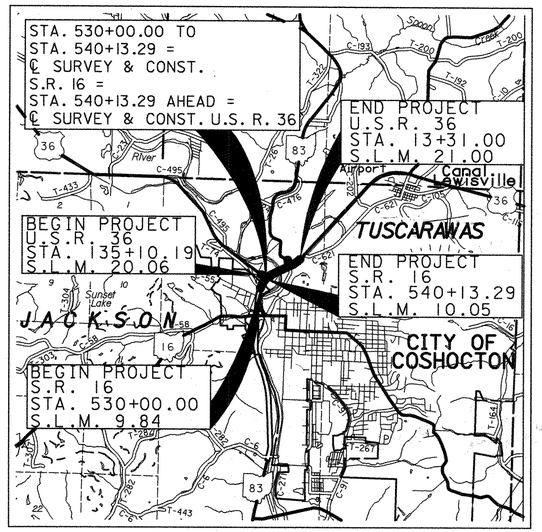


COSHOCTON COUNTY
LOCATION MAP
SCALE IN MILES

0 1 2 3 4

LATITUDE: 40°16'53"
LONGITUDE: 81°52'30"

PORTION TO BE IMPROVED _____
STATE & FEDERAL ROUTES _____
OTHER ROADS _____

DESIGN EXCEPTIONS:

S.R. 83
HORIZONTAL ALIGNMENT
APPROVED: 7-19-96

SUPERELEVATION RATE
APPROVED: 7-19-96

FOR DESIGN DESIGNATION SEE SHEET 2

# STATE OF OHIO
# DEPARTMENT OF TRANSPORTATION

# COS-16-9.84
# COS-36-20.06

## CITY OF COSHOCTON
## JACKSON & TUSCARAWAS TOWNSHIPS
## COSHOCTON COUNTY

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### PROJECT DESCRIPTION

CONSTRUCT NEW EASTBOUND & WESTBOUND LANES WITH ITEM 452 11" PLAIN CONCRETE PAVEMENT. UPGRADE APPROACHES AND TRAFFIC CONTROL, NEW DRAINAGE SYSTEMS AND PAVEMENT MARKINGS.
(FOR ADDITIONAL INFORMATION SEE SHEET 2)

### LIMITED ACCESS

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

### 1997 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC PROVIDED AS INDICATED ON SHEETS 38, 42, 43 - 64.

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

APPROVED Michael D. Lopez
DATE 3/21/97 DISTRICT DEPUTY DIRECTOR

APPROVED
DATE 3-26-97 DIRECTOR, DEPARTMENT OF TRANSPORTATION

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

PLAN PREPARED BY:
DISTRICT NO. 5
OHIO DEPARTMENT OF
TRANSPORTATION

STANDARD CONSTRUCTION DRAWINGS

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BP-1.1 | 2-21-92 | HL-10.12 | 5-1-87 | GR-1.1 | 5-6-91 | HW-4A | 4-1-80 | MT-95.30 | 10-10-88 | TC-21.20 | 9-1-92 |
| BP-2.1 | 10-28-94 | HL-30.11 | 5-1-87 | GR-1.2 | 10-30-92 | HW-4B | 4-1-80 | MT-95.40 | 10-1-92 | TC-41.10 | 8-29-84 |
| BP-2.2 | 10-28-94 | HL-30.21 | 5-1-87 | GR-1.3 | 2-21-92 | MC-1 | 6-13-69 | MT-97.10 | 4-29-88 | TC-41.20 | 6-21-94 |
| BP-2.3 | 2-21-92 | HL-30.22 | 5-1-87 | GR-2.1 | 5-6-91 | MC-4 | 7-26-76 | MT-99.10 | 11-14-86 | TC-41.50 | 6-21-94 |
| BP-2.5 | 2-21-92 | | | | | MC-7 | 10-15-76 | MT-99.20 | 4-29-88 | TC-42.10 | 8-19-77 |
| BP-3.1 | 2-21-92 | I-2A | 12-18-84 | GR-3.1 | 5-6-91 | MC-8 | 6-12-75 | MT-101.60 | 7-1-92 | TC-42.20 | 3-26-79 |
| BP-4.1 | 2-21-92 | | | GR-3.2 | 5-6-91 | MC-9.2 | 5-6-91 | MT-105.10 | 7-1-92 | TC-52.10 | 4-3-79 |
| BP-5.1 | 10-28-94 | TC-7.65 | 3-1-79 | GR-4.1 | 5-6-91 | MC-10 | 5-1-76 | MT-105.11 | 7-1-92 | TC-52.20 | 4-3-79 |
| CB-3 | 5-1-79 | TC-21.10 | 9-1-92 | GR-4.2 | 5-6-91 | MC-11 | 8-1-78 | TC-35.10 | 8-29-84 | TC-65.11 | 7-7-95 |
| CB-3A | 5-1-79 | TC-22.10 | 9-1-92 | GR-4.3 | 2-21-92 | | | TC-65.10 | 7-7-95 | TC-72.20 | 2-26-82 |
| CB-6 | 5-1-79 | TC-22.20 | 9-1-92 | GR-4.4 | 2-21-92 | MT-98.12 | 6-24-93 | TC-81.10 | 1-20-84 | | |
| CB-8 | 11-10-83 | TC-41.40 | 6-18-79 | GR-5.1 | 10-30-92 | MT-98.13 | 6-24-93 | TC-83.10 | 3-18-92 | AS-1-81 | 9-15-94 |
| F-2 | 5-1-76 | TC-41.41 | 8-2-79 | GR-5.2 | 10-30-92 | MT-98.14 | 8-25-89 | TC-84.20 | 1-20-84 | BR-1 | 12-15-94 |
| F-3 | 5-1-76 | TC-82.10 | 8-29-84 | | | MT-98.15 | 6-24-93 | TC-85.20 | 1-20-84 | EXJ-4-87 | 11-12-93 |
| F-5 | 5-1-76 | TC-83.20 | 1-20-84 | | | MT-98.16 | 6-24-93 | TC-71.10 | 9-10-91 | GSD-1-96 | 1-1-96 |
| F-6 | 5-1-76 | | | | | MT-100.00 | 2-23-90 | | | | |

SUPPLEMENTAL SPECIFICATIONS

| | |
|---|---|
| 816 | 3-3-95 |
| 852 | 7-30-93 |

FEDERAL PROJECT NO. NON-FEDERAL
PID NO. 11871
CONSTRUCTION PROJECT NO. COS-16-9.84 COS-36-20.06
RAILROAD INVOLVEMENT NONE
1/231

COS-16-9.84
970563
231PGS
08-06-97
DIST. 05

C0160901.DGN 05/23/96

## PROJECT DESCRIPTION:

PHASE 1: MAINTAIN TRAFFIC ON EXISTING LANES. CONSTRUCT NEW LANES (FUTURE EASTBOUND) CONSISTING OF 11" ITEM 452 PLAIN CONCRETE PAVEMENT, 4" ITEM SPECIAL ASPHALT TREATED FREE DRAINING BASE, 6" ITEM 304 AGGREGATE BASE. CONSTRUCT LEFT TURN LANES, RIGHT TURN LANE AND APPROACH SOUTH OF WESTBOUND LANES. CONSTRUCT PROPOSED DRAINAGE UNDER EASTBOUND LANES AND IN MEDIAN. CONSTRUCT EASTBOUND LANES OF PROPOSED BRIDGE AND EARTHWORK FOR EASTBOUND LANES.

PHASE 2: MAINTAIN TRAFFIC ON NEWLY CONSTRUCTED (FUTURE EASTBOUND) LANES. REMOVE EXISTING CONCRETE AND CONSTRUCT NEW LANES (FUTURE WESTBOUND) CONSISTING OF 11" ITEM 452 PLAIN CONCRETE PAVEMENT, 4" ITEM SPECIAL ASPHALT TREATED FREE DRAINING BASE, 6" ITEM 304 AGGREGATE BASE. CONSTRUCT RIGHT TURN LANES AND APPROACHES NORTH OF WESTBOUND LANES. CONSTRUCT PROPOSED DRAINAGE UNDER WESTBOUND LANES. CONSTRUCT REMAINING LANES OF PROPOSED BRIDGE.

### DESIGN DESIGNATION (U.S.R. 36)

| | |
|---|---|
| CURRENT YEAR ADT (1997) | = 9434 |
| DESIGN YEAR ADT (2017) | = 12,265 |
| DHV (2017) | = 1227 |
| D (DIRECTIONAL DISTRIBUTION) | = 56% |
| T (PERCENT B & C TRUCKS) | = 7% |
| V (DESIGN SPEED) | = 55 MPH |
| LEGAL SPEED | = 55 MPH |
| FUNCTIONAL CLASSIFICATION | = ARTERIAL |

### DESIGN DESIGNATION (S.R. 16/83)

| | |
|---|---|
| CURRENT YEAR ADT (1997) | = 22,830 |
| DESIGN YEAR ADT (2017) | = 29,680 |
| DHV (2017) | = 2968 |
| D (DIRECTIONAL DISTRIBUTION) | = 52% |
| T (PERCENT B & C TRUCKS) | = 12% |
| V (DESIGN SPEED) | = 55 MPH |
| LEGAL SPEED | = 50 MPH |
| FUNCTIONAL CLASSIFICATION | = PRINCIPLE ARTERIAL (RURAL) |

### DESIGN DESIGNATION (S.R. 83)

| | |
|---|---|
| CURRENT YEAR ADT (1997) | = 4559 |
| DESIGN YEAR ADT (2017) | = 5927 |
| DHV (2017) | = 593 |
| D (DIRECTIONAL DISTRIBUTION) | = 52% |
| T (PERCENT B & C TRUCKS) | = 11% |
| V (DESIGN SPEED) | = 55 MPH |
| LEGAL SPEED | = 55 MPH |
| FUNCTIONAL CLASSIFICATION | = ARTERIAL |

### DESIGN DESIGNATION (U.S.R. 36/S.R. 83)

| | |
|---|---|
| CURRENT YEAR ADT (1997) | = 16,260 |
| DESIGN YEAR ADT (2017) | = 21,140 |
| DHV (2017) | = 2114 |
| D (DIRECTIONAL DISTRIBUTION) | = 52% |
| T (PERCENT B & C TRUCKS) | = 15% |
| V (DESIGN SPEED) | = 55 MPH |
| LEGAL SPEED | = 50 MPH |
| FUNCTIONAL CLASSIFICATION | = PRINCIPLE ARTERIAL (RURAL) |

### DESIGN DESIGNATION (U.S.R. 36)

| | |
|---|---|
| CURRENT YEAR ADT (1997) | = 10,640 |
| DESIGN YEAR ADT (2017) | = 13,830 |
| DHV (2017) | = 1383 |
| D (DIRECTIONAL DISTRIBUTION) | = 51% |
| T (PERCENT B & C TRUCKS) | = 18% |
| V (DESIGN SPEED) | = 55 MPH |
| LEGAL SPEED | = 50 MPH |
| FUNCTIONAL CLASSIFICATION | = PRINCIPLE ARTERIAL (RURAL) |

BEGIN WORK STA. 134+91

BEGIN PROJECT & APPROACH U.S.R. 36 STA. 135+10.19 S.L.M. 20.06

U.S.R. 36

S 49°16'08" E

CONSTRUCTION LIMITS

℄ SURVEY & CONSTRUCTION, U.S.R. 36

END PROJECT S.R. 16 STA. 540+13.29 S.L.M. 10.05

END APPROACH STA. 140+70.82

CITY OF COSHOCTON CORPORATION LIMIT

℄ SURVEY & CONSTRUCTION, S.R. 16

BEGIN PROJECT S.R. 16 STA. 530+00 S.L.M. 9.84

BEGIN RESURFACING STA. 519+00 (WESTBOUND LANES).

WHITEWOMAN ST.

END WORK STA. 533+48.07

END APPROACH STA. 533+05.17

BEGIN APPROACH AND WORK STA. 532+09.30

EXISTING 18" SANITARY SEWER (CITY OF COSHOCTON)

EXISTING (2) POWER POLES (AEP)

SUSPEND RESURFACING STA. 530+00

530+00

535+00

540+00

545+00

EXISTING (2) POWER POLES (ODOT)

CONSTRUCTION LIMITS

STA. 540+13.29 ℄ SURVEY & CONSTRUCTION S.R. 16 = STA. 141+01.21 ℄ SURVEY & CONSTRUCTION U.S.R. 36 = STA. 540+13.29 ℄ SURVEY & CONSTRUCTION U.S.R. 36 END S.R. 16 & BEGIN U.S.R. 36 STA. 540+13.29

℄ SURVEY & CONSTRUCTION PI STA. 538+76.54 △= 50°22'00" RT.

CIRCULAR
Dc = 3°00'00"
T = 793.37'
R = 1909.86'
L = 1503.89'
E = 158.23'

SPIRAL OUT
θs = 5°15'00"
L = 350.00'
LT = 233.44'
ST = 116.76'
T = 1070.77'
θ = .062 MAX.

EXISTING GAS WELL (NGO DEVELOPMENT CORP.)

EXISTING FIELD DRIVE

℄ SURVEY & CONSTRUCTION, U.S.R. 36

WALHONDING RIVER

BRIDGE NO. COS-36-2064

COS-36-2064

EXISTING HORIZONTAL CLEARANCE: 2' (OUTSIDE) E.B. & W.B.

PROPOSED HORIZONTAL CLEARANCE: 12' (OUTSIDE) E.B. & W.B.

C.S. STA. 544+78.95

S.T. STA. 548+28.95

EXISTING 2" STEEL NATURAL GAS PIPELINE (NGO DEVELOPMENT CORPORATION)

50+00

N 68°39'00" E

MATCHLINE STA. 0+00 (AH.)

EXISTING 24" WATER MAIN (CITY OF COSHOCTON)

EXISTING 20" WATER MAIN (CITY OF COSHOCTON)

EXISTING OVERHEAD POWER LINE (CITY OF COSHOCTON)

STATION EQUATION: STA. 554+03.42 (BK.) = STA. 0+00.00 (AH.)

19.0' RT.

STA. 531+78 ℄ SURVEY & CONSTRUCTION WHITEWOMAN ST. = STA. 531+78 WHITEWOMAN ST. S.R. 16

BEGIN RESURFACING & WORK STA. 498+80 (EASTBOUND LANES).

END APPROACH & WORK STA. 4+99.63 ℄ SURVEY & CONSTRUCTION S.R. 83

CONSTRUCTION LIMITS

STA. 4+50 ℄ SURVEY & CONSTRUCTION U.S.R. 36 = STA. 0+00 ℄ SURVEY & CONSTRUCTION C.R. IA RT. = STA. 0+00 ℄ SURVEY & CONSTRUCTION S.R. 83 LT.

S.R. 83
PI STA. 4+56.03
△= 40°49'10" LT.
Dc = 16°08'23"
T = 132.09'
R = 355.00'
L = 252.91'
E = 23.78'
e = .070 max.
N.D.C. = .08

P.C. STA. 3+23.94

N09°10'49" E

P.C. STA. 2+96.81

℄ SURVEY & CONSTRUCTION, U.S.R. 36

MATCHLINE STA. 0+00

N 68°39'00" E

11.0' RT. STA. 2+96.81

℄ SURVEY & CONSTRUCTION U.S.R. 36 = STA. 0+00 ℄ EASTBOUND LANES

BEGIN APPROACH AND WORK STA. 0+14.33 ℄ SURVEY & CONSTRUCTION C.R. IA

END APPROACH STA. 1+19.64 ℄ SURVEY & CONSTRUCTION C.R. IA

END WORK STA. 1+75 ℄ SURVEY & CONSTRUCTION C.R. IA

EXISTING GAS PIPELINE (UNKNOWN)

CONSTRUCTION LIMITS

P.C. STA. 2+85.39

℄ EASTBOUND LANES PI STA. 6+66.83 △= 15°10'06" LT.
Dc = 2°00'00"
T = 381.44'
R = 2864.79'
L = 758.41'
E = 25.28'
e = .046 max.

EXISTING BURIED TELEPHONE CABLE (AMERITECH)

EXISTING 2" GAS PIPELINE (COLUMBIA GAS OF OHIO)

℄ SURVEY & CONSTRUCTION PI STA. 10+92.79 △= 23°02'00" LT.
Dc = 1°28'00"
T = 795.98'
R = 3906.53'
L = 1570.46'
E = 80.27'
e = .046 max.

BEGIN APPROACH AND WORK STA. 0+50.61 ℄ SURVEY & CONSTRUCTION S.R. 83

75°35'00" TANGENT TO CURVE

COMMERCIAL DRIVE

END PROJECT U.S.R. 36 STA. 13+31 S.L.M. 21.00

RESUME RESURFACING STA. 13+31

P.C.C. STA. 10+43.80 ℄ EASTBOUND LANES

℄ SURVEY & CONSTRUCTION, U.S.R. 36

EXISTING 24" CONDUIT

EXISTING FIELD DRIVE

END RESURFACING & WORK STA. 43+50 (WESTBOUND LANES)

END RESURFACING STA. 35+00 (EASTBOUND LANES)

C.R. 621

5+00

6+00

10+00

15+00

18+00

℄ EASTBOUND LANES

49.0' RT. STA. 13+31 ℄ SURVEY & CONSTRUCTION U.S.R. 36 = STA. 10+43.80 ℄ EASTBOUND LANES

CALCULATED J.M. 6/24/96

CHECKED J.L. 7/24/96

0 50 100 200 HORIZONTAL SCALE IN FEET

# SCHEMATIC STA. 355+00 TO STA. 16+00

COS-16-9.84
COS-36-20.06

2
231

C01610A2.DGN 8/2/96

(*) INDICATES CATCH BASIN OR INLET (32 LIN. FT. FILTER FABRIC FENCE)

ITEM 207 FILTER FABRIC FENCE
7 C.B. X 32 L.F./C.B. = 224 LIN. FT.

| STATION | SIDE | ITEM 207 TEMPORARY DIKES |
|---|---|---|
| FROM STA. TO STA. | | LIN. FT. |
| STA. 540+00 - 550+00 | RT. | 1000 |
| STA. 0+00 - 3+50 | RT. | 350 |
| STA. 8+50 - 9+00 | RT. | 50 |
| STA. 135+50 - 139+50 | RT. | 400 |
| TOTAL | | 1800 |

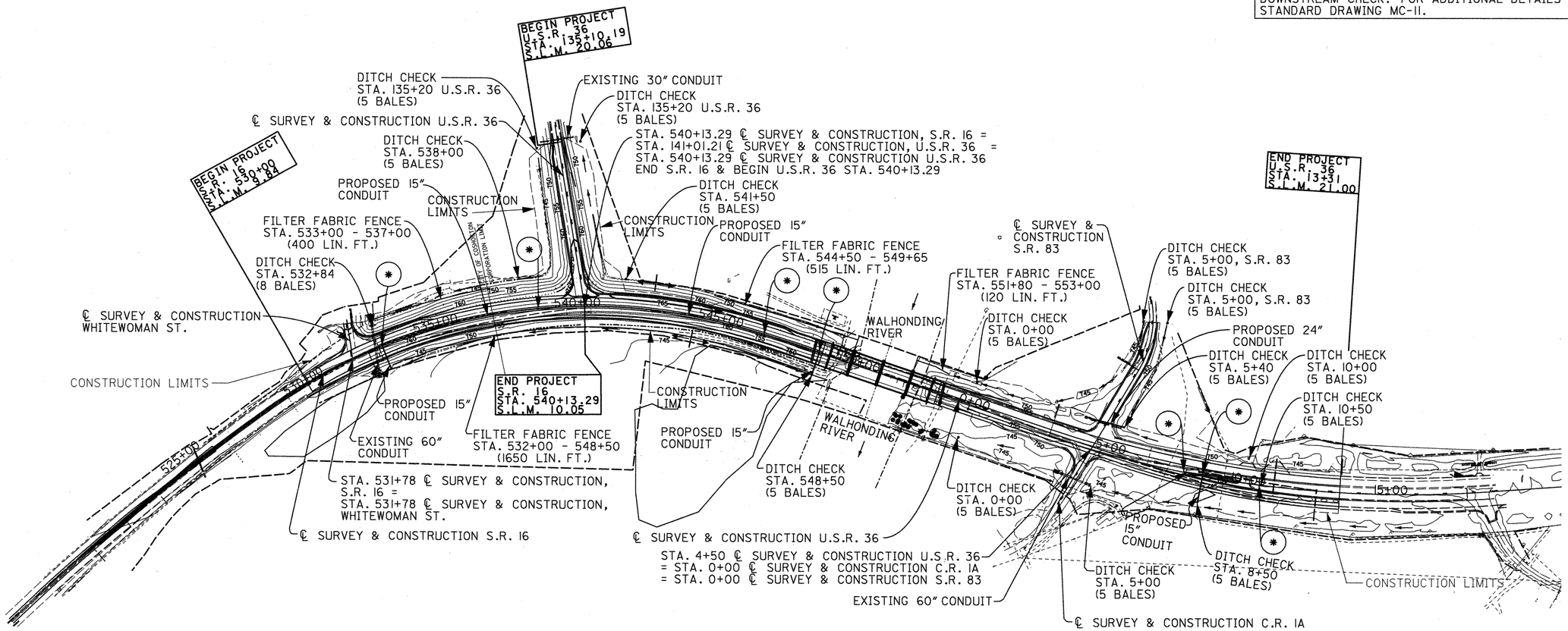
| PROJECT DATA | |
|---|---|
| TOTAL AREA (RIGHT-OF-WAY) | .44 AC |
| AREA TO UNDERGO EXCAVATION, FILLING OR GRADING | 12 AC |
| RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE | 0.4 |
| RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE | 0.4 |
| SOIL DATA | SEE SOIL PROFILE |
| IMMEDIATE RECEIVING WATERS | WALHONDING RIVER |
| | |
| SUBSEQUENT RECEIVING WATER | MUSKINGUM RIVER |

NOTES:

ALL PERMANENT EROSION CONTROL ITEMS SHALL BE PLACED IMMEDIATELY AFTER PLACEMENT OF ANY STRUCTURE.

THE STORM WATER POLLUTION PREVENTION PLAN AS HEREIN DELINEATED IS SUBJECT TO ADJUSTMENT TO ENSURE EROSION CONTROL MEASURES ARE PROPERLY COORDINATED WITH SUCCESSIVE CONSTRUCTION STAGES.

DITCH CHECK - HAY BALE DITCH CHECKS AS SHOWN ON STANDARD DRAWING MC-11 SHALL BE SPECIFIED WITH SMALL PITS EXCAVATED BEHIND THEM AT ALL SIGNIFICANT CHANGES IN THE DITCH GRADE AND AT LOCATIONS AS SHOWN ON THESE PLANS. DITCH CHECKS SHOULD BE SPACED SO THAT NO CHECK IS WITHIN THE BACKWATER OF A DOWNSTREAM CHECK. FOR ADDITIONAL DETAILS SEE STANDARD DRAWING MC-11.




U.S.G.S. QUADRANT NO. 40081-C7-TF-024
COSHOCTON, OHIO &
U.S.G.S. QUADRANT NO. N4015-W8152.5/7.5
RANDLE, OHIO
LATITUDE: 40°16'53" *
LONGITUDE 81°52'30" *

* LONGITUDE AND LATITUDE TO APPROX. CENTER OF PROJECT

| STORM WATER POLLUTION PREVENTION PLAN ESTIMATED QUANTITIES (THIS SHEET) | |
|---|---|
| ITEM 207 STRAW OR HAY BALES | 78 EACH |
| ITEM 207 FILTER FABRIC FENCE | 2909 LIN. FT. |
| ITEM 207 TEMPORARY DIKES | 1800 LIN. FT. |

QUANTITIES CARRIED TO GENERAL SUMMARY

## PROJECT DESCRIPTION:

CONSTRUCT NEW EASTBOUND & WESTBOUND LANES, UPGRADE APPROACHES AND TRAFFIC CONTROL, NEW DRAINAGE SYSTEMS AND PAVEMENT MARKINGS. (FOR ADDITIONAL INFORMATION SEE SHEET 2)

CALCULATED B.F.B. 6/24/96
CHECKED A.L.L. 7/24/96

0 100 200 400 HORIZONTAL SCALE IN FEET

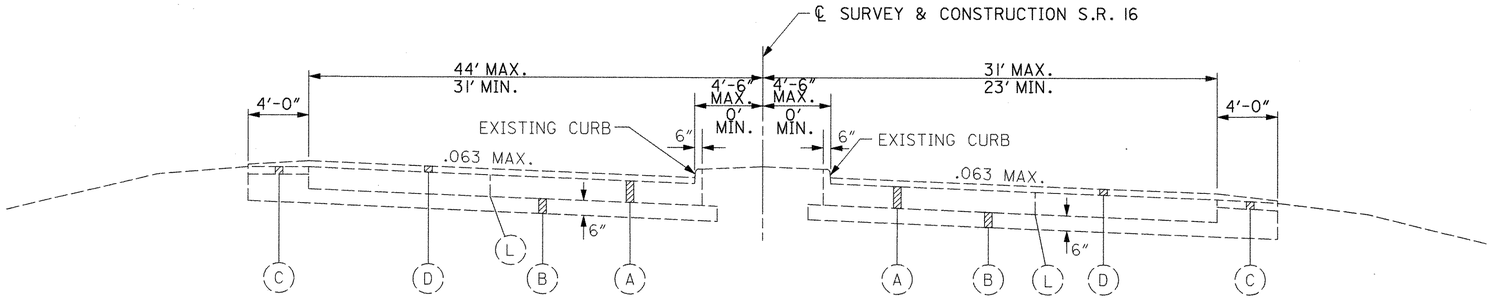
# POLLUTION PREVENTION PLAN

# STORM WATER POLLUTION PREVENTION PLAN

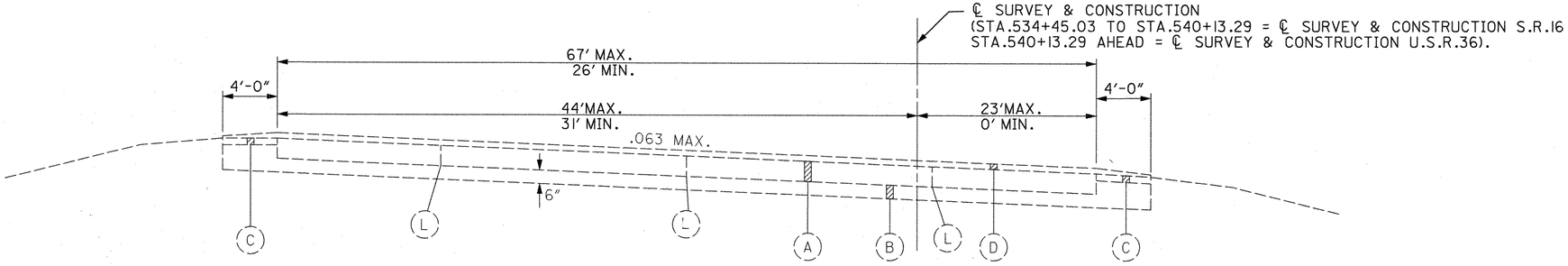
COS-16-9.84
COS-36-20.06

3
231

C16SWPP1.DGN 07-30-96




SECTION APPLIES:
STA. 530+00.00 TO STA. 537+00.00 = 700.00 LIN.FT.
TOTAL 700.00 LIN.FT.




SECTION APPLIES:
STA. 537+00.00 TO STA. 548+70.75 = 1170.75 LIN.FT.
TOTAL 1170.75 LIN.FT.

BRIDGE LIMITS INCLUDING APPROACH SLABS
STA. 548+70.75 TO STA. 552+75.25 = 404.50 LIN.FT.
TOTAL 404.50 LIN.FT.

LEGEND

(A) EXISTING 9″± REINFORCED CONCRETE PAVEMENT
(B) EXISTING SUBBASE
(C) EXISTING AGGREGATE BASE
(D) EXISTING 2½″± ASPHALT CONCRETE
(L) EXISTING LONGITUDINAL JOINT

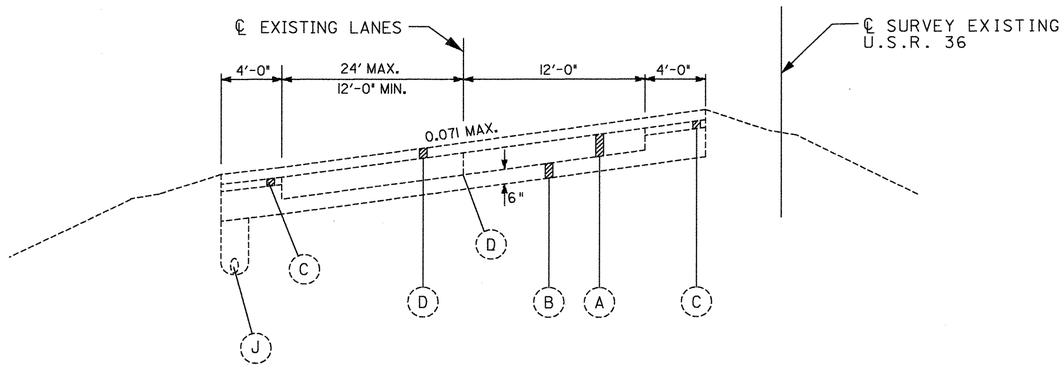
# EXISTING TYPICAL SECTIONS

CALCULATE J.C. 6/24/96
CHECKED D.M. 7/24/96

COS-16-9.84
COS-36-20.06

4
231

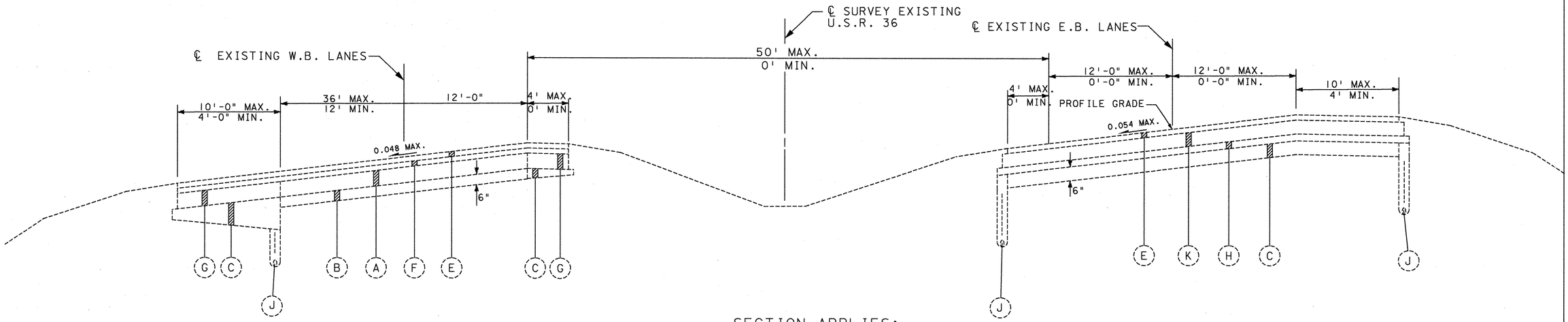
C0161OA3.DGN 04-23-96




SECTION APPLIES:

STA. 552+75.25 TO STA. 554+03.42 (BACK)= 128.17 LIN.FT.
STA. 0+00.00 (AHEAD) TO STA. 5+20.20 = 520.20 LIN.FT.

TOTAL 648.37 LIN.FT.




SECTION APPLIES:

STA. 5+20.20 TO STA. 13+31.00 = 810.80 LIN.FT.

TOTAL 810.80 LIN.FT.

## LEGEND

| MARK | DESCRIPTION |
|---|---|
| (A) | EXISTING 9"± REINFORCED CONCRETE PAVEMENT |
| (B) | EXISTING SUBBASE |
| (C) | EXISTING AGGREGATE BASE |
| (D) | EXISTING 2 1/2"± ASPHALT CONCRETE |
| (E) | EXISTING 3"± ASPHALT CONCRETE |
| (F) | EXISTING 3"± BITUMINOUS BASE |
| (G) | EXISTING 9'± CONCRETE BASE |
| (H) | EXISTING 4"± ASPHALT TREATED FREE DRAINING BASE |
| (I) | EXISTING 8"± AGGREGATE BASE |
| (J) | EXISTING UNDERDRAIN |
| (K) | EXISTING 8" BITUMINOUS AGGREGATE BASE |
| (L) | EXISTING LONGITUDINAL JOINT |

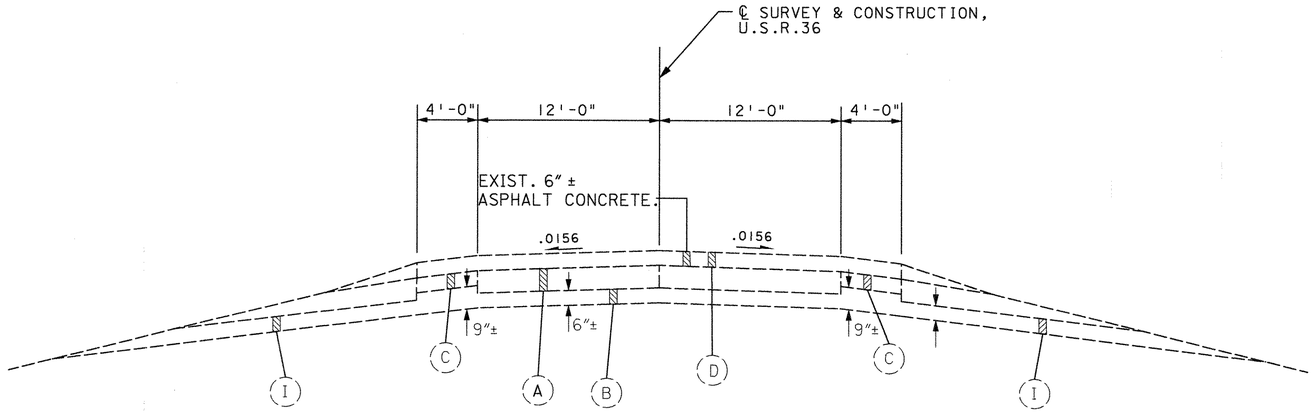
CALCULATED J.C. 6/24/96
CHECKED D.M. 7/24/96

# EXISTING TYPICAL SECTIONS

COS-16-9.84
COS-36-20.06

5
231

C0161083.DGN 04-24-96

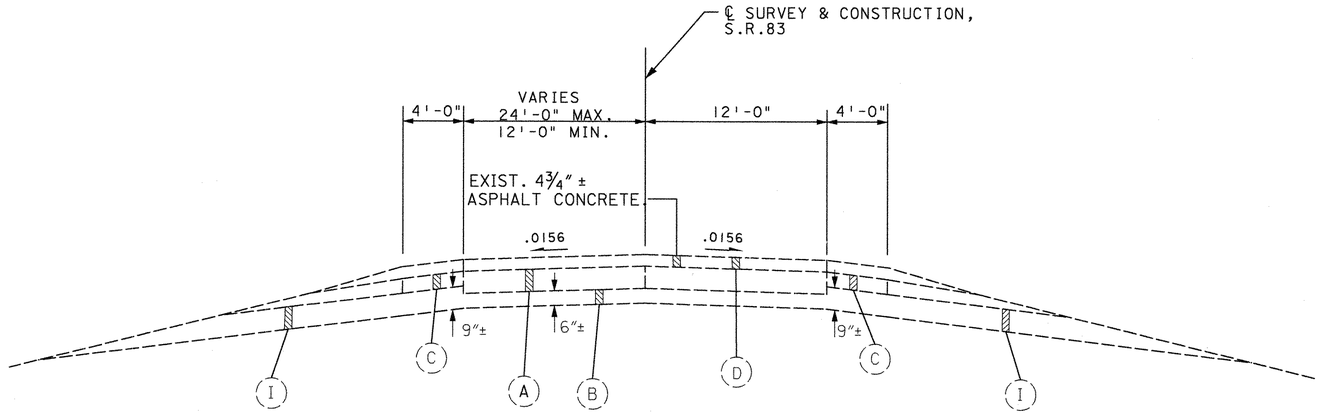



NORMAL SECTION

SECTION APPLIES:

STA.135+10.19 TO STA.140+70.82 = 560.63 LIN.FT.

TOTAL 560.63 LIN.FT.

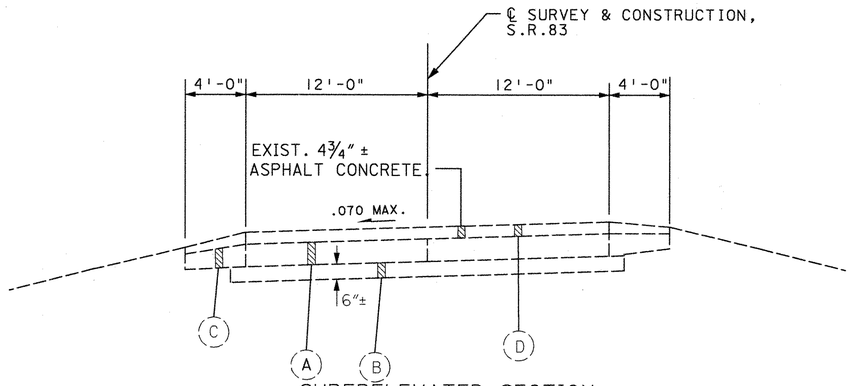



NORMAL SECTION

SECTION APPLIES:

STA.0+50.61 TO STA.3+23.94 = 273.33 LIN.FT.

TOTAL 273.33 LIN.FT.




SUPERELEVATED SECTION

SECTION APPLIES:

STA.3+23.94 TO STA.4+99.63 = 175.69 LIN.FT.

TOTAL 175.69 LIN.FT.

## LEGEND

| MARK | DESCRIPTION |
|---|---|
| (A) | EXISTING 9"± REINFORCED CONCRETE PAVEMENT |
| (B) | EXISTING SUBBASE |
| (C) | EXISTING AGGREGATE BASE |
| (D) | EXISTING ASPHALT CONCRETE (THICKNESS AS SHOWN) |
| (E) | EXISTING 3"± ASPHALT CONCRETE |
| (F) | EXISTING 3"± BITUMINOUS BASE |
| (G) | EXISTING 9"± CONCRETE BASE |
| (H) | EXISTING 4"± ASPHALT TREATED FREE DRAINING BASE |
| (I) | EXISTING AGGREGATE DRAINS |
| (J) | EXISTING UNDERDRAIN |

CALCULATED J.C. 6/24/96
CHECKED D.M. 7/24/96

# EXISTING TYPICAL SECTIONS

COS-16-9.84
COS-36-20.06



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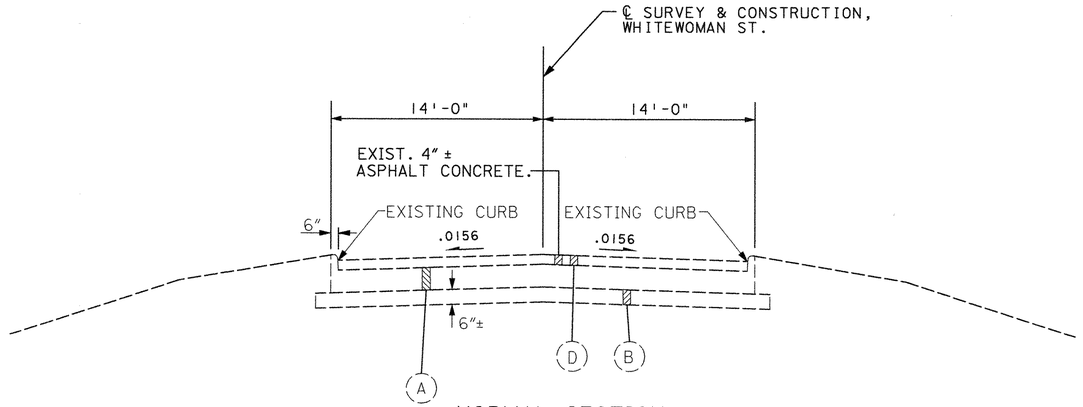
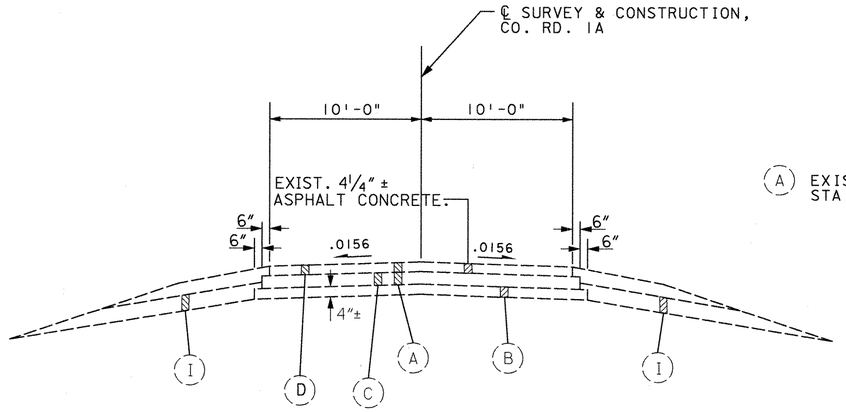



NORMAL SECTION

SECTION APPLIES:

STA. 532+09.30 TO STA. 533+03.17 = 93.87 LIN.FT.

TOTAL 93.87 LIN.FT.




(A) EXISTING 9"± REINFORCED CONCRETE PAVEMENT
STA. 0+14.33 TO STA. 0+53.00

NORMAL SECTION

SECTION APPLIES:

STA. 0+14.33 TO STA. 1+19.64 = 105.31 LIN.FT.

TOTAL 105.31 LIN.FT.

## LEGEND

| MARK | DESCRIPTION |
|---|---|
| (A) | EXISTING 9"± REINFORCED CONCRETE PAVEMENT |
| (B) | EXISTING SUBBASE |
| (C) | EXISTING AGGREGATE BASE |
| (D) | EXISTING ASPHALT CONCRETE (THICKNESS AS SHOWN) |
| (E) | EXISTING 3"± ASPHALT CONCRETE |
| (F) | EXISTING 3"± BITUMINOUS BASE |
| (G) | EXISTING 9"± CONCRETE BASE |
| (H) | EXISTING 4"± ASPHALT TREATED FREE DRAINING BASE |
| (I) | EXISTING AGGREGATE DRAINS |
| (J) | EXISTING UNDERDRAIN |

CALCULATED J.C. 6/24/96
CHECKED D.M. 7/24/96

# EXISTING TYPICAL SECTIONS

COS-16-9.84
COS-36-20.06



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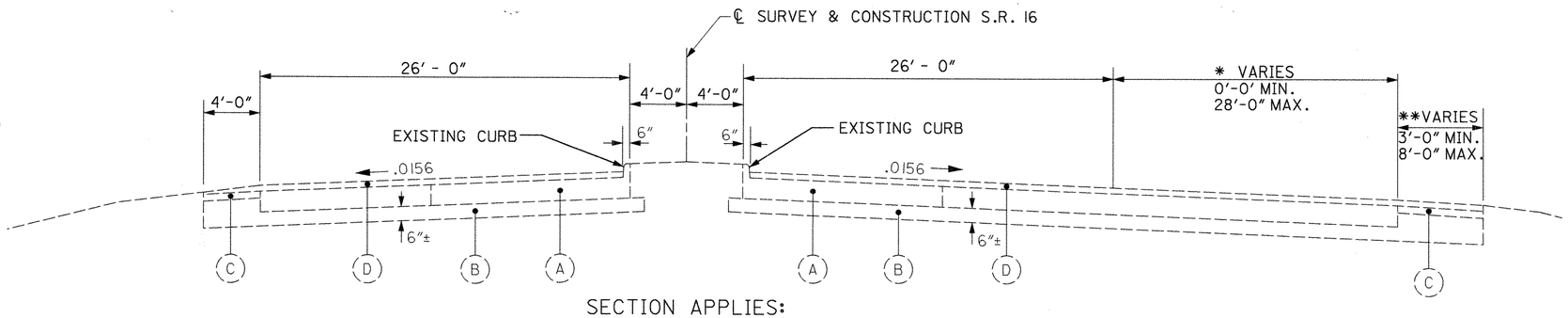



SECTION APPLIES:
EASTBOUND LANES ONLY

STA. 498+80.00 TO STA. 515+50.00 = 1,670.00 LIN. FT.

TOTAL 1,670.00 LIN. FT.

LEGEND

(A) EXISTING 9″± REINFORCED CONCRETE PAVEMENT

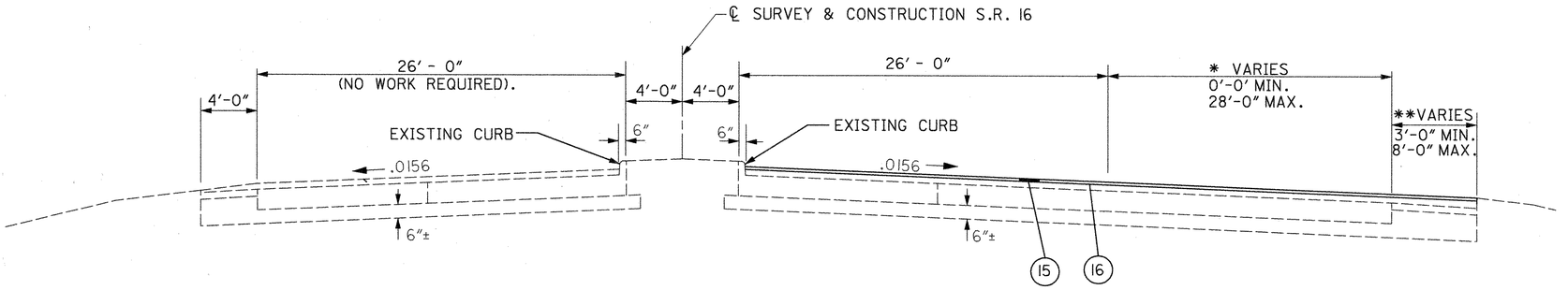
(B) EXISTING SUBBASE

(C) EXISTING AGGREGATE BASE

(D) EXISTING 2½″± ASPHALT CONCRETE

* ADDITIONAL PAVEMENT AREA
RAMP C DECELERATION LANE
VARIES FROM 0′-0″ @ STA. 498+91.18 TO 12′-0″ @ STA. 499+91.18.
12′-0″ @ STA. 499+91.18 TO STA. 504+13.14
VARIES FROM 12′-0″ @ STA. 504+13.14 TO 14′-0″ @ STA. 504+90.
VARIES FROM 14′-0″ @ STA. 504+90 TO 26′-0″ @ STA. 506+15.
VARIES FROM 26′-0″ @ STA. 506+15 TO 39′-0″ @ STA. 506+91.18 (GORE).

** ADDITIONAL SHOULDER AREA
RAMP C DECELERATION LANE
8′-0″ @ STA. 498+80 TO STA. 506+91.18




SECTION APPLIES:
EASTBOUND LANES ONLY

STA. 498+80.00 TO STA. 515+50.00 = 1,670.00 LIN. FT.

TOTAL 1,670.00 LIN. FT.

LEGEND

| MARK | ITEM | DESCRIPTION |
|---|---|---|
| (15) | 448 | 1¼″ ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG 64-22 |
| (16) | 407 | TACK COAT FOR INTERMEDIATE COURSE (SEE NOTE SHEET 27) |

# TYPICAL SECTIONS

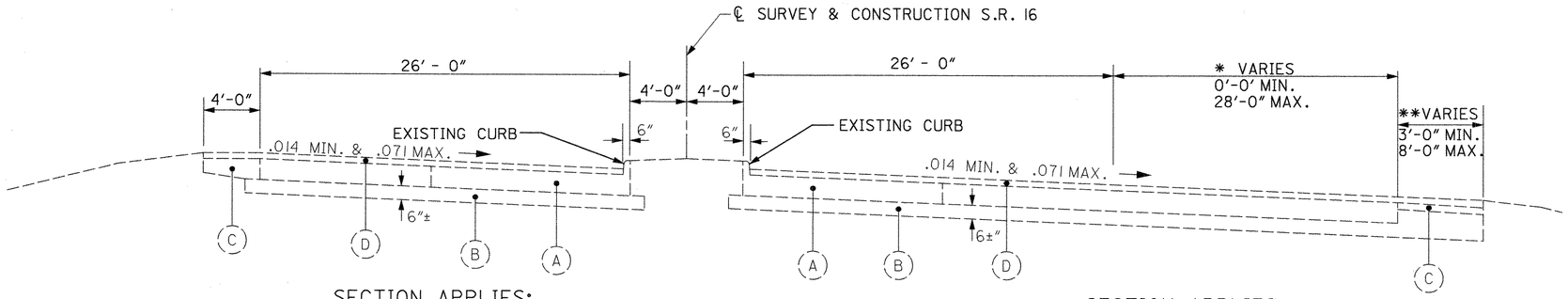
CALCULATED J.C. 6/24/96
CHECKED J.M.L. 7/24/96

COS-16-9.84
COS-36-20.06



C0161OU3.DGN 6-07-96

## SUPERELEVATED SECTION




SECTION APPLIES:
WESTBOUND LANES ONLY

STA. 519+00.00 TO STA. 520+00.00 = 100.00 LIN. FT.

TOTAL 100.00 LIN. FT.

SECTION APPLIES:
EASTBOUND LANES ONLY

STA. 515+50.00 TO STA. 520+00.00 = 450.00 LIN. FT.

TOTAL 450.00 LIN. FT.

LEGEND

(A) EXISTING 9″± REINFORCED CONCRETE PAVEMENT

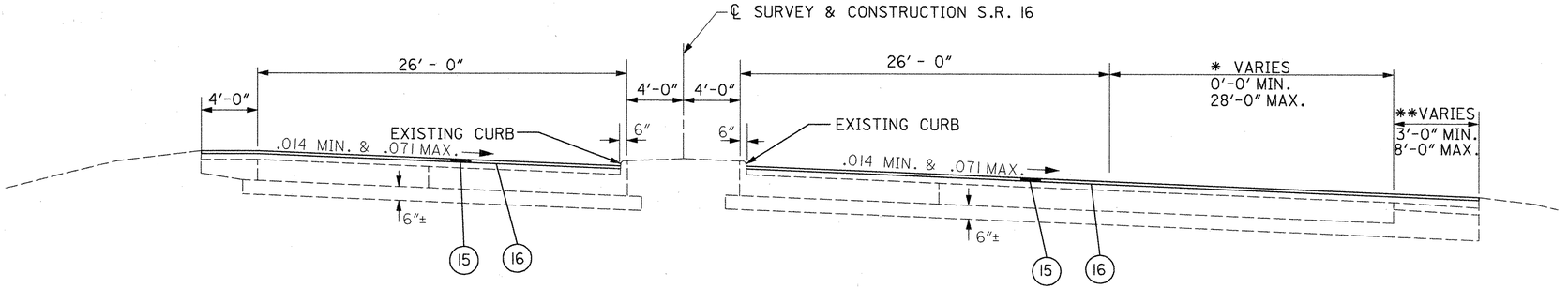
(B) EXISTING SUBBASE

(C) EXISTING AGGREGATE BASE

(D) EXISTING 2½″± ASPHALT CONCRETE

* ADDITIONAL PAVEMENT AREA
RAMP A ACCELERATION LANE
VARIES FROM 28′-0″ @ STA. 517+45.90 TO
0′-0″ @ STA. 528+68.52

** ADDITIONAL SHOULDER AREA
RAMP A ACCELERATION LANE
3′-0″ @ STA. 517+45.90 TO STA. 517+68.52.
VARIES FROM 3′-0″ @ STA. 517+68.52 TO
8′-0″ @ STA. 518+68.52.
8′-0″ FROM STA. 518+68.52 TO STA. 528+68.52
VARIES FROM 8′-0″ @ STA. 528+68.52 TO
3.62′ @ STA. 530+00.00




SECTION APPLIES:
WESTBOUND LANES ONLY

STA. 519+00.00 TO STA. 520+00.00 = 100.00 LIN. FT.

TOTAL 100.00 LIN. FT.

SECTION APPLIES:
EASTBOUND LANES ONLY

STA. 515+50.00 TO STA. 520+00.00 = 450.00 LIN.FT.

TOTAL 450.00 LIN. FT.

LEGEND

| MARK | ITEM | DESCRIPTION |
|---|---|---|
| (15) | 448 | 1¼″ ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG 64-22 |
| (16) | 407 | TACK COAT FOR INTERMEDIATE COURSE (SEE NOTE SHEET 27) |

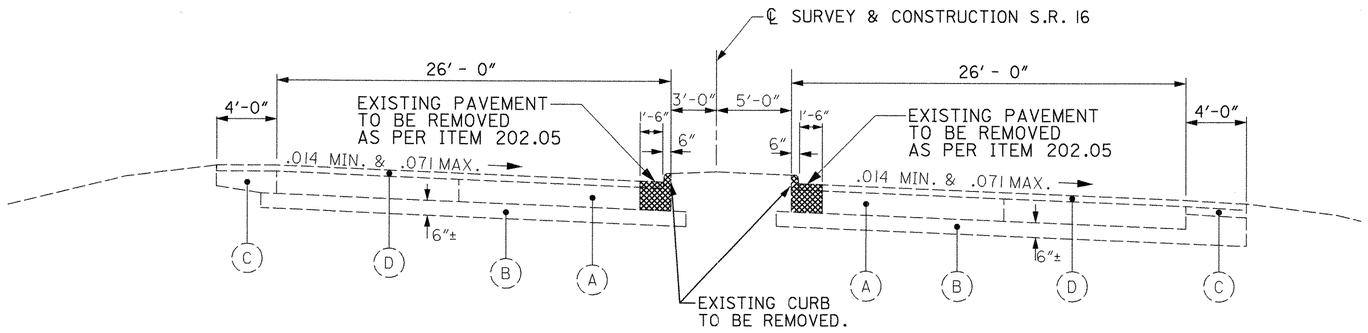
CALCULATED J.C. 6/24/96
CHECKED D.M. 7/24/96

# TYPICAL SECTIONS

COS-16-9.84
COS-36-20.06



C01610V3.DGN 6-07-96




SECTION APPLIES:

STA. 520+00.00 TO STA. 530+00.00 = 1,000.00 LIN. FT.

TOTAL 1,000.00 LIN. FT.

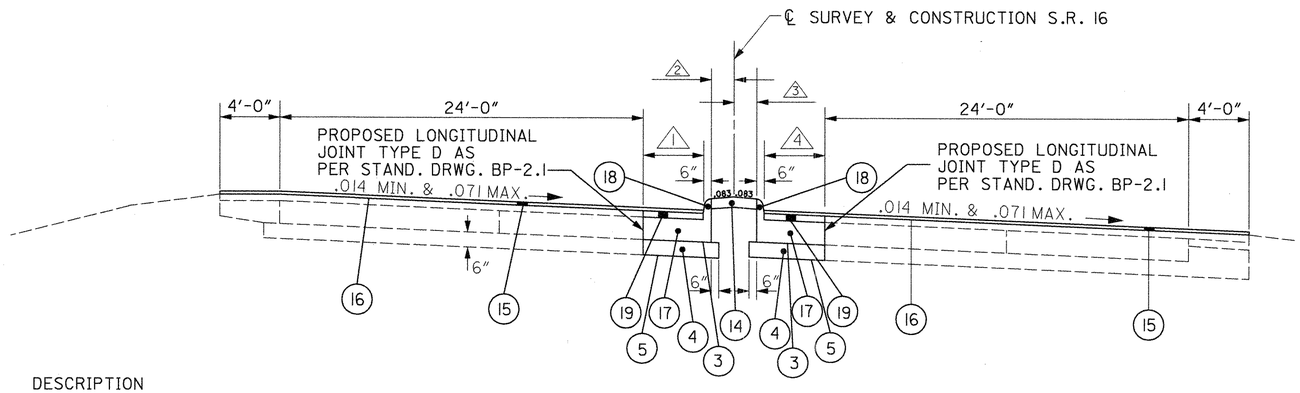
LEGEND

(A) EXISTING 9″± REINFORCED CONCRETE PAVEMENT

(B) EXISTING SUBBASE

(C) EXISTING AGGREGATE BASE

(D) EXISTING 2½″± ASPHALT CONCRETE




SECTION APPLIES:

STA. 520+00.00 TO STA. 530+00.00 = 1,000.00 LIN. FT.

TOTAL 1,000.00 LIN. FT.

LEGEND

| MARK | ITEM | DESCRIPTION |
|---|---|---|
| (3) | 408 | BITUMINOUS PRIME COAT @ 0.40 GAL./S.Y. |
| (4) | 304 | 6″ AGGREGATE BASE |
| (5) | 203 | SUBGRADE COMPACTION |
| (14) | 612 | 4″ CONCRETE MEDIAN |
| (15) | 448 | 1¼″ ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22 |
| (16) | 407 | TACK COAT FOR INTERMEDIATE COURSE (SEE NOTE SHEET 27) |
| (17) | 305 | 9″ CONCRETE BASE, AS PER PLAN (SEE NOTE SHEET 27) |
| (18) | 609 | CURB, TYPE 4-B |
| (19) | 448 | 2 ½″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-22 |

1. VARIES FROM 1′-6″ @ STA. 520+00.00 TO 4′-0″ @ STA. 520+75.00. 4′-0″ STA. 520+75 TO STA. 530+00.

2. VARIES FROM 3′-0″ @ STA. 520+00.00 TO 6″ @ STA. 520+75.00. 6″ STA. 520+75 TO STA. 530+00.

3. VARIES FROM 5′-0″ @ STA. 520+00.00 TO 2′-6″ @ STA. 520+75.00. 2′-6″ STA. 520+75 TO STA. 530+00.

4. VARIES FROM 1′-6″ @ STA. 520+00.00 TO 4′-0″ @ STA. 520+75.00. 4′-0″ STA. 520+75 TO STA. 530+00.

CALCULATED J.C. 6/24/96
CHECKED D.M. 7/24/96

# TYPICAL SECTIONS

COS-16-9.84
COS-36-20.06



C01610T3.DGN 7-11-96

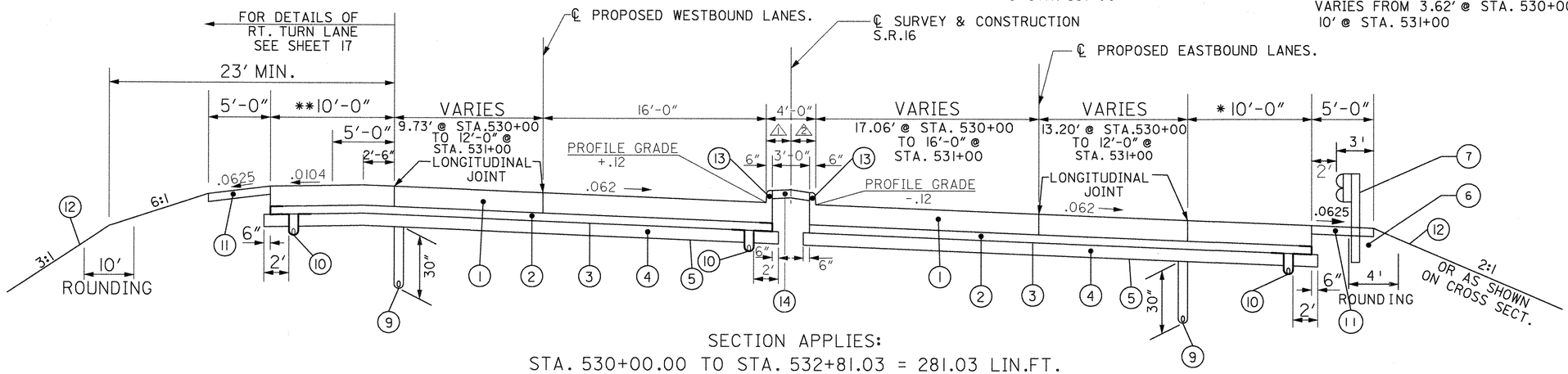
## SUPERELEVATED SECTION

**NOTE:
VARIES FROM 4' @ STA. 530+00 TO 10' @ STA. 531+00

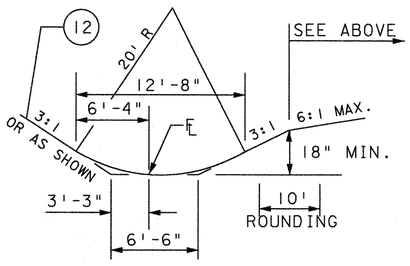
⚠1 VARIES FROM 1'-0" @ STA. 530+00 TO 2'-0" @ STA. 531+00

⚠2 VARIES FROM 3'-0" @ STA. 530+00 TO 2'-0" @ STA. 531+00

*NOTE:
VARIES FROM 3.62' @ STA. 530+00 TO 10' @ STA. 531+00

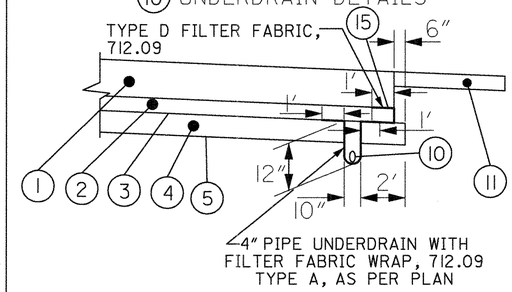



SECTION APPLIES:
STA. 530+00.00 TO STA. 532+81.03 = 281.03 LIN.FT.
TOTAL 281.03 LIN.FT.




TYPICAL DETAIL FOR DITCH

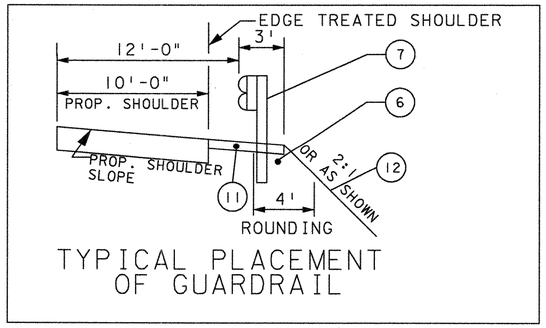
## 10 UNDERDRAIN DETAILS




NOTE:
ITEM 408 BITUMINOUS PRIME COAT NOT TO BE PLACED IN THE AREA OF THE ITEM 605 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN.

### LEGEND

| MARK | ITEM | DESCRIPTION |
|---|---|---|
| 1 | 452 | 11" PLAIN CONCRETE PAVEMENT |
| 2 | SPECIAL | 4" ASPHALT TREATED FREE DRAINING BASE, (SEE PROPOSAL NOTES) & (SEE SHEET 27) |
| 3 | 408 | BITUMINOUS PRIME COAT @ 0.40 GAL./S.Y. |
| 4 | 304 | 6" AGGREGATE BASE |
| 5 | 203 | SUBGRADE COMPACTION |
| 6 | 203 | EMBANKMENT |
| 7 | 606 | GUARDRAIL, TYPE 5 |
| 8 | 603 | 15" SLOTTED DRAIN (SEE SHEET 142) |
| 9 | 605 | 4" SHALLOW PIPE UNDERDRAIN |
| 10 | 605 | 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN (SEE SHEET 28) |
| 11 | 617 | 4" COMPACTED AGGREGATE, TYPE A, WITH ITEM 617 WATER |
| 12 | 659 | SEEDING AND MULCHING |
| 13 | 609 | CURB, TYPE 4-A |
| 14 | 612 | 4" CONCRETE MEDIAN |
| 15 | SPECIAL | GEOTEXTILE FABRIC, TYPE D (SEE SHEET 29) |




TYPICAL PLACEMENT OF GUARDRAIL

CALCULATED J.C. 6/24/96
CHECKED D.M. 7/24/96

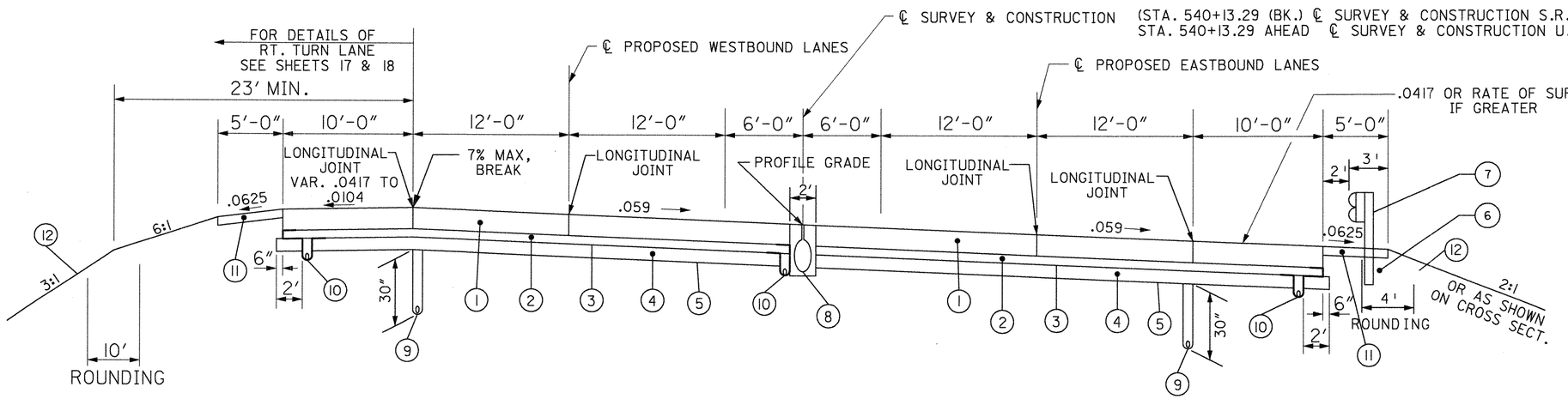
PROPOSED TYPICAL SECTIONS

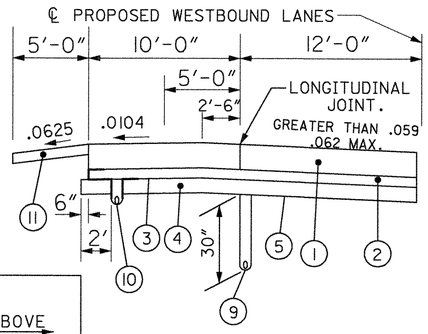
COS-16-9.84
COS-36-20.06

11
231

C0161OF3.DGN 7-12-96

## SUPERELEVATED SECTION

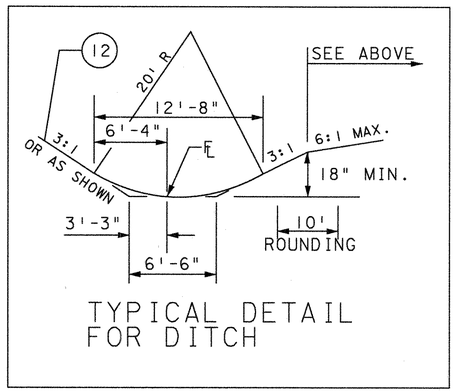



(STA. 540+13.29 (BK.) ℄ SURVEY & CONSTRUCTION S.R.16 = STA. 540+13.29 AHEAD ℄ SURVEY & CONSTRUCTION U.S.R.36).

SUPERELEVATED SECTION
SECTION APPLIES:
STA. 532+81.03 TO STA. 548+60.75 = 1579.72 LIN.FT.
TOTAL 1579.72 LIN.FT.

BRIDGE LIMIT INCLUDING APPROACH SLAB
STA. 548+60.75 TO STA. 552+85.25 = 424.50 LIN.FT.
TOTAL 424.50 LIN.FT.

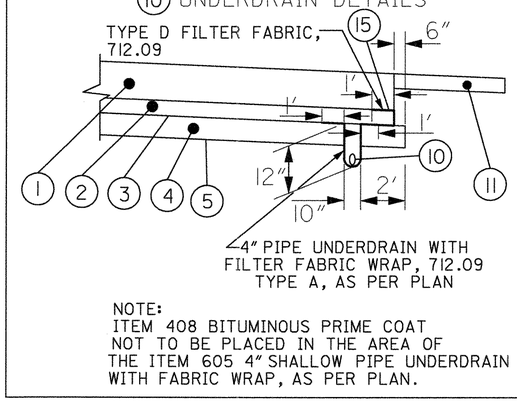



TYPICAL DETAIL FOR DITCH

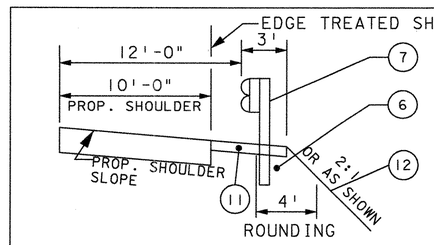
### LEGEND

| MARK | ITEM | DESCRIPTION |
|---|---|---|
| (1) | 452 | 11" PLAIN CONCRETE PAVEMENT |
| (2) | SPECIAL | 4" ASPHALT TREATED FREE DRAINING BASE, (SEE PROPOSAL NOTES) & (SEE SHEET 27) |
| (3) | 408 | BITUMINOUS PRIME COAT @ 0.40 GAL./S.Y. |
| (4) | 304 | 6" AGGREGATE BASE |
| (5) | 203 | SUBGRADE COMPACTION |
| (6) | 203 | EMBANKMENT |
| (7) | 606 | GUARDRAIL, TYPE 5 |
| (8) | 603 | 15" SLOTTED DRAIN (SEE SHEET 142) |
| (9) | 605 | 4" SHALLOW PIPE UNDERDRAIN |
| (10) | 605 | 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN (SEE SHEET 28) |
| (11) | 617 | 4" COMPACTED AGGREGATE, TYPE A, WITH ITEM 617 WATER |
| (12) | 659 | SEEDING AND MULCHING |
| (15) | SPECIAL | GEOTEXTILT FABRIC, TYPE D (SEE SHEET 29) |

(10) UNDERDRAIN DETAILS




NOTE:
ITEM 408 BITUMINOUS PRIME COAT NOT TO BE PLACED IN THE AREA OF THE ITEM 605 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN.




TYPICAL PLACEMENT OF GUARDRAIL

CALCULATED J.C. 6/24/96
CHECKED D.M. 7/24/96

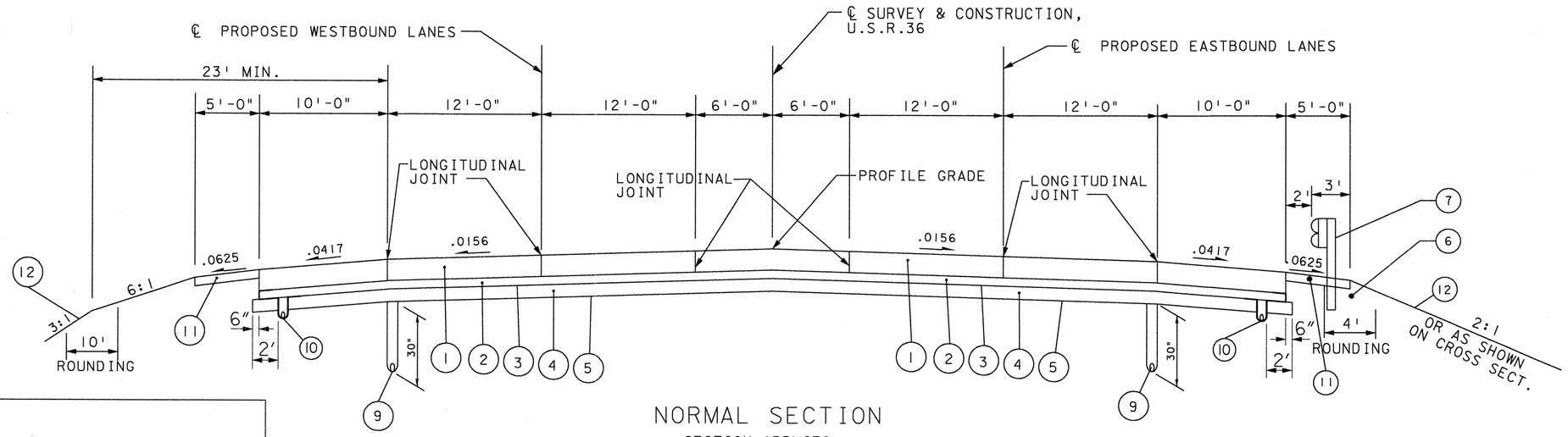
PROPOSED TYPICAL SECTIONS

COS-16-9.84
COS-36-20.06



C0161OC3.DGN 07-12-96

# NORMAL SECTION

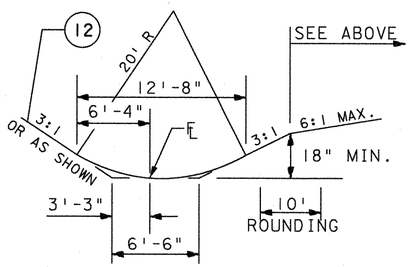



NORMAL SECTION

SECTION APPLIES:

STA. 552+85.25 TO STA. 554+03.42 (BACK) = 118.17 LIN.FT.

TOTAL 118.17 LIN.FT.

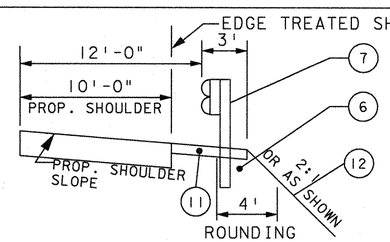



TYPICAL DETAIL FOR DITCH

BRIDGE LIMITS INCLUDING APPROACH SLABS

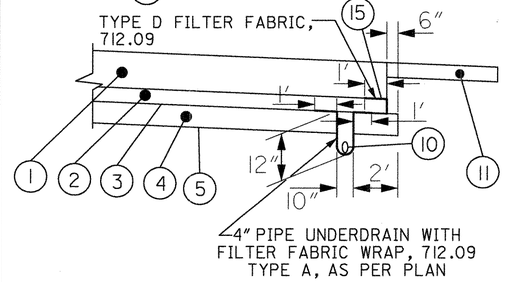
STA. 548+60.75 TO STA. 552+85.25 = 424.50 LIN.FT.

TOTAL 424.50 LIN.FT.




TYPICAL PLACEMENT OF GUARDRAIL

(10) UNDERDRAIN DETAILS




NOTE:
ITEM 408 BITUMINOUS PRIME COAT NOT TO BE PLACED IN THE AREA OF THE ITEM 605 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN.

LEGEND

| MARK | ITEM | DESCRIPTION |
|---|---|---|
| (1) | 452 | 11" PLAIN CONCRETE PAVEMENT |
| (2) | SPECIAL | 4" ASPHALT TREATED FREE DRAINING BASE, (SEE PROPOSAL NOTES) & (SEE SHEET 27) |
| (3) | 408 | BITUMINOUS PRIME COAT @ 0.40 GAL./S.Y. |
| (4) | 304 | 6" AGGREGATE BASE |
| (5) | 203 | SUBGRADE COMPACTION |
| (6) | 203 | EMBANKMENT |
| (7) | 606 | GUARDRAIL, TYPE 5 |
| (8) | 603 | 15" SLOTTED DRAIN (SEE SHEET 142) |
| (9) | 605 | 4" SHALLOW PIPE UNDERDRAIN |
| (10) | 605 | 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN (SEE SHEET 28) |
| (11) | 617 | 4" COMPACTED AGGREGATE, TYPE A WITH ITEM 617 WATER |
| (12) | 659 | SEEDING AND MULCHING |
| (15) | SPECIAL | GEOTEXTILE FABRIC, TYPE D (SEE SHEET 29) |

CALCULATED J.C. 6/24/96
CHECKED D.M. 7/24/96

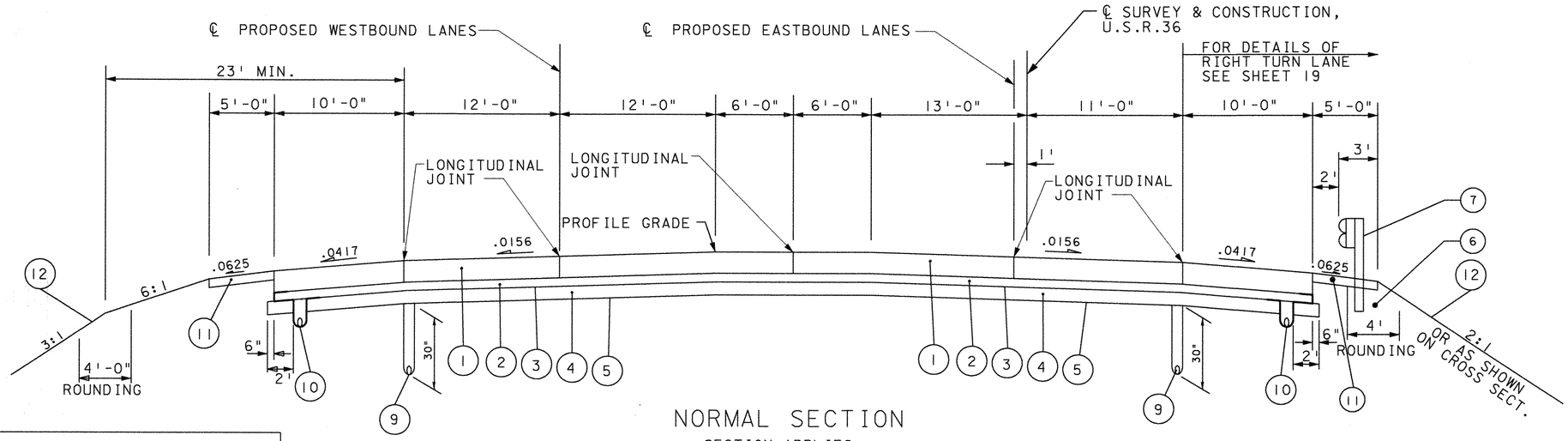
PROPOSED TYPICAL SECTIONS

COS-16-9.84
COS-36-20.06



C01610D3.DGN 07/12/96

# NORMAL SECTION

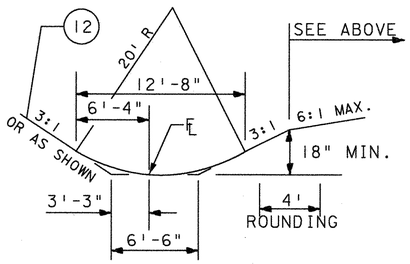



## NORMAL SECTION

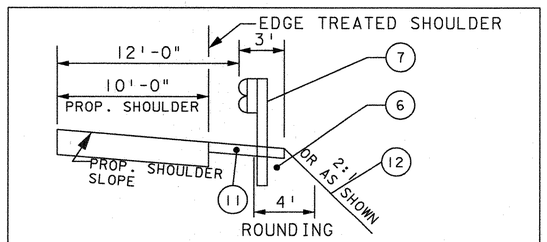
SECTION APPLIES:

STA. 0+00.00 (AHEAD) TO STA. 1+78.49 = 178.49 LIN.FT.

TOTAL 178.49 LIN.FT.

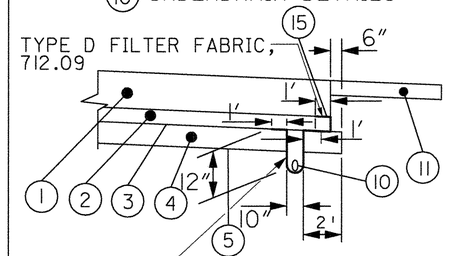



TYPICAL DETAIL FOR DITCH




TYPICAL PLACEMENT OF GUARDRAIL

## (10) UNDERDRAIN DETAILS




4" PIPE UNDERDRAIN WITH FILTER FABRIC WRAP, 712.09 TYPE A, AS PER PLAN

NOTE:
ITEM 408 BITUMINOUS PRIME COAT NOT TO BE PLACED IN THE AREA OF THE ITEM 605 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN.

## LEGEND

| MARK | ITEM | DESCRIPTION |
|---|---|---|
| (1) | 452 | 11" PLAIN CONCRETE PAVEMENT |
| (2) | SPECIAL | 4" ASPHALT TREATED FREE DRAINING BASE, (SEE PROPOSAL NOTES) & (SEE SHEET 27) |
| (3) | 408 | BITUMINOUS PRIME COAT @ 0.40 GAL./S.Y. |
| (4) | 304 | 6" AGGREGATE BASE |
| (5) | 203 | SUBGRADE COMPACTION |
| (6) | 203 | EMBANKMENT |
| (7) | 606 | GUARDRAIL, TYPE 5 |
| (8) | 603 | 15" SLOTTED DRAIN (SEE SHEET 142) |
| (9) | 605 | 4" SHALLOW PIPE UNDERDRAIN |
| (10) | 605 | 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN (SEE SHEET 28) |
| (11) | 617 | 4" COMPACTED AGGREGATE, TYPE A, WITH ITEM 617 WATER |
| (12) | 659 | SEEDING AND MULCHING |
| (15) | SPECIAL | GEOTEXTILE FABRIC, TYPE D (SEE SHEET 29) |

CALCULATED J.C. 6/24/96
CHECKED T.M. 7/24/96

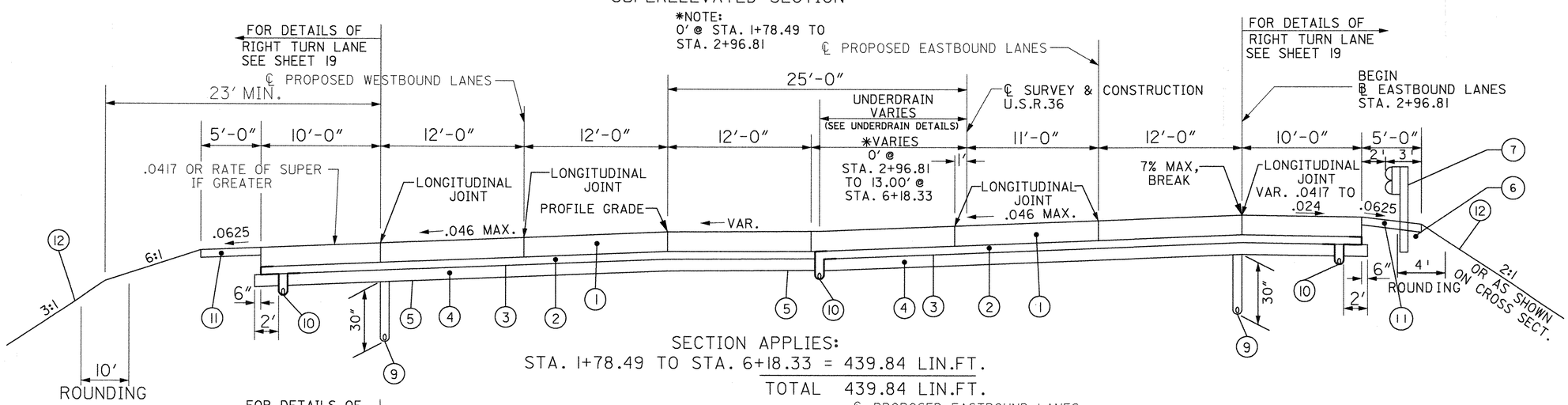
PROPOSED TYPICAL SECTIONS

COS-16-9.84
COS-36-20.06

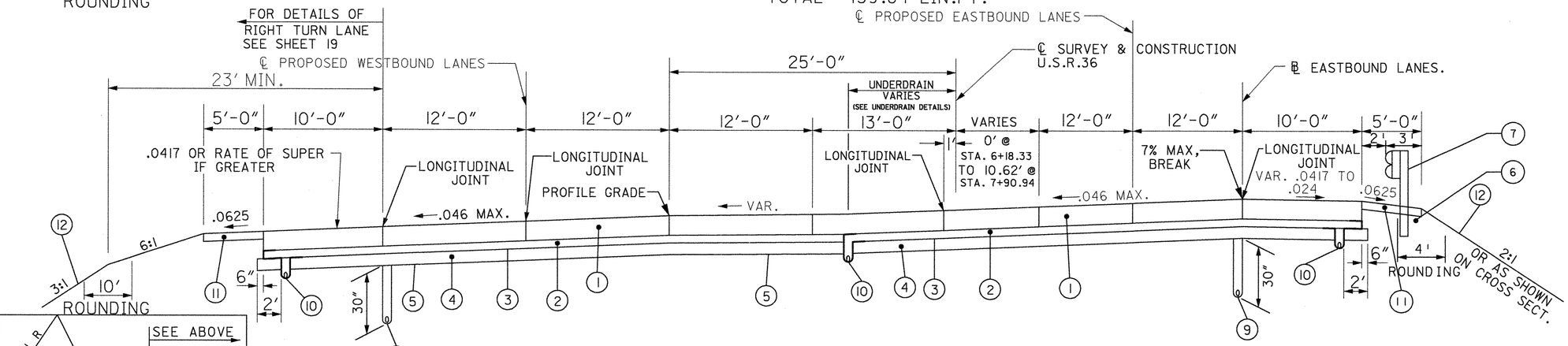


C01610L3.DGN 5//15/96

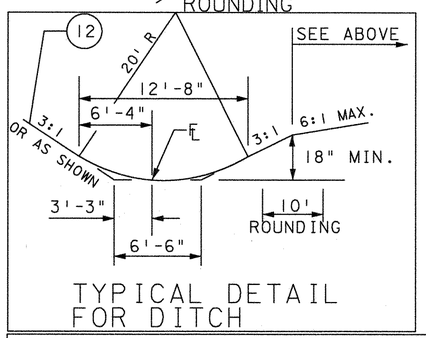
# SUPERELEVATED SECTION



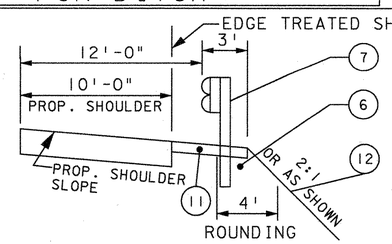

SECTION APPLIES:
STA. 1+78.49 TO STA. 6+18.33 = 439.84 LIN.FT.
TOTAL 439.84 LIN.FT.




SECTION APPLIES:
STA. 6+18.33 TO STA. 7+90.94 = 172.61 LIN.FT.
TOTAL 172.61 LIN.FT.




TYPICAL DETAIL
FOR DITCH

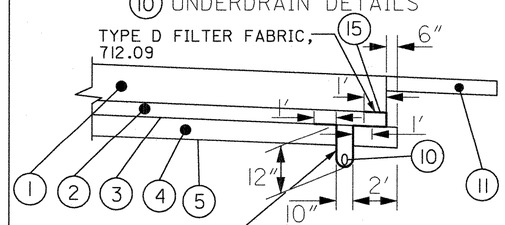



TYPICAL PLACEMENT
OF GUARDRAIL

## LEGEND

| MARK | ITEM | DESCRIPTION |
|---|---|---|
| (1) | 452 | 11" PLAIN CONCRETE PAVEMENT |
| (2) | SPECIAL | 4" ASPHALT TREATED FREE DRAINING BASE, (SEE PROPOSAL NOTES) & (SEE SHEET 27) |
| (3) | 408 | BITUMINOUS PRIME COAT @ 0.40 GAL./S.Y. |
| (4) | 304 | 6" AGGREGATE BASE |
| (5) | 203 | SUBGRADE COMPACTION |
| (6) | 203 | EMBANKMENT |
| (7) | 606 | GUARDRAIL, TYPE 5 |
| (8) | 603 | 15" SLOTTED DRAIN (SEE SHEET 142) |
| (9) | 605 | 4" SHALLOW PIPE UNDERDRAIN |
| (10) | 605 | 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN (SEE SHEET 28) |
| (11) | 617 | 4" COMPACTED AGGREGATE, TYPE A, WITH ITEM 617 WATER |
| (12) | 659 | SEEDING AND MULCHING |
| (15) | SPECIAL | GEOTEXTILE FABRIC, TYPE D (SEE SHEET 29) |

## (10) UNDERDRAIN DETAILS




4" PIPE UNDERDRAIN WITH
FILTER FABRIC WRAP, 712.09
TYPE A, AS PER PLAN

NOTE:
ITEM 408 BITUMINOUS PRIME COAT
NOT TO BE PLACED IN THE AREA OF
THE ITEM 605 4" SHALLOW PIPE UNDERDRAIN
WITH FABRIC WRAP, AS PER PLAN.

CALCULATED J.C. 6/24/96
CHECKED D.M. 7/24/96

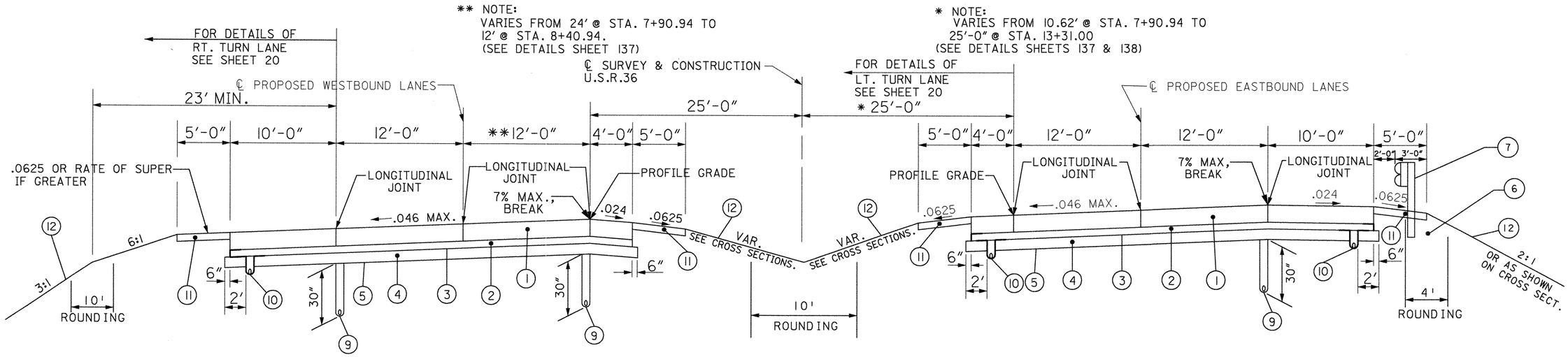
PROPOSED TYPICAL SECTIONS

COS-16-9.84
COS-36-20.06

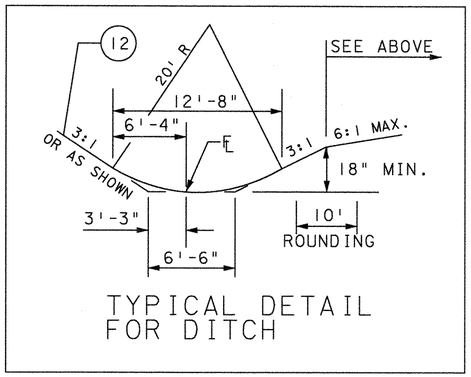
15
231

C0161OE3.DGN 07-12-96

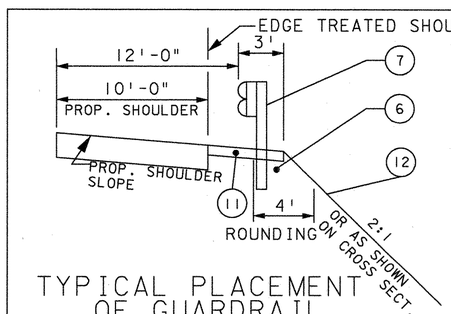
# SUPERELEVATED SECTION




SECTION APPLIES:
STA. 7+90.94 TO STA. 13+31.00 = 540.06 LIN.FT.
TOTAL 540.06 LIN.FT.

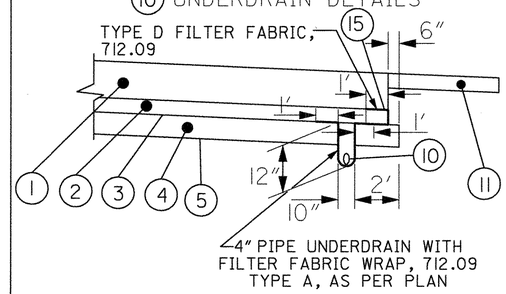



TYPICAL DETAIL
FOR DITCH




TYPICAL PLACEMENT
OF GUARDRAIL

## (10) UNDERDRAIN DETAILS




4" PIPE UNDERDRAIN WITH
FILTER FABRIC WRAP, 712.09
TYPE A, AS PER PLAN

NOTE:
ITEM 408 BITUMINOUS PRIME COAT
NOT TO BE PLACED IN THE AREA OF
THE ITEM 605 4" SHALLOW PIPE UNDERDRAIN
WITH FABRIC WRAP, AS PER PLAN.

## LEGEND

| MARK | ITEM | DESCRIPTION |
|---|---|---|
| (1) | 452 | 11" PLAIN CONCRETE PAVEMENT |
| (2) | SPECIAL | 4" ASPHALT TREATED FREE DRAINING BASE, (SEE PROPOSAL NOTES) & (SEE SHEET 27) |
| (3) | 408 | BITUMINOUS PRIME COAT @ 0.40 GAL./S.Y. |
| (4) | 304 | 6" AGGREGATE BASE |
| (5) | 203 | SUBGRADE COMPACTION |
| (6) | 203 | EMBANKMENT |
| (7) | 606 | GUARDRAIL, TYPE 5 |
| (8) | 603 | 15" SLOTTED DRAIN (SEE SHEET 142) |
| (9) | 605 | 4" SHALLOW PIPE UNDERDRAIN |
| (10) | 605 | 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN (SEE SHEET 28) |
| (11) | 617 | 4" COMPACTED AGGREGATE, TYPE A, WITH ITEM 617 WATER |
| (12) | 659 | SEEDING AND MULCHING |
| (15) | SPECIAL | GEOTEXTILE FABRIC, TYPE D (SEE SHEET 29) |

CALCULATED J.C. 6/24/96
CHECKED D.M. 7/24/96

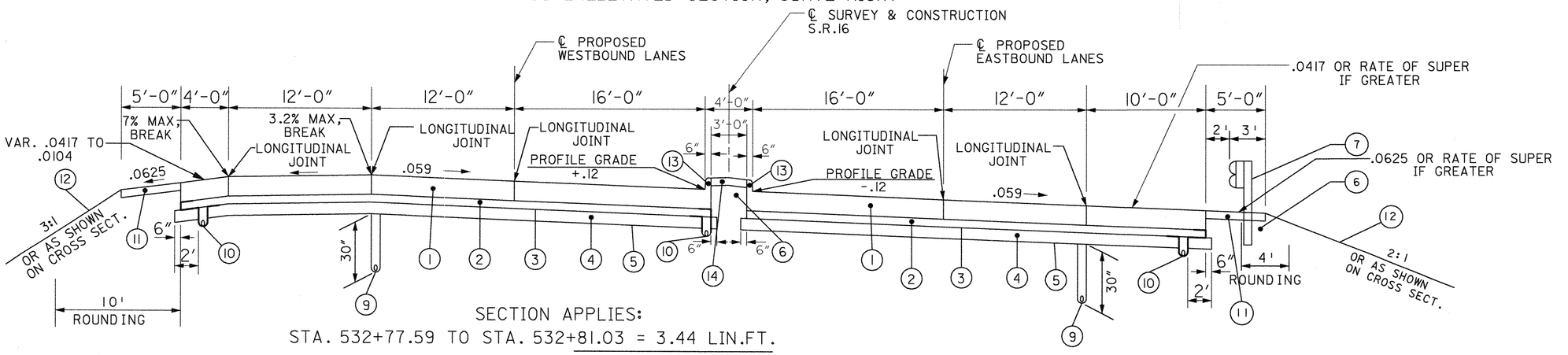
PROPOSED TYPICAL SECTIONS

COS-16-9.84
COS-36-20.06

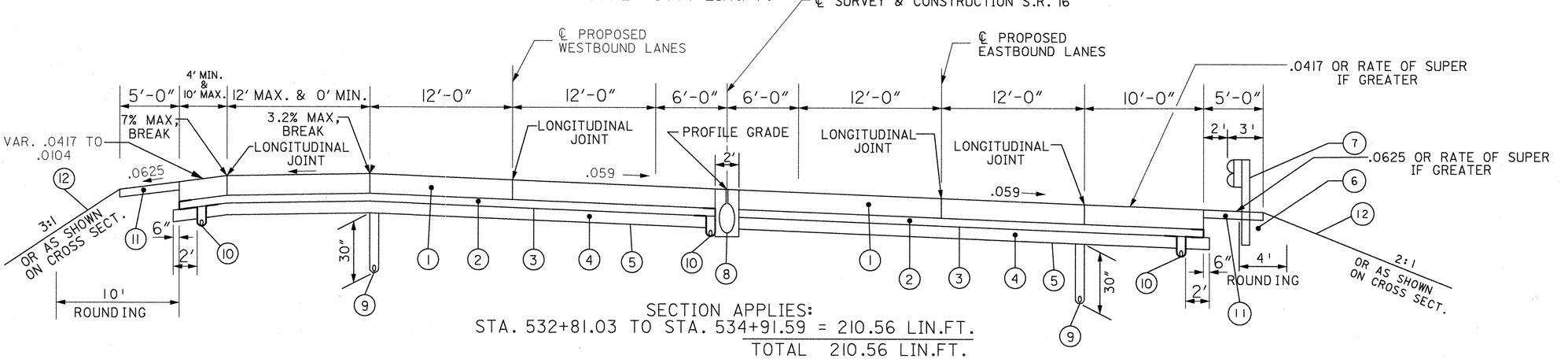
16
231

C0161003.DGN 07-16-96

## TYPICAL SECTION RIGHT TURN LANE
## SUPERELEVATED SECTION, CURVE RIGHT



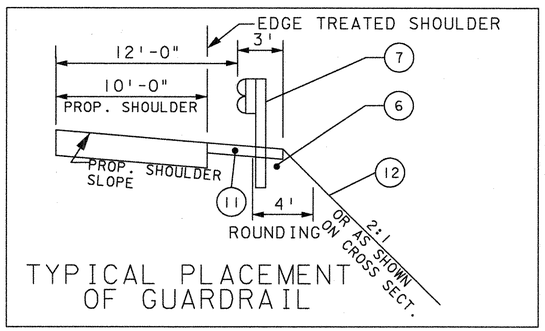

SECTION APPLIES:
STA. 532+77.59 TO STA. 532+81.03 = 3.44 LIN.FT.
TOTAL 3.44 LIN.FT.



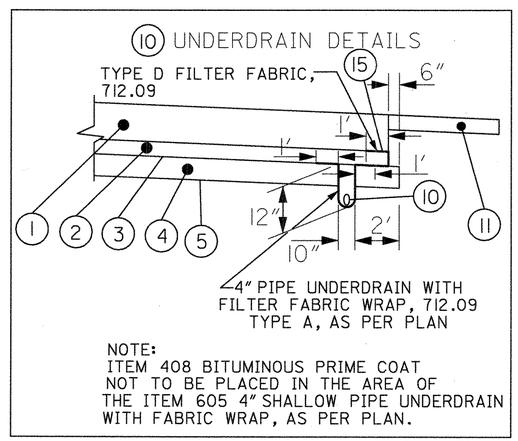

SECTION APPLIES:
STA. 532+81.03 TO STA. 534+91.59 = 210.56 LIN.FT.
TOTAL 210.56 LIN.FT.

### LEGEND

| MARK | ITEM | DESCRIPTION |
|---|---|---|
| (1) | 452 | 11" PLAIN CONCRETE PAVEMENT |
| (2) | SPECIAL | 4" ASPHALT TREATED FREE DRAINING BASE, (SEE PROPOSAL NOTES) & (SEE SHEET 27) |
| (3) | 408 | BITUMINOUS PRIME COAT @ 0.40 GAL./S.Y. |
| (4) | 304 | 6" AGGREGATE BASE |
| (5) | 203 | SUBGRADE COMPACTION |
| (6) | 203 | EMBANKMENT |
| (7) | 606 | GUARDRAIL, TYPE 5 |
| (8) | 603 | 15" SLOTTED DRAIN (SEE SHEET 142) |
| (9) | 605 | 4" SHALLOW PIPE UNDERDRAIN |
| (10) | 605 | 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN (SEE SHEET 28) |
| (11) | 617 | 4" COMPACTED AGGREGATE, TYPE A, WITH ITEM 617 WATER |
| (12) | 659 | SEEDING AND MULCHING |
| (13) | 609 | CURB, TYPE 4-A |
| (14) | 612 | 4" CONCRETE MEDIAN |
| (15) | SPECIAL | GEOTEXTILE FABRIC, TYPE D (SEE SHEET 29) |




TYPICAL PLACEMENT OF GUARDRAIL




NOTE:
ITEM 408 BITUMINOUS PRIME COAT NOT TO BE PLACED IN THE AREA OF THE ITEM 605 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN.

CALCULATED J.C. 6/24/96
CHECKED D.M. 7/24/96

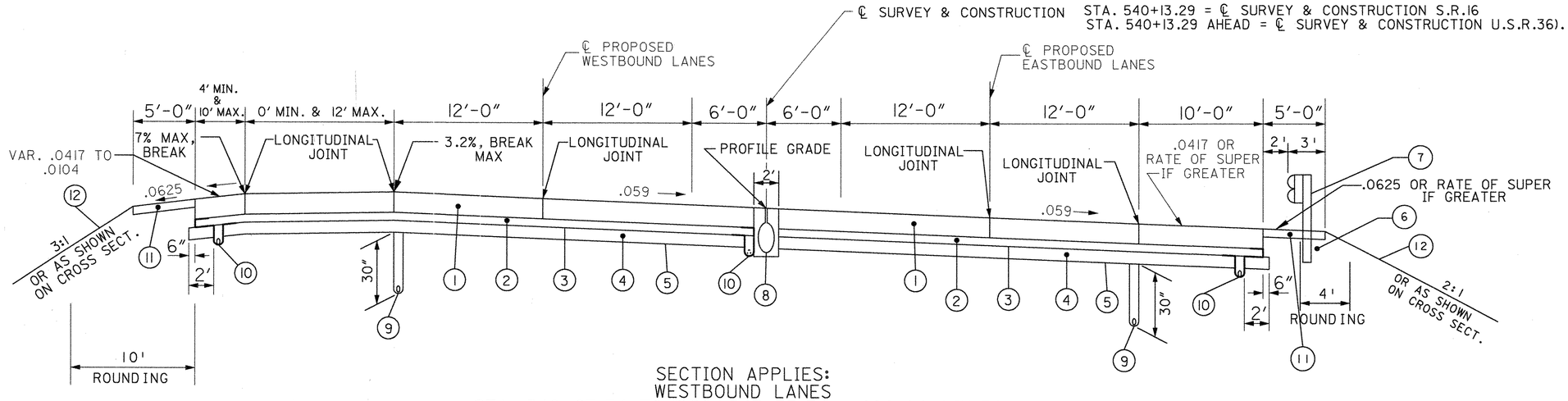
# PROPOSED TYPICAL SECTIONS

COS-16-9.84
COS-36-20.06



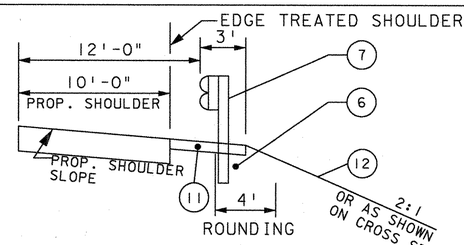
C0161OK3.DGN 07-12-96

# TYPICAL SECTION RIGHT TURN LANE
# SUPERELEVATED SECTION, CURVE RIGHT



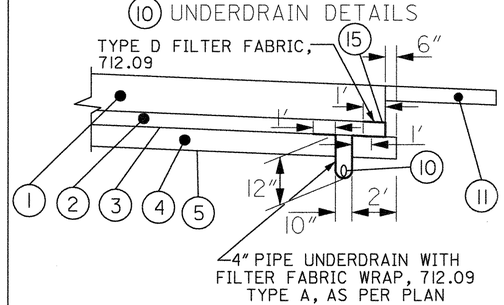

SECTION APPLIES:
WESTBOUND LANES
STA. 540+67.74 TO STA. 547+57.74 = 690.00 LIN.FT.
TOTAL 690.00 LIN.FT.

STA. 540+13.29 (BK.) ℄ SURVEY & CONSTRUCTION S.R.16
STA. 540+13.29 AHEAD ℄ SURVEY & CONSTRUCTION U.S.R.36).




TYPICAL PLACEMENT OF GUARDRAIL

## (10) UNDERDRAIN DETAILS




4" PIPE UNDERDRAIN WITH FILTER FABRIC WRAP, 712.09 TYPE A, AS PER PLAN

NOTE:
ITEM 408 BITUMINOUS PRIME COAT NOT TO BE PLACED IN THE AREA OF THE ITEM 605 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN.

## LEGEND

| MARK | ITEM | DESCRIPTION |
|---|---|---|
| (1) | 452 | 11" PLAIN CONCRETE PAVEMENT |
| (2) | SPECIAL | 4" ASPHALT TREATED FREE DRAINING BASE, (SEE PROPOSAL NOTES) & (SEE SHEET 27) |
| (3) | 408 | BITUMINOUS PRIME COAT @ 0.40 GAL./S.Y. |
| (4) | 304 | 6" AGGREGATE BASE |
| (5) | 203 | SUBGRADE COMPACTION |
| (6) | 203 | EMBANKMENT |
| (7) | 606 | GUARDRAIL, TYPE 5 |
| (8) | 603 | 15" SLOTTED DRAIN (SEE SHEET 142) |
| (9) | 605 | 4" SHALLOW PIPE UNDERDRAIN |
| (10) | 605 | 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN (SEE SHEET 28) |
| (11) | 617 | 4" COMPACTED AGGREGATE, TYPE A, WITH ITEM 617 WATER |
| (12) | 659 | SEEDING AND MULCHING |
| (15) | SPECIAL | GEOTEXTILE FABRIC, TYPE D (SEE SHEET 29) |

CALCULATED J.C. 6/24/96
CHECKED D.M. 7/24/96

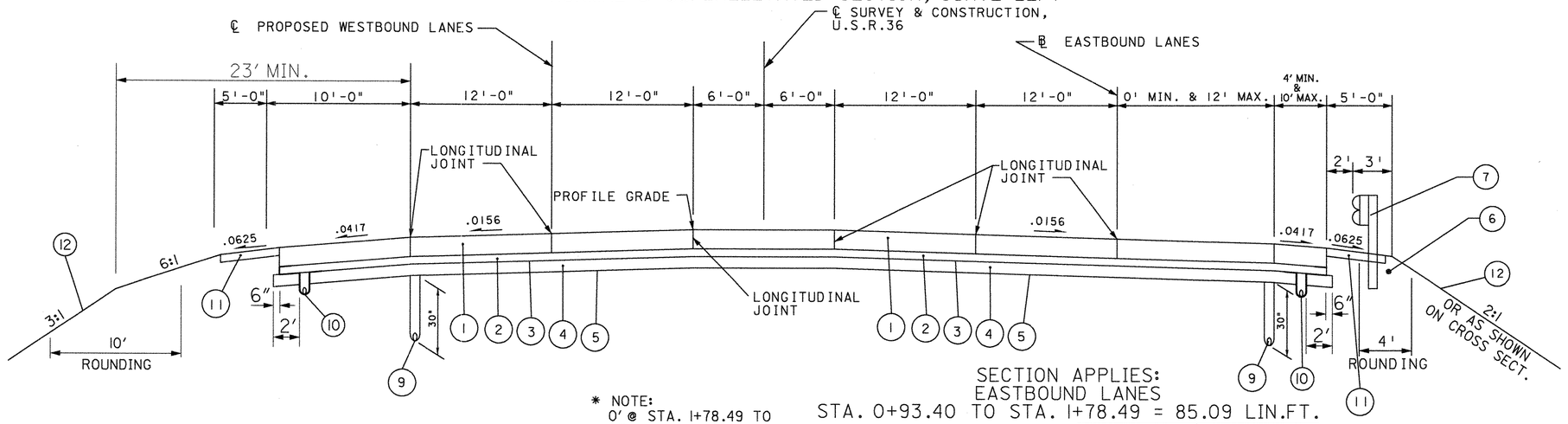
**PROPOSED TYPICAL SECTIONS**

**COS-16-9.84**
**COS-36-20.06**



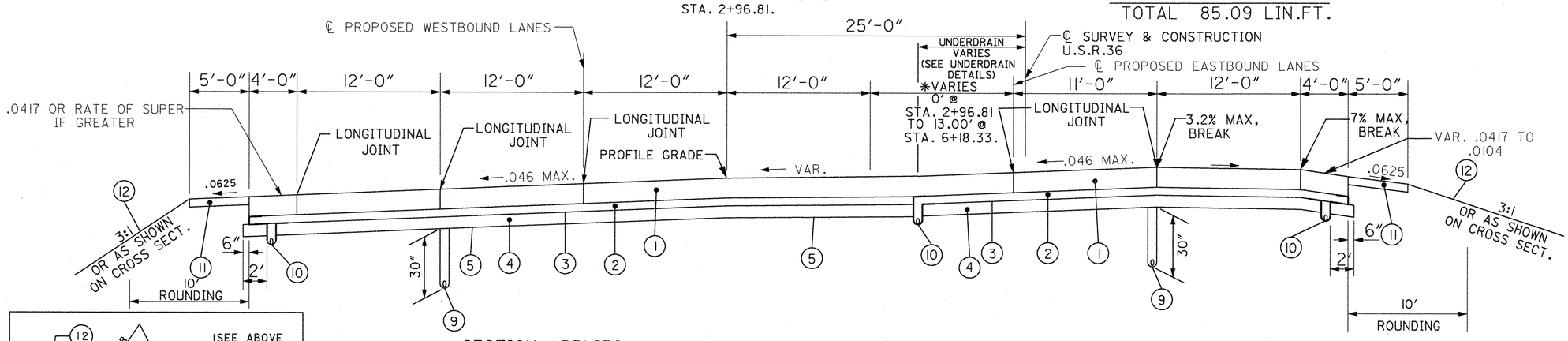
C0161OJ3.DGN 07-16-96

# TYPICAL SECTION RIGHT TURN LANE
## NORMAL & SUPERELEVATED SECTION, CURVE LEFT



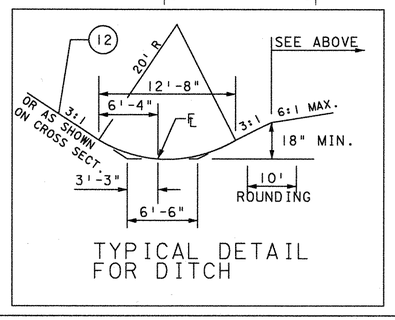

* NOTE:
0' @ STA. 1+78.49 TO STA. 2+96.81.

SECTION APPLIES:
EASTBOUND LANES
STA. 0+93.40 TO STA. 1+78.49 = 85.09 LIN.FT.
TOTAL 85.09 LIN.FT.

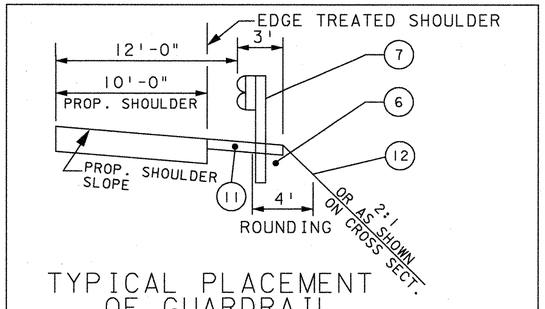



SECTION APPLIES:
WESTBOUND LANES
STA. 5+59.22 TO STA. 7+90.94 = 231.72 LIN.FT.
TOTAL 231.72 LIN.FT.

SECTION APPLIES:
EASTBOUND LANES
STA. 1+78.49 TO STA. 3+57.40 = 178.91 LIN.FT.
TOTAL 178.91 LIN.FT.



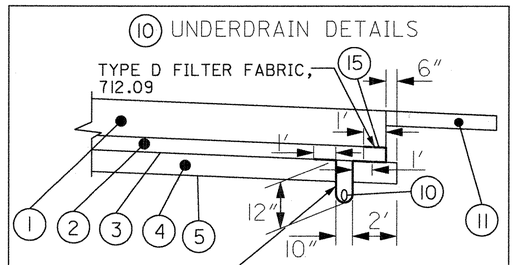

TYPICAL DETAIL
FOR DITCH




TYPICAL PLACEMENT
OF GUARDRAIL

| MARK | ITEM | DESCRIPTION |
|---|---|---|
| 1 | 452 | 11" PLAIN CONCRETE PAVEMENT |
| 2 | SPECIAL | 4" ASPHALT TREATED FREE DRAINING BASE, (SEE PROPOSAL NOTES) & (SEE SHEET 27) |
| 3 | 408 | BITUMINOUS PRIME COAT @ 0.40 GAL./S.Y. |
| 4 | 304 | 6" AGGREGATE BASE |
| 5 | 203 | SUBGRADE COMPACTION |
| 6 | 203 | EMBANKMENT |
| 7 | 606 | GUARDRAIL, TYPE 5 |
| 8 | 603 | 15" SLOTTED DRAIN (SEE SHEET 142) |
| 9 | 605 | 4" SHALLOW PIPE UNDERDRAIN |
| 10 | 605 | 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN (SEE SHEET 28) |
| 11 | 617 | 4" COMPACTED AGGREGATE, TYPE A, WITH ITEM 617 WATER |
| 12 | 659 | SEEDING AND MULCHING |
| 15 | SPECIAL | GEOTEXTILE FABRIC, TYPE D (SEE SHEET 29) |

(10) UNDERDRAIN DETAILS




4" PIPE UNDERDRAIN WITH FILTER FABRIC WRAP, 712.09 TYPE A, AS PER PLAN

NOTE:
ITEM 408 BITUMINOUS PRIME COAT NOT TO BE PLACED IN THE AREA OF THE ITEM 605 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN.

CALCULATED J.C. 6/24/96
CHECKED D.M. 7/24/96

PROPOSED TYPICAL SECTIONS

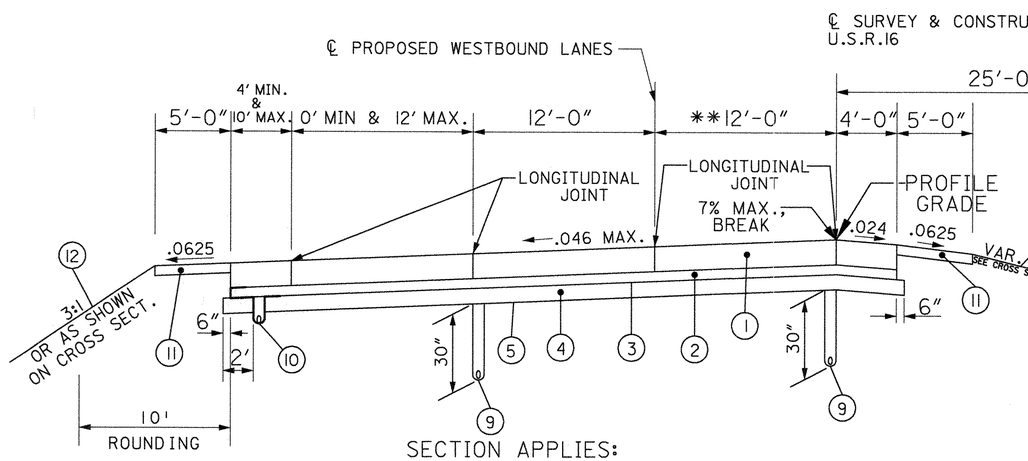
COS-16-9.84
COS-36-20.06



C0161013.DGN 07-16-96

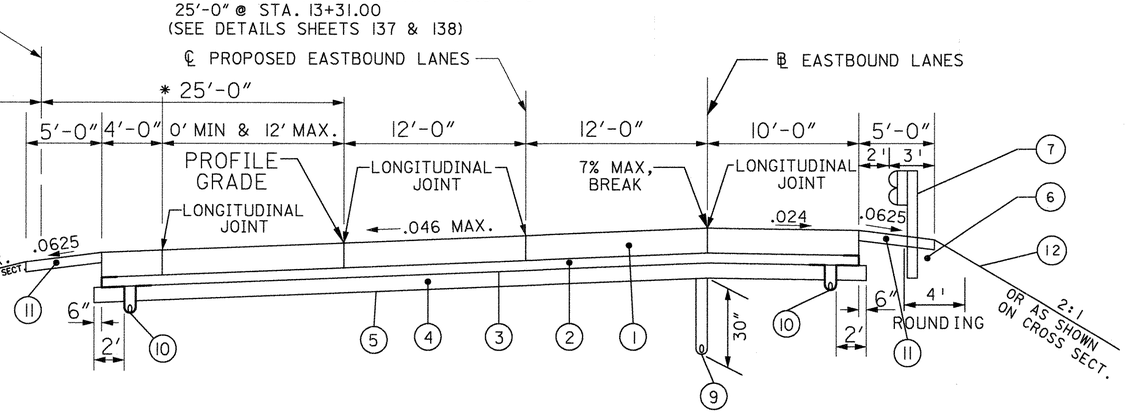
# TYPICAL SECTION RIGHT TURN LANE
# SUPERELEVATED SECTION, CURVE LEFT

**NOTE:
VARIES FROM 24' @ STA. 7+90.94 TO
12' AT STA. 8+40.94.

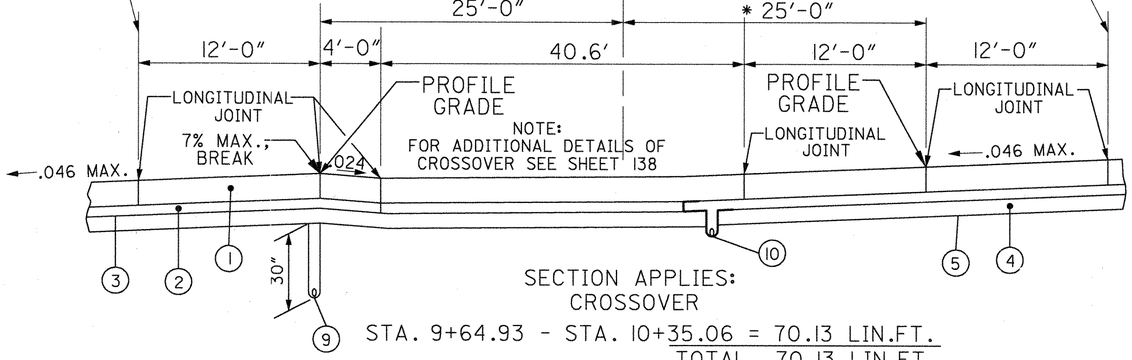



SECTION APPLIES:
WESTBOUND LANES
STA. 7+90.94 TO STA. 8+73.22 = 82.28 LIN.FT.
TOTAL 82.28 LIN.FT.

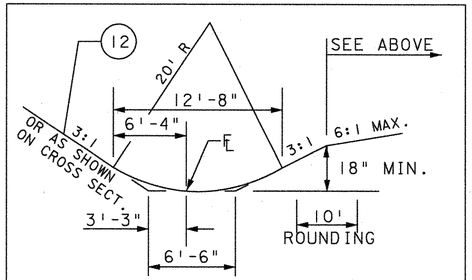
* NOTE:
VARIES FROM 10.62' @ STA. 7+90.94 TO
25'-0" @ STA. 13+31.00
(SEE DETAILS SHEETS 137 & 138)



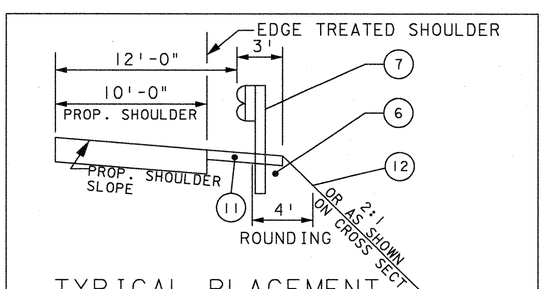

SECTION APPLIES:
EASTBOUND LANES
STA. 7+90.94 TO STA. 9+64.93 = 173.99 LIN.FT.
TOTAL 173.99 LIN.FT.




SECTION APPLIES:
CROSSOVER
STA. 9+64.93 - STA. 10+35.06 = 70.13 LIN.FT.
TOTAL 70.13 LIN.FT.

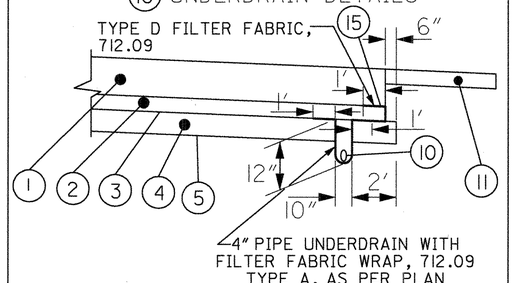



TYPICAL DETAIL
FOR DITCH




TYPICAL PLACEMENT
OF GUARDRAIL

## (10) UNDERDRAIN DETAILS




NOTE:
ITEM 408 BITUMINOUS PRIME COAT
NOT TO BE PLACED IN THE AREA OF
THE ITEM 605 4" SHALLOW PIPE UNDERDRAIN
WITH FABRIC WRAP, AS PER PLAN.

## LEGEND

| MARK | ITEM | DESCRIPTION |
|---|---|---|
| (1) | 452 | 11" PLAIN CONCRETE PAVEMENT |
| (2) | SPECIAL | 4" ASPHALT TREATED FREE DRAINING BASE, (SEE PROPOSAL NOTES) & (SEE SHEET 27) |
| (3) | 408 | BITUMINOUS PRIME COAT @ 0.40 GAL./S.Y. |
| (4) | 304 | 6" AGGREGATE BASE |
| (5) | 203 | SUBGRADE COMPACTION |
| (6) | 203 | EMBANKMENT |
| (7) | 606 | GUARDRAIL, TYPE 5 |
| (8) | 603 | 15" SLOTTED DRAIN (SEE SHEET 142) |
| (9) | 605 | 4" SHALLOW PIPE UNDERDRAIN |
| (10) | 605 | 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN (SEE SHEET 28) |
| (11) | 617 | 4" COMPACTED AGGREGATE, TYPE A, WITH ITEM 617 WATER |
| (12) | 659 | SEEDING AND MULCHING |
| (15) | SPECIAL | GEOTEXTILE FABRIC, TYPE D (SEE SHEET 29) |

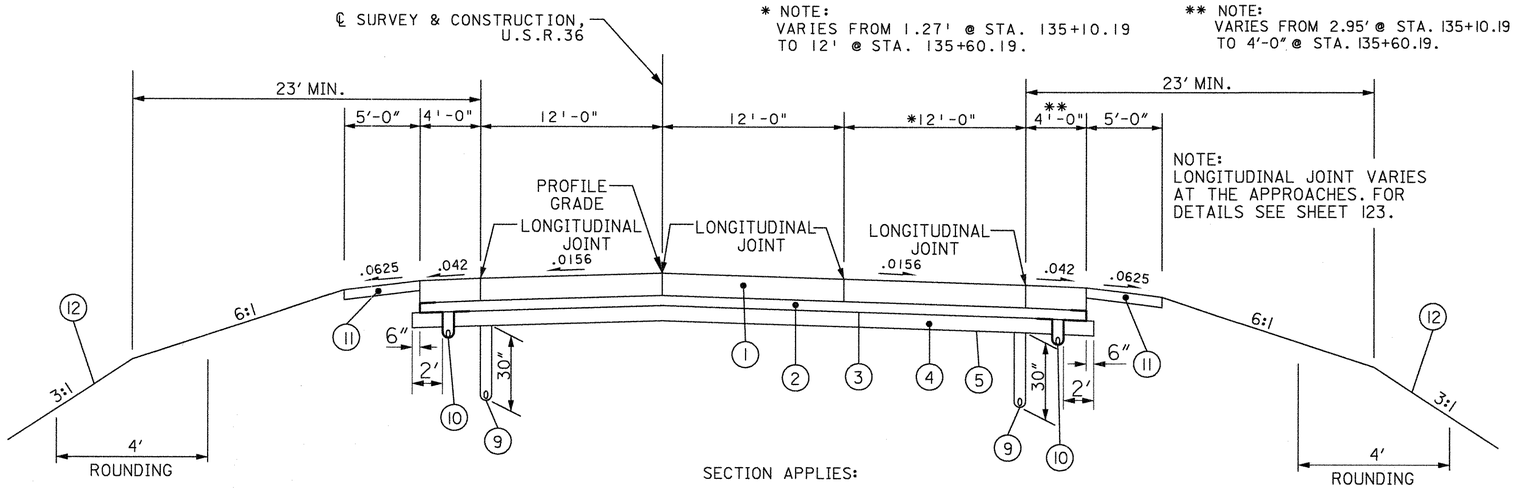
CALCULATED J.C. 6/24/96
CHECKED D.M. 7/24/96

PROPOSED TYPICAL SECTIONS

COS-16-9.84
COS-36-20.06



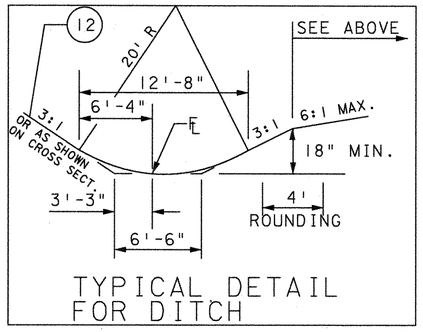
C0161OH3.DGN 7-16-96



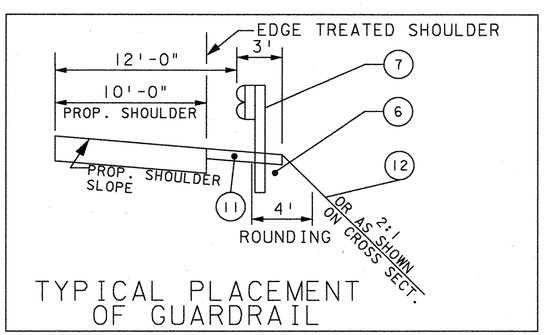

SECTION APPLIES:

STA. 135+10.19 TO STA. 140+70.82 = 560.63 LIN.FT.

TOTAL 560.63 LIN.FT.



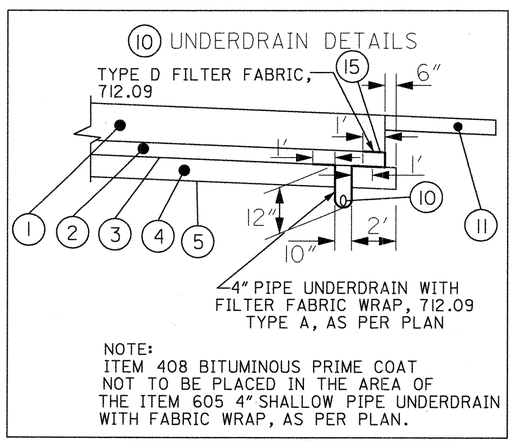

TYPICAL DETAIL FOR DITCH




TYPICAL PLACEMENT OF GUARDRAIL

LEGEND

| MARK | ITEM | DESCRIPTION |
|---|---|---|
| (1) | 452 | 11" PLAIN CONCRETE PAVEMENT |
| (2) | SPECIAL | 4" ASPHALT TREATED FREE DRAINING BASE, (SEE PROPOSAL NOTES) & (SEE SHEET 27) |
| (3) | 408 | BITUMINOUS PRIME COAT @ 0.40 GAL./S.Y. |
| (4) | 304 | 6" AGGREGATE BASE |
| (5) | 203 | SUBGRADE COMPACTION |
| (6) | 203 | EMBANKMENT |
| (7) | 606 | GUARDRAIL, TYPE 5 |
| (8) | 603 | 15" SLOTTED DRAIN (SEE SHEET 142) |
| (9) | 605 | 4" SHALLOW PIPE UNDERDRAIN |
| (10) | 605 | 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN (SEE SHEET 28) |
| (11) | 617 | 4" COMPACTED AGGREGATE, TYPE A, WITH ITEM 617 WATER |
| (12) | 659 | SEEDING AND MULCHING |
| (15) | SPECIAL | GEOTEXTILE FABRIC, TYPE D (SEE SHEET 29) |




NOTE:
ITEM 408 BITUMINOUS PRIME COAT NOT TO BE PLACED IN THE AREA OF THE ITEM 605 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN.

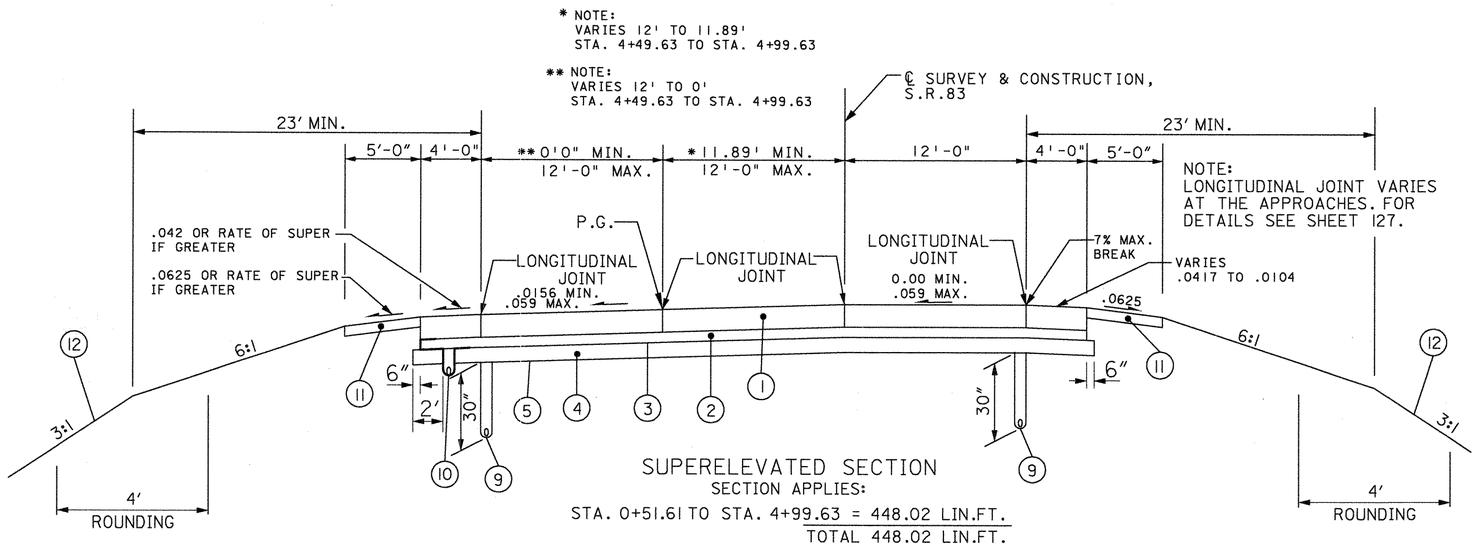
CALCULATED J.C. 6/24/96
CHECKED D.M. 7/24/96

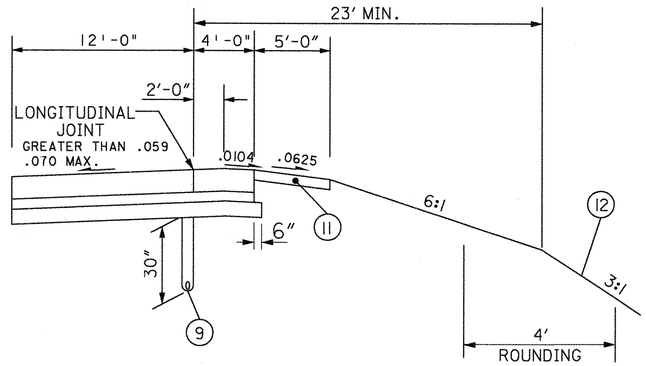
# PROPOSED TYPICAL SECTIONS U.S.R. 36

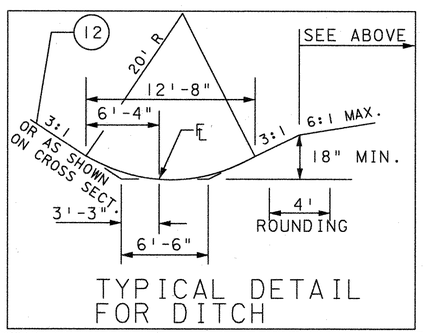
COS-16-9.84
COS-36-20.06

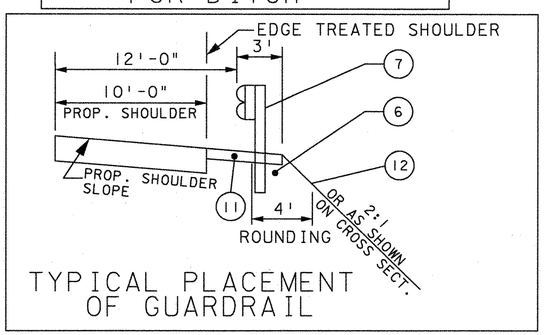


C0161OP3.DGN 7-16-96



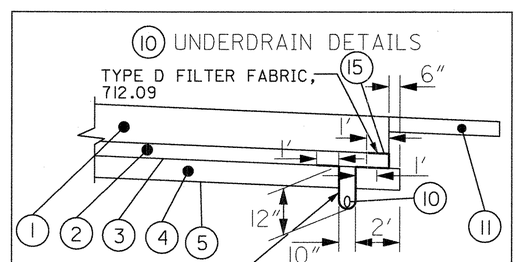




LEGEND

| MARK | ITEM | DESCRIPTION |
|---|---|---|
| (1) | 452 | 11" PLAIN CONCRETE PAVEMENT |
| (2) | SPECIAL | 4" ASPHALT TREATED FREE DRAINING BASE, (SEE PROPOSAL NOTES) & (SEE SHEET 27) |
| (3) | 408 | BITUMINOUS PRIME COAT @ 0.40 GAL./S.Y. |
| (4) | 304 | 6" AGGREGATE BASE |
| (5) | 203 | SUBGRADE COMPACTION |
| (6) | 203 | EMBANKMENT |
| (7) | 606 | GUARDRAIL, TYPE 5 |
| (8) | 603 | 15" SLOTTED DRAIN (SEE SHEET 142) |
| (9) | 605 | 4" SHALLOW PIPE UNDERDRAIN |
| (10) | 605 | 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN (SEE SHEET 28) |
| (11) | 617 | 4" COMPACTED AGGREGATE, TYPE A, WITH ITEM 617 WATER |
| (12) | 659 | SEEDING AND MULCHING |
| (15) | SPECIAL | GEOTEXTILE FABRIC, TYPE D (SEE SHEET 29) |




NOTE:
ITEM 408 BITUMINOUS PRIME COAT NOT TO BE PLACED IN THE AREA OF THE ITEM 605 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN.

CALCULATED J.C. 6/24/96
CHECKED D.M. 7/24/96

# PROPOSED TYPICAL SECTIONS S.R. 83

COS-16-9.84
COS-36-20.06

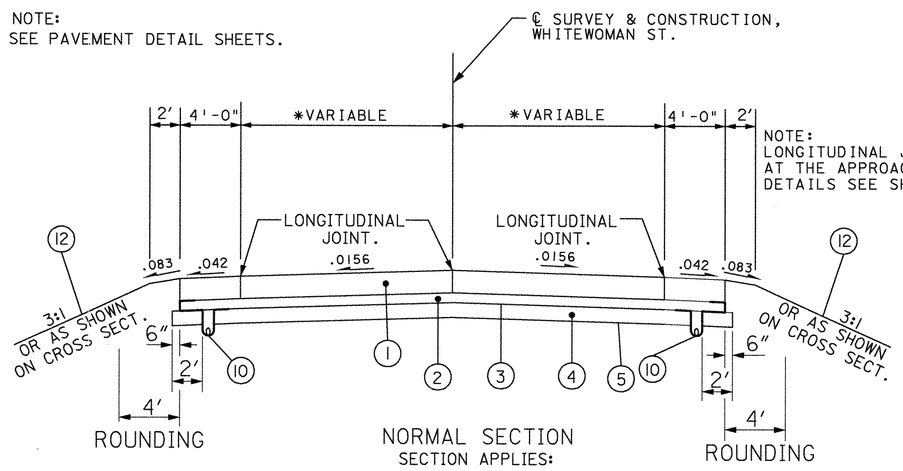


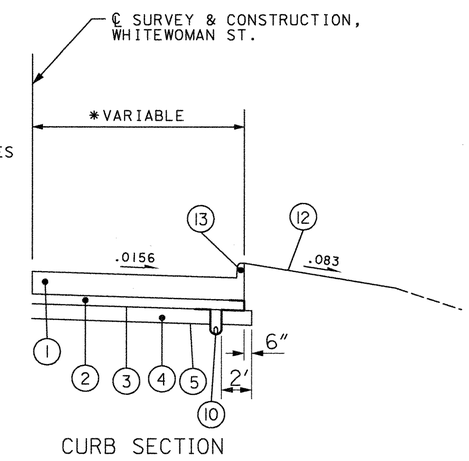
C0161OR3.DGN 7-16-96

# PROPOSED TYPICAL SECTIONS
# WHITEWOMAN ST. & CO. RD. 1A

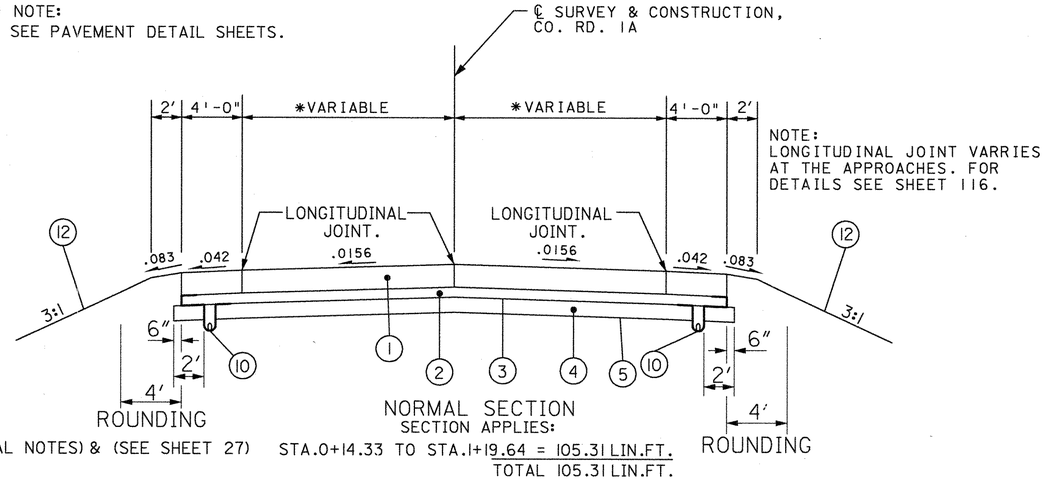
CALCULATED J.C. 6/24/96
CHECKED D.M. 7/24/96

* NOTE:
SEE PAVEMENT DETAIL SHEETS.



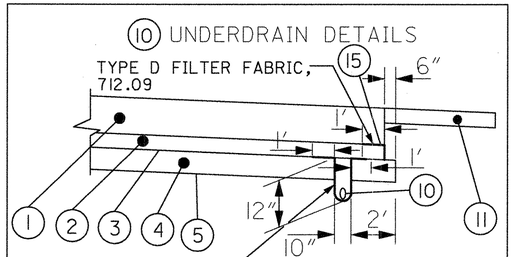

* NOTE:
SEE PAVEMENT DETAIL SHEETS.




## LEGEND

| MARK | ITEM | DESCRIPTION |
|---|---|---|
| (1) | 452 | 11″ PLAIN CONCRETE PAVEMENT |
| (2) | SPECIAL | 4″ ASPHALT TREATED FREE DRAINING BASE, (SEE PROPOSAL NOTES) & (SEE SHEET 27) |
| (3) | 408 | BITUMINOUS PRIME COAT @ 0.40 GAL./S.Y. |
| (4) | 304 | 6″ AGGREGATE BASE |
| (5) | 203 | SUBGRADE COMPACTION |
| (6) | 203 | EMBANKMENT |
| (7) | 606 | GUARDRAIL, TYPE 5 |
| (8) | 603 | 15″ SLOTTED DRAIN (SEE SHEET 142) |
| (9) | 605 | 4″ SHALLOW PIPE UNDERDRAIN |
| (10) | 605 | 4″ SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN (SEE SHEET 28) |
| (11) | 617 | 4″ COMPACTED AGGREGATE, TYPE A, WITH ITEM 617 WATER |
| (12) | 659 | SEEDING AND MULCHING |
| (13) | 609 | CURB, TYPE 2-A |
| (15) | SPECIAL | GEOTEXTILE FABRIC, TYPE D (SEE SHEET 29) |

(10) UNDERDRAIN DETAILS

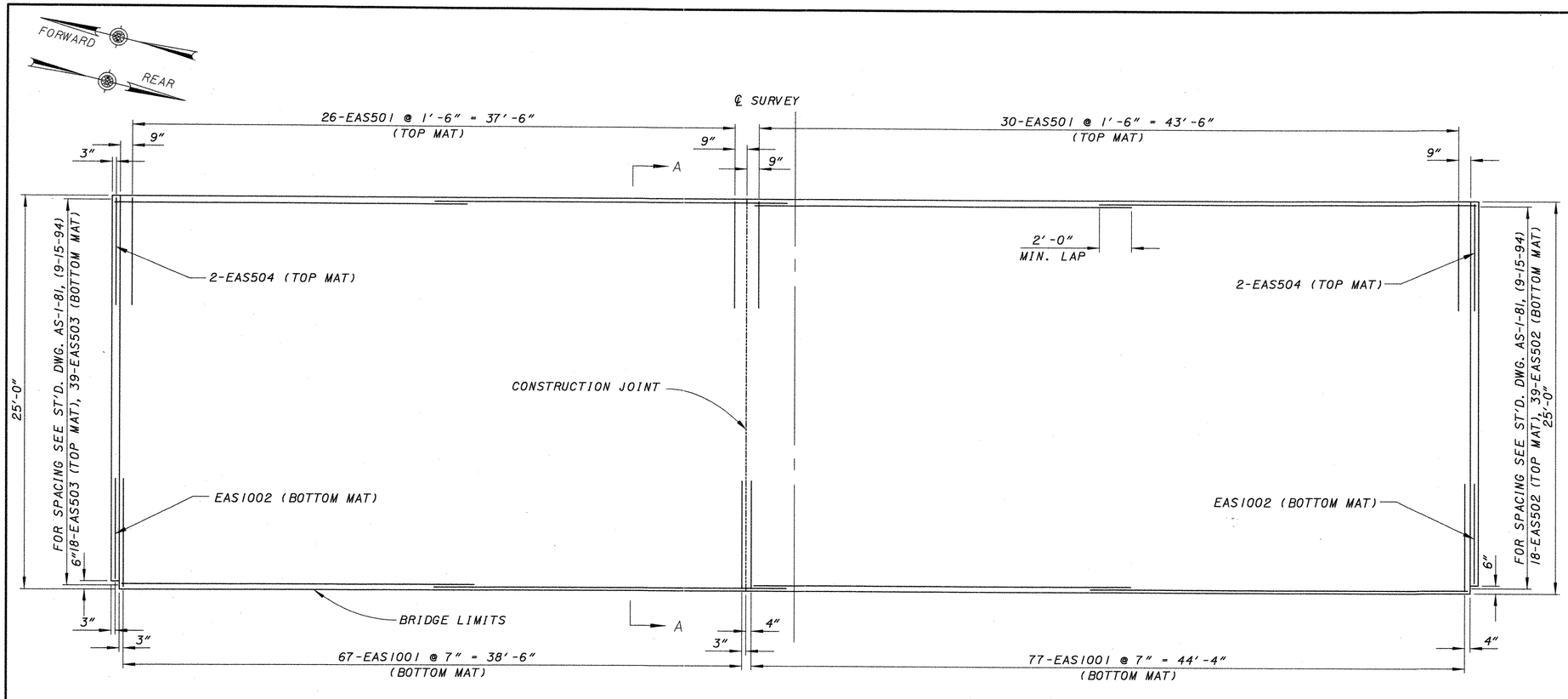



NOTE:
ITEM 408 BITUMINOUS PRIME COAT NOT TO BE PLACED IN THE AREA OF THE ITEM 605 4″ SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN.

COS-16-9.84
COS-36-20.06



C0161053.DGN 07-12-96

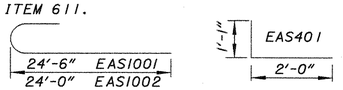



| ITEM | DESCRIPTION | QUANTITY | UNIT |
|---|---|---|---|
| 202 | APPROACH SLAB REMOVED | 94 | SQ.YD. |
| 203 | EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION | 172 | CU.YD. |
| 203 | EMBANKMENT | 74 | CU.YD. |
| 203 | SUBGRADE COMPACTION | 462 | SQ.YD. |
| 304 | AGGREGATE BASE | 74 | CU.YD. |
| 518 | POROUS BACKFILL WITH FILTER FABRIC | 143 | CU.YD. |
| 611 | REINFORCED CONCRETE APPROACH SLAB (T-15"), AS PER PLAN | 472 | SQ.YD. |
| QUANTITIES CARRIED TO THE GENERAL SUMMARY | | | |

## APPROACH SLAB

| MARK | NUMBER REQ'D. | SHAPE | LENGTH |
|---|---|---|---|
| *EAS401 | 52 | BT. | 3'-0" |
| *EAS501 | 112 | ST. | 24'-6" |
| *EAS502 | 114 | ST. | 23'-5' |
| *EAS503 | 114 | ST. | 21'-11' |
| *EAS504 | 8 | ST. | 24'-0" |
| *EAS1001 | 288 | BT. | 25'-11" |
| *EAS1002 | 4 | BT. | 25'-5" |
| | | | |

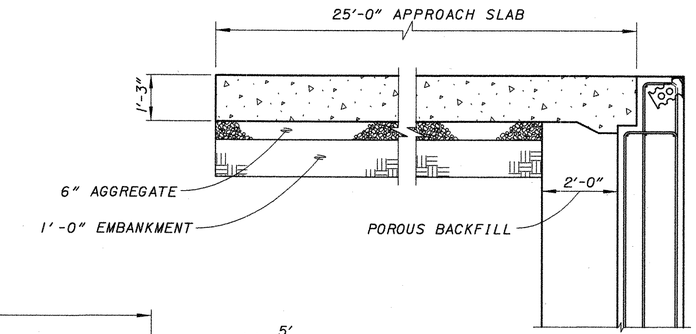
* RE-STEEL INCLUDED FOR PAYMENT WITH ITEM 611.



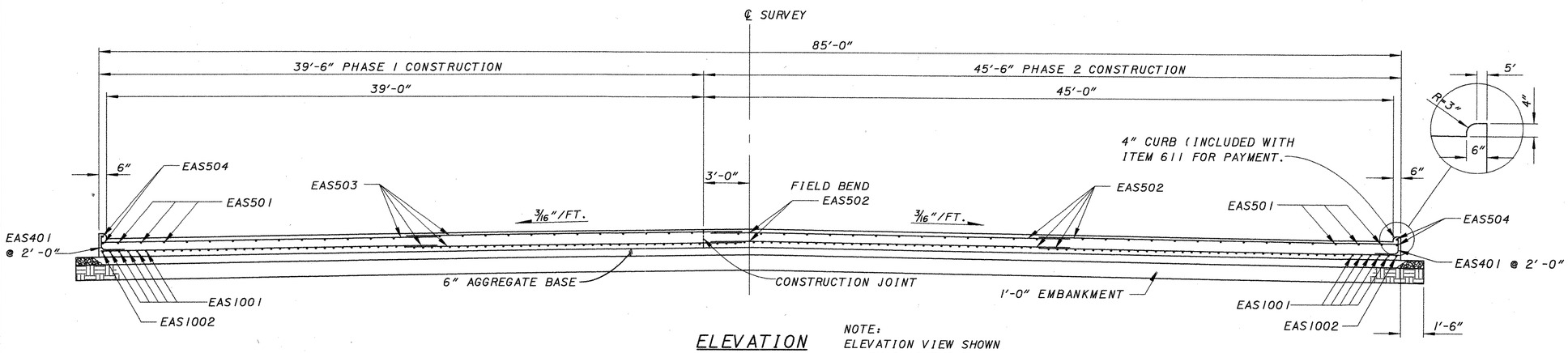

PLAN

NOTE:
PLAN VIEW SHOWN AT REAR ABUTMENT.

NOTE: LONGITUDINAL CONSTRUCTION JOINT TO BE SEALED WITH HIGH MOLECULAR WEIGHT METHACRYLATE(HMWM). SEALING WIDTH TO BE 2'-0", CENTERED ON THE CONSTRUCTION JOINT. SEALING THE LONGITUDINAL APPROACH SLAB CONTRUCTION JOINT IS TO BE INCLUDED FOR PAYMENT IN ITEM SPECIAL-SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN.




SECTION A-A




ELEVATION

NOTE:
ELEVATION VIEW SHOWN AT REAR ABUTMENT.

C0361OAP.DGN 01-31-97

DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 5

DESIGNED KAK | DRAWN TAG | REVIEWED NK | DATE 02/18/97 | CHECKED RSD | REVISED | STRUCTURE FILE NUMBER 1600451

APPROACH SLAB DETAILS
BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

COS-16-9.84
COS-36-20.06

24
231

# GENERAL NOTES

## OPPORTUNITY TO PARTNER

THE CONTRACTOR ON THIS PROJECT IS INVITED TO ENTER INTO A COOPERATIVE PARTNERSHIP AGREEMENT WITH THE DEPARTMENT. THE OBJECTIVE OF THIS AGREEMENT IS THE TIMELY COMPLETION OF THE WORK AND A QUALITY PRODUCT THAT WILL BE A SOURCE OF PRIDE TO BOTH THE DEPARTMENT AND THE CONTRACTOR. THE "PARTNERING AGREEMENT" WILL NOT AFFECT THE TERMS AND CONDITIONS OF THE CONTRACT. IT IS A DOCUMENT WHICH IS SOLEY INTENDED TO ESTABLISH AN ENVIRONMENT OF COOPERATION BETWEEN THE PARTIES. PARTICIPATION IN "PARTNERING" IS VOLUNTARY AND NOT A REQUIREMENT OF THE CONTRACT.

## EXAMINATION OF PROJECT

THE EXISTING THICKNESS SHOWN IN THE TYPICAL SECTIONS AND DETAILS ARE NOMINAL ONLY AND MAY VARY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE THE PROJECT SITE AND VERIFY THE ACTUAL PAVEMENT THICKNESS PRIOR TO SUBMITTING HIS BID PROPOSAL AS PER SECTION 102.05 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE HIS OWN TRAFFIC CONTROL IN ACCORDANCE WITH ALL REQUIREMENTS OF O.M.U.T.C.D. AND SHALL NOTIFY THE HIGHWAY MANAGEMENT ADMINISTRATOR AT LEAST FIVE WORKING DAYS IN ADVANCE OF SETTING UP TRAFFIC CONTROL FOR THE PURPOSE OF EXAMINING THE PAVEMENT AS STATED ABOVE.

## CONSTRUCTION PLAN

REFERENCE IS HEREBY MADE TO THE FOLLOWING DESIGNATED PLAN FOR FORMER CONSTRUCTION PROJECTS, PORTIONS OF WHICH COVER AREAS INCLUDED IN THIS PROPOSED IMPROVEMENT.

COS-36-20.74 (58)
COS-76-11.71/COS-621-0.86 (52)
COS-36-18.81 (62)
COS-16-9.45 (70)
COS-16-7.36-9.99/COS-36-20.48 (78)
COS-16-7.36/COS-36-20.48 (85)
COS-36-20.83 278 (96)

COPIES OF THESE PLANS ARE ON FILE EITHER AT THE DISTRICT 5 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION OR AT THE OFFICE OF THE ADMINISTRATOR OF CONTRACT SALES COLUMBUS, OHIO.

## UNDERGROUND UTILITIES

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

## UTILITIES

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

### TELEPHONE

AMERITECH OF OHIO, INC.
160 NO. 6th. STREET
ZANESVILLE, OHIO 43701
(614) 454-3513

### WATER

COSHOCTON, CITY OF
760 CHESTNUT STREET
CITY HALL
COSHOCTON, OHIO 43812
(614) 622-2626

### GAS

NGO DEVELOPMENT CORP.
1500 GRANVILLE RD.,
P.O. BOX 517
NEWARK , OH 43058-0517
(614) 344-3790

COLUMBIA GAS OF OHIO INC.
216 HIGHLAND AVE.
P.O. BOX 250
CAMBRIDGE, OH 43725-0250
(614) 344-3790

### ELECTRIC

AMERICAN ELECTRIC POWER
215 NORTH FRONT STREET
COLUMBUS, OHIO 43215-2291
(614) 464-7911

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 5
9600 JACKSONTOWN RD.
JACKSONTOWN, OHIO 43030-
(614) 323-4400

COSHOCTON, CITY OF
760 CHESTNUT STREET
CITY HALL
COSHOCTON, OHIO 43812
(614) 622-2626

## ROUNDING

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

## 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.

## COOPERATION BETWEEN CONTRACTORS

THE STATE MAY HAVE A CONTRACT TO IMPROVE U.S.R. 36 IN COSHOCTON COUNTY FROM S.L.M. 20.83 TO 27.68. DUE TO AN OVERLAP WITH THIS PROJECT, IT IS PERTINENT THAT THIS CONTRACTOR FULLY COOPERATE WITH THE COS-36-20.83 (PROJECT 278 (96) CONTRACTORS AS OUTLINED IN SECTION 105.07 OF THE SPECIFICATIONS.

## 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.

CALCULATED D.M. 6/24/96
CHECKED A.L.L. 7/24/96

GENERAL NOTES

COS-16-9.84
COS-36-20.06



C0161OM4.DGN 6-16-97

# GENERAL NOTES

## ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON SEA LEVEL DATUM OF 1929.

## WORK LIMITS

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

## REMOVAL OF TREES OR STUMPS

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:

| SIZES | NO. TREES | NO. STUMPS | TOTAL |
|---|---|---|---|
| 18" | 3 | 1 | 4 |

## ITEM 604 REFERENCE MONUMENTS

MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS AS SHOWN ON THE STANDARD CONSTRUCTION DRAWING MC-1 AND AT THE LOCATIONS SHOWN ON SHEET NO. 81.

## CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN ON STANDARD CONSTRUCTION DRAWING GR-1.1. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

## ITEM 659, SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, WITHIN THE CONSTRUCTION LIMITS OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR ITEM 659, SEEDING AND MULCHING, ARE BASED ON THESE LIMITS PLUS 10 FEET.
THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

| | | | |
|---|---|---|---|
| ITEM | 659 SEEDING AND MULCHING | 51,569 | SQ.YD. |
| ITEM | 659 AGRICULTURAL LIMING | 24 | TON |
| ITEM | 659 COMMERCIAL FERTILIZER | 5+3=8 | TON |

ADD 3 TONS FOR SECOND APPLICATION FOR TWO CONSECUTIVE SEASONS AS PER 659.08.

## TEMPORARY SEDIMENT AND EROSION CONTROL

| | | |
|---|---|---|
| ITEM 207 TEMPORARY SEEDING AND MULCHING | 10,705 | SQ.YD. |
| ITEM 659 REPAIR SEEDING AND MULCHING | 2,675 | SQ.YD. |
| ITEM 659 COMMERCIAL FERTILIZER | 3 | TON |
| ITEM 659 WATER | 25 | M.GAL. |
| ITEM 659 MOWING | 485 | M. SQ. FT. |

## WATERING AND MOWING PERMANENT SEEDED AREAS

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR PERMANENT SEEDED AREAS PER 659.09:

ITEM 659 WATER 120 M.GAL.

## ITEM 607, FENCE, TYPE 47

A CONTINGENCY QUANTITY OF 250 LIN.FT OF ITEM 607, FENCE, TYPE 47 HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE PROJECT ENGINEER.

ITEM 607, FENCE, TYPE 47 500 LIN.FT.

## ITEM 614 TEMPORARY CROSSOVER LIGHTING SYSTEM

THE CONTRACTOR SHALL PROVIDE TEMPORARY CROSSOVER LIGHTING FOR THE CROSSOVERS, AS PER STANDARD CONSTRUCTION DRAWING MT-100.00.
THE APPROXIMATE STATIONS AND LIMITS FOR EACH CROSSOVER ARE AS FOLLOWS:

| ℄ CROSSOVER LOCATIONS: | FROM | TO |
|---|---|---|
| STA. 523+94.60 | STA. 521+90.00 | STA. 526+00.00 |
| STA. 29+98.15 | STA. 26+50.00 | STA. 33+46.30 |

TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOT-CANDLES AND SHALL BE INSTALLED BEFORE THE DESIGNATED AREAS ARE USED FOR THE MAINTENANCE OF TRAFFIC.

THE CONTRACTOR SHALL SUBMIT 4 SETS OF HIS PROPOSED DETAILED TEMPORARY LIGHTING PLANS TO THE DIRECTOR FOR REVIEW AND APPROVAL. THESE PLANS SHALL SHOW LOCATION OF POLES, LENGTH OF BRACKET ARMS, TYPE AND SIZE OF LUMINAIRES AND LAMPS, MOUNTING HEIGHT, POWER SOURCE AND OTHER PERTINENT INFORMATION.

RECONDITIONED OR APPROVED USED MATERIALS MAY BE FURNISHED FOR THE TEMPORARY LIGHTING SYSTEM. CONSTRUCTION WILL BE WITH FIBERGLASS OR OTHER BREAKAWAY POLES AND UNDERGROUND ELECTRICAL FEEDS WITH PULL-AWAY CONNECTOR KITS (TYPE II AND III). MOUNTING HEIGHT FOR TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 27 FEET. ALL COMPONENTS OFTHE TEMPORARY LIGHTING INSTALLATIONS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR WHEN NO LONGER NEEDED.

THE CONTRACTOR SHALL FURNISH ALL ELECTRICAL ENERGY, MATERIALS, LABOR AND EQUIPMENT NECESSARY TO INSTALL, OPERATE, MAINTAIN AND REMOVE THE TEMPORARY CROSSOVER LIGHTING SYSTEM.

THE UNIT BID PRICE FOR EACH ITEM 614 TEMPORARY CROSSOVER LIGHTING SYSTEM SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE THE TEMPORARY LIGHTING AS SPECIFIED.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO PEFORM THE WORK AS DESCRIBED ABOVE.

ITEM 614 TEMPORARY CROSSOVER LIGHTING SYSTEM 2 EACH

CALCULATED DM 6/24/96
CHECKED A.L.L. 7/24/96

GENERAL NOTES

COS-16-9.84
COS-36-20.06



C0161QJ4.DGN 8/14/96

# GENERAL NOTES

## ITEM 203 PROOF ROLLING

THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY, TO BE USED AS DIRECTED BY THE PROJECT ENGINEER, TO PERFORM THE WORK AS DESCRIBED PER ITEM 203.14.

ITEM 203 PROOF ROLLING 13 HOURS

## UNSUITABLE SUBGRADE

DUE TO POOR SOILS IN THE AREA OF THE PAVEMENT REPLACEMENT AN ESTIMATED QUANTITY OF ITEM 203 EXCAVATION AND ITEM 203 EMBANKMENT USING GRANULAR MATERIAL AS PER 203.02 HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

THE STATE OF OHIO RESERVES THE RIGHT TO NON-PERFORM 100% OF THESE ITEMS.

ITEM 203 EXCAVATION, NOT INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN 100 CU.YD.

ITEM 203 EMBANKMENT USING GRANULAR MATERIAL, AS PER PLAN 100 CU.YD.

ITEM 203 EMBANKMENT, AS PER PLAN 100 CU.YD.

ITEM 203 EXCAVATION, NOT INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN

ITEM 203 EMBANKMENT USING GRANULAR MATERIAL, AS PER PLAN

ITEM 203 EMBANKMENT, AS PER PLAN

THE ITEMS LISTED ABOVE ARE SHOWN IN THE PLANS FOR SUBGRADE TREATMENT BY UNDERCUTTING AND REPLACEMENT. THEY HAVE BEEN DESIGNATED "AS PER PLAN" FOR THE PURPOSE OF PROVIDING SEPARATE PAY ITEMS FOR THE UNDERCUTTING AND REPLACEMENT OPERATIONS.

## BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATION IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. ALL OTHER SLOPED EMBANKMENT AREAS SHALL BE BENCHED AS SET FORTH IN 203.09 AND AS DIRECTED BY THE PROJECT ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.09.

## ITEM 611 REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN

THE REINFORCING STEEL FOR THE APPROACH SLABS OF THIS STRUCTURE SHALL BE EPOXY COATED IN CONFORMANCE WITH 509.

IN ADDITION TO THE APPROACH SLAB, A 4" CURB SHALL BE PLACED ON THE EDGES AS DETAILED ON SHEET 24.

MATERIALS, LABOR AND INSTALLATION SHALL BE INCLUDED FOR PAYMENT IN THIS ITEM 611 REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN.

## ITEM 203 EMBANKMENT USING GRANULAR MATERIAL

THE MATERIALS FURNISHED FOR THIS ITEM SHALL MEET ALL OF THE REQUIREMENTS OF ITEM 203.02, GRANULAR MATERIAL.

## TEMPORARY STREAM CROSSING FORDS

WHERE STREAM CROSSING FORDS ARE REQUIRED FOR EQUIPMENT CROSSING, THE CROSSING SHALL CONSIST OF CLEAN NON-TOXIC GRANULAR OR ROCK MATERIAL, PROPERLY MAINTAINED TO PREVENT EROSION, WITH PROVISIONS FOR CONVEYANCE OF ANTICIPATED HIGH FLOWS, AND SHALL NOT IMPEDE THE MOVEMENT OF AQUATIC LIFE. CONSTRUCTION SHALL BE IN ACCORDANCE WITH PART 330, APPENDIX A, SPECIFIC CATEGORIES OF DISCHARGES-NATIONALLY PERMITTED, PARAGRAPH (A14), MINOR ROAD CROSSING FILLS - THE FEDERAL REGISTER - CORPS OF ENGINEERS FINAL REGULATIONS, CURRENT EDITION.

## ITEM 407 TACK COAT FOR INTERMEDIATE COURSE

THE RATE OF APPLICATION OF THE 407 TACK COAT FOR INTERMEDIATE COURSE SHALL BE SUBJECT TO ADJUSMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.075 GALLONS PER SQUARE YARD OF TACK COAT FOR INTERMEDIATE COURSE FOR ESTIMATING PURPOSES ONLY.

## ITEM 305 9" CONCRETE BASE, AS PER PLAN

THE SECOND SENTENCE IN 305.01(a) SHALL READ: "LOAD TRANSFER DEVICES ARE REQUIRED AT ALL TRANSVERSE CONTRACTION, CONSTRUCTION AND EXPANSION JOINTS."

WHERE PROPOSED 305 BASE REPLACEMENT IS TIED LONGITUDINALLY TO EXISTING PAVEMENT, TRANSVERSE JOINT SPACING AS REQUIRED IN BP-2.2 SHALL BE WAIVED. TRANSVERSE JOINTS IN THE ITEM 305 BASE PAVEMENT SHALL BE LOCATED AT ALL EXISTING TRANSVERSE JOINTS IN THE ADJACENT PAVEMENT. JOINTS SHALL BE CONSTRUCTED TO FORM A CONTINUOUS LINE IN THE SAME ALIGNMENT AS THE TRANSVERSE JOINT IN THE ADJACENT EXISTING PAVEMENT.

## ADDITIONAL SOIL INFORMATION

THE SOIL PROFILE AND/OR STRUCTURE FOUNDATION INVESTIGATION SHEETS CONTAIN ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN. ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME ASPECT OF THE PROJECT. MORE INFORMATION, IF ANY, MAY BE OBTAINED IN DISTRICT 5 , THE OFFICE OF MATERIALS MANAGEMENT AT 1600 WEST BROAD STREET, THE OFFICE OF ROADWAY ENGINEERING, OR THE OFFICE OF STRUCTURAL ENGINEERING AT 25 SOUTH FRONT STREET IN COLUMBUS, OHIO.

## ITEM 622 PORTABLE CONCRETE BARRIER, 32"

THE CONTRACTOR SHALL INSTALL A PORTABLE CONCRETE BARRIER, AS PER STANDARD DRAWING MC-9.2.
ITEM 622 PORTABLE CONCRETE BARRIER, 32" HAS BEEN PROVIDED FOR MAINTAINING TRAFFIC AS SHOWN ON SHEETS 48-51, 54-57, 60 AND 61.
FLAGMEN SHALL BE UTILIZED FOR PROTECTION OF VEHICULAR TRAFFIC UNTIL MOVEMENT OF THE BARRIERS IS COMPLETE AND TRAFFIC IS MAINTAINED. AFTER THE PROJECT HAS BEEN COMPLETED THE PORTABLE CONCRETE BARRIER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED BY HIM.
THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THE ABOVE PURPOSE.

SEE SHEETS 48-51 FOR LIMITING STATIONS OF PORTABLE CONCRETE BARRIER.

ITEM 622 PORTABLE CONCRETE BARRIER, 32" 8190 LIN.FT.

## ITEM SPECIAL 4" ASPHALT TREATED FREE DRAINING BASE

IT IS THE CONTRACTOR'S OPTION TO USE CEMENT TREATED FREE DRAINING BASE IN LIEU OF ASPHALT TREATED FREE DRAINING BASE. ITEM 408 BITUMINOUS PRIME COAT SHALL BE NON PERFORMED WHEN USING CEMENT TREATED FREE DRAINAGE BASE.

CALCULATED D.M. 4-2-96
CHECKED A.L. 4-9-96

GENERAL NOTES

COS-16-9.84
COS-36-20.06



C01610L4.DGN 7-30-96

# GENERAL NOTES

## SPRING DRAINS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR DRAINING ANY SPRINGS SHOWN IN THE PLAN OR ENCOUNTERED DURING CONSTRUCTION. THE FOLLOWING TYPES OF PIPES MAY BE USED: 707.33, 707.42 OR 707.45.

SPRING DRAINS SHALL BE CONSTRUCTED AS SHOWN ON STANDARD CONSTRUCTION DRAWING MC-1 AND PAID FOR AT THE CONTRACT PRICE FOR:

ITEM 605 6" UNCLASSIFIED PIPE UNDERDRAIN, FOR SPRINGS 100 L.F.
ITEM 605 AGGREGATE DRAIN FOR SPRINGS 50 L.F.

## REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, 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.

## TREATED SEPTIC CONNECTIONS

TREATED SEPTIC FLOW MAY BE DISCHARGED INTO THE HIGHWAY DRAINAGE SYSTEM PROVIDED THE OWNER HAS ACQUIRED AN OFFICIAL PERMIT FROM THE OHIO DEPARTMENT OF TRANSPORTATION.

IN EACH CASE WHERE A PERMIT HAS BEEN ISSUED FOR MAKING A TREATED SEPTIC CONNECTION INTO A HIGHWAY DRAINAGE CONDUIT, AN INSPECTION WELL SHALL BE PROVIDED IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING MC-8.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER IN MAKING THE ABOVE CONNECTIONS:

| | | |
|---|---|---|
| ITEM 603 | 6" CONDUIT, TYPE B | 100 L.F. |
| ITEM 603 | 6" CONDUIT, TYPE C | 100 L.F. |
| ITEM 603 | 8" CONDUIT, TYPE B | 100 L.F. |
| ITEM 603 | 8" CONDUIT, TYPE C | 100 L.F. |

## ITEM 202 PIPE REMOVED, 24" AND UNDER, AS PER PLAN

IN LIEU OF THE PROVISIONS OF ITEM 202, THE CONTRACTOR SHALL EXCAVATE A MINIMUM 18" WIDTH TRENCH AND USE A TRENCH ROLLER TO OBTAIN COMPACTION REQUIREMENTS OF ITEM 203.12. ANY EXISTING UNDERDRAIN UNDER THE PROPOSED PAVED SHOULDER OR THE PROPOSED PAVEMENT WILL BE REMOVED UNDER THIS ITEM.

## 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 WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

## UNTREATED SEPTIC CONNECTIONS

THIS PLAN MAKES NO PROVISION FOR CONNECTING, NOR SHALL THE ENGINEER OR CONTRACTOR CONNECT, ANY UNTREATED SEPTIC DRAINAGE INTO THE HIGHWAY DRAINAGE SYSTEM. ANY PIPE CARRYING UNTREATED SEPTIC FLOW SHALL BE PLUGGED WITH CLASS C CONCRETE AT THE RIGHT-OF-WAY LINE. PAYMENT FOR PLUGGING SHALL BE IN THE CONTRACT PRICE FOR THE PERTINENT 202 ITEM.

## ITEM SPECIAL PRESSURE RELIEF JOINT, TYPE A

ITEM 605 6" SHALLOW PIPE UNDERDRAIN, 707.33, 707.42 OR 707.45 SHALL BE USED IN LIEU OF ITEM 605 6" SHALLOW PIPE UNDERDRAIN, 707.01 OR 707.21 AS SHOWN ON STANDARD DRAWING BP-2.3.

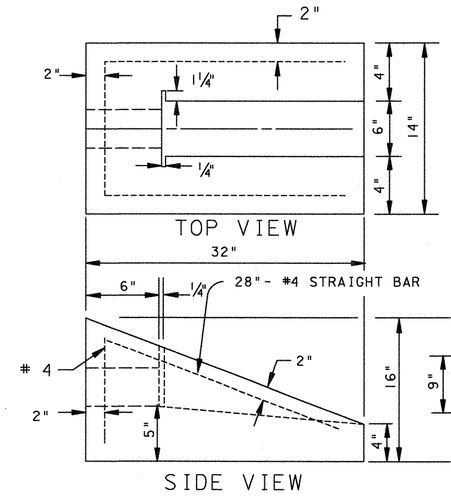
## ITEM 605 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN
## ITEM 605 4" UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN

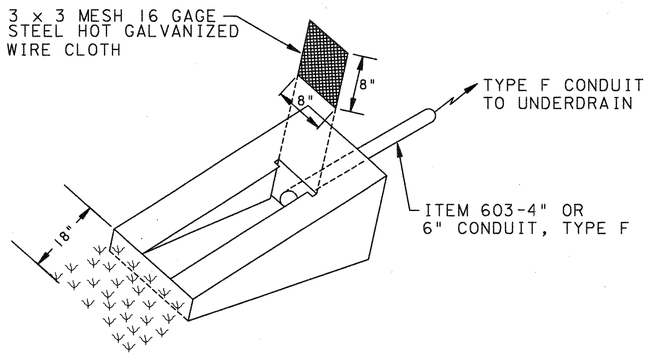
ITEM 605 SHALL GOVERN THE INSTALLATION OF THE 4" SHALLOW AND UNCLASSIFIED PIPE UNDERDRAIN EXCEPT AS FOLLOWS:

THE FILTER FABRIC SHALL BE 712.09, TYPE A AND THE PIPE UNDERDRAINS SHALL BE WRAPPED AS SHOWN ON THE TYPICAL SECTIONS, SHEETS 11-23.

## ITEM 604 PRECAST REINFORCED CONCRETE OUTLET

THE CONCRETE OUTLET SHALL MEET THE REQUIREMENTS OF ITEM 604, THE DETAILS SHOWN ON THIS SHEET AND THE CONSTRUCTION & MATERIALS SPECIFICATIONS. PAYMENT SHALL BE MADE ON AN EACH BASIS. PAYMENT SHALL INCLUDE THE COST OF THE SOD & WIRE CLOTH.




NOTE: THE SOD SHALL BE IN ACCORDANCE WITH ITEM 660 AND STAKED AT EACH CORNER APPROXIMATELY 3 INCHES IN FROM THE EDGE.

CALCULATED D.M. 3/11/96
CHECKED A.L.L. 3/25/96

GENERAL NOTES

COS-16-9.84
COS-36-20.06

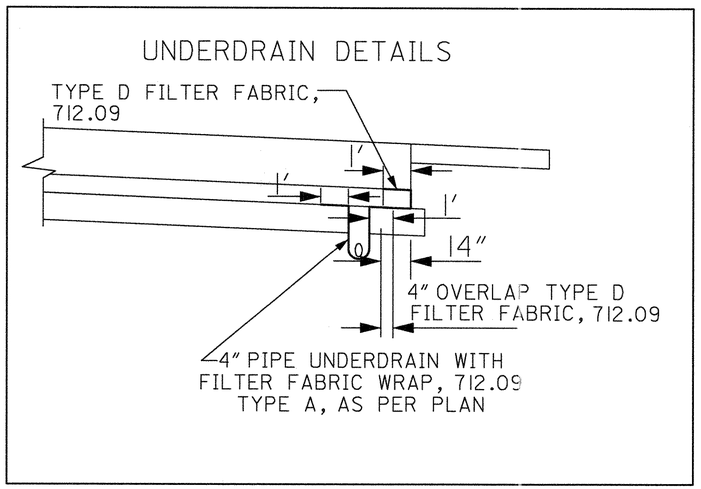


C0161OK4.DGN 8/3/96

## ITEM SPECIAL GEOTEXTILE FABRIC, TYPE D

THIS ITEM SHALL INCLUDE ALL MATERIAL AND HARDWARE AS REQUIRED BY THE MANUFACTURER TO CONSTRUCT A GEOTEXTILE FABRIC, TYPE D MEETING THE REQUIREMENTS OF CMS 712.09 AND PLACED AS SHOWN BELOW.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT BID PRICE FOR SQ.YD. THIS PRICE SHALL BE CONSIDERED FULL PAYMENT FOR FURNISHING, INSTALLING AT THE SPECIFIED LOCATIONS, INCLUDING ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS ITEM IN PLACE.




## EROSION CONTROL

ITEM 601 IS PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS. 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 108.04.

## FARM DRAINS

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE (RIGHT-OF-WAY) (CONSTRUCTION) LIMITS BY ITEM 603 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF THE ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 CONDUIT, TYPE F. THE OPTIMUM OUTLET ELEVATION SHALL BE, IF POSSIBLE, ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 603, TYPE E, CONDUIT AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER STANDARD CONSTRUCTION DRAWING MC-4, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS AND BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE.

| | | |
|---|---|---|
| ITEM 603 | 8" CONDUIT, TYPE B | 50 LIN. FT. |
| ITEM 603 | 8" CONDUIT, TYPE E | 50 LIN. FT. |
| ITEM 603 | 8" CONDUIT, TYPE F | 50 LIN. FT. |
| ITEM 603 | 12" CONDUIT, TYPE B | 50 LIN. FT. |
| ITEM 603 | 12" CONDUIT, TYPE E | 50 LIN. FT. |
| ITEM 603 | 12" CONDUIT, TYPE F | 50 LIN. FT. |
| ITEM 603 | 15" CONDUIT, TYPE B | 50 LIN. FT. |
| ITEM 603 | 15" CONDUIT, TYPE F | 50 LIN. FT. |
| ITEM 601 | ROCK CHANNEL PROTECTION TYPE C WITH FILTER | 10 CU. YD. |

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL AUTHORIZED BY THE ENGINEER.

## ITEM 604 CATCH BASIN NO.3, AS PER PLAN
## ITEM 604 CATCH BASIN NO.3-A, AS PER PLAN
## ITEM 604 CATCH BASIN NO.6, AS PER PLAN
## ITEM 604 INLET NO. 2-A-6, AS PER PLAN

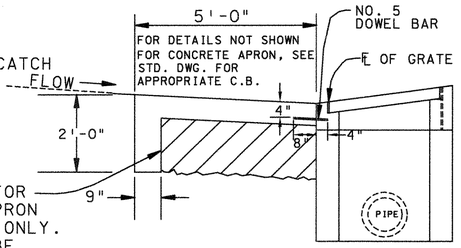
THE REQUIREMENTS OF ITEM 604 SHALL GOVERN THE CONSTRUCTION OF THE CATCH BASIN, EXCEPT THAT THE CATCH BASIN SHALL BE PRECAST OR CAST IN PLACE CONCRETE. BRICK OR CONCRETE BLOCK WILL NOT BE PERMITTED.

## ITEM 604 INLET NO. 2-A-6, AS PER PLAN

THE REQUIREMENTS OF ITEM 604 SHALL GOVERN THE CONSTRUCTION OF THE INLET, EXCEPT THAT THE INLET SHALL BE PRECAST OR CAST IN PLACE CONCRETE. BRICK OR CONCRETE BLOCK WILL NOT BE PERMITTED.

## ITEM 604 CATCH BASIN NO. 8, AS PER PLAN

NOTE:
THIS DETAIL SHALL BE USED FOR STANDARD NO.8, CATCH BASIN, AS PER PLAN. FOR DETAILS NOT SHOWN SEE STD. DWG. CB-8.

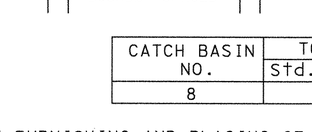



PROVIDE A CUT-OFF WALL FOR THE FULL WIDTH OF THE APRON ALONG THE UPSTREAM SIDE ONLY. TWO CUT-OFF WALLS WILL BE REQUIRED FOR CATCH BASINS IN SAGS.

AREA TO BE BACKFILLED WITH GRANULAR MATERIAL AS PER ITEM 603.

THE REQUIREMENTS OF ITEM 604 SHALL GOVERN THE CONSTRUCTION OF THE CATCH BASIN.
THE CONCRETE APRON SHALL BE PLACED AND BACKFILLED AS SHOWN HERE AND IN THE STANDARD DRAWING FOR THE PERTINENT CATCH BASIN.

## BAR LOCATION DETAIL FOR CATCH BASIN NO. 8




FOR NO. 8 CATCH BASIN, THE NUMBER OF BARS NEEDED ALONG EACH SIDE WITH A CONCRETE APRON IS 4.

| CATCH BASIN NO. | TOTAL BARS FOR A | |
|---|---|---|
| | Std. Apron | Sag Apron |
| 8 | 12 | 16 |

THE FURNISHING AND PLACING OF STEEL FOR THE 5/8" X 12" DOWEL BARS SHALL BE PER 509 REINFORCING STEEL. THE DOWEL BARS SHALL BE EPOXY COATED PER 509.10. THE DOWEL BARS SHALL BE INSTALLED PER 510 OR CAST INTO THE BASIN. BOLT IN INSERTS MAY BE USED. THE CATCH BASIN SHALL BE PRECAST OR CAST-IN-PLACE CONCRETE. BRICK OR CONCRETE BLOCK WILL NOT BE PERMITTED. THE 6" CONCRETE APRON SHALL BE REINFORCED PER 601.04(3).

PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 604 CATCH BASIN, NO. 8, AS PER PLAN AND SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, LABOR, TOOLS, AND EQUIPMENT INCIDENTAL TO COMPLETE THIS ITEM FOR WORK.

CALCULATED JMM 4-2-96
CHKD ALM 4-9-96

GENERAL NOTES

COS-16-9.84
COS-36-20.06



C0161OD4.DGN 7-30-96

# GENERAL NOTES

ITEM SPECIAL:
EDGE LINE
LANE LINE
CHANNELIZING LINE
TRANSVERSE LINE
CENTER LINE
STOP LINE
LANE ARROW
WORD ON PAVEMENT, 96 IN.
DOTTED LINE, 4"

IN ADDITION TO THE REQUIREMENTS OF 640 THE FOLLOWING SHALL APPLY:

FINAL ACCEPTANCE

PAVEMENT MARKINGS WHICH ARE UNACCEPTABLE, OR BECOME UNACCEPTABLE PRIOR TO FINAL ACCEPTANCE AS DETERMINED BY THE ENGINEER, FOR CAUSES SUCH AS, BUT NO LIMITED TO, IMPROPER APPLICATION, NON-UNIFORM RETROREFLECTIVITY, NON-RETROREFLECTIVITY OR LOSS OF ADHESION TO THE PAVEMENT, SHALL BE REPLACED BY THE CONTRACTOR WITH MARKINGS CONFORMING TO THESE SPECIFICATIONS AND REQUIREMENTS AT HIS EXPENSE, WITHOUT DELAY OR THE CONTRACTOR MAY REQUEST THAT THE UNACCEPTABLE WORK BE NON-PERFORMED. THE CONTRACTOR WILL RECEIVE NO PAYMENT FOR UNACCEPTABLE WORK WHICH IS NON-PERFORMED.

MAINTENANCE OF TRAFFIC

TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH THIS PLAN, 614, AND THE OMUTCD. THE FLASHING ARROW PANEL, INCLUDING CAUTION BAR MODE, SHALL NOT BE USED ON TWO LANE, TWO WAY ROADWAYS.

DESCRIPTION

THIS WORK SHALL CONSIST OF FURNISHING AND APPLYING EPOXY PAVEMENT MARKINGS IN ACCORDANCE WITH 641, 740 AND THE ADDITIONAL REQUIREMENTS DESCRIBED HEREIN.

EQUIPMENT

EQUIPMENT FOR APPLYING THE EPOXY PAVEMENT MARKING SHALL BE CAPABLE OF MIXING THE COMPONENTS IN PROPORTIONS RECOMMENDED BY THE MANUFACTURER AND APPLYING GLASS BEADS AT THE TIME OF LINE PLACEMENT. THE MARKING EQUIPMENT USED SHALL BE CAPABLE OF APPLYING EPOXY MATERIAL AT THE SPECIFIED THICKNESS. THE CONTRACTOR SHALL PROVIDE A CALIBRATED MEASURING DEVICE ACCEPTABLE TO THE ENGINEER TO MEASURE THE EPOXY RESIN IN THE STRIPER TANKS.

IN GENERAL, THE APPLICATING EQUIPMENT SHALL BE MOBILE, TRUCK MOUNTED AND SELF CONTAINED PAVEMENT MARKING MACHINE, SPECIFICALLY DESIGNED TO SPRAY APPLY THE EPOXY BINDER AND REFLECTIVE GLASS SPHERES IN CONTINUOUS AND SKIP LINE PATTERNS. THE APPLICATING EQUIPMENT SHALL BE MANEUVERABLE TO THE EXTENT THAT STRAIGHT LINES CAN BE FOLLOWED AND NORMAL CURVES CAN BE MADE IN A TRUE ARC. IN ADDITION, THE TRUCK MOUNTED UNIT SHALL BE PROVIDED WITH ACCESSORIES TO ALLOW FOR THE MARKING OF LEGENDS, SYMBOLS, CROSSWALKS, AND OTHER SPECIAL PATTERNS.

THE ENGINEER AND THE MATERIAL MANUFACTURERS TOGETHER MAY APPROVE THE USE OF A PORTABLE APPLICATOR IN LIEU OF TRUCK MOUNTED ACCESSORIES FOR USE IN APPLYING SPECIAL MARKING ONLY, PROVIDED SUCH EQUIPMENT CAN DEMONSTRATE SATISFACTORY APPLICATION OF REFLECTORIZED MARKINGS IN ACCORDANCE WITH THESE SPECIFICATIONS.

THE MOBILE APPLICATOR SHALL INCLUDE THE FOLLOWING FEATURES:

1. THE MOBILE APPLICATOR SHALL PROVIDE INDIVIDUAL MATERIAL RESERVOIRS, OR SPACE, FOR THE STORAGE OF PART A AND PART B OF THE BINDER.

2. THE APPLICATOR SHALL BE EQUIPPED WITH HEATING EQUIPMENT OF SUFFICIENT CAPACITY TO MAINTAIN THE INDIVIDUAL BINDER COMPONENTS AT THE MANUFACTURER'S RECOMMENDED TEMPERATURE AND PRODUCE THE REQUIRED AMOUNT OF HEAT AT THE MIXING HEAD & GUN TIP AND MAINTAIN THOSE TEMPERATURES WITH THE TOLERANCES RECOMMENDED BY THE BINDER MANUFACTURER FOR SPRAY APPLICATION.

3. THE APPLICATOR SHALL BE EQUIPPED WITH ADEQUATE INDIVIDUAL TANKS FOR THE STORAGE AND DISPENSING OF SIZE I AND SIZE II GLASS SPHERES AND BLACK AGGREGATE.

4. THE APPLICATOR SHALL BE EQUIPPED WITH INDIVIDUAL DISPENSERS FOR THE SIMULTANEOUS APPLICATION OF SIZE I AND SIZE II GLASS SPHERES RESPECTIVELY. EACH DISPENSER SHALL BE CAPABLE OF APPLYING SPHERES AT A MINIMUM RATE OF 20 POUNDS PER GALLON OF THE BINDER. THE APPLIED COMBINED TOTAL OF BOTH SIZES OF BEADS SHOULD BE A MINIMUM OF 25 LBS./GAL. - 12 TO 13 LBS. OF EACH SIZE.

5. THE APPLICATOR SHALL BE EQUIPPED WITH INDIVIDUAL METERING DEVICES OF PRESSURE GAUGES, ON THE PROPORTIONING PUMPS (ONE INDICATOR PER PUMP) AS WELL AS STROKE COUNTERS TO MONITOR GALLON USAGE. ALL SUCH DEVICES SHALL BE VISIBLE TO THE ENGINEER.

6. THE APPLICATOR SHALL BE EQUIPPED WITH ALL THE NECESSARY SPRAY EQUIPMENT, MIXER, COMPRESSORS AND OTHER APPURTENANCES TO ALLOW FOR THE PLACEMENT OF REFLECTORIZED PAVEMENT MARKING SYSTEM IN A SIMULTANEOUS SEQUENCE OF OPERATIONS.

7. EACH APPLICATION EQUIPMENT MUST HAVE A MINIMUM OF A 24" LONG STATIC MIXER UNIT AS MANUFACTURED BY KENICS COMPANY OR EQUAL FOR PROPER MIXING OF THE TWO COMPONENTS.

8. EACH MOBILE APPLICATOR MUST BE EQUIPPED WITH A COMPLETELY ENCLOSED FLUSH AND PURGE SYSTEM TO CLEAN THE LINES AND THE GUNS WITHOUT EXUDING ANY OF THE SOLUTION INTO THE ENVIRONMENT.

APPLICATION

CLEAN THE SURFACE TO REMOVE ALL DEBRIS, LAITANCE AND ANY OTHER CONTAMINANTS THAT MAY HINDER THE ADHESION OF THE SYSTEM TO THE SURFACE. WHENEVER GRINDING, SCARIFYING, SANDBLASTING, SHOT BLASTING OR OTHER OPERATIONS ARE PERFORMED, THE DEBRIS GENERATED MUST BE CONTAINED THROUGH VACUUM TYPE EQUIPMENT OR EQUIVALENT AND THE WORK SHALL BE CONDUCTED IN SUCH A MANNER THAT THE FINISHED PAVEMENT SURFACE IS NOT DAMAGED OR LEFT IN A PATTERN THAT WILL MISLEAD OR MISDIRECT THE MOTORIST. WHEN THESE OPERATIONS ARE COMPLETED, THE PAVEMENT SURFACE SHALL FIRST BE POWER BROOMED AND THEN BLOWN OFF WITH COMPRESSED AIR TO REMOVE RESIDUE AND DEBRIS RESULTING FROM THE CLEANING WORK. ALL SUCH DEBRIS MUST BE PROPERLY CONTAINED ESPECIALLY WHEN REMOVING YELLOW PAINT LINES AND DISPOSED OF IN THE APPROPRIATE MANNER.

REMOVAL AND CLEANING WORK SHALL BE CONDUCTED IN SUCH A MANNER AS TO CONTROL AND MINIMIZE AIRBORNE DUST, AND SIMILAR DEBRIS SO AS TO PREVENT A HAZARD TO MOTOR VEHICLE OPERATION OF NUISANCE TO PROPERTY.

CARE SHALL BE TAKEN ON BITUMINOUS AND PORTLAND CEMENT CONCRETE SURFACES WHEN PERFORMING REMOVAL AND CLEANING WORK TO PREVENT DAMAGE TO TRANSVERSE AND LONGITUDINAL JOINT SEALERS.

1. LIMITS OF WORK: CLEANING AND SURFACE PREPARATION WORK SHALL BE CONFINED TO THE SURFACE AREA SPECIFIED FOR THE APPLICATION OF PAVEMENT MARKING MATERIALS; OR THE SURFACE AREA OF EXISTING PAVEMENT MARKINGS THAT ARE SPECIFIED FOR REMOVAL ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

   SURFACE PREPARATION WORK INCLUDES CLEANING FOR LINES OR CLEANING FOR LETTERS AND SYMBOLS. LINES WILL BE MEANT TO INCLUDE: SOLID LINES; BROKEN LINES; DOTTED LINES; CHANNELIZING LINES; BARRIER LINES; STOP LINES; CROSSWALK LINES AND CROSSBARS.

   WHEN LINES ARE CLEANED, THE AREA OF PREPARATION WILL BE THE WIDTH OF THE NEW PAVEMENT MARKING, OR EXISTING LINE, PLUS ONE (1) INCH ON EACH SIDE. WHEN LETTERS AND SYMBOLS ARE CLEANED THE AREA OF PREPARATION WILL BE SUFFICIENTLY LARGE TO ACCOMMODATE THE NEW MARKING, OR TO REMOVE THE EXISTING MARKING. NO NEW MARKINGS, LINES, CROSSBARS OR SYMBOLS SHALL BE APPLIED ON ANY PAVEMENT THAT HAS NOT BEEN PROPERLY PREPARED AS PER THIS SPECIFICATION.

2. REMOVAL OF CONCRETE CURING COMPOUNDS: ON NEW PORTLAND CEMENT CONCRETE PAVEMENTS, CLEANING OPERATIONS SHALL NOT BEGIN UNTIL A MINIMUM OF 30 DAYS AFTER THE PLACEMENT OF CONCRETE. THE EXTENT OF THE BLASTING WORK SHALL BE TO CLEAN AND PREPARE THE CONCRETE SURFACE SUCH THAT:

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A. THERE IS NO VISIBLE EVIDENCE OF CURING COMPOUND ON THE CONCRETE SURFACE.

B. THERE ARE NO HEAVY PUDDLED DEPOSITS OF CURING COMPOUND IN THE VALLEYS OF THE TEXTURED CONCRETE SURFACE.

C. ALL REMAINING CURING COMPOUND IS INTACT; ALL LOOSE AND FLAKING MATERIAL IS REMOVED.

D. THE PEAKS OF THE TEXTURED PAVEMENT SURFACE ARE ROUNDED IN PROFILE AND FREE OF SHARP EDGES AND IRREGULARITIES.

E. THE EXTENT OF THE REMOVAL SHOULD BE AS SUCH TO INSURE THE LAITANCE IS REMOVED ON BOTH OLD AS WELL AS NEW CONCRETE.

3. REMOVAL OF EXISTING PAVEMENT MARKINGS: EXISTING PAVEMENT MARKING SHALL BE CLEANED FOR THE PURPOSE OF :

A. PREPARING THE PAVEMENT SURFACE FOR THE APPLICATION OF NEW PAVEMENT MARKING IN THE SAME LOCATION AS THE EXISTING MARKINGS.

B. TO REMOVE EXISTING MARKINGS THAT ARE IN GOOD CONDITION WHICH, IF ALLOWED TO REMAIN, WILL INTERFERE WITH OR OTHERWISE CONFLICT WITH NEWLY APPLIED MARKING PATTERNS.

IT SHALL BE UNDERSTOOD THAT IN THIS CONTEXT CLEANING MEANS THE REMOVAL OF AN EXISTING MARKING. IT IS NOT INTENDED THAT ALL DETERIORATED EXISTING PAVEMENT MARKING BE REMOVED. EXAMPLE: IF A NEW MARKING IS APPLIED TO AN UNMARKED "GAP" IN A BROKEN LINE AND THE EXISTING BROKEN LINE PATTERN IS NOT DETERIORATED, AS DETERMINED BY THE ENGINEER, TO THE EXTENT THAT IS NOT MISLEADING OR CONFUSING TO THE MOTORIST, THE EXISTING MARKINGS MAY NOT REQUIRE REMOVAL.

PAVEMENT MARKINGS SHALL BE CLEANED TO THE EXTENT THAT 95% TO 100% OF THE EXISTING MARKING IS REMOVED. REMOVAL OPERATIONS SHALL BE CONDUCTED IN SUCH A MANNER THAT NO MORE THAN MODERATE COLOR AND/OR SURFACE TEXTURE CHANGE RESULTS ON THE SURROUNDING PAVEMENT SURFACE.

EPOXY MARKING MATERIAL SHALL BE APPLIED ONLY WHEN THE SURFACE IS CLEAN AND DRY AND WHEN THE PAVEMENT AND AIR TEMPERATURE ARE ABOVE 50°F. (FOR APPLICATIONS AT TEMPERATURES BELOW 50°F, THE EPOXY MANUFACTURER MUST BE CONTACTED FOR APPROVAL.) THE CONTRACTOR SHALL TRANSFER THE ENTIRE CONTENTS OF EACH MATERIAL CONTAINER TO THE STRIPER TANKS. THE MATERIAL SHALL BE THOROUGHLY MIXED AT ALL TIMES DURING APPLICATION. EPOXY MARKING MATERIAL, PLUS RESIN, SHALL BE APPLIED UNIFORMLY TO THE SURFACE TO BE MARKED AT THE FOLLOWING RATES:

| GALLONS PER MILE OF LINE | WIDTH OF LINE (INCHES) (THICKNESS OF 20 mils) | | | | |
|---|---|---|---|---|---|
| | 4 | 6 | 8 | 12 | 24 |
| SOLID LINE | 22 | 33 | 44 | 66 | 132 |
| DASHED LINE | 5.5 | 8.5 | 11 | 17 | 34 |
| DOTTED LINE | 7.3 | 11 | 14.6 | 22 | 44 |
| SYMBOLS, WORDS | 1 GALLON PER 80 SQUARE FEET | | | | |

THINNING SHALL NOT BE PERMITTED.

GLASS BEADS SHALL BE APPLIED TO THE UNCURED EPOXY MATERIAL IN SUFFICIENT QUANTITY SO THAT THE BEADS COMPLETELY FILL THE EPOXY FILM FROM THE FILM-PAVEMENT INTERFACE TO THE TOP SURFACE OF THE FILM TO THE EXTENT THAT THERE ARE LOOSE BEADS ON THE SURFACE OF THE UNCURED LINE. THE RATE OF APPLICATION SHALL NOT BE LESS THAN 25 POUNDS (3 kg) OF GLASS BEADS PER GALLON (liter) OF EPOXY MATERIAL APPLIED.

IF THE EPOXY MARKING DOES NOT DRY TO A NO-TRACKING CONDITION CONSISTENTLY AND SHOWS A CYCLICAL SOFT SPOT, THE CONTRACTOR SHALL CEASE MARKING APPLICATION UNTIL THE PROBLEM IS CORRECTED.

CERTIFICATE OF COMPLIANCE: THE MATERIAL MANUFACTURER SHALL FURNISH A NOTARIZED CERTIFICATION THAT THE MATERIAL COMPLIES WITH THE PROVISIONS OF THIS SPECIFICATION. IT SHALL NOT BE INFERRED THAT THE PROVISIONS OF A CERTIFICATION OF COMPLIANCE WAIVES STATE INSPECTION, SAMPLING, OR TESTING.

LABORATORY SAMPLES: PROMPTLY AFTER EXECUTION OF THE CONTRACT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE SOURCES OF MATERIAL HE EXPECTS TO USE. THE MATERIAL MANUFACTURER SHALL FURNISH SAMPLES OF THE EPOXY MATERIALS AS MAY BE REQUIRED BY THE ENGINEER, A MINIMUM OF TEN DAYS BEFORE THE DATE OF INTENDED USE OF THESE MATERIALS.

INFRARED SPECTRA: A COPY OF THE INFRARED SPECTRA OF EACH COMPONENT ON EACH LOT NUMBER SHALL BE APPLIED BY THE MANUFACTURER ALONG WITH THE CERTIFICATION PAPERS. THIS INFRARED SPECTRA WILL BE ON RECORD WITH THE DEPARTMENT TO SERVE AS A QUALITY CONTROL MEASURE FOR THE FUTURE SUPPLY TO THIS SYSTEM TO THE STATE.

QUALIFYING A MANUFACTURER: THE MANUFACTURER MUST HAVE EXPERTISE REINFORCED WITH HISTORY IN THIS PARTICULAR FIELD TO QUALIFY SUCH AS:

A. MUST HAVE COMPLETED AND PASSED THE SERVICE TEST IN ACCORDANCE WITH SUPPLEMENT 1047.
B. VERIFIABLE INSTALLATIONS
C. AMPLE PRODUCTION CAPACITY
D. PROPER FACILITY
E. COMPLIANCE WITH EPA REGULATIONS
F. A VERIFIABLE QC PROGRAM

QUALIFYING A CONTRACTOR: IN ORDER FOR AN INSTALLER OF SUCH PAVEMENT MARKING MATERIAL TO BE APPROVED, THE FOLLOWING DOCUMENT MUST BE SUBMITTED:

A CERTIFICATE FROM A PRE-APPROVED MANUFACTURER OF SUCH EPOXY PAVEMENT MARKING MATERIALS, CERTIFYING THAT SUCH A CONTRACTOR HAS FUNCTIONAL, APPROPRIATE EQUIPMENT TO INSTALL THE EPOXY PAVEMENT MARKING MATERIAL STATED WITH THE TECHNOLOGY IN THIS SPECIFICATION AND HE HAS AND CONTINUES TO BE SUCCESSFUL AT PERFORMING THIS TYPE OF WORK.

METHOD OF MEASUREMENT: IN ADDITION TO THE REQUIREMENTS OF 641.12, THE FOLLOWING SHALL APPLY:

A. THE CONTRACTOR MUST SUBMIT CERTIFIED DOCUMENTS FROM THE MANUFACTURER OF THE AMOUNT OF GALLONS AND POUNDS OF BEADS SHIPPED FOR THE PARTICULAR PROJECT.

IN THE FIELD, THE CONTRACTOR SHALL FURNISH A CALIBRATED MEASURING DEVICE TO BE USED TO MEASURE THE QUANTITY OF MATERIALS USED SUCH AS STROKE COUNTERS MOUNTED ON THE DISPENSING PUMPS. STROKE COUNTER READING MUST BE TAKEN AT THE BEGINNING AND END OF EACH DAY BY THE STATE AUTHORIZED INSPECTOR. CAUTION MUST BE TAKEN WHILE RE-CIRCULATING, THE MATERIAL TO TURN OFF THE STROKE COUNTER ON THE PUMP. (USING THE "DIPPING THE TANK" METHOD IS NOT SUFFICIENT.)

THE RATE OF APPLICATION OF MATERIALS SHALL BE VERIFIED BY COMPARING THE AMOUNT OF MATERIALS USED WITH THE COMPUTED AMOUNT NEEDED FOR EACH SECTION. WHERE SHORT SECTIONS ARE INVOLVED AND IT IS NOT PRACTICAL OR FEASIBLE TO DETERMINE THE QUANTITIES USED ON EACH AND EVERY SHORT SECTION, SUCH SECTIONS MAY, BY AGREEMENT BETWEEN THE ENGINEER AND CONTRACTOR, BE GROUPED TOGETHER TO VERIFY THE QUANTITIES USED.

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RE-APPLYING: THE RE-APPLICATION SHALL BE APPLIED OVER THE EXISTING BINDER WITH THE PROPER SURFACE PREP AS STATED IN 641.05. THE RATES OF RE-APPLICATION SHALL BE AS FOLLOWS:

| LINE WIDTH | WET-FILM THICKNESS | BINDER | REFLECTORIZED SPHERES |
|---|---|---|---|
| 4" | 10 mils | 481 FT./GAL.<br><br>10.97 GAL./MILE | 25 LBS./GAL.<br><br>274.25 LBS./MILE |

BASIS OF PAYMENT: FOR THE NUMBER OF MILES OF LINE APPLIED, GROUPED INTO EACH BAND, THE CONTRACTOR WILL BE PAID THE CONTRACT PRICE, ADJUSTED IN ACCORD WITH THE FOLLOWING SCHEDULE:

BAND 1 100% OF CONTRACT UNIT PRICE
BAND 2 90% OF CONTRACT UNIT PRICE
BAND 3 80% OF CONTRACT UNIT PRICE
BAND 4 RE-APPLY

PERFORMANCE REQUIREMENTS: THE SYSTEM SHALL PROVIDE EFFECTIVE DELINEATION ON CONCRETE AS WELL AS ASPHALT PAVEMENT FOR THE SPECIFIED PERIOD AND PROVIDE THE FOLLOWING INITIAL RETROREFLECTIVITY REQUIREMENTS.:

| | SPECIFIC LUMINANCE (MILLICANDELAS/ SQUARE FOOT/FOOT CANDLE)-MIROLUX-12 |
|---|---|
| WHITE LINE, SYMBOLS AND LEGENDS | 250 min. |
| YELLOW LINE | 175 min. |

BASIS OF PAYMENT: PAYMENT FOR ACCEPTED QUANTITIES COMPLETE IN PLACE WILL BE MADE AT THE CONTRACT PRICES, OR PRICES ADJUSTED IN ACCORDANCE WITH 641.11 FOR:

| ITEM | UNIT | DESCRIPTION |
|---|---|---|
| SPECIAL | MILE | EDGE LINE |
| SPECIAL | MILE | LANE LINE |
| SPECIAL | MILE | CENTER LINE |
| SPECIAL | LINEAR FOOT | CHANNELIZING LINE |
| SPECIAL | LINEAR FOOT | STOP LINE |
| SPECIAL | LINEAR FOOT | TRANSVERSE LINE |
| SPECIAL | EACH | WORD ON PAVEMENT, 96" |
| SPECIAL | LINEAR FOOT | DOTTED LINE, 4" |
| SPECIAL | EACH | LANE ARROW |

EPOXY MATERIAL

MATERIAL SUPPLIED SHALL BE A TWO PART EPOXY SYSTEM CAPABLE OF BEING APPLIED AT AMBIENT TEMPERATURE DOWN TO 50°F. THE MATERIAL SHALL BE CAPABLE OF RETAINING REFLECTIVE GLASS BEADS OF THE DROP-ON OR SPRAY-ON TYPE.

EPOXY SHALL COMPLY OF THE FOLLOWING REQUIREMENTS:

1. THE EPOXY SHALL BE FORMULATED AS A LONG LIFE PAVEMENT MARKING SYSTEM FREE OF ANY PEROXIDES, AND/OR TMPTA (TRI-METHYLOL PROPANE TRI-ACRYLATE) AND OTHER SUCH MULTI-FUNCTIONAL MONOMERS. THE EPOXY SHOULD BE DESIGNED TO PROVIDE SIMPLE VOLUMETRIC MIXING RATIO OF ITS COMPONENTS (SUCH AS 2:1).

2. VISCOSITY: THE VISCOSITY OF THE PART A WHITE SHALL BE 19,000-20,000 cP AND PART A YELLOW SHALL BE 25,000-26,000 cP AND THE VISCOSITY OF THE PART B SHALL BE 1,950-2,050 cP. AT THE POINT OF APPLICATION THE VISCOSITIES SHALL BE WITHIN 10% OF EACH OTHER.

3. WEIGHT: THE WEIGHT OF PART A SHALL BE WHITE 11.8 LBS./GAL. ± 0.2 LBS./GAL. AND YELLOW 12.8 LBS./GAL. ± 0.2 LBS./GAL. THE WEIGHT OF PART B SHALL BE 9.6 LBS./GAL. ± 0.2 LBS./GAL.

4. EPOXIDE NUMBER: THE EPOXIDE NUMBER OF THE EPOXY RESIN SHALL BE 0.51 ± 0.05 AS DETERMINED BY ASTM D-1652 FOR BOTH WHITE AND YELLOW COMPONENT A ON A PIGMENT FREE BASIS.

5. AMINE NUMBER: THE AMINE NUMBER OF THE CURING AGENT (COMPONENT B) SHALL BE 375 ± 50 AS PER ASTM D-2074.

6. TOXICITY: UPON HEATING TO APPLICATION TEMPERATURE, THE MATERIAL SHALL NOT EXUDE FUMES WHICH ARE TOXIC OR INJURIOUS TO PERSONS OR PROPERTY. UPON CURING THE MATERIALS SHOULD BE COMPLETELY INERT WITH ALL COMPONENTS FULLY REACTED AND ENVIRONMENTALLY SAFE.

7. DRYING TIME (LABORATORY): THE PAVEMENT MARKING MATERIAL, WHEN MIXED IN THE PROPER RATIO AND APPLIED AT THE APPROPRIATELY PRESCRIBED WET FILM THICKNESS AT 75°F ± 2°F AND WITH THE PROPER SATURATION OF GLASS SPHERES, SHALL EXHIBIT NO TRACKING TIME WHEN TESTED ACCORDING TO ASTM D-711 AS FOLLOWS:

   A. 45-50 MINUTES.

8. DRYING TIME (FIELD): THE PAVEMENT MARKING MATERIAL SHALL HAVE A SETTING TIME TO A NO-TRACKING CONDITION OF NOT MORE THAN 35 MINUTES AT 75°F ± 2°F . THE LINE MUST BE PROTECTED FROM TRACKING DURING THE SETTING PERIOD BY ONE OR MORE OF THE FOLLOWING METHODS: (1) CONING OFF THE WET LINE FROM TRAFFIC, (2) USE OF CONVOY OF MOVING VEHICLES TO PREVENT TRAFFIC CROSSING THE WET LINE, AND (3) SATURATION OF THE LINE WITH GLASS BEADS TO PREVENT TRACKING.

9. CURING: THE PAVEMENT MARKING MATERIAL SHALL BE CAPABLE OF FULLY CURING UNDER THE CONSTANT SURFACE TEMPERATURE CONDITION OF 45°F OR ABOVE.

10. ADHESION TO PAVEMENT (CONCRETE AND ASPHALT): THE CURED PAVEMENT MARKING MATERIALS, WHEN TESTED ACCORDING TO ACI METHOD 503, SHALL HAVE SUCH A HIGHER DEGREE OF ADHESION TO THE SPECIFIED CONCRETE (COMPRESSIVE STRENGTH, 4,000 PSI MINIMUM) OR ASPHALT SURFACE SUCH THAT THERE SHALL BE A 100% FAILURE. IN THE SUBSTRATE IN THE PERFORMANCE OF THIS TEST. THE PREPARED SPECIMENS SHALL BE CONDITIONED AT ROOM TEMPERATURE (75°F ± 2°F) FOR A MINIMUM OF 24 HOURS AND A MAXIMUM OF 72 HOURS PRIOR TO THE PERFORMANCE OF THE TEST INDICATED.

11. HARDNESS: THE PAVEMENT MARKING MATERIALS, WHEN TESTED ACCORDING TO ASTM D-224-75, SHALL HAVE A SHORE D HARDNESS OF BETWEEN 70 AND 90. SAMPLES SHALL BE ALLOWED TO CURE AT ROOM TEMPERATURE (75°F ± 2°F) FOR A MINIMUM OF 24 HOURS AND A MAXIMUM OF 72 HOURS PRIOR TO PERFORMING THE INDICATED TEST.

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12. TENSILE STRENGTH: WHEN TESTED ACCORDING TO ASTM D-638, THE EPOXY PAVEMENT MARKING MATERIALS SHALL HAVE A TENSILE STRENGTH OF NOT LESS THAN 5,000 POUNDS PER SQUARE INCH. THE TYPE IV SPECIMENS SHALL BE CAST IN A SUITABLE MOLD AND PULLED AT A RATE OF 1/4" PER MINUTE BY A SUITABLE DYNAMIC TESTING MACHINE. THE SAMPLES SHALL BE ALLOWED TO CURE AT ROOM TEMPERATURE (75°F ± 2°F) FOR A MINIMUM OF 24 HOURS AND A MAXIMUM OF 72 HOURS PRIOR TO PERFORMING THE INDICATED TESTS.

13. COMPRESSIVE RESISTANCE: WHEN TESTED ACCORDING TO ASTM D-695, THE CATALYZED EPOXY PAVEMENT MARKING MATERIALS SHALL HAVE A COMPRESSIVE STRENGTH OF NOT LESS THAN 12,000 POUNDS PER SQUARE INCH. THE CAST SAMPLE SHALL BE CONDITIONED AT ROOM TEMPERATURE (75°F ± 2°F) FOR A MINIMUM OF 72 HOURS BEFORE PERFORMING THE INDICATED TESTS. THE RATE OF COMPRESSION OF THESE SAMPLES SHALL BE NO MORE THAN 1/4" PER MINUTE.

14. ABRASION RESISTANCE: THE ABRASION RESISTANCE SHALL BE EVALUATED ON A TABER ABRADER WITH A 1,000 GRAM LOAD AND CS-17 WHEELS. THE DURATION OF THE TEST SHALL BE 1,000 CYCLES. THE WEAR INDEX SHALL BE CALCULATED BASED ON ASTM TEST METHOD C-501 AND THE WEAR INDEX FOR THE CATALYZED MATERIAL SHALL NOT BE MORE THAN 100 MG. THE TESTS SHALL BE RUN ON CURED SAMPLES OF MATERIAL WHICH HAVE BEEN APPLIED AT A FILM THICKNESS OF 20 ± 0.5 mil TO CODE S-16 STAINLESS STEEL PLATES. THE SAMPLES SHALL BE ALLOWED TO CURE FOR A MINIMUM OF 24 HOURS AND A MAXIMUM OF 72 HOURS PRIOR TO PERFORMING THE INDICATED TESTS.

15. IMPACT STRENGTH:

    A. SAMPLE PREPARATION: PROPERLY MIXED MATERIAL SHALL BE APPLIED ON A MINIMUM OF 28 DAY OLD CLEAN CONCRETE AND SHALL BE ALLOWED TO CURE FOR 72 HOURS AT 75°F ± 2°F. FILM THICKNESS OF THE MATERIAL SHALL BE AT THE APPROPRIATELY PRESCRIBED THICKNESS.

    B. TESTING: AT TEMPERATURE OF 75°F ± 2°F, A TWO POUND ROUND STEEL BALL SHALL BE DROPPED FROM THE HEIGHT OF 4 FEET ON THE CURED SAMPLE. NO CRACKING OR CHIPPING OF THE MATERIAL SHALL TAKE PLACE.

16. COLOR: THE MIXED EPOXY COMPOUND, BOTH WHITE AND YELLOW, MUST BE APPLIED TO 2 SETS OF 3" x 6" ALUMINUM PANELS AT 20 ± 1 mil IN THICKNESS, ONE SET WITH NO GLASS SPHERES AND ONE SET WITH GLASS SPHERES AS SPECIFIED IN THIS SPECIFICATION SECTION 633.03.04, PARAGRAPH B (MUST ENSURE 50/50 DISTRIBUTION OF SIZE I AND SIZE II SPHERES FOR THIS WILL IMPACT THE RESULTS OF THIS TEST) AND EXPOSE THE PREPARED SAMPLES IN A Q.U.V. ENVIRONMENTAL TESTING CHAMBER, AS DESCRIBED IN ASTM G-53, AND THEY SHALL CONFORM TO THE FOLLOWING REQUIREMENTS. (THE TEST SHALL BE CONDUCTED FOR 75 HOURS AT 50°C (122°F), 4 HOURS HUMIDITY AND 4 HOURS U.V., IN ALTERNATING CYCLES. THE PREPARED PANELS SHALL BE CURED AT 77°F FOR 72 HOURS PRIOR TO EXPOSURE.) THE COLOR OF THE WHITE EPOXY MATERIAL SHALL NOT BE DARKER THAN FEDERAL STANDARD NO. 595A-17855. THE COLOR OF THE YELLOW EPOXY MATERIAL SHALL BE REASONABLY CLOSE TO FEDERAL STANDARD NO. 595A-13415.

17. ACCELERATED LIFE-CYCLE AGING TEST: THE MATERIAL MUST NOT SHOW ANY EVIDENCE OF BLISTERING, BUBBLING, OR DELAMINATING WHEN SUBMITTED TO TEST METHOD ATR-931. (INDEPENDENT TEST LABORATORIES SUCH AS PSI CAN BE CONTACTED TO PERFORM ATR-931. PSI, CLEVELAND OFFICE, (216) 447-1335, CONTACT - MR. JIM McCUE.)

740.10 GLASS BEADS

IN ADDITION TO THE REQUIREMENTS OF 740.10, THE FOLLOWING SHALL APPLY:

INSPECTION SHALL BE DONE AT THE PROJECT SITE. RANDOM SAMPLES SHALL BE OBTAINED FROM MATERIAL DELIVERED TO THE PROJECT SITE, OR AT OTHER LOCATIONS DESIGNATED BY THE LABORATORY.

GLASS BEADS FOR EPOXY MARKING MATERIAL SHALL CONFORM TO THE FOLLOWING:

THE GLASS SPHERES SHALL HAVE THE FOLLOWING GRADATION WHEN TESTED IN ACCORDANCE WITH ASTM D-1214.

| SIZE I | | SIZE II | |
|---|---|---|---|
| U.S. STANDARD SIEVE NO. | % RETAINED | U.S. STANDARD SIEVE NO. | % RETAINED |
| 10 | 0 | 20 | 0-5 |
| 12 | 0-5 | 30 | 5-20 |
| 14 | 5-20 | 50 | 30-75 |
| 16 | 40-80 | 80 | 9-32 |
| 18 | 10-40 | PAN | 0-10 |
| 20 | 0-5 | | |
| PAN | 0-2 | | |

BOTH SIZE I AND SIZE II REFLECTIVE SPHERES SHALL BE SIMULTANEOUSLY DISPENSED THROUGH INDIVIDUAL DISPENSING GUNS ON THE WET MATERIAL RESPECTIVELY AND THE COMBINED APPLICATION OF BOTH SIZES SHALL BE AT A MINIMUM RATE OF 25 LBS./GAL. WITH EACH SIZE RANGING BETWEEN 12-13 LBS./GAL. AND THE BEADS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

THE GLASS SPHERES SHALL BE COLORLESS, CLEAN, TRANSPARENT, FREE FROM MILKINESS OR EXCESSIVE AIR BUBBLES, AND ESSENTIALLY CLEAN FROM SURFACE SCARRING OR SCRATCHING.

SIZE I AND SIZE II GLASS BEADS SHALL BE SPHERICAL IN SHAPE AND AT LEAST 70% SHALL BE TRUE SPHERES. SIZE I SPHERES SHALL BE TESTED FOR ROUNDNESS ACCORDING TO THE PROCEDURAL DIRECTIVES OF THE MATERIALS BUREAU. SIZE II SPHERES SHALL BE TESTED IN ACCORDANCE WITH ASTM D-1155.

THE REFRACTIVE INDEX OF THE SPHERES SHALL BE A MINIMUM OF 1.50 AS DETERMINED BY THE LIQUID IMMERSION METHOD AT 25°C. THE SILICA CONTENT OF THE GLASS SPHERES SHALL NOT BE LESS THAN 60%.

THE GLASS SPHERES, SIZE I SHALL BE COATED WITH A SILANE-TYPE ADHERENCE COATING TO ENHANCE ITS EMBEDMENT IN, AND ADHERENCE TO THE APPLIED BINDER FILM. THE COATED BEADS SHALL EMIT A YELLOW-GREEN FLUORESCENCE WHEN TESTED BY THE DANSYL CHLORIDE TEST PROCEDURE. SIZE II GLASS SPHERES SHALL BE TREATED WITH A MOISTURE PROOF COATING. BOTH TYPES OF GLASS BEADS SHALL SHOW NO TENDENCY TO ABSORB MOISTURE IN STORAGE AND SHALL REMAIN FREE OF CLUSTERS AND LUMPS. THEY SHALL FLOW FREELY FROM DISPENSING EQUIPMENT AT ANY TIME WHEN SURFACE AND ATMOSPHERE CONDITIONS ARE SATISFACTORY FOR MARKING OPERATIONS. THE MOISTURE-RESISTANCE OF THE GLASS SPHERES SHALL BE DETERMINED ON THE BASIS OF THE FOLLOWING TEST:

PLACE TWO POUNDS (2 LBS.) OF SPHERES IN A WASHED COTTON BAG, HAVING A THREAD COUNT OF 50 PER SQUARE INCH (WARP AND WOOF) AND IMMERSE THE BAG IN A CONTAINER OF WATER FOR 30 SECONDS. REMOVE THE BAG AND FORCE EXCESS WATER FROM THE SAMPLE BY SQUEEZING THE BAG. SUSPEND AND ALLOW TO DRAIN FOR TWO HOURS AT ROOM TEMPERATURE (70-72°F). THEN MIX THE SAMPLE IN THE BAG SHAKING THOROUGHLY. TRANSFER A SAMPLE SLOWLY TO CLEAN, DRY GLASS FUNNEL HAVING A STEM 4" IN LENGTH, WITH A 3/8" INSIDE DIAMETER STEM ENTRANCE OPENING AND A MINIMUM EXIT OPENING OF 1/4". THE ENTIRE SAMPLE SHALL FLOW FREELY THROUGH THE FUNNEL WITHOUT STOPPAGE. WHEN FIRST INTRODUCED INTO THE FUNNEL, IF THE SPHERES CLOG, IT IS PERMISSIBLE TO LIGHTLY TAP THE FUNNEL TO INITIATE THE FLOW.

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## SIGN FABRICATION OF LEGEND ON EXTRUSHEET:

LEGEND ON EXTRUSHEET SHALL BE DEMOUNTABLE EMBOSSED COPY, UNLESS SPECIFIED IN SUB-SUMMARIES WITH AN ASTERISK (*). THESE SIGNS SHALL BE FABRICATED ON EXTRUSHEET TYPE G WITH DIRECT APPLIED COPY.

## BREAKAWAY BEAM CONNECTION:

BREAKAWAY BEAM CONNECTIONS CALLED FOR IN THESE PLANS SHALL BE PER THE ALTERNATE AS PROVIDED FOR ON STANDARD DRAWING TC-41.10.

## FABRICATION OF SIGNS:

IN ACCORDANCE WITH THE REQUIREMENT OF ITEM 630.03 OF THE PROPOSED ACTIONS RELEVANT TO CONSTRUCTION AND MATERIAL SPECIFICATIONS, THE CONTRACTOR SHALL SUBMIT PRIOR TO FABRICATION EIGHT (8) SETS OF SIGN LEGEND WORKING DRAWINGS, WHICH SHALL BE IN ACCORDANCE WITH ALL REQUIREMENTS, TO THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT FIVE'S HIGHWAY MANAGEMENT ADMINISTRATOR, 9600 JACKSONTOWN ROAD, JACKSONTOWN, OHIO, 43030, FOR APPROVAL.

## LAYOUT OF WORK:

PRIOR TO REMOVING OR ERECTING SIGN SUPPORTS, THE CONTRACTOR SHALL FIELD LAYOUT AND IDENTIFY, BY TYPE OF WORK, SIGNS AND SIGN SUPPORTS TO BE ERECTED OR REMOVED. THIS LAYOUT MAY BE ACCOMPLISHED BY STAKING OR BY PLACING CLEARLY DISCERNIBLE PAINTED MARKINGS ON THE EDGE OF PAVEMENT OR BY OTHER METHODS APPROVED BY THE ENGINEER. IN NO CASE SHALL THE CONTRACTOR PLACE ANY PERMANENT MARKINGS ON ANY EXISTING SIGN OR SIGN SUPPORT. COST FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 623, CONSTRUCTION LAYOUT STAKES.

## ITEM 630 PREPARATION AND SHIPMENT OF STORED SIGNS, FLAT SHEET

FLATSHEET SIGNS REMOVED UNDER OTHER ITEMS OF WORK SHALL BE PROCESSED AND SHIPPED TO THE O.D.O.T. CENTRAL OFFICE TRAFFIC MAINTENANCE SHOP, 1606 WEST BROAD STREET, COLUMBUS OHIO. FLATSHEET SIGNS SHALL BE SECURED ON PALLETS. LOADED PALLETS SHALL HAVE A MAXIMUM WEIGHT OF 1000 POUNDS.

THE LOADING, SECURING, TRANSPORTING, AND UNLOADING OF FLATSHEET SIGNS SHALL BE BY SUITABLE MEANS TO AVOID DAMAGE TO THE SIGN PANELS. LARGE SIGNS MAY BE CAREFULLY DISASSEMBLED AS NECESSARY INTO SMALLER ASSEMBLIES TO FACILITATE TRANSPORTATION.

DELIVERIES SHALL BE MADE BETWEEN 8:00 A.M. AND 2:00 P.M.. LATE ARRIVALS MUST UNLOAD THE FOLLOWING DAY. NO DELIVERIES WILL BE ACCEPTED ON SATURDAY, SUNDAY AND HOLIDAYS. THE TRAFFIC MAINTENENCE SHOP SUPERINTENDENT SHALL BE NOTIFIED AT (614)275-2850 AT LEAST THREE DAYS PRIOR TO THE DELIVERY OF THE SIGNS. DELIVERY ARRANGEMENTS OTHER THAN THOSE DESCRIBED ABOVE MUST BE APPROVED IN ADVANCE BY THE TRAFFIC MAINTENANCE SHOP SUPERINTENDENT.

THE SIGN SHALL BE TRANSPORTED BY THE CONTRACTOR TO THE TRAFFIC MAINTENANCE SHOP WHERE THEY WILL BE UNLOADED AND STORED. PERSONNEL AND A FORK LIFT OF 1000 POUND CAPACITY WILL BE PROVIDED BY THE STATE FOR UNLOADING.

PAYMENT WILL BE AT THE CONTRACT PRICE PER EACH SIGN INCLUDING ALL LABOR, EQUIPMENT, BANDING MATERIAL, PALLETS, TRANSPORTATION AND MISCELLANEOUS MATERIAL NECESSARY TO PERFORM THE WORK.

630 EACH PREPARATION AND SHIPMENT OF STORED SIGNS, FLAT SHEET

CALCULATED D.M. 4-2-96
CHECKED A.J.L. 4-9-96

GENERAL NOTES

COS-16-9.84
COS-36-20.06



C0161064.DGN 7-30-96

# SIGNAL GENERAL NOTES

## GENERAL

THE CONTRACTOR SHALL FURNISH AND INSTALL TRAFFIC CONTROL EQUIPMENT AND MATERIALS IN CONFORMANCE TO THESE PLANS AND SPECIFICATIONS AND THE 1995 STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS AND ALL SUPPLEMENTAL SPECIFICATIONS. THE CONTRACTOR SHALL INSTALL ALL TRAFFIC CONTROL EQUIPMENT IN CONFORMANCE TO THE OHIO MANUAL OF TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS AND IN CONFORMANCE TO THE OHIO DEPARTMENT OF TRANSPORTATION OFFICE OF TRAFFIC ENGINEERING STANDARD CONSTRUCTION DRAWINGS.

REFERENCE TO A PARTICULAR TRADE NAME, MANUFACTURER'S CATALOG OR MODEL NUMBER ARE MADE FOR DESCRIPTIVE PURPOSES TO GUIDE THE BIDDER IN INTERPRETING THE REQUIREMENTS OF THE CONTRACT. IT SHOULD NOT BE CONSTRUED AS EXCLUDING PROPOSALS FOR OTHER MATERIALS, EQUIPMENT OR SUPPLIES THAT ARE EQUAL TO OR BETTER THAN THOSE WHICH ARE REFERENCED.

## TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWINGS

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

REFERENCES TO ITEM 608, 4" CONCRETE WALK ON THE TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWINGS IN THESE PLANS SHALL BE CONSIDERED TO READ ITEM 633, CONTROLLER WORK PAD.

REFERENCES TO STANDARD CONSTRUCTION DRAWING HL-2 SHALL BE CONSIDERED TO READ STANDARD CONSTRUCTION DRAWING HL-10.12.

## UNDERDRAINS FOR PULL BOXES

REFERENCE IS MADE TO THE STANDARD CONSTRUCTION DRAWINGS 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 20 FEET.

AN ESTIMATED QUANTITY OF 350 LINEAR FEET OF ITEM 603, 4" CONDUIT TYPE E IS INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE.

ITEM 603 4" CONDUIT, TYPE E 350 LIN. FT.

## POWER SUPPLY FOR SIGNALS

ELECTRIC POWER SHALL BE OBTAINED FOR THE SIGNAL INSTALLATIONS FROM THE UTILITY LISTED BELOW AT THE LOCATIONS INDICATED ON THE PLAN.

POWER COMPANY : AMERICAN ELECTRIC POWER
215 NORTH FRONT ST.
COLUMBUS, OH 43215
(614)464-7911
ATTN: STANLEY E. WILSON

POWER SUPPLY SHALL BE: 120V SINGLE PHASE

## ITEM 625 BRACKET ARM, MISC.: 35', AS PER PLAN

BRACKET ARMS OVER 20 FEET IN LENGTH SHALL USE A FOUR BOLT ATTACHMENT PLAT.

## ITEM 630 SIGN HANGER ASSEMBLY, SPAN WIRE, AS PER PLAN

THIS ITEM SHALL COVER ALL COSTS AND INCIDENTALS FOR INSTALLING THE TYPE 2 SIGN HANGER ASSEMBLIES. REFER TO STANDARD DRAWING TC-41.41 FOR FURTHER DETAILS.

## ITEM 632 LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE, AS PER PLAN

IN ADDITION TO REQUIREMENTS OF ITEM 632 AND 732.07 OR 732.08, LOOP DETECTOR UNITS SHALL HAVE THE FOLLOWING REQUIREMENTS OF FEATURES:
THE OUTPUT DEVICE SHALL BE A RELAY, AND ALL CONTACTS SHALL BE INCLUDED IN THE WIRING HARNESS.
THE UNITS SHALL BE SELF-TUNING.
THE UNIT'S ELECTRICAL CONNECTION PLUGS OR WIRING HARNESS SHALL ALLOW READY REPLACEMENT WITH A SINGLE CHANNEL UNIT AS DESCRIBED IN THE FINAL PARAGRAPH OF 732.07.

## ITEM 632 VEHICULAR SIGNAL HEAD, 3-SECTION, 12" LENS, 1-WAY, AS PER PLAN
## ITEM 632 VEHICULAR SIGNAL HEAD, 4-SECTION, 12" LENS, 1-WAY, AS PER PLAN

BALANCE ADJUSTERS, SHOWN ON TC-85.20 OF THE STANDARD CONSTRUCTION DRAWINGS SHALL NOT BE USED.

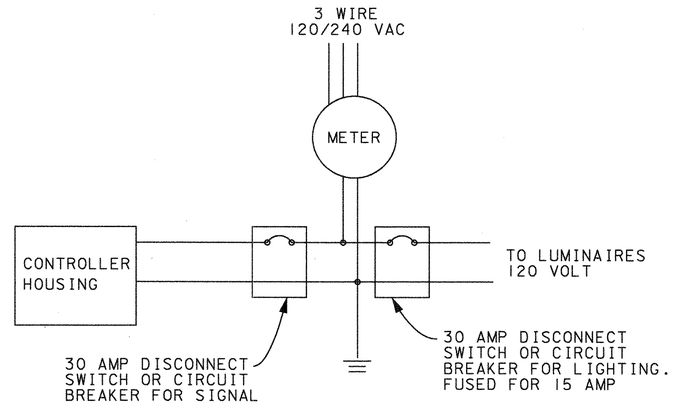
ALL WIRE ENTRANCES AND TWO WAY MOUNTING BRACKETS SHALL UTILIZE TRI-STUD TYPE HARDWARE TO MOUNT THE SIGNAL HEAD TO THE WIRE ENTRANCE OR TWO WAY MOUNTING BRACKET.

ADJUSTABLE SIGNAL HANGERS SHALL BE USED IN PLACE OF DROP PIPE TO MAINTAIN UNIFORM SIGNAL HEAD CLEARANCES WHEN REQUIRED. THE ADJUSTABLE SIGNAL HANGER SHALL UTILIZE TRI-STUD TYPE MOUNTING HARDWARE TO ATTACH THE SIGNAL HEAD TO THE HANGER.
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.

ALL SIGNAL HEADS SHALL UTILIZE TUNNEL VISORS WITH AN OPENING AT THE BOTTOM.

## ITEM 632 POWER SERVICE, AS PER PLAN

THIS ITEM SHALL ALSO INCLUDE A 30 AMP WEATHERPROOF DISCONNECT SWITCH OR CIRCUIT BREAKER-BOX TO SERVICE THE LUMINAIRES AS SHOWN ON THE POWER HOOK-UP DIAGRAM.




## ITEM 633 CONTROLLER, ACTUATED, 4 PHASE, SOLID STATE, DIGITAL MICROPROCESSOR, AS PER PLAN
## ITEM 633 CONTROLLER, ACTUATED, 8 PHASE, SOLID STATE, DIGITAL MICROPROCESSOR, AS PER PLAN

THE OVERLAP PROGRAMMING SHALL BE BY USE OF AN INTERCHANGEABLE PLUG-IN PRINTED CIRCUIT BOARD ASSEMBLY AS DESCRIBED IN PART 14 OF TS-1-1983. IN ADDITION TO NEMA REQUIREMENTS, THE CONFLICT MONITOR SHALL ALSO HAVE EXTENDED MONITORING (IN ACCORDANCE WITH 733.04 PART 3B). THE MONITOR SHALL ALSO HAVE THE CAPABILITY OF MONITORING EACH LOAD SWITCH SEPARATELY, AS SHOWN IN THE LOAD SWITCH HOOK-UP DIAGRAM.

"EXTENDED NEMA" FEATURES SHALL HAVE INDIVIDUAL PHASE CONTROL. THE DESIGN OF THE MONITOR SHALL USE MICRO-PROCESSOR ARCHITECTURE AND LIQUID CRYSTAL DISPLAYS. THE MONITOR SHALL INDICATE THE EXACT LOAD SWITCH CHANNEL IN WHICH THE FAILURE OCCURRED. THE CONFLICT MONITOR SHALL HAVE AN EVENT LOGGING MEMORY. A MINIMUM OF (9) EVENTS SHALL BE LOGGED. EXAMPLES OF EVENTS INCLUDE: POWER OUTAGES, CONTROLLER VOLTAGE MONITOR, ETC,. EVENTS SHALL BE DISPLAYED ON THE CONFLICT MONITOR'S LIQUID CRYSTAL DISPLAY WHEN INTERROGATED. THE CONTROLLER SHALL HAVE INTERNAL T.B.C. ( TIME BASED COORDINATION ). IN ADDITION TO THE REQUIREMENTS OF 633.04, THE CABINET SHALL BE WIRED SO THAT THE CONTROLLER PIN CONNECTION ASSOCIATED WTH A GIVEN PHASE NUMBER SHALL MATCH THE PHASE NUMBER ASSIGNED TO THE SPECIFIED TRAFFIC MOVEMENT AS SHOWN ON THE PLANS.

THE CONTROLLER CABINET SHALL BE KEYED TO THE STATE MASTER. CONTROLLER CABINET SIZE SHALL COMPLY TO THE REQUIREMENTS OF NEMA TS-1 SECTION 14. PRINTED BOARD TYPE BACK PANELS OF THE CONTROLLER CABINET WILL NOT BE ACCEPTABLE. SOLDERED CONNECTIONS WILL BE PERMITTED FOR WIRING ON THE BACK SIDE OF THE BACK PANEL. ALL CONTROLLER MEMORIES SHALL BE INVOLATILE AND SHALL NOT REQUIRE BATTERIES OR OTHER SOURCES OF ENERGY TO RETAIN DATA WHILE POWER IS REMOVED FROM THE CONTROLLER.

THE HOUSING SHALL HAVE AN ADD-ON GENERATOR POWER PANEL, WITH ENCLOSURE. THIS ITEM SHALL ALLOW SIGNAL ELECTRICIANS TO OPERATE THE TRAFFIC SIGNAL DURING POWER OUTAGES, WITHOUT OPENING THE CABINET DOOR OR CONNECTING OR DISCONNECTING PERMANENT POWER CABLES. THE ENCLOSURE SHALL BE INSTALLED ON THE SIDE OF THE CONTROLLER CABINET CLOSEST TO THE POWER INPUT PANEL. DESIGN AND LAYOUT OF THE CONTROLLER CABINET WILL DETERMINE EXACT PLACEMENT OF THE ENCLOSURE BUT IT SHOULD BE PLACED NEAR THE TOP OF GROUND MOUNTED CABINETS AND ABOUT 5 FEET FROM THE GROUND ON POLE MOUNTED CABINETS. DETAILS SHOWING THE ENCLOSURE, FRONT VIEW OF THE GENERATOR PANEL AND THE ELECTRIC HOOK-UP ARE SHOWN ON SHEET 37 OF THIS PLAN. THE ENCLOSURE SHALL BE SEALED WITH A HIGH QUALITY SILICON CAULK AND ALL HOLES DRILLED INTO THE SIDE OF THE CONTROLLER CABINET SHALL BE CAULKED AND SEALED AFTER THE ELECTRICAL EQUIPMENT IS INSTALLED. ALL ELECTRICAL CONNECTIONS, SOLDERED OR SCREW TYPE TERMINALS SHALL BE COVERED WITH A CLEAR SILICON CAULK, AFTER ENSURING A GOOD CONNECTION EXCEPT THE FIELD CONNECTIONS AND GROUND TERMINALS. THIS IS TO REDUCE THE RISK OF ELECTRICAL SHOCK.

THE GENERATOR POWER PANEL ENCLOSURE CAN BE FABRICATED TO MEET THE ATTACHED SPECIFICATIONS OR IT CAN BE PURCHACED THROUGH GAMMATRONIX AT 6279 SHIER RINGS ROAD, DUBLIN, OHIO 43017. PHONE NUMBER 614-889-2511.

THE GENERATOR INLET SHALL BE 30 AMP, LOCKING, FOUR WIRE GROUNDING AND MEET THE NEMA L14-30-P 30A 125/250V SPECIFICATION. THE INLET SHALL BE A HUBBLE CATALOG #2715.

THE LINE VOLTAGE GENERATOR SWITCH SHALL BE 30 AMP, 125/250V AC, TWO (2) POLE, THREE (3) POSITION, (ON, OFF, ON HUBBLE 1388).

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

THE LINE VOLTAGE CIRCUIT BREAKER SHALL BE SINGLE POLE SINGLE THROW AND A MINIMUM OF 30 AMPS. THE AMPERAGE SHALL BE INCREASED TO ACCOMMODATE GREATER LOADS, IF NECESSARY. THE GAUGE OF THE POWER CABLE SHALL BE OF PROPER SIZE PER THE N.E.C.

PAYMENT FOR ITEM 633, CONTROLLER, ACTUATED, 4 PHASE, SOLID STATE DIGITAL MICROPROCESSOR, AS PER PLAN AND ITEM 633, CONTROLLER, ACTUATED, 8 PHASE, SOLID STATE DIGITAL MICROPROCESSOR, AS PER PLAN WILL BE AT THE CONTRACT BID PRICE PER EACH COMPLETE AND IN PLACE INCLUDING ALL CONNECTIONS TESTED AND ACCEPTED.

CALCULATED B.F.B. 5/31/96
CHECKED A.L.L. 7/24/96

TRAFFIC SIGNAL GENERAL NOTES

COS-16-9.84
COS-36-20.06



C016TRGN.DGN 07/30/96

# SIGNAL GENERAL NOTES

## ITEM 614 MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION

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

A) FOR EXISTING SIGNAL/FLASHER INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION ( AT AN INTERSECTION) FROM THE TIME THE INSTALLATIONS ARE FIRST DISTURBED UNTIL THEY HAVE BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK IS ACCEPTED.

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

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. THE CONTRACTOR SHALL PROVIDE THE STATE AND THE ENGINEER ADDRESSES AND PHONE NUMBERS WHERE THE CONTRACTOR'S MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL ALSO 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 CONTINUALLY AVAILABLE 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 INTO 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 AND THE SIGNAL SHALL BE BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-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, WHEN MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION, THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHEN 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 COMPENSATIONS FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHEN THE CONTRACTOR HAS FAILED TO OR CANNOT RESPOND TO AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, WITHIN THE PERIODS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15. ANY SUBSEQUENT BILLINGS TO THE STATE FOR POLICE SERVICES AND MAINTENANCE SERVICES BY STATE FORCES WILL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS WHICH REQUIRE HANDLING DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING 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 632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

TRAFFIC SIGNAL INSTALLATION, INCLUDING SIGNAL HEADS, CABLE, MESSENGER WIRE, STRAIN POLES, CABINET, CONTROLLER, ETC., SHALL BE REMOVED IN ACCORDANCE WITH 632.25 AND AS INDICATED ON THE PLANS. REMOVED ITEMS SHALL BE STORED ON THE PROJECT FOR SALVAGE BY STATE FORCES.

IN THE EVENT THE ITEMS STORED ON THE PROJECT FOR SALVAGE ARE NOT REMOVED; THE CONTRACTOR SHALL, WHEN DIRECTED BY THE PROJECT ENGINEER IN WRITING, REMOVE AND DISPOSE OF THE ITEMS AT NO ADDITIONAL COST TO THE PROJECT.

## DUST CONTROL

THE CONTRACTOR SHALL PROVIDE AN EFFECTIVE MEANS OF REMOVING RESIDUE FROM THE DRY SAW BLADE CUTTING OF LOOP DETECTOR LEAD-IN SLOTS IN THE PAVEMENT. THE RESIDUE SHALL BE REMOVED BY VACUUM OR OTHER EFFECTIVE MEANS BEFORE IT IS BLOWN BY TRAFFIC ACTION OR THE WIND.

THE COST OF THE DUST CONTROL SHALL BE CONSIDERED AS INCIDENTAL TO AND INCLUDED IN THE UNIT BID PRICE OF ITEM 632 LOOP DETECTOR PAVEMENT CUTTING.

## DEPARTMENT OF INDUSTRIAL RELATIONS, INSPECTION

THERE IS A RULE THAT ALL NEW OR RELOCATED ELECTRIC SERVICE ENCLOSURES ARE TO BE INSPECTED BY A LICENSED STATE INSPECTOR PRIOR TO CONNECTION TO A UTILITY DISTRIBUTION LINE, THIS RULE IS NOW BEING ENFORCED BY THE UTILITY COMPANIES AND THE OHIO DEPARTMENT OF INDUSTRIAL RELATIONS. THIS IS A NEW SITUATION FOR ODOT BECAUSE STATE INSPECTIONS ARE NOW BEING REQUIRED FOR TRAFFIC CONTROL DEVICES AND LIGHTING INSTALLATIONS.

THE CONTRACTOR SHALL APPLY FOR THE INDUSTRIAL RELATION INSPECTION(S); PAY THE APPROPRIATE FEE(S) TO THE INDUSTRIAL RELATIONS DEPARTMENT, AND ADVISE THE DISTRICT ROADWAY SERVICES MANAGER OF THE TIME OF THE INSPECTION(S) SO THAT HE MAY HAVE A REPRESENTATIVE IN ATTENDANCE. IT IS TO BE NOTED THAT THE INDUSTRIAL RELATIONS INSPECTION DOES NOT SUBSTITUTE FOR ODOT'S FINAL INSPECTION, NOR DOES IT SUPERSEDE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS.

THE COST OF THE INDUSTRIAL RELATIONS INSPECTIONS SHALL BE CONSIDERED AS INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE LIGHTING INSTALLATIONS OR TRAFFIC CONTROL DEVICES.

## ITEM 625 LUMINAIRE, MISC.: STYLE B, TYPE III, 200 WATT HIGH PRESSURE SODIUM 713.11; 120 VOLT, AS PER PLAN

LUMINAIRES SHALL HAVE BUILT-IN PHOTOCELLS.

## STRAIN POLE FOUNDATION ELEVATIONS

ELEVATIONS SHOWN IN THE PLANS FOR STRAIN POLE FOUNDATIONS ARE FOR COMPUTATIONAL PURPOSES ONLY. THE ACTUAL ELEVATION OF THE FOUNDATION SHALL BE IN ACCORDANCE WITH TC-21.20 PROVIDED THE EXISTING SLOPE IS LESS THAN 6:1. AT LOCATIONS WHERE THE EXISTING SLOPE IS 6:1 OR GREATER THE BURIED DEPTH OF FOUNDATION, AS SHOWN IN STANDARD DRAWING TC 21.20, SHALL APPLY TO THE LOW SIDE OF THE SLOPE. THE TOP OF THE FOUNDATION SHALL BE SET 2-INCHES ABOVE THE EXISTING SURFACE ON THE HIGH SIDE OF THE SLOPE. THE ADDITIONAL DEPTH OF FOUNDATION NECESSARY TO MEET THESE REQUIREMENTS SHALL BE ADDED TO THE FORMED TOP.

PAYMENT FOR ADDITIONAL CONCRETE SHALL BE AT CONTRACT UNIT BID PRICE FOR ITEM 632 CONCRETE FOR ANCHOR BASE FOUNDATION.

## ITEM 632 COMBINATION STRAIN POLE, TYPE TC-81.10, DESIGN 8, AS PER PLAN
## ITEM 632 COMBINATION STRAIN POLE, TYPE TC-81.10, DESIGN 10, AS PER PLAN

THIS ITEM SHALL CONFORM TO ALL THE REQUIREMENTS OF ITEM 632 EXCEPT THE POLE HEIGHTS WHICH CAN BE FOUND ON THE SIGNAL PROFILE SHEETS.

## ITEM 632 WOOD POLE, AS PER PLAN

THIS ITEM SHALL CONFORM TO ALL THE REQUIREMENTS OF ITEM 632 WOOD POLE EXCEPT THE POLES SHALL BE CLASS 5 AND 35' LONG. THIS ITEM SHALL ALSO INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECCESSARY FOR DOWN GUY ANCHORS TO BE PLACED, AS DIRECTED BY THE ENGINEER.

CALCULATED B.F.B. 5/31/96
CHECKED A.L.L. 7/24/96

TRAFFIC SIGNAL GENERAL NOTES

COS-16-9.84
COS-36-20.06



08/06/96
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# MATERIAL SPECIFICATIONS FOR GENERATOR POWER PANEL EQUIPMENT

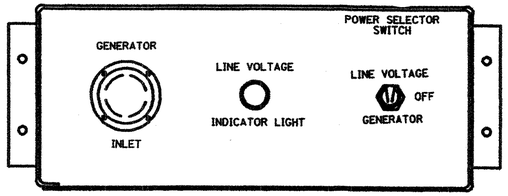
GENERATOR POWER PANEL ENCLOSURE --- THIS ITEM CAN BE FABRICATED TO MEET THE ATTACHED SPECIFICATIONS, OR IT CAN BE PURCHASED THROUGH GAMMATRONIX AT 6279 SHIER RINGS ROAD, DUBLIN, OHIO 43017. PHONE NUMBER 614-889-2511.

GENERATOR INLET --- THE INLET SHALL BE 30 AMP, 125/250V, LOCKING, FOUR (4) WIRE GROUNDING AND MEET THE NEMA CONFIGURATION NUMBER L14-30-P 30A 125/250V SPECIFICATION. THE INLET SHALL BE A HUBBELL CATALOG #2715.

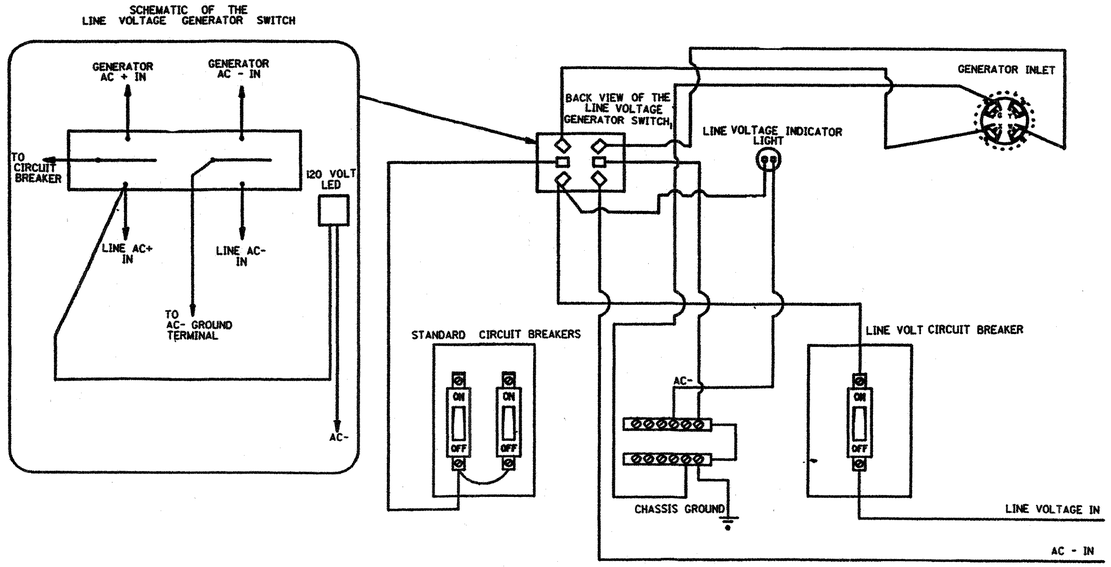
LINE VOLTAGE GENERATOR SWITCH --- THE SWITCH SHALL BE 30 AMP, 125/250V AC, TWO (2) POLE, THREE (3) POSITION. (ON, OFF, ON. HUBBELL 1388.)

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

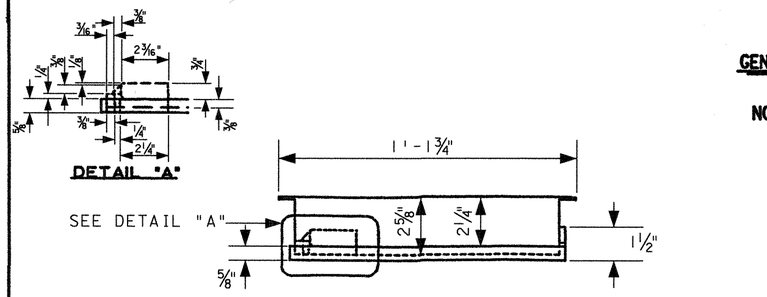
LINE VOLTAGE CIRCUIT BREAKER --- THE CIRCUIT BREAKER SHALL BE SINGLE POLE SINGLE THROW AND A MINIMUM OF 30 AMPS. THE AMPERAGE SHALL BE INCREASED TO ACCOMODATE GREATER LOADS, IF NECESSARY. THE GAUGE OF THE POWER CABLE SHALL BE OF PROPER SIZE PER THE N.E.C.

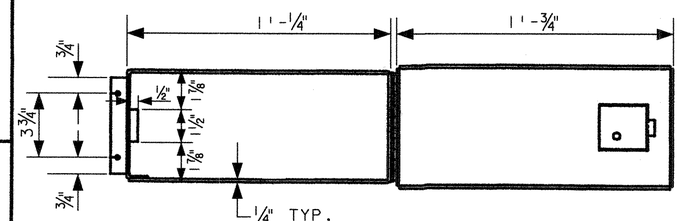


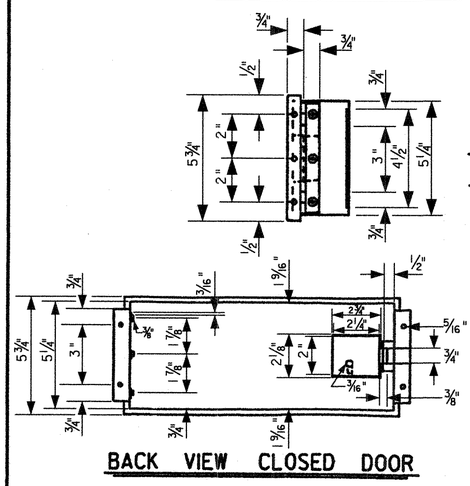

FRONT VIEW OF GENERATOR POWER PANEL




ELECTRICAL HOOKUP DETAIL FOR THE GENERATOR POWER PANEL




## GENERATOR POWER PANEL ENCLOSURE

NOTES:

1. THE ENCLOSURE SHALL BE CONSTRUCTED OF ⅛" THICK ALUMINUM.
2. THE LOCK SHALL BE THE STANDARD POLICE DOOR TYPE, KEYED WITH THE STANDARD FLASHER DOOR SKELETON KEY.
3. THE DOOR SHALL BE SEALED WITH A FOAM RUBBER GASKET TO PREVENT MOISTURE FROM ENTERING THE ENCLOSURE.
4. THE ENCLOSURE SHALL BE MOUNTED ONTO THE OUTSIDE OF THE CONTROLLER CABINET WITH NON-ACCESSIBLE BOLTS AND SEALED WITH A HIGH QUALITY SILICON CAULK AT ALL SURFACES TOUCHING THE CABINET.
5. THE HINGE SHALL BE OF STAINLESS STEEL OR EQUIVALENT CORROSIVE-RESISTANT MATERIAL.

CALCULATED B.F.B. 6/24/96
CHECKED A.L.L. 7/24/96

GENERATOR POWER PANEL

COS-16-9.84
COS-36-20.06

| TRAFFIC CONTROL | DATE |
|---|---|
| GENERATOR POWER PANEL | 1/94<br>REV.-6/94<br>REV.-10/94 |

37
231

POWER.DGN 6/24/96

# GENERAL NOTES

## 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 25 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

## COVERING OF SIGNS

WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE COVERED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE COVER IS REMOVED. THE COVER SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED.

## ITEM 614 BARRIER REFLECTOR

THESE REFLECTORS AND THEIR MOUNTING SHALL CONFORM ITEM 625 BARRIER REFLECTOR EXCEPT THAT SPACING SHALL BE AS SHOWN IN THE PLANS.

## ITEM 614 OBJECT MARKER

THESE OBJECT MARKERS AND THEIR MOUNTING SHALL CONFORM TO PROPOSAL NOTE EXCEPT THAT SPACING SHALL BE AS SHOWN IN THE PLANS.

## ITEM SPECIAL, REPLACEMENT SIGN

FLAT SHEET SIGNS 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 SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE USED IF IN GOOD CONDITION, BUT AT ALL TIMES ARE 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 200 SQUARE FEET HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

## DUST CONTROL

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

| | |
|---|---|
| ITEM 616 WATER | 360 M.GAL. |
| ITEM 616 CALCIUM CHLORIDE | 36 TON |

## ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN, ON SITE, FOR THE DURATION OF THE PROJECT. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR. THE LIST CURRENTLY CONTAINS CLASS III WITHIN MINIMUM LEGIBILITY DISTANCES OF 650 FT.

EACH SIGN SHALL BE TRAILER MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM TO DIM THE SIGN DURING DARKNESS AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLE-SHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY.

PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS WILL BE OFF, FACING AWAY FROM ALL TRAFFIC AND SHALL DISPLAY ONE OR MORE HIGH INTENSITY YELLOW REFLECTIVE SHEETING SURFACES OF A 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

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

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PREPROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OF PREPROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ONBOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHOULD BE EMPLOYED. ALTHOUGH THREE-PHASES MAY BE USED IN USUAL CONDITIONS. THE PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST ONCE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 614.03(C). THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC AND THE ENTIRE COST TO CONTROL TRAFFIC ACCRUED BY THE DEPARTMENT WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE TO THE CONTRACTOR ON HIS CONTRACT.

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

THE REQUIREMENT TO FURNISH, INSTALL, MAINTAIN AND REMOVE A PCMS UNIT ON THIS PROJECT SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES AS OUTLINED IN 104.04.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE BID PER SIGN-MONTH FOR EACH ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE, AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

THIS PROJECT SHALL REQUIRE 2 (TWO) ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO PERFORM THE WORK AS DESCRIBED ABOVE.

| | | |
|---|---|---|
| ITEM 614 | PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN | 48 SIGN-MONTH |
| ITEM 614 | PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN (REPLACEMENT) | 48 SIGN-MONTH |

CALCULATED D.M. 6/28/96
CHECKED A.J.J. 7/23/96

GENERAL NOTES

COS-16-9.84
COS-36-20.06



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# GENERAL NOTES

## ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR

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

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

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

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH: STATE HIGHWAY PATROL AND CITY OF COSHOCTON POLICE DEPARTMENT.

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

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR 100 HOURS

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

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

## ITEM 614 TEMPORARY PAVEMENT MARKINGS

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER TO MAINTAIN TRAFFIC DURING PHASES 2, 3 AND 4.

| | PHASE 2 | PHASE 3 | PHASE 3(U.S.R. 36) | PHASE 3(S.R. 83) | PHASE 4 | TOTALS |
|---|---|---|---|---|---|---|
| ITEM 614 TEMPORARY CENTER LINE, CLASS I (DOUBLE YELLOW) | 1.294 MILE | 1.032 MILE | 0.098 MILE | 0.079 MILE | 1.021 MILE | 3.524 MILE |
| ITEM 614 TEMPORARY EDGE LINE, CLASS I (YELLOW) | 1.026 MILE | 0.970 MILE | | 0.050 MILE | 2.034 MILE 4.080 MILE | 13.980 MILE |
| ITEM 614 TEMPORARY EDGE LINE, CLASS I (WHITE) | 3.415 MILE | 2.450 MILE | 0.196 MILE | 0.260 MILE | 3.579 MILE 9.900 MILE | |
| ITEM 614 TEMPORARY LANE LINE, CLASS II | | | | | 3.131 MILE | 3.131 MILE |
| ITEM 614 TEMPORARY CHANNELIZING LINE, CLASS I | 1157 LIN. FT. | 308 LIN. FT. | 1416 LIN. FT. | 968 LIN. FT. | 4077 LIN. FT. | 7926 LIN. FT. |
| ITEM 614 TEMPORARY STOP LINE, CLASS I | 122 LIN. FT. | | 78 LIN. FT. | 84 LIN. FT. | 309 LIN. FT. | 593 LIN. FT. |

## PAVEMENT MARKING FOR 2 (TWO) CONSTRUCTION SEASONS

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE PROJECT ENGINEER FOR TRAFFIC CONTROL FOR 2 (TWO) CONSECUTIVE CONSTRUCTION SEASONS, AS DESCRIBED UNDER ITEM 614 MAINTAINING TRAFFIC.

| | |
|---|---|
| ITEM 642 EDGE LINE, TYPE 2 | 5.613 MILE |
| ITEM 642 LANE LINE, TYPE 2 | 3.131 MILE |
| ITEM 642 CENTER LINE, TYPE 2 (DOUBLE YELLOW) | 1.021 MILE |
| ITEM 642 CHANNELIZING LINE, TYPE 2 | 4077 LIN. FT. |
| ITEM 642 STOP LINE, TYPE 2 | 309 LIN. FT. |

## TEMPORARY ACCESS TO DRIVES AND APPROACHES

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

ITEM 614 BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC 25 CU.YD.

ITEM 410 TRAFFIC COMPACTED SURFACE, TYPE A OR B 10 CU.YD.

ITEM 410 TRAFFIC COMPACTED SURFACE, TYPE C 10 CU.YD.

## DESIGNATED LOCAL DETOUR ROUTE

IN ADDITION TO THE OFFICIAL, SIGNED DETOUR ROUTE, A LOCAL ROUTE HAS BEEN DETERMINED TO BE THE SECONDARY, UNSIGNED DETOUR ROUTE OR "DESIGNATED LOCAL DETOUR ROUTE". THIS ROUTE IS SHOWN ON SHEET 44. DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THIS ROUTE IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RUTS, RIDGES, BUMPS, DUST AND STANDING WATER. ONCE THE DETOUR IS REMOVED AND TRAFFIC IS RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED LOCAL DETOUR ROUTE SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE. ALL SUCH WORK SHALL BE PERFORMED WHEN AND AS DIRECTED BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER TO MAINTAIN AND SUBSEQUENTLY RESTORE THE DESIGNATED LOCAL DETOUR ROUTE.

ITEM 448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22 100.0 CU.YD.

ITEM 407 TACK COAT 25 GAL.

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CHECKED A.L.L. 7/24/96

GENERAL NOTES

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# ITEM 614 MAINTAINING TRAFFIC

TRAFFIC SHALL BE MAINTAINED AS PER THE DETAIL SHEETS AND SPECIFICATIONS AND AS OUTLINED IN THE CONSTRUCTION AND MAINTENANCE OPERATIONS SECTIONS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS LATEST REVISION. IN ADDITION, THE FOLLOWING REQUIREMENTS SHALL APPLY:

THE CONTRACTOR SHALL SUBMIT, IN WRITING A SCHEDULE OF OPERATIONS TO THE DISTRICT DEPUTY DIRECTOR AND RECEIVE APPROVAL BEFORE WORK IS STARTED ON THE PROJECT.

BEFORE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE NAMES AND TELEPHONE NUMBERS OF A PERSON OR PERSONS WHO CAN BE CONTACTED 24 HOURS A DAY BY THE OHIO DEPARTMENT OF TRANSPORTATION AND ALL INTERESTED POLICE AGENCIES. THIS PERSON OR PERSONS SHALL BE RESPONSIBLE FOR REPLACING NECESSARY TRAFFIC CONTROL DEVICES IMMEDIATELY, AS PER 614.03 (C).

THE CONTRACTOR SHALL ARRANGE HIS OPERATIONS SO THAT NO WORK ,EXCEPT AS NOTED, THAT COULD DISRUPT THE NORMAL FLOW OF TRAFFIC SHALL BE PERFORMED ON THE PROJECT FROM NOVEMBER 15 TO APRIL 15. DURING THIS TIME ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED. PERMANENT MARKINGS SHALL BE PUT IN PLACE. A QUANTITY HAS BEEN INCLUDED ON SHEET 39 FOR PLACING PERMANENT PAVEMENT MARKINGS.

ALL EXISTING LANES,DRIVES AND APPROACHES SHALL BE OPEN TO TRAFFIC BETWEEN NOVEMBER 15 AND APRIL 15. NOVEMBER 15 SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE AND LIQUIDATED DAMAGES SHALL BE ASSESSED IN ACCORDANCE WITH SECTION 108.07 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS FOR EACH CALENDAR DAY THAT ALL LANES ARE NOT OPEN AND AVAILABLE TO TRAFFIC.

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

DRUMS SHALL BE PROPERLY REFLECTORIZED PLASTIC DRUMS AND WEIGHTED.

ALL WORK SHALL BE COMPLETED ON THE EASTBOUND LANES AS DESCRIBED IN THE SEQUENCE OF OPERATIONS, BEFORE IT IS OPENED TO TRAFFIC UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL DEVICES TO CLOSE THE VARIOUS APPROACHES.

AFTER WORK ON THE APPROACHES HAS BEEN COMPLETED, TRAFFIC SHALL BE RETURNED TO ITS ORIGINAL PATTERN AND THE CONTRACTOR SHALL REMOVE ALL TEMPORARY TRAFFIC CONTROL DEVICES. THE CONTRACTOR SHALL MAINTAIN TRAFFIC ON THE APPROACHES AS PER MAINTENANCE OF TRAFFIC SHEETS 56, 57, 58 & 61.

AT APPROACHES WHERE TRAFFIC IS MAINTAINED, THE CONTRACTOR WILL HAVE A MAXIMUM 21 CONSECUTIVE CALENDER DAYS IN WHICH TO COMPLETE THE APPROACH AND HAVE TRAFFIC BACK TO ITS ORIGINAL PATTERN. DURING THAT TIME WHEN TRAFFIC IS MAINTAINED ON THE APPROACHES, THE CONTRACTOR SHALL EITHER CONSTRUCT TEMPORARY PAVEMENT IN ORDER TO KEEP TWO LANES OPEN TO APPROACH TRAFFIC OR MAINTAIN TRAFFIC AS PER MT-97.10.
AFTER THE ALLOTTED TIME HE SHALL BE SUBJECT TO LIQUIDATED DAMAGES IN ACCORDANCE WITH 108.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATION FOR EACH CALENDAR DAY THAT THE APPROACH REMAINS UNDER CONSTRUCTION AS A RESULT OF UNFINISHED WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL INVOLVED IN PLACING AND REMOVING ALL ITEM 622 PORTABLE CONCRETE BARRIER 32".

ALL DRIVE ACCESS POINTS SHALL BE TEMPORARILY MAINTAINED BY THE CONTRACTOR. MATERIAL USED TO MAINTAIN ACCESS SHALL IN ALL CASES BE SUBJECT TO THE APPROVAL OF THE PROJECT ENGINEER. AN ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL NOTES FOR MAINTAINING DRIVE ACCESS.

THE CONTRACTOR SHALL ARRANGE HIS OPERATIONS SO AS TO PREVENT ANY INTERFERENCE TO THE CONTINUOUS FLOW OF TRAFFIC. ALL VEHICLES, EQUIPMENT, WORKERS AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE APPROVED BY THE ENGINEER.

FOR SAFETY PURPOSES NO EQUIPMENT, VEHICLES OR MATERIAL SHALL BE PARKED OR STORED WITHIN THIRTY (30) FEET FROM THE EDGE OF THE PAVEMENT OF THE TRAVELED LANES.

TEMPORARY FEATHERS USING ITEM 404 WILL BE REQUIRED AT ANY LOCATION DESIGNATED BY THE PROJECT ENGINEER. THEY SHALL BE INSTALLED ACCORDING TO BP-3.1 AND REMOVED WHEN NO LONGER REQUIRED.
THE COST OF THESE SHALL BE INCLUDED IN ITEM 404 BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC, SEE SHEET 39.

IN ADDITION TO ALL THE SIGNS AS PER STANDARD DRAWINGS AND O.M.U.T.C.D. THE SIGNS SHOWN ON SHEETS 44 TO 53 SHALL BE FURNISHED, INSTALLED, MAINTAINED, ADJUSTED AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR.

THE PLANS INDICATE THE MINIMUM SIGNAGE WHICH MUST BE INSTALLED AND / OR MAINTAINED DURING ALL PHASES OF CONSTRUCTION. THE SIGNS USED TO DIRECT TRAFFIC TO OPEN INTERSECTIONS SHALL BE USED AT APPROPRIATE TIMES. EXISTING SIGNS OR CONTRACTOR SUPPLIED SIGNS SHALL BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION. THE NEW PERMANENT SIGNS TO BE LEFT IN PLACE AT THE END OF THE CONSTRUCTION SHALL NOT BE USED FOR MAINTENANCE OF TRAFFIC SIGNAGE.

TRAFFIC SHALL NOT BE EXPOSED TO PAVEMENT DROP OFFS WITHOUT APPROPRIATE CHANNELIZING DEVICES AS DETAILED ON SHEET 42.

ANY CONFLICTING SIGNS WHETHER INSIDE OR OUTSIDE THE WORK LIMITS SHALL BE REMOVED OR COVERED AND TEMPORARY SIGNS ERECTED WHEN APPLICABLE BY THE CONTRACTOR.

FOR DETAILS OF COVERING EXISTING SIGNS SEE GENERAL NOTE " COVERING OF SIGNS" SEE SHEET 38.

THE ENGINEER SHALL RECORD INSTALLATION AND REMOVAL OF PROPOSED SIGNS, COVERED OR REMOVED AND UNCOVERED OR REERECTED SIGNS IN THE PROJECT DIARY.

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 AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY

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|---|---|
| ITEM 614 MAINTAINING TRAFFIC | LUMP |

FOR SEQUENCE OF OPERATIONS SEE SHEET 41.

CALCULATED D.M. 6/28/96
CHECKED A.L.L. 7/24/96

ITEM 614 MAINTAINING TRAFFIC

COS-16-9.84
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# SEQUENCE OF OPERATIONS

PHASE 1: (SEE SHEETS 47, 52 & 53)

(1) INSTALL NECESSARY TRAFFIC CONTROL DEVICES INCLUDING TEMPORARY SIGNING AND MAINTAIN EXISTING TWO WAY ALTERNATING TRAFFIC ON THE EXISTING, (FUTURE WESTBOUND) LANES.

(2) CONSTRUCT PROPOSED BRIDGE AS PER TYPICAL SECTIONS AND DETAIL SHEETS. CONSTRUCT EMBANKMENT FOR EASTBOUND LANES AS DIRECTED BY THE PROJECT ENGINEER. ANY DRAINAGE IN THE PROPOSED EMBANKMENT MAY BE CONSTRUCTED IN THE PHASE WITH THE APPROVAL OF THE PROJECT ENGINEER.

CONSTRUCT TEMPORARY EMBANKMENT ON C.R. 1A AND EXTEND CULVERT UNDER C.R. 1A.

NOTE: PHASE 2 WORK SHALL NOT BEGIN UNTIL THE SURCHARGE SETTLING TIME HAS EXPIRED.

PHASE 2: (SEE SHEETS 48, 49, 54-59)

(1) INSTALL NECESSARY TRAFFIC CONTROL DEVICES INCLUDING TEMPORARY SIGNING AND MAINTAIN TWO WAY ALTERNATING TRAFFIC ON THE EXISTING, (FUTURE WESTBOUND) LANES. PLACE ITEM 622 PORTABLE CONCRETE BARRIER, 32" AS DETAILED IN THE PLANS FOR PHASE 2.

(2) CONSTRUCT EASTBOUND LANES TO STA. 3+50± AS PER TYPICAL SECTIONS AND DETAIL SHEETS. CONSTRUCT DRAINAGE FOR EASTBOUND LANES AS DIRECTED BY THE PROJECT ENGINEER.

(3) THE APPROACH AND C.R. 1A SHALL BE CONSTRUCTED IN THREE STEPS:

STEP 1: CONSTRUCT TEMPORARY PAVEMENT ON SOUTHBOUND C.R. 1A, WHILE MAINTAINING TWO WAY TRAFFIC ON EXISTING C.R. 1A. ADJUST TRAFFIC CONTROL DEVICES FOR STEP TWO.

STEP 2: CONSTRUCT PAVEMENT FROM STA. 4+50± TO STA. 13+31 ON U.S.R. 36 EASTBOUND. CONSTRUCT PERMANENT AND TEMPORARY PAVEMENTS ON NORTHBOUND C.R. 1A. MAINTAIN TRAFFIC AS SHOWN ON SHEET 56. ADJUST TRAFFIC CONTROL DEVICES FOR STEP THREE.

STEP 3: MAINTAIN TRAFFIC ON NEWLY CONSTRUCTED EASTBOUND LANES AND NORTHBOUND PERMANENT AND TEMPORARY PAVEMENTS AT C.R. 1A FOR ACCESS TO C.R. 1A AS SHOWN ON SHEET 56. CONSTRUCT PERMANENT PAVEMENT ON SOUTHBOUND C.R. 1A. CONSTRUCT REMAINING PAVEMENT ON U.S.R. 36 EASTBOUND FROM STA. 3+50± TO STA. 4+50±.

THE APPROACH SHALL REMAIN OPEN UNTIL WORK BEGINS ON THE APPROACH. PHASE TWO WORK ON THE APPROACH SHALL BE LIMITED TO 21 CONSECUTIVE DAYS AS DESCRIBED ON SHEET 42. THE APPROACH SHALL BE CONSTRUCTED AS DIRECTED BY THE PROJECT ENGINEER SO AS TO MAINTAIN TRAFFIC AS DESCRIBED ON SHEET 56.

(4) INSTALL ALL TEMPORARY PAVEMENT MARKINGS IN (FUTURE EASTBOUND) LANES.

(5) CONSTRUCT TEMPORARY SIGNING FOR PHASE 3.

(6) ADJUST TRAFFIC CONTROL DEVICES FOR THE NEXT PHASE OF OPERATIONS.

PHASE 3: (SEE SHEETS 50, 51, 60-63)

(1) INSTALL NECESSARY TRAFFIC CONTROL DEVICES INCLUDING TEMPORARY SIGNING AND MAINTAIN TWO WAY ALTERNATING TRAFFIC ON THE NEWLY CONSTRUCTED (FUTURE EASTBOUND) LANES. CONSTRUCT ITEM 622 PORTABLE CONCRETE BARRIER, 32" AS DETAILED IN THE PLANS FOR PHASE 3.

(2) CONSTRUCT WESTBOUND LANES AND THE PROPOSED BRIDGE AS PER TYPICAL SECTIONS AND DETAIL SHEETS. CONSTRUCT DRAINAGE FOR WESTBOUND LANES AS DIRECTED BY THE PROJECT ENGINEER.

(3) S.R. 83 AND U.S.R. 36 APPROACHES SHALL BE DETOURED AS SHOWN ON SHEET 44. THE APPROACH SHALL REMAIN OPEN UNTIL WORK BEGINS ON THE APPROACH. PHASE 3 WORK ON THE APPROACH SHALL BE LIMITED TO 30 CONSECUTIVE DAYS AS DESCRIBED ON SHEET 42.

ON S.R. 83 OR U.S.R. 36, THE CONTRACTOR WILL BE ASSESSED LIQUIDATED DAMAGES ACCORDING TO 108.07 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS FOR EACH DAY AFTER 30 DAYS THAT THE DETOUR IS IN EFFECT.

STA. 538+00 TO STA. 542+00 ON S.R. 16/U.S.R. 36 FUTURE WESTBOUND LANES SHALL BE CONSTRUCTED DURING THE 30 DAY DETOUR FOR U.S.R. 36.

STA. 3+00 TO STA. 6+00 ON U.S.R. 36 FUTURE WESTBOUND LANES SHALL BE CONSTRUCTED DURING THE 30 DAY DETOUR FOR S.R. 83.

S.R. 83 AND U.S.R. 36 APPROACHES SHALL NOT BE CLOSED AT THE SAME TIME.

(4) INSTALL ALL TEMPORARY OR PERMANENT PAVEMENT MARKINGS.

(5) ADJUST TRAFFIC CONTROL DEVICES FOR NEXT PHASE OF WORK.

PHASE 4: (SEE SHEETS 37 & 54)

(1) INSTALL NECESSARY TRAFFIC CONTROL DEVICES AND MAINTAIN TRAFFIC AS PER MT-95.30. CONSTRUCT MEDIAN FROM STA. 520+00 TO STA. 530+00. RESURFACE AND COMPLETE ALL RELATED WORK.

## GENERAL:

IT IS THE INTENT OF THIS SEQUENCE OF OPERATIONS TO PROVIDE A WORK AREA FOR THE CONTRACTOR WHILE ALSO MAINTAINING TRAFFIC IN A MANNER WHICH IS SAFE FOR THE TRAVELING PUBLIC.

THE CONTRACTOR SHALL COMPLETE ALL WORK AS DESCRIBED IN THE SEQUENCE OF OPERATIONS, FOR EACH PHASE OF CONSTRUCTION, BEFORE STARTING WORK ON THE NEXT PHASE OF CONSTRUCTION.

THE CONTRACTOR SHALL NOT BE ALLOWED TO START WORK ON ANY PHASE OF CONSTRUCTION UNTIL APPROVAL HAS BEEN GRANTED BY THE PROJECT ENGINEER.

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 DIRECTOR.

## WORK ZONE INSPECTIONS

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL, OTHER THAN THE SUPERINTENDENT, AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO INSPECT ALL TRAFFIC CONTROL DEVICES IN THE WORK ZONE AT THE BEGINNING AND AT THE END OF EACH WORK DAY. DAILY, A RECORD OF THE REVIEW SHALL BE GIVEN TO THE PROJECT ENGINEER, IN WRITING, AND SHALL INCLUDE A RECORD OF DEFICIENCIES AND RESOLUTION OF THE DEFICIENCIES. A MINIMUM OF TWO REVIEWS EACH WEEK SHALL BE PERFORMED DURING THE HOURS OF DARKNESS. ONE OF THE NIGHT INSPECTIONS SHALL BE PERFORMED ON A SATURDAY OR SUNDAY NIGHT.

THE FOLLOWING ITEMS SHALL BE INCLUDED IN EACH REVIEW:

TRAFFIC CONTROL DEVICE CONDITION, PLACEMENT, VISIBILITY, TRAFFIC FLOW CONDITIONS, INCIDENTS, CONGESTION POINTS, DELAYS, INTERACTION OR WORK VEHICLES AND TRAFFIC, EVIDENCE OF ACCIDENTS, PROPER STORAGE OF MATERIALS AND EQUIPMENT, CONFORMANCE WITH THE TRAFFIC CONTROL PLAN, ADEQUACY OF THE TRAFFIC CONTROL PLAN, CONFLICTING OR NON-CONFORMING PAVEMENT MARKINGS.

THE DESIGNATED INDIVIDUAL OR A QUALIFIED REPRESENTATIVE SHALL ALSO BE AVAILABLE ON AN AROUND-THE-CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. THESE INDIVIDUALS' NAMES AND PHONE NUMBERS SHALL BE GIVEN TO THE PROJECT ENGINEER AT THE PRE-CONSTRUCTION MEETING.

THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 MAINTAINING TRAFFIC.

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SEQUENCE OF OPERATIONS

COS-16-9.84
COS-36-20.06



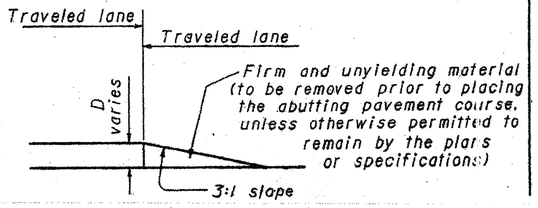
C16TRF04.DGN 7/30/96

# GENERAL NOTES

1. It is intended that this drawing be used for treatment of drop-offs that develop during construction operations, and that are not otherwise provided for in the construction plans. Where the plans do not provide specific items for labor, equipment, or materials to implement the drop-off treatments specified hereon, they shall be included for payment in the lump sum bid for Item 614 - Maintaining Traffic.
2. While the need for certain advisory signing is noted hereon, it is not intended that this be indicative of all signing that may be required to advise or warn motorists, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) must be fulfilled.
3. In urban or otherwise heavily developed areas where pedestrians and/or bicyclists may be present in significant numbers, additional signing and protective measures other than those shown hereon may be required.
4. The drop-off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.
5. Where concrete barrier is specified, it shall be in accordance with Standard Construction Drawing MC-9.2 and Item 622.
6. 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.
7. When OW-15I (Low Shoulder) signs or OW-17I (Uneven Lanes) and OWP-17I signs are required, they shall be placed 750' in advance of the condition, 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 one-half mile, additional signs should be erected at intervals of one mile or less.
8. 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.
9. Portable concrete barrier shall be placed on the same level as the traffic surface and shall not encroach on lane width(s) designated as the minimum required for traffic use. Where drums are used, and their presence would reduce traveled lane widths to less than 10', drums may be placed on the opposite level from that of traffic provided the dropoff depth does not exceed 5" and approval is granted by the Project Engineer.
10. Pavement Repairs (or similar work):
    a. Lengths greater than 60 feet - utilize appropriate treatment from Condition I.
    b. Lengths of 60 feet 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)

1. This treatment may be used when permitted for Condition I only.
2. OW-17I and OWP-17I signs required.

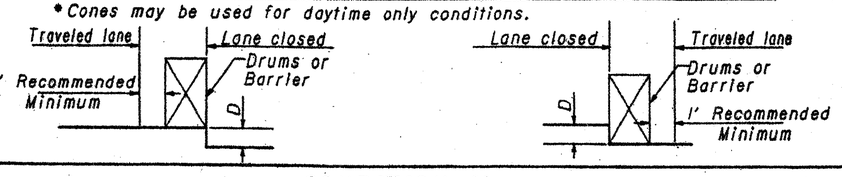



## CONDITION I
### DROPOFFS BETWEEN TRAVELED LANES

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

| D (In.) | Treatment |
|---|---|
| ≤1½ | Erect OW-17I and OWP-17I signs. |
| >1½-3 | 1) Lane closure utilizing drums* as shown below OR 2) Optional Wedge Treatment |
| >3-5 | Lane closure utilizing drums as shown below. |
| >5 | Lane closure utilizing portable concrete barrier as shown below. |

*Cones may be used for daytime only conditions.

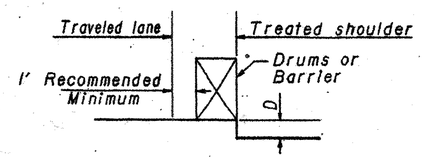



## CONDITION II
### DROPOFFS WITHIN GRADED SHOULDER AREA

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

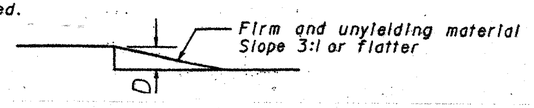
| D (In.) | Treatment |
|---|---|
| ≤1½ | 1) If edgelines are present, no treatment necessary OR 2) Erect OW-17I and OWP-17I signs. |
| >1½-5 | 1) If min. lane width* requirements can be met, maintain lanes utilizing drums as shown below OR 2) If min. lane width* requirements cannot be met, close adjacent lane utilizing drums OR 3) Optional Shoulder Treatment. |
| >5-12 Daylight only | If min. lane width* requirements can be met, maintain lanes utilizing drums as shown below. |
| >5-24 | 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. |
| >24 | Lane closure utilizing portable concrete barrier as shown below. |

*Minimum lane widths shall be 10' unless otherwise specified in the plans.




## OPTIONAL SHOULDER TREATMENT

1. This treatment may not be used within a bituminous shoulder where a hot longitudnal joint per 401.15 is required.
2. OW-15I signs required.

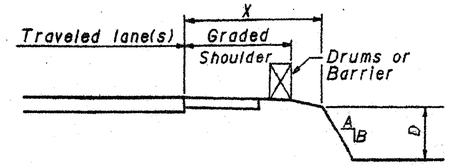



## CONDITION III
### DROPOFFS BEYOND GRADED SHOULDER OR BACK OF CURB

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

## CHART A

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

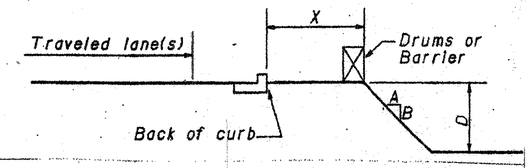



| X (Ft.) | D (In.) | A/B | Treatment Required Day | Treatment Required Night |
|---|---|---|---|---|
| 0-4 | Any | Any | (a) | (a) |
| 4-30 | Any | 3:1 or Flatter | None | None |
| 4-12 | <3 | Steeper than 3:1 | None | None |
| 4-12 | >3-<12 | Steeper than 3:1 | Drums | Drums |
| 4-12 | >12 | Steeper than 3:1 | Drums | Barrier |
| >12-20 | <12 | Steeper than 3:1 | None | None |
| >12-20 | >12-<24 | Steeper than 3:1 | Drums | Drums |
| >12-20 | >24 | Steeper than 3:1 | Drums | Barrier |
| >20-30 | <24 | Steeper than 3:1 | None | Drums |
| >20-30 | >24 | Steeper than 3:1 | Drums | Barrier |
| >30 | Any | Any | None | None |

(a) Use treatment specified under Condition II.

## CHART B

USE FOR: Curbed facilities, where the curb is 6" or greater in height and the legal speed is 40 mph or less.




| X (Ft.) | D (In.) | A/B | Treatment Required Day | Treatment Required Night |
|---|---|---|---|---|
| 0-10 | <12 | Any | None | Drums |
| 0-10 | >12 | Any | Drums | Drums |
| >10 | Any | Any | None | None |

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF LOCATION AND DESIGN

# DROPOFFS IN WORK ZONES

| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED | DATE | REVISED |
|---|---|---|---|---|---|---|
| | | | | | | |

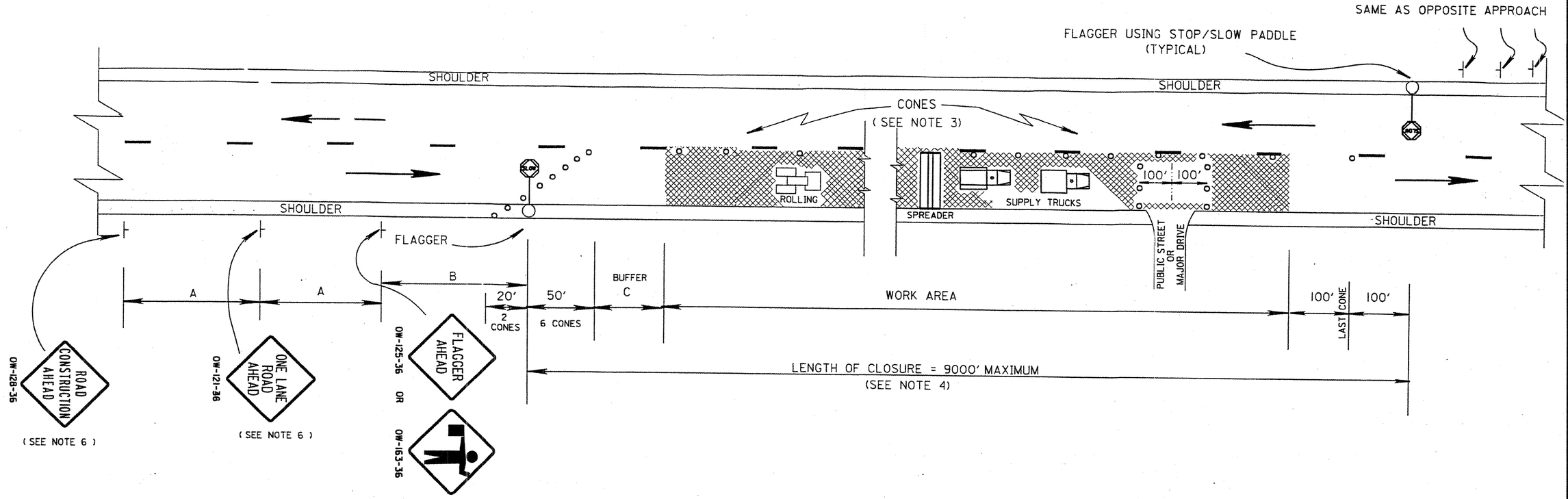
CALCULATED D.M. 6/24/96
CHECKED A.L.L. 7/24/96

GENERAL NOTES

COS-16-9.84
COS-36-20.06

42
231

BLNKSHT.DGN 7/30/96




## GENERAL NOTES:

1. THE LOCATION OF THE ADVANCE WARNING SIGNS SHOULD ONLY BE ADJUSTED TO PROVIDE FOR ADEQUATE SIGHT DISTANCE FOR THE EXISTING VERTICAL AND HORIZONTAL ROADWAY ALIGNMENT.

2. FLAGGERS, ONE FOR EACH DIRECTION SHALL BE USED TO CONTROL TRAFFIC CONTINUOUSLY FOR AS LONG AS A ONE LANE OPERATION IS IN EFFECT. THE FLAGGERS SHALL BE ABLE TO COMMUNICATE WITH EACH OTHER AT ALL TIMES.

3. CONES ON THE TAPERS SHALL BE SPACED AT 10' CENTER TO CENTER. CONES SHALL BE SPACED AT 200' CENTER TO CENTER PARALLEL TO THE CENTER LANE BUT 1 TO 2 FT. WITHIN THE CLOSED LANE. CONES MAY BE TEMPORARILY MOVED OFF THE ROAD IN THE IMMEDIATE VICINITY OF THE SUPPLY TRUCKS, PAVING SPREADER OR ROLLERS BUT SHALL BE IMMEDIATELY REPLACED WHEN THAT ACTIVITY HAS PASSED BY THE CONE LOCATION. CONES SHALL HAVE A MINIMUM HEIGHT OF 28 INCHES AND SHALL BE STABILIZED TO PREVENT THEM FROM BLOWING OVER. CLOSURES AT NIGHT SHALL USE DRUMS RATHER THAN CONES.

4. IT IS REQUIRED THAT THE LENGTH OF CLOSURE BE KEPT TO A MINIMUM AT ALL TIMES, AS DIRECTED BY THE ENGINEER.

   WHEN THE AMBIENT TEMPERATURE EXCEEDS 80 DEGREES F, THE ENGINEER MAY INCREASE THE LENGTH OF CLOSURE TO ALLOW FOR SUFFICIENT COOLING OF NEW PAVEMENT.

4. CONT. THE ENGINEER MAY SHORTEN THE MAXIMUM ALLOWABLE LENGTH OF CLOSURE TO RELIEVE EXCESSIVE TRAFFIC BACKUPS OR TO IMPROVE TRAFFIC OPERATION.

   ALL TRAFFIC CONTROL SIGNS, CONES (OR DRUMS), AND THE FLAGGER SHALL BE MOVED FORWARD AS A GROUP BEFORE THE CLOSURE REACHES THE MAXIMUM ALLOWABLE LENGTH. ONLY ONE SIDE OF THE ROAD SHALL BE CLOSED AT ANY TIME.

5. WITHIN THE LENGTH OF CLOSURE, PROVISION SHALL BE MADE TO CONTROL TRAFFIC ENTERING FROM INTERSECTING STREETS AND MAJOR DRIVES AS NECESSARY TO PREVENT WRONG WAY MOVEMENTS AND TO KEEP VEHICLES OFF OF NEW PAVEMENT NOT READY FOR TRAFFIC. AS A MINIMUM, THE CONTRACTOR SHALL:

   A) PROVIDE AN ADDITIONAL FLAGGER AT EVERY PUBLIC STREET INTERSECTION AND MAJOR DRIVEWAY AND -
   B) PLACE A ROW OF 3 CONES ACROSS THE CLOSED LANE APPROXIMATELY 100 FT. ON EACH SIDE OF AN INTERSECTION.
   C) ADDITIONAL ROWS OF 3 CONES EACH SHALL BE PLACED ACROSS THE CLOSED LANE AT A MAXIMUM SPACING OF 1000 FT. BETWEEN ROWS OF CONES.

   ROWS OF CONES MAY BE MOVED OFF THE ROAD TO ALLOW PASSAGE OF ROLLERS, PAVING SPREADER OR SUPPLY TRUCKS BUT SHALL BE MOVED BACK ONTO THE ROAD WHEN THE ACTIVITY HAS PASSED.

6. THE TYPE A FLASHING WARNING LIGHTS ARE REQUIRED ON THE "ROAD CONSTRUCTION AHEAD" (OW-128) AND THE "ONE LANE ROAD AHEAD" (OW-121) SIGNS WHENEVER A NIGHT LANE CLOSURE IS NECESSARY.

7. TYPE C STEADY BURNING WARNING LIGHTS SHALL BE ERECTED ON EACH DRUM FOR NIGHT LANE CLOSURES.

8. ADEQUATE AREA ILLUMINATION OF EACH FLAGGER STATION SHALL BE PROVIDED AT NIGHT BY USING 150 WATT MINIMUM HIGH PRESSURE SODIUM LUMINAIRES OR 250 WATT MINIMUM MERCURY LUMINAIRES. LUMINAIRES SHALL BE LOCATED ADJACENT TO ONE FLAGGER STATION FOR EACH DIRECTION OF TRAFFIC.

| DISTANCE | A | B | C |
|---|---|---|---|
| URBAN | 200 | 350 | 100 |
| RURAL | 500 | 650 | 200 |

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE C & M SPECIFICATIONS AS WELL AS IN ACCORDANCE WITH PART 7 OF OMUTCD. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS TO PROVIDE THIS METHOD OF TRAFFIC CONTROL SHALL BE INCLUDED IN THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

CALCULATED D.M. 6/24/96
CHECKED A.L.L. 7/24/96

GENERAL NOTES

REVISED BY: DATE:

20971IFED

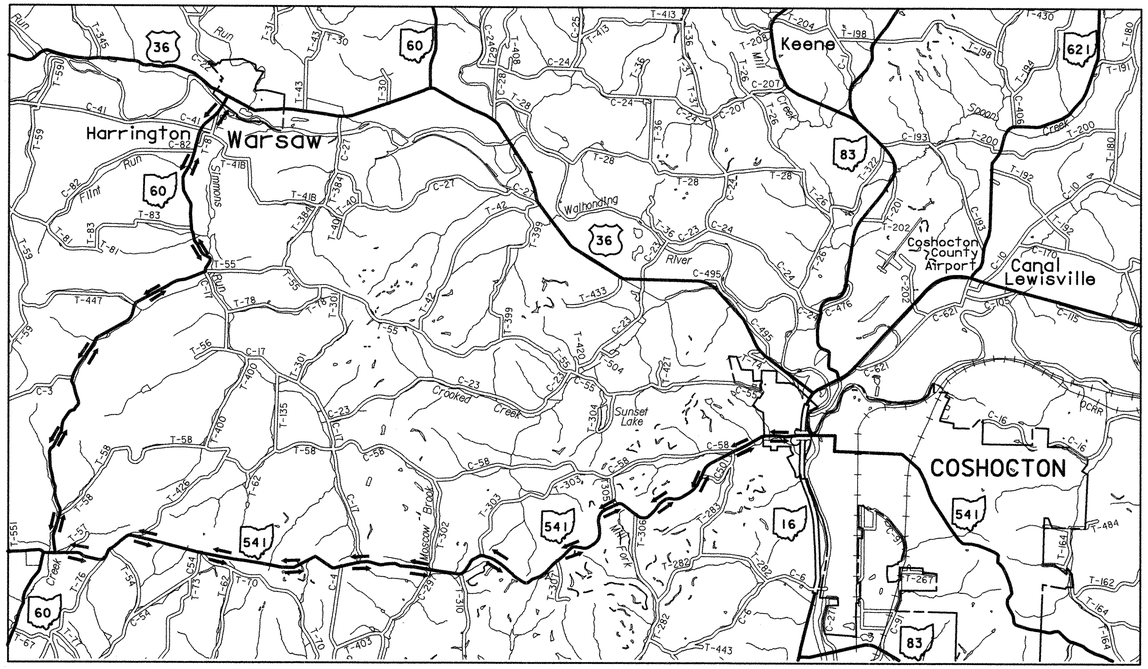
DATE 04/05/89

FLAGGER CLOSING 1 LANE OF A 2 LANE HIGHWAY FOR PAVING OPERATIONS WITH CONES

COS-16-9.84
COS-36-20.06

43
231

BLNKSHT.DGN 7/30/96

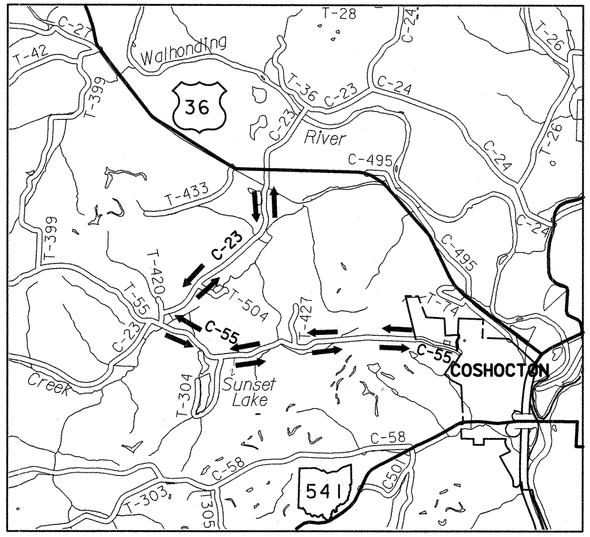



SCALE IN MILES
0 1 2 3 4

U.S.R. 36 NORTH DETOUR (STATE DETOUR)

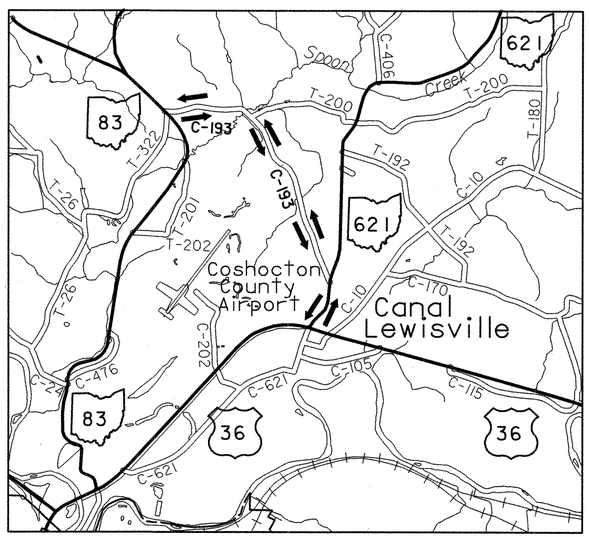
← DETOUR ROUTE

NOTE:
DETOUR SIGNING SHALL BE INSTALLED BY STATE FORCES FOR DETOURS AS SHOWN ON THIS SHEET.




U.S.R. 36 NORTH DETOUR (LOCAL DETOUR)

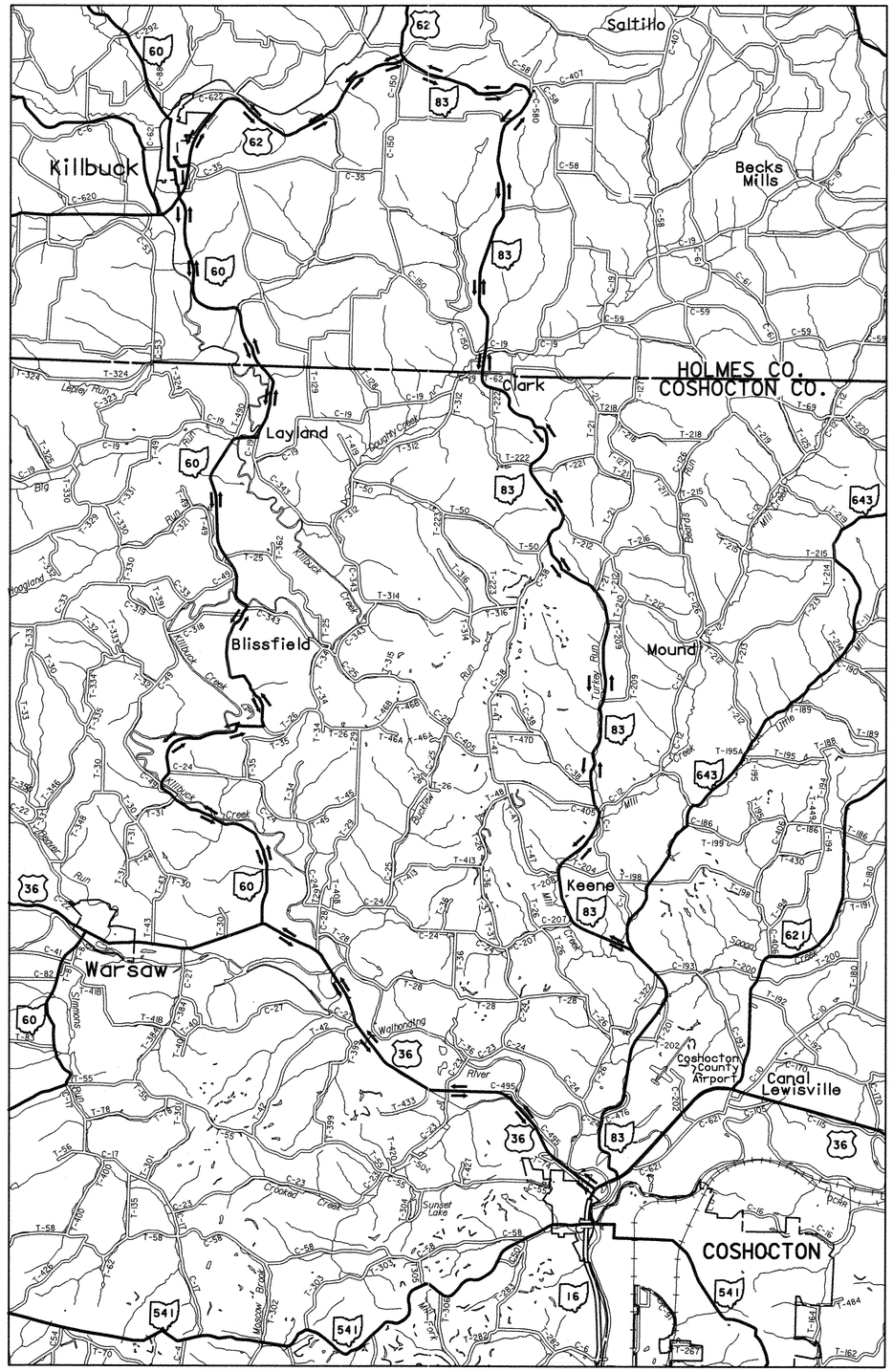
← DETOUR ROUTE




S.R. 83 NORTH DETOUR (LOCAL DETOUR)

← DETOUR ROUTE

SCALE IN MILES
0 1 2 3 4




S.R. 83 NORTH DETOUR (STATE DETOUR)

← DETOUR ROUTE

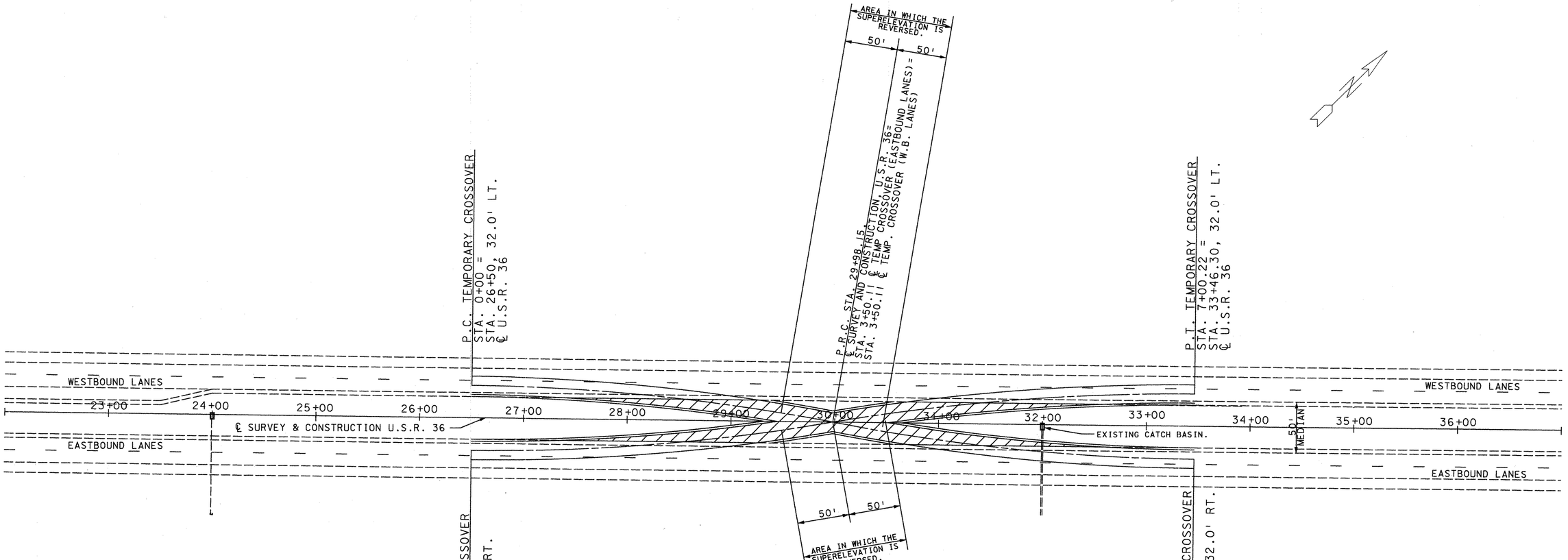
SCALE IN MILES
0 1 2 3 4

DETOUR.DGN 7/25/96

CALCULATED J.C. 6/24/96
CHECKED J.L.S. 7/24/96

# LOCAL AND STATE ROUTE DETOURS

COS-16-9.84
COS-36-20.06




## CROSSOVER PAVEMENT DETAIL

| MEDIAN WIDTH |
|---|
| 50' |
| △ = 10°10'07" |
| L = 338.96' |
| T = 169.93' |
| R = 1909.86' |

NOTE:
CROSS-HATCHED AREA DENOTES AREA OF ITEM 615 TEMPORARY PAVEMENT, CLASS A

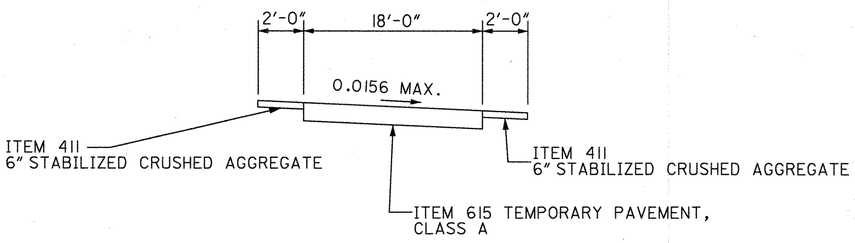
QUANTITIES:

CROSSOVER:
STA. 29+98.15 ℄ SURVEY & CONSTRUCTION U.S.R. 36
ITEM 615 TEMPORARY PAVEMENT, CLASS A
(AREA BY COMPUTER) - 1,129.0 SQ. YD.

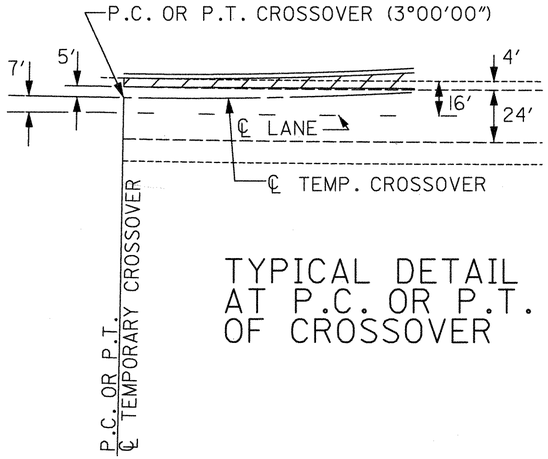
ITEM 411 6" STABILIZED CRUSHED AGGREGATE
(AREA BY COMPUTER) - 2378.0 SQ.FT. x 0.5 ÷ 27 = 44.0 CU.YD.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

| | |
|---|---|
| ITEM 615 TEMPORARY ROAD | LUMP |
| ITEM 615 TEMPORARY PAVEMENT, CLASS A | 1,129.0 SQ.YD. |
| ITEM 411 6" STABILIZED CRUSHED AGGREGATE | 44.0 CU.YD. |




TEMPORARY PAVEMENT TYPICAL




TYPICAL DETAIL AT P.C. OR P.T. OF CROSSOVER

0 25 50 100
HORIZONTAL SCALE IN FEET

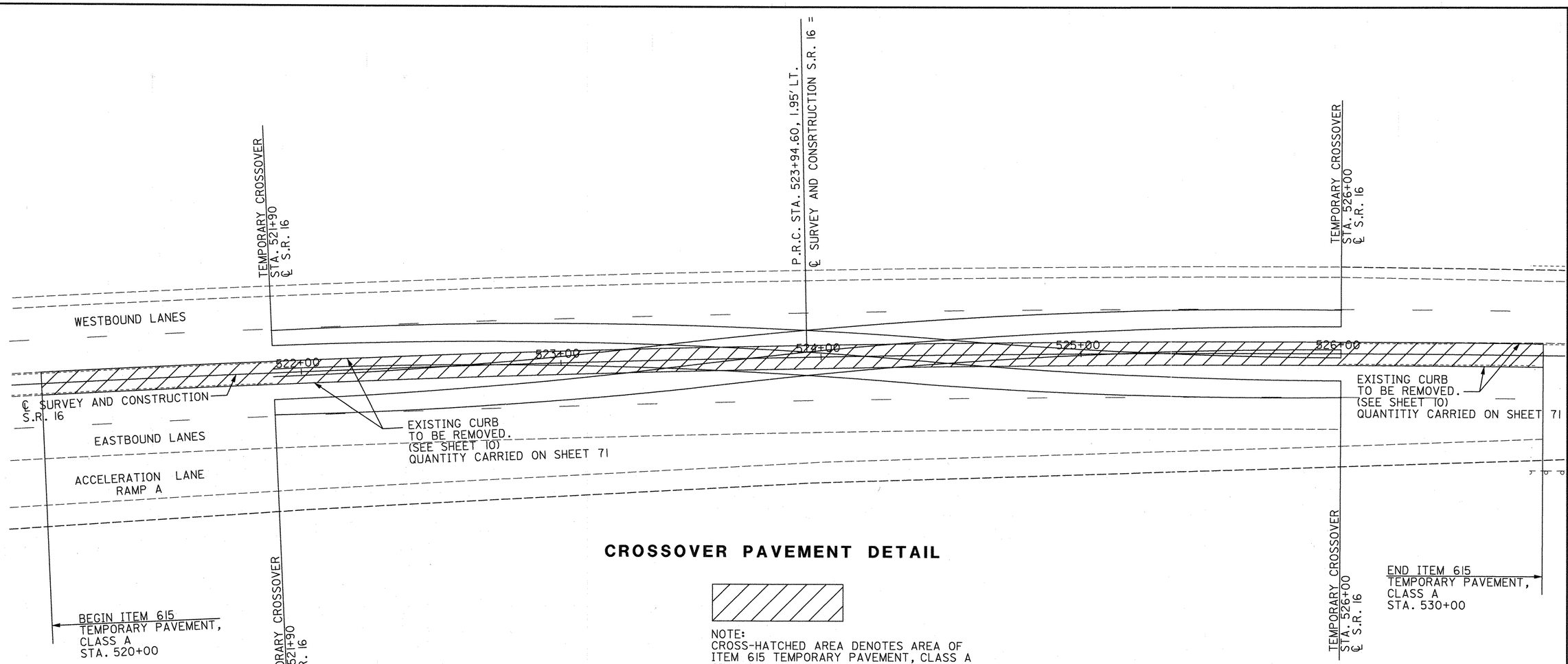
CALCULATED J.C. 6/28/96
CHECKED J.L.S. 7/24/96

CROSSOVER PAVEMENT DETAIL

COS-16-9.84
COS-36-20.06

45
231

C036CROS.DGN 7/30/96




## CROSSOVER PAVEMENT DETAIL

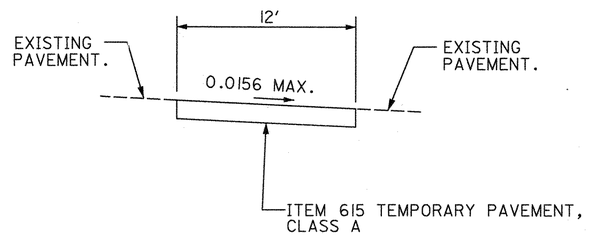
NOTE:
CROSS-HATCHED AREA DENOTES AREA OF
ITEM 615 TEMPORARY PAVEMENT, CLASS A
STA. 520+00 TO STA. 530+00 = 1000.0 LIN.FT.

QUANTITIES:

℄ S.R. 16 STA. 520+00 TO STA. 530+00 = 1000.0 LIN.FT.
ITEM 615 TEMPORARY PAVEMENT, CLASS A
1000.0' x 12' ÷ 9 = 1333.3 SQ. YD.

THE FOLLOWING QUANTITY HAS BEEN CARRIED
TO THE GENERAL SUMMARY.

| | |
|---|---|
| ITEM 615 TEMPORARY ROAD | LUMP |
| ITEM 615 TEMPORARY PAVEMENT, CLASS A | 1333.3 SQ.YD. |




TEMPORARY PAVEMENT TYPICAL

HORIZONTAL
SCALE IN FEET
0 20 40

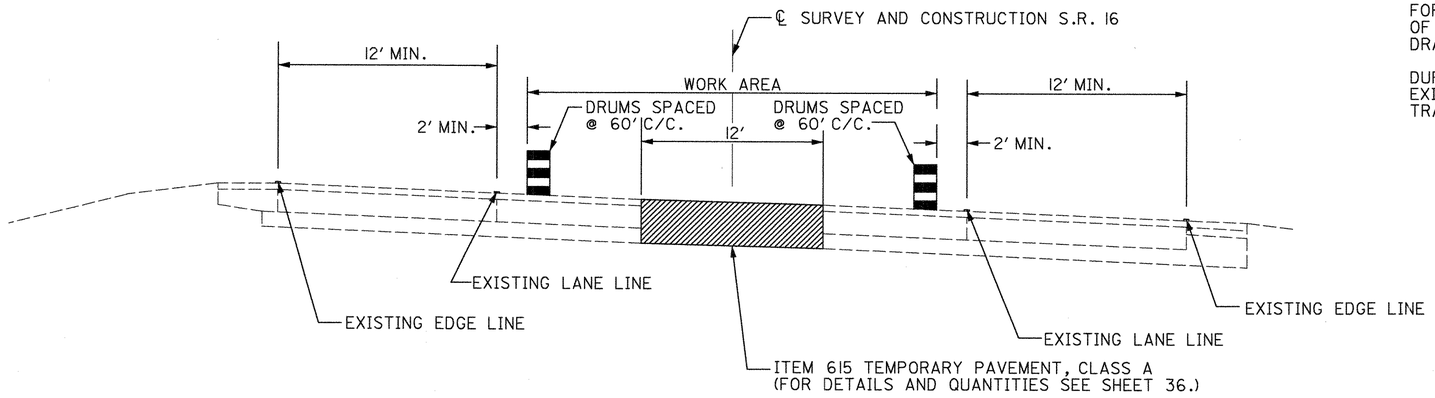
CALCULATED J.C. 6/28/96
CHECKED J.L.S. 7/24/96

# CROSSOVER PAVEMENT DETAIL

COS-16-9.84
COS-36-20.06



C016CROS.DGN 7/30/96

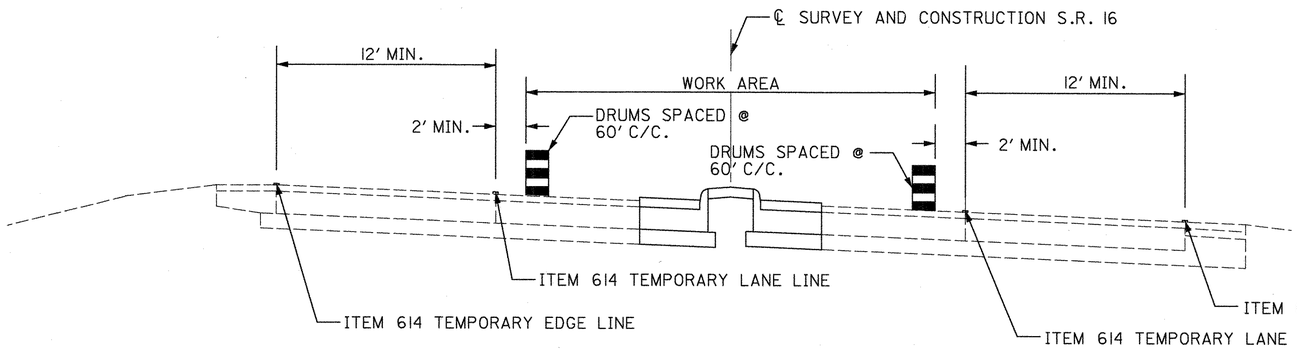



NOTES:
FOR ADDITIONAL DETAILS OF THE MAINTENANCE OF TRAFFIC SEE STANDARD CONSTRUCTION DRAWING MT-95.30.

DURING THIS PHASE OF CONSTRUCTION, USE EXISTING PAVEMENT MARKINGS TO MAINTAIN TRAFFIC.

SECTION APPLIES:
STA. 520+00.00 TO STA. 530+00.00 = 1,000.00 LIN. FT.
TOTAL 1,000.00 LIN. FT.

PHASE 1




NOTE:
FOR ADDITIONAL DETAILS OF THE MAINTENANCE OF TRAFFIC SEE STANDARD CONSTRUCTION DRAWING MT-95.30.

SECTION APPLIES:
STA. 520+00.00 TO STA. 530+00.00 = 1,000.00 LIN. FT.
TOTAL 1,000.00 LIN. FT.

PHASE 4

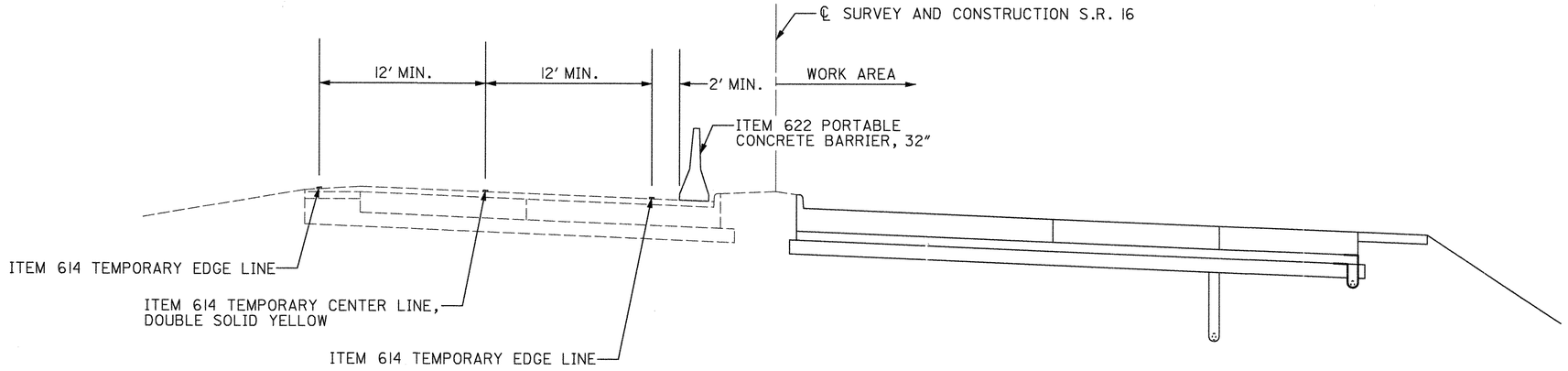
CALCULATED J.C. 6/24/96
CHECKED J.L.S. 7/24/96

# MAINTENANCE OF TRAFFIC, PHASE 1 AND 4

COS-16-9.84
COS-36-20.06



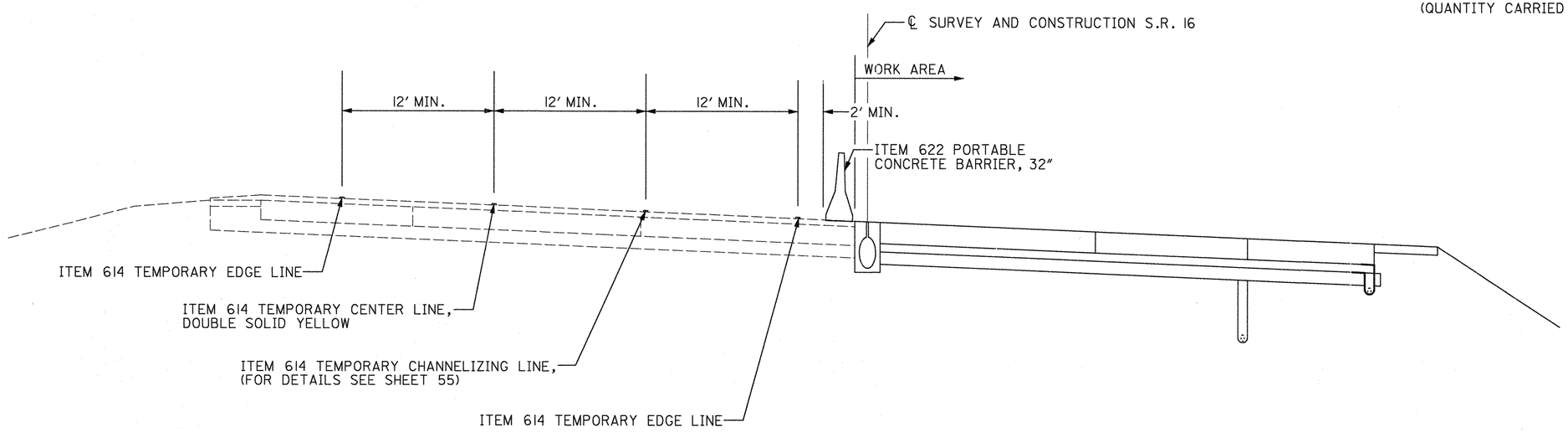
C16MT6.DGN 7/24/96




SECTION APPLIES:
STA. 530+00.00 TO STA. 532+81.03 = 281.03 LIN.FT.
TOTAL 281.03 LIN.FT.

ITEM 622 PORTABLE CONCRETE BARRIER, 32"
(LIMITING STATIONS)
STA. 527+00 TO STA. 548+80 (BRIDGE) = 2,180.0 LIN.FT.
TOTAL 2,180.0 LIN.FT.

(QUANTITY CARRIED TO SHEET 27.)




SECTION APPLIES:
STA.532+81.03 TO STA.548+60.75 = 1579.72 LIN.FT.
TOTAL 1579.72 LIN.FT.

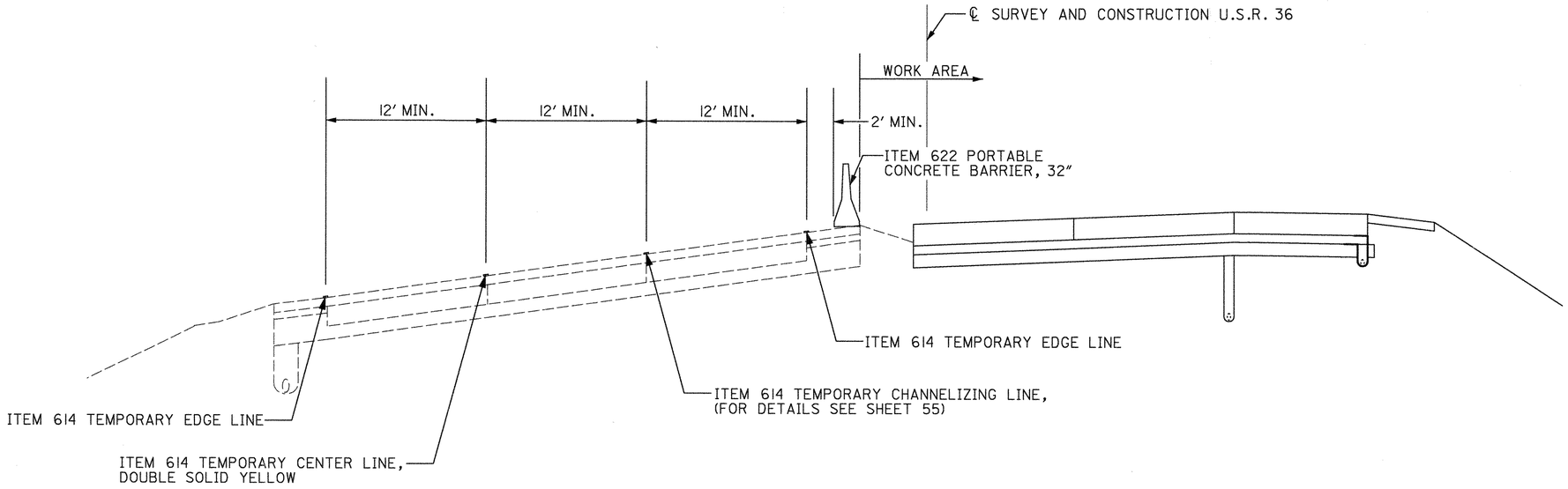
BRIDGE LIMIT INCLUDING APPROACH SLAB
STA.548+60.75 TO STA.552+85.25 = 424.50 LIN.FT.
TOTAL 424.50 LIN.FT.

C16MT2.DGN 7/23/96

CALCULATED J.C. 6/24/96
CHECKED J.L.S. 7/24/96

MAINTENANCE OF TRAFFIC, PHASE 2

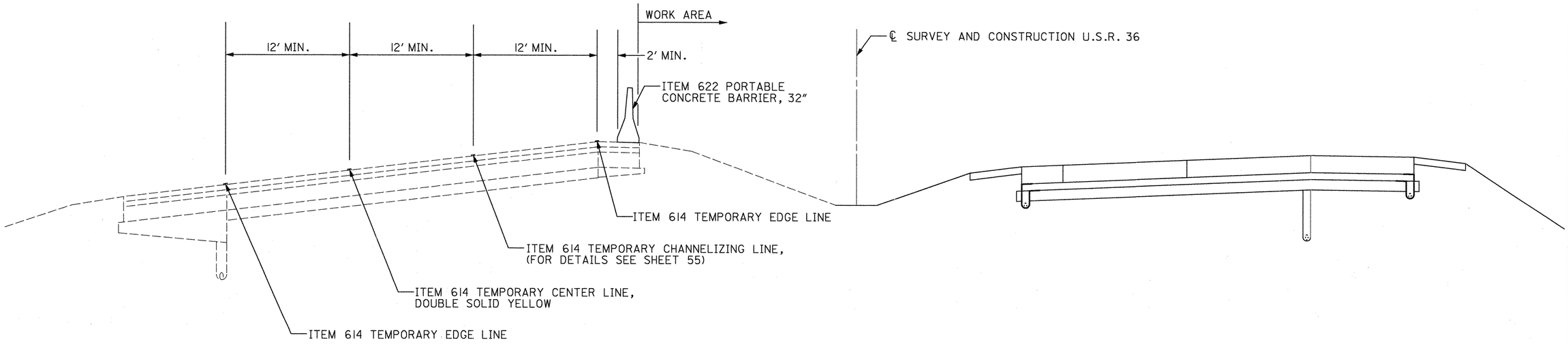
COS-16-9.84
COS-36-20.06




SECTION APPLIES:
STA. 552+85.25 TO STA. 554+03.42(BACK) = 118.17 LIN. FT.
STA. 0+00(AHEAD) TO STA. 7+90.94 = 790.94 LIN. FT.
TOTAL 909.11 LIN. FT.

ITEM 622 PORTABLE CONCRETE BARRIER, 32"
(LIMITING STATIONS)
STA. 552+73.42 (BRIDGE) TO STA. 554+03.42 (BK.) = 130.0 LIN.FT.
STA. 0+00.00 (AH.) TO STA. 14+40 = 1,440.0 LIN.FT.
TOTAL 1,570.0 LIN.FT.

(QUANTITY CARRIED TO SHEET 27)




SECTION APPLIES:
STA. 7+90.94 TO STA. 13+31.00 = 540.06 LIN. FT.
TOTAL 540.06 LIN. FT.

NOTE:
DETAILS OF PHASE 2, STEPS 1-3
MAINTENANCE OF TRAFFIC, SEE SHEET 56.

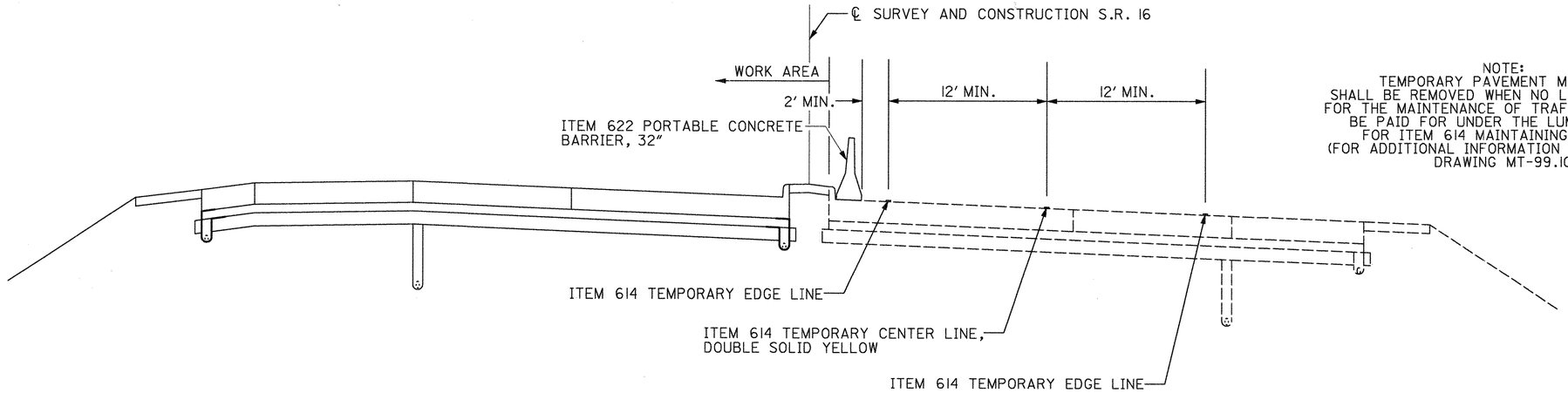
CALCULATED J.C. 6/24/96
CHECKED J.L.S. 7/24/96

# MAINTENANCE OF TRAFFIC, PHASE 2

COS-16-9.84
COS-36-20.06

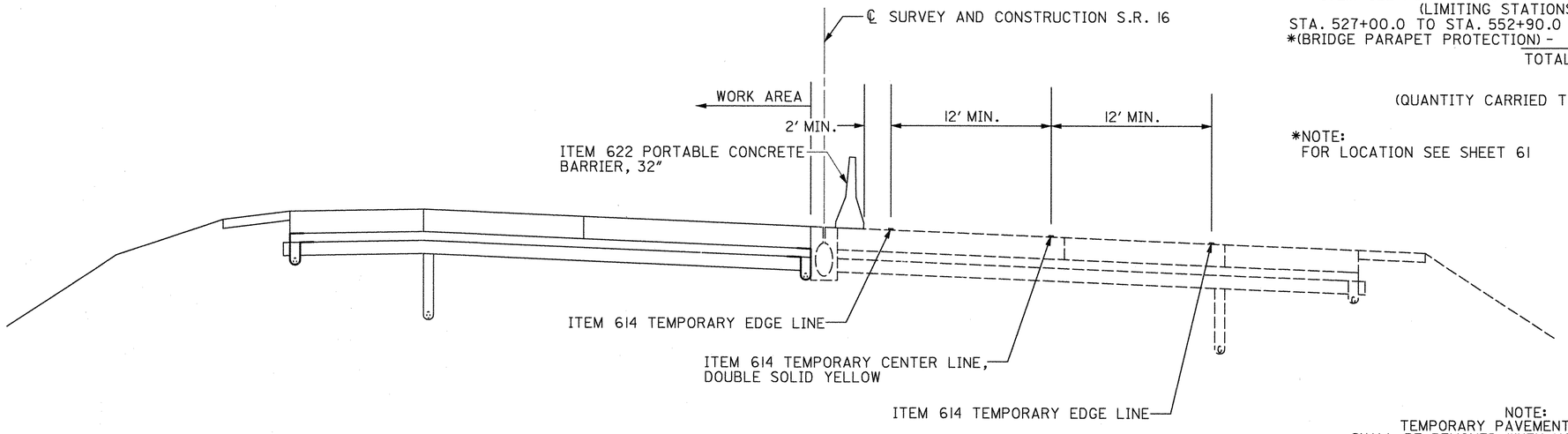


C16MT3.DGN 7/23/96




NOTE:
TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED WHEN NO LONGER NEEDED FOR THE MAINTENANCE OF TRAFFIC AND SHALL BE PAID FOR UNDER THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC.
(FOR ADDITIONAL INFORMATION SEE STANDARD DRAWING MT-99.10

SECTION APPLIES:
STA. 530+00.00 TO STA. 532+81.03 = 281.03 LIN.FT.
TOTAL 281.03 LIN.FT.




ITEM 622 PORTABLE CONCRETE BARRIER, 32"
(LIMITING STATIONS)
STA. 527+00.0 TO STA. 552+90.0 = 2590.0 LIN.FT.
*(BRIDGE PARAPET PROTECTION) - 100.0 LIN.FT.
TOTAL 2,690.0 LIN.FT.

(QUANTITY CARRIED TO SHEET 27)

*NOTE:
FOR LOCATION SEE SHEET 61

NOTE:
TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED WHEN NO LONGER NEEDED FOR THE MAINTENANCE OF TRAFFIC AND SHALL BE PAID FOR UNDER THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC.
(FOR ADDITIONAL INFORMATION SEE STANDARD DRAWING MT-99.10

SECTION APPLIES:
STA.532+81.03 TO STA.548+60.75 = 1579.72 LIN.FT.
TOTAL 1579.72 LIN.FT.

BRIDGE LIMIT INCLUDING APPROACH SLAB
STA.548+60.75 TO STA.552+85.25 = 424.50 LIN.FT.
TOTAL 424.50 LIN.FT.

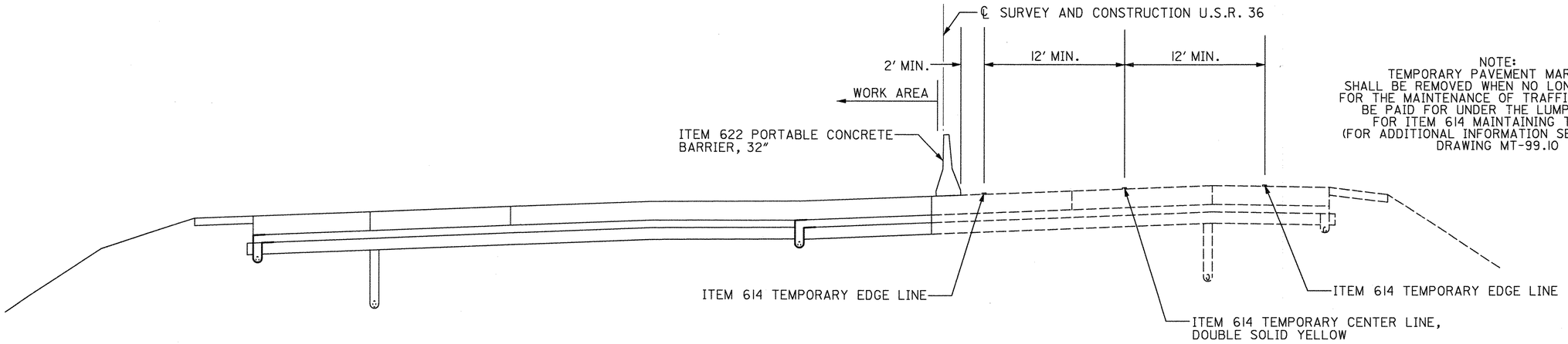
CALCULATED J.C. 6/24/96
CHECKED J.L.S. 7/24/96

# MAINTENANCE OF TRAFFIC, PHASE 3

COS-16-9.84
COS-36-20.06



C16MT4.DGN 7/23/96

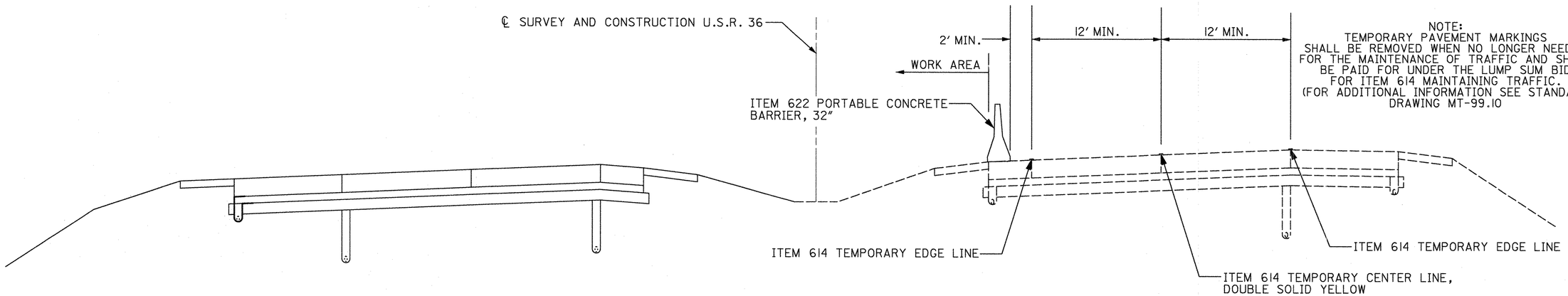



NOTE:
TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED WHEN NO LONGER NEEDED FOR THE MAINTENANCE OF TRAFFIC AND SHALL BE PAID FOR UNDER THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC. (FOR ADDITIONAL INFORMATION SEE STANDARD DRAWING MT-99.10

SECTION APPLIES:
STA. 552+85.25 TO STA. 554+03.42(BACK) = 118.17 LIN. FT.
STA. 0+00(AHEAD) TO STA. 7+90.94 = 790.94 LIN. FT.
TOTAL 909.11 LIN. FT.

ITEM 622 PORTABLE CONCRETE BARRIER, 32"
(LIMITING STATIONS)
STA. 552+90.0 TO STA. 554+03.42 (BK.) = 113.42 LIN.FT.
STA. 0+00.0 (AH.) TO STA. 8+46.58 = 846.58 LIN.FT.
TOTAL 960.0 LIN.FT.

(QUANTITY CARRIED TO SHEET 27)




NOTE:
TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED WHEN NO LONGER NEEDED FOR THE MAINTENANCE OF TRAFFIC AND SHALL BE PAID FOR UNDER THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC. (FOR ADDITIONAL INFORMATION SEE STANDARD DRAWING MT-99.10

SECTION APPLIES:
STA. 7+90.94 TO STA. 13+31.00 = 540.06 LIN. FT.
TOTAL 540.06 LIN. FT.

CALCULATED J.C. 6/24/96
CHECKED J.L.S. 7/24/96

# MAINTENANCE OF TRAFFIC, PHASE 3

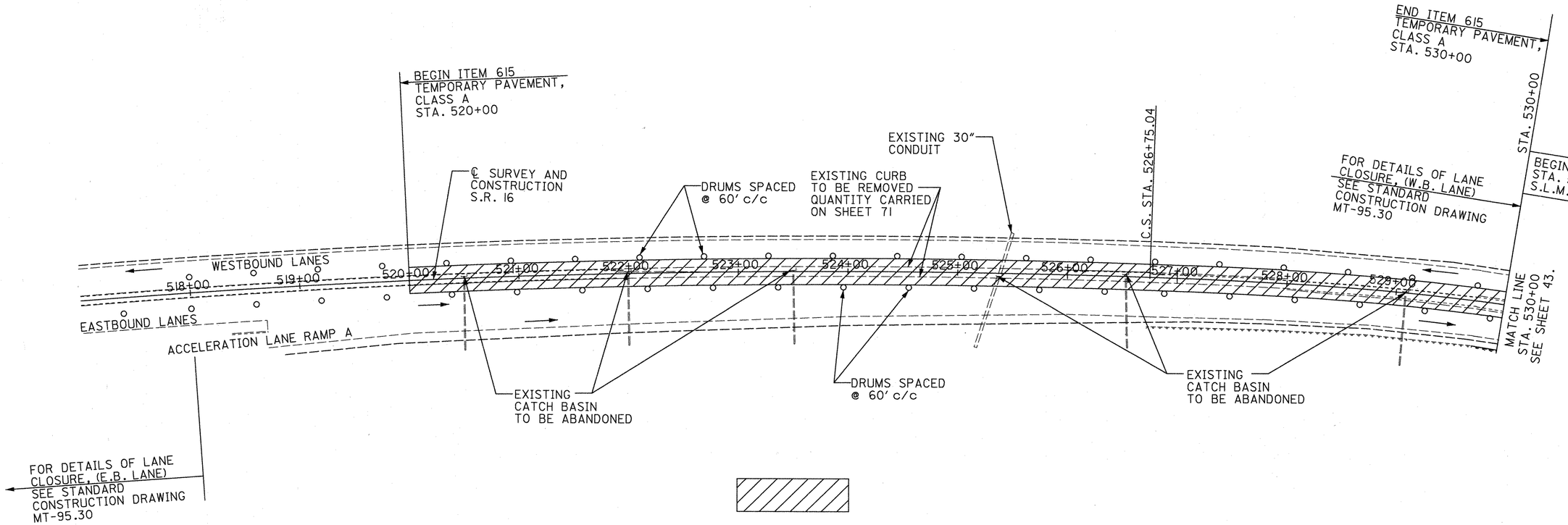
COS-16-9.84
COS-36-20.06



C16MT5.DGN 7/23/96

NOTES:
FOR ADDITIONAL DETAILS OF THE MAINTENANCE OF TRAFFIC SEE STANDARD CONSTRUCTION DRAWING MT-95.30.

DURING THIS PHASE OF CONSTRUCTION, USE EXISTING PAVEMENT MARKINGS TO MAINTAIN TRAFFIC.

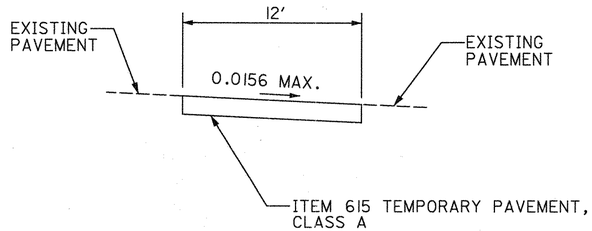



NOTE:
CROSS HATCHED AREA DENOTES AREA OF ITEM 615 TEMPORARY PAVEMENT, CLASS A (STA. 520+00 TO STA. 530+00)

DIRECTION OF TRAVEL

NOTES:

EXISTING CATCH BASINS TO BE ABANDONED DURING THE MAINTENANCE OF TRAFFIC.
PAYMENT TO BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC.
(FOR DETAILS OF PROPOSED CATCH BASINS SEE SHEETS 82 & 83)




TEMPORARY PAVEMENT TYPICAL

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED J.C. 6/24/96
CHECKED J.L.S. 7/24/96

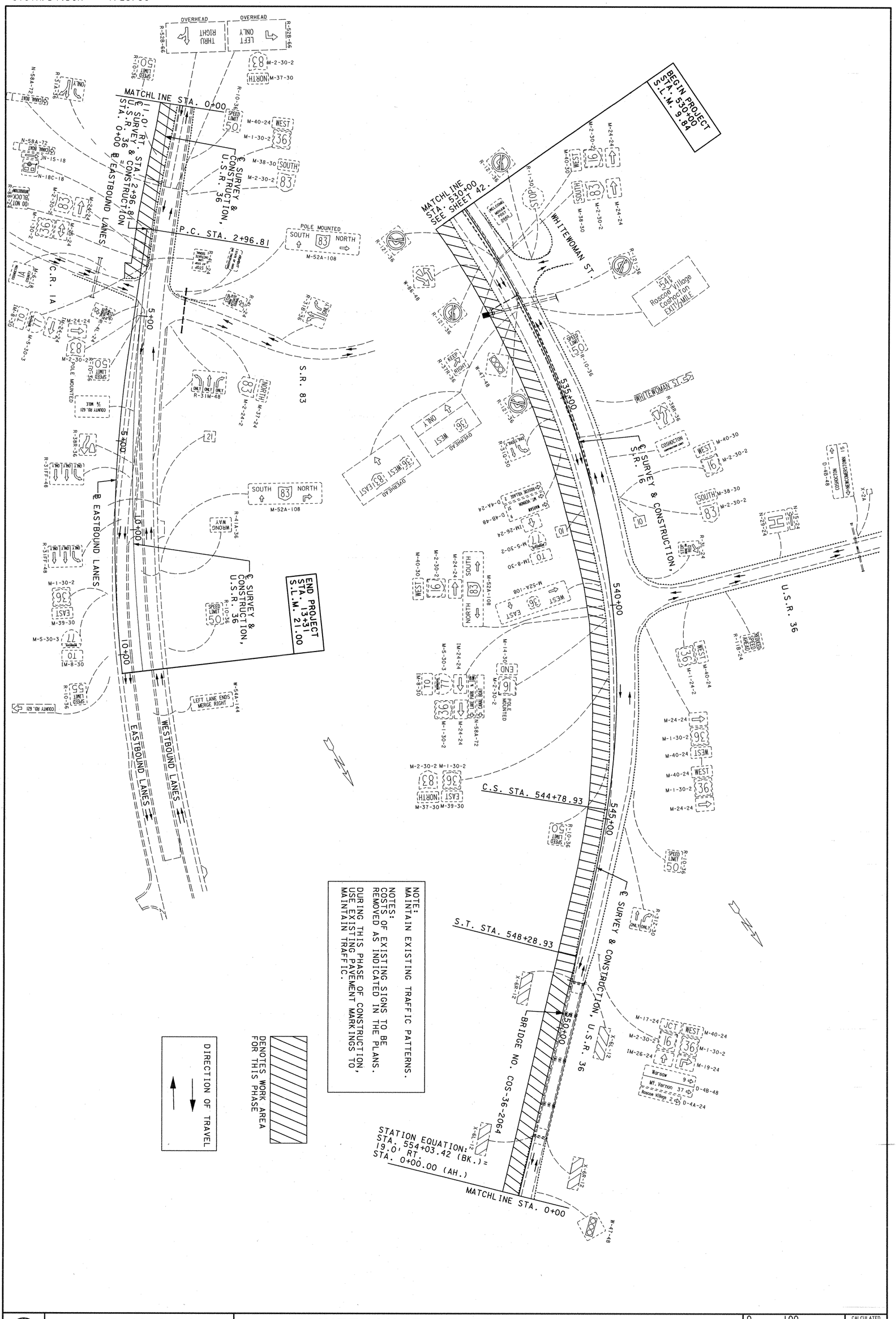
# MAINTENANCE OF TRAFFIC PHASE 1
# STA. 518+00 TO STA. 530+00

COS-16-9.84
COS-36-20.06

52
231

C16MT7.DGN 7/23/96

C16TRFD4.DGN 7/23/96




| | | | |
|---|---|---|---|
| 53 / 231 | COS-16-9.84<br>COS-36-20.06 | MAINTENANCE OF TRAFFIC PHASE 1<br>STA. 530+00 TO STA. 13+31 | 0 100<br>50 200<br>HORIZONTAL SCALE IN FEET<br>CALCULATED J.C. 6/24/96<br>CHECKED J.L.S. 7/24/96 |

TEMPORARY CROSSOVER LIGHTING SYSTEM
FOR ADDITIONAL DETAILS SEE STANDARD
CONSTRUCTION DRAWING MT-100.00.
(QUANTITY CARRIED ON SHEET 26)

330′ 330′ 330′

165′ 165′

OC-8-60
END CONSTRUCTION

ITEM 614
TEMPORARY EDGE
LINE (YELLOW)

℄ SURVEY AND
CONSTRUCTION
S.R. 16

TEMPORARY CROSSOVER
STA. 521+90
℄ S.R. 16

EXISTING
CATCH BASIN
TO BE ABANDONED

DRUMS SPACED
@ 20′ c/c

STA. 523+94.60, 1.95′ LT.
℄ SURVEY AND CONSTRUCTION S.R. 16

EXISTING 30″
CONDUIT

EXISTING
CATCH BASIN
TO BE ABANDONED

TEMPORARY CROSSOVER
STA. 526+00
℄ S.R. 16

C.S. STA. 526+75.04

ITEM 614
TEMPORARY CENTER LINE
DOUBLE SOLID YELLOW

EXISTING
CATCH BASIN
TO BE ABANDONED

ITEM 614
TEMPORARY EDGE
LINE (WHITE)

BEGIN PROJECT
STA. 530+00
S.L.M. 9.84

STA. 530+00

WESTBOUND LANES
518+00 519+00 520+00 521+00 522+00 523+00 524+00 525+00 526+00 527+00 528+00 529+00

EASTBOUND LANES

RAMP A

DRUMS SPACED
@ 40′ c/c

DRUMS SPACED
@ 20′ c/c

35:1 TAPER

ACCELERATION
LANE (RAMP A)

070

DRUMS SPACED
@ 20′ c/c

TAPERED
END SECTION

MATCH LINE
STA. 530+00
SEE SHEET 55.

ITEM 614
TEMPORARY EDGE
LINE (WHITE)

TEMPORARY CROSSOVER
STA. 521+90
℄ S.R. 16

TEMPORARY CROSSOVER
STA. 526+00
℄ S.R. 16

STA. 527+00

DO
NOT
PASS
R-33-30

OW-71-48

TWO WAY
OPERATION ENDS
MILES
OC-59-96

OW-143-24
40 MPH
OW-6-48

OW-46A-36

TYPE A WARNING LIGHT

YIELD
R-2-36

SPEED
LIMIT
40
R-10-36

FOR ADDITIONAL DETAILS
OF MAINTENANCE OF TRAFFIC
ON RAMP A, SEE STANDARD
CONSTRUCTION DRAWING MT-98.16

OW-32-96

TYPE B
WARNING LIGHTS

ROAD
CLOSED
R-75-48

ITEM 622 PORTABLE CONCRETE
BARRIER, 32″

SPEED
LIMIT
40
R-10-36

TO BE PLACED AT
STA. 398+80

FOR DETAILS OF LANE CLOSURE
SEE STANDARD CONSTRUCTION DRAWING MT-95.30

BEGIN TAPER
498+80
(EASTBOUND LANES)

NOTE:
EXISTING PAVEMENT MARKINGS TO BE
REMOVED AS DIRECTED BY THE PROJECT
ENGINEER AND SHALL BE PAID FOR UNDER ITEM
614 TEMPORARY PAVEMENT MARKINGS.
SEE STANDARD CONSTRUCTION DRAWING MT-99.10.

EXISTING CATCH BASINS TO BE ABANDONED
DURING THE MAINTENANCE OF TRAFFIC
PAYMENT TO BE INCLUDED UNDER THE LUMP
SUM BID FOR ITEM 614 MAINTAINING TRAFFIC
(FOR DETAILS OF PROPOSED CATCH BASINS SEE SHEETS 82 & 83)

FOR QUANTITIES OF ITEM 614 TEMPORARY
PAVEMENT MARKINGS, SEE SHEET 39.

FOR DETAILS AND PAVEMENT QUANTITIES OF
TEMPORARY CROSSOVER, SEE SHEET 46.

FOR LIMITING STATIONS OF ITEM 622
PORTABLE CONCRETE BARRIER, 32″,
SEE SHEETS 48 & 49.

DIRECTION OF TRAVEL

NOTE:
CROSS HATCHED AREA DENOTES AREA
OF ITEM 615 TEMPORARY PAVEMENT, CLASS A.
(STA. 520+00 TO STA. 530+00)
CONSTRUCTED DURING PHASE I MAINTENANCE
OF TRAFFIC.

C16CROSI.DGN 7/12/96

HORIZONTAL
SCALE IN FEET
0 50 100

CALCULATED J.C. 6/24/96
CHECKED J.L.S. 7/24/96

# MAINTENANCE OF TRAFFIC PHASE 2
# STA. 518+00 TO STA. 530+00

COS-16-9.84
COS-36-20.06

NOTES:

EXISTING PAVEMENT MARKINGS TO BE REMOVED AS DIRECTED BY THE PROJECT ENGINEER SHALL BE PAID FOR UNDER ITEM 614 TEMPORARY PAVEMENT MARKINGS. SEE STANDARD CONSTRUCTION DRAWING MT-99.10.

FOR QUANTITIES OF ITEM 614 TEMPORARY PAVEMENT MARKINGS, SEE SHEET 39

COST OF REMOVING EXISTING SIGNS AS INDICATED IN THE PLANS.

FOR LIMITING STATIONS OF ITEM 622 PORTABLE CONCRETE BARRIER, 32", SEE SHEETS 48, 49 & 56.

NOTE:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND ADJUSTING EXISTING SIGNAL HEADS ON PROPOSED OR TEMPORARY POLES TO ACCOMODATE LANE MOVEMENTS. ALL LABOR, MATERIALS, EQUIPMENT AND ALL OTHER INCIDENTIALS NECESSARY TO PERFORM THE WORK SHALL BE PAID FOR UNDER THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC.

BEGIN PROJECT
STA. 530+00
S.L.M. 9.84

MATCH LINE STA. 530+00
SEE STA. SHEET 44

WHITEWOMAN ST.

U.S.R. 36

ITEM 614 TEMPORARY CHANNELIZING LINE
STA. 535+00 - STA. 539+22

℄ SURVEY & CONSTRUCTION, S.R. 16

ITEM 614 TEMPORARY CHANNELIZING LINE
STA. 541+52 - STA. 543+18

535+00 540+00 545+00 550+00

STA. 540+13.29 ℄ SURVEY & CONSTRUCTION S.R. 16 = STA. 540+13.29 ℄ SURVEY & CONSTRUCTION U.S.R. 36
END S.R. 16 BEGIN U.S.R. 36
STA. 540+13.29

C.S. STA. 544+78.93

ITEM 622 PORTABLE CONCRETE BARRIER, 32"

S.T. STA. 548+28.93

SUSPEND ITEM 622 PORTABLE CONCRETE BARRIER, 32"

PROPOSED BRIDGE
BRIDGE NO. COS-36-2064

ITEM 614 TEMPORARY CENTER LINE, DOUBLE SOLID YELLOW

ITEM 614 TEMPORARY EDGE LINE (WHITE)

STATION EQUATION:
STA. 554+03.42 (BK.) =
STA. 0+00.00 (AH.)

MATCHLINE STA. 0+00

RESUME ITEM 622 PORTABLE CONCRETE BARRIER, 32"

ITEM 615 TEMPORARY PAVEMENT, CLASS A
STA. 0+00 (LT.) TO STA. 4+30 (LT.) = 430.0 LIN.FT.
(430.0' × 5.75' AVG. WIDTH ÷ 9 = 275.0 SQ.YD.)
QUANTITY CARRIED TO THE GENERAL SUMMARY.

NOTE:
TEMPORARY PAVMENT TO BE TAPERED @ 50:1

ITEM 614 TEMPORARY CENTER LINE, DOUBLE SOLID YELLOW

S.R. 83

NOTE:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND ADJUSTING EXISTING SIGNAL HEADS ON PROPOSED OR TEMPORARY POLES TO ACCOMODATE LANE MOVEMENTS. ALL LABOR, MATERIALS, EQUIPMENT AND ALL OTHER INCIDENTIALS NECESSARY TO PERFORM THE WORK SHALL BE PAID FOR UNDER THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC.

END PROJECT
STA. 13+31
S.L.M. 21.00

P.C. STA. 2+96.81

ITEM 622 PORTABLE CONCRETE BARRIER, 32"

℄ SURVEY & CONSTRUCTION, U.S.R. 36

ITEM 614 TEMPORARY CHANNELIZING LINE
STA. 0+48 - STA. 4+14

ITEM 614 TEMPORARY CHANNELIZING LINE
STA. 5+18 - STA. 7+00

ITEM 614 TEMPORARY EDGE LINE (WHITE)

MATCHLINE STA. 0+00

11.0' RT. STA. 2+96.81
℄ SURVEY & CONSTRUCTION U.S.R. 36
= STA. 0+00 ℄ EASTBOUND LANES

0+00 5+00 10+00

℄ EASTBOUND LANES

MATCH LINE STA. 13+31
SEE SHEETS 47 & 48.

C.R. 1A

NOTE:
FOR STEPS 1 - 3 OF CONSTRUCTION OF C.R. 1A APPROACH SEE SHEET 56.

DENOTES WORK AREA FOR THIS PHASE

DIRECTION OF TRAVEL

0 50 100 200
HORIZONTAL SCALE IN FEET

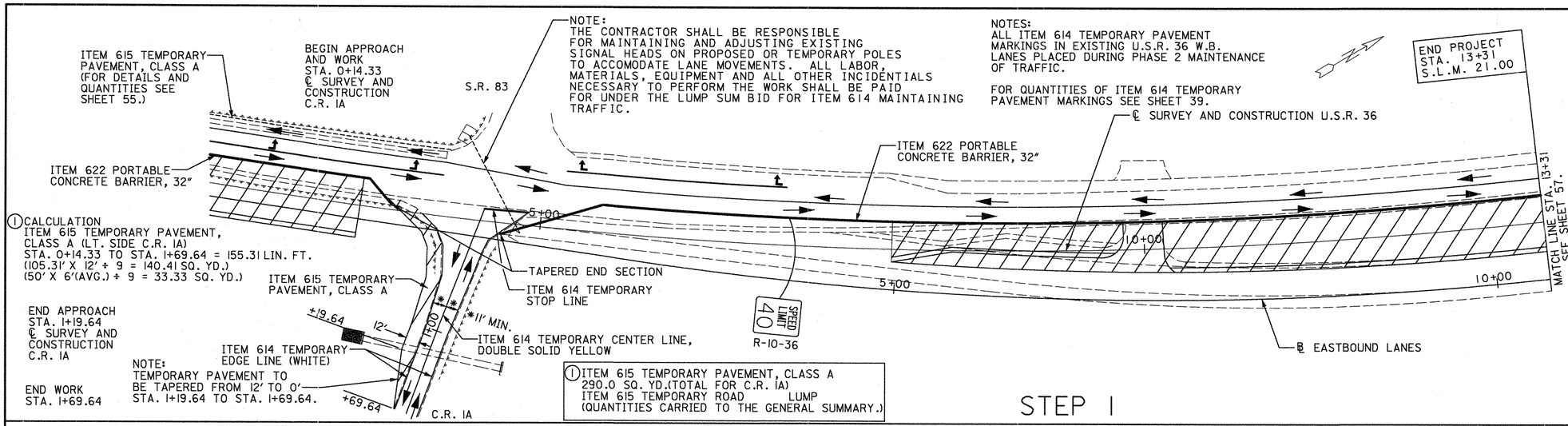
CALCULATED J.C. 6/24/96
CHECKED J.L.S. 7/24/96

# MAINTENANCE OF TRAFFIC PHASE 2
# STA. 530+00 TO STA. 31+31

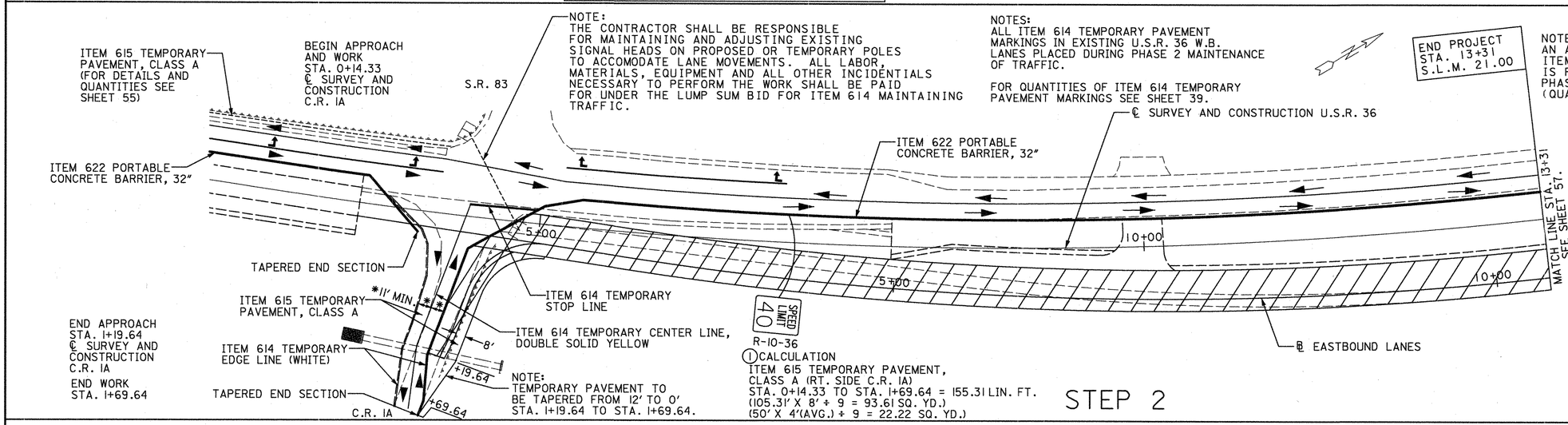
COS-16-9.84
COS-36-20.06

55
231

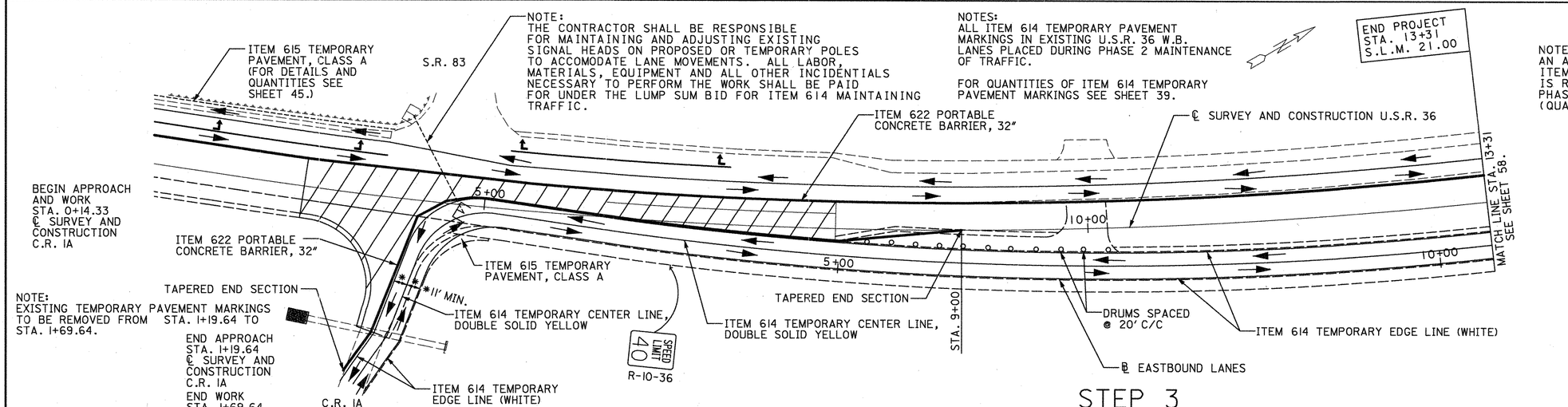
C16TRFB4.DGN 7/24/96




STEP 1




STEP 2




STEP 3

CALCULATED J.C. 6/24/96
CHECKED J.L.S. 7/24/96

0 25 50 100 HORIZONTAL SCALE IN FEET

# MAINTENANCE OF TRAFFIC PHASE 2, STEPS 1-3

COS-16-9.84
COS-36-20.06



C16TRFH4.DGN 8/05/96

NOTES:

EXISTING PAVEMENT MARKINGS TO BE REMOVED AS DIRECTED BY THE PROJECT ENGINEER AND SHALL BE PAID FOR UNDER ITEM 614 TEMPORARY PAVEMENT MARKINGS. SEE STANDARD CONSTRUCTION DRAWING MT-99.10.

FOR QUANTITIES OF ITEM 614 TEMPORARY PAVEMENT MARKINGS, SEE SHEET 39.

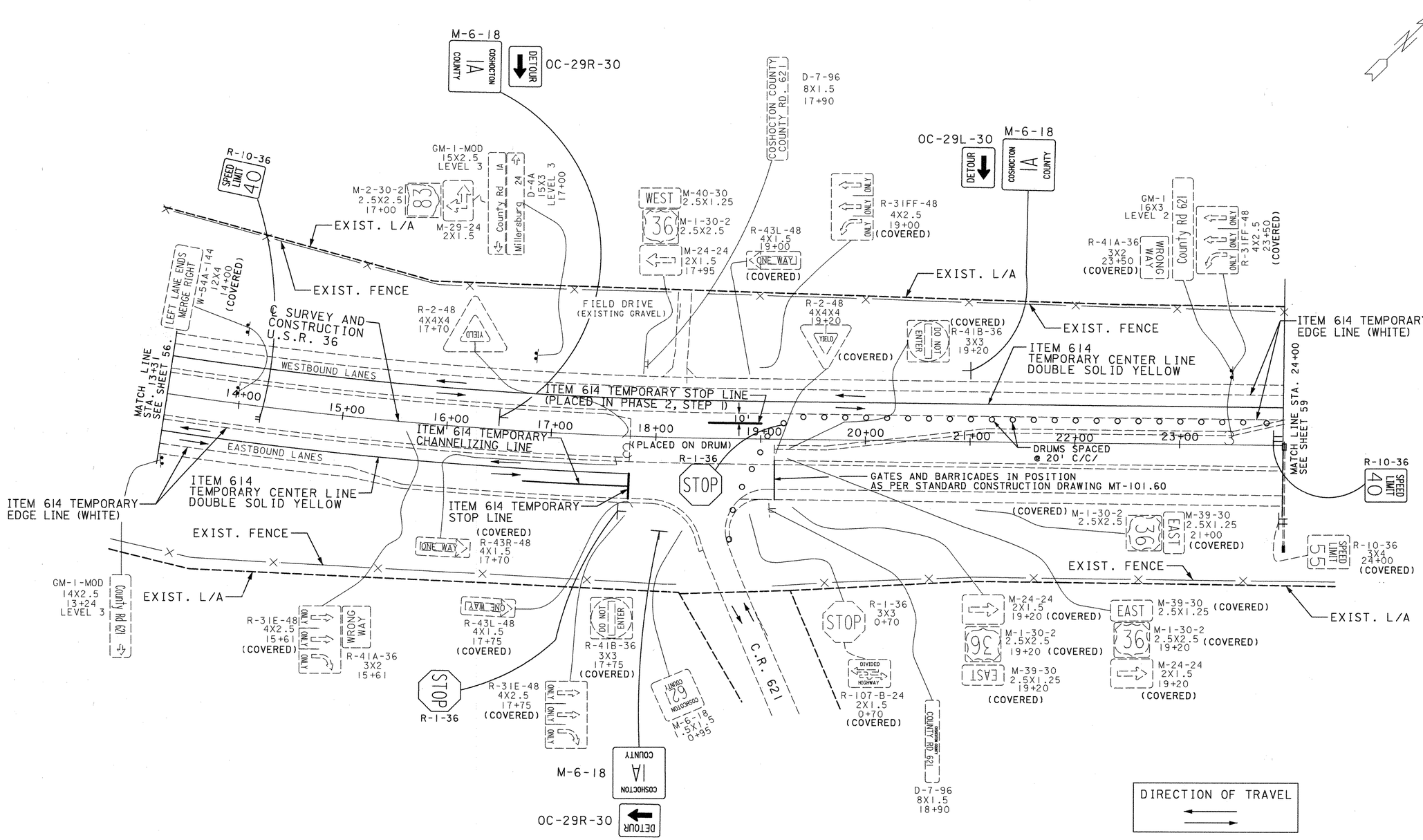
C36MT1.DGN 7/2/96

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED J.C. 6/24/96
CHECKED J.L.S. 7/24/96

# MAINTENANCE OF TRAFFIC PHASE 2 (STEPS 1 & 2) STA. 13+31 TO STA. 24+00

COS-16-9.84
COS-36-20.06




NOTES:

EXISTING PAVEMENT MARKINGS TO BE REMOVED AS DIRECTED BY THE PROJECT ENGINEER AND SHALL BE PAID FOR UNDER ITEM 614 TEMPORARY PAVEMENT MARKINGS. SEE STANDARD CONSTRUCTION DRAWING MT-99.10.

FOR QUANTITIES OF ITEM 614 TEMPORARY PAVEMENT MARKINGS, SEE SHEET 39.

C36MT3.DGN 7/24/96

0 25 50 100 HORIZONTAL SCALE IN FEET

CALCULATED J.C. 6/24/96

CHECKED J.L.S. 7/24/96

# MAINTENANCE OF TRAFFIC PHASE 2 (STEP 3) STA. 13+31 TO STA. 24+00

COS-16-9.84
COS-36-20.06

TEMPORARY CROSSOVER LIGHTING SYSTEM
FOR ADDITIONAL DETAILS SEE STANDARD CONSTRUCTION DRAWING MT-100.00
(QUANTITY CARRIED ON SHEET 26)

330'
330'
330'
165'
165'

FOR DETAILS OF LANE CLOSURE
SEE STANDARD CONSTRUCTION DRAWING MT-95.30

OW-5-48
OW-143-24
40 MPH
OW-32-96
TYPE B WARNING LIGHTS
OW-71-48
R-33-30
DO NOT PASS
R-10-36
SPEED LIMIT 40
TO BE PLACED AT STA. 53+50

BEGIN TAPER
STA. 43+50
(WESTBOUND LANES)

P.C. TEMPORARY CROSSOVER
STA. 0+00 =
STA. 26+50, 32.0' LT.
℄ U.S.R. 36

P.R.C. STA. 29+98.15, ℄
℄ SURVEY AND CONSTRUCTION, U.S.R. 36=
STA. 3+50.11 ℄ TEMP CROSSOVER (EASTBOUND LANES) =
STA. 3+50.11 ℄ TEMP. CROSSOVER (W.B. LANES)

℄ CROSSOVER RT.
△ = 10°10'07"
Dc = 3°00'00"
R = 1909.86'
T = 169.93'
L = 338.96'

EXIST. FENCE
EXIST. L/A
ITEM 614 TEMPORARY CENTER LINE DOUBLE SOLID YELLOW
ITEM 614 TEMPORARY EDGE LINE (WHITE)
ITEM 614 TEMPORARY EDGE LINE (YELLOW)
WESTBOUND LANES
EASTBOUND LANES
MATCH LINE STA. 24+00
SEE SHEETS 57 & 58.
25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00
℄ SURVEY AND CONSTRUCTION U.S.R. 36
DRUMS SPACED @ 20' C/C
ITEM 614 TEMPORARY EDGE LINE (YELLOW)
ITEM 614 TEMPORARY EDGE LINE (WHITE)
EXIST. FENCE
EXIST. L/A
END CONSTRUCTION
OC-8-60

℄ CROSSOVER RT.
△ = 10°10'07"
Dc = 3°00'00"
R = 1909.86'
T = 169.93'
L = 338.96'

DIRECTION OF TRAVEL

P.T. TEMPORARY CROSSOVER
STA. 7+00.22 =
STA. 33+46.30, 32.0' RT.
℄ U.S.R. 36

NOTES:

EXISTING PAVEMENT MARKINGS TO BE REMOVED AS DIRECTED BY THE PROJECT ENGINEER AND SHALL BE PAID FOR UNDER ITEM 614 TEMPORARY PAVEMENT MARKINGS. SEE STANDARD CONSTRUCTION DRAWING MT-99.10.

FOR QUANTITIES OF ITEM 614 TEMPORARY PAVEMENT MARKINGS, SEE SHEET 39.

FOR DETAILS AND PAVEMENT QUANTITIES OF TEMPORARY CROSSOVER, SEE SHEET 45.

C36CROSI.DGN 7/24/96

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED J.C. 6/24/96
CHECKED J.L.S. 7/24/96

MAINTENANCE OF TRAFFIC PHASE 2
STA. 24+00 TO STA. 36+00

COS-16-9.84
COS-36-20.06

59
231

NOTE:
FOR DETAILS OF TEMPORARY CROSSOVER LIGHTING SYSTEM, SEE SHEET 54

OC-8-60
END CONSTRUCTION

SURVEY AND CONSTRUCTION S.R. 16

TEMPORARY CROSSOVER STA. 521+90 ℄ S.R. 16

STA. 523+94.60, 1.95' LT. ℄ SURVEY AND CONSTRUCTION S.R. 16

TEMPORARY CROSSOVER STA. 526+00 ℄ S.R. 16

C.S. STA. 526+75.04

STA. 530+00 BEGIN PROJECT S.L.M. 9.84

EXISTING CATCH BASIN TO BE ABANDONED

ITEM 614 TEMPORARY EDGE LINE (WHITE)

EXISTING 30" CONDUIT

DRUMS SPACED @ 20' c/c

ITEM 622 PORTABLE CONCRETE BARRIER, 32"

WESTBOUND LANES

518+00 519+00 520+00 521+00 522+00 523+00 524+00 525+00 526+00 527+00 528+00 529+00

EASTBOUND LANES

RAMP A

TAPERED END SECTION

18'

MATCH LINE STA. 530+00 SEE SHEET 61.

ITEM 614 TEMPORARY EDGE LINE (YELLOW)

ITEM 614 TEMPORARY EDGE LINE (WHITE)

DRUMS SPACED @ 20' c/c

R-10-36 SPEED LIMIT 40

TO BE PLACED AT STA. 411+90.

+70

R-10-36 SPEED LIMIT 40

TEMPORARY CROSSOVER STA. 521+90 ℄ S.R. 16

DO NOT PASS R-33-30

OW-71-48

TEMPORARY CROSSOVER STA. 526+00 ℄ S.R. 16

OW-143-24 40 MPH

OW-5-48

ITEM 614 TEMPORARY CENTER LINE DOUBLE SOLID YELLOW

TWO WAY OPERATION ENDS MILES

OC-59-96

TYPE B WARNING LIGHTS

OW-32-96

R-2-36

OW-46A-36

FOR ADDITIONAL DETAILS OF MAINTENANCE OF TRAFFIC ON RAMP A, SEE STANDARD CONSTRUCTION DRAWING MT-98.16

BEGIN TAPER
511+90
(EASTBOUND LANES)

FOR DETAILS OF LANE CLOSURE SEE STANDARD CONSTRUCTION DRAWING MT-95.30

DIRECTION OF TRAVEL

NOTES:

EXISTING PAVEMENT MARKINGS TO BE REMOVED AS DIRECTED BY THE PROJECT ENGINEER AND SHALL BE PAID FOR UNDER ITEM 614 TEMPORARY PAVEMENT MARKINGS. SEE STANDARD CONSTRUCTION DRAWING MT-99.10.

EXISTING CATCH BASINS TO BE ABANDONED DURING THE MAINTENANCE OF TRAFFIC. PAYMENT TO BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC. (FOR DETAILS OF PROPOSED CATCH BASINS SEE SHEETS 82 & 83)

FOR QUANTITIES OF ITEM 614 TEMPORARY PAVEMENT MARKINGS, SEE SHEET 39.

NOTE:
CROSS HATCHED AREA DENOTES AREA OF ITEM 615 TEMPORARY PAVEMENT, CLASS A (STA. 520+00 TO STA. 530+00 CONSTRUCTED DURING PHASE I MAINTENANCE OF TRAFFIC)

HORIZONTAL SCALE IN FEET
0 50 100

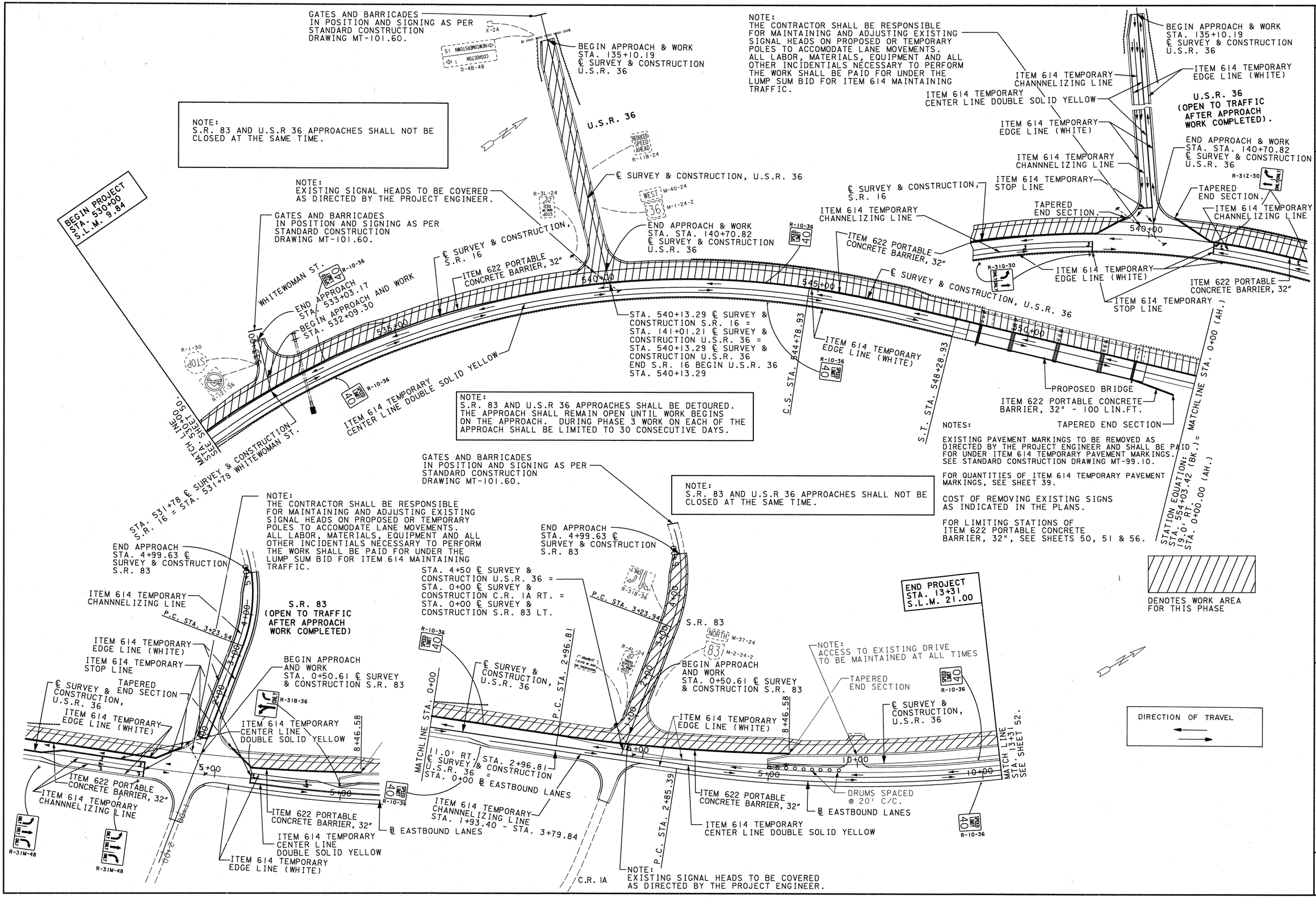
CALCULATED J.C. 6/24/96
CHECKED J.L.S. 7/24/96

# MAINTENANCE OF TRAFFIC PHASE 3
# STA. 518+00 TO STA. 530+00

COS-16-9.84
COS-36-20.06

60
231

C16CROS2.DGN 7/24/96




CALCULATED J.C. 6/24/96
CHECKED 7/24/96

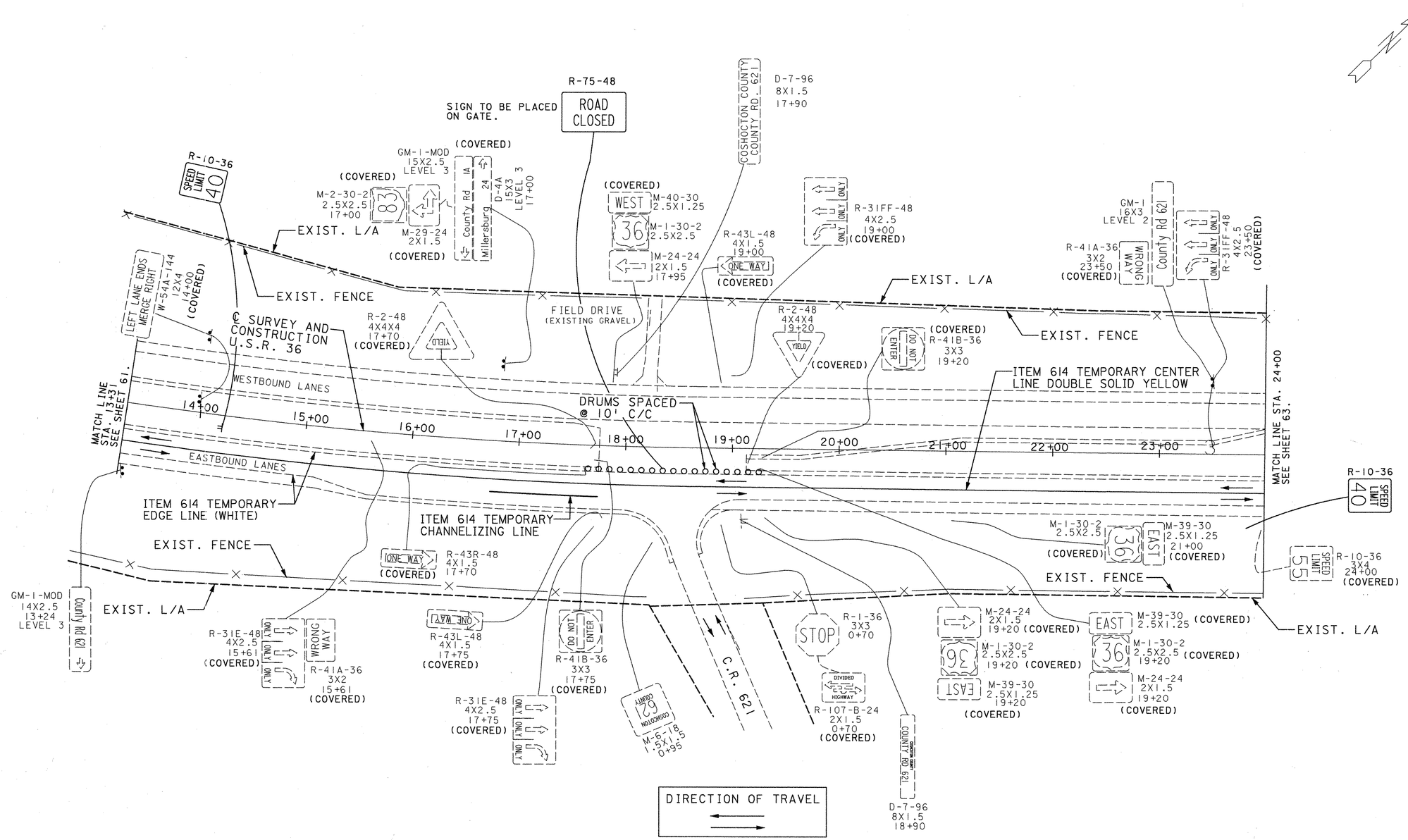
0 50 100 200 HORIZONTAL SCALE IN FEET

# PHASE OF TRAFFIC PHASE 3
# MAINTENANCE OF STA. 530+00 TO STA. 13+31

COS-16-9.84
COS-36-20.06

61
231

C16TRFC4.DGN 7/24/96




NOTES:

EXISTING PAVEMENT MARKINGS TO BE REMOVED AS DIRECTED BY THE PROJECT ENGINEER AND SHALL BE PAID FOR UNDER ITEM 614 TEMPORARY PAVEMENT MARKINGS. SEE STANDARD CONSTRUCTION DRAWING MT-99.10.

FOR QUANTITIES OF ITEM 614 TEMPORARY PAVEMENT MARKINGS, SEE SHEET 39.

C36MT2.DGN 7/24/96

0 25 50 100 HORIZONTAL SCALE IN FEET

CALCULATED J.C. 6/24/96
CHECKED J.L.S. 7/24/96

# MAINTENANCE OF TRAFFIC PHASE 3 STA. 13+31 TO STA. 24+00

COS-16-9.84
COS-36-20.06

62
231

NOTE:
FOR DETAILS OF TEMPORARY CROSSOVER LIGHTING SYSTEM, SEE SHEET 59.

℄ CROSSOVER RT.
△ = 10°10'07"
Dc = 3°00'00"
R = 1909.86'
T = 169.93'
L = 338.96'

P.R.C. STA. 29+98.15, ℄ SURVEY AND CONSTRUCTION, U.S.R. 36=
STA. 3+50.11 ℄ TEMP. CROSSOVER (EASTBOUND LANES) =
STA. 3+50.11 ℄ TEMP. CROSSOVER (W.B. LANES)

FOR DETAILS OF LANE CLOSURE SEE STANDARD CONSTRUCTION DRAWING MT-95.30

R-10-36
SPEED LIMIT 40
TO BE PLACED AT STA. 66+60

BEGIN TAPER
STA. 56+60
(WESTBOUND LANES)

TYPE B WARNING LIGHTS
OW-32-96

P.T. TEMPORARY CROSSOVER
STA. 7+00.22 =
STA. 33+46.30, 32.0' RT.
℄ U.S.R. 36

ITEM 614
TEMPORARY CENTER LINE
DOUBLE SOLID YELLOW

ITEM 614
TEMPORARY EDGE
LINE (WHITE)

EXIST. FENCE

℄ SURVEY AND CONSTRUCTION U.S.R. 36

ITEM 614
TEMPORARY EDGE
LINE (WHITE)

ITEM 614
TEMPORARY EDGE
LINE (YELLOW)

EXIST. L/A

DRUMS SPACED
@ 20' C/C
(35:1 TAPER)

WESTBOUND LANES

EASTBOUND LANES

MATCH LINE
STA. 24+00
SEE SHEET 62

25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00

DRUMS SPACED
@ 20' C/C

OW-71-48

DO NOT PASS
R-33-30

OW-6-48

40 MPH
OW-143-24

EXIST. FENCE

EXIST. L/A

END CONSTRUCTION
OC-8-60

TWO WAY OPERATION ENDS MILE(S)
OC-59-96

P.C. TEMPORARY CROSSOVER
STA. 0+00 =
STA. 26+50, 32.0' LT.
℄ U.S.R. 36

℄ CROSSOVER RT.
△ = 10°10'07"
Dc = 3°00'00"
R = 1909.86'
T = 169.93'
L = 338.96'

NOTES:

EXISTING PAVEMENT MARKINGS TO BE REMOVED AS DIRECTED BY THE PROJECT ENGINEER AND SHALL BE PAID FOR UNDER ITEM 614 TEMPORARY PAVEMENT MARKINGS. SEE STANDARD CONSTRUCTION DRAWING MT-99.10.

FOR QUANTITIES OF ITEM 614 TEMPORARY PAVEMENT MARKINGS, SEE SHEET 39.

FOR DETAILS AND PAVEMENT QUANTITIES OF TEMPORARY CROSSOVER, SEE SHEET 45.

DIRECTION OF TRAVEL

0 50 25 100
HORIZONTAL SCALE IN FEET

CALCULATED J.C. 6/24/96
CHECKED J.L.S. 7/24/96

# MAINTENANCE OF TRAFFIC PHASE 3 STA. 24+00 TO STA. 36+00

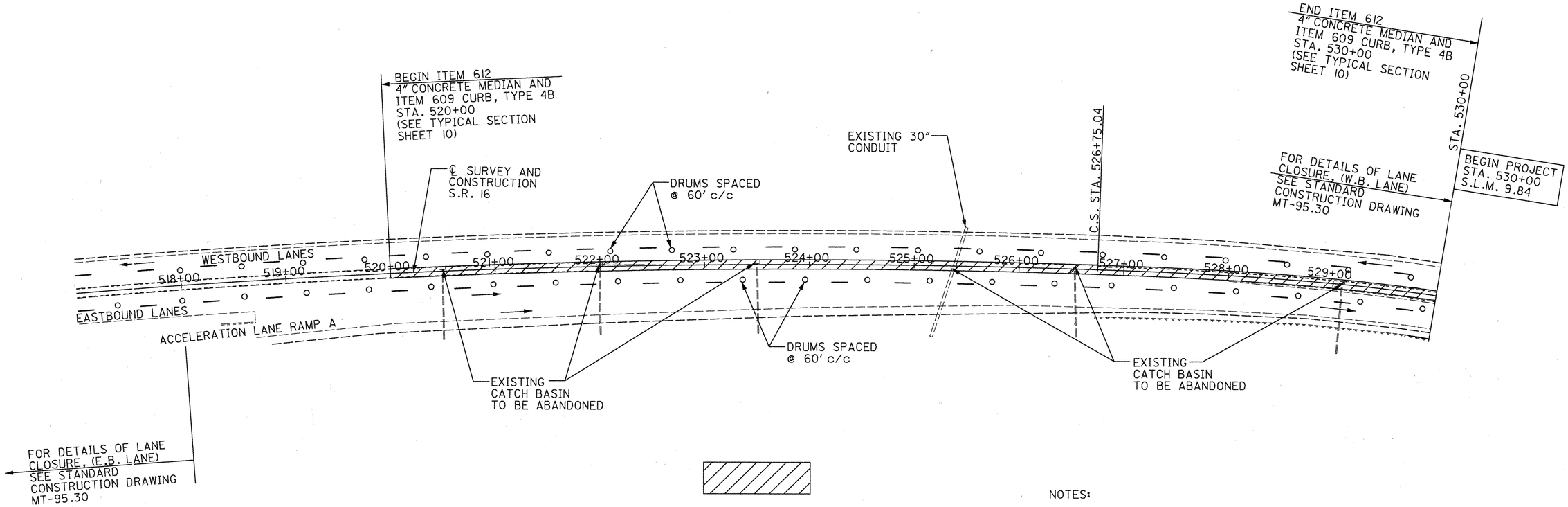
COS-16-9.84
COS-36-20.06

63
231

C36CROS2.DGN 7/25/96

NOTES:
FOR ADDITIONAL DETAILS OF THE MAINTENANCE OF TRAFFIC SEE STANDARD CONSTRUCTION DRAWING MT-95.30.

A QUANTITY OF ITEM 614 TEMPORARY PAVEMENT MARKINGS HAS BEEN INCLUDED ON SHEET 39, IF THE CONTRACTOR IS NOT ABLE TO PLACE PERMANENT PAVEMENT MARKINGS BEFORE THE END OF THE CONSTRUCTION SEASON.




NOTE:
CROSS HATCHED AREA DENOTES AREA OF ITEM 612 4" CONCRETE MEDIAN AND ITEM 609 CURB, TYPE 4B (STA. 520+00 TO STA. 530+00)

NOTES:

EXISTING CATCH BASINS TO BE ABANDONED DURING THE MAINTENANCE OF TRAFFIC.
PAYMENT TO BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC.
(FOR DETAILS OF PROPOSED CATCH BASINS SEE SHEETS 82 & 83)

DIRECTION OF TRAVEL

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED J.C. 6/24/96
CHECKED J.L.S. 7/24/96

# MAINTENANCE OF TRAFFIC PHASE 4
# STA. 518+00 TO STA. 530+00

COS-16-9.84
COS-36-20.06

64
231

C16MT1.DGN 7/24/96

# GENERAL SUMMARY

| SHEET NUMBER | | | | | | | | | | | | | | | | | | | | ITEM | ITEM EXT. | GRAND TOTAL | UNIT | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 24 | 26 | 27 | 29 | 70 | 71 | 72 | 73 | 74 | 75 | 78 | 81 | 107 | 107D | 147 | 161 | 209 | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | **ROADWAY** |
| | | LUMP | | | | | | | | | | | | | | | | | | 201 | 11000 | LUMP | | CLEARING AND GRUBBING |
| | 94 | | | | 11271 | 445 | 4955 | | 957 | | | | | | | | | | | 202 | 22900 | 94 | SQ.YD. | APPROACH SLAB REMOVED |
| | | | | | | 177 | | | | | | | | | | | | | | 202 | 23000 | 17628 | SQ.YD. | PAVEMENT REMOVED |
| | | | | | | | | | | | | | | | 233 | | | | | 202 | 23500 | 177 | SQ.YD. | WEARING COURSE REMOVED |
| | | | | | | | | | | | | | | | | 793 | | | | 202 | 35100 | 233 | LIN.FT. | PIPE REMOVED, 24" AND UNDER |
| | | | | | | | | | | | 6287.5 | | | | | | | | | 202 | 35101 | 793 | LIN.FT. | PIPE REMOVED, 24" AND UNDER, AS PER PLAN (SEE SHEET 28) |
| | | | | | | | | | | | | | | | | | 537 | | | 202 | 38000 | 6287.5 | LIN.FT. | GUARDRAIL REMOVED |
| | | | | | | | | | | | | | | | 3 | | | | | 202 | 54100 | 537 | EACH | RAISED PAVEMENT MARKER REMOVED FOR STORAGE |
| | 172 | | | | | | | | | | | | 25123 | 475 | | | | | | 202 | 58100 | 3 | EACH | CATCH BASIN REMOVED |
| | | | 100 | | | | | | | | | | | | | | | | | 203 | 12000 | 25770 | CU.YD. | EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION |
| | 74 | | | | | | | 58 | 55 | 38 | | | 40985 | 470 | | | | | | 203 | 12001 | 100 | CU.YD. | EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN (SEE SHEET 27) |
| | | | 100 | | | | | | | | | | | | | | | | | 203 | 20000 | 41680 | CU.YD. | EMBANKMENT |
| | | | | | | | | | | | | | 8196 | | | | | | | 203 | 20001 | 100 | CU.YD. | EMBANKMENT, AS PER PLAN (SEE SHEET 27) |
| | | | 100 | | | | | | | | | | | | | | | | | 203 | 21000 | 8196 | CU.YD. | EMBANKMENT USING GRANULAR MATERIAL |
| | | | 13 | | | | | | | | | | | | | | | | | 203 | 21001 | 100 | CU.YD. | EMBANKMENT USING GRANULAR MATERIAL, AS PER PLAN (SEE SHEET 27) |
| | 462 | | | | 24194 | 980 | 5971 | 3566 | 2681 | 1080 | | | | | | | | | | 203 | 45000 | 13 | HOUR | PROOF ROLLING |
| | | | | | | | | | | | | | | | | | | | | 203 | 50000 | 38934 | SQ.YD. | SUBGRADE COMPACTION |
| | | | | | | | | | | | | 19 | | | | | | | | 604 | 40500 | 19 | EACH | REFERENCE MONUMENT (SEE SHEET 26) |
| | | | | | | | | | | | 3528.6 | | | | | | | | | 606 | 13000 | 3528.6 | LIN.FT. | GUARDRAIL, TYPE 5 |
| | | | | | | | | | | | 3 | | | | | | | | | 606 | 26000 | 3 | EACH | ANCHOR ASSEMBLY, TYPE B |
| | | | | | | | | | | | 3 | | | | | | | | | 606 | 26500 | 3 | EACH | ANCHOR ASSEMBLY, TYPE T |
| | | | | | | | | | | | 2 | | | | | | | | | 606 | 35000 | 2 | EACH | BRIDGE TERMINAL ASSEMBLY, TYPE 1 |
| | | | | | | | | | | | 1 | | | | | | | | | 606 | 35100 | 1 | EACH | BRIDGE TERMINAL ASSEMBLY, TYPE 2 |
| | | 500 | | | | | | | | | | | | | | | | | | 607 | 15000 | 500 | LIN.FT. | FENCE, TYPE 47 |
| | | | | | | | | | | | | | | | | | | | | | | | | **EROSION CONTROL** |
| | | 10705 | | | | | | | | | | | | | | | | | | 207 | 10000 | 10705 | SQ.YD. | TEMPORARY SEEDING AND MULCHING |
| 2909 | | | | | | | | | | | | | | | | | | | | 207 | 30000 | 2909 | LIN.FT. | FILTER FABRIC FENCE (SEE PROPOSAL NOTE) |
| 1800 | | | | | | | | | | | | | | | | | | | | 207 | 55000 | 1800 | LIN.FT. | TEMPORARY DIKES |
| 78 | | | | | | | | | | | | | | | | | | | | 207 | 70000 | 78 | EACH | STRAW OR HAY BALES (SEE PROPOSAL NOTE) |
| | | | | | | | | | | | | | | | 28 | | | | | 601 | 11000 | 28 | SQ.YD. | RIPRAP USING 6" REINFORCED CONCRETE SLAB |
| | | | | | | | | | | | | | | | 31 | | | | | 601 | 32100 | 31 | CU.YD. | ROCK CHANNEL PROTECTION, TYPE B WITH FILTER |
| | | | | 10 | | | | | | | | | | 1226 | 6 | | | | | 601 | 32200 | 1242 | CU.YD. | ROCK CHANNEL PROTECTION, TYPE C WITH FILTER |
| | | 51569 | | | | | | | | | | | | | | | | | | 659 | 10000 | 51569 | SQ.YD. | SEEDING AND MULCHING |
| | | 2675 | | | | | | | | | | | | | | | | | | 659 | 14000 | 2675 | SQ.YD. | REPAIR SEEDING AND MULCHING |
| | | 11 | | | | | | | | | | | | | | | | | | 659 | 20000 | 11 | TON | COMMERCIAL FERTILIZER |
| | | 24 | | | | | | | | | | | | | | | | | | 659 | 30000 | 24 | TON | AGRICULTURAL LIMING |
| | | 145 | | | | | | | | | | | | | | | | | | 659 | 35000 | 145 | M.GAL. | WATER |
| | | 485 | | | | | | | | | | | | | | | | | | 659 | 40000 | 485 | M.SQ.FT | MOWING |
| | | | | | | | | | | | | | | | 134 | | | | | 670 | 40000 | 134 | SQ.YD. | DITCH EROSION PROTECTION |

CALCULATED D.M. 12-24-96
CHECKED A.M. 12-26-96

GENERAL SUMMARY

COS-16-9.84
COS-36-20.06



C01609A6.DGN 12/20/96

# GENERAL SUMMARY

| 24 | 28 | 29 | 35 | 147 | 161 | ITEM | ITEM EXT. | GRAND TOTAL | UNIT | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | **DRAINAGE** |
| 143 | | | | | | 518 | 21200 | 143 | CU.YD. | POROUS BACKFILL WITH FILTER FABRIC |
| | | | | 10.59 | | 602 | 20000 | 10.59 | CU.YD. | CONCRETE MASONRY |
| | | | | | 190 | 603 | 00100 | 190 | LIN.FT. | 4" CONDUIT, TYPE B, 707.33, 707.42 OR 707.45 |
| | | | 350 | | | 603 | 00400 | 350 | LIN.FT. | 4" CONDUIT, TYPE E |
| | | | | | 446 | 603 | 00406 | 446 | LIN.FT. | 4" CONDUIT, TYPE F |
| | 110 | | | | | 603 | 00900 | 100 | LIN.FT. | 6" CONDUIT, TYPE B |
| | 110 | | | | | 603 | 01100 | 100 | LIN.FT. | 6" CONDUIT, TYPE C |
| | 100 | 50 | | | | 603 | 01800 | 150 | LIN.FT. | 8" CONDUIT, TYPE B |
| | 100 | | | | | 603 | 02000 | 100 | LIN.FT. | 8" CONDUIT, TYPE C |
| | | 50 | | | | 603 | 02500 | 50 | LIN.FT. | 8" CONDUIT, TYPE E |
| | | 50 | | | | 603 | 02600 | 50 | LIN.FT. | 8" CONDUIT, TYPE F |
| | | 50 | | | | 603 | 04400 | 50 | LIN.FT. | 12" CONDUIT, TYPE B |
| | | | | 30 | | 603 | 04400 | 30 | LIN.FT. | 12" CONDUIT, TYPE B, 706.01 OR 706.02 |
| | | 50 | | | | 603 | 05100 | 50 | LIN.FT. | 12" CONDUIT, TYPE E |
| | | 50 | | | | 603 | 05200 | 50 | LIN.FT. | 12" CONDUIT, TYPE F |
| | | 50 | | 1280 | | 603 | 05900 | 1330 | LIN.FT. | 15" CONDUIT, TYPE B |
| | | 50 | | 165 | | 603 | 06700 | 215 | LIN.FT. | 15" CONDUIT, TYPE F |
| | | | | 1490 | | 603 | 97000 | 1490 | LIN.FT. | 15" SLOTTED DRAIN (SEE SHEET 142) |
| | | | | 132 | | 603 | 10200 | 132 | LIN.FT. | 24" CONDUIT, TYPE A, 706.02 OR 30" CONDUIT, TYPE A, 707.01 |
| | | | | 12 | | 603 | 13400 | 12 | LIN.FT. | 30" CONDUIT, TYPE B, 706.02 |
| | | | | 72 | | 603 | 23600 | 72 | LIN.FT. | 60" CONDUIT, TYPE A, 706.02 |
| | | | | 5 | | 604 | 02001 | 5 | EACH | CATCH BASIN, NO. 6, AS PER PLAN (SEE SHEET 29) |
| | | | | 2 | | 604 | 02801 | 2 | EACH | CATCH BASIN, NO. 8, AS PER PLAN (SEE SHEET 29) |
| | | | | 5 | | 604 | 00801 | 5 | EACH | CATCH BASIN, NO. 3A, AS PER PLAN (SEE SHEET 29) |
| | | | | 1 | | 604 | 00401 | 1 | EACH | CATCH BASIN, NO. 3, AS PER PLAN (SEE SHEET 29) |
| | | | | 2 | | 604 | 17501 | 2 | EACH | INLET, NO. 2-A-6, AS PER PLAN (SEE SHEET 29) |
| | | | | | 24 | 604 | 36600 | 24 | EACH | PRECAST REINFORCED CONCRETE OUTLET (SEE SHEET 28) |
| | | | | | 2181 | 605 | 05100 | 2181 | LIN.FT. | 4" SHALLOW PIPE UNDERDRAIN |
| | | | | | 2829 | 605 | 05111 | 2829 | LIN.FT. | 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN (SEE SHEET 28) |
| | | | | | 5135 | 605 | 05200 | 5135 | LIN.FT. | 4" UNCLASSIFIED PIPE UNDERDRAIN |
| | | | | | 7498 | 605 | 05211 | 7498 | LIN.FT. | 4" UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN (SEE SHEET 28) |
| | | | | | 185 | 605 | 11100 | 185 | LIN.FT. | 6" SHALLOW PIPE UNDERDRAIN, 707.33, 707.42 OR 707.45 |
| | 100 | | | | | 605 | 13402 | 100 | LIN.FT. | 6" UNCLASSIFIED PIPE UNDERDRAIN FOR SPRINGS |
| | 50 | | | | | 605 | 32200 | 50 | LIN.FT. | AGGREGATE DRAIN FOR SPRINGS |

CALCULATED A.M. 12-24-96
CHECKED A.L.L. 12-26-96

GENERAL SUMMARY

COS-16-9.84
COS-36-20.06



C01609C6.DGN 12/30/96

# GENERAL SUMMARY

| 24 | 39 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | | | ITEM | ITEM EXT. | GRAND TOTAL | UNIT | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | **PAVEMENT** |
| | | | | | | | | | 9 | | | 301 | 46000 | 9 | CU.YD. | BITUMINOUS AGGREGATE BASE, PG 64-22 |
| 74 | | 3965 | 182 | 996 | 625 | 476 | 203 | | | | | 304 | 20000 | 6521 | CU.YD. | AGGREGATE BASE |
| | | | 980 | | | | | | | | | 305 | 13001 | 980 | SQ.YD. | 9" CONCRETE BASE, AS PER PLAN (SEE SHEET 27) |
| | 25 | | 2155 | | | | | 425 | 576 | | | 407 | 14000 | 3181 | GAL. | TACK COAT FOR INTERMEDIATE COURSE |
| | | 9474 | 392 | 2389 | 957 | 631 | 191 | | | | | 408 | 10000 | 14034 | GAL. | BITUMINOUS PRIME COAT |
| | | | 60 | | | | | | | | | 448 | 46050 | 60 | CU.YD. | ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-22 |
| | 100 | | 998 | | | | | 197 | 267 | | | 448 | 47020 | 1562 | CU.YD. | ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22 |
| | | | | | | | | | 3 | | | 448 | 48020 | 3 | CU.YD. | ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22 (FOR DRIVEWAYS) |
| | | 120 | | | 20 | 20 | | | | | | SPECIAL | 45130000 | 160 | LIN.FT. | PRESSURE RELIEF JOINT, TYPE A (SEE SHEET 28) |
| | | 23806 | | 5971 | 3549 | 2673 | 1080 | | | | | 452 | 14100 | 37079 | SQ.YD. | 11" PLAIN CONCRETE PAVEMENT |
| | | | | | | | 20 | | | | | 609 | 14000 | 20 | LIN.FT. | CURB, TYPE 2-A |
| | | 563 | | | | | | | | | | 609 | 24000 | 563 | LIN.FT. | CURB, TYPE 4-A |
| | | | 2000 | | | | | | | | | 609 | 24500 | 2000 | LIN.FT. | CURB, TYPE 4-B |
| 472 | | | | | | | | | | | | 611 | 25001 | 472 | SQ.YD. | REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN (SEE SHEET 27) |
| | | 94 | 462 | | | | | | | | | 612 | 40000 | 556 | SQ.YD. | 4" CONCRETE MEDIAN |
| | | | | | 230 | 213 | 149 | | | | | 617 | 10100 | 592 | CU.YD. | COMPACTED AGGREGATE, TYPE A |
| | | | | | 4 | 4 | 3 | | | | | 617 | 25000 | 11 | M. GAL. | WATER |
| | | 23806 | | 5971 | 3549 | 2673 | 1080 | | | | | SPECIAL | 69000120 | 37079 | SQ.YD. | 4" ASPHALT TREATED FREE DRAINING BASE (SEE PROPOSAL NOTE) (SEE SHEET 27) |
| | | | | | 1023 | 968 | 677 | | | | | SPECIAL | 69012010 | 2668 | SQ.YD. | GEOTEXTILE FABRIC, TYPE D (SEE SHEET 29) |

CALCULATED D.M. 12-24-96
CHECKED A.L.L. 12-26-96

GENERAL SUMMARY

COS-16-9.84
COS-36-20.06



C01609D6.DGN 12/20/96

# GENERAL SUMMARY

| SHEET NUMBER | | | | | | | | | | | | | | ITEM | ITEM EXT. | 100% STATE | NORMAL PARTICIPATION | GRAND TOTAL | UNIT | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 168 | 169 | 184 | 195 | 196 | 209 | | | | | | | | | | | | | | |
| | | | | | | 429 | | | | | | | | | | | | | | **TRAFFIC CONTROL** |
| | L | | | | | | | | | | | | | 621 | 00100 | | 429 | 429 | EACH | RAISED PAVEMENT MARKER |
| | 3 | | | | | | | | | | | | | 625 | 18510 | | 1 | 1 | EACH | BRACKET ARM, 30' |
| | 254 | | | | | | | | | | | | | 625 | 18600 | | 3 | 3 | EACH | BRACKET ARM, MISC: 35', AS PER PLAN, (SEE SHEET 35) |
| | 2435 | | | | | | | | | | | | | 625 | 25102 | | 254 | 254 | LIN.FT. | CONDUIT, 1", 713.07 |
| | 231 | | | | | | | | | | | | | 625 | 25402 | | 2435 | 2435 | LIN.FT. | CONDUIT, 2", 713.07 |
| | | | | | | | | | | | | | | 625 | 25502 | | 231 | 231 | LIN.FT. | CONDUIT, 3", 713.07 |
| | 4 | | | | | | | | | | | | | 625 | 27600 | | 4 | 4 | EACH | LUMINARE, MISC: STYLE B, TYPE III, 200 WATT HIGH PRESSURE SODIUM 713.11, 120 VOLT, AS PER PLAN (SEE SHEET 36) |
| | 2888 | | | | | | | | | | | | | 625 | 29002 | | 2888 | 2888 | LIN.FT. | TRENCH, 24" DEEP |
| | 22 | | | | | | | | | | | | | 625 | 30700 | | 22 | 22 | EACH | PULL BOX, 713.08, 18" |
| | 1 | | | | | | | | | | | | | 625 | 30706 | | 1 | 1 | EACH | PULL BOX, 713.08, 24" |
| | 6 | | | | | | | | | | | | | 625 | 32000 | | 6 | 6 | EACH | GROUND ROD |
| | | | 768 | | | | | | | | | | | 630 | 02100 | | 768 | 768 | LIN.FT. | GROUND MOUNTED SUPPORT, NO.2 POST, TYPE S |
| | | | 326 | | | | | | | | | | | 630 | 03100 | | 326 | 326 | LIN.FT. | GROUND MOUNTED SUPPORT, NO.3 POST, TYPE S |
| | | | 156 | | | | | | | | | | | 630 | 06400 | | 156 | 156 | LIN.FT. | GROUND MOUNTED SUPPORT, S4 X 7.7 BEAM |
| | | | 38 | | | | | | | | | | | 630 | 06500 | | 38 | 38 | LIN.FT. | GROUND MOUNTED SUPPORT, W6 X 9 BEAM |
| | | | 145 | | | | | | | | | | | 630 | 07000 | | 145 | 145 | LIN.FT. | GROUND MOUNTED SUPPORT, W8 X 18 BEAM |
| | | | 43 | | | | | | | | | | | 630 | 07600 | | 43 | 43 | LIN.FT. | GROUND MOUNTED SUPPORT, W10 X 12 BEAM |
| | | | 6 | | | | | | | | | | | 630 | 09000 | | 6 | 6 | EACH | BREAKAWAY BEAM CONNECTION |
| | | | 1 | | | | | | | | | | | 630 | 45500 | | 1 | 1 | EACH | OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8, 104 FT. |
| | 2 | | | | | | | | | | | | | 630 | 79001 | | 2 | 2 | EACH | SIGN HANGER ASSEMBLY, SPAN WIRE, AS PER PLAN, (SEE SHEET 35) |
| | 15 | | 56 | | | | | | | | | | | 630 | 80100 | | 71 | 71 | SQ.FT. | SIGN, FLAT SHEET |
| | | | 248 | | | | | | | | | | | 630 | 80102 | | 248 | 248 | SQ.FT. | SIGN, FLAT SHEET, TYPE G |
| | | | 62 | | | | | | | | | | | 630 | 80204 | | 62 | 62 | SQ.FT. | SIGN, EXTRUSHEET, TYPE G |
| | | | 9 | | | | | | | | | | | 630 | 82000 | | 9 | 9 | EACH | SIGN BACKING ASSEMBLY |
| | 15 | | | | | | | | | | | | | 630 | 83000 | | 15 | 15 | SQ.FT. | COVERING OF SIGN |
| | | | 20 | | | | | | | | | | | 630 | 84500 | | 20 | 20 | EACH | GROUND MOUNTED BEAM SUPPORT FOUNDATION |
| | | | 2 | | | | | | | | | | | 630 | 84510 | | 2 | 2 | EACH | RIGID OVERHEAD SIGN SUPPORT FOUNDATION |
| | | | | 22 | 34 | | | | | | | | | 630 | 85000 | | 56 | 56 | EACH | REMOVAL OF GROUND MOUNTED SIGN AND STORAGE |
| | | | | 54 | 13 | | | | | | | | | 630 | 85100 | | 67 | 67 | EACH | REMOVAL OF GROUND MOUNTED SIGN AND REERECTION |
| | | | | | 2 | | | | | | | | | 630 | 85500 | | 2 | 2 | EACH | REMOVAL OF GROUND MOUNTED MAJOR SIGN AND STORAGE |
| | | | | 4 | 3 | | | | | | | | | 630 | 85600 | | 7 | 7 | EACH | REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION |
| | | | | 43 | 47 | | | | | | | | | 630 | 86002 | | 90 | 90 | EACH | REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL |
| | | | | 14 | 12 | | | | | | | | | 630 | 86102 | | 26 | 26 | EACH | REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL |
| | | | | | 4 | | | | | | | | | 630 | 87000 | | 4 | 4 | EACH | REMOVAL OF OVERHEAD MOUNTED SIGN AND STORAGE |
| | | | | 3 | | | | | | | | | | 630 | 87100 | | 3 | 3 | EACH | REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION |
| | | | | 2 | 4 | | | | | | | | | 630 | 87520 | | 6 | 6 | EACH | REMOVAL OF POLE MOUNTED SIGN AND REERECTION |
| | | | | | 1 | | | | | | | | | 630 | 89702 | | 1 | 1 | EACH | REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL |
| | | | | 1 | | | | | | | | | | 630 | 89802 | | 1 | 1 | EACH | REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.65 |
| | | | | 20 | 44 | | | | | | | | | 630 | 91000 | 64 | | 64 | EACH | PREPARATION AND SHIPMENT OF STORED SIGNS, FLAT SHEET (SEE SHEET 34) |
| | 15 | | | | | | | | | | | | | 632 | 00301 | | 15 | 15 | EACH | VEHICULAR SIGNAL HEAD, 3-SECTION, 12" LENS, 1-WAY, AS PER PLAN (SEE SHEET 35) |
| | 2 | | | | | | | | | | | | | 632 | 00401 | | 2 | 2 | EACH | VEHICULAR SIGNAL HEAD, 4-SECTION, 12" LENS, 1-WAY, AS PER PLAN (SEE SHEET 35) |
| | 17 | | | | | | | | | | | | | 632 | 25000 | | 17 | 17 | EACH | COVERING OF VEHICULAR SIGNAL HEAD |
| | 26 | | | | | | | | | | | | | 632 | 26500 | | 26 | 26 | EACH | DETECTOR LOOP |
| | 10 | | | | | | | | | | | | | 632 | 27004 | | 10 | 10 | EACH | LOOP DETECTOR UNIT |
| | 8 | | | | | | | | | | | | | 632 | 27009 | | 8 | 8 | EACH | LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE, AS PER PLAN (SEE SHEET 35) |
| | 315 | | | | | | | | | | | | | 632 | 30200 | | 315 | 315 | LIN.FT. | MESSENGER WIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES |
| | 1153 | | | | | | | | | | | | | 632 | 40500 | | 1153 | 1153 | EACH | SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG. |
| | 298 | | | | | | | | | | | | | 632 | 40700 | | 298 | 298 | LIN.FT. | SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG. |
| | | 655 | | | | | | | | | | | | 632 | 42300 | | 655 | 655 | LIN.FT. | SIGNAL CABLE, 3 CONDUCTOR NO. 12 AWG. |
| | 4 | | | | | | | | | | | | | 632 | 64000 | | 4 | 4 | EACH | STRAIN POLE FOUNDATION |
| | 7197 | | | | | | | | | | | | | 632 | 65200 | | 7197 | 7197 | LIN.FT. | LOOP DETECTOR LEAD-IN CABLE |
| | 102 | | | | | | | | | | | | | 632 | 67200 | | 102 | 102 | LIN.FT. | POWER CABLE 2-CONDUCTOR NO. 8 AWG. |
| | 845 | | | | | | | | | | | | | 632 | 69700 | | 845 | 845 | LIN.FT. | SERVICE CABLE 3-CONDUCTOR NO. 8 AWG. |
| | 2 | | | | | | | | | | | | | 632 | 70001 | | 2 | 2 | EACH | POWER SERVICE, AS PER PLAN (SEE SHEET 35) |
| | 2 | | | | | | | | | | | | | 632 | 84801 | | 2 | 2 | EACH | COMBINATION STRAIN POLE, TYPE TC-81.10, DESIGN 8, AS PER PLAN (SEE SHEET 36) |
| | 2 | | | | | | | | | | | | | 632 | 85001 | | 2 | 2 | EACH | COMBINATION STRAIN POLE, TYPE TC-81.10, DESIGN 10, AS PER PLAN (SEE SHEET 36) |
| | | 2 | | | | | | | | | | | | 632 | 89301 | | 2 | 2 | EACH | WOOD POLE, AS PER PLAN (SEE SHEET 36) |
| | 2 | | | | | | | | | | | | | 632 | 90101 | | 2 | 2 | EACH | REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN (SEE SHEET 36) |
| | | 1 | | | | | | | | | | | | 633 | 34001 | | 1 | 1 | EACH | CONTROLLER, ACTUATED, 4-PHASE, SOLID STATE DIGITAL MICROPROCESSOR, AS PER PLAN (SEE SHEET 35) |
| | | 1 | | | | | | | | | | | | 633 | 38001 | | 1 | 1 | EACH | CONTROLLER, ACTUATED, 8-PHASE, SOLID STATE DIGITAL MICROPROCESSOR, AS PER PLAN (SEE SHEET 35) |
| | | 1.85 | | | | | | | | | | | | 633 | 70000 | | 1.85 | 1.85 | CU.YD. | CONCRETE FOR CABINET FOUNDATION |
| | | 18.75 | | | | | | | | | | | | 633 | 70500 | | 18.75 | 18.75 | SQ.FT. | CONTROLLER WORK PAD |

CALCULATED D.M. 12-24-96
CHECKED A.L.L. 12-26-96

GENERAL SUMMARY

COS-16-9.84
COS-36-20.06



C0160986.DGN 12-20-96

# GENERAL SUMMARY

| 26 | 27 | 34 | 36 | 38 | 39 | 40 | 45 | 46 | 55 | 56 | 78 | 80 | 208 | ITEM | ITEM EXT. | GRAND TOTAL | UNIT | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | **TRAFFIC CONTROL (CON'T)** |
| | | | | | | | | | | | 44 | | | 626 | 00100 | 44 | EACH | BARRIER REFLECTOR, TYPE A |
| | | | | | | | | | | | 10 | | | 626 | 00200 | 10 | EACH | BARRIER REFLECTOR, TYPE B |
| | | | | | 5.62 | | | | | | | | | 642 | 00102 | 5.62 | MILE | EDGE LINE, TYPE 2 |
| | | | | | 3.14 | | | | | | | | | 642 | 00202 | 3.14 | MILE | LANE LINE, TYPE 2 |
| | | | | | 1.03 | | | | | | | | | 642 | 00302 | 1.03 | MILE | CENTER LINE, TYPE 2 |
| | | | | | 4077 | | | | | | | | | 642 | 00402 | 4077 | LIN. FT. | CHANNELIZING LINE, TYPE 2 |
| | | | | | 309 | | | | | | | | | 642 | 00502 | 309 | LIN. FT. | STOP LINE, TYPE 2 |
| | | | | | | | | | | | | | 7.22 | SPECIAL | 69080000 | 7.22 | MILE | PAVEMENT MARKING MISC.: EDGE LINE (SEE SHEETS 30-33) |
| | | | | | | | | | | | | | 3.93 | SPECIAL | 69080000 | 3.93 | MILE | PAVEMENT MARKING MISC.: LANE LINE (SEE SHEETS 30-33) |
| | | | | | | | | | | | | | 1.03 | SPECIAL | 69080000 | 1.03 | MILE | PAVEMENT MARKING MISC.: CENTER LINE (SEE SHEETS 30-33) |
| | | | | | | | | | | | | | 4077 | SPECIAL | 69080010 | 4077 | LIN. FT. | PAVEMENT MARKING MISC.: CHANNELIZING LINE (SEE SHEETS 30-33) |
| | | | | | | | | | | | | | 2832 | SPECIAL | 69080010 | 2832 | LIN. FT. | PAVEMENT MARKING MISC.: TRANSVERSE LINE (SEE SHEETS 30-33) |
| | | | | | | | | | | | | | 309 | SPECIAL | 69080010 | 309 | LIN. FT. | PAVEMENT MARKING MISC.: STOP LINE (SEE SHEETS 30-33) |
| | | | | | | | | | | | | | 128 | SPECIAL | 69080010 | 128 | LIN. FT. | PAVEMENT MARKING MISC.: DOTTED LINE, 4" (SEE SHEETS 30-33) |
| | | | | | | | | | | | | | 14 | SPECIAL | 69080030 | 14 | EACH | PAVEMENT MARKING MISC.: WORD ON PAVEMENT, 96" (SEE SHEETS 30-33) |
| | | | | | | | | | | | | | 28 | SPECIAL | 69080030 | 28 | EACH | PAVEMENT MARKING MISC.: LANE ARROW (SEE SHEETS 30-33) |
| | | | | | | | | | | | | | | | | | | **MAINTENANCE OF TRAFFIC** |
| | | | | | 10 | | | | | | | | | 410 | 12000 | 10 | CU. YD. | TRAFFIC COMPACTED SURFACE, TYPE A OR B |
| | | | | | 10 | | | | | | | | | 410 | 13000 | 10 | CU. YD. | TRAFFIC COMPACTED SURFACE, TYPE C |
| | | | | | | | 44 | | | | | | | 411 | 10000 | 44 | CU. YD. | STABILIZED CRUSHED AGGREGATE |
| | | | | | 100 | | | | | | | | | 614 | 11100 | 100 | HOUR | LAW ENFORCEMENT OFFICER WITH PATROL CAR (SEE SHEET 39) |
| | | | | 200 | | | | | | | | | | SPECIAL | 61412500 | 200 | SQ. FT. | REPLACEMENT SIGN (SEE SHEET 38) |
| | | | | 25 | | | | | | | | | | SPECIAL | 61412600 | 25 | EACH | REPLACEMENT DRUM (SEE SHEET 38) |
| 2 | | | | | | | | | | | | | | 614 | 12756 | 2 | EACH | TEMPORARY CROSSOVER LIGHTING SYSTEM (SEE SHEET 26) |
| | | | | | 25 | | | | | | | | | 614 | 13000 | 25 | CU. YD. | BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC |
| | | | | | | | | | | | | 211 | | 614 | 13200 | 211 | EACH | BARRIER REFLECTOR, TYPE A (SEE SHEET 38) (SEE PROPOSAL NOTE) |
| | | | | | | | | | | | | 380 | | 614 | 13300 | 380 | EACH | BARRIER REFLECTOR, TYPE B (SEE SHEET 38) (SEE PROPOSAL NOTE) |
| | | | | | | | | | | | | 332 | | 614 | 13350 | 332 | EACH | OBJECT MARKER (SEE SHEET 38) (SEE PROPOSAL NOTE) |
| | | | | 48 | | | | | | | | | | 614 | 18601 | 48 | SIGN-MONTH | PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN (REPLACEMENT) (SEE SHEET 38) |
| | | | | 48 | | | | | | | | | | 614 | 18601 | 48 | SIGN-MONTH | PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN (SEE SHEET 38) |
| | | | | | 3.14 | | | | | | | | | 614 | 20400 | 3.14 | MILE | TEMPORARY LANE LINE, CLASS II |
| | | | | | 3.53 | | | | | | | | | 614 | 21000 | 3.53 | MILE | TEMPORARY CENTER LINE, CLASS I |
| | | | | | 13.98 | | | | | | | | | 614 | 22000 | 13.98 | MILE | TEMPORARY EDGE LINE, CLASS I |
| | | | | | 7926 | | | | | | | | | 614 | 23000 | 7926 | LIN. FT. | TEMPORARY CHANNELIZING LINE, CLASS I |
| | | | | | 593 | | | | | | | | | 614 | 26000 | 593 | LIN. FT. | TEMPORARY STOP LINE, CLASS I |
| | | | | | | | LUMP 1129 | LUMP 1334 | 275 | LUMP 290 | | | | 615 | 10000 | LUMP | | TEMPORARY ROAD |
| | | | | | | | | | | | | | | 615 | 20000 | 3028 | SQ. YD. | TEMPORARY PAVEMENT, CLASS A |
| | | | | 350 | | | | | | | | | | 616 | 10000 | 360 | M.GAL. | WATER |
| | | | | 36 | | | | | | | | | | 616 | 20000 | 36 | TON | CALCIUM CHLORIDE |
| | 8190 | | | | | | | | | | | | | 622 | 40020 | 8190 | LIN. FT. | PORTABLE CONCRETE BARRIER, 32" |
| | | | | | | | | | | | | | | | | | | FOR QUANTITIES AND DETAILS OF BR. NO. COS-36-2064 SEE SHEETS 210-231 |
| | | | LUMP | | | LUMP | | | | | | | | 614 | 11000 | LUMP | | MAINTAINING TRAFFIC |
| | | | | | | | | | | | | | | 619 | 15020 | LUMP | | FIELD OFFICE TYPE C |
| | | | | | | | | | | | | | | SPECIAL | 61925010 | LUMP | | COMPUTER EQUIPMENT FOR TYPE B OR C OFFICE |
| | | LUMP | | | | | | | | | | | | 623 | 10000 | LUMP | | CONSTRUCTION LAYOUT STAKES |
| | | | | | | | | | | | | | | 624 | 10000 | LUMP | | MOBILIZATION |

CALCULATED A.L.L. 12-24-96
CHECKED A.L.L. 12-26-96

GENERAL SUMMARY

COS-16-9.84
COS-36-20.06



C01609E6.DGN 8/06/96

** STA. 540+13.29 BACK ℄ SURVEY & CONSTRUCTION S.R. 16 =
STA. 540+13.29 AHEAD ℄ SURVEY & CONSTRUCTION U.S.R. 36

# PAVEMENT CALCULATIONS

Ⓐ *AREA BY COMPUTER*

* SEE PROPOSAL NOTE.

| STATION TO STATION (WESTBOUND ⇆) EASTBOUND LANES) ℄ SURVEY & CONSTRUCTION S.R. 16 & U.S.R.36 | WIDTH PAV'T. (FEET) | LIN. FEET | PAVEMENT AREA SQ. YD. | 452 11" PLAIN CONCRETE PAVEMENT SQ. YD. | * SPECIAL 4" ASPHALT TREATED FREE DRAINING BASE SQ. YD. | 408 BITUMINOUS PRIME COAT @ 0.40 GAL. / S.Y. GAL. | 304 6" AGGREGATE BASE CU. YD. | 203 SUBGRADE COMPACTION SQ. YD. | 609 CURB, TYPE 4-A LIN.FT. | 612 4" CONCRETE MEDIAN SQ. YD. | SPECIAL PRESSURE RELIEF JOINT, TYPE A LIN.FT. | 202 PAVEMENT REMOVED SQ. YD. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 530+00 - 53 +00 | 56.0 AVG. | 100.0 | 622.2 | ⑬ 633.3 | ⑬ 633.3 | 253.3 | ⑭ 107.4 | ⑬ 633.3 | ⑯ 200.0 | ⑮ 33.3 | | |
| 531+00 - 532+81.03 | 56.0 | 181.03 | 1126.4 | ⑬ 1146.5 | ⑬ 1146.5 | 458.8 | ⑭ 194.4 | ⑬ 1146.5 | ⑯ 362.06 | ⑮ 60.3 | | |
| 532+81.03 - 540+13.29** | 60.0 | 732.26 | 4881.7 | ① 4729.8 | ① 4729.8 | ② 1891.9 | ③ 788.3 | 4881.7 | | | | |
| **540+13.29 - 548+60.75 | 60.0 | 847.46 | 5649.7 | ④⑫ 5439.8 | ④⑫ 5439.8 | ⑱ 2165.4 | ⑥⑰ 902.3 | 5649.7 | | | 59.0 | |
| | | (FOR APPROACH SLAB DETAILS & QUANTITIES SEE SHEET 24 & 24A) | | | | | | | | | | |
| 548+60.75 - 552+85.25 | | (BRIDGE LIMITS, FOR DETAILS SEE SHEETS 210 - 231) | | | | | | | | | | |
| | | (FOR APPROACH SLAB DETAILS & QUANTITIES SEE SHEETS 24 & 24A) | | | | | | | | | | |
| 552+85.25 - 554+03.42(BK) | 60.0 | 118.17 | 787.8 | ⑫ 761.6 | ⑫ 761.6 | ⑱ 304.4 | ⑰ 122.4 | 787.8 | | | 60.2 | |
| 0+00.00(AH) - 2+96.81 | 60.0 | 296.81 | 1978.7 | 1978.7 | 1978.7 | 791.5 | 329.8 | 1978.7 | | | | |
| 0+00 ℄ E.B. LANES - 10+43.80 ℄ E.B. LANES | 24.0 | 1043.8 | 2783.5 | 2783.5 | 2783.5 | 1113.4 | 463.9 | 2783.5 | | | | |
| 2+96.81 ℄ SURVEY W.B. LANES 13+31.00 ℄ SURVEY & CONSTRUCTION | 24.0 | 1034.19 | 2757.8 | 2757.8 | 2757.8 | 1103.1 | 459.6 | 2757.8 | | | | |
| LEFT TURN | | | | | | | | | | | | |
| 2+96.81 - 7+90.94 | 12.0 | 494.13 | 658.8 | 658.8 | 658.8 | 263.5 | 109.8 | 658.8 | | | | |
| 7+90.94 - 8+40.94 | 6 AVG. | 50.0 | 33.3 | 33.3 | 33.3 | 13.3 | 5.6 | 33.3 | | | | |
| EXTRA AREA | | | | | | | | | | | | |
| 2+96.81 - 7+90.94 | 11.81 AVG. | 494.13 | 648.4 | 648.4 | 648.4 | ⑦ 219.2 | 108.1 | 648.4 | | | | |
| ℄ EASTBOUND LANES | | | | | | | | | | | | |
| 4+96.11 - 5+46.11 | 6 AVG. | 50.0 | 33.3 | 33.3 | 33.3 | 13.3 | 5.6 | 33.3 | | | | |
| 5+46.11 - 6+71.23 | 12.0 | 125.12 | 166.8 | 166.8 | 166.8 | 66.7 | 27.8 | 166.8 | | | | |
| CROSSOVER @ STA. 10+00 | | | Ⓐ 191.7 | 191.7 | 191.7 | 78.8 | ⑪ 32.7 | 191.7 | | | | |
| RIGHT TURN LANES | | | | | | | | | | | | |
| 532+77.59 - 534+41.59 | 12.0 | 164.0 | 218.7 | 218.7 | 218.7 | 87.5 | 36.5 | 218.7 | | | | |
| 534+41.59 - 534+91.59 | 6 AVG. | 50.0 | 33.3 | 33.3 | 33.3 | 13.3 | 5.6 | 33.3 | | | | |
| 540+67.74 - 547+07.74 | 12.0 | 640.0 | 853.3 | 853.3 | 853.3 | 341.3 | 142.2 | 853.3 | | | | |
| 547+07.74 - 547+57.74 | 6 AVG. | 50.0 | 33.3 | 33.3 | 33.3 | 13.3 | 5.6 | 33.3 | | | | |
| ℄ EASTBOUND LANES | | | | | | | | | | | | |
| 0+93.40 - 1+43.40 | 6 AVG. | 50.0 | 33.3 | 33.3 | 33.3 | 13.3 | 5.6 | 33.3 | | | | |
| 1+43.40 - 3+57.40 | 12.0 | 214.0 | 285.3 | 285.3 | 285.3 | 114.1 | 47.6 | 285.3 | | | | |
| 5+59.22 - 8+23.22 | 12.0 | 264.0 | 352.0 | 352.0 | 352.0 | 140.8 | 58.7 | 352.0 | | | | |
| 8+23.22 - 8+73.22 | 6 AVG. | 50.0 | 33.3 | 33.3 | 33.3 | 13.3 | 5.6 | 33.3 | | | | |
| | | | | | | | | | | | | ⑧ 7007.22 |
| | | | | | | | | | | | | ⑨ 1728.46 |
| | | | | | | | | | | | | ⑩ 2535.20 |
| | | | TOTALS | 23805.8 | 23805.8 | 9473.5 | 3965.1 | 24193.8 | 562.06 | 93.6 | 119.2 | 11270.88 |

TOTALS CARRIED TO GENERAL SUMMARY

① DEDUCT FOR SLOTTED DRAIN
STA. 533+00 TO STA. 538+30 = 530.0 LIN. FT.
530.0 LIN. FT. X 2.0'÷9= 117.8 SQ. YD.
STA. 538+60 TO STA. 540+13.29 = 153.29 LIN. FT.
153.29 LIN. FT. X 2.0'÷9= 34.1 SQ. YD.
(117.8 SQ. YD. + 34.1 SQ. YD. = 151.9 SQ.YD.)

② 4729.8 SQ. YD. X 0.40 = 1891.9 GAL.

③ DEDUCT FOR SLOTTED DRAIN: (530.0'+153.29' = 683.29 LIN.FT.)
(683.29 LIN. FT. X 2.0' X 0.5÷27 = 25.3 CU. YD.)

④ DEDUCT FOR SLOTTED DRAIN:
STA. 540+13.29 TO STA. 548+40.00 = 826.71 LIN. FT.
(826.71 LIN. FT. X 2.0' ÷9 = 183.7 SQ. YD.)

⑤ NOT USED

⑥ DEDUCT FOR SLOTTED DRAIN:
(826.71 LIN. FT. X 2.0' X 0.5'÷27 = 30.6 CU. YD.)

⑦ 494.13' x (11.81' - 1.83') ÷ 9 x 0.40 = 219.2 GAL.

⑧ STA. 530+00.00 TO STA. 532+01.59 = 201.59 LIN.FT.
52' x 201.59' ÷ 9 = 1164.74 SQ. YD.
STA. 532+01.59 TO STA. 533+00 = 98.41 LIN. FT.
52' X 98.41' ÷ 9 = 568.59 SQ. YD.
STA. 533+00 TO STA. 542+76.7 = 976.70 LIN. FT.
34' AVG. X 976.70' ÷ 9 = 3689.76 SQ. YD.
STA. 542+76.70 TO STA. 548+70.75= 594.05 LIN. FT.
24' X 594.05' ÷ 9 = 1584.13 SQ. YD.
TOTAL - 7007.22 SQ. YD.

⑨ STA. 552+75.25 TO STA. 554+03.42(BK.) = 128.17 LIN. FT.
24' X 128.17' ÷ 9 = 341.79 SQ. YD.
STA. 0+00(AH.) - STA. 5+20 = 520.0 LIN. FT.
24' X 520' ÷ 9 = 1386.67 SQ. YD.
TOTAL - 1728.46 SQ. YD.

⑩ STA. 5+20.20 TO STA. 6+50 = 129.80 LIN. FT.
36' X 129.8' ÷ 9 = 519.20 SQ. YD.
STA. 6+50 TO STA. 9+50 = 300.0 LIN. FT.
30'(AVG.) X 300' ÷ 9 = 1000.00 SQ. YD.
STA. 9+50 TO STA. 13+31 = 381.0 LIN. FT.
24' X 381' ÷ 9 = 1016.00 SQ. YD.
TOTAL - 2535.20 SQ. YD.

⑪ 1726.0 SQ.FT. + (75.2' x 0.5') x 0.5' ÷ 27 = 32.7 CU.YD.

⑫ DEDUCT FOR PRESSURE RELIEF JOINT, TYPE A:
59' WIDE x 4.0' (FOR JOINT) ÷ 9 = 26.2 SQ.YD.

⑬ LIN.FT. x (56.0' +1.0') ÷ 9 =
(EXTRA 1.0' FOR PAVEMENT UNDER CURB)

⑭ LIN.FT. x (56.0' + 2.0') x 0.5 ÷ 27 =
(EXTRA 2.0' FOR AGGREGATE UNDER CURB).

⑮ LIN.FT. x 3.0' ÷ 9 =

⑯ (FOR CURB IN E.B. & W.B. LANES)
LIN.FT. x 2

⑰ DEDUCT FOR PRESSURE RELIEF JOINT, TYPE A:
59' WIDE x 8.0' (FOR JOINT) x 0.5' ÷ 27 = 8.7 CU.YD.
60.2' WIDE x 8.0' (FOR JOINT) x 0.5' ÷ 27 = 8.9 CU.YD.

⑱ DEDUCT FOR PRESSURE RELIEF JOINT, TYPE A:
PRESSURE RELIEF JOINT WIDTH x 4.0' (FOR JOINT) ÷ 9
x 0.40 = GAL

DEDUCT FOR PRESSURE RELIEF JOINT, TYPE A:
59.0' WIDTH x 4.0' (FOR JOINT) ÷ 9
x 0.40 = 10.5 GAL

DEDUCT FOR PRESSURE RELIEF JOINT, TYPE A:
60.2' WIDTH x 4.0' (FOR JOINT) ÷ 9
x 0.40 = 10.7 GAL

CALCULATED J.C. 6/24/96
CHECKED B.F.B. 7/24/96

PAVEMENT CALCULATIONS

COS-16-9.84
COS-36-20.06



PCALCE03.DGN 7/29/96

# PAVEMENT CALCULATIONS

| STATION TO STATION (EASTBOUND & WESTBOUND LANES) ℄ SURVEY & CONSTRUCTION S.R. 16 & U.S.R. 36 | WIDTH PAV'T. (FEET) | LIN. FEET | PAVEMENT AREA SQ. YD. | 448 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22 CU. YD. | 448 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-22 CU. YD. | 305 9" CONCRETE BASE. AS PER PLAN SQ. YD. | 408 BITUMINOUS PRIME COAT @ 0.40 GAL. / S.Y. GAL. | 304 6" AGGREGATE BASE CU. YD. | 203 SUBGRADE COMPACTION SQ. YD. | 407 TACK COAT FOR INTERMEDIATE COURSE @ .075 GAL./S.Y. GAL. | 609 CURB, TYPE 4-B LIN.FT. | 612 4" CONCRETE MEDIAN SQ. YD. | 202 PAVEMENT REMOVED SQ. YD. | 202 WEARING COURSE REMOVED SQ. YD. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EASTBOUND LANES | | | | | | | | | | | | | | |
| S.R. 16 | | | | | | | | | | | | | | |
| 498+80.00 - 520+00.00 | 25.5 | 2120.0 | 6006.7 | 208.6 | | | | | | 450.5 | | | | (11) 88.5 |
| 520+00.00 - 520+75.00 | 26.75 AVG. | 75.0 | 222.9 | 7.7 | (12) 1.6 | (1) 27.1 | (3) 10.8 | (5) 5.2 | (1) 27.1 | 16.8 | 75.0 | (14) 50.0 | (9) 16.7 | |
| 520+75.00 - 530+00.00 | 28.5 AVG. | 925.0 | 2929.2 | 101.7 | (13) 28.5 | (2) 462.5 | (4) 185.0 | (6) 85.6 | (2) 462.5 | 219.7 | 925.0 | (7) 411.1 | (10) 205.6 | |
| WESTBOUND LANES | | | | | | | | | | | | | | |
| S.R. 16 | | | | | | | | | | | | | | |
| 519+00.00 - 520+00.00 | 25.5 | 100.0 | 283.3 | 9.8 | | | | | | 21.2 | | | | (11) 88.5 |
| 520+00.00 - 520+75.00 | 26.75 AVG. | 75.0 | 222.9 | 7.7 | (15) 1.2 | (1) 27.1 | (3) 10.8 | (5) 5.2 | (1) 27.1 | 16.8 | 75.0 | (8) | (9) 16.7 | |
| 520+75.00 - 530+00.00 | 28.5 AVG. | 925.0 | 2929.2 | 101.7 | (13) 28.5 | (2) 462.5 | (4) 185.0 | (6) 85.6 | (2) 462.5 | 219.7 | 925.0 | (8) | (10) 205.6 | |
| EASTBOUND LANES | | | | | | | | | | | | | | |
| U.S.R. 36 | | | | | | | | | | | | | | |
| 13+31.00 - 35+00.00 | 24 | 2169.0 | 5784.0 | 200.8 | | | | | | 433.8 | | | | |
| RIGHT TURN LANE | | | | | | | | | | | | | | |
| 15+11.45 - 15+51.45 | 6 AVG. | 50.0 | 33.3 | 1.2 | | | | | | 2.5 | | | | |
| 15+61.45 - 17+96.45 | 12 | 235.0 | 313.3 | 10.9 | | | | | | 23.5 | | | | |
| C.R. 621 APPROACH | | | | | | | | | | | | | | |
| ℄ STA. 18+23.87 | VAR. | 58.95 | 305.0 | 10.6 | | | | | | 22.9 | | | | |
| WESTBOUND LANES | | | | | | | | | | | | | | |
| U.S.R. 36 | | | | | | | | | | | | | | |
| 13+31.00 - 43+50 | 24 | 3019.0 | 8050.7 | 279.5 | | | | | | 603.8 | | | | |
| OFFSET LEFT TURN LANE | | | | | | | | | | | | | | |
| 17+75.42 - 19+13.17 | 50 | 137.75 | 765.3 | 26.6 | | | | | | 57.4 | | | | |
| 19+13.17 - 19+63.17 | 31 | 50.0 | 172.2 | 6.0 | | | | | | 12.9 | | | | |
| 19+63.17 - 21+15.17 | 21.5 AVG. | 152.0 | 363.1 | 12.6 | | | | | | 27.2 | | | | |
| 21+15.17 - 23+50.17 | 12 | 235.0 | 313.3 | 10.9 | | | | | | 23.5 | | | | |
| 23+50.17 - 24+00.17 | 6 AVG. | 50.0 | 33.3 | 1.2 | | | | | | 2.5 | | | | |
| TOTALS | | | | 997.5 | 59.8 | 979.2 | 391.6 | 181.6 | 979.2 | 2154.7 | 2000.0 | 461.1 | 444.6 | 177.0 |

TOTALS CARRIED TO GENERAL SUMMARY

(1) 75.0' x 3.25' AVG. ÷ 9 = 27.1 SQ.YD.

(2) 925.0' x 4.5' ÷ 9 = 462.5 SQ.YD.

(3) 75.0' x 3.25' AVG. ÷ 9 x 0.40 = 10.8 GAL.

(4) 925.0' x 4.5' ÷ 9 x 0.40 = 185.0 GAL.

(5) 75.0' x (3.25' AVG. + 0.5') x 0.5' ÷ 27 = 5.2 CU.YD.

(6) 925.0' x (4.5' + 0.5') x 0.5' ÷ 27 = 85.6 CU.YD.

(7) LIN.FT. x 4.0' ÷ 9 =

(8) CARRIED WITH EASTBOUND LANES.

(9) 75.0' x 2.0' ÷ 9 = 16.7 SQ.YD.

(10) 925.0' x 2.0' ÷ 9 = 102.8 SQ.YD.

(11) 31.25' x 25.5' ÷ 9 = 88.5 SQ.YD.

(12) 75.0' x 2.75' AVG. WIDTH x 0.208' ÷ 27 = 1.6 CU.YD.

(13) 925.0' x 4.0' WIDTH X 0.208' ÷ 27 = 28.5 CU.YD.

(14) LIN.FT. x 6.0' AVG. ÷ 9 =

(15) 75.0' x 2.0' AVG. WIDTH x 0.208' ÷ 27 = 1.2 CU.YD.

CALCULATED J.C. 6/24/96
CHECKED B.E.S. 7/24/96

PAVEMENT CALCULATIONS

COS-16-9.84
COS-36-20.06



PCALCE04.DGN 7/30/96

# PAVEMENT CALCULATIONS

Ⓐ AREA BY COMPUTER

* SEE PROPOSAL NOTE.

| STATION TO STATION<br>℄ SURVEY & CONSTRUCTION APPROACHES | WIDTH PAV'T.<br>(FEET) | LIN. FEET | PAVEMENT AREA<br>SQ. YD. | 452<br>11" PLAIN CONCRETE PAVEMENT<br>SQ. YD. | * SPECIAL<br>4" ASPHALT TREATED FREE DRAINING BASE<br>SQ. YD. | 408<br>BITUMINOUS PRIME COAT @ 0.40 GAL. / S.Y.<br>GAL. | 304<br>6" AGGREGATE BASE<br>CU. YD. | 203<br>SUBGRADE COMPACTION<br>SQ. YD. | | | | 202<br>PAVEMENT REMOVED<br>SQ. YD. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| U.S.R. 36 | | | | | | | | | | | | | | |
| 135+10.19 - 135+60.19 | 30.64 AVG. | 50.0 | 170.2 | 170.2 | 170.2 | 68.1 | 28.4 | 170.2 | | | | ① 1511.0 | | |
| 135+60.19 - 139+99.71 | 36 | 439.52 | 1758.1 | 1758.1 | 1758.1 | 703.2 | 293.0 | 1758.1 | | | | | | |
| 139+99.71 - 140+70.82 | VAR. | 71.11 | Ⓐ 516.9 | 516.9 | 516.9 | 206.8 | 86.2 | 516.9 | | | | ② 878.0 | | |
| S.R. 83 | | | | | | | | | | | | | | |
| 0+50.61 - 1+44.95 | VAR. | 94.34 | Ⓐ 698.6 | 698.6 | 698.6 | 279.4 | 116.4 | 698.6 | | | | ③ 668.0 | | |
| 1+44.95 - 4+49.63 | 36 | 304.68 | 1218.7 | 1218.7 | 1218.7 | 487.5 | 203.1 | 1218.7 | | | | | | |
| 4+49.63 - 4+99.63 | 29.95 AVG. | 50.0 | 166.4 | 166.4 | 166.4 | 66.6 | 27.7 | 166.4 | | | | ④ 1209.0 | | |
| WHITEWOMAN ST. | | | | | | | | | | | | | | |
| 532+09.30 - 533+03.17 | VAR. | 93.87 | Ⓐ 549.3 | 549.3 | 549.3 | 219.7 | 91.6 | 549.3 | | | | ⑤ 549.0 | | |
| C.R. 1A | | | | | | | | | | | | | | |
| 0+14.33 - 1+19.64 | VAR. | 105.31 | Ⓐ 892.6 | 892.6 | 892.6 | 357.0 | 148.8 | 892.6 | | | | ⑥ 140.0 | | |
| TOTALS | | | | 5970.8 | 5970.8 | 2388.3 | 995.2 | 5970.8 | | | | 4955.0 | | |

TOTALS CARRIED TO GENERAL SUMMARY

① EXISTING PAVEMENT REMOVED - U.S.R. 36
STA. 135+10.19 - STA. 139+99.71 (AREA BY COMPUTER)
1511.0 SQ.YD.

② EXISTING PAVEMENT REMOVED - U.S.R. 36
STA. 139+99.71 - STA. 140+70.82 (AREA BY COMPUTER)
878.0 SQ.YD.

③ EXISTING PAVEMENT REMOVED - S.R. 83
STA. 0+50.61 - STA. 1+44.95 (AREA BY COMPUTER)
668.0 SQ.YD.

④ EXISTING PAVEMENT REMOVED - S.R. 83
STA. 1+44.95 - STA. 4+99.63 (AREA BY COMPUTER)
1209.0 SQ.YD.

⑤ EXISTING PAVEMENT REMOVED - WHITEWOMAN ST.
STA. 532+09.30 - STA. 533+03.17 (AREA BY COMPUTER)
549.0 SQ.YD.

⑥ EXISTING PAVEMENT REMOVED - C.R. 1A
STA. 0+14.33 - STA. 0+53.0 (AREA BY COMPUTER)
140.0 SQ.YD.

CALCULATED J.C. 6/24/96
CHECKED B.F.B. 7/24/96

PAVEMENT CALCULATIONS

COS-16-9.84
COS-36-20.06



PCALCE02.DGN 07/29/96

# SHOULDER CALCULATIONS

Ⓐ AREA BY COMPUTER

* SEE PROPOSAL NOTE.

| STATION TO STATION (EASTBOUND LANES) ℄ SURVEY & CONSTRUCTION S.R.16 & U.S.R. 36 | LT. SIDE WIDTH BERM (FEET) | LT. SIDE LIN. FEET | RT. SIDE WIDTH BERM (FEET) | RT. SIDE LIN. FEET | SHOULDER AREA SQ. YD. | 452 11" PLAIN CONCRETE PAVEMENT LxW.B.÷9= SQ. YD. | * SPECIAL 4" ASPHALT TREATED FREE DRAINING BASE LxW.B.÷9= SQ. YD. | 408 BITUMINOUS PRIME COAT @ 0.40 GAL. / S.Y. Lx(W.B.-2.83')÷9x0.40= GAL. | 304 6" AGGREGATE BASE Lx(W.B.+0.5')x0.5'÷27= CU. YD. | SPECIAL GEOTEXTILE FILTER FABRIC, TYPE D Lx2.50'÷9 = SQ. YD. | SPECIAL PRESSURE RELIEF JOINT, TYPE A LIN.FT. | 203 SUBGRADE COMPACTION LxW.B.÷9= SQ. YD. | 203 EMBANKMENT Lx.42$^{ft^2}$÷27= CU. YD. | 609 CURB, TYPE 4-A LIN.FT. | 617 4" COMPACTED AGGREGATE, TYPE A Lx5'x.33'÷27= CU. YD. | 617 WATER M.GAL. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 530+00.00 - 531+00.00 | | | 6.81 AVG. | 100.0 | 75.7 | 75.7 | 75.7 | 17.7 | 13.5 | 27.8 | | 75.7 | 1.6 | | 6.1 | |
| 531+00.00 - 548+60.75 | | | 10 | 1760.75 | 1956.4 | ④ 1952.0 | ④ 1952.0 | ⑤ 557.5 | ⑥ 340.9 | 489.1 | 10.0 | 1956.4 | 27.4 | | 107.6 | |
| | | | (FOR APPROACH SLAB DETAILS & QUANTITIES SEE SHEETS 24 & 24A) | | | | | | | | | | | | | |
| 548+60.75 - 552+85.25 | | | (BRIDGE LIMITS FOR BRIDGE DETAILS SEE SHEETS 210 - 231) | | | | | | | | | | | | | |
| | | | (FOR APPROACH SLAB DETAILS & QUANTITIES SEE SHEETS 24 & 24A) | | | | | | | | | | | | | |
| 552+85.25 - 554+03.42(BK) | | | 10 | 118.17 | 131.3 | ④⑧ 134.9 | ④⑧ 134.9 | ⑤⑨ 37.3 | ⑥⑩ 22.8 | 32.8 | 10.0 | ⑧ 139.3 | 1.8 | ⑪ 21.25 | 7.2 | |
| 0+00.00(AH) - 0+93.40 | | | 10 | 93.4 | 103.8 | 103.8 | 103.8 | 29.8 | 18.2 | 25.9 | | 103.8 | 1.5 | | 5.7 | |
| 0+93.40 - 1+43.40 | | | 7 AVG. | 50.0 | 38.9 | 38.9 | 38.9 | 9.3 | 6.9 | 13.9 | | 38.9 | 0.8 | | 3.1 | |
| 1+43.40 - 3+57.40 | | | 4 | 214.0 | 95.1 | 95.1 | 95.1 | 11.1 | 17.8 | 59.4 | | 95.1 | 3.3 | | 13.1 | |
| ℄ EASTBOUND LANES | | | | | | | | | | | | | | | | |
| 1+77.69 - 2+10.85 | | | | 33.16 | Ⓐ25.0 | 25.0 | 25.0 | ① 7.0 | ② 4.3 | 9.2 | | 25.0 | 0.5 | | 2.0 | |
| 2+10.85 - 10+43.80 | | | 10 | 824.13 | 915.7 | 915.7 | 915.7 | 262.6 | 160.2 | 228.9 | | 915.7 | 12.8 | | 50.4 | |
| 4+96.11 - 6+71.23 | 4 | 175.12 | | | 77.8 | 77.8 | 77.8 | 9.1 | 14.6 | 48.6 | | 77.8 | 2.7 | | 10.7 | |
| 6+71.23 - 6+83.26 | | 12.03 | | | Ⓐ 3.7 | 3.7 | 3.7 | ① 2.6 | ② 1.6 | 3.3 | | 3.7 | 0.2 | | ③ 5.3 | |
| 7+42.81 - 10+43.80 | 4 | 300.99 | | | 133.8 | 133.8 | 133.8 | 15.7 | 25.1 | 83.6 | | 133.8 | 4.7 | | 18.4 | |
| TOTALS | | | | | | 3556.4 | 3556.4 | 959.7 | 625.9 | 1022.5 | 20.0 | 3565.2 | 57.3 | 21.25 | 229.6 | ⑦ 3.4 |

TOTALS CARRIED TO GENERAL SUMMARY

① SHOULDER AREA - [2x(10'-2.83')xL]÷3÷9x0.4 =

② SHOULDER AREA - [2x(10'+0.5')xL]÷3x0.5'÷27 =

③ ADDITIONAL FOR CROSSOVER:
(26.6' + 48.6') x 5' x .33' ÷ 27 = 4.6 CU.YD.

④ DEDUCT FOR PRESSURE RELIEF JOINT, TYPE A:
10' WIDE x 4.0' (FOR JOINT) ÷ 9 = 4.4 CU.YD.

⑤ DEDUCT FOR PRESSURE RELIEF JOINT, TYPE A:
10' WIDE x 8.0' (FOR JOINT) ÷ 9 x 0.40 = 3.6 GAL.

⑥ DEDUCT FOR PRESSURE RELIEF JOINT, TYPE A:
10' WIDE x 8.0' (FOR JOINT) x 0.5' ÷ 27 = 1.5 CU.YD.

⑦ ITEM 617 WATER:
229.6 CU.YD. x 15 GAL./ CU.YD. = 3444
÷ 1000 = 3.4 M.GAL.

⑧ ADDITIONAL:
STA. 552+85.25 TO STA. 553+14.00 = 28.75 LIN.FT.
28.75' x 2.5' WIDTH ÷ 9 = 8.0 SQ.YD.

⑨ ADDITIONAL:
STA. 552+85.25 TO STA. 553+14.00 = 28.75 LIN.FT.
28.75' x 2.5' WIDTH ÷ 9 = 8.0 SQ.YD. x 0.40 GAL/S.Y.
= 3.2 GAL.

⑩ ADDITIONAL:
STA. 552+85.25 TO STA. 553+14.00 = 28.75 LIN.FT.
28.75' x 2.5' WIDTH x 0.5' ÷ 27 = 1.3 CU.YD.

⑪ ITEM 609 CURB, TYPE 4-A
STA. 552+85.25 TO STA. 553+14.00 = 28.75 LIN.FT.
28.75' - (I-2A-6 INLET - 7.5') = 21.25 LIN.FT.

CALCULATED J.C. 6/24/96
CHECKED B.F.B. 7/24/96

SHOULDER CALCULATIONS

COS-16-9.84
COS-36-20.06



BCALCL01.DGN 7/27/96

# SHOULDER CALCULATIONS

Ⓐ AREA BY COMPUTER

* SEE PROPOSAL NOTE.

| STATION TO STATION (WESTBOUND LANES) ℄ SURVEY & CONSTRUCTION S.R.16 & U.S.R. 36 | LT. SIDE WIDTH BERM (FEET) | LT. SIDE LIN. FEET | RT. SIDE WIDTH BERM (FEET) | RT. SIDE LIN. FEET | SHOULDER AREA SQ. YD. | 452 11" PLAIN CONCRETE PAVEMENT LxW.B.÷9= SQ. YD. | * SPECIAL 4" ASPHALT TREATED FREE DRAINAGE BASE LxW.B.÷9= SQ. YD. | 408 BITUMINOUS PRIME COAT @ 0.40 GAL. / S.Y. Lx(W.B.-2.83¹)÷9x0.40= GAL. | 304 6" AGGREGATE BASE Lx(W.B.+0.5¹)x0.5¹÷27= CU. YD. | SPECIAL GEOTEXTILE FILTER FABRIC, TYPE D Lx2.50¹÷9= SQ. YD. | SPECIAL PRESSURE RELIEF JOINT, TYPE A LIN.FT. | 203 SUBGRADE COMPACTION LxW.B.÷9= SQ. YD. | 203 EMBANKMENT Lx.42$^{ft^2}$÷27= CU. YD. | 617 4" COMPACTED AGGREGATE, TYPE A Lx5¹x.33¹÷27= CU. YD. | 609 CURB, TYPE 4-A LIN.FT. | 617 WATER M.GAL. | 202 PAVEMENT REMOVED SQ.YD. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 530+00.00 - 531+00.00 | 7 AVG. | 100.0 | | | 77.8 | 77.8 | 77.8 | 18.5 | 13.9 | 27.8 | | 77.8 | 1.6 | 6.1 | | | |
| 531+00.00 - 531+31.78 | 10 | 31.78 | | | 35.3 | 35.3 | 35.3 | 10.1 | 6.2 | 8.8 | | 35.3 | 0.5 | 1.9 | | | |
| 531+31.78 - 531+63.86 | | 32.08 | | | Ⓐ24.6 | 24.6 | 24.6 | ① 6.8 | ② 4.2 | 8.9 | | 24.6 | 0.5 | 2.0 | | | |
| 532+77.59 - 534+41.59 | 4 | 164.0 | | | 72.9 | 72.9 | 72.9 | 8.5 | 13.7 | 45.6 | | 72.9 | 2.6 | 10.0 | | | |
| 534+41.59 - 534+91.59 | 7 AVG. | 50.0 | | | 38.9 | 38.9 | 38.9 | 9.3 | 6.9 | 13.9 | | 38.9 | 0.8 | 3.1 | | | |
| 534+91.59 - 539+19.30 | 10 | 427.71 | | | 475.2 | 475.2 | 475.2 | 136.3 | 83.2 | 118.8 | | 475.2 | 6.7 | 26.1 | | | |
| 539+19.30 - 539+51.37 | | 32.07 | | | Ⓐ24.4 | 24.4 | 24.4 | ① 6.8 | ② 4.2 | 8.9 | | 24.4 | 0.5 | 2.0 | | | |
| 540+67.74 - 547+07.74 | 4 | 640.0 | | | 284.4 | 284.4 | 284.4 | 33.3 | 53.3 | 177.8 | | 284.4 | 10.0 | 39.1 | | | |
| 547+07.74 - 547+57.74 | 7 AVG. | 50.0 | | | 38.9 | 38.9 | 38.9 | 9.3 | 6.9 | 13.9 | | 38.9 | 0.8 | 3.1 | | | |
| 547+57.74 - 548+60.75 | 10 | 103.01 | | | 114.5 | ③ 110.1 | ③ 110.1 | ④ 29.2 | ⑤ 18.5 | 28.6 | 10.0 | 114.5 | 1.6 | 6.3 | | | |
| 548+60.75 - 552+85.25 | | | (FOR APPROACH SLAB DETAILS & QUANTITIES SEE SHEET 24 & 24A) (BRIDGE LIMITS FOR DETAILS SEE SHEETS 210 - 231) (FOR APPROACH SLAB DETAILS & QUANTITIES SEE SHEETS 24 & 24A) | | | | | | | | | | | | | | |
| 552+85.25 - 554+03.42(BK) | 10 | 118.17 | | | 131.3 | ③⑨ 134.9 | ③⑨ 134.9 | ④⑩ 37.3 | ⑤⑪ 22.8 | 32.8 | 10.0 | ⑨ 139.3 | 1.8 | 7.2 | ⑫21.25 | | |
| 0+00.00(AH) - 3+89.73 | 10 | 389.73 | | | 433.0 | 433.0 | 433.0 | 124.2 | 75.8 | 108.3 | | 433.0 | 6.1 | 23.8 | | | |
| 3+89.73 - 4+23.62 | | 33.89 | | | Ⓐ25.2 | 25.2 | 25.2 | ① 7.2 | ② 4.4 | 9.4 | | 25.2 | 0.5 | 2.1 | | | |
| 5+59.22 - 8+23.22 | 4 | 264.0 | | | 117.3 | 117.3 | 117.3 | 13.7 | 22.0 | 73.3 | | 117.3 | 4.1 | 16.1 | | | ⑥706.8 |
| 8+23.22 - 8+73.22 | 7 AVG. | 50.0 | | | 38.9 | 38.9 | 38.9 | 9.3 | 6.9 | 13.9 | | 38.9 | 0.8 | 3.1 | | | |
| 8+73.22 - 13+31.00 | 10 | 457.78 | | | 508.6 | 508.6 | 508.6 | 145.9 | 89.0 | 127.2 | | 508.6 | 7.1 | 28.0 | | | |
| 7+90.94 - 13+31.00 | | | 4 | 540.06 | 240.0 | 240.0 | 240.0 | 28.1 | 45.0 | 150.0 | | 240.0 | 8.4 | 33.0 | | | ⑦249.5 |
| TOTALS | | | | | | 2680.4 | 2680.4 | 633.8 | 476.9 | 967.9 | 20.0 | 2680.4 | 54.4 | 213.0 | 21.25 | ⑧ 3.2 | 956.3 |

TOTALS CARRIED TO GENERAL SUMMARY

① SHOULDER AREA - [2x(10'-2.83')xLJ÷3÷9x0.4 =

② SHOULDER AREA - [2x(10'+0.5')xLJ÷3x0.5÷27 =

③ DEDUCT FOR PRESSURE RELIEF JOINT, TYPE A:
10' WIDE x 4.0' (FOR JOINT) ÷ 9 = 4.4 CU.YD.

④ DEDUCT FOR PRESSURE RELIEF JOINT, TYPE A:
10' WIDE x 8.0' (FOR JOINT) ÷ 9 x 0.40 = 3.6 GAL.

⑤ DEDUCT FOR PRESSURE RELIEF JOINT, TYPE A:
10' WIDE x 8.0' (FOR JOINT) x 0.5' ÷ 27 = 1.5 CU.YD.

⑥ STA. 5+20.2 TO STA. 7+86.4 = 266.20 LIN.FT.
4' x 266.20' ÷ 9 = 118.31 SQ. YD.
STA. 7+86.4 TO STA. 8+36.4 = 50.00 LIN.FT.
7' AVG. x 50.0' ÷ 9 = 38.90 SQ.YD.
STA. 8+36.4 TO STA. 13+31.0 = 494.60 LIN.FT.
10' x 494.60' ÷ 9 = 549.56 SQ. YD.
TOTAL - 706.77 SQ. YD.

⑦ STA. 7+69.6 TO STA. 13+31.0 = 561.40 LIN.FT.
4' x 561.40' ÷ 9 = 249.51 SQ. YD.
TOTAL - 249.51 SQ. YD.

⑧ ITEM 617 WATER
213.0 x15 GAL./CU.YD. = 3195
÷ 1000 = 3.2 M.GAL.

⑨ ADDITIONAL:
STA. 552+85.25 TO STA. 553+14.00 = 28.75 LIN.FT.
28.75' x 2.5' WIDTH ÷ 9 = 8.0 SQ.YD.

⑩ ADDITIONAL:
STA. 552+85.25 TO STA. 553+14.00 = 28.75 LIN.FT.
28.75' x 2.5' WIDTH ÷ 9 = 8.0 SQ.YD. x 0.40 GAL/S.Y. = 3.2 GAL.

⑪ ADDITIONAL:
STA. 552+85.25 TO STA. 553+14.00 = 28.75 LIN.FT.
28.75' x 2.5' WIDTH x 0.5' ÷ 27 = 1.3 CU.YD.

⑫ ITEM 609 CURB, TYPE 4-A
STA. 552+85.25 TO STA. 553+14.00 = 28.75 LIN.FT.
28.75' - (I-2A-6 INLET - 7.5') = 21.25 LIN.FT.

CALCULATED J.C. 6/7/96
CHECKED D.R.B. 7/24/96

SHOULDER CALCULATIONS

COS-16-9.84
COS-36-20.06



BCALCL02.DGN 7/29/96

# SHOULDER CALCULATIONS

Ⓐ BY COMPUTER

* SEE PROPOSAL NOTE.

| STATION TO STATION<br>℄ SURVEY & CONSTRUCTION APPROACHES | LT. SIDE WIDTH BERM (FEET) | LT. SIDE LIN. FEET | RT. SIDE WIDTH BERM (FEET) | RT. SIDE LIN. FEET | SHOULDER AREA SQ. YD. | 452 11" PLAIN CONCRETE PAVEMENT LxW.B.÷9= SQ. YD. | * SPECIAL 4" ASPHALT TREATED FREE DRAINING BASE LxW.B.÷9= SQ. YD. | 408 BITUMINOUS PRIME COAT @ 0.40 GAL. / S.Y. Lx(W.B.-2.83')÷9x0.40= GAL. | 304 6" AGGREGATE BASE Lx(W.B.+0.5')x0.5'÷27= CU. YD. | 609 CURB, TYPE 2A LIN.FT. | SPECIAL GEOTEXTILE FILTER FABRIC, TYPE D Lx2.50'÷9= SQ. YD. | 203 SUBGRADE COMPACTION LxW.B.÷9= SQ. YD. | 203 EMBANKMENT Lx.42$^{ft^2}$÷27= CU. YD. | 617 4" COMPACTED AGGREGATE, TYPE A Lx5'x.33'÷27= CU. YD. | 617 WATER M.GAL. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| U.S.R. 36 | | | | | | | | | | | | | | | |
| 135+10.19 - 135+60.19 | | | 3.5 AVE. | 50.0 | 19.4 | 19.4 | 19.4 | 7.8 | 3.7 | | 13.9 | 19.4 | 0.8 | 3.1 | |
| 135+60.19 - 139+99.71 | | | 4 | 439.52 | 195.3 | 195.3 | 195.3 | 22.9 | 36.6 | | 122.1 | 195.3 | 6.8 | 26.9 | |
| 139+99.71 - 140+53.08 | | | 4 | Ⓐ 65.8 | 29.2 | 29.2 | 29.2 | 3.4 | 5.5 | | 18.3 | 29.2 | 1.0 | 4.0 | |
| 135+10.19 - 140+09.81 | 4 | 499.62 | | | 222.1 | 222.1 | 222.1 | 26.0 | 41.6 | | 138.8 | 222.1 | 7.8 | 30.5 | |
| 140+09.81 - 140+68.84 | 4 | Ⓐ 83.4 | | | 37.1 | 37.1 | 37.1 | 4.3 | 7.0 | | 23.2 | 37.1 | 1.3 | 5.1 | |
| S.R. 83 | | | | | | | | | | | | | | | |
| 0+87.30 - 1+44.95 | | | 4 | Ⓐ 111.0 | 49.3 | 49.3 | 49.3 | ② 19.7 | 9.3 | | 30.8 | 49.3 | 1.7 | 6.8 | |
| 1+44.95 - 4+99.63 | | | 4 | 354.68 | 157.6 | 157.6 | 157.6 | ② 63.1 | 29.6 | | 98.5 | 157.6 | 5.5 | 21.7 | |
| 0+50.76 - 0+91.42 | 4 | Ⓐ 44.7 | | | 19.9 | 19.9 | 19.9 | 2.3 | 3.7 | | 12.4 | 19.9 | 0.7 | 2.7 | |
| 0+91.42 - 4+99.63 | 4 | 408.21 | | | 181.4 | 181.4 | 181.4 | 21.2 | 34.0 | | 113.4 | 181.4 | 6.3 | 24.9 | |
| WHITEWOMAN ST. | | | | | | | | | | | | | | | |
| 532+44.87 - 533+03.17 | | | 4 | Ⓐ 108.6 | 48.3 | 48.3 | 48.3 | 5.6 | 9.1 | ① 10.0 | 30.2 | 48.3 | 1.7 | 6.6 | |
| 532+12.14 - 532+80.33 | 4 | Ⓐ 40.7 | | | 18.1 | 18.1 | 18.1 | 2.1 | 3.4 | ① 10.0 | 11.3 | 18.1 | 0.6 | 2.5 | |
| C.R. 1A | | | | | | | | | | | | | | | |
| 0+44.86 - 1+03.51 | | | 4 | Ⓐ 107.0 | 47.6 | 47.6 | 47.6 | 5.6 | 8.9 | | 29.7 | 47.6 | 1.7 | 6.5 | |
| 1+03.51 - 1+19.64 | | | 4 | 16.13 | 7.2 | 7.2 | 7.2 | 0.8 | 1.3 | | 4.5 | 7.2 | 0.3 | 1.0 | |
| 0+18.29 - 0+60.18 | 4 | Ⓐ 46.4 | | | 20.6 | 20.6 | 20.6 | 2.4 | 3.9 | | 12.9 | 20.6 | 0.7 | 2.8 | |
| 0+60.18 - 1+19.64 | 4 | 59.46 | | | 26.4 | 26.4 | 26.4 | 3.1 | 5.0 | | 16.5 | 26.4 | 0.9 | 3.6 | |
| TOTALS | | | | | | 1079.5 | 1079.5 | 190.3 | 202.6 | 20.0 | 676.5 | 1079.5 | 37.8 | 148.7 | ③ 2.2 |

TOTALS CARRIED TO GENERAL SUMMARY

① PROPOSED CURB, TYPE 2A @ WHITEWOMAN ST.
STA. 532+93.17 TO STA. 533+03.17 (RT. SIDE)
= 10.0 LIN.FT.
STA. 532+70.33 TO STA. 532+80.33 (LT. SIDE)
= 10.0 LIN.FT.

② L x W.B. ÷ 9 x 0.40 =

③ ITEM 617 WATER
148.7 x 15 GAL./CU.YD. = 2230.5
÷ 1000 = 2.2 M.GAL.

CALCULATED J.C. 6/24/96
CHECKED T.K.B. 7/29/96

SHOULDER CALCULATIONS

COS-16-9.84
COS-36-20.06



BCALCL03.DGN 7/29/96

# SHOULDER CALCULATIONS

| STATION TO STATION (WESTBOUND & EASTBOUND LANES) ℄ SURVEY & CONSTRUCTION S.R.16 | LT. SIDE WIDTH BERM (FEET) | LT. SIDE LIN. FEET | RT. SIDE WIDTH BERM (FEET) | RT. SIDE LIN. FEET | SHOULDER AREA SQ. YD. | 448 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG 64-22 CU. YD. | 407 TACK COAT FOR INTERMEDIATE COURSE @ .075 GAL./S.Y. GAL. |
|---|---|---|---|---|---|---|---|
| EASTBOUND LANES | | | | | | | |
| (DECELERATION LANE RAMP. C) | | | | | | | |
| 498+91.18 - 499+91.18 | | | 6 AVG. | 100.0 | 66.7 | 2.3 | 5.0 |
| 499+91.18 - 504+13.14 | | | 12 | 421.96 | 562.6 | 19.5 | 42.2 |
| 504+13.14 - 504+90.00 | | | 13 AVG. | 76.86 | 111.0 | 3.9 | 8.3 |
| 504+90.00 - 506+15.00 | | | 20 AVG. | 125.0 | 277.8 | 9.6 | 20.8 |
| 506+15.00 - 506+91.18 | | | 32.5 AVG. | 76.18 | 275.1 | 9.6 | 20.6 |
| (DECELERATION LANE RAMP. C) RAMP C SHOULDER | | | | | | | |
| 498+80.00 - 506+91.18 | | | 8 | 811.8 | 721.6 | 25.1 | 54.1 |
| 506+91.18 - 509+03.68 | | | 6.5 AVG. | 212.5 | 153.5 | 5.3 | 11.5 |
| 509+03.68 - 517+45.90 | | | 3 | 842.22 | 280.7 | 9.7 | 21.1 |
| (ACCELERATION LANE RAMP. A) | | | | | | | |
| 517+45.90 - 518+68.52 | | | 25 | 122.62 | 340.6 | 11.8 | 25.5 |
| 518+68.52 - 520+00.00 | | | 21.9 AVG. | 131.48 | 319.9 | 11.1 | 24.0 |
| 520+00.00 - 522+00.00 | | | 17.7 AVG. | 200.0 | 393.3 | 13.7 | 29.5 |
| 522+00.00 - 523+10.00 | | | 15.4 AVG. | 110.0 | 188.2 | 6.5 | 14.1 |
| 523+10.00 - 524+00.00 | | | 12.9 AVG. | 90.0 | 129.0 | 4.5 | 9.7 |
| 524+00.00 - 526+00.00 | | | 9.2 AVG. | 200.0 | 204.4 | 7.1 | 15.3 |
| 526+00.00 - 528+00.00 | | | 4.2 AVG. | 200.0 | 93.3 | 3.2 | 7.0 |
| 528+00.00 - 528+68.52 | | | 0.9 AVG. | 68.52 | 6.9 | 0.2 | 0.5 |
| (ACCELERATION LANE RAMP. A) RAMP A SHOULDER | | | | | | | |
| 517+45.90 - 517+68.52 | | | 3 | 22.62 | 7.5 | 0.3 | 0.6 |
| 517+68.52 - 518+68.52 | | | 5.5 AVG. | 100.0 | 61.1 | 2.1 | 4.6 |
| 518+68.52 - 528+68.52 | | | 8 | 1000.0 | 888.9 | 30.9 | 66.7 |
| 528+68.52 - 530+00.00 | | | 5.8 AVG. | 131.48 | 84.7 | 2.9 | 6.4 |
| WESTBOUND LANES | | | | | | | |
| 519+00.00 - 530+00.00 | 4 | 1100.0 | | | 488.9 | 17.0 | 36.7 |
| TOTALS | | | | | | 196.3 | 424.2 |

TOTALS CARRIED TO GENERAL SUMMARY

CALCULATED J.C. 8/21/96
CHECKED B.F.B. 7/24/96

SHOULDER CALCULATIONS

COS-16-9.84
COS-36-20.06



BCALCL04.DGN 7/29/96

# SHOULDER CALCULATIONS

Ⓐ BY COMPUTER.

| STATION TO STATION (WESTBOUND & EASTBOUND LANES) ℄ SURVEY & CONSTRUCTION U.S.R. 35 | LT. SIDE WIDTH BERM (FEET) | LT. SIDE LIN. FEET | RT. SIDE WIDTH BERM (FEET) | RT. SIDE LIN. FEET | SHOULDER AREA SQ. YD. | 448 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG 64-22 CU. YD. | 407 TACK COAT FOR INTERMEDIATE COURSE @ .075 GAL./S.Y. GAL. | 448 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG 64-22 (FOR DRIVEWAYS) CU. YD. | 301 5" BITUMINOUS AGGREGATE BASE, PG 64-22 CU. YD. |
|---|---|---|---|---|---|---|---|---|---|
| EASTBOUND LANES | | | | | | | | | |
| 13+31.00 - 15+11.45 | | | 10 | 180.45 | 200.5 | 7.0 | 15.0 | | |
| 15+11.45 - 15+61.45 | | | 7 AVG. | 50.0 | 38.9 | 1.4 | 2.9 | | |
| 15+61.45 - 17+96.45 | | | 4 | 235.0 | 104.4 | 3.6 | 7.8 | | |
| 18+80.88 - 19+07.31 | | | VAR. | 26.43 | Ⓐ 20.1 | 0.7 | 1.5 | | |
| 19+07.31 - 35+00.00 | | | 10 | 1592.69 | 1769.7 | 61.4 | 132.7 | | |
| 13+31.00 - 17+75.42 | 4 | 444.42 | | | 197.5 | 6.9 | 14.8 | | |
| 19+13.17 - 35+00.00 | 4 | 1586.83 | | | 705.3 | 24.5 | 52.9 | | |
| WESTBOUND LANES | | | | | | | | | |
| 13+31.00 - 17+50.42 | | | 4 | 419.42 | 186.4 | 6.5 | 14.0 | | |
| 17+50.42 - 17+75.42 | | | 6 AVG. | 25.0 | 16.7 | 0.6 | 1.3 | | |
| 19+13.17 - 43+50.00 | | | 4 | 2436.83 | 1083.0 | 37.6 | 81.2 | | |
| 13+31.00 - 43+50.00 | 10 | 3019.0 | | | 3354.4 | 116.5 | 251.6 | | |
| COMMERCIAL DRIVE ℄ STA. 10+00 LT. | | | | | ① 61.1 | | | 2.1 | ② 8.8 |
| TOTALS | | | | | | 266.7 | 575.7 | 2.1 | 8.8 |

TOTALS CARRIED TO GENERAL SUMMARY

① DRIVE AREA:
(10' x 10') x 2 + (35' x 10') ÷ 9 = 61.1 SQ.YD.

② (10' x 10') x 2 + (35' x 10') +
(30' x 0.5') x 0.42' ÷ 27 = 8.8 CU.YD.

CALCULATED J.C. 6/24/96
CHECKED B.F.B. 7/24/96

SHOULDER CALCULATIONS

COS-16-9.84
COS-36-20.06



BCALCL05.DGN 7/12/96

NOTE:
ITEM 626 BARRIER REFLECTORS SHALL BE SPACED @ 50' C/C

| EXISTING STATION TO STATION ℄ SURVEY & CONSTRUCTION | | SIDE | MARK | SEE SHEET | 202 | 606 | | | | | 626 | | PROPOSED STATION TO STATION ℄ SURVEY & CONSTRUCTION | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | GUARDRAIL REMOVED | GUARDRAIL TYPE 5 | BRIDGE TERMINAL ASSEMBLY, TYPE 1 | BRIDGE TERMINAL ASSEMBLY, TYPE 2 | ANCHOR ASSEMBLY TYPE B | ANCHOR ASSEMBLY TYPE T | BARRIER REFLECTOR, TYPE A | BARRIER REFLECTOR, TYPE B | | | |
| | | | | | LIN.FT. | LIN.FT. | EACH | EACH | EACH | EACH | EACH | EACH | EACH | | |
| FROM | TO | | | | | | | | | | | | FROM | TO | |
| 529+78.85 | 549+12.75 | RT. | 1-GR | 83-87 | 1937.5 | 1872.35 | 1 | | | | | | 529+75.25± | 548+89.35 U.S.R. 36 | |
| 533+28± WHITEWOMAN | 135+00 U.S.R. 36 | LT./RT. | 2-GR | 84,85 & 108 | 1125 | 87.5 | | | | 1 | 3 | | 135+00 U.S.R. 36 | 136+00 U.S.R. 36 | |
| 135+00 U.S.R. 36 | 549+12.75 | LT. | 3-GR | 86,87 & 110 | 1450 | 162.5 | | | 1 | | 5 | | 135+00 U.S.R. 36 | 136+74.6 U.S.R. 36 | |
| | | LT. | 4-GR | 86 & 87 | | 687.5 | | 1 | | 1 | 16 | | 1+97.54 | 548+89.35 U.S.R. 36 | |
| 552+60 | 0+55.7 C.R. 1 A | LT./RT. | 5-GR | 88,89 & 119 | 612.5 | | | | | | | | | | |
| 552+60 | 1+72 S.R. 83 | LT. | 6-GR | 88,89 & 115 | 700 | 306.25 | 1 | | 1 | | 9 | | 552+56.65 U.S.R. 36 | 1+71.58 U.S.R. 36 | 554+03.42 BACK = 0+00 AHEAD |
| 0+12.5 C.R. 1 A | 1+75 C.R. 1 A | LT. | 7-GR | 119 | 162.5 | | | | | | | | | | |
| 530+33 | WHITEWOMAN ST. | LT. | 8-GR | 84 | 300 | | | | | | | | | | |
| | | LT. | 9-GR | 84 & 85 | | 412.5 | | | 1 | 1 | 11 | | 533+48.07 U.S.R. 16 | 535+66.59 U.S.R. 16 | |
| TOTALS(CARRIED TO GENERAL SUMMARY) | | | | | 6287.5 | 3528.6 | 2 | 1 | 3 | 3 | 44 | *10 | | | |

* NOTE:
PROPOSED ITEM 626 BARRIER REFLECTOR, TYPE B ARE TO BE PLACED ON PROPOSED BRIDGE PARAPET IN THE WESTBOUND LANES.

CALCULATED J.L. 3/11/96
CHECKED D.M. 3/25/96

# GUARDRAIL QUANTITIES

COS-16-9.84
COS-36-20.06



C0160953.DGN 8/2/96

| LOCATION | SPACING | ITEM 614 | | | | | |
|---|---|---|---|---|---|---|---|
| | | BARRIER REFLECTOR TYPE A | | BARRIER REFLECTOR TYPE B | | OBJECT MARKER | |
| | | W | Y | W | Y | W | Y |
| PHASE 1 | | | | | | | |
| ℄ SURVEY AND CONSTRUCTION S.R. 16 AND U.S.R. 36 | | | | | | | |
| EXIST. GUARDRAIL (E.B. LANES) | | | | | | | |
| STA. 529+75.25 - STA. 548+85.75 (1-GR) | 50′ | 39 | | | | | |
| STA. 548+85.75 - STA. 552+60.25 (EXIST. BRIDGE LIMITS) | 25′ | | | 16 | | | |
| STA. 552+60.25 - STA. 0+55.7 C.R. 1A (5-GR) | 50′ | 13 | | | | | |
| STA. 0+12.5 C.R. 1A - STA. 1+75 C.R. 1A | 50′ | 4 | | | | | |
| EXIST. GUARDRAIL (W.B. LANES) | | | | | | | |
| STA. 533+28± WHITEWOMAN ST. - STA. 135+00 U.S.R. 36 (2-GR) | 50′ | 24 | | | | | |
| STA. 135+00 U.S.R. 36 - STA. 548+85.75 (3-GR) | 50′ | 30 | | | | | |
| STA. 548+85.75 - STA. 552+60.25 (EXIST. BRIDGE LIMITS) | 25′ | | | 16 | | | |
| STA. 552+60.25 - STA. 1+72 S.R. 83 (6-GR) | 50′ | 15 | | | | | |
| STA. 530+33 - WHITEWOMAN ST. (8-GR) | 50′ | 7 | | | | | |
| TOTALS (PHASE 1) | | 132 | | 32 | | | |

| LOCATION | SPACING | ITEM 614 | | | | | |
|---|---|---|---|---|---|---|---|
| | | BARRIER REFLECTOR TYPE A | | BARRIER REFLECTOR TYPE B | | OBJECT MARKER | |
| | | W | Y | W | Y | W | Y |
| PHASE 2 | | | | | | | |
| ℄ SURVEY AND CONSTRUCTION S.R. 16 AND U.S.R. 36 | | | | | | | |
| ITEM 622 PORTABLE CONCRETE BARRIER, 32" | | | | | | | |
| STA. 527+00 - STA. 548+80±(BRIDGE) | 25′ | | | 88 | | 88 | |
| STA. 552+63.42±(BRIDGE) - STA. 554+03.42(BK.) | 25′ | | | 7 | | 7 | |
| STA. 0+00(AH.) - STA. 14+40 | 25′ | | | 59 | | 59 | |
| C.R. 1A | | | | | | | |
| STEP 1 - 180.0 LIN. FT. | 25′ | | | 8 | | 8 | |
| STEP 2 - 160.0 LIN. FT. | 25′ | | | 7 | | 7 | |
| C.R. 1A AND U.S.R. 36 EASTBOUND LANES | | | | | | | |
| STEP 3 - 450.0 LIN. FT. | 25′ | | | 19 | | 19 | |
| TOTALS (PHASE 2) | | | | 188 | | 188 | |

NOTE:
PROPOSED ITEM 614 TEMPORARY BARRIER REFLECTORS SHALL BE NON-PERFORMED IN LOCATIONS WHERE THE PROJECT ENGINEER CONSIDERS EXISTING BARRIER REFLECTORS ARE ACCEPTABLE.

QUANTITIES CARRIED TO SHEET 80.

CALCULATED A.L.L. 3-11-96
CHECKED D.M. 3-25-96

# ITEM 614 BARRIER REFLECTORS

COS-16-9.84
COS-36-20.06



C1610A30.DGN 7/25/96

| LOCATION | SPACING | ITEM 614 BARRIER REFLECTOR TYPE A W | ITEM 614 BARRIER REFLECTOR TYPE A Y | ITEM 614 BARRIER REFLECTOR TYPE B W | ITEM 614 BARRIER REFLECTOR TYPE B Y | ITEM 614 OBJECT MARKER W | ITEM 614 OBJECT MARKER Y |
|---|---|---|---|---|---|---|---|
| PHASE 3 | | | | | | | |
| | | | | | | | |
| ℄ SURVEY AND CONSTRUCTION S.R. 16 AND U.S.R. 36 | | | | | | | |
| | | | | | | | |
| ITEM 622 PORTABLE CONCRETE BARRIER, 32" | | | | | | | |
| | | | | | | | |
| STA. 527+00 - STA. 554+03.42(BK.) | 25' | | | 109 | | 109 | |
| | | | | | | | |
| STA. 0+00(AH.) - STA. 8+46.58 | 25' | | | 35 | | 35 | |
| | | | | | | | |
| | | | | | | | |
| PROP. GUARDRAIL (E.B. LANES) | | | | | | | |
| | | | | | | | |
| STA. 529+75.25± - STA. 548+85.75 (1-GR) | 50' | 38 | | | | | |
| | | | | | | | |
| STA. 135+00 U.S.R. 36 - STA. 136+00 U.S.R. 36 (2-GR) | 50' | 3 | | | | | |
| | | | | | | | |
| STA. 135+00 U.S.R. 36 - STA. 136+74.6 U.S.R. 36 (3-GR) | 50' | 5 | | | | | |
| | | | | | | | |
| | | | | | | | |
| | |

# ITEM 604 REFERENCE MONUMENT

| ℄ SURVEY & CONSTRUCTION S.R. 16 | SIDE | DISTANCE FROM ℄ | 604 REFERENCE MONUMENT EACH |
|---|---|---|---|
| P.O.C. 530+00 | LT. | 50′ | 1 |
| P.O.C. 530+00 | RT. | 50′ | 1 |
| P.O.C. 535+00 | LT. | 50′ | 1 |
| P.O.C. 535+00 | RT. | 50′ | 1 |
| P.O.C. 539+00 | LT. | 50′ | 1 |
| P.O.C. 539+00 | RT. | 50′ | 1 |
| | | | |
| SUBTOTAL S.R. 16 | | | 6 |

| ℄ SURVEY & CONSTRUCTION U.S.R. 36 | SIDE | DISTANCE FROM ℄ | 604 REFERENCE MONUMENT EACH |
|---|---|---|---|
| P.O.T. 136+00 | LT. | 50′ | 1 |
| P.O.T. 136+00 | RT. | 50′ | 1 |
| C.S. 544+78.93 | LT. | 50′ | 1 |
| C.S. 544+78.93 | RT. | 50′ | 1 |
| S.T. 548+28.93 | LT. | 50′ | 1 |
| S.T. 548+28.93 | RT. | 50′ | 1 |
| P.O.C. 553+00 | LT. | 50′ | 1 |
| P.O.C. 553+00 | RT. | 50′ | 1 |
| P.C. 2+96.81 | LT. | 50′ | 1 |
| P.C. 2+96.81 | RT. | 50′ | 1 |
| P.O.C. 10+00 | ℄ | 0′ | 1 |
| | | | |
| SUBTOTAL U.S.R. 36 | | | 11 |

| ℄ SURVEY & CONSTRUCTION S.R. 83 | SIDE | DISTANCE FROM ℄ | 604 REFERENCE MONUMENT EACH |
|---|---|---|---|
| P.C. 3+23.94 | LT. | 40′ | 1 |
| P.C. 3+23.94 | RT. | 30′ | 1 |
| | | | |
| SUBTOTAL S.R. 83 | | | 2 |

| | |
|---|---|
| SUBTOTAL FROM S.R. 16 | 6 |
| SUBTOTAL FROM U.S.R. 36 | 11 |
| SUBTOTAL FROM S.R. 83 | 2 |
| | |
| TOTAL | 19 |

TOTAL CARRIED TO GENERAL SUMMARY

THE CONTRACTOR SHALL LOCATE THE REFERENCE MONUMENTS AS SHOWN ON THIS SHEET FROM REFERENCE POINTS FURNISHED BY THE STATE.

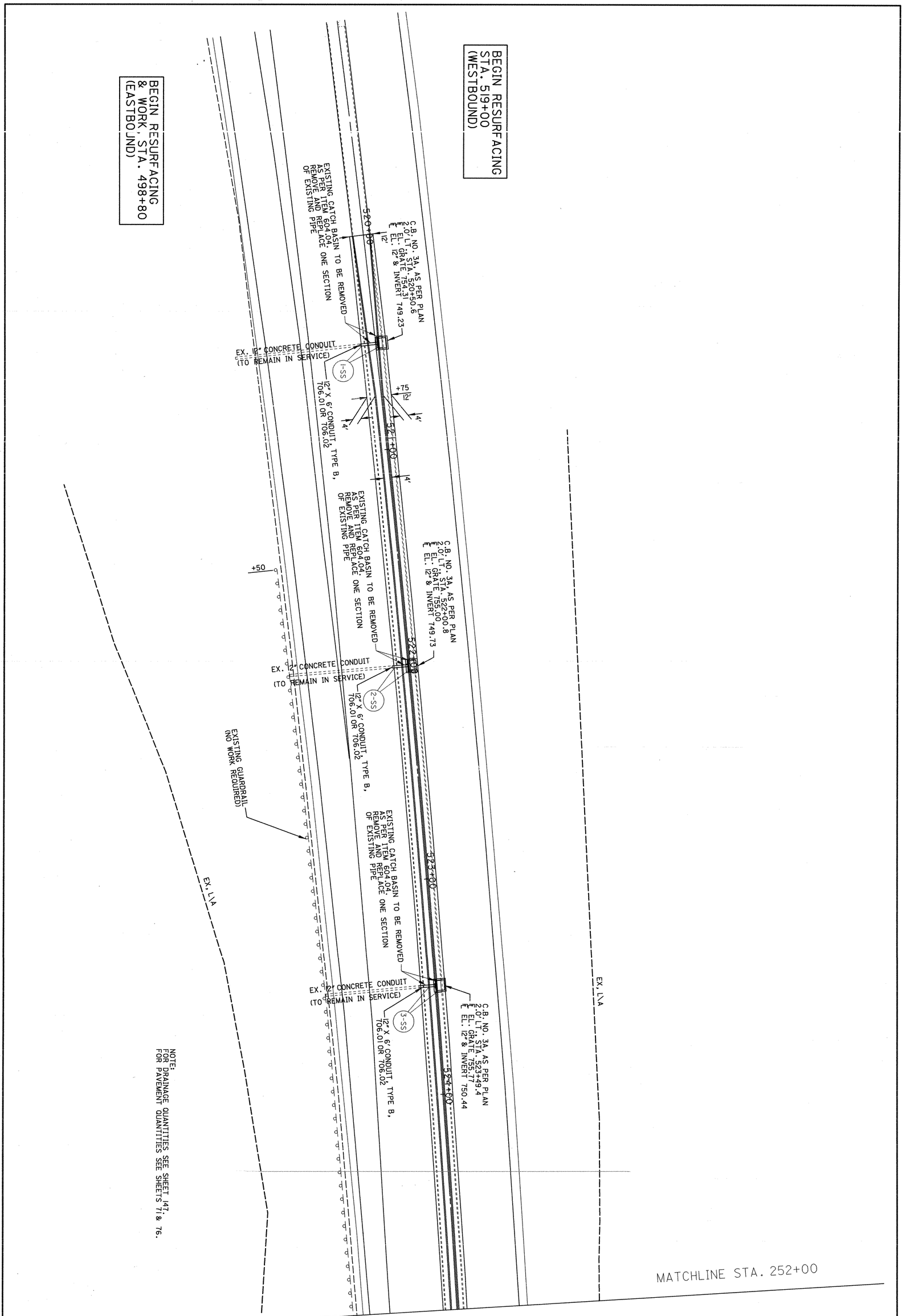
CALCULATED D.M. 10/11/94
CHECKED A.L.L. 10/17/94

ITEM 604 REFERENCE MONUMENT

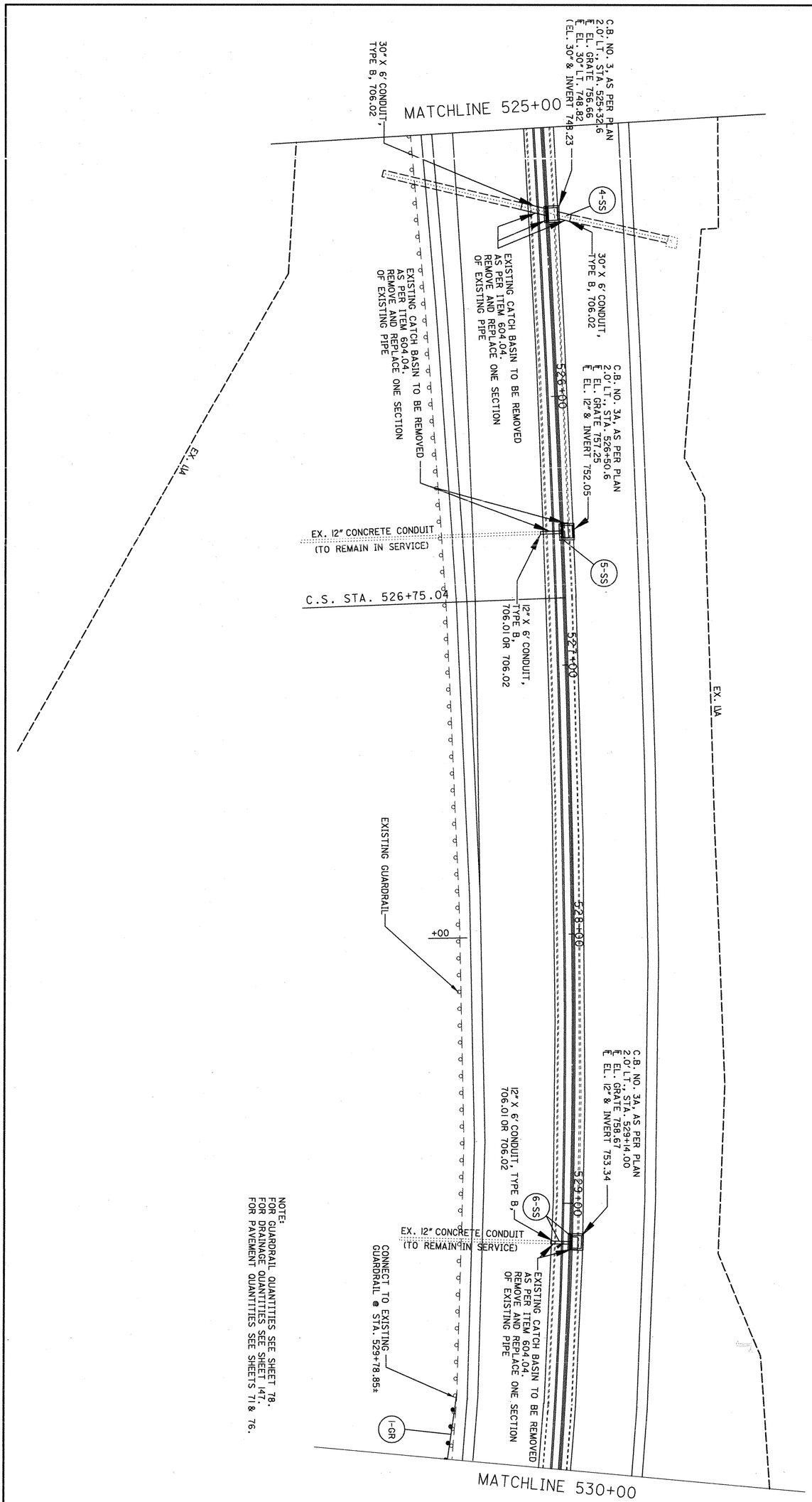
COS-16-9.84
COS-36-20.06



C0I6I0RM.DGN 07/31/96




| | | | |
|---|---|---|---|
| 82 / 231 | COS-16-9.84<br>COS-36-20.06 | PLAN VIEW STA. 519.00 TO STA. 525+00 | CALCULATED A.L.L. 6/24/96<br>CHECKED D.M. 7/24/96 |




NOTE:
FOR GUARDRAIL QUANTITIES SEE SHEET 78.
FOR DRAINAGE QUANTITIES SEE SHEET 147.
FOR PAVEMENT QUANTITIES SEE SHEETS 71 & 76.

| | | | |
|---|---|---|---|
| 83 / 231 | COS-16-9.84<br>COS-36-20.06 | PLAN VIEW STA. 525+00 TO STA. 530+00 | CALCULATED A.L.L. 6/24/96<br>CHECKED D.M. 7/24/96 |

BEGIN PROJECT
S.R. 16
STA. 530+00
S.L.M. 9.84

STA. 532+89.16
103.5' LT.
WHITEWOMAN ST.

EXISTING WHITEWOMAN ST.

EXISTING GUARDRAIL TO BE REMOVED

CONSTRUCTION LIMITS

BEGIN APPROACH & WORK
STA.532+09.30
℄ SURVEY & CONSTRUCTION
WHITEWOMAN ST.

PROPOSED CURB TYPE 2A TAPERS FROM 0" TO 6" IN 10'.

EXISTING 18" SANITARY SEWER (TO REMAIN IN SERVICE) (CITY OF COSHOCTON)

EXISTING POWER POLES (AEP)

EX. LT.A

EXISTING SANITARY SEWER MANHOLE (TO REMAIN IN SERVICE)

EXISTING 18" SANITARY SEWER (TO REMAIN IN SERVICE) (CITY OF COSHOCTON)

EXISTING GUARDRAIL TO BE REMOVED

+03.17
+80.33
+70.33
+49.80
+00
+31.78
533+00
+93.17

END WORK & GUARDRAIL
STA. 533+48.07
℄ SURVEY & CONSTRUCTION
WHITEWOMAN ST.

END APPROACH
STA.533+03.17
℄ SURVEY & CONSTRUCTION
WHITEWOMAN ST.

NOTE:
FOR ADDITIONAL DETAILS
OF WHITEWOMAN ST.
SEE SHEETS 108, 109, 122 & 132.

EXISTING 18" TILE (TO REMAIN IN SERVICE)

CONSTRUCTION LIMITS

SEE SHEET 78 FOR GUARDRAIL QUANTITIES
SEE SHEETS 144 & 147 FOR I-C
SEE SHEETS 148-161 FOR UNDERDRAIN DETAILS
SEE SHEETS 197-209 FOR PAVEMENT MARKING DETAILS
SEE SHEETS 170-196 DOR SIGN DETAILS

I-C

60" X 21' CONDUIT, TYPE A, 706.02

EXIST. HEADWALL TO BE REMOVED AS PER ITEM 603.01

EXISTING SANITARY SEWER MANHOLE (TO REMAIN IN SERVICE)

EXISTING POWER POLES (ODOT)

+77.59

EXISTING 60" CONCRETE CONDUIT

8-GR

2-GR

9-GR

EXISTING GUARDRAIL TO BE REMOVED

+41.59
+91.59

EXISTING CURB TO BE REMOVED (UNDER ITEM 202 PAVEMENT REMOVED)

WESTBOUND LANES

PROPOSED CURB, TYPE 4A & 4" CONCRETE MEDIAN

73°37'26" TANGENT TO CURVE

CURB HEIGHT TAPERS 4" TO 0" IN 10'

END PROPOSED CURB, TYPE 4A & 4" CONCRETE MEDIAN STA.532+81.03

9-SS

BEGIN PROPOSED CURB, TYPE 4A
END PROPOSED CURB, TYPE 4-B
STA.530+00

MATCHLINE STA. 530+00

531+00

532+00

533+00

534+00

535+00

MATCHLINE STA. 535+00

EXISTING CURB TO BE REMOVED

EXISTING CURB TO BE REMOVED (UNDER ITEM 202 PAVEMENT REMOVED)

EAST BOUND LANES

EXIST. CATCH BASIN TO BE REMOVED

6 L.F. EXISTING 12" CONDUIT TO BE REMOVED

7-SS

EXIST. 24" CONDUIT TO BE ABANDONED

℄ SURVEY & CONSTRUCTION S.R. 16

I-SD

12 L.F. EXISTING 12" CONDUIT TO BE REMOVED

I-GR

STA. 531+78 ℄ SURVEY & CONSTRUCTION S.R. 16 =
STA. 531+78 ℄ SURVEY & CONSTRUCTION WHITEWOMAN ST.

8-SS

℄ SURVEY & CONSTRUCTION
PI STA = 538+76.54
△ = 50°22'00" RT.

| CIRCULAR | SPIRAL OUT |
|---|---|
| Dc = 3°00'00" | Ds = 5°15'00" |
| T = 793.37' | L = 350.00' |
| R = 1909.86' | LT = 233.44' |
| L = 1503.89' | ST = 116.76' |
| E = 158.23' | T = 1070.77' |

EXISTING GUARDRAIL TO BE REMOVED

CONSTRUCTION LIMITS

60" X 15' CONDUIT, TYPE A, 706.02

EX. HEADWALL TO BE REMOVED AS PER ITEM 603.01

4.0'
25.73'
30.26'
3.61'

PROFILE
LT. E.P.
EASTBOUND LANES

PROFILE
RT. E.P.
WESTBOUND LANES

| | | |

SEE SHEET 78 FOR GUARDRAIL QUANTITIES
SEE SHEETS 148-161 FOR UNDERDRAIN DETAILS
SEE SHEETS 162-169 FOR SIGNAL DETAILS
SEE SHEETS 197-209 FOR PAVEMENT MARKINGS
SEE SHEETS 190-196 FOR SIGN DETAILS

NOTE:
FOR ADDITIONAL DETAILS
OF U.S.R. 36
SEE SHEETS 110 - 114, 123, 130, 133 & 140

BEGIN PROJECT & APPROACH
U.S.R. 36
STA. 135+10.19
℄ SURVEY & CONSTRUCTION U.S.R. 36

MATCHLINE STA. 139+60 (SEE SHEET 110)

CONSTRUCTION LIMITS

TYPE B
ANCHOR ASSEMBLY

4' X 37.5' FLARE
AS PER GR-5.1

+29.09

+66.59

16'

2-GR

EXISTING GUARDRAIL
TO BE REMOVED

CITY OF COSHOCTON
CORPORATION LIMIT

MATCHLINE STA. 535+00

WESTBOUND LANES

EASTBOUND LANES

EXISTING CURB
TO BE REMOVED

℄ SURVEY & CONSTRUCTION S.R. 16

EXISTING EDGE
OF PAVEMENT

3-SD

END APPROACH
STA. 140+70.82
℄ SURVEY & CONSTRUCTION U.S.R. 36

PROPOSED
STRAIN POLE

PROPOSED
PULL BOX

EXISTING
GUARDRAIL
TO BE
REMOVED

℄ SURVEY & CONSTRUCTION, U.S.R. 36

4' 12' 12' 12' 4'

+99.81

140+00

+19.30

+30

+60

END PROJECT
S.R. 16
STA. 540+13.29
S.L.M. 10.05

98°41'59"
TANGENT
TO CURVE

141+00

535+00 536+00 537+00 538+00 539+00 540+00

MATCHLINE STA. 540+50

℄ SURVEY & CONSTRUCTION
PI STA = 538+76.54
△= 50°22'00" RT.

| CIRCULAR | SPIRAL OUT |
|---|---|
| Dc = 3°00'00" | Os = 5°15'00" |
| T = 793.37' | L = 350.00' |
| R = 1909.86' | LT = 233.44' |
| L = 1503.89' | ST = 116.76' |
| E = 158.23' | T = 1070.77' |

PROPOSED
PULL BOX

EXISTING GUARDRAIL
TO BE REMOVED

10-SS

2-SD

PROPOSED
PULL BOX

PROPOSED
PULL BOX

1-GR

CITY OF COSHOCTON
CORPORATION LIMIT

CONSTRUCTION LIMITS

END S.R. 16 BEGIN U.S.R. 36 STA. 540+13.29
STA. 540+13.29 ℄ SURVEY & CONSTRUCTION S.R. 16 =
STA. 141+01.21 ℄ SURVEY & CONSTRUCTION U.S.R. 36 =
STA. 540+13.29 ℄ SURVEY & CONSTRUCTION U.S.R. 36

℄ SURVEY & CONSTRUCTION U.S.R. 36

PROPOSED
PULL BOX

775 761.17 761.29 761.41 761.52 761.63 761.74 761.84 761.93 762.03 762.12 762.20 762.28 762.36 762.43 762.50 762.56 762.62 762.68 762.73 762.77 762.82 762.86 762.89 775
+00 +25 +50 +75 +00 +25 +50 +75 +00 +25 +50 +75 +00 +25 +50 +75 +00 +25 +50 +75 +00 +25 +50
770 770
765 765
760 760
755 755
750 750
745 745
740 740
735 761.57 761.56 761.69 761.81 761.84 761.86 761.97 762.07 762.17 762.28 762.35 762.42 762.47 762.52 762.63 762.74 762.75 762.75 762.79 762.83 762.87 762.92 735

+0.47%

ITEM 603 15" X 340' SLOTTED DRAIN

15" X 350' CONDUIT TYPE B @ 0.75%

PVC STA = 535+42.26
PVC EL = 761.37

END SLOTTED DRAIN
℄ STA. 538+30

BEGIN SLOTTED DRAIN
℄ STA. 538+60

B.M. □ W. CORNER CONCRETE BASE
FOR TRAFFIC CONTROLER 88' LT.
STA. 540+35 ELEVATION 764.33

ITEM 603 15" X 190' SLOTTED DRAIN

△15" X 10' CONDUIT TYPE F

1300' VERTICAL CURVE
SSD=1414'
(EXCEEDS DESIGN SPEED REQUIREMENTS)

C.B. NO. 6, AS PER PLAN
℄, STA. 538+50
E EL. GRATE 762.50
E EL. 15" 759.92
E EL. 15" & INVERT 757.93
E EL. 4" LT. 759.41

△FOR OUTLET DETAILS SEE SHEET 142

535+00 536+00 537+00 538+00 539+00 540+00

RCP02016.DGN 7/31/96

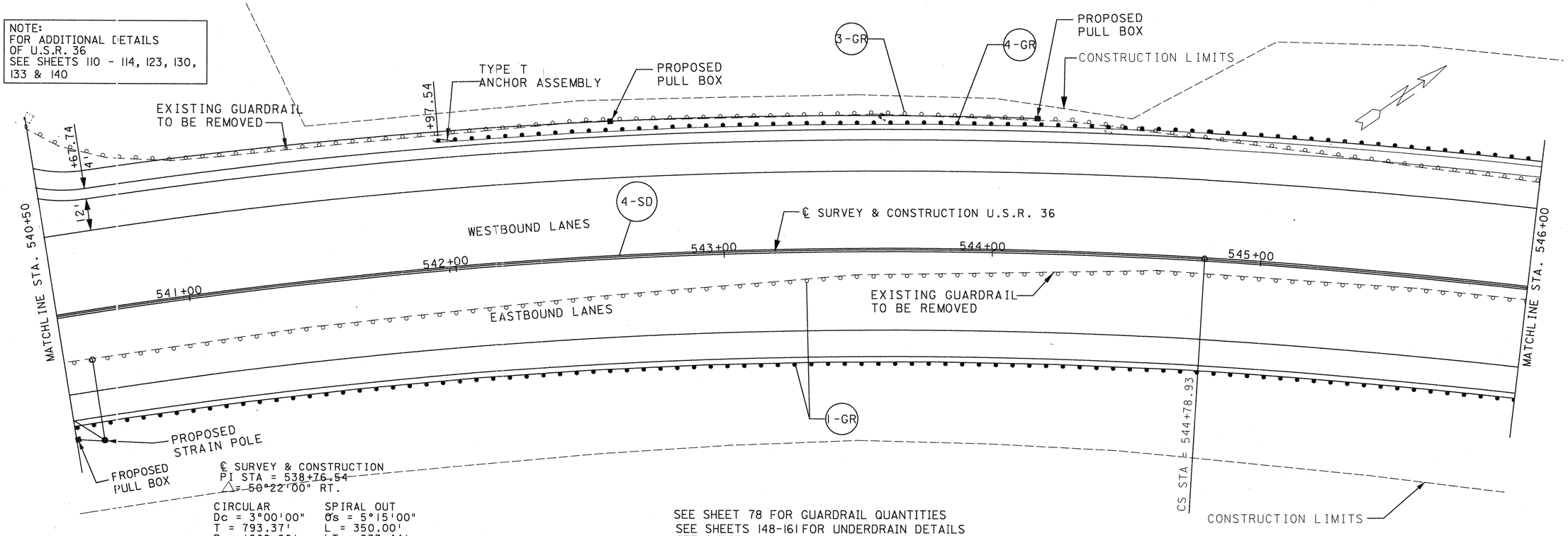
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED D.M. 6/24/96
CHECKED A.L.L. 7/24/96

# PLAN AND PROFILE
# STA. 535+00 TO STA. 540+50

COS-16-9.84
COS-36-20.06

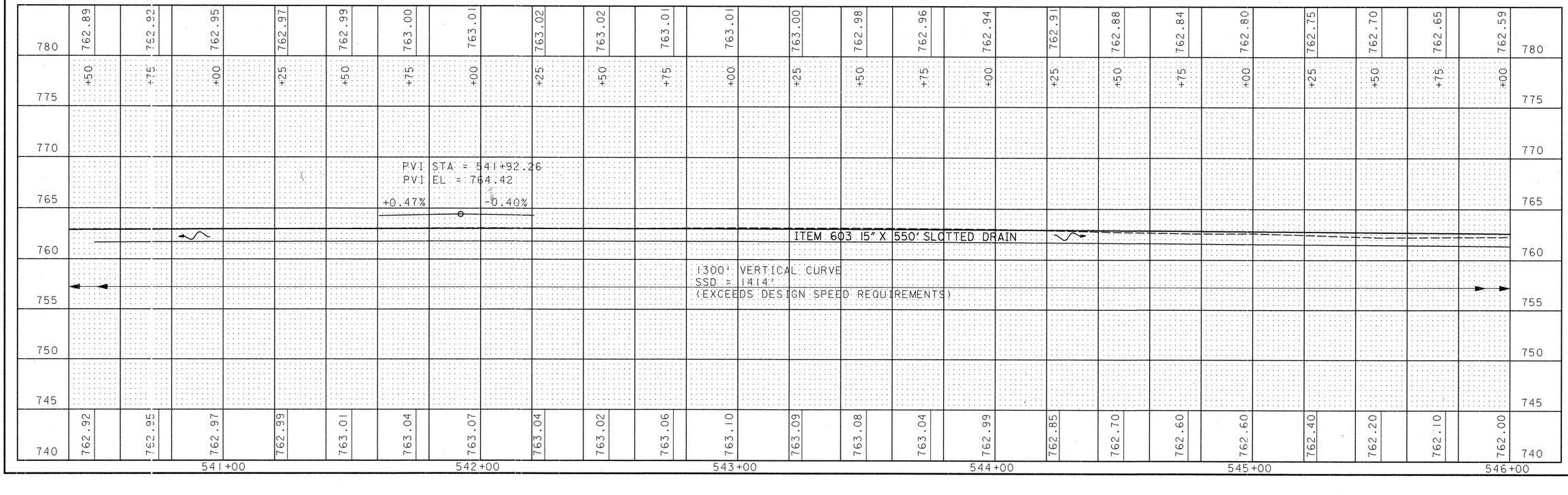
NOTE:
FOR ADDITIONAL DETAILS
OF U.S.R. 36
SEE SHEETS 110 - 114, 123, 130,
133 & 140




℄ SURVEY & CONSTRUCTION
PI STA = 538+76.54
Δ = 50°22'00" RT.

| CIRCULAR | SPIRAL OUT |
|---|---|
| Dc = 3°00'00" | Θs = 5°15'00" |
| T = 793.37' | L = 350.00' |
| R = 1909.86' | LT = 233.44' |
| L = 1503.89' | ST = 116.76' |
| E = 158.23' | T = 1070.77' |

SEE SHEET 78 FOR GUARDRAIL QUANTITIES
SEE SHEETS 148-161 FOR UNDERDRAIN DETAILS
SEE SHEETS 197-209 FOR PAVEMENT MARKINGS
SEE SHEETS 162-169 FOR SIGNAL DETAILS.
SEE SHEETS 170-196 FOR SIGN DETAILS.




RCP03016.DGN 7/10/96

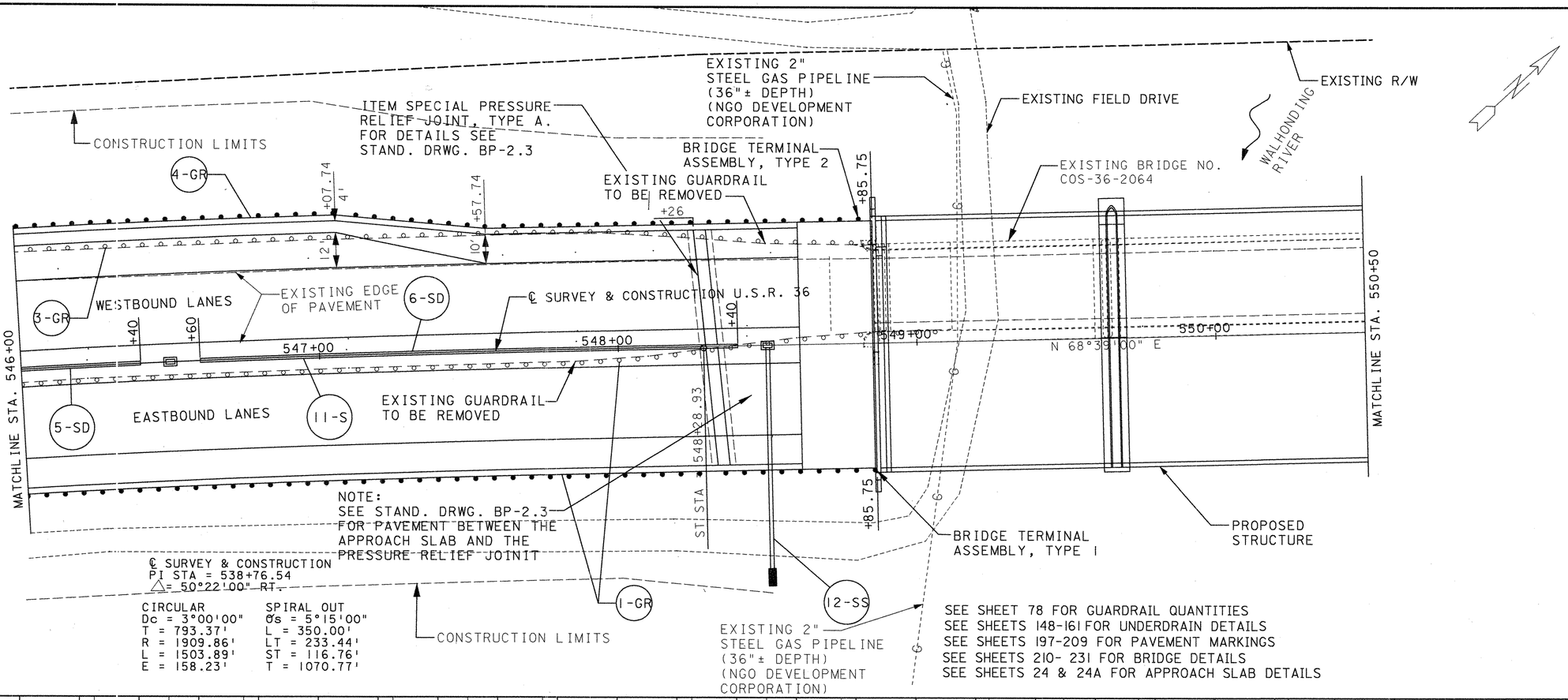
HORIZONTAL SCALE IN FEET
0 10 20 40

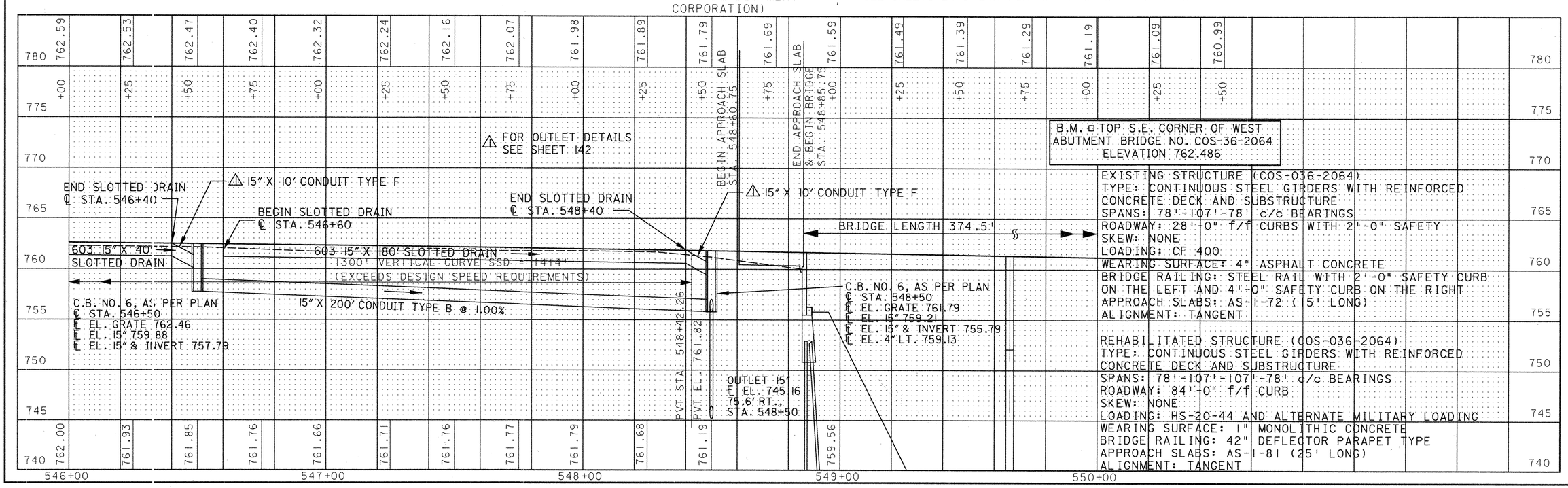
CALCULATED D.M. 6/24/96
CHECKED A.L. 7/24/96

# PLAN AND PROFILE
# STA. 540+50 TO STA. 546+00

COS-16-9.84
COS-36-20.06

86
231




RCP04016.DGN 1/30/97

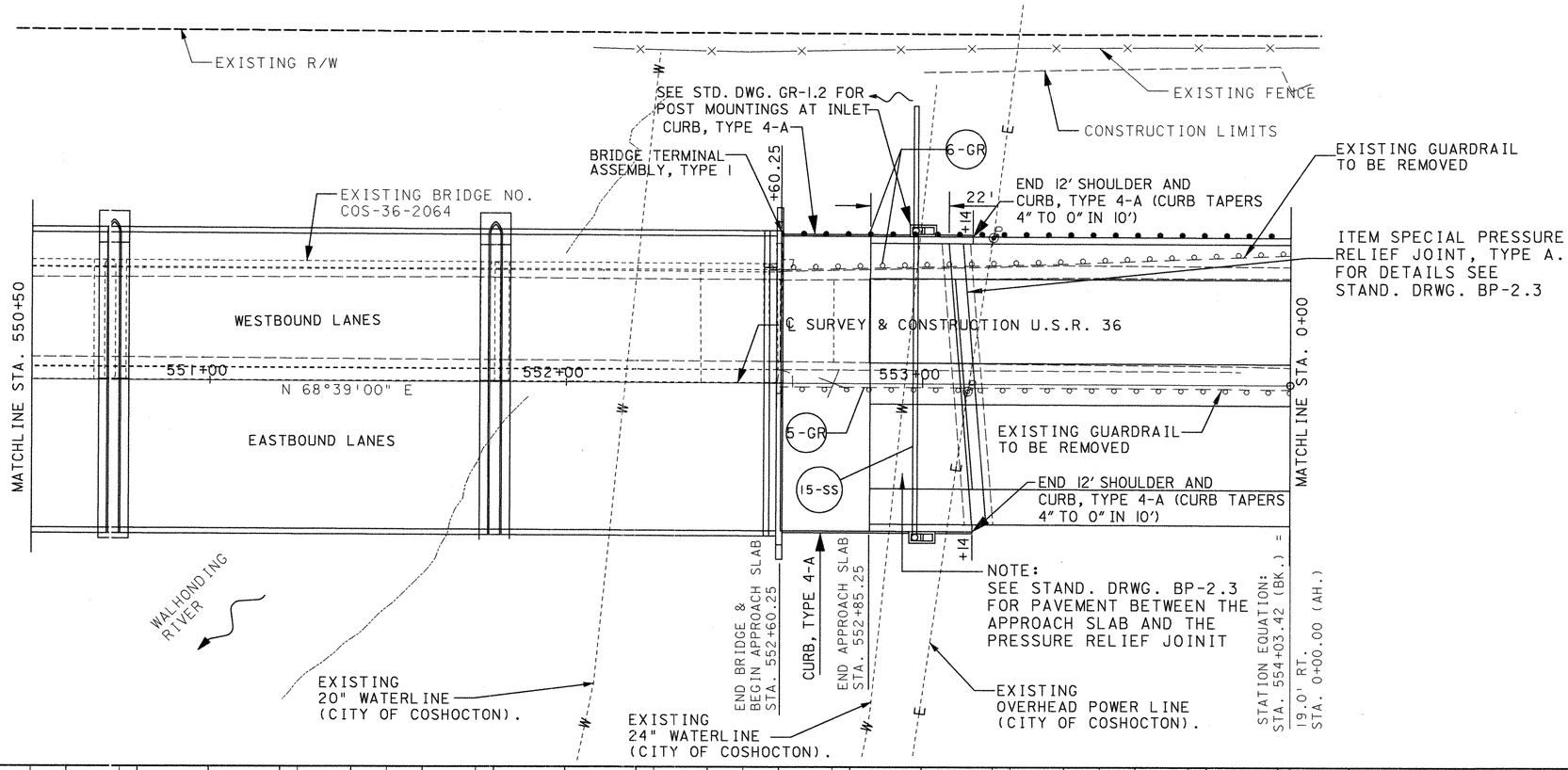
HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED D.M. 6/24/96
CHECKED A.L.L. 7/24/96

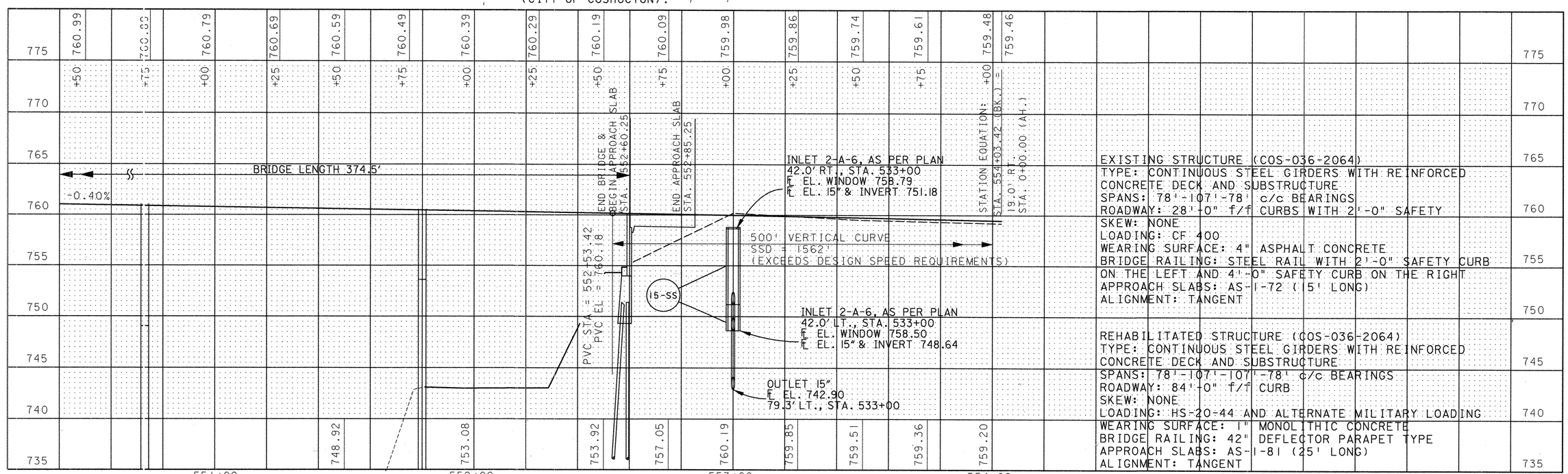
# PLAN AND PROFILE STA. 546+00 TO STA. 550+50

COS-16-9.84
COS-36-20.06

87/231




SEE SHEET 147 FOR STORM SEWER QUANTITIES
SEE SHEET 100 FOR STORM SEWER DETAILS
SEE SHEET 78 FOR GUARDRAIL QUANTITIES
SEE SHEETS 148-161 FOR UNDERDRAIN DETAILS
SEE SHEETS 197-209 FOR PAVEMENT MARKINGS
SEE SHEETS 210- 231 FOR BRIDGE DETAILS
SEE SHEETS 24 & 24A FOR APPROACH SLAB DETAILS




EXISTING STRUCTURE (COS-036-2064)
TYPE: CONTINUOUS STEEL GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 78'-107'-78' c/c BEARINGS
ROADWAY: 28'-0" f/f CURBS WITH 2'-0" SAFETY
SKEW: NONE
LOADING: CF 400
WEARING SURFACE: 4" ASPHALT CONCRETE
BRIDGE RAILING: STEEL RAIL WITH 2'-0" SAFETY CURB ON THE LEFT AND 4'-0" SAFETY CURB ON THE RIGHT
APPROACH SLABS: AS-1-72 ( 15' LONG)
ALIGNMENT: TANGENT

REHABILITATED STRUCTURE (COS-036-2064)
TYPE: CONTINUOUS STEEL GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 78'-107'-107'-78' c/c BEARINGS
ROADWAY: 84'-0" f/f CURB
SKEW: NONE
LOADING: HS-20-44 AND ALTERNATE MILITARY LOADING
WEARING SURFACE: 1" MONOLITHIC CONCRETE
BRIDGE RAILING: 42" DEFLECTOR PARAPET TYPE
APPROACH SLABS: AS-1-81 (25' LONG)
ALIGNMENT: TANGENT

RCP05016.DGN 1/30/97

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED D.M. 6/24/96
CHECKED A.L.L. 7/24/96

# PLAN AND PROFILE
## STA. 550+50 TO STA. 554+03.42 = STA. 0+00

COS-16-9.84
COS-36-20.06

88
231

NOTE:
FOR ADDITIONAL DETAILS OF S.R. 83
SEE SHEETS 115-118, 131 & 141

6-GR
7.3' X 87.5' FLARE AS PER GR-5.1
4' X 37.5' FLARE
ANCHOR ASSEMBLY TYPE B
+71.58
EXISTING GUARDRAIL TO BE REMOVED
P.C. STA. 2+96.81
END APPROACH & WORK STA.4+99.63 ℄ SURVEY & CONSTRUCTION S.R. 83
BEGIN APPROACH & WORK STA.0+50.61 ℄ SURVEY & CONSTRUCTION S.R. 83
2-C
EX. 15" CONDUIT (TO BE REMOVED)
PROPOSED PULL BOX
PROPOSED STRAIN POLE
+89.73
WESTBOUND LANES
PROFILE GRADE
℄ SURVEY & CONSTRUCTION U.S.R. 36
MATCHLINE STA. 0+00
MATCHLINE STA. 5+50
EXISTING GUARDRAIL TO BE REMOVED
1+00
N 68°39'00" E
2+00
3+00
4+00
5+00
75°35'00" TANGENT TO CURVE
EASTBOUND LANES
0+00
1+00
2+00
+06.87
EXISTING CONCRETE PAVEMENT
7-GR
PROPOSED PULL BOX
PROPOSED STRAIN POLE
BEGIN APPROACH & WORK STA.0+14.33 ℄ SURVEY & CONSTRUCTION C.R. IA
10'
12'
+93.40
+43.40
4'
5-GR
PROPOSED PULL BOX
11.0' RT. STA. 2+96.81 ℄ SURVEY & CONSTRUCTION U.S.R. 36 = STA. 0+00 ℄ EASTBOUND LANES
PROPOSED PULL BOX
+57.40
+53
+60.18
PROPOSED PULL BOX
STA. 4+50 ℄ SURVEY & CONSTRUCTION U.S.R. 36
= STA. 0+00 ℄ SURVEY & CONSTRUCTION C.R. IA RT.
= STA. 0+00 ℄ SURVEY & CONSTRUCTION S.R. 83 LT.
3-C
PROPOSED PULL BOX
+03.51
END APPROACH STA.1+19.64 ℄ SURVEY & CONSTRUCTION CR IA.
+19.64
6.39
10.59
END WORK STA. 1+75 ℄ SURVEY & CONSTRUCTION CR IA.

STA. EQUATION:
STA. 554+03.42 (BK.) = STA. 554+19.0' RT.
STA. 0+00.00 (AH.)

℄ SURVEY & CONSTRUCTION
PI STA = 10+92.79
△ = 23°02'00" LT.
Dc = 1°28'00"
T = 795.98'
R = 3906.53'
L = 1570.46'
E = 80.27'

SEE SHEET 78 FOR GUARDRAIL QUANTITIES
SEE SHEETS 148-161 FOR UNDERDRAIN DETAILS
SEE SHEETS 162-169 FOR SIGNAL DETAILS
SEE SHEETS 197-209 FOR PAVEMENT MARKINGS
SEE SHEETS 170-196 FOR SIGN DETAILS
SEE SHEET 145 FOR DETAILS & QUANTITIES (2-C)
SEE SHEET 146 FOR DETAILS & QUANTITIES (3-C)

NOTE:
FOR ADDITIONAL DETAILS OF C.R. IA
SEE SHEETS 119-121, 128 & 137

| 759.46 | 759.32 | 759.17 | 759.02 | 758.86 | 758.69 | 758.52 | 758.34 | 758.16 | 757.96 | 757.77 | 757.56 | 757.35 | 757.13 | 756.91 | 756.69 | 756.48 | 756.27 | 756.08 | 755.90 | 755.73 | 755.57 | 755.42 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 770 | +00 | +25 | +50 | +75 | +00 | +25 | +50 | +75 | +00 | +25 | +50 | +75 | +00 | +25 | +50 | +75 | +00 | +25 | +50 | +75 | +00 | +25 | +50 |
| 765 | | | | | | | | | | | | | | | | | | | | | | | |
| 760 | | | | | | | | | | | | | | | | | | | | | | | |
| 755 | | | | | | | | | | | | | | | | | | | | | | | |
| 750 | | | | | | | | | | | | | | | | | | | | | | | |
| 745 | | | | | | | | | | | | | | | | | | | | | | | |
| 740 | | | | | | | | | | | | | | | | | | | | | | | |
| 735 | | | | | | | | | | | | | | | | | | | | | | | |
| 754.22 | | 756.04 | | 754.84 | | 755.39 | | 756.14 | | 756.82 | | 756.95 | | 755.70 | | 756.62 | | 756.59 | | 755.45 | | 755.09 | |
| 0+00 | | 1+00 | | | | 2+00 | | | | 3+00 | | | | | | 4+00 | | | | 5+00 | | | |

PVI STA. 1+00
PVI EL. 759.18
0.4% △ -0.9%
PVCC STA. 3+50
PVCC EL. 756.91
500' VERTICAL CURVE
SSD = 1562'
(EXCEEDS DESIGN SPEED REQUIREMENTS)
600' VERTICAL CURVE
SSD = 2292'
(EXCEEDS DESIGN SPEED REQUIREMENTS)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED D.M. 6/24/96
CHECKED J.L.L. 7/24/96

# PLAN AND PROFILE
# STA. 554+03.42 = STA. 0+00 TO STA. 5+50

COS-16-9.84
COS-36-20.06

89
231

RCP01018.DGN 8/2/96

EXISTING TELEPHONE CABLE (BURIED) (AMERITECH)

EXISTING PARKING LOT

NOTE: A CONTINGENCY QUANTITY HAS BEEN INCLUDED IN THE PLANS TO CONSTRUCT THE DRIVE AS SHOWN. THE FINAL DRIVE SHALL BE CONSTRUCTED AS DIRECTED BY THE PROJECT ENGINEER

EXISTING 2" GAS PIPELINE (COLUMBIA GAS OF OHIO)

EXISTING MAILBOX (NO WORK REQUIRED)

PROPOSED PULL BOX

CONSTRUCTION LIMITS

EXISTING GAS PIPELINE (unknown)

P.C. STA. 2+85.39 ℄ EASTBOUND LANES

PROPOSED PULL BOX

I-R

PROPOSED PULL BOX

35'±

10'

MB

℄ SURVEY & CONSTRUCTION U.S.R. 36

WESTBOUND LANES

EXISTING C.B. (TO BE REMOVED UNDER I-R)

PROFILE GRADE

EXISTING PIPE (TO BE REMOVED UNDER I-R)

NOTE: FOR ADDITIONAL DETAILS OF CROSSOVER SEE SHEETS 20,70,128 & 138.

EXISTING 15" CONDUIT (TO BE ABANDONED)

MATCH LINE STA. 5+50

MATCH LINE STA. 11+00

EASTBOUND LANES

EXISTING C.B. (TO BE REMOVED)

PROFILE GRADE

I-EP

2-EP

I3-SS

I4-SS

PROPOSED PULL BOX

℄ EASTBOUND LANES

EXISTING TELEPHONE CABLE (BURIED) (AMERITECH)

℄ EASTBOUND LANES
PI STA = 6+66.83
△ = 15°10'06" LT.
Dc = 2°00'00"
T = 381.44'
R = 2864.79'
L = 758.41'
E = 25.28'

℄ SURVEY & CONSTRUCTION
PI STA = 10+92.79
△ = 23°02'00" LT.
Dc = 1°28'00"
T = 795.98'
R = 3906.53'
L = 1570.46'
E = 80.27'

EXISTING 24" CONCRETE CONDUIT (TO REMAIN IN SERVICE)

EXISTING 2" GAS PIPELINE (COLUMBIA GAS OF OHIO)

SEE CROSS SECTION SHEET 105

SEE SHEET 78 FOR GUARDRAIL QUANTITIES
SEE SHEETS 148-161 FOR UNDERDRAIN DETAILS
SEE SHEETS 197-209 FOR PAVEMENT MARKINGS
SEE SHEET 147 FOR DITCH EROSION PROTECTION QUANTITIES (I-EP) & (2-EP)
SEE SHEET 147 FOR GUARDRAIL QUANTITIES I-R, I3-SS & I4-SS

EXISTING CATCH BASIN (TO BE REMOVED UNDER I-R)

EXISTING 15" CONDUIT (TO BE REMOVED UNDER I-R)

EXISTING 15" CONDUIT (TO BE ABANDONED)

EXISTING CATCH BASIN (TO BE REMOVED UNDER I-R)

C.B. NO. 6, AS PER PLAN
13' LT., STA. 7+85
T EL. GRATE 753.93
T EL. 15" & INVERT 750.91
T EL. 4' LT. 752.83

15" X 65' CONDUIT TYPE B @ 5.52%

15" X 200' CONDUIT, TYPE B @ 1.00%

C.B. NO. 8, AS PER PLAN
7.7' LT., STA. 8+50
T EL. GRATE 752.78
T EL. 15" & INVERT 747.32
T EL. 4' U.D. LT. 750.04
T EL. 4' U.D. RT. 751.14

C.B. NO. 8, AS PER PLAN
1.1' LT., STA. 10+50
T EL. GRATE 751.70
T EL. 15" & INVERT 749.32

600' VERTICAL CURVE
SSD = 2292'
(EXCEEDS DESIGN SPEED REQUIREMENTS)

OUTLET 15"
T EL. 742.96
92.3' RT., STA. 8+50

PVT STA. 9+50.35
PVT EL. 754.35

EXISTING DIRECT BURIAL TELEPHONE CABLE APPROXIMATE DEPTH AND LOCATION (AMERITECH)

EXISTING 2" GAS PIPELINE APPROXIMATE DEPTH AND LOCATION (COLUMBIA GAS OF OHIO)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED D.M. 6/24/96
CHECKED A.L.L. 7/24/96

PLAN AND PROFILE
STA. 5+50 TO STA. 11+00

COS-16-9.84
COS-36-20.06

90
231

RCP02018.DGN 7-31-96

END PROJECT
S.R. 36
STA. 13+31
S.L.M. 21.00

END RESURFACING
AND END WORK
WESTBOUND LANES
STA. 43+50

CONSTRUCTION LIMITS

P.C.C. STA. 10+43.80

RESUME RESURFACING STA. 13+31

10'
24'
4'
21'
21'
4'
24'
10'

WESTBOUND LANES

EASTBOUND LANES

EXISTING 15" CONDUIT
(TO BE ABANDONED)

2-EP

+57

6'

MATCHLINE STA. 11+00

EXISTING 24" CONCRETE CONDUIT
(TO REMAIN IN SERVICE)

EXISTING 24" CONDUIT
(TO REMAIN IN SERVICE)

9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00

℄ SURVEY &
CONSTRUCTION U.S.R. 36

℄ EASTBOUND LANES
PI STA = 6+66.83
△ = 15°10'06" LT.
Dc = 2°00'00"
T = 38 .44'
R = 2864.79'
L = 758.41'
E = 25 28'

℄ SURVEY & CONSTRUCTION
PI STA = 10+92.79
△ = 23°02'00" LT.
Dc = 1°28'00"
T = 795.98'
R = 3906.53'
L = 1570.46'
E = 80.27'

CONSTRUCTION LIMITS

49.0' RT. STA. 13+31 ℄ SURVEY
& CONSTRUCTION U.S.R. 36
= STA. 10+43.80 ℄ EASTBOUND LANES

END RESURFACING
EASTBOUND LANES
STA. 35+00

SEE SHEET 147 FOR DITCH EROSION PROTECTION QUANTITIES (2-EP)

765 754.43 | 754.44 | 754.46 | 754.47 | 754.48 | 754.49 | 754.51 | 754.52 | 754.53 | 754.55 | 765

+00 +25 +50 +75 +00 +25 +50 +75 +00 +25

760 760

755 + 0.053% 755

750 750

745 EXISTING 15" CONDUIT (TO BE ABANDONED) 745

740 740

735 735

730 730

750.14 | 750.06 | 749.66 | 750.30 | 750.51 | 750.41 | 750.53 | 750.32 | 750.54 | 750.90 | 750.77 | 750.72

11+00 12+00 13+00 14+00 15+00 16+00

RCP03018.DGN 7-10-96

0 10 20 40 HORIZONTAL SCALE IN FEET

CALCULATED D.M. 6/24/96
CHECKED J.L.L. 7/24/96

# PLAN AND PROFILE
# STA. 11+00 TO STA. 16+50

COS-16-9.84
COS-36-20.06

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| 41 | 159 |
| 16 | 33 |
| 16 | 142 |
| | 501 |
| 142 | |
| | 764 |
| 133 | |
| | 681 |
| 112 | |

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 169 | 103 | 119 | 50 |
| 87 | 5 | 81 | 5 |
| 87 | 5 | 59 | 4 |
| 87 | 5 | 91 | 11 |
| 77 | 9 | | |
| 77 | 9 | 136 | 39 |
| 69 | 33 | 126 | 36 |
| 67 | 5 | 778 | 0 |
| 21 | 0 | | |
| 21 | 0 | | |

CALCULATED R.J.C. 6/24/96
CHECKED A.J.L. 7/24/96

# CROSS SECTIONS
## STA. 530+00 TO STA. 532+00

COS-16-9.84
COS-36-20.06

92
231

RC001016.DGN 7/26/96

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| 142 | 762 |
| 132 | 692 |
| 117 | 662 |
| 121 | 302 |
| 42 | 121 |
| 129 | 42 |
| 121 | 231 |

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 356 | 596 | | |
| | | 635 | 1043 |
| 329 | 530 | | |
| | | 557 | 835 |
| 272 | 371 | | |
| | | 464 | 611 |
| 229 | 288 | | |
| | | 190 | 239 |
| 229 | 288 | | |
| 168 | 128 | | |
| | | 172 | 131 |
| 168 | 128 | | |
| | | 312 | 214 |

END BENCHING W.B.
STA. 534+75
10:1
C-115
PROPOSED 15" ITEM 603
SLOTTED DRAIN
PROPOSED 15" CONDUIT
760.94
534+50
761.13
3:1
F-472
1:1
C-126
C-61
2:1
2'-0"
(TYP.)
738.6
123.1' LT.
C-54
2:1
F-124
C-108
PROPOSED 15" ITEM 603
SLOTTED DRAIN
PROPOSED 15" CONDUIT
760.70
534+00
760.96
2.5:1
F-372
C-83
C-47
EXISTING CONCRETE
(TO BE REMOVED)
738.4
111.1' LT.
F-158
C-91
C-103
PROPOSED 15" ITEM 603
SLOTTED DRAIN
PROPOSED 15" CONDUIT
760.47
533+50
760.72
F-255
2:1
1:1
C-18
C-77
738.2
99.0' LT.
BEGIN BENCHING W.B.
STA. 533+25
F-116
C-74
℄ EL. 4" 754.11
29.5' RT., STA. 532+95
4" x 10' CONDUIT TYPE B * @ 1.00%
℄ EL. 4" 757.91
29.5' LT. STA. 532+78
BEGIN ITEM 603 SLOTTED DRAIN
℄, STA. 533+00
℄ EL. 4" 755.68
38.1' RT., STA. 532+95
4" x 13' TYPE B * @ 1.00%
4" x 17' TYPE F @ 1.00%
4" x 2' TYPE F
4" x 4" x 45° WYE
4" x 11' CONDUIT TYPE F @ 1.00%
℄ EL. 4" 757.61
59.5' LT. STA. 532+78
C-109
760.23
533+00
760.47
PROPOSED 15" ITEM 603
SLOTTED DRAIN
PROPOSED 15" CONDUIT
℄ EL. 4" 753.90
50.5' RT., STA. 532+95
CONCRETE COLLAR
AS PER MC-4
15" X 10' CONDUIT
TYPE F @ 1.00%
C-100
F-130
15" X 29' CONDUIT
TYPE F @ 38.5%
15" X 7' CONDUIT TYPE F
@ 0.00%
C.B. NO.6, AS PER PLAN
℄ STA. 532+90
EL. GRATE 760.18
EL. 15" 757.60
EL. 15" & INVERT 753.73
EL. 4" LT. 759.35
15" X 33' CONDUIT TYPE B
@ 1.00%
8-SS
15" X 22.5°
℄ EL. 753.31
15" X 22.5°
℄ EL. 742.46
℄ EL. 15" 742.46
74.6' RT., STA. 532+90
(AHEAD)
STA. 532+77.59
(BACK)
(AHEAD)
STA. 532+77.59
(BACK)
2:1
C-20
2'-0"
(TYP.)
738.0
98.9' LT.
END PROPOSED CURB TYPE 4A
AND 4" CONCRETE MEDIAN
STA. 532+81.03
HW-4A OR B HEADWALL
60" CULVERT OUTLET
℄ EL. 736.98
81.05' RT.
STA. 532+45.43
60" CULVERT INLET
℄ EL. 737.70
93.67' LT.
STA. 532+88.67
C-88
F-128
C-80
* CONDUIT, TYPEB 707.33, 707.42 OR 707.45
UNDERDRAIN DETAIL
4" x 11' TYPE F
@ 1.00%
℄ EL. 4" 759.59
62.6' LT.
STA. 532+56
℄ EL. 4" 759.69
51.1' LT. STA. 532+51.5
MATCHLINE WHITEWOMAN ST.
W.B. LANES
760.13
E.B. LANES
759.88
532+50
760.31

CALCULATED R.J.Ak. 6/24/96
DRAWN A.L.A. 7/24/96

# CROSS SECTIONS
## STA. 532+50 TO STA. 534+50

COS-16-9.84
COS-36-20.06

93
231

RC002016.DGN 7/25/96

| SEEDING END WIDTH | SEEDING SQ. YDS. | END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|---|---|
| 141 | 781 | 484 | 173 | | |
| 140 | 784 | 511 | 155 | 922 | 304 |
| 142 | 781 | 483 | 189 | 921 | 319 |
| 139 | 784 | 448 | 208 | 862 | 368 |
| 143 | 792 | 392 | 306 | 778 | 476 |
| | | | | 693 | 836 |

CALCULATED R.J.G. 6/24/96

CHECKED A.L.J. 7/24/96

# CROSS SECTIONS STA. 535+00 TO STA. 537+00

COS-16-9.84
COS-36-20.06

94
231

7/25/96

RC003016.DGN

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| 41 | |
| | 140 |
| 41 | |
| 123 | |
| | 264 |
| 123 | |
| | 689 |
| 125 | |
| | 695 |
| 125 | |
| | 692 |
| 124 | |
| | 737 |

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 64 | 170 G-47 | | |
| | | 73 | 193 G-53 |
| 64 | 170 G-47 | | |
| 205 | 159 G-47 | | |
| | | 147 | 114 G-34 |
| 205 | 159 G-47 | | |
| | | 330 | 307 G-91 |
| 151 | 173 G-51 | | |
| | | 295 | 337 |
| 167 | 191 | | |
| | | 317 | 350 |
| 175 | 187 | | |
| | | 611 | 334 |

CALCULATED R.J.G. 6/24/96

CHECKED A.J.L. 7/24/96

# CROSS SECTIONS STA. 537+50 TO STA. 539+50

COS-16-9.84
COS-36-20.06

95
231

RC004016.DGN 7/25/96

MATCHLINE U.S.R. 36

PROPOSED ITEM 603 15" SLOTTED DRAIN
C-64
762.73
539+50
762.75
2:1
F-170
G-47
ITEM 203 EMBANKMENT USING GRANULAR MATERIAL
(AHEAD) STA. 539+19.30 (BACK)

PROPOSED ITEM 603 15" SLOTTED DRAIN
C-205
762.62
539+00
762.74
6:1
3:1
F-10
F-149
G-47
ITEM 203 EMBANKMENT USING GRANULAR MATERIAL

BEGIN ITEM 603 SLOTTED DRAIN
℄ STA. 538+60
4" x 10' TYPE B * @ 1.00%
F EL. 4" 757.35
38.1' RT. STA. 538+50
4" x 3' TYPE F
4" x 4" x 45° WYE
F EL. 4" 755.59
51.5' RT. STA. 538+50
C-151
C.B. NO. 6, AS PER PLAN
℄ STA. 538+50
F EL. GRATE 762.50
F EL. 15" 759.92
F EL. 15" & INVERT 757.93
F EL. 4" LT. 759.41
762.50
538+50
762.52
F-38
F-135
G-51
4" x 12' TYPE F @ 1.00%
F EL. 4" 755.81
29.5' RT. STA. 538+50
ITEM 203 EMBANKMENT USING GRANULAR MATERIAL
END ITEM 603 SLOTTED DRAIN
℄ STA. 538+30
* CONDUIT, TYPE B 707.33, 707.42 OR 707.45
BEGIN ITEM 203 EMBANKMENT USING GRANULAR MATERIAL STA. 538+50 RT.

PROPOSED ITEM 603 15" SLOTTED DRAIN
C-151
PROPOSED 15" CONDUIT
762.36
538+00
762.42
END BENCHING E.B. STA. 538+25
F-28
F-163
C-16
EXISTING CONCRETE (TO BE REMOVED)

PROPOSED ITEM 603 15" SLOTTED DRAIN
C-147
PROPOSED 15" CONDUIT
762.20
537+50
762.28
3:1
6:1
2:1
F-57
F-130
C-28

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| 57 | 314 |
| 56 | 348 |
| 69 | 248 |
| 69 | 228 |
| 41 | 81 |
| 41 | 228 |
| 41 | 228 |

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 108 | 221 G-52 | | |
| | | 197 | 401 G-104 |
| 104 | 212 G-60 | | |
| | | 193 | 387 G-114 |
| 104 | 206 G-63 | | |
| | | 125 | 246 G-75 |
| 104 | 206 G-63 | | |
| 60 | 203 G-50 | | |
| | | 40 | 133 G-33 |
| 60 | 203 G-50 | | |
| | | 114 | 355 G-92 |
| 63 | 180 G-49 | | |
| | | 118 | 324 G-89 |

PROPOSED ITEM 603
15" SLOTTED DRAIN
C-108
763.01
542+00
763.07
1"/FT.
F-221
2:1
G-52
ITEM 203 EMBANKMENT
USING GRANULAR MATERIAL

PROPOSED ITEM 603
15" SLOTTED DRAIN
C-104
762.99
541+50
763.01
F-212
G-60
ITEM 203 EMBANKMENT
USING GRANULAR MATERIAL

* CONDUIT, TYPE B 707.33, 707.42 OR 707.45

4" x 36' TYPE B * @ 1.00%
E EL. 4" 759.79
65.5' LT. STA. 540+68
1"/FT.
C-104
PROPOSED ITEM 603
15" SLOTTED DRAIN
762.95
541+00
762.97
F-206
G-63
ITEM 203 EMBANKMENT
USING GRANULAR MATERIAL
EXISTING CONCRETE
(TO BE REMOVED)
E EL. 4" 760.15
29.5' LT. STA. 540+68

FOR UNDERDRAIN DETAIL ONLY
E EL. 4" 762.03
77.7' LT. STA. 540+44
E EL. 4" 762.28
60.2' LT. STA. 540+30
4" x 22' TYPE F
@ 1.00%

(AHEAD)
STA. 540+67.74
(BACK)

MATCHLINE U.S.R. 36

PROPOSED ITEM 603
15" SLOTTED DRAIN
C-60
762.89
540+50
762.92
F-203
G-50
ITEM 203 EMBANKMENT
USING GRANULAR MATERIAL

MATCHLINE U.S.R. 36

PROPOSED ITEM 603
15" SLOTTED DRAIN
C-63
762.82
540+00
762.83
F-180
2:1
G-49
ITEM 203 EMBANKMENT
USING GRANULAR MATERIAL

CALCULATED R.J.G. 6/24/96
CHECKED A.L.J. 7/24/96

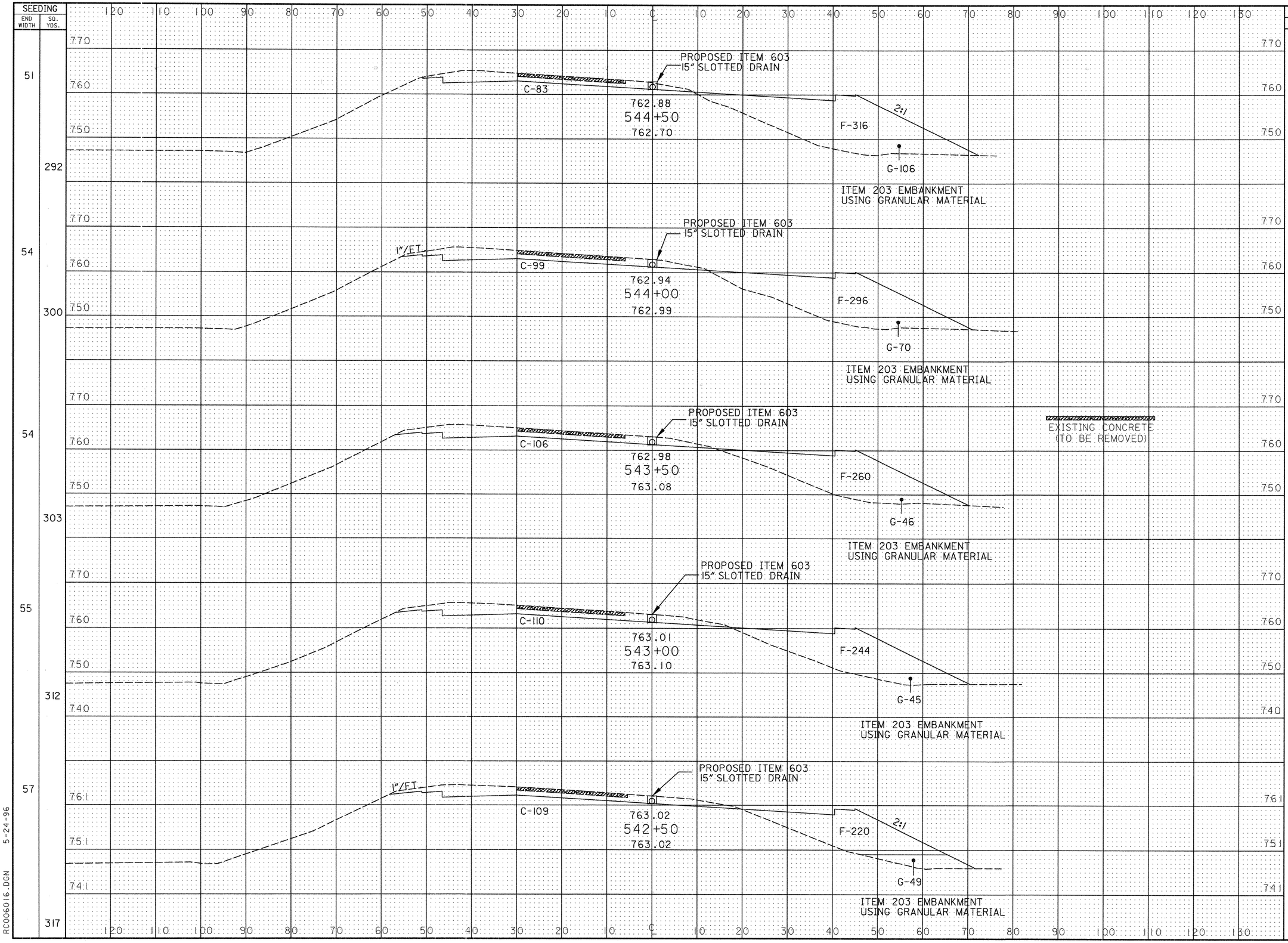
# CROSS SECTIONS
## STA. 540+00 TO STA. 542+00

COS-16-9.84
COS-36-20.06

96
231

RC005016.DGN 7/25/96

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| 51 | 292 |
| 54 | 300 |
| 54 | 303 |
| 55 | 312 |
| 57 | 317 |




| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 83 | 316 G-106 | | |
| | | 169 | 567 G-163 |
| 99 | 296 G-70 | | |
| | | 190 | 515 G-107 |
| 106 | 260 G-46 | | |
| | | 200 | 467 G-84 |
| 110 | 244 G-45 | | |
| | | 203 | 430 G-87 |
| 109 | 220 G-49 | | |
| | | 201 | 408 G-94 |

CALCULATED R.J.G. 6-24-96

CHECKED A.L.J. 7/24/96

# CROSS SECTIONS
## STA. 542+50 TO STA. 544+50

COS-16-9.84
COS-36-20.06

97
231

RC006616.DGN 5-24-96

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| 93 | 514 |
| 92 | 512 |
| 92 | 498 |
| 87 | 384 |

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 118 | 541 G-257 | 216 | 994 G-465 |
| 115 | 533 G-245 | 227 | 973 G-439 |
| 130 | 518 G-229 | 269 | 919 G-374 |
| 160 | 474 G-175 | 225 | 731 G-260 |

CALCULATED A.L.L. 6/24/96

CHECKED A.L.L. 7/24/96

BEGIN ITEM 603 SLOTTED DRAIN ℄, STA. 546+60

F-127 2:1 C-56 C-62 1:1 G-78

ITEM 203 EMBANKMENT USING GRANULAR MATERIAL

C.B. NO. 6, AS PER PLAN
℄ STA. 546+50
EL. GRATE 762.46
EL. 15" 759.88
E EL. 15" & INVERT 757.79
II-SS

762.47
546+50
761.85

END ITEM 603 SLOTTED DRAIN ℄, STA. 546+40

F-414 2:1 G-179

ITEM 203 EMBANKMENT USING GRANULAR MATERIAL

PROPOSED ITEM 603 15" SLOTTED DRAIN

F-130 C-57 C-58 G-68

762.59
546+00
762.00

ITEM 203 EMBANKMENT USING GRANULAR MATERIAL

F-403 G-177

ITEM 203 EMBANKMENT USING GRANULAR MATERIAL

PROPOSED ITEM 603 15" SLOTTED DRAIN

EXISTING CONCRETE (TO BE REMOVED)

F-123 C-59 C-71 G-61

762.70
545+50
762.20

ITEM 203 EMBANKMENT USING GRANULAR MATERIAL

F-395 G-168

ITEM 203 EMBANKMENT USING GRANULAR MATERIAL

PROPOSED ITEM 603 15" SLOTTED DRAIN

F-105 2:1 1:1 C-74 C-86 G-33

762.80
545+00
762.60

ITEM 203 EMBANKMENT USING GRANULAR MATERIAL

F-369 2:1 G-142

ITEM 203 EMBANKMENT USING GRANULAR MATERIAL

BEGIN ITEM 203 EMBANKMENT USING GRANULAR MATERIAL STA. 545+00 LT.

BEGIN BENCHING W.B. STA. 544+50

# CROSS SECTIONS STA. 545+00 TO STA. 546+50

COS-16-9.84
COS-36-20.06

98
231

RC007016.DGN 7/18/96

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| 79 | 314 |
| 79 | 448 |
| 82 | 470 |
| 87 | 500 |
| 93 | 517 |

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 129 | 529 G-218 | 171 | 700 G-289 |
| 129 | 529 G-218 | | |
| | | 243 | 939 G-406 |
| 133 | 485 G-221 | | |
| | | 244 | 907 G-417 |
| 130 | 495 G-229 | | |
| | | 237 | 959 G-457 |
| 126 | 541 G-265 | | |
| | | 226 | 1002 G-483 |

CALCULATED R.J.G. 6/24/96

CHECKED A.L.J. 7/24/96

# CROSS SECTIONS STA. 547+00 TO STA. 548+50

COS-16-9.84
COS-36-20.06

99
231

RC0008I6.DGN 12/20/96

4" x 10' TYPE B * @ 1.00%
℄ EL. 4" 756.83
38.1' RT. STA. 548+25
4" x 3' TYPE F
4" x 4" x 45° WYE
℄ EL. 4" 755.05
53.5' RT. STA. 548+25
4" x 14' TYPE F @ 1.00%
2:1
℄ EL. 4" 755.28
29.5' RT. STA. 548+25
FOR UNDERDRAIN DETAIL ONLY

END APPROACH SLAB
STA. 552+85.25

BRIDGE LIMITS
STA. 548+85.75 TO STA. 552+60.25

BEGIN APPROACH SLAB
STA. 548+60.75

STA. 548+85.75 (BACK)

4" x 10' TYPE B * @ 1.00%
℄ EL. 4" 759.39
38.1' LT. STA. 548+20
4" x 3' TYPE F
4" x 4" x 45° WYE
℄ EL. 4" 757.54
50.5' LT. STA. 548+20
F-125
2:1
C-81
4" x 11' TYPE F @ 1.00%
℄ EL. 4" 757.75
29.5' LT. STA. 548+20
C-48
C.B. NO. 6, AS PER PLAN
℄ STA. 548+50
℄ EL. GRATE 761.79
℄ EL. 15" 759.21
℄ EL. 15" & INVERT 755.79
℄ EL. 4" LT. 759.13
12-SS
15" X 35' CONDUIT TYPE B, @ 1.00%
CONCRETE COLLAR AS PER MC-4
15" X 10' CONDUIT TYPE F* @ 1.00%
15" X 26' CONDUIT TYPE F @ 39.2%
15" X 22.5° BEND
℄ EL. 755.34
F-404
15" X 22.5° BEND
℄ EL. 745.16
G-218
HW-4A HEADWALL
15" X 7' CONDUIT TYPE F @ 0.00%
℄ EL. 15" 745.16
75.6' RT., STA. 548+50
ROCK CHANNEL PROTECTION TYPE C W/FILTER
2.5' X 6' X 18" THICK/27 = 0.8 CU.YD.
END ITEM 203 EMBANKMENT USING GRANULAR MATERIAL STA. 548+85.75 RT.
761.79
548+50
761.19
END ITEM 603 SLOTTED DRAIN ℄, STA. 548+40

END ITEM 203 EMBANKMENT USING GRANULAR MATERIAL STA. 548+00 LT.

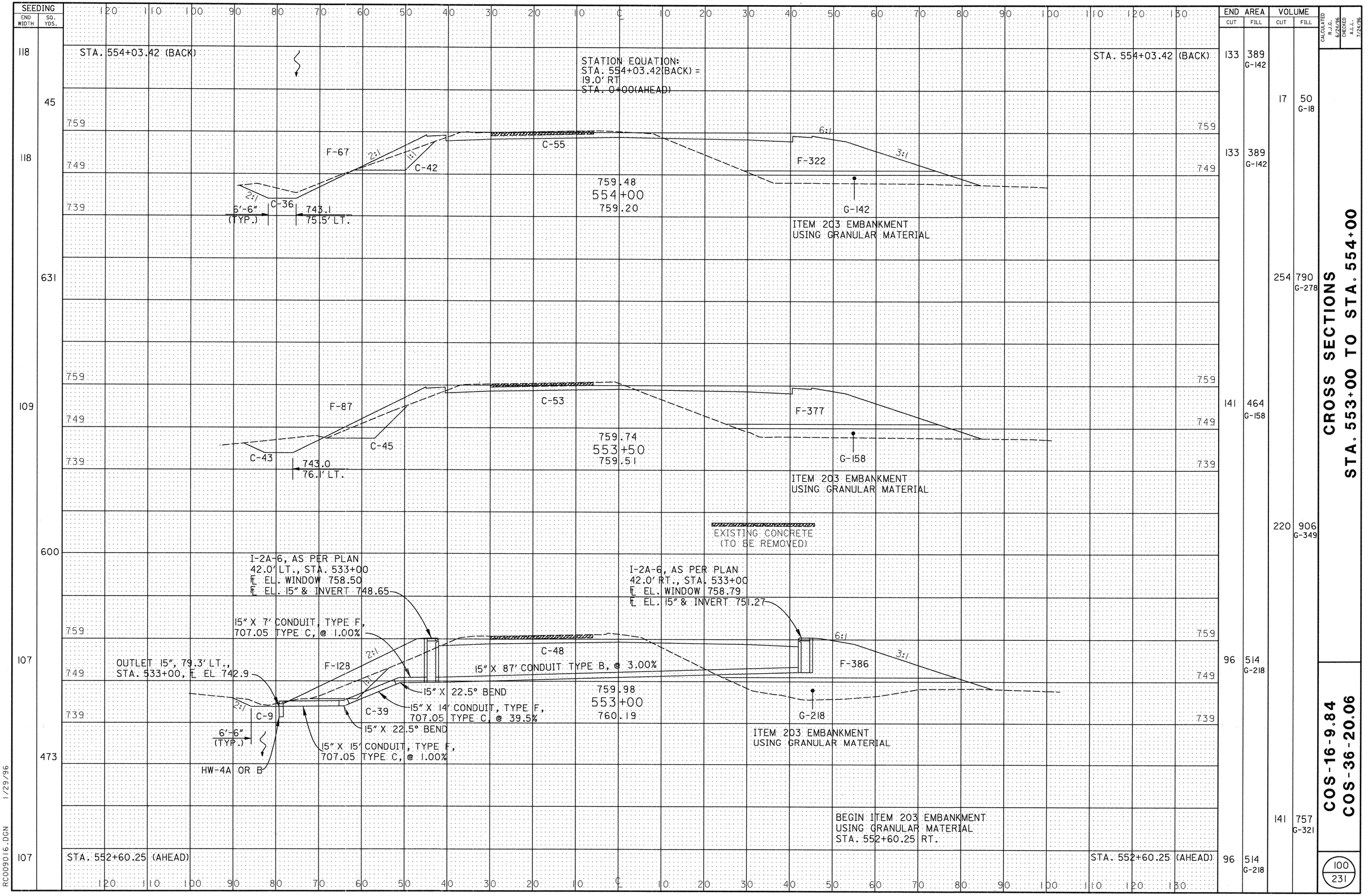
PROPOSED ITEM 603 15" SLOTTED DRAIN
C-57
PROPOSED 15" CONDUIT
F-96
C-76
G-18
ITEM 203 EMBANKMENT USING GRANULAR MATERIAL
761.98
548+00
761.79
F-389
G-203
ITEM 203 EMBANKMENT USING GRANULAR MATERIAL
EXISTING CONCRETE (TO BE REMOVED)

* CONDUIT, TYPE B 707.33, 707.42 OR 707.45

PROPOSED ITEM 603 15" SLOTTED DRAIN
C-54
PROPOSED 15" CONDUIT
F-97
C-76
G-38
ITEM 203 EMBANKMENT USING GRANULAR MATERIAL
762.16
547+50
761.76
F-398
G-191
ITEM 203 EMBANKMENT USING GRANULAR MATERIAL

PROPOSED ITEM 603 15" SLOTTED DRAIN
C-56
PROPOSED 15" CONDUIT
F-122
2:1
H1
C-70
G-82
ITEM 203 EMBANKMENT USING GRANULAR MATERIAL
762.32
547+00
761.66
F-419
2:1
G-183
ITEM 203 EMBANKMENT USING GRANULAR MATERIAL

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| 118 | |
| | 45 |
| 118 | |
| | 631 |
| 109 | |
| | 600 |
| 107 | |
| | 473 |
| 107 | |




| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 133 | 389 G-142 | | |
| | | 17 | 50 G-18 |
| 133 | 389 G-142 | | |
| | | 254 | 790 G-278 |
| 141 | 464 G-158 | | |
| | | 220 | 906 G-349 |
| 96 | 514 G-218 | | |
| | | 141 | 757 G-321 |
| 96 | 514 G-218 | | |

CALCULATED R.J.G. 6/24/96
CHECKED A.L.L. 7/24/96

# CROSS SECTIONS
# STA. 553+00 TO STA. 554+00

COS-16-9.84
COS-36-20.06

100
231

RC009016.DGN 1/29/96

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| 151 | 786 |
| 132 | 717 |
| 126 | 647 |
| 107 | |

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 119 | 547 G-222 | 215 | 905 G-378 |
| 113 | 430 G-186 | 199 | 781 G-325 |
| 102 | 413 G-165 | 160 | 720 G-292 |
| 71 | 365 G-150 | | |

CALCULATED R.J.G. 6/24/96

CHECKED A.L. 7/24/96

# CROSS SECTION SHEET
# STA. 0+00 TO STA. 1+50

COS-16-9.84
COS-36-20.06

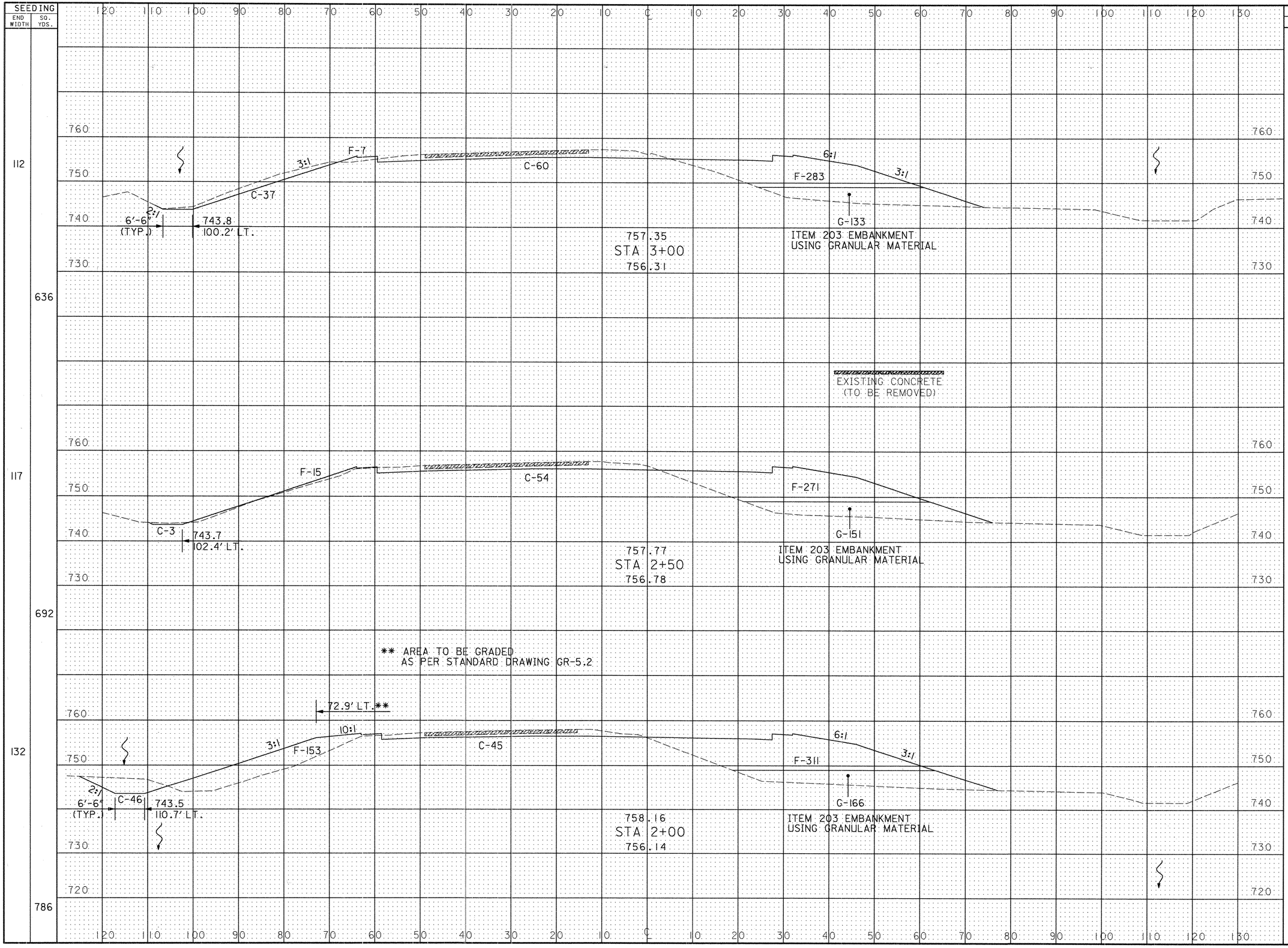
101
231

RC001036.DGN 8/2/96

**NOTE: AREA TO BE GRADED AS PER STANDARD DRAWING GR-5.2

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| 112 | 636 |
| 117 | 692 |
| 132 | 786 |

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 97 | 290 G-133 | 143 | 533 G-263 |
| 57 | 286 G-151 | 137 | 694 G-294 |
| 91 | 464 G-166 | 194 | 936 G-360 |




# CROSS SECTION SHEET
## STA. 2+00 TO STA. 3+00

CALCULATED R.J.C. 6/24/96
CHECKED A.L.L. 7/24/96

COS-16-9.84
COS-36-20.06

102/231

RC002036.DGN 8/2/96

# CROSS SECTION SHEET
## STA. 3+50 TO STA. 5+00

CALCULATED R.J.G. 6/24/96
CHECKED A.L.L. 7/24/96

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| 71 | |
| 0 | 0 |
| 0 | |
| | 0 |
| | 0 |
| 0 | |
| | 0 |
| 0 | |
| 60 | 216 |
| 60 | |
| 120 | |
| 120 | 99 |
| | 644 |

| | END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|---|
| (AHEAD) STA. 5+06.87 (BACK) | 93 | 175 | | |
| | 74 | 0 | 19 | 0 |
| | 74 | 0 | | |
| | | | 128 | 0 |
| | 64 | 0 | | |
| | | | 116 | 0 |
| | 61 | 0 | 24 | 0 |
| (AHEAD) STA. 3+89.73 (BACK) | 61 | 0 | | |
| | 94 | 0 | 113 | 0 |
| (AHEAD) STA. 3+57.40 (BACK) | 94 | 0 | | |
| | 94 | 220 G-104 | 26 | 60 G-29 |
| | 94 | 220 G-104 | | |
| | | | 177 | 472 G-220 |

(AHEAD) STA. 5+06.87 (BACK)
PROPOSED 24" CONDUIT (S.R. 83)
MATCHLINE S.R. 83
MATCHLINE C.R. IA
C-74
6:1
3:1
F-232
109.3' RT.
2:1
C-25
2:1
6'-6" (TYP.)
740.43
117.8' RT.
755.73
STA 5+00
755.45
C-64
756.08
STA 4+50
756.59
EXISTING CONCRETE (TO BE REMOVED)
EXISTING 60" CONDUIT (C.R. IA)
4" x 10' TYPE B * @ 1.00%
F EL. 4" 752.92
57.1' LT. STA. 3+89
4" x 3' TYPE F
4" x 4" x 45° WYE
F EL. 4" 751.03
77.5' LT. STA. 3+89
C-61
4" x 19' TYPE F @ 1.00%
F EL. 4" 751.32
48.5' LT. STA. 3+89
756.48
STA 4+00
756.62
(AHEAD) STA. 3+89.73 (BACK)
(AHEAD) STA. 3+57.40 (BACK)
4" x 4' TYPE B * @ 1.00%
F EL. 4" 753.23
26.1' RT. STA. 3+57
4" x 2' TYPE F
4" x 4" x 45° WYE
F EL. 4" 752.09
48.5' RT. STA. 3+57
6:1 F-13
C-67
6:1
F-207
3:1
2:1
6'-6" (TYP.)
C-27
744.0
99.8' LT.
4" x 21' TYPE F @ 1.00%
F EL. 4" 752.34
23.5' RT. STA. 3+57
F-104
ITEM 203 EMBANKMENT USING GRANULAR MATERIAL
756.91
STA 3+50
756.73
* CONDUIT, TYPE B 707.33, 707.42 OR 707.45

COS-16-9.84
COS-36-20.06

103
231

RC003036.DGN 7/25/96

# CROSS SECTION
# STA. 5+50 TO STA. 7+00

CALCULATED R.J.G. 7/24/96
CHECKED A.L.L. 7/24/96

COS-16-9.84
COS-36-20.06

104
231

RC004036.DGN 7/11/96

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| 115 | 642 |
| 116 | 645 |
| 116 | 526 |
| 116 | 62 |
| 64 | |
| 62 | |
| | 319 |

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 144 | 196 G-18 | | |
| | | 257 | 372 G-44 |
| 133 | 206 G-29 | | |
| | | 239 | 384 G-66 |
| 125 | 209 G-42 | | |
| | | 167 | 313 G-63 |
| 125 | 205 G-42 | | |
| 93 | 175 G-42 | | |
| | | 32 | 60 G-14 |
| 93 | 175 G-42 | | |
| | | 149 | 280 |

## STA. 7+00

754.72
755.20

END ITEM 203 EMBANKMENT USING GRANULAR MATERIAL STA. 7+00 RT.

103.2' RT.

F-25 6:1 3:1 C-131 6:1 F-171 3:1 G-18

ITEM 203 EMBANKMENT USING GRANULAR MATERIAL

3:1 6'-6" (TYP.) C-7 745.4 98.5' LT.

2:1 2:1 C-6 740.8 113.6' RT. 6'-6" (TYP.)

EXISTING 2" GAS LINE (COLUMBIA GAS OF OHIO)

EXISTING UNDERGROUND TELEPHONE CABLE STA. 6+94± APPROXIMATE DEPTH AND LOCATION (30" MIN. GROUND COVER) AMERITECH TELEPHONE CO.

## STA. 6+50

754.91
755.33

F-26 C-120 F-180 G-29 ITEM 203 EMBANKMENT USING GRANULAR MATERIAL

112.2' RT.

C-6 745.2 99.6' LT.

EXISTING 2" GAS LINE (UNKNOWN)

740.7 116.9' RT. C-7

EXISTING CONCRETE (TO BE REMOVED)

## STA. 6+00

755.14
754.76

F-26 C-112 F-183 G-42 ITEM 203 EMBANKMENT USING GRANULAR MATERIAL

112.2' RT.

C-5 745.0 100.9' LT.

EXISTING 2" GAS LINE (COLUMBIA GAS OF OHIO)

2:1 2:1 C-8 740.6 118.4' RT.

(AHEAD) STA. 5+59.22 (BACK)

(AHEAD) STA. 5+59.22 (BACK)

MATCHLINE S.R. 83

## STA. 5+50

755.42
755.09

F-30 6:1 C-29 C-79 6:1 3:1 F-175 G-42

112.2' RT.

3:1 3:1 C-3 6'-6" (TYP.) 744.5 103.3' LT.

ITEM 203 EMBANKMENT USING GRANULAR MATERIAL

2:1 2:1 C-14 740.5 119.6' RT. 6'-6" (TYP.)

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| 112 | 631 |
| 115 | 628 |
| 111 | 542 |
| 119 | 650 |

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 142 | 156 | | |
| | | 256 | 313 |
| 134 | 182 | | |
| | | 260 | 329 |
| 146 | 173 | | |
| | | 49 | 58 |
| 146 | 173 | | |
| 156 | 184 | | |
| | | 229 | 279 |
| 156 | 184 | | |
| | | 278 | 369 |

CALCULATED R.J.O. 6/24/96
CHECKED A.L.L. 7/24/96

# CROSS SECTION
## STA. 7+50 TO STA. 9+00

COS-16-9.84
COS-36-20.06

105
231

RC005036.DGN 7/26/96

F-1 8:1 8:1 PROPOSED 15" CONDUIT C-95 6:1 F-153 3:1 C-1
C-46
EXISTING 15" CONDUIT (TO BE REMOVED UNDER I-R)
753.0 7.4' LT.
754.34 STA 9+00 754.95
6'-6" (TYP.) 748.0 81.6' LT.
EXISTING 2" GAS LINE STA. 9+25 (COLUMBIA GAS OF OHIO) 741.1 100.3' RT.
* CONDUIT, TYPE B 707.33, 707.42 OR 707.45

F-2 6:1 3:1 3:1

EXISTING 15" CONDUIT (TO BE REMOVED UNDER I-R)
4" x 8' TYPE F @ 1.00%
℄ EL. 4" 751.22 0.9' LT. STA. 8+50
6:1 6:1 C-87 F-179 96.9' RT.
℄ EL. 15" 742.96 92.3' RT. STA. 8+50
F-3 C-45 ℄ EL. 4" 750.21 24.5' LT. STA. 8+50
747.0 84.7' LT.
15" X 100' CONDUIT TYPE B @ 4.36%
C.B. NO. 8, AS PER PLAN 7.7' LT., STA. 8+50 ℄ EL. GRATE 752.78 ℄ EL. 15" & INVERT 747.32 ℄ EL. 4" U.D. LT. 750.04 ℄ EL. 4" U.D. RT. 751.14
14-SS
4" x 7' TYPE B * @ 1.00%
4" x 10' TYPE F @ 1.00%
754.38 STA 8+50 754.95
HW-4A OR B HEADWALL
741.0 101.7' RT.
ROCK CHANNEL PROTECTION TYPE C W/FILTER 2.5' X 5' X 18" THICK/27 = 0.7 CU.YD.
C-2
EXISTING C.B. STA. 8+35, 12.0' LT. (TO BE REMOVED UNDER I-R)
EXISTING CONCRETE (TO BE REMOVED)

12:1 12:1 C-142 F-173 99.1' RT.
753.6 2.6' LT.
PROPOSED 15" CONDUIT
754.45 STA 8+00 754.95
745.8 88.5' LT.
2:1 3:1 C-4
C.B. NO. 6, AS PER PLAN 1.3' LT., STA. 7+85 ℄ EL. GRATE 753.93 ℄ EL. 15" & INVERT 750.91 ℄ EL. 4" LT. 752.83
13-SS
STA 7+85
740.95 105.7' RT.
(AHEAD) STA. 7+90.94 (BACK)
(AHEAD) STA. 7+90.94 (BACK)

6:1 3:1 6:1 C-130 F-181 101.4' RT.
F-3 3:1 C-17
6'-6" (TYP.) 745.6 90.3' LT.
EXISTING UNDERGROUND TELEPHONE CABLE STA. 7+55± APPROXIMATE DEPTH AND LOCATION (30" MIN. GROUND COVER) AMERITECH TELEPHONE CO.
754.56 STA 7+50 755.07
2:1 3:1 C-9
740.9 110.37' RT.
6'-6" (TYP.)

| SEEDING END WIDTH | SEEDING SQ. YDS. | END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|---|---|
| 98 | 614 | 102 | 55 | 203 | 128 |
| 123 | 479 | 117 | 83 | 152 | 108 |
| 123 | 139 | 117 | 83 | 84 | 54 |
| 83 | 83 | 150 | 97 | | |
| 83 | 139 | 150 | 97 | 84 | 54 |
| 83 | 112 | 150 | 97 | 181 | 183 |
| 112 | 436 | 139 | 141 | | |
| 112 | 623 | 139 | 141 | 261 | 275 |

CALCULATED R.J.G. 6/24/96
CHECKED A.L.L. 7/24/96

# CROSS SECTION
## STA. 9+50 TO STA. 11+00

(AHEAD) STA. 10+15 (BACK)

END DRIVE 69' LT.

BEGIN DRIVE 59' RT.

ITEM 448 - 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE I, AC-20 (FOR DRIVEWAYS)

ITEM 301 - 5" BITUMINOUS AGGREGATE BASE, AC-20

C-6

COMMERCIAL DRIVE LT. STA. 10+00

(FOR QUANTITIES SEE SHEET 77)

EXISTING 24" CONCRETE CONDUIT (TO REMAIN IN SERVICE)

EXISTING 15" CONDUIT (TO BE ABANDONED)

C-24

3'-4" TYP.

751.9 1.2' RT.

754.43
STA 11+00
754.95

F EL. 4" 750.02
57.1' LT. STA. 10+50

4" × 2' TYPE F
4" × 4" × 45° WYE

EXISTING 4" U.D. 77.5' LT.

CONNECT PROPOSED WYE INTO EXISTING OUTLET

EXISTING 4" U.D. OUTLET

C-19

EXISTING OUTLET
48.5' LT. STA. 10+50
F EL. 750.02

754.40
STA 10+50
754.95

EXISTING CONCRETE (TO BE REMOVED)

C-131

PROPOSED 15" CONDUIT

754.38
STA 10+00
754.95

C.B. NO 8, AS PER PLAN
1.1' LT. STA. 10+50
F EL. GRATE 751.70
F EL. 15" & INVERT 749.32

C-76

C-14

C-62

C-16

C-37

C-67

C-8

741.4 104.9' RT.

6'-6" (TYP.)

4" × 11' TYPE B * @ 1.00%
F EL. 4" 752.21
51.7' RT. STA. 10+00

4" × 3' TYPE F
4" × 4" × 45° WYE

F EL. 4" 750.13
76.1' RT. STA. 10+00

4" × 22' TYPE F @ 1.00%

F EL. 4" 750.46
43.1' RT. STA. 10+00

C-5

C-92

741.3 103.4' RT.

* CONDUIT, TYPE B 707.33, 707.42 OR 707.45

(AHEAD) STA. 9+85 (BACK)

EXISTING C.B. STA. 9+50, 12.0' LT. (TO BE REMOVED UNDER I-R)

C-25

PROPOSED 15" CONDUIT

753.1 5.6' LT.

C-10

754.35
STA 9+50
754.95

C-95

C-4

F-125

741.2 101.8' RT.

6'-6" (TYP.)

COS-16-9.84
COS-36-20.06

106
231

RC006036.DGN 7/25/96

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| | 35448 |
| 69 | 238 |
| 69 | 364 |
| 62 | 437 |
| 95 | 528 |
| 95 | 537 |

TOTALS CARRIED TO THIS SHEET

STA. 13+31 (BACK)

END WORK STA. 43+50

END PROJECT STA. 13+31 S.L.M. 21.00

| ITEM 659 SEEDING AND MULCHING | |
|---|---|
| TOTAL CARRIED FROM SHEET 121 | 1538 |
| TOTAL CARRIED FROM SHEET 118 | 3723 |
| TOTAL CARRIED FROM SHEET 114 | 10142 |
| TOTAL CARRIED FROM SHEET 109 | 718 |
| TOTAL CARRIED FROM SHEET 107 | 35448 |
| TOTAL CARRIED TO SHEET 26 | 51569 |

| | ITEM 203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION | ITEM 203 EMBANKMENT | ITEM 203 EMBANKMENT USING GRANULAR MATERIAL |
|---|---|---|---|
| TOTALS CARRIED FROM SHEET 121 | 278 | 366 | 82 |
| TOTALS CARRIED FROM SHEET 118 | 2175 | 411 | |
| TOTALS CARRIED FROM SHEET 114 | 2331 | 9231 | |
| TOTALS CARRIED FROM SHEET 109 | 947 | 12 | |
| TOTALS CARRIED FROM SHEET 107 | 19392 | 30965 | 8114 |
| (TOTALS CARRIED TO GENERAL SUMMARY) | 25123 | 40985 | 8196 |

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| | | 19392 | 30965 |
| | | | 8114 |
| 102 | 0 | 118 | 13 |
| 102 | 22 | | |
| | | 188 | 49 |
| 101 | 30 | | |
| | | 185 | 62 |
| 98 | 36 | | |
| | | 128 | 74 |
| 40 | 43 | | |
| | | 132 | 91 |

CALCULATED R.J.G. 6/24/96
CHECKED A.L.L. 7/24/96

PROPOSED 4" U.D. TO CONNECT INTO EXISTING OUTLET, 20.2' RT. STA. 12+50 E EL. 749.54

EXISTING OUTLET

EXISTING C.B. STA. 12+50, 0.0' EX. 4" U.D. RT. 749.54 (TO REMAIN)

EXISTING 15" CONDUIT (TO REMAIN)

EXISTING CONCRETE (TO BE REMOVED)

* CONDUIT, TYPE B 707.33, 707.42 OR 707.45

EXISTING 15" CONDUIT (TO BE ABANDONED)

754.53 STA 13+00 754.52

751.8 3'-4" (TYP.) 13.1' RT.

754.51 STA 12+50 754.88

751.7 3'-4" (TYP.) 2.2' RT.

754.48 STA 12+00 754.90

751.8 3'-4" (TYP.) 1.8' RT.

754.46 STA 11+50 754.93

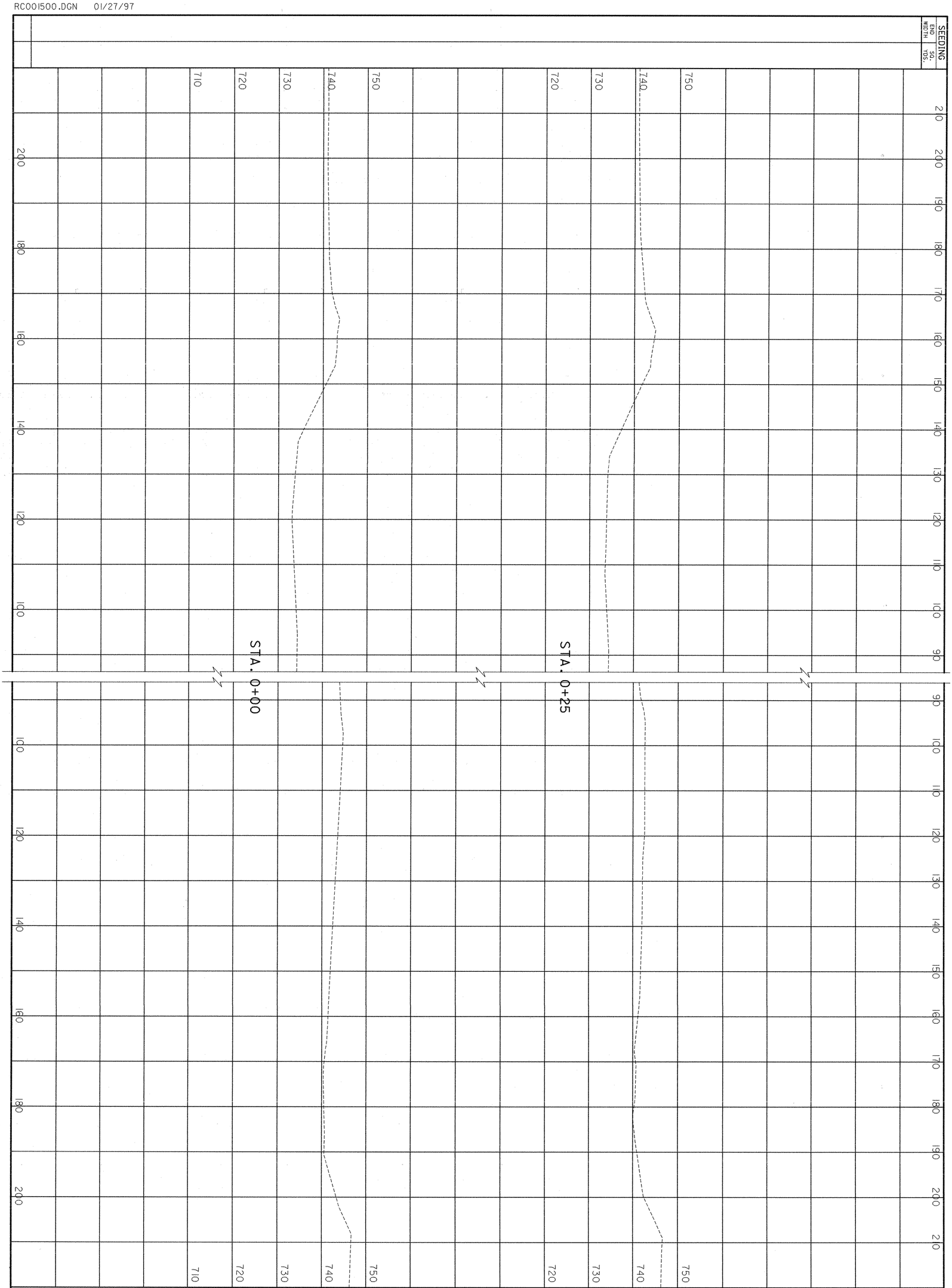
F-1 6:1 C-25 F-6 6:1 F-14 C-14 C-63 F-1 6:1 F-12 C-60 F-16 C-16 F-1 6:1 C-23 F-4 F-17 C-17 C-58 6:1 F-14 3:1 F-2 6:1 C-1 F-16 C-57 6:1 F-23 3:1

RC007036.DGN 7/25/96

# CROSS SECTION SHEET STA. 11+50 TO STA. 13+00

COS-16-9.84
COS-36-20.06

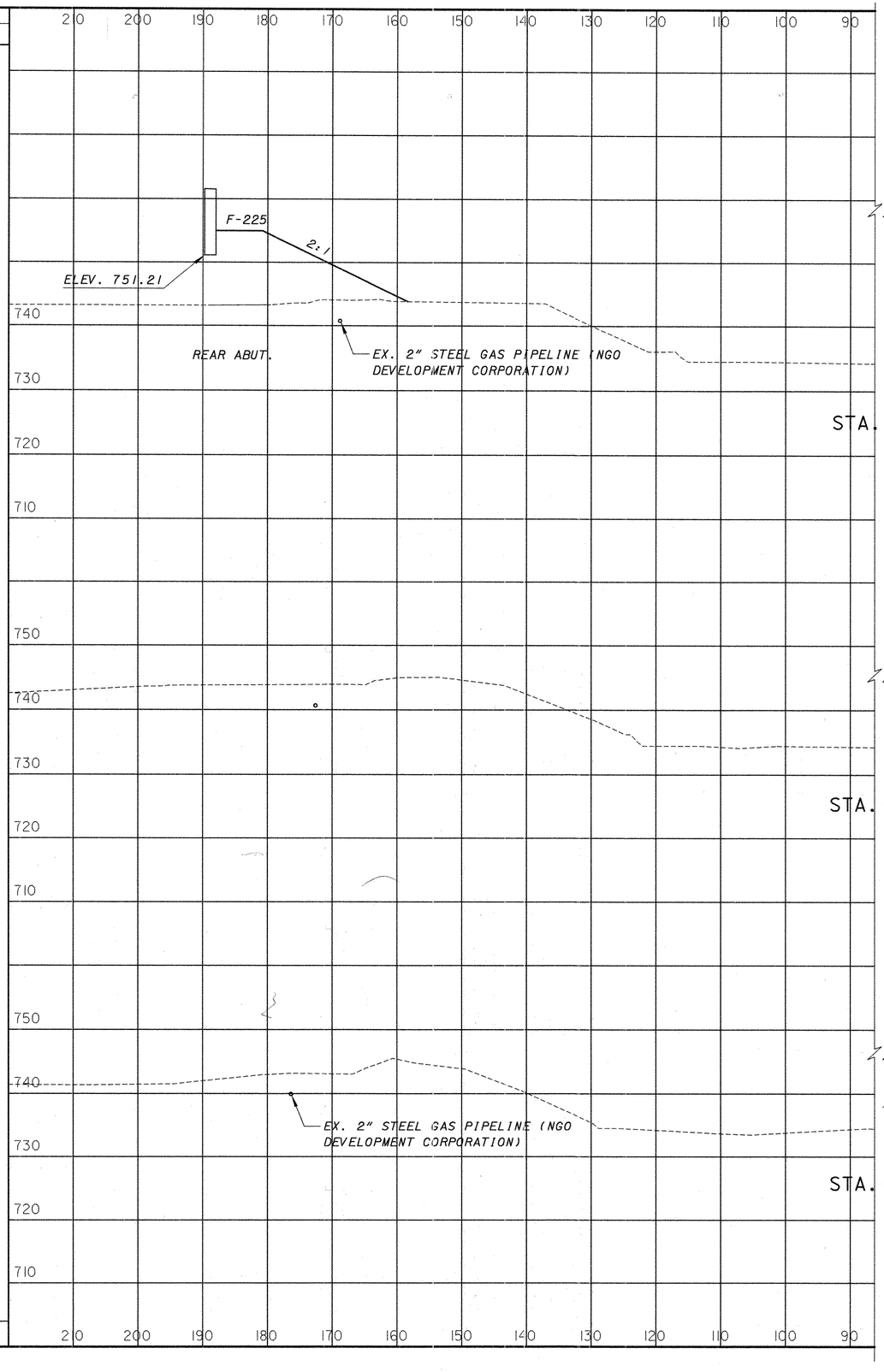
RC001500.DGN 01/27/97

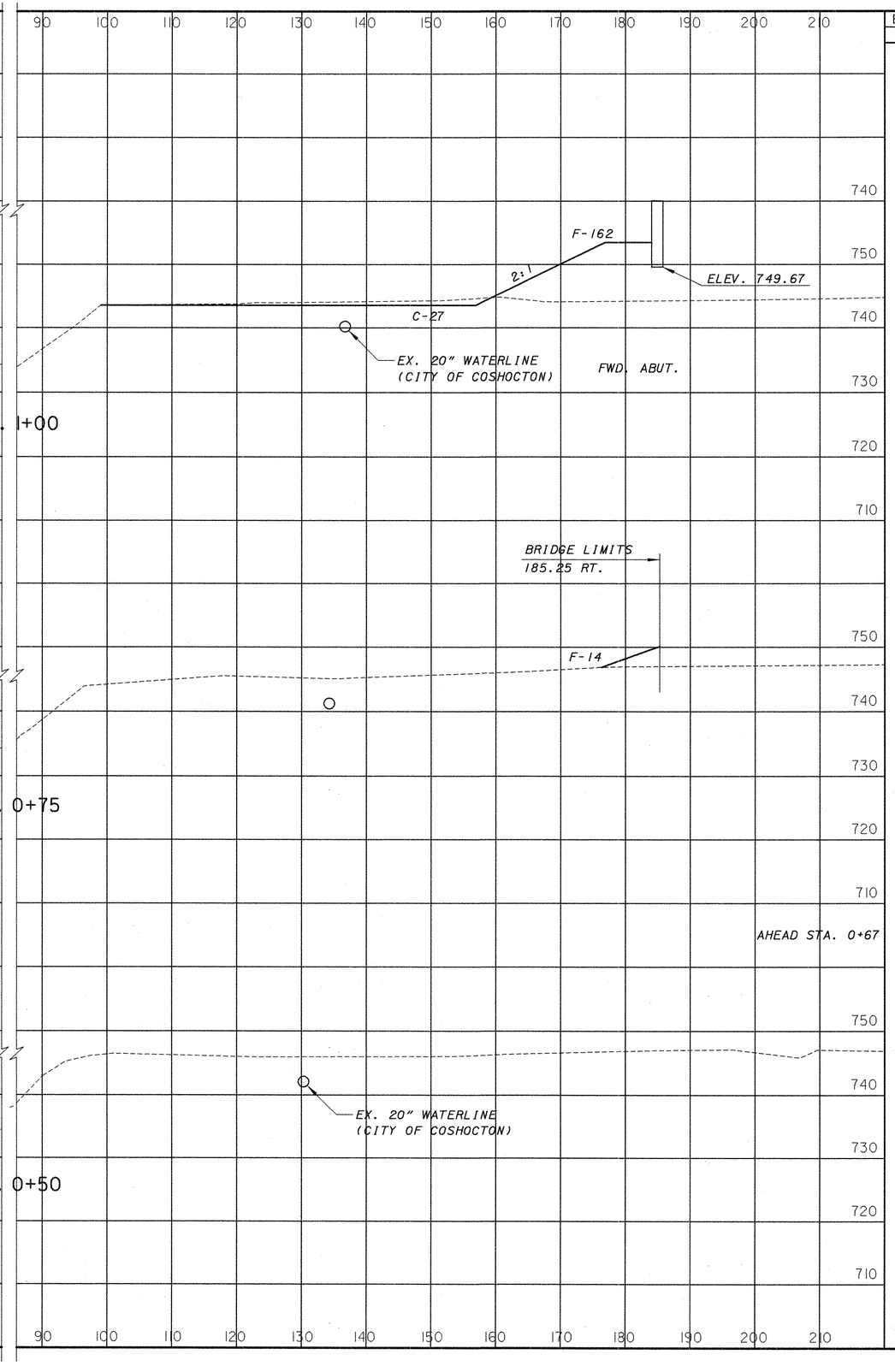



| | | |
|---|---|---|
| 107A / 231 | COS-16-9.84<br>COS-36-20.06 | **CROSS SECTION BASELINE STA. 550+75<br>STA. 0+00 TO STA. 0+25** |

CALCULATED TAG
CHECKED KAK

| SEEDING | |
|---|---|
| END WIDTH | SQ. YDS. |




| END AREA | | VOLUME | |
|---|---|---|---|
| CUT | FILL | CUT | FILL |
| | | 47 | 202 |
| 27 | 387 | | |
| | | 13 | 186 |
| 0 | 14 | | |
| | | 0 | 2 |
| 0 | 0 | | |

CALCULATED TAG

CHECKED KAK

# CROSS SECTION BASELINE STA. 550+75 STA. 0+50 TO STA. 1+00

COS-16-9.84
COS-36-20.06

107B
231

RCQ02500.DGN 02/14/97

| SEEDING | |
|---|---|
| END WIDTH | SQ. YDS. |

| END AREA | | VOLUME | |
|---|---|---|---|
| CUT | FILL | CUT | FILL |
| | | 101 | 34 |
| 159 | 0 | | |
| | | 263 | 0 |
| 408 | 0 | | |
| | | 224 | 23 |
| 75 | 49 | | |

CALCULATED TAG

CHECKED KAK

# CROSS SECTION BASELINE STA. 550+75 STA. 1+25 TO STA. 1+75

COS-16-9.84
COS-36-20.06

107C
231

STA. 1+75

1913 (MOD.) FLOOD ELEV. 753.50

5'-0"

ROCK CHANNEL PROTECTION, TYPE C
2'-0" THICK WITH FILTER FABRIC (RC-175)

2:1

C-25

ELEV. 751.21

SEE SHT. 3/21 FOR DRIVE DETAILS.

2.5:1±

C-26

RC-26

RC-8

REAR ABUT.

EX. 2" STEEL GAS PIPELINE (NGO DEVELOPMENT CORPORATION)

ELEV. 724.91

ROCK CHANNEL PROTECTION, TYPE C
2'-0" THICK WITH FILTER FABRIC (RC-155)

C-14

C-94

ELEV. 749.67

EX. 20" WATERLINE (CITY OF COSHOCTON)

FWD. ABUT.

ELEV. 726.31

STA. 1+50

RC-173

C-4

C-300

RC-2

RC-155

C-82

C-22

RC-30

STA. 1+25

F-49

ROCK CHANNEL PROTECTION, TYPE C
2'-0" THICK WITH FILTER FABRIC (RC-158)

C-36

C-24

C-15

RC-32

EX. 2" STEEL GAS PIPELINE (NGO DEVELOPMENT CORPORATION)

EX. 20" WATERLINE (CITY OF COSHOCTON)

BC003500.DGN 02/19/97

| SEEDING | |
|---|---|
| END WIDTH | SQ. YDS. |

| END AREA | | VOLUME | |
|---|---|---|---|
| CUT | FILL | CUT | FILL |
| TOTAL | | 475 | 470 |

(TOTALS CARRIED TO THE GENERAL SUMMARY)

ITEM 601-ROCK CHANNEL PROTECTION, TYPE C WITH FILTER

STA. 1+03.5 TO 1+25 = (21.5 FT. x 345 S.F.)/27 = 275 CU.YD.
STA. 1+25 TO 1+50 = (25 FT. x 352.5 S.F.)/27 = 326 CU.YD.
STA. 1+50 TO 1+75 = (25 FT. x 362 S.F.)/27 = 335 CU.YD.
STA. 1+75 TO 1+96.5 = (21.5 FT. x 364 S.F.)/27 = 290 CU.YD.

(CARRIED TO THE GENERAL SUMMARY) TOTAL = 1226 CU.YD.

EX. 2" GAS PIPELINE (NGO DEVELOPMENT CORPORATION)

STA. 2+50

EX. 20" WATERLINE (CITY OF COSHOCTON)

STA. 2+25

BACK STA. 2+25 | 0 | 0

F-48
2:1
ELEV. 751.21
C-36
REAR ABUT
EX. 2" GAS PIPELINE (NGO DEVELOPMENT CORPORATION)

F-26
2:1
C-23
ELEV. 749.67
FWD. ABUT
EX. 20" WATERLINE (CITY OF COSHOCTON)

STA. 2+00

| | | | |
|---|---|---|---|
| 59 | 74 | 27 | 34 |

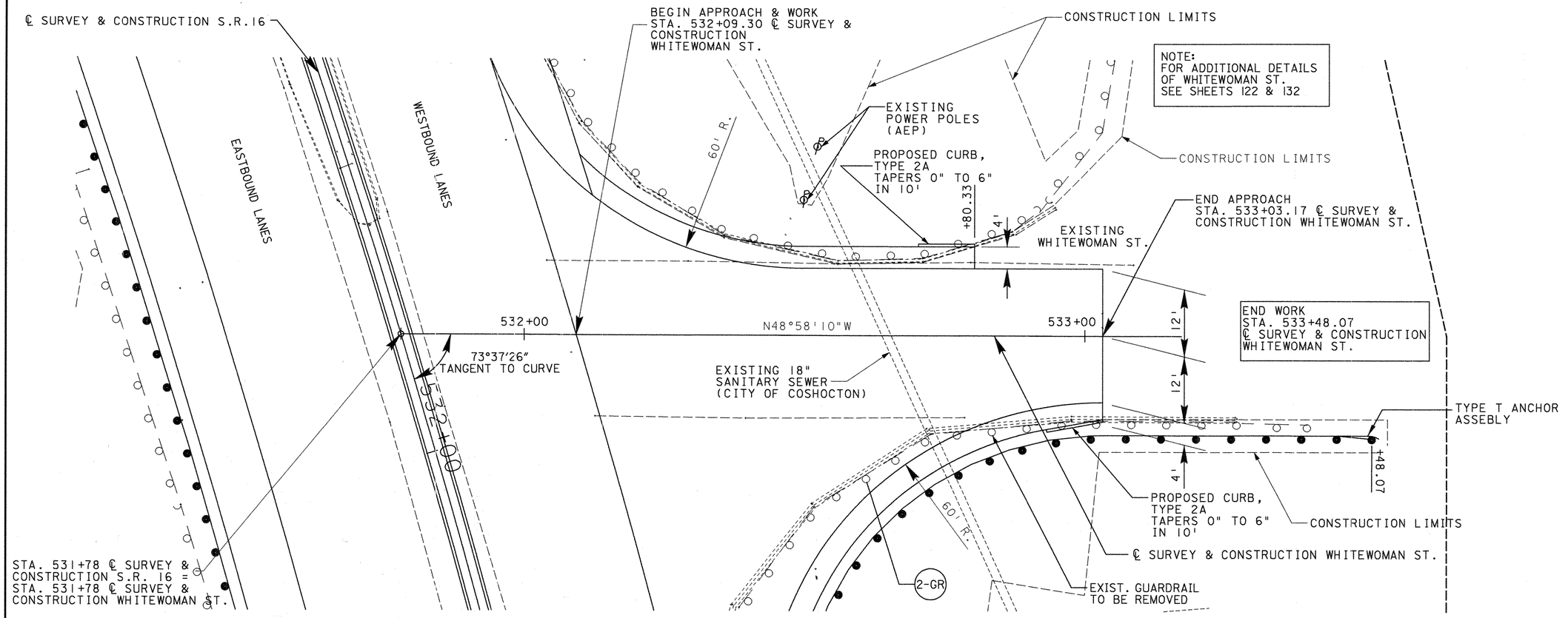
CALCULATED TAG
CHECKED KAK

# CROSS SECTION BASELINE STA. 550+75 STA. 2+00 TO STA. 2+50

COS-16-9.84
COS-36-20.06

107D
231

RC004500.DGN 02/19/97




RCP01022.DGN 8/09/96

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED D.M. 6/24/96
CHECKED A.L.L. 7/24/96

# PLAN AND PROFILE WHITEWOMAN ST.
# STA. 531+78 TO STA. 533+03.17

COS-16-9.84
COS-36-20.06

108
231

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| | 718 |
| 10 | |
| 48 | 11 |
| | 200 |
| 96 | |
| | 234 |
| 72 | |
| | 177 |
| 55 | 96 |
| 55 | |

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| | | | |
| | | 947 | 12 |
| 49 | 0 | | |
| | | 6 | 2 |
| 49 | 20 | | |
| | | 212 | 10 |
| 407 | 0 | | |
| | | 298 | 0 |
| 237 | 0 | | |
| | | 252 | 0 |
| 307 | 0 | | |
| | | 179 | 0 |
| 307 | 0 | | |

TOTALS CARRIED TO SHEET 107

END APPROACH
STA. 533+03.17

END WORK
STA. 533+48.07

TOTALS CARRIED TO SHEET 107

STA. 533+03.17 (BACK)

STA. 533+03.17 (BACK)

12′ 12′

F-20

3:1

C-49

765.46
533+00
765.46

EXISTING
18" SANITARY SEWER
(TO REMAIN IN SERVICE)
(CITY OF COSHOCTON)

12′ 19.02′ 4.59′

1"/FT.

1"/FT.

C-407
764.49
532+75
764.84

EXISTING
18" SANITARY SEWER
(TO REMAIN IN SERVICE)
(CITY OF COSHOCTON)

EXISTING
SANITARY SEWER
MANHOLE
STA. 532+88.42, 52.73′ RT.
(TO REMAIN IN SERVICE)
(CITY OF COSHOCTON)

EXISTING POWER POLE
(AEP)

12′ 44.17′ 10.70′

3:1

35′ LT.

C-237
762.78
532+50
763.95

EXISTING UNDERGROUND
POWER LINES
(AEP)

4.4′ 17.4′ 56.6′

F. EL. 4" 758.58
43.9′ LT. STA. 532+37

1"/FT.

4" x 26′ TYPE F
@ 1.00%

F. EL. 4" 758.84
20.2′ LT. STA. 532+27

C-307
761.67
532+25
762.62

MATCHLINE S.R. 16

STA. 532+09.30 (AHEAD)

STA. 532+09.30 (AHEAD)

BEGIN APPROACH AND WORK
STA. 532+09.30

754
744
734
724

CALCULATED R.J.G. 6/24/96

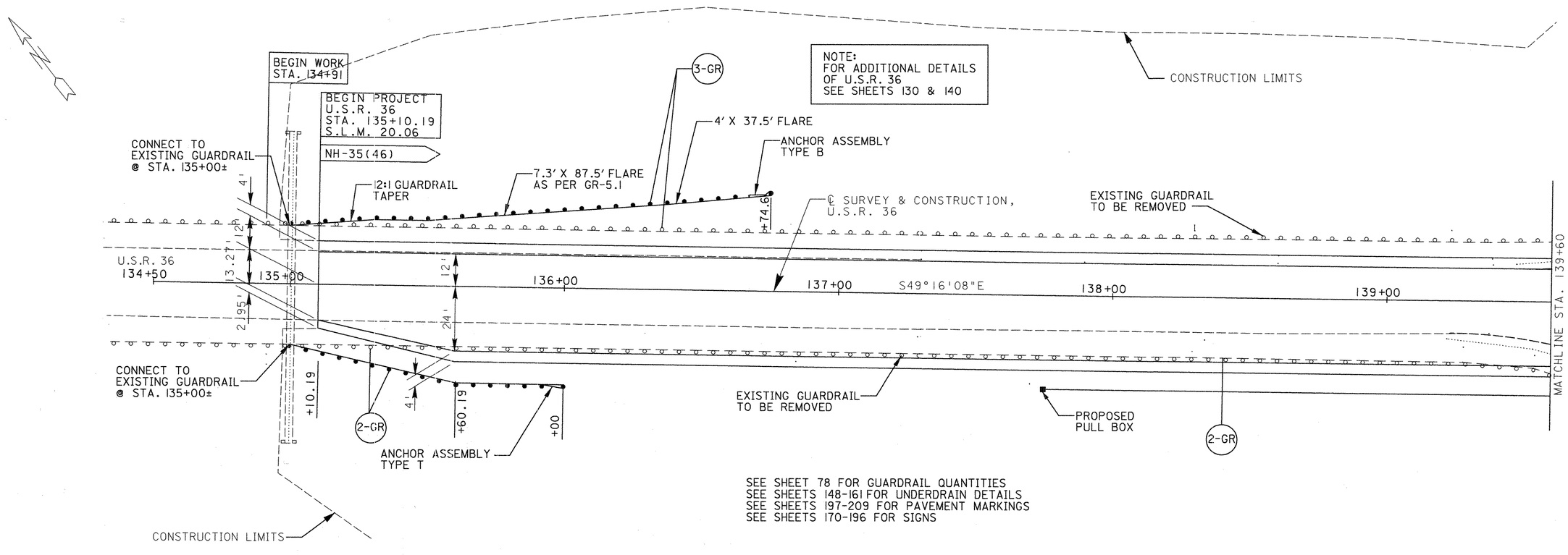
CHECKED A.J.L. 7/24/96

# CROSS SECTIONS
# STA. 532+25 TO STA. 533+00 WHITEWOMAN ST.

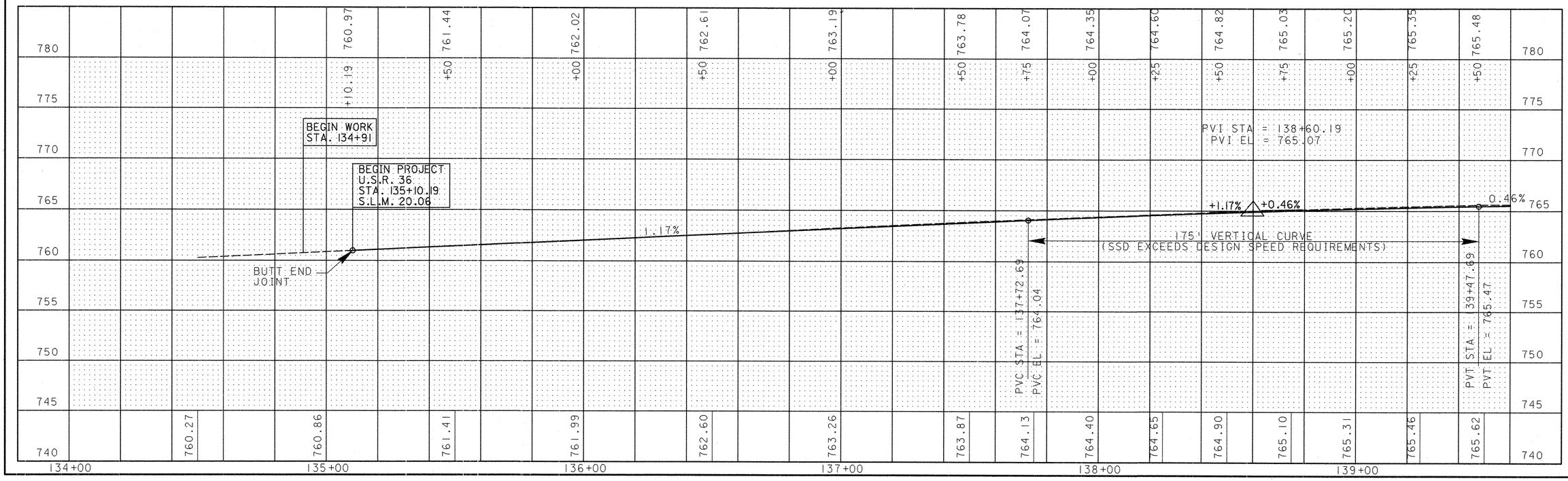
COS-16-9.84
COS-36-20.06

109
231

RC001022.DGN 8/13/96




SEE SHEET 78 FOR GUARDRAIL QUANTITIES
SEE SHEETS 148-161 FOR UNDERDRAIN DETAILS
SEE SHEETS 197-209 FOR PAVEMENT MARKINGS
SEE SHEETS 170-196 FOR SIGNS




RCP01019.DGN 7-31-96

HORIZONTAL SCALE IN FEET
0 10 20 40

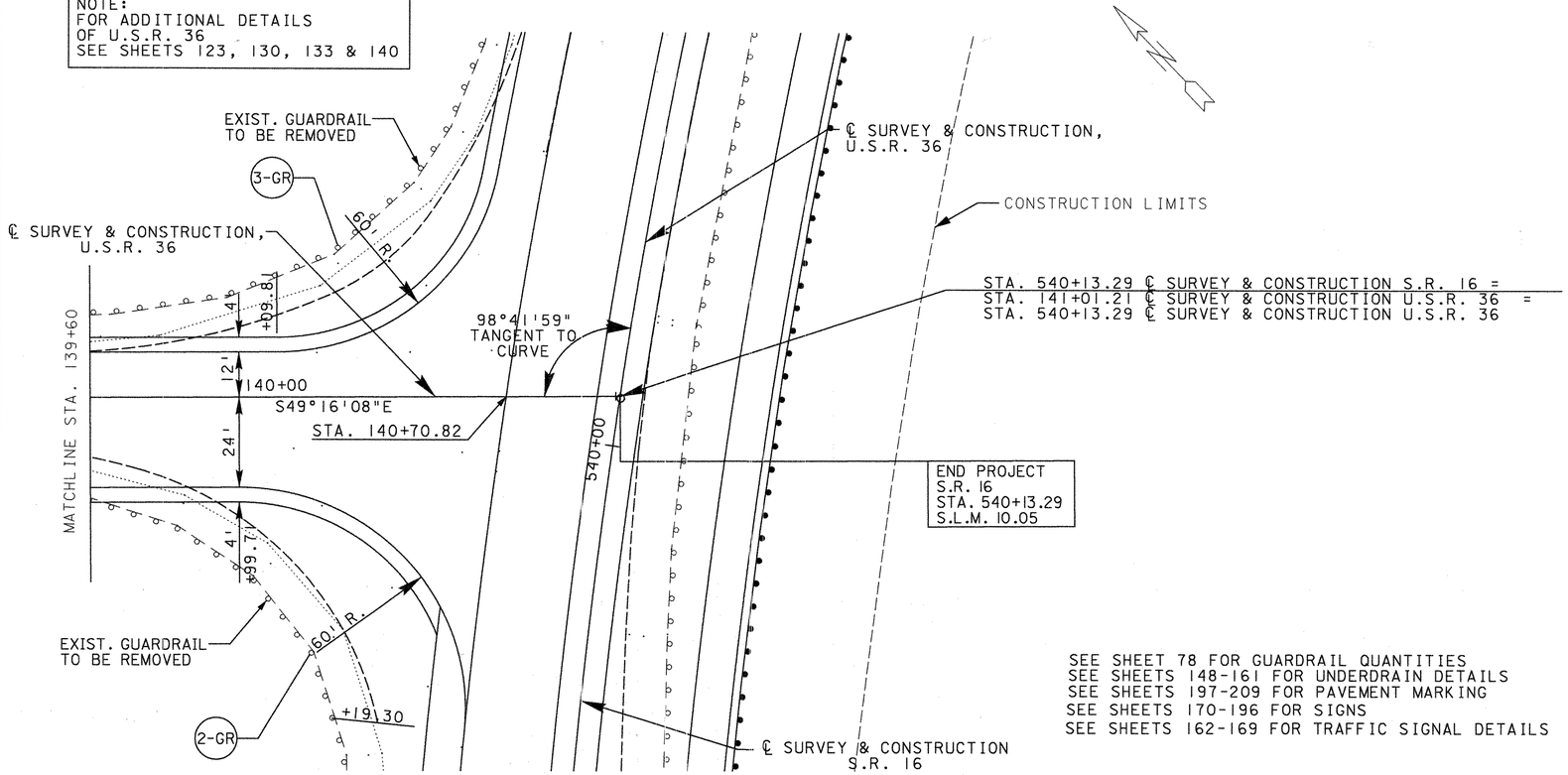
CALCULATED D.M. 6/27/96
CHECKED A.L.L. 7/24/96

# PLAN AND PROFILE U.S.R. 36
# STA. 134+50 TO STA. 139+60

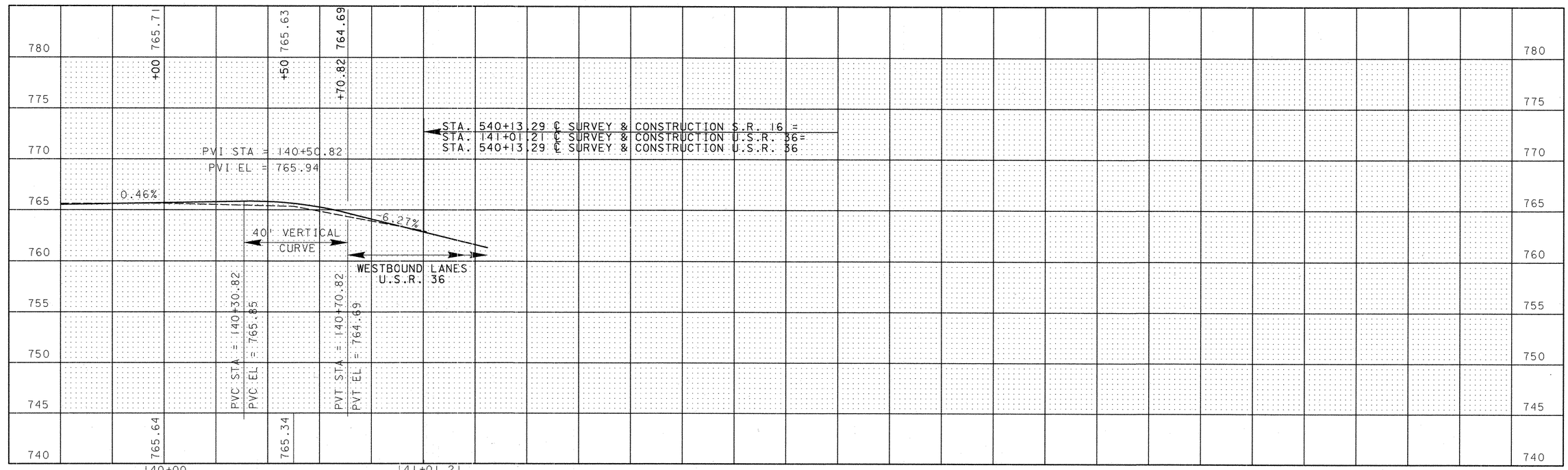
COS-16-9.84
COS-36-20.06

110
231

NOTE:
FOR ADDITIONAL DETAILS
OF U.S.R. 36
SEE SHEETS 123, 130, 133 & 140




SEE SHEET 78 FOR GUARDRAIL QUANTITIES
SEE SHEETS 148-161 FOR UNDERDRAIN DETAILS
SEE SHEETS 197-209 FOR PAVEMENT MARKING
SEE SHEETS 170-196 FOR SIGNS
SEE SHEETS 162-169 FOR TRAFFIC SIGNAL DETAILS




RCP02019.DGN 7/31/96

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED D.M. 6/20/96
CHECKED J.L. 7/24/96

# PLAN AND PROFILE U.S.R. 36
## STA. 139+60 TO STA. 141+01.21

COS-16-9.84
COS-36-20.06

111
231

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| 190 | 1083 |
| 200 | 1042 |
| 175 | 432 |
| 20 | |

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 149 | 549 | | |
| | | 264 | 949 |
| 136 | 476 | | |
| | | 224 | 848 |
| 106 | 439 | | |
| | | 113 | 324 |
| 47 | 0 | | |

CALCULATED R.J.H. 6/20/96

CHECKED A.L.L. 7/24/96

# CROSS SECTIONS U.S.R. 36 STA. 135+00 TO STA. 136+50

C-55 · 42.2' LT.** · 10:1 · 6:1 · F-224 · 3:1 · F-325 · 3:1 · C-39 · 3:1 · 6'-6" (TYP.) · 744.2 · 81.5' LT. · 762.61 · 136+50 · 762.60 · C-55 · 742.4 · 98.4' RT. · 3:1 · 6'-6" (TYP.)

**NOTE: AREA TO BE GRADED AS PER STANDARD DRAWING GR-5.2

C-53 · 35.0' LT.** · 10:1 · F-145 · F-331 · C-42 · 6'-6" (TYP.) · 743.9 · 83.3' LT. · 762.02 · 136+00 · 761.99 · EXISTING CONCRETE (TO BE REMOVED) · C-41 · 742.6 · 96.2' RT.

4" x 4' TYPE B * @ 1.00% · ℄ EL. 4" 759.10 · 14.1' LT. STA. 135+61 · 4" x 2' TYPE F · 4" x 4" x 45° WYE · 4" x 21' TYPE F @ 1.00% · ℄ EL. 4" 757.60 · 11.5' LT. STA. 135+61 · ℄ EL. 4" 757.35 · 36.5' LT. STA. 135+61

4" x 4' TYPE B * @ 1.00% · ℄ EL. 4" 759.20 · 26.3' RT. STA. 135+61 · 4" x 4' TYPE F · 4" x 4" x 45° WYE · 4" x 21' TYPE F @ 1.00% · ℄ EL. 4" 756.95 · 24.8' RT. STA. 135+61 · ℄ EL. 4" 756.70 · 49.8' RT. STA. 135+61

C-52 · F-123 · 3:1 · F-316 · 3:1 · C-29 · 3:1 · 4'-0" · 743.6 · 79.8' LT. · 761.44 · 135+50 · 761.41 · C-25 · 742.8 · 92.7' RT. · 3:1 · 6'-6" (TYP.)

BEGIN PROJECT U.S.R. 36 STA. 135+10.19 S.L.M. 20.06

* CONDUIT, TYPE B 707.33, 707.42 OR 707.45

STA. 135+10.19 (AHEAD) · STA. 135+10.19 (AHEAD)

135+00 · 760.86 · EXIST. 33" CONCRETE CONDUIT (TO REMAIN IN SERVICE)

BEGIN WORK STA. 134+91

COS-16-9.84
COS-36-20.06

112
231

RC001019.DGN 8/14/96

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| 187 | 1053 |
| 192 | 1056 |
| 187 | 1042 |
| 188 | 1060 |
| 193 | 1064 |

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 68 | 618 | 140 | 1144 |
| 83 | 617 | 149 | 1146 |
| 78 | 620 | 168 | 1095 |
| 103 | 562 | 212 | 1017 |
| 126 | 536 | 255 | 1005 |

CALCULATED A.L.L. 6/21/96

CHECKED A.L.L. 7/24/96

# CROSS SECTIONS U.S.R. 36
# STA. 137+00 TO STA. 139+00

## COS-16-9.84
## COS-36-20.06

113
231

RC002019.DGN 8/14/96

| SEEDING END WIDTH | SEEDING SQ. YDS. | |
|---|---|---|
| | | |
| | 10142 | TOTALS CARRIED TO SHEET 107 |
| 0 | | STA. 140+70.82 (BACK) |
| | 0 | |
| 0 | | |
| | 384 | |
| 138 | | |
| | 895 | |
| 184 | | |
| | 1031 | |

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| | | | |
| | | 2331 | 9231 |
| 276 | 0 | | |
| | | 213 | 0 |
| 276 | 0 | | |
| | | 332 | 56 |
| 82 | 60 | | |
| | | 137 | 565 |
| 66 | 550 | | |
| | | 124 | 1082 |

CALCULATED A.L.L. 6/21/96

CHECKED A.L.L. 7/24/96

TOTALS CARRIED TO SHEET 107

STA. 140+70.82 (BACK)

MATCHLINE S.R. 16

MATCHLINE S.R. 16

770 / 760 / 750 / 740

C-276

765.63
140+50
765.34

765.71
140+00
765.64

765.48
139+50
765.62

F-60

6:1 C-9

C-45

6:1 C-28

3:1

EXISTING CONCRETE (TO BE REMOVED)

746.3
84.1' LT.

F-179

6:1 C-58

6:1

3:1

F-371

3:1

746.0
84.9' LT.

C-8

741.2
10.7' RT.

3:1

6'-6" (TYP.)

120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130

RC003019.DGN 7/31/96

# CROSS SECTIONS U.S.R. 36
## STA. 139+50 TO STA. 141+00

COS-16-9.84
COS-36-20.06

℄ SURVEY & CONSTRUCTION U.S.R. 36

PROPOSED STRAIN POLE

6-GR

BEGIN APPROACH & WORK
STA. 0+50.61 ℄ SURVEY & CONSTRUCTION S.R. 83

+89.73

2-C

CONSTRUCTION LIMITS

24" X 130' CONDUIT, TYPE A, 706.02 OR 30" X 130' CONDUIT, TYPE A, 707.01

EXISTING LIGHT POLE

60' R.

EXIST. GUARDRAIL TO BE REMOVED

TO BE REMOVED

℄ EASTBOUND LANES

4+00

1+00

79°35' TANGENT TO CURVE

N09°10'49"W

2+00

3+00

4+00

5+00

P.C. STA. 3+23.94

PI STA = 4+56.03
△ = 40°49'10"LT.
Dc = 16°08'23"
T = 132.09'
R = 355.00'
L = 252.91'
E = 23.78'

+49.63

+99.63

24'

12'

4'

1.89'

S.R. 83

+44.95

℄ SURVEY & CONSTRUCTION S.R. 83

PROPOSED PULL BOX

PROPOSED PULL BOX

END APPROACH & WORK
STA. 4+99.63 ℄ SURVEY & CONSTRUCTION S.R. 83

CONSTRUCTION LIMITS

EXIST. 15" CONCRETE CONDUIT
(TO BE REMOVED AS PER ITEM 202
QUANTITY CARRIED WITH 2-C)

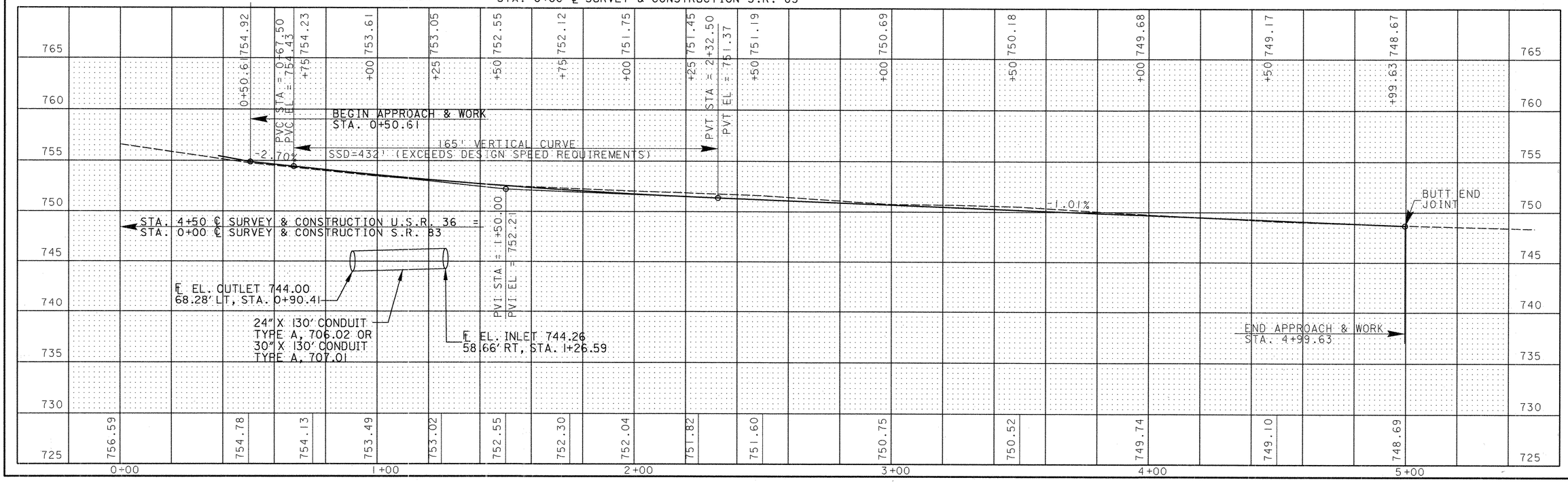
+59.22

PROPOSED PULL BOX

STA. 4+50 ℄ SURVEY & CONSTRUCTION U.S.R. 36 =
STA. 0+00 ℄ SURVEY & CONSTRUCTION S.R. 83

NOTE:
FOR ADDITIONAL DETAILS
OF S.R. 83
SEE SHEETS 116-118, 128, 131,
137 & 141

SEE SHEETS 145 & 147 FOR 2-C
SEE SHEETS 148-161 FOR UNDERDRAIN DETAILS
SEE SHEETS 197-209 FOR PAVEMENT MARKING
SEE SHEETS 162-169 FOR TRAFFIC SIGNAL
SEE SHEETS 170-196 FOR SIGNS




HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED D.M. 6/21/96
CHECKED A.L.L. 7/24/96

PROFILE S.R. 83
STA. 0+00 TO STA. 5+40

COS-16-9.84
COS-36-20.06

115
231

RCP01020.DGN 8/01/96

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| 98 | 560 |
| 107 | 567 |
| 97 | 445 |
| 65 | |

120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130

746
736

C-89 3:1 3:1 2'-0" (TYP.) 744.2 60.5' LT.

6:1 6:1 F-18 3:1 C-84 C-4 744.4 49.5' RT.

751.75
2+00
752.04

C-260 744.1 63.1' LT.

6:1 F-21 3:1 C-5 744.3 51.7' RT.

752.55
1+50
752.55

EXISTING CONCRETE (TO BE REMOVED)

CULVERT INLET
℄ EL. 744.26
58.66' RT.
STA. 1+26.59

6:1 F-56 3:1 3:1 2'-0" (TYP.) C-42 744.0 66.5' LT.

C-103 6:1 F-38

753.61
1+00
753.49

STA. 0+50.61 (AHEAD)

CULVERT OUTLET
℄ EL. 744.00
68.28' LT.
STA. 0+90.41

BEGIN APPROACH AND WORK
STA. 0+50.61

STA. 0+50.61 (AHEAD)

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 177 | 18 | 410 | 37 |
| 265 | 21 | 380 | 107 |
| 145 | 94 | 227 | 86 |
| 103 | 0 | | |

CALCULATED A.J.C. 6/21/96

CHECKED A.L.L. 7/24/96

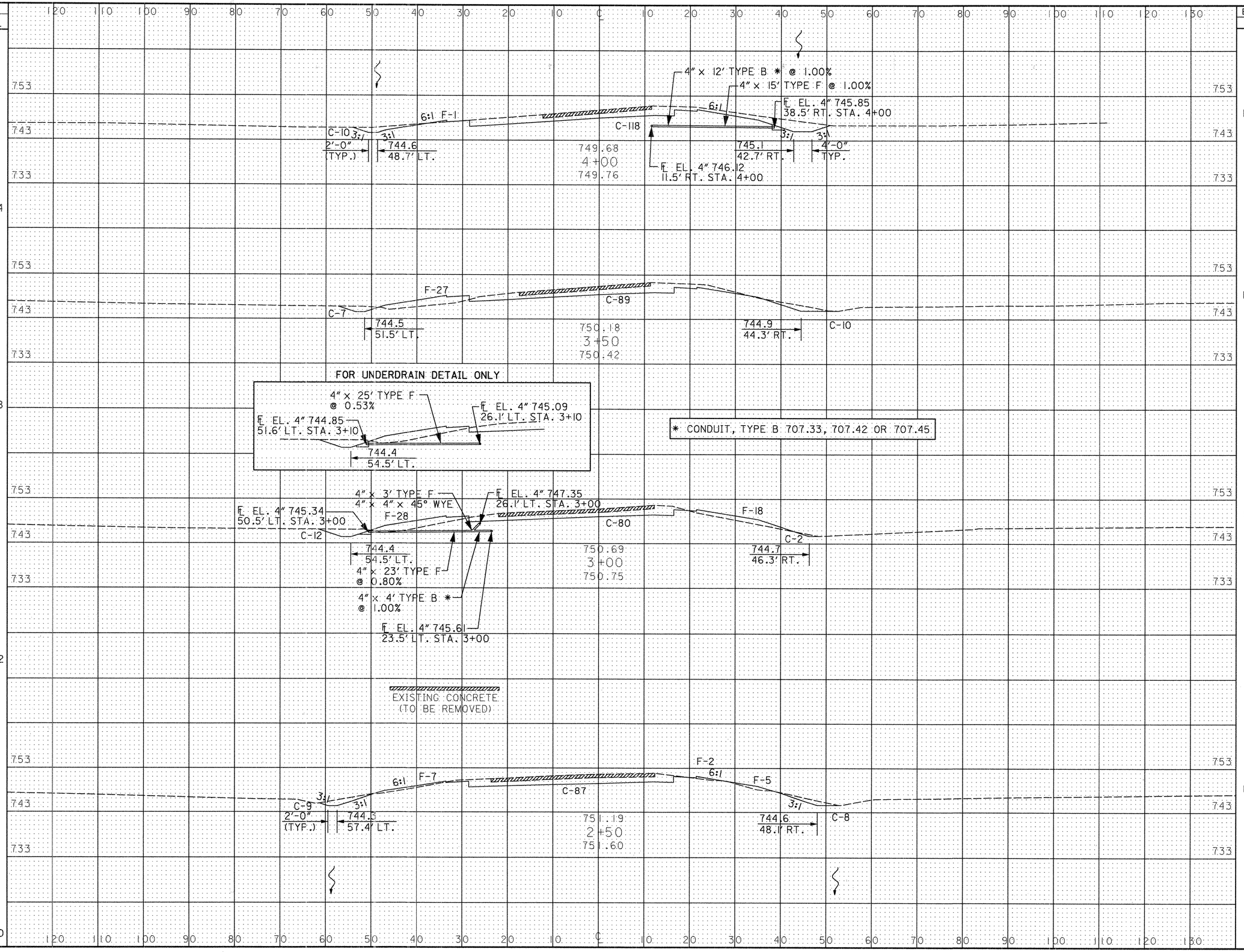
# CROSS SECTIONS S.R. 83
# STA. 0+50.61 TO STA. 2+00

COS-16-9.84
COS-36-20.06



RC001020.DGN 8/14/96

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| 72 | 414 |
| 77 | 428 |
| 77 | 442 |
| 82 | 500 |




| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| 128 | 1 | 217 | 26 |
| 106 | 27 | 186 | 68 |
| 94 | 46 | 184 | 56 |
| 104 | 14 | 261 | 30 |

CALCULATED R.J.S. 6/21/96
CHECKED A.L.L. 7/24/96

# CROSS SECTIONS S.R. 83 STA. 2+50 TO STA. 4+00

COS-16-9.84
COS-36-20.06

117
231

8/14/96
RC002020.DGN

| SEEDING | |
|---|---|
| END WIDTH | SQ. YDS. |
| 20 | 3723 |
| | 111 |
| 20 | 256 |

120 110 100 90 80 70 60 50 40 30 20 10 C 10 20 30 40 50 60 70 80 90 100 110 120 130

TOTALS CARRIED TO SHEET 107

END APPROACH AND WORK
STA. 4+99.63

TOTALS CARRIED TO SHEET 107

743
733
723
743
733

C-55

748.67
4+99.63
748.67

EXISTING CONCRETE
(TO BE REMOVED)

743
733

C-76

749.17
4+50
749.10

| END AREA | | VOLUME | |
|---|---|---|---|
| CUT | FILL | CUT | FILL |
| | | 2175 | 411 |
| 55 | 0 | | |
| | | 121 | 0 |
| 76 | 0 | | |
| | | 189 | 1 |

CALCULATED
K.J.G.
6/21/96

CHECKED
A.L.L.
7/24/96

# CROSS SECTIONS S.R. 83
# STA. 4+50 TO STA. 4+99.63

COS-16-9.84
COS-36-20.06

118
231

RC003020.DGN 8/14/96

STA. 4+50 ℄ SURVEY & CONSTRUCTION U.S.R. 36 =
STA. 0+00 ℄ SURVEY & CONSTRUCTION CR 1A

℄ SURVEY & CONSTRUCTION U.S.R. 36

5+00

2+00

BEGIN APPROACH & WORK
STA. 0+14.33
℄ SURVEY & CONSTRUCTION CR 1A.

60' R.

7-GR

4' +60.18

EXIST. GUARDRAIL
TO BE REMOVED

60" X 18' CONDUIT,
TYPE A, 706.02

3-C

CONSTRUCTION
LIMITS

NOTE:
FOR ADDITIONAL DETAILS
OF CR 1A
SEE SHEETS 120, 121, 127 & 137

END WORK
STA. 1+75
℄ SURVEY & CONSTRUCTION C.R. 1A.

4' +03.51

END APPROACH
STA. 1+19.64
℄ SURVEY & CONSTRUCTION CR 1A

4' 1+19.64

+75

℄ SURVEY & CONSTRUCTION CR 1A

12'

1+00

10.59'

S09°10'49"E

2+00

EXISTING
CONCRETE PAVEMENT

75°35'
TANGENT
TO CURVE

℄ EASTBOUND
LANES

WESTBOUND LANES

EASTBOUND LANES

12'

10.39'

+53

4' +03.51

4' 1+19.64

CONSTRUCTION LIMITS

5-GR

EXIST. GUARDRAIL
TO BE REMOVED

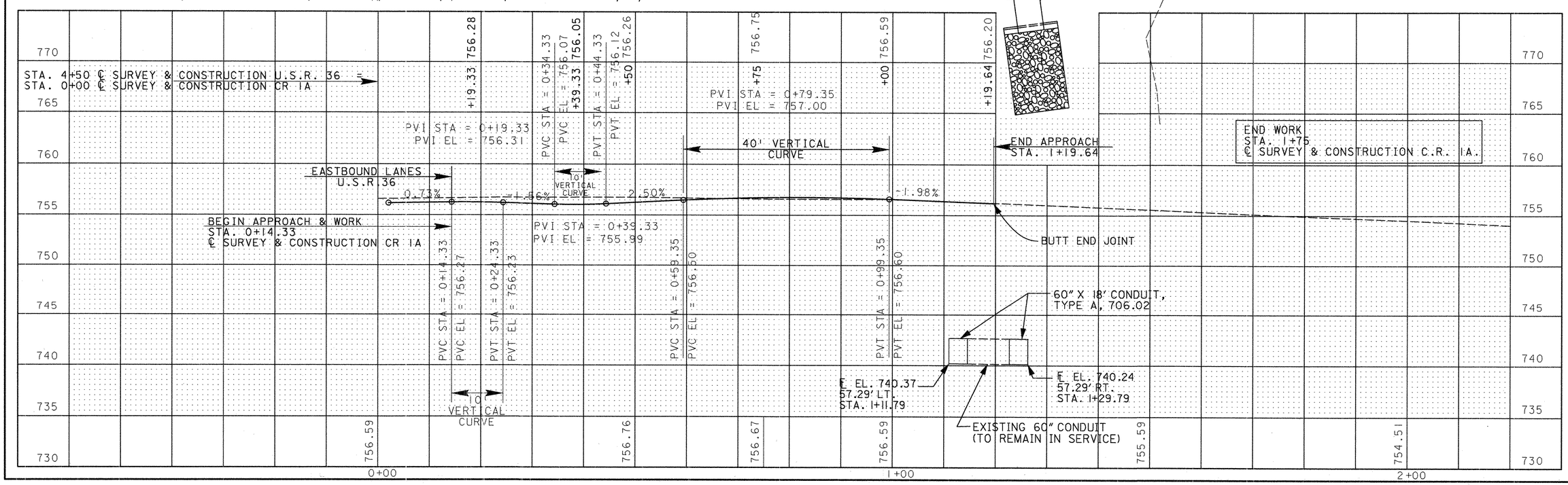
60' R.

EXISTING 60" CONDUIT
(TO REMAIN IN SERVICE)

60" X 18' CONDUIT,
TYPE A, 706.02

3-C

SEE SHEETS 146 & 147 FOR 3-C
SEE SHEET 78 FOR GUARDRAIL QUANTITIES
SEE SHEETS 148-161 FOR UNDERDRAIN DETAILS
SEE SHEETS 197-209 FOR PAVEMENT MARKING
SEE SHEETS 162-169 FOR TRAFFIC SIGNAL
SEE SHEETS 170-196 FOR SIGNS




HORIZONTAL
SCALE IN FEET
0 5 10 20

CALCULATED D.M. 6/21/96
CHECKED J.L.L. 7/24/96

# PLAN AND PROFILE CR 1A
# STA. 0+00 TO STA. 2+00

COS-16-9.84
COS-36-20.06

119
231

RCP01021.DGN 8/9/96

| SEEDING END WIDTH | SEEDING SQ. YDS. |
|---|---|
| 102 | 284 |
| 102 | |
| 81 | 225 |
| 81 | |
| | 250 |
| 99 | |
| | 262 |
| 89 | |
| | 180 |
| 40 | |
| 0 | 24 |

| END AREA CUT | END AREA FILL | VOLUME CUT | VOLUME FILL |
|---|---|---|---|
| | | 15 | 55 |
| | | (2) | (83) |
| 29 | 97 | | |
| (4) | (180) | | |
| | | 6 | 20 |
| 29 | 97 | | |
| 58 | 41 | | |
| | G-35 | (4) | (134) |
| | | 43 | 30 |
| | | | G-26 |
| 58 | 41 | | |
| | G-35 | | |
| (5) | (109) | | |
| | | 57 | 49 |
| | | | G-30 |
| | | (6) | (87) |
| 65 | 65 | | |
| | G-28 | | |
| (8) | (79) | | |
| | | 66 | 91 |
| | | | G-19 |
| (6) | (65) | | |
| 77 | 131 | | |
| | G-12 | | |
| (5) | (62) | | |
| | | 65 | 97 |
| | | | G-7 |
| (2) | (50) | | |
| 63 | 77 | 25 | 16 |
| (0) | G-3 (45) | (0) | (18) |
| 63 | 0 | | |
| (0) | (45) | | |

CALCULATED R.J.C. 6/27/96

CHECKED A.L.L. 7/24/96

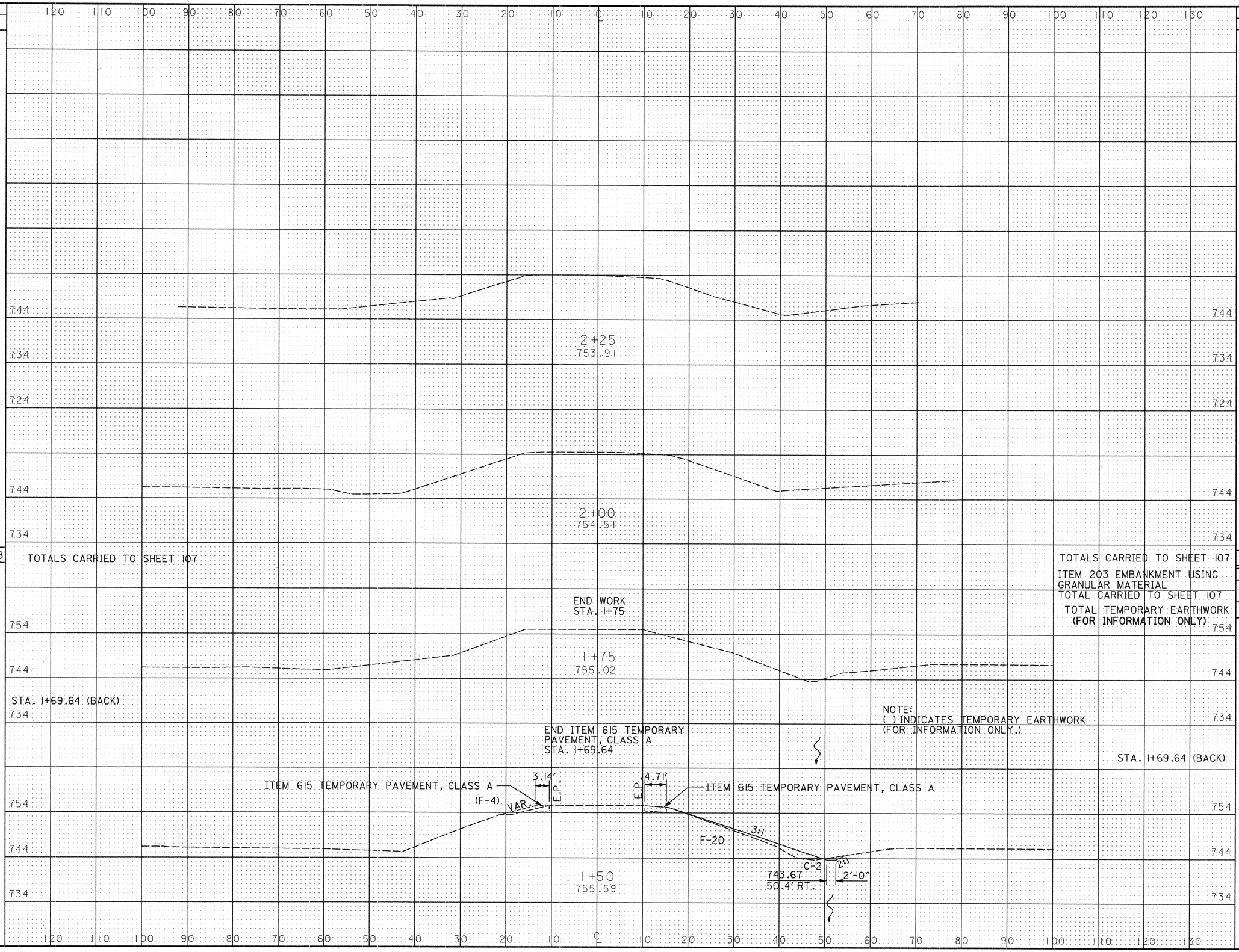
# CROSS SECTIONS C.R. 1A STA. 0+25 TO STA. 1+25

COS-16-9.84
COS-36-20.06

120
231

RC001021.DGN 1/08/97

| SEEDING | |
|---|---|
| END WIDTH | SQ. YDS. |
| 20 | 1538 |
| 60 | 88 |
| | 225 |




| END AREA | | VOLUME | |
|---|---|---|---|
| CUT | FILL | CUT | FILL |
| | | | |
| | | 278 | 366 |
| | | | 82 |
| | | (20) | (441) |
| 0 (0) | 0 (0) | 1 (0) | 8 (1) |
| 2 (0) | 20 (4) | | |

TOTALS CARRIED TO SHEET 107

ITEM 203 EMBANKMENT USING GRANULAR MATERIAL

TOTAL CARRIED TO SHEET 107

TOTAL TEMPORARY EARTHWORK (FOR INFORMATION ONLY)

CALCULATED A.M.A. 6/21/96

CHECKED A.L.L. 7/24/96

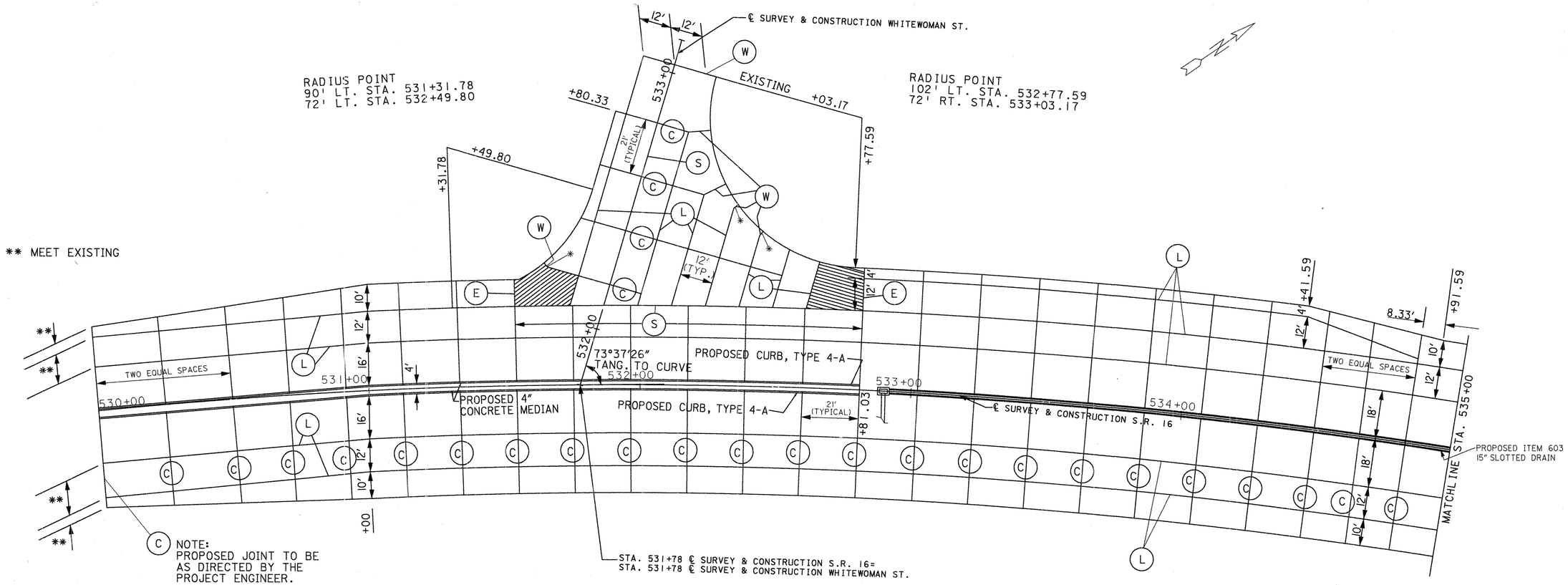
# CROSS SECTIONS C.R. 1A
# STA. 1+50 TO STA. 2+25

COS-16-9.84
COS-36-20.06

121
231

RC0020211.DGN 8/14/96

NOTE:
FOR ADDITIONAL DETAILS
SEE PLAN & PROFILE SHEET 132




C NOTE:
PROPOSED JOINT TO BE AS DIRECTED BY THE PROJECT ENGINEER.

LEGEND

- (E) EXPANSION JOINT AS PER BP-2.2
- (S) STANDARD LONGITUDINAL JOINT AS PER BP-2.1 WITHOUT TIE BARS
- (L) STANDARD LONGITUDINAL JOINT AS PER BP-2.1
- (C) CONTRACTION JOINT AS PER BP-2.1
- (W) EXPANSION JOINT AS PER BP-2.1 WITHOUT DOWEL BARS.
- 11" PLAIN CONCRETE #5 BARS @ 6" BOTH WAYS
- * 2' (TYPICAL)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED D.M. 6/24/96
CHECKED J.L.L. 7/24/96

# PAVEMENT JOINT DETAIL SHEET

COS-16-9.84
COS-36-20.06

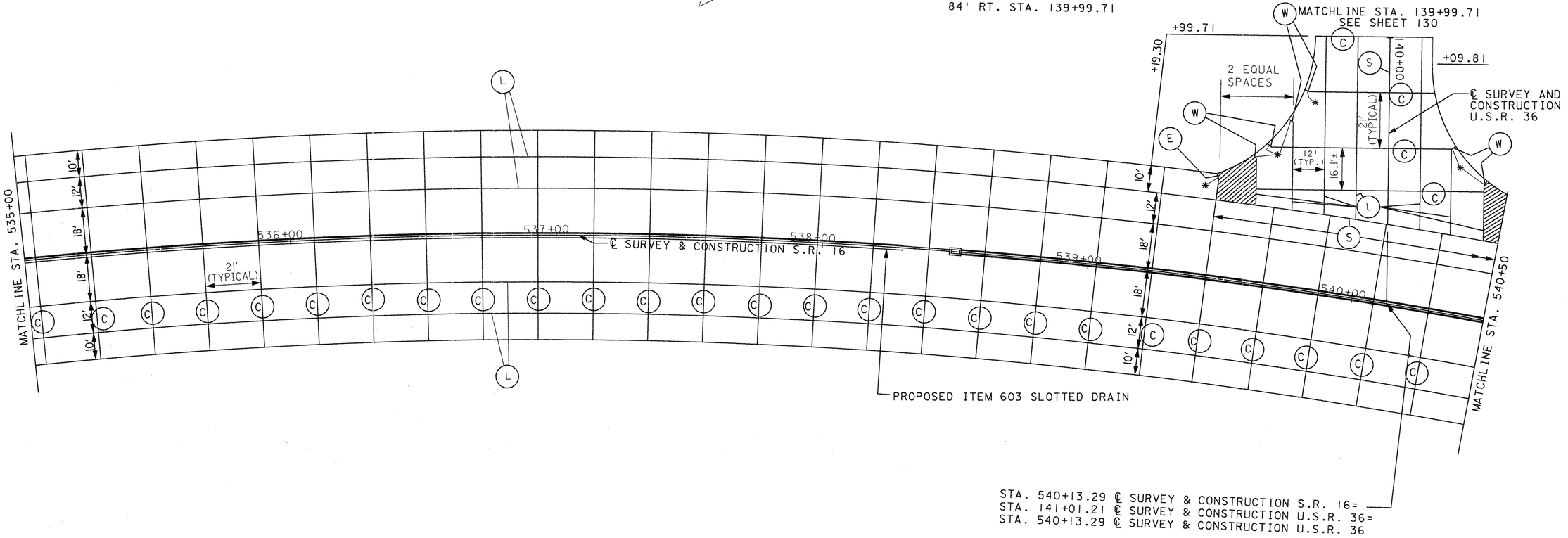
122
231

C16JOINT1.DGN 7/31/96

NOTE:
FOR ADDITIONAL DETAILS OF U.S.R. 36 SEE SHEETS 110-114, 133 & 140

RADIUS POINT
102' LT. STA. 540+67.74
72' LT. STA. 140+09.81

RADIUS POINT
90' LT. STA. 539+19.30
84' RT. STA. 139+99.71




LEGEND

- (E) EXPANSION JOINT AS PER BP-2.2
- (S) STANDARD LONGITUDINAL JOINT AS PER BP-2.1 WITHOUT TIE BARS
- (L) STANDARD LONGITUDINAL JOINT AS PER BP-2.1
- (C) CONTRACTION JOINT AS PER BP-2.1
- (W) EXPANSION JOINT AS PER BP-2.1 WITHOUT DOWEL BARS.
- 11" PLAIN CONCRETE #5 BARS @ 6" BOTH WAYS
- * 2' (TYPICAL)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED D.M. 6/24/96
CHECKED A.L. 7/24/96

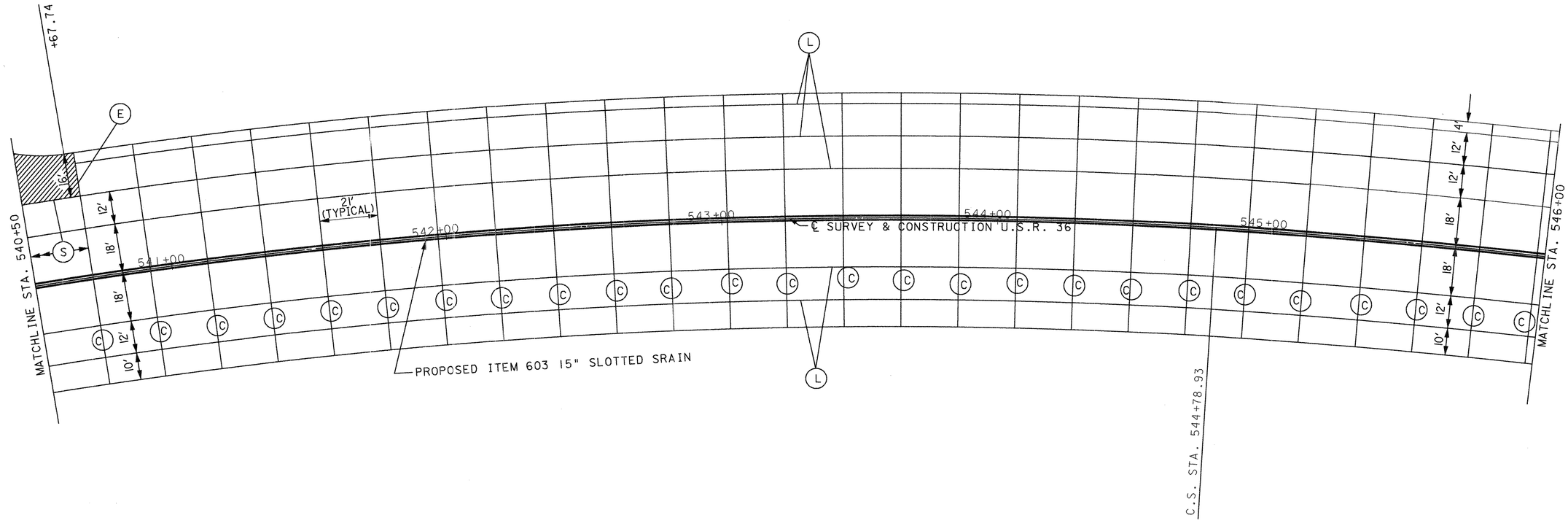
# PAVEMENT JOINT DETAIL SHEET

COS-16-9.84
COS-36-20.06

123
231

C16JONT2.DGN 7/31/96

RADIUS POINT
72' LT. STA. 140+09.81
102' LT. STA. 540+67.74




LEGEND

- (E) EXPANSION JOINT AS PER BP-2.2
- (S) STANDARD LONGITUDINAL JOINT AS PER BP-2.1 WITHOUT TIE BARS
- (L) STANDARD LONGITUDINAL JOINT AS PER BP-2.1
- (C) CONTRACTION JOINT AS PER BP-2.1
- (W) EXPANSION JOINT AS PER BP-2.1 WITHOUT DOWEL BARS.
- 11" PLAIN CONCRETE #5 BARS @ 6" BOTH WAYS

* 2' (TYPICAL)

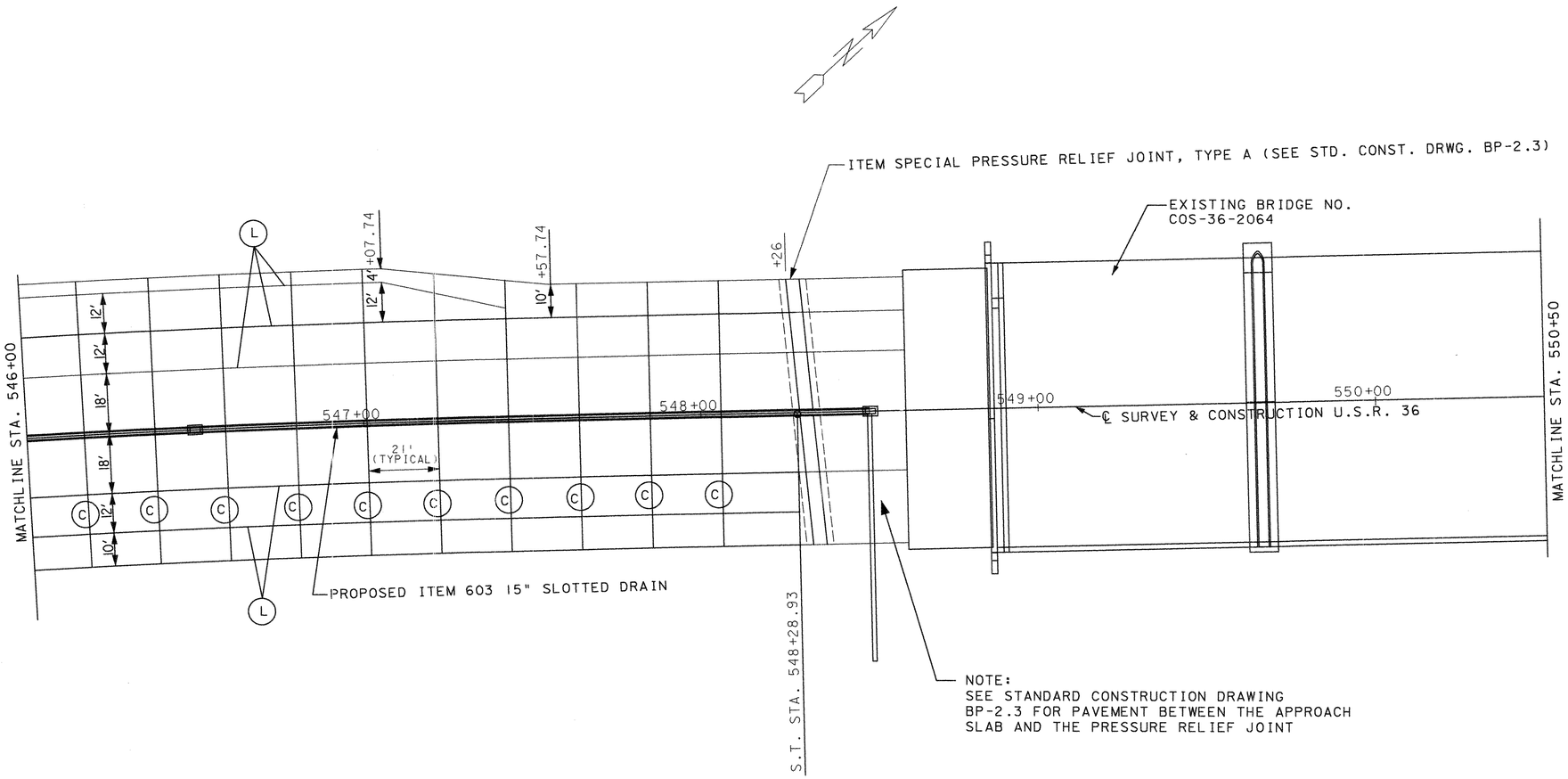
C16JONT3.DGN 7/31/96

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED D.M. 6/24/96
CHECKED A.L.L. 7/24/96

# PAVEMENT JOINT DETAIL SHEET

COS-16-9.84
COS-36-20.06




LEGEND

- (E) EXPANSION JOINT AS PER BP-2.2
- (S) STANDARD LONGITUDINAL JOINT AS PER BP-2.1 WITHOUT TIE BARS
- (L) STANDARD LONGITUDINAL JOINT AS PER BP-2.1
- (C) CONTRACTION JOINT AS PER BP-2.1
- (W) EXPANSION JOINT AS PER BP-2.1 WITHOUT DOWEL BARS.
- 11" PLAIN CONCRETE #5 BARS @ 6" BOTH WAYS

* 2' (TYPICAL)

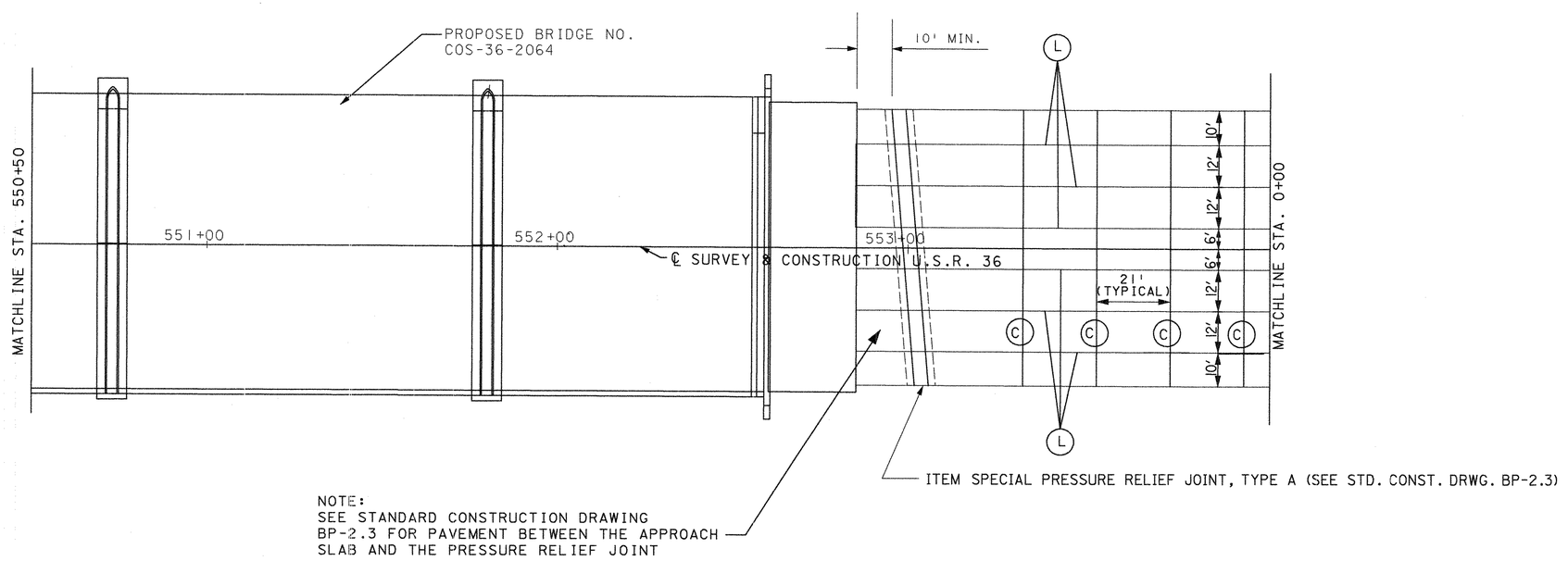
C16JONT4.DGN 7/31/96

0 10 20 40 HORIZONTAL SCALE IN FEET

CALCULATED D.M. 6/24/96
CHECKED A.L.L. 7/24/96

# PAVEMENT JOINT DETAIL SHEET

COS-16-9.84
COS-36-20.06




LEGEND

- (E) EXPANSION JOINT AS PER BP-2.2
- (S) STANDARD LONGITUDINAL JOINT AS PER BP-2.1 WITHOUT TIE BARS
- (L) STANDARD LONGITUDINAL JOINT AS PER BP-2.1
- (C) CONTRACTION JOINT AS PER BP-2.1
- (W) EXPANSION JOINT AS PER BP-2.1 WITHOUT DOWEL BARS.
- 11" PLAIN CONCRETE #5 BARS @ 6" BOTH WAYS

* 2' (TYPICAL)

0 10 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED D.M. 6/24/96
CHECKED A.L.L. 7/24/96

# PAVEMENT JOINT DETAIL SHEET

COS-16-9.84
COS-36-20.06

126
231

C16JONT5.DGN 7/31/96

NOTE:
FOR ADDITIONAL DETAILS
OF S.R. 83 SEE SHEETS
115-118, 137 & 141

℄ SURVEY & CONSTRUCTION
S.R. 83

MATCH LINE STA. 1+44.95
SEE SHEET 131

RADIUS POINT:
STA. 3+89.73, 109.00' LT.
℄ SURVEY & CONSTRUCTION U.S.R. 36

RADIUS POINT:
STA. 5+59.22, 121.00' LT.
℄ SURVEY & CONSTRUCTION U.S.R. 36.

STA. 4+50 ℄ SURVEY & CONSTRUCTION U.S.R. 36=
STA. 0+00 ℄ SURVEY & CONSTRUCTION C.R. 1A RT. &
STA. 0+00 ℄ SURVEY & CONSTRUCTION S.R. 83 LT.

MATCHLINE STA. 554+03.42 (BK.)
= STA. 0+00 (AH.)
= 19.0' RT. STA. 553+84.42 (BK.)

MATCHLINE STA. 5+50

℄ EASTBOUND LANE

℄ SURVEY & CONSTRUCTION U.S.R. 36

℄ SURVEY & CONSTRUCTION
CO. RD. 1A

RADIUS POINT:
STA. 3+57.40, 83.48' RT.
℄ SURVEY & CONSTRUCTION U.S.R. 36

RADIUS POINT:
STA. 5+06.87, 76.54' RT.
℄ SURVEY & CONSTRUCTION U.S.R. 36

LEGEND

- (E) EXPANSION JOINT AS PER BP-2.2
- (S) STANDARD LONGITUDINAL JOINT AS PER BP-2.1 WITHOUT TIE BARS
- (L) STANDARD LONGITUDINAL JOINT AS PER BP-2.1
- (C) CONTRACTION JOINT AS PER BP-2.1
- (W) EXPANSION JOINT AS PER BP-2.1 WITHOUT DOWEL BARS.
- 11" PLAIN CONCRETE #5 BARS @ 6" BOTH WAYS
- * 2' (TYPICAL)

NOTE:
FOR ADDITIONAL DETAILS
OF C.R. 1A SEE SHEETS
119-121 & 137

0 10 20 40
HORIZONTAL
SCALE IN FEET

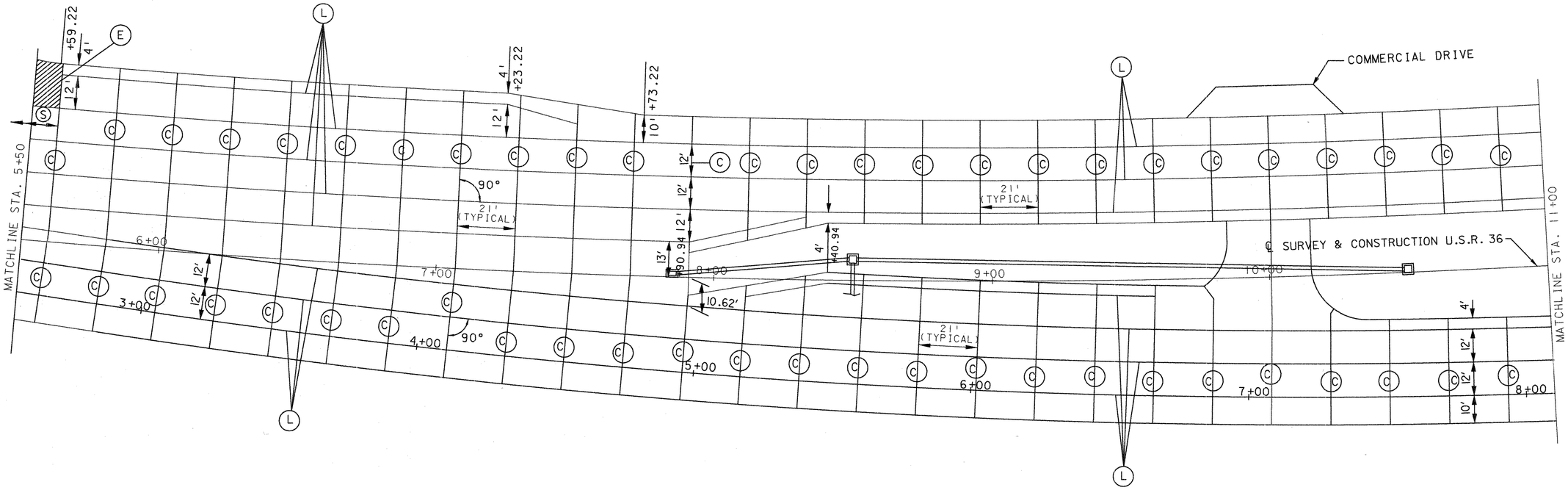
CALCULATED D.M. 6/24/96
CHECKED J.L.J. 7/24/96

# PAVEMENT JOINT DETAIL SHEET

COS-16-9.84
COS-36-20.06

127
231

C16JONT6.DGN 7/31/96




LEGEND

| | |
|---|---|
| (E) | EXPANSION JOINT AS PER BP-2.2 |
| (S) | STANDARD LONGITUDINAL JOINT AS PER BP-2.1 WITHOUT TIE BARS |
| (L) | STANDARD LONGITUDINAL JOINT AS PER BP-2.1 |
| (C) | CONTRACTION JOINT AS PER BP-2.1 |
| (W) | EXPANSION JOINT AS PER BP-2.1 WITHOUT DOWEL BARS. |
| ▨ | 11" PLAIN CONCRETE #5 BARS @ 6" BOTH WAYS |

* 2' (TYPICAL)

HORIZONTAL SCALE IN FEET
0 10 20 40

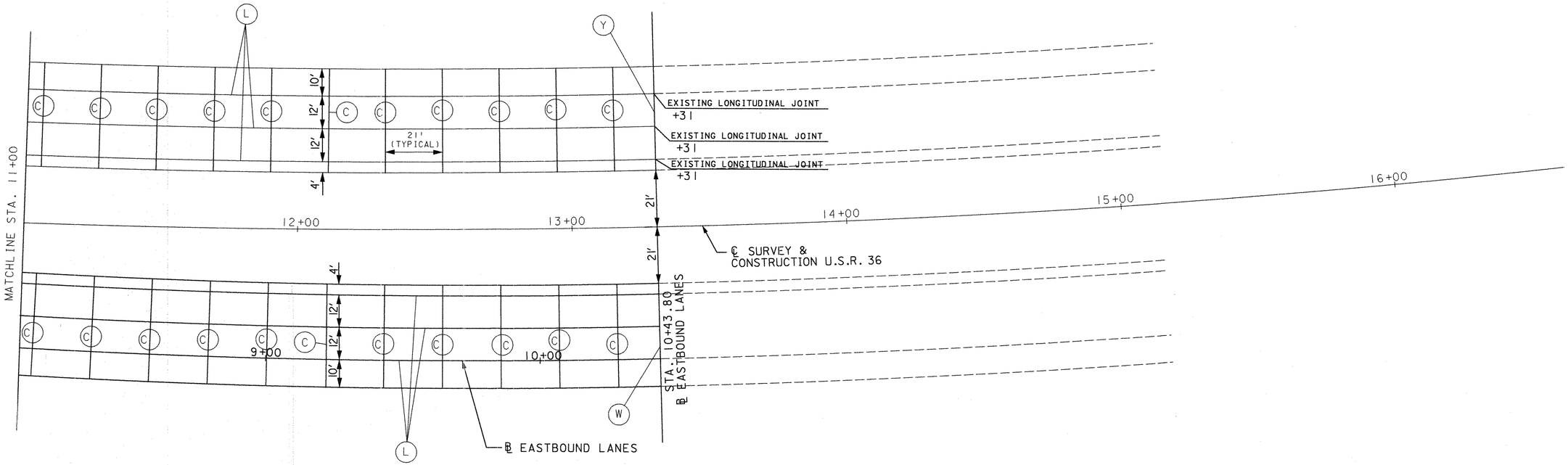
CALCULATED D.M. 6/24/96
CHECKED A.L.L. 7/24/96

# PAVEMENT JOINT DETAIL SHEET

COS-16-9.84
COS-36-20.06

128
231

C16JONT7.DGN 7/31/96




LEGEND

| | |
|---|---|
| (Y) | CONTRACTION JOINT AS PER BP-2.5 |
| (E) | EXPANSION JOINT AS PER BP-2.2 |
| (S) | STANDARD LONGITUDINAL JOINT AS PER BP-2.1 WITHOUT TIE BARS |
| (L) | STANDARD LONGITUDINAL JOINT AS PER BP-2.1 |
| (C) | CONTRACTION JOINT AS PER BP-2.1 |
| (W) | EXPANSION JOINT AS PER BP-2.1 WITHOUT DOWEL BARS. |
| ▨ | 11" PLAIN CONCRETE #5 BARS @ 6" BOTH WAYS |

* 2' (TYPICAL)

0 10 20 40
HORIZONTAL SCALE IN FEET

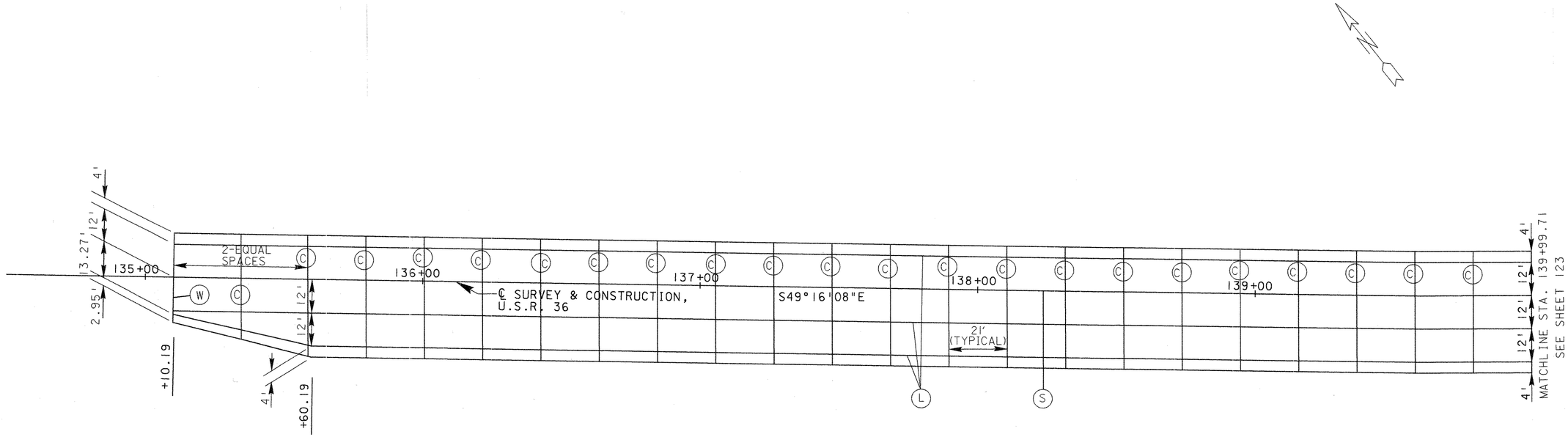
CALCULATED D.M. 6/22/96
CHECKED A.L.L. 7/22/96

# PAVEMENT JOINT DETAIL SHEET

COS-16-9.84
COS-36-20.06

129
231

C16JONT8.DGN 7/31/96




LEGEND

- (E) EXPANSION JOINT AS PER BP-2.2
- (S) STANDARD LONGITUDINAL JOINT AS PER BP-2.1 WITHOUT TIE BARS
- (L) STANDARD LONGITUDINAL JOINT AS PER BP-2.1
- (C) CONTRACTION JOINT AS PER BP-2.1
- (W) EXPANSION JOINT AS PER BP-2.1 WITHOUT DOWEL BARS.
- 11" PLAIN CONCRETE #5 BARS @ 6" BOTH WAYS

* 2' (TYPICAL)

HORIZONTAL SCALE IN FEET
0 10 20 40

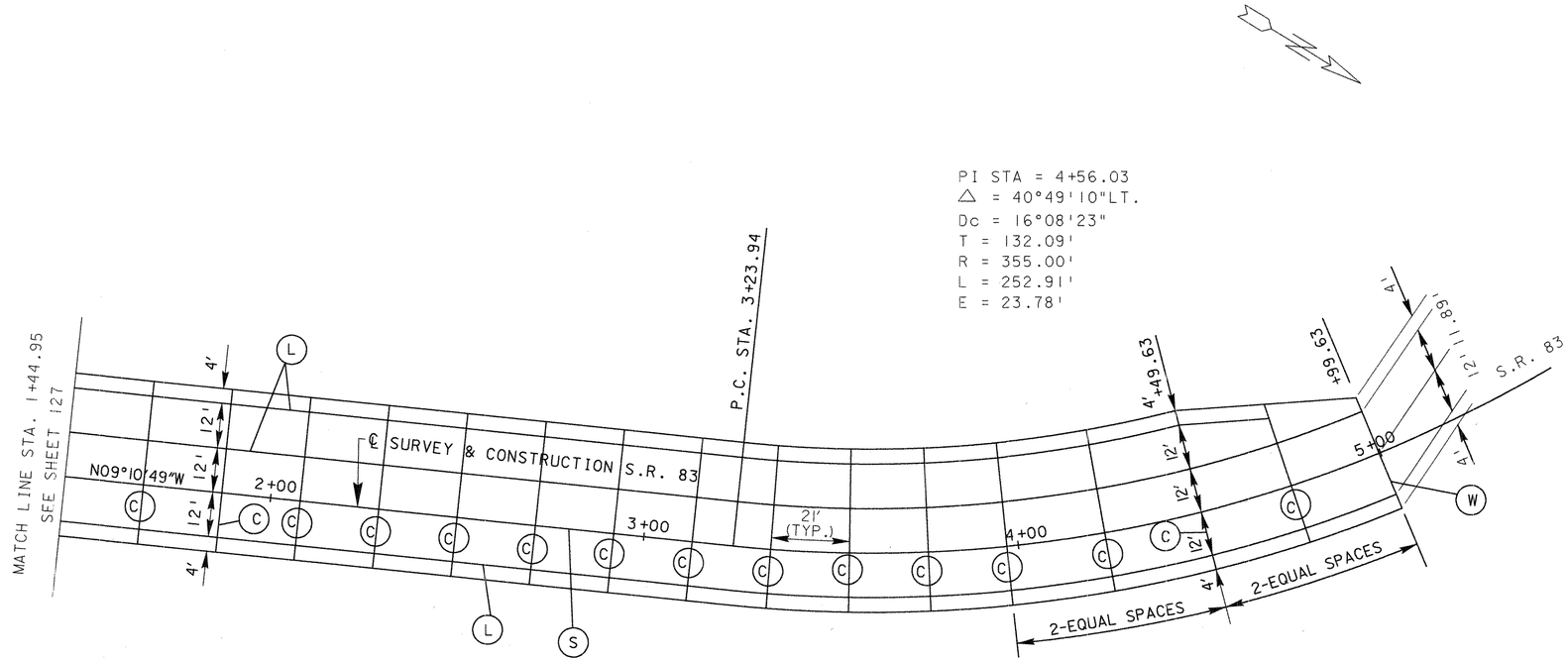
CALCULATED D.W. 6/27/96
CHECKED J.L.L. 7/24/96

# PAVEMENT JOINT DETAIL SHEET U.S.R. 36

COS-16-9.84
COS-36-20.06

130
231

C16JON10.DGN 7/31/96




LEGEND

| | |
|---|---|
| (E) | EXPANSION JOINT AS PER BP-2.2 |
| (S) | STANDARD LONGITUDINAL JOINT AS PER BP-2.1 WITHOUT TIE BARS |
| (L) | STANDARD LONGITUDINAL JOINT AS PER BP-2.1 |
| (C) | CONTRACTION JOINT AS PER BP-2.1 |
| (W) | EXPANSION JOINT AS PER BP-2.1 WITHOUT DOWEL BARS. |
| ▨ | 11" PLAIN CONCRETE #5 BARS @ 6" BOTH WAYS |

* 2' (TYPICAL)

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED D.M. 6/26/96
CHECKED J.L.L. 7/24/96

# PAVEMENT JOINT DETAIL SHEET, S.R. 83

COS-16-9.84
COS-36-20.06

131
231

C16JONT9.DGN 7/31/96

* ELEVATIONS AND DIMENSIONS REFER TO THE EDGE OF PAVEMENT.

** EXISTING + .10

SLOPED TO MEET EXISTING PAVEMENT OF WHITEWOMAN ST.

RADIUS POINT
90' LT. STA. 531+31.78 S.R. 16
72' LT. STA. 532+49.80 WHITEWOMAN ST.

RADIUS POINT
102' LT. STA. 532+77.59 S.R. 16
72' RT. STA. 533+03.17 WHITEWOMAN ST.

℄ SURVEY & CONSTRUCTION WHITEWOMAN ST.

℄ SURVEY & CONSTRUCTION S.R. 16

MATCHLINE STA. 535+00

PROPOSED ITEM 603
15" SLOTTED DRAIN

STA. 531+78 ℄ SURVEY & CONSTRUCTION S.R. 16=
STA. 531+78 ℄ SURVEY & CONSTRUCTION WHITEWOMAN ST.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JA 6/24/96
CHECKED 7/24/96

# PAVEMENT ELEVATION DETAIL SHEET

COS-16-9.84
COS-36-20.06

132
231

APPROA01.DGN 5-16-96

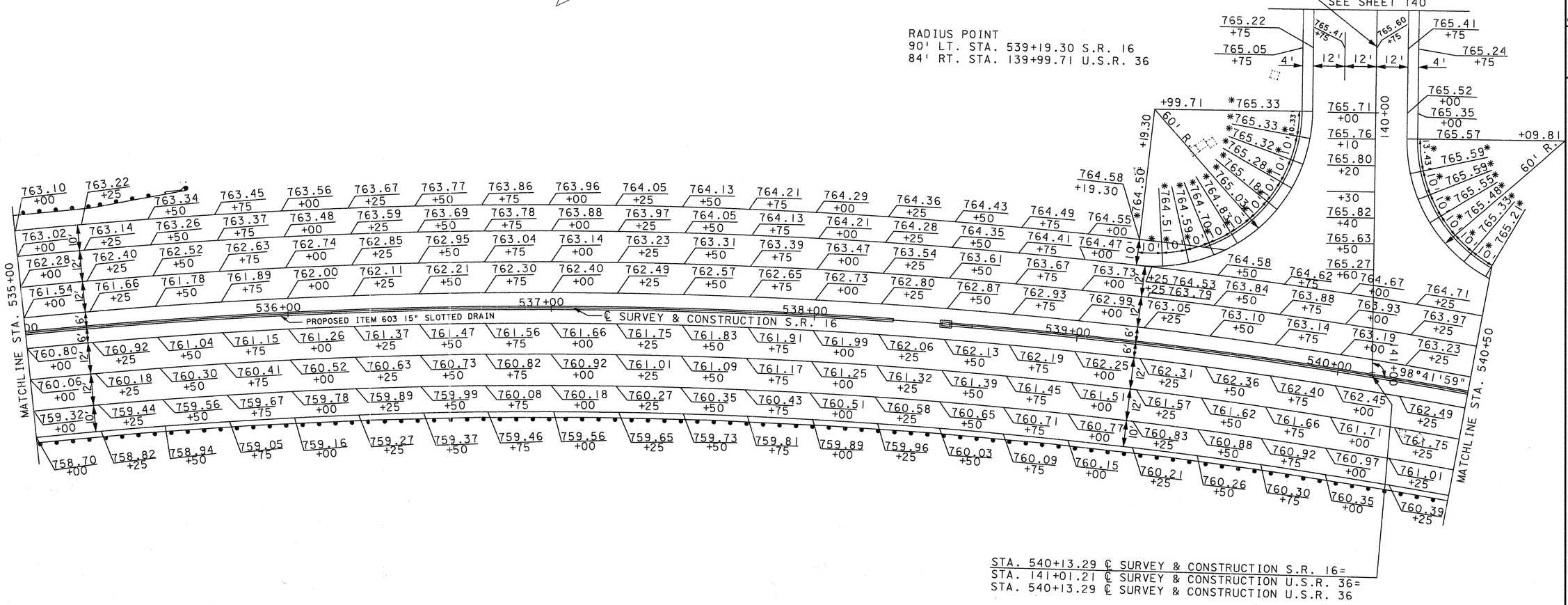
* ELEVATIONS AND DIMENSIONS
REFER TO THE EDGE OF PAVEMENT

RADIUS POINT
102' LT. STA. 540+67.74 U.S.R. 36
72' LT. STA. 140+09.81 U.S.R. 36

℄ SURVEY & CONSTRUCTION U.S.R. 36

MATCH LINE STA. 139+60
SEE SHEET 140

RADIUS POINT
90' LT. STA. 539+19.30 S.R. 16
84' RT. STA. 139+99.71 U.S.R. 36




STA. 540+13.29 ℄ SURVEY & CONSTRUCTION S.R. 16=
STA. 141+01.21 ℄ SURVEY & CONSTRUCTION U.S.R. 36=
STA. 540+13.29 ℄ SURVEY & CONSTRUCTION U.S.R. 36

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED D.M. 5/20/96
CHECKED A.L. 7/24/96

# PAVEMENT ELEVATION DETAIL SHEET

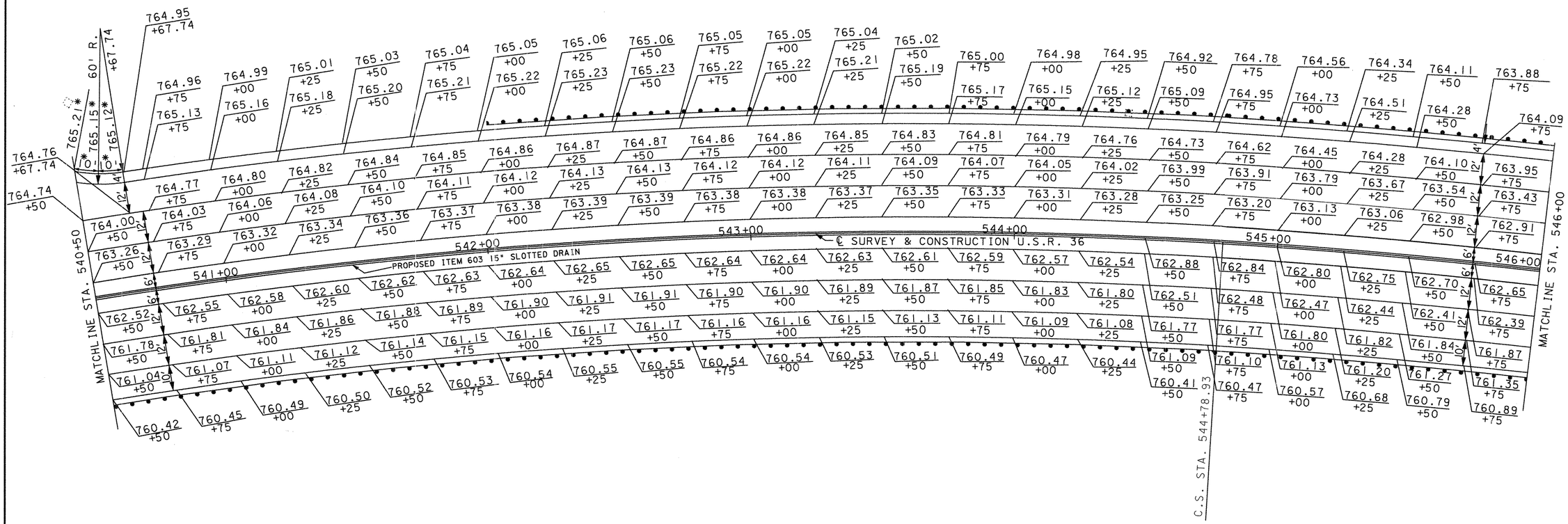
COS-16-9.84
COS-36-20.06

133
231

APPROA02.DGN 7-31-96

RADIUS POINT
72' LT. STA. 140+09.81 U.S.R. 36
102' LT. STA. 540+67.74 U.S.R. 36

* ELEVATIONS AND DIMENSIONS
REFER TO THE EDGE OF PAVEMENT




APPROA03.DGN 7-31-96

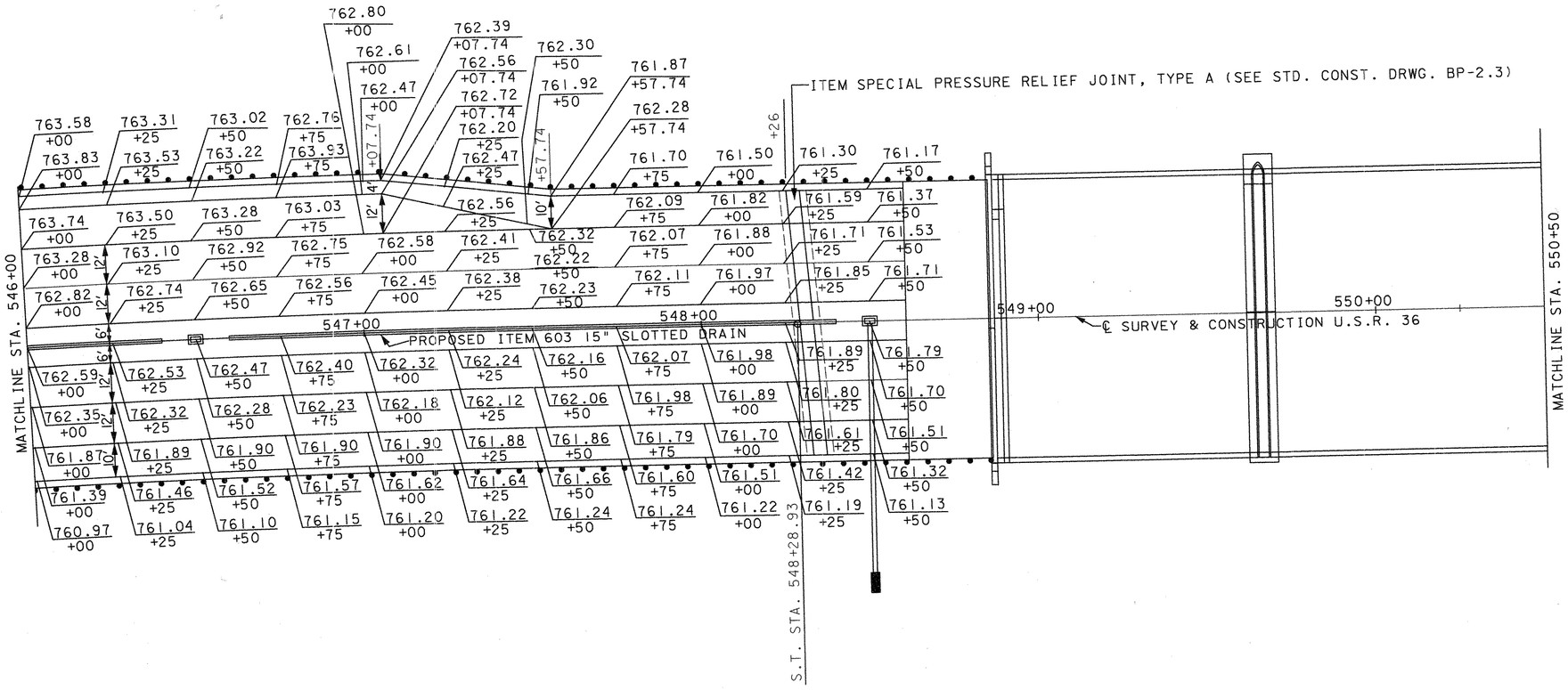
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED M.M. 6/27/96
CHECKED J.L.J. 7/24/96

# PAVEMENT ELEVATION DETAIL SHEET

COS-16-9.84
COS-36-20.06

134
231




HORIZONTAL SCALE IN FEET
0 10 20 40

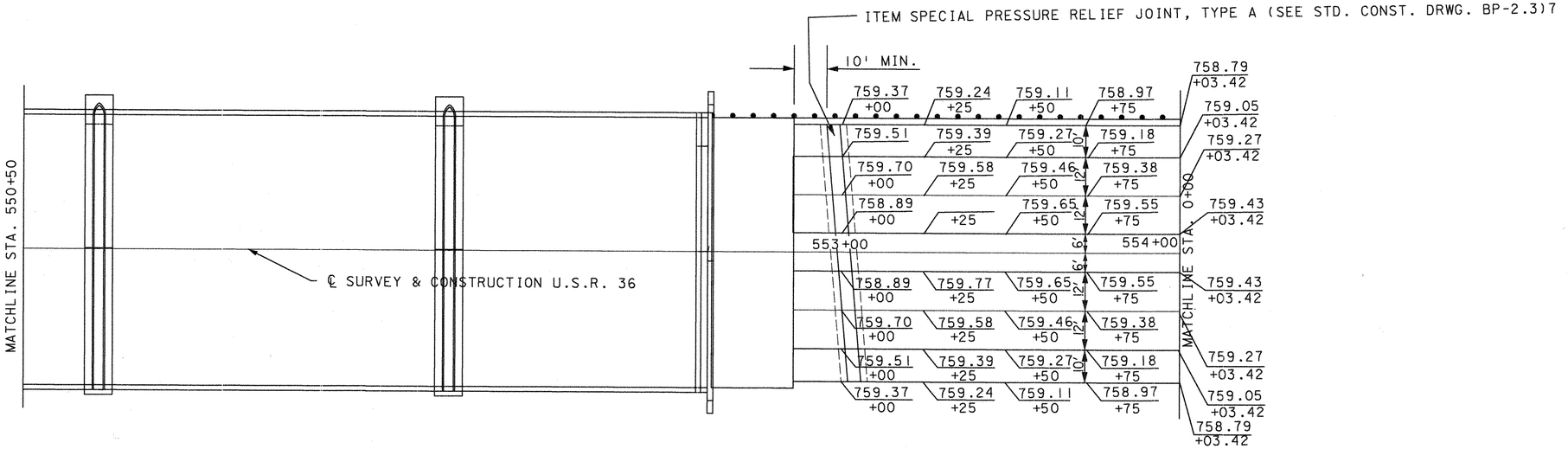
CALCULATED D.M. 6/21/96
CHECKED A.L.L. 7/24/96

# PAVEMENT ELEVATION DETAIL SHEET

COS-16-9.84
COS-36-20.06

135
231

APPROA04.DGN 7-31-96




0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED DJM 6/21/96
CHECKED ALL 7/24/96

# PAVEMENT ELEVATION DETAIL SHEET

COS-16-9.84
COS-36-20.06

136
231

APPROA05.DGN 7-31-96

* ELEVATIONS AND DIMENSIONS
REFER TO THE EDGE OF PAVEMENT

℄ SURVEY & CONSTRUCTION
S.R. 83

FOR ADDITIONAL DETAILS
SEE SHEET 141

RADIUS POINT:
STA. 1+44.95, 72.00' RT. S.R. 83
STA. 5+59.22, 121.00' LT. U.S.R. 36

RADIUS POINT:
STA. 3+89.73, 109.00' LT. U.S.R. 36
STA. 0+91.42, 84.00' LT. S.R. 83

MATCHLINE STA. 554+03.42
= 19.0' RT. STA. 0+00 AHEAD

MATCHLINE STA. 5+50

11.0' RT. STA. 2+96.81
℄ SURVEY & CONSTRUCTION U.S.R. 36 =
STA. 0+00 ℄ EASTBOUND LANES.

℄ EASTBOUND LANES

RADIUS POINT:
STA. 3+57.40, 83.48' RT. U.S.R. 36
STA. 1+03.15, 72.00' RT. C.R. IA

RADIUS POINT:
STA. 5+06.87, 76.54' RT. U.S.R. 36
STA. 0+60.18, 72.00' LT. C.R. IA

EXISTING
1+19.64

EXISTING

EXISTING
1+19.64

℄ SURVEY & CONSTRUCTION
CO. RD. IA.

℄ SURVEY &
CONSTRUCTION U.S.R. 36

STA. 4+50 ℄ SURVEY & CONSTRUCTION U.S.R. 36=
STA. 0+00 ℄ SURVEY & CONSTRUCTION C.R. IA RT.
STA. 0+00 ℄ SURVEY & CONSTRUCTION S.R. 83 LT.

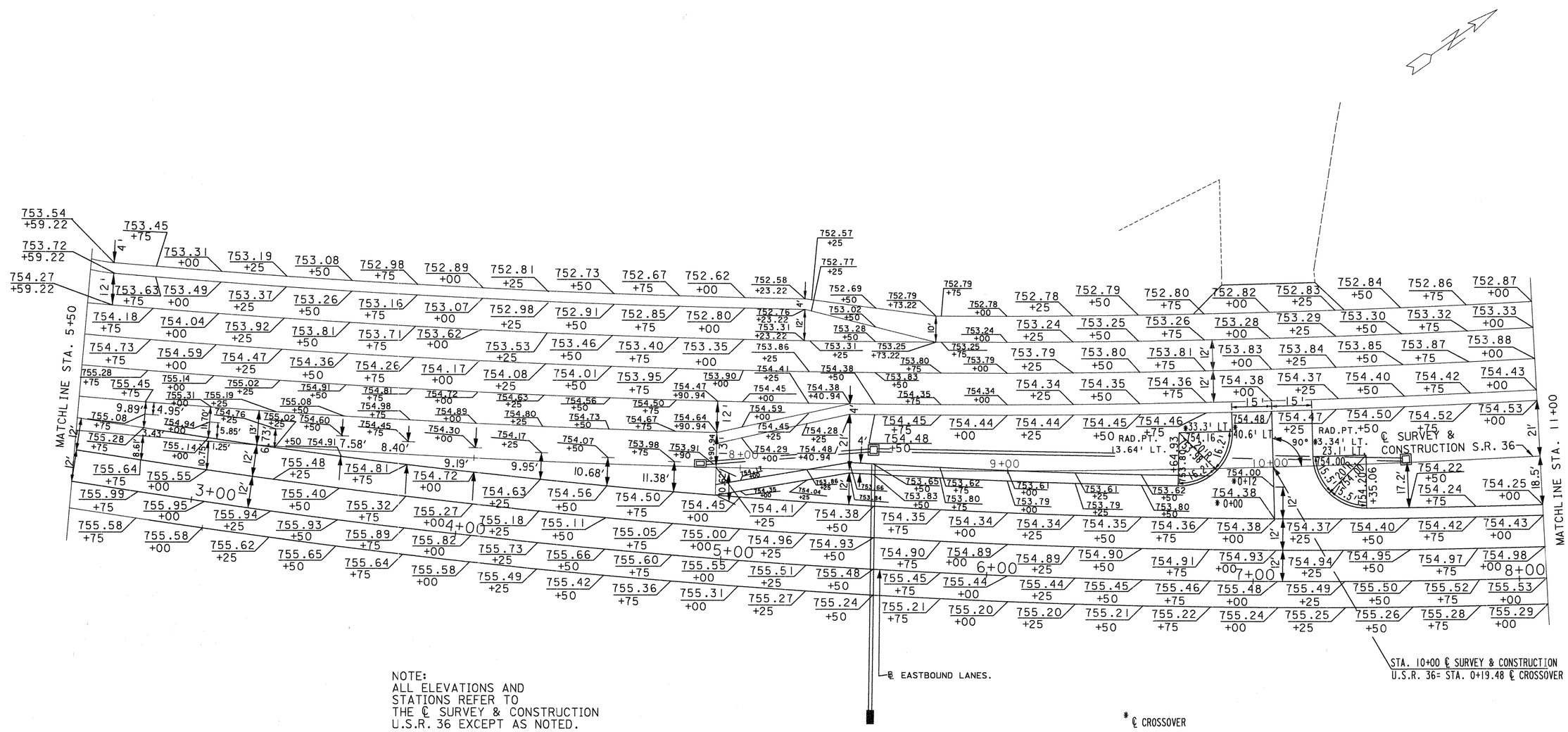
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED D.M. 6/22/96
CHECKED J.L. 7/24/96

# PAVEMENT ELEVATION DETAIL SHEET

COS-16-9.84
COS-36-20.06

APPROA06.DGN 7-31-96




NOTE:
ALL ELEVATIONS AND
STATIONS REFER TO
THE ℄ SURVEY & CONSTRUCTION
U.S.R. 36 EXCEPT AS NOTED.

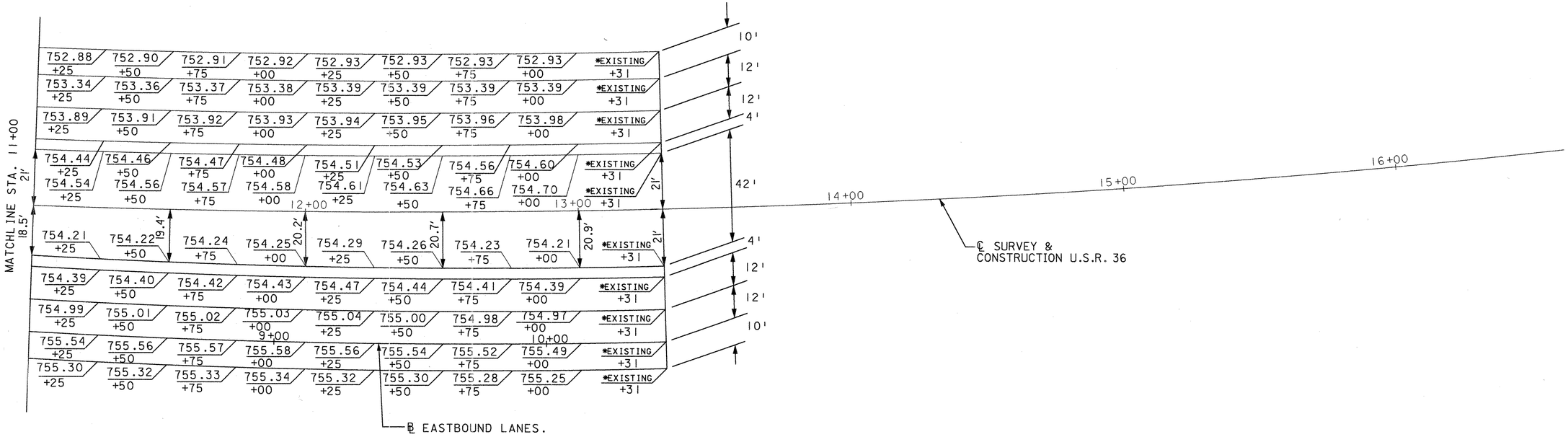
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED M.M. 6/21/96
CHECKED A.L.L. 7/24/96

# PAVEMENT ELEVATION DETAIL SHEET

COS-16-9.84
COS-36-20.06

APPROA07.DGN 7-31-96




HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DM 6/21/96
CHECKED ALC 7/24/96

# PAVEMENT ELEVATION DETAIL SHEET

COS-16-9.84
COS-36-20.06

139
231

APPROA08.DGN 7-31-96

APPROA10.DGN 7/31/96

HORIZONTAL SCALE IN FEET
0 10 20 40

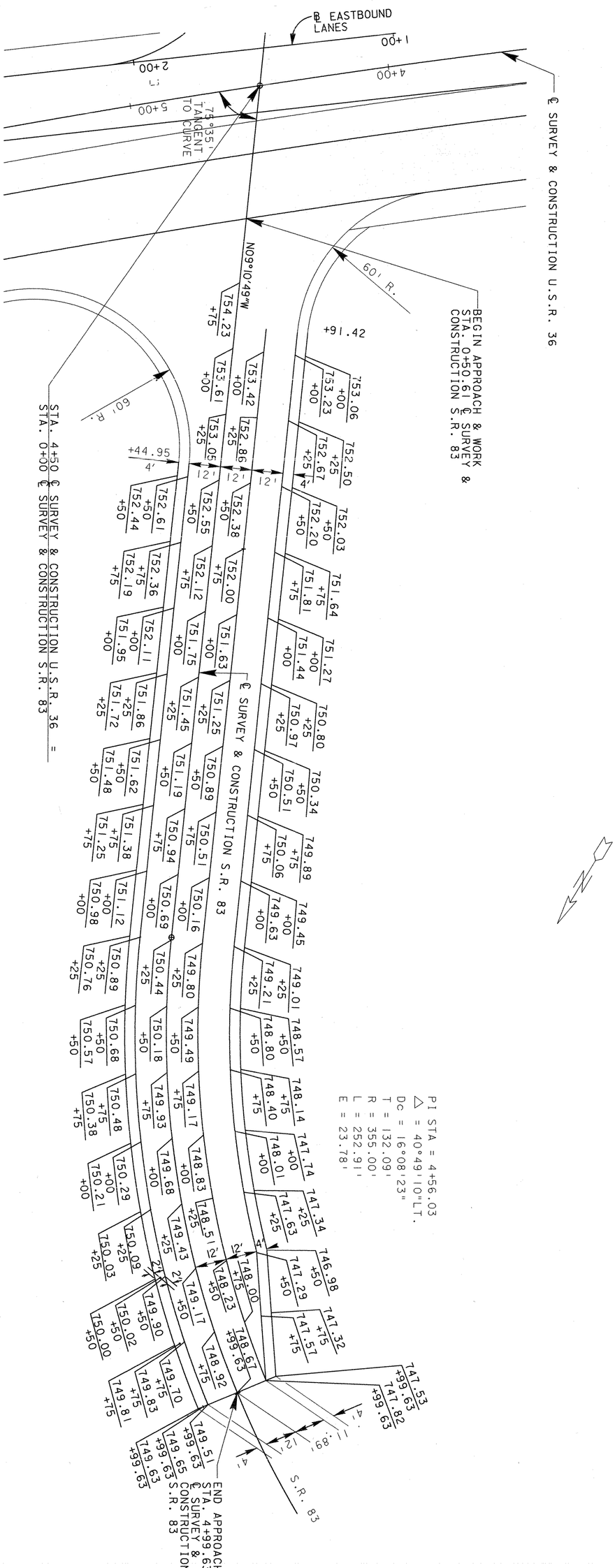
CALCULATED D.M. 6/20/96
CHECKED J.L.J. 7/24/96

# PAVEMENT ELEVATION DETAIL SHEET U.S.R. 36

COS-16-9.84
COS-36-20.06

140
231

APPROA09.DGN 7-31-96



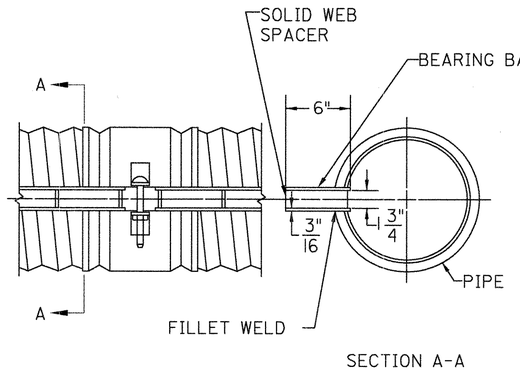

| | | | | |
|---|---|---|---|---|
| 141/231 | COS-16-9.84<br>COS-36-20.06 | PAVEMENT ELEVATION DETAIL SHEET, S.R. 83 | CALCULATED D.M. 6/21/96<br>CHECKED A.L.L. 7/24/96 | 0 20<br>10 40<br>HORIZONTAL SCALE IN FEET |

## ITEM 603 15" SLOTTED DRAIN

THIS ITEM SHALL CONSIST OF 15" DIAMETER SLOTTED DRAIN BITUMINOUS COATED STEEL CONDUIT 707.05 (0.079) WITH 6" BY 3/16" GALVANIZED SOLID BAR GRATE AS APPROVED BY THE ENGINEER. ALL COSTS FOR LABOR AND MATERIALS INCLUDING CONCRETE BACKFILLING AS DETAILED SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 603, 15" SLOTTED DRAIN.

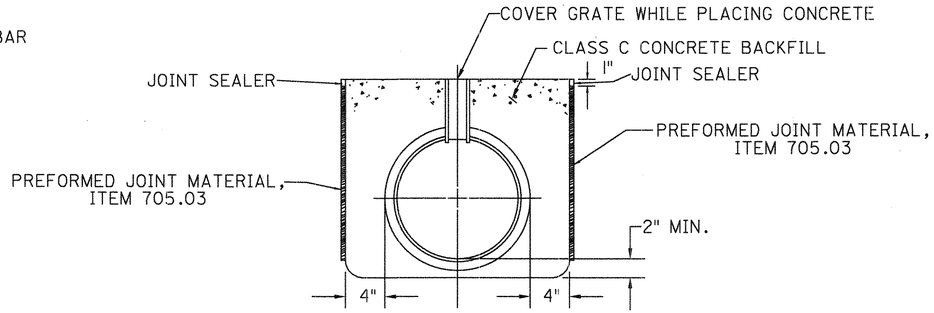
THE CONDUIT SHALL BE PROVIDED WITH AT LEAST TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END OF EACH PIPE LENGTH. THE PIPE LENGTHS SHALL BE JOINTED WITH COUPLING BANDS WHICH HAVE AT LEAST ONE CIRCUMFERENTIAL CORRUGATION THAT INDEXES INTO THE INBOARD CORRUGATIONS OF THE PIPE.

BANDS WITH PROJECTIONS, I.E. DIMPLE BANDS SHALL NOT BE USED.




SECTION A-A

ITEM 603 15" SLOTTED DRAIN



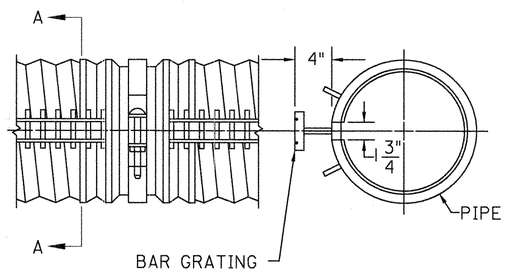

TRENCH INSTALLATION

THE FOLLOWING SHALL BE CONSIDERED AN ALTERNATE TO THE ABOVE.

## ITEM 603 15" SLOTTED DRAIN

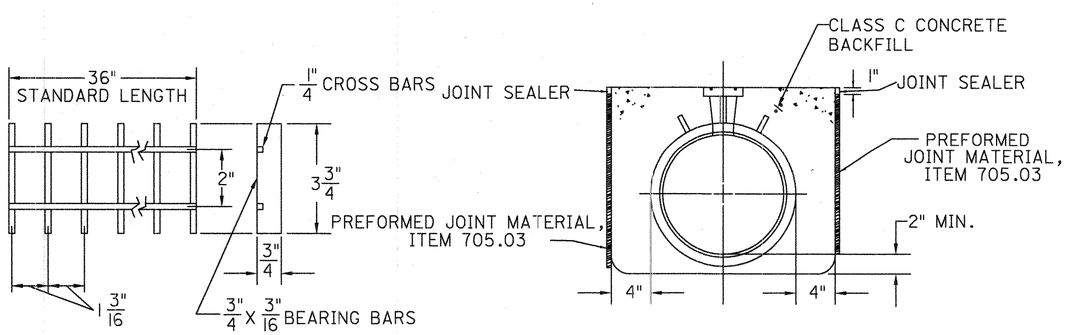
THIS ITEM SHALL CONSIST OF 15" DIAMETER SLOTTED DRAIN BITUMINOUS COATED STEEL CONDUIT 707.05 (0.079) WITH 3-3/4" BY 3/16" GALVANIZED CROSS BAR GRATE AS APPROVED BY THE ENGINEER. ALL COSTS FOR LABOR AND MATERIALS INCLUDING CONCRETE BACKFILLING AS DETAILED SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 603, 15" SLOTTED DRAIN.

FLANGES ARE TO BE PROVIDED ON THE PIPE ENDS SO THAT THE COUPLING CAN BE MADE BY INTERLOCKING THE FLANGES WITH A PREFORMED CHANNEL BAND, NOT LESS THAN 3/4" (19 MM) IN WIDTH, NOT LESS THAN 1/2" (12.7 MM) IN DEPTH, AND A MINIMUM THICKNESS OF 0.079" (2.01 MM).



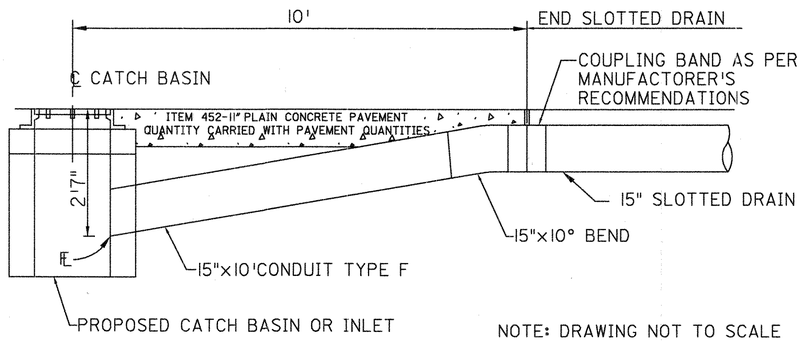

SECTION A-A

ITEM 603 15" SLOTTED DRAIN




GRATING DETAILS

TRENCH INSTALLATION




NOTE: DRAWING NOT TO SCALE

SLOTTED DRAIN OUTLET

C036032C.DWG 7/31/96

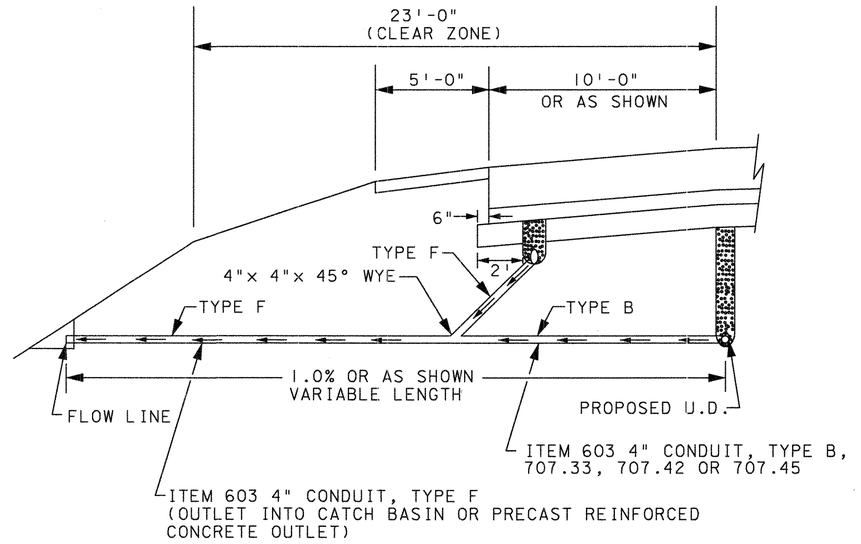
CALCULATED | CHECKED

ITEM 603 SLOTTED DRAIN

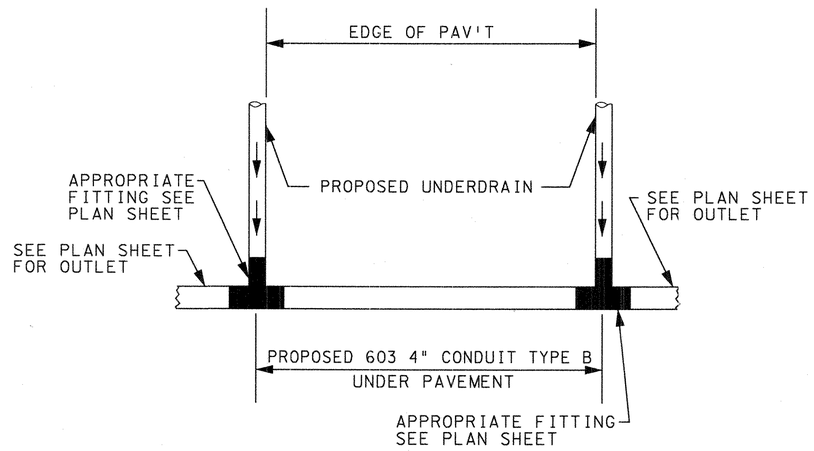
COS-16-9.84
COS-36-20.06

142
231

## TYPICAL UNDERDRAIN OUTLET




## UNDERDRAIN UNDER PAVEMENT




CALCULATED CK 5/17/96
CHECKED AHL 6/20/96

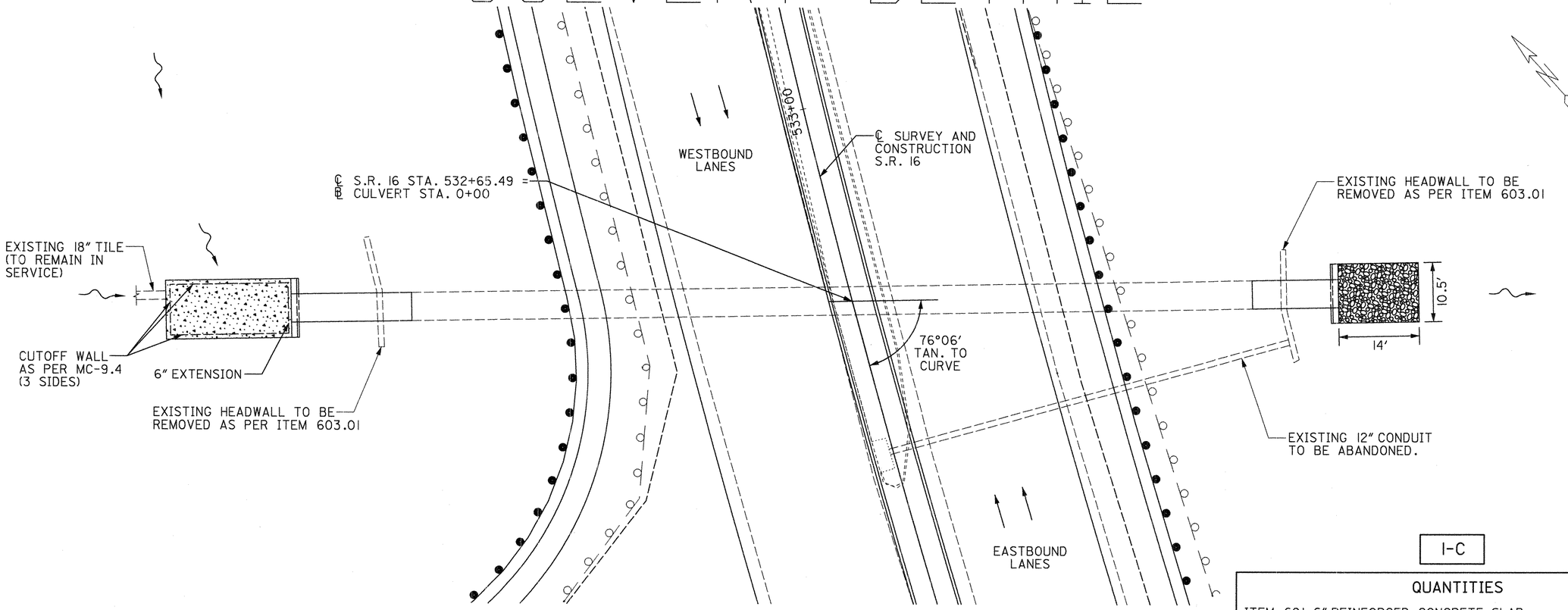
# DRAINAGE DETAIL SHEET

COS-16-9.84
COS-36-20.06



C0161032.DGN 7-31-96

# CULVERT DETAIL




PLAN VIEW

I-C

## QUANTITIES

| | |
|---|---|
| ITEM 601 6" REINFORCED CONCRETE SLAB | 28.0 SQ. YD. |
| ITEM 601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER | 14.8 CU. YD. |
| ITEM 602 CONCRETE MASONRY | 4.79 CU. YD. |
| ITEM 603 60" CONDUIT, TYPE A, 706.02 | 36 LIN. FT. |

QUANTITIES CARRIED TO SHEET 147

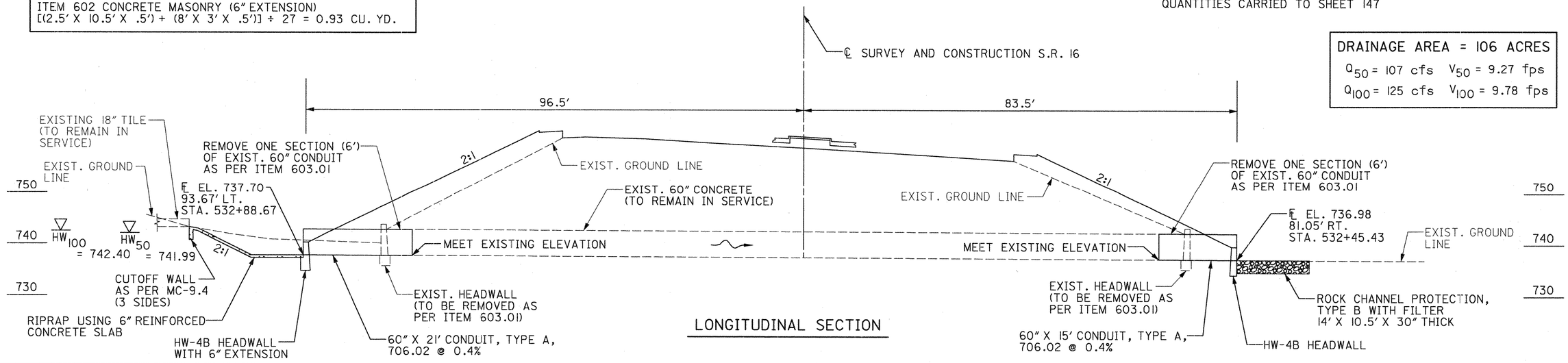
## CALCULATIONS

ITEM 601 RIPRAP USING 6" REINFORCED CONCRETE SLAB
24' X 10.5' ÷ 9 = 28.0 SQ. YD.

ITEM 601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER
14' X 11.44' X 2.5' ÷ 27 = 14.8 CU. YD.

ITEM 602 CONCRETE MASONRY (6" EXTENSION)
[(2.5' X 10.5' X .5') + (8' X 3' X .5')] ÷ 27 = 0.93 CU. YD.

DRAINAGE AREA = 106 ACRES
$Q_{50}$ = 107 cfs $V_{50}$ = 9.27 fps
$Q_{100}$ = 125 cfs $V_{100}$ = 9.78 fps




LONGITUDINAL SECTION

C1610I2A.DGN 8/05/96

0 10 20 HORIZONTAL SCALE IN FEET

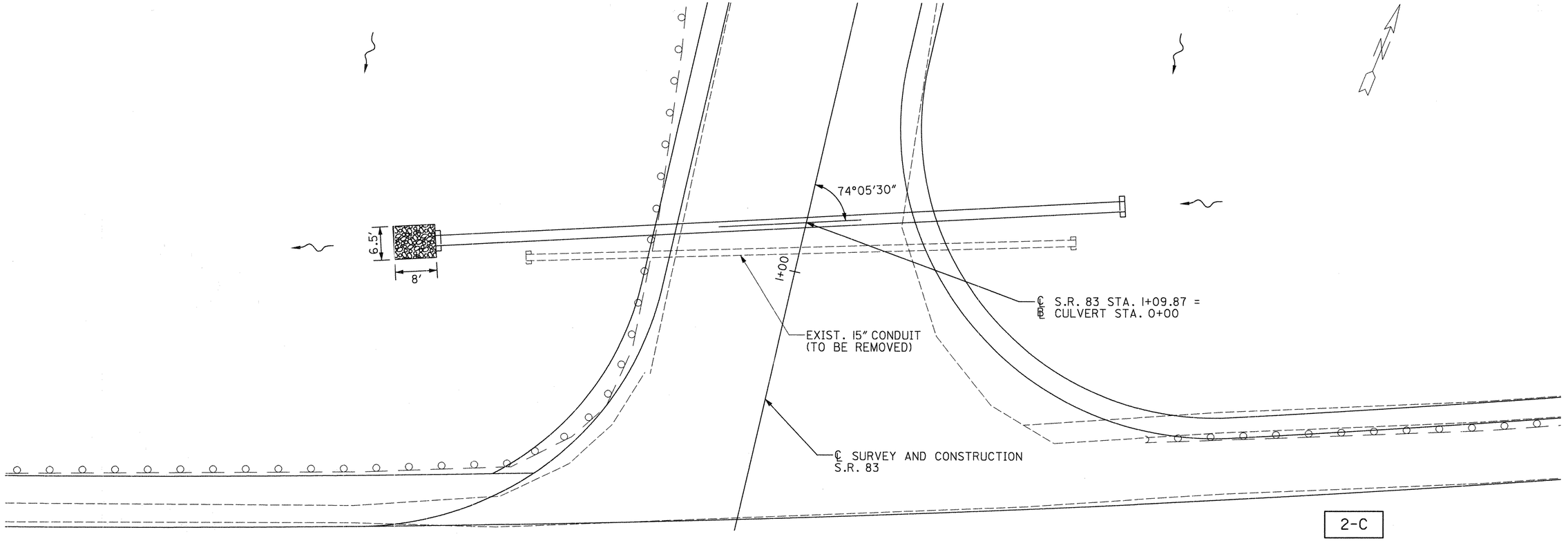
CALCULATED J.S. 3/10/96 CHECKED J.S. 3/25/96

CULVERT DETAIL
STA. 532+65.49 S.R. 16

COS-16-9.84
COS-36-20.06

144
231

# CULVERT DETAIL




PLAN VIEW

2-C

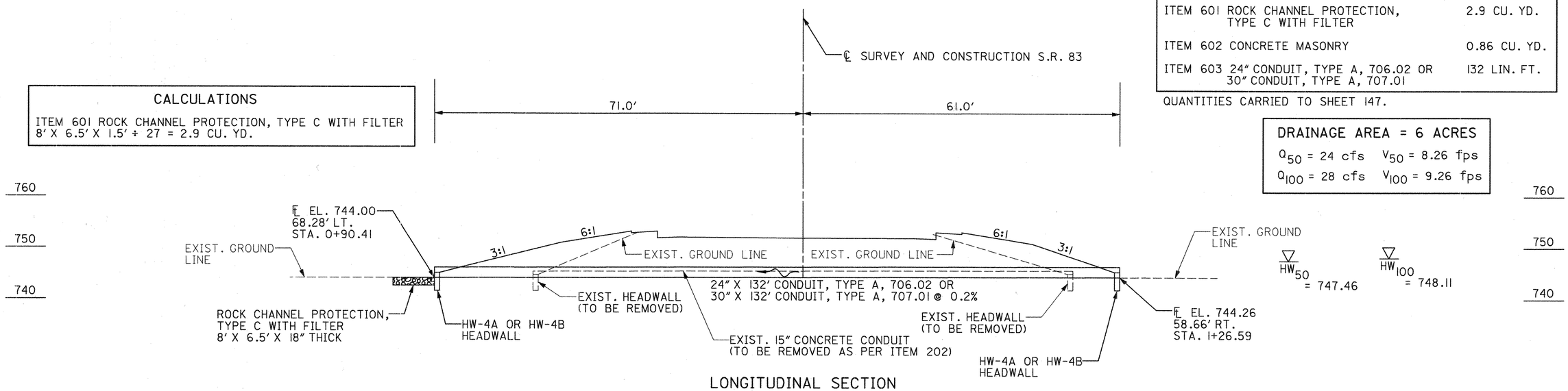
## QUANTITIES

| | |
|---|---|
| ITEM 202 PIPE REMOVED, 24" AND UNDER | 105 LIN. FT. |
| ITEM 601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER | 2.9 CU. YD. |
| ITEM 602 CONCRETE MASONRY | 0.86 CU. YD. |
| ITEM 603 24" CONDUIT, TYPE A, 706.02 OR 30" CONDUIT, TYPE A, 707.01 | 132 LIN. FT. |

QUANTITIES CARRIED TO SHEET 147.

## CALCULATIONS

ITEM 601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER
8' X 6.5' X 1.5' ÷ 27 = 2.9 CU. YD.




LONGITUDINAL SECTION

## DRAINAGE AREA = 6 ACRES

$Q_{50}$ = 24 cfs $V_{50}$ = 8.26 fps
$Q_{100}$ = 28 cfs $V_{100}$ = 9.26 fps

0 10 20
HORIZONTAL SCALE IN FEET

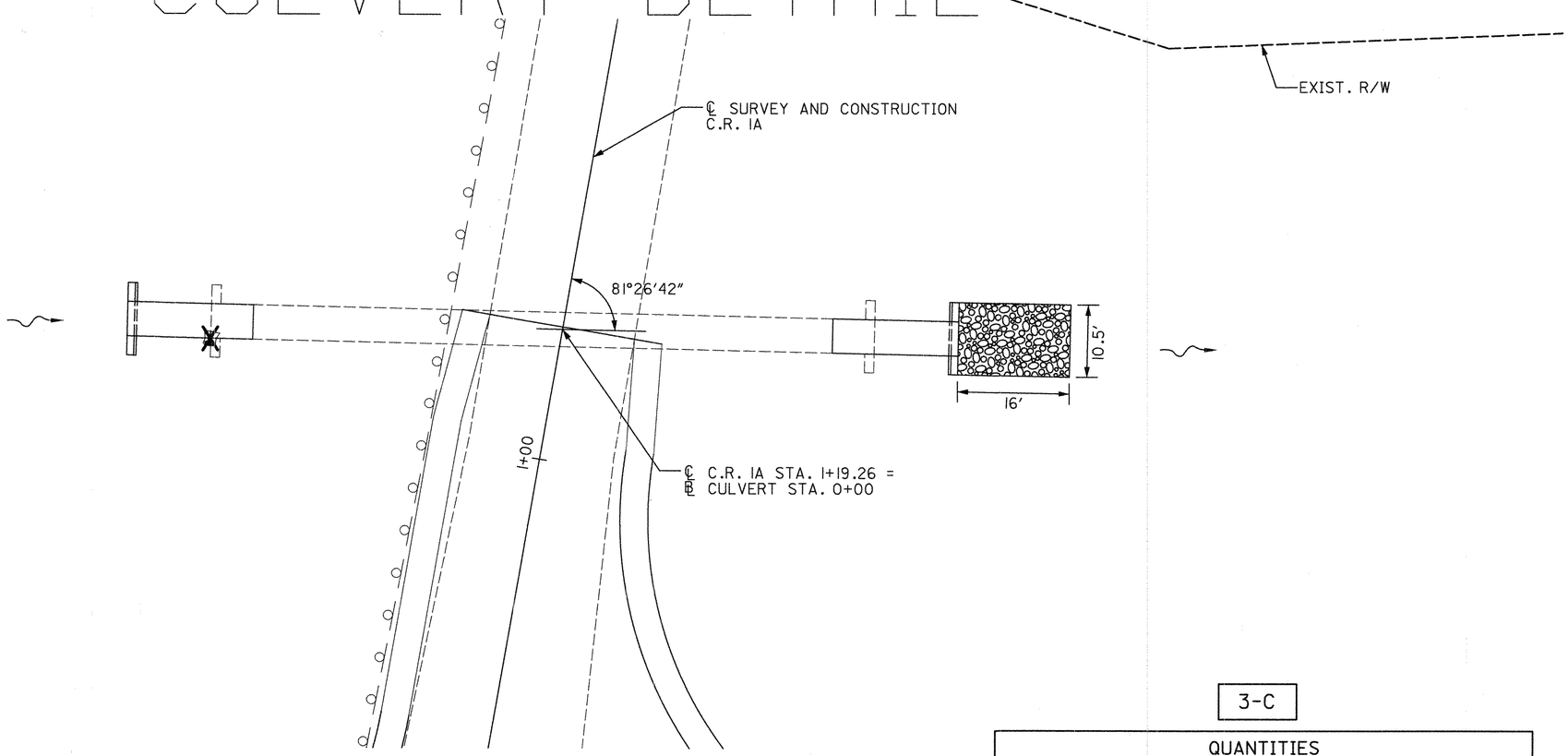
CALCULATED J.S. 3/10/96
CHECKED 3/25/96

**CULVERT DETAIL**
**STA. 1+09.87 S.R. 83**

**COS-16-9.84**
**COS-36-20.06**

C16012B.DGN 7/30/96

# CULVERT DETAIL




PLAN VIEW

3-C

| QUANTITIES | |
|---|---|
| ITEM 601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER | 16.2 CU. YD. |
| ITEM 602 CONCRETE MASONRY | 3.86 CU. YD. |
| ITEM 603 60" CONDUIT, TYPE A, 706.02 | 36 LIN. FT. |

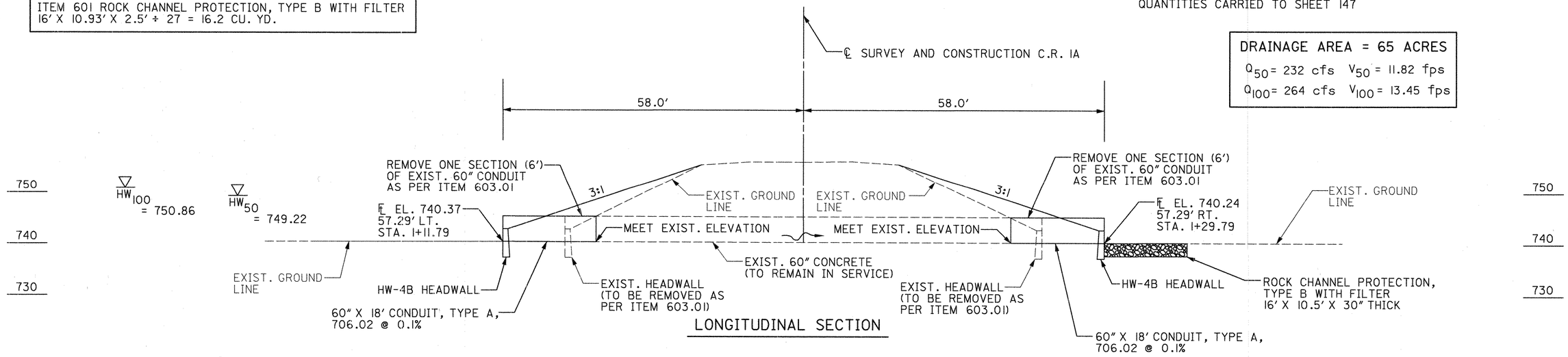
QUANTITIES CARRIED TO SHEET 147

**CALCULATIONS**

ITEM 601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER
16' X 10.93' X 2.5' ÷ 27 = 16.2 CU. YD.

**DRAINAGE AREA = 65 ACRES**

$Q_{50}$ = 232 cfs $V_{50}$ = 11.82 fps
$Q_{100}$ = 264 cfs $V_{100}$ = 13.45 fps




LONGITUDINAL SECTION

CULVERT DETAIL
STA. 1+19.26 C.R. 1A

HORIZONTAL SCALE IN FEET
0 10 20

CALCULATED JLS 7/30/96
CHECKED JLS 7/30/96

COS-16-9.84
COS-36-20.06

C1610I2C.DGN 7/30/96

| MARK | STATION FROM | STATION TO | SIDE | SHEET NO. | 603 12" CONDUIT, TYPE B, 706.01 OR 706.02 LIN.FT. | 603 15" CONDUIT, TYPE B LIN.FT. | 603 15" CONDUIT, TYPE F, TYPE C 707.05 LIN.FT. | 603 15" CONDUIT, TYPE F LIN.FT. | 603 30" CONDUIT, TYPE B, 706.02 LIN.FT. | 603 15" SLOTTED DRAIN LIN.FT. | 603 24" CONDUIT, TYPE A, 706.02 OR 30" CONDUIT, TYPE A, 707.01 LIN.FT. | 603 60" CONDUIT, TYPE A, 706.02 LIN.FT. | 604 CATCH BASIN, NO. 3 AS PER PLAN EACH | 604 CATCH BASIN, NO. 3-A, AS PER PLAN EACH | 604 CATCH BASIN, NO. 6, AS PER PLAN EACH | 604 CATCH BASIN, NO. 8 AS PER PLAN EACH | 604 INLET I-2-A-6, AS PER PLAN EACH | 602 CONCRETE MASONRY CU.YD. | 601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER CU.YD. | 601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER CU.YD. | 601 RIPRAP USING 6" REINFORCED CONCRETE SLAB SQ.YD. | 670 DITCH EROSION PROTECTION 100'x6'+9= SQ.YD. | 202 PIPE REMOVED, 24" AND UNDER LIN.FT. | 202 CATCH BASIN REMOVED EACH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-SS | 520+50.6 | | RT/LT | 82 | 6 | | | | | | | | | 1 | | | | | | | | | | | |
| 2-SS | 522+00.8 | | RT/LT | 82 | 6 | | | | | | | | | 1 | | | | | | | | | | | |
| 3-SS | 523+49.4 | | RT/LT | 82 | 6 | | | | | | | | | 1 | | | | | | | | | | | |
| 4-SS | 525+32.6 | | RT/LT | 83 | | | | | 12 | | | | 1 | | | | | | | | | | | | |
| 5-SS | 526+50.6 | | RT/LT | 83 | 6 | | | | | | | | | 1 | | | | | | | | | | | |
| 6-SS | 529+14 | | RT/LT | 83 | 6 | | | | | | | | | 1 | | | | | | | | | | | |
| 7-SS | 532+37.5 | | RT/LT | 84 | | | | | | | | | | | | | | | | | | | | 18 | 1 |
| 8-SS | 532+90 | | ℄/RT | 84 | | 33 | | 46 | | | | | | | 1 | | | .27 | | .8 | | | | | |
| 9-SS | 532+90 | 535+00 | ℄ | 84 | | 210 | | | | | | | | | | | | | | | | | | | |
| 10-SS | 535+00 | 538+50 | ℄ | 85 | | 350 | | | | | | | | | 1 | | | | | | | | | | |
| 11-SS | 546+50 | 548+50 | ℄ | 87 | | 200 | | | | | | | | | 1 | | | | | | | | | | |
| 12-SS | 548+50 | | ℄/RT | 87 | | 35 | | 43 | | | | | | | 1 | | | .27 | | .8 | | | | | |
| 13-SS | 7+85 | 10+50 | LT | 90 | | 265 | | | | | | | | | 1 | 1 | | | | | | | | | |
| 14-SS | 8+50 | | RT/LT | 90 | | 100 | | | | | | | | | | 1 | | .27 | | .7 | | | | | |
| 15-SS | 553+00 | | RT/LT | 88/100 | | 87 | 36 | | | | | | | | | | 2 | .27 | | | | | | | |
| 1-SD | 532+90 | 535+00 | ℄ | 84 | | | | 10 | | 200 | | | | | | | | | | | | | | | |
| 2-SD | 535+00 | 538+30 | ℄ | 85 | | | | | | 330 | | | | | | | | | | | | | | | |
| 3-SD | 538+50 | 540+50 | ℄ | 85 | | | | 10 | | 190 | | | | | | | | | | | | | | | |
| 4-SD | 540+50 | 546+00 | ℄ | 86 | | | | | | 550 | | | | | | | | | | | | | | | |
| 5-SD | 546+00 | 546+50 | ℄ | 87 | | | | 10 | | 40 | | | | | | | | | | | | | | | |
| 6-SD | 546+60 | 548+50 | ℄ | 87 | | | | 10 | | 180 | | | | | | | | | | | | | | | |
| 1-R | 8+35 | 9+50 | LT | 90 | | | | | | | | | | | | | | | | | | | | 110 | 2 |
| 1-C | 532+65.49 (S.R. 16) | | RT/LT | 84/144 | | | | | | | | 36 | | | | | | 4.79 | | 14.8 | | 28.0 | | | |
| 2-C | 1+09.87 (S.R. 83) | | RT/LT | 115/145 | | | | | | | 132 | | | | | | | 0.86 | | | 2.9 | | | 105 | |
| 3-C | 1+19.26 (C.R. 1A) | | RT/LT | 119/146 | | | | | | | | 36 | | | | | | 3.86 | | 16.2 | | | | | |
| 1-EP | 8+57.00 | 9+57.00 | RT/LT | 90 | | | | | | | | | | | | | | | | | | | 66.7 | | |
| 2-EP | 10+57.00 | 11+57.00 | RT/LT | 90/91 | | | | | | | | | | | | | | | | | | | 66.7 | | |
| TOTALS TO GENERAL SUMMARY | | | | | 30 | 1280 | 36 | 129 | 12 | 1490 | 132 | 72 | 1 | 5 | 5 | 2 | 2 | 10.59 | | 31.0 | 5.2 | 28.0 | 133.4 | 233 | 3 |

# DRAINAGE QUANTITIES

CALCULATED A.J.L. 3/10/96

CHECKED J.M. 3/25/96

COS-16-9.84
COS-36-20.06

147
231

C161033B.DGN 1/30/97

# UNDERDRAIN DETAIL SHEET
# STA. 530+00 TO STA. 535+00

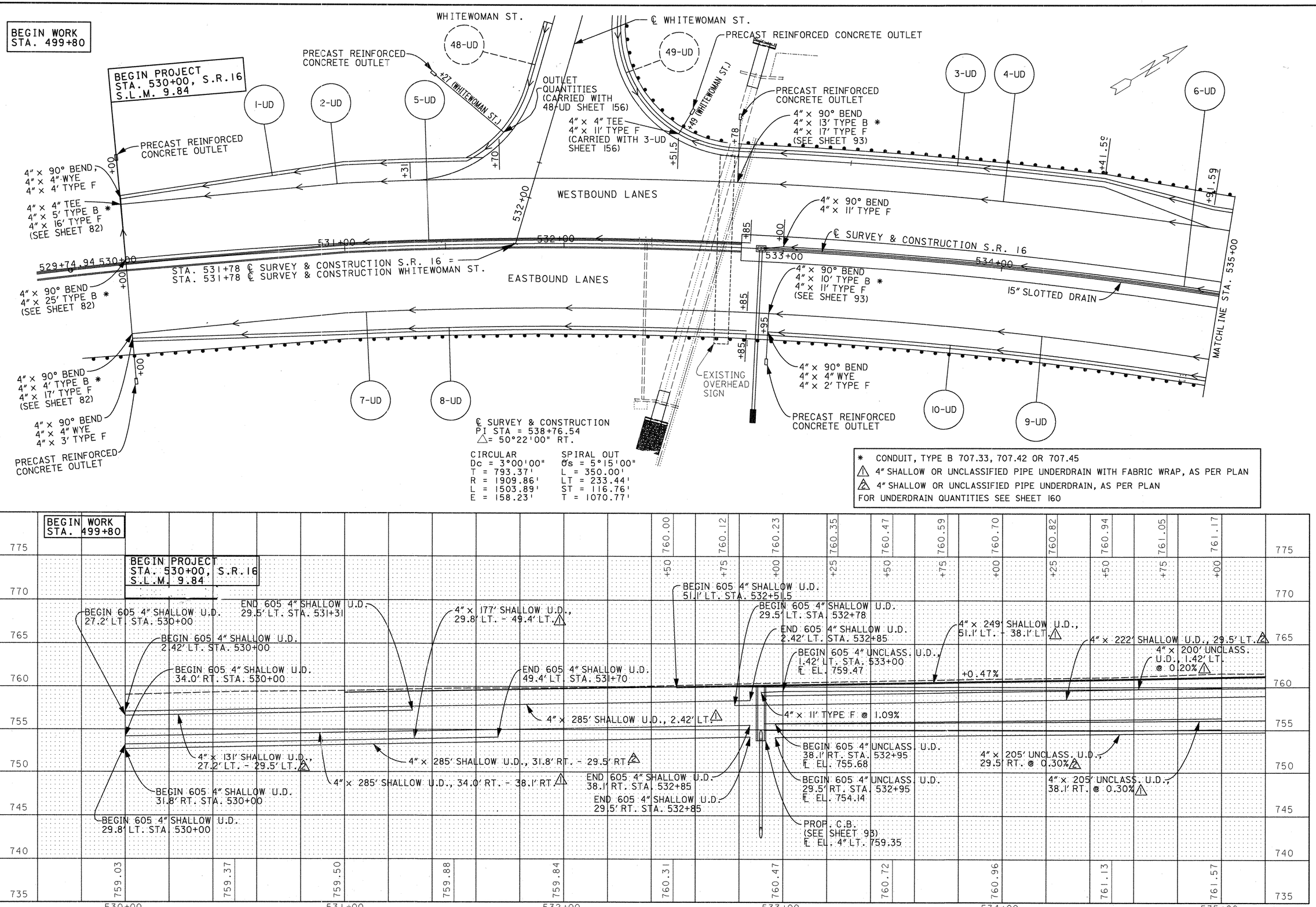
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED C.K. 5/20/96
CHECKED A.L.L. 7/31/96

COS-16-9.84
COS-36-20.06



C016UD01.DGN 7-26-96



# UNDERDRAIN DETAIL SHEET STA. 535+00 TO STA. 540+50

PRECAST REINFORCED CONCRETE OUTLET

4" x 4" TEE, 4" x 4" WYE
4" x 3' TYPE F

4" x 4" TEE
4" x 11' TYPE B *
4" x 19' TYPE F
(SEE SHEET 94)

CITY OF COSHOCTON CORPORATION LIMIT

STA. 540+13.29 ℄ SURVEY & CONSTRUCTION S.R. 16 =
STA. 141+01.21 ℄ SURVEY & CONSTRUCTION U.S.R. 36 =
STA. 540+13.29 ℄ SURVEY & CONSTRUCTION U.S.R. 36
END S.R. 16 BEGIN U.S.R. 36 STA. 540+13.29

℄ SURVEY & CONSTRUCTION, U.S.R. 36

11-UD 12-UD 13-UD 14-UD 15-UD 16-UD 17-UD 50-UD 51-UD 52-UD 53-UD

U.S.R. 36

PRECAST REINFORCED CONCRETE OUTLET

4" x 90° BEND
4" x 22'
TYPE F
(SEE SHEET 96)

MATCHLINE STA. 535+00

WESTBOUND LANES

℄ SURVEY & CONSTRUCTION S.R. 16

EASTBOUND LANES

15" SLOTTED DRAIN

4" x 90° BEND
4" x 10' TYPE F

END PROJECT
STA. 540+13.29, S.R. 16
S.L.M. 10.05

MATCHLINE STA. 540+50

4" x 4" TEE
4" x 10' TYPE B *
4" x 12' TYPE F
(SEE SHEET 95)

4" x 4" TEE, 4" x 4" WYE
4" x 3' TYPE F

PRECAST REINFORCED CONCRETE OUTLET

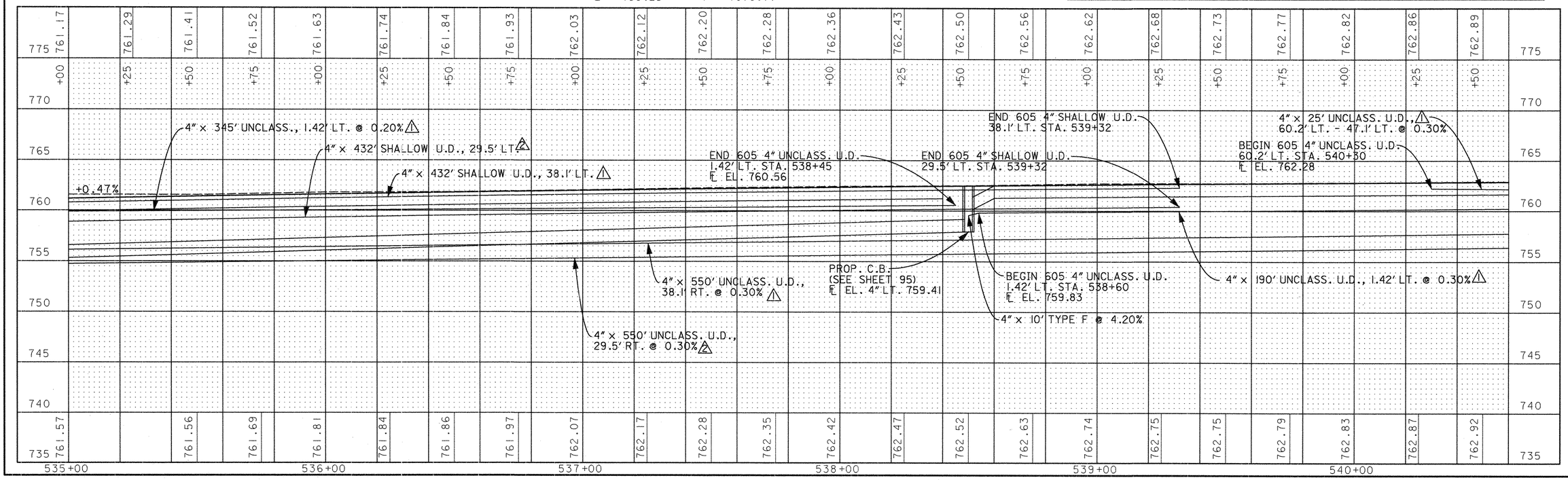
℄ SURVEY & CONSTRUCTION, U.S.R. 36

CITY OF COSHOCTON CORPORATION LIMIT

℄ SURVEY & CONSTRUCTION
PI STA = 538+76.54
△= 50°22'00" RT.

| CIRCULAR | SPIRAL OUT |
|---|---|
| Dc = 3°00'00" | Ds = 5°15'00" |
| T = 793.37' | L = 350.00' |
| R = 1909.86' | LT = 233.44' |
| L = 1503.89' | ST = 116.76' |
| E = 158.23' | T = 1070.77' |

* CONDUIT, TYPE B 707.33, 707.42 OR 707.45
⚠1 4" SHALLOW OR UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN
⚠2 4" SHALLOW OR UNCLASSIFIED PIPE UNDERDRAIN, AS PER PLAN
FOR UNDERDRAIN QUANTITIES SEE SHEET 160



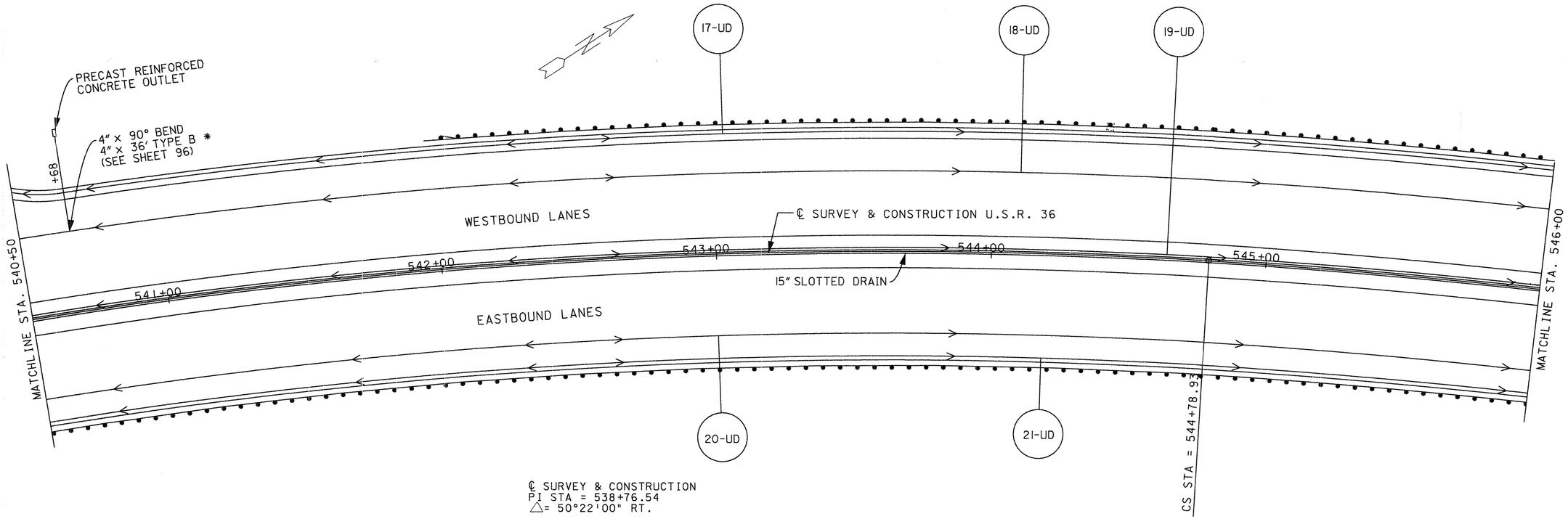

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED C.K. 5/20/96
CHECKED A.L.L. 7/31/96

COS-16-9.84
COS-36-20.06

149
231

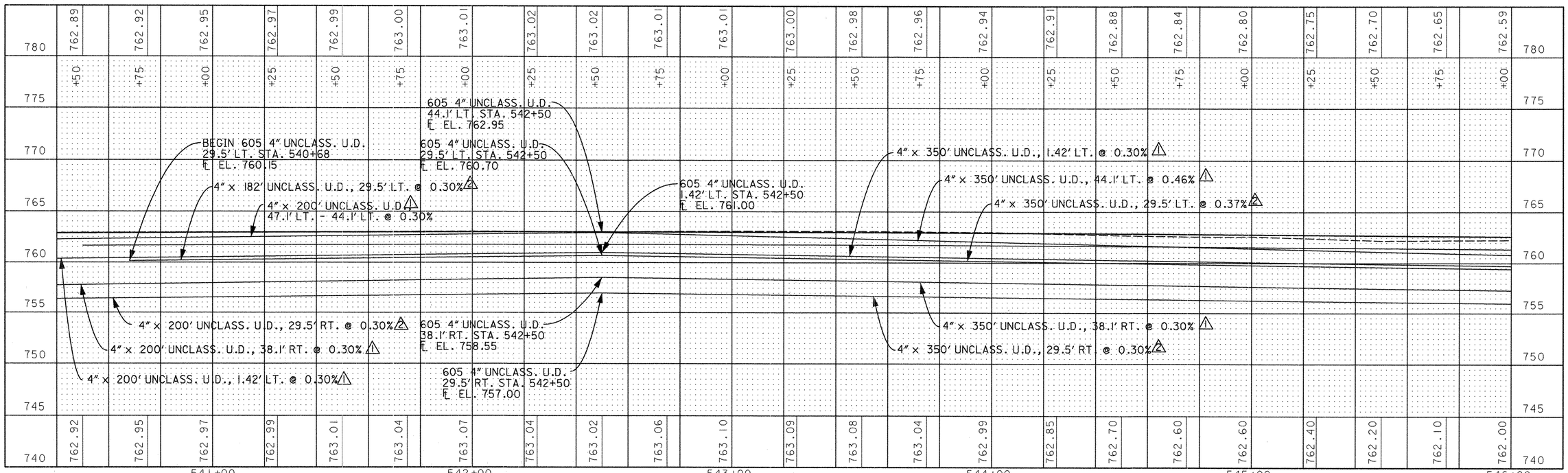
C016UD02.DGN 12-30-96




℄ SURVEY & CONSTRUCTION
PI STA = 538+76.54
△= 50°22'00" RT.

| CIRCULAR | SPIRAL OUT |
|---|---|
| Dc = 3°00'00" | Ds = 5°15'00" |
| T = 793.37' | L = 350.00' |
| R = 1909.86' | LT = 233.44' |
| L = 1503.89' | ST = 116.76' |
| E = 158.23' | T = 1070.77' |

* CONDUIT, TYPE B 707.33, 707.42 OR 707.45
⚠1 4" SHALLOW OR UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN
⚠2 4" SHALLOW OR UNCLASSIFIED PIPE UNDERDRAIN, AS PER PLAN
FOR UNDERDRAIN QUANTITIES SEE SHEET 160



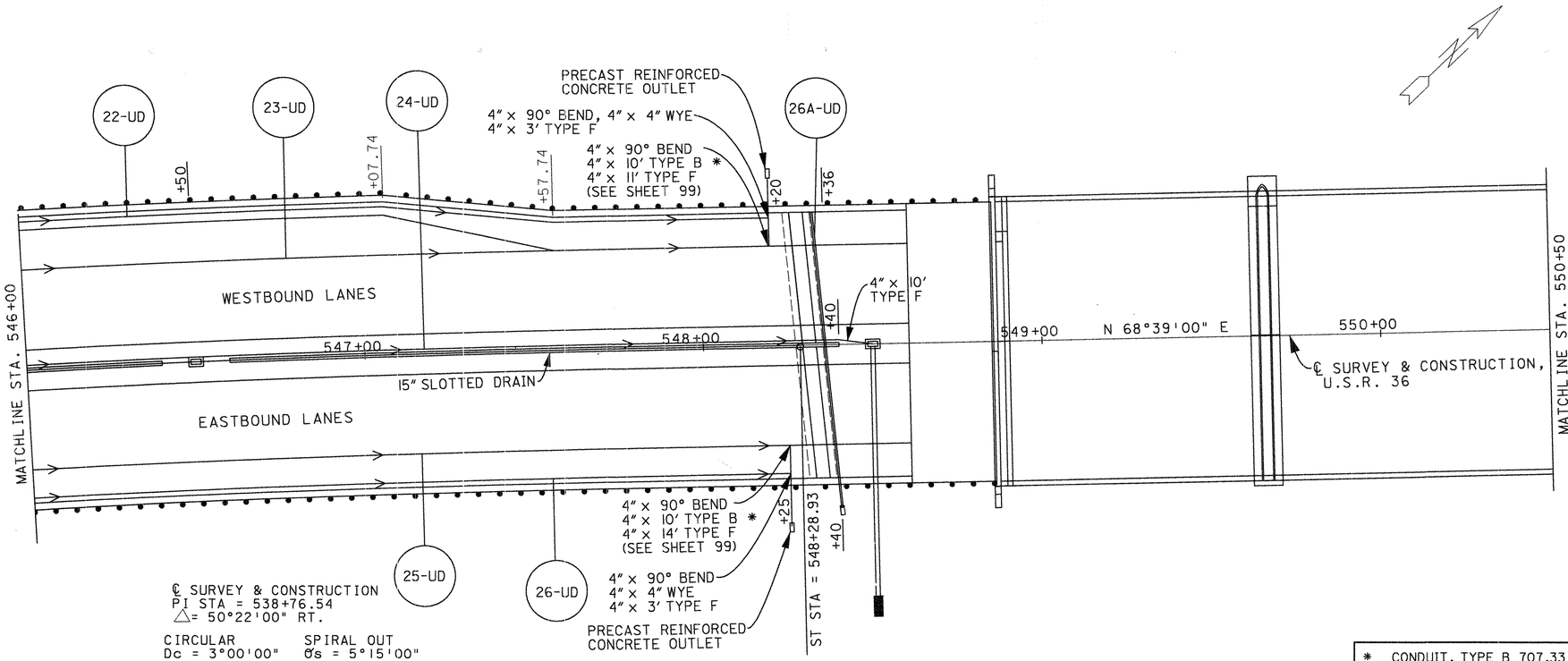

0 20 40
10
HORIZONTAL SCALE IN FEET

CALCULATED C.K. 5/20/96
CHECKED A.L.L. 7/31/96

# UNDERDRAIN DETAIL SHEET
# STA. 540+50 TO STA. 546+00

COS-16-9.84
COS-36-20.06

C016UD03.DGN 12-30-96

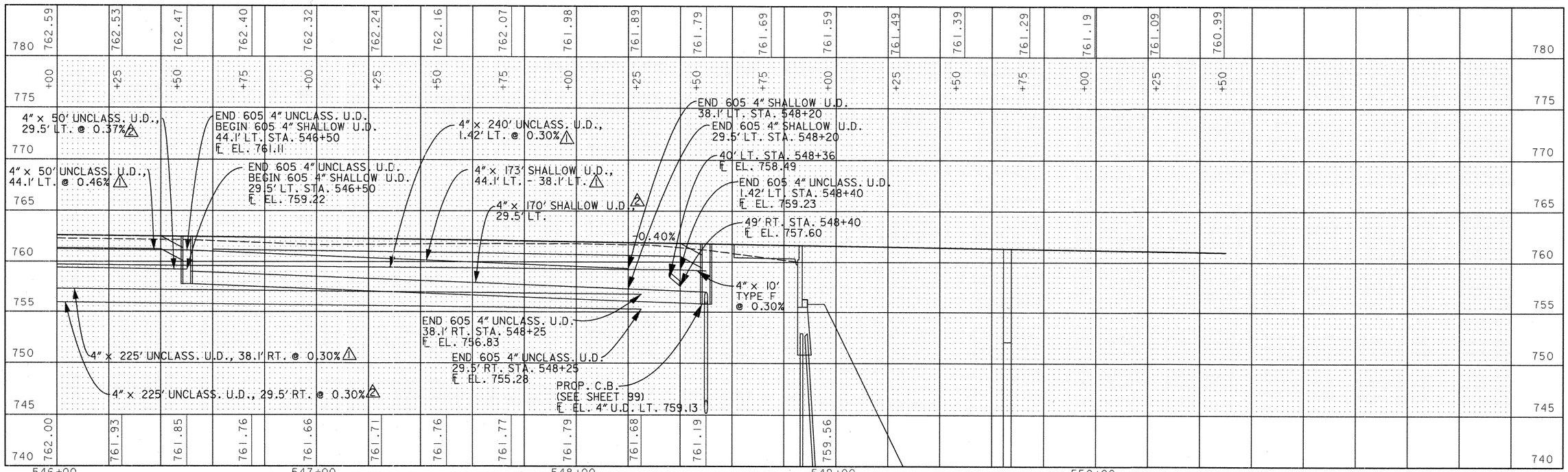



* CONDUIT, TYPE B 707.33, 707.42 OR 707.45

⚠1 4" SHALLOW OR UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN

⚠2 4" SHALLOW OR UNCLASSIFIED PIPE UNDERDRAIN, AS PER PLAN

FOR UNDERDRAIN QUANTITIES SEE SHEET 160




0 10 20 40 HORIZONTAL SCALE IN FEET

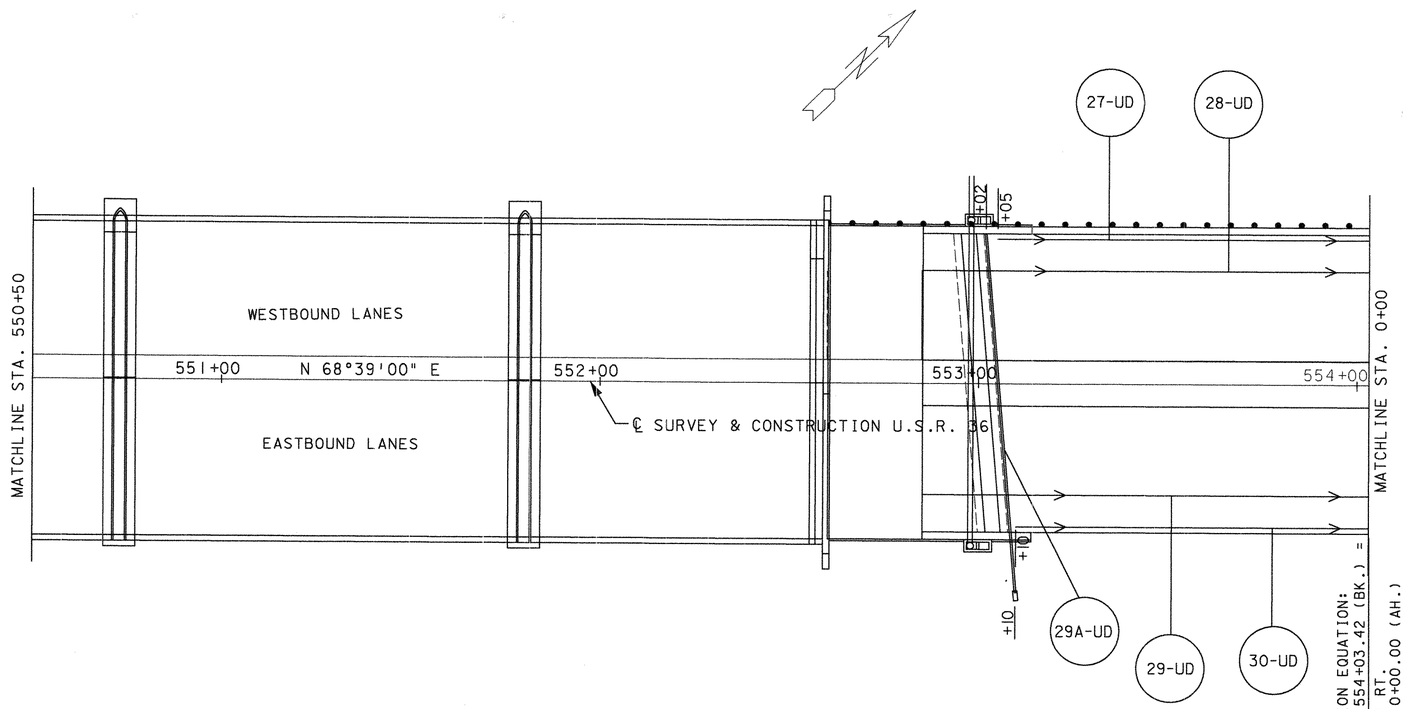
CALCULATED C.K. 5/20/96 CHECKED A.L.L. 7/31/96

# UNDERDRAIN DETAIL SHEET STA. 546+00 TO STA. 550+50

COS-16-9.84
COS-36-20.06

151
231

C016UD04.DGN 12-30-96

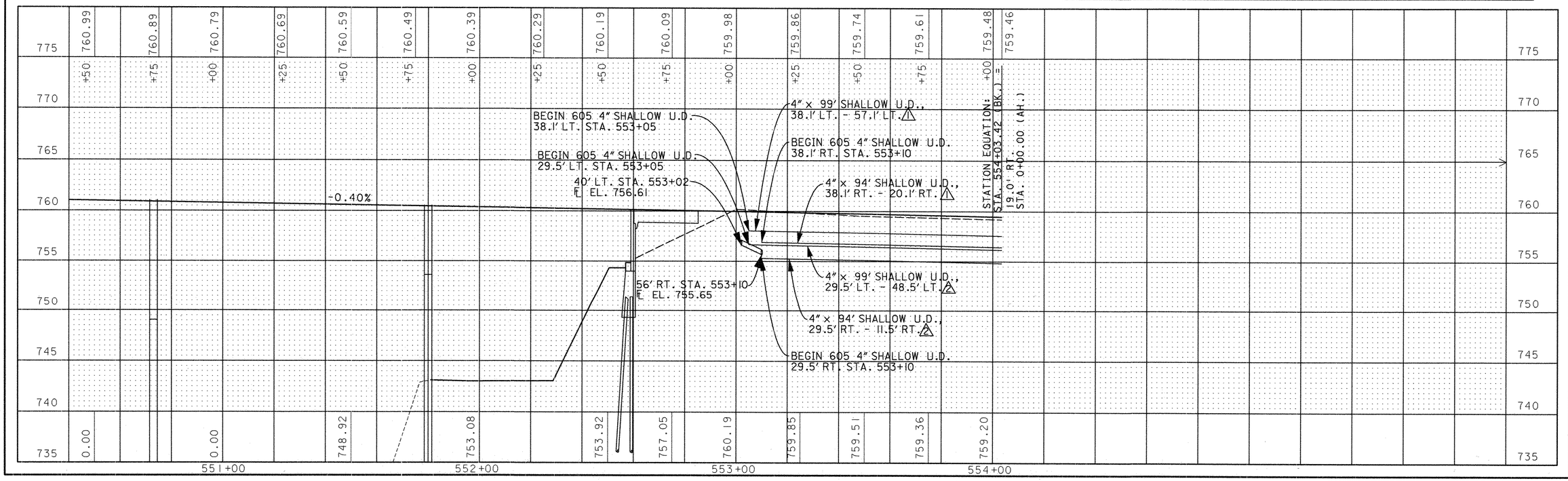



* CONDUIT, TYPE B 707.33, 707.42 OR 707.45

⚠1 4" SHALLOW OR UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN

⚠2 4" SHALLOW OR UNCLASSIFIED PIPE UNDERDRAIN, AS PER PLAN

FOR UNDERDRAIN QUANTITIES SEE SHEET 160




CALCULATED C.K. 5/20/96
CHECKED A.L.L. 7/31/96

0 10 20 40
HORIZONTAL SCALE IN FEET

# UNDERDRAIN DETAIL SHEET STA. 550+50 TO STA. 0+00

COS-16-9.84
COS-36-20.06



C016UD05.DGN 12-30-96

# UNDERDRAIN DETAIL SHEET
## STA. 554+03.42 B = 0+00 A TO STA. 5+50

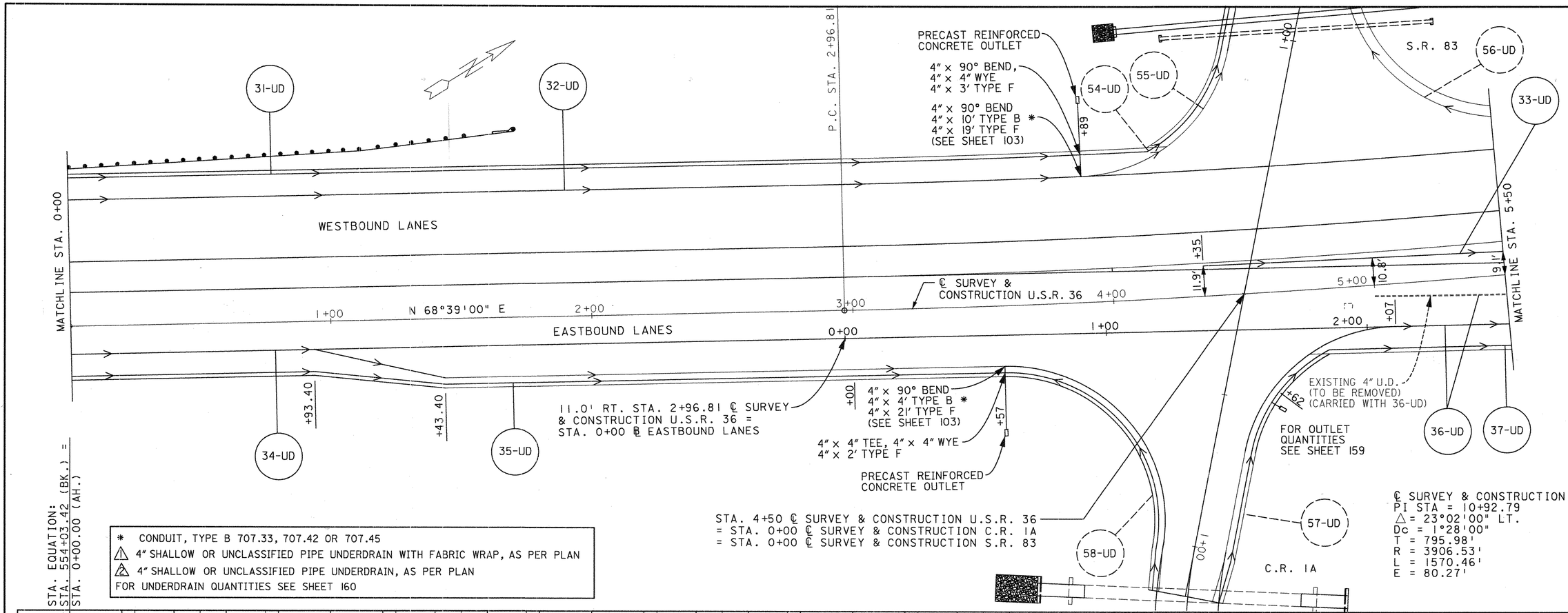
HORIZONTAL SCALE IN FEET: 0, 10, 20, 40

CALCULATED C.K. 5/20/96
CHECKED A.L.L. 7/31/96

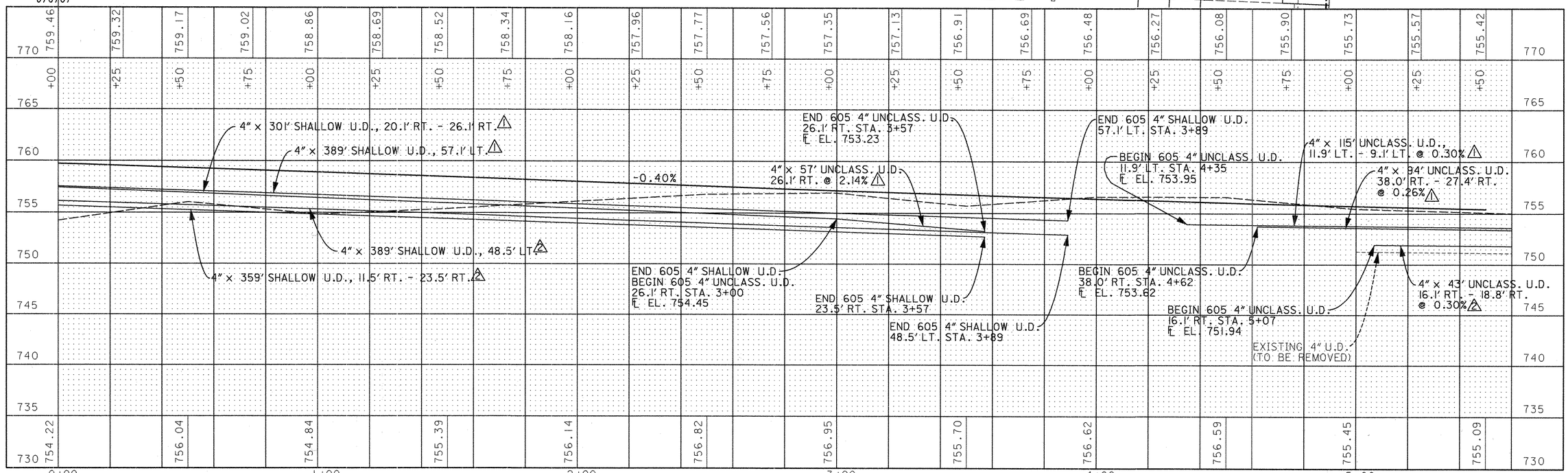
COS-16-9.84
COS-36-20.06



STA. EQUATION:
STA. 554+03.42 (BK.) =
STA. 0+00.00 (AH.)




* CONDUIT, TYPE B 707.33, 707.42 OR 707.45
⚠1 4" SHALLOW OR UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN
⚠2 4" SHALLOW OR UNCLASSIFIED PIPE UNDERDRAIN, AS PER PLAN
FOR UNDERDRAIN QUANTITIES SEE SHEET 160




C016UD06.DGN 12-30-96

EXISTING 4" OUTLET
(TO REMAIN IN SERVICE)

38-UD

39-UD

EXISTING 4" U.D.
(TO REMAIN IN SERVICE)

39A-UD

P.C. STA. 2+85

+60

MATCHLINE STA. 5+50

+23.22

+73.22

+50

WESTBOUND LANES

4" x 4" TEE,
4" x 4" WYE
4" x 2' TYPE F
(SEE SHEET 106)

4" x 90° BEND
4" x 7' TYPE B *
4" x 10' TYPE F
(SEE SHEET 105)

4" x 10' TYPE F

+75

+01.94

6+00

7.0'

5.1'

7+00

3.5'

2.1'

8+00

9+00

10+00

+65

+35

MATCHLINE STA. 11+00

3+00

4+00

5+00

6+00

7+00

8+00

+91

EASTBOUND LANES

4" x 4" TEE
4" x 8' TYPE F
(SEE SHEET 105)

℄ SURVEY & CONSTRUCTION U.S.R. 36

4" x 4" TEE
4" x 11' TYPE B *
4" x 22' TYPE F
(SEE SHEET 106)

EXISTING 4" U.D.
(TO BE REMOVED)
(CARRIED WITH 40-UD)

4" x 4" TEE, 4" x 4" WYE
4" x 3' TYPE F

+00

PRECAST REINFORCED
CONCRETE OUTLET

40-UD

41-UD

42-UD

42A-UD

℄ EASTBOUND LANES
PI STA = 6+66.83
△ = 15°10'06" LT.
Dc = 2°00'00"
T = 381.44'
R = 2864.79'
L = 758.41'
E = 25.28'

℄ SURVEY & CONSTRUCTION
PI STA = 10+92.79
△ = 23°02'00" LT.
Dc = 1°28'00"
T = 795.98'
R = 3906.53'
L = 1570.46'
E = 80.27'

* CONDUIT, TYPE B 707.33, 707.42 OR 707.45

⚠1 4" SHALLOW OR UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN

⚠2 4" SHALLOW OR UNCLASSIFIED PIPE UNDERDRAIN, AS PER PLAN

FOR UNDERDRAIN QUANTITIES SEE SHEET 160

| | 6+00 | | 7+00 | | 8+00 | | 9+00 | | 10+00 | | 11+00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 770 | 755.42 | 755.28 | 755.14 | 755.02 | 754.91 | 754.81 | 754.72 | 754.63 | 754.56 | 754.50 | 754.45 | 754.41 | 754.38 | 754.35 | 754.34 | 754.34 | 754.35 | 754.36 | 754.38 | 754.37 | 754.40 | 754.42 | 754.43 | 770 |
| 765 | +50 | +75 | +00 | +25 | +50 | +75 | +00 | +25 | +50 | +75 | +00 | +25 | +50 | +75 | +00 | +25 | +50 | +75 | +00 | +25 | +50 | +75 | +00 | 765 |
| 760 | | | | | | | | | | | | | | | | | | | | | | | | 760 |
| 755 | | | | | | | | | | | | | | | | | | | | | | | | 755 |
| 750 | | | | | | | | | | | | | | | | | | | | | | | | 750 |
| 745 | | | | | | | | | | | | | | | | | | | | | | | | 745 |
| 740 | | | | | | | | | | | | | | | | | | | | | | | | 740 |
| 735 | | | | | | | | | | | | | | | | | | | | | | | | 735 |
| 730 | 755.09 | | 754.75 | | 754.15 | | 753.60 | | 753.00 | | 752.34 | | 750.62 | | 751.14 | | 750.70 | | 750.60 | | 750.67 | | 750.14 | 730 |

BEGIN 605 4" UNCLASS. U.D.
63.1' LT. STA. 5+60
℄ EL. 751.44

4" x 225' UNCLASS. U.D.,
9.1' LT. - 1.3' LT. @ 0.30% ⚠1

4" x 450' UNCLASS. U.D., 18.8' RT. - 43.1' RT. @ 0.30% ⚠2

END 605 4" UNCLASS. U.D
1.3' LT. STA. 7+75
℄ EL. 752.90

4" x 450' UNCLASS. U.D.,
27.4' RT. - 51.7' RT. @ 0.26% ⚠1

-0.40%

4" x 10' TYPE F @ 0.70%

605 4" UNCLASS. U.D.
0.9' LT. STA. 8+50
℄ EL. 751.22

END 605 4" UNCLASS. U.D.
3.9' RT. STA. 9+65
℄ EL. 751.45

BEGIN 605 4" UNCLASS. U.D.
24.5' LT. STA. 8+50
℄ EL. 750.21

4" x 115' UNCLASS. U.D.,
0.9' LT. - 3.9' RT. @ 0.20% ⚠1

605 4" UNCLASS. U.D.
51.7' RT. STA. 10+00
℄ EL. 752.21

4" x 100'
UNCLASS. U.D.
51.7' - 54.5' RT.
@ 0.30%

BEGIN 605 4" UNCLASS. U.D.
18.2' RT. STA. 10+35
℄ EL. 750.19

605 4" UNCLASS. U.D.
57.1' LT. STA. 10+50
℄ EL. 750.02

EXISTING 4" U.D.
(TO BE REMOVED)

PROP. C.B.
(SEE SHEET 105)
℄ EL. 4" LT. 752.83

4" x 491' UNCLASS. U.D.,
63.1' LT. - 57.1' LT. @ 0.29% ⚠1

PROP. C.B.
(SEE SHEET 105)
℄ EL. 4" U.D. LT. 750.04
℄ EL. 4" U.D. LT. 751.14

EXISTING 4" U.D.
(TO REMAIN IN SERVICE
48.5' LT.)

4" x 100' UNCLASS. U.D.
43.1' RT. - 45.9' RT. @ 0.30%

4" x 59' UNCLASS. U.D.
8.1' RT. - 0.9' LT. @ 1.51% ⚠1

4" x 250' UNCLASS. U.D.,
24.5' LT. @ 0.25% ⚠2

4" x 50' UNCLASS. U.D.,
57.1' LT. @ 0.32% ⚠1

BEGIN 605 4" UNCLASS. U.D.
8.1' RT. STA. 7+91
℄ EL. 752.11

605 4" UNCLASS. U.D.
43.1' RT. STA. 10+00
℄ EL. 750.46

4" x 65' UNCLASS. U.D.
18.2' RT. - 19.9' RT. @ 0.30% ⚠1

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED C.K. 5/20/96
CHECKED J.L.L. 7/31/96

# UNDERDRAIN DETAIL SHEET
# STA. 5+50 TO STA. 11+00

COS-16-9.84
COS-36-20.06

154
231

C016UD07.DGN 12-30-96

END PROJECT
STA. 13+31, U.S.R.36
S.L.M. 20.65

43-UD

44-UD

EXISTING 4" U.D.
(TO REMAIN IN SERVICE)

750

WESTBOUND LANES

EXISTING 4" U.D.
(TO REMAIN IN SERVICE)

EXISTING 15" CONDUIT
(TO BE ABANDONED)

EXISTING CATCH BASIN
(TO REMAIN IN SERVICE)

MATCHLINE STA. 11+00

EXISTING 24" CONCRETE CONDUIT
(TO REMAIN IN SERVICE)

EXISTING 24" CONDUIT
(TO REMAIN IN SERVICE)

4" x 4" TEE

CONNECT INTO
EXISTING OUTLET

℄ SURVEY &
CONSTRUCTION U.S.R. 36

EXISTING 4" U.D.
(TO REMAIN IN SERVICE)

EXISTING 4" U.D.
(TO BE REMOVED)
(CARRIED WITH 45-UD)

EASTBOUND LANES

℄ SURVEY & CONSTRUCTION
PI STA = 10+92.79
△ = 23°02'00" LT.
Dc = 1°28'00"
T = 795.98'
R = 3906.53'
L = 1570.46'
E = 80.27'

49.0' RT. STA. 13+31 ℄ SURVEY
& CONSTRUCTION U.S.R. 36
= STA. 10+43.80 ℄ EASTBOUND LANES

EXISTING 4" U.D.
(TO REMAIN IN SERVICE)

EXISTING OUTLET
(TO REMAIN IN SERVICE)

45-UD

46-UD

47-UD

SEE SHEET 147 FOR DITCH EROSION PROTECTION QUANTITIES (2-EP)

* CONDUIT, TYPE B 707.33, 707.42 OR 707.45
△1 4" SHALLOW OR UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN
△2 4" SHALLOW OR UNCLASSIFIED PIPE UNDERDRAIN, AS PER PLAN
FOR UNDERDRAIN QUANTITIES SEE SHEET 160

4" x 231' UNCLASS. U.D.
24.5' LT. @ 0.25% △2

4" x 150' UNCLASS. U.D.
19.9' RT. - 20.2' RT. @ 1.16% △1

4" x 200' UNCLASS. U.D.,
57.1' LT. @ 0.32% △1

4" x 195' UNCLASS. U.D.,
54.5' RT. - 58.6' RT. @ 0.30% △1

4" x 195' UNCLASS. U.D.,
45.9' RT. - 48.5' RT. @ 0.31% △2

END 605 4" UNCLASS. U.D.
57.1' LT. STA. 13+00
℄ EL. 750.83

END PROJECT
STA. 13+31,
U.S.R.36
S.L.M. 20.65

END 605 4" UNCLASS. U.D.
24.5' LT. STA. 13+31
℄ EL. 751.41

END 605 4" UNCLASS. U.D.
20.2' RT. STA. 12+50
℄ EL. 749.54
(CONNECT INTO EXISTING OUTLET)

END 605 4" UNCLASS. U.D.
58.6' RT. STA. 12+95
℄ EL. 753.09

END 605 4" UNCLASS. U.D.
48.5' RT. STA. 12+95
℄ EL. 751.36

EXISTING 15" CONDUIT
(TO BE ABANDONED)

EXISTING 4" U.D.
(TO BE REMOVED)

EXISTING 4" U.D.
(TO REMAIN IN SERVICE)

754.43 754.44 754.46 754.47 754.48 754.49 754.51 754.52 754.53 754.55

765 760 755 750 745 740 735 730 725

+00 +25 +50 +75 +00 +25 +50 +75 +00 +25

750.14 750.06 749.66 750.30 750.51 750.41 750.53 750.32 750.54 750.90 750.77 750.72

11+00 12+00 13+00 14+00 15+00 16+00

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED C.K. 5/20/96
CHECKED J.L.L. 7/31/96

# UNDERDRAIN DETAIL SHEET
# STA. 11+00 TO STA. 16+50

COS-16-9.84
COS-36-20.06

155
231

C016UD08.DGN 12-30-96

℄ SURVEY & CONSTRUCTION S.R.16

EASTBOUND LANES

WESTBOUND LANES

1-UD

PRECAST REINFORCED CONCRETE OUTLET

48-UD

4" x 90° BEND
4" x 26' TYPE F
(SEE SHEET 109)

+27

+80

532+00

N48°58'10"w

533+00

℄ SURVEY & CONSTRUCTION WHITEWOMAN ST.

532+00

+03

49-UD

STA. 531+78 ℄ SURVEY & CONSTRUCTION S.R. 16 = STA. 531+78 ℄ SURVEY & CONSTRUCTION WHITEWOMAN ST.

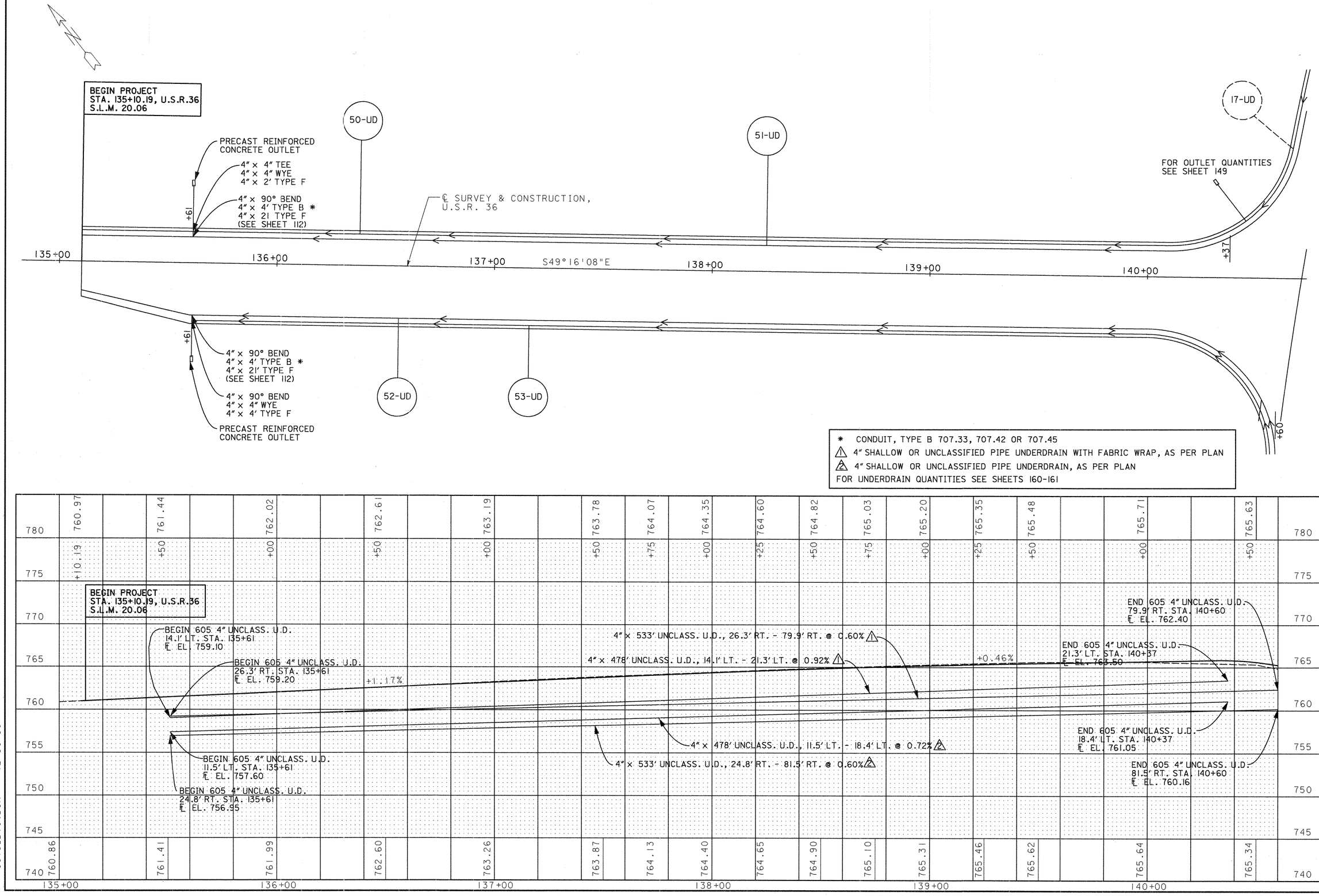
* CONDUIT, TYPE B 707.33, 707.42 OR 707.45

⚠1 4" SHALLOW OR UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN

⚠2 4" SHALLOW OR UNCLASSIFIED PIPE UNDERDRAIN, AS PER PLAN

FOR UNDERDRAIN QUANTITIES SEE SHEET 160

| | | |




HORIZONTAL SCALE IN FEET
0 10 20 40

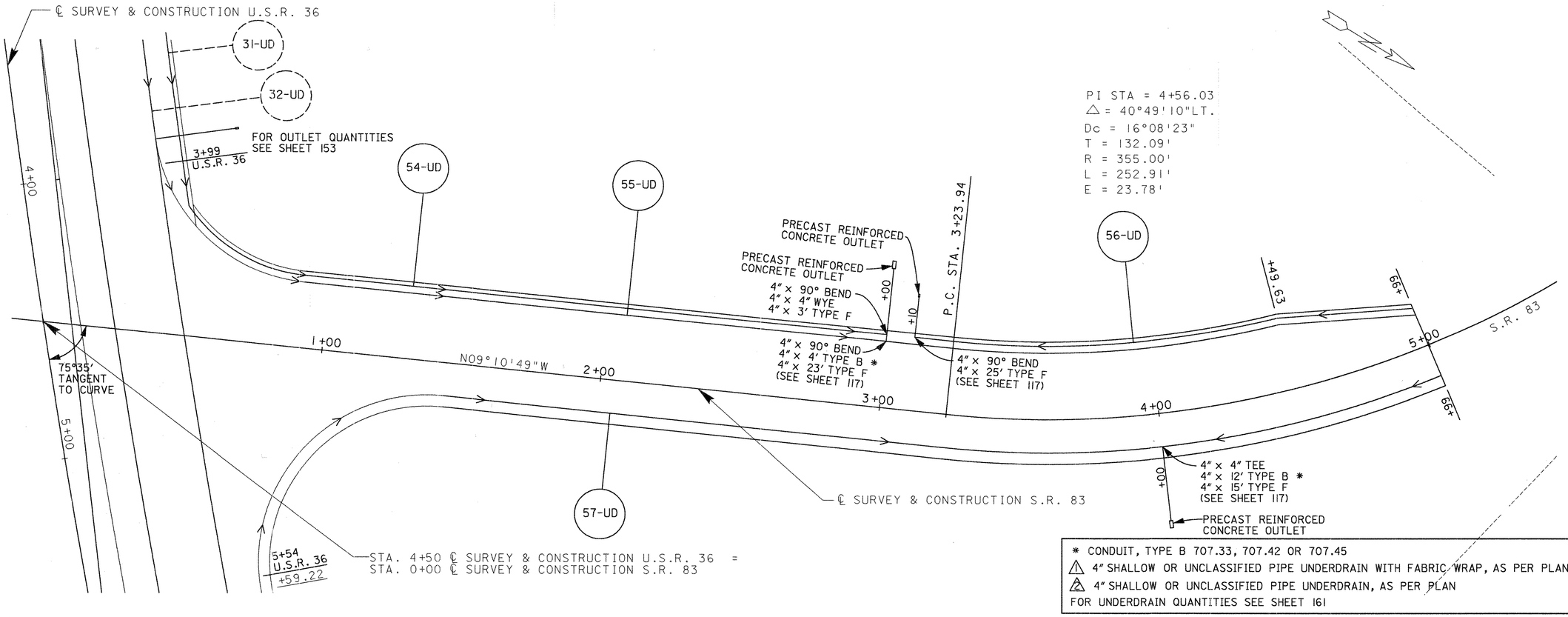
CALCULATED C.K. 6/05/96
CHECKED J.L.L. 7/31/96

# UNDERDRAIN DETAIL SHEET, U.S.R. 36

COS-16-9.84
COS-36-20.06

157
231

C016UD10.DGN 12-30-96

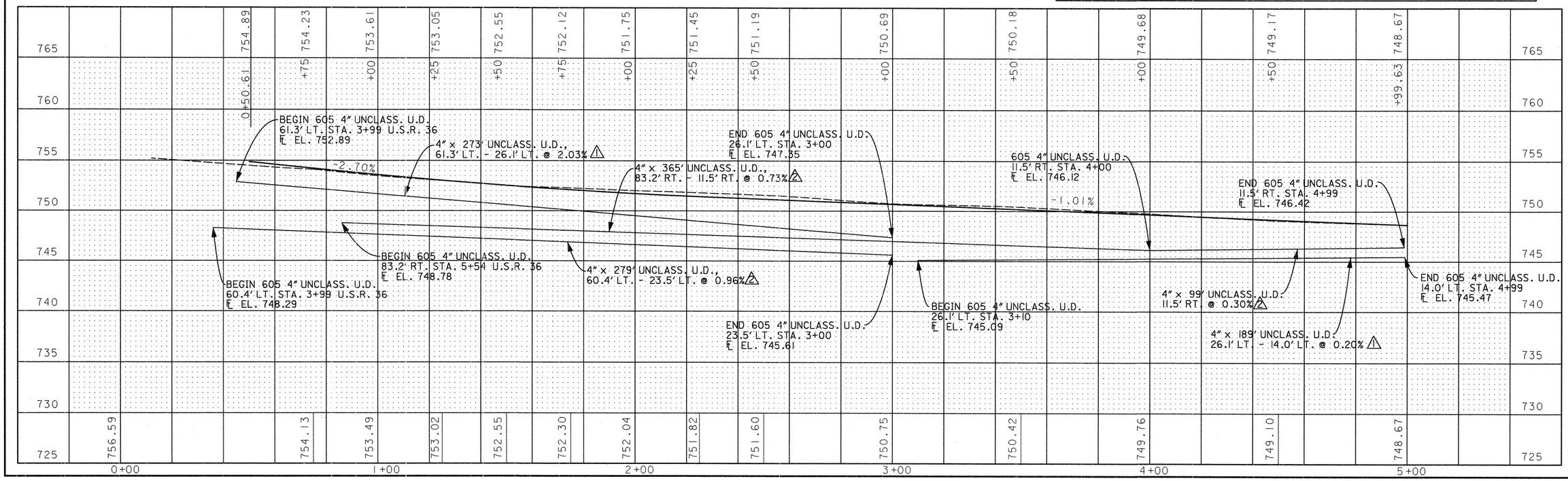



* CONDUIT, TYPE B 707.33, 707.42 OR 707.45

⚠1 4" SHALLOW OR UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN

⚠2 4" SHALLOW OR UNCLASSIFIED PIPE UNDERDRAIN, AS PER PLAN

FOR UNDERDRAIN QUANTITIES SEE SHEET 161




C016UD11.DGN 12-30-96

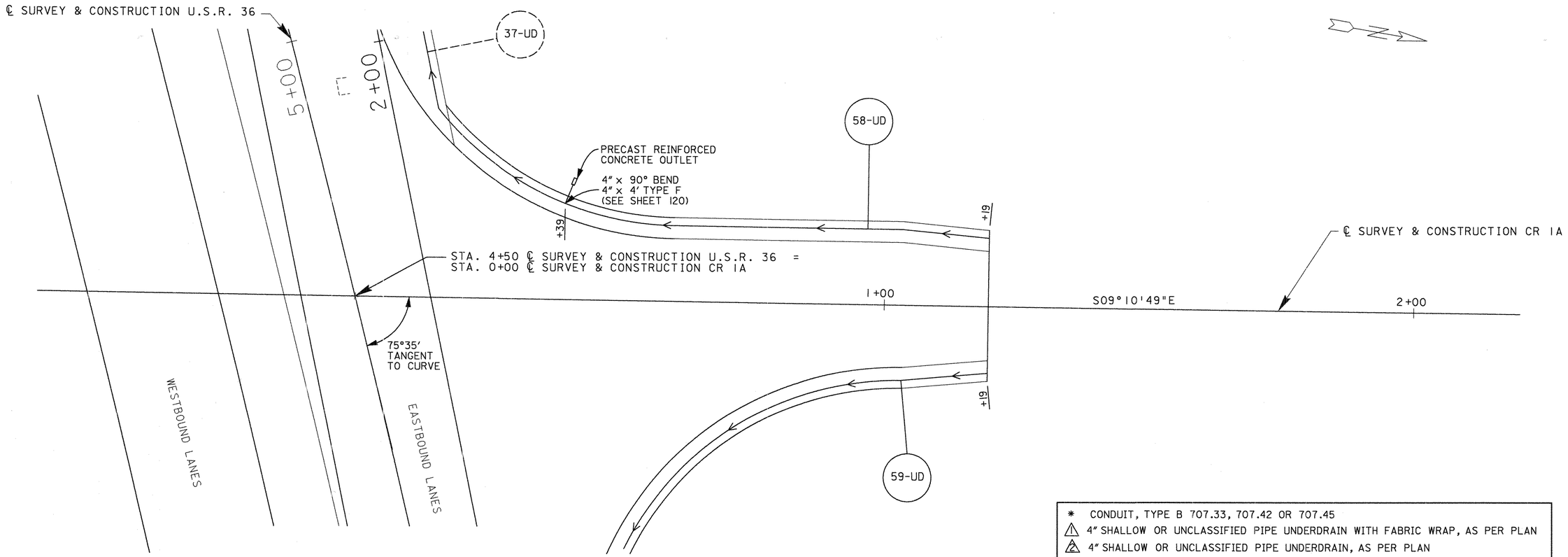
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED C.K. 6/05/96
CHECKED 7/31/96

# UNDERDRAIN DETAIL SHEET, S.R. 83

COS-16-9.84
COS-36-20.06

158
231




HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED C.K. 6/05/96
CHECKED [illegible] 7/31/96

# UNDERDRAIN DETAIL SHEET, CR 1A

COS-16-9.84
COS-36-20.06

159
231

C016UD12.DGN 12-30-96

✳707.33, 707.42 OR 707.45

| MARK | STATION FROM | STATION TO | SIDE | SHEET NO. | 603 4" CONDUIT TYPE B ✳ LIN.FT. | 603 4" CONDUIT TYPE F LIN.FT. | 605 4" SHALLOW PIPE UNDERDRAIN LIN.FT. | 605 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP,AS PER PLAN LIN.FT. | 605 4" UNCLASSIFIED PIPE UNDERDRAIN LIN.FT. | 605 4" UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN LIN.FT. | 605 6" SHALLOW PIPE UNDERDRAIN✳ LIN.FT. | | | 604 PRECAST REINFORCED CONCRETE OUTLET EACH | FOR INFORMATION ONLY BENDS AND BRANCHES TEE 4"x4" EACH | BEND 4"x90° EACH | 45°WYE 4"x4" EACH | | | 202 PIPE REMOVED 24" & UNDER, AS PER PLAN LIN.FT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-UD | 530+00 | 531+70 | LT. | 148 | | 4 | | 177 | | | | | | | | 1 | | 1 | | |
| 2-UD | 530+00 | 531+31 | LT. | 148 | 5 | 16 | 131 | | | | | | | 1 | 1 | | | | | |
| 3-UD | 532+51.5 | 535+00 | LT. | 148 | | 11 | | 249 | | | | | | 1 | 1 | | | | | |
| 4-UD | 532+78 | 535+00 | LT. | 148 | 13 | 17 | 222 | | | | | | | 1 | | 1 | | | | |
| 5-UD | 530+00 | 532+85 | LT. | 148 | 25 | | | 285 | | | | | | | | 1 | | | | |
| 6-UD | 533+00 | 535+00 | LT. | 148 | | 11 | | | | 200 | | | | | | 1 | | | | |
| 7-UD | 530+00 | 532+85 | RT. | 148 | 4 | 17 | 285 | | | | | | | 1 | | 1 | | | | |
| 8-UD | 530+00 | 532+85 | RT. | 148 | | 3 | | 285 | | | | | | | | 1 | | 1 | | |
| 9-UD | 532+95 | 535+00 | RT. | 148 | 10 | 11 | | | 205 | | | | | 1 | | 1 | | | | |
| 10-UD | 532+95 | 535+00 | RT. | 148 | | 2 | | | | 205 | | | | | | 1 | | 1 | | |
| 11-UD | 535+00 | 539+32 | LT. | 149 | | 3 | | 432 | | | | | | | 1 | | | 1 | | |
| 12-UD | 535+00 | 539+32 | LT. | 149 | 11 | 19 | 432 | | | | | | | 1 | 1 | | | | | |
| 13-UD | 535+00 | 538+45 | LT. | 149 | | | | 345 | | | | | | | | | | | | |
| 14-UD | 538+60 | 540+50 | LT. | 149 | | 10 | | | | 190 | | | | | | 1 | | | | |
| 15-UD | 535+00 | 540+50 | RT. | 149 | 10 | 12 | | | 550 | | | | | 1 | 1 | | | | | |
| 16-UD | 535+00 | 540+50 | RT. | 149 | | 3 | | | | 550 | | | | | 1 | | | 1 | | |
| 17-UD | 540+30 | 546+00 | LT. | 149-150 | | 22 | | | | 575 | | | | 1 | | 1 | | | | |
| 18-UD | 540+68 | 546+00 | LT. | 150 | 36 | | | | 532 | | | | | 1 | | 1 | | | | |
| 19-UD | 540+50 | 546+00 | LT. | 150 | | | | | | 550 | | | | | | | | | | |
| 20-UD | 540+50 | 546+00 | RT. | 150 | | | | | 550 | | | | | | | | | | | |
| 21-UD | 540+50 | 546+00 | RT. | 150 | | | | | | 550 | | | | | | | | | | |
| 22-UD | 546+00 | 548+20 | LT. | 151 | | 3 | | 173 | | 50 | | | | | | 1 | | 1 | | |
| 23-UD | 546+00 | 548+20 | LT. | 151 | 10 | 11 | 170 | | 50 | | | | | 1 | | 1 | | | | |
| 24-UD | 546+00 | 548+50 | LT. | 151 | | 10 | | | | 240 | | | | | | | | | | |
| 25-UD | 546+00 | 548+25 | RT. | 151 | 10 | 14 | | | 225 | | | | | 1 | | 1 | | | | |
| 26-UD | 546+00 | 548+25 | RT. | 151 | | 3 | | | | 225 | | | | | | 1 | | 1 | | |
| 26A-UD | 548+36 | 548+40 | LT./RT. | 151 | | | | | | | 89 | | | 1 | | | | | | |
| 27-UD | 553+05 | 0+00 | LT. | 152 | | | | 99 | | | | | | | | | | | | |
| 28-UD | 553+05 | 0+00 | LT. | 152 | | | 99 | | | | | | | | | | | | | |
| 29-UD | 553+10 | 0+00 | RT. | 152 | | | 94 | | | | | | | | | | | | | |
| 29A-UD | 553+02 | 553+10 | LT./RT. | 152 | | | | | | | 96 | | | 1 | | | | | | |
| 30-UD | 553+10 | 0+00 | RT. | 152 | | | | 94 | | | | | | | | | | | | |
| 31-UD | 0+00 | 3+89 | LT. | 153 | | 3 | | 389 | | | | | | | | 1 | | 1 | | |
| 32-UD | 0+00 | 3+89 | LT. | 153 | 10 | 19 | 389 | | | | | | | 1 | | 1 | | | | |
| 33-UD | 4+35 | 5+50 | LT. | 153 | | | | | | 115 | | | | | | | | | | |
| 34-UD | 0+00 | 3+57 | RT. | 153 | 4 | 21 | 359 | | | | | | | 1 | | 1 | | | | |
| 35-UD | 0+00 | 3+57 | RT. | 153 | | 2 | | 301 | | 57 | | | | | 1 | | | 1 | | |
| 36-UD | 5+07 | 5+50 | RT. | 153 | | | | | 43 | | | | | | | | | | | 43 |
| 37-UD | 4+62 | 5+50 | RT. | 153 | | | | | | 94 | | | | | | | | | | |
| 38-UD | 5+60 | 11+00 | LT. | 154 | | 2 | | | | 541 | | | | | 1 | | | 1 | | |
| 39-UD | 5+50 | 7+75 | LT. | 154 | | 10 | | | | 225 | | | | | | | | | | |
| 39A-UD | 8+50 | 11+00 | LT. | 154 | 7 | 10 | | | 250 | | | | | | | 1 | | | | |
| 40-UD | 5+50 | 11+00 | RT. | 154 | 11 | 22 | | | 550 | | | | | 1 | 1 | | | | | 550 |
| 41-UD | 5+50 | 11+00 | RT. | 154 | | 3 | | | | 550 | | | | | 1 | | | 1 | | |
| 42-UD | 7+91 | 9+65 | RT./LT. | 154 | | 8 | | | | 174 | | | | | 1 | | | | | |
| 42A-UD | 10+35 | 11+00 | RT. | 154 | | | | | | 65 | | | | | | | | | | |
| 43-UD | 11+00 | 13+00 | LT. | 155 | | | | | | 200 | | | | | | | | | | |
| 44-UD | 11+00 | 13+31 | LT. | 155 | | | | | 231 | | | | | | | | | | | |
| 45-UD | 11+00 | 13+00 | RT. | 155 | | | | | 195 | | | | | | | | | | | 200 |
| 46-UD | 11+00 | 13+00 | RT. | 155 | | | | | | 195 | | | | | | | | | | |
| 47-UD | 11+00 | 12+50 | RT. | 155 | | | | | | 150 | | | | | 1 | | | | | |
| 48-UD | 532+27 WHITE-WOMAN ST | 532+80 WHITE-WOMAN ST | LT. | 156 | | 26 | | | | 55 | | | | 1 | | 1 | | | | |
| 49-UD | 532+49 WHITE-WOMAN ST | 533+03 WHITE-WOMAN ST | RT. | 156 | | | | | | 74 | | | | | | | | | | |
| 50-UD | 135+10 U.S.R.36 | 140+37 U.S.R.36 | LT. | 156 | | 2 | | | | 478 | | | | 1 | | 1 | | 1 | | |
| SUB-TOTAL CARRIED TO SHEET 161 | | | | | 166 | 330 | 2181 | 2829 | 3381 | 6308 | 185 | | | 18 | 12 | 21 | | 12 | | 793 |

CALCULATED CJL 7/26/96
CHECKED 7/31/96

# UNDERDRAIN QUANTITIES

COS-16-9.84
COS-36-20.06

160
231

C16UDQUI.DGN 12/30/96

✳ 707.33, 707.42 OR 707.45

| MARK | STATION FROM | STATION TO | SIDE | SHEET NO. | 603 | | 605 | | | | | | | | 604 | FOR INFORMATION ONLY | | | | | | | | | 202 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | BENDS AND BRANCHES | | | | | | | | | |
| | | | | | | | | | | | | | | | | TEE | | | BEND | | 45°WYE | | | | PIPE REMOVED 24" & UNDER, AS PER PLAN |
| | | | | | 4" CONDUIT TYPE B ✳ | 4" CONDUIT TYPE F | 4" SHALLOW PIPE UNDERDRAIN | 4" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN | 4" UNCLASSIFIED PIPE UNDERDRAIN | 4" UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN | 6" SHALLOW PIPE UNDERDRAIN✳ | | | PRECAST REINFORCED CONCRETE OUTLET | 4"x4" | | | 4"x90° | | 4"x4" | | | | |
| | | | | | LIN.FT. | LIN.FT. | LIN.FT. | LIN.FT. | LIN.FT. | LIN.FT. | LIN.FT. | | | EACH | EACH | | | EACH | | EACH | | | | LIN.FT. |
| 51-UD | 135+10 U.S.R.36 | 140+37 U.S.R.36 | LT. | 157 | 4 | 21 | | | 478 | | | | | 1 | | | | 1 | | | | | | |
| 52-UD | 135+10 U.S.R.36 | 140+60 U.S.R.36 | RT. | 157 | 4 | 21 | | | 533 | | | | | 1 | | | | 1 | | | | | | |
| 53-UD | 135+10 U.S.R.36 | 140+60 U.S.R.36 | RT. | 157 | | 4 | | | | 533 | | | | | | | | 1 | | 1 | | | | |
| 54-UD | 3+99 U.S.R. 36 | 4+99 S.R.83 | LT. | 158 | | 3 | | | | 273 | | | | | | | | 1 | | 1 | | | | |
| 55-UD | 3+99 U.S.R. 36 | 4+99 S.R.83 | LT. | 158 | 4 | 23 | | | 279 | | | | | 1 | | | | 1 | | | | | | |
| 56-UD | 3+10 S.R.83 | 4+99 S.R.83 | LT. | 158 | | 25 | | | | 189 | | | | 1 | | | | 1 | | | | | | |
| 57-UD | 5+54 U.S.R. 36 | 4+99 S.R.83 | RT. | 158 | 12 | 15 | | | 464 | | | | | 1 | 1 | | | | | | | | | |
| 58-UD | 0+40 C.R.1A | 1+19 C.R.1A | LT. | 159 | | 4 | | | | 79 | | | | 1 | | | | 1 | | | | | | |
| 59-UD | 3+57 U.S.R.36 | 1+19 C.R.1A | RT. | 159 | | | | | | 116 | | | | | | | | | | | | | | |
| SUB-TOTAL THIS SHEET | | | | | 24 | 116 | | | 1754 | 1190 | | | | 6 | 1 | | | 7 | | 2 | | | | |
| SUB-TOTAL CARRIED FROM SHEET 160 | | | | | 166 | 330 | 2181 | 2829 | 3381 | 6308 | 185 | | | 18 | 12 | | | 21 | | 12 | | | | 793 |
| TOTAL CARRIED TO GENERAL SUMMARY | | | | | 190 | 446 | 2181 | 2829 | 5135 | 7498 | 185 | | | 24 | 13 | | | 28 | | 14 | | | | 793 |

CALCULATED JC 7/26/96
CHECKED ALL 7/31/96

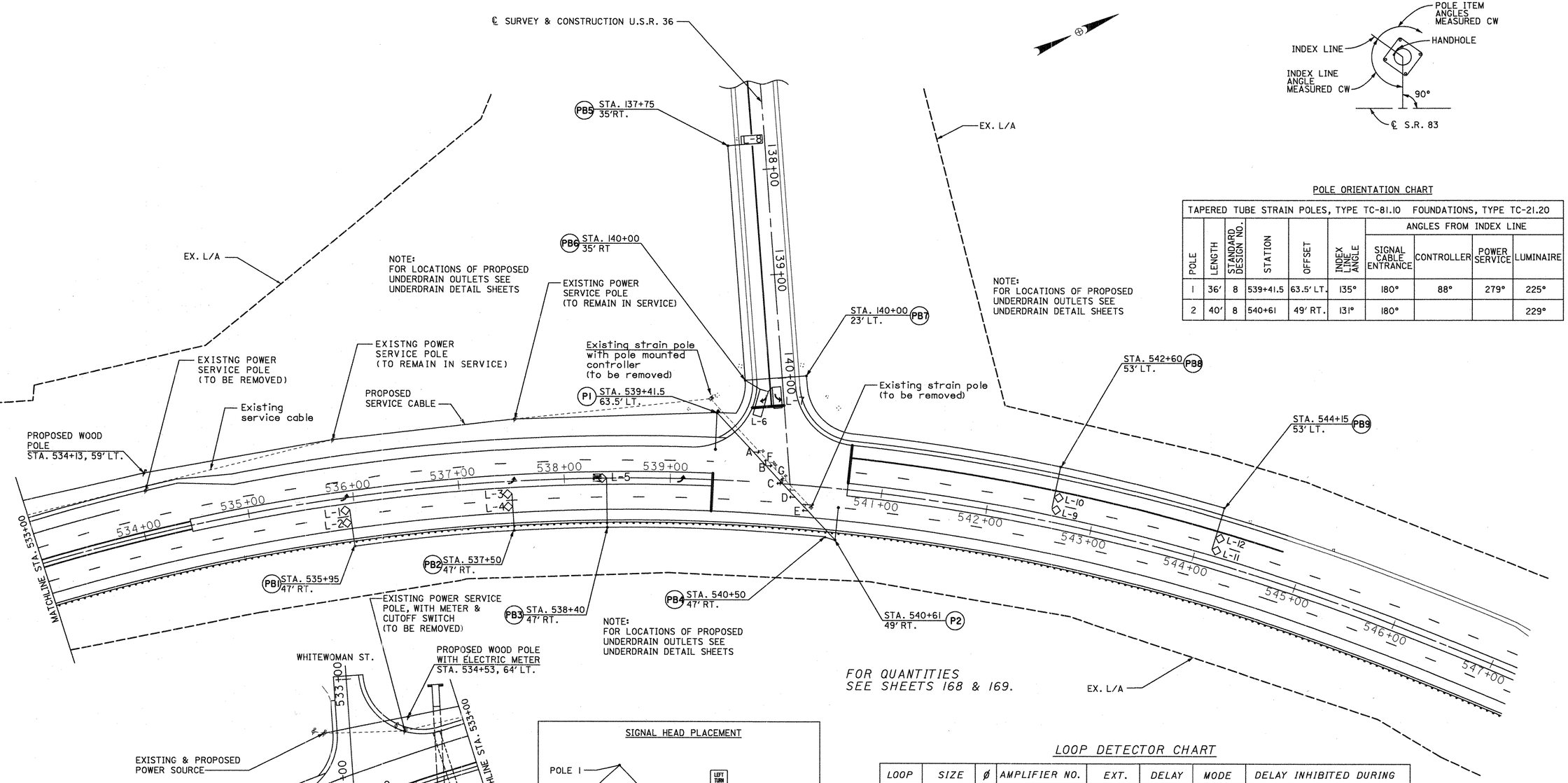
# UNDERDRAIN QUANTITIES

COS-16-9.84
COS-36-20.06



C:16UDQU2.DGN 12/20/96

# SIGNAL DETAIL @ S.R. 16 & U.S. 36




FOR QUANTITIES SEE SHEETS 168 & 169.

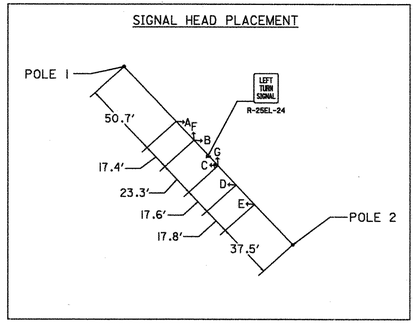
POLE DIAGRAM




POLE ORIENTATION CHART

| TAPERED TUBE STRAIN POLES, TYPE TC-81.10 FOUNDATIONS, TYPE TC-21.20 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| POLE | LENGTH | STANDARD DESIGN NO. | STATION | OFFSET | INDEX LINE ANGLE | ANGLES FROM INDEX LINE | | | |
| | | | | | | SIGNAL CABLE ENTRANCE | CONTROLLER | POWER SERVICE | LUMINAIRE |
| 1 | 36' | 8 | 539+41.5 | 63.5' LT. | 135° | 180° | 88° | 279° | 225° |
| 2 | 40' | 8 | 540+61 | 49' RT. | 131° | 180° | | | 229° |

SIGNAL HEAD PLACEMENT




LOOP DETECTOR CHART

| LOOP | SIZE | Ø | AMPLIFIER NO. | EXT. | DELAY | MODE | DELAY INHIBITED DURING |
|---|---|---|---|---|---|---|---|
| L-1 | 6 x 6 | 2 | 1 | | | PULSE | |
| L-2 | 6 x 6 | 2 | 1 | | | PULSE | |
| L-3 | 6 x 6 | 2 | 2 | | | PULSE | |
| L-4 | 6 x 6 | 2 | 2 | | | PULSE | |
| L-5 | 6 x 6 | 1 | 3 | 3.0 Sec. | | PRESENCE | |
| L-6 | 20 x 8 | 3 | 4 | | 5 Sec. | PRESENCE | |
| L-7 | 20 x 8 | 3 | 5 | | 3 Sec. | PRESENCE | |
| L-8 | 20 x 8 | 3 | 6 | | 2 Sec. | PRESENCE | Ø3 GRN |
| L-9 | 6 x 6 | 2 | 7 | | | PULSE | |
| L-10 | 6 x 6 | 2 | 7 | | | PULSE | |
| L-11 | 6 x 6 | 2 | 8 | | | PULSE | |
| L-12 | 6 x 6 | 2 | 8 | | | PULSE | |

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED B.F.B. 12-1-96
CHECKED J.J.L. 12-12-96

TRAFFIC SIGNAL DETAIL SHEET
S.R. 16 & U.S. 36

COS-16-9.84
COS-36-20.06



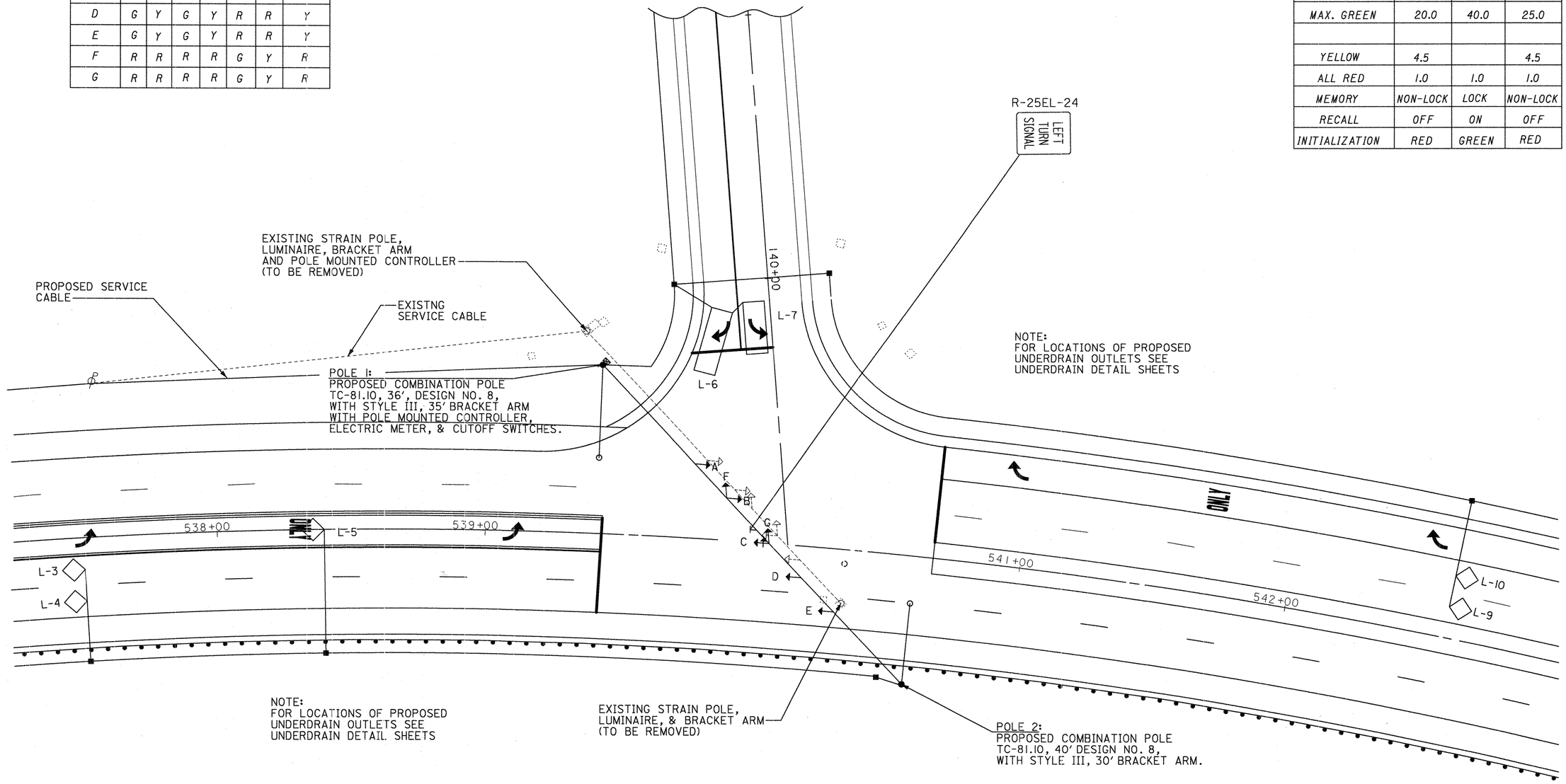
C0160067.DGN 07/24/96

## SIGNAL DISPLAY SCHEDULE

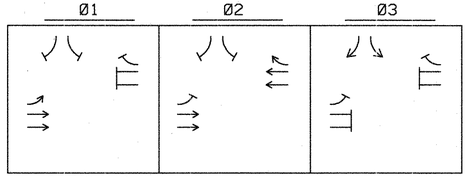
| PHASE | Ø1 | | Ø2 | | Ø3 | | FLASH |
|---|---|---|---|---|---|---|---|
| HEAD | R/W | C/L | R/W | C/L | R/W | C/L | |
| A | R | R | G | Y | R | R | Y |
| B | R | R | G | Y | R | R | Y |
| C | ~~G~~ | ~~Y~~ | R | R | R | R | ~~Y~~ |
| D | G | Y | G | Y | R | R | Y |
| E | G | Y | G | Y | R | R | Y |
| F | R | R | R | R | G | Y | R |
| G | R | R | R | R | G | Y | R |

## SIGNAL TIMING

| INTERVAL | Ø1 | Ø2 | Ø3 |
|---|---|---|---|
| MIN. GREEN | 12.0 | 15.0 | 12.0 |
| VEH. EXTENSION | 4.5 | 3.5 | 4.5 |
| MAX. GREEN | 20.0 | 40.0 | 25.0 |
| | | | |
| YELLOW | 4.5 | | 4.5 |
| ALL RED | 1.0 | 1.0 | 1.0 |
| MEMORY | NON-LOCK | LOCK | NON-LOCK |
| RECALL | OFF | ON | OFF |
| INITIALIZATION | RED | GREEN | RED |




### SIGNAL PHASING




(OPTIONAL)

### SIGNAL INDICATIONS
ALL 12" LENS

Signal: A,B,D,E,F,G  Signal: C

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED B.F.B. 12-2-96
CHECKED A.A.L. 12-2-96

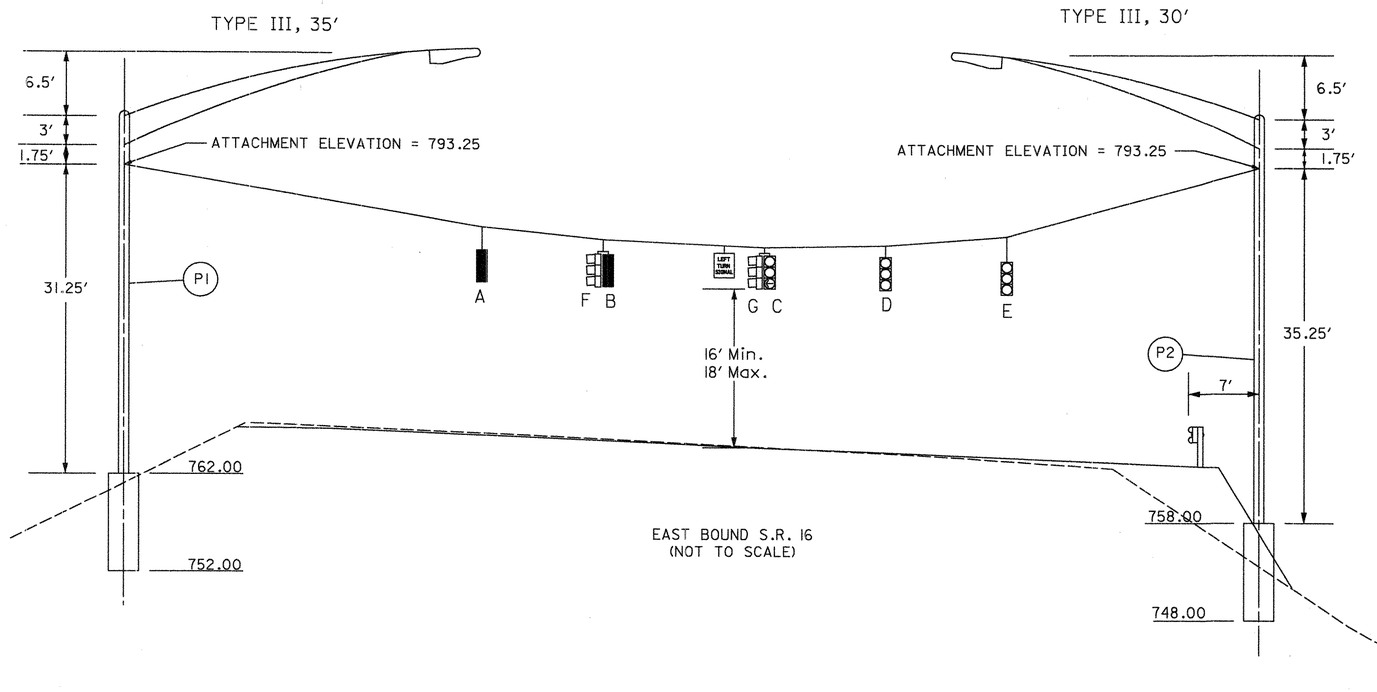
# TRAFFIC SIGNAL DETAIL SHEET
## S.R. 16 & U.S. 36

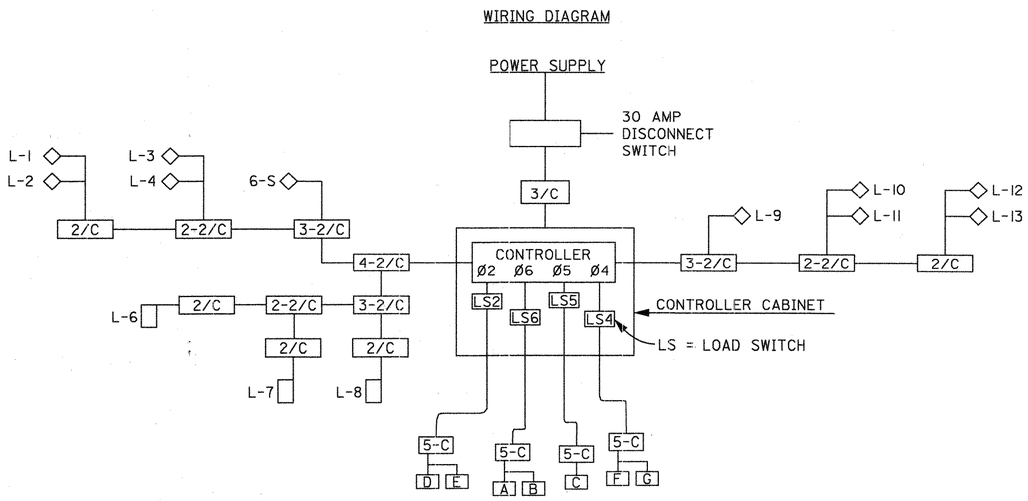
COS-16-9.84
COS-36-20.06

163
231

C0160A67.DGN 07/24/96

# SIGNAL PROFILE @ S.R. 16 & U.S. 36




FOR INFORMATION ONLY

CONCRETE FOR ANCHOR BASE FOUNDATIONS

(P1) $3' \times 3' \times .5' = 4.5\ ft^3$
$3.14 \times 1.5' \times 1.5' \times 9.5' = 67.15\ ft^3$
$(4.5\ ft^3 + 67.15\ ft^3)/27 = 2.65$ CU.YD.

(P2) $3' \times 3' \times .5' = 4.5\ ft^3$
$3.14 \times 1.5' \times 1.5' \times 9.5' = 67.15\ ft^3$
$(4.5\ ft^3 + 67.15\ ft^3)/27 = 2.65$ CU.YD.

CALCULATED B.F.B. 12-1-96
CHECKED A.L.L. 12-12-96

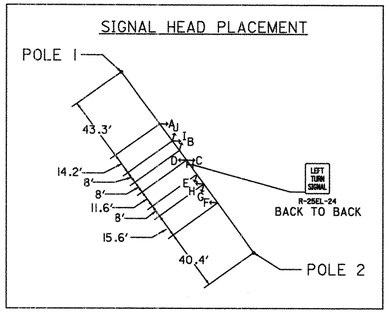
TRAFFIC SIGNAL PROFILE SHEET
S.R. 16 & U.S. 36

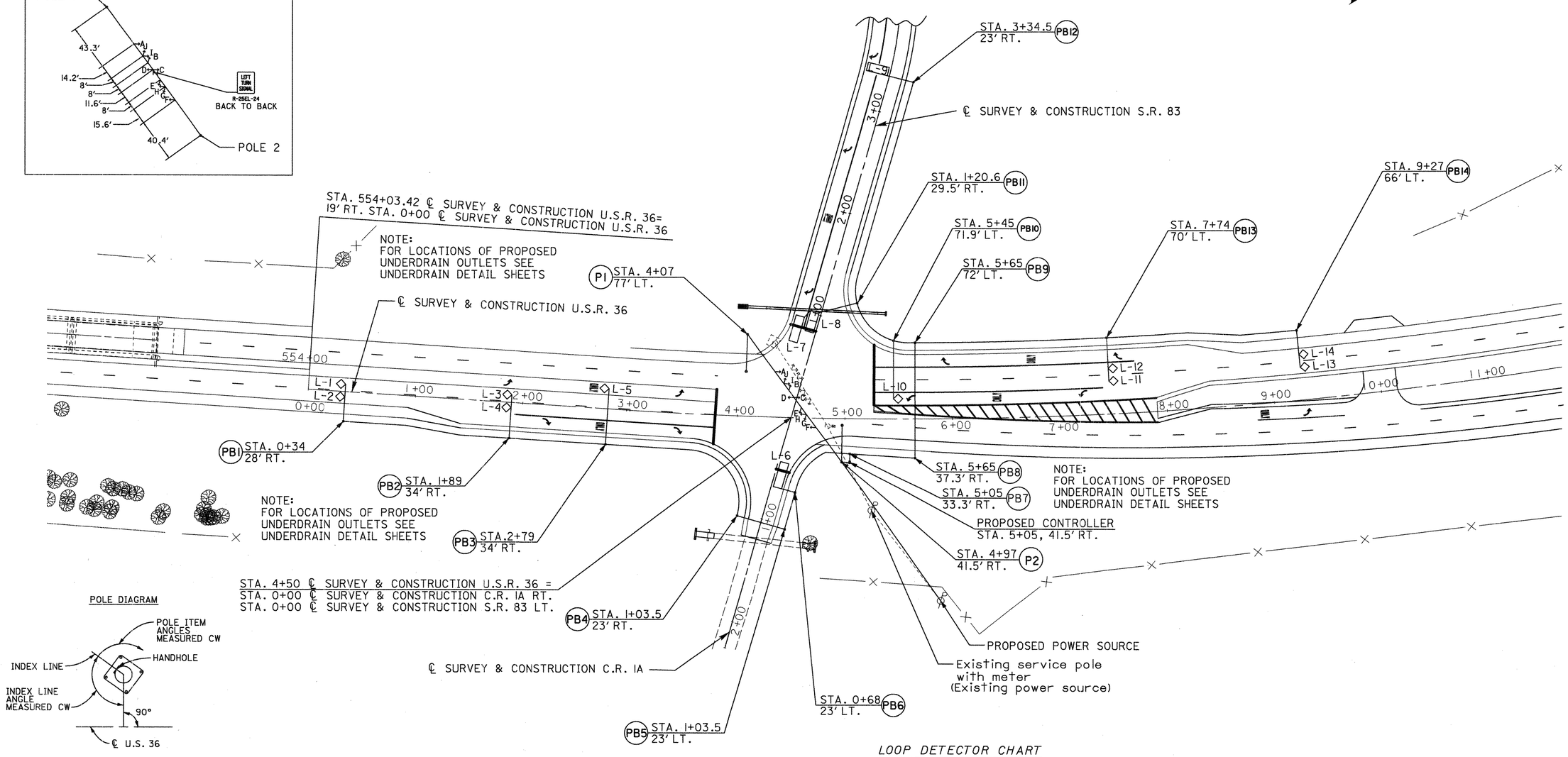
COS-16-9.84
COS-36-20.06



C0160D67.DGN 07/25/96

# SIGNAL DETAIL @ U.S. 36 & S.R. 83/CO. RD. 1A




POLE DIAGRAM




POLE ORIENTATION CHART

| TAPERED TUBE STRAIN POLES, TYPE TC-81.10 FOUNDATIONS, TYPE TC-21.20 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | ANGLES FROM INDEX LINE | | | |
| POLE | LENGTH | STANDARD DESIGN NO. | STATION | OFFSET | INDEX LINE ANGLE | SIGNAL CABLE ENTRANCE | CONTROLLER | POWER SERVICE | LUMINAIRE |
| 1 | 33' | 10 | 4+07 | 77' LT. | 142° | 180° | | | 142° |
| 2 | 32' | 10 | 4+97 | 41.5' RT. | 143° | 180° | | 4° | 143° |

LOOP DETECTOR CHART

| LOOP | SIZE | Ø | AMPLIFIER NO. | EXT. | DELAY | MODE | DELAY INHIBITED DURING |
|---|---|---|---|---|---|---|---|
| L-1 | 6 x 6 | 2 | 1 | | | PULSE | |
| L-2 | 6 x 6 | 2 | 1 | | | PULSE | |
| L-3 | 6 x 6 | 2 | 2 | | | PULSE | |
| L-4 | 6 x 6 | 2 | 2 | | | PULSE | |
| L-5 | 6 x 6 | 5 | 3 | | | PRESENCE | |
| L-6 | 25 x 8 | 4 | 4 | | 8.0 Sec. | PRESENCE | Ø4 GRN |
| L-7 | 25 x 8 | 3 | 5 | | 8.0 Sec. | PRESENCE | |
| L-8 | 20 x 8 | 3 | 6 | | 8.0 Sec. | PRESENCE | |
| L-9 | 20 x 8 | 3 | 7 | | 3.0 Sec. | PRESENCE | Ø3 GRN |
| L-10 | 6 x 6 | 1 | 8 | | | PRESENCE | |
| L-11 | 6 x 6 | 6 | 9 | | | PULSE | |
| L-12 | 6 x 6 | 6 | 9 | | | PULSE | |
| L-13 | 6 x 6 | 6 | 10 | | | PULSE | |
| L-14 | 6 x 6 | 6 | 10 | | | PULSE | |

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED B.F.B. 12-1-95
CHECKED A.L.L. 12-12-95

TRAFFIC SIGNAL DETAIL SHEET
U.S. 36 / S.R. 83 & CO. RD. 1A

COS-16-9.84
COS-36-20.06

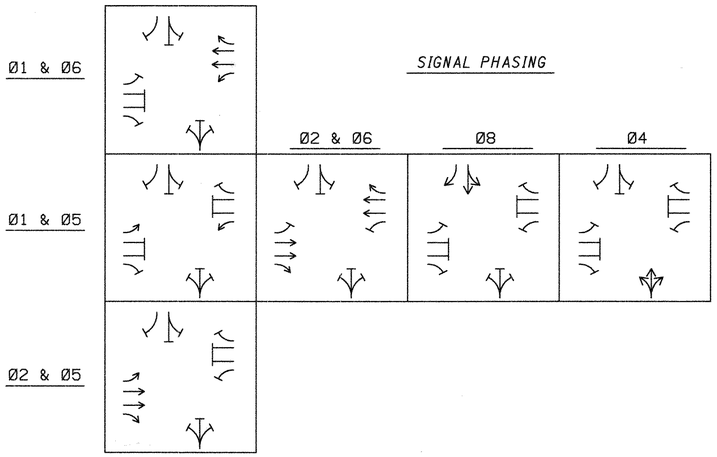
165
231

C0160B67.DGN 07/24/96

## SIGNAL DISPLAY SCHEDULE

| PHASE | Ø2 & Ø5 | | Ø1 & Ø6 | | Ø1 & Ø5 | | Ø2 & Ø6 | | Ø4 | | Ø8 | | FLASH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HEAD | R/W | C/L | R/W | C/L | R/W | C/L | R/W | C/L | R/W | C/L | R/W | C/L | |
| A | R | R | G | Y | R | R | G | Y | R | R | R | R | Y |
| B | R | R | G | Y | R | R | G | Y | R | R | R | R | Y |
| C | R | R | ~~G~~ | ~~Y~~ | ~~G~~ | ~~Y~~ | R | R | R | R | R | R | ~~Y~~ |
| D | ~~G~~ | ~~Y~~ | R | R | ~~G~~ | ~~Y~~ | R | R | R | R | R | R | ~~Y~~ |
| E | G | Y | R | R | R | R | G | Y | R | R | R | R | Y |
| F | G | Y | R | R | R | R | G | Y | R | R | R | R | Y |
| G | R | R | R | R | R | R | R | R | G | Y | R | R | R |
| H | R | R | R | R | R | R | R | R | G / ~~G~~ | Y | R | R | R |
| I | R | R | R | R | R | R | R | R | R | R | G / ~~G~~ | Y | R |
| J | R | R | R | R | R | R | R | R | R | R | G | Y | R |

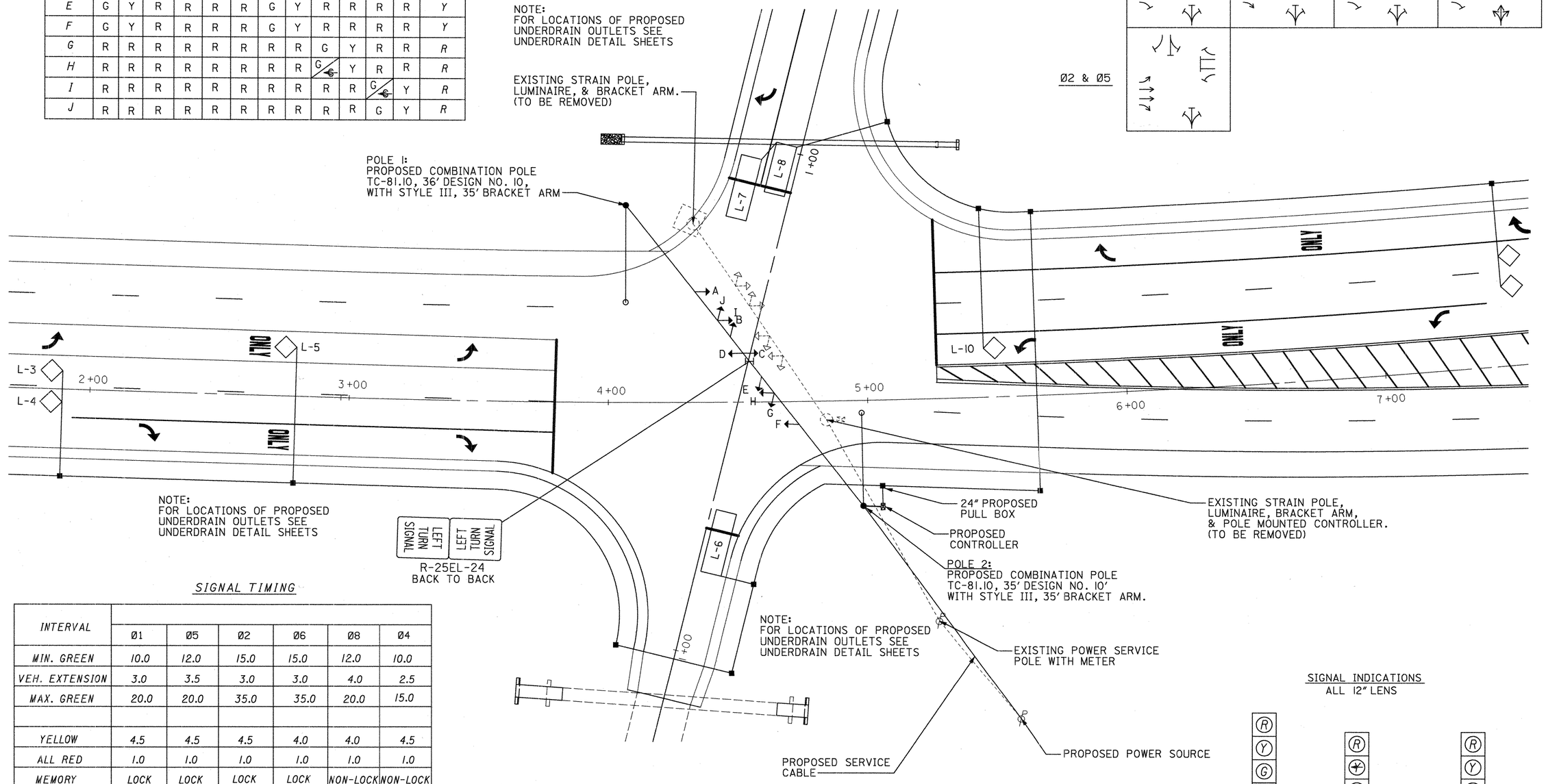
## SIGNAL PHASING




NOTE:
FOR LOCATIONS OF PROPOSED UNDERDRAIN OUTLETS SEE UNDERDRAIN DETAIL SHEETS

EXISTING STRAIN POLE, LUMINAIRE, & BRACKET ARM. (TO BE REMOVED)

POLE 1:
PROPOSED COMBINATION POLE TC-81.10, 36' DESIGN NO. 10, WITH STYLE III, 35' BRACKET ARM




NOTE:
FOR LOCATIONS OF PROPOSED UNDERDRAIN OUTLETS SEE UNDERDRAIN DETAIL SHEETS

LEFT TURN SIGNAL

LEFT TURN SIGNAL

R-25EL-24
BACK TO BACK

24" PROPOSED PULL BOX

PROPOSED CONTROLLER

POLE 2:
PROPOSED COMBINATION POLE TC-81.10, 35' DESIGN NO. 10' WITH STYLE III, 35' BRACKET ARM.

EXISTING STRAIN POLE, LUMINAIRE, BRACKET ARM, & POLE MOUNTED CONTROLLER. (TO BE REMOVED)

EXISTING POWER SERVICE POLE WITH METER

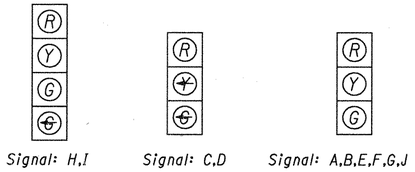
PROPOSED POWER SOURCE

PROPOSED SERVICE CABLE

## SIGNAL TIMING

| INTERVAL | Ø1 | Ø5 | Ø2 | Ø6 | Ø8 | Ø4 |
|---|---|---|---|---|---|---|
| MIN. GREEN | 10.0 | 12.0 | 15.0 | 15.0 | 12.0 | 10.0 |
| VEH. EXTENSION | 3.0 | 3.5 | 3.0 | 3.0 | 4.0 | 2.5 |
| MAX. GREEN | 20.0 | 20.0 | 35.0 | 35.0 | 20.0 | 15.0 |
| | | | | | | |
| YELLOW | 4.5 | 4.5 | 4.5 | 4.0 | 4.0 | 4.5 |
| ALL RED | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| MEMORY | LOCK | LOCK | LOCK | LOCK | NON-LOCK | NON-LOCK |
| RECALL | OFF | OFF | ON | ON | OFF | OFF |
| INITIALIZATION | RED | RED | GREEN | GREEN | RED | RED |

## SIGNAL INDICATIONS
ALL 12" LENS




Signal: H,I — Signal: C,D — Signal: A,B,E,F,G,J

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED B.F.B. 12-1-95
CHECKED A.L.L. 12-12-96

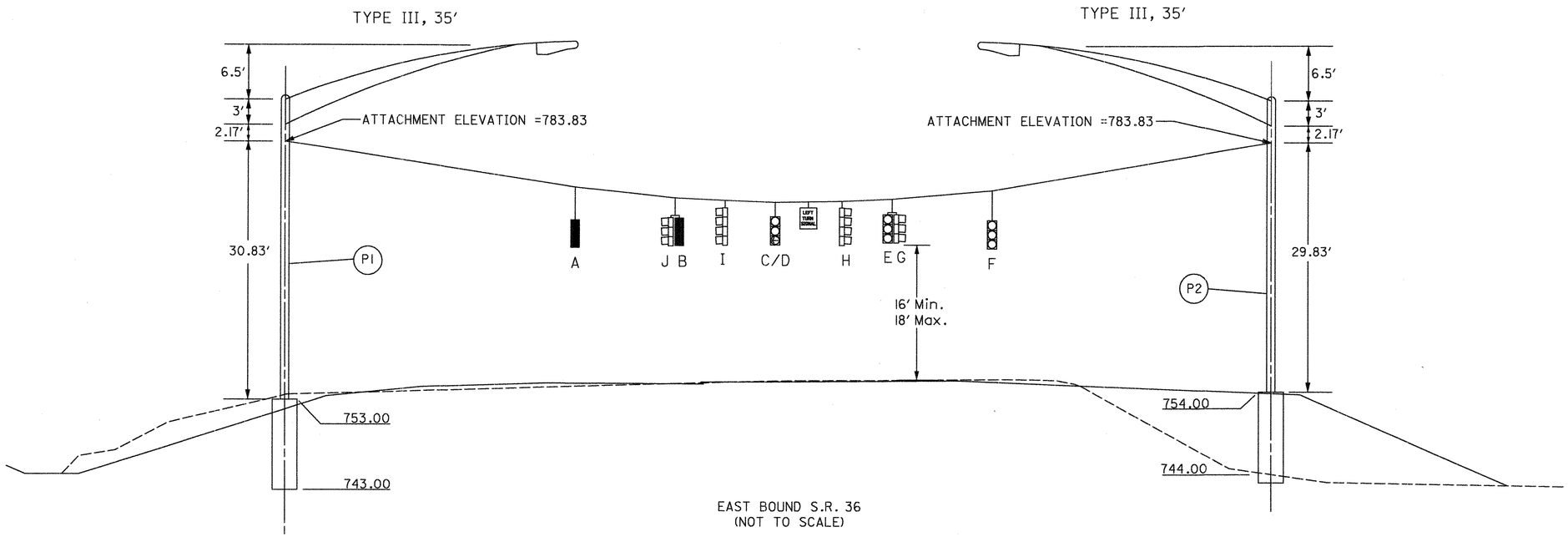
# TRAFFIC SIGNAL DETAIL SHEET
# U.S. 36/ S.R. 83 & CO. RD. 1A

COS-16-9.84
COS-36-20.06

166
231

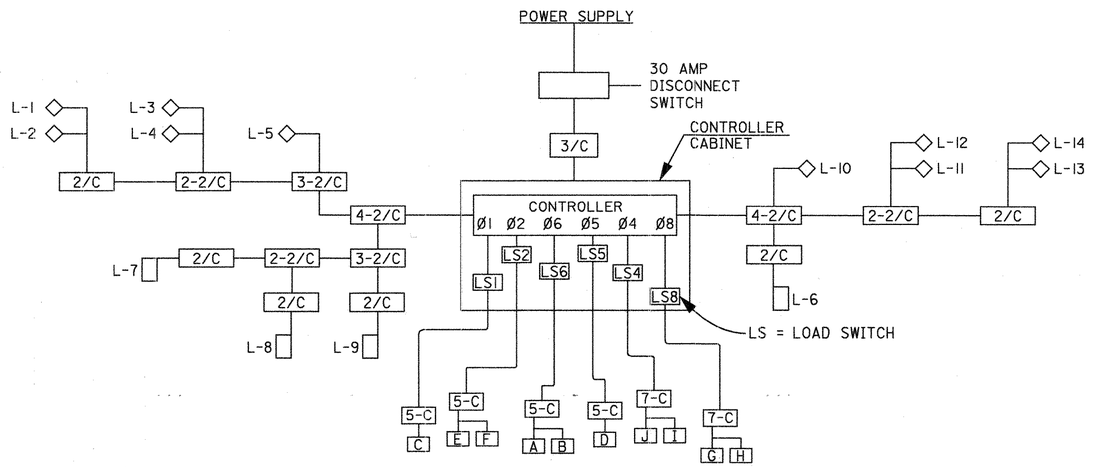
C0160C67.DGN 07/24/96

# SIGNAL PROFILE @ U.S. 36 & S.R. 83/CO. RD. 1A




EAST BOUND S.R. 36
(NOT TO SCALE)

WIRING DIAGRAM




FOR INFORMATION ONLY

CONCRETE FOR ANCHOR BASE FOUNDATIONS

P1 — 3' x 3' x .5' = 4.5 $ft^3$
3.14 x 1.5' x 1.5' x 10.5' = 74.18 $ft^3$
(4.5 $ft^3$ +74.18 $ft^3$ )/27 = 2.91 CU.YD.

P2 — 3' x 3' x .5' = 4.5 $ft^3$
3.14 x 1.5' x 1.5' x 10.5' = 74.18 $ft^3$
(4.5 $ft^3$ +74.18 $ft^3$ )/27 = 2.91 CU.YD.

CALCULATED B.F.B. 12-1-96
CHECKED A.L.L. 12-12-96

TRAFFIC SIGNAL PROFILE SHEET
U.S. 36 & S.R. 83/CO. RD. 1A

COS-16-9.84
COS-36-20.06



C0160L67.DGN 01/25/96

# TRAFFIC SIGNAL SUBSUMMARY

CALCULATED B.F.B. 12-1-96
CHECKED A.L.L. 12-2-96

COS-16-9.84
COS-36-20.06



| SHEET NO. | LOCATION | | SIDE | ITEM 625 | | | | | | | | | | ITEM 630 | | | ITEM 632 | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | BRACKET ARM, 30' | BRACKET ARM, MISC.: 35', AS PER PLAN | CONDUIT, 1" 713.07 | CONDUIT, 2" 713.07 | CONDUIT, 3" 713.07 | TRENCH, 24" DEEP | PULL BOX, 713.08 18" | PULL BOX, 713.08 24" | GROUND ROD | LUMINAIRE, MISC.: STYLE B, TYPE III, 200 WATT HIGH PRESSURE SODIUM 713.11, 120 VOLT, AS PER PLAN | SIGN HANGER ASSEMBLY, SPAN WIRE, AS PER PLAN | SIGN, FLAT SHEET | COVERING OF SIGN | VEHICULAR SIGNAL HEAD, 3-SECTION, 12" LENS, 1-WAY, AS PER PLAN | VEHICULAR SIGNAL HEAD, 4-SECTION, 12" LENS, 1-WAY, AS PER PLAN | COVERING OF VEHICULAR SIGNAL HEAD | LOOP DETECTOR UNIT | LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE, AS PER PLAN | | MESSENGER WIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES | SIGNAL CABLE, 5 CONDUCTOR, No. 14 AWG. | SIGNAL CABLE, 7 CONDUCTOR, No. 14 AWG. | DETECTOR LOOP | LOOP DETECTOR LEAD-IN CABLE | POWER CABLE 2-CONDUTOR No. 8 AWG. | SERVICE CABLE 3-CONDUCTOR No. 8 AWG. | POWER SERVICE, AS PER PLAN | | STRAIN POLE FOUNDATION | COMBINATION STRAIN POLE, TYPE TC-81.10, DESIGN 8, AS PER PLAN | COMBINATION STRAIN POLE, TYPE TC-81.10, DESIGN 10, AS PER PLAN | REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN |
| | | | | EACH | EACH | LIN.FT. | LIN.FT. | LIN.FT. | LIN.FT. | EACH | EACH | EACH | EACH | EACH | SQ.FT. | SQ.FT. | EACH | EACH | EACH | EACH | EACH | | LIN.FT. | LIN.FT. | LIN.FT. | EACH | LIN.FT. | LIN.FT. | LIN.FT. | EACH | | EACH | EACH | EACH | EACH |
| | S.R. 16 & U.S.R. 36 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 162 | 535+95 | PB1 | LT. | | | 19 | | | 17 | 1 | | | | | | | | | | | | | | | | 2 | | | | | | | | | |
| 162 | 535+95 TO 537+50 | PB1-PB2 | LT. | | | | 155 | | 155 | | | | | | | | | | | | | | | | | | 165 | | | | | | | | |
| 162 | 537+50 | PB2 | LT. | | | 19 | | | 17 | 1 | | | | | | | | | | | | | | | | 2 | | | | | | | | | |
| 162 | 537+50 TO 538+40 | PB2-PB3 | LT. | | | | 90 | | 90 | | | | | | | | | | | | | | | | | | 200 | | | | | | | | |
| 162 | 538+40 | PB3 | LT. | | | 19 | | | 17 | 1 | | | | | | | | | | | | | | | | 1 | | | | | | | | | |
| 162 | 538+40 TO 540+50 | PB3-PB4 | LT. | | | | 210 | | 210 | 1 | | | | | | | | | | | | | | | | | 660 | | | | | | | | |
| 162 | 540+50 TO 540+61 | PB4-P2 | LT. | | | | 10 | | 10 | | | | | | | | | | | | | | | | | | 180 | | | | | | | | |
| 162-163 | 540+61 TO 539+41.5 | P2-P1 | RT./LT. | 1 | 1 | | | | | | | 3 | 2 | 1 | 5 | 5 | 7 | | 7 | 4 | 4 | | 165 | 574 | | | 715 | 41 | 790 | 1 | | 2 | 2 | | 1 |
| 162 | 539+41.5 TO 140+00 | P1-PB6 | RT. | | | | 52 | | 52 | | | | | | | | | | | | | | | | | | 310 | | | | | | | | |
| 162 | 140+00 | PB6 | RT. | | | 16 | | | 14 | 1 | | | | | | | | | | | | | | | | 2 | | | | | | | | | |
| 162 | 140+00 TO 137+75 | PB6-PB5 | RT. | | | | 225 | | 225 | | | | | | | | | | | | | | | | | | 235 | | | | | | | | |
| 162 | 137+75 | PB5 | RT. | | | 14 | | | 12 | 1 | | | | | | | | | | | | | | | | 1 | | | | | | | | | |
| 162 | 140+00 TO 140+00 | PB6-PB7 | LT. | | | | | 58 | 58 | 1 | | | | | | | | | | | | | | | | | 136 | | | | | | | | |
| 162 | 140+00 TO 542+60 | PB5-PB8 | LT. | | | | 276 | | 276 | | | | | | | | | | | | | | | | | | 572 | | | | | | | | |
| 162 | 542+60 | PB8 | LT. | | | 14 | | | 12 | 1 | | | | | | | | | | | | | | | | 2 | | | | | | | | | |
| 162 | 542+60 TO 544+15 | PB8-PB9 | LT. | | | | 155 | | 155 | | | | | | | | | | | | | | | | | | 165 | | | | | | | | |
| 162 | 544+15 | PB9 | RT. | | | 14 | | | 12 | 1 | | | | | | | | | | | | | | | | 2 | | | | | | | | | |
| | U.S.R. 36 & S.R. 83/CO. RD. 1A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 165 | 0+34 | PB1 | RT. | | | 20 | | | 18 | 1 | | | | | | | | | | | | | | | | 2 | | | | | | | | | |
| 165 | 0+34 TO 1+89 | PB1-PB2 | RT. | | | | 156 | | 156 | | | | | | | | | | | | | | | | | | 166 | | | | | | | | |
| 165 | 1+89 | PB2 | RT. | | | 14 | | | 12 | 1 | | | | | | | | | | | | | | | | 2 | | | | | | | | | |
| 165 | 1+89 TO 2+79 | PB2-PB3 | RT. | | | | 90 | | 90 | | | | | | | | | | | | | | | | | | 200 | | | | | | | | |
| 165 | 2+79 | PB3 | RT. | | | 14 | | | 12 | 1 | | | | | | | | | | | | | | | | 1 | | | | | | | | | |
| 165 | 2+79 TO 1+03.5 | PB3-PB4 | RT. | | | | 167 | | 167 | | | | | | | | | | | | | | | | | | 531 | | | | | | | | |
| 165 | 1+03.5 TO 1+03.5 | PB4-PB5 | RT. | | | | | 46 | 46 | 2 | | | | | | | | | | | | | | | | | 168 | | | | | | | | |
| 165 | 1+03.5 TO 0+68 | PB5-PB6 | LT. | | | | 36 | | 36 | | | | | | | | | | | | | | | | | | 138 | | | | | | | | |
| 165 | 0+68 | PB6 | LT. | | | 14 | | | 12 | 1 | | | | | | | | | | | | | | | | 1 | | | | | | | | | |
| 165 | 0+68 TO 5+05 | PB6-PB7 | RT./LT. | | | | 73 | | 73 | | | | | | | | | | | | | | | | | | 332 | | | | | | | | |
| 165 | 5+05 | PB7 | RT. | | | | | 9 | 9 | | 1 | 1 | | | | | | | | | | | | | | | 240 | | | | | | | | |
| 165 | 5+05 TO 4+97 | PB7-P2 | RT. | | | | | 8 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 165-166 | 4+97 TO 4+07 | P2-P1 | RT./LT. | | 2 | | | | | | | 2 | 2 | 1 | 10 | 10 | 8 | 2 | 10 | 6 | 4 | | 150 | 579 | 298 | | | 61 | 55 | 1 | | 2 | | 2 | 1 |
| 165 | 5+05 TO 5+65 | PB7-PB8 | RT. | | | | 60 | | 60 | | | | | | | | | | | | | | | | | | 420 | | | | | | | | |
| 165 | 5+65 TO 5+65 | PB8-PB9 | RT./LT. | | | | | 110 | 110 | 2 | | | | | | | | | | | | | | | | | 720 | | | | | | | | |
| 165 | 5+65 TO 5+45 | PB9-PB10 | RT. | | | | 20 | | 20 | | | | | | | | | | | | | | | | | | 120 | | | | | | | | |
| 165 | 5+45 | PB10 | RT. | | | 15 | | | 13 | 1 | | | | | | | | | | | | | | | | 1 | | | | | | | | | |
| 165 | 5+45 TO 1+20.6 | PB10-PB11 | RT. | | | | 52 | | 52 | | | | | | | | | | | | | | | | | | 186 | | | | | | | | |
| 165 | 1+20.6 | PB11 | RT. | | | 14 | | | 12 | 1 | | | | | | | | | | | | | | | | 2 | | | | | | | | | |
| 165 | 1+20.6 TO 3+45.5 | PB11-PB12 | RT. | | | | 215 | | 215 | | | | | | | | | | | | | | | | | | 225 | | | | | | | | |
| 165 | 1+20.6 | PB12 | RT. | | | 14 | | | 12 | 1 | | | | | | | | | | | | | | | | 1 | | | | | | | | | |
| 165 | 5+65 TO 7+74 | PB9-PB13 | RT. | | | | 216 | | 216 | | | | | | | | | | | | | | | | | | 226 | | | | | | | | |
| 165 | 7+74 | PB13 | RT. | | | 14 | | | 12 | 1 | | | | | | | | | | | | | | | | 2 | | | | | | | | | |
| 165 | 7+74 TO 9+27 | PB13-PB14 | RT. | | | | 177 | | 177 | | | | | | | | | | | | | | | | | | 187 | | | | | | | | |
| 165 | 9+27 | PB14 | RT. | | | 20 | | | 18 | 1 | | | | | | | | | | | | | | | | 2 | | | | | | | | | |
| **TOTALS CARRIED TO GENERAL SUMMARY** | | | | 1 | 3 | 254 | 2435 | 231 | 2888 | 22 | 1 | 6 | 4 | 2 | 15 | 15 | 15 | 2 | 17 | 10 | 8 | | 315 | 1153 | 298 | 26 | 7197 | 102 | 845 | 2 | | 4 | 2 | 2 | 2 |

TRAFSQ.DGN 07/25/96

# TRAFFIC SIGNAL SUBSUMMARY

CALCULATED B.F.S. 12-2-96
CHECKED
ALLIED 12-21-96

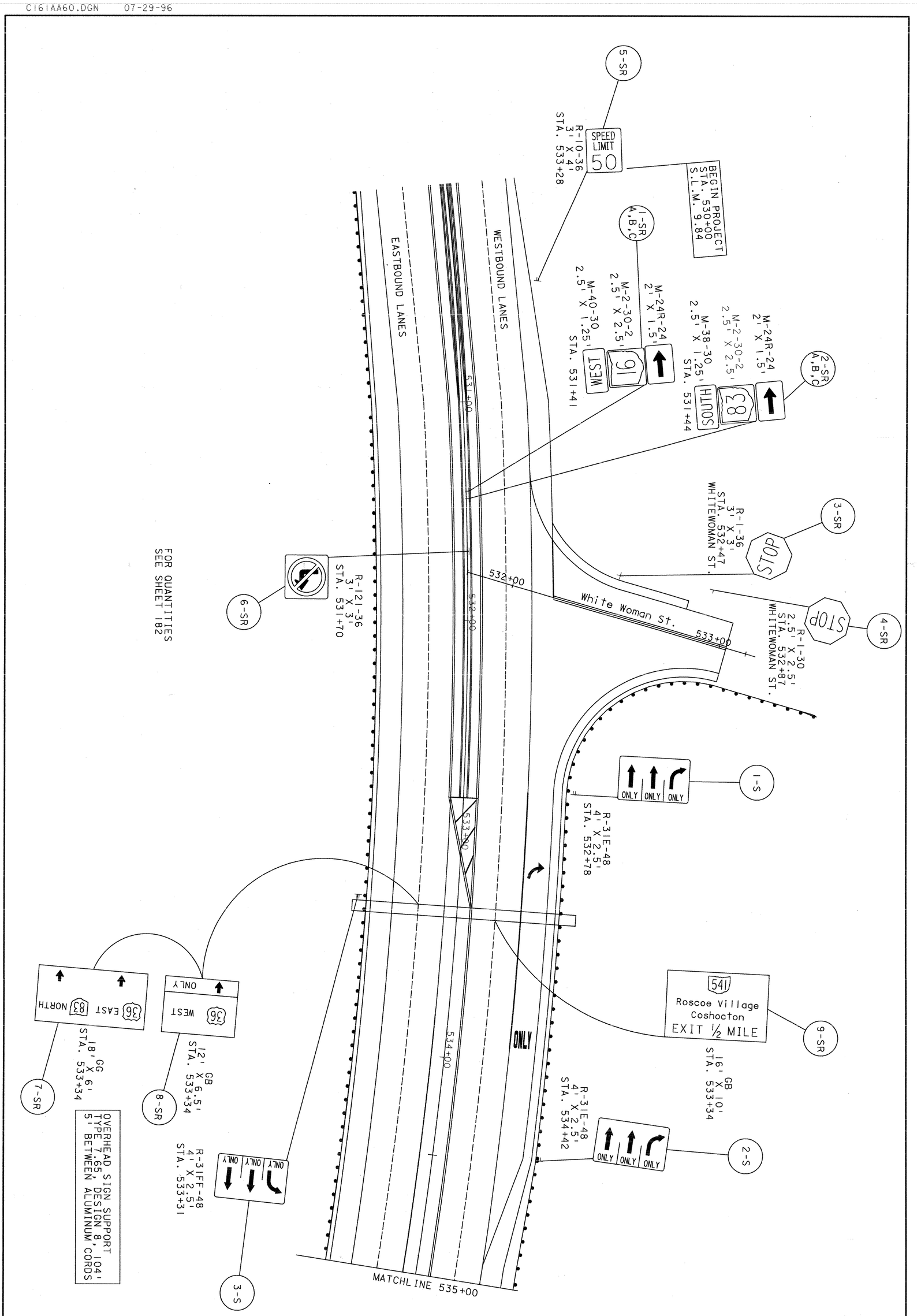
| SHEET NO. | LOCATION | SIDE | ITEM 632 SIGNAL CABLE, 3 CONDUCTOR No. 12 AWG LIN.FT. | ITEM 632 WOOD POLE, AS PER PLAN EACH | ITEM 632 | ITEM 633 CONTROLLER, ACTUATED, 4-PHASE, SOLID STATE DIGITAL MICROPROCESSOR, AS PER PLAN EACH | ITEM 633 CONTROLLER, ACTUATED, 8-PHASE, SOLID STATE DIGITAL MICROPROCESSOR, AS PER PLAN EACH | ITEM 633 CONCRETE FOR CABINET FOUNDATION CU.YD. | ITEM 633 CONTROLLER WORK PAD SQ.FT. |
|---|---|---|---|---|---|---|---|---|---|
| | S.R. 16 & U.S.R. 36 | | | | | | | | |
| 161-162 | 540+61 TO 539+41.5 P2-P1 | RT./LT. | 320 | 2 | | 1 | | | 8.33 |
| | U.S.R. 36 & S.R. 83/CO. RD. 1A | | | | | | | | |
| 165 | 5+05 | RT. | | | | | 1 | 1.85 | 10.42 |
| 165 | 4+97 TO 4+07 | RT./LT. | 335 | | | | | | |
| | **TOTALS CARRIED TO GENERAL SUMMARY** | | 655 | 2 | | 1 | 1 | 1.85 | 18.75 |

COS-16-9.84
COS-36-20.06



TRAFSQ1.DGN 07/25/96

C161AA60.DGN 07-29-96




| | | | |
|---|---|---|---|
| 170 / 231 | **COS-16-9.84**<br>**COS-36-20.06** | **SIGN INSTALLATION DETAIL SHEET**<br>**STA. 530+00 TO STA. 535+00** | CALCULATED B.F.B. 5/30/96<br>CHECKED A.L.L. 7/24/96<br>0 20<br>10 40<br>HORIZONTAL SCALE IN FEET |

# SIGN INSTALLATION DETAIL SHEET
# STA. 535+00 TO STA. 540+50

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED B.F.B. 5/20/96
CHECKED J.A.L. 7/24/96

COS-16-9.84
COS-36-20.06

171
231

C161BB60.DGN 07-29-96

MATCHLINE STA. 139+60
SEE SHEET 178.

℄ SURVEY & CONSTRUCTION, U.S.R. 36

4-S

R-31F-36
3'X2.5'
STA. 140+00

U.S. 36

140+00

141+00

END PROJECT
STA. 540+13.29
S.L.M. 10.05

MATCHLINE STA. 540+50

MATCHLINE STA. 535+00

WESTBOUND LANES

EASTBOUND LANES

℄ SURVEY & CONSTRUCTION U.S.R. 16

536+00 537+00 538+00 539+00 540+00

ONLY

10-SR

WHITEWOMAN ST

D-11A
10' X 1.5'
STA. 535+34

11-SR

COSHOCTON CORPORATION LIMIT

GN
7' X 3'
STA. 536+64

13-SR
A,B

M-38-30
2.5' X 1.25'

SOUTH 83

M-2-30-2
2.5' X 2.5'

M-2-30-2
2.5' X 2.5'

M-40-30
2.5' X 1.25'

WEST 16

12-SR
A,B

537+60

14-SR

10

N-45-12
1' X 1'
STA. 537+67

STA. 536+24

M-30-24
2' X 1.5'

M-1-30-2
2.5' X 2.5'

5-S
A,B

Roscoe Village 2

Mt. Vernon 37

WOOSTER 9

83

77 INTERSTATE

10

D-4A-24
11' X 2'

D-4B-48
11' X 4'

IM-26-24
2' X 1.5'

M-5-30-2
2.5' X 2.5'

IM-8-30
2.5' X 1.25'

15-SR
A,B

16-SR
A,B,C

17-SR

10

N-45-12
1' X 1'
STA. 537+69

NOTE:
FOR QUANTITIES
SEE SHEET 182.

6-S

ONLY ONLY ONLY

R-31FF-48
4'X2.5'
STA. 539+50

WEST 36 EAST

M-52A-108
9' X 2.5'
STA. 539+50

18-SR
A,B

19-SR

M-52A-108
9' X 2.5'
STA. 540+00

NORTH 83 SOUTH

M-24-24
2' X 1.5'

16 WEST

M-2-30-2
2.5' X 2.5'

M-40-30
2.5' X 1.25'

20-SR
A,B,C

21-SR
A,B

N-58A-72
6' X 1'
STA. 540+21

CANAL BOAT

LAKE PARK 1/2 CITY PARK

IM-24-24
2' X 1.5'

M-24-24
2' X 1.5'

M-5-30-2
2.5' X 2.5'

77 INTERSTATE

36

M-1-30-2
2.5' X 2.5'

IM-8-30
2.5' X 1.25'

10

22-SR
A,B,C

23-SR
A,B

24-SR
A,B

19

END

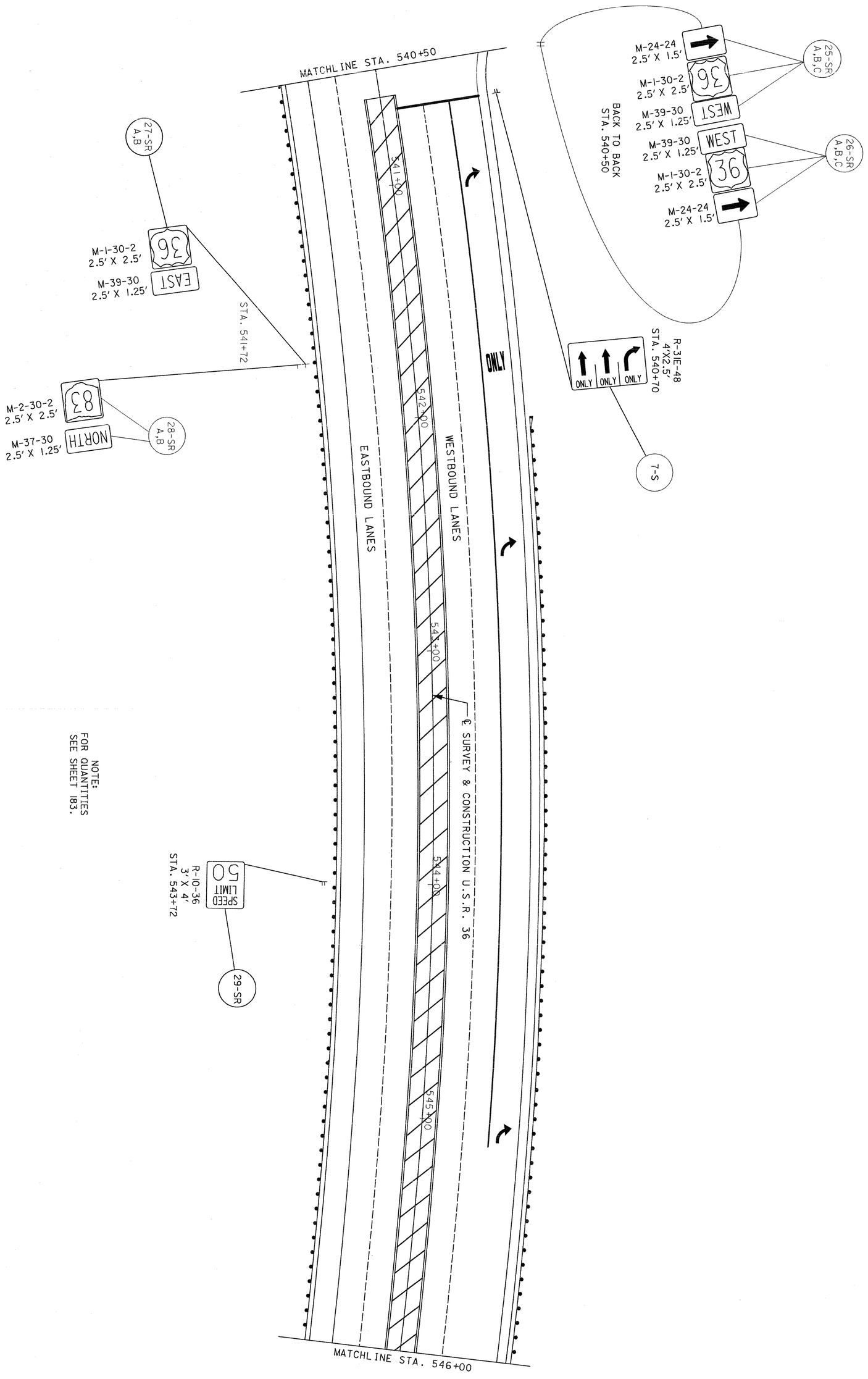
M-2-30-2
2.5' X 2.5'

M-14-30
2.5' X 1.25'

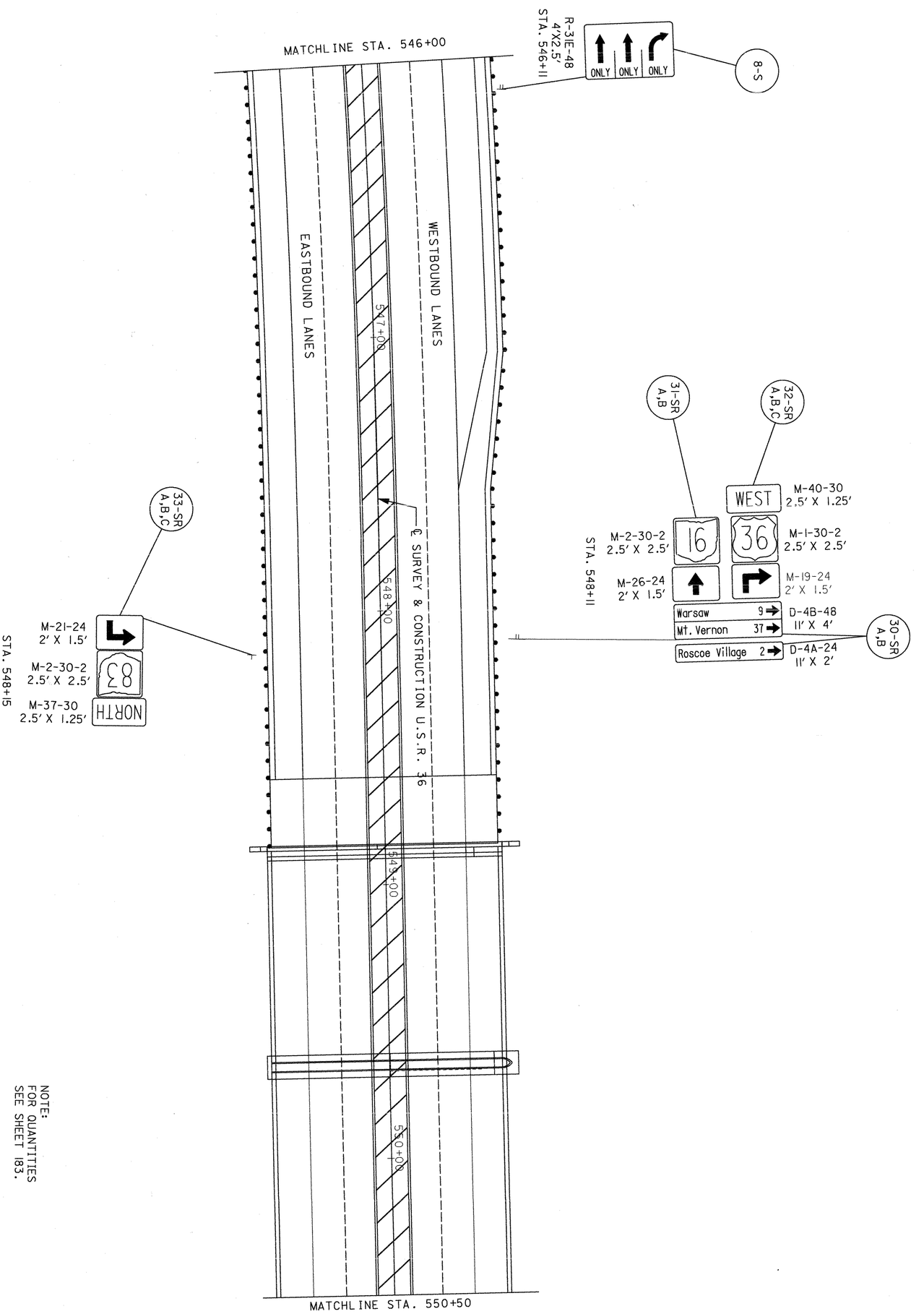
POLE MOUNTED

STA. 540+13.29 ℄ SURVEY & CONSTRUCTION S.R. 16 =
STA. 141+01.21 ℄ SURVEY & CONSTRUCTION U.S.R. 36 =
STA. 540+13.29 ℄ SURVEY & CONSTRUCTION U.S.R. 36
END S.R. 16 BEGIN U.S.R. 36 STA. 540+13.29

C16ICC60.DGN 07-29-96

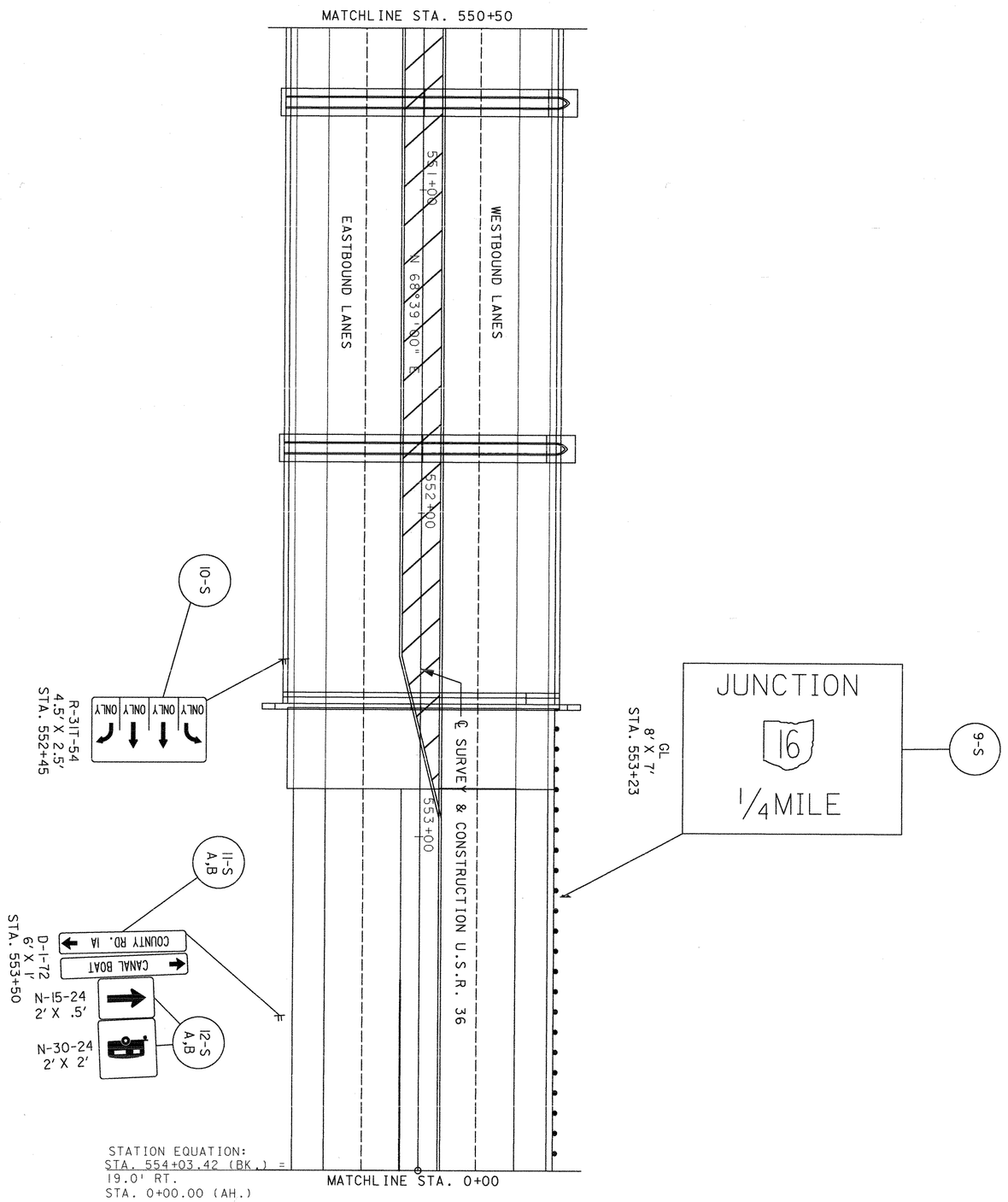



| | | | | |
|---|---|---|---|---|
| 172 / 231 | **COS-16-9.84**<br>**COS-36-20.06** | **SIGN INSTALLTION DETAIL SHEET**<br>**STA. 540+50 TO STA. 546+00** | CALCULATED B.F.B. 5/30/96<br>CHECKED A.L.L. 7/24/96 | 0 20<br>10 40<br>HORIZONTAL SCALE IN FEET |




NOTE:
FOR QUANTITIES
SEE SHEET 183.

| | | | |
|---|---|---|---|
| 173 / 231 | **COS-16-9.84**<br>**COS-36-20.06** | **SIGN INSTALLATION DETAIL SHEET**<br>**STA. 546+00 TO STA. 550+50** | CALCULATED B.F.B. 5/30/96<br>CHECKED A.L.L. 7/24/96<br>0 20<br>10 40<br>HORIZONTAL SCALE IN FEET |




FOR QUANTITIES NOTE:
SEE SHEET 183.

| | | | | |
|---|---|---|---|---|
| 174 / 231 | COS-16-9.84<br>COS-36-20.06 | SIGN INSTALLATION DETAIL SHEET<br>STA. 550+50 TO STA. 0+00 | CALCULATED B.F.B. 5/30/96<br>CHECKED A.L.L. 7/24/96 | 0 20<br>10 40<br>HORIZONTAL SCALE IN FEET |

# SIGN INSTALLATION DETAIL SHEET
## STA. 554+03.42 B = 0+00 A TO STA. 5+50

CALCULATED B.F.B. 7/30/96
CHECKED A.L. 7/24/96

HORIZONTAL SCALE IN FEET
0 10 20 40

COS-16-9.84
COS-36-20.06



13-S
R-10-36
3' X 4'
STA. 0+50
SPEED LIMIT 50

14-S A,B
WEST 36
M-40-30 2.5' X 1.25'
M-1-30-2 2.5' X 2.5'
STA. 2+71

15-S A,B
SOUTH 83
M-38-30 2.5' X 1.25'
M-2-30-2 2.5' X 2.5'

P.C. STA. 2+96.81

POLE MOUNTED
M-52A-108
9' X 2.5'
STA. 4+07
NORTH 83 SOUTH

16-S

17-S A,B
M-1-30-2 2.5' X 2.5'
36
M-25-30 2.5' X 1.5'
STA. 4+05

18-S A,B
83
M-2-30-2 2.5' X 2.5'
M-30-30 2.5' X 1.5'
STA. 4+10

19-S
ONLY
R-31B-36
3'X2.5'
STA. 0+85

20-S
PROPERTY STATE OF OHIO NO TRESPASSING
SPECIAL
3' X 2'
STA. 1+14

MATCHLINE STA. 1+44.95
SEE SHEET 179.

21-S
R-31T-54
4.5' X 2.5'
STA. 5+27
ONLY ONLY ONLY ONLY

S.R. 83
1+00

+26.94

MATCHLINE STA. 5+50

WESTBOUND LANES

ONLY

MATCHLINE STA. 0+00

1+00 2+00 3+00 4+00 5+00

N 68°39'00" E

EASTBOUND LANES

ONLY

℄ SURVEY & CONSTRUCTION U.S.R. 36

STA. EQUATION:
STA. 554+03.42 (BK.) =
STA. 0+00.00 (AH.)

NOTE:
FOR QUANTITIES
SEE SHEET 183.

STA. 4+50 ℄ SURVEY & CONSTRUCTION U.S.R. 36
= STA. 0+00 ℄ SURVEY & CONSTRUCTION C.R. 1A
= STA. 0+00 ℄ SURVEY & CONSTRUCTION S.R. 83

22-S
ONLY ONLY ONLY ONLY
R-3IT-54
4.5' X 2.5'
STA. 3+80

C.R. 1A
0+00
1+00

24-S
COSHOCTON COUNTY ROAD 1A
D-7-72
6' X 1'
STA. 4+85

COSHOCTON COUNTY 1A
M-6-18
1.5' X 1.5'
STA. 1+06

23-S

25-S A,B
M-24-30 2.5' X 1.5'
83
M-2-30-2 2.5' X 2.5'
STA. 4+90

M-25-30 2.5' X 1.5'
36
M-1-30-2 2.5' X 2.5'
STA. 4+95

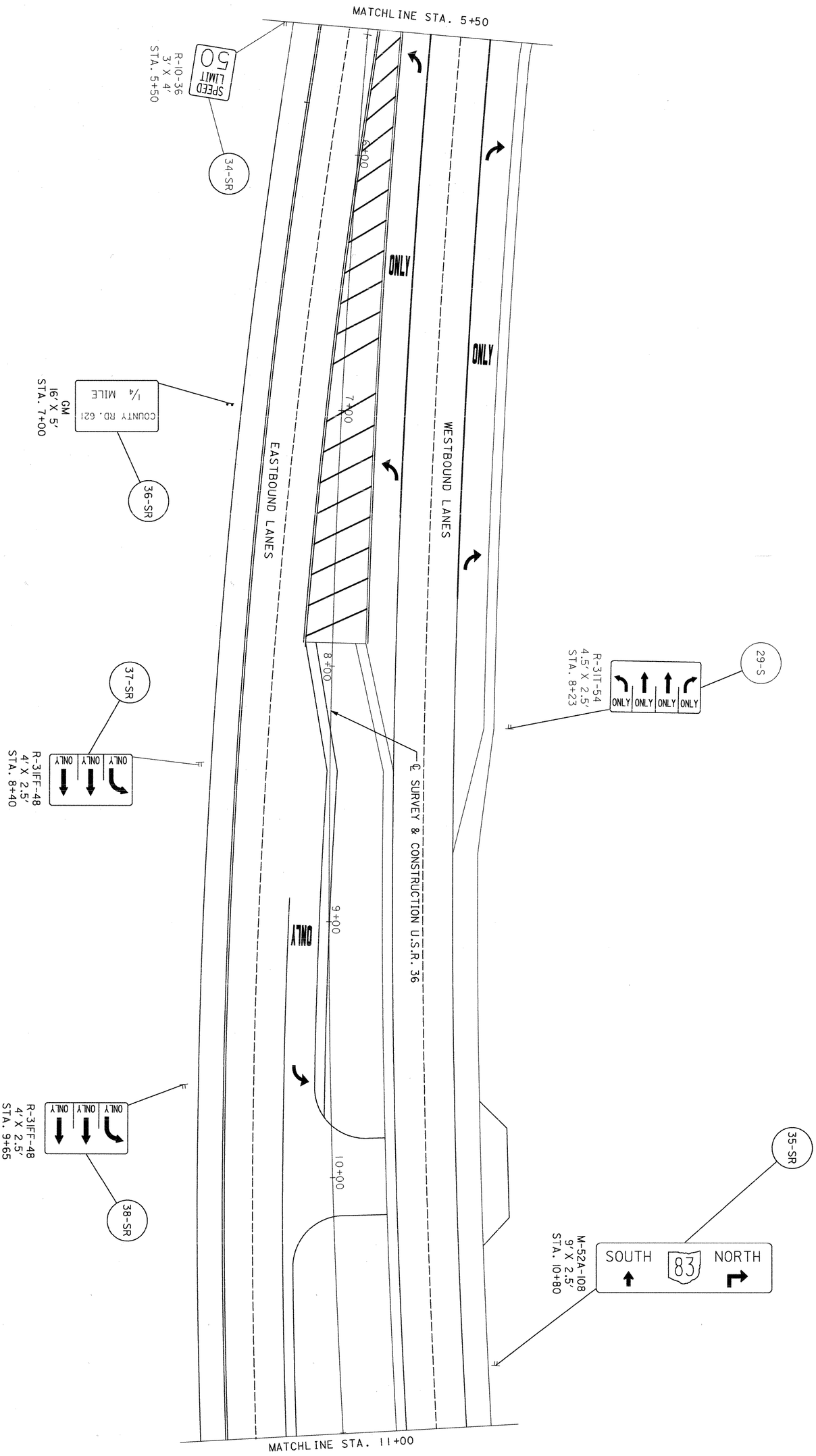
26-S A,B

IM-24-30 2.5' X 1.5'
77 INTERSTATE
M-5-30-2 2.5' X 2.5'
28-S A,B,C
70
IM-8-30 2.5' X 1.25'
STA. 5+00

27-S A,B
83
M-24-30 2.5' X 1.5'
M-2-30-2 2.5' X 2.5'
POLE MOUNTED
STA. 4+97

C16IFF60.DGN 07-29-96

C161GG60.DGN 07-29-96




NOTE:
FOR QUANTITIES
SEE SHEET 184.

| | | | |
|---|---|---|---|
| 176 / 231 | **COS-16-9.84**<br>**COS-36-20.06** | **SIGN INSTALLATION DETAIL SHEET**<br>**STA. 5+50 TO STA. 11+00** | CALCULATED B.F.B. 5/30/96<br>CHECKED A.L.L. 7/24/96<br>0 20<br>10 40<br>HORIZONTAL SCALE IN FEET |

END PROJECT
STA. 13+31
S.L.M. 21.00

NH-35 (46)

39-SR
A,B

WRONG WAY

R-41A-36
3' X 2'
STA. 12+00

40-SR

SPEED LIMIT 50

R-10-36
3' X 4'
STA. 12+95

41-SR

2

N-45-12
1' X 1'
STA. 13+84.2

WESTBOUND LANES

MATCHLINE STA. 11+00

12+00

13+00

14+00

15+00

16+00

℄ SURVEY &
CONSTRUCTION U.S.R. 36

EASTBOUND LANES

9+00

10+00

STA. 11+50

42-SR
A,B

36

EAST

M-1-30-2
2.5' X 2.5'

M-39-30
2.5' X 1.25'

43-SR
A,B

77

INTERSTATE

70

M-5-30-2
2.5' X 2.5'

IM-8-30
2.5' X 1.25'

49.0' RT. STA. 13+31 ℄ SURVEY
& CONSTRUCTION U.S.R. 36
= STA. 10+43.80 ℄ EASTBOUND LANES

44-SR

SPEED LIMIT 55

R-10-36
3' X 4'
STA. 12+95

COUNTY RD 621

45-SR

GM-1-MOD
14' X 2.5'
STA. 13+24

NOTE:
FOR QUANTITIES
SEE SHEET 184.

46-SR

2

N-45-12
1' X 1'
STA. 13+84.2

47-SR

ONLY
ONLY
ONLY

WRONG WAY

R-31E-48
4' X 2.5'
STA. 15+61

48-SR
A,B

R- 41A-36
3' X 2'
STA. 15+61

0 10 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED B.F.B. 5/20/96
CHECKED A.A.L. 7/24/96

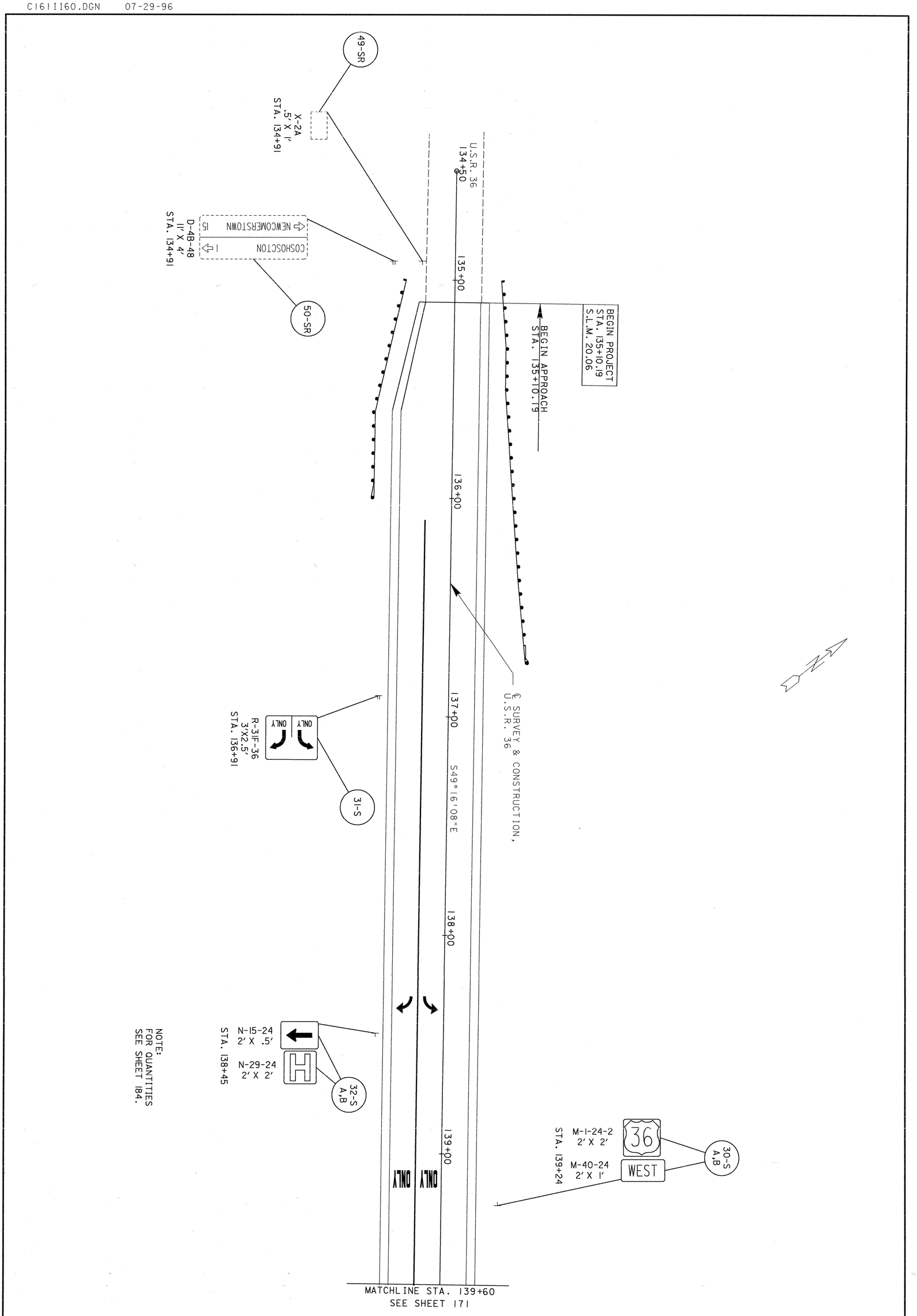
# SIGN INSTALLATION DETAIL SHEET
# STA. 11+00 TO STA. 16+50

COS-16-9.84
COS-36-20.06

177
231

C161HH60.DGN 07-29-96

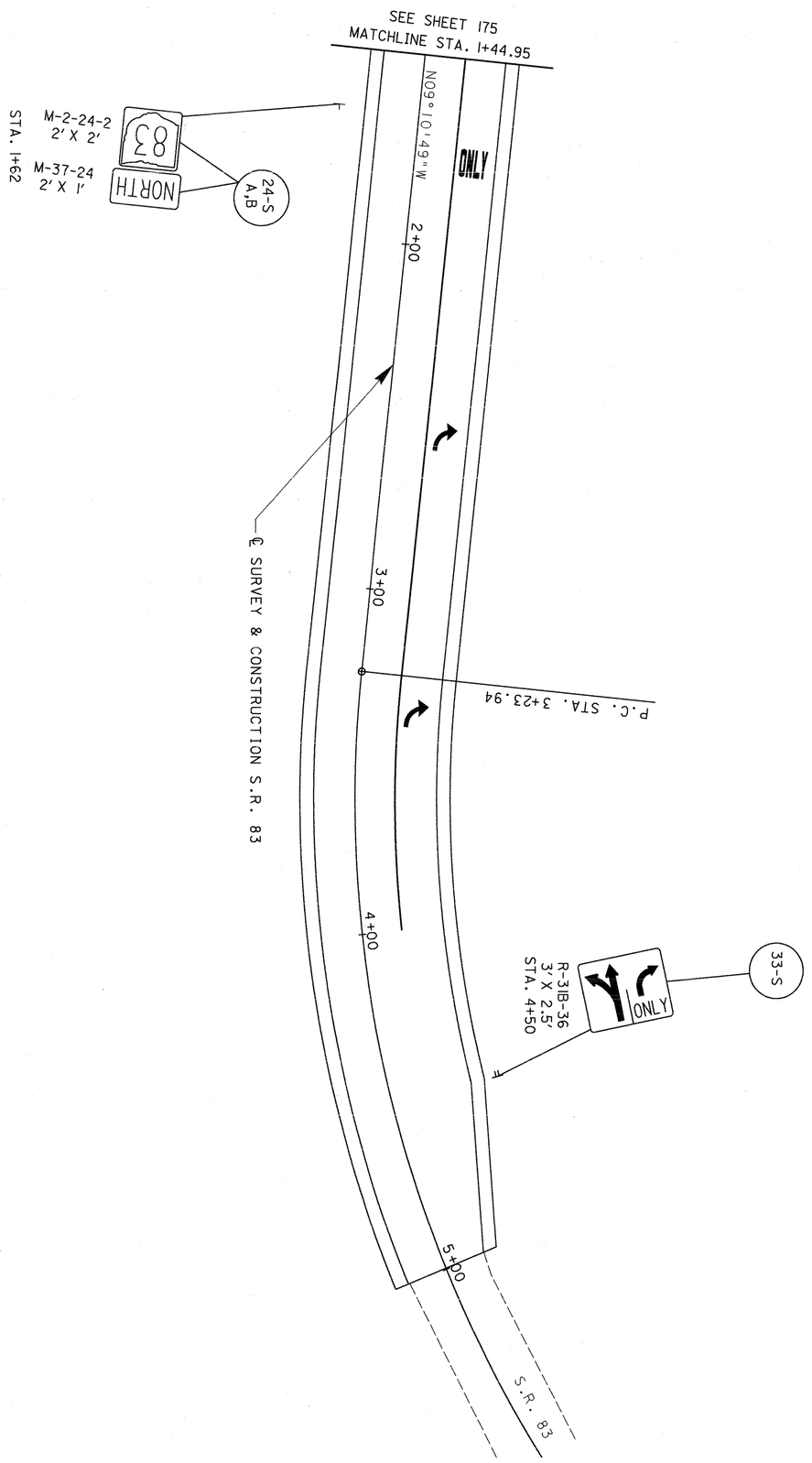
C16III60.DGN 07-29-96




NOTE:
FOR QUANTITIES
SEE SHEET 184.

| | | | | |
|---|---|---|---|---|
| 178/231 | COS-16-9.84<br>COS-36-20.06 | SIGN INSTALLATION DEATIL SHEET U.S.R. 36<br>STA. 134+50 TO STA. 139+60 | CALCULATED B.F.B. 5/30/96<br>CHECKED A.L.L. 7/24/96 | 0 20<br>10 40<br>HORIZONTAL SCALE IN FEET |

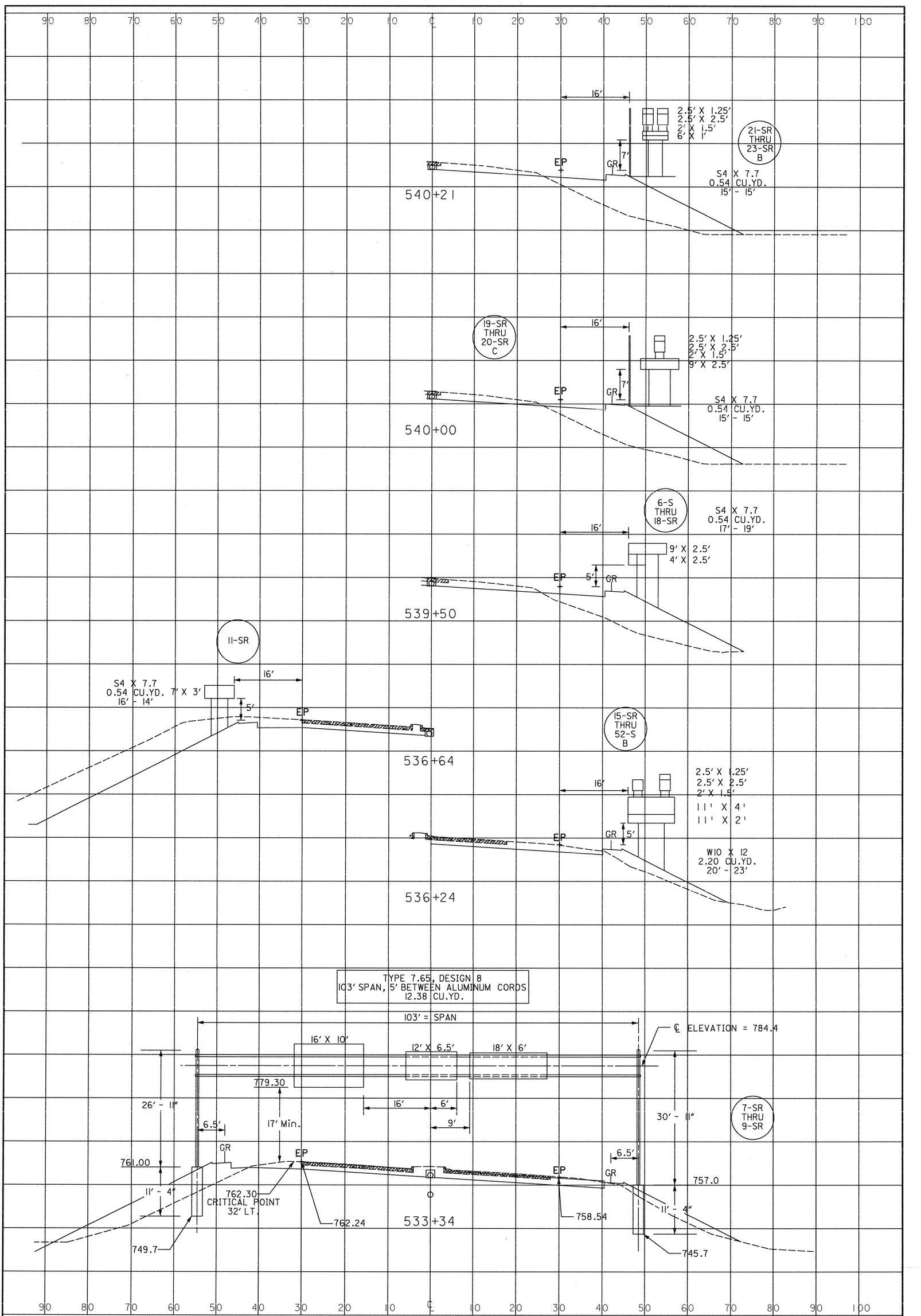
C16IJJ60.DGN 07-29-96




NOTE:
FOR QUANTITIES
SEE SHEET 184

| | | | | |
|---|---|---|---|---|
| 179 / 231 | COS-16-9.84<br>COS-36-20.06 | SIGN INSTALLATION DETAIL SHEET S.R. 83<br>STA. 0+00 TO STA. 5+40 | CALCULATED B.F.B. 5/30/96<br>CHECKED A.L.L. 7/24/96 | 0 50<br>25 100<br>HORIZONTAL SCALE IN FEET |

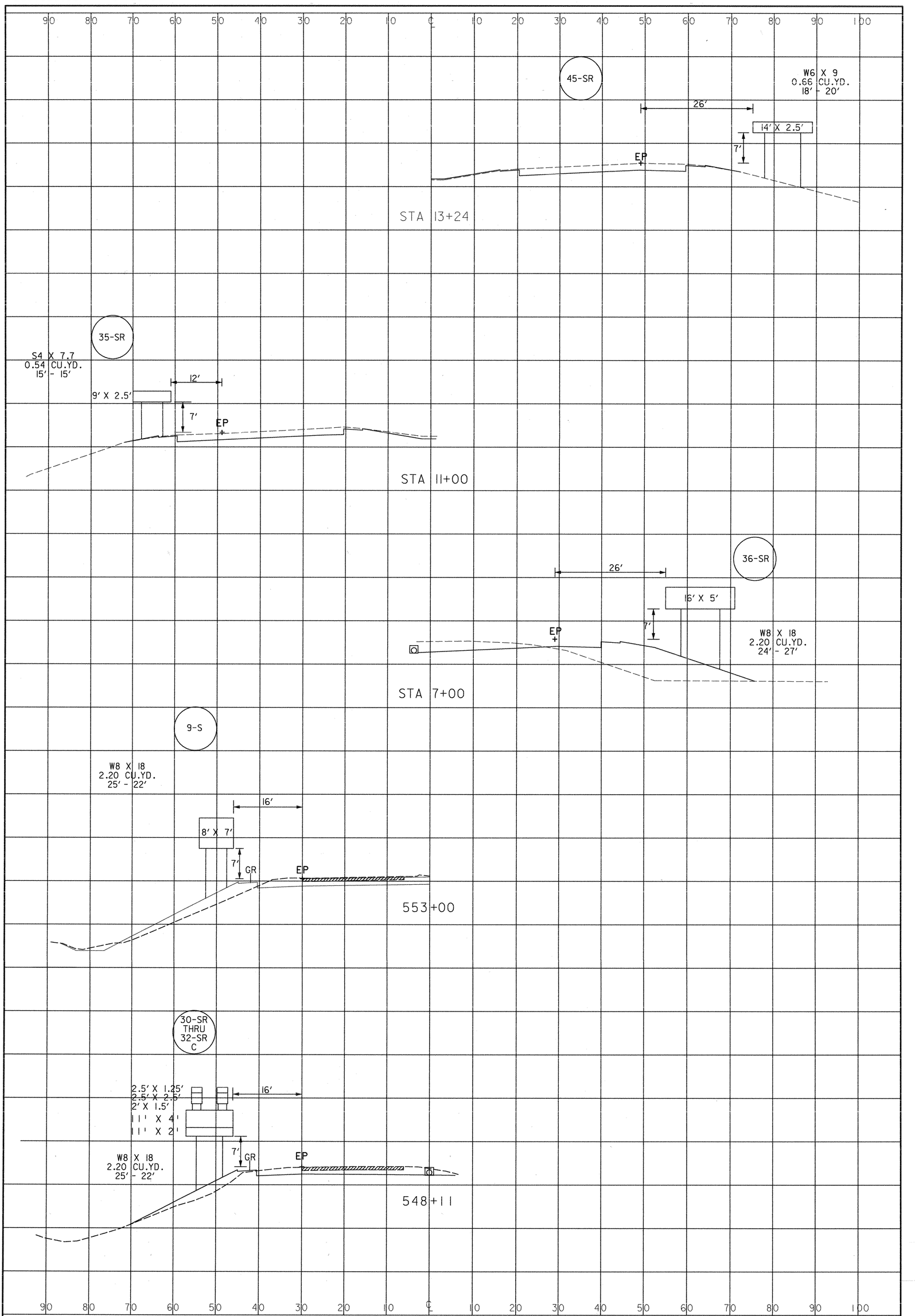
TE001036.DGN 08/06/96




| | | |
|---|---|---|
| 180 / 231 | **COS-16-9.84**<br>**COS-36-20.06** | **SIGN INSTALATION CROSS SECTION SHEET** |

CALCULATED BFB 06/20/96
CHECKED S.B. 10/17/94

TE001036.DGN 07/29/96




| | | |
|---|---|---|
| 231 / 181 | **COS-16-9.84**<br>**COS-36-20.06** | **SIGN INSTALATION CROSS SECTION SHEET** |

CALCULATED BFB 06/20/96
CHECKED S.B. 10/17/94

# SIGNING SUB-SUMMARY

*NOTE:
SEE NOTE ON SHEET 34 "SIGN FABRICATION OF LEGEND ON EXTRUSHEET".

| LOCATION | MARK | SIDE | STATION | SHEET NO. | SIGN REFERENCE NUMBER | SIZE | CROSS SECTION SHEET NO. | ITEM 630 SIGN, FLAT SHEET | SIGN, FLAT SHEET TYPE G | | | GROUND MOUNTED SUPPORTS, NO. 2 POST, TYPE S | GROUND MOUNTED SUPPORTS, NO.3 POST, TYPE S | | GROUND MOUNTED SUPPORTS, S4X7.7 BEAM | GROUND MOUNTED SUPPORTS, W6x9 BEAM | GROUND MOUNTED SUPPORTS, W8x18 BEAM | GROUND MOUNTED SUPPORTS, W10x12 BEAM | GROUND MOUNTED SUPPORTS, W10x22 BEAM | SIGN BACKING ASSEMBLY | BREAKAWAY BEAM CONNECTION | GROUND MOUNTED BEAM SUPPORT FOUNDATION | OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8 (104 Ft). | | RIGID OVERHEAD SIGN SUPPORT FOUNDATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | FT. x FT. | | SQ.FT. | SQ.FT. | | | LIN.FT. | LIN.FT. | | LIN.FT. | LIN.FT. | LIN.FT. | LIN.FT. | LIN.FT. | EACH | EACH | EACH | EACH | | EACH |
| SR16 WB | I-SR,A | MED | 531+41 | 170 | M-24R-24 | 2 X 1.5 | | | | | | 13-13 | | | | | | | | | | | | | |
| SR16 WB | I-SR,B | MED | 531+41 | 170 | M-2-30-2 | 2.5 X 2.5 | | | | | | | | | | | | | | | | | | | |
| SR16 WB | I-SR,C | MED | 531+41 | 170 | M-40-30 | 2.5 X 1.25 | | | | | | | | | | | | | | | | | | | |
| SR16 WB | 2-SR,A | MED | 531+44 | 170 | M-24R-24 | 2 X 1.5 | | | | | | 13-13 | | | | | | | | | | | | | |
| SR16 WB | 2-SR,B | MED | 531+44 | 170 | M-2-30-2 | 2.5 X 2.5 | | | | | | | | | | | | | | | | | | | |
| SR16 WB | 2-SR,C | MED | 531+44 | 170 | M-38-30 | 2.5 X 1.25 | | | | | | | | | | | | | | | | | | | |
| Whiteoman St. | 3-SR | LT | 532+47 | 170 | R-1-36 | 3 X 3 | | | | | | | 14 | | | | | | | | | | | | |
| Whiteoman St. | 4-SR | LT | 532+87 | 170 | R-1-30 | 2.5 X 2.5 | | | | | | | 14 | | | | | | | | | | | | |
| SR16 WB | 1-S | LT | 532+78 | 170 | R-31E-48 | 4 X 2.5 | | | 10.00 | | | 13-13 | | | | | | | | | | | | | |
| SR16 WB | 5-SR | LT | 530+50 | 170 | R-10-36 | 3 X 4 | | | | | | | 14-14 | | | | | | | | | | | | |
| SR16 WB | 2-S | LT | 534+42 | 170 | R-31E-48 | 4 X 2.5 | | | 10.00 | | | 13-13 | | | | | | | | | | | | | |
| SR16 EB | 6-SR | MED | 531+70 | 170 | R-121-36 | 3 X 3 | | | | | | 11 | | | | | | | | | | | | | |
| SR16 EB | 3-S | RT | 533+31 | 170 | R-31FF-48 | 4 X 2.5 | | | 10.00 | | | | | | | | | | | | | | | | |
| OVERHEAD | 7-SR | OVER | 533+34 | 170 | GG | 18 X 6 | 180 | | | | | 15-15 | | | | | | | | | | | | | |
| OVERHEAD | 8-SR | OVER | 533+34 | 170 | GB | 12 X 6.5 | 180 | | | | | | | | | | | | | | | | 1 | | 2 |
| OVERHEAD | 9-SR | OVER | 533+34 | 170 | GB | 16 X 10 | 180 | | | | | | | | | | | | | | | | | | |
| SR16 WB | 10-SR | LT | 535+34 | 171 | D-11A | 10 X 1.5 | | | | | | | 14-12 | | | | | | | | | | | | |
| SR16 WB | 11-SR | LT | 536+64 | 171 | GN | 7 X 3 | 180 | | | | | | | | 16-14 | | | | | | 2 | 2 | | | |
| SR16 WB | 12-SR,A | LT | 537+60 | 171 | M-2-30-2 | 2.5 X 2.5 | | | | | | | 14 | | | | | | | | | | | | |
| SR16 WB | 12-SR,B | LT | 537+60 | 171 | M-40-30 | 2.5 X 1.25 | | | | | | | | | | | | | | | | | | | |
| SR16 WB | 13-SR,A | LT | 537+60 | 171 | M-2-30-2 | 2.5 X 2.5 | | | | | | | 14 | | | | | | | | | | | | |
| SR16 WB | 13-SR,B | LT | 537+60 | 171 | M-38-30 | 2.5 X 1.25 | | | | | | | | | | | | | | | | | | | |
| SR16 WB | 14-SR | LT | 537+67 | 171 | N-45-12 | 1 X 1 | | | | | | 11 | | | | | | | | | | | | | |
| US36 EB | 4-S | LT | 140+00 | 171 | R-31F-36 | 3 X 2.5 | | 7.50 | | | | 14-14 | | | | | | | | | | | | | |
| SR16 EB | 15-SR,A | RT | 536+24 | 171 | D-4A-24 | 11 X 2 | 180 | | | | | | | | | | | 20-23 | | 2 | | 2 | | | |
| SR16 EB | 15-SR,B | RT | 536+24 | 171 | D-4B-48 | 11 X 4 | 180 | | | | | | | | | | | | | | | | | | |
| SR16 EB | 16-SR,A | RT | 536+24 | 171 | IM-26-24 | 2 X 1.5 | 180 | | | | | | | | | | | | | | | | | | |
| SR16 EB | 16-SR,B | RT | 536+24 | 171 | M-5-30-2 | 2.5 X 2.5 | 180 | | | | | | | | | | | | | | | | | | |
| SR16 EB | 16-SR,C | RT | 536+24 | 171 | IM-8-30 | 2.5 X 1.25 | 180 | | | | | | | | | | | | | | | | | | |
| SR16 EB | 5-S,A | RT | 536+24 | 171 | M-30-24 | 2 X 1.5 | 180 | | 3.00 | | | | | | | | | | | | | | | | |
| SR16 EB | 5-S,B | RT | 536+24 | 171 | M-1-30-2 | 2.5 X 2.5 | 180 | | 6.25 | | | | | | | | | | | | | | | | |
| SR16 EB | 17-SR | RT | 537+69 | 171 | N-45-12 | 1 X 1 | | | | | | 11 | | | | | | | | | | | | | |
| SR16 EB | 6-S | RT | 539+50 | 171 | R-31FF-48 | 4 X 2.5 | 180 | | 10.00 | | | | | | | | | | | | | | | | |
| SR16 EB | 18-SR | RT | 539+50 | 171 | M-52A-108 | 9 X 2.5 | 180 | | | | | | | | 17-19 | | | | | 1 | | 2 | | | |
| SR16 EB | 19-SR | RT | 540+00 | 171 | M-52A-108 | 9 X 2.5 | 180 | | | | | | | | 15-15 | | | | | 1 | | 2 | | | |
| SR16 EB | 20-SR,A | RT | 540+00 | 171 | M-24-24 | 2 X 1.5 | 180 | | | | | | | | | | | | | | | | | | |
| SR16 EB | 20-SR,B | RT | 540+00 | 171 | M-2-30-2 | 2.5 X 2.5 | 180 | | | | | | | | | | | | | | | | | | |
| SR16 EB | 20-SR,C | RT | 540+00 | 171 | M-40-30 | 2.5 X 1.25 | 180 | | | | | | | | | | | | | | | | | | |
| US36 EB | 21-SR,A | RT | 540+21 | 171 | N-58A-72 | 6 X 1 | 180 | | | | | | | | 15-15 | | | | | 2 | | 2 | | | |
| US36 EB | 21-SR,B | RT | 540+21 | 171 | N-58A-72 | 6 X 1 | 180 | | | | | | | | | | | | | | | | | | |
| US36 EB | 22-SR,A | RT | 540+21 | 171 | IM-24-24 | 2 X 1.5 | 180 | | | | | | | | | | | | | | | | | | |
| US36 EB | 22-SR,B | RT | 540+21 | 171 | M-5-30-2 | 2.5 X 2.5 | 180 | | | | | | | | | | | | | | | | | | |
| US36 EB | 22-SR,C | RT | 540+21 | 171 | IM-8-30 | 2.5 X 1.25 | 180 | | | | | | | | | | | | | | | | | | |
| US36 EB | 23-SR,A | RT | 540+21 | 171 | M-24-24 | 2 X 1.5 | 180 | | | | | | | | | | | | | | | | | | |
| US36 EB | 23-SR,B | RT | 540+21 | 171 | M-1-30-2 | 2.5 X 2.5 | 180 | | | | | | | | | | | | | | | | | | |
| US36 EB | 24-SR,A | RT | POLE MOUNTED | 171 | M-2-30-2 | 2.5 X 2.5 | | | | | | | | | | | | | | | | | | | |
| US36 EB | 24-SR,B | RT | POLE MOUNTED | 171 | M-14-30 | 2.5 X 1.25 | | | | | | | | | | | | | | | | | | | |
| TOTALS CARRIED TO SHEET 184 | | | | | | | | 7.50 | 49.25 | | | 195 | 110 | | 126 | | | 43 | | 6 | 2 | 10 | 1 | | 2 |

SSUBLDGN 8/06/96

CALCULATED B.F.B. 5/30/96
CHECKED A.L.L. 7/24/96

SIGNING SUB-SUMMARY

COS-16-9.84
COS-36-20.06

# SIGNING SUB-SUMMARY

*NOTE:
SEE NOTE ON SHEET 34 "SIGN FABRICATION OF LEGEND ON EXTRUSHEET".

| LOCATION | MARK | SIDE | STATION | SHEET NO. | SIGN REFERENCE NUMBER | SIZE | CROSS SECTION SHEET NO. | ITEM 630 | | |

# SIGNING SUB-SUMMARY

*NOTE:
SEE NOTE ON SHEET 34 "SIGN FABRICATION OF LEGEND ON EXTRUSHEET".

| LOCATION | MARK | SIDE | STATION | SHEET NO. | SIGN REFERENCE NUMBER | SIZE | CROSS SECTION SHEET NO. | ITEM 630 SIGN, FLAT SHEET | SIGN, FLAT SHEET TYPE G | | SIGN, EXTRUSHEET TYPE, G | GROUND MOUNTED SUPPORTS, NO. 2 POST, TYPE S | GROUND MOUNTED SUPPORTS, NO.3 POST, TYPE S | | GROUND MOUNTED SUPPORTS, S4X7.7 BEAM | GROUND MOUNTED SUPPORTS, W6x9 BEAM | GROUND MOUNTED SUPPORTS, W8x18 BEAM, | GROUND MOUNTED SUPPORTS, W10x12 BEAM | | SIGN BACKING ASSEMBLY | BREAKAWAY BEAM CONNECTION | GROUND MOUNTED BEAM SUPPORT FOUNDATION | OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8, 104 FT. | | RIGID OVERHEAD SIGN SUPPORT FOUNDATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | FT. x FT. | | SQ.FT. | SQ.FT. | | SQ.FT. | LIN.FT. | LIN.FT. | | LIN.FT. | LIN.FT. | LIN.FT. | LIN.FT. | | EACH | EACH | EACH | EACH | | EACH |
| US36 WB | 29-S | LT | 8+23 | 176 | R-31T-54 | 4.5 X 2.5 | | | 11.25 | | | 13-13 | | | | | | | | | | | | | |
| US36 WB | 35-SR | LT | 10+80 | 176 | M-52A-108 | 9 X 2.5 | | | | | | | | | 15-15 | | | | | | | 2 | | | |
| US36 EB | 34-SR | RT | 5+50 | 176 | R-10-36 | 3 X 4 | | | | | | 14-14 | | | | | | | | | | | | | |
| US36 EB | 36-SR | RT | 7+00 | 176 | GM | 16 X 5 | 181 | | | | | | | | | | 24-27 | | | | | 2 | | | |
| US36 EB | 37-SR | RT | 8+40 | 176 | R-31FF-48 | 4 X 2.5 | | | | | | 14-14 | | | | | | | | | | | | | |
| US36 EB | 38-SR | RT | 9+65 | 176 | R-31FF-48 | 4 X 2.5 | | | | | | 14-14 | | | | | | | | | | | | | |
| US36 WB | 39-SR,A | LT | 12+00 | 177 | R-41A-36 | 3 X 2 | | | | | | 13 | | | | | | | | | | | | | |
| US36 WB | 39-SR,B | MED | 12+00 | 177 | R-41A-36 | 3 X 2 | | | | | | 13 | | | | | | | | | | | | | |
| US36 WB | 40-SR | LT | 12+95 | 177 | R-10-36 | 3 X 4 | | | | | | 14-14 | | | | | | | | | | | | | |
| US36 WB | 41-SR | LT | 13+84.2 | 177 | N-45-12 | 1 X 1 | FOR | INFORMATION | | ONLY | | | | | | | | | | | | | | | |
| US36 EB | 42-SR,A | RT | 11+50 | 177 | M-1-30-2 | 2.5 X 2.5 | | | | | | | 14 | | | | | | | | | | | | |
| US36 EB | 42-SR,B | RT | 11+50 | 177 | M-39-30 | 2.5 X 1.25 | | | | | | | | | | | | | | | | | | | |
| US36 EB | 43-SR,A | RT | 11+50 | 177 | M-5-30-2 | 2.5 X 2.5 | | | | | | | 14 | | | | | | | | | | | | |
| US36 EB | 43-SR,B | RT | 11+50 | 177 | IM-8-30 | 2.5 X 1.25 | | | | | | | | | | | | | | | | | | | |
| US36 EB | 44-SR | RT | 12+95 | 177 | R-10-36 | 3 X 4 | | | | | | 14-14 | | | | | | | | | | | | | |
| US36 EB | 45-SR | RT | 13+24 | 177 | GM-1-MOD | 14 X 2.5 | 181 | | | | | | | | | 18-20 | | | | | | 2 | | | |
| US36 EB | 46-SR | RT | 13+84.2 | 177 | N-45-12 | 1 X 1 | FOR | INFORMATION | | ONLY | | | | | | | | | | | | | | | |
| US36 EB | 47-SR | RT | 15+61 | 177 | R-31E-48 | 4 X 2.5 | FOR | INFORMATION | | ONLY | | | | | | | | | | | | | | | |
| US36 EB | 48-SR,A | RT | 15+61 | 177 | R-41A-36 | 3 X 2 | FOR | INFORMATION | | ONLY | | | | | | | | | | | | | | | |
| US36 EB | 48-SR,B | MED | 15+61 | 177 | R-41A-36 | 3 X 2 | FOR | INFORMATION | | ONLY | | | | | | | | | | | | | | | |
| US36 EB | 30-S,A | LT | 139+24 | 178 | M-40-30 | 2 X 1 | | 2.00 | | | | 13 | | | | | | | | | | | | | |
| US36 EB | 30-S,B | LT | 139+24 | 178 | M-1-24-2 | 2 X 2 | | 4.00 | | | | | | | | | | | | | | | | | |
| US36 WB | 49-SR | RT | 134+91 | 178 | X-2A | .5 X 1 | FOR | INFORMATION | | ONLY | | | | | | | | | | | | | | | |
| US36 WB | 50-SR | RT | 134+91 | 178 | D-4B-48 | 11 X 4 | FOR | INFORMATION | | ONLY | | | | | | | | | | | | | | | |
| US36 WB | 31-S | RT | 136+91 | 178 | R-31F-36 | 3 X 2.5 | | 7.50 | | | | 13-13 | | | | | | | | | | | | | |
| US36 WB | 32-S,A | RT | 138+45 | 178 | N-15-24 | 2 X .5 | | 1.00 | | | | 13 | | | | | | | | | | | | | |
| US36 WB | 32-S,B | RT | 138+45 | 178 | N-29-24 | 2 X 2 | | 4.00 | | | | | | | | | | | | | | | | | |
| SR83 SB | 33-S | LT | 4+50 | 179 | R-31B-36 | 3 X 2.5 | | 7.50 | | | | 13-13 | | | | | | | | | | | | | |
| SR83 NB | 34-S,A | RT | 1+62 | 179 | M-2-24-2 | 2 X 2 | | 4.00 | | | | 13 | | | | | | | | | | | | | |
| SR83 NB | 34-S,B | RT | 1+62 | 179 | M-37-24 | 2 X 1 | | 2.00 | | | | | | | | | | | | | | | | | |
| | | | SEE TOTAL | | | | | 32.00 | 11.25 | | | 283 | 28 | | 30 | 38 | 51 | | | | | 6 | | | |
| | | | TOTAL FROM SHEET 182 | | | | | 7.50 | 49.25 | | | 195 | 110 | | 126 | | | 43 | | 6 | 2 | 10 | 1 | | 2 |
| | | | TOTAL FROM SHEET 183 | | | | | 15.75 | 187.14 | | 62 | 290 | 188 | | | | 94 | | | 3 | | 4 | | | |
| | | | TOTAL FROM THIS SHEET | | | | | 32.00 | 11.25 | | | 283 | 28 | | 30 | 38 | 51 | | | | 4 | 6 | | | |
| TOTALS CARRIED TO GENERAL SUMMARY | | | | | | | | 56 | 248 | | 62 | 768 | 326 | | 156 | 38 | 145 | 43 | | 9 | 6 | 20 | 1 | | 2 |

CALCULATED B.F.B. 5/30/96
CHECKED A.L.L. 7/24/96

SIGNING SUB-SUMMARY

COS-16-9.84
COS-36-20.06



SSUB3.DGN 8/05/96

BEGIN PROJECT
STA. 530+00
S.L.M. 9.84

1-SR A,B,C
M-24-24 2' X 1.5'
M-2-30-2 2.5' X 2.5' (91)
M-40-30 2.5' X 1.25' (WEST)
STA. 531+41

2-SR A,B,C
M-24-24 2' X 1.5'
M-2-30-2 2.5' X 2.5' (83)
M-38-30 2.5' X 1.25' (SOUTH)
STA. 531+44

1-R
WELCOME MOHAWK (POST 92040)
SPECIAL 1.67' X 2.5'
STA. 531+41

2-R
R-121-36 3' X 3'
STA. 532+44

3-SR
R-1-30 2.5' X 2.5'
STA. 532+47
STOP

4-SR
STOP
R-1-30 2.5' X 2.5'
STA. 532+87

3-R
ENTER HORSE DRAWN VEHICLE AREA
SPECIAL 3.33' X 2'
STA. 533+12

4-R
R-121-36 3' X 3'
STA. 532+42

5-R
R-121-24 2' X 2'
STA. 532+45

9-SR
541
Roscoe Village
Coshocton
EXIT ½ MILE
GB 16' X 10'
STA. 532+75

5-SR
SPEED LIMIT 50
R-10-36 3' X 4'
STA. 533+28

Whitewoman St. 533+00

+28.91

WESTBOUND LANES

EASTBOUND LANES

531+00 532+00 533+00 534+00

532+00

MATCHLINE 535+00

10-R

6-R
R-121-36 3' X 3'
STA. 531+43

7-R
W-86-48 4' X 4'
STA. 531+35

6-SR
R-121-36 3' X 3'
STA. 531+70

8-R
R-37R-36 3' X 4'
STA. 531+46
KEEP RIGHT

9-R
W-47-48 4' X 4'
STA. 532+86

8-SR
(36) WEST ONLY
GB 12' X 6.5'
STA. 532+75

7-SR
(36) EAST (83) NORTH
GG 18' X 6'
STA. 532+75

TYPE 7.65, DESIGN 8
MODIFIED 88' - 9"
5' BETWEEN ALUMINUM CORDS
(TO BE REMOVED)

NOTE:
FOR QUANTITIES
SEE SHEET 195.

C1610A60.DGN 07-26-96

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED A.L.L. 5/30/96
CHECKED A.L.L. 7/24/96

# EXISTING SIGN SHEET
# STA. 530+00 TO STA. 535+00

COS-16-9.84
COS-36-20.06

185
231

# EXISTING SIGN SHEET
# STA. 535+00 TO STA. 540+50

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED B.F.B. 5/30/96
CHECKED A.L.L. 7/24/96

**COS-16-9.84**
**COS-36-20.06**

186
231

C1610B60.DGN 07-26-96

10-SR
WHITEWOMAN ST
D-11A-36
10' X 1.5'
STA. 535+34

11-R
R-38R-36
3' X 4'
STA. 535+99

11-SR
COSHOCTON CORPORATION LIMIT
GN
7' X 3'
STA. 536+89

M-40-30
2.5' X 1.25'
WEST 16
M-2-30-2
2.5' X 2.5'
STA. 537+60

12-SR
A,B

13-SR
A,B
M-38-30
2.5' X 1.25'
SOUTH 83
M-2-30-2
2.5' X 2.5'

14-SR
10
N-45-12
1' X 1'
STA. 537+67

12-R
R-3L-24
2' X 3'
STA. 140+10
STOP HERE ON RED

℄ SURVEY & CONSTRUCTION, U.S.R. 36

MATCHLINE STA. 139+60
SEE SHEET 193.

140+00

MATCHLINE STA. 535+00

WESTBOUND LANES

EASTBOUND LANES

℄ SURVEY & CONSTRUCTION U.S.R. 16

536+00 537+00 538+00 539+00 540+00

END PROJECT
STA. 540+13.29
S.L.M. 10.05

MATCHLINE STA. 540+50

CITY OF COSHOCTON
CORPORATION LIMIT

STA. 536+24

13-R
R-31Q-30
2.5' X 2.5'
STA. 535+37

15-SR
A,B
D-4A-24
11' X 2'
D-4B-48
11' X 4'
Roscoe Village 2
Mt Vernon 37
Jordson 9

16-SR
A,B,C
IM-26-24
2' X 1.5'
M-5-30-2
2.5' X 2.5'
77 INTERSTATE
IM-8-30
2.5' X 1.25'
70

17-SR
10
N-45-12
1' X 1'
STA. 537+69

18-SR
WEST 36 EAST
M-52A-108
9' X 2.5'
STA. 539+50

19-SR
M-52A-108
9' X 2.5'
STA. 540+00
NORTH 83 SOUTH
M-24-24
2' X 1.5'
16 WEST
M-2-30-2
2.5' X 2.5'
M-40-30
2.5' X 1.25'

20-SR
A,B,C

21-SR
A,B
N-58A-72
6' X 1'
STA. 540+21
POLE MOUNTED
CANAL BOAT
LAKE PARK 1/2 MILE PARK
IM-24-24
2' X 1.5'
M-24-24
2' X 1.5'
M-5-30-2
2.5' X 2.5'
77 INTERSTATE
36
M-1-30-2
2.5' X 2.5'
IM-8-30
2.5' X 1.25'
70

22-SR
A,B,C

23-SR
A,B

24-SR
A,B
END 16
M-14-30
2.5' X 1.25'
M-2-30-2
2.5' X 2.5'

NOTE:
FOR QUANTITIES
SEE SHEET 195.

STA. 540+13.29 ℄ SURVEY & CONSTRUCTION S.R. 16 =
STA. 141+01.21 ℄ SURVEY & CONSTRUCTION U.S.R. 36 =
STA. 540+13.29 ℄ SURVEY & CONSTRUCTION U.S.R. 36
END S.R. 16 BEGIN U.S.R. 36 STA. 540+13.29

NOTE:
FOR QUANTITIES
SEE SHEET 195.

0 10 20 40
HORIZONTAL
SCALE IN FEET

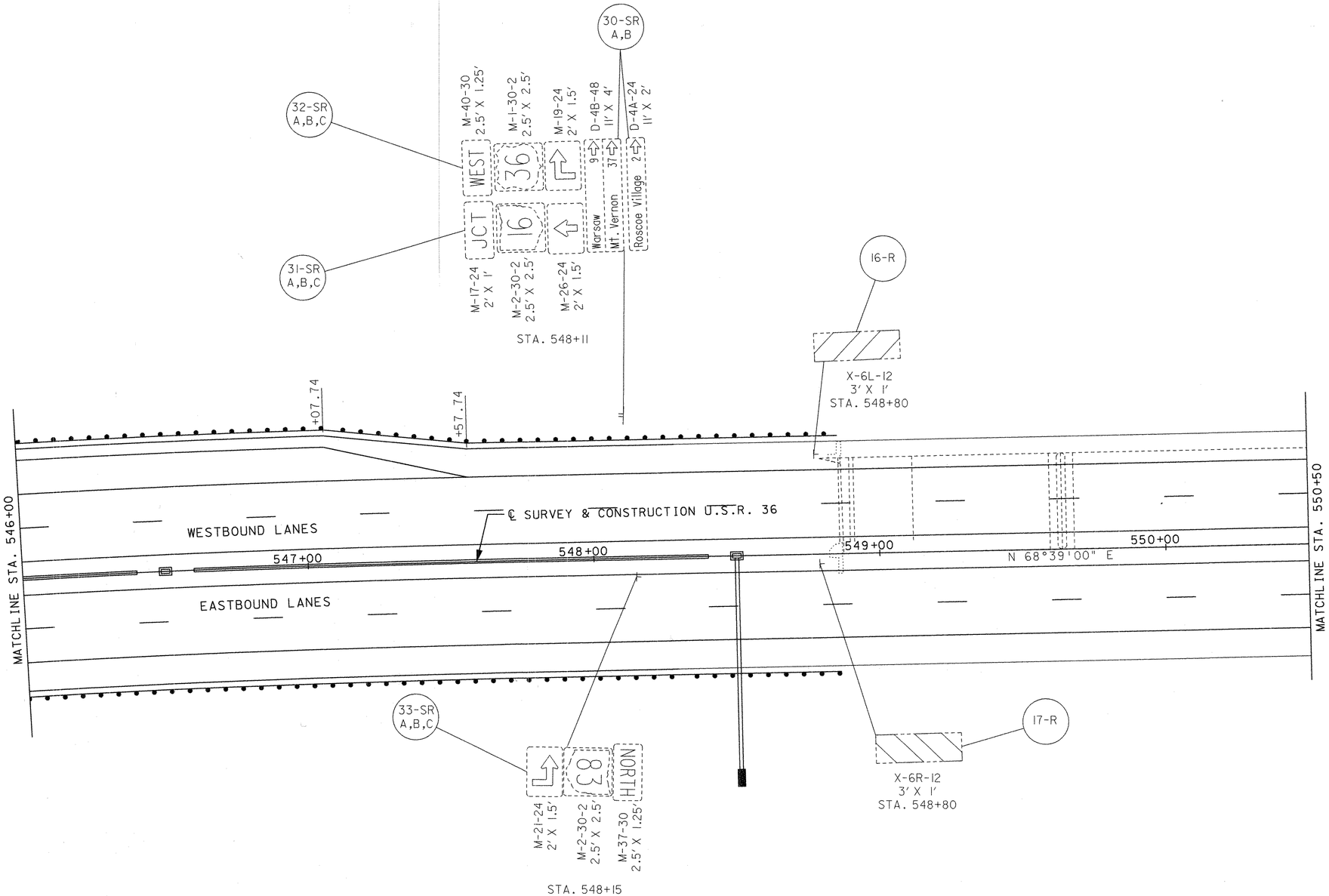
CALCULATED B.F.B. 5/20/96
CHECKED A.L.L. 7/24/96

# EXISTING SIGN SHEET
## STA. 540+50 TO STA. 546+00

COS-16-9.84
COS-36-20.06

187
231

C1610C60.DGN 07 26 96




NOTE:
FOR QUANTITIES
SEE SHEET 195.

0 10 20 40
HORIZONTAL
SCALE IN FEET

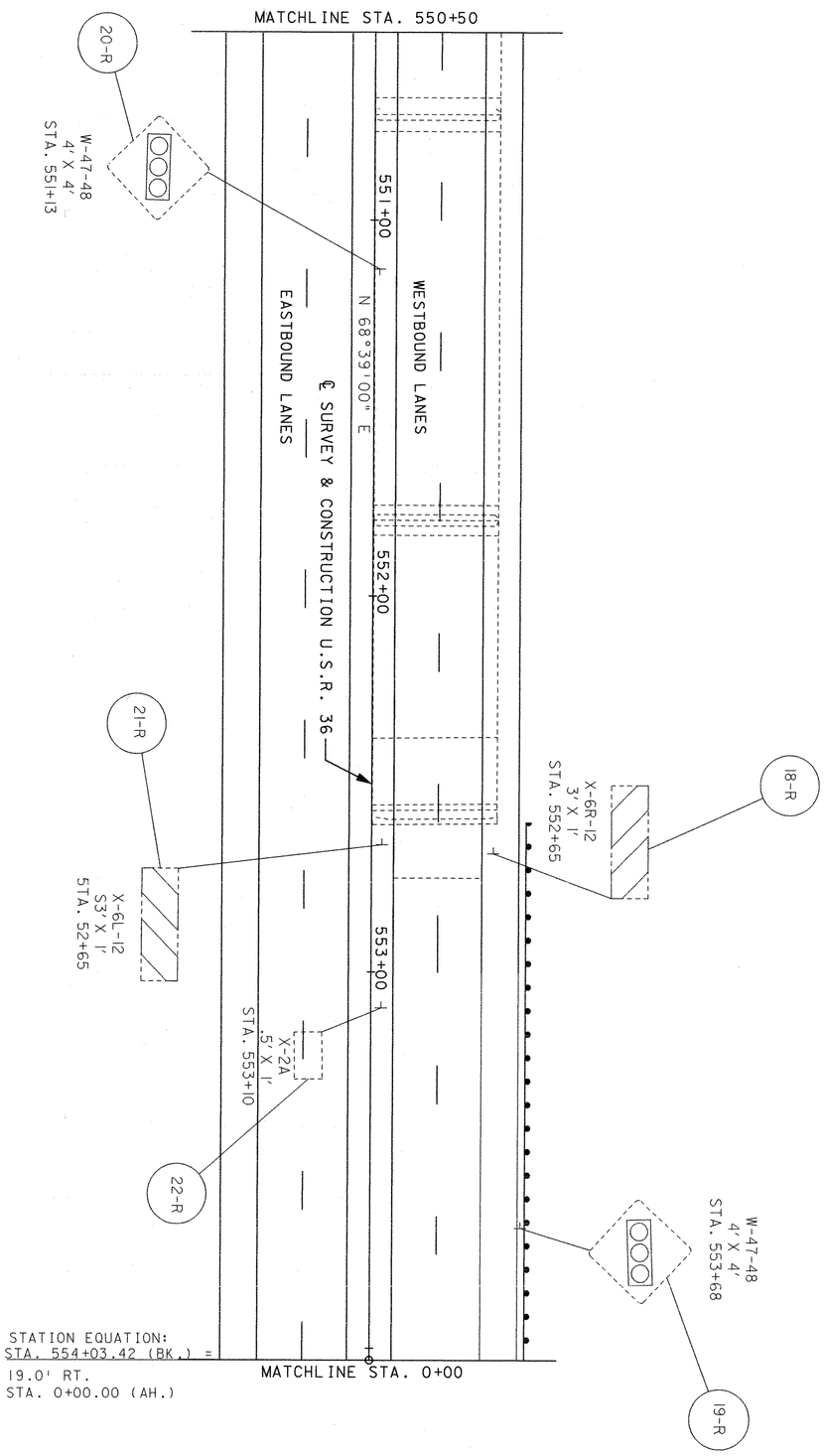
CALCULATED
B.F.B.
5/30/96
CHECKED
A.L.L.
7/24/96

# EXISTING SIGN SHEET
# STA. 546+00 TO STA. 550+50

COS-16-9.84
COS-36-20.06

188
231

C1610D60.DGN 07-26-96




NOTE:
FOR QUANTITIES
SEE SHEET 195.



**COS-16-9.84**
**COS-36-20.06**

# EXISTING SIGN SHEET
## STA. 550+50 TO STA. 0+00

CALCULATED B.F.B. 5/30/96
CHECKED A.L.L. 7/24/96

0 20
10 40
HORIZONTAL SCALE IN FEET

# EXISTING SIGN SHEET
## STA. 554+03.42 B = 0+00 A TO STA. 5+50

COS-16-9.84
COS-36-20.06

CALCULATED B.F.B. 5/20/96
CHECKED A.L.L. 7/24/96

0 10 20 40 HORIZONTAL SCALE IN FEET



C1610F60.DGN 07-26-96

STA. EQUATION:
STA. 554+03.42 (BK.) =
STA. 0+00.00 (AH.)

MATCHLINE STA. 0+00

WESTBOUND LANES

EASTBOUND LANES

1+00 N 68°39'00" E 2+00 3+00.02 4+00 5+00

EL=0.00

℄ SURVEY & CONSTRUCTION U.S.R. 36

P.C. STA. 2+96.81

STA. 2+71

MATCHLINE STA. 1+44.95
SEE SHEET 194.

S.R. 83

1+00

C.R. IA

0+00

MATCHLINE STA. 5+50

STA. 4+50 ℄ SURVEY & CONSTRUCTION U.S.R. 36
= STA. 0+00 ℄ SURVEY & CONSTRUCTION C.R. IA
= STA. 0+00 ℄ SURVEY & CONSTRUCTION S.R. 83

NOTE:
FOR QUANTITIES
SEE SHEET 196.

23-R — R-10-36, 3′ X 4′, STA. 1+25 — SPEED LIMIT 50

24-R — M-52B-66 MODIFIED, 13′ X 6.5′, STA. 2+65 — OVERHEAD — THRU RIGHT

25-R — M-52B-66 MODIFIED, 13′ X 6.5′, STA. 2+65 — OVERHEAD — LEFT ONLY

26-R A,B — M-2-30-2, 2.5′ X 2.5′ — 83 — M-37-30, 2.5′ X 1.25′ — NORTH

27-R A,B — M-40-30, 2.5′ X 1.25′ — WEST — M-1-30-2, 2.5′ X 2.5′ — 36

28-R A,B — M-38-30, 2.5′ X 1.25′ — SOUTH — M-2-30-2, 2.5′ X 2.5′ — 83

29-R

30-R — POLE MOUNTED, M-52A-108, 9′ X 2.5′ — NORTH — 83 — SOUTH

31-R — PROPERTY STATE OF OHIO NO TRESPASSING — SPECIAL, 3′ X 2′, STA. 1+14

32-R — STOP AT STOP LINE TO ACTUATE SIGNAL — R-4L-24 MODIFIED, 2′ X 3′, STA. 0+72

33-R — ONLY — ONLY — R-3IM-48, 4′ X 2.5′, STA. 5+20

34-R — SPEED LIMIT 50 — R-10-36, 3′ X 4′, STA. 1+25

34-SR — SPEED LIMIT 50 — R-10-36, 3′ X 4′, STA. 5+00

35-R — ONLY — R-3IA-36, 3′ X 2.5′, STA. 2+47

36-R — CANAL BOAT — N-58A-72, 6′ X 1′, POLE MOUNTED, STA. 2+65

37-R — CANAL BOAT — N-58A-72, 6′ X 1′, 3+13 — N-15-18, 1.5′ X .5′ — N-18C-18, 1.5′ X 1.5′

38-R A,B

39-R — R-88-24, 2′ X 2.5′, STA. 3+50 — DO NOT BLOCK INTERSECTION

40-R — STOP AT STOP LINE TO ACTUATE SIGNAL — R-4L-24 MODIFIED, 2′ X 3′, STA. 3+93

41-R A,B — M-24-24, 2′ X 1.5′ — M-2-30-2, 2.5′ X 2.5′ — 83 — STA. 4+03

42-R A,B — M-25-24, 2′ X 1.5′ — M-1-30-2, 2.5′ X 2.5′ — 36 — STA. 4+07

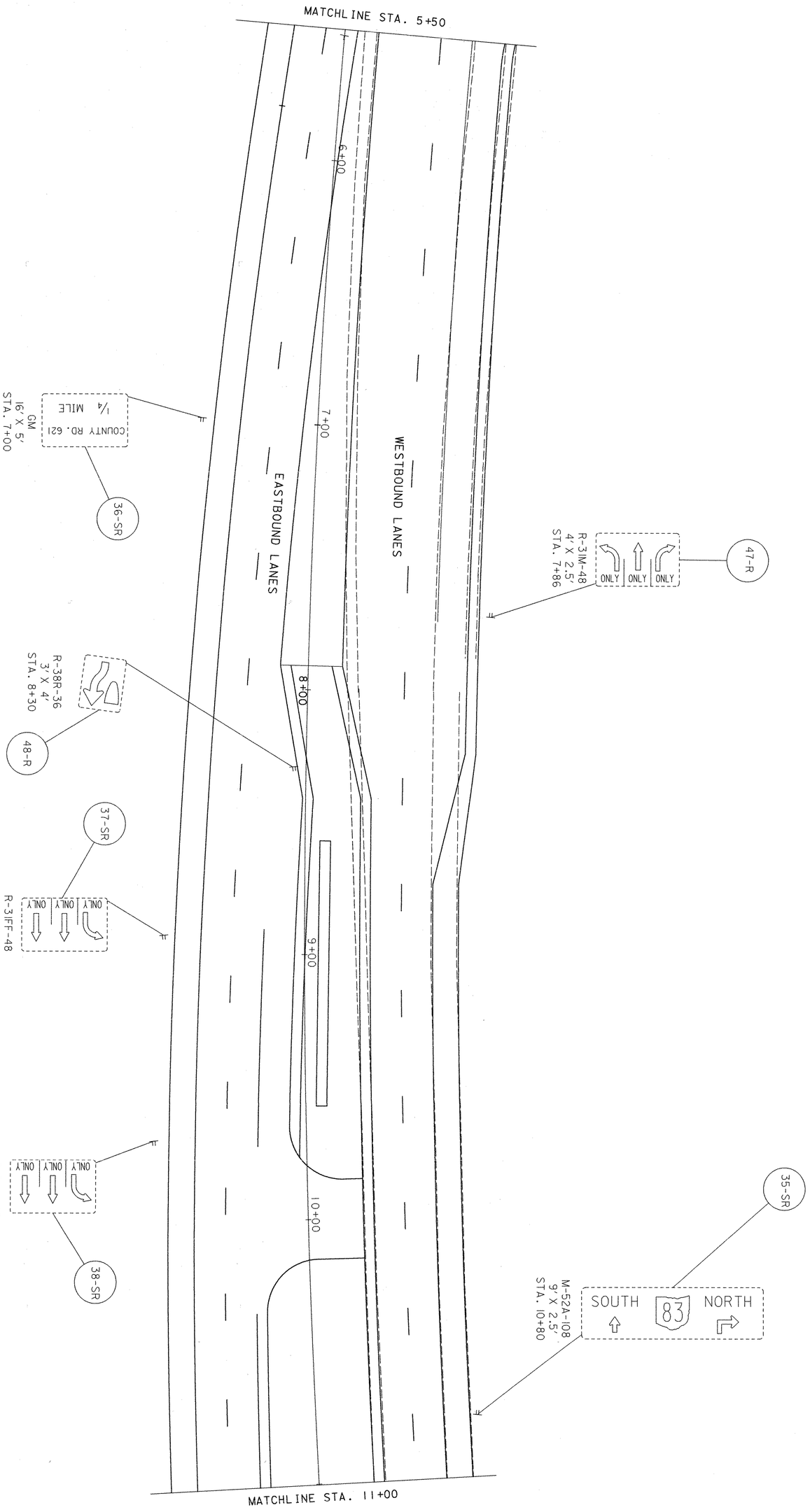
43-R A,B,C — IM-24-24, 2′ X 1.5′ — M-5-30-2, 2.5′ X 2.5′ — INTERSTATE 77 — IM-8-30, 2.5′ X 1.25′ — 10 — STA. 4+10

44-R — COSHOCTON COUNTY — IA — M-6-18, 1.5′ X 1.5′, STA. 1+06

45-R — STOP HERE TO ACTUATE SIGNAL — R-4L-24, 2′ X 3′, STA. 0+07

46-R A,B — M-24-24, 2′ X 1.5′ — M-2-30-2, 2.5′ X 2.5′ — 83 — POLE MOUNTED, STA. 4+85

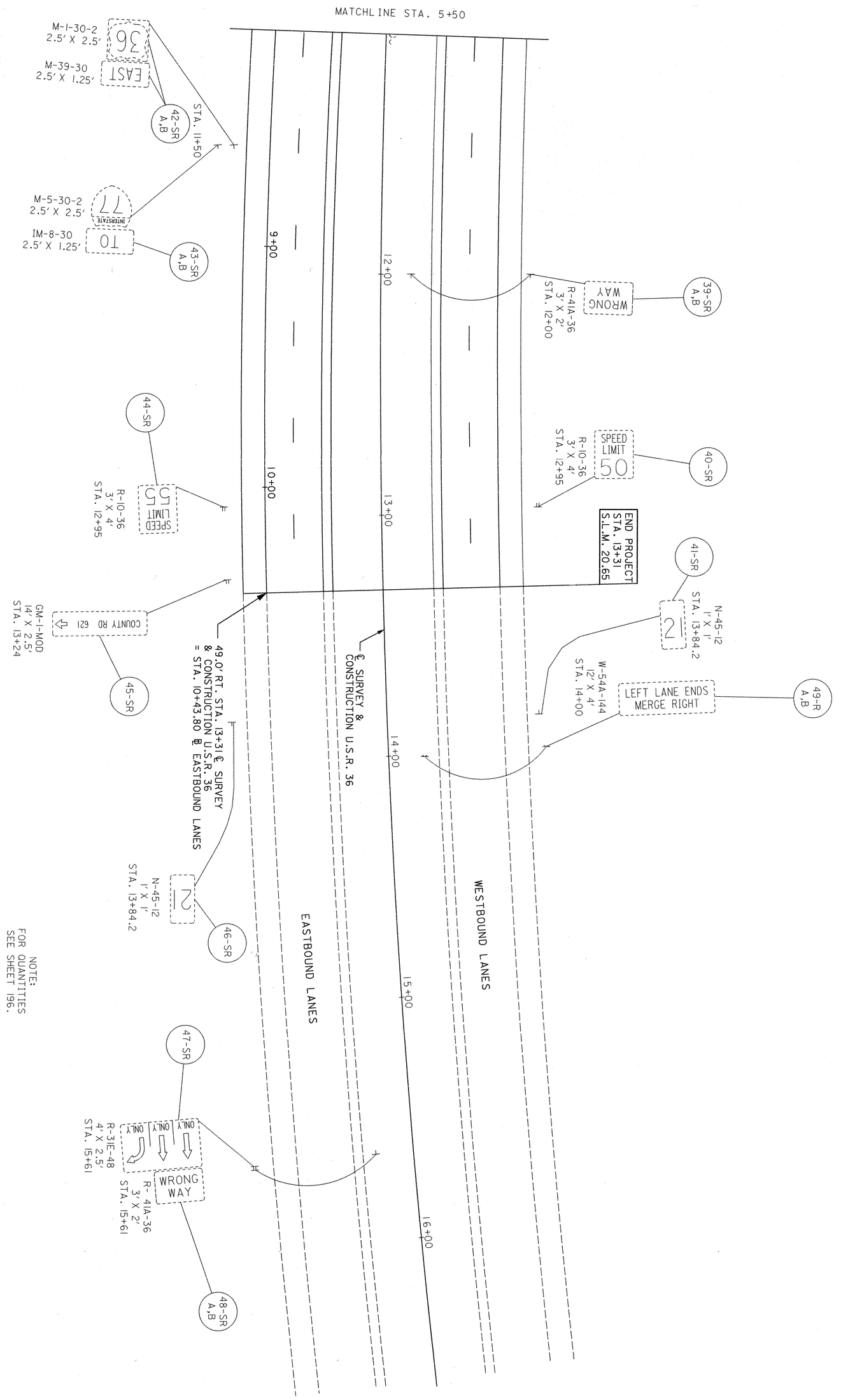
C1610G60.DGN 07-26-96




NOTE:
FOR QUANTITIES
SEE SHEET 196.

| | | | |
|---|---|---|---|
| 191 / 231 | **COS-16-9.84**<br>**COS-36-20.06** | **EXISTING SIGN SHEET**<br>**STA. 5+50 TO STA. 11+00** | CALCULATED B.F.B. 5/30/96<br>CHECKED A.L.L. 7/24/96<br>0 20<br>10 40<br>HORIZONTAL SCALE IN FEET |

C1610H60.DGN 07-26-96




192
231

**COS-16-9.84**
**COS-36-20.06**

# EXISTING SIGN SHEET
## STA. 11+00 TO STA. 16+50

CALCULATED B.F.B. 5/30/96
CHECKED A.L.L. 7/24/96

0 20
10 40
HORIZONTAL SCALE IN FEET

BEGIN PROJECT
STA. 135+10.19
S.L.M. 20.06

BEGIN APPROACH
STA. 135+10.19

℄ SURVEY & CONSTRUCTION,
U.S.R. 36

U.S.R. 36
134+50 | 135+00 | 136+00 | 137+00 | S49°16'08"E | 138+00 | 139+00

MATCHLINE STA. 139+60
SEE SHEET 186.

50-R
REDUCED SPEED AHEAD
R-11B-24
2' X 2.5'
STA. 138+30

51-R
A,B
WEST 36
M-40-24
2' X 1'
M-1-24-2
2' X 2'
STA. 139+24

49-SR
X-2A
.5' X 1'
STA. 134+91

50-SR
COSHOCTON
NEWCOMERSTOWN 15
D-4B-48
11' X 4'
STA. 134+91

52-R
A,B
N-15-24
2' X .5'
N-29-24
2' X 2'
STA. 136+67

NOTE:
FOR QUANTITIES
SEE SHEET 196.

HORIZONTAL SCALE IN FEET
0 10 20 40

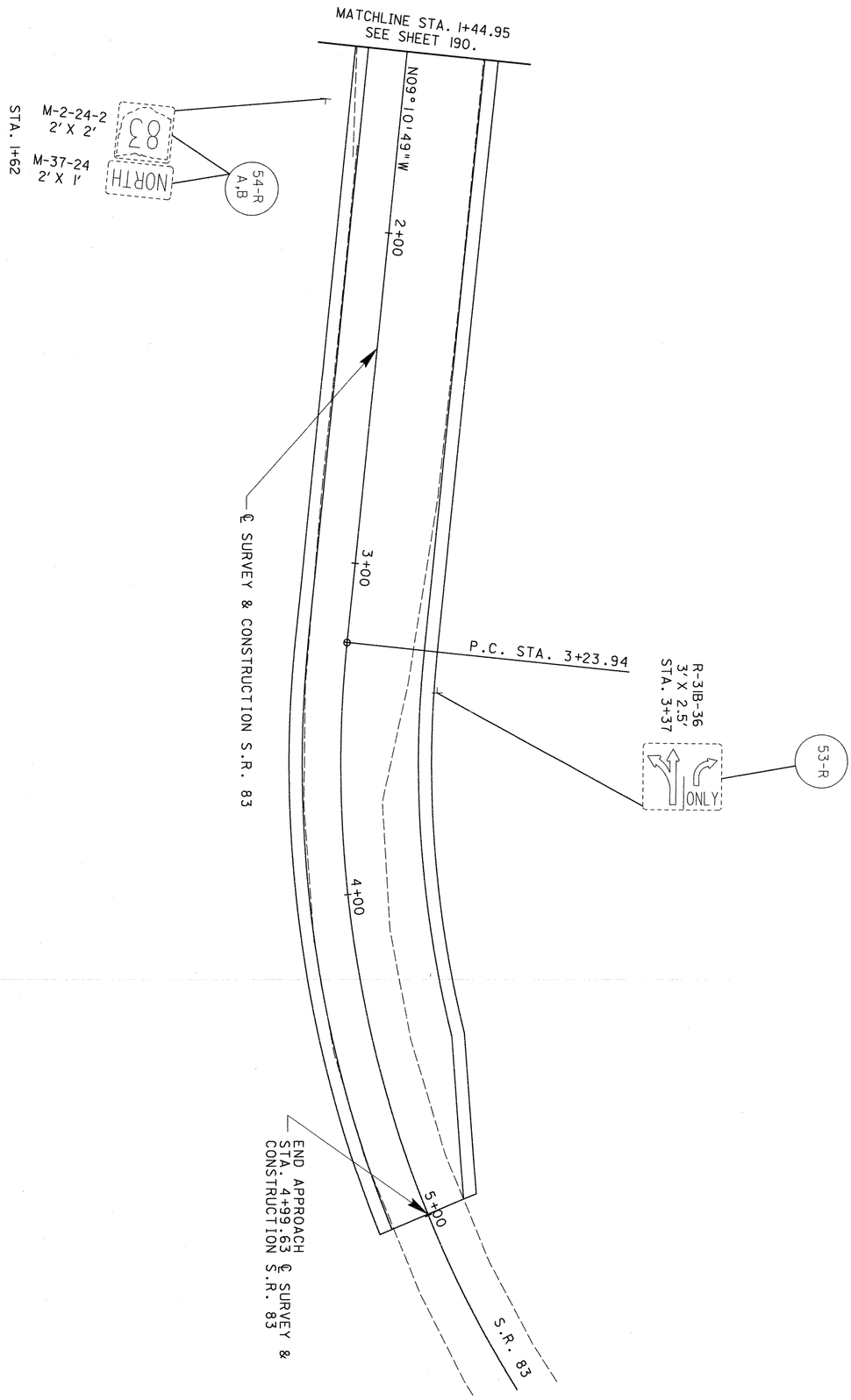
CALCULATED B.F.B. 5/30/96
CHECKED A.L.L. 7/24/96

# EXISTING SIGN SHEET U.S.R. 36
# STA. 134+50 TO STA. 139+60

COS-16-9.84
COS-36-20.06

193
231

C161O160.DGN 07-26-96




NOTE:
FOR QUANTITIES
SEE SHEET 196.

| | | | | |
|---|---|---|---|---|
| 194 / 231 | COS-16-9.84<br>COS-36-20.06 | EXISTING SIGN SHEET S.R. 83<br>STA. 0+00 TO STA. 5+40 | CALCULATED B.F.B. 5/30/96<br>CHECKED A.L.L. 7/24/96 | 0 50 25 100<br>HORIZONTAL SCALE IN FEET |

# SIGN REMOVAL SUB-SUMMARY

CALCULATED B.B. 09/07/95
CHECKED A.L.L. 10/17/94

| SHEET NO. | MARK | SIDE | STATION | SIGN REFERENCE NUMBER | SIZE (FT.XFT.) | ITEM 630 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION | REMOVAL OF POLE MOUNTED SIGN AND REERECTION | REMOVAL OF GROUND MOUNTED SIGN AND STORAGE | REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL | REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL | PREPARATION AND SHIPMENT OF STORED SIGNS, FLAT SHEET | REMOVAL OF GROUND MOUNTED SIGN AND REERECTION | REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION | REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.65 |
| | | | | | | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH |
| 185 | I-SR,A | MED | 531+41 | M-24R-24 | 2XI.5 | | | | I | | | I | | |
| 185 | I-SR,B | MED | 531+41 | M-2-30-2 | 2.5X2.5 | | | | | | | I | | |
| 185 | I-SR,C | MED | 531+41 | M-40-30 | 2.5XI.25 | | | | | | | I | | |
| 185 | 2-SR,A | MED | 531+44 | M-24R-24 | 2XI.5 | | | | I | | | I | | |
| 185 | 2-SR,B | MED | 531+44 | M-2-30-2 | 2.5X2.5 | | | | | | | I | | |
| 185 | 2-SR,C | MED | 531+44 | M-38-30 | 2.5XI.25 | | | | | | | I | | |
| 185 | I-R * | LT | 531+41 | SPECIAL | I.67X2.5 | | | I | I | | | | | |
| 185 | 3-SR | LT | 532+47 | R-I-30 | 2.5X2.5 | | | | I | | | I | | |
| 185 | 2-R | LT | 532+44 | R-I2I-36 | 3X3 | | | I | I | | I | | | |
| 185 | 4-SR | LT | 532+87 | R-I-30 | 2.5X2.5 | | | | I | | | I | | |
| 185 | 3-R* | RT | 533+12 | SPECIAL | 3.33X2 | | | I | 2 | | | | | |
| 185 | 4-R | MED | 532+42 | R-I2I-36 | 3X3 | | | I | I | | I | | | |
| 185 | 5-R | MED | 532+45 | R-I2I-24 | 2X2 | | | I | I | | I | | | |
| 185 | 5-SR | LT | 533+28 | R-I0-36 | 3X4 | | | | 2 | | | I | | |
| 185 | 6-R | MED | 531+43 | R-I2I-36 | 3X3 | | | I | I | | I | | | |
| 185 | 7-R | RT | 531+35 | W-86-48 | 4X4 | | | I | 2 | | I | | | |
| 185 | 6-SR | RT | 531+70 | R-I2I-36 | 3X3 | | | | I | | | I | | |
| 185 | 8-R | MED | 531+46 | R-37R-36 | 3X4 | | | I | I | | I | | | |
| 185 | 9-R | RT | 532+86 | W-47-48 | 4X4 | | | I | 2 | | I | | | |
| 185 | 8-SR | OVER | 532+75 | GB | I2X6.5 | | | | | | | | I | |
| 185 | 7-SR | OVER | 532+75 | GG | I8X6 | | | | | | | | I | |
| 185 | 9-SR | OVER | 532+75 | GB | I6XI0 | | | | | | | | I | |
| 185 | I0-R | OVER | 532+75 | SIGN SUPPORT | TC-7.65 | | | | | | | | | I |
| 186 | I0-SR | LT | 535+34 | D-IIA-36 | I0XI.5 | | | | | 2 | | I | | |
| 186 | II-R | MED | 535+99 | R-38R-36 | 3X4 | | | I | 2 | | I | | | |
| 186 | II-SR | LT | 536+64 | GN | 7X3 | | | | | 2 | | I | | |
| 186 | I2-SR,A | LT | 537+60 | M-2-30-2 | 2.5X2.5 | | | | I | | | I | | |
| 186 | I2-SR,B | LT | 537+60 | M-40-30 | 2.5XI.25 | | | | | | | I | | |
| 186 | I3-SR,A | LT | 537+60 | M-2-30-2 | 2.5X2.5 | | | | I | | | I | | |
| 186 | I3-SR,B | LT | 537+60 | M-38-30 | 2.5XI.25 | | | | | | | I | | |
| 186 | I4-SR | LT | 537+67 | N-45-I2 | IXI | | | | I | | | I | | |
| 186 | I2-R | LT | I40+I0 | R-3L-24 | 2X3 | | | I | I | | I | | | |
| 186 | I3-R | RT | 535+37 | R-3I0-30 | 2.5X2.5 | | | I | 2 | | I | | | |
| 186 | I5-SR,A | RT | 536+24 | D-4A-24 | IIX2 | I | | | | 2 | | | | |
| 186 | I5-SR,B | RT | 536+24 | D-4B-48 | IIX4 | I | | | | | | | | |
| 186 | I6-SR,A | RT | 536+24 | IM-26-24 | 2XI.5 | | | | | | | I | | |
| 186 | I6-SR,B | RT | 536+24 | M-5-30-2 | 2.5X2.5 | | | | | | | I | | |
| 186 | I6-SR,C | RT | 536+24 | IM-8-30 | 2.5XI.25 | | | | | | | I | | |
| 186 | I7-SR | RT | 537+69 | N-45-I2 | IXI | | | | I | | | I | | |
| 186 | I8-SR | RT | 539+50 | M-52A-I08 | 9X2.5 | | | | | 2 | | I | | |
| 186 | I9-SR | RT | 540+00 | M-52A-I08 | 9X2.5 | | | | | 2 | | I | | |
| 186 | 20-SR,A | RT | 540+00 | M-24-24 | 2XI.5 | | | | | | | I | | |
| 186 | 20-SR,B | RT | 540+00 | M-2-30-2 | 2.5X2.5 | | | | | | | I | | |
| 186 | 20-SR,C | RT | 540+00 | M-40-30 | 2.5XI.25 | | | | | | | I | | |
| 186 | 2I-SR,A | RT | 540+2I | N-58A-72 | 6XI | | | | | 2 | | I | | |
| 186 | 2I-SR,B | RT | 540+2I | N-58A-72 | 6XI | | | | | | | I | | |
| 186 | 22-SR,A | RT | 540+2I | IM-24-24 | 2XI.5 | | | | | | | I | | |
| 186 | 22-SR,B | RT | 540+2I | M-5-30-2 | 2.5X2.5 | | | | | | | I | | |
| 186 | 22-SR,C | RT | 540+2I | IM-8-30 | 2.5XI.25 | | | | | | | I | | |
| 186 | 23-SR,A | RT | 540+2I | M-24-24 | 2XI.5 | | | | | | | I | | |
| 186 | 23-SR,B | RT | 540+2I | M-I-30-2 | 2.5X2.5 | | | | | | | I | | |
| 186 | 24-SR,A | RT | POLE MOUNTED | M-I4-30 | 2.5XI.25 | | I | | | | | | | |
| 186 | 24-SR,B | RT | POLE MOUNTED | M-2-30-2 | 2.5X2.5 | | I | | | | | | | |
| * DENOTES SIGNS TO BE RETURNED TO CITY OF COSHOCTON | | | | | | | | | | | | | | |
| **SUB-TOTALS CARRIED TO THIS SHEET** | | | | | | 2 | 2 | I2 | 28 | I2 | I0 | 33 | 3 | I |

| SHEET NO. | MARK | SIDE | STATION | SIGN REFERENCE NUMBER | SIZE (FT.XFT.) | ITEM 630 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION | REMOVAL OF POLE MOUNTED SIGN AND REERECTION | REMOVAL OF GROUND MOUNTED SIGN AND STORAGE | REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL | REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL | PREPARATION AND SHIPMENT OF STORED SIGNS, FLAT SHEET | REMOVAL OF GROUND MOUNTED SIGN AND REERECTION | REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION | REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.65 |
| | | | | | | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH |
| I87 | 25-SR,A | LT | 540+50 | M-24-24 | 2XI.5 | | | | | | | I | | |
| I87 | 25-SR,B | LT | 540+50 | M-I-30-2 | 2.5X2.5 | | | | | | | I | | |
| I87 | 25-SR,C | LT | 540+50 | M-39-30 | 2.5XI.25 | | | | | | | I | | |
| I87 | 26-SR,A | LT | 540+50 | M-24-24 | 2.5XI.5 | | | | | | | I | | |
| I87 | 26-SR,B | LT | 540+50 | M-I-30-2 | 2.5X2.5 | | | | | | | I | | |
| I87 | 26-SR,C | LT | 540+50 | M-39-30 | 2.5XI.25 | | | | | | | I | | |
| I87 | I4-R | LT | 544+28 | R-I0-36 | 3X4 | | | I | 2 | | I | | | |
| I87 | I5-R | LT | 545+I4 | R-3IZ-30 | 2.5X2.5 | | | I | I | | I | | | |
| I87 | 27-SR,A | RT | 54I+72 | M-I-30-2 | 2.5X2.5 | | | | I | | | I | | |
| I87 | 27-SR,B | RT | 54I+72 | M-39-30 | 2.5XI.25 | | | | | | | I | | |
| I87 | 28-SR,A | RT | 54I+72 | M-2-30-2 | 2.5X2.5 | | | | I | | | I | | |
| I87 | 28-SR,B | RT | 54I+72 | M-37-30 | 2.5XI.25 | | | | | | | I | | |
| I87 | 29-SR | RT | 543+72 | R-I0-36 | 3X4 | | | | 2 | | | I | | |
| | | | | | | | | | | | | | | |
| I88 | 30-SR,A | LT | 548+II | D-4A-24 | IIX2 | I | | | | | 2 | | I | |
| I88 | 30-SR,B | LT | 548+II | D-4B-48 | IIX4 | I | | | | | | | I | |
| I88 | 3I-SR,A | LT | 548+II | M-26-24 | 2XI.5 | | | | | | | | I | |
| I88 | 3I-SR,B | LT | 548+II | M-2-30-2 | 2.5X2.5 | | | | | | | | I | |
| I88 | 3I-SR,C | LT | 548+II | M-I7-24 | 2XI | | | I | | | I | | | |
| I88 | 32-SR,A | LT | 548+II | M-I9-24 | 2.5XI.5 | | | | | | | | I | |
| I88 | 32-SR,B | LT | 548+II | M-I-30-2 | 2.5X2.5 | | | | | | | | I | |
| I88 | 32-SR,C | LT | 548+II | M-40-30 | 2.5XI.25 | | | | | | | | I | |
| I88 | I6-R | LT | 548+80 | X-6L-I2 | 3XI | | | I | I | | I | | | |
| I88 | 33-SR,A | RT | 548+I5 | M-2I-24 | 2.5XI.5 | | | | I | | | I | | |
| I88 | 33-SR,B | RT | 548+I5 | M-2-30-2 | 2.5X2.5 | | | | | | | I | | |
| I88 | 33-SR,C | RT | 548+I5 | M-37-30 | 2.5XI.25 | | | | | | | I | | |
| I88 | I7-R | RT | 548+80 | X-6R-I2 | 3XI | | | I | I | | I | | | |
| | | | | | | | | | | | | | | |
| I89 | I8-R | LT | 552+65 | X-6R-I2 | 3XI | | | I | I | | I | | | |
| I89 | I9-R | LT | 553+68 | W-47-48 | 4X4 | | | I | I | | I | | | |
| I89 | 20-R | RT | 55I+I3 | W-47-48 | 4X4 | | | I | I | | I | | | |
| I89 | 2I-R | RT | 552+65 | X-6L-I2 | 3XI | | | I | I | | I | | | |
| I89 | 22-R | RT | 553+I0 | X-2A | .5XI | | | I | I | | I | | | |
| **SUB-TOTALS THIS TABLE** | | | | | | 2 | 0 | I0 | I5 | 2 | I0 | 2I | 0 | 0 |
| **SUB-TOTALS TABLE LT.** | | | | | | 2 | 2 | I2 | 28 | I2 | I0 | 33 | 3 | I |
| **TOTALS CARRIED TO GENERAL SUMMARY** | | | | | | 4 | 2 | 22 | 43 | I4 | 20 | 54 | 3 | I |

COS-16-9.84
COS-36-20.06



07-26-96

C:\6IOSSI.DGN

| SHEET NO. | MARK | SIDE | STATION | SIGN REFERENCE NUMBER | SIZE (FT.XFT.) | ITEM 630 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION | REMOVAL OF POLE MOUNTED SIGN AND STORAGE | REMOVAL OF GROUND MOUNTED SIGN AND STORAGE | REMOVAL OF GROUND MOUNTED POST SUP-PORT AND DISPOSAL | REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL | PREPARATION AND SHIPMENT OF STORED SIGNS, FLAT SHEET | REMOVAL OF GROUND MOUNTED SIGN AND REERECTION | REMOVAL OF OVERHEAD MOUNTED SIGN AND STORAGE | REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL |
| | | | | | | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH |
| 190 | 23-R | LT | 1+25 | R-10-36 | 3X4 | | | 1 | 2 | | 1 | | | |
| 190 | 27-R,A | LT | 2+71 | M-1-30-2 | 2.5X2.5 | | | 1 | 1 | | 1 | | | |
| 190 | 27-R,B | LT | 2+71 | M-40-30 | 2.5X1.25 | | | 1 | | | 1 | | | |
| 190 | 28-R,A | LT | 2+71 | M-2-30-2 | 2.5X2.5 | | | 1 | 1 | | 1 | | | |
| 190 | 28-R,B | LT | 2+71 | M-38-30 | 2.5X1.25 | | | 1 | | | 1 | | | |
| 190 | 30-R | LT | POLE MOUNTED | M-52A-108 | 9X2.5 | | 1 | | | | 1 | | | |
| 190 | 31-R | LT | 1+14 | SPECIAL | 3X2 | | | 1 | 2 | | 1 | | | |
| 190 | 32-R | LT | 0+72 | R-4L-24 | 2X3 | | | 1 | 1 | | 1 | | | |
| 190 | 33-R | LT | 5+20 | R-31M-48 | 4X2.5 | | | 1 | 2 | | 1 | | | |
| 190 | 34-R | RT | 1+25 | R-10-36 | 3X4 | | | 1 | 2 | | 1 | | | |
| 190 | 35-R | RT | 2+47 | R-31A-36 | 3X2.5 | | | 1 | 1 | | 1 | | | |
| 190 | 36-R | RT | POLE MOUNTED | N-58A-72 | 6X1 | | 1 | | | | 1 | | | |
| 190 | 37-R | RT | 3+13 | N-58A-72 | 6X1 | | | 1 | 2 | | 1 | | | |
| 190 | 38-R,A | RT | 3+13 | N-15-18 | 1.5X1.5 | | | 1 | | | 1 | | | |
| 190 | 38-R,B | RT | 3+13 | N-18C-18 | 1.5X1.5 | | | 1 | | | 1 | | | |
| 190 | 39-R | RT | 3+50 | R-88-24 | 2X2.5 | | | 1 | 1 | | 1 | | | |
| 190 | 40-R | RT | 3+93 | R-4L-24 | 2X3 | | | 1 | 1 | | 1 | | | |
| 190 | 41-R,A | RT | 4+03 | M-24-24 | 2X1.5 | | | 1 | 1 | | 1 | | | |
| 190 | 41-R,B | RT | 4+03 | M-2-30-2 | 2.5X2.5 | | | 1 | | | 1 | | | |
| 190 | 42-R,A | RT | 4+07 | M-25-24 | 2X1.5 | | | 1 | 1 | | 1 | | | |
| 190 | 42-R,B | RT | 4+07 | M-1-30-2 | 2.5X2.5 | | | 1 | | | 1 | | | |
| 190 | 43-R,A | RT | 4+10 | IM-24-24 | 2X1.5 | | | 1 | 1 | | 1 | | | |
| 190 | 43-R,B | RT | 4+10 | IM-5-30-2 | 2.5X2.5 | | | 1 | | | 1 | | | |
| 190 | 43-R,C | RT | 4+10 | IM-8-30 | 2.5X1.25 | | | 1 | | | 1 | | | |
| 190 | 44-R | RT | 1+06 | M-6-18 | 1.5X1.5 | | | 1 | 1 | | 1 | | | |
| 190 | 45-R | RT | 0+07 | R-4L-24 | 2X3 | | | 1 | 1 | | 1 | | | |
| 190 | 46-R,A | RT | POLE MOUNTED | M-24-24 | 2X1.5 | | 1 | | | | 1 | | | |
| 190 | 46-R,B | RT | POLE MOUNTED | M-2-30-2 | 2.5X2.5 | | 1 | | | | 1 | | | |
| 190 | 34-SR | RT | 5+00 | R-10-36 | 3X4 | | | | 2 | | | 1 | | |
| 190 | 24-R | OVER | 2+65 | M-52B-MOD | 13X6.5 | | | | | | 1 | | 1 | |
| 190 | 25-R | OVER | 2+65 | M-52B-MOD | 13X6.5 | | | | | | 1 | | 1 | |
| 190 | 26-R,A | OVER | 2+65 | M-2-30-2 | 2.5X2.5 | | | | | | 1 | | 1 | |
| 190 | 26-R,B | OVER | 2+65 | M-37-30 | 2.5X1.25 | | | | | | 1 | | 1 | |
| 190 | 29-R | OVER | 2+65 | SIGN SUPPORT | | | | | | | | | | 1 |
| | | | | | | | | | | | | | | |
| 191 | 47-R | LT | 7+86 | R-31M-48 | 4X2.5 | | | 1 | 2 | | 1 | | | |
| 191 | 35-SR | LT | 10+80 | M-52A-108 | 9X2.5 | | | | | 2 | | 1 | | |
| 191 | 36-SR | RT | 7+00 | GM | 16X5 | 1 | | | | 2 | | | | |
| 191 | 48-R | MED | 8+30 | R-38R-36 | 3X4 | | | 1 | 2 | | 1 | | | |
| 191 | 37-SR | RT | 8+90 | R-31FF-48 | 4X2.5 | | | | 2 | | | 1 | | |
| 191 | 38-SR | RT | 9+70 | R-31FF-48 | 4X2.5 | | | | 2 | | | 1 | | |
| **SUB-TOTALS CARRIED TO THIS SHEET** | | | | | | 1 | 4 | 26 | 31 | 4 | 34 | 4 | 4 | 1 |

| SHEET NO. | MARK | SIDE | STATION | SIGN REFERENCE NUMBER | SIZE (FT.XFT.) | ITEM 630 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | REMOVAL OF GROUND MOUNTED MAJOR SIGN AND STORAGE | REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION | REMOVAL OF POLE MOUNTED SIGN AND REERECTION | REMOVAL OF GROUND MOUNTED SIGN AND STORAGE | REMOVAL OF GROUND MOUNTED POST SUP-PORT AND DISPOSAL | REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL | PREPARATION AND SHIPMENT OF STORED SIGNS, FLAT SHEET | REMOVAL OF GROUND MOUNTED SIGN AND REERECTION | REMOVAL OF OVERHEAD MOUNTED SIGN AND STORAGE | REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL |
| | | | | | | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH |
| 192 | 39-SR,A | LT | 12+00 | R-41A-36 | 3X2 | | | | | 1 | | | 1 | | |
| 192 | 39-SR,B | MED | 12+00 | R-41A-36 | 3X2 | | | | | 1 | | | 1 | | |
| 192 | 40-SR | LT | 12+95 | R-10-36 | 3X4 | | | | | 2 | | | 1 | | |
| 192 | 49-R,A | MED | 14+00 | W-54A-144 | 12X4 | 1 | | | | | 2 | 1 | | | |
| 192 | 49-R,B | LT | 14+00 | W-54A-144 | 12X4 | 1 | | | | | 2 | 1 | | | |
| 192 | 41-SR | RT | 13+84.2 | N-45-12 | 1X1 | FOR INFORMATIONAL PURPOSES ONLY | | | | | | | | | |
| 192 | 42-S,A | RT | 11+50 | M-1-30-2 | 2.5X2.5 | | | | | | | | 1 | | |
| 192 | 42-S,B | RT | 11+50 | M-39-30 | 2.5X1.25 | | | | | 1 | | | 1 | | |
| 192 | 43-S,A | RT | 11+50 | M-5-30-2 | 2.5X2.5 | | | | | | | | 1 | | |
| 192 | 43-S,B | RT | 11+50 | IM-8-30 | 2.5X1.25 | | | | | 2 | | | 1 | | |
| 192 | 44-SR | RT | 12+95 | R-10-36 | 3X4 | | | | | 2 | | | 1 | | |
| 192 | 45-SR | RT | 13+24 | GM-1-MOD | 14X2.5 | | 1 | | | | 2 | | | | |
| 192 | 46-SR | RT | 13+84.2 | N-45-12 | 1X1 | FOR INFORMATIONAL PURPOSES ONLY | | | | | | | | | |
| 192 | 47-SR | RT | 15+61 | R-31E-48 | 4X2.5 | FOR INFORMATIONAL PURPOSES ONLY | | | | | | | | | |
| 192 | 48-SR,A | RT | 15+61 | R-41A-36 | 3X2 | FOR INFORMATIONAL PURPOSES ONLY | | | | | | | | | |
| 192 | 48-SR,B | MED | 15+61 | R-41A-36 | 3X2 | FOR INFORMATIONAL PURPOSES ONLY | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | U.S.R. 36 | | | | | | | | | | | | |
| 193 | 50-R | LT | 138+30 | R-11B-24 | 2X2.5 | | | | 1 | 2 | | 1 | | | |
| 193 | 51-R,A | LT | 139+24 | M-40-24 | 2X1 | | | | 1 | 1 | | 1 | | | |
| 193 | 51-R,B | LT | 139+24 | M-1-24-2 | 2X2 | | | | 1 | | | 1 | | | |
| 193 | 49-SR | RT | 134+91 | X-2A | .5X1 | | | | | 1 | | | 1 | | |
| 193 | 50-SR | RT | 134+91 | D-4B-48 | 11X4 | | 1 | | | | 2 | | | | |
| 193 | 52-R,A | RT | 136+67 | N-29-24 | 2X2 | | | | 1 | 1 | | 1 | | | |
| 193 | 52-R,B | RT | 136+67 | N-15-24 | 2X.5 | | | | 1 | | | 1 | | | |
| | | | | | | | | | | | | | | | |
| | | | S.R. 83 | | | | | | | | | | | | |
| 194 | 53-R | LT | 3+37 | R-31B-36 | 3X2.5 | | | | 1 | 1 | | 1 | | | |
| 194 | 54-R,A | RT | 1+62 | M-2-24-2 | 2X2 | | | | 1 | 1 | | 1 | | | |
| 194 | 54-R,B | RT | 1+62 | M-37-24 | 2X1 | | | | 1 | | | 1 | | | |
| **SUB-TOTALS THIS TABLE** | | | | | | 2 | 2 | 0 | 8 | 16 | 8 | 10 | 9 | 0 | 0 |
| **SUB-TOTALS TABLE LT.** | | | | | | 0 | 1 | 4 | 26 | 31 | 4 | 34 | 4 | 4 | 1 |
| **TOTALS CARRIED TO GENERAL SUMMARY** | | | | | | 2 | 3 | 4 | 34 | 47 | 12 | 44 | 13 | 4 | 1 |

CALCULATED B.B. 06/07/95
CHECKED
ACCEPTED A.L.J. 10/17/94

# SIGN REMOVAL SUB-SUMMARY

COS-16-9.84
COS-36-20.06

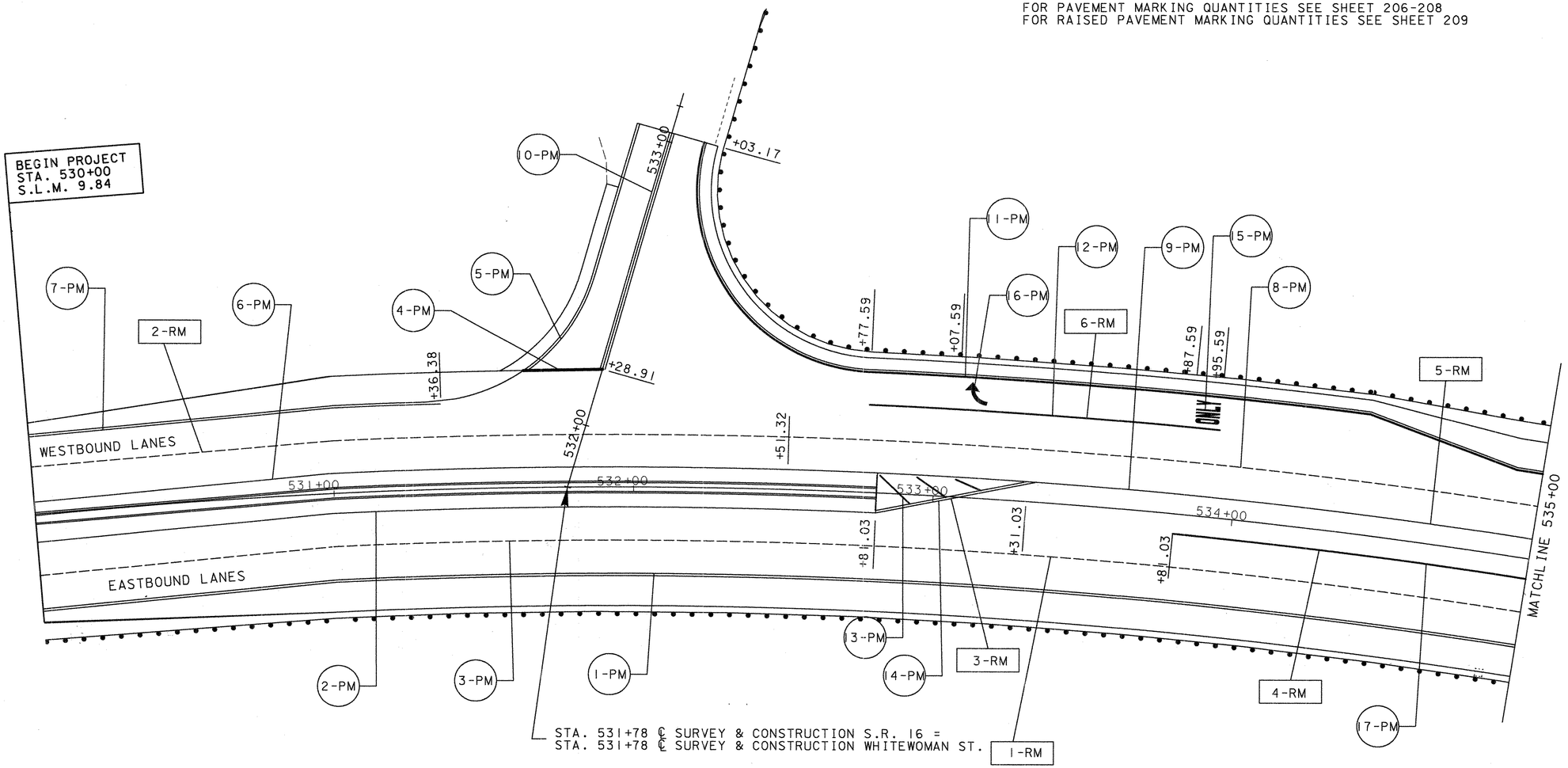


C1610SS2.DGN 07-26-96

FOR PAVEMENT MARKING QUANTITIES SEE SHEET 206-208
FOR RAISED PAVEMENT MARKING QUANTITIES SEE SHEET 209

BEGIN RESURFACING
EASTBOUND LANES
STA. 519+00

BEGIN PROJECT
STA. 530+00
S.L.M. 9.84




BEGIN RESURFACING
EASTBOUND LANES
STA. 498+80

C1610A65.DGN 7/30/96

0 20 40
HORIZONTAL SCALE IN FEET

CALCULATED A.L.J. 12-2-96
CHECKED R.F.B. 12-2-96

# PAVEMENT MARKING SHEET
# STA. 530+00 TO STA. 535+00

COS-16-9.84
COS-36-20.06

FOR PAVEMENT MARKING QUANTITIES SEE SHEET 206-208
FOR RAISED PAVEMENT MARKING QUANTITIES SEE SHEET 209

BEGIN PROJECT
STA. 135+10.19
S.L.M. 20.06

U.S.R. 36

135+00 136+00 137+00

+10.19 +60.19 +10.19

13-PM 16-PM 12-PM 6-RM 5-RM 9-PM

MATCHLINE STA. 138+00

℄ SURVEY AND CONSTRUCTION U.S.R. 36

MATCHLINE STA. 138+00

17-PM 18-PM +36.19 6-RM 5-RM 14-PM 15-PM +16.19 16-PM

139+00

ONLY ONLY

13-PM U.S.R. 36

℄ SURVEY AND CONSTRUCTION U.S.R. 36

9-PM +96.19 10-PM 11-PM 12-PM +26.19 8-PM +19.30

140+00

3-PM 4-PM 21-PM 19-PM 2-RM 3-RM

CITY OF COSHOCTON CORPORATION LIMIT

MATCHLINE STA. 535+00

WESTBOUND LANES

℄ SURVEY & CONSTRUCTION U.S.R. 16

EASTBOUND LANES

536+00 537+00 538+00 539+00 540+00

+95.03 +55.03 +35.03 +15.03 +40.03

1-RM 5-PM 6-PM 4-RM 7-PM 20-PM

1-PM 2-PM 22-PM

CITY OF COSHOCTON CORPORATION LIMIT

℄ SURVEY AND CONSTRUCTION S.R. 16

STA. 540+13.29 ℄ SURVEY & CONSTRUCTION S.R. 16 =
STA. 141+01.21 ℄ SURVEY & CONSTRUCTION U.S.R. 36 =
STA. 540+13.29 ℄ SURVEY & CONSTRUCTION U.S.R. 36
END S.R. 16 ℄, BEGIN U.S.R. 36 STA. 540+13.29

END PROJECT
STA. 540+13.29
S.L.M. 10.05

MATCHLINE STA. 540+50

℄ SURVEY AND CONSTRUCTION U.S.R. 36

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED A.L.L. 12-2-96
CHECKED B.F.B. 12-5-96

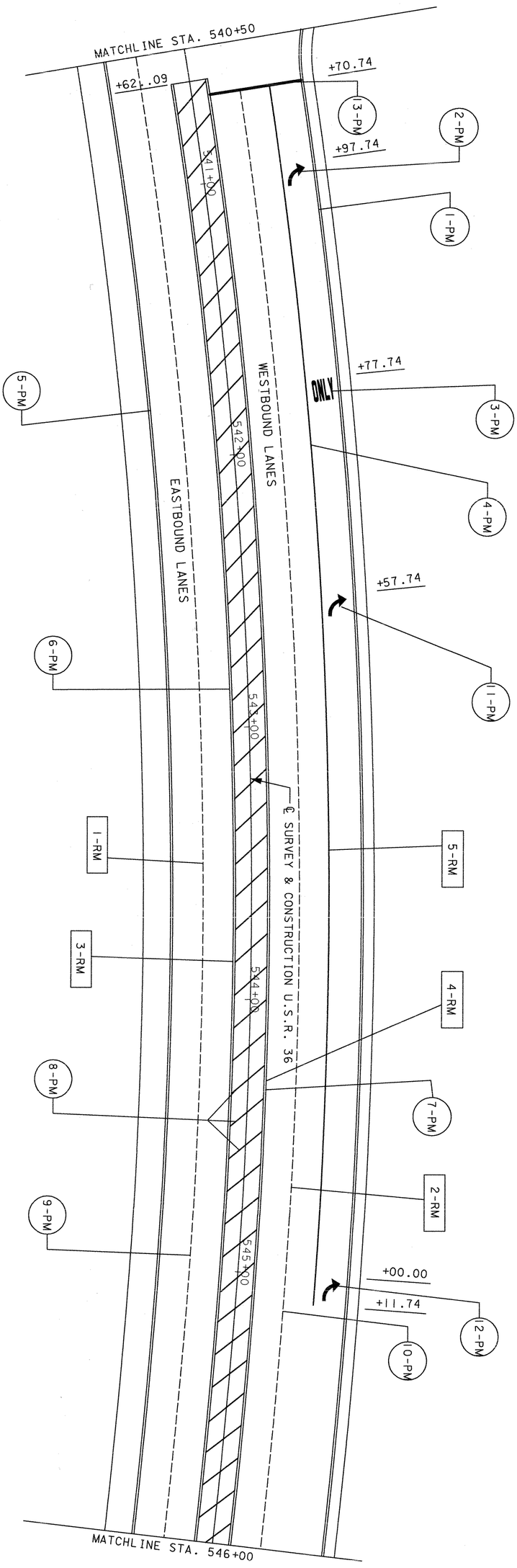
# PAVEMENT MARKING SHEET
# STA. 535+00 TO STA. 540+50

COS-16-9.84
COS-36-20.06

198
231

C1610B65.DGN 7/30/96

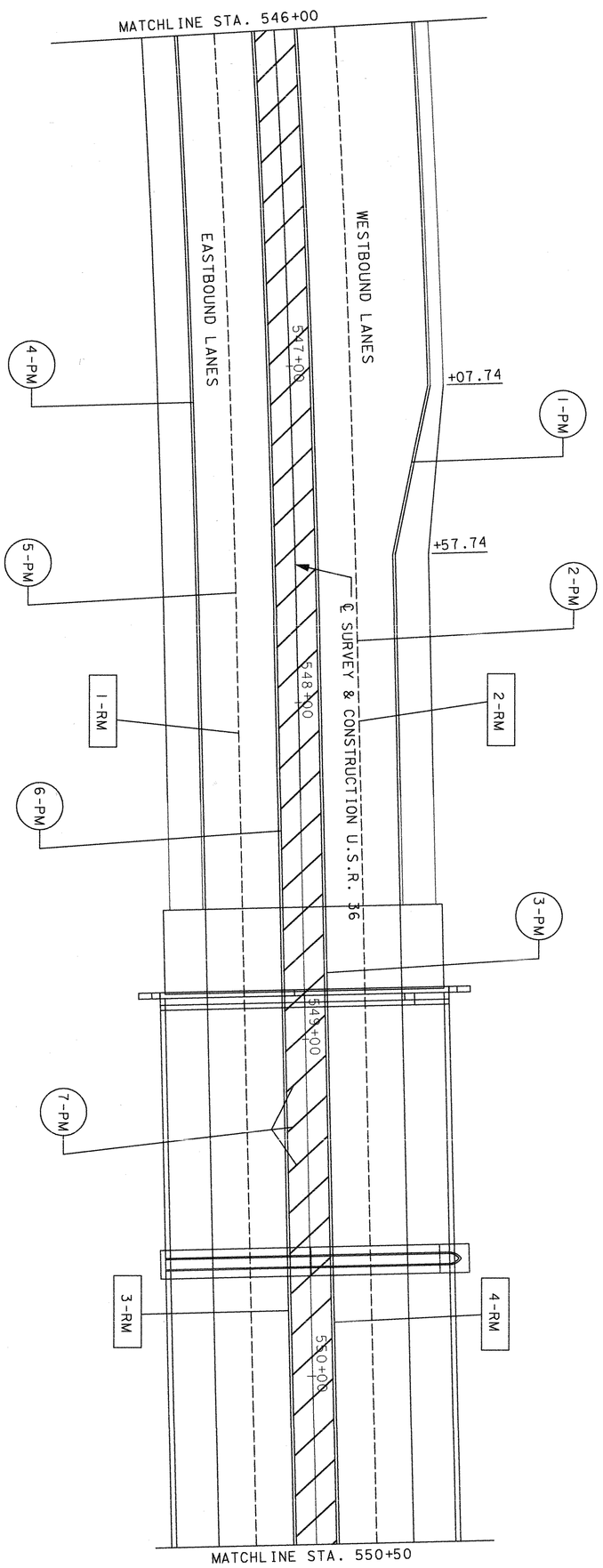
C16!0C65.DGN 7/30/96




FOR PAVEMENT MARKING QUANTITIES SEE SHEET 206-208
FOR RAISED PAVEMENT MARKING QUANTITIES SEE SHEET 209

| | | | | |
|---|---|---|---|---|
| 191 / 231 | COS-16-9.84<br>COS-36-20.06 | PAVEMENT MARKING SHEET<br>STA. 540+50 TO STA. 546+00 | CALCULATED A.L.L. 12-2-96<br>CHECKED B.F.B. 12-5-96 | 0 20 40<br>10<br>HORIZONTAL SCALE IN FEET |

C1610D65.DGN 7/30796




FOR PAVEMENT MARKING QUANTITIES SEE SHEET 206-208
FOR RAISED PAVEMENT MARKING QUANTITIES SEE SHEET 209

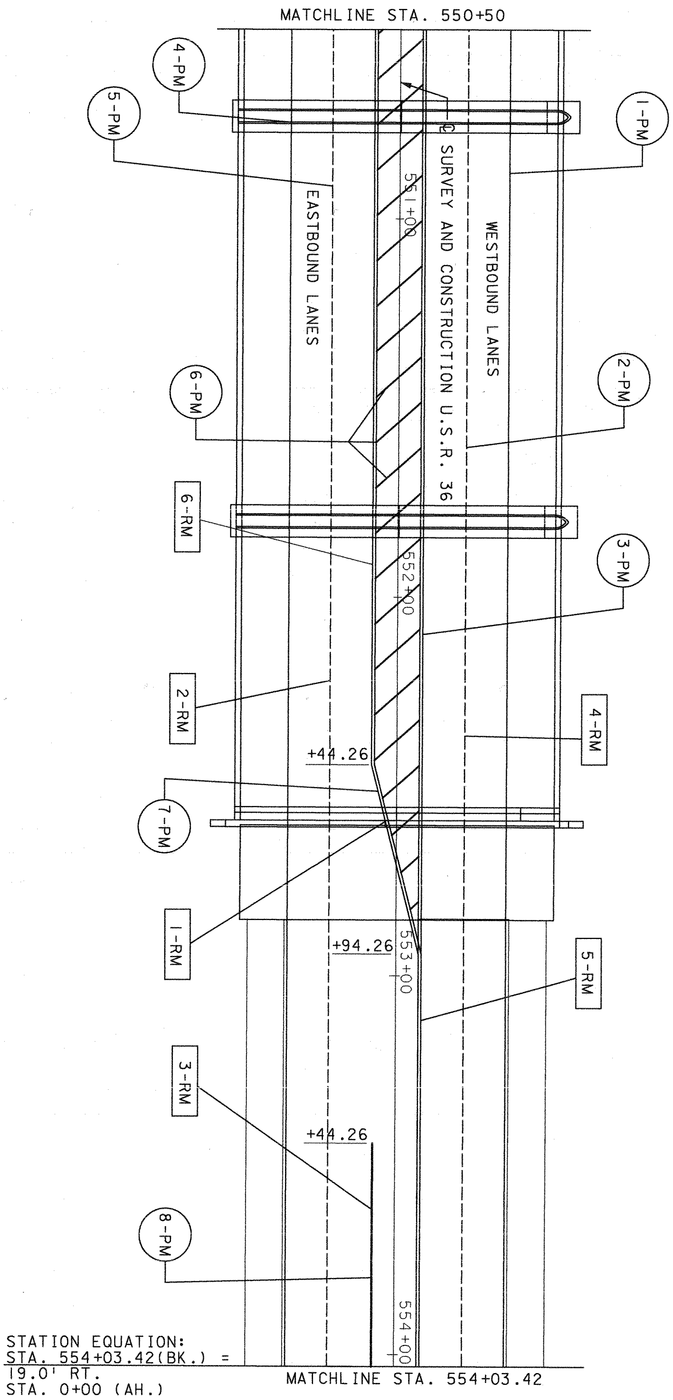
200
231

**COS-16-9.84**
**COS-36-20.06**

# PAVEMENT MARKING SHEET
## STA. 546+00 TO STA. 550+50

CALCULATED A.L.L. 12-2-96
CHECKED B.F.B. 12-5-96

0 10 20 40
HORIZONTAL SCALE IN FEET

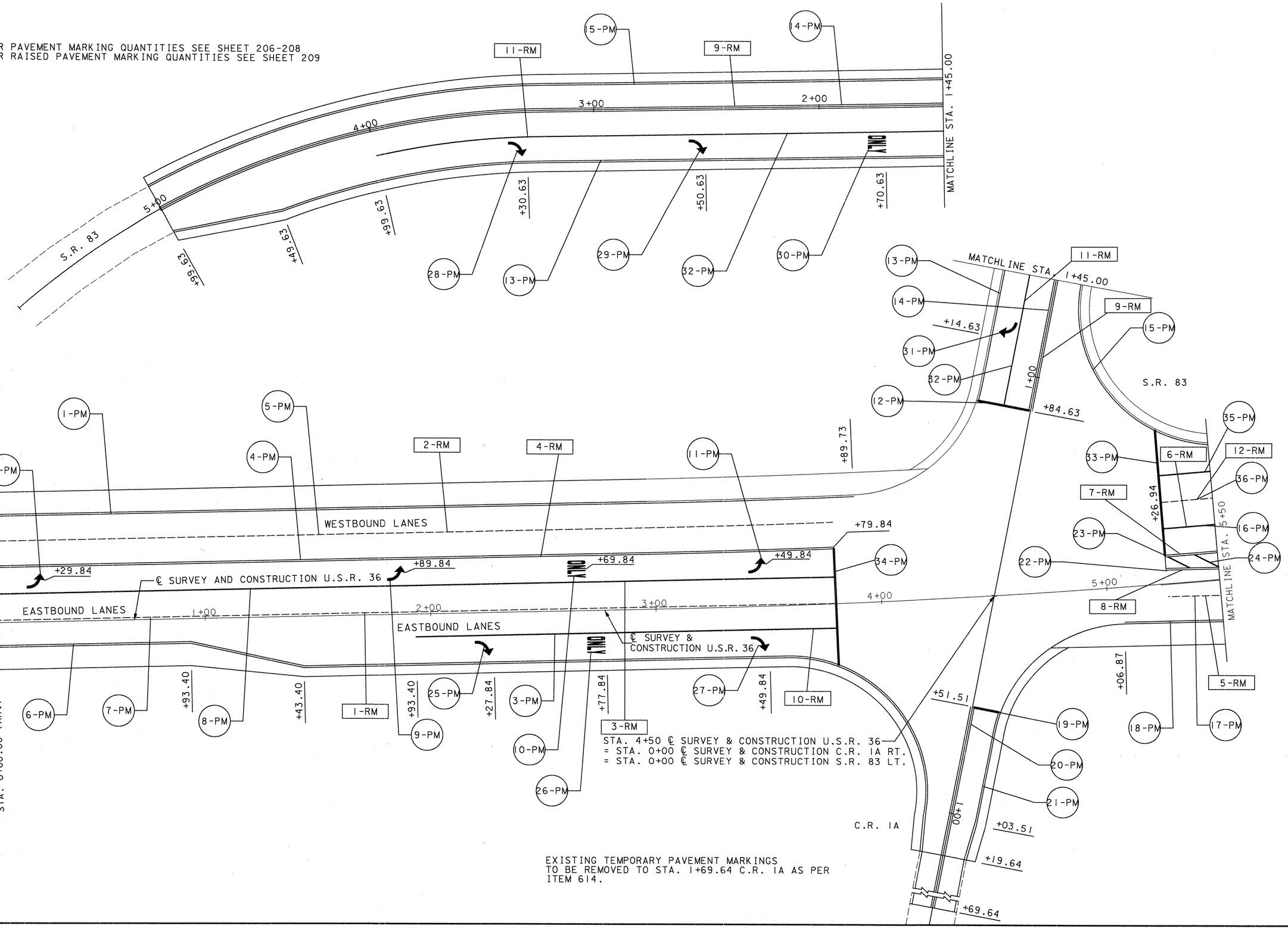



STATION EQUATION:
STA. 554+03.42(BK.) =
19.0' RT.
STA. 0+00 (AH.)

FOR PAVEMENT MARKING QUANTITIES SEE SHEET 206-208
FOR RAISED PAVEMENT MARKING QUANTITIES SEE SHEET 209

| | | | | |
|---|---|---|---|---|
| 201/231 | COS-16-9.84<br>COS-36-20.06 | PAVEMENT MARKING SHEET<br>STA. 550+50 TO STA. 0+00 | CALCULATED A.L.L. 12-2-96<br>CHECKED B.F.B. 12-5-96 | 0 20<br>10 40<br>HORIZONTAL SCALE IN FEET |

FOR PAVEMENT MARKING QUANTITIES SEE SHEET 206-208
FOR RAISED PAVEMENT MARKING QUANTITIES SEE SHEET 209




EXISTING TEMPORARY PAVEMENT MARKINGS
TO BE REMOVED TO STA. 1+69.64 C.R. IA AS PER
ITEM 614.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED A.L.L. 12-2-96
DESIGNED B.F.B. 12-5-96

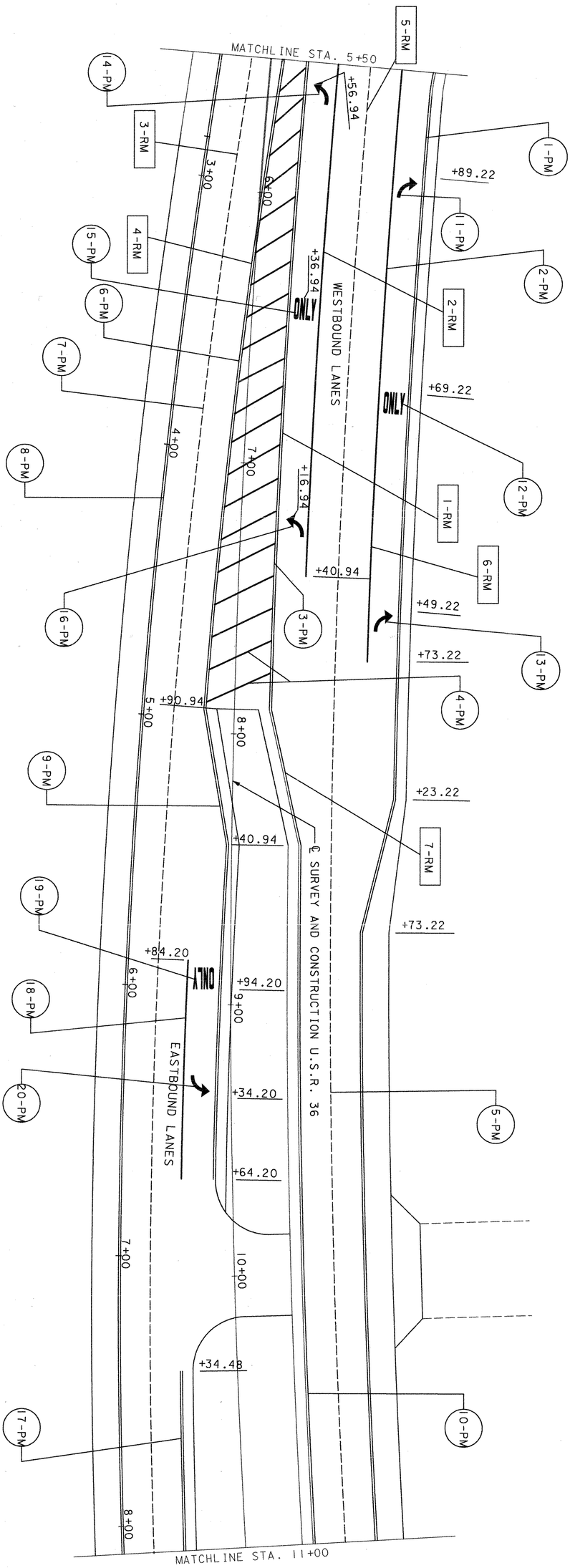
# PAVEMENT MARKING SHEET
## STA. 554+03.42 B = 0+00 A TO STA. 5+50

COS-16-9.84
COS-36-20.06



C1610F65.DGN 7/30/96

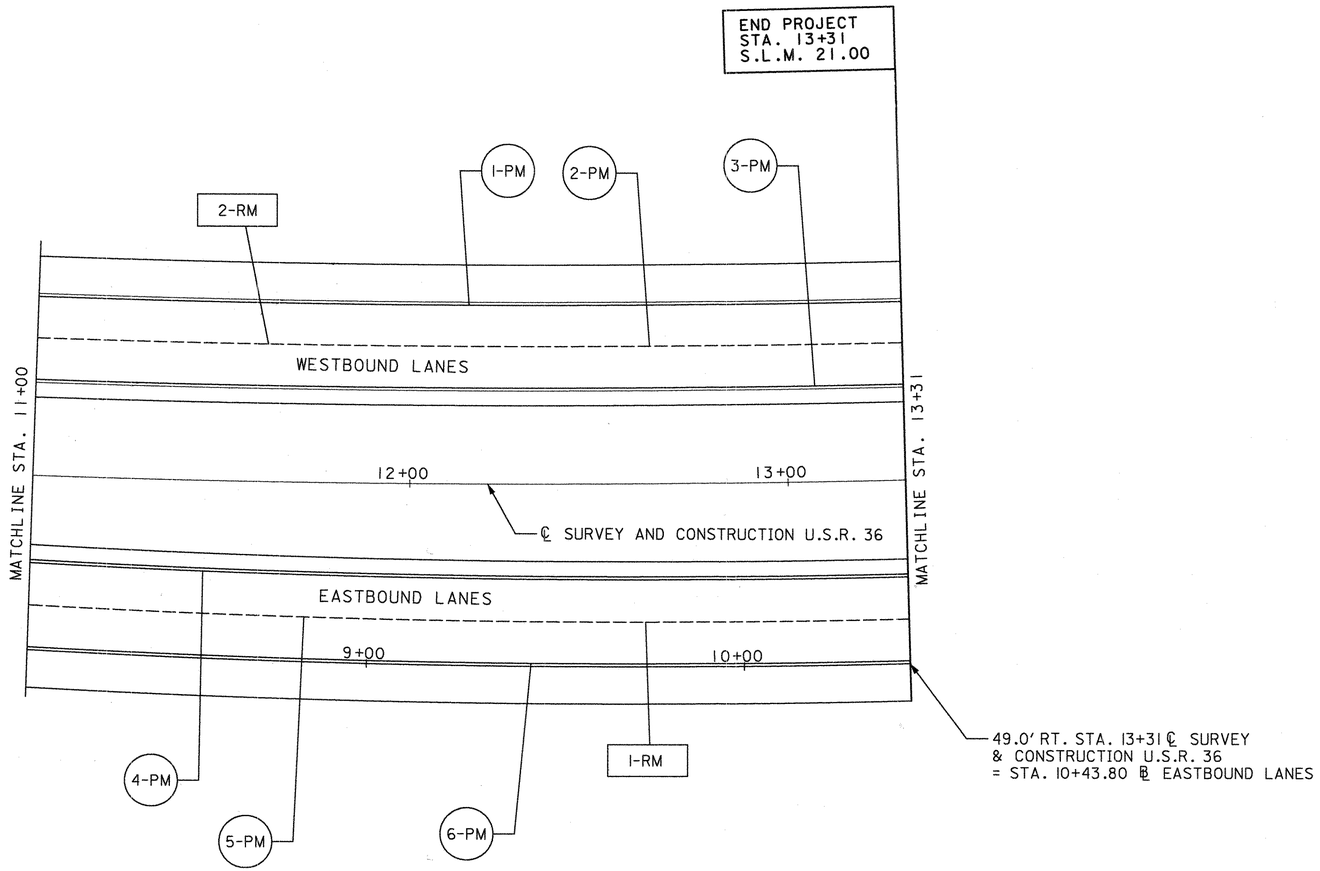
C1610G65.DGN 7/30/96




FOR PAVEMENT MARKING QUANTITIES SEE SHEET 206-208
FOR RAISED PAVEMENT MARKING QUANTITIES SEE SHEET 209

| | | | |
|---|---|---|---|
| 203 231 | COS-16-9.84<br>COS-36-20.06 | PAVEMENT MARKING SHEET<br>STA. 5+50 TO STA. 11+00 | CALCULATED A.L.L. 12-2-96<br>CHECKED B.F.B. 12-5-96<br>0 20<br>10 40<br>HORIZONTAL SCALE IN FEET |

FOR PAVEMENT MARKING QUANTITIES SEE SHEET 206-208
FOR RAISED PAVEMENT MARKING QUANTITIES SEE SHEET 209



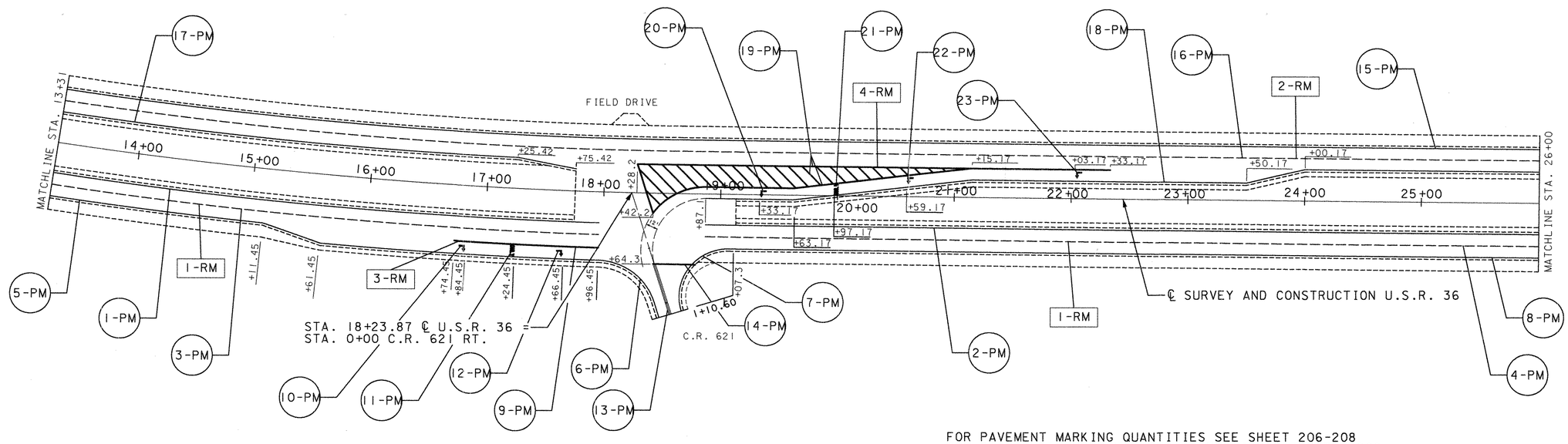

C161OH65.DGN 7/30/96

0 10 20 40
HORIZONTAL SCALE IN FEET

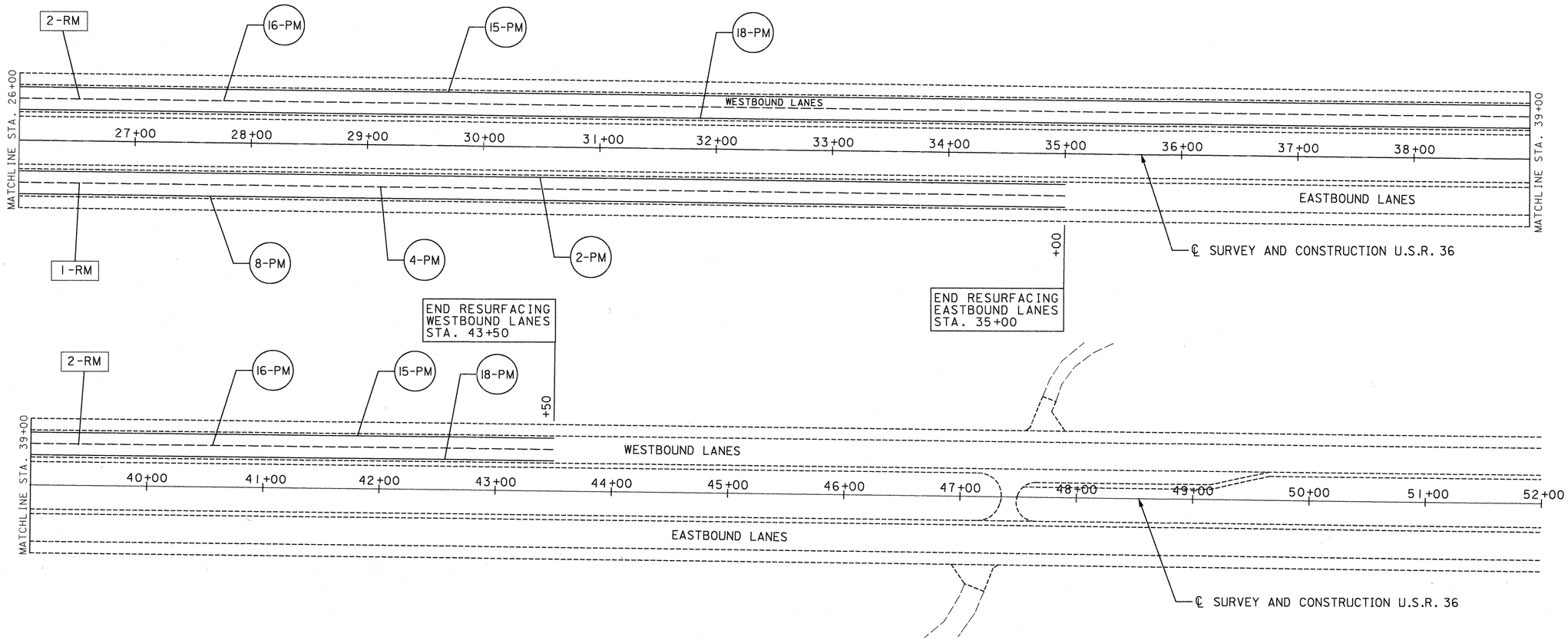
CALCULATED A.L.L. 02-5-96
CHECKED B.F.B. 02-5-96

# PAVEMENT MARKING SHEET STA. 11+00 TO STA. 13+31

COS-16-9.84
COS-36-20.06




FOR PAVEMENT MARKING QUANTITIES SEE SHEET 206-208
FOR RAISED PAVEMENT MARKING QUANTITIES SEE SHEET 209




HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED A.L.-L. 12-5-96
CHECKED B.F.B. 12-5-96

# PAVEMENT MARKING SHEET STA. 13+31 TO STA. 43+50

COS-16-9.84
COS-36-20.06

205
231

C16I0165.DGN 7/30/96

WW ST. = WHITEWOMAN STREET

| SHEET | MARK | STATION TO STATION ℄ SURVEY & CONST. U.S.R.36 | | LANE | SPECIAL EDGE LINE (WHITE) MILE | SPECIAL EDGE LINE (YELLOW) MILE | SPECIAL LANE LINE MILE | SPECIAL CENTER LINE (DOUBLE YELLOW) MILE | SPECIAL CHANNELIZING LINE LIN. FT. | SPECIAL STOP LINE 24" LIN. FT. | SPECIAL TRANSVERSE LINE (YELLOW) LIN. FT. | | SPECIAL LANE ARROW (TURN) EACH | SPECIAL WORD ON PAVEMENT, 96 IN. "ONLY" EACH | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 197 | 1-PM | 498+80 | 535+00 | EB | .686 | | | | | | | | | | | | |
| 197 | 2-PM | 498+80 | 532+81.03 | EB | | .644 | | | | | | | | | | | |
| 197 | 3-PM | 498+80 | 535+00 | EB | | | .686 | | | | | | | | | | |
| 197 | 4-PM | 532+28.91 WW ST. | | WW ST. | | | | | | 27 | | | | | | | |
| 197 | 5-PM | 532+28.91 WW ST. | 533+03.17 WW ST. | WW ST. | .018 | | | | | | | | | | | | |
| 197 | 6-PM | 519+00 | 532+81.03 | WB | | .262 | | | | | | | | | | | |
| 197 | 7-PM | 519+00 | 531+36.38 | WB | .234 | | | | | | | | | | | | |
| 197 | 8-PM | 519+00 | 535+00 | EB/WB | | | .303 | | | | | | | | | | |
| 197 | 9-PM | 532+81.03 | 535+00 | WB | | | | .042 | | | | | | | | | |
| 197 | 10-PM | 532+28.91 WW ST. | 533+03.17 WW ST. | WW ST. | | | | .014 | | | | | | | | | |
| 197 | 11-PM | 533+03.17 WW ST. | 535+00 | WB | .064 | | | | | | | | | | | | |
| 197 | 12-PM | 532+77.59 | 533+95.59 | WB | | | | | 118 | | | | | | | | |
| 197 | 13-PM | 532+81.03 | 533+31.03 | EB | | | | | | | 35 | | | | | | |
| 197 | 14-PM | 532+81.03 | 533+31.03 | EB | | | | .010 | | | | | | | | | |
| 197 | 15-PM | 533+87.59 | | WB | | | | | | | | | | 1 | | | |
| 197 | 16-PM | 533+07.59 | | WB | | | | | | | | | 1 | | | | |
| 197 | 17-PM | 533+81.03 | 535+00 | EB | | | | | 119 | | | | | | | | |
| 198 | 1-PM | 535+00 | 540+50 | EB | .105 | | | | | | | | | | | | |
| 198 | 2-PM | 535+00 | 539+40.03 | EB | | | | | 445 | | | | | | | | |
| 198 | 3-PM | 535+00 | 539+19.30 | WB | .079 | | | | | | | | | | | | |
| 198 | 4-PM | 535+00 | 539+40.03 | WB | | | | .084 | | | | | | | | | |
| 198 | 5-PM | 537+55.03 | | EB | | | | | | | | | 1 | | | | |
| 198 | 6-PM | 538+35.03 | | EB | | | | | | | | | | 1 | | | |
| 198 | 7-PM | 539+15.03 | | EB | | | | | | | | | 1 | | | | |
| 198 | 8-PM | 140+26.19 | | SB | | | | | | 30 | | | | | | | |
| 198 | 9-PM | 135+10.19 | 140+26.19 | SB | .098 | | | | | | | | | | | | |
| 198 | 10-PM | 139+96.19 | | SB | | | | | | | | | 1 | | | | |
| 198 | 11-PM | 139+96.19 | | SB | | | | | | | | | 1 | | | | |
| 198 | 12-PM | 135+10.19 | 540+50 | NB | .107 | | | | | | | | | | | | |
| 198 | 13-PM | 136+10.19 | 140+26.19 | SB | | | | | 416 | | | | | | | | |
| 198 | 14-PM | 139+16.19 | | SB | | | | | | | | | | 1 | | | |
| 198 | 15-PM | 139+16.19 | | SB | | | | | | | | | | 1 | | | |
| 198 | 16-PM | 135+10.19 | 140+26.19 | NB/SB | | | | .098 | | | | | | | | | |
| 198 | 17-PM | 138+36.19 | | SB | | | | | | | | | 1 | | | | |
| 198 | 18-PM | 138+36.19 | | SB | | | | | | | | | 1 | | | | |
| 198 | 19-PM | 535+95.03 | | EB | | | | | | | | | 1 | | | | |
| 198 | 20-PM | 539+40.03 | | EB | | | | | | 36 | | | | | | | |
| 198 | 21-PM | 535+00 | 539+19.30 | WB | | | .080 | | | | | | | | | | |
| 198 | 22-PM | 535+00 | 540+50 | EB | | | .105 | | | | | | | | | | |
| 199 | 1-PM | 540+50 | 546+00 | WB | .105 | | | | | | | | | | | | |
| 199 | 2-PM | 540+97.74 | | WB | | | | | | | | | 1 | | | | |
| 199 | 3-PM | 541+77.74 | | WB | | | | | | | | | | 1 | | | |
| 199 | 4-PM | 540+70.74 | 545+11.74 | WB | | | | | 441 | | | | | | | | |
| 199 | 5-PM | 540+50 | 546+00 | EB | .105 | | | | | | | | | | | | |
| 199 | 6-PM | 540+62.09 | 546+00 | EB | | | | .102 | | | | | | | | | |
| 199 | 7-PM | 540+62.09 | 546+00 | WB | | | | .102 | | | | | | | | | |
| 199 | 8-PM | 540+62.09 | 546+00 | EB/WB | | | | | | | 732 | | | | | | |
| 199 | 9-PM | 540+50 | 546+00 | EB | | | .105 | | | | | | | | | | |
| 199 | 10-PM | 540+70.74 | 546+00 | WB | | | .100 | | | | | | | | | | |
| 199 | 11-PM | 542+57.74 | | WB | | | | | | | | | | 1 | | | |
| 199 | 12-PM | 545+00 | | WB | | | | | | | | | 1 | | | | |
| 199 | 13-PM | 540+70.74 | | WB | | | | | | 36 | | | | | | | |
| 200 | 1-PM | 546+00 | 550+50 | WB | .086 | | | | | | | | | | | | |
| 200 | 2-PM | 546+00 | 550+50 | WB | | | .086 | | | | | | | | | | |
| 200 | 3-PM | 546+00 | 550+50 | WB | | | | .086 | | | | | | | | | |
| 200 | 4-PM | 546+00 | 550+50 | EB | .086 | | | | | | | | | | | | |
| 200 | 5-PM | 546+00 | 550+50 | EB | | | .086 | | | | | | | | | | |
| 200 | 6-PM | 546+00 | 550+50 | EB | | | | .086 | | | | | | | | | |
| 200 | 7-PM | 546+00 | 550+50 | EB/WB | | | | | | | 592 | | | | | | |
| | | | TOTALS | | 1.773 | 0.906 | | | | - | | | | | | | |
| | | | | | 2.679 | | 1.551 | 0.624 | 1539 | 129 | 1359 | | 10 | 6 | | | |

TOTALS CARRIED TO SHEET 208.

C1609165.DGN 8/07/96

CALCULATED D.M. 3/11/96 CHECKED J.L. 3/25/96

# PAVEMENT MARKING QUANTITIES

COS-16-9.84
COS-36-20.06

STA. EQUATION - STA. 554+03.42 (BACK) =
STA. 0+00.00 (AHEAD)

| SHEET | MARK | STATION TO STATION ℄ SURVEY & CONST. U.S.R.36 | | LANE | SPECIAL EDGE LINE (WHITE) MILE | SPECIAL EDGE LINE (YELLOW) MILE | SPECIAL LANE LINE MILE | SPECIAL CENTER LINE (DOUBLE YELLOW) MILE | SPECIAL CHANNELIZING LINE LIN. FT. | SPECIAL STOP LINE 24" LIN. FT. | SPECIAL TRANSVERSE LINE (YELLOW) LIN. FT. | | SPECIAL LANE ARROW (TURN) EACH | SPECIAL WORD ON PAVEMENT, 96 IN. "ONLY" EACH | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 1-PM | 550+50 | 554+03.42 (BK) | WB | .067 | | | | | | | | | | | | |
| 201 | 2-PM | 550+50 | 554+03.42 (BK) | WB | | | .067 | | | | | | | | | | |
| 201 | 3-PM | 550+50 | 554+03.42 (BK) | WB | | | | .067 | | | | | | | | | |
| 201 | 4-PM | 550+50 | 554+03.42 (BK) | EB | .067 | | | | | | | | | | | | |
| 201 | 5-PM | 550+50 | 554+03.42 (BK) | EB | | | .067 | | | | | | | | | | |
| 201 | 6-PM | 550+50 | 552+94.26 | EB/WB | | | | | | | 288 | | | | | | |
| 201 | 7-PM | 552+44.26 | 552+94.26 | EB | | | | .046 | | | | | | | | | |
| 201 | 8-PM | 553+44.26 | 554+03.42 (BK) | EB | | | | | 59 | | | | | | | | |
| 202 | 1-PM | 0+00 (AH) | 3+89.73 | WB | .074 | | | | | | | | | | | | |
| 202 | 2-PM | 0+29.84 | | EB | | | | | | | | | 1 | | | | |
| 202 | 3-PM | 1+93.40 | 3+79.84 | EB | | | | | 187 | | | | | | | | |
| 202 | 4-PM | 0+00 (AH) | 3+79.84 | WB | | | | .072 | | | | | | | | | |
| 202 | 5-PM | 0+00 (AH) | 3+79.84 | WB | | | .072 | | | | | | | | | | |
| 202 | 6-PM | 0+00 (AH) | 1+69.64 CR 1A | EB | .100 | | | | | | | | | | | | |
| 202 | 7-PM | 0+00 (AH) | 3+79.84 | EB | | | .072 | | | | | | | | | | |
| 202 | 8-PM | 0+00 (AH) | 3+79.84 | EB | | | | | 380 | | | | | | | | |
| 202 | 9-PM | 1+89.84 | | EB | | | | | | | | | 1 | | | | |
| 202 | 10-PM | 2+69.84 | | EB | | | | | | | | | | 1 | | | |
| 202 | 11-PM | 3+49.84 | | EB | | | | | | | | | 1 | | | | |
| 202 | 12-PM | 0+84.63 | | SR 83 | | | | | | 24 | | | | | | | |
| 202 | 13-PM | 0+84.63 | 4+99.63 | SR 83 | .079 | | | | | | | | | | | | |
| 202 | 14-PM | 0+84.63 | 4+99.63 | SR 83 | | | | .079 | | | | | | | | | |
| 202 | 15-PM | 5+50 U.S.R. 36 | 4+99.63 SR 83 | SR 83 | .087 | | | | | | | | | | | | |
| 202 | 16-PM | 5+26.94 | 5+50 | WB | | | | | 23 | | | | | | | | |
| 202 | 17-PM | 5+26.94 | 5+50 | EB | | | .005 | | | | | | | | | | |
| 202 | 18-PM | 5+06.87 | 5+50 | EB | .008 | | | | | | | | | | | | |
| 202 | 19-PM | 0+51.51 CR 1A | | CR 1A | | | | | | 12 | | | | | | | |
| 202 | 20-PM | 0+51.51 CR 1A | 1+69.64 CR 1A | CR 1A | | | | .022 | | | | | | | | | |
| 202 | 21-PM | 0+51.51 CR 1A | 1+69.64 CR 1A | CR 1A | .022 | | | | | | | | | | | | |
| 202 | 22-PM | 5+26.94 | 5+50 | EB | | | | .005 | | | | | | | | | |
| 202 | 23-PM | 5+26.94 | 5+50 | WB | | | | .005 | | | | | | | | | |
| 202 | 24-PM | 5+26.94 | 5+50 | EB/WB | | | | | | | 30 | | | | | | |
| 202 | 25-PM | 2+27.84 | | EB | | | | | | | | | 1 | | | | |
| 202 | 26-PM | 2+77.84 | | EB | | | | | | | | | | 1 | | | |
| 202 | 27-PM | 2+49.84 | | EB | | | | | | | | | 1 | | | | |
| 202 | 28-PM | 3+30.63 | | SR 83 | | | | | | | | | 1 | | | | |
| 202 | 29-PM | 2+50.63 | | SR 83 | | | | | | | | | 1 | | | | |
| 202 | 30-PM | 1+70.63 | | SR 83 | | | | | | | | | | 1 | | | |
| 202 | 31-PM | 1+14.63 | | SR 83 | | | | | | | | | 1 | | | | |
| 202 | 32-PM | 0+84.63 | 3+99.63 | SR 83 | | | | | 315 | | | | | | | | |
| 202 | 33-PM | 5+26.94 | | WB | | | | | | 56 | | | | | | | |
| 202 | 34-PM | 3+79.84 | | EB | | | | | | 53 | | | | | | | |
| 202 | 35-PM | 5+26.94 | 5+50 | WB | | | | | 23 | | | | | | | | |
| 202 | 36-PM | 5+26.94 | 5+50 | WB | | | .005 | | | | | | | | | | |
| 203 | 1-PM | 5+50 | 11+00 | WB | .105 | | | | | | | | | | | | |
| 203 | 2-PM | 5+50 | 7+73.22 | WB | | | | | 223 | | | | | | | | |
| 203 | 3-PM | 5+50 | 7+90.94 | WB | | | | .046 | | | | | | | | | |
| 203 | 4-PM | 5+50 | 7+90.94 | WB/EB | | | | | | | 397 | | | | | | |
| 203 | 5-PM | 5+50 | 11+00 | WB | | | .105 | | | | | | | | | | |
| 203 | 6-PM | 5+50 | 7+90.94 | EB | | | | .046 | | | | | | | | | |
| 203 | 7-PM | 5+50 | 11+00 | EB | | | .105 | | | | | | | | | | |
| 203 | 8-PM | 5+50 | 11+00 | EB | .105 | | | | | | | | | | | | |
| 203 | 9-PM | 7+90.94 | 9+64.20 | EB | | .033 | | | | | | | | | | | |
| 203 | 10-PM | 7+90.94 | 11+00 | WB | | .059 | | | | | | | | | | | |
| 203 | 11-PM | 5+89.22 | | WB | | | | | | | | | 1 | | | | |
| 203 | 12-PM | 6+69.22 | | WB | | | | | | | | | | 1 | | | |
| 203 | 13-PM | 7+49.22 | | WB | | | | | | | | | 1 | | | | |
| 203 | 14-PM | 5+56.94 | | WB | | | | | | | | | 1 | | | | |
| 203 | 15-PM | 6+36.94 | | WB | | | | | | | | | | 1 | | | |
| 203 | 16-PM | 7+16.94 | | WB | | | | | | | | | 1 | | | | |
| 203 | 17-PM | 10+34.48 | 11+00 | EB | | .013 | | | | | | | | | | | |
| 203 | 18-PM | 8+84.20 | 9+64.20 | EB | | | | | 80 | | | | | | | | |
| 203 | 19-PM | 8+94.20 | | EB | | | | | | | | | | 1 | | | |
| 203 | 20-PM | 9+34.20 | | EB | | | | | | | | | 1 | | | | |
| 204 | 1-PM | 11+00 | 13+31 | WB | .044 | | | | | | | | | | | | |
| 204 | 2-PM | 11+00 | 13+31 | WB | | | .044 | | | | | | | | | | |
| 204 | 3-PM | 11+00 | 13+31 | WB | | .044 | | | | | | | | | | | |
| 204 | 4-PM | 11+00 | 13+31 | EB | | .044 | | | | | | | | | | | |
| 204 | 5-PM | 11+00 | 13+31 | EB | | | .044 | | | | | | | | | | |
| 204 | 6-PM | 11+00 | 13+31 | EB | .044 | | | | | | | | | | | | |
| | | | | | 0.802 | 0.193 | | | | | | | | | | | |
| | SUB-TOTALS THIS SHEET | | | | 0.995 | | 0.586 | 0.388 | 1210 | 145 | 715 | | 13 | 6 | | | |

TOTALS CARRIED TO SHEET 208.

CALCULATED D.M. 3/07/96
CHECKED A.L. 3/25/96

PAVEMENT MARKING QUANTITIES

COS-16-9.84
COS-36-20.06

207
231

C1609265.DGN 7/31/96

STA. EQUATION - STA. 554+03.42 (BACK) =
STA. 0+00.00 (AHEAD)

| SHEET | MARK | STATION TO STATION ℄ SURVEY & CONST. U.S.R.36 | | LANE | SPECIAL EDGE LINE (WHITE) MILE | SPECIAL EDGE LINE (YELLOW) MILE | SPECIAL LANE LINE MILE | SPECIAL CENTER LINE (DOUBLE YELLOW) MILE | SPECIAL CHANNELIZING LINE LIN. FT. | SPECIAL STOP LINE 24" LIN. FT. | SPECIAL TRANSVERSE LINE (YELLOW) LIN. FT. | | SPECIAL LANE ARROW (TURN) EACH | SPECIAL WORD ON PAVEMENT, 96 IN. "ONLY" EACH | SPECIAL DOTTED LINE, 4 IN. (WHITE) EACH | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 498+80 | 530+00 | EB | .605 | .591 | .619 | | 475 | | 250 | | | | | | |
| | | 519+00 | 530+00 | WB | .208 | .208 | .208 | | | | | | | | | | |
| 205 | 1-PM | 13+31 | 17+96.5 | EB | | .088 | | | | | | | | | | | |
| 205 | 2-PM | 18+87.1 | 35+00 | EB | | .306 | | | | | | | | | | | |
| 205 | 3-PM | 13+31 | 17+96.5 | EB | | | .088 | | | | | | | | | | |
| 205 | 4-PM | 18+87.1 | 35+00 | EB | | | .306 | | | | | | | | | | |
| 205 | 5-PM | 13+31 | 17+96.5 | EB | .088 | | | | | | | | | | | | |
| 205 | 6-PM | 17+96.5 | 1+11 C.R. 621 | EB | .014 | | | | | | | | | | | | |
| 205 | 7-PM | 1+11 C.R. 621 | 19+07.3 | EB | .014 | | | | | | | | | | | | |
| 205 | 8-PM | 19+07.3 | 35+00 | EB | .302 | | | | | | | | | | | | |
| 205 | 9-PM | 16+74.5 | 17+96.5 | EB | | | | | 122 | | | | | | | | |
| 205 | 10-PM | 16+84.5 | | EB | | | | | | | | | 1 | | | | |
| 205 | 11-PM | 17+24.5 | | EB | | | | | | | | | | 1 | | | |
| 205 | 12-PM | 17+66.5 | | EB | | | | | | | | | 1 | | | | |
| 205 | 13-PM | 0+64.3 | 1+10.6 | EB | | | | .009 | | | | | | | | | |
| 205 | 14-PM | 0+64.3 | | EB | | | | | | 35 | | | | | | | |
| 205 | 15-PM | 13+31 | 43+50 | WB | .572 | | | | | | | | | | | | |
| 205 | 16-PM | 13+31 | 43+50 | WB | | | .572 | | | | | | | | | | |
| 205 | 17-PM | 13+31 | 17+25.4 | WB | | .075 | | | | | | | | | | | |
| 205 | 18-PM | 18+87.1 | 43+50 | WB | | .467 | | | | | | | | | | | |
| 205 | 19-PM | 18+28.2 | 22+33.2 | WB | | | | | 731 | | 508 | | | | | | |
| 205 | 20-PM | 19+33.2 | | WB | | | | | | | | | 1 | | | | |
| 205 | 21-PM | 19+97.2 | | WB | | | | | | | | | | 1 | | | |
| 205 | 22-PM | 20+59.2 | | WB | | | | | | | | | 1 | | | | |
| 205 | 23-PM | 22+03.2 | | WB | | | | | | | | | 1 | | | | |
| 205 | 24-PM | 0+63.4 | 18+87.1 | WB | | | | | | | | | | | | | |
| | | | | | 1.803 | 1.735 | | | | | | | | | | | |
| | SUB-TOTALS THIS SHEET | | | | 3.538 | | 1.793 | 0.009 | 1328 | 35 | 758 | | 5 | 2 | 128 | | |
| | SUB-TOTALS FROM SHEET 206 | | | | 2.679 | | 1.551 | 0.624 | 1539 | 129 | 1359 | | 10 | 6 | | | |
| | SUB-TOTALS FROM SHEET 207 | | | | 0.995 | | 0.586 | 0.388 | 1210 | 145 | 715 | | 13 | 6 | | | |
| | TOTALS | | | | 7.212 | | 3.930 | 1.021 | 4077 | 309 | 2832 | | 28 | 14 | 128 | | |

TOTALS CARRIED TO GENERAL SUMMARY.

CALCULATED D.M. 3/11/96
CHECKED A.L. 3/25/96

# PAVEMENT MARKING QUANTITIES

COS-16-9.84
COS-36-20.06

208
231

C1609365.DGN 7/31/96

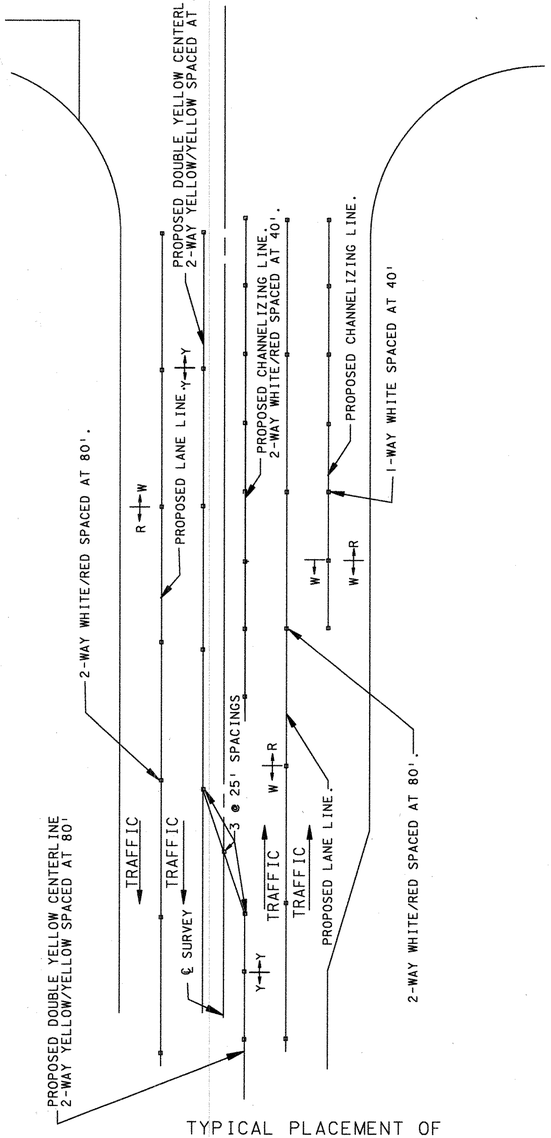
# ITEM 621 RAISED PAVEMENT MARKER

STA. EQUATION - STA. 554+03.42 (BACK) =
STA. 0+00.00 (AHEAD)

| SEE SHEETS | MARK | STATION TO STATION | | SIDE | 621 1-WAY WHITE EACH | 621 2-WAY WHITE/RED EACH | 621 2-WAY YELLOW/YELLOW EACH | SPACING C/C FEET |
|---|---|---|---|---|---|---|---|---|
| 197 | 1-RM | 498+80 | 535+00 | EB | | 64 | | 80 |
| 197 | 2-RM | 519+00 | 535+00 | WB | | 21 | | 80 |
| 197 | 3-RM | 532+81.03 | 533+31.03 | EB | | | 3 | 25 |
| 197 | 4-RM | 533+81.03 | 535+00 | EB | | 4 | | 40 |
| 197 | 5-RM | 532+81.03 | 535+00 | EB/WB | | | 4 | 80 |
| 197 | 6-RM | 532+77.59 | 533+95.59 | WB | 5 | | | 40 |
| 198 | 1-RM | 535+00 | 540+50 | EB | | 7 | | 80 |
| 198 | 2-RM | 535+00 | 539+19.30 | WB | | 7 | | 80 |
| 198 | 3-RM | 535+00 | 539+40.03 | EB/WB | | | 6 | 80 |
| 198 | 4-RM | 535+00 | 539+40.03 | EB | | 11 | | 40 |
| 198 | 5-RM | 136+10.19 | 140+26.19 | SB | | 12 | | 40 |
| 198 | 6-RM | 136+10.19 | 140+26.19 | SB/NB | | | 8 | 80 |
| 199 | 1-RM | 540+50 | 546+00 | EB | | 7 | | 80 |
| 199 | 2-RM | 540+70.74 | 546+00 | WB | | 7 | | 80 |
| 199 | 3-RM | 540+62.09 | 546+00 | EB | | | 7 | 80 |
| 199 | 4-RM | 540+62.09 | 546+00 | WB | | | 7 | 80 |
| 199 | 5-RM | 540+70.74 | 545+11.74 | WB | 13 | | | 40 |
| 200 | 1-RM | 546+00 | 550+50 | EB | | 5 | | 80 |
| 200 | 2-RM | 546+00 | 550+50 | WB | | 6 | | 80 |
| 200 | 3-RM | 546+00 | 550+50 | EB | | | 6 | 80 |
| 200 | 4-RM | 546+00 | 550+50 | WB | | | 6 | 80 |
| 201 | 1-RM | 552+44.26 | 554+94.26 | EB | | | 3 | 25 |
| 201 | 2-RM | 550+50 | 554+03.42 (BK) | EB | | 5 | | 80 |
| 201 | 3-RM | 553+44.26 | 554+03.42 (BK) | EB | | 2 | | 40 |
| 201 | 4-RM | 550+50 | 554+03.42 (BK) | WB | | 4 | | 80 |
| 201 | 5-RM | 550+50 | 554+03.42 (BK) | EB/WB | | | 4 | 80 |
| 201 | 6-RM | 550+50 | 552+44.26 | EB | | | 2 | 80 |
| 202 | 1-RM | 0+00 (AH) | 3+79.84 | EB | | 5 | | 80 |
| 202 | 2-RM | 0+00 (AH) | 3+79.84 | WB | | 6 | | 80 |
| 202 | 3-RM | 0+00 (AH) | 3+79.84 | EB | | 10 | | 40 |
| 202 | 4-RM | 0+00 (AH) | 3+79.84 | EB/WB | | | 6 | 80 |
| 202 | 5-RM | 5+26.94 | 5+50 | EB | | 1 | | 80 |
| 202 | 6-RM | 5+26.94 | 5+50 | WB | | 1 | | 40 |
| 202 | 7-RM | 5+26.94 | 5+50 | WB | | | 1 | 80 |
| 202 | 8-RM | 5+26.94 | 5+50 | EB | | | 1 | 80 |
| 202 | 9-RM | 0+84.63 | 5+00 | SR83 | | | 7 | 80 |
| 202 | 10-RM | 1+83.40 | 3+79.84 | EB | 6 | | | 40 |
| 202 | 11-RM | 0+84.63 | 3+99.63 | SR83 | 9 | | | 40 |
| 202 | 12-RM | 5+26.94 | 5+50 | WB | | 1 | | |
| TOTALS (CARRIED TO NEXT TABLE) | | | | | 33 | 186 | 71 | |

| SEE SHEETS | MARK | STATION TO STATION | | SIDE | 621 1-WAY WHITE EACH | 621 2-WAY WHITE/RED EACH | 621 2-WAY YELLOW/YELLOW EACH | SPACING C/C FEET | 202 RAISED PAVEMENT MARKER REMOVED FOR STORAGE EACH |
|---|---|---|---|---|---|---|---|---|---|
| 203 | 1-RM | 5+50 | 7+90.94 | WB | | | 3 | 80 | |
| 203 | 2-RM | 5+50 | 7+40.94 | WB | | 6 | | 40 | |
| 203 | 3-RM | 5+50 | 11+00 | EB | | 7 | | 80 | |
| 203 | 4-RM | 5+50 | 7+90.94 | EB | | | 4 | 80 | |
| 203 | 5-RM | 5+50 | 11+00 | WB | | 7 | | 80 | |
| 203 | 6-RM | 5+50 | 7+73.22 | WB | 7 | | | 40 | |
| 203 | 7-RM | 7+90.94 | 8+40.94 | WB | | | 3 | 25 | |
| 204 | 1-RM | 11+00 | 13+31 | EB | | 4 | | 80 | |
| 204 | 2-RM | 11+00 | 13+31 | WB | | 4 | | 80 | |
| 205 | 1-RM | 13+31 | 35+00 | EB | | 29 | | 80 | |
| 205 | 2-RM | 13+31 | 43+50 | WB | | 39 | | 80 | |
| 205 | 3-RM | 16+74.5 | 17+96.5 | EB | 5 | | | 40 | |
| 205 | 4-RM | 18+28.2 | 22+33.2 | WB | 21 | | | 40 | |
| TOTALS (THIS TABLE) | | | | | 33 | 96 | 10 | | |
| TOTALS (TABLE LT.) | | | | | 33 | 186 | 71 | | |
| TOTALS | | | | | 66 | 282 | 81 | | |
| TOTALS (CARRIED TO GENERAL SUMMARY) | | | | | | 429 | | | |

537 ESTIMATED FROM FIELD COUNTS, CARRIED TO GENERAL SUMMARY




TYPICAL PLACEMENT OF
ITEM 621 RAISED PAVEMENT MARKERS

ITEM 621 RAISED PAVEMENT MARKER

C160965C.DGN 7/31/96

CALCULATED D.M. 3/17/96
CHECKED A.L. 3/25/96

621 RAISED PAVEMENT MARKER

ITEM 621

COS-16-9.84
COS-36-20.06

| SHEET NUMBER | | | | | | | | PARTICIPATION | | | ITEM | ITEM EXT. | GRAND TOTAL | UNIT | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | COS-36-2064 | | | | BRIDGE NOTES | | | | | | | | |
| | | | LUMP | | | | | | | | 202 | 11201 | LUMP | LUMP | PORTIONS OF STRUCTURE REMOVED, SUPERSTRUCTURE,AS PER PLAN |
| | | | 52 | | | | | | | | 202 | 11300 | 52 | CU YD | PORTIONS OF STRUCTURE REMOVED, ABUTMENT |
| | | | 34 | | | | | | | | 202 | 11300 | 34 | CU YD | PORTIONS OF STRUCTURE REMOVED, PIER |
| | | | LUMP | | | | | | | | 503 | 11100 | LUMP | LUMP | COFFERDAMS, CRIBS AND SHEETING |
| | | | LUMP | | | | | | | | 503 | 21300 | LUMP | LUMP | UNCLASSIFIED EXCAVATION |
| | | | LUMP | | | | | | | | 505 | 11100 | LUMP | LUMP | PILE DRIVING EQUIPMENT MOBILIZATION |
| | | | 5345 | | | | | | | | 507 | 00500 | 5345 | LIN FT | 12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN |
| | | | 5345 | | | | | | | | 507 | 00550 | 5345 | LIN FT | 12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED |
| | | | 57 | | | | | | | | 507 | 50500 | 57 | EACH | STEEL PILE SPLICES |
| | | | 1043 | | | | | | | | 511 | 31502 | 1043 | CU YD | CLASS S CONCRETE, SUPERSTRUCTURE |
| | | | 614 | | | | | | | | 511 | 40500 | 614 | CU YD | CLASS C CONCRETE, PIER ABOVE FOOTINGS |
| | | | 71 | | | | | | | | 511 | 44101 | 71 | CU YD | CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN |
| | | | 316 | | | | | | | | 511 | 46500 | 316 | CU YD | CLASS C CONCRETE, FOOTING |
| | | | 1145 | | | | | | | | SPECIAL | 51267502 | 1145 | SQ YD | SEALING OF CONCRETE SURFACES (EPOXY) (SEE PROPOSAL NOTE) |
| | | | 176 | | | | | | | | SPECIAL | 51273000 | 176 | SQ YD | TREATING CONCRETE BRIDGE DECKS WITH HMWM RESIN(SEE PROPOSAL NOTE) |
| | | | LUMP | | | | | | | | 513 | 16130 | LUMP | LUMP | STRUCTURAL STEEL, A572-50 AISC CATEGORY III |
| | | | 9000 | | | | | | | | 513 | 20000 | 9000 | EACH | WELDED STUD SHEAR CONNECTOR |
| | | | 52237 | | | | | | | | 514 | 00620 | 52237 | SQ FT | FIELD PAINTING OF NEW STEEL, INTERMEDIATE AND FINISH COAT, SYSTEM IZEU |
| | | | 174 | | | | | | | | 516 | 11210 | 174 | LIN FT | STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL |
| | | | 22 | | | | | | | | 516 | 13600 | 22 | SQ FT | 1" PREFORMED EXPANSION JOINT FILLER |
| | | | 20 | | | | | | | | 516 | 44100 | 20 | EACH | ELASTOMERIC BEARING WITH INTERNAL LAMINATES(21"X14"X2 3/16") AND LOAD PLATE(22"X15"X2 3/8") (NEOPRENE) (PIERS 1 & 3) |
| | | | 10 | | | | | | | | 516 | 44100 | 10 | EACH | ELASTOMERIC BEARING WITH INTERNAL LAMINATES(22"X14"X2 7/16") AND LOAD PLATE(28"X15"X2 3/8") (NEOPRENE) (PIER 2) |
| | | | 20 | | | | | | | | 516 | 44200 | 20 | EACH | ELASTOMERIC BEARING WITH INTERNAL LAMINATES(14"X10"X3 3/16") AND LOAD PLATE(17"X11"X1 1/2") (NEOPRENE) (ABUTMENTS) |
| | | | 4 | | | | | | | | 518 | 12300 | 4 | EACH | SCUPPER, INCLUDING SUPPORTS, FOR GIRDER BRIDGES |
| | | | 217 | | | | | | | | 518 | 40000 | 217 | LIN FT | 6" PERFORATED CORRUGATED PLASTIC PIPE, 707.16 |
| | | | 71 | | | | | | | | 518 | 40010 | 71 | LIN FT | 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, 707.16 |
| | | | 3 | | | | | | | | 523 | 11100 | 3 | HOUR | DYNAMIC LOAD TEST |

CALCULATED KAK
CHECKED RSD

BRIDGE SUMMARY

COS-16-9.84
COS-36-20.06



COS36105S.DGN 12/5/96

# BRIDGE NOTES

## DESIGN SPECIFICATIONS
THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, INCLUDING THE 1997 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

## DESIGN LOADING
HS20-44, CASE I AND THE ALTERNATE MILITARY LOADING.

## DESIGN DATA
CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 P.S.I. (SUPERSTRUCTURE)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 P.S.I. (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615, A616, OR A617
GRADE 60 MINIMUM YIELD STRENGTH 60,000 P.S.I.
SPIRAL REINFORCEMENT MAY BE PLAIN BARS. ASTM A82 OR A615

STRUCTURAL STEEL
ASTM A572 - YIELD STRENGTH 50,000 P.S.I.
A36 - YIELD STRENGTH 36,000 P.S.I.

## MONOLITHIC WEARING SURFACE
MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

## SUBSTRUCTURE CONCRETE REMOVAL
PORTIONS OF STRUCTURE REMOVED SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER.
SUBSTRUCTURE CONCRETE REMOVAL SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18-INCH LIMIT, A HAMMER HEAVIER THAN 35 POUNDS, BUT NOT TO EXCEED 90 POUNDS, MAY BE USED AT THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

## CUT LINE CONSTRUCTION JOINT PREPARATION
SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. WHERE PRACTICABLE, THE EXISTING REINFORCING STEEL WHERE REQUIRED IN THE PLANS SHALL BE LEFT IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACE AND EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIAL BY USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. CONCRETE BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

## EXISTING STRUCTURE VERIFICATION
DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND/OR FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY , THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

## EXISTING PLANS
DETAILED DESIGN DRAWINGS OF THE EXISTING STRUCTURE MAY BE INSPECTED IN THE DISTRICT 5 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, JACKSONTOWN, OHIO.

## REPLACEMENT OF EXISTING REINFORCING STEEL
ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT THE CONTRACTOR'S COST. ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW STEEL. THE COST TO BE INCLUDED WITH PERTINENT CONCRETE ITEM 511.

## ITEM 518, 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS
CORRUGATED PIPE USED IN ABUTMENT DRAINAGE SHALL BE 6 INCH DIAMETER, PLASTIC CORRUGATED AS PER SUPPLEMENTAL SPECIFICATION 944, AASHTO M294, TYPE S. THIS ITEM SHALL INCLUDE ALL ELBOWS, TEES AND END CAPS REQUIRED TO COMPLETE THE ABUTMENT DRAINAGE SYSTEM.

## ITEM 518, 6" PERFORORATED CORRUGATED PLASTIC PIPE, (SS944)
CORRUGATED PIPE USED IN ABUTMENT DRAINAGE SHALL BE 6 INCH DIAMETER, PLASTIC CORRUGATED AS PER SUPPLEMENTAL SPECIFICATION 944, AASHTO M294, TYPE SP.

## CONCRETE PARAPETS
AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 1 INCH DEEP CONTROL JOINTS SHALL BE SAWED INTO THE PERIMETER OF THE CONCRETE PARAPET. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. THE SAW CUTS SHALL BE PLACED AT A DISTANCE SHOWN IN PLANS. THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO INSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINTS WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1/4 INCH. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 1 INCH WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E TO A MINIMUM DEPTH OF 1 INCH.

## UTILITY LINES
ALL EXPENSE INVOLVED IN RELOCATION (INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE UTILITY(IES). THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THE CONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

## POROUS BACKFILL WITH FILTER FABRIC
POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO ONE FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.

## BACKWALL CONCRETE
IN ADDITION TO THE PROVISIONS OF 511.08, BACKWALL CONCRETE ABOVE THE OPTIONAL CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.

## STEEL NOTCH TOUGHNESS REQUIREMENT (CHARPY V-NOTCH)
WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

## CONCRETE DECK HAUNCH WIDTH
A HAUNCH WIDTH OF 11 INCHES SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6 AND 12 INCHES.

## WELDED ATTACHMENT
WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE IN AREAS OF THE FACIA STRINGER FLANGES DESIGNATED "COMPRESSION". ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL NOT BE CLOSER THAN 1 INCH FROM EDGE OF FLANGE, BE NOT MORE THAN 2 INCHES LONG, AND BE NOT SMALLER THAN THE MINIMUM SIZE REQUIRED BY AASHTO.

## SCREED ELEVATIONS
SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

## REINFORCING STEEL
ALL NEW REINFORCING STEEL SHALL BE EPOXY COATED. REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO BE PROPERLY FITTED. PAYMENT SHALL BE INCLUDED WITH PERTINENT CONCRETE ITEM 511.

## ELASTOMERIC STRIP SEAL
THE ELASTOMERIC STRIP SEAL FOR EACH BRIDGE JOINT SHALL BE FURNISHED AND INSTALLED IN ONE CONTINUOUS PIECE.

## EXPANSION JOINT ANGLE
THE EXPANSION JOINT ANGLE(MC12X45) SHALL BE REPLACED WITH (MC13X50) TO ACCOMODATE THE THICKNESS OF THE PROPOSED DECK AS DETAILED ON SHEET 17/21. FOR DETAILS, SEE STANDARD DRAWING EXJ-4-87.

CALCULATED TAG CHECKED KAK

BRIDGE NOTES

COS-16-9.84
COS-36-20.06

1 | 21

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C036I0G1.DGN 12/31/96

# BRIDGE NOTES

## TEMPORARY STREAM CROSSING FORDS

WHERE STREAM CROSSING FORDS ARE REQUIRED FOR EQUIPMENT CROSSING, THE CROSSING SHALL CONSIST OF CLEAN NON-TOXIC GRANULAR OR ROCK MATERIAL, PROPERLY MAINTAINED TO PREVENT EROSIN, WITH PROVISIONS FOR CONVEYANCE OF ANTICIPATED HIGH FLOWS AND SHALL NOT IMPEDE THE MOVEMENT OF AQUATIC LIFE. CONSTRUCTION SHALL BE IN ACCORDANCE WITH PART 330, APPENDIX A, SPECIFIC CATEGORIES OF DISCHARGES-NATIONALLY PERMITTED, PARAGRAPH (A14), MINOR ROAD CROSSING FILLS-THE FEDERAL REGISTER-CORPS OF ENGINEERS FINAL REGULATIONS, CURRENT EDITION.

## SEALING WITH HMWM RESIN

ALL LONGITUDINAL CONSTRUCTION JOINTS IN THE BRIDGE DECK AND APPROACH SLABS SHALL BE SEALED 2 -0 IN WIDTH WITH HMWM RESIN. THE SEALING WIDTH SHALL BE CENTERED ON THE CONSTRUCTION JOINT. SEE PROPOSAL NOTE.

## DOWEL HOLES

AT NO ADDITIONAL COST TO THE STATE AND AS AN OPTION TO THE CONTRACTOR EPOXY OR VINYLESTER RESIN MAY BE USED, IN WHICH THE DOWEL HOLES SHALL BE 1/8 INCH LARGER THAN THE DESIGNATED BAR SIZE FOR THE DOWEL HOLE OR THE DOWEL HOLE DIAMETERS SHALL BE AS SPECIFIED IN 510.02. PAYMENT TO BE INCLUDED UNDER ITEM 511.

## FIELD PAINTING OF NEW STEEL, SYSTEM IZEU

THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO CLEAN AND APPLY EPOXY INTERMEDIATE AND URETHANE FINISH COATS IN THE FIELD ON ALL NEW STEEL SURFACES PREVIOUSLY SHOP COATED WITH INORGANIC ZINC PRIME COAT. ANY AREAS OF PAINT DAMAGED DURING PLACEMENT, HANDLING OR WELDING OF THE STRUCTURAL STEEL SHALL BE CLEANED AND HAVE AN INORGANIC ZINC PRIME COAT APPLIED PRIOR TO APPLYING THE INTERMEDIATE FINISH COAT. FOR DETAILS SEE PROPOSAL NOTE.
THE FINISH COAT SHALL BE BLUE FS-595A-1545.

## ITEM 202 PORTIONS OF STRUCTURE REMOVED, SUPERSTRUCTURE, AS PER PLAN

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND ARE NOT SEPARATELY LISTED FOR PAYMENT.
THE USE OF EXPLOSIVES AND/OR HEADACHE BALLS WILL NOT BE PERMITTED.

EXISTING GIRDERS SHALL BE SALVAGED AND WILL BECOME THE PROPERTY OF THE COSHOCTON COUNTY ENGINEER. THE CONTRACTOR WILL LOAD THE EXISTING GIRDERS ON TRANSPORTATION PROVIDED BY THE COSHOCTON COUNTY ENGINEER. AND SHALL MAKE A REASONABLE EFFORT TO KEEP THE GIRDERS IN THEIR EXISTING CONDITION. THE COSHOCTON COUNTY ENGINEER WILL BE RESPONSIBLE FOR AND WILL BEAR ANY COSTS ASSOCIATED WITH THE TRANSPORTATION OF THE GIRDERS FROM THE JOBSITE. THE CONTRACTOR SHALL GIVE 3 WEEKS ADVANCE NOTICE OF GIRDER REMOVAL TO THE COSHOCTON COUNTY ENGINEER AND THE ODOT AREA ENGINEER. THE COSHOCTON COUNTY ENGINEER WILL COORDINATE THE TRANSFER OF GIRDERS FROM JOBSITE WITH THE CONTRACTOR SO AS NOT TO DISTURB THE OPERATION OF THE PROJECT.

COSHOCTON COUNTY ENGINEER
FRED WACHTEL
PHONE # (614) 622-2135
FAX # (614) 623-6512

## MECHANICAL SPLICE CONNECTORS

ALL MECHANICAL SPLICE CONNECTORS SHALL BE EPOXY COATED.
PAYMENT TO BE INCLUDED UNDER ITEM 511.

## DECK SLAB DEPTH

THE DISTANCE SHOWN FROM THE TOP OF DECK SLAB TO THE BOTTOM OF THE TOP FLANGE IS THE THEORETICAL DESIGN DIMENSION INCLUDING THE DESIGN THICKNESS OF 12.25 INCHES. THE QUANTITY OF THE DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON THIS DIMENSION, MINUS THE DESIGN HAUNCH THICKNESS, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE GIRDER MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISH GRADE. DEDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES AS PER 511.18.

## ITEM 511 CLASS C CONCRETE, ABUTMENT, AS PER PLAN

INSTALL A 3FOOT WIDE STRIP, 3/32 INCH THICK, GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT AT LOCATIONS SHOWN IN THE PLANS. SECURE THE 3 FOOT WIDE NEOPRENE SHEETING TO THE CONCRETE WITH 1¼ INCH x 3/32 INCH (LENGHT x SHANK DIAMETER) #10 GALVANIZED BUTTON HEAD SPIKE THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. OTHER SIMILIAR GALVANIZED DEVICES WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE MAY BE USED SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES (±) FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARING AT 6 INCHES (±) FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS, AT 6 INCHES CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS WHERE THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED. THE VERTICAL NEOPRENE STRIPS SHOULD COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAPS IN THE LENGTH OF THE HORIZONTAL STRIPS DUE TO MATERIAL MANUFACTURING SHALL BE AT LEAST ONE FOOT IN LENGTH, IF NOT VULCANIZED OR ADHESIVE BONDED, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32 INCH THICK GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E.I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

| DESCRIPTION OF TEST | ASTM METHOD | REQUIREMENTS |
|---|---|---|
| THICKNESS, INCHES | D751 | 0.94±-0.01 |
| BREAKING STRENGTH, GRAB WXF, LBS, MINIMUM | D751 | 700x700 |
| ADHESIVE 1 INCH STRIP, 2 INCH MINIMUM, LBS, MINIMUM | D751 | 9 |
| BURST STRENGTH(MULLEN) PSI, MINIMUM | D751 | 1400 |
| HEAT AGING 70 HOURS T 212°F, 180 BEND WITHOUT CRACKING | D2136 | NO CRACKING OF COATING |
| LOW TEMPERATURE BRITTLENESS 1 HOUR AT -40°F, BEND AROUND 1/4 INCH MANDREL | D2136 | NO CRACKING OF COATING |

PAYMENT FOR LABOR, MATERIALS AND INSTALLATION OF THESE ITEMS SHALL BE INCLUDED IN ITEM 511 CLASS C CONCRETE, ABUTMENT, AS PER PLAN

## PILE DESIGN LOADS (ULTIMATE BEARING BALUE):

THE ULTIMATE BEARING VALUE IS 70 TONS PER PILE FOR THE 12" DIAMETER REINFORCED CONCRETE ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 90 TONS PER PILE FOR THE 12" DIAMETER REINFORCED CONCRETE PIER PILES.
REAR ABUTMENT PILES:
17 PILES, 45 LONG, ESTIMATED LENGTH
PIER #1 PILES:
26 PILES, 55' LONG, ESTIMATED LENGTH
PIER #2 PILES:
26 PILES, 55' LONG, ESTIMATED LENGTH
PIER #3 PILES:
26 PILES, 35' LONG, ESTIMATED LENGTH
FORWARD ABUTMENT PILES:
18 PILES, 45' LONG, ESTIMATED LENGTH

## PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING PILES, THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS SHALL BE CONSTRUCTED UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT AND PIER PILES, FOR PIERS 1 & 3 , SHALL NOT BEGIN UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

## ITEM 203 EMBANKMENT, AS PER PLAN

ALL FILL MATERIAL FOR CONSTRUCTION OF THE APPROACH EMBANKMENT AND FOR FILLING THE EXCAVATION VOID CREATED REMOVAL OF THE EXISTING ABUTMENTS, SHALL BE PLACED IN 6 INCH LIFTS AND COMPACTED IN ACCORDANCE WITH 304.04.

## ITEM 503, UNCLASSIFIED EXCAVATION , AS PER PLAN

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE 203 GRANULAR MATERIAL PLACED IN 6 INCH LIFTS AND COMPACTED IN ACCORANCE WITH 304.04.

## REMOVED MATERIALS

ALL REMOVED MATERIALS EXCEPT AS NOTED ELSEWHERE IN THE PLANS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED BY HIM FROM THE JOBSITE.

## REMOVALS OVER WATER

REASONABLE CARE SHALL BE USED WHEN REMOVING MATERIAL OVER WATER. ANY MATERIAL DROPPED SHALL BE IMMEDIATELY REMOVED FROM THE WATER AND DISPOSED OF AWAY FROM THE SITE EXCEPT FOR MASONARY MATERIAL WHICH MAY BE USED FOR BANK PROTECTION AS APPROVED BY THE ENGINEER.

## SEQUENCE OF OPERATIONS

FOR COMPLETE DETAILS ON THE MAINTENANCE OF TRAFFIC, SEE ROADWAY SHEETS 38/231 TO 64/231.

THE GENERAL AREAS OF WORK AS INDICATED ON THE PLAN AND ELEVATION AND DETAIL SHEETS ARE:

PHASE ONE BRIDGE REMOVALS
1. REMOVE WINGWALLS
2. REMOVE CONCRETE AT PIERS

PHASE ONE BRIDGE CONSTRUCTION
1. EMBANKMENT CONSTRUCTION
2. DRIVE NEW PILING AT ABUTMENTS AND PIERS
3. INSTALL NEW ABUTMENT AND PIER CONCRETE
4. INSTALL NEW GIRDERS
5. INSTALL NEW SUPERSTRUCTURE CONCRETE
6. INSTALL NEW WINGWALLS
7. INSTALL NEW APPROACH SLAB CONCRETE

PHASE TWO BRIDGE REMOVALS
1. REMOVE EXISTING SUPERSTRUCTURE
2. REMOVE EXISTING BACKWALLS AND WINGWALLS
3. REMOVE CONCRETE AT PIERS

PHASE TWO BRIDGE CONSTRUCTION
1. DRIVE NEW PILING AT ABUTMENTS AND PIERS
2. INSTALL NEW ABUTMENT AND PIER CONCRETE
3. INSTALL NEW GIRDERS
4. INSTALL NEW SUPERSTRUCTURE CONCRETE
5. INSTALL NEW WINGWALLS
6. INSTALL NEW APPROACH SLAB CONCRETE

PHASE THREE BRIDGE CONSTRUCTION
1. COMPLETE CLOSURE POUR OF SUPERSTRUCTURE CONCRETE
2. PAINT STRUCTURAL STEEL

CALCULATED TAG CHECKED KAK

BRIDGE NOTES

COS-16-9.84
COS-36-20.06

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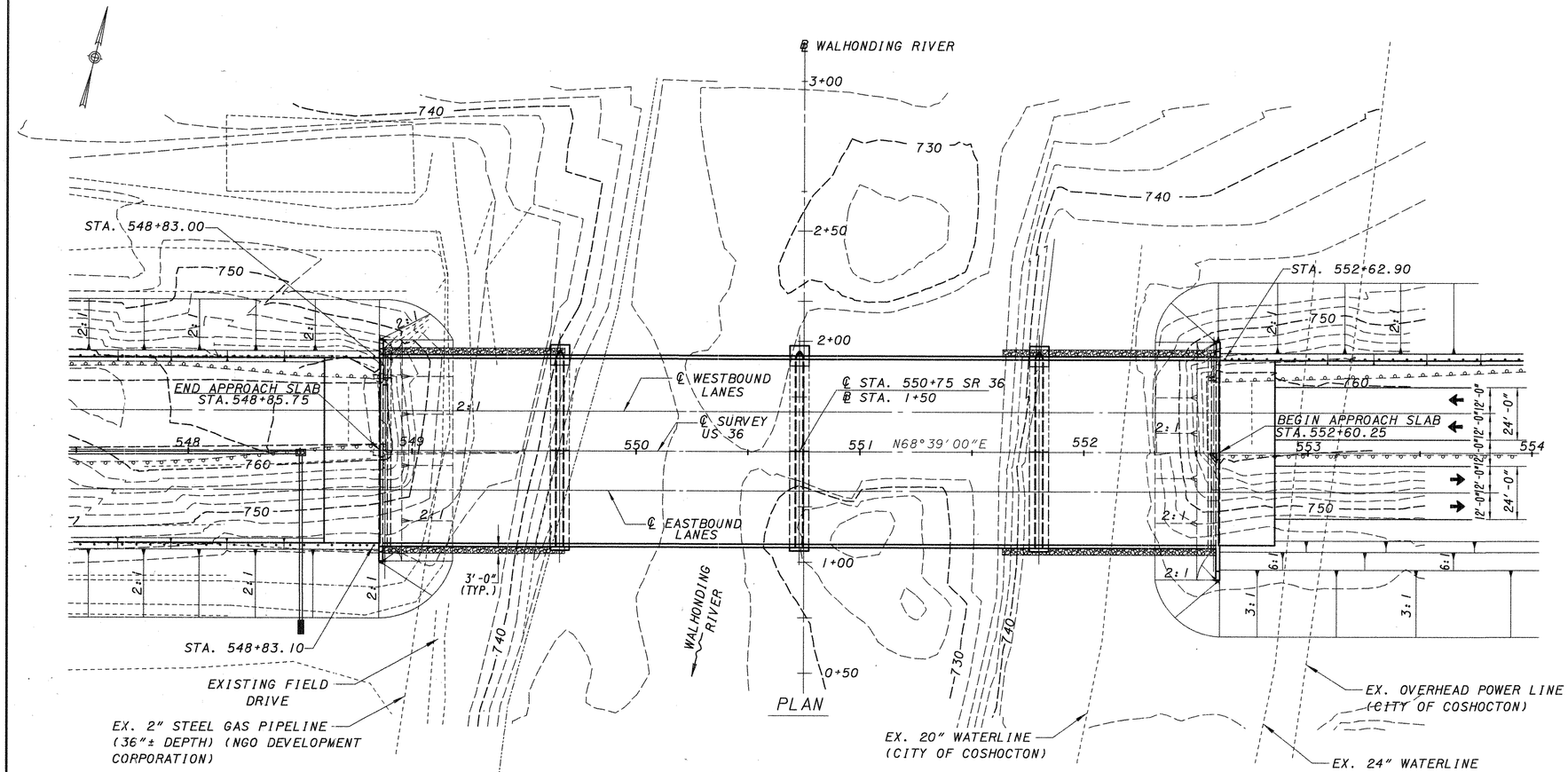
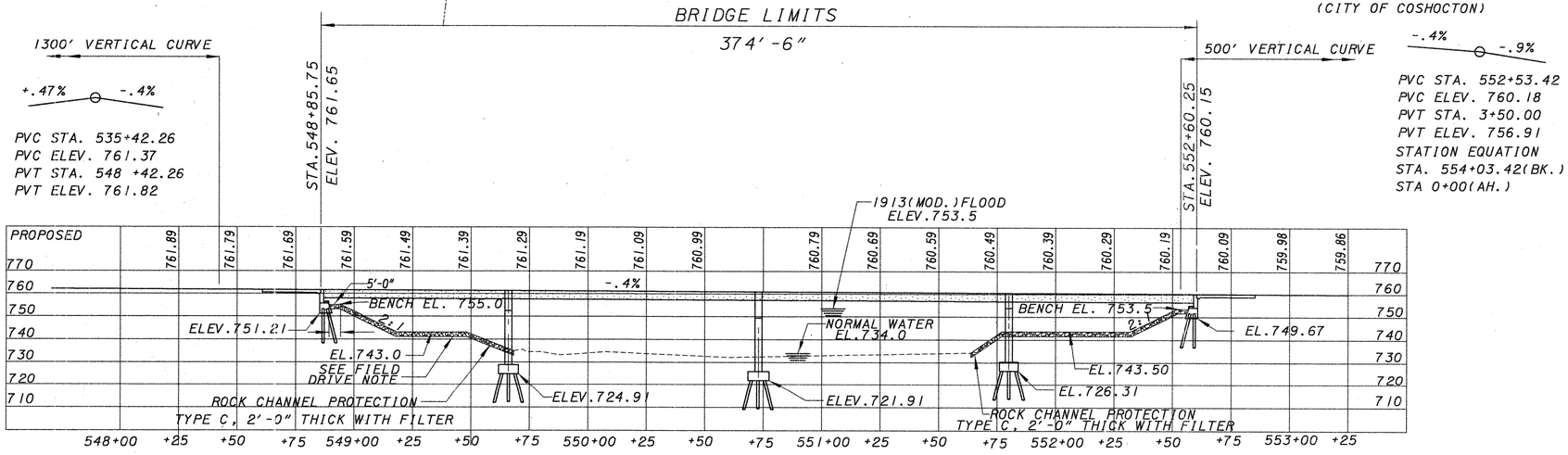
C036106I.DGN 01/24/97

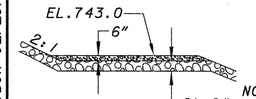



**BENCH MARK**
BRASS DISK ON TOP OF
EXISTING SOUTHWEST WINGWALL
BRIDGE NO. COS-36-2064
ELEVATION 762.49
STA.548+87, 3'-0"RT.

CURRENT(1997) = 16260
DESIGN(2017) = 21140
DHV(2017) = 2114
D(DIRECTIONAL DISTRIBUTION) = 52%
T(% B+C TRUCKS) = 15%
V(DESIGN SPEED) = 55mph
LEGAL SPEED = 50mph
FUNCTIONAL CLASSIFICATION = PRINCIPAL ARTERIAL




PROPOSED PROFILE GRADE
ON ℄ SURVEY




FIELD DRIVE DETAIL

NOTE: FIELD DRIVE SHALL BE MAINTAINED WITH MAX. SLOPE OF ½"/FT. ROCK CHANNEL PROTECTION AND OVERLAY CONSISTING OF A 6" COVER OF NO.3 OR NO.4 CRUSHED GRAVEL, STONE, OR SLAG PAID FOR UNDER 601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER.

ESTIMATED AVERAGE PILE LENGTHS
12" C.I.P. REINFORCED CONCRETE:

| | |
|---|---|
| REAR ABUTMENT | 45' |
| PIER #1 | 55' |
| PIER #2 | 55' |
| PIER #3 | 35' |
| FORWARD ABUTMENT | 45' |

NOTE: EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPE SHALL CONFORM TO PLAN CROSS SECTIONS.

DRAINAGE AREA=2252 SQ.MI.

## EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE, BUILT 1955
SPANS: 78'-107'- 107'-78' c/c BEARINGS
ROADWAY: 28'-0" f/f CURBS with 2'-0" SAFETY
SKEW: NONE
LOADING: CF 400
WEARING SURFACE: 4" ASPHALT CONCRETE
BRIDGE RAILING: STEEL RAIL WITH 2'-0" SAFETY CURB ON THE LEFT AND 4'-0" SIDEWALK ON THE RIGHT
APPROACH SLABS: AS-1-72(15' LONG)
ALIGNMENT: TANGENT
STRUCTURE FILE NO. :1600451

## REHABILITATED STRUCTURE

TYPE: CONTINUOUS STEEL GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
CROWN:.0156 FT./FT.
SPANS: 78'-107'- 107'-78' c/c BEARINGS
ROADWAY: 84'-0" f/f CURB
SKEW: NONE
LOADING: HS-20-44 (CASE 1) AND ALTERNATE MILITARY LOADING
WEARING SURFACE: 1" MONOLITHIC CONCRETE
BRIDGE RAILING: 42" DEFLECTOR PARAPET TYPE
APPROACH SLABS: AS-1-81(25' LONG)
ALIGNMENT: TANGENT

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 5

| DESIGNED | DRAWN | REVIEWED | DATE |
|---|---|---|---|
| KAK | TAG | WK | 02/18/97 |

| CHECKED | REVISED | STRUCTURE FILE NUMBER |
|---|---|---|
| RSD | | 1600451 |

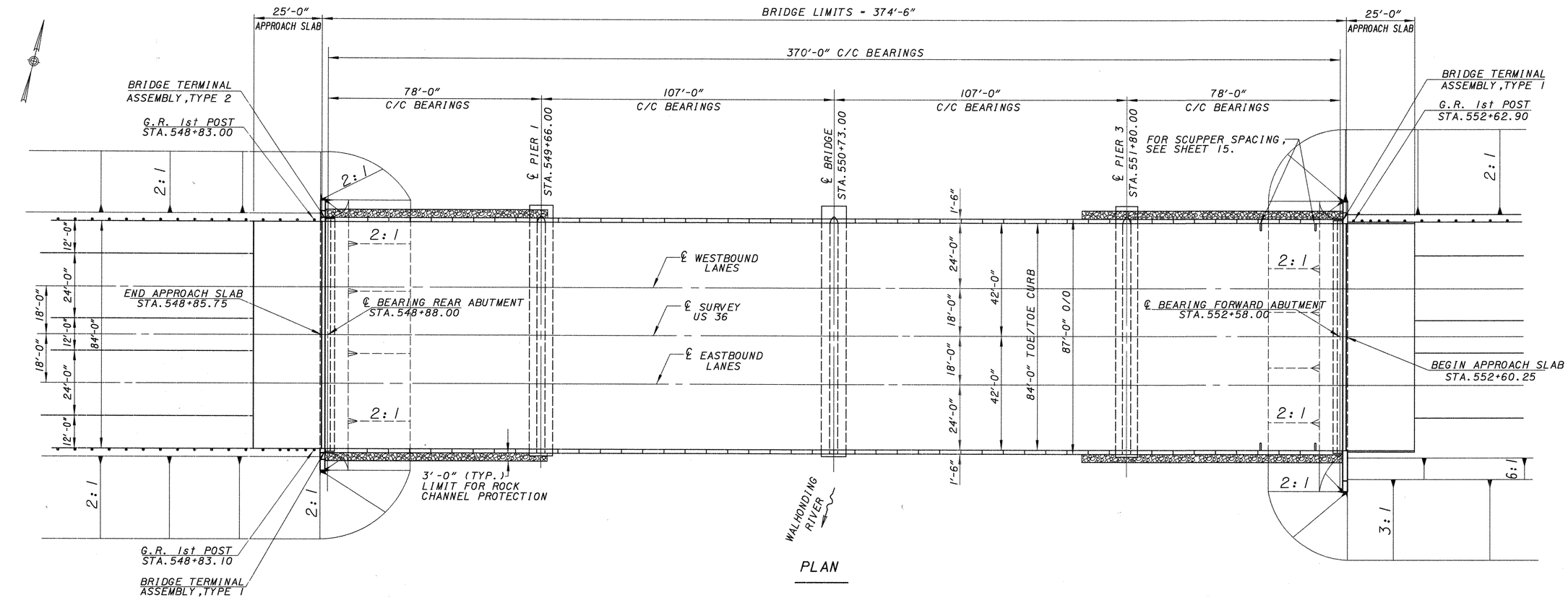
SITE PLAN
BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

COS-16-9.84
COS-36-20.06

3 / 21

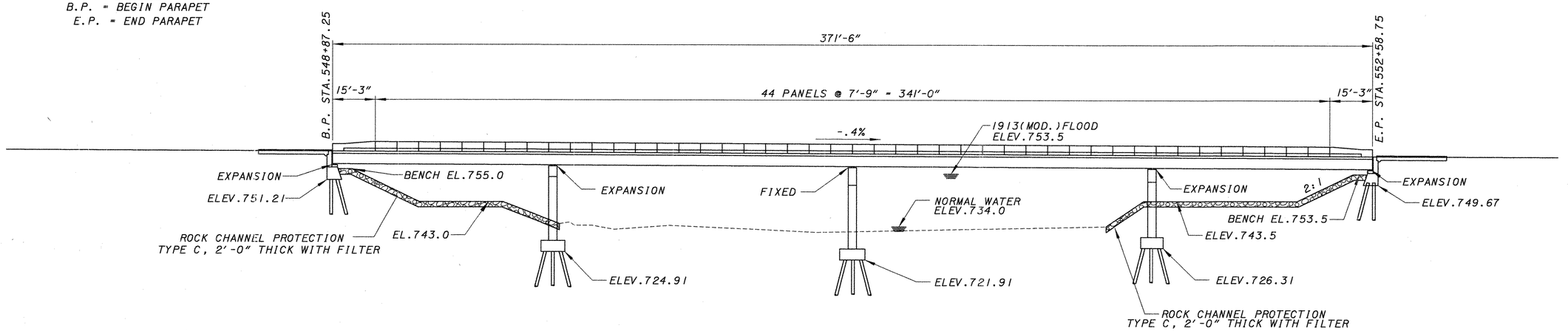
213 / 231

C03620SP.DGN 02/20/97




PLAN

LEGEND
B.P. = BEGIN PARAPET
E.P. = END PARAPET




ELEVATION

NOTE: ALL PILES ARE 12" CAST-IN-PLACE REINFORCED CONCRETE.

C03620EL.DGN 1/10/97

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 5

| DESIGNED | DRAWN | REVIEWED | DATE |
|---|---|---|---|
| KAK | KAK | MK | 02/18/97 |
| CHECKED | REVISED | STRUCTURE FILE NUMBER | |
| RSD | | 1600451 | |

# GENERAL PLAN AND ELEVATION

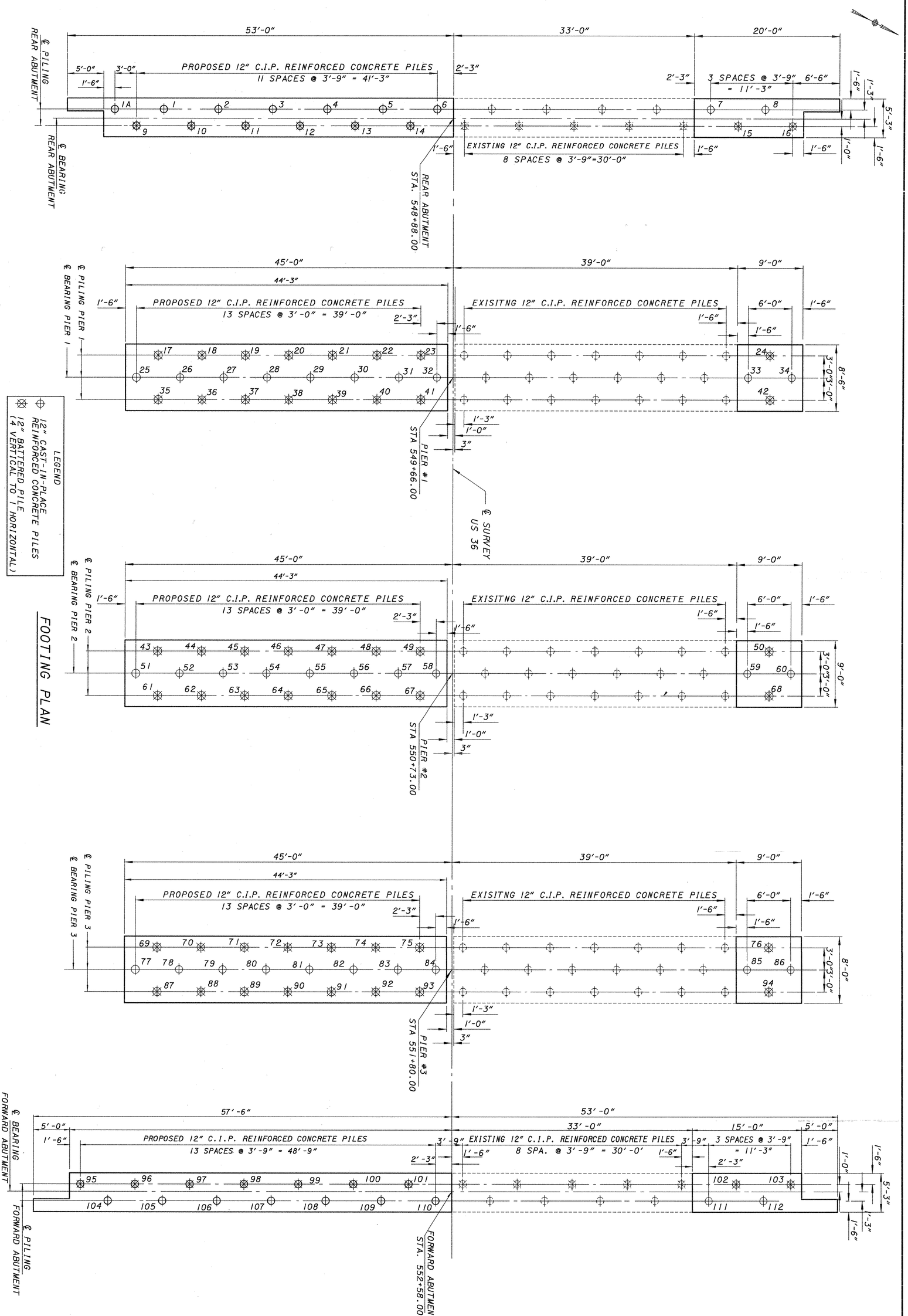
BRIDGE NO. COS-36-2064
OVER WALHONDING RIVER

COS-16-9.84
COS-36-20.06

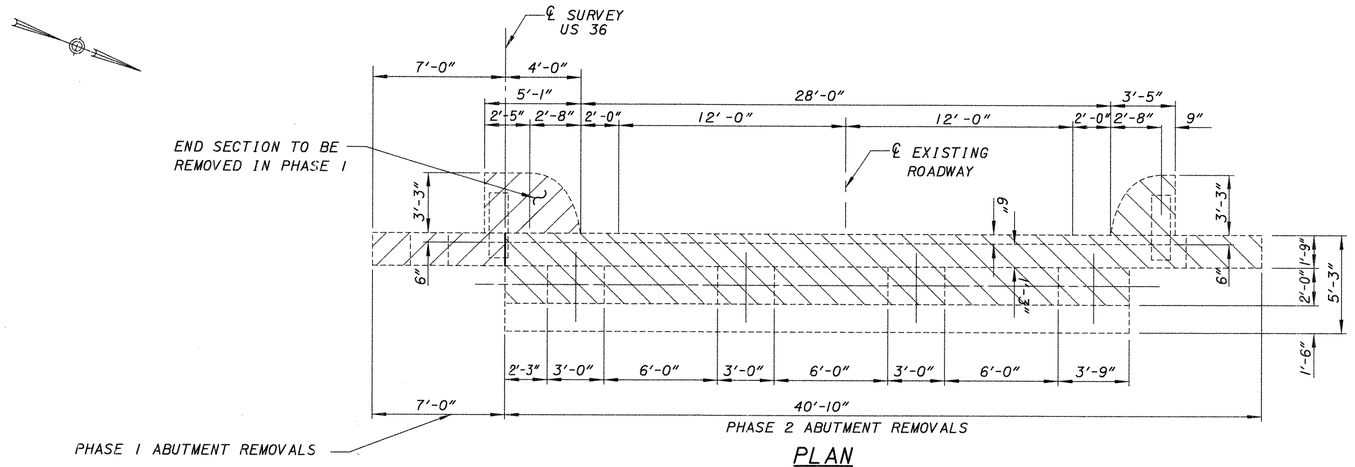
4 / 21

214 / 231

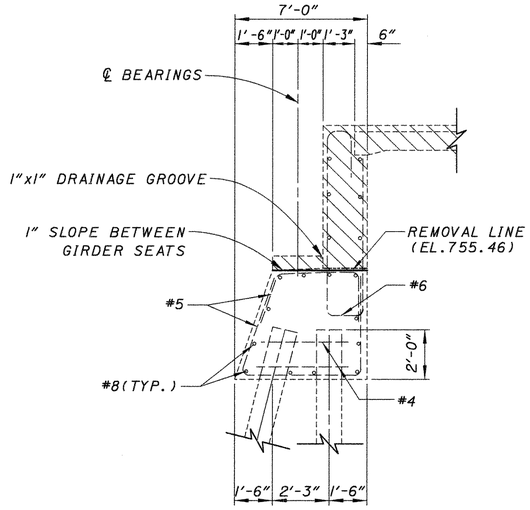
C03610A1.DGN 2/18/97



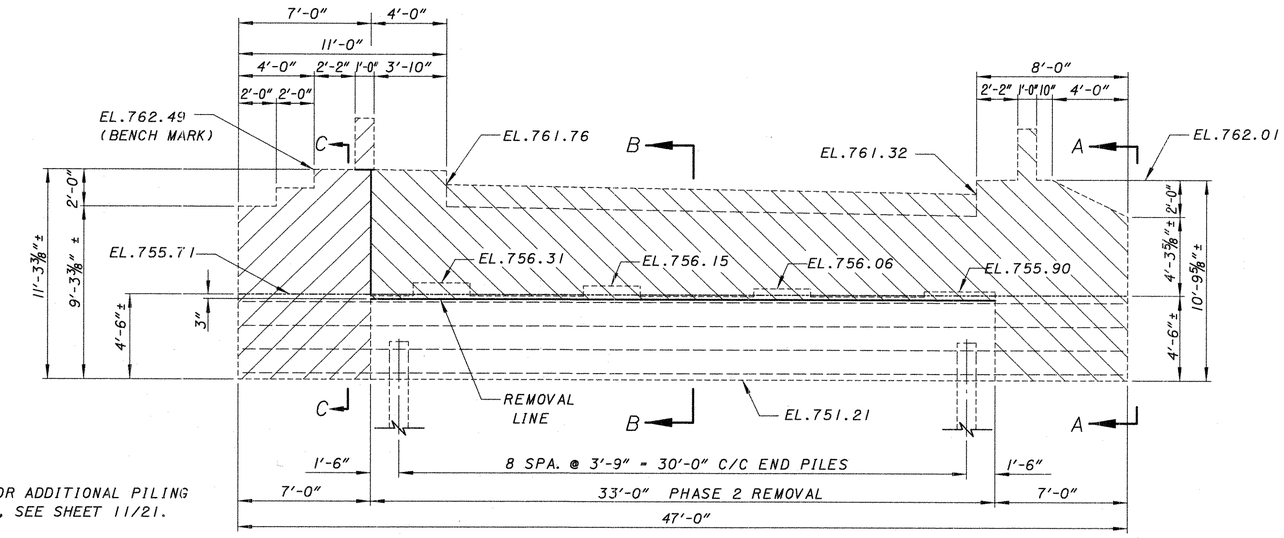

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 215/231 | 5/21 | COS-16-9.84<br>COS-36-20.06 | FOOTING PLAN<br>BRIDGE NO. COS-036-2064<br>OVER WALHONDING RIVER | DESIGNED KAK | DRAWN KAK | REVIEWED NK DATE 02/18/97 | DESIGN AGENCY<br>OHIO DEPARTMENT OF TRANSPORTATION<br>DISTRICT 5 |
| | | | | CHECKED RSD | REVISED | STRUCTURE FILE NUMBER 1600451 | |




PLAN

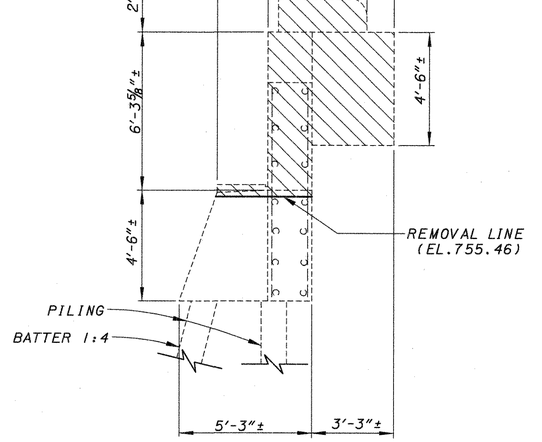



SECTION B-B

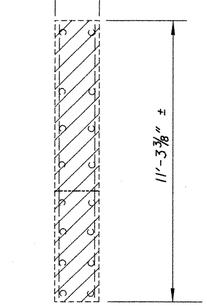



NOTE: FOR ADDITIONAL PILING DETAILS, SEE SHEET 11/21.

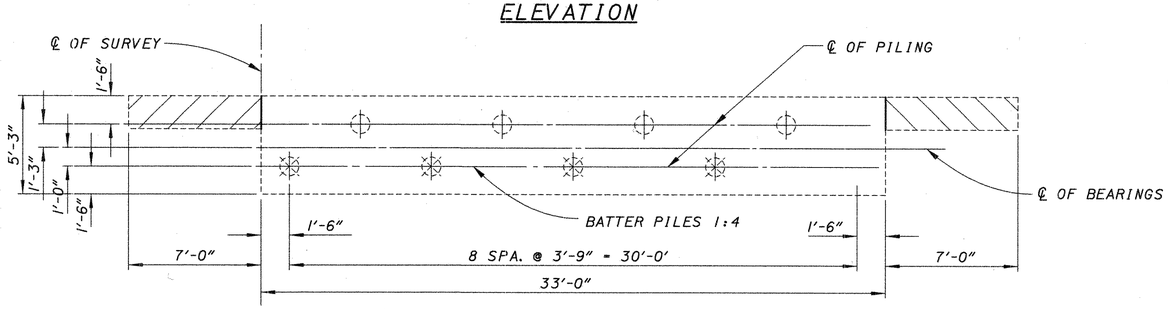
ELEVATION




VIEW A-A




SECTION C-C




EXISTING PILING PLAN

LEGEND

- PHASE I REMOVALS
- PHASE 2 REMOVALS
- 12" BATTERED PILE (4 VERTICAL TO 1 HORIZONTAL)

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 5

| DESIGNED | DRAWN | REVIEWED | DATE |
|---|---|---|---|
| KAK | TAG | NK | 02/18/97 |
| CHECKED | REVISED | STRUCTURE FILE NUMBER | |
| RSD | | 1600451 | |

# EXISTING REAR ABUTMENT REMOVAL

BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

COS-16-9.84
COS-36-20.06

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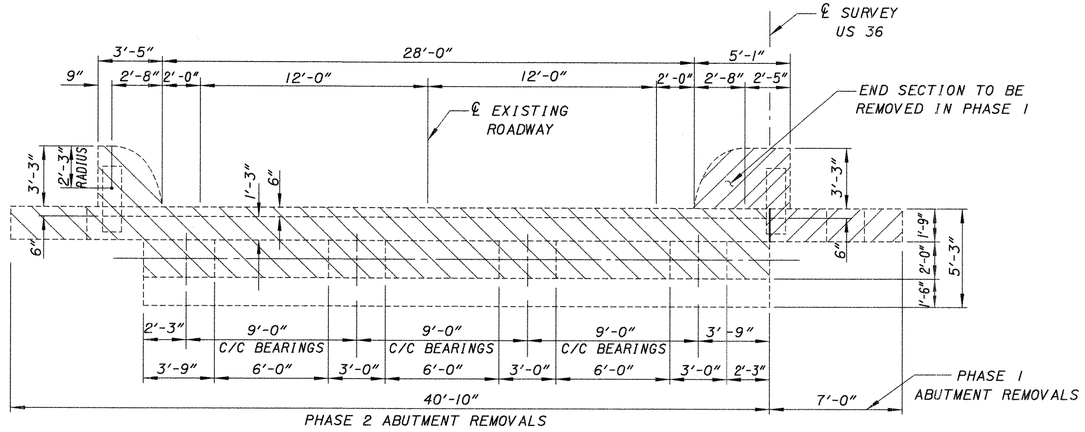
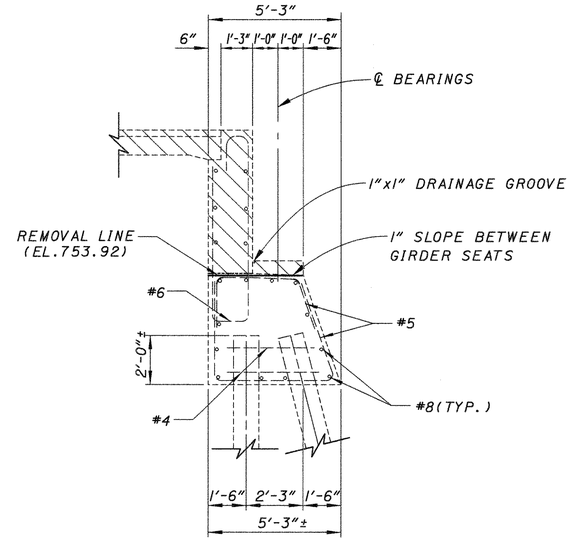
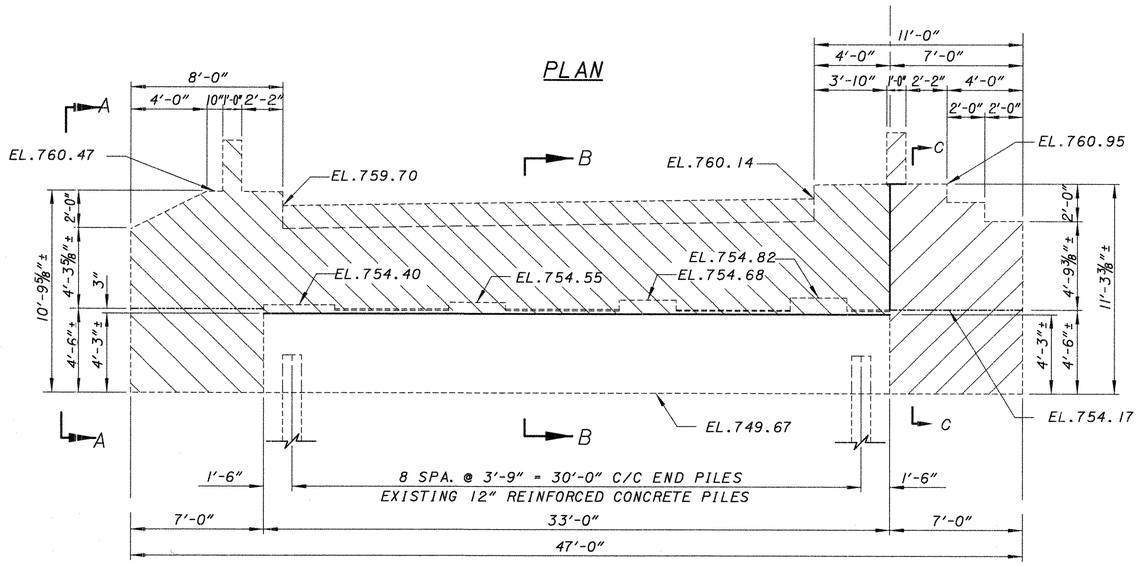
216
231

C036I0A1.dgn 1/10/97



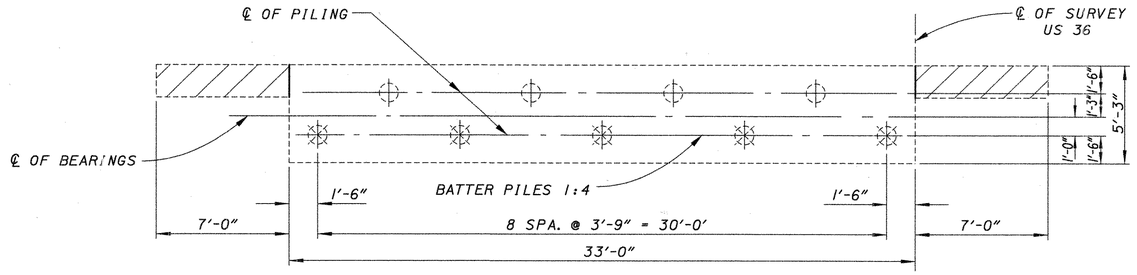




SECTION B-B

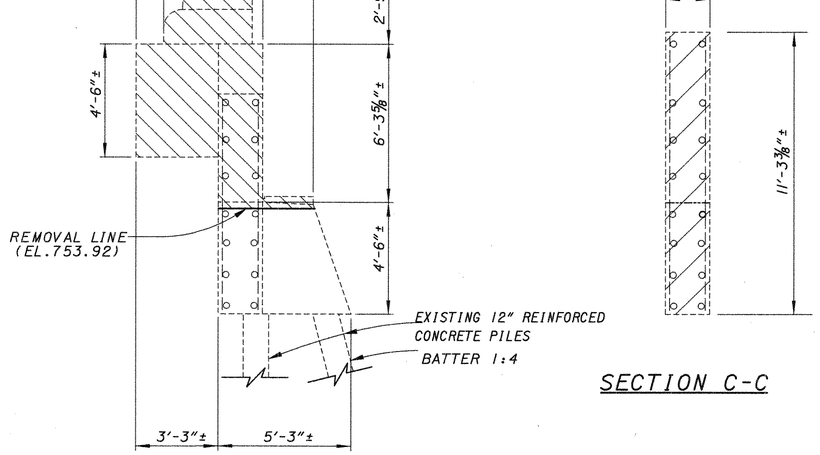



ELEVATION

NOTE: FOR ADDITIONAL PILING DETAILS, SEE SHEET 11/21.




PILING PLAN




VIEW A-A

SECTION C-C

LEGEND

- PHASE 1 REMOVALS
- PHASE 2 REMOVALS
- 12" BATTERED PILE (4 VERTICAL TO 1 HORIZONTAL)

DESIGN AGENCY
OHIO DEPARTMENT
OF TRANSPORTATION
DISTRICT 5

| DESIGNED | DRAWN | REVIEWED | DATE |
|---|---|---|---|
| KAK | TAG | | |
| CHECKED | REVISED | STRUCTURE FILE NUMBER | |
| | | 1600451 | |

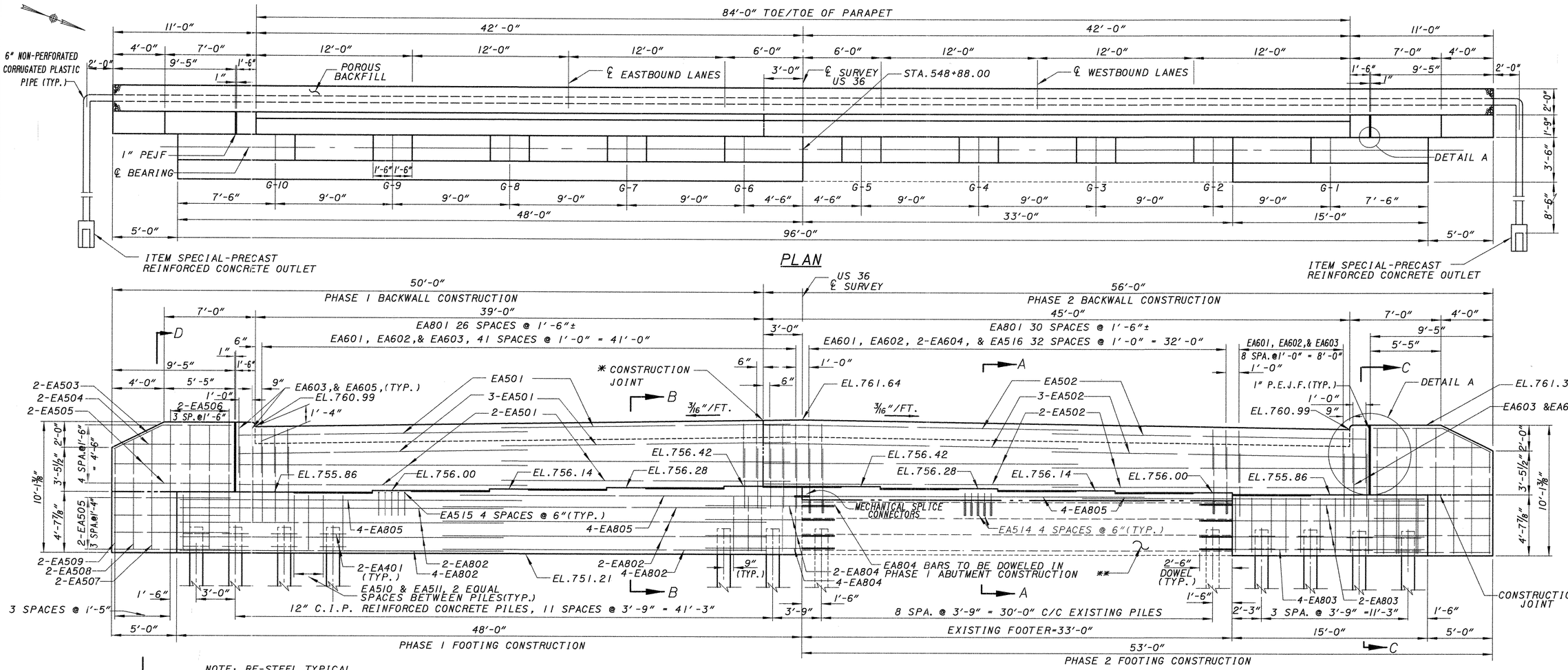
EXISTING FORWARD ABUTMENT REMOVAL
BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

COS-16-9.84
COS-36-20.06

7 / 21

217
231

C01610A2.DGN 01/10/97

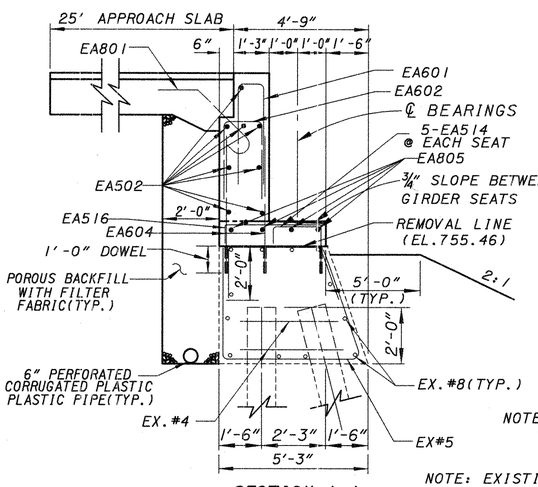



## PLAN




NOTE: RE-STEEL TYPICAL TO BOTH WINGWALLS, UNLESS OTHERWISE SHOWN.

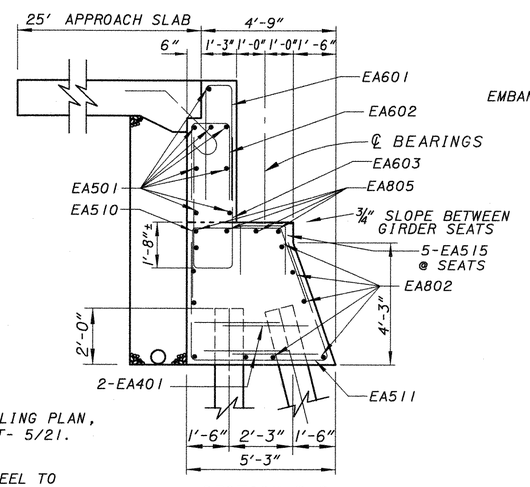
## ELEVATION



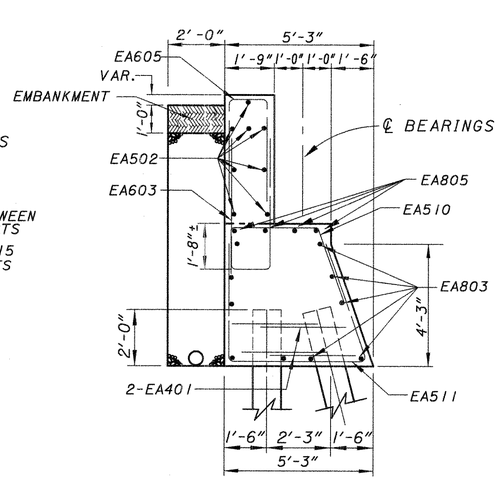

SECTION A-A

NOTE: FOR PILING PLAN, SEE SHEET- 5/21.

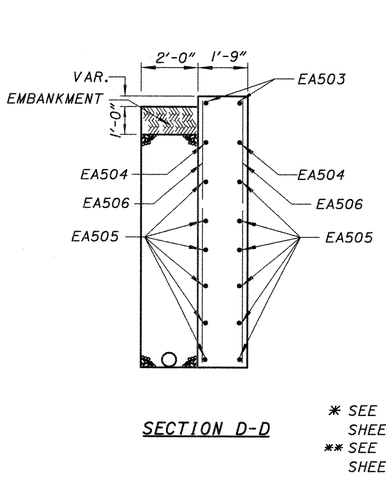
NOTE: EXISTING RE-STEEL TO BE CUT AT REMOVAL LINE




SECTION B-B




SECTION C-C




SECTION D-D

| MINIMUM LAP LENGTHS | |
|---|---|
| #4 RE-STEEL | 2'-0" |
| #5 RE-STEEL | 2'-6" |
| #6 RE-STEEL | 3'-0" |
| #8 RE-STEEL | 4'-8" |

* SEE FORWARD ABUTMENT DETAILS, SHEET 9/21.

** SEE FORWARD ABUTMENT DETAILS, SHEET 9/21.

FOR DETAIL A, SEE FORWARD ABUTMENT DETAILS, SHEET 9/21.

C0361OAI.DGN 2/3/97

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 5

| DESIGNED | DRAWN | REVIEWED | DATE |
|---|---|---|---|
| KAK | KAK | NK | 02/18/97 |
| CHECKED | REVISED | STRUCTURE FILE NUMBER | |
| RSD | | 160451 | |

PPOPOSED REAR ABUTMENT
BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

COS-16-9.84
COS-36-20.06

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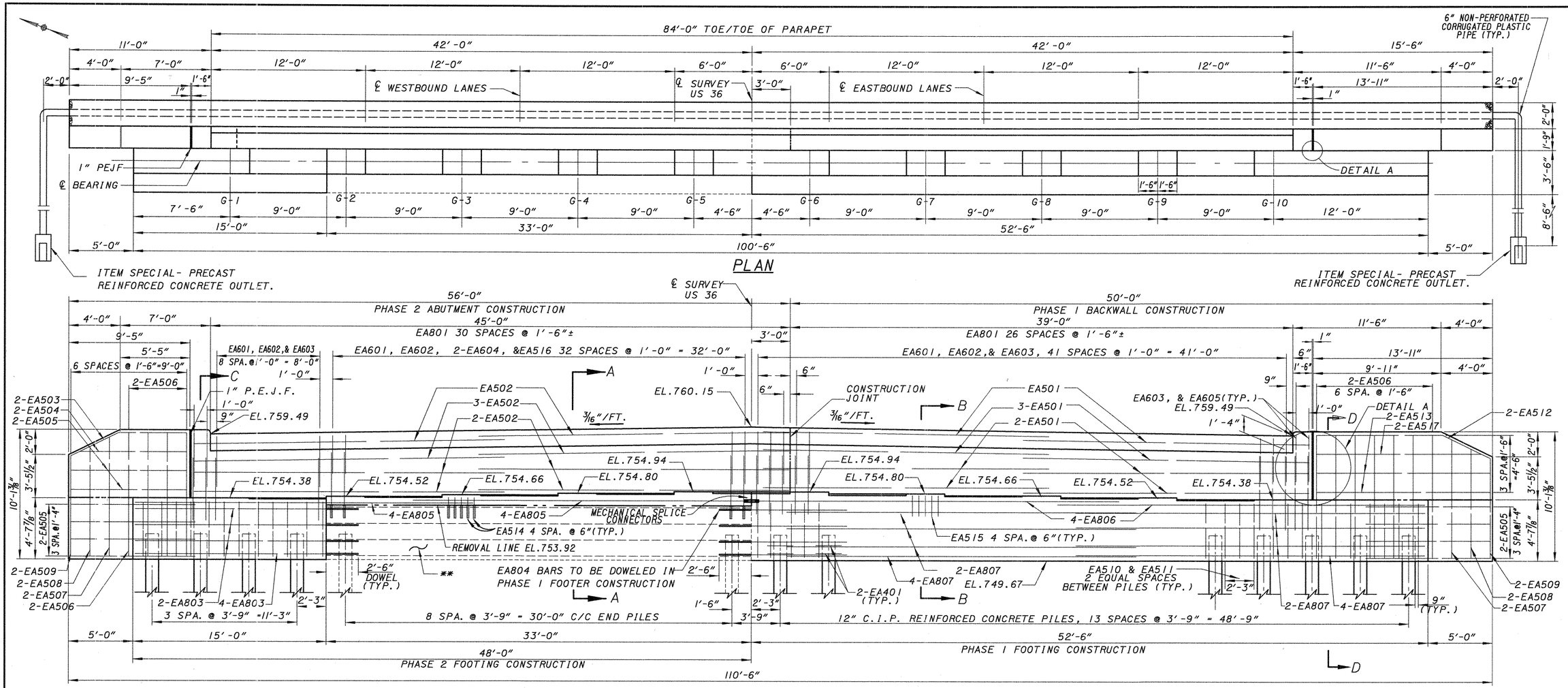
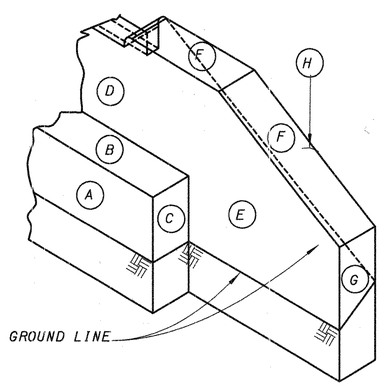
231




PLAN




ELEVATION




ABUTMENT SEALING DETAIL

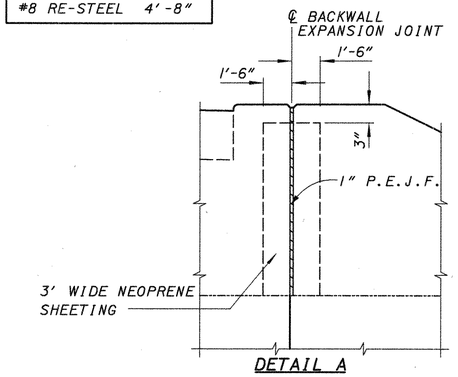
| | SEALING OF CONCRETE SURFACES-EPOXY | | |
|---|---|---|---|
| | DESCRIPTION OF AREA | AREA LOCATION ON ABUTMENTS | |
| | | REAR ABUT. | FWD. ABUT. |
| A | FACE OF BREASTWALL | 13 | 14 |
| B | BEAM SEAT | 21 | 22 |
| C | SIDE OF BREASTWALL | 1 | 1 |
| D | BACKWALL | 37 | 37 |
| E | FRONT OF WINGWALL | 10 | 14 |
| F | TOP OF WINGWALL | 5 | 6 |
| G | SIDE OF WINGWALL | 2 | 2 |
| H | BACK OF WINGWALL | 5 | 6 |
| | SUB-TOTAL | 94 | 102 |
| | TOTAL | 196 | |
| | DECK(PARAPETS) | 949 | |
| | GRAND TOTAL | 1145 SQ. YD. | |

* ALL VERTICAL CONSTRUCTION JOINTS AT BACKWALL & FOOTER SHALL BE SEALED WITH TYPE B WATERPROOFING, 3 FOOT WIDE, CENTERED OVER JOINT AND EXTENDING THE FULL LENGTH OF THE JOINT. WATERPROOFING TO BE INCLUDED WITH ITEM 511- CLASS C CONCRETE, ABUTMENT, AS PER PLAN FOR PAYMENT (TYPICAL @ REAR AND FORWARD ABUTMENTS)

** IN LIEU OF SALVAGING THE EXISTING ABUTMENT CONCRETE, AT THE OPTION OF THE CONTRACTOR, AT NO ADDITIONAL COST NEW CONCRETE MAY BE USED SUBJECT TO THE APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL SUBMIT A REVISED BAR SCHEDULE FOR APPROVAL. EXISTING PILES TO REMAIN IN PLACE. COST TO BE INCLUDED WITH CORRESPONDING BID ITEMS. (TYPICAL @ REAR AND FORWARD ABUTMENTS)

NOTE: FOR ADDITIONAL ABUTMENT DETAILS, SEE SHEET 8/21.

| MINIMUM LAP LENGTHS | |
|---|---|
| #4 RE-STEEL | 2'-0" |
| #5 RE-STEEL | 2'-6" |
| #6 RE-STEEL | 3'-0" |
| #8 RE-STEEL | 4'-8" |




DETAIL A

C036I0A2.dgn 02/14/97

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 5

| DESIGNED | DRAWN | REVIEWED | DATE |
|---|---|---|---|
| KAK | KAK | | |
| CHECKED | REVISED | STRUCTURE FILE NUMBER | |
| | | 1600451 | |

PPOPOSED FORWARD ABUTMENT
BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

COS-16-9.84
COS-36-20.06

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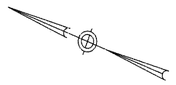
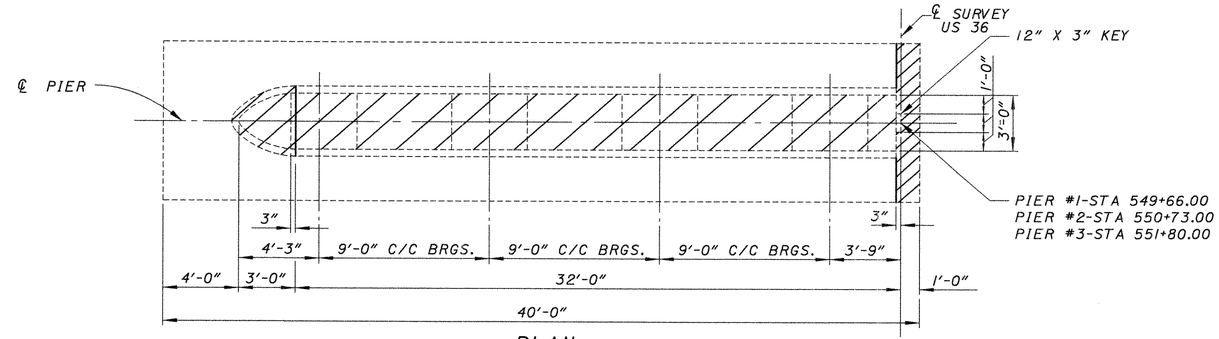
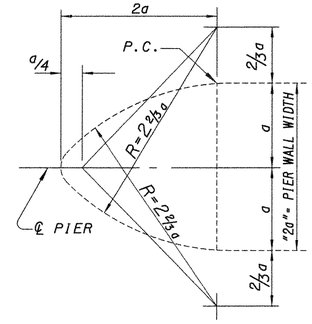
231

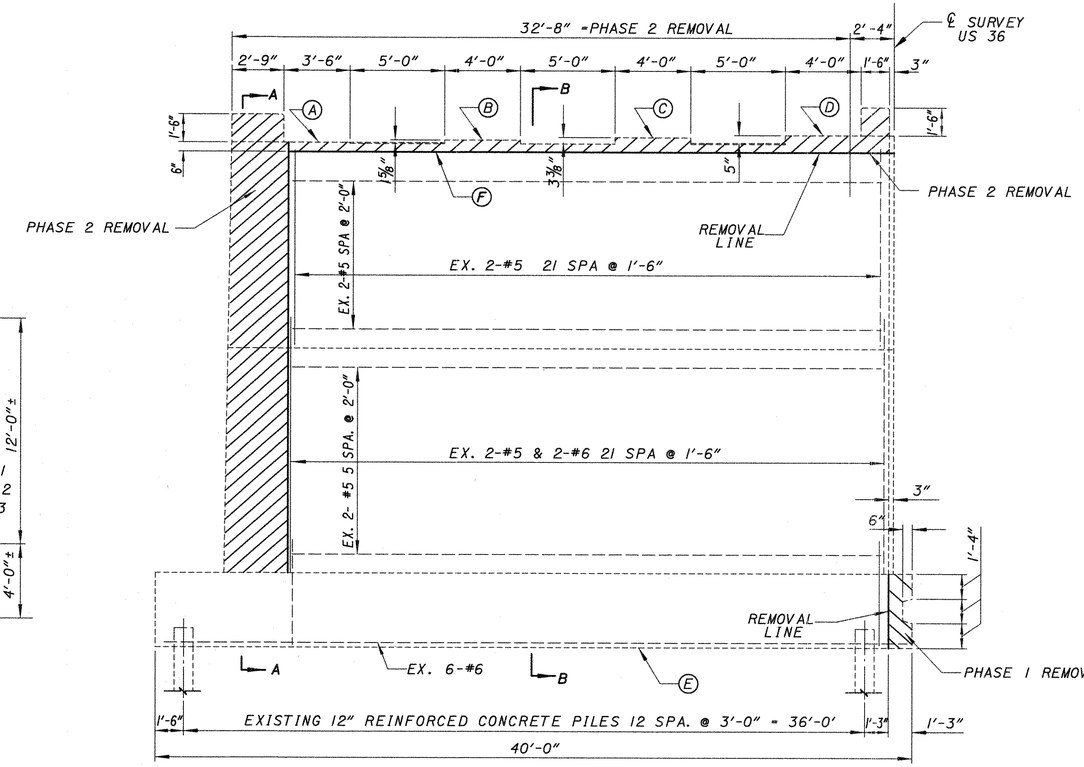




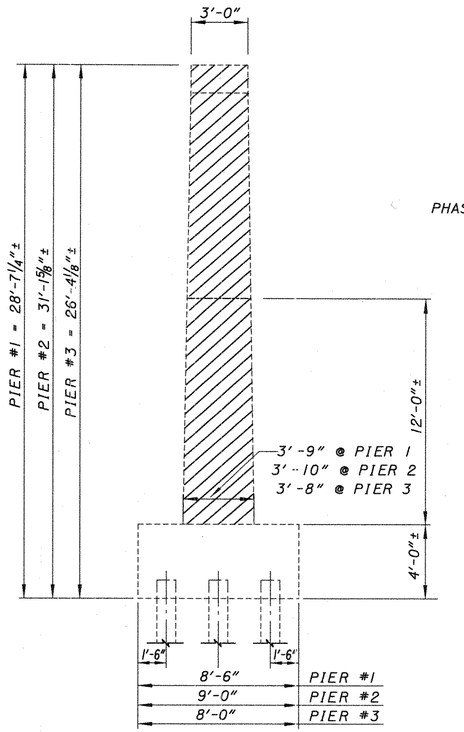

PLAN



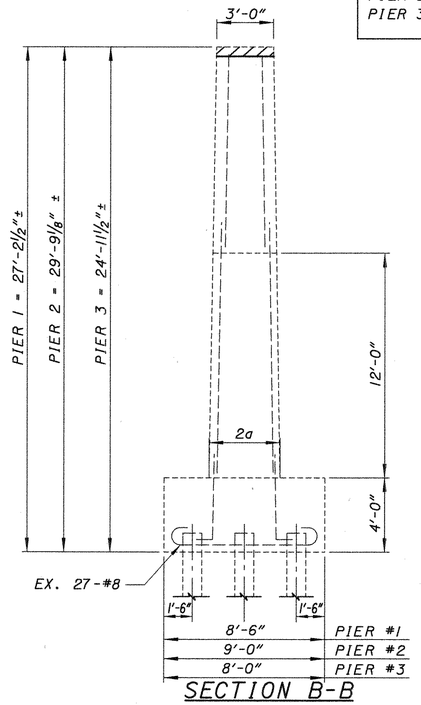

EXISTING PIER NOSE DETAILS




ELEVATION

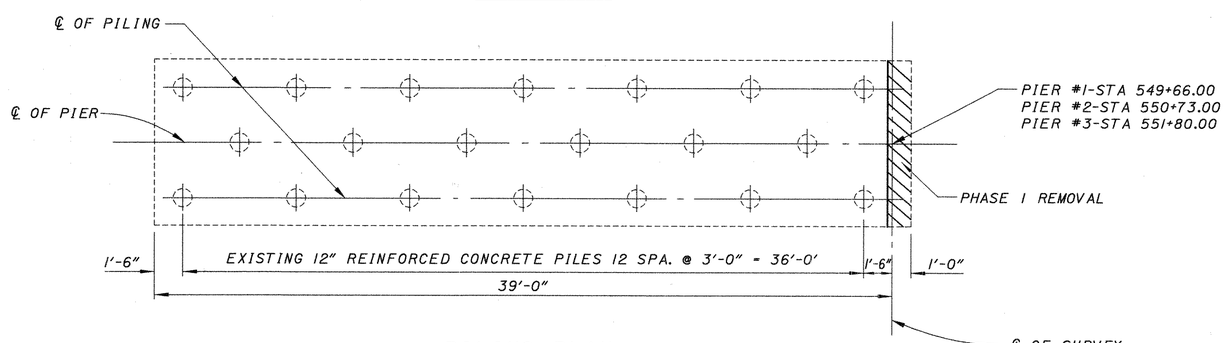



SECTION A-A




SECTION B-B

2a=
PIER 1=3'-9"
PIER 2=3'-10"
PIER 3=3'-8"




PILING PLAN

LEGEND

PHASE 1 REMOVALS

PHASE 2 REMOVALS

| LOCATION / PIER | ELEVATIONS | | | | | |
|---|---|---|---|---|---|---|
| | A | B | C | D | E | F |
| PIER 1 | 752.01 | 752.13 | 752.27 | 752.41 | 724.91 | 751.51 |
| PIER 2 | 751.55 | 751.67 | 751.83 | 751.96 | 721.91 | 751.05 |
| PIER 3 | 751.15 | 751.27 | 751.44 | 751.56 | 726.31 | 750.65 |

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 5

DESIGNED KAK | DRAWN TAG | CHECKED RSD | REVIEWED WK | DATE 02/18/97 | REVISED | STRUCTURE FILE NUMBER 1600451

EXISTING PIER DETAILS
BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

COS-16-9.84
COS-36-20.06

10/21

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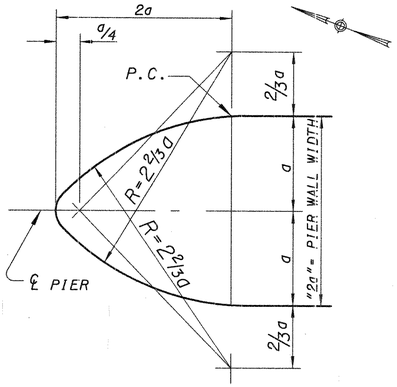
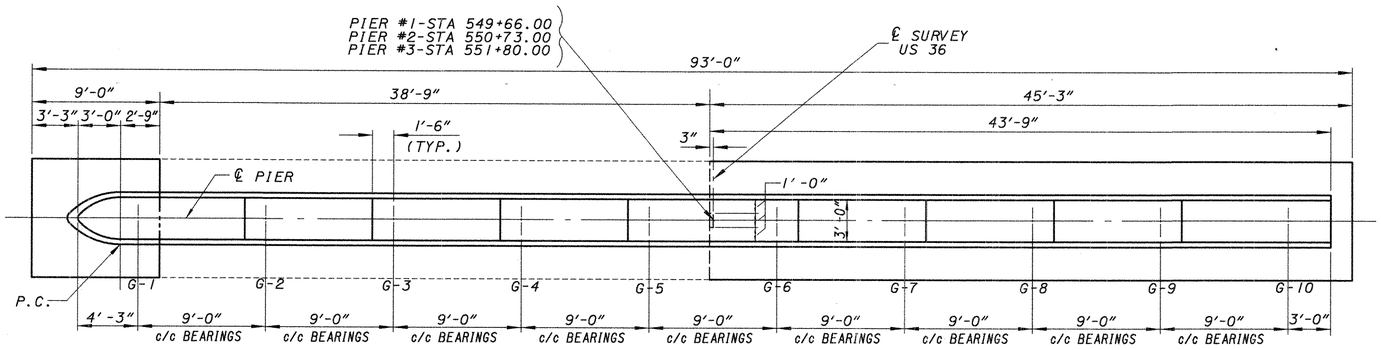
231

C036IOPI.DGN 01-10-97



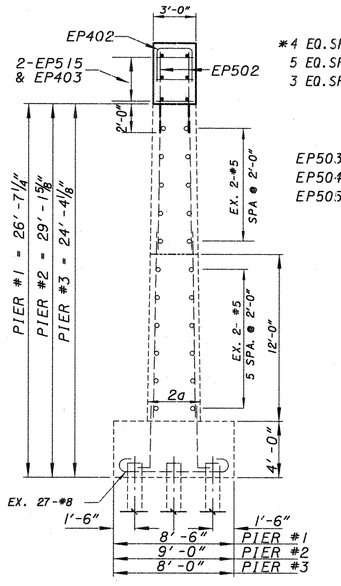

PIER NOSE DESIGN



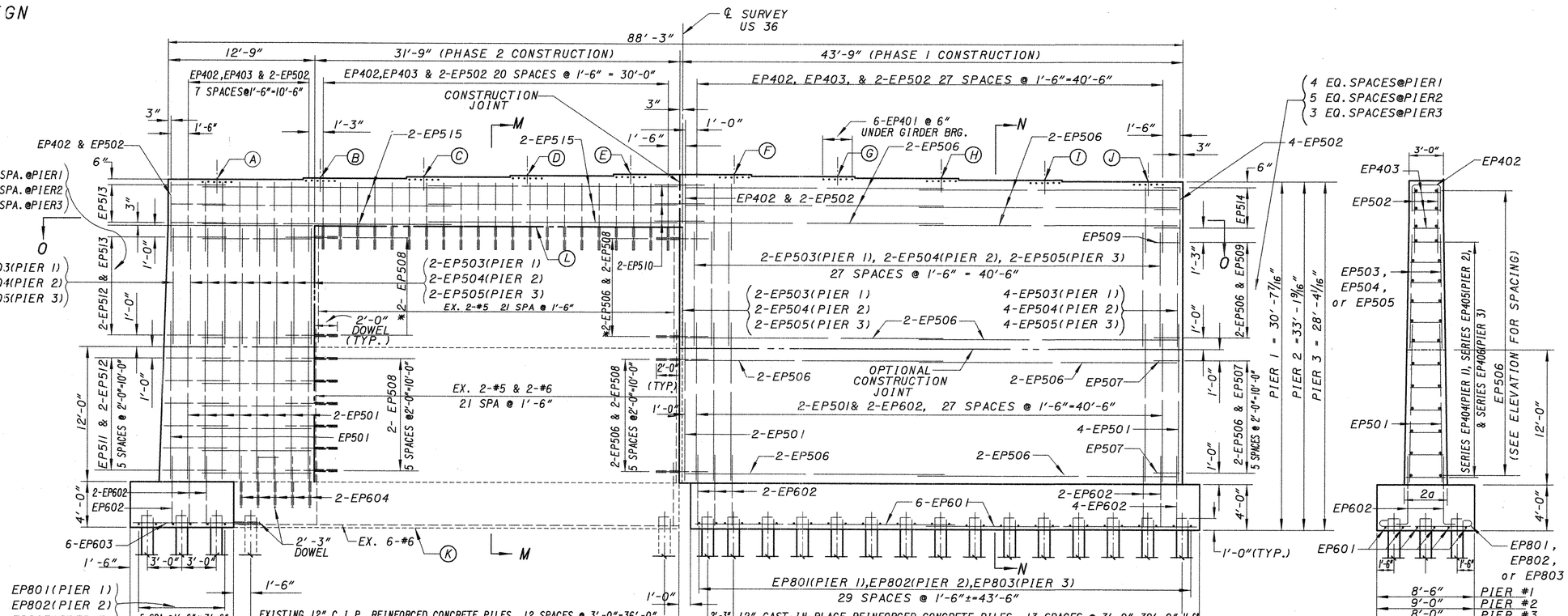

PLAN

2a=
PIER 1-3'-9"
PIER 2-3'-10"
PIER 3-3'-8"

MINIMUM LAP LENGTHS
#4 RE-STEEL = 2'-0"
#5 RE-STEEL = 2'-6"
#6 RE-STEEL = 3'-0"
#8 RE-STEEL = 4'-8"



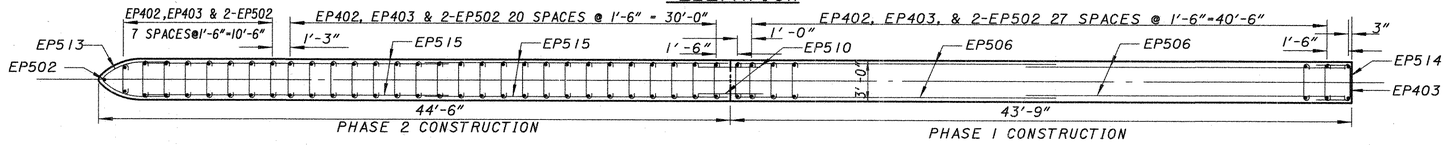

SECTION M-M




ELEVATION




SECTION N-N




SECTION O-O

NOTE: FOR PILING PLAN, SEE SHEET 11/21.

| ELEVATIONS | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOCATION | A | B | C | D | E | F | G | H | I | J | K | L |
| PIER 1 | 755.51 | 755.65 | 755.79 | 755.93 | 756.07 | 756.07 | 755.93 | 755.79 | 755.65 | 755.51 | 724.91 | 751.51 |
| PIER 2 | 755.04 | 755.18 | 755.32 | 755.46 | 755.60 | 755.60 | 755.46 | 755.32 | 755.18 | 755.04 | 721.91 | 751.05 |
| PIER 3 | 754.65 | 754.79 | 754.93 | 755.07 | 755.21 | 755.21 | 755.07 | 754.93 | 754.79 | 754.65 | 726.31 | 750.65 |

C036IOPI.DGN 1-10-97

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 5

DESIGNED KAK | DRAWN KAK | REVIEWED NK | DATE 02/18/97
CHECKED RSD | REVISED | STRUCTURE FILE NUMBER 1600451

PROPOSED PIER DETAILS
BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

COS-16-9.84
COS-36-20.06

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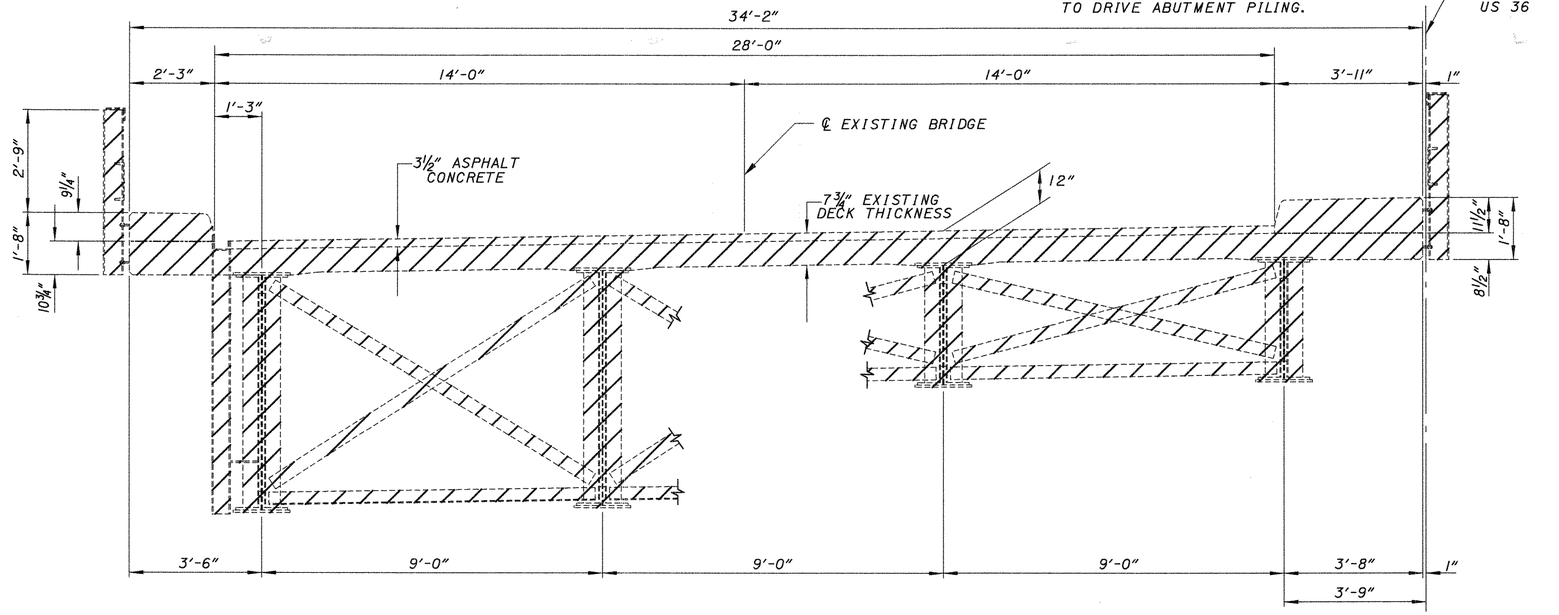
NOTE: PORTION OF EXISTING BRIDGE RAIL MAY REQUIRE REMOVAL DURING PHASE I TO DRIVE ABUTMENT PILING.



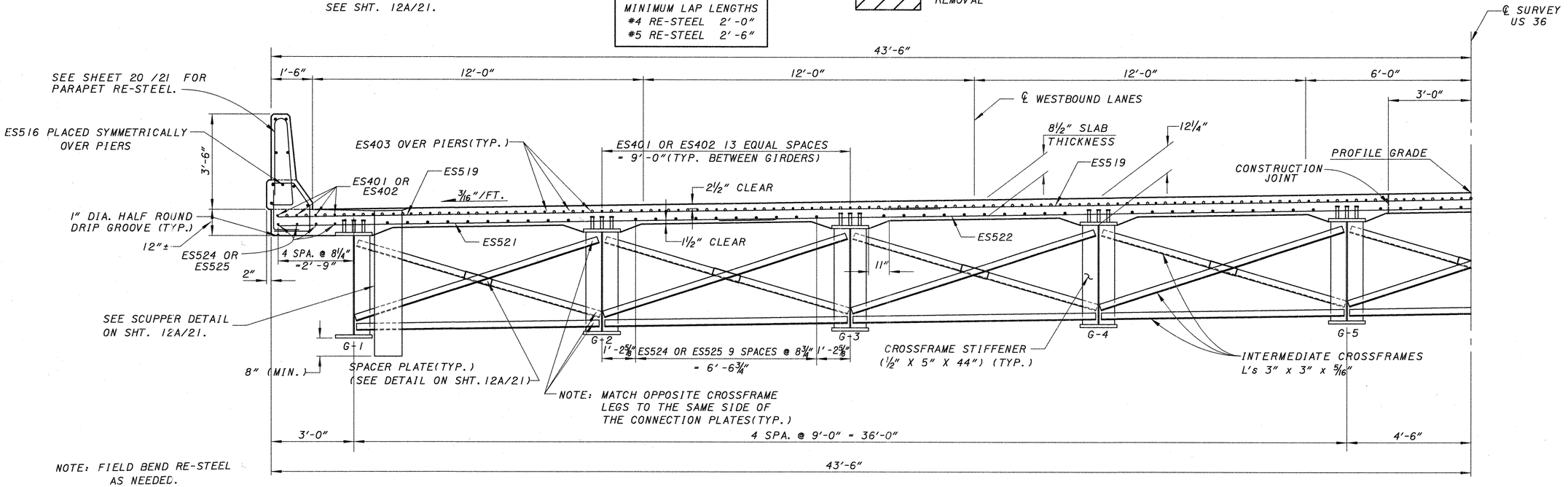

NOTE: SLOPE TOE OF SCUPPER TO MATCH DECK SURFACE. PIPE OUTLET(DOWNSPOUT) SHALL EXTEND 8" BELOW BOTTOM OF FLANGE. FOR ADDITIONAL DETAILS, SEE SHT. 12A/21.

## EXISTING TRANSVERSE SECTION

NOTE: PROPOSED BRIDGE IS SYMMETRICAL ABOUT ℄ PIER 2.

REMOVAL

| MINIMUM LAP LENGTHS | |
|---|---|
| #4 RE-STEEL | 2'-0" |
| #5 RE-STEEL | 2'-6" |




NOTE: FIELD BEND RE-STEEL AS NEEDED.

## PROPOSED HALF TRANSVERSE SECTION

NOTE: FOR ADDITIONAL CROSSFRAME DETAILS: SEE STANDARD DRAWINGS GSD-1-96.

NOTE: FOR ADDITIONAL SUPERSTRUCTURE DETAILS, SEE SHEET 13/21, 14/21, 15/21, & 16/21.

C036107TS.DGN 02-21-97

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 5

| DESIGNED | DRAWN | REVIEWED | DATE |
|---|---|---|---|
| KAK | TAG | WK | 02/18/97 |
| CHECKED | REVISED | STRUCTURE FILE NUMBER | |
| RSD | | 1600451 | |

TRANSVERSE SECTION
BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

COS-16-9.84
COS-36-20.06

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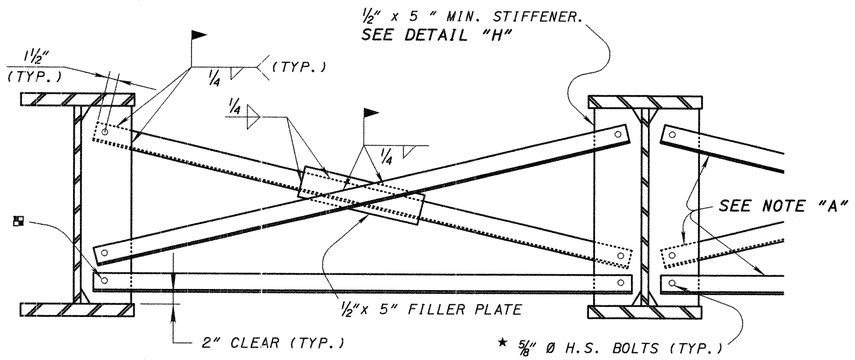
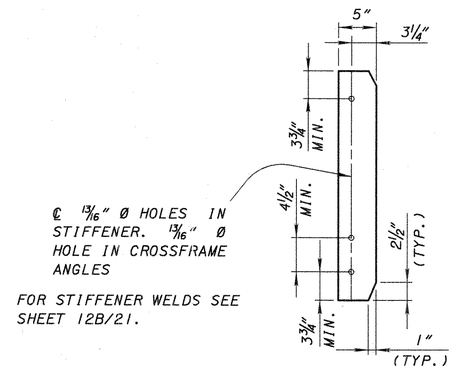



## INTERMEDIATE WELDED CROSSFRAME DETAILS

### NOTE "A"

MATCH CROSSFRAME LEGS TO EACH SIDE OF THE WEB.




## DETAIL "H"

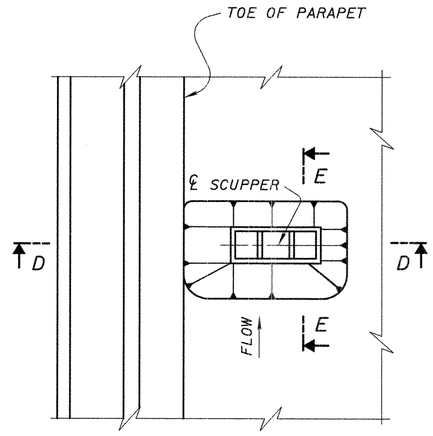
★ ALL BOLTS ARE A325 TYPE 1 GALVANIZED FOR A GALVANIZED OR PAINTED BRIDGE AND A325 TYPE 3 FOR A588 WEATHERING STEEL BRIDGE. EACH ANCHOR ASSEMBLY SHALL INCLUDE A BOLT, NUT AND TWO (2) WASHERS, TIGHTENED PER CMS SECTION 513.15.

THE FABRICATOR SHALL CHECK LONGITUDINAL CROSSFRAME SPACING SO THAT INTERFERENCE WITH BOLTED SPLICES, ANCHOR BOLTS, COMPLETE PENETRATION WEB OR FLANGE WELDED SPLICES AND BEARING STIFFENERS CAN BE AVOIDED. SPACING SHALL BE ADJUSTED TO PROVIDE AT LEAST SIX INCHES OF LONGITUDINAL CLEARANCE. THE FABRICATOR MAY ADJUST CROSS-FRAME SPACES UP TO A MAXIMUM OF 15'-0" CENTER TO CENTER UNLESS THE CONTRACT DRAWINGS PROVIDE A NOTED MAXIMUM.

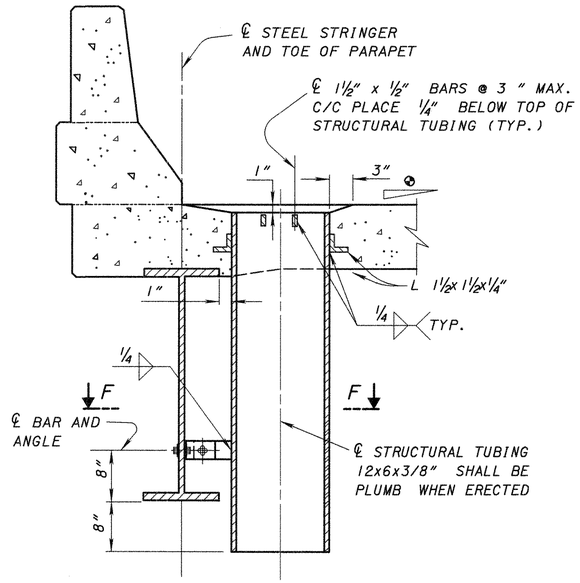
FOR COMPLETELY SHOP PAINTED OR GALVANIZED SYSTEMS, A TYPE 2 OR TYPE 4 CROSSFRAME SHALL BE USED.

AT THE OPTION OF THE CONTRACTOR, TYPE 2 CROSSFRAME CAN BE USED IN LIEU OF TYPE 1 CROSSFRAME AND TYPE 4 CROSSFRAME CAN BE USED INSTEAD OF TYPE 3 CROSSFRAME.

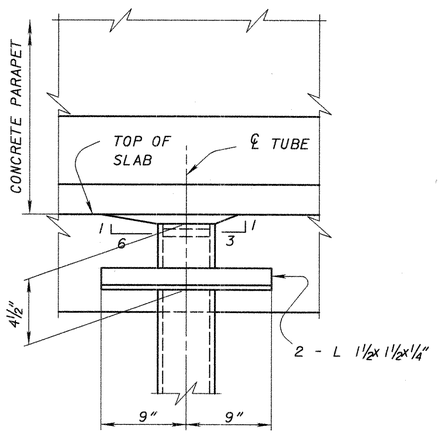
◪ AT SKEWED STRUCTURES THE NEED OF SLOTTED HOLES AT EACH CROSS FRAME LOCATION SHALL BE INVESTIGATED AND SPECIFIED ON THE PLANS AS REQUIRED.




## PLAN




## SECTION D-D

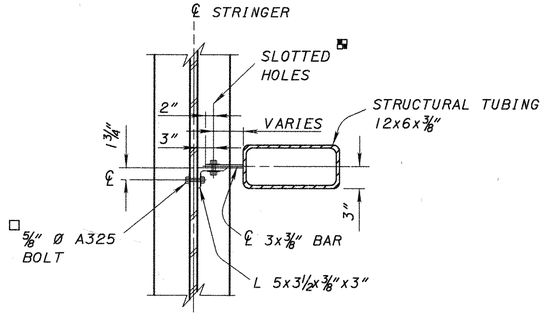



## SECTION E-E

THE SCUPPERS SHALL BE LOCATED ON THE BRIDGE DECK BASED ON BRIDGE GEOMETRY AND THE CONTRIBUTING DECK DRAINAGE.

◴ SQUARE CUT TOP OF TUBE UNLESS DESIGNER SPECIFIES CROSS SLOPE GREATER THAN ½" PER FOOT IN WHICH CASE THE TOP IS TO BE CUT PARALLEL TO THE CROSS SLOPE.

◪ SLOTTED HOLES SHALL BE 11⁄16" x 1 3⁄16". THE SLOT SHALL BE HORIZONTAL IN THE 3 x ¾" BAR AND VERTICAL IN THE ANGLE. USE A ⅝" Ø A325 HIGH STRENGTH HEX HEAD BOLT WITH HEX NUT AND WASHERS, TIGHTEN AS PER CMS 513.15.




## SECTION F-F

□ ⅝" Ø A325 TYPE 1 GALVANIZED FOR A GALVANIZED OR PAINTED BRIDGE AND A325 TYPE 3 FOR A588 WEATHERING STEEL BRIDGE. EACH ASSEMBLY SHALL INCLUDE A BOLT, NUT AND TWO (2) WASHERS, TIGHTENED PER CMS SECTION 513.15. FOR A GALVANIZED BRIDGE SYSTEM PROVIDED A 3.5" x 3.5" x 1⁄8" PREFORMED BEARING PAD WITH A 13⁄16" O HOLE AS PER CMS 711.21 BETWEEN THE BEAM WEB AND THE ANGLE. FIELD DRILL 13⁄16" DIAMETER HOLE IN THE WEB AFTER THE DECK CONCRETE HAS BEEN POURED.

THE SUPPORT ANGLES, BARS, SUPPORT BOLTS AND RELATED HARDWARE ARE INCLUDED WITH SCUPPERS FOR PAYMENT.

SCUPPERS INCLUDING SUPPORT ANGLES, BARS, BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH CMS 711.02.

GSD196.DGN 02/21/97

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 5

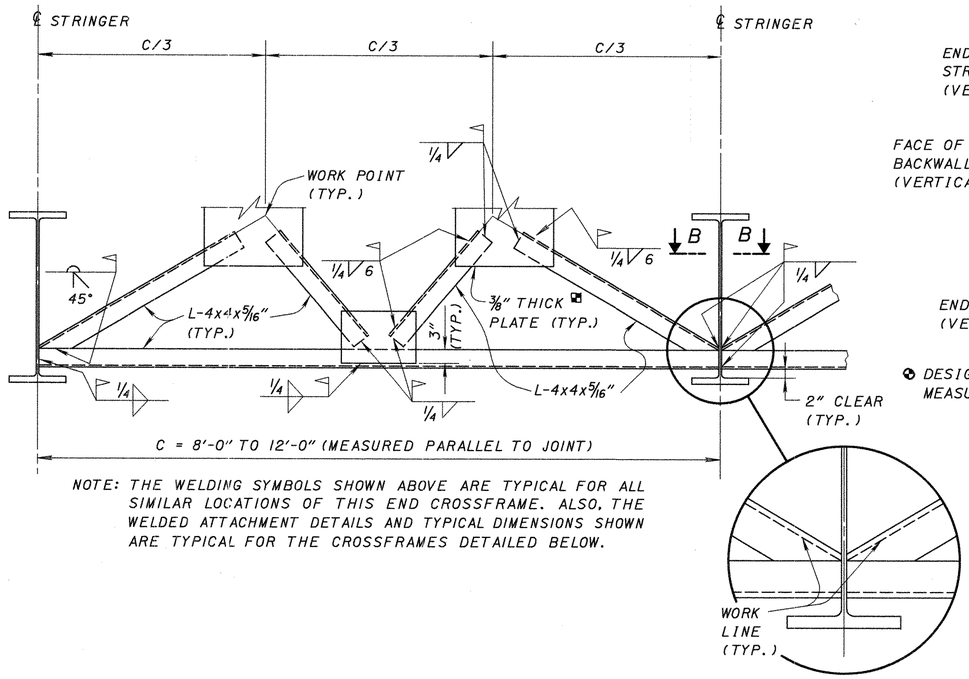
| DESIGNED | DRAWN | REVIEWED | DATE |
|---|---|---|---|
| JCR | BDB/FD | NK | 02/18/97 |
| CHECKED | REVISED | STRUCTURE FILE NUMBER | |
| JS | | 1600451 | |

STRUCTURAL DETAILS
BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

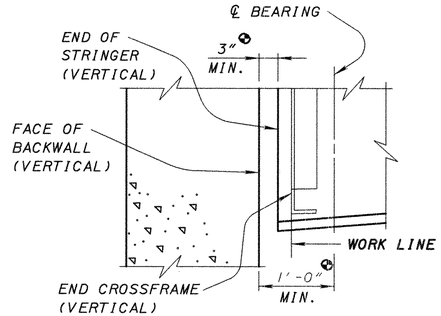
COS-16-9.84
COS-36-20.06

12A/21

222A/231



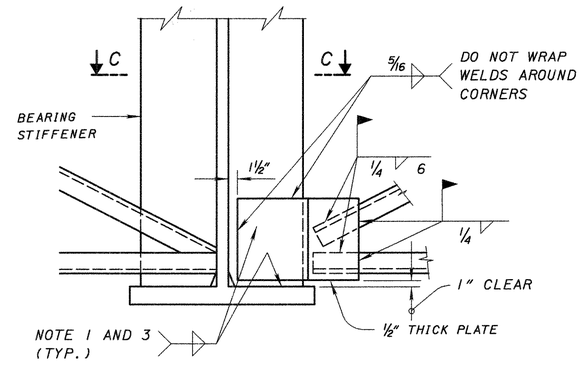

NOTE: THE WELDING SYMBOLS SHOWN ABOVE ARE TYPICAL FOR ALL SIMILAR LOCATIONS OF THIS END CROSSFRAME. ALSO, THE WELDED ATTACHMENT DETAILS AND TYPICAL DIMENSIONS SHOWN ARE TYPICAL FOR THE CROSSFRAMES DETAILED BELOW.




## ELEVATION OF GIRDER

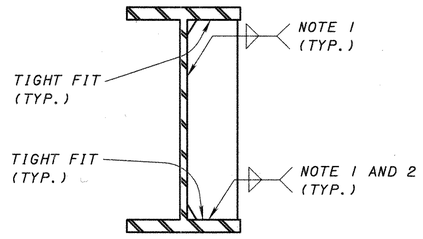
◘ DESIGNER TO ESTABLISH DIMENSION REQUIRED, MEASURED NORMAL TO BACKWALL.

◘ 3/8" THICK PLATE IS A PART OF THE EXPANSION JOINT SYSTEM. SEE EXPANSION JOINT STANDARD DRAWINGS FOR DETAILS.

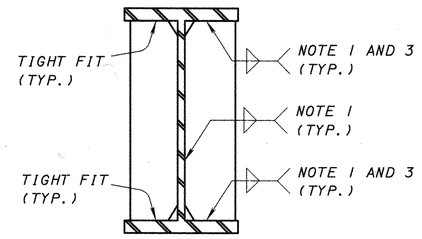



## GIRDER END

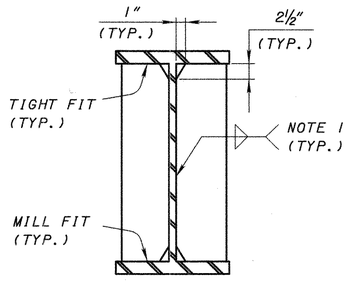
END CROSSFRAME FOR SKEWED BRIDGES WHERE BEARING STIFFENERS INTERFERE WITH END CROSSFRAMES.



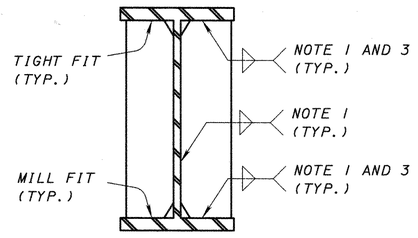

## INTERMEDIATE STIFFENER




## INTERMEDIATE STIFFENER WITH CROSSFRAMES




## BEARING STIFFENER




## BEARING STIFFENER WITH CROSSFRAMES

### NOTES:

1. PROVIDE 1/4" WELD WHEN THE THICKER PLATE IS 3/4" OR LESS OR 5/16" WELD WHEN THE THICKER PLATE IS GREATER THAN 3/4", UNLESS DESIGN REQUIRES LARGER WELDS (SEE CMS 513.17).
2. INTERMEDIATE STIFFENERS REQUIRE FILLET WELDS TO THE COMPRESSION FLANGE ONLY PER CMS 513.08.
3. STIFFENERS TO WHICH CROSS FRAMES CONNECT REQUIRE FILLET WELDS TO BOTH FLANGES PER CMS 513.08

**BEARING STIFFENER:** BEARING STIFFENER SHALL BE VERTICAL AFTER ERECTION.

**WELDS:** STIFFENER TO STRINGER WELDS SHALL BE TERMINATED AS GIVEN BELOW:

A. STIFFENER TO STRINGER FLANGE WELDS 1/4" + 1/8" AT BOTH ENDS OF THE STIFFENER.
B. STIFFENER TO STRINGER WEB WELDS 1/2" + 1/4" AT BOTH ENDS OF THE STIFFENER.

**MILL FIT:** THE BEARING ENDS OF THE BEARING STIFFENER SHALL BE FLUSH AND SQUARE WITH THE WEB AND SHALL HAVE AT LEAST 75 PERCENT OF THIS AREA IN CONTACT WITH THE INNER SURFACE OF THE FLANGE.

**TIGHT FIT:** A TIGHT FIT IS DEFINED AS ONE IN WHICH THE STIFFENER AND FLANGE ARE IN PHYSICAL CONTACT OVER SOME PORTION OF THE END OF THE STIFFENER AND HAVING NO GAP IN EXCESS OF 1/16 INCH.

**BEAM OR GIRDER ENDS:** FOR STRUCTURES ON GRADE THE BEAM OR GIRDER ENDS SHALL BE CUT IN A MANNER THAT THEY ARE VERTICAL AFTER ERECTION. A THREE (3) INCH MINIMUM CLEARANCE AT 60 F SHALL BE MAINTAINED BETWEEN THE VERTICAL ENDS OF THE BEAMS OR GIRDERS AND THE VERTICAL FACE OF THE BACKWALL.

**WORK POINTS:** WORK POINTS SHALL BE COORDINATED BETWEEN EXPANSION JOINT AND STRUCTURAL STEEL SUPPLIERS TO ASSURE FIT UP AT ALL DESIGN LOCATIONS.

**TRANSITION OF THICKNESS OR WIDTH AT BUTT JOINTS:** REFER TO SECTION 9.20 OF THE AMERICAN WELDING SOCIETY (AWS) BRIDGE WELDING CODE AS AMENDED BY SUPPLEMENTAL SPECIFICATION 1011 WHICH PROVIDES TRANSITION DETAILS OF THICKNESSES AND WIDTHS AT COMPLETE PENETRATION BUTT JOINTS.

GSD196.DGN 02/21/97

DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 5
DATE REVIEWED: 02/18/97
STRUCTURE FILE NUMBER: 1600451
DRAWN: BDB/FD
REVISED:
DESIGNED: JCR
CHECKED: JS

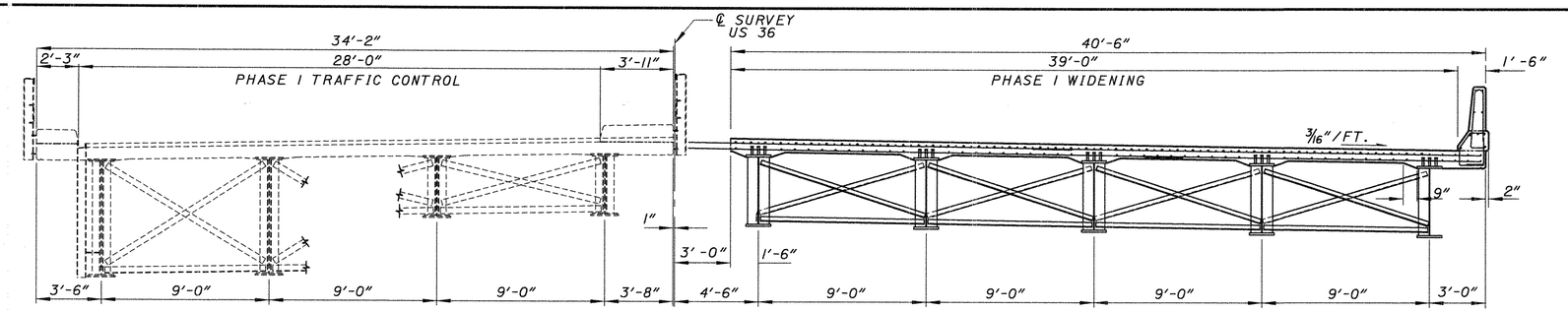
# STRUCTURAL DETAILS

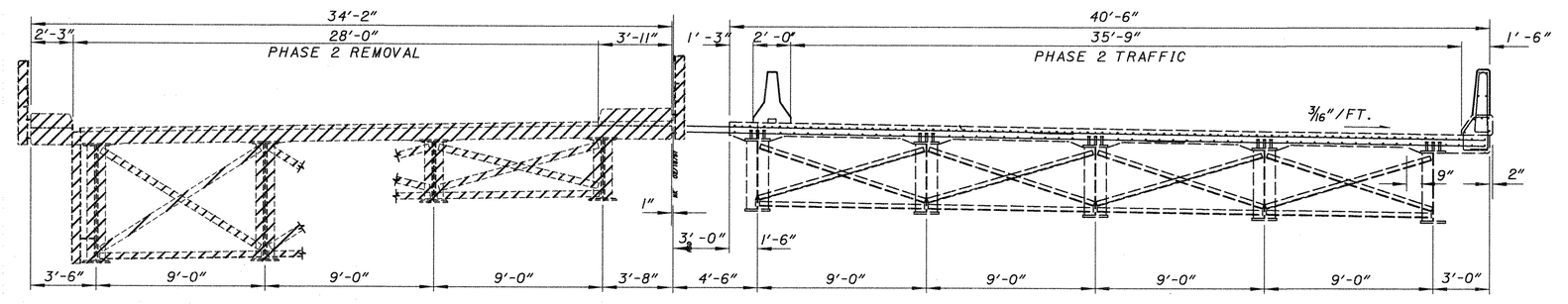
BRIDGE NO. COS-036-2064 OVER WALHONDING RIVER

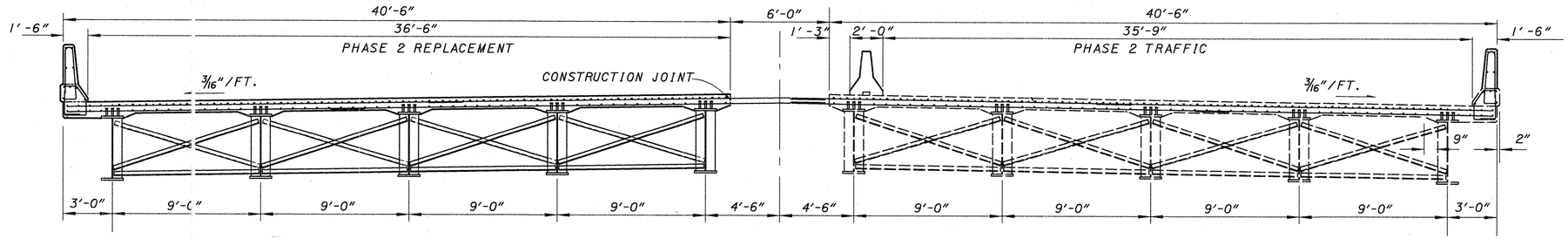
COS-16-9.84
COS-36-20.06

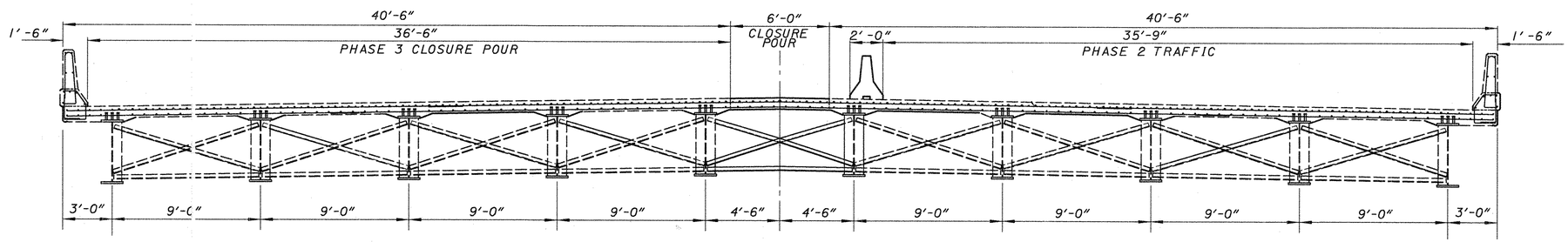
12B 21

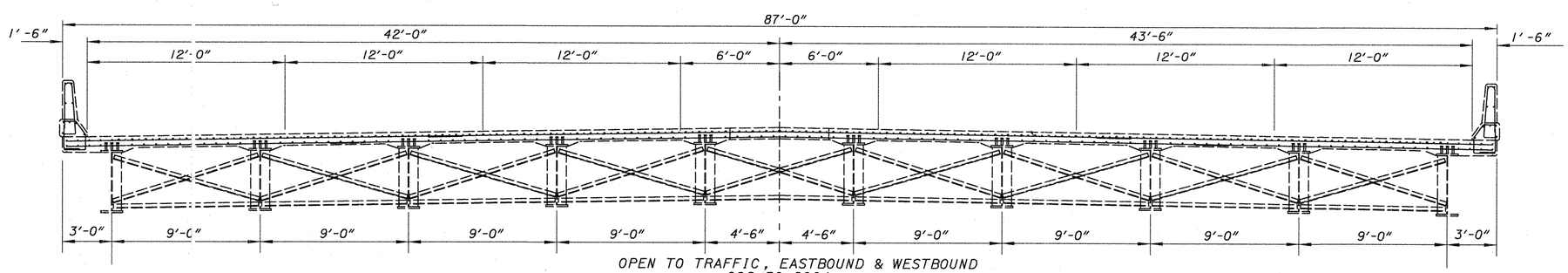
2228 231




OPEN TO TRAFFIC, EASTBOUND & WESTBOUND
COS-36-2064

C0361OTS.DGN 08-23-96

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 5

| DESIGNED | DRAWN | REVIEWED | DATE |
|---|---|---|---|
| KAK | TAG | NK | 02/18/97 |

| CHECKED | REVISED | STRUCTURE FILE NUMBER |
|---|---|---|
| RSD | | 1600451 |

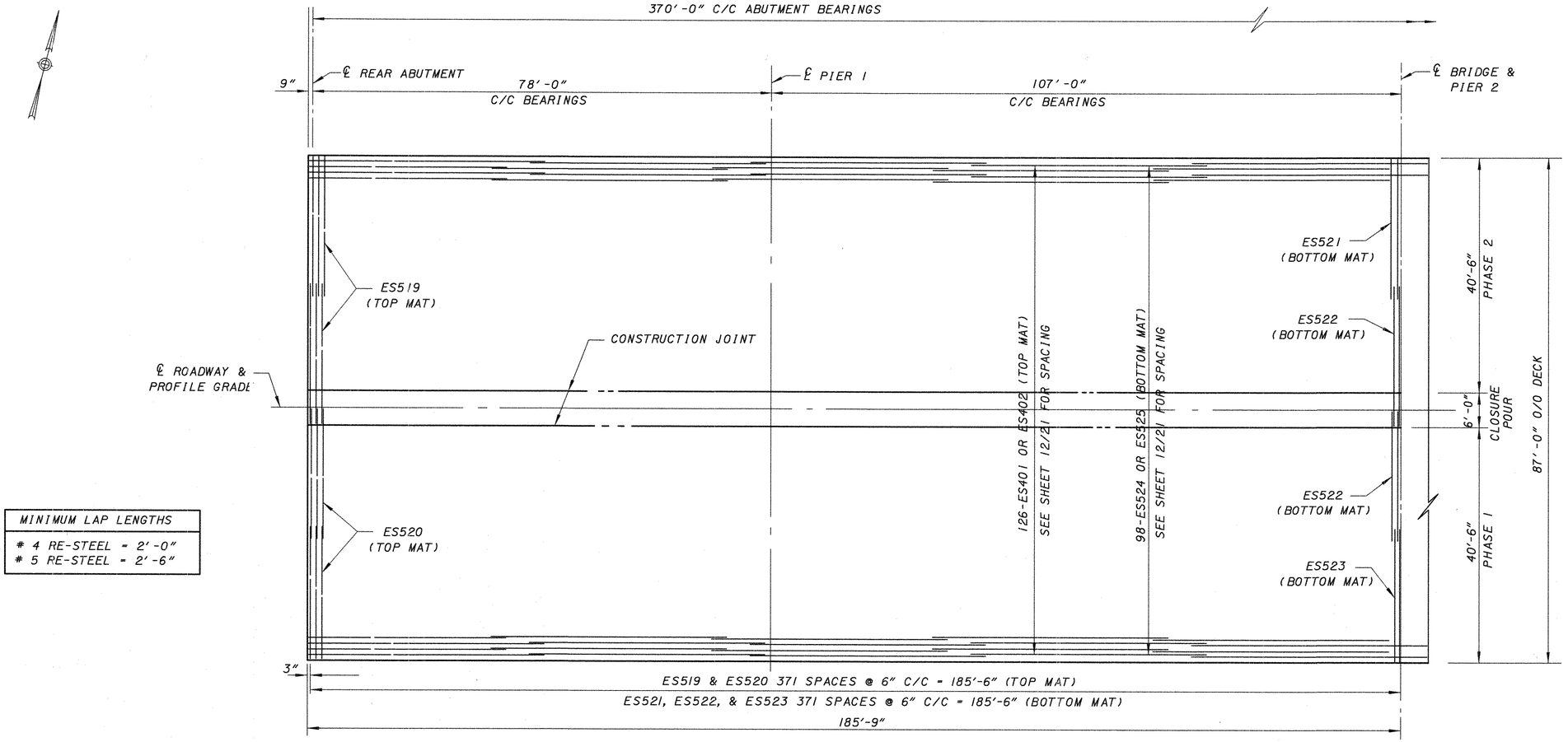
# TRAFFIC CONTROL

BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

**COS-16-9.84**
**COS-36-20.06**

13 / 21

223
231




| MINIMUM LAP LENGTHS |
| --- |
| # 4 RE-STEEL = 2'-0" |
| # 5 RE-STEEL = 2'-6" |

NOTE: FOR ADDITIONAL DECK DETAILS, SEE SHEET 12/21.

HALF DECK PLAN

NOTE: BRIDGE IS SYMMETRICAL ABOUT THE ℄ PIER 2 UNLESS OTHERWISE NOTED.

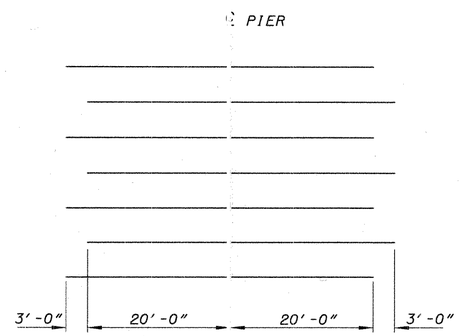



DIAGRAM SHOWING STAGGER OF ES403 BARS OVER PIERS

NOTE: ALTERNATE BAR PLACEMENT IN ADJACENT LONGITUDINAL REINFORCEMENT ROWS FOR ES401 OR ES402 & ES524 OR ES525 IN ORDER TO STAGGER LAPS.

C036105I.DGN

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 5

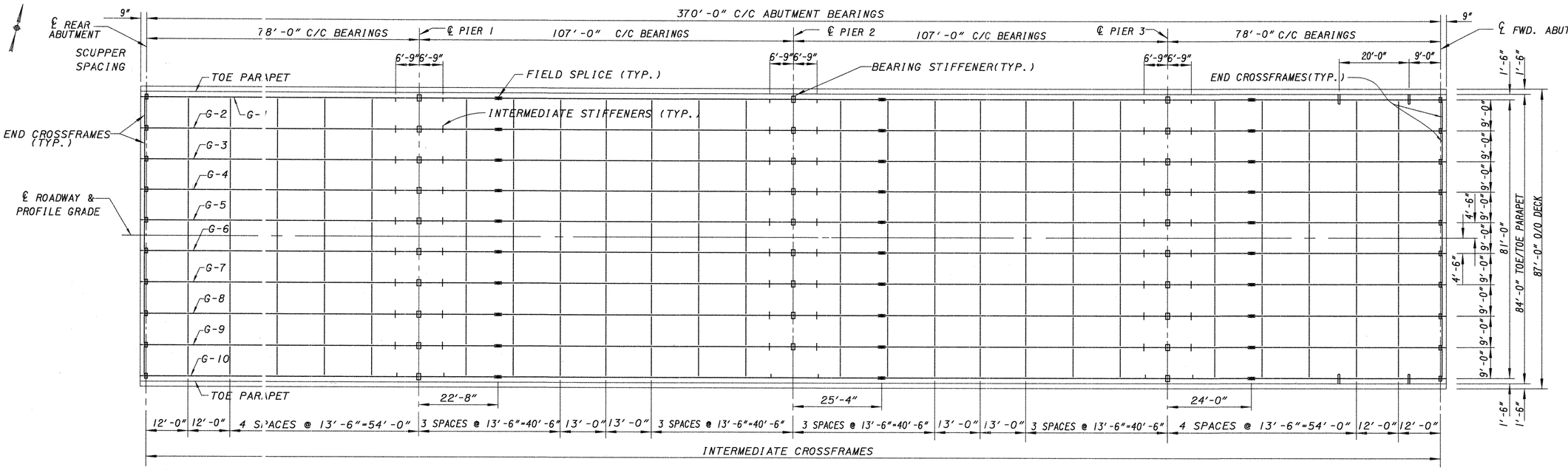
| DESIGNED | DRAWN | REVIEWED | DATE |
| --- | --- | --- | --- |
| KAK | KAK | NK | 02/18/97 |
| CHECKED | REVISED | STRUCTURE FILE NUMBER | |
| RSD | | 1600451 | |

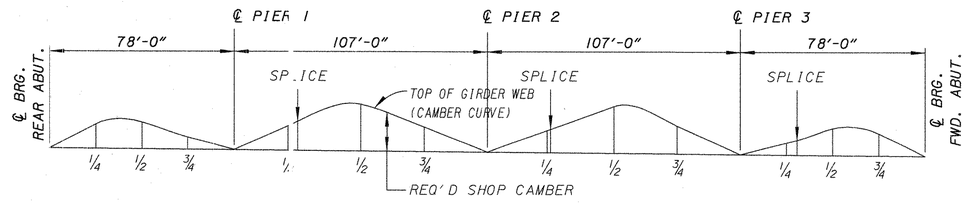
SUPERSTRUCTURE DETAILS
BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

COS-16-9.84
COS-36-20.06

14 / 21

224
231




| STRUCTURAL STEEL | | | |
|---|---|---|---|
| DESCRIPTION | QUANT. | SIZE | WEIGHT (LBS.) |
| INTERMEDIATE CROSSFRAMES | 243 | 3"x3"x5/16" | 44660 |
| END CROSSFRAMES | 18 | 4"x4"x5/16" | 3739 |
| GUSSET PLATES | 54 | 2'x1'x3/8" | 1652 |
| SPACER PLATES | 243 | 5"X 12"X1/2" | 2068 |
| | | TOTAL | 52119 |

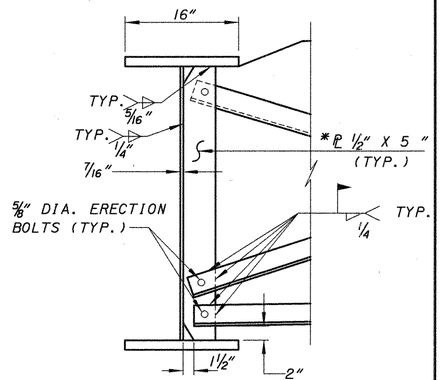
NOTES
ALL WEIGHTS GIVEN ARE FOR ESTIMATING PURPOSE ONLY.

STIFFENER PLATES SHALL HAVE CORNERS IN CONTACT WITH BOTH WEB AND FLANGE CLIPPED. THE CLIP DIMENSIONS SHALL BE 1½" HORIZONTALLY AND 2½" VERTICALLY. CROSS FRAME STIFFENERS SHALL BE WELDED TO THE GIRDER.

CROSS FRAMES SHALL NOT BE ATTACHED BETWEEN PHASES UNTIL ALL DEADLOAD HAS BEEN APPLIED TO THE MEMBERS.

MATCH OPPOSITE CROSSFRAME LEGS TO SAME SIDE OF STIFFENER PLATES (TYP.).

FOR ADDITIONAL DETAILS, SEE SHEETS 12/21 AND 16/21.




CROSSFRAME STIFFENER DETAIL @ OUTSIDE GIRDER

* CROSSFRAME STIFFENERS ARE DOUBLE STIFFENERS UNLESS THEY ARE NOT REQUIRED TO CONNECT CROSSFRAMES.

CAMBER AND DEFLECTION(INTERIOR AND EXTERIOR BEAMS)

| LOCATION | SPAN 1 | | | SPAN 2 | | | | SPAN 3 | | | | SPAN 4 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1/4 PT. | MIDSPAN | 3/4 PT. | ℄ SPLICE | 1/4 PT. | MIDSPAN | 3/4 PT. | ℄ SPLICE | 1/4 PT. | MIDSPAN | 3/4 PT. | 1/4 PT. | ℄ SPLICE | MIDSPAN | 3/4 PT. |
| DEFLECTION DUE TO WEIGHT OF STEEL | 1/8" | 1/8" | 1/16" | 1/8" | 1/8" | 1/4" | 1/8" | 1/8" | 1/8" | 1/4" | 1/8" | 1/16" | 1/16" | 1/8" | 1/8" |
| DEFLECTION DUE TO REMAINING DEAD LOAD | 7/16" | 9/16" | 3/16" | 1/2" | 5/8" | 15/16" | 1/2" | 7/16" | 1/2" | 15/16" | 5/8" | 3/16" | 5/16" | 9/16" | 7/16" |
| REQUIRED SHOP CAMBER | 9/16" | 11/16" | 1/4" | 5/8" | 3/4" | 1 3/16" | 5/8" | 9/16" | 5/8" | 1 3/16" | 3/4" | 1/4" | 3/8" | 11/16" | 9/16" |

DECK SCREED ELEVATIONS

| LOCATION / LINE | STA.548+88.00 ℄ BEARING REAR ABUTMENT | STA.549+07.50 1/4 SPAN 1 | STA.549+27.00 MIDSPAN SPAN 1 | STA.549+46.50 3/4 SPAN 1 | STA.549+66.00 ℄ BEARING PIER 1 | STA.549+88.67 ℄ BOLTED SPLICE | STA.549+92.75 1/4 SPAN 2 | STA.550+19.50 MIDSPAN SPAN 2 | STA.550+46.25 3/4 SPAN 2 | STA.550+73.00 ℄ BEARING PIER 2 | STA.550+98.33 ℄ BOLTED SPLICE | STA.550+99.75 1/4 SPAN 3 | STA.551+26.50 MIDSPAN SPAN 3 | STA.551+53.25 3/4 SPAN 3 | STA.551+80.00 ℄ BEARING PIER 3 | STA.551+99.50 1/4 SPAN 4 | STA.552+04.00 ℄ BOLTED SPLICE | STA.552+19.00 MIDSPAN SPAN 4 | STA.552+38.50 3/4 SPAN 4 | STA.552+58.00 ℄ BEARING FWD. ABUT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOE OF PARAPET | 760.98 | 760.94 | 760.87 | 760.76 | 760.67 | 760.62 | 760.62 | 760.53 | 760.39 | 760.24 | 760.18 | 760.18 | 760.11 | 759.97 | 759.81 | 759.75 | 759.74 | 759.70 | 759.62 | 759.50 |
| G-1 | 761.01 | 760.96 | 760.90 | 760.79 | 760.69 | 760.64 | 760.64 | 760.56 | 760.41 | 760.27 | 760.20 | 760.20 | 760.13 | 760.00 | 759.84 | 759.77 | 759.77 | 759.73 | 759.64 | 759.53 |
| G-2 | 761.15 | 761.10 | 761.04 | 760.93 | 760.83 | 760.78 | 760.78 | 760.70 | 760.55 | 760.41 | 760.34 | 760.34 | 760.27 | 760.14 | 759.98 | 759.92 | 759.91 | 759.87 | 759.78 | 759.67 |
| G-3 | 761.29 | 761.24 | 761.18 | 761.07 | 760.97 | 760.93 | 760.92 | 760.84 | 760.69 | 760.55 | 760.48 | 760.48 | 760.41 | 760.28 | 760.12 | 760.06 | 760.05 | 760.01 | 759.92 | 759.81 |
| G-4 | 761.43 | 761.38 | 761.32 | 761.21 | 761.11 | 761.07 | 761.06 | 760.98 | 760.84 | 760.69 | 760.62 | 760.62 | 760.55 | 760.42 | 760.26 | 760.20 | 760.19 | 760.15 | 760.06 | 759.95 |
| G-5 | 761.57 | 761.53 | 761.46 | 761.35 | 761.25 | 761.21 | 761.20 | 761.12 | 760.98 | 760.83 | 760.76 | 760.76 | 760.69 | 760.56 | 760.40 | 760.34 | 760.33 | 760.29 | 760.20 | 760.09 |
| G-6 | 761.57 | 761.53 | 761.46 | 761.35 | 761.25 | 761.21 | 761.20 | 761.12 | 760.98 | 760.83 | 760.76 | 760.76 | 760.69 | 760.56 | 760.40 | 760.34 | 760.33 | 760.29 | 760.20 | 760.09 |
| G-7 | 761.43 | 761.38 | 761.32 | 761.21 | 761.11 | 761.07 | 761.06 | 760.98 | 760.84 | 760.69 | 760.62 | 760.62 | 760.55 | 760.42 | 760.26 | 760.20 | 760.19 | 760.15 | 760.06 | 759.95 |
| G-8 | 761.29 | 761.24 | 761.18 | 761.07 | 760.97 | 760.93 | 760.92 | 760.84 | 760.69 | 760.55 | 760.48 | 760.48 | 760.41 | 760.28 | 760.12 | 760.06 | 760.05 | 760.01 | 759.92 | 759.81 |
| G-9 | 761.15 | 761.10 | 761.04 | 760.93 | 760.83 | 760.78 | 760.78 | 760.70 | 760.55 | 760.41 | 760.34 | 760.34 | 760.27 | 760.14 | 759.98 | 759.92 | 759.91 | 759.87 | 759.78 | 759.67 |
| G-10 | 761.01 | 760.96 | 760.90 | 760.79 | 760.69 | 760.64 | 760.64 | 760.56 | 760.41 | 760.27 | 760.20 | 760.20 | 760.13 | 760.00 | 759.84 | 759.77 | 759.77 | 759.73 | 759.64 | 759.53 |
| TOE OF PARAPET | 760.98 | 760.94 | 760.87 | 760.76 | 760.67 | 760.62 | 760.62 | 760.53 | 760.39 | 760.24 | 760.18 | 760.18 | 760.11 | 759.97 | 759.81 | 759.75 | 759.74 | 759.70 | 759.62 | 759.50 |

SCREED ELEVATIONS GIVEN ARE FOR THE TOP SURFACE OF THE CONCRETE DECK PRIOR TO CONCRETE PLACEMENT. ALLOWANCES HAVE BEEN MADE FOR ANTICIPATED DEFLECTIONS OF GIRDERS DUE TO THE WEIGHT OF THE CONCRETE DECK.

C036IOSD.DGN 2/04/97

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 5

DESIGNED KAK | DRAWN KAK | REVIEWED NK | DATE 02/18/97
CHECKED RSD | REVISED | STRUCTURE FILE NUMBER 1600451

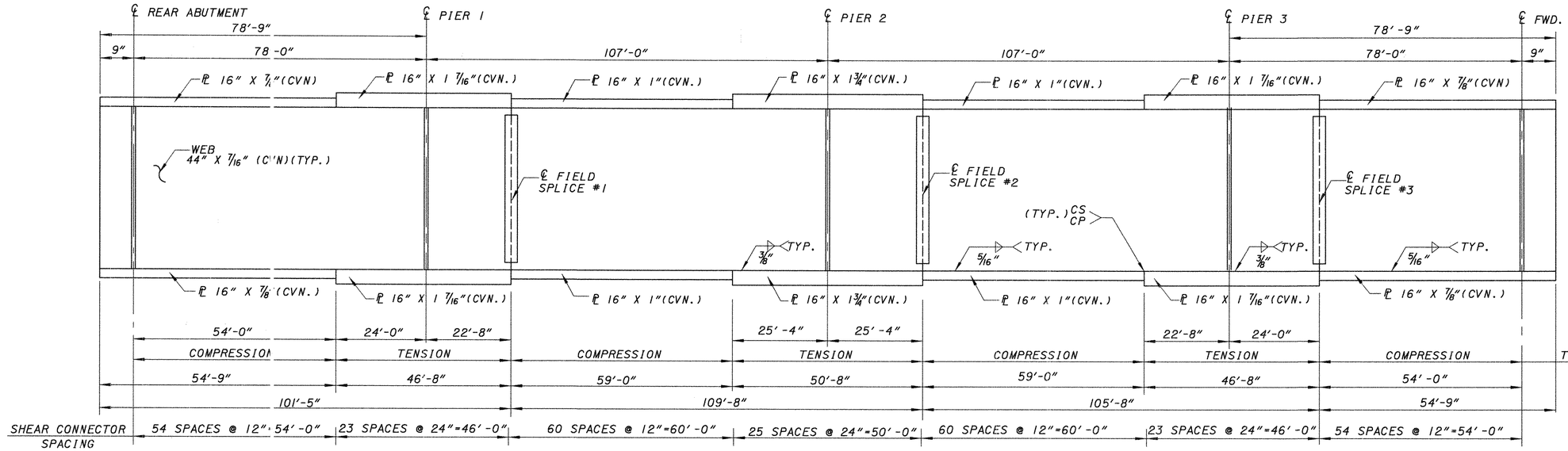
# SUPERSTRUCTURE DETAILS

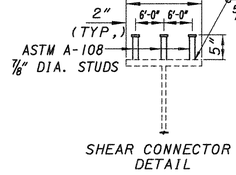
BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

COS-16-9.84
COS-36-20.06

15/21

225/231



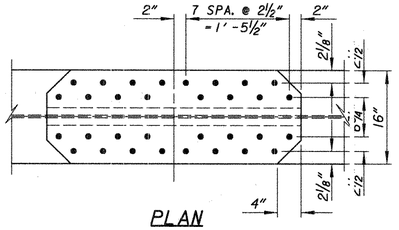




SHEAR CONNECTOR DETAIL

NOTE: WELDED STUDS SHALL BE 7/8" DIA. ASTM GRADE 1015, 1018, OR 1020.

NOTE: WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 1" FROM EDGE OF FLANGE, BUT NOT MORE THAN 2" LONG AND NOT SMALLER THAN THE MIMIMUM SIZE REQUIRED BY AASHTO.

## GIRDER ELEVATION (G-1 THRU G-10)




PLAN

NOTES:
ALL FASTENERS SHALL BE 1" DIA. HIGH STRENGTH ASTM A-325 BOLTS.

PLACE BOLT HEADS ON EXPOSED SIDE OF FASCIA GIRDER AND PLACE NUTS ON TOP SURFACE OF BOTTOM FLANGE SPLICE.

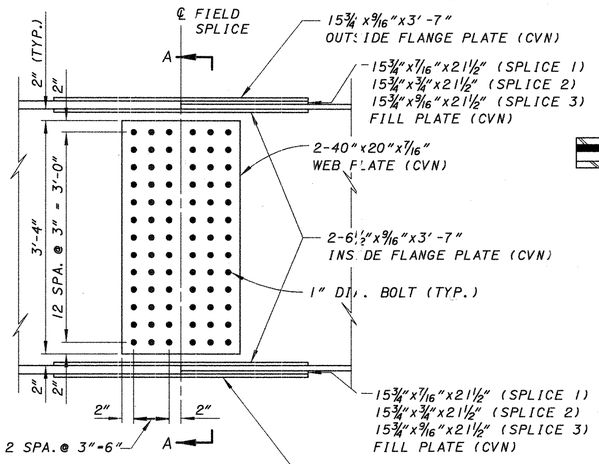
ALL SPLICE PLATES EXCEPT FILL PLATES SHALL BE CVN.

FOR CROSS FRAME LOCATIONS, SEE SHEET 15/21.

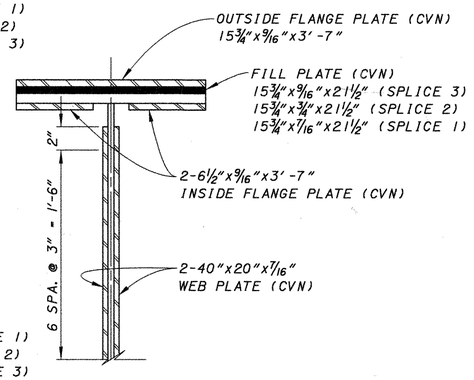
FOR ADDITIONAL DETAILS, SEE STANDARD DRAWING GSD-1-96.

C.P. - COMPLETE PENETRATION WELD REQUIRED

C.S. - BUTT WELD SUBJECTED TO COMPRESSIVE STRESSES ONLY




ELEVATION




PARTIAL SECTION A-A



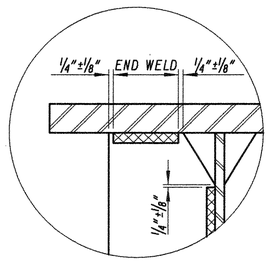

INTERMEDIATE STIFFENERS




BEARING STIFFENER

| STRUCTURAL STEEL (A572) | | | |
|---|---|---|---|
| DESCRIPTION | QUANT. | SIZE | WEIGHT (LBS.) |
| STRUCTURAL STEEL GIRDERS | 10 | SEE ELEVATION | 719040 |
| INSIDE FLANGE PLATES (CVN) | 120 | 6½"x9/16"x3'-7" | 5353 |
| OUTSIDE FLANGE PLATES (CVN) | 60 | 15¾"x9/16"x3'-7" | 6489 |
| WEB PLATES (CVN) | 60 | 40"x20"x7/16" | 5960 |
| FLANGE BOLTS (A325) | 1920 | 1" DIA. | 3618 * |
| WEB BOLTS (A325) | 2340 | 1" DIA. | 3739 * |
| BRG. STIFFENERS @ ABUT. (CVN) | 40 | 5/8"x7½"x44" | 2347 |
| BRG. STIFFENERS @ PIERS (CVN) | 60 | ¾"x7½"x44" | 4202 |
| CROSSFRAME STIFFENERS (CVN) | 432 | ½"x5 "x44" | 13479 |
| FILL PLATE @ SPLICE 1 | 20 | 15¾"x7/16"x21½" | 841 |
| FILL PLATE @ SPLICE 2 | 20 | 15¾"x¾"x21½" | 1439 |
| FILL PLATE @ SPLICE 3 | 20 | 15¾"x9/16"x21½" | 1082 |
| INTERMEDIATE STIFFENERS (CVN) | 108 | ½"x5 "x44" | 3370 |
| | | | |
| | | TOTAL | 771229 LBS. |

NOTE: ALL WEIGHTS GIVEN ARE FOR INFORMATION PURPOSE ONLY. ALL STRUCTURAL STEEL TO BE PAID FOR UNDER ITEM 513-STRUCTURAL STEEL, LUMP SUM.




DETAIL A

* INCLUDES WEIGHT OF WASHERS

C036105D.DGN 02/04/97

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 5

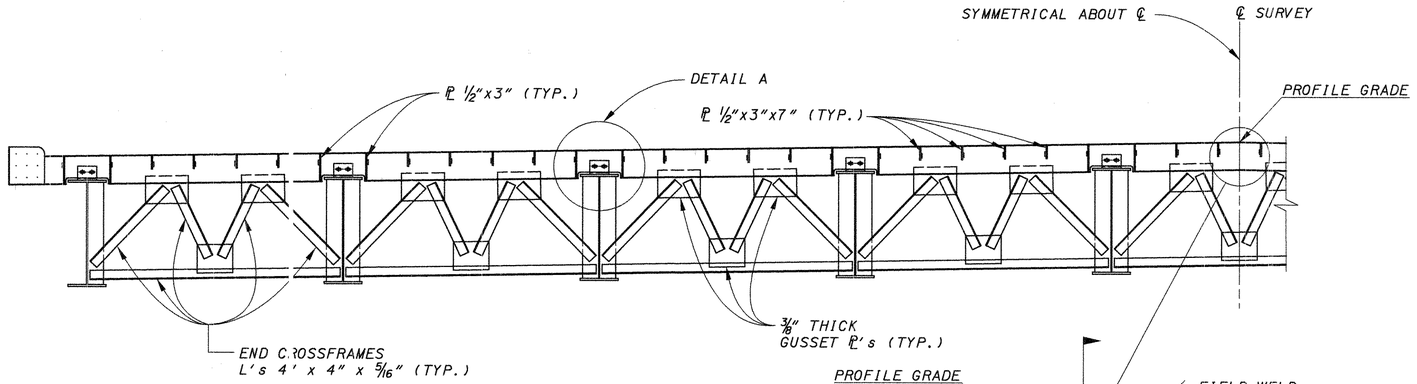
DESIGNED KAK | DRAWN KAK | CHECKED RSD | REVIEWED NK | DATE 02/18/97 | REVISED | STRUCTURE FILE NUMBER 1600451

GIRDER DETAILS
BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

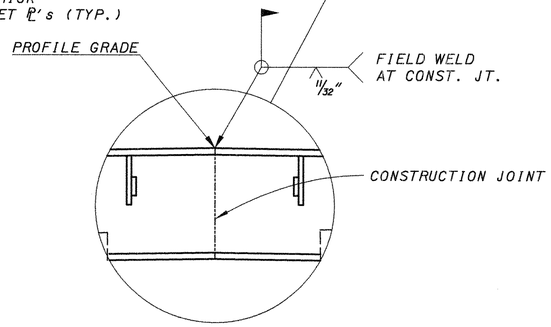
COS-16-9.84
COS-36-20.06

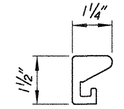
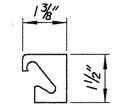
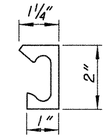
16/21

226/231

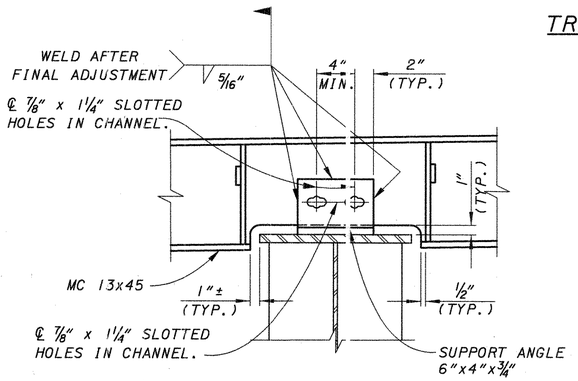



## TRANSVERSE SECTION AT ABUTMENT



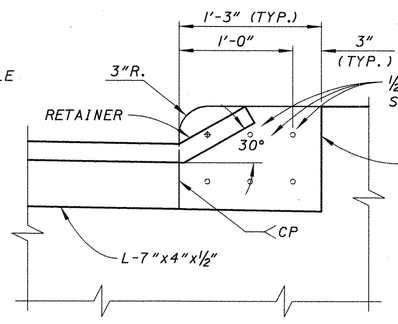

| D.S. BROWN COMPANY | WATSON BOWMAN (WABO) ASSOCIATES, INC. | STRUCTURAL ACCESSORIES INC. |
|---|---|---|
|  |  |  |
| TYPE SS-E STEEL EXTRUSION | TYPE E STEEL EXTRUSION | TYPE AM2 STEEL EXTRUSION |
| | | |
| STRIP SEAL SS300 | STRIP SEAL SE-300 | STRIP SEAL ONFLEX 40SEQ |
| D.S. BROWN CO.<br>P.O. BOX 158<br>NORTH BALTIMORE, OH. 45872<br>PH.* (419) 257-3561 | STRUCTURAL ACCESSORIES<br>P.O. BOX 10<br>TERRYVILLE, CT. 06786<br>PH.* (203) 589-8826 | WABO CORP.<br>P.O. BOX 9<br>AMHERST, N.Y. 14120<br>PH.* (716) 691-7566 |

NOTE: CONTRACTOR MAY USE ANY OF THE ABOVE STRIP SEALS, AND EXTRUSIONS, BUT THE CONTRACTOR MUST USE STRIP SEAL THAT CORRESPONDS WITH MANUFACTURERS EXTRUSION.

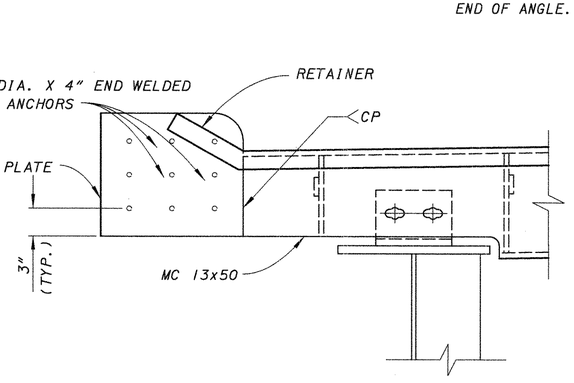



## DETAIL A

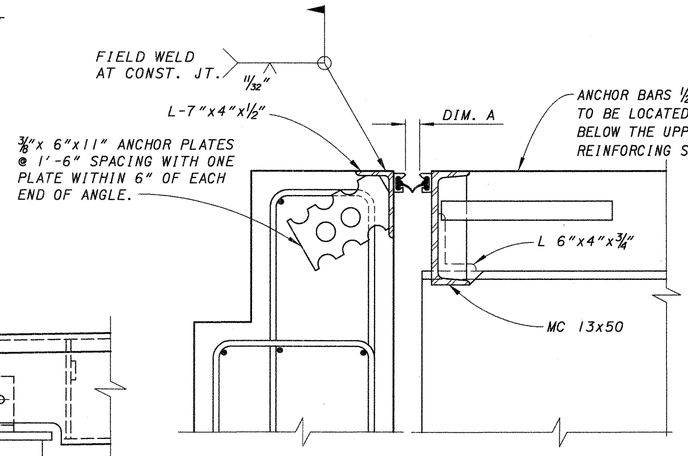
NOTE: FOR ADDITIONAL DETAILS, SEE STANDARD DRAWINGS EXJ-4-87 AND SD-1-69.




## SECTION B-B

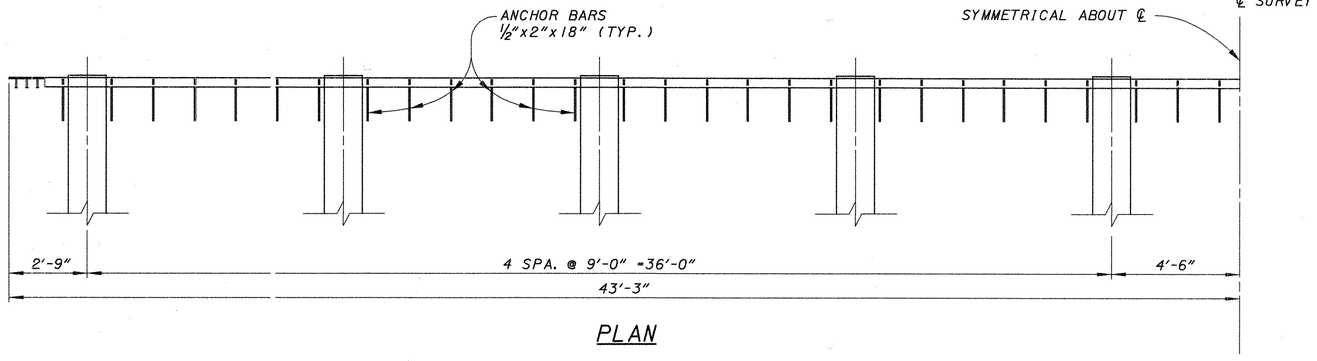



## SECTION C-C

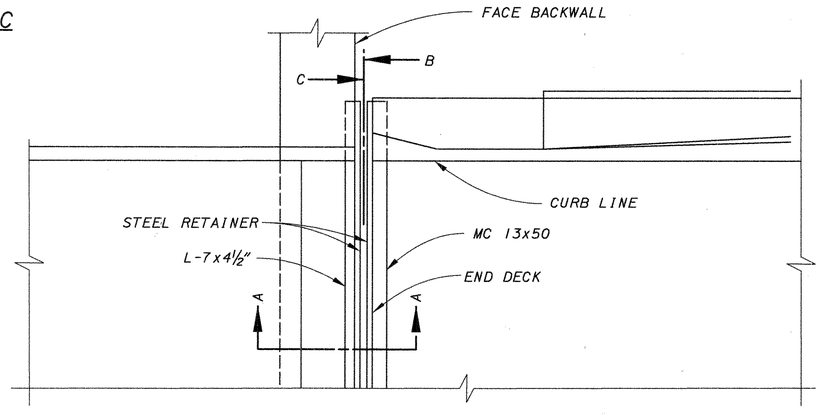



## SECTION A-A

| AMBIENT TEMP. F° | DIMENSION A | |
|---|---|---|
| | 3" SEAL | |
| | REAR | FORWARD |
| 90° | 1⅛" | 1⅛" |
| 80° | 1¼" | 1¼" |
| 70° | 1⅜" | 1⅜" |
| 60° | 1⁹/₁₆" | 1⁹/₁₆" |
| 50° | 1¹¹/₁₆" | 1¹¹/₁₆" |
| 40° | 1¹³/₁₆" | 1¹³/₁₆" |
| 30° | 1¹⁵/₁₆" | 1¹⁵/₁₆" |




## PLAN




## PART PLAN AT ABUTMENT

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 5

DATE 02/18/97
REVIEWED NK
STRUCTURE FILE NUMBER 1600451
DRAWN TAG
REVISED
DESIGNED KAK
CHECKED RSD

# EXPANSION JOINT DETAIL

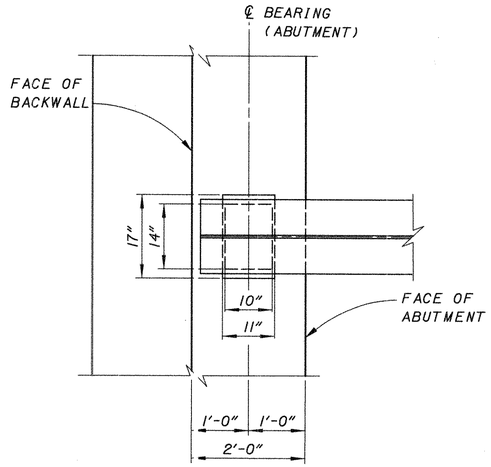
BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

COS-16-9.84
COS-36-20.06

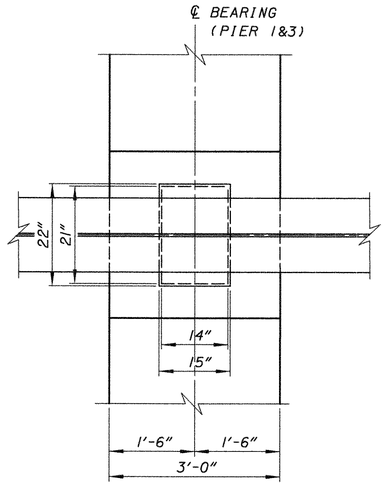
17 / 21

227
231

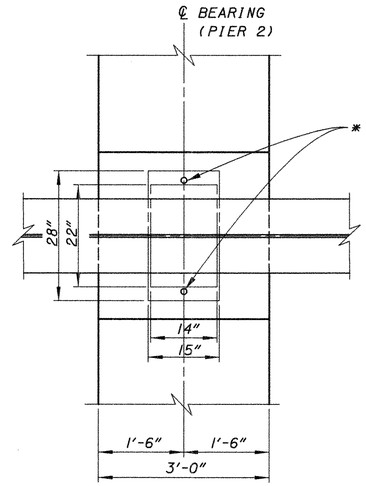
C036IOEX.DGN 02-21-97



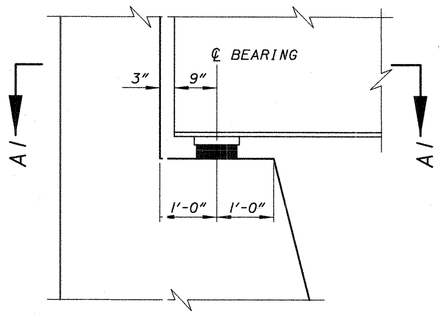

SECTION A1-A1



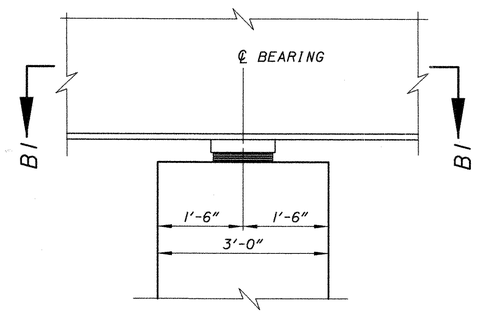

SECTION B1-B1



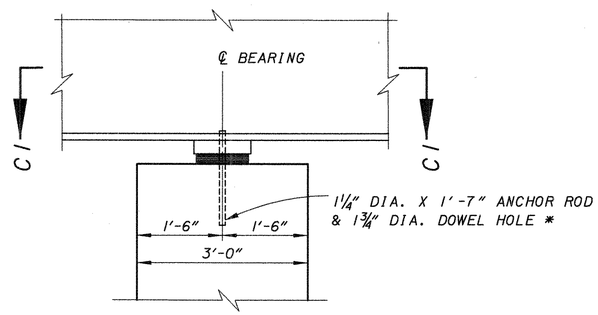

SECTION C1-C1




SECTION AT ABUTMENT
BEARING




PIER 1 & 3
(EXPANSION)




PIER 2
FIXED

**LOAD PLATE**
THE STEEL PLATE (ABUTMENT AND PIERS) SHALL BE BONDED BY VULCANIZATION TO THE ELASTROMER DURING THE MOLDING PROCESS. WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

**BEARING REPOSTIONING**
IF DECK CONCRETE IS PLACED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS ONE-SIXTH OF THE BEARING HEIGHT AT 60°F± 10°F. THE BEAMS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F± 10°F.

ELASTROMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND SECTIONS 18.2.5 THRU 18.2.8 OF AASHTO, DIVISION II, CONSTRUCTION. BEARING MATERIAL SHALL BE GRADE 3, 50 DUROMETER ELASTOMER.

**BEARING ANCHOR RODS**
AT THE OPTION OF THE CONTRACTOR, THE BEARING ANCHOR RODS (OR FORMED HOLES), LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CASED IN PLACE.

**BASIS OF PAYMENT**
THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, TESTING ANCHOR RODS AND INCIDENTIALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS, EITHER FIXED OR EXPANSION. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTROMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE):
14"x10"x3 3/16" WITH 17"x11"x1 1/2" LOAD PLATE (ABUTMENTS)
21"x14"x2 3/16" WITH 22"x15"x2 3/8" LOAD PLATE (PIERS 1 & 3)
22"x14"x2 7/16" WITH 28"x15"x2 3/8" LOAD PLATE (PIER 2)

FOR ADDITIONAL DETAILS
SEE SHEET 9/21.

| LOCATION | DL(KIPS) | LL(KIPS) | DL + LL(KIPS) |
|---|---|---|---|
| REAR ABUT. | 48 | 55 | 103 |
| PIER1 | 176 | 78 | 254 |
| PIER 2 | 193 | 84 | 277 |
| PIER 3 | 176 | 78 | 254 |
| FWD. ABUT. | 48 | 55 | 103 |

* - 1¾" DIA. HOLE IN STEEL LOAD PLATE FOR 1¼" DIA. x 1'-7" ANCHOR ROD. GALVANIZED ACCORDING TO 711.02. INSTALL ANCHOR RODS PER 510.02 DOWEL HOLES AND ANCHOR RODS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 516 ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE).

C036108I.DGN 02/04/97

DESIGN AGENCY
OHIO DEPARTMENT
OF TRANSPORTATION
DISTRICT 5

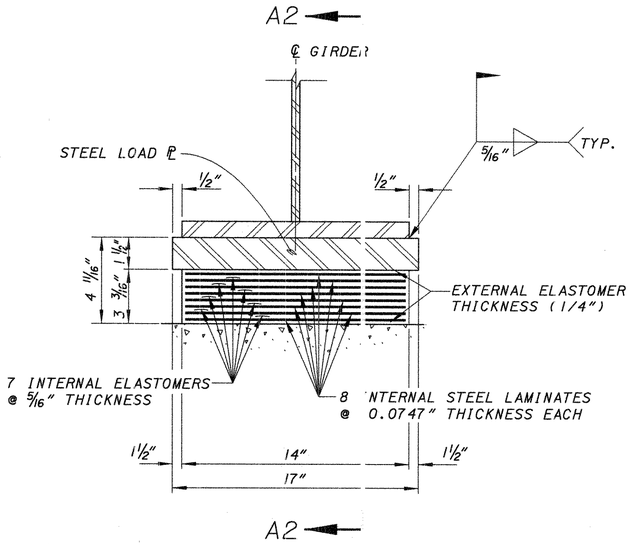
| DESIGNED | DRAWN | REVIEWED | DATE |
|---|---|---|---|
| KAK | TAG | NK | 02/18/97 |
| CHECKED | REVISED | STRUCTURE FILE NUMBER | |
| RSD | | 1600451 | |

PROPOSED BEARING DETAILS
BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

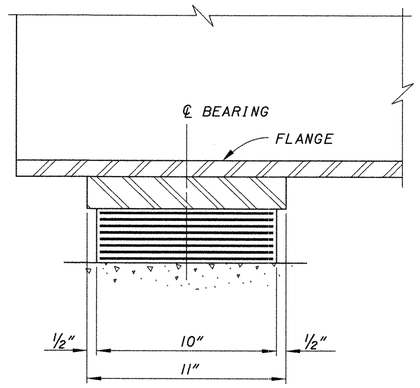
COS-16-9.84
COS-36-20.06

18 21

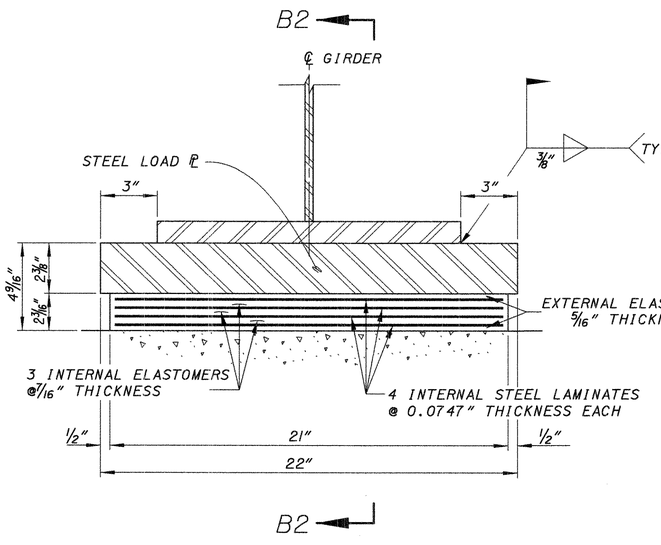
228
231



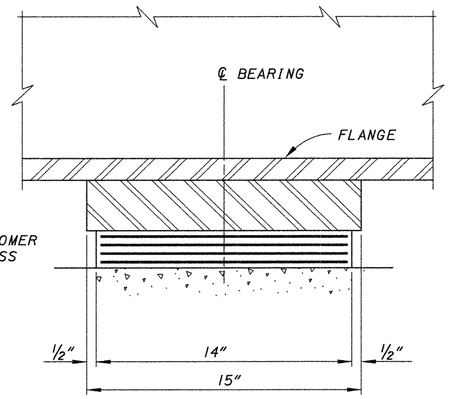

LAMINATED ELASTOMERIC
EXPANSION BEARINGS 'ABUTMENTS)



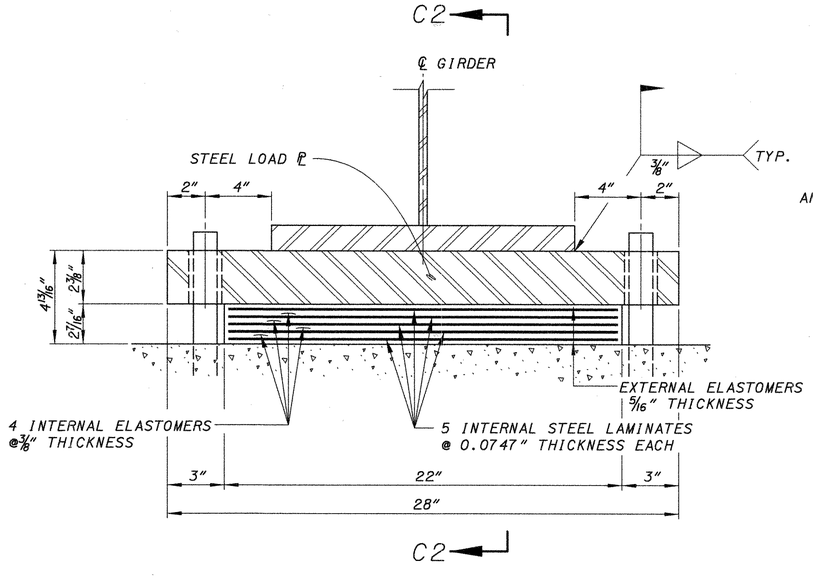

SECTION A2-A2



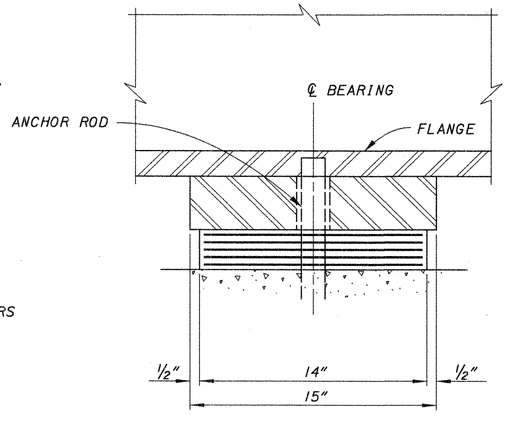

LAMINATED ELASTOMERIC
EXPANSION BEARINGS (PIER 1 & 3)




SECTION B2-B2




LAMINATED ELASTOMERIC
FIXED BEARINGS (PIER 2)




SECTION C2-C2

FOR ADDDITIONAL DETAILS
SEE SHEET 18/21.

DESIGN AGENCY
OHIO DEPARTMENT
OF TRANSPORTATION
DISTRICT 5

| DESIGNED | DRAWN | REVIEWED | DATE | STRUCTURE FILE NUMBER |
|---|---|---|---|---|
| KAK | TAG | NK | 02/18/97 | 1600451 |
| CHECKED | REVISED | | | |
| RSD | | | | |

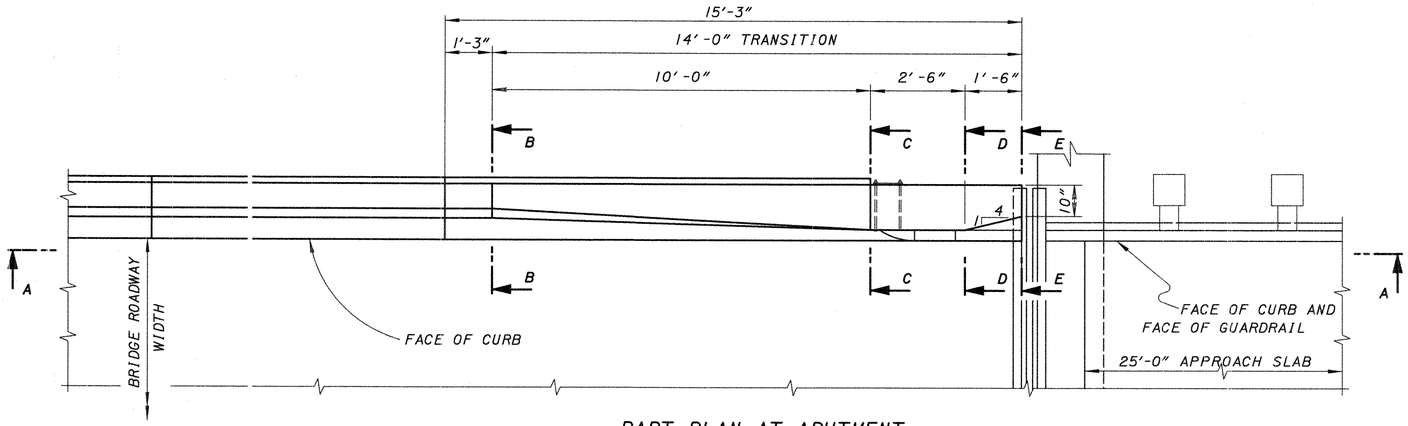
PROPOSED BEARING DETAILS
BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

COS-16-9.84
COS-36-20.06

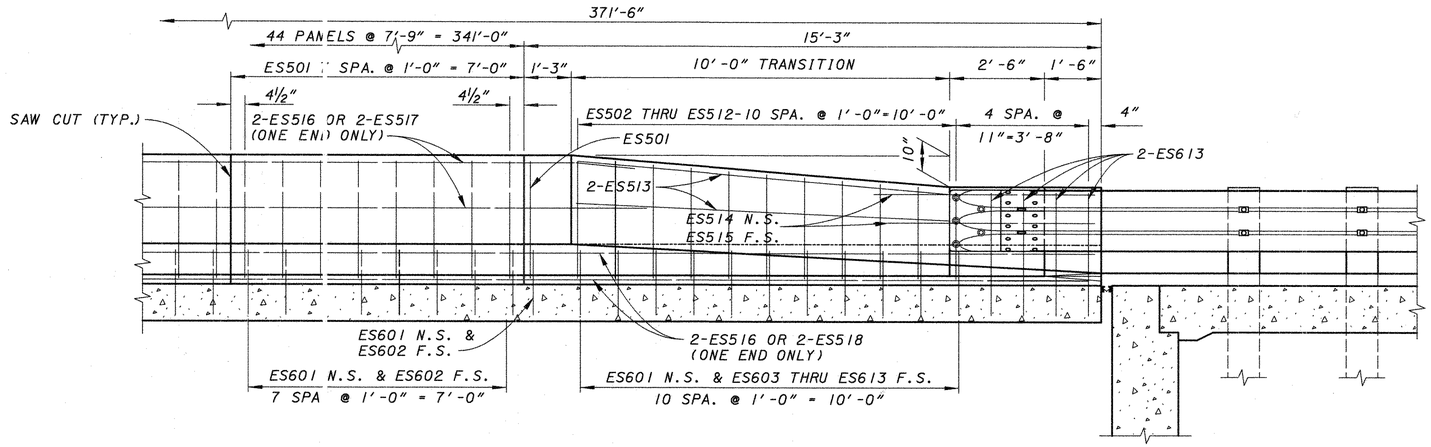
19 | 21

229
231

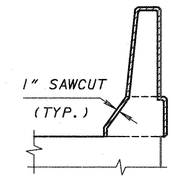
C0361082.DGN 02/04/97




PART PLAN AT ABUTMENT




SECTION A-A



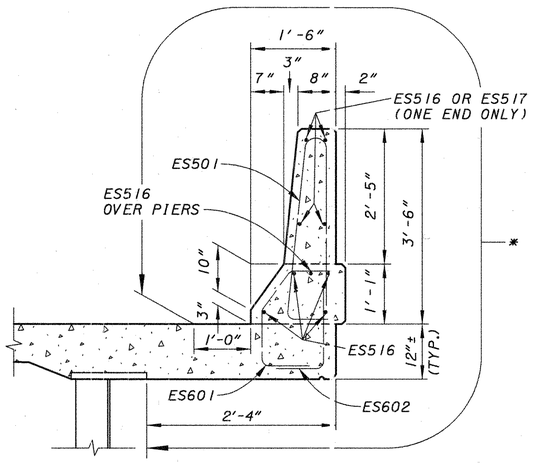

DETAIL A
(section through sawcut)
Sawcut Perimeter= 8'-1"

SEE SHEET 4/21 FOR PARAPET SAW CUT LOCATIONS

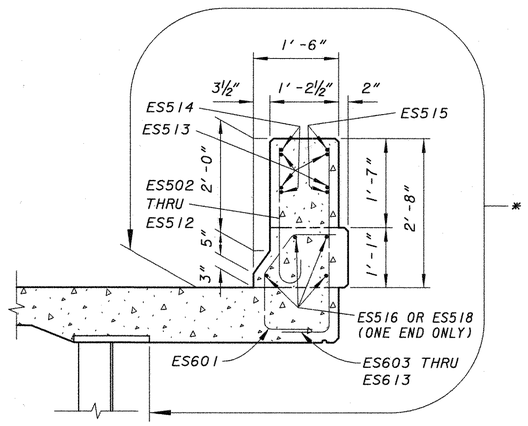
NOTES:
- ALL REINFORCING STEEL TO BE EPOXY COATED.
- FIELD BEND BARS WHERE NECESSARY.
- FOR ADDITIONAL DETAILS SEE STD. DWG. BR-1
* SEALING OF CONCRETE SURFACES (EPOXY)

LEGEND: N.S.=NEAR SIDE
F.S.=FAR SIDE

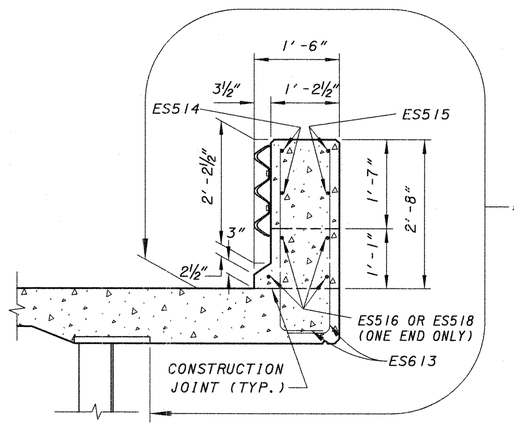
| MINIMUM LAP LENGTH |
|---|
| No. 5 = 2'-6" |
| No. 6 = 3'-0" |



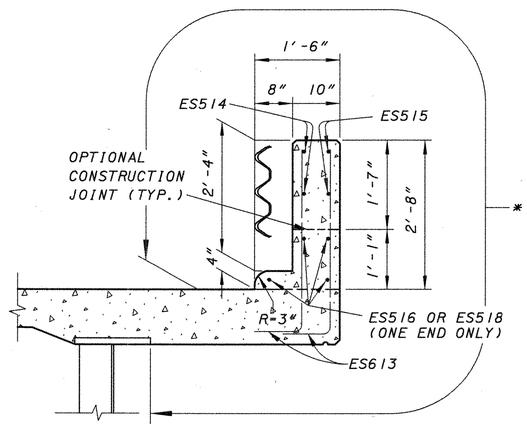

SECTION B-B




SECTION C-C




SECTION D-D




SECTION E-E

NOTE: DECK REINFORCING NOT SHOWN

C0361OPD.DGN 02/14/97

DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 5

| DESIGNED | DRAWN | REVIEWED | DATE |
|---|---|---|---|
| KAK | TAG | WK | 02/18/97 |

| CHECKED | REVISED | STRUCTURE FILE NUMBER |
|---|---|---|
| RSD | | 1600451 |

# PARAPET DETAILS

BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

COS-16-9.84
COS-36-20.06

20/21

230
231

## PARAPET

| MARK | NUMBER REQ'D. | SHAPE | LENGTH | WEIGHT |
|---|---|---|---|---|
| ES501 | 708 | BT. | 7'-1" | 5231 |
| ES502 | 4 | BT. | 3'-10" | 16 |
| ES503 | 4 | BT. | 3'-9" | 16 |
| ES504 | 4 | BT. | 3'-8" | 15 |
| ES505 | 4 | BT. | 3'-7" | 15 |
| ES506 | 4 | BT. | 3'-6" | 15 |
| ES507 | 4 | BT. | 3'-5" | 14 |
| ES508 | 4 | BT. | 3'-4" | 14 |
| ES509 | 4 | BT. | 3'-3" | 14 |
| ES510 | 4 | BT. | 3'-2" | 13 |
| ES511 | 4 | BT. | 3'-1" | 13 |
| ES512 | 4 | BT. | 3'-0" | 13 |
| ES513 | 16 | ST. | 10'-0" | 167 |
| ES514 | 8 | BT. | 5'-8" | 47 |
| ES515 | 8 | ST. | 5'-8" | 47 |
| ES516 | 150 | ST. | 40'-0" | 6258 |
| ES517 | 8 | ST. | 11'-0" | 92 |
| ES518 | 8 | ST. | 34'-0" | 284 |
| | | | | |
| ES601 | 752 | BT. | 3'-1" | 3483 |
| ES602 | 708 | BT. | 2'-6" | 2659 |
| ES603 | 4 | BT. | 4'-11" | 30 |
| ES604 | 4 | BT. | 4'-10" | 29 |
| ES605 | 4 | BT. | 4'-9" | 29 |
| ES606 | 4 | BT. | 4'-8" | 28 |
| ES607 | 4 | BT. | 4'-7" | 28 |
| ES608 | 4 | BT. | 4'-6" | 27 |
| ES609 | 4 | BT. | 4'-5" | 27 |
| ES610 | 4 | BT. | 4'-4" | 26 |
| ES611 | 4 | BT. | 4'-3" | 26 |
| ES612 | 4 | BT. | 4'-2" | 25 |
| ES613 | 36 | BT. | 4'-1" | 25 |
| | | | | |
| SUBTOTAL (2 PARAPETS) (LBS.) | | | | 18,726 |

## SUPERSTRUCTURE

| | | | | |
|---|---|---|---|---|
| ES401 | 1134 | ST. | 40'-0" | 30300 |
| ES402 | 126 | ST. | 29'-0" | 2441 |
| ES403 | 375 | ST. | 43'-0" | 10772 |
| | | | | |
| ES519 | 1488 | ST. | 24'-0" | 37248 |
| ES520 | 1488 | ST. | 22'-3" | 34532 |
| ES521 | 744 | ST. | 18'-0" | 13968 |
| ES522 | 1488 | ST. | 30'-0" | 46560 |
| ES523 | 744 | ST. | 14'-6" | 11252 |
| ES524 | 882 | ST. | 40'-0" | 36797 |
| ES525 | 98 | ST. | 33'-6" | 3424 |
| | | | | |
| SUBTOTAL (SUPERSTRUCTURE)(LBS.) | | | | 227,294 |

## PIERS

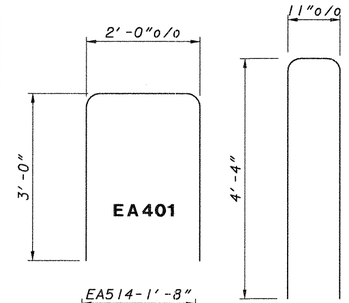
| MARK | NUMBER REQ'D. | SHAPE | LENGTH | WEIGHT |
|---|---|---|---|---|
| EP401 | 180 | BT | 4'-6" | 541 |
| EP402 | 180 | BT | 7'-6" | 902 |
| EP403 | 540 | BT | 3'-8" | 1323 |
| EP404 | 39 SETS OF 11=429 | BT | 3'-8" TO 4'-3½" BY¾" | 1140 |
| EP405 | 39 SETS OF 12=468 | BT | 3'-7½" TO 4'-3¾" BY¾" | 1241 |
| EP406 | 39 SETS OF 10=390 | BT | 3'-8" TO 4'-2¾" BY¾" | 1029 |
| | | | | |
| EP501 | 237 | ST | 14'-0" | 3461 |
| EP502 | 363 | ST | 5'-9" | 2177 |
| EP503 | 79 | ST | 10'-3" | 845 |
| EP504 | 79 | ST | 12'-9" | 1051 |
| EP505 | 79 | ST | 8'-0" | 659 |
| EP506 | 168 | ST | 22'-6" | 3943 |
| EP507 | 18 | BT | 7'-7" | 142 |
| EP508 | 132 | ST | 4'-9" | 654 |
| EP509 | 15 | BT | 7'-1" | 111 |
| EP510 | 18 | ST | 5'-6" | 103 |
| EP511 | 18 | BT | 12'-9" | 239 |
| EP512 | 66 | ST | 9'-6" | 654 |
| EP513 | 24 | BT | 11'-6" | 288 |
| EP514 | 9 | BT | 6'-11" | 65 |
| EP515 | 36 | ST | 21'-8" | 814 |
| | | | | |
| EP601 | 36 | ST | 23'-6" | 1271 |
| EP602 | 195 | BT | 7'-0" | 2050 |
| EP603 | 18 | ST | 11'-0" | 297 |
| EP604 | 30 | ST | 5'-6" | 248 |
| | | | | |
| EP801 | 36 | BT | 10'-2" | 977 |
| EP802 | 36 | BT | 10'-8" | 1025 |
| EP803 | 36 | BT | 9'-8" | 929 |
| SUBTOTAL (3 PIERS)(LBS.) | | | | 28,179 |

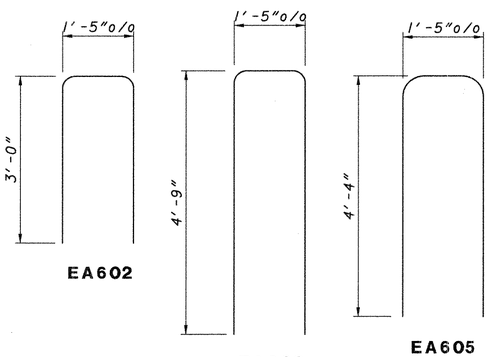
## ABUTMENTS

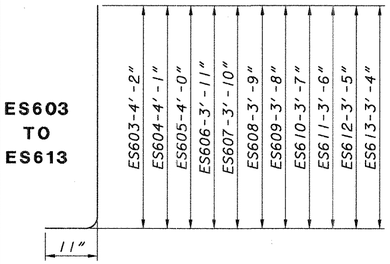
| MARK | NUMBER REQ'D. | SHAPE | LENGTH | WEIGHT |
|---|---|---|---|---|
| EA401 | 104 | BT. | 7'-10" | 733 |
| | | | | |
| EA501 | 32 | ST. | 22'-9" | 759 |
| EA502 | 32 | ST. | 24'-3" | 809 |
| EA503 | 6 | BT. | 9'-3" | 58 |
| EA504 | 6 | ST. | 8'-1" | 51 |
| EA505 | 44 | ST. | 9'-1" | 417 |
| EA506 | 38 | ST. | 9'-9" | 386 |
| EA507 | 10 | ST. | 8'-11" | 93 |
| EA508 | 8 | ST. | 8'-2" | 68 |
| EA509 | 8 | ST. | 7'-9" | 65 |
| EA510 | 105 | BT. | 8'-6" | 931 |
| EA511 | 105 | BT. | 13'-5" | 1469 |
| EA512 | 2 | BT. | 13'-9" | 29 |
| EA513 | 4 | ST. | 13'-7" | 57 |
| EA514 | 40 | BT. | 3'-5" | 143 |
| EA515 | 60 | BT. | 6'-5" | 402 |
| EA516 | 66 | BT. | 5'-0" | 344 |
| EA517 | 2 | ST. | 12'-7" | 26 |
| | | | | |
| EA601 | 168 | BT. | 9'-3" | 2334 |
| EA602 | 168 | BT. | 7'-1" | 1787 |
| EA603 | 110 | BT. | 10'-7" | 1749 |
| EA604 | 132 | ST. | 4'-3" | 843 |
| EA605 | 8 | BT. | 9'-9" | 117 |
| | | | | |
| EA801 | 114 | BT. | 5'-0" | 1522 |
| EA802 | 20 | ST. | 24'-9" | 1322 |
| EA803 | 20 | ST. | 17'-3" | 921 |
| EA804 | 20 | BT. | 10'-2" | 543 |
| EA805 | 24 | ST. | 26'-3" | 1682 |
| EA806 | 8 | ST. | 28'-5" | 607 |
| EA807 | 20 | ST. | 27'-0" | 1442 |
| | | | | |
| SUBTOTAL (2 ABUTMENTS)(LBS.) | | | | 21,709 |

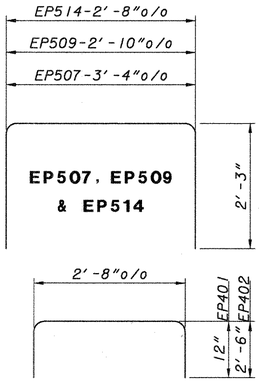
| | |
|---|---|
| SUBTOTAL (PARAPETS)(LBS.) | 18,726 |
| SUBTOTAL (SUPERSTRUCTURE)(LBS.) | 227,294 |
| SUBTOTAL (PIERS)(LBS.) | 28,179 |
| SUBTOTAL (ABUTMENTS)(LBS.) | 21,709 |
| TOTAL (LBS.)* | 295,908 |

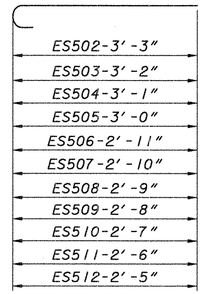
* RE-STEEL WEIGHTS SHOWN ARE FOR ESTIMATING PURPOSE ONLY. RE-STEEL TO BE INCLUDED FOR PAYMENT IN CORRESPONDING ITEM 511.

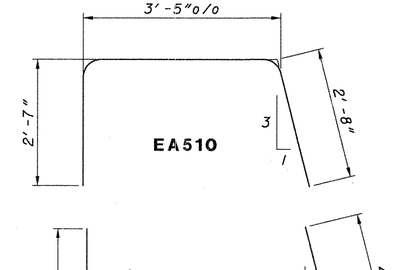


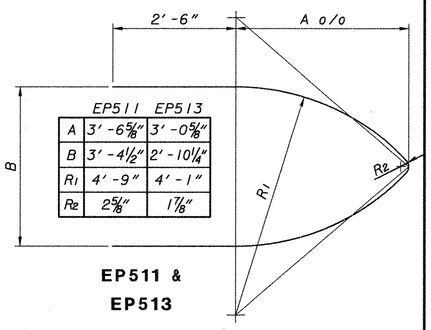



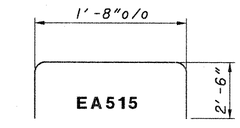



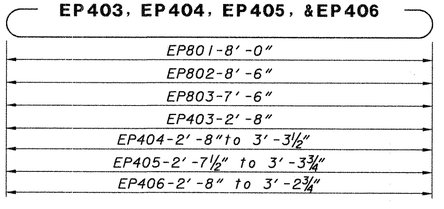



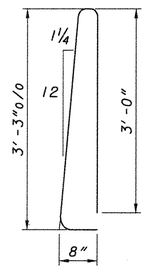



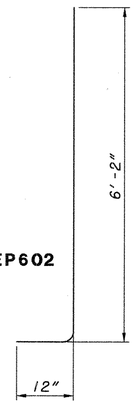



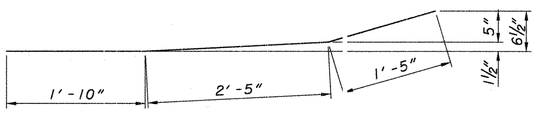



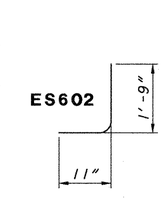



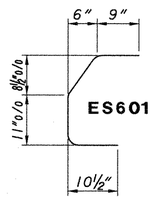



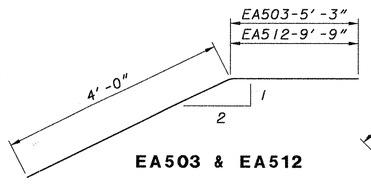



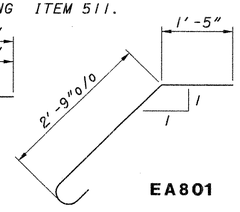




| | |
|---|---|
| DESIGN AGENCY | OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 5 |
| DATE | 02/18/97 |
| REVIEWED | NK |
| STRUCTURE FILE NUMBER | 1600451 |
| DRAWN | TAG |
| REVISED | |
| DESIGNED | |
| CHECKED | RSD |

# REINFORCING STEEL SCHEDULE

BRIDGE NO. COS-36-2064
OVER WALHONDING RIVER

COS-16-9.84
COS-36-20.06

21 / 21

231
231

C036 10RS.DGN 02/20/97

## GENERAL INFORMATION

### INTRODUCTION

THIS REPORT CONSISTS OF THE SOILS INVESTIGATION OF THE SR 16/USR 36 LANE ADDITIONS PROJECT BEGINNING APPROXIMATELY 200 FEET SOUTH OF WHITEWOMAN STREET, EXTENDING NORTHEASTWARD AND TERMINATING APPROXIMATELY 880 FEET NORTHEAST OF SR 83. INCLUDED IN THIS REPORT ARE THE SOILS INVESTIGATIONS FOR USR 36, SR 16, SR 83 AND CR 1A.

PROPOSED GRADES INDICATE THE FOLLOWING MAXIMUM PROPOSED CUTS AND FILL EMBANKMENTS:

| | CUTS (MAX.) | FILL EMBANKMENTS (MAX.) |
|---|---|---|
| USR 36 | - | - |
| SR 16 | - | - |
| SR 16/USR 36 | - | 5' |
| SR 83 | - | - |
| CR 1A | 1' | - |

### GEOLOGY AND OBSERVATIONS OF THE PROJECT

THE PROJECT IS LOCATED IN THE DISSECTED UNGLACIATED PORTION OF THE ALLEGHENY PLATEAU REGION, WITH THE ALIGNMENT BEGINNING IN AN URBAN AREA, THEN CROSSING THE WALHONDING RIVER AND TRAVERSING ITS BROAD FLOODPLAIN AS WELL AS THE BROAD FLOODPLAIN OF THE TUSCARAWAS RIVER (NEAR THE END OF THE PROJECT). IT SHOULD BE NOTED THAT 3" DEEP RUTS WERE OBSERVED IN THE EXISTING WBL OF SR 16/USR 36 BETWEEN STATIONS 540+10 AND 542+10.

### EXPLORATION

EXPLORATORY BORINGS WERE MADE BY MEANS OF A TRUCK MOUNTED MECHANICAL SOIL AUGER BETWEEN OCT. 2 AND 22, 1996.

INCLUDED IN THIS REPORT ARE TWO OF THE FOUR LOGS OF BORINGS MADE FOR THE STRUCTURE FOUNDATION INVESTIGATION.

### INVESTIGATIONAL FINDINGS

MATERIALS ENCOUNTERED ON THE PROJECT WERE PREDOMINANTLY COMPRISED OF GRAVELS (A-1A) AND SANDY GRAVELS (A-1-B) WITH SOME SILTS (A-4B), SANDY SILTS (A-4A) AND SANDS (A-3A) GENERALLY HAVING MEDIUM MOISTURE CONTENTS.

WET MATERIAL WERE ENCOUNTERED AT SR 16/USR 36 STATIONS 544+00, 551+70 AND 7+00.

## LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS - 80 SAMPLES TESTED

| DESCRIPTION | ODOT CLASS | % AGG. | % C. SAND | % F. SAND | % SILT | % CLAY | LIQUID LIMIT | PLASTICITY INDEX | WATER CONTENT | SAMPLES TESTED |
|---|---|---|---|---|---|---|---|---|---|---|
| GRAVEL | A-1-A | 60 | 23 | 10 | 5 | 2 | NP | NP | 12 | 29 |
| GRAVEL WITH SAND | A-1-B | 40 | 32 | 17 | 8 | 3 | NP | NP | 13 | 24 |
| COARSE AND FINE SAND | A-3A | 0 | 42 | 45 | 9 | 4 | NP | NP | 10 | 6 |
| GRAVEL WITH SAND AND SILT | A-2-4 | 44 | 14 | 14 | 18 | 10 | NP | NP | 11 | 2 |
| SANDY SILT | A-4A | 12 | 14 | 26 | 28 | 20 | NP | NP | 15 | 7 |
| SILT | A-4B | 0 | 1 | 14 | 57 | 28 | 31 | 6 | 25 | 8 |
| SILTY CLAY | A-6B | 0 | 3 | 14 | 57 | 26 | 28 | 23 | 23 | 1 |
| VARIOUS OTHER MATERIAL | | | | | | | | | VISUAL CLASSIFICATION | 3 |

SOD AND/OR TOP SOIL= X =APPROXIMATE DEPTH

ASPHALT= X =APPROXIMATE DEPTH

AUGER BORING LOCATION - PLAN VIEW

DRIVE SAMPLE & CORE BORING LOCATION - PLAN VIEW

AUGER BORING PLOTTED TO VERTICAL SCALE ONLY

DRIVE SAMPLE & CORE BORING PLOTTED TO VERTICAL SCALE ONLY

INDICATES A NON-PLASTIC MATERIAL WITH A HIGH WATER CONTENT

INDICATES WATER CONTENT NEARLY EQUAL TO OR GREATER THAN THE LIQUID LIMIT

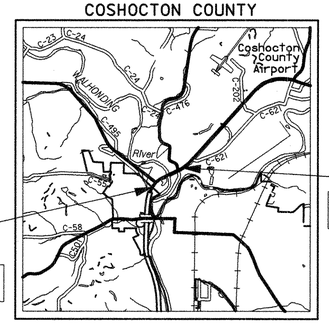
W—— FREE WATER LEVEL

NUMBER OF BLOWS FOR "STANDARD PENETRATION" TEST
X= NUMBER OF BLOWS FOR FIRST 6 INCHES
Y= NUMBER OF BLOWS FOR SECOND 6 INCHES
Z= NUMBER OF BLOWS FOR THIRD 6 INCHES

NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT e.g. 15

NOTE: ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE STRUCTURE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONSMAY 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.

COSHOCTON COUNTY




LOCATION MAP

*Recon.- H.J.H. 5/28*
*Drilling - M.S. 10/1 to 22/96*
*Drafting - A.F. 1/2/96*

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF MATERIALS MANAGEMENT
1600 WEST BROAD ST. COLUMBUS, OHIO 43223

SOIL PROFILE

COS-16-9.84
COS-36-20.06

1 / 5

# 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

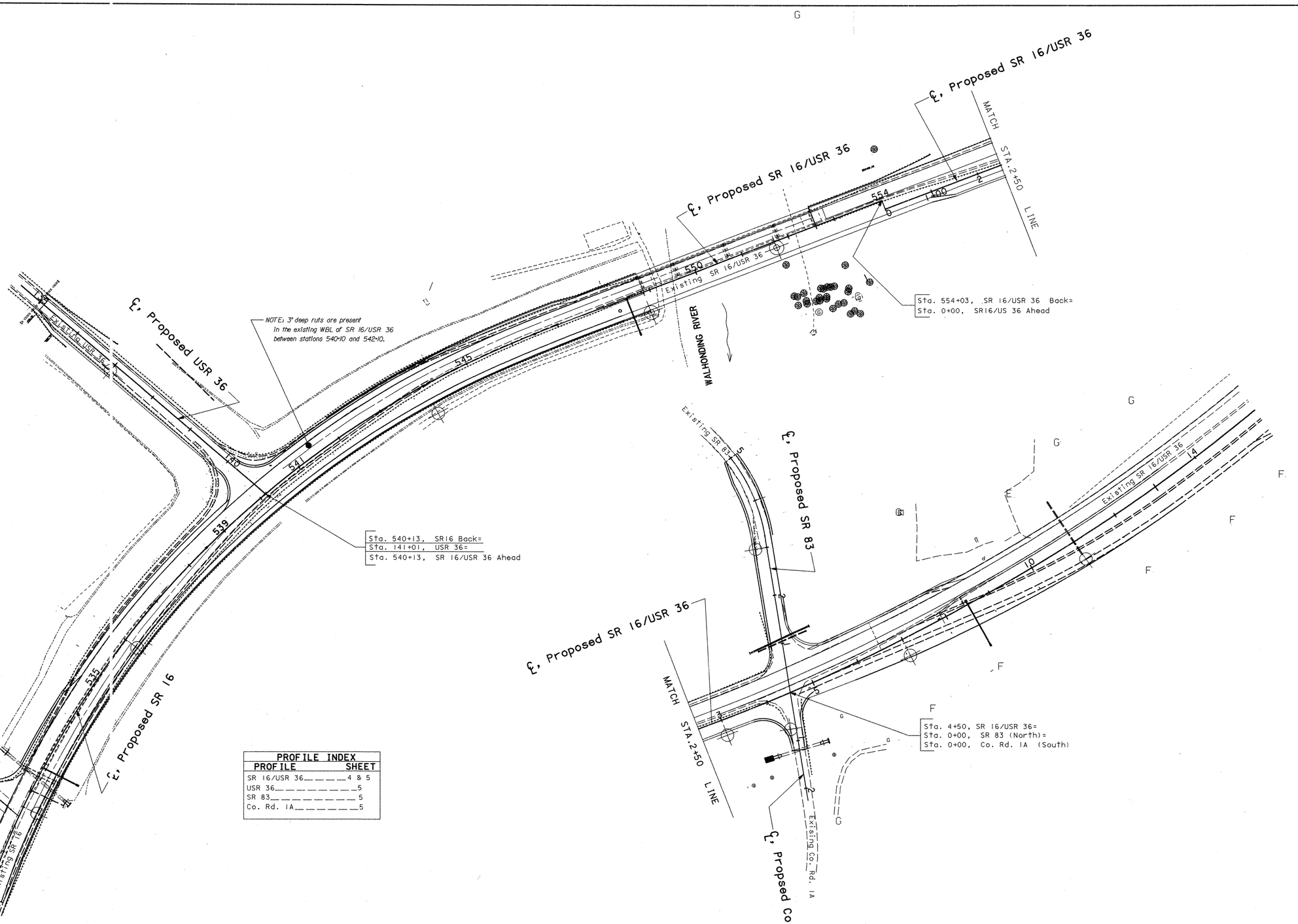
| STATION & OFFSET | FROM TO | AGG | CS | FS | SILT | CLAY | LL | PI | WC | OHIO CLASS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | SR. 16 (BACK) | | | | | |
| 532+00,030 RT. | 01.6-05.0 | 49 | 12 | 10 | 20 | 9 | NP | NP | 13 | A-2-4 |
| | 05.0-08.0 | 43 | 5 | 9 | 28 | 15 | NP | NP | 16 | A-4A |
| | 08.0-10.0 | 43 | 8 | 10 | 25 | 14 | NP | NP | 12 | A-4A |
| 536+00,029 RT. | 01.6-04.0 | 0 | 17 | 40 | 32 | 11 | NP | NP | 13 | A-4A |
| | 06.0-09.0 | 48 | 11 | 18 | 16 | 7 | NP | NP | 13 | A-1-B |
| | 09.0-13.0 | 46 | 19 | 21 | 10 | 4 | NP | NP | 10 | A-1-B |
| | 13.0-15.0 | 36 | 32 | 19 | 10 | 3 | NP | NP | 23 | A-1-B |
| | | | | | SR. 16/USR. 36 (AHEAD) | | | | | |
| 514+00,062 RT. | 00.5-05.0 | 0 | 0 | 29 | 54 | 17 | NP | NP | 25 | A-4B |
| | 05.0-09.0 | 0 | 0 | 34 | 51 | 15 | NP | NP | 27 | A-4B |
| | 09.0-10.0 | 0 | 8 | 79 | 10 | 3 | NP | NP | 14 | A-3A |
| | 11.0-14.0 | 47 | 37 | 13 | 3 | 0 | NP | NP | 6 | A-1-B |
| | 14.0-18.0 | 58 | 29 | 10 | 2 | 1 | NP | NP | 12 | A-1-A |
| 518+86,045 RT. | 05.0-06.5 | - | - | - | - | - | - | - | 13 | |
| | BROWN SANDY CLAY UNDERLAIN BY SAND & GRAVEL | | | | | | | | | VISUAL |
| | 07.5-09.0 | - | - | - | - | - | - | - | 27 | |
| | BROWN SAND AND GRAVEL | | | | | | | | | VISUAL |
| | 10.0-11.5 | 58 | 26 | 11 | 3 | 2 | NP | NP | 7 | A-1-A |
| | 11.5-13.0 | 46 | 24 | 20 | 7 | 3 | NP | NP | 10 | A-1-B |
| | 13.0-14.5 | 58 | 22 | 13 | 6 | 1 | NP | NP | 16 | A-1-A |
| | 14.5-16.0 | 58 | 27 | 10 | 4 | 1 | NP | NP | 15 | A-1-A |
| | 16.0-17.5 | 53 | 30 | 11 | 5 | 1 | NP | NP | 12 | A-1-A |
| | 17.5-19.0 | 54 | 30 | 10 | 6 | 0 | NP | NP | 12 | A-1-A |
| | 20.0-21.5 | 60 | 28 | 9 | 3 | 0 | NP | NP | 11 | A-1-A |
| | 22.5-24.0 | 37 | 44 | 11 | 6 | 2 | NP | NP | 14 | A-1-B |
| | 25.0-26.5 | 55 | 33 | 7 | 3 | 2 | NP | NP | 12 | A-1-A |
| | 27.5-29.0 | 62 | 21 | 11 | 5 | 1 | NP | NP | 11 | A-1-A |
| | 30.0-31.5 | 57 | 19 | 16 | 5 | 3 | NP | NP | 13 | A-1-A |
| | 35.0-36.5 | 57 | 27 | 10 | 4 | 2 | NP | NP | 13 | A-1-A |
| | 40.0-41.5 | 34 | 38 | 17 | 9 | 2 | NP | NP | 13 | A-1-B |
| | 45.0-46.5 | 27 | 36 | 23 | 12 | 2 | NP | NP | 12 | A-1-B |
| | 50.0-51.5 | 26 | 36 | 26 | 8 | 4 | NP | NP | 13 | A-1-B |
| | 55.0-56.5 | 47 | 27 | 17 | 7 | 2 | NP | NP | 14 | A-1-B |
| | 60.0-61.5 | 23 | 46 | 22 | 7 | 2 | NP | NP | 15 | A-1-B |
| | 65.0-66.5 | - | - | - | - | - | - | - | 7 | |
| | BROWN SAND AND GRAVEL | | | | | | | | | VISUAL |
| | 70.0-71.5 | 65 | 21 | 9 | 3 | 2 | NP | NP | 11 | A-1-A |

| STATION & OFFSET | FROM TO | AGG | CS | FS | SILT | CLAY | LL | PI | WC | OHIO CLASS |
|---|---|---|---|---|---|---|---|---|---|---|
| 551+70,013 RT. | 05.0-06.5 | 0 | 37 | 27 | 34 | 32 | NP | NP | 14 | A-4A |
| | 07.5-09.0 | 78 | 9 | 8 | 2 | 3 | NP | NP | 10 | A-1-A |
| | 09.0-10.5 | 57 | 16 | 14 | 5 | 8 | NP | NP | 15 | A-1-A |
| | 10.5-12.0 | 48 | 30 | 12 | 5 | 5 | NP | NP | 15 | A-1-B |
| | 12.0-13.5 | 59 | 23 | 10 | 3 | 5 | NP | NP | 20 | A-1-A |
| | 13.5-15.0 | 58 | 22 | 11 | 5 | 4 | NP | NP | 12 | A-1-A |
| | 15.0-16.5 | 0 | 59 | 30 | 8 | 3 | NP | NP | 22 | A-3A |
| | 16.5-18.0 | 53 | 22 | 13 | 9 | 3 | NP | NP | 10 | A-1-A |
| | 20.0-21.5 | 41 | 39 | 12 | 5 | 3 | NP | NP | 14 | A-1-B |
| | 22.5-24.0 | 49 | 29 | 11 | 8 | 3 | NP | NP | 12 | A-1-B |
| | 25.0-26.5 | 63 | 26 | 4 | 5 | 2 | NP | NP | 12 | A-1-A |
| | 27.5-29.0 | 65 | 20 | 8 | 5 | 2 | NP | NP | 14 | A-1-A |
| | 30.0-31.5 | 47 | 34 | 11 | 6 | 2 | NP | NP | 14 | A-1-B |
| | 35.0-36.5 | 60 | 24 | 9 | 6 | 1 | NP | NP | 12 | A-1-A |
| | 40.0-41.5 | 37 | 35 | 17 | 8 | 3 | NP | NP | 13 | A-1-B |
| | 45.0-46.5 | 31 | 41 | 18 | 6 | 4 | NP | NP | 23 | A-1-B |
| | 50.0-51.5 | 34 | 30 | 20 | 12 | 4 | NP | NP | 11 | A-1-B |
| | 55.0-56.5 | 45 | 31 | 16 | 5 | 3 | NP | NP | 14 | A-1-B |
| | 60.0-61.5 | 42 | 38 | 13 | 5 | 2 | NP | NP | 12 | A-1-B |
| | 65.0-66.5 | 55 | 26 | 11 | 6 | 2 | NP | NP | 14 | A-1-A |
| | 70.0-71.5 | 54 | 30 | 9 | 5 | 2 | NP | NP | 15 | A-1-A |
| | 75.0-76.5 | 37 | 45 | 12 | 4 | 2 | NP | NP | 12 | A-1-B |
| 3+00,033 RT. | 00.8-05.0 | 0 | 1 | 5 | 56 | 38 | 33 | 10 | 25 | A-4B |
| | 05.0-07.0 | 0 | 0 | 6 | 61 | 33 | 35 | 10 | 26 | A-4B |
| | 07.0-08.0 | 0 | 42 | 38 | 13 | 7 | NP | NP | 11 | A-3A |
| | 08.0-13.0 | 53 | 32 | 10 | 3 | 2 | NP | NP | 6 | A-1-A |
| | 13.0-16.0 | 50 | 27 | 13 | 6 | 4 | NP | NP | 8 | A-1-A |
| 7+00,036 RT. | 00.8-03.0 | 56 | 25 | 12 | 6 | 1 | NP | NP | 13 | A-1-A |
| | 03.0-08.0 | 0 | 0 | 11 | 60 | 29 | 28 | 7 | 28 | A-4B |
| | 08.0-10.0 | 0 | 3 | 51 | 30 | 16 | NP | NP | 24 | A-4A |
| | 10.0-12.0 | 0 | 41 | 46 | 10 | 3 | NP | NP | 6 | A-3A |
| | 12.0-15.0 | 64 | 20 | 12 | 3 | 1 | NP | NP | 12 | A-1-A |
| 11+00,042 RT. | 00.8-03.0 | 73 | 14 | 8 | 3 | 2 | NP | NP | 6 | A-1-A |
| | 03.0-05.0 | 0 | 1 | 6 | 58 | 35 | 31 | 9 | 23 | A-4B |
| | 05.0-08.0 | 0 | 1 | 9 | 54 | 36 | 30 | 8 | 25 | A-4B |
| | 08.0-11.0 | 0 | 53 | 40 | 4 | 3 | NP | NP | 6 | A-3A |
| | 11.0-15.0 | 43 | 30 | 20 | 6 | 1 | NP | NP | 17 | A-1-B |
| | | | | | USR. 36 (BACK) | | | | | |
| 137+00,015 RT. | 01.6-04.0 | 65 | 19 | 9 | 5 | 2 | NP | NP | 7 | A-1-A * |
| | 04.0-08.0 | 82 | 9 | 5 | 2 | 2 | NP | NP | 6 | A-1-A |
| | 08.0-10.0 | 44 | 22 | 12 | 13 | 9 | NP | NP | 12 | A-1-B |
| | | | | | CO. RD. 1A | | | | | |
| 0+75,011 RT. | 01.0-02.0 | 15 | 23 | 23 | 37 | 25 | NP | NP | 12 | A-4A * |
| | 02.0-05.0 | 38 | 16 | 19 | 16 | 11 | NP | NP | 9 | A-2-4 * |
| | 05.0-06.0 | 52 | 17 | 12 | 14 | 5 | NP | NP | 7 | A-1-B |
| | | | | | SR. 83 | | | | | |
| 3+00,022 LT. | 01.0-02.0 | 0 | 14 | 19 | 44 | 23 | NP | NP | 15 | A-4A * |
| | 02.0-05.0 | 0 | 6 | 11 | 60 | 23 | NP | NP | 20 | A-4B |
| | 05.0-08.0 | 0 | 3 | 14 | 57 | 26 | 28 | 23 | 23 | A-6B |
| | 08.0-10.0 | 0 | 47 | 42 | 7 | 4 | NP | NP | 3 | A-3A |

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF MATERIALS MANAGEMENT
1600 WEST BROAD ST. COLUMBUS, OHIO 43223

SUMMARY OF SOIL TEST DAT

COS-16-9.84
COS-36-20.06




| PROFILE INDEX | |
|---|---|
| PROFILE | SHEET |
| SR 16/USR 36 | 4 & 5 |
| USR 36 | 5 |
| SR 83 | 5 |
| Co. Rd. 1A | 5 |

HORIZONTAL SCALE IN FEET
0 100 200

PLAN VIEW

COS-16-9.84
COS-36-20.06

3/5

770
760
750
740
730
720
710
700
690
680
670
660

C_ Proposed USR 36

30' Rt.
Asphalt=0.6'

29' Rt.
Asphalt=0.6'

62' Rt.
TS=0.5'

Hole Caved In

45' Rt.

Brown sandy clay
(Driller's description)

Brown sand and gravel

Brown sand and gravel

Normal water elevation=734.0'.

13' Rt.

Brown sandy clay w/small gravel
(Driller's description)

Sta. 548+86, 45' Rt.

A. Brown sandy clay underlain by sand & gravel

NOTE: Running sand heaved up to 4 feet in the auger flights at various depths between 27.5 and 65.0 feet, elevations 716.8 and 679.3 feet.

NOTE: Running sand heaved up to 4 feet in the auger flights at various depths between 27.5 and 65.0 feet, elevations 717.0 and 679.5 feet.

Sta. 554+03, Back=

Sta 0+00, Ahead

SR 16 (Back)

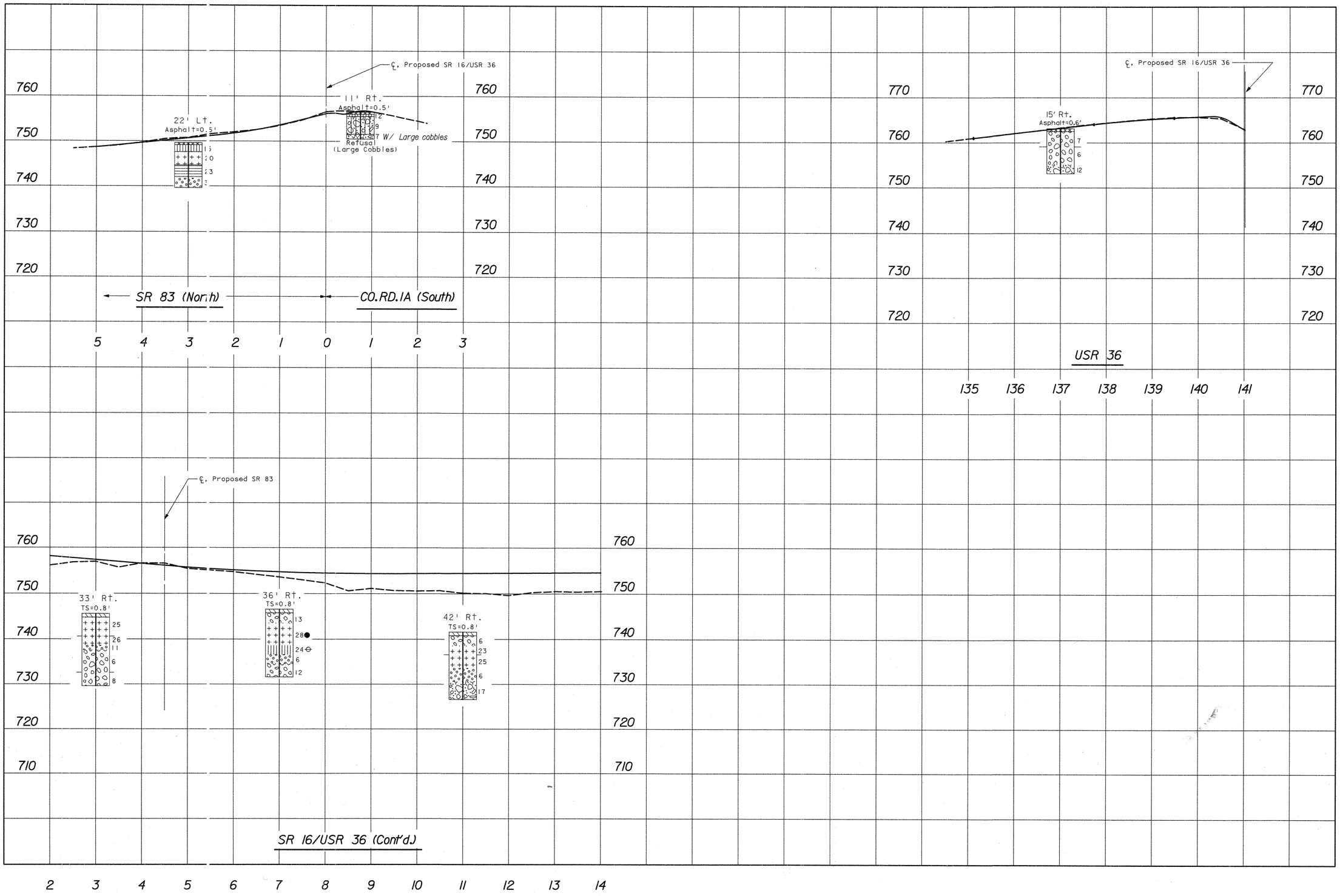
SR 16/USR 36 (Ahead)

530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 0 1 2

HORIZONTAL
SCALE IN FEET
0 100 200

SOIL PROFILE

COS-16-9.84
COS-36-20.06




HORIZONTAL SCALE IN FEET
0 100 200

SOIL PROFILE

COS-16-9.84
COS-36-20.06

5/5

GEOLOGY OF THE SITE

THE STRUCTURE SITE IS LOCATED IN THE DISSECTED UNGLACIATED PORTION OF THE ALLEGHENY PLATEAU REGION, ON THE FLOODPLAIN OF AND OVER THE WALHONDING RIVER, IN AREA WHERE EXTREMELY DEEP ALLUVIAL DEPOSITS OVERLIE BEDROCK OF MISSISSIPPIAN AGE.

EXPLORATION

THE EXPLORATION CONSISTED OF FOUR DRIVE SAMPLE BORINGS MADE BY MEANS OF A MECHANICALLY-POWERED HOLLOW STEM ROTARY AUGER MOUNTED ON A MOBILE PLATFORM, PERFORMED ON OCTOBER 1-21, 1996.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE TEST BORINGS ENCOUNTERED INTERVALS OF EXTREMELY LOOSE TO EXTREMELY DENSE UNSTRATIFIED BASIC GRAVEL AND SAND MODIFIED BY SILT, CLAY, WOOD FRAGMENTS AND VARYING AMOUNTS OF EACH OTHER THAT ERRATICALLY INCREASE IN DENSITY WITH INCREASE IN DEPTH. TEST BORING B-1 (MADE IN THE VICINITY OF THE REAR ABUTMENT) PENETRATED TO A DEPTH OF 71.5 FEET, ELEVATION 672.8 FEET AND WAS TERMINATED AT THAT POINT AFTER HAVING PENETRATED 36.5 FEET OF MATERIAL REQUIRING IN EXCESS OF 30 BLOWS PER FOOT IN THE STANDARD PENETRATION TEST IMMEDIATELY PRIOR TO TERMINATION. IN BORING B-1, RUNNING SAND HEAVED UP TO 4 FEET IN THE AUGER FLIGHTS AT VARIOUS DEPTHS BETWEEN 27.5 AND 65.0 FOOT DEPTHS, ELEVATIONS 716.8 AND 679.3 FEET. TEST BORING B-2 (MADE IN THE VICINITY OF THE REAR PIER) PENETRATED TO A DEPTH OF 76.5 FEET, ELEVATION 665.9 FEET AND WAS TERMINATED AT THAT POINT AFTER HAVING PENETRATED 36.5 FEET OF MATERIAL REQUIRING 29 OR MORE BLOWS PER FOOT IN THE STANDARD PENETRATION TEST IMMEDIATELY PRIOR TO TERMINATION. A TRACE OF ORGANIC MATERIAL WAS ENCOUNTERED IN BORING B-2 AT 9.0 FOOT DEPTH, ELEVATION 733.4 FEET. IN BORING B-2, RUNNING SAND HEAVED UP TO 4 FEET IN THE AUGER FLIGHTS AT VARIOUS DEPTHS BETWEEN 22.5 AND 75.0 FOOT DEPTHS, ELEVATIONS 719.9 AND 667.4 FEET. TEST BORING B-3 (MADE IN THE VICINITY OF THE FORWARD PIER) PENETRATED TO A DEPTH OF 76.5 FEET, ELEVATION 668.0 FEET AND WAS TERMINATED AT THAT POINT AFTER HAVING PENETRATED 26.5 FEET OF MATERIAL REQUIRING IN EXCESS OF 30 BLOWS PER FOOT IN THE STANDARD PENETRATION TEST IMMEDIATELY PRIOR TO TERMINATION. IN BORING B-3, RUNNING SAND HEAVED UP TO 4 FEET IN THE AUGER FLIGHTS AT VARIOUS DEPTHS BETWEEN 27.5 AND 65.0 FOOT DEPTHS, ELEVATIONS 717.0 AND 679.5 FEET. TEST BORING B-4 (MADE IN THE VICINITY OF THE FORWARD ABUTMENT) PENETRATED TO A DEPTH OF 66.5 FEET, ELEVATION 678.2 FEET AND WAS TERMINATED AT THAT POINT AFTER HAVING PENETRATED 21.5 FEET OF MATERIAL REQUIRING IN EXCESS OF 30 BLOWS PER FOOT IN THE STANDARD PENETRATION TEST IMMEDIATELY PRIOR TO TERMINATION. IN BORING B-4, RUNNING SAND HEAVED UP TO 4 FEET IN THE AUGER FLIGHTS AT VARIOUS DEPTHS BETWEEN 30.0 AND 60.0 FOOT DEPTHS, ELEVATIONS 714.7 AND 684.7 FEET.

BEDROCK SURFACE WAS NOT ENCOUNTERED IN ANY OF THE TEST BORINGS PERFORMED.

FREE WATER WAS OBSERVED AND MEASURED IN BORING B-1 AT 10.0 FOOT DEPTH, ELEVATION 734.3 FEET, IN BORING B-2 AT 10.5 FOOT DEPTH, ELEVATION 731.9 FEET, IN BORING B-3 AT 7.5 FOOT DEPTH, ELEVATION 737.0 FEET AND IN BORING B-4 AT 10.0 FOOT DEPTH, ELEVATION 734.7 FEET. IN ADDITION, NON-PLASTIC MATERIAL WITH A HIGH WATER CONTENT WAS ENCOUNTERED IN BORING B-2 AT 5.0 FOOT DEPTH, ELEVATION 737.4 FEET.

## LEGEND

- Roadway or Auger Boring Location - Plan View.
- Press and/or Drive Sample and/or Core Boring Location - Plan View.
- TR — Top of Rock
- W — 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 6 in
  - Y = Number of Blows for Second 6 in
  - Z = Number of Blows for Third 6 in

## SYMBOLS OF ROCK TYPES

- Coal
- Fire Clay or Underclay
- Weathered Mudstone
- Mudstone
- Weathered Shale
- Shale
- Weathered Clay-Shale
- Clay-Shale
- Weathered Siltstone
- Siltstone
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- 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 drill rig employing a 2" O.D., 1-3/8" I.D. split spoon sampler, at 2.5 ft and/or 5.0 ft depth intervals, driven by means of a 140 lbs hammer with a free fall of 2.5 ft. The number of blows required to drive the sampler three 0.5 ft increments is considered the standard penetration test.

Drive/press sample borings are made by means of a mechanically-powered rotary-type drill rig, employing a 2 in O.D., 1⅜in I.D. split spoon sampler, and a 3 in 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 drill rig, 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.

Particle Size Definitions

| Boulders | Cobbles | Gravel | Coarse Sand | Fine Sand | Silt | Clay |
|---|---|---|---|---|---|---|
| | 12" | 3" | 2.0 mm | 0.42 mm | 0.074 mm | 0.005 mm |
| | | | No. 10 sieve | No. 40 sieve | No. 200 sieve | |

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 SOUTH FRONT STREET.

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF MATERIALS MANAGEMENT
1600 WEST BROAD ST. COLUMBUS, OH 43223

| REVISED | DATE | CHECKED | REVIEWED | DATE |
|---|---|---|---|---|
| | | A.F. | M.R.S. | 12/13/96 |

# STRUCTURE FOUNDATION INVESTIGATION

*BRIDGE NO. COS-036-2064*
*OVER WALHONDING RIVER*

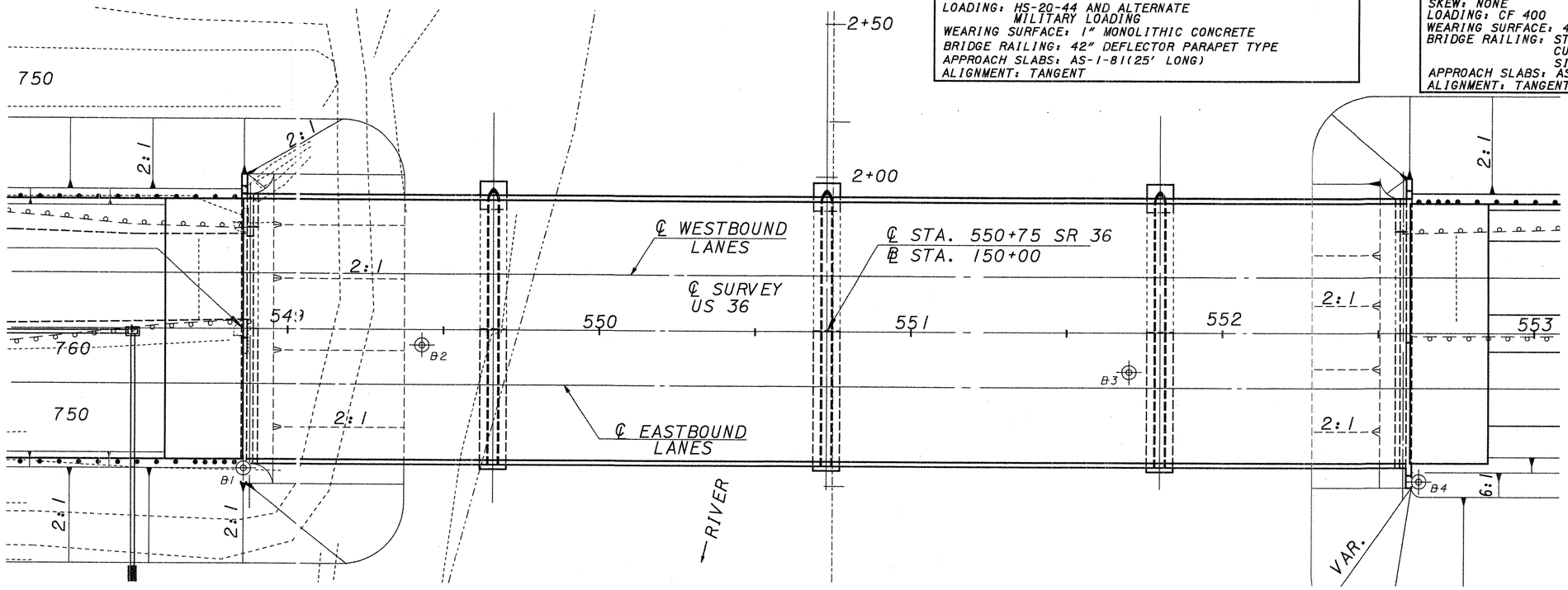
**COS-16-9.84**
**COS-36-20.06**

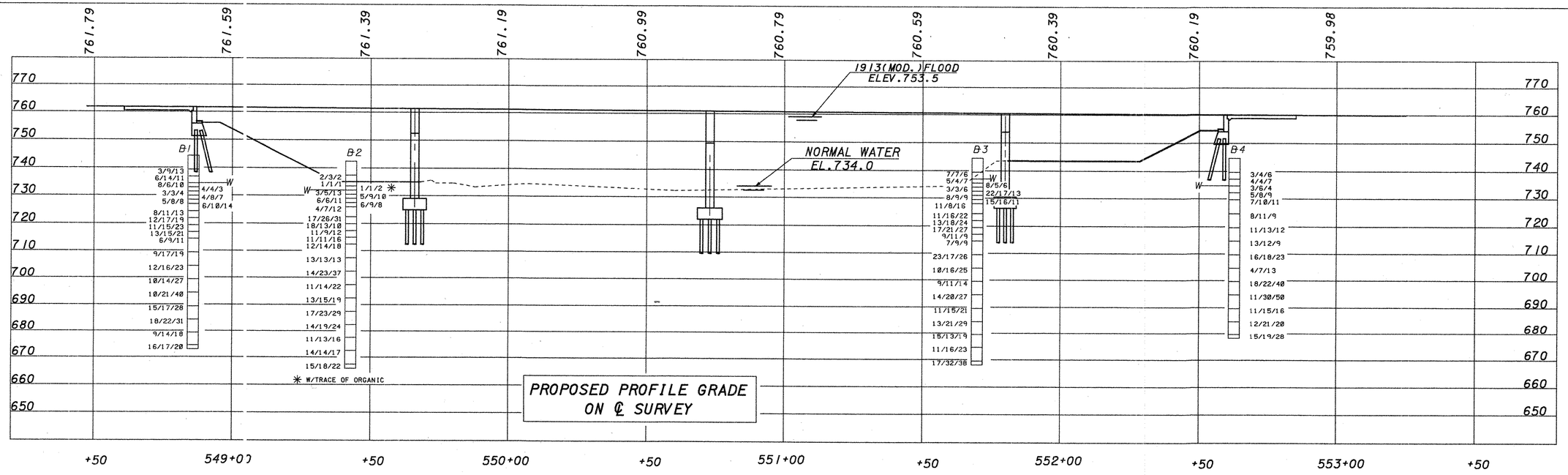
## REHABILITATED STRUCTURE

TYPE: CONTINUOUS STEEL GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 78'-107'- 107'-78' c/c BEARINGS
ROADWAY: 84'-0" f/f CURB
SKEW: NONE
LOADING: HS-20-44 AND ALTERNATE MILITARY LOADING
WEARING SURFACE: 1" MONOLITHIC CONCRETE
BRIDGE RAILING: 42" DEFLECTOR PARAPET TYPE
APPROACH SLABS: AS-1-81(25' LONG)
ALIGNMENT: TANGENT

## EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 78'-107'- 107'-78' c/c BEARINGS
ROADWAY: 28'-0" f/f CURBS with 2'-0" SAFETY
SKEW: NONE
LOADING: CF 400
WEARING SURFACE: 4" ASPHALT CONCRETE
BRIDGE RAILING: STEEL RAIL WITH 2'-0" SAFETY CURB ON THE LEFT AND 4'-0" SIDEWALK ON THE RIGHT
APPROACH SLABS: AS-1-72(15' LONG)
ALIGNMENT: TANGENT




SCALE IN FEET
0 20 40

| REVISED DATE | DATE 12/13/96 |
|---|---|
| | REVIEWED M.R.S. |
| | CHECKED A.F. |
| | DRAWN J.B.H. |

# STRUCTURE FOUNDATION INVESTIGATION

BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

**COS-16-9.84**
**COS-36-20.06**

## LOG OF BORING

Date Started 10/8/96 Sampler: Type SS Dia. 1⅜"
Date completed 10/15/96
Boring No. B-1 Station & Offset 548+86, 45' RT.
Water Elev. 734.3'
Surface Elev. 744.3'

| Elev. | Depth | Std. Pen. (N) | Rec. ft | Loss ft | Description | Sample No. | % Agg | % C.S. | % F.S. | % Silt | % Clay | L.L. | P.I. | W.C. | ODOT Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 744.30 | 0 | | | | | | | | | | | | | | |
| | 2 | AUGERED | | | BROWN SANDY CLAY (DRILLER'S DESCRIPTION) | - | - | - | - | - | - | - | - | - | VISUAL |
| 739.30 | 4 | | | | | | | | | | | | | | |
| | 6 | 3/9/13 | | | BROWN SANDY CLAY UNDERLAIN BY SAND & GRAVEL | 45 | - | - | - | - | - | - | - | 13 | VISUAL |
| 736.80 | 8 | | | | | | | | | | | | | | |
| | 10 | 6/14/11 | | | BROWN SAND AND GRAVEL | 46 | - | - | - | - | - | - | - | 27 | VISUAL |
| 734.30 | 12 | 8/6/10 | | | BROWN SANDY GRAVEL | 47 | 58 | 26 | 11 | 3 | 2 | NP | NP | 7 | A-1-a |
| 731.30 | 14 | 4/4/3 | | | BROWN SILTY SANDY GRAVEL | 48 | 46 | 24 | 20 | 7 | 3 | NP | NP | 10 | A-1-b |
| 729.80 | | 3/3/4 | | | BROWN SANDY GRAVEL | 49 | 58 | 22 | 13 | 6 | 1 | NP | NP | 16 | A-1-a |
| 728.30 | 16 | 4/8/7 | | | BROWN SANDY GRAVEL | 50 | 58 | 27 | 10 | 4 | 1 | NP | NP | 15 | A-1-a |
| 726.80 | 18 | 5/8/8 | | | BROWN SANDY GRAVEL | 51 | 53 | 30 | 11 | 5 | 1 | NP | NP | 12 | A-1-a |
| | | 6/10/14 | | | BROWN SANDY GRAVEL | 52 | 54 | 30 | 10 | 6 | 0 | NP | NP | 12 | A-1-a |
| 724.30 | 20 | | | | | | | | | | | | | | |
| 721.80 | 22 | 8/11/13 | | | BROWN SANDY GRAVEL | 53 | 60 | 28 | 9 | 3 | 0 | NP | NP | 11 | A-1-a |
| | 24 | 12/17/19 | | | BROWN GRAVELLY SAND | 54 | 37 | 44 | 11 | 6 | 2 | NP | NP | 14 | A-1-b |
| 719.30 | 26 | 11/15/23 | | | BROWN SANDY GRAVEL | 55 | 55 | 33 | 7 | 3 | 2 | NP | NP | 12 | A-1-a |
| 716.80 | 28 | | | | | | | | | | | | | | |
| | 30 | 13/15/21 | | | BROWN SANDY GRAVEL (SAND HEAVED 3' IN AUGER FLIGHTS) | 56 | 62 | 21 | 11 | 5 | 1 | NP | NP | 11 | A-1-a |
| 714.30 | 32 | 6/9/11 | | | BROWN SANDY GRAVEL | 57 | 57 | 19 | 16 | 5 | 3 | NP | NP | 13 | A-1-a |
| | 34 | | | | | | | | | | | | | | |
| 709.30 | 36 | 9/17/19 | | | BROWN SANDY GRAVEL | 58 | 57 | 27 | 10 | 4 | 2 | NP | NP | 13 | A-1-a |
| | 38 | | | | | | | | | | | | | | |
| 704.30 | 40 | | | | | | | | | | | | | | |
| | 42 | 12/16/23 | | | BROWN SILTY GRAVELLY SAND (SAND HEAVED 3' IN AUGER FLIGHTS) | 59 | 34 | 38 | 17 | 9 | 2 | NP | NP | 13 | A-1-b |
| | 44 | | | | | | | | | | | | | | |
| 699.30 | 46 | | | | | | | | | | | | | | |
| | 48 | 10/14/27 | | | BROWN SILTY GRAVELLY SAND (SAND HEAVED 4' IN AUGER FLIGHTS) | 60 | 27 | 36 | 23 | 12 | 2 | NP | NP | 12 | A-1-b |
| 694.30 | 50 | | | | | | | | | | | | | | |
| | 52 | 10/21/40 | | | BROWN SILTY GRAVELLY SAND | 61 | 26 | 36 | 26 | 8 | 4 | NP | NP | 13 | A-1-b |
| | 54 | | | | | | | | | | | | | | |
| 689.30 | 56 | 15/17/28 | | | BROWN SANDY GRAVEL | 62 | 47 | 27 | 17 | 7 | 2 | NP | NP | 14 | A-1-b |
| | 58 | | | | | | | | | | | | | | |
| 684.30 | 60 | | | | | | | | | | | | | | |
| | 62 | 18/22/31 | | | BROWN GRAVELLY SAND | 63 | 23 | 46 | 22 | 7 | 2 | NP | NP | 15 | A-1-b |
| | 64 | | | | | | | | | | | | | | |
| 679.30 | 66 | 9/14/18 | | | BROWN SAND AND GRAVEL (SAND HEAVED 4' IN AUGER FLIGHTS) | 64 | - | - | - | - | - | - | - | 7 | VISUAL |
| | 68 | | | | | | | | | | | | | | |
| 674.30 | 70 | | | | | | | | | | | | | | |
| 672.80 | | 16/17/20 | | | BROWN SANDY GRAVEL | 65 | 65 | 21 | 9 | 3 | 2 | NP | NP | 11 | A-1-a |

BOTTOM OF BORING

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 TE-95 Revised 5/95

## LOG OF BORING

Date Started 10/3/96 Sampler: Type SS Dia. 1⅜"
Date completed 10/8/96
Boring No. B-2 Station & Offset 549+43, 5' RT.
Water Elev. 731.9'
Surface Elev. 742.4'

| Elev. | Depth | Std. Pen. (N) | Rec. ft | Loss ft | Description | Sample No. | % Agg | % C.S. | % F.S. | % Silt | % Clay | L.L. | P.I. | W.C. | ODOT Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 742.40 | 0 | | | | | | | | | | | | | | |
| | 2 | AUGERED | | | BROWN SANDY SILTY CLAY (DRILLER'S DESCRIPTION) | - | - | - | - | - | - | - | - | - | VISUAL |
| 737.40 | 4 | | | | | | | | | | | | | | |
| | 6 | 2/3/2 | | | BROWN SANDY SILT | 23 | 0 | 9 | 35 | 34 | 22 | NP | NP | 30 | A-4a |
| 734.90 | 8 | | | | | | | | | | | | | | |
| 733.40 | | 1/1/1 | | | BROWN SANDY SILT AND CLAY | 24 | - | - | - | - | - | - | - | 34 | VISUAL |
| 731.90 | 10 | 1/1/2 | | | BROWN SANDY SILT, W/TRACE OF ORGANIC & WOOD FRAGS. | 25 | 0 | 12 | 36 | 31 | 21 | NP | NP | - | A-4a |
| 730.40 | 12 | 3/5/13 | | | BROWN SANDY GRAVEL | 26 | 72 | 15 | 6 | 5 | 2 | NP | NP | 16 | A-1-a |
| 728.90 | 14 | 5/9/10 | | | BROWN SANDY GRAVEL | 27 | 63 | 18 | 12 | 5 | 2 | NP | NP | 14 | A-1-a |
| 727.40 | | 6/6/11 | | | BROWN GRAVELLY SAND | 28 | 45 | 30 | 16 | 7 | 2 | NP | NP | 10 | A-1-b |
| 725.90 | 16 | 6/9/8 | | | BROWN GRAVELLY SAND | 29 | 56 | 20 | 121 | 8 | 4 | NP | NP | 12 | A-2-4 |
| | 18 | 4/7/12 | | | BROWN SANDY GRAVEL | 30 | 62 | 21 | 10 | 5 | 2 | NP | NP | 13 | A-1-a |
| 722.40 | 20 | | | | | | | | | | | | | | |
| 719.90 | 22 | 17/26/31 | | | BROWN GRAVELLY SAND | 31 | 35 | 37 | 19 | 7 | 2 | NP | NP | 13 | A-1-b |
| | 24 | 18/13/10 | | | BROWN SANDY GRAVEL (SAND HEAVED 3.5' IN AUGER FLIGHTS) | 32 | 71 | 13 | 9 | 5 | 2 | NP | NP | 13 | A-1-a |
| 717.40 | 26 | 11/9/12 | | | BROWN SILTY SANDY GRAVEL | 33 | 56 | 16 | 16 | 9 | 3 | NP | NP | 11 | A-1-a |
| 714.90 | 28 | | | | | | | | | | | | | | |
| | 30 | 11/11/16 | | | BROWN SILTY SANDY GRAVEL | 34 | 50 | 24 | 15 | 8 | 3 | NP | NP | 11 | A-1-a |
| 712.40 | 32 | 12/14/18 | | | BROWN SANDY GRAVEL | 35 | 51 | 23 | 20 | 4 | 2 | NP | NP | 14 | A-1-a |
| | 34 | | | | | | | | | | | | | | |
| 707.40 | 36 | 13/13/13 | | | GRAY SANDY GRAVEL (SAND HEAVED 4' IN AUGER FLIGHTS) | 36 | 52 | 27 | 14 | 6 | 1 | NP | NP | 10 | A-1-a |
| | 38 | | | | | | | | | | | | | | |
| 702.40 | 40 | | | | | | | | | | | | | | |
| | 42 | 14/23/37 | | | GRAY GRAVELLY SAND | 37 | 38 | 34 | 19 | 8 | 1 | NP | NP | 14 | A-1-b |
| | 44 | | | | | | | | | | | | | | |
| 697.40 | 46 | | | | | | | | | | | | | | |
| | 48 | 11/14/22 | | | GRAY SILTY GRAVELLY SAND (SAND HEAVED 4' IN AUGER FLIGHTS) | 38 | 39 | 28 | 19 | 11 | 3 | NP | NP | 10 | A-1-b |
| 692.40 | 50 | | | | | | | | | | | | | | |
| | 52 | 13/15/19 | | | GRAY SANDY GRAVEL | 39 | 47 | 31 | 14 | 6 | 2 | NP | NP | 15 | A-1-b |
| | 54 | | | | | | | | | | | | | | |
| 687.40 | 56 | 17/23/29 | | | GRAY SANDY GRAVEL | 40 | 60 | 27 | 10 | 2 | 1 | NP | NP | 14 | A-1-a |
| | 58 | | | | | | | | | | | | | | |
| 682.40 | 60 | | | | | | | | | | | | | | |
| | 62 | 14/19/24 | | | GRAY SILTY GRAVELLY SAND (SAND HEAVED 4' IN AUGER FLIGHTS) | 41 | 36 | 40 | 14 | 9 | 1 | NP | NP | 12 | A-1-b |
| 677.40 | 64 | | | | | | | | | | | | | | |
| | 66 | 11/13/16 | | | GRAY SANDY GRAVEL (SAND HEAVED 4' IN AUGER FLIGHTS) | 42 | 74 | 16 | 6 | 3 | 1 | NP | NP | 13 | A-1-a |
| | 68 | | | | | | | | | | | | | | |
| 672.40 | 70 | | | | | | | | | | | | | | |
| | 72 | 14/14/17 | | | GRAY GRAVELLY SAND | 43 | 45 | 21 | 26 | 6 | 2 | NP | NP | 13 | A-1-b |
| | 74 | | | | | | | | | | | | | | |
| 667.40 | 76 | | | | | | | | | | | | | | |
| 665.90 | | 15/18/22 | | | GRAY SILTY GRAVELLY SAND (SAND HEAVED 3' IN AUGER FLIGHTS) | 44 | 42 | 22 | 20 | 13 | 3 | NP | NP | 10 | A-1-b |

BOTTOM OF BORING

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 TE-95 Revised 5/95

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF MATERIALS MANAGEMENT
1600 WEST BROAD ST. COLUMBUS, OH 43223

| REVISED DATE | | DATE 12/13/96 |
|---|---|---|
| | REVIEWED M.R.S. | |
| | CHECKED A.F. | |
| | TYPED J.B.H. | |

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. COS-036-2064
OVER WALHONDING RIVER

COS-16-9.84
COS-36-20.06

3/4

## LOG OF BORING

Date Started 10/1/96 Sampler: Type SS Dia. 1¾"
Date completed 10/2/96
Boring No. B-3 Station & Offset 551+70, 13' RT.
Water Elev. 737.0'
Surface Elev. 744.50'

| Elev. | Depth | Std. Pen. (N) | Rec. ft | Loss ft | Description | Sample No. | Physical Characteristics % Agg | % C.S. | % F.S. | % Silt | % Clay | L.L. | P.J. | W.C. | ODOT Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 744.50 | 0 | | | | | | | | | | | | | | |
| | 2 | | | | | | | | | | | | | | |
| | 4 | AUGERED | | | BROWN SANDY CLAY W/SMALL GRAVEL (DRILLER'S DESCRIPTION) | - | - | - | - | - | - | - | - | - | VISUAL |
| 739.50 | 6 | | | | | | | | | | | | | | |
| | | 7/7/6 | | | BROWN SILTY SAND | 1 | 0 | 37 | 27 | 4 | 32 | NP | NP | 14 | A-4a |
| 737.00 | 8 | | | | | | | | | | | | | | |
| 735.50 | | 5/4/7 | | | BROWN GRAVEL | 2 | 78 | 9 | 8 | 2 | 3 | NP | NP | 10 | A-1-a |
| 734.00 | 10 | 8/5/6 | | | BROWN SILTY SANDY GRAVEL | 3 | 57 | 16 | 14 | 5 | 8 | NP | NP | 15 | A-1-a |
| 732.50 | 12 | 3/3/6 | | | BROWN SILTY SANDY GRAVEL | 4 | 48 | 30 | 12 | 5 | 5 | NP | NP | 15 | A-1-b |
| 731.00 | 14 | 22/17/13 | | | BROWN SANDY GRAVEL | 5 | 59 | 23 | 10 | 3 | 5 | NP | NP | 20 | A-1-a |
| 729.50 | | 8/9/9 | | | BROWN SANDY GRAVEL | 6 | 58 | 22 | 11 | 5 | 4 | NP | NP | 12 | A-1-a |
| 728.00 | 16 | 15/16/11 | | | BROWN SILTY SAND | 7 | 0 | 59 | 30 | 8 | 3 | NP | NP | 22 | A-3a |
| | 18 | 11/8/16 | | | BROWN SILTY SANDY GRAVEL | 8 | 53 | 22 | 13 | 9 | 3 | NP | NP | 10 | A-1-a |
| 724.50 | 20 | | | | | | | | | | | | | | |
| | 22 | 11/16/22 | | | BROWN GRAVELLY SAND | 9 | 41 | 39 | 12 | 5 | 3 | NP | NP | 14 | A-1-b |
| 722.00 | 24 | 13/18/24 | | | BROWN SILTY SANDY GRAVEL | 10 | 49 | 29 | 11 | 8 | 3 | NP | NP | 12 | A-1-b |
| 719.50 | 26 | 17/21/27 | | | BROWN SANDY GRAVEL | 11 | 63 | 26 | 4 | 5 | 2 | NP | NP | 12 | A-1-a |
| 717.00 | 28 | 9/11/9 | | | BROWN SANDY GRAVEL (SAND HEAVED 3' IN AUGER FLIGHTS) | 12 | 65 | 20 | 8 | 5 | 2 | NP | NP | 14 | A-1-a |
| 714.50 | 30 | 7/9/9 | | | BROWN SANDY GRAVEL | 13 | 47 | 34 | 11 | 6 | 2 | NP | NP | 14 | A-1-b |
| | 32 | | | | | | | | | | | | | | |
| | 34 | | | | | | | | | | | | | | |
| 709.50 | 36 | 23/17/26 | | | BROWN SANDY GRAVEL | 14 | 60 | 24 | 9 | 6 | 1 | NP | NP | 12 | A-1-a |
| | 38 | | | | | | | | | | | | | | |
| 704.50 | 40 | | | | | | | | | | | | | | |
| | 42 | 10/16/25 | | | BROWN SILTY GRAVELLY SAND | 15 | 37 | 35 | 17 | 8 | 3 | NP | NP | 13 | A-1-b |
| | 44 | | | | | | | | | | | | | | |
| 699.50 | 46 | 9/11/14 | | | BROWN SILTY GRAVELLY SAND | 16 | 31 | 41 | 18 | 6 | 4 | NP | NP | 23 | A-1-b |
| | 48 | | | | | | | | | | | | | | |
| 694.50 | 50 | | | | | | | | | | | | | | |
| | 52 | 14/20/27 | | | GRAY SILTY GRAVELLY SAND (SAND HEAVED 3' IN AUGER FLIGHTS) | 17 | 34 | 30 | 20 | 12 | 4 | NP | NP | 11 | A-1-b |
| | 54 | | | | | | | | | | | | | | |
| 689.50 | 56 | 11/15/21 | | | GRAY SILTY SANDY GRAVEL | 18 | 45 | 13 | 16 | 5 | 3 | NP | NP | 14 | A-1-b |
| | 58 | | | | | | | | | | | | | | |
| 684.50 | 60 | | | | | | | | | | | | | | |
| | 62 | 13/21/29 | | | GRAY GRAVELLY SAND | 19 | 42 | 38 | 13 | 5 | 2 | NP | NP | 12 | A-1-b |
| | 64 | | | | | | | | | | | | | | |
| 679.50 | 66 | 15/13/19 | | | GRAY SANDY GRAVEL (SAND HEAVED 4' IN AUGER FLIGHTS) | 20 | 55 | 26 | 11 | 6 | 2 | NP | NP | 14 | A-1-a |
| | 68 | | | | | | | | | | | | | | |
| 674.50 | 70 | | | | | | | | | | | | | | |
| | 72 | 11/16/23 | | | GRAY SANDY GRAVEL | 21 | 54 | 30 | 9 | 5 | 2 | NP | NP | 15 | A-1-a |
| | 74 | | | | | | | | | | | | | | |
| 669.50 | 76 | | | | | | | | | | | | | | |
| 668.00 | | 17/32/38 | | | GRAY GRAVELLY SAND | 22 | 37 | 45 | 12 | 4 | 2 | NP | NP | 12 | A-1-b |

BOTTOM OF BORING

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 TE-61,Revised 5/95

## LOG OF BORING

Date Started 10/16/96 Sampler: Type SS Dia. 1⅜"
Date completed 10/21/96
Boring No. B-4 Station & Offset 552+63, 48' RT.
Water Elev. 734.7'
Surface Elev. 744.70

| Elev. | Depth | Std. Pen. (N) | Rec. ft | Loss ft | Description | Sample No. | Physical Characteristics % Agg | % C.S. | % F.S. | % Silt | % Clay | L.L. | P.J. | W.C. | ODOT Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 744.70 | 0 | | | | | | | | | | | | | | |
| | 2 | AUGERED | | | BROWN SANDY CLAY (DRILLER'S DESCRIPTION) | - | - | - | - | - | - | - | - | - | VISUAL |
| 742.70 | | | | | | | | | | | | | | | |
| | 4 | AUGERED | | | BROWN SAND (DRILLER'S DESCRIPTION) | - | - | - | - | - | - | - | - | - | VISUAL |
| 739.70 | 6 | | | | | | | | | | | | | | |
| | | 3/4/6 | | | BROWN GRAVELLY SAND | 66 | 23 | 55 | 17 | 0 | 5 | NP | NP | 4 | A-1-b |
| 737.20 | 8 | | | | | | | | | | | | | | |
| | | 4/4/7 | | | BROWN SAND AND GRAVEL | 67 | - | - | - | - | - | - | - | 15 | VISUAL |
| 734.70 | 10 | | | | | | | | | | | | | | |
| | 12 | 3/6/4 | | | BROWN SILTY GRAVELLY SAND | 68 | 41 | 30 | 18 | 6 | 5 | NP | NP | 19 | A-1-b |
| 732.20 | 14 | 5/8/9 | | | BROWN SILTY SANDY GRAVEL | 69 | 58 | 23 | 9 | 5 | 5 | NP | NP | 15 | A-1-a |
| 729.70 | 16 | 7/10/11 | | | BROWN SANDY GRAVEL | 70 | 60 | 25 | 8 | 3 | 4 | NP | NP | 10 | A-1-a |
| | 18 | | | | | | | | | | | | | | |
| 724.70 | 20 | | | | | | | | | | | | | | |
| | 22 | 8/11/9 | | | BROWN SANDY GRAVEL | 71 | 59 | 28 | 8 | 0 | 5 | NP | NP | 15 | A-1-a |
| | 24 | | | | | | | | | | | | | | |
| 719.70 | 26 | 11/13/12 | | | BROWN SANDY GRAVEL | 72 | 48 | 29 | 15 | 3 | 5 | NP | NP | 11 | A-1-b |
| | 28 | | | | | | | | | | | | | | |
| 714.70 | 30 | | | | | | | | | | | | | | |
| | 32 | 13/12/9 | | | BROWN SANDY GRAVEL (SAND HEAVED 4' IN AUGER FLIGHTS) | 73 | 62 | 20 | 10 | 4 | 4 | NP | NP | 14 | A-1-a |
| | 34 | | | | | | | | | | | | | | |
| 709.70 | 36 | 16/18/23 | | | BROWN GRAVELLY SAND | 74 | 21 | 51 | 21 | 1 | 6 | NP | NP | 15 | A-1-b |
| | 38 | | | | | | | | | | | | | | |
| 704.70 | 40 | | | | | | | | | | | | | | |
| | 42 | 4/7/13 | | | BROWN SANDY GRAVEL (SAND HEAVED 3' IN AUGER FLIGHTS) | 75 | 78 | 14 | 6 | 0 | 2 | NP | NP | 14 | A-1-a |
| | 44 | | | | | | | | | | | | | | |
| 699.70 | 46 | 18/22/40 | | | GRAY GRAVELLY SAND | 76 | 47 | 40 | 9 | 0 | 4 | NP | NP | 0 | A-1-b |
| | 48 | | | | | | | | | | | | | | |
| 694.70 | 50 | | | | | | | | | | | | | | |
| | 52 | 11/30/50 | | | GRAY GRAVELLY SAND | 77 | 47 | 37 | 10 | 1 | 5 | NP | NP | 2 | A-1-b |
| | 54 | | | | | | | | | | | | | | |
| 689.70 | 56 | 11/15/16 | | | GRAY SANDY GRAVEL (SAND HEAVED 3' IN AUGER FLIGHTS) | 78 | 67 | 24 | 6 | 1 | 6 | NP | NP | 2 | A-1-a |
| | 58 | | | | | | | | | | | | | | |
| 684.70 | 60 | | | | | | | | | | | | | | |
| | 62 | 42/21/20 | | | GRAY SANDY GRAVEL (SAND HEAVED 4' IN AUGER FLIGHTS) | 79 | 67 | 22 | 7 | 1 | 3 | NP | NP | 0 | A-1-a |
| | 64 | | | | | | | | | | | | | | |
| 679.70 | 66 | | | | | | | | | | | | | | |
| 678.20 | | 15/19/28 | | | GRAY SANDY GRAVEL | 80 | 60 | 27 | 8 | 1 | 4 | NP | NP | 3 | A-1-a |

BOTTOM OF BORING

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 TE-61,Revised 5/95


OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF MATERIALS MANAGEMENT
1600 WEST BROAD ST. COLUMBUS, OH 43223


REVISED DATE | DATE 12/13/96
REVIEWED M.R.S.
CHECKED A.F.
TYPED J.B.H.

STRUCTURE FOUNDATION INVESTIGATION
*BRIDGE NO. COS-036-2064*
*OVER WALHONDING RIVER*

**COS-16-9.84**
**COS-36-20.06**