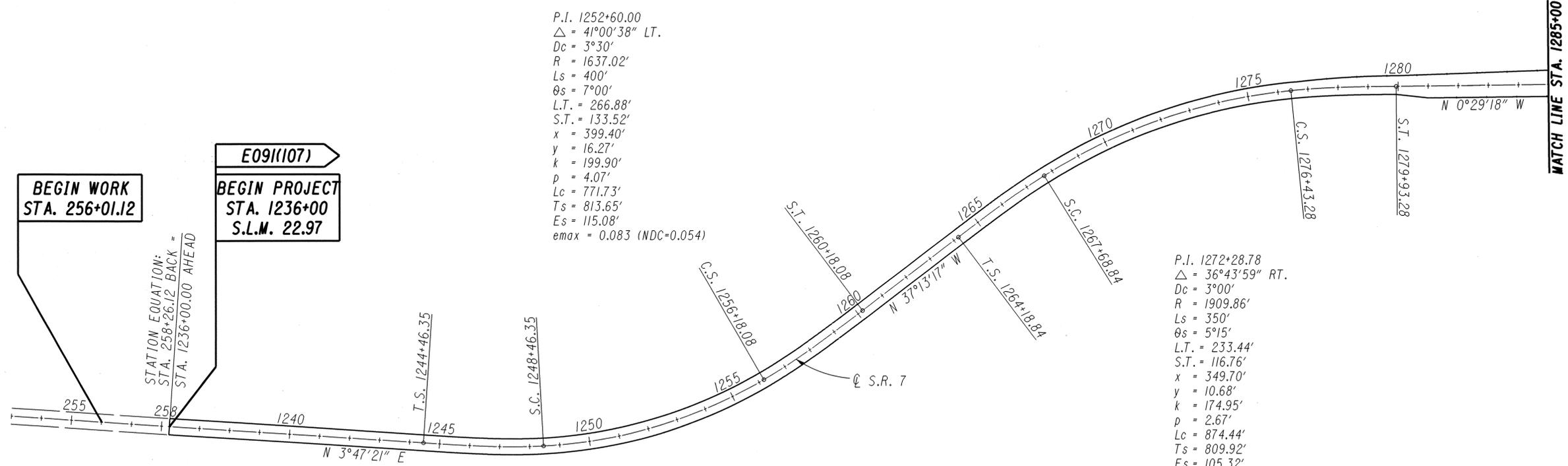


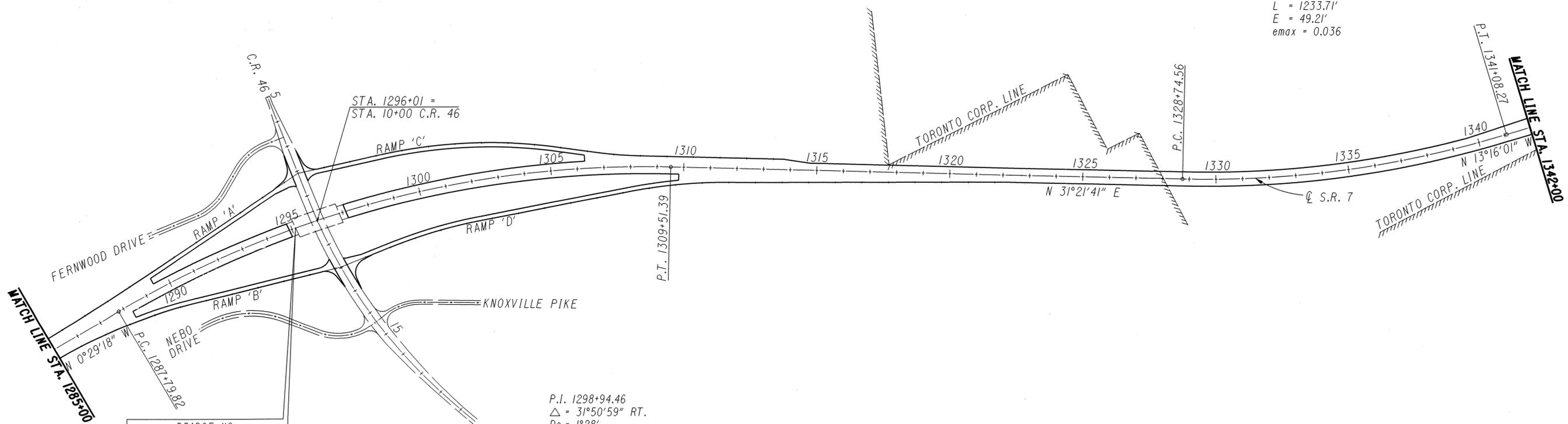
There are no existing landscaped areas within the work limits.



P.I. 1252+60.00
 $\Delta = 41^{\circ}00'38''$ LT.
 $D_c = 3^{\circ}30'$
 $R = 1637.02'$
 $L_s = 400'$
 $\theta_s = 7^{\circ}00'$
 $L.T. = 266.88'$
 $S.T. = 133.52'$
 $x = 399.40'$
 $y = 16.27'$
 $k = 199.90'$
 $p = 4.07'$
 $L_c = 771.73'$
 $T_s = 813.65'$
 $E_s = 115.08'$
 $e_{max} = 0.083$ (NDC=0.054)

P.I. 1272+28.78
 $\Delta = 36^{\circ}43'59''$ RT.
 $D_c = 3^{\circ}00'$
 $R = 1909.86'$
 $L_s = 350'$
 $\theta_s = 5^{\circ}15'$
 $L.T. = 233.44'$
 $S.T. = 116.76'$
 $x = 349.70'$
 $y = 10.68'$
 $k = 174.95'$
 $p = 2.67'$
 $L_c = 874.44'$
 $T_s = 809.92'$
 $E_s = 105.32'$
 $e_{max} = 0.071$ (NDC=0.050)

P.I. 1334+96.59
 $\Delta = 18^{\circ}05'40''$ LT.
 $D_c = 1^{\circ}28'$
 $R = 3906.53'$
 $T = 622.03'$
 $L = 1233.71'$
 $E = 49.21'$
 $e_{max} = 0.036$



BRIDGE NO.
 JEF-7-2409
 Existing Deficient
 Lateral Clearance:
 Rt. Side = 9'-0" (NDC=10'-0")
 Lt. Side = 1'-0" (NDC=3'-6")

P.I. 1298+94.46
 $\Delta = 31^{\circ}50'59''$ RT.
 $D_c = 1^{\circ}28'$
 $R = 3906.53'$
 $T = 1114.64'$
 $L = 2171.57'$
 $E = 155.91'$
 $e_{max} = 0.036$

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400
200
0
HORIZONTAL
SCALE IN FEET

CALCULATED
 RDA
 CHECKED
 TES

SCHEMATIC PLAN
STA. 253+00 TO STA. 1342+00



JEF-7-22.97

2
32

There are no existing landscaped areas within the work limits.

BRIDGE NO. JEF-7-2516L Existing Deficient Lateral Clearance: Rt. Side = 7'-0" (NDC=10'-0") Lt. Side = 1'-0" (NDC=3'-6")	BRIDGE NO. JEF-7-2516R Existing Deficient Lateral Clearance: Rt. Side = 9'-0" (NDC=10'-0") Lt. Side = 1'-0" (NDC=3'-6")
--	--

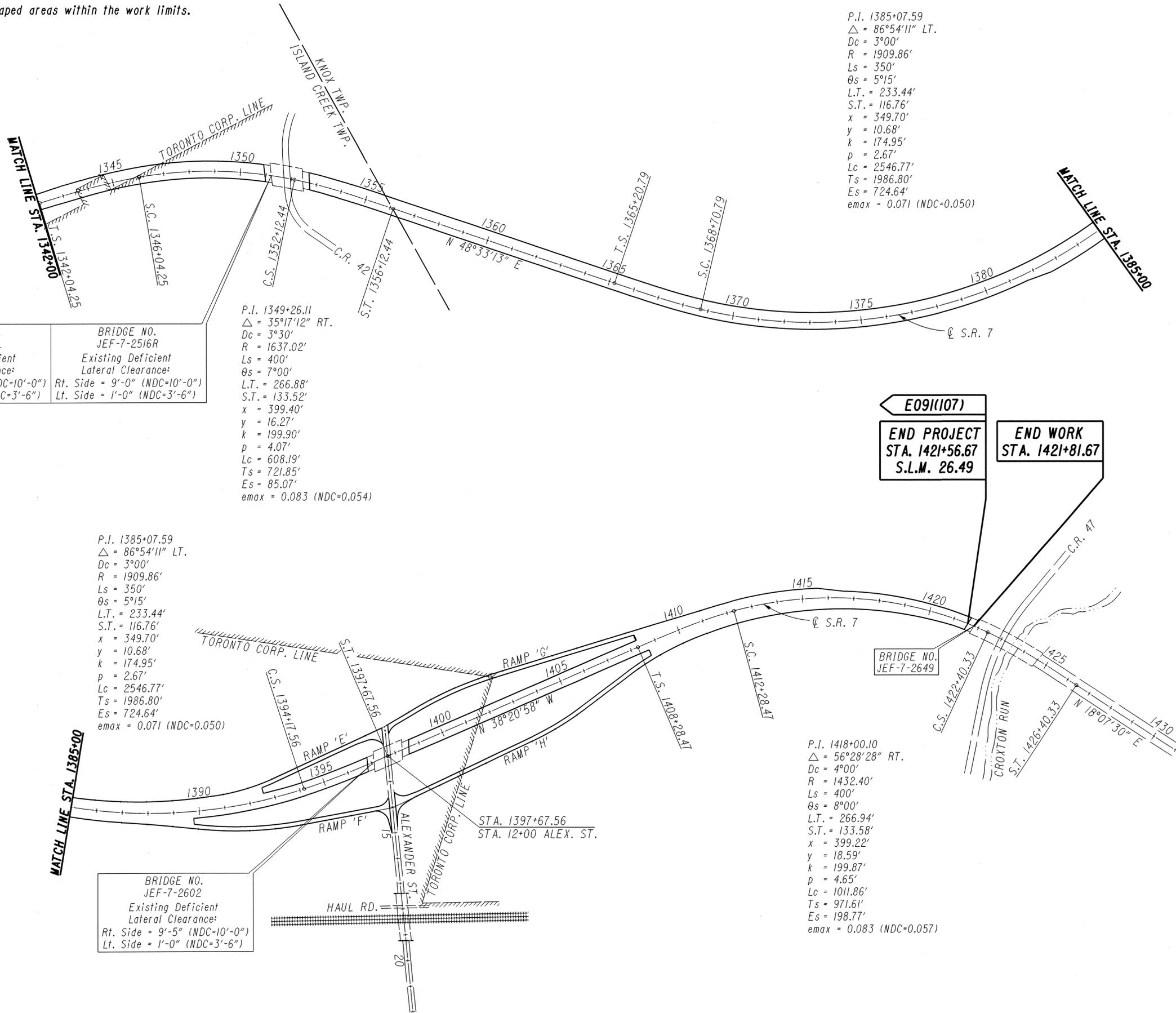
P.I. 1349+26.11
 $\Delta = 35^\circ 17' 12''$ RT.
 Dc = 3°30'
 R = 1637.02'
 Ls = 400'
 $\theta_s = 7^\circ 00'$
 L.T. = 266.88'
 S.T. = 133.52'
 x = 399.40'
 y = 16.27'
 k = 199.90'
 p = 4.07'
 Lc = 608.19'
 Ts = 721.85'
 Es = 85.07'
 emax = 0.083 (NDC=0.054)

P.I. 1385+07.59
 $\Delta = 86^\circ 54' 11''$ LT.
 Dc = 3°00'
 R = 1909.86'
 Ls = 350'
 $\theta_s = 5^\circ 15'$
 L.T. = 233.44'
 S.T. = 116.76'
 x = 349.70'
 y = 10.68'
 k = 174.95'
 p = 2.67'
 Lc = 2546.77'
 Ts = 1986.80'
 Es = 724.64'
 emax = 0.071 (NDC=0.050)

BRIDGE NO.
JEF-7-2602
Existing Deficient
Lateral Clearance:
Rt. Side = 9'-5" (NDC=10'-0")
Lt. Side = 1'-0" (NDC=3'-6")

P.I. 1385+07.59
 $\Delta = 86^\circ 54' 11''$ LT.
 Dc = 3°00'
 R = 1909.86'
 Ls = 350'
 $\theta_s = 5^\circ 15'$
 L.T. = 233.44'
 S.T. = 116.76'
 x = 349.70'
 y = 10.68'
 k = 174.95'
 p = 2.67'
 Lc = 2546.77'
 Ts = 1986.80'
 Es = 724.64'
 emax = 0.071 (NDC=0.050)

P.I. 1418+00.10
 $\Delta = 56^\circ 28' 28''$ RT.
 Dc = 4°00'
 R = 1432.40'
 Ls = 400'
 $\theta_s = 8^\circ 00'$
 L.T. = 266.94'
 S.T. = 133.58'
 x = 399.22'
 y = 18.59'
 k = 199.87'
 p = 4.65'
 Lc = 1011.86'
 Ts = 971.61'
 Es = 198.77'
 emax = 0.083 (NDC=0.057)



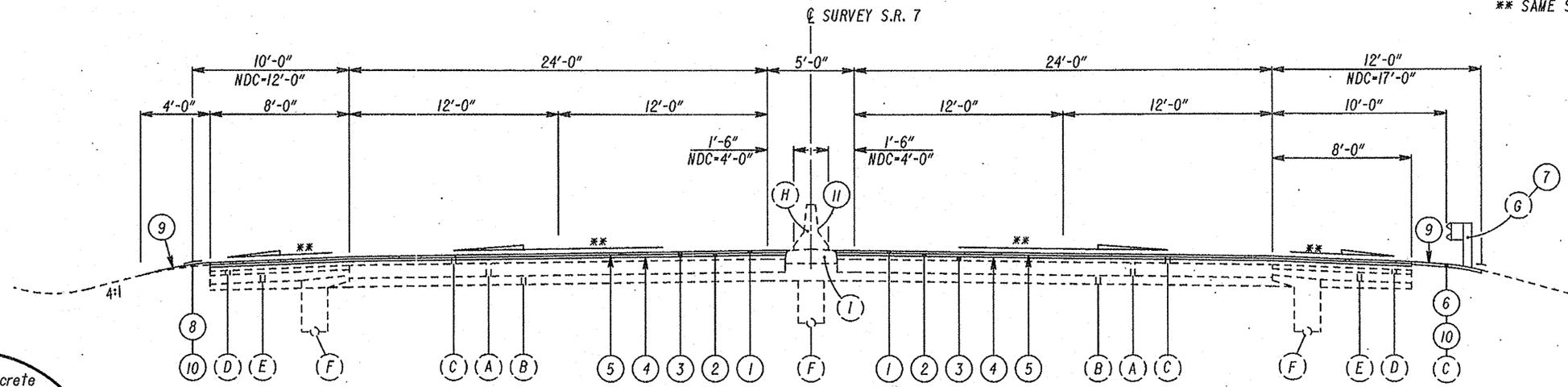
E091(107)

END PROJECT
STA. 1421+56.67
S.L.M. 26.49

END WORK
STA. 1421+81.67

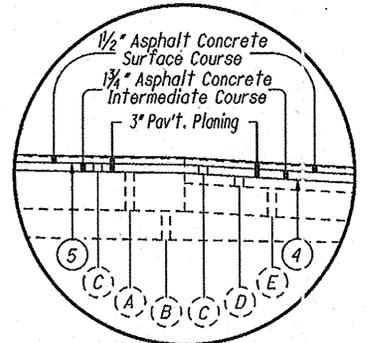
BRIDGE NO.
JEF-7-2649

** SAME SLOPE AS EXISTING PAVEMENT

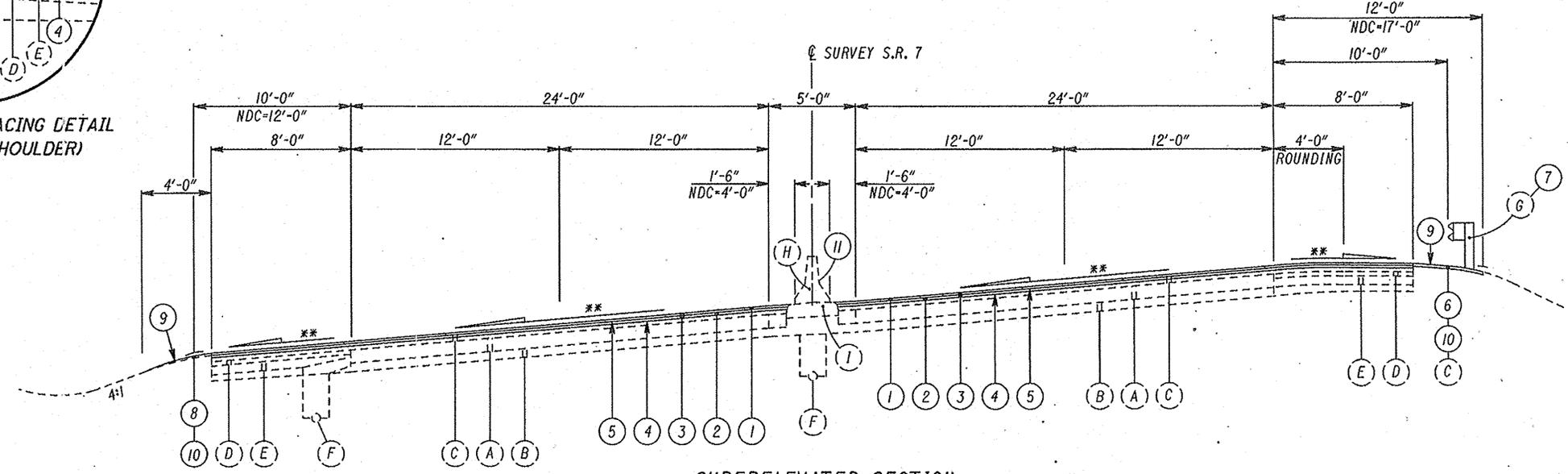


NORMAL SECTION

STA. 1236+00 TO STA. 1242+75
 STA. 1262+00 TO STA. 1262+50
 STA. 1281+25 TO STA. 1286+00
 STA. 1311+75 TO STA. 1327+00
 STA. 1398+75 TO STA. 1406+75



TYPICAL RESURFACING DETAIL
(MAINLINE & SHOULDER)



SUPERELEVATED SECTION

STA. 1242+75 TO STA. 1262+00
 STA. 1262+50 TO STA. 1281+25
 STA. 1286+00 TO STA. 1311+75
 STA. 1327+00 TO STA. 1343+00
 STA. 1385+30 TO STA. 1398+75
 STA. 1406+75 TO STA. 1421+81.67

EXISTING LEGEND

- (A) — EXISTING 9" REINFORCED CONCRETE PAVEMENT
- (B) — EXISTING 6" SUBBASE
- (C) — EXISTING ASPHALT CONCRETE
- (D) — EXISTING BITUMINOUS AGGREGATE BASE
- (E) — EXISTING AGGREGATE BASE
- (F) — EXISTING 6" UNDERDRAIN
- (G) — EXISTING GUARDRAIL
- (H) — EXISTING CONCRETE BARRIER
- (I) — EXISTING CONCRETE MEDIAN

PROPOSED LEGEND

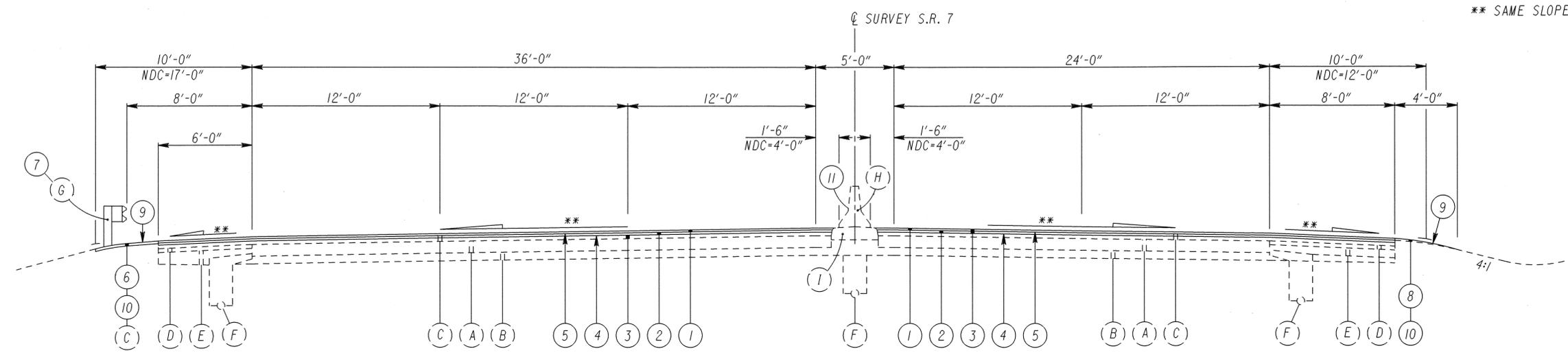
- (1) — ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446), AS PER PLAN
- (2) — ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446)
- (3) — ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE
- (4) — ITEM 407 - TACK COAT (0.075 GAL./S.Y.)
- (5) — ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL./S.Y.)
- (6) — ITEM 202 - PAVEMENT REMOVED
- (7) — ITEM 606 - GUARDRAIL, TYPE 5
- (8) — ITEM 209 - LINEAR GRADING, AS PER PLAN
- (9) — ITEM 408 - PRIME COAT, AS PER PLAN
- (10) — ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN
- (11) — ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY URETHANE)

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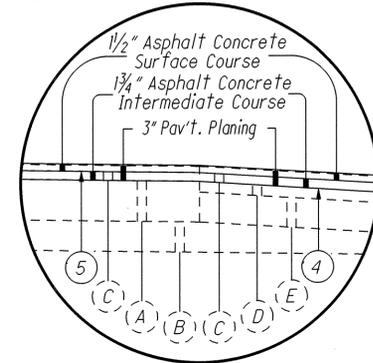
TYPICAL SECTIONS

JEF-7-22.97

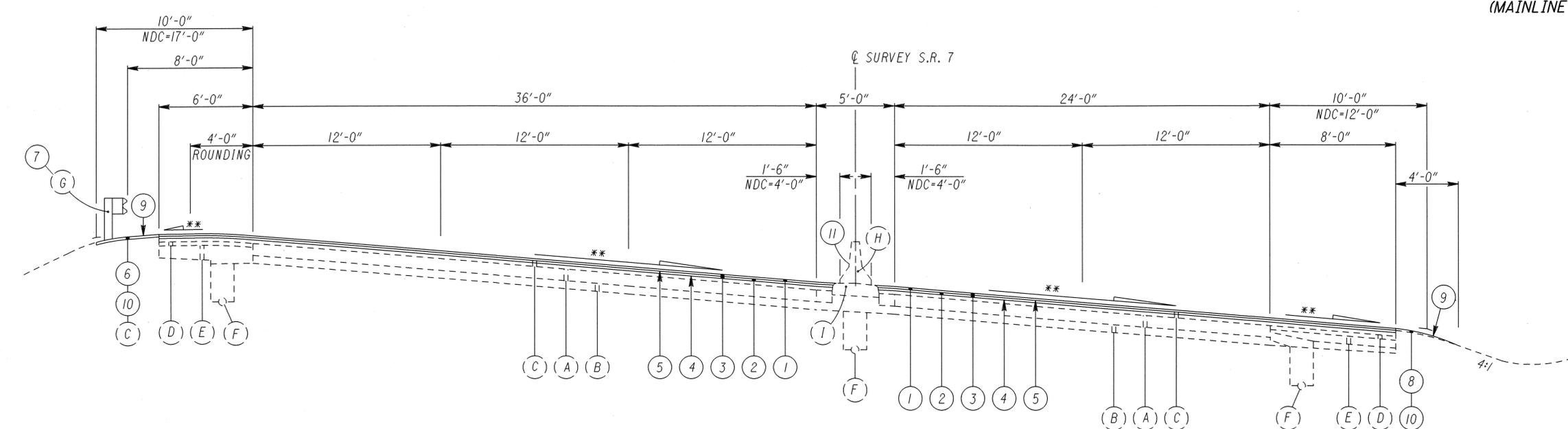
** SAME SLOPE AS EXISTING PAVEMENT



NORMAL SECTION
 STA. 1357+25 TO STA. 1363+75



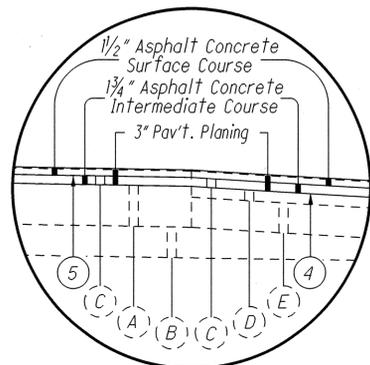
TYPICAL RESURFACING DETAIL
 (MAINLINE & SHOULDER)



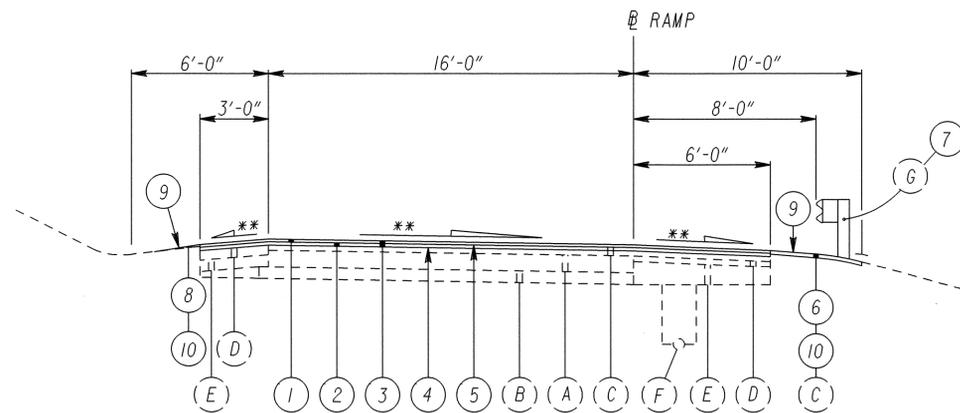
SUPERELEVATED SECTION
 STA. 1343+00 TO STA. 1357+25
 STA. 1363+75 TO STA. 1385+30

FOR LEGEND SEE SHEET NO. 4.

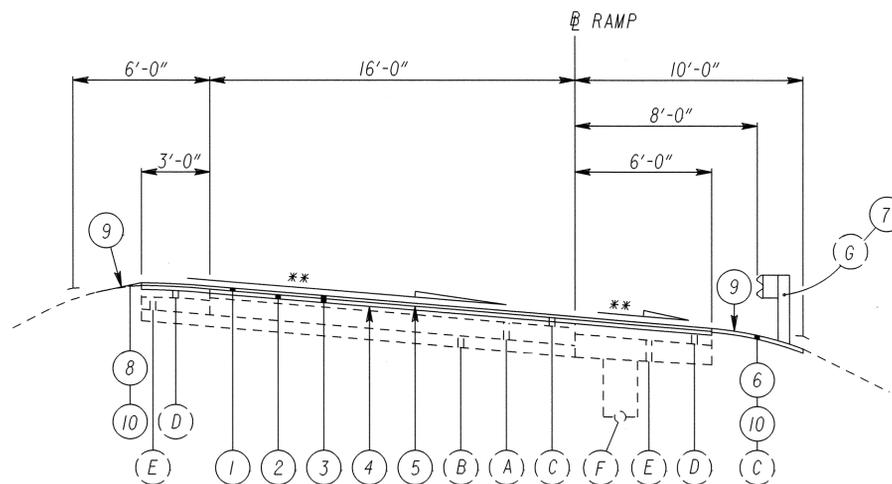
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TYPICAL RESURFACING DETAIL
(RAMP & SHOULDER)



RAMP NORMAL SECTION



RAMP SUPERELEVATED SECTION

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ROUNDING

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

UTILITIES

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

- | | |
|---|---|
| First Energy Corporation
W.H. Sammis Plant
S.R. 7
Stratton, Ohio 43961
740-537-6330 | AEP Ohio Power Company
P.O. Box 99
47587 National Road
St. Clairsville, Ohio 43950
740-699-7845 |
| AT&T Ohio, Inc.
3935 Northpointe Road
Zanesville, Ohio 43701
740-454-3455 | Comcast
100 Welday Avenue, Suite A
Wintersville, Ohio 43953
740-346-2250 |
| Columbia Gas Transmission
589 North State Road
Medina, Ohio 44256
419-340-6403 | Columbia Gas of Ohio, Inc.
300 Luray Drive
Wintersville, Ohio 43953
740-266-4282 |
| Jefferson Co. Water & Sewer District
P.O. Box 2579
596 State Route 43
Wintersville, Ohio 43953
740-537-2214 | The Honorable John Geddis
City of Toronto
416 Clark Street
Toronto, Ohio 43964
740-537-3743 |
| Jefferson County Cable
116 South 4th Street
Toronto, Ohio 43964
740-283-1122 | Ohio Department of Transportation
2201 Reiser Avenue, SE
New Philadelphia, Ohio 44663
330-308-3980 |

There are no underground utilities shown on this plan. The nature of the work required by this project will not affect any known underground utilities that exist under or adjacent to the work area.

ELEVATION DATUM

All elevations are assumed, unless otherwise noted.

WORK LIMITS

The work limits shown on these plans are for the physical construction only. The installation and operation of all work zone traffic control and work zone traffic control devices required by these plans shall be provided by the Contractor whether inside or outside these work limits.

PROFILE AND ALIGNMENT

The work proposed by this project is for the grinding and resurfacing of the existing pavement. The alignment and superelevation rates of the existing pavement will not be changed and the profile of the proposed surface will be similar to that of the existing pavement except that it will be raised as shown in the typical sections. Previous construction plans showing the original alignment and profile are listed below.

PREVIOUS CONSTRUCTION PLANS

The following previous construction plans, which show the original alignment and profile, are available for inspection at the ODOT District II office:

- JEF-7-23.37 Original Construction Plan, 1967
- JEF-7-22.97 Upgrading Plan, 1985
- JEF-7-36.967 Upgrading Plan, 1999

SAME SEASON COMPLETION OF SURFACE COURSE

Any length of resurfacing work started in a construction season shall have the surface course placed that same season.

ITEM 201 - CLEARING AND GRUBBING

Although there are no trees or stumps specifically marked for removal within the limits of the project, a lump sum quantity is included in the General Summary for Item 201, Clearing and Grubbing. All provisions as set forth in the specifications under this item are included in the lump sum price bid for Item 201, Clearing and Grubbing.

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

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

ITEM 408 - PRIME COAT, AS PER PLAN

The Contractor will apply "MC-70" at a rate of 0.4 gallons per square yard, or as determined by the Engineer, to the completed aggregate shoulder. A shield shall be provided to prevent the spraying or drifting of liquid bituminous material onto the edge of the pavement or edgeline. The attention of the Contractor is directed to 107.10 of the specifications.

CENTERLINE REFERENCE MONUMENTS

Existing centerline monument assemblies are located at the following stations. The Contractor shall take care not to disturb any of these centerline reference monuments.

S.R. 7			
1240+00	P.O.T.	1333+00	P.O.C.
1244+46.35	T.S.	1337+00	P.O.C.
1248+46.35	S.C.	1341+08.27	P.T.
1252+50	P.O.C.	1342+04.25	T.S.
1256+18.08	C.S.	1346+04.25	S.C.
1260+18.08	S.T.	1350+50	P.O.C.
1264+18.84	T.S.	1356+12.44	S.T.
1267+68.84	S.C.	1360+00	P.O.T.
1271+00	P.O.C.	1365+20.79	T.S.
1274+00	P.O.C.	1368+70.79	S.C.
1276+43.28	C.S.	1375+00	P.O.C.
1279+93.28	S.T.	1380+00	P.O.C.
1284+00	P.O.T.	1385+00	P.O.C.
1287+79.82	P.C.	1390+00	P.O.C.
1293+00	P.O.C.	1394+17.56	C.S.
1297+00	P.O.C.	1399+00	P.O.T.
1301+00	P.O.C.	1404+00	P.O.T.
1305+00	P.O.C.	1408+28.47	T.S.
1309+51.39	P.T.	1412+28.47	S.C.
1315+00	P.O.T.	1417+00	P.O.C.
1320+00	P.O.T.		
1326+48.38	P.O.T.		
1328+74.56	P.C.		

CO. RD. 46		ALEXANDER ST.	
5+50	P.O.T.	15+00	P.O.T.
8+33.73	T.S.	20+00	P.O.T.
10+33.73	S.C.	25+00	P.O.T.
14+00	P.O.C.		
17+70.73	C.S.		
19+70.73	S.T.		
22+45.64	T.S.		
26+45.64	S.C.		
31+44.86	C.S.		
35+44.86	S.T.		
38+00	P.O.T.		

ITEM 621 - RAISED PAVEMENT MARKER REMOVED

Existing raised pavement markers shall become the property of the Contractor for disposal off the project. The requirement to fill the depressions shall be waived. The following quantity has been carried to the General Summary to remove existing raised pavement markers:

Item 621, Raised Pavement Marker Removed - - - - - 691 Each

ITEM 209 - LINEAR GRADING, AS PER PLAN

Graded shoulders shall be reshaped as directed by the Engineer to ensure a smooth drainable surface that is free of all irregularities. Vegetation, material buildup, and collected debris on the shoulder or within the linear grading limits shall be removed and disposed of by the Contractor as specified in section 209.01, or wasted over fill slopes at the direction of the Engineer.

This item shall meet the requirements of Item 209 Linear Grading except as follows:

The Contractor shall use the grindings from the project in lieu of Item - 617 Compacted Aggregate. See Item 617, Compacted Aggregate, As Per Plan note.

All equipment, materials, and labor required to perform the work outlined above shall be included for payment under Item 209, Linear Grading, As Per Plan.

ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN

Graded shoulders shall be reshaped as per the requirements of Item 617, Compacted Aggregate. Grindings shall be used in lieu of Item 617, Compacted Aggregate. The cost for storing the grindings on the project and placing the grindings shall also be included in this item.

COORDINATION OF RESURFACING AND PLANING OPERATIONS

The pavement planing and resurfacing operation shall be completed in a timely manner as directed by the Engineer. The grindings shall become the property of the Contractor with the exception that some grindings will be utilized as noted in the plans. The 446 Intermediate Course shall be placed no more than four (4) days after reaching the final milled surface.

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN

This item shall consist of hauling the grindings from the pavement planing operation to the address listed below and stockpiling the material in a manner acceptable to the Engineer. Continuous end dumping will not be permitted.

2000 Tons (20,667 S.Y.) delivered to:

- Toronto Outpost
- Old S.R. 7 - Pottery addition
- Steubenville, Ohio 43952

All labor, equipment, and incidentals necessary to complete the above work shall be included in the square yard bid price for item 254 Pavement Planing, Asphalt Concrete, As Per Plan.

ITEM 519 - PATCHING CONCRETE STRUCTURES

The following estimated quantity has been carried to the General Summary for the patching of the concrete barrier at the locations as directed by the Engineer. The patching shall be completed before the asphalt surface course is placed.

Payment for the above work shall be made at the unit price bid for Item 519, Patching Concrete Structures and shall include all labor, tools, equipment, and materials.

Item 519, Patching Concrete Structures - - - - - 200 Sq. Ft.

ITEM 626 - BARRIER REFLECTOR, AS PER PLAN

This item shall consist of the removal, disposal, and placement of the new median barrier reflectors within the project limits. Barrier reflectors shall be removed prior to the sealing of the concrete surfaces. Payment for the above work shall be made at the unit price bid for Item 626, Barrier Reflector, As Per Plan and shall include all labor, tools, equipment, and materials. The following quantity has been carried to the General Summary for barrier reflectors.

Item 626, Barrier Reflector, As Per Plan - - - - - 374 Each

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ITEM 606 - ANCHOR ASSEMBLY, TYPE E

This item shall consist of furnishing and installing either of the following guardrail end terminals, or an approved equal as listed on Roadway Engineering's Web Page at WWW.ODOT.STATE.OH.US/DRRC/ under roadside safety devices for approved guardrail end treatments:

- 1). The ET-2000 (1997) manufactured by Trinity Industry, 1170 N. State Street, Girard, Ohio 44420 (Telephone: 330-545-4373).

The length of the ET-2000 (1997) system is considered to be 50'-0", inclusive of two 25'-0" long rail elements. Installation shall be at the locations specified in the plans, in accordance with the manufacturer's specifications as detailed on the following pre-approved shop drawings:

Dwg. #	Drawing Name	Dwg./Rev. Date	ODOT Approval Date
SSI42	E2000 PLUS 50'-0" Plan, Elevation & Sections 25'-0" Rail, Sleeve w/PL Posts 1-4	4/12/00	7/31/00
SSI41	ET2000 PLUS Plan, Elevation & Sections 25'-0" Rail, HBA Posts 1-4	2/29/00	7/31/00
SSI58	ET2000 PLUS 50'-0" With 12'-6" Rail, HBA Posts 1-4 Plan, Elevation & Sections	5/22/00	7/31/00
SS330	ET2000 PLUS 50'-0" With Four Foundation Tubes & Four CRT Posts	3/28/06	3/29/06
SS373	ET2000 PLUS 50'-0" With 7 SYT Posts & One HBA Post	6/20/09	1/20/09

- 2). The SKT-350 manufactured by Road Systems, Inc., 2516 Mallory Lane, Stow, Ohio 44224 (Telephone: 330-346-0721).

The length of the SK-350 system is considered to be 50'-0", inclusive of four 12'-6" long rail elements. Installation shall be at the locations specified in the plans, in accordance with the manufacturer's specifications as detailed on the following pre-approved shop drawings:

Dwg. #	Drawing Name	Dwg./Rev. Date	ODOT Approval Date
SKT-4M	Sequential Kinking Terminal (SKT-350) Assembly with 4 foundation tubes	12/11/97	3/6/98
SKT Hinged CRT	Sequential Kinking Terminal (SKT-350) Four Posts Are Steel Hinged And Five Posts Are CRT	4/30/06	5/23/06
SKT-SP	Sequential Kinking Terminal (SKT-350) A Seven Post Option Using Standard Steel Post	3/30/09	3/4/09

The face of the Type E impact head shall be covered with a sheet of Type G Reflective Sheeting, per CMS 730.19, approximately 18" x 18", or 12" x 18" if applied to a rectangular ET-2000 "PLUS" extruder head.

Refer to manufacturer's instruction regarding the installation of, and the grading around, the foundation tubes and ground strut. The top of any foundation tube should be less than 4-inches above the ground. The placement of the foundation tubes should be an appropriate depth below the level line in order to maintain the finished guardrail height of 27 $\frac{3}{4}$ " from the edge of the shoulder.

On-site grading is required if the top of the foundation tubes or top of the ground strut does project more than 4-inches above the ground line.

Payment for the above work shall be made at the unit price bid for Item 606, Anchor Assembly, Type E, Each, and shall include all labor, tools, equipment and materials necessary to construct a complete and functional anchor assembly system, including all related transitions, reflective sheeting, hardware, grading, embankment and excavation not separately specified, as required by the manufacturer.

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.

GUARDRAIL PLACEMENT

No hazard shall be left unprotected except for the actual time necessary to remove the existing guardrail, prepare the site, and install new guardrail in a continuous operation. The removal of all guardrail shall at all times be as directed by the Engineer. No guardrail shall be removed until the replacement material is on the site, ready for installation. Failure to comply with this requirement shall be deemed sufficient cause to order work suspended until such time as the Engineer is assured of compliance.

ANCHOR ASSEMBLY REMOVED FOR REUSE

The removed posts and blockouts shall not be salvaged and reused for this project but shall be disposed of in accordance with CMS 202.02.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

The Contractor shall apply the epoxy-urethane concrete sealer to all exposed surfaces of the concrete median barrier. The epoxy sealer shall be tinted Federal Color Standard No. 17778 (Light Neutral).

MAINTAINING TRAFFIC, AS PER PLAN

The Contractor shall maintain traffic at all times in accordance with the requirements of CMS Item 614, these maintenance of traffic notes and details, the Standard Construction Drawings, and the traffic control details described in these plans.

The minimum lane width for traffic control shall be 11 feet at all times. It is the responsibility of the Contractor to organize his work in such a manner to provide the most safety with the least inconvenience to the traveling public.

The Contractor is responsible for designing the maintenance of traffic scheme. The Contractor shall submit, in writing, this maintenance of traffic scheme and a schedule of operations to the Engineer and receive approval before work is started on the project.

Any open pavement trench or dropoff shall be adequately maintained and protected. The protection used shall meet the requirements of Standard Construction Drawing MT-101.90.

Under no circumstances shall the Contractor be permitted to have work zones which alternately close both the passing and travel lane unless the distance between the lane restrictions exceeds 2 miles.

The Contractor shall be responsible for smooth and orderly flow of traffic through the project area 24 hours per day for the duration of the project. This consists of notifying the Ohio State Patrol after encountering any accidents or disabled vehicles or objects hindering the flow of traffic.

The Contractor shall designate to the Engineer a person responsible for maintenance of traffic control during non-work hours who shall be available within thirty (30) minutes after notification.

Payment for providing watchmen, furnishing, erecting, maintaining and removing signs, cones, markers, special lighting, floodlighting, work zone pavement markings, work zone raised pavement markers, etc., shall be included in the lump sum price bid for Item 614 Maintaining Traffic, As Per Plan.

The Contractor shall furnish, install and maintain all additional signs or other traffic control devices as required above. All costs involved in furnishing, installing and maintaining these devices shall be included in the lump sum price bid for Item 614, Maintaining Traffic, As Per Plan.

Unless the Engineer deems it physically impossible, all construction equipment shall exit all work zones from the downstream end of the work zone or by interchange ramps. Under no circumstances shall the Contractor be permitted to directly transport or operate any equipment across the open lanes of the roadway.

Length and duration of lane closures and restrictions shall be at the approval of the Engineer. It is the intent to minimize the impact to the traveling public. Lane closures or restrictions over segments of the project in which no work is anticipated within a reasonable time frame, as determined by the Engineer, shall not be permitted. The level of utilization of maintenance of traffic devices shall be commensurate with the work in progress.

The planing and resurfacing will proceed continuously a minimum of five (5) days per week, weather permitting, excepting holidays and events listed below:

No work shall be performed and all existing lanes shall be open to traffic during the following designated holidays and events:

Memorial Day	Fourth of July
Labor Day	Thanksgiving

The period of time that the lanes are to be opened depends on the day of the week on which the holiday or event falls. The following schedule shall be used to determine this period:

Day of the week	Time all lanes must be opened to traffic
Sunday	12:00N Friday through 12:00N Monday
Monday	12:00N Friday through 12:00N Tuesday
Tuesday	12:00N Monday through 12:00N Wednesday
Wednesday	12:00N Tuesday through 12:00N Thursday
Thursday	12:00N Wednesday through 12:00N Monday
Friday	12:00N Thursday through 12:00N Monday
Saturday	12:00N Friday through 12:00N Monday

No extensions of time shall be granted for delays in material deliveries, unless such delays are industry-wide, or for labor strikes, unless such strikes are area-wide.

All work and traffic control devices shall be in accordance with 614 and other applicable portions of the specifications, as well as the Ohio Manual of Uniform Traffic Control Devices. Payment for all labor, equipment and materials shall be included in the lump sum contract price for Item 614, Maintaining Traffic, As Per Plan, unless separately itemized in the plan.

NOTIFICATION OF WORK ZONE LANE RESTRICTIONS

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

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

In addition to the requirements of section 614.03 of the Construction and Material Specifications the following shall apply. The Contractor's equipment shall be operated in the direction of traffic where practical. A flagger shall be used where the Contractor's equipment must merge with the traffic stream. The Contractor's vehicles and equipment shall be equipped with at least one amber flashing light.

Equipment may be parked in areas along the highway, thirty feet (30') from the edge of traveled highway unless behind guardrail, when various operations are scheduled to continue the next workday. On weekends or at other times of suspension of work, the equipment shall be stored at a storage area removed from the interstate route right of way. No equipment shall be parked in the median of the highway. Adequate barricades and light shall be placed on the pavement side of the equipment to identify the limits of the equipment. All other equipment, including private vehicles, shall be stored at the approved Contractor's storage area.

MOVEMENT OF DRUMS

The row of drums along a closed lane shall be moved out of the open lane onto the new pavement as soon as paving operations permit.

ITEM 614 - WORK ZONE INCREASED PENALTIES SIGN (R11-H5a)

R11-H5a-48 signs shall be furnished, erected, and maintained in good condition and/or replaced as necessary and subsequently removed by the Contractor. Signs shall be mounted at the appropriate offsets and elevations as prescribed by the Ohio Manual of Uniform Traffic Control Devices. They shall be maintained on supports meeting current safety criteria.

The signs may be erected or uncovered no more than four hours before the actual start of work. The signs shall be removed or covered no later than four hours following restoration of all lanes to traffic with no restrictions, or sooner as directed by the Engineer. Temporary sign covering and uncovering due to temporary lane restorations shall be guided by the four-hour limitations stated above. Such lane restorations should be expected to remain in effect for 30 or more consecutive calendar days, such as during winter shut-downs.

The signs shall be dual mounted. The first sign shall be placed between the "ROAD WORK AHEAD" (W20-1) sign and the next sign in the sequence. Signs shall be erected on each entrance ramp and every 2 miles through the construction work limits.

The Contractor may use signs and supports in used, but good, condition provided the signs meet current ODOT specifications. Sign faces shall be reflectorized with Type G sheeting complying with the requirements of CMS 730.19.

Work zone increased penalties signs and supports will be measured as the number of sign installations, including the sign and necessary supports. If a sign and support combination is removed and re-erected at another location as directed by the Engineer, it shall be considered as another unit.

Payment for accepted quantities, complete in place, will be made at the contract unit price. Payment shall be full compensation for all materials, labor, incidentals and equipment for furnishing, erecting, maintaining, covering during suspension of work, and removal of the sign and support.

Item 614, Work Zone Increased Penalties Sign - - - - - 12 Each

DROPOFFS IN WORK ZONES

The wedge treatment as detailed in Standard Drawing MT-101.90 will be required and shall be included in the lump sum bid for Item 614 - Maintaining Traffic, As Per Plan.

WORK ZONE PAVEMENT MARKINGS

The Contractor shall be required to install work zone markings.

Work zone pavement markings shall be 642 paint.

Prior to placement of any work zone pavement markings, the Contractor shall completely obliterate, as per 641.10, all existing pavement markings that would create confusion or conflict with the work zone pavement markings.

The following estimated quantities have been carried to the General Summary:

Item 614, Work Zone Lane Line, Class 1, 642 Paint - - - - 24.78 Mile
 Item 614, Work Zone Edge Line, Class 1, 642 Paint - - - - 51.51 Mile

Work zone raised pavement markers cannot be used to simulate (replace) any type of work zone pavement marking.

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 worksite 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, As Per Plan.

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

The following estimated quantity has been carried to the General Summary for use as directed by the Engineer:

Item 614, Asphalt Concrete for Maintaining Traffic - - - 50 Cu. Yd.

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ITEM 614 - WORK ZONE SPEED LIMIT SIGN

The Contractor shall furnish, install, maintain, cover during suspension of work, and subsequently remove Work Zone Speed Limit (R2-1-48) (45 MPH Speed Limit) signs and supports within the work limits in accordance with the following requirements:

The Contractor shall cover or remove any existing Speed Limit signs within the reduced Speed Zone. These signs shall be restored during suspension or termination of the reduced speed limit. The expense of covering or removal and restoration of existing Speed Limit or Minimum Speed Limit signs shall be included in the pay item for the Work Zone Speed Limit signs.

The Work Zone Speed Limit signs may be erected or uncovered no more than 4 hours before the actual start of work. The signs shall be removed or covered no later than 4 hours following restoration of all lanes to traffic with no restrictions, or sooner as directed by the Engineer. Temporary sign covering and uncovering due to temporary lane restorations shall be guided by the four-hour limitations stated above. Such lane restorations should be expected to remain in effect for 30 or more days, such as during winter shut-downs.

Construction and Material Specifications, Item 614, Paragraph 614.02(B) indicates that the two directions of a divided highway are considered separate highway sections. Therefore, if the work on a multi-lane divided highway is limited to only one direction, speed reduction in the direction of the work does not automatically constitute speed reduction in the opposite direction. Speed limit reduction in the opposite direction, in such case, is appropriate only if conditions are expected to have an impact on the directional traffic flow, as directed by the Engineer.

The Contractor shall erect a Work Zone Speed Limit sign in advance of any lane restriction expected to last at least 30 consecutive calendar days, or as directed by the Engineer. The sign shall be mounted on both sides of a directional roadway of divided highways. The first Work Zone Speed Limit sign shall be placed 500 feet in advance of the lane reduction or shift taper or at a point wherever construction begins, whichever comes first. On undivided highways the sign shall be mounted on the right side, 250 feet in advance of the taper. The sign shall be repeated, on the side nearest traffic, every 1 mile for 55 mph zones and every one-half mile for 50 mph and 45 mph zones. These signs shall also be erected immediately after each open entrance ramp within the zone.

Reduce Speed Ahead signs shall be erected in advance of the speed reduction, approximately 1300 feet on multi-lane highways and 500 feet on 2-lane highways.

A sign(s) to indicate the resumption of the statutory speed limit shall be erected at the end of any reduced Speed Zone. R2-1 (Speed Limit) signs shall be used on undivided roadways. R2-1 (Speed Limit) and R2-H2a signs shall be used on divided roadways. When used the R2-1 and R2-H2a signs shall be mounted side-by-side on separate supports. The Contractor may use signs and supports in used, but good, condition provided the signs meet current ODOT specifications. Sign faces shall be reflectorized with Type G sheeting complying with the requirements of CMS 730.19.

Work Zone Speed Limit signs shall be mounted on two Item 630, Ground Mounted Supports, No. 3 Posts.

Work Zone Speed Limit signs and supports will be measured as the number of sign installations, including the signs and necessary supports. If a sign and support combination is removed and reerected at another location within the project due to changes in the Speed Zone directed by the Engineer, it shall be considered another unit.

Payment for accepted quantities, complete in place, will be made at the contract unit price. Payment shall be full compensation for all materials, labor, incidentals, and equipment for furnishing, erecting, maintaining, covering during suspension of work, and removing the signs and supports. The following estimated quantity has been carried to the General Summary.

Item 614, Work Zone Speed Limit Sign - - - - - 30 Each

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

Use of Law Enforcement Officers (LEOs) by Contractors other than the uses specified below will not be permitted at project cost. LEOs should not be used where the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) intends that flaggers be used.

In addition to the requirements of CMS 614 and the OMUTCD, a uniformed LEO with an official patrol car (car with top-mounted emergency flashing lights and complete markings of the appropriate law enforcement agency) shall be provided for the following traffic control tasks:

For lane closures:
During initial set-up periods, tear down periods, substantial shifts of a closure point or when new lane closure arrangements are initiated for long-term lane closures/shifts (for the first and last day of major changes in traffic control setup). In general, LEOs should be positioned at the point of lane restriction or road closure and to manually control traffic movements through intersections in work zones.

When construction vehicles are entering/exiting the zone directly from/into an open lane of traffic. If a lane has been closed to provide an acceleration/deceleration lane for the vehicle, the LEO will not be required.

LEOs should not forgo their traffic control responsibilities to apprehend motorists for routine traffic violations. However, if a motorist's actions are considered to be reckless, then pursuit of the motorist is appropriate.

The LEOs work at the direction of the Contractor. The Contractor is responsible for securing the services of the LEOs with the appropriate agencies and communicating the intentions of the plans with respect to duties of the LEOs. The Engineer shall have final control over the LEO's duties and placement, and will resolve any issues that may arise between the two parties.

The LEO shall report in to the Contractor prior to the start of the shift, in order to receive instructions regarding specific work assignments during his/her shift. The LEO is expected to stay at the project site for the entire duration of his/her shift. The LEO shall report to the Contractor at the end of his/her shift. Once the LEO has completed the duties described above and still has time remaining on his/her shift, the LEO may be asked to patrol through the work zone (with flashing lights off) or be placed at a location to deter motorists from speeding. Should it be necessary to leave the project site, the LEO shall notify the Engineer. The Contractor shall provide the LEO with a two-way communication device which shall be returned to the Contractor at the end of his/her shift.

LEOs (with patrol car) required by the traffic maintenance tasks above shall be paid for on a unit price (hourly) basis under Item 614, Law Enforcement Officer (with patrol car) for Assistance. The following estimated quantity has been carried to the General Summary.

Item 614, Law Enforcement Officer with Patrol Car for Assistance - - 100 Hours

The hours paid shall include minimum show-up time required by the law enforcement agency involved.

Any additional costs (administrative or otherwise) incurred by the Contractor to obtain the services of an LEO are included with the bid unit price for Item 614, Law Enforcement Officer with Patrol Car for Assistance.

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7	16	17	19	30	PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED	RDA CHECKED	TES
					STP	100% STATE									
ROADWAY															
LUMP						LUMP	201	11000	LUMP		CLEARING AND GRUBBING				
			7736			7736	202	23000	7736	SQ YD	PAVEMENT REMOVED				
			16,091			16,091	202	38200	16,091	FT	GUARDRAIL REMOVED FOR REUSE				
			1			1	202	42000	1	EACH	ANCHOR ASSEMBLY REMOVED, TYPE A				
			20			20	202	42010	20	EACH	ANCHOR ASSEMBLY REMOVED, TYPE E				
			24			24	202	42040	24	EACH	ANCHOR ASSEMBLY REMOVED, TYPE T				
			2			2	202	42806	2	EACH	ANCHOR ASSEMBLY REMOVED FOR REUSE				
		337				337	209	60201	337	STATION	LINEAR GRADING, AS PER PLAN				7
		12,560				12,560	512	10100	12,560	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)				8
200						200	519	11100	200	SQ FT	PATCHING CONCRETE STRUCTURE				7
			16,110			16,110	606	16500	16,110	FT	GUARDRAIL REBUILT, TYPE 5				
			21			21	606	26100	21	EACH	ANCHOR ASSEMBLY, TYPE E				8
			24			24	606	26500	24	EACH	ANCHOR ASSEMBLY, TYPE T				
			2			2	606	27800	2	EACH	ANCHOR ASSEMBLY REBUILT, TYPE A				
EROSION CONTROL															
						1000	832	30000	1000	EACH	EROSION CONTROL				
DRAINAGE															
				200		200	605	31100	200	FT	AGGREGATE DRAINS				
PAVEMENT															
				1818		1818	253	01000	1818	SQ YD	PAVEMENT REPAIR				
	154,390					154,390	254	01000	154,390	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE				
	20,667					20,667	254	01001	20,667	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN				7
				584		584	255	10151	584	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN				30
				1752		1752	255	20000	1752	FT	FULL DEPTH PAVEMENT SAWING				
	13,129					13,129	407	10000	13,129	GALLON	TACK COAT				
	7002					7002	407	14000	7002	GALLON	TACK COAT FOR INTERMEDIATE COURSE				
		5670	3111			8781	408	10001	8781	GALLON	PRIME COAT, AS PER PLAN				7
	7294					7294	442	10051	7294	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN				7
	8510					8510	442	10150	8510	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446)				
		197	432			629	617	10101	629	CU YD	COMPACTED AGGREGATE, AS PER PLAN				7
	35,979					35,979	618	40100	35,979	FT	RUMBLE STRIPS, (ASPHALT CONCRETE)				

GENERAL SUMMARY

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LOCATION	STATION		LENGTH FT.	WIDTH FT.	AREA SQ.YD. <i>* CADD Generated</i>	ITEM 254	ITEM 254	ITEM 407	ITEM 407	ITEM 442		ITEM 442		ITEM 618
	FROM	TO				PAVEMENT PLANING, ASPHALT CONCRETE	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	TACK COAT (AT 0.075 GAL./S.Y.)	TACK COAT FOR INTERMEDIATE COURSE, (AT 0.04 GAL./S.Y.)	THICKNESS	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446)	THICKNESS	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446) AS PER PLAN	RUMBLE STRIPS, (ASPHALT CONCRETE)
						SQ.YD.	SQ.YD.	GALLON	GALLON	INCH	CU.YD.	INCH	CU.YD.	FT.
MAINLINE - NORTHBOUND														
	1236+00	1294+89.74	5889.74	24	15,705.97		15,705.97	1177.95	628.24	1.75	763.48	1.5	654.42	5889.74
Br. No. JEF-7-2409														
	1297+12.27	1350+95.99	5383.72	24	14,356.59	9395.56	4961.03	1076.74	574.26	1.75	697.89	1.5	598.19	5383.72
Br. No. JEF-7-2516														
	1352+70.65	1396+84.82	4414.17	24	11,771.12	11,771.12		882.83	470.84	1.75	572.21	1.5	490.46	4414.17
Br. No. JEF-7-2602														
	1398+54.81	1421+56.67	2301.86	24	6138.29	6138.29		460.37	245.53	1.75	298.39	1.5	255.76	2301.86
MAINLINE SHOULDER N.B.														
Inside Shoulder	1236+00	1294+89.74	5889.74	1.5	981.62	981.62		73.62	39.26	1.75	47.72	1.5	40.90	
Br. No. JEF-7-2409														
Inside Shoulder	1297+12.27	1350+95.99	5383.72	1.5	897.29	897.29		67.30	35.89	1.75	43.62	1.5	37.39	
Br. No. JEF-7-2516														
Inside Shoulder	1352+70.65	1396+84.82	4414.17	1.5	735.70	735.70		55.18	29.43	1.75	35.76	1.5	30.65	
Br. No. JEF-7-2602														
Inside Shoulder	1398+54.81	1421+56.67	2301.86	1.5	383.64	383.64		28.77	15.35	1.75	18.65	1.5	15.99	
Outside Shoulder	1236+00	1287+88	5188	8	4611.56	4611.56		345.87	184.46	1.75	224.17	1.5	192.15	
Outside Shoulder	1288+26	1294+89.74	663.74	8	589.99	589.99		44.25	23.60	1.75	28.68	1.5	24.58	
Br. No. JEF-7-2409														
Outside Shoulder	1297+12.27	1309+81.65	1269.38	8	1128.34	1128.34		84.63	45.13	1.75	54.85	1.5	47.01	
Outside Shoulder	1309+81.65	1311+55.43	173.78	6	115.85	115.85		8.69	4.63	1.75	5.63	1.5	4.83	
Outside Shoulder	1311+55.43	1312+05.43	50	7 avg.	38.89	38.89		2.92	1.56	1.75	1.89	1.5	1.62	
Outside Shoulder	1312+05.43	1350+95.99	3890.56	8	3458.28	3458.28		259.37	138.33	1.75	168.11	1.5	144.09	
Br. No. JEF-7-2516														
Outside Shoulder	1352+70.65	1389+49.83	3679.18	8	3270.38	3270.38		245.28	130.82	1.75	158.98	1.5	136.27	
Outside Shoulder	1389+75.88	1396+84.82	708.94	8	630.17	630.17		47.26	25.21	1.75	30.63	1.5	26.26	
Br. No. JEF-7-2602														
Outside Shoulder	1398+54.81	1408+64.21	1009.40	8	897.24	897.24		67.29	35.89	1.75	43.62	1.5	37.39	
Outside Shoulder	1408+64.21	1410+50	185.79	6	123.86	123.86		9.29	4.95	1.75	6.02	1.5	5.16	
Outside Shoulder	1410+50	1411+00	50	7 avg.	38.89	38.89		2.92	1.56	1.75	1.89	1.5	1.62	
Outside Shoulder	1411+00	1421+56.67	1056.67	8	939.26	939.26		70.44	37.57	1.75	45.66	1.5	39.14	
Decel. Lane - Ramp 'B'	1279+96.13	1288+26	829.87	Varies	1384.13 *	1384.13		103.81	55.37	1.75	67.28	1.5	57.67	
Accel. Lane - Ramp 'D'	1309+81.65	1322+07.20	1225.55	Varies	2197.28 *	2197.28		164.80	87.89	1.75	106.81	1.5	91.55	
Decel. Lane - Ramp 'F'	1381+59.30	1389+75.88	816.58	Varies	1330.59 *	1330.59		99.79	53.22	1.75	64.68	1.5	55.44	
Accel. Lane - Ramp 'H'	1408+64.21	1421+00	1235.79	Varies	2439.66 *	2439.66		182.97	97.59	1.75	118.59	1.5	101.65	
TOTALS CARRIED TO SHEET NO. 16.						53,497.59	20,667	5562.34	2966.58		3605.21		3090.19	17,989.49

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LOCATION	STATION		LENGTH FT.	WIDTH FT.	AREA * CADD Generated SQ.YD.	ITEM 254	ITEM 407	ITEM 407	ITEM 442		ITEM 442		ITEM 618		
	FROM	TO				PAVEMENT PLANING, ASPHALT CONCRETE	TACK COAT (AT 0.075 GAL./S.Y.)	TACK COAT FOR INTERMEDIATE COURSE. (AT 0.04 GAL./S.Y.)	THICKNESS	ASPHALT CONCRETE INTERMEDIATE COURSE. 19MM. TYPE B (446)	THICKNESS	ASPHALT CONCRETE SURFACE COURSE. 12.5MM. TYPE B (446) AS PER PLAN	RUMBLE STRIPS, (ASPHALT CONCRETE)		
						SQ.YD.	GALLON	GALLON	INCH	CU.YD.	INCH	CU.YD.	FT.		
MAINLINE - SOUTHBOUND															
	1236+00	1294+89.74	5889.74	24	15,705.97	15,705.97	1177.95	628.24	1.75	763.48	1.5	654.42	5889.74		
Br. No. JEF-7-2409															
	1297+12.27	1339+50	4237.73	24	11,300.61	11,300.61	847.55	452.02	1.75	549.34	1.5	470.86	4237.73		
	1339+50	1343+00	350	30 avg.	1166.67	1166.67	87.50	46.67	1.75	56.71	1.5	48.61	350		
	1343+00	1350+95.99	795.99	36	3183.96	3183.96	238.80	127.36	1.75	154.78	1.5	132.67	795.99		
Br. No. JEF-7-2516															
	1352+70.65	1392+59.16	3988.51	36	15,954.04	15,954.04	1196.55	638.16	1.75	775.54	1.5	664.75	3988.51		
	1392+59.16	1396+84.82	425.66	24	1135.09	1135.09	85.13	45.40	1.75	55.18	1.5	47.30	425.66		
Br. No. JEF-7-2602															
	1398+54.81	1421+56.67	2301.86	24	6138.29	6138.29	460.37	245.53	1.75	298.39	1.5	255.76	2301.86		
MAINLINE SHOULDER S.B.															
Inside Shoulder	1236+00	1294+89.74	5889.74	1.5	981.62	981.62	73.62	39.26	1.75	47.72	1.5	40.90			
Br. No. JEF-7-2409															
Inside Shoulder	1297+12.27	1350+95.99	5383.72	1.5	897.29	897.29	67.30	35.89	1.75	43.62	1.5	37.39			
Br. No. JEF-7-2516															
Inside Shoulder	1352+70.65	1396+84.82	4414.17	1.5	735.70	735.70	55.18	29.43	1.75	35.76	1.5	30.65			
Br. No. JEF-7-2602															
Inside Shoulder	1398+54.81	1421+56.67	2301.86	1.5	383.64	383.64	28.77	15.35	1.75	18.65	1.5	15.99			
Outside Shoulder	1236+00	1286+60.80	5060.80	8	4498.49	4498.49	337.39	179.94	1.75	218.68	1.5	187.44			
Outside Shoulder	1286+60.80	1287+10.80	50	7 avg.	38.89	38.89	2.92	1.56	1.75	1.89	1.5	1.62			
Outside Shoulder	1287+10.80	1289+43.40	232.60	6	155.07	155.07	11.63	6.20	1.75	7.54	1.5	6.46			
Outside Shoulder	1289+43.40	1294+89.74	546.34	8	485.64	485.64	36.42	19.43	1.75	23.61	1.5	20.23			
Br. No. JEF-7-2409															
Outside Shoulder	1297+12.27	1306+28.88	916.61	8	814.76	814.76	61.11	32.59	1.75	39.61	1.5	33.95			
Outside Shoulder	1306+53.39	1339+50	3296.61	8	2930.32	2930.32	219.77	117.21	1.75	142.45	1.5	122.10			
Outside Shoulder	1339+50	1343+00	350	7 avg.	272.22	272.22	20.42	10.89	1.75	13.23	1.5	11.34			
Outside Shoulder	1343+00	1350+95.99	795.99	6	530.66	530.66	39.80	21.23	1.75	25.80	1.5	22.11			
Br. No. JEF-7-2516															
Outside Shoulder	1352+70.65	1392+59.16	3988.51	6	2659.01	2659.01	199.43	106.36	1.75	129.26	1.5	110.79			
Outside Shoulder	1392+59.16	1396+84.82	425.66	8	378.36	378.36	28.38	15.13	1.75	18.39	1.5	15.77			
Br. No. JEF-7-2602															
Outside Shoulder	1398+54.81	1408+32.13	977.32	8	868.73	868.73	65.15	34.75	1.75	42.23	1.5	36.20			
Outside Shoulder	1408+70.22	1421+56.67	1286.45	8	1143.51	1143.51	85.76	45.74	1.75	55.59	1.5	47.65			
Accel. Lane - Ramp 'A'	1276+60.80	1289+43.40	1282.60	Varies	2347.06 *	2347.06	176.03	93.88	1.75	114.09	1.5	97.79			
Decel. Lane - Ramp 'C'	1306+28.88	1314+77.65	848.77	Varies	1335.52 *	1335.52	100.16	53.42	1.75	64.92	1.5	55.65			
Accel. Lane - Ramp 'E'	1385+30	1392+59.16	729.16	Varies	761.12 *	761.12	57.08	30.44	1.75	37.00	1.5	31.71			
Decel. Lane - Ramp 'G'	1408+32.13	1416+63.65	831.52	Varies	2439.66 *	2439.66	182.97	97.59	1.75	118.59	1.5	101.65			
TOTALS CARRIED TO SHEET NO. 16.						79,241.90	5943.14	3169.67		3852.05		3301.76	17,989.49		

CALCULATED RDA CHECKED TES
ESTIMATED QUANTITIES
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LOCATION	STATION		LENGTH FT.	WIDTH FT.	AREA * CADD Generated SQ.YD.	ITEM 254	ITEM 407	ITEM 407	ITEM 442		ITEM 442					
	FROM	TO				PAVEMENT PLANING, ASPHALT CONCRETE SQ.YD.	TACK COAT (AT 0.075 GAL./S.Y.) GALLON	TACK COAT FOR INTERMEDIATE COURSE, (AT 0.04 GAL./S.Y.) GALLON	THICKNESS INCH	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446) CU.YD.	THICKNESS INCH	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446) AS PER PLAN CU.YD.				
C.R. 46 INTERCHANGE																
RAMP 'A'																
Mainline	12+82.08	18+48	565.92	16	1006.08	1006.08	75.46	40.24	1.75	48.91	1.5	41.92				
Mainline	18+48	19+36.47	88.47	Varies	339.30 *	339.30	25.45	13.57	1.75	16.49	1.5	14.14				
Left Shoulder	12+82.08	18+48	565.92	3	188.64	188.64	14.15	7.55	1.75	9.17	1.5	7.86				
Left Shoulder	18+48	19+36.47	84.66	3	28.22	28.22	2.12	1.13	1.75	1.37	1.5	1.18				
Right Shoulder	12+82.08	18+48	565.92	6	377.28	377.28	28.30	15.09	1.75	28.06	1.5	24.05				
Right Shoulder	18+48	19+36.47	155.71	6	103.81	103.81	7.79	4.15	1.75	5.05	1.5	4.33				
RAMP 'B'																
Mainline	8+30.06	15+41.66	711.60	16	1265.07	1265.07	94.88	50.60	1.75	61.50	1.5	52.71				
Mainline	15+41.66	15+94.86	53.20	Varies	208.62 *	208.62	15.65	8.34	1.75	10.14	1.5	8.69				
Left Shoulder	8+30.06	15+41.66	711.60	3	237.20	237.20	17.79	9.49	1.75	11.53	1.5	9.88				
Left Shoulder	15+41.66	15+94.86	50.63	3	16.88	16.88	1.27	0.68	1.75	0.82	1.5	0.70				
Right Shoulder	7+94.93	8+44.93	50	7 avg.	38.89	38.89	2.92	1.56	1.75	1.89	1.5	1.62				
Right Shoulder	8+44.93	15+41.66	696.73	6	464.49	464.49	34.84	18.58	1.75	22.58	1.5	19.35				
Right Shoulder	15+41.66	15+94.86	116.30	6	77.53	77.53	5.81	3.10	1.75	3.77	1.5	3.23				
RAMP 'C'																
Mainline	0+24.33	0+77.44	53.11	Varies	216.70 *	216.70	16.25	8.67	1.75	10.53	1.5	9.03				
Mainline	0+77.44	10+90.44	1013	16	1800.89	1800.89	135.07	72.04	1.75	87.54	1.5	75.04				
Left Shoulder	0+24.33	0+77.44	36.85	3	12.28	12.28	0.92	0.49	1.75	0.60	1.5	0.51				
Left Shoulder	0+77.44	10+90.44	1013	3	337.67	337.67	25.32	13.51	1.75	16.41	1.5	14.07				
Right Shoulder	0+24.33	0+77.44	119.63	6	79.75	79.75	5.98	3.19	1.75	3.88	1.5	3.32				
Right Shoulder	0+77.44	10+62.87	985.43	6	656.95	656.95	49.27	26.28	1.75	31.94	1.5	27.37				
Right Shoulder	10+62.87	11+12.87	50	7 avg.	38.89	38.89	2.92	1.56	1.75	1.89	1.5	1.62				
RAMP 'D'																
Mainline	0+24.23	1+28.50	104.27	Varies	417.98 *	417.98	31.35	16.72	1.75	20.32	1.5	17.42				
Mainline	1+28.50	13+12.54	1184.04	16	2104.96	2104.96	157.87	84.20	1.75	102.32	1.5	87.71				
Left Shoulder	0+24.23	1+28.50	109.55	3	36.52	36.52	2.74	1.46	1.75	1.78	1.5	1.52				
Left Shoulder	1+28.50	13+12.54	1184.04	3	394.68	394.68	29.60	15.79	1.75	19.19	1.5	16.45				
Right Shoulder	0+24.23	1+28.50	165.57	6	110.38	110.38	8.28	4.42	1.75	5.37	1.5	4.60				
Right Shoulder	1+28.50	13+12.54	1184.04	6	789.36	789.36	59.20	31.57	1.75	38.37	1.5	32.89				
TOTALS CARRIED TO SHEET NO. 16.						11,349.02	851.20	453.98	551.70	472.88						

ESTIMATED QUANTITIES

JEF-7-22.97

CALCULATED
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LOCATION	STATION		LENGTH FT.	WIDTH FT.	AREA * CADD Generated SQ.YD.	ITEM 254	ITEM 254	ITEM 407	ITEM 407	ITEM 442		ITEM 442		ITEM 618
	FROM	TO				PAVEMENT PLANING, ASPHALT CONCRETE	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	TACK COAT (AT 0.075 GAL./S.Y.)	TACK COAT FOR INTERMEDIATE COURSE, (AT 0.04 GAL./S.Y.)	THICKNESS	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446)	THICKNESS	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446) AS PER PLAN	RUMBLE STRIPS, (ASPHALT CONCRETE)
						SQ.YD.	SQ.YD.	GALLON	GALLON	INCH	CU.YD.	INCH	CU.YD.	FT.
ALEXANDER ST. INTERCHANGE														
RAMP 'E'														
Mainline	1392+51.45	1396+58.61	407.16	16	723.84	723.84		54.29	28.95	1.75	35.19	1.5	30.16	
Mainline	1396+58.61	1397+71.58	112.97	Varies	337.58 *	337.58		25.32	13.50	1.75	16.41	1.5	14.07	
Left Shoulder	1392+51.45	1396+58.61	407.16	3	135.72	135.72		10.18	5.43	1.75	6.60	1.5	5.66	
Left Shoulder	1396+58.61	1397+71.58	108.52	3	36.17	36.17		2.71	1.45	1.75	1.76	1.5	1.51	
Right Shoulder	1392+51.45	1397+71.58	520.13	6	346.75	346.75		26.01	13.87	1.75	16.86	1.5	14.45	
RAMP 'F'														
Mainline	1389+82.38	1396+89.80	707.42	16	1257.64	1257.64		94.32	50.31	1.75	61.14	1.5	52.40	
Mainline	1396+89.80	1397+52.62	62.82	Varies	289.26 *	289.26		21.69	11.57	1.75	14.06	1.5	12.05	
Left Shoulder	1389+82.38	1396+89.80	707.42	3	235.81	235.81		17.69	9.43	1.75	11.46	1.5	9.83	
Left Shoulder	1396+89.80	1397+52.62	73.19	3	24.40	24.40		1.83	0.98	1.75	1.19	1.5	1.02	
Right Shoulder	1389+59.30	1390+09.30	50	7 avg.	38.89	38.89		2.92	1.56	1.75	1.89	1.5	1.62	
Right Shoulder	1390+09.30	1396+89.80	680.50	6	453.67	453.67		34.02	18.15	1.75	22.05	1.5	18.90	
Right Shoulder	1396+89.80	1397+52.62	125.66	6	83.77	83.77		6.28	3.35	1.75	4.07	1.5	3.49	
RAMP 'G'														
Mainline	1398+04.31	1398+30.66	26.35	Varies	70.25 *	70.25		5.27	2.81	1.75	3.41	1.5	2.93	
Mainline	1398+30.66	1408+27.73	997.07	16	1772.57	1772.57		132.94	70.90	1.75	86.17	1.5	73.86	
Left Shoulder	1398+04.31	1398+30.66	43.39	3	14.46	14.46		1.08	0.58	1.75	0.70	1.5	0.60	
Left Shoulder	1398+30.66	1408+27.73	997.07	3	332.36	332.36		24.93	13.29	1.75	16.16	1.5	13.85	
Right Shoulder	1398+04.31	1408+13.65	1009.34	6	672.89	672.89		50.47	26.92	1.75	32.71	1.5	28.04	
Right Shoulder	1408+13.65	1408+63.65	50	7 avg.	38.89	38.89		2.92	1.56	1.75	1.89	1.5	1.62	
RAMP 'H'														
Mainline	1397+10.36	1398+11.21	100.85	Varies	357.10 *	357.10		26.78	14.28	1.75	17.36	1.5	14.88	
Mainline	1398+11.21	1408+69.27	1058.06	16	1881	1881		141.07	75.24	1.75	91.44	1.5	78.37	
Left Shoulder	1397+10.36	1398+11.21	94.32	3	31.44	31.44		2.36	1.26	1.75	1.53	1.5	1.31	
Left Shoulder	1398+11.21	1408+69.27	1058.06	3	352.69	352.69		26.45	14.11	1.75	17.14	1.5	14.70	
Right Shoulder	1397+10.36	1398+11.21	163.95	6	109.30	109.30		8.20	4.37	1.75	5.31	1.5	4.55	
Right Shoulder	1398+11.21	1408+69.27	1058.06	6	705.37	705.37		52.90	28.21	1.75	34.29	1.5	29.39	
TOTALS CARRIED BELOW						10,301.82		772.63	412.08		500.79		429.26	
TOTALS FROM SHEET NO. 13						53,497.59	20,667	5562.34	2966.58		3605.21		3090.19	17,989.49
TOTALS FROM SHEET NO. 14						79,241.90		5943.14	3169.67		3852.05		3301.76	17,989.49
TOTALS FROM SHEET NO. 15						11,349.02		851.20	453.98		551.70		472.88	
TOTALS FROM THIS SHEET ABOVE						10,301.82		772.63	412.08		500.79		429.26	
TOTALS CARRIED TO GENERAL SUMMARY						154,390.33	20,667	13,129.31	7002.31		8509.75		7294.09	35,978.98

CALCULATED RDA CHECKED TES
ESTIMATED QUANTITIES
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LOCATION	STATION * CADD Generated Length		ITEM 209	ITEM 408		617
			LINEAR GRADING, AS PER PLAN	WIDTH	PRIME COAT, AS PER PLAN	COMPACTED AGGREGATE, AS PER PLAN
			FT.	FT.	GALLON	CU. YD.
MAINLINE SHOULDER N.B.						
Outside Shoulder	1240+00	1246+62.16	662.16	4	117.72	4.09
Outside Shoulder	1253+11.14	1275+06.57	2195.43	4	390.30	13.55
Outside Shoulder	1276+08.52	1288+26	1217.48	4	216.44	7.52
Outside Shoulder	1288+26	1292+72.49	446.49	4	79.38	2.76
Outside Shoulder	1297+77.85	1309+81.65	1203.80	4	214.01	7.43
Outside Shoulder	1316+26.46	1329+45.09	1318.63	4	234.42	8.14
Outside Shoulder	1389+75.88	1394+68.26	492.38	4	87.53	3.04
Outside Shoulder	1403+06.07	1408+64.21	558.14	4	99.22	3.45
Outside Shoulder	1408+64.21	1415+68.24	704.03	4	125.16	4.35
MAINLINE SHOULDER S.B.						
Outside Shoulder	1236+00	1249+03.66	1303.66	4	231.76	8.05
Outside Shoulder	1260+36.54	1270+19.76	983.22	4	174.79	6.07
Outside Shoulder	1276+08.51	1289+43.40	1334.89	4	237.31	8.24
Outside Shoulder	1289+43.40	1292+77.19	333.79	4	59.34	2.06
Outside Shoulder	1298+61.45	1306+28.88	767.43	4	136.43	4.74
Outside Shoulder	1306+28.88	1307+96.74	167.86	4	29.84	1.04
Outside Shoulder	1315+44.31	1342+08.26	2663.95	4	473.59	16.44
Outside Shoulder	1343+43.86	1346+75.81	331.95	4	59.01	2.05
Outside Shoulder	1353+37.72	1362+75	937.28	4	166.63	5.79
Outside Shoulder	1366+00	1380+84.29	1484.29	4	263.87	9.16
Outside Shoulder	1382+25.38	1387+02.88	477.50	4	84.89	2.95
Outside Shoulder	1388+83.03	1392+59.16	376.13	4	66.87	2.32
Outside Shoulder	1392+59.16	1393+31.66	72.50	4	12.89	0.45
Outside Shoulder	1403+45.44	1408+32.13	486.69	4	86.52	3.00
Outside Shoulder	1408+32.13	1415+38.11	705.98	4	125.51	4.36
Co. Rd. 46 Interchange Ramps						
RAMP 'A'						
Left Shoulder	12+82.08	18+31.50	549.42	3	73.26	2.54
Left Shoulder	19+16.81	19+36.47	10.95 *	3	1.46	0.05
Right Shoulder	12+82.08	18+53.52	571.44	4	101.59	3.53
RAMP 'B'						
Left Shoulder	8+30.06	14+30.10	600.04	3	80.01	2.78
Left Shoulder	15+54.90	15+94.86	35.70 *	3	4.76	0.17
Right Shoulder	8+30.06	9+75	144.94	4	25.77	0.89
Right Shoulder	11+25	14+49.79	324.79	4	57.74	2.00
Right Shoulder	15+73.16	15+94.86	78.42 *	4	13.94	0.48
RAMP 'C'						
Left Shoulder	0+24.33	0+77.44	36.85 *	3	4.91	0.17
Left Shoulder	0+77.44	10+90.44	1013.00	3	135.07	4.69
Right Shoulder	0+24.33	0+77.44	119.63 *	4	21.27	0.74
Right Shoulder	0+77.44	10+90.44	1013.00	4	180.09	6.25
RAMP 'D'						
Left Shoulder	0+24.23	1+28.50	109.55 *	3	14.61	0.51
Left Shoulder	1+28.50	13+12.54	1184.04	3	157.87	5.48
Right Shoulder	0+24.23	1+28.50	165.57 *	4	29.43	1.02
Right Shoulder	1+28.50	7+80.83	652.33	4	115.97	4.03

- CONTINUED -

LOCATION	STATION * CADD Generated Length		ITEM 209	ITEM 408		617
			LINEAR GRADING, AS PER PLAN	WIDTH	PRIME COAT, AS PER PLAN	COMPACTED AGGREGATE, AS PER PLAN
			FT.	FT.	GALLON	CU. YD.
Alex. St. Interchange Ramps						
RAMP 'E'						
Left Shoulder	1392+51.45	1396+58.61	407.16	3	54.29	1.89
Left Shoulder	1396+58.61	1397+71.58	108.52 *	3	14.47	0.50
Right Shoulder	1392+51.45	1397+71.58	520.13	4	92.47	3.21
RAMP 'F'						
Left Shoulder	1389+82.38	1396+89.80	707.42	3	94.32	3.28
Left Shoulder	1396+89.80	1397+52.62	73.19 *	3	9.76	0.34
Right Shoulder	1394+91.78	1396+38.92	147.14	4	26.16	0.91
RAMP 'G'						
Left Shoulder	1398+04.31	1398+30.66	43.39 *	3	5.79	0.20
Left Shoulder	1398+30.66	1408+27.73	997.07	3	132.94	4.62
Right Shoulder	1398+04.31	1408+27.73	1023.42	4	181.94	6.32
RAMP 'H'						
Left Shoulder	1397+10.36	1398+11.21	94.32 *	3	12.58	0.44
Left Shoulder	1398+11.21	1408+69.27	1058.06	3	141.07	4.90
Right Shoulder	1402+32.91	1408+69.27	636.36	4	113.13	3.93
			33,651.51			
TOTALS CARRIED TO GENERAL SUMMARY			336.52 STA.		5670.10	196.92

ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

MEDIAN BARRIER:

Sta. 1236+00 to Sta. 1421+81.67 = 18,581.67' (32' barrier) (perimeter: 32"+9"+32" = 73")

Total Barrier Area = 18,581.67' x 73" ÷ 12 ÷ 9 = 12,559.83 Sq. Yd.

CALCULATED	RDA	CHECKED	TES
ESTIMATED QUANTITIES			
JEF-7-22.97			
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32			

REF. NO.	PLAN SHEET NO.	STATION		SIDE	202					606					617			408	626		COMMENTS	SEE SHEET NO.
					PAVEMENT REMOVED	GUARDRAIL REMOVED FOR REUSE	ANCHOR ASSEMBLY REMOVED FOR REUSE	ANCHOR ASSEMBLY REMOVED, TYPE			GUARDRAIL REBUILT, TYPE 5	ANCHOR ASSEMBLY REBUILT TYPE			2" COMPACTED AGGREGATE, AS PER PLAN			PRIME COAT, AS PER PLAN	BARRIER REFLECTOR TYPE			
								A	E	T		E	T	A	LENGTH	WIDTH	CU. YD.			GALLON		
SQ. YD.	FT.	EA.	EA.	EA.	FT.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.									
1-GR	20	256+01.12 256+01.12	1240+00 1240+00	RT.	277.78	612.5					612.5		1			625	4	15.43	111.11	7	Connect to existing guardrail	
2-GR	20	1246+62.16 1246+62.16	1253+11.14 1253+11.14	RT.	294.44	600		1	1		600	1	1			662.5	4	16.36	117.78	8		
3-GR	20	1249+03.66 1249+03.66	1260+36.54 1260+36.54	LT.	494.44	1050		1	1		1050	1	1			1112.5	4	27.47	197.78	12		
4-GR	21	1270+19.76 1270+19.76	1276+08.51 1276+08.51	LT.	266.67	537.5		1	1		537.5	1	1			600	4	14.81	106.67	7		
5-GR	21	1275+06.57 1275+06.57	1276+08.52 1276+08.52	RT.	44.44	37.5		1	1		37.5	1	1			100	4	2.47	17.78	2		
6-GR	21 & 22	9+75 9+75	11+25 11+25	Ramp 'B' RT.	66.67	87.5		1	1		87.5	1	1			150	4	3.70	26.67	3		
7-GR	22	14+30.10 14+30.10	15+54.90 15+54.90	Ramp 'B' LT.	55.56	67.5		1	1		67.5	1	1			125	4	3.09	22.22	2		
8-GR	22	14+49.79 14+49.79	15+73.16 15+73.16	Ramp 'B' RT.	55.56	67.5		1	1		67.5	1	1			125	4	3.09	22.22	2		
9-GR	22	18+31.50 18+31.50	19+16.81 19+16.81	Ramp 'A' RT.	38.89	50	1		1		50		1	1		87.5	4	2.16	15.56	2		
10-GR	22	18+53.52 18+53.52	7+26.37 7+26.37	Ramp 'A' LT.	61.11	100	1		1		100		1	1		137.5	4	3.40	24.44	3		
11-GR	22	1292+77.19 1292+77.19	1295+00.11 1295+00.11	LT.	100	212.5			1		212.5		1			225	4	5.56	40	3	Connect to existing W-beam terminal connector	
12-GR	22	1292+72.49 1292+72.49	1294+87 1294+87	RT.	94.44	162.5			1		162.5	1				212.5	4	5.25	37.78	3	Connect to existing thrie-beam transition section	
13-GR	22	1297+02.14 1297+02.14	1297+77.85 1297+77.85	RT.	33.33	62.5			1		62.5		1			75	4	1.85	13.33	2	Connect to existing W-beam terminal connector	
14-GR	22	1297+12.84 1297+12.84	1298+61.45 1298+61.45	LT.	66.67	100			1		100	1				150	4	3.70	26.67	3	Connect to existing thrie-beam transition section	
15-GR	22	7+80.83 7+80.83	1316+26.46 1316+26.46	Ramp 'D' RT.	522.22	1112.5		1	1		1112.5	1	1			1175	4	29.01	208.89	13		
16-GR	22	1307+96.74 1307+96.74	1315+44.31 1315+44.31	LT.	333.33	687.5		1	1		687.5	1	1			750	4	18.52	133.33	9		
17-GR	23 & 24	1329+51.28 1329+45.09	1351+18.91 1351+18.91	RT.	952.78	2093.75			1		2100	1				2150	4	53.09	382.22	23	Connect to existing thrie-beam transition section	
18-GR	23	1342+08.26 1342+08.26	1343+43.86 1343+43.86	LT.	33.33	75		1	1		75	1	1			137.5	4	3.40	24.44	2		
19-GR	23 & 24	1346+75.81 1346+75.81	1351+00.75 1351+00.75	LT.	194.44	425			1		425		1			437.5	4	10.80	77.78	6	Connect to existing W-beam terminal connector	
20-GR	24	1352+46.14 1352+46.14	1353+37.72 1353+37.72	LT.	33.33	25			1		25	1				75	4	1.85	13.33	2	Connect to existing thrie-beam transition section	
21-GR	24 & 25	1352+68.53 1352+68.53	1394+91.78 1394+91.78	Ramp RT.	1894.44	4250			1		4250		1			4262.5	4	105.25	757.78	44	Connect to existing W-beam terminal connector	
22-GR	24	1362+75 1362+75	1366+00 1366+00	LT.	144.44	262.5		1	1		262.5	1	1			325	4	8.02	57.78	4		
23-GR	25	1380+84.29 1380+84.29	1382+25.38 1382+25.38	LT.	61.11	75			1	1	75	1	1			137.5	4	3.40	24.44	3		
24-GR	25	1387+02.88 1387+02.88	1388+83.03 1388+83.03	LT.	77.78	112.5			1	1	112.5	1	1			175	4	4.32	31.11	3		
SUB-TOTALS CARRIED TO NEXT SHEET					6197.20	12,866.25	2		17	20	12,872.50	17	20	2		346	2491.11	168				

CALCULATED RDA CHECKED TES
GUARDRAIL SUMMARY
JEF - 7 - 22.97
 18
 32

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REF. NO.	PLAN SHEET NO.	STATION		SIDE	202					606					617			408	626		COMMENTS	SEE SHEET NO.	
					PAVEMENT REMOVED	GUARDRAIL REMOVED FOR REUSE	ANCHOR ASSEMBLY REMOVED FOR REUSE	ANCHOR ASSEMBLY REMOVED, TYPE			GUARDRAIL REBUILT, TYPE 5	ANCHOR ASSEMBLY TYPE		ANCHOR ASSEMBLY REBUILT TYPE	2" COMPACTED AGGREGATE, AS PER PLAN			PRIME COAT, AS PER PLAN	BARRIER REFLECTOR TYPE				
								A	E	T		E	T		A	LENGTH	WIDTH			CU. YD.			GALLON
FROM	TO	SQ. YD.	FT.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.							
25-GR	25	1393+31.66	1397+11.56	LT.	166.67	362.5																	
		1393+31.66	1397+11.56																				
26-GR	25	1394+74.41	1396+66.09	RT.	88.89	143.75			1														
		1394+68.26	1396+66.09																				
27-GR	25	1396+51.42 Ramp	15+00.59 Alex. St.	RT.	61.11	112.5			1														
		1396+38.92 Ramp	15+00.59 Alex. St.																				
28-GR	25	15+01.39 Alex. St.	1402+32.91 Ramp	RT.	266.67	587.5				1													
		15+01.39 Alex. St.	1402+32.91 Ramp																				
29-GR	25	1398+31.07	1403+06.07	RT.	211.11	462.5				1													
		1398+31.07	1403+06.07																				
30-GR	25	1398+70.44	1403+45.44	LT.	211.11	425				1													
		1398+70.44	1403+45.44																				
31-GR	26	1415+38.11	1421+70.67	LT.	288.89	637.5				1													
		1415+38.11	1421+70.67																				
32-GR	26	1415+74.73	1421+35.59	RT.	244.44	493.75				1													
		1415+68.24	1421+35.59																				
TOTALS FROM SHEET NO. 18					6197.20	12,866.25	2		17	20							346	2491.11	168				
TOTALS FROM THIS SHEET					1538.89	3225			1	3	4							86.11	620.01	45			
TOTALS CARRIED TO GENERAL SUMMARY					7736.09	16,091.25	2	1	20	24								432.11	3111.12	213			

GUARDRAIL SUMMARY

JEF-7-22.97

CALCULATED
RDA
CHECKED
TES

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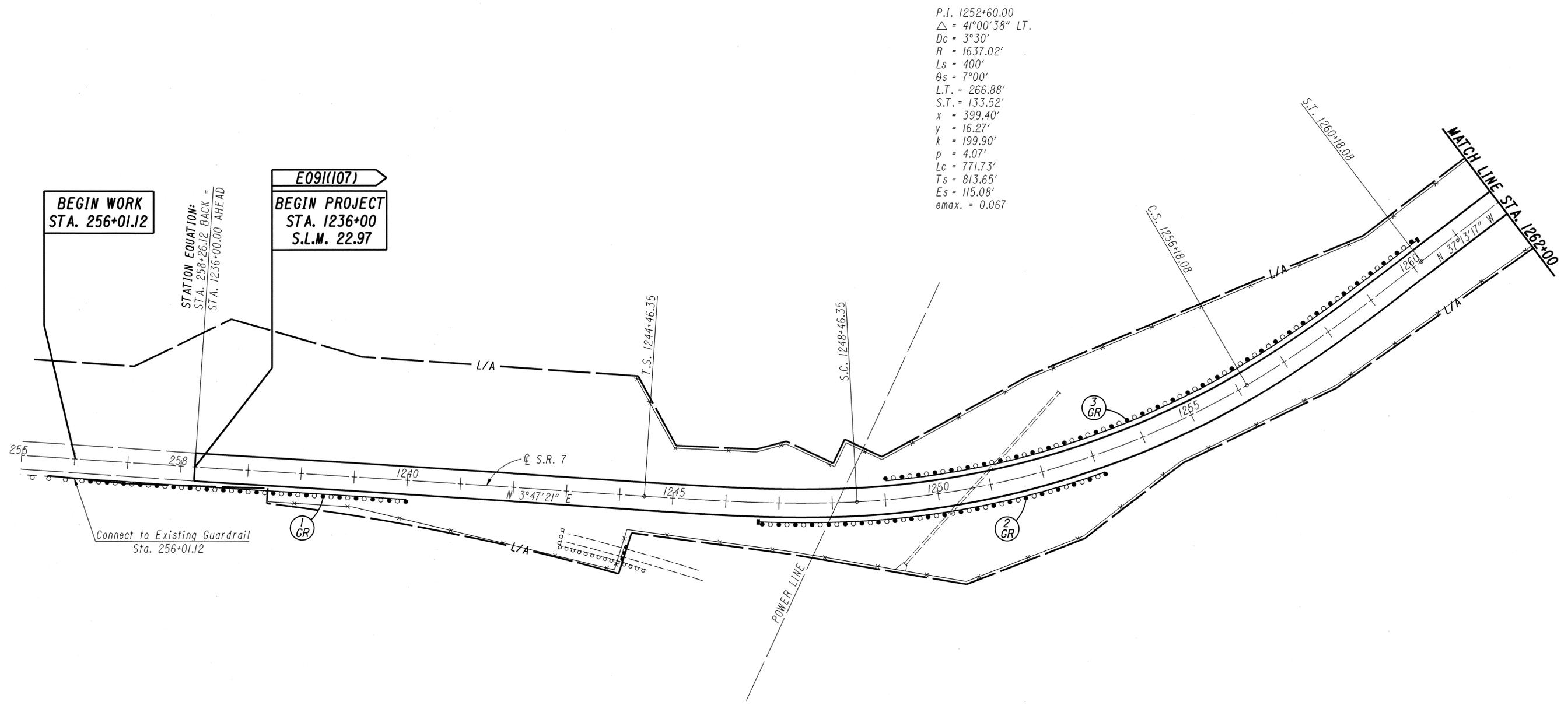
CALCULATED
RDA
CHECKED
TES

0 100 200
HORIZONTAL
SCALE IN FEET

PLAN SHEET
STA. 255+00 TO STA. 1262+00

JEF-7-22.97

P.I. 1252+60.00
 $\Delta = 41^{\circ}00'38''$ LT.
 $Dc = 3^{\circ}30'$
 $R = 1637.02'$
 $Ls = 400'$
 $\theta s = 7^{\circ}00'$
 $L.T. = 266.88'$
 $S.T. = 133.52'$
 $x = 399.40'$
 $y = 16.27'$
 $k = 199.90'$
 $p = 4.07'$
 $Lc = 771.73'$
 $Ts = 813.65'$
 $Es = 115.08'$
 $emax. = 0.067$



FOR RESURFACING QUANTITIES, SEE SHEET NO's. 13-17.
 FOR GUARDRAIL QUANTITIES, SEE SHEET NO's. 18, 19.
 FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO's. 31, 32.

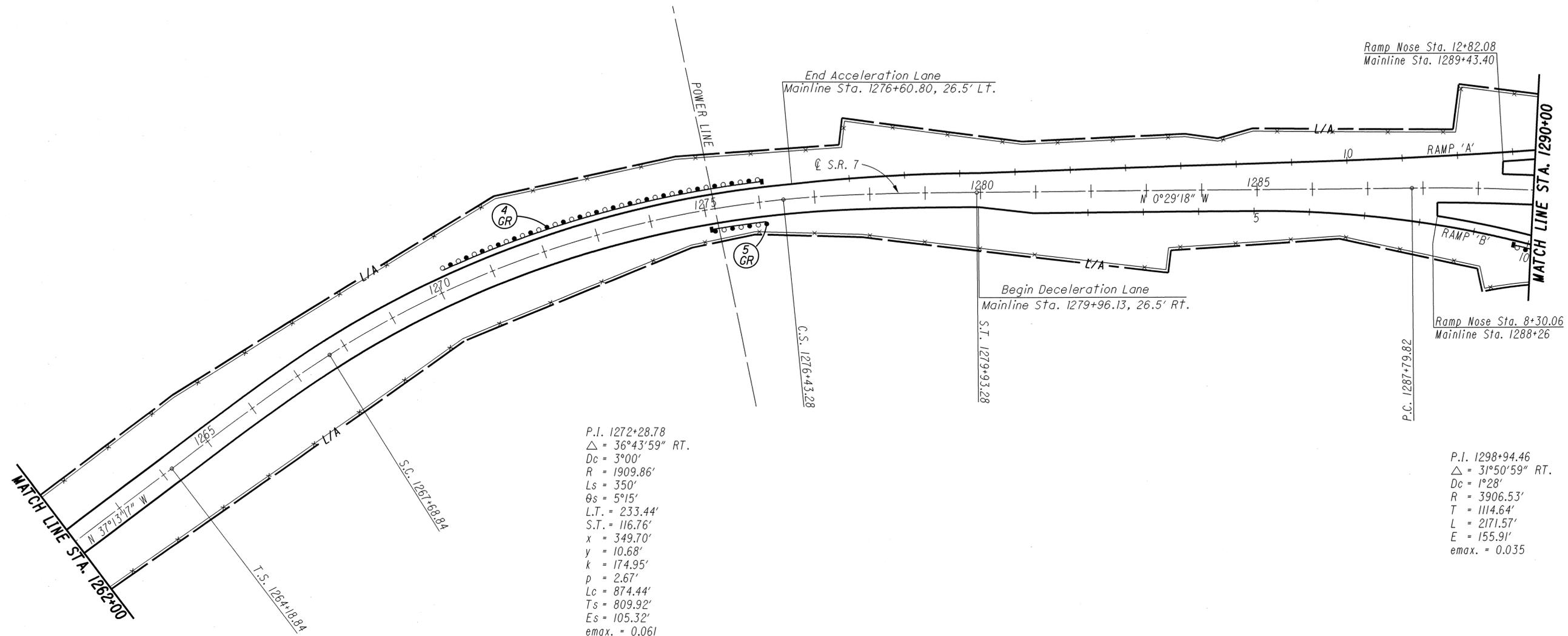
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CALCULATED
RDA
CHECKED
TES

0 100 200
HORIZONTAL
SCALE IN FEET

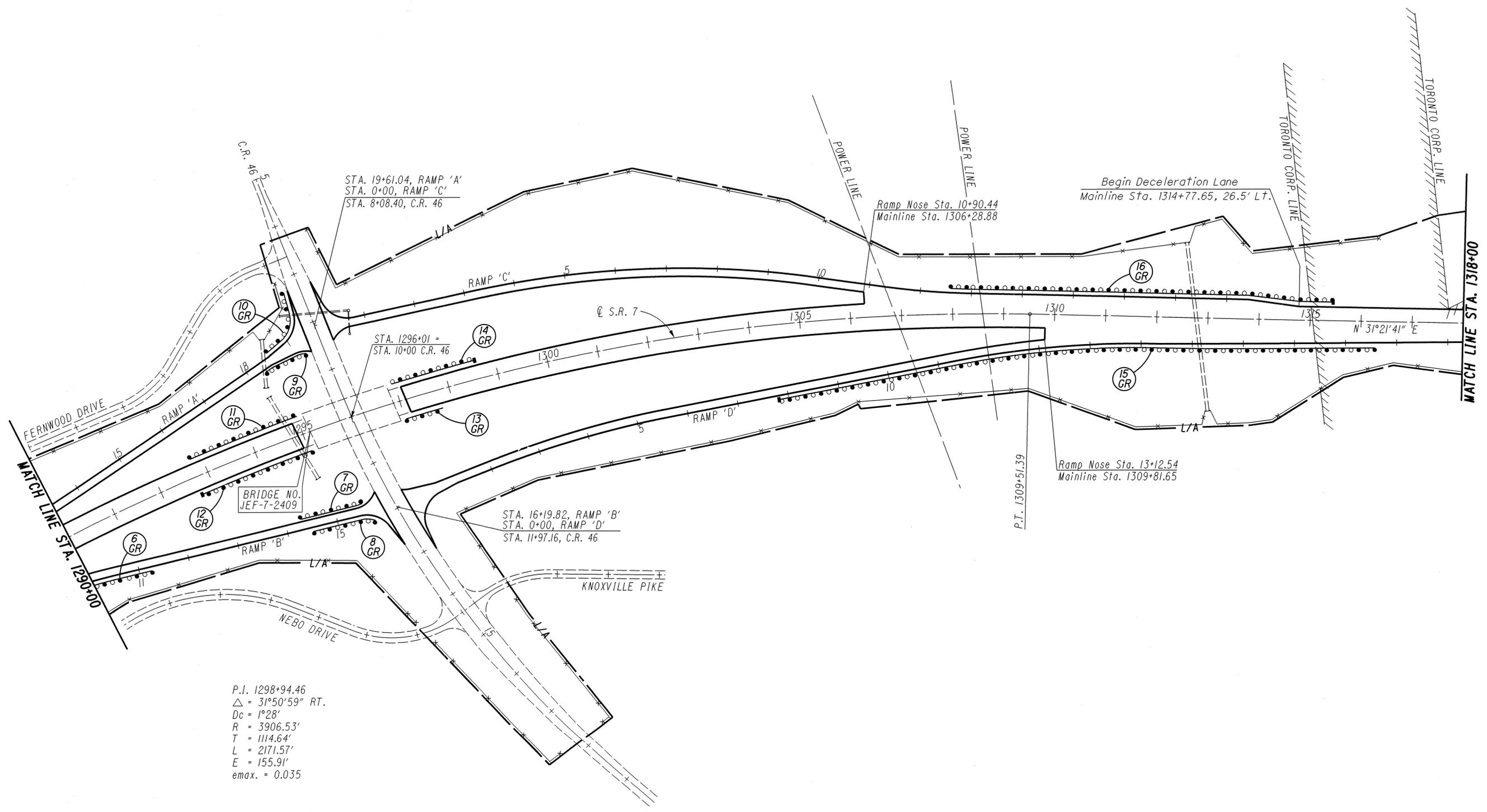
PLAN SHEET
STA. 1262+00 TO STA. 1290+00

JEF-7-22.97



P.I. 1298+94.46
 $\Delta = 31^\circ 50' 59''$ RT.
 $Dc = 1^\circ 28'$
 $R = 3906.53'$
 $T = 1114.64'$
 $L = 2171.57'$
 $E = 155.91'$
 $emax. = 0.035$

FOR RESURFACING QUANTITIES, SEE SHEET NO's. 13-17.
 FOR GUARDRAIL QUANTITIES, SEE SHEET NO's. 18, 19.
 FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO's. 31, 32.



P.I. 1298+94.46
 $\Delta = 31^{\circ}50'59''$ RT.
 $D_c = 1^{\circ}28'$
 $R = 3906.53'$
 $T = 1114.64'$
 $L = 2171.57'$
 $E = 155.91'$
 $e_{max.} = 0.035$

FOR RESURFACING QUANTITIES, SEE SHEET NO'S. 13-17.
 FOR GUARDRAIL QUANTITIES, SEE SHEET NO'S. 18, 19.
 FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO'S. 31, 32.

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CALCULATED
RDA
CHECKED
TES

PLAN SHEET
STA. 1318+00 TO STA. 1347+00

JEF-7-22.97

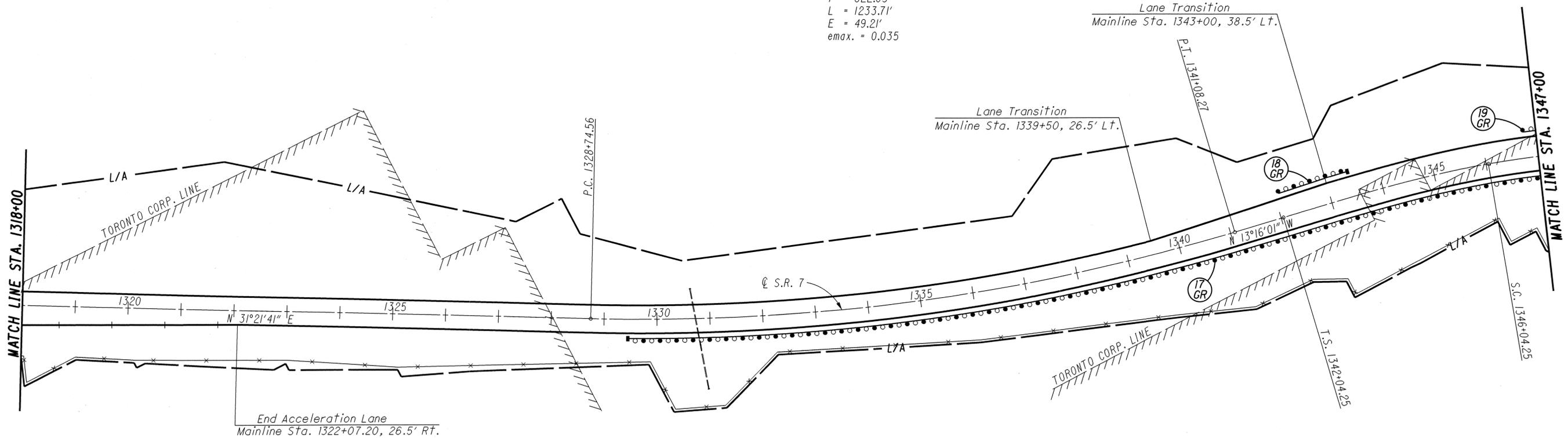
P.I. 1334+96.59
 $\Delta = 18^{\circ}05'40''$ LT.
 $D_c = 1^{\circ}28'$
 $R = 3906.53'$
 $T = 622.03'$
 $L = 1233.71'$
 $E = 49.21'$
 $e_{max.} = 0.035$

Lane Transition
Mainline Sta. 1343+00, 38.5' Lt.

Lane Transition
Mainline Sta. 1339+50, 26.5' Lt.

End Acceleration Lane
Mainline Sta. 1322+07.20, 26.5' Rt.

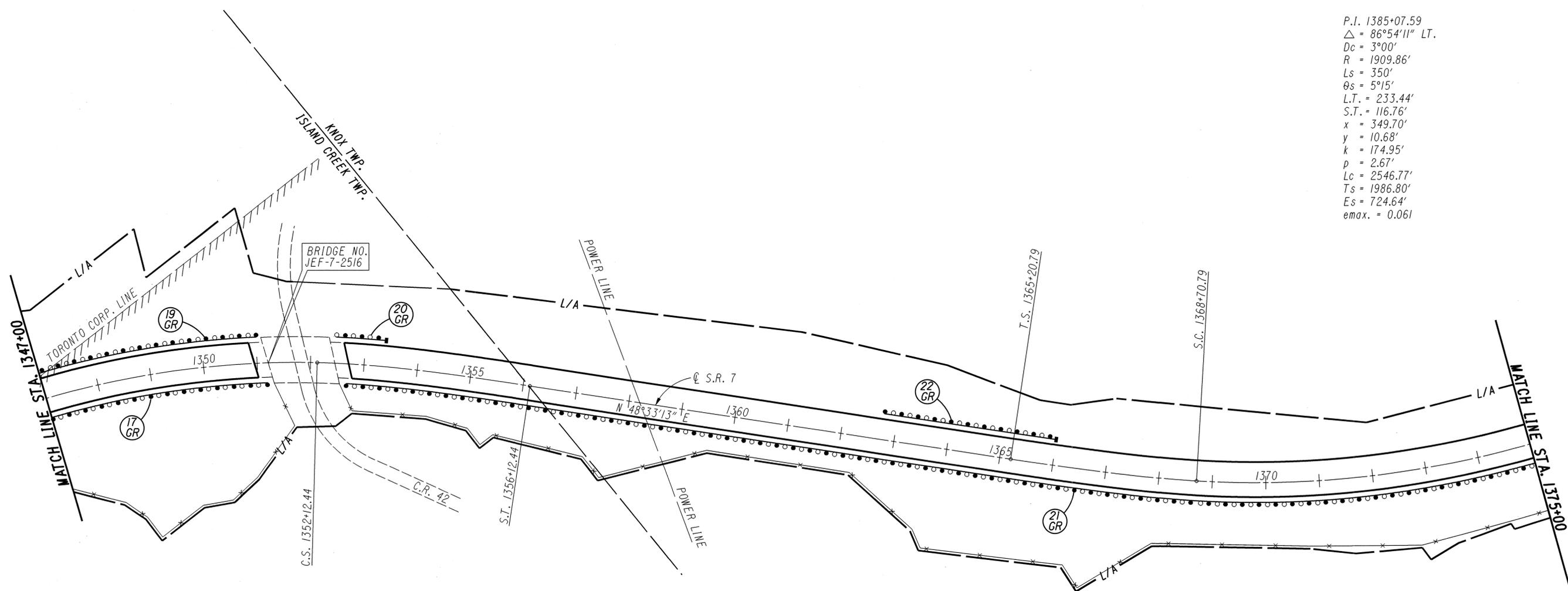
P.I. 1349+26.11
 $\Delta = 35^{\circ}17'12''$ RT.
 $D_c = 3^{\circ}30'$
 $R = 1637.02'$
 $L_s = 400'$
 $\theta_s = 7^{\circ}00'$
 $L.T. = 266.88'$
 $S.T. = 133.52'$
 $x = 399.40'$
 $y = 16.27'$
 $k = 199.90'$
 $p = 4.07'$
 $L_c = 608.19'$
 $T_s = 721.85'$
 $E_s = 85.07'$
 $e_{max.} = 0.067$



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FOR RESURFACING QUANTITIES, SEE SHEET NO's. 13-17.
 FOR GUARDRAIL QUANTITIES, SEE SHEET NO's. 18, 19.
 FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO's. 31, 32.

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P.I. 1385+07.59
 $\Delta = 86^\circ 54' 11''$ LT.
 $Dc = 3^\circ 00'$
 $R = 1909.86'$
 $Ls = 350'$
 $\theta s = 5^\circ 15'$
 $L.T. = 233.44'$
 $S.T. = 116.76'$
 $x = 349.70'$
 $y = 10.68'$
 $k = 174.95'$
 $p = 2.67'$
 $Lc = 2546.77'$
 $Ts = 1986.80'$
 $Es = 724.64'$
 $emax. = 0.061$

P.I. 1349+26.11
 $\Delta = 35^\circ 17' 12''$ RT.
 $Dc = 3^\circ 30'$
 $R = 1637.02'$
 $Ls = 400'$
 $\theta s = 7^\circ 00'$
 $L.T. = 266.88'$
 $S.T. = 133.52'$
 $x = 399.40'$
 $y = 16.27'$
 $k = 199.90'$
 $p = 4.07'$
 $Lc = 608.19'$
 $Ts = 721.85'$
 $Es = 85.07'$
 $emax. = 0.067$



PLAN SHEET
STA. 1347+00 TO STA. 1375+00

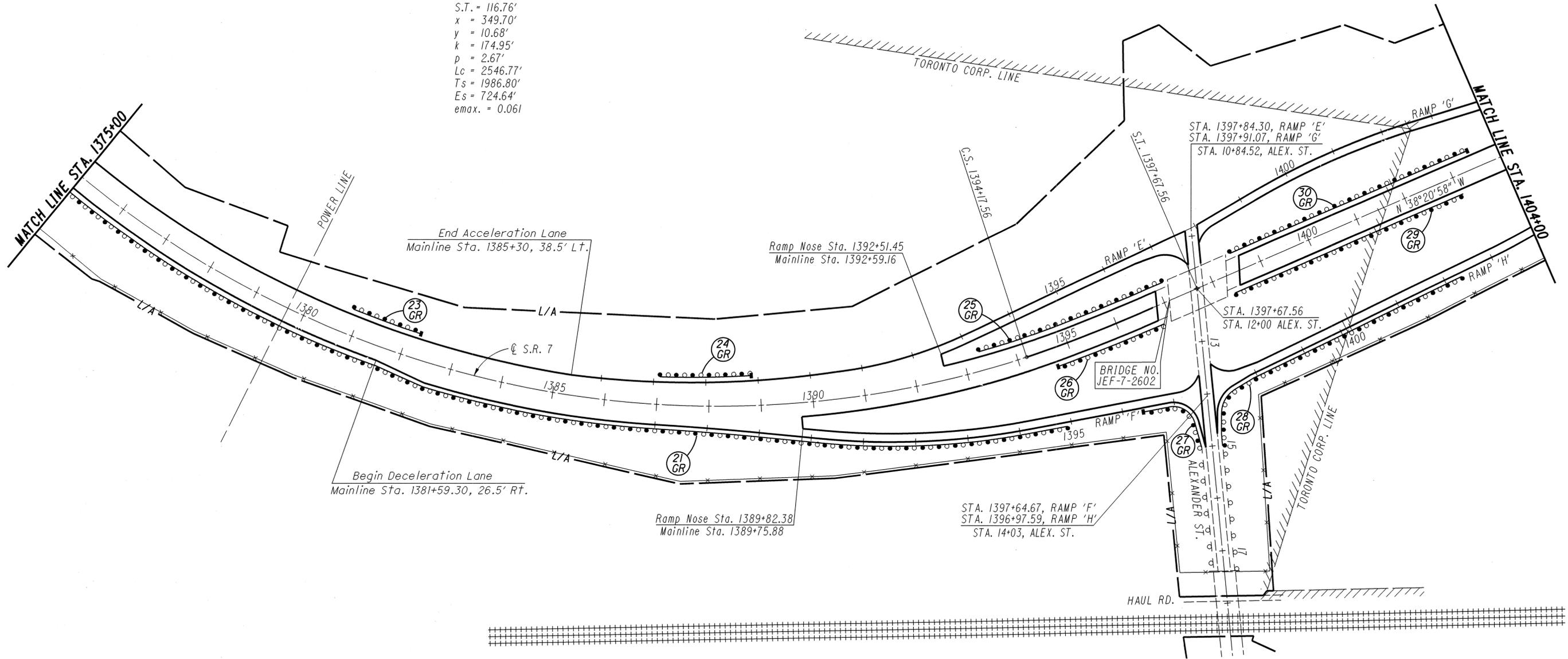
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FOR RESURFACING QUANTITIES, SEE SHEET NO's. 13-17.
 FOR GUARDRAIL QUANTITIES, SEE SHEET NO's. 18, 19.
 FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO's. 31, 32.

24
32

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P.I. 1385+07.59
Δ = 86°54'11" LT.
Dc = 3°00'
R = 1909.86'
Ls = 350'
θs = 5°15'
L.T. = 233.44'
S.T. = 116.76'
x = 349.70'
y = 10.68'
k = 174.95'
p = 2.67'
Lc = 2546.77'
Ts = 1986.80'
Es = 724.64'
emax. = 0.061



CALCULATED
RDA
CHECKED
TES

0 100 200
HORIZONTAL
SCALE IN FEET

PLAN SHEET
STA. 1375+00 TO STA. 1404+00

JEF-7-22.97

FOR RESURFACING QUANTITIES, SEE SHEET NO's. 13-17.
FOR GUARDRAIL QUANTITIES, SEE SHEET NO's. 18, 19.
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO's. 31, 32.

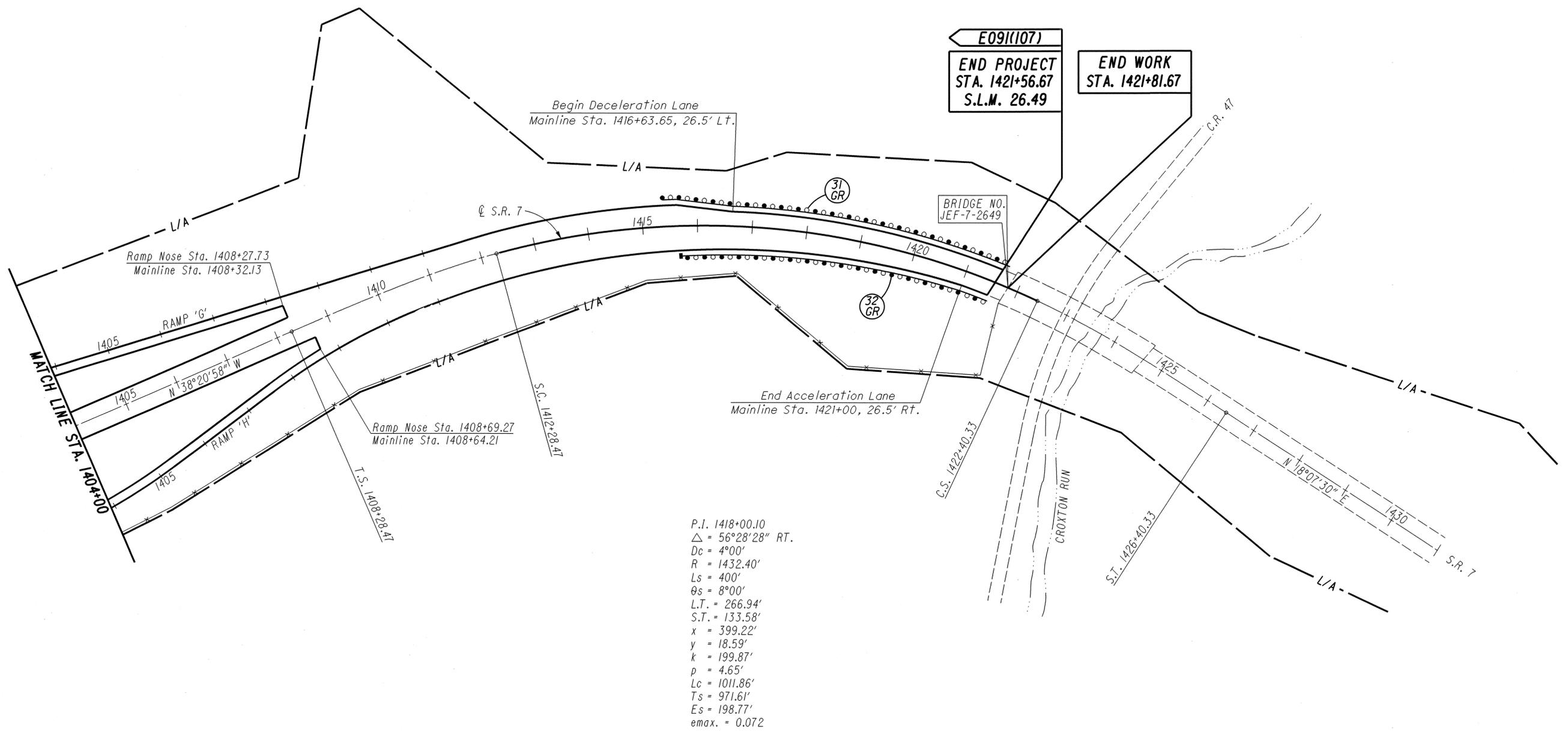
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CALCULATED
RDA
CHECKED
TES

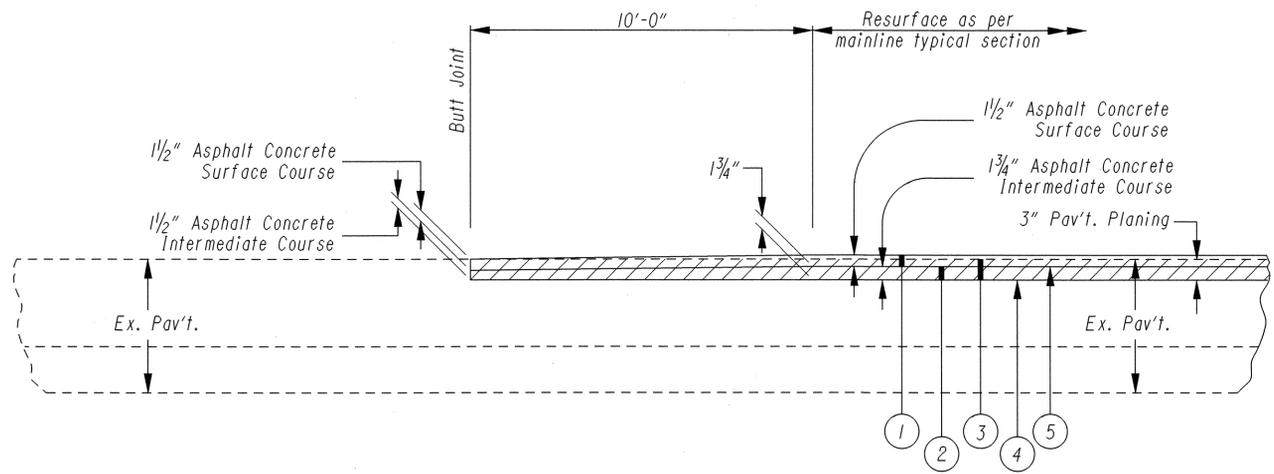
PLAN SHEET
STA. 1404+00 TO STA. 1431+00

JEF-7-22.97

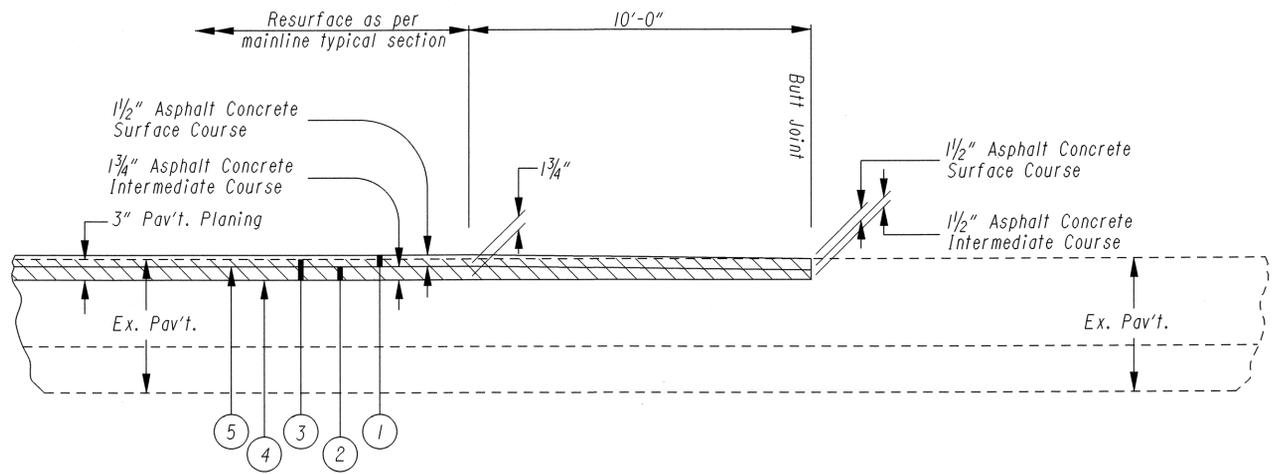


P.I. 1418+00.10
 $\Delta = 56^\circ 28' 28''$ RT.
 Dc = 4°00'
 R = 1432.40'
 Ls = 400'
 $\theta_s = 8^\circ 00'$
 L.T. = 266.94'
 S.T. = 133.58'
 x = 399.22'
 y = 18.59'
 k = 199.87'
 p = 4.65'
 Lc = 1011.86'
 Ts = 971.61'
 Es = 198.77'
 e_{max.} = 0.072

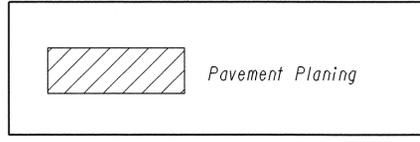
FOR RESURFACING QUANTITIES, SEE SHEET NO's. 13-17.
 FOR GUARDRAIL QUANTITIES, SEE SHEET NO's. 18, 19.
 FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO's. 31, 32.



PAVEMENT TRANSITION AT BEGINNING OF PROJECT

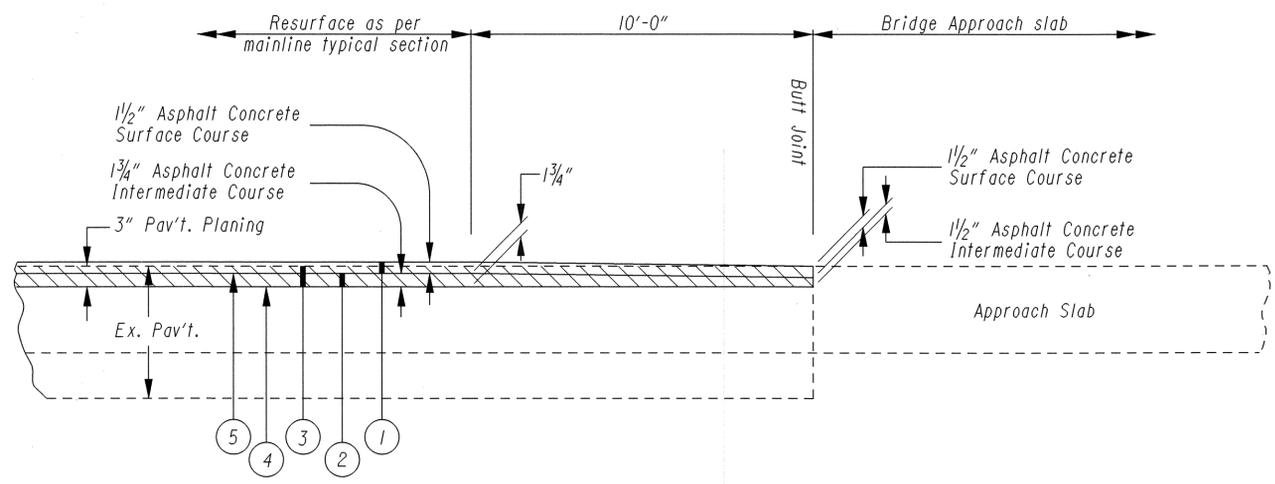


PAVEMENT TRANSITION AT RAMPS



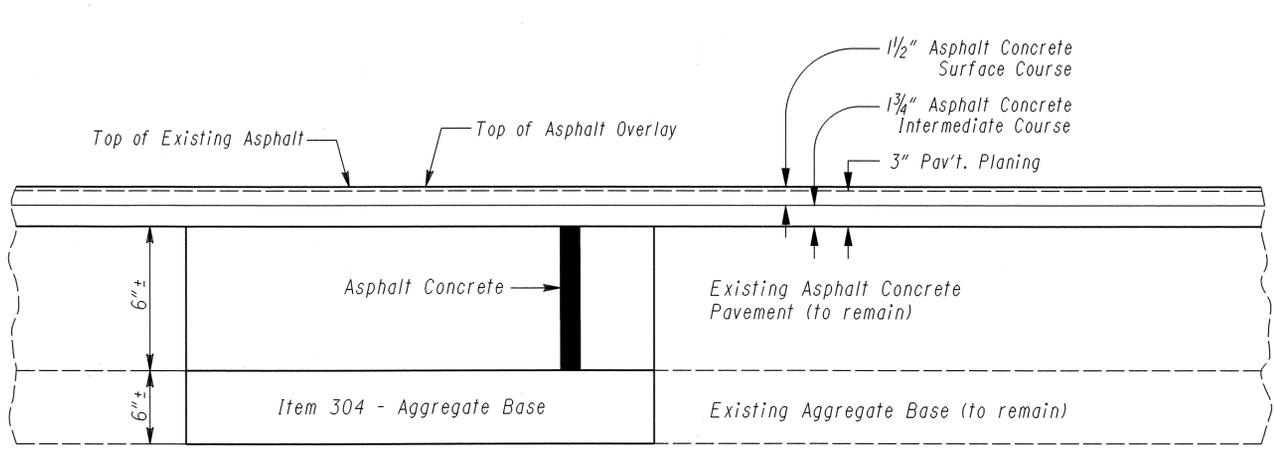
PROPOSED LEGEND

- ① — ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446), AS PER PLAN
- ② — ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446)
- ③ — ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE
- ④ — ITEM 407 - TACK COAT (0.075 GAL./S.Y.)
- ⑤ — ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL./S.Y.)

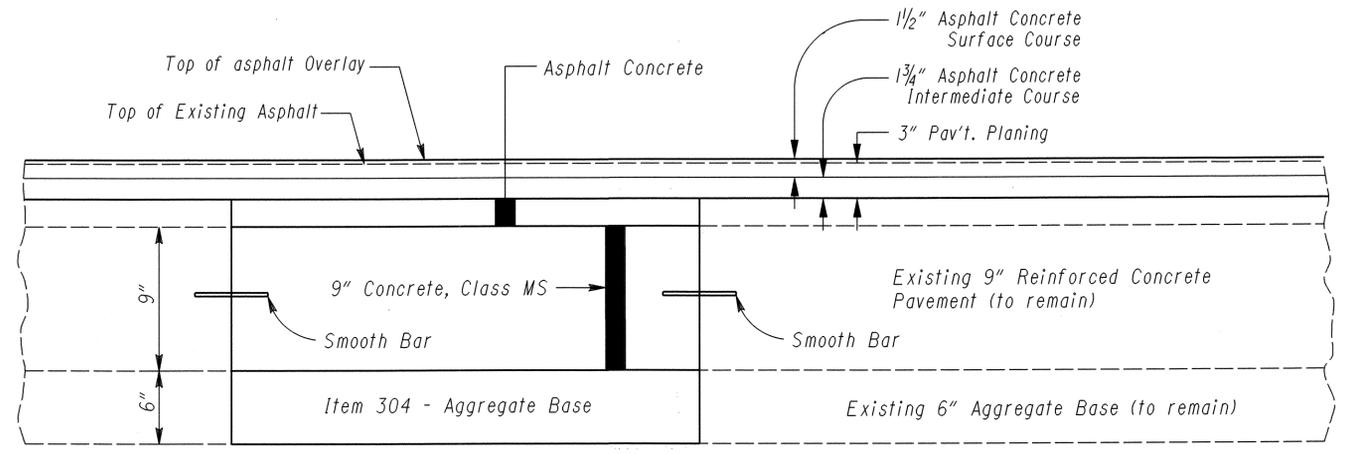


PAVEMENT TRANSITION AT BRIDGE'S

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SHOULDER REPAIR TYPICAL



MAINLINE PAVEMENT REPAIR TYPICAL

FOR DETAILS NOT SHOWN SEE STANDARD CONSTRUCTION DRAWING BP-2.5
FOR TRANSVERSE JOINT REPAIR DETAILS AND BP-2.J FOR LONGITUDINAL JOINT DETAILS

MISCELLANEOUS DETAILS

JEF-7-22.97

ITEM 253 - PAVEMENT REPAIR

This item shall be used for shoulder repair and shall meet the requirements of Item 253, Pavement Repair, and the above typical section.

The estimated quantities are to be considered approximate. A final field review will be performed by ODOT prior to construction and final locations will be given to the Contractor prior to construction.

This work consists of removing the existing asphalt concrete and the aggregate base courses; shaping and compacting the exposed material; placing Item 304 Aggregate Base; followed by Item 302 Asphalt Concrete Base.

The following estimated quantities have been provided for information only.

Item 302 - Asphalt Concrete Base	303 Cu. Yd.
Item 304 - Aggregate Base	303 Cu. Yd.

The following estimated quantities have been carried to the General Summary to be used as directed by the Engineer. Final payment for these items shall be for the accepted quantity completed in place.

Item 253 - Pavement Repair	1818 Sq. Yd.
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ITEM 605 - AGGREGATE DRAINS

This item shall be used to construct aggregate drains and shall meet the requirements of Item 605, Aggregate Drains.

The following estimated quantity has been carried to the General Summary to be used as directed by the Engineer. Final payment for these items shall be for the accepted quantity completed in place.

Item 605 - Aggregate Drains	200 Ft.
-----------------------------	---------

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

The estimated quantities are to be considered approximate. A final field review will be performed by ODOT prior to construction and final locations will be given to the Contractor prior to construction.

This work consists of removing the existing asphalt concrete, reinforced concrete, and the aggregate base courses; shaping and compacting the exposed material; placing Item 304 Aggregate Base; then installing dowel rods followed by concrete pavement, Class MS. Item 442, Asphalt Concrete shall then be placed to reach the level of the existing planed surface.

All other provisions of Standard Construction Drawings BP-2.1 and BP-2.5 apply.

The following estimated quantities have been provided for information only.

9" Concrete, Class MS	146 Cu. Yd.
Item 304 - Aggregate Base	98 Cu. Yd.
Item 442 - Asphalt Concrete Intermediate Course, 19MM, Type B (446)	49 Cu. Yd.
Item 509 - Epoxy Coated Reinforcing	4978 Pounds
Item 510 - Dowel Holes with Nonshrink, Nonmetallic Grout	803 Each

The following estimated quantities have been carried to the General Summary to be used as directed by the Engineer. Final payment for these items shall be for the accepted quantity completed in place.

Item 255 - Full Depth Pavement Removal and Rigid Replacement, Class MS, As Per Plan	584 Sq. Yd.
Item 255 - Full Depth Pavement Sawing	1752 Ft.

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LOCATION	STATION		SIDE 'Direction of Travel'	642							621 RPM											
				EDGE LINE, TYPE 1 (YELLOW)	EDGE LINE, TYPE 1 (WHITE)	LANE LINE, TYPE 1	CHANNELIZING LINE, TYPE 1					2 - WAY, WHITE/RED	2 - WAY, YELLOW/RED									1 - WAY, WHITE
				FT.	FT.	FT.	FT.					EACH	EACH									EACH
MAINLINE NORTHBOUND																						
	1236+00	1421+81.67	CTR.			18,581.67																
	1236+00	1421+81.67	LT.	18,581.67																		
	1236+00	1288+26	RT.		5226																	
	1288+26	1313+58.22	RT.		2532.22																	
	1309+81.65	1389+75.88	RT.		7994.23																	
	1389+75.88	1413+52.12	RT.		2376.24																	
	1408+64.21	1421+81.67	RT.		1317.46																	
DECEL. LANE - RAMP B																						
	1283+58.17	1286+20.21	LT.			262.04																
	1286+20.21	1288+26	LT.				412.2			11												
ACCEL. LANE - RAMP D																						
	1309+81.65	1313+58.22	LT.				377.1			10												
	1313+58.22	1315+89.76	LT.			231.54																
DECEL. LANE - RAMP F																						
	1385+31.16	1388+03	LT.			271.84																
	1388+03	1389+75.88	LT.				353.03			10												
ACCEL. LANE - RAMP H																						
	1408+64.21	1413+52.12	LT.				480.62			13												
	1413+52.12	1416+43.84	LT.			291.72																
MAINLINE SOUTHBOUND																						
	1236+00	1421+81.67	CTR.			18,581.67																
	1343+00	1389+29.52	CTR.			4629.52																
	1236+00	1421+81.67	LT.	18,581.67																		
	1236+00	1289+43.40	RT.		5343.4																	
	1285+51.18	1306+28.88	RT.		2077.7																	
	1306+28.88	1392+59.16	RT.		8630.28																	
	1389+29.52	1408+32.13	RT.		1902.61																	
	1408+32.13	1421+81.67	RT.		1349.54																	
ACCEL. LANE - RAMP A																						
	1283+10.97	1285+51.18	RT.			240.21																
	1285+51.18	1289+43.40	RT.				394.14			11												
DECEL. LANE - RAMP C																						
	1306+28.88	1307+87.75	RT.				322.39			9												
	1307+87.75	1310+82.14	RT.			294.39																
ACCEL. LANE - RAMP E																						
	1389+29.52	1392+59.16	RT.				323.77			9												
DECEL. LANE - RAMP G																						
	1408+32.13	1410+69	RT.				477.93			13												
	1410+69	1413+06.95	RT.			237.95																
SUBTOTALS (Carried to next sheet)				37,163.34	38,749.68	43,622.55	3141.18				86		351									

CALCULATED	RDA	CHECKED	ANS
TRAFFIC CONTROL			
JEF-7-22.97			
			31
			32

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LOCATION	STATION		SIDE 'Direction of Travel'	642					* CADD Generated			621								
				EDGE LINE, TYPE 1 (YELLOW)	EDGE LINE, TYPE 1 (WHITE)	LANE LINE, TYPE 1	CHANNELIZING LINE, TYPE 1	STOP LINE, TYPE 1	RPM											
									2 - WAY, WHITE/RED	2 - WAY, YELLOW/RED	1 - WAY, WHITE									
FROM	TO	FT.	FT.	FT.	FT.	FT.	EACH	EACH	EACH											
CO. RD 46 INTERCHANGE																				
RAMP 'A'																				
	12+82.08	18+48	LT.	565.92								8								
	18+48	19+36.47	LT.	84.66 *								1								
	12+82.08	18+48	RT.		565.92															
	18+48	19+36.47	RT.		155.71 *															
RAMP 'B'																				
	8+30.06	15+41.66	LT.	711.6								10								
	15+41.66	15+94.86	LT.	50.63 *								1								
	8+30.06	15+41.66	RT.		711.6															
	15+41.66	15+94.86	RT.		116.3 *															
	15+86.54		CTR.					60												
RAMP 'C'																				
	0+32.44		CTR.					60												
	0+24.33	0+77.40	LT.	36.85 *								1								
	0+77.40	10+90.44	LT.	1013.04								14								
	0+24.33	0+77.40	RT.		119.63 *															
	0+77.40	10+90.44	RT.		1013.04															
RAMP 'D'																				
	0+24.23	1+28.50	LT.	109.55 *								1								
	1+28.50	13+12.54	LT.	1184.04								16								
	0+24.23	1+28.50	RT.		165.57 *															
	1+28.50	13+12.54	RT.		1184.04															
ALEX. ST. INTERCHANGE																				
RAMP 'E'																				
	1392+51.45	1396+58.61	LT.	407.16								6								
	1396+58.61	1397+71.58	LT.	108.52 *								1								
	1392+51.45	1396+58.61	RT.		407.16															
	1396+58.61	1397+71.58	RT.		112.97															
RAMP 'F'																				
	1389+82.38	1396+89.80	LT.	707.42								10								
	1396+89.80	1397+52.62	LT.	73.19 *								1								
	1389+82.38	1396+89.80	RT.		707.42															
	1396+89.80	1397+52.62	RT.		125.66 *															
	1397+44.59		CTR.					80												
RAMP 'G'																				
	1398+08.31		CTR.					20												
	1398+04.31	1398+30.66	LT.	43.39 *								1								
	1398+30.66	1408+27.73	LT.	997.07								13								
	1398+04.31	1398+30.66	RT.		26.35															
	1398+30.66	1408+27.73	RT.		997.07															
RAMP 'H'																				
	1397+10.36	1398+11.21	LT.	94.32 *								1								
	1398+11.21	1408+69.27	LT.	1058.06								14								
	1397+10.36	1398+11.21	RT.		163.95 *															
	1398+11.21	1408+69.27	RT.		1058.06															
SUBTOTALS (From sheet no. 31)				37.163.34	38.749.68	43.622.55	3141.18					86		351						
SUBTOTALS (From this sheet)				7245.42	7630.45			220					99							
TOTALS CARRIED TO GENERAL SUMMARY				17.19 Mile	8.26 Mile		3141.18	220					536							

CALCULATED	RDA	CHECKED	ANS
TRAFFIC CONTROL			
JEF-7-22.97			
			32
			32