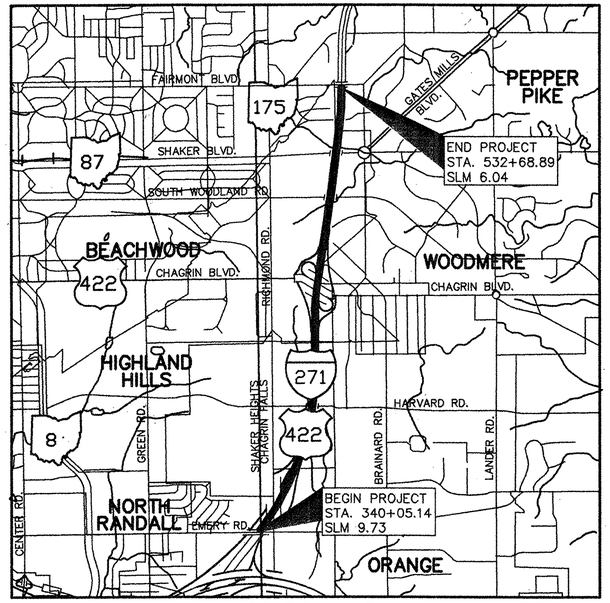

LOCATION MAP

LATITUDE: N 41° 02' 46" LONGITUDE W 80° 42' 42"

0 1 2

SCALE IN MILES

LATITUDE AND LONGITUDE ARE TO APPROXIMATE CENTER OF PROJECT.

PORTION TO BE IMPROVED----------

MAJOR COUNTY ROAD----------

UNDIVIDED STATE & FEDERAL ROUTES------

OTHER ROADS----------

DESIGN DESIGNATION

	IR-271
CURRENT ADT (2005)	113,950
DESIGN YEAR ADT (2025)	122,100
DESIGN HOURLY VOLUME (2025)	11,600
DIRECTIONAL DISTRIBUTION	60%
TRUCKS (24 HOUR B&C)	8%
DESIGN SPEED	65 MPH
LEGAL SPEED	60 MPH

DESIGN FUNCTIONAL CLASSIFICATION – URBAN INTERSTATE

DESIGN EXCEPTIONS

NONE REQUIRED

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
CUY-271-6.04

CITY OF WARRENSVILLE HEIGHTS
CITY OF BEACHWOOD
CITY OF PEPPER PIKE
VILLAGE OF ORANGE
VILLAGE OF WOODMERE
WARRENSVILLE TOWNSHIP
CUYAHOGA COUNTY

INDEX OF SHEETS

PROJECT DESCRIPTION

THIS PROJECT PROVIDES FOR THE RESURFACING OF MAINLINE IR-271 FROM THE EMERY ROAD BRIDGE OVER IR-271 (SLM 6.04) TO THE FAIRMONT BOULEVARD BRIDGE OVER IR-271 (SLM 9.73). ALSO INCLUDED IS THE RESURFACING OF THE RICHMOND RD. AND CHAGRIN BLVD. INTERCHANGE RAMPS. WORK ITEMS INCLUDE RESURFACING, CONCRETE PAVEMENT REPAIR, SIGN LIGHTING REMOVAL, DRAINAGE IMPROVEMENTS, GUARDRAIL, PAVEMENT MARKING AND RAISED PAVEMENT MARKERS.

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 OHIO REVISED CODE.

2002 SPECIFICATIONS

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

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

FEDERAL PROJECT NO. E032(560)

PID NO. 12996

CONSTRUCTION PROJECT NO. CUY-271-6.04

RAILROAD INVOLVEMENT NONE

UNDERGROUND UTILITIES

2 WORKING DAYS BEFORE YOU DIG
CALL 800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE

NON-MEMBERS MUST BE CALLED DIRECTLY

PLAN PREPARED BY: GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.

GPD ASSOCIATES
7750 Town Centre Dr., Suite 300
Cleveland, Ohio 44147
440-627-2400, Fax 440-627-2401

ENGINEERS SEAL

RALPH A. HENDRICK
REG. PROF. ENGINEER
NO. 33588
12/27/04
DATE

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS	
BP-2.1	7-16-04	GR-1.1	7-16-04	CB-1.1	7-19-02	TC-22.20	1-19-01	MT-35.10	4-20-01	802	7-19-02
BP-2.2	7-16-04	GR-2.1	1-16-04	CB-2.1	7-19-02	TC-31.21	4-20-01	MT-95.30	7-16-04	832	4-17-04
BP-2.5	7-28-00	GR-3.1	4-18-03	CB-2.2	7-19-02	TC-51.11	4-20-01	MT-98.12	4-19-02	833	2-12-03
BP-3.1	7-16-04	GR-3.2	4-18-03	CB-3.1	7-19-02	TC-51.12	4-20-01	MT-98.13	4-19-02	843	4-18-03
BP-9.1	10-17-03	GR-4.2	10-17-03	CB-3.2	7-19-02	TC-61.10	1-19-01	MT-98.14	4-19-02	908	4-18-03
		GR-6.1	4-18-03			TC-65.10	10-19-01	MT-98.15	7-16-04	869	7-11-00
						TC-65.11	10-19-01	MT-98.16	4-19-02		
F-1.1	7-16-04					TC-65.12	10-19-01	MT-98.17	10-18-02		
F-2.1	7-28-00	RM-4.2	4-18-03			TC-71.10	4-19-02	MT-98.18	10-18-02		
F-3.1	7-28-00	HW-2.1	7-19-02			TC-72.20	1-19-01	MT-98.19	10-18-02		
F-3.2	7-16-04	HW-2.2	7-19-02			TC-73.10	1-19-01	MT-99.20M	1-30-95		
F-3.3	7-28-00					TC-82.10	4-19-02	MT-102.10	10-18-02		
F-3.4	7-28-00	DM-1.1	7-18-03					MT-105.10	10-18-02		
		DM-1.4	7-19-02					MT-105.11	10-18-02		
		DM-4.2	7-19-02								

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

APPROVED _____
DATE 29 DEC 2004 DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION.

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Technician: MJOLIAT

BEGIN PROJECT STA. 340+05.14 S.L.M. 6.04

BEGIN RELOCATED LANE N-W STA. 0+00.00

STA. 9+42.22, 36' LT. B/L RELOC. LANE N-W = STA. 341+57.27, 137.50' LT. C/L I.R. 271

NOSE STA. 5+87.11, 36' LT. B/L RELOC. LANE N-W = STA. 345+17.39, 116.50' LT. C/L I.R. 271

℄ RELOC. LANE N-W

BRIDGE NO. CUY-271-0629 NO WORK

C/L RICHMOND RD. STA. 185+07.29 = B/L RAMP G-1 STA. 57+37.48

BEGIN WORK RAMP G-1 STA. 57+53.64

℄ RICHMOND RD.

℄ RAMP G-1

END WORK RAMP G-1 STA. 65+81.55

WARRENSVILLE TWP.

CITY OF WARRENSVILLE HEIGHTS

END WORK RAMP EW-S STA. 9+72.83

℄ RAMP EW-S

BEGIN WORK RAMP EW-S STA. 7+60.00

NOSE STA. 7+60.00, 16' RT. B/L RAMP EW-S = STA. 387+60.42, 135.50' LT. C/L I.R. 271

CULVERT #1 (48") STA. 359+19.00

CULVERT #2 (54") STA. 379+20.00

CULVERT #3 (36") STA. 386+95.00

C/L EMERY RD. STA. 115+00.00
C/L I.R. 271 STA. 340+05.14

PT = 340+58.15

℄ RELOC. LANE E-N

BRIDGE NO. CUY-271-0610 NO WORK

STA. 73+87.69, 36' RT. B/L RELOC. LANE E-N = STA. 341+55.58, 137.50' RT. C/L I.R. 271

WARRENSVILLE HEIGHTS

℄ EMERY RD.

℄ RAMP G-2

BEGIN WORK RAMP G-2 STA. 1+18.31

C/L RICHMOND RD. STA. 177+27.39
C/L I.R. 271 STA. 350+92.11

NOSE STA. 67+87.01, B/L RELOC. LANE E-N = STA. 347+50.00, 159.50' RT. C/L I.R. 271

END WORK RAMP G-2 STA. 15+51.21

NOSE STA. 62+86.48, 16' RT. B/L RAMP G-1 = STA. 362+81.31, 161.50' LT. C/L I.R. 271

NOSE STA. 15+51.21, 16' LT. B/L RAMP G-2 = STA. 359+89.00, 147.50' RT. C/L I.R. 271

℄ I.R. 271

℄ HARVARD RD.

C/L EMERY RD. STA. 121+20.00
C/L RICHMOND RD. STA. 168+23.43

C/L HARVARD RD. STA. 121+79.32
B/L RAMP S-WE STA. 98+18.35

C/L HARVARD RD. STA. 121+92.31
B/L RAMP EW-S STA. 18+13.93

C/L HARVARD RD. STA. 125+94.13, 37.00' RT.
BEGIN RAMP E-N PC = 81+39.63

C/L I.R. 271 STA. 398+73.08
C/L HARVARD RD. STA. 125+81.97

NOSE STA. 98+16.49, 16' LT. B/L RAMP E-N = STA. 398+16.49, 147.50' RT. C/L I.R. 271

CITY OF BEACHWOOD

CITY OF WARRENSVILLE HEIGHTS

BEGIN WORK RAMP S-WE STA. 111+52.01

NOSE STA. 111+52.01, 16' RT. B/L RAMP S-WE STA. 411+44.66, 149.50' LT. C/L I.R. 271

END WORK RAMP S-WE STA. 117+00.00

CITY OF BEACHWOOD

MATCH LINE STA. 430+00 (SEE SHEET 2 OF 2)

℄ RAMP S-WE

BRIDGE NOS. CUY-271-0720 L, LC, RC, & R NO WORK

℄ RAMP EW-S

℄ I.R. 271

℄ RAMP F-4

BEGIN WORK RELOCATED RAMP F-4 STA. 4+00.00

CULVERT #6 (36") STA. 418+35.00

CULVERT #4 (5'x8' BOX) STA. 396+10.00

MATCH LINE STA. 390+00 (SEE ABOVE)

NOSE STA. 111+82.15, 16' LT. B/L RAMP W-N STA. 411+82.42, 147.50' RT. C/L I.R. 271

END WORK RAMP W-N STA. 111+82.15

END RAMP E-N, STA. 108+29.96 C/L 271 STA. 408+17.75, 138.50 RT.

VILLAGE OF ORANGE

CITY OF BEACHWOOD

℄ RAMP E-N

℄ RAMP W-N

C/L HARVARD RD. STA. 127+45.62
B/L RAMP E-N STA. 18+13.93

B/L RAMP E-N STA. 82+85.04
B/L RAMP E-N STA. 98+55.82

NOSE STA. 83+84.27, 23.36' LT. B/L RAMP E-N
STA. 128+42.49, 35' RT. C/L HARVARD RD.

B/L RAMP N-EW STA. 101+86.81
C/L HARVARD RD. STA. 132+83.56

℄ RAMP N-EW

BEGIN WORK RAMP N-EW STA. 78+75.00

END WORK RAMP N-EW STA. 86+64.49

END WORK RAMP E-N STA. 108+29.96

BEGIN WORK RAMP W-N STA. 109+80.51

BEGIN WORK RAMP E-N STA. 95+89.75

MATCH LINE STA. 390+00 (SEE BELOW)

FOR CURVE DATA, SEE SHEET NO. 4

HORIZONTAL SCALE IN FEET: 0, 100, 200, 400

CALCULATED BC

CHECKED MVJ

SCHEMATIC PLAN
SHEET 1 OF 2

CUY-271-6.04

2
142

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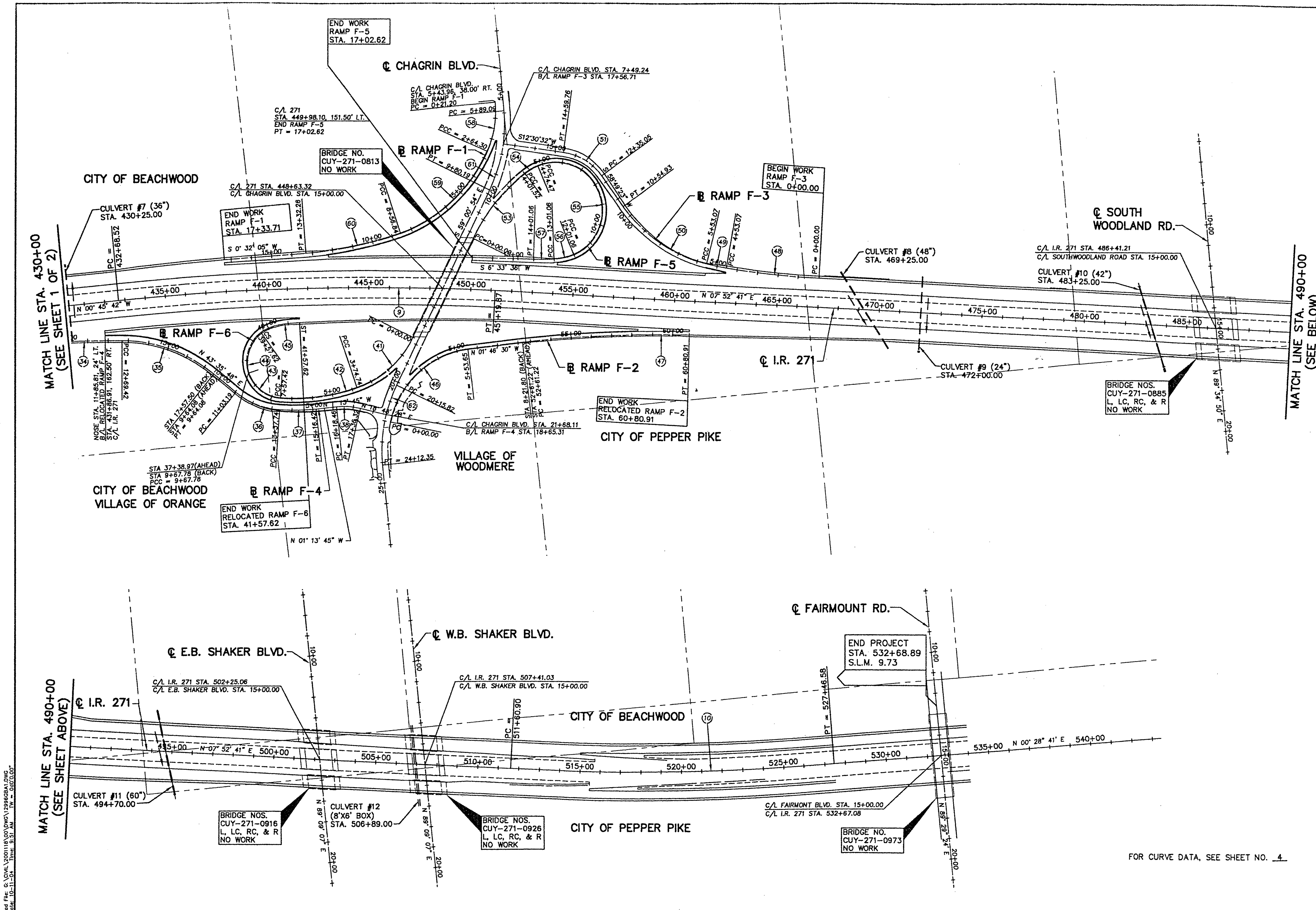

FOR CURVE DATA, SEE SHEET NO. 4

SCHEMATIC PLAN
SHEET 2 OF 2

CALCULATED BC | CHECKED MVJ

HORIZONTAL SCALE IN FEET: 0 100 200 400

CUY-271-6.04

① ℄ RELOC. LANE N-W
EXISTING CURVE
P.I. = STA. 6+27.47
Δ = 11° 27' 55" RT.
D_c = 0° 55' 00"
R = 6250.45'
T = 627.47'
L = 1250.75'
E = 31.42'
e_{max} =
P.C. = STA. 0+00.00
P.T. = STA. 12+50.75 (BACK)/ STA. 9+73.53 (AHEAD)

② ℄ LT. EOP DUAL SB
EXISTING CURVE
P.I. = STA. 339+94.03
Δ = 6° 00' 00" RT.
D_c = 1° 00' 00"
R = 5,729.58'
T = 300.27'
L = 600.00'
E = 7.86'
e_{max} =
P.C. = STA. 336+93.76
P.C.C. = STA. 342+93.76

③ ℄ RELOC. LANE E-N
EXISTING CURVE
P.I. = STA. 76+48.92
Δ = 18° 21' 59" LT.
D_c = 4° 30' 00"
R = 1,273.24'
T = 205.84'
L = 408.14'
E = 16.53'
e_{max} =
P.C. = STA. 74+43.08
P.T. = STA. 78+51.22

④ ℄ RT. EOP NB I.R. 271
EXISTING CURVE
P.I. = STA. 337+13.70
Δ = 5° 10' 13" LT.
D_c = 0° 45' 00"
R = 7,639.44'
T = 344.92'
L = 689.37'
E = 7.78'
e_{max} =
P.C. = STA. 333+68.78
P.T. = STA. 340+58.15

⑤ ℄ I.R. 271
EXISTING CURVE
P.I. = STA. 338+70.54
Δ = 4° 01' 57" RT.
D_c = 0° 28' 34"
R = 12,031.31'
T = 423.57'
L = 846.79'
E = 7.45'
e_{max} =
P.C. = STA. 334+46.97
P.C.C. = STA. 342+93.76

⑥ ℄ I.R. 271
EXISTING CURVE
P.I. = STA. 347+31.89
Δ = 3° 55' 11" RT.
D_c = 0° 26' 51"
R = 12803.53'
T = 438.13'
L = 875.91'
E = 7.49'
e_{max} =
P.C.C. = STA. 342+93.76
P.C.C. = STA. 351+69.67

⑦ ℄ I.R. 271
EXISTING CURVE
P.I. = STA. 355+34.95
Δ = 3° 29' 44" RT.
D_c = 0° 28' 43"
R = 11,971.26'
T = 365.28'
L = 730.33'
E = 5.57'
e_{max} =
P.C.C. = STA. 351+69.67
P.C.C. = STA. 359+00.00

⑧ ℄ I.R. 271
EXISTING CURVE
P.I. = STA. 390+31.26
Δ = 28° 36' 54" LT.
D_c = 0° 28' 00"
R = 12,277.67'
T = 3,131.26'
L = 6,131.80'
E = 393.00'
e_{max} =
P.C.C. = STA. 359+00.00
P.T. = STA. 420+31.80

⑨ ℄ I.R. 271
EXISTING CURVE
P.I. = STA. 441+95.95
Δ = 8° 38' 23" RT.
D_c = 0° 28' 00"
R = 12,277.67'
T = 927.43'
L = 1,851.35'
E = 34.98'
e_{max} =
P.C. = STA. 432+68.52
P.T. = STA. 451+19.87

⑩ ℄ I.R. 271
EXISTING CURVE
P.I. = STA. 519+54.84
Δ = 7° 24' 00" LT.
D_c = 0° 28' 00"
R = 12,277.67'
T = 793.94'
L = 1,585.68'
E = 25.64'
e_{max} =
P.C. = STA. 511+60.90
P.T. = STA. 527+46.58

⑪ ℄ RAMP G-2
EXISTING CURVE
P.I. = STA. 0+67.40
Δ = 21° 19' 02" RT.
D_c = 16° 00' 00"
R = 358.10'
T = 67.40'
L = 133.23'
E = 6.29'
e_{max} =
P.C. = STA. 0+00.00
P.T. = STA. 1+33.23

⑫ ℄ RAMP G-2
EXISTING CURVE
P.I. = STA. 9+23.92
Δ = 3° 29' 16" RT.
D_c = 0° 28' 00"
R = 12,277.67'
T = 373.79'
L = 747.35'
E = 5.69'
e_{max} =
P.C. = STA. 5+50.13
P.C.C. = STA. 12+97.48

⑬ ℄ RAMP G-2
EXISTING CURVE
P.I. = STA. 14+20.22
Δ = 2° 20' 44" RT.
D_c = 0° 57' 20"
R = 5,995.39'
T = 122.74'
L = 245.44'
E = 1.26'
e_{max} =
P.C.C. = STA. 12+97.48
P.T. = STA. 15+42.92

⑭ ℄ RAMP G-1
EXISTING CURVE
P.I. = STA. 60+78.47
Δ = 21° 58' 49" LT.
D_c = 6° 00' 00"
R = 954.93'
T = 185.45'
L = 366.34'
E = 17.84'
e_{max} =
P.C. = STA. 58+93.02
P.C.C. = STA. 62+59.36

⑮ ℄ RAMP G-1
EXISTING CURVE
P.I. = STA. 64+21.14
Δ = 12° 53' 15" LT.
D_c = 4° 00' 00"
R = 1,432.39'
T = 161.78'
L = 322.19'
E = 9.11'
e_{max} =
P.C.C. = STA. 62+59.36
P.T. = STA. 65+81.55

⑯ ℄ RAMP N-EW
EXISTING CURVE
P.I. = STA. 82+69.77
Δ = 1° 34' 44" RT.
D_c = 0° 12' 00"
R = 28,647.89'
T = 394.77'
L = 789.49'
E = 2.72'
e_{max} =
P.C. = STA. 78+75.00
P.C.C. = STA. 86+64.49

⑰ ℄ RAMP N-EW
EXISTING CURVE
P.I. = STA. 87+99.84
Δ = 10° 47' 44" RT.
D_c = 4° 00' 00"
R = 1,432.39'
T = 135.35'
L = 269.89'
E = 6.38'
e_{max} =
P.C.C. = STA. 86+64.49
P.C.C. = STA. 89+34.38

⑱ ℄ RAMP N-EW
EXISTING CURVE
P.I. = STA. 90+73.15
Δ = 21° 55' 54" RT.
D_c = 8° 00' 00"
R = 716.20'
T = 138.77'
L = 274.15'
E = 13.32'
e_{max} =
P.C.C. = STA. 89+34.38
P.T. = STA. 92+08.53

⑲ ℄ RAMP N-EW
EXISTING CURVE
P.I. = STA. 97+23.19
Δ = 44° 42' 46" LT.
D_c = 19° 22' 23"
R = 295.75'
T = 121.64'
L = 230.80
E = 24.04'
e_{max} =
P.C. = STA. 96+01.56
P.T. = STA. 98+32.36

⑳ ℄ RAMP EW-S
EXISTING CURVE
P.I. = STA. 9+61.10
Δ = 15° 59' 01" LT.
D_c = 4° 00' 00"
R = 1,432.39'
T = 201.10'
L = 399.59'
E = 14.05'
e_{max} =
P.C. = STA. 7+60.00
P.T. = STA. 11+59.59

(21) ℄ RAMP EW-S
EXISTING CURVE
P.I. = STA. 15+41.08
Δ = 3° 11' 24" LT.
D_c = 4° 00' 00"
R = 1,432.39'
T = 39.89'
L = 79.75'
E = 0.56'
e_{max} =
P.C. = STA. 15+01.20
P.T. = STA. 15+80.95

(22) ℄ RAMP E-N
EXISTING CURVE
P.I. = STA. 82+99.29
Δ = 12° 43' 12" RT.
D_c = 4° 00' 00"
R = 1,432.39'
T = 159.66'
L = 318.00'
E = 8.87'
e_{max} =
P.C. = STA. 81+39.63
C.S. = STA. 84+57.63

(23) ℄ RAMP E-N
EXISTING SPIRAL
P.I. = STA. 85+83.77
L_s = 200.00'
D_c = 24° 54' 40"
θ_s = 28° 54' 40" RT.
p = 8.93'
K = 83.01'
x = 194.21'
y = 37.59'
LT = 126.14
ST = 77.76
C.S. = STA. 84+57.63
S.C. = STA. 86+57.63

(24) ℄ RAMP E-N
EXISTING CURVE
Δ = 211° 51' 36" RT.
D_c = 24° 54' 40"
R = 230.00'
L = 850.46'
e_{max} =
S.C. = STA. 86+57.63
C.S. = STA. 95+08.09

(25) ℄ RAMP E-N
EXISTING SPIRAL
P.I. = STA. 95+75.98
L_s = 200.00'
D_c = 24° 54' 40"
θ_s = 24° 54' 40" RT.
p = 7.20'
K = 99.37'
x = 196.25'
y = 28.60'
LT = 134.68'
ST = 67.89'
C.S. = STA. 95+08.09
S.T. = STA. 97+08.09

(26) ℄ HARVARD RD.
EXISTING CURVE
P.I. = STA. 13+207.75
Δ = 11° 21' 39" RT.
D_c = 4° 00' 00"
R = 1,432.39'
T = 142.48'
L = 284.02'
E = 7.07'
e_{max} =
P.C. = STA. 130+65.27
P.T. = STA. 133+49.29

(27) ℄ HARVARD RD.
EXISTING CURVE
P.I. = STA. 137+03.52
Δ = 11° 27' 27" LT.
D_c = 8° 00' 00"
R = 716.20'
T = 71.85'
L = 143.22'
E = 3.60'
e_{max} =
P.C. = STA. 136+31.67
P.T. = STA. 137+74.89

(28) ℄ RAMP W-N
EXISTING CURVE
P.I. = STA. 94+07.70
Δ = 10° 01' 21" RT.
D_c = 11° 15' 00"
R = 509.30'
T = 44.66'
L = 89.09'
E = 1.95'
e_{max} =
P.C. = STA. 93+63.04
P.C.C. = STA. 94+52.13

(29) ℄ RAMP W-N
EXISTING CURVE
P.I. = STA. 96+19.61
Δ = 19° 04' 54" RT.
D_c = 5° 45' 00"
R = 996.45'
T = 167.48'
L = 331.86'
E = 13.98'
e_{max} =
P.C.C. = STA. 94+52.13
P.C.C. = STA. 97+83.99

(30) ℄ RAMP W-N
EXISTING CURVE
P.I. = STA. 99+62.84
Δ = 28° 02' 35" RT.
D_c = 8° 00' 00"
R = 716.20'
T = 178.85'
L = 350.53'
E = 21.99'
e_{max} =
P.C.C. = STA. 97+83.99
P.C.C. = STA. 101+34.52

(31) ℄ RAMP W-N
EXISTING CURVE
P.I. = STA. 106+50.29
Δ = 34° 58' 31" RT.
D_c = 3° 30' 00"
R = 1,637.02'
T = 515.76'
L = 999.30'
E = 79.33'
e_{max} =
P.C.C. = STA. 101+34.52
P.T. = STA. 111+33.82

(32) ℄ RAMP S-WE
EXISTING CURVE
P.I. = STA. 106+92.54
Δ = 9° 14' 07" LT.
D_c = 1° 16' 55"
R = 4,469.44'
T = 360.99'
L = 720.41'
E = 14.55'
e_{max} =
P.C. = STA. 103+31.55
P.C.C. = STA. 110+51.96

(33) ℄ RAMP S-WE
EXISTING CURVE
P.I. = STA. 113+76.76
Δ = 9° 43' 14" LT.
D_c = 1° 30' 00"
R = 3,819.72'
T = 324.80'
L = 648.04'
E = 13.78'
e_{max} =
P.C.C. = STA. 110+51.96
P.T. = STA. 117+00.00

(34) ℄ RAMP F-4
EXISTING CURVE
P.I. = STA. 8+35.08
Δ = 5° 47' 46" RT.
D_c = 0° 40' 00"
R = 8594.37'
T = 435.08'
L = 869.42'
E = 11.01'
e_{max} =
P.C. = STA. 4+00.00
P.C.C. = STA. 12+69.42

(35) ℄ RAMP F-4
EXISTING CURVE
P.I. = STA. 15+23.36
Δ = 39° 02' 47" RT.
D_c = 8° 00' 00"
R = 716.20'
T = 253.94'
L = 488.08'
E = 43.69'
e_{max} =
P.C.C. = STA. 12+69.42
P.T. = STA. 17+57.50 (BACK)/ STA. 9+64.08 (AHEAD)

(36) ℄ RAMP F-4
EXISTING CURVE
P.I. = STA. 12+20.47
Δ = 35° 10' 58" LT.
D_c = 15° 00' 00"
R = 381.97'
T = 121.11'
L = 234.55'
E = 18.74'
e_{max} =
P.C. = STA. 11+03.19
P.C.C. = STA. 13+37.74

(37) ℄ RAMP F-4
EXISTING CURVE
P.I. = STA. 14+27.08
Δ = 10° 07' 37" LT.
D_c = 5° 40' 04"
R = 1010.90'
T = 89.57'
L = 178.68'
E = 3.96'
e_{max} =
P.C.C. = STA. 13+37.74
P.T. = STA. 15+16.42

(38) ℄ RAMP F-4
EXISTING CURVE
P.I. = STA. 16+77.39
Δ = 20° 02' 13" RT.
D_c = 17° 00' 00"
R = 337.03'
T = 59.54'
L = 117.86'
E = 5.22'
e_{max} =
P.C. = STA. 16+18.46
P.T. = STA. 17+36.32

(39) NOT USED

(40) NOT USED

(41) ℄ RAMP F-6
EXISTING CURVE
P.I. = STA. 1+87.37
Δ = 44° 58' 08" RT.
D_c = 12° 00' 00"
R = 477.46'
T = 197.62'
L = 374.74'
E = 39.28'
e_{max} =
P.C. = STA. 0+00.00
P.C.C. = STA. 3+74.74

(42) ℄ RAMP F-6
EXISTING CURVE
P.I. = STA. 5+66.08
Δ = 22° 57' 39" RT.
D_c = 6° 00' 00"
R = 954.93'
T = 193.94'
L = 382.68'
E = 19.50'
e_{max} =
P.C.C. = STA. 3+74.74
P.C.C. = STA. 7+57.42

(43) ℄ RAMP F-6
EXISTING CURVE
P.I. = STA. 8+62.60
Δ = 87° 20' 05" RT.
D_c = 32° 00' 32"
R = 179.00'
T = 119.23'
L = 210.36'
E = 36.07'
e_{max} =
P.C.C. = STA. 7+57.42
P.C.C. = STA. 9+67.78 (BACK)/ STA. 37+38.97 (AHEAD)

(44) ℄ RAMP F-6
EXISTING CURVE
P.I. = STA. 38+48.30
Δ = 72° 31' 13" RT.
D_c = 33° 10' 00"
R = 172.75'
T = 126.71'
L = 218.65'
E = 41.49'
e_{max} =
P.C.C. = STA. 37+38.97 (AHEAD)/ STA. 9+67.78 (BACK)
C.S. = STA. 39+57.62

(45) ℄ RAMP F-6
EXISTING SPIRAL
P.I. = STA. 40+24.01
L_s = 200.00'
D_c = 33° 10' 00"
θ_s = 33° 10' 00" RT.
p = 9.53'
K = 98.89'
x = 193.40'
y = 37.68'
LT = 135.75'
ST = 68.87'
C.S. = STA. 39+57.62
S.T. = STA. 41+57.62

(46) ℄ RAMP F-2
EXISTING CURVE
P.I. = STA. 3+20.06
Δ = 71° 58' 28" RT.
D_c = 13° 00' 00"
R = 440.74'
T = 320.06'
L = 553.65'
E = 103.96'
e_{max} =
P.C. = STA. 0+00.00
P.T. = STA. 5+53.65

(47) ℄ RAMP F-2
EXISTING CURVE
P.I. = STA. 56+71.76
Δ = 8° 11' 49" RT.
D_c = 1° 00' 00"
R = 5729.58'
T = 410.54'
L = 819.69'
E = 14.69'
e_{max} =
P.C. = STA. 8+21.80 (BACK)/ STA. 52+61.22 (AHEAD)
P.T. = STA. 60+80.91

(48) ℄ RAMP F-3
EXISTING CURVE
P.I. = STA. 2+26.54
Δ = 6° 47' 46" RT.
D_c = 1° 30' 00"
R = 3,819.72'
T = 226.80'
L = 453.07'
E = 6.73'
e_{max} =
P.C. = STA. 0+00.00
P.C.C. = STA. 4+53.07

(49) ℄ RAMP F-3
EXISTING CURVE
P.I. = STA. 5+03.07
Δ = 4° 00' 00" RT.
D_c = 4° 00' 00"
R = 1,432.39'
T = 50.02'
L = 100.00'
E = 0.87'
e_{max} =
P.C.C. = STA. 4+53.07
P.C.C. = STA. 5+53.07

(50) ℄ RAMP F-3
EXISTING CURVE
P.I. = STA. 8+04.00
Δ = 40° 08' 56" RT.
D_c = 8° 00' 00"
R = 716.20'
T = 261.73
L = 501.86
E = 46.33'
e_{max} =
P.C.C. = STA. 5+53.07
P.T. = STA. 10+54.93

(51) ℄ RAMP F-3
EXISTING CURVE
P.I. = STA. 13+47.41
Δ = 46° 18' 51" LT.
D_c = 20° 36' 36"
R = 278.00'
T = 118.90'
L = 224.71'
E = 24.36'
e_{max} =
P.C. = STA. 12+35.05
P.T. = STA. 14+59.76

(52) NOT USED

(53) ℄ RAMP F-5
EXISTING CURVE
P.I. = STA. 2+04.30
Δ = 26° 05' 56" RT.
D_c = 6° 30' 00"
R = 881.47'
T = 204.30'
L = 401.52'
E = 23.37'
e_{max} =
P.C. = STA. 0+00.00
P.C.C. = STA. 4+01.52

(54) ℄ RAMP F-5
EXISTING CURVE
P.I. = STA. 4+38.19
Δ = 14° 35' 24" RT.
D_c = 20° 00' 00"
R = 286.48'
T = 36.67'
L = 72.95'
E = 2.34'
e_{max} =
P.C.C. = STA. 4+01.52
P.C.C. = STA. 4+74.47

(55) ℄ RAMP F-5
EXISTING CURVE
Δ = 181° 00' 06" RT.
D_c = 24° 54' 40"
R = 230.00'
L = 726.59
e_{max} =
P.C.C. = STA. 4+74.47
P.C.C. = STA. 12+01.06

(56) ℄ RAMP F-5
EXISTING CURVE
P.I. = STA. 12+51.57
Δ = 20° 00' 00" RT.
D_c = 20° 00' 00"
R = 286.48'
T = 50.51'
L = 100.00'
E = 4.42'
e_{max} =
P.C.C. = STA. 12+01.06
P.C.C. = STA. 13+01.06

(57) ℄ RAMP F-5
EXISTING CURVE
P.I. = STA. 13+51.08
Δ = 4° 00' 00" RT.
D_c = 4° 00' 00"
R = 1,432.39'
T = 50.02'
L = 100.00'
E = 0.87'
e_{max} =
P.C.C. = STA. 13+01.06
P.T. = STA. 14+01.06

(58) ℄ RAMP F-1
EXISTING CURVE
P.I. = STA. 1+32.15
Δ = 29° 10' 19" RT.
D_c = 12° 00' 00"
R = 477.46'
T = 124.25'
L = 243.10'
E = 15.90'
e_{max} =
P.C. = STA. 0+21.20
P.C.C. = STA. 2+64.30

(59) ℄ RAMP F-1
EXISTING CURVE
P.I. = STA. 5+60.57
Δ = 47° 24' 12" RT.
D_c = 8° 00' 00"
R = 716.20'
T = 314.41'
L = 592.54'
E = 65.98'
e_{max} =
P.C.C. = STA. 2+64.30
P.C.C. = STA. 8+56.84

(60) ℄ RAMP F-1
EXISTING CURVE
P.I. = STA. 10+94.46
Δ = 14° 15' 45" RT.
D_c = 3° 00' 00"
R = 1,909.86'
T = 238.94'
L = 475.42'
E = 14.89'
e_{max} =
P.C.C. = STA. 8+56.84
P.T. = STA. 13+32.26

(61) ℄ CHAGRIN BLVD.
EXISTING CURVE
P.I. = STA. 7+89.65
Δ = 31° 17' 17" RT.
D_c = 8° 00' 00"
R = 716.20'
T = 200.56'
L = 391.10'
E = 27.55'
e_{max} =
P.C. = STA. 5+89.09
P.T. = STA. 9+80.19

(62) ℄ CHAGRIN BLVD.
EXISTING CURVE
P.I. = STA. 22+19.31
Δ = 31° 43' 21" LT.
D_c = 8° 00' 00"
R = 716.20'
T = 203.49
L = 396.53'
E = 28.35'
e_{max} =
P.C. = STA. 20+15.82
P.T. = STA. 24+12.35

(63) ℄ RAMP E-N
EXISTING CURVE
P.I. = STA. 103+23.50
Δ = 4° 38' 22" RT.
D_c = 0° 27' 28"
R = 12,516.07'
T = 507.01'
L = 1,013.47'
E = 10.27'
e_{max} =
P.C. = STA. 98+16.49
P.T. = STA. 108+29.96

SCHEMATIC PLAN

CUY-271-6.04

Cad File: G:\CIVIL\20011118\CURV_DATA\DWG\12996GSA.DWG
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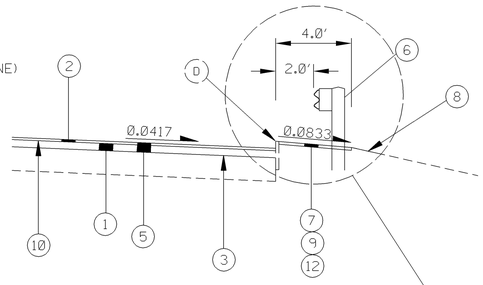
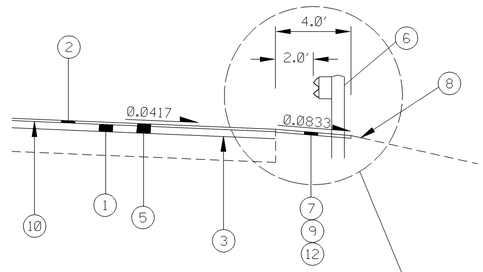
CALCULATED BC
CHECKED FF

PROPOSED LEGEND

1. ITEM 442 - 4 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)
2. ITEM 442 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN A (MAINLINE)
   ITEM 442 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN B (RAMPS)
3. ITEM 407 - TACK COAT
4. ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (1-1/2")
5. ITEM 202 - WEARING COURSE REMOVED (4-1/2" & 1-1/2" @ FEATHERS)
6. ITEM 606 - GUARDRAIL, TYPE 5
7. ITEM 448 - 2" ASPHALT CONC. INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG 64-22, A.P.P.
8. ITEM 659 - SEEDING AND MULCHING
9. ITEM 209 - LINEAR GRADING, AS PER PLAN
10. ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE
11. ITEM 203 - EMBANKMENT
12. ITEM SPECIAL - SOIL STERILANT (SEE NOTE ON SHEET 7)



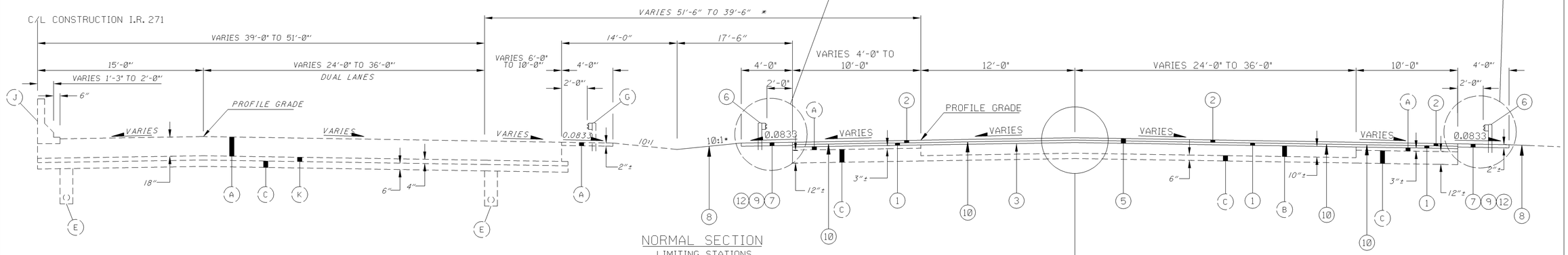
TYPICAL SHOULDER TREATMENT
GUARDRAIL AND CURB



TYPICAL SHOULDER TREATMENT
GUARDRAIL AND NO CURB

SEE LINEAR GRADING DETAIL SHEET 6.

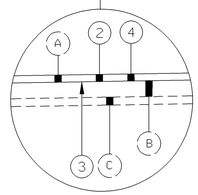
SEE LINEAR GRADING DETAIL SHEET 6.



NORMAL SECTION

LIMITING STATIONS

STA. 340+05.14 TO STA. 397+52.75 (RT./LT.) = 5747.61 LIN. FT.
STA. 400+07.76 TO STA. 485+34.97 (RT./LT.) = 8527.21 LIN. FT.
STA. 487+48.99 TO STA. 501+32.44 (RT./LT.) = 1383.45 LIN. FT.
STA. 503+12.46 TO STA. 506+54.43 (RT./LT.) = 341.97 LIN. FT. (SEE DETAIL A)
STA. 508+34.53 TO STA. 532+68.89 (RT./LT.) = 2434.36 LIN. FT.
TOTAL = 18434.60 LIN. FT.



DETAIL A

STA. 503+12.46 TO STA. 506+54.43 RT./LT.

* 39'-6" WIDTH
STA. 340+05.14 TO STA. 360+28.01 RT.
STA. 340+05.14 TO STA. 357+00.00 LT.
WIDTH VARIES 39'-6" TO 51'-6"
STA. 360+28.01 TO STA. 367+48.01 RT.
STA. 357+00.00 TO STA. 358+20.00 LT.
51'-6" WIDTH
STA. 367+48.01 TO STA. 397+52.75 RT.
STA. 358+20.00 TO STA. 397+52.75 LT.
STA. 400+07.76 TO STA. 485+34.97 RT./LT.
STA. 487+48.99 TO STA. 501+32.44 RT./LT.
STA. 503+12.46 TO STA. 506+54.43 RT./LT.
STA. 508+34.53 TO STA. 532+68.89 RT./LT.

FOR EXISTING LEGEND, SEE SHEET 8.

TYPICAL SECTIONS

CUY-271-6.04

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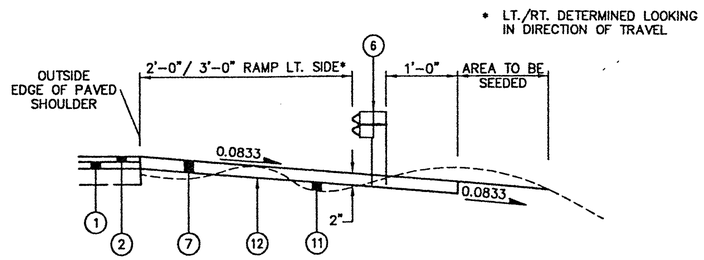
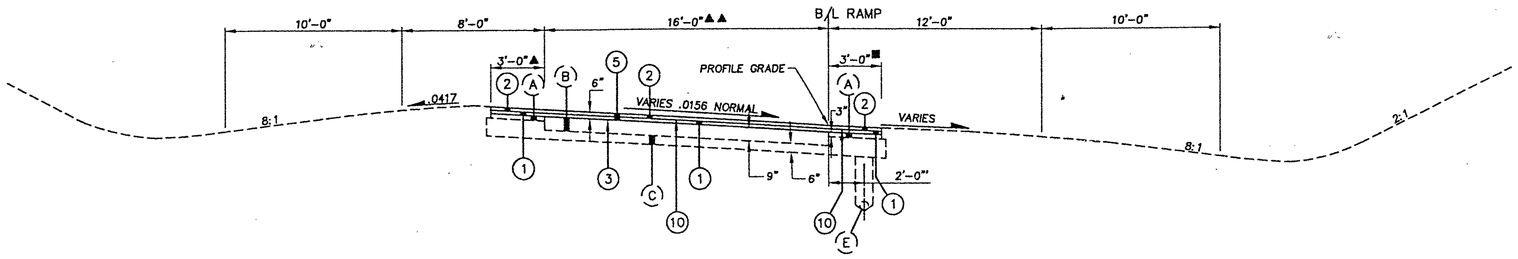
Technician: MJOLIAT



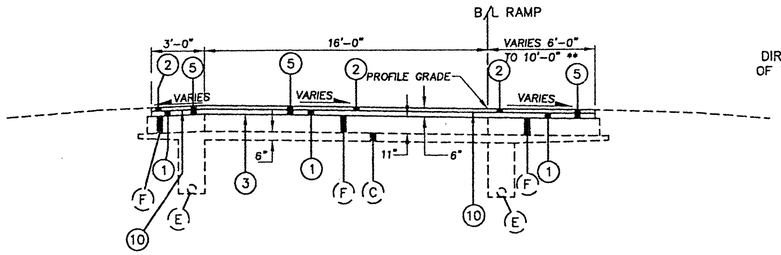
ITEM 209 – LINEAR GRADING, AS PER PLAN



RAMP – CURVE RIGHT OR TANGENT

LIMITING STATIONS

RAMP F–1 (CHAGRIN BLVD. INTERCHANGE)	STA. 2+00.67 TO STA. 17+33.71	= 1533.04 LIN. FT.
RAMP F–2 (CHAGRIN BLVD. INTERCHANGE)	STA. 3+61.30 TO STA. 8+21.80(BK)/ STA. 52+61.22(AH)	= 460.50 LIN. FT.
RAMP F–2 (CHAGRIN BLVD. INTERCHANGE)	STA. 52+61.22(AH)/ STA. 8+21.80(BK) TO STA. 60+80.91	= 819.69 LIN. FT.
RAMP F–5 (CHAGRIN BLVD. INTERCHANGE)	STA. 3+75.00 TO STA. 13+01.06	= 926.06 LIN. FT.
RAMP F–6 (CHAGRIN BLVD. INTERCHANGE)	STA. 2+90.00 TO STA. 9+67.78(BK)/ STA. 37+38.97(AH)	= 677.78 LIN. FT.
RAMP F–6 (CHAGRIN BLVD. INTERCHANGE)	STA. 37+38.97(AH)/ STA. 9+67.78(BK) TO STA. 41+57.62	= 418.65 LIN. FT.
	TOTAL	= 4835.72 LIN. FT.



ONE LANE RAMP, NORMAL SECTION

LIMITING STATIONS

RAMP E–N (HARVARD RD. INTERCHANGE)	STA. 95+89.75 TO STA. 98+16.49	= 226.74 LIN. FT.
RAMP G–2 (RICHMOND RD. INTERCHANGE)	STA. 1+18.31 TO STA. 15+51.21	= 1432.90 LIN. FT.
* RAMP G–1 (RICHMOND RD. INTERCHANGE)	STA. 57+53.64 TO STA. 65+81.55	= 827.91 LIN. FT.
RAMP W–N (HARVARD RD. INTERCHANGE)	STA. 109+80.51 TO STA. 111+82.15	= 201.64 LIN. FT.
	TOTAL	= 2689.19 LIN. FT.

* RAMP STATIONING OPPOSITE DIRECTION OF TRAVEL

▲ 3.00' WIDTH
RAMP F–1 STA. 2+00.67 TO STA. 12+32.07
RAMP F–2 STA. 3+61.30 TO STA. 8+21.80(BK)/ STA. 52+61.22(AH)
RAMP F–2 STA. 52+61.22(AH)/ STA. 8+21.80(BK) TO STA. 60+80.91
RAMP F–5 STA. 3+75.00 TO STA. 13+01.06
RAMP F–6 STA. 2+90.00 TO STA. 9+67.78(BK)/ STA. 37+38.97(AH)
RAMP F–6 STA. 37+38.97(AH)/ STA. 9+67.78(BK) TO STA. 41+57.62
0.00' WIDTH
RAMP F–1 STA. 12+32.07 TO STA. 17+33.71

▲▲ 16.00' WIDTH
RAMP F–1 STA. 2+00.67 TO STA. 13+32.07
RAMP F–2 STA. 3+61.30 TO STA. 8+21.80(BK)/ STA. 52+61.22(AH)
RAMP F–2 STA. 52+61.22(AH)/ STA. 8+21.80(BK) TO STA. 60+80.91
RAMP F–5 STA. 3+75.00 TO STA. 13+01.06
RAMP F–6 STA. 2+90.00 TO STA. 9+67.78(BK)/ STA. 37+38.97(AH)
RAMP F–6 STA. 37+38.97(AH)/ STA. 9+67.78(BK) TO STA. 37+58.22

WIDTH VARIES 16.00' TO 14.00'
RAMP F–1 STA. 13+32.07 TO STA. 17+33.71

WIDTH VARIES 16.00' TO 18.00'
RAMP F–6 STA. 37+58.22 TO STA. 38+38.32

18.00' WIDTH
RAMP F–6 STA. 38+38.32 TO STA. 41+57.62

■ 3.00' WIDTH
RAMP F–1 STA. 2+00.67 TO STA. 12+32.07
RAMP F–2 STA. 3+61.30 TO STA. 8+21.80(BK)/ STA. 52+61.22(AH)
RAMP F–2 STA. 52+61.22(AH)/ STA. 8+21.80(BK) TO STA. 52+63.63
RAMP F–5 STA. 3+75.00 TO STA. 13+01.06
RAMP F–6 STA. 2+90.00 TO STA. 9+67.78(BK)/ STA. 37+38.97(AH)
RAMP F–6 STA. 37+38.97(AH)/ STA. 9+67.78(BK) TO STA. 37+58.22

WIDTH VARIES 3.00' TO 6.00'
RAMP F–2 STA. 52+63.63 TO STA. 53+38.63
RAMP F–6 STA. 37+58.22 TO STA. 38+33.32

6.00' WIDTH
RAMP F–2 STA. 53+38.63 TO STA. 60+30.91
RAMP F–6 STA. 38+33.32 TO STA. 41+07.62

WIDTH VARIES 6.00' TO 8.00'
RAMP F–2 STA. 60+30.91 TO STA. 60+80.91
RAMP F–6 STA. 41+07.62 TO STA. 41+57.62

WIDTH VARIES 3.00' TO 10.00'
RAMP F–1 STA. 12+32.07 TO STA. 13+32.07

10.00' WIDTH
RAMP F–1 STA. 13+32.07 TO STA. 17+33.71

** 6'–0" WIDTH
RAMP E–N STA. 95+89.75 TO STA. 97+66.49
RAMP G–2 STA. 1+18.31 TO STA. 15+01.21
RAMP G–1 STA. 57+53.64 TO STA. 62+00.00
RAMP W–N STA. 109+80.51 TO STA. 111+32.15
WIDTH VARIES 6'–0" TO 10'–0"
RAMP G–1 STA. 62+00.00 TO STA. 62+86.48
RAMP W–N STA. 111+32.15 TO STA. 111+82.15
WIDTH VARIES 6'–0" TO 8'–0"
RAMP E–N STA. 97+66.49 TO STA. 98+16.49
RAMP G–2 STA. 15+01.21 STA. 15+51.21
10'–0" WIDTH
RAMP G–1 STA. 62+86.48 TO STA. 65+81.55

FOR PROPOSED LEGEND, SEE SHEET 5
FOR EXISTING LEGEND, SEE SHEET 8

CALCULATED BC
CHECKED FF

TYPICAL SECTIONS

CUY–271–6.04

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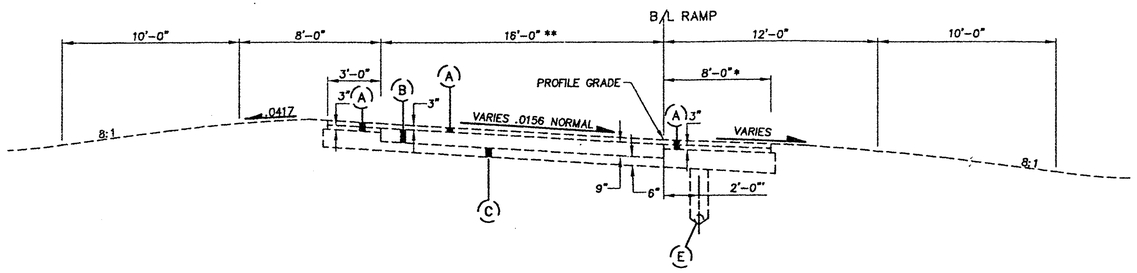
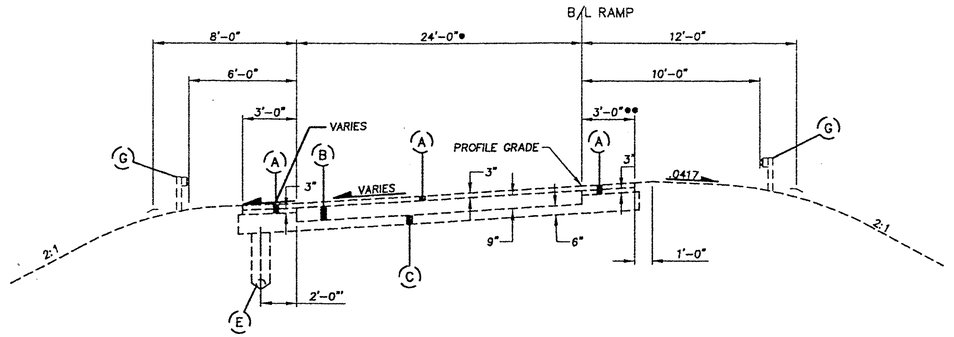


EXISTING RAMP – CURVE RIGHT OR TANGENT

LIMITING STATIONS

RAMP F-3 (CHAGRIN BLVD. INTERCHANGE) STA. 4+53.07 TO STA. 12+35.05
RAMP F-4 (CHAGRIN BLVD. INTERCHANGE) STA. 11+85.81 TO STA. 17+57.50(BK)/ STA. 9+64.08(AH)
RAMP F-4 (CHAGRIN BLVD. INTERCHANGE) STA. 9+64.08(AH)/ STA. 17+57.50(BK) TO STA. 11+03.19
RAMP F-4 (CHAGRIN BLVD. INTERCHANGE) STA. 15+16.42 TO STA. 17+53.98



EXISTING RAMP – CURVE LEFT

LIMITING STATIONS

RAMP F-3 (CHAGRIN BLVD. INTERCHANGE) STA. 12+35.05 TO STA. 17+28.66
RAMP F-4 (CHAGRIN BLVD. INTERCHANGE) STA. 11+03.19 TO STA. 15+16.42

** 16.00' WIDTH
RAMP F-3 STA. 5+53.07 TO STA. 7+20.00

WIDTH VARIES 18.00' TO 16.00'
RAMP F-3 STA. 4+53.07 TO STA. 5+53.07

WIDTH VARIES 16.00' TO 28.88'
RAMP F-3 STA. 7+20.00 TO STA. 12+35.05

24.00' WIDTH
RAMP F-4 STA. 11+85.81 TO STA. 17+57.50(BK)/ STA. 9+64.08(AH)
RAMP F-4 STA. 9+64.08(AH)/ STA. 17+57.50(BK) TO STA. 11+03.19

WIDTH VARIES 33.79' TO 36.00'
RAMP F-4 STA. 15+16.42 TO STA. 16+05.00

36.00' WIDTH
RAMP F-4 STA. 16+05.00 TO STA. 17+53.98

* WIDTH VARIES 10.00' TO 3.00'
RAMP F-3 STA. 4+53.07 TO STA. 5+53.07

3.00' WIDTH
RAMP F-3 STA. 5+53.07 TO STA. 12+35.05
RAMP F-4 STA. 15+16.42 TO STA. 17+53.98

8.00' WIDTH
RAMP F-4 STA. 11+85.81 TO STA. 17+57.50(BK)/STA. 9+64.08(AH)
RAMP F-4 STA. 9+64.08(AH)/ STA. 17+57.50(BK) TO STA. 11+03.19

• WIDTH VARIES 28.88' TO 36.00'
RAMP F-3 STA. 12+35.05 TO STA. 15+20.00

36.00' WIDTH
RAMP F-3 STA. 15+20.00 TO STA. 17+28.66

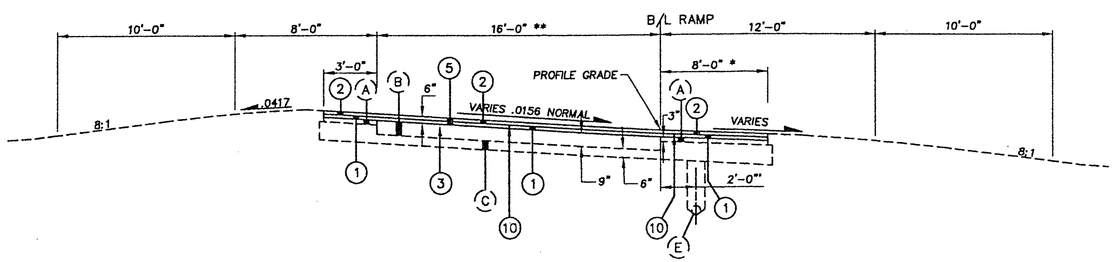
24.00' WIDTH
RAMP F-4 STA. 11+03.19 TO STA. 11+25.00

WIDTH VARIES 24.00' TO 33.79'
RAMP F-4 STA. 11+25.00 TO STA. 15+16.42

•• 3.00' WIDTH
RAMP F-3 STA. 12+35.05 TO STA. 17+28.66
RAMP F-4 STA. 13+37.74 TO STA. 15+16.42

8.00' WIDTH
RAMP F-4 STA. 11+03.19 TO STA. 13+07.74

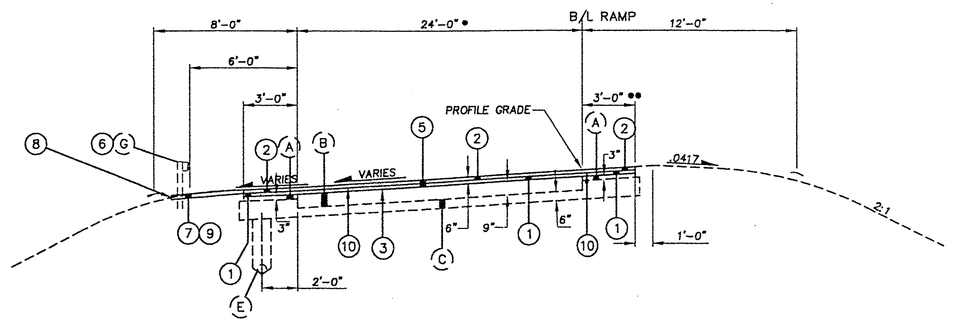
WIDTH VARIES 8.00' TO 3.00'
RAMP F-4 STA. 13+07.74 TO STA. 13+37.74



RAMP – CURVE RIGHT OR TANGENT

LIMITING STATIONS

RAMP F-3 (CHAGRIN BLVD. INTERCHANGE)	STA. 4+53.07 TO STA. 12+35.05	= 781.98 LIN. FT.
RAMP F-4 (CHAGRIN BLVD. INTERCHANGE)	STA. 11+85.81 TO STA. 17+57.50(BK)/ STA. 9+64.08(AH)	= 571.69 LIN. FT.
RAMP F-4 (CHAGRIN BLVD. INTERCHANGE)	STA. 9+64.08(AH)/ STA. 17+57.50(BK) TO STA. 11+03.19	= 139.11 LIN. FT.
RAMP F-4 (CHAGRIN BLVD. INTERCHANGE)	STA. 15+16.42 TO STA. 17+53.98	= 321.82 LIN.FT.
		TOTAL = 1814.60 LIN. FT.



RAMP – CURVE LEFT

LIMITING STATIONS

RAMP F-3 (CHAGRIN BLVD. INTERCHANGE)	STA. 12+35.05 TO STA. 17+28.66	= 493.61 LIN. FT.
RAMP F-4 (CHAGRIN BLVD. INTERCHANGE)	STA. 11+03.19 TO STA. 15+16.42	= 413.23 LIN. FT.
		TOTAL = 906.84 LIN. FT.

FOR PROPOSED LEGEND, SEE SHEET 5
FOR EXISTING LEGEND, SEE SHEET 8

CALCULATED BC
CHECKED FF

TYPICAL SECTIONS

CUY-271-6.04

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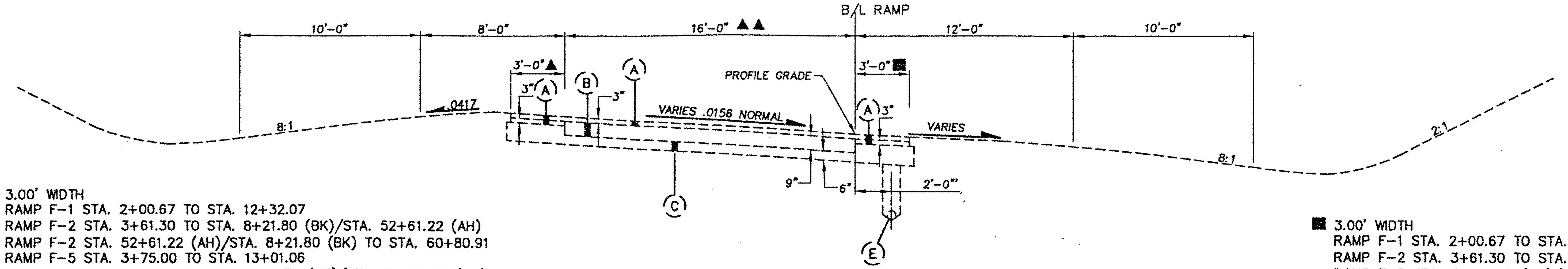


▲ 3.00' WIDTH
RAMP F-1 STA. 2+00.67 TO STA. 12+32.07
RAMP F-2 STA. 3+61.30 TO STA. 8+21.80 (BK)/STA. 52+61.22 (AH)
RAMP F-2 STA. 52+61.22 (AH)/STA. 8+21.80 (BK) TO STA. 60+80.91
RAMP F-5 STA. 3+75.00 TO STA. 13+01.06
RAMP F-6 STA. 2+90.00 TO STA. 9+67.78 (BK)/STA. 37+38.97 (AH)
RAMP F-6 STA. 37+38.97 (AH)/STA. 9+67.78 (BK) TO STA. 41+57.62

0.00' WIDTH
RAMP F-1 STA. 12+32.07 TO STA. 17+33.71

▲▲ 16.00' WIDTH
RAMP F-1 STA. 2+00.67 TO STA. 13+32.07
RAMP F-2 STA. 3+61.30 TO STA. 8+21.80 (BK)/STA. 52+61.22 (AH)
RAMP F-2 STA. 52+61.22 (AH)/STA. 8+21.80 (BK) TO STA. 60+80.91
RAMP F-5 STA. 3+75.00 TO STA. 13+01.06
RAMP F-6 STA. 2+90.00 TO STA. 9+67.78 (BK)/STA. 37+38.97 (AH)
RAMP F-6 STA. 37+38.97 (AH)/STA. 9+67.78 (BK) TO STA. 37+58.22

WIDTH VARIES 16.00' TO 14.00'
RAMP F-1 STA. 13+32.07 TO STA. 17+33.71

WIDTH VARIES 16.00' TO 18.00'
RAMP F-6 STA. 37+58.22 TO STA. 38+38.32

18.00' WIDTH
RAMP F-6 STA. 38+38.32 TO STA. 41++57.62

EXISTING RAMP – CURVE RIGHT OR TANGENT

LIMITING STATIONS
RAMP F-1 (CHAGRIN BLVD. INTERCHANGE) STA. 2+00.67 TO STA. 17+33.71
RAMP F-2 (CHAGRIN BLVD. INTERCHANGE) STA. 3+61.30 TO STA. 8+21.80 (BK)/STA. 52+61.22 (AH)
RAMP F-2 (CHAGRIN BLVD. INTERCHANGE) STA. 52+61.22 (AH)/STA. 8+21.80 (BK) TO STA. 60+80.91
RAMP F-5 (CHAGRIN BLVD. INTERCHANGE) STA. 3+75.00 TO STA. 13+01.06
RAMP F-6 (CHAGRIN BLVD. INTERCHANGE) STA. 2+90.00 TO STA. 9+67.78 (BK)/STA. 37+38.97 (AH)
RAMP F-6 (CHAGRIN BLVD. INTERCHANGE) STA. 37+38.97 (AH)/STA. 9+67.78 (BK) TO STA. 41+57.62

■ 3.00' WIDTH
RAMP F-1 STA. 2+00.67 TO STA. 12+32.07
RAMP F-2 STA. 3+61.30 TO STA. 8+21.80 (BK)/STA. 52+61.22 (AH)
RAMP F-2 STA. 52+61.22 (AH)/STA. 8+21.80 (BK) TO STA. 52+63.63
RAMP F-5 STA. 3+75.00 TO STA. 13+01.06
RAMP F-6 STA. 2+90.00 TO STA. 9+67.78 (BK)/STA. 37+38.97 (AH)
RAMP F-6 STA. 37+38.97 (AH)/STA. 9+67.78 (BK) TO STA. 37+58.22

WIDTH VARIES 3.00' TO 6.00'
RAMP F-2 STA. 52+63.63 TO STA. 53+38.63
RAMP F-6 STA. 37+58.22 TO STA. 38+33.32

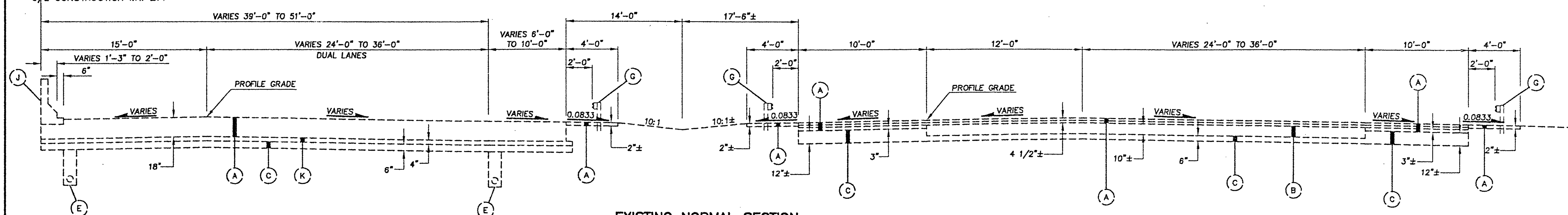
6.00' WIDTH
RAMP F-2 STA. 53+38.63 TO STA. 60+30.91
RAMP F-6 STA. 38+33.32 TO STA. 41+07.62

WIDTH VARIES 6.00' TO 8.00'
RAMP F-2 STA. 60+30.91 TO STA. 60+80.91
RAMP F-6 STA. 41+07.62 TO STA. 41+57.62

WIDTH VARIES 3.00' TO 10.00'
RAMP F-1 STA. 12+32.07 TO STA. 13+32.07

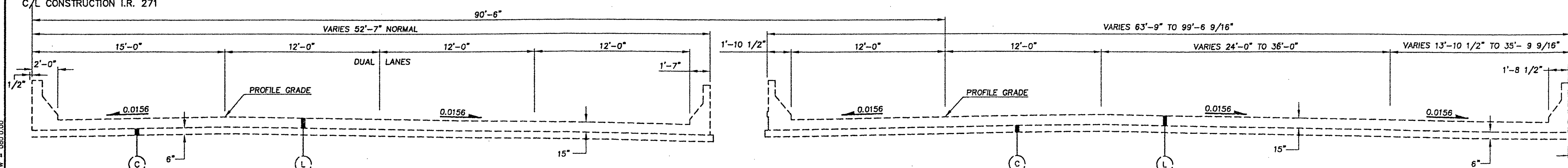
10.00' WIDTH
RAMP F-1 STA. 13+32.07 TO STA. 17+33.71

EXISTING LEGEND
- (A) VARIABLE DEPTH FLEXIBLE PAVEMENT
- (B) REINFORCED CONCRETE PAVEMENT
- (C) GRANULAR BASE
- (D) CONCRETE CURB
- (E) 6" PIPE UNDERDRAIN
- (F) CONCRETE BASE
- (G) GUARDRAIL
- (H) INTEGRAL CURB
- (I) CONCRETE MEDIAN
- (J) CONCRETE BARRIER
- (K) ASPHALT TREATED BASE
- (L) REINFORCED CONCRETE APPROACH SLAB
- (M) 15" TRENCH DRAIN



EXISTING NORMAL SECTION

LIMITING STATIONS
STA. 340+05.14 TO STA. 397+52.75 (RT./LT.)
STA. 400+07.76 TO STA. 485+34.97 (RT./LT.)
STA. 487+48.99 TO STA. 501+32.44 (RT./LT.)
STA. 503+12.46 TO STA. 506+54.43 (RT./LT.)
STA. 508+34.53 TO STA. 532+68.89 (RT./LT.)



EXISTING APPROACH SLAB NORMAL SECTION

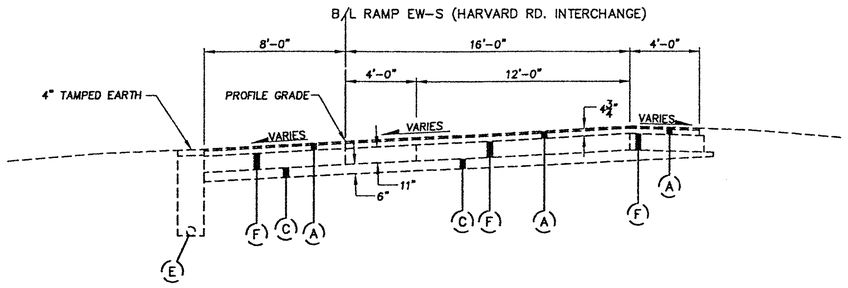
LIMITING STATIONS

(HARVARD)	STA. 397+52.75 TO STA. 397+77.75 (RT./LT.)
	STA. 399+82.76 TO STA. 400+07.76 (RT./LT.)
(SOUTH WOODLAND)	STA. 485+34.97 TO STA. 485+59.97 (RT./LT.)
	STA. 487+23.99 TO STA. 487+48.99 (RT./LT.)
(EB SHAKER)	STA. 501+32.44 TO STA. 501+57.44 (RT./LT.)
	STA. 502+87.46 TO STA. 503+12.46 (RT./LT.)
(WB SHAKER)	STA. 506+54.43 TO STA. 506+79.43 (RT./LT.)
	STA. 508+09.53 TO STA. 508+34.53 (RT./LT.)

CALCULATED
CHECKED

EXISTING TYPICAL SECTIONS

CUY-271-6.04



EXISTING ONE LANE RAMP, NORMAL SECTION

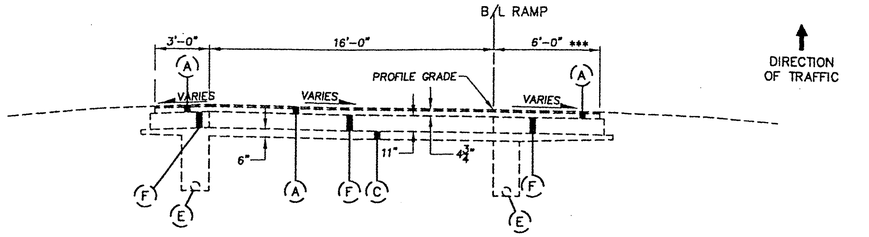
LIMITING STATIONS
RAMP EW-S (HARVARD RD. INTERCHANGE) STA. 7+60.00 TO STA. 9+72.83

*** 6.00' WIDTH
RAMP E-N STA. 95+89.75 TO STA. 97+66.49
RAMP G-2 STA. 1+18.31 TO STA. 15+01.21
RAMP G-1 STA. 57+53.64 TO STA. 62+00.00

WIDTH VARIES 6.00' TO 10.00'
RAMP G-1 STA. 62+00.00 TO STA. 62+86.48

WIDTH VARIES 6.00' TO 8.00'
RAMP E-N STA. 97+66.49 TO STA. 98+16.49
RAMP G-2 STA. 15+01.21 TO STA. 15+51.21

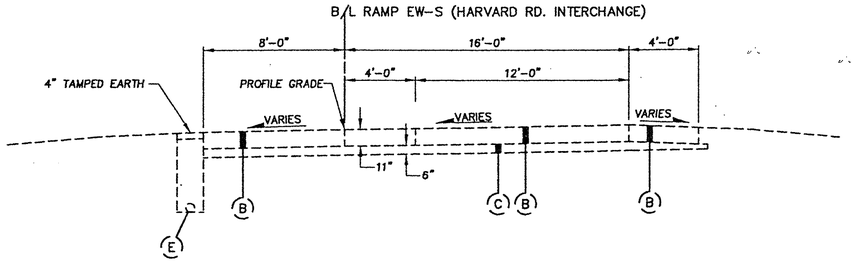
10.00' WIDTH
RAMP G-1 STA. 62+86.48 TO STA. 65+81.55



EXISTING ONE LANE RAMP, NORMAL SECTION

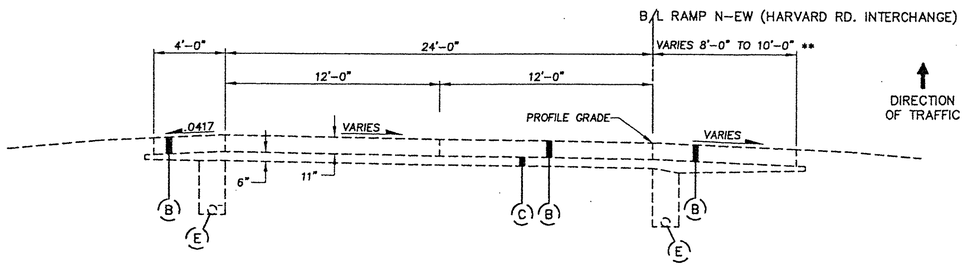
LIMITING STATIONS
RAMP E-N (HARVARD RD. INTERCHANGE) STA. 95+89.75 TO STA. 98+16.49
RAMP G-2 (RICHMOND RD. INTERCHANGE) STA. 1+18.31 TO STA. 15+51.21
* RAMP G-1 (RICHMOND RD. INTERCHANGE) STA. 57+53.64 TO STA. 65+81.55

* RAMP STATIONING OPPOSITE DIRECTION OF TRAVEL



EXISTING ONE LANE RAMP, SUPERELEVATED SECTION, CURVE RIGHT

LIMITING STATIONS
RAMP EW-S (HARVARD RD. INTERCHANGE) STA. 9+72.83 TO STA.12+40.00
RAMP EW-S (HARVARD RD. INTERCHANGE) STA. 14+70.00 TO STA. 16+15.00

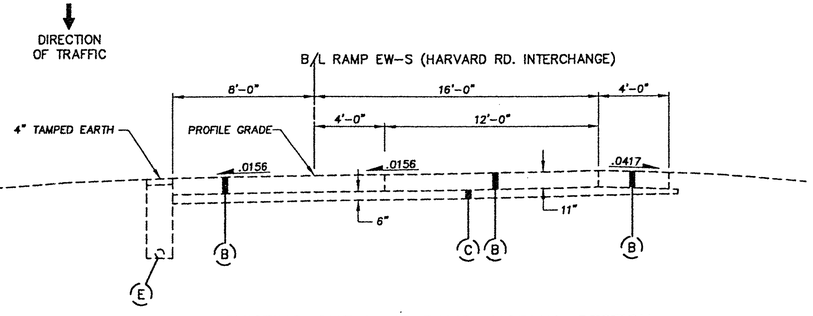


EXISTING TWO LANE RAMP, SUPERELEVATED SECTION, CURVE RIGHT

LIMITING STATIONS
RAMP N-EW (HARVARD RD. INTERCHANGE) STA. 86+64.49 TO STA. 93+55.00

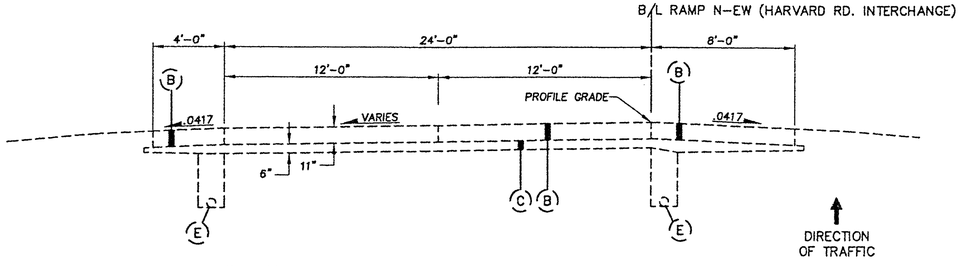
** WIDTH VARIES 10.00' TO 8.00'
STA. 86+64.49 TO STA. 87+14.49

8.00' WIDTH
STA. 87+14.49 TO STA. 93+55.00



EXISTING ONE LANE RAMP, NORMAL SECTION

LIMITING STATIONS
RAMP EW-S (HARVARD RD. INTERCHANGE) STA. 12+40.00 TO STA. 14+70.00
RAMP EW-S (HARVARD RD. INTERCHANGE) STA. 16+15.00 TO STA. 17+50.00



EXISTING TWO LANE RAMP, NORMAL SECTION

LIMITING STATIONS
RAMP N-EW (HARVARD RD. INTERCHANGE) STA. 93+55.00 TO STA. 94+15.00

FOR EXISTING LEGEND, SEE SHEET 8

CALCULATED BC
CHECKED FF

EXISTING TYPICAL SECTIONS

CUY-271-6.04

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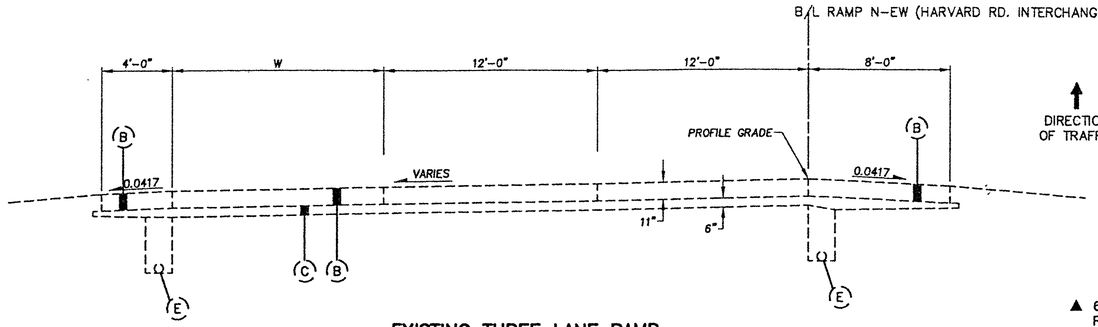
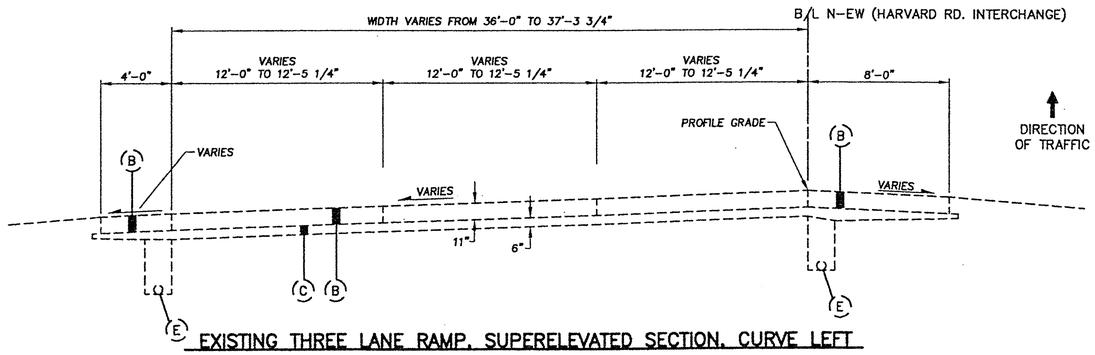


EXISTING THREE LANE RAMP

LIMITING STATIONS
RAMP N-EW (HARVARD RD. INTERCHANGE) STA. 94+15.00 TO STA. 94+65.00;
W = VARIES 0'-0" TO 12'-0"
RAMP N-EW (HARVARD RD. INTERCHANGE) STA. 99+66.68 TO STA. 101+17.00;
W = 12'-0"

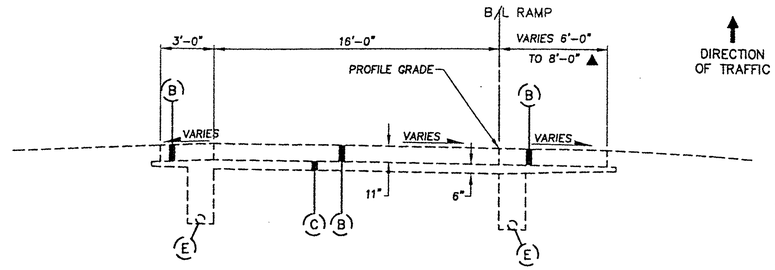


EXISTING THREE LANE RAMP, SUPERELEVATED SECTION, CURVE LEFT

LIMITING STATIONS
RAMP N-EW (HARVARD RD. INTERCHANGE) STA. 94+65.00 TO STA. 95+53.63
RAMP N-EW (HARVARD RD. INTERCHANGE) STA. 98+80.25 TO STA. 99+66.98

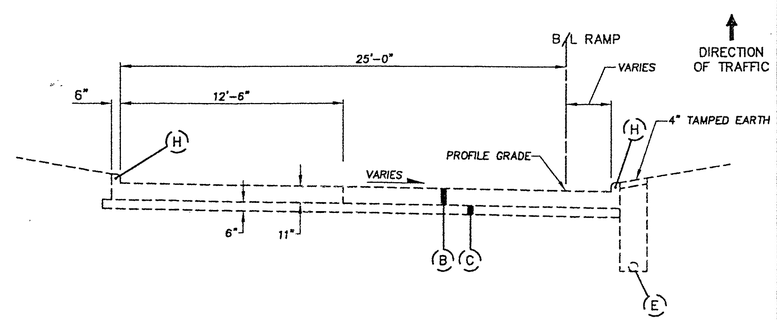
▲ 6.00' WIDTH
RAMP E-N STA. 84+57.63 TO STA. 88+42.25
RAMP E-N STA. 91+09.04 TO STA. 95+89.75
RAMP W-N STA. 97+82.24 TO STA. 109+80.51
RAMP S-WE STA. 105+50.00 TO STA. 111+02.01

WIDTH VARIES 6.00' TO 8.00'
RAMP S-WE STA. 111+02.01 TO STA. 111+52.01



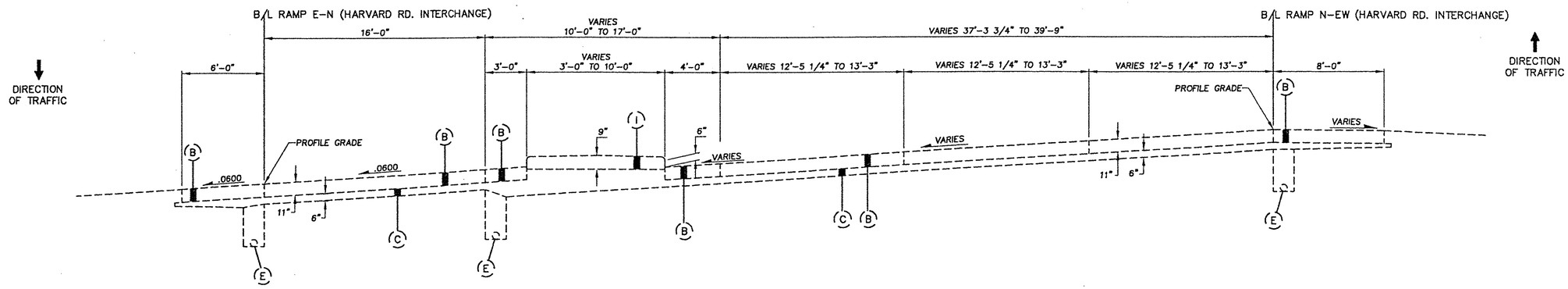
EXISTING ONE LANE RAMP, SUPERELEVATED SECTION, CURVE RIGHT

LIMITING STATIONS
RAMP E-N (HARVARD RD. INTERCHANGE) STA. 84+57.63 TO STA. 88+42.25
RAMP E-N (HARVARD RD. INTERCHANGE) STA. 91+09.04 TO STA. 95+89.75
RAMP W-N (HARVARD RD. INTERCHANGE) STA. 97+82.24 TO STA. 109+80.51
RAMP S-WE (HARVARD RD. INTERCHANGE) STA. 105+50.00 TO STA. 111+52.01



EXISTING ONE LANE RAMP CURBED SUPERELEVATED RIGHT

LIMITING STATIONS
RAMP E-N (HARVARD RD. INTERCHANGE) STA. 83+84.27 TO STA. 84+57.63
RAMP W-N (HARVARD RD. INTERCHANGE) STA. 96+62.49 TO STA. 97+82.24



EXISTING RAMP N-EW AND RAMP E-N SUPERELEVATED LEFT

LIMITING STATIONS
RAMP N-EW (HARVARD RD. INTERCHANGE) STA. 95+53.63 TO STA. 98+80.25
RAMP E-N (HARVARD RD. INTERCHANGE) STA. 88+42.25 TO STA. 91+09.04

FOR EXISTING LEGEND, SEE SHEET 8

CALCULATED BC
CHECKED FF

EXISTING TYPICAL SECTIONS

CUY-271-6.04

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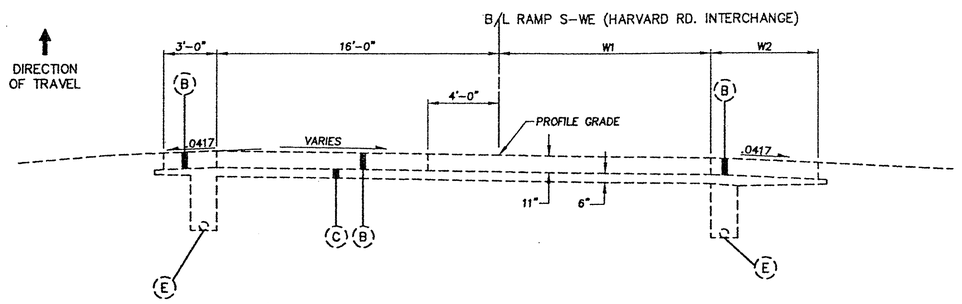
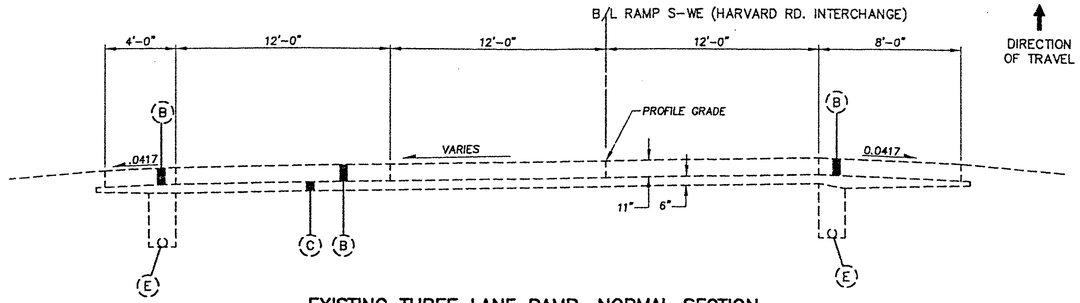


EXISTING TWO LANE RAMP, CURVE LEFT

LIMITING STATIONS

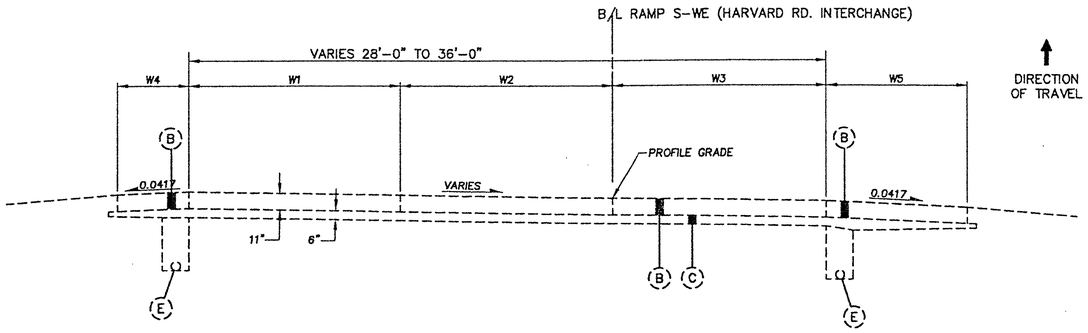
RAMP S-WE (HARVARD RD. INTERCHANGE) STA. 103+50.00 TO STA. 105+00.00
W1 = 12'-0"; W2 = 8'-0"
RAMP S-WE (HARVARD RD. INTERCHANGE) STA. 105+00.00 TO STA. 105+50.00
W1 = VARIES 12'-0" TO 0'-0"; W2 = VARIES 8'-0" TO 6'-0"



EXISTING THREE LANE RAMP, NORMAL SECTION

LIMITING STATIONS

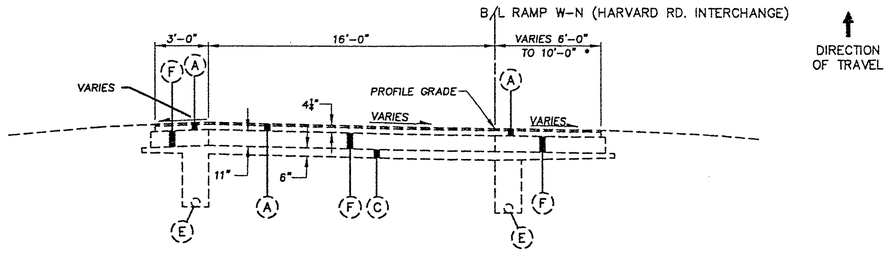
RAMP S-WE (HARVARD RD. INTERCHANGE) STA. 98+70.00 TO STA. 102+25.00



EXISTING THREE LANE RAMP, NORMAL SECTION

LIMITING STATIONS

RAMP S-WE (HARVARD RD. INTERCHANGE) STA. 102+25.00 TO STA. 103+00.00
W1=W2=W3=12'-0", W4=4'-0", W5=8'-0"
RAMP S-WE (HARVARD RD. INTERCHANGE) STA. 103+00.00 TO STA. 103+50.00
W1=VARIES 12'-0" TO 0'-0", W2=VARIES 12'-0" TO 16'-0", W3=12'-0",
W4=VARIES 4'-0" TO 3'-0", W5=8'-0"



EXISTING ONE LANE RAMP, SUPERELEVATED SECTION, CURVE RIGHT

LIMITING STATIONS

RAMP W-N (HARVARD RD. INTERCHANGE) STA. 109+80.51 TO STA. 111+82.15

* 6.0' WIDTH
STA. 109+80.51 TO STA. 111+32.15
WIDTH VARIES 6'-0" TO 10'-0"
STA. 111+32.15 TO STA. 111+82.15

FOR EXISTING LEGEND, SEE SHEET 8

CALCULATED BC
CHECKED FF

EXISTING TYPICAL SECTIONS

CUY-271-6.04

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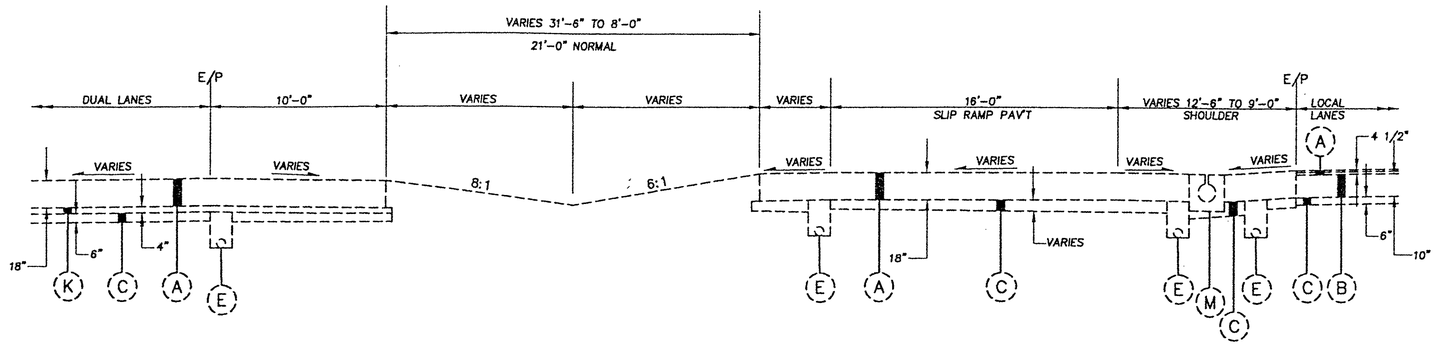
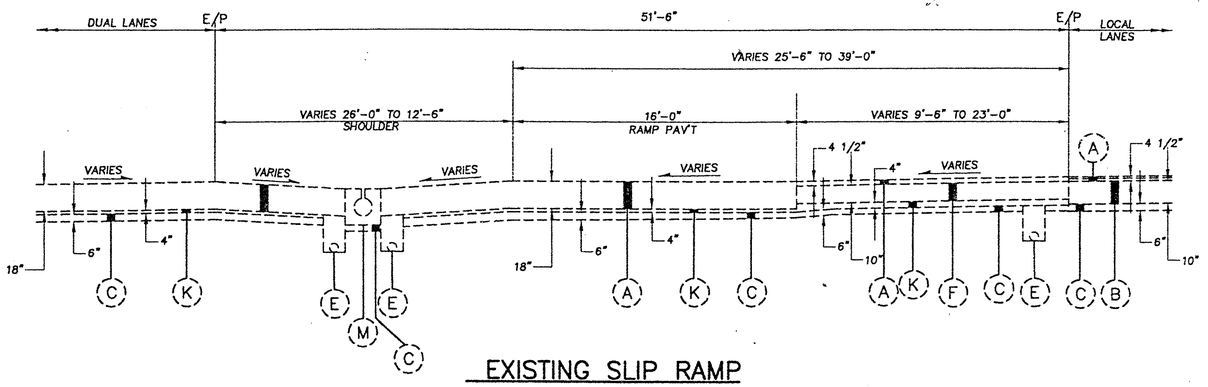
Technician: MICHAT



EXISTING SLIP RAMP

STA. 515+00.00 LT. TO STA. 515+74.55 LT.

DIRECTION
OF TRAVEL



EXISTING SLIP RAMP

STA. 515+48.10 RT. TO STA. 517+85.00 RT.

FOR EXISTING LEGEND, SEE SHEET 8

CALCULATED BC
CHECKED FF

EXISTING TYPICAL SECTIONS

CUY-271-6.04

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PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE RESURFACING OF IR 271 AND INTERCHANGE RAMPS AT THE LOCATIONS DETAILED IN THE PLANS. PARTIAL AND FULL DEPTH PAVEMENT REPAIRS, OVERHEAD SIGN LIGHTING REMOVAL, PAVEMENT MARKINGS, GUARDRAIL REPLACEMENT AND RAISED PAVEMENT MARKERS ARE ALSO INCLUDED.

EXISTING TYPICAL SECTIONS

EXISTING TYPICAL SECTIONS HAVE BEEN TAKEN FROM THE RECORDS AND ARE BELIEVED TO REPRESENT THE EXISTING PAVEMENT, BUT THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THE SAME.

FOR FURTHER INFORMATION IN REGARD TO THE EXISTING TYPICAL SECTIONS, THE CONTRACTOR SHALL REFER TO THE PREVIOUS CONSTRUCTION PLANS.

THESE PLANS MAY BE REVIEWED AT THE

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 12 OFFICE
5500 TRANSPORTATION BOULEVARD
GARFIELD HEIGHTS, OHIO 44125

CONVERSION OF METRIC STANDARD DRAWINGS

THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN SHALL BE CONVERTED TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.02 OF THE 2002 CONSTRUCTION AND MATERIALS SPECIFICATIONS. CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

CONTIGENCY 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 CONTRACTOR SHALL COOPERATE AND COORDINATE HIS/HER OPERATIONS WITH THE CONTRACTORS ON OTHER PROJECTS THAT MAY BE IN FORCE DURING THE LIFE OF THE CONTRACT. NO WAIVER OF ANY PROVISIONS OF 105.08 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS IS INTENDED.

EQUIPMENT AND MATERIAL STORAGE

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

1) ANY REMOVED ITEMS SHALL NOT BE STORED ON THE RIGHT OF WAY FOR MORE THAN THIRTY DAYS.

2) THE STORAGE OF EQUIPMENT, MATERIALS, AND VEHICLES WITHIN THE HIGHWAY RIGHT OF WAY WILL BE PERMITTED. THE NUMBER OF AREAS AND EXACT LOCATIONS SHALL BE APPROVED BY THE ENGINEER.

3) ALL DISTURBED AREAS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION AT NO EXPENSE TO THE STATE.

WORK LIMITS

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

PROTECTION OF RIGHT-OF-WAY LANDSCAPING

THE CONTRACTOR SHALL CONSTRICT ALL OF HIS/HER ACTIVITIES, EQUIPMENT STORAGE AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED AS 30 FEET FROM THE EDGE OF PAVEMENT.

SHOULD THE CONTRACTOR WISH TO USE ANY AREA OUTSIDE THESE LIMITS, A REQUEST IN WRITING MUST BE SUBMITTED TO THE PROJECT ENGINEER. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREA THAT THE CONTRACTOR PLANS TO USE AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. USE OF THESE AREAS FOR DISPOSAL OF WASTE MATERIAL AND CONSTRUCTION DEBRIS, EXCAVATION OF BORROW MATERIAL AND PLACEMENT OF PORTABLE PLANTS IS PROHIBITED. THE REQUEST MUST BE APPROVED, IN WRITING, BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA.

PRIOR TO BEGINNING WORK, THE CONTRACTOR, SUPERINTENDENT OR HIS REPRESENTATIVE, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY SHALL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT OF WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS). A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF THE LANDSCAPING ITEMS WILL BE MADE. ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION LIMITS AS DEFINED ABOVE WILL BE REPLACED IN KIND OR AS APPROVED BY THE PROJECT ENGINEER.

PROFILE AND ALIGNMENT

THE WORK PROPOSED BY THIS PROJECT IS FOR THE RE-SURFACING OF THE EXISTING PAVEMENT. THE PROFILE OF THE PROPOSED SURFACE WILL BE THE SAME AS THAT OF THE EXISTING IR-271 AND RAMP PAVEMENT, EXCEPT WHERE OTHERWISE SHOWN IN THE PLANS. THE PROPOSED ASPHALT CONCRETE OVERLAY SHALL BE AS SHOWN ON THE TYPICAL SECTIONS.

ITEM 619 - FIELD OFFICE, TYPE C

A TYPE C FIELD OFFICE IS REQUIRED FOR THIS PROJECT.

ELEVATION DATUM

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

ALTERNATE METHODS

IF THE CONTRACTOR SO ELECTS, HE/SHE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THERE FROM. NO ALTERNATE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED IN WRITING, BY THE DIRECTOR.

ROUNDING

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

UTILITY OWNERSHIP

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT. THE OHIO DEPARTMENT OF TRANSPORTATION HAS USED THE BEST AVAILABLE INFORMATION TO DETERMINE THE UTILITY COMPANIES SERVING THIS AREA, BUT CANNOT GUARANTEE THE UTILITY COMPANY LIST IS COMPLETE.

OHIO DEPARTMENT OF TRANSPORTATION
5500 TRANSPORTATION BLVD.
GARFIELD HEIGHTS, OHIO 44125
(216) 581-2100

SBC
13630 LORAIN AVE. 4TH FLOOR
CLEVELAND, OH 44111
(216)476-6142

CUYAHOGA COUNTY SANITARY ENGINEER
6100 WEST CANAL RD.
VALLEY VIEW, OH 44125
(216) 443-8202

THE ILLUMINATING CO.
4141 ROCKSIDE RD.
SEVEN HILLS, OH 44131
(440) 520-9579

CITY OF CLEVELAND
DIVISION OF WATER
1201 LAKESIDE AVE.
CLEVELAND, OH 44114
(216) 664-2444

DOMINION EAST OHIO
1201 E. 55TH ST.
CLEVELAND OH. 44103
(216) 736-6675

CITY OF CLEVELAND
WATER AND POLLUTION CONTROL
12302 KIRBY RD.
CLEVELAND, OH 44108
(216) 664-2786

ROADWAY

ITEM 201 - CLEARING AND GRUBBING

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

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN IN AASHTO M 180. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

GUARDRAIL PROTECTION

NO SIGN SUPPORTS SHALL BE ERECTED BEFORE THE NECESSARY GUARDRAIL PROTECTION IS IN PLACE. SIMILARILY EXISTING GUARDRAIL WHICH PROTECTS AN OBSTRUCTION OR SLOPE WHICH IS TO BE UPGRADED TO ELIMINATE GUARDRAIL, SHALL NOT BE REMOVED UNTIL THAT WORK HAS BEEN COMPLETED. EXISTING GUARDRAIL WHICH IS SCHEDULED TO BE REPLACED WITH TYPE 5 GUARDRAIL, SHALL NOT BE REMOVED UNTIL THE NEW GUARDRAIL IS READY TO BE INSTALLED, UNDER NO CIRCUMSTANCES SHALL ANY HAZARD BE WITHOUT GUARDRAIL PROTECTION FOR MORE THAN 24 HOURS.

TYPE 5 GUARDRAIL POST SPACING

WHEN THE OFFSET BETWEEN THE FACE OF THE GUARDRAIL AND BRIDGE PIERS, MAJOR SIGNS, SIGN SUPPORTS, OR OTHER FIXED OBSTACLES IS LESS THAN 5 FEET 6 INCHES THE GUARDRAIL SHALL BE STIFFENED BY PROVIDING 3 FEET 1.5 INCH POST SPACING FROM 12.5 FEET IN ADVANCE OF THE OBSTRUCTION TO ITS END, AS PER STANDARD DRAWING GR-2.1. COST SHALL BE INCLUDED IN THE TYPE 5A UNIT PRICE BID.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED, AS DIRECTED BY THE ENGINEER, IN PLACE OF TYPE 5 GUARDRAIL AS OUTLINED ABOVE:

ITEM 606-GUARDRAIL, TYPE 5A . . . . . 100 FT.

PAVING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING ITEM 209-LINEAR GRADING, AS PER PLAN, APPLICATION OF SOIL STERILANT AS SPECIFIED AND PAVING UNDER THE GUARDRAIL USING ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG 64-22, AS PER PLAN.

ITEM 209-LINEAR GRADING, AS PER PLAN SHALL CONSIST OF EXCAVATING TOPSOIL AND PLACING GRANULAR MATERIAL AS SPECIFIED IN THE PLANS AND IN ACCORDANCE WITH THE FOLLOWING:

ALL COLLECTED DEBRIS AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN 105.17.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTIBLE GRANULAR MATERIAL CONFORMING TO 703.16 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION ON SHEET 6 OR AS APPROVED BY THE ENGINEER.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 209-LINEAR GRADING, AS PER PLAN.

SOIL STERILANT SHALL BE APPLIED TO THE PREPARED AREA AFTER FINAL LEVELING AND GRADING HAS BEEN COMPLETED. THE APPLICATION SHALL BE JUST PRIOR TO PAVING AND SHALL STRICTLY ADHERE TO THE MANUFACTURER'S INSTRUCTIONS.

EACH SUCCESSFULL BIDDER MUST BE LICENSED BY THE OHIO DEPARTMENT OF AGRICULTURE AS A COMMERCIAL APPLICATOR AND ALL PERSONS INVOLVED IN THE ACTUAL SPRAYING SHALL BE LICENSED AS COMMERCIAL OPERATORS IN THE APPROPRIATE SPRAY CATEGORY.

SOIL STERILANT LABEL, MATERIAL SAFETY DATA SHEET AND COPY OF APPLICATORS LICENSES SHALL BE SUBMITTED TO THE ENGINEER FOR VERIFICATION PRIOR TO COMMENCING WORK.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM SPECIAL-SOIL STERILANT AND ADHERE TO THE NOTE ON SHEET 4.

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

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

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

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 448, ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG 64-22, AS PER PLAN.

ITEM 202 - GUARDRAIL REMOVED

THIS ITEM SHALL INCLUDE BOTH STANDARD AND BARRIER TYPE RAILS INCLUDING ANCHOR ASSEMBLIES AND TERMINAL ASSEMBLIES.

LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

CALCULATED CML | CHECKED MVJ

GENERAL NOTES

CUY-271-6.04

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Dates: 02-16-05 Times: 11:49 AM TW = 0d0'0.00"
Technician: MJOLIAT

ITEM SPECIAL - SOIL STERILANT

THE SOIL STERILANT USED SHALL BE AS LISTED BELOW OR APPROVED EQUAL. THE SOIL STERILANT SHALL BE APPLIED TO LOCATIONS ONLY WHERE IN-ROAD VEGETATION EXISTS AS DIRECTED BY THE ENGINEER. THIS SHOULD BE DONE IMMEDIATELY PRIOR TO PLACING THE PROPOSED SURFACE.

PRAMITOL 25E
GIBA SPECIALTY CHEMICALS
MCINTOSH, ALABAMA 36553

ROUNDUP PRO L
MONSANTO COMPANY
800 N. LINDBERGH BLVD.
ST. LOUIS, MO. 63167

HYVAR XL
DUPONT CORPORATION
1007 MARKET STREET
WILMINGTON, DELAWARE 19898

COMPACTION OF THE SITE FOLLOWING PLOWING OR DISKING WILL BE REQUIRED. THE SOIL STERILANT SHOULD BE APPLIED AT THE SUGGESTED MANUFACTURER'S RATE.

THE SOIL STERILANT IDEALLY SHOULD BE APPLIED BETWEEN JUNE 15 THRU OCTOBER 15. VERY DRY SOIL CONDITIONS MAY RESULT IN POOR WEED CONTROL. HOWEVER, THE SOIL STERILANT SHALL NOT BE APPLIED TO SOIL OR BALLAST MATERIAL WHICH IS SATURATED WITH WATER.

THE MANUFACTURER SHALL BE CONSULTED WITH REGARD TO THE HANDLING AND PHYSICAL CHEMICAL HAZARDS ASSOCIATED WITH THE SOIL STERILANT.

PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE PRICE PER SQUARE YARD OF ITEM SPECIAL, SOIL STERILANT. A QUANTITY OF 11870 SQUARE YARDS HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

LICENSES REQUIRED: EACH SUCCESSFUL BIDDER MUST BE LICENSED BY THE STATE OF OHIO DEPARTMENT OF AGRICULTURE AS A COMMERCIAL APPLICATOR AND ALL PERSONS INVOLVED IN THE ACTUAL SPRAYING OF HERBICIDE SHALL BE LICENSED AS COMMERCIAL OPERATORS IN THE APPROPRIATE SPRAY CATEGORY. APPROPRIATE LICENSES SHALL BE SUBMITTED TO THE PROJECT ENGINEER, PRIOR TO COMMENCING WORK FOR VERIFICATION.

DRAINAGE

ITEM 603 - CONDUIT, MISC.: SEALING REINFORCED CONCRETE PIPE CULVERT JOINTS

THIS ITEM SHALL CONSIST OF SEALING JOINTS BETWEEN THE EXISTING REINFORCED CONCRETE PIPE SECTIONS AT LOCATIONS SPECIFIED ON THE PLANS WITH BITUMINOUS PIPE JOINT FILLER.

THE JOINT SEALER MATERIAL SHALL BE BITUMINOUS PIPE JOINT FILLER AS PER CMS 706.10.

THE EXISTING SURFACE SHALL BE CLEANED AND ALL LOOSE JOINT FILLER AND DEBRIS SHALL BE REMOVED FROM THE JOINTS PROIR TO THE APPLICATION OF THE NEW JOINT MATERIAL. ONLY PNEUMATIC OR HAND TOOLS SHALL BE USED IN THE REMOVAL OF THE LOOSE JOINT FILLER.

THE BITUMINOUS PIPE JOINT FILLER MATERIAL SHALL BE HAND TROWELED FROM THE INSIDE OF THE PIPE SO THAT THE JOINT IS COMPLETELY FILLED. THE RESULTING SURFACE SHALL BE FLUSH WITH THE EXISTING CONCRETE SURFACE.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER LINEAL FOOT OF JOINT SEALED AND MEASURED CIRCUMFERENTIALLY AROUND THE INSIDE SURFACE OF THE PIPE FOR ITEM 603 - CONDUIT, MISC.: SEALING REINFORCED CONCRETE PIPE CULVERT JOINTS. THIS PRICE SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING, HANDLING, REMOVING AND PLACING ALL MATERIALS, FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK. THE REMOVAL OF ANY EXISTING SILT SHALL BE REQUIRED TO PERFORM THIS WORK AND SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.

THE EXACT LIMITS OF JOINT SEALING SHALL BE AS DIRECTED BY THE ENGINEER. THE PLANS INCLUDE AN ESTIMATED QUANTITY FOR THE WORK DESCIBED ABOVE TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM 843 - PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR, AS PER PLAN

THIS ITEM SHALL CONSIST OF PATCHING THE INSIDE OF REINFORCED CONCRETE CULVERTS AS PER SUPPLEMENTAL SPECIFICATION 843 WITH THE FOLLOWING ADDITIONS. THE CONTRACTOR SHALL DE-WATER THE AREA TO BE PATCHED TO PROVIDE A DRY SURFACE TO MATCH THE MANUFACTURER'S RECOMMENDATIONS. SEE CULVERT NO. 4 AND CULVERT NO. 12 REPAIR DETAILS ON SHEETS 80-81 .

THE EXACT LIMITS OF THE AREAS TO BE PATCHED SHALL BE AS DIRECTED BY THE ENGINEER. THE PLANS INCLUDE AN ESTIMATED QUANTITY FOR THE WORK DESCRIBED ABOVE TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM SPECIAL - PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FORM THE EXISTING DRAINAGE CONDUITS SPECIFIED IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL SEWERS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

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

ITEM SPECIAL, PIPE CLEANOUT . . . . 500 FT.

MASONRY PIPE COLLARS

WHERE CONNECTIONS ARE MADE BETWEEN EXISTING AND PROPOSED PIPE SECTIONS WHETHER REQUIRED BY THE PLANS OR ENCOUNTERED IN CONNECTION TO EXISTING FACILITIES, THE JOINT SHALL BE SEALED BY MEANS OF A MASONRY COLLAR AS PER ODOT STANDARD DRAWING DM-1.1. PAYMENT FOR ALL OPERATIONS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT.

CULVERT INFORMATION VERIFICATION

BEFORE ANY WORK IS STARTED THE CONTRACTOR SHALL FIELD VERIFY CULVERT INVERTS, CULVERT DIAMETER AND CULVERT COMPOSITION OF EACH CULVERT TO BE UPGRADED.

PAYMENT FOR THE WORK DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

CASTINGS ADJUSTED TO GRADE

ALL CASTINGS SHALL BE ADJUSTED TO THE FINISHED ROADWAY ELEVATION BY THE CONTRACTOR. THE DEPTH OF AN ADJUST TO GRADE SHALL BE 1 FT. OR LESS AND THE WORK SHALL BE AS OUTLINED IN 604.03. ANY WORK BEYOND 1 FT. DEPTH SHALL BE PAID UNDER THE ITEM 604 - CATCH BASIN, MONUMENT BOX OR MANHOLE RECONSTRUCTED TO GRADE. THE TIME BETWEEN ADJUSTING THE CASTINGS AND RESURFACING SHALL BE KEPT TO AN ABSOLUTE MINIMUM. NO ADJUSTING RINGS SHALL BE PERMITTED. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 604 - MONUMENT BOX ADJUSTED TO GRADE, AS PER PLAN . . . 10 EACH
ITEM 604 - CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN . . . . 10 EACH
ITEM 604 - MANHOLE ADJUSTED TO GRADE, AS PER PLAN . . . . 10 EACH

ITEM 604 - INLET ADJUSTED TO GRADE, AS PER PLAN

EXISTING INLETS SHALL BE ADJUSTED TO THE FINISHED ROADWAY ELEVATION BY THE CONTRACTOR. THE DEPTH OF AN ADJUST TO GRADE SHALL BE 1 FT. OR LESS AND THE WORK SHALL BE OUTLINED IN 604.03. THE TIME BETWEEN ADJUSTING THE INLET AND RESURFACING SHALL BE KEPT TO AN ABSOLUTE MINIMUM.

PAYMENT FOR THE WORK DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 604 - INLET ADJUSTED TO GRADE, AS PER PLAN.

ITEM 604 - CATCH BASIN, MONUMENT BOX OR MANHOLE RECONSTRUCTED TO GRADE

THE CONTRACTOR AND FIELD ENGINEER SHALL FIELD CHECK ALL EXISTING CATCH BASINS, MONUMENT BOXES OR MANHOLES LOCATED WITHIN THE LIMITS OF THE PROJECT. ANY CATCH BASIN, MONUMENT BOX OR MANHOLE FOUND THAT EXHIBITS SUBSTANTIAL DETERIORATION AND REQUIRE MORE WORK THAN IS SPECIFIED UNDER CASINGS ADJUSTED TO GRADE, SHALL BE RECONSTRUCTED TO GRADE, AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 604 - CATCH BASIN, RECONSTRUCTED TO GRADE . . . . 10 EACH
ITEM 604 - MONUMENT BOX, RECONSTRUCTED TO GRADE . . . . 10 EACH
ITEM 604 - MANHOLE, RECONSTRUCTED TO GRADE . . . . 10 EACH

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE 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 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 FOR THE PERTINENT 603 CONDUIT ITEMS.

ITEM SPECIAL-MISCELLANEOUS METAL

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY OR LIGHT DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIAL SHALL MEET ITEM 604 OF THE SPECIFICATIONS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM SPECIAL, MISCELLANEOUS METAL . . . . 5000 POUNDS

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AND 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.

REPAIR OF EXISTING CONCRETE HEADWALLS

EXISTING CONCRETE HEADWALLS WHICH ARE TO REMAIN SHALL BE REPAIRED. A CONDITION SURVEY WAS PERFORMED IN NOVEMBER OF 2001. REPAIR AREAS WERE DETERMINED BY VISUAL INSPECTION AND SOUNDING. THE DRAINAGE INSPECTION REPORT FROM JANUARY 2002 IS THE BASIS FOR THE REPAIR PLANS AS DETAILED ON SHEETS 80 THROUGH 81.

DELINEATED AREAS ON THE EXISTING HEADWALLS SHALL BE REPAIRED PER THE REQUIREMENTS OF ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION AND SEALED PER THE REQUIREMENTS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY. THESE QUANTITIES SHALL BE USED AS DIRECTED BY THE ENGINEER TO REPAIR NEW OR INCREASED AREAS OF DETERIORATION ON THE HEADWALLS NOT ACCOUNTED FOR DURING THE 2001 CONDITION SURVEY. USE OF THE CONTINGENCY QUANTITIES IS NOT LIMITED TO ELEMENTS SCHEDULED FOR REPAIR IN THESE PLANS. THAT IS, THESE QUANTITIES MAY BE USED ON ELEMENTS LISTED REQUIRING NO REPAIR AT THE TIME OF INSPECTION.

ITEM		QUANTITY	UNIT
512	CONCRETE REPAIR BY EPOXY INJECTION	25	FT.
512	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	50	SQ.YD.

ITEM 604 - CATCH BASIN MISC.: CLEAN OFF APRON

THE WORK SHALL CONSIST OF REMOVING ALL DEBRIS, SEDIMENT AND VEGETATION FROM THE CATCH BASIN APRON AT THE LOCATIONS SHOWN IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL CLEANING SHALL BE TO THE SATISFACTION OF THE ENGINEER.

CLEANING OF THE APRON SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 604 - CATCH BASIN MISC.: CLEAN OFF APRON. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR AND ALL INCIDENTALS REQUIRED TO COMPLETE THE WORK.

ITEM 604 - CATCH BASIN MISC.: CLEAN OFF GRATE

THE WORK SHALL CONSIST OF REMOVING ALL DEBRIS, SEDIMENT AND VEGETATION FROM THE CATCH BASIN GRATE AT THE LOCATIONS SHOWN IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL CLEANING SHALL BE TO THE SATISFACTION OF THE ENGINEER.

CLEANING OF THE GRATE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 604 - CATCH BASIN MISC.: CLEAN OFF GRATE. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR AND ALL INCIDENTALS REQUIRED TO COMPLETE THE WORK.

ITEM 604 - CATCH BASIN MISC.: CLEANOUT STRUCTURE

THE WORK SHALL CONSIST OF REMOVING ALL DEBRIS, SEDIMENT AND VEGETATION FROM THE STRUCTURE AT THE LOCATIONS SHOWN IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL CLEANING SHALL BE TO THE SATISFACTION OF THE ENGINEER.

CLEANING OF THE STRUCTURE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 604 - CATCH BASIN MISC.: CLEANOUT STRUCTURE. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR AND ALL INCIDENTALS REQUIRED TO COMPLETE THE WORK.

ITEM 604 - MANHOLE MISC.: CLEAN OFF CASTING

THE WORK SHALL CONSIST OF REMOVING ALL DEBRIS, SEDIMENT AND VEGETATION FROM THE MANHOLE CASTING AT THE LOCATIONS SHOWN IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL CLEANING SHALL BE TO THE SATISFACTION OF THE ENGINEER.

CLEANING OF THE CASTING SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 604 - MANHOLE MISC.: CLEAN OFF CASTING. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR AND ALL INCIDENTALS REQUIRED TO COMPLETE THE WORK.

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ITEM 202 – FENCE REMOVED, AS PER PLAN
ITEM 607 – FENCE, TYPE CLT, TYPE CL, TYPE 47

THE FOLLOWING ESTIMATED QUANTITIES SHALL BE USED TO REMOVE THE EXISTING FENCE AND SUBSEQUENTLY REPLACE IT WITH TYPE CLT FENCE IN ITS CURRENT LOCATION. THE LIMITS FOR THE REMOVAL AND REPLACEMENT FOR BOTH NORTHBOUND AND SOUTHBOUND IR–271 FROM EMERY RD. OVERPASS TO FAIRMOUNT BLVD. OVERPASS.

WHERE EXISTING FENCE REPLACEMENT LOCATION IS NOT SHOWN IN THE PLANS, THE CONTRACTOR SHALL STAKE ALL HORIZONTAL DEFLECTION POINTS OF THE EXISTING FENCE DURING REMOVAL TO USE FOR LAYING OUT THE PROPOSED FENCE. STAKING OF DEFLECTION POINTS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 202 – FENCE REMOVED, AS PER PLAN. ANY TREES OR OTHER VEGETATION GROWING THROUGH OR NEAR THE PROPOSED FENCE SHALL BE REMOVED AND DISPOSED OF AS PER ITEM 201 – CLEARING AND GRUBBING.

AT THE END OF EACH WORK DAY, THE CONTRACTOR SHALL EITHER HAVE THE PROPOSED FENCE PLACED AFTER THE REMOVAL OF THE EXISTING FENCE OR PLACE TEMPORARY FENCE AT NO ADDITIONAL COST TO THE STATE.

IN ADDITION TO THE FENCE REMOVAL AND REPLACEMENT QUANTITIES, QUANTITIES FOR 4' WALK GATE AND 10' SWING GATE HAVE BEEN ADDED, TO BE USED AS DIRECTED BY THE ENGINEER TO REPLACE AND EXISTING GATE IF NECESSARY. REMOVAL OF THE EXISTING GATE SHALL BE PAID FOR UNDER ITEM 202 – GATE REMOVED.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 202 – FENCE REMOVED, AS PER PLAN . . . . . 600 FT.
ITEM 607 – FENCE, TYPE CLT . . . . . 200 FT.
ITEM 607 – FENCE, TYPE CL . . . . . 200 FT.
ITEM 607 – FENCE, TYPE 47 . . . . . 200 FT.
ITEM 202 – GATE REMOVED . . . . . 2 EACH
ITEM 607 – GATE, TYPE CL (4' WALK) . . . . . 1 EACH
ITEM 607 – GATE, TYPE CL (10' SWING) . . . . . 1 EACH

ITEM 606 – IMPACT ATTENUATOR, TYPE 2–98 QUADGUARD #QS6907, UNIDIRECTIONAL

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A QUADGUARD IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., ONE EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312–467–6750).

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE–APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG. REV. DATE	ODOT APPROVAL DATE
QSTSCVR–U	QUADGUARD SYSTEM WITH TENSION STRUT BACKUP	7/10/96 REV.A	3/6/98
QSCBCVR–U	QUADGUARD SYSTEM WITH CONCRETE BACKUP	4/28/97 REV. E	3/6/98
QFTSCVR–U	QUADGUARD SYSTEM W/ 69" & 90" TENSION STRUT BACKUPS	9/5/97 REV. C	3/6/98
QFCBCVR–U	QUADGUARD SYSTEM W/ 69" & 90" CONCRETE BACKUPS	9/4/97 REV. D	3/6/98
35–40–20	DEFLECTOR ASSEMBLY, CONCRETE BACKUP RETROFIT, QC	11/14/97 REV. B	7/31/98
35–40–03	QUADGUARD SYSTEM BACKUP ASSEMBLY, TS, QG	3/19/99 REV. F	8/27/99
35–40–08 2 SHEETS	QUADGUARD SYSTEM CONCRETE BACKUP, QG ON GRADE & ON EXISTING CONCRETE STRUCTURE	10/14/97 REV. F 10/14/97 REV. F	8/27/99 8/27/99
35–40–21 2 SHEETS	TRANSITION ASSEMBLY QUAD–BEAM TO W–BEAM	11/6/97 REV. B 7/14/97 REV. A	8/27/99 8/27/99
35–40–22 2 SHEETS	TRANSITION ASSEMBLY QUAD–BEAM TO THRIE–BEAM	7/15/97 REV. A 7/11/97 REV. A	8/27/99 8/27/99
35–40–15	QUADGUARD SYSTEM END SHOE ASSEMBLY, QG	9/11/98 REV. F	8/27/99
3540211 2 SHEETS	QG TRANSITION ASSEMBLY QUAD–BEAM TO W–BEAM–WIDE	8/29/97 REV. A 8/29/97 REV. A	8/27/99 8/27/99
3540221 2 SHEETS	QG TRANSITION ASSEMBLY QUAD–BEAM TO THRIE–BEAM–WIDE	8/29/97 REV. A 8/29/97 REV. A	8/27/99 8/27/99
3540498	QG SYSTEM NOSE ASSEMBLY, QG, 24, 30, 36, W/BELTING	12/30/98	8/27/99
3540150	QUADGUARD TRANSITION TO VERTICAL CONCRETE BARRIER	9/96	8/27/99

ITEM 606 – IMPACT ATTENUATOR, TYPE 2–98 QUADGUARD #QS6907, UNIDIRECTIONAL (CONT.)

WHEN BI–DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITION.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 2–98 QUADGUARD #QS6907, UNIDIRECTIONAL, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606 – ANCHOR ASSEMBLY, TYPE B–98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS.

1) THE SRT–350, GUARDRAIL END TERMINAL AS MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330–545–4373).

THE LENGTH OF THE SRT–350 SYSTEM IS CONSIDERED TO BE 37'–6", INCLUSIVE OF THREE 12'–6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE–APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG. REV. DATE	ODOT APPROVAL DATE
SS444 SS444M	SLOTTED RAIL TERMINAL POST LAYOUT AND ERECTION DETAILS SRT–350 (12.5, 8 POST)	7/12/99 Rev. 1 7/12/99	8/27/99
SS425M	SLOTTED RAIL TERMINAL SRT–350 POST LAYOUT AND ERECTION DETAILS (12.5, 9 POST)	6/21/97 Rev. 1	3/6/98

2) THE FLEAT–350 MANUFACTURED BY ROAD SYSTEMS, INC., 2516 MALLORY LANE, STOW, OHIO 44224, (TELEPHONE: 330–346–0721).

THE LENGTH OF THE FLEAT–350 IS CONSIDERED TO BE 37'–6", INCLUSIVE OF THREE 12'–6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE–APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG. REV. DATE	ODOT APPROVAL DATE
FLT–M	FLARED ENERGY ABSORBING TERMINAL (FLEAT–350) ASSEMBLY	4/16/98	7/31/98

REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN FINISHED GUARDRAIL HEIGHT OF 27–3/4 INCHES FROM THE EDGE OF THE SHOULDER.

ON–SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

THE FACE OF THE TYPE B–98 IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19: APPROXIMATELY 36" W X 12" H FOR THE SRT–350 AND 14" W X 20" H FOR THE FLEAT.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE B–98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606 – ANCHOR ASSEMBLY, TYPE E–98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS.

1) THE ET–2000 (1997) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330–545–4373).

THE LENGTH OF THE ET–2000 (1997) SYSTEM IS CONSIDERED TO BE 50'–0" INCLUSIVE OF TWO 25'–0" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE–APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG. REV. DATE	ODOT APPROVAL DATE
SS265M	ET–2000 (1997) PLAN, ELEVATION & SECTIONS	6/20/97	3/6/98

ITEM 606 – ANCHOR ASSEMBLY, TYPE E–98 (CONT.)

DWG. NO.	DRAWING NAME	DWG. REV. DATE	ODOT APPROVAL DATE
SS142	ET2000 PLUS 50'–0" PLAN, ELEVATION & SECTION 25'–0" RAIL, SLEEVE W/PL POSTS 1–4	4/12/00	7/31/00
SS141	ET2000 PLUS PLAN, ELEVATION & SECTION 25'–0" RAIL, HBA POSTS 1–4	2/29/00	7/31/00
SS158	ET2000 PLUS 50'–0" WITH 12'–6" PANELS & HBA POSTS 1–4 PLAN, ELEVATION & SECTION	5/22/00	7/31/00

2) THE SKT–350 MANUFACTURED BY ROAD SYSTEMS, INC., 2516 MALLORY LANE, STOW, OHIO 44224, (TELEPHONE: 330–346–0721).

THE LENGTH OF THE SKT–350 SYSTEM IS CONSIDERED TO BE 50'–0", INCLUSIVE OF FOUR 12'–6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE–APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG. REV. DATE	ODOT APPROVAL DATE
SKT–4M	SEQUENTIAL KINKING TERMINAL (SKT–350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98

THE FACE OF THE TYPE E–98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 18" X 18".

REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27–3/4 INCHES FROM THE EDGE OF THE SHOULDER.

ON–SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E–98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 623 CONSTRUCTION LAYOUT STAKES, AS PER PLAN

STAMPED STATIONING IN THE EXISTING CONCRETE BARRIER MAY BE INCORRECT AND SHALL NOT BE USED TO LAY OUT PROPOSED WORK. THE CONTRACTOR SHALL RE–ESTABLISH THE CENTERLINE OF CONSTRUCTION FROM RECORD INFORMATION. THE CONTRACTOR SHALL PERFORM ALL RESEARCH AND FIELD WORK NECESSARY TO COMPLETE THIS ITEM. THE STATE WILL NOT PROVIDE CENTERLINE REFERENCE TIES.

THE CENTERLINE OF CONSTRUCTION SHALL BE LAID OUT UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL SURVEYOR CURRENTLY REGISTERED IN THE STATE OF OHIO. A COPY OF THE ACTUAL FIELD NOTES USED TO LAY OUT THE CENTERLINE SHALL BE PRESENTED TO THE PROJECT ENGINEER. THE NOTES SHALL BEAR THE SEAL OF THE PROFESSIONAL SURVEYOR(S) WHO PERFORMED THE WORK. THE ENGINEER SHALL WITHHOLD THE LAST HALF OF PAYMENT FOR THIS ITEM UNTIL THE NOTES ARE RECEIVED. THE NOTES SHALL BE FORWARDED TO THE DISTRICT SURVEY DEPARTMENT FOR INCORPORATION INTO THE DEPARTMENT'S RECORDS.

PRIOR TO THE PLANING OF PAVEMENT BENEATH ALL OVERHEAD STRUCTURES, A LICENSED SURVEYOR SHALL MEASURE THE VERTICAL CLEARANCES AND DOCUMENT THE MEASUREMENTS ON AN APPROVED OHIO DEPARTMENT OF TRANSPORTATION FORM AVAILABLE FROM THE DISTRICT BRIDGE OFFICE. THE MEASUREMENTS SHALL BE TAKEN AT THE LOCATIONS INDICATED ON THE APPROVED ODOT FORM AND SUBMITTED TO THE PROJECT ENGINEER. AFTER THE NEW PAVING HAS BEEN COMPLETED, A REGISTERED SURVEYOR AGAIN SHALL TAKE VERTICAL CLEARANCE MEASUREMENTS AT LOCATIONS INDICATED ON THE APPROVED ODOT FORM. THESE FINAL MEASUREMENTS SHALL BE RECORDED ON THE FORM AND SUBMITTED TO THE PROJECT ENGINEER AND THE DISTRICT BRIDGE ENGINEER. THE RECORD SHALL BEAR THE STAMP OR SEAL OF THE LICENSED SURVEYOR WHO HAS TAKEN THE MEASUREMENTS AND WILL VERIFY THAT VERTICAL CLEARANCES HAVE BEEN PRESERVED.

IN ADDITION TO THE ABOVE REQUIREMENTS AND THE REQUIREMENTS OF ITEM 623, THIS ITEM SHALL BE USED TO PROVIDE THE SURVEY OF THE ASPHALT BRIDGE TRANSITIONS AS REQUIRED BY THE NOTES ON SHEET NO. 64.

CALCULATED CML
CHECKED MVJ

GENERAL NOTES

CUY–271–6.04

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CONTINGENCY QUANTITIES FOR GUARDRAIL REPLACEMENT

THE FOLLOWING QUANTITIES HAVE BEEN ADDED FOR GUARDRAIL UPGRADE(S) NOT SHOWN IN PLANS. THE CONTRACTOR SHALL NOT ORDER OR PERFORM ANY WORK FOR THESE ITEMS WITHOUT THE DIRECTION OF THE ENGINEER.

ITEM 606 - GUARDRAIL, TYPE 5.	200	FT.
ITEM 606 - GUARDRAIL, TYPE 5A.	100	FT.
ITEM 606 - ANCHOR ASSEMBLY, TYPE B-98.	2	EACH
ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98.	2	EACH
ITEM 626 - BARRIER REFLECTOR, TYPE A.	25	EACH
ITEM 626 - BARRIER REFLECTOR, TYPE B.	25	EACH
ITEM 209 - LINEAR GRADING, AS PER PLAN.	5	STATION
ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I, UNDER GUARDRAIL, PG 64-22, A.P.P. . .	12	CU. YD.

PAVEMENT

ITEM 407 - TACK COAT AND TACK COAT FOR INTERMEDIATE COURSE

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. FOR ESTIMATING PURPOSES ONLY PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.10 GALLONS PER SQUARE YARD OF TACK COAT AND 0.05 GALLONS PER SQUARE YARD OF TACK COAT FOR INTERMEDIATE COURSE.

ITEM 254 - PATCHING PLANED SURFACE

THIS ITEM OF WORK SHALL INCLUDE PATCHING PLANED SURFACES AFTER THE ASPHALT PAVEMENT HAS BEEN PLANED.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER:

ITEM 254 - PATCHING PLANED SURFACE . . . . . 20,000 SQ YD

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN A
ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN B

THE PAVEMENT SHALL BE REMOVED TO THE SPECIFIED DEPTH WITHIN THE DESIGNATED LIMITS BY A GRINDING METHOD THAT WILL CUT NEAT VERTICAL EDGES.

PAVEMENT REPAIR ON TRANSVERSE PAVEMENT JOINTS SHALL BE PAID FOR UNDER "PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN A", AND PAVEMENT REPAIR ON LONGITUDINAL JOINTS SHALL BE PAID FOR UNDER "PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN B".

IF AFTER THE REMOVAL OPERATION, THE ENGINEER DETERMINES THAT A FULL DEPTH REPAIR WILL BE NECESSARY; NO FURTHER WORK WILL BE REQUIRED. PAYMENT FOR THE GRINDING OPERATION WILL BE MADE BY PAYING FOR 50 PERCENT OF THE MEASURED AREA AT THE UNIT PRICE BID FOR ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN A OR B.

FOR ADDITIONAL DETAILS, NOTES AND QUANTITIES, SEE SHEET 63.

ITEM 618 - RUMBLE STRIPS, (ASPHALT CONCRETE)

THE FOLLOWING ESTIMATED QUANTITY SHALL BE USED TO CONSTRUCT ITEM 618, RUMBLE STRIPS, (ASPHALT CONCRETE) AS PER STANDARD DRAWING BP-9.1:

ITEM 618 - RUMBLE STRIPS, (ASPHALT CONCRETE) . . . . . 14.6 MILE

ITEM 304 - AGGREGATE BASE, AS PER PLAN

THE ONLY SLAG MATERIALS PERMITTED FOR THIS ITEM SHALL BE CRUSHED AIR-COOLED BLAST FURNACE SLAG, A MIXTURE OF CRUSHED AND GRANULATED SLAGS, OR OPEN HEARTH SLAG FROM APPROVED SOURCES ON FILE AT THE LABORATORY.

ALL MATERIALS OR BLENDED MATERIALS SHALL MEET THE GRADATION REQUIREMENTS OF 304.02.

ANY GRANULATED SLAG MATERIAL USED SHALL MEET THESE GRADATION REQUIREMENTS IN LIEU OF 703.08

LONGITUDINAL JOINTS (FLEXIBLE PAVEMENT)

LONGITUDINAL JOINTS BETWEEN A PAVEMENT LANE AND ADJOINING BERM OR SPEED CHANGE LANE, AND BETWEEN A SPEED CHANGE LANE AND THE ADJOINING BERM SHALL BE MADE THE SAME DAY. ALL LONGITUDINAL JOINTS SHALL BE HOT WITH THE EXCEPTION OF ONE COLD JOINT PER ROADWAY. LONGITUDINAL JOINT LOCATIONS SHALL BE AS APPROVED BY THE ENGINEER. EACH RAMP SHALL HAVE ONLY ONE LONGITUDINAL COLD JOINT LOCATED APPROXIMATELY HALFWAY ACROSS THE RAMP.

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

THIS ITEM SHALL CONSIST OF REPLACING EXISTING PAVEMENT IN ACCORDANCE WITH ITEM 255 AND THE NOTES BELOW. PAYMENT SHALL BE MADE FOR "CLASS C", "CLASS MS" OR "CLASS FS" ALTHOUGH THE CONTRACTOR MAY USE EITHER "CLASS MS", "CLASS FS", OR "CLASS C".

EXISTING CONCRETE PAVEMENT THICKNESS MAY VARY FROM THAT SHOWN ON THE TYPICAL SECTIONS BY PLUS OR MINUS TWO INCHES. NO ADJUSTMENT IN PAYMENT FOR THIS ITEM SHALL BE MADE PROVIDING THAT THE AVERAGE PAVEMENT THICKNESS IS WITHIN ONE HALF INCH OF THE THICKNESS SHOWN ON THE TYPICAL SECTIONS. ADDITIONAL COMPENSATION SHALL BE MADE BY CHANGE ORDER FOR THE MATERIAL COST OF CONCRETE ONLY WHEN THE AVERAGE THICKNESS EXCEEDS THE ONE HALF INCH MAXIMUM TOLERANCE ABOVE. THE VOLUME OF ADDITIONAL CONCRETE PAID FOR SHALL BE BASED UPON THE AMOUNT OF CONCRETE ABOVE THE ONE HALF INCH TOLERANCE LIMIT.

IF, AFTER REMOVAL OF THE RIGID PAVEMENT THE ENGINEER DETERMINES THAT THE SUBBASE OR SUBGRADE HAS FAILED OR IS PUMPING, HE SHALL DIRECT THE CONTRACTOR TO EXCAVATE THE UNSUITABLE MATERIAL AND REPLACE IT WITH COMPACTED 304 AGGREGATE. QUANTITIES OF ITEM 203, EXCAVATION AND ITEM 304, AGGREGATE BASE HAVE BEEN PROVIDED TO REPAIR SAID FAILED SUBBASE OR SUBGRADE AREAS.

PAVEMENT REPAIR LESS THAN OR EQUAL TO TEN (10) FEET IN LENGTH SHALL BE PAID FOR UNDER "FULL DEPTH RIGID PAVEMENT REMOVAL AND REPLACEMENT, CLASS C, MS OR FS, AS PER PLAN, A". PAVEMENT REPAIRS GREATER THAN TEN (10) FEET IN LENGTH SHALL BE PAID FOR UNDER "FULL DEPTH RIGID PAVEMENT REMOVAL AND REPLACEMENT, CLASS C, MS OR FS, AS PER PLAN, B".

THE FOLLOWING QUANTITIES HAVE BEEN ADDED FOR PAVEMENT REPAIR NOT SHOWN IN THE PLANS. THE CONTRACTOR SHALL NOT ORDER OR PERFORM ANY WORK FOR THESE ITEMS WITHOUT THE DIRECTION OF THE ENGINEER.

203	EXCAVATION	50	CU. YD.
304	AGGREGATE BASE, AS PER PLAN.	50	CU. YD.
255	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN A	4,000	SQ. YD.
255	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN B	2,100	SQ. YD.
255	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN A.	2,000	SQ. YD.
255	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN B.	1,800	SQ. YD.
255	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN A.	2,000	SQ. YD.
255	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN B.	1,800	SQ. YD.
255	FULL DEPTH PAVEMENT SAWING.	20,000	FT.

FOR THE MAINLINE:

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

THE COURSE AGGREGATE FOR THIS ITEM SHALL BE LIMITED TO A BLEND OF AIR COOLED BLAST FURNACE SLAG AND LIMESTONE. THE CONTRACTOR SHALL USE A MINIMUM OF 50 PERCENT AIR COOLED BLAST FURNACE SLAG WITH LIMESTONE COMPRISING THE REMAINING PERCENTAGE.

FOR THE RAMP:

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

THE COURSE AGGREGATE FOR THIS ITEM SHALL BE LIMITED TO AIR COOLED BLAST FURNACE SLAG.

SPREADING EQUIPMENT

AN AUTOMATIC SCREED CONTROL HAVING A 40 FOOT SKI ARM SHALL BE USED FOR PLACING THE INTERMEDIATE COURSE (SEE PROPOSAL NOTE). FOR FULL WIDTH PAVING, THE WIDTH LAID SHALL NOT EXCEED THE PAVER'S RATED WIDTH AS RECOMMENDED BY THE PAVER MANUFACTURER.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

ITEM 659 - SOIL ANALYSIS TEST	2	EACH
ITEM 659 - TOPSOIL	903	CU. YD.
ITEM 659 - SEEDING AND MULCHING	8138	SQ. YD.
ITEM 659 - REPAIR SEEDING AND MULCHING	407	SQ. YD.
ITEM 659 - INTER-SEEDING	407	SQ. YD.
ITEM 659 - COMMERCIAL FERTILIZER	1.14	TON
ITEM 659 - LIME	2	ACRE
ITEM 659 - WATER	45	M. GAL.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

CALCULATED CML | CHECKED MVJ

GENERAL NOTES

CUY-271-6.04

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NOTIFICATION AND CONTACTS

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING ENTITIES IN WRITING AND VIA TELEPHONE AT LEAST TEN (10) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION ACTIVITIES. INCLUDED IN THE NOTIFICATION SHALL BE THE PROJECTED DATES AND TIME FRAMES OF ANY TOTAL ROAD CLOSURES:

1. OHIO DEPARTMENT OF TRANSPORTATION
   DISTRICT 12
   5500 TRANSPORTATION BLVD.
   GARFIELD HEIGHTS, OHIO 44125
   (216) 584-2007
2. THE OHIO STATE HIGHWAY PATROL
   CLEVELAND PATROL POST
   12323 BROADWAY AVENUE
   GARFIELD HEIGHTS, OH 44125
   (216) 587-4305
3. CUYAHOGA COUNTY SHERIFF'S OFFICE
   115 WEST 3RD STREET
   CLEVELAND, OHIO 44113
   (216) 443-6000
4. WARRENSVILLE HEIGHTS POLICE DEPARTMENT
   4301 WARRENSVILLE CENTER ROAD
   WARRENSVILLE HEIGHTS, OHIO 44128
   (216) 587-6500
5. WARRENSVILLE HEIGHTS FIRE DEPARTMENT
   4301 WARRENSVILLE CENTER ROAD
   WARRENSVILLE HEIGHTS, OHIO 44128
   (216) 587-6500
6. CITY OF BEACHWOOD POLICE DEPARTMENT
   2700 RICHMOND ROAD
   BEACHWOOD, OHIO 44122
   (216) 464-2343
7. CITY OF BEACHWOOD FIRE DEPARTMENT
   2700 RICHMOND ROAD
   BEACHWOOD, OHIO 44122
   (216) 292-1965
8. VILLAGE OF ORANGE POLICE DEPARTMENT
   4600 LANDER ROAD
   CHAGRIN FALLS, OHIO 44022
   (440) 498-4401
9. VILLAGE OF ORANGE FIRE DEPARTMENT
   4600 LANDER ROAD
   CHAGRIN FALLS, OHIO 44022
   (440) 498-4402
10. VILLAGE OF WOODMERE POLICE DEPARTMENT
    27899 CHAGRIN BLVD.
    WOODMERE, OHIO 44122
    (216) 831-1234
11. VILLAGE OF WOODMERE FIRE DEPARTMENT
    27899 CHAGRIN BLVD.
    WOODMERE, OHIO 44122
    (216) 292-4103

SHOULD THE PROJECTED DATES AND TIME FRAMES OF THE START AND END OF TOTAL ROAD CLOSURES CHANGE THROUGHOUT THE DURATION OF THE PROJECT, THE ABOVE AGENCIES MUST BE NOTIFIED IMMEDIATELY OF SUCH CHANGES.

SEQUENCE OF CONSTRUCTION:

PROJECT DESCRIPTION:

THIS PROJECT CONSISTS OF THE REMOVAL OF THE EXISTING WEARING COURSE OF PAVEMENT AND THE PLACEMENT OF THE PROPOSED ASPHALT OVERLAY ON THE LOCAL LANES OF INTERSTATE 271 BETWEEN THE EMERY ROAD OVERPASS (SLM 6.04) AND THE FAIRMONT BOULEVARD OVERPASS (SLM 9.73). WORK WINDOWS AND LANE CLOSURE PERIODS SHALL BE RESTRICTED TO THOSE FOUND ON THE ODOT DISTRICT 12 WEBSITE FOR I-271 (WWW.DOT.STATE.OH.US/DIST12/PERMITTED_LANE_CLOSURES.HTM), OF WHICH THE LATEST REVISION 14 DAYS PRIOR TO THE BID DATE WILL BE IN EFFECT FOR THIS PROJECT. ALL LANES MUST BE OPEN AND AVAILABLE FOR USE ON THE DAY PRIOR TO AND FOLLOWING ANY HOLIDAY, AS WELL AS THE HOLIDAY ITSELF. ALL WORK SHALL BE PERFORMED IN SEQUENCE. CONCURRENT WORK WILL NOT BE PERMITTED. PHASE 4 MUST BE PERFORMED LAST.

PHASE 1:

THE CONTRACTOR SHALL PERFORM ALL DRAINAGE APPURTENANCE REPAIR WORK. CULVERTS MAY BE REPAIRED IN ANY ORDER THE CONTRACTOR WISHES, WITH THE FOLLOWING RESTRICTIONS:

CULVERT 1: THE CONTRACTOR SHALL BE REQUIRED TO CLOSE THE SHOULDER OF RAMP G-2 DURING WORK ON THIS CULVERT. ACCESS TO THE INLET SIDE OF THE CULVERT WILL BE OBTAINED FROM RAMP G-1. ACCESS TO THE OUTLET SIDE OF THE CULVERT WILL BE OBTAINED FROM RAMP G-2. NO RAMP CLOSURES WILL BE PERMITTED.

CULVERT 4: THE CONTRACTOR SHALL ACCESS THE INLET AND OUTLET ENDS OF THE CULVERT FROM THE INFIELDS OF THE HARVARD ROAD INTERCHANGE. NO RAMP CLOSURES OR IMPEDANCE OF MAINLINE TRAFFIC WILL BE PERMITTED.

CULVERT 6: THE CONTRACTOR SHALL ACCESS THE OUTLET SIDE OF THE CULVERT FROM RAMP S-WE OF THE HARVARD ROAD INTERCHANGE. SHOULDER CLOSURES OF SOUTHBOUND INTERSTATE 271 WILL BE PERMITTED AS PER THE DISTRICT 12 PERMITTED LANE CLOSURE WEBSITE.

CULVERT 7: THE CONTRACTOR SHALL PLACE TEMPORARY PORTABLE CONCRETE BARRIER WITH IMPACT ATTENUATOR ALONG THE OUTSIDE EDGE OF THE NORTHBOUND SHOULDER TO PROTECT THE WORK AREA AND PASSING MOTORISTS FROM THE EXCAVATION. ACCESS TO THE OUTLET END OF THE CULVERT SHALL BE OBTAINED FROM RAMP F-1. SHOULDER CLOSURES AT THIS LOCATION SHALL BE RESTRICTED TO 7:00PM TO 6:00AM.

CULVERT 8: THE CONTRACTOR SHALL ACCESS THE INLET OF THE CULVERT VIA RAMP F-3 OF THE CHAGRIN BLVD. INTERCHANGE. SHOULDER CLOSURES WILL BE PERMITTED AT THIS LOCATION AS PER THE DISTRICT 12 PERMITTED LAND CLOSURES WEBSITE.

CULVERT 9: THE CONTRACTOR SHALL ACCESS THE INLET OF THE CULVERT VIA RAMP F-3 OF THE CHAGRIN BLVD. INTERCHANGE. SHOULDER CLOSURES WILL BE PERMITTED AT THIS LOCATION AS PER THE DISTRICT 12 PERMITTED LANE CLOSURES WEBSITE. WORK FOR CULVERT 8 SHOULD BE PERFORMED CONCURRENTLY WITH WORK FOR CULVERT 9.

CULVERT 10: SHOULDER CLOSURES WILL BE PERMITTED AS PER THE DISTRICT 12 PERMITTED LANE CLOSURES WEBSITE.

CULVERT 11: SHOULDER CLOSURES WILL BE PERMITTED AS PER THE DISTRICT 12 PERMITTED LANE CLOSURES WEBSITE.

ALL CULVERT WORK MUST BE COMPLETE PRIOR TO PROCEEDING TO PHASE 2 OF THE PROJECT. NO MILLING OR PAVING OPERATIONS WILL BE PERMITTED UNTIL DRAINAGE REPAIR WORK IS COMPLETE.

PHASE 2:

PHASE 2 CONSTRUCTION SHALL CONSIST OF THE REMOVAL OF THE EXISTING WEARING COURSE OF PAVEMENT THROUGHOUT THE CONSTRUCTION LIMITS IN THE NORTHBOUND DIRECTION. THE CONTRACTOR WILL BE PERMITTED TO REMOVE THE WEARING COURSE THROUGHOUT THE ENTIRE PROJECT LIMITS BEFORE RESURFACING BEGINS. HOWEVER, PLANED SURFACES MAY ONLY BE EXPOSED TO TRAFFIC FOR A MAXIMUM OF 14 CALENDAR DAYS. PLANED PAVEMENT MUST BE CLEANED OF ALL LOOSE DEBRIS. TEMPORARY PAVEMENT MARKINGS SHALL BE APPLIED TO ALL PLANED SECTIONS OF ROADWAY PRIOR TO OPENING THE AFFECTED LANES TO TRAFFIC. APPROPRIATE WARNING SIGNS SHALL BE ERECTED AND MAINTAINED BY THE CONTRACTOR TO INDICATE VARYING PAVEMENT CONDITIONS. THE CONTRACTOR SHALL FULLY COMPLETE THE RESURFACING WORK AS WELL AS THE PAVEMENT MARKING INSTALLATION WORK PRIOR TO THE BEGINNING OF THE NEXT PHASE.

THE CONTRACTOR SHALL BE PERMITTED TO WORK ON THE NORTHBOUND LANES ONLY. THE CONTRACTOR SHALL PLACE PORTABLE CHANGEABLE MESSAGE SIGN (PCM'S) AT THE DIRECTION OF THE ENGINEER. THE CONTRACTOR MAY CLOSE AS MANY LANES AS HE WISHES, PROVIDED THE MINIMUM NUMBER OF LANES ARE MAINTAINED AS LISTED ON THE DISTRICT 12 WEBSITE. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN ALL RAMP CONNECTIONS, EXCEPT WHEN PERFORMING PAVING OPERATIONS ON THAT PARTICULAR RAMP. THE CONTRACTOR SHALL BE REQUIRED TO BEGIN WORK AT THE SOUTHERN PROJECT LIMIT AND PROCEED NORTH.

PHASE 2 CONSTRUCTION DURATION SHALL BE LIMITED TO 45 CALENDAR DAYS

PHASE 3:

PHASE 3 CONSTRUCTION SHALL CONSIST OF THE REMOVAL OF THE EXISTING WEARING COURSE OF PAVEMENT THROUGHOUT THE CONSTRUCTION LIMITS IN THE SOUTHBOUND DIRECTION. THE CONTRACTOR WILL BE PERMITTED TO REMOVE THE WEARING COURSE THROUGHOUT THE ENTIRE PROJECT LIMITS BEFORE RESURFACING BEGINS. HOWEVER, PLANED SURFACES MAY ONLY BE EXPOSED TO TRAFFIC FOR A MAXIMUM OF 14 CALENDAR DAYS. TEMPORARY PAVEMENT MARKINGS SHALL BE APPLIED TO ALL PLANED SECTIONS OF ROADWAY PRIOR TO OPENING THE AFFECTED LANES TO TRAFFIC. APPROPRIATE WARNING SIGNS SHALL BE ERECTED AND MAINTAINED BY THE CONTRACTOR TO INDICATE VARYING PAVEMENT CONDITIONS. THE CONTRACTOR SHALL FULLY COMPLETE THE RESURFACING WORK AS WELL AS ALL OF THE LIGHTING, PAVEMENT MARKING, AND ALL RAISED PAVEMENT MARKER (RPM) INSTALLATION WORK PRIOR TO THE BEGINNING OF THE NEXT PHASE.

THE CONTRACTOR SHALL BE PERMITTED TO PERFORM PAVEMENT REPLACEMENT WORK ON THE SOUTHBOUND LANES ONLY. THE CONTRACTOR SHALL PLACE PCM'S AT THE DIRECTION OF THE ENGINEER. THE CONTRACTOR MAY CLOSE AS MANY LANES AS HE WISHES, PROVIDED THE MINIMUM NUMBER OF LANES ARE MAINTAINED AS LISTED ON THE DISTRICT 12 WEBSITE. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN ALL RAMP CONNECTIONS, EXCEPT WHEN PERFORMING PAVING OPERATIONS ON THAT PARTICULAR RAMP. THE CONTRACTOR SHALL BE REQUIRED TO BEGIN WORK AT THE NORTHERN PROJECT LIMIT AND PROCEED SOUTH.

PHASE 3 CONSTRUCTION DURATION SHALL BE LIMITED TO 45 CALENDAR DAYS.

PHASE 4:

THE CONTRACTOR SHALL PERFORM ALL WORK THAT DOES NOT REQUIRE THE CLOSURE OF ANY OF THE TRAVEL LANES OF I-271 DURING THIS PHASE. THIS WORK INCLUDES BUT IS NOT LIMITED TO GUARDRAIL REPLACEMENT, AND RIGHT-OF-WAY FENCE REPAIR / REPLACEMENT. SHOULDER CLOSURES WILL BE CLASSIFIED AS A SINGLE LANE CLOSURE AND BE RESTRICTED TO THE PERMITTED TIMES LISTED ON THE DISTRICT 12 WEB PAGE.

RESTRICTIONS

FOLLOWING IS A LIST OF RESTRICTIONS PERTAINING TO FOR THIS PROJECT. THE CONTRACTOR SHALL BE REQUIRED TO ADHERE TO THESE RESTRICTIONS, REGARDLESS OF CONSTRUCTION METHOD SELECTED.

1. ONLY SIGN REPLACEMENT WORK SHALL BE PERFORMED ON THE EXPRESS LANES.
2. EXPRESS LANE CLOSURES SHALL BE PERMITTED FOR REPLACEMENT OF GUIDE SIGNS ONLY.
3. ALL RAMPS WITHIN THE PROJECT LIMITS SHALL BE OPEN AT ALL TIMES, EXCEPT WHEN THE CONTRACTOR IS PERFORMING WORK ON AN INDIVIDUAL RAMP. SEE SHEET 19 AND 21 FOR RAMP CLOSURE PROCEDURE.
4. THE CONTRACTOR MAY ONLY CLOSE ONE (1) RAMP AT A TIME. CONCURRENT CLOSURES WILL NOT BE PERMITTED.
5. ALL LANE AND SHOULDER CLOSURES SHALL CONFORM TO THOSE LISTED ON THE CURRENT ODOT DISTRICT 12 WEB PAGE.
6. ROADWAY CLOSURES ON A HOLIDAY SHALL NOT BE PERMITTED.

ALTERNATE MAINTENANCE OF TRAFFIC METHODS

THE SEQUENCE OF CONSTRUCTION NOTE IS NOT TO BE CONSIDERED AS THE ONLY SEQUENCE OR METHOD OF CONSTRUCTION THAT MAY BE EMPLOYED ON THIS PROJECT.

AN ALTERNATE SEQUENCE OF CONSTRUCTION WITH ALTERNATE METHODS OF CONSTRUCTION MAY BE UTILIZED, PROVIDED THAT THE ALTERNATE SEQUENCE OF CONSTRUCTION WITH ALTERNATE METHODS OF CONSTRUCTION IS SUBMITTED TO THE ENGINEER A MINIMUM OF 30 DAYS BEFORE IMPLEMENTATION, AND PROVIDED THE ENGINEER APPROVES IN WRITING THE REQUESTED ALTERNATE METHODS OF CONSTRUCTION AND ALTERNATE SEQUENCE OF CONSTRUCTION.

ANY ALTERNATE METHOD OF CONSTRUCTION OR SEQUENCE OF CONSTRUCTION SHALL ADHERE TO THE RESTRICTIONS DESCRIBED IN THE SEQUENCE OF CONSTRUCTION NOTE.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

1. LIMITED ACCESS AREAS (I-271)

THE CONTRACTOR'S EQUIPMENT MUST BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. ALL CONTRACTOR EQUIPMENT INCLUDING PRIVATE VEHICLES SHALL BE STORED AT DESIGNATED STORAGE AREAS, THE LOCATION WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC DURING THE FINAL PAVING OPERATIONS.

2. LOCAL STREETS

NO EQUIPMENT OR PRIVATE VEHICLES SHALL BE PARKED ON PRIVATE PROPERTY, UNLESS PRIOR APPROVAL OF THE OWNER AND THE ENGINEER HAS BEEN GRANTED. A COPY OF THE WRITTEN AGREEMENT BETWEEN THE CONTRACTOR AND THE PRIVATE PROPERTY OWNER SHALL BE ON FILE IN THE PROJECT OFFICE TRAILER PRIOR TO ALLOWING THE CONTRACTOR TO PARK ON ANY PRIVATE PROPERTY.

ALLOWABLE LANE CLOSURE TIME LIMITATIONS

THE CONTRACTOR MAY CLOSE DOWN LANES ON I-271 IN ACCORDANCE WITH THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 12 WEB PAGE.

THE WEB ADDRESS IS
WWW.DOT.STATE.OH.US/DIST12/PERMITTED_LANE_CLOSURES.HTM

NO LANE CLOSURES ARE PERMITTED ON HOLIDAYS OR HOLIDAY WEEKENDS. THIS INCLUDES THE DAY BEFORE OR AFTER THE HOLIDAY OR HOLIDAY WEEKEND. THE FOLLOWING ARE CONSIDERED HOLIDAYS: EASTER, MEMORIAL DAY, FORTH OF JULY, LABOR DAY, THANKSGIVING, CHRISTMAS, AND NEW YEARS DAY.

SUSPENSION OF WORK

IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR TRAFFIC CONTROL AS SET FORTH IN THESE PLANS OR WITH PROVISIONS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, THE ENGINEER SHALL SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS.

WORKSITE TRAFFIC SUPERVISOR

THE CONTRACTOR SHALL EMPLOY (OTHER THAN THE SUPERINTENDENT) AND SUBJECT TO THE APPROVAL OF THE ENGINEER, A CERTIFIED WORKSITE TRAFFIC SUPERVISOR (WTS). THE WTS MAY BE CERTIFIED FROM ONE OF THE FOLLOWING ORGANIZATIONS:

1.) AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION, PH. NO. 1-800-272-8772 CERTIFIED WORKSITE TRAFFIC SUPERVISOR (WTS)

2.) THE NATIONAL SAFETY COUNCIL, TRAFFIC CONTROL ZONES SUPERVISORS COURSE PH. NO. 1-800-441-5103

3.) OR TAKE THE FOLLOWING COURSE BY THE NATIONAL HIGHWAY INSTITUTE, DESIGN AND OPERATION OF WORK ZONE TRAFFIC CONTROL, PH. No. (703)-235-0528.

THE WTS POSITION IS ESTABLISHED FOR THE PURPOSE OF MONITORING AND CORRECTING ANY TRAFFIC CONTROL DEFICIENCIES IN THE WORK ZONE. THE WTS SHALL OVERSEE ALL OPERATIONS THAT AFFECT THE MOVEMENT OF VEHICULAR AND PEDESTRIAN TRAFFIC THROUGH THE WORK ZONE.

THE WTS SHALL BE PRESENT WHEN THE CONTRACTOR OR SUBCONTRACTORS INSTALL A TRAFFIC RESTRICTION, LANE CLOSURE, ETC. IN LIEU OF THE WTS BEING PRESENT WHEN A SUBCONTRACTOR HAS A TRAFFIC CONTROL ZONE IN PLACE, THE SUBCONTRACTOR MAY USE HIS OWN PERSONNEL THAT IS A CERTIFIED WTS. THE SUBCONTRACTOR MUST PRESENT A COPY OF HIS WTS CERTIFICATION TO THE PROJECT ENGINEER. A WTS MUST BE PRESENT WHEN THE WORK ZONE IS BEING SET UP. HE MUST APPROVE THE WORK ZONE BEFORE HE LEAVES OR PERFORMS OTHER DUTIES.
IF THE RESTRICTIONS ARE SHORT TERM, THE WTS SHALL MONITOR THE ZONE FOR

COMPLIANCE. DURING THE LANE CLOSURE HE SHALL MAKE SURE THAT ALL TRAFFIC CONTROL ITEMS ARE FUNCTIONING PROPERLY. TRAFFIC CONTROL WILL BE THE WTS MAIN DUTY DURING IMPLEMENTATION OF ZONES OR SHORT TERM ZONES. THE WTS SHALL HAVE THE AUTHORITY TO HAVE DEFICIENCIES CORRECTED AS SOON AS POSSIBLE. THE WTS SHALL PROVIDE THE PROJECT ENGINEER A SKETCH OF THE TRAFFIC CONTROL PLAN (TCP) EVERY DAY THERE IS TO BE A SHORT TERM TRAFFIC RESTRICTION, LANE CLOSURE, ETC. THAT IS NOT DETAILED IN THE PLANS. THE TCP SHALL SHOW HOW THE WORK ZONES ARE TO BE IMPLEMENTED.

DAILY, INCLUDING ONE DAY DURING THE WEEK AND HOLIDAYS, THE WTS SHALL SPEND A MINIMUM OF ONE HOUR REVIEWING AND MAINTAINING THE WORK ZONE. THESE HOURS MAY BE ADJUSTED BY THE ENGINEER. THE HOURS MAY BE REDUCED DURING THE WINTER CONSTRUCTION SEASON IF DIRECTED BY THE ENGINEER. THE WTS SHALL INSPECT THE WORK ZONE AT THE BEGINNING AND END OF EACH WORK DAY AND ONE TIME PER WEEK DURING THE HOURS OF DARKNESS AND ONCE DURING A WEEKEND.

A RECORD OF EACH DAY'S REVIEW SHALL BE GIVEN TO THE PROJECT ENGINEER THE FOLLOWING WORKDAY, IN WRITING, AND SHALL INCLUDE: TRAFFIC CONTROL DEVICE CONDITION, PLACEMENT, VISIBILITY, TRAFFIC FLOW CONDITIONS, INCIDENTS, CONGESTION POINTS, ADEQUACY OF ADVANCED WARNING SIGNS WITH TRAFFIC, PROPER STOPPAGE OF MATERIALS AND EQUIPMENT, ACCIDENTS, RECORD OF DEFICIENCIES, AND RESOLUTION OF THE DEFICIENCIES, ETC.

PLANED SURFACES

THE DURATION OF TIME BETWEEN PLANING THE EXISTING ASPHALT PAVEMENT AND APPLICATION OF PROPOSED OVERLAY, SHALL BE KEPT TO A MINIMUM. IN NO INSTANCE SHALL THIS TIME EXCEED 14 CALENDAR DAYS. THIS IS TO ENSURE THAT THE POTENTIAL DEGRADATION OF THE EXISTING PAVEMENT DUE TO TRAFFIC IS KEPT TO A MINIMUM. IN THE EVENT THAT THE TIME BETWEEN PLANING THE PAVEMENT AND PLACING THE ASPHALT INTERMEDIATE COURSE EXCEEDS 14 CALENDAR DAYS, LIQUIDATED DAMAGES AS PER 108.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS MANUAL SHALL BE ASSESSED.

CONSTRUCTION TRAFFIC

ALL CONSTRUCTION TRAFFIC SHALL USE ACCEPTABLE TRUCK ROUTES TO ACCESS THE CONSTRUCTION AREA. USE OF LOCAL RESIDENTIAL STREET IS STRICTLY PROHIBITED UNLESS ALLOWED IN WRITING BY THE LOCAL ENFORCEMENT AUTHORITY, OR AS DIRECTED IN THESE PLANS.

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ITEM 614 – LAW ENFORCEMENT OFFICER WITH PATROL CAR

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

FOR LANE CLOSURES: DURING INITIAL SETUP 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 APPROPRIATE CITIES LISTED IN NOTIFICATION AND CONTACTS NOTE ON SHEET 17.

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

ITEM 614 – LAW ENFORCEMENT OFFICER WITH PATROL CAR 1000 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.

MAINTENANCE OF TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMPS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS, AND THE FOLLOWING:

1. THE CONTRACTOR SHALL INFORM THE ODOT DISTRICT 12 PUBLIC RELATIONS OFFICE (216) 584–2007, EIGHTEEN (18) CALENDAR DAYS PRIOR TO THE BEGINNING OF WORK.
2. CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS THAT ARE IN OPERATION ONE–HALF HOUR AFTER SUNSET OR ONE HALF–HOUR BEFORE SUNRISE. ALL NIGHTTIME LANE RESTRICTIONS SHALL REQUIRE DRUMS OR BARRICADES AT A MAXIMUM SPACING OF ONE HUNDRED TWENTY (120) FEET. 42" WEIGHTED CHANNELIZER SPACED AT FORTY (40) FEET C/C WILL BE PERMITTED.
3. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO. THE ABOVE ITEMS SHALL BE UTILIZED IN CONFORMANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, LATEST REVISION.
4. PRIOR TO OPENING TO TRAFFIC, EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION. ALL TRANSVERSE JOINTS SHALL EXTEND ACROSS THE FULL LANE AND SHOULDER WIDTH, AND SHALL BE FREE FROM UNEVEN LONGITUDINAL JOINTS. THE CONTRACTOR SHALL PROVIDE 25' PER INCH ASPHALT WEDGES FOR TRANSVERSE JOINTS WHEREVER THERE ARE PAVEMENT ELEVATION DIFFERENCES. PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN ITEM 614 MAINTAINING TRAFFIC.
5. ITEM 622 PORTABLE CONCRETE BARRIER, 50" HAVE BEEN PROVIDED FOR THIS PROJECT. THE BARRIER SHALL BE PLACED, AS SHOWN IN THE PLANS.
6. IN ADDITION TO THE REQUIREMENTS OF ITEM 614 WORK ZONE PAVEMENT MARKINGS (614.10), AT THE END OF EACH DAY OF WORK, THE CONTRACTOR SHALL REPLACE (WITH TEMPORARY MARKINGS) ALL LANE, EDGE, STOP OR CHANNELIZING LINES THAT WERE REMOVED OR COVERED DURING THE PAVEMENT REMOVAL OR PLACEMENT OPERATIONS. QUANTITIES FOR SUCH REPLACEMENT ARE CARRIED AS PART OF THE ITEMS LISTED UNDER 614 TEMPORARY PAVEMENT MARKINGS.

FOR QUANTITIES SEE SHEET NO. 19.

MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION

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

A) 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 HIS OPERATION FIRST DISTURBS ANY PORTION OF THE SIGNAL, INCLUDING BUT NOT LIMITED TO; DETECTION AND INTERCONNECT CABLES, UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK IS ACCEPTED.

B) THE EXISTING TRAFFIC SIGNAL LOOP DETECTORS AT THE CHAGRIN BLVD / RAMP F–4 AND CHAGRIN BLVD / RAMP F–3 INTERSECTIONS MAY BE DISTURBED DURING GRINDING AND PLANING OPERATIONS. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN VEHICULAR DETECTION AT THE AFFECTED INTERSECTIONS. THE CONTRACTOR MAY CHOOSE TO UTILIZE TEMPORARY VEHICLE DETECTION OR HE MAY CHOOSE TO INSTALL THE PROPOSED REPLACEMENT DETECTORS DURING THE SAME WORKING SHIFT IN WHICH THE PLANING OPERATIONS OCCURRED AT THAT INTERSECTION.

IF THE CONTRACTOR CHOOSES TO UTILIZE TEMPORARY VEHICLE DETECTION, ALL RESULTING MATERIAL AND COSTS SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 614 – MAINTAINING TRAFFIC. IF THE CONTRACTOR CHOOSES TO INSTALL THE PROPOSED REPLACEMENT DETECTORS, HE SHALL DO SO AS DIRECTED IN THE TRAFFIC CONTROL PORTION OF THE PLAN ON SHEET 118.

PORTABLE CHANGEABLE MESSAGE SIGNS

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND REMOVE WHEN NO LONGER NEEDED A PORTABLE CHANGEABLE MESSAGE SIGN(S). THE PCMS SHALL BE OF THE TYPE SHOWN ON THE LIST OF APPROVED PCMS MAINTAINED BY THE DIRECTOR, WITH THE EXCEPTION THAT NO FLIP DISC (OR VARIATION OF FLIP DISC) UNITS WILL BE ALLOWED. THE PCMS SHALL BE A CLASS I TYPE UNIT.

THE PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE MOUNTED ON A TRAILER. THE LOCATION OF THE PCMS SHALL BE DIRECTED BY THE ENGINEER. THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS.

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE LINK WHICH WILL ALLOW REMOTE SIGN ACTIVATION, DEACTIVATION, MESSAGE CHANGES, MESSAGE ADDITONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES.

THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER THE SOFTWARE NECESSARY TO CONTROL THE PCMS REMOTELY.

THE PCMS SHALL BE EQUIPPED WITH A MYRIAD SAFETY BEAM OR AN APPROVED EQUAL AS DETERMINED BY THE ENGINEER. THE MYRIAD SAFETY BEAM SENDS OUT A SIGNAL THAT ACTIVATES RADAR DETECTORS. THE BEAM IS APPROVED BY THE F.C.C.. THE MYRIAD SAFETY BEAM SHALL USE THE SAME POWER SUPPLY AS THE PCMS. THE MYRIAD SAFETY BEAM SHALL BE ABLE TO BE ACTIVATED WITH THE PCMS RUNNING OR NOT. THE MYRIAD SAFETY BEAM IS DISTRIBUTED BY THE TRIPLEX GROUP. INC. P.O. BOX 428. NEW HOPE, PA. 18938. PHONE (215) 862–5077

AT THE DIRECTIONS OF THE ENGINEER THE PCMS MAY BE REMOVED FOR PERIODS OF TIMES NOT IN USE. NO PAYMENT WILL BE MADE FOR THESE TIMES (EX. WINTER MONTHS.)

PAYMENT:
THERE SHALL BE 3 CLASS I PCMS AT 6 MONTHS EACH.

ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN, 18 SIGN MONTHS.

DOUBLE FINES IN WORK ZONES SIGN

R–180–48 SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITIONS AND/OR REPLACED AS NECESSARY AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. SIGNS SHALL BE MOUNTED AT THE APPROPRIATE OFFSETS AND ELEVATIONS AS PRESCRIBED BY THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THEY SHALL BE MAINTAINED ON SUPPORTS MEETING CURRENT SAFETY CRITERIA.

THE SIGNS SHALL BE COVERED OR REMOVED WHEN THE CONSTRUCTION ZONE IS DISCONTINUED FOR 30 DAYS OR MORE.

THE SIGNS SHALL BE DUAL MOUNTED. THE FIRST SIGN SHALL BE PLACED BETWEEN THE "ROAD CONSTRUCTION AHEAD" (OW–128) SIGN AND THE NEXT SIGN IN THE SEQUENCE. SIGNS SHALL BE ERECTED ON EACH ENTRANCE RAMP AND IN THE THE MIDDLE OF EACH WORK ZONE ON INTERSTATE 271.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED BUT GOOD CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF 730.19 AND U.S. DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATION FOR TYPE III–C SHEETING, FP–85.

DOUBLE FINES IN WORK ZONES SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVAL OF THE SIGN AND SUPPORT.

AN ESTIMATED QUANTITY OF ITEM 614 CONSTRUCTION ZONE/ FINES DOUBLED SIGN 10 EACH HAS BEEN CARRIED TO THE GENERAL SUMMARY.

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHT TIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614– MAINTAINING TRAFFIC.

ITEM 614 – BARRIER REFLECTOR TYPE B AND OBJECT MARKER, ONE WAY

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIERS USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO ITEM 626 AN ESTIMATED QUANTITY OF 23 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE B, AND 23 EACH OF ITEM 614 OBJECT MARKER HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

PAYMENT FOR DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616–WATER – 100 M GAL

CALCULATED MAH
CHECKED BJT

MAINTENANCE OF TRAFFIC
GENERAL NOTES

CUY–271–6.04

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TEMPORARY TRAFFIC CONTROL MATERIALS

A. SIGNS

SIGN DIMENSIONS AND SPECIFICATIONS, INCLUDING LETTER SIZES, SHALL BE PROVIDED IN THE "MANUAL", OR IN SIGN DESIGN DRAWINGS PROVIDED BY THE DEPARTMENT OF TRANSPORTATION. THE SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER PRIOR TO THE START OF THE PROJECT.

ALL SIGNS SHALL HAVE A REFLECTORIZED BACKGROUND OF REFLECTIVE MATERIALS AS DESCRIBED IN THE "MANUAL".

B. SIGN SUPPORTS

TEMPORARY SIGN SUPPORTS SHALL BE AS SHOWN ON MT-105.10 AND MT-105.11.

C. DRUMS

DRUMS SHALL BE IN ACCORDANCE WITH PERTINENT SECTIONS OF THE OHIO MANUAL UNIFORM TRAFFIC CONTROL DEVICES. ALL PERMANENT LANE CLOSURES SHALL BE DELINEATED WITH DRUMS SPACED AT 20 FEET INTERVALS CENTER TO CENTER. ALL COSTS FOR INSTALLING, MAINTAINING AND SUBSEQUENT REMOVAL OF SAID DRUMS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

D. LIGHTING DEVICES

FLASHERS SHALL BE 12 VOLT BATTERY OPERATED MODELS WITH 7 INCH DIAMETER YELLOW LENSES ILLUMINATED BY RAPID INTERMITTENT FLASHES OF SHORT DURATION AND SHALL BE PLACED ON ALL SIGNS AT ALL TIMES.

E. FLASHING ARROW BARRICADE

WHENEVER ANY PART OF THE TRAVELED SURFACE IS CLOSED, THE MOTORIST SHALL BE WARNED AND DIVERTED BY THE CONTRACTOR THROUGH THE USE OF ONE FLASHING ARROW BARRICADE FOR EACH LANE CLOSED. THE CONTRACTOR SHALL REFER TO STANDARD DRAWINGS MT-35.10 AND THE PROVISION SET FORTH IN OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS FOR ALL INFORMATION REGARDING FURNISHING, MAINTAINING, AND USE OF FLASHING ARROW BARRICADES.

MAJOR WORK ITEMS

THE FOLLOWING MAJOR WORK ITEMS WILL REQUIRE TRAFFIC MAINTENANCE WHICH SHALL BE INCORPORATED INTO THE CONTRACTOR'S SEQUENCE OF OPERATIONS.

A. REPLACEMENT OF TOWER LIGHTING COMPONENTS (IF WITHIN CLOSE PROXIMITY TO THE TRAVELED PATH)
B. PLANE AND PAVE I-271
C. REPAIR OF CONCRETE PAVEMENT JOINTS AND PANELS, I-271
D. OVERLAY A PORTION OF I-271, SAW AND SEAL JOINTS
E. PAVEMENT MARKINGS
F. INSTALLATION OF GUARDRAIL

TEMPORARY PAVEMENT MARKINGS

TEMPORARY MARKINGS SHALL BE PLACED AT THE LOCATIONS OF THE PERMANENT MARKINGS AS SHOWN IN THE TRAFFIC CONTROL PLANS.

THIS ITEM SHALL BE USED AFTER THE OVERLAY IS PLACED AND FOR PLANED SURFACES AT THE END OF EVERY WORK DAY. THE ESTIMATED QUANTITIES FOR THIS WORK ARE SHOWN ON THE GENERAL SUMMARY.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY, TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM 614 - WORK ZONE EDGE LINE, CLASS I,
642 PAINT ..... 38 MILES

ITEM 614 - WORK ZONE LANE LINE, CLASS I,
642 PAINT ..... 41 MILES

ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I,
642 PAINT ..... 26,846 FEET

ITEM 614 - WORK ZONE STOP LINE, CLASS I,
624 PAINT ..... 234 FEET

ITEM 614 - WORK ZONE LANE ARROW, CLASS I,
642 PAINT ..... 24 EACH

ITEM 614 - WORK ZONE WORD ON PAVEMENT 96", CLASS I,
642 PAINT ..... 6 EACH

ITEM 614 - WORK ZONE CROSSWALK LINE, CLASS I,
624 PAINT ..... 926 FEET

ITEM 614 - WORK ZONE ISLAND MARKING, CLASS I,
..... 102 SQ. FEET

ITEM 614 - WORK ZONE TRANSVERSE LINE, CLASS I,
642 PAINT ..... 4918 FEET

ITEM 630 - SIGNING MSC.; ADDITIONAL SIGNS, GROUND MOUNTED, AS DIRECTED BY THE ENGINEER

WHEN ADDITIONAL SIGNING IS NEEDED TO MAINTAIN TRAFFIC THE CONTRACTOR SHALL FURNISH THE SIGN OR SIGNS AS DIRECTED BY THE ENGINEER. THESE SIGNS SHALL BE GROUNDED MOUNTED AND MEET ALL THE SPECIFICATIONS OF THE PLAN, PROPOSAL AND CURRENT YEAR CMS.

PAYMENT FOR THIS ITEM SHALL INCLUDE BUT NOT BE LIMITED TO THE COST TO FURNISH AND ERECT THE SIGN, INCLUDING DRIVE POSTS OR OTHER APPROVED METHODS OF SUPPORT, MAINTENANCE OF THE SIGN AND REMOVAL OF THE SIGN.

THE FOLLOWING QUANTITY SHALL BE CARRIED TO THE GENERAL SUMMARY:

ITEM 630 - SIGNING MISC.: ADDITIONAL SIGNS, GROUND MOUNTED, AS DIRECTED BY THE ENGINEER 400 SQ. FT.

GENERAL

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE THRU VEHICULAR ACCESS IN BOTH DIRECTIONS AT ALL TIMES THROUGHOUT THE PROJECT AREA. THE PROJECT SHALL BE CONSTRUCTED IN PHASES IN ORDER TO MINIMIZE TRAFFIC DISRUPTION AND INCONVENIENCE TO THE GENERAL PUBLIC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL EQUIPMENT, MATERIALS AND MANPOWER NEEDED TO ADEQUATELY MAINTAIN TRAFFIC AS PROVIDED FOR IN THE PLANS AND SPECIFICATIONS.

THE CONTRACTOR IS REMINDED THAT, IN THE CONDUCT OF THIS PROJECT, HIS SEQUENCE OF OPERATIONS SHALL BE PLANNED IN SUCH A WAY AS TO MINIMIZE THE NUMBER OF LANE REDUCTIONS AND/OR LANE WIDTH REDUCTIONS REQUIRED TO MAINTAIN TRAFFIC THROUGH THE PROJECT.

PERMITTED LANE CLOSURES SHALL BE AS SHOWN ON THE DISTRICT 12 WEBSITE. THE TIME LIMITS SHOWN ON THE WEB PAGE SHALL BE ADHERED TO OR LIQUIDATED DAMAGES WILL BE ASSESSED.

MAINTAINING VEHICULAR TRAFFIC

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER, THE RESPONSIBLE LAW ENFORCEMENT AGENCY AND THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 12 PUBLIC INFORMATION OFFICER (216) 584-2007 NOT LESS THAN TWENTY-FOUR (24) HOURS PRIOR TO A SCHEDULED DISRUPTION OF TRAFFIC.

2. NIGHTTIME WORK SHALL BE REQUIRED IN ACCORDANCE WITH THESE PLANS AND NOTES. THE CONTRACTOR SHALL PROVIDE FLOOD LIGHTING OF THE WORK AREA IN ORDER TO ASSURE THE SAFEST CONDITIONS DURING NIGHTTIME WORK. A LIGHTING PLAN FOR NIGHTTIME OPERATIONS SHALL BE PRESENTED TO AND APPROVED BY THE ENGINEER.

3. THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN ALL NEW WARNING AND INFORMATION SIGNS NECESSARY FOR MAINTAINING TRAFFIC. FOR WORK NOT SPECIFICALLY SHOWN IN THE MAINTENANCE OF TRAFFIC PLAN, THE CONTRACTOR SHALL DETERMINE WHAT SIGNS ARE NEEDED AND ADVISE THE ENGINEER TWO (2) WEEKS IN ADVANCE OF HIS DETAILED PLANS.

   SEE THE OMUTCD AND STANDARD DRAWINGS FOR THE MINIMUM SIGNAGE REQUIRED.

4. EXISTING SIGNS LOCATED WITHIN THE ROAD WORK AREAS WHICH ARE NECESSARY FOR THE INTERIM OR PERMANENT TRAFFIC CONTROL SHALL BE REMOVED AND REERECTED IN LOCATIONS AS APPROVED BY THE ENGINEER.

5. NO STOPPAGE OF TRAFFIC SHALL OCCUR WITHOUT LAW ENFORCEMENT PERSONNEL AT EACH LOCATION TO DIRECT TRAFFIC.

6. FOR ANY OPERATION NOT SPECIFICALLY MENTIONED IN THESE PLANS, THE TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES."

7. ALL LABOR, MATERIALS, EQUIPMENT AND ANY INCIDENTALS REQUIRED TO COMPLETE THE WORK AS DESCRIBED ABOVE AND NOT SPECIFICALLY ITEMIZED ELSEWHERE ON THE PLANS, SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC.

PROJECT PROGRESS MEETINGS

PROGRESS MEETINGS WILL BE HELD AS REQUIRED BY FIELD PERSONNEL AT THE PROJECT OFFICE, OR OTHER LOCATION DESIGNATED BY THE CONTRUCTION ENGINEER AND ATTENDED BY ODOT AND CONTRACTOR DECISION-MAKING PERSONNEL.

THE PURPOSE OF THESE MEETINGS WILL BE DISCUSS CRITICAL OPERATIONS AND POTENTIAL PROBLEMS. THE CONTRACTOR WILL CONFIRM THE NUMBER AND DURATION OF WORK SHIFTS, NUMBER OF WORK CREWS, AND SPECIFIC PORTIONS OF THE WORK TO BE PERFORMED DURING THE FOLLOWING WEEKS.

THESE MEETINGS CAN ONLY BE WAIVED BY THE CONSTRUCTION ENGINEER.

ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF THE CMS THIS ITEM SHALL BE USED TO:

PROVIDE TEMPORARY ASPHALT RAMPS FOR TRANSVERSE DISCONTINUTIES. RAMPING SHALL BE PLACED AT THE RATE OF 1" PER 25'. TEMPORARY ASPHALT RAMPS SHALL BE REMOVED AS PART OF THIS ITEM.

FILL EXISTING RUMBLE STRIP SURFACE TREATMENT ON SHOULDERS PRIOR TO SHIFTING TRAFFIC. TEMPORARY ASPHALT SHALL BE REMOVED AND THE RUMBLE STRIP RETURNED TO ITS PREVIOUS CONDITION AS PART OF THIS ITEM.

ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC, AS PER PLAN 300 CU YD.

MAINTENANCE OF TRAFFIC CONTROL ZONE - LIQUIDATED DAMAGES

THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN THE SIGNS, DRUMS AND TEMPORARY PAVEMENT MARKINGS AT THE LOCATIONS DETAILED IN THE PLANS OR SPECIFIED IN THE STANDARD DRAWINGS. WHEN THE CONTRACTOR IS NOTIFIED OF DEFICIENCIES HE SHALL CORRECT THE DEFICIENCIES AS SOON AS POSSIBLE, PREFERABLE WITHIN 12 HOURS AND NO LATER THAN 24 HOURS. IF ANY NOTED DEFICIENCIES ARE NOT CORRECTED WITHIN 24 HOURS THE ENGINEER SHALL DEDUCT ONE DAY PAY FOR ITEM 614 - MAINTAINING TRAFFIC, NOT AS A PENALTY BUT AS A LIQUIDATED DAMAGES FOR EACH AND EVERY DAY THAT THESE PROVISIONS ARE NOT MET. ALL COSTS FOR MAINTAINING THE WORK ZONES AS DESCRIBED ABOVE SHALL BE INCLUDED UNDER ITEM 614 - MAINTAINING TRAFFIC.

PLACING PORTABLE CONCRETE BARRIER

WHEN PLACING OR REMOVING PCB THE ADJACENT LANE SHALL BE CLOSED WHEN POSSIBLE.

NIGHT VEST

ALL OF THE CONTRACTORS AND SUBCONTRACTORS PERSONNEL WORKING DURING THE HOURS OF DARKNESS SHALL WEAR A 100% SILVER REFLECTIVE SAFETY VEST. THE SAFETY VEST SHALL BE PROVIDED BY THE CONTRACTOR. THE VEST MAY HAVE SEVERAL REFLECTIVE LIME OR ORANGE STRIPES ON IT. VEST THAT MEET ANSI CLASS II WILL BE ACCEPTABLE.

RAMP CLOSURES FOR REPAIRS OR RESURFACING

THE CONTRACTOR MAY CLOSE ONE RAMP AT A TIME FOR REPAIRS OR RESURFACING. THE CLOSURES SHALL BE LIMITED TO THE HOURS SHOWN IN THE TABLE BELOW. THE MOTORING PUBLIC SHALL BE GIVEN ADVANCE WARNING OF CLOSURES AT LEAST 72 HOURS IN ADVANCE THROUGH THE USE OF EITHER A GROUND MOUNTED FLAT SHEET SIGN OR A PORTABLE CHANGEABLE MESSAGE SIGN. A LEO WITH PATROL CAR (PAID FOR SEPARATELY) SHALL BE USED FOR EACH RAMP CLOSURE AND BE PRESENT FOR THE ENTIRE CLOSURE TIME.

FREEWAY ENTRANCE RAMPS SHALL BE CLOSED WITH A PCMS SUGGESTING A RECOMMENDED DETOUR.

FREEWAY EXIT RAMPS SHALL BE CLOSED WITH A PCMS ROUTING TRAFFIC TO THE NEXT EXIT AND A SECOND PCMS INDICATING A U-TURN AT THE EXIT (UNLESS DIRECTED DIFFERENTLY BY THE ENGINEER). SEE SHEET 15 FOR RAMP CLOSURE DETAIL.

THE CONTRACTOR SHALL TURN IN A TRAFFIC MANAGEMENT PLAN FOR RAMP CLOSURES. THIS WILL BE A SKETCH OF DETOUR SIGNS, RAMPS TO CLOSE, PCM LOCATIONS AND MESSAGES. THE TRAFFIC MANAGEMENT PLAN WILL BE REQUIRED TO BE APPROVED BY THE ENGINEER, PRIOR TO IMPLEMENTATION IN THE FIELD BY THE CONTRACTOR.

FOR RAMP CLOSURES ONE OR TWO ADDITIONAL PCMS UNITS WILL BE NEEDED AS DESCRIBED ABOVE. THESE WILL BE IN ADDITION TO THE PCMS UNITS SPECIFIED IN THE PLANS AND SHALL BE PAID FOR BY THE CONTRACTOR.

ALLOWABLE RAMP CLOSURE TIMES

DAY	SUN - THURS	FRI	SAT	SUN
TIME	10PM TO 6AM	NO CLOSURE	12AM TO 8AM	12AM TO 9AM

CALCULATED MAH | CHECKED BJT

MAINTENANCE OF TRAFFIC
GENERAL NOTES

CUY-271-6.04

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PUBLIC SAFETY

THE FOLLOWING PROVISIONS "A", "B", AND "C" SHALL APPLY WHEN THE LANE ADJACENT TO THE GUARDRAIL IS OPEN TO TRAFFIC:

THE PERIOD OF THE TIME THAT A HAZARD IS LEFT UNPROTECTED BY THE REMOVAL OF GUARDRAIL SHALL BE HELD TO AN ABSOLUTE MINIMUM AND IN NO CASE SHALL SUCH A PERIOD BE LONGER THAN ONE WORKING DAY. IF, AFTER ONE DAY, THE ENTIRE RUN OF GUARDRAIL CONSTRUCTION IS NOT COMPLETE THE FOLLOWING SHALL APPLY:

A. IN AREAS WHERE EXISTING GUARDRAIL HAS BEEN REMOVED OR THE GUARDRAIL IS IN A PARTIAL STAGE OF COMPLETION. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TYPE II BARRICADES WITH TYPE C (STEADY BURNING) WARNING LIGHTS WITHIN THE LIMITS OF THE UNPROTECTED AREA. THE BARRICADES SHALL BE PLACED AT 20' INTERVALS AND OFFSET AT LEAST TWO FEET FROM THE EDGE OF THE TRAVELED ROADWAY AND IN CLOSE PROXIMITY TO THE CONSTRUCTION. THE APPROACH END OF A PARTIALLY COMPLETED RUN OF GUARDRAIL SHALL BE FASTENED AT GROUND LEVEL TO A STEEL DRUM.

B. IF THE EXISTING GUARDRAIL IS FOR THE PROTECTION OF AN OBSTACLE (I.E. SIGN SUPPORT, BRIDGE PARAPET, ETC.) THE CONTRACTOR SHALL ERECT PORTABLE CONCRETE BARRIER IN THE DIRECTION OF TRAFFIC. THE REQUIREMENTS OF PARAGRAPH "A" SHALL APPLY TO THE REMAINING GUARDRAIL WITHIN THE RUN. TEMPORARY BARRIER SHALL BE FLARED AT A 20:1 (MINIMUM) TAPER RATE AND SHALL INCLUDE A TEMPORARY IMPACT ATTENUATOR.

C. THE REQUIREMENTS STATED IN "A" SHALL APPLY FOR A PERIOD NOT TO EXCEED ONE WEEK. WHERE THE REBUILDING OR CONSTRUCTIONS OF ANY RUN OF GUARDRAIL CANNOT BE ACCOMPLISHED WITHIN ONE WEEK, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN A TEMPORARY CONCRETE BARRIER IN THE INTERIM TIME IT TAKES TO COMPLETE THE WORK (SEE DETAIL BELOW). THE APPROACH END OF THE PORTABLE CONCRETE BARRIER SHALL BE FLARED TO THE OUTER EDGE OF THE PAVED SHOULDER AND SHALL INCLUDE A TEMPORARY END TERMINAL AS PER RM-4.2. IN ADDITION, A TYPE II BARRICADE WITH TYPE B (HIGH INTENSITY FLASHER) WARNING LIGHT SHALL BE PLACED IN FRONT OF THIS INITIAL SECTION OF TEMPORARY BARRIERS TO PROVIDE FOREWARNING TO THE APPROACHING TRAFFIC.

D. TEMPORARY CONCRETE BARRIER IS NOT REQUIRED TO SEPARATE OPPOSING TRAFFIC WHEN THE MEDIAN BARRIER IS REMOVED PROVIDED THAT BOTH MEDIAN LANES REMAIN CLOSED UNTIL THE NEW MEDIAN BARRIER IS IN PLACE. FOR HAZARDS WITHIN THESE ZONE, PARAGRAPHS A, B, AND C, ABOVE STILL APPLY.

WHEN THE LANE ADJACENT TO THE GUARDRAIL IS CLOSED TO TRAFFIC THE PROVISIONS OF PARAGRAPH "A" ABOVE SHALL APPLY AFTER 1 DAY. THE PROVISIONS OF PARAGRAPH "B" ABOVE SHALL APPLY AFTER 10 DAYS, AND THE PROVISIONS OF PARAGRAPH "C" ABOVE SHALL APPLY.

THE TERM "GUARDRAIL" AS USED HEREIN SHALL BE UNDERSTOOD TO COVER ALL TYPES OF GUARDRAIL, EXISTING OR PROPOSED FOR THE PROJECT INCLUDING BARRIER DESIGN GUARDRAIL, BRIDGE WINGWALL PARAPETS, AND CONCRETE BARRIER.

THE COSTS OF COMPLYING WITH THESE SAFETY PROCEDURES SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC.

TEMPORARY CONCRETE BARRIER (PUBLIC SAFETY)

TEMPORARY CONCRETE BARRIER SECTIONS (10 FT. LONG) AS REQUIRED BY THE PUBLIC SAFETY NOTE SHALL BE SUPPLIED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LOADING, UNLOADING AND TRANSPORTATION OF THE BARRIER.

THE BARRIER SECTIONS SHALL BE BOLTED TOGETHER WITH STEEL CONNECTIONS AS PER STANDARDS CONSTRUCTION DRAWING RM-4.2.

ALL COSTS FOR FURNISHING, INSTALLATION, REINSTALLING AND SUBSEQUENT REMOVING TEMPORARY CONCRETE BARRIER AS DESCRIBED UNDER PUBLIC SAFETY WILL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 622 - PORTABLE CONCRETE BARRIER, 50".

ITEM 614 - 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 TO THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED BUT GOOD CONDITION SUBJECT TO APPROVAL BY THE ENGINEER

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER SQUARE FOOT FOR ITEM 614, 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 100 SQUARE FEET HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614 - 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 614, 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.

AND ESTIMATED QUANTITY OF 20 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614 - WORK ZONE IMPACT ATTENUATOR, (UNIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING IMPACT ATTENUATORS:

1. THE QUADGUARD CZ, (610 MM WIDE 6-BAY) TEMPORARY IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., ONE EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

   THE LENGTH OF THE 6-BAY QUADGUARD CZ IS 20.75 FT. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG NO.	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
QSCZCVR-T4	QUADGUARD CZ SYSTEM FOR CONSTRUCTION ZONES	5/13/99 REV. J	8/27/99
35-40-10	QUADGUARD SYSTEM CONCRETE PAD, CZ, QG	11/19/97 REV. D	8/27/99
35-40-16	QUADGUARD SYSTEM BACKUP ASSEMBLY, CZ, QG,	7/30/99 REV. F	8/27/99
354051Z	QUADGUARD CZ SYSTEM NOSE ASSEMBLY, CZ, QG, 24, 30, 36	5/17/99	8/27/99
35-40-18	TRANSITION ASSEMBLY, 4 OFFSET, QG	6/25/99 REV. F	8/27/99
3540260	QUADGUARD SYSTEM PCMB ANCHOR ASSEMBLY	11/19/97 REV. C	8/27/99

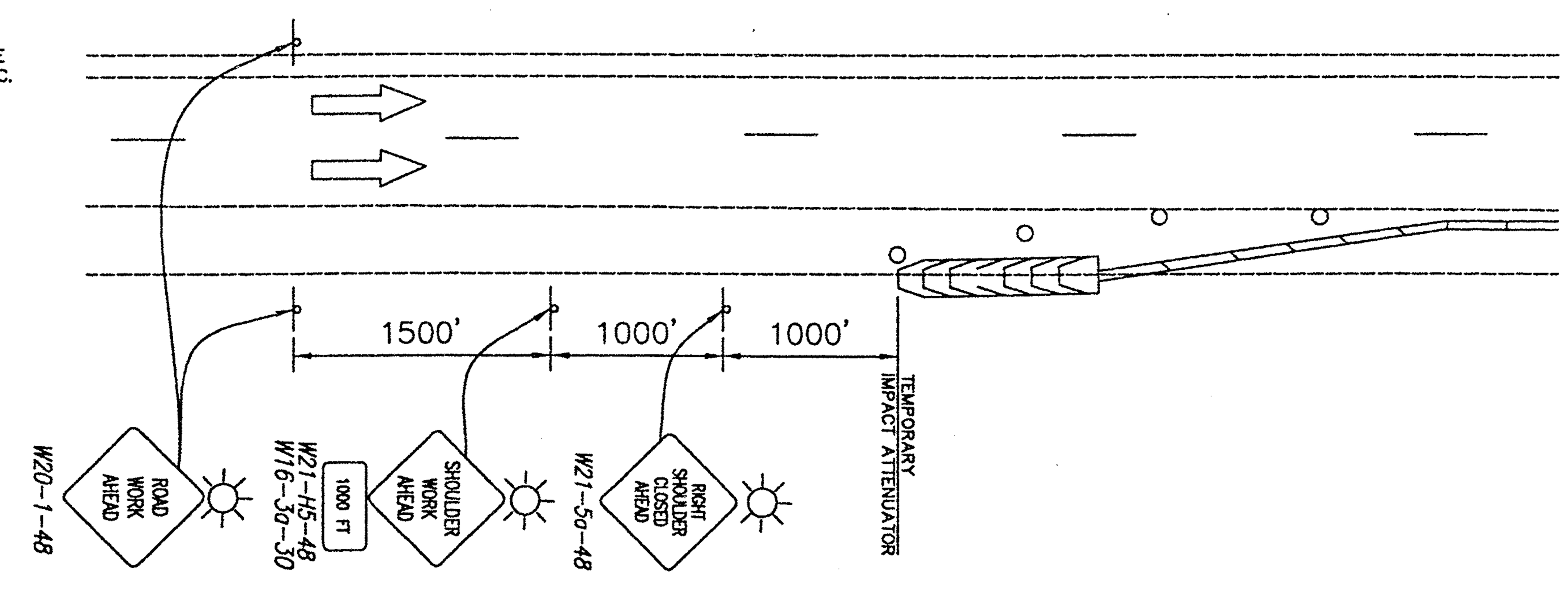
2. THE TRACC (TRINITY ATTENUATING CRASH CUSHION) MANUFACTURED BY SYRO INC., 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

   THE TRACC IS 21 FT LONG AND 2.62 FT WIDE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

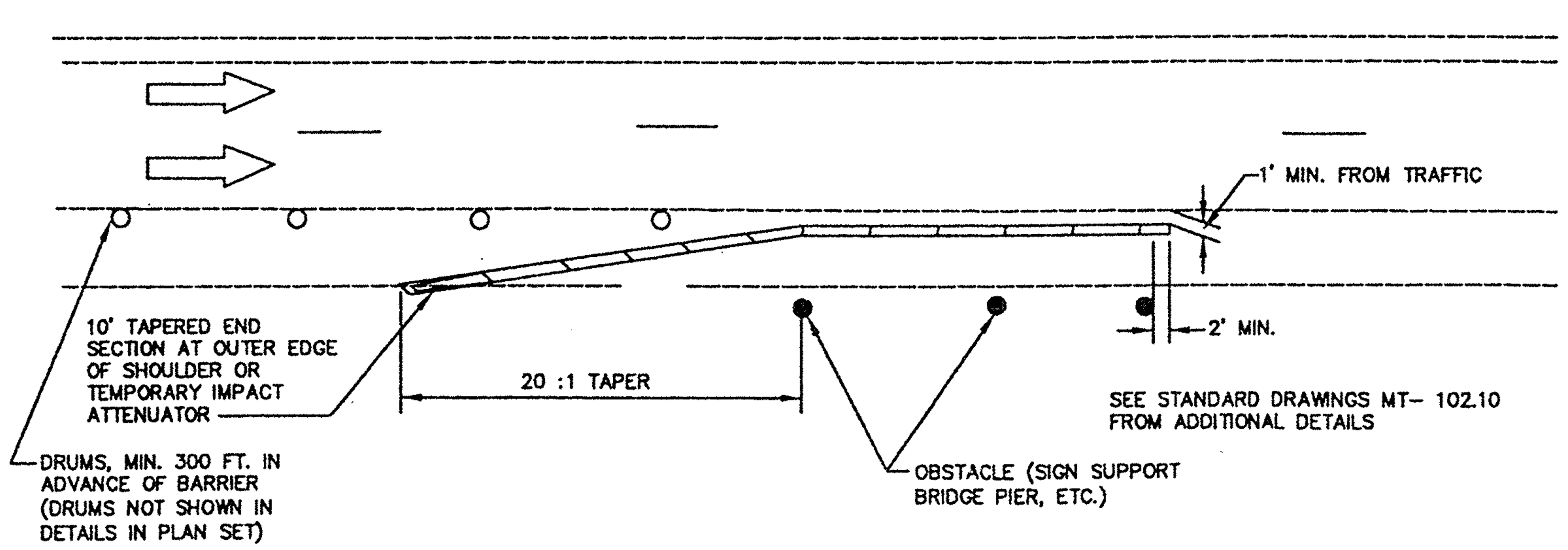
DWG NO.	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS450M	CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS	3/12/99 REV. 1	8/27/99
SS455	TRACC TRANSITION TO W-BEAM MEDIAN BARRIER PLAN, ELEVATION & SECTIONS	2/18/99	8/27/99
SS461	TRACC TRANSITION TO CONCRETE SAFETY SHAPE BARRIER PLAN, ELEVATION & SECTIONS	6/30/99 REV. 1	8/27/99
SS462	TRACC TRANSITION TO CONCRETE BARRIER SINGLE SLOPE PLAN, ELEVATION & SECTIONS	6/30/99	8/27/99

THE CONTRACTOR SHALL PROVIDE A REPLACEMENT UNIT WHEN AN IMPACT IS SEVERE ENOUGH TO REQUIRE COMPLETE REPLACEMENT OF THE ATTENUATOR. THE CONTRACTOR SHALL HAVE A SPARE PARTS PACKAGE AVAILABLE ON THE PROJECT SITE AT ALL TIMES WHEN AN ATTENUATOR IS IN PLACE. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF ONE COMPLETE SPARE PARTS PACKAGE FOR EVERY 1 TO 6 UNITS INSTALLED ON THE PROJECT SITE. FOR EXAMPLE, 5 INSTALLED UNITS REQUIRE 1 SPARE PARTS PACKAGE AND 7 INSTALLED UNITS REQUIRE 2 SPARE PARTS PACKAGES.

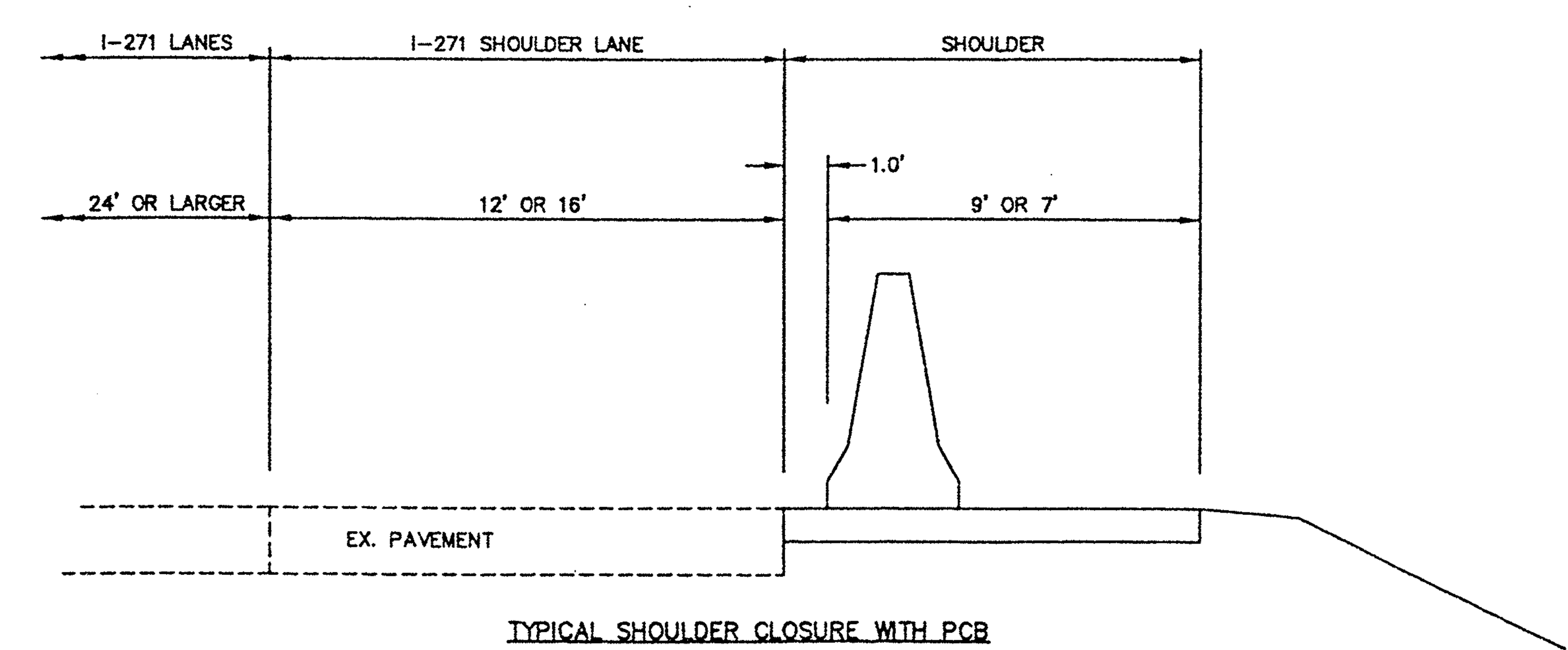
PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 614, TEMPORARY IMPACT ATTENUATOR, (UNIDIRECTIONAL), EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT, MAINTAIN, REPAIR, REPLACE OR RELOCATE A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.



TYPICAL SHOULDER CLOSURE ON FREEWAY



PORTABLE CONCRETE BARRIER AT HAZARDS
SEE PUBLIC SAFETY NOTE FOR REQUIRED USE



TYPICAL SHOULDER CLOSURE WITH PCB

CALCULATED MAH
CHECKED BJT

MAINTENANCE OF TRAFFIC
GENERAL NOTES

CUY-271-6.04

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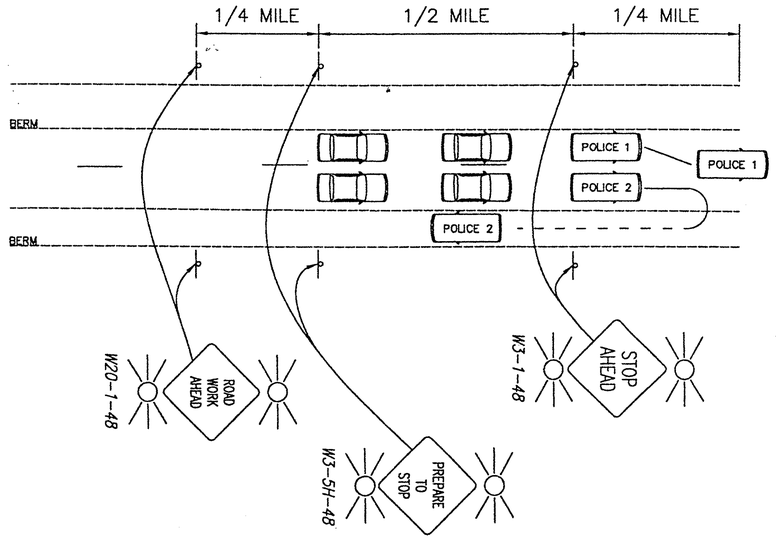
STOPPING TRAFFIC ON FREEWAY

REMOVAL OF THE EXISTING SPANS AND REERECTION OF THE NEW SPANS, OR ANY STEEL ERECTION SHALL REQUIRE COMPLETE TRAFFIC STOPPAGE ON ALL LANES ON THE EXPRESS LANES OR LOCAL LANES IN ANY GIVEN DIRECTION. THIS SHALL BE COMPLETED IN SUCH A WAY THAT NO DIRECTION IS CLOSED MORE THAN 10 MINUTES IN ANY ONE CONSECUTIVE 30 MINUTE PERIOD. AT NO TIME SHALL TRAFFIC BE RESTRICTED FROM PASSAGE IN BOTH EXPRESS LANES AND LOCAL LANES IN ONE DIRECTION. A MINIMUM OF TWO (2) LAW ENFORCEMENT PATROL VEHICLES SHALL BE USED TO PACE MOTORIST TO A STOP. AFTER TRAFFIC HAS BEEN SLOWED, ONE (1) PATROL VEHICLE SHALL TRAVEL ALONG THE ROADWAY SHOULDER 500 FEET BEHIND THE BACK OF STOPPED VEHICLES. WHERE STOPPAGE OCCURS IN THE VICINITY OF A FREEWAY ENTRANCE, THE CONTRACTOR SHALL PLACE FLAGGERS ON THE RAMP TO STOP TRAFFIC. THE CONTRACTOR SHALL ERECT AND MAINTAIN "ROADWORK AHEAD", "PREPARE TO STOP", AND "STOP AHEAD" SIGNING WITH FLASHING TWELVE INCH (12") TRAFFIC SIGNAL HEADS IN ACCORDANCE WITH 832.05. THESE SIGNS SHALL BE ILLUMINATED DURING NIGHT OPERATIONS. STOPPAGE OF I-271 TRAFFIC SHALL ONLY BE PERMITTED DURING THE DESIGNATED TO LANE CLOSURE PERIODS. ANYTIME A COMPLETE STOPPAGE OF TRAFFIC ON THE FREEWAY IN ANY GIVEN DIRECTION IS REQUIRED, THE ABOVE PROCEDURE SHALL BE USED. IN ADDITION, A PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE USED TO WARN MOTORISTS OF THE STOPPED CONDITION.

THE PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE CLASS I OR II AND BE ON THE APPROVED LIST MAINTAINED BY THE DIRECTOR. THE COST OF THE PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE INCLUDED IN ITEM 614 MAINTAINING TRAFFIC LUMP SUM.

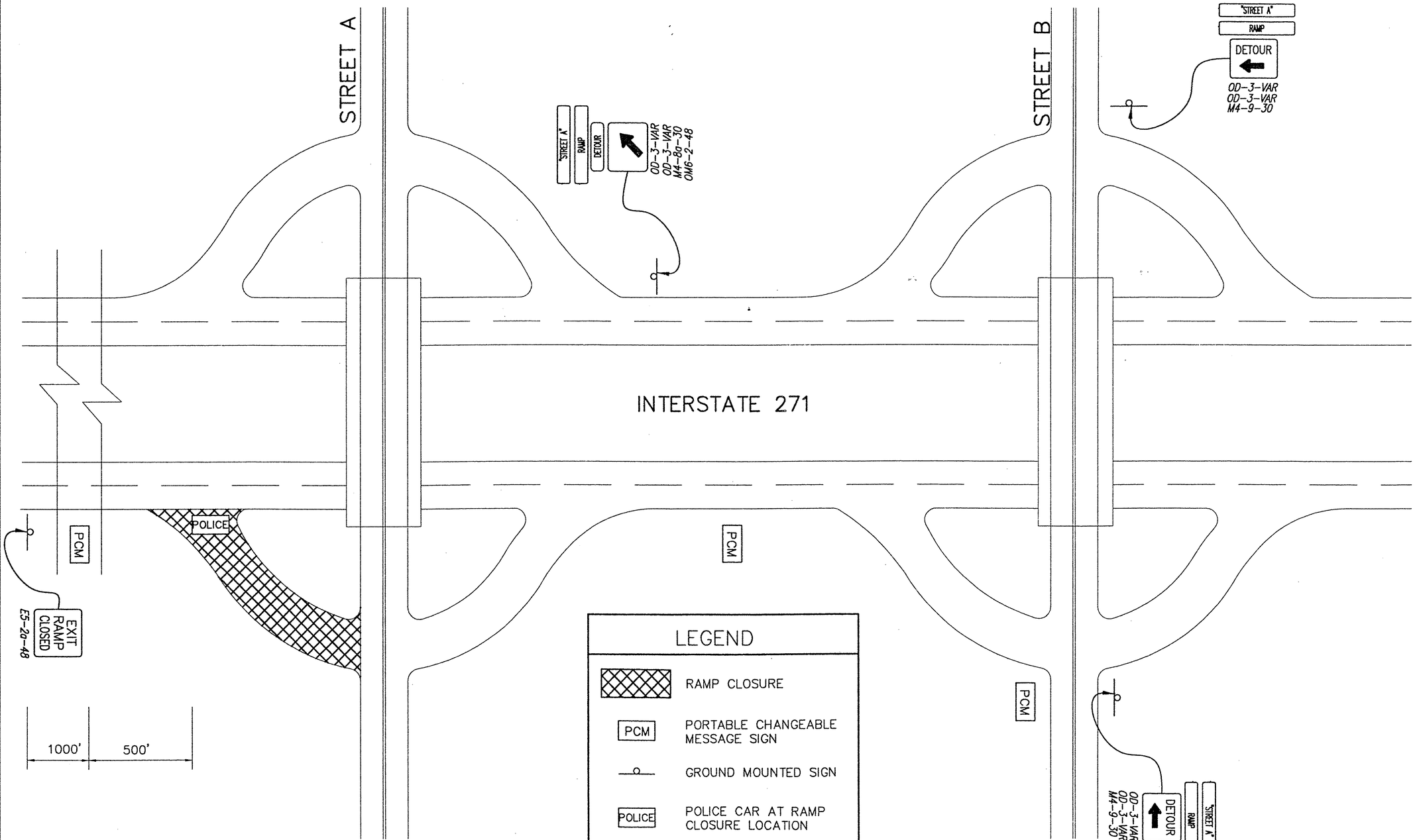


CALCULATED MAH
CHECKED BJT

MAINTENANCE OF TRAFFIC
GENERAL NOTES

CUY-271-6.04

Cad File: G:\DIVL\2001118\TRAFFIC\DWG\129084M1.DWG
Date: 10-11-04 Time: 10:57 AM TW = 0d0'0.00"



NOT TO SCALE

CALCULATED MAH
CHECKED BJT

RAMP CLOSURE DETAIL

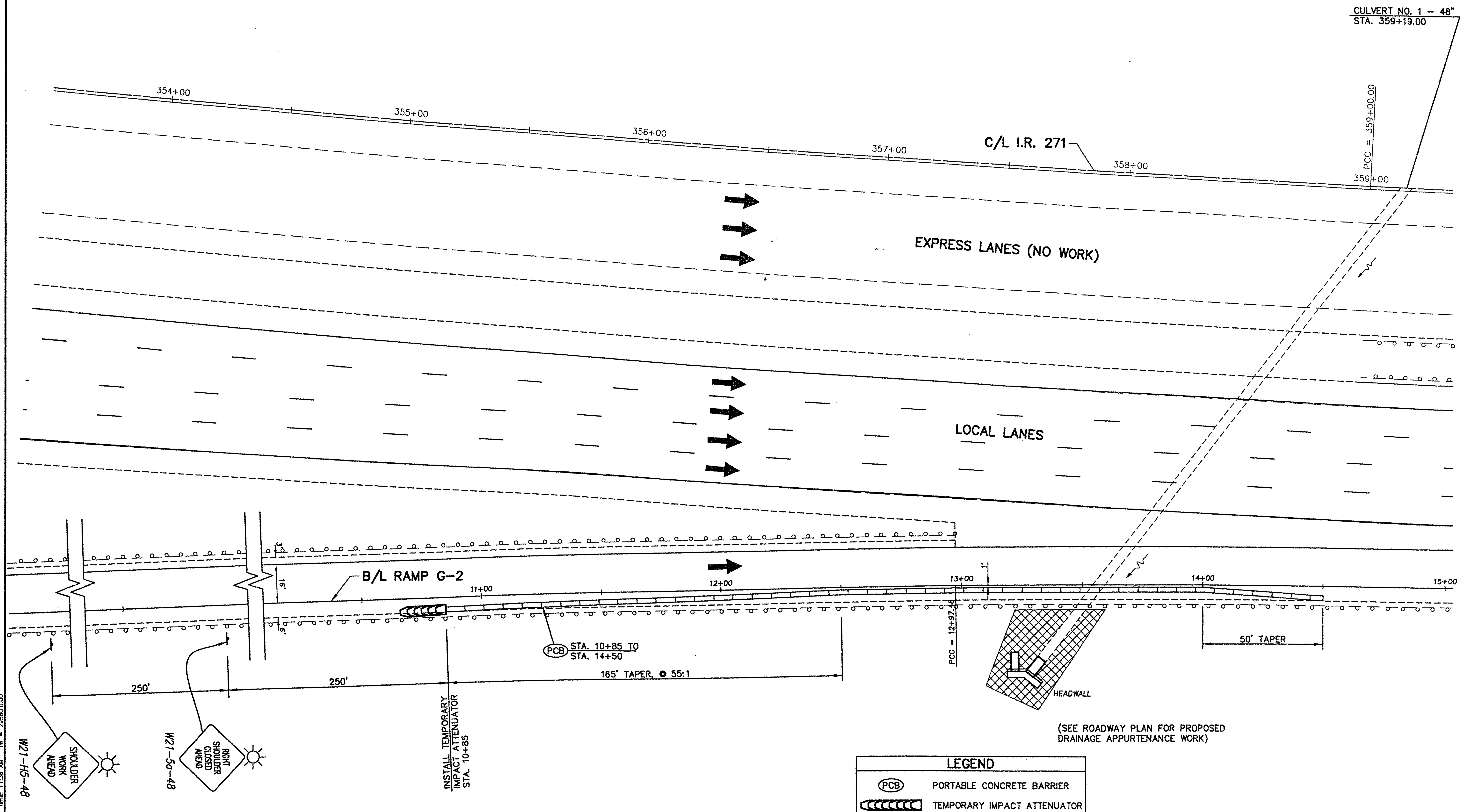
CUY-271-6.04

Cad File: G:\CIVIL\2001118\TRAFFIC\DWG\RAMP CLOSURE DETAIL.DWG
Date: 10-11-04 Time: 11:30 AM TW = 0.0070.00"

NOTES

1. PCB SHALL REMAIN IN PLACE UNTIL ALL EXCAVATION, PIPE REPLACEMENT AND HEADWALL REPLACEMENT IS COMPLETE.
2. THE CONTRACTOR SHALL TAKE THE APPROPRIATE MEASURES TO ENSURE THE STABILITY OF THE ROADWAY EMBANKMENT DURING ANY EXCAVATION WORK.

QUANTITIES CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY	
ITEM 614 – WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	1 EACH
ITEM 622 – PORTABLE CONCRETE BARRIER, 50"	370 FT.



(SEE ROADWAY PLAN FOR PROPOSED DRAINAGE APPURTENANCE WORK)

LEGEND	
PCB	PORTABLE CONCRETE BARRIER
(symbol)	TEMPORARY IMPACT ATTENUATOR
(hatch)	WORK AREA

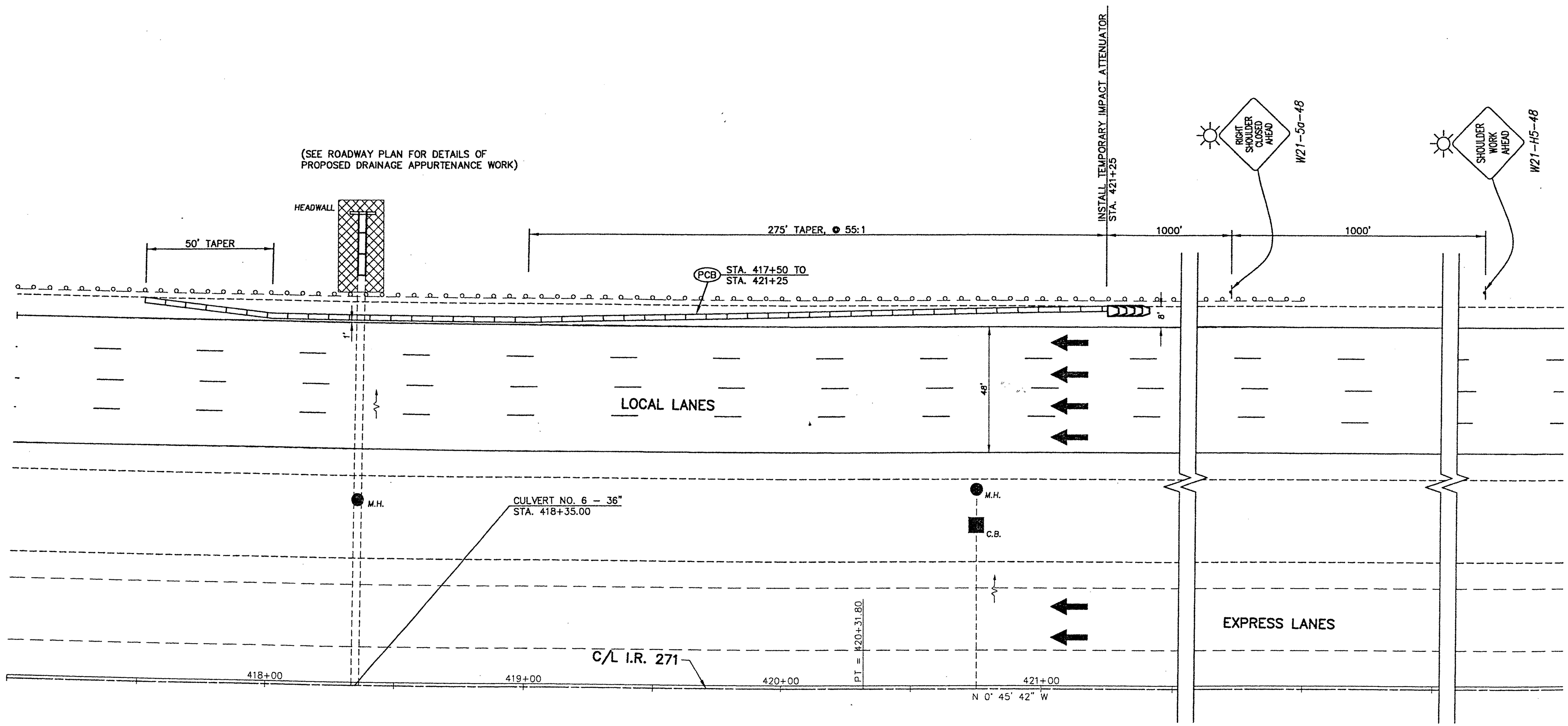
HORIZONTAL SCALE IN FEET: 0 10 20 40

CALCULATED MAH | CHECKED BJT

MAINTENANCE OF TRAFFIC
CULVERT 1 – SOUTH SIDE, PHASE I

CUY-271-6.04

Cad File: C:\CIVIL\2001118\TRAFFIC\DWG\129896MPA2.DWG
Date: 10-11-04 Time: 11:35 AM TW = 295d0'0.00"



QUANTITIES CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY	
ITEM 614 – WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	1 EACH
ITEM 622 – PORTABLE CONCRETE BARRIER, 50"	380 FT.

LEGEND

- (PCB) PORTABLE CONCRETE BARRIER
- TEMPORARY IMPACT ATTENUATOR
- WORK AREA

NOTES

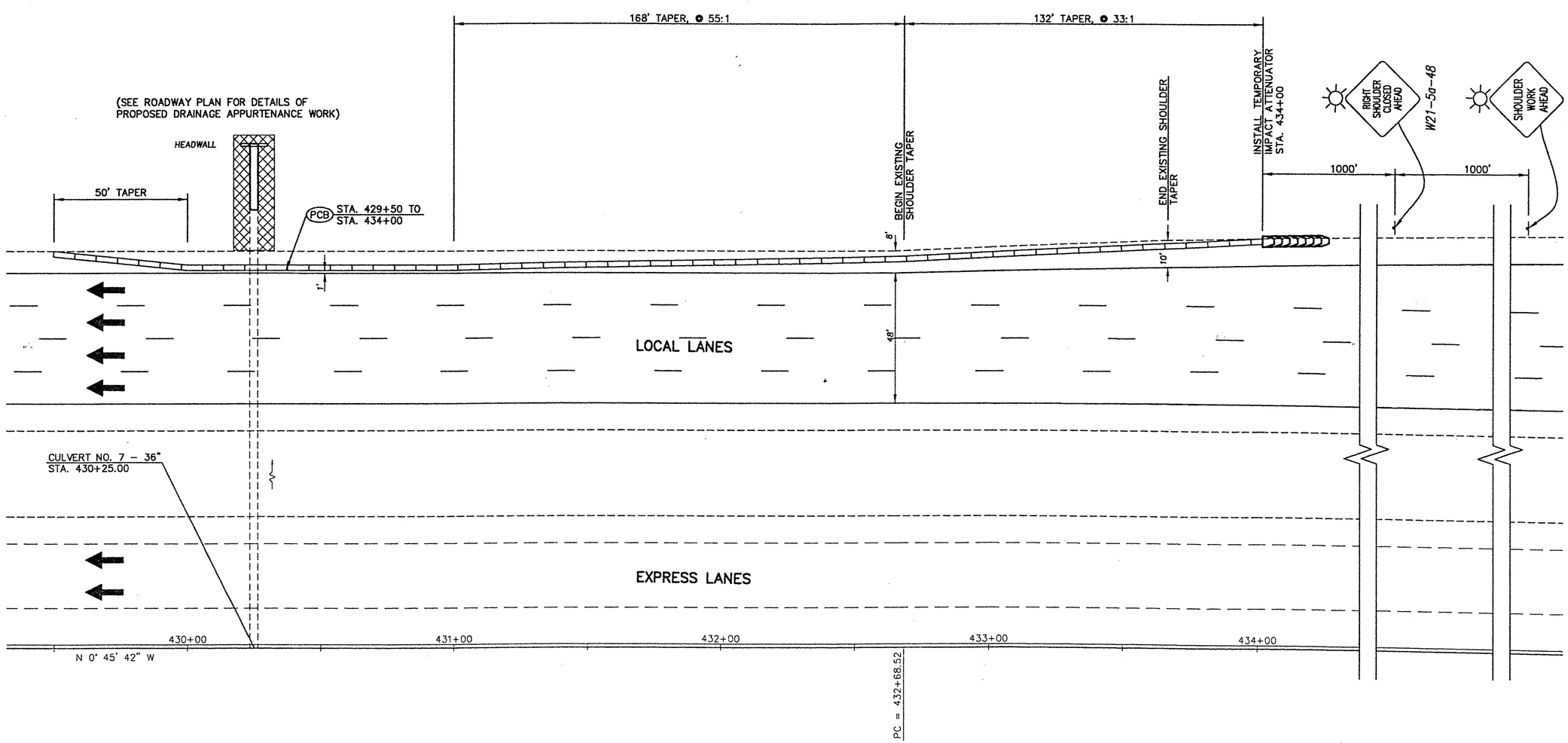
1. PCB SHALL REMAIN IN PLACE UNTIL ALL EXCAVATION, PIPE REPLACEMENT AND HEADWALL REPLACEMENT IS COMPLETE.
2. THE CONTRACTOR SHALL TAKE THE APPROPRIATE MEASURES TO ENSURE THE STABILITY OF THE ROADWAY EMBANKMENT DURING ANY EXCAVATION WORK.

MAINTENANCE OF TRAFFIC
CULVERT 6 – WEST SIDE, PHASE I

HORIZONTAL SCALE IN FEET: 0 10 20 40

CALCULATED MAH
CHECKED BJT

CUY-271-6.04



LEGEND	
PCB	PORTABLE CONCRETE BARRIER
	TEMPORARY IMPACT ATTENUATOR
	WORK AREA

QUANTITIES CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY

ITEM 614 – WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	1 EACH
ITEM 622 – PORTABLE CONCRETE BARRIER, 50"	450 FT.

NOTES

1. PCB SHALL REMAIN IN PLACE UNTIL ALL EXCAVATION, PIPE REPLACEMENT AND HEADWALL REPLACEMENT IS COMPLETE.
2. THE CONTRACTOR SHALL TAKE THE APPROPRIATE MEASURES TO ENSURE THE STABILITY OF THE ROADWAY EMBANKMENT DURING ANY EXCAVATION WORK.

HORIZONTAL SCALE IN FEET
0 10 20 40

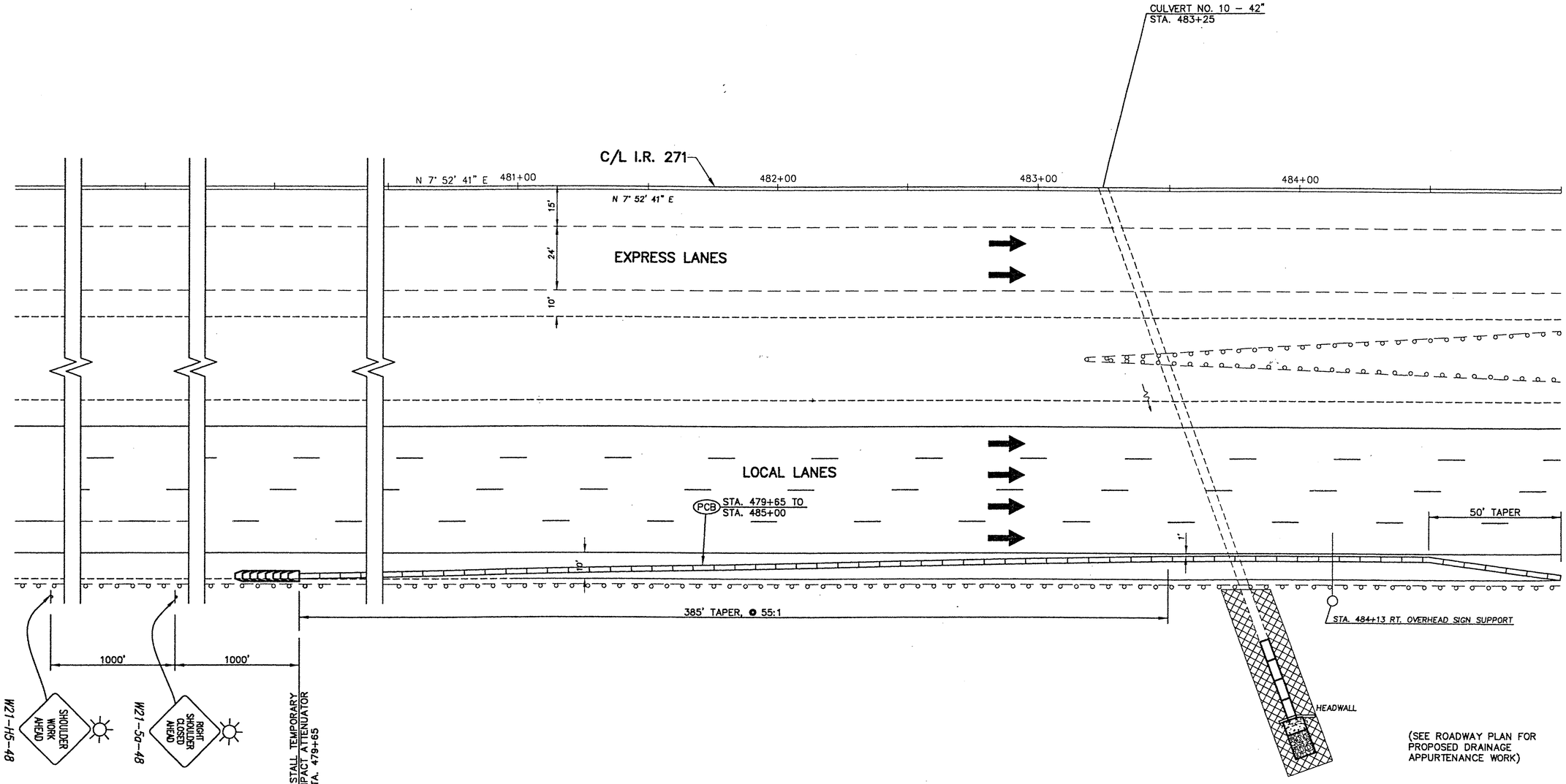
CALCULATED MAH
CHECKED BJT

MAINTENANCE OF TRAFFIC
CULVERT 7 – WEST SIDE, PHASE I

CUY-271-6.04

25
142

Cad File: C:\CIVIL\2001118\TRAFFIC\DWG\12996MPC.DWG
Date: 10-11-04 Time: 11:43 AM TW = 289d14'18.00"



NOTES

1. PCB SHALL REMAIN IN PLACE UNTIL ALL EXCAVATION, PIPE REPLACEMENT AND HEADWALL REPLACEMENT IS COMPLETE.
2. THE CONTRACTOR SHALL TAKE THE APPROPRIATE MEASURES TO ENSURE THE STABILITY OF THE ROADWAY EMBANKMENT SURING ANY EXCAVATION WORK.
3. THE CONTRACTOR SHALL EXCERCISE EXTREME CAUTION WHILE WORKING NEAR THE OVERHEAD SIGN SUPPORT AT STATION 484+13, RT.

LEGEND

(PCB)	PORTABLE CONCRETE BARRIER
	TEMPORARY IMPACT ATTENUATOR
	WORK AREA

QUANTITIES CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY

ITEM 614 – WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	1 EACH
ITEM 622 – PORTABLE CONCRETE BARRIER, 50"	540 FT.

N

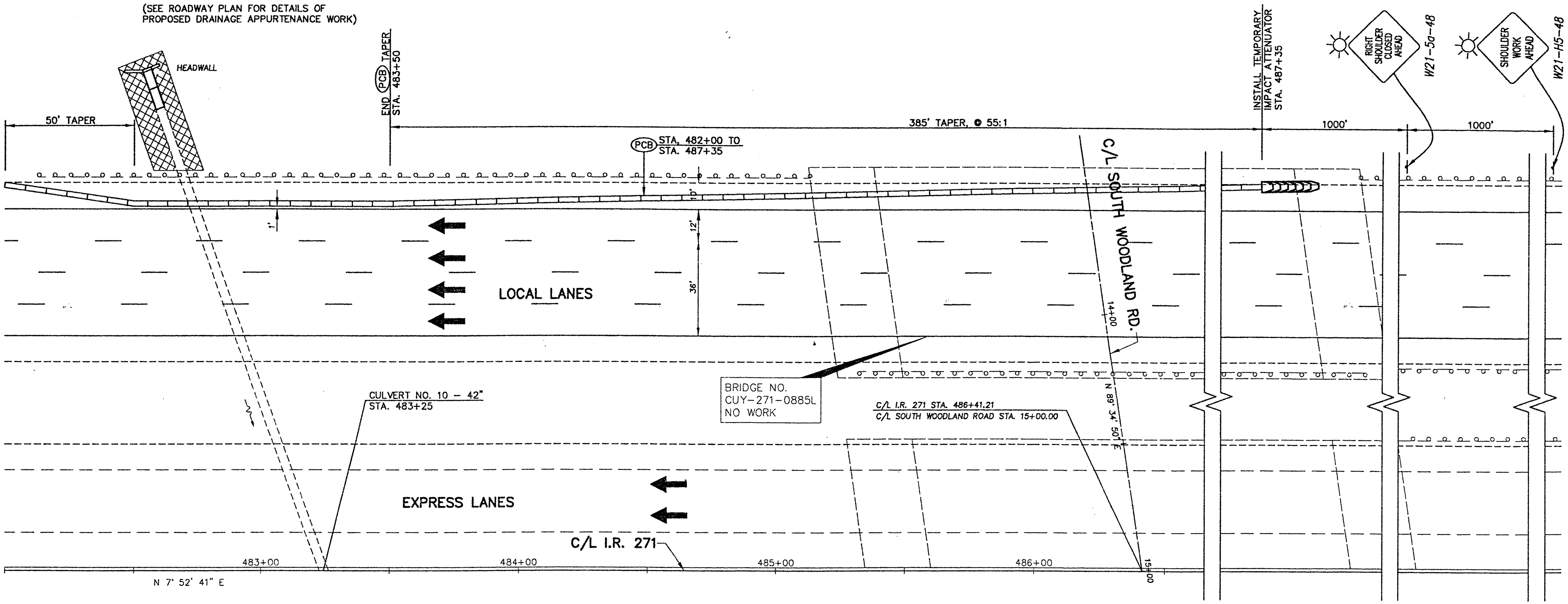
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MAH
CHECKED BJT

MAINTENANCE OF TRAFFIC
CULVERT 10 – EAST SIDE, PHASE I

CUY–271–6.04

Cad File: G:\DWG\2001118\TRAFFIC\DWG\129984MPE2.DWG
Date: 10-11-04 Time: 11:44 AM TM = 2726527.40.65"



QUANTITIES CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY	
ITEM 614 – WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	1 EACH
ITEM 622 – PORTABLE CONCRETE BARRIER, 50"	540 FT.

LEGEND

- (PCB) PORTABLE CONCRETE BARRIER
- TEMPORARY IMPACT ATTENUATOR
- WORK AREA

NOTES

1. PCB SHALL REMAIN IN PLACE UNTIL ALL EXCAVATION, PIPE REPLACEMENT AND HEADWALL REPLACEMENT IS COMPLETE.
2. THE CONTRACTOR SHALL TAKE THE APPROPRIATE MEASURES TO ENSURE THE STABILITY OF THE ROADWAY EMBANKMENT DURING ANY EXCAVATION WORK.

CALCULATED MAH
CHECKED BJT

MAINTENANCE OF TRAFFIC
CULVERT 10 – WEST SIDE, PHASE I

CUY-271-6.04

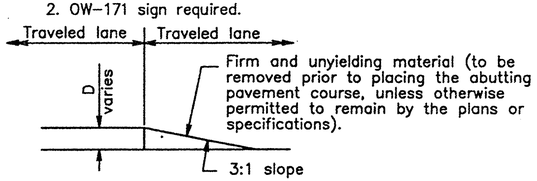
Cad File: G:\CIVIL\2001118\TRAFFIC\DWG\12996MPE1.DWG
Date: 10-11-04 Time: 11:45 AM TW = 277d52'40.85"

GENERAL NOTES

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

OPTIONAL WEDGE TREATMENT
(MILLING OR RESURFACING)

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

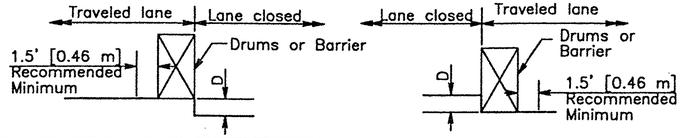


CONDITION I
DROP–OFFS BETWEEN TRAVELED LANES

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

D	Treatment
≤1 ½" [≤40]	Erect OW–171 sign.
1 ½"–3" [40–75]	1) Lane closure utilizing drums* as shown below OR 2) Optional Wedge Treatment
>3"–5" [>75–125]	Lane closure utilizing drums as shown below.
>5" [>125]	Lane closure utilizing portable concrete barrier as shown below.

* Cones may be used for daytime only conditions.

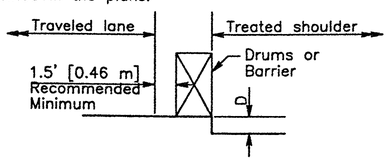


CONDITION II
DROP–OFFS WITHIN GRADED SHOULDER AREA

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

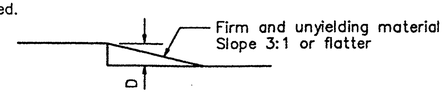
D	Treatment
≤1 ½" [≤40]	1) Erect OW–155 signs.
>1 ½"–5" [>40–125]	1) If minimum lane width* requirements can be met, maintain lanes utilizing drums as shown below OR 2) If minimum. lane width* requirements cannot be met, close adjacent lane utilizing drums OR 3) Optional Shoulder Treatment.
>5"–12" [125–305] Daylight only	If minimum lane width* requirements can be met, maintain lanes utilizing drums as shown below.
>5"–24" [>125–610]	1) If minimum lane width* requirements can be met, maintain lanes utilizing portable concrete barrier as shown below. OR 2) If minimum lane width* requirements cannot be met, close adjacent lane utilizing drums.
>24" [>610]	Lane closure utilizing portable concrete barrier as shown below.

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



OPTIONAL SHOULDER TREATMENT

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

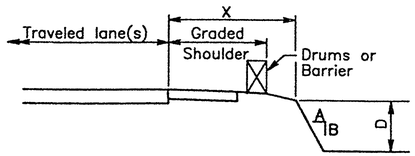


CONDITION III
DROP–OFFS BEYOND GRADED SHOULDER OR BACK OF CURB

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

CHART A

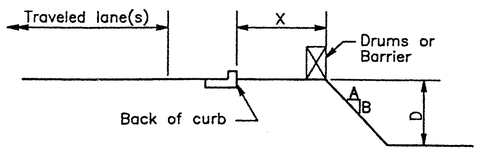
USE FOR:
1. Uncurbed Facilities.
2. Curbed Facilities, where:
   a. Curbs are less than 6" [150] in height.
   b. Curbs are 6" [150] or greater in height and the legal speed is greater than 40 mph [70 km/h].



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

CHART B

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



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

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

08–07–01

DROPOFFS IN WORK ZONES

OFFICE OF TRAFFIC ENGINEERING

CUY–271–6.04

G:\Cad\2001118\Traffic\dwg\2010192.dwg

ITEM				202	202	203	203	209	601	601		604	604		604	604	604		604	604		604				670
SHEET NO.	REFERENCE NO.	STATION AND OFFSET	EXISTING APPURTENANCE TYPE	SPECIAL - PIPE CLEANOUT	REMOVAL MISC.: RIPRAP SLAB REMOVED	EXCAVATION	EMBANKMENT	DITCH CLEANOUT	RIPRAP USING 6" REINFORCED CONCRETE SLAB	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER		CATCH BASIN MISC.: CLEAN OFF APRON	CATCH BASIN MISC.: CLEAN OFF GRATE		CATCH BASIN MISC.: CLEANOUT STRUCTURE	INLET ADJUSTED TO GRADE, AS PER PLAN	MANHOLE ADJUSTED TO GRADE, AS PER PLAN		CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN	CATCH BASIN RECONSTRUCTED TO GRADE		MANHOLE MISC.: CLEAN OFF CASTING				DITCH EROSION PROTECTION
				FT.	SQ. YD.	CU. YD.	CU. YD.	FT.	SQ. YD.	CU. YD.		EACH	EACH		EACH	EACH	EACH		EACH	EACH		EACH				SQ. YD.
65	D-2	338+85 - 227' LT	CATCH BASIN #8		4.5			50	4.44				1													42
65	D-3	339+58 - 129' LT	MANHOLE																			1				
65	D-4	340+00 - 71' LT	CATCH BASIN #8										1													
65	D-5	341+10 - 71' RT	CATCH BASIN #8										1													
65	D-8	339+75 - 298' LT	CATCH BASIN #2-2A					10																		8
65	D-9	342+15 - 180' RT	INLET #2-14													1										
65	D-10	343+00 - 163' LT	CATCH BASIN #3										1													
65	D-11	343+00 - 177' LT	MANHOLE																			1				
65	D-12	343+75 - 174' RT	INLET #2-14													1										
65	D-13	343+75 - 164' RT	MANHOLE														1									
65	D-14	346+25 - 143' LT	CATCH BASIN #3																	1						
65	D-16	346+25 - 71' LT	CATCH BASIN #8	100									1		1											
65	D-17	346+25 - 71' RT	CATCH BASIN #8	100									1		1											
65	D-18	346+25 - 169' RT	INLET #2-14													1										
65	D-19	346+25 - 159' RT	MANHOLE														1									
65	D-20	348+50 - 138' LT	CATCH BASIN #3																	1						
65	D-21	348+50 - 153' LT	MANHOLE																			1				
65	D-22	349+25 - 177' RT	CATCH BASIN #8					50					1													42
65	D-23	349+20 - 160' RT	MANHOLE														1									
65	D-25	351+26 - 150' LT	CATCH BASIN #2-2B					100					1													83
66	D-26	353+00 - 287' LT	CATCH BASIN #2-2B										1													
66	D-27	353+50 - 213' LT	CATCH BASIN #2-2B				2	100																		83
66	D-29	354+00 - 71' LT	CATCH BASIN #8										1													
66	D-31	354+00 - 161' RT	CATCH BASIN #2-2B									1	1													
66	D-32	354+00 - 147' RT	MANHOLE														1									
66	D-33	357+60 - 142' RT	MANHOLE														1									
66	D-35	360+30 - 173' LT	CATCH BASIN #2-2B		2.7				2.67																	
66	D-36	359+65 - 71' LT	MANHOLE																			1				
66	D-37	362+50 - 179' RT	CATCH BASIN #8					50				1	1													42
66	D-38	362+50 - 71' RT	CATCH BASIN #4	71								1	1		1											
66	D-39	362+50 - 71' LT	CATCH BASIN #4																		1					
66	D-40	362+50 - 156' LT	CATCH BASIN #2-2B										1		1											
67	D-41	369+50 - 71' RT	CATCH BASIN #4 WITH DUAL APRONS	71											1											
67	D-42	369+50 - 71' LT	CATCH BASIN #4 WITH DUAL APRONS	71	3.9				3.89			1			1											
67	D-43	369+50 - 156' LT	CATCH BASIN #8										1													
67	D-45	376+25 - 71' RT	CATCH BASIN #4				1																			
67	D-46	376+25 - 71' LT	CATCH BASIN #4	71									1		1											
68	D-51	384+25 - 63' RT	CATCH BASIN #4					50				1			1											42
68	D-54	387+75 - 63' RT	CATCH BASIN #4				1																			
68	D-55	387+75 - 63' LT	CATCH BASIN #4										1													
68	D-56	391+25 - 190' RT	1/2 HT. HEADWALL			60				44																
68	D-57	391+25 - 63' RT	CATCH BASIN #4																	1						
69	D-61	394+75 - 168' RT	1/2 HT. HEADWALL			1				1																
69	D-62	400+25 - 208' LT	1/2 HT. HEADWALL			8	8																			44
69	D-64	397+40 - 80' LT	CATCH BASIN #3A										1		1											
69	D-66	397+60 - 80' RT	CATCH BASIN #3A										1		1											
69	D-67	400+26 - 63' LT	CATCH BASIN #4												1											
69	D-72	404+24 - 63' RT	CATCH BASIN #4	63			2								1											7
70	D-76	409+75 - 63' LT	CATCH BASIN #4									1			1											
70	D-77	409+75 - 63' RT	CATCH BASIN #4				2																			7
70	D-80	412+50 - 198' LT	1/2 HT. HEADWALL			8	8			2																17
70	D-83	418+00 - 71' RT	CATCH BASIN #4									1	1		1											
70	D-84	418+00 - 71' LT	CATCH BASIN #4										1		1											
70	D-85	420+75 - 63' LT	CATCH BASIN #4	8											1											
70	D-85A	420+75 - 71' LT	MANHOLE	50																		1				
66	D-249	57+65.00 (G-1) - 16' RT	CATCH BASIN #3A																	1						
66	D-250	58+95.00 (G-1) - 6' LT	CATCH BASIN #3A																	1						
SHEET TOTAL				605	11	77	24	410	11	47		7	21		16	3	5		5	1		5				417

CALCULATED GML

CHECKED MWJ

DRAINAGE ESTIMATED QUANTITIES

CUY - 271 - 6.04

ITEM				202	202	203	203	209	601	601		604	604		604	604	604		604	604	604	604		603	605	670
SHEET NO.	REFERENCE NO.	STATION AND OFFSET	EXISTING APPURTENANCE TYPE	SPECIAL - PIPE CLEANOUT	REMOVAL MISC.: RIPRAP SLAB REMOVED	EXCAVATION	EMBANKMENT	DITCH CLEANOUT	RIPRAP USING 6" REINFORCED CONCRETE SLAB	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER		CATCH BASIN MISC.: CLEAN OFF APRON	CATCH BASIN MISC.: CLEAN OFF GRATE		CATCH BASIN MISC.: CLEANOUT STRUCTURE	INLET ADJUSTED TO GRADE, AS PER PLAN	MANHOLE ADJUSTED TO GRADE, AS PER PLAN		CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN	CATCH BASIN RECONSTRUCTED TO GRADE	CATCH BASIN GRATE	MANHOLE MISC.: CLEAN OFF CASTING		6" CONDUIT, TYPE F, 707.41 NON-PERFORATED	6" UNCLASSIFIED PIPE UNDERDRAIN W/ FABRIC WRAP	DITCH EROSION PROTECTION
				FT.	SQ. YD.	CU. YD.	CU. YD.	FT.	SQ. YD.	CU. YD.		EACH	EACH		EACH	EACH	EACH		EACH	EACH	EACH	EACH		FT	FT	SQ. YD.
71	D-87	423+50 - 63' RT	CATCH BASIN #4												1											
71	D-89	423+50 - 164' LT	1/2 HT. HEADWALL	88				50		2																42
71	D-93	429+00 - 63' RT	CATCH BASIN #4				2					1			1											7
71	D-94	431+25 - 176' LT	1/2 HT. HEADWALL	100				100																		83
71	D-95	431+25 - 63' LT	CATCH BASIN #4									1														
71	D-96	431+25 - 63' RT	CATCH BASIN #4				2					1														7
71	D-98	435+75 - 63' RT	CATCH BASIN #4												1											
71	D-251	12+95 (F-4) - 8' RT	INLET #2-14													1										
72	D-101	438+75 - 63' RT	CATCH BASIN #4				2																			7
72	D-102	438+75 - 63' LT	CATCH BASIN #4	100											1											
72	D-103	441+75 - 195' LT	CATCH BASIN #5										1													
72	D-104	441+75 - 63' LT	CATCH BASIN #4	50											1											
72	D-105	441+75 - 63' RT	CATCH BASIN #4												1										10	50	
79	D-107	4+00 (F-6) - 42' RT	CATCH BASIN																		1					
79	D-108	2+90 (F-6) - 48' LT	CATCH BASIN																		1					
72	D-113	444+74 - 179' RT	CATCH BASIN #4	150											1											
72	D-116	445+00 - 169' LT	CATCH BASIN												1						1					
72	D-117	9+50 (F-1) - 26' RT	CATCH BASIN										1													
72	D-119	447+75 - 71' RT	CATCH BASIN				2					1														7
73	D-121	450+75 - 182' LT	CATCH BASIN #5										1		1											
73	D-122	450+75 - 63' LT	CATCH BASIN #4	126											1											
73	D-123	450+75 - 63' RT	CATCH BASIN #4				2								1											7
73	D-127	453+50 - 63' RT	CATCH BASIN #4		3.9		2		3.89						1											7
73	D-129	453+50 - 143' LT	CATCH BASIN #6																1							
73	D-130	12+75 (F-5) - 26' RT	CATCH BASIN																		1					
73	D-131	455+70 - 63' LT	CATCH BASIN #4	63								1			1											
73	D-132	455+70 - 63' RT	CATCH BASIN #4	96											1											
73	D-134	455+00 - 164' RT	CATCH BASIN #4									1	1													
73	D-135	457+95 - 206' RT	MANHOLE																				1			
73	D-137	457+96 - 63' LT	CATCH BASIN #4				2								1											7
73	D-138	457+25 - 190' LT	CATCH BASIN										1													
79	D-140	4+50 (F-5) - 26' RT	CATCH BASIN																		1					
73	D-141	458+94 - 195' RT	CATCH BASIN #4			139	139						1		1											417
73	D-143	460+21 - 63' RT	CATCH BASIN #4				2					1			1											7
73	D-144	460+21 - 63' LT	CATCH BASIN #4	63			2																			7
73	D-145	462+46 - 180' LT	CATCH BASIN #5					70				1	1													
73	D-146	462+40 - 136' LT	CATCH BASIN #6																1							
73	D-147	462+45 - 63' LT	CATCH BASIN #4	100								1			1											
73	D-148	462+45 - 63' RT	CATCH BASIN #4	100			2								1											7
74	D-150	464+71 - 63' LT	CATCH BASIN #4												1											
74	D-151	464+71 - 63' RT	CATCH BASIN #4												1											
74	D-153	466+98 - 175' RT	CATCH BASIN #4		3.9				3.89																	
74	D-154	466+95 - 63' RT	CATCH BASIN #4	100											1											
74	D-155	466+95 - 63' LT	CATCH BASIN #4	100											1											
74	D-156	469+21 - 63' LT	CATCH BASIN #4		3.9				3.89						1											
74	D-157	469+20 - 63' RT	CATCH BASIN #4												1											
79	D-160	17+10 (F-3) - 80' LT	CATCH BASIN										1													
74	D-162	471+97 - 63' LT	CATCH BASIN #4		3.9				3.89											1						
74	D-164	473+70 - 63' LT	CATCH BASIN #4	63	3.9				3.89						1											
74	D-165	473+71 - 63' RT	CATCH BASIN #4										1													
SHEET TOTAL				1299	20	139	159	220	19	2		9	9		26	1			2	1	5	1		10	50	612

CALCULATED OML
CHECKED WVJ

DRAINAGE ESTIMATED QUANTITIES

CUY - 271 - 6.04

DRAINAGE ESTIMATED QUANTITIES

CALCULATED CAL
CHECKED MVJ

ITEM				202	202			209	601			604	604		604				604	604	604		604			670
SHEET NO.	REFERENCE NO.	STATION AND OFFSET	EXISTING APPURTENANCE	SPECIAL - PIPE CLEANOUT	REMOVAL MISC.: RIPRAP SLAB REMOVED			DITCH CLEANOUT	RIPRAP USING 6" REINFORCED CONCRETE SLAB			CATCH BASIN MISC.: CLEAN OFF APRON	CATCH BASIN MISC.: CLEAN OFF GRATE		CATCH BASIN MISC.: CLEANOUT STRUCTURE				CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN	CATCH BASIN RECONSTRUCTED TO GRADE	CATCH BASIN GRATE		SPECIAL - MISCELLANEOUS METAL			DITCH EROSION PROTECTION
				FT.	SQ. YD.			FT.	SQ. YD.			EACH	EACH		EACH				EACH	EACH	EACH					SQ. YD.
74	D-166	473+70 - 178' RT	1/2 HT. HEADWALL					50																		42
74	D-167	475+95 - 175' RT	1/2 HT. HEADWALL					50																		42
74	D-169	475+96 - 63' LT	CATCH BASIN #4	126											1											
75	D-170	478+21 - 63' LT	CATCH BASIN #4	63											1											
75	D-171	478+20 - 63' RT	CATCH BASIN #4	8											1											
75	D-173	480+45 - 63' LT	CATCH BASIN #4	126											1											
75	D-174	482+81 - 63' LT	CATCH BASIN #4												1											
75	D-178	485+45 - 63' RT	CATCH BASIN #4	120								1			1											
75	D-179	485+09 - 63' LT	CATCH BASIN #4	65											1											
75	D-180	13+16 (WLD) - 25' RT	CATCH BASIN #4					50					1		1											42
75	D-181	13+37 (WLD) - 25' LT	CATCH BASIN #4										1													
75	D-182	16+81 (WLD) - 25' LT	1/2 HT. HEADWALL	346				27																		23
75	D-184	487+56 - 51' LT	CATCH BASIN #3A	105											1											
75	D-185	487+71 - 51' RT	CATCH BASIN #3A												1					1						
75	D-186	487+76 - 79' RT	CATCH BASIN #3A										1		1											
75	D-187	487+87 - 140' RT	CATCH BASIN #3A										1													
75	D-189	489+70 - 60' LT	CATCH BASIN #4																	1	1					
75	D-190	489+68 - 63' RT	CATCH BASIN #4												1											
75	D-191	491+69 - 63' LT	CATCH BASIN #4												1											
76	D-193	494+70 - 63' LT	CATCH BASIN #4	63																						
76	D-194	494+68 - 63' RT	CATCH BASIN #4	75											1											
76	D-195	494+72 - 212' RT	1/2 HT. HEADWALL					50																		42
76	D-196	497+95 - 63' RT	CATCH BASIN #4										1													
76	D-197	497+95 - 63' LT	CATCH BASIN #4																	1						
76	D-200	501+38 - 63' RT	CATCH BASIN #4		3.9				3.89				1													
76	D-203	503+14 - 74' LT	CATCH BASIN #3A												1								100			
76	D-205	503+35 - 52' RT	CATCH BASIN #3A												1											
76	D-206	503+39 - 78' RT	CATCH BASIN #3A										1		1											
76	D-207	503+49 - 139' RT	CATCH BASIN #3A										1													
76	D-208	503+53 - 199' RT	1/2 HT. HEADWALL	60				50																		42
77	D-209	506+25 - 60' LT	CATCH BASIN #4	60									1		1											
77	D-210	506+60 - 63' RT	CATCH BASIN #4										1							1						
77	D-211	508+40 - 67' LT	CATCH BASIN #3A	16											1											
77	D-212	508+41 - 51' LT	CATCH BASIN #3A										1													
77	D-213	508+51 - 51' RT	CATCH BASIN #3A										1													
77	D-214	508+62 - 77' RT	CATCH BASIN #3A										1													
77	D-215	508+72 - 139' RT	CATCH BASIN #3A										1													
77	D-216	511+70 - 60' RT	CATCH BASIN #4									1	1													
77	D-218	512+23 - 57' LT	CATCH BASIN #4	57											1											
77	D-220	515+43 - 54' LT	CATCH BASIN #8												1					1						
77	D-222	516+69 - 79' LT	CATCH BASIN #6																1							
77	D-226	518+20 - 77' LT	CATCH BASIN #8										1													
77	D-228	519+15 - 75' RT	CATCH BASIN #8										1													
78	D-229	521+19 - 157' LT	CATCH BASIN #4		3.9				3.89																	
78	D-231	521+19 - 71' LT	CATCH BASIN #4	75											1											
SHEET TOTAL				1365	8			277	8			2	17		22				1	5	1		100			233

CUY - 271 - 6.04

ITEM				202	202	203	203	209	601	601		604	604		604	604	604		604	604	604	604	604	603	605	670
SHEET NO.	REFERENCE NO.	STATION AND OFFSET	EXISTING APPURTENANCE TYPE	SPECIAL - PIPE CLEANOUT	REMOVAL MISC.: RIPRAP SLAB REMOVED	EXCAVATION	EMBANKMENT	DITCH CLEANOUT	RIPRAP USING 6" REINFORCED CONCRETE SLAB	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER		CATCH BASIN MISC.: CLEAN OFF APRON	CATCH BASIN MISC.: CLEAN OFF GRATE		CATCH BASIN MISC.: CLEANOUT STRUCTURE	INLET ADJUSTED TO GRADE, AS PER PLAN	MANHOLE ADJUSTED TO GRADE, AS PER PLAN		CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN	CATCH BASIN RECONSTRUCTED TO GRADE	CATCH BASIN GRATE	MANHOLE MISC.: CLEAN OFF CASTING	SPECIAL - MISCELLANEOUS METAL	6" CONDUIT, TYPE F, 707.41 NON-PERFORATED	6" UNCLASSIFIED PIPE UNDERDRAIN W/ FABRIC WRAP	DITCH EROSION PROTECTION
				FT.	SQ. YD.	CU. YD.	CU. YD.	FT.	SQ. YD.	CU. YD.		EACH	EACH		EACH	EACH	EACH		EACH	EACH	EACH	EACH	POUND	FT	FT	SQ. YD.
78	D-232	521+20 - 73' RT	CATCH BASIN #4									1			1											
78	D-233	521+20 - 156' RT	CATCH BASIN #2-2A	85	3.56			20	3.6																	17
78	D-234	524+96 - 71' RT	CATCH BASIN #4	71								1			1											
78	D-235	524+95 - 71' LT	CATCH BASIN #4	74											1											
78	D-238	528+45 - 159' LT	CATCH BASIN #2-2B		3.56				3.6																	
78	D-239	528+45 - 147' LT	MANHOLE																			1				
78	D-240	528+45 - 71' LT	CATCH BASIN #4	76											1											
78	D-241	528+45 - 71' RT	CATCH BASIN #4	71									1		1											
78	D-242	528+45 - 157' RT	CATCH BASIN #2-2B					50				1														42
78	D-243	530+35 - 71' RT	CATCH BASIN #4	115								1			1											
SHEET TOTAL				492	7	0	0	70	7	0		4	1		6	0	0		0	0	0	1	0	0	0	59
SHEET TOTAL SHEET NO. 29				605	11	77	24	410	11	47		7	21		16	3	5		5	1	0	5	0	0	0	417
SHEET TOTAL SHEET NO. 30				1299	20	139	159	220	19	2		9	9		26	1	0		2	1	5	1	0	10	50	612
SHEET TOTAL SHEET NO. 31				1365	8	0	0	277	8	0		2	17		22	0	0		1	5	1	0	100	0	0	233
GRAND TOTAL				3761	46	216	183	977	45	49		22	48		70	4	5		8	7	6	7	100	10	50	1321

CALCULATED CML

CHECKED MVL

DRAINAGE ESTIMATED QUANTITIES

SHEET NO.	LOCATION	ITEM 203 EXCAVATION	ITEM 203 EMBANKMENT	ITEM 659 SEEDING & MULCHING
		CU YD	CU YD	SQ YD
90	CULVERT #1	28	12	88
91	CULVERT #6	0	6	137
92	CULVERT #7	0	2	88
93	CULVERT #8	28	2	92
94	CULVERT #9 (INLET)	16	0	62
95	CULVERT #9 (OUTLET)	2	2	80
96 - 97	CULVERT #10 (INLET)	2	11	173
98	CULVERT #10 (OUTLET)	72	0	180
99 - 100	CULVERT #11 (INLET)	4	17	71
33	EROSION CONTROL	2333	4547	7167
GRAND TOTAL		2485	4599	8138 *

* QUANTITY CARRIED TO SHEET 16

CUY - 271 - 6.04

ITEM					203		203		209			601		603		604		605				659				670	670
SHEET NO.	REFERENCE NO.	STATION	OFFSET	EXISTING CONDITION	EXCAVATION		EMBANKMENT		DITCH CLEANOUT			ROCK CHANNEL PROTECTION, TYPE D WITH AGGREGATE FILTER		6" CONDUIT, TYPE F, 707.41 NON-PERFORATED		PRECAST REINFORCED CONCRETE OUTLET		6" UNCLASSIFIED PIPE UNDERDRAIN W/ FABRIC WRAP				SEEDING AND MULCHING				SLOPE EROSION PROTECTION	DITCH EROSION PROTECTION
					CU YD		CU YD		FT			CU YD		FT		EACH		FT				SQ YD				SQ YD	SQ YD
67,68	E-1	377+30 TO 387+00	RT	RUTTING			40															3057				3057	
67	E-2	377+75	LT	RUTTING			6					3										23					
67	E-3	379+55	LT	RUTTING			10					5										30					
68	E-4	381+05	LT	RUTTING			10					5										25					
68	E-5	381+92	LT	RUTTING			10					4										27					
68	E-6	386+43	LT	BARE SOIL/RUTTING			2															13				13	
69	E-7	96+40 (E-N)	RT	SLIPPING	833		1670					1.5		80		1		100				500				500	
69	E-8	130+00 (HARV)	LT	RUTTING			20		85																		103
69	E-9	400+00 TO 404+10	LT	RUTTING			70															1690				1690	
69	E-10	102+75 TO 104+10 (S-WE)	LT	RUTTING			50															505				505	
70	E-11	420+93	LT	BARE SOIL			10															23				23	
71	E-12	13+75 (F-4)	RT	2' DEEP RUTTING			5															4				4	
73	E-13	459+00	RT	SLIPPING	900		1800					1.5		100		1		115				550				550	
74	E-14	473+25	RT	BARE SOIL/RUTTING	50		75					100										150				150	
74	E-15	474+85	RT	BARE SOIL			10															45				45	
75	E-16	483+22	LT	BARE SOIL			2															7				7	
75	E-17	487+35	LT	RUTTING			5															9				9	
76	E-18	492+43	RT	RUTTING			2															7				7	
76	E-19	492+90	LT	RUTTING			12															30				30	
76	E-20	494+60	LT	BARE SOIL			6															20				20	
76	E-21	503+80	RT	RUTTING			10															25				25	
77	E-22	509+38	RT	BARE SOIL			12															50				50	
77	E-23	518+35	RT	RUTTING			6															14				14	
78	E-24	527+25	RT	RUTTING			2															7				7	
78	E-25	527+95	RT	RUTTING			2															6				6	
74	E-26	471+00	RT	SLIPPING	550		700															350				350	
SHEET TOTAL					2333		4547		85			120		180		2		215				7167 *				7062	103

* QUANTITY CARRIED TO SHEET 32

CALCULATED CML

CHECKED MVJ.

EROSION CONTROL ESTIMATED QUANTITIES

CUY - 271 - 6.04

GUARDRAIL ESTIMATED QUANTITIES

CALCULATED: CML | CHECKED: MVJ

ITEM							202		209		448		606	606		606	606	606	606	606	606		626	626	
SHEET NO.	REFERENCE NO.	STATION	TO	STATION	OFFSET	EXISTING CONDITION	GUARDRAIL REMOVED		LINEAR GRADING, AS PER PLAN		ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG 64-22 (UNDER GUARDRAIL), AS PER PLAN		GUARDRAIL, TYPE 5	GUARDRAIL, TYPE 5A		ANCHOR ASSEMBLY, TYPE B-98	ANCHOR ASSEMBLY, TYPE E-98	ANCHOR ASSEMBLY, TYPE T	BRIDGE TERMINAL ASSEMBLY, TYPE 1	BRIDGE TERMINAL ASSEMBLY, TYPE 2	IMPACT ATTENUATOR, TYPE 2-98 (UNIDIRECTIONAL)		BARRIER REFLECTOR, TYPE A	BARRIER REFLECTOR, TYPE B	
							FT		STA		CU YD		FT	FT		EACH	EACH	EACH	EACH	EACH	EACH		EACH	EACH	
48	G-1	338+88.00		340+39.00	LT	DAMAGED	150		1.5		3.70		100.00				1		1				3		
48	G-2	339+23.00		340+44.00	LT	FAIR	100		1		2.47		50.00				1		1				2		
48	G-3	338+72.00		346+16.00	LT	FAIR	725		7.25		17.90		681.25					1			1		8		
48	G-4	344+57.00		346+36.00	LT	FAIR	200		2		4.94		137.50				1	1					3		
48	G-5	346+36.00		348+83.00	RT	FAIR	287.5		2.88		7.10		100.00	125.00			1	1					4		
48	G-6	338+68.00		341+13.00	RT	DAMAGED	243.75		2.44		6.02		200.00					1			1		4		
48	G-7	339+14.00		340+49.00	RT	FAIR	162.5		1.63		4.01		112.50				1		1				3		
48	G-8	339+14.00		340+50.00	RT	FAIR	162.5		1.63		4.01		112.50				1		1				3		
48	G-9	339+90.00		342+00.00	RT	FAIR	237.5		2.38		5.86		87.50	87.50			1	1					4		
48	G-10	346+56.00		350+61.00	RT	DAMAGED	406.25		4.06		10.03		362.50					1			1		5		
48,49	G-11	351+08.00		356+35.00	LT	DAMAGED	493.75		4.94		12.19		318.75	131.25				1			1		6		
48,49	G-12	1+50.00 (G-2)		15+20.00 (G-2)	RT	DAMAGED	1287.5		13.13		32.41		1250.00				1	1					14		
48,49	G-13	2+90.00 (G-2)		13+00.00 (G-2)	LT	DAMAGED	850		8.5		20.99		837.50					1		1			9		
49	G-14	358+80.00		360+37.00	RT	DAMAGED	156.25		1.56		3.86		112.50					1			1		3		
49	G-15	354+22.00		355+87.00	LT	FAIR	162.5		1.63		4.01		112.50				1		1				3		
49,50	G-16	363+30.00		366+00.00	LT	DAMAGED	268.75		2.69		6.64		225.00					1			1		4		
49	G-17	63+42.00 (G-1)		65+17.00 (G-1)	LT	FAIR	175		1.75		4.32		112.50				1	1					3		
50	G-19	369+75.00		371+13.00	RT	DAMAGED	137.5		1.38		3.40		75.00				1	1					3		
50,51	G-20	376+58.00		383+45.50	LT	FAIR	687.5		6.88		16.98		625.00				1	1					7		
50,51	G-21	372+33.00		87+15.00 (N-EW)	RT	DAMAGED	1487.5		14.88		36.73		1425.00				1	1					16		
51,52	G-22	390+80.00		397+45.00	LT	DAMAGED	662.5		6.63		16.36		650.00					1		1			7		
51	G-23	391+51.00		392+87.00	RT	FAIR	137.5		1.38		3.40		75.00				1	1					3		
52	G-24	95+08.00 (E-N)		397+92.00	RT	DAMAGED	275		2.75		6.79		225.00				1		1				4		
52	G-25	395+00.00		397+78.00	RT	DAMAGED	275		2.75		6.79		243.75						1		1		4		
52,53	G-26	400+21.00		409+82.00	RT	DAMAGED	962.5		9.63		23.77		950.00					1		1			11		
52,53	G-27	399+53.00		409+35.00	LT	DAMAGED	962.5		9.63		23.77		912.50				1		1				11		
52	G-28	399+81.00		402+66.00	LT	DAMAGED	275		2.75		6.79		243.75						1		1		4		
52,53	G-29	103+88.00 (S-WE)		109+50.50 (S-WE)	RT	FAIR	562.5		5.63		13.89		500.00				1	1					6		
52,53	G-30	102+88.00 (S-WE)		117+00.00 (S-WE)	LT	DAMAGED	412.5		4.13		10.19		400.00					1					5		
53,54	G-31	417+00.00		422+10.00	LT	FAIR	1500		15.00		37.04		1462.50			1							15		
53	G-32	418+12.00		419+87.00	RT	DAMAGED	175		1.75		4.32		125.00			1		1					3		
54	G-33	426+38.00		427+75.00	LT	DAMAGED	137.5		1.38		3.40		75.00				1	1					3		
54	G-34	7+03.00 (F-4)		10+78.00 (F-4)	RT	DAMAGED	375		3.75		9.26		325.00			1		1					5		
55	G-35	446+11.00		447+27.00	RT	DAMAGED	87.5		0.88		2.16		50.00			1			1				2		
55	G-36	446+05.00		447+68.00	RT	FAIR	156.25		1.56		3.86		125.00						1		1		3		
55,56	G-37	449+46.00		450+76.00	LT	FAIR	131.25		1.31		3.24		100.00						1		1		3		
55,56	G-38	449+96.00		450+83.50	LT	FAIR	87.5		0.88		2.16		50.00			1			1				2		
56	G-39	455+88.00		457+25.00	LT	FAIR	137.5		1.38		3.40		75.00				1	1					3		
57	G-40	464+88.00		466+31.00	LT	DAMAGED	143.75		1.44		3.55		100.00					1			1		3		
57	G-41	2+23.00 (F-3)		470+38.00	LT	DAMAGED	562.5		5.63		13.89		500.00				1	1					6		
57,58	G-42	469+19.00		485+57.00	RT	DAMAGED	1712.5		17.13		42.28		1675.00			1			1				18		
58	G-43	483+19.00		485+46.00	RT	FAIR	275		2.75		6.79		243.75						1		1		4		
58	G-44	478+25.00		485+13.00	LT	DAMAGED	625		6.25		15.43		612.50					1		1			7		
58,59	G-45	487+26.00		501+38.00	LT		1412.5		14.13		34.88		1412.50						1	1			15		
58,59	G-46	487+69.00		501+79.00	RT	DAMAGED	1412.5		14.13		34.88		1412.50						1	1			15		
58	G-47	485+11.00		485+36.00	LT	FAIR	25		0.25		0.62		12.50					1		1			1		
SHEET TOTAL							21862.5		219		540		19593.8	343.75		6	20	28	17	7	12		270	0	

CUY - 271 - 6.04

GUARDRAIL ESTIMATED QUANTITIES

CALCULATED: CWL | CHECKED: MWJ

ITEM							202		209		448		606	606		606	606	606	606	606	606		626	626	
SHEET NO.	REFERENCE NO.	STATION	TO	STATION	OFFSET	EXISTING CONDITION	GUARDRAIL REMOVED		LINEAR GRADING, AS PER PLAN		ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG 64-22 (UNDER GUARDRAIL), AS PER PLAN		GUARDRAIL, TYPE 5	GUARDRAIL, TYPE 5A		ANCHOR ASSEMBLY, TYPE B-98	ANCHOR ASSEMBLY, TYPE E-98	ANCHOR ASSEMBLY, TYPE T	BRIDGE TERMINAL ASSEMBLY, TYPE 1	BRIDGE TERMINAL ASSEMBLY, TYPE 2	IMPACT ATTENUATOR, TYPE 2-98 (UNIDIRECTIONAL)		BARRIER REFLECTOR, TYPE A	BARRIER REFLECTOR, TYPE B	
							FT		STA		CU YD		FT	FT		EACH	EACH	EACH	EACH	EACH	EACH		EACH	EACH	
59	G-48	501+21.00		501+46.00	LT	FAIR	25		0.25		0.62		12.50					1		1			1		
58	G-49	487+36.00		489+96.00	LT	FAIR	275		2.75		6.79		243.75						1		1		4		
59,60	G-50	502+72.00		506+29.00	LT		368.75		3.69		9.10		368.75						1	1			6		
59	G-51	498+83.00		501+70.00	RT	DAMAGED	275		2.75		6.79		243.75						1		1		4		
59,60	G-52	503+12.00		506+71.00	RT		368.75		3.69		9.10		368.75						1	1			6		
59,60	G-53	503+03.00		506+62.00	RT		368.75		3.69		9.10		368.75						1	1			6		
59,60	G-54	502+80.00		506+40.00	LT	DAMAGED	368.75		3.69		9.10		368.75						1	1			6		
60	G-55	508+11.00		514+54.00	LT	FAIR	637.5		6.38		15.74		587.50				1		1				7		
60	G-56	511+90.00		513+37.00	RT	DAMAGED	143.75		1.44		3.55		100.00					1			1		3		
60	G-57	508+22.00		510+03.00	LT	DAMAGED	193.75		1.94		4.78		162.50						1		1		3		
60	G-58	508+53.00		509+55.00	RT		112.5		1.13		2.78		100.00					1		1			3		
60	G-59	516+48.00		518+48.00	LT	FAIR	200		2.00		4.94		137.50				1	1					3		
61	G-60	521+23.00		522+71.00	LT	DAMAGED	143.75		1.44		3.55		100.00					1			1		3		
61	G-61	522+65.00		524+11.00	RT	DAMAGED	143.75		1.44		3.55		100.00					1			1		3		
61	G-62	531+12.00		532+10.00	RT	FAIR	100		1.00		2.47		50.00				1		1				3		
61	G-63	530+74.00		533+37.00	RT	DAMAGED	256.25		2.56		6.33		212.50					1			1		4		
61	G-64	532+00.00		534+56.25	LT	FAIR	256.25		2.56		6.33		212.50					1			1		4		
52	G-65	397+23.56		397+48.56	LT	FAIR	25		0.25		0.62		12.50					1		1			1		
52	G-66	400+07.27		400+32.27	RT	FAIR	25		0.25		0.62		12.50					1		1			1		
58	G-67	487+58.31		487+83.31	RT	FAIR	25		0.25		0.62		12.50					1		1			1		
60	G-68	508+43.87		508+68.67	RT	FAIR	25		0.25		0.62		12.50					1		1			1		
52	B-1	397+45.00		399+53.00	LT	FAIR																		3	
52	B-2	397+92.00		400+21.00	RT	FAIR																		3	
52	B-3	397+47.00		399+81.00	LT	FAIR																		3	
52	B-4	397+78.00		400+14.00	RT	FAIR																		3	
55	B-5	448+98.00		449+96.00	LT	FAIR																		2	
55	B-6	448+56.00		449+46.00	LT	FAIR																		2	
55	B-7	447+68.00		448+75.00	RT	FAIR																		2	
55	B-8	447+27.00		448+29.00	RT	FAIR																		2	
58	B-9	485+13.00		487+26.00	LT	FAIR																		3	
58	B-10	485+36.00		487+36.00	LT	FAIR																		3	
58	B-11	485+46.00		487+58.00	RT	FAIR																		3	
58	B-12	485+57.00		487+69.00	RT	FAIR																		3	
59	B-13	501+38.00		502+72.00	LT	FAIR																		2	
59	B-14	501+46.00		502+80.00	LT	FAIR																		2	
59	B-15	501+70.00		503+03.00	RT	FAIR																		2	
59	B-16	501+79.00		503+12.00	RT	FAIR																		2	
60	B-17	506+29.00		508+11.00	LT	FAIR																		2	
60	B-18	506+40.00		508+22.00	LT	FAIR																		2	
60	B-19	506+62.00		508+44.00	RT	FAIR																		2	
60	B-20	506+71.00		508+53.00	RT	FAIR																		2	
61	B-21	532+19.00		533+23.00	LT	FAIR																		2	
61	B-22	532+10.00		533+14.00	RT	FAIR																		2	
48	B-23	340+49.00		341+50.00	RT	FAIR																		2	
48	B-24	340+50.00		341+50.00	RT	FAIR																		2	
49	B-25	352+62.00		354+22.00	LT	FAIR																		3	
SHEET TOTAL							4337.5		43		107		3787.5	0.00		0	3	12	9	10	8		73	59	
SHEET TOTAL SHEET NO. 34							21862.5		219		540		19593.8	343.75		6	20	28	17	7	12		270	0	
GRAND TOTAL							26200		262		647		23381.25	343.75		6	23	40	26	17	20		343	59	

CUY - 271 - 6.04

ITEM								202		254		407		407			442		442		442	
STATION	TO	STATION	SIDE	DISTANCE (D)	CURVATURE CORRECTION RATIO ((OFFSET+RADIUS)/RADIUS)	AVERAGE WIDTH (W)	SURFACE AREA (A)	WEARING COURSE REMOVED (4.50") AND AT FEATHERS (1.50")		PAVEMENT PLANING, ASPHALT CONCRETE (1.50")		TACK COAT @ 0.10 GAL./SQ. YD.		TACK COAT FOR INTERMEDIATE COURSE @ 0.05 GAL./SQ. YD.			1.50" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN A		1.50" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN B		4.50" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	
				FEET	FT/FT	FEET	SQ FT	SQ YD		SQ YD		GAL		GAL			CU YD		CU YD		CU YD	
CUY - 271 MAINLINE																						
NORMAL RESURFACING NORTHBOUND LANES																						
73+87.69	FEATHER	74+25.19	RT	37.50		50.00	1,875.00	208.33				20.83					8.68					
340+05.14	FEATHER	340+42.64	RT	37.50	1.01	44.00	1,666.50	185.17				18.52					7.72					
340+42.64		341+55.58	RT	112.94	1.01	44.00	5,019.05	557.67				55.77		27.88			23.24				69.71	
341+55.58		342+93.76	RT	138.18	1.01	101.31	14,139.01	1,571.00				157.10		78.55			65.46				196.38	
342+93.76		347+50.00	RT	456.24	1.01	94.38	43,490.53	4,832.28				483.23		241.61			201.35				604.04	
347+50.00		351+69.67	RT	419.67	1.01	83.25	35,286.90	3,920.77				392.08		196.04			163.37				490.10	
351+69.67		355+80.61	RT	410.94	1.01	73.05	30,319.36	3,368.82				336.88		168.44			140.37				421.10	
355+80.61		357+37.07	RT	156.46	1.01	68.00	10,745.67	1,193.96				119.40		59.70			49.75				149.25	
357+37.07		359+39.00	RT	201.93	1.01	73.11	14,910.73	1,656.75				165.67		82.84			69.03				207.09	
359+39.00		359+89.00	RT	50.00	1.01	67.47	3,407.24	378.58				37.86		18.93			15.77				47.32	
359+89.00		365+09.00	RT	520.00	1.01	85.50	44,904.60	4,989.40				498.94		249.47			207.89				623.68	
365+09.00		378+75.01	RT	1366.01	1.01	80.00	110,373.61	12,263.73				1,226.37		613.19			510.99				1,532.97	
378+75.01		386+55.26	RT	780.25	1.01	98.00	77,229.15	8,581.02				858.10		429.05			357.54				1,072.63	
386+55.26		395+90.78	RT	935.52	1.01	68.00	64,251.51	7,139.06				713.91		356.95			297.46				892.38	
395+90.78		408+17.75	RT	971.97	1.01	84.46	82,913.51	9,212.61				921.26		460.63			383.86				1,151.58	
408+17.75		409+82.11	RT	164.36	1.01	66.00	10,956.24	1,217.36				121.74		60.87			50.72				152.17	
409+82.11		411+82.42	RT	200.31	1.01	97.20	19,664.83	2,184.98				218.50		109.25			91.04				273.12	
411+82.42		420+31.80	RT	849.38	1.01	86.00	73,777.15	8,197.46				819.75		409.87			341.56				1,024.68	
420+31.80		424+00.00	RT	368.20		80.00	29,456.00	3,272.89				327.29		163.64			136.37				409.11	
424+00.00		431+86.91	RT	786.91		97.07	76,385.35	8,487.26				848.73		424.36			353.64				1,060.91	
431+86.91		440+12.07	RT	825.16	0.99	68.00	55,549.77	6,172.20				617.22		308.61			257.17				771.52	
440+12.07		441+57.62	RT	145.55	0.99	70.22	10,118.32	1,124.26				112.43		56.21			46.84				140.53	
441+57.62		451+57.62	RT	1000.00	0.99	79.50	78,705.00	8,745.00				874.50		437.25			364.38				1,093.13	
451+57.62		458+27.69	RT	670.07		68.00	45,564.76	5,062.75				506.28		253.14			210.95				632.84	
458+27.69		460+80.91	RT	253.22		70.00	17,725.40	1,969.49				196.95		98.47			82.06				246.19	
460+80.91		470+80.91	RT	1000.00		79.50	79,500.00	8,833.33				883.33		441.67			368.06				1,104.17	
470+80.91		492+13.51	RT	1922.60		68.00	130,736.80	14,526.31				1,452.63		726.32			605.26				1,815.79	
492+13.51		499+33.51	RT	720.00		62.00	44,640.00	4,960.00				496.00		248.00			206.67				620.00	
499+33.51		503+12.46	RT	198.95		56.00	11,141.20	1,237.91				123.79		61.90			51.58				154.74	
503+12.46		506+54.43	RT	341.97		56.00	19,150.32			2127.81		212.78					88.66					
506+54.43		508+50.00	RT	15.57		56.00	871.92	96.88				9.69		4.84			4.04				12.11	
508+50.00		509+50.00	RT	100.00		61.00	6,100.00	677.78				67.78		33.89			28.24				84.72	
509+50.00		511+60.90	RT	210.90		66.00	13,919.40	1,546.60				154.66		77.33			64.44				193.33	
511+60.90		515+48.10	RT	387.20	1.01	72.75	28,450.49	3,161.17				316.12		158.06			131.72				395.15	
515+48.10		517+85.00	RT	236.90	1.01	78.25	18,722.80	2,080.31				208.03		104.02			86.68				260.04	
517+85.00		527+46.58	RT	961.58	1.01	56.00	54,386.96	6,043.00				604.30		302.15			251.79				755.37	
527+46.58		532+31.39	RT	484.81		56.00	27,149.36	3,016.60				301.66		150.83			125.69				377.07	
532+31.39	FEATHER	532+68.89	RT	37.50		56.00	2,100.00	233.33				23.33					9.72					
SHEET TOTAL							1,395,304.44	152,906.01		2,127.81		15,503.38		7,613.96			6,459.74				19,034.90	

CALCULATED CML

CHECKED AVJ

PAVEMENT QUANTITY CALCULATIONS

CUY - 271 - 6.04

ITEM								202		254		407		407			442		442		442	
STATION	TO	STATION	SIDE	DISTANCE (D)	CURVATURE CORRECTION RATIO ((OFFSET+RADIUS)/RADIUS)	AVERAGE WIDTH (W)	SURFACE AREA (A)	WEARING COURSE REMOVED (4.50") AND AT FEATHERS (1.50")		PAVEMENT PLANING, ASPHALT CONCRETE (1.50")		TACK COAT @ 0.10 GAL./SQ. YD.		TACK COAT FOR INTERMEDIATE COURSE @ 0.05 GAL./SQ. YD.			1.50" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN A		1.50" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN B		4.50" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	
				FEET	FT/FT	FEET	SQ FT	SQ YD		SQ YD		GAL		GAL			CU YD		CU YD		CU YD	
CUY - 271 MAINLINE																						
NORMAL RESURFACING SOUTHBOUND LANES																						
9+42.22	FEATHER	9+79.72	LT	37.50		50.00	1,875.00	208.33				20.83					8.68					
340+05.14	FEATHER	340+42.64	LT	37.50	0.99	44.00	1,633.50	181.50				18.15					7.56					
340+42.64		341+57.27	LT	114.63	0.99	44.00	4,993.28	554.81				55.48		27.74			23.12				69.35	
341+57.27		351+12.65	LT	955.38	0.99	86.00	81,341.05	9,037.89				903.79		451.89			376.58				1,129.74	
351+12.65		362+81.31	LT	1168.66	0.99	68.00	78,674.19	8,741.58				874.16		437.08			364.23				1,092.70	
362+81.31		365+81.56	LT	300.25	0.99	93.48	27,786.70	3,087.41				308.74		154.37			128.64				385.93	
365+81.56		370+00.00	LT	418.44	0.99	80.00	33,140.45	3,682.27				368.23		184.11			153.43				460.28	
370+00.00		371+00.00	LT	100.00	0.99	76.00	7,524.00	836.00				83.60		41.80			34.83				104.50	
371+00.00		382+40.00	LT	1140.00	0.99	70.00	79,002.00	8,778.00				877.80		438.90			365.75				1,097.25	
382+40.00		387+60.01	LT	520.01	0.99	74.50	38,353.34	4,261.48				426.15		213.07			177.56				532.69	
387+60.01		389+76.71	LT	216.70	0.99	88.69	19,026.93	2,114.10				211.41		105.71			88.09				264.26	
389+76.71		411+44.66	LT	1912.95	0.99	56.00	106,053.95	11,783.77				1,178.38		589.19			490.99				1,472.97	
411+44.66		417+00.01	LT	555.35	0.99	79.50	43,708.82	4,856.54				485.65		242.83			202.36				607.07	
417+00.01		420+31.80	LT	331.79	0.99	66.00	21,679.16	2,408.80				240.88		120.44			100.37				301.10	
420+31.80		432+78.11	LT	1246.31		66.00	82,256.46	9,139.61				913.96		456.98			380.82				1,142.45	
432+78.11		433+78.11	LT	100.00	1.01	68.25	6,893.25	765.92				76.59		38.30			31.91				95.74	
433+78.11		438+00.00	LT	421.89	1.01	75.75	32,277.75	3,586.42				358.64		179.32			149.43				448.30	
438+00.00		443+04.27	LT	504.27	1.01	66.63	33,935.51	3,770.61				377.06		188.53			157.11				471.33	
443+04.27		449+98.10	LT	693.83	1.01	73.63	51,597.57	5,733.06				573.31		286.65			238.88				716.63	
449+98.10		451+19.87	LT	121.77	1.01	57.71	7,097.62	788.62				78.86		39.43			32.86				98.58	
451+19.87		454+16.39	LT	296.52		61.96	18,372.38	2,041.38				204.14		102.07			85.06				255.17	
454+16.39		461+43.38	LT	726.99		56.00	40,711.44	4,523.49				452.35		226.17			188.48				565.44	
461+43.38		462+45.32	LT	101.94		58.89	6,003.25	667.03				66.70		33.35			27.79				83.38	
462+45.32		466+98.16	LT	452.84		80.39	36,403.81	4,044.87				404.49		202.24			168.54				505.61	
466+98.16		490+00.00	LT	2091.84		68.00	142,245.12	15,805.01				1,580.50		790.25			658.54				1,975.63	
490+00.00		491+00.00	LT	100.00		62.00	6,200.00	688.89				68.89		34.44			28.70				86.11	
491+00.00		500+00.00	LT	900.00		56.00	50,400.00	5,600.00				560.00		280.00			233.33				700.00	
500+00.00		503+12.46	LT	132.46		57.60	7,629.70	847.74				84.77		42.39			35.32				105.97	
503+12.46		506+54.43	LT	341.97		62.06	21,222.66			2,358.07		235.81					98.25					
506+54.43		511+60.90	LT	326.47		69.13	22,568.87	2,507.65				250.77		125.38			104.49				313.46	
511+60.90		515+00.00	LT	339.10	0.99	74.18	24,902.89	2,766.99				276.70		138.35			115.29				345.87	
515+00.00		518+15.55	LT	315.55	0.99	81.50	25,460.15	2,828.91				282.89		141.45			117.87				353.61	
518+15.55		527+46.58	LT	931.03	0.99	56.00	51,616.30	5,735.14				573.51		286.76			238.96				716.89	
527+46.58		532+31.39	LT	484.81		56.00	27,149.36	3,016.60				301.66		150.83			125.69				377.07	
532+31.39	FEATHER	532+68.89	LT	37.50		56.00	2,100.00	233.33				23.33					9.72					
SHEET TOTAL							**1,241,836.45**	**135,623.75**		**2,358.07**		**13,798.18**		**6,750.03**			**5,749.24**				**16,875.07**	

CALCULATED CAL
CHECKED MVJ

PAVEMENT QUANTITY CALCULATIONS

CUY - 271 - 6.04

ITEM								202		254		407		407			442		442		442	
STATION	TO	STATION	SIDE	DISTANCE (D)	CURVATURE CORRECTION RATIO ((OFFSET+RADIUS)/RADIUS)	AVERAGE WIDTH (W)	SURFACE AREA (A)	WEARING COURSE REMOVED (4.50") AND AT FEATHERS (1.50")		PAVEMENT PLANING, ASPHALT CONCRETE (1.50")		TACK COAT @ 0.10 GAL./SQ. YD.		TACK COAT FOR INTERMEDIATE COURSE @ 0.05 GAL./SQ. YD.			1.50" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN A		1.50" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN B		4.50" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	
				FEET	FT/FT	FEET	SQ FT	SQ YD		SQ YD		GAL		GAL			CU YD		CU YD		CU YD	
RAMPS																						
NORMAL RESURFACING B/L RAMP G-2																						
1+18.30	FEATHER	1+28.30	RT			A.C.A.D.	462.75	51.42				5.14							2.14			
1+28.30		3+33.00	RT			A.C.A.D.	5,516.29	612.92				61.29		30.65					25.54		76.62	
3+33.00		5+50.13	RT	217.13		25.00	5,428.25	603.14				60.31		30.16					25.13		75.39	
5+50.13		15+01.21	RT	951.08	1.01	25.00	24,014.77	2,668.31				266.83		133.42					111.18		333.54	
15+01.21		15+51.21	RT	50.00	1.01	26.00	1,313.00	145.89				14.59		7.29					6.08		18.24	
						RAMP G-2 TOTALS	36,735.06	4,081.67				408.17		201.51					170.07		503.78	
NORMAL RESURFACING B/L RELOCATED RAMP F-4																						
11+85.81		12+69.42	RT	83.61		35.00	2,926.35	325.15				32.52		16.26					13.55		40.64	
12+69.42		17+57.50	RT	488.08	1.01	35.00	17,253.63	1,917.07				191.71		95.85					79.88		239.63	
17+57.50	BACK																					
9+64.08	AHEAD	11+25.00	RT	160.92		35.00	5,632.20	625.80				62.58		31.29					26.08		78.23	
11+25.00		13+07.74	RT	182.74	0.98	37.28	6,676.30	741.81				74.18		37.09					30.91		92.73	
13+07.74		13+37.74	RT	30.00	0.98	37.45	1,101.03	122.34				12.23		6.12					5.10		15.29	
13+37.74		16+05.00	RT	267.25		38.66	10,332.27	1,148.03				114.80		57.40					47.83		143.50	
16+05.00		17+43.98	RT	138.98		42.00	5,837.16	648.57				64.86		32.43					27.02		81.07	
17+43.98	FEATHER	17+53.98	RT	10.00		42.00	420.00	46.67				4.67							1.94			
						RAMP F-4 TOTALS	50,178.94	5,575.44				557.54		276.44					232.31		691.10	
NORMAL RESURFACING B/L RELOCATED RAMP F-6																						
2+90.00	FEATHER	3+00.00	RT	10.00	1.02	22.00	224.40	24.93				2.49							1.04			
3+00.00		3+74.74	RT	74.74	1.02	22.00	1,677.17	186.35				18.64		9.32					7.76		23.29	
3+74.74		7+57.42	RT	382.68	1.01	22.00	8,503.15	944.79				94.48		47.24					39.37		118.10	
7+57.42		9+67.98	RT	210.56	1.04	22.00	4,817.61	535.29				53.53		26.76					22.30		66.91	
	AHEAD	37+38.97																				
37+38.97		37+58.22	RT	19.25	1.05	22.00	444.68	49.41				4.94		2.47					2.06		6.18	
37+58.22		38+38.32	RT	80.10	1.04	24.50	2,040.95	226.77				22.68		11.34					9.45		28.35	
38+38.32		39+57.62	RT	119.30	1.04	27.00	3,349.94	372.22				37.22		18.61					15.51		46.53	
39+57.62		41+07.62	RT	150.00	1.04	27.00	4,212.00	468.00				46.80		23.40					19.50		58.50	
41+07.62		41+57.62	RT	50.00		28.00	1,400.00	155.56				15.56		7.78					6.48		19.44	
						RAMP F-6 TOTALS	26,669.90	2,963.32				296.33		146.92					123.47		367.30	
NORMAL RESURFACING B/L RELOCATED RAMP F-2																						
3+61.30	FEATHER	3+71.30	RT	10.00	1.02	22.00	224.40	24.93				2.49							1.04			
3+71.30		5+53.65	RT	182.35	1.02	22.00	4,091.93	454.66				45.47		22.73					18.94		56.83	
5+53.65		8+21.80	RT	268.15		22.00	5,899.30	655.48				65.55		32.77					27.31		81.93	
	AHEAD	52+61.22																				
52+61.22		52+63.63	RT	2.41		22.00	53.02	5.89				0.59		0.29					0.25		0.74	
52+63.63		53+38.63	RT	75.00		23.50	1,762.50	195.83				19.58		9.79					8.16		24.48	
53+38.63		60+30.91	RT	692.28		25.00	17,307.00	1,923.00				192.30		96.15					80.13		240.38	
60+30.91		60+80.91	RT	50.00		26.00	1,300.00	144.44				14.44		7.22					6.02		18.06	
						RAMP F-2 TOTALS	30,638.15	3,404.24				340.42		168.97					141.84		422.41	
SHEET TOTAL							144,222.04	16,024.67				1,602.47		793.84					667.69		1,984.59	

CALCULATED/ CMI

CHECKED MVJ

PAVEMENT QUANTITY CALCULATIONS

CUY - 271 - 6.04

ITEM								202		254		407		407			442		442		442	
STATION	TO	STATION	SIDE	DISTANCE (D)	CURVATURE CORRECTION RATIO ((OFFSET+RADIUS)/RADIUS)	AVERAGE WIDTH (W)	SURFACE AREA (A)	WEARING COURSE REMOVED (4.50") AND AT FEATHERS (1.50")		PAVEMENT PLANING, ASPHALT CONCRETE (1.50")		TACK COAT @ 0.10 GAL./SQ. YD.		TACK COAT FOR INTERMEDIATE COURSE @ 0.05 GAL./SQ. YD.			1.50" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN A		1.50" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN B		4.50" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	
				FEET	FT/FT	FEET	SQ FT	SQ YD		SQ YD		GAL		GAL			CU YD		CU YD		CU YD	
RAMPS																						
NORMAL RESURFACING B/L RAMP G-1																						
57+53.64	FEATHER	57+63.64	LT			A.C.A.D.	869.12	96.57				9.66							4.02			
57+63.64		58+93.02	LT			A.C.A.D.	5,235.25	581.69				58.17		29.08					24.24		72.71	
58+93.02		62+00.00	LT	306.98	1.01	25.00	7,751.24	861.25				86.12		43.06					35.89		107.66	
62+00.00		62+86.48	LT	86.48		27.00	2,334.96	259.44				25.94		12.97					10.81		32.43	
						RAMP G-1 TOTALS	16,190.58	1,798.95				179.90		85.12					74.96		212.80	
NORMAL RESURFACING B/L RELOCATED RAMP F-1																						
2+00.67	FEATHER	2+10.67	LT	10.00	1.02	22.80	232.56	25.84				2.58							1.08			
2+10.67		2+64.30	LT	53.63	1.02	24.53	1,341.85	149.09				14.91		7.45					6.21		18.64	
2+64.30		3+00.67	LT	36.37	1.01	22.73	834.96	92.77				9.28		4.64					3.87		11.60	
3+00.67		8+56.84	LT	556.17	1.01	22.00	12,358.10	1,373.12				137.31		68.66					57.21		171.64	
8+56.84		12+32.07	LT	375.23		22.00	8,255.06	917.23				91.72		45.86					38.22		114.65	
12+32.07		13+32.26	LT	100.19		24.00	2,404.56	267.17				26.72		13.36					11.13		33.40	
13+32.26		17+33.71	LT	401.45		25.00	10,036.25	1,115.14				111.51		55.76					46.46		139.39	
						RAMP F-1 TOTALS	35,463.34	3,940.37				394.04		195.73					164.18		489.32	
NORMAL RESURFACING B/L RELOCATED RAMP F-5																						
3+75.00	FEATHER	3+85.00	LT	10.00	1.01	22.00	222.20	24.69				2.47							1.03			
3+85.00		4+01.52	LT	16.52	1.01	22.00	367.07	40.79				4.08		2.04					1.70		5.10	
4+01.52		4+74.47	LT	72.95	1.03	22.00	1,653.05	183.67				18.37		9.18					7.65		22.96	
4+74.47		12+01.06	LT	726.59	1.03	22.00	16,464.53	1,829.39				182.94		91.47					76.22		228.67	
12+01.06		13+01.06	LT	100.00	1.03	22.00	2,266.00	251.78				25.18		12.59					10.49		31.47	
13+01.06		14+01.06	LT	100.00		23.50	2,350.00	261.11				26.11		13.06					10.88		32.64	
14+01.06		17+02.62	LT	301.56		26.00	7,840.56	871.17				87.12		43.56					36.30		108.90	
						RAMP F-5 TOTALS	31,163.41	3,462.60				346.26		171.90					144.28		429.74	
NORMAL RESURFACING B/L RELOCATED RAMP F-3																						
4+53.07		5+53.07	LT	100.00		26.50	2,650.00	294.44				29.44		14.72					12.27		36.81	
5+53.07		7+20.00	LT	166.93	1.01	22.00	3,709.18	412.13				41.21		20.61					17.17		51.52	
7+20.00		10+40.00	LT	320.00	1.01	26.00	8,403.20	933.69				93.37		46.68					38.90		116.71	
10+40.00		10+54.93	LT	14.93	1.01	30.19	455.24	50.58				5.06		2.53					2.11		6.32	
10+54.93		12+35.05	LT	180.12		32.62	5,875.51	652.83				65.28		32.64					27.20		81.60	
12+35.05		14+59.76	LT	224.71		37.69	8,469.32	941.04				94.10		47.05					39.21		117.63	
14+59.76		15+20.00	LT	60.24		41.25	2,484.90	276.10				27.61		13.81					11.50		34.51	
15+20.00		16+80.49	LT	160.49		42.00	6,740.58	748.95				74.90		37.45					31.21		93.62	
16+80.49		17+18.66	LT			A.C.A.D.	1,759.27	195.47				19.55		9.77					8.14		24.43	
17+18.66	FEATHER	17+28.66	LT			A.C.A.D.	723.31	80.37				8.04		4.02					3.35		10.05	
						RAMP F-3 TOTALS	41,270.52	4,585.61				458.56		229.28					191.07		573.20	
SHEET TOTAL							124,087.85	13,787.54		0.00		1,378.75		682.02			0.00		574.48		1,705.06	
SHEET TOTAL SHEET NO. 36							1,395,304.44	152,906.01		2,127.81		15,503.38		7,613.96			6,459.74		0.00		19,034.90	
SHEET TOTAL SHEET NO. 37							1,241,836.45	135,623.75		2,358.07		13,798.18		6,750.03			5,749.24		0.00		16,875.07	
SHEET TOTAL SHEET NO. 38							144,222.04	16,024.67		0.00		1,602.47		793.84			0.00		667.69		1,984.59	
GRAND TOTAL								318,342		4,486		32,283		15,840			12,209		1,242		39,600	

CALCULATED CML

CHECKED MVJ

PAVEMENT QUANTITY CALCULATIONS

CUY - 271 - 6.04

ITEM	SHEET NUMBER																ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SHEET NO.
	13	14	15	16			32		33		35		39		89	117						
																					ROADWAY	
201	LUMP																201	11000	LUMP		CLEARING AND GRUBBING	
202															13		202	20010	13	EACH	HEADWALL REMOVED	
202													318342				202	23500	318342	SQ YD	WEARING COURSE REMOVED	
202															24		202	35100	24	FT	PIPE REMOVED, 24" AND UNDER	
202															128		202	35200	128	FT	PIPE REMOVED, OVER 24"	
202											26200						202	38000	26200	FT	GUARDRAIL REMOVED	
SPECIAL		500					3761								630		SPECIAL	20270100	4891	FT	SPECIAL - PIPE CLEANOUT	14
202			600														202	75001	600	FT	FENCE REMOVED, AS PER PLAN	
202			2														202	75250	2	EACH	GATE REMOVED	
202															LUMP		202	98000	LUMP		REMOVAL MISC.: RIPRAP SLAB REMOVED	
202							46										202	98300	46	SQ YD	REMOVAL MISC.: RIPRAP SLAB REMOVED	
SPECIAL		11870															SPECIAL	20301890	11870	SQ YD	SPECIAL - SOIL STERILANT	14
203				50			2701										203	10000	2751	CU YD	EXCAVATION	
203							4782										203	20000	4782	CU YD	EMBANKMENT	
209							977		85						1750		209	10000	2812	FT	DITCH CLEANOUT	
209				5							262						209	60201	267	STATION	LINEAR GRADING, AS PER PLAN	13
604		10															604	39501	10	EACH	MONUMENT BOX ADJUSTED TO GRADE, AS PER PLAN	14
604		10															604	39600	10	EACH	MONUMENT BOX RECONSTRUCTED TO GRADE	14
606				200							23381.25						606	13000	23581.25	FT	GUARDRAIL, TYPE 5	
606	100			100							343.75						606	13050	543.75	FT	GUARDRAIL, TYPE 5A	
606				2							6						606	22000	8	EACH	ANCHOR ASSEMBLY, TYPE B-98	
606				2							23						606	22010	25	EACH	ANCHOR ASSEMBLY, TYPE E-98	
606											40						606	26500	40	EACH	ANCHOR ASSEMBLY, TYPE T	
606											26						606	35000	26	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
606											17						606	35100	17	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2	
606											20						606	60020	20	EACH	IMPACT ATTENUATOR, TYPE 2-98 (UNIDIRECTIONAL)	
607			200													3429	607	15000	3629	FT	FENCE, TYPE 47	
607			200													630	607	20000	830	FT	FENCE, TYPE CL	
607			200													1200	607	23000	1400	FT	FENCE, TYPE CLT	
607															100		607	35000	100	FT	FENCE REMOVED AND REBUILT	
607			1														607	50900	1	EACH	GATE, TYPE CL (4' WALK)	
607			1														607	50900	1	EACH	GATE, TYPE CL (10' SWING)	
607																5	607	98100	5	EACH	FENCE MISC.: END POST ASSEMBLY	117
607																10	607	98100	10	EACH	FENCE MISC.: INTERMEDIATE ANCHOR POST ASSEMBLY	117
607																15	607	98100	15	EACH	FENCE MISC.: CORNER POST ASSEMBLY	117
607																1	607	98100	1	EACH	FENCE MISC.: FENCE POST, TYPE 47	117

CHECKED MVJ

CALCULATED CML

GENERAL SUMMARY

CUY-271-6.04

ITEM	SHEET NUMBER																ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SHEET NO.
		14	16			32		33						89								
																					EROSION CONTROL	
601						45								27			601	11000	72	SQ YD	RIPRAP USING 6" REINFORCED CONCRETE SLAB	
601														53			601	32100	53	CU YD	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	
601						49								14			601	32200	63	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
601								120									601	32310	120	CU YD	ROCK CHANNEL PROTECTION, TYPE D W/ AGGREGATE FILTER	
659			2														659	00100	2	EACH	SOIL ANALYSIS TEST	
659			903														659	00300	903	CU YD	TOPSOIL	
659			8138														659	10000	8138	SQ YD	SEEDING AND MULCHING	
659			407														659	14000	407	SQ YD	REPAIR SEEDING AND MULCHING	
659			407														659	15000	407	SQ YD	INTER-SEEDING	
659			1.14														659	20000	1.14	TON	COMMERCIAL FERTILIZER	
659			2														659	31000	2	ACRE	LIME	
659			45														659	35000	45	MGAL	WATER	
670								7062									670	00500	7062	SQ YD	SLOPE EROSION PROTECTION	
670						1321		103									670	00700	1424	SQ YD	DITCH EROSION PROTECTION	
																					DRAINAGE	
SPECIAL		25												7			512	10600	32	FT	CONCRETE REPAIR BY EPOXY INJECTION	
602														8.8			602	20000	8.8	CU YD	CONCRETE MASONRY	
603						10		180									603	01500	190	FT	6" CONDUIT, TYPE F, 707.41 NON-PERFORATED	
603														24			603	10600	24	FT	24" CONDUIT, TYPE C, 706.02	
603														60			603	16600	60	FT	36" CONDUIT, TYPE C, 706.02	
603														52			603	19600	52	FT	42" CONDUIT, TYPE C, 706.02	
603														20			603	21100	20	FT	48" CONDUIT, TYPE C, 706.02	
603														12			603	24000	12	FT	60" CONDUIT, TYPE C, 706.02	
603														1253			603	98300	1253	FT	CONDUIT MISC.: SEALING REINFORCED CONCRETE PIPE CULVERT JOINTS	14
604						22											604	08600	22	EACH	CATCH BASIN MISC.: CLEAN OFF APRON	
604						48											604	08600	48	EACH	CATCH BASIN MISC.: CLEAN OFF GRATE	
604						70											604	08600	70	EACH	CATCH BASIN MISC.: CLEANOUT STRUCTURE	
604		10				8											604	09001	18	EACH	CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN	14
604		10				7											604	09500	17	EACH	CATCH BASIN RECONSTRUCTED TO GRADE	
604						6											604	09900	6	EACH	CATCH BASIN GRATE	
604						4											604	20601	4	EACH	INLET ADJUSTED TO GRADE, AS PER PLAN	14
604						7											604	32500	7	EACH	MANHOLE MISC.: CLEAN OFF CASTING	
604		10				5											604	34501	15	EACH	MANHOLE ADJUSTED TO GRADE, AS PER PLAN	14
604		10															604	35500	10	EACH	MANHOLE RECONSTRUCTED TO GRADE	
604								2									604	36600	2	EACH	PRECAST REINFORCED CONCRETE OUTLET	
SPECIAL		5000				100											SPECIAL	60450000	5100	POUND	SPECIAL - MISCELLANEOUS METAL	
605						50		215									605	13410	265	FT	6" UNCLASSIFIED PIPE UNDERDRAIN W/ FABRIC WRAP	
843														98			843	50001	98	SQ FT	PATCHING CONCRETE STRUCTURES W/ TROWELABLE MORTAR, AS PER PLAN	14
864		50												93			512	10100	143	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)	

CHECKED MVJ

CALCULATED CML

GENERAL SUMMARY

CUY-271-6.04

E:\PROJECTS\PID12996\Revised for 2005 specs\PID12996GGA.dgn 06-JUN-2005 9:02AM jgrmovse

ITEM	SHEET NUMBERS																		ITEM	ITEM EXT.	TOTAL QUANT.	UNIT	DESCRIPTION	SHEET NUMBER
		16			35	39	118	119		120	121	122	123	124	125	126	127							
																							PAVEMENT	
251		2000																	251	01001	2000	SQ YD	PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN	16
254						4486													254	01000	4486	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
254		20000																	254	01600	20000	SQ YD	PATCHING PLANED SURFACE	16
255		4000																	255	10001	4000	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN A	
255		2100																	255	10001	2100	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN B	
255		2000																	255	10101	2000	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN A	
255		1800																	255	10101	1800	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN B	
255		2000																	255	10151	2000	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN A	
255		1800																	255	10151	1800	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN B	
255		20000																	255	20000	20000	FT	FULL DEPTH PAVEMENT SAWING	
304		50																	304	20001	50	CU YD	AGGREGATE BASE, AS PER PLAN	16
407						32283													407	10000	32283	GALLON	TACK COAT	
407						15840													407	14000	15840	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
442						12209													442	10001	12209	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN A	16
442						1242													442	10001	1242	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN B	16
442						39600													442	10100	39600	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	
448		12			647														448	46061	659	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG 64-22, A.P.P.	13
618		14.6																	618	40600	14.6	MILE	RUMBLE STRIPS, (ASPHALT CONCRETE)	16
																							TRAFFIC CONTROL	
620										7	9		12	7		17			620	10300	52	EACH	DELINEATOR, TYPE C, POST MOUNTED	
620										7			18	17		53			620	15300	95	EACH	DELINEATOR, TYPE D, POST MOUNTED	
620										14	9		30	24		70			620	40400	147	EACH	REFLECTOR, TYPE E	
621										182	221	256	132	181	214	65			621	00100	1251	EACH	RPM	
621							1500												621	90000	1500	EACH	RPM MISC.; REMOVED FOR DISPOSAL	118
625																	39		625	01500	39	EACH	CABLE SPLICING KIT	
625							10												625	01501	10	EACH	CABLE SPLICING KIT, AS PER PLAN	118
626		25			343														626	00100	368	EACH	BARRIER REFLECTOR, TYPE A	
626		25			59														626	00200	84	EACH	BARRIER REFLECTOR, TYPE B	
630							39												630	09100	39	EACH	SURFACE PREPARATION, EXISTING SUPPORT SECTION	
630							39												630	09102	39	EACH	SURFACE PREPARATION, NEW SUPPORT SECTION	
630								39											630	09106	39	EACH	COATING, EPOXY INTERMEDIATE COAT, SUPPORT SECTION	
630								39											630	09108	39	EACH	COATING, URETHANE TOP COAT, SUPPORT SECTION	
630								39											630	09120	39	EACH	COATING, ORGANIC ZINC PRIME COAT, SUPPORT SECTION	
630																	9292		630	80225	9292	SQ FT	SIGN, OVERHEAD EXTRUSHEET, AS PER PLAN	118
630																	55		630	87400	55	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
631																	119		631	94200	119	EACH	REMOVAL OF LUMINAIRE AND DISPOSAL	
631																	39		631	94304	39	EACH	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	
631																	119		631	94404	119	EACH	REMOVAL OF BALLAST AND DISPOSAL	
631																	55		631	94408	55	EACH	REMOVAL OF SIGN WIRING AND DISPOSAL	
631																	39		631	94412	39	EACH	REMOVAL OF SIGN SERVICE AND DISPOSAL	
632							6												632	26501	6	EACH	DETECTOR LOOP, AS PER PLAN	118
632							6												632	27201	6	EACH	LOOP DETECTOR TIE IN, AS PER PLAN	118
632							600												632	65201	600	FT	LOOP DETECTOR LEAD-IN CABLE, AS PER PLAN	118
646										1.30	1.29	1.78	0.88	1.50	2.09	0.72			646	10000	9.56	MILE	EDGE LINE (WHITE)	
646										1.25	1.29	1.70	0.96	1.50	2.00	0.72			646	10000	9.42	MILE	EDGE LINE (YELLOW)	
646										3.11	3.20	4.28	1.64	3.00	4.89	0.27			646	10100	20.39	MILE	LANE LINE	
646										2783	2832	3225	1672	817	1556	538			646	10300	13423	FT	CHANNELIZING LINE	
646																117			646	10400	117	FT	STOP LINE	
646																463			646	10500	463	FT	CROSSWALK LINE	
646										517	297	576		198	873				646	10600	2461	FT	TRANSVERSE DIAGONAL LINE (WHITE)	
646																51			646	10800	51	SQ FT	ISLAND MARKING	
646																12			646	20300	12	EACH	LANE ARROW	
646																3			646	20410	3	EACH	WORD ON PAVEMENT, 96"	

CHECKED RAH

CALCULATED MVJ

GENERAL SUMMARY

CUY-271-6.04

I:\PROJECTS\PID\29966\revised for 2005 specs\29966GGB.dgn 06-JUL-2005 14:42PM jgrmovse

ITEM	SHEET NUMBERS																	ITEM	ITEM EXT.	TOTAL QUANT.	UNIT	DESCRIPTION	SHEET NUMBER
							18	19		20	23		24	25	26	27							
																						MAINTENANCE OF TRAFFIC	
614							1000											614	11100	1000	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
614											1		1	1	1	1		614	12336	5	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
614							10											614	12480	10	EACH	CONSTRUCTION ZONE / FINES DOUBLED SIGN	
614										100								614	12510	100	SQ FT	REPLACEMENT SIGN	
614										20								614	12600	20	EACH	REPLACEMENT DRUM	
614								300										614	13001	300	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC, AS PER PLAN	19
614							23											614	13300	23	EACH	BARRIER REFLECTOR, TYPE B	
614							23											614	13350	23	EACH	OBJECT MARKER, ONE WAY	
614							18											614	18601	18	SIGN MONTH	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	18
614								41										614	20100	41	MILE	WORK ZONE LANE LINE, CLASS I, 642 PAINT	
614								38										614	22100	38	MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	
614								26846										614	23200	26846	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	
614								4918										614	25200	4918	FT	WORK ZONE TRANSVERSE LINE, CLASS I, 642 PAINT	
614								234										614	26200	234	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	
614								926										614	27200	926	FT	WORK ZONE CROSSWALK LINE, CLASS I, 642 PAINT	
614								24										614	30200	24	EACH	WORK ZONE LANE ARROW, CLASS I, 642 PAINT	
614								6										614	31650	6	EACH	WORK ZONE WORD ON PAVEMENT, 96", CLASS I, 642 PAINT	
614								102										614	32700	102	SQ FT	WORK ZONE ISLAND MARKING, CLASS I	
616							100											616	10000	100	M GAL	WATER	
622											370		380	450	540	540		622	40030	2280	FT	PORTABLE CONCRETE BARRIER, 50"	
630								400										630	97800	400	SQ FT	SIGNING, MISC.: ADDITIONAL SIGNS, GROUND MOUNTED, AS DIRECTED BY THE ENGINEER	19
																						MISCELLANEOUS	
614																		614	11000	LUMP		MAINTAINING TRAFFIC	
619																		619	16020	12	MONTH	FIELD OFFICE, TYPE C	
623																		623	10001	LUMP		CONSTRUCTION LAYOUT STAKES, AS PER PLAN	15
624																		624	10000	LUMP		MOBILIZATION	
832																		832	10000	1	EACH	STORM WATER POLLUTION PREVENTION PLAN	
832																		832	30000	5000	EACH	EROSION CONTROL	

CHECKED RAH

CALCULATED MVJ

GENERAL SUMMARY

CUY-271-6.04

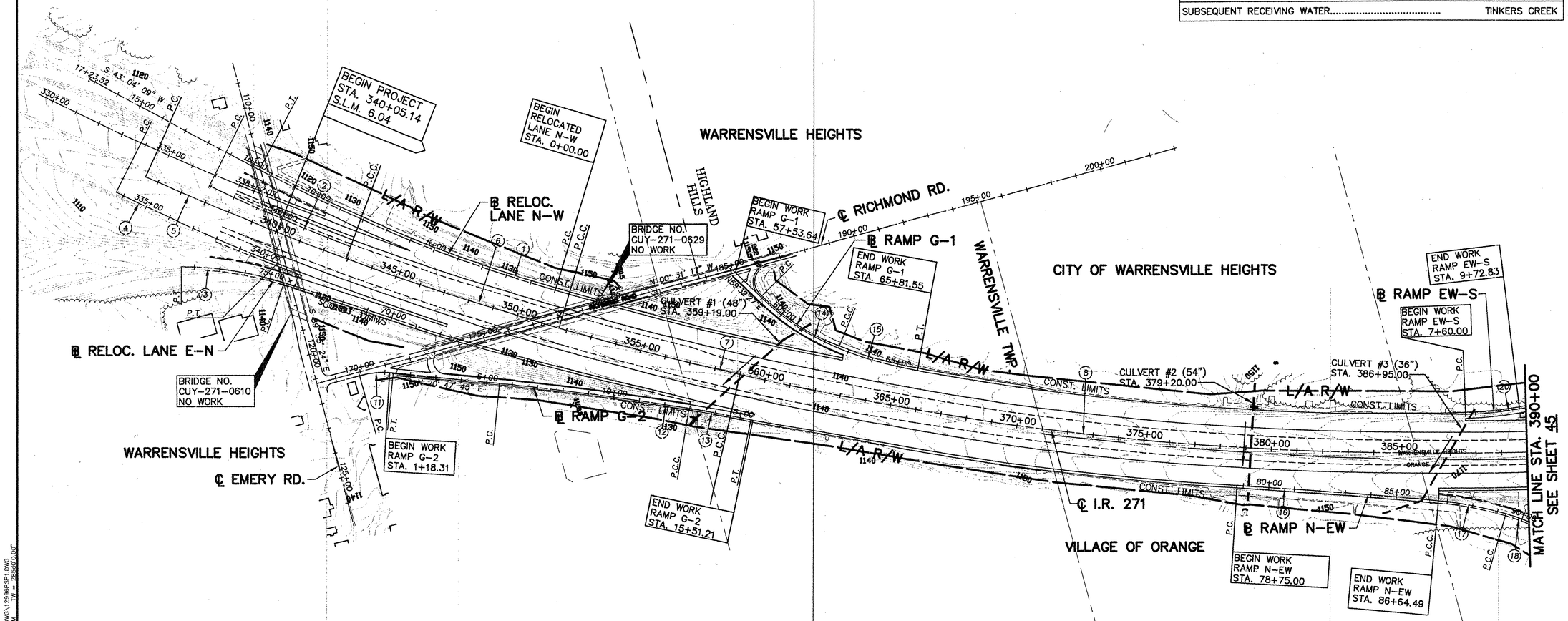
PROJECT DESCRIPTION

THIS PROJECT PROVIDES FOR THE RESURFACING OF MAINLINE IR-271 FROM THE EMERY ROAD BRIDGE OVER IR-271 (SLM 6.04) TO THE FAIRMONT BOULEVARD BRIDGE OVER IR-271 (SLM 9.73). ALSO INCLUDED IS THE RESURFACING OF THE RICHMOND RD. AND CHAGRIN BLVD. INTERCHANGE RAMPS. WORK ITEMS INCLUDE RESURFACING, CONCRETE PAVEMENT REPAIR, SIGN LIGHTING REMOVAL, GUARDRAIL REPLACEMENT, PAVEMENT MARKING AND RAISED PAVEMENT MARKERS, SLOPE REPAIR, DRAINAGE IMPROVEMENTS INCLUDING CULVERT EXTENSION, CATCH BASIN CLEANOUT AND DITCH CLEANOUT.

USGS QUADRANT NO. 41081-D4-TF-024
CHAGRIN FALLS, OHIO
LONGITUDE: W 80°42'42"
LATITUDE: N 41°02'46"
* LONGITUDE AND LATITUDE TO APPROXIMATE CENTER OF PROJECT

PROJECT DATA

TOTAL AREA OF PROJECT (RIGHT OF WAY)	239.8 ACRES
PROJECT EARTH DISTURBED AREA	10.5 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	1.0 ACRES
NOTICE OF INTENT DISTURBED AREA	11.5 ACRES
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE	102.1 ACRES
IMPERVIOUS (PAVED) AREA FOR POST-CONSTRUCTION SITE	102.1 ACRES
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.69
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE	0.69
SOIL AND WATER CONSERVATION MAPS	17, 25, 34
IMMEDIATE RECEIVING WATER	UNNAMED TRIBUTARY TO TINKERS CREEK
SUBSEQUENT RECEIVING WATER	TINKERS CREEK



FOR CURVE DATA, SEE SHEET 4 .

N

0 100 200 400 HORIZONTAL SCALE IN FEET

CALCULATED MVJ
CHECKED RAH

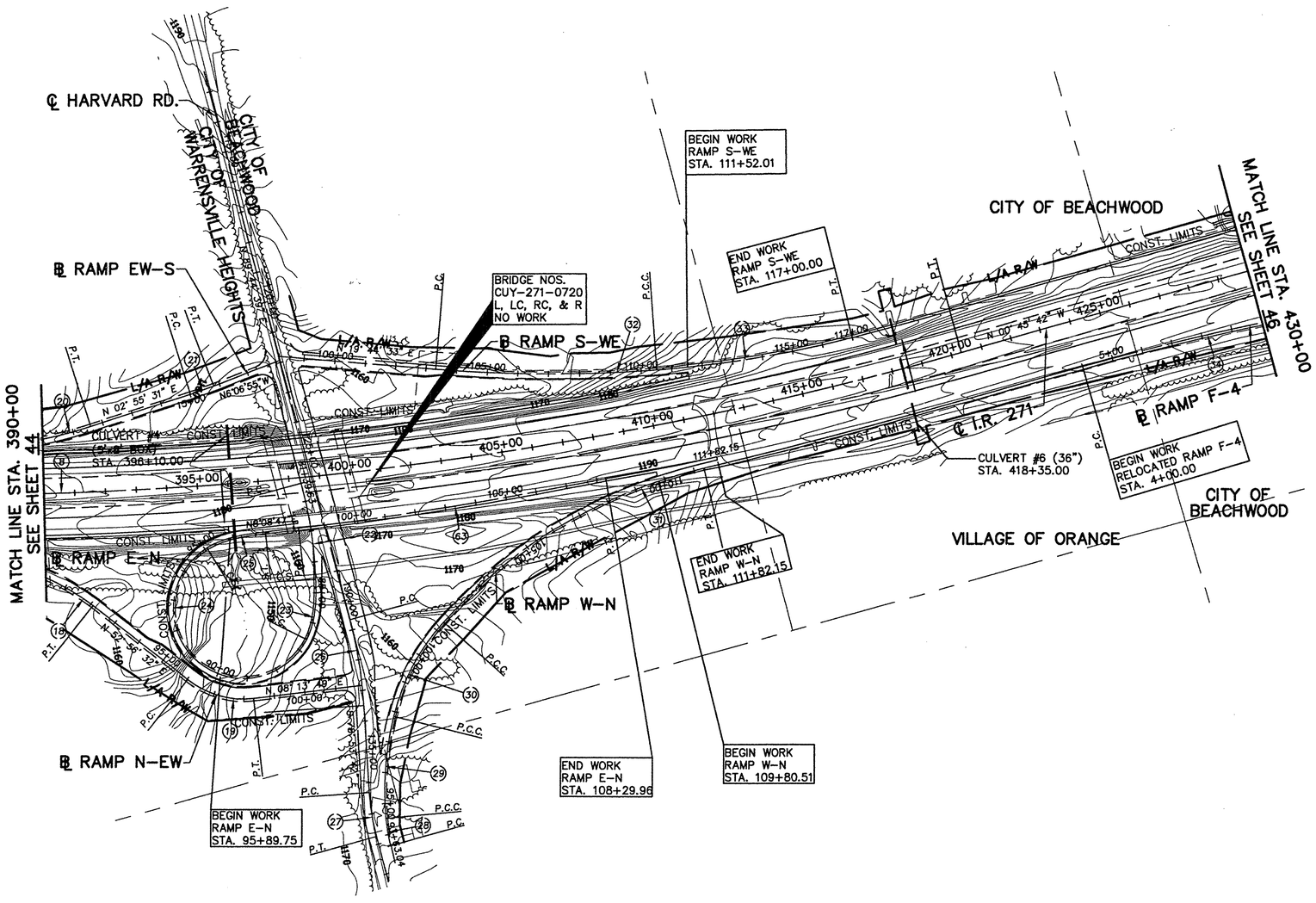
PROJECT SITE PLAN
BEGIN TO STA. 390+00

CUY-271-6.04

1/4

44/142

Cad File: G:\CIVIL\2001118.00\DWG\12986PSP1.DWG
Date: 12-20-04 Time: 1:40 PM TN = 265000.00
Technician: AELLERMAN



FOR CURVE DATA, SEE SHEET 4.
FOR PROJECT DATA, SEE SHEET 44.

PROJECT SITE PLAN
STA. 390+00 TO STA. 430+00

CALCULATED MVJ
CHECKED RAH

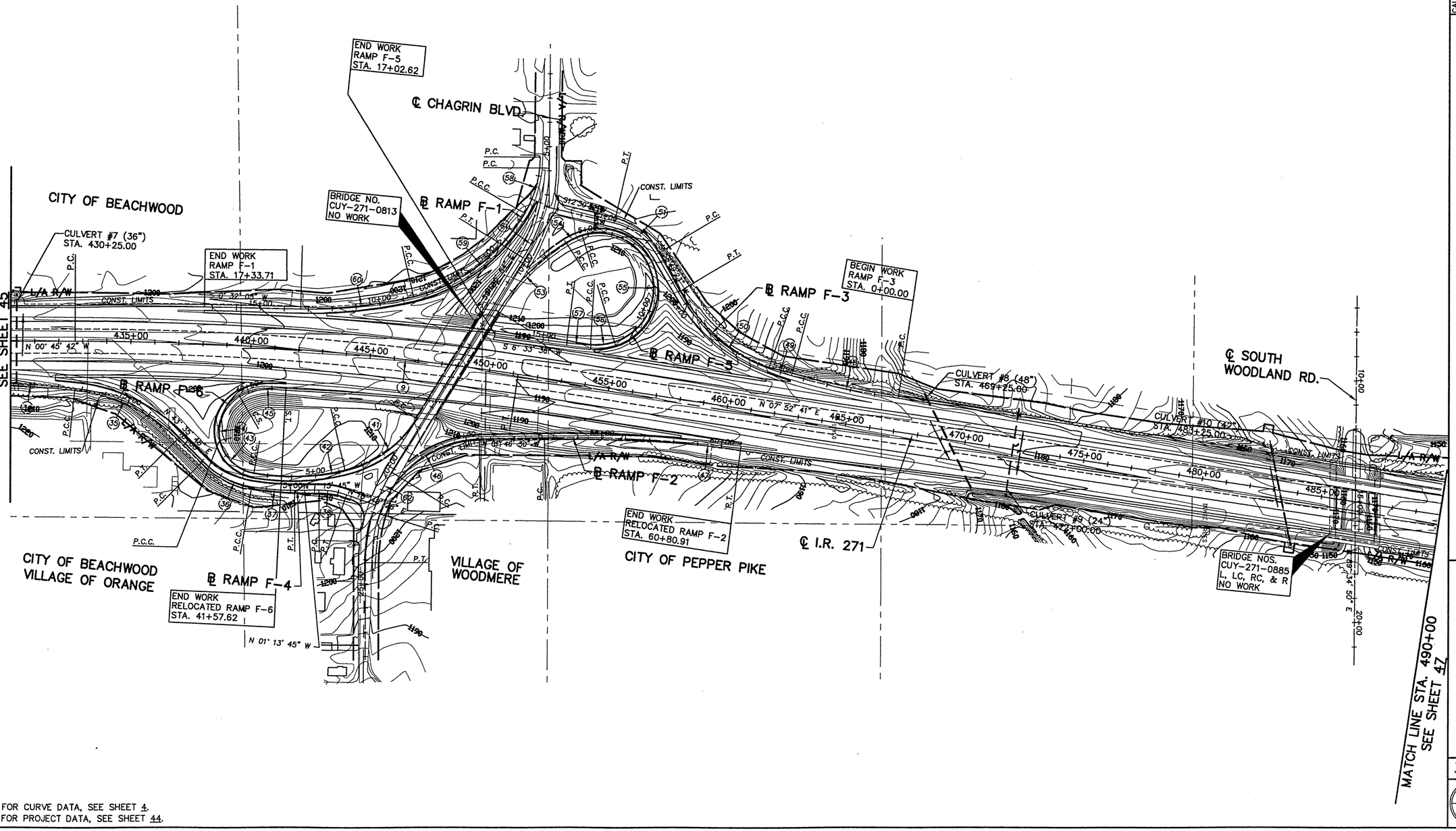
HORIZONTAL SCALE IN FEET
0 100 200 400

CUY–271–6.04

2 / 4

45
142

Cad File: G:\CIVIL\2001118\00\DWG\12996PSP2.DWG
Date: 12–28–04 Time: 11:55 AM TW = 265d0'0.00"
Technician: ABELFORMAN



FOR CURVE DATA, SEE SHEET 4.
FOR PROJECT DATA, SEE SHEET 44.

Cad File: G:\CIVIL\2001118\00\DWG\129385PSP3.DWG
Date: 12-28-04 Time: 1:17 PM TW = 269d14'18.00"

CALCULATED M.V.J.
CHECKED R.A.H.

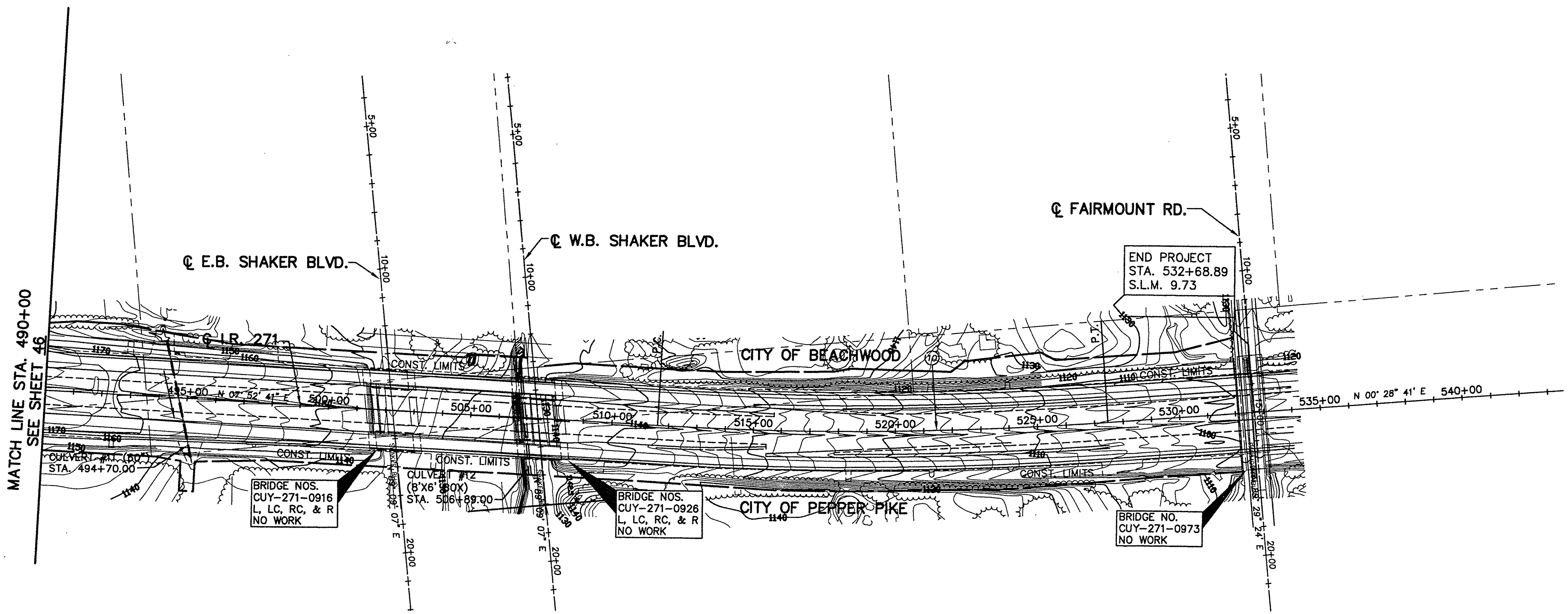
0 100 200 400
HORIZONTAL SCALE IN FEET

PROJECT SITE PLAN
STA. 430+00 TO STA. 490+00

CUY-271-6.04

3/4

46/142



FOR CURVE DATA, SEE SHEET 4.
FOR PROJECT DATA, SEE SHEET 44.

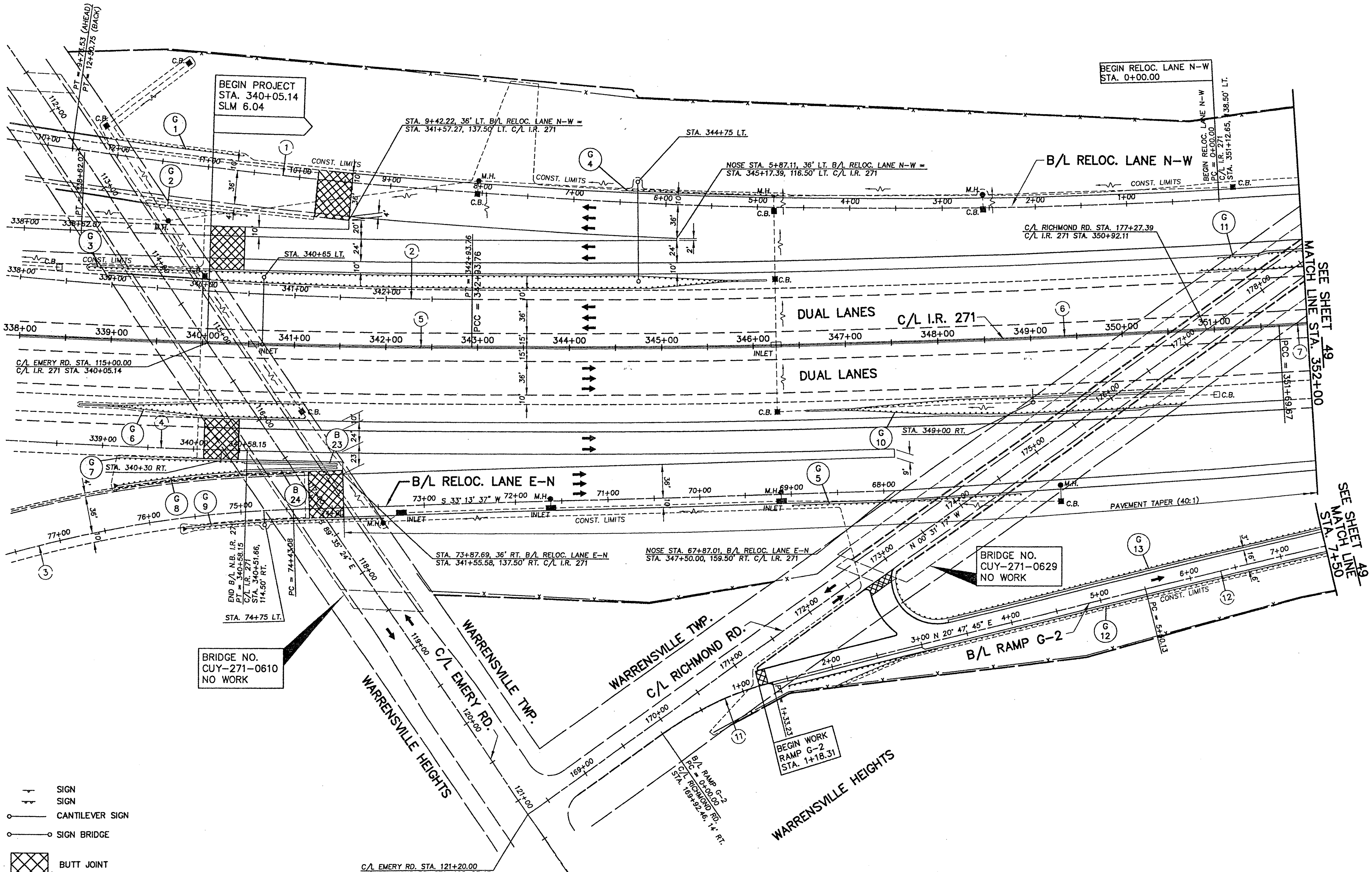
Cad File: G:\CIVIL\2001118\00\DWG\12996PSP4.DWG
Date: 12-28-04 Time: 1:26 PM TW = 274d33'39.03"

CALCULATED MVJ
CHECKED RAH

0 100 200 400
HORIZONTAL SCALE IN FEET

PROJECT SITE PLAN
STA. 490+00 TO END

CUY-271-6.04


BEGIN PROJECT
STA. 340+05.14
SLM 6.04
BEGIN RELOC. LANE N-W
STA. 0+00.00
STA. 9+42.22, 36' LT. B/L RELOC. LANE N-W =
STA. 341+57.27, 137.50' LT. C/L I.R. 271
STA. 344+75 LT.
NOSE STA. 5+87.11, 36' LT. B/L RELOC. LANE N-W =
STA. 345+17.39, 116.50' LT. C/L I.R. 271
B/L RELOC. LANE N-W
CONST. LIMITS
STA. 340+65 LT.
C/L RICHMOND RD. STA. 177+27.39
C/L I.R. 271 STA. 350+92.11
DUAL LANES
C/L I.R. 271
C/L EMERY RD. STA. 115+00.00
C/L I.R. 271 STA. 340+05.14
MATCH LINE STA. 352+00
SEE SHEET 49
STA. 349+00 RT.
STA. 340+30 RT.
B/L RELOC. LANE E-N
S 33° 13' 37" W
PAVEMENT TAPER (40:1)
STA. 73+87.69, 36' RT. B/L RELOC. LANE E-N
STA. 341+55.58, 137.50' RT. C/L I.R. 271
NOSE STA. 67+87.01, B/L RELOC. LANE E-N
STA. 347+50.00, 159.50' RT. C/L I.R. 271
BRIDGE NO.
CUY-271-0629
NO WORK
MATCH LINE STA. 7+50
SEE SHEET 49
B/L RAMP G-2
N 20° 47' 45" E
STA. 74+75 LT.
BRIDGE NO.
CUY-271-0610
NO WORK
WARRENSVILLE TWP.
C/L EMERY RD.
WARRENSVILLE HEIGHTS
C/L RICHMOND RD.
BEGIN WORK
RAMP G-2
STA. 1+18.31
C/L EMERY RD. STA. 121+20.00
C/L RICHMOND RD. STA. 168+23.43
SIGN
SIGN
CANTILEVER SIGN
SIGN BRIDGE
BUTT JOINT

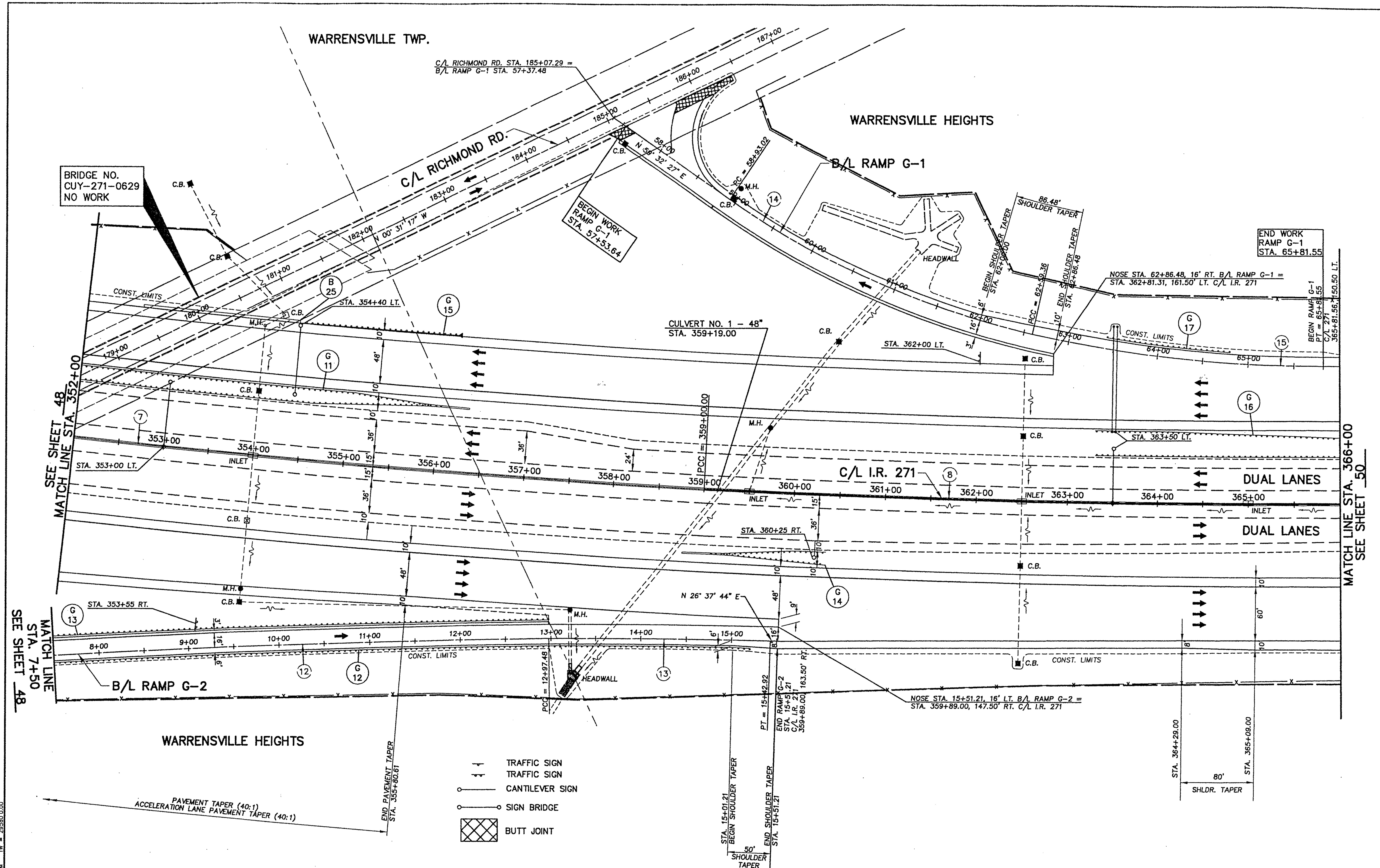
FOR PAVEMENT QUANTITIES, SEE SHEET 36-39.
FOR CURVE DATA, SEE SHEET 4.
FOR GUARDRAIL QUANTITIES, SEE SHEET 34-35.
FOR TRAFFIC CONTROL, SEE SHEET 118-142.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.
FOR DRAINAGE PLAN, SEE SHEET 65.

HORIZONTAL SCALE IN FEET: 0 25 50 100

CALCULATED BC
CHECKED MJ

PLAN SHEET - I.R. 271
BEGIN TO STA. 352+00

CUY-271-6.04


WARRENSVILLE TWP.
WARRENSVILLE HEIGHTS
WARRENSVILLE HEIGHTS
C/L RICHMOND RD. STA. 185+07.29 = B/L RAMP G-1 STA. 57+37.48
C/L RICHMOND RD.
N 00° 31' 17" W
N 58° 32' 27" E
BRIDGE NO. CUY-271-0629 NO WORK
BEGIN WORK RAMP G-1 STA. 57+53.64
B/L RAMP G-1
END WORK RAMP G-1 STA. 65+81.55
86.48' SHOULDER TAPER
BEGIN SHOULDER TAPER STA. 62+00.00
PCC = 62+59.36
END SHOULDER TAPER STA. 62+86.48
NOSE STA. 62+86.48, 16' RT. B/L RAMP G-1 = STA. 362+81.31, 161.50' LT. C/L I.R. 271
BEGIN RAMP G-1 PT = 65+81.55 C/L 271 365+81.56, 150.50 LT.
HEADWALL
CONST. LIMITS
STA. 354+40 LT.
STA. 362+00 LT.
STA. 363+50 LT.
STA. 353+00 LT.
CULVERT NO. 1 - 48" STA. 359+19.00
PCC = 359+00.00
C/L I.R. 271
DUAL LANES
DUAL LANES
STA. 360+25 RT.
N 26° 37' 44" E
STA. 353+55 RT.
B/L RAMP G-2
MATCH LINE STA. 352+00 SEE SHEET 48
MATCH LINE STA. 366+00 SEE SHEET 50
MATCH LINE STA. 7+50 SEE SHEET 48
PCC = 12+97.48
PT = 15+42.92
END RAMP G-2 STA. 15+51.21 C/L I.R. 271 359+89.00, 163.50' RT.
NOSE STA. 15+51.21, 16' LT. B/L RAMP G-2 = STA. 359+89.00, 147.50' RT. C/L I.R. 271
END PAVEMENT TAPER STA. 355+80.61
PAVEMENT TAPER (40:1)
ACCELERATION LANE PAVEMENT TAPER (40:1)
STA. 15+01.21 BEGIN SHOULDER TAPER
END SHOULDER TAPER STA. 15+51.21
50' SHOULDER TAPER
STA. 364+29.00
STA. 365+09.00
80' SHLDR. TAPER
TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE
BUTT JOINT

END WORK
RAMP G-2
STA. 15+51.21

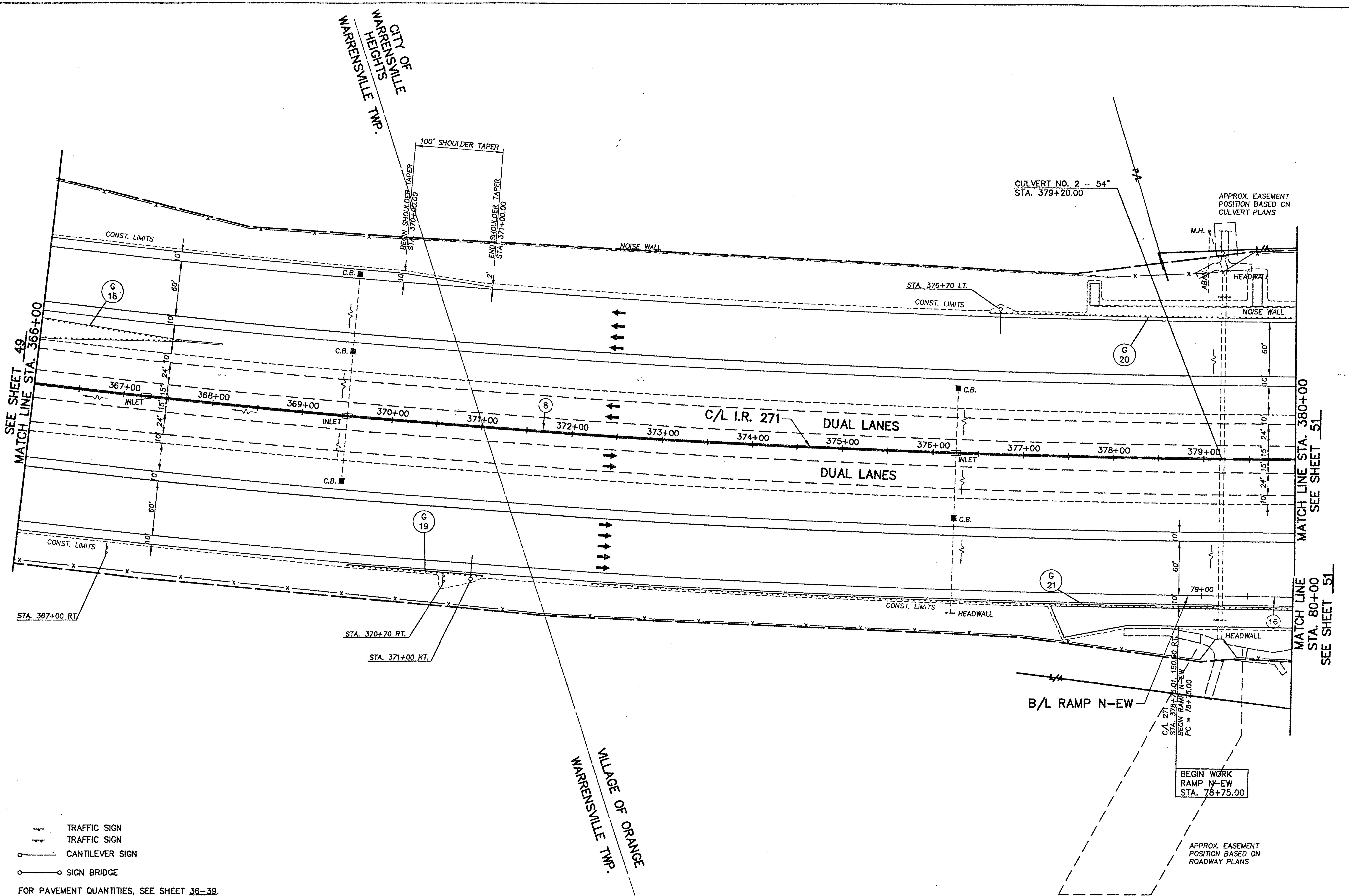
FOR PAVEMENT QUANTITIES, SEE SHEET 36–39.
FOR CURVE DATA, SEE SHEET 4.
FOR GUARDRAIL QUANTITIES, SEE SHEET 35–36.
FOR TRAFFIC CONTROL, SEE SHEET 118–142.
FOR CULVERT DETAILS, SEE SHEET 82.
FOR DRAINAGE QUANTITIES, SEE SHEET 29–32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.
FOR DRAINAGE PLAN, SEE SHEET 66.

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED BC
CHECKED MJ

PLAN SHEET – I.R. 271
STA. 352+00 TO STA. 366+00

CUY-271-6.04



CITY OF WARRENSVILLE HEIGHTS
WARRENSVILLE TWP.
100' SHOULDER TAPER
BEGIN SHOULDER TAPER STA. 370+00.00
END SHOULDER TAPER STA. 371+00.00
CONST. LIMITS
NOISE WALL
C.B.
INLET
SEE SHEET 49
MATCH LINE STA. 366+00
367+00
368+00
369+00
370+00
371+00
372+00
373+00
374+00
375+00
376+00
377+00
378+00
379+00
C/L I.R. 271
DUAL LANES
DUAL LANES
CULVERT NO. 2 - 54"
STA. 379+20.00
APPROX. EASEMENT POSITION BASED ON CULVERT PLANS
M.H.
HEADWALL
STA. 376+70 LT.
MATCH LINE STA. 380+00
SEE SHEET 51
STA. 367+00 RT.
STA. 370+70 RT.
STA. 371+00 RT.
79+00
MATCH LINE STA. 80+00
SEE SHEET 51
B/L RAMP N-EW
BEGIN WORK RAMP N-EW STA. 78+75.00
APPROX. EASEMENT POSITION BASED ON ROADWAY PLANS
VILLAGE OF ORANGE
WARRENSVILLE TWP.

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

FOR PAVEMENT QUANTITIES, SEE SHEET 36-39.
FOR CURVE DATA, SEE SHEET 4.
FOR GUARDRAIL QUANTITIES, SEE SHEET 34-35.
FOR TRAFFIC CONTROL, SEE SHEET 118-142.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.
FOR DRAINAGE PLAN, SEE SHEET 67.

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED BC
CHECKED MJ

PLAN SHEET I.R. 271
STA. 366+00 TO STA. 380+00

CUY-271-6.04

END WORK RAMP EW-S STA. 9+72.83

BEGIN WORK RAMP EW-S STA. 7+60.00

520' PAVEMENT TAPER

100' SHOULDER TAPER

BEGIN PAVEMENT TAPER STA. 362+40

BEGIN SHOULDER TAPER STA. 387+60.00

END SHOULDER TAPER
END PAVEMENT TAPER STA. 387+60.00

STA. 9+72.83 B/L RAMP EW-S BUTT JOINT
STA. 389+76.71 C/L I.R. 271

APPROX. EASEMENT POSITION BASED OFF ROADWAY PLAN

SEE SHEET 52 MATCH LINE STA. 14+00

B/L RAMP EW-S

PT = 11+59.59

12+00 N 02° 55' 31" E 13+00

G 20

NOISE WALL

NOSE STA. 7+60.00, 16' RT. B/L RAMP EW-S =
STA. 387+60.42, 135.50' LT. C/L I.R. 271

CULVERT NO. 3 – 36"
STA. 386+95.00

CONST. LIMITS

C/L I.R. 271
STA. 387+60.01
151.50' LT.
END RAMP EW-S
PC = 7+60.00

HEADWALL

60'

C.B.

C/L I.R. 271

DUAL LANES

DUAL LANES

INLET

SEE SHEET 50 MATCH LINE STA. 380+00

SEE SHEET 50 STA. 80+00 MATCH LINE

VARIES

STA. 382+70 RT.

G 21

HEADWALL

CONST. LIMITS

STA. 387+50 RT.

G 22

G 23

STA. 392+75 RT.

MATCH LINE STA. 394+00 SEE SHEET 52

VILLAGE OF ORANGE

PCC = 89+44.49
BUTT JOINT
C/L I.R. 271
STA. 386+55.46

BEGIN TAPER STA. 86+64.49

END TAPER STA. 87+14.49

50' SHOULDER TAPER

END WORK RAMP N-EW STA. 86+64.49

PCC = 89+34.38

STA. 90+50 RT.

CONC. GUTTER

B/L RAMP N-EW

PT = 92+08.53

92+00 N 52° 56' 32" E

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

FOR PAVEMENT QUANTITIES, SEE SHEET 36–39.
FOR CURVE DATA, SEE SHEET 4.
FOR GUARDRAIL QUANTITIES, SEE SHEET 34–35.
FOR TRAFFIC CONTROL, SEE SHEET 118–142.
FOR DRAINAGE QUANTITIES, SEE SHEET 29–32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.
FOR DRAINAGE PLAN, SEE SHEET 68.

CALCULATED BC
CHECKED MJ

0 25 50 100
HORIZONTAL SCALE IN FEET

PLAN SHEET – I.R. 271
STA. 380+00 TO STA. 394+00

CUY-271-6.04

51
142

Cad File: G:\CIVIL\2001118\00\DWG\12986GPD.DWG
Date: 12-27-04 Time: 11:41 AM IW = 281.60'0.00"

CITY OF BEACHWOOD

C/L HARVARD RD. STA. 121+92.31
B/L RAMP EW-S STA. 18+13.93

C/L HARVARD RD. STA. 121+79.32
B/L RAMP S-WE STA. 99+18.35

MATCH LINE STA. 14+00 SEE SHEET 51

B/L RAMP EW-S

B/L RAMP S-WE

BRIDGE NO. CUY-271-0720 (LC & RC) NO WORK

BRIDGE NO. CUY-271-0720L NO WORK

CULVERT NO. 4 – 8'x5' BOX
STA. 396+10.00

CULVERT NO. 5 – 36"
STA. 403+40.00
ABANDONED & FILLED

MATCH LINE STA. 108+00 SEE SHEET 53

SEE SHEET 51 MATCH LINE STA. 394+00

MATCH LINE STA. 408+00 SEE SHEET 53

C/L I.R. 271 DUAL LANES

DUAL LANES

C/L I.R. 271 STA. 398+73.08
C/L HARVARD RD. STA. 125+81.97

C/L HARVARD RD.
STA. 125+94.13, 37.00' RT.
BEGIN RAMP E-N
PC = 81+39.63

STA. 395+90.78, C/L I.R. 271

NOSE STA. 98+16.49, 16' LT. B/L RAMP E-N =
STA. 398+16.49, 147.50' RT. C/L I.R. 271

STA. 397+75 LT.
STA. 124+25 RT.
STA. 397+65 LT.
STA. 397+80 LT.
STA. 122+35 RT.
STA. 106+09 LT.
STA. 400+75 RT.
STA. 128+75 RT.

BEGIN WORK
RAMP E-N
STA. 95+89.75

B/L RAMP E-N

B/L RAMP W-N

C/L HARVARD RD.

BRIDGE NO. CUY-271-0720R NO WORK

C/L HARVARD RD. STA. 127+45.62
B/L RAMP E-N STA. 18+13.93

B/L RAMP E-N STA. 82+85.04
B/L RAMP E-N STA. 98+55.82

NOSE STA. 83+84.27, 23.36' LT. B/L RAMP E-N
STA. 128+42.49, 35' RT. C/L HARVARD RD.

50' SHOULDER TAPER

50' SHOULDER AND PVMT TAPER

50' SHOULDER & PAVEMENT TAPER

SLIP AREA

CONST. LIMITS

HEADWALL

INLET

C.B.

M.H.

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

FOR PAVEMENT QUANTITIES, SEE SHEET 36–39.
FOR CURVE DATA, SEE SHEET 4.
FOR GUARDRAIL QUANTITIES, SEE SHEET 34–35.
FOR TRAFFIC CONTROL, SEE SHEET 118–142.
FOR CULVERT DETAILS, SEE SHEET 80.
FOR DRAINAGE PLAN, SEE SHEET 69.
FOR DRAINAGE QUANTITIES, SEE SHEET 29–32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.

WARRENSVILLE TWP.

CALCULATED BC
CHECKED MJ

HORIZONTAL SCALE IN FEET
0 25 50 100

PLAN SHEET – I.R. 271
STA. 394+00 TO STA. 408+00

CUY-271-6.04

52
142

Cad File: G:\CIVIL\2001118\00\DWG\1909BOPE1.DWG
Date: 12-27-04 Time: 12:31 PM
TW = 275d0.00"

Technician: MJN/JAT

CITY OF BEACHWOOD

SEE SHEET 52
STA. 108+00
MATCH LINE

B/L RAMP S-WE

STA. 108+50 LT.

BEGIN WORK
RAMP S-WE
STA. 111+52.01

50' SHOULDER TAPER

PCC = 110+51.98

BEGIN TAPER STA. 111+02.01

END TAPER STA. 111+52.01

BUTT JOINT

NOSE STA. 111+52.01, 16' RT.
B/L RAMP S-WE
STA. 411+44.66, 149.50' LT.
C/L I.R. 271

END WORK
RAMP S-WE
STA. 117+00.00

END RAMP S-WE
PT = 117+00.00
C/L I.R. 271
STA. 417+00.01,
138.50 LT.

HEADWALL

CONST. LIMITS

STA. 414+69 LT.

STA. 410+00 LT.

CULVERT NO. 6 – 36"
STA. 418+35.00

HEADWALL

CONST. LIMITS

SEE SHEET 52
MATCH LINE STA. 408+00

C.B. M.H.

DUAL LANES

C/L I.R. 271

INLET

PT = 420+31.80

N 00° 45' 42" W

MATCH LINE STA. 422+00
SEE SHEET 54

MATCH LINE
STA. 108+00
SEE SHEET 52

B/L RAMP W-N

B/L RAMP E-N

END RAMP E-N, STA. 108+29.96
C/L 271, STA. 408+17.75, 138.50 RT.

NOSE STA. 111+82.15, 16' LT.
B/L RAMP W-N
STA. 411+82.42, 147.50' RT.
C/L I.R. 271

STA. 415+00 RT.

HEADWALL

STA. 419+75 RT.

CONST. LIMITS

BEGIN TAPER PT STA. 111+33.82

48.33' SHOULDER TAPER

END TAPER END RAMP W-N STA. 111+82.15

BEGIN TAPER STA. 419+31.80

END TAPER STA. 420+31.80

100' SHOULDER TAPER

END WORK
RAMP E-N
STA. 108+29.96

STA. 409+82.11 C/L I.R. 271

STA. 109+80.51
B/L RAMP W-N BUTT JOINT

END WORK
RAMP W-N
STA. 111+82.15

BEGIN WORK
RAMP W-N
STA. 109+80.51

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

FOR PAVEMENT QUANTITIES, SEE SHEET 36–39.
FOR CURVE DATA, SEE SHEET : 4 .
FOR GUARDRAIL QUANTITIES, SEE SHEET 34–35.
FOR TRAFFIC CONTROL, SEE SHEET 118–142.
FOR CULVERT DETAILS, SEE SHEET 83 .
FOR DRAINAGE PLAN, SEE SHEET 70 .
FOR DRAINAGE QUANTITIES, SEE SHEET 29–32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33 .

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BC
CHECKED MJ

PLAN SHEET – I.R. 271
STA. 408+00 TO STA. 422+00

CUY–271–6.04

53
142

Cad File: G:\CIVIL\2001118\00\DWG\12896PF.DWG
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Technician: MWHAT

CITY OF BEACHWOOD
WARRENSVILLE TWP.

EXIST. DRAINAGE EASEMENT TO STATE OF OHIO VOL. 10975, PAGE 101

CONST. LIMITS

STA. 422+50 LT.

HEADWALL

STA. 426+50 LT.

CULVERT NO. 7 – 36"
STA. 430+25.00

STA. 430+50 LT.

HEADWALL

520' PAVEMENT TAPER (40:1)

100' SHOULDER TAPER

BEGIN PAVEMENT TAPER
BEGIN SHOULDER TAPER
STA. 432+78.11

END SHOULDER TAPER
STA. 433+78.11

CONST. LIMITS

VARIES

SEE SHEET 53
MATCH LINE STA. 422+00

C/L I.R. 271

423+00 424+00 425+00 426+00 427+00 428+00 429+00 430+00 431+00 432+00 433+00 434+00 435+00

M.H. C.B. INLET C.B.

N 00° 45' 42" W

DUAL LANES

DUAL LANES

PC = 432+68.52

MATCH LINE STA. 436+00
SEE SHEET 55

60'

5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00

STA. 425+60 RT.

STA. 428+40 RT.

STA. 428+50 RT.

STA. 432+88 RT.

CONST. LIMITS

HEADWALL

INLET

BEGIN LANE SHIFT
STA. 422+00

BEGIN TAPER
STA. 423+86.91

BEGIN RELOCATED RAMP F-4
PC STA. 4+00.00
C/L I.R. 271
STA. 424+00.00,
150.50' RT.

END TAPER
STA. 424+86.91

100' SHOULDER TAPER
50:1 TAPER RATE

BEGIN WORK
RELOCATED RAMP F-4
STA. 4+00.00

NOSE STA. 11+85.81, 24' LT.
B/L RELOCATED RAMP F-4
STA. 431+86.91, 162.50' RT.
C/L I.R. 271

PCC = 12+59.42

B/L RELOCATED RAMP F-4

MATCH LINE
STA. 16+00
SEE SHEET 55

CITY OF BEACHWOOD
WARRENSVILLE TWP.

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

FOR PAVEMENT QUANTITIES, SEE SHEET 36–39.
FOR CURVE DATA, SEE SHEET 4.
FOR GUARDRAIL QUANTITIES, SEE SHEET 34–35.
FOR TRAFFIC CONTROL, SEE SHEET 118–142.
FOR CULVERT DETAILS, SEE SHEET 84.
FOR DRAINAGE PLAN, SEE SHEET 71.
FOR DRAINAGE QUANTITIES, SEE SHEET 29–32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.

N

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED BC
CHECKED MJ

PLAN SHEET – I.R. 271
STA. 422+00 TO STA. 436+00

CUY–271–6.04

54
142

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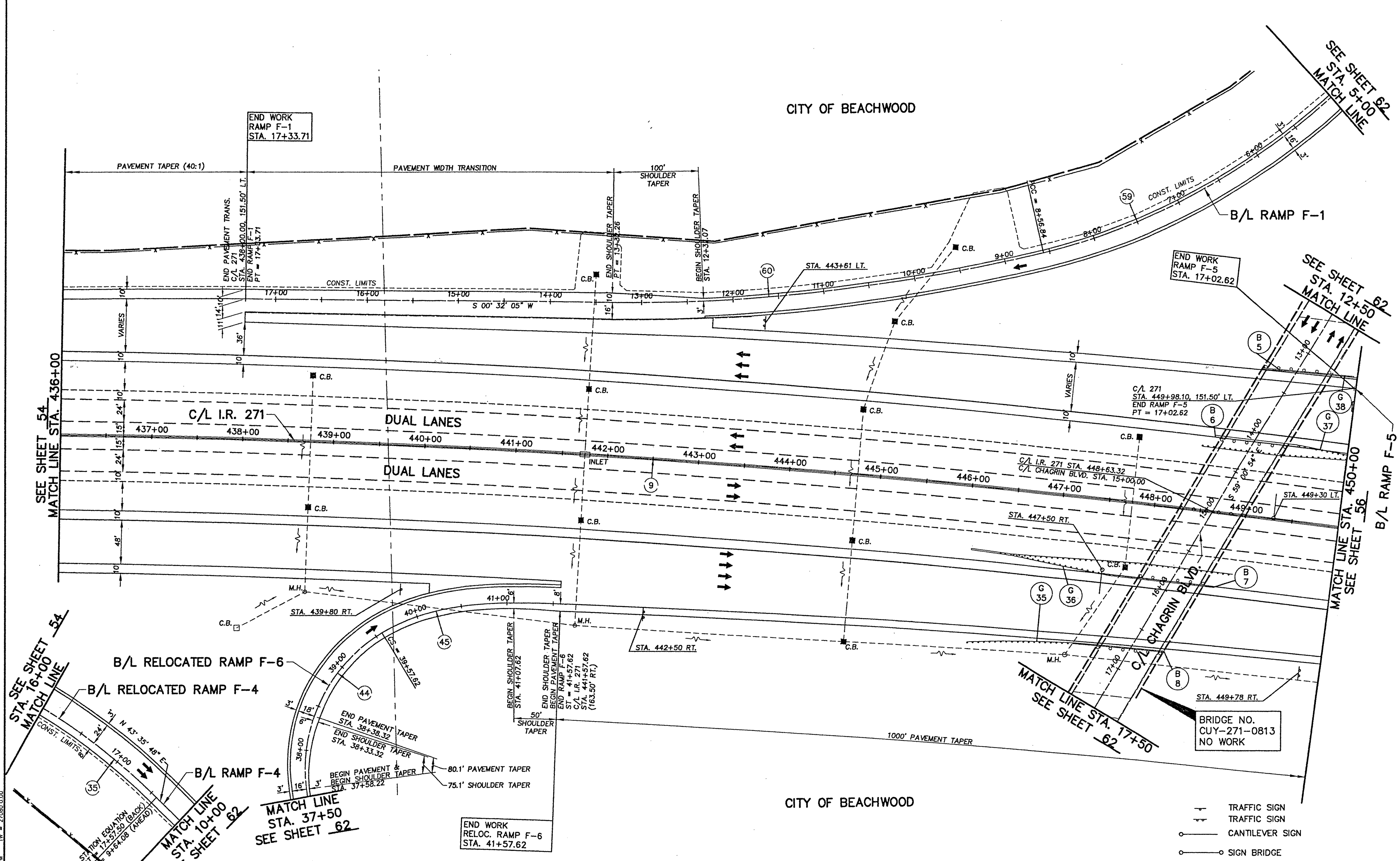


CITY OF BEACHWOOD
END WORK
RAMP F-1
STA. 17+33.71
PAVEMENT TAPER (40:1)
PAVEMENT WIDTH TRANSITION
100' SHOULDER TAPER
END PAVEMENT TRANS.
C/L 271
STA. 438+00.00, 151.50' LT.
END RAMP F-1
PT = 17+33.71
END SHOULDER TAPER
PT = 13+38.26
BEGIN SHOULDER TAPER
STA. 12+33.07
CONST. LIMITS
S 00° 32' 05" W
STA. 443+61 LT.
B/L RAMP F-1
SEE SHEET 62
STA. 5+00
MATCH LINE
END WORK
RAMP F-5
STA. 17+02.62
SEE SHEET 62
STA. 12+50
MATCH LINE
SEE SHEET 54
MATCH LINE STA. 436+00
C/L I.R. 271
DUAL LANES
DUAL LANES
INLET
C/L 271
STA. 449+98.10, 151.50' LT.
END RAMP F-5
PT = 17+02.62
C/L I.R. 271 STA. 448+63.32
C/L CHAGRIN BLVD. STA. 15+00.00
STA. 449+30 LT.
STA. 447+50 RT.
MATCH LINE STA. 450+00
SEE SHEET 56
B/L RAMP F-5
C/L CHAGRIN BLVD.
STA. 439+80 RT.
STA. 442+50 RT.
B/L RELOCATED RAMP F-6
B/L RELOCATED RAMP F-4
SEE SHEET 54
STA. 16+00
MATCH LINE
N 43° 35' 48" E
B/L RAMP F-4
STATION EQUATION
17+57.50 (BACK)
9+64.08 (AHEAD)
MATCH LINE
STA. 10+00
SEE SHEET 62
MATCH LINE
STA. 37+50
SEE SHEET 62
END PAVEMENT TAPER
STA. 38+38.32
END SHOULDER TAPER
STA. 38+33.32
BEGIN PAVEMENT &
BEGIN SHOULDER TAPER
STA. 37+58.22
80.1' PAVEMENT TAPER
75.1' SHOULDER TAPER
BEGIN SHOULDER TAPER
STA. 41+07.62
END SHOULDER TAPER
BEGIN PAVEMENT TAPER
END RAMP F-6
ST = 41+57.62
C/L I.R. 271
STA. 441+57.62
(163.50' RT.)
50' SHOULDER TAPER
1000' PAVEMENT TAPER
END WORK
RELOC. RAMP F-6
STA. 41+57.62
MATCH LINE STA. 17+50
SEE SHEET 62
STA. 449+78 RT.
BRIDGE NO.
CUY-271-0813
NO WORK
CITY OF BEACHWOOD
TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

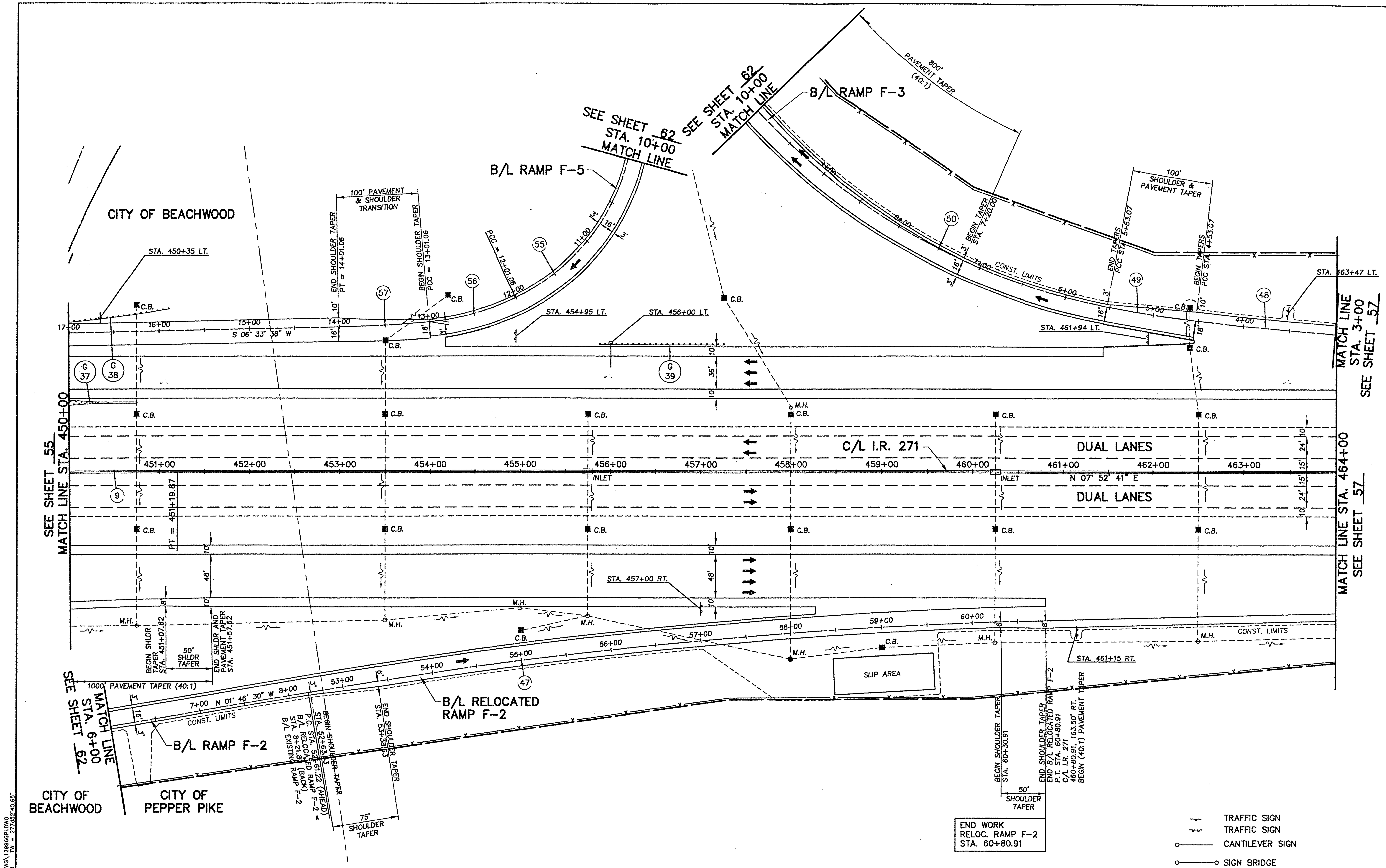
FOR PAVEMENT QUANTITIES, SEE SHEET 36-39.
FOR CURVE DATA, SEE SHEET 4.
FOR GUARDRAIL QUANTITIES, SEE SHEET 34-35.
FOR TRAFFIC CONTROL, SEE SHEET 118-142.
FOR DRAINAGE PLAN, SEE SHEET 72.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.

HORIZONTAL SCALE IN FEET: 0 25 50 100

CALCULATED BC
CHECKED MJ

PLAN SHEET - I.R. 271
STA. 436+00 TO STA. 450+00

CUY-271-6.04



CITY OF BEACHWOOD
SEE SHEET 62 STA. 10+00 MATCH LINE
SEE SHEET 62 STA. 10+00 MATCH LINE
B/L RAMP F-5
B/L RAMP F-3
800' PAVEMENT TAPER (40:1)
100' PAVEMENT & SHOULDER TRANSITION
END SHOULDER TAPER PT = 14+01.06
BEGIN SHOULDER TAPER PCC = 13+01.06
PCC = 12+01.06
BEGIN TAPER STA. 7+20.00
100' SHOULDER & PAVEMENT TAPER
END TAPERS PCC STA. 5+53.07
BEGIN TAPERS PCC STA. 4+53.07
STA. 450+35 LT.
STA. 454+95 LT.
STA. 456+00 LT.
STA. 461+94 LT.
STA. 463+47 LT.
CONST. LIMITS
S 06° 33' 36" W
SEE SHEET 55 MATCH LINE STA. 450+00
MATCH LINE STA. 3+00 SEE SHEET 57
MATCH LINE STA. 464+00 SEE SHEET 57
C/L I.R. 271
DUAL LANES
DUAL LANES
N 07° 52' 41" E
INLET
PT = 451+19.87
STA. 457+00 RT.
BEGIN SHLDR TAPER STA. 451+07.62
50' SHLDR TAPER
END SHLDR AND PAVEMENT TAPER STA. 451+57.62
1000' PAVEMENT TAPER (40:1)
N 01° 46' 30" W
MATCH LINE STA. 6+00 SEE SHEET 62
B/L RAMP F-2
B/L RELOCATED RAMP F-2
BEGIN SHOULDER TAPER STA. 52+63.63
P.C. STA. 52+61.22 (AHEAD) B/L RELOCATED RAMP F-2 = STA. 8+21.80 (BACK) B/L EXISTING RAMP F-2
END SHOULDER TAPER STA. 53+38.63
75' SHOULDER TAPER
SLIP AREA
STA. 461+15 RT.
BEGIN SHOULDER TAPER STA. 60+30.91
50' SHOULDER TAPER
END SHOULDER TAPER END B/L RELOCATED RAMP F-2 P.T. STA. 60+80.91 C/L I.R. 271 460+80.91, 163.50' RT. BEGIN (40:1) PAVEMENT TAPER
END WORK RELOC. RAMP F-2 STA. 60+80.91
CITY OF BEACHWOOD
CITY OF PEPPER PIKE

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

FOR PAVEMENT QUANTITIES, SEE SHEET 36-39.
FOR CURVE DATA, SEE SHEET 4.
FOR GUARDRAIL QUANTITIES, SEE SHEET 34-35.
FOR TRAFFIC CONTROL, SEE SHEET 118-142.
FOR DRAINAGE PLAN, SEE SHEET 73.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.

HORIZONTAL SCALE IN FEET: 0 25 50 100

CALCULATED BC
CHECKED MJ

PLAN SHEET - I.R. 271
STA. 450+00 TO STA. 464+00

CUY-271-6.04

CITY OF BEACHWOOD

BEGIN WORK
RAMP F-3
STA. 0+00.00

B/L RAMP F-3

BEGIN RAMP F-3
PC = 0+00.00
C/L I-271
STA. 466+98.16, 38.50' LT.

STA. 465+00 LT.

CONST. LIMITS

2+00

1+00

G 40

G 41

48

HEADWALL

CULVERT NO. 8 – 48"
STA. 469+25.00

HEADWALL

CONST. LIMITS

SEE SHEET 56
STA. 3+00
MATCH LINE

SEE SHEET 56
MATCH LINE STA. 464+00

C.B.

DUAL LANES

465+00 466+00 467+00 468+00 469+00 470+00 471+00 472+00 473+00 474+00 475+00 476+00 477+00

INLET

C/L I.R. 271

N 07° 52' 41" E

DUAL LANES

MATCH LINE STA. 478+00
SEE SHEET 58

48'

10'

24'

15'

VARIES

8'

M.H.

CONST. LIMITS

HEADWALL

HEADWALL

HEADWALL

STA. 476+13 RT.

G 42

CULVERT NO. 9 – 24"
STA. 472+00.00

CITY OF PEPPER PIKE

END PAVEMENT TRANSITION
BEGIN SHOULDER TAPER
STA. 470+00.91

END SHOULDER TAPER
STA. 470+80.91

80'
SHOULDER
TAPER

TRAFFIC SIGN

TRAFFIC SIGN

CANTILEVER SIGN

SIGN BRIDGE

FOR PAVEMENT QUANTITIES, SEE SHEET 36–39.
FOR CURVE DATA, SEE SHEET 4.
FOR GUARDRAIL QUANTITIES, SEE SHEET 34–35.
FOR TRAFFIC CONTROL, SEE SHEET 118–142.
FOR CULVERT DETAILS, SEE SHEET 85–86.
FOR DRAINAGE PLAN, SEE SHEET 74.
FOR DRAINAGE QUANTITIES, SEE SHEET 29–32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BC
CHECKED MJ

PLAN SHEET – I.R. 271
STA. 464+00 TO STA. 478+00

CUY-271-6.04

57
142

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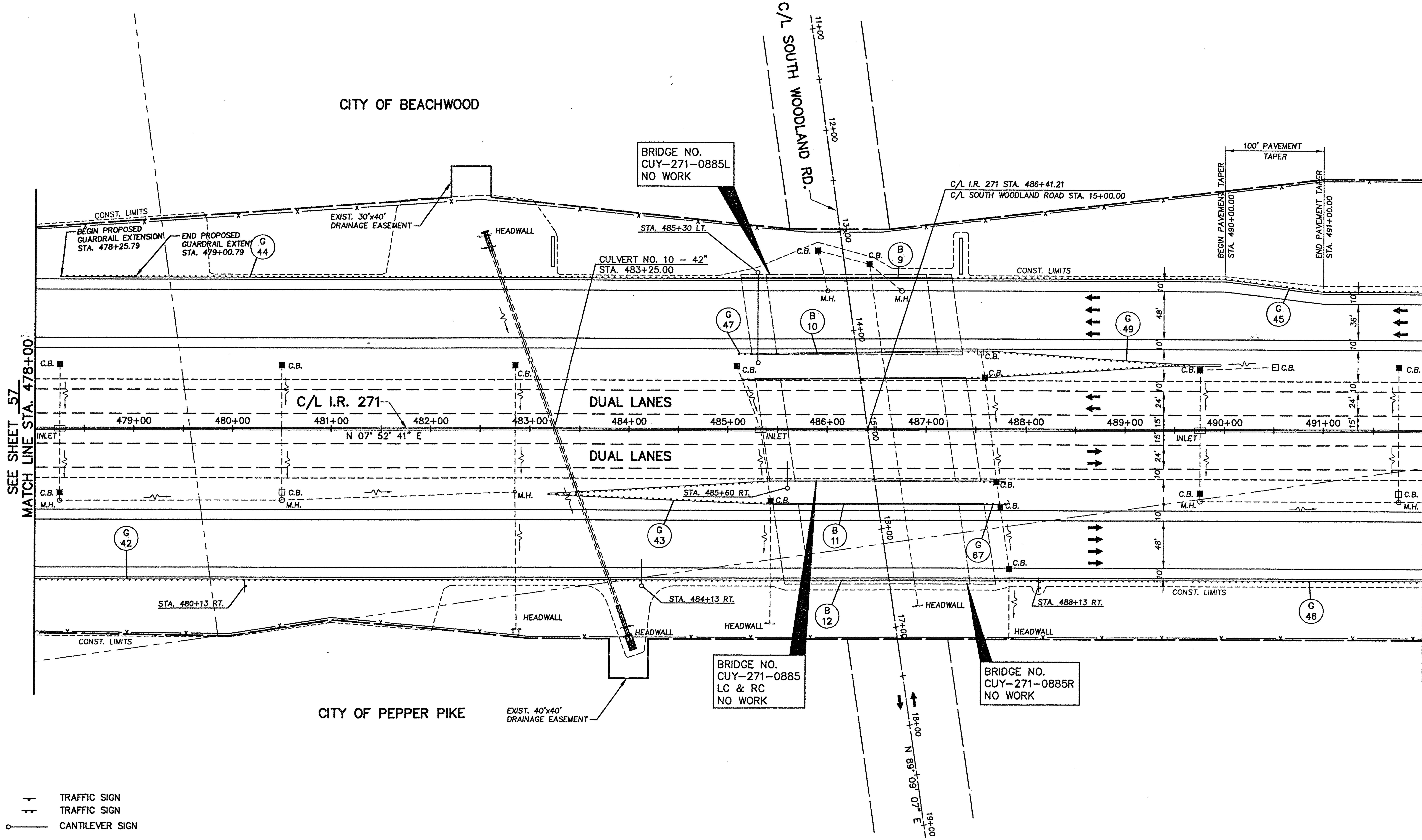


TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

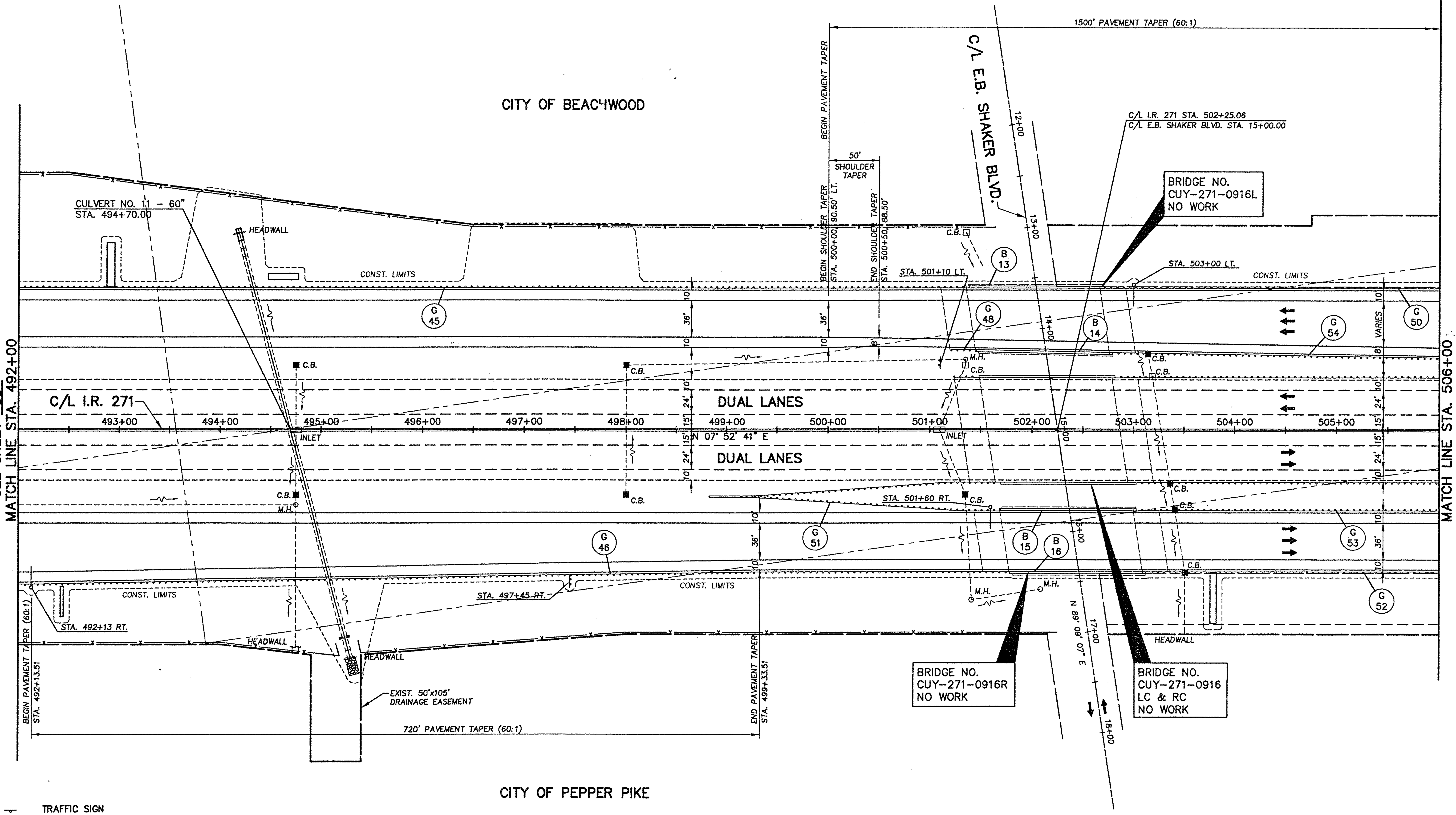
FOR PAVEMENT QUANTITIES, SEE SHEET 36-39.
FOR CURVE DATA, SEE SHEET 4.
FOR GUARDRAIL QUANTITIES, SEE SHEET 34-35.
FOR TRAFFIC CONTROL, SEE SHEET 118-142.
FOR CULVERT DETAILS, SEE SHEET 87.
FOR DRAINAGE PLAN, SEE SHEET 75.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED BC
CHECKED MJ

PLAN SHEET – I.R. 271
STA. 478+00 TO STA. 492+00

CUY-271-6.04



CITY OF BEACHWOOD
CITY OF PEPPER PIKE
SEE SHEET 58
MATCH LINE STA. 492+00
MATCH LINE STA. 506+00
SEE SHEET 60
C/L I.R. 271
DUAL LANES
DUAL LANES
N 07° 52' 41" E
C/L E.B. SHAKER BLVD.
N 89° 09' 07" E
1500' PAVEMENT TAPER (60:1)
720' PAVEMENT TAPER (60:1)
CULVERT NO. 11 - 60"
STA. 494+70.00
HEADWALL
CONST. LIMITS
BEGIN PAVEMENT TAPER
BEGIN SHOULDER TAPER STA. 500+00 90.50' LT.
END SHOULDER TAPER STA. 500+50 88.50'
50' SHOULDER TAPER
STA. 501+10 LT.
STA. 503+00 LT.
STA. 501+60 RT.
STA. 497+45 RT.
STA. 492+13 RT.
BEGIN PAVEMENT TAPER (60:1) STA. 492+13.51
END PAVEMENT TAPER STA. 499+33.51
C/L I.R. 271 STA. 502+25.06
C/L E.B. SHAKER BLVD. STA. 15+00.00
BRIDGE NO. CUY-271-0916L NO WORK
BRIDGE NO. CUY-271-0916R NO WORK
BRIDGE NO. CUY-271-0916 LC & RC NO WORK
EXIST. 50'x105' DRAINAGE EASEMENT
C.B.
M.H.
INLET
VARIES

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

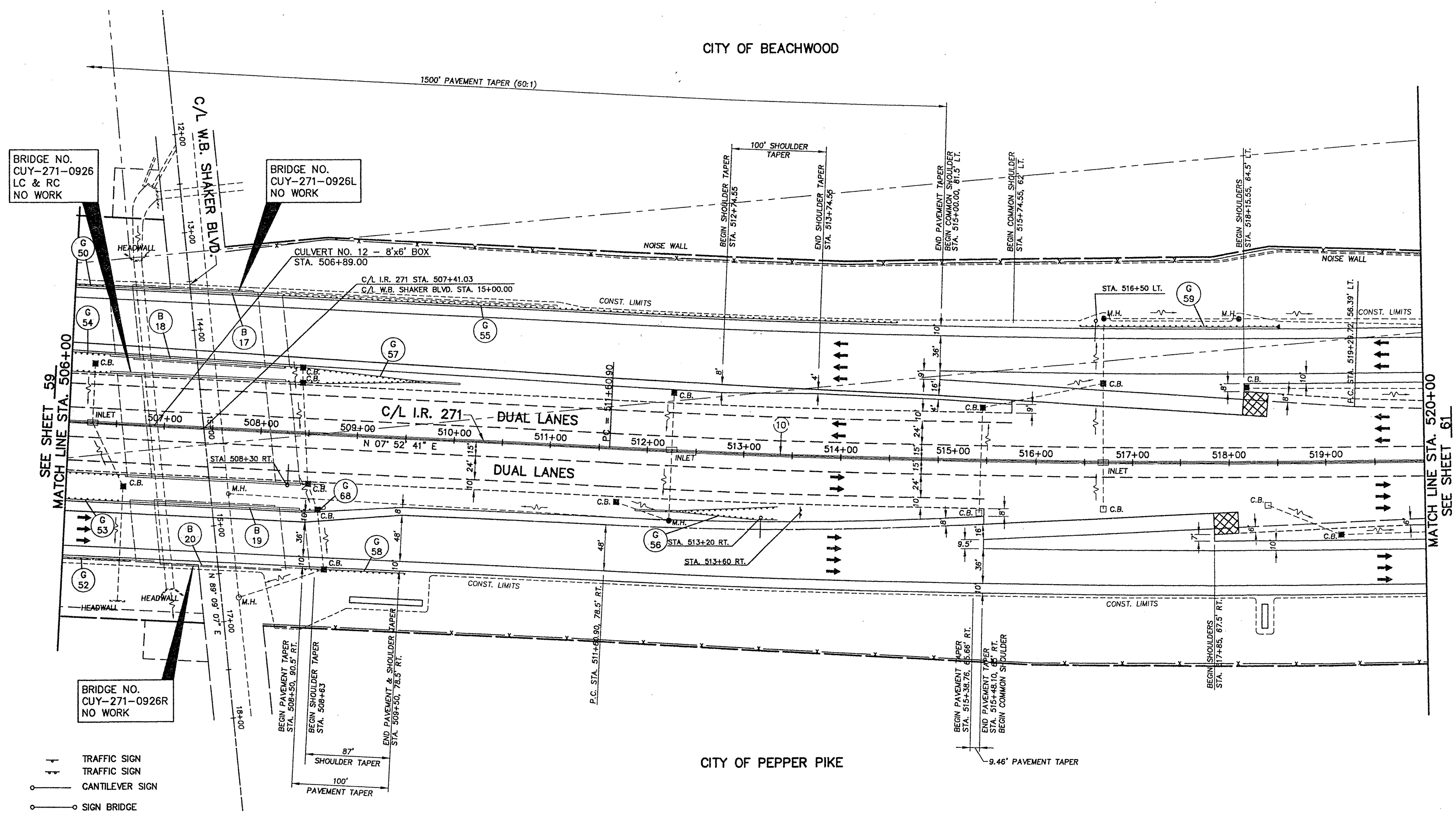
FOR PAVEMENT QUANTITIES, SEE SHEET 36-39.
FOR CURVE DATA, SEE SHEET 4.
FOR GUARDRAIL QUANTITIES, SEE SHEET 34-35.
FOR TRAFFIC CONTROL, SEE SHEET 118-142.
FOR CULVERT DETAILS, SEE SHEET 88.
FOR DRAINAGE PLAN, SEE SHEET 76.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.

HORIZONTAL SCALE IN FEET: 0 25 50 100

CALCULATED BC
CHECKED MJ

PLAN SHEET - I.R. 271
STA. 492+00 TO STA. 506+00

CUY-271-6.04



CITY OF BEACHWOOD
1500' PAVEMENT TAPER (60:1)
BRIDGE NO.
CUY-271-0926
LC & RC
NO WORK
BRIDGE NO.
CUY-271-0926L
NO WORK
C/L W.B. SHAKER BLVD.
HEADWALL
CULVERT NO. 12 – 8'x6' BOX
STA. 506+89.00
C/L I.R. 271 STA. 507+41.03
C/L W.B. SHAKER BLVD. STA. 15+00.00
NOISE WALL
CONST. LIMITS
100' SHOULDER TAPER
BEGIN SHOULDER TAPER STA. 512+74.55
END SHOULDER TAPER STA. 513+74.56
END PAVEMENT TAPER BEGIN COMMON SHOULDER STA. 515+00.00, 81.5' LT.
BEGIN COMMON SHOULDER STA. 515+74.55, 62' LT.
BEGIN SHOULDERS STA. 518+15.55, 64.5' LT.
STA. 516+50 LT.
M.H.
C.B.
INLET
SEE SHEET 59
MATCH LINE STA. 506+00
C/L I.R. 271
DUAL LANES
N 07° 52' 41" E
507+00
508+00
509+00
510+00
511+00
512+00
513+00
514+00
515+00
516+00
517+00
518+00
519+00
P.C. = 511+60.90
STA. 508+30 RT.
P.C. STA. 519+29.72
56.39' LT.
MATCH LINE STA. 520+00
SEE SHEET 61
STA. 513+20 RT.
STA. 513+60 RT.
BRIDGE NO.
CUY-271-0926R
NO WORK
BEGIN PAVEMENT TAPER STA. 508+50, 90.5' RT.
BEGIN SHOULDER TAPER STA. 508+63
END PAVEMENT & SHOULDER TAPER STA. 509+50, 78.5' RT.
P.C. STA. 511+60.90, 78.5' RT.
BEGIN PAVEMENT TAPER STA. 515+38.76, 95.66' RT.
END PAVEMENT TAPER STA. 515+48.10, 85' RT. BEGIN COMMON SHOULDER
BEGIN SHOULDERS STA. 517+85, 67.5' RT.
87' SHOULDER TAPER
100' PAVEMENT TAPER
9.46' PAVEMENT TAPER
CITY OF PEPPER PIKE

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE
BUTT JOINT

FOR PAVEMENT QUANTITIES, SEE SHEET 36–39.
FOR CURVE DATA, SEE SHEET 4.
FOR GUARDRAIL QUANTITIES, SEE SHEET 34–35.
FOR TRAFFIC CONTROL, SEE SHEET 118–142.
FOR CULVERT DETAILS, SEE SHEET 81.
FOR DRAINAGE PLAN, SEE SHEET 77.
FOR DRAINAGE DETAILS, SEE SHEET 29–32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.

Cad File: G:\CIVIL\2001118\00\DWG\12996GPM.DWG
Date: 12-27-04 Time: 2:19 PM TW = 275d0'0.00"

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED BC
CHECKED MJ

PLAN SHEET – I.R. 271
STA. 506+00 TO STA. 520+00

CUY-271-6.04

CITY OF BEACHWOOD

END PROJECT
STA. 532+68.89
S.L.M. 9.73

SEE SHEET 60
MATCH LINE STA. 520+00

C/L I.R. 271

C/L FAIRMONT BLVD. STA. 15+00.00
C/L I.R. 271 STA. 532+67.08

PI = 527+16.58

N 00° 28' 41" E

N 89° 29' 24" E

STA. 521+40 LT.
STA. 521+58 LT.
STA. 524+00 LT.
STA. 524+00 RT.
STA. 524+00 RT.
STA. 524+04.29 151' RT.
END PAVEMENT PAPER
STA. 532+00 RT.
STA. 532+10 RT.
STA. 533+25 LT.

G 60
G 61
G 62
G 63
G 64
B 21
B 22

NOISE WALL
CONST. LIMITS
C.B.
M.H.
INLET

521+00 522+00 523+00 524+00 525+00 526+00 527+00 528+00 529+00 530+00 531+00 532+00 533+00 534+00

11+00 12+00 13+00 16+00 17+00 18+00 19+00

C/L FAIRMOUNT BLVD.

BRIDGE NO.
CUY-271-0973
NO WORK

CITY OF PEPPER PIKE

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

BUTT JOINT

FOR PAVEMENT QUANTITIES, SEE SHEET 36-39.
FOR CURVE DATA, SEE SHEET 4.
FOR GUARDRAIL QUANTITIES, SEE SHEET 34-35.
FOR TRAFFIC CONTROL, SEE SHEET 118-142.
FOR DRAINAGE PLAN, SEE SHEET 78.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.

Cad File: G:\CIVIL\2001118\00\DWG\129866PN.DWG
Date: 12-27-04 Time: 2:31 PM TW = 270d0'0.00"

N

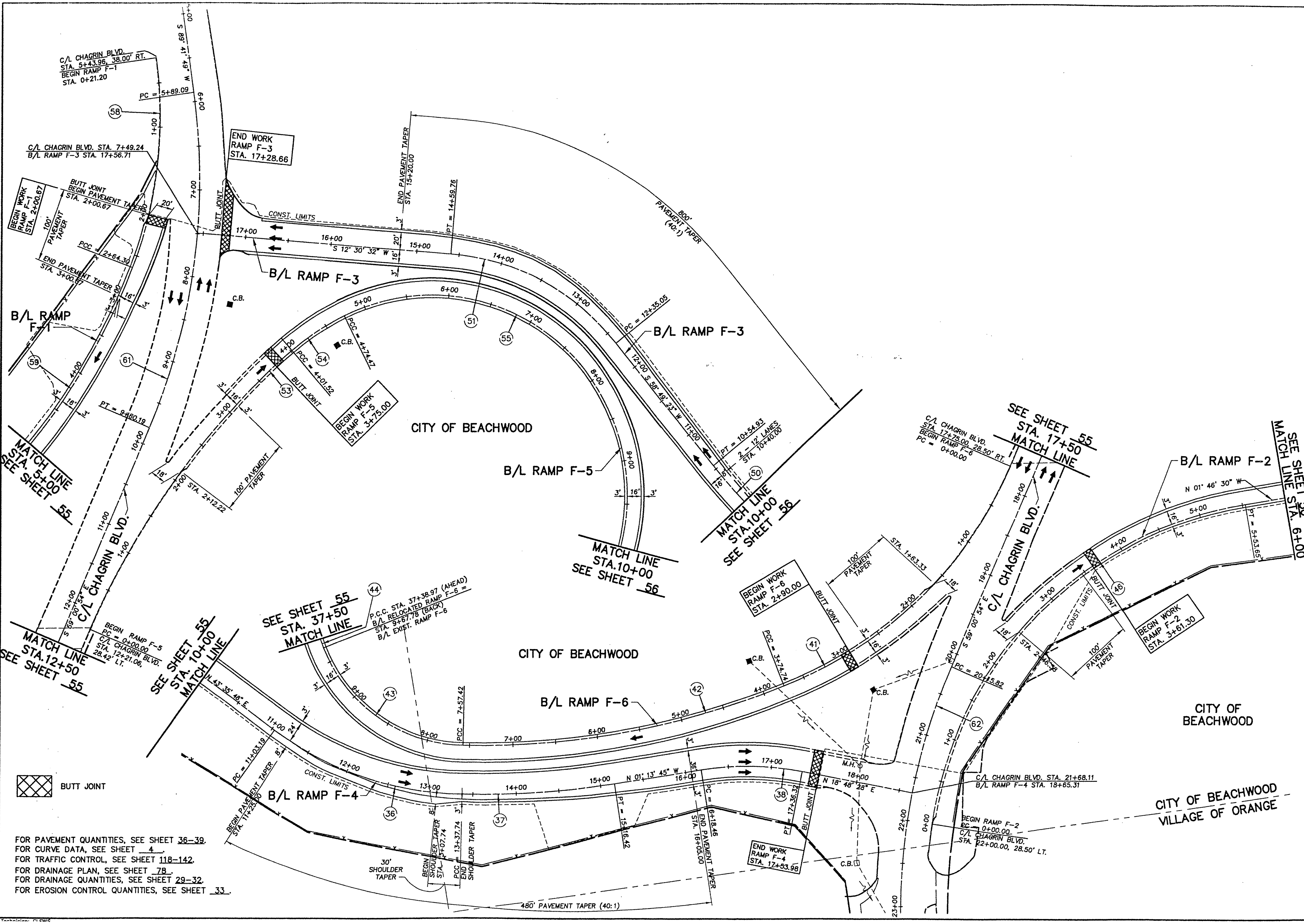
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BC
CHECKED MJ

PLAN SHEET - I.R. 271
STA. 520+00 TO END

CUY-271-6.04

61
142


C/L CHAGRIN BLVD. STA. 5+43.96, 38.00' RT. BEGIN RAMP F-1 STA. 0+21.20
PC = 5+89.09
C/L CHAGRIN BLVD. STA. 7+49.24 B/L RAMP F-3 STA. 17+56.71
END WORK RAMP F-3 STA. 17+28.66
BEGIN WORK RAMP F-1 STA. 2+00.67
BUTT JOINT BEGIN PAVEMENT TAPER STA. 2+00.67
100' PAVEMENT TAPER
PCC = 2+64.36
END PAVEMENT TAPER STA. 3+00.67
BUTT JOINT
CONST. LIMITS
S 12° 30' 32" W
END PAVEMENT TAPER STA. 15+20.00
PT = 14+59.76
800' PAVEMENT TAPER (40:1)
B/L RAMP F-3
B/L RAMP F-1
C.B.
PC = 12+35.05
S 58° 49' 23" W
PT = 10+54.93
2 - 12' LANES STA. 10+40.00
PCC = 4+74.47
PCC = 4+01.52
BEGIN WORK RAMP F-5 STA. 3+75.00
PT = 9+80.19
CITY OF BEACHWOOD
B/L RAMP F-5
STA. 2+12.22
100' PAVEMENT TAPER
MATCH LINE STA. 3+00 SEE SHEET 55
MATCH LINE STA.10+00 SEE SHEET 56
MATCH LINE STA.10+00 SEE SHEET 56
SEE SHEET 55 STA. 17+50 MATCH LINE
C/L CHAGRIN BLVD. STA. 17+75.00, 28.50' RT. BEGIN RAMP F-6 PC = 0+00.00
B/L RAMP F-2
N 01° 46' 30" W
SEE SHEET 56 MATCH LINE STA. 6+00
PT = 5+53.65
C/L CHAGRIN BLVD.
S 59° 00' 54" E
STA. 1+63.33
100' PAVEMENT TAPER
BEGIN WORK RAMP F-6 STA. 2+90.00
BEGIN WORK RAMP F-2 STA. 3+61.30
MATCH LINE STA.12+50 SEE SHEET 55
BEGIN RAMP F-5 PC = 0+00.00 C/L CHAGRIN BLVD. STA. 12+21.06, 28.42' LT.
SEE SHEET 55 STA. 10+00 MATCH LINE
SEE SHEET 55 STA. 37+50 MATCH LINE
P.C.C. STA. 37+38.97 (AHEAD) B/L RELOCATED RAMP F-6 = STA. 9+67.78 (BACK) B/L EXIST. RAMP F-6
N 43° 35' 48" E
PCC = 3+74.74
PCC = 7+57.42
B/L RAMP F-6
PC = 20+15.82
CITY OF BEACHWOOD
PC = 11+03.19
B/L RAMP F-4
N 01° 13' 45" W
N 18° 48' 28" E
M.H.
C/L CHAGRIN BLVD. STA. 21+68.11 B/L RAMP F-4 STA. 18+65.31
BEGIN PAVEMENT TAPER STA. 11+25.00
PT = 15+16.42
PC = 16+18.46
END PAVEMENT TAPER STA. 16+05.00
PT = 17+36.32
END WORK RAMP F-4 STA. 17+53.98
BEGIN RAMP F-2 PC = 0+00.00 C/L CHAGRIN BLVD. STA. 22+00.00, 28.50' LT.
CITY OF BEACHWOOD
VILLAGE OF ORANGE
30' SHOULDER TAPER
BEGIN SHOULDER TAPER STA. 13+07.74
PCC = 13+37.74
END SHOULDER TAPER
480' PAVEMENT TAPER (40:1)
BUTT JOINT

FOR PAVEMENT QUANTITIES, SEE SHEET 36-39.
FOR CURVE DATA, SEE SHEET 4.
FOR TRAFFIC CONTROL, SEE SHEET 118-142.
FOR DRAINAGE PLAN, SEE SHEET 78.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.

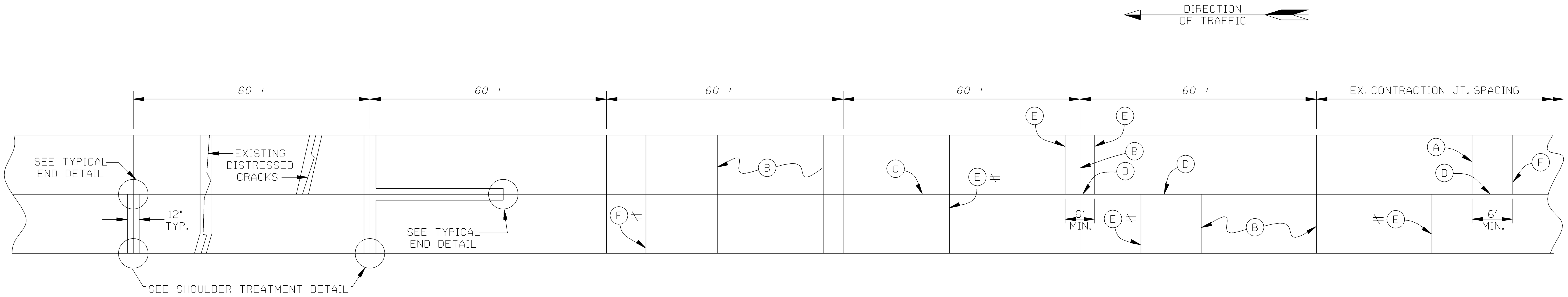
Cad File: G:\CIVIL\2001118\00\DWG\12996GPH2.DWG
Date: 12-27-04 Time: 8:14 AM TW = 277d52'40.65"
Technician: CLEWIS

HORIZONTAL SCALE IN FEET: 0 25 50 100

CALCULATED BC
CHECKED MVU

PLAN SHEET - CHAGRIN BLVD. RAMPS

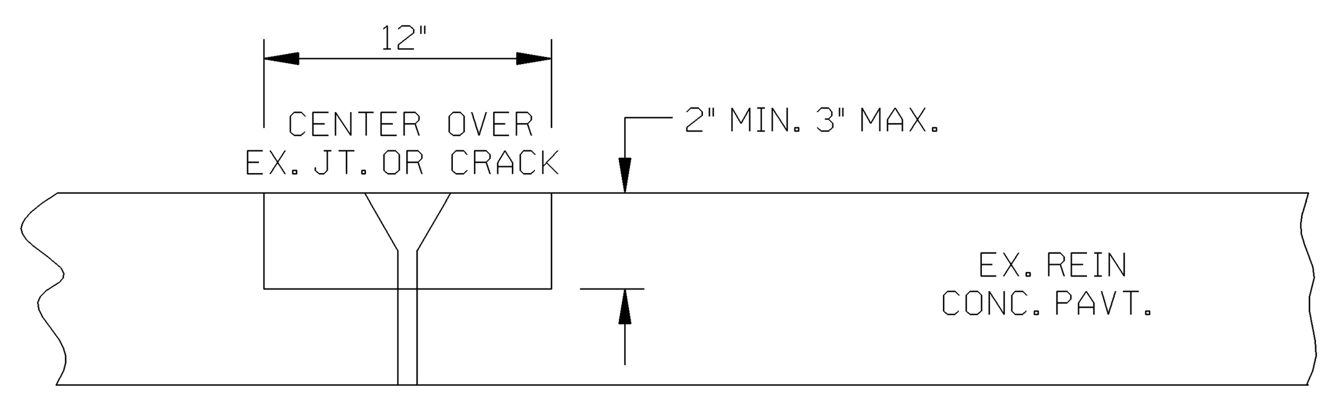
CUY-271-6.04



PARTIAL DEPTH JOINT OR CRACK REPAIR

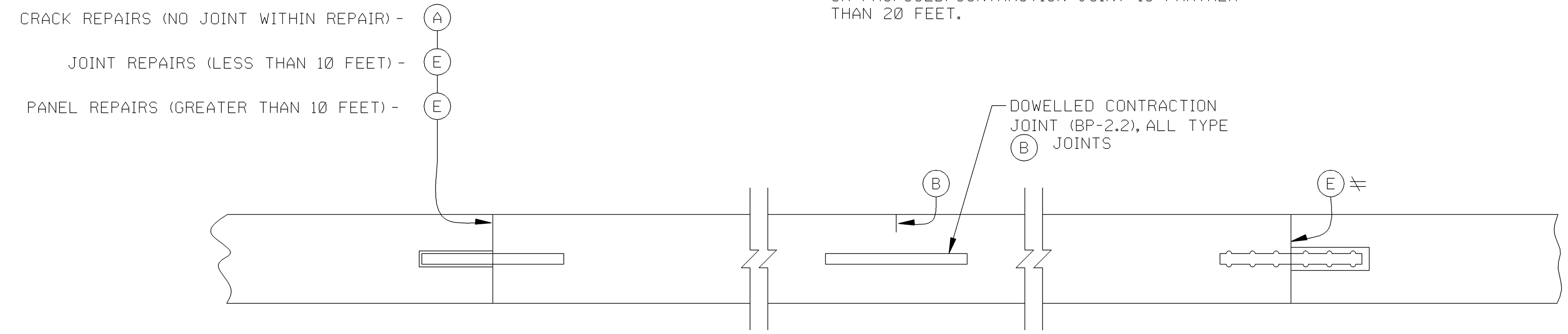
TYPICAL TWO LANE REPLACEMENT

TYPICAL ONE LANE REPLACEMENT



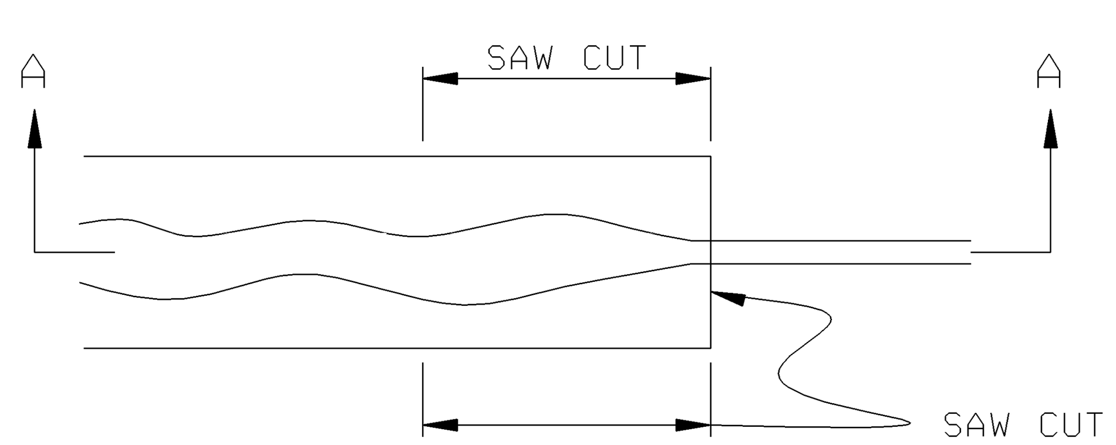
ITEM 251 - PARTIAL DEPTH PAV'T REPAIR

≠ USE (A) JOINT IF EITHER ADJACENT (EXISTING OR PROPOSED) CONTRACTION JOINT IS FARTHER THAN 20 FEET.

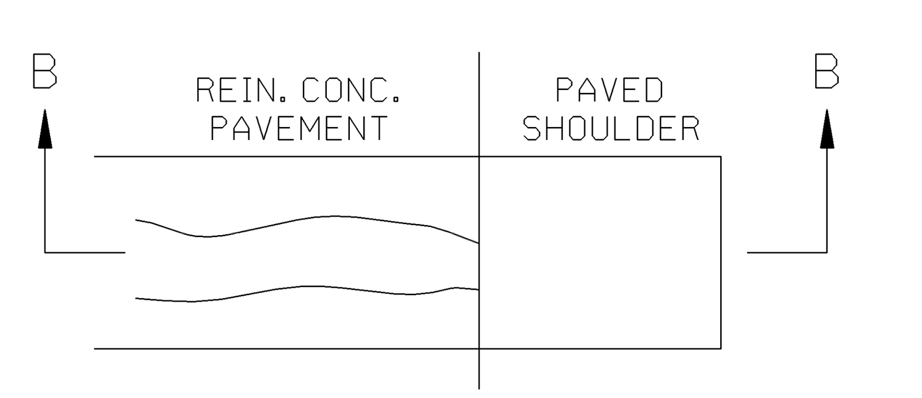


ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT*

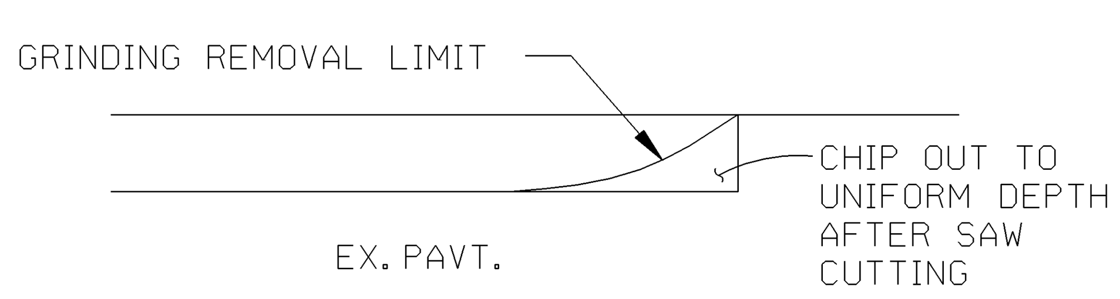
SEE GENERAL NOTES ON SHEET 16 FOR ADDITIONAL INFORMATION.



DISTRESSED JOINT-PLAN VIEW



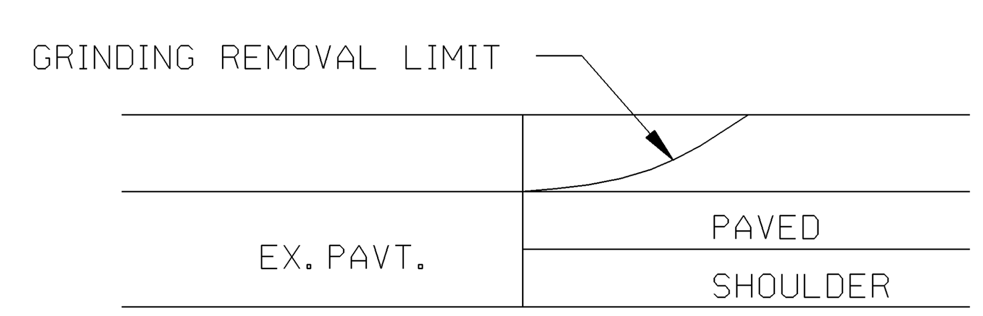
DISTRESSED JOINT-PLAN VIEW



SECTION A-A

TYPICAL END DETAIL

NO SEPARATE PAYMENT WILL BE MADE FOR THESE SAW CUTS



SECTION B-B

SHOULDER TREATMENT DETAIL

MEASURED QUANTITY SHALL NOT INCLUDE THE PAVED SHOULDER AREA

SEE GENERAL NOTES ON SHEET NO. 16 FOR ADDITIONAL INFORMATION.

ESTIMATED QUANTITY
ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN A 1000 S.Y.
ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN B 1000 S.Y.

LEGEND

(A) TYPE Y DOWELLED REPAIR JOINTS, AS PER BP-2.5

(B) SAWED CONTRACTION JOINT AS PER BP-2.2, WITH DOWELS, MAX. SPACING 20' C/C FOR ONE LANE REPLACEMENTS ALIGN JOINT WITH EXISTING CRACKS IN THE ADJACENT LANE WHENEVER POSSIBLE. (EX. CRACKS OCCUR APPROX 15' C/C)

(C) LONGITUDINAL BUTT JOINT AS PER BP-2.1 (USING HOOK BOLTS)

(D) TYPE D JOINT AS PER BP-2.1 FOR PATCHES 10' OR GREATER IN LENGTH

(E) TYPE T TIED REPAIR JOINT, AS PER BP-2.5

ESTIMATED QUANTITIES		
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN A	2000 SQ.YD.
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN B	1800 SQ.YD.
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN A	4000 SQ.YD.
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN B	2100 SQ.YD.
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN A	2000 SQ.YD.
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN B	1800 SQ.YD.
ITEM 255	FULL DEPTH PAVEMENT SAWING	20,000 FT.
ITEM 203	EXCAVATION	50 CU. YD.
ITEM 304	AGGREGATE BASE, AS PER PLAN	50 CU. YD.

I:\PROJECTS\PId12996\CNSLTNT\12996GMA.dgn 07-MAR-2005 1:33PM jgrmovse
Technician: MJOLIAT

NOTE:

STRAIGHT GRADE – THE ASPHALT TRANSITIONS SHALL BE CONSIDERED UNACCEPTABLE IF THE FINAL GRADE VARIES FROM THE DESIRED STRAIGHT GRADE BY GREATER THAN ⅜ INCHES ANYWHERE THROUGHOUT THE LENGTH OF THE TRANSITION. THIS TOLERANCE IS REDUCED TO ¼ INCH FOR THE FIRST 5 FEET ADJACENT TO AN EXPANSION JOINT.

PAYMENT WILL BE HELD FOR 1 C.Y. OF ASPHALT PER FOOT OF PAVING WIDTH AT EACH TRANSITION LOCATION UNTIL THE TRANSITION IS SHOWN TO BE ACCEPTABLE. THE CONTRACTOR IS TO PROVIDE THE NECESSARY SURVEY WORK TO SHOW THAT THESE STRAIGHT GRADES ARE MET ALONG EACH EDGE LINE AND LANE LINE.

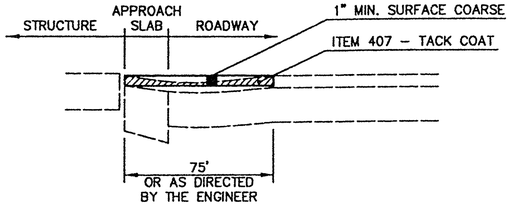
ALL UNACCEPTABLE ASPHALT TRANSITIONS SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE. THE REPAIR METHOD SHALL BE AS FOLLOWS:

A. DETERMINE FINAL GRADE LINE BY EXTENDING A STRAIGHT LINE FROM THE TOP OF THE BRIDGE END DAM JOINT TO A POINT 75' AWAY ON THE TOP OF RESURFACING.

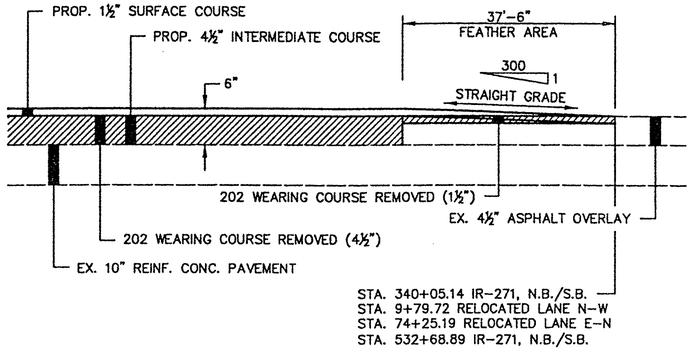
B. REMOVE ASPHALT CONCRETE EXACTLY 1" BELOW THE FINAL GRADE.

C. PLACE ITEM 407 – TACK COAT AND ITEM 442 – ASPHALT CONCRETE, TO DESIRED GRADE.

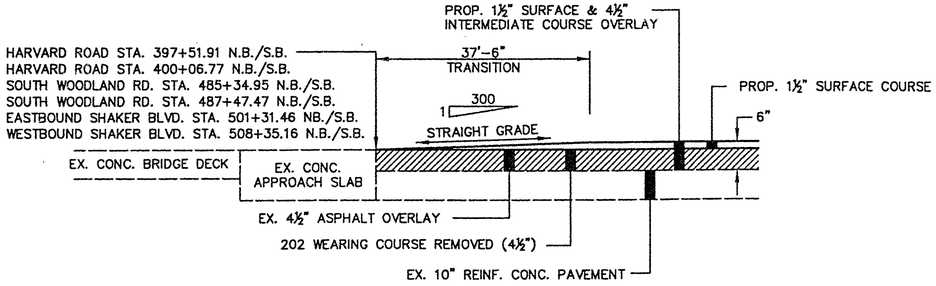
D. SURVEY TRANSITION TO VERIFY THAT THE REPAIR IS WITHIN THE ALLOWABLE TOLERANCE.



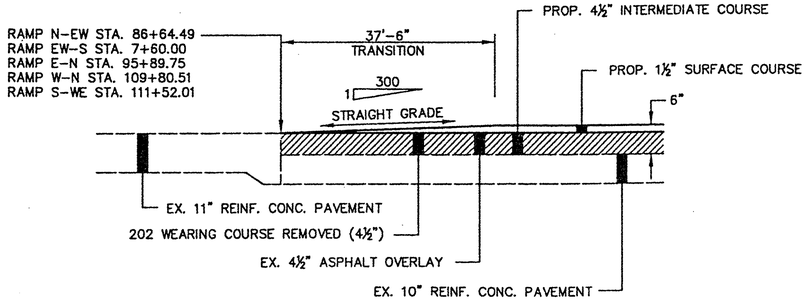
CORRECTION OF UNACCEPTABLE ASPHALT TRANSITIONS



PROPOSED OVERLAY BUTT JOINT MEETING EXISTING PAVEMENT OVERLAY



PROPOSED OVERLAY BUTT JOINT MEETING EXISTING APPROACH SLAB



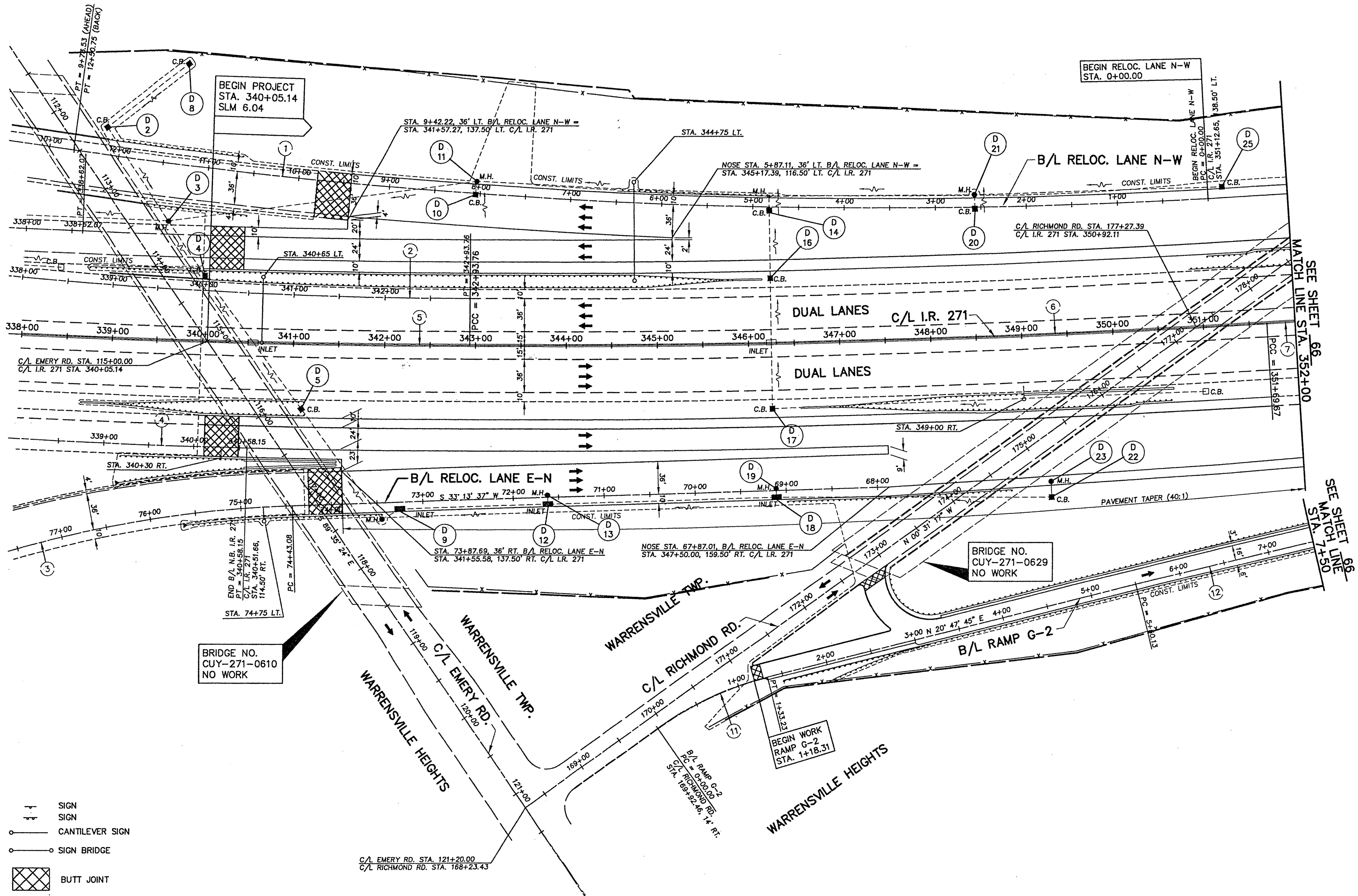
PROPOSED OVERLAY BUTT JOINT MEETING EXISTING RAMP

CALCULATED MVJ
CHECKED RAH

PAVEMENT TRANSITION DETAILS

CUY–271–6.04

Cad File: G:\CIVIL\2001118\GD\DWG\12996GM8.DWG
Date: 10-12-04 Time: 11:23 AM ltw = 060.0.00"



BEGIN PROJECT
STA. 340+05.14
SLM 6.04
PT = 9+78.53 (AHEAD)
PT = 12+50.75 (BACK)
BEGIN RELOC. LANE N-W
STA. 0+00.00
STA. 9+42.22, 36' LT. B/L RELOC. LANE N-W = STA. 341+57.27, 137.50' LT. C/L I.R. 271
STA. 344+75 LT.
NOSE STA. 5+87.11, 36' LT. B/L RELOC. LANE N-W = STA. 345+17.39, 116.50' LT. C/L I.R. 271
B/L RELOC. LANE N-W
CONST. LIMITS
BEGIN RELOC. LANE N-W
PC = 0+00.00
C/L I.R. 271
STA. 351+12.65, 38.50' LT.
STA. 340+65 LT.
C/L RICHMOND RD. STA. 177+27.39
C/L I.R. 271 STA. 350+92.11
DUAL LANES
C/L I.R. 271
DUAL LANES
C/L EMERY RD. STA. 115+00.00
C/L I.R. 271 STA. 340+05.14
PCC = 342+93.76
PCC = 351+69.67
MATCH LINE STA. 352+00
SEE SHEET 66
STA. 349+00 RT.
STA. 340+30 RT.
B/L RELOC. LANE E-N
S 33° 13' 37" W
PAVEMENT TAPER (40:1)
STA. 73+87.69, 36' RT. B/L RELOC. LANE E-N
STA. 341+55.58, 137.50' RT. C/L I.R. 271
NOSE STA. 67+87.01, B/L RELOC. LANE E-N
STA. 347+50.00, 159.50' RT. C/L I.R. 271
END B/L N.B. I.R. 271
PT = 340+58.15
C/L I.R. 271
STA. 340+51.66, 114.50' RT.
PC = 74+43.08
STA. 74+75 LT.
N 89° 35' 24" E
N 00° 31' 17" W
BRIDGE NO.
CUY-271-0629
NO WORK
SEE SHEET 66
MATCH LINE
STA. 7+50
BRIDGE NO.
CUY-271-0610
NO WORK
WARRENSVILLE TWP.
WARRENSVILLE TWP.
C/L EMERY RD.
C/L RICHMOND RD.
WARRENSVILLE HEIGHTS
WARRENSVILLE HEIGHTS
N 20° 47' 45" E
B/L RAMP G-2
PC = 5+80.13
PT = 1+33.23
BEGIN WORK
RAMP G-2
STA. 1+18.31
B/L RAMP G-2
PC = 0+00.00
C/L RICHMOND RD.
STA. 169+92.46, 14' RT.
C/L EMERY RD. STA. 121+20.00
C/L RICHMOND RD. STA. 168+23.43
M.H.
C.B.
INLET

SIGN
SIGN
CANTILEVER SIGN
SIGN BRIDGE
BUTT JOINT

FOR CURVE DATA, SEE SHEET 4.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.
FOR ROADWAY PLAN, SEE SHEET 48.

Cad File: G:\CIVIL\2001118\00\DWG\12996DP1.DWG
Date: 12-27-04 Time: 10:45 AM TW = 305d0'0.00"

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED BC
CHECKED MJ

DRAINAGE PLAN SHEET - I.R. 271
BEGIN TO STA. 352+00

CUY-271-6.04

WARRENSVILLE TWP.

C/L RICHMOND RD. STA. 185+07.29 = B/L RAMP G-1 STA. 57+37.48

C/L RICHMOND RD.

WARRENSVILLE HEIGHTS

B/L RAMP G-1

BRIDGE NO. CUY-271-0629 NO WORK

BEGIN WORK RAMP G-1 STA. 57+53.64

N 59° 32' 27" E

N 00° 31' 17" W

PCC = 58+53.02

HEADWALL

86.48' SHOULDER TAPER

BEGIN SHOULDER TAPER STA. 62+00.00

PCC = 62+19.38

END SHOULDER TAPER STA. 62+86.48

END WORK RAMP G-1 STA. 65+81.55

NOSE STA. 62+86.48, 16' RT. B/L RAMP G-1 = STA. 362+81.31, 161.50' LT. C/L I.R. 271

BEGIN RAMP G-1 PT = 65+81.55 = STA. 365+81.55, 150.50' LT.

CONST. LIMITS

STA. 354+40 LT.

CULVERT NO. 1 – 48" STA. 359+19.00

STA. 362+00 LT.

STA. 363+50 LT.

STA. 360+25 RT.

STA. 353+00 LT.

STA. 353+55 RT.

PCC = 359+00.00

C/L I.R. 271

DUAL LANES

DUAL LANES

INLET

SEE SHEET 65
MATCH LINE STA. 352+00

MATCH LINE STA. 366+00
SEE SHEET 67

MATCH LINE STA. 7+50
SEE SHEET 65

B/L RAMP G-2

WARRENSVILLE HEIGHTS

PCC = 12+97.48

PT = 15+42.92

END RAMP G-2 STA. 15+51.21 C/L I.R. 271 359+89.00 163.50' RT.

NOSE STA. 15+51.21, 16' LT. B/L RAMP G-2 = STA. 359+89.00, 147.50' RT. C/L I.R. 271

END PAVEMENT TAPER STA. 355+80.61

PAVEMENT TAPER (40:1)

STA. 15+01.21 BEGIN SHOULDER TAPER

END SHOULDER TAPER STA. 15+51.21

50' SHOULDER TAPER

END WORK RAMP G-2 STA. 15+51.21

STA. 364+29.00

STA. 365+09.00

80' SHLDR. TAPER

CONST. LIMITS

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE
BUTT JOINT

FOR CURVE DATA, SEE SHEET 4.
FOR CULVERT DETAILS, SEE SHEET 82.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.
FOR ROADWAY PLAN, SEE SHEET 49.

HORIZONTAL SCALE IN FEET: 0, 25, 50, 100

CALCULATED BC

CHECKED MJ

DRAINAGE PLAN SHEET – I.R. 271
STA. 352+00 TO STA. 366+00

CUY-271-6.04

66
142

Cad File: G:\CIVIL\2001118\00\DWG\129860P2.DWG
Date: 12-27-04 Time: 11:00 AM TW = 295±0'0.00"

CITY OF WARRENSVILLE HEIGHTS
WARRENSVILLE TWP.

100' SHOULDER TAPER

BEGIN SHOULDER TAPER STA. 370+00.00

END SHOULDER TAPER STA. 371+00.00

CONST. LIMITS

NOISE WALL

C.B. D 43

C.B. D 42

C.B. D 41

C.B. D 46

C.B. D 45

CULVERT NO. 2 – 54"
STA. 379+20.00

APPROX. EASEMENT POSITION BASED ON CULVERT PLANS

M.H.

ABAN.

HEADWALL E 3

STA. 376+70 LT.

E 2

SEE SHEET 66
MATCH LINE STA. 366+00

367+00 368+00 369+00 370+00 371+00 372+00 373+00 374+00 375+00 376+00 377+00 378+00 379+00

INLET

C/L I.R. 271

DUAL LANES

DUAL LANES

MATCH LINE STA. 380+00
SEE SHEET 68

60'

10' 24' 15' 10'

STA. 367+00 RT.

STA. 370+70 RT.

STA. 371+00 RT.

CONST. LIMITS

HEADWALL

79+00

16

E 1

B/L RAMP N-EW

C/L 271
STA. 378+75.01
BEGIN RAMP N-EW
PC = 78+75.00

150.50' RT.

MATCH LINE STA. 80+00
SEE SHEET 68

BEGIN WORK
RAMP N-EW
STA. 78+75.00

APPROX. EASEMENT POSITION BASED ON ROADWAY PLANS

VILLAGE OF ORANGE
WARRENSVILLE TWP.

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

FOR CURVE DATA, SEE SHEET 4.
FOR DRAINAGE QUANTITIES, SEE SHEET 29–32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.
FOR ROADWAY PLAN, SEE SHEET 50.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BC
CHECKED MJ

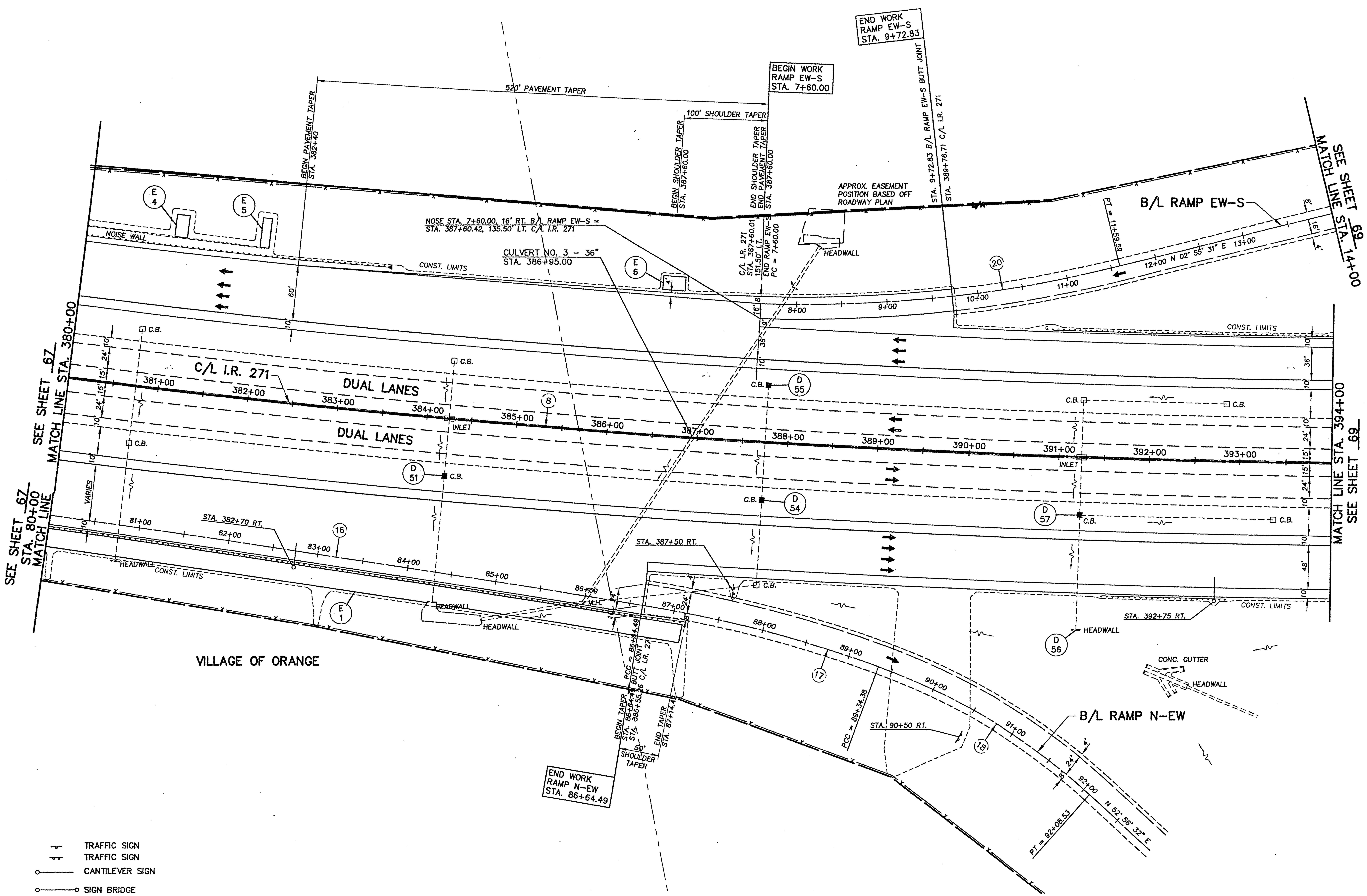
DRAINAGE PLAN SHEET – I.R. 271
STA. 366+00 TO STA. 380+00

CUY–271–6.04

67
142

Cad File: G:\CIVIL\2001118\00\DWG\1299609P3.DWG
Date: 12-27-04 Time: 11:28 AM TW = 288d60'0.00"

Technician: MJDUAT



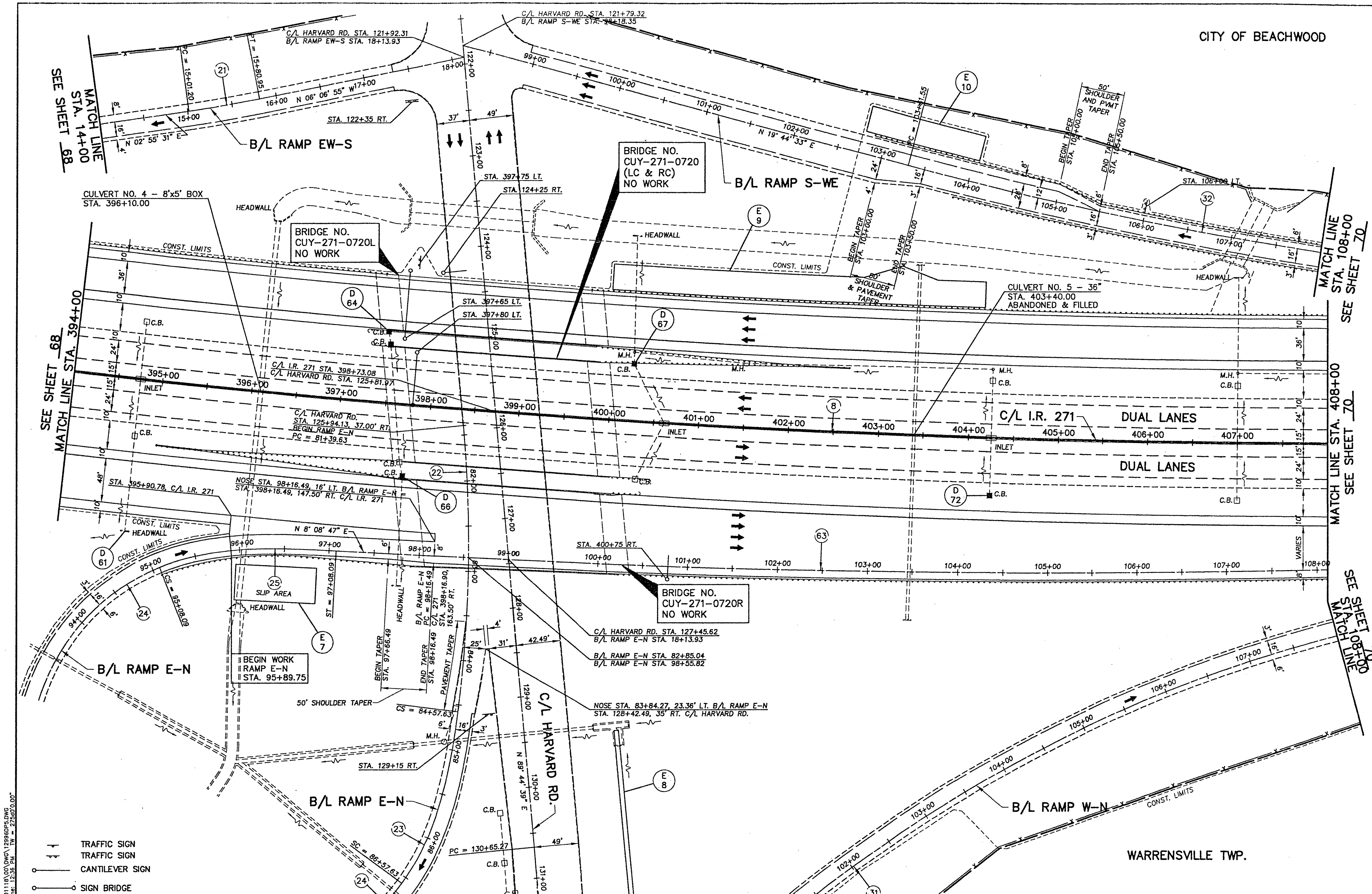
FOR CURVE DATA, SEE SHEET 4.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.
FOR ROADWAY PLAN, SEE SHEET 51.

HORIZONTAL SCALE IN FEET: 0 25 50 100

CALCULATED BC
CHECKED MJ

DRAINAGE PLAN SHEET - I.R. 271
STA. 380+00 TO STA. 394+00

CUY-271-6.04


CITY OF BEACHWOOD
WARRENSVILLE TWP.
MATCH LINE STA. 14+00 SEE SHEET 68
MATCH LINE STA. 394+00 SEE SHEET 68
MATCH LINE STA. 108+00 SEE SHEET 70
MATCH LINE STA. 408+00 SEE SHEET 70
B/L RAMP EW-S
B/L RAMP S-WE
B/L RAMP E-N
B/L RAMP W-N
C/L I.R. 271
DUAL LANES
C/L HARVARD RD.
C/L HARVARD RD. STA. 121+92.31
B/L RAMP EW-S STA. 18+13.93
C/L HARVARD RD. STA. 121+79.32
B/L RAMP S-WE STA. 18+18.35
BRIDGE NO. CUY-271-0720 (LC & RC) NO WORK
BRIDGE NO. CUY-271-0720L NO WORK
BRIDGE NO. CUY-271-0720R NO WORK
CULVERT NO. 4 - 8'x5' BOX STA. 396+10.00
CULVERT NO. 5 - 36" STA. 403+40.00 ABANDONED & FILLED
C/L I.R. 271 STA. 398+73.08
C/L HARVARD RD. STA. 125+81.97
C/L HARVARD RD. STA. 125+94.13, 37.00' RT.
BEGIN RAMP E-N PC = 81+39.63
NOSE STA. 98+16.49, 16' LT. B/L RAMP E-N
STA. 398+16.49, 147.50' RT. C/L I.R. 271
C/L HARVARD RD. STA. 127+45.62
B/L RAMP E-N STA. 18+13.93
B/L RAMP E-N STA. 82+85.04
B/L RAMP E-N STA. 98+55.82
NOSE STA. 83+84.27, 23.36' LT. B/L RAMP E-N
STA. 128+42.49, 35' RT. C/L HARVARD RD.
BEGIN WORK RAMP E-N STA. 95+89.75
50' SHOULDER TAPER
CONST. LIMITS
HEADWALL
SLIP AREA
TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

FOR CURVE DATA, SEE SHEET 4.
FOR CULVERT DETAILS, SEE SHEET 80.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.
FOR ROADWAY PLAN, SEE SHEET 52.

CALCULATED BC
CHECKED MJ

HORIZONTAL SCALE IN FEET

DRAINAGE PLAN SHEET - I.R. 271
STA. 394+00 TO STA. 408+00

CUY-271-6.04

CITY OF BEACHWOOD

SEE SHEET 69
STA. 108+00
MATCH LINE

BEGIN WORK
RAMP S–WE
STA. 111+52.01

50'
SHOULDER
TAPER

BUTT JOINT

NOSE STA. 111+52.01, 16' RT.
B/L RAMP S–WE
STA. 411+44.66, 149.50' LT.
C/L I.R. 271

END WORK
RAMP S–WE
STA. 117+00.00

END RAMP S–WE
PT = 117+00.00
C/L I.R. 271
STA. 417+00.01,
138.50 LT.

STA. 108+50 LT.

B/L RAMP S–WE

POC = 110+61.96

BEGIN TAPER
STA. 111+02.01

END TAPER
STA. 111+52.01

HEADWALL

CONST. LIMITS

STA. 414+69 LT.

HEADWALL

CONST. LIMITS

CULVERT NO. 6 – 36"
STA. 418+35.00

STA. 410+00 LT.

SEE SHEET 69
STA. 408+00
MATCH LINE

DUAL LANES

C/L I.R. 271

DUAL LANES

INLET

INLET

INLET

PT = 420+31.80

N 00° 45' 42" W

MATCH LINE STA. 422+00
SEE SHEET 71

MATCH LINE
STA. 108+00
SEE SHEET 69

B/L RAMP W–N

NOSE STA. 111+82.15, 16' LT.
B/L RAMP W–N
STA. 411+82.42, 147.50' RT.
C/L I.R. 271

STA. 415+00 RT.

HEADWALL

STA. 419+75 RT.

CONST. LIMITS

END RAMP E–N, STA. 108+29.96
C/L 271, STA. 408+17.75, 138.50 RT.

B/L RAMP E–N

CONST. LIMITS

STA. 409+82.11 C/L I.R. 271
STA. 109+80.51
B/L RAMP W–N BUTT JOINT

BEGIN TAPER
PT STA. 111+38.82

END TAPER
END RAMP W–N
STA. 111+82.15

48.33'
SHOULDER
TAPER

BEGIN TAPER
STA. 419+31.80

END TAPER
STA. 420+31.80

100'
SHOULDER
TAPER

END WORK
RAMP E–N
STA. 108+29.96

END WORK
RAMP W–N
STA. 111+82.15

BEGIN WORK
RAMP W–N
STA. 109+80.51

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

FOR ROADWAY PLAN, SEE SHEET 53.
FOR CURVE DATA, SEE SHEET 4.
FOR CULVERT DETAILS, SEE SHEET 83.
FOR DRAINAGE QUANTITIES, SEE SHEET 29–32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.

Cad File: G:\DWL\2001118\00\DWG\129960P6.DWG
Date: 12-27-04 Time: 12:49 PM TW = 269d14'18.00"

N

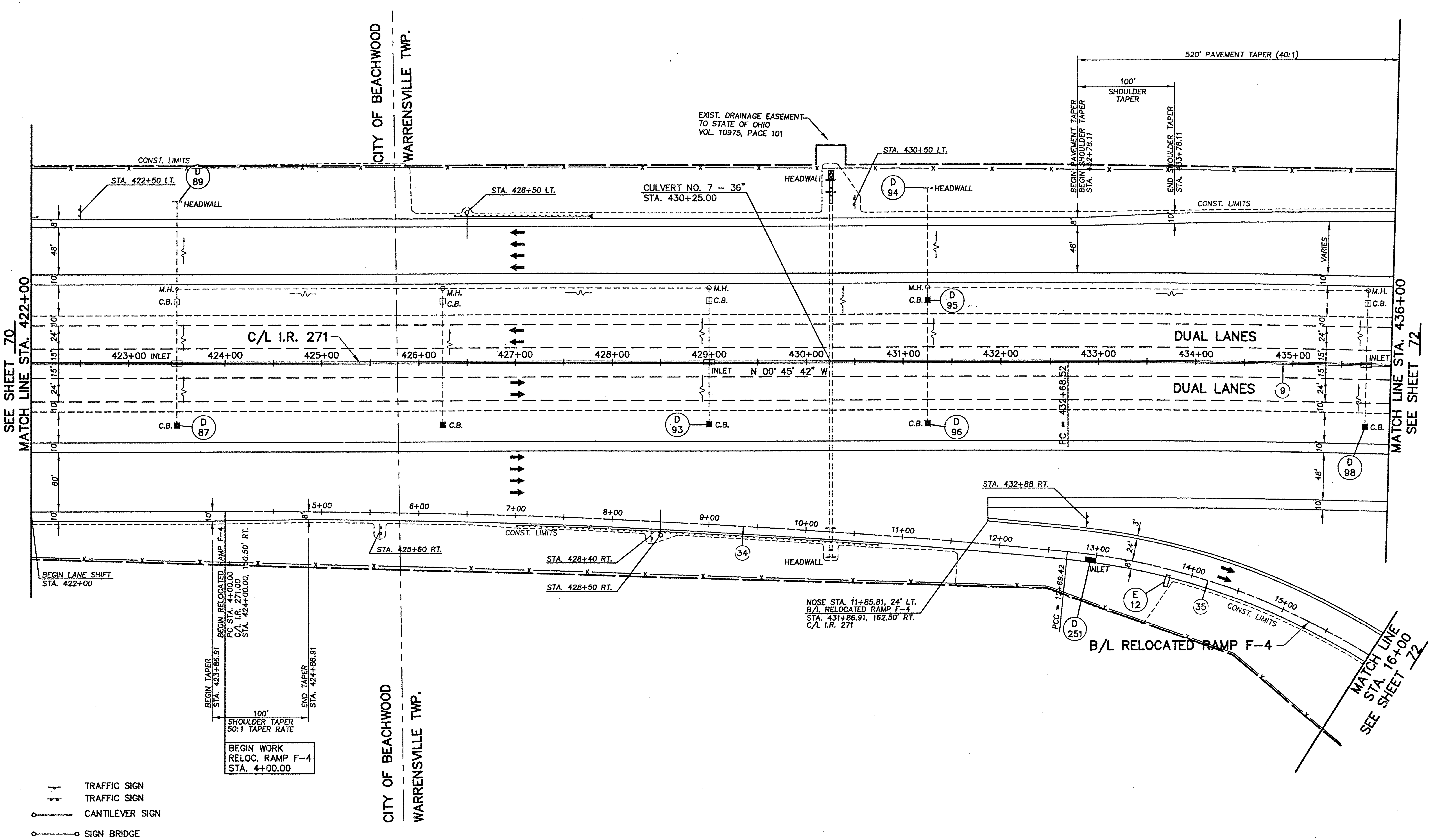
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BC
CHECKED MJ

DRAINAGE PLAN SHEET – I.R. 271
STA. 408+00 TO STA. 422+00

CUY–271–6.04

70
142



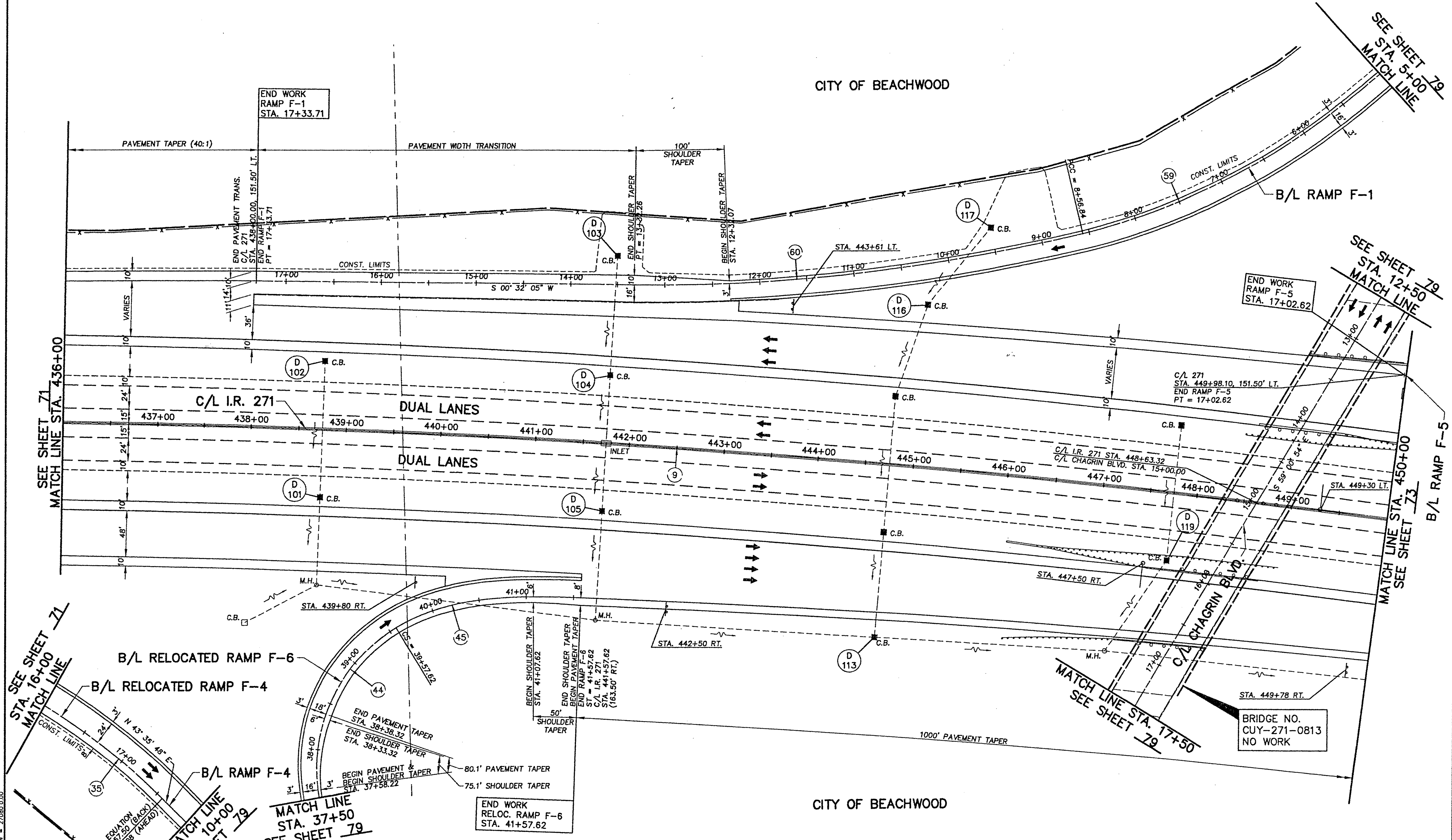
FOR CURVE DATA, SEE SHEET 4.
FOR CULVERT DETAILS, SEE SHEET 84.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.
FOR ROADWAY PLAN, SEE SHEET 54.

HORIZONTAL SCALE IN FEET: 0 25 50 100

CALCULATED BC
CHECKED MJ

DRAINAGE PLAN SHEET – I.R. 271
STA. 422+00 TO STA. 436+00

CUY-271-6.04


CITY OF BEACHWOOD
END WORK
RAMP F-1
STA. 17+33.71
PAVEMENT TAPER (40:1)
PAVEMENT WIDTH TRANSITION
100' SHOULDER TAPER
SEE SHEET 79
STA. 5+00
MATCH LINE
B/L RAMP F-1
CONST. LIMITS
SEE SHEET 79
STA. 12+50
MATCH LINE
END WORK
RAMP F-5
STA. 17+02.62
C/L 271
STA. 449+98.10, 151.50' LT.
END RAMP F-5
PT = 17+02.62
B/L RAMP F-5
C/L I.R. 271
DUAL LANES
DUAL LANES
SEE SHEET 71
MATCH LINE STA. 436+00
MATCH LINE STA. 450+00
SEE SHEET 73
C/L I.R. 271 STA. 448+63.32
C/L CHAGRIN BLVD. STA. 15+00.00
C/L CHAGRIN BLVD.
STA. 443+61 LT.
STA. 449+30 LT.
STA. 447+50 RT.
STA. 439+80 RT.
STA. 442+50 RT.
STA. 449+78 RT.
S 00° 32' 05" W
BRIDGE NO.
CUY-271-0813
NO WORK
MATCH LINE STA. 17+50
SEE SHEET 79
1000' PAVEMENT TAPER
SEE SHEET 71
STA. 16+00
MATCH LINE
B/L RELOCATED RAMP F-6
B/L RELOCATED RAMP F-4
B/L RAMP F-4
STATION EQUATION
17+57.50 (BACK)
9+64.08 (AHEAD)
MATCH LINE
STA. 10+00
SEE SHEET 79
MATCH LINE
STA. 37+50
SEE SHEET 79
END PAVEMENT TAPER
STA. 38+38.32
END SHOULDER TAPER
STA. 38+33.32
BEGIN PAVEMENT & BEGIN SHOULDER TAPER
STA. 37+58.22
80.1' PAVEMENT TAPER
75.1' SHOULDER TAPER
END WORK
RELOC. RAMP F-6
STA. 41+57.62
BEGIN SHOULDER TAPER
STA. 41+07.62
50' SHOULDER TAPER
END SHOULDER TAPER
BEGIN PAVEMENT TAPER
END RAMP F-6
ST = 41+57.62
C/L I.R. 271
STA. 441+57.62
(163.50' RT.)
CITY OF BEACHWOOD
HORIZONTAL SCALE IN FEET

TRAFFIC SIGN

TRAFFIC SIGN

CANTILEVER SIGN

SIGN BRIDGE

FOR CURVE DATA, SEE SHEET 4.

FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.

FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.

FOR ROADWAY PLAN, SEE SHEET 55.

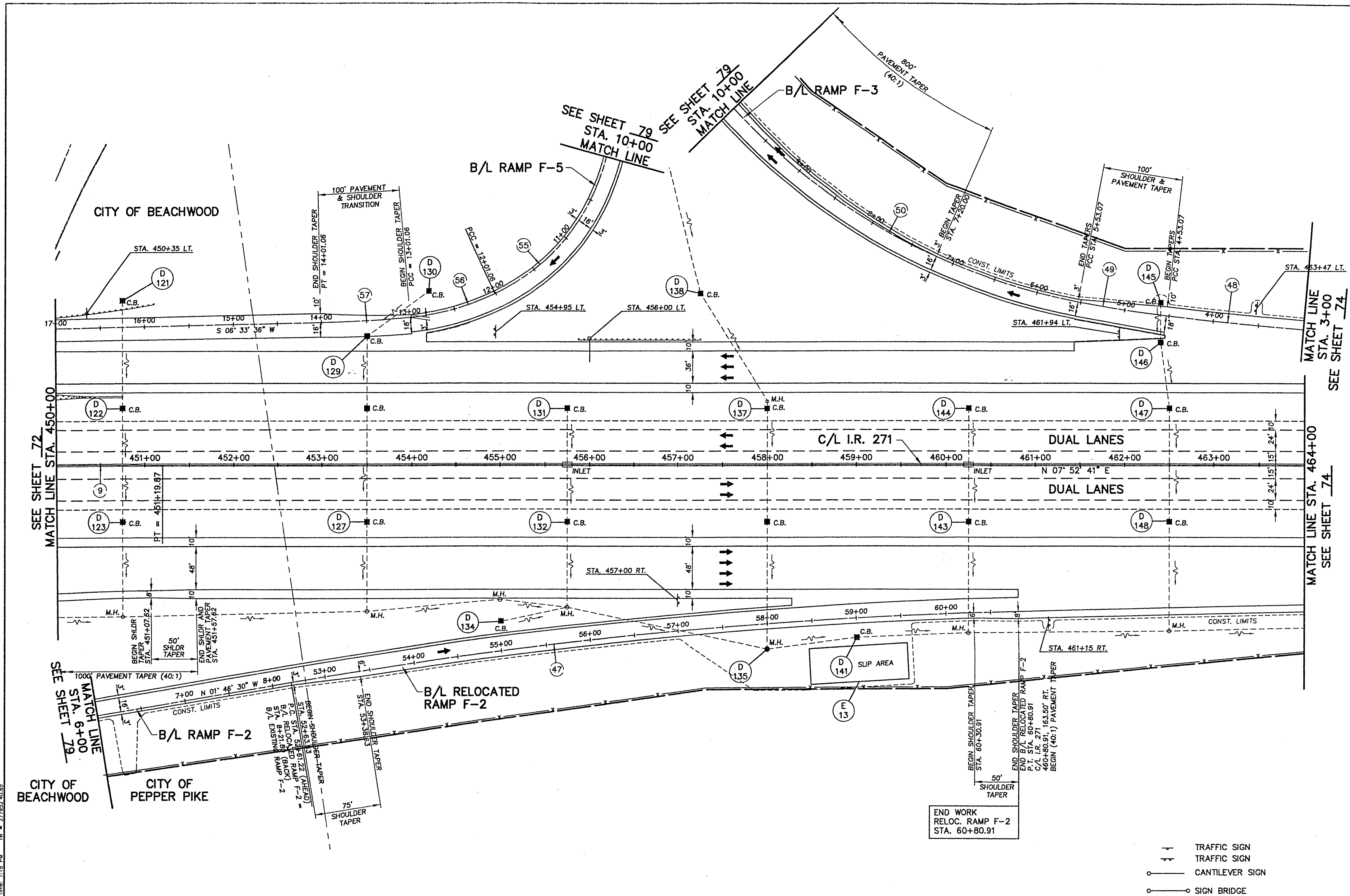
CALCULATED BC

CHECKED MJ

DRAINAGE PLAN SHEET - I.R. 271

STA. 436+00 TO STA. 450+00

CUY-271-6.04

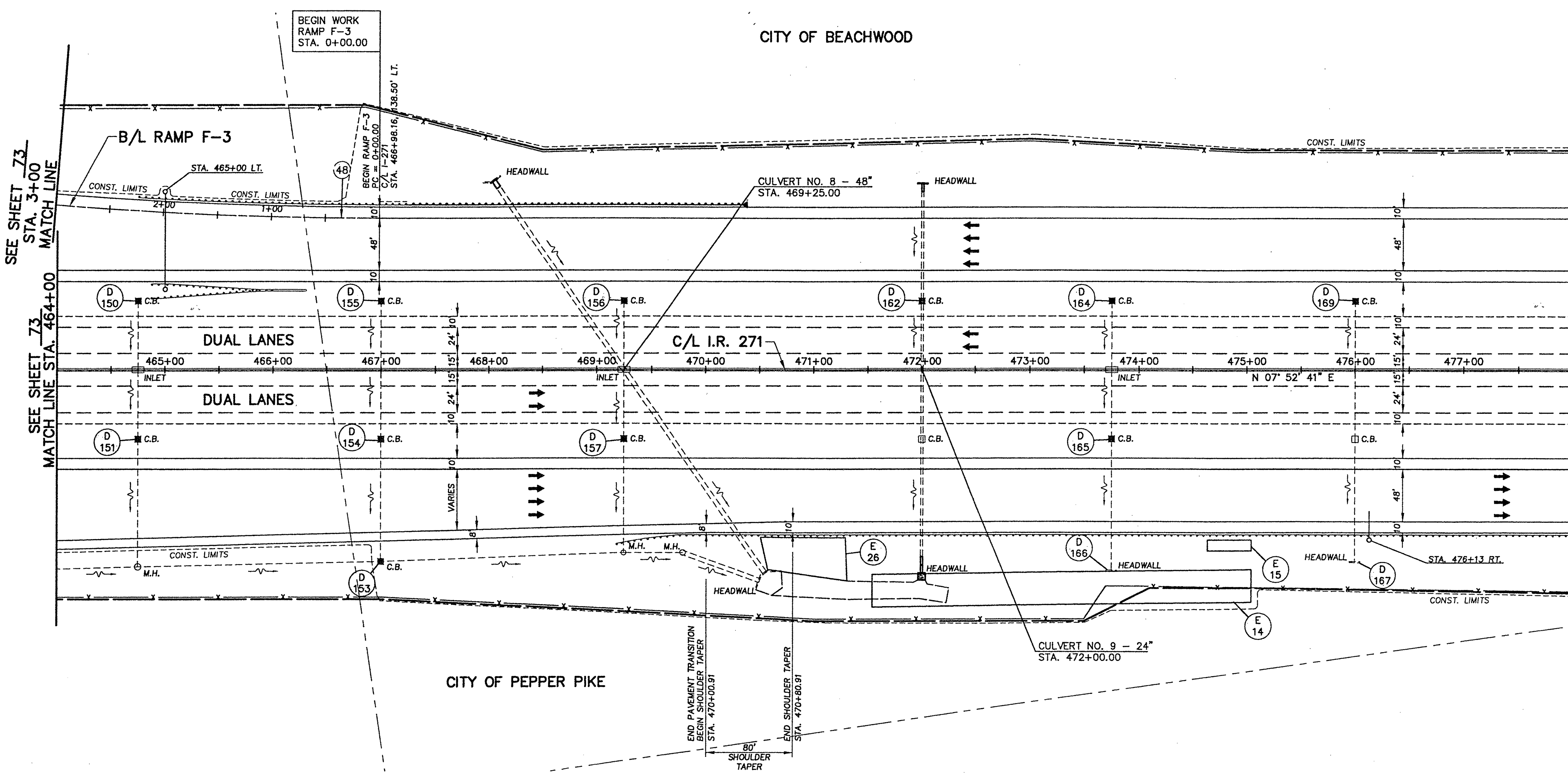


FOR CURVE DATA, SEE SHEET 4.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.
FOR ROADWAY PLAN, SEE SHEET 56.

CALCULATED BC
CHECKED MJ

DRAINAGE PLAN SHEET- I.R. 271
STA. 450+00 TO STA. 464+00

CUY-271-6.04



BEGIN WORK
RAMP F-3
STA. 0+00.00
CITY OF BEACHWOOD
B/L RAMP F-3
SEE SHEET 73
STA. 3+00
MATCH LINE
STA. 465+00 LT.
CONST. LIMITS
BEGIN RAMP F-3
PC = 0+00.00
C/L I-271
STA. 466+98.16, 138.50' LT.
HEADWALL
CULVERT NO. 8 - 48"
STA. 469+25.00
HEADWALL
SEE SHEET 73
MATCH LINE STA. 464+00
DUAL LANES
C/L I.R. 271
DUAL LANES
465+00
466+00
467+00
468+00
469+00
470+00
471+00
472+00
473+00
474+00
475+00
476+00
477+00
INLET
N 07° 52' 41" E
C.B.
M.H.
HEADWALL
VARIES
MATCH LINE STA. 478+00
SEE SHEET 75
STA. 476+13 RT.
CULVERT NO. 9 - 24"
STA. 472+00.00
CITY OF PEPPER PIKE
END PAVEMENT TRANSITION
BEGIN SHOULDER TAPER
STA. 470+00.91
END SHOULDER TAPER
STA. 470+80.91
80'
SHOULDER
TAPER

TRAFFIC SIGN

TRAFFIC SIGN

CANTILEVER SIGN

SIGN BRIDGE

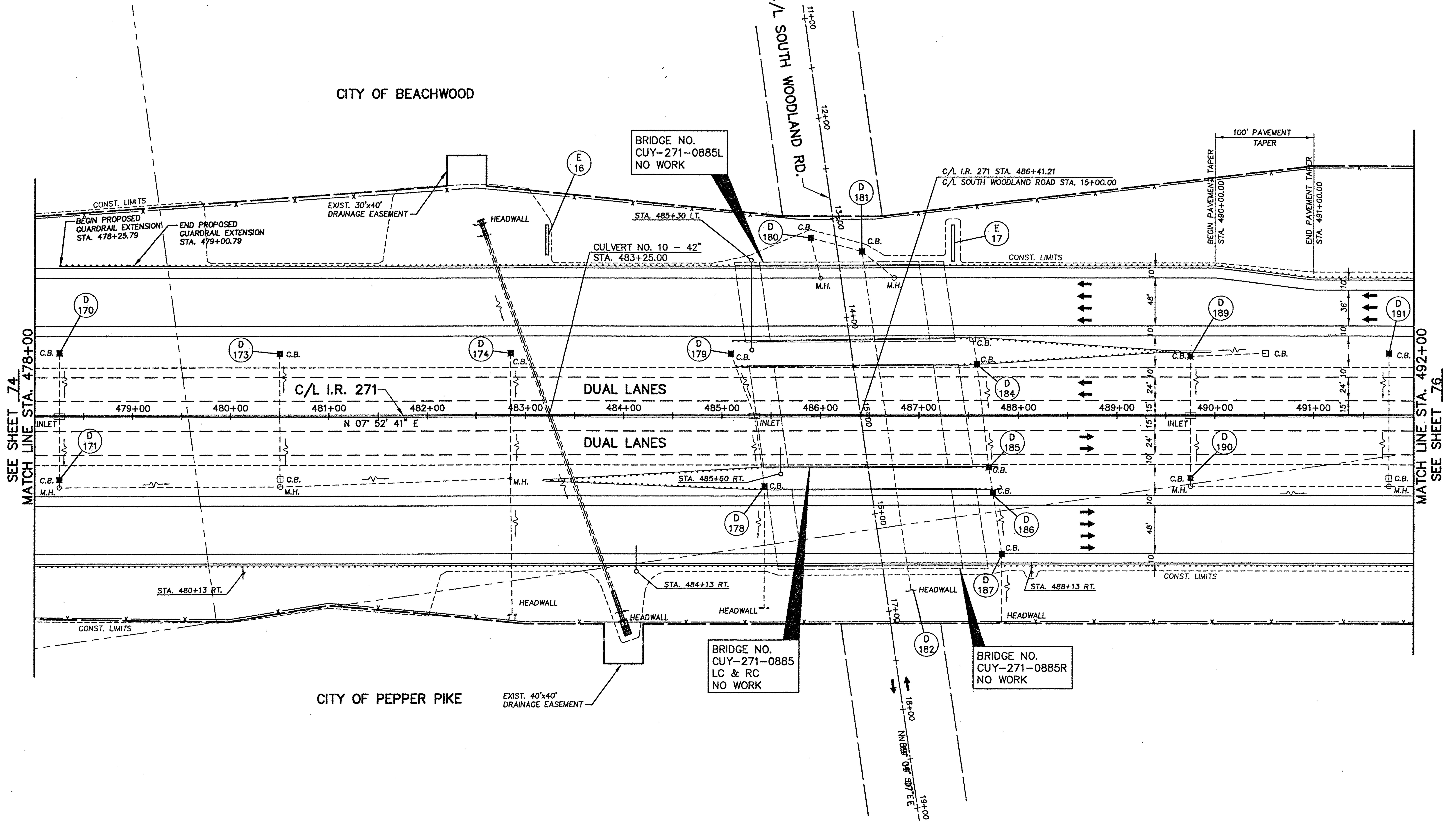
FOR CURVE DATA, SEE SHEET 4.
FOR CULVERT DETAILS, SEE SHEET 85-86.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.
FOR ROADWAY PLAN, SEE SHEET 57.

HORIZONTAL SCALE IN FEET: 0 25 50 100

CALCULATED BC
CHECKED MJ

DRAINAGE PLAN SHEET - I.R. 271
STA. 464+00 TO STA. 478+00

CUY-271-6.04



CITY OF BEACHWOOD
CITY OF PEPPER PIKE
C/L SOUTH WOODLAND RD.
BRIDGE NO. CUY-271-0885L NO WORK
BRIDGE NO. CUY-271-0885 LC & RC NO WORK
BRIDGE NO. CUY-271-0885R NO WORK
C/L I.R. 271 STA. 486+41.21
C/L SOUTH WOODLAND ROAD STA. 15+00.00
CULVERT NO. 10 - 42"
STA. 483+25.00
EXIST. 30'x40' DRAINAGE EASEMENT
EXIST. 40'x40' DRAINAGE EASEMENT
BEGIN PROPOSED GUARDRAIL EXTENSION STA. 478+25.79
END PROPOSED GUARDRAIL EXTENSION STA. 479+00.79
CONST. LIMITS
HEADWALL
STA. 485+30 LT.
STA. 485+60 RT.
STA. 480+13 RT.
STA. 484+13 RT.
STA. 488+13 RT.
100' PAVEMENT TAPER
BEGIN PAVEMENT TAPER STA. 490+00.00
END PAVEMENT TAPER STA. 491+00.00
C/L I.R. 271
N 07° 52' 41" E
DUAL LANES
DUAL LANES
479+00
480+00
481+00
482+00
483+00
484+00
485+00
486+00
487+00
488+00
489+00
490+00
491+00
INLET
C.B.
M.H.
D 170
D 171
D 173
D 174
D 178
D 179
D 180
D 181
D 182
D 184
D 185
D 186
D 187
D 189
D 190
D 191
E 16
E 17
48'
36'
24'
15'
10'
SEE SHEET 74
MATCH LINE STA. 478+00
MATCH LINE STA. 492+00
SEE SHEET 76

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

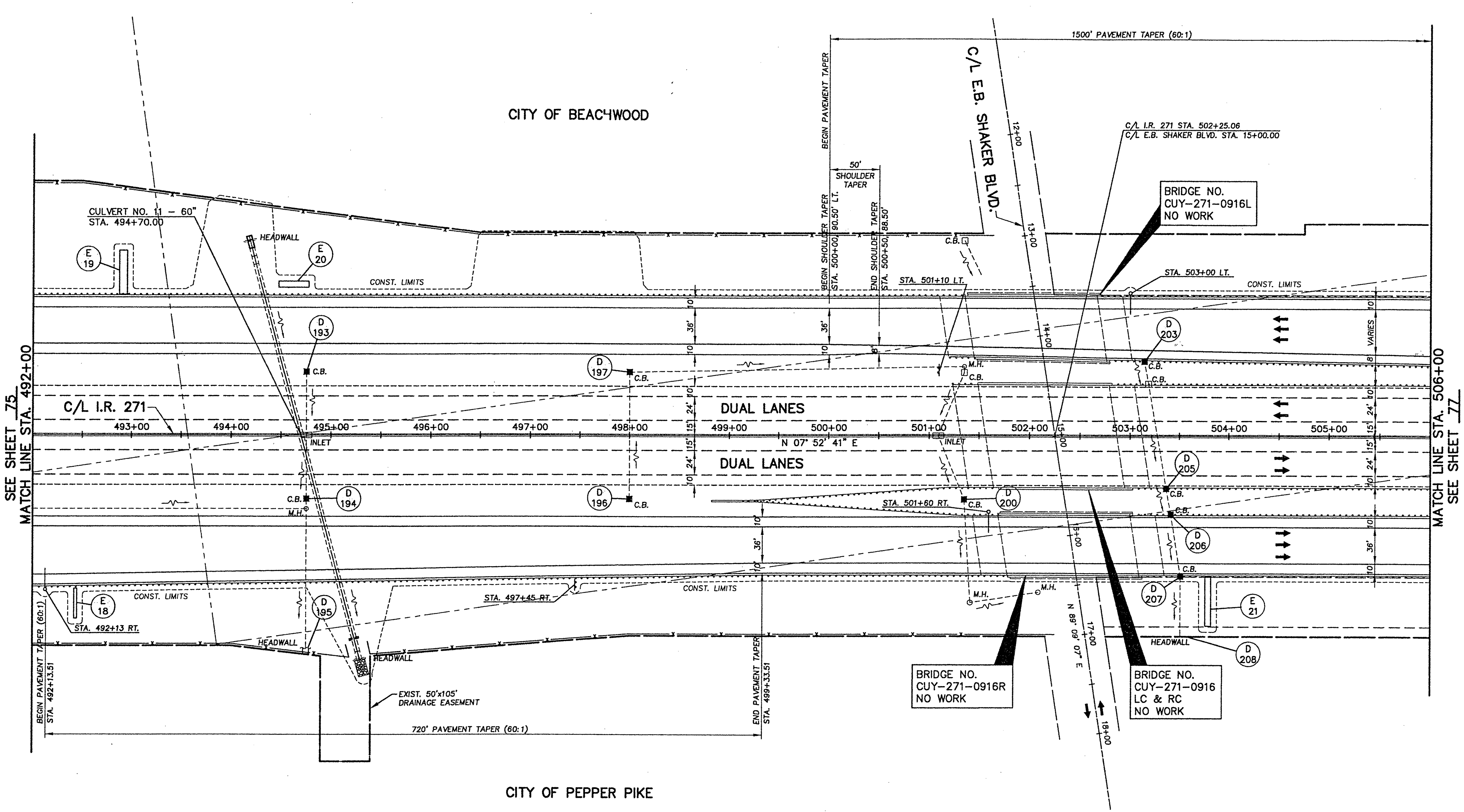
FOR CURVE DATA, SEE SHEET 4.
FOR CULVERT DETAILS, SEE SHEET 87.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.
FOR ROADWAY PLAN, SEE SHEET 58.

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED BC
CHECKED MJ

DRAINAGE PLAN SHEET - I.R. 271
STA. 478+00 TO STA. 492+00

CUY-271-6.04


CITY OF BEACHWOOD
CITY OF PEPPER PIKE
C/L E.B. SHAKER BLVD.
1500' PAVEMENT TAPER (60:1)
BEGIN PAVEMENT TAPER
50' SHOULDER TAPER
BEGIN SHOULDER TAPER STA. 500+00, 90.50' LT.
END SHOULDER TAPER STA. 500+50, 88.50'
C/L I.R. 271 STA. 502+25.06
C/L E.B. SHAKER BLVD. STA. 15+00.00
BRIDGE NO. CUY-271-0916L NO WORK
CULVERT NO. 11 - 60"
STA. 494+70.00
HEADWALL
CONST. LIMITS
STA. 501+10 LT.
STA. 503+00 LT.
C/L I.R. 271
DUAL LANES
N 07° 52' 41" E
INLET
C.B.
M.H.
STA. 501+60 RT.
STA. 497+45 RT.
STA. 492+13 RT.
SEE SHEET 75
MATCH LINE STA. 492+00
MATCH LINE STA. 506+00
SEE SHEET 77
EXIST. 50'x105' DRAINAGE EASEMENT
720' PAVEMENT TAPER (60:1)
BEGIN PAVEMENT TAPER STA. 492+13.51
END PAVEMENT TAPER STA. 499+33.51
BRIDGE NO. CUY-271-0916R NO WORK
BRIDGE NO. CUY-271-0916 LC & RC NO WORK
N 89° 09' 07" E
VARIES

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

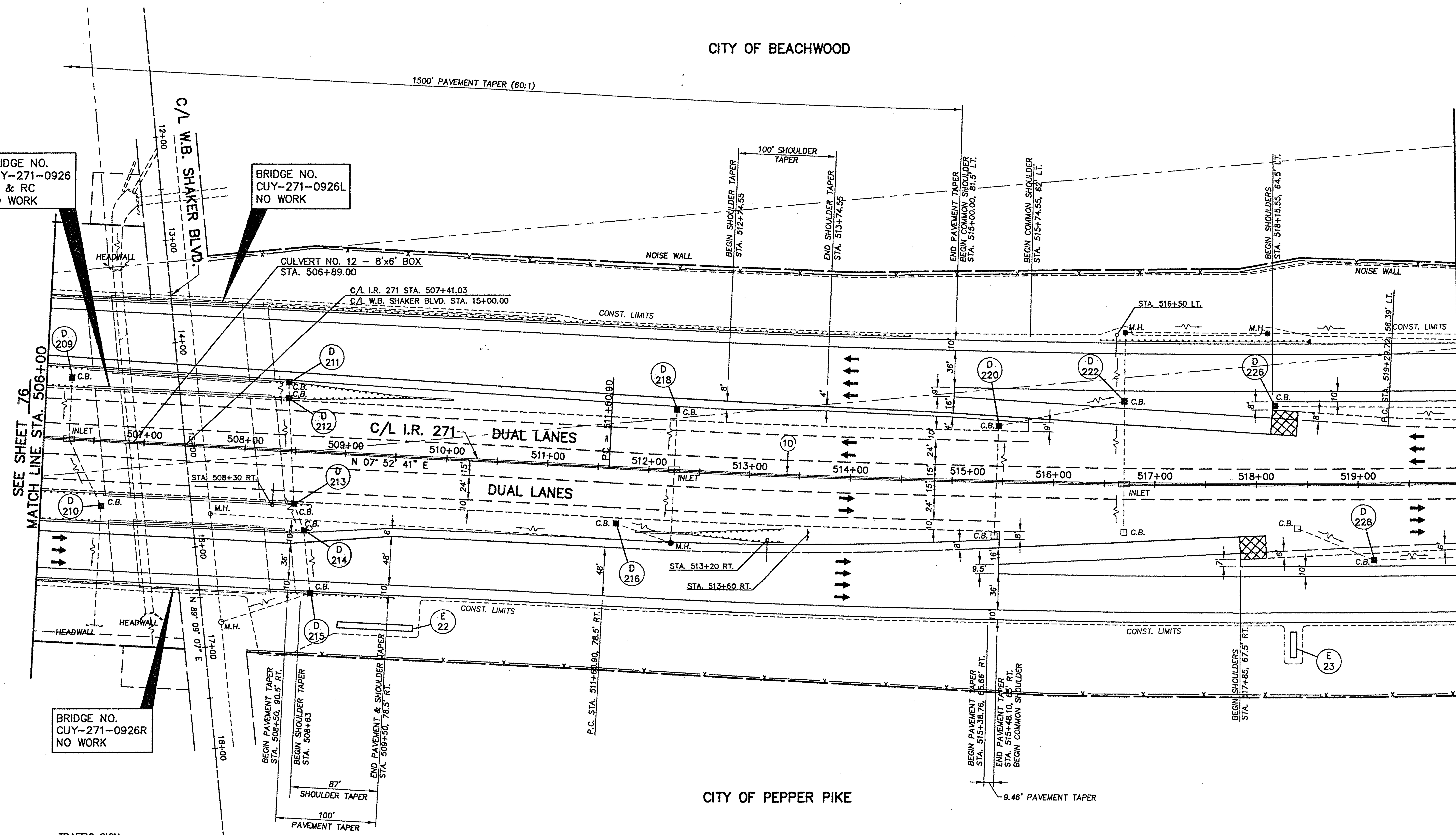
FOR CURVE DATA, SEE SHEET 4.
FOR CULVERT DETAILS, SEE SHEET 88.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.
FOR ROADWAY PLAN, SEE SHEET 59.

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED BC
CHECKED MJ

DRAINAGE PLAN SHEET - I.R. 271
STA. 492+00 TO STA. 506+00

CUY-271-6.04



CITY OF BEACHWOOD
1500' PAVEMENT TAPER (60:1)
C/L W.B. SHAKER BLVD
BRIDGE NO. CUY-271-0926 LC & RC NO WORK
BRIDGE NO. CUY-271-0926L NO WORK
BRIDGE NO. CUY-271-0926R NO WORK
CULVERT NO. 12 - 8'x6' BOX STA. 506+89.00
C/L I.R. 271 STA. 507+41.03
C/L W.B. SHAKER BLVD. STA. 15+00.00
100' SHOULDER TAPER
BEGIN SHOULDER TAPER STA. 512+74.55
END SHOULDER TAPER STA. 513+74.55
END PAVEMENT TAPER BEGIN COMMON SHOULDER STA. 515+00.00, 81.5' LT.
BEGIN COMMON SHOULDER STA. 515+74.55, 62' LT.
BEGIN SHOULDERS STA. 518+15.55, 64.5' LT.
NOISE WALL
CONST. LIMITS
STA. 516+50 LT.
P.C. STA. 519+29.22, 56.39' LT.
C/L I.R. 271
DUAL LANES
N 07° 52' 41" E
P.C. = 511+60.90
STA. 508+30 RT.
STA. 513+20 RT.
STA. 513+60 RT.
HEADWALL
INLET
C.B.
M.H.
507+00
508+00
509+00
510+00
511+00
512+00
513+00
514+00
515+00
516+00
517+00
518+00
519+00
SEE SHEET 76 MATCH LINE STA. 506+00
MATCH LINE STA. 520+00 SEE SHEET 78
D 209
D 210
D 211
D 212
D 213
D 214
D 215
D 216
D 218
D 220
D 222
D 226
D 228
E 22
E 23
BEGIN PAVEMENT TAPER STA. 508+50, 90.5' RT.
BEGIN SHOULDER TAPER STA. 508+63
END PAVEMENT & SHOULDER TAPER STA. 509+50, 78.5' RT.
87' SHOULDER TAPER
100' PAVEMENT TAPER
P.C. STA. 511+60.90, 78.5' RT.
BEGIN PAVEMENT TAPER STA. 515+38.76, 65.66' RT.
END PAVEMENT TAPER STA. 515+48.10, 65' RT. BEGIN COMMON SHOULDER
9.46' PAVEMENT TAPER
BEGIN SHOULDERS STA. 517+85, 67.5' RT.
CITY OF PEPPER PIKE
HORIZONTAL SCALE IN FEET
0 25 50 100

TRAFFIC SIGN

TRAFFIC SIGN

CANTILEVER SIGN

SIGN BRIDGE

BUTT JOINT

FOR CURVE DATA, SEE SHEET 4.
FOR CULVERT DETAILS, SEE SHEET 81.
FOR DRAINAGE DETAILS, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.
FOR ROADWAY PLAN, SEE SHEET 60.

CALCULATED	CHECKED
BC	MJ

DRAINAGE PLAN SHEET - I.R. 271
STA. 506+00 TO STA. 520+00

CUY-271-6.04

CITY OF BEACHWOOD

SEE SHEET 77
MATCH LINE STA. 520+00

END PROJECT
STA. 532+68.89
S.L.M. 9.73

C/L FAIRMONT BLVD. STA. 15+00.00
C/L I.R. 271 STA. 532+67.08

C/L I.R. 271

P.I. = 527+46.58

N 00° 28' 41" E

N 89° 29' 24" E

C/L FAIRMONT BLVD.

NOISE WALL

CONST. LIMITS

STA. 521+40 LT.
STA. 521+58 LT.
STA. 524+00 LT.
STA. 524+00 RT.
STA. 524+04.29, 51' RT.
END PAVEMENT TAPER
STA. 532+00 RT.
STA. 532+10 RT.
STA. 533+25 LT.

C.B.
M.H.
INLET

D 229, D 231, D 232, D 233, D 235, D 234, D 238, D 239, D 240, D 241, D 242, D 243
E 24, E 25

521+00, 522+00, 523+00, 524+00, 525+00, 526+00, 527+00, 528+00, 529+00, 530+00, 531+00, 532+00, 533+00, 534+00
11+00, 12+00, 13+00, 17+00, 18+00, 19+00

BRIDGE NO.
CUY-271-0973
NO WORK

CITY OF PEPPER PIKE

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

BUTT JOINT

FOR CURVE DATA, SEE SHEET 4.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.
FOR ROADWAY PLAN, SEE SHEET 61.

Cad File: G:\CIVIL\2201118\00\DWG\239EOP14.DWG
Date: 12-27-24 Time: 2:32 PM TIN = 270000.00'

CALCULATED BC
CHECKED MJ

0 25 50 100
HORIZONTAL SCALE IN FEET

DRAINAGE PLAN SHEET – I.R. 271
STA. 520+00 TO END

CUY-271-6.04

78
142

C/L CHAGRIN BLVD. STA. 5+43.96, 38.00' RT.
BEGIN RAMP F-1 STA. 0+21.20

PC = 5+89.09

S 89° 41' 49" W

C/L CHAGRIN BLVD. STA. 7+49.24
B/L RAMP F-3 STA. 17+56.71

END WORK RAMP F-3 STA. 17+28.66

BEGIN WORK RAMP F-1 STA. 2+00.67

BUTT JOINT
BEGIN PAVEMENT TAPER
PCC = STA. 2+00.67

100' PAVEMENT TAPER

PCC = 2+64.30

END PAVEMENT TAPER STA. 3+00.67

B/L RAMP F-1

B/L RAMP F-3

CONST. LIMITS

END PAVEMENT TAPER STA. 15+20.00

PT = 14+59.78

800' PAVEMENT TAPER (40:1)

S 12° 30' 32" W

PC = 12+35.05

B/L RAMP F-3

S 58° 48' 23" W

PT = 10+54.93

2 - 12' LANES STA. 10+40.00

C.B. D 160

C.B. D 140

PCC = 4+74.47

PCC = 4+01.52

BUTT JOINT

BEGIN WORK RAMP F-5 STA. 3+75.00

CITY OF BEACHWOOD

B/L RAMP F-5

MATCH LINE STA. 5+00 SEE SHEET 73

MATCH LINE STA.10+00 SEE SHEET 73

100' PAVEMENT TAPER

STA. 2+12.22

C/L CHAGRIN BLVD.

BEGIN RAMP F-5
PC = 0+00.00
C/L CHAGRIN BLVD.
STA. 12+21.06,
28.42' LT.

MATCH LINE STA.12+50 SEE SHEET 72

SEE SHEET 72 STA. 37+50 MATCH LINE

SEE SHEET 72 STA. 10+00 MATCH LINE

P.C.C. STA. 37+38.97 (AHEAD)
B/L RELOCATED RAMP F-6 =
STA. 9+67.76 (BACK)
B/L EXIST. RAMP F-6

N 43° 35' 48" E

PC = 11+03.19

BEGIN PAVEMENT TAPER STA. 11+25.00

B/L RAMP F-4

CONST. LIMITS

PCC = 7+57.42

B/L RAMP F-6

CITY OF BEACHWOOD

D 107 C.B.

PCC = 3+74.74

D 108 C.B.

BEGIN WORK RAMP F-6 STA. 2+90.00

100' PAVEMENT TAPER

STA. 1+63.33

BUTT JOINT

PC = 20+15.82

STA. 2+46.38

CITY OF BEACHWOOD

SEE SHEET 72 STA. 17+50 MATCH LINE

C/L CHAGRIN BLVD. STA. 17+75.00, 28.50' RT.
BEGIN RAMP F-6
PC = 0+00.00

B/L RAMP F-2

N 01° 46' 30" W

PT = 5+53.65

SEE SHEET 73 MATCH LINE STA. 6+00

C/L CHAGRIN BLVD.

S 59° 00' 54" E

CONST. LIMITS

BUTT JOINT

BEGIN WORK RAMP F-2 STA. 3+61.30

C/L CHAGRIN BLVD. STA. 21+68.11
B/L RAMP F-4 STA. 18+65.31

N 18° 48' 38" E

M.H.

PC = 16+18.46

PT = 17+36.32

BUTT JOINT

END PAVEMENT TAPER STA. 16+05.00

END WORK RAMP F-4 STA. 17+53.98

C.B.

30' SHOULDER TAPER

BEGIN SHOULDER TAPER STA. 13+07.74

PCC = 13+37.74 END SHOULDER TAPER

PT = 15+16.42

480' PAVEMENT TAPER (40:1)

BEGIN RAMP F-2
PC = 0+00.00
C/L CHAGRIN BLVD.
STA. 22+00.00, 28.50' LT.

CITY OF BEACHWOOD
VILLAGE OF ORANGE

BUTT JOINT

FOR CURVE DATA, SEE SHEET 4.
FOR DRAINAGE QUANTITIES, SEE SHEET 29-32.
FOR EROSION CONTROL QUANTITIES, SEE SHEET 33.
FOR ROADWAY PLAN, SEE SHEET 62.

Cad File: G:\CIVIL\2001118\00\DWG\1298GP15.DWG
Date: 12-22-04 Time: 8:42 AM TM = 277252' 40.65"

CALCULATED BC
CHECKED MVJ

0 25 50 100 HORIZONTAL SCALE IN FEET

DRAINAGE PLAN SHEET - CHAGRIN BLVD. RAMPS

CUY-271-6.04

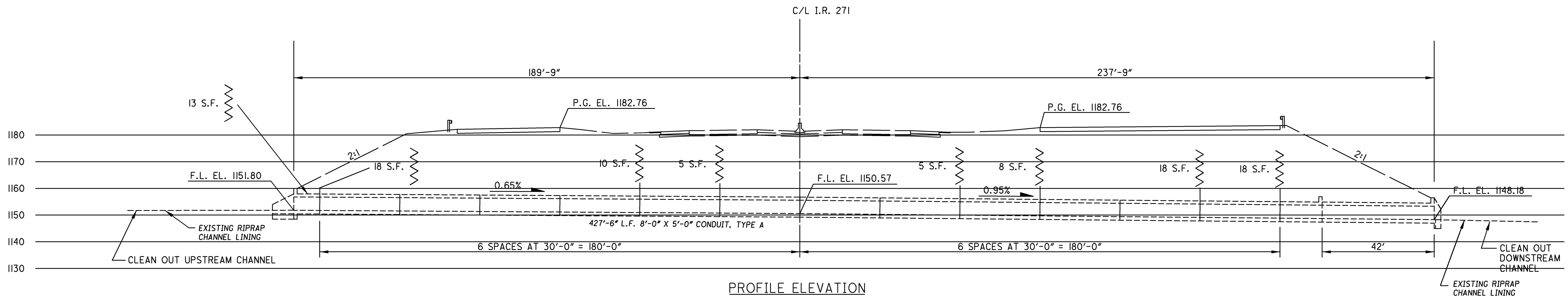
79
142

FOR BOX CULVERTS, INDICATED LOCATION TO BE REPAIRED PER ITEM 843 - PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR, AS PER PLAN. THE CONSTRUCTION JOINTS TO BE PATCHED INCLUDE THOSE ON TOP AND SIDES OF THE CELLS. EXACT DIMENSIONS AND LOCATIONS OF PATCHES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.

FOR DRAINAGE NOTES, SEE SHEET 14.

ESTIMATED QUANTITIES	CULVERT 4
ITEM 209 - DITCH CLEANOUT	300 FT.
ITEM 843 - PATCHING CONCRETE STRUCTURES W/TROWELABLE MORTAR, A.P.P.	95 SQ. FT.
ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	38 SQ. YD.
ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION	7 FT.

QUANTITIES CARRIED TO CULVERT QUANTITY SUB-SUMMARY SHEET 89

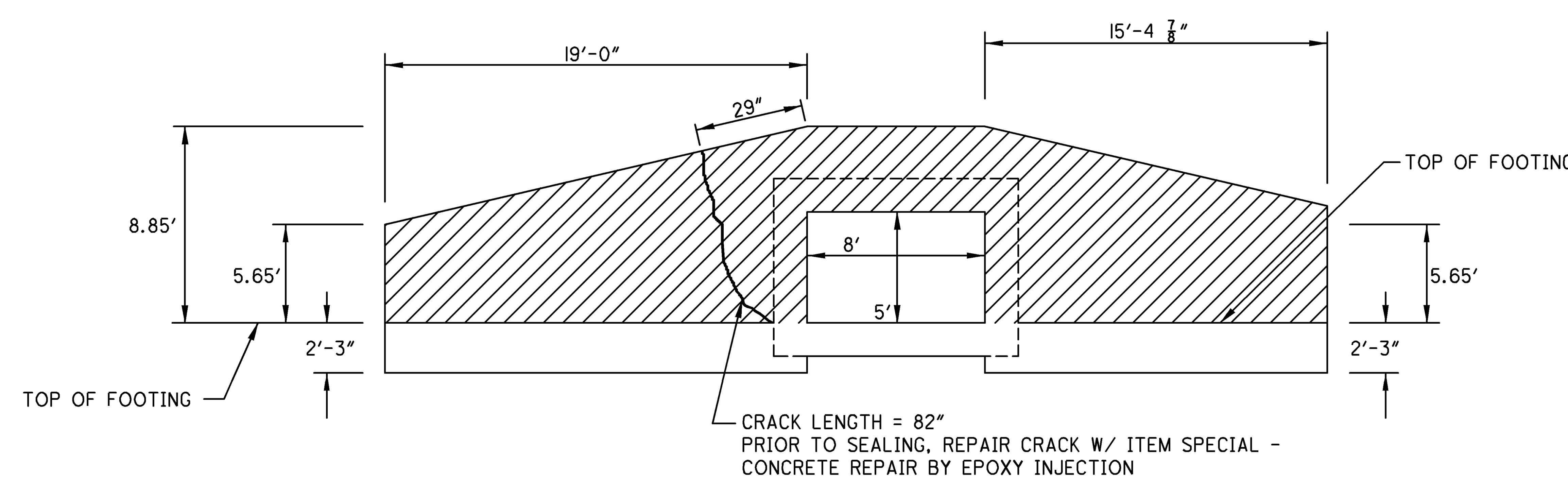


PROFILE ELEVATION

SCALE 1" = 20' VERT.
1" = 20' HORIZ.

CULVERT 4 @ STA. 396+10

427.5' 8'W x 5'H CONC. BOX CULVERT



AREA TO BE SEALED WITH ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

INLET ELEVATION (WEST)

CULVERT 4 @ STA. 396+10

0 10 20 40 HORIZONTAL SCALE IN FEET

CALCULATED BC
CHECKED MVJ

CULVERT 4 REPAIR DETAILS
I.R. 271 STA 396+10

CUY - 271 - 6.04

I:\PROJECTS\P:d12996\revised for 2005 specs\12996DDA.dgn 06-JUN-2005 9:15AM jgrmovse
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Date: 10-11-04 Time: 2:46 PM TW = 347d53'47.04"
Technician: MJOLIAT

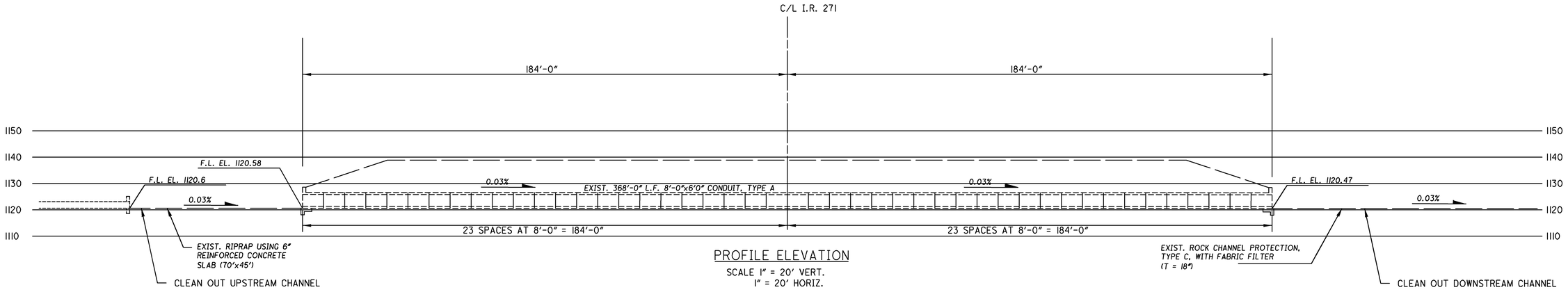
/\/\/\ FOR BOX CULVERTS, INDICATED LOCATION TO BE REPAIRED PER ITEM 843 - PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR, AS PER PLAN. THE CONSTRUCTION JOINTS TO BE PATCHED INCLUDE THOSE ON TOP AND SIDES OF THE CELLS. EXACT DIMENSIONS AND LOCATIONS OF PATCHES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.

NOTE: A CONTIGENCY QUANTITY OF ITEM 603 - CONDUIT MISC.: SEALING REINFORCED CONCRETE PIPE CULVERT JOINTS HAS BEEN ADDED FOR USE AS DIRECTED BY THE ENGINEER FOR JOINTS INSIDE CULVERT 12 @ STA. 506+89.

FOR DRAINAGE NOTES, SEE SHEET 14.

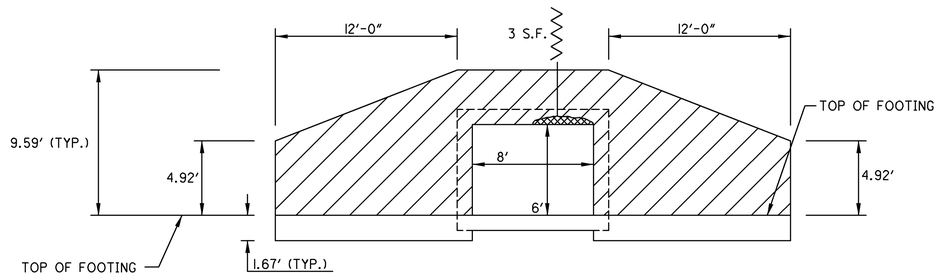
ESTIMATED QUANTITIES	CULVERT 12
ITEM 209 - DITCH CLEANOUT	400 FT.
ITEM 603 - CONDUIT MISC.: SEALING REINFORCED CONCRETE PIPE CULVERT JOINTS	280 FT.
/\/\/\ ITEM 843 - PATCHING CONCRETE STRUCTURES W/TROWELABLE MORTAR, A.P.P.	3 SQ. FT.
ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	55 SQ. YD.

QUANTITIES CARRIED TO CULVERT QUANTITY SUB-SUMMARY SHEET 89

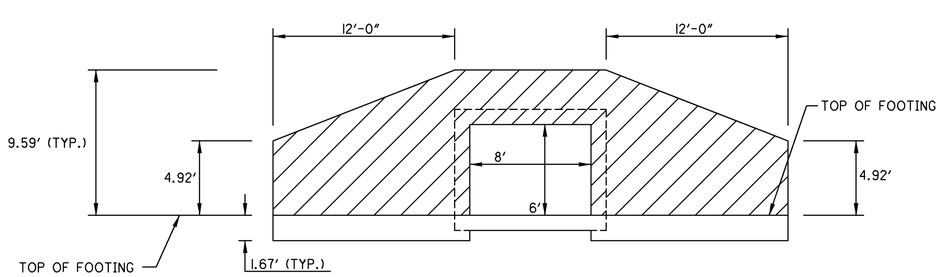


PROFILE ELEVATION
SCALE 1" = 20' VERT.
1" = 20' HORIZ.

CULVERT 12 @ STA. 506+89
368.0' 8'W x 6'H CONC. BOX CULVERT



INLET ELEVATION (WEST)
CULVERT 12 @ STA. 506+89
N.T.S.



OUTLET ELEVATION (EAST)
CULVERT 12 @ STA. 506+89
N.T.S.

AREA TO BE PATCHED WITH ITEM 843 - PATCHING CONCRETE STRUCTURES W/ TROWELABLE MORTAR, AS PER PLAN

AREA TO BE SEALED WITH ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

0 10 20 40 HORIZONTAL SCALE IN FEET

CALCULATED BC | CHECKED MVJ

CULVERT 12 REPAIR DETAILS
I.R. 271 STA 506+89

CUY - 271 - 6.04

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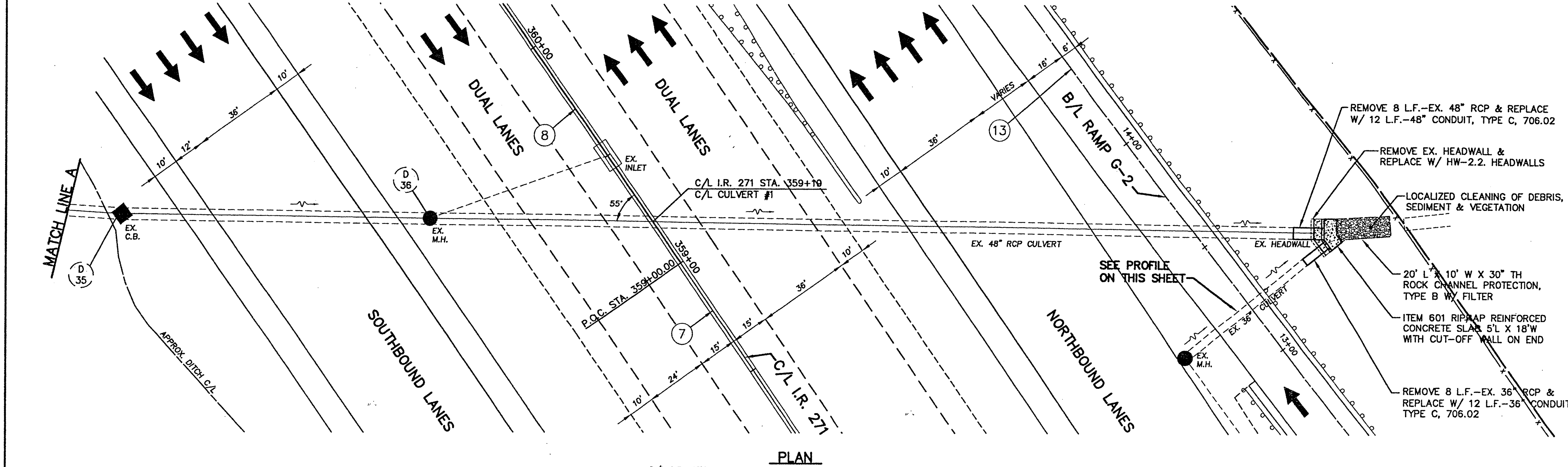
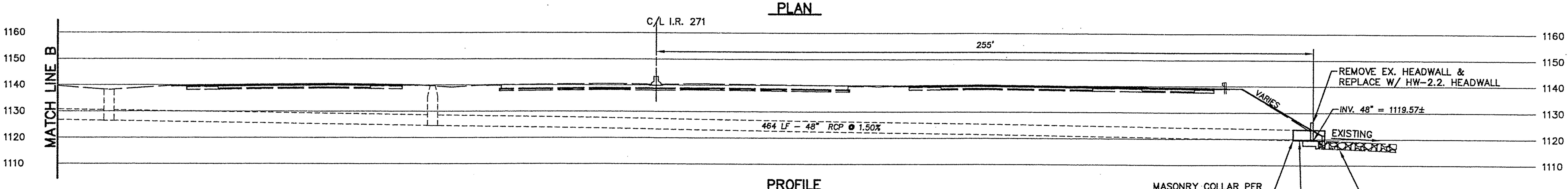
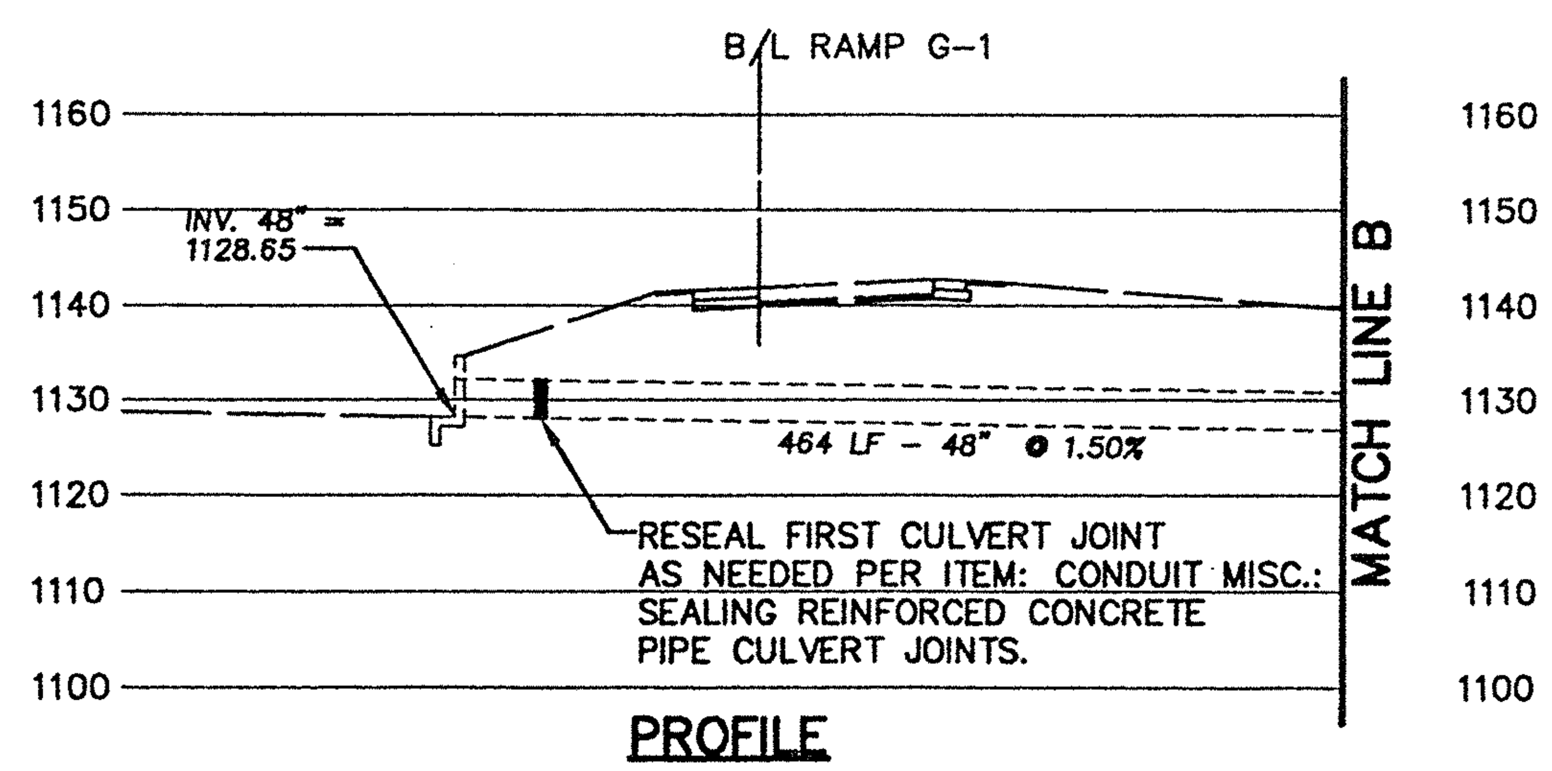
Technician: MJOLIAT



PLAN



PROFILE

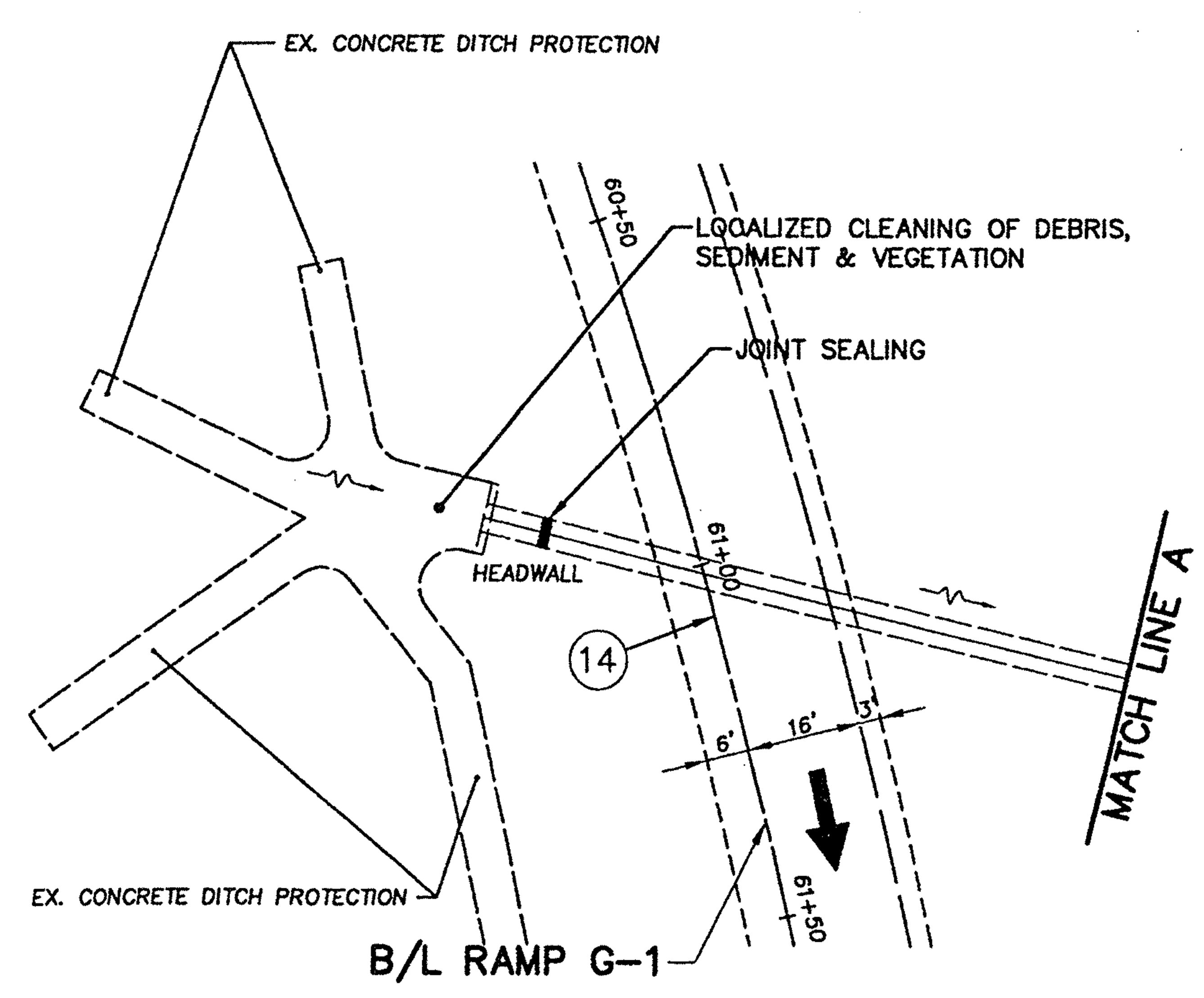


PROFILE

ESTIMATED QUANTITIES

ITEM	QUAN.	UNIT	DESCRIPTION
202	16	FT	PIPE REMOVED, OVER 24"
202	1	EACH	HEADWALL REMOVED
202	LUMP	LUMP	REMOVAL MISC.: RIPRAP SLAB REMOVED
209	150	FT	DITCH CLEANOUT
601	10	SQ YD	RIPRAP USING 6" REINFORCED CONCRETE SLAB
601	19	CU YD	ROCK CHANNEL PROTECTION, TYPE B, WITH FILTER
602	1.8	CU YD	CONCRETE MASONRY
603	12	FT	36" CONDUIT, TYPE C, 706.02
603	12	FT	48" CONDUIT, TYPE C, 706.02
603	215	FT	CONDUIT MISC.: SEALING REINFORCED CONCRETE PIPE
			CULVERT JOINTS

QUANTITIES CARRIED TO CULVERT QUANTITY SUB-SUMMARY SHEET 89

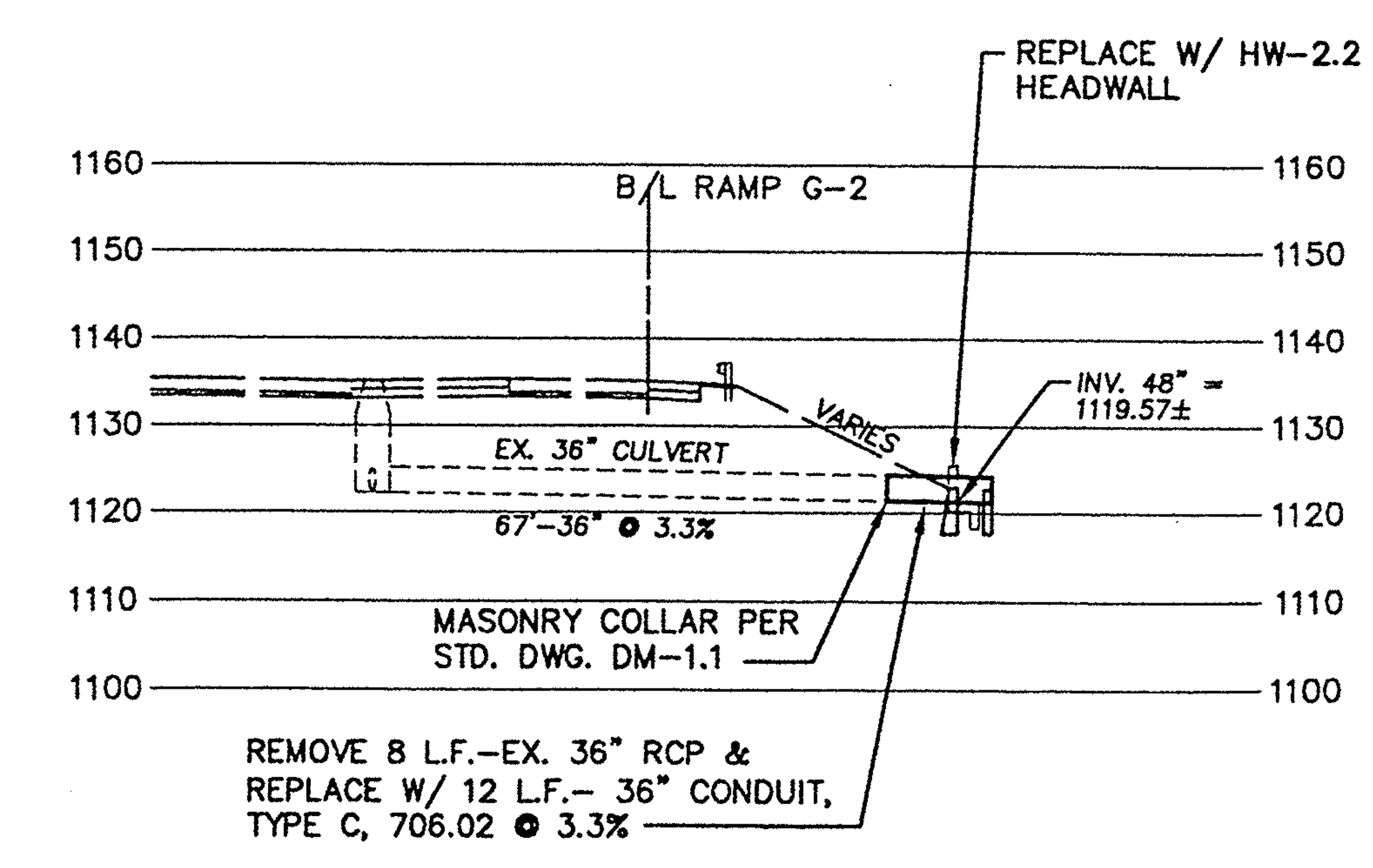


PLAN B

HYDRAULIC DATA

DRAINAGE AREA	= 141.3 acres*
Q_{50}	= 160 cfs*

* HISTORICAL INFORMATION CUY-1-0.11 PROJECT



PROFILE B

FOR CURVE DATA, SEE SHEET 4.
FOR DRAINAGE NOTES, SEE SHEET 14.
FOR CROSS SECTIONS, SEE SHEET 90.

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED BC
CHECKED MVJ

CULVERT 1 - PLAN AND PROFILE
I.R. 271 STA 359+19

CUY - 271 - 6.04

Cad File: G:\CIVIL\2001118\00\DWG\129960PA.DWG
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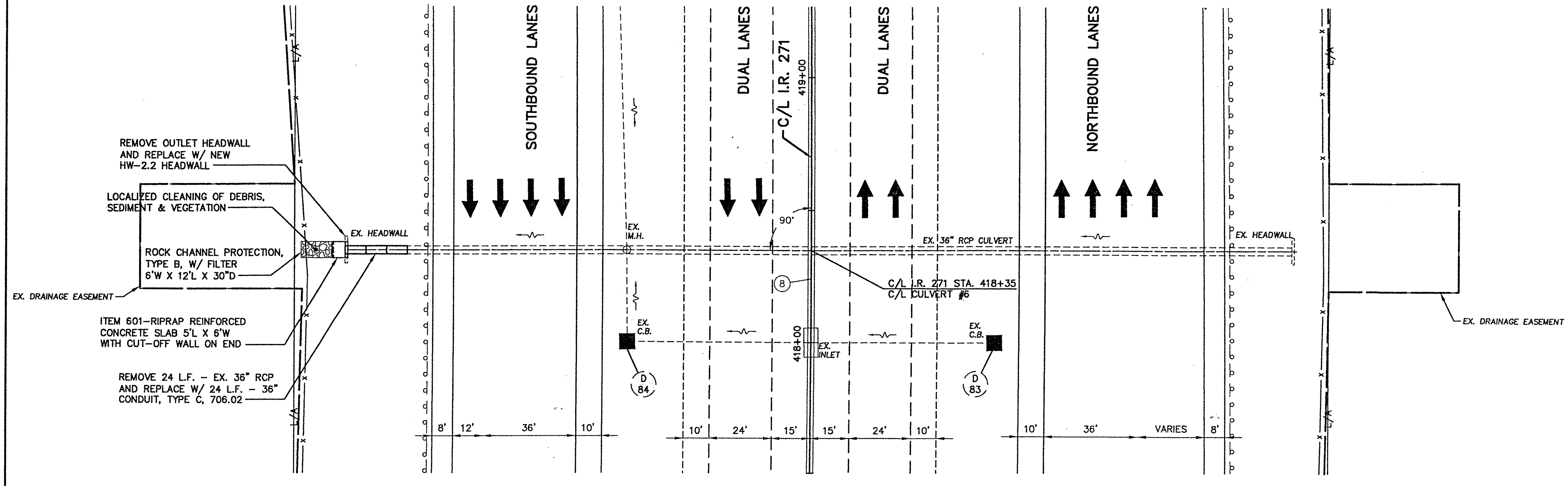
Technician: MJOUAT



PLAN

HYDRAULIC DATA

DRAINAGE AREA	= 25 acres *
Q_{50}	= 54 cfs *
HWE_{50}	= 1194.9 ft *
V_{50}	= 13 fps *

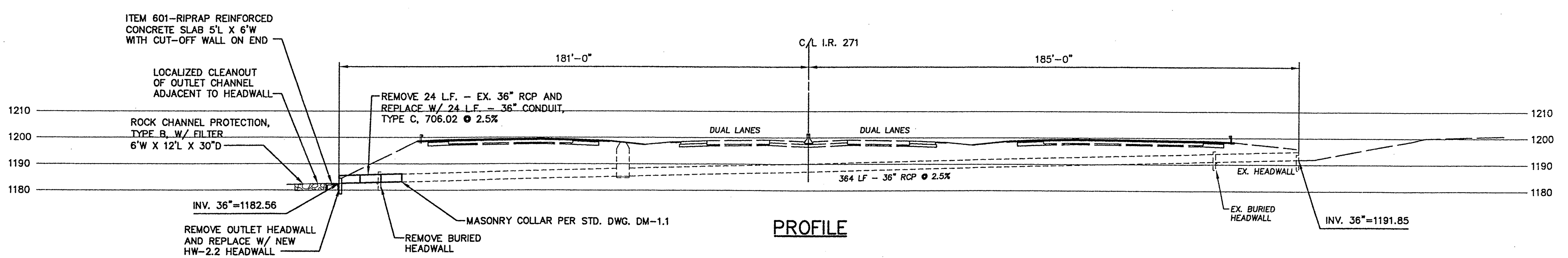
* HISTORICAL INFORMATION CUY-1-2.20 PROJECT

ESTIMATED QUANTITIES

ITEM	QUAN.	UNIT	DESCRIPTION
202	24	FT	PIPE REMOVED, OVER 24"
202	2	EACH	HEADWALL REMOVED
202	200	LIN FT	SPECIAL - PIPE CLEANOUT
209	100	FT	DITCH CLEANOUT
601	7	CU YD	ROCK CHANNEL PROTECTION PROTECTION, TYPE B, WITH FILTER
601	4	SQ YD	RIPRAP USING 6" REINFORCED CONCRETE SLAB
602	0.7	CU YD	CONCRETE MASONRY
603	24	FT	36" CONDUIT, TYPE C, 706.02
607	50	FT	FENCE REMOVED AND REBUILT

QUANTITIES CARRIED TO CULVERT QUANTITY SUB-SUMMARY SHEET 89

FOR CURVE DATA, SEE SHEET 4.
FOR DRAINAGE NOTES, SEE SHEET 14.
FOR CROSS SECTIONS, SEE SHEET 91.

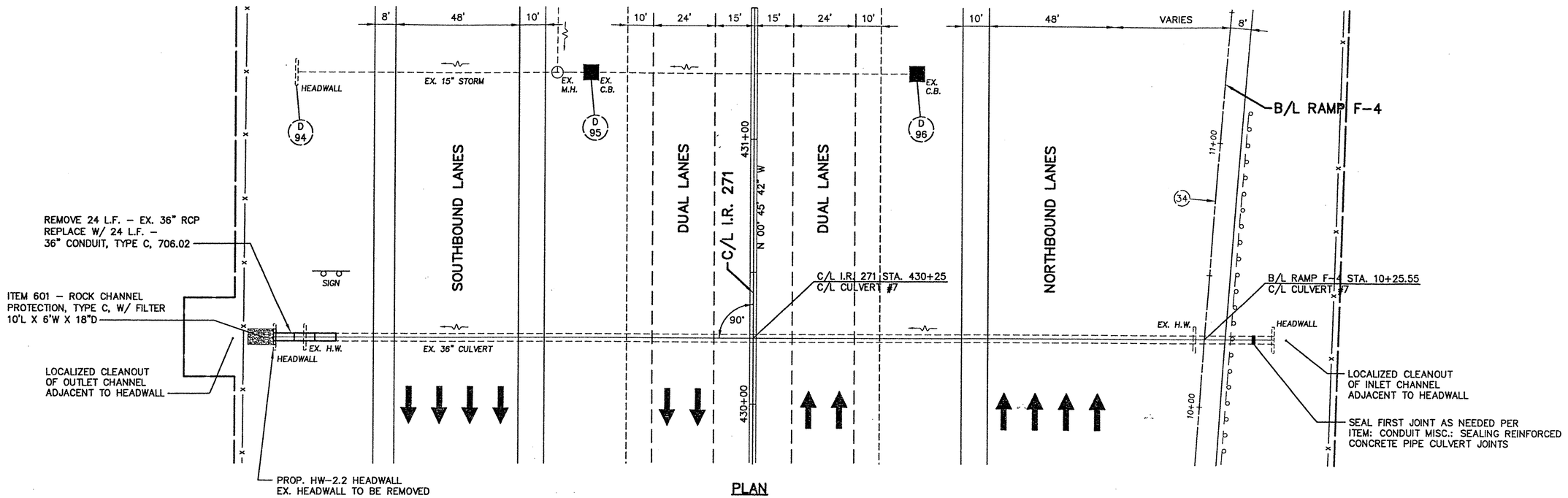


PROFILE

CALCULATED MVJ CHECKED CML

CULVERT 6 - PLAN AND PROFILE
I.R. 271 STA 418+35

CUY - 271 - 6.04



PLAN

HYDRAULIC DATA

DRAINAGE AREA	= 18 acres*
Q_{50}	= 35 cfs*
HWE_{50}	= 1202.0 ft *
V_{50}	= 7.0 fps*

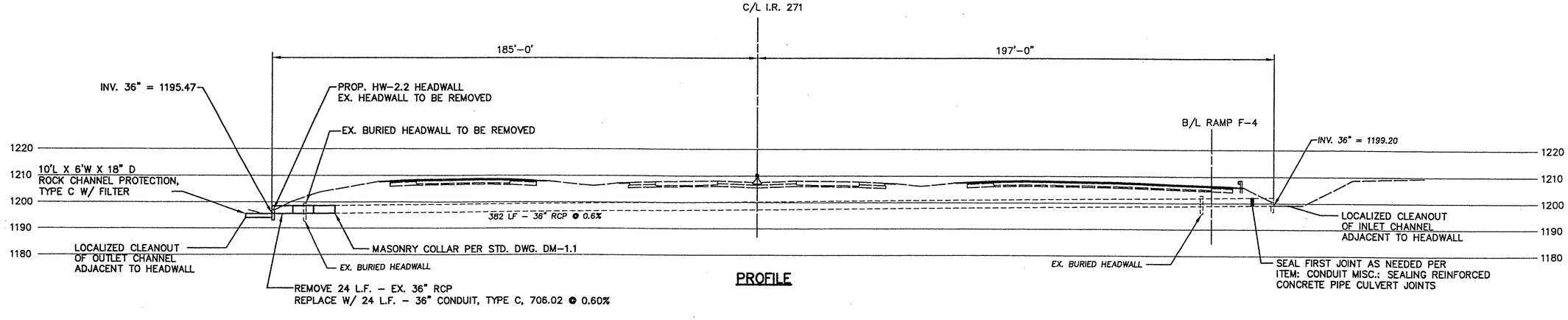
* HISTORICAL INFORMATION
CUY-1-2.20 PROJECT

ESTIMATED QUANTITIES

ITEM	QUAN.	UNIT	DESCRIPTION
202	24	FT	PIPE REMOVED, OVER 24"
202	2	EACH	HEADWALL REMOVED
209	200	FT	DITCH CLEANOUT
601	4	CU YD	ROCK CHANNEL PROTECTION PROTECTION, TYPE C, WITH FILTER
602	0.7	CU YD	CONCRETE MASONRY
603	24	FT	36" CONDUIT, TYPE C, 706.02
603	132	FT	CONDUIT MISC.: SEALING REINFORCED CONCRETE PIPE
			CULVERT JOINTS

QUANTITIES CARRIED TO CULVERT QUANTITY SUB-SUMMARY SHEET 89

FOR DRAINAGE NOTES, SEE SHEET 14.
FOR CROSS SECTIONS, SEE SHEET 92.



PROFILE

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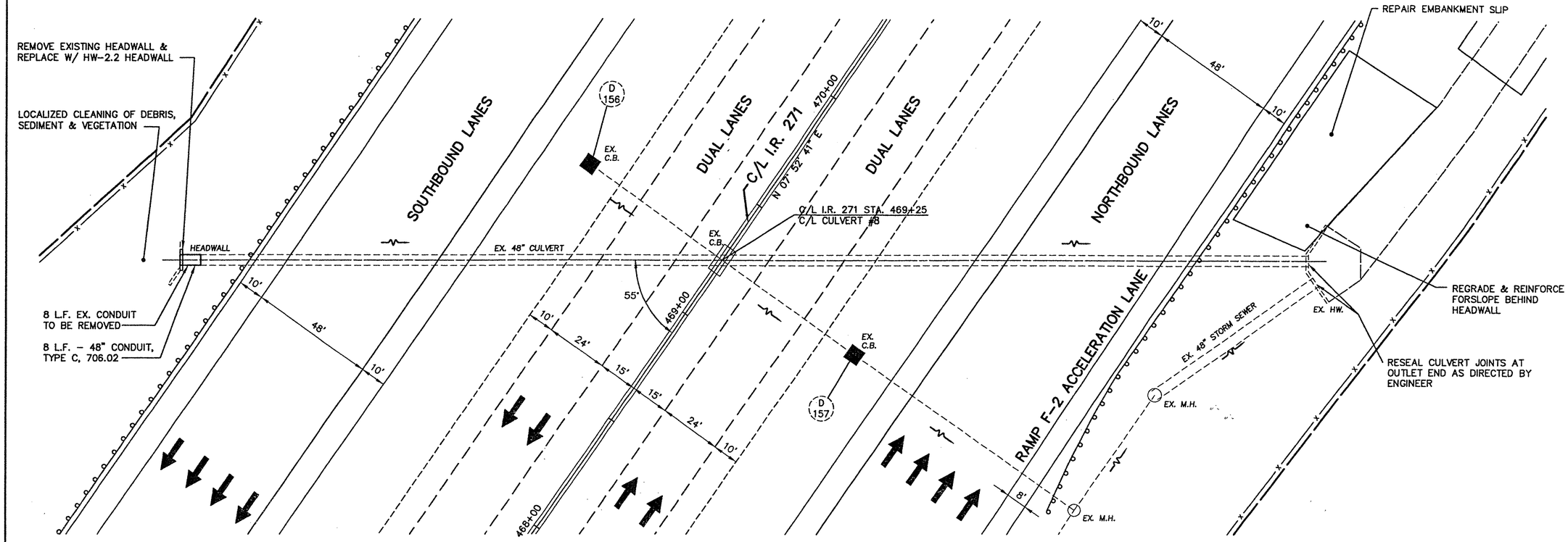
CULVERT 7 – PLAN AND PROFILE
I.R. 271

CALCULATED BC
CHECKED MVJ

HORIZONTAL SCALE IN FEET
0 10 20 40

CUY – 271 – 6.04



PLAN

ESTIMATED QUANTITIES			
ITEM	QUAN.	UNIT	DESCRIPTION
202	8	FT	PIPE REMOVED, OVER 24"
202	1	EACH	HEADWALL REMOVED
209	100	FT	DITCH CLEANOUT
602	1.1	CU YD	CONCRETE MASONRY
603	8	FT	48" CONDUIT, TYPE C, 706.02
603	200	FT	CONDUIT MISC.: SEALING REINFORCED CONCRETE PIPE CULVERT JOINTS

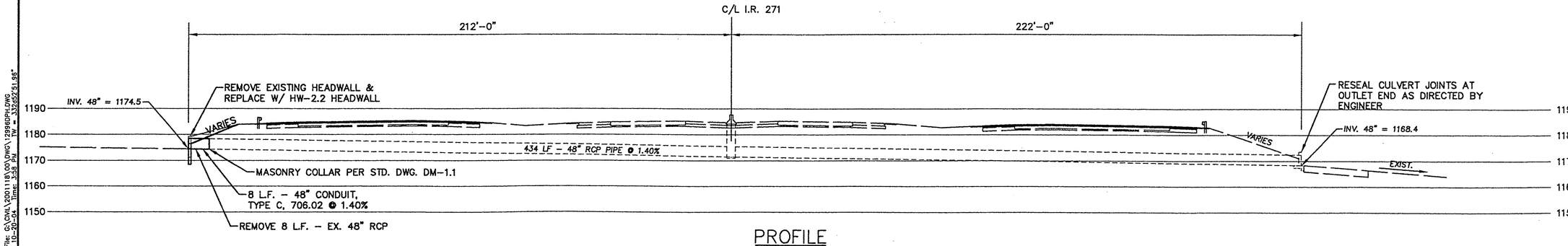
QUANTITIES CARRIED TO CULVERT QUANTITY SUB-SUMMARY SHEET 89.

HYDRAULIC DATA

DRAINAGE AREA	= 61 acres *
Q_{50}	= 102 cfs *
HWE_{50}	= 1179.4 ft *
V_{50}	= 13 fps *

* HISTORICAL INFORMATION CUY-1-2.20 PROJECT

FOR DRAINAGE NOTES SEE SHEET NO. 14
FOR CROSS SECTIONS, SEE SHEET NO. 93



PROFILE

CULVERT 8 - PLAN AND PROFILE
I.R. 271 STA 469+25

CALCULATED BC
CHECKED MVJ

HORIZONTAL SCALE IN FEET
0 10 20 40

CUY - 271 - 6.04

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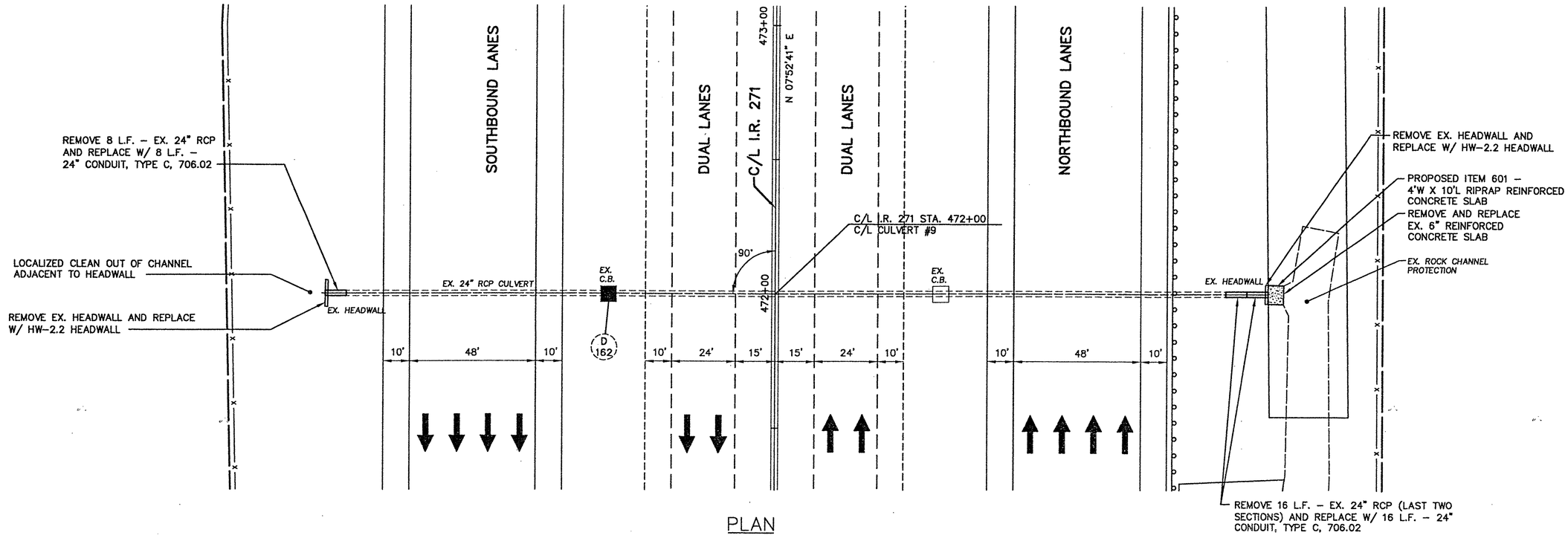


PLAN

HYDRAULIC DATA

DRAINAGE AREA	= 9 acres *
Q_{50}	= 28 cfs *
HWE_{50}	= 1178.6 ft *
V_{50}	= 12 fps *

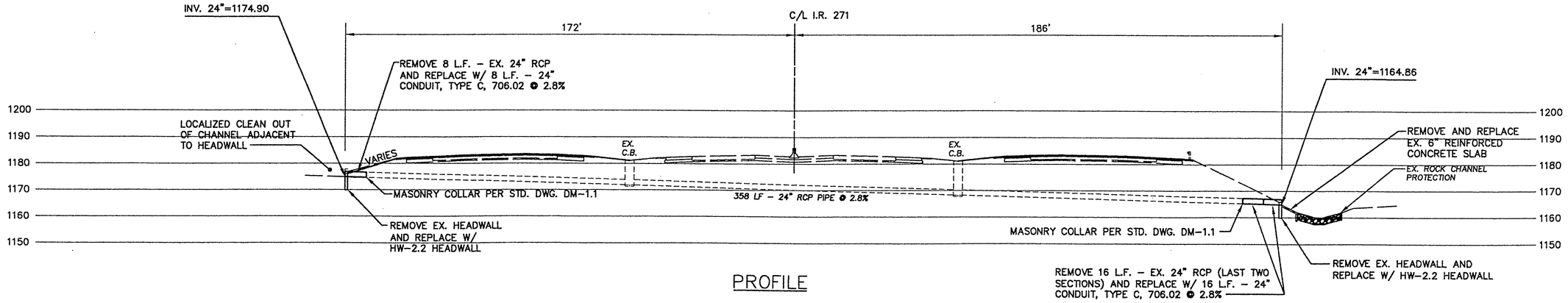
* HISTORICAL INFORMATION CUY–1–2.20 PROJECT

ESTIMATED QUANTITIES

ITEM	QUAN.	UNIT	DESCRIPTION
202	24	FT	PIPE REMOVED, 24" AND UNDER
202	2	EACH	HEADWALL REMOVED
202	LUMP	LUMP	REMOVAL MISC.: RIPRAP SLAB REMOVED
209	100	FT	DITCH CLEANOUT
601	5	SQ YD	RIPRAP USING 6" REINFORCED CONCRETE SLAB
601	10	CU YD	ROCK CHANNEL PROTECTION, TYPE C, WITH FILTER
602	0.9	CU YD	CONCRETE MASONRY
603	24	FT	24" CONDUIT, TYPE C, 706.02

QUANTITIES CARRIED TO CULVERT QUANTITY SUB–SUMMARY SHEET 89.

FOR DRAINAGE NOTES SEE SHEET NO. 14
FOR CROSS SECTIONS, SEE SHEET NO. 94–95



PROFILE

CULVERT 9 – PLAN AND PROFILE
I.R. 271 STA 472+00

CUY – 271 – 6.04

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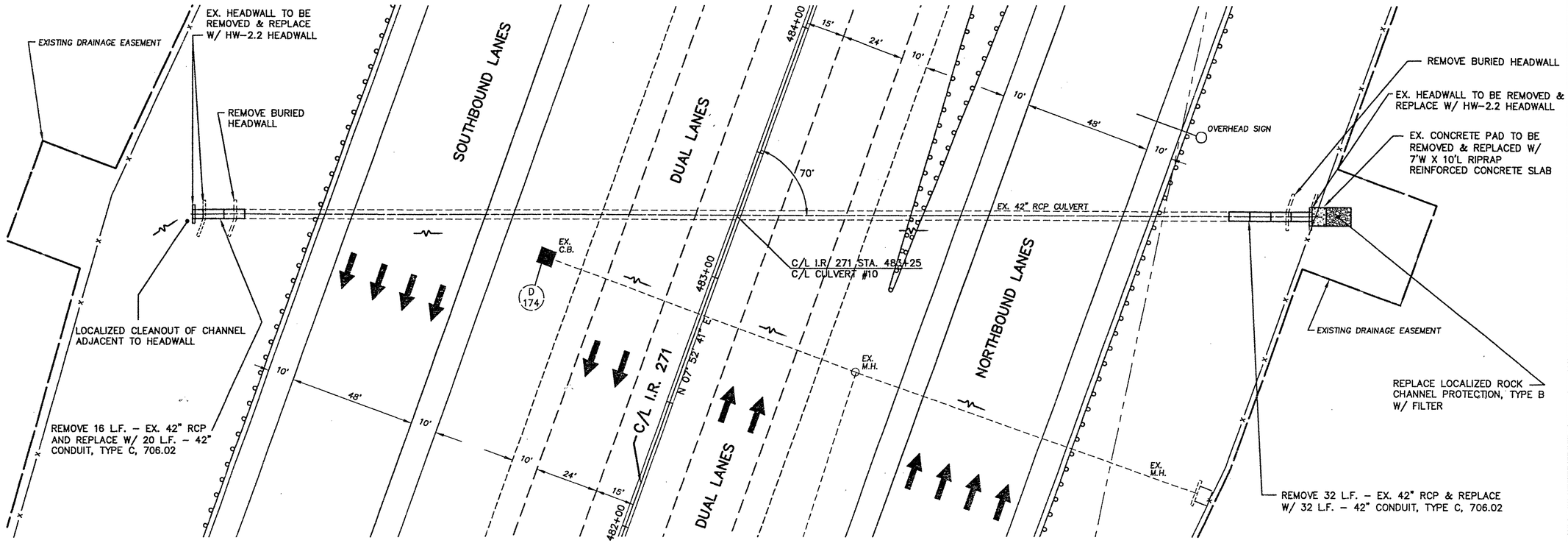
Technician: MJDUAT



PLAN

FOR DRAINAGE NOTES SEE SHEET NO. 14
FOR CROSS SECTIONS, SEE SHEET NO. 96–98.

ESTIMATED QUANTITIES

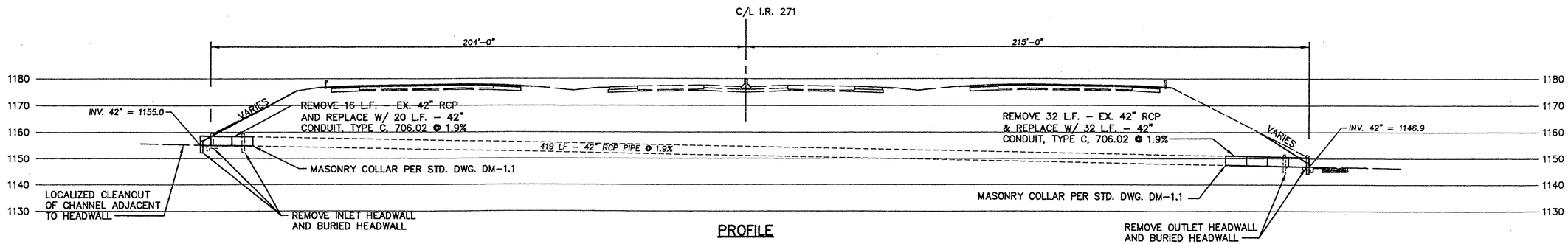
ITEM	QUAN.	UNIT	DESCRIPTION
202	48	FT	PIPE REMOVED, OVER 24"
202	4	EACH	HEADWALL REMOVED
202	LUMP	LUMP	REMOVAL MISC.: RIPRAP SLAB REMOVED
209	200	FT	DITCH CLEANOUT
601	8	SQ YD	RIPRAP USING 6" REINFORCED CONCRETE SLAB
601	10	CU YD	ROCK CHANNEL PROTECTION, TYPE B, WITH FILTER
602	1.7	CU YD	CONCRETE MASONRY
603	52	FT	42" CONDUIT, TYPE C, 706.02
603	176	FT	CONDUIT MISC.: SEALING REINFORCED CONCRETE PIPE CULVERT JOINTS
607	50	FT	FENCE REMOVED AND REBUILT

QUANTITIES CARRIED TO CULVERT QUANTITY SUB-SUMMARY SHEET 89

HYDRAULIC DATA

DRAINAGE AREA	= 57 acres *
Q_{50}	= 95 cfs *
HWE_{50}	= 1159.8 ft *
V_{50}	= 14 fps *

* HISTORICAL INFORMATION CUY-1-2.20 PROJECT



PROFILE

CALCULATED BC
CHECKED MWJ

HORIZONTAL SCALE IN FEET
0 10 20 40

CULVERT 10 – PLAN AND PROFILE
I.R. 271 STA 483+25

CUY – 271 – 6.04

87
142

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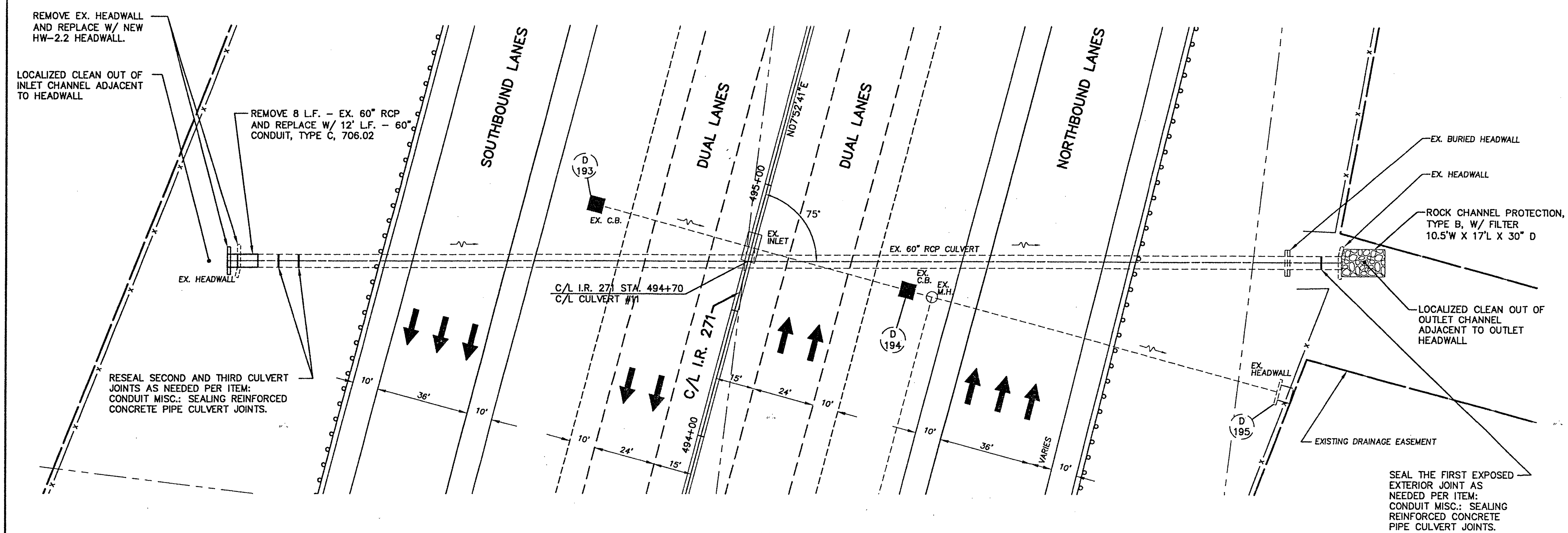


PLAN

HYDRAULIC DATA

DRAINAGE AREA	= 118 acres *
Q_{50}	= 156 cfs *
HWE_{50}	= 1144.2 ft *
V_{50}	= 13 fps *

* HISTORICAL INFORMATION CUY-1-2.20 PROJECT

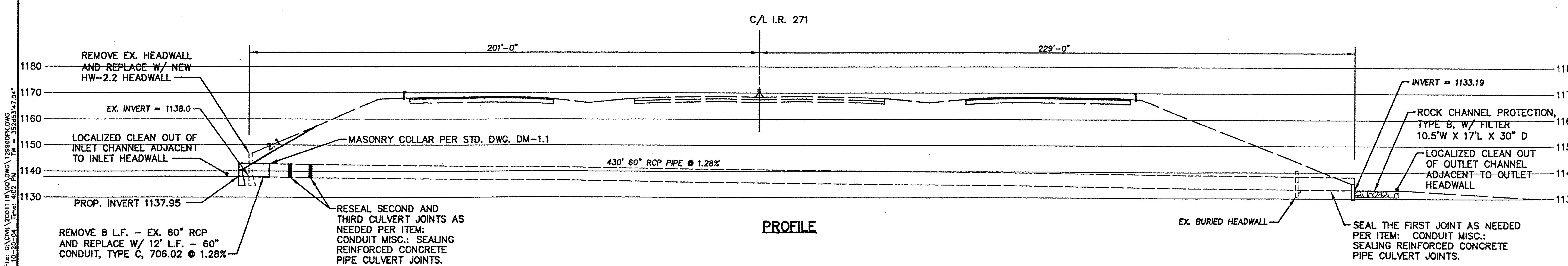
ESTIMATED QUANTITIES

ITEM	QUAN.	UNIT	DESCRIPTION
202	8	FT	PIPE REMOVED, OVER 24"
202	1	EACH	HEADWALL REMOVED
202	430	FT	SPECIAL - PIPE CLEANOUT
209	200	FT	DITCH CLEANOUT
601	16.5	CU YD	ROCK CHANNEL PROTECTION, TYPE B, W/ FILTER
602	1.9	CU YD	CONCRETE MASONRY
603	12	FT	60" CONDUIT, TYPE C, 706.02
603	250	FT	CONDUIT MISC.: SEALING REINFORCED CONCRETE PIPE CULVERT JOINTS

QUANTITIES CARRIED TO CULVERT QUANTITY SUB-SUMMARY SHEET 89

FOR DRAINAGE NOTES SEE SHEET NO. 14

FOR CROSS SECTIONS, SEE SHEET NO. 99-100.



PROFILE

HORIZONTAL SCALE IN FEET: 0 10 20 40

CALCULATED BC | CHECKED MVJ

CULVERT 11 - PLAN AND PROFILE
I.R. 271 STA 494+70

CUY - 271 - 6.04

ITEM		202	202	SPECIAL	202	202	209	601	601	601	602	603	603	603	603	603	603	607	843	512	512			
SHEET NO.	CULVERT NUMBER	PIPE REMOVED, 24" AND UNDER	PIPE REMOVED, OVER 24"	SPECIAL - PIPE CLEANOUT	HEADWALL REMOVED	REMOVAL MISC.: RIPRAP SLAB REMOVED	DITCH CLEANOUT	RIPRAP USING 6" REINFORCED CONCRETE SLAB	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	CONCRETE MASONRY	24" CONDUIT, TYPE C, 706.02	36" CONDUIT, TYPE C, 706.02	42" CONDUIT, TYPE C, 706.02	48" CONDUIT, TYPE C, 706.02	60" CONDUIT, TYPE C, 706.02	CONDUIT MISC.: SEALING REINFORCED CONCRETE PIPE CULVERT JOINTS	FENCE REMOVED AND REBUILT	PATCHING CONCRETE STRUCTURES W/ TROWELABLE MORTAR, AS PER PLAN	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	CONCRETE REPAIR BY EPOXY INJECTION			
		FT	FT	FT	EACH	LUMP	FT	SQ YD	CU YD	CU YD	CU YD	FT	FT	FT	FT	FT	FT	FT	SQ FT	SQ YD	FT			
82	1		16		1	LUMP	150	10	19		1.8		12		12		215							
83	6		24	200	2		100	4	7		0.7		24					50						
84	7		24		2		200			4	0.7		24				132							
85	8		8		1		100				1.1				8		200							
86	9	24			2	LUMP	100	5		10	0.9	24												
87	10		48		4	LUMP	200	8	10		1.7			52			176	50						
88	11		8	430	1		200		16.5		1.9					12	250							
80	4						300												95	38	7			
81	12						400										280		3	55				
SHEET TOTAL		**24**	**128**	**630**	**13**	**LUMP**	**1750**	**27**	**53**	**14**	**8.8**	**24**	**60**	**52**	**20**	**12**	**1253**	**100**	**98**	**93**	**7**			

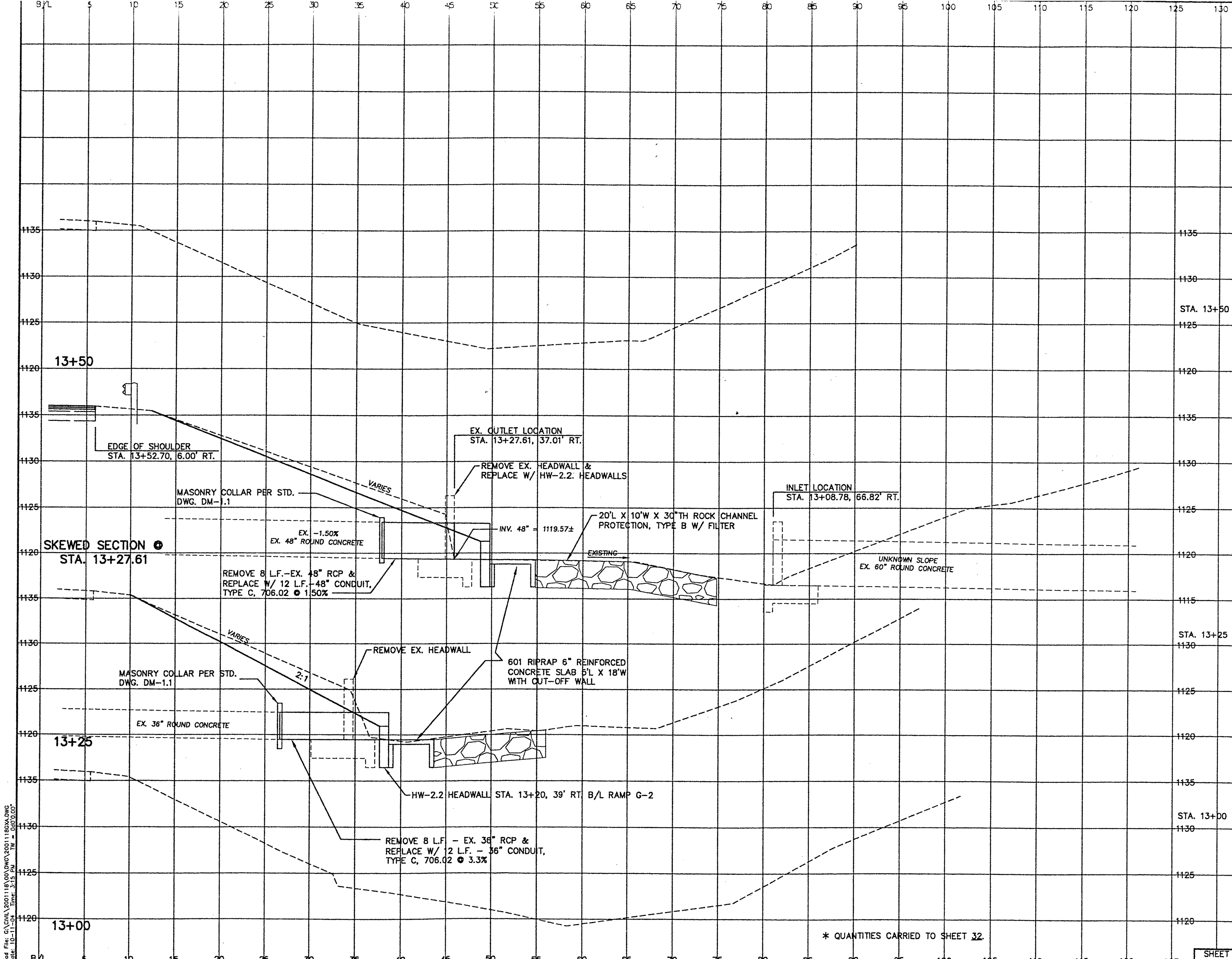
CALCULATED CML

CHECKED MVJ

CULVERT QUANTITY SUB-SUMMARY

CUY - 271 - 6.04

I:\E\PROJECTS\D12\id12996D\revised for 2005 specs\D12996DSA.dgn 03-JUN-2005 14:54PM jgrmovse

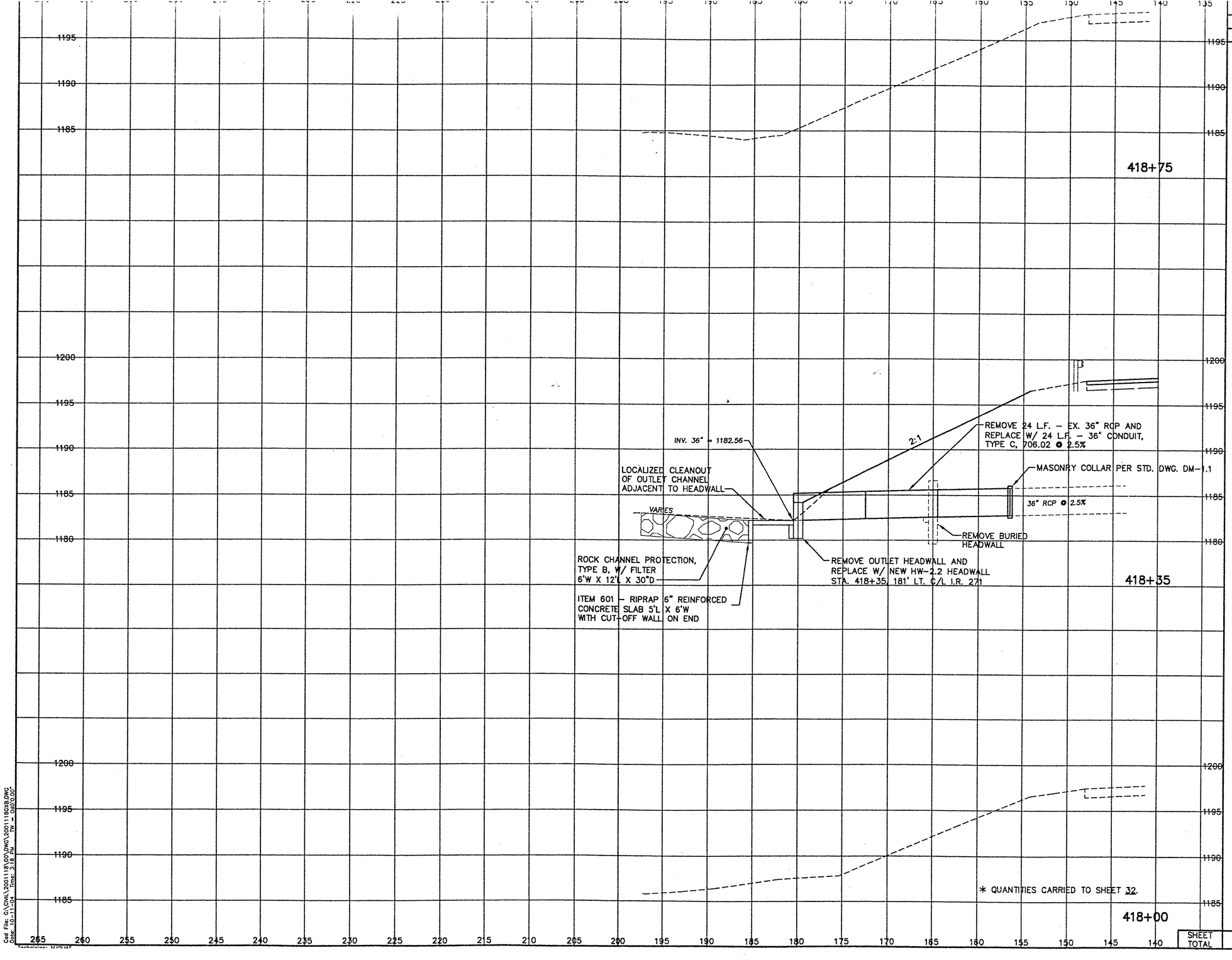


	END AREA CUT S.F.	END AREA FILL S.F.	VOLUME CUT C.Y.	VOLUME FILL C.Y.	SEEDING END WIDTH LN. FT.	SEEDING AREA S.Y.
STA. 13+50	0	0			0	
			14	6		44
STA. 13+25	30	12			32	
			14	6		44
STA. 13+00	0	0			0	
			*	*		*
SHEET TOTAL			28	12		88

CALCULATED CML
CHECKED MVJ

CULVERT 1 CROSS SECTIONS
RAMP G-2 STA. 13+00 TO STA. 13+50

CUY-271-6.04



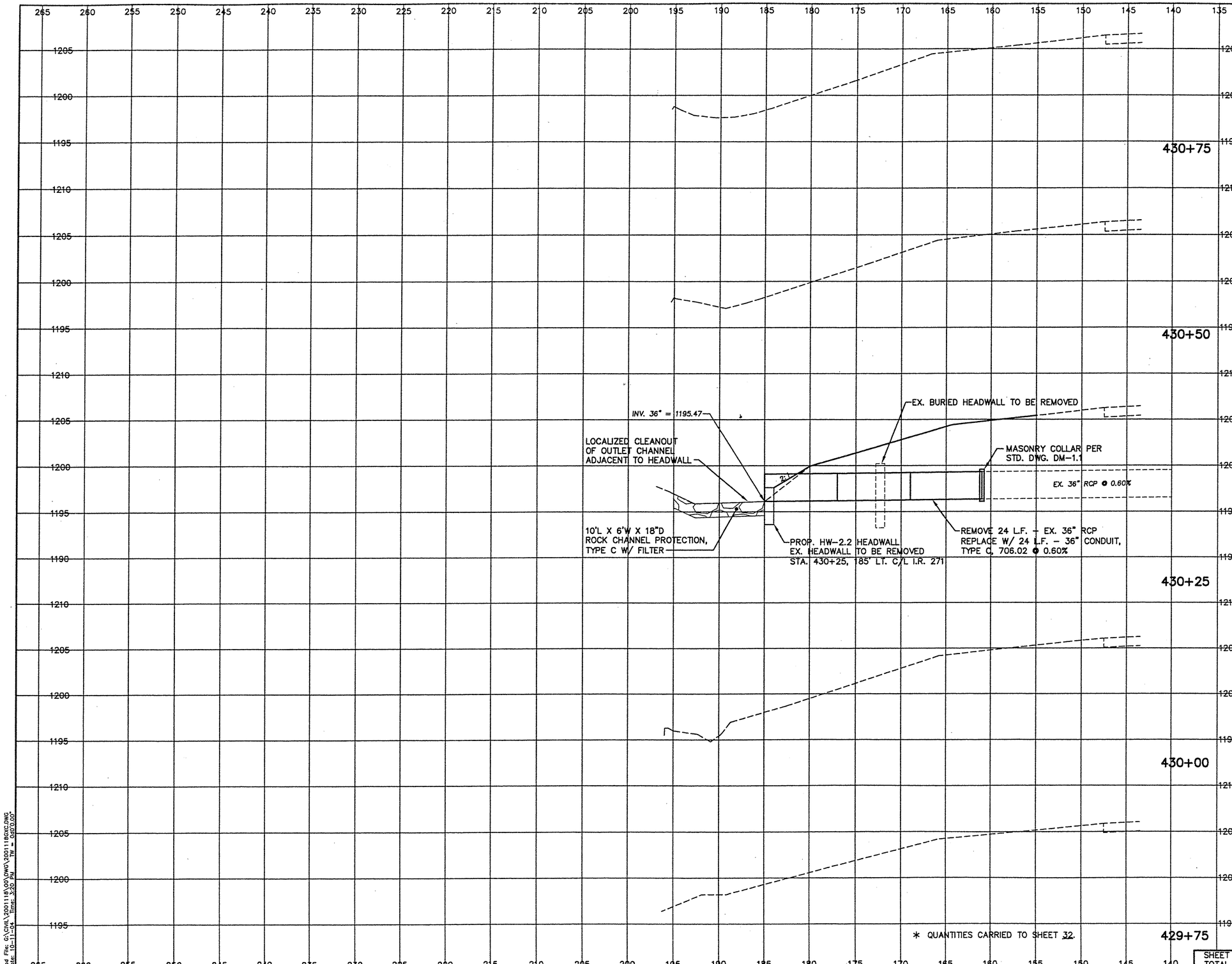
STA.	END AREA CUT S.F.	END AREA FILL S.F.	VOLUME CUT C.Y.	VOLUME FILL C.Y.	SEEDING END WIDTH LIN. FT.	SEEDING AREA S.Y.	CALCULATED CML	CHECKED MVJ
418+75	0	0				0		
			0	3		73		
418+35	0	4				33		
			0	3		64		
418+00	0	0				0		
			*	*		*		
SHEET TOTAL			0	6		137		

CULVERT 6 CROSS SECTIONS
C/L I.R. 271 STA. 418+00 TO STA. 418+75

CUY-271-6.04

91
142

Cad File: G:\CIVIL\2001118\GD\DWG\2001118GD8.DWG
Date: 10-11-04 Time: 3:18 PM TW = 0.0010.00"
Technician: M.JOHAT



* QUANTITIES CARRIED TO SHEET 32.

	END AREA CUT S.F.	END AREA FILL S.F.	VOLUME CUT C.Y.	VOLUME FILL C.Y.	SEEDING END WIDTH LIN. FT.	SEEDING AREA S.Y.
430+75	0	0			0	
430+50			0	1		44
430+25	0	3			32	
430+00			0	1		44
	0	0			0	
429+75			*	*		*
SHEET TOTAL			0	2		88

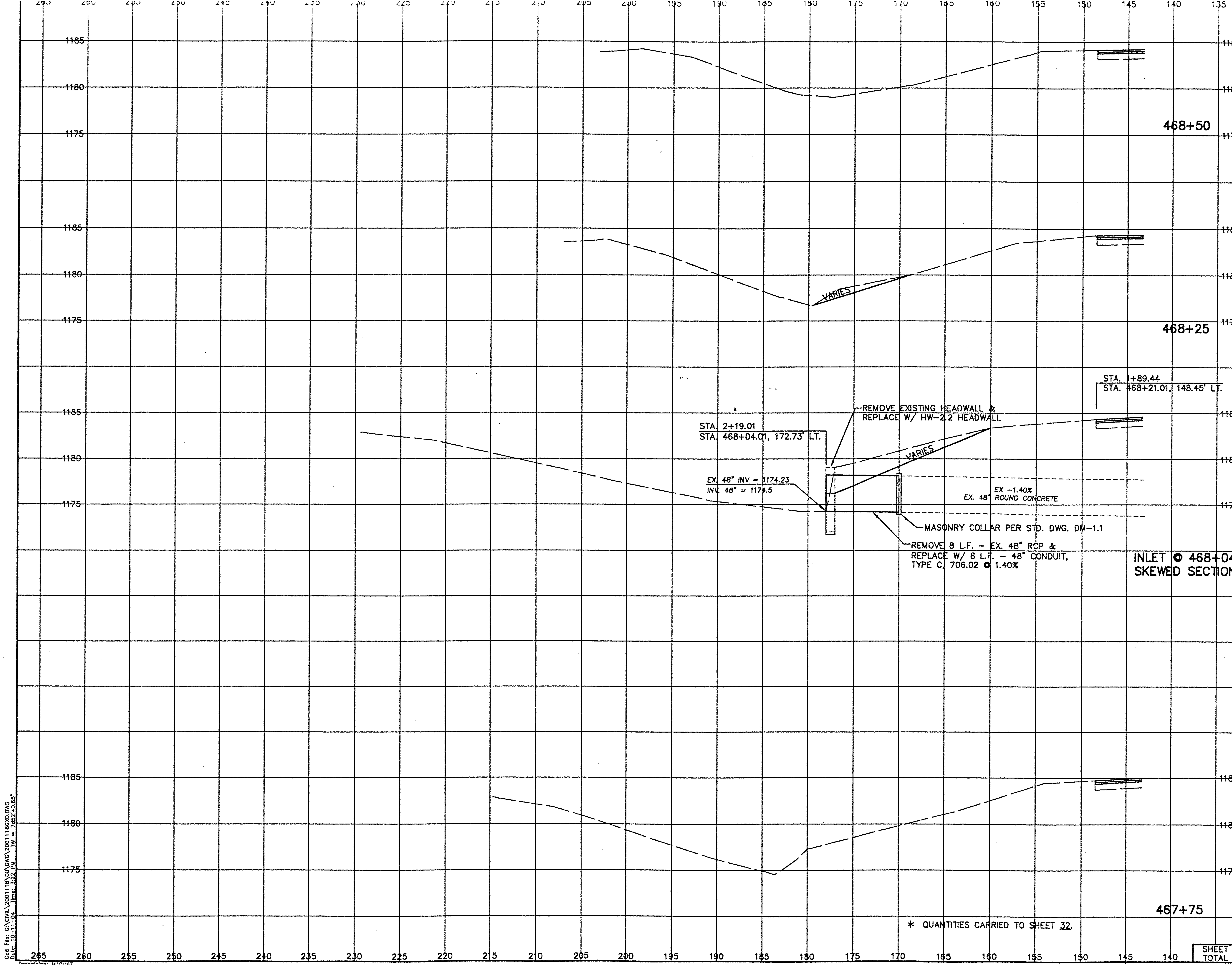
CALCULATED CML
CHECKED MVJ

CULVERT 7 CROSS SECTIONS
C/L I.R. 271 STA. 429+75 TO STA. 430+75

CUY-271-6.04

92
142

Cad File: G:\CIVIL\2001118\00\DWG\2001118GXC.DWG
Date: 10-11-04 Time: 3:20 PM TW = 0d0'0.00"
Technician: N.JOUAT



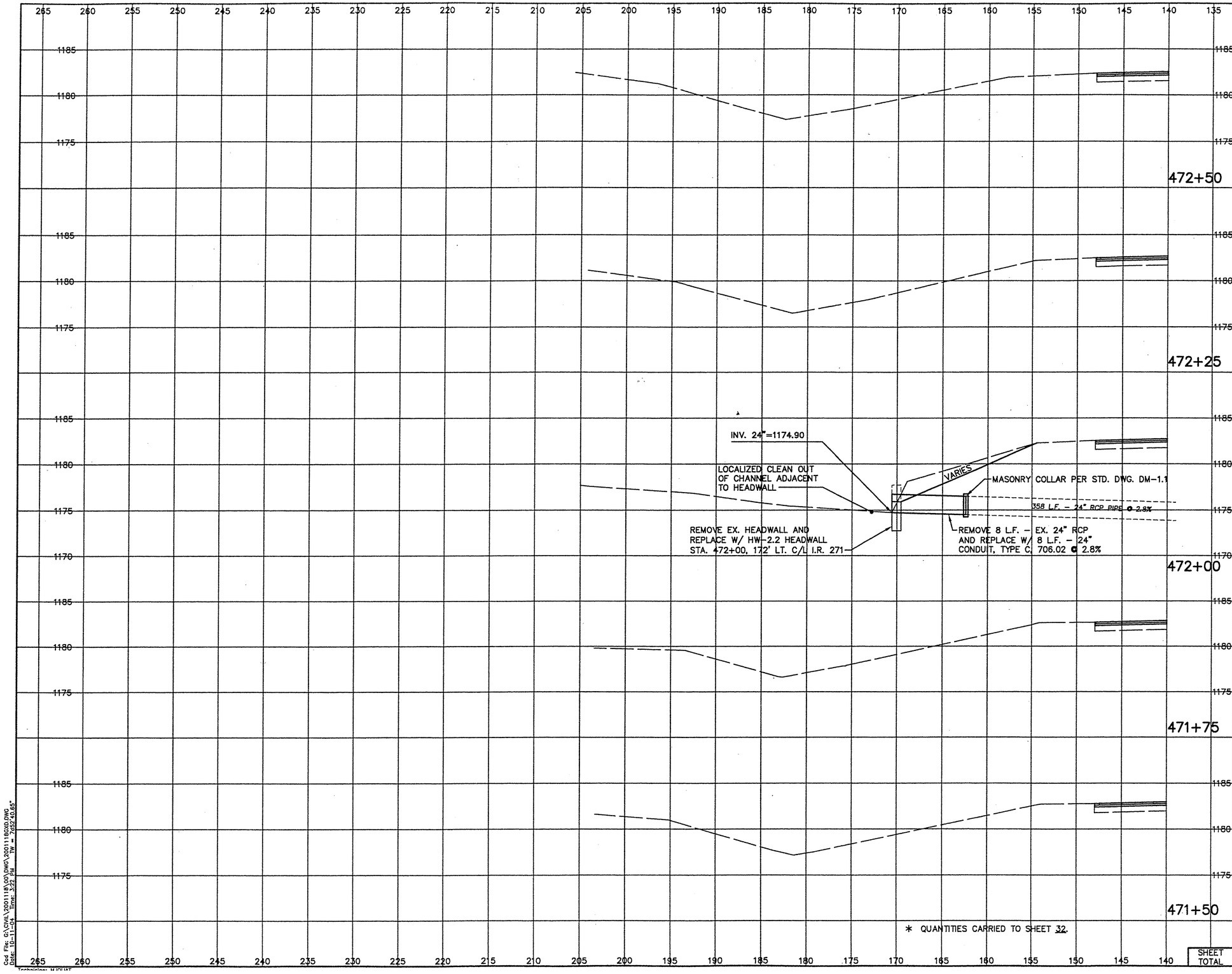
* QUANTITIES CARRIED TO SHEET 32.

Station	END AREA CUT S.F.	END AREA FILL S.F.	VOLUME CUT C.Y.	VOLUME FILL C.Y.	SEEDING END WIDTH LN. FT.	SEEDING AREA S.Y.
468+50	0	0			0	
			3	0		17
468+25	7	0			12	
			12	1		40
INLET @ 468+04 SKEWED SECTION	25	2			22	
			13	1		35
467+75	0	0			0	
			*	*		*
SHEET TOTAL			28	2		92

CALCULATED CML
CHECKED MVJ

CULVERT 8 CROSS SECTIONS
C/L I.R. 271 STA. 467+75 TO STA. 468+50

CUY-271-6.04



STATION	END AREA CUT S.F.	END AREA FILL S.F.	VOLUME CUT C.Y.	VOLUME FILL C.Y.	SEEDING END WIDTH LIN. FT.	SEEDING AREA S.Y.
472+50						
472+25	0	0			0	
			8	0		31
472+00	17	0			22	
			8	0		31
471+75	0	0			0	
471+50						
			*	*		*
SHEET TOTAL			16	0		62

* QUANTITIES CARRIED TO SHEET 32.

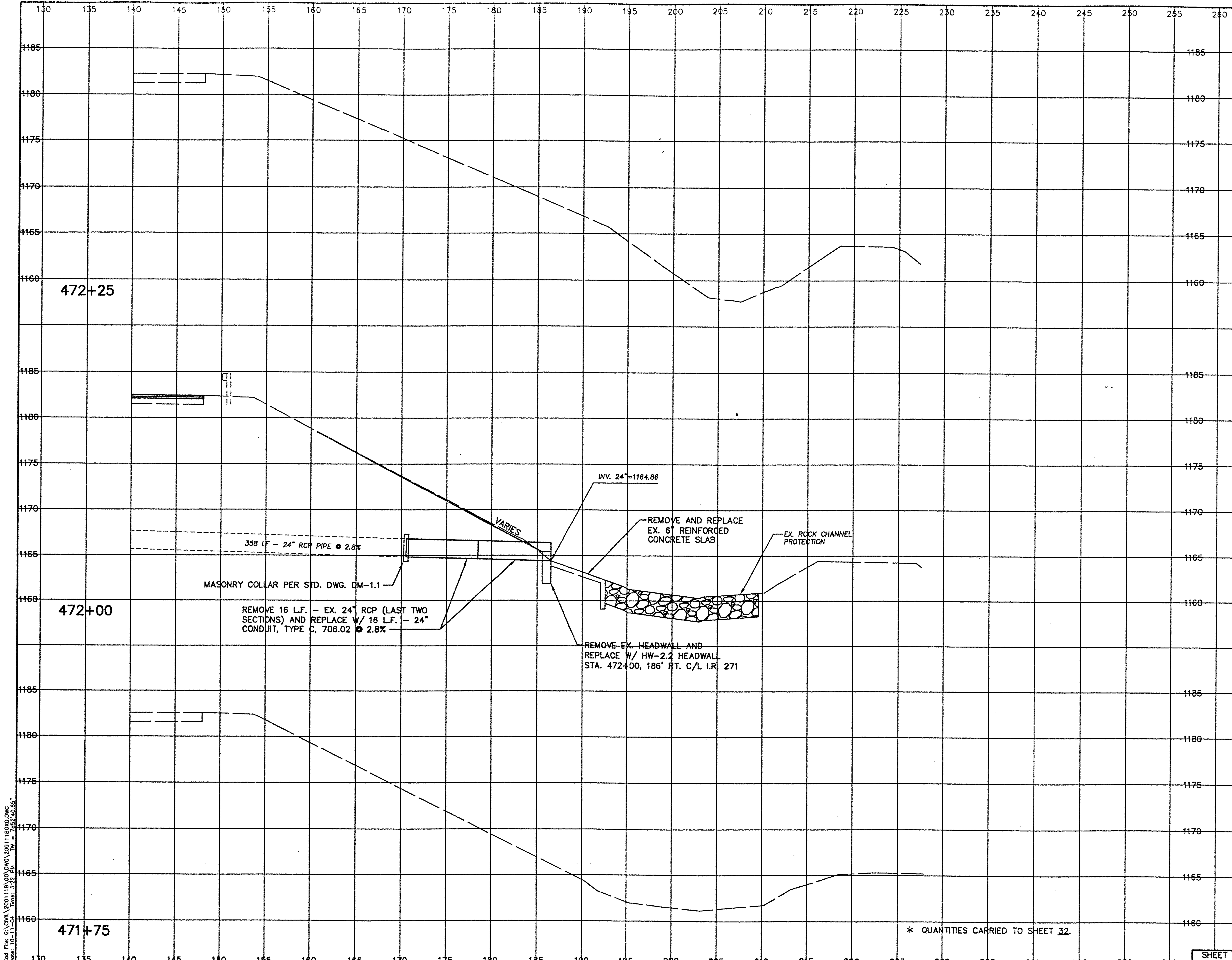
CALCULATED CML
CHECKED MVJ

CULVERT 9 CROSS SECTIONS
C/L I.R. 271 STA. 471+50 TO STA. 472+50

CUY-271-6.04

94
142

Cad File: G:\CIVIL\2001118\00\DWG\2001118GX0.DWG
Date: 10-11-04 Time: 3:22 PM TW = 765'40.65"
Technician: M.POLIAT



Station	END AREA CUT S.F.	END AREA FILL S.F.	VOLUME CUT C.Y.	VOLUME FILL C.Y.	SEEDING END WIDTH LN. FT.	SEEDING AREA S.Y.
472+25	0	0			0	
			1	1		40
472+00	3	3			29	
			1	1		40
471+75	0	0			0	
			*	*		*
SHEET TOTAL			2	2		80

CALCULATED CML
CHECKED MVJ

CULVERT 9 CROSS SECTIONS
C/L I.R. 271 STA. 471+75 TO STA. 472+25

CUY-271-6.04

	END AREA		VOLUME		SEEDING		CALCULATED	CHECKED
	CUT	FILL	CUT	FILL	END WIDTH	AREA	CML	MVJ
	S.F.	S.F.	C.Y.	C.Y.	LIN. FT.	S.Y.		
482+50	0	10	0	2	31	22		
482+25	0	0	0	5	0	43		
482+00			*	*		*		
SHEET TOTAL			0	7		65		

2:1

36" OUTLETS @ STA. 482+27.90, 213.44' LT

36" CONCRETE STORM

36" CONCRETE STORM

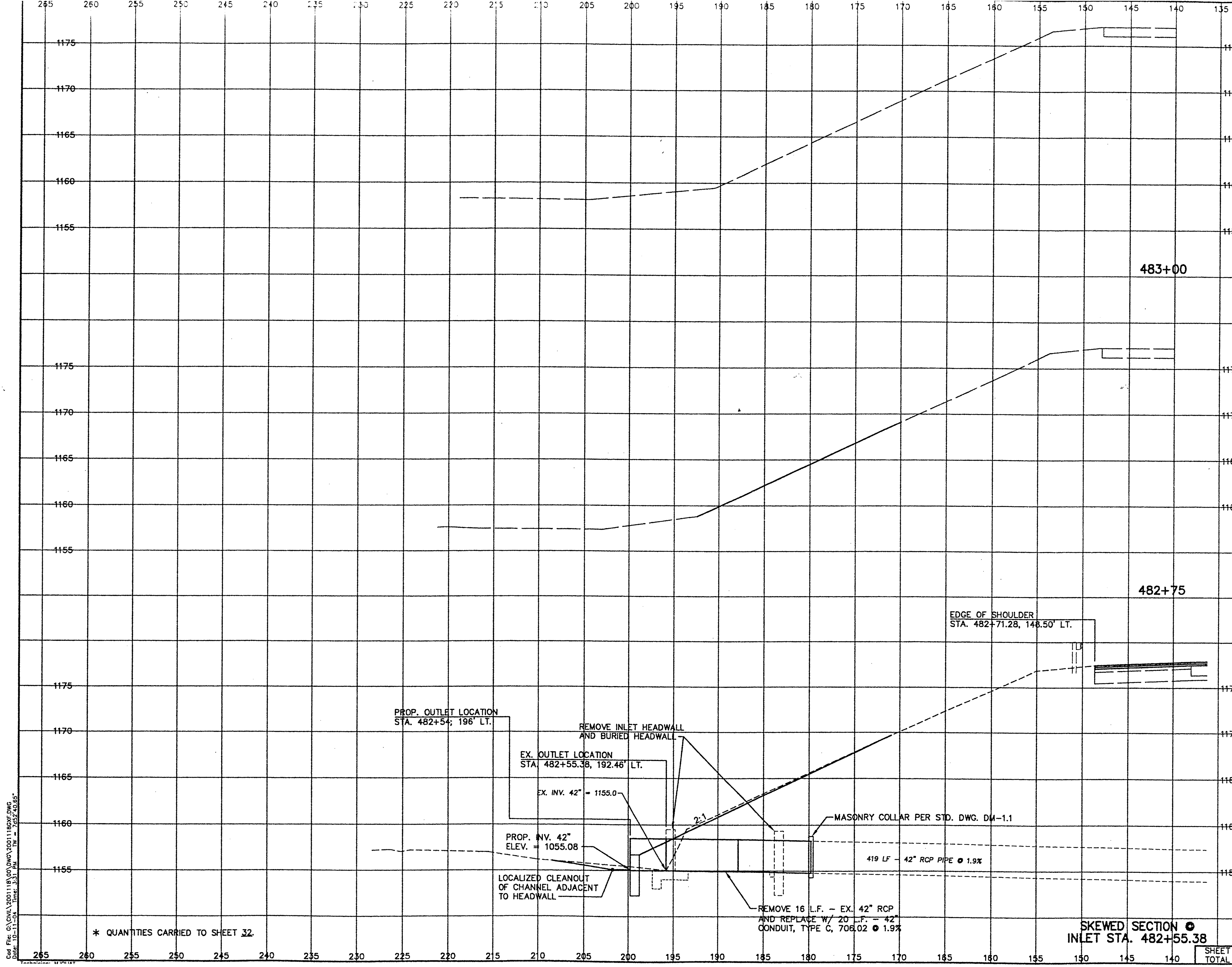
* QUANTITIES CARRIED TO SHEET 32.

CULVERT 10 CROSS SECTIONS
MAINLINE STA. 482+00 TO STA. 482+50

CUY-271-6.04

96
142

Cad. File: G:\CIVIL\2001118.00\DWG\2001118GDF.DWG
Date: 10-11-04 Time: 3:31 PM TW = 7452'40.55"
Technician: MJOHAT



483+00
482+75
EDGE OF SHOULDER
STA. 482+71.28, 148.50' LT.
PROP. OUTLET LOCATION
STA. 482+54; 196' LT.
REMOVE INLET HEADWALL
AND BURIED HEADWALL
EX. OUTLET LOCATION
STA. 482+55.38, 192.46' LT.
EX. INV. 42" = 1155.0
2:1
MASONRY COLLAR PER STD. DWG. DM-1.1
PROP. INV. 42"
ELEV. = 1055.08
419 LF – 42" RCP PIPE @ 1.9%
LOCALIZED CLEANOUT
OF CHANNEL ADJACENT
TO HEADWALL
REMOVE 16 L.F. – EX. 42" RCP
AND REPLACE W/ 20 L.F. – 42"
CONDUIT, TYPE C, 706.02 @ 1.9%
SKEWED SECTION @
INLET STA. 482+55.38

* QUANTITIES CARRIED TO SHEET 32.

Station	END AREA CUT S.F.	END AREA FILL S.F.	VOLUME CUT C.Y.	VOLUME FILL C.Y.	SEEDING END WIDTH LIN. FT.	SEEDING AREA S.Y.
483+00	0	0			0	
			0	0		35
482+75	1	1			25	
			2	4		73
482+55.38	5	10			42	
			*	*		*
SHEET TOTAL			2	4		108

CALCULATED CML
CHECKED MVJ

CULVERT 10 CROSS SECTIONS
MAINLINE STA. 482+55.38 TO STA. 483+00

CUY-271-6.04

Cad File: G:\CIVIL\2001118\00\DWG\2001118GXF.DWG
Date: 10-11-04 Time: 3:31 PM TW = 7d52'40.65"

484+25

EDGE OF SHOULDER
STA. 483+78.72, 148.50' RT.

2:1 NORMAL TO SHOULDER EDGE

REMOVE 32 L.F. – EX. 42" RCP & REPLACE W/ 32 L.F. – 42" CONDUIT, TYPE C, 706.02 @ 1.9%

REMOVE OUTLET HEADWALL AND BURIED HEADWALL

OUTLET LOCATION
STA. 483+99.79, 206.74' RT.

419 LF – 42" RCP PIPE @ 1.9%

INV. 42" = 1146.9

MASONRY COLLAR PER STD. DWG. DM-1.1

SKEWED SECTION @
OUTLET STA. 483+99.78

483+75

	END AREA		VOLUME		SEEDING		
	CUT	FILL	CUT	FILL	END WIDTH	AREA	CALCULATED CWL
	S.F.	S.F.	C.Y.	C.Y.	LIN. FT.	S.Y.	CHECKED MVJ
	0	0			0		
			36	0		91	
	78	0			65		
			36	0		89	
	0	0			0		
			*	*		*	
SHEET TOTAL			72	0		180	

* QUANTITIES CARRIED TO SHEET 32.

CULVERT 10 CROSS SECTIONS
MAINLINE STA. 483+75 TO STA. 484+25

CUY-271-6.04

98
142

Cad File: G:\DWA\2001118\00\DWG\2001118600XF.DWG
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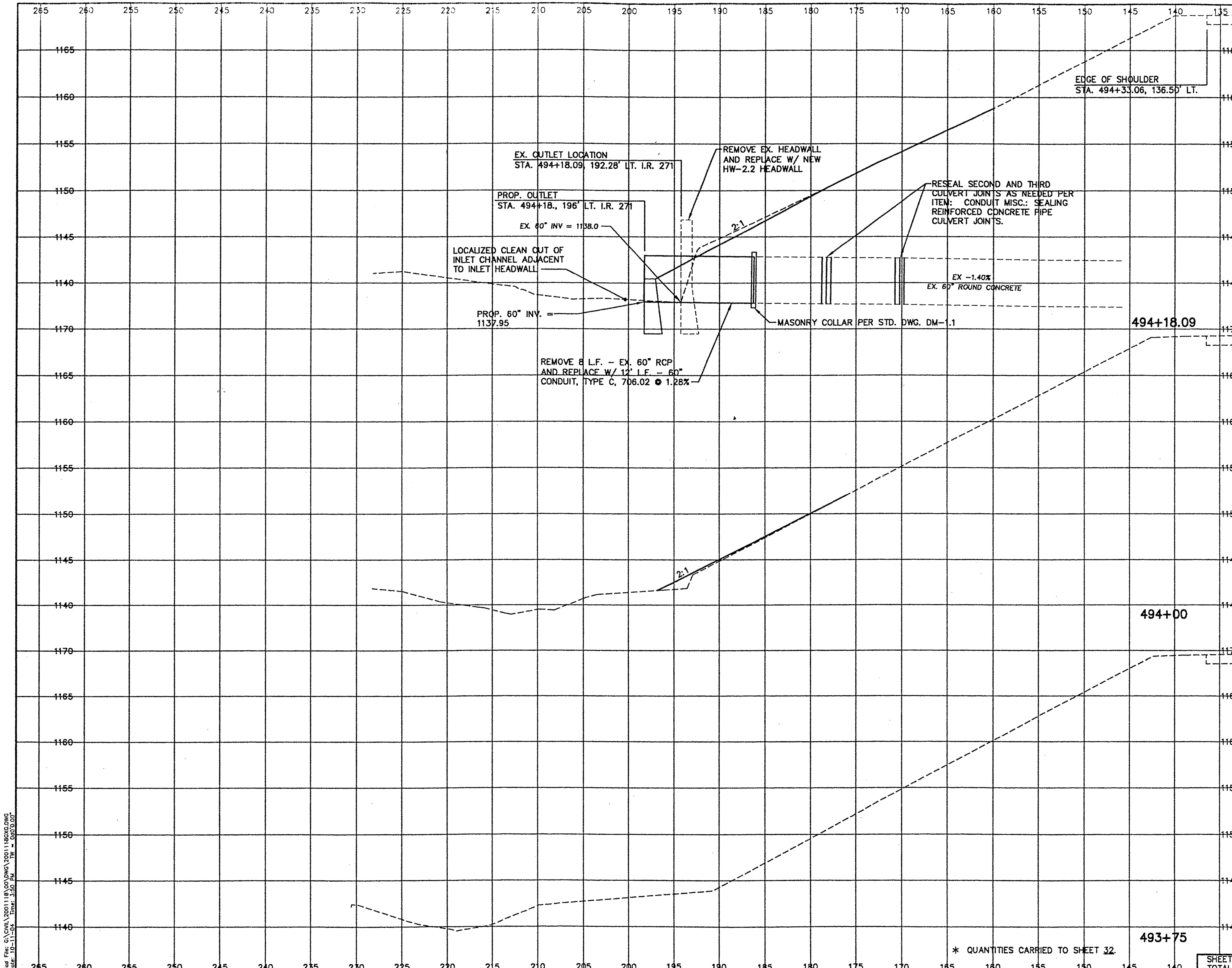


Station	END AREA CUT S.F.	END AREA FILL S.F.	VOLUME CUT C.Y.	VOLUME FILL C.Y.	SEEDING END WIDTH LIN. FT.	SEEDING AREA S.Y.
			1	3		13
494+18.09	8	15			22	
			3	7		30
494+00	0	5			8	
			0	2		11
493+75	0	0			0	
			*	*		*
SHEET TOTAL			4	12		54

CALCULATED CML
CHECKED MVJ

CULVERT 11 CROSS SECTIONS
MAINLINE STA. 493+75 TO STA. 494+18.09

CUY-271-6.04

494+75

494+50

494+25

CROSSING SECTION AT 166.43' LT.

EX -1.40%

EX. 60" ROUND CONCRETE

2:1

* QUANTITIES CARRIED TO SHEET 32.

END AREA		VOLUME		SEEDING		CALCULATED	CHECKED
CUT	FILL	CUT	FILL	END WIDTH	AREA	CML	MVJ
S.F.	S.F.	C.Y.	C.Y.	LIN. FT.	S.Y.		
0	0				0		
0	10				12		
		0	5		17		
		*	*		*		
SHEET TOTAL		0	5		17		

CULVERT 11 CROSS SECTIONS
MAINLINE STA. 494+25 TO STA. 494+75

CUY-271-6.04

100
142

Cad File: G:\CIVIL\2001118\00\DWG\2001118GXG.DWG
Date: 10-11-04 Time: 3:50 PM TW = 0d0'0.00"

BEGIN PROJECT
STA. 340+05.14
SLM 6.04

BEGIN TYPE CL FENCE
343+40, LT

END TYPE CL FENCE
343+60, LT

1F

BEGIN RELOC. LANE N-W
STA. 0+00.00

EX. LA R/W

STA. 9+42.22, 36' LT. B/L RELOC. LANE N-W =
STA. 341+57.27, 137.50 LT. C/L I.R. 271

STA. 344+75 LT.

NOSE STA. 5+87.11, 36' LT. B/L RELOC. LANE N-W =
STA. 345+17.39, 116.50' LT. C/L I.R. 271

B/L RELOC. LANE N-W

BEGIN RELOC. LANE N-W
PC = 0+00.00
C/L I.R. 271
STA. 351+12.65,
38.50' LT.

C/L RICHMOND RD. STA. 177+27.39
C/L I.R. 271 STA. 350+92.11

SEE SHEET 102
MATCH LINE STA. 352+00

CONST. LIMITS

M.H.

C.B.

INLET

DUAL LANES

C/L I.R. 271

C/L EMERY RD. STA. 115+00.00
C/L I.R. 271 STA. 340+05.14

STA. 340+30 RT.

STA. 340+65 LT.

PT = 342+93.76

PCC = 351+69.27

STA. 349+00 RT.

B/L RELOC. LANE E-N

PAVEMENT TAPER (40:1)

STA. 73+87.69, 36' RT. B/L RELOC. LANE E-N
STA. 341+55.58, 137.50' RT. C/L I.R. 271

NOSE STA. 67+87.01, B/L RELOC. LANE E-N
STA. 347+50.00, 159.50' RT. C/L I.R. 271

END B/L N.B. I.R.
PT = 340+58.15
C/L I.R. 271
STA. 340+51.66,
114.50' RT.

PC = 74+43.08

STA. 74+75 LT.

BRIDGE NO.
CUY-271-0610
NO WORK

BRIDGE NO.
CUY-271-0629
NO WORK

WARRENSVILLE TWP.

WARRENSVILLE HEIGHTS

C/L RICHMOND RD.

C/L EMERY RD.

B/L RAMP G-2

PC = 0+00.00
C/L RICHMOND RD.
STA. 169+92.45, 14' RT.

BEGIN WORK
RAMP G-2
STA. 1+18.31

END TYPE CL FENCE
346+32, RT

BEGIN TYPE CL FENCE
345+52, RT

C/L EMERY RD. STA. 121+20.00
C/L RICHMOND RD. STA. 168+23.43

SIGN
SIGN
CANTILEVER SIGN
SIGN BRIDGE
BUTT JOINT

FOR FENCE QUANTITIES, SEE SHEET 117.
FOR CURVE DATA, SEE SHEET 4.

LEGEND:
Ⓒ EX. CORNER POST TO BE REPLACED
Ⓔ EX. END POST TO BE REPLACED
Ⓘ EX. INTERMEDIATE POST TO BE REPLACED

NOTE:
STATIONS ARE APPROXIMATE. FIELD VERIFY LOCATION OF DAMAGED FENCE. IF EXISTING POST STATION IS NOT GIVEN REMOVE AND REPLACE FULL PANEL LENGTH TO NEAREST UNDAMAGED POST.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CFD 3/02
CHECKED JFU 4/02

FENCE PLAN – I.R. 271
BEGIN TO STA. 352+00

CUY-271-6.04

101
142

Cad File: G:\CIVIL\2001118\00\DWG\1299EPPA.DWG
Date: 12-27-04 Time: 7:11 AM TW = 305400.000'

WARRENSVILLE TWP.

C/L RICHMOND RD. STA. 185+07.29 = B/L RAMP G-1 STA. 57+37.48

C/L RICHMOND RD.

WARRENSVILLE HEIGHTS

B/L RAMP G-1

BRIDGE NO. CUY-271-0629 NO WORK

BEGIN WORK RAMP G-1 STA. 57+53.64

N 56° 32' 27" E

N 00° 31' 17" W

PCC = 58+93.02

86.48' SHOULDER TAPER

HEADWALL

BEGIN SHOULDER TAPER STA. 62+00.00

END SHOULDER TAPER STA. 62+86.48

PCC = 62+39.36

END WORK RAMP G-1 STA. 65+81.55

NOSE STA. 62+86.48, 16' RT. B/L RAMP G-1 = STA. 362+81.31, 161.50' LT. C/L I.R. 271

BEGIN RAMP G-1 PT = 65+81.55 C/L I.R. 271 365+81.56, 150.50 LT.

CONST. LIMITS

STA. 354+40 LT.

CULVERT NO. 1 - 48" STA. 359+19.00

STA. 362+00 LT.

STA. 363+50 LT.

STA. 353+00 LT.

STA. 360+25 RT.

STA. 353+55 RT.

PCC = 359+00.00

C/L I.R. 271

DUAL LANES

INLET

SEE SHEET 101 MATCH LINE STA. 352+00

MATCH LINE STA. 366+00 SEE SHEET 103

MATCH LINE STA. 7+50 SEE SHEET 101

B/L RAMP G-2

N 26° 37' 44" E

PCC = 12+97.48

HEADWALL

PT = 15+42.92

END RAMP G-2 STA. 15+51.21 C/L I.R. 271 359+89.00, 163.50' RT.

NOSE STA. 15+51.21, 16' LT. B/L RAMP G-2 = STA. 359+89.00, 147.50' RT. C/L I.R. 271

STA. 364+29.00

STA. 365+09.00

80' SHLDR. TAPER

WARRENSVILLE HEIGHTS

PAVEMENT TAPER (40:1)
ACCELERATION LANE PAVEMENT TAPER (40:1)

END PAVEMENT TAPER STA. 355+80.61

STA. 15+01.21 BEGIN SHOULDER TAPER

50' SHOULDER TAPER

END SHOULDER TAPER STA. 15+51.21

END WORK RAMP G-2 STA. 15+51.21

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE
BUTT JOINT

FOR FENCE QUANTITIES, SEE SHEET 117.
FOR CURVE DATA, SEE SHEET 4.

LEGEND:
EX. CORNER POST TO BE REPLACED
EX. END POST TO BE REPLACED
EX. INTERMEDIATE POST TO BE REPLACED

NOTE:
STATIONS ARE APPROXIMATE. FIELD VERIFY LOCATION OF DAMAGED FENCE. IF EXISTING POST STATION IS NOT GIVEN REMOVE AND REPLACE FULL PANEL LENGTH TO NEAREST UNDAMAGED POST.

CALCULATED CFE 3/02
CHECKED JFU 4/02

0 25 50 100 HORIZONTAL SCALE IN FEET

FENCE PLAN - I.R. 271
STA. 352+00 TO STA. 366+00

CUY-271-6.04

102
142

Cad File: G:\CIVIL\2001118\00\DWG\12996FPB.DWG
Date: 12-27-04 Time: 8:33 AM TW = 295x00.00"

CITY OF WARRENSVILLE HEIGHTS
WARRENSVILLE TWP.

100' SHOULDER TAPER

BEGIN SHOULDER TAPER STA. 370+00.00

END SHOULDER TAPER STA. 371+00.00

CULVERT NO. 2 – 54"
STA. 379+20.00

APPROX. EASEMENT POSITION BASED ON CULVERT PLANS

M.H.

ABAN.

HEADWALL

NOISE WALL

CONST. LIMITS

STA. 376+70 LT.

C.B.

SEE SHEET 102
MATCH LINE STA. 366+00

367+00 368+00 369+00 370+00 371+00 372+00 373+00 374+00 375+00 376+00 377+00 378+00 379+00

INLET

C/L I.R. 271

DUAL LANES

MATCH LINE STA. 380+00
SEE SHEET 104

60'

10' 24' 15' 15' 24' 10'

STA. 367+00 RT.

STA. 370+70 RT.

STA. 371+00 RT.

79+00

HEADWALL

B/L RAMP N–EW

C/L 271
STA. 378+75.01, 150.00 RT.
BEGIN RAMP N–EW
PC = 78+75.00

BEGIN WORK
RAMP N–EW
STA. 78+75.00

APPROX. EASEMENT POSITION BASED ON ROADWAY PLANS

VILLAGE OF ORANGE
WARRENSVILLE TWP.

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

FOR FENCE QUANTITIES, SEE SHEET 117.
FOR CURVE DATA, SEE SHEET 4.

LEGEND:
Ⓒ EX. CORNER POST TO BE REPLACED
Ⓔ EX. END POST TO BE REPLACED
Ⓘ EX. INTERMEDIATE POST TO BE REPLACED

NOTE:
STATIONS ARE APPROXIMATE. FIELD VERIFY LOCATION OF DAMAGED FENCE. IF EXISTING POST STATION IS NOT GIVEN REMOVE AND REPLACE FULL PANEL LENGTH TO NEAREST UNDAMAGED POST.

Cad File: G:\CIVIL\2001118\00\DWG\129986PC.DWG
Date: 12-27-04 Time: 6:34 AM TW = 288d0'0.00"

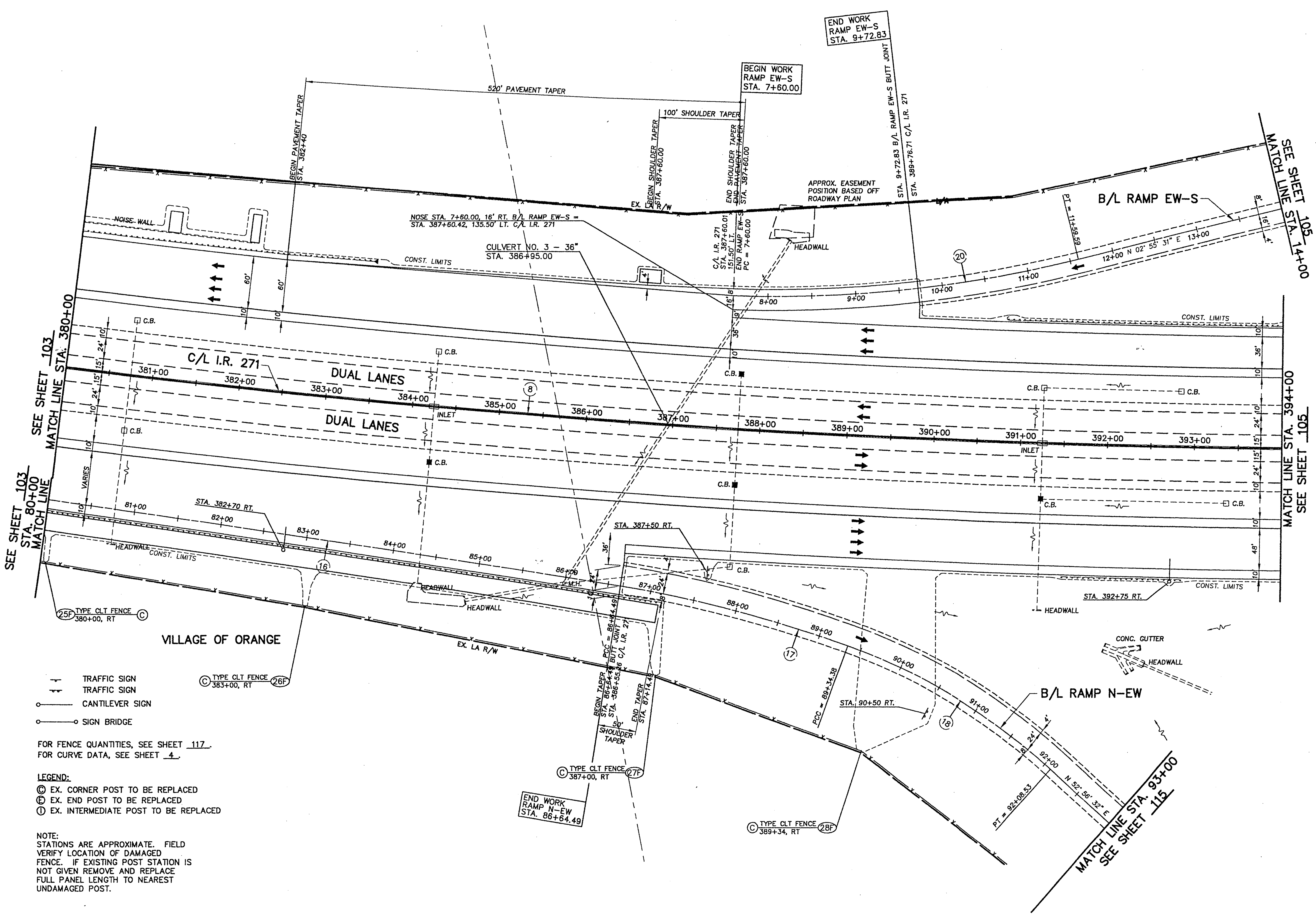
CALCULATED CFE 3/02
CHECKED JFU 4/02

0 25 50 100
HORIZONTAL SCALE IN FEET

FENCE PLAN I.R. 271
STA. 366+00 TO STA. 380+00

CUY-271-6.04

103
142



END WORK
RAMP EW-S
STA. 9+72.83
BEGIN WORK
RAMP EW-S
STA. 7+60.00
520' PAVEMENT TAPER
100' SHOULDER TAPER
BEGIN PAVEMENT TAPER
STA. 382+40
BEGIN SHOULDER TAPER
STA. 387+60.00
END SHOULDER TAPER
END PAVEMENT TAPER
STA. 387+60.00
STA. 9+72.83 B/L RAMP EW-S BUTT JOINT
STA. 389+76.71 C/L I.R. 271
APPROX. EASEMENT
POSITION BASED OFF
ROADWAY PLAN
EX. R/W
NOISE WALL
NOSE STA. 7+60.00, 16' RT. B/L RAMP EW-S =
STA. 387+60.42, 135.50' LT. C/L I.R. 271
CULVERT NO. 3 – 36"
STA. 386+95.00
C/L I.R. 271
STA. 387+60.01
151.50' LT.
END RAMP EW-S
PC = 7+60.00
HEADWALL
CONST. LIMITS
B/L RAMP EW-S
PT = 11+59.59
12+00 N 02° 55' 31" E 13+00
SEE SHEET 105
MATCH LINE STA. 14+00
SEE SHEET 103
MATCH LINE STA. 380+00
C/L I.R. 271
DUAL LANES
DUAL LANES
C.B.
INLET
381+00
382+00
383+00
384+00
385+00
386+00
387+00
388+00
389+00
390+00
391+00
392+00
393+00
MATCH LINE STA. 394+00
SEE SHEET 105
SEE SHEET 103
STA. 80+00
MATCH LINE
STA. 382+70 RT.
STA. 387+50 RT.
STA. 392+75 RT.
HEADWALL
CONST. LIMITS
TYPE CLT FENCE
380+00, RT
VILLAGE OF ORANGE
EX. LA R/W
TYPE CLT FENCE
383+00, RT
PCC = 86+64.49 BUTT JOINT
STA. 386+55.26 C/L I.R. 271
BEGIN TAPER
STA. 86+64.49
END TAPER
STA. 87+14.49
50' SHOULDER TAPER
TYPE CLT FENCE
387+00, RT
END WORK
RAMP N-EW
STA. 86+64.49
PCC = 89+34.38
STA. 90+50 RT.
B/L RAMP N-EW
PT = 92+08.53
N 52° 56' 32" E
MATCH LINE STA. 93+00
SEE SHEET 115
TYPE CLT FENCE
389+34, RT
CONC. GUTTER
HEADWALL

- TRAFFIC SIGN
- TRAFFIC SIGN
- CANTILEVER SIGN
- SIGN BRIDGE

FOR FENCE QUANTITIES, SEE SHEET 117.
FOR CURVE DATA, SEE SHEET 4.

LEGEND:

Ⓒ EX. CORNER POST TO BE REPLACED
Ⓔ EX. END POST TO BE REPLACED
Ⓘ EX. INTERMEDIATE POST TO BE REPLACED

NOTE:
STATIONS ARE APPROXIMATE. FIELD VERIFY LOCATION OF DAMAGED FENCE. IF EXISTING POST STATION IS NOT GIVEN REMOVE AND REPLACE FULL PANEL LENGTH TO NEAREST UNDAMAGED POST.

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED CFE 3/02
CHECKED JFU 4/02

FENCE PLAN – I.R. 271
STA. 380+00 TO STA. 394+00

CUY-271-6.04

Cad File: G:\CIVIL\2001118\01\DWG\12996FP0.DWG
Date: 12-27-04 Time: 6:35 AM TW = 281d0'0.00"

CITY OF BEACHWOOD

LEGEND:
- (C) EX. CORNER POST TO BE REPLACED
- (E) EX. END POST TO BE REPLACED
- (I) EX. INTERMEDIATE POST TO BE REPLACED

SEE SHEET 104 MATCH LINE STA. 394+00

C/L HARVARD RD. STA. 121+92.31
B/L RAMP EW-S STA. 18+13.93

PC = 15+01.20
PT = 15+89.95

N 06° 06' 55" W

B/L RAMP EW-S

N 02° 55' 31" E

STA. 122+35 RT.

C/L HARVARD RD. STA. 121+79.32
B/L RAMP S-WE STA. 98+18.35

N 19° 44' 33" E

B/L RAMP S-WE

EX. LA R/W

PC = 103+41.55

50' SHOULDER AND PVMT TAPER

BEGIN TAPER STA. 104+00.00

END TAPER STA. 105+50.00

STA. 106+00 LT.

MATCH LINE STA. 108+00 SEE SHEET 106

BRIDGE NO. CUY-271-0720 (LC & RC) NO WORK

BRIDGE NO. CUY-271-0720L NO WORK

CULVERT NO. 4 – 8'x5' BOX
STA. 396+10.00

HEADWALL

CONST. LIMITS

STA. 397+75 LT.

STA. 124+25 RT.

BEGIN TAPER STA. 100+00.00

END TAPER STA. 100+50.00

80' SHOULDER & PAVEMENT TAPER

CULVERT NO. 5 – 36"
STA. 403+40.00
ABANDONED & FILLED

STA. 397+65 LT.

STA. 397+80 LT.

C/L I.R. 271 STA. 398+73.08
C/L HARVARD RD. STA. 125+81.07

C/L I.R. 271

DUAL LANES

C/L HARVARD RD.
STA. 125+94.13, 37.00' RT.
BEGIN RAMP E-N
PC = 81+39.63

NOSE STA. 98+16.49, 16' LT. B/L RAMP E-N =
STA. 398+16.49, 147.50' RT. C/L I.R. 271

STA. 395+90.78, C/L I.R. 271

N 8° 08' 47" E

STA. 400+75 RT.

BRIDGE NO. CUY-271-0720R NO WORK

C/L HARVARD RD. STA. 127+45.62
B/L RAMP E-N STA. 18+13.93

B/L RAMP E-N STA. 82+85.04
B/L RAMP E-N STA. 98+55.82

NOSE STA. 83+84.27, 23.36' LT. B/L RAMP E-N
STA. 128+42.49, 35' RT. C/L HARVARD RD.

B/L RAMP E-N

BEGIN WORK RAMP E-N STA. 95+89.75

BEGIN TAPER STA. 97+66.49

END TAPER STA. 98+16.49

PAVEMENT TAPER

50' SHOULDER TAPER

SC = 84+57.63

STA. 428+75 RT.

C/L HARVARD RD.

N 89° 44' 39" E

PC = 130+65.27

SC = 86+57.63

MATCH LINE STA. 131+50 SEE SHEET 115

MATCH LINE STA. 93+00 SEE SHEET 115

MATCH LINE STA. 87+00 SEE SHEET 115

B/L RAMP W-N

CONST. LIMITS

WARRENSVILLE TWP.

BEGIN TYPE CLT FENCE (C)
404+47, RT

PCC = 101+34.5

EX. LA R/W

MATCH LINE STA. 101+00 SEE SHEET 115

MATCH LINE STA. 108+00 SEE SHEET 106

- TRAFFIC SIGN
- TRAFFIC SIGN
- CANTILEVER SIGN
- SIGN BRIDGE

FOR FENCE QUANTITIES, SEE SHEET 117.
FOR CURVE DATA, SEE SHEET 4.

NOTE:
STATIONS ARE APPROXIMATE. FIELD VERIFY LOCATION OF DAMAGED FENCE. IF EXISTING POST STATION IS NOT GIVEN REMOVE AND REPLACE FULL PANEL LENGTH TO NEAREST UNDAMAGED POST.

N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CFE 3/02
CHECKED JFU 4/02

FENCE PLAN – I.R. 271
STA. 394+00 TO STA. 408+00

CUY-271-6.04

105
142

Cad Files: G:\CIVIL\2001118\00\DWG\2998FPE1.DWG
Date: 12-27-04 Time: 6:56 AM W = 272900.000'

CITY OF BEACHWOOD

SEE SHEET 105
STA. 108+00
MATCH LINE

B/L RAMP S-WE

STA. 108+50 LT.

BEGIN WORK
RAMP S-WE
STA. 111+52.01

50' SHOULDER TAPER

PCC = 110+51.98

BEGIN TAPER STA. 111+02.01

END TAPER STA. 111+52.01 BUTT JOINT

NOSE STA. 111+52.01, 16' RT.
B/L RAMP S-WE
STA. 411+44.66, 149.50' LT.
C/L I.R. 271

END WORK
RAMP S-WE
STA. 117+00.00

END RAMP S-WE PT = 117+00.00 C/L I.R. 271 STA. 417+00.01, 138.50 LT.

EX. LA R/W

HEADWALL

CONST. LIMITS

STA. 414+69 LT.

STA. 410+00 LT.

CULVERT NO. 6 – 36"
STA. 418+35.00

SEE SHEET 105
MATCH LINE STA. 408+00

DUAL LANES

C/L I.R. 271

INLET

C.B.

M.H.

DUAL LANES

N 00° 45' 42" W

PT = 420+31.80

MATCH LINE STA. 422+00
SEE SHEET 107

MATCH LINE
STA. 108+00
SEE SHEET 105

B/L RAMP W-N

B/L RAMP E-N

END RAMP E-N, STA. 108+29.96
C/L 271, STA. 408+17.75, 138.50 RT.

CONST. LIMITS

STA. 409+82.11 C/L I.R. 271

STA. 109+80.51 B/L RAMP W-N BUTT JOINT

TYPE CLT FENCE
410+70, RT

BEGIN TAPER PT STA. 111+30.82

48.33' SHOULDER TAPER

END TAPER END RAMP W-N STA. 111+82.15

END WORK
RAMP W-N
STA. 111+82.15

NOSE STA. 111+82.15, 16' LT.
B/L RAMP W-N
STA. 411+82.42, 147.50' RT.
C/L I.R. 271

29F

END TYPE CLT FENCE
414+44, RT

STA. 415+00 RT.

EX. LA R/W

HEADWALL

STA. 419+75 RT.

BEGIN TAPER STA. 419+31.80

5F

END TAPER STA. 420+31.80

DAMAGED POST
TYPE 47 FENCE
419+86, RT

100' SHOULDER TAPER

BEGIN WORK
RAMP W-N
STA. 109+80.51

END WORK
RAMP E-N
STA. 108+29.96

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

FOR FENCE QUANTITIES, SEE SHEET 117.
FOR CURVE DATA, SEE SHEET 4.

LEGEND:
Ⓒ EX. CORNER POST TO BE REPLACED
Ⓔ EX. END POST TO BE REPLACED
Ⓘ EX. INTERMEDIATE POST TO BE REPLACED

NOTE:
STATIONS ARE APPROXIMATE. FIELD VERIFY LOCATION OF DAMAGED FENCE. IF EXISTING POST STATION IS NOT GIVEN REMOVE AND REPLACE FULL PANEL LENGTH TO NEAREST UNDAMAGED POST.

CALCULATED CFE 3/02
CHECKED JFU 4/02

0 50 100
25
HORIZONTAL SCALE IN FEET

FENCE PLAN – I.R. 271
STA. 408+00 TO STA. 422+00

CUY-271-6.04

106
142

Cad File: G:\DWL\2001118\00\DWG\12896FPF.DWG
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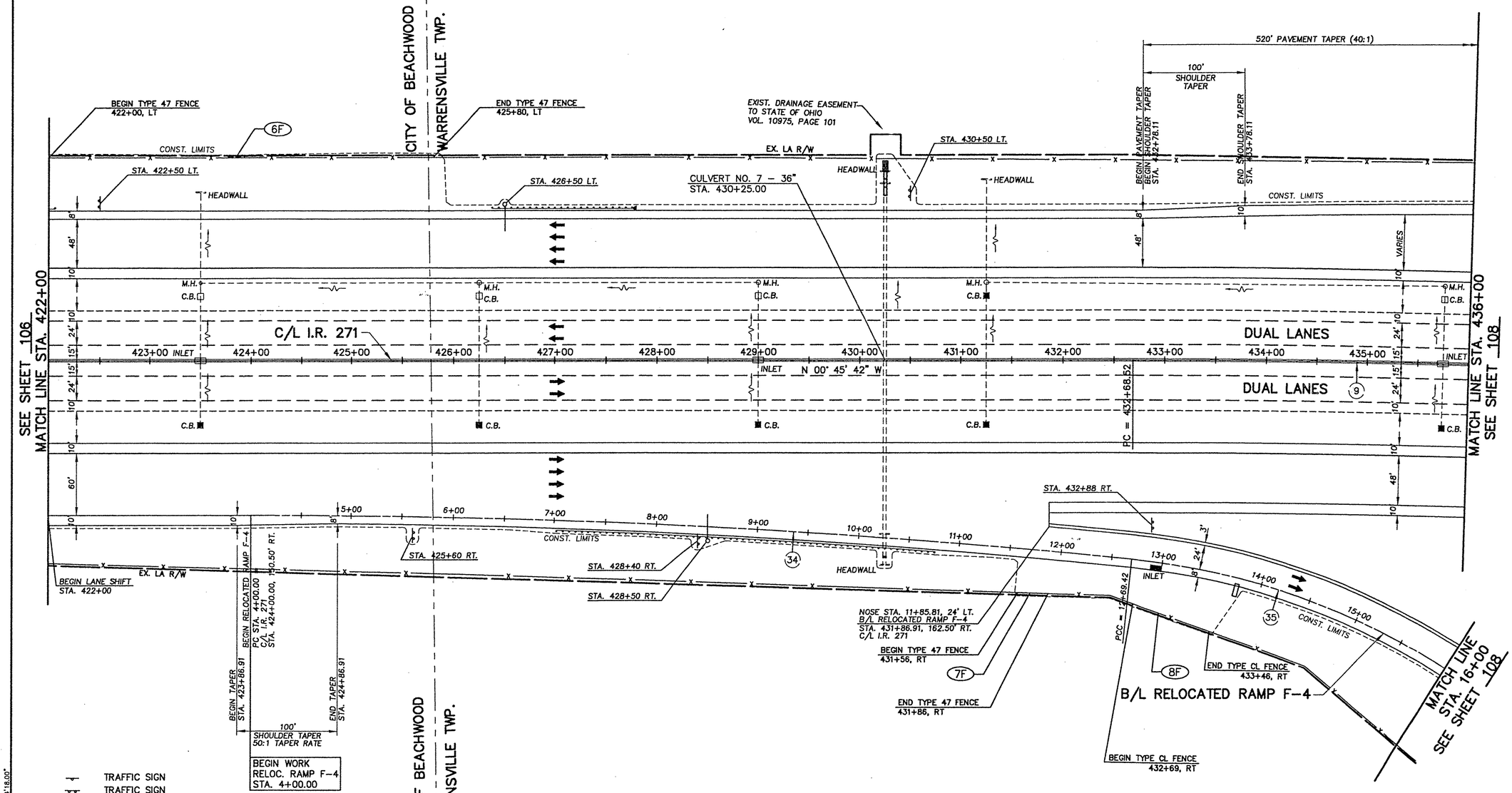

FOR FENCE QUANTITIES, SEE SHEET 117.
FOR CURVE DATA, SEE SHEET 4.

LEGEND:
- Ⓒ EX. CORNER POST TO BE REPLACED
- Ⓔ EX. END POST TO BE REPLACED
- Ⓘ EX. INTERMEDIATE POST TO BE REPLACED

NOTE:
STATIONS ARE APPROXIMATE. FIELD VERIFY LOCATION OF DAMAGED FENCE. IF EXISTING POST STATION IS NOT GIVEN REMOVE AND REPLACE FULL PANEL LENGTH TO NEAREST UNDAMAGED POST.

CALCULATED CFE 3/02
CHECKED JFU 4/02

HORIZONTAL SCALE IN FEET
0 25 50 100

FENCE PLAN – I.R. 271
STA. 422+00 TO STA. 436+00

CUY-271-6.04

Cad File: G:\CIVIL\2001118.00\DWG\12996FPO.DWG
Date: 12-27-04 Time: 7:12 AM TW = 26941+18.00"

CITY OF BEACHWOOD

END WORK RAMP F-1 STA. 17+33.71

PAVEMENT TAPER (40:1)

PAVEMENT WIDTH TRANSITION

100' SHOULDER TAPER

END TYPE CL FENCE 441+89, LT

BEGIN TYPE CL FENCE 441+60, LT

10F

11F

BEGIN TYPE CL FENCE 445+72, LT

END TYPE CL FENCE 446+00, LT (1)

EX. LA R/W

END PAVEMENT TRANS. C/L 271 STA. 438+00.00, 151.50' LT. END RAMP F-1 PT = 17+33.71

END SHOULDER TAPER PT = 13+38.26

BEGIN SHOULDER TAPER STA. 12+50.07

CONST. LIMITS

S 00° 32' 05" W

SEE SHEET 116 STA. 5+00 MATCH LINE

B/L RAMP F-1

CC = 8+56.84

59

60

STA. 443+61 LT.

C.B.

END WORK RAMP F-5 STA. 17+02.62

SEE SHEET 116 STA. 12+50 MATCH LINE

VARIES

C/L 271 STA. 449+98.10, 151.50' LT. END RAMP F-5 PT = 17+02.62

SEE SHEET 107 STA. 436+00 MATCH LINE

C/L I.R. 271

DUAL LANES

437+00 438+00 439+00 440+00 441+00 442+00 443+00 444+00 445+00 446+00 447+00 448+00 449+00

INLET

9

C/L I.R. 271 STA. 448+63.32

C/L CHAGRIN BLVD. STA. 15+00.00

STA. 449+30 LT.

STA. 447+50 RT.

STA. 439+80 RT.

STA. 442+50 RT.

MATCH LINE STA. 450+00 SEE SHEET 109

B/L RAMP F-5

C/L CHAGRIN BLVD.

STA. 449+78 RT.

BRIDGE NO. CUY-271-0813 NO WORK

MATCH LINE STA. 17+50 SEE SHEET 116

1000' PAVEMENT TAPER

CITY OF BEACHWOOD

B/L RELOCATED RAMP F-6

B/L RELOCATED RAMP F-4

B/L RAMP F-4

SEE SHEET 107 STA. 16+00 MATCH LINE

N 43° 35' 48" E

CONST. LIMITS

STATION EQUATION 17+57.50 (BACK) = 94+64.08 (AHEAD) 57.58' RT

MATCH LINE STA. 10+00 SEE SHEET 116

45

44

35

BEGIN SHOULDER TAPER STA. 41+07.62

END SHOULDER TAPER

BEGIN PAVEMENT TAPER

END RAMP F-6

ST = 41+57.62

C/L I.R. 271 STA. 441+57.62 (163.50' RT.)

END PAVEMENT TAPER STA. 38+38.32

END SHOULDER TAPER STA. 38+33.32

BEGIN PAVEMENT & BEGIN SHOULDER TAPER STA. 37+58.22

80.1' PAVEMENT TAPER

75.1' SHOULDER TAPER

50' SHOULDER TAPER

MATCH LINE STA. 37+50 SEE SHEET 116

END WORK RELOC. RAMP F-6 STA. 41+57.62

TRAFFIC SIGN

TRAFFIC SIGN

CANTILEVER SIGN

SIGN BRIDGE

FOR FENCE QUANTITIES, SEE SHEET 117.

FOR CURVE DATA, SEE SHEET 4.

NOTE:
STATIONS ARE APPROXIMATE. FIELD VERIFY LOCATION OF DAMAGED FENCE. IF EXISTING POST STATION IS NOT GIVEN REMOVE AND REPLACE FULL PANEL LENGTH TO NEAREST UNDAMAGED POST.

LEGEND:
- (C) EX. CORNER POST TO BE REPLACED
- (E) EX. END POST TO BE REPLACED
- (I) EX. INTERMEDIATE POST TO BE REPLACED

N

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED CFE 3/02

CHECKED JFU 4/02

FENCE PLAN – I.R. 271
STA. 436+00 TO STA. 450+00

CUY-271-6.04

108
142

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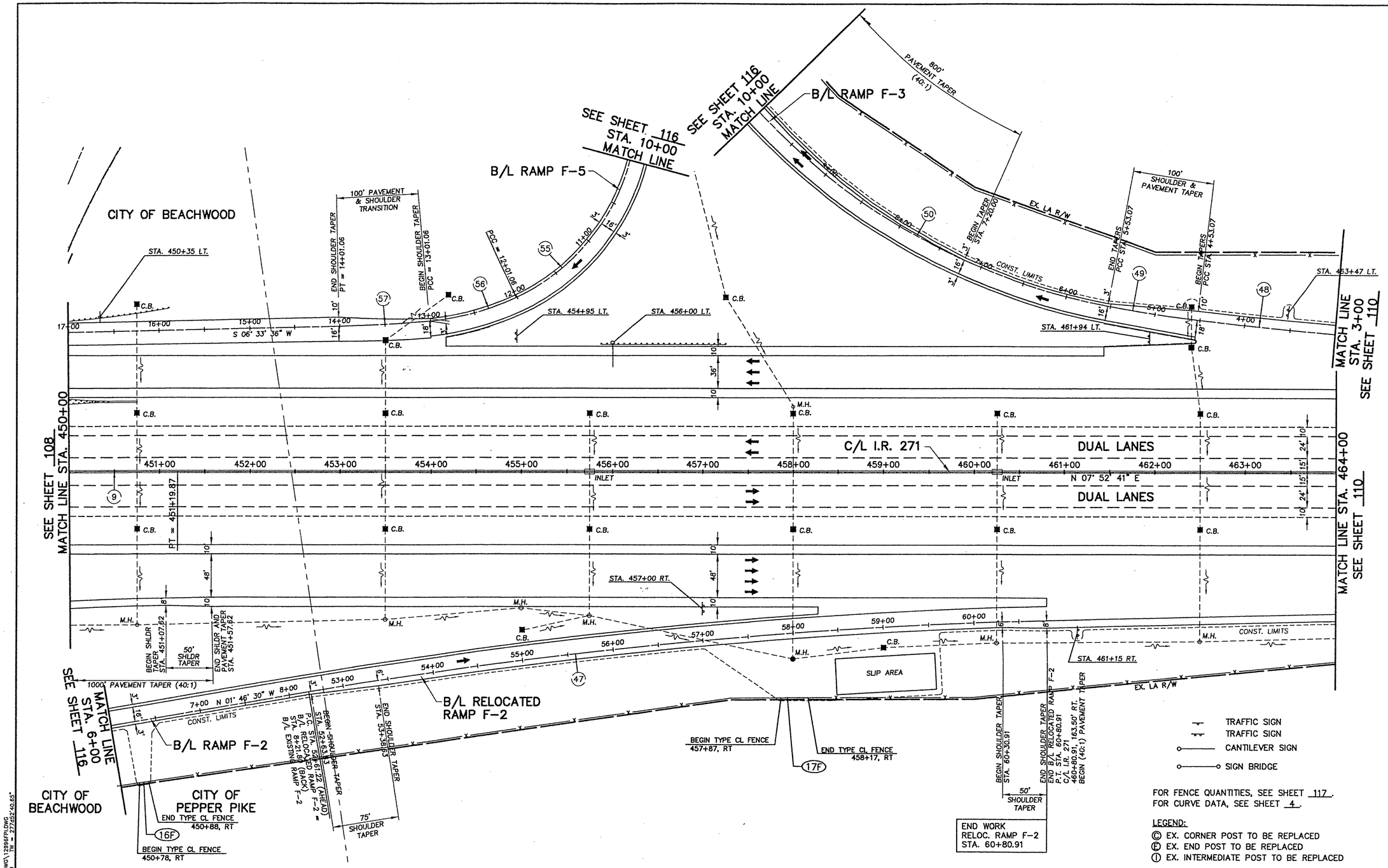


FOR FENCE QUANTITIES, SEE SHEET 117.
FOR CURVE DATA, SEE SHEET 4.

LEGEND:

Ⓒ EX. CORNER POST TO BE REPLACED
Ⓔ EX. END POST TO BE REPLACED
Ⓘ EX. INTERMEDIATE POST TO BE REPLACED

NOTE:
STATIONS ARE APPROXIMATE. FIELD VERIFY LOCATION OF DAMAGED FENCE. IF EXISTING POST STATION IS NOT GIVEN REMOVE AND REPLACE FULL PANEL LENGTH TO NEAREST UNDAMAGED POST.

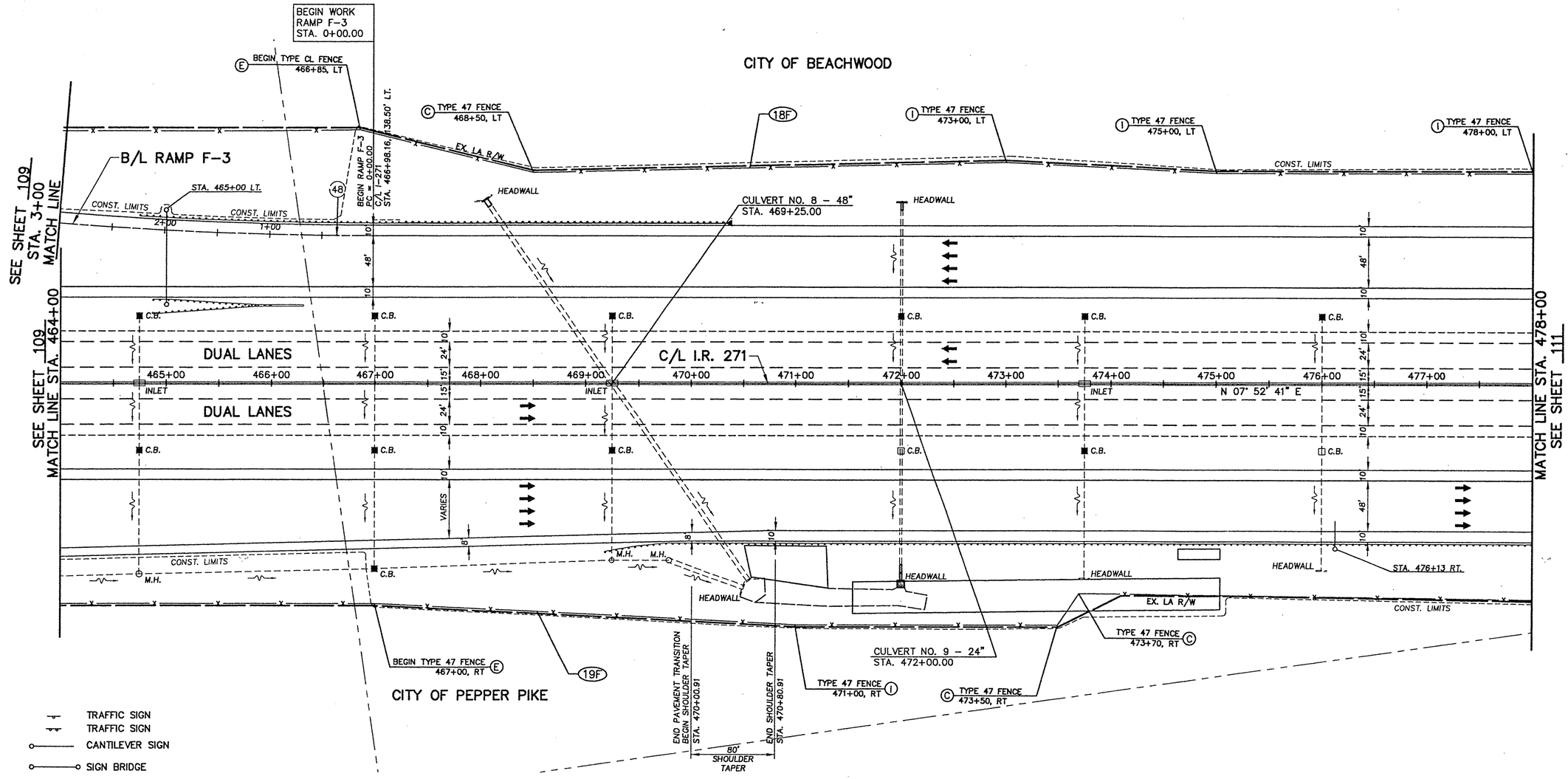
CALCULATED CFE 3/02
CHECKED JFU 4/02

HORIZONTAL SCALE IN FEET
0 25 50 100

FENCE PLAN – I.R. 271
STA. 450+00 TO STA. 464+00

CUY-271-6.04

Cad File: G:\CIVIL\2001118\00\DWG\12996FPLDWG
Date: 12-27-04 Time: 8:39 AM TW = 277652*40.63"



TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

FOR FENCE QUANTITIES, SEE SHEET 117.
FOR CURVE DATA, SEE SHEET 4.

LEGEND:
Ⓒ EX. CORNER POST TO BE REPLACED
Ⓔ EX. END POST TO BE REPLACED
Ⓘ EX. INTERMEDIATE POST TO BE REPLACED

NOTE:
STATIONS ARE APPROXIMATE. FIELD VERIFY LOCATION OF DAMAGED FENCE. IF EXISTING POST STATION IS NOT GIVEN REMOVE AND REPLACE FULL PANEL LENGTH TO NEAREST UNDAMAGED POST.

HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED CFE 3/02
CHECKED JFU 4/02

FENCE PLAN – I.R. 271
STA. 464+00 TO STA. 478+00

CUY-271-6.04

110
142

Cad File: G:\CIVIL\2001118\00\DWG\1298FPJ.DWG
Date: 12-27-04 Time: 8:40 AM tw = 277852*40.65"

CITY OF BEACHWOOD

C/L SOUTH WOODLAND RD.

11+00

12+00

13+00

14+00

15+00

16+00

17+00

18+00

19+00

N 89° 34' 50" E

20F

21F

18F

19F

BEGIN TYPE 47 FENCE
481+70, LT

END TYPE 47 FENCE
479+60, LT

BEGIN TYPE CL FENCE
482+80, LT

END TYPE 47 FENCE
481+90, LT

END TYPE CL FENCE
483+00, LT

BRIDGE NO.
CUY-271-0885L
NO WORK

CONST. LIMITS

EX. LA R/W

BEGIN PROPOSED
GUARDRAIL EXTENSION
STA. 478+25.79

END PROPOSED
GUARDRAIL EXTENSION
STA. 479+00.79

EXIST. 30'x40'
DRAINAGE EASEMENT

HEADWALL

STA. 485+30 LT.

CULVERT NO. 10 - 42"
STA. 483+25.00

C/L I.R. 271 STA. 486+41.21
C/L SOUTH WOODLAND ROAD STA. 15+00.00

100' PAVEMENT
TAPER

BEGIN PAVEMENT TAPER
STA. 490+00.00

END PAVEMENT TAPER
STA. 491+00.00

C.B.

M.H.

SEE SHEET 110
MATCH LINE STA. 478+00

SEE SHEET 112
MATCH LINE STA. 492+00

C/L I.R. 271

DUAL LANES

N 07° 52' 41" E

479+00 480+00 481+00 482+00 483+00 484+00 485+00 486+00 487+00 488+00 489+00 490+00 491+00

INLET

STA. 485+60 RT.

STA. 480+13 RT.

STA. 484+13 RT.

STA. 488+13 RT.

CONST. LIMITS

EX. LA R/W

TYPE 47 FENCE
479+98, RT

TYPE 47 FENCE
481+00, RT

END TYPE 47 FENCE
482+00, RT

CITY OF PEPPER PIKE

EXIST. 40'x40'
DRAINAGE EASEMENT

BRIDGE NO.
CUY-271-0885
LC & RC
NO WORK

BRIDGE NO.
CUY-271-0885R
NO WORK

TRAFFIC SIGN

TRAFFIC SIGN

CANTILEVER SIGN

SIGN BRIDGE

FOR FENCE QUANTITIES, SEE SHEET 117.
FOR CURVE DATA, SEE SHEET 4.

LEGEND:
Ⓒ EX. CORNER POST TO BE REPLACED
Ⓔ EX. END POST TO BE REPLACED
Ⓘ EX. INTERMEDIATE POST TO BE REPLACED

NOTE:
STATIONS ARE APPROXIMATE. FIELD VERIFY LOCATION OF DAMAGED FENCE. IF EXISTING POST STATION IS NOT GIVEN REMOVE AND REPLACE FULL PANEL LENGTH TO NEAREST UNDAMAGED POST.

Cad File: G:\CIVIL\20011118\00\DWG\12996FPK.DWG
Date: 12-27-04 Time: 8:40 AM TW = 277d52'40.65"

N

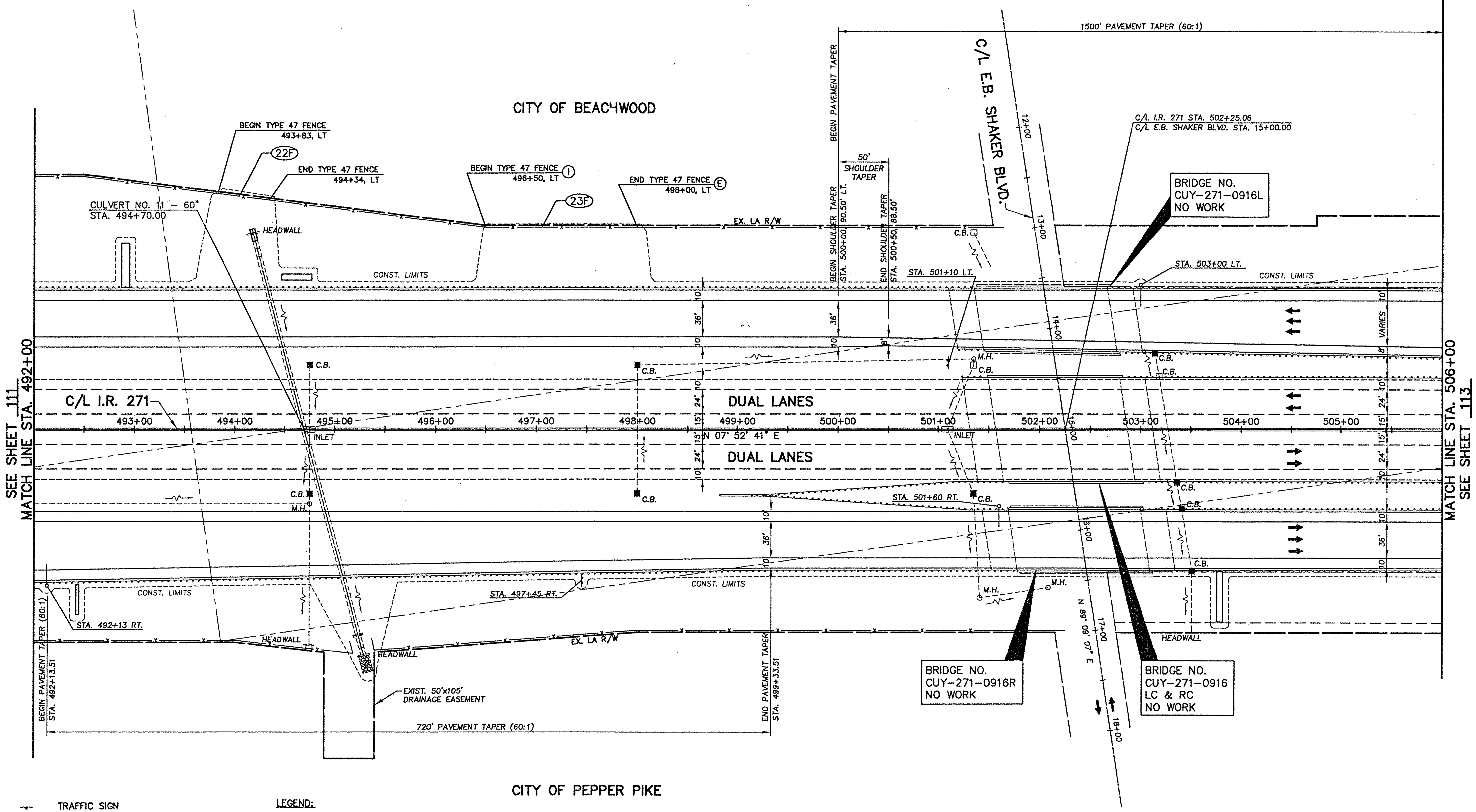
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CFE 3/02
CHECKED JFU 4/02

FENCE PLAN - I.R. 271
STA. 478+00 TO STA. 492+00

CUY-271-6.04

111
142


CITY OF BEACHWOOD
CITY OF PEPPER PIKE
SEE SHEET 111
MATCH LINE STA. 492+00
MATCH LINE STA. 506+00
SEE SHEET 113
C/L I.R. 271
C/L E.B. SHAKER BLVD.
DUAL LANES
DUAL LANES
N 07° 52' 41" E
N 89° 09' 07" E
BEGIN TYPE 47 FENCE 493+83, LT
22F
END TYPE 47 FENCE 494+34, LT
BEGIN TYPE 47 FENCE 496+50, LT Ⓘ
23F
END TYPE 47 FENCE 498+00, LT Ⓔ
CULVERT NO. 11 – 60" STA. 494+70.00
HEADWALL
EX. LA R/W
CONST. LIMITS
1500' PAVEMENT TAPER (60:1)
BEGIN PAVEMENT TAPER
50' SHOULDER TAPER
BEGIN SHOULDER TAPER STA. 500+00, 90.50' LT.
END SHOULDER TAPER STA. 500+50, 88.50'
STA. 501+10 LT.
STA. 503+00 LT.
C/L I.R. 271 STA. 502+25.06
C/L E.B. SHAKER BLVD. STA. 15+00.00
BRIDGE NO. CUY-271-0916L NO WORK
BRIDGE NO. CUY-271-0916R NO WORK
BRIDGE NO. CUY-271-0916 LC & RC NO WORK
STA. 501+60 RT.
STA. 497+45 RT.
STA. 492+13 RT.
BEGIN PAVEMENT TAPER (60:1) STA. 492+13.51
END PAVEMENT TAPER STA. 499+33.51
720' PAVEMENT TAPER (60:1)
EXIST. 50'x105' DRAINAGE EASEMENT
C.B.
M.H.
INLET
VARIES
493+00
494+00
495+00
496+00
497+00
498+00
499+00
500+00
501+00
502+00
503+00
504+00
505+00
12+00
13+00
14+00
15+00
16+00
17+00
18+00

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE

LEGEND:
Ⓒ EX. CORNER POST TO BE REPLACED
Ⓔ EX. END POST TO BE REPLACED
Ⓘ EX. INTERMEDIATE POST TO BE REPLACED

FOR FENCE QUANTITIES, SEE SHEET 117.
FOR CURVE DATA, SEE SHEET 4.

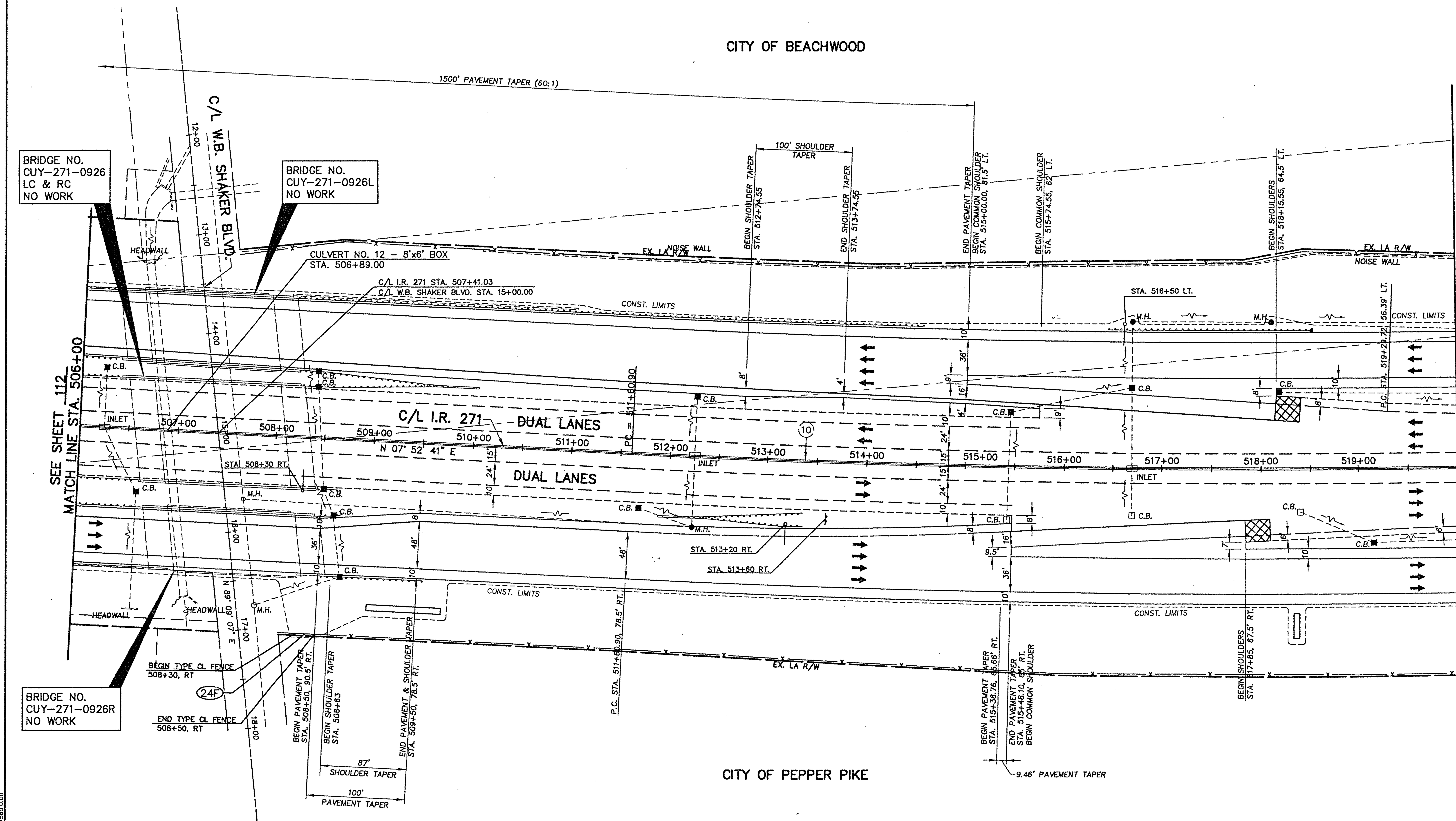
NOTE:
STATIONS ARE APPROXIMATE. FIELD VERIFY LOCATION OF DAMAGED FENCE. IF EXISTING POST STATION IS NOT GIVEN REMOVE AND REPLACE FULL PANEL LENGTH TO NEAREST UNDAMAGED POST.

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED CFE 3/02
CHECKED JFU 4/02

FENCE PLAN – I.R. 271
STA. 492+00 TO STA. 506+00

CUY-271-6.04


CITY OF BEACHWOOD
1500' PAVEMENT TAPER (60:1)
C/L W.B. SHAKER BLVD.
BRIDGE NO.
CUY-271-0926
LC & RC
NO WORK
BRIDGE NO.
CUY-271-0926L
NO WORK
CULVERT NO. 12 - 8'x6' BOX
STA. 506+89.00
C/L I.R. 271 STA. 507+41.03
C/L W.B. SHAKER BLVD. STA. 15+00.00
HEADWALL
NOISE WALL
EX. LA R/W
CONST. LIMITS
100' SHOULDER TAPER
BEGIN SHOULDER TAPER STA. 512+74.55
END SHOULDER TAPER STA. 513+74.55
END PAVEMENT TAPER BEGIN COMMON SHOULDER STA. 515+00.00, 81.5' LT.
BEGIN COMMON SHOULDER STA. 515+74.55, 62' LT.
BEGIN SHOULDERS STA. 518+15.55, 64.5' LT.
STA. 516+50 LT.
P.C. STA. 519+22.72, 56.39' LT.
C/L I.R. 271
DUAL LANES
N 07° 52' 41" E
P.C. = 511+60.90
SEE SHEET 112
MATCH LINE STA. 506+00
MATCH LINE STA. 520+00
SEE SHEET 114
STA. 508+30 RT.
STA. 513+20 RT.
STA. 513+60 RT.
INLET
C.B.
M.H.
BRIDGE NO.
CUY-271-0926R
NO WORK
BEGIN TYPE CL FENCE
508+30, RT
24F
END TYPE CL FENCE
508+50, RT
BEGIN PAVEMENT TAPER STA. 508+50, 90.5' RT.
BEGIN SHOULDER TAPER STA. 508+63
END PAVEMENT & SHOULDER TAPER STA. 509+50, 78.5' RT.
87' SHOULDER TAPER
100' PAVEMENT TAPER
P.C. STA. 511+60.90, 78.5' RT.
BEGIN PAVEMENT TAPER STA. 515+38.76, 65.66' RT.
END PAVEMENT TAPER STA. 515+48.10, 65' RT. BEGIN COMMON SHOULDER
9.46' PAVEMENT TAPER
BEGIN SHOULDERS STA. 517+85, 67.5' RT.
CITY OF PEPPER PIKE
HORIZONTAL SCALE IN FEET

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE
BUTT JOINT

FOR FENCE QUANTITIES, SEE SHEET 117.
FOR CURVE DATA, SEE SHEET 4.

LEGEND:

- Ⓒ EX. CORNER POST TO BE REPLACED
- Ⓔ EX. END POST TO BE REPLACED
- Ⓘ EX. INTERMEDIATE POST TO BE REPLACED

NOTE:
STATIONS ARE APPROXIMATE. FIELD VERIFY LOCATION OF DAMAGED FENCE. IF EXISTING POST STATION IS NOT GIVEN REMOVE AND REPLACE FULL PANEL LENGTH TO NEAREST UNDAMAGED POST.

CALCULATED CFE 3/02
CHECKED JFU 4/02

FENCE PLAN - I.R. 271
STA. 506+00 TO STA. 520+00

CUY-271-6.04

CITY OF BEACHWOOD

END PROJECT
STA. 532+68.89
S.L.M. 9.73

NOISE WALL
EX. LA R/W
NOISE WALL
C.B.
M.H.
CONST. LIMITS
STA. 524+00 LT.
STA. 521+40 LT.
STA. 521+58 LT.
C/L FAIRMONT BLVD. STA. 15+00.00
C/L I.R. 271 STA. 532+67.08
STA. 533+25 LT.
N 89° 29' 24" E
C/L I.R. 271
P.I. = 527+46.53
N 00° 28' 41" E
INLET
STA. 524+00 RT.
STA. 532+00 RT.
STA. 532+10 RT.
STA. 524+04.23 15' RT. END PAVEMENT TAPER
C/L FAIRMOUNT BLVD.
BRIDGE NO. CUY-271-0973 NO WORK

SEE SHEET 113
MATCH LINE STA. 520+00

520+00 521+00 522+00 523+00 524+00 525+00 526+00 527+00 528+00 529+00 530+00 531+00 532+00 533+00 534+00

11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00

CITY OF PEPPER PIKE

TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE
BUTT JOINT

FOR FENCE QUANTITIES, SEE SHEET 117.
FOR CURVE DATA, SEE SHEET 4.

LEGEND:
Ⓒ EX. CORNER POST TO BE REPLACED
Ⓔ EX. END POST TO BE REPLACED
Ⓘ EX. INTERMEDIATE POST TO BE REPLACED

NOTE:
STATIONS ARE APPROXIMATE. FIELD VERIFY LOCATION OF DAMAGED FENCE. IF EXISTING POST STATION IS NOT GIVEN REMOVE AND REPLACE FULL PANEL LENGTH TO NEAREST UNDAMAGED POST.

HORIZONTAL SCALE IN FEET
0 25 50 100

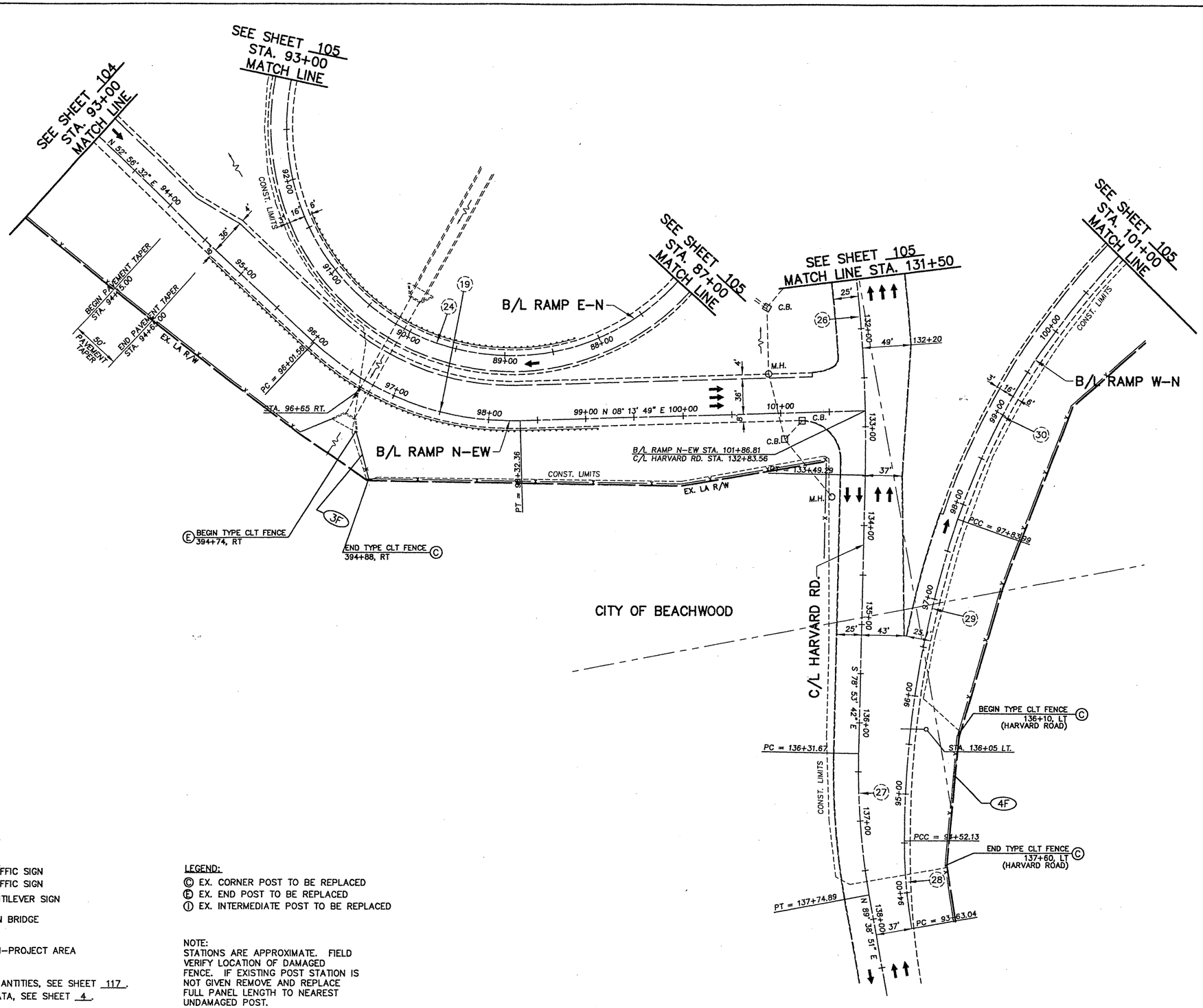
CALCULATED CFE 3/02
CHECKED JFU 4/02

FENCE PLAN – I.R. 271
STA. 520+00 TO END

CUY-271-6.04

114
142

Cad File: G:\CIVIL\2001118\00\DWG\12996FPN.DWG
Date: 12-27-04 Time: 7:12 AM TW = 270d0'0.00"



TRAFFIC SIGN
TRAFFIC SIGN
CANTILEVER SIGN
SIGN BRIDGE
NON-PROJECT AREA

FOR FENCE QUANTITIES, SEE SHEET 117.
FOR CURVE DATA, SEE SHEET 4.

LEGEND:
© EX. CORNER POST TO BE REPLACED
Ⓔ EX. END POST TO BE REPLACED
Ⓘ EX. INTERMEDIATE POST TO BE REPLACED

NOTE:
STATIONS ARE APPROXIMATE. FIELD VERIFY LOCATION OF DAMAGED FENCE. IF EXISTING POST STATION IS NOT GIVEN REMOVE AND REPLACE FULL PANEL LENGTH TO NEAREST UNDAMAGED POST.

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Date: 12-27-04 Time: 2:51 PM TW = 286d0'0.00"

CALCULATED CFE 3/02
CHECKED JFU 4/02

0 25 50 100 HORIZONTAL SCALE IN FEET

FENCE PLAN - HARVARD RD. INTERCHANGE

CUY-271-6.04

LEGEND:
- Ⓒ EX. CORNER POST TO BE REPLACED
- Ⓔ EX. END POST TO BE REPLACED
- Ⓘ EX. INTERMEDIATE POST TO BE REPLACED

NOTE:
STATIONS ARE APPROXIMATE. FIELD VERIFY LOCATION OF DAMAGED FENCE. IF EXISTING POST STATION IS NOT GIVEN REMOVE AND REPLACE FULL PANEL LENGTH TO NEAREST UNDAMAGED POST.

N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CFE 3/02
CHECKED JFU 4/02

FENCE PLAN – CHAGRIN BLVD. RAMPS

C/L CHAGRIN BLVD. STA. 5+43.96, 38.00' RT.
BEGIN RAMP F-1
STA. 0+21.20

S 89° 41' 49" W

PC = 5+89.09

END TYPE CL FENCE 7+40, RT (CHAGRIN BLVD.)

C/L CHAGRIN BLVD. STA. 7+49.24
B/L RAMP F-3 STA. 17+56.71

BUTT JOINT BEGIN PAVEMENT TAPERS STA. 2+00.67

BEGIN WORK RAMP F-1 STA. 2+00.67

100' PAVEMENT TAPER

BEGIN TYPE CL FENCE 7+89, RT (CHAGRIN BLVD.)

PCC = 2+64.36

END PAVEMENT TAPER STA. 3+00.67

END TYPE CL FENCE 9+21, RT (CHAGRIN BLVD.)

BEGIN TYPE CL FENCE 9+50, RT (CHAGRIN BLVD.)

PT = 9+60.19

B/L RAMP F-1

MATCH LINE STA. 5+00 SEE SHEET 108

C/L CHAGRIN BLVD.

BEGIN RAMP F-5 PC = 0+00.00 C/L CHAGRIN BLVD. STA. 12+21.06, 28.42' LT.

MATCH LINE STA.12+50 SEE SHEET 108

END WORK RAMP F-3 STA. 17+28.66

BUTT JOINT

CONST. LIMITS

END PAVEMENT TAPER STA. 15+20.00

PT = 14+59.78

800' PAVEMENT TAPER (40:1)

B/L RAMP F-3

PC = 12+35.05

S 36° 49' 23" W 111.00'

PT = 10+54.93

2 - 12' LANES STA. 10+40.00

C.B.

PCC = 4+74.47

PCC = 4+01.52

BUTT JOINT

BEGIN WORK RAMP F-5 STA. 3+75.00

CITY OF BEACHWOOD

B/L RAMP F-5

100' PAVEMENT TAPER

STA. 2+12.22

MATCH LINE STA.10+00 SEE SHEET 109

SEE SHEET 108 STA. 37+50 MATCH LINE

P.C.C. STA. 37+38.97 (AHEAD)
B/L RELOCATED RAMP F-6 = STA. 9+67.78 (BACK)
B/L EXIST. RAMP F-6

SEE SHEET 108 STA. 10+00 MATCH LINE

N 43° 35' 48" E

PC = 11+03.19

BEGIN PAVEMENT TAPER STA. 11+25.00

CONST. LIMITS

B/L RAMP F-4

B/L RAMP F-6

PCC = 7+57.42

BEGIN WORK RAMP F-6 STA. 2+90.00

100' PAVEMENT TAPER

STA. 1+83.33

BUTT JOINT

PCC = 3+74.74

C.B.

N 01° 15' 45" W

PC = 16+18.46

END PAVEMENT TAPER STA. 16+05.00

PT = 15+19.14

PT = 17+36.32

BUTT JOINT

END WORK RAMP F-4 STA. 17+53.98

30' SHOULDER TAPER

BEGIN SHOULDER TAPER STA. 13+07.74

PCC = 13+37.74

END SHOULDER TAPER

EX. LA R/W

BEGIN TYPE CL FENCE 441+44, RT

END TYPE CL FENCE 442+48, RT

480' PAVEMENT TAPER (40:1)

SEE SHEET 108 STA. 17+50 MATCH LINE

C/L CHAGRIN BLVD. STA. 17+75.00, 28.50' RT.
BEGIN RAMP F-6
PC = 0+00.00

B/L RAMP F-2

N 01° 46' 30" W

PT = 5+53.65

SEE SHEET 109 MATCH LINE STA. 6+00

C/L CHAGRIN BLVD.

S 59° 00' 54" E

CONST. LIMITS

BUTT JOINT

EX. LA R/W

END TYPE CL FENCE 19+49, LT (CHAGRIN BLVD.)

BEGIN WORK RAMP F-2 STA. 3+61.30

100' PAVEMENT TAPER

STA. 2+45.39

BEGIN TYPE CL FENCE 19+79, LT (CHAGRIN BLVD.)

CITY OF BEACHWOOD

PC = 20+13.82

END TYPE CL FENCE 20+46, LT (CHAGRIN BLVD.)

BEGIN TYPE CL FENCE Ⓒ 21+30, LT (CHAGRIN BLVD.)

C/L CHAGRIN BLVD. STA. 21+68.11
B/L RAMP F-4 STA. 18+65.31

N 18° 48' 38" E

M.H.

BEGIN RAMP F-2 PC = 0+00.00 C/L CHAGRIN BLVD. STA. 22+00.00, 28.50' LT.

CITY OF BEACHWOOD
VILLAGE OF ORANGE

BUTT JOINT

FOR FENCE QUANTITIES, SEE SHEET 117.
FOR CURVE DATA, SEE SHEET 4.

CUY-271-6.04

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Date: 12-27-04 Time: 8:43 AM TW = 277652'40.65"

REF. NO.	SHEET NO.	LOCATION	607							FOR INFORMATION ONLY	
			FENCE, TYPE 47	FENCE, TYPE CL	FENCE, TYPE CLT	FENCE MISC: END POST ASSEMBLY	FENCE MISC: INTERMEDIATE ANCHOR POST ASSEMBLY	FENCE MISC: CORNER POST ASSEMBLY	FENCE MISC: FENCE POST, TYPE 47	TYPE 1 CROSSING	TYPE 4 CROSSING
		STA. TO STA.	LIN FT	LIN FT	LIN FT	EACH	EACH	EACH	EACH	EACH	EACH
1F	101	343+40 LT. TO 343+60 LT.		20							
2F	101	345+52 RT. TO 346+32 RT.		90				1			
3F	115	394+74 RT. TO 394+88 RT.			50	1		1			
4F	115	136+10 LT. HARV. TO 137+60 LT. HARV.			135			2			
5F	106	419+86 RT.							1		
6F	107	422+00 LT. TO 425+80 LT.	380								
7F	107	431+56 RT. TO 431+86 RT.	30								
8F	107	432+69 RT. TO 433+46 RT.		80							
9F	116	441+44 RT. TO 442+48 RT.		110							
10F	108	441+60 LT. TO 441+89 LT.		30							
11F	108	445+72 LT. TO 446+00 LT.		30			1				
12F	116	9+21 RT. CHAGRIN TO 9+50 RT. CHAGRIN		30							
13F	116	7+40 RT. CHAGRIN TO 7+89 RT. CHAGRIN		50			1				
14F	116	20+46 LT. CHAGRIN TO 21+30 LT. CHAGRIN		80				1			
15F	116	19+49 LT. CHAGRIN TO 19+79 LT. CHAGRIN		30				1			
16F	109	450+78 RT. TO 450+88 RT.		10							
17F	109	457+87 RT. TO 458+17 RT.		30							
18F	110–111	466+85 LT. TO 479+60 LT.	1,280			1	3	1		1	
19F	110–111	467+00 RT. TO 482+00 RT.	1,517			1	4	2			
20F	111	481+70 LT. TO 481+90 LT.	20								
21F	111	482+80 LT. TO 483+00 LT.		20							
22F	112	493+83 LT. TO 494+34 LT.	52								
23F	112	496+50 LT. TO 498+00 LT.	150			1	1				1
24F	113	508+30 RT. TO 508+50 RT.		20							
25F	104	380+00 RT.						1			
26F	104	383+00 RT.						1			
27F	104	387+00 RT.						1			
28F	104	389+34 RT.						1			
29F	105–106	404+47 RT. TO 414+44 RT.			1015	1		2			
TOTALS CARRIED TO GENERAL SUMMARY			3,429	630	1200	5	10	15	1		

NOTE:

IF A GROUND IS REMOVED WITH A SECTION OF FENCE THAT IS TO BE REPLACED, THEN THE GROUND ROD MUST BE REPLACED ALSO. COST WILL BE INCLUDED WITH UNIT PRICE BID FOR ITEM 607 FENCE, TYPE 47, CL OR CLT.

STREAM CROSSINGS

IN AREAS WHERE FENCE IS TO BE REPLACED THAT CROSS DITCHES OR STREAMS THE FENCE CROSSING SHALL BE REPLACED EVEN THOUGH THEY ARE NOT SPECIFICALLY CALLED OUT IN THE PLANS. ESTIMATED QUANTITIES FOR THESE CROSSINGS HAVE BEEN INCLUDED IN THE FENCE SUBSUMMARY FOR INFORMATION PURPOSES ONLY. COST FOR THE FENCE CROSSINGS WILL BE INCLUDED WITH PERTINENT UNIT PRICE BID FOR ITEM 607 FENCE, TYPE 47, CL OR CLT.

ITEM 607 – FENCE MISC.: END POST ASSEMBLY

THIS ITEM SHALL CONSIST OF FURNISHING AND ERECTING END POST ASSEMBLIES IN ACCORDANCE WITH O.D.O.T. ITEM 607 AND PER O.D.O.T. STANDARD CONSTRUCTION DRAWINGS. PAYMENT FOR ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO PERFORM THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

ITEM 607 – FENCE MISC.: INTERMEDIATE ANCHOR POST ASSEMBLY

THIS ITEM SHALL CONSIST OF FURNISHING AND ERECTING INTERMEDIATE ANCHOR POST ASSEMBLIES IN ACCORDANCE WITH O.D.O.T. ITEM 607 AND PER O.D.O.T. STANDARD CONSTRUCTION DRAWINGS. PAYMENT FOR ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO PERFORM THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

ITEM 607 – FENCE MISC.: CORNER POST ASSEMBLY

THIS ITEM SHALL CONSIST OF FURNISHING AND ERECTING CORNER POST ASSEMBLIES IN ACCORDANCE WITH O.D.O.T. ITEM 607 AND PER O.D.O.T. STANDARD CONSTRUCTION DRAWINGS. PAYMENT FOR ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO PERFORM THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

ITEM 607 – FENCE MISC.: FENCE POST, TYPE 47

THIS ITEM SHALL CONSIST OF FURNISHING AND ERECTING FENCE POSTS IN ACCORDANCE WITH O.D.O.T. ITEM 607 AND PER O.D.O.T. STANDARD CONSTRUCTION DRAWINGS. PAYMENT FOR ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO PERFORM THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES SHALL BE MADE IN ACCORDANCE WITH ITEM 607.

CALCULATED JFU 4/0
CHECKED VLB 5/0

FENCE SUB-SUMMARY AND NOTES

CUY-271-6.04

TRAFFIC CONTROL CONSTRUCTION PROCEDURES

THE CONTRACTOR SHALL REFERENCE THE OHIO DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION DRAWINGS LISTED ON THE TITLE SHEET OF THE PLANS, THE 2002 CONSTRUCTION AND MATERIAL SPECIFICATIONS, THE OMUTCD – LATEST EDITION, AND ANY OTHER APPLICABLE STATE OF OHIO SPECIFICATIONS AND GUIDELINES FOR THE CONSTRUCTION OF THE TRAFFIC CONTROL ITEMS ILLUSTRATED IN THE PLANS.

PROPOSED PAVEMENT MARKING INSTALLATIONS

THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL PROPOSED DELINEATORS, RAISED PAVEMENT MARKERS AND PAVEMENT MARKINGS PRIOR TO INSTALLATION.

CONVERSION OF STANDARD CONSTRUCTION DRAWINGS

THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN SHALL BE CONVERTED TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.011 OF THE 2002 CONSTRUCTION AND MATERIALS SPECIFICATIONS. THE APPENDIX OF ASTM E 380 SHALL BE UTILIZED FOR ANY ADDITIONAL CONVERSION FACTORS REQUIRED. CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

LOOP DETECTOR REPLACEMENT

DURING THE PLANING AND RESURFACING OF RAMPS F–3 AND F–4 (6' x 40') OF THE CHAGRIN BOULEVARD INTERCHANGE, THE EXISTING LOOP DETECTORS IN THE RAMP APPROACHES MAY BE DISTURBED AND/OR DESTROYED. IF THE EXISTING LOOP DETECTORS ARE DAMAGED, THE CONTRACTOR SHALL PLACE NEW LOOP DETECTORS IN THE SAME LOCATIONS AS THE EXISTING DETECTORS, HOWEVER THEY SHALL BE CUT INTO THE ROADWAY CONCRETE BASE PRIOR TO REPAVING. THE FOLLOWING CONTINGENCY QUANTITIES ARE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. ALL COST FOR LABOR AND MATERIALS NEEDED FOR LOOP DETECTOR REPLACEMENT NOT ITEMIZED SHALL BE INCIDENTAL AND INCLUDED IN THE UNIT BID PRICE FOR THE ITEMS LISTED BELOW:

ITEM 632 – LOOP DETECTOR TIE IN, AS PER PLAN	6	EACH
ITEM 632 – DETECTOR LOOP, AS PER PLAN	6	EACH
ITEM 632 – LOOP DETECTOR LEAD–IN CABLE, AS PER PLAN	600	FOOT

ITEM 621 – RPM MISC.; REMOVED FOR DISPOSAL

RAISED PAVEMENT MARKERS SHALL NOT BE REMOVED FROM EXISTING STRUCTURES. THE CONTRACTOR SHALL NOT PLACE NEW RAISED PAVEMENT MARKERS ON STRUCTURES. RAISED PAVEMENT MARKERS SHALL BE REMOVED FROM THE ROADWAY AND PROPERLY DISPOSED. THE REMOVAL SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 202 – RAISED PAVEMENT MARKERS REMOVED FOR DISPOSAL, AS PER PLAN.

THE FOLLOWING ESTIMATED CONTINGENCY QUANTITY HAS BEEN INCLUDED IN THE TRAFFIC CONTROL GENERAL SUMMARY TO BE USED THROUGHOUT THE PROJECT:

ITEM 621 – RPM MISC.; REMOVED FOR DISPOSAL 1500 EACH

ITEM 621 – RPM

INSTALLATION OF RPM'S

RAISED PAVEMENT MARKERS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DRAWINGS TC–65.10, TC–65.11, AND TC–65.12.

AN ESTIMATED NUMBER AND TYPE OF RAISED PAVEMENT MARKERS NECESSARY FOR COMPLETION OF THE PROJECT IS INCLUDED IN THE TRAFFIC CONTROL SUBSUMMARY. THE INDIVIDUAL TOTALS FOR THE DIFFERENT TYPES OF RPMS WILL BE COMBINED AND CARRIED TO THE GENERAL SUMMARY AS ITEM 621 – RPM,

ITEM 630 – SIGN, OVERHEAD EXTRUSHEET, AS PER PLAN

OVERHEAD GUIDE SIGNS SHALL BE REFLECTORIZED WITH BACKGROUNDS OF TYPE G SHEETING AS PER 730.19, AND REFLECTIVE LEGENDS SHALL BE TYPE H SHEETING AS PER 730.192.

SIGN SIZES SHOWN ON PLAN REFLECT EXISTING RECORD PLAN INFORMATION OR FIELD SIZE ESTIMATION AS NOTED ON PLAN. THE CONTRACTOR SHALL VERIFY PROPER SIGN SIZE PRIOR TO FABRICATION.

FIELD INVENTORY OF EXISTING OVERHEAD SIGNS

THE CONTRACTOR SHALL FIELD INVENTORY ALL EXISTING OVERHEAD SIGNS PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL PHOTOGRAPH ALL EXISTING OVERHEAD SIGNS TO BE REPLACED SUCH THAT THE SIGN SYMBOLS AND TEXT ARE LEGIBLE. FIELD INVENTORY SHALL BE COMPLETED PRIOR TO NEW SIGN FABRICATION.

ITEM 625 – CABLE SPLICING KIT, AS PER PLAN

FOR THE SUPPORTS THAT ARE HAVING THE LIGHTING FACILITIES REMOVED IT WILL BE NECESSARY TO DISCONNECT THE POWER FEED FROM WHERE IT TIES INTO THE LIGHTING CIRCUIT. ON THIS PROJECT THE LIGHTING CIRCUITS RUN THROUGH THE MEDIAN BARRIER OR ARE BURIED OFF THE EDGE OF THE PAVED SHOULDER. IN EITHER CASE THE CONTRACTOR SHALL GO TO THE PULL BOX WHERE POWER FOR THE SUPPORT ORIGINATES, DISCONNECT THE POWER CABLE FROM THE CIRCUIT AND RE–SPLICE THE CIRCUIT TO MAINTAIN CONTINUITY IN THE HIGHWAY LIGHTING.

THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN CARRIED TO THE TRAFFIC CONTROL GENERAL SUMMARY:

ITEM 625 – CABLE SPLICING KIT, AS PER PLAN 10 EACH

ITEM 631 – REMOVAL OF DISCONNECT SWITCH AND DISPOSAL

AFTER REMOVING AND DISPOSING OF THE DISCONNECT SWITCH AND ENCLOSURE, THE EXPOSED WIRES SHOULD BE CAPPED AND NEATLY TUCKED BACK INTO THE VERTICAL POLE/END FRAME OF THE SIGN SUPPORT.

ENTRANCE AND EXIT MARKINGS

THE ENTRANCE AND EXIT PAVEMENT MARKINGS SHALL BE LOCATED AND INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC–72.20. PLAN DETAILS SHOWING GORE LOCATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE TO PERFORM AS MANY MEASUREMENTS AS NEEDED TO DETERMINE THE CORRECT LOCATION OF THE MARKINGS.

AUXILIARY PAVEMENT MARKINGS

THE AUXILIARY PAVEMENT MARKINGS SHALL BE LOCATED AND INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC–71.10.

PROTECTIVE COATING OF OVERHEAD SIGN SUPPORT SECTIONS

GENERAL

OVERHEAD SIGN SUPPORTS CAN BE SEPARATED INTO MAJOR SECTIONS SUCH AS END FRAMES, TRUSSES, VERTICAL POLES AND CANTILEVER ARMS. FOR THE IMPLEMENTATION OF THIS WORK ITEM IT WILL BE BENEFICIAL TO REFER TO THE MAJOR SECTIONS OF THE OVERHEAD SIGN SUPPORTS RATHER THAN THE WHOLE SUPPORT. MORE SPECIFIC INSTRUCTIONS AND FLEXIBILITY CAN BE GIVEN BASED UPON THE UNIT OF MEASURE AND PAYMENT PER MAJOR SUPPORT SECTION.

THE PROTECTIVE COATING OF OVERHEAD SIGN SUPPORT SECTIONS SHALL BE A FOUR PART PROCESS FOR WEATHERED GALVANIZED METAL AND A THREE PART PROCESS FOR NEW AND WEATHERED PAINTED METAL TO INCLUDE SURFACE PREPARTION FOLLOWED BY A THREE COAT PAINT SYSTEM FOR WEATHERED GALVANIZED METAL AND A TWO COAT PAINT SYSTEM FOR NEW AND WEATHERED PAINTED METAL. THE THREE COAT SYSTEM SHALL CONSIST OF A ORGANIC ZINC PRIME COAT, EPOXY INTERMEDIATE COAT AND A URETHANE FINISH COAT, WITH EACH COAT BEING A DIFFERENT COLOR. THE TWO COAT SYSTEM SHALL CONSIST OF AN EPOXY INTERMEDIATE COAT AND A URETHANE FINISH COAT WITH EACH COAT BEING A DIFFERENT COLOR. THE PURPOSE OF THIS COATING IS TO PROVIDE PROTECTION FOR NEW (UNWEATHERED), OLDER (WEATHERED) GALVANIZED AND PAINTED STEEL SUPPORT SECTIONS FROM CORROSIVE ELEMENTS IN THE ATMOSPHERE. COATING AND SURFACE PREPARATION OF NEW GALVANIZED SUPPORT SECTIONS SHOULD BE DONE BY THE MANUFACTURER.

IN THE FIELD, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO COMPLY WITH POLLUTION LAWS, RULES OR REGULATIONS OF FEDERAL, STATE OR LOCAL AGENCIES. THE COATING MATERIALS SPECIFIED FOR THE WORK CAN BE HAZARDOUS TO THE HEALTH OF THE APPLICATOR IF NOT APPLIED AS PER THE MANUFACTURER'S INSTRUCTION. THE CONTRACTOR SHALL FOLLOW THE DATA SHEET AND THE LABEL ON THE PAINT CONTAINERS. THESE PRECAUTIONS SHALL INCLUDE THE USE OF RESPIRATORS AND EYE AND SKIN PROTECTION AS SPECIFIED. THE CONTRACTOR SHALL ALSO INSURE THAT HIS PAINTING OPERATIONS AND LOCATIONS WILL NOT ENDANGER OR ADVERSELY AFFECT THE PUBLIC IN GENERAL.

IN THE FIELD, PROPOSED CLEANING AND COATING OPERATIONS SHALL BE PERFROMED ONLY WHEN THE AMBIENT TEMPERATURE IS 50 DEGREES F OR ABOVE. PAINT SHALL NOT BE APPLIED DURING RAIN, FOG, OR MIST, OR WHEN THE STEEL SURFACE TEMPERATURE IS LESS THAN 5 DEGREE'S F ABOVE THE DEW POINT. PAINT SHALL NOT BE APPLIED TO WET OR DAMP SURFACES OR ON FROSTED OR ICE–COATED SURFACES. PAINT SHALL NOT BE APPLIED WHEN THE RELATIVE HUMIDITY IS GREATER THAN 85%. ALL STEEL SURFACES OF TRUSSES AND END FRAMES INCLUDING THE WELDED AREAS, BALLAST ENCLOSURE MOUNTING BRACKET AND BASE PLATES ARE TO BE CLEANED AND COATED. BEFORE EACH COATING IS APPLIED, IT SHALL BE MIXED WITH AN APPROVED POWER MECHANICAL MIXER TO A UNIFORM CONSISTENCY WHICH SHALL BE MAINTAINED DURING ITS APPLICATION. EACH COAT SHALL BE APPLIED IN A WORKMANLIKE MANNER AS A CONTINUOUS FILM OF UNIFORM THICKNESS WHICH IS FREE OF HOLIDAYS, PORES, RUNS, OR SAGS. PROTECTIVE COATING OF SUPPORTS IN THE FIELD SHALL BE APPLIED BY BRUSH OR ROLLER ONLY. SPRAYING IS NOT AN ACCEPTABLE METHOD FOR FIELD COATING. THINNING OF PAINT IS STRICTLY PROHIBITED. PAINT NOT CAPABLE OF BEING APPLIED AS SPECIFIED SHALL NOT BE USED. THE COATING SHALL PENETRATE ALL JOINTS AND CONNECTIONS. THE ENGINEER SHALL BE NOTIFIED 24 HOURS PRIOR TO ANY CLEANING OR COATING OPERATIONS SO THAT INSPECTION SERVICES CAN BE PROVIDED.

TO PROVIDE ASSURANCES THAT NO THINNING OF THE PROTECTIVE COATING MATERIAL IS BEING DONE, PERIODIC CHECKS BY A STATE INSPECTOR WILL BE MADE OF THE MATERIAL. THESE CHECKS WILL BE MADE UTILIZING A VISCOSITY TEST CUP PROCEDURE AS PROVIDED BY THE MANUFACTURER OF THE MATERIAL. THE FREQUENCY OF THESE CHECKS WILL BE DETERMINED BY THE ENGINEER BASED UPON FIELD EVALUATION AND JOB PERFORMANCE. IF THE VISCOSITY CHECK REVEALS THAT THE MATERIAL HAS BEEN THINNED, IMMEDIATE REJECTION OF THE MATERIAL SHALL BE MADE. THIS REJECTION SHALL REQUIRE THE CONTRACTOR TO IMMEDIATELY STOP USING THE MATERIAL AND PROVIDE NEW MATERIAL OF THE PROPER SPECIFICATION PER PLAN. IN ADDITION, THE COATING OF THE SIGN SUPPORT WITH THE NON–APPROVED MATERIAL BE CONSIDERED UNACCEPTABLE. THEREFORE THE SUPPORT SHALL BE STRIPPED AND RE–COATED WITH APPROVED MATERIAL (UNTHINNED MATERIAL).

3 TO 4 VISCOSITY CHECKS INDICATING A PERPETUAL QUALITY CONTROL PROBLEM (THINNED MATERIAL) SHALL BE CONSIDERED SUFFICIENT JUSTIFICATION TO TERMINATE THE CONTRACT.

THE COST FOR THE VISCOSITY TEST KIT SHALL BE BORNE BY THE CONTRACTOR AND CONSIDERED INCIDENTAL TO THE ITEM SPECIALS PER COAT. THE TEST KIT SHALL CONTAIN ITEMS SUCH AS INSTRUCTIONS, VISCOSITY CUP, STANDARD COMPARISON RATES, CARRYING CASE, CLEANING EQUIPMENT, STOPWATCH, ETC. THE KIT SHALL BE GIVEN TO THE STATE INSPECTOR FOR USE DURING THE PERFORMANCE OF THE WORK.

COATING SYSTEM

THE COATING SYSTEM SHALL BE A THREE COAT PAINT SYSTEM OR A TWO COAT SYSTEM CONFORMING TO CMS 708.02. SUPPLY ALL COATS FROM THE SAME MANUFACTURER. UNLESS OTHERWISE SPECIFIED BY ALTERNATE BID, THE URETHANE FINISH COAT COLOR SHALL BE MEDIUM GREY (FEDERAL COLOR NO. 16440). THE COATING MATERIALS SHALL BE SUPPLIED BY ONE OF THE FOLLOWING MANUFACTURERS OR AN APPROVED EQUAL:

AMERON
210 NORTH BERRY STREET
BREA, CALIFORNIA 92622

ICI DEVOE PAINTS
5480 CLOVERLEAF PKWY.
VALLEY VIEW, OHIO 44125

PORTER PAINT
400 SOUTH 13TH STREET
LOUISVILLE, KENTUCKY 40201

POLY–CARB
33095 BAINBRIDGE ROAD
SOLON, OHIO 44139

SHERWIN–WILLIAMS COMPANY
671 BETA DRIVE
MAYFIELD VILLAGE, OHIO 44143

ALTERNATE COATING SYSTEM

AS AN ALTERNATIVE TO A THREE PART/TWO PART SYSTEM, A POWDER COATING SYSTEM CONFORMING TO THE FOLLOWING SPECIFICATIONS IS AN ACCEPTABLE METHOD OF COATING NEW (OVERHEAD SIGN SUPPORTS):

ALL MAJOR SUPPORT SECTIONS ARE TO BE COATED WITH A URETHANE TRIGLYSIDYLE ISOCYANURATE (TGIC) POLYESTER POWDER TO A MINIMUM FILM THICKNESS OF 2.0 MILS (0.002"). PRIOR TO APPLICATION, THE SURFACES TO BE POWDER COATED SHALL BE MECHANICALLY ETCHED BY BRUSH BLASTING (REF. SSPC–SP7) AND THE ZINC COATED SUBSTRATE PREHEATED TO 450 DEGREES FAHRENHEIT FOR A MINIMUM OF ONE HOUR IN A GAS FIRED CONVECTION OVEN. THE COATING SHALL BE ELECTROSTATICALLY APPLIED AND CURED IN A GAS FIRED CONVECTION OVEN BY HEATING THE ZINC COATED SUBSTRATE TO A MINIMUM OF 350 DEGREES F AND A MAXIMUM OF 450 DEGREES F. THE THERMOSETTING POWDER RESIN SHALL PROVIDE BOTH INTERCOAT AS WELL AS SUBSTRATE FUSION ADHESION THAT MEETS 5A OR 5B OF CLASSIFICATIONS OF ASTM D3359.

SURFACE PREPARATION, EXISTING SUPPORT SECTIONS

EXISTING, WEATHERED GALVANIZED SUPPORT SECTIONS SHALL HAVE THEIR SURFACE PREPARATION AS WELL AS THEIR PROTECTIVE COATING DONE UNDER CONDITIONS OF TEMPERATURE AND HUMIDITY WITHIN THE SAME RANGE AS SPECIFIED BY THE MANUFACTURER OF THE ORGANIC ZINC PRIME COAT MATERIAL TO BE USED IMMEDIATELY AFTER THIS CLEANING OPERATION. THE SUPPORT SECTIONS SHALL BE PREPARED FOR COATING BY SSPC–SP1 (SOLVENT CLEANING) FOLLOWED BY SSPC–SP10 (NEAR WHITE BLAST CLEANING). BEFORE THE PREPARED SURFACE DEGRADES FROM THE PRESCRIBED STANDARDS, THE PRIME COAT SHALL BE APPLIED. IN EVERY CASE, THE SURFACE SHALL BE COATED WITH ORGANIC ZINC PRIME COAT ON THE SAME DAY AS THE SURFACE PREPARATION. CAREFUL HANDLING AND STORAGE WILL BE REQUIRED TO PREVENT ANY SCRAPING, MARRING, OR OTHER DAMAGE TO THE PREPARED SURFACE.

EXISTING WEATHERED PAINTED SUPPORT SECTIONS SHALL HAVE THEIR SURFACE PREPARATION AS WELL AS THEIR PROTECTIVE COATING PERFORMED UNDER CONDITIONS OF TEMPERATURE AND HUMIDITY WITHIN THE SAME RANGE AS SPECIFIED BY THE MANUFACTURER OF THE EPOXY INTERMEDIATE COAT MATERIAL TO BE USED IMMEDIATELY AFTER THIS CLEANING OPERATION. THE SUPPORT SECTIONS SHALL BE PREPARED FOR COATING BY LIGHTLY HAND SANDING ALL SUPPORT SECTIONS REMOVING ANY FLAKY, CHIPPING PAINT AND ETCHING THE SURFACE. THE SUPPORT SECTIONS SHOULD THEN BE WIPED CLEAN OF ANY DUST OR DIRT WITH A COMMERCIAL SOLVENT. BEFORE THE PREPARED SURFACE DEGRADES FROM THE PRESCRIBED STANDARDS, THE INTERMEDIATE COAT SHALL BE APPLIED. IN EVERY CASE, THE SURFACE SHALL BE COATED WITH THE EPOXY INTERMEDIATE COAT ON THE SAME DAY AS THE SURFACE PREPARATION.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, HANDLING, TRANSPORTATION COSTS AND MATERIALS NECESSARY TO ACCOMPLISH THIS ITEM OF WORK PER MAJOR SUPPORT SECTION.

BASIS OF PAYMENT WILL BE AS FOLLOWS:
ITEM SPECIAL – SURFACE PREPARATION, EXISTING SUPPORT SECTIONS AT CONTRACT BID PRICE PER EACH MAJOR SUPPORT SECTION.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:
ITEM SPECIAL – SURFACE PREPARATION, EXISTING SUPPORT SECTIONS 39 EACH.

SURFACE PREPARATION, NEW SUPPORT SECTIONS

NEW, UNWEATHERED GALVANIZED SUPPORT SECTIONS SHOULD HAVE THEIR SURFACE PREPARATION AS WELL AS THEIR PROTECTIVE COATING DONE AT THE MANUFACTURER OF THE SUPPORT SECTIONS UNDER CONTROLLED CONDITIONS.
THE SUPPORT SECTIONS SHALL BE PREPARED FOR COATING BY SSPC–SP1 (SOLVENT CLEANING) (DO NOT USE ALKALINE CLEANERS) FOLLOWED BY SSPC–SP7 (100% BRUSH–OFF BLAST OF SURFACE). BEFORE THE PREPARED SURFACE DEGRADES FROM THE PRESCRIBED STANDARDS, THE INTERMEDIATE COAT SHALL BE APPLIED. IN EVERY CASE, THE SURFACE SHALL BE COATED WITH THE EPOXY INTERMEDIATE COAT ON THE SAME DAY OF SURFACE PREPARATION. CAREFUL HANDLING AND STORAGE WILL BE REQUIRED TO PREVENT ANY SCRAPING, MARRING, OR OTHER DAMAGE TO THE PREPARED SURFACE.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, HANDLING, TRANSPORTATION COSTS AND MATERIALS NECESSARY TO ACCOMPLISH THIS ITEM OF WORK PER MAJOR SUPPORT SECTION.

BASIS OF PAYMENT WILL BE AS FOLLOWS:
ITEM SPECIAL – SURFACE PREPARATION, NEW SUPPORT SECTIONS AT CONTRACT BID PRICE PER EACH MAJOR SUPPORT SECTION.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:
ITEM – SURFACE PREPARATION, NEW SUPPORT SECTIONS 39 EACH.

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COATING, ORGANIC ZINC PRIME COAT, SUPPORT SECTIONS

THIS ITEM SHALL CONSIST OF THE APPLICATION OF ONE (1) COAT OF AN ORGANIC ZINC PRIMER TO SUPPORT SECTIONS. THE TOTAL DRY FILM THICKNESS OF THIS COAT SHALL BE BETWEEN 1.5 TO 2.0 MILS (38 TO 51 MICROMETERS). IF MORE THAN ONE PASS IS NECESSARY TO OBTAIN THE REQUIRED THICKNESS, THAT COST SHALL BE BORNE BY THE CONTRACTOR. THE COLOR OF THIS COAT SHALL BE NOTICEABLY DIFFERENT FROM THE BASE MATERIAL AND OTHER PROPOSED COATS. THIS COAT SHALL IN ALL CASES BE APPLIED OVER SURFACES THAT WERE PREPARED EARLIER THAT SAME DAY. THE THINNING OF THE MATERIAL IS STRICTLY PROHIBITED. MATERIAL NOT CAPABLE OF BEING APPLIED AS SPECIFIED SHALL NOT BE USED.

WHEN THE AVERAGE DRY FILM THICKNESS OF THIS COAT OVER THE ENTIRE SUPPORT SECTION IS LESS THAN THE SPECIFIED 1.5 TO 2.0 MILS (38 TO 51 MICROMETERS) BUT IS AT LEAST 1.25 MILS (32 MICROMETERS), THE CONTRACT BID PRICE FOR THIS ITEM SHALL BE REDUCED IN DIRECT PROPORTION TO THE PERCENT DEFICIENCY OF COATING UP TO 16-2/3% IF THE DEFICIENCY OF COATING IS MORE THAN THAT 16-2/3% [IE., THE AVERAGE DRY FILM THICKNESS IS LESS THAN 1.25 MILS (32 MICROMETERS)] THE WORK FOR THIS ITEM SHALL BE CONSIDERED UNSATISFACTORY AND SHALL BE RE-COATED AT THE FULL EXPENSE OF THE CONTRACTOR, INCLUDING ALL LABOR, EQUIPMENT AND MATERIAL.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, HANDLING COSTS AND MATERIALS NECESSARY TO ACCOMPLISH THIS ITEM OF WORK. THIS PRIME COAT SHALL BE MANUFACTURED BY THE SAME COMPANY SUPPLYING THE INTERMEDIATE AND TOP COATS. A PROPERLY CALIBRATED DRY FILM THICKNESS INSTRUMENT WILL BE USED TO CHECK THE COATING.

BASIS OF PAYMENT WILL BE AS FOLLOWS:
ITEM SPECIAL - COATING, ORGANIC ZINC PRIME COAT, SUPPORT SECTIONS AT CONTRACT PRICE PER EACH MAJOR SUPPORT SECTION.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:
ITEM SPECIAL - COATING, ORGANIC ZINC PRIME COAT, SUPPORT SECTIONS 39 EACH.

COATING, EPOXY INTERMEDIATE COAT, SUPPORT SECTIONS

THIS ITEM SHALL CONSIST OF THE APPLICATION OF ONE (1) COAT OF EPOXY TO SUPPORT SECTIONS. THE TOTAL DRY FILM THICKNESS OF THIS COAT SHALL NOT BE LESS THAN SIX (6.0) MILS (152 MICROMETERS). IF MORE THAN ONE PASS IS NECESSARY TO OBTAIN THE REQURIED THICKNESS, THAT COST SHALL BE BORNE BY THE CONTRACTOR. THINNING OF THE MATERIAL IS STRICTLY PROHIBITED. MATERIAL NOT CAPABLE OF BEING APPLIED AS SPECIFIED SHALL NOT BE USED.

WHEN THE AVERAGE DRY FILM THICKNESS OF THIS COAT OVER THE ENTIRE SUPPORT SECTION IS LESS THAN THE SPECIFIED 6.0 MILS (152 MICROMETERS), BUT IS AT LEAST 5.0 MILS (127 MICROMETERS), THE CONTRACT PRICE FOR THIS ITEM SHALL BE REDUCED IN DIRECT PROPORTION TO THE PERCENT DEFICIENCY OF COATING UP TO 16-2/3% IF THE DEFICIENCY OF COATING IS MORE THAN 16-2/3% [I.E. THE AVERAGE DRY FILM THICKNESS IS LESS THAN 5.0 MILS (127 MICROMETERS)] THE WORK FOR THIS ITEM SHALL BE CONSIDERED UNSATISFACTORY AND SHALL BE RE-COATED AT THE FULL EXPENSE OF THE CONTRACTOR; INCLUDING ALL LABOR, EQUIPMENT, AND MATERIAL.

AT LEAST 24 HOURS BUT NO MORE THAN THREE (3) DAYS SHALL ELAPSE AFTER THE APPLICATION OF THE ORGANIC ZINC PRIME COAT AND BEFORE THE APPLICATION OF THE EPOXY INTERMEDIATE COAT. SURFACES SHALL IN ALL CASES BE CLEAN BEFORE THE INTERMEDIATE COAT IS APPLIED.

FOR NEW SUPPORT SECTIONS, THIS INTERMEDIATE COAT SHOULD BE DONE AT THE MANUFACTURER OF THE SUPPORT SECTIONS. THE CONTRACTOR SHALL CERTIFY THE MATERIALS USED ARE APPROVED BY THE STATE, THE PROPER COATING METHODOLGY WAS FOLLOWED, AND EACH COAT WAS APPLIED WITH THE PROPER DRY FILM THICKNESS. THESE CERTIFICATIONS SHOULD BE PROVIDED TO THE PROJECT ENGINEER IN WRITING. CAREFUL HANDLING AND STORAGE WILL BE REQUIRED TO PREVENT ANY SCRAPING, MARRING OR OTHER SURFACE DAMAGE TO THE INTERMEDIATE COAT.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, HANDLING COST AND MATERIAL NECESSARY TO ACCOMPLISH THIS ITEM OF WORK. THIS INTERMEDIATE COAT SHALL BE MANUFACTURED BY THE SAME COMPANY SUPPLYING THE PRIME AND TOP COATS. A PROPERLY CALIBRATED DRY FILM THICKNESS INSTRUMENT WILL BE USED TO CHECK THE COATING.

BASIS OF PAYMENT WILL BE AS FOLLOWS:
ITEM SPECIAL - COATING, EPOXY INTERMEDIATE COAT, SUPPORT SECTIONS AT CONTRACT BID PRICE PER EACH MAJOR SUPPORT SECTION.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:
ITEM SPECIAL - COATING, EPOXY INTERMEDIATE COAT, SUPPORT SECTIONS 39 EACH.

COATING, URETHANE TOP COAT, SUPPORT SECTIONS

THIS ITEM SHALL CONSIST OF THE APPLICATION OF ONE (1) COAT OF URETHANE TO SUPPORT SECTIONS. THE TOTAL DRY FILM THICKNESS OF THIS COAT SHALL NOT BE LESS THAN 1.5 MILS (38 MICROMETERS). IF MORE THAN ONE PASS IS NECESSARY TO OBTAIN THE REQUIRED THICKNESS, THAT COAT SHALL BE BORNE BY THE CONTRACTOR. THINNING OF THE MATERIAL IS STRICTLY PROHIBITED. MATERIAL NOT CAPABLE OF BEING APPLIED AS SPECIFIED SHALL NOT BE USED.

WHEN THE AVERAGE DRY FILM THICKNESS OF THIS COAT OVER THE ENTIRE SUPPORT SECTION IS LESS THAN THE SPECIFIED 1.5 MILS (38 MICROMETERS) BUT IS AT LEAST 1.0 MILS (25 MICROMETERS), THE CONTRACT PRICE FOR THIS ITEM SHALL BE REDUCED IN DIRECT PROPORTION TO THE PERCENT DEFICIENCY OF COATING UP TO 33-1/3%. IF THE DEFICIENCY OF THE COATING IS MORE THAN 33-1/3%, [I.E. THE AVERAGE DRY FILM THICKNESS IS LESS THAN 1.0 MILS (25 MICROMETERS)], THE WORK FOR THIS ITEM SHALL BE CONSIDERED UNSATISFACTORY AND SHALL BE RE-COATED AT THE FULL EXPENSE OF THE CONTRACTOR, INCLUDING ALL LABOR, EQUIPMENT AND MATERIAL.

AT LEAST 24 HOURS BUT NO MORE THAN THREE (3) DAYS SHALL ELAPSE AFTER THE APPLICATION OF THE EPOXY INTERMEDIATE COAT BEFORE THE APPLICATION OF THE URETHANE FINISH COAT. SURFACES SHALL IN ALL CASES BE CLEAN BEFORE THE FINISH COAT IS APPLIED.

FOR NEW SUPPORT SECTIONS, THIS COAT SHOULD BE DONE BY THE MANUFACTURER OF THE SUPPORT SECTIONS. THE CONTRACTOR SHALL CERTIFY THE MATERIALS USED ARE APPROVED BY THE STATE, THE PROPER COATING METHODOLOGY WAS FOLLOWED, AND EACH COAT WAS APPLIED WITH THE PROPER DRY FILM THICKNESS. THESE CERTIFICATIONS SHOULD BE PROVIDED TO THE PROJECT ENGINEER IN WRITING. CAREFUL HANDLING AND STORAGE WILL BE REQUIRED TO PREVENT ANY SCRAPING, MARRING OR OTHER SURFACE DAMAGE TO THE FINISH COAT.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, HANDLING COST AND MATERIALS NECESSARY TO ACCOMPLISH THIS ITEM OF WORK. THIS FINISH COAT SHALL BE MANUFACTURED BY THE SAME COMPANY SUPPLYING THE PRIME AND INTERMEDIATE COATS. A PROPERLY CALIBRATED, DRY FILM THICKNESS INSTRUMENT WILL BE USED TO CHECK THE COATING.

BASIS OF PAYMENT WILL BE AS FOLLOWS:
ITEM SPECIAL - COATING, URETHANE FINISH COAT, SUPPORT SECTIONS AT CONTRACT BID PRICE PER EACH MAJOR SUPPORT SECTION.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:
ITEM SPECIAL - COATING, URETHANE FINISH COAT, SUPPORT SECTIONS 39 EACH.

CALCULATED MAH
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TRAFFIC CONTROL
GENERAL NOTES

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Date: 10-11-04 Time: 4:29 PM TM = 2704193.00"

SHEET NO.	LOCATION	STATION FROM	STATION TO	SIDE	620 DELINEATOR, TYPE C, POST MOUNTED EACH	620 DELINEATOR, TYPE D, POST MOUNTED EACH	620 REFLECTOR, TYPE E EACH	621 RAISED PAVEMENT MARKER (TWO WAY, WHITE & RED) EACH	621 RAISED PAVEMENT MARKER (TWO WAY, YELLOW & RED) EACH	621 RAISED PAVEMENT MARKER (ONE WAY WHITE) EACH	646 EDGE LINE (WHITE) FT	646 EDGE LINE (YELLOW) FT	646 LANE LINE FT	646 CHANNELIZING LINE FT	646 STOP LINE FT	646 CROSSWALK LINE FT	646 TRANSVERSE/ DIAGONAL LINE (WHITE) FT	646 TRANSVERSE/ DIAGONAL LINE (YELLOW) FT	646 ISLAND MARKING SQ FT	646 LANE ARROW EACH	646 WORD ON PAVEMENT, 96" EACH
128	I-271	340+00	341+55	LT							155.00										
128	I-271	351+13	352+00	LT							87.00										
128	I-271	340+00	352+00	LT								1200.00									
128	I-271	340+00	352+00	LT									1200.00								
128	I-271	351+13	352+00	LT									87.00								
128	I-271	351+13	352+00	LT									87.00								
128	I-271	341+55	345+61	LT										406.00							
128	I-271	341+55	345+61	LT													364				
128	I-271	341+55	345+61	LT				11													
128	I-271	340+00	352+00	LT						12											
128	LANE N-W	0+00	11+00	LT							1100.00										
128	LANE N-W	9+42	11+00	LT								158.00									
128	LANE N-W	0+00	11+00	LT									1100.00								
128	LANE N-W	0+00	11+00	LT									1100.00								
128	LANE N-W	5+44	9+42	LT										398.00							
128	LANE N-W	5+44	9+42	LT				10													
128	LANE N-W	5+44	9+43	LT						18											
128	I-271	340+00	341+58	RT							158.00										
128	I-271	347+50	352+00	RT							450.00										
128	I-271	340+00	352+00	RT								1200.00									
128	I-271	340+00	352+00	RT									1200.00								
128	I-271	347+50	352+00	RT									450.00								
128	I-271	347+50	352+00	RT									450.00								
128	I-271	348+33	351+13	RT									280.00								
128	I-271	341+58	348+33	RT										675.00							
128	I-271	347+50	348+33	RT										83.00							
128	I-271	340+00	352+00	RT						19											
128	LANE E-N	68+00	75+50	RT							750.00										
128	LANE E-N	73+85	75+50	RT								165.00									
128	LANE E-N	68+00	75+50	RT									750.00								
128	LANE E-N	68+00	75+50	RT									750.00								
128	LANE E-N	68+00	73+85	RT										585.00							
128	LANE E-N	68+00	75+50	RT						14											
128	RAMP G-2	0+00	7+50	CEN							764.00										
128	RAMP G-2	1+18	7+50	LT								502.00									
128	RAMP G-2	1+18	7+50	LT					7												
128	RAMP G-2	0+00	7+50	RT	4		4														
129	I-271	352+00	362+84	LT							1084.00										
129	I-271	365+82	366+00	LT							18.00										
129	I-271	352+00	366+00	LT								1400.00									
129	I-271	352+00	366+00	LT									1400.00								
129	I-271	352+00	366+00	LT									1400.00								
129	I-271	352+00	366+00	LT									1400.00								
129	I-271	362+84	366+00	LT										316.00							
129	I-271	362+84	364+69	LT													152.75				
129	I-271	362+84	366+00	LT				5													
129	I-271	352+00	366+00	LT						36											
129	RAMP G-1	58+17	65+82	RT							855.00										
129	RAMP G-1	57+57	62+87	RT								530.00									
129	RAMP G-1	62+87	64+71	RT										184.00							
129	RAMP G-1	62+87	64+71	RT				4													
129	RAMP G-1	57+57	62+87	RT					6												
129	RAMP G-1	57+57	62+87	RT		7	7														
129	RAMP G-1	57+57	65+81	RT	3		3														
129	I-271	352+00	359+89	RT							789.00										
129	I-271	359+89	366+00	RT							611.00										
129	I-271	352+00	366+00	RT								1400.00									
129	I-271	352+00	366+00	RT									1400.00								
129	I-271	352+00	366+00	RT									1400.00								
129	I-271	352+00	366+00	RT									1400.00								
129	I-271	360+57	366+00	RT									543.00								
129	I-271	359+89	360+57	RT										68.00							
129	I-271	359+89	360+57	RT										68.00							
129	I-271	352+00	366+00	RT						40											
TOTALS CARRIED TO THE TRAFFIC CONTROL GENERAL SUMMARY					7	7	14	30	13	139	6821.00	6555.00	16397.00	2783			517				
MILES											1.30	1.25	3.11								

CALCULATED BHB DATE 11/12/02

CHECKED MAH DATE 12/23/02

PAVEMENT MARKING SUBSUMMARY
SHEET 1 OF 7

CUY-271-6.04

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SHEET NO.	LOCATION	STATION FROM	STATION TO	SIDE	620 DELINEATOR, TYPE C, POST MOUNTED EACH	620 DELINEATOR, TYPE D, POST MOUNTED EACH	620 REFLECTOR, TYPE E EACH	621 RAISED PAVEMENT MARKER (TWO WAY, WHITE & RED) EACH	621 RAISED PAVEMENT MARKER (TWO WAY, YELLOW & RED) EACH	621 RAISED PAVEMENT MARKER (ONE WAY WHITE) EACH	646 EDGE LINE (WHITE) L.F.	646 EDGE LINE (YELLOW) L.F.	646 LANE LINE L.F.	646 CHANNELIZING LINE L.F.	646 STOP LINE L.F.	646 CROSSWALK LINE L.F.	646 TRANSVERSE/ DIAGONAL LINE (WHITE) L.F.	646 TRANSVERSE/ DIAGONAL LINE (YELLOW) L.F.	646 ISLAND MARKING SQ. FT.	646 LANE ARROW EACH	646 WORD ON PAVEMENT, 96" EACH
129	I-271	359+89	360+57	RT				2													
129	I-271	359+89	366+00	RT	1		1														
129	RAMP G-2	7+50	15+51	LT							801.00										
129	RAMP G-2	7+50	15+51	LT								801.00									
129	RAMP G-2	7+50	15+51	LT				1													
129	RAMP G-2	7+50	15+51	LT					9												
129	RAMP G-2	7+50	15+51	RT	4		4														
130	I-271	366+00	380+00	LT							1400.00										
130	I-271	366+00	380+00	LT								1400.00									
130	I-271	366+00	370+00	LT									400.00								
130	I-271	366+00	380+00	LT									1400.00								
130	I-271	366+00	380+00	LT									1400.00								
130	I-271	366+00	380+00	LT									1400.00								
130	I-271	366+00	370+00	LT						3											
130	I-271	366+00	380+00	LT						33											
130	I-271	366+00	371+00	LT	3		3														
130	I-271	366+00	380+00	RT							1400.00										
130	I-271	366+00	380+00	RT								1400.00									
130	I-271	366+00	371+00	RT									500.00								
130	I-271	366+00	380+00	RT									1400.00								
130	I-271	366+00	380+00	RT									1400.00								
130	I-271	366+00	380+00	RT									1400.00								
130	I-271	371+00	378+75	RT										775.00							
130	I-271	366+00	380+00	RT						64											
130	RAMP N-EW	78+75	80+00	LT										125.00							
130	RAMP N-EW	78+75	80+00	RT	1		1														
131	I-271	380+00	387+60	LT							760.00										
131	I-271	387+60	394+00	LT							640.00										
131	I-271	380+00	394+00	LT								1400.00									
131	I-271	380+00	384+38	LT									438.00								
131	I-271	380+00	394+00	LT									1400.00								
131	I-271	380+00	394+00	LT									1400.00								
131	I-271	384+38	387+60	LT										322.00							
131	I-271	384+38	387+60	LT										322.00							
131	I-271	380+00	394+00	LT						28											
131	I-271	384+38	387+60	LT				8													
131	RAMP EW-S	7+60	10+00	CEN							240.00										
131	RAMP EW-S	7+60	10+00	RT								240.00									
131	RAMP EW-S	7+60	10+00	RT				1													
131	RAMP EW-S	7+60	10+00	RT					2												
131	I-271	386+55	394+00	RT							745.00										
131	I-271	380+00	394+00	RT								1400.00									
131	I-271	380+00	394+00	RT									1400.00								
131	I-271	380+00	394+00	RT									1400.00								
131	I-271	380+00	394+00	RT									1400.00								
131	I-271	383+45	386+55	RT										310.00							
131	I-271	380+00	394+00	RT						36											
131	I-271	383+45	386+55	RT				9													
131	RAMP N-EW	80+00	88+00	CEN							800.00										
131	RAMP N-EW	86+64	88+00	LT								136.00									
131	RAMP N-EW	86+64	88+00	LT									136.00								
131	RAMP N-EW	80+00	86+64	LT										664.00							
131	RAMP N-EW	83+50	86+64	LT										314.00							
131	RAMP N-EW	80+00	88+00	LT						17											
131	RAMP N-EW	83+50	86+64	LT				8													
131	RAMP N-EW	83+50	86+64	LT													296.25				
TOTALS CARRIED TO THE TRAFFIC CONTROL GENERAL SUMMARY					9		9	29	11	181	6786.00	6777.00	16874.00	2832			297				
MILES											1.29	1.29	3.20								

CHECKED MAH DATE 12/23/02

CALCULATED BHB DATE 11/12/02

PAVEMENT MARKING SUBSUMMARY
SHEET 2 OF 7

CUY-271-6.04

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SHEET NO.	LOCATION	STATION		SIDE	620 DELINEATOR, TYPE C, POST MOUNTED	620 DELINEATOR, TYPE D, POST MOUNTED	620 REFLECTOR, TYPE E	621 RAISED PAVEMENT MARKER (TWO WAY, WHITE & RED)	621 RAISED PAVEMENT MARKER (TWO WAY, YELLOW & RED)	621 RAISED PAVEMENT MARKER (ONE WAY WHITE)	646 EDGE LINE (WHITE)	646 EDGE LINE (YELLOW)	646 LANE LINE	646 CHANNELIZING LINE	646 STOP LINE	646 CROSSWALK LINE	646 TRANSVERSE/ DIAGONAL LINE (WHITE)	646 TRANSVERSE/ DIAGONAL LINE (YELLOW)	646 ISLAND MARKING	646 LANE ARROW	646 WORD ON PAVEMENT, 96"
		FROM	TO		EACH	EACH	EACH	EACH	EACH	EACH	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	SQ. FT.	EACH	EACH
132	I-271	394+00	408+00	LT							1400.00										
132	I-271	394+00	408+00	LT								1400.00									
132	I-271	394+00	408+00	LT									1400.00								
132	I-271	394+00	408+00	LT									1400.00								
132	I-271	394+00	408+00	LT						20											
132	I-271	394+00	398+12	RT							412.00										
132	I-271	394+00	408+00	RT								1400.00									
132	I-271	394+00	408+00	RT									1400.00								
132	I-271	394+00	408+00	RT									1400.00								
132	I-271	394+00	408+00	RT									1400.00								
132	I-271	398+12	399+49	RT										137.00							
132	I-271	394+00	408+00	RT						27											
132	RAMP E-N	95+50	108+12	CEN							1262.00										
132	RAMP E-N	95+50	98+12	LT								262.00									
132	RAMP E-N	98+12	99+49	LT										137.00							
132	RAMP E-N	95+50	98+12	LT					3												
133	I-271	408+00	411+45	LT							345.00										
133	I-271	417+00	422+00	LT							500.00										
133	I-271	408+00	422+00	LT								1400.00									
133	I-271	408+00	422+00	LT									1400.00								
133	I-271	408+00	422+00	LT									1400.00								
133	I-271	411+45	422+00	LT										1055.00							
133	I-271	408+00	422+00	LT						41											
133	I-271	411+45	422+00	LT				10													
133	RAMP S-WE	111+00	117+00	CEN							600.00										
133	RAMP S-WE	111+00	111+52	RT								52.00									
133	RAMP S-WE	111+52	114+88	RT										336.00							
133	RAMP S-WE	111+52	114+88	RT													276.5				
133	RAMP S-WE	111+52	114+88	RT				9													
133	I-271	408+00	411+82	RT							382.00										
133	I-271	411+82	422+00	RT							1018.00										
133	I-271	408+00	422+00	RT								1400.00									
133	I-271	408+00	422+00	RT									1400.00								
133	I-271	408+00	422+00	RT									1400.00								
133	I-271	408+00	422+00	RT									1400.00								
133	I-271	413+58	419+75	RT									617.00								
133	I-271	411+82	413+58	RT										176.00							
133	I-271	411+82	413+58	RT										176.00							
133	I-271	419+75	422+00	RT										225.00							
133	I-271	408+00	422+00	RT						46											
133	I-271	411+82	413+58	RT				5													
133	RAMP W-N	109+50	111+82	CEN							232.00										
133	RAMP W-N	109+50	111+82	LT								232.00									
133	RAMP W-N	109+50	111+82	LT					3												
134	I-271	422+00	436+00	LT							1400.00										
134	I-271	422+00	436+00	LT								1400.00									
134	I-271	422+00	436+00	LT									1400.00								
134	I-271	422+00	436+00	LT									1400.00								
134	I-271	426+50	436+00	LT									950.00								
134	I-271	422+00	426+50	LT										450.00							
134	I-271	422+00	436+00	LT						42											
134	I-271	422+00	424+00	RT							200.00										
134	I-271	431+87	436+00	RT							413.00										
134	I-271	422+00	436+00	RT								1400.00									
134	I-271	422+00	436+00	RT									1400.00								
134	I-271	422+00	436+00	RT									1400.00								
134	I-271	422+00	436+00	RT									1400.00								
134	I-271	422+00	424+00	RT										200.00							
134	I-271	428+54	431+87	RT										333.00							
134	I-271	428+54	431+87	RT													299				
134	I-271	422+00	436+00	RT						41											
134	I-271	428+54	431+87	RT				9													
134	RAMP F-4	4+00	16+00	CEN							1200.00										
TOTALS CARRIED TO THE TRAFFIC CONTROL GENERAL SUMMARY								33	6	217	9364.00	8946.00	22567.00	3225			576				
MILES											1.78	1.70	4.28								

CALCULATED BHB DATE 11/12/02

CHECKED MAH DATE 12/23/02

PAVEMENT MARKING SUBSUMMARY SHEET 3 OF 7

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SHEET NO.	LOCATION	STATION		SIDE	620	620	620	621	621	621	646	646	646	646	646	646	646	646	646	646	646
					DELINEATOR, TYPE C, POST MOUNTED	DELINEATOR, TYPE D, POST MOUNTED	REFLECTOR, TYPE E	RAISED PAVEMENT MARKER (TWO WAY, WHITE & RED)	RAISED PAVEMENT MARKER (TWO WAY, YELLOW & RED)	RAISED PAVEMENT MARKER (ONE WAY WHITE)	EDGE LINE (WHITE)	EDGE LINE (YELLOW)	LANE LINE	CHANNELIZING LINE	STOP LINE	CROSSWALK LINE	TRANSVERSE/ DIAGONAL LINE (WHITE)	TRANSVERSE/ DIAGONAL LINE (YELLOW)	ISLAND MARKING	LANE ARROW	WORD ON PAVEMENT, 96"
		FROM	TO		EACH	EACH	EACH	EACH	EACH	EACH	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	SQ. FT.	EACH	EACH
134	RAMP F-4	11+86	16+00	LT								414.00									
134	RAMP F-4	11+86	16+00	LT									414.00								
134	RAMP F-4	4+00	11+86	LT										786.00							
134	RAMP F-4	8+54	11+86	LT										332.00							
134	RAMP F-4	4+00	16+00	LT						23											
134	RAMP F-4	8+54	11+86	LT				8													
134	RAMP F-4	11+86	16+00	LT					5												
134	RAMP F-4	5+00	16+00	RT	5		5														
134	RAMP F-4	11+86	16+00	LT		4	4														
135	I-271	436+00	437+98	LT							198.00										
135	I-271	437+98	450+00	LT							1202.00										
135	I-271	436+00	450+00	LT								1400.00									
135	I-271	436+00	437+13	LT									113.00								
135	I-271	436+00	450+00	LT									1400.00								
135	I-271	436+00	450+00	LT									1400.00								
135	I-271	444+14	448+84	LT									470.00								
135	I-271	437+13	437+98	LT										85.00							
135	I-271	437+13	437+98	LT										85.00							
135	I-271	448+84	450+00	LT										116.00							
135	I-271	448+84	450+00	LT										116.00							
135	I-271	436+00	450+00	LT						28											
135	I-271	437+13	450+00	LT				6													
135	I-271	436+00	437+98	LT	2		2														
135	RAMP F-1	5+00	17+33	CEN							1233.00										
135	RAMP F-1	5+00	17+33	LT								1233.00									
135	RAMP F-1	5+00	17+33	LT					15												
135	RAMP F-1	5+00	17+33	RT	5		5														
135	RAMP F-1	5+00	17+33	LT		5	5														
135	I-271	436+00	441+58	RT							558.00										
135	I-271	441+58	450+00	RT							842.00										
135	I-271	436+00	450+00	RT								1400.00									
135	I-271	436+00	450+00	RT									1400.00								
135	I-271	436+00	450+00	RT									1400.00								
135	I-271	436+00	450+00	RT									1400.00								
135	I-271	442+34	446+97	RT									463.00								
135	I-271	441+58	442+34	RT										76.00							
135	I-271	441+58	442+34	RT										76.00							
135	I-271	436+00	450+00	RT						36											
135	I-271	441+58	442+34	RT				2													
135	RAMP F-4	16+00	17+57	CEN							157.00										
135	RAMP F-4	9+64	10+00	CEN							36.00										
135	RAMP F-4	16+00	17+57	LT								157.00									
135	RAMP F-4	9+64	10+00	LT								36.00									
135	RAMP F-4	16+00	17+57	LT									157.00								
135	RAMP F-4	9+64	10+00	LT									36.00								
135	RAMP F-4	16+00	17+57	LT						1											
135	RAMP F-4	16+00	17+57	LT					2												
135	RAMP F-4	9+64	10+00	LT					1												
135	RAMP F-4	16+00	17+57	LT		2	2														
135	RAMP F-4	9+64	10+00	LT		1	1														
135	RAMP F-6	37+50	41+58	CEN							408.00										
135	RAMP F-6	37+50	41+58	LT								408.00									
135	RAMP F-6	37+50	41+58	LT					5												
135	RAMP F-6	37+50	41+58	LT		6	6														
TOTALS CARRIED TO THE TRAFFIC CONTROL GENERAL SUMMARY					12	18	30	16	28	88	4634.00	5048.00	8653.00	1672.00							
MILES											0.88	0.96	1.64								

CHECKED MAH
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DATE 11/12/02

PAVEMENT MARKING SUBSUMMARY
SHEET 4 OF 7

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SHEET NO.	LOCATION	STATION		SIDE	620 DELINEATOR, TYPE C, POST MOUNTED	620 DELINEATOR, TYPE D, POST MOUNTED	620 REFLECTOR, TYPE E	621 RAISED PAVEMENT MARKER (TWO WAY, WHITE & RED)	621 RAISED PAVEMENT MARKER (TWO WAY, YELLOW & RED)	621 RAISED PAVEMENT MARKER (ONE WAY WHITE)	646 EDGE LINE (WHITE)	646 EDGE LINE (YELLOW)	646 LANE LINE	646 CHANNELIZING LINE	646 STOP LINE	646 CROSSWALK LINE	646 TRANSVERSE/ DIAGONAL LINE (WHITE)	646 TRANSVERSE/ DIAGONAL LINE (YELLOW)	646 ISLAND MARKING	646 LANE ARROW	646 WORD ON PAVEMENT, 96"
		FROM	TO		EACH	EACH	EACH	EACH	EACH	EACH	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	SQ. FT.	EACH	EACH
136	I-271	450+10	462+46	LT							1236.00										
136	I-271	450+00	464+00	LT								1400.00									
136	I-271	450+00	464+00	LT									1400.00								
136	I-271	450+00	464+00	LT									1400.00								
136	I-271	450+00	450+10	LT										10.00							
136	I-271	462+46	464+00	LT										154.00							
136	I-271	462+46	464+00	LT													158				
136	I-271	450+00	464+00	LT						24											
136	I-271	462+46	464+00	LT				4													
136	RAMP F-5	10+00	17+00	CEN							700.00										
136	RAMP F-5	10+00	16+90	LT								690.00									
136	RAMP F-5	16+90	17+00	LT										10.00							
136	RAMP F-5	10+00	17+00	LT					8												
136	RAMP F-5	10+00	17+00	LT				1													
136	RAMP F-5	10+00	17+00	RT	3		3														
136	RAMP F-5	10+00	17+00	LT		6	6														
136	RAMP F-3	3+00	10+00	CEN							700.00										
136	RAMP F-3	4+47	10+00	LT								553.00									
136	RAMP F-3	8+70	10+00	LT									130.00								
136	RAMP F-3	3+00	4+47	LT										147.00							
136	RAMP F-3	4+47	10+00	LT					6												
136	RAMP F-3	3+00	4+47	LT				4													
136	RAMP F-3	3+00	6+00	RT	2		2														
136	RAMP F-3	5+50	10+00	LT		7	7														
136	RAMP F-3	8+70	10+00	LT						1											
136	I-271	450+00	460+81	RT							1081.00										
136	I-271	460+81	464+00	RT							319.00										
136	I-271	450+00	464+00	RT								1400.00									
136	I-271	450+00	464+00	RT									1400.00								
136	I-271	450+00	464+00	RT									1400.00								
136	I-271	450+00	464+00	RT									1400.00								
136	I-271	462+04	464+00	RT									196.00								
136	I-271	460+81	462+04	RT										123.00							
136	I-271	460+81	462+04	RT										123.00							
136	I-271	450+00	464+00	RT						38											
136	I-271	460+81	462+04	RT				4													
136	RAMP F2	6+00	8+22	CEN							222.00										
136	RAMP F2	52+61	60+81	CEN							820.00										
136	RAMP F2	6+00	8+22	LT								222.00									
136	RAMP F2	52+61	60+81	LT								820.00									
136	RAMP F2	6+00	8+22	LT					3												
136	RAMP F2	52+61	60+81	LT					10												
136	RAMP F2	6+00	8+22	LT		1	1														
136	RAMP F2	52+61	60+81	LT		3	3														
137	I-271	466+98	478+00	LT							1102.00										
137	I-271	464+00	478+00	LT								1400.00									
137	I-271	464+00	478+00	LT									1400.00								
137	I-271	464+00	478+00	LT									1400.00								
137	I-271	465+25	478+00	LT									1275.00								
137	I-271	464+00	465+25	LT										125.00							
137	I-271	464+00	465+25	LT													39.75				
137	I-271	464+00	478+00	LT						35											
137	I-271	464+00	465+25	LT				4													
137	RAMP F-3	0+00	3+00	CEN							300.00										
137	RAMP F-3	1+75	3+00	LT										125.00							
137	RAMP F-3	1+75	3+00	LT				3													
137	RAMP F-3	1+75	3+00	LT	2		2														
137	I-271	464+00	478+00	RT							1400.00										
137	I-271	464+00	478+00	RT								1400.00									
137	I-271	464+00	478+00	RT									1400.00								
137	I-271	464+00	478+00	RT									1400.00								
137	I-271	464+00	478+00	RT									1400.00								
137	I-271	464+00	466+01	RT									201.00								
137	I-271	464+00	478+00	RT						36											
TOTALS CARRIED TO THE TRAFFIC CONTROL GENERAL SUMMARY					7	17	24	20	27	134	7880.00	7885.00	15802.00	817			198				
MILES											1.50	1.50	3.00								

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PAVEMENT MARKING SUBSUMMARY
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SHEET NO.	LOCATION	STATION		SIDE	620 DELINEATOR, TYPE C, POST MOUNTED	620 DELINEATOR, TYPE D, POST MOUNTED	620 REFLECTOR, TYPE E	621 RAISED PAVEMENT MARKER (TWO WAY, WHITE & RED)	621 RAISED PAVEMENT MARKER (TWO WAY, YELLOW & RED)	621 RAISED PAVEMENT MARKER (ONE WAY WHITE)	646 EDGE LINE (WHITE)	646 EDGE LINE (YELLOW)	646 LANE LINE	646 CHANNELIZING LINE	646 STOP LINE	646 CROSSWALK LINE	646 TRANSVERSE/ DIAGONAL LINE (WHITE)	646 TRANSVERSE/ DIAGONAL LINE (YELLOW)	646 ISLAND MARKING	646 LANE ARROW	646 WORD ON PAVEMENT, 96"
		FROM	TO		EACH	EACH	EACH	EACH	EACH	EACH	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	SQ. FT.	EACH	EACH
138	I-271	478+00	492+00	LT							1400.00										
138	I-271	478+00	492+00	LT								1400.00									
138	I-271	478+00	492+00	LT									1400.00								
138	I-271	478+00	492+00	LT									1400.00								
138	I-271	478+00	490+00	LT									1200.00								
138	I-271	478+00	492+00	LT						30											
138	I-271	478+00	492+00	RT							1400.00										
138	I-271	478+00	492+00	RT								1400.00									
138	I-271	478+00	492+00	RT									1400.00								
138	I-271	478+00	492+00	RT									1400.00								
138	I-271	478+00	492+00	RT									1400.00								
138	I-271	478+00	492+00	RT						29											
139	I-271	492+00	506+00	LT							1400.00										
139	I-271	492+00	506+00	LT								1400.00									
139	I-271	492+00	506+00	LT									1400.00								
139	I-271	492+00	506+00	LT									1400.00								
139	I-271	492+00	506+00	LT						19											
139	I-271	492+00	506+00	RT							1400.00										
139	I-271	492+00	506+00	RT								1400.00									
139	I-271	492+00	506+00	RT									1400.00								
139	I-271	492+00	506+00	RT									1400.00								
139	I-271	492+00	492+40	RT									40.00								
139	I-271	492+00	506+00	RT						22											
140	I-271	506+00	520+00	LT							1400.00										
140	I-271	506+00	515+75	LT								975.00									
140	I-271	518+15	520+00	LT								185.00									
140	I-271	506+00	520+00	LT									1400.00								
140	I-271	506+00	520+00	LT									1400.00								
140	I-271	507+25	514+39	LT									714.00								
140	I-271	514+39	518+15	LT										376.00							
140	I-271	514+39	518+15	LT										376.00							
140	I-271	514+39	518+15	LT													478.75				
140	I-271	506+00	520+00	LT						27											
140	I-271	514+39	518+15	LT				10													
140	I-271	506+00	520+00	RT							1400.00										
140	I-271	506+00	515+48	RT								948.00									
140	I-271	517+85	520+00	RT								215.00									
140	I-271	506+00	520+00	RT									1400.00								
140	I-271	506+00	520+00	RT									1400.00								
140	I-271	509+50	513+83	RT									433.00								
140	I-271	513+83	517+85	RT										402.00							
140	I-271	513+83	517+85	RT										402.00							
140	I-271	513+83	517+85	RT													394.2				
140	I-271	506+00	520+00	RT						26											
140	I-271	513+83	517+85	RT				11													
141	I-271	520+00	533+00	LT							1300.00										
141	I-271	520+00	533+00	LT								1300.00									
141	I-271	520+00	533+00	LT									1300.00								
141	I-271	520+00	533+00	LT									1300.00								
141	I-271	520+00	533+00	LT						20											
141	I-271	520+00	533+00	RT							1300.00										
141	I-271	520+00	533+00	RT								1300.00									
141	I-271	520+00	533+00	RT									1300.00								
141	I-271	520+00	533+00	RT									1300.00								
141	I-271	520+00	533+00	RT						20											
TOTALS CARRIED TO THE TRAFFIC CONTROL GENERAL SUMMARY								21		193	11000.00	10523.00	25787.00	1556			873				
MILES											2.09	2.00	4.89								

CHECKED MAH DATE 12/23/02

CALCULATED BHB DATE 11/12/02

PAVEMENT MARKING SUBSUMMARY
SHEET 6 OF 7

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SHEET NO.	LOCATION	STATION FROM	STATION TO	SIDE	620 DELINEATOR, TYPE C, POST MOUNTED EACH	620 DELINEATOR, TYPE D, POST MOUNTED EACH	620 REFLECTOR, TYPE E EACH	621 RAISED PAVEMENT MARKER (TWO WAY, WHITE & RED) EACH	621 RAISED PAVEMENT MARKER (TWO WAY, YELLOW & RED) EACH	621 RAISED PAVEMENT MARKER (ONE WAY WHITE) EACH	646 EDGE LINE (WHITE) L.F.	646 EDGE LINE (YELLOW) L.F.	646 LANE LINE L.F.	646 CHANELIZING LINE L.F.	646 STOP LINE L.F.	646 CROSSWALK LINE L.F.	646 TRANSVERSE/ DIAGONAL LINE (WHITE) L.F.	646 TRANSVERSE/ DIAGONAL LINE (YELLOW) L.F.	646 ISLAND MARKING SQ. FT.	646 LANE ARROW EACH	646 WORD ON PAVEMENT, 96" EACH
142	RAMP F-1	2+00	5+00	CEN							300.00										
142	RAMP F-1	2+00	5+00	LT								300.00									
142	RAMP F-1	2+16		LT + RT												24.00					
142	RAMP F-1	2+24		LT + RT												24.00					
142	RAMP F-1	2+00	5+00	LT					4												
142	RAMP F-1	2+00	5+00	LT		3	3														
142	RAMP F-5	2+21	10+00	CEN							779.00										
142	RAMP F-5	2+21	10+00	LT								779.00									
142	RAMP F-5	2+55		LT + RT												23.00					
142	RAMP F-5	2+63		LT + RT												23.00					
142	RAMP F-5	2+21	10+00	LT					10												
142	RAMP F-5	2+21	10+00	LT		14	14														
142	RAMP F-3	10+00	17+11	LT + RT						10											
142	RAMP F-3	10+00	17+09	RT							711.00										
142	RAMP F-3	10+00	17+09	LT								711.00									
142	RAMP F-3	10+00	15+12	LT									512.00								
142	RAMP F-3	15+12	17+09	RT										197.00							
142	RAMP F-3	15+12	17+09	LT										197.00							
142	RAMP F-3	17+11		LT + RT											55.00						
142	RAMP F-3	17+15		LT + RT												59.00					
142	RAMP F-3	17+23		LT + RT												73.00					
142	RAMP F-3	16+91		LT + RT																3.00	
142	RAMP F-3	16+38		LT + RT																	3.00
142	RAMP F-3	15+20		LT + RT																3.00	
142	RAMP F-3	17+09		LT + RT															33.00		
142	RAMP F-3	10+00	17+11	RT					9												
142	RAMP F-3	10+00	17+11	LT		7	7														
142	RAMP F-3	10+00	17+11	RT	3		3														
142	RAMP F-6	37+39	37+50	CEN							11.00										
142	RAMP F-6	1+63	9+68	CEN							805.00										
142	RAMP F-6	37+39	37+50	LT								11.00									
142	RAMP F-6	1+63	9+68	LT								805.00									
142	RAMP F-6	1+86		LT + RT												24.00					
142	RAMP F-6	1+94		LT + RT												24.00					
142	RAMP F-6	37+39	37+50	LT					1												
142	RAMP F-6	1+63	9+68	LT					9												
142	RAMP F-6	1+63	9+68	LT		12	12														
142	RAMP F-4	10+00	18+16	CEN							816.00										
142	RAMP F-4	10+00	18+16	LT								816.00									
142	RAMP F-4	10+00	17+44	LT									744.00								
142	RAMP F-4	16+00	17+44	LT									144.00								
142	RAMP F-4	17+44	18+16	LT										72.00							
142	RAMP F-4	17+44	18+16	LT										72.00							
142	RAMP F-4	18+18		LT + RT											62.00						
142	RAMP F-4	18+22		LT + RT												64.00					
142	RAMP F-4	17+53		LT + RT																3.00	
142	RAMP F-4	18+30		LT + RT												79.00					
142	RAMP F-4	17+95		LT + RT																3.00	
142	RAMP F-4	18+16		LT + RT															17.50		
142	RAMP F-4	10+00	18+16	LT						9											
142	RAMP F-4	10+00	18+16	LT					9												
142	RAMP F-4	10+00	18+16	RT	14		14														
142	RAMP F-4	10+00	18+16	LT		11	11														
142	RAMP F-2	2+46	6+00	CEN							354.00										
142	RAMP F-2	2+46	6+00	LT								354.00									
142	RAMP F-2	2+66		LT + RT												23.00					
142	RAMP F-2	2+74		LT + RT												23.00					
142	RAMP F-2	2+66	6+00	LT					4												
142	RAMP F-2	2+66	6+00	LT		6	6														
TOTALS CARRIED TO THE TRAFFIC CONTROL GENERAL SUMMARY					17	53	70		46	19	3776.00	3776.00	1400.00	538	117	463			51	12	3
MILES											0.72	0.72	0.27								

CHECKED MAH DATE 12/23/02

CALCULATED BHB DATE 11/12/02

PAVEMENT MARKING SUBSUMMARY
SHEET 7 OF 7

CUY-271-6.04

126
142

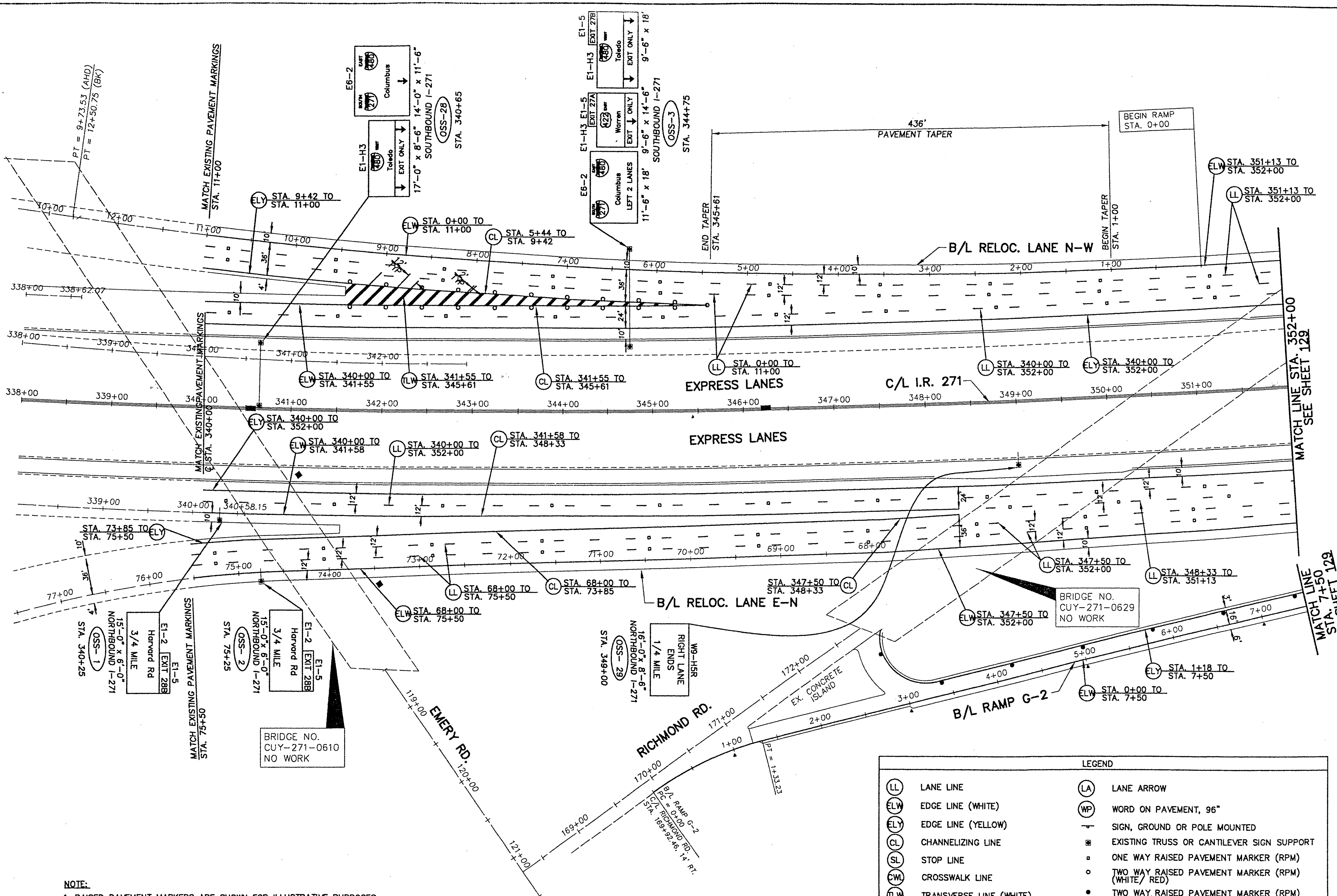
i:\PROJECTS\PID\2996\revised for 2005 specs\2996TSG.dgn 03-JUN-2005 1:40PM jgrmovse

SHEET NO.	ROADWAY	REF. #	DIRECTION	STATION	SIGN CODE	625 CABLE SPLICING KIT	630 SIGN, OVERHEAD EXTRUSHEET, AS PER PLAN	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	631 REMOVAL OF LUMINAIRE AND DISPOSAL	631 REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	631 REMOVAL OF BALLAST AND DISPOSAL	631 REMOVAL OF SIGN WIRING AND DISPOSAL	631 REMOVAL OF SIGN SERVICE AND DISPOSAL
						EACH	SQ FT	EACH	EACH	EACH	EACH	EACH	EACH
128	I-271	OSS-1	NB	340+25	E1-1, E1-5	1	106	1	2	1	2	1	1
128	LANE E-N	OSS-2	NB	75+25	E1-1, E1-5	1	106	1	2	1	2	1	1
128	I-271	OSS-3	SB	344+75	E6-2, E1-H3, E1-5, E1-H3, E1-5	1	547.75	3	6	1	6	3	1
129	I-271	OSS-4	SB	354+40	E6-2, E6-2, E1-5, E1-1, E1-5	1	547.75	3	6	1	6	3	1
129	I-271	OSS-5	SB	363+50	E6-2, E6-2, E1-5, E1-E3, E1-5, E1-H3, E1-5	1	697.5	4	9	1	9	4	1
130	I-271	OSS-6	NB	371+00	E1-H3, E1-5	1	106	1	2	1	2	1	1
130	I-271	OSS-7	SB	376+70	E1-1, E1-5	1	220	1	2	1	2	1	1
131	I-271	OSS-8	NB	382+70	E1-H3, E1-5	1	124	1	2	1	2	1	1
131	I-271	OSS-9	NB	392+75	E1-1, E1-5	1	175.5	1	2	1	2	1	1
132	I-271	OSS-10	NB	460+75	E1-H3, E1-5	1	131	1	2	1	2	1	1
132	I-271	OSS-11	SB	397+65	E1-1, E1-5, E1-1, E1-5	1	506	2	4	1	4	2	1
133	I-271	OSS-12	NB	419+75	E1-H3, E1-5	1	175.5	1	2	1	2	1	1
133	I-271	OSS-13	SB	414+69	E1-H3, E1-5	1	124	1	2	1	2	1	1
134	I-271	OSS-14	NB	428+50	E1-H3, E1-5	1	204	1	3	1	3	1	1
134	I-271	OSS-15	SB	426+50	E1-H3, E1-5	1	106	1	2	1	2	1	1
135	I-271	OSS-16	NB	447+50	E1-1	1	242	1	3	1	3	1	1
136	I-271	OSS-17	SB	456+00	E1-1, E1-5	1	106	1	2	1	2	1	1
137	I-271	OSS-18	SB	465+00	E6-2, E1-H3, E1-5	1	379	2	6	1	6	2	1
137	I-271	OSS-19	NB	476+13	W9-H5R	1	136	1	2	1	2	1	1
138	I-271	OSS-20	NB	484+13	E1-1	1	231	1	3	1	3	1	1
138	I-271	OSS-21	SB	485+30	E1-1, E1-5, E1-H3, E1-5	1	461.5	2	5	1	5	2	1
139	I-271	OSS-22	NB	492+13	W9-H4R	1	136	1	2	1	2	1	1
139	I-271	OSS-23	NB	501+60	E1-1	1	231	1	3	1	3	1	1
139	I-271	OSS-24	SB	503+00	E1-1, E1-5	1	175.5	1	2	1	2	1	1
140	I-271	OSS-25	NB	513+20	E1-H3	1	144	1	2	1	2	1	1
140	I-271	OSS-26	SB	516+50	E3-H1, E1-5	1	131	1	2	1	2	1	1
141	I-271	OSS-27	NB	532+10	E1-1, E1-5	1	150	1	2	1	2	1	1
128	I-271	OSS-28	SB	340+65	E1-H3, E6-2	1	305.5	2	4	1	4	2	1
128	I-271	OSS-29	NB	349+00	W9-H5R	1	136	1	2	1	2	1	1
129	I-271	OSS-30	SB	353+00	E1-H3, E6-2	1	322.5	2	4	1	4	2	1
129	I-271	OSS-31	NB	360+25	W9-H4R	1	161	1	2	1	2	1	1
129	I-271	OSS-32	SB	363+50	E1-1, E1-1	1	294	2	4	1	4	2	1
132	I-271	OSS-33	SB	397+80	E1-1, E1-1	1	294	2	4	1	4	2	1
135	I-271	OSS-34	SB	449+30	E1-1	1	209	1	3	1	3	1	1
138	I-271	OSS-35	NB	485+35	E1-1	1	136	1	2	1	2	1	1
140	I-271	OSS-36	NB	508+30	E1-1	1	136	1	2	1	2	1	1
141	I-271	OSS-37	SB	521+40	E6-2, E1-H3	1	439	2	4	1	4	2	1
141	I-271	OSS-38	NB	524+00	E1-1	1	136	1	2	1	2	1	1
141	I-271	OSS-39	NB	532+00	E6-2, E1-H3	1	323	2	4	1	4	2	1
TOTALS CARRIED TO THE TRAFFIC CONTROL GENERAL SUMMARY						39	9292	55	119	39	119	55	39

CALCULATED DAT
DATE 8/17/04
CHECKED MAH
DATE 08/09/04

OVERHEAD AND BEAM MOUNTED SIGNING SUBSUMMARY

CUY-271-6.04



NOTE:

1. RAISED PAVEMENT MARKERS ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL LOCATION SHALL BE FIELD VERIFIED.
2. DELINEATORS ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL LOCATION SHALL BE FIELD VERIFIED.
3. OVERHEAD SIGN DIMENSIONS WITH * INDICATE COMPUTED SIGN WIDTH, WHICH WAS NOT AVAILABLE ON RECORD PLAN SETS.

LEGEND			
(LL)	LANE LINE	(LA)	LANE ARROW
(ELW)	EDGE LINE (WHITE)	(WP)	WORD ON PAVEMENT, 96"
(ELY)	EDGE LINE (YELLOW)		SIGN, GROUND OR POLE MOUNTED
(CL)	CHANNELIZING LINE		EXISTING TRUSS OR CANTILEVER SIGN SUPPORT
(SL)	STOP LINE	▫	ONE WAY RAISED PAVEMENT MARKER (RPM)
(CWL)	CROSSWALK LINE	○	TWO WAY RAISED PAVEMENT MARKER (RPM) (WHITE/ RED)
(TLW)	TRANSVERSE LINE (WHITE)	●	TWO WAY RAISED PAVEMENT MARKER (RPM) (YELLOW/ RED)
(TLY)	TRANSVERSE LINE (YELLOW)	▴	DELINEATOR (WHITE), TYPE C
(MW)	ISLAND MARKING (WHITE)	▵	DELINEATOR (YELLOW), TYPE D

CALCULATED BHB
CHECKED MAH

0 25 50 100
HORIZONTAL SCALE IN FEET

PAVEMENT MARKING AND SIGNING PLAN
I.R. 271: BEGIN TO STA. 352+00

CUY-271-6.04

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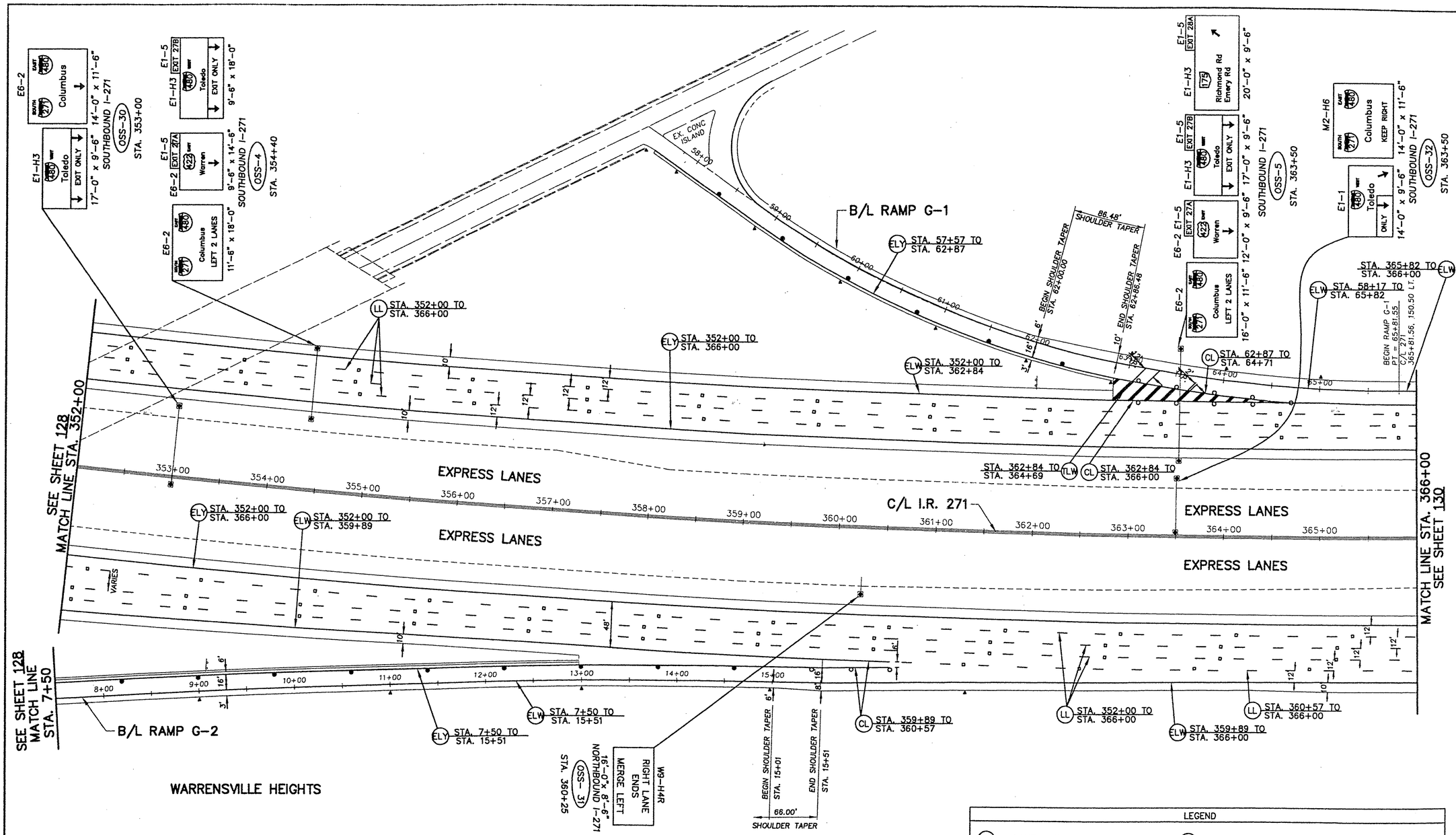
Technician: MJOHAT



LEGEND			
LL	LANE LINE	LA	LANE ARROW
ELW	EDGE LINE (WHITE)	WP	WORD ON PAVEMENT, 96"
ELY	EDGE LINE (YELLOW)		SIGN, GROUND OR POLE MOUNTED
CL	CHANNELIZING LINE		EXISTING TRUSS OR CANTILEVER SIGN SUPPORT
SL	STOP LINE		ONE WAY RAISED PAVEMENT MARKER (RPM)
CWL	CROSSWALK LINE		TWO WAY RAISED PAVEMENT MARKER (RPM) (WHITE/ RED)
TLW	TRANSVERSE LINE (WHITE)		TWO WAY RAISED PAVEMENT MARKER (RPM) (YELLOW/ RED)
TLY	TRANSVERSE LINE (YELLOW)		DELINEATOR (WHITE), TYPE C
MW	ISLAND MARKING (WHITE)		DELINEATOR (YELLOW), TYPE D

NOTE:

1. RAISED PAVEMENT MARKERS ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL LOCATION SHALL BE FIELD VERIFIED.
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3. OVERHEAD SIGN DIMENSIONS WITH * INDICATE COMPUTED SIGN WIDTH, WHICH WAS NOT AVAILABLE ON RECORD PLAN SETS.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BHB
CHECKED MAH

PAVEMENT MARKING AND SIGNING PLAN
I.R. 271: STA. 352+00 TO STA. 366+00

CUY-271-6.04

129
142

Cad File: G:\CIVIL\2011\18\TRAFFIC\DWG\129867P2.DWG
Date: 10-12-04 Time: 8:34 AM TW = 295d10.00"
Technician: MJO/AT

CITY OF WARRENSVILLE HEIGHTS
WARRENSVILLE TWP.

100' PAVEMENT TAPER

BEGIN TAPER STA. 370+00

END TAPER STA. 371+00

(LL) STA. 366+00 STA. 370+00

(LL) STA. 366+00 STA. 380+00

(ELW) STA. 366+00 STA. 380+00

(ELY) STA. 366+00 STA. 380+00

E1-5 EXIT 28A

E1-1 (175) Richmond Rd Emery Rd 1/4 MILE

17'-0" x 12'-0" SOUTHBOUND I-271 (OSS-7) STA. 376+70

SEE SHEET 129
MATCH LINE STA. 366+00

EXPRESS LANES

367+00 368+00 369+00 370+00 371+00 372+00 373+00 374+00 375+00 376+00 377+00 378+00 379+00

℄ I.R. 271

EXPRESS LANES

EXPRESS LANES

MATCH LINE STA. 380+00
SEE SHEET 131

(LL) STA. 366+00 TO STA. 371+00

(ELY) STA. 366+00 STA. 380+00

(CL) STA. 371+00 TO STA. 378+75

(LL) STA. 366+00 STA. 380+00

(ELW) STA. 366+00 STA. 380+00

B/L RAMP N-EW

79+00

(CL) STA. 78+75 TO STA. 80+00

MATCH LINE STA. 80+00
SEE SHEET 131

C/L 271
STA. 378+75.01 = 150.50 RT.
BEGIN RAMP N-EW
PC = 78+75.00

(OSS-6) STA. 371+00
NORTHBOUND I-271 15'-0" x 6'-0"

E1-H3 EXIT ONLY Harvard Rd

E1-5 EXIT 28B

VILLAGE OF ORANGE
WARRENSVILLE TWP.

NOTE:

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3. OVERHEAD SIGN DIMENSIONS WITH * INDICATE COMPUTED SIGN WIDTH, WHICH WAS NOT AVAILABLE ON RECORD PLAN SETS.

LEGEND

(LL)	LANE LINE	(LA)	LANE ARROW
(ELW)	EDGE LINE (WHITE)	(WP)	WORD ON PAVEMENT, 96"
(ELY)	EDGE LINE (YELLOW)		SIGN, GROUND OR POLE MOUNTED
(CL)	CHANNELIZING LINE		EXISTING TRUSS OR CANTILEVER SIGN SUPPORT
(SL)	STOP LINE		ONE WAY RAISED PAVEMENT MARKER (RPM)
(CWL)	CROSSWALK LINE		TWO WAY RAISED PAVEMENT MARKER (RPM) (WHITE/ RED)
(TLW)	TRANSVERSE LINE (WHITE)		TWO WAY RAISED PAVEMENT MARKER (RPM) (YELLOW/ RED)
(TLY)	TRANSVERSE LINE (YELLOW)		DELINEATOR (WHITE), TYPE C
(MW)	ISLAND MARKING (WHITE)		DELINEATOR (YELLOW), TYPE D

N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BHB
CHECKED MAH

PAVEMENT MARKING AND SIGNING PLAN
I.R. 271: STA. 366+00 TO STA. 380+00

CUY-271-6.04

130
142

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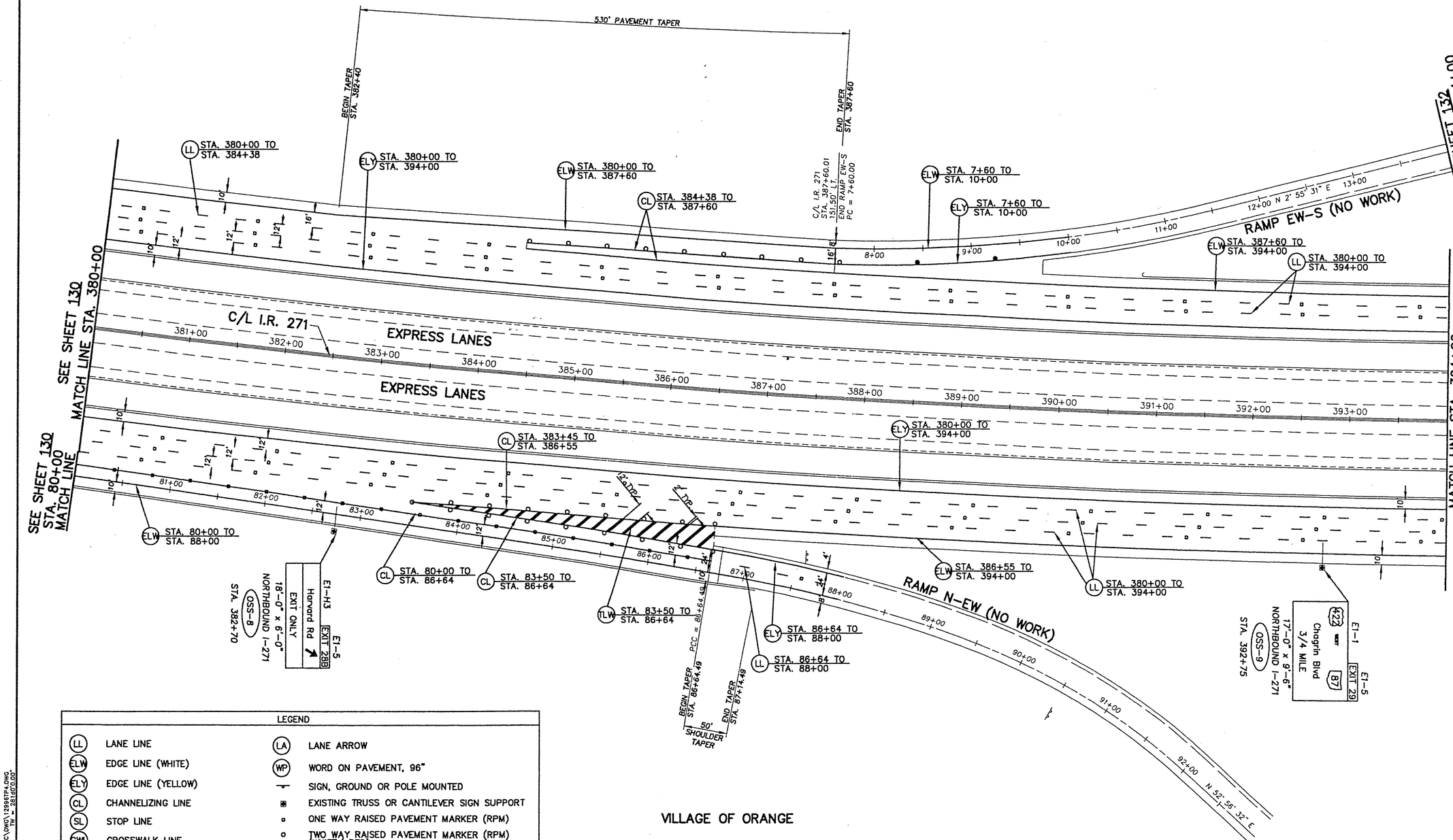

LEGEND			
LL	LANE LINE	LA	LANE ARROW
ELW	EDGE LINE (WHITE)	WP	WORD ON PAVEMENT, 96"
ELY	EDGE LINE (YELLOW)		SIGN, GROUND OR POLE MOUNTED
CL	CHANNELIZING LINE		EXISTING TRUSS OR CANTILEVER SIGN SUPPORT
SL	STOP LINE		ONE WAY RAISED PAVEMENT MARKER (RPM)
CWL	CROSSWALK LINE		TWO WAY RAISED PAVEMENT MARKER (RPM) (WHITE/ RED)
TLW	TRANSVERSE LINE (WHITE)		TWO WAY RAISED PAVEMENT MARKER (RPM) (YELLOW/ RED)
TLY	TRANSVERSE LINE (YELLOW)		DELINEATOR (WHITE), TYPE C
MW	ISLAND MARKING (WHITE)		DELINEATOR (YELLOW), TYPE D

NOTE:

1. RAISED PAVEMENT MARKERS ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL LOCATION SHALL BE FIELD VERIFIED.
2. DELINEATORS ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL LOCATION SHALL BE FIELD VERIFIED.
3. OVERHEAD SIGN DIMENSIONS WITH * INDICATE COMPUTED SIGN WIDTH, WHICH WAS NOT AVAILABLE ON RECORD PLAN SETS.

N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BHB
CHECKED MAH

PAVEMENT MARKING AND SIGNING PLAN
I.R. 271: STA. 380+00 TO STA. 394+00

CUY-271-6.04

131
142

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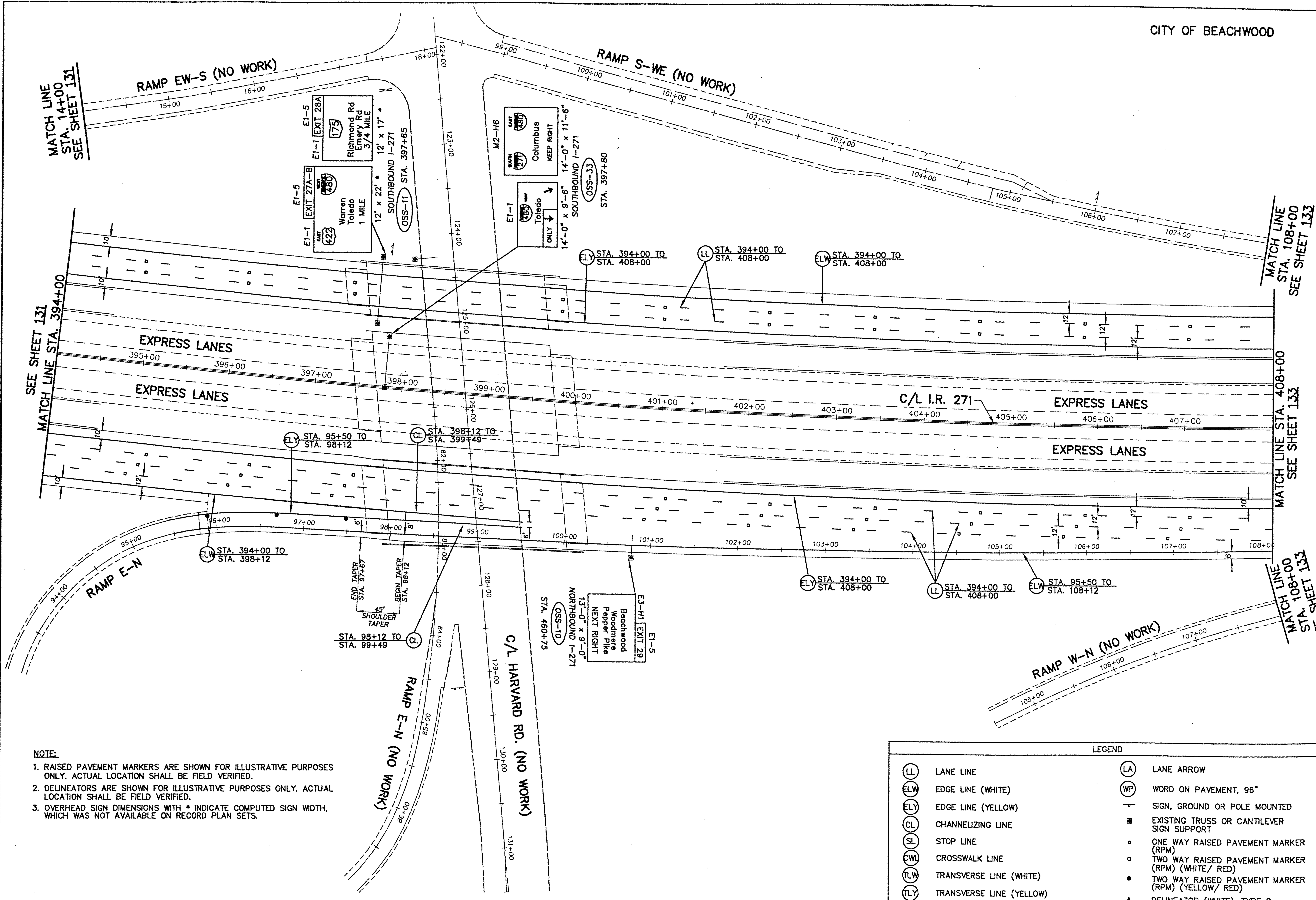
CITY OF BEACHWOOD



NOTE:

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3. OVERHEAD SIGN DIMENSIONS WITH * INDICATE COMPUTED SIGN WIDTH, WHICH WAS NOT AVAILABLE ON RECORD PLAN SETS.

LEGEND

Symbol	Description	Symbol	Description
LL	LANE LINE	LA	LANE ARROW
ELW	EDGE LINE (WHITE)	WP	WORD ON PAVEMENT, 96"
ELY	EDGE LINE (YELLOW)		SIGN, GROUND OR POLE MOUNTED
CL	CHANNELIZING LINE		EXISTING TRUSS OR CANTILEVER SIGN SUPPORT
SL	STOP LINE		ONE WAY RAISED PAVEMENT MARKER (RPM)
CWL	CROSSWALK LINE		TWO WAY RAISED PAVEMENT MARKER (RPM) (WHITE/ RED)
TLW	TRANSVERSE LINE (WHITE)		TWO WAY RAISED PAVEMENT MARKER (RPM) (YELLOW/ RED)
TLY	TRANSVERSE LINE (YELLOW)		DELINEATOR (WHITE), TYPE C
MW	ISLAND MARKING (WHITE)		DELINEATOR (YELLOW), TYPE D

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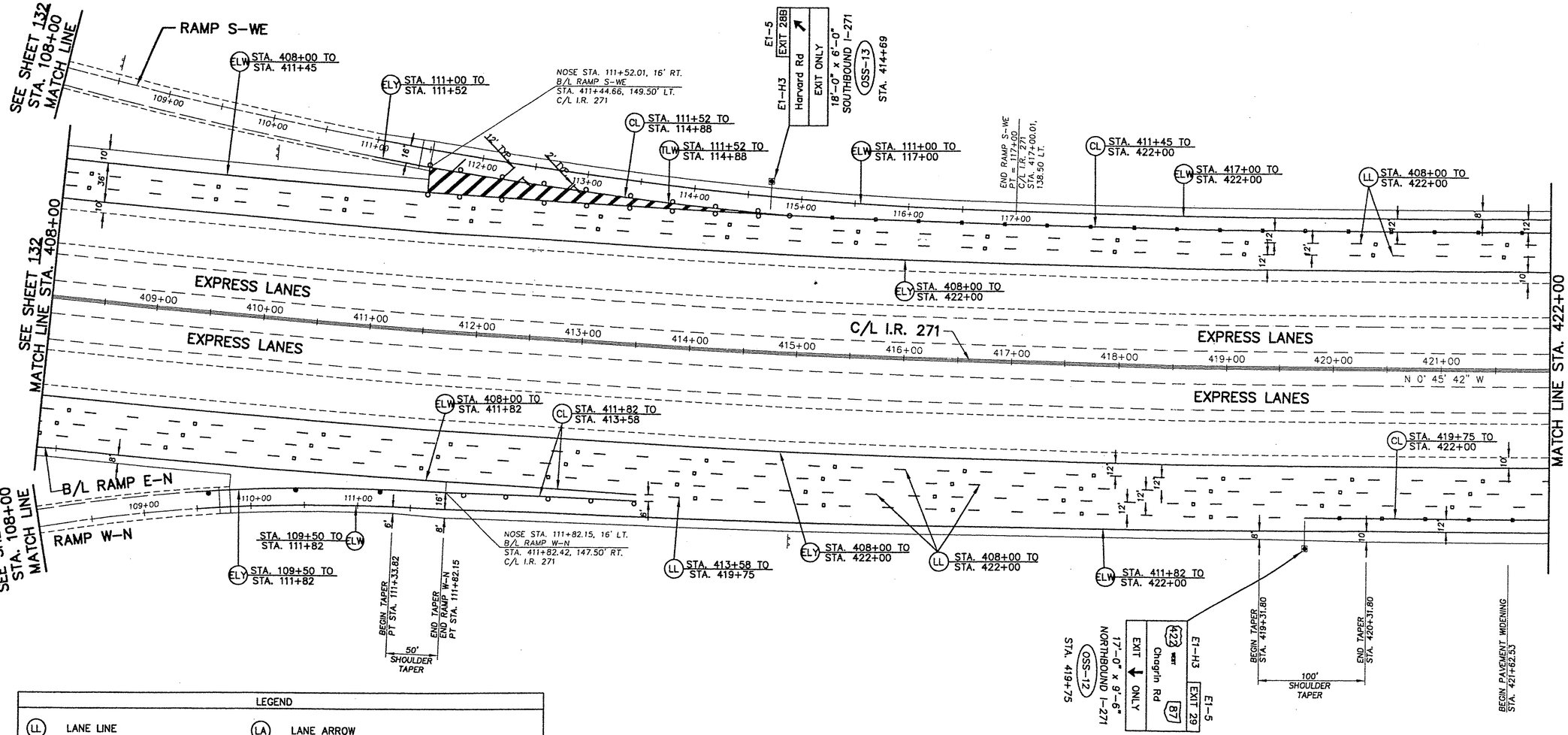
HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED BHB CHECKED MAH

PAVEMENT MARKING AND SIGNING PLAN
I.R. 271: STA. 394+00 TO STA. 408+00

CUY-271-6.04

CITY OF BEACHWOOD



LEGEND			
(LL)	LANE LINE	(LA)	LANE ARROW
(ELW)	EDGE LINE (WHITE)	(WP)	WORD ON PAVEMENT, 96"
(ELY)	EDGE LINE (YELLOW)		SIGN, GROUND OR POLE MOUNTED
(CL)	CHANNELIZING LINE		EXISTING TRUSS OR CANTILEVER SIGN SUPPORT
(SL)	STOP LINE		ONE WAY RAISED PAVEMENT MARKER (RPM)
(CWL)	CROSSWALK LINE		TWO WAY RAISED PAVEMENT MARKER (RPM) (WHITE/ RED)
(TLW)	TRANSVERSE LINE (WHITE)		TWO WAY RAISED PAVEMENT MARKER (RPM) (YELLOW/ RED)
(TLY)	TRANSVERSE LINE (YELLOW)		DELINEATOR (WHITE), TYPE C
(MW)	ISLAND MARKING (WHITE)		DELINEATOR (YELLOW), TYPE D

NOTE:

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3. OVERHEAD SIGN DIMENSIONS WITH * INDICATE COMPUTED SIGN WIDTH, WHICH WAS NOT AVAILABLE ON RECORD PLAN SETS.

HORIZONTAL SCALE IN FEET: 0, 25, 50, 100

CALCULATED BHB
CHECKED MAH

PAVEMENT MARKING AND SIGNING
I.R. 271: STA. 408+00 TO STA. 422+00

CUY-271-6.04

133
142

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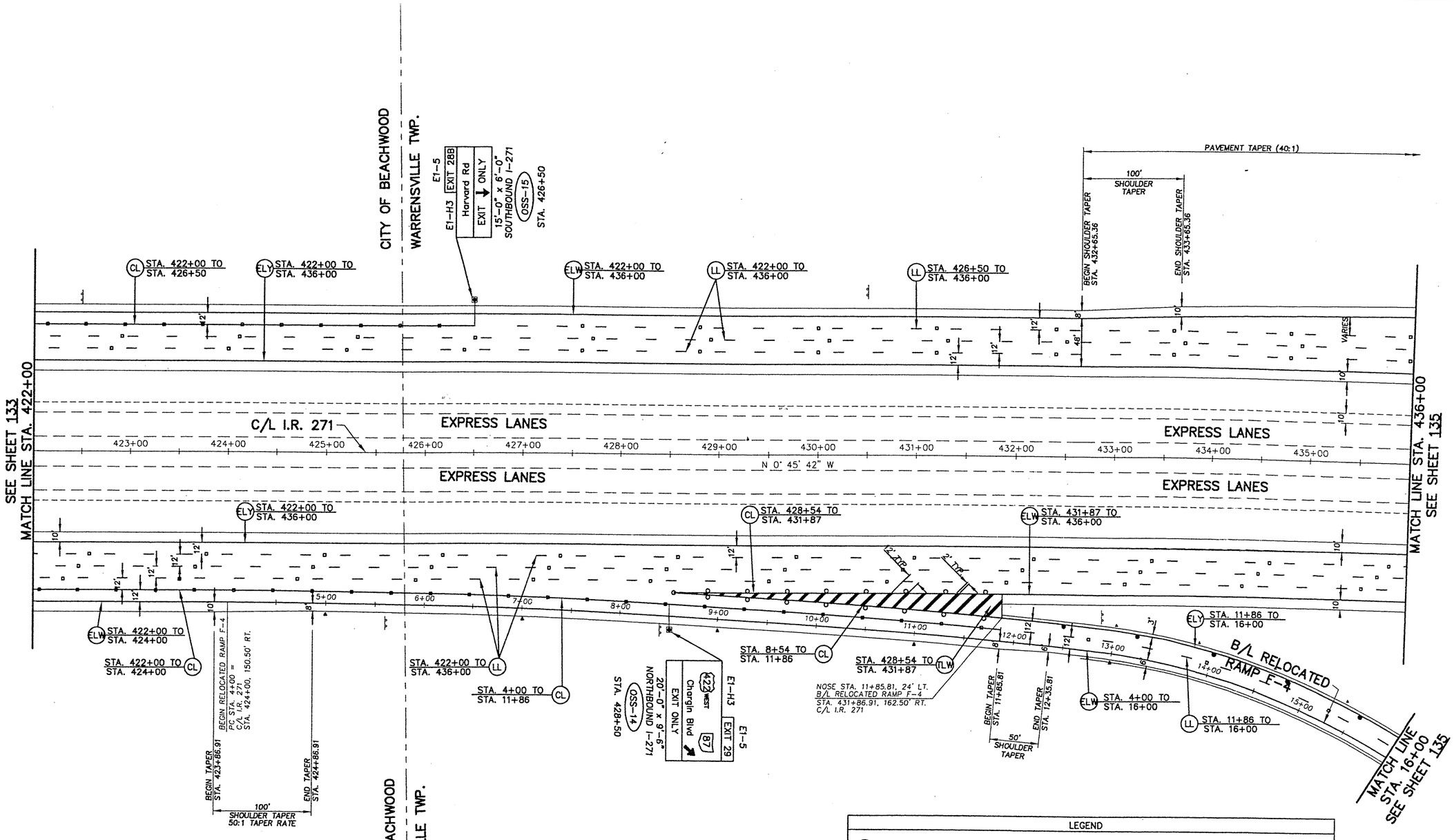

NOTE:

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3. OVERHEAD SIGN DIMENSIONS WITH * INDICATE COMPUTED SIGN WIDTH, WHICH WAS NOT AVAILABLE ON RECORD PLAN SETS.

LEGEND

LL	LANE LINE	LA	LANE ARROW
ELW	EDGE LINE (WHITE)	WP	WORD ON PAVEMENT, 96"
ELY	EDGE LINE (YELLOW)		SIGN, GROUND OR POLE MOUNTED
CL	CHANNELIZING LINE		EXISTING TRUSS OR CANTILEVER SIGN SUPPORT
SL	STOP LINE		ONE WAY RAISED PAVEMENT MARKER (RPM)
CWL	CROSSWALK LINE		TWO WAY RAISED PAVEMENT MARKER (RPM) (WHITE/ RED)
TLW	TRANSVERSE LINE (WHITE)		TWO WAY RAISED PAVEMENT MARKER (RPM) (YELLOW/ RED)
TLY	TRANSVERSE LINE (YELLOW)		DELINEATOR (WHITE), TYPE C
MW	ISLAND MARKING (WHITE)		DELINEATOR (YELLOW), TYPE D

HORIZONTAL SCALE IN FEET: 0, 25, 50, 100

CALCULATED BHB
CHECKED MAH

PAVEMENT MARKING AND SIGNING PLAN
I.R. 271: STA. 422+00 TO STA. 436+00

CUY-271-6.04

134
142

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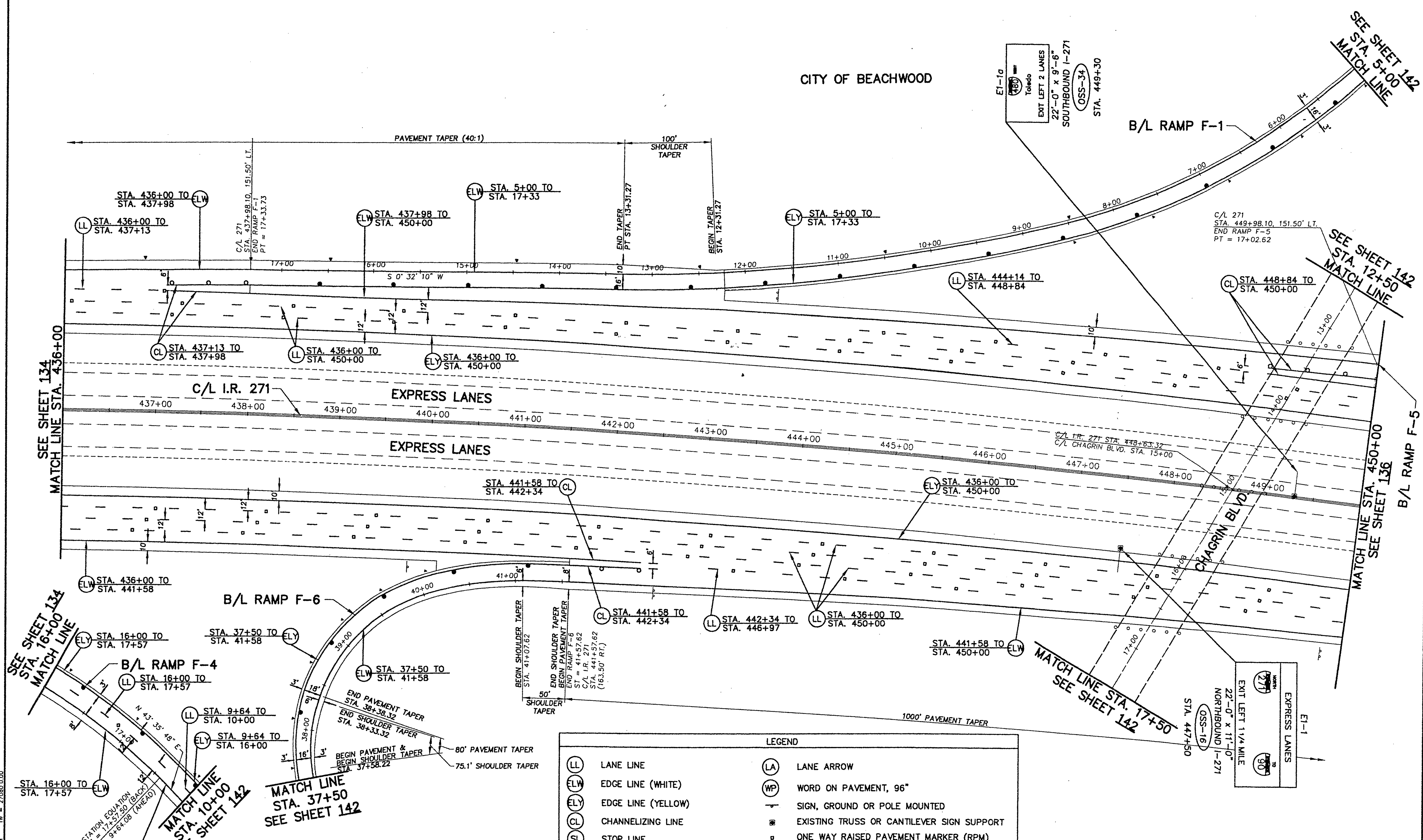

CITY OF BEACHWOOD
PAVEMENT TAPER (40:1)
100' SHOULDER TAPER
B/L RAMP F-1
SEE SHEET 142
STA. 5+00
MATCH LINE
E1-1a
EXIT LEFT 2 LANES
Toledo
22'-0" x 9'-6"
SOUTHBOUND I-271
OSS-34
STA. 449+30
STA. 436+00 TO STA. 437+98
STA. 436+00 TO STA. 437+13
STA. 437+98 TO STA. 450+00
STA. 5+00 TO STA. 17+33
C/L 271 STA. 437+98.10, 151.50' LT. END RAMP F-1 PT = 17+33.73
END TAPER PT STA. 13+31.27
BEGIN TAPER STA. 12+31.27
S 0° 32' 10" W
C/L 271 STA. 449+98.10, 151.50' LT. END RAMP F-5 PT = 17+02.62
STA. 444+14 TO STA. 448+84
STA. 448+84 TO STA. 450+00
SEE SHEET 142
STA. 12+50
MATCH LINE
STA. 437+13 TO STA. 437+98
STA. 436+00 TO STA. 450+00
STA. 436+00 TO STA. 450+00
SEE SHEET 134
MATCH LINE STA. 436+00
C/L I.R. 271
EXPRESS LANES
EXPRESS LANES
C/L I.R. 271 STA. 448+63.32
C/L CHAGRIN BLVD. STA. 15+00
B/L RAMP F-5
MATCH LINE STA. 450+00
SEE SHEET 136
STA. 441+58 TO STA. 442+34
STA. 436+00 TO STA. 450+00
CHAGRIN BLVD.
STA. 436+00 TO STA. 441+58
B/L RAMP F-6
STA. 441+58 TO STA. 442+34
STA. 442+34 TO STA. 446+97
STA. 436+00 TO STA. 450+00
STA. 441+58 TO STA. 450+00
SEE SHEET 134
STA. 16+00
MATCH LINE
STA. 16+00 TO STA. 17+57
STA. 37+50 TO STA. 41+58
B/L RAMP F-4
STA. 16+00 TO STA. 17+57
STA. 37+50 TO STA. 41+58
BEGIN SHOULDER TAPER STA. 41+07.62
END SHOULDER TAPER BEGIN PAVEMENT TAPER END RAMP F-6 ST = 41+57.62 C/L I.R. 271 STA. 441+57.62 (163.50' RT.)
50' SHOULDER TAPER
MATCH LINE STA. 17+50
SEE SHEET 142
E1-1
EXPRESS LANES
EXIT LEFT 1 1/4 MILE
22'-0" x 11'-0"
NORTHBOUND I-271
OSS-16
STA. 447+50
N 43° 35' 48" E
STA. 9+64 TO STA. 10+00
STA. 9+64 TO STA. 16+00
END PAVEMENT TAPER STA. 38+38.32
END SHOULDER TAPER STA. 38+33.32
BEGIN PAVEMENT & BEGIN SHOULDER TAPER STA. 37+58.22
80' PAVEMENT TAPER
75.1' SHOULDER TAPER
1000' PAVEMENT TAPER
STA. 16+00 TO STA. 17+57
STATION EQUATION PT = 17+57.50 (BACK) PT = 9+64.08 (AHEAD)
MATCH LINE STA. 10+00 SEE SHEET 142
MATCH LINE STA. 37+50 SEE SHEET 142
STA. 9+64 TO STA. 10+00

LEGEND

(LL)	LANE LINE	(LA)	LANE ARROW
(ELW)	EDGE LINE (WHITE)	(WP)	WORD ON PAVEMENT, 96"
(ELY)	EDGE LINE (YELLOW)		SIGN, GROUND OR POLE MOUNTED
(CL)	CHANNELIZING LINE		EXISTING TRUSS OR CANTILEVER SIGN SUPPORT
(SL)	STOP LINE		ONE WAY RAISED PAVEMENT MARKER (RPM)
(CWL)	CROSSWALK LINE		TWO WAY RAISED PAVEMENT MARKER (RPM) (WHITE/ RED)
(TLW)	TRANSVERSE LINE (WHITE)		TWO WAY RAISED PAVEMENT MARKER (RPM) (YELLOW/ RED)
(TLY)	TRANSVERSE LINE (YELLOW)		DELINEATOR (WHITE), TYPE C
(MW)	ISLAND MARKING (WHITE)		DELINEATOR (YELLOW), TYPE D

NOTE:

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3. OVERHEAD SIGN DIMENSIONS WITH * INDICATE COMPUTED SIGN WIDTH, WHICH WAS NOT AVAILABLE ON RECORD PLAN SETS.

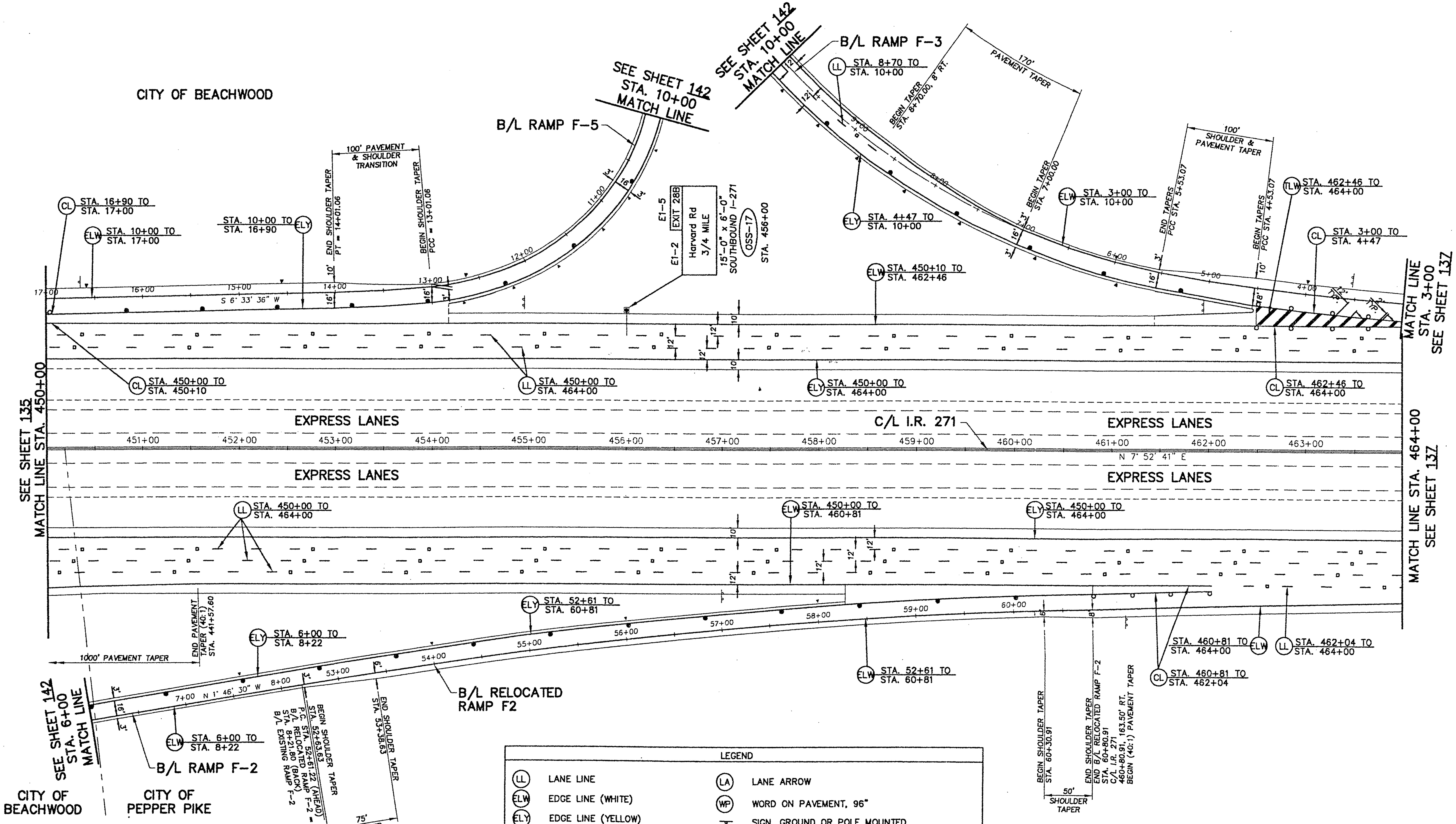
Cad File: G:\CIVIL\2001118\TRAFFIC\DWG\12996TPH1.DWG
Date: 10-12-04 Time: 8:50 AM TW = 270d0'0.00"

HORIZONTAL SCALE IN FEET: 0 25 50 100

CALCULATED BHB
CHECKED MAH

PAVEMENT MARKING AND SIGNING PLAN
I.R. 271: STA. 436+00 TO STA. 450+00

CUY-271-6.04



CITY OF BEACHWOOD
SEE SHEET 142 STA. 10+00 MATCH LINE
B/L RAMP F-5
SEE SHEET 142 STA. 10+00 MATCH LINE
B/L RAMP F-3
STA. 8+70 TO STA. 10+00
170' PAVEMENT TAPER
BEGIN TAPER STA. 8+70.00, 8' RT.
100' PAVEMENT & SHOULDER TRANSITION
END SHOULDER TAPER PT = 14+01.06
BEGIN SHOULDER TAPER PCC = 13+01.06
STA. 16+90 TO STA. 17+00
STA. 10+00 TO STA. 17+00
STA. 10+00 TO STA. 16+90
E1-5 EXIT 28B
E1-2 Harvard Rd 3/4 MILE
15'-0" x 6'-0" SOUTHBOUND I-271
OSS-17
STA. 456+00
STA. 4+47 TO STA. 10+00
BEGIN TAPER STA. 7+00.00
STA. 3+00 TO STA. 10+00
100' SHOULDER & PAVEMENT TAPER
END TAPERS PCC STA. 5+53.07
BEGIN TAPERS PCC STA. 4+53.07
STA. 462+46 TO STA. 464+00
STA. 3+00 TO STA. 4+47
STA. 450+10 TO STA. 462+46
S 6° 33' 36" W
MATCH LINE STA. 3+00 SEE SHEET 137
STA. 450+00 TO STA. 450+10
STA. 450+00 TO STA. 464+00
STA. 450+00 TO STA. 464+00
STA. 462+46 TO STA. 464+00
SEE SHEET 135 MATCH LINE STA. 450+00
EXPRESS LANES
C/L I.R. 271
EXPRESS LANES
451+00 452+00 453+00 454+00 455+00 456+00 457+00 458+00 459+00 460+00 461+00 462+00 463+00
N 7° 52' 41" E
EXPRESS LANES
EXPRESS LANES
MATCH LINE STA. 464+00 SEE SHEET 137
STA. 450+00 TO STA. 464+00
STA. 450+00 TO STA. 460+81
STA. 450+00 TO STA. 464+00
STA. 52+61 TO STA. 60+81
STA. 6+00 TO STA. 8+22
1000' PAVEMENT TAPER
END PAVEMENT TAPER (40:1) STA. 441+57.60
N 1° 46' 30" W
STA. 460+81 TO STA. 464+00
STA. 462+04 TO STA. 464+00
STA. 52+61 TO STA. 60+81
STA. 460+81 TO STA. 462+04
B/L RELOCATED RAMP F2
SEE SHEET 142 STA. 6+00 MATCH LINE
STA. 6+00 TO STA. 8+22
B/L RAMP F-2
BEGIN SHOULDER TAPER STA. 52+63.63
P.C. STA. 52+61.22 (AHEAD) B/L RELOCATED RAMP F-2 = STA. 8+21.80 (BACK) B/L EXISTING RAMP F-2
END SHOULDER TAPER STA. 53+38.63
75' SHOULDER TAPER
BEGIN SHOULDER TAPER STA. 60+30.91
END SHOULDER TAPER END B/L RELOCATED RAMP F-2 STA. 60+80.91 C/L I.R. 271 460+80.91, 163.50' RT. BEGIN (40:1) PAVEMENT TAPER
50' SHOULDER TAPER
CITY OF BEACHWOOD
CITY OF PEPPER PIKE

LEGEND

(LL)	LANE LINE	(LA)	LANE ARROW
(ELW)	EDGE LINE (WHITE)	(WP)	WORD ON PAVEMENT, 96"
(ELY)	EDGE LINE (YELLOW)		SIGN, GROUND OR POLE MOUNTED
(CL)	CHANNELIZING LINE		EXISTING TRUSS OR CANTILEVER SIGN SUPPORT
(SL)	STOP LINE		ONE WAY RAISED PAVEMENT MARKER (RPM)
(CWL)	CROSSWALK LINE		TWO WAY RAISED PAVEMENT MARKER (RPM) (WHITE/ RED)
(TLW)	TRANSVERSE LINE (WHITE)		TWO WAY RAISED PAVEMENT MARKER (RPM) (YELLOW/ RED)
(TLY)	TRANSVERSE LINE (YELLOW)		DELINEATOR (WHITE), TYPE C
(MW)	ISLAND MARKING (WHITE)		DELINEATOR (YELLOW), TYPE D

NOTE:

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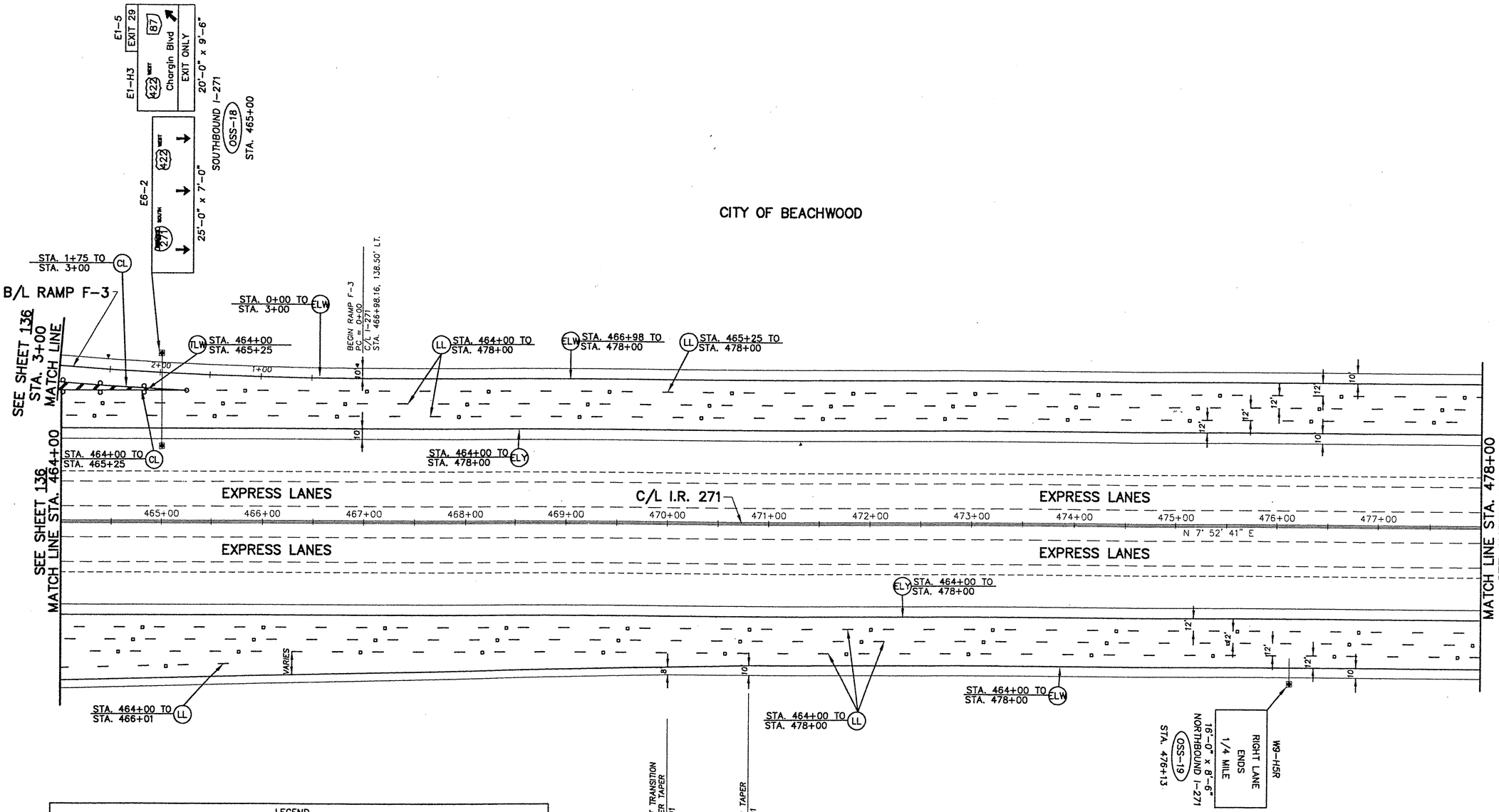
0 25 50 100 HORIZONTAL SCALE IN FEET

CALCULATED BHB
CHECKED MAH

PAVEMENT MARKING AND SIGNING PLAN
I.R. 271: STA. 450+00 TO STA. 464+00

CUY-271-6.04



LEGEND			
LL	LANE LINE	LA	LANE ARROW
ELW	EDGE LINE (WHITE)	WP	WORD ON PAVEMENT, 96"
ELY	EDGE LINE (YELLOW)		SIGN, GROUND OR POLE MOUNTED
CL	CHANNELIZING LINE		EXISTING TRUSS OR CANTILEVER SIGN SUPPORT
SL	STOP LINE		ONE WAY RAISED PAVEMENT MARKER (RPM)
CWL	CROSSWALK LINE		TWO WAY RAISED PAVEMENT MARKER (RPM) (WHITE/ RED)
TLW	TRANSVERSE LINE (WHITE)		TWO WAY RAISED PAVEMENT MARKER (RPM) (YELLOW/ RED)
TLY	TRANSVERSE LINE (YELLOW)		DELINEATOR (WHITE), TYPE C
MW	ISLAND MARKING (WHITE)		DELINEATOR (YELLOW), TYPE D

NOTE:

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HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BHB
CHECKED MAH

PAVEMENT MARKING AND SIGNING PLAN
I.R. 271: STA. 464+00 TO STA. 478+00

CUY-271-6.04

137
142

Cad File: G:\CIVIL\2001118\TRAFFIC\DWG\129687P10.DWG
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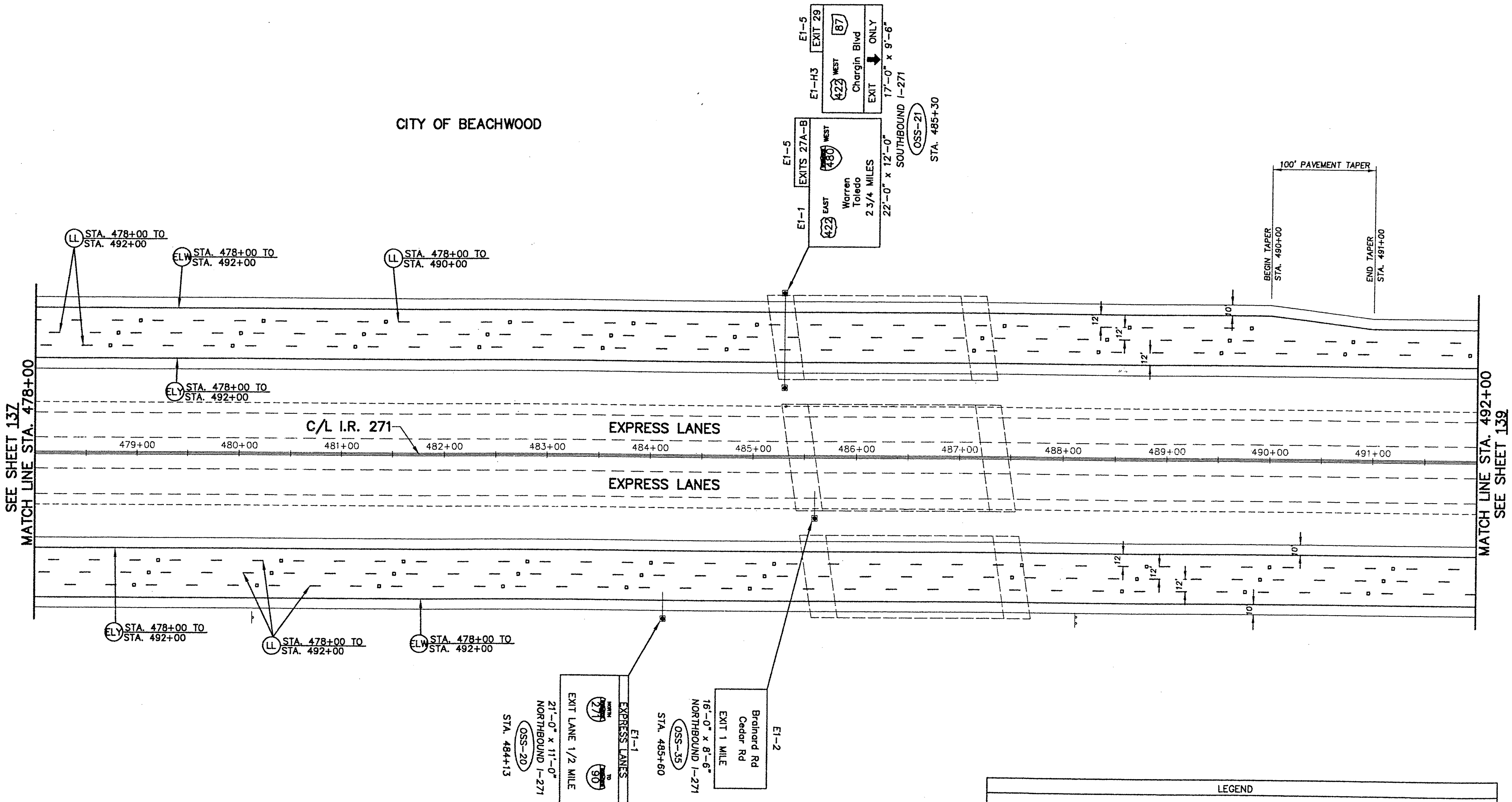

NOTE:

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2. DELINEATORS ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL LOCATION SHALL BE FIELD VERIFIED.
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LEGEND

Symbol	Description	Symbol	Description
LL	LANE LINE	LA	LANE ARROW
ELW	EDGE LINE (WHITE)	WP	WORD ON PAVEMENT, 96"
ELY	EDGE LINE (YELLOW)		SIGN, GROUND OR POLE MOUNTED
CL	CHANNELIZING LINE		EXISTING TRUSS OR CANTILEVER SIGN SUPPORT
SL	STOP LINE		ONE WAY RAISED PAVEMENT MARKER (RPM)
CWL	CROSSWALK LINE		TWO WAY RAISED PAVEMENT MARKER (RPM) (WHITE/ RED)
TLW	TRANSVERSE LINE (WHITE)		TWO WAY RAISED PAVEMENT MARKER (RPM) (YELLOW/ RED)
TLY	TRANSVERSE LINE (YELLOW)		DELINEATOR (WHITE), TYPE C
MW	ISLAND MARKING (WHITE)		DELINEATOR (YELLOW), TYPE D

CALCULATED BHB
CHECKED MAH

0 25 50 100
HORIZONTAL SCALE IN FEET

PAVEMENT MARKING AND SIGNING PLAN
I.R. 271: STA. 478+00 TO STA. 492+00

CUY-271-6.04

CITY OF BEACHWOOD

1500' PAVEMENT TAPER (60:1)

BEGIN PAVEMENT TAPER

50' SHOULDER TAPER

STA. 500+00, 90.50' LT. BEGIN SHOULDER TAPER

STA. 500+50 END SHOULDER TAPER

E1-5 EXIT 29 87 Chargin Blvd. 3/4 MILE 17'-0" x 9'-6" SOUTHBOUND OSS-24 STA. 503+00

E1-1 423

(LL) STA. 492+00 TO STA. 506+00

(ELY) STA. 492+00 TO STA. 506+00

(ELW) STA. 492+00 TO STA. 506+00

10' 12' 12' 12' 36' 10' 8' 24' VARIES

SEE SHEET 138 MATCH LINE STA. 492+00

EXPRESS LANES

C/L I.R. 271

EXPRESS LANES

493+00 494+00 495+00 496+00 497+00 498+00 499+00 500+00 501+00 502+00 503+00 504+00 505+00

N 7° 52' 41" E

MATCH LINE STA. 506+00 SEE SHEET 140

EXPRESS LANES

EXPRESS LANES

(LL) STA. 492+00 TO STA. 492+40

12' 12' 12' 12' 10' 10'

(ELW) STA. 492+00 TO STA. 506+00

(LL) STA. 492+00 TO STA. 506+00

(ELY) STA. 492+00 TO STA. 506+00

W9-1*R RIGHT LANE ENDS MERGE LEFT

16' x 8'-6" * NORTHBOUND OSS-22 STA. 492+13

BEGIN PAVEMENT TAPER (60:1) STA. 492+13.51

720' PAVEMENT TAPER (60:1)

END PAVEMENT TAPER STA. 499+33.51

E1-1 EXPRESS LANES 421 90

EXIT LANE 1/4 MILE 21'-0" x 11'-0" NORTHBOUND OSS-23 STA. 501+60

NOTE:

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LEGEND

(LL)	LANE LINE	(LA)	LANE ARROW
(ELW)	EDGE LINE (WHITE)	(WP)	WORD ON PAVEMENT, 96"
(ELY)	EDGE LINE (YELLOW)		SIGN, GROUND OR POLE MOUNTED
(CL)	CHANNELIZING LINE		EXISTING TRUSS OR CANTILEVER SIGN SUPPORT
(SL)	STOP LINE		ONE WAY RAISED PAVEMENT MARKER (RPM)
(CWL)	CROSSWALK LINE		TWO WAY RAISED PAVEMENT MARKER (RPM) (WHITE/ RED)
(TLW)	TRANSVERSE LINE (WHITE)		TWO WAY RAISED PAVEMENT MARKER (RPM) (YELLOW/ RED)
(TLY)	TRANSVERSE LINE (YELLOW)		DELINEATOR (WHITE), TYPE C
(IMW)	ISLAND MARKING (WHITE)		DELINEATOR (YELLOW), TYPE D

N

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED BHB CHECKED MAH

PAVEMENT MARKING AND SIGNING PLAN
I.R. 271: STA. 492+00 TO STA. 506+00

CUY-271-6.04

139
142

Cad File: G:\CIVIL\2001118\TRAFFIC\DWG\129867P12.DWG
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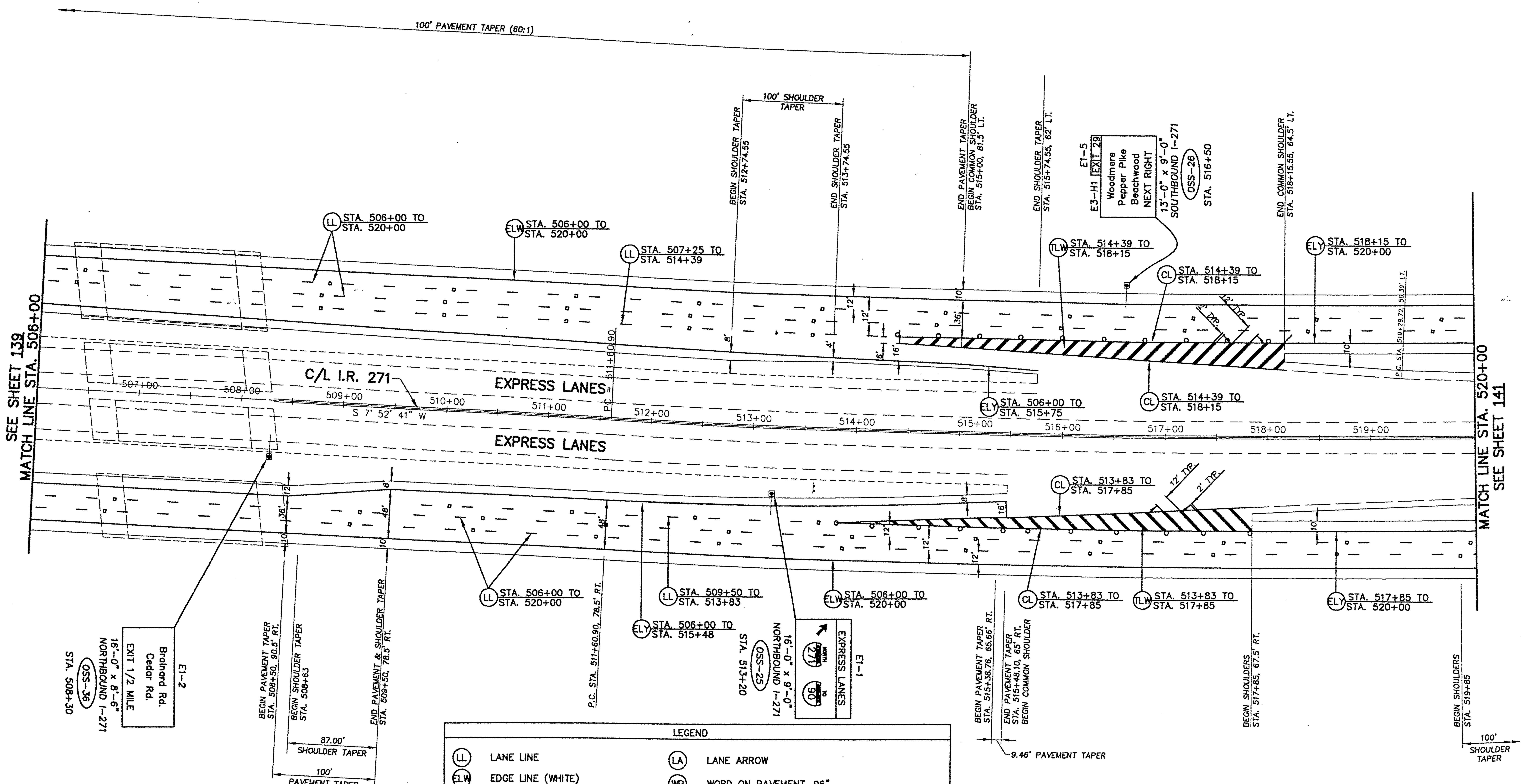
CITY OF BEACHWOOD



LEGEND			
(LL)	LANE LINE	(LA)	LANE ARROW
(ELW)	EDGE LINE (WHITE)	(WP)	WORD ON PAVEMENT, 96"
(ELY)	EDGE LINE (YELLOW)		SIGN, GROUND OR POLE MOUNTED
(CL)	CHANNELIZING LINE		EXISTING TRUSS OR CANTILEVER SIGN SUPPORT
(SL)	STOP LINE		ONE WAY RAISED PAVEMENT MARKER (RPM)
(CWL)	CROSSWALK LINE		TWO WAY RAISED PAVEMENT MARKER (RPM) (WHITE/ RED)
(TLW)	TRANSVERSE LINE (WHITE)		TWO WAY RAISED PAVEMENT MARKER (RPM) (YELLOW/ RED)
(TLY)	TRANSVERSE LINE (YELLOW)		DELINEATOR (WHITE), TYPE C
(IMW)	ISLAND MARKING (WHITE)		DELINEATOR (YELLOW), TYPE D

NOTE:

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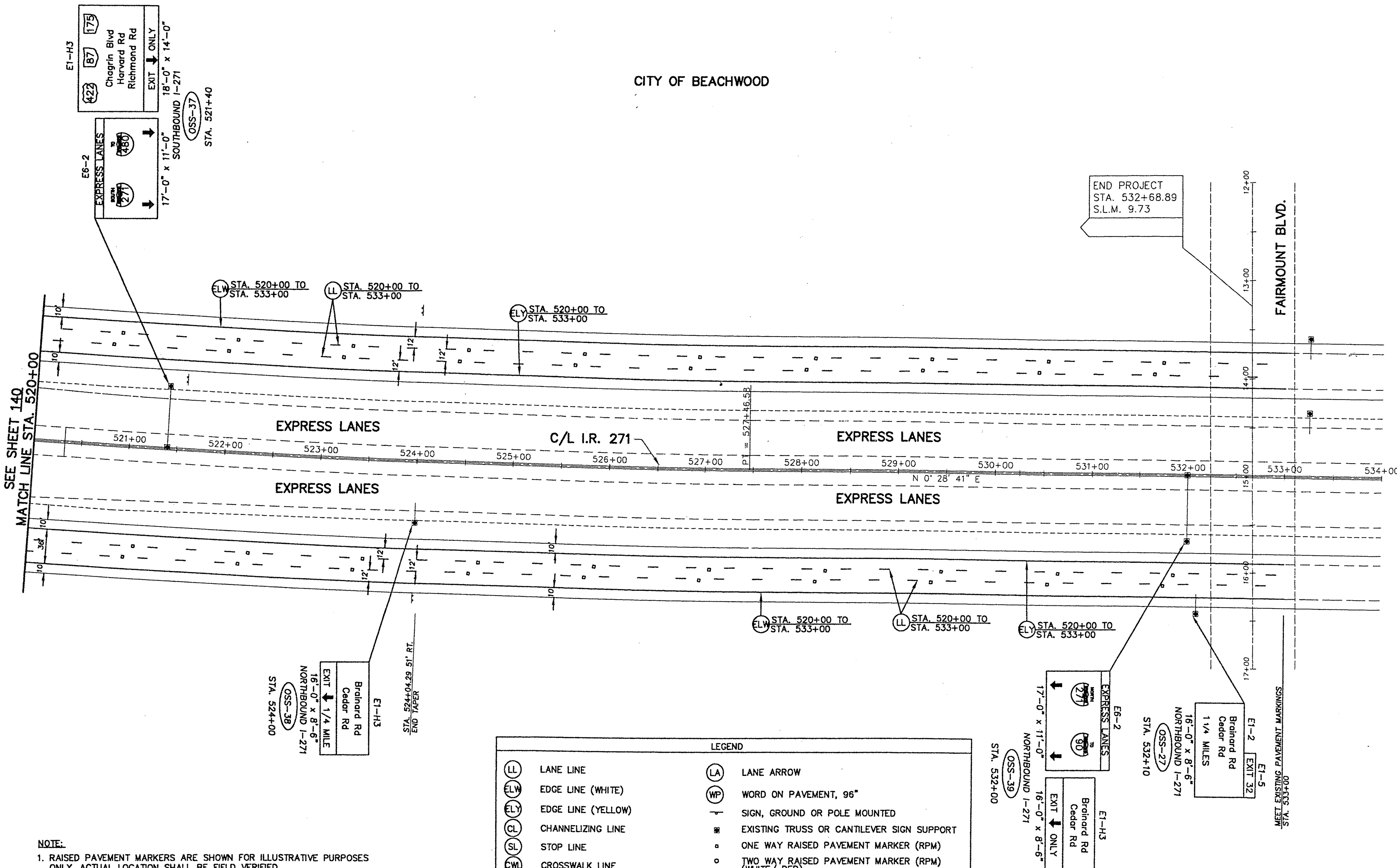
Date: 10-12-04 Time: 9:18 AM TW = 275d0'0.00"
Technician: MKHAT

0 25 50 100 HORIZONTAL SCALE IN FEET

CALCULATED BHB
CHECKED MAH

PAVEMENT MARKING AND SIGNING
I.R. 271: STA. 506+00 TO STA. 520+00

CUY-271-6.04



CITY OF BEACHWOOD
E1-H3
422 87 175
Chagrin Blvd
Harvard Rd
Richmond Rd
EXIT ONLY
18'-0" x 14'-0"
SOUTHBOUND I-271
OSS-37
STA. 521+40
E6-2
EXPRESS LANES
271 SOUTH
TO 480
17'-0" x 11'-0"
END PROJECT
STA. 532+68.89
S.L.M. 9.73
FAIRMOUNT BLVD.
ELW STA. 520+00 TO STA. 533+00
LL STA. 520+00 TO STA. 533+00
ELY STA. 520+00 TO STA. 533+00
SEE SHEET 140
MATCH LINE STA. 520+00
EXPRESS LANES
C/L I.R. 271
PI = 527+46.58
N 0° 28' 41" E
521+00
522+00
523+00
524+00
525+00
526+00
527+00
528+00
529+00
530+00
531+00
532+00
533+00
534+00
12+00
13+00
14+00
15+00
16+00
17+00
E1-H3
Brainard Rd
Cedar Rd
EXIT 1/4 MILE
16'-0" x 8'-6"
NORTHBOUND I-271
OSS-38
STA. 524+00
STA. 524+04.29 51' RT.
END TAPER
E6-2
EXPRESS LANES
271 NORTH
TO 90
17'-0" x 11'-0"
NORTHBOUND I-271
OSS-39
STA. 532+00
E1-H3
Brainard Rd
Cedar Rd
EXIT ONLY
16'-0" x 8'-6"
E1-2
Brainard Rd
Cedar Rd
1 1/4 MILES
16'-0" x 8'-6"
NORTHBOUND I-271
OSS-27
STA. 532+10
E1-5
EXIT 32
MEET EXISTING PAVEMENT MARKINGS
STA. 533+00

LEGEND

(LL) LANE LINE	(LA) LANE ARROW
(ELW) EDGE LINE (WHITE)	(WP) WORD ON PAVEMENT, 96"
(ELY) EDGE LINE (YELLOW)	SIGN, GROUND OR POLE MOUNTED
(CL) CHANNELIZING LINE	EXISTING TRUSS OR CANTILEVER SIGN SUPPORT
(SL) STOP LINE	ONE WAY RAISED PAVEMENT MARKER (RPM)
(CWL) CROSSWALK LINE	TWO WAY RAISED PAVEMENT MARKER (RPM) (WHITE/ RED)
(TLW) TRANSVERSE LINE (WHITE)	TWO WAY RAISED PAVEMENT MARKER (RPM) (YELLOW/ RED)
(TLY) TRANSVERSE LINE (YELLOW)	DELINEATOR (WHITE), TYPE C
(MW) ISLAND MARKING (WHITE)	DELINEATOR (YELLOW), TYPE D

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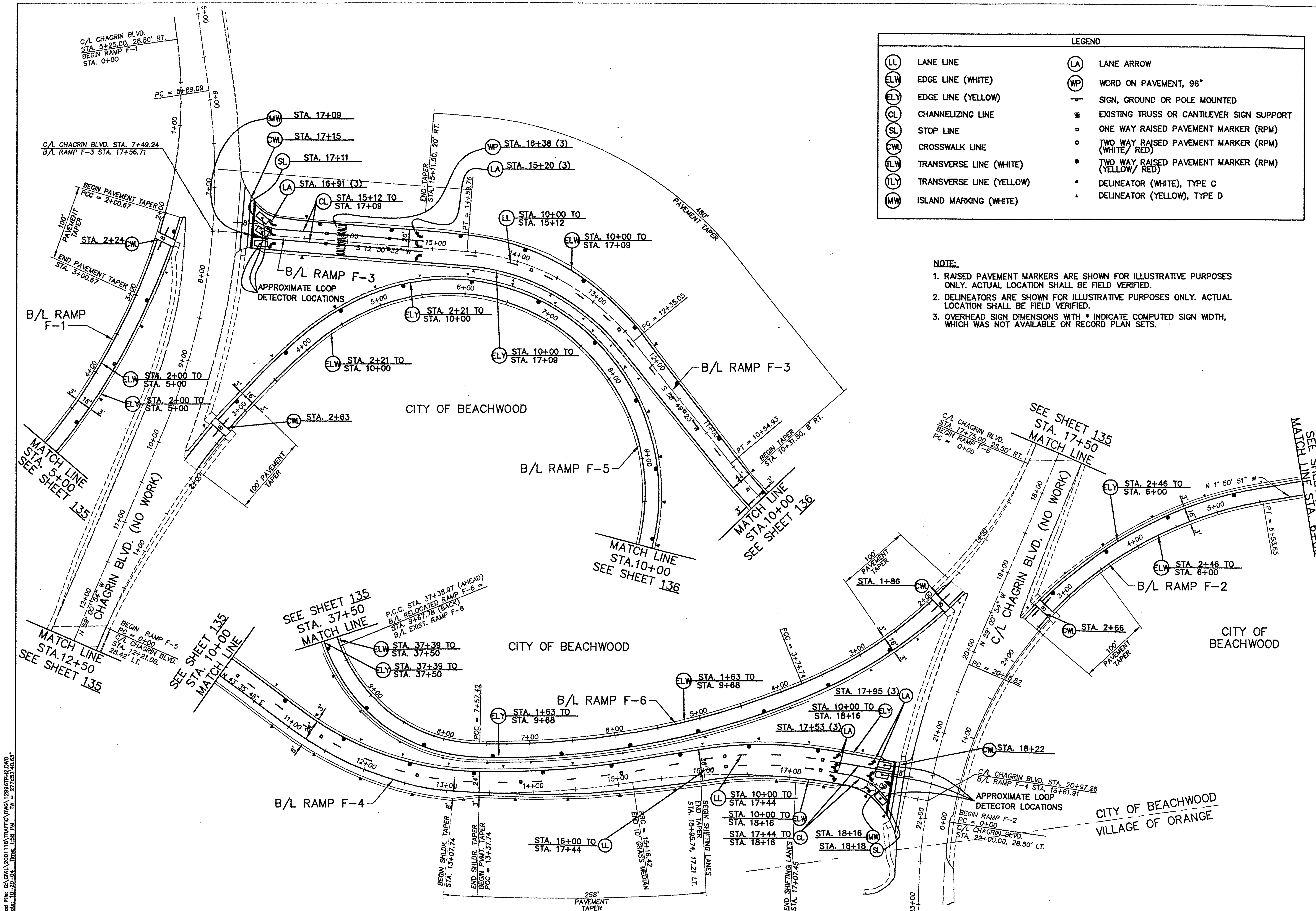
HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED BHB
CHECKED MAH

PAVEMENT MARKING AND SIGNING PLAN
I.R. 271: STA. 520+00 TO END

CUY-271-6.04



LEGEND

(LL)	LANE LINE	(LA)	LANE ARROW
(ELW)	EDGE LINE (WHITE)	(WP)	WORD ON PAVEMENT, 96"
(ELY)	EDGE LINE (YELLOW)		SIGN, GROUND OR POLE MOUNTED
(CL)	CHANNELIZING LINE		EXISTING TRUSS OR CANTILEVER SIGN SUPPORT
(SL)	STOP LINE		ONE WAY RAISED PAVEMENT MARKER (RPM)
(CWL)	CROSSWALK LINE		TWO WAY RAISED PAVEMENT MARKER (RPM) (WHITE/ RED)
(TLW)	TRANSVERSE LINE (WHITE)		TWO WAY RAISED PAVEMENT MARKER (RPM) (YELLOW/ RED)
(TLY)	TRANSVERSE LINE (YELLOW)		DELINEATOR (WHITE), TYPE C
(MW)	ISLAND MARKING (WHITE)		DELINEATOR (YELLOW), TYPE D

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CALCULATED BHB
CHECKED MAH

PAVEMENT MARKING AND SIGNING PLAN
CHAGRIN BLVD. RAMPS

CUY-271-6.04