 FOR PLAN VIEW, SEE SHEET NO. 64

ESTIMATED QUANTITIES

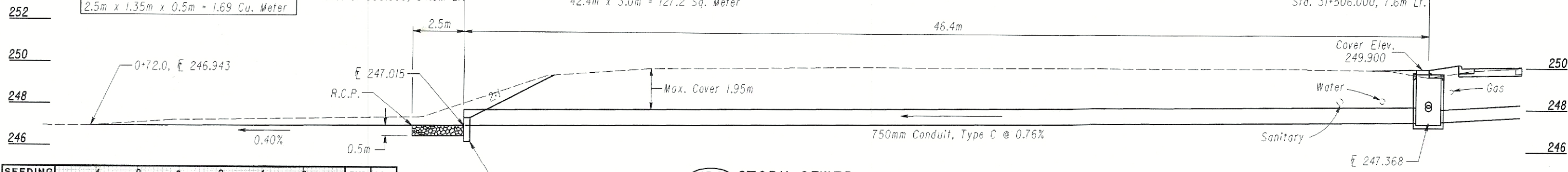
18-D	Item 603 - 300mm Conduit, Type B	10.5 Meter
	Item 604 - Catch Basin, No. 3A	1 Each
19-D	Item 603 - 300mm Conduit, Type B	12.0 Meter
	Item 604 - Catch Basin, No. 3A	1 Each
20-D	Item 603 - 300mm Conduit, Type B	18.0 Meter
	Item 603 - 375mm Conduit, Type B	100.5 Meter
	Item 604 - Catch Basin, No. 3	2 Each
	Item 604 - Catch Basin, No. 3A	3 Each

Quantities Carried To Sheet No. 50

For Pavement Replacement Quantities,
 See Drainage Detail Sheet No. 121

Item 601 - Rock Channel Protection, Type C with Filter
2.5m x 1.35m x 0.5m = 1.69 Cu. Meter

ADDITIONAL SEEDING & MULCHING FOR (23-D):
Sta. 31+506, 50m Lt. to Sta. 31+506, 7.6m Lt. = 42.4m
42.4m x 3.0m = 127.2 Sq. Meter



SEEDING END SO. WIDTH METER	SO. WIDTH METER	Culvert			END VOL. CUT
		AREA	CUT	CUT	
	0			0	0
	7.0			0.8	0.8
	3.5			0.4	0.4
	52.5			7.0	7.0
	4.0			0.6	0.6
	8.0			1.2	1.2
	0			0	0
TOTALS (Carried to this sheet)					9.0

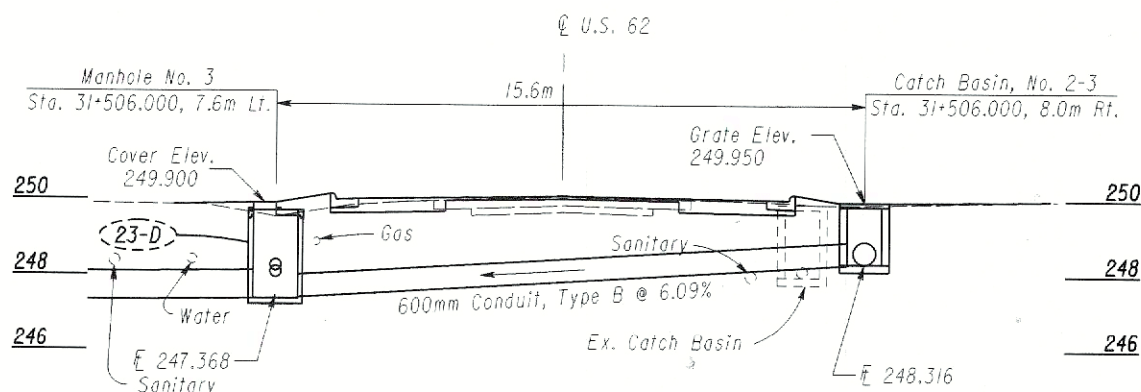
Item 659 - Commercial Fertilizer : 194.7 Sq. Meter x 0.1 kg/Sq. Meter = 19.47 KILOGRAM USE 20 KILOGRAM
 Item 659 - Agricultural Liming : 194.7 Sq. Meter x (256 kg ÷ 1000 Sq. Meter) x 220% = 109.56 KILOGRAM USE 110 KILOGRAM
 Item 659 - Water : 194.7 Sq. Meter x 19.8 Cu. Meter ÷ 1000 Sq. Meter = 1.91 CU. METER USE 2 CU. METER

(23-D) STORM SEWER
STA. 31+506.000, 54.0m LT. to STA. 31+506.000, 7.6m LT.
FOR PLAN VIEW, SEE SHEET NO. 65

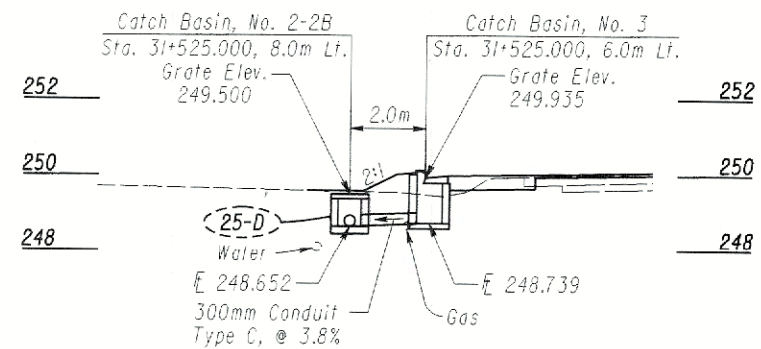
ESTIMATED QUANTITIES

- (21-D) Item 603 - 300mm Conduit, Type B ----- 62.0 Meter
- Item 604 - Catch Basin, No. 6 ----- 3 Each
- NOTE: Pavement replacement quantities carried with driveways DR-16, DR-17, and DR-19.
- (22-D) Item 603 - 600mm Conduit, Type B ----- 16.0 Meter
- Item 604 - Catch Basin, No. 2-3 ----- 1 Each
- (23-D) Item 203 - Excavation Not Including Embankment Construction ----- 9.0 Cu. Meter
- Item 601 - Rock Channel Protection, Type C with Filter ----- 1.69 Cu. Meter
- Item 602 - Concrete Masonry ----- 0.52 Cu. Meter
- Item 603 - 750mm Conduit, Type C ----- 46.5 Meter
- Item 604 - Manhole, No. 3 ----- 1 Each
- Item 659 - Seeding and Mulching ----- 194.7 Sq. Meter
- Item 659 - Commercial Fertilizer ----- 20 Kilogram
- Item 659 - Agricultural Liming ----- 110 Kilogram
- Item 659 - Water ----- 2 Cu. Meter
- (24-D) Item 603 - 300mm Conduit, Type C ----- 2.0 Meter
- Item 604 - Catch Basin, No. 3 ----- 1 Each

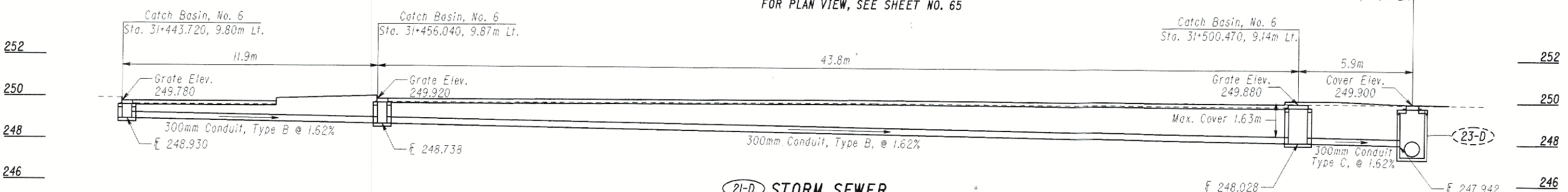
Quantities Carried to Sheet No. 50



(22-D) STORM SEWER
STA. 31+506.000, 7.6m LT. to STA. 31+506.000, 8.0m RT.
FOR PLAN VIEW, SEE SHEET NO. 65

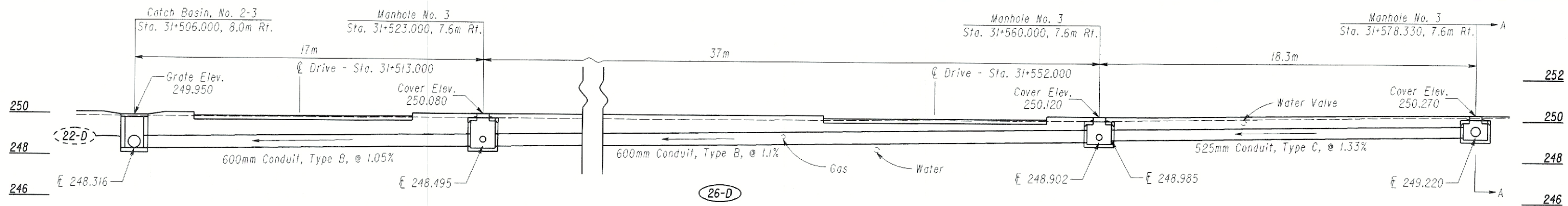


(24-D) STORM SEWER
STA. 31+525.000, 6.0m LT. to STA. 31+525.000, 8.0m LT.
FOR PLAN VIEW, SEE SHEET NO. 65



(21-D) STORM SEWER
STA. 31+443.720, 9.80m LT. to STA. 31+506.000, 7.6m LT.
FOR PLAN VIEW, SEE SHEET NO. 65

For Pavement Replacement Quantities, See Drainage Detail Sheet No. 121



STORM SEWER
 STA. 31+506.000, 8.0m RT. to STA. 31+578.330, 7.6m RT.
 FOR PLAN VIEW, SEE SHEET NO. 65

ESTIMATED QUANTITIES

- (25-D) Item 603 - 300mm Conduit, Type C ----- 19.0 Meter
- Item 604 - Catch Basin, No. 2-2B ----- 1 Each

- (26-D) Item 603 - 450mm Conduit, Type C ----- 2.0 Meter
- Item 603 - 525mm Conduit, Type C ----- 18.5 Meter
- Item 603 - 600mm Conduit, Type B ----- 54 Meter
- Item 604 - Manhole, No. 3 ----- 3 Each

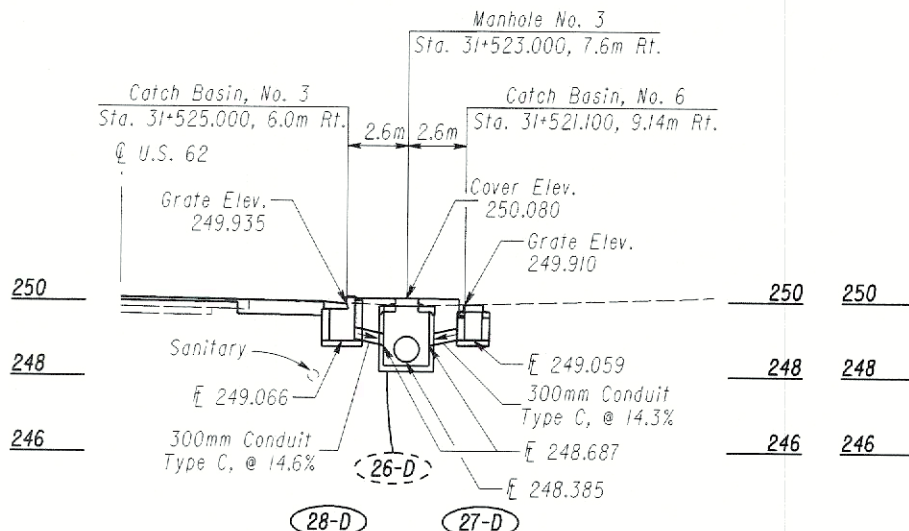
- (27-D) Item 603 - 300mm Conduit, Type C ----- 3.0 Meter
- Item 604 - Catch Basin, No. 6 ----- 1 Each

- (28-D) Item 603 - 300mm Conduit, Type C ----- 3.0 Meter
- Item 604 - Catch Basin, No. 3 ----- 1 Each

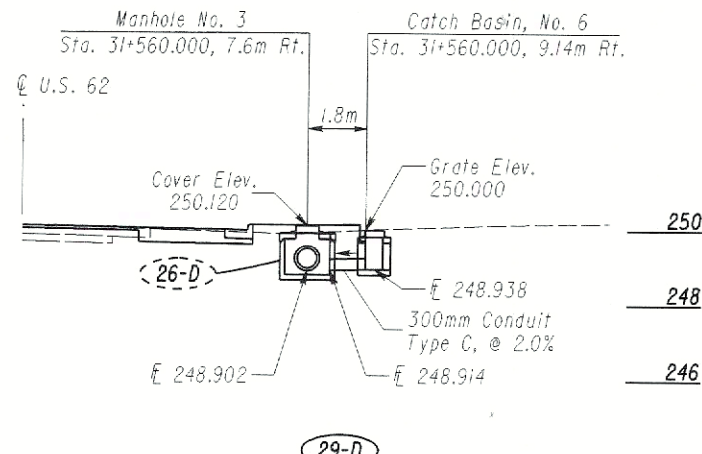
- (29-D) Item 603 - 300mm Conduit, Type C ----- 2.0 Meter
- Item 604 - Catch Basin, No. 6 ----- 1 Each

- (29A-D) Item 603 - 300mm Conduit, Type B ----- 14.0 Meter
- Item 604 - Catch Basin, No. 6 ----- 1 Each

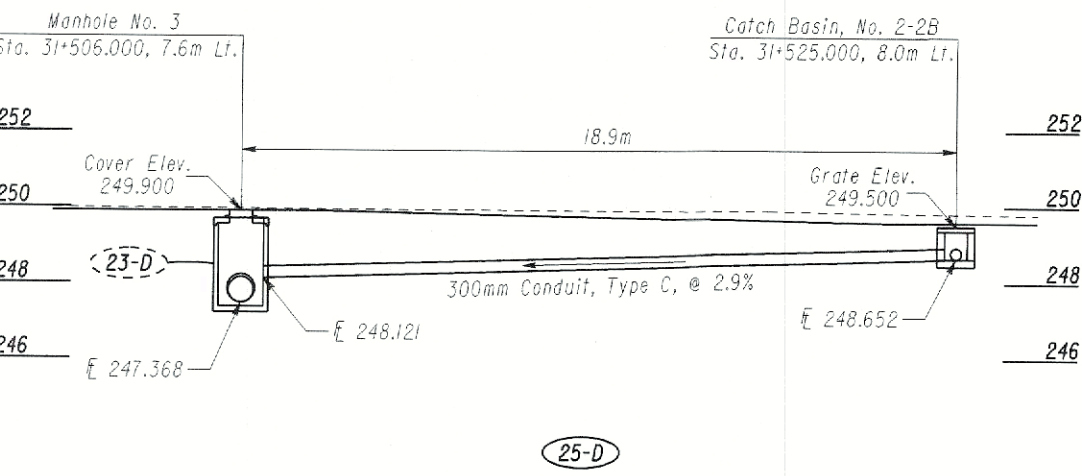
Quantities Carried to Sheet No. 50



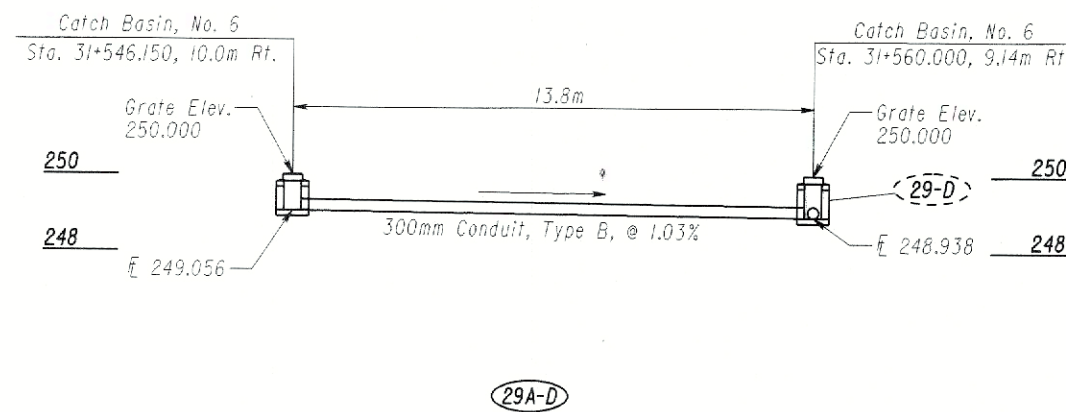
STORM SEWER
 STA. 31+525.000, 6.0m RT. to STA. 31+521.100, 9.14m RT.
 FOR PLAN VIEW, SEE SHEET NO. 65



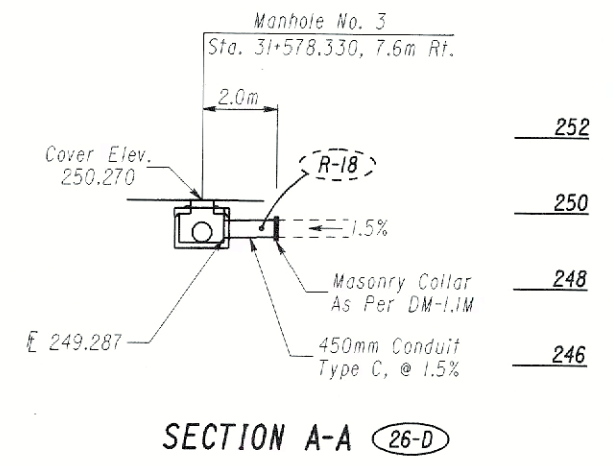
STORM SEWER
 STA. 31+560.000, 7.6m RT. to STA. 31+560.000, 9.14m RT.
 FOR PLAN VIEW, SEE SHEET NO. 65



STORM SEWER
 STA. 31+506.000, 7.6m LT. to STA. 31+525.000, 8.0m LT.
 FOR PLAN VIEW, SEE SHEET NO. 65



STORM SEWER
 STA. 31+546.150, 10.0 m RT. to STA. 31+560.000, 9.14m RT.
 FOR PLAN VIEW, SEE SHEET NO. 65

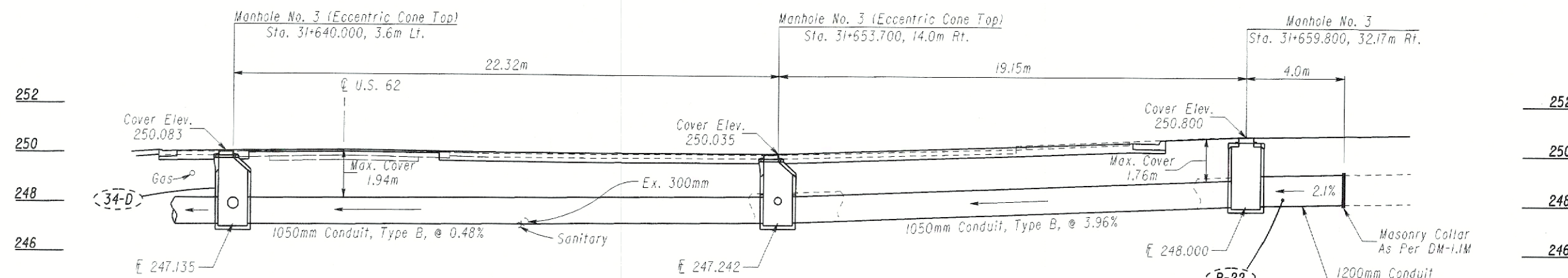


SECTION A-A

CALCULATED JPB CHECKED RDA
 HORIZONTAL SCALE IN METERS
DRAINAGE DETAILS
STORM SEWER PROFILES
HOL-62-30.649
 113
 180

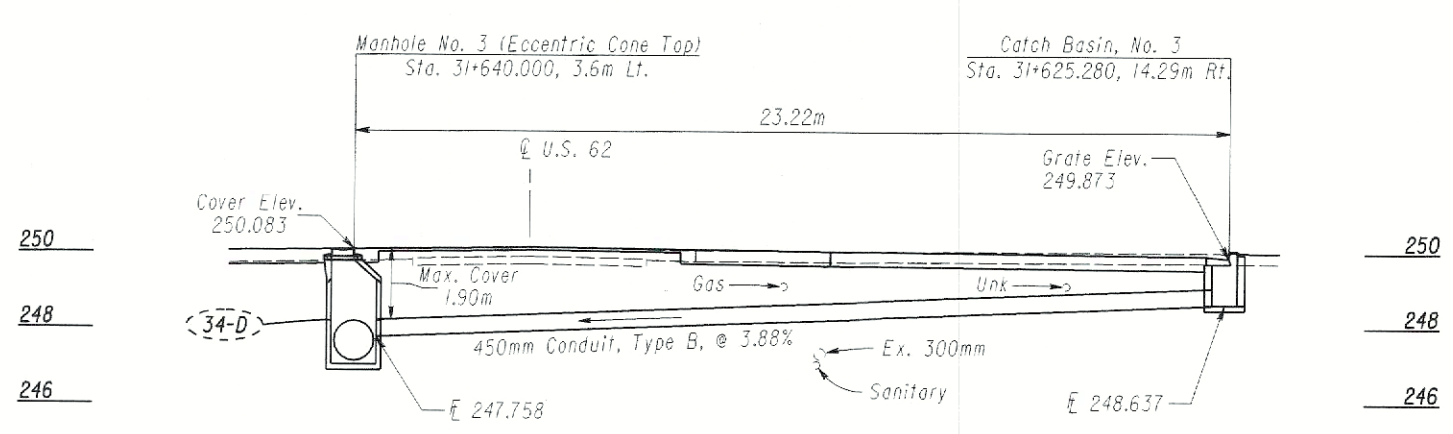
For Pavement Replacement Quantities,
See Drainage Detail Sheet No. 12!

CALCULATED
CHECKED
SCALE IN METERS



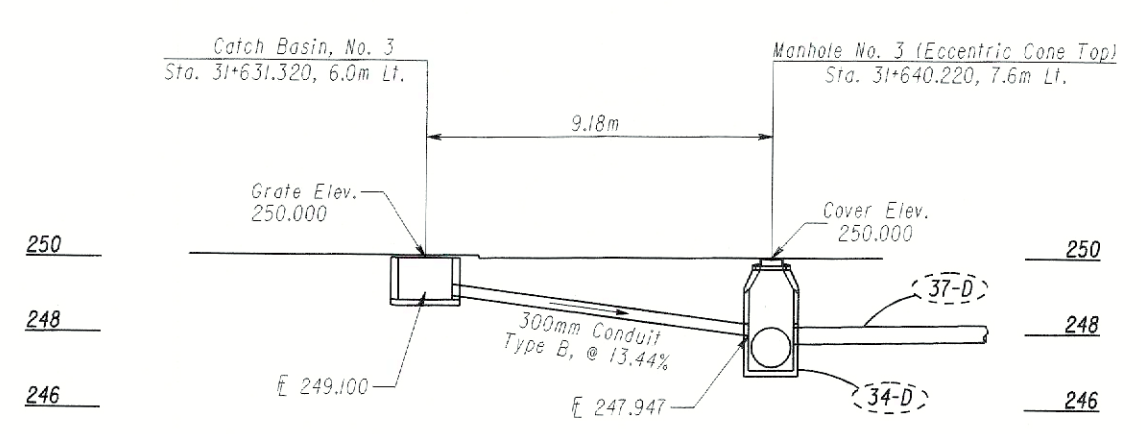
33-D

STORM SEWER
STA. 31+640.000, 3.6m LT. to STA. 31+659.800, 32.17m RT.
FOR PLAN VIEW, SEE SHEET NO. 66



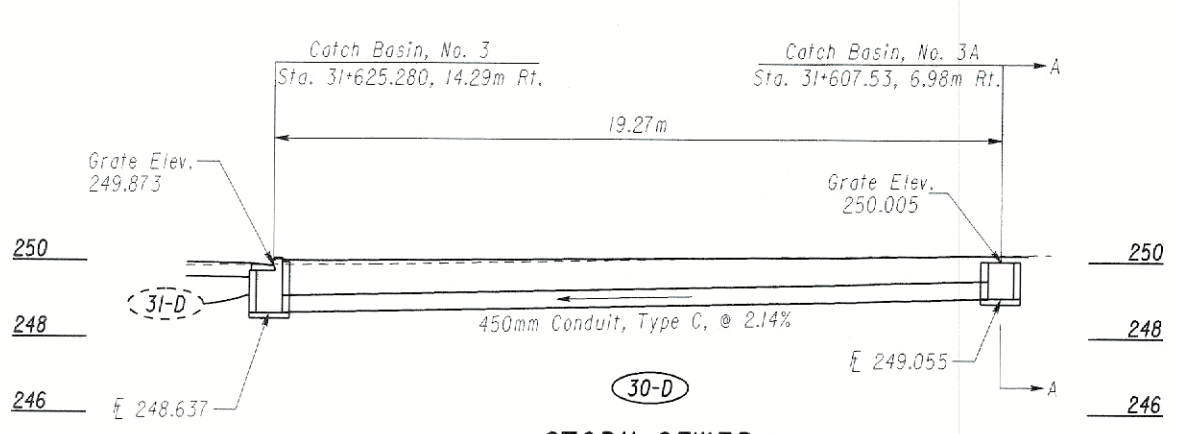
31-D

STORM SEWER
STA. 31+640.000, 3.6m LT. to STA. 31+625.280, 14.29m RT.
FOR PLAN VIEW, SEE SHEET NO. 66



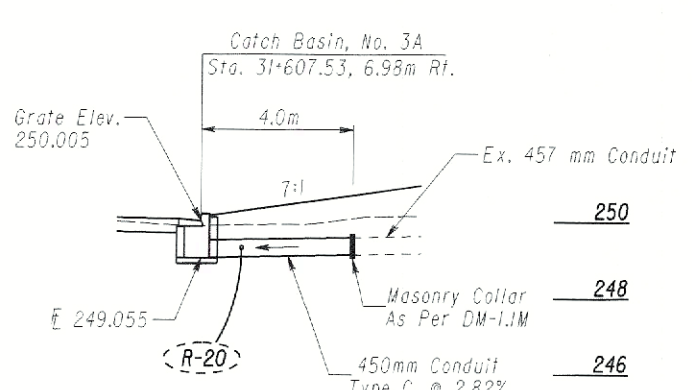
32-D

STORM SEWER
STA. 31+631.320, 6.0m LT. to STA. 31+640.220, 7.6m LT.
FOR PLAN VIEW, SEE SHEET NO. 66



30-D

STORM SEWER
STA. 31+625.280, 14.29m RT. to STA. 31+607.530, 6.98m RT.
FOR PLAN VIEW, SEE SHEET NO. 66



SECTION A-A 30-D

ESTIMATED QUANTITIES

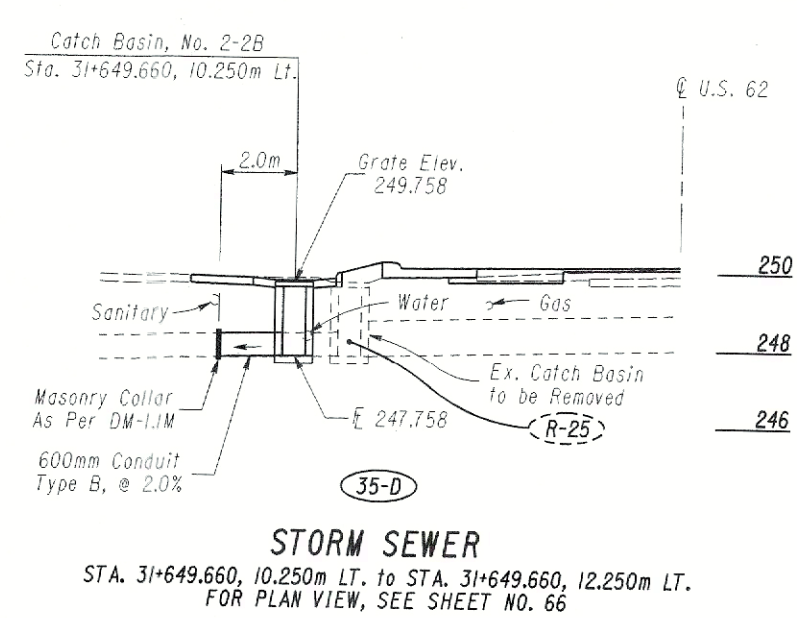
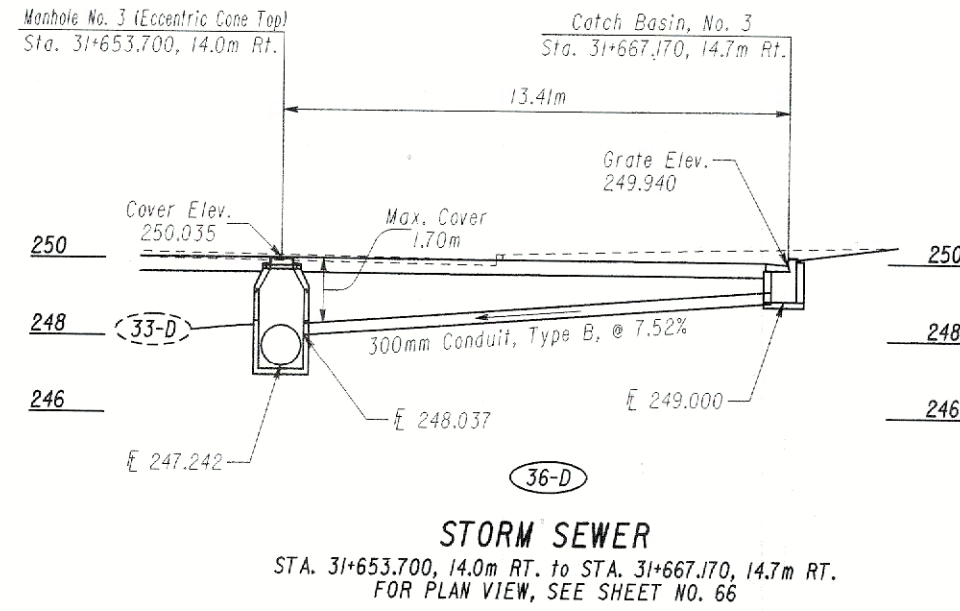
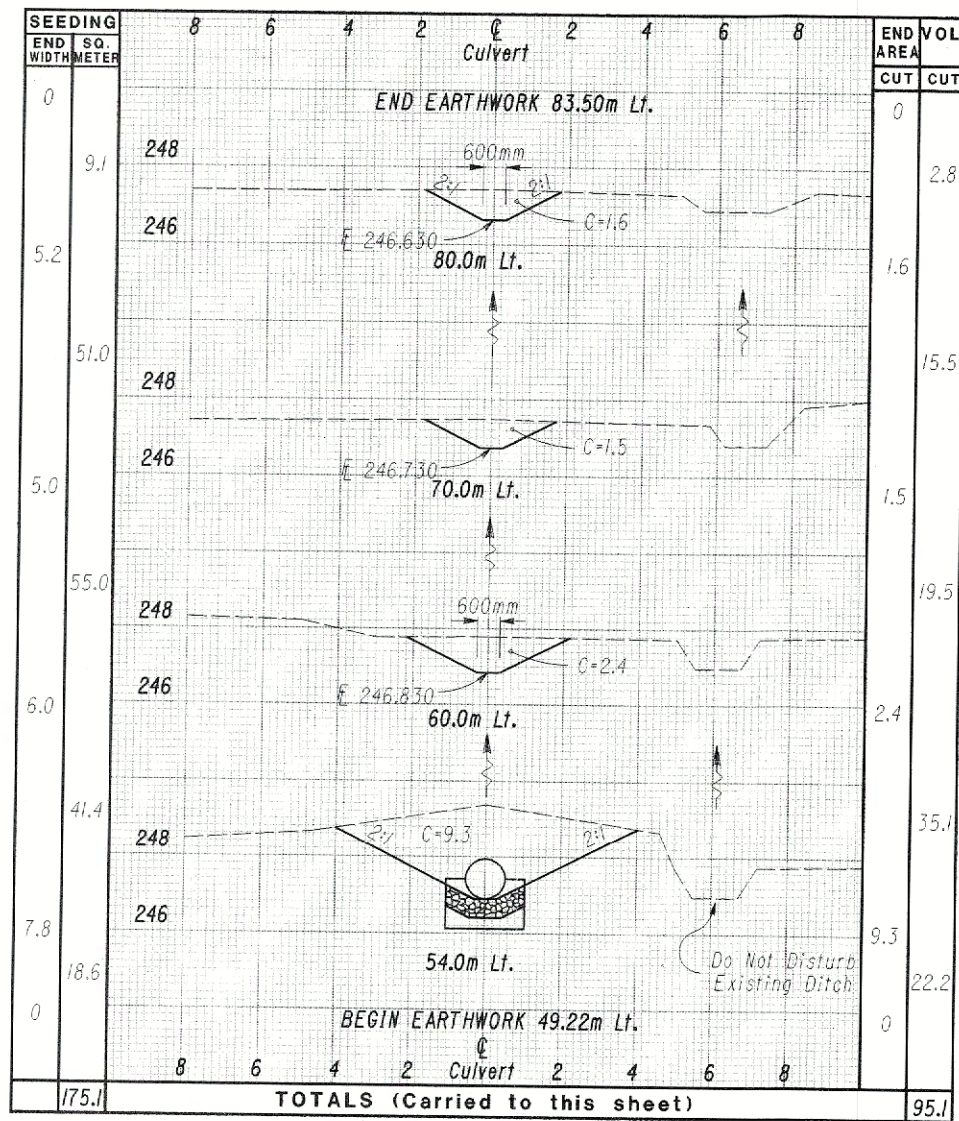
30-D	Item 603 - 450mm Conduit, Type C	23.5 Meter
	Item 604 - Catch Basin, No. 3A	1 Each
31-D	Item 603 - 450mm Conduit, Type B	23.5 Meter
	Item 604 - Catch Basin, No. 3	1 Each
32-D	Item 603 - 300mm Conduit, Type B	9.5 Meter
	Item 604 - Catch Basin, No. 3	1 Each
33-D	Item 603 - 1050mm Conduit, Type B	41.5 Meter
	Item 603 - 1200mm Conduit, Type B, 706.02	4 Meter
	Item 604 - Manhole, No. 3	2 Each

Quantities Carried to Sheet No. 50

DRAINAGE DETAILS
STORM SEWER PROFILES

HOL-62-30.649

114
180



ESTIMATED QUANTITIES

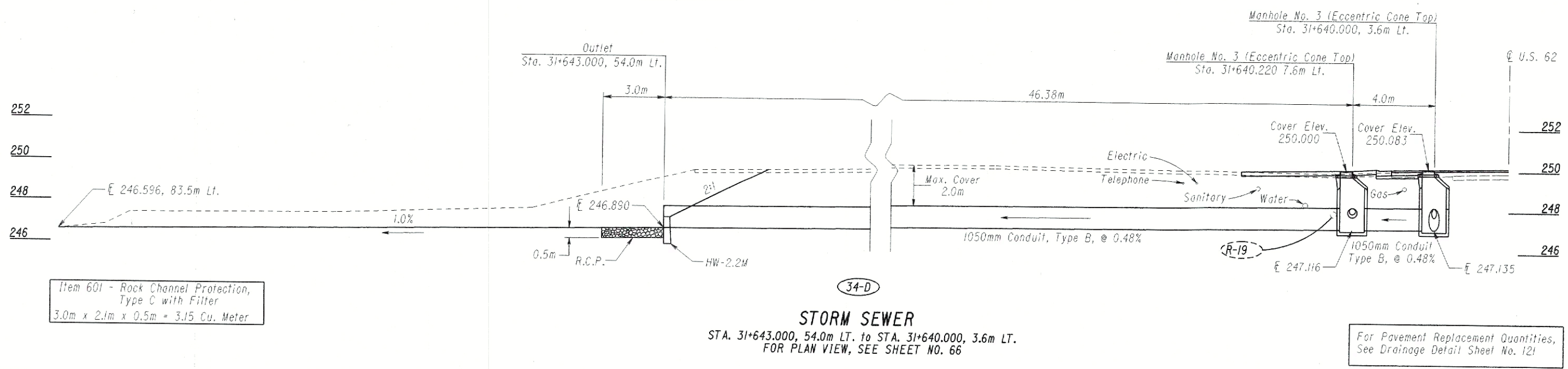
- (34-D) Item 203 - Excavation Not Including Embankment Construction ----- 95.1 Cu. Meter
- Item 601 - Rock Channel Protection, Type B with Filter ----- 3.15 Cu. Meter
- Item 602 - Concrete Masonry ----- 0.82 Cu. Meter
- Item 603 - 1050mm Conduit, Type B ----- 50.5 Meter
- Item 604 - Manhole, No. 3 ----- 2 Each
- Item 659 - Seeding and Mulching ----- 175.1 Sq. Meter
- Item 659 - Agricultural Liming ----- 99 Kilogram
- Item 659 - Commercial Fertilizer ----- 18 Kilogram
- Item 659 - Water ----- 2 Cu. Meter

- (35-D) Item 603 - 600mm Conduit, Type B ----- 2.0 Meter
- Item 604 - Catch Basin, No. 2-2B ----- 1 Each

- (36-D) Item 603 - 300mm Conduit, Type B ----- 13.5 Meter
- Item 604 - Catch Basin, No. 3 ----- 1 Each

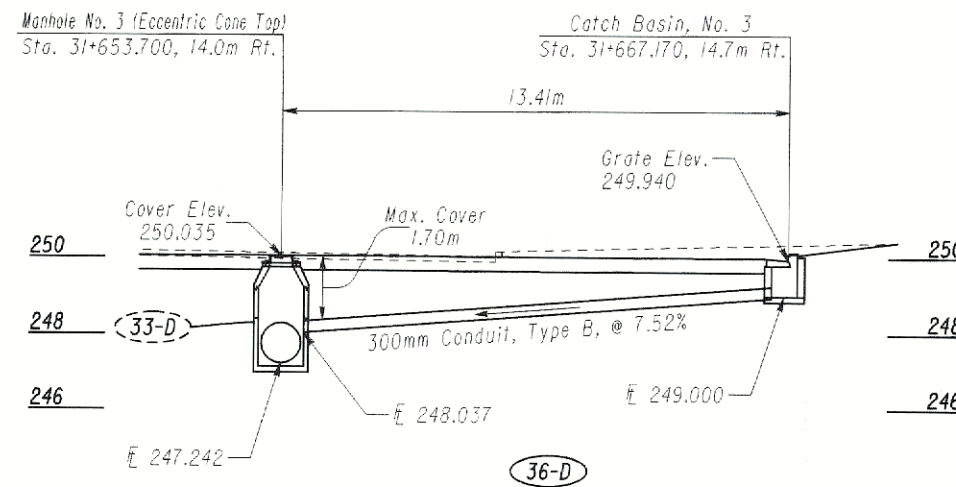
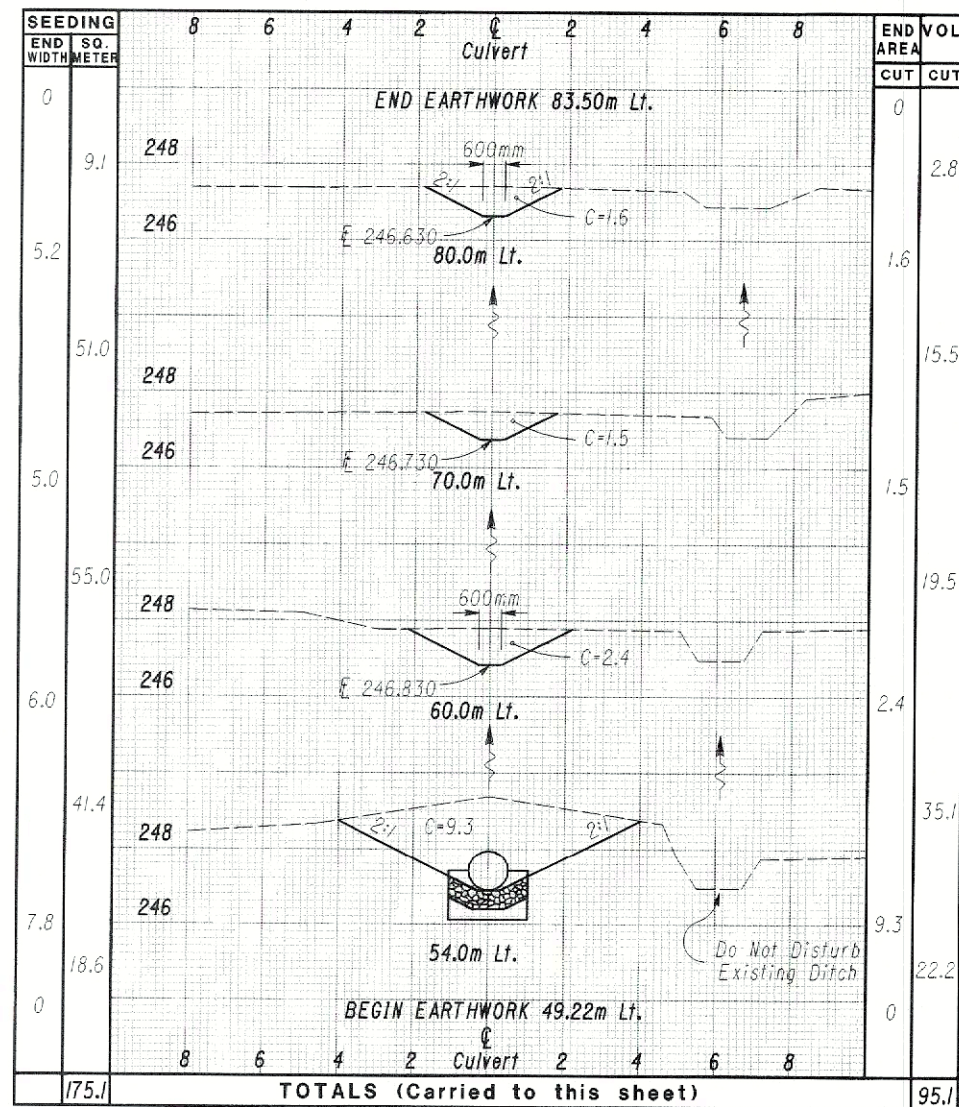
- Item 659 - Commercial Fertilizer : 175.1 Sq. Meter x 0.1 kg/Sq. Meter = 17.51 KILOGRAM USE 18 KILOGRAM
- Item 659 - Agricultural Liming : 175.1 Sq. Meter x (256 kg ÷ 1000 Sq. Meter) x 220% = 98.62 KILOGRAM USE 99 KILOGRAM
- Item 659 - Water : 175.1 Sq. Meter x (9.8 Cu. Meter ÷ 1000 Sq. Meter) = 1.72 CU. METER USE 2 CU. METER

Quantities Carried to Sheet No. 50

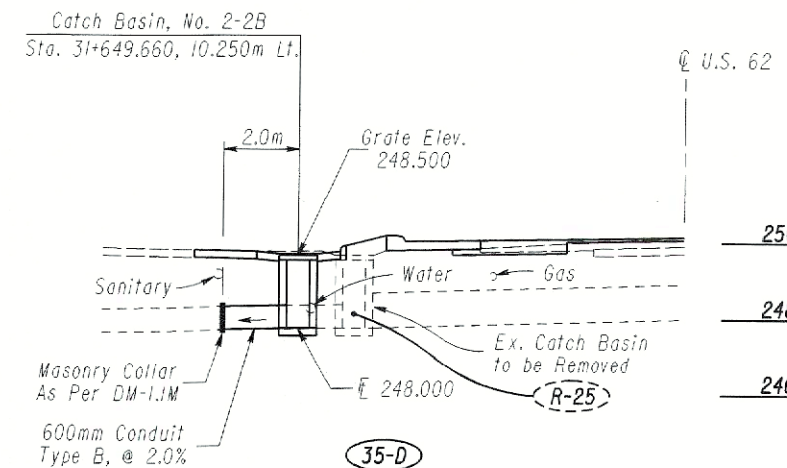


Item 601 - Rock Channel Protection, Type C with Filter
 3.0m x 2.1m x 0.5m = 3.15 Cu. Meter

For Pavement Replacement Quantities, See Drainage Detail Sheet No. 12!



STORM SEWER
STA. 31+653.700, 14.0m RT. to STA. 31+667.170, 14.7m RT.
FOR PLAN VIEW, SEE SHEET NO. 66



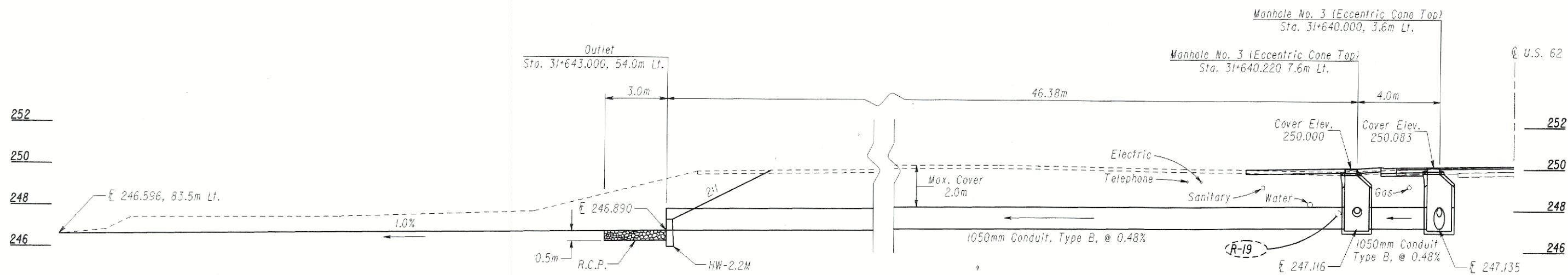
STORM SEWER
STA. 31+649.660, 10.250m LT. to STA. 31+649.660, 12.250m LT.
FOR PLAN VIEW, SEE SHEET NO. 66

ESTIMATED QUANTITIES

- 34-D Item 203 - Excavation Not Including Embankment Construction ----- 95.1 Cu. Meter
- Item 601 - Rock Channel Protection, Type B with Filter ----- 3.15 Cu. Meter
- Item 602 - Concrete Masonry ----- 0.82 Cu. Meter
- Item 603 - 1050mm Conduit, Type B ----- 50.5 Meter
- Item 604 - Manhole, No. 3 ----- 2 Each
- Item 659 - Seeding and Mulching ----- 175.1 Sq. Meter
- Item 659 - Agricultural Liming ----- 99 Kilogram
- Item 659 - Commercial Fertilizer ----- 18 Kilogram
- Item 659 - Water ----- 2 Cu. Meter
- 35-D Item 603 - 600mm Conduit, Type B ----- 2.0 Meter
- Item 604 - Catch Basin, No. 2-2B ----- 1 Each
- 36-D Item 603 - 300mm Conduit, Type B ----- 13.5 Meter
- Item 604 - Catch Basin, No. 3 ----- 1 Each

Quantities Carried to Sheet No. 50

- Item 659 - Commercial Fertilizer : 175.1 Sq. Meter x 0.1 kg/Sq. Meter = 17.51 KILOGRAM USE 18 KILOGRAM
- Item 659 - Agricultural Liming : 175.1 Sq. Meter x (256 kg ÷ 1000 Sq. Meter) x 220% = 98.62 KILOGRAM USE 99 KILOGRAM
- Item 659 - Water : 175.1 Sq. Meter x 19.8 Cu. Meter ÷ 1000 Sq. Meter) = 1.72 CU. METER USE 2 CU. METER



STORM SEWER
STA. 31+643.000, 54.0m LT. to STA. 31+640.000, 3.6m LT.
FOR PLAN VIEW, SEE SHEET NO. 66

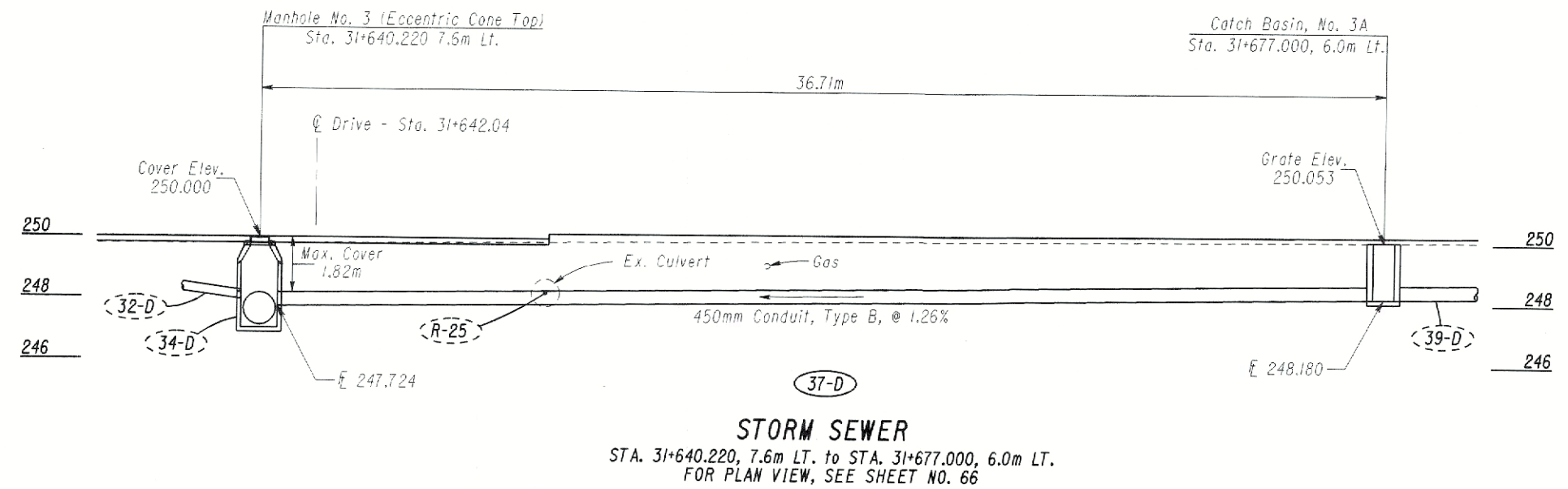
For Pavement Replacement Quantities,
See Drainage Detail Sheet No. 121

DRAINAGE DETAILS
STORM SEWER PROFILES

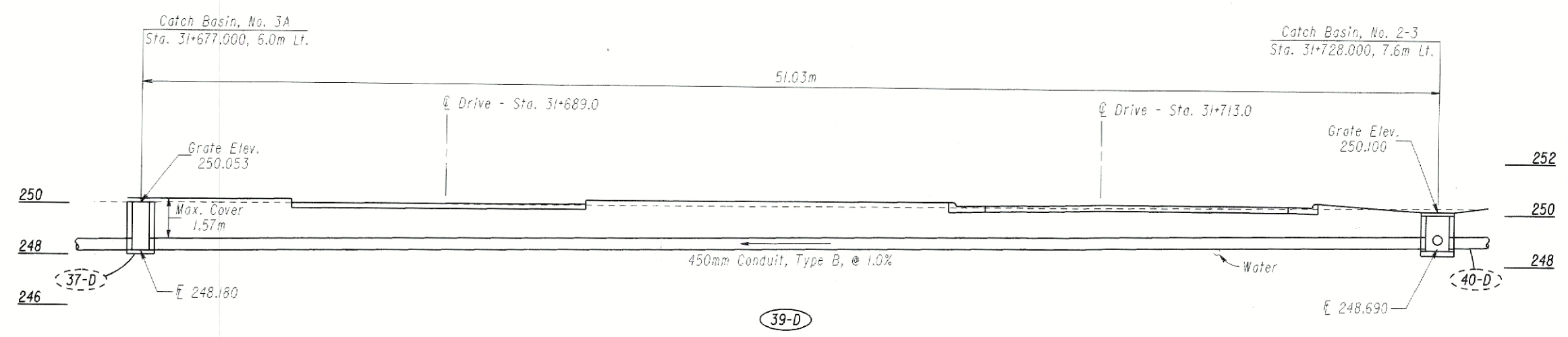
HOL - 62 - 30.649

115
180

CALCULATED
CHECKED
SCALE IN METERS



STORM SEWER
 STA. 31+640.220, 7.6m LT. to STA. 31+677.000, 6.0m LT.
 FOR PLAN VIEW, SEE SHEET NO. 66



STORM SEWER
 STA. 31+677.000, 6.0m LT. to STA. 31+728.000, 7.6m LT.
 FOR PLAN VIEW, SEE SHEET NO. 66

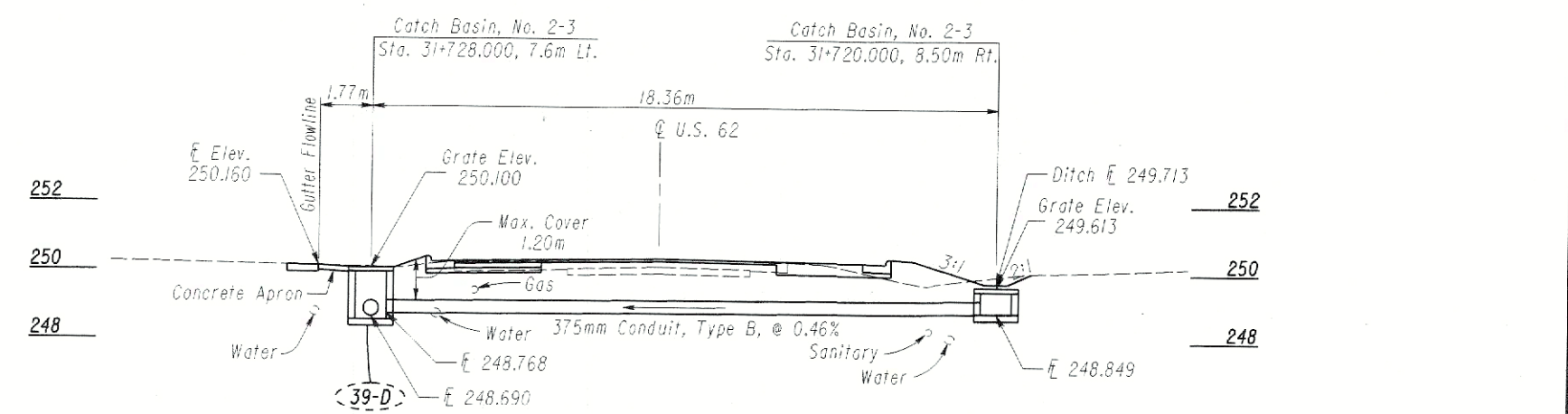
ESTIMATED QUANTITIES

- (37-D) Item 603 - 450mm Conduit, Type B ----- 37.0 Meter
- Item 604 - Catch Basin, No. 3A ----- 1 Each

- (38-D) Item 602 - Concrete Masonry ----- 0.17 Cu. Meter
- Item 603 - 375mm Conduit, Type B ----- 18.5 Meter
- Item 604 - Catch Basin, No. 2-3 ----- 1 Each

- (39-D) Item 603 - 450mm Conduit, Type B ----- 51.0 Meter
- Item 604 - Catch Basin, No. 2-3 ----- 1 Each

Quantities Carried to Sheet No. 50



Item 602 - Concrete Masonry (for Apron) :
 1.32m x 0.88m x 0.15m = 0.17 Cu. Meter

STORM SEWER
 STA. 31+728.000, 9.14m LT. to STA. 31+720.000, 8.92m RT.
 FOR PLAN VIEW, SEE SHEET NO. 66-67

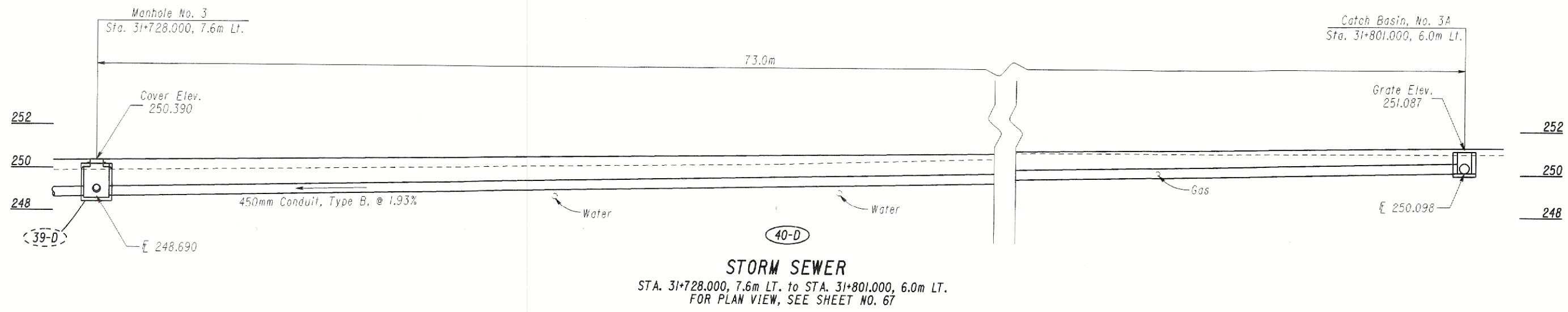
For Pavement Replacement Quantities,
 See Drainage Detail Sheet No. 121

DRAINAGE DETAILS
 STORM SEWER PROFILES

HOL-62-30.649

116
 180

CALCULATED
 JPB
 CHECKED
 RDA
 HORIZONTAL
 SCALE IN METERS



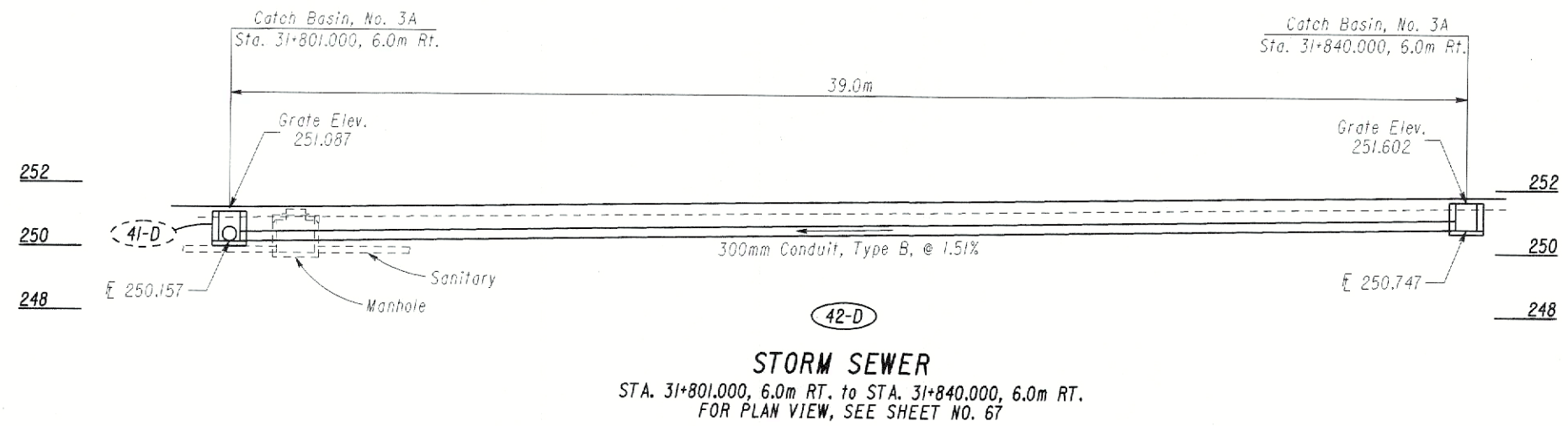
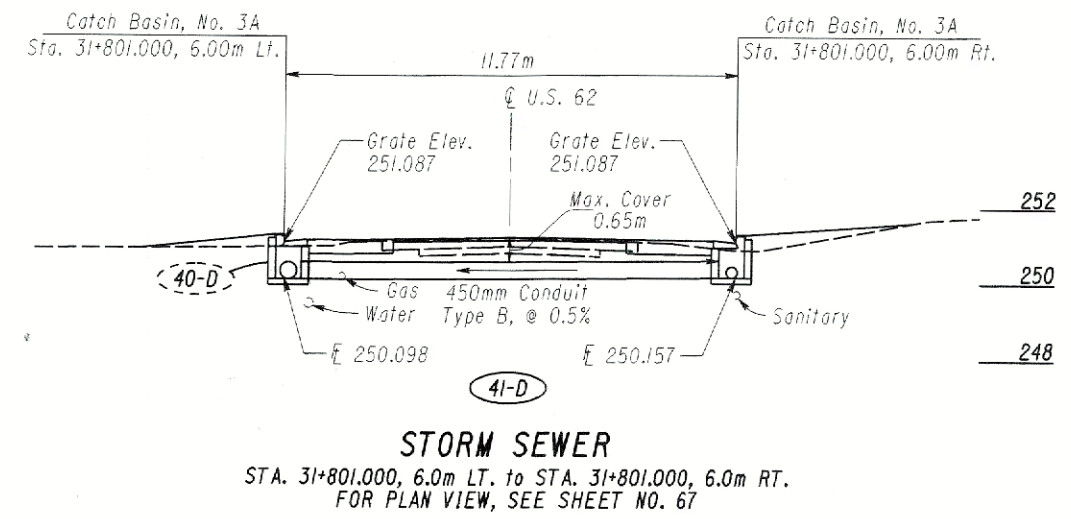
ESTIMATED QUANTITIES

- 40-D Item 603 - 450mm Conduit, Type B ----- 73.0 Meter
- Item 604 - Catch Basin, No. 3A ----- 1 Each

- 41-D Item 603 - 450mm Conduit, Type B ----- 12.0 Meter
- Item 604 - Catch Basin, No. 3A ----- 1 Each

- 42-D Item 603 - 300mm Conduit, Type B ----- 39.0 Meter
- Item 604 - Catch Basin, No. 3A ----- 1 Each

Quantities Carried to Sheet No. 50



For Pavement Replacement Quantities,
See Drainage Detail Sheet No. 121

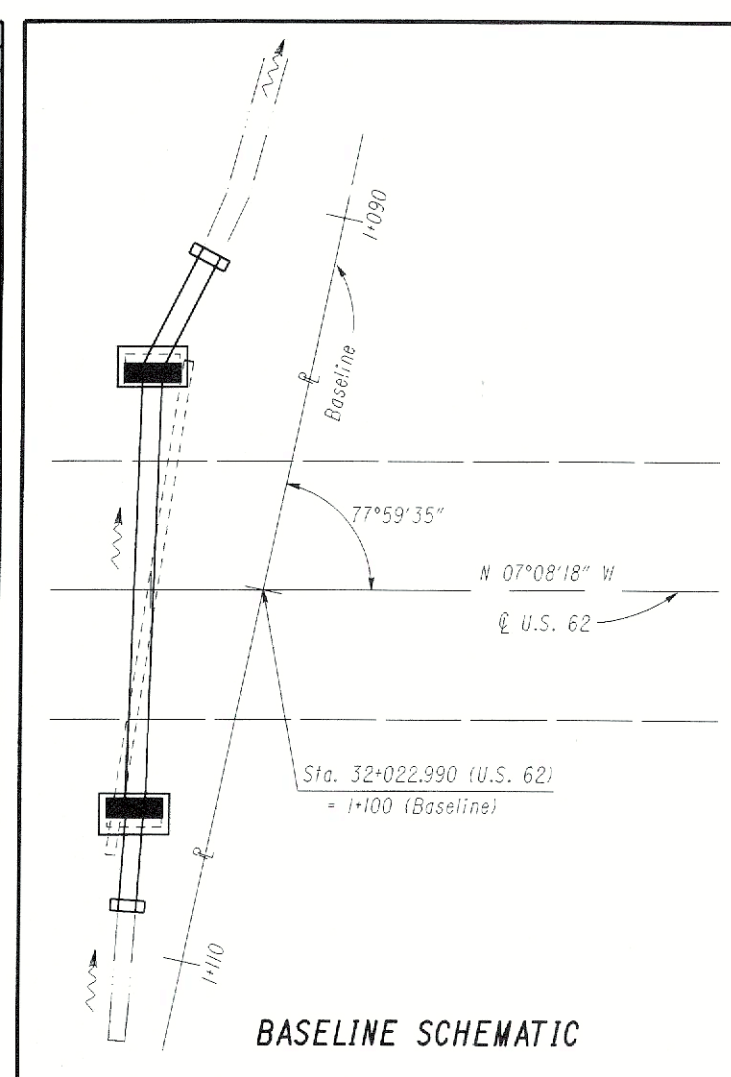
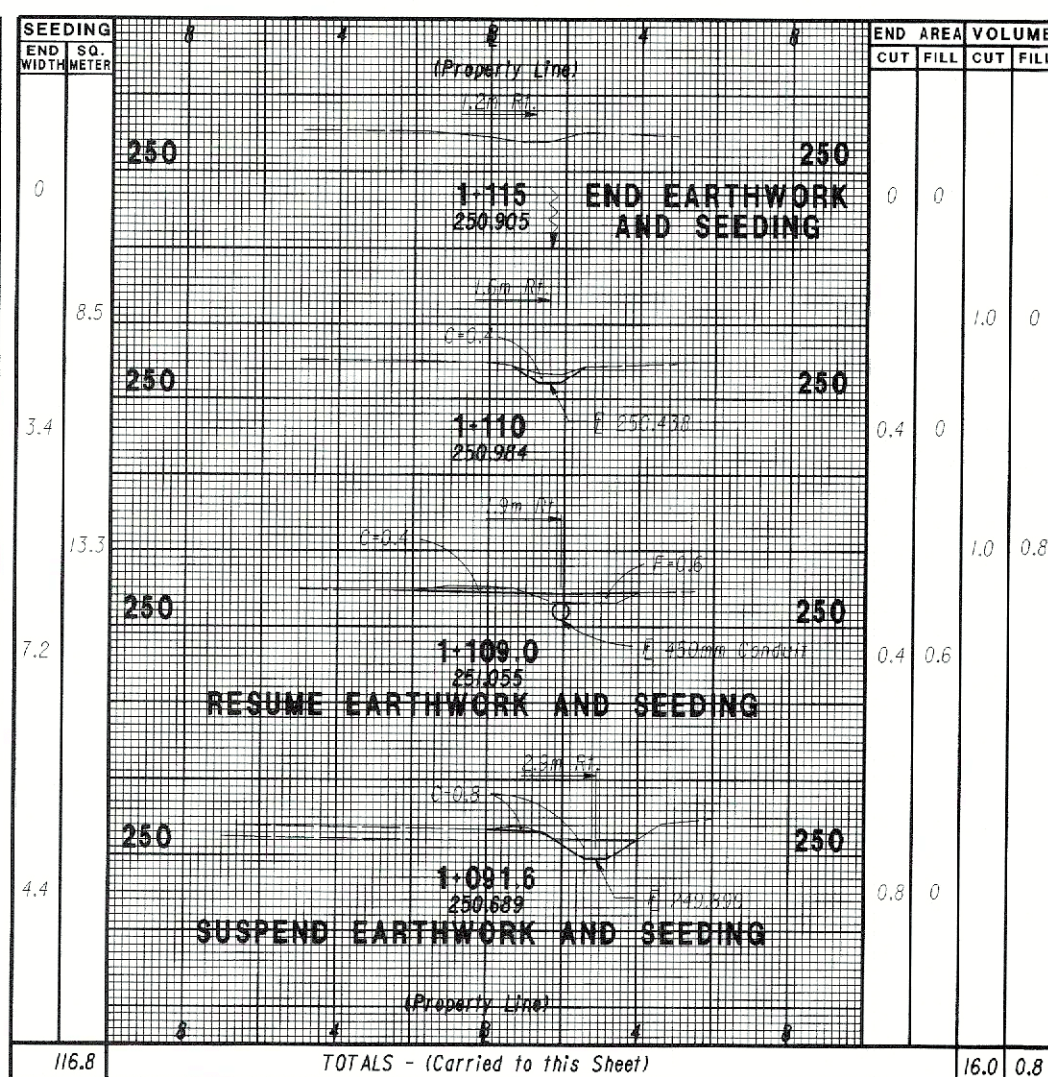
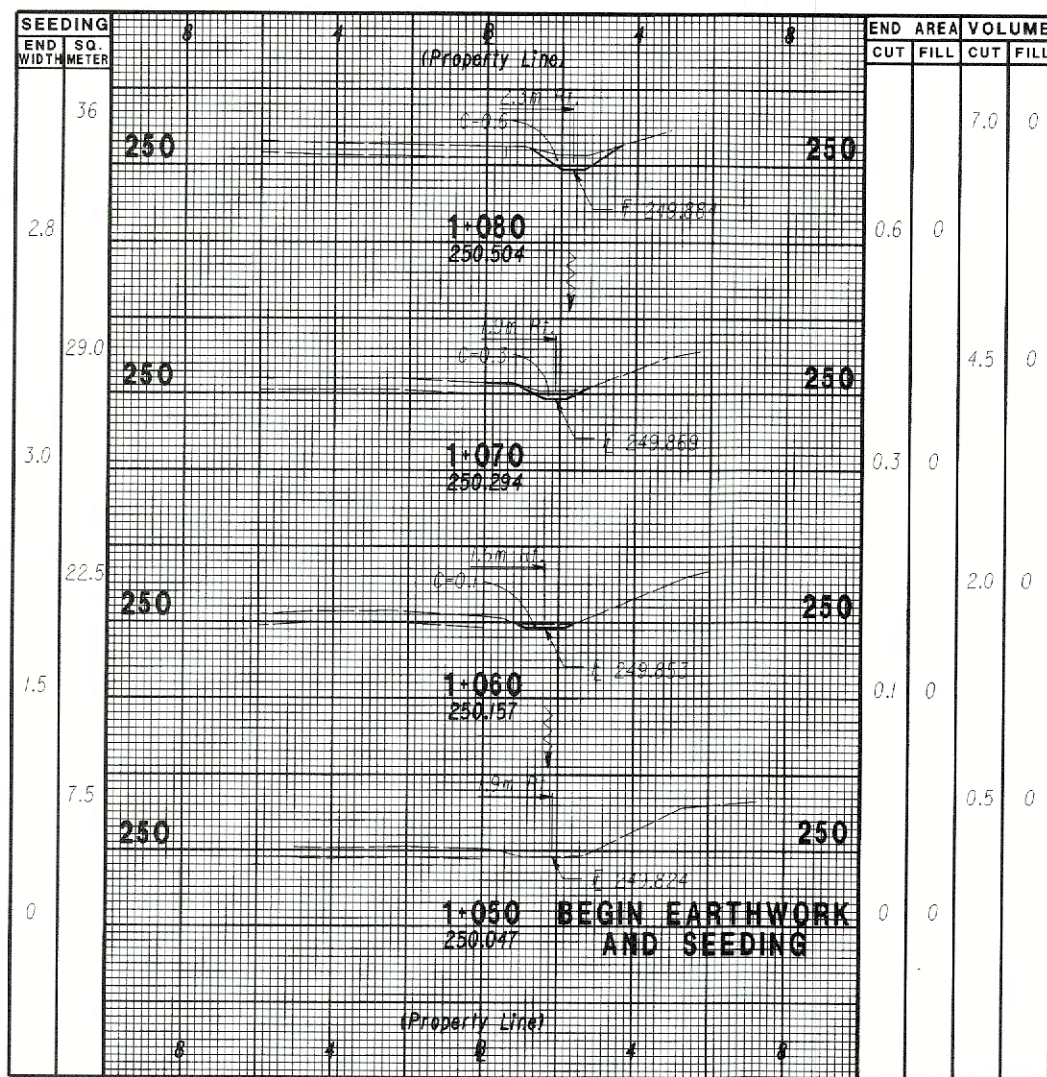


CALCULATED JPB
CHECKED RDA

DRAINAGE DETAILS
STORM SEWER PROFILES

HOL - 62 - 30.649

117
180

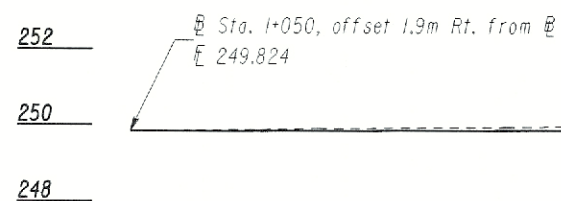


ESTIMATED QUANTITIES

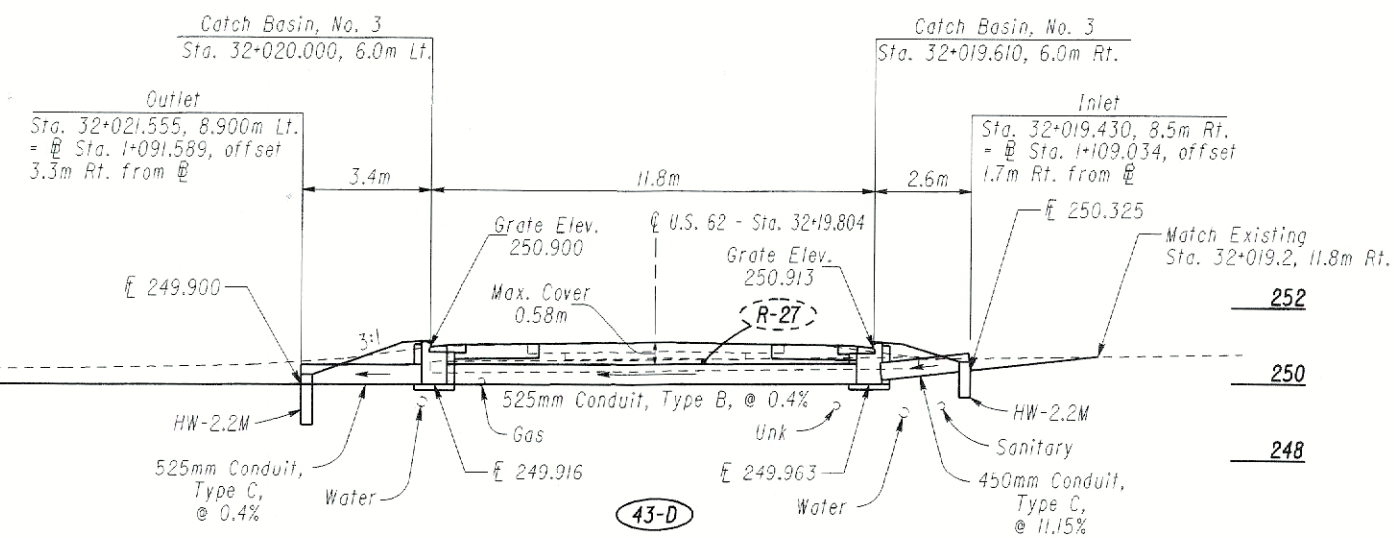
43-D	Item 203 - Excavation Not Including Embankment Construction	16.0 Cu. Meter
	Item 203 - Embankment	0.8 Cu. Meter
	Item 602 - Concrete Masonry	0.59 Cu. Meter
	Item 603 - 450mm Conduit, Type C	3.0 Meter
	Item 603 - 525mm Conduit, Type B	12.0 Meter
	Item 603 - 525mm Conduit, Type C	3.5 Meter
	Item 604 - Catch Basin, No. 3	2 Each
	Item 659 - Seeding and Mulching	116.8 Sq. Meter
	Item 659 - Commercial Fertilizer	12 Kilogram
	Item 659 - Agricultural Liming	66 Kilogram
	Item 659 - Water	1.0 Cu. Meter
	Item 667 - Seeding and Jute Matting	49.6 Sq. Meter

Item 659 - Commercial Fertilizer :	116.8 Sq. Meter x 0.1 kg/Sq. Meter = 11.68 KILOGRAM	USE 12 KILOGRAM
Item 659 - Agricultural Liming :	116.8 Sq. Meter x (256 kg ÷ 1000 Sq. Meter) x 220% = 65.8 KILOGRAM	USE 66 KILOGRAM
Item 659 - Water :	116.8 Sq. Meter x (9.8 Cu. Meter ÷ 1000 Sq. Meter) = 1.15 CU. METER	USE 1.0 CU. METER

Quantities Carried To Sheet No. 50



Item 667 - Seeding and Jute Matting
41.3m x 1.2m = 49.6 Sq. Meter



STORM SEWER
STA. 32+021.550, 8.900m LT. to STA. 32+019.400, 8.4m RT.
FOR PLAN VIEW, SEE SHEET NO. 69

For Pavement Replacement Quantities,
See Drainage Detail Sheet No. 121

DRAINAGE DETAILS
STORM SEWER PROFILES

HOL - 62 - 30.649

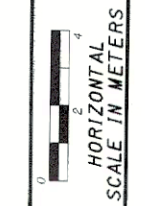
118
180

CALCULATED
JPB
DIRECTED
RDA
HORIZONTAL
SCALE IN METERS

ESTIMATED QUANTITIES

(44-D)	Item 603 - 300mm Conduit, Type B	-----	13.5 Meter
	Item 604 - Catch Basin, No. 3	-----	1 Each
(45-D)	Item 603 - 300mm Conduit, Type B	-----	13.0 Meter
	Item 604 - Catch Basin, No. 3	-----	1 Each
(46-D)	Item 603 - 375mm Conduit, Type B	-----	12.0 Meter
	Item 604 - Catch Basin, No. 3A	-----	1 Each
(47-D)	Item 603 - 375mm Conduit, Type B	-----	14.0 Meter
	Item 604 - Catch Basin, No. 3A	-----	1 Each
(48-D)	Item 603 - 300mm Conduit, Type B	-----	12.0 Meter
	Item 604 - Catch Basin, No. 6	-----	1 Each

Quantities Carried To Sheet No. 50

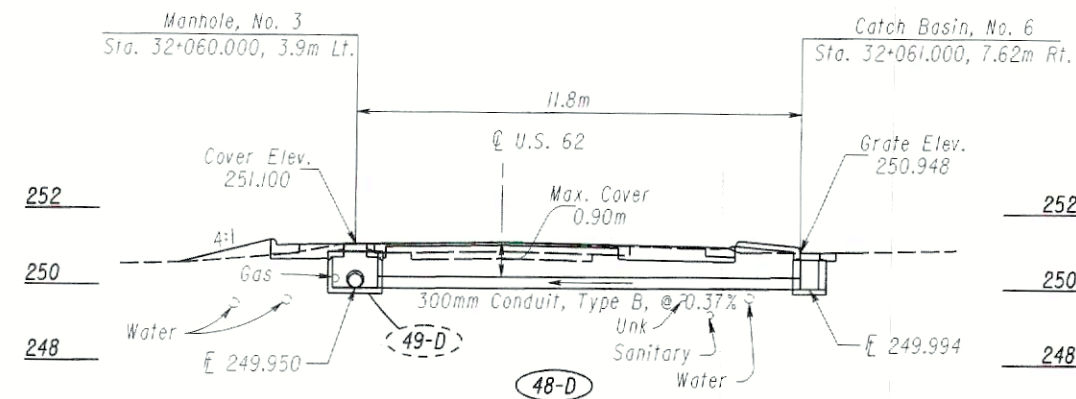


CALCULATED JPB
CHECKED RDA

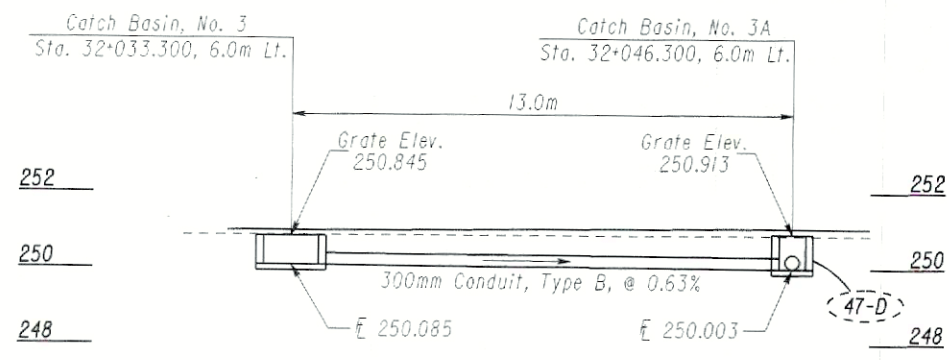
DRAINAGE DETAILS
STORM SEWER PROFILES

HOL-62-30.649

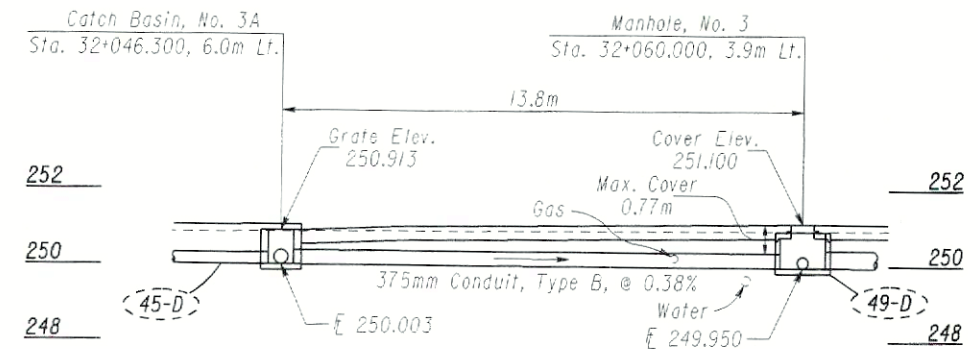
119
180



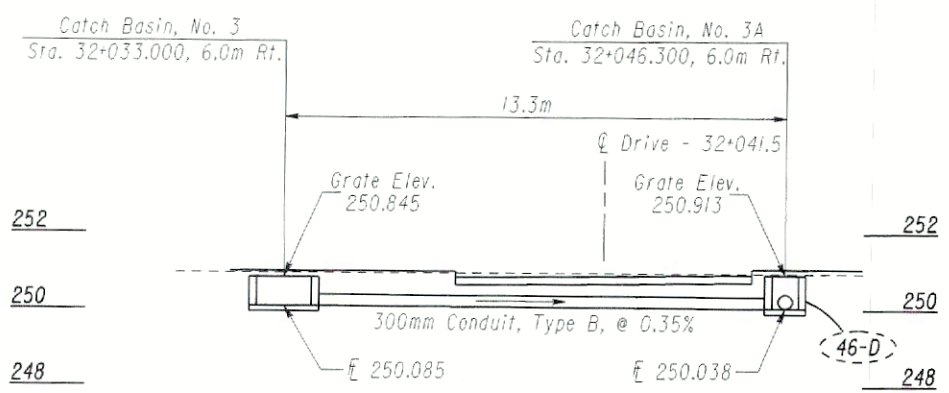
STORM SEWER
STA. 32+060.000, 3.9m LT. to STA. 32+061.000, 7.62m RT.
FOR PLAN VIEW, SEE SHEET NO. 69



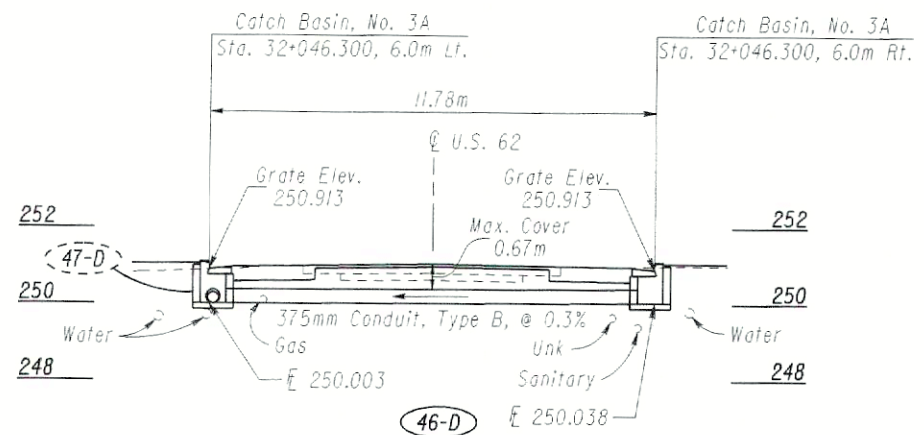
STORM SEWER
STA. 32+033.300, 6.0m LT. to STA. 32+046.300, 6.0m LT.
FOR PLAN VIEW, SEE SHEET NO. 69



STORM SEWER
STA. 32+046.300, 6.0m LT. to STA. 32+060.000, 3.9m LT.
FOR PLAN VIEW, SEE SHEET NO. 69

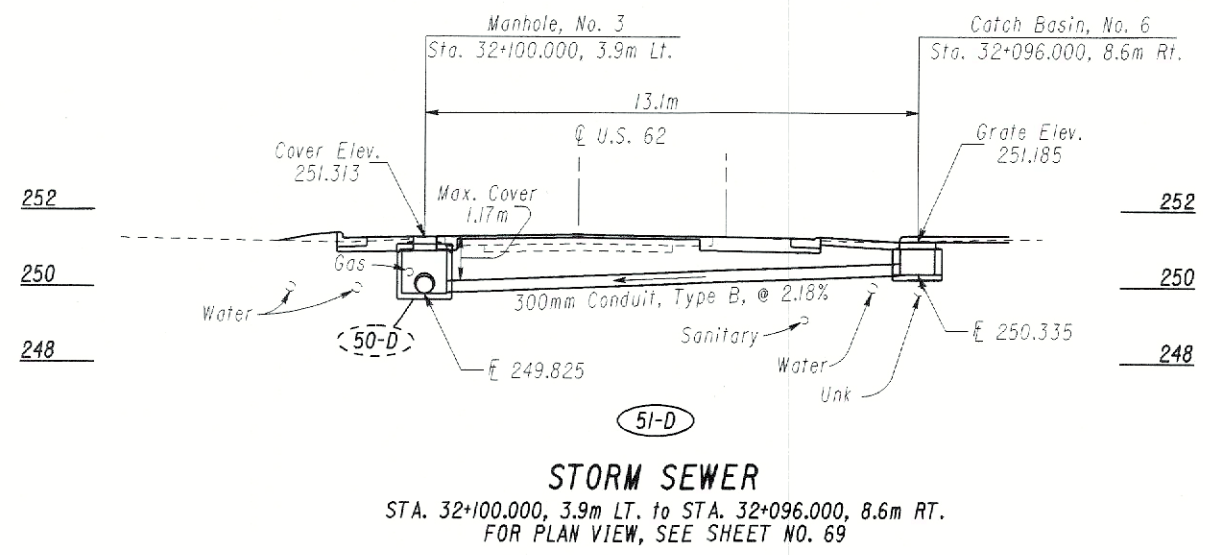
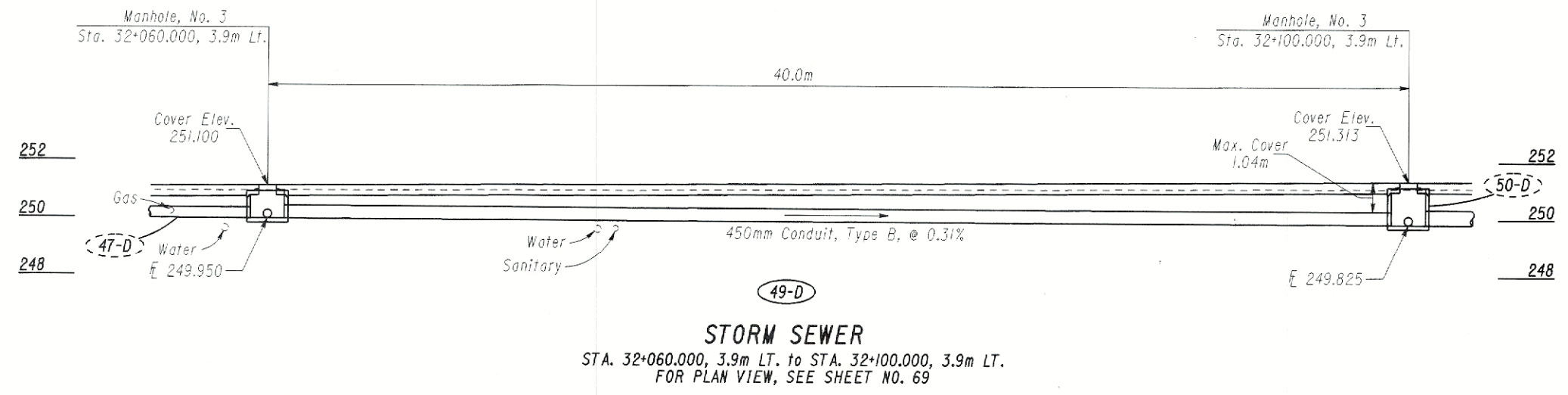


STORM SEWER
STA. 32+033.000, 6.0m RT. to STA. 32+046.300, 6.0m RT.
FOR PLAN VIEW, SEE SHEET NO. 69



STORM SEWER
STA. 32+046.300, 6.0m LT. to STA. 32+046.300, 6.0m RT.
FOR PLAN VIEW, SEE SHEET NO. 69

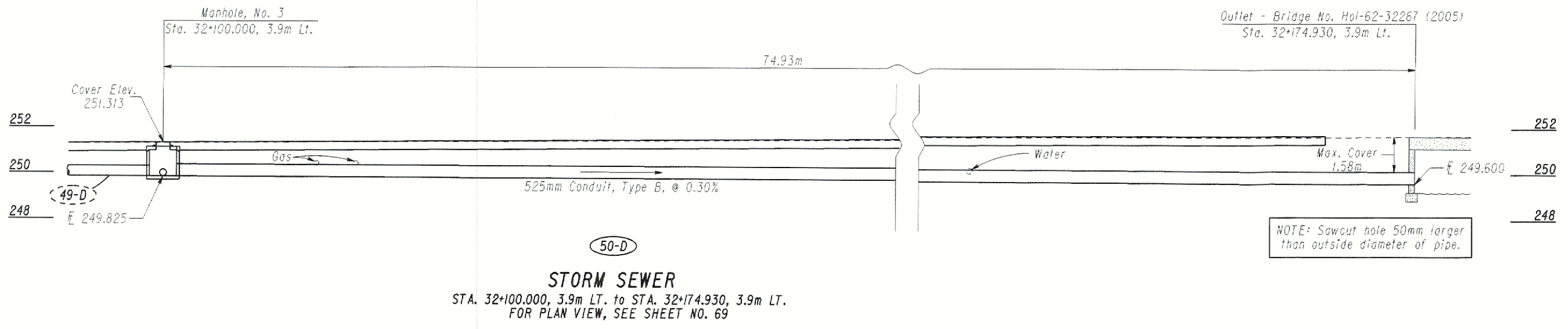
For Pavement Replacement Quantities,
See Drainage Detail Sheet No. 121



ESTIMATED QUANTITIES

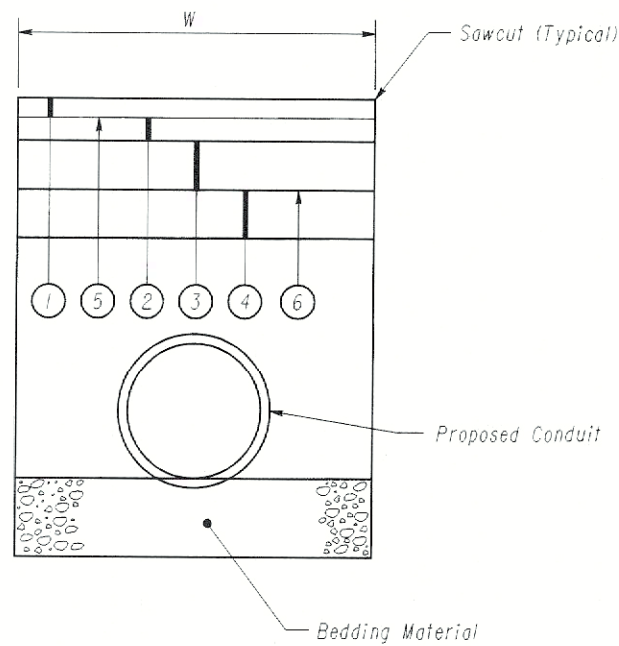
49-D	Item 603 - 450mm Conduit, Type B	40 Meter
	Item 604 - Manhole, No. 3	1 Each
50-D	Item 603 - 525mm Conduit, Type B	75.0 Meter
	Item 604 - Manhole, No. 3	1 Each
51-D	Item 603 - 300mm Conduit, Type B	13.5 Meter
	Item 604 - Catch Basin, No. 6	1 Each

Quantities Carried To Sheet No. 50



NOTE: Sawcut hole 50mm larger than outside diameter of pipe.

For Pavement Replacement Quantities,
 See Drainage Detail Sheet No. 121



TYPICAL SECTION FOR PAVEMENT REPLACEMENT

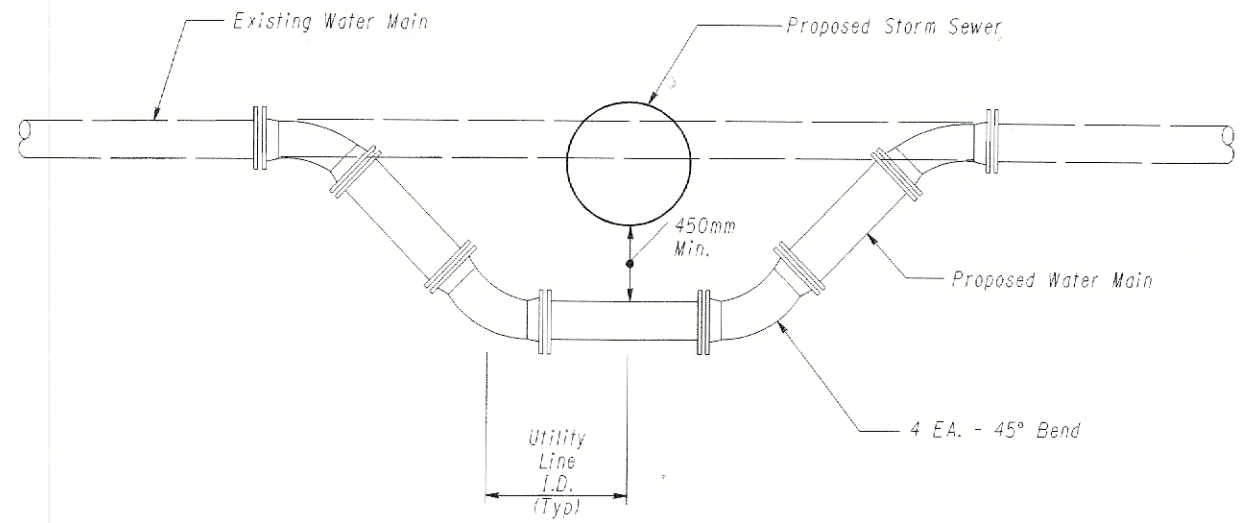
Notes :

- 1.) Pavement quantity calculations based on the width "W" of trench equal to 1.25 (O.D. Pipe) + 0.3.
- 2.) Surface, Intermediate courses and Tack Coat for mainline pavement carried with U.S. 62 quantities.
- 3.) Omit Items 301 and 407 for Commercial Drive applications.

LEGEND

- ① — Item 448 - 32mm Asphalt Concrete Surface Course, Type 1, PG 64-22, As Per Plan
- ② — Item 448 - 45mm Asphalt Concrete Intermediate Course, Type 2, PG 64-22
- ③ — Item 301 - 150mm Bituminous Aggregate Base, PG 64-22
- ④ — Item 304 - 150mm Aggregate Base
- ⑤ — Item 407 - Tack Coat For Intermediate Course
- ⑥ — Item 408 - Bituminous Prime Coat

SHEET NO.	REFERENCE NO.	PIPE SIZE	WIDTH "W"	LENGTH	AREA	301	304	408	448		REMARKS
						150mm Bituminous Aggregate Base, PG 64-22	150mm Aggregate Base	Bituminous Prime Coat Applied at 1.8 L/Sq. Meter	32mm Asphalt Concrete Surface Course, Type 1, PG 64-22, As Per Plan	45mm Asphalt Concrete Intermediate Course, Type 2, PG 64-22	
		mm	METER	METER	Sq. M	CU. METER	CU. METER	LITER	CU. METER	CU. METER	
108	9-D	300	0.8	6.20	4.96	0.74	0.74	8.78	---	---	
108	11-D	525	1.15	6.20	7.13	1.07	1.07	12.83	---	---	
109	12-D	525	1.15	6.20	7.13	1.07	1.07	12.83	---	---	
110	17-D	450	1.05	6.20	6.51	0.98	0.98	11.72	---	---	
111	19-D	300	0.8	6.20	4.96	0.74	0.74	8.78	---	---	
112	22-D	600	1.25	6.20	7.75	1.16	1.16	13.95	---	---	
114	31-D	450	1.05	7.90	8.30	1.25	1.25	65.57	---	---	
114	33-D	1050	1.90	7.70	14.63	2.19	2.19	112.65	---	---	
115	34-D	1050	3.90	35.0	136.5	---	27.30	245.7	4.37	6.14	Use 200mm Aggr. Base
116	38-D	375	0.9	6.8	6.12	0.92	0.92	11.02	---	---	
117	41-D	450	1.05	6.20	6.51	0.98	0.98	11.72	---	---	
118	43-D	525	1.15	6.20	7.13	1.07	1.07	12.83	---	---	
119	46-D	375	0.9	6.20	5.58	0.84	0.84	10.04	---	---	
119	48-D	300	0.8	6.20	4.96	0.74	0.74	8.78	---	---	
120	51-D	300	0.8	6.40	5.12	0.77	0.77	9.22	---	---	
65	R-15	305	0.8	6.20	4.96	0.74	0.74	8.78			
TOTALS CARRIED TO GEN. SUMMARY						15.26	42.56	565.20	4.37	6.14	



DETAIL 'A'
WATER MAIN RELOCATION

Existing Water Main Relocated
Around Proposed Storm Sewers

CALCULATED
JPB
CHECKED
SAL

MISCELLANEOUS DRAINAGE DETAILS

HOL - 62 - 30.649

121
180

ESTIMATED QUANTITIES

- (S-1) Item 202 - Pipe Removed, 600mm and Under ----- 13.5 Meter
- Item 202 - Manhole Removed ----- 1 Each
- Item 603 - 200mm Conduit, Type B, For Sanitary ----- 14 Meter
- Item 604 - Manhole, No. 3 ----- 1 Each

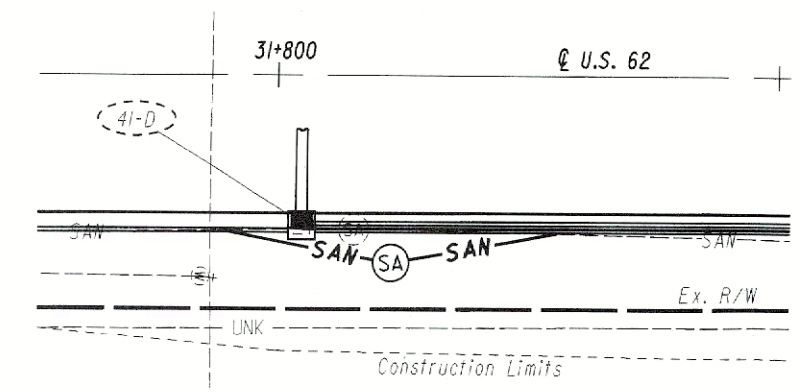
- (S-2) Item 202 - Pipe Removed, 600mm and Under ----- 15.8 Meter
- Item 202 - Manhole Removed ----- 1 Each
- Item 603 - 200mm Conduit, Type B, For Sanitary ----- 16.0 Meter
- Item 604 - Manhole, No. 3 ----- 1 Each

- (S-3) Item 202 - Pipe Removed, 600mm and Under ----- 12.1 Meter
- Item 202 - Manhole Removed ----- 1 Each
- Item 603 - 200mm Conduit, Type B, For Sanitary ----- 12.0 Meter
- Item 604 - Manhole, No. 3 ----- 1 Each

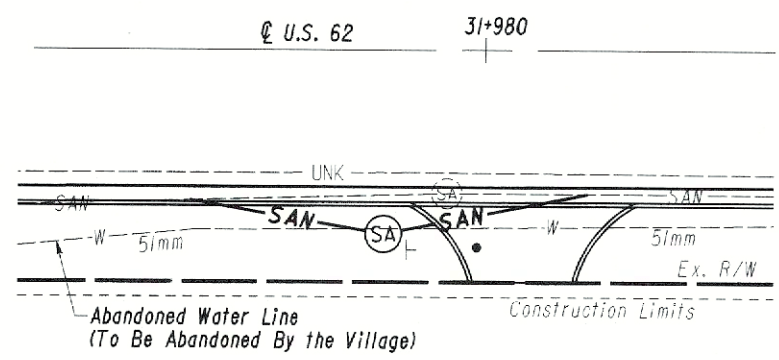
- (S-4) Item 202 - Pipe Removed, 600mm and Under ----- 23.6 Meter
- Item 202 - Manhole Removed ----- 1 Each
- Item 603 - 200mm Conduit, Type B, For Sanitary ----- 21.0 Meter
- Item 604 - Manhole, No. 3 ----- 1 Each
- Item 638 - 100mm Water Main Polyvinyl Chloride Pipe and Fittings, AWWA Class 150 -- 7 Meter

TOTALS (Carried to General Summary)

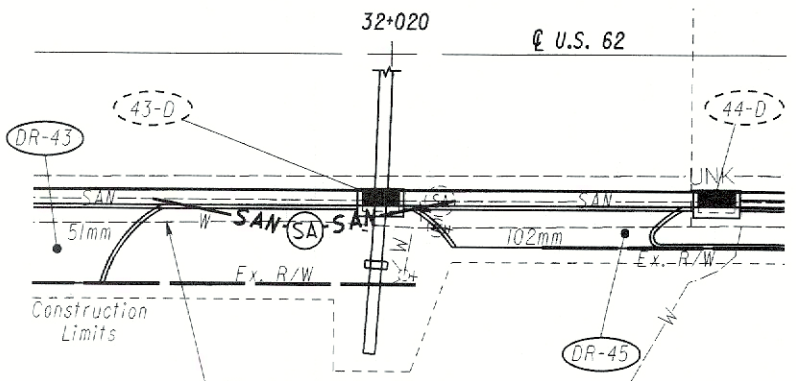
- Item 202 - Pipe Removed, 600mm and Under ----- 65 Meter
- Item 202 - Manhole Removed ----- 4 Each
- Item 603 - 200mm Conduit, Type B, For Sanitary ----- 63 Meter
- Item 604 - Manhole, No. 3 ----- 4 Each
- Item 638 - 100mm Water Main Polyvinyl Chloride Pipe and Fittings, AWWA Class 150 ----- 7 Meter



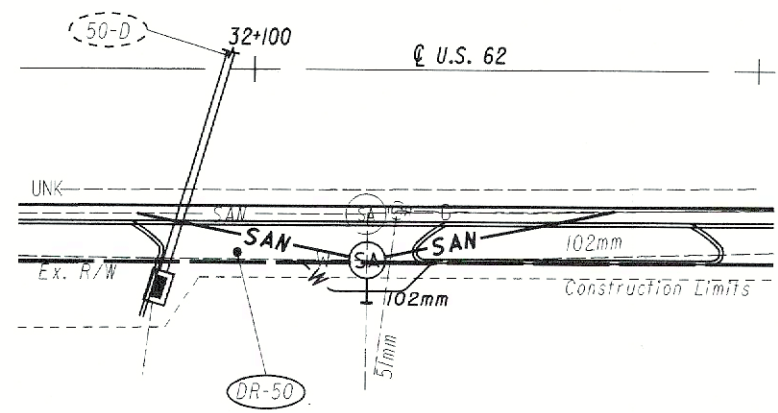
(S-1)



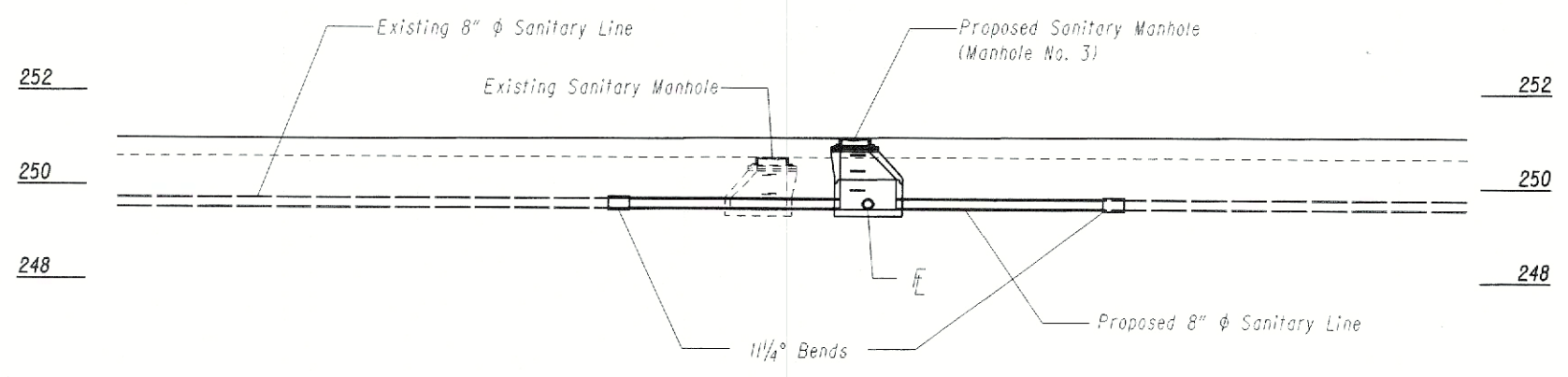
(S-2)



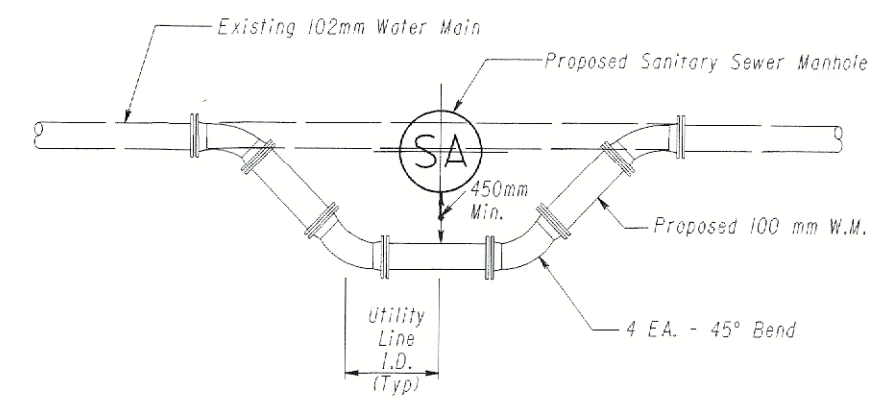
(S-3)



(S-4)

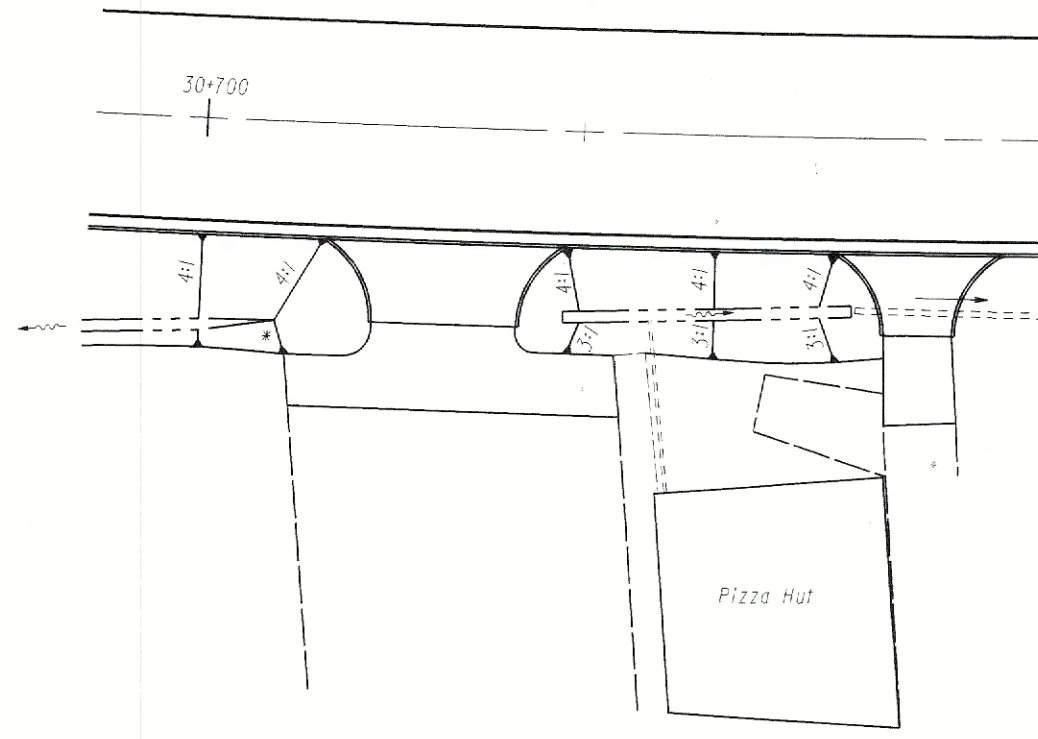
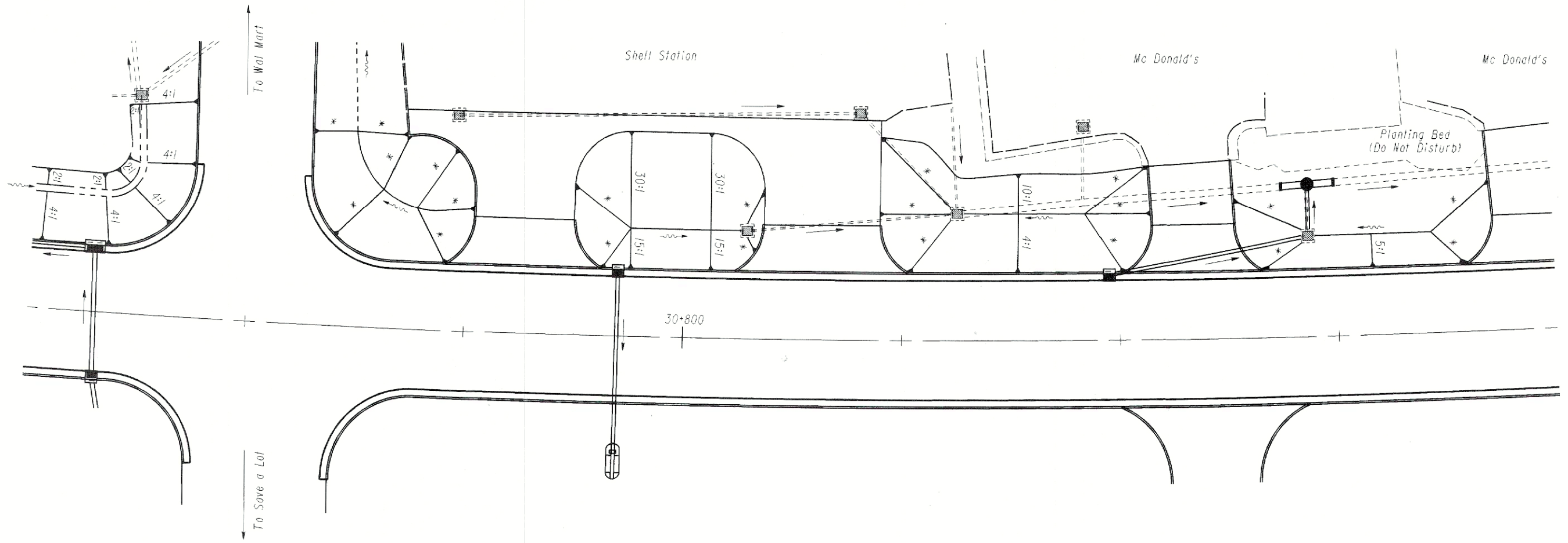


SANITARY SEWER
Typical Detail for Proposed Sanitary Manholes

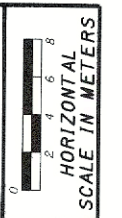


WATER MAIN RELOCATION
Existing Water Main Relocated
Around Proposed Sanitary Sewer Manhole

Flow Lines of Proposed Sanitary Sewer Manholes				
	Station	Offset from Center Line	Flow Line	Cover Elevation
S-1	31+804.6	7.3m	249.818	251.320
S-2	31+976.0	7.3m	249.984	251.600
S-3	32+016.5	8.0m	249.420	251.100
S-4	32+104.5	7.5m	248.986	251.300



* Grade to Drain, 2:1 Maximum Slopes.



GRADING DETAILS

HOL-62-30.649

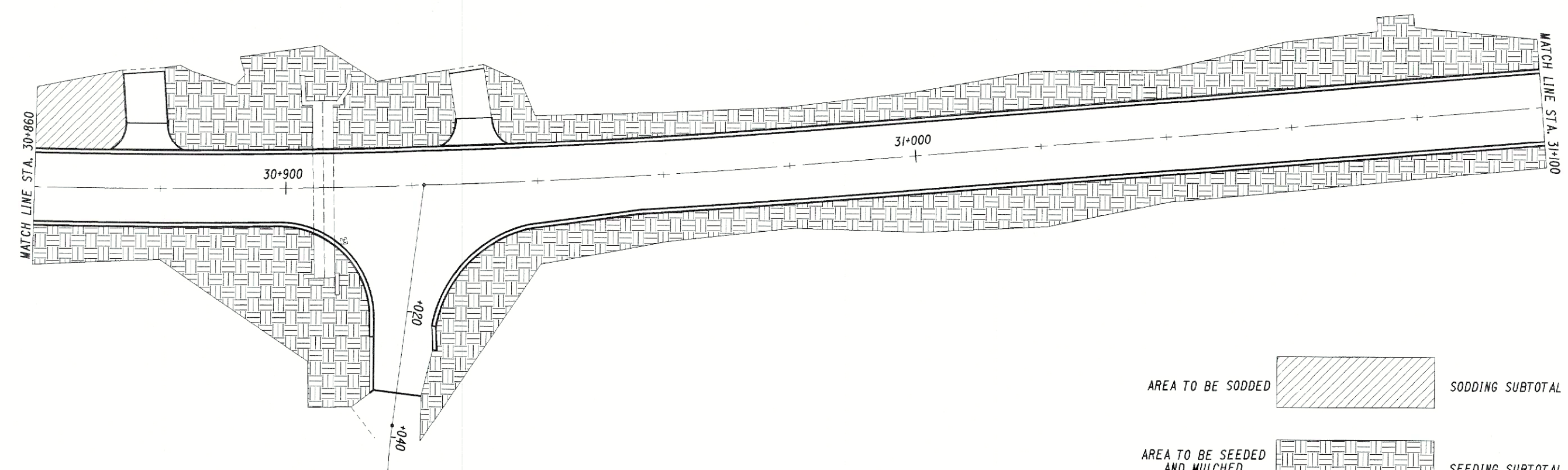
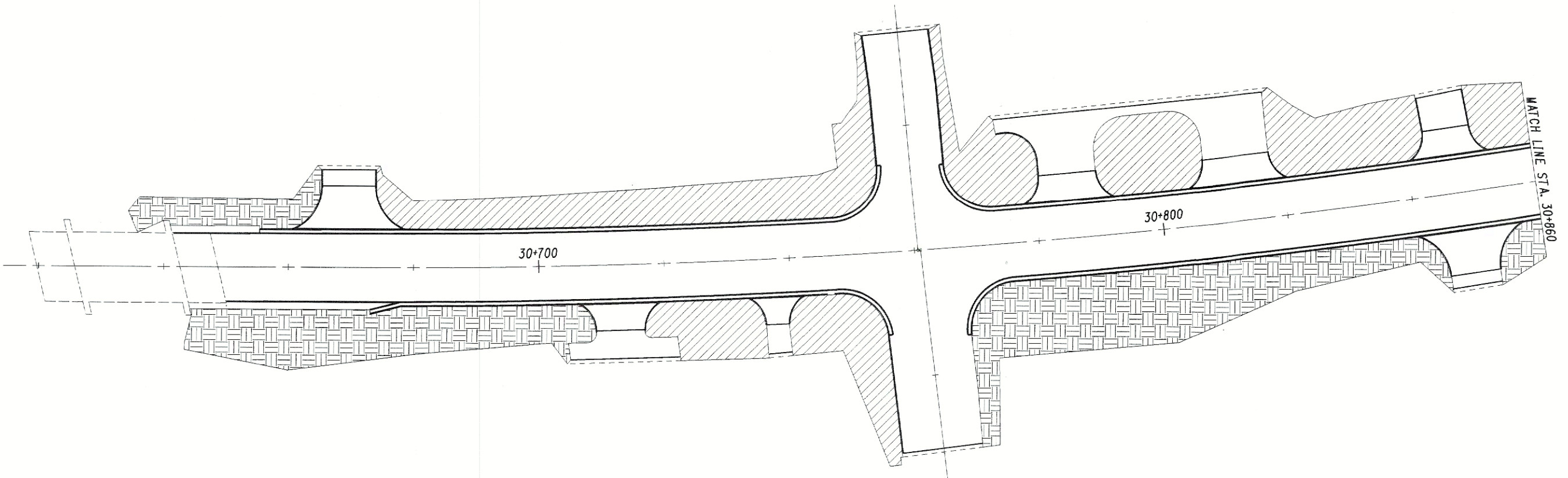
123
180

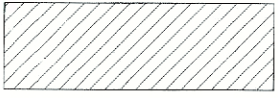
CALCULATED
TKD
CHECKED
SAL


SODDING & SEEDING DETAILS

HOL-62-30.649

124
180



AREA TO BE SODDED  SODDING SUBTOTAL = 2063m²

AREA TO BE SEEDED AND MULCHED  SEEDING SUBTOTAL = 5242m²

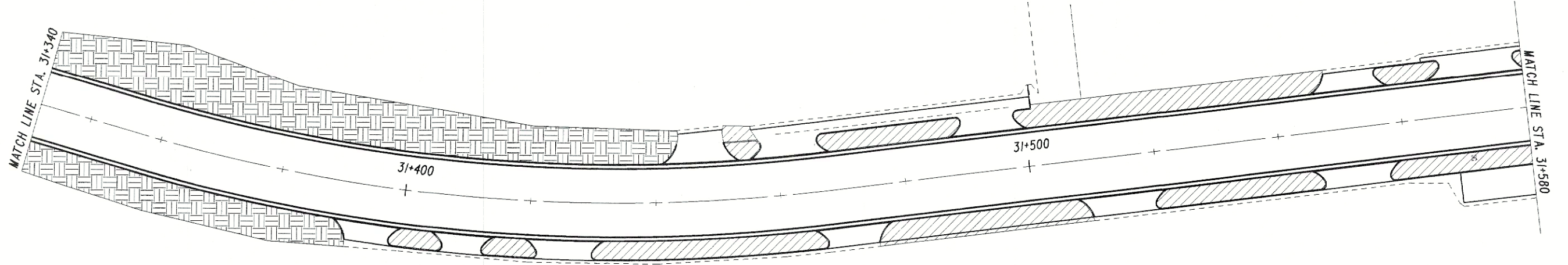
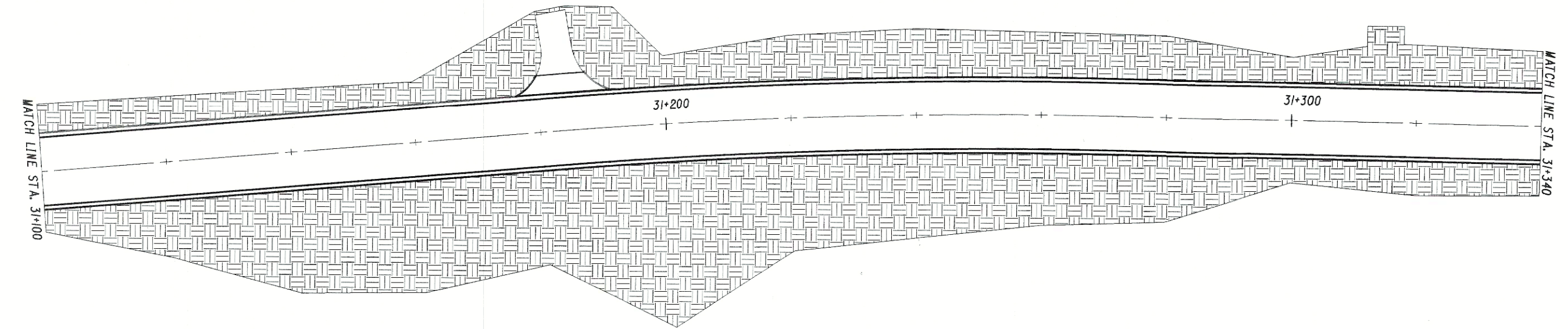
SUBTOTALS CARRIED TO SHEET NO. 126

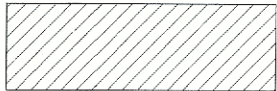
CALCULATED
TKD
CHECKED
SAL


SODDING & SEEDING DETAILS

HOL - 62 - 30.649

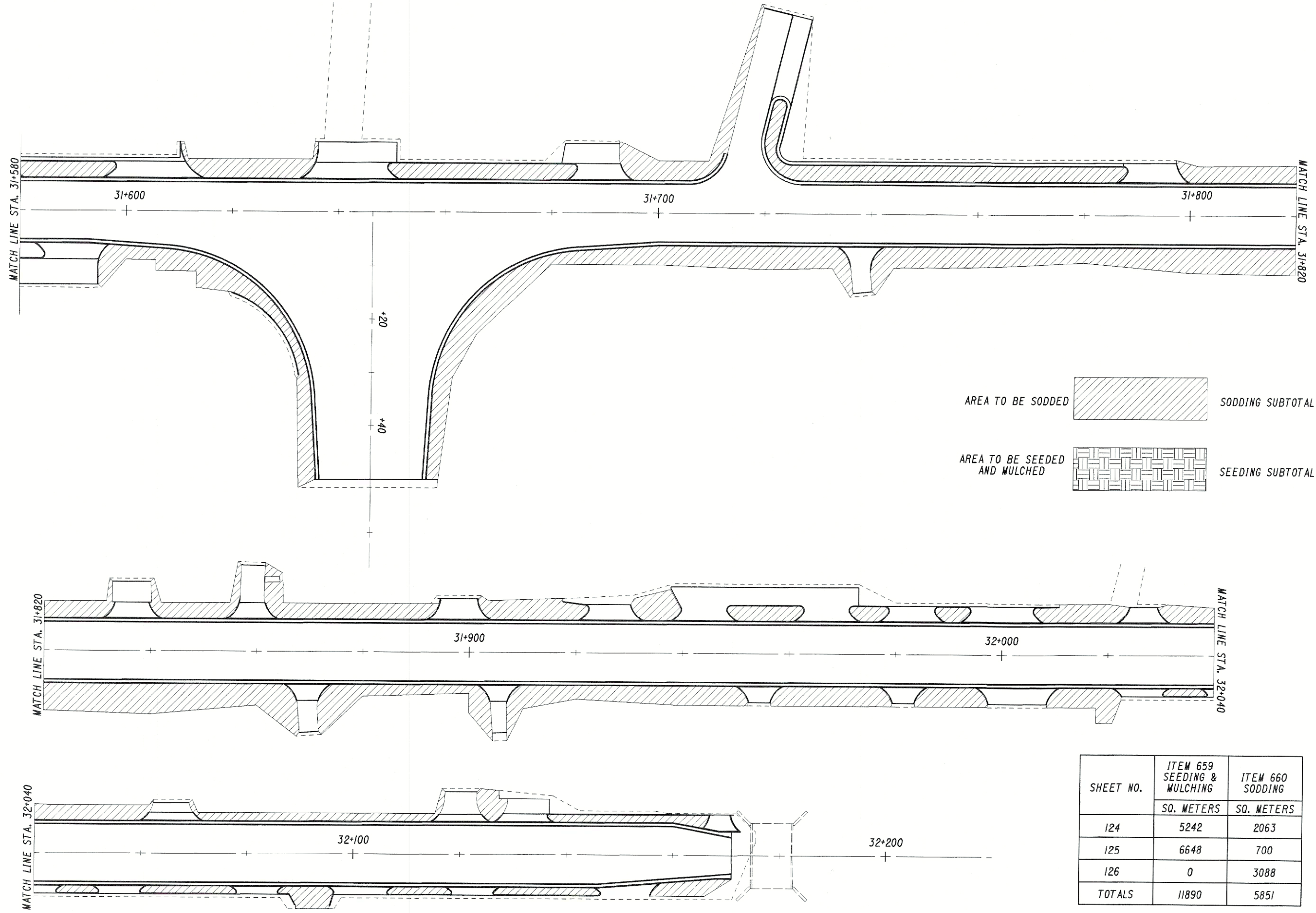
125
180





AREA TO BE SODDED  SODDING SUBTOTAL = 700m²

AREA TO BE SEEDED AND MULCHED  SEEDING SUBTOTAL = 6648m²

SUBTOTALS CARRIED TO SHEET NO. 126



AREA TO BE SODDED  SODDING SUBTOTAL - 3088m²

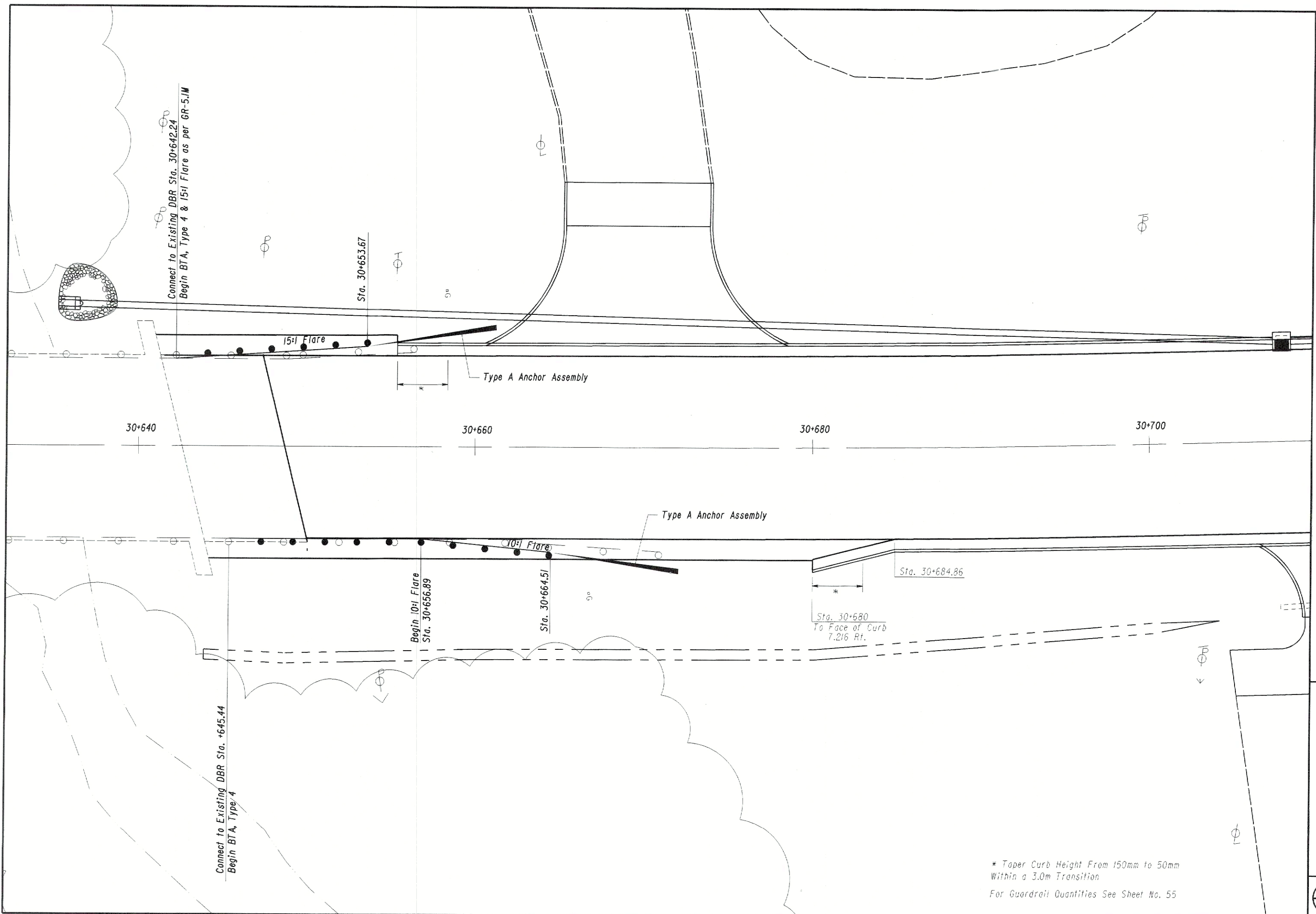
AREA TO BE SEEDED AND MULCHED  SEEDING SUBTOTAL - 0m²

SHEET NO.	ITEM 659 SEEDING & MULCHING	ITEM 660 SODDING
	SQ. METERS	SQ. METERS
124	5242	2063
125	6648	700
126	0	3088
TOTALS	11890	5851

TOTALS CARRIED TO SHEET NO. 7

SODDING & SEEDING DETAILS

HOL-62-30.649



CALCULATED
SAL

CHECKED
SHG

GUARDRAIL DETAILS

HOL-62-30.649

127
180

GENERAL

The Contractor shall conform to the National Electric Code and The Ohio Manual of Uniform Traffic Control Devices for Streets and Highway in performing contract work. He shall observe the regulations of utilities in the area of their equipment and exercise due caution in construction work near their facilities.

Prior to beginning construction the Contractor shall contact all utilities having installations in the area to secure and affirm data on utility locations. These agencies and utilities shall be notified at least 48 hours prior to any excavation in an area containing their installation.

The Contractor shall be responsible for arranging and providing the power in the manner shown in the plan and responsible for obtaining all permits and inspections required by the utility companies. The electric power shall be obtained from American Electric Power at the location indicated on the plan. Power supplied shall be 120/240 volts AC. 120 volts AC shall be supplied from the disconnect switch to the signal controller housing.

The cost of obtaining the power, permits and inspection shall be included in the bid price for Item 632 Power Service.

TRANSITION TO SIGNAL CONTROL

The Contractor shall flash the new signal installation for 10 consecutive days before beginning cycling operation. The 10-day performance test shall not be started until after the 10-day flashing period. Upon completion of the 10-day flashing period, the Contractor shall cover any existing stop signs, install the stop lines as shown on the plan sheet, and begin the 10-day performance test. The cost of transitioning to signal control will be incidental to and included in the contract unit price of the various signal items. Upon successful completion of the performance test, the existing and temporary stop signs shall be removed.

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 unsatisfactory operation, the Contractor shall correct faulty installations, make repairs and replace defective parts with new parts of equal or better quality. Equipment, material and labor costs incurred in correcting an unsatisfactory operation shall be borne by the Contractor. The guarantee shall cover the following items of the traffic control system: Controller and associated equipment, detector units.

Customary manufacturer's guarantees for the foregoing items shall be turned over to the State following acceptance of the equipment. The Contractor shall furnish two sets of Controller Operating Manuals to the State.

The cost of guaranteeing the traffic control system will be incidental to and included in the contract unit price of the various items making up the system.

UNDERGROUND UTILITIES

The locations of the underground utilities shown on the plans are as obtained from the owners of the utility as required by Section 153.64 of the Ohio Revised Code.

POLE AND MAST ARM INSTALLATION

The Contractor shall notify all overhead utility companies at least two working days before installing the signal support poles and mast arms, and obtain approval of the clearance heights from each overhead utility company.

The Contractor shall take special care when erecting the signal support poles and mast arms due to the close proximity of the overhead utilities. The utility companies may, at their option, blanket the lines.

UTILITIES NOTIFICATION

At least two working days prior to commencing construction operations in an area which may involve underground utility facilities, the Contractor shall notify the Project Engineer, the registered utility protection service and the owners of each underground utility facility shown in the plans.

The owner of the underground utility facility shall, within forty-eight hours, excluding Saturdays, Sundays and Legal Holidays, after notice is received, stake, mark or otherwise designate the location of the underground utility facilities in the construction area in such a manner as to indicate their course together with the approximate depth at which they were installed. The marking or locating shall be coordinated to stay approximately two days ahead of the planned construction.

In addition to the requirements of specification 105.06, the Contractor shall notify, at least two working days before breaking ground, all public service corporations having wires, poles, conduit or other structures, which may be affected by the operation. He shall conduct his operations in such a manner to avoid damages to any and all utilities. Any and all work required for public or private utilities will be done by and at the expense of their respective owners, unless otherwise noted on these plans.

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATIONS

The Contractor shall be responsible for maintaining traffic signal installations within the project under the following conditions:

The Contractor shall be responsible for maintenance of new signal installation on devices, installed by the Contractor, from the time of installation until the work is accepted.

The Contractor shall correct as quickly as possible all outages or malfunctions. He shall provide the 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. All lamp outages, cable outages, electrical failures, equipment malfunctions and misaligned signal heads shall be corrected to the satisfaction of the Engineer with the signal back to service within four hours after the Contractor has been notified of the outage.

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 Engineer with the signal back in service within eight hours after the Contractor's notification 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 thereafter as possible.

None of the above shall be construed as collective or consecutive outage time periods at any one location. That is, 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 compensation for this work from those parties responsible for the damage.

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 Engineer may invoke the provisions of Section 105.15 and any subsequent billings to the State for police services and maintenance services shall be deducted from monies due or to become due the Contractor in accordance with provisions of Section 105.15.

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 (R-1-48) on U.S. 62 and Glen Drive approaches.

Any vehicular traffic signal head which will be out of operation shall be covered in the manner described in 632.24.

All costs resulting from the above requirements shall be considered to be included in the lump sum price bid for Item 614, Maintaining Traffic.

ITEM SPECIAL, PLASTIC CAUTION TAPE

The location of underground conduit and buried electrical cables shall be marked by using a continuous identifying tape buried in the trench above the conduit and cables. The identifying tape shall be an inert material, approximately 150 mm wide, composed of polyethylene plastic highly resistant to alkalis, acids, or other chemical components likely to be encountered in soils.

The tape shall be bright safety 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 Contractor shall bury the identifying tape above the conduit and cables at an approximate depth of 150 to 250 mm below the final finished grade. The tape shall be placed with the printed side up, and shall be essentially parallel with the finished surface.

The Contractor shall take necessary precautions to not pull, distort, or otherwise misplace the tape when completing the backfill. The tape shall be paid for per meter of Item Special, Plastic Caution Tape, complete in place.

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

Section 732.01 of the Specifications is modified for this project as follows:

- A) Signal heads and visors shall be constructed of polycarbonate plastic, and meet ITE specifications.
- B) Glass lenses shall be used.
- C) Pipe, spacers, and fittings constructed of polycarbonate plastic may be used in lieu of galvanized steel or aluminum.
- D) Proper exterior colors shall be obtained by use of colored plastic material rather than painting.

In addition, this item shall conform to Item 632, except the entrance fitting shall be of the tri-stud design with serrated rings in order to achieve positive locking. Signal heads mounted on mast arms shall be rigidly mounted as shown in Standard Construction Drawing TC-85.20M, or alternate methods as allowed in the notes of TC-85.20M.

ITEM 632, POWER SERVICE

Electric power shall be obtained from American Electric Power. Power service supplied shall be 120/240 volts, 60 Hz, single phase, 3-wire service. The traffic signal will operate on 120 volts of electric power. The power service will be mounted to signal support pole P-1 at Sta. 31+670.3, 15.3 meters right.

All connections to the electric power lines will be made by American Electric Power crews. The costs of all labor, equipment and material necessary, which includes meter and disconnect switch, to be installed in accordance with Item 632 Power Service, shall be included in the unit price bid for that item.

ITEM 632 - POWER CABLE, 3 CONDUCTOR, NO. 6 AWG, AS PER PLAN

This item of work shall consist of the installation of power cable to provide power service for the US 62 and Glen Drive intersection at signal support pole P-1, Sta. 31+670.3, 15.3 meters right. The proposed power cable from the service drop to the disconnect switch shall be three single conductor No. 6 AWG cables. Multi-conductor cable will not be permitted.

Payment for the above shall be included in the unit price bid for Item 632 Power Cable, 3 Conductor, No. 6 AWG, As Per Plan. The quantity shown in the General Summary includes the total length of single conductor cable required.

CALCULATED
MEC
CHECKED
JM
TRAFFIC CONTROL GENERAL NOTES

HOL - 62 - 30.649

128
180

ITEM 633 - PREEMPTION, EMERGENCY VEHICLE

In addition to the requirement of 733.05 the equipment shall utilize communications to identify the presence of an Emergency Vehicle and to cause the traffic signal controller to select a preprogrammed preemption plan that will display and hold the green signal phase for the direction and duration of the Emergency Vehicle presence while holding all other approaches in a red state. It shall be capable of preemption on all three approaches of the intersection.

The communication medium shall employ light detection techniques to determine and log the presence of the Emergency Vehicle. The system shall be capable of detecting the Emergency Vehicle up to 366 meters from the intersection. All equipment shall meet electrical and environmental specifications in NEMA TS-1.

The village shall be supplied with emitters, transmitters, antennas, switches, wiring, and any other equipment required to provide the EMT Vehicles with the ability to pre-empt the proposed traffic signal installations.

Cables connecting preemption receiving units to traffic signal control cabinets shall conform to preemption system manufacturers recommendations. All costs relating to providing and installing preemption cable shall be included in the lump sum bid for Item 632, Signalization, Misc.: Preemption Cable. Preemption cable shall be of the same type and number of conductors as required by the manufacturer of the preemption device.

Preemption receiving units shall be provided for each intersection approach. All costs for providing and installing preemption receiving units, complete, wired, tested and accepted shall be included in the bid item price for Item 633, Preemption Equipment, Receiving Unit.

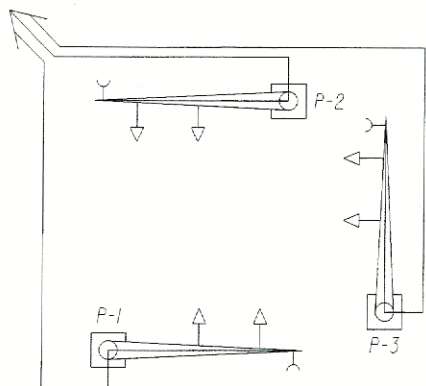
Four (4) preemption sending units, necessary for the proposed preemption system shall be provided. The Contractor shall coordinate installation of sending units with the Village of Millersburg's Village Administrator at (330) 674-1886. The Village Administrator will decide when an Emergency Vehicle is available for sending unit installation. All costs related to providing and installing complete, wired, tested, and accepted for preemption sending units shall be paid for at the bid item price for Item 633, Preemption Equipment, Sending Unit.

All other costs for providing the proposed Emergency Vehicle preemption system not separately itemized above shall be paid for by the bid item price for Item 633, Preemption. This pay item will be provided for the intersection and shall include the costs for phase selectors, software and all other costs for equipment, materials, tools, and labor necessary to provide an Emergency Vehicle preemption system in place, working, tested, and accepted. No other compensation will be provided.

The Village of Millersburg shall be responsible for all future maintenance of the preemption system once it is installed.

The following pay items for preemption have been carried to the Traffic Control General Summary:

Item 633, Preemption	-----	1 Each
Item 633, Preemption Equipment, Receiving Unit	-----	3 Each
Item 633, Preemption Equipment, Sending Unit	-----	4 Each



NOTE: Care should be taken connecting the correct receiving unit to the correct corresponding phase since the preemption units face backwards on the mast arms of P-1 and P-2.

**TYPICAL DETAIL
PREEMPTION RECEIVING UNIT PLACEMENT**

UNDERDRAIN FOR PULL BOXES

Reference is made to Standard Drawing HL-30.11M 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 a satisfactory outlet does not exceed approximately 6.1 meters.

The following estimated quantity has carried to the Traffic Control General Summary for this purpose:

Item 603, 100 mm Conduit, Type E ----- 45 Meters

ITEM 632, SIGNAL SUPPORT FOUNDATIONS (TYPE TC-81.20M)

The Contractor shall install the signal support foundations (Type TC-81.20M) before ordering the mast arms specified in the plan. If a foundation must be moved more than 0.3 m from the location shown in the plan due to unforeseen utility conflicts or any other reason beyond the Contractor's control, the Contractor shall order a mast arm of the appropriate length to place the signal heads the same distance from the curb as shown in the plan. The following table shows the allowable distance the mast arm can be lengthened before the signal support must be redesigned:

Pole No.	Distance
P-1	0.43 m
P-2	1.31 m
P-3	0.72 m

For foundations that are successfully installed within 0.3 m from the location shown in the plan, the Contractor shall order the plan-specified mast arm length. No mast arms shall be pre-ordered before foundation installation.

Cost for the above shall be incidental to other bid items, and no separate compensation will be given.

ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND STORAGE

All signs, except route marking signs, removed under this item shall be stored on the project for removal by the Village of Millersburg's Street Department. Contact the Village Administrator at 330-674-1886 for removal coordination.

The route marking signs shall be stored for removal by ODOT forces. Contact the Roadway Services Manager at 330-339-6633 for removal coordination.

The Contractor will be responsible for storing signs in a location so they are not damaged.

Payment for all of the above shall be included in the unit price bid for Item 630 Removal of Ground Mounted Sign and Storage.

TRAFFIC CONTROL GENERAL NOTES

HOL - 62 - 30.649

129
180

CALCULATED
MEC
CHECKED
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633 ITEM SPECIAL-CONTROLLER, MODEL 170E, WITH MODEL 336 CABINET AND ACCESSORIES (POLE OR BASE MOUNT)

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:

MODEL 170E CONTROLLERS:

SPECIFICATIONS FOR THESE CONTROLLERS SHALL BE "TRAFFIC SIGNAL CONTROL EQUIPMENT SPECIFICATIONS", CALIFORNIA DEPARTMENT OF TRANSPORTATION, JANUARY 1989. THESE SPECIFICATIONS SHALL INCLUDE ADDENDUM 8, NOVEMBER 1993 OR LATEST REVISION. THE CONTROLLER UNITS SHALL CURRENTLY BE LISTED ON THE CALTRANS "QUALIFIED PRODUCTS LIST".

IN ADDITION:

1. THE CONTROLLER UNIT SHALL NOT BE SUPPLIED WITH THE M170E BOARD.
2. FOR CABINETS THAT ARE TO BE INCLUDED IN A HARDWIRE (TWISTED PAIR) INTERCONNECTED SIGNAL SYSTEM, THE CONTROLLER UNIT SHALL INCLUDE A MODEL 400 MODEM AND COMMUNICATION SYSTEM INTERFACE AS SPECIFIED IN THE CALTRANS SPECIFICATIONS. IN ADDITION TO THE CALTRANS SPECIFICATION, MODEMS SHALL BE DESIGNED SUCH THAT IF ONE MODEM LOSES COMMUNICATION WITH THE MASTER, SUBSEQUENT MODEMS SHALL STILL BE ABLE TO COMMUNICATE.
3. A 412C PROM MODULE SHALL BE SUPPLIED WITH LOCAL CONTROLLER SOFTWARE.
4. AS PER CALTRANS REQUIREMENTS, ALL MEMORY, MICROPROCESSOR AND ACIA DEVICES SHALL BE SOCKET MOUNTED. SOCKETS SHALL HAVE MACHINED BERYLLIUM COPPER CONTACTS WITH GOLD PLATING.
5. THE CONTROLLER SHALL BE SUPPLIED WITH THE APPROPRIATE COMMUNICATION PORT, CABLES AND CONNECTORS FOR COMMUNICATING WITH THE PORTABLE ARTERIAL MONITORING LAPTOP COMPUTER.
6. ALL CIRCUIT BOARDS SHALL BE VERTICALLY MOUNTED.
7. THE POWER SUPPLY SHALL BE MODULAR AND EASILY REMOVABLE FROM THE CHASSIS.
8. THE UNIT SHALL CONTAIN SEPARATE INPUT AND OUTPUT

MODULES

2 SETS OF CONTROLLER SCHEMATICS AND SERVICE MANUALS SHALL BE SUPPLIED WITH EACH CONTROLLER. ONE SET OF C1 AND C2 WRAPAROUND CONNECTORS AND EXTENDER CARDS SHALL BE SUPPLIED AS PART OF THIS PROJECT.

SOFTWARE, EITHER THE CALTRANS "DAT" DIAGNOSTIC AND TESTING OR LICENSED THIRD PARTY SOFTWARE SHALL BE PROVIDED ON A SEPARATE PROGRAM MODULE THAT WILL BE INSERTED INTO THE UNIT FOR TESTING BOTH THE CONTROLLER AND CABINET. FOR THE PROJECT TWO SEPARATE PROGRAM MODULES WITH THE DIAGNOSTIC SOFTWARE AND TWO INSTRUCTION MANUALS SHALL BE PROVIDED.

CONFLICT MONITORS, TYPE 2010

CONFLICT MONITORS SHALL BE ON THE ODOT PRE-APPROVED LIST. (S.S. 962)

TWO SETS OF OPERATIONS INSTRUCTIONS AND MONITOR SCHEMATICS SHALL BE SUPPLIED WITH EACH MONITOR. PERMISSIVE CHANNELS SHALL BE PROGRAMMED WITH THE USE OF A DIODE CARD (CALTRANS STANDARD) WHICH SHALL BE INCLUDED WITH THE MONITOR.

CABINET, MODEL 336:

MODEL 336 CABINETS SHALL MEET THE SPECIFICATIONS "TRAFFIC SIGNAL CONTROL EQUIPMENT SPECIFICATIONS", CALIFORNIA DEPARTMENT OF TRANSPORTATION, JANUARY 1989, OR LATEST EDITION, AND SHALL PREVIOUSLY HAVE BEEN ON THE CALTRANS "QUALIFIED PRODUCTS LIST" (OPL) FOR 336 CABINETS.

THE CALTRANS SPECIFICATION FOR MODEL 336 CABINETS SHALL BE MODIFIED SO THAT THE MODEL 336 CABINETS PROVIDED AS PART OF THIS CONTRACT ARE THE STRETCH TYPE THAT PROVIDES AN ADDITIONAL (10 INCHES) 250mm CABINET HEIGHT.

CABINETS SHALL BE CONSTRUCTED OF ALUMINUM AND SHALL BE SUPPLIED UNPAINTED, ANODIC COATING IS NOT REQUIRED. CABINETS SHALL BE FULLY EQUIPPED WITH CONFLICT MONITOR, FLASHERS, AC ISOLATORS, DC ISOLATORS, AND FLASH TRANSFER RELAYS. THE APPROPRIATE NUMBER OF SWITCH PACKS AND MODEL 222 LOOP DETECTOR SENSOR UNITS SHALL BE SUPPLIED TO OPERATE THE INTERSECTION AS SHOWN IN THE PLANS. ALL COMPONENTS SHALL MEET CALTRANS SPECIFICATIONS AND SHALL BE ON THE OPL AS APPLICABLE.

FOR POLE MOUNTED CABINETS, MOUNTING BRACKETS AND BOTTOM PLATES SHALL BE SUPPLIED AND INSTALLED. DOOR HINGED ON POLE MOUNTED SIDE. FOR BASE MOUNTED CABINETS, GALVANIZED ANCHOR BOLTS WITH NUTS AND WASHERS SHALL BE SUPPLIED. ANCHOR BOLTS SHALL BE (3/4") 19mm DIAM. BY (16") 406mm MINIMUM LENGTH WITH AN "L" BEND ON THE UNTHREADED END.

CABINETS SHALL BE FITTED WITH A PDA-2 POWER DISTRIBUTION ASSEMBLY. CABINETS SHALL BE EQUIPPED WITH AN EDCO SHA12-10 OR APPROVED EQUAL SURGE PROTECTION IN LIEU OF THE CALTRANS SPECIFIED SURGE PROTECTION. THE SHA12-10 UNIT SHALL BE INSTALLED IN AN ENCLOSURE WITHIN THE CABINET.

THE FRONT OF THE INPUT AND OUTPUT FILES SHALL BE LABELED USING A WRITABLE TAPE. IN THE CASE OF THE OUTPUT FILE, THE TAPE SHALL CLEARLY DESIGNATE THE PURPOSE OF THE CORRESPONDING SWITCH PACK. AN EXAMPLE OF SWITCH PACK LABELING IS "PHASE 2" OR "PHASE 2 PED". IN THE CASE OF THE INPUT FILE, THE TAPE SHALL CLEARLY DESIGNATE THE PURPOSE OF THE CORRESPONDING DETECTOR UNIT. EVERY USED CHANNEL OF THE 222 DETECTOR SHALL BE LABELED. AN EXAMPLE OF DETECTOR UNIT LABELING IS "PHASE 2 C" OR "PHASE 2 EC" OR "PHASE 2 EXT" WHERE:

C - IS A CALL INPUT ONLY DURING RED
 EC - IS EXTEND AND CALL DURING RED, YELLOW AND GREEN
 EXT - IS AN EXTENSION ONLY DURING GREEN

CABINET WIRING SHALL COMPLY WITH THE FOLLOWING:

1. OUTPUT FILES SHALL BE "HARDWIRED". NO PRINTED CIRCUIT WIRING SHALL BE USED IN THE OUTPUT FILE EXCEPT FOR THE RED MONITOR BOARD.
2. CABINETS SHALL HAVE RED MONITOR CABLING INSTALLED. A PROGRAM BOARD SHALL BE INSTALLED TO ENABLE/DISABLE RED MONITORING. CABINETS SHALL BE SHIPPED WITH THE RED MONITOR JUMPERS SET IN THE "ENABLE" POSITION.
3. PEDESTRIAN YELLOW LOADSWITCH OUTPUTS SHALL NOT BE CONNECTED TO THE CONFLICT MONITOR CARD-EDGE CONNECTOR.
4. FIELD WIRING FOR LOOP DETECTOR LEAD-IN CABLES AND PEDESTRIAN DETECTORS SHALL BE TERMINATED ON A LOWER LOOP INPUT PANEL. EDCO MODEL SRA-6LCA, SRA-6LCB OR SRA-6LC SURRESTORS SHALL BE PROVIDED ON THE LOWER INPUT PANEL FOR PROTECTION AGAINST INCOMING ELECTRICAL SURGES AND LIGHTNING. FIELD WIRING TERMINALS ON THE LOWER INPUT PANEL SHALL BE LABELED BY A PERMANENT SCREENING PROCESS TO IDENTIFY THE INPUT FILE (I), THE INPUT FILE SLOT NUMBER (1-14) AND THE CHANNEL TERMINAL (D, E, J OR K). AN EXAMPLE IS "14-E" STANDING FOR INPUT FILE "I"; SLOT 4; CHANNEL TERMINAL "E".
5. FOR CABINETS THAT ARE TO BE INCLUDED IN A HARDWIRE (TWISTED PAIR) INTERCONNECTED SIGNAL SYSTEM, INCOMING INTERCONNECT CABLE SHALL BE TERMINATED ON AN APPROPRIATE TERMINAL BASE THAT IS MOUNTED ON THE SIDE OF THE CABINET. PROTECTION FROM INCOMING ELECTRICAL SURGES/LIGHTNING ON INTERCONNECT PAIRS SHALL BE PROVIDED BY INSTALLATION OF EDCO PC642 SURGE ARRESTORS ON THE TERMINAL BASE. THE PROTECTED OUTPUTS FROM THE TERMINAL BASE SHALL THEN BE ROUTED THROUGH TO THE CONTROLLER.
6. A WIRING HARNESS WITH A DB-9 CONNECTOR SHALL BE BROUGHT FROM THE C2 ON THE BACK OF THE CONTROLLER TO THE FRONT OF THE CABINET RACK NEAR THE PULL OUT SHELF. THE HARNESS SHALL BE CONNECTED TO THE CONTROLLER TO ALLOW A LAPTOP COMPUTER TO UPLOAD/DOWNLOAD DATA.

THE FOLLOWING AUXILIARY ITEMS SHALL BE SUPPLIED:

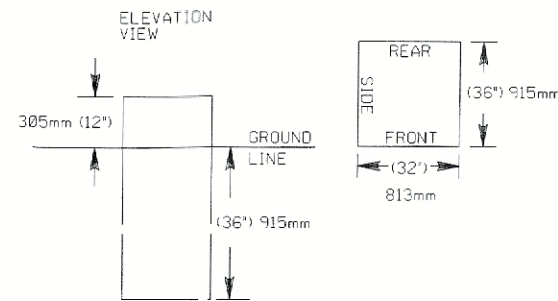
1. CABINETS SHALL HAVE TWO FLUORESCENT LIGHTS (FRONT AND REAR) WITH DOOR SWITCHES.
2. A RACK MOUNTED DETECTOR TEST PANEL SHALL BE FURNISHED WITH SEPARATE TEST SWITCHES FOR ALL POSSIBLE VEHICLE AND PEDESTRIAN PHASES. THE SWITCHES SHALL BE MOMENTARY CONTACT PUSHBUTTONS OR ON/OFF SWITCHES. SWITCHES OR BUTTONS CAPABLE OF PROVIDING A PERMANENT "ON" POSITION SHALL NOT BE SUPPLIED. A CONSTANT CALL SHALL BE SIMULATED BY CONTINUOUSLY HOLDING THE BUTTON OR SWITCH IN THE ON POSITION.
3. EACH CABINET SHALL BE PROVIDED WITH A POLICE PANEL WHICH WILL INCLUDE A PUSHBUTTON WITH CORD AND THREE SWITCHES LABELED AUTO/FLASH, SIGNALS ON/OFF, AND AUTO/MANUAL. THE PUSHBUTTON CORD SHALL NOT BE WIRED THROUGH AN AC ISOLATOR, BUT SHALL BE CONNECTED TO THE CONTROLLER HARNESS WIRING BY A MOLEX PLUG CONNECTION. WHEN PLACED IN THE MANUAL POSITION, "MANUAL CONTROL ENABLE" SHALL BE APPLIED TO THE CONTROLLER AND "RECALL" SHALL BE APPLIED TO ALL PHASES. ACTIVATION OF THE PUSHBUTTON SHALL "ADVANCE" THE CONTROLLER EXCEPT THAT MANUAL ADVANCEMENT WILL BE PROHIBITED IN THE MINIMUM GREEN, YELLOW AND RED INTERVALS.
4. AN ALUMINUM SHELF WITH INTEGRAL STORAGE COMPARTMENT SHALL BE PROVIDED IN THE RACK BELOW THE CONTROLLER. THE STORAGE COMPARTMENT WILL HAVE TELESCOPING DRAWER GUIDES FOR FULL EXTENSION. THE COMPARTMENT TOP SHALL HAVE A NON-SLIP PLASTIC LAMINATE ATTACHED.

TWO SETS OF CABINET WIRING DIAGRAMS, SERVICE MANUALS, PROGRAMMING AND MAINTENANCE INSTRUCTIONS SHALL BE FURNISHED FOR EACH CABINET AND EQUIPMENT ITEM. THE CABINET WIRING DIAGRAMS SHALL BE SUPPLIED IN A CLEAR PLASTIC POUCH FASTENED TO THE INSIDE OF THE CONTROLLER CABINET.

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 ITEM SPECIAL, CONTROLLER, MODEL 170E, WITH MODEL 336 CABINET AND ACCESSORIES.

(WHEN GROUND MOUNTING SPECIFIED)
336 CABINET FOUNDATION



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

FRONT VIEW OF TOP INPUT FILE J

	SLOT 1	SLOT 2	SLOT 3	SLOT 4	SLOT 5	SLOT 6	SLOT 7	SLOT 8	SLOT 9	SLOT 10	SLOT 11	SLOT 12	SLOT 13	SLOT 14
Channel #1	1 EC	2 EC	3 EC	4 EC	5 EC	6 EC	7 EC	8 EC	PED. (N-18)	EV-A	EV-B	2 PPB	6 PPB	FLSH
Field Term.	11-D,E	12-D,E	13-D,E	14-D,E	15-D,E	16-D,E	17-D,E	18-D,E	19-D,E	110-D,E	111-D,E	112-D,E	113-D,E	114-D,E
Channel #2	2 C	2 EC	4 C	4 EC	6 C	6 EC	8 C	8 EC	RR	EV-C	EV-D	4 PPB	8 PPB	STOP TIME
Field Term.	11-J,K	12-J,K	13-J,K	14-J,K	15-J,K	16-J,K	17-J,K	18-J,K	19-J,K	110-J,K	111-J,K	112-J,K	113-J,K	114-J,K

FRONT VIEW OF BOTTOM INPUT FILE J

C - INPUT ONLY DURING RED
 EC - EXTEND AND CALL (RED, YELLOW, GREEN)
 EXT - INPUT ONLY DURING GREEN

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	I	EQUIPMENT GROUND

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.

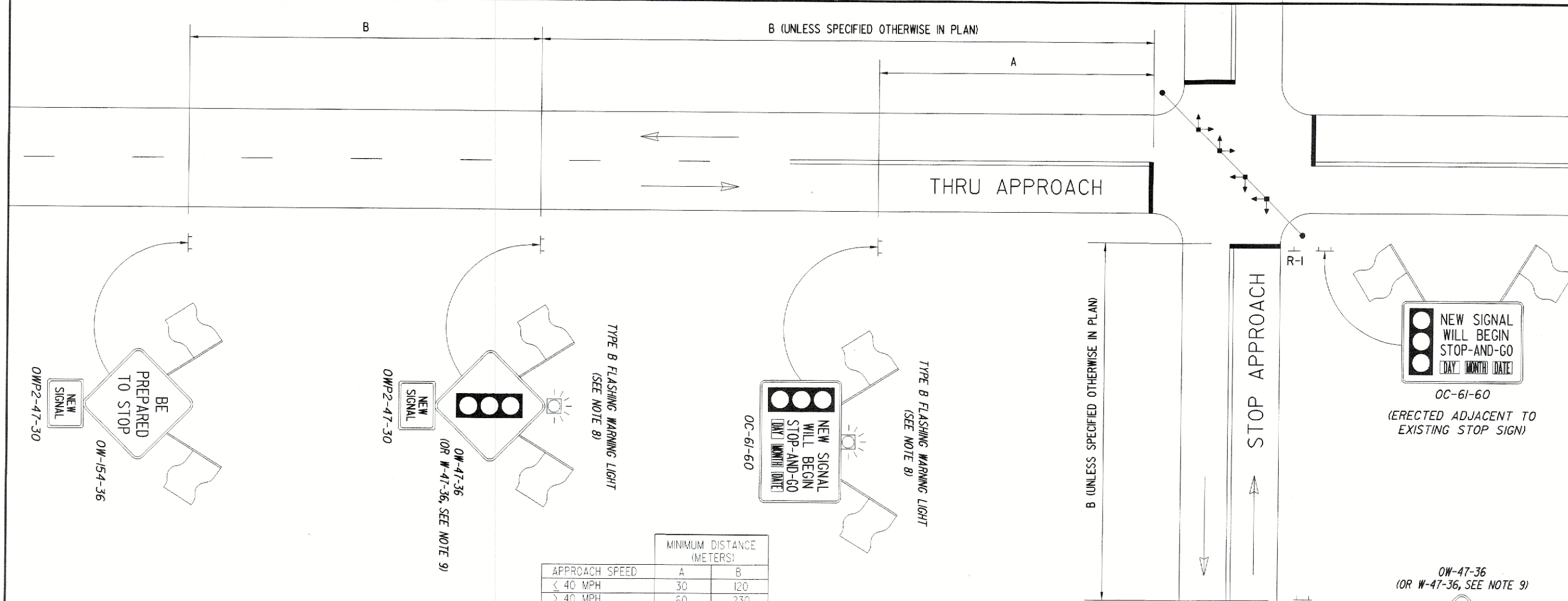
REVISED BY:	DATE:
LPA MAINTAINED MODEL 170E CONTROLLER WITH MODEL 336 CABINET AND ACCESSORIES	
PLAN INSERT SHEET	
DATE 08/12/98	

CALCULATED
 MEC
 CHECKED
 JM

TRAFFIC CONTROL GENERAL NOTES

HOL - 62 - 30.649

130
 180



**MAINTENANCE OF TRAFFIC
NEW SIGNAL ACTIVATION**

NOTES:

1. THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN ALL SIGNS, FLASHING WARNING LIGHTS (WHEN REQUIRED) AND FLAGS AS SHOWN ABOVE, INCLUDING SUPPORTS AND ALL NECESSARY MOUNTING HARDWARE.
2. AFTER RECEIVING APPROVAL FROM THE ENGINEER TO ACTIVATE THE SIGNAL, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST TEN (10) DAYS PRIOR TO PLACING SIGNAL IN STOP-AND-GO MODE TO ALLOW THE ENGINEER TIME TO NOTIFY LOCAL MEDIA AND LAW ENFORCEMENT OF THE SCHEDULED SIGNAL ACTIVATION.
3. A PERMANENT NEW SIGNAL OR SIGNAL UPGRADE FROM A FLASHER, SHALL OPERATE IN FLASH MODE FOR THREE (3) TO TEN (10) CONSECUTIVE DAYS BEFORE BEING PLACED IN A STOP-AND-GO MODE FOR THE TEN (10) DAY BURN TEST, AS DIRECTED BY THE ENGINEER.
4. THE CONTRACTOR SHALL ERECT THE OC-61-60 (WITH ACTIVATION DAY, MONTH, AND DATE; E.G. MON AUG 12) SIGNS EQUIPPED WITH ORANGE FLAGS AND FLASHING WARNING LIGHTS (WHEN REQUIRED) AS SHOWN ABOVE ON EACH APPROACH OF THE INTERSECTION AT THE TIME THE SIGNAL IS PLACED IN FLASH MODE.
5. IMMEDIATELY BEFORE PLACING THE NEW SIGNAL INSTALLATION IN STOP-AND-GO MODE, THE CONTRACTOR SHALL REMOVE THE OC-61-60 SIGNS AND INSTALL OR UNCOVER THE (O)W-47 AND OW-154 SIGN ASSEMBLIES AS SHOWN ABOVE.
6. IMMEDIATELY AFTER CHANGING THE SIGNAL TO STOP-AND-GO OPERATION, THE CONTRACTOR SHALL REMOVE THE EXISTING STOP SIGNS AND POST SUPPORTS.
7. THE CONTRACTOR SHALL REMOVE THE FLASHING WARNING LIGHTS, FLAGS, BRACKETS, OWP2-47, OW-47, AND OW-154 SIGNS 21-30 DAYS AFTER THE SIGNAL IS PLACED IN STOP-AND-GO MODE.
8. FLAGS SHALL BE ERECTED AS SHOWN ABOVE. THE FLAGS SHALL BE 450 mm X 450 mm IN SIZE, MADE OF ORANGE VINYL MATERIAL, AND SECURELY FASTENED TO THE SIGN OR SIGN SUPPORT. WHEN REQUIRED BY PLAN NOTE, TYPE B FLASHING WARNING LIGHTS SHALL BE INSTALLED AS SHOWN ABOVE.

9. THE OW-154 SIGN INSTALLATION (INCLUDING THE OWP2-47 SIGN AND FLAGS) ON THE THRU APPROACH SHALL BE OMITTED WHEN A PERMANENT "PREPARE TO STOP WHEN FLASHING" (W-44) SIGN IS ERECTED. WHEN SPECIFIED IN THE PLAN, A W-47 SIGN SHALL BE USED IN PLACE OF THE OW-47 SIGN ON THE THRU APPROACH. THE "NEW SIGNAL" (OWP2-47) SIGN, FLAGS, AND FLASHING WARNING LIGHT, WHEN REQUIRED, SHALL BE INSTALLED WITH THE W-47 SIGN AS SHOWN. WHEN SPECIFIED IN THE PLAN, A W-47 SIGN SHALL BE USED IN PLACE OF THE OW-47 SIGN ON THE STOP APPROACH. THE "NEW SIGNAL" (OWP2-47) SHALL BE INSTALLED WITH THE (O)W-47 SIGN AS SHOWN.
10. ON MULTILANE THRU APPROACHES, REPLACE THE OW-154-36 SIGN WITH AN OW-154-48 SIGN, AND REPLACE THE OW-47-36 SIGN WITH AN OW-47-48 SIGN. ON MULTILANE DIVIDED THRU APPROACHES, ERECT SIGNS IN MEDIAN IDENTICAL TO THOSE ON RIGHT TO CREATE DUAL INSTALLATIONS, INCLUDING SUPPLEMENTAL SIGNS AND FLAGS, AND, WHEN REQUIRED BY PLAN NOTE, FLASHING WARNING LIGHTS.
11. FOR MULTI-WAY STOP APPROACHES, EACH APPROACH CONTROLLED BY A STOP SIGN SHALL BE TREATED AS SHOWN ABOVE FOR THE STOP APPROACH.
12. THE SIGNAL SHALL NOT BE ACTIVATED TO STOP-AND-GO OPERATION ON A FRIDAY, SATURDAY OR SUNDAY, OR THE DAY PRECEDING OR DURING A NATIONAL HOLIDAY, (NEW YEARS, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING, OR CHRISTMAS).
13. PERMANENT SUPPORTS, PERMANENT SIGNS (W-44 AND W-47), AND TYPE B FLASHING WARNING LIGHTS SHALL BE PAID FOR UNDER SEPARATE PAY ITEM IN THE PLAN. PAYMENT FOR ALL OTHER LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR 614 MAINTAINING TRAFFIC.

HOL -62-30.649

SHEET NUMBER

129 134

ITEM

ITEM EXT.

GRAND TOTAL

UNIT

DESCRIPTION

AS PER PLAN SHEET NO.

CALCULATED JPB
CHECKED MEC

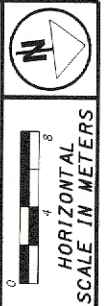
TRAFFIC SIGNALS (CONT.)

	1				
633	39200	1	EACH	CONTROLLER, TYPE 170E WITH MODEL 336 CABINET AND ACCESSORIES	
633	64000	1	EACH	PREEMPTION	
633	64100	3	EACH	PREEMPTION EQUIPMENT, RECEIVING UNIT	
633	64200	4	EACH	PREEMPTION EQUIPMENT, SENDING UNIT	
633	70500	4	SQ METER	CONTROLLER WORK PAD	

TRAFFIC CONTROL GENERAL SUMMARY

HOL-62-30.649

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180

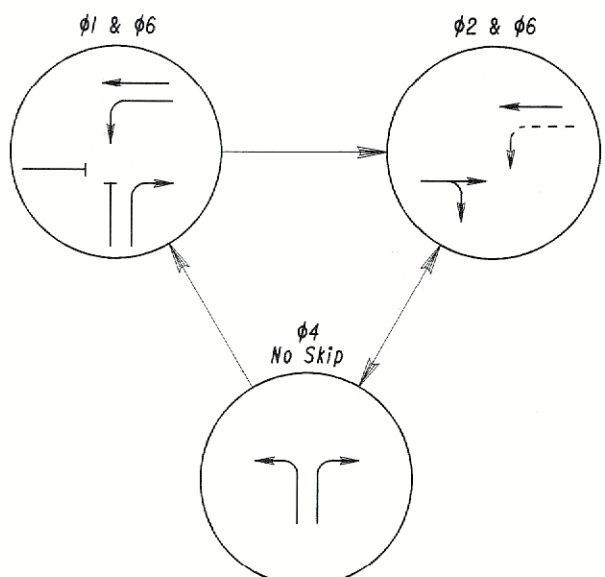
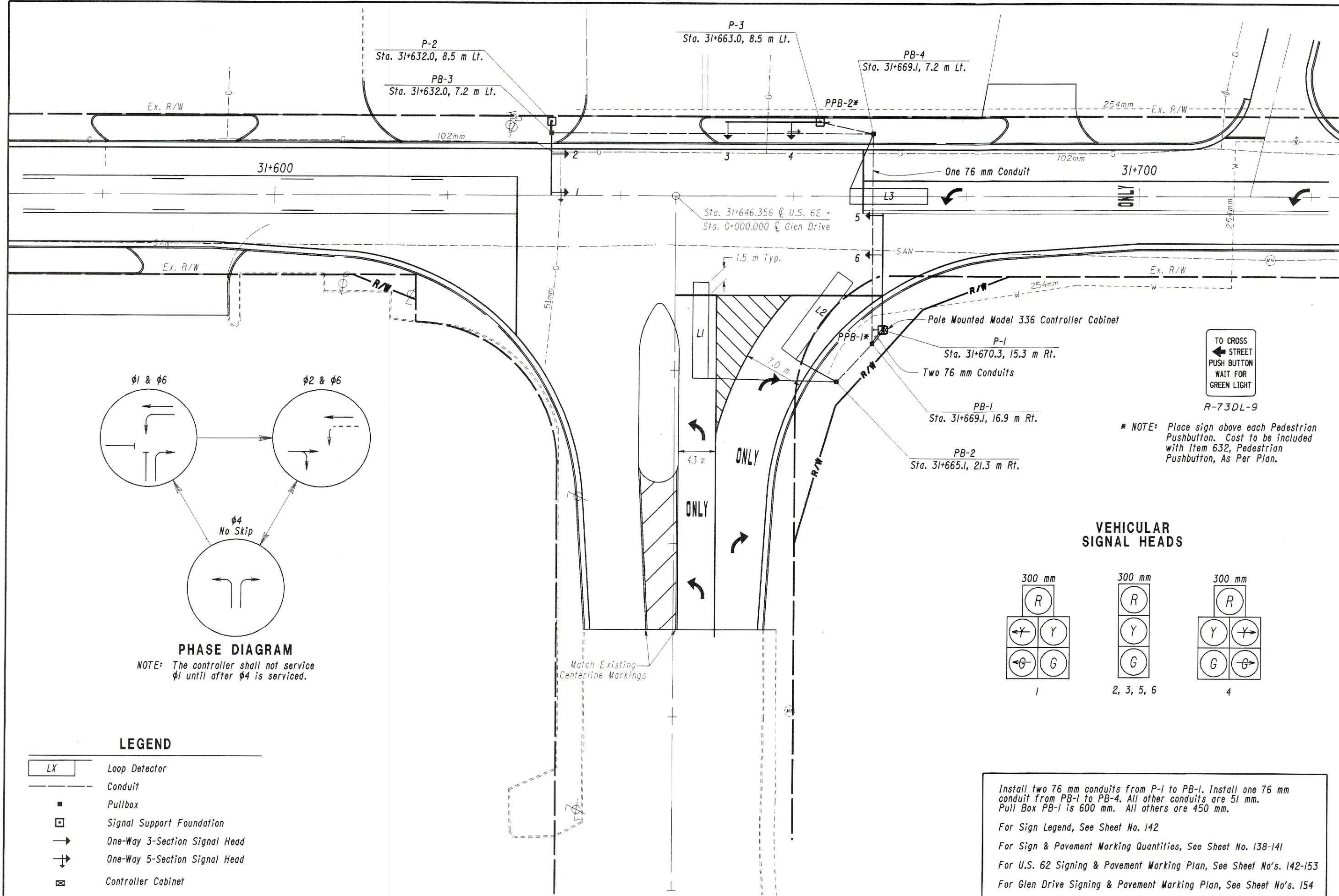


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**SIGNAL PLAN
GLEN DRIVE**

HOL-62-30.649

135
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PHASE DIAGRAM

NOTE: The controller shall not service phi 1 until after phi 4 is serviced.

LEGEND

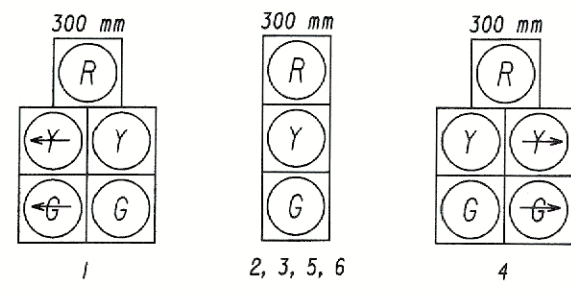
- LX Loop Detector
- Conduit
- Pullbox
- Signal Support Foundation
- One-Way 3-Section Signal Head
- ⊕ One-Way 5-Section Signal Head
- ⊠ Controller Cabinet
- Pedestrian Pushbutton

TO CROSS
STREET
PUSH BUTTON
WAIT FOR
GREEN LIGHT

R-73DL-9

* NOTE: Place sign above each Pedestrian Pushbutton. Cost to be included with Item 632, Pedestrian Pushbutton, As Per Plan.

**VEHICULAR
SIGNAL HEADS**



Install two 76 mm conduits from P-1 to PB-1. Install one 76 mm conduit from PB-1 to PB-4. All other conduits are 51 mm. Pull Box PB-1 is 600 mm. All others are 450 mm.

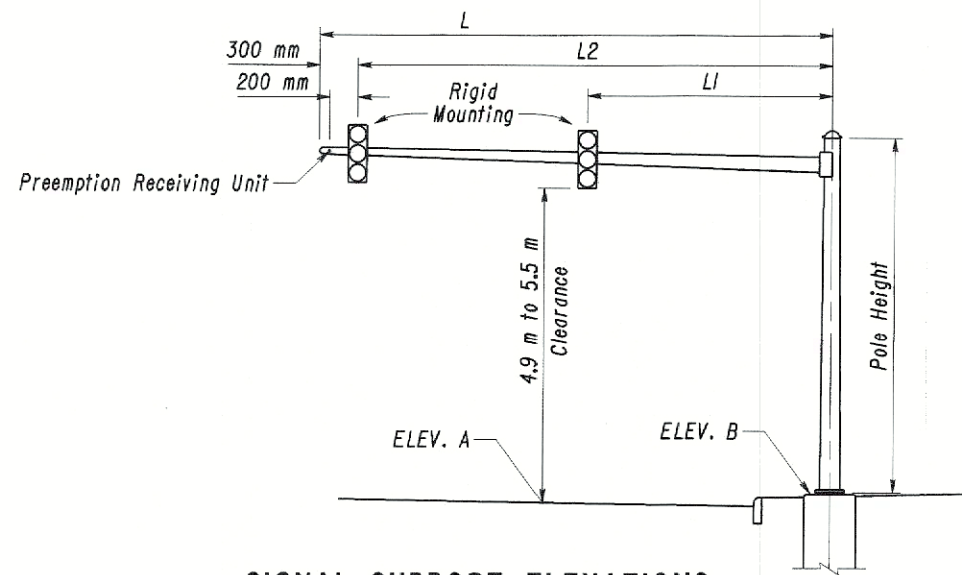
For Sign Legend, See Sheet No. 142

For Sign & Pavement Marking Quantities, See Sheet No. 138-141

For U.S. 62 Signing & Pavement Marking Plan, See Sheet No's. 142-153

For Glen Drive Signing & Pavement Marking Plan, See Sheet No's. 154

For Signal Wiring Diagram, See Sheet No. 137



SIGNAL SUPPORT ELEVATIONS

PHASE	SIGNAL HEAD						PED. HEAD	DESCRIPTION OF INTERVAL
	1	2	3	4	5	6		
1 & 6	G ←	G	R	R →	R	R		Green
	G ←	G	R	R →	R	R		Yellow Clear
	G	G	R	R	R	R		Red Clear
2 & 6	G	G	R	R	G	G		Green
	Y	Y	R	R	Y	Y		Yellow Clear
	R	R	R	R	R	R		Red Clear
4	R	R	G	G	R	R		Green
	R	R	Y	Y	R	R		Yellow Clear
	R	R	R	R	R	R		Red Clear
Flash	Y	Y	R	R	Y	Y		Flash

POLE NO.	STATION, OFFSET	SIGNAL SUPPORT TYPE TC-81.20M										ELEVATION		ORIENTATION ANGLES (DEG.) FROM MAST ARM A							
		DESIGN NO.	POLE HEIGHT (m)	L	L1	L2	L3	L4	A	B	MAST ARM A ANGLE (DEG.)	MAST ARM B	PEDESTRIAN SIGNAL	PEDESTRIAN PUSHBUTTON	POWER SERVICE	CONTROLLER	LUMINAIRE BRACKET	HANDHOLE			
				(m)	(m)	(m)	(m)	(m)													
P-1	31+670.3, 15.3 m Rt.	12	5.5	13.41	8.61	13.11	--	--	250.08	250.78	0	--	--	270	--	90	--	180			
P-2	31+632.0, 8.5 m Lt.	2	6.2	8.51	3.74	8.21	--	--	250.07	249.92	0	--	--	--	--	--	--	0			
P-3	31+663.0, 8.5 m Lt.	4	6.2	10.97	3.35	10.67	--	--	250.11	250.13	90	--	--	180	--	--	--	270			

INTERVAL OR FEATURE	CONTROLLER MOVEMENT							
	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
Intersection Movement	↖	→	--	↗	--	←	--	--
Minimum Green (Initial) (Sec.)	6	12	--	6	--	12	--	--
Passage Time (Preset Gap) (Sec.)	2.5	--	--	2.5	--	--	--	--
Maximum Green (Sec.)	7	51	--	13	--	64	--	--
Yellow Change (Sec.)	4	4	--	5	--	4	--	--
All Red Clearance (Sec.)	2	2	--	2	--	2	--	--
Walk* (Sec.)	--	--	--	4	--	--	--	--
Pedestrian Clearance* (Sec.)	--	--	--	16	--	--	--	--
Recall	Minimum (On/Off)	Off	Off	--	Off	--	Off	--
	Maximum (On/Off)	Off	On	--	Off	--	On	--
	Memory (On/Off)	Off	Off	--	Off	--	Off	--

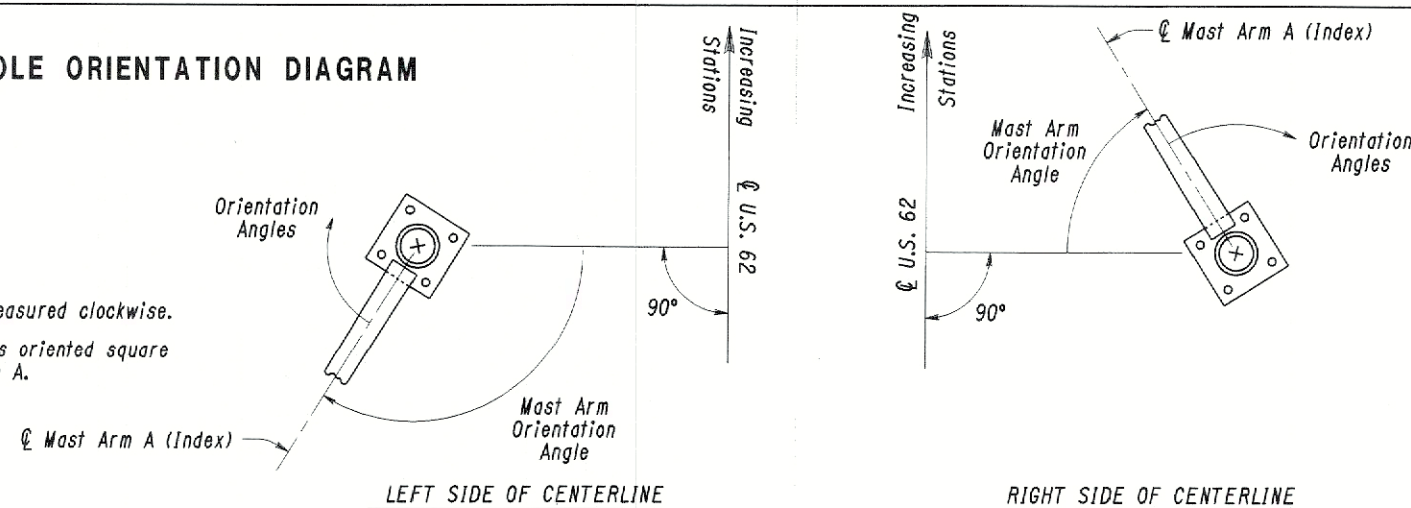
START UP
 Start in: Y/R Flash All Red
 Time for Flash or All Red 10 Sec.
 First Phase(s) # 2 & # 6
 Color Displayed: Green Yellow

* NOTE: φ4 pedestrian time only given with Pedestrian Pushbutton actuation.

POLE ORIENTATION DIAGRAM

NOTES:

- All angles measured clockwise.
- Base plate is oriented square to Mast Arm A.



TRAFFIC SIGNAL DETECTORS

LOOP DESIGNATION	SIZE (m)	NO. OF TURNS	SHAPE	PULSE OR PRESENCE	ASSOCIATED CONTROLLER PHASE	DELAY OR EXTENSION (SEC.)	OVER-RIDE PHASE	DETECTOR UNIT			
								#	SLOT	CHANNEL	FIELD TERMINATION
L1	1.8 x 10.7	2	Rect.	Presence	4	3	4	1	4	1	1 4-D,E
L2	2.1 x 10.7	2	Rect.	Presence	4	8	4	1	4	2	1 4-J,K
L3	1.8 x 9	2	Rect.	Presence	1	6	1	2	1	1	1 1-D,E

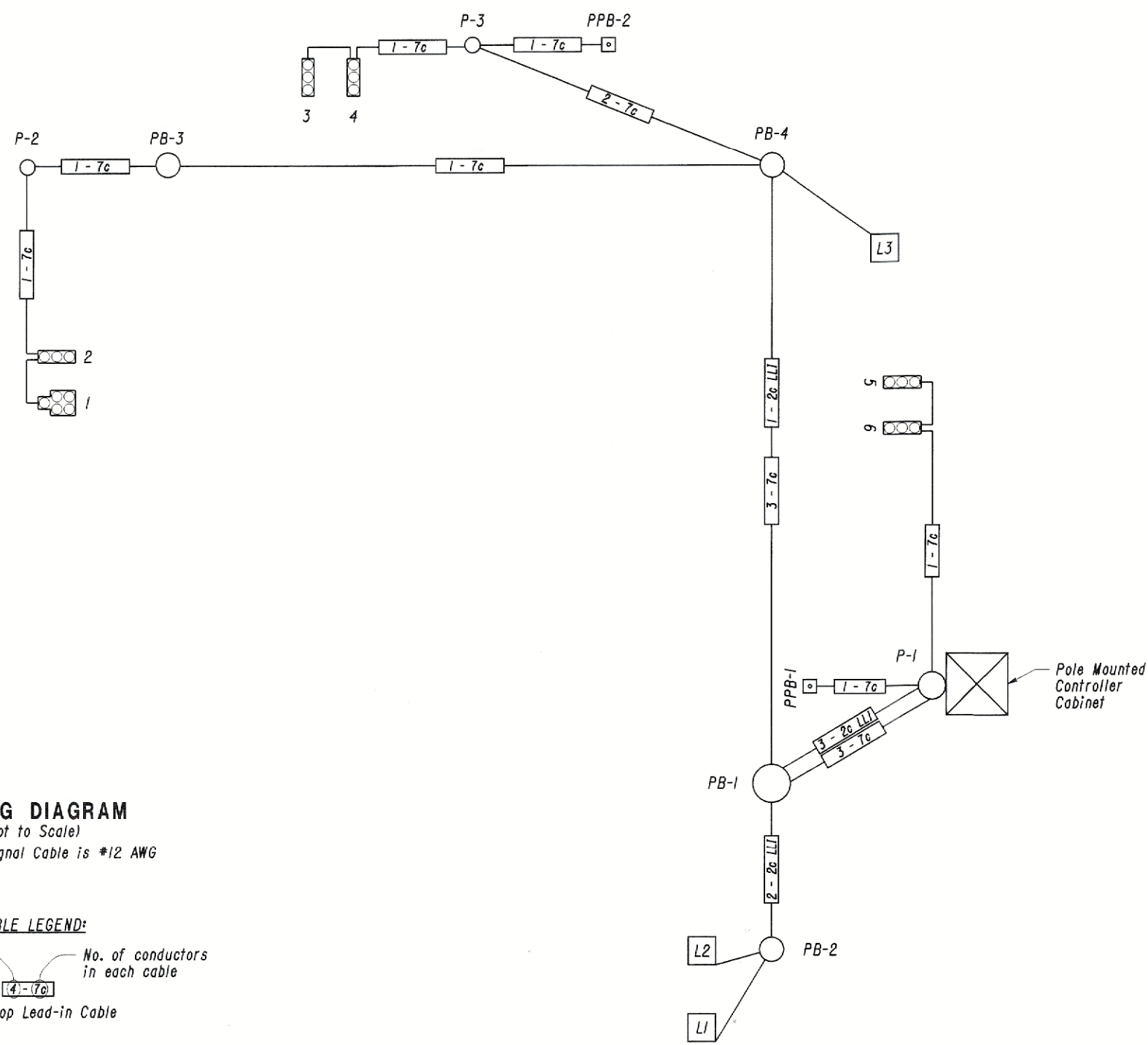
For Wiring Diagram, See Sheet No. 137
 For Quantities, See Sheet No. 134

CALCULATED
 MEC
 CHECKED
 SHG

TRAFFIC SIGNAL DETAILS

HOL-62-30.649

136
 180



WIRING DIAGRAM
(Not to Scale)
NOTE: All Signal Cable is #12 AWG

CABLE LEGEND:
No. of cables ——— No. of conductors in each cable
[4]-7c
LLI = Loop Lead-in Cable

For Quantities, See Sheet No. 134

* Sign Clearance from Face of Curb. See Std. Const. Dwg. TC-42.20M

SHEET NO.	REFERENCE NO.	STATION		SIDE	SIGN CODE	SIGN DIMENSION MILLIMETER	SIGN CLEARANCE # METER	SUPPORT LENGTHS			REMOVAL OF GROUND MOUNTED SIGN & DISPOSAL EACH	REMOVAL OF GROUND MOUNTED POST & DISPOSAL EACH	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE EACH	630		GROUND MOUNTED SUPPORTS, NO. 2 POST METER	GROUND MOUNTED SUPPORTS, NO. 3 POST METER	CENTER LINE, TYPE I		LANE ARROW, TYPE I EACH
		FROM	TO					LEFT	CENTER	RIGHT				SO. METER	SO. METER			DOUBLE YELLOW KILOMETER	SOLID/DASH YELLOW KILOMETER	
		METER						METER		METER				KILOMETER						
144	8S	1+017.500	€ C.R. 58	RT.																
	9S	1+017.200	€ C.R. 58	RT.	R-1-30	750x750	0.6													
	10S	30+938.000		RT.	M-6-18	450x450	0.6													
	11S	30+952.700		LT.	M-24R-21	525x375														
	12S	30+960.000		LT.																
	13S	30+960.000		RT.	R-55-12	300x450	0.6													
	14S	30+983.000		LT.	R-55-12	300x450	0.6													
	15S	30+990.000		RT.	R-310-30	900x750	0.6													
	16S	30+990.000		RT.	R-48-24	600x900	0.6													
	17S	30+990.000		RT.	M-39-24	600x300														
	18S	30+990.000		RT.	M-1-24-2	600x600	3.3													
	19S	30+990.000		RT.	M-37-24	600x300														
	20S	31+000.500		RT.	M-2-24-2	600x600	4.1													
	21S	31+010.000		LT.																
145	CL-1	31+050.000	31+200.000	LT.																
	CL-2	31+050.000	31+200.000	RT.																
		31+140.000	€																	
	1S	31+050.000		LT.	R-55-12	300x450	0.6													
	2S	31+080.000		RT.																
	3S	31+090.000		LT.	R-55-12	300x450	0.6													
	4S	31+125.000		LT.	R-55-12	300x450	0.6	4.3	4.5											
	5S	31+135.900		LT.	R-81-48	1200x750	0.6													
	6S	31+140.000		RT.																
	7S	31+160.000		LT.	R-55-12	300x450	0.6													
8S	31+200.000		RT.	R-55-12	300x450	0.6														
146	CL-1	31+200.000	31+350.000	LT.																
	CL-2	31+200.000	31+350.000	RT.																
	1S	31+200.000		LT.																
	2S	31+201.700		RT.	R-55-12	300x450	0.6													
	3S	31+260.000		LT.																
	4S	31+260.000		RT.	R-55-12	300x450	0.6													
	5S	31+290.000		LT.	R-55-12	300x450	0.6													
	6S	31+290.000		RT.	R-48-24	600x900	0.6													
	7S	31+313.900		RT.	R-48-24	600x900	0.6													
	8S	31+320.000		RT.																
9S	31+345.000		LT.	R-55-12	300x450	0.6														
10S	31+348.400		RT.	R-10-24	600x750	0.6														
147	CL-1	31+350.000	31+500.000	LT.																
	CL-2	31+350.000	31+500.000	RT.																
		31+440.000	€																	
	1S	31+355.000		LT.																
	2S	31+360.000		LT.	R-55-12	300x450	0.6													
	3S	31+380.000		RT.																
	4S	31+390.400		LT.	R-55-12	300x450	0.6													
	5S	31+450.000		RT.																
6S	31+469.000		LT.	R-10-24	600x750	0.6														
7S	31+480.000		RT.	R-55-12	300x450	0.6														

Totals Carried to Traffic Control General Summary

2 9 7 8.55 0.56 114.5 8.8 0.9 4

SIGNING & PAVEMENT MARKING QUANTITIES

HOL-62-30.649

CALCULATED
JPB
CHECKED
JAS

139
180

* Sign Clearance from Face of Curb, See Std. Const. Dwg. TC-42.20M

SHEET NO.	REFERENCE NO.	STATION		SIDE	SIGN CODE	SIGN DIMENSION MILLIMETER	SIGN CLEARANCE * METER	SUPPORT LENGTHS			REMOVAL OF GROUND MOUNTED POST & DISPOSAL EACH	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE EACH	SIGN, FLAT SHEET SQ.METER	GROUND MOUNTED SUPPORTS, NO. 2 POST METER	642			LANE ARROW, TYPE I EACH		
		FROM	TO					LEFT	CENTER	RIGHT					EDGE LINE, TYPE I KILOMETER	CENTER LINE, TYPE I				
								METER								DOUBLE YELLOW KILOMETER	SOLID/DASH YELLOW KILOMETER			
150	CL-1	31+800.000	31+950.000	LT.																
	CL-2	31+800.000	31+950.000	RT.											0.15					
			31+820.000	℄											0.15		2			
150	1S		31+805.500	LT.																
	2S		31+810.000	LT.	R-55-12	300x450	0.6					0.14		3.8						
	3S		31+820.000	RT.	R-55-12	300x450	0.6					0.14		3.8						
	4S		31+870.000	LT.	R-55-12	300x450	0.6					0.14		3.8						
	5S		31+880.000	RT.	R-55-12	300x450	0.6					0.14		3.8						
	6S		31+910.000	LT.	R-48-24	600x900	0.6					0.54		4.2						
	7S		31+912.500	LT.																
	8S		31+915.000	RT.	R-48-24	600x900	0.6					0.54		4.2						
	9S		31+935.000	LT.	R-55-12	300x450	0.6					0.14		3.8						
	10S		31+940.000	RT.	R-55-12	300x450	0.6					0.14		3.8						
	11S		31+940.800	RT.																
151	CL-1	31+950.000	32+100.000	LT.																
	CL-2	31+950.000	32+100.000	RT.											0.15					
			32+040.000	℄											0.15		2			
151	1S		31+960.000	RT.																
	2S		31+970.000	RT.	R-55-12	300x450	0.6					0.14		3.8						
	3S		31+975.700	LT.																
	4S		31+976.900	RT.																
	5S		31+990.000	LT.	R-55-12	300x450	0.6					0.14		3.8						
	6S		31+991.750	RT.																
	7S		32+016.000	LT.																
	8S		32+018.000	RT.	R-55-12	300x450	0.6					0.14		3.8						
	9S		32+021.200	RT.																
	10S		32+040.000	LT.	R-55-12	300x450	0.6					0.14		3.8						
	11S		32+070.000	RT.	R-55-12	300x450	0.6					0.14		3.8						
	12S		32+090.000	LT.	R-55-12	300x450	0.6					0.14		3.8						
	13S		32+096.000	LT.																
152	CL-1	32+100.000	32+130.000	LT.																
	CL-2	32+100.000	32+130.000	RT.																
	CL-3	32+130.000	32+171.000	LT.											0.03					
	CL-4	32+130.000	32+171.000	RT.											0.03					
	EL-1	32+130.000	32+171.000	LT.											0.04					
	EL-2	32+130.000	32+171.000	RT.											0.04					
	1S		32+110.830	LT.																
	2S		32+113.000	RT.	R-55-12	300x450	0.6					0.14		3.8						
	3S		32+140.000	LT.	RP-49-24	600x150	0.6					0.09		4.4						
	4S		32+130.000	RT.	R-48-24	600x900	0.6					0.54		4.4						
5S		32+145.000	RT.	RP-51-24	600x150	0.6					0.09		4.4							
Totals Carried to Traffic Control General Summary												12	13	4.16		66.5		0.08	0.74	4

SIGNING & PAVEMENT MARKING QUANTITIES

HOL - 62 - 30.649

141
180

CALCULATED
JPB
CHECKED
JAS

SIGN LEGEND

-  - EXISTING TO BE REMOVED
-  - EXISTING TO BE REMOVED FOR STORAGE
-  - PROPOSED
-  - EXISTING TO BE REMOVED AND REERECTED

For Sign Quantities, See Sheet No. 138
 For Pavement Marking Quantities, See Sheet No. 138
 For Sign Legend, See This Sheet



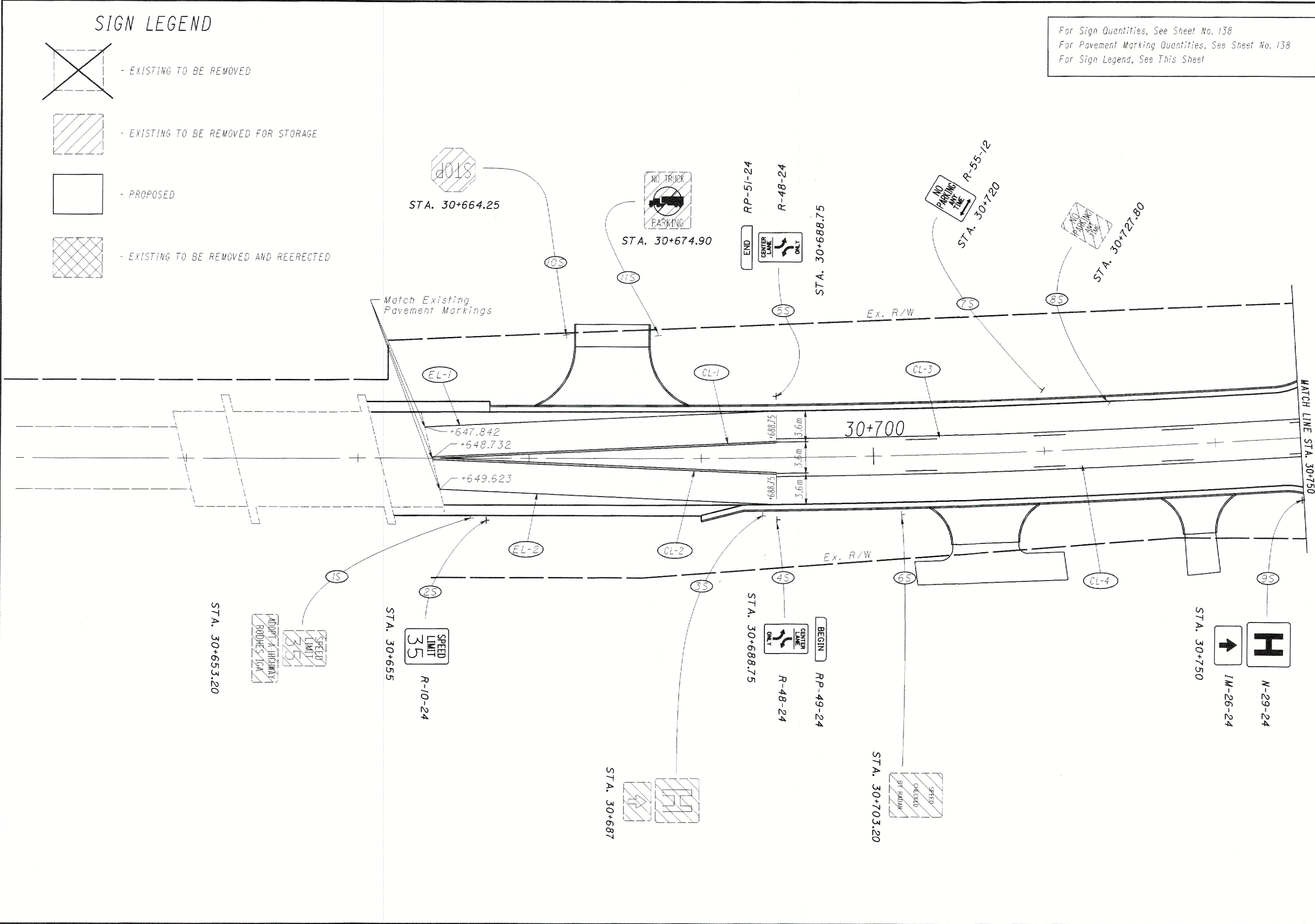


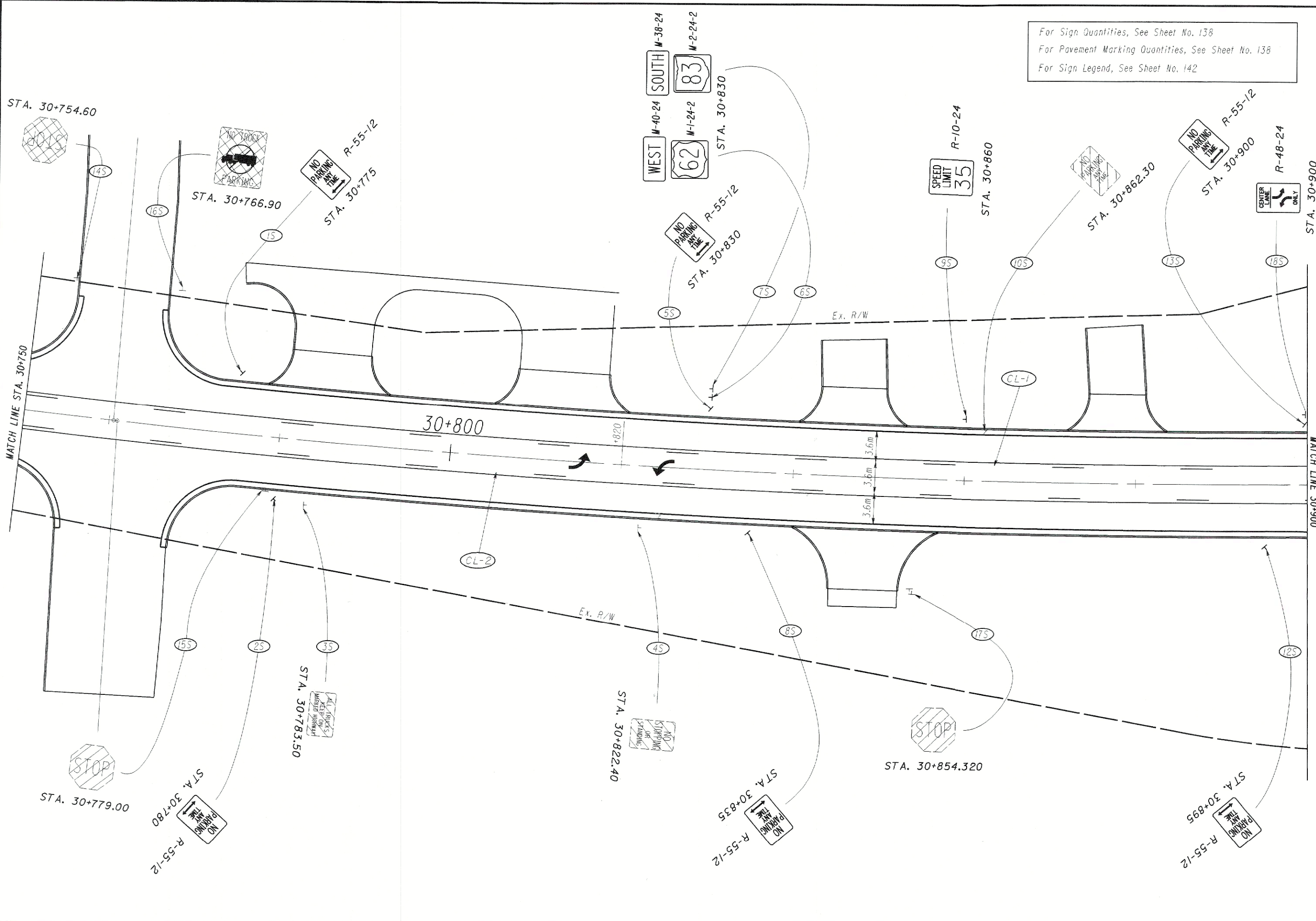
HORIZONTAL SCALE IN METERS

CALCULATED	JPB
CHECKED	JAS

SIGNING & PAVEMENT MARKING PLAN
STA. 30+600 to STA. 30+750

HOL-62-30.649
142
180





For Sign Quantities, See Sheet No. 138
 For Pavement Marking Quantities, See Sheet No. 138
 For Sign Legend, See Sheet No. 142

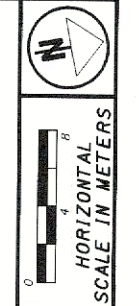
SIGNING & PAVEMENT MARKING PLAN
STA. 30+750 to STA. 30+900

HOL-62-30.649

143
180

CALCULATED: JPB
 CHECKED: JAS
 HORIZONTAL SCALE IN METERS

For Sign Quantities, See Sheet No. 138
 For Pavement Marking Quantities, See Sheet No. 138
 For Sign Legend, See Sheet No. 142

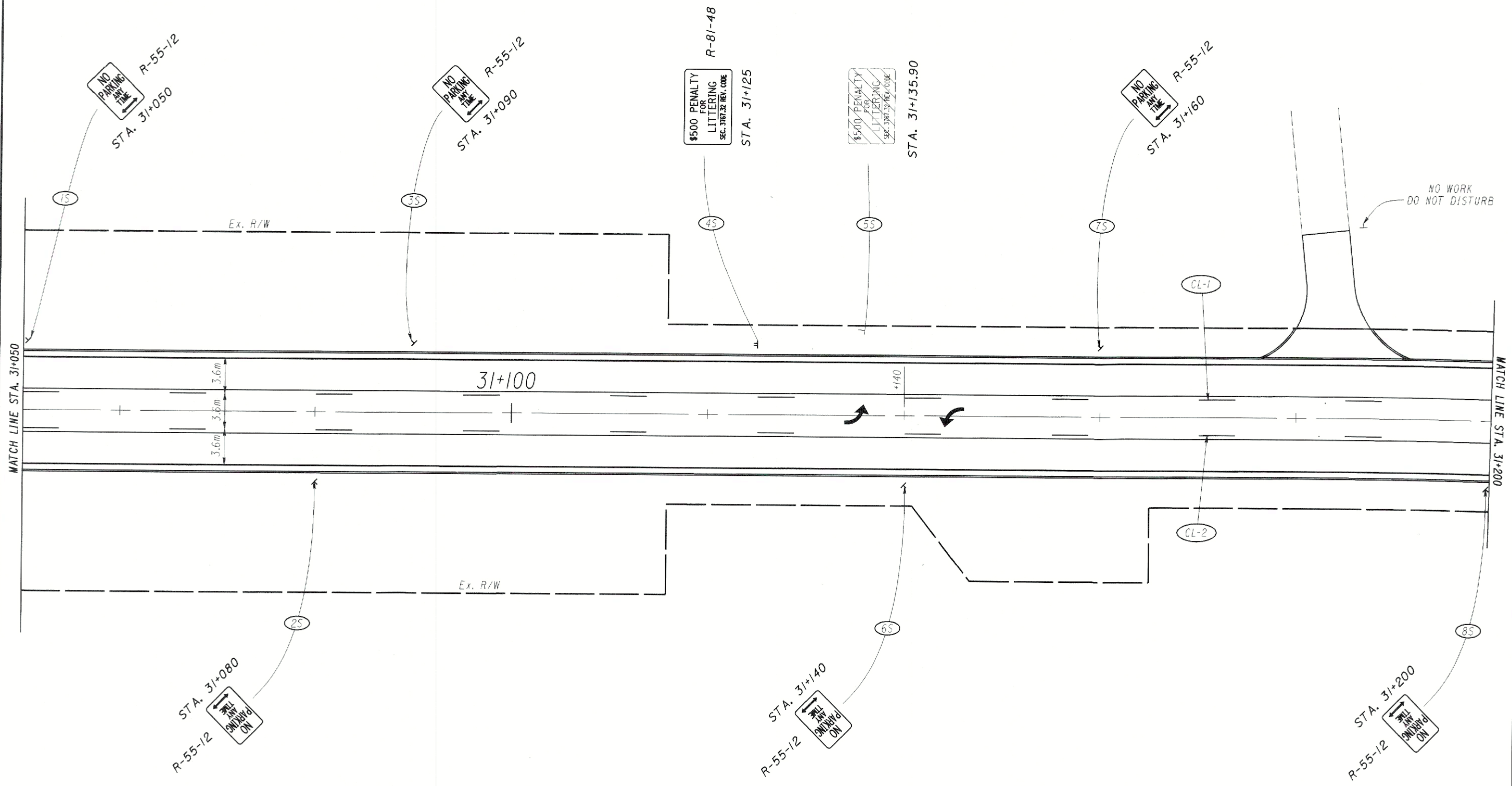


CALCULATED	JPB
CHECKED	MEC

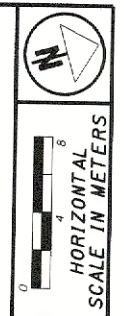
SIGNING & PAVEMENT MARKING PLAN
 STA. 31+050 to STA. 31+200

HOL-62-30.649

145
180



For Sign Quantities, See Sheet No. 138
 For Pavement Marking Quantities, See Sheet No. 138
 For Sign Legend, See Sheet No. 142

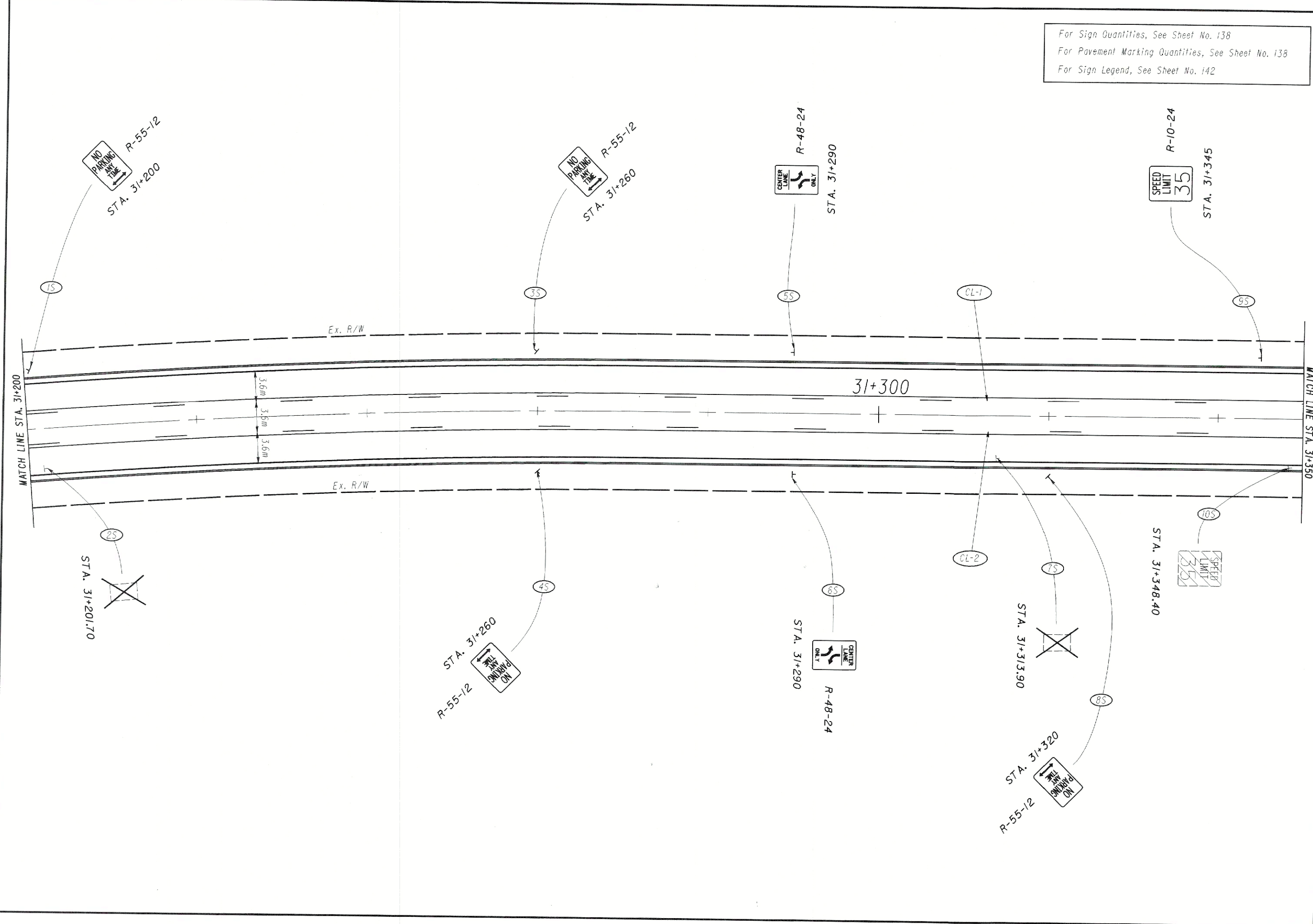


CALCULATED JPB
 CHECKED MEC

SIGNING & PAVEMENT MARKING PLAN
STA. 31+200 to STA. 31+350

HOL-62-30.649

146
180



For Sign Quantities, See Sheet No. 138
 For Pavement Marking Quantities, See Sheet No. 138
 For Sign Legend, See Sheet No. 142



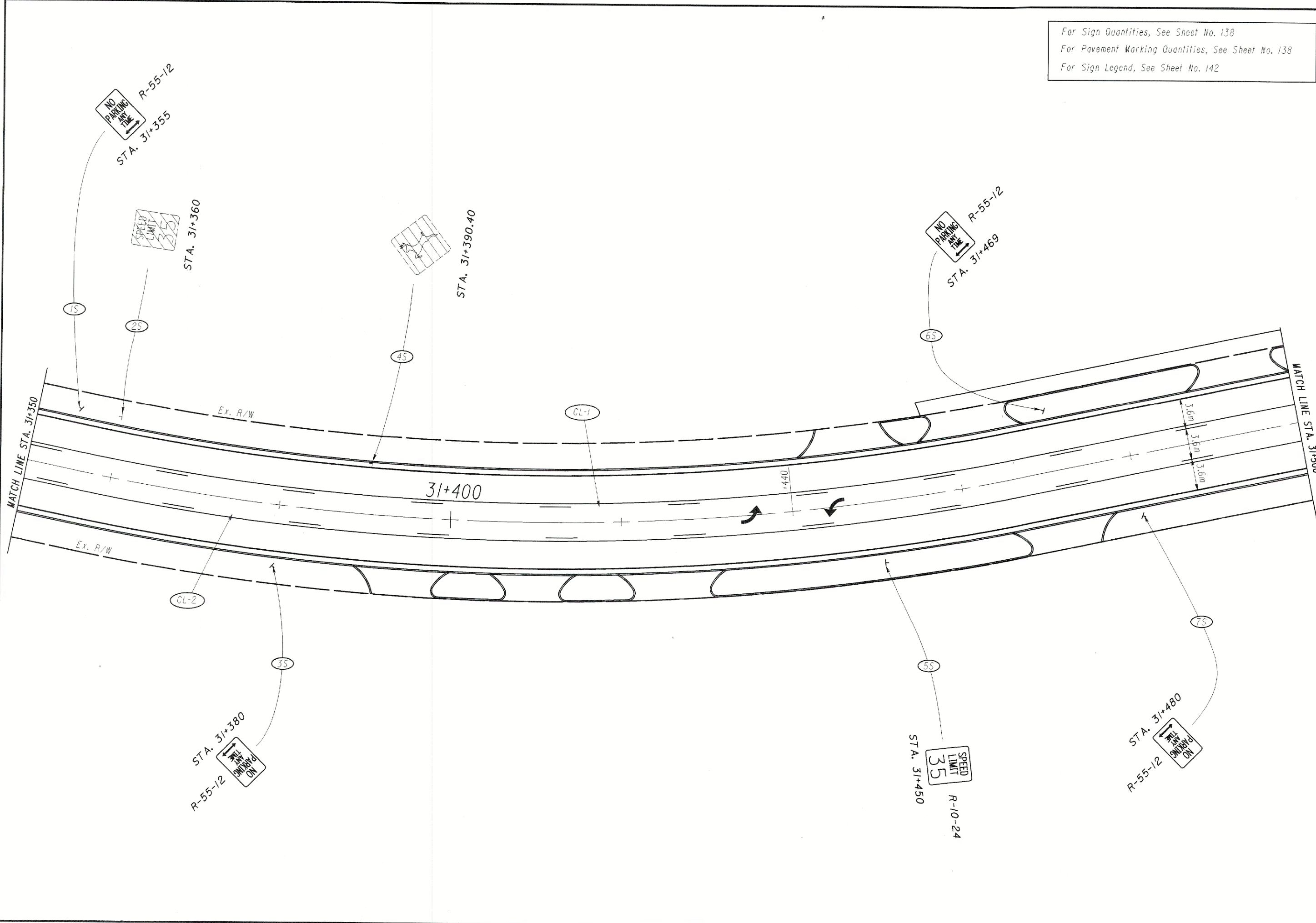
HORIZONTAL SCALE IN METERS

CALCULATED JPB
 CHECKED MEC

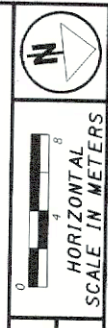
SIGNING & PAVEMENT MARKING PLAN
STA. 31+350 to STA. 31+500

HOL-62-30.649

147
180



For Sign Quantities, See Sheet No. 138
 For Pavement Marking Quantities, See Sheet No. 138
 For Sign Legend, See Sheet No. 142
 For Glen Drive Signing & Pavement Marking Plan, See Sheet No. 153
 For Signal Plan, See Sheet No. 135

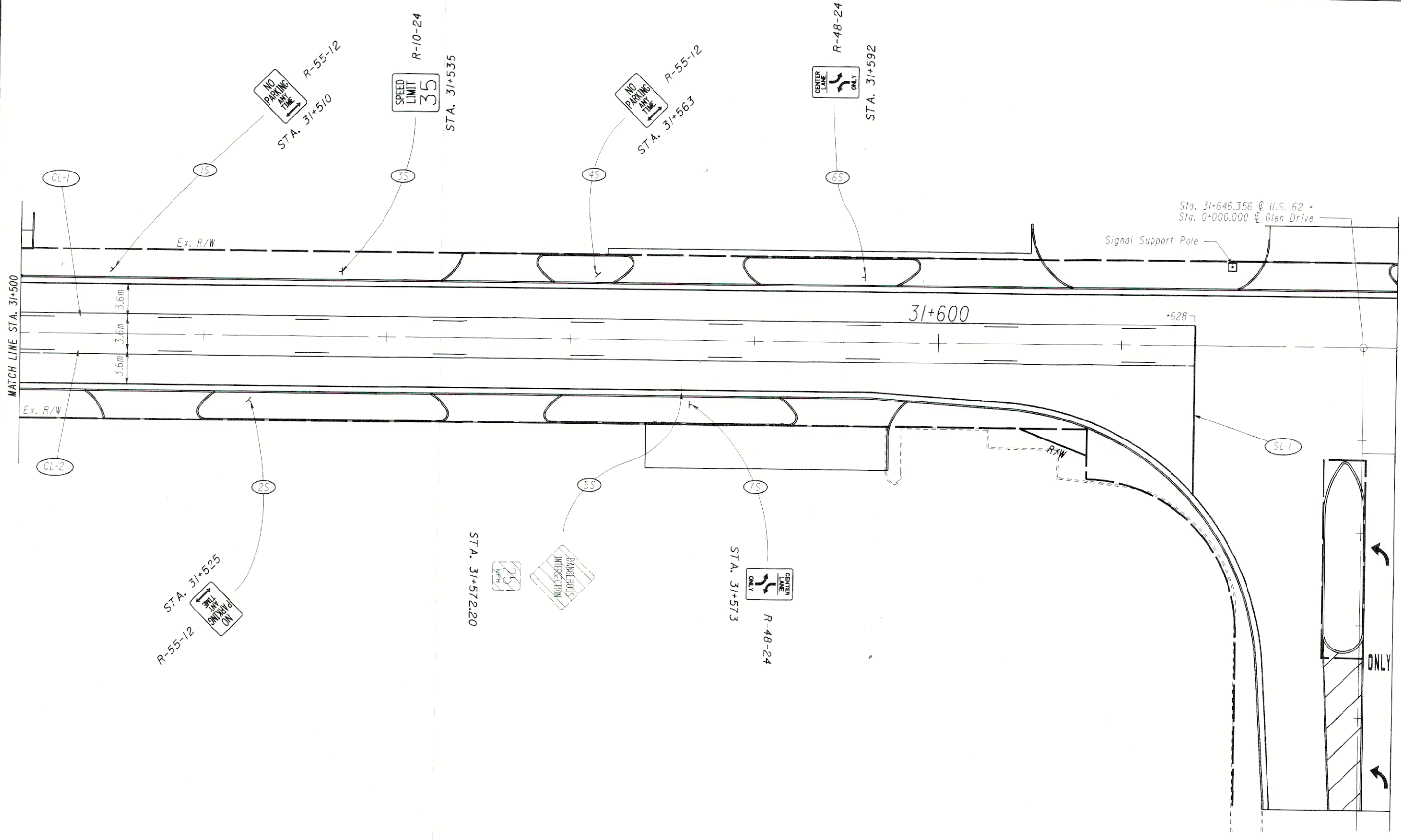


CALCULATED JPB
 CHECKED MEC

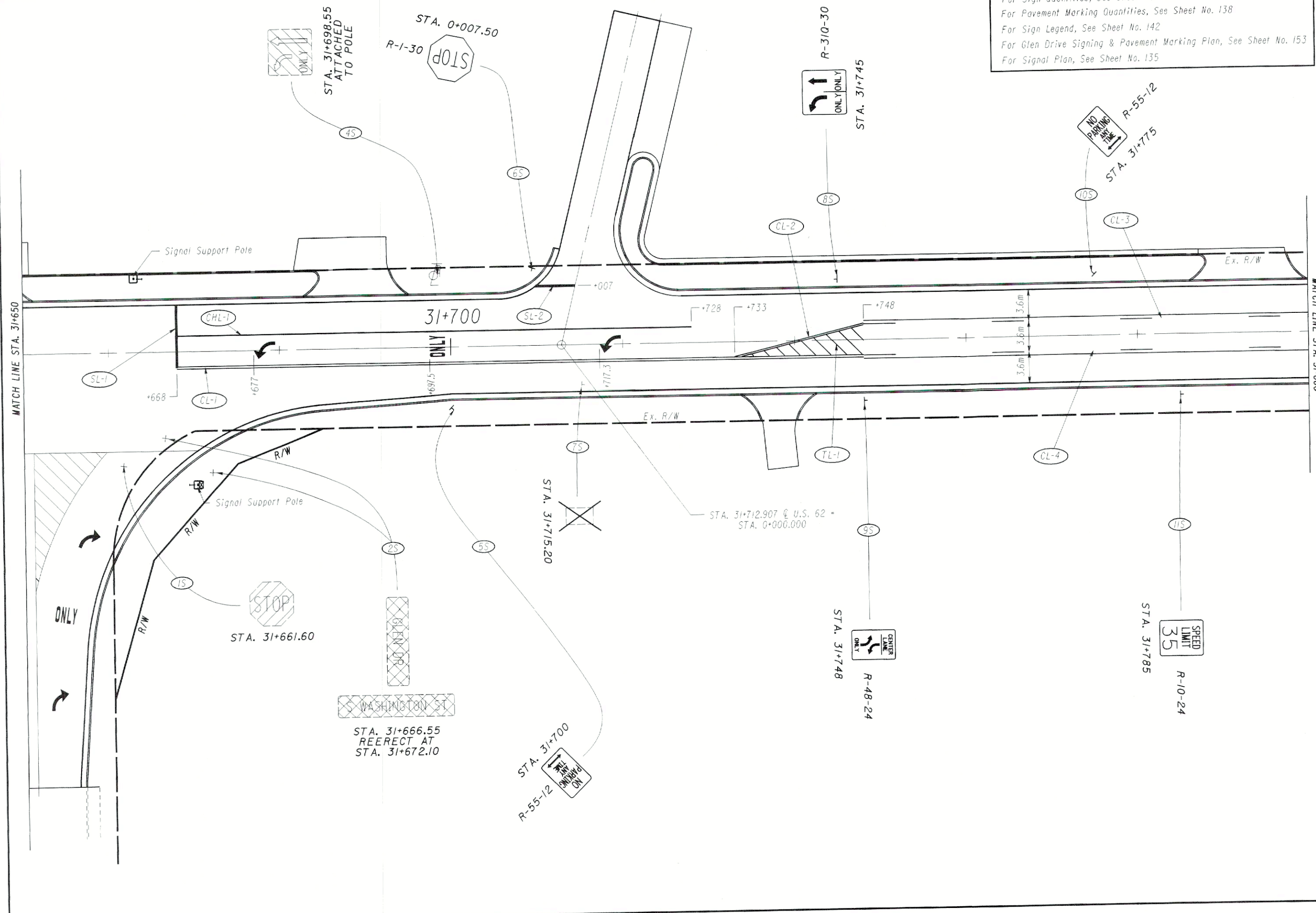
SIGNING & PAVEMENT MARKING PLAN
STA. 31+500 to STA. 31+650

HOL-62-30.649

148
180



For Sign Quantities, See Sheet No. 138
 For Pavement Marking Quantities, See Sheet No. 138
 For Sign Legend, See Sheet No. 142
 For Glen Drive Signing & Pavement Marking Plan, See Sheet No. 153
 For Signal Plan, See Sheet No. 135



CALCULATED JPB
 CHECKED MEC

SIGNING & PAVEMENT MARKING PLAN
STA. 31+650 to STA. 31+800

HOL-62-30.649

149
180

For Sign Quantities, See Sheet No. 138
 For Pavement Marking Quantities, See Sheet No. 138
 For Sign Legend, See Sheet No. 142



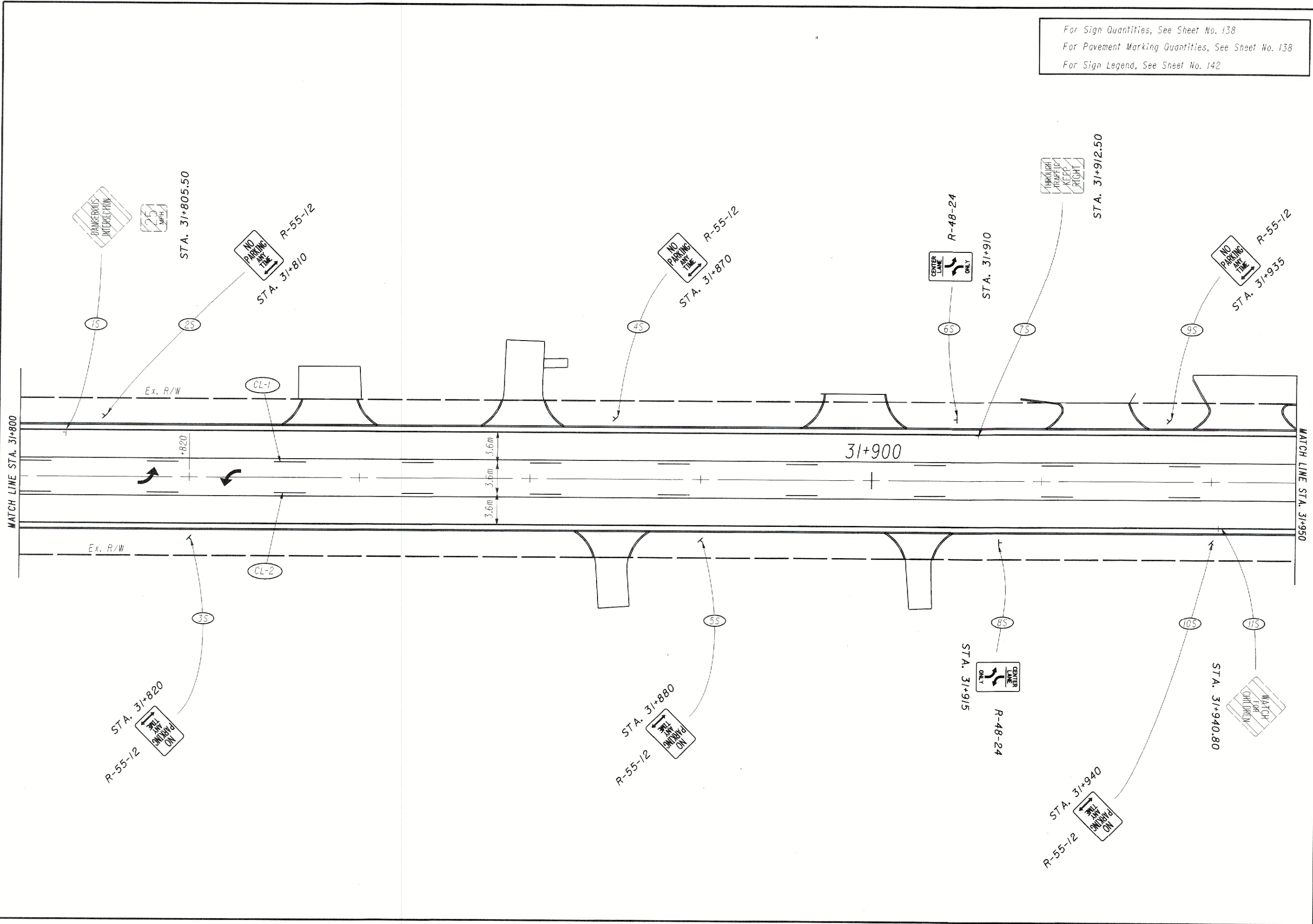
HORIZONTAL SCALE IN METERS
 0 4 8

PREPARED BY JFB
 CHECKED BY MEC

SIGNING & PAVEMENT MARKING PLAN
STA. 31+800 to STA. 31+950

HOL-62-30.649

150
180



For Sign Quantities, See Sheet No. 138
 For Pavement Marking Quantities, See Sheet No. 138
 For Sign Legend, See Sheet No. 142

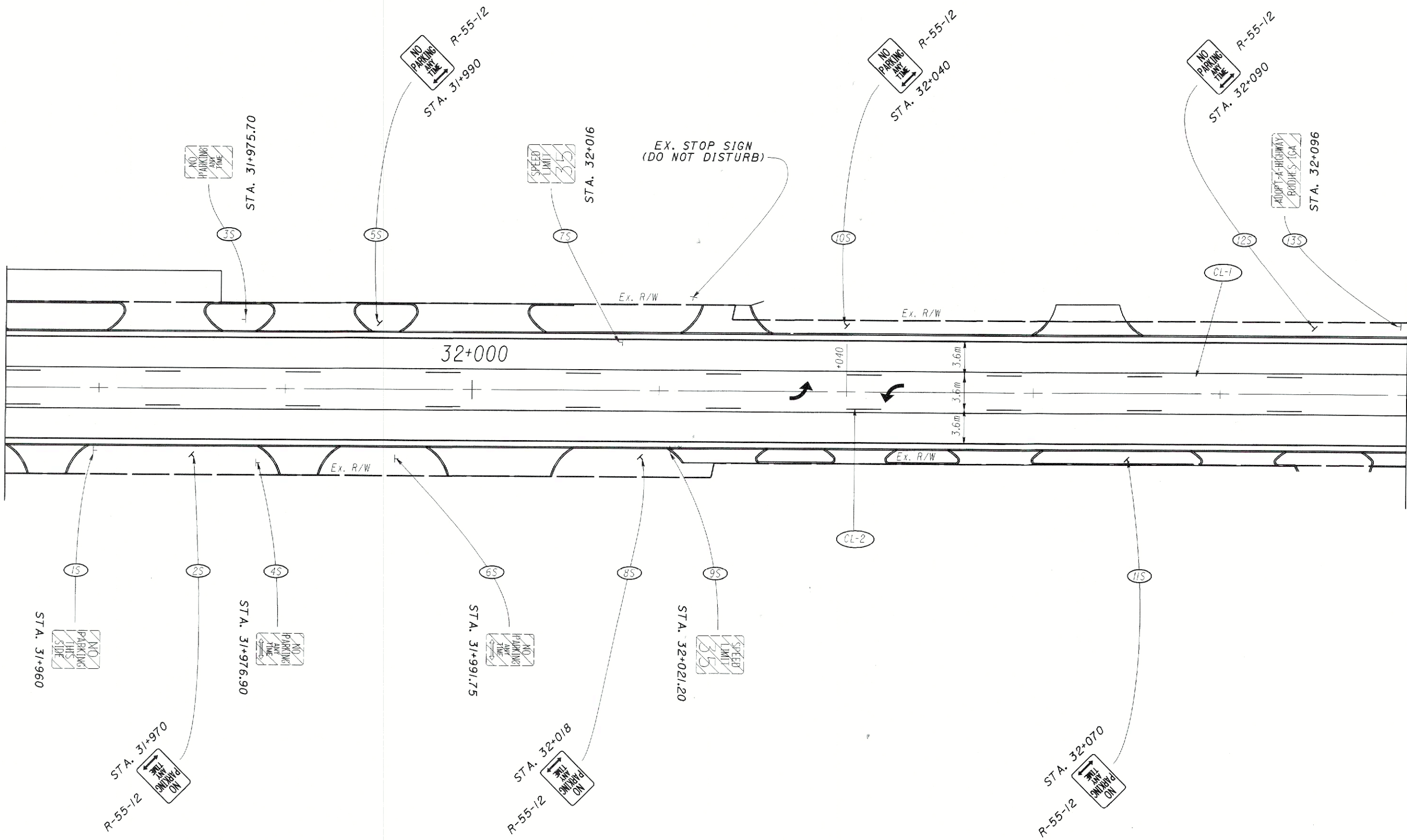


HORIZONTAL SCALE IN METERS

CALCULATED JPB
 CHECKED JAS

MATCH LINE STA. 31+950

MATCH LINE STA. 32+100

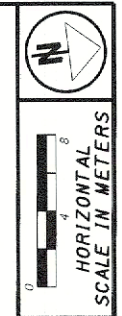
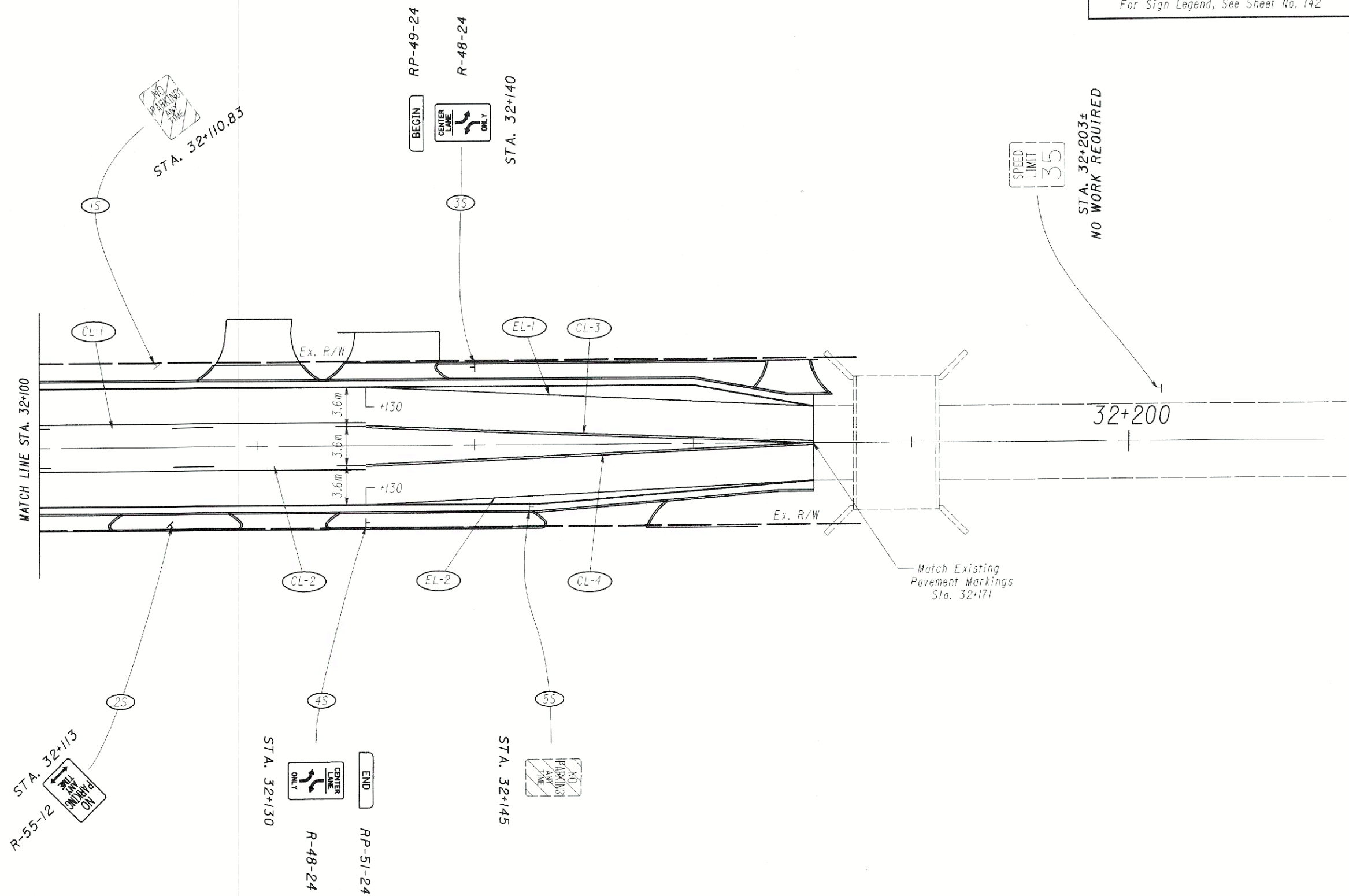


SIGNING & PAVEMENT MARKING PLAN
STA. 31+950 to STA. 32+100

HOL-62-30.649

151
180

For Sign Quantities, See Sheet No. 138
 For Pavement Marking Quantities, See Sheet No. 138
 For Sign Legend, See Sheet No. 142

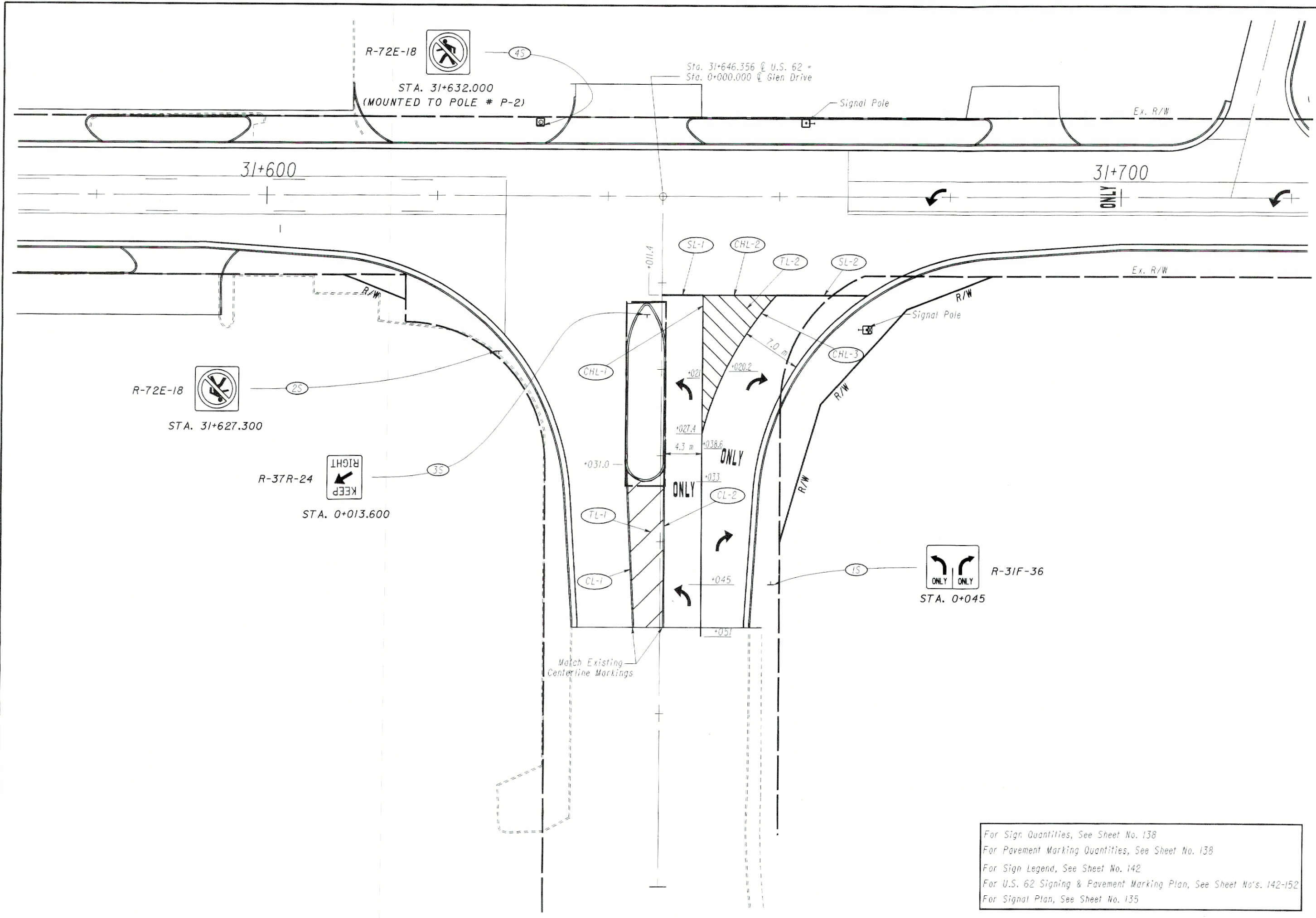


CALCULATED JPB
 CHECKED JAS

SIGNING & PAVEMENT MARKING PLAN
STA. 32+100 to STA. 32+220

HOL-62-30.649

152
 180



R-72E-18
 STA. 31+632.000
 (MOUNTED TO POLE # P-2)

Sta. 31+646.356 @ U.S. 62 =
 Sta. 0+000.000 @ Glen Drive

R-72E-18
 STA. 31+627.300

R-37R-24
 STA. 0+013.600

R-31F-36
 STA. 0+045

For Sign Quantities, See Sheet No. 138
 For Pavement Marking Quantities, See Sheet No. 138
 For Sign Legend, See Sheet No. 142
 For U.S. 62 Signing & Pavement Marking Plan, See Sheet No's. 142-152
 For Signal Plan, See Sheet No. 135

SIGNING & PAVEMENT MARKING PLAN
 GLEN DRIVE

HOL - 62 - 30.649

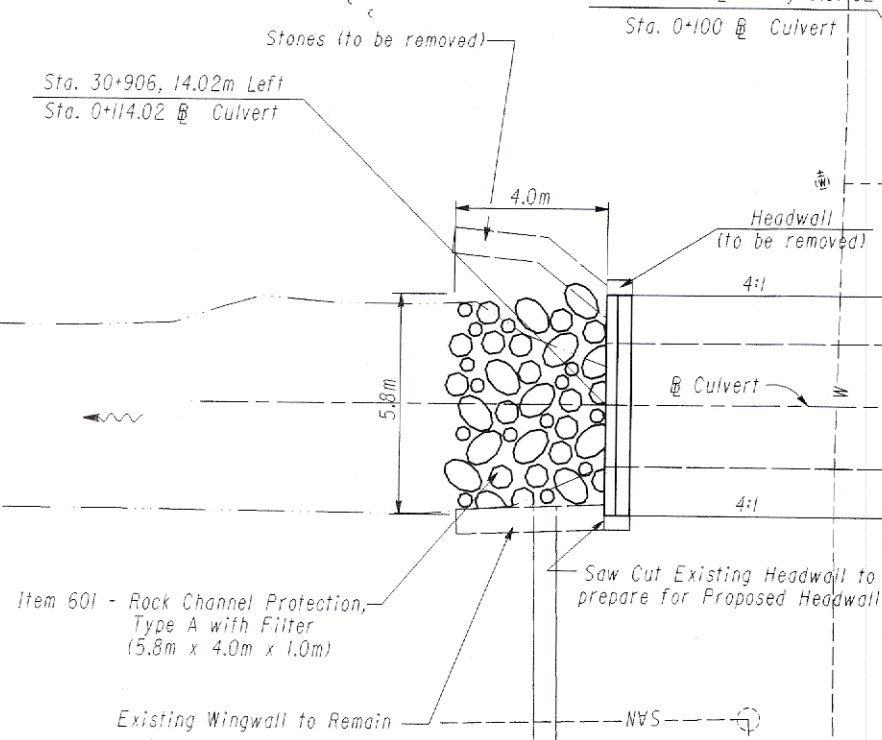
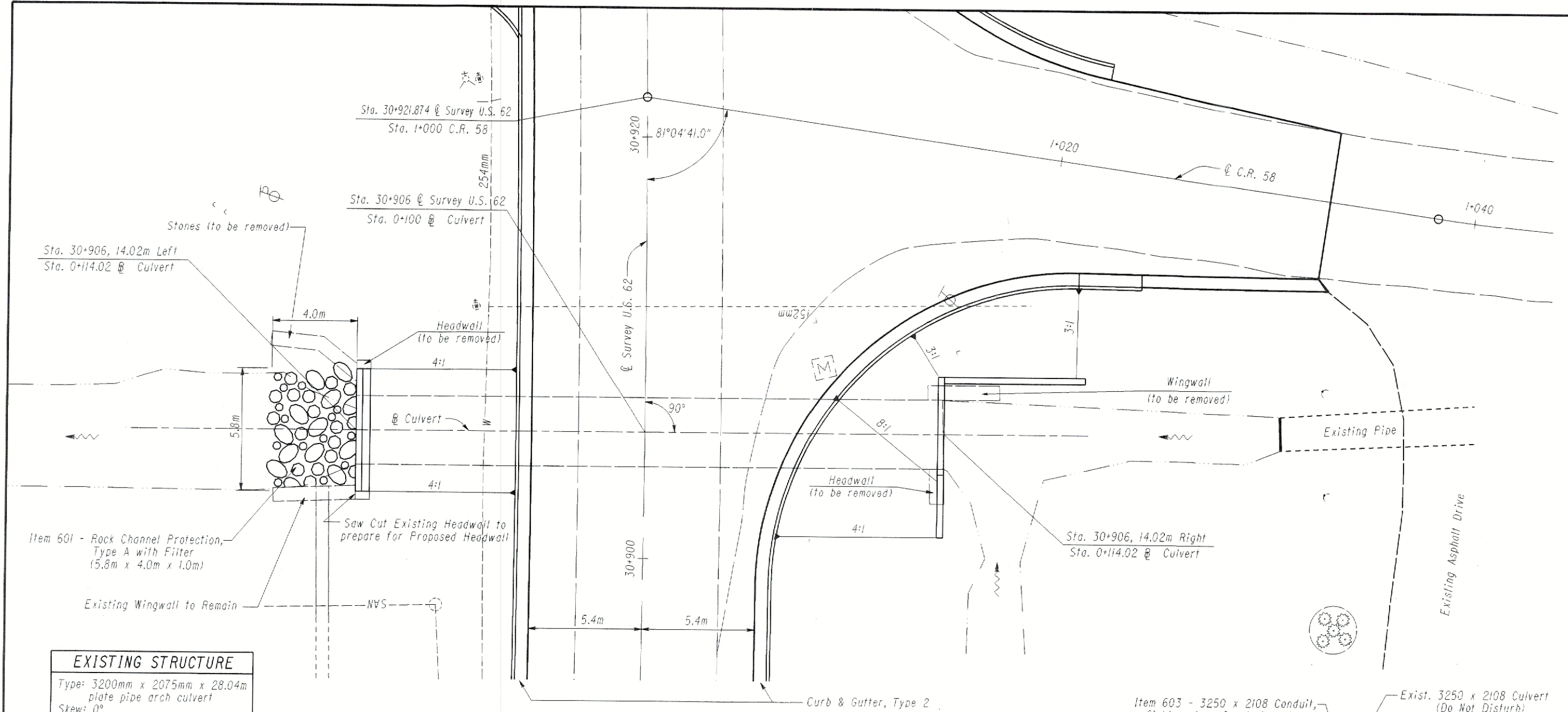
153
180

CALCULATED JPB
 CHECKED MEC

HORIZONTAL SCALE IN METERS

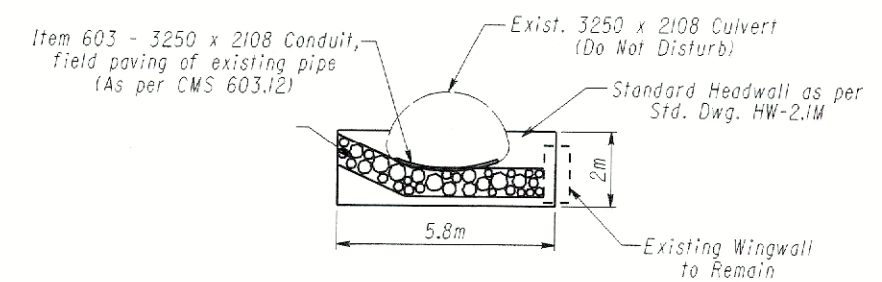
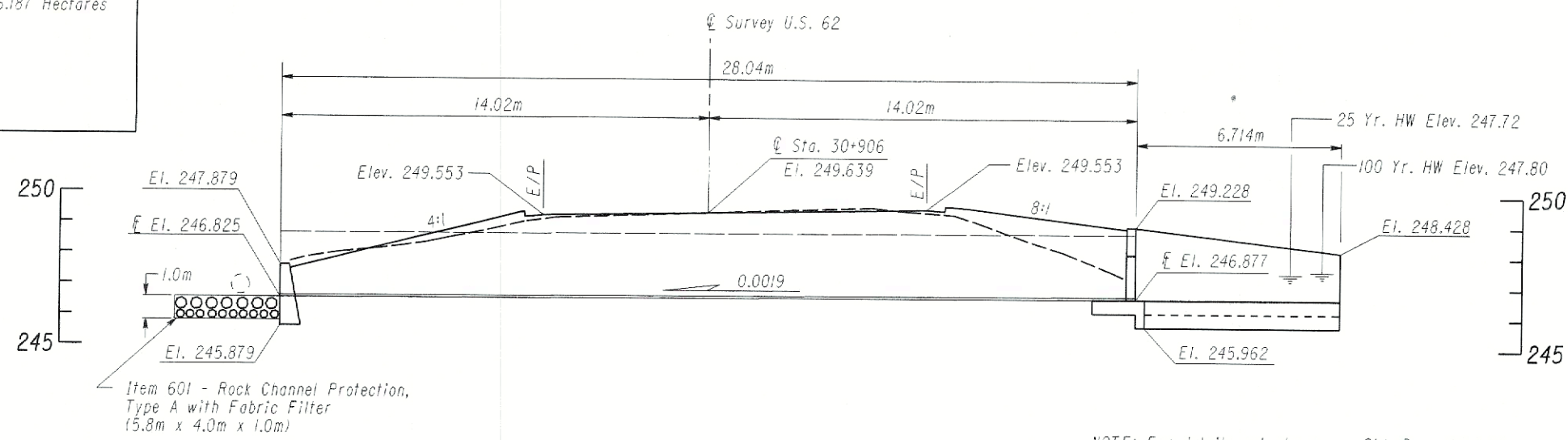
CULVERT DETAIL

HOL-62-30.649

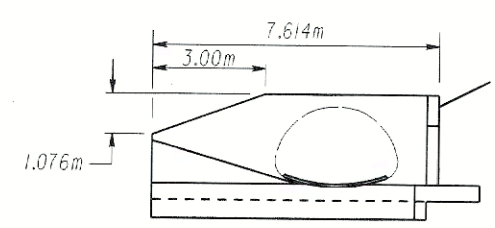


EXISTING STRUCTURE	
Type:	3200mm x 2075mm x 28.04m plate pipe arch culvert
Skew:	0°
Alignment:	Curve
Date Built:	1955
Structural File No.	3801411

HYDRAULIC DESIGN DATA	
Drainage Area:	16.187 Hectares
Q ₂₅ :	2.86 m ³ /s
Q ₁₀₀ :	3.40 m ³ /s
HW ₂₅ :	247.72
HW ₁₀₀ :	247.80
V ₂₅ :	2.17 m/s
V ₁₀₀ :	2.28 m/s



OUTLET END VIEW

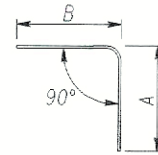


INLET END VIEW

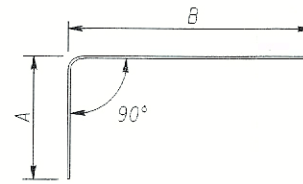
NOTE: For details not shown see Std. Dwg. HW-2.1M

HEADWALL REINFORCING STEEL LIST										
MARK	INLET HEADWALL NUMBER		TOTAL NUMBER OF BARS	LENGTH	MASS kg/m	BAR SIZE	DIMENSIONS		TYPE	SERIES INCREMENT
	WINGWALL	HEADWALL					A	B		
H16M01	-	2 Ser. of 10	20	1175/2150	52	16M			STR	100
H16M02	-	3	3	2300	11	16M			STR	
H16M03	-	4	4	1000	6	16M			STR	
H16M04	-	4	4	500	3	16M			STR	
H16M05	-	1	1	1850	3	16M	945	945	2	
H16M06	-	1	1	1550	2	16M	645	945	2	
H16M07	-	3	3	1250	6	16M	345	945	2	
H16M08	-	2	2	1950	6	16M			STR	
H16M09	-	2	2	2900	9	16M			STR	
H16M10	-	6	6	3025	28	16M			STR	
H16M11	-	2	2	3075	10	16M			STR	
H16M12	-	2	2	4275	13	16M			STR	
H16M15	-	1	1	2450	4	16M	1245	1225	2	
H16M16	-	1	1	2150	3	16M	945	1245	2	
H16M17	-	3	3	1850	9	16M	645	1245	2	
W16M01	2 Ser. of 23	-	46	1500/2300	136	16M			STR	36
W16M02	2	-	2	3600	11	16M			STR	
W16M03	8	-	8	6600	82	16M			STR	
W16M04	2	-	2	6550	21	16M			STR	
F16M01	23	13	36	1650	92	16M	1320	370	1	
F16M02	23	25	48	2350	175	16M	795	1595	2	
F16M03	16	-	16	1750	44	16M	895	895	1	
F16M04	2	2	4	8600	53	16M			STR	
F16M05	2	2	4	8250	51	16M			STR	
F16M06	2	2	4	7900	49	16M			STR	
F16M07	2	2	4	7500	47	16M			STR	
F16M09	4	4	8	7200	90	16M			STR	
F16M08	4	4	8	7025	87	16M			STR	
F16M11	4	4	8	6600	82	16M			STR	
F16M10	4	4	8	6425	80	16M			STR	
F16M12	2	2	4	6950	43	16M			STR	
F16M13	2	2	4	7300	45	16M			STR	
F16M14	2	2	4	7650	48	16M			STR	
F16M15	2	2	4	8000	50	16M			STR	
TOTAL				1451	(INCLUDED WITH ITEM 602 FOR PAYMENT)					

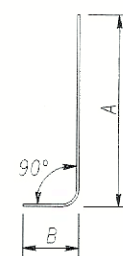
NOTE: All reinforcing steel shall be epoxy coated.



TYPE 1



TYPE 2



TYPE 3

STREAM CHANNEL EXCAVATION

The Contractor shall take all precautions necessary to prevent any incidental discharges associated with the excavation and hauling of material from the stream channel. This pertains to any excavation operations such as, foundation pier or abutment excavation, channel clean out, excavation for rock channel protection and removal of any temporary fill associated with construction operations.

DEMOLITION DEBRIS

The contractor shall take precautions to avoid and/or limit demolition debris from entering the stream. Any material that does fall into the stream shall be removed as soon as possible.

PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

This item shall consist of the removal of both inlet and outlet headwalls, the removal of the inlet wingwall and the removal of the stone outlet wingwall.

ITEM SPECIAL - SEALING CONCRETE SURFACES (EPOXY-URETHANE)

An epoxy-urethane concrete sealer shall be applied to all new concrete areas of the headwalls and wingwall, except the footer on the inlet side, for culvert HOL-62-30899 (1920). Limits of the sealing are shown on sheet no. 156.

CULVERT GENERAL SUMMARY

ITEM	ITEM EXTENSION	QUANTITY	UNIT	DESCRIPTION
201	11000	LUMP		CLEARING AND GRUBBING
202	11200	LUMP		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
601	32004	24	CU METER	ROCK CHANNEL PROTECTION, TYPE A WITH FABRIC FILTER
SPECIAL	51267510	49	SQ METER	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
602	20000	27.41	CU METER	CONCRETE MASONRY
603	96550	28	METER	CONDUIT, FIELD PAVING OF EXISTING PIPE, 2075 MM X 3200 MM 707.03

Quantities Carried to General Summary

STRUCTURE NOTES & REINFORCING SCHEDULE
CULVERT NO. HOL-62-30899 (1920)

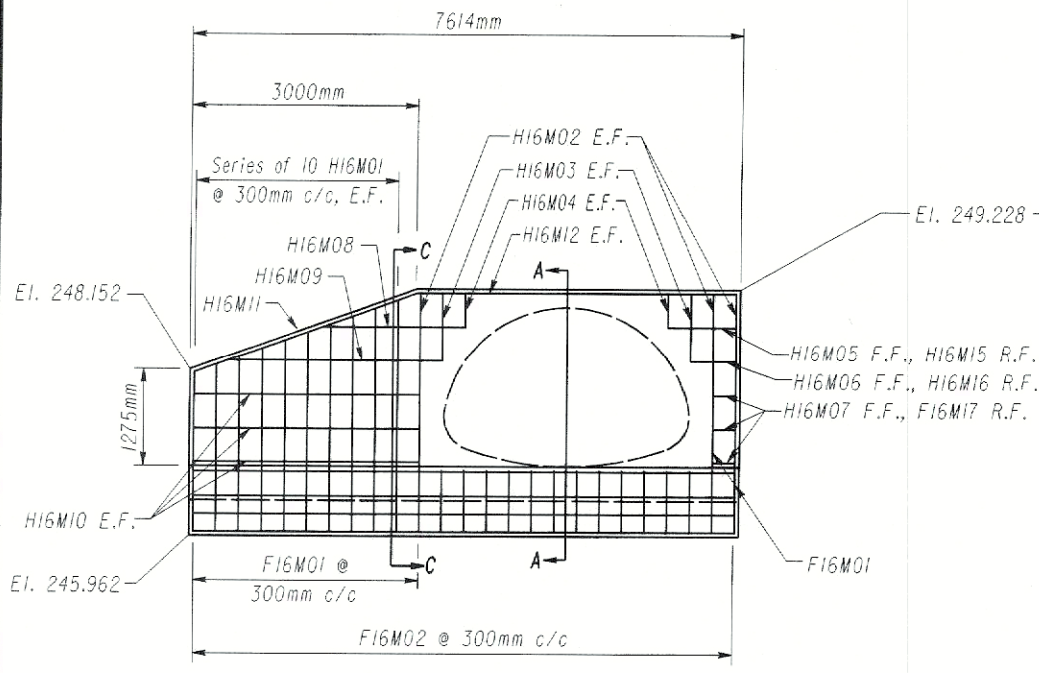
HOL-62-30.649

155
180

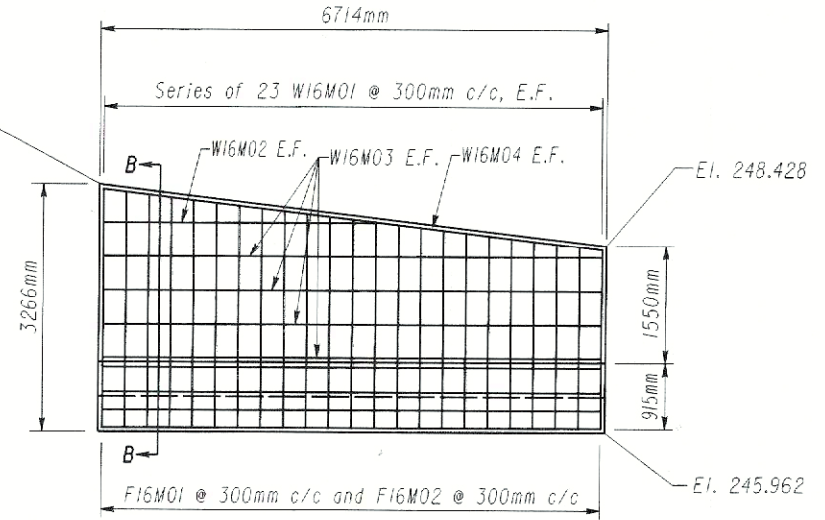
CALCULATED
JAS
CHECKED
SAL

**INLET HEADWALL DETAILS & CALCULATIONS
CULVERT NO. HOL-62-30899 (1920)**

HOL-62-30.649



INLET HEADWALL



INLET WINGWALL

CALCULATIONS

Item 601 - Rock Channel Protection, Type A with Filter
5.8m x 4.0m x 1.0m thick = 23.20m³

Item 602 - Concrete Masonry (Outlet) Std. Dwg. HW-2.1M = 5.07m³

(Inlet):
Headwall: 7.614m x 2.351m - [(1/2)(3.00 x 1.076)]m² = 16.286m²
16.286m² x 0.300m = 4.89m³

Wingwall: 6.714m x (1.95m avg.) x 0.300m = 3.93m³

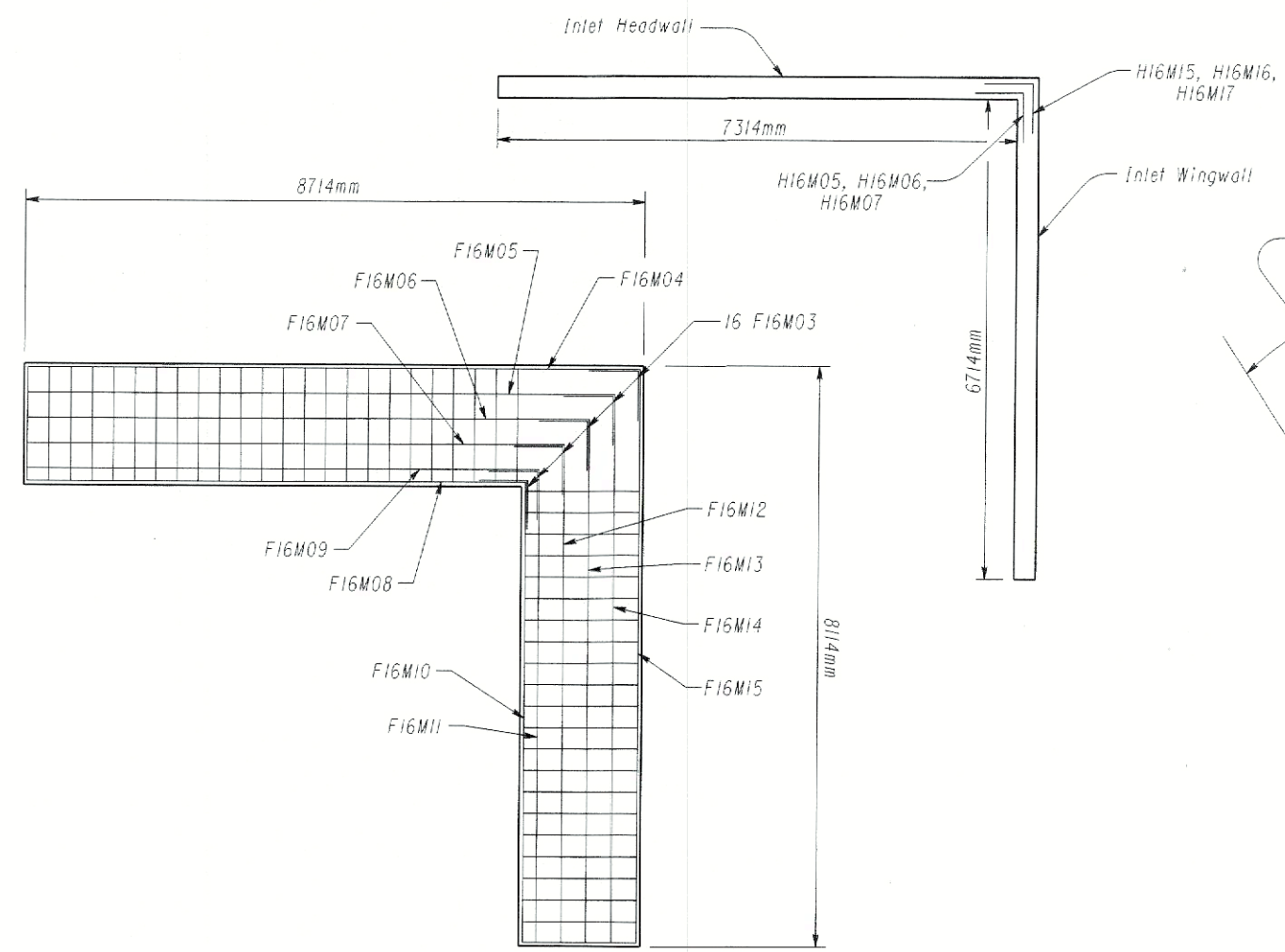
Footer: 7.864m (avg) x 1.700m x 0.450m = 6.02m³
7.264m (avg) x 1.700m x 0.450m = 5.56m³
7.164m (avg) x 0.465m x 0.300m = 1.00m³
6.564m (avg) x 0.465m x 0.300m = 0.92m³

13.50m³ TOTAL = 27.39 m³

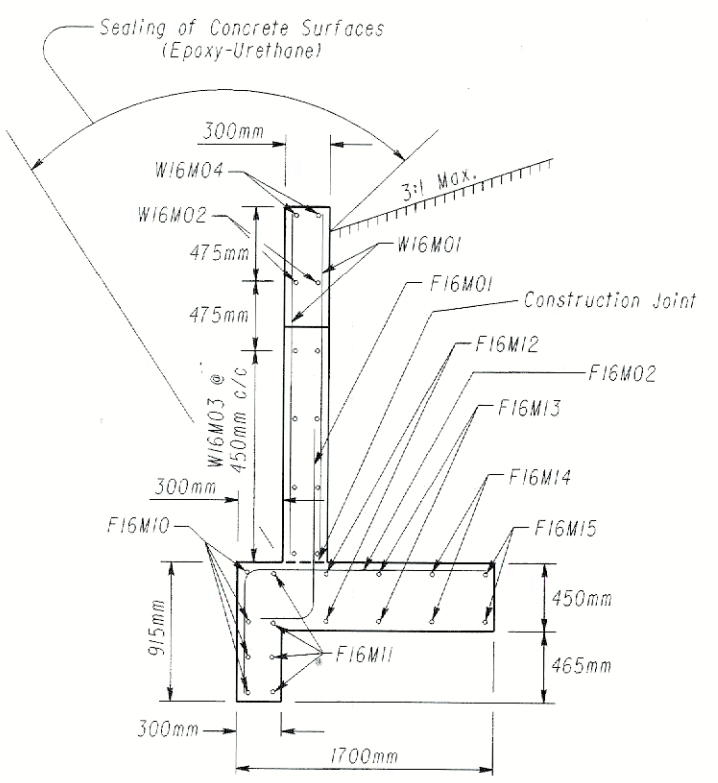
Item Special - Sealing of Concrete Surfaces (Epoxy-urethane)
(Outlet) - 10.0m²

(Inlet) - 18.12m²
20.57m²

48.69m²

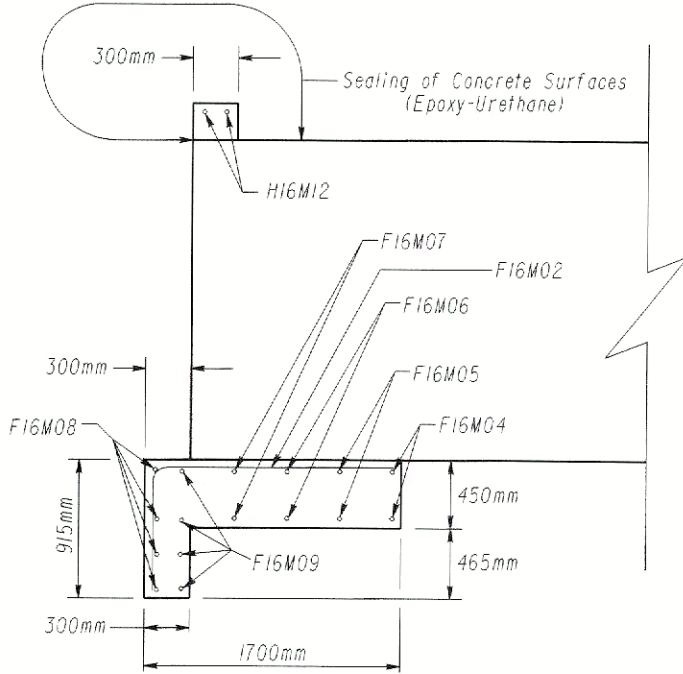


INLET FOOTING PLAN



SECTION B-B

SECTION C-C is similar to SECTION B-B



SECTION A-A

E.F. = Each Face
F.F. = Front Face
R.F. = Rear Face

HOLMES COUNTY, OHIO
 SEC. 22 - T9N - R7W
 VILLAGE OF MILLERSBURG



SCALE IN METERS
 RATIO 1:1500

P.I.D. NO.
 9645

PROPERTY MAP

HOL-62-30.649

1/24

157
 180

RESIDENTIAL BUILDING
 COMMERCIAL BUILDING

NOTE: THE LOCATION OF THE UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITIES AS REQUIRED BY SECTION 153.64 OF THE OHIO REVISED CODE.

Village of Millersburg
 6 N. Washington Street
 Millersburg, Ohio 44654
 Telephone : (330) 674-1886

FrontierVision Partners, L.P.
 520 Wooster Road
 Millersburg, Ohio 44654
 Telephone : (330) 674-0209

Sprint
 3801 Elm Road N.E.
 Warren, Ohio 44483
 Telephone : (330) 841-1214

Columbia Gas of Ohio Inc.
 646 Main Street
 Coshocton, Ohio 43812
 Telephone : (740) 622-2464

AEP - Ohio Power Company
 P.O. Box 24630
 301 Cleveland Ave. S.W.
 Canton, Ohio 44701-4360
 Telephone : (330) 438-7823

BEGIN ACQUISITION
 STA. 30+629.658

BEGIN PROJECT
 STA. 30+648.716



- ① Lila PROPERTIES, LTD., AN OHIO LIMITED LIABILITY COMPANY
- ② WAL - MART REAL ESTATE BUSINESS TRUST, A DELAWARE TRUST
- ③ CNL AMERICAN PROPERTIES FUND, INC., A MARYLAND CORPORATION
- ④ THE KILLBUCK SAVINGS BANK COMPANY, AN OHIO CORPORATION
- ⑤ J. B. SOUTHERN COMPANY LIMITED, AN OHIO LIMITED LIABILITY COMPANY
- ⑥ BUCHANAN INDEPENDENT OIL COMPANY, AN OHIO CORPORATION
- ⑦ LLWM COMPANY LIMITED, AN OHIO LIMITED LIABILITY COMPANY
- ⑧ THE VILLAGE OF MILLERSBURG
- ⑨ MILLERSBURG GROWTH COMPANY "LTD", AN OHIO LIMITED LIABILITY COMPANY

REV.	DATE	DESCRIPTION
	6-25-99	DATE COMPLETED

RESIDENTIAL BUILDING
 COMMERCIAL BUILDING

HOLMES COUNTY, OHIO
 SEC. 19 - T9N - R7W
 OUT LOT 83 & OUT LOT 106
 VILLAGE OF MILLERSBURG



SCALE IN METERS
 RATIO 1:1500

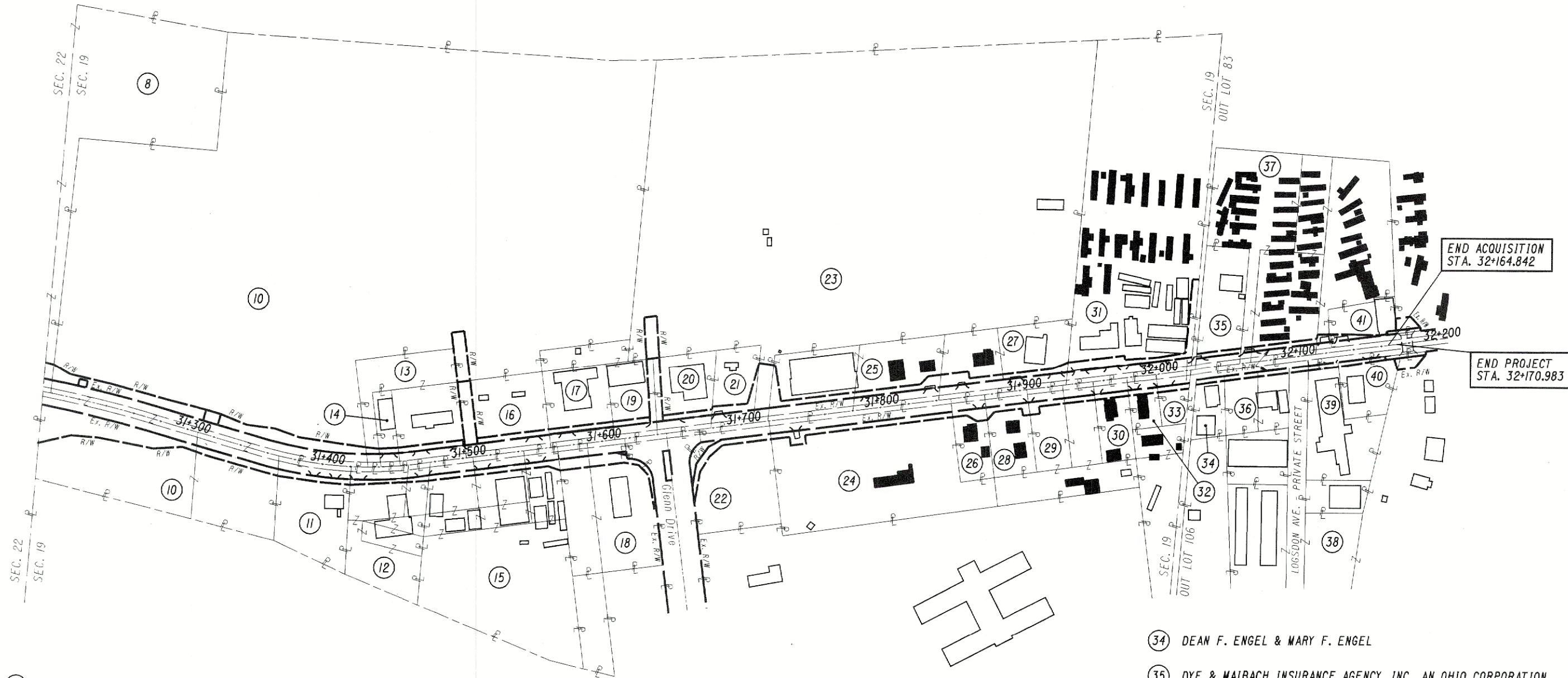
P.L.D. NO.
 9645

PROPERTY MAP

HOL-62-30.649

2/24

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 180



- 8 THE VILLAGE OF MILLERSBURG
- 10 BANDS COMPANY, INC., AN OHIO CORPORATION
- 11 JULIE A. LYTLE
- 12 P & D ENTERPRISES, AN OHIO PARTNERSHIP
- 13 WILLIAM E. LECKY & BARBARA LECKY
- 14 WILLIAM E. LECKY
- 15 D & J ENTERPRISES, AN OHIO PARTNERSHIP
- 16 JAMES LARGE & BERNADINE LARGE
- 17 M & N LAND COMPANY, AN OHIO PARTNERSHIP
- 18 ROYAL DEVELOPMENT, INC.
- 19 MARLIN F. MOORE & BARBARA A. MOORE
- 20 JOHN C. TOPE & ANDREW P. TOPE AND PAUL TOPE, LIFE ESTATE
- 21 KENNETH I. FREE & VIRGINIA FREE
- 22 RODHE'S MARKET, INC.
- 23 INCORPORATED VILLAGE OF MILLERSBURG, OHIO
- 24 GLADYS B. SHEPLER, TRUSTEE
- 25 J.L.M. REALTY, AN OHIO PARTNERSHIP
- 26 DOWNTOWN ENTERPRISES COMPANY, AN OHIO PARTNERSHIP
- 27 REX A. WHEELER & KRISTIN L. WHEELER
- 28 JOHN H. SNOW & SHERRY L. SNOW
- 29 HUBERT H. HUMMEL & FRANCES W. HUMMEL
- 30 LAURA E. ARNOLD
- 31 ROBERT L. LING & JUDY A. LING
- 32 JOSEPH H. HAYNES & MYRITA C. HAYNES
- 33 NICHOLAS A. MULLET & WANDA S. MULLET
- 34 DEAN F. ENGEL & MARY F. ENGEL
- 35 DYE & MAIBACH INSURANCE AGENCY, INC., AN OHIO CORPORATION
- 36 DENNIS A. BARNHART & CANDACE A. BARNHART
- 37 ROBERT L. LING & JUDY A. LING
- 38 DENNIS SCHLABACH
- 39 MILLERSBURG DEVELOPMENT COMPANY, AN OHIO PARTNERSHIP
- 40 HOLMES COUNTY COMMISSIONERS
- 41 J. G. & L. CORP., AN OHIO CORPORATION

REV.	DATE	DESCRIPTION
DIST. II	11-17-99	PAR. 20 - ADDED LIFE ESTATE
DIST. II	9-3-99	PAR. 12 & 17 - REV. OWNER'S NAME
	6-25-99	DATE COMPLETED

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

SUMMARY OF ADDITIONAL RIGHT OF WAY



1 HECTARE = 2.471044 ACRES

NOTE: ALL AREAS IN HECTARES UNLESS OTHERWISE NOTED WITH ENGLISH EQUIVALENTS IN (ACRES).

NOTE: RECORD AREA AFTER OUTSALES MINUS TOTAL P.R.O. MINUS NET TAKE EQUALS NET RESIDUE.

GRANTEE:
 ALL RIGHT OF WAY ACQUIRED IN THE NAME OF STATE OF OHIO UNLESS OTHERWISE KNOWN.

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA(AC.)	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED			
			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE		
1 T	LILo PROPERTIES, LTD., AN OHIO LIMITED LIABILITY COMPANY	11	O.R. 6	730	07-01675.001	1.7381 (4.295)	0.0828 (0.205)	0.0204 (0.050)	0	0.0204 (0.050)	---	---	1.6553 (4.090)	STATE	↑	TO PROVIDE WORK AREA AND DO NECESSARY GRADING			
2 T	WAL - MART REAL ESTATE BUSINESS TRUST, A DELAWARE TRUST	11	O.R. 26	582	07-01675.006	7.5061 (18.5479)	0.0790 (0.195)	0.0052 (0.013)	0	0.0052 (0.013)	---	7.4271 (18.3529)	---			TO CONSTRUCT DRIVE			
2 T-1		12						0.0477 (0.118)	0	0.0477 (0.118)	---					TO CONSTRUCT DRIVE			
2 T-2		11						0.0032 (0.008)	0	0.0032 (0.008)	---					TO PROVIDE WORK AREA			
3 T	CNL AMERICAN PROPERTIES FUND, INC., A MARYLAND CORPORATION	11, 12	277	832	07-01675.002	0.3472 (0.858)	0.0620 (0.153)	0.0094 (0.023)	0	0.0094 (0.023)	---	---	0.2852 (0.705)			TO PROVIDE WORK AREA AND CONSTRUCT DRIVES			
4 T	THE KILLBUCK SAVINGS BANK COMPANY, AN OHIO CORPORATION	11, 12	254	949	07-01675.000	0.5182 (1.2804)	0.1198 (0.296)	0.0215 (0.053)	0	0.0215 (0.053)	---	0.3984 (0.9844)	---			TO PROVIDE WORK AREA AND DO NECESSARY GRADING			
5 T	J. B. SOUTHERN COMPANY LIMITED, AN OHIO LIMITED LIABILITY COMPANY	12	269	212	07-01669.000	1.2618 (3.118)	0.0739 (0.183)	0.0570 (0.141)	0	0.0570 (0.141)	---	---	1.1879 (2.935)			TO PROVIDE WORK AREA AND CONSTRUCT DRIVE			
6 T	BUCHANAN INDEPENDENT OIL COMPANY, AN OHIO CORPORATION	12	242	529	07-01675.005	0.4213 (1.041)	0.0792 (0.196)	0.0591 (0.146)	0	0.0591 (0.146)	---	0.3421 (0.845)	---			TO PROVIDE WORK AREA AND CONSTRUCT DRIVES			
7 T	LLWM COMPANY LIMITED, AN OHIO LIMITED LIABILITY COMPANY	13	266	798	07-01670.000	2.2901 (5.659)	0.4440 (1.097)	0.0021 (0.005)	0	0.0021 (0.005)	---	---	1.8461 (4.562)			TO PROVIDE WORK AREA AND DO NECESSARY GRADING			
8 SL	THE VILLAGE OF MILLERSBURG, AKA INCORPORATED VILLAGE OF MILLERSBURG, OHIO	14, 15	262	545	07-01675.003	1.5997 (3.953)	0.0858 (0.212)	0.0513 (0.127)	0	0.0513 (0.127)	---	1.5139 (3.741)	---						
			136	280	07-60041.000	1.8357 (4.536)	0.0105 (0.026)	0.0148 (0.037)	0	0.0148 (0.037)	---	1.8252 (4.510)	---						
			174	722	07-60042.000	* 1.1043 (2.729)	0.0051 (0.013)	0.0070 (0.017)	0	0.0070 (0.017)	---	1.0992 (2.716)	---				* CALCULATED PART OF A 16.121 TRACT THAT IS SOUTH OF THE BANDS CO., INC. 23.232 AC. TRACT		
	TOTAL PARCEL 8-SL					4.5397 (11.218)	0.1014 (0.251)	0.0730 (0.181)	0	0.0730 (0.181)	---	4.4383 (10.967)	---						
9 SL	MILLERSBURG GROWTH COMPANY "LTD", AN OHIO LIMITED LIABILITY COMPANY	14, 15	O.R. 20	544	07-01724.000	5.1367 (12.693)	0.4636 (1.146)	0.1120 (0.277)	0	0.1120 (0.277)	---	---	4.6731 (11.547)	STATE	↓				

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

FEDERAL PROJECT NO. STP
 PID NO. 9645
 STATE PROJECT NO. 11230 (0)
 SUMMARY OF ADDITIONAL RIGHT OF WAY
 HOL-62-30.649 (19.04)
 3/24

DIST. 11	9-3-99	PAR. 8-SL - ADDED AKA TO OWNER'S NAME
REV.	6-25-99	DATE COMPLETED
		DESCRIPTION

159
180

SUMMARY OF ADDITIONAL RIGHT OF WAY



FEDERAL PROJECT NO. STP

1 HECTARE = 2.471044 ACRES

NOTE : ALL AREAS IN HECTARES UNLESS OTHERWISE NOTED WITH ENGLISH EQUIVALENTS IN (ACRES).

NOTE : RECORD AREA AFTER OUTSALES MINUS TOTAL P.R.O. MINUS NET TAKE EQUALS NET RESIDUE.

GRANTEE: ALL RIGHT OF WAY ACQUIRED IN THE NAME OF STATE OF OHIO UNLESS OTHERWISE KNOWN.

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA(AC.)	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED		
			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE	
10 SL	BANDS COMPANY, INC., AN OHIO CORPORATION, AKA	15, 16	254	324	07-60042.002	9.4017 (23.232)	0.2222 (0.549)	0.0774 (0.191)	0	0.0774 (0.191)	---	9.1795 (22.683)	---	STATE				
10 SL-2	BANDS CO., INC., AN OHIO CORPORATION	16						0.0754 (0.186)	0 (0)	0.0754 (0.186)	---							
TOTAL PARCELS 10-SL AND 10-SL-2						9.4017 (23.232)	0.2222 (0.549)	0.1528 (0.377)	0 (0)	0.1528 (0.377)	---	9.1795 (22.683)	---					
10 SL-1		15, 16	264	300	07-01730.000	0.6475 (1.600)	0.1006 (0.249)	0.1507 (0.373)	0 (0)	0.1507 (0.373)	---		0.5469 (1.351)					
			264	300	07-01729.000	0.3602 (0.890)	0.0557 (0.138)	0.0287 (0.071)	0 (0)	0.0287 (0.071)	---		0.3045 (0.752)					
TOTAL PARCEL 10-SL-1						1.0077 (2.490)	0.1563 (0.387)	0.1794 (0.444)	0 (0)	0.1794 (0.444)	---		0.8514 (2.103)					
TOTAL PARCELS 10-SL, 10-SL-1 AND 10-SL-2						10.4094 (25.722)	0.3785 (0.936)	0.3322 (0.821)	0 (0)	0.3322 (0.821)	---	9.1795 (22.683)	0.8514 (2.103)					
10 S		15			07-60042.002			0.0029 (0.007)	0 (0)	0.0029 (0.007)	---							
10 S-1		16			07-60042.002			0.0086 (0.021)	0 (0)	0.0086 (0.021)	---							
10 CH		18			07-60042.002			0.0328 (0.081)	0 (0)	0.0328 (0.081)	---							
11 T	JULIE A. LYTLE	16	271 266,252	522 863,487	07-01649.001	0.3513 (0.868)	0.0471 (0.116)	0.0213 (0.053)	0 (0)	0.0213 (0.053)	---		0.3042 (0.752)		TO PROVIDE WORK AREA AND CONSTRUCT DRIVES			
12 T	P & D ENTERPRISES, AN OHIO PARTNERSHIP	16, 17	237	955	07-01649.000	0.1380 (0.341)	0.0365 (0.090)	0.0114 (0.028)	0 (0)	0.0114 (0.028)	---		0.1015 (0.251)		TO PROVIDE WORK AREA AND CONSTRUCT DRIVES			
					07-01650.000	0.0558 (0.138)	0.0139 (0.034)	0.0053 (0.013)	0 (0)	0.0053 (0.013)	---		0.0419 (0.104)		AUDITOR'S PARCEL NO. 07-01650.000 (0.377 Ac.) IS CARRIED AS THE TOTAL OF THREE TRACTS			
					07-01650.000	0.0364 (0.0900)	0 (0)				---		0.0364 (0.0900)					
					07-01650.000	0.0603 (0.149)	0 (0)				---		0.0603 (0.149)					
					07-01651.000	0.1845 (0.456)	0 (0)				---		0.1845 (0.456)					
TOTAL PARCEL 12-T						0.4750 (1.174)	0.0504 (0.124)	0.0167 (0.041)	0 (0)	0.0167 (0.041)	---		0.4246 (1.050)	STATE				

PID NO. 9645

STATE PROJECT NO. 11230 (0)

SUMMARY OF ADDITIONAL RIGHT OF WAY

HOL-62-30.649 (19.04)

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

DIST. 11	9-3-99	PAR. 10 - ADDED AKA TO OWNER'S NAME AND PAR. 12 - REVISED OWNER'S NAME	4 / 24
REV.	DATE	DESCRIPTION	
	6-25-99	DATE COMPLETED	

160
180

SUMMARY OF ADDITIONAL RIGHT OF WAY



GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE
NAME OF STATE OF OHIO UNLESS
OTHERWISE KNOWN.

1 HECTARE = 2.471044 ACRES

NOTE: ALL AREAS IN HECTARES UNLESS OTHERWISE
NOTED WITH ENGLISH EQUIVALENTS IN (ACRES).

NOTE: RECORD AREA AFTER OUTSALES MINUS TOTAL P.R.O.
MINUS NET TAKE EQUALS NET RESIDUE.

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA(AC.)	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED		
			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE	
13 T	WILLIAM E. LECKY & BARBARA LECKY	16, 17	272	956	07-60042.003	0.2201 (0.544)	0.0084 (0.021)	0.0040 (0.010)	0 (0)	0.0040 (0.010)	---	0.2117 (0.523)	---	STATE	↑	TO DO NECESSARY GRADING		
13 T-1		17	243 246	137 899	07-01365.003	0.2593 (0.6408)	0.0432 (0.107)	0.0187 (0.046)	0 (0)	0.0187 (0.046)	---	0.2161 (0.5338)	---			TO PROVIDE WORK AREA AND CONSTRUCT DRIVES		
	TOTAL PARCELS 13-T & 13-T-1					0.4794 (1.1848)	0.0516 (0.128)	0.0227 (0.056)	0 (0)	0.0227 (0.056)	---	0.4278 (1.0568)	---					
14 T	WILLIAM E. LECKY	17	249	902	07-60042.001	0.0749 (0.185)	0.0126 (0.031)	0.0054 (0.013)	0 (0)	0.0054 (0.013)	---	0.0623 (0.154)	---			TO PROVIDE WORK AREA AND CONSTRUCT DRIVE		
15 T	D & J ENTERPRISES, AN OHIO PARTNERSHIP	17	247	887	07-01728.000	0.1214 (0.300)	0.0286 (0.071)	0.0126 (0.031)	0 (0)	0.0126 (0.031)	---	0.0928 (0.229)	---			TO PROVIDE WORK AREA AND CONSTRUCT DRIVES		
			239	240	07-01653.000	0.1335 (0.330)	0.0334 (0.083)	0.0141 (0.035)	0 (0)	0.0141 (0.035)	---	0.1001 (0.247)	---					
			239	240	07-01652.000	0.1255 (0.310)	0.0223 (0.055)	0.0111 (0.027)	0 (0)	0.0111 (0.027)	---	0.1032 (0.255)	---					
			239	240	07-01653.000	0.0546 (0.135)	0 (0)	---	---	---	---	0.0546 (0.135)	---					
			247	887	07-01728.000	0.0607 (0.150)	0 (0)	---	---	---	---	0.0607 (0.150)	---					
			213	340	07-01647.000	0.9514 (2.351)	0 (0)	---	---	---	---	0.9514 (2.351)	---					
	TOTAL PARCEL 15-T					1.4471 (3.576)	0.0843 (0.209)	0.0378 (0.093)	0 (0)	0.0378 (0.093)	---	1.3628 (3.367)	---					
16 S	JAMES LARGE & BERNADINE LARGE	18	242	665	07-01365.000	0.3344 (0.8262)	0.0557 (0.138)	0.0412 (0.102)	0 (0)	0.0412 (0.102)	---	0.2787 (0.6882)	---					
16 T		17						0.0200 (0.049)	0 (0)	0.0200 (0.049)	---		---			TO PROVIDE WORK AREA AND CONSTRUCT DRIVE		
17 T	M & N LAND COMPANY, AN OHIO PARTNERSHIP	17, 18	238	245	07-01365.002	0.2507 (0.6196)	0.0418 (0.103)	0.0176 (0.044)	0 (0)	0.0176 (0.044)	---	0.2089 (0.5166)	---	STATE	↓	TO PROVIDE WORK AREA AND CONSTRUCT DRIVES		

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

DIST. II	9-3-99	PAR. 17 - REVISED OWNER'S NAME
REV.	6-25-99	DATE COMPLETED
		DESCRIPTION

FEDERAL PROJECT NO. STP
 PID NO. 9645
 STATE PROJECT NO. 11230 (0)
 SUMMARY OF ADDITIONAL RIGHT OF WAY
 HOL-62-30.649 (19.04)
 5 / 24
 161
 180

SUMMARY OF ADDITIONAL RIGHT OF WAY



GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE
NAME OF STATE OF OHIO UNLESS
OTHERWISE KNOWN.

1 HECTARE = 2.471044 ACRES

NOTE : ALL AREAS IN HECTARES UNLESS OTHERWISE
NOTED WITH ENGLISH EQUIVALENTS IN (ACRES).

NOTE : RECORD AREA AFTER OUTSALES MINUS TOTAL P.R.O.
MINUS NET TAKE EQUALS NET RESIDUE.

PARCEL NO.	OWNER	SHEET NO.	OWNERS BOOK	RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA(AC.)	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED	
												LEFT	RIGHT			BOOK	PAGE
18 WD	ROYAL DEVELOPMENT, INC.	17, 19	268	885	07-01655.002	0.3719 (0.919)	0.0245 (0.061)	0.0256 (0.063)	0.0245 (0.061)	0.0011 (0.002)	---	---	0.3463 (0.856)	STATE			
					07-01648.000	0.1975 (0.488)	0.0195 (0.048)	0.0195 (0.048)	0.0195 (0.048)	0 (0)	---	---	0.1780 (0.440)				
	TOTAL PARCEL 18-WD					0.5694 (1.407)	0.0440 (0.109)	0.0451 (0.111)	0.0440 (0.109)	0.0011 (0.002)	---	---	0.5243 (1.296)				
18 T		17, 19						0.0490 (0.121)	0 (0)	0.0490 (0.121)					TO PROVIDE WORK AREA AND CONSTRUCT DRIVE		
19 S	MARLIN F. MOORE & BARBARA MOORE AKA BARBARA A. MOORE	20	239	66	07-01365.004			0.0207 (0.051)	0 (0)	0.0207 (0.051)	---						
19 T		19	239	66	07-01365.004	0.1760 (0.4349)	0.0281 (0.069)	0.0102 (0.025)	0 (0)	0.0102 (0.025)	---	0.1479 (0.3659)	---		TO PROVIDE WORK AREA AND CONSTRUCT DRIVE		
			O.R. 8	644	07-60042.004	0.0963 (0.238)	0 (0)	---	---	---	---	0.0963 (0.238)	---				
	TOTAL PARCEL 19-T					0.2723 (0.6729)	0.0281 (0.069)	0.0102 (0.025)	0 (0)	0.0102 (0.025)	---	0.2442 (0.6039)	---				
20 S	JOHN C. TOPE & ANDREW P. TOPE AND PAUL TOPE, LIFE ESTATE	20	250	110	07-01365.001	0.2307 (0.5701)	0.0357 (0.088)	0.0207 (0.051)	0 (0)	0.0207 (0.051)	---	0.1950 (0.4821)	---				
20 T		19						0.0136 (0.034)	0 (0)	0.0136 (0.034)				TO PROVIDE WORK AREA AND CONSTRUCT DRIVE			
21 T	KENNETH I. FREE & VIRGINIA FREE	19	O.R. 28	925	07-01365.005	0.1705 (0.4213)	0.0276 (0.068)	0.0238 (0.059)	0 (0)	0.0238 (0.059)	---	0.1429 (0.3533)	---		TO PROVIDE WORK AREA AND CONSTRUCT DRIVE		
22 WD	RODHE'S MARKET, INC.	19, 21	274	782	07-01655.004	0.4290 (1.060)	0.0457 (0.113)	0.0638 (0.158)	0.0457 (0.113)	0.0181 (0.045)	---	---	0.3652 (0.902)				
22 T		19						0.0329 (0.081)	0 (0)	0.0329 (0.081)				TO PROVIDE WORK AREA AND DO NECESSARY GRADING			
23 CH	INCORPORATED VILLAGE OF MILLERSBURG, OHIO	20	174	722	07-60042.000	5.4196 * (13.392)	0.0098 (0.024)	0.0271 (0.067)	0 (0)	0.0271 (0.067)	---	5.4098 (13.368)	---		* PART OF THE AUDITOR'S 16.121 Ac. TRACT NORTH OF THE BANDS CO., INC. 23.232 Ac. TRACT		
23 T		19, 21						0.0337 (0.083)	0 (0)	0.0337 (0.083)				TO CONSTRUCT DRIVE			
24 T	GLADYS B. SHEPLER, TRUSTEE	21	247	471	07-01738.000	1.1129 (2.750)	0.1190 (0.294)	0.0568 (0.140)	0 (0)	0.0568 (0.140)	---	---	0.9939 (2.456)	STATE	TO PROVIDE WORK AREA AND CONSTRUCT DRIVE		

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

FEDERAL PROJECT NO. STP

PID NO. 9645

STATE PROJECT NO. 11230 (0)

SUMMARY OF ADDITIONAL RIGHT OF WAY

HOL-62-30.649 (19.04)

6/24

DIST. 11	11-17-99	PAR. 20 - ADDED LIFE ESTATE
REV.	DATE	DESCRIPTION
	6-25-99	DATE COMPLETED

162
180

SUMMARY OF ADDITIONAL RIGHT OF WAY



GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE
NAME OF STATE OF OHIO UNLESS
OTHERWISE KNOWN.

1 HECTARE = 2.471044 ACRES

NOTE: ALL AREAS IN HECTARES UNLESS OTHERWISE
NOTED WITH ENGLISH EQUIVALENTS IN (ACRES).

NOTE: RECORD AREA AFTER OUTSALES MINUS TOTAL P.R.O.
MINUS NET TAKE EQUALS NET RESIDUE.

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA (AC.)	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED	
			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE
25 T	J.L.M. REALTY, AN OHIO PARTNERSHIP	21	229	586	07-01683.000	0.28235 (0.6977)	0.0557 (0.138)	0.0325 (0.0803)	0 (0)	0.0325 (0.0803)	- - -	0.22665 (0.5597)	- - -	STATE	TO PROVIDE WORK AREA AND CONSTRUCT DRIVES		
					07-00124.000	0.28235 (0.6977)	0.0557 (0.138)	0.0325 (0.0803)	0 (0)	0.0325 (0.0803)	- - -	0.22665 (0.5597)	- - -				
	TOTAL PARCEL 25-T					0.5647 (1.3954)	0.1114 (0.276)	0.0650 (0.161)	0 (0)	0.0650 (0.161)	- - -	0.4533 (1.1194)	- - -				
26 T	DOWNTOWN ENTERPRISES COMPANY, AN OHIO PARTNERSHIP	21, 22	277	276	07-01685.000	0.1457 (0.360)	0.0223 (0.055)	0.0149 (0.037)	0 (0)	0.0149 (0.037)	- - -	- - - (0.305)	0.1234		TO PROVIDE WORK AREA AND CONSTRUCT DRIVE		
27 T	REX A. WHEELER & KRISTIN L. WHEELER	21, 22	255	960	07-00288.001	0.1554 (0.384)	0 (0)	0.0276 (0.068)	0 (0)	0.0276 (0.068)	- - -	0.1554 (0.384)	- - -		TO PROVIDE WORK AREA AND CONSTRUCT DRIVES		
					07-00288.000	0.1853 (0.458)	0 (0)	0.0194 (0.048)	0 (0)	0.0194 (0.048)	- - -	0.1853 (0.458)	- - -				
	TOTAL PARCEL 27-T					0.3407 (0.842)	0 (0)	0.0470 (0.116)	0 (0)	0.0470 (0.116)	- - -	0.3407 (0.842)	- - -				
28 T	JOHN H. SNOW & SHERRY L. SNOW	22	230	136	07-01688.000	0.1979 (0.489)	0.0279 (0.069)	0.0156 (0.039)	0 (0)	0.0156 (0.039)	- - -	- - - (0.420)	0.1700		TO PROVIDE WORK AREA AND CONSTRUCT DRIVE		
29 T	HUBERT H. HUMMEL & FRANCES W. HUMMEL	22	225	604	07-01736.000	0.1457 (0.360)	0.0223 (0.055)	0.0132 (0.033)	0 (0)	0.0132 (0.033)	- - -	- - - (0.305)	0.1234		TO PROVIDE WORK AREA AND CONSTRUCT DRIVE		
					07-01736.000	0.1457 (0.360)	0.0231 (0.057)	0.0085 (0.021)	0 (0)	0.0085 (0.021)	- - -	- - - (0.303)	0.1226				
					07-01737.000	0.1781 (0.440)	0 (0)	- - -	- - -	- - -	- - -	0.1781 (0.440)	- - -				
	TOTAL PARCEL 29-T					0.4695 (1.160)	0.0454 (0.112)	0.0217 (0.054)	0 (0)	0.0217 (0.054)	- - -	- - - (1.048)	0.4241				
30 T	LAURA E. ARNOLD	22	189	52	07-01735.000	0.1582 (0.391)	0.0223 (0.055)	0.0094 (0.023)	0 (0)	0.0094 (0.023)	- - -	0.1359 (0.336)	- - -	STATE	TO PROVIDE WORK AREA AND CONSTRUCT DRIVE		

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

FEDERAL PROJECT NO. STP
 PID NO. 9645
 STATE PROJECT NO. 1/230 (0)
SUMMARY OF ADDITIONAL RIGHT OF WAY
 HOL-62-30.649 (19.04)
 7/24
 163
 180

DIST. II	9-3-99	PAR. 25 - REV. DEED REFERENCES
REV.	6-25-99	DATE COMPLETED
DATE		DESCRIPTION

SUMMARY OF ADDITIONAL RIGHT OF WAY



GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE
NAME OF STATE OF OHIO UNLESS
OTHERWISE KNOWN.

1 HECTARE = 2.471044 ACRES

NOTE: ALL AREAS IN HECTARES UNLESS OTHERWISE
NOTED WITH ENGLISH EQUIVALENTS IN (ACRES).

NOTE: RECORD AREA AFTER OUTSALES MINUS TOTAL P.R.O.
MINUS NET TAKE EQUALS NET RESIDUE.

PARCEL NO.	OWNER	SHEET NO.	OWNERS BOOK	RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA(AC.)	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED	
												LEFT	RIGHT			BOOK	PAGE
31 T	ROBERT L. LING & JUDY A. LING	22, 23	247 220	869 626	07-01407.000	2.0963 (5.180)	0.0836 (0.207)	0.0662 (0.164)	0	0.0662 (0.164)	No	2.0127 (4.973)	- - - - - -	STATE	TO PROVIDE WORK AREA AND CONSTRUCT DRIVES		
32 T	JOSEPH H. HAYNES & MYRITA C. HAYNES	22	281	817	07-01734.000	0.0850 (0.210)	0.0195 (0.048)	0.0082 (0.020)	0	0.0082 (0.020)	- - -	- - - (0.162)	0.0655		TO PROVIDE WORK AREA AND CONSTRUCT DRIVE		
33 T	NICHOLAS A. MULLET & WANDA S. MULLET	22, 23	251	442	07-01731.000	0.0809 (0.200)	0.0212 (0.052)	0.0086 (0.021)	0	0.0086 (0.021)	- - -	- - - (0.148)	0.0597		TO PROVIDE WORK AREA AND CONSTRUCT DRIVE		
34 T	DEAN F. ENGEL & MARY F. ENGEL	23	135	581	07-01393.000	0.0789 (0.195)	0	0.0068 (0.017)	0	0.0068 (0.017)	- - -	- - - (0.195)	0.0789		TO PROVIDE WORK AREA AND CONSTRUCT DRIVES		
35 T	DYE & MAIBACH INSURANCE AGENCY, INC., AN OHIO CORPORATION	23	270	617	07-01539.000	0.2590 (0.640)	0.0237 (0.059)	0.0107 (0.027)	0	0.0107 (0.027)	- - -	0.2353 (0.581)	- - - - - -		TO PROVIDE WORK AREA AND CONSTRUCT DRIVE		
36 T	DENNIS A. BARNHART & CANDACE A. BARNHART	23	230	267	07-01464.000	0.0923 (0.228)	0	0.0078 (0.019)	0	0.0078 (0.019)	- - -	- - - (0.228)	0.0923		TO PROVIDE WORK AREA AND CONSTRUCT DRIVES		
					07-01464.000	0.0923 (0.228)	0	0.0078 (0.019)	0	0.0078 (0.019)	- - -	- - - (0.228)	0.0923				
					07-01689.000	0.0032 (0.008)	0	0.0001 (0.001)	0	0.0001 (0.001)	- - -	- - - (0.008)	0.0032				
	TOTAL PARCEL 36-T					0.1878 (0.464)	0	0.0157 (0.039)	0	0.0157 (0.039)	- - -	- - - (0.464)	0.1878	STATE			

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

REV.	DATE	DESCRIPTION
	6-25-99	DATE COMPLETED

FEDERAL PROJECT NO. STP
 PID NO. 9645
 STATE PROJECT NO. 11230 (0)
 SUMMARY OF ADDITIONAL RIGHT OF WAY
 HOL-62-30.649 (19.04)
 8 / 24
 164 / 180

SUMMARY OF ADDITIONAL RIGHT OF WAY



GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE
NAME OF STATE OF OHIO UNLESS
OTHERWISE KNOWN.

1 HECTARE = 2.471044 ACRES

NOTE: ALL AREAS IN HECTARES UNLESS OTHERWISE
NOTED WITH ENGLISH EQUIVALENTS IN (ACRES).

NOTE: RECORD AREA AFTER OUTSALES MINUS TOTAL P.R.O.
MINUS NET TAKE EQUALS NET RESIDUE.

PARCEL NO.	OWNER	SHEET NO.	OWNERS BOOK	RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA(AC.)	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED	
												LEFT	RIGHT			BOOK	PAGE
37 T	ROBERT L. LING & JUDY A. LING	23	220, 247	626, 869	07-01413.000	0.4957 (1.225)	0.0058 (0.014)	0.0062 (0.006)	0 (0)	0.0062 (0.006)	- - -	0.4899 (1.211)	- - -	STATE	TO PROVIDE WORK AREA AND CONSTRUCT DRIVES		
			269	969	07-01348.000	0.3480 (0.860)	0.0357 (0.088)	0.0158 (0.039)	0 (0)	0.0158 (0.039)	- - -	0.3123 (0.772)	- - -				
			220, 247	626, 869	07-01681.000	0.4294 (1.061)	0 (0)	0.0016 (0.013)	0 (0)	0.0016 (0.013)	- - -	0.4294 (1.061)	- - -				
			220, 247	626, 869	07-01411.000	0.1497 (0.370)	0 (0)	- - -	- - -	- - -	- - -	0.1497 (0.370)	- - -				
			220, 247	626, 869	07-01679.000	0.0089 (0.022)	0 (0)	- - -	- - -	- - -	- - -	0.0089 (0.022)	- - -				
			220, 247	626, 869	07-01677.000	0.0728 (0.180)	0 (0)	- - -	- - -	- - -	- - -	0.0728 (0.180)	- - -				
	TOTAL PARCEL 37-T					1.5045 (3.718)	0.0415 (0.102)	0.0236 (0.058)	0 (0)	0.0236 (0.058)	- - -	1.4630 (3.616)	- - -				
38 T	DENNIS SCHLABACH	23	228	37	07-00643.000	0.4209 (1.040)	0 (0)	0.0047 (0.012)	0 (0)	0.0047 (0.012)	- - -	- - -	0.4209 (1.040)		TO PROVIDE WORK AREA AND CONSTRUCT DRIVE		
			229	474	07-00283.000	0.4423 (1.093)	0 (0)	- - -	- - -	- - -	- - -	- - -	0.4423 (1.093)				
			229	474	07-00284.000	0.0672 (0.166)	0 (0)	- - -	- - -	- - -	- - -	- - -	0.0672 (0.166)				
			228	37	07-00645.000	0.6758 (1.670)	0 (0)	- - -	- - -	- - -	- - -	- - -	0.6758 (1.670)				
			218	710	07-01437.000	0.0911 (0.225)	0 (0)	- - -	- - -	- - -	- - -	- - -	0.0911 (0.225)				
			218	710	07-01438.000	0.1983 (0.490)	0 (0)	- - -	- - -	- - -	- - -	- - -	0.1983 (0.490)				
			238	828	07-00644.001	0.1966 (0.4858)	0 (0)	- - -	- - -	- - -	- - -	- - -	0.1966 (0.4858)				
			228	37	07-00644.000	0.4873 (1.2042)	0 (0)	- - -	- - -	- - -	- - -	- - -	0.4873 (1.2042)				
	TOTAL PARCEL 38-T					2.5795 (6.374)	0 (0)	0.0047 (0.012)	0 (0)	0.0047 (0.012)	- - -	- - -	2.5795 (6.374)	STATE			

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

DIST. #	9-3-99	PAR. 37 - REV. DEED REFERENCES
REV.	6-25-99	DATE COMPLETED
DATE		DESCRIPTION

FEDERAL PROJECT NO. STP
 PID NO. 9645
 STATE PROJECT NO. 11230 (0)
 SUMMARY OF ADDITIONAL RIGHT OF WAY
 HOL-62-30.649 (19.04)
 9/24
 165
 180

VILLAGE OF MILLERSBURG
SEC. 22 - T9N - R7W



PROJECT NO. STP

FILE NO. 9645

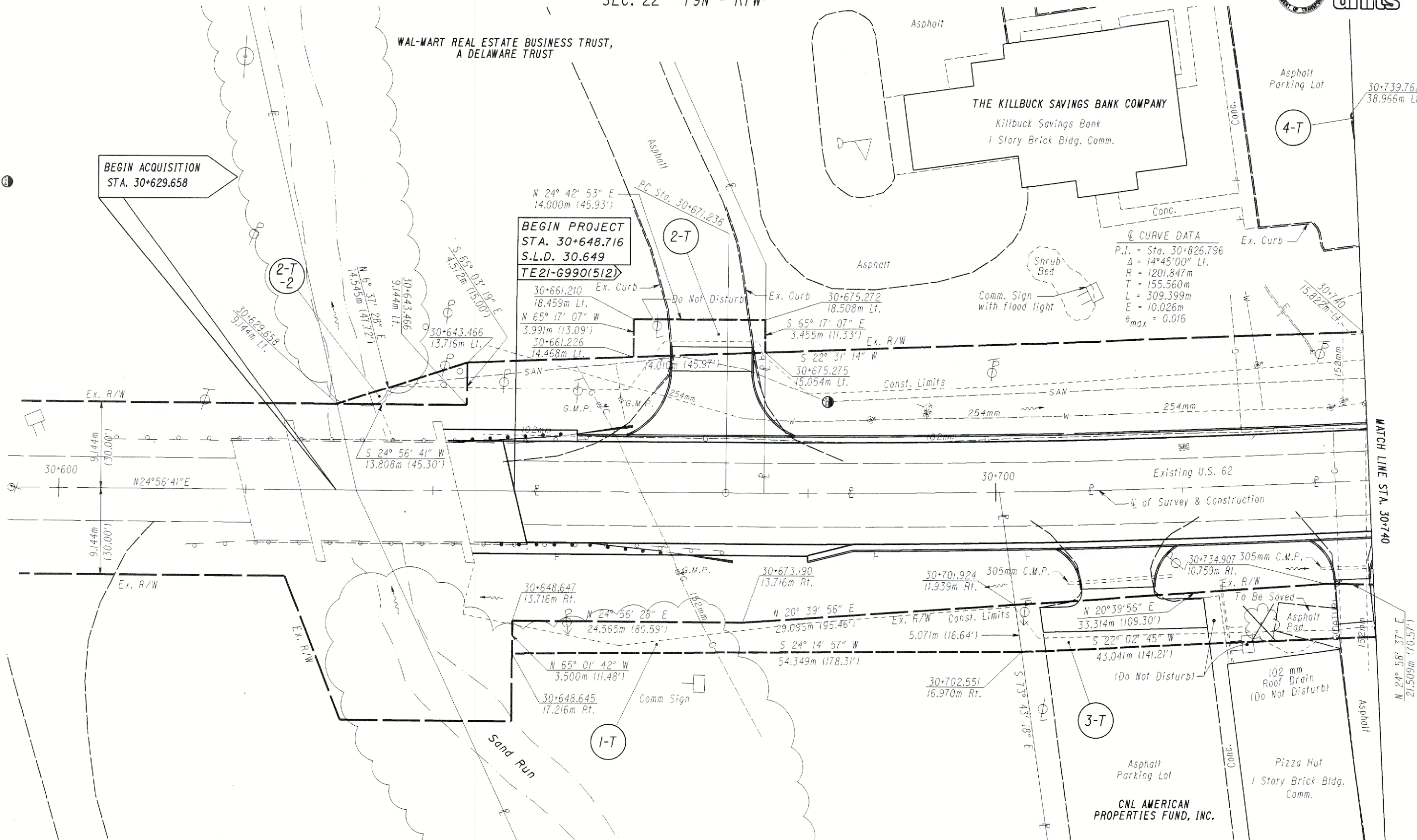
STATE PROJECT NO. 11230 (0)

RIGHT OF WAY PLAN
STA. 30+600 to STA. 30+740

HOL-62-30.649

11/24

167
180



BEGIN ACQUISITION
STA. 30+629.658

BEGIN PROJECT
STA. 30+648.716
S.L.D. 30.649
TE21-G990(512)

Q CURVE DATA
P.I. = Sta. 30+826.796
Δ = 14°45'00" Lt.
R = 1201.847m
T = 155.560m
L = 309.399m
E = 10.026m
e_{max} = 0.016

LILA PROPERTIES, LTD., AN OHIO
LIMITED LIABILITY COMPANY

REV.	DATE	DESCRIPTION
DATE OF COMPLETION		6-25-99

VILLAGE OF MILLERSBURG
SEC. 22 - T9N - R7W

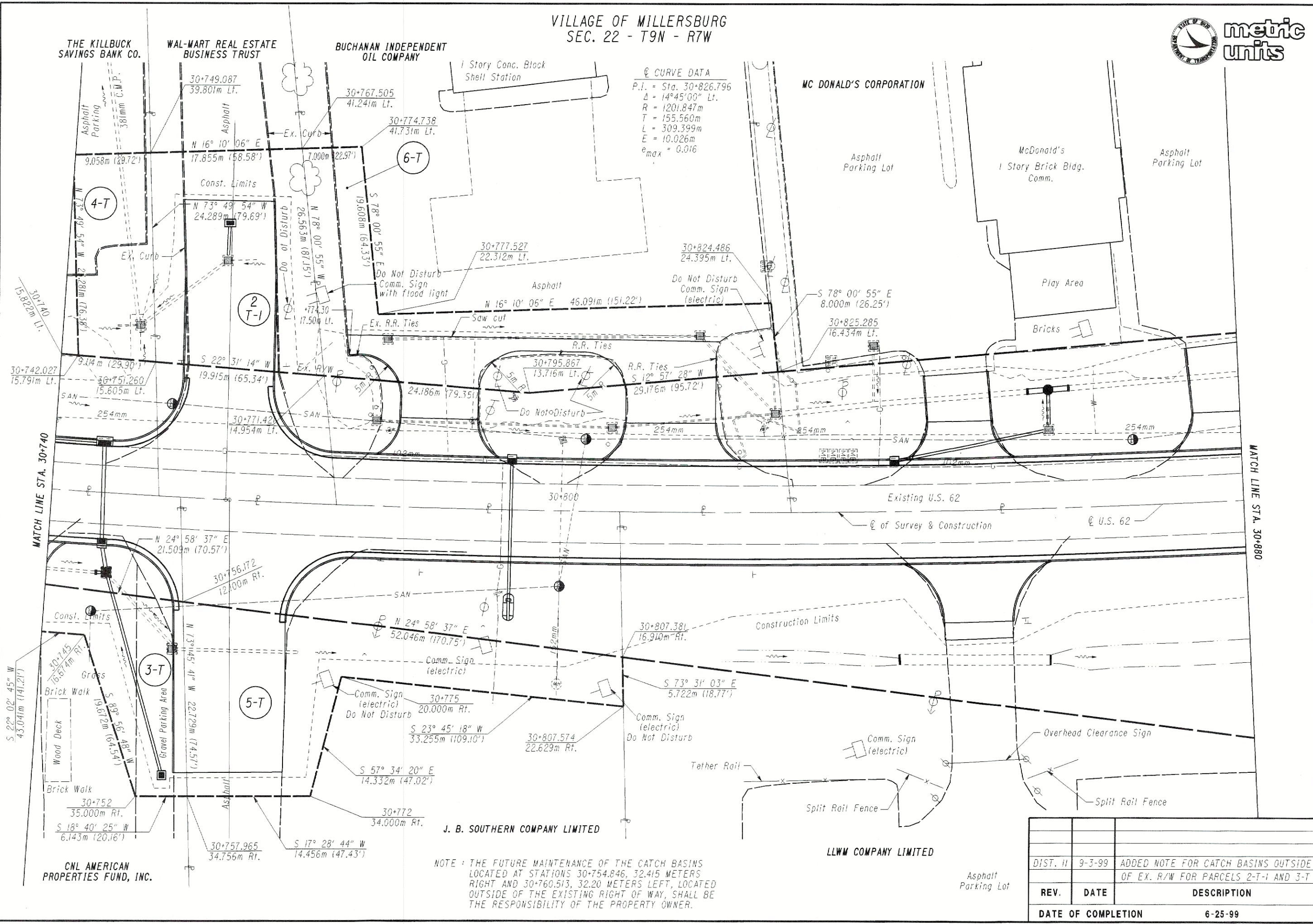


FEDERAL PROJECT NO. STP
FID NO. 9645
STATE PROJECT NO. 11230 (0)

RIGHT OF WAY PLAN
STA. 30+740 to STA. 30+880

HOL-62-30.649

12/24
168
180



Q CURVE DATA
P.I. = Sta. 30+826.796
Δ = 14°45'00" Lt.
R = 1201.847m
T = 155.560m
L = 309.399m
E = 10.026m
e_{max} = 0.016

NOTE: THE FUTURE MAINTENANCE OF THE CATCH BASINS LOCATED AT STATIONS 30+754.846, 32.415 METERS RIGHT AND 30+760.513, 32.20 METERS LEFT, LOCATED OUTSIDE OF THE EXISTING RIGHT OF WAY, SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.

REV.	DATE	DESCRIPTION
	9-3-99	ADDED NOTE FOR CATCH BASINS OUTSIDE OF EX. R/W FOR PARCELS 2-T-1 AND 3-T
DATE OF COMPLETION		6-25-99

VILLAGE OF MILLERSBURG
SEC. 22 - T9N - R7W



HORIZONTAL SCALE IN METERS

FEDERAL PROJECT NO. STP

PIO NO. 9645

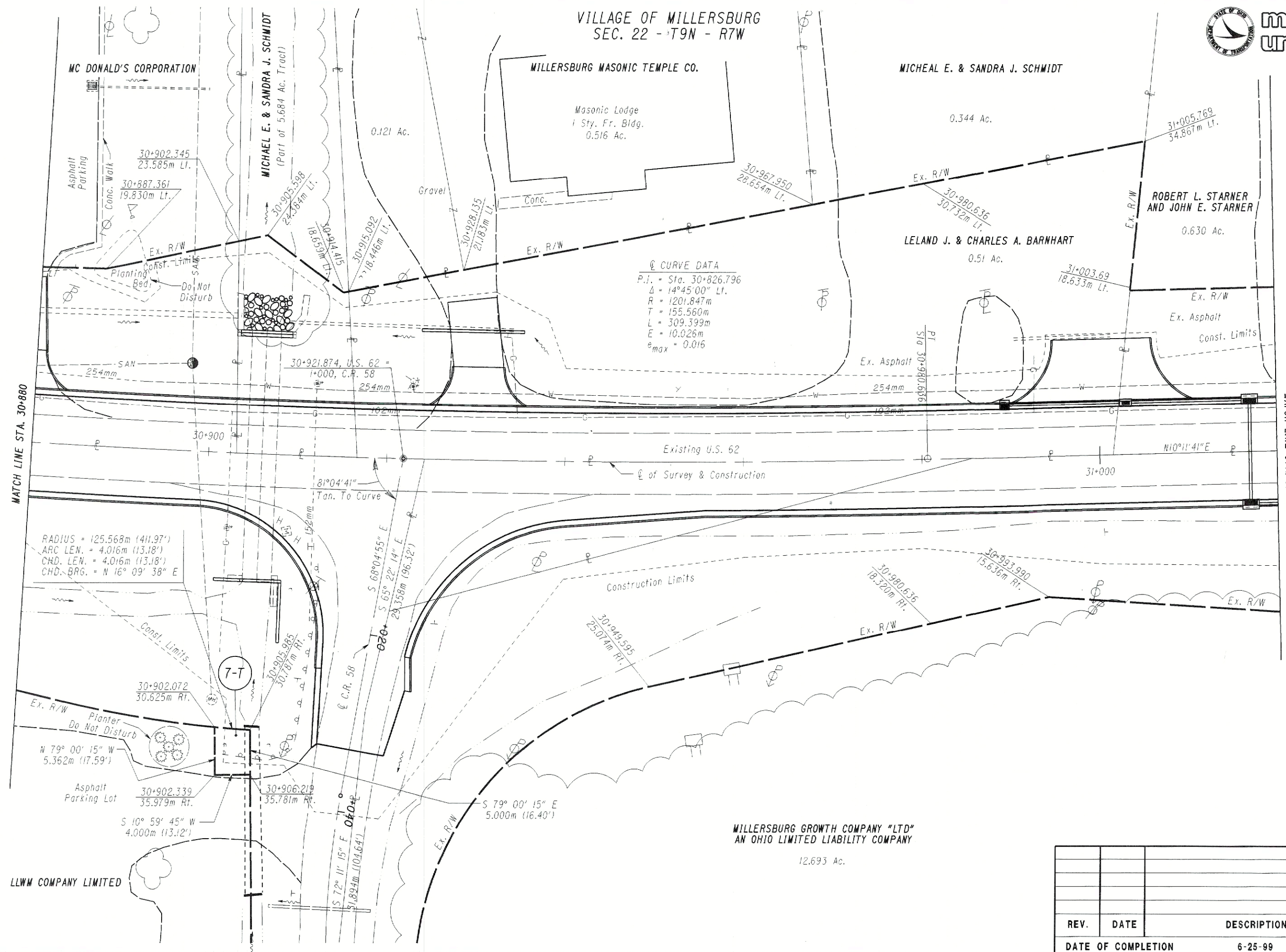
STATE PROJECT NO. 11230 (0)

RIGHT OF WAY PLAN
STA. 30+880 to STA. 31+020

HOL-62-30.649

13/24

169
180



REV.	DATE	DESCRIPTION

DATE OF COMPLETION 6-25-99

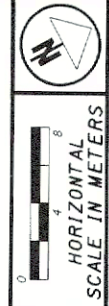
LLWM COMPANY LIMITED

MILLERSBURG GROWTH COMPANY "LTD"
AN OHIO LIMITED LIABILITY COMPANY
12.693 Ac.

MATCH LINE STA. 30+880

MATCH LINE STA. 31+020

VILLAGE OF MILLERSBURG
SEC. 19 - T9N - R7W



WILLIAM E. & BARBARA LECKY
0.544 Ac.

WILLIAM E. LECKY
0.185 Ac.

RADIUS = 263.727m (865.24')
APC LEN. = 9.205m (30.20')
CHD. LEN. = 9.205m (30.20')
CHD. BRG. = S 0° 39' 48" E

Q CURVE DATA
P.I. = Sta. 31+412.397
Δ = 23°09'29" Lt.
R = 272.871m
T = 55.908m
L = 110.290m
E = 5.669m
e_{max} = 0.018

BANDS COMPANY, INC.
23.74 Ac.

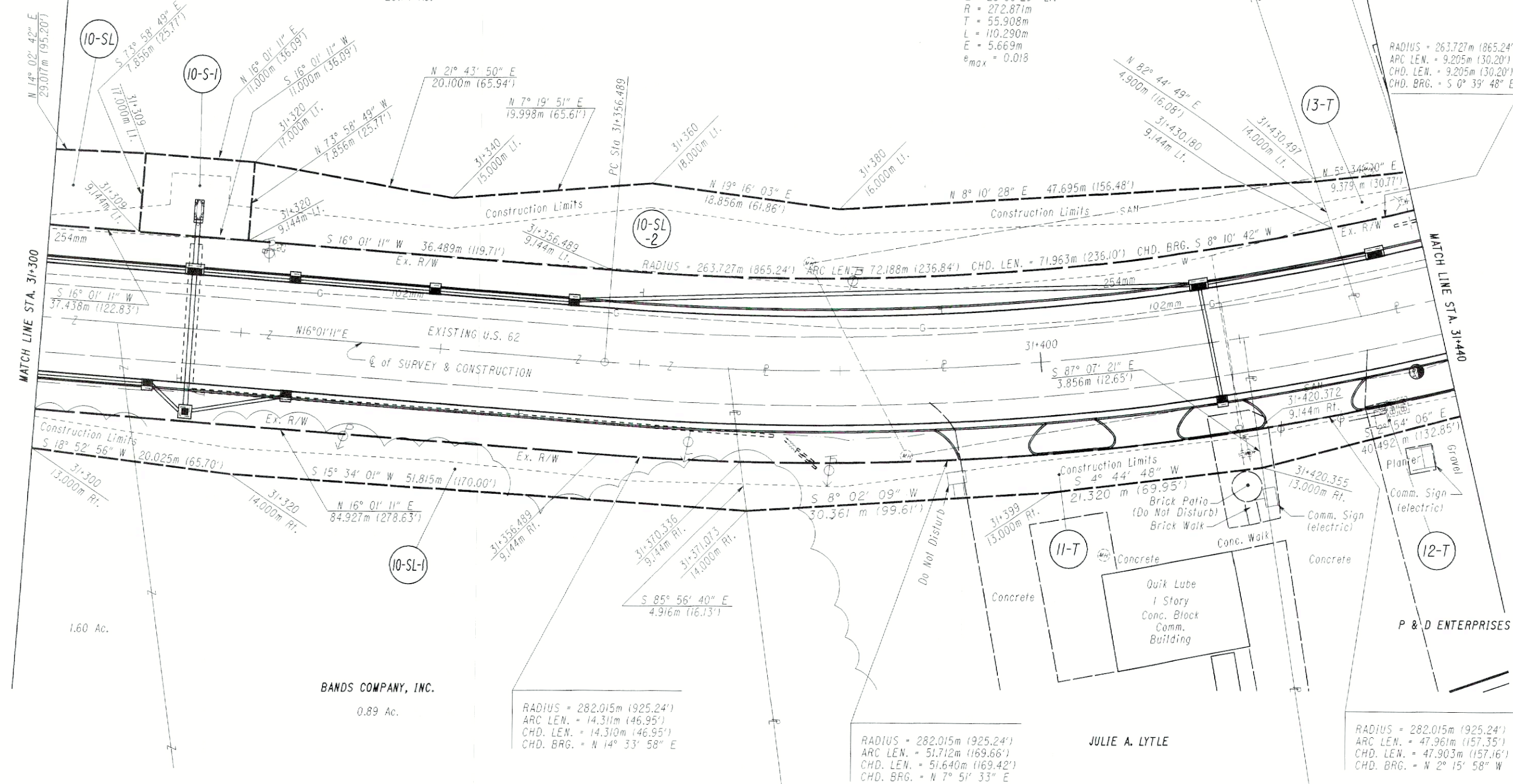
BANDS COMPANY, INC.
0.89 Ac.

JULIE A. LYTLE

RADIUS = 282.015m (925.24')
ARC LEN. = 14.311m (46.95')
CHD. LEN. = 14.310m (46.95')
CHD. BRG. = N 14° 33' 58" E

RADIUS = 282.015m (925.24')
ARC LEN. = 51.712m (169.66')
CHD. LEN. = 51.640m (169.42')
CHD. BRG. = N 7° 51' 33" E

RADIUS = 282.015m (925.24')
ARC LEN. = 47.961m (157.35')
CHD. LEN. = 47.903m (157.16')
CHD. BRG. = N 2° 15' 58" W



FEDERAL PROJECT NO. STP
PID NO. 9645
STATE PROJECT NO. 11230 (0)

RIGHT OF WAY PLAN
STA. 31+300 to STA. 31+440

HOL-62-30.649

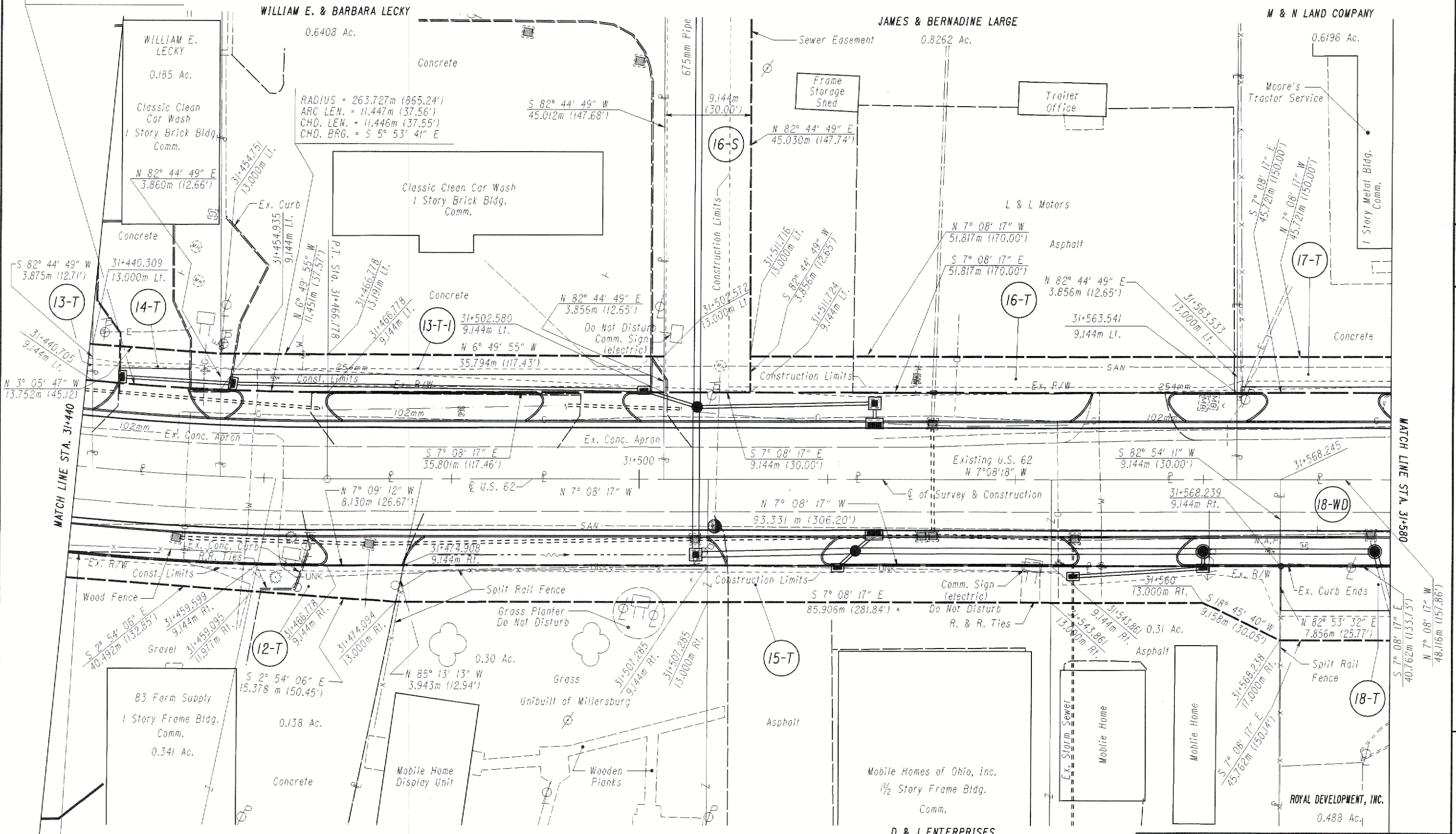
REV.	DATE	DESCRIPTION
DIST. 11	10-12-99	REV. DRIVES ON PARCEL 11-T
DATE OF COMPLETION	6-25-99	

16/24
172
180

RADIUS = 263.727m (865.24')
 ARC LEN. = 13.753m (45.12')
 CHD. LEN. = 13.751m (45.11')
 CHD. BRG. = S 3° 09' 26" E

VILLAGE OF MILLERSBURG
 SEC. 19 - T9N - R7W

NOTE: FOR PARCEL 16-S DETAILS
 SEE SHEET No. 18



NOTE: THE FUTURE MAINTENANCE OF THE CATCH BASINS LOCATED AT STATIONS 31+443.720, 9.80 METERS LEFT, 31+456.040, 9.87 METERS LEFT, 31+500.470, 9.144 METERS LEFT, 31+521.100, 9.144 METERS RIGHT, 31+546.150, 10.000 METERS RIGHT AND 31+560.000, 9.144 METERS RIGHT, LOCATED OUTSIDE OF EXISTING RIGHT OF WAY, SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.

o Denotes 5/8" Iron Pin with Aluminum Cap Stamped "O.D.O.T. Dist. 11" Set By O.D.O.T.

REV.	DATE	DESCRIPTION
DIST. II	10-12-99	PAR. 15-T ADDED LOCATION OF EX. STORM SEWER AND A PROP. C.B. RT. OF STA. 31+546.150
DIST. II	9-3-99	ADDED NOTE FOR CATCH BASINS OUTSIDE OF EX. R/W FOR PARCELS 13-T-1, 14-T AND 15-T.
DATE OF COMPLETION		6-25-99

FEDERAL PROJECT NO. STP

PID NO. 9645

STATE PROJECT NO. 11230 (0)

RIGHT OF WAY PLAN
 STA. 31+440 to STA. 31+580

HOL-62-30.649

17 / 24

173
180

VILLAGE OF MILLERSBURG
SEC. 19 - T9N - R7W

NOTE: THE FUTURE MAINTENANCE OF THE CATCH BASIN LOCATED AT STATION 31+649.660, 10.25 METERS LEFT, LOCATED OUTSIDE OF THE EXISTING RIGHT OF WAY, SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.



HORIZONTAL SCALE IN METERS

FEDERAL PROJECT NO. STP

P.D. NO. 9645

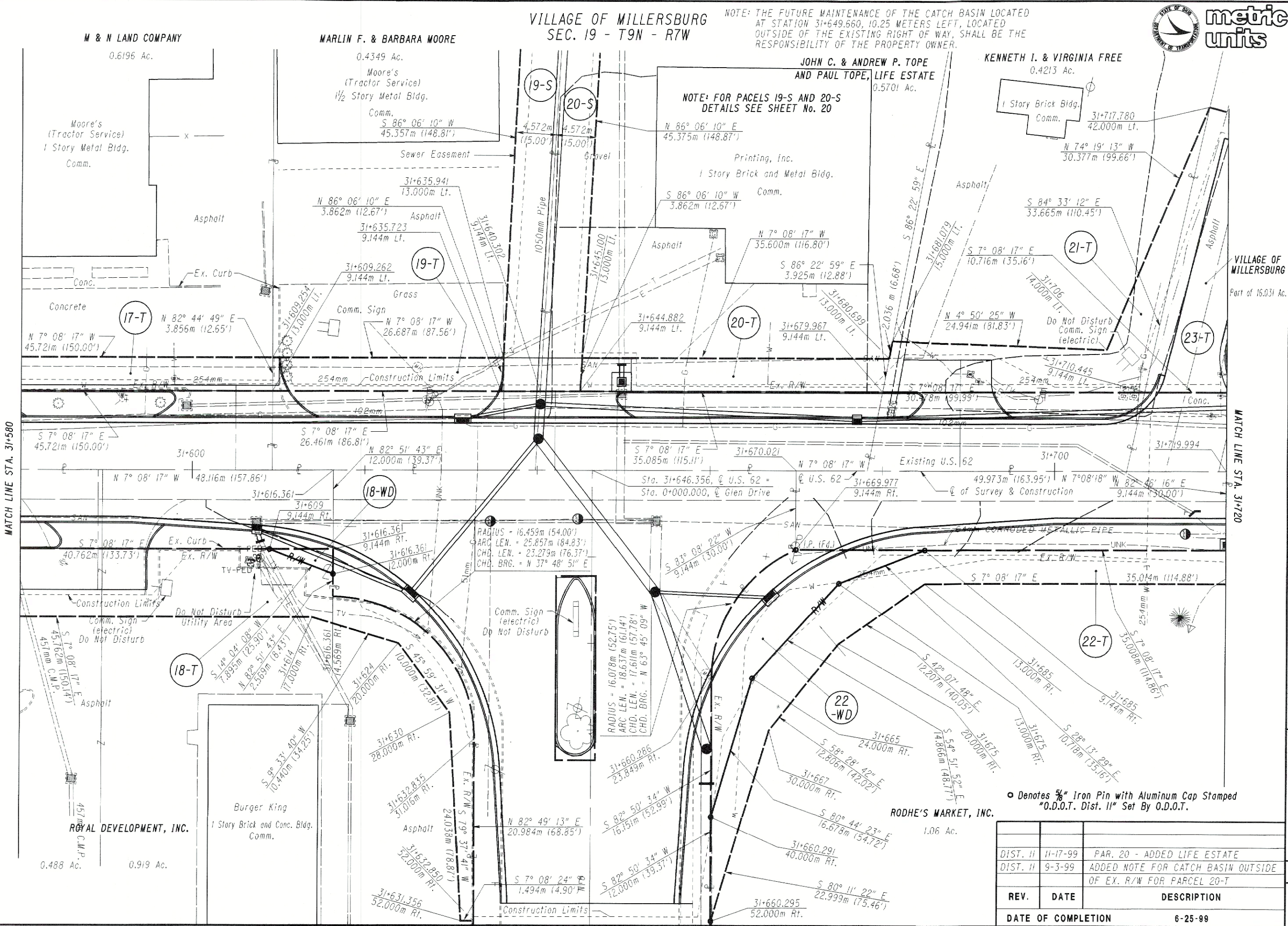
STATE PROJECT NO. 11230 (0)

RIGHT OF WAY PLAN
STA. 31+580 to STA. 31+720

HOL - 62 - 30.649

19/24

175
180



NOTE: FOR PARCELS 19-S AND 20-S DETAILS SEE SHEET No. 20

KENNETH I. & VIRGINIA FREE
0.4213 Ac.

JOHN C. & ANDREW P. TOPE
AND PAUL TOPE, LIFE ESTATE
0.5701 Ac.

MARLIN F. & BARBARA MOORE
0.4349 Ac.

M & N LAND COMPANY
0.6196 Ac.

ROYAL DEVELOPMENT, INC.
0.488 Ac. 0.919 Ac.

RODHE'S MARKET, INC.
1.06 Ac.

RADIUS = 16.459m (54.00')
ARC LEN. = 25.857m (84.83')
CHD. LEN. = 23.279m (76.37')
CHD. BRG. = N 37° 48' 51" E

RADIUS = 16.078m (52.75')
ARC LEN. = 18.637m (61.14')
CHD. LEN. = 17.611m (57.78')
CHD. BRG. = N 63° 45' 09" W

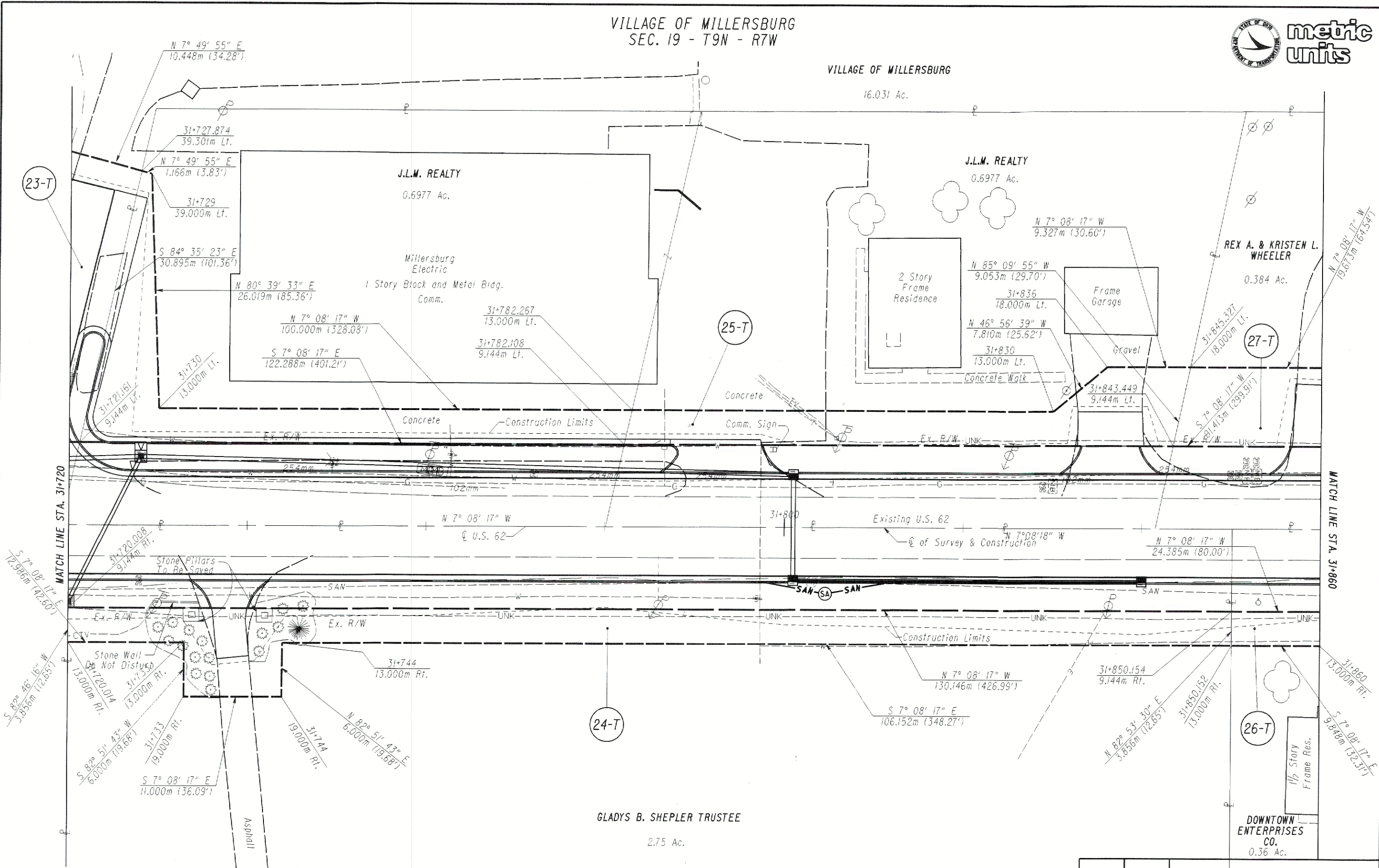
o Denotes 5/8" Iron Pin with Aluminum Cap Stamped "O.D.O.T. Dist. 11" Set By O.D.O.T.

REV.	DATE	DESCRIPTION
	DIST. II 11-17-99	PAR. 20 - ADDED LIFE ESTATE
	DIST. II 9-3-99	ADDED NOTE FOR CATCH BASIN OUTSIDE OF EX. R/W FOR PARCEL 20-T
	DATE OF COMPLETION	6-25-99

VILLAGE OF MILLERSBURG
SEC. 19 - T9N - R7W



HORIZONTAL
SCALE IN METERS



FEDERAL PROJECT NO. STP
PID NO. 9645
STATE PROJECT NO. 11230 (0)

RIGHT OF WAY PLAN
STA. 31+720 to STA. 31+860

HOL-62-30.649

REV.	DATE	DESCRIPTION
DIST. II	1-5-00	REV. LOCATION OF PROPOSED C.B. LT. OF STA. 31+728 TO BE INSIDE OF EX. R/W
DIST. II	9-3-99	ADDED NOTE FOR CATCH BASIN OUTSIDE OF EX. R/W FOR PARCEL 25-T
DATE OF COMPLETION	6-25-99	

21/24
177
180

VILLAGE OF MILLERSBURG
SEC. 19 - T9N - R7W
OUT LOT 83 & OUT LOT 106



HORIZONTAL
SCALE IN METERS

FEDERAL
PROJECT NO.
STP

PID NO.
9645

STATE
PROJECT NO.
11230 (10)

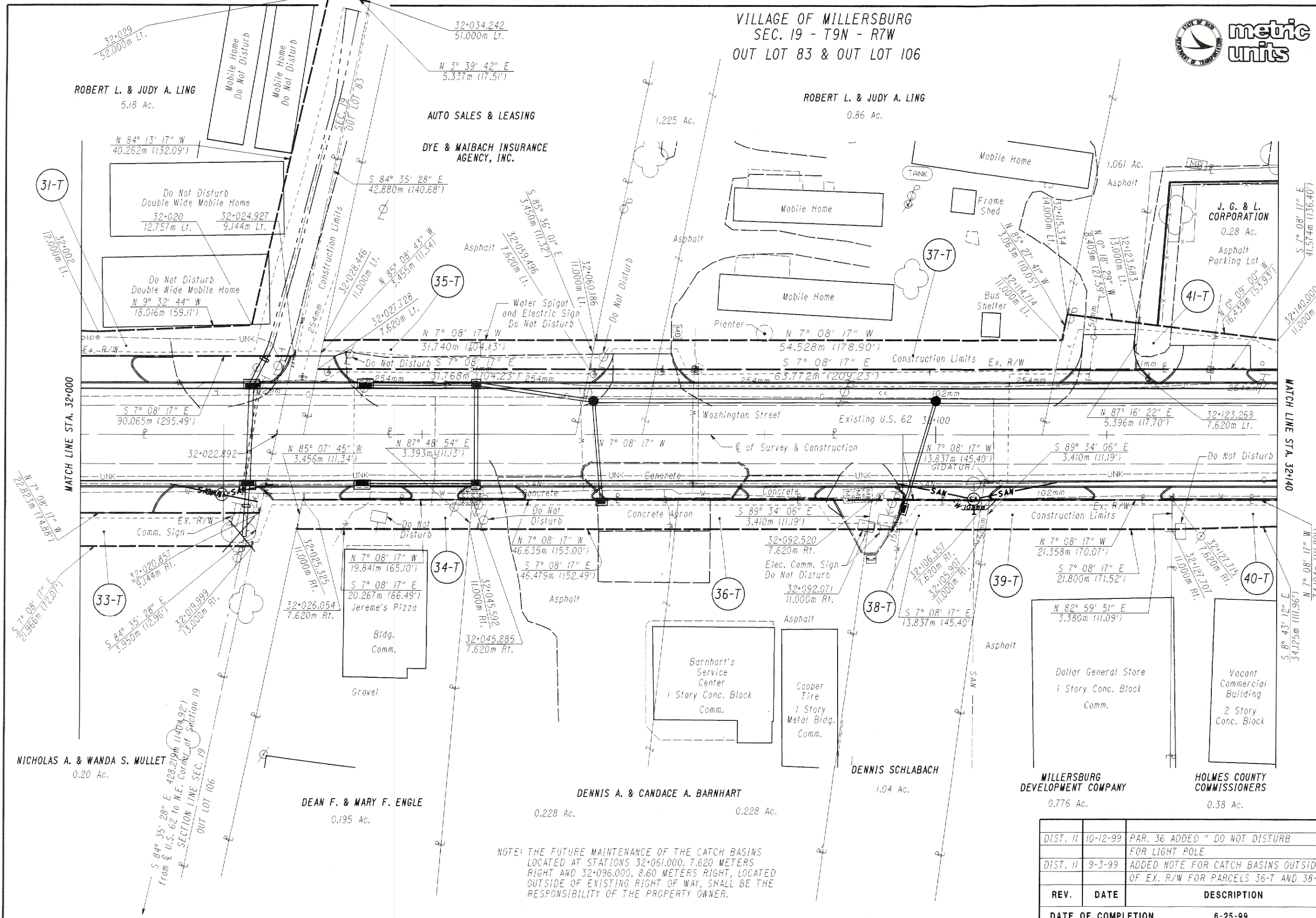
RIGHT OF WAY PLAN SHEET
STA. 32+000 to STA. 32+140

HOL-62-30.649

23/24

179

180



NOTE: THE FUTURE MAINTENANCE OF THE CATCH BASINS
LOCATED AT STATIONS 32+061.000, 7.620 METERS
RIGHT AND 32+096.000, 8.60 METERS RIGHT, LOCATED
OUTSIDE OF EXISTING RIGHT OF WAY, SHALL BE THE
RESPONSIBILITY OF THE PROPERTY OWNER.

REV.	DATE	DESCRIPTION
DIST. II	10-12-99	PAR. 36 ADDED " DO NOT DISTURB FOR LIGHT POLE
DIST. II	9-3-99	ADDED NOTE FOR CATCH BASINS OUTSIDE OF EX. R/W FOR PARCELS 36-T AND 38-T
DATE OF COMPLETION	6-25-99	

GENERAL INFORMATION

INTRODUCTION

THIS REPORT CONSISTS OF THE SOILS INVESTIGATION OF THE USR 62 WIDENING AND GRADE IMPROVEMENT BEGINNING APPROXIMATELY 35 M NORTH OF THE STRUCTURE OVER SAND RUN, PROCEEDING NORTHWARD FOR 1.54 KM AND TERMINATING APPROXIMATELY 20 M TO THE NORTH OF THE STRUCTURE OVER INGLE RUN. PROPOSED GRADE INDICATES CUTS, MAXIMUM 0.1M IN DEPTH, AND FILL EMBANKMENTS, MAXIMUM 0.5 M IN HEIGHT.

GEOLOGY AND OBSERVATIONS OF THE PROJECT

THE PROJECT IS LOCATED ON THE UNGLACIATED ALLEGHENY PLATEAU, WITH THE ALIGNMENT TRAVERSING THE BROAD FLOODPLAIN OF KILLBUCK CREEK, CROSSING A STREAM AND FOR THE FIRST HALF OF THE PROJECT, RUNNING ALONG THE BASE OF A HILL. THE PROJECT IS LOCATED IN AN AREA WHERE ALLUVIAL AND VALLEY DEPOSITS OVERLIE CLAYSHALE AND SANDSTONE BEDROCK OF MISSISSIPPIAN AGE. TWO ROCK EXPOSURES AND A POND AT A SEWAGE DISPOSAL PLANT WERE OBSERVED ALONG THE PROJECT.

EXPLORATION

EXPLORATORY BORINGS WERE MADE BY MEANS OF A MECHANICALLY-POWERED HOLLOW STEM ROTARY AUGER AND A HAND AUGER BETWEEN APRIL 4TH AND 16TH, 1996.

INVESTIGATIONAL FINDINGS

MATERIALS ENCOUNTERED ON THE PROJECT WERE PREDOMINANTLY COMPRISED OF SANDY SILTS (A-4A) WITH SOME SANDY GRAVELS (A-1-B AND A-2-4) AND SOME SILT CLAYS (A-6A) HAVING A WIDE RANGE OF MOISTURE CONTENTS AND VARYING DEGREES OF WETNESS.

WET MATERIALS WERE ENCOUNTERED AT STATIONS 30+896.4, 31+022, 31+083, 31+159.2, 31+265.9, 31+392, 31+505, 31+753.6 AND 31+997.4.

Elastic clay was encountered at station 31+265.9.

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS - 78 SAMPLES TESTED

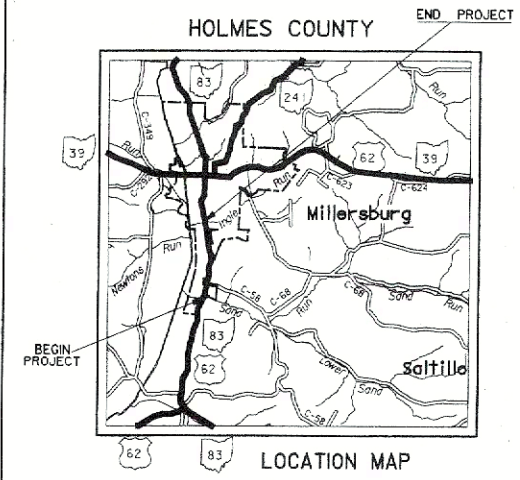
DESCRIPTION	O.D.O.T. CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL OR STONE FRAGS.	A-1-A	58	17	13	9	3	NP	NP	16	5
GRAVEL OR STONE FRAGS. WITH SAI	A-1-B	42	22	17	14	5	NP	NP	19	12
COARSE AND FINE SAND	A-3A	10	21	46	18	5	NP	NP	18	4
GRAVEL OR STONE FRAGS. WITH SAND AND SILT	A-2-4	30	16	24	21	9	NP	NP	14	10
SANDY SILT	A-4A	14	9	19	38	20	28	4	19	23
SILT	A-4B	0	3	15	59	23	30	5	18	5
SILT AND CLAY	A-6A	4	4	11	46	35	33	12	23	10
SILTY CLAY	A-6B	0	6	13	48	33	37	17	22	3
ELASTIC CLAY	A-7-5	0	3	10	51	36	44	14	37	1
CLAYSHALE	VISUAL CLASSIFICATION									1
SANDSTONE	VISUAL CLASSIFICATION									1
VARIOUS OTHER MATERIALS	VISUAL CLASSIFICATION									3
CONCRETE										
SUBBASE=X=APPROXIMATE										
ASPHALT=X=APPROXIMATE										
AUGER BORING - PLAN VIEW										
DRIVE SAMPLE AND/OR CORE BORING - PLAN VIEW										
AUGER BORING PLOTTED TO VERTICAL SCALE ONLY										
DRIVE SAMPLE AND/OR CORE BORING PLOTTED TO VERTICAL SCALE ONLY										

NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT e.g. 15

● WATER CONTENT NEARLY EQUAL TO OR GREATER THAN LIQUID LIMIT
 ⊕ INDICATES A NON-PLASTIC MATERIAL WITH A HIGH WATER CONTENT
 W INDICATES FREE WATER

NUMBER OF BLOWS FOR 'STANDARD PENETRATION' TEST
 X= NUMBER OF BLOWS FOR FIRST 0.15m
 Y= NUMBER OF BLOWS FOR SECOND 0.15m
 Z= NUMBER OF BLOWS FOR THIRD 0.15m

NOTE: ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE STRUCTURE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF MATERIALS MANAGEMENT AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF LOCATION AND DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTHFRONT STREET.



Recon. - H.J.H., 3/96
 Drilling - K.McL., 4/4 thru. 16/96
 Drafting - A.F., 8/1/96

OHIO DEPARTMENT OF TRANSPORTATION
 OFFICE OF MATERIALS MANAGEMENT
 1600 WEST BROAD ST. COLUMBUS, OHIO 43223

SOIL PROFILE

HOL-62-30.649

SUMMARY OF SOIL TEST DATA

NOTE-NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES A NON-PLASTIC MATERIAL
* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

STATION & OFFSET	FROM	TO	AGG	CS	FS	SILT	CLAY	LL	PI	WC	OHIO CLASS
30+778.00, 03.00 RT	0.76-1.22		0	13	18	44	25	28	8	18	A-4A
	1.52-1.98		0	1	18	53	28	30	9	22	A-4B
	2.29-2.74		0	2	13	52	33	33	11	25	A-6A
	3.05-3.50		0	1	7	53	39	35	15	24	A-6A
30+896.40, 6.60 RT	0.76-1.22		0	14	21	47	18	36	18	14	A-6B
	1.52-1.98		0	17	12	50	21	33	11	13	A-6A
	3.05-3.50		0	6	11	47	36	35	14	27	A-6A
	3.50-3.96		0	3	13	43	41	38	17	28	A-6B
	3.96-4.42		0	3	20	44	33	31	12	27	A-6A
	4.42-4.88		0	7	27	46	20	25	10	26	A-4A
	4.88-5.33		47	5	11	29	8	NP	NP	26	A-4A
	5.33-5.79		56	15	15	12	2	NP	NP	17	A-1-A
	5.79-6.25		47	20	17	12	4	NP	NP	19	A-1-B
	6.86-7.31		37	24	25	9	5	NP	NP	19	A-1-B
	7.62-8.08		38	30	20	11	1	NP	NP	20	A-1-B
	8.38-8.48		53	24	15	7	1	NP	NP	14	A-1-A
	9.14-9.60		59	16	14	8	3	NP	NP	20	A-1-A
	10.67-11.12		43	12	26	15	4	NP	NP	15	A-1-B
	12.19-12.65		38	11	32	15	4	NP	NP	14	A-2-4
	13.72-13.87		0	36	36	21	7	NP	NP	12	A-3A
15.24-15.39		-	-	-	-	-	-	-	-	11	
	BLACK ARENACEOUS CLAYSHALE										VISUAL
31+22.00, 2.5 RT	0.76-1.22		22	9	19	39	11	NP	NP	11	A-4A
	1.52-1.98		0	9	10	53	28	31	9	15	A-4B
	2.29-2.59		0	3	6	66	25	29	8	9	A-4B
	3.05-3.14		-	-	-	-	-	-	-	6	
	GRAY FRIABLE SANDSTONE										VISUAL
31+22.00, 12.00 RT	0.00-0.30		0	2	20	64	14	NP	NP	26	A-4B
	0.30-0.61		0	2	19	61	18	NP	NP	19	A-4B
	0.61-0.91		0	7	29	49	15	NP	NP	15	A-4A
31+83.00, 13.50 LT	0.00-0.30		0	13	18	42	27	33	9	30	A-4A
	0.30-0.91		0	2	5	48	45	36	12	26	A-6A
	0.91-1.22		-	-	-	-	-	-	-	66	
	GRAY AND BROWN SILTY CLAY										VISUAL
31+144.00, 2.10 LT	0.76-1.22		19	6	23	41	11	NP	NP	15	A-4A*
	1.52-1.98		13	2	6	44	35	31	11	22	A-6A
	2.29-2.74		23	5	9	37	26	31	12	22	A-6A
	3.05-3.50		29	16	11	30	14	29	9	10	A-4A
31+159.20, 6.40 RT	0.00-0.30		0	9	15	43	33	NP	NP	31	A-4A
	0.30-1.07		0	7	9	42	42	31	11	18	A-6A
	1.07-1.37		-	-	-	-	-	-	-	17	
	BROWN SANDY SILT AND CLAY W. STONE FRAGMENT										VISUAL
31+265.00, 2.20 RT	0.76-1.22		19	9	28	32	12	NP	NP	14	A-4A*
	1.52-1.98		22	13	20	25	20	27	10	16	A-4A
	2.29-2.74		26	19	18	24	13	25	8	10	A-4A
	3.05-3.50		30	15	17	26	12	25	7	15	A-4A

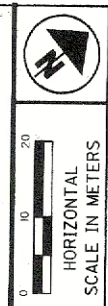
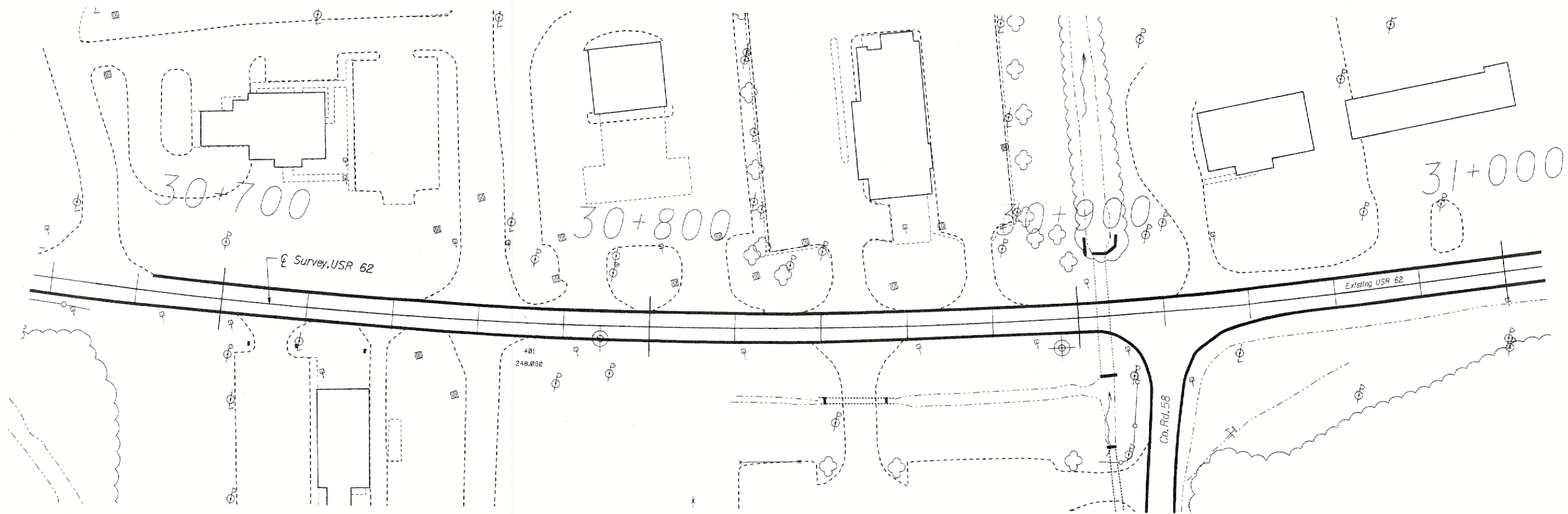
STATION & OFFSET	FROM	TO	AGG	CS	FS	SILT	CLAY	LL	PI	WC	OHIO CLASS
31+265.9, 9.20 RT	0.00-0.30		-	-	-	-	-	-	-	31	
	DARK BROWN CLAYEY SILT WITH ROOTS										VISUAL
	0.30-0.91		0	2	8	46	44	32	7	26	A-4A
	0.91-1.37		0	4	8	40	48	36	9	31	A-4A
	1.37-1.52		48	15	13	13	11	NP	NP	24	A-1-B
31+265.90, 8.90 RT	0.00-0.24		0	3	10	51	36	44	14	37	A-7-5
	0.24-0.76		0	3	10	45	42	32	12	21	A-6A
	0.76-0.91		0	3	17	43	37	NP	NP	23	A-4A
31+392.00, 2.30 RT	0.76-1.22		15	11	29	29	16	NP	NP	12	A-4A*
	1.52-1.98		33	14	18	23	12	NP	NP	16	A-2-4
	2.29-2.74		53	21	11	10	5	NP	NP	19	A-1-A
	3.05-3.50		43	27	12	13	5	NP	NP	21	A-1-B
31+505.00, 2.30 RT	0.76-1.22		35	23	14	18	10	NP	NP	17	A-2-4*
	1.52-1.98		29	19	19	22	11	NP	NP	11	A-2-4
	2.29-2.74		40	27	14	16	3	NP	NP	20	A-1-B
	3.05-3.50		46	28	11	13	2	NP	NP	19	A-1-B
31+643.00, 1.80 RT	0.76-1.22		19	18	23	32	8	NP	NP	10	A-4A*
	1.52-1.98		23	11	15	40	11	NP	NP	20	A-4A
	2.29-2.74		21	6	9	45	19	25	1	21	A-4A
	3.05-3.50		20	3	9	45	23	27	9	21	A-4A
31+753.60, 2.40 RT	0.76-1.22		27	19	23	22	9	NP	NP	9	A-2-4*
	1.52-1.98		0	5	72	19	4	NP	NP	15	A-3A
	2.29-2.74		19	10	38	26	7	NP	NP	18	A-2-4
	3.05-3.50		16	23	42	14	5	NP	NP	26	A-3A
31+875.50, 2.30 RT	0.76-1.22		37	19	17	20	7	NP	NP	14	A-2-4*
	1.52-1.98		47	16	12	19	6	NP	NP	12	A-1-B
	2.29-2.74		38	26	14	18	4	NP	NP	19	A-1-B
	3.05-3.50		71	7	9	10	3	NP	NP	10	A-1-A
31+997.40, 2.20 RT	0.76-1.22		14	12	24	35	15	NP	NP	10	A-4A*
	1.52-1.98		22	14	31	24	9	NP	NP	16	A-2-4
	2.29-2.74		38	17	18	16	11	NP	NP	14	A-2-4
	3.05-3.50		49	16	12	17	6	NP	NP	21	A-1-B
32+119.00, 2.10 LT	0.76-1.22		18	16	32	26	8	NP	NP	10	A-2-4*
	1.52-1.98		0	4	39	40	17	NP	NP	17	A-4A
	2.29-2.74		25	20	34	17	4	NP	NP	18	A-3A
	3.05-3.50		28	26	24	18	4	NP	NP	16	A-1-B

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF MATERIALS MANAGEMENT
1600 WEST BROAD ST. COLUMBUS, OHIO 43223

SUMMARY

HOL-62-30.649

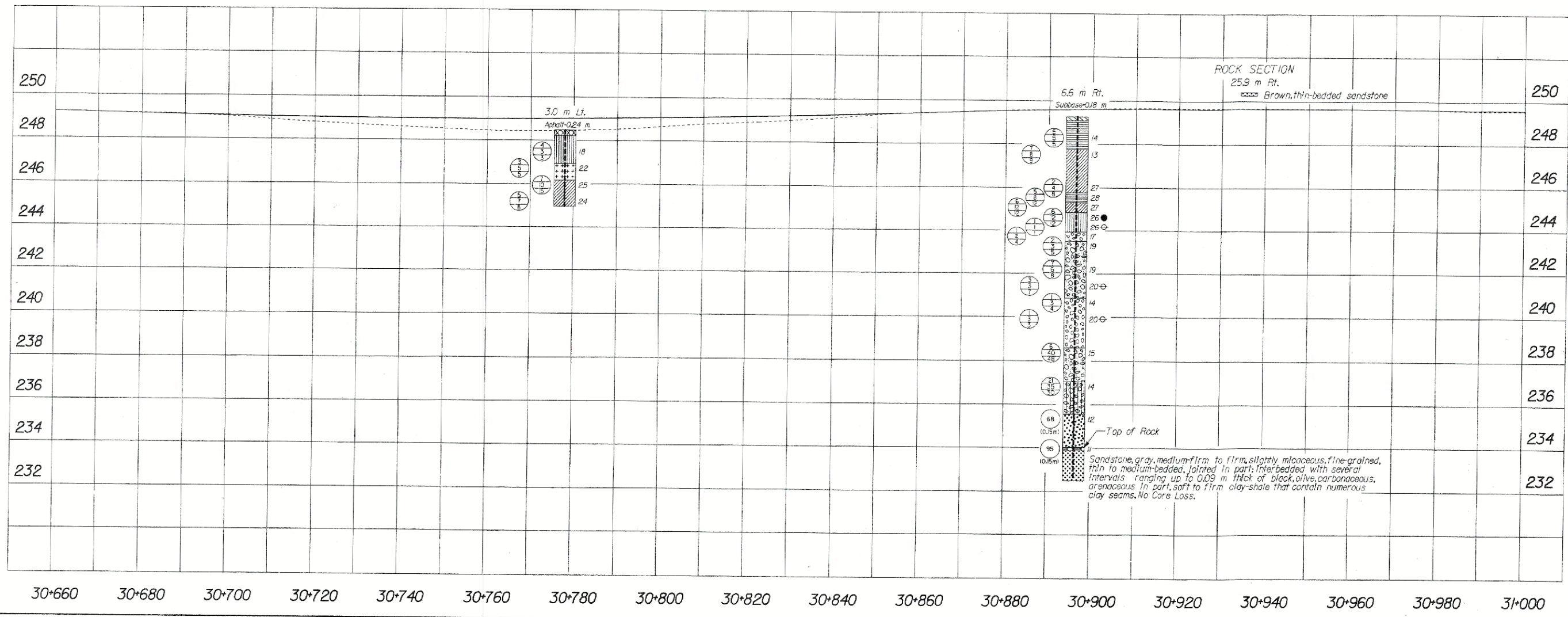
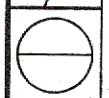


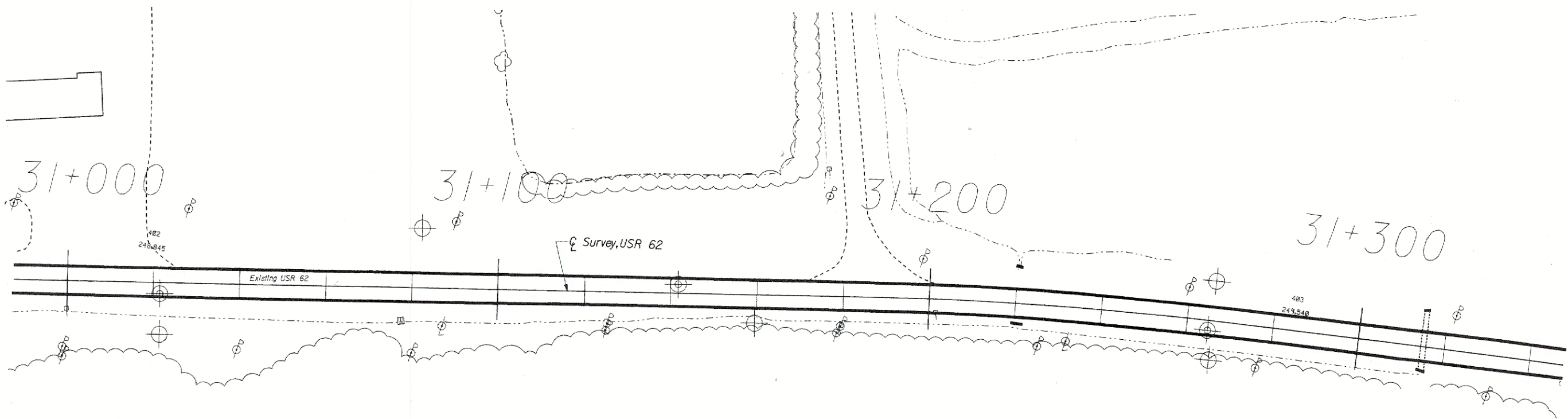
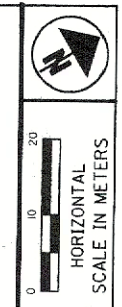


SOIL PROFILE

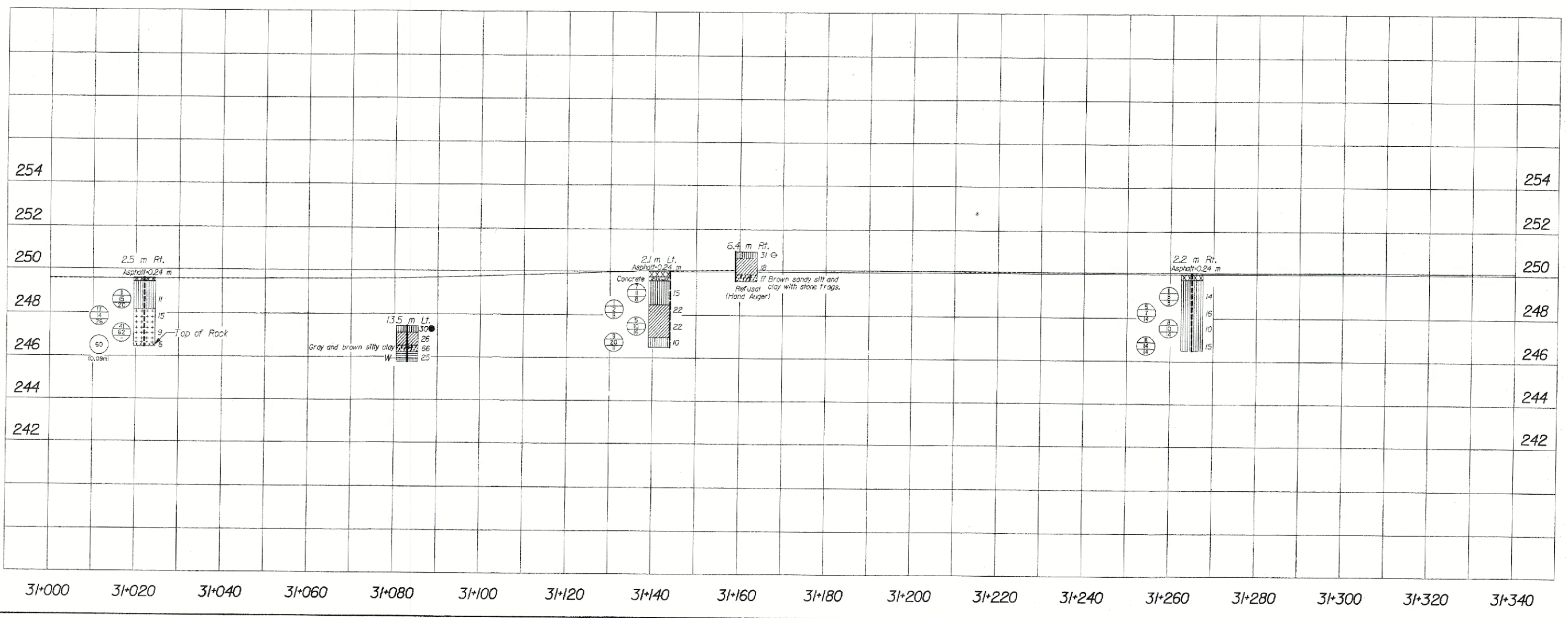
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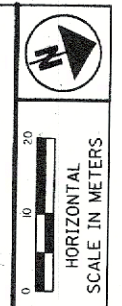


CROSS SECTION INDEX	
STATION	SHEET
31+020	5
31+40	5
31+280	5



SOIL PROFILE

HOL-62-30.649

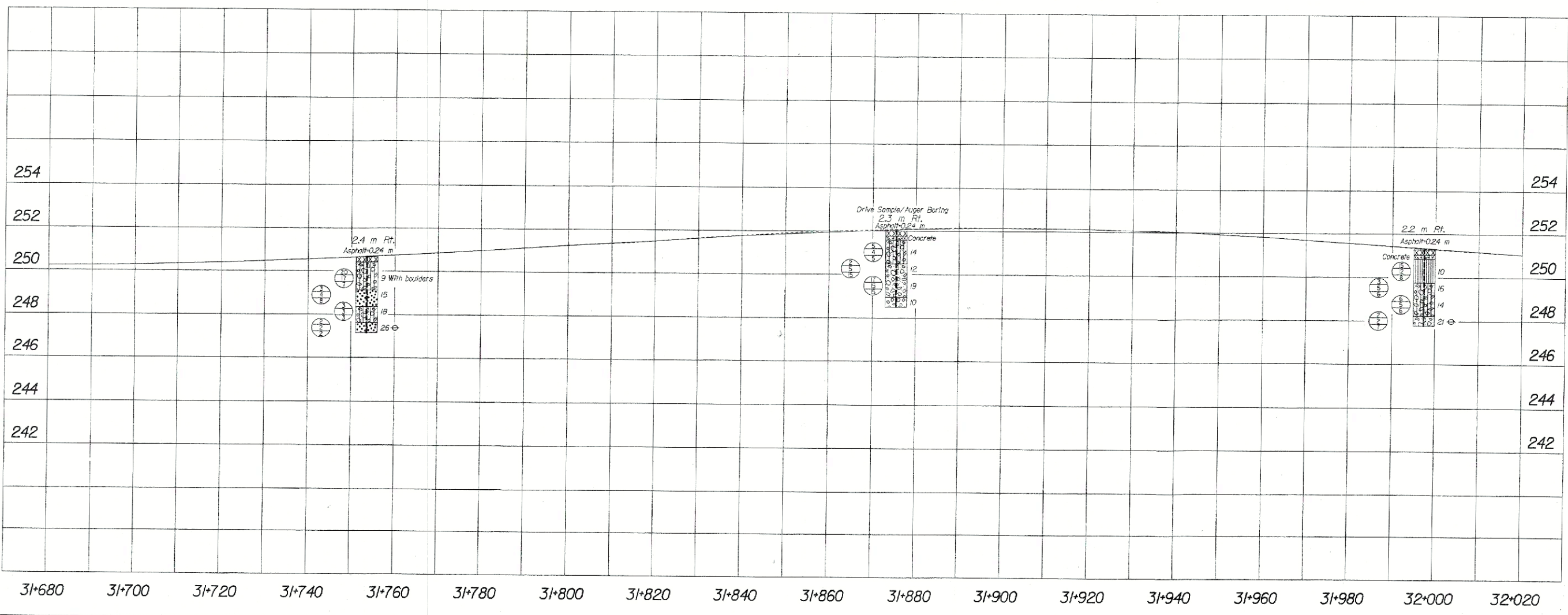
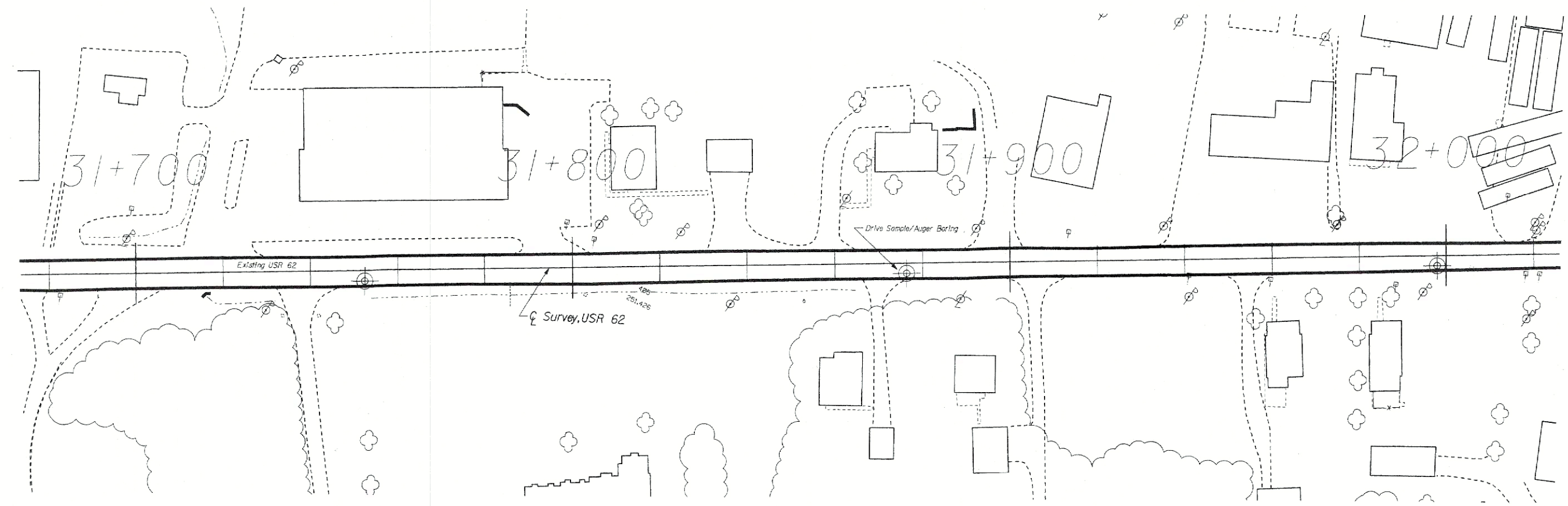


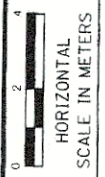
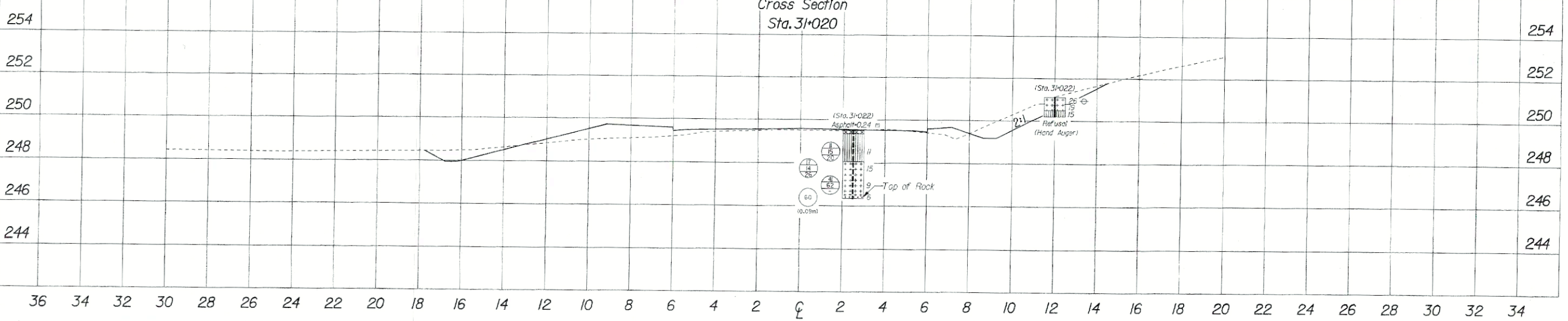
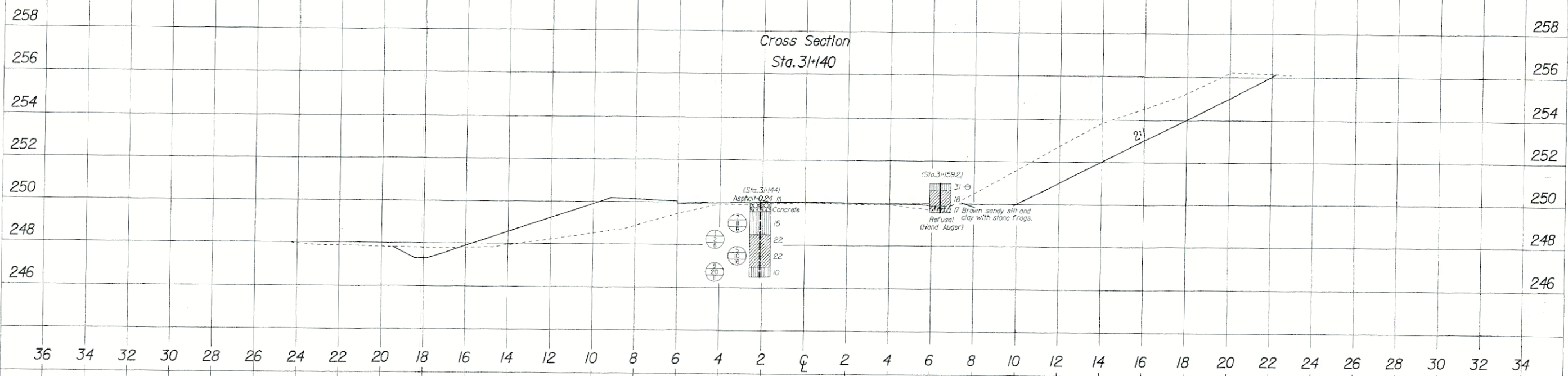
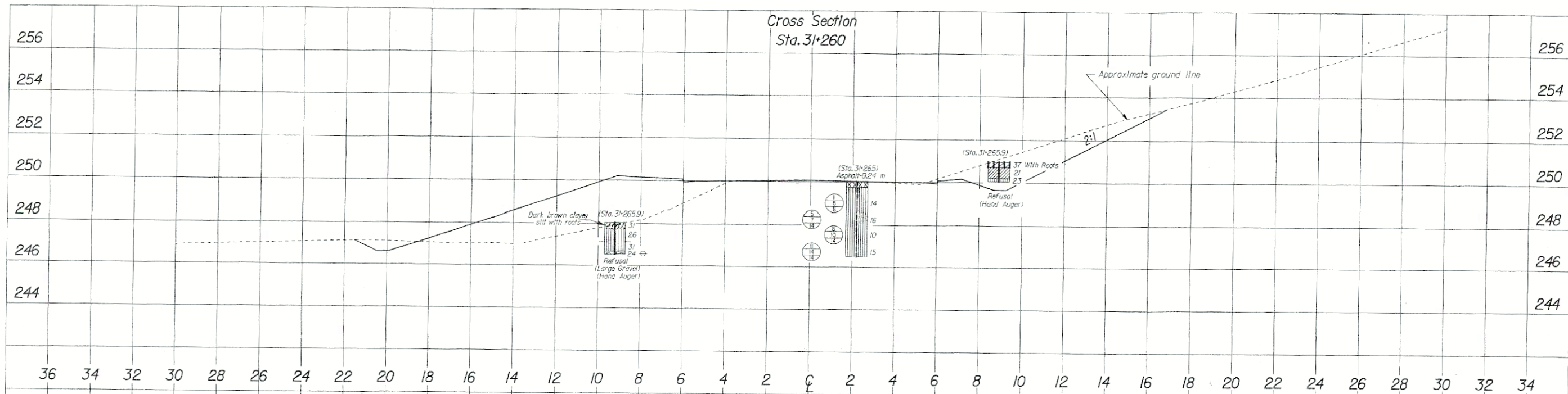
HORIZONTAL SCALE IN METERS

SOIL PROFILE

HOL-62-30.649

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CROSS SECTIONS

HOL-62-30.649



GEOLOGY OF THE SITE

THE CULVERT SITE IS LOCATED IN THE DISSECTED UNGLACIATED PORTION OF THE ALLEGHENY PLATEAU REGION, ON THE BROAD FLOODPLAIN OF KILLBUCK CREEK, AT THE BASE OF A HILL AND OVER AN UNNAMED STREAM, IN AN AREA WHERE DEEP ALLUVIAL DEPOSITS OVERLIE CLAY-SHALE, SHALE AND SANDSTONE BEDROCK OF MISSISSIPPIAN AGE.

EXPLORATION

THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE-CORE BORINGS MADE BY MEANS OF A MECHANICALLY-POWERED HOLLOW STEM ROTARY AUGER MOUNTED ON A MOBILE PLATFORM, PERFORMED ON APRIL 14 AND 15 AND JUNE 17 AND 18, 1996.






INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE TEST BORINGS DISCLOSED THAT INTERVALS OF LOOSE TO EXTREMELY DENSE UNSTRATIFIED BASIC SAND, GRAVEL, SILT AND CLAY MODIFIED BY VARYING AMOUNTS OF EACH OTHER THAT FIRST FLUCTUATE, THEN RAPIDLY INCREASE IN DENSITY WITH INCREASE IN DEPTH OVERLIE GENTLY SLOPING BEDROCK SURFACE. TEST BORING B-1 ENCOUNTED BEDROCK SURFACE AT 15.24 m DEPTH, ELEVATION 234.03 m AND CONTINUED TO ADVANCE 1.52 METERS MORE FOR A TOTAL DEPTH OF 16.76 m, ELEVATION 232.51 m. TEST BORING B-2 ENCOUNTED BEDROCK SURFACE AT 12.95 m, ELEVATION 235.41 m AND CONTINUED TO ADVANCE 1.52 METERS MORE FOR A TOTAL DEPTH OF 14.48 m, ELEVATION 233.88 m. BOULDERS WERE ENCOUNTERED IN BORING B-2 AT 2.29 m DEPTH, ELEVATION 246.07 m.


















NO FREE WATER OBSERVATIONS WERE MADE IN EITHER OF THE TEST BORINGS. HOWEVER, WET MATERIALS WERE ENCOUNTERED IN BORING B-1 BETWEEN 4.42 AND 9.60 m DEPTHS, ELEVATIONS 244.85 AND 239.67 m AND IN BORING B-2 BETWEEN 3.81 AND 5.79 m DEPTHS, ELEVATIONS 245.31 AND 242.57 m. IN ADDITION, WET MATERIAL WAS ENCOUNTERED IN BORING B-2 AT 12.19 m DEPTH, ELEVATION 236.17 m.

FIELD RECONNAISSANCE OF THE SITE INDICATES THAT THERE IS A POINT OF SANDSTONE BEDROCK EXPOSURE IN THE HILLSIDE ON THE NORTH SIDE OF COUNTY ROAD 58.

LEGEND

-  Roadway or Auger Boring Location - Plan View.
-  Press and/or Drive Sample and/or Core Boring Location - Plan View.
- TR* Top of Rock
-  Indicates Free Water Elevation.
-  Indicates Static Water Elevation.
-  Horizontal Bar on Boring Log in the profile view indicates the Depth the Sample was taken
- X/Y/Z* Figures Beside the Boring Log in the Profile view indicate the Number of Blows for Standard Penetration Test.
 X = Number of Blows for First 0.15 m
 Y = Number of Blows for Second 0.15 m
 Z = Number of Blows for Third 0.15 m

SYMBOLS OF ROCK TYPES

- | | |
|--|---|
|  Coal |  Weathered Siltstone |
|  Fire Clay or Underclay |  Siltstone |
|  Weathered Mudstone |  Weathered Sandstone |
|  Mudstone |  Sandstone |
|  Weathered Shale |  Leached Dolomite |
|  Shale |  Dolomite |
|  Weathered Clay-Shale |  Leached Limestone |
|  Clay-Shale |  Limestone |
| |  Boulders or Cobbles |

GENERAL INFORMATION

Drive Sample/Press Sample/Core Borings

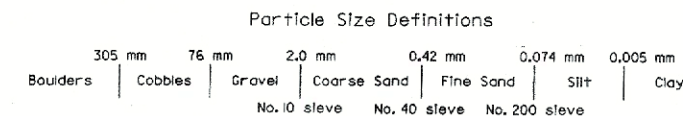
Drive sample borings are made by means of a mechanically-powered rotary-type drilling employing a 50.80 mm O.D., 34.93 mm I.D. split spoon sampler, at 0.75 m and/or 1.50 m depth intervals, driven by means of a 63.5 kg hammer with a free fall of 0.76 m. The number of blows required to drive the sampler three 0.15 m increments is considered the standard penetration test.

Drive/press sample borings are made by means of a mechanically-powered rotary-type drilling, employing a 50.80 mm O.D., 34.93 mm I.D. split spoon sampler, and a 76.20 mm O.D. thin wall press sampling tube. The press sampling tube is advanced by continuous uniform pressure, applied by the drill rig.

Core borings are made by means of a mechanically-powered rotary-type drilling, employing an NW-PAM core barrel with an industrial diamond cutting head.

The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, type of sample, number of blows for the standard penetration test in three 0.15 m increments, sample description based on laboratory test results utilizing the Casagrande AC classification system, sample number; and gradation, plasticity and moisture content determinations. Results of strength and consolidation testing, if performed on undisturbed samples, will appear graphically on separate enclosures. Rock samples are displayed on the log sheets including depth and elevation of the sample, amount of recovery and a visual classification based on type, color, degree of hardness, grain size, deterioration, bedding, acid reaction and other qualifying factors.

At depths where materials are bouldery or gravelly to the extent that a sampler cannot be utilized, a wash sample is procured and visually classified. In order to determine the general characteristics of the material, these samples are not considered sufficiently representative to warrant laboratory testing.



NOTE: ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE STRUCTURE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF MATERIALS MANAGEMENT AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF LOCATION AND DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTHFRONT STREET.

CULVERT FOUNDATION INVESTIGATION
 BRIDGE NO. HOL-62-30.901
 OVER UNNAMED STREAM

HOL-62-30.649

1 / 3

OHIO DEPARTMENT OF TRANSPORTATION
 OFFICE OF MATERIALS MANAGEMENT
 1600 WEST BROAD ST., COLUMBUS, OH 43223

REVISED DATE	DATE
M.R.S.	8/8/96
CHECKED	A.L.F.

LOG OF BORING
Date Started 4/15/96 Sampler: Type 34.93 mm Dia. 34.93 m Water Elev. --- Project Identification: HOLMES
Date completed 4/16/96 (CULVERT) HOL-62-30.901
Boring No. B-1 Station & Offset Sta. 30+896.4, 6.6 m Rt. Surface Elev. 249.27 OVER SAND RUN

Elev. Depth	Std. Pen. (N)	Rec. #	Loss #	Description	Sample No.	Physical Characteristics										ODOT Class		
						% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.L.	W.C.	Visual				
249.27	0			SUBBASE														VISUAL
249.09	ALBERED																	
248.51	1.0																	
247.75	5/5/5			BROWN SANDY CLAY	1	0	14	21	47	18	36	18	14					A-6b
247.00	2.0			BROWN SANDY CLAY	2	0	17	12	50	21	33	11	13					A-6a
246.22	3.0																	
245.77	2/4/8			BROWN SILT AND CLAY	3	0	6	11	47	36	35	14	27					A-6a
245.31	5/8/12			BROWN SILTY CLAY	4	0	3	13	43	41	38	17	28					A-6b
244.85	6/12/12			BROWN SANDY CLAY	5	0	3	20	44	33	31	12	27					A-6a
244.39	6/12/12			BROWN SANDY SILT	6	0	7	27	46	20	25	10	26					A-4a
243.94	1/1/1			BROWN WITH GRAY SILTY SANDY GRAVEL	7	47	5	11	29	-8	NP	NP	26					A-1-b
243.48	6.0			BROWN SILTY SANDY GRAVEL	8	56	15	15	12	2	NP	NP	17					A-1-c
242.41	2/3/5			BROWN SILTY SANDY GRAVEL	9	47	20	17	12	4	NP	NP	19					A-1-b
241.65	7.0			BROWN SILTY GRAVELLY SAND	10	37	24	25	9	5	NP	NP	19					A-1-b
240.89	8.0			BROWN SILTY GRAVELLY SAND	11	38	30	20	11	1	NP	NP	20					A-1-b
240.13	9.0			BROWN SANDY GRAVEL	12	53	24	15	7	1	NP	NP	14					A-1-c
238.60	10.0			BROWN SILTY SANDY GRAVEL	13	59	16	14	8	3	NP	NP	20					A-1-c
237.08	11.0			BROWN SILTY SANDY GRAVEL	14	43	12	26	15	4	NP	NP	15					A-1-b
235.55	12.0			BROWN SILTY GRAVELLY SAND	15	38	11	32	15	4	NP	NP	14					A-2-4
234.03	13.0			BROWN SILTY SAND	16	0	36	36	21	7	NP	NP	12					A-3a
233.88	14.0			TOP OF ROCK														
232.51	15.0			BLACK HIGHLY ARENACEOUS CLAY-SHALE	17													VISUAL
231.88	16.0			SANDSTONE, GRAY, MEDIUM-FIRM TO FIRM, SLIGHTLY MICACEOUS, FINE-GRAINED THIN TO MEDIUM-BEDDED JOINTED IN PART; INTERBEDDED WITH SEVERAL INTERVALS RANGING UP TO 0.09m THICK OF BLACK, OLIVE, CARBONACEOUS, ARENACEOUS IN PART, SOFT TO FIRM CLAY-SHALE THAT CONTAIN NUMEROUS CLAY SEAMS. NO CORE LOSS														
232.51	17.0																	

Particle Sizes: Agg >2.00mm, Coarse Sand= 2.00-0.42mm, Fine Sand= 0.42-0.074mm, Silt= 0.074-0.005mm, Clay= <0.005mm
Form 11-88 Revised 3/95

TOP OF ROCK

BOTTOM OF BORING

LOG OF BORING
Date Started 6/17/96 Sampler: Type 34.93 mm Dia. 34.93 m Water Elev. --- Project Identification: HOLMES
Date completed 6/8/96 (CULVERT) HOL-62-30.901
Boring No. B-2 Station & Offset Sta. 30+910.5, 11.7 m Lt. Surface Elev. 248.36 OVER SAND RUN

Elev. Depth	Std. Pen. (N)	Rec. #	Loss #	Description	Sample No.	Physical Characteristics										ODOT Class		
						% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.L.	W.C.	Visual				
248.36	0			SUB														VISUAL
247.60	1.0			BROWN SANDY GRAVELLY SILT	1	32	12	11	25	20	28	8	18					A-4a
246.84	2.0			GRAY SILTY GRAVELLY SAND	2	30	18	17	19	16	23	6	12					A-2-4
245.31	3.0			NO RECOVERY-BOULDERY ZONE														VISUAL
244.55	2/5/9			GRAY SANDY SILT	3	0	6	22	43	29	24	8	31					A-4a
243.79	3/4/5			GRAY SANDY SILT	4	0	8	33	31	28	25	10	24					A-4a
243.36	2/3/3			GRAY SANDY SILT	5	0	18	37	32	13	NP	NP	28					A-4a
242.26	3/3/5			GRAY SILTY SAND	6	0	34	36	20	10	NP	NP	29					A-3a
241.50	4/5/7			BROWN SILTY SAND	7	0	37	48	12	3	NP	NP	23					A-3a
240.74	4/4/3			BROWN SILTY SAND	8	0	35	52	10	3	NP	NP	25					A-3a
239.22	6/4/7			BROWN SILTY GRAVELLY SAND	9	29	31	22	13	5	NP	NP	18					A-1-b
237.69	44/52			BROWN SILTY GRAVELLY SAND	10	36	23	16	17	8	NP	NP	12					A-1-b
236.17	10.0			BROWN SILTY SANDY GRAVEL	11	42	6	17	27	8	NP	NP	14					A-2-4
235.41	12.0			BROWN SILTY SANDY GRAVEL	12	59	7	9	17	8	NP	NP	12					A-1-b
234.48	13.0			TOP OF ROCK														
233.88	14.0			SHALE, BLACK, CARBONACEOUS, FIRM, ARENACEOUS WITH CLAY SEAMS, JOINTED, HIGHLY BROKEN AND JOINTED AT THE BOTTOM, INTERBEDDED WITH THICK DARK OLIVE, SOFT CLAY-SHALE SEAMS, NO CORE LOSS.														
233.88	15.0			SANDSTONE, GRAY, FIRM, MICACEOUS, FINE-GRAINED, THIN TO MEDIUM-BEDDED, WITH CLAY SEAMS, INTERBEDDED WITH BLACK, CARBONACEOUS, SHALE INTERVALS RANGING UP TO 0.12 m THICK, NO CORE LOSS														
232.51	15.0																	

Particle Sizes: Agg >2.00mm, Coarse Sand= 2.00-0.42mm, Fine Sand= 0.42-0.074mm, Silt= 0.074-0.005mm, Clay= <0.005mm
Form 11-88 Revised 3/95

TOP OF ROCK

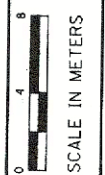
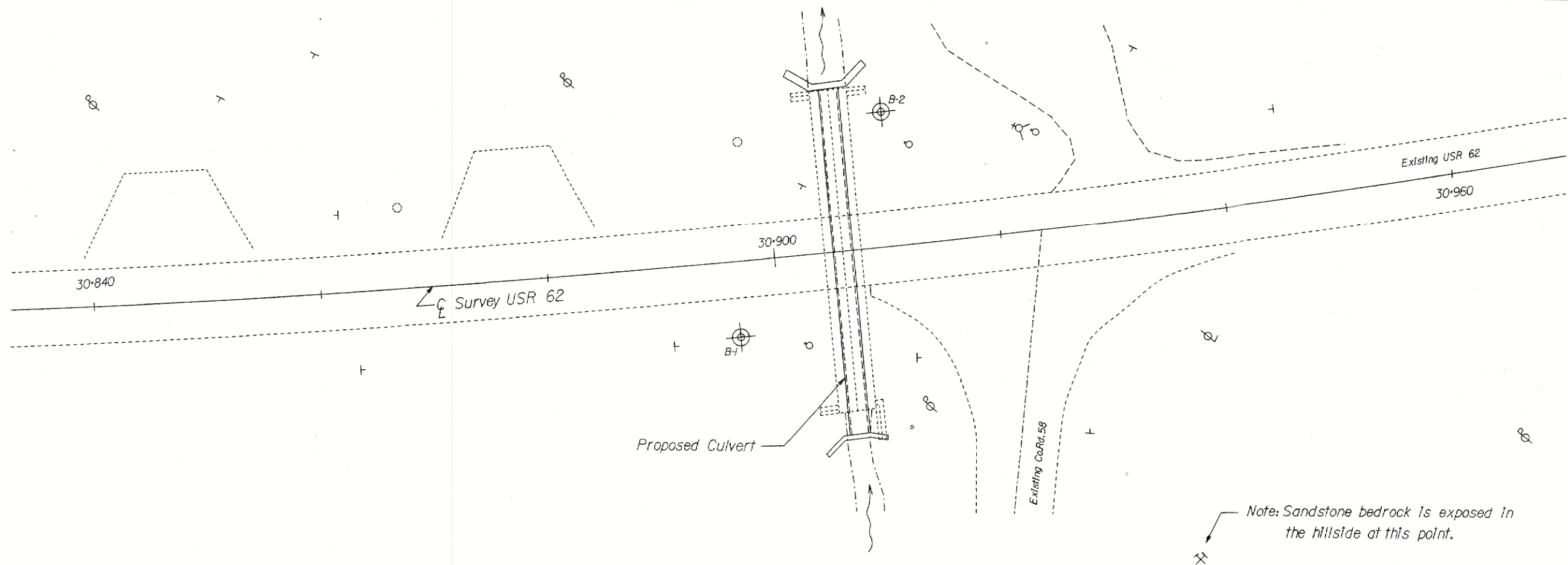
BOTTOM OF BORING

REVISED DATE
DATE
REVIEWED M.R.S. 8/8/96

TYPED A.F.
CHECKED A.F.

CULVERT FOUNDATION INVESTIGATION
BRIDGE NO. HOL-62-30.901
OVER UNNAMED STREAM

HOL-62-30.649



REVISION DATE	DATE
REVIEWED M.R.S.	8/8/96
DRAWN A.F.	
CHECKED A.F.	

CULVERT FOUNDATION INVESTIGATION
 BRIDGE NO. HOL-62-30.901
 OVER UNNAMED STREAM

HOL-62-30.649

