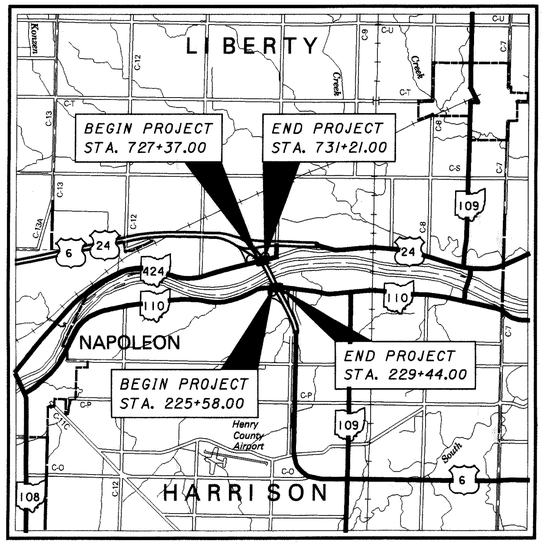

LOCATION MAP

LATITUDE: 41°24'35" LONGITUDE: 84°03'35"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED
INTERSTATE & DIVIDED HIGHWAY
UNDIVIDED STATE & FEDERAL ROUTES
OTHER ROADS

DESIGN DESIGNATION

	S.R. 110	S.R. 424
CURRENT ADT (2003)	2300	2100
DESIGN YEAR ADT (2023)	3200	2700
DESIGN HOURLY VOLUME (2023)	320	270
DIRECTIONAL DISTRIBUTION	55%	55%
TRUCKS (24 HOUR B&C)	29%	6%
DESIGN SPEED	55 MPH	55 MPH
LEGAL SPEED	55 MPH	55 MPH

DESIGN FUNCTIONAL CLASSIFICATION -
S.R. 110 - RURAL COLLECTOR / NON - NHS
S.R. 424 - RURAL COLLECTOR / NON - NHS

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATE	SHEET NUMBERS
VERTICAL CLEARANCE	2/14/02	28 & 47

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

PLAN PREPARED BY:

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF PRODUCTION
1980 WEST BROAD STREET
COLUMBUS, OHIO 43223

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

HEN-110/424-4.18/13.78

LIBERTY TOWNSHIP
HARRISON TOWNSHIP
HENRY COUNTY

INDEX OF SHEETS:

ENGINEERS SEAL: (FOR ROADWAY WORK)	ENGINEERS SEAL: (FOR STRUCTURES WORK)
STATE OF OHIO JULIE A. DONOVAN E-53073 REGISTERED PROFESSIONAL ENGINEER	STATE OF OHIO TODD A. ANTONIS 75004 REGISTERED PROFESSIONAL ENGINEER
Julie A. Donovan 3/13/03	Todd A. Antonis 03-13-03

STANDARD CONSTRUCTION DRAWINGS

										SUPPLEMENTAL SPECIFICATIONS	
BP-3.1	7/28/00	RM-4.3	4/18/03	TC-41.20	1/19/01	MT-97.10	4/19/02	AS-1-81	7/19/02	802	7/19/02
		RM-4.5	4/18/03	TC-42.20	4/20/01	MT-97.11	4/19/02				
BP-5.1	7/28/00									832	2/12/03
								SICD-1-96	7/19/02	833	2/12/03
F-2.1	7/28/00	CB-1.1	7/19/02	TC-52.10	4/20/01	MT-101.60	10/18/02			841	10/12/99
				TC-52.20	4/20/01					864	7/11/00
GR-1.1	4/18/03	CB-2.2	7/19/02							898	7/18/03
GR-1.2	4/18/03					MT-105.10	10/18/02			908	4/19/02
GR1.3	4/18/03			TC-61.10	1/19/01	MT-105.11	10/18/02			954	9/9/97
		HW-2.1	7/19/02							SPECIAL PROVISIONS	
GR-2.1	4/18/03	HW-2.2	7/19/02								
				TC-65.10	10/19/01						
GR-3.1	4/18/03			TC-65.12	10/19/01						
GR-3.2	4/18/03	DM-1.1	7/18/03								
		DM-1.4	7/19/02								
GR-4.2	4/18/03	DM-4.4	7/19/02								

PROJECT DESCRIPTION

IMPROVEMENT OF 0.07 MILES OF STATE ROUTE 110 AND 0.07 MILES OF STATE ROUTE 424 BY REHABILITATION OF A STRUCTURE OVER U.S. ROUTE 6, ON EACH OF THE STATE ROUTES, INCLUDING APPROACH RECONSTRUCTION.

PROJECT EARTH DISTURBED AREA:	5.4 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	2.1 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	8 ACRES

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 REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 8.

APPROVED Todd A. Antonis
DATE 15 MAY 2003 DISTRICT DEPUTY DIRECTOR

APPROVED Gordon Proctor Jr.
DATE 5-13-03 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E 032(922)
PID NO. 22621
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
HEN-110/424-4.18/13.78
1/115

HEN - SR 110/424 - 4.18/13.78
030541 PID - 22621
Dist 2 11/5/2003

i:\pr\project\HEN\2262\dgn\2262lgt.dgn 13-MAR-2003 7:47AM gr'sysavy

DESIGN DESIGNATION

	S.R. 110	S.R. 424
CURRENT ADT (2003)	2300	2100
DESIGN YEAR ADT (2023)	3200	2700
DESIGN HOURLY VOLUME (2023)	320	270
DIRECTIONAL DISTRIBUTION	55%	55%
TRUCKS (24 HOUR B&C)	29%	6%
DESIGN SPEED	55 MPH	55 MPH
LEGAL SPEED	55 MPH	55 MPH

MAUMEE RIVER

LIBERTY TOWNSHIP

HARRISON TOWNSHIP

℄ Construction U.S. 6

℄ Construction S.R. 424

℄ Construction S.R. 110

℄ Construction Ramp C

℄ Construction Ramp A

℄ Ramp A

Station 734+13.75 ℄ S.R. 424 = Station 848+59.55 ℄ Ramp C

Station 729+44.44 ℄ S.R. 424 = Station 862+75.70 ℄ U.S. 6

Station 722+05.79 ℄ S.R. 424 = Station 858+76.35 ℄ Ramp A

Station 227+50.57 ℄ S.R. 110 = Station 883+89.08 ℄ U.S. 6

Station 235+55.63 ℄ S.R. 110 = Station 885+83.84 ℄ Ramp C

Station 222+40.00 ℄ S.R. 110 = Station 897+20.43 ℄ Ramp A

Structure HEN-6-1679

Structure HEN-424-1379

Structure HEN-110-0419

END WORK STA. 737+30.00

END PROJECT STA. 731+21.00 S.L.M. - 13.85

END WORK STA. 849+45.00

TE-21

BEGIN WORK STA. 860+40.00

SUSPEND WORK STA. 864+20.00

BEGIN PROJECT STA. 727+37.00 S.L.M. - 13.78

RESUME WORK STA. 880+90.00

END WORK STA. 235+35.00

END PROJECT STA. 229+44.00 S.L.M. - 4.25

END WORK STA. 885+55.00

BEGIN PROJECT STA. 225+58.00 S.L.M. - 4.18

BEGIN WORK STA. 896+65.00

BEGIN WORK STA. 715+50.00

BEGIN WORK STA. 220+50.00

MATCHLINE STA. 717+00

MATCHLINE STA. 717+00

STATION EQUATION: Sta 233+14.62 BK = Sta 233+15.26 AH

STATION EQUATION: Sta 220+16.75 BK = Sta 220+21.86 AH

P.I. Sta = 229+84.02
Δ = 8° 49′ 58″ (RT)
Dc = 1° 20′ 00″
R = 4,297.39′
T = 331.91′
L = 662.50′
E = 12.80′
e = 0.032

PT Sta. 233+14.62

S 85° 35′ 31″ E

S 4° 24′ 30″ W

P.I. Sta = 720+75.58
Δ = 1° 10′ 00″ (LT)
Dc = 0° 10′ 00″
R = 34,377.26′
T = 350.01′
L = 700.00′
E = 1.78′

PT Sta. 724+25.57

S 14° 55′ 01″ E

PI Sta. 864+32.56
Δ = 0° 03′ 15″ Lt.

S 28° 06′ 45″ E

S 28° 03′ 30″ E

N 74° 43′ 00″ E

N 15° 17′ 00″ W

N 85° 34′ 31″ E

N 12° 31′ 22″ W

PC Sta. 717+25.57

PC Sta. 226+52.11

ST Sta. 220+16.75

CS Sta. 216+16.75

850+00 735+00 730+00 725+00 720+00 715+00 860+00 865+00 870+00 875+00 880+00 885+00 235+00 230+00 225+00 220+00 215+00 895+00

P.I. Sta = 215+11.88
Δ = 24° 51′ 30″ (RT)
Dc = 4° 00′ 00″
R = 1,432.40′
Ls = 400.00′
Theta = 8° 00′ 00″
LT = 266.94′
ST = 133.58′

x = 399.22′
y = 18.59′
k = 199.87′
p = 4.65′
Δc = 8° 51′ 30″ (RT)
Lc = 221.46′
Ts = 516.59′
Es = 39.14′

HORIZONTAL SCALE IN FEET 0 50 100 200

SCHEMATIC PLAN

HEN-110/424-4.18/13.78

2/115

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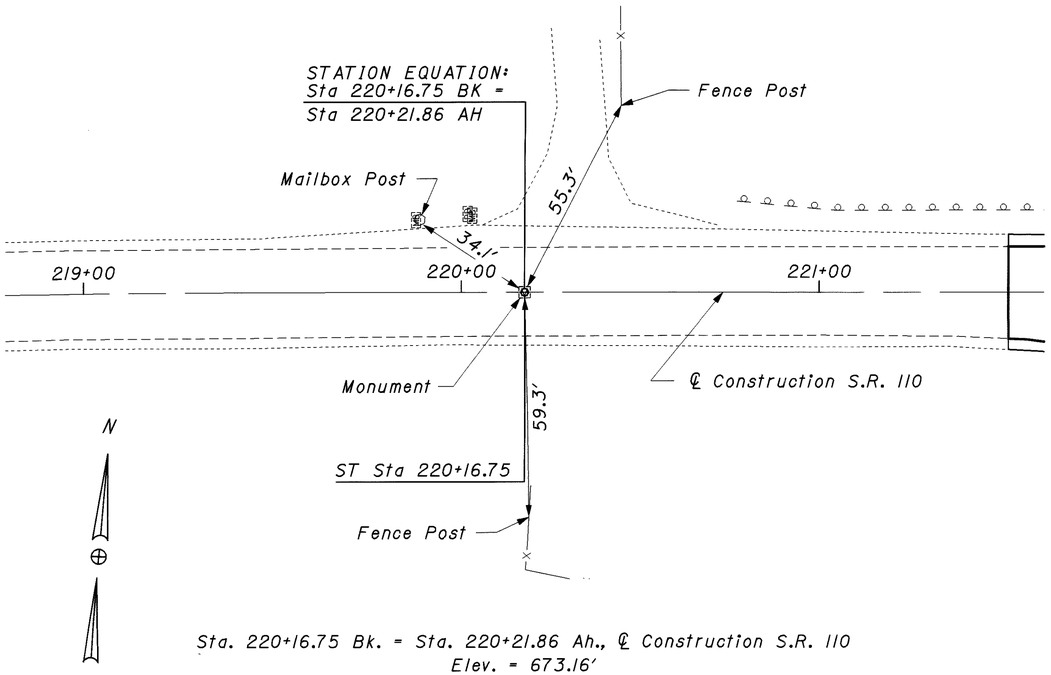
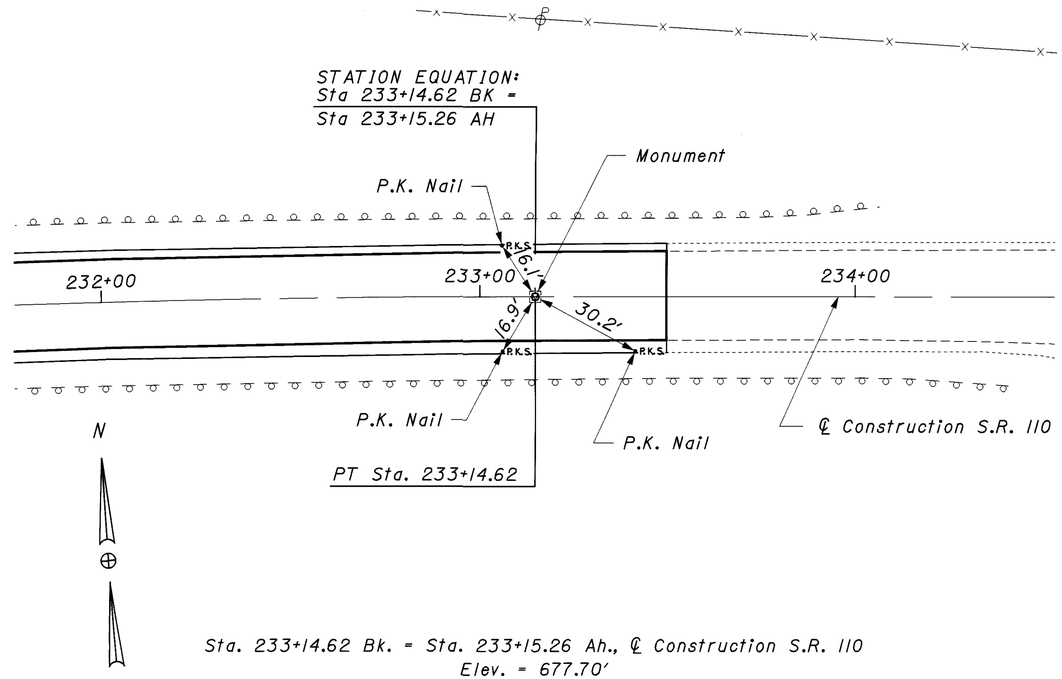
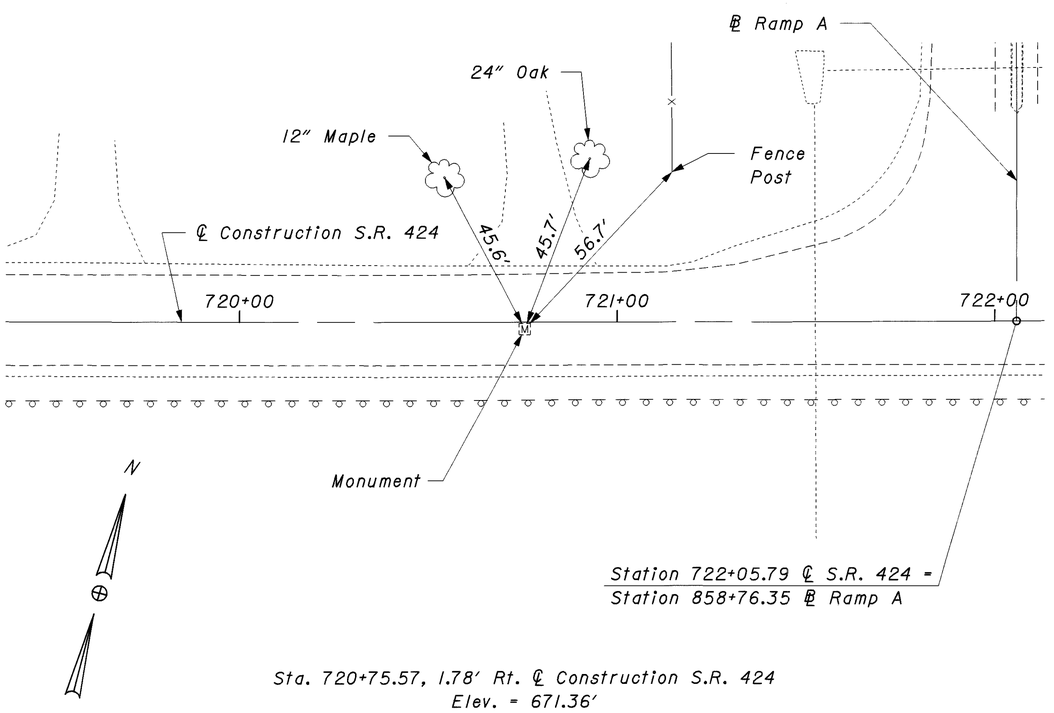


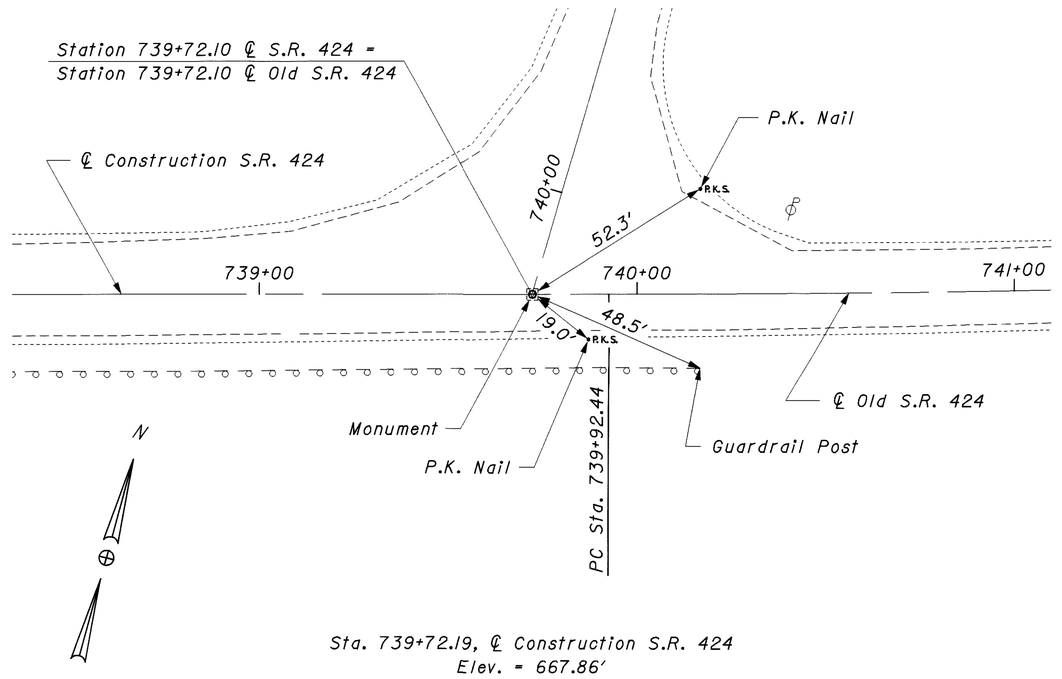
Sta. 220+16.75 Bk. = Sta. 220+21.86 Ah., ℄ Construction S.R. 110
Elev. = 673.16'
S.R. 110



Sta. 233+14.62 Bk. = Sta. 233+15.26 Ah., ℄ Construction S.R. 110
Elev. = 677.70'
S.R. 110



Sta. 720+75.57, 1.78' Rt. ℄ Construction S.R. 424
Elev. = 671.36'
S.R. 424

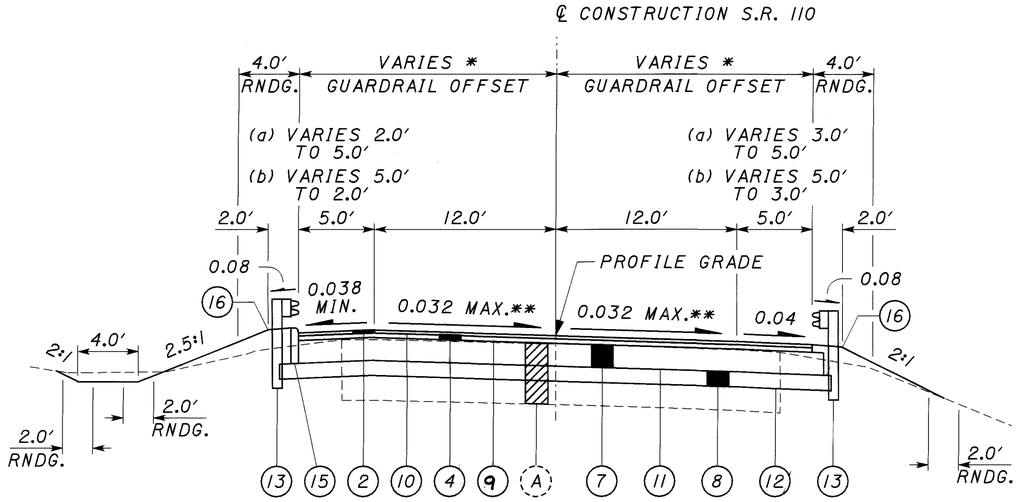


Sta. 739+72.19, ℄ Construction S.R. 424
Elev. = 667.86'
S.R. 424

CONTROL POINTS

HEN-110/424-4.18/13.78

3
115

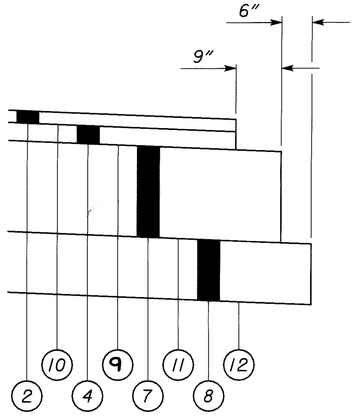


SUPERELEVATED SECTION

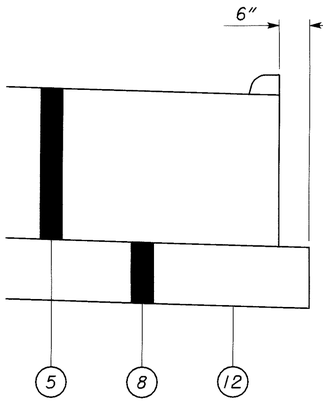
SECTION APPLIES:

(a)	STA. 225+33.00 TO STA. 225+58.00 - S.R. 110 =	25.00	FOOT
	STA. 225+58.00 TO STA. 226+08.88 - S.R. 110 =	50.88	FOOT
	STA. 228+93.38 TO STA. 229+44.00 - S.R. 110 =	50.62	FOOT
(b)	STA. 229+44.00 TO STA. 229+69.00 - S.R. 110 =	25.00	FOOT
	TOTAL LENGTH =	151.50	FOOT

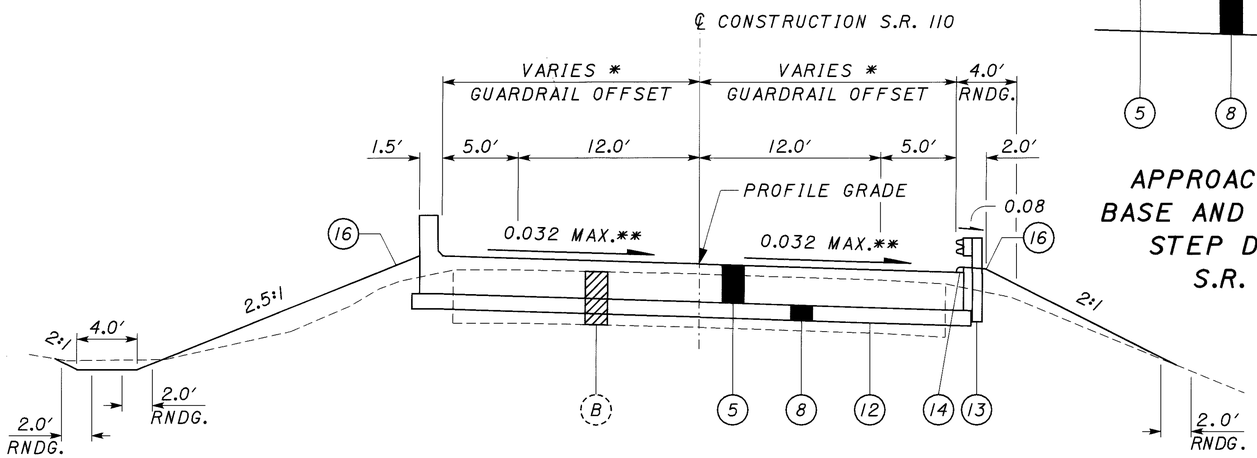
NORMAL CROWN FROM STA. 225+33.00 TO STA. 225+41.43 - S.R. 110



ASPHALT PAVEMENT BASE AND SUBBASE STEP DETAIL S.R. 110



APPROACH SLAB BASE AND SUBBASE STEP DETAIL S.R. 110



APPROACH SLAB SECTION

SECTION APPLIES:

STA. 226+08.88 TO STA. 226+33.88 - S.R. 110 =	25.00	FOOT
STA. 228+68.38 TO STA. 228+93.38 - S.R. 110 =	25.00	FOOT
TOTAL LENGTH =	50.00	FOOT

STRUCTURE HEN-110-0419 STA. 226+33.88 TO STA. 228+68.38

* GUARDRAIL TRANSITION STATIONS

S.R. 110	
22' Offset	17' Offset
Sta. 224+52.0 Lt.	Sta. 225+76.9 Lt.
Sta. 224+48.2 Rt.	Sta. 225+73.1 Rt.
Sta. 230+52.2 Lt.	Sta. 229+27.9 Lt.
Sta. 230+52.1 Rt.	Sta. 229+26.6 Rt.

NOTE: TRANSITION FROM TYPE 4-A CURB OFF THE APPROACH SLAB TO TYPE 6 CURB IN 10'.

LEGEND

(1) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (VARIES 0 TO 2½")

(2) ITEM 442 - 1¼" ASPHALT CONCRETE SURFACE COURSE, 9.5 mm, TYPE A (448)

(3) ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A (448), AS PER PLAN (VARIES 0 TO 3")

(4) ITEM 442 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A (448), AS PER PLAN

(5) ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=15")

(6) ITEM 302 - 7" ASPHALT CONCRETE BASE, PG64-22

(7) ITEM 302 - 9" ASPHALT CONCRETE BASE, PG64-22

(8) ITEM 304 - 6" AGGREGATE BASE

(9) ITEM 407 - TACK COAT (0.075 GAL./SQ. YD.)

(10) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL./SQ. YD.)

(11) ITEM 408 - PRIME COAT (0.4 GAL./SQ. YD.)

(12) ITEM 204 - SUBGRADE COMPACTION

(13) ITEM 606 - GUARDRAIL, TYPE 5, USING 9 FOOT POSTS

(14) ITEM 609 - CURB, TYPE 4-A INCLUDED WITH APPROACH SLAB

(15) ITEM 609 - CURB, TYPE 6 (SEE NOTE)

(16) ITEM 659 - SEEDING AND MULCHING

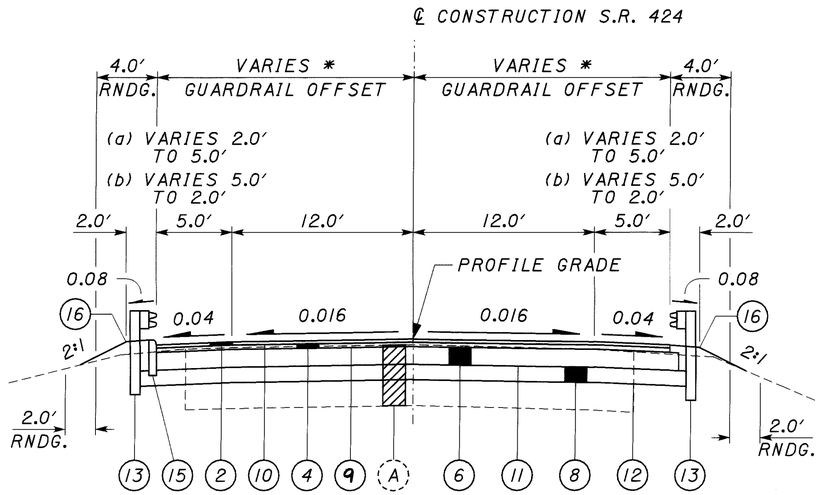
(A) EXISTING ASPHALT PAVEMENT (±24")

(B) EXISTING APPROACH SLAB (±13") WITH ASPHALT OVERLAYS (±8")

** SEE SHEET 70 FOR THE SUPERELEVATION TABLE

TYPICAL SECTIONS

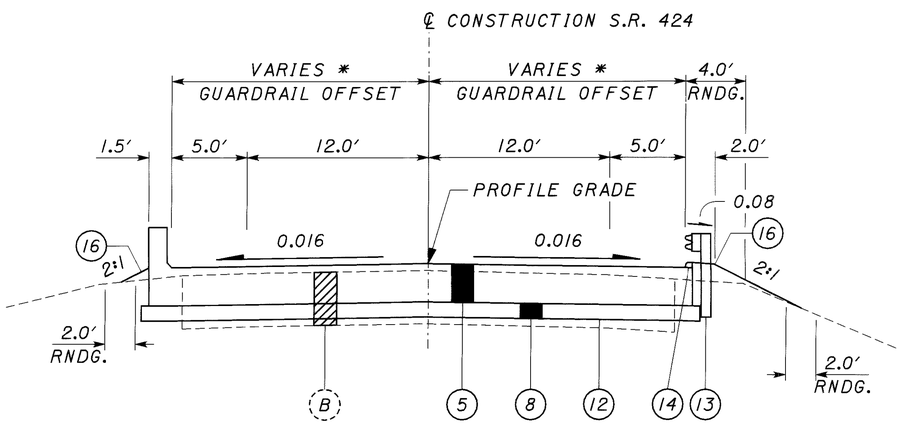
HEN-110/424-4.18/13.78



NORMAL SECTION

SECTION APPLIES:

(a)	STA. 727+12.00 TO STA. 727+37.00 - S.R. 424 =	25.00	FOOT
	STA. 727+37.00 TO STA. 727+87.67 - S.R. 424 =	50.67	FOOT
	STA. 730+70.33 TO STA. 731+21.00 - S.R. 424 =	50.67	FOOT
(b)	STA. 731+21.00 TO STA. 731+46.00 - S.R. 424 =	25.00	FOOT
	TOTAL LENGTH =	151.34	FOOT

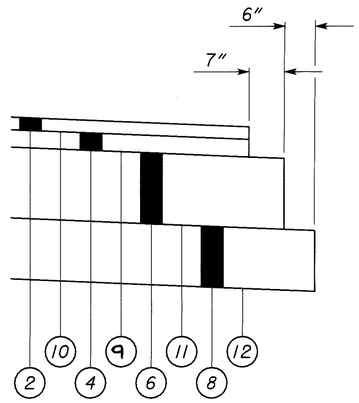


APPROACH SLAB SECTION

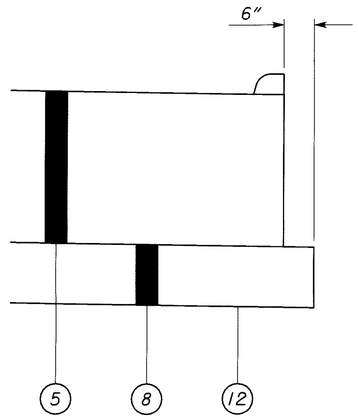
SECTION APPLIES:

STA. 727+87.67 TO STA. 728+12.67 - S.R. 424 =	25.00	FOOT
STA. 730+45.33 TO STA. 730+70.33 - S.R. 424 =	25.00	FOOT
TOTAL LENGTH =	50.00	FOOT

STRUCTURE HEN-424-1379 STA. 728+12.67 TO STA. 730+45.33



ASPHALT PAVEMENT BASE AND SUBBASE STEP DETAIL S.R. 424



APPROACH SLAB BASE AND SUBBASE STEP DETAIL S.R. 424

* GUARDRAIL TRANSITION STATIONS

S.R. 424	
22′ Offset	17′ Offset
Sta. 726+33.8 Lt.	Sta. 727+58.7 Lt.
Sta. 726+30.4 Rt.	Sta. 727+55.3 Rt.
Sta. 732+27.6 Lt.	Sta. 731+02.7 Lt.
Sta. 732+24.2 Rt.	Sta. 730+99.3 Rt.

LEGEND

(1) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (VARIES 0 TO 2½″)

(2) ITEM 442 - 1¼″ ASPHALT CONCRETE SURFACE COURSE, 9.5 mm, TYPE A (448)

(3) ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A (448), AS PER PLAN (VARIES 0 TO 3″)

(4) ITEM 442 - 1¾″ ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A (448), AS PER PLAN

(5) ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=15″)

(6) ITEM 302 - 7″ ASPHALT CONCRETE BASE, PG64-22

(7) ITEM 302 - 9″ ASPHALT CONCRETE BASE, PG64-22

(8) ITEM 304 - 6″ AGGREGATE BASE

(9) ITEM 407 - TACK COAT (0.075 GAL./SQ. YD.)

(10) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL./SQ. YD.)

(11) ITEM 408 - PRIME COAT (0.4 GAL./SQ. YD.)

(12) ITEM 204 - SUBGRADE COMPACTION

(13) ITEM 606 - GUARDRAIL, TYPE 5, USING 9 FOOT POSTS

(14) ITEM 609 - CURB, TYPE 4-A INCLUDED WITH APPROACH SLAB

(15) ITEM 609 - CURB, TYPE 6 (SEE NOTE SHEET 4)

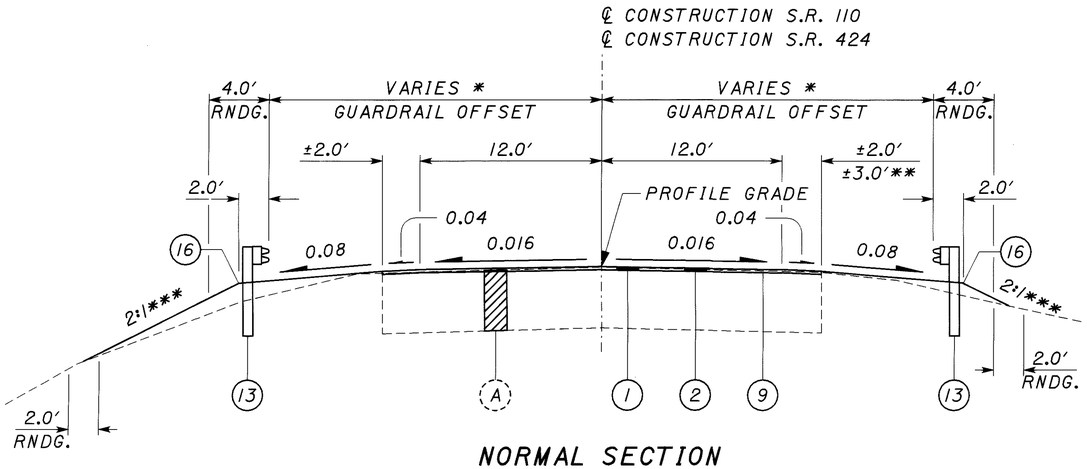
(16) ITEM 659 - SEEDING AND MULCHING

(A) EXISTING ASPHALT PAVEMENT (±24″)

(B) EXISTING APPROACH SLAB (±13″) WITH ASPHALT OVERLAYS (±8″)

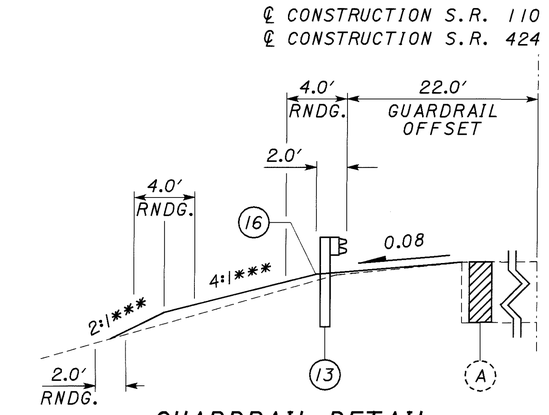
TYPICAL SECTIONS

HEN-110/424-4.18/13.78



NORMAL SECTION

SECTION APPLIES:
** STA. 221+50.00 TO STA. 225+33.00 - S.R. 110 = 383.00 FOOT
STA. 723+25.00 TO STA. 723+59.00 - S.R. 424 = 34.00 FOOT
STA. 735+31.00 TO STA. 735+50.00 - S.R. 424 = 19.00 FOOT
TOTAL LENGTH = 436.00 FOOT



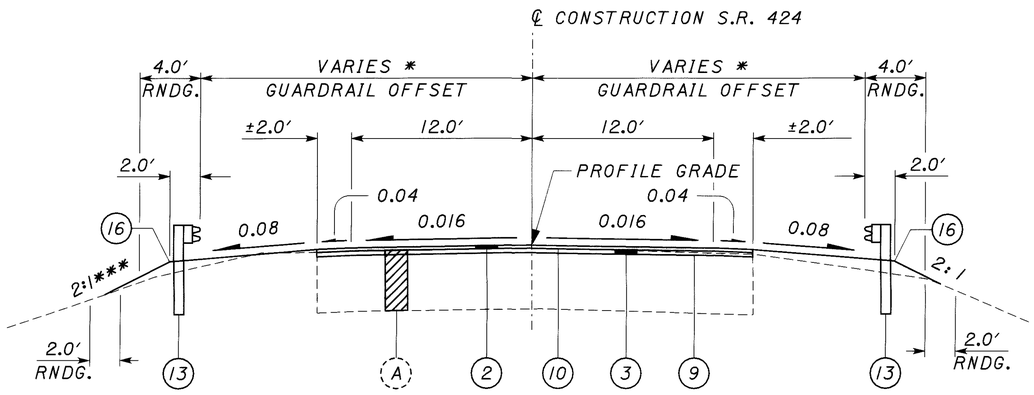
GUARDRAIL DETAIL

SECTION APPLIES:
STA. 220+70.80 TO STA. 221+50.00 LT. - S.R. 110
STA. 233+50.00 TO STA. 235+26.50 LT. - S.R. 110
STA. 233+50.00 TO STA. 233+85.30 RT. - S.R. 110
STA. 715+52.50 TO STA. 723+25.00 RT. - S.R. 424
STA. 735+50.00 TO STA. 737+22.80 RT. - S.R. 424

* GUARDRAIL TRANSITION STATIONS

S.R. 110	
22′ Offset	17′ Offset
Sta. 224+52.0 Lt.	Sta. 225+76.9 Lt.
Sta. 224+48.2 Rt.	Sta. 225+73.1 Rt.
Sta. 230+52.2 Lt.	Sta. 229+27.9 Lt.
Sta. 230+52.1 Rt.	Sta. 229+26.6 Rt.

S.R. 424	
22′ Offset	17′ Offset
Sta. 726+33.8 Lt.	Sta. 727+58.7 Lt.
Sta. 726+30.4 Rt.	Sta. 727+55.3 Rt.
Sta. 732+27.6 Lt.	Sta. 731+02.7 Lt.
Sta. 732+24.2 Rt.	Sta. 730+99.3 Rt.



NORMAL SECTION

SECTION APPLIES:
STA. 723+59.00 TO STA. 727+12.00 - S.R. 424 = 353.00 FOOT
STA. 731+46.00 TO STA. 735+31.00 - S.R. 424 = 385.00 FOOT
TOTAL LENGTH = 738.00 FOOT

*** UNLESS OTHERWISE SHOWN ON CROSS SECTIONS.

LEGEND

(1) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (VARIES 0 TO 2½″)

(2) ITEM 442 - 1¼″ ASPHALT CONCRETE SURFACE COURSE, 9.5 mm, TYPE A (448)

(3) ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A (448), AS PER PLAN (VARIES 0 TO 3″)

(4) ITEM 442 - 1¾″ ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A (448), AS PER PLAN

(5) ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=15″)

(6) ITEM 302 - 7″ ASPHALT CONCRETE BASE, PG64-22

(7) ITEM 302 - 9″ ASPHALT CONCRETE BASE, PG64-22

(8) ITEM 304 - 6″ AGGREGATE BASE

(9) ITEM 407 - TACK COAT (0.075 GAL./SQ. YD.)

(10) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL./SQ. YD.)

(11) ITEM 408 - PRIME COAT (0.4 GAL./SQ. YD.)

(12) ITEM 204 - SUBGRADE COMPACTION

(13) ITEM 606 - GUARDRAIL, TYPE 5, USING 9 FOOT POSTS

(14) ITEM 609 - CURB, TYPE 4-A INCLUDED WITH APPROACH SLAB

(15) ITEM 609 - CURB, TYPE 6 (SEE NOTE SHEET 4)

(16) ITEM 659 - SEEDING AND MULCHING

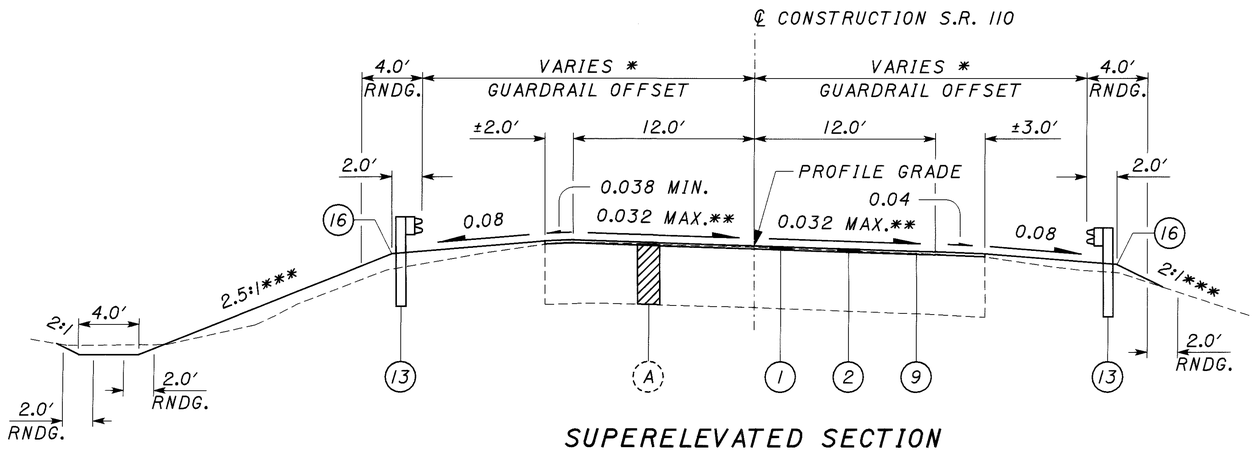
(A) EXISTING ASPHALT PAVEMENT (±24″)

(B) EXISTING APPROACH SLAB (±13″) WITH ASPHALT OVERLAYS (±8″)

TYPICAL SECTIONS

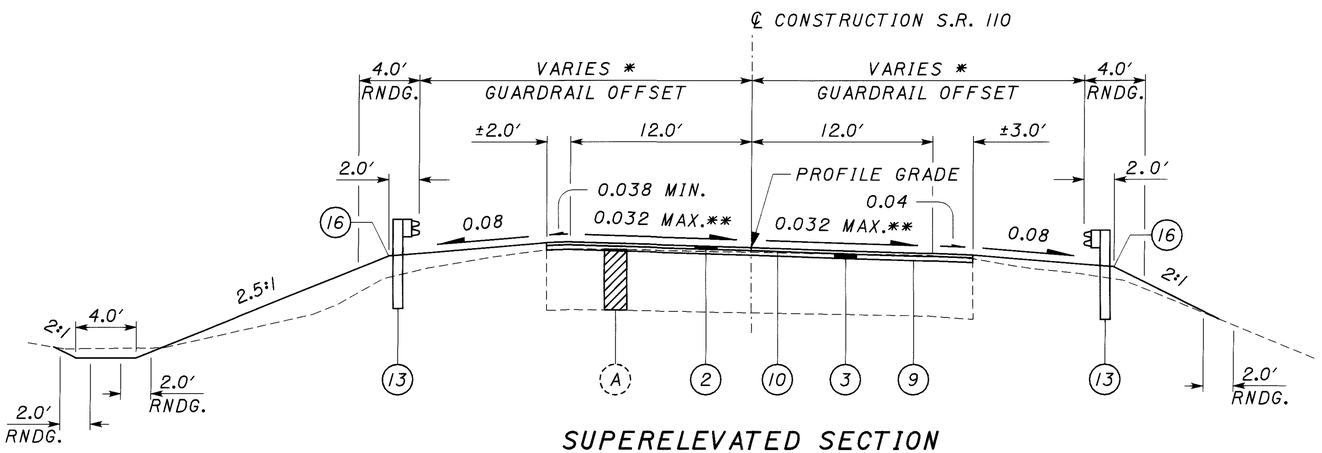
HEN-110/424-4.18/13.78

6
115



SUPERELEVATED SECTION

SECTION APPLIES:
STA. 229+97.00 TO STA. 230+57.00 - S.R. 110 = 60.00 FOOT
STA. 232+44.00 TO STA. 233+50.00 - S.R. 110 = 106.00 FOOT
TOTAL LENGTH = 166.00 FOOT



SUPERELEVATED SECTION

SECTION APPLIES:
STA. 229+69.00 TO STA. 229+97.00 - S.R. 110 = 28.00 FOOT
STA. 230+57.00 TO STA. 232+44.00 - S.R. 110 = 187.00 FOOT
TOTAL LENGTH = 215.00 FOOT

*** UNLESS OTHERWISE SHOWN ON CROSS SECTIONS.

* GUARDRAIL TRANSITION STATIONS

S.R. 110	
22′ Offset	17′ Offset
Sta. 224+52.0 Lt.	Sta. 225+76.9 Lt.
Sta. 224+48.2 Rt.	Sta. 225+73.1 Rt.
Sta. 230+52.2 Lt.	Sta. 229+27.9 Lt.
Sta. 230+52.1 Rt.	Sta. 229+26.6 Rt.

LEGEND

(1) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (VARIES 0 TO 2½″)

(2) ITEM 442 - 1¼″ ASPHALT CONCRETE SURFACE COURSE, 9.5 mm, TYPE A (448)

(3) ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A (448), AS PER PLAN (VARIES 0 TO 3″)

(4) ITEM 442 - 1¾″ ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A (448), AS PER PLAN

(5) ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=15″)

(6) ITEM 302 - 7″ ASPHALT CONCRETE BASE, PG64-22

(7) ITEM 302 - 9″ ASPHALT CONCRETE BASE, PG64-22

(8) ITEM 304 - 6″ AGGREGATE BASE

(9) ITEM 407 - TACK COAT (0.075 GAL./SQ. YD.)

(10) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL./SQ. YD.)

(11) ITEM 408 - PRIME COAT (0.4 GAL./SQ. YD.)

(12) ITEM 204 - SUBGRADE COMPACTION

(13) ITEM 606 - GUARDRAIL, TYPE 5, USING 9 FOOT POSTS

(14) ITEM 609 - CURB, TYPE 4-A INCLUDED WITH APPROACH SLAB

(15) ITEM 609 - CURB, TYPE 6 (SEE NOTE SHEET 4)

(16) ITEM 659 - SEEDING AND MULCHING

(A) EXISTING ASPHALT PAVEMENT (±24″)

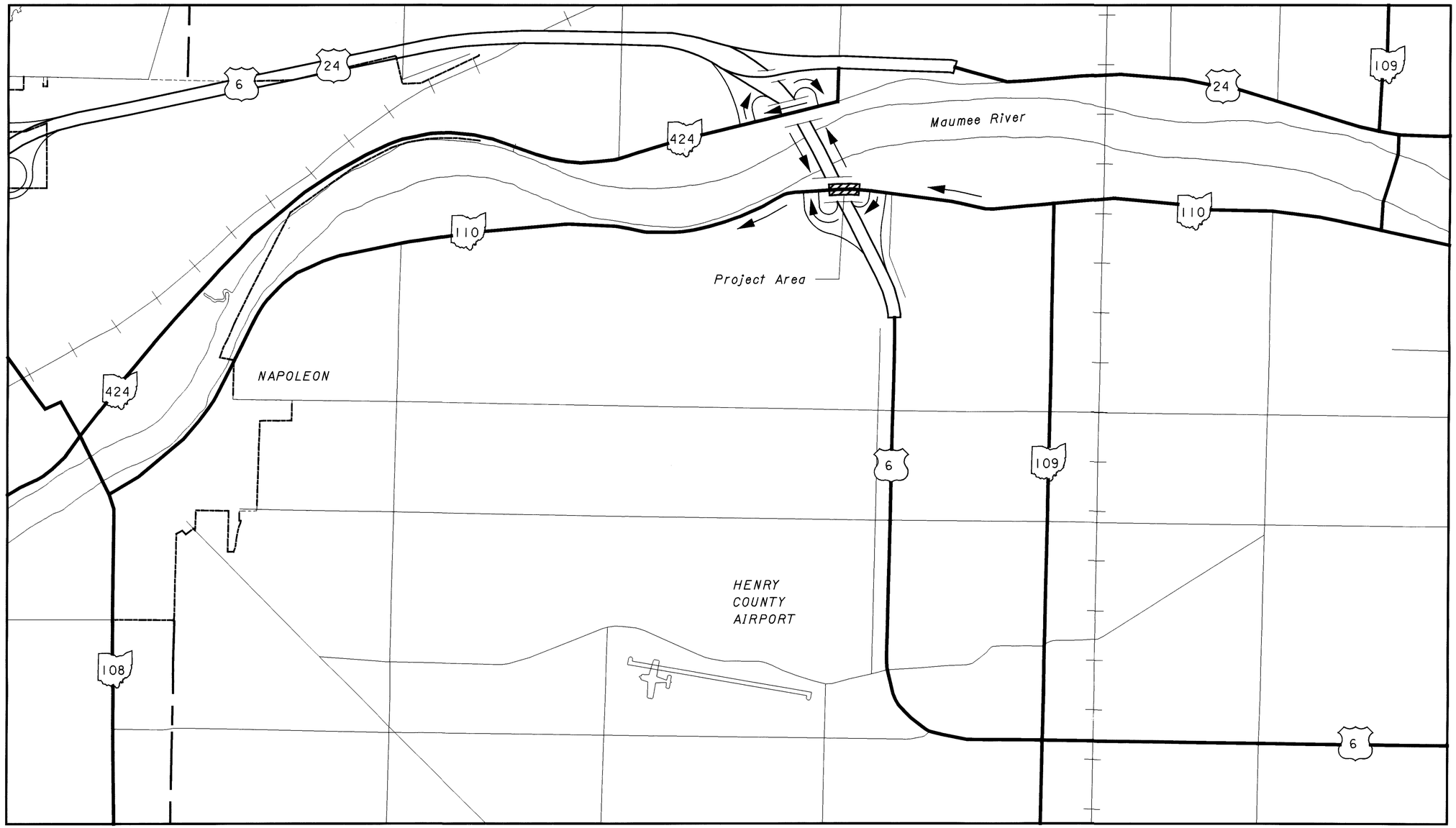
(B) EXISTING APPROACH SLAB (±13″) WITH ASPHALT OVERLAYS (±8″)

** SEE SHEET 70 FOR THE SUPERELEVATION TABLE

TYPICAL SECTIONS

HEN-110/424-4.18/13.78

S.R. 110 WESTBOUND DETOUR



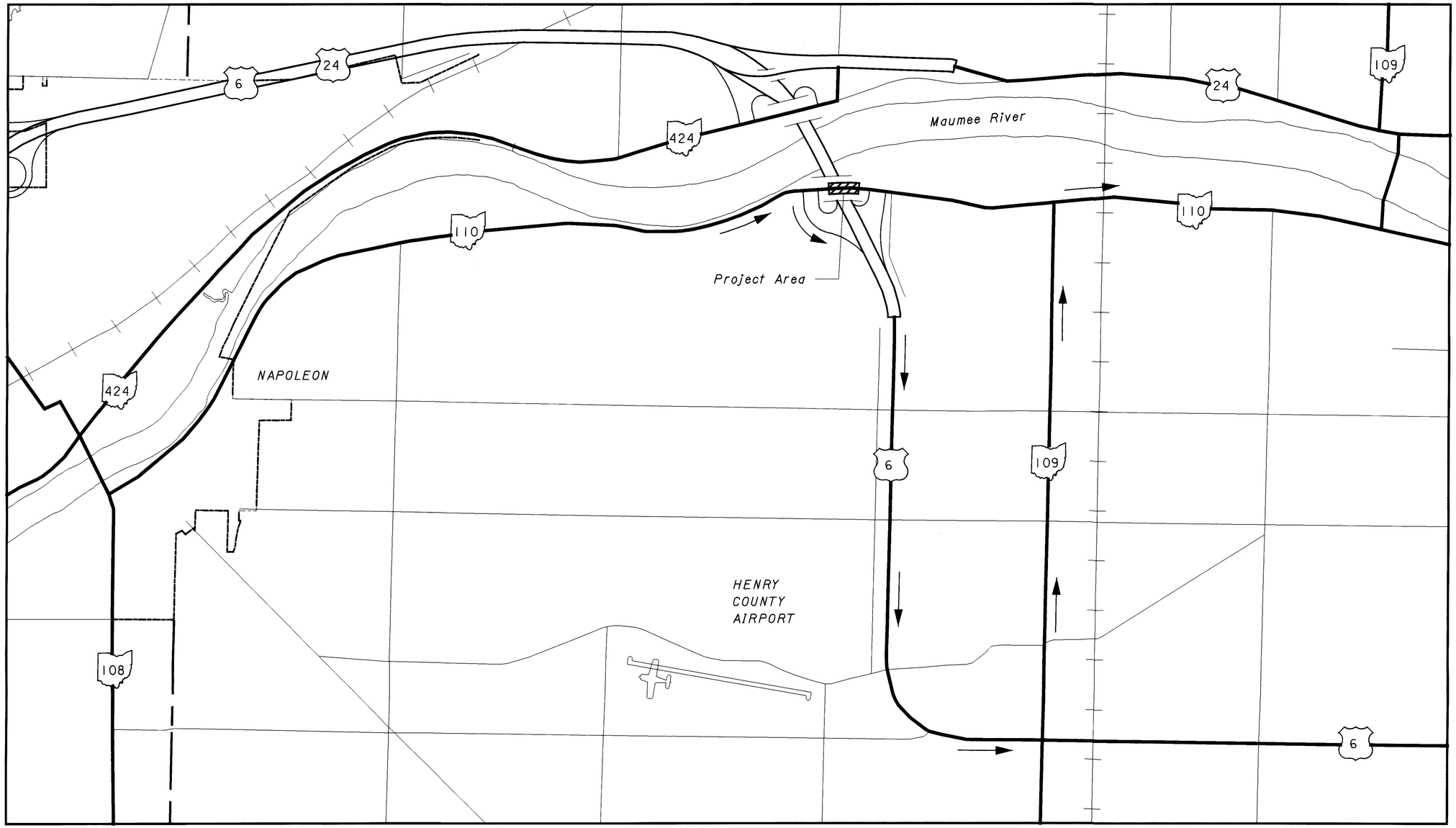
THE CONTRACTOR SHALL INSTALL ROAD CLOSED SIGNS AS PER SHEET 10. ALL OTHER DETOUR SIGNING SHALL BE PROVIDED BY DISTRICT FORCES.

DETOUR MAP
S.R. 110 WESTBOUND

HEN-110/ 424-4.18/ 13.78

8
115

S.R. 110 EASTBOUND DETOUR



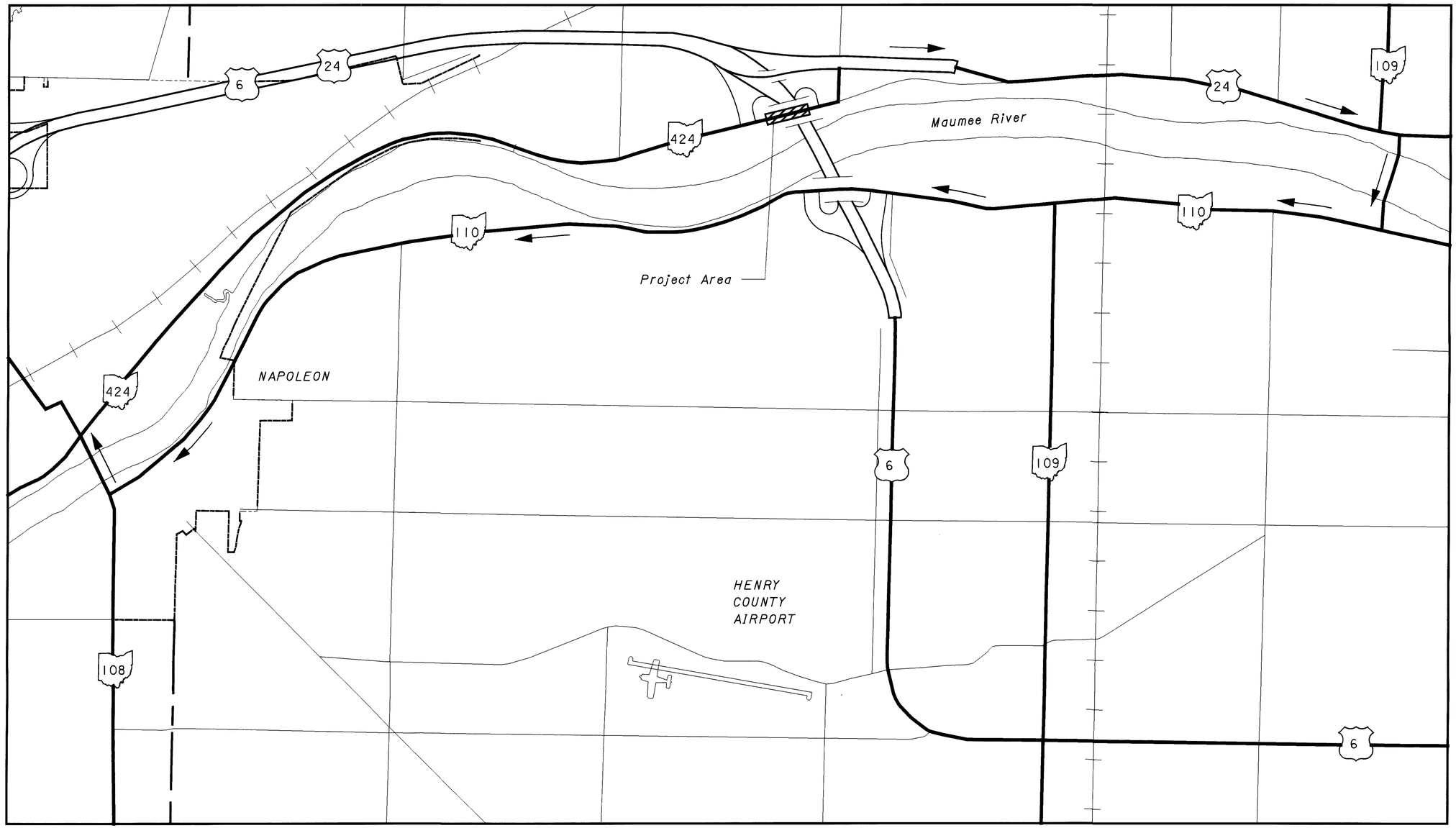
THE CONTRACTOR SHALL INSTALL ROAD CLOSED SIGNS AS PER SHEET 10. ALL OTHER DETOUR SIGNING SHALL BE PROVIDED BY DISTRICT FORCES.

DETOUR MAP
S.R. 110 EASTBOUND

HEN-110/ 424-4.18/ 13.78

8A
115

S.R. 424 WESTBOUND DETOUR



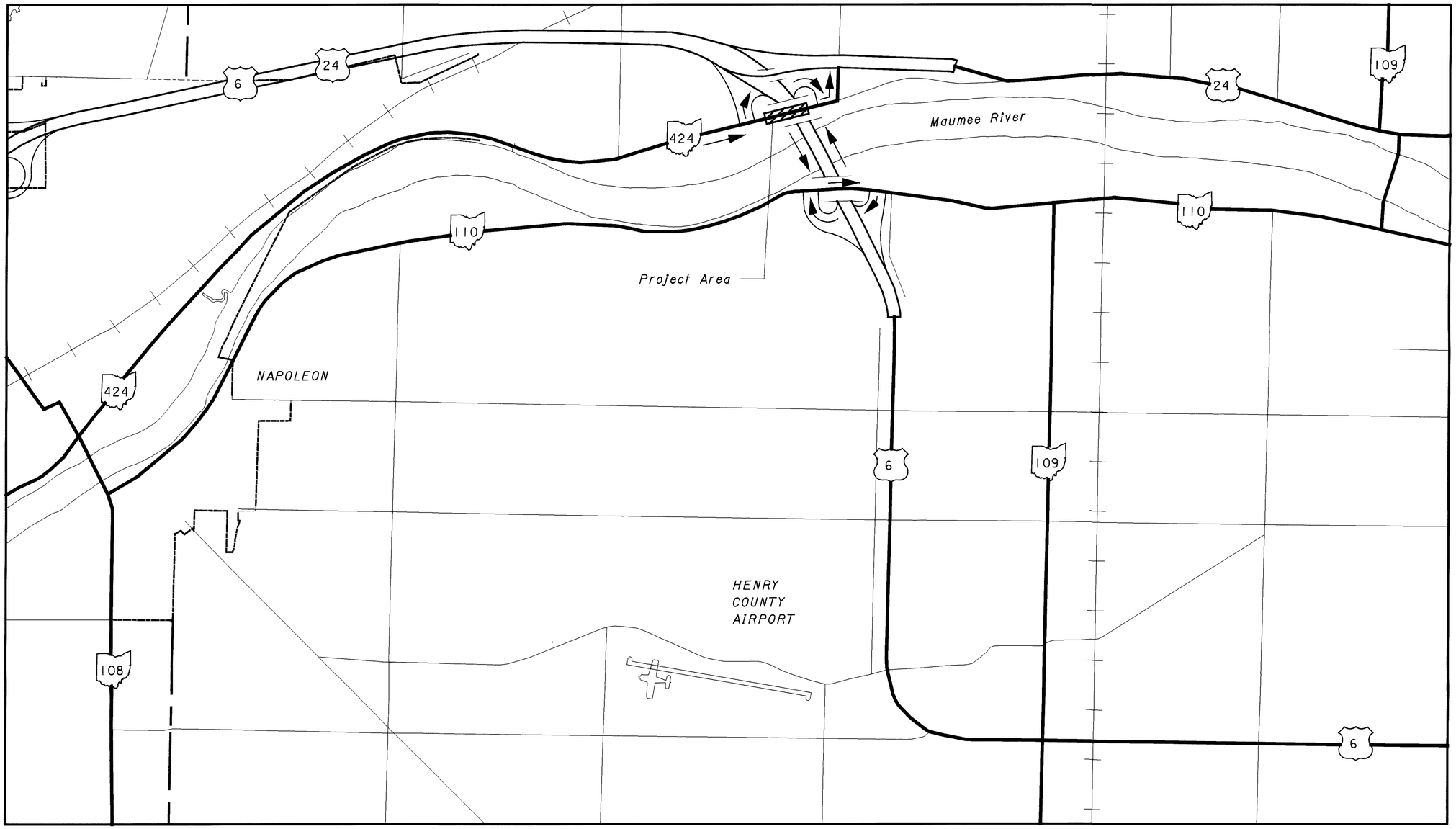
THE CONTRACTOR SHALL INSTALL ROAD CLOSED SIGNS AS PER SHEET 10. ALL OTHER DETOUR SIGNING SHALL BE PROVIDED BY DISTRICT FORCES.

DETOUR MAP
S.R. 424 WESTBOUND

HEN-110/424-4.18/13.78

8B
115

S.R. 424 EASTBOUND DETOUR



THE CONTRACTOR SHALL INSTALL ROAD CLOSED SIGNS AS PER SHEET 10. ALL OTHER DETOUR SIGNING SHALL BE PROVIDED BY DISTRICT FORCES.

DETOUR MAP
S.R. 424 EASTBOUND

HEN-110/ 424-4.18/ 13.78

8C
115

ROUNDING

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

UTILITIES

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

SPRINT UNITED TELEPHONE
375 E. RIVERVIEW AVE.
NAPOLEON, OHIO 43545
(419) 592-9728

OHIO GAS COMPANY
715 E. WILSON ST.
BRYAN, OHIO 43506
(800) 331-7396

CITY OF NAPOLEON
255 W. RIVERVIEW AVE.
P.O. BOX 151
NAPOLEON, OHIO 43545-0151
(419) 592-4010

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

EXISTING ROADWAY PLANS

EXISTING ROADWAY PLANS ENTITLED HEN-6-16.43 MAY BE INSPECTED AT THE ODOT DISTRICT 2 OFFICE IN BOWLING GREEN, OHIO.

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.

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 109.02 OF THE 2002 CONSTRUCTION AND MATERIALS SPECIFICATIONS. CONVERSION SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. ALL OTHER SLOPED EMBANKMENT AREAS SHALL BE BENCHED AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

ELEVATION DATUM

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

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.

CONTINGENCY QUANTITIES

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

PAVEMENT RESTORATION FOR PIPE INSTALLATIONS

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION OF PIPES UNDER ITEM 603.

ITEM 302 ASPHALT CONCRETE BASE, PG64-22 2 CU. YD.

THE ABOVE QUANTITY IS BASED ON A 302 THICKNESS OF 12 INCHES AND A PAVEMENT RESTORATION WIDTH THAT INCLUDES THE TRENCH WIDTH PLUS TWO FEET ON EACH SIDE OF THE TRENCH. THE TRENCH WIDTH WAS ASSUMED TO EQUAL THE SPAN TIMES 1.25 PLUS ONE FOOT.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

SEEDING AND MULCHING

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

659, SEEDING AND MULCHING 15970 SQ. YD.

659, TOPSOIL 1773 CU. YD.

15970 SQ. YD. X (111 CU. YD./1000 SQ. YD.) = 1773 CU. YD.

659, COMMERCIAL FERTILIZER 2.23 TON

15970 SQ. YD. X (1 TON/7410 SQ. YD.) +
1597 SQ. YD. X (1 TON/22230 SQ. YD.) = 2.23 TON

659, REPAIR SEEDING AND MULCHING 799 SQ. YD.

15970 SQ. YD. X 5% = 799 SQ. YD.

659, INTER-SEEDING 799 SQ. YD.

15970 SQ. YD. X 5% = 799 SQ. YD.

659, WATER 86 M. GAL.

15970 SQ. YD. X 2 X (0.0027 M. GAL./SQ. YD.) = 86 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.

DUST CONTROL

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

616, WATER 54 M. GAL.

2711 CU. YD. X (0.002 M. GAL./CU. YD.) = 54 M. GAL.

CALCULATED GFR CHECKED JAD

GENERAL NOTES

HEN-110/ 424-4.18/ 13.78

9
115

PAVING IN FRONT OF CONCRETE BARRIER

THE CONTRACTOR SHALL PLACE PAVEMENT BETWEEN THE EXISTING PAVED SHOULDER AND THE PROPOSED CONCRETE BARRIER FOUNDATION ON U.S. 6. THE WORK SHALL CONSIST OF EXCAVATING 9" OF SOIL AND REPLACING IT WITH 9" OF ASPHALT CONCRETE BASE. THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED FOR THIS PURPOSE:

203, EXCAVATION 2 CU. YD.

302, ASPHALT CONCRETE BASE, PG64-22 2 CU. YD.

ITEM 442, ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A (448), AS PER PLAN

THE REQUIREMENTS OF ITEM 442 SHALL APPLY EXCEPT:

A PG 70-22M ASPHALT BINDER SHALL BE USED FOR INTERMEDIATE COURSES IN LIEU OF A PG 64-28 ASPHALT BINDER PER 442.04.

ITEM 606, ANCHOR ASSEMBLY, TYPE E-98

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. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS265M	ET-2000 (1997) PLAN, ELEVATION & SECTIONS	6/20/97	3/6/98
SS142	ET2000 PLUS 50'-0" PLAN, ELEVATION AND SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	4/12/00	7/31/00
SS141	ET2000 PLUS PLAN, ELEVATION AND SECTION 25'-0" RAIL, HBA POSTS 1-4	2/29/00	7/31/00
SS158	ET2000 PLUS 50'-0" WITH 12'-6" PANELS AND HBA POSTS 1-4 PLAN, ELEVATION AND 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. #	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.

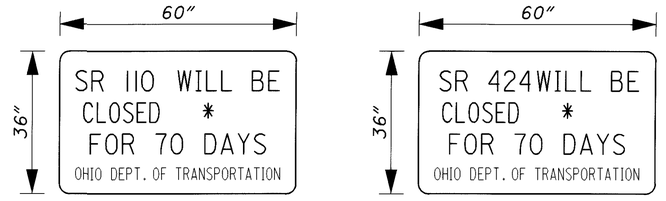
PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE,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

ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED ON S.R. 110 AND S.R. 424 AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 70 CONSECUTIVE CALENDER DAYS, PER STRUCTURE, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEETS 8, 8A, 8B, AND 8C. LIQUIDATED DAMAGES SHALL BE ASSESSED IN ACCORDANCE WITH 108.07 FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

THE ACTUAL CONSTRUCTION OF STRUCTURE HEN-110-0418 AND STRUCTURE HEN-424-1378 SHALL BE DONE SEQUENTIALLY. AT NO TIME SHALL THE ROADWAY, AT BOTH LOCATIONS, BE CLOSED TO TRAFFIC AT THE SAME TIME.

NOTICE OF CLOSURE SIGNS, AS DETAILED BELOW, SHALL BE ERECTED ALONG S.R.110 AND S.R.424 BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE.



* DATE OF CLOSURE

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48" X 30" "ROAD CLOSED" SIGNS, SIGN SUPPORTS, BARRICADES, GATES, AND LIGHTS, AS DETAILED IN STANDARD CONSTRUCTION DRAWING MT-101.60 AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC:

S.R. 110 - EAST OF RAMP A AND WEST OF RAMP C.
S.R. 424 - EAST OF RAMP A AND WEST OF RAMP C.

ALL LANES SHALL BE MAINTAINED ON U.S. 6 AT ALL TIMES. THE SHOULDERS SHALL BE CLOSED TO REMOVE GUARDRAIL AND TO INSTALL GUARDRAIL, CONCRETE BARRIER, PIPE AND A CATCH BASIN AS DETAILED IN THE PLANS. THE SHOULDERS SHALL BE CLOSED USING DRUMS SPACED AT 40' APART. THE DRUMS SHALL BE PLACED ALONG A 500' TAPER LOCATED IN ADVANCE OF EACH WORK ZONE AND RUN THROUGH THE END OF EACH WORK ZONE. A "SHOULDER WORK AHEAD" SIGN (OW-132) SHALL BE PLACED 500' IN ADVANCE OF THE START OF EACH TAPER AND AN "END WORK ZONE" SIGN (OC-10) SHALL BE PLACED 500' BEYOND THE END OF THE WORK ZONE. THE OW-132 AND OC-10 SIGNS SHALL BE PLACED ALONG THE U.S. 6 MAINLINE AND ALONG ENTRANCE OR EXIT RAMPS IF APPROPRIATE.

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

ITEM 630, SIGN, FLAT SHEET, AS PER PLAN

THE OHIO BYWAYS SIGNS (M-56-24) SHALL BE FABRICATED BY THE ODOT SIGN SHOP LOCATED AT:

ODOT SIGN SHOP
1606 W. BROAD ST.
COLUMBUS, OHIO 43223
(614) 351-2898

THE CONTRACTOR SHALL PROVIDE A 60 DAY ADVANCE NOTIFICATION FOR THE FABRICATION OF THESE SIGNS.

CALCULATED GFR CHECKED JAD

GENERAL NOTES

HEN-110/424-4.18/13.78

SCENIC RIVER CONCERNS

A SEDIMENT AND EROSION CONTROL PLAN SHALL BE DEVELOPED FOR THE SITE AND IMPLEMENTED BEFORE EARTHWORK COMMENCES. PARTICULAR ATTENTION SHALL BE GIVEN TO ANY DRAINAGE WAYS, DITCHES AND STREAMS THAT COULD CONVEY SEDIMENT-LADEN WATER DIRECTLY TO THE MAUMEE RIVER. PROPERLY INSTALLED (FRAMED AND ENTRENCHED) SEDIMENT FENCE SHALL BE UTILIZED AROUND THE WORK SITE PERIMETER AND STORM WATER INLETS. APPROPRIATELY DESIGNED ROCK-CHECK DAMS AND OTHER EROSION CONTROLS SHALL BE UTILIZED IN DITCHES AND DRAINAGE WAYS. ALL CONTROLS SHALL BE PROPERLY MAINTAINED UNTIL FINAL SITE STABILIZATION OF THE PROJECT AREA WITH VEGETATION. STRAW BALES SHALL NOT BE PERMITTED AS A FORM OF EROSION CONTROL. ALL DENUDED AREAS, INCLUDING DITCHES AND CULVERTS, SHALL BE PERMANENTLY SEEDED AND MULCHED IMMEDIATELY UPON COMPLETION OF EARTHWORK OR TEMPORARILY SEEDED AND MULCHED WITHIN SEVEN (7) DAYS IF THE AREA IS TO REMAIN IDLE FOR MORE THAN THIRTY (30) DAYS.

IDLE EQUIPMENT, PETROCHEMICALS AND TOXIC/HAZARDOUS MATERIALS SHALL NOT BE STORED IN THE FLOODPLAIN OR NEAR ANY DRAINAGE WAYS, DITCHES OR STREAMS. PETROCHEMICALS AND TOXIC/HAZARDOUS MATERIALS SHALL NOT BE DISCHARGED INTO THE MAUMEE RIVER, ITS FLOODPLAIN OR ANY DRAINAGE WAYS, DITCHES OR STREAMS. REFUELING OF EQUIPMENT SHALL NOT OCCUR IN THE FLOODPLAIN OR NEAR ANY DRAINAGE WAYS, DITCHES OR STREAMS.

ALL DEBRIS, EXCESS FILL MATERIAL AND MATERIAL EXCAVATED SHALL BE DISPOSED OF AT AN APPROVED UPLAND SITE (ABOVE 100 YEAR FLOOD ELEVATIONS). DISPOSAL IN WETLANDS, FLOODPLAINS OR WITHIN 1000 FEET OF THE MAUMEE RIVER IS PROHIBITED.

ROBERT VARGO, NW OHIO SCENIC RIVER MANAGER, SHALL BE INVITED TO A PRE-CONSTRUCTION MEETING WITH THE CONTRACTOR PRESENT. HE SHALL BE NOTIFIED OF THE START DATE, COMPLETION DATE AND BE ALLOWED TO CONDUCT A FINAL INSPECTION BEFORE THE PROJECT CLOSES. PERIODIC INSPECTIONS OF THE PROJECT SHALL TAKE PLACE TO ENSURE SCENIC RIVER REQUIREMENTS ARE BEING MET.

ROBERT VARGO
1435 WEST TWP. RD. 38
TIFFIN, OH 44883
419-981-6319
419-981-2014 FAX
bobvargo@bright.net

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. THE CONTRACTOR IS ADVISED THAT NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 58.5 Ft. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, THE CONTRACTOR IS ADVISED THAT COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA) WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT FORM 7460-1 TO THE FAA. A COPY OF THE SUBMISSION AND TWO COPIES OF FORM 7460-1 SHALL BE FORWARDED TO THE ODOT OFFICE OF AVIATION. THE CONTRACTOR IS ADVISED THAT NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

THE FEDRAL AVIATION ADMINISTRATION
GREAT LAKES REGIONAL OFFICE
AIR TRAFFIC DIVISION AGL-530
2300 EAST DEVON AVENUE
DES PLAINES, ILLINOIS 60018
(847) 294-7566

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF AVIATION
2829 WEST DUBLIN-GRANVILLE ROAD
COLUMBUS, OHIO 43235
(614) 793-5046

SHEET NO.	203 EXCAVATION CU. YD.	203 EMBANKMENT CU. YD.	659 SEEDING AND MULCHING SQ. YD.
S.R. 110			
32	162	225	367
33	96	134	342
34	152	170	348
35	799	1202	1044
36	1473	1733	1114
37	1853	2176	1189
38	1567	1750	1000
39	1325	1822	1072
40	1288	1619	1027
41	476	546	697
42	242	372	726
43	2	11	241
S.R. 424			
50	0	4	211
51	0	20	356
52	217	244	336
53	203	250	415
54	93	126	311
55	325	429	664
56	262	366	497
57	262	386	520
58	287	202	230
59	313	277	218
60	0	18	317
61	19	66	503
62	368	440	497
63	211	259	386
63a	42	57	197
U.S. 6			
64	———	———	720
65	———	———	241
66	29	7	———
67	98	19	———
68	4	0	81
69	11	0	103
	12179*	14930*	15970**

* TOTALS CARRIED TO GENERAL SUMMARY.
** TOTAL CARRIED TO SHEET 9.

CALCULATED GFR CHECKED JAD

GENERAL NOTES

HEN-110/424-4.18/13.78

11
115

CALCULATED ALF
CHECKED ADB

GENERAL NOTES

ODNR - ODOT SCENIC RIVER MOA

1. IF ANY EARTHWORK IS PERFORMED WITHIN A PROJECT AREA, THEN A SEDIMENT AND EROSION CONTROL PLAN SHALL BE DEVELOPED AND IMPLEMENTED BEFORE EARTHWORK COMMENCES. ALL CONTROLS SHALL BE PROPERLY MAINTAINED UNTIL FINAL SITE STABILIZATION HAS BEEN ACHIEVED. ALL DENUDED AREAS (LOCATION WHERE VEGETATION IS REMOVED) SHALL BE SEEDED AND MULCHED IMMEDIATELY UPON COMPLETION OF EARTHWORK OR WITHIN SEVEN DAYS IF THE AREA IS TO REMAIN IDLE FOR MORE THAN FORTY FIVE DAYS. PROPERLY INSTALLED (FRAMED AND ENTRENCHED) SEDIMENT FENCE SHALL BE UTILIZED AROUND ANY STORM SEWER INLETS. APPROPRIATELY DESIGNED ROCK CHECK DAMS AND OTHER EROSION CONTROLS SHALL BE UTILIZED IN DITCHES AND CULVERTS. PARTICULAR ATTENTION SHALL BE GIVEN TO WATERCOURSES THAT COULD CONVEY SEDIMENT LADEN WATER DIRECTLY TO A DESIGNATED SCENIC RIVER. ANY DENUDED DITCHES SHALL BE SEEDED AND PROTECTED IMMEDIATELY WITH EROSION CONTROL MATTING OR SOD UPON COMPLETION OF EARTHWORK. STRAW BALES SHALL NOT BE UTILIZED AS A FORM OF SEDIMENT AND EROSION CONTROL. ALL SEDIMENT AND EROSION CONTROLS SHALL BE REMOVED UPON STABILIZATION OF THE PROJECT AREA. IF ANY EARTH-WORK OR VEGETATION REMOVAL BECOMES NECESSARY WITHIN A DESIGNATED SCENIC RIVER THEN THE DISTRICT ENVIRON-MENTAL COORDINATOR AND SCENIC RIVER COORDINATOR SHALL JOINTLY CONDUCT A FIELD REVIEW AND COMPLETE A SCENIC RIVER FIELD REVIEW.

2. IF ROADSIDE DITCH MAINTENANCE IS NECESSARY WITHIN 1000 FEET OF A DESIGNATED STATE SCENIC RIVER, THEN THE DITCH SHALL BE MAINTAINED ONLY FOR THE ORIGINAL INTENDED FUNCTION AND RESTORED TO THE ORIGINAL DESIGN CONFIGURATION. ANY DENUDED DITCHES SHALL BE SEEDED AND PROTECTED IMMEDIATELY WITH EROSION CONTROL MATTING OR SOD UPON COMPLETION OF EARTHWORK. STRAW BALES SHALL NOT BE UTILIZED AS A FORM OF SEDIMENT AND EROSION CONTROL. ALL SEDIMENT AND EROSION CONTROL SHALL BE REMOVED UPON STABILIZATION ON THE PROJECT AREA. IF WORK EXCEEDS THESE RESTRICTIONS THEN THE DISTRICT ENVIRONMENTAL CO-ORDINATOR AND THE SCENIC RIVER COORDINATOR SHALL JOINTLY CONDUCT A FIELD REVIEW AND COMPLETE A SCENIC RIVER FIELD REVIEW.

3. IF HERBICIDAL SPRAYING IS NECESSARY WITHIN 1000 FEET OF A DESIGNATED STATE SCENIC RIVER, OR A STREAM SECTION UPSTREAM OF A DESIGNATED STATE RIVER, OR IN ANY TRIBUTARY WATERCOURSE WITHIN 1000 FEET OF THE CON-FLUENCE TO A SCENIC RIVER THEN A STATE LICENSED PUBLIC APPLICATOR SHALL APPLY ONLY OHIO EPA AQUATIC APPROVED GLYPHOSATE N - (PHOSPHONOMETHYL) GYLCINE IN THE FORM OF ITS ISOPROPYLAMINE SALT HERBICIDE AND SURFACTANT AT THE LABELED RATES IN FRONT, UNDER, AND BEHIND (18") GUARDRAIL AND ABUTMENT WING WALLS. THE HERBICIDE MUST BE SAFE FOR APPLICATION ON OR NEAR STANDING WATER. THE APPLICATION OF THE HERBICIDE SHALL NOT INCLUDE ANY SOIL DISTURBANCE ACTIVITIES. IF ANY OTHER TYPES OF HERBICIDES OR HERBICIDAL APPLICATIONS ARE NECESSARY, THEN THE DISTRICT ENVIRONMENTAL COORDINATOR AND THE SCENIC RIVER COORDINATOR SHALL JOINTLY CONDUCT A FIELD REVIEW AND COMPLETE A SCENIC RIVER FIELD REVIEW.

4. IF CUTTING AND CLEARING OF ANY VEGETATION WITHIN 1000 FEET OF A SCENIC RIVER IS REQUIRED, THEN THE DISTRICT ENVIRONMENTAL COORDINATOR AND THE SCENIC RIVER COORDINATOR SHALL JOINTLY CONDUCT A FIELD REVIEW AND COMPLETE A SCENIC RIVER FIELD REVIEW. VERTICAL PRUNING OF TREES IS PERMITTED, IF ANY OVERHANGING LIMBS CAUSE A SAFETY HAZARD OR OBSTRUCT VIEW. VERTICAL PRUNING SHALL NOT INCLUDE THE USE OF A FLAIL MOWER. CARE SHALL BE TAKEN NOT TO GIRDLE OR SCUFF TREE TRUNKS WHERE PRACTICABLE.

5. NO TOXIC OR HAZARDOUS MATERIALS SUCH AS SEALANTS, PAINT SOLVENTS, CLEANING AGENTS, EARTHEN MATERIALS, WASTE-WATER, FUELS OR DEBRIS OF ANY KIND SHALL BE DISCHARGED TO A SCENIC RIVER OR ANY TRIBUTARY WATER COURSES. ALL ASPHALT OR CONCRETE GRINDINGS, EXCESS ASPHALTIC OR CONCRETE MATERIALS OR ANY OTHER DEBRIS GENERATED DURING RESURFACING OR OTHER SIMILAR ACTIVITIES SHALL BE REMOVED IMMEDIATELY FROM WITHIN 1000 FEET OF A SCENIC RIVER AND DISPOSED OF AT AN APPROPRIATE FACILITY ABOVE THE FEMA 100 YEAR FLOOD ELEVATION AND NOT WITHIN 1000 FEET OF THE SCENIC RIVER.

6. IF PAINTING, WELDING, SAND AND/OR WATER BLASTING (CLEANING) IS INCORPORATED AS PART OF THE PROJECT AT OR OVER A SCENIC RIVER, THEN APPROPRIATE APRONS SHALL BE UTILIZED TO PROVIDE FOR COMPLETE CONTAINMENT OF ALL PAINT, WELDING SLAG AND/OR SEALANT OVER SPRAY AND OTHER DEBRIS. APRONS SHALL BE UTILIZED ON ALL DECK REPLACEMENT PROJECTS WHEN USING HYDRO-DEMOLITION TECHNIQUES. ALL DEBRIS COLLECTED SHALL BE DISPOSED OF AT AN APPROPRIATE FACILITY ABOVE THE FEMA 100 YEAR FLOOD PLAIN AND NOT WITH 1000 FEET OF THE SCENIC RIVER.

7. IF A TIER III PROJECT IMPACTS A PORTION OF A STREAM BANK OF A SCENIC RIVER THEN THE DISTRICT ENVIRONMENTAL COORDINATOR AND THE SCENIC RIVER COORDINATOR SHALL JOINTLY CONDUCT A FIELD REVIEW AND COMPLETE A SCENIC RIVER FIELD REVIEW.

HEN-100/424-4.18/13.78

SHEET NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
9	10	11	15	16	17		19	20								
															ROADWAY	
											201	11000	LUMP		CLEARING AND GRUBBING	
			354								202	22900	354	SQ YD	APPROACH SLAB REMOVED	
				32							202	35100	32	FT	PIPE REMOVED, 24" AND UNDER	
			4527	834							202	38000	5361	FT	GUARDRAIL REMOVED	
					47		61				202	54100	108	EACH	RAISED PAVEMENT MARKER REMOVED FOR STORAGE	
				1							202	58100	1	EACH	CATCH BASIN REMOVED	
			222								202	75000	222	FT	FENCE REMOVED	
			1								202	98100	1	EACH	REMOVAL MISC.: POST REMOVED	
	2	12179									203	10000	12181	CU YD	EXCAVATION	
		14930									203	20000	14930	CU YD	EMBANKMENT	
								1662			204	10000	1662	SQ YD	SUBGRADE COMPACTION	
			3987.5	650.0							606	13030	4637.5	FT	GUARDRAIL, TYPE 5, USING 9 FOOT POSTS	
			6	1							606	22010	7	EACH	ANCHOR ASSEMBLY, TYPE E-98	
			2								606	26500	2	EACH	ANCHOR ASSEMBLY, TYPE T	
			8	4							606	35000	12	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
				3							606	35100	3	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2	
			222								607	15000	222	FT	FENCE, TYPE 47	
				224							622	24000	224	FT	CONCRETE BARRIER, TYPE D	
															EROSION CONTROL	
			96								601	20000	96	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION	
1773											659	00300	1773	CU YD	TOPSOIL	
15970											659	10000	15970	SQ YD	SEEDING AND MULCHING	
799											659	14000	799	SQ YD	REPAIR SEEDING AND MULCHING	
799											659	15000	799	SQ YD	INTER-SEEDING	
2.23											659	20000	2.23	TON	COMMERCIAL FERTILIZER	
86											659	35000	86	M GAL	WATER	
											832	10000	1	EACH	STORM WATER POLLUTION PREVENTION PLAN	
											832	20000	LUMP		EROSION CONTROL	
															DRAINAGE	
			0.6	0.3							602	20000	0.9	CU YD	CONCRETE MASONRY	
			136								603	04400	136	FT	12" CONDUIT, TYPE B	
			91								603	04600	91	FT	12" CONDUIT, TYPE C	
			233								603	05200	233	FT	12" CONDUIT, TYPE F	
				27							603	05900	27	FT	15" CONDUIT, TYPE B, 706.01	
				14							603	09100	14	FT	21" CONDUIT, TYPE C, 706.01	
			4	4							604	00800	8	EACH	CATCH BASIN, NO. 3A	
				1							604	04100	1	EACH	CATCH BASIN, NO. 2-2A	

CALCULATED GFR CHECKED JAD

GENERAL SUMMARY

HEN-110/424-4.18/13.78

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SHEET NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
9	10	15	16	17		18		19		20						
															PAVEMENT	
										2330	254	01000	2330	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
2	2									254	302	46000	258	CU YD	ASPHALT CONCRETE BASE, PG64-22	
										268	304	20000	268	CU YD	AGGREGATE BASE	
										421	407	10000	421	GALLON	TACK COAT	
										220	407	14000	220	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
										457	408	10000	457	GALLON	PRIME COAT	
										233	442	10500	233	CU YD	ASPHALT CONCRETE SURFACE COURSE, 9.5 mm, TYPE A (448)	
										172	442	20201	172	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A (448), AS PER PLAN	10
		125	110								609	26000	235	FT	CURB, TYPE 6	
															TRAFFIC CONTROL	
				2		1		1			620	10300	4	EACH	DELINEATOR, TYPE C, POST MOUNTED	
				2		1					620	15300	3	EACH	DELINEATOR, TYPE D, POST MOUNTED	
				3							620	31200	3	EACH	DELINEATOR REMOVED FOR DISPOSAL	
				14				16			621	00200	30	EACH	RPM, INSTALLATION ONLY	
								9			626	00100	9	EACH	BARRIER REFLECTOR, TYPE A	
								4			626	00200	4	EACH	BARRIER REFLECTOR, TYPE B	
				22				26			626	00300	48	EACH	BARRIER REFLECTOR, TYPE A2	
				5				4			626	00400	9	EACH	BARRIER REFLECTOR, TYPE B2	
				148.0		169.6					630	03100	317.6	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
				45.0		79.4					630	04100	124.4	FT	GROUND MOUNTED SUPPORT, NO. 4 POST	
				87.2		121.0					630	80100	208.2	SQ FT	SIGN, FLAT SHEET	
				4.0		4.0					630	80101	8.0	SQ FT	SIGN, FLAT SHEET, AS PER PLAN	10
				19		31					630	84900	50	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
				16		20					630	86002	36	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
				0.46				0.47			642	00100	0.93	MILE	EDGE LINE, TYPE 1	
				0.19				0.22			642	00300	0.41	MILE	CENTER LINE, TYPE 1	
				27							642	00500	27	FT	STOP LINE, TYPE 1	
															STRUCTURES	
															FOR STRUCTURE HEN-110-0419 ESTIMATED QUANTITIES	79
															FOR STRUCTURE HEN-424-1379 ESTIMATED QUANTITIES	99

CALCULATED GFR
CHECKED JAD

GENERAL SUMMARY

HEN-110/ 424-4.18 / 13.78

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115

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SHEET NUMBER	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
9						
					MAINTENANCE OF TRAFFIC	
54	616	10000	54	M GAL	WATER	
	614	11000	LUMP		MAINTAINING TRAFFIC	
	619	16010	8	MONTH	FIELD OFFICE, TYPE B	
	623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
	624	10000	LUMP		MOBILIZATION	

CALCULATED GFR
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GENERAL SUMMARY

HEN-110/ 424-4.18/ 13.78

14
115

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SHEET NO.	REFERENCE NO.	STATION TO STATION	SIDE	202 APPROACH SLAB REMOVED	202 GUARDRAIL REMOVED	202 FENCE REMOVED	202 REMOVAL MISC: POST REMOVED		606 GUARDRAIL, TYPE 5, USING 9 FOOT POSTS	606 ANCHOR ASSEMBLY, TYPE E-98	606 ANCHOR ASSEMBLY, TYPE T	606 BRIDGE TERMINAL ASSEMBLY, TYPE I	601 CRUSHED AGGREGATE SLOPE PROTECTION	602 CONCRETE MASONRY	603 12" CONDUIT, TYPE B	603 12" CONDUIT, TYPE C	603 12" CONDUIT, TYPE F	604 CATCH BASIN, NO. 3A	607 FENCE, TYPE 47	609 CURB, TYPE 6
				SQ YD	FT	FT	EACH		FT	EACH	EACH	EACH	SQ YD	CU YD	FT	FT	FT	EACH	FT	FT
		S.R. 110																		
27-28	R-1	220+78 TO 226+31	LT.		553															
27-28	R-2	223+81 TO 226+46	RT.		265															
28	R-3	226+08.88 TO 226+33.88	LT./RT.	88																
28	R-4	228+68.38 TO 228+93.38	LT./RT.	88																
28-29	R-5	228+57 TO 234+06	LT.		549															
28-29	R-6	228+72 TO 234+40	RT.		568															
29	R-7	230+79 TO 232+92	LT.			222														
27-28	GR-1	220+70.8 TO 226+14.4	LT.						493.75	1		1								
27-28	GR-2	223+98.2 TO 226+29.4	RT.						181.25	1		1								
28-30	GR-3	228+71.8 TO 235+26.5	LT.						606.25	1		1								
28-29	GR-4	228+89.0 TO 233+85.3	RT.						443.75	1		1								
28	CA-1	226+29 TO 226+52	LT./RT.										25							
28	CA-2	228+49 TO 228+69	LT./RT.										25							
29	F-1	230+79 TO 232+92	LT.																222	
28	D-1	225+86 TO 225+89	LT./RT.												34					
28	D-2	225+86	LT.											0.21		25	49			
28	D-3	229+17 TO 229+18	LT./RT.												34					
28	D-4	229+18	LT.											0.21		26	43			
28	CB-1	225+86	LT.															1		
28	CB-2	225+89	RT.															1		
28	CB-3	229+17	RT.															1		
28	CB-4	229+18	LT.															1		
28	C-1	225+79 TO 226+01.31	LT.																	23
28	C-2	225+79 TO 226+16.45	RT.																	38
28	C-3	228+84.68 TO 229+25	LT.																	41
28	C-4	229+02.07 TO 229+25	RT.																	23
		S.R. 424																		
44-47	R-1	716+71 TO 728+09	RT.		1138															
46-47	R-2	723+98 TO 727+99	LT.		401															
47	R-3	727+87.67 TO 728+12.67	LT./RT.	89																
47	R-4	730+45.33 TO 730+70.33	LT./RT.	89																
47-48	R-5	730+50 TO 849+38 (Ramp C)	LT.		389															
47-49	R-6	730+59 TO 737+18	RT.		664															
49	R-7	737+15	RT.				1													
44-47	GR-1	715+52.5 TO 728+05.3	RT.						1256.25		1	1								
46-47	GR-2	725+77.6 TO 727+96.2	LT.						168.75	1		1								
47-48	GR-3	730+52.7 TO 732+83.8	LT.						181.25	1		1								
47-49	GR-4	730+61.8 TO 737+22.8	RT.						656.25		1	1								
47	D-1	727+68 TO 727+71	LT./RT.												34					
47	D-2	727+68 TO 861+42.42 (U.S. 6)	LT.													19	79			
47	D-3	730+63.91 TO 730+90	RT.											0.21		21	62			
47	D-4	730+87 TO 730+90	LT./RT.												34					
47	CA-1	728+11 TO 728+27	LT./RT.										23							
47	CA-2	730+31 TO 730+47	LT./RT.										23							
TOTALS CARRIED TO GENERAL SUMMARY				354	4527	222	1		3987.5	6	2	8	96	0.6	136	91	233	4	222	125

CALCULATED GFR
CHECKED JAD

ESTIMATED QUANTITIES

HEN-110/424-4.18/13.78

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115

SHEET NO.	REFERENCE NO.	STATION TO STATION	SIDE	202 PIPE REMOVED, 24" AND UNDER FT	202 GUARDRAIL REMOVED FT	202 CATCH BASIN REMOVED EACH		606 GUARDRAIL, TYPE 5, USING 9 FOOT POSTS FT	606 ANCHOR ASSEMBLY, TYPE E-98 EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE 2 EACH		622 CONCRETE BARRIER, TYPE D FT	602 CONCRETE MASONRY CU YD	603 15" CONDUIT, TYPE B, 706.01 FT	603 2" CONDUIT, TYPE C, 706.01 FT		604 CATCH BASIN, NO. 3A EACH	604 CATCH BASIN, NO. 2-2A EACH	609 CURB, TYPE 6 FT
		S.R. 424 (Cont.)																		
47	CB-1	727+68	LT.															1		
47	CB-2	727+71	RT.															1		
47	CB-3	730+87	LT.															1		
47	CB-4	730+90	RT.															1		
47	C-1	727+61 TO 727+83.05	LT.																	23
47	C-2	727+61 TO 727+92.29	RT.																	32
47	C-3	730+65.71 TO 730+97	LT.																	32
47	C-4	730+74.95 TO 730+97	RT.																	23
		U.S. 6																		
64	R-1	861+43	RT.			1														
64	R-2	861+83 TO 863+71.8	RT.		189															
64	R-3	862+39 TO 864+08.7	LT.		170															
64	GR-1	860+76.3 TO 862+30.3	RT.					106.25	1	1										
64	GR-2	862+84.8 TO 863+71.8	RT.					87.50			1									
64	GR-3	863+14.9 TO 864+08.7	LT.					93.75		1										
64	B-1	862+28.3 TO 862+86.8	RT.										59							
64	B-2	862+74.0 TO 863+17.0	LT.										43							
64	D-1	861+42.42 TO 861+43.00	RT.	5												14				
64	CB-1	861+42.42	RT.																1	
65	R-1	882+39.3 to 884+76.7	RT.		237															
65	R-2	883+02.5 to 885+40.6	LT.		238															
65	GR-1	882+39.3 TO 883+33.0	RT.					93.75		1										
65	GR-2	883+02.5 TO 883+90.0	LT.					87.50			1									
65	GR-3	883+89.9 TO 884+76.7	RT.					87.50			1									
65	GR-4	884+46.8 TO 885+40.6	LT.					93.75		1										
65	B-1	883+30.9 to 883+91.9	RT.										61							
65	B-2	883+88.0 to 884+48.9	LT.										61							
65	D-1	883+62.79 TO 883+63.10	LT.	27										0.25	27					
TOTALS CARRIED TO GENERAL SUMMARY				32	834	1		650.0	1	4	3		224	0.3	27	14		4	1	110

CALCULATED GFR CHECKED JAD

ESTIMATED QUANTITIES

HEN-110/424-4.18/13.78

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SHEET NO.	REFERENCE NO.	STATION TO STATION	SIDE	CODE	SIZE (INCHES)	202 RAISED PAVEMENT MARKER REMOVED FOR STORAGE	620 DELINEATOR, TYPE C POST MOUNTED	620 DELINEATOR, TYPE D POST MOUNTED	620 DELINEATOR REMOVED FOR DISPOSAL	621 RPM, INSTALLATION ONLY (YELLOW/YELLOW)	626 BARRIER REFLECTOR, TYPE A2	626 BARRIER REFLECTOR, TYPE B2		630 GROUND MOUNTED SUPPORT, NO. 3 POST	630 GROUND MOUNTED SUPPORT, NO. 4 POST	630 SIGN, FLAT SHEET	630 SIGN, FLAT SHEET, AS PER PLAN	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	642 EDGE LINE, TYPE I (WHITE)	642 CENTER LINE, TYPE I (DOUBLE, SOLID)	642 STOP LINE, TYPE I
						EACH	EACH	EACH	EACH	EACH	EACH	EACH		FT	FT	SQ FT	SQ FT	EACH	EACH	MI	MI	FT
		S.R. 110																				
71	S-1	220+70	LT.					1														
71	S-2	221+20	LT.	M-40-24	24"X12"									13.2/13.9		2.00						
				M-2-24-3	30"X24"											5.00						
				BM-40-24	24"X12"											2.00						
				M-56-24	24"X24"												4.00					
71	S-3	222+50	LT.	W-30-48	48"X24"									12.4/12.4		8.00						
71	S-4	222+58	LT.	M-50-66	66"X24"										14.6/14.6	11.00						
				SPE-793-72	72"X12"											6.00						
				D-1-72	72"X12"											6.00						
71	S-5	222+65	LT.	M-39-24	24"X12"									15.3		2.00						
				M-1-24-2	24"X24"											4.00						
				M-24L-21	21"X15"											2.19						
71	S-6	223+98	RT.				1															
71	S-7	226+12	LT.	X-6L-12	12"X36"									10.4		3.00						
71	S-8	226+27	RT.	X-6R-12	12"X36"									10.4		3.00						
71	S-9	228+74	LT.	X-6R-12	12"X36"									10.4		3.00						
71	S-10	228+92	RT.	X-6L-12	12"X36"									10.4		3.00						
72	S-11	232+93	LT.	W-68-36	36"X36"										15.8	9.00						
72	S-12	234+86	RT.					1														
72	S-13	234+11	LT.	M-40-24	24"X12"									14.1		2.00						
				M-2-24-3	30"X24"											5.00						
72	S-14	235+19	LT.	M-50-66	66"X24"									12.1/13.0		11.00						
72	S-15	235+27	LT.				1															
71	R-1	220+81	LT.						1													
71	R-2	221+20	LT.															4	2			
71	R-3	222+50	LT.															1	2			
71	R-4	222+58	LT.															3	2			
71	R-5	222+65	LT.															3	1			
71	R-6	226+13	LT.															1	1			
71	R-7	226+18	RT.															1	1			
71	R-8	228+82	LT.															1	1			
71	R-9	228+93	RT.															1	1			
72	R-10	232+93	LT.															1	2			
72	R-11	234+08	LT.						1													
72	R-12	234+11	LT.															2	1			
72	R-13	234+38	RT.						1													
72	R-14	235+19	LT.															1	2			
71-72	BR-1	220+70.8 TO 235+26.5	LT.								13	3										
71-72	BR-2	223+98.2 TO 233+85.3	RT.								9	2										
71-72	EL-1	221+50 TO 233+50	LT.																	0.23		
71	EL-2	221+50 TO 896+65 (RAMP A)	RT.																	0.02		
71-72	EL-3	896+65 (RAMP A) TO 233+50	RT.																	0.21		
71-72	CL-1	223+35 TO 233+50	℄																		0.19	
71	SL-1	896+69 (RAMP A)	RT.																			27
71-72	RPM-1	221+50 TO 233+50	LT./RT.			47																
71-72	RPM-2	223+35 TO 233+50	℄							14												
TOTALS CARRIED TO GENERAL SUMMARY						47	2	2	3	14	22	5		148.0	45.0	87.2	4.0	19	16	0.46	0.19	27

CALCULATED GFR
CHECKED JAD

PAVEMENT MARKING SUBSUMMARY

SIGNING AND PAVEMENT MARKING

HEN-110/ 424-4.18/ 13.78

17
115

SHEET NO.	REFERENCE NO.	STATION TO STATION	SIDE	CODE	SIZE (INCHES)	620 DELINEATOR, TYPE C POST MOUNTED EACH		620 DELINEATOR, TYPE D POST MOUNTED EACH			630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 GROUND MOUNTED SUPPORT, NO. 4 POST FT		630 SIGN, FLAT SHEET SQ FT	630 SIGN, FLAT SHEET, AS PER PLAN SQ FT		630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH		630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	
		S.R. 424																		
73	S-1	718+99	RT.	D-1-72	72"X12"						12.3/13.3			6.00						
				D-1-72	72"X12"									6.00						
73	S-2	721+95	RT.	M-2-24-3	30"X24"							15.9/15.9		5.00						
				M-25-21	21"X15"									2.19						
				N-29-24	24"X24"									4.00						
				IM-24R-21	21"X15"									2.19						
				W-30-48	48"X24"									8.00						
74	S-3	722+19	RT.	M-39-24	24"X12"						15.4/16.6			2.00						
				M-1-24-2	24"X24"									4.00						
				M-24L-21	21"X15"									2.19						
				BM-39-24	24"X12"									2.00						
				M-56-24	24"X24"										4.00					
				BM-24L-21	21"X15"									2.19						
74	S-4	722+88	RT.	W-68-36	36"X36"							15.8		9.00						
74	S-5	725+77	LT.					1												
74	S-6	727+02	LT.	D-1-72	72"X12"						12.8/14.8			6.00						
				D-1-72	72"X12"									6.00						
74	S-7	727+94	LT.	X-6L-12	12"X36"						10.4			3.00						
74	S-8	728+03	RT.	X-6R-12	12"X36"						10.4			3.00						
74	S-9	730+55	LT.	X-6R-12	12"X36"						10.4			3.00						
74	S-10	730+64	RT.	X-6L-12	12"X36"						10.4			3.00						
75	S-11	732+43	LT.	N-29-24	24"X24"						13.5			4.00						
				IM-26-21	21"X15"									2.19						
75	S-12	732+84	LT.			1														
75	S-13	734+18	RT.	N-29-24	24"X24"						13.8			4.00						
				IM-24R-21	21"X15"									2.19						
75	S-14	734+22	RT.	M-1-24-2	24"X24"							15.9/15.9		4.00						
				M-24L-21	21"X15"									2.19						
				M-2-24-3	30"X24"									5.00						
				M-25-21	21"X15"									2.19						
				W-30-48	48"X24"									8.00						
75	S-15	734+63	RT.	W-14-30	30"X30"						15.5			6.25						
				W-143-18	18"X18"									2.25						
73	R-1	718+99	RT.														2		2	
73	R-2	721+95	RT.														5		2	
74	R-3	722+19	RT.														6		2	
74	R-4	722+88	RT.														1		2	
74	R-5	727+02	LT.														2		2	
74	R-6	727+97	LT.														1		1	
74	R-7	728+06	RT.														1		1	
74	R-8	730+52	LT.														1		1	
74	R-9	730+61	RT.														1		1	
75	R-10	732+43	LT.														2		1	
75	R-11	734+18	RT.														2		1	
75	R-12	734+22	RT.														5		2	
75	R-13	734+63	RT.														2		2	
TOTALS CARRIED TO GENERAL SUMMARY						1		1			169.6	79.4		121.0	4.0		31		20	

CALCULATED GFR CHECKED JAD

SIGNING AND PAVEMENT MARKING SUBSUMMARY

HEN-110/ 424-4.18/ 13.78

SHEET NO.	REFERENCE NO.	STATION TO STATION	SIDE	CODE	SIZE (INCHES)	202 RAISED PAVEMENT MARKER REMOVED FOR STORAGE EACH		620 DELINEATOR, TYPE C POST MOUNTED EACH		621 RPM, INSTALLATION ONLY (YELLOW/YELLOW) EACH		626 BARRIER REFLECTOR, TYPE A EACH	626 BARRIER REFLECTOR, TYPE B EACH		626 BARRIER REFLECTOR, TYPE A2 EACH	626 BARRIER REFLECTOR, TYPE B2 EACH		642 EDGE LINE, TYPE I (WHITE) MI	642 CENTER LINE, TYPE I (DOUBLE, SOLID) MI	
		S.R. 424 (Continued)																		
73-75	BR-1	715+52.5 TO 737+22.8	RT.												20	2				
74-75	BR-2	725+77.6 TO 732+83.8	LT.												6	2				
74-75	EL-1	723+25 TO 849+20 (RAMP C)	LT.															0.21		
74-75	EL-2	723+25 TO 735+50	RT.															0.23		
75	EL-3	849+20 (RAMP C) TO 735+50	LT.															0.03		
74-75	CL-1	723+25 TO 733+75	℄																0.20	
75	CL-2	734+70 TO 735+50	℄																0.02	
74-75	RPM-1	723+25 TO 735+50	LT./RT.			61														
74-75	RPM-2	723+25 TO 733+75	℄							14										
75	RPM-3	734+70 TO 735+50	℄							2										
		U.S. 6																		
76	S-1	860+76	RT.					1												
76	BR-1	860+76.3 TO 863+71.8	RT.									3	1							
76	BR-2	862+74.0 TO 864+08.7	LT.									2	1							
77	BR-1	882+39.3 TO 884+76.7	RT.									2	1							
77	BR-2	883+02.5 TO 885+40.6	LT.									2	1							
TOTALS CARRIED TO GENERAL SUMMARY						61		1		16		9	4		26	4		0.47	0.22	

CALCULATED GFR CHECKED JAD

SIGNING AND PAVEMENT MARKING SUBSUMMARY

HEN-110/424-4.18/13.78

19/115

STATION		204		254		302	302		304		407	407	407		408		442	442	442		
		SUBGRADE COMPACTION		PAVEMENT PLANING, ASPHALT CONCRETE (VARIES 0-2½")		7" ASPHALT CONCRETE BASE, PG64-22	9" ASPHALT CONCRETE BASE, PG64-22		6" AGGREGATE BASE		TACK COAT (0.075 GAL./SQ.YD.)	TACK COAT FOR INTERMEDIATE COURSE, (0.04 GAL./SQ.YD.)	TACK COAT FOR INTERMEDIATE COURSE, (0.04 GAL./SQ.YD.)		PRIME COAT (0.4 GAL./SQ.YD.)		1¼" ASPHALT CONCRETE SURFACE COURSE, 9.5 mm, TYPE A (448),	ASPHALT CONCRETE INTERMEDIATE COURSE 19 mm, TYPE A (448), AS PER PLAN (VARIES 0 TO 3")	1¾" ASPHALT CONCRETE INTERMEDIATE COURSE 19 mm, TYPE A (448), AS PER PLAN		
FROM	TO	SQ YD		SQ YD		CU YD	CU YD		CU YD		GAL	GAL	GAL		GAL		CU YD	CU YD	CU YD		
S.R. 110																					
221+50	223+35			994.7							74.6						34.5				
223+35	225+33			638.0							47.8						22.2				
225+33	225+58	95.8					22.9		15.7			3.5	3.5		36.7		3.0		4.3		
225+58	225+79	86.3					20.7		14.2			3.2	3.2		33.1		2.8		3.9		
225+79	226+08.88	126.2					28.2		20.2			4.5	4.5		45.2		3.9		5.5		
226+08.88	226+19.80	46.1							7.3												
226+19.80	226+33.88	62.6							9.9												
228+68.38	228+82.46	62.6							9.9												
228+82.46	228+93.38	46.1							7.3												
228+93.38	229+25	133.5					29.9		21.4			4.8	4.8		47.8		4.1		5.8		
229+25	229+44	78.1					18.7		12.8			2.9	2.9		30.0		2.5		3.5		
229+44	229+69	95.8					22.9		15.7			3.5	3.5		36.7		3.0		4.3		
229+69	229+97										6.8	3.6					3.1	1.5			
229+97	230+57			193.3							14.5						6.7				
230+57	232+44										45.2	24.1					20.9	6.7			
232+44	233+50			339.5							25.5						11.8				
S.R. 424																					
723+25	723+59			105.8							7.9						3.7				
723+59	727+12										82.4	43.9					38.1	61.0			
727+12	727+37	94.4				17.4			15.4			3.4	3.4		35.7		3.0		4.2		
727+37	727+61	98.7				18.2			16.1			3.6	3.6		37.5		3.1		4.4		
727+61	727+87.67	112.6				19.6			17.9			4.0	4.0		40.3		3.5		4.9		
727+87.67	727+98.67	46.4							7.3												
727+98.67	728+12.67	62.2							9.9												
730+45.33	730+59.33	62.2							9.9												
730+59.33	730+70.33	46.4							7.3												
730+70.33	730+97	112.6				19.6			17.9			4.0	4.0		40.3		3.5		4.9		
730+97	731+21	98.7				18.2			16.1			3.6	3.6		37.5		3.1		4.4		
731+21	731+46	94.4				17.4			15.4			3.4	3.4		35.7		3.0		4.2		
731+46	733+20										40.6	21.7					18.8	7.5			
733+20	734+71										57.0	30.4					26.4	33.8			
734+71	735+31										14.0	7.5					6.5	7.3			
735+31	735+50			59.1							4.4						2.1				
SUBTOTALS		1661.7		2330.4		110.4	143.3		267.6		420.7	175.6	44.4		456.5		233.3	117.8	54.3		
TOTALS CARRIED TO GENERAL SUMMARY		1662		2330		254			268		421	220			457		233	172			

CALCULATED JAD
CHECKED GFR

PAVEMENT SUBSUMMARY

HEN-110/ 424-4.18/ 13.78

Station 221+50 to Station 223+35:

Item 254 - Pavement Planing, Asphalt Concrete (Varies 0 to 2½")
(8952 Sq.Ft.*)(1 Sq.Yd./9 Sq.Ft.)= 994.7 Sq.Yd.

Item 407 - Tack Coat (0.075 Gal./Sq.Yd.)
(8952 Sq.Ft.*)(1 Sq.Yd./9 Sq.Ft.) (0.075 Gal./Sq.Yd.) = 74.6 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(8952 Sq.Ft.*)(1.25") (1'/12")(1 Cu.Yd./27 Cu.Ft.) = 34.5 Cu.Yd.

Station 223+35 to Station 225+33:

Item 254 - Pavement Planing, Asphalt Concrete (Varies 0 to 2½")
(198')(29')(1 Sq.Yd./9 Sq.Ft.)= 638.0 Sq.Yd.

Item 407 - Tack Coat (0.075 Gal./Sq.Yd.)
(198')(29')(1 Sq.Yd./9 Sq.Ft.) (0.075 Gal./Sq.Yd.) = 47.8 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(198')(29')(1.25")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 22.2 Cu.Yd.

Station 225+33 to Station 225+58:

Item 204 - Subgrade Compaction
(25')[(32'+37')/2](1 Sq.Yd./9 Sq.Ft.) = 95.8 Sq.Yd.

Item 302 - 9" Asphalt Concrete Base, PG64-22
(25')[(30.5'+35.5')/2](9")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 22.9 Cu.Yd.

Item 304 - 6" Aggregate Base
(25')[(31.5'+36.5')/2](6")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 15.7 Cu.Yd.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(25')[(29'+34')/2](1 Sq.Yd./9 Sq.Ft.) (0.04 Gal./Sq.Yd.) = 3.5 Gal.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(25')[(29'+34')/2](1 Sq.Yd./9 Sq.Ft.) (0.04 Gal./Sq.Yd.) = 3.5 Gal.

Item 408 - Prime Coat (0.4 Gal./Sq.Yd.)
(25')[(30.5'+35.5')/2](1 Sq.Yd./9 Sq.Ft.) (0.4 Gal./Sq.Yd.) = 36.7 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(25')[(29'+34')/2](1.25")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 3.0 Cu.Yd.

Item 442 - 1¾" Asphalt Concrete Intermediate Course, 19 mm, Type A (448), As Per Plan
(25')[(29'+34')/2](1.75")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 4.3 Cu.Yd.

Station 225+58 to Station 225+79

Item 204 - Subgrade Compaction
(21')(37')(1 Sq.Yd./9 Sq.Ft.) = 86.3 Sq.Yd.

Item 302 - 9" Asphalt Concrete Base, PG64-22
(21')(35.5')(9")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 20.7 Cu.Yd.

Item 304 - 6" Aggregate Base
(21')(36.5')(6")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 14.2 Cu.Yd.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(21')(34')(1 Sq.Yd./9 Sq.Ft.) (0.04 Gal./Sq.Yd.) = 3.2 Gal.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(21')(34')(1 Sq.Yd./9 Sq.Ft.) (0.04 Gal./Sq.Yd.) = 3.2 Gal.

Item 408 - Prime Coat (0.4 Gal./Sq.Yd.)
(21')(35.5')(1 Sq.Yd./9 Sq.Ft.) (0.4 Gal./Sq.Yd.) = 33.1 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(21')(34')(1.25")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 2.8 Cu.Yd.

Item 442 - 1¾" Asphalt Concrete Intermediate Course, 19 mm, Type A (448), As Per Plan
(21')(34')(1.75")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 3.9 Cu.Yd.

Station 225+79 to Station 226+08.88

Item 204 - Subgrade Compaction
(29.88')(38')(1 Sq.Yd./9 Sq.Ft.) = 126.2 Sq.Yd.

Item 302 - 9" Asphalt Concrete Base, PG64-22
(29.88')(34')(9")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 28.2 Cu.Yd.

Item 304 - 6" Aggregate Base
(29.88')(36.5')(6")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 20.2 Cu.Yd.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(29.88')(34')(1 Sq.Yd./9 Sq.Ft.) (0.04 Gal./Sq.Yd.) = 4.5 Gal.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(29.88')(34')(1 Sq.Yd./9 Sq.Ft.) (0.04 Gal./Sq.Yd.) = 4.5 Gal.

Item 408 - Prime Coat (0.4 Gal./Sq.Yd.)
(29.88')(34')(1 Sq.Yd./9 Sq.Ft.) (0.4 Gal./Sq.Yd.) = 45.2 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(29.88')(34')(1.25")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 3.9 Cu.Yd.

Item 442 - 1¾" Asphalt Concrete Intermediate Course, 19 mm, Type A (448), As Per Plan
(29.88')(34')(1.75")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 5.5 Cu.Yd.

Station 226+08.88 to Station 226+19.80

Item 204 - Subgrade Compaction
(10.92')(38')(1 Sq.Yd./9 Sq.Ft.) = 46.1 Sq.Yd.

Item 304 - 6" Aggregate Base
(10.92')(36')(6")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 7.3 Cu.Yd.

Station 226+19.80 to Station 226+33.88

Item 204 - Subgrade Compaction
(14.08')(40')(1 Sq.Yd./9 Sq.Ft.) = 62.6 Sq.Yd.

Item 304 - 6" Aggregate Base
(14.08')(38')(6")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 9.9 Cu.Yd.

Station 228+68.38 to Station 228+82.46

Item 204 - Subgrade Compaction
(14.08')(40')(1 Sq.Yd./9 Sq.Ft.) = 62.6 Sq.Yd.

Item 304 - 6" Aggregate Base
(14.08')(38')(6")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 9.9 Cu.Yd.

Station 228+82.46 to Station 228+93.38

Item 204 - Subgrade Compaction
(10.92')(38')(1 Sq.Yd./9 Sq.Ft.) = 46.1 Sq.Yd.

Item 304 - 6" Aggregate Base
(10.92')(36')(6")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 7.3 Cu.Yd.

Station 228+93.38 to Station 229+25

Item 204 - Subgrade Compaction
(31.62')(38')(1 Sq.Yd./9 Sq.Ft.) = 133.5 Sq.Yd.

Item 302 - 9" Asphalt Concrete Base, PG64-22
(31.62')(34')(9")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 29.9 Cu.Yd.

Item 304 - 6" Aggregate Base
(31.62')(36.5')(6")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 21.4 Cu.Yd.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(31.62')(34')(1 Sq.Yd./9 Sq.Ft.) (0.04 Gal./Sq.Yd.) = 4.8 Gal.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(31.62')(34')(1 Sq.Yd./9 Sq.Ft.) (0.04 Gal./Sq.Yd.) = 4.8 Gal.

Item 408 - Prime Coat (0.4 Gal./Sq.Yd.)
(31.62')(34')(1 Sq.Yd./9 Sq.Ft.) (0.4 Gal./Sq.Yd.) = 47.8 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(31.62')(34')(1.25")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 4.1 Cu.Yd.

Item 442 - 1¾" Asphalt Concrete Intermediate Course, 19 mm, Type A (448), As Per Plan
(31.62')(34')(1.75")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 5.8 Cu. Yd.

Station 229+25 to Station 229+44

Item 204 - Subgrade Compaction
(19')(37')(1 Sq.Yd./9 Sq.Ft.) = 78.1 Sq.Yd.

Item 302 - 9" Asphalt Concrete Base, PG64-22
(19')(35.5')(9")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 18.7 Cu.Yd.

Item 304 - 6" Aggregate Base
(19')(36.5')(6")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 12.8 Cu.Yd.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(19')(34')(1 Sq.Yd./9 Sq.Ft.) (0.04 Gal./Sq.Yd.) = 2.9 Gal.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(19')(34')(1 Sq.Yd./9 Sq.Ft.) (0.04 Gal./Sq.Yd.) = 2.9 Gal.

Item 408 - Prime Coat (0.4 Gal./Sq.Yd.)
(19')(35.5')(1 Sq.Yd./9 Sq.Ft.) (0.4 Gal./Sq.Yd.) = 30.0 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(19')(34')(1.25")(1'/12") (1 Cu.Yd./27 Cu.Ft.) = 2.5 Cu.Yd.

*** CADD Measured Area**

CALCULATED JAD CHECKED GFR

PAVEMENT CALCULATIONS - S.R. 110

HEN-110/424-4.18/13.78

Station 229+25 to Station 229+44 (Continued)

Item 442 - 1¾" Asphalt Concrete Intermediate Course, 19 mm, Type A (448), As Per Plan
(19')(34')(1.75")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 3.5 Cu.Yd.

Station 229+44 to Station 229+69

Item 204 - Subgrade Compaction
(25')[(32'+37')/2](1 Sq.Yd./9 Sq. Ft.) = 95.8 Sq.Yd.

Item 302 - 9" Asphalt Concrete Base, PG64-22
(25')[(30.5'+35.5')/2](9")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 22.9 Cu.Yd.

Item 304 - 6" Aggregate Base
(25')[(31.5'+36.5')/2](6")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 15.7 Cu.Yd.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(25')[(29'+34')/2](1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 3.5 Gal.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(25')[(29'+34')/2](1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 3.5 Gal.

Item 408 - Prime Coat (0.4 Gal./Sq.Yd.)
(25')[(30.5'+35.5')/2](1 Sq.Yd./9 Sq.Ft.)
(0.4 Gal./Sq.Yd.) = 36.7 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(25')[(29'+34')/2](1.25")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 3.0 Cu.Yd.

Item 442 - 1¾" Asphalt Concrete Intermediate Course, 19 mm, Type A (448), As Per Plan
(25')[(29'+34')/2](1.75")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 4.3 Cu.Yd.

Station 229+69 to Station 229+97

Item 407 - Tack Coat (0.075 Gal./Sq.Yd.)
(28')(29')(1 Sq.Yd./9 Sq.Ft.)
(0.075 Gal./Sq.Yd.) = 6.8 Gal.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(28')(29')(1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 3.6 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(28')(29')(1.25") (1'/12")(1 Cu.Yd./27 Cu.Ft.) = 3.1 Cu.Yd.

Item 442 - Asphalt Concrete Intermediate Course, 19 mm, Type A (448), As Per Plan (Varies 0 to 3")
(28')(29')(0.6" Avg.)(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 1.5 Cu. Yd.

Station 229+97 to Station 230+57

Item 254 - Pavement Planing, Asphalt Concrete (Varies 0 to 2½")
(60')(29')(1 Sq.Yd./9 Sq.Ft.)=
193.3 Sq.Yd.

Item 407 - Tack Coat (0.075 Gal./Sq.Yd.)
(60')(29')(1 Sq.Yd./9 Sq.Ft.)
(0.075 Gal./Sq.Yd.) = 14.5 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(60')(29')(1.25") (1'/12")(1 Cu.Yd./27 Cu.Ft.) = 6.7 Cu.Yd.

Station 230+57 to Station 232+44

Item 407 - Tack Coat (0.075 Gal./Sq.Yd.)
(187')(29')(1 Sq.Yd./9 Sq.Ft.)
(0.075 Gal./Sq.Yd.) = 45.2 Gal.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(187')(29')(1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 24.1 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(187')(29')(1.25")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 20.9 Cu.Yd.

Item 442 - Asphalt Concrete Intermediate Course, 19 mm, Type A (448), As Per Plan (Varies 0 to 3")
(187')(29')(0.4" Avg.)(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 6.7 Cu. Yd.

Station 232+44 to Station 233+50

Item 254 - Pavement Planing, Asphalt Concrete (Varies 0 to 2½")
(105.36')(29')(1 Sq.Yd./9 Sq.Ft.)=
339.5 Sq.Yd.

Item 407 - Tack Coat (0.075 Gal./Sq.Yd.)
(105.36')(29')(1 Sq.Yd./9 Sq.Ft.)
(0.075 Gal./Sq.Yd.) = 25.5 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(105.36')(29')(1.25") (1'/12")(1 Cu.Yd./27 Cu.Ft.) = 11.8 Cu.Yd.

Station 723+25 to Station 723+59

Item 254 - Pavement Planing, Asphalt Concrete (Varies 0 to 2½")
(34')(28')(1 Sq.Yd./9 Sq.Ft.)=
105.8 Sq.Yd.

Item 407 - Tack Coat (0.075 Gal./Sq.Yd.)
(34')(28')(1 Sq.Yd./9 Sq.Ft.)
(0.075 Gal./Sq.Yd.) = 7.9 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(34')(28')(1.25") (1'/12")(1 Cu.Yd./27 Cu.Ft.) = 3.7 Cu.Yd.

Station 723+59 to Station 727+12

Item 407 - Tack Coat (0.075 Gal./Sq.Yd.)
(353')(28')(1 Sq.Yd./9 Sq.Ft.)
(0.075 Gal./Sq.Yd.) = 82.4 Gal.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(353')(28')(1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 43.9 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(353')(28')(1.25")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 38.1 Cu.Yd.

Item 442 - Asphalt Concrete Intermediate Course, 19 mm, Type A (448), As Per Plan (Varies 0 to 3")
(353')(28')(2" Avg.)(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 61.0 Cu.Yd.

Station 727+12 to Station 727+37

Item 204 - Subgrade Compaction
(25')[(31'+37')/2](1 Sq.Yd./9 Sq. Ft.) =
94.4 Sq.Yd.

Item 302 - 7" Asphalt Concrete Base, PG64-22
(25')[(29.17'+35.17')/2](7")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 17.4 Cu.Yd.

Item 304 - 6" Aggregate Base
(25')[(30.17'+36.17')/2](6")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 15.4 Cu.Yd.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(25')[(28'+34')/2](1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 3.4 Gal.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(25')[(28'+34')/2](1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 3.4 Gal.

Item 408 - Prime Coat (0.4 Gal./Sq.Yd.)
(25')[(29.17'+35.17')/2](1 Sq.Yd./9 Sq.Ft.)
(0.4 Gal./Sq.Yd.) = 35.7 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(25')[(28'+34')/2](1.25")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 3.0 Cu.Yd.

Item 442 - 1¾" Asphalt Concrete Intermediate Course, 19 mm, Type A (448), As Per Plan
(25')[(28'+34')/2](1.75")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 4.2 Cu.Yd.

Station 727+37 to Station 727+61

Item 204 - Subgrade Compaction
(24')(37')(1 Sq.Yd./9 Sq.Ft.) = 98.7 Sq.Yd.

Item 302 - 7" Asphalt Concrete Base, PG64-22
(24')(35.17')(7")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 18.2 Cu.Yd.

Item 304 - 6" Aggregate Base
(24')(36.17')(6")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 16.1 Cu.Yd.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(24')(34')(1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 3.6 Gal.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(24')(34')(1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 3.6 Gal.

Item 408 - Prime Coat (0.4 Gal./Sq.Yd.)
(24')(35.17')(1 Sq.Yd./9 Sq.Ft.)
(0.4 Gal./Sq.Yd.) = 37.5 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(24')(34')(1.25")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 3.1 Cu.Yd.

Item 442 - 1¾" Asphalt Concrete Intermediate Course, 19 mm, Type A (448), As Per Plan
(24')(34')(1.75")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 4.4 Cu.Yd.

Station 727+61 to Station 727+87.67

Item 204 - Subgrade Compaction
(26.67')(38')(1 Sq.Yd./9 Sq. Ft.) =
112.6 Sq.Yd.

Item 302 - 7" Asphalt Concrete Base, PG64-22
(26.67')(34')(7")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 19.6 Cu.Yd.

Item 304 - 6" Aggregate Base
(26.67')(36.17')(6")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 17.9 Cu.Yd.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(26.67')(34')(1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 4.0 Gal.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(26.67')(34')(1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 4.0 Gal.

Item 408 - Prime Coat (0.4 Gal./Sq.Yd.)
(26.67')(34')(1 Sq.Yd./9 Sq.Ft.)
(0.4 Gal./Sq.Yd.) = 40.3 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(26.67')(34')(1.25")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 3.5 Cu.Yd.

Item 442 - 1¾" Asphalt Concrete Intermediate Course, 19 mm, Type A (448), As Per Plan
(26.67')(34')(1.75")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 4.9 Cu.Yd.

Station 727+87.67 to Station 727+98.67

Item 204 - Subgrade Compaction
(11')(38')(1 Sq.Yd./9 Sq.Ft.) = 46.4 Sq.Yd.

Item 304 - 6" Aggregate Base
(11')(36')(6")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 7.3 Cu.Yd.

Station 727+98.67 to Station 728+12.67

Item 204 - Subgrade Compaction
(14')(40')(1 Sq.Yd./9 Sq.Ft.) = 62.2 Sq.Yd.

Item 304 - 6" Aggregate Base
(14')(38')(6")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 9.9 Cu.Yd.

Station 730+45.33 to Station 730+59.33

Item 204 - Subgrade Compaction
(14')(40')(1 Sq.Yd./9 Sq.Ft.) = 62.2 Sq.Yd.

Item 304 - 6" Aggregate Base
(14')(38')(6")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 9.9 Cu.Yd.

Station 730+59.33 to Station 730+70.33

Item 204 - Subgrade Compaction
(11')(38')(1 Sq.Yd./9 Sq.Ft.) = 46.4 Sq.Yd.

Item 304 - 6" Aggregate Base
(11')(36')(6")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 7.3 Cu.Yd.

Station 730+70.33 to Station 730+97

Item 204 - Subgrade Compaction
(26.67')(38')(1 Sq.Yd./9 Sq. Ft.) =
112.6 Sq.Yd.

Item 302 - 7" Asphalt Concrete Base, PG64-22
(26.67')(34')(7")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 19.6 Cu.Yd.

Item 304 - 6" Aggregate Base
(26.67')(36.17')(6")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 17.9 Cu.Yd.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(26.67')(34')(1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 4.0 Gal.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(26.67')(34')(1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 4.0 Gal.

Item 408 - Prime Coat (0.4 Gal./Sq.Yd.)
(26.67')(34')(1 Sq.Yd./9 Sq.Ft.)
(0.4 Gal./Sq.Yd.) = 40.3 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(26.67')(34')(1.25")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 3.5 Cu.Yd.

Item 442-1¾" Asphalt Concrete Intermediate Course, 19 mm, Type A (448), As Per Plan
(26.67')(34')(1.75")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 4.9 Cu.Yd.

Station 730+97 to Station 731+21

Item 204 - Subgrade Compaction
(24')(37')(1 Sq.Yd./9 Sq.Ft.) = 98.7 Sq.Yd.

Item 302 - 7" Asphalt Concrete Base, PG64-22
(24')(35.17')(7")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 18.2 Cu.Yd.

Item 304 - 6" Aggregate Base
(24')(36.17')(6")(1'/12")
(1 Cu.Yd./27 Cu.Ft.) = 16.1 Cu.Yd.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(24')(34')(1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 3.6 Gal.

CALCULATED JAD
CHECKED GFR

PAVEMENT CALCULATIONS - S.R. 424

HEN-110/424-4.18/13.78

Station 730+97 to Station 731+21 (Continued)

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(24′)(34′)(1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 3.6 Gal.

Item 408 - Prime Coat (0.4 Gal./Sq.Yd.)
(24′)(35.17′)(1 Sq.Yd./9 Sq.Ft.)
(0.4 Gal./Sq.Yd.) = 37.5 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(24′)(34′)(1.25″)(1′/12″)
(1 Cu.Yd./27 Cu.Ft.) = 3.1 Cu.Yd.

Item 442 - 1¾" Asphalt Concrete Intermediate Course, 19 mm, Type A (448), As Per Plan
(24′)(34′)(1.75″)(1′/12″)
(1 Cu.Yd./27 Cu.Ft.) = 4.4 Cu.Yd.

Station 731+21 to Station 731+46

Item 204 - Subgrade Compaction
(25′)[(31′+37′)/2](1 Sq.Yd./9 Sq. Ft.) =
94.4 Sq.Yd.

Item 302 - 7" Asphalt Concrete Base, PG64-22
(25′)[(29.17′+35.17′)/2](7″)(1′/12″)
(1 Cu.Yd./27 Cu.Ft.) = 17.4 Cu.Yd.

Item 304 - 6" Aggregate Base
(25′)[(30.17′+36.17′)/2](6″)(1′/12″)
(1 Cu.Yd./27 Cu.Ft.) = 15.4 Cu.Yd.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(25′)[(28′+34′)2/](1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 3.4 Gal.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(25′)[(28′+34′)/2](1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 3.4 Gal.

Item 408 - Prime Coat (0.4 Gal./Sq.Yd.)
(25′)[(29.17′+35.17′)/2](1 Sq.Yd./9 Sq.Ft.)
(0.4 Gal./Sq.Yd.) = 35.7 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(25′)[(28′+34′)/2](1.25″)(1′/12″)
(1 Cu.Yd./27 Cu.Ft.) = 3.0 Cu.Yd.

Item 442 - 1¾" Asphalt Concrete Intermediate Course, 19 mm, Type A (448), As Per Plan
(25′)[(28′+34′)/2](1.75″)(1′/12″)
(1 Cu.Yd./27 Cu.Ft.) = 4.2 Cu.Yd.

Station 731+46 to Station 733+20

Item 407 - Tack Coat (0.075 Gal./Sq.Yd.)
(174′)(28′)(1 Sq.Yd./9 Sq.Ft.)
(0.075 Gal./Sq.Yd.) = 40.6 Gal.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(174′)(28′)(1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 21.7 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(174′)(28′)(1.25″)(1′/12″)
(1 Cu.Yd./27 Cu.Ft.) = 18.8 Cu.Yd.

Item 442 - Asphalt Concrete Intermediate Course, 19 mm, Type A (448), As Per Plan (Varies 0 to 3")
(174′)(28′)(0.5″ Avg.)(1′/12″)
(1 Cu.Yd./27 Cu.Ft.) = 7.5 Cu.Yd.

Station 733+20 to Station 734+71

Item 407 - Tack Coat (0.075 Gal./Sq.Yd.)
(6838 Sq.Ft.*)(1 Sq.Yd./9 Sq.Ft.)
(0.075 Gal./Sq.Yd.) = 57.0 Gal.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(6838 Sq.Ft.*)(1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 30.4 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(6838 Sq.Ft.*)(1.25″)(1′/12″)
(1 Cu.Yd./27 Cu.Ft.) = 26.4 Cu.Yd.

Item 442 - Asphalt Concrete Intermediate Course, 19 mm, Type A (448), As Per Plan (Varies 0 to 3")
(6838 Sq.Ft.*)(1.6″ Avg.)(1′/12″)
(1 Cu.Yd./27 Cu.Ft.) = 33.8 Cu.Yd.

Station 734+71 to Station 735+31

Item 407 - Tack Coat (0.075 Gal./Sq.Yd.)
(60′)(28′)(1 Sq.Yd./9 Sq.Ft.)
(0.075 Gal./Sq.Yd.) = 14.0 Gal.

Item 407 - Tack Coat For Intermediate Course (0.04 Gal./Sq.Yd.)
(60′)(28′)(1 Sq.Yd./9 Sq.Ft.)
(0.04 Gal./Sq.Yd.) = 7.5 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448)
(60′)(28′)(1.25″)(1′/12″)
(1 Cu.Yd./27 Cu.Ft.) = 6.5 Cu.Yd.

Item 442 - Asphalt Concrete Intermediate Course, 19 mm, Type A (448), As Per Plan (Varies 0 to 3")
(60′)(28′)(1.4″ Avg.)(1′/12″)
(1 Cu.Yd./27 Cu.Ft.) = 7.3 Cu.Yd.

Station 735+31 to Station 735+50

Item 254 - Pavement Planing, Asphalt Concrete (Varies 0 to 2½")
(19′)(28′)(1 Sq.Yd./9 Sq.Ft.)= 59.1 Sq.Yd.

Item 407 - Tack Coat (0.075 Gal./Sq.Yd.)
(19′)(28′)(1 Sq.Yd./9 Sq.Ft.)
(0.075 Gal./Sq.Yd.) = 4.4 Gal.

Item 442 - 1¼" Asphalt Concrete Surface Course, 9.5 mm, Type A (448), As Per Plan
(19′)(28′)(1.25″) (1′/12″)(1 Cu.Yd./27
Cu.Ft.) = 2.1 Cu.Yd.

* CADD Measured Area

CALCULATED JAD CHECKED GFR

PAVEMENT CALCULATIONS - S.R. 424

HEN-110/ 424-4.18/ 13.78

PROJECT DESCRIPTION

Improvement of 0.08 mile of State Route 110 and 0.08 mile of State Route 424 by rehabilitation of a structure, over U.S. Route 6, on each of the state routes, including approach reconstruction.

USGS Quadrangle Map:
No. N4122.5-W8400/7.5
Napoleon East, Ohio

Longitude: 84°03′35″
Latitude: 41°24′35″

LIBERTY TOWNSHIP

℄ Construction U.S. 6

Structure HEN-6-1679

MAUMEE RIVER

HARRISON TOWNSHIP

℄ Construction S.R. 424

℄ Construction Ramp C

N 15° 17′ 00″ W

Station 734+13.75 ℄ S.R. 424 = Station 848+59.55 ℄ Ramp C

END WORK STA. 737+30.00

END WORK STA. 849+45.00

END PROJECT STA. 731+21.00 S.L.M. - 13.85

TE-21

BEGIN WORK STA. 860+40.00

SUSPEND WORK STA. 864+20.00

Station 729+44.44 ℄ S.R. 424 = Station 862+75.70 ℄ U.S. 6

Structure HEN-424-1379

BEGIN PROJECT STA. 727+37.00 S.L.M. - 13.78

℄ Ramp A

Station 722+05.79 ℄ S.R. 424 = Station 858+76.35 ℄ Ramp A

MATCHLINE STA. 717+00

BEGIN WORK STA. 715+50.00

MATCHLINE STA. 717+00

Station 235+55.63 ℄ S.R. 110 = Station 885+83.84 ℄ Ramp C

END WORK STA. 235+35.00

STATION EQUATION: Sta 233+14.62 BK = Sta 233+15.26 AH

℄ Ramp C

Structure HEN-110-0419

Station 227+50.57 ℄ S.R. 110 = Station 883+89.08 ℄ U.S. 6

RESUME WORK STA. 880+90.00

TE-21

END PROJECT STA. 229+44.00 S.L.M. - 4.25

END WORK STA. 885+55.00

Station 222+40.00 ℄ S.R. 110 = Station 897+20.43 ℄ Ramp A

STATION EQUATION: Sta 220+16.75 BK = Sta 220+21.86 AH

TE-21

BEGIN PROJECT STA. 225+58.00 S.L.M. - 4.18

℄ Construction Ramp A

BEGIN WORK STA. 896+65.00

BEGIN WORK STA. 220+50.00

℄ Construction S.R. 110

For scenic river requirements see sheet 11.

PROJECT DATA

Total Area (Right-Of-Way):	20.4 Acres
Project Earth Disturbed Area:	5.4 Acres
Estimated Contractor Earth Disturbed Area:	2.1 Acres
Notice Of Intent Earth Disturbed Area:	8 Acres
Impervious (Paved) Area For Pre-Construction Site:	2.3 Acres
Impervious (Paved) Area For Post Construction Site:	2.4 Acres
Runoff Coefficient For Pre-Construction Site:	0.6
Runoff Coefficient For Post Construction Site:	0.6
Soil And Water Conservation Map:	17
Immediate Receiving Waters:	Maumee River
Subsequent Receiving Water:	Lake Erie

HORIZONTAL SCALE IN FEET

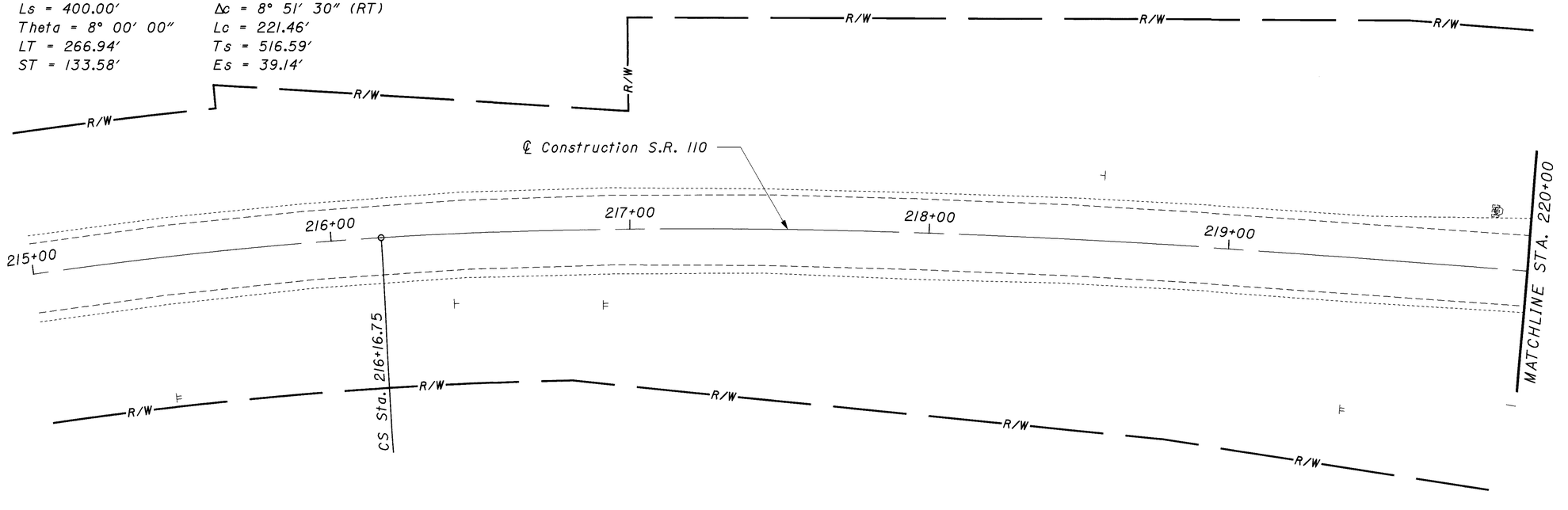
PROJECT SITE PLAN

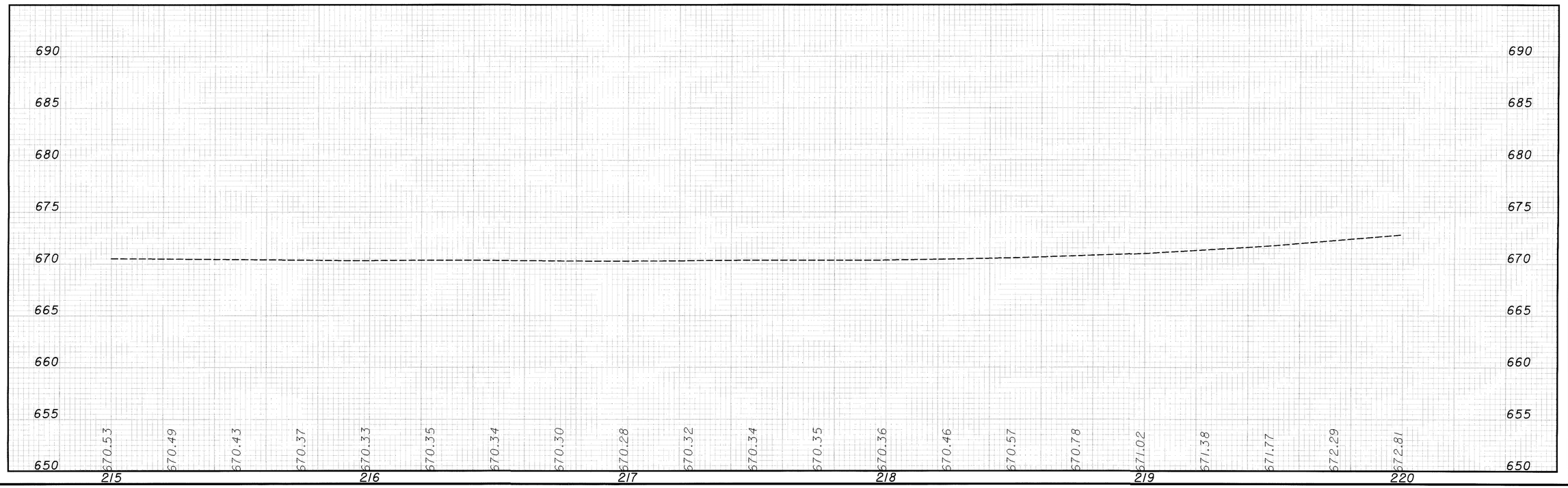
HEN-110/424-4.18/13.78

25/115

P.I. Sta = 215+11.88
Δ = 24° 51′ 30″ (RT)
Dc = 4° 00′ 00″
R = 1,432.40′
Ls = 400.00′
Theta = 8° 00′ 00″
LT = 266.94′
ST = 133.58′

x = 399.22′
y = 18.59′
k = 199.87′
p = 4.65′
Δc = 8° 51′ 30″ (RT)
Lc = 221.46′
Ts = 516.59′
Es = 39.14′





N

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - S.R. 110
STA. 215+00 TO STA. 220+00

HEN-110/ 424-4.18/ 13.78

26
115

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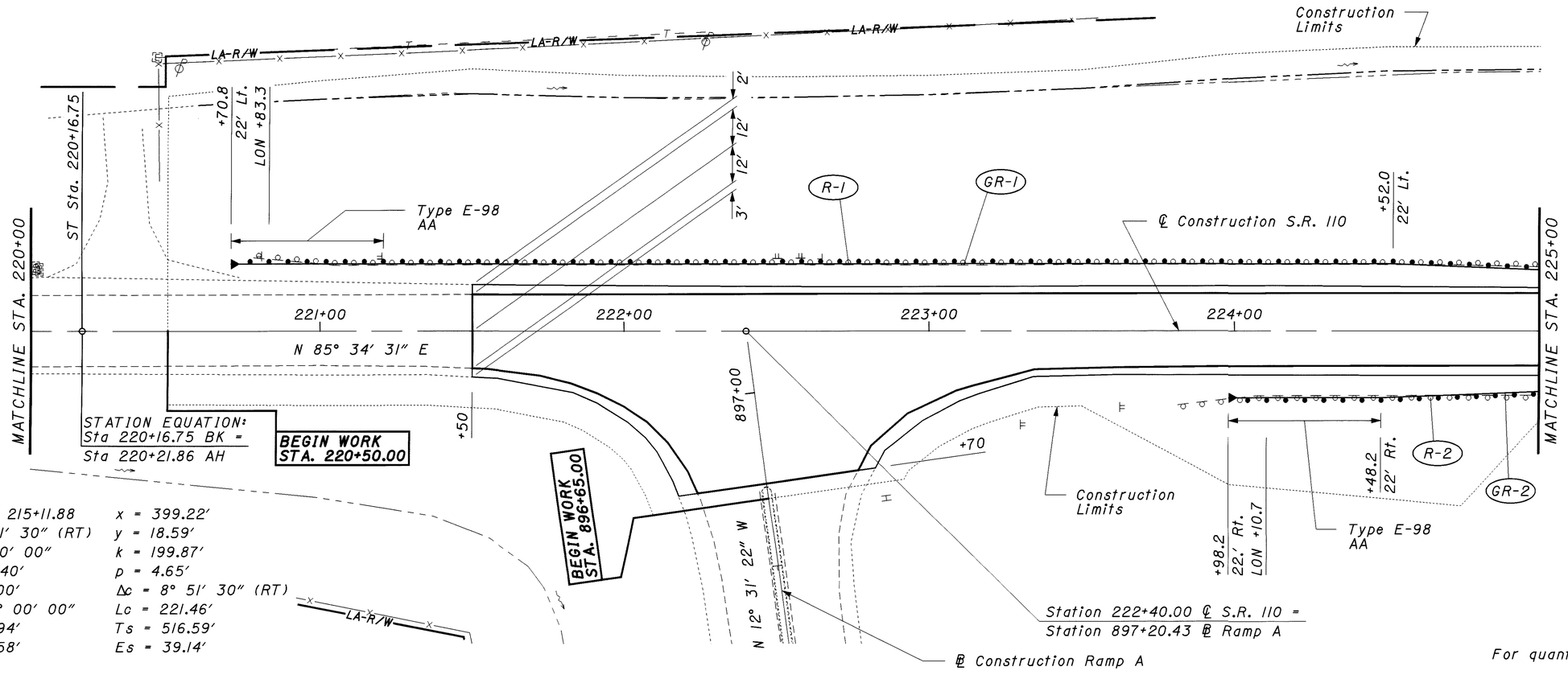
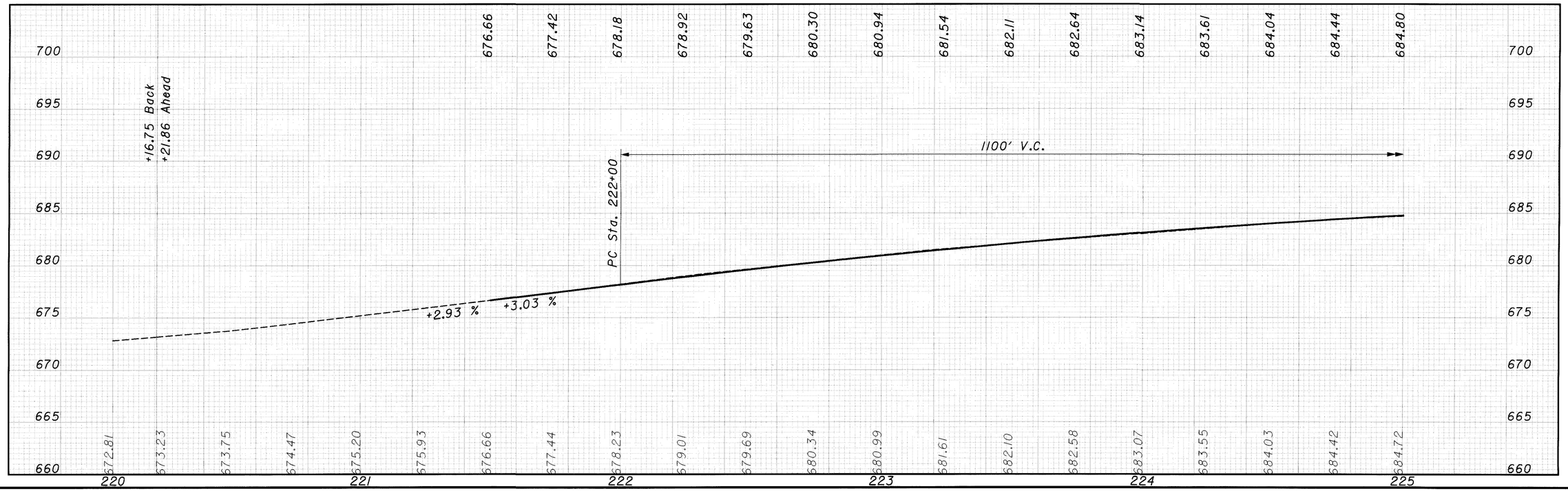


P.I. Sta = 215+11.88
Δ = 24° 51' 30" (RT)
Dc = 4° 00' 00"
R = 1,432.40'
Ls = 400.00'
Theta = 8° 00' 00"
LT = 266.94'
ST = 133.58'

x = 399.22'
y = 18.59'
k = 199.87'
p = 4.65'
Δc = 8° 51' 30" (RT)
Lc = 221.46'
Ts = 516.59'
Es = 39.14'

For quantities see sheet 15.



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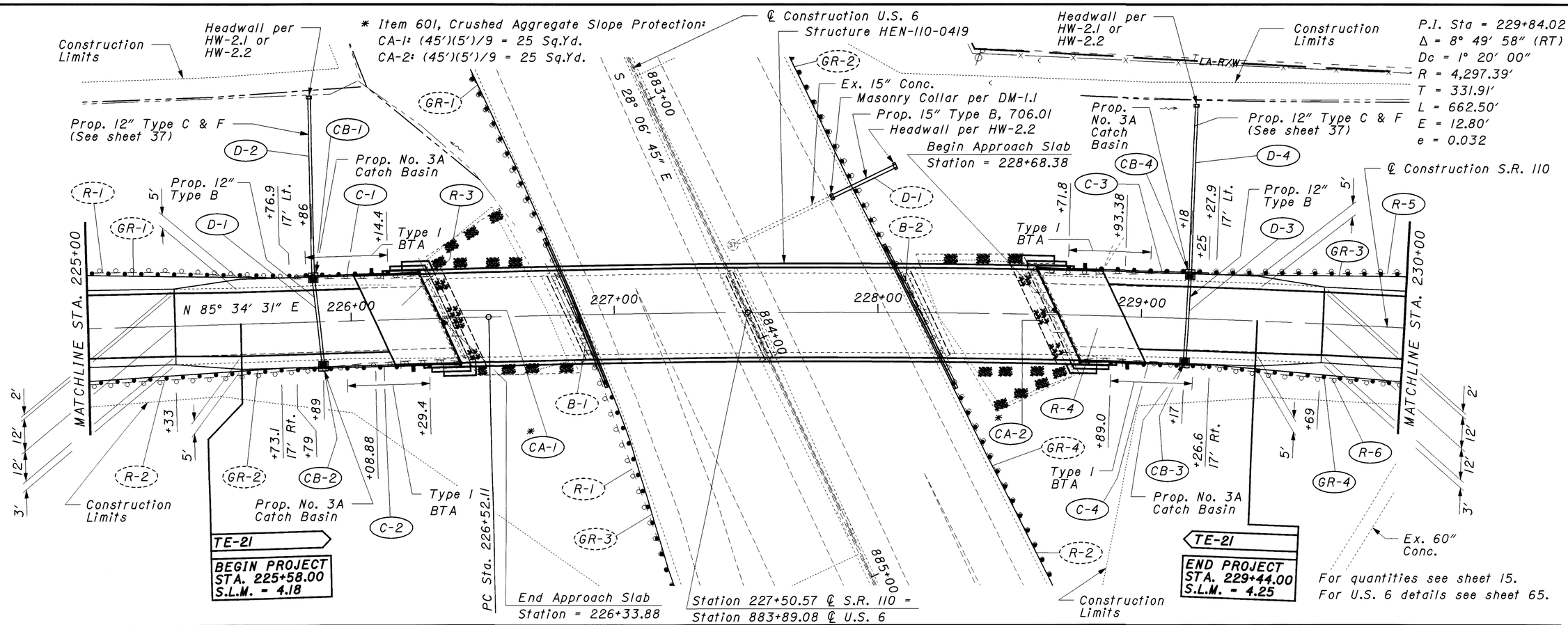
HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - S.R. 110
STA. 220+00 TO STA. 225+00

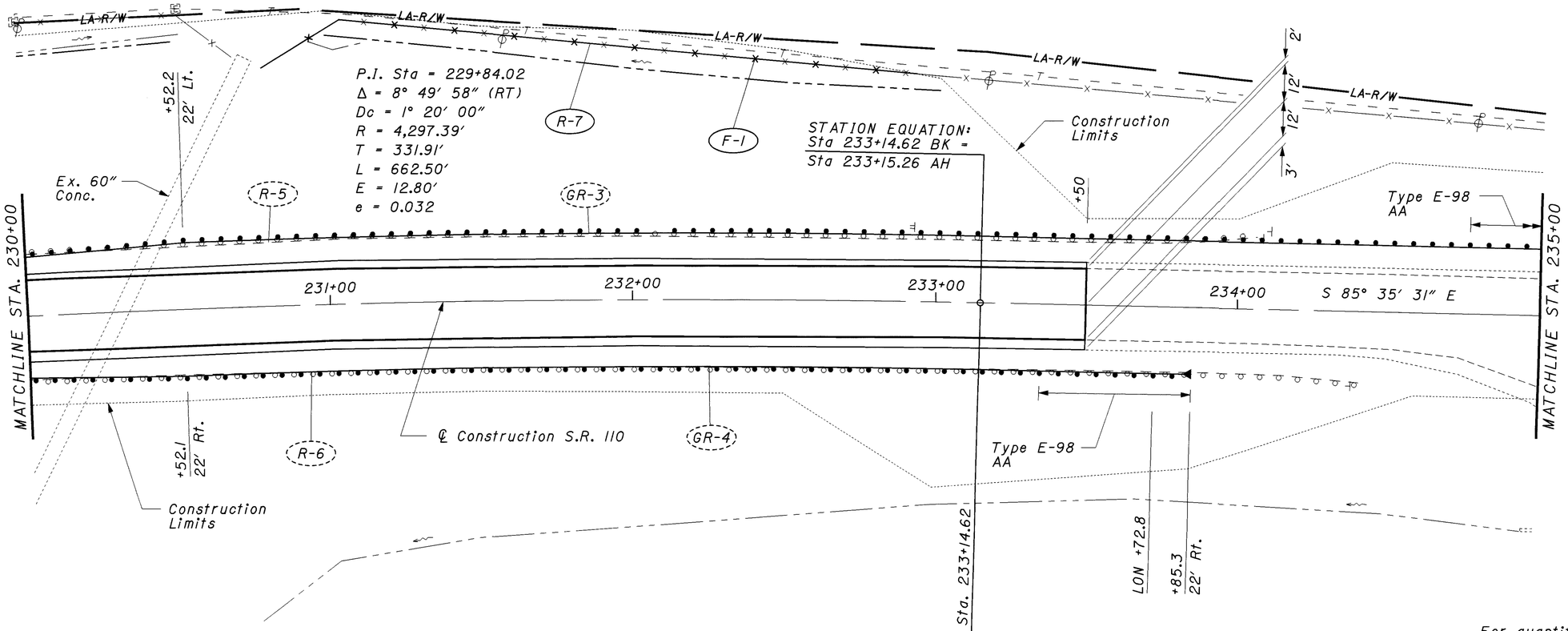
HEN-110/424-4.18/13.78



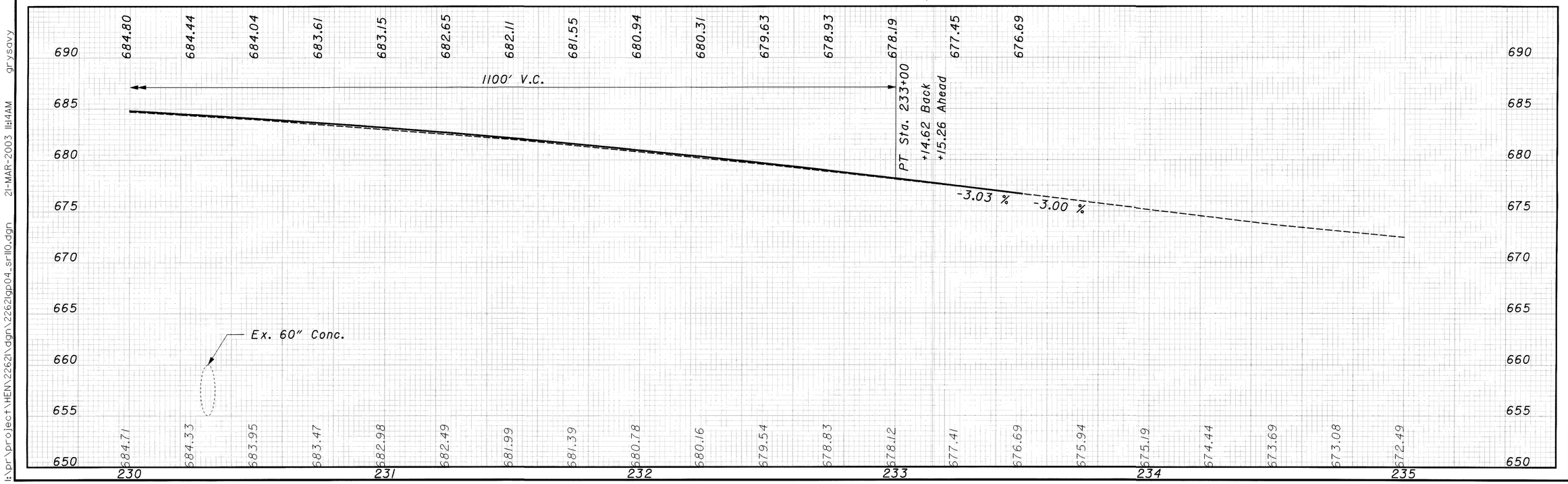
PLAN AND PROFILE - S.R. 110
STA. 225+00 TO STA. 230+00

HEN-110/424-4.18/13.78

28
15



For quantities see sheet 15.

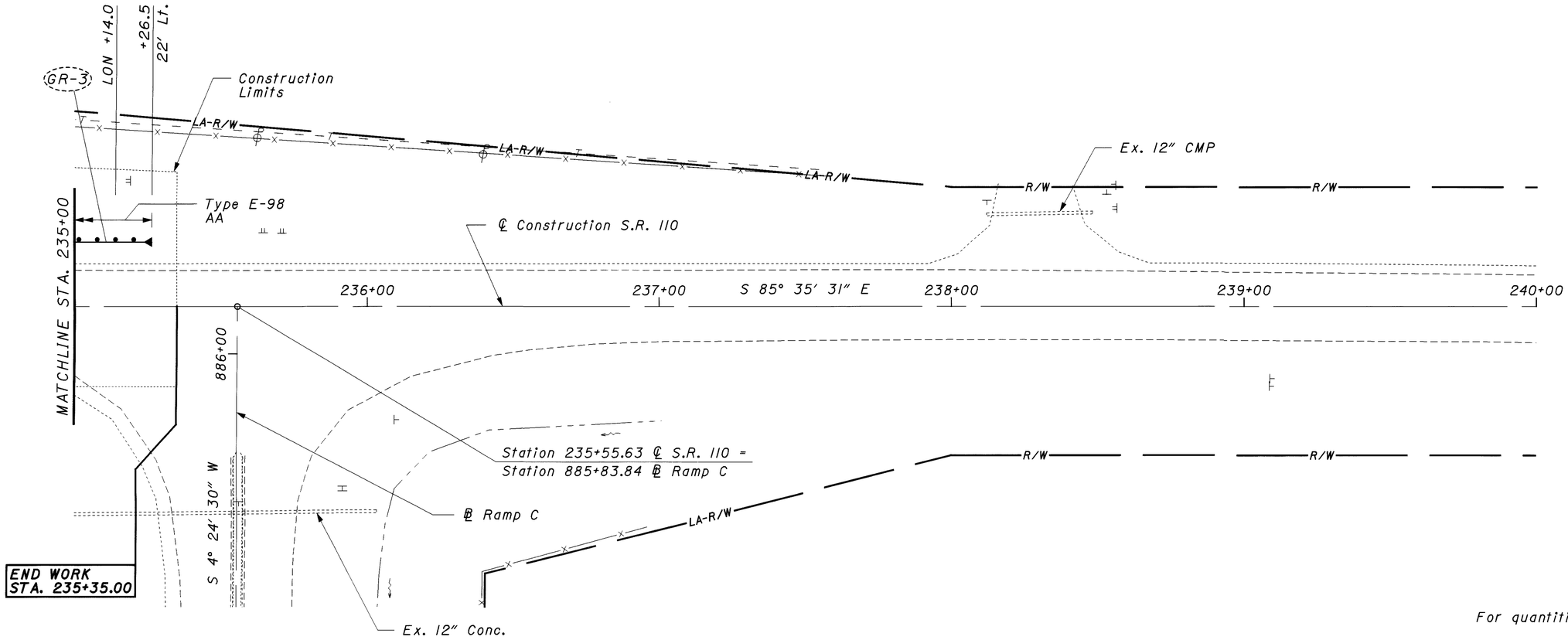


N
HORIZONTAL SCALE IN FEET
0 10 20 40

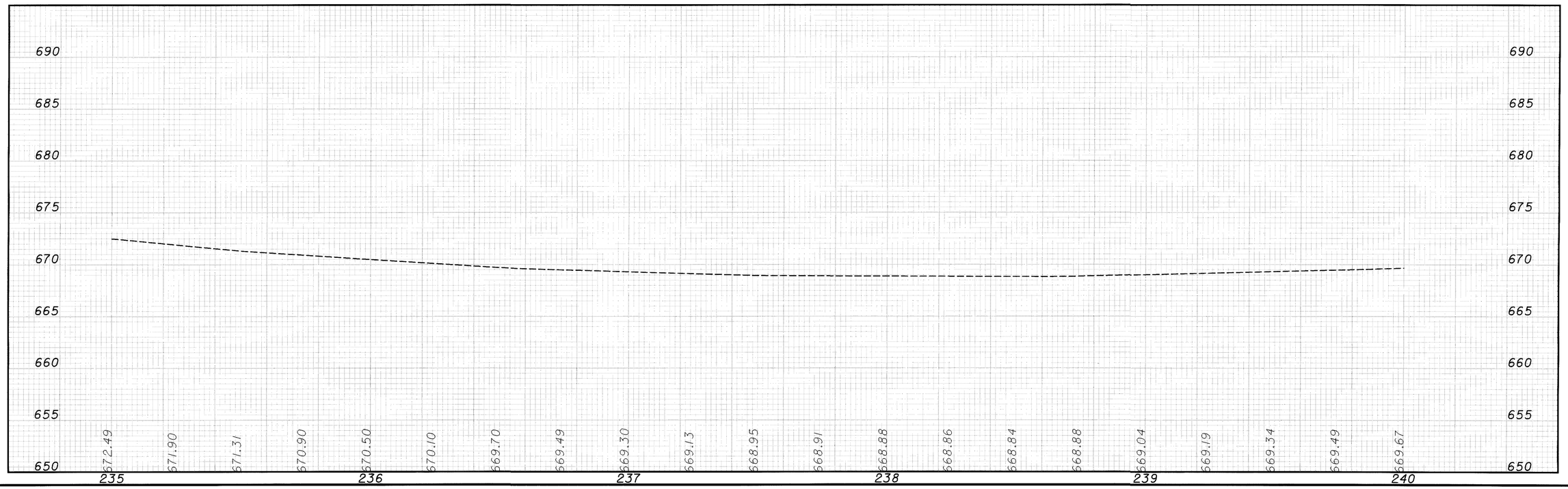
PLAN AND PROFILE - S.R. 110
STA. 230+00 TO STA. 235+00

HEN-110/424-4.18/13.78

29
15



For quantities see sheet 15.



HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - S.R. 110
STA. 235+00 TO STA. 240+00

HEN-110/424-4.18/13.78

30
15

SEEDING	
END WIDTH	SQ. YDS.
0	

+60.00 Ahead

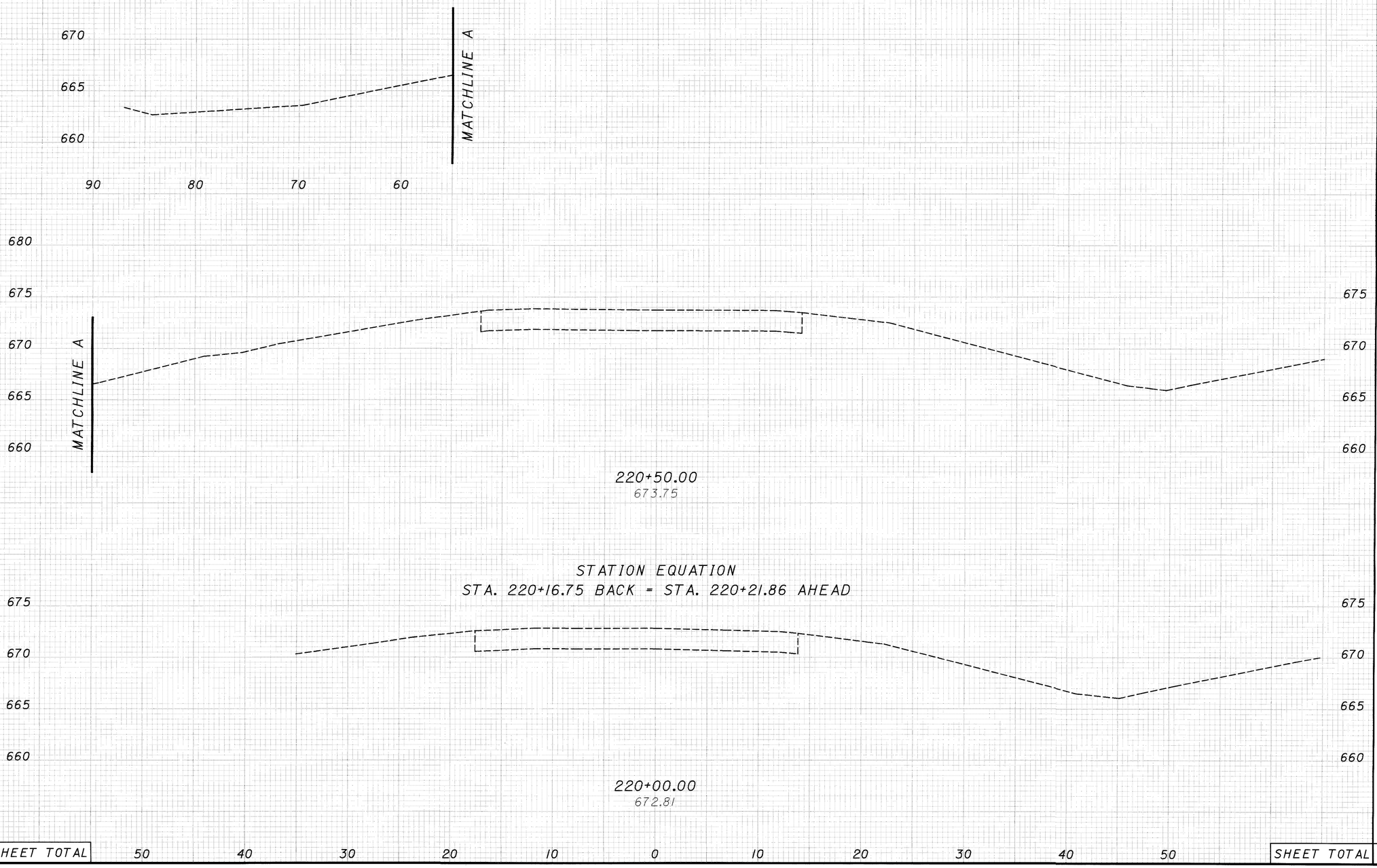
BEGIN EARTHWORK STA. 220+60.00

+60.00 Ahead

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		

CALCULATED EAL

CHECKED JAD



SHEET TOTAL

SHEET TOTAL

CROSS SECTIONS - S.R. 110
STA. 220+00.00 TO STA. 220+50.00

HEN-110/ 424-4.18/ 13.78

31
115

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SEEDING	
END WIDTH	SQ. YDS.
53	
	269
44	
	98
	367

END AREA		VOLUME	
CUT	FILL	CUT	FILL
70	100		
		119	166
58	79		
		43	59
		162	225

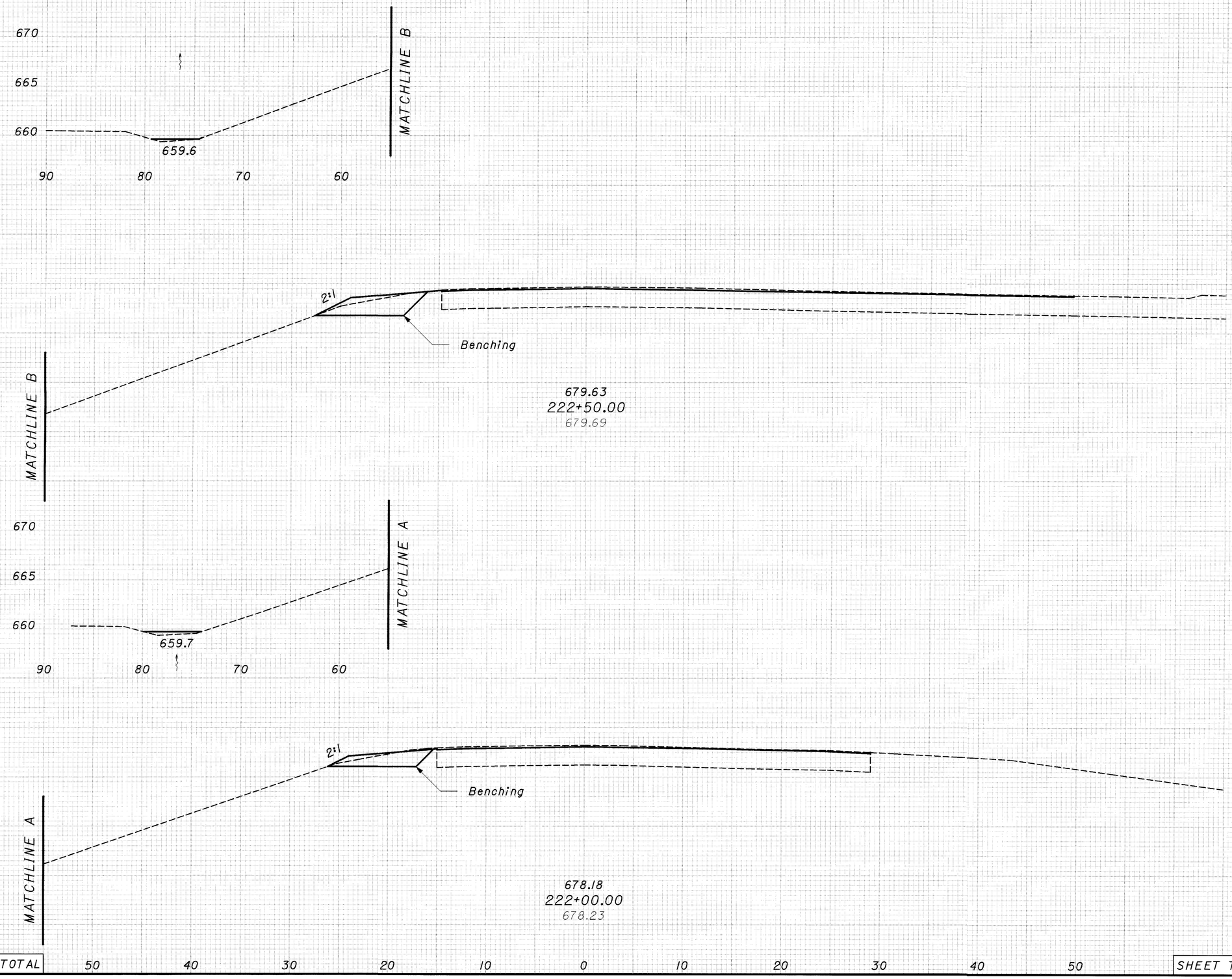
CALCULATED EAL
CHECKED JAD

CROSS SECTIONS - S.R. 110
STA. 221+00.00 TO STA. 221+50.00

HEN-110/424-4.18/13.78

32
115

SEEDING			END AREA		VOLUME		
STA	END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	
222+50.00	24	131	14	18	22	29	
222+00.00	23	211	10	13	74	105	
SHEET TOTAL		342			96	134	



CALCULATED EAL
CHECKED JAD

CROSS SECTIONS - S.R. 110
STA. 222+00.00 TO STA. 222+50.00

HEN-110/424-4.18/13.78

33
115

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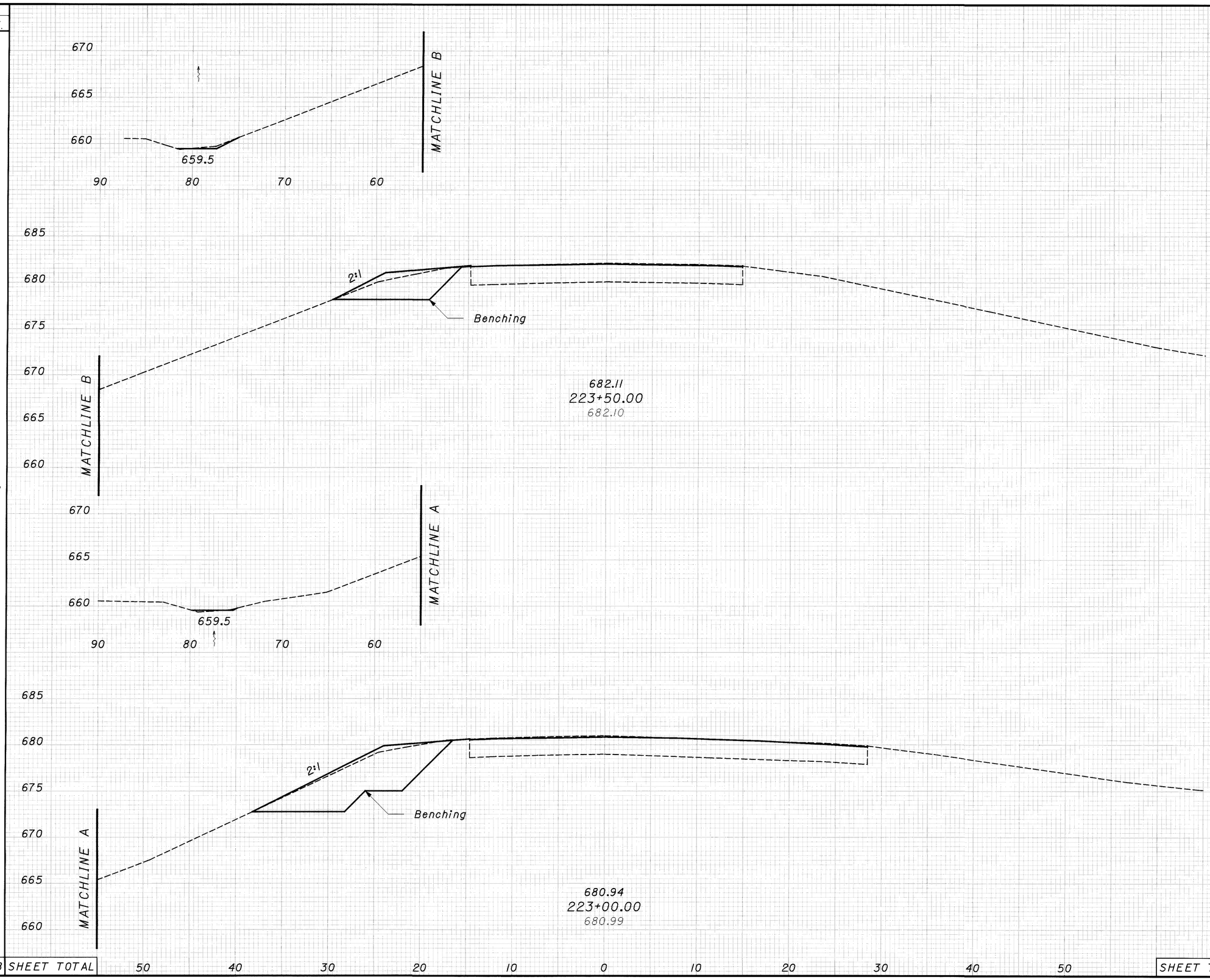
SEEDING	
END WIDTH	SQ. YDS.
29	
	181
36	
	167
	348



END AREA		VOLUME	
CUT	FILL	CUT	FILL
25	29		
63	68		
		81	90
		71	80
SHEET TOTAL		152	170

CALCULATED EAL
CHECKED JAD

CROSS SECTIONS - S.R. 110
STA. 223+00.00 TO STA. 223+50.00

HEN-110/424-4.18/13.78

34
115

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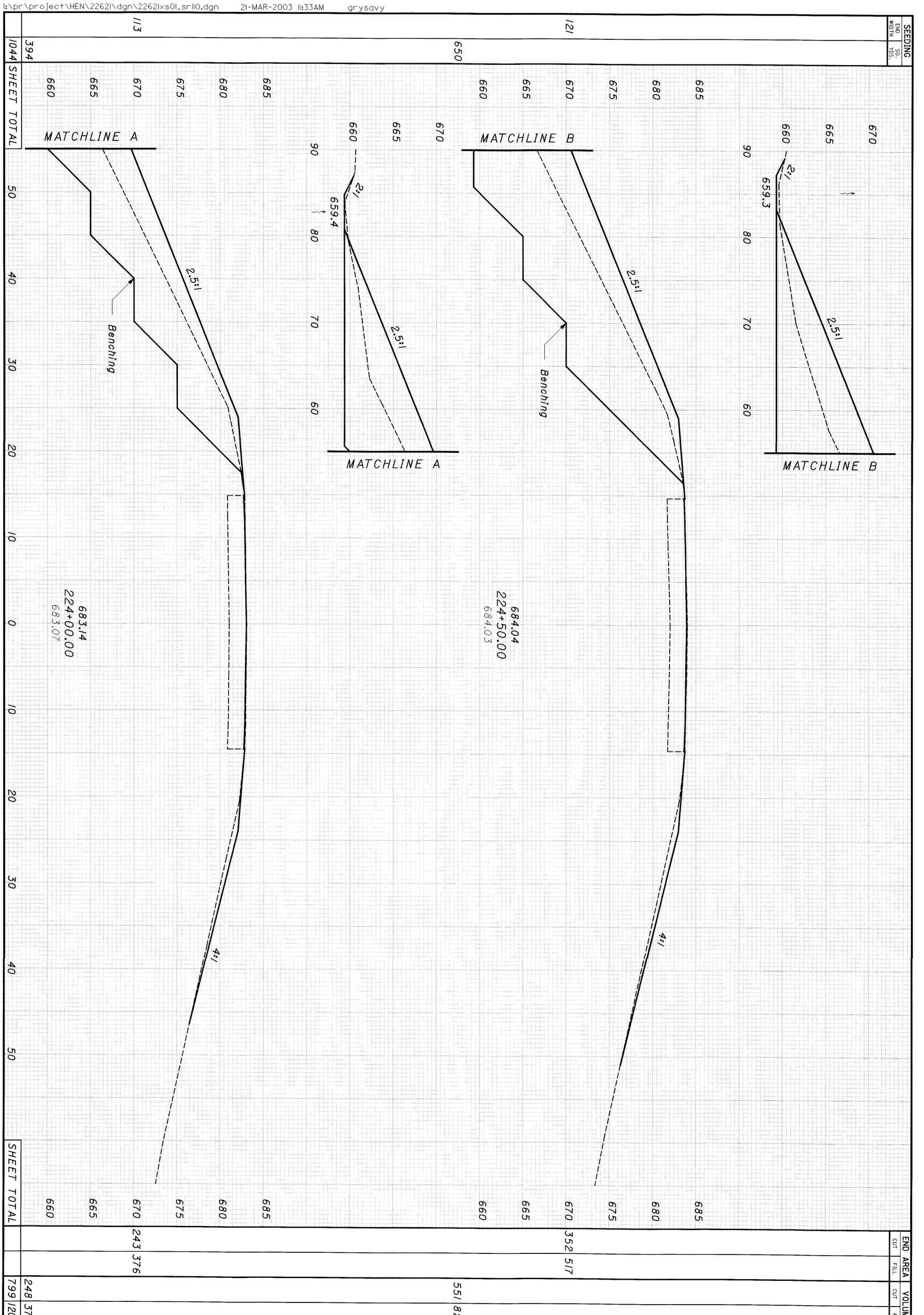


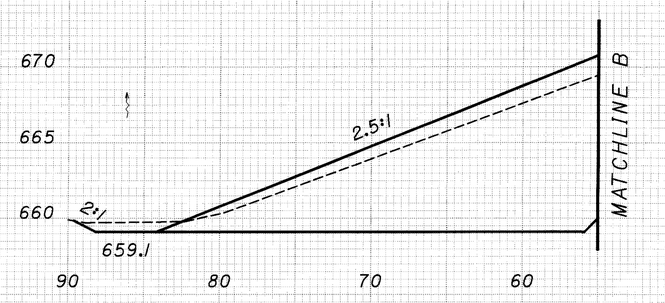
35
115

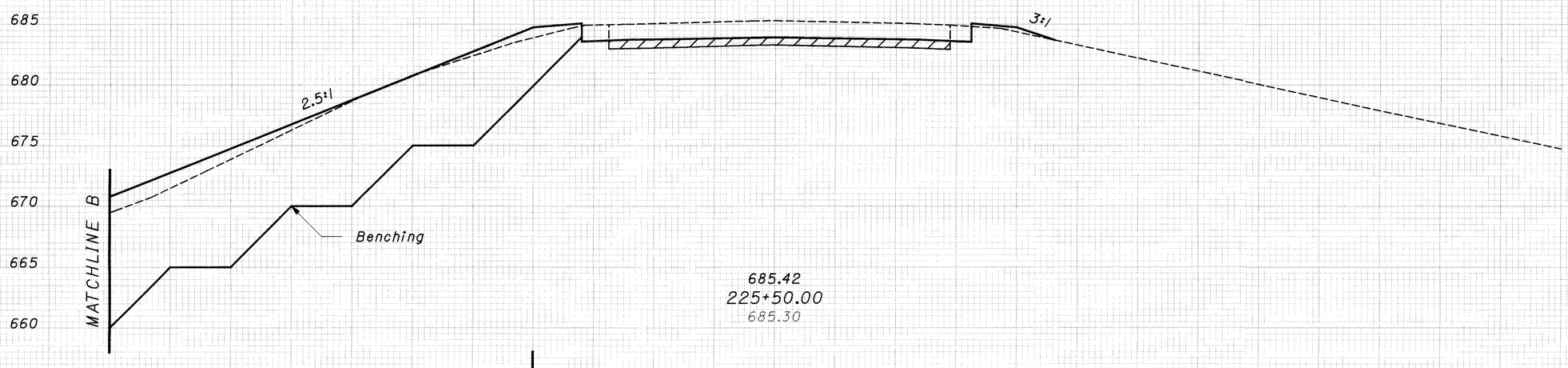
HEN-110/ 424-4.18 / 13.78

CROSS SECTIONS - S.R. 110
STA. 224+00.00 TO STA. 224+50.00

CALCULATED EAL
CHECKED JAD

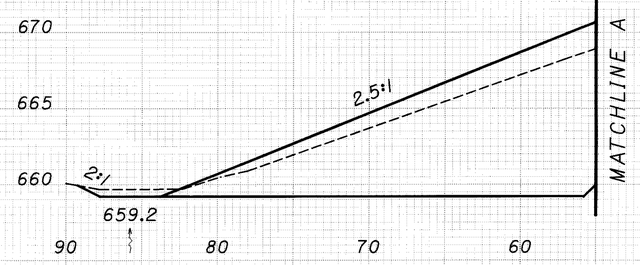
SEEDING	
END WIDTH	SQ. YDS.
90	514
95	600
1114	SHEET TOTAL





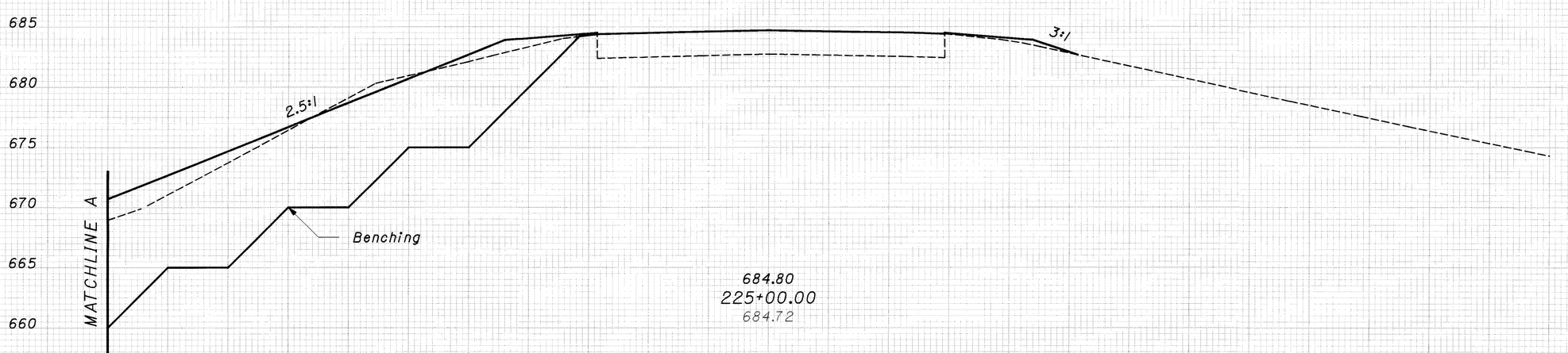
685.42
225+50.00
685.30

EXISTING ASPHALT PAVEMENT TO BE REMOVED AND BACKFILLED



BEGIN FULL DEPTH PAVEMENT
STA. 225+33.00

+33.00 Ahead
+33.00 Back



684.80
225+00.00
684.72

END AREA		VOLUME	
CUT	FILL	CUT	FILL
473	474		
		298	298
473	474		
395	445		
		483	544
395	445		
		692	891
SHEET TOTAL		1473	1733

CALCULATED EAL
CHECKED JAD

CROSS SECTIONS - S.R. 110
STA. 225+00.00 TO STA. 225+50.00

HEN-110/424-4.18/13.78

36
115

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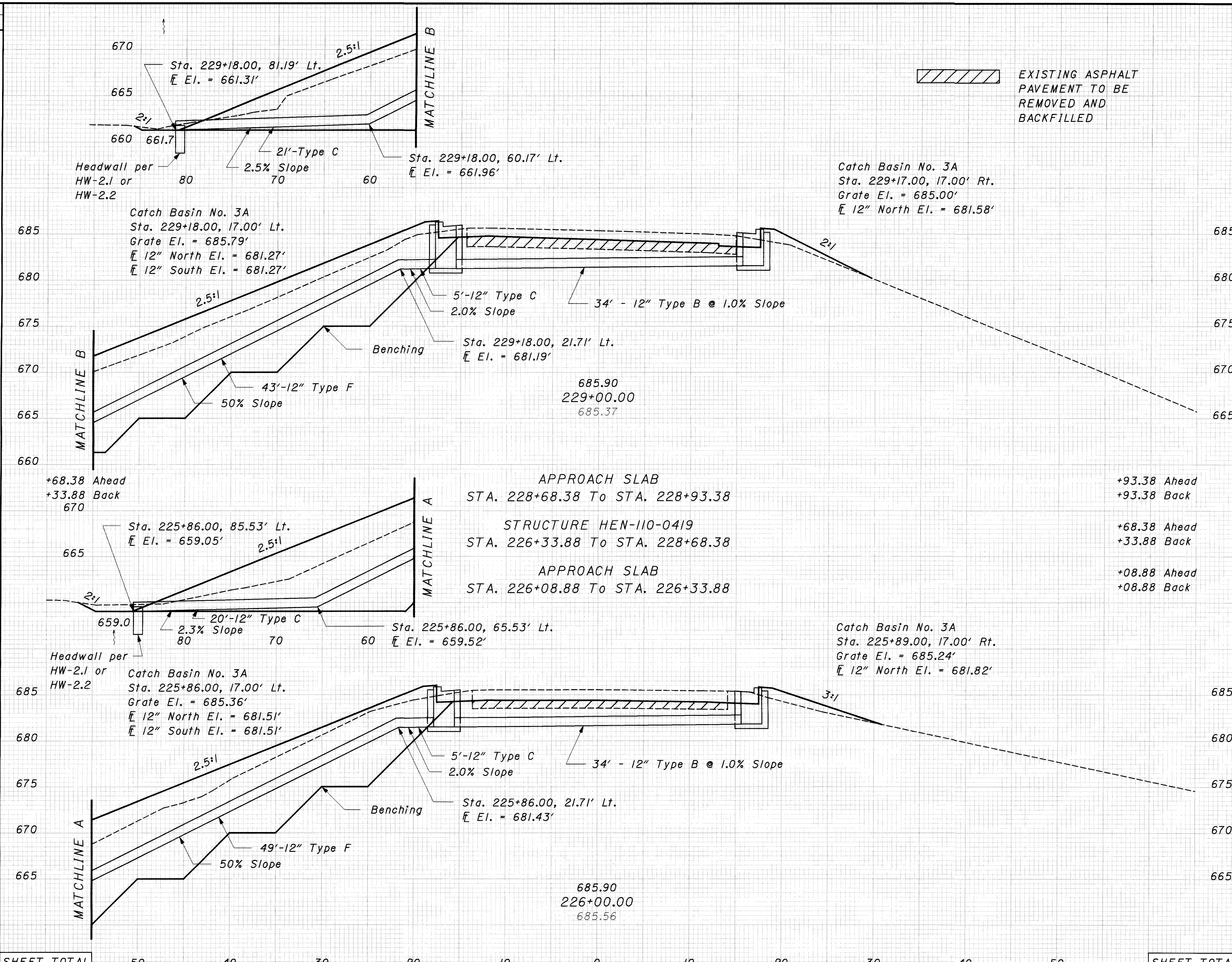


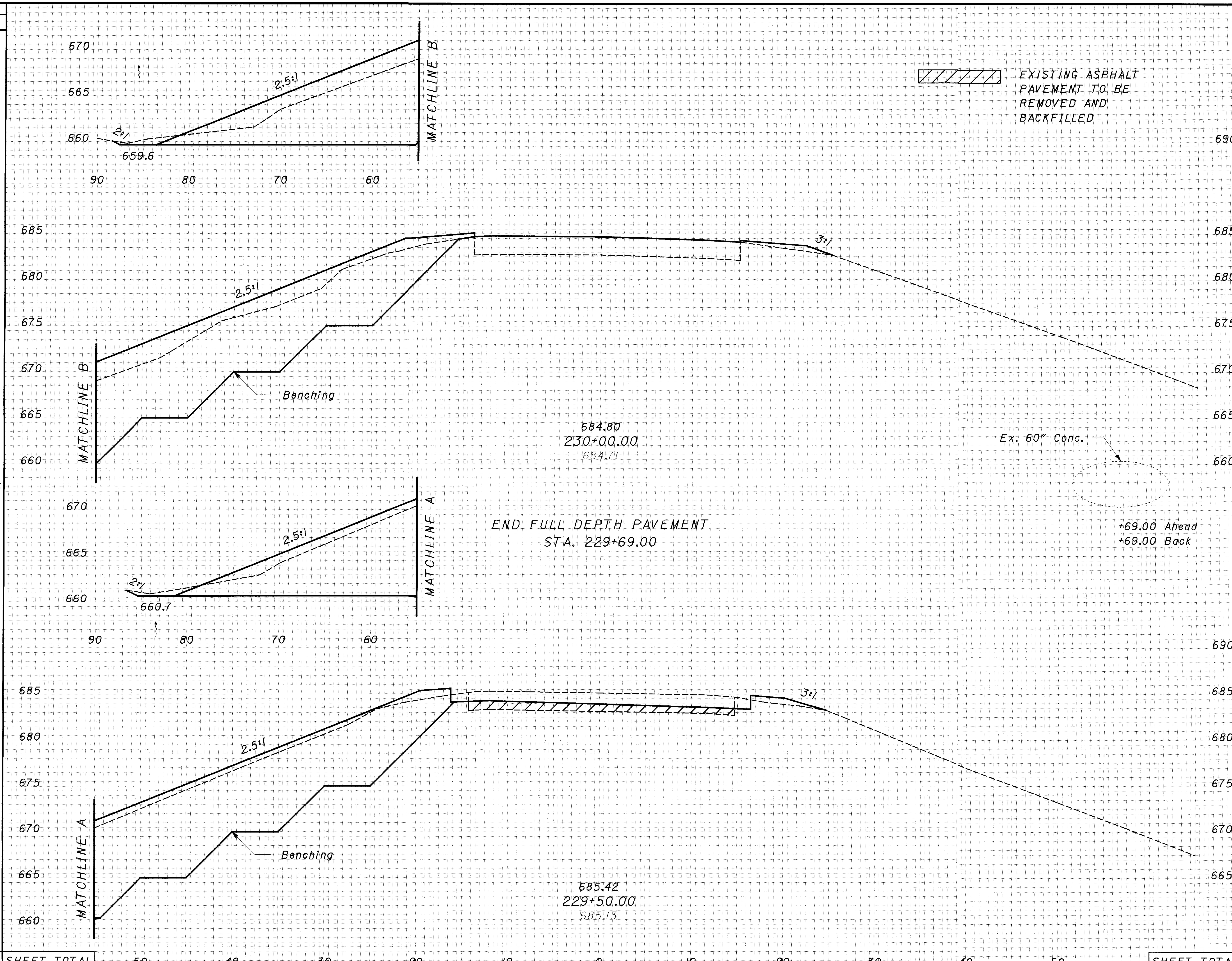
Station	Seeding End Width	Seeding Sq. Yds.	End Area Cut	End Area Fill	Volume Cut	Volume Fill
229+00.00	90		434	496		
		316			106	122
+93.38 Ahead (+68.38 Ahead)	90		434	496		
+93.38 Back (+33.88 Back)	91		402	496		
		354			372	459
+68.38 Ahead			402	496		
+33.88 Back			411	530		
					381	491
+08.88 Ahead			411	530		
+08.88 Back			443	530		
					146	174
226+00.00	97		443	530		
		519			848	930
SHEET TOTAL		1189			1853	2176

CALCULATED EAL
CHECKED JAD

CROSS SECTIONS - S.R. 110
STA. 226+00.00 TO STA. 229+00.00

HEN-110/ 424-4.18/ 13.78

SEEDING	
END WIDTH	SQ. YDS.
94	
	506
88	
	494
SHEET TOTAL	1000



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
361	461		
		414	529
361	461		
461	467		
		324	329
461	467		
		829	892
SHEET TOTAL		1567	1750

CALCULATED EAL
CHECKED JAD

CROSS SECTIONS - S.R. 110
STA. 229+50.00 TO STA. 230+00.00

HEN-110/ 424-4.18/ 13.78

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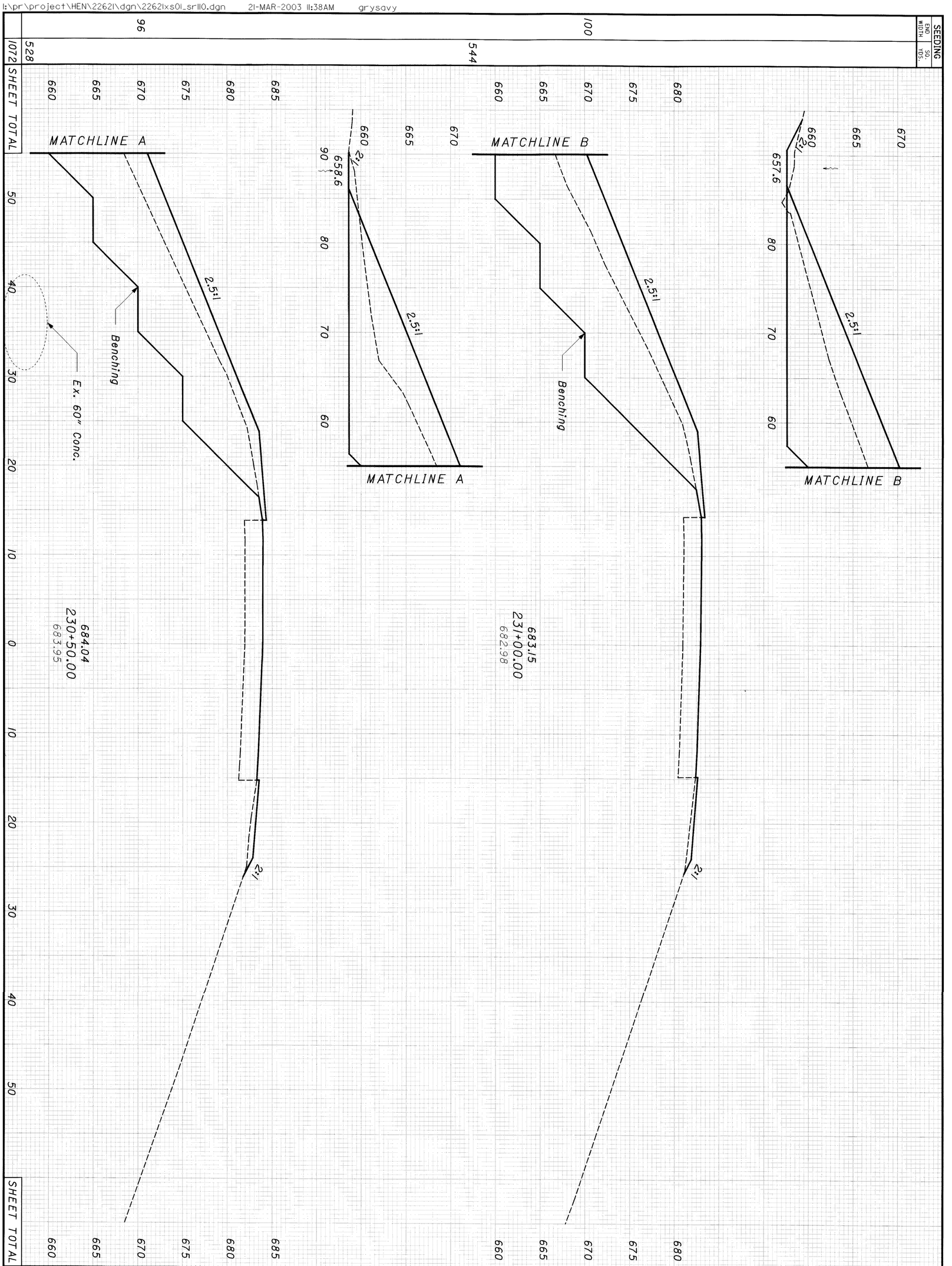
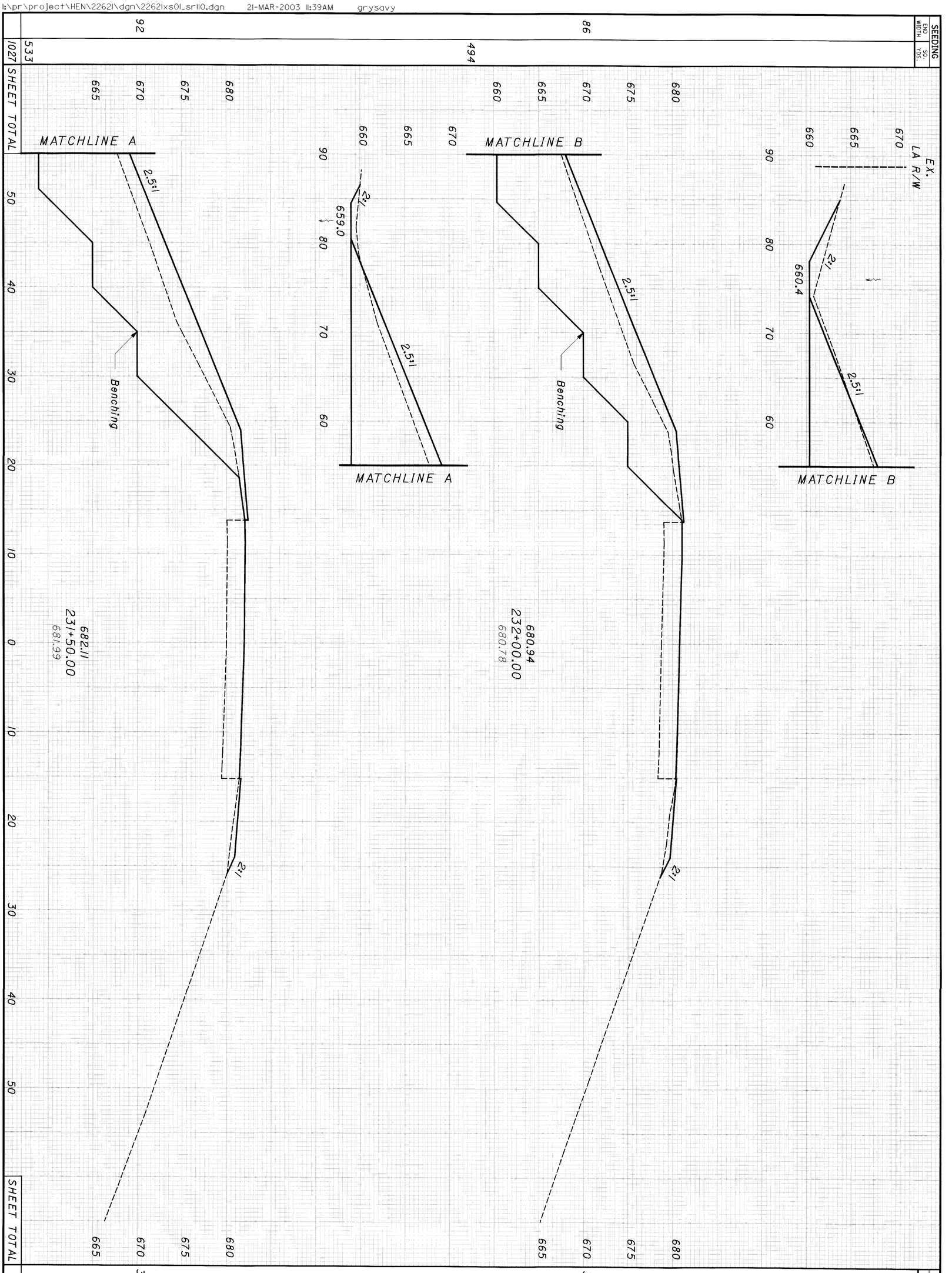


115 / 39	HEN-110/424-4.18/13.78	CROSS SECTIONS - S.R. 110 STA. 230+50.00 TO STA. 231+00.00	CALCULATED EAL CHECKED JAD



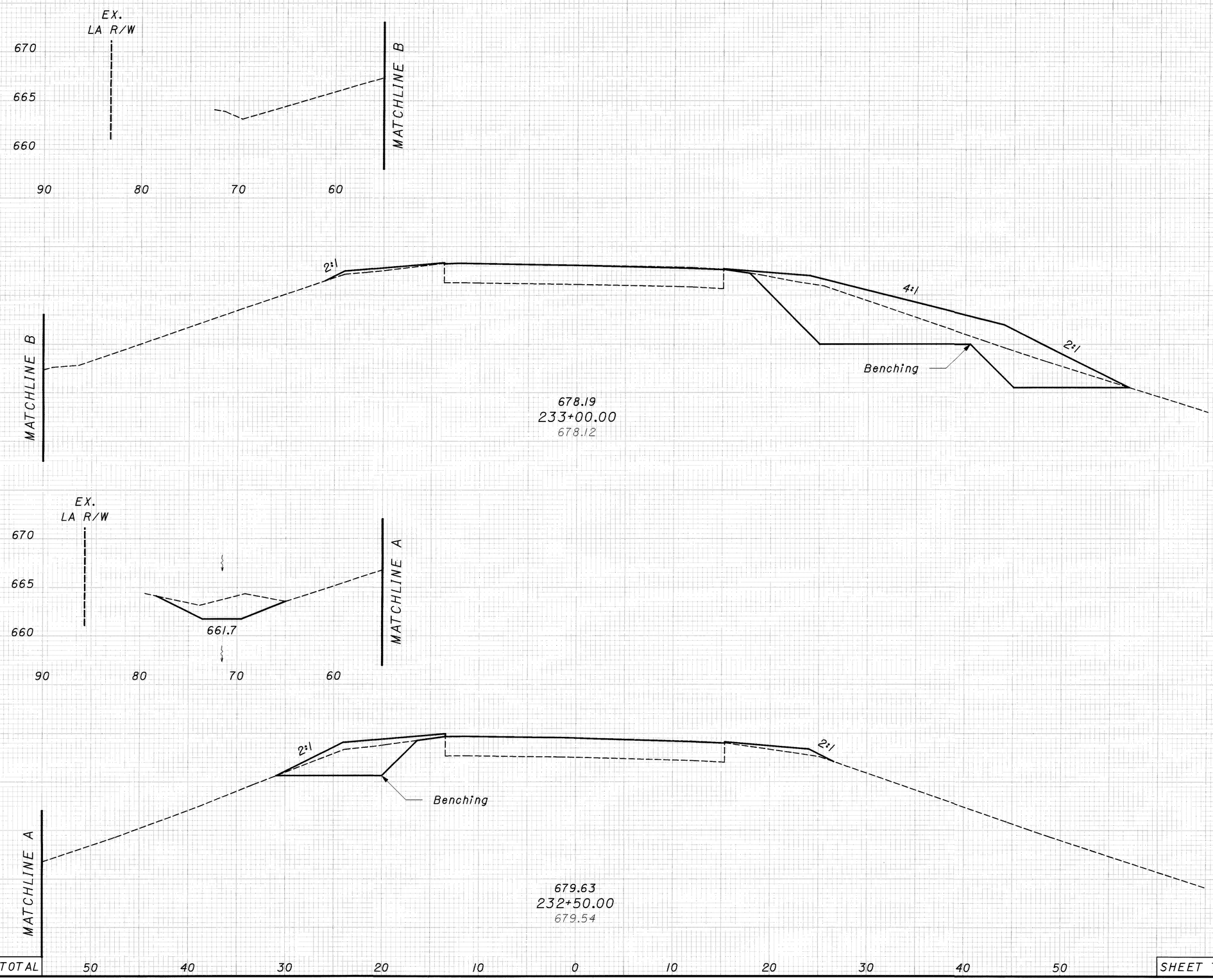
40
115

HEN-110/ 424-4.18/ 13.78

CROSS SECTIONS - S.R.110
STA. 231+50.00 TO STA. 232+00.00

CALCULATED EAL
CHECKED JAD

STATION EQUATION
STA. 233+14.62 BACK = STA. 233+15.26 AHEAD



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
61		108	159		
	314			141	183
52		44	39		
	383			335	363
	697 SHEET TOTAL			476	546

CALCULATED EAL
CHECKED JAD

CROSS SECTIONS - S.R. 110
STA. 232+50.00 TO STA. 233+00.00

HEN-110/424-4.18/13.78

41
115

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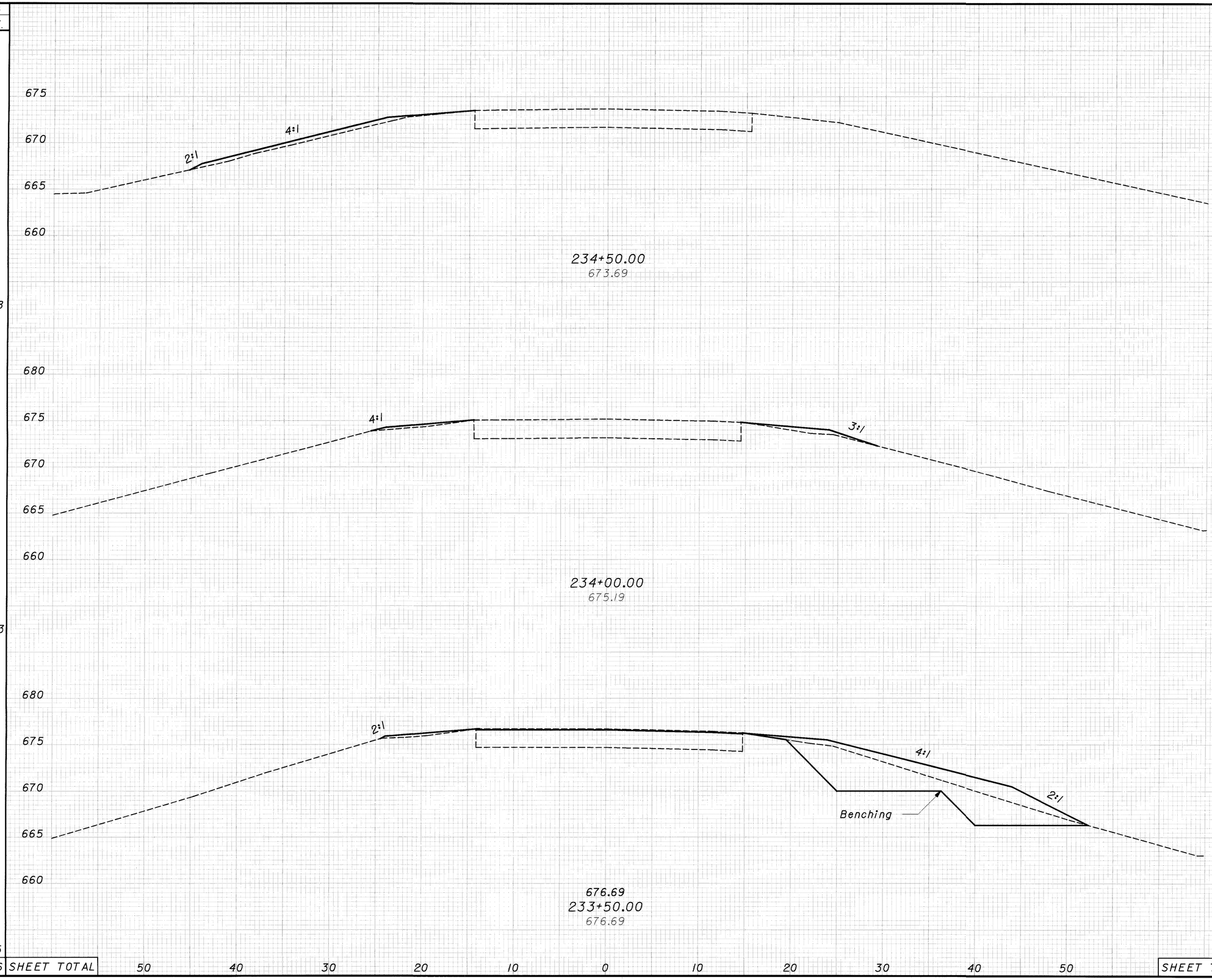
SEEDING	
END WIDTH	SQ. YDS.
34	178
30	233
54	315
	726



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	10		
		0	15
0	6		
		72	109
78	112		
		170	248
SHEET TOTAL		242	372

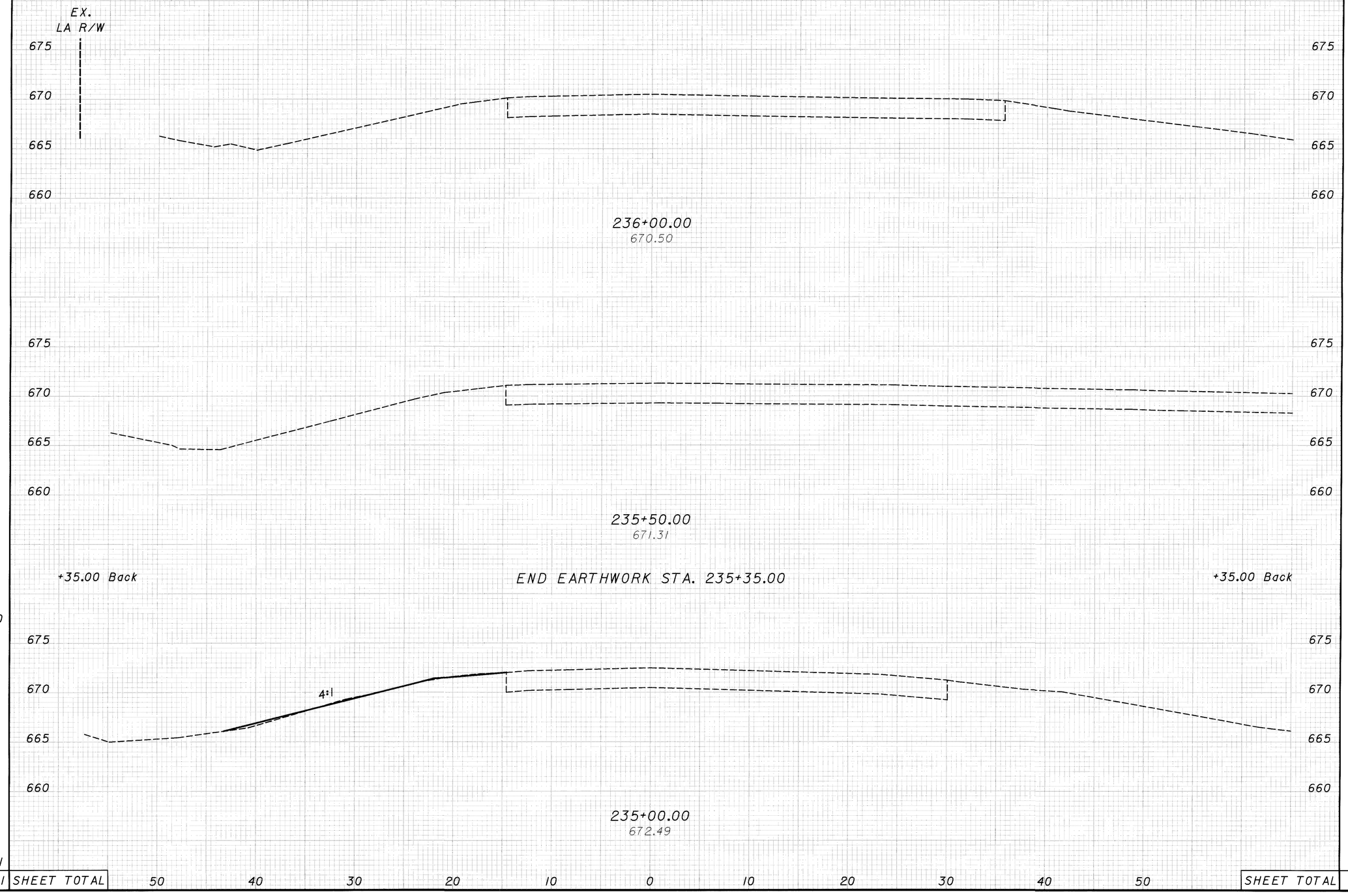
CALCULATED EAL
CHECKED JAD

CROSS SECTIONS - S.R. 110
STA. 233+50.00 TO STA. 234+50.00

HEN-110/424-4.18/13.78

42
115

SEEDING		END AREA		VOLUME			
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	CALCULATED	CHECKED
						EAL	JAD

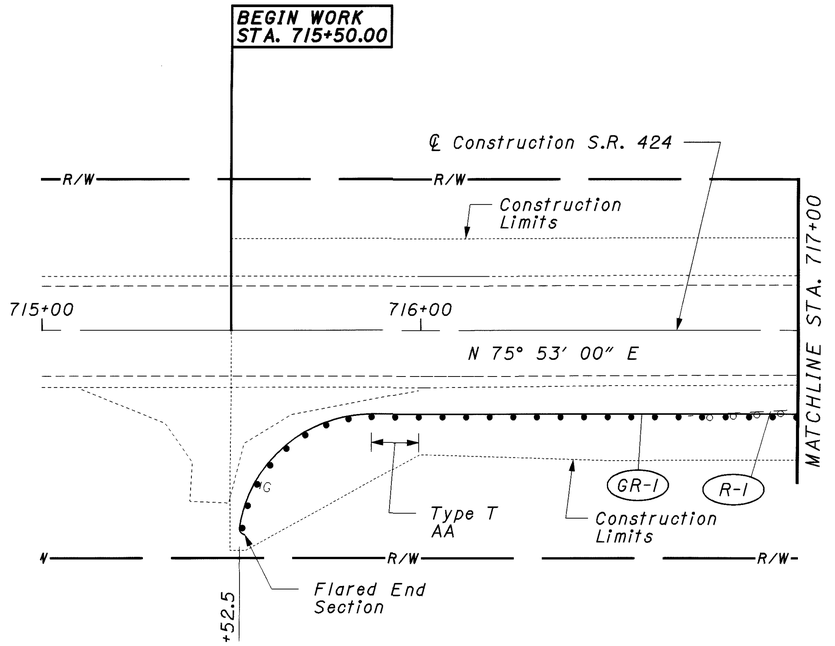


0		+35.00 Back	END EARTHWORK STA. 235+35.00	+35.00 Back	0	0	
	60						1 1
31					1	1	
	181						1 10
	241	SHEET TOTAL		SHEET TOTAL			2 11

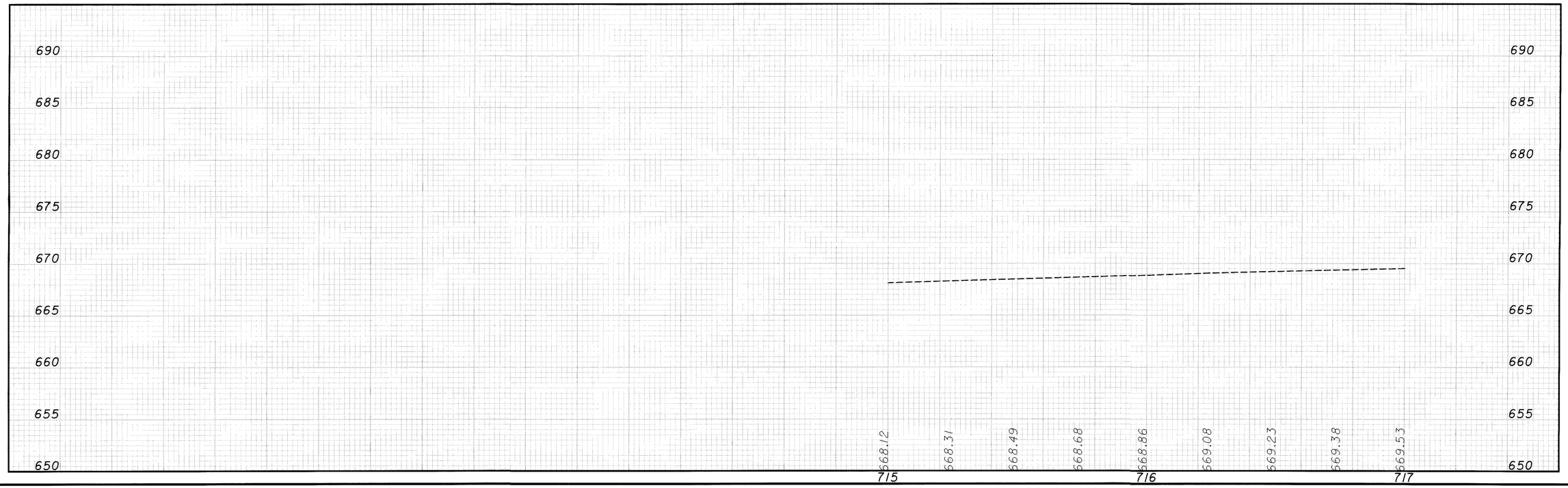
CROSS SECTIONS - S.R. 110
STA. 235+00.00 TO STA. 236+00.00

HEN-110/424-4.18/13.78

43
115



For quantities see sheet 15.



HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - S.R. 424
STA. 715+00 TO STA. 717+00

HEN-110/424-4.18/13.78

44
115

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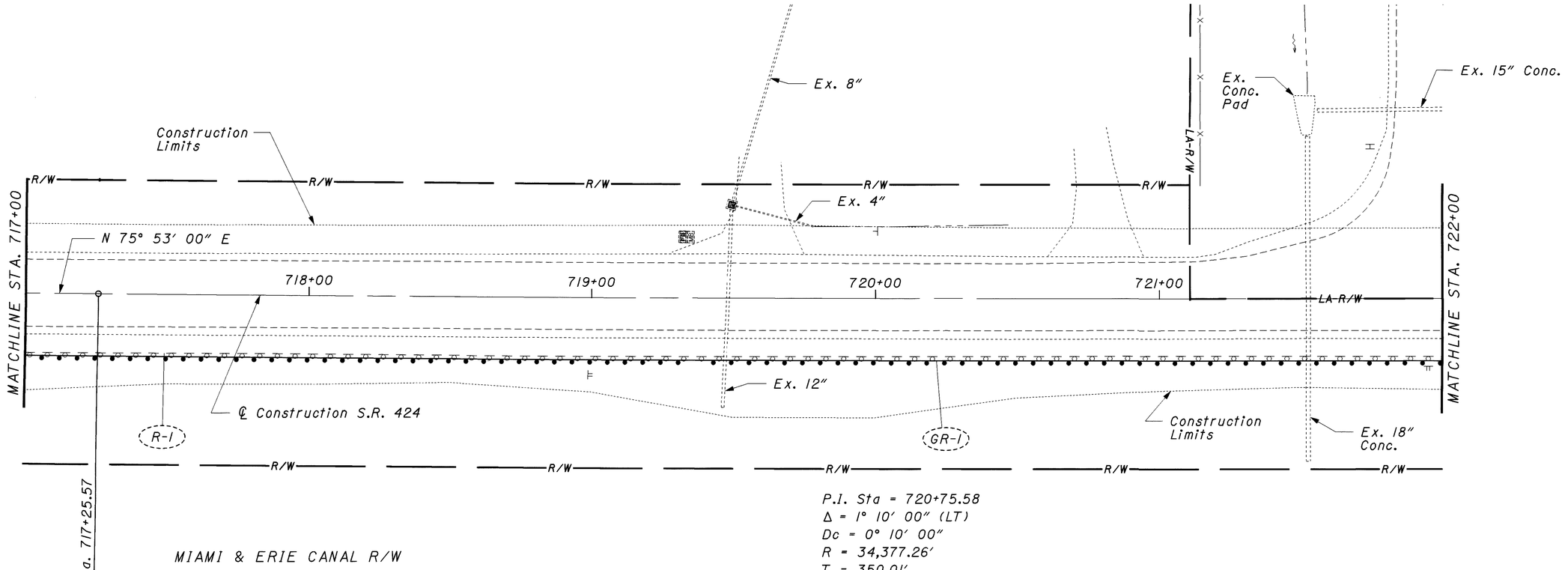
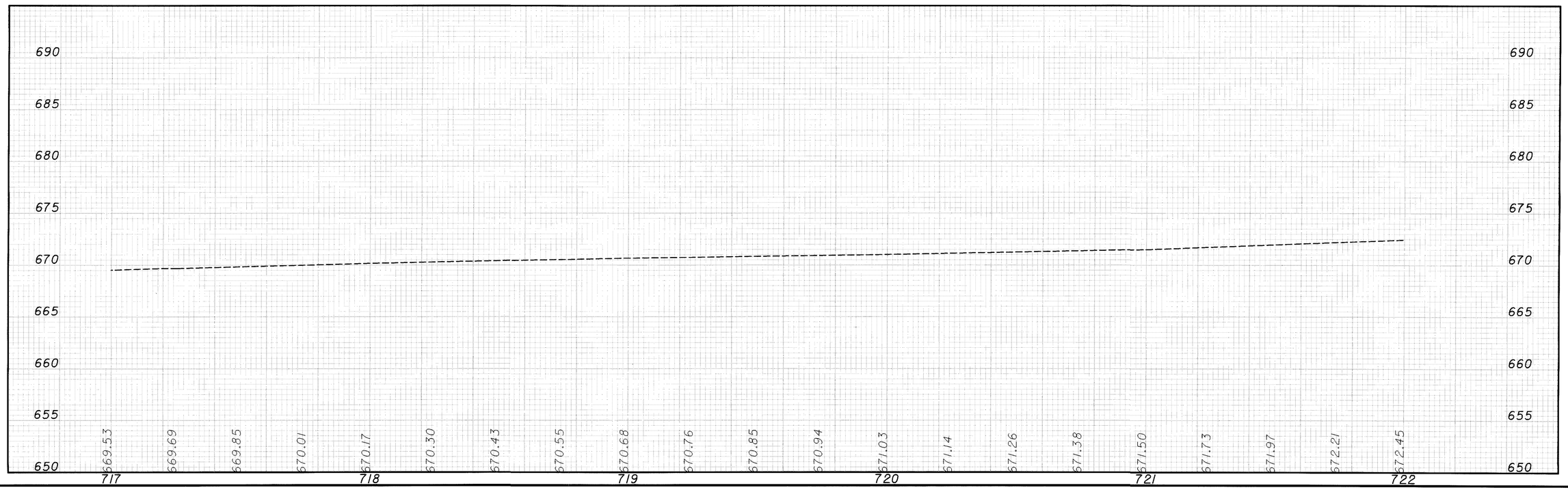


P.I. Sta = 720+75.58
Δ = 1° 10′ 00″ (LT)
Dc = 0° 10′ 00″
R = 34,377.26′
T = 350.01′
L = 700.00′
E = 1.78′

For quantities see sheet 15.

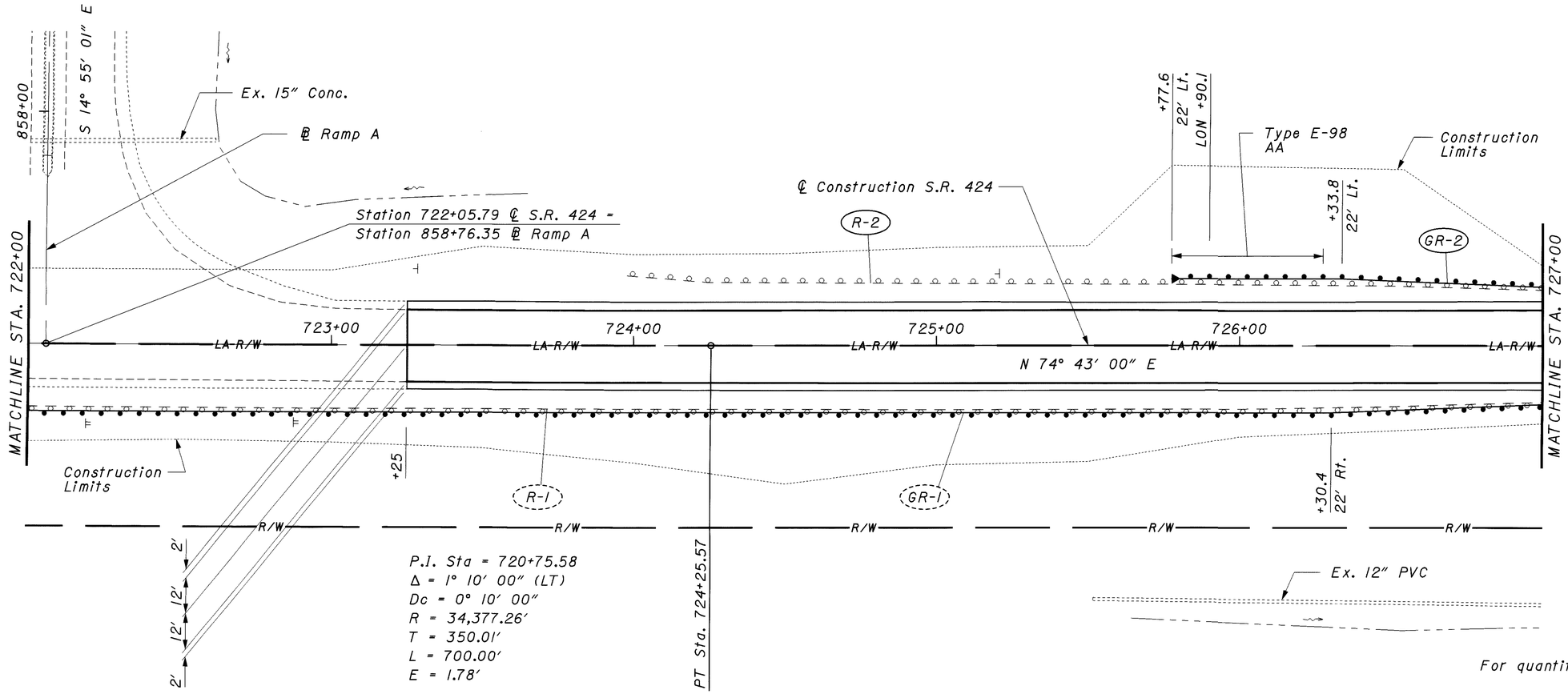


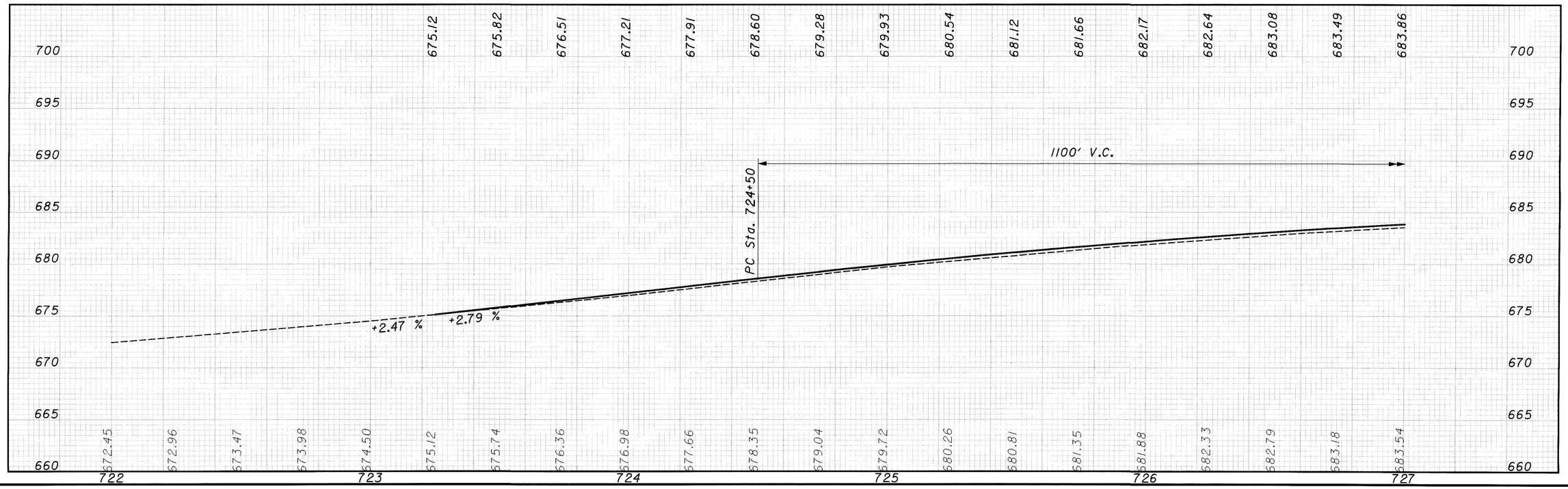
HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - S.R. 424
STA. 717+00 TO STA. 722+00

HEN-110/424-4.18/13.78

45
15

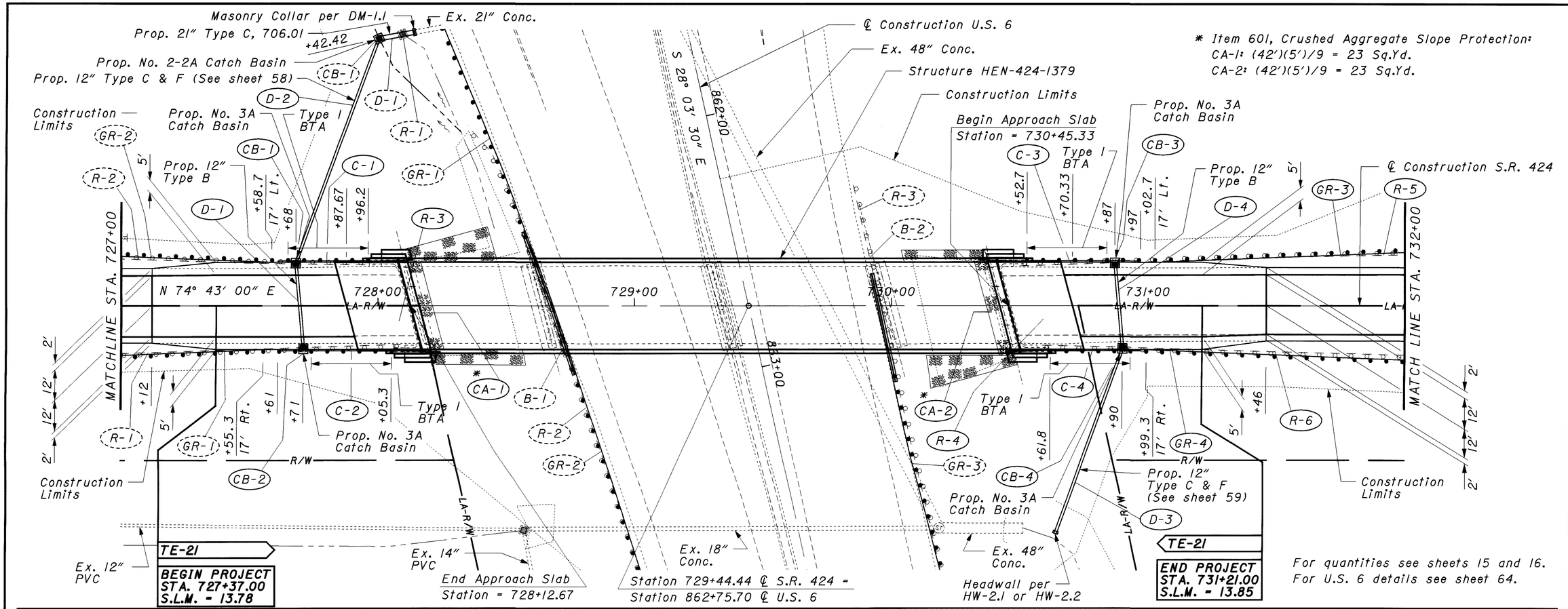


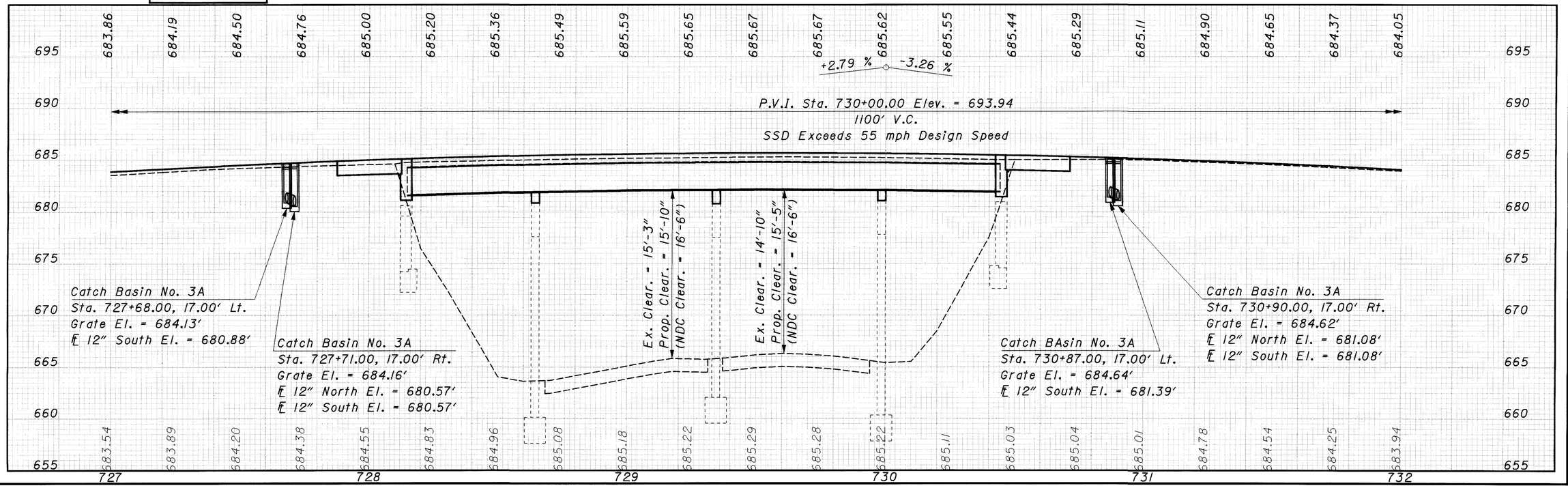


HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - S.R. 424
STA. 722+00 TO STA. 727+00

HEN-110/424-4.18/13.78



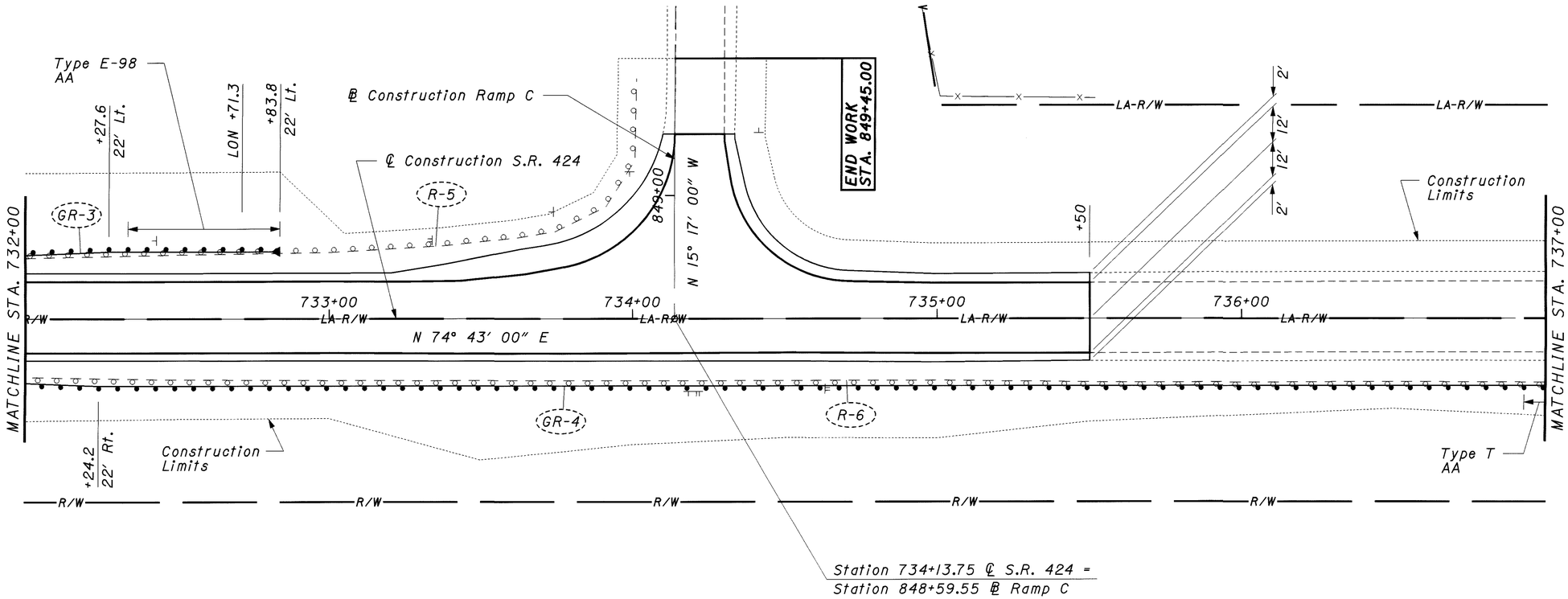


PLAN AND PROFILE - S.R. 424
STA. 727+00 TO STA. 732+00

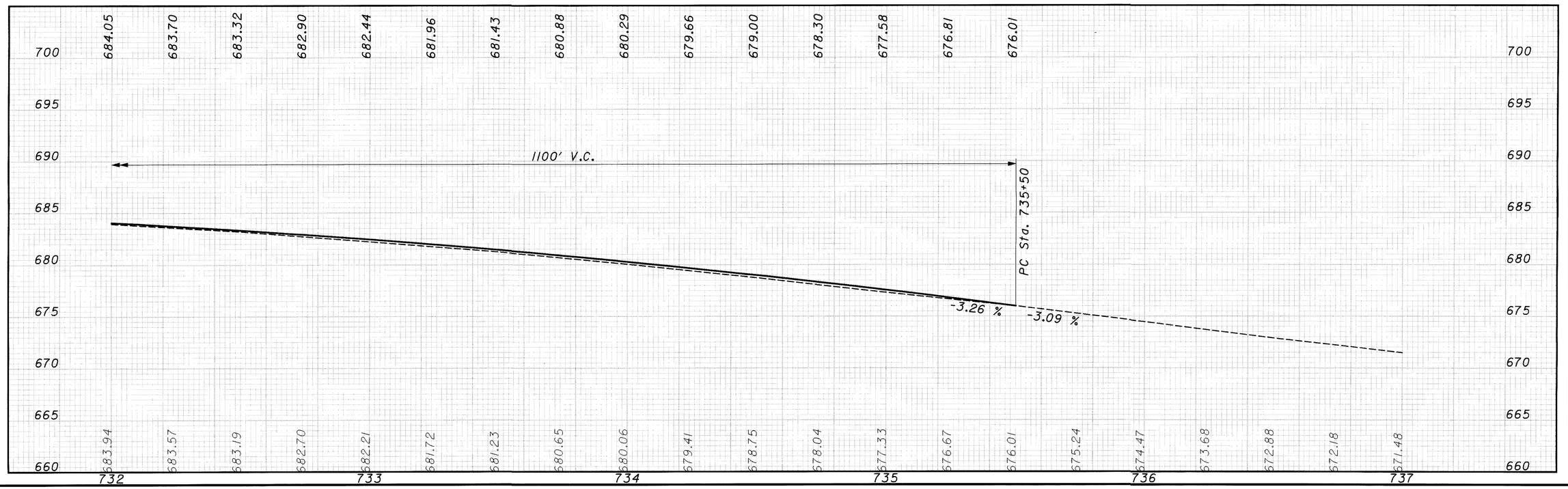
HEN-110/424-4.18/13.78

47
115

HORIZONTAL SCALE IN FEET
0 10 20 40



For quantities see sheet 15.



HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - S.R. 424
STA. 732+00 TO STA. 737+00

HEN-110/424-4.18/13.78

48
15

END WORK
STA. 737+30.00

LA-R/W — LA-R/W

Construction Limits

℄ Construction S.R. 424

MATCHLINE STA. 737+00

738+00 — 739+00 — 740+00 — 741+00 — 742+00

LA-R/W — LA-R/W — LA-R/W

N 74° 43′ 00″ E

740+00

N 0° 56′ 30″ E

LA-R/W

R/W — R/W

℄ Old S.R. 424

Station 739+72.10 ℄ S.R. 424 =
Station 739+72.10 ℄ Old S.R. 424

Type T AA

+22.8

R/W — R/W — R/W — R/W

Flared End Section

GR-4

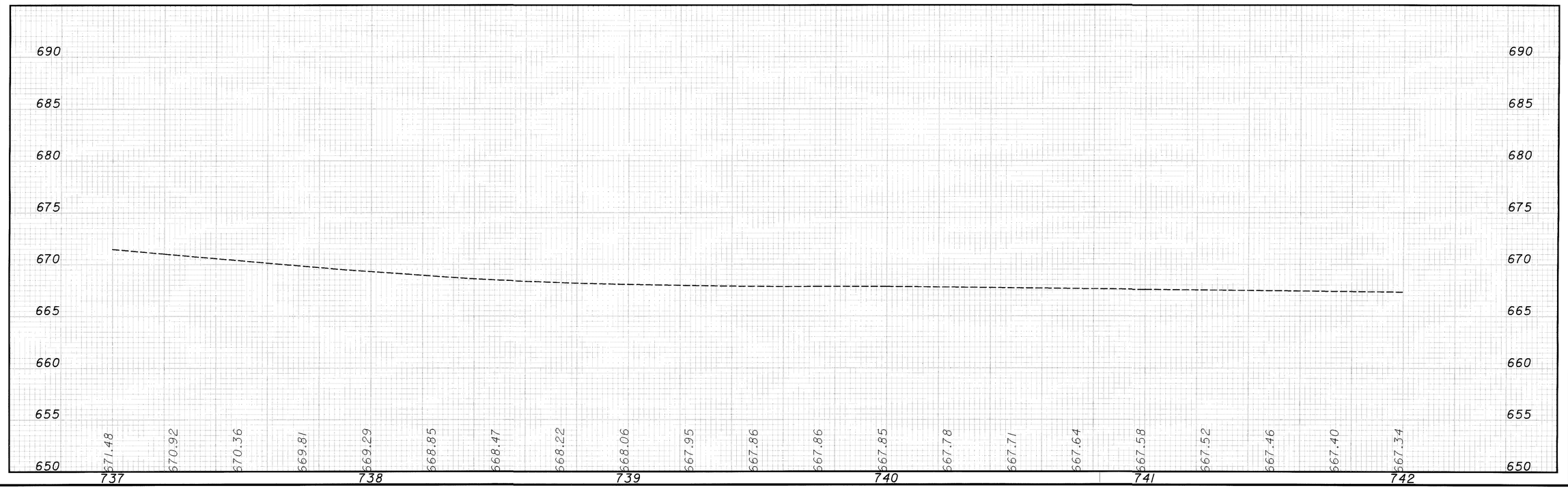
R-7

R-6

PC Sta. 739+92.44

P.I. Sta = 742+91.47
Δ = 5° 58′ 30″ (LT)
Dc = 1° 00′ 00″
R = 5729.58′
T = 299.03′
L = 597.50′
E = 7.80′

For quantities see sheet 15.



HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - S.R. 424
STA. 737+00 TO STA. 742+00

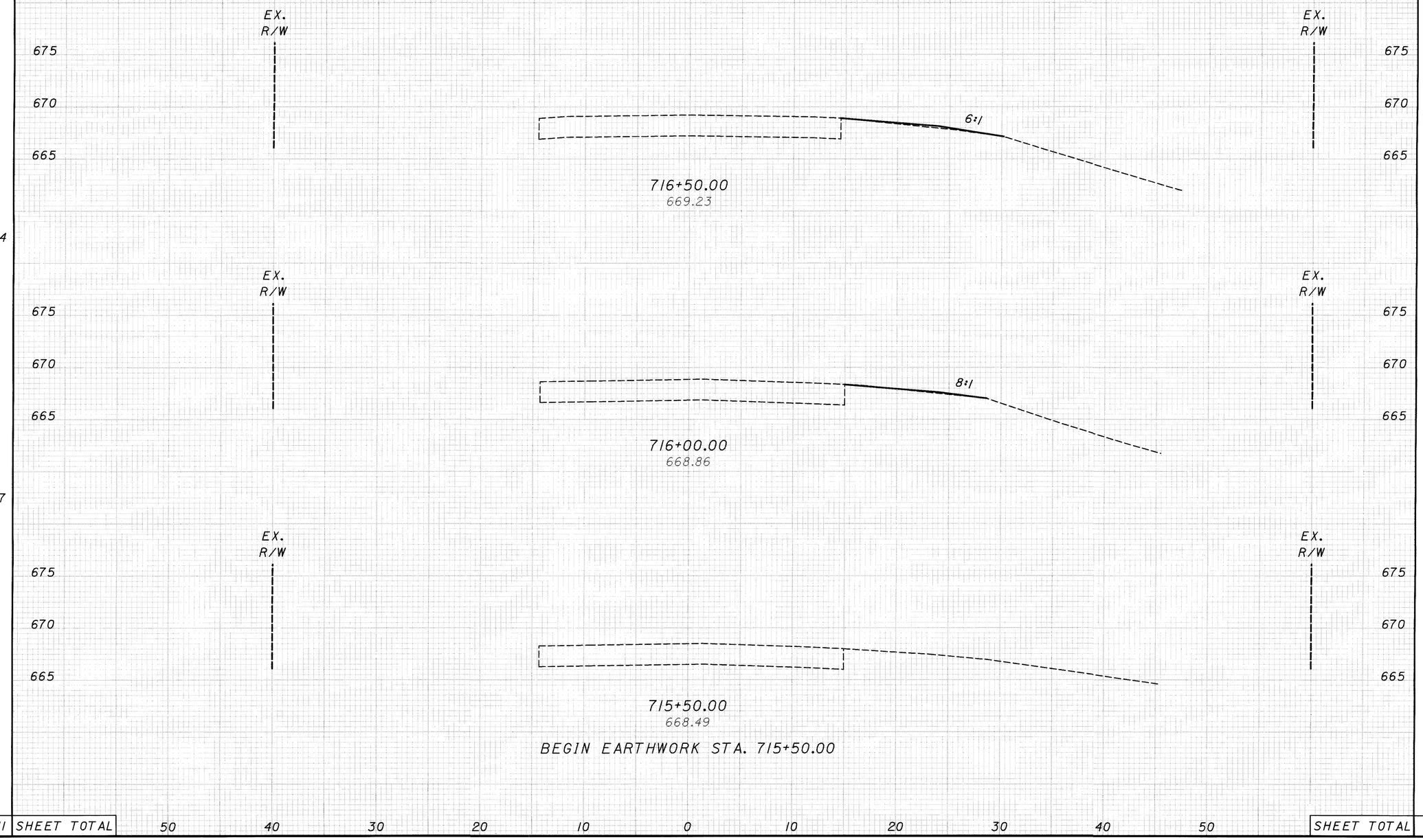
HEN-110/424-4.18/13.78

49
15

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
18	94	0	1	0	2
16	117	0	1	0	2
26		0	1		
	211 SHEET TOTAL			0	4

CALCULATED EAL
CHECKED JAD

CROSS SECTIONS - S.R. 424
STA. 715+50.00 TO STA. 716+50.00



HEN-110/424-4.18/13.78

50
115

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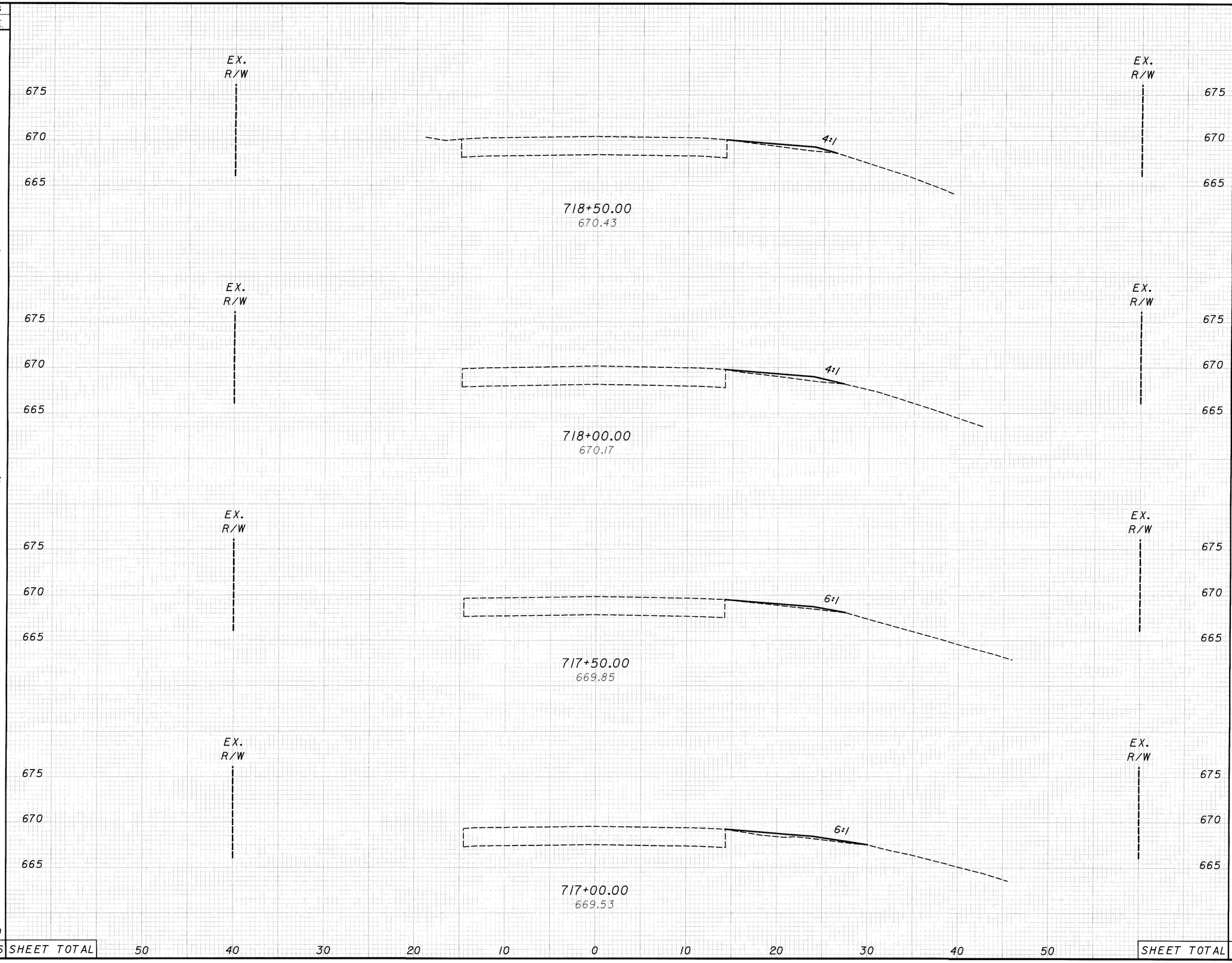
SEEDING END WIDTH	SEEDING SQ. YDS.
14	81
15	83
15	92
18	100
	356



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	3		
		0	6
0	3		
		0	5
0	2		
		0	5
0	3		
		0	4
SHEET TOTAL		0	20

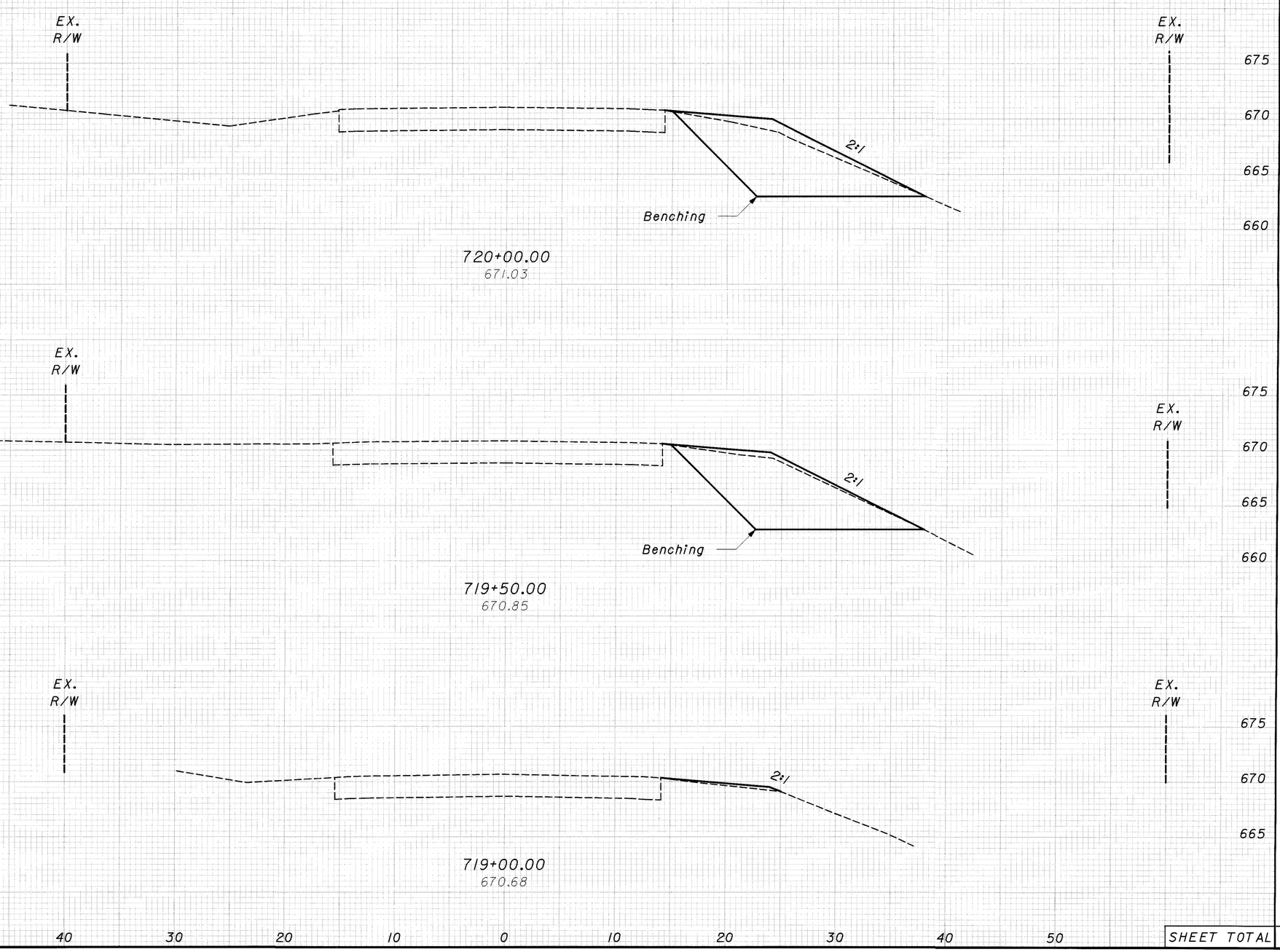
CALCULATED EAL
CHECKED JAD

CROSS SECTIONS - S.R. 424
STA. 717+00.00 TO STA. 718+50.00

HEN-110/ 424-4.18/ 13.78

51
115

SEEDING		END AREA		VOLUME		
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	
						CALCULATED EAL / CHECKED JAD
27		74	86			
	150			143	158	
27		80	85			
	111			74	81	
13		0	2			
	75			0	5	
	336			217	244	

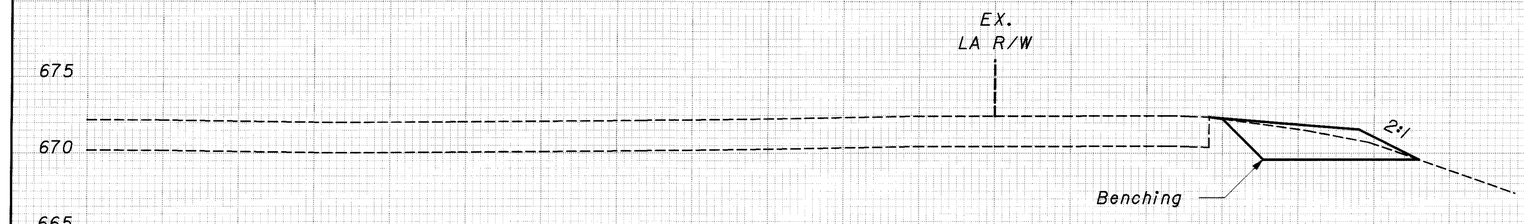


CROSS SECTIONS - S.R. 424
STA. 719+00.00 TO STA. 720+00.00

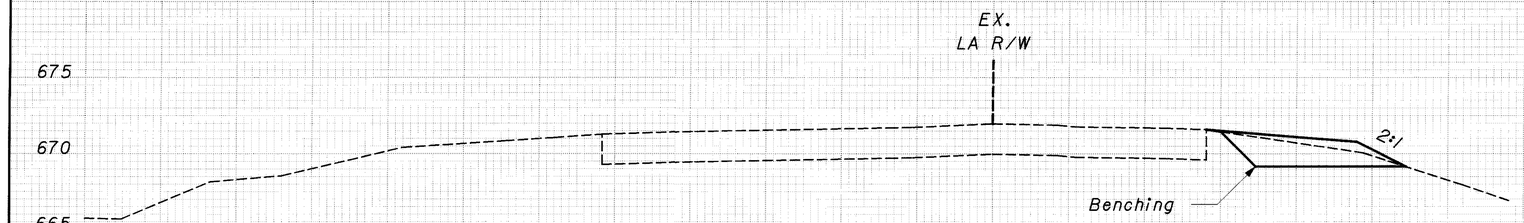
HEN-110/424-4.18/13.78

52
115

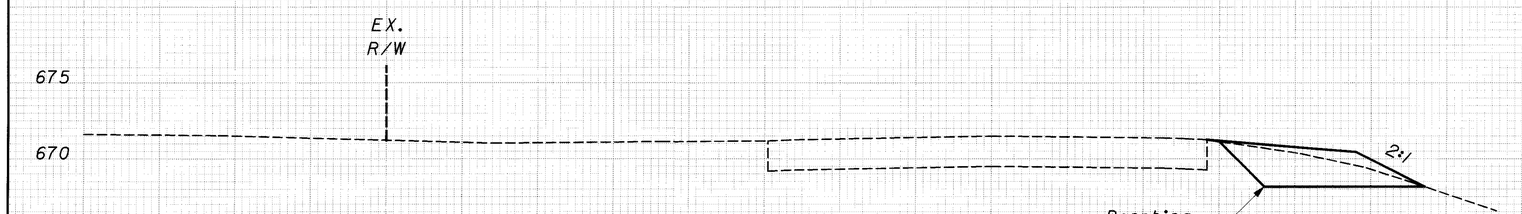
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
16	89	17	22	29	37
16	92	14	18	31	40
17	103	19	25	46	58
20	131	31	38	97	115
	415			203	250



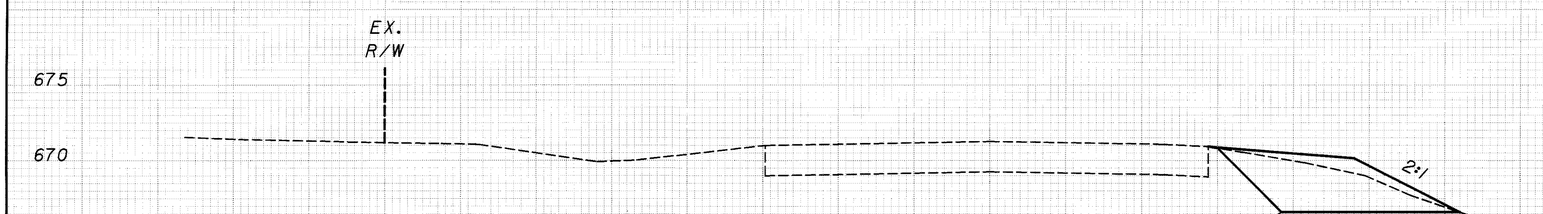
722+00.00
672.45



721+50.00
671.97



721+00.00
671.50



720+50.00
671.26

50 40 30 20 10 0 10 20 30 40 50

SHEET TOTAL

SHEET TOTAL

CALCULATED EAL
CHECKED JAD

CROSS SECTIONS - S.R. 424
STA. 720+50.00 TO STA. 722+00.00

HEN-110/424-4.18/13.78

53
115

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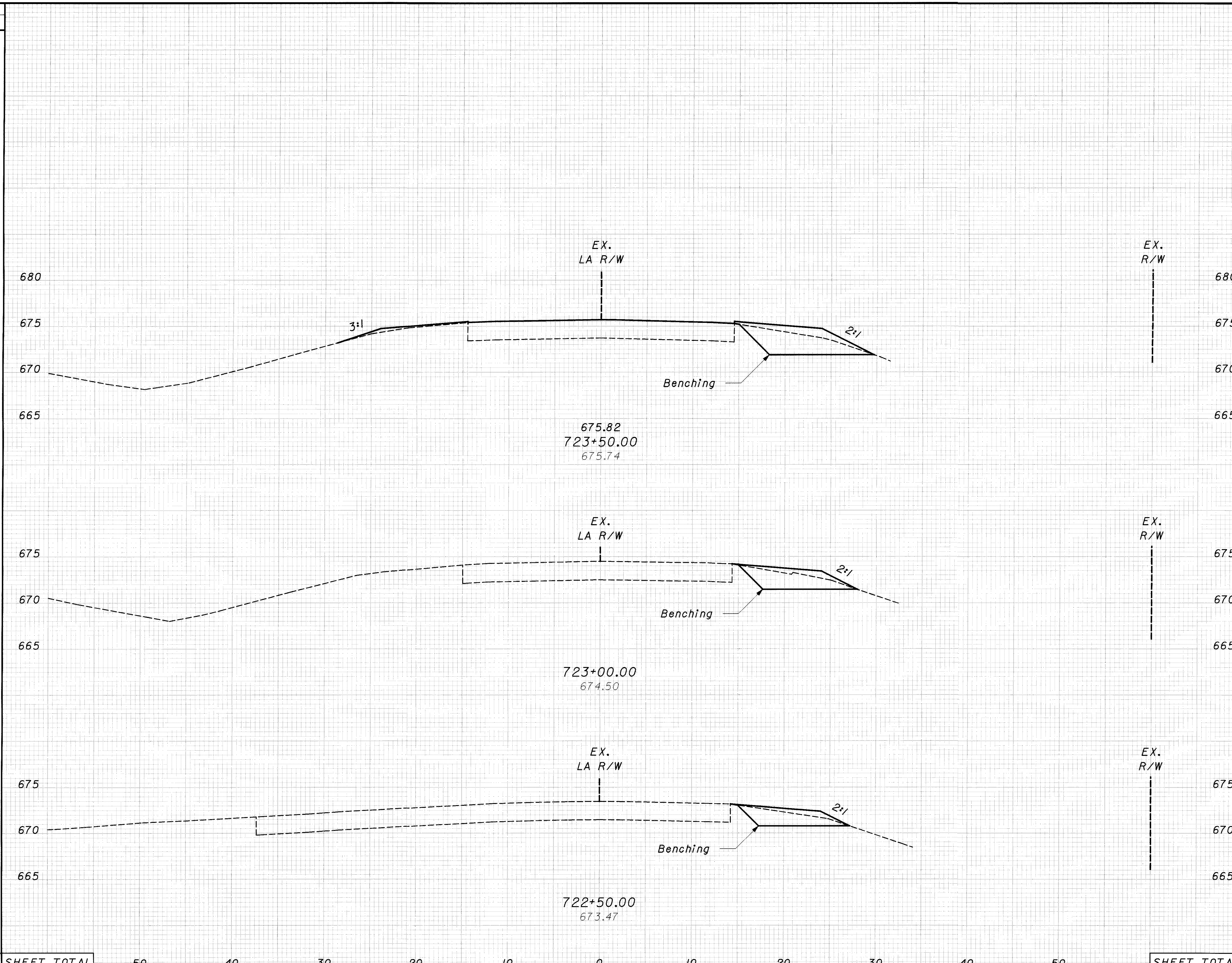
CROSS SECTIONS - S.R. 424
STA. 722+50.00 TO STA. 723+50.00

HEN-110/ 424-4.18 / 13.78

CALCULATED EAL CHECKED JAD



Station	SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
723+50.00	34		23	34		
		139			36	52
723+00.00	16		16	22		
		86			28	37
722+50.00	15		14	18		
		86			29	37
SHEET TOTAL		311			93	126

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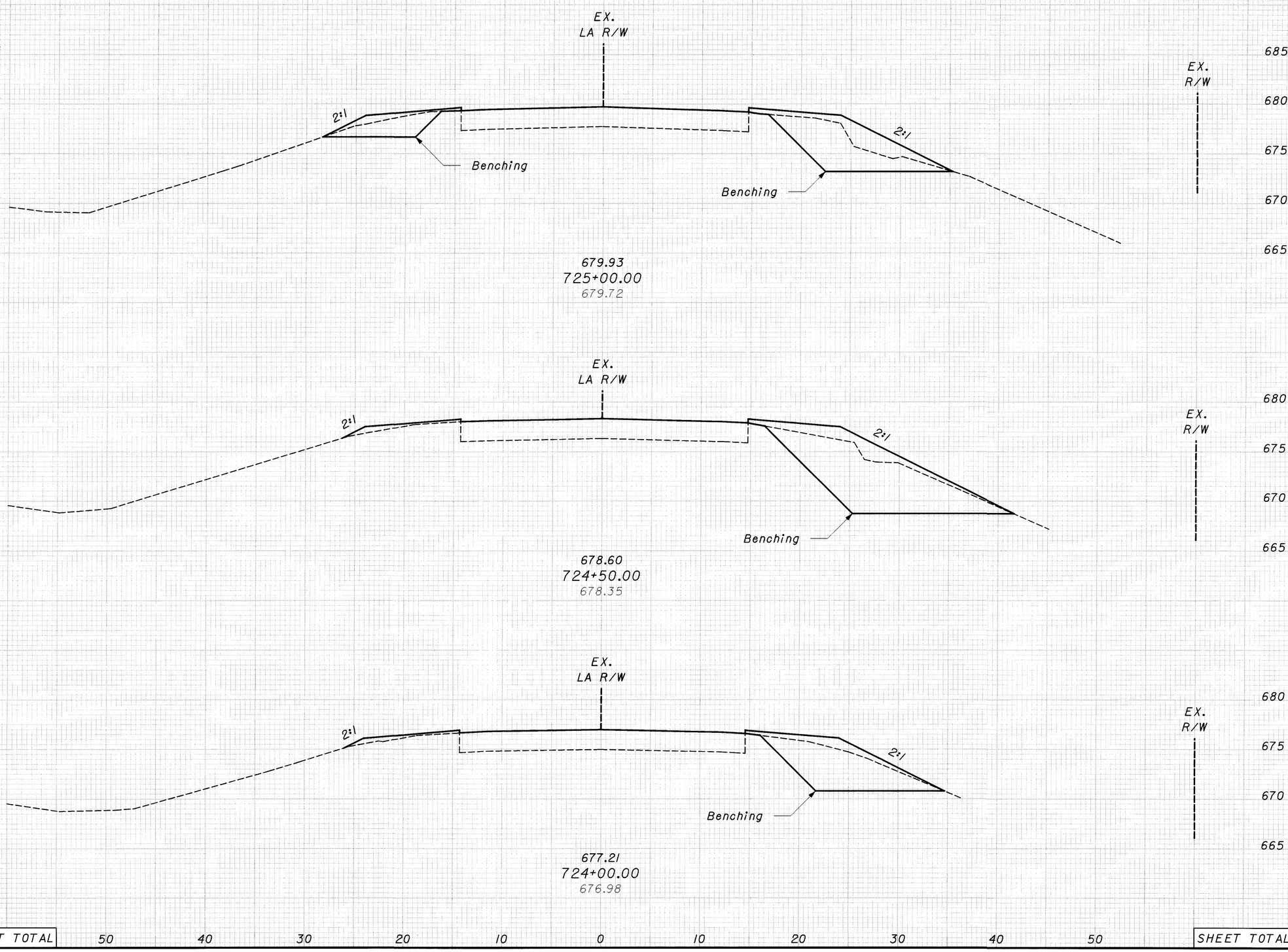
SEEDING		END AREA		VOLUME		
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	
41		56	81			
	239			133	179	
45		88	112			
	228			126	161	
37		48	62			
	197			66	89	
	664			325	429	



CALCULATED EAL
CHECKED JAD

CROSS SECTIONS - S.R. 424
STA. 724+00.00 TO STA. 725+00.00

HEN-110/424-4.18/13.78

55
115

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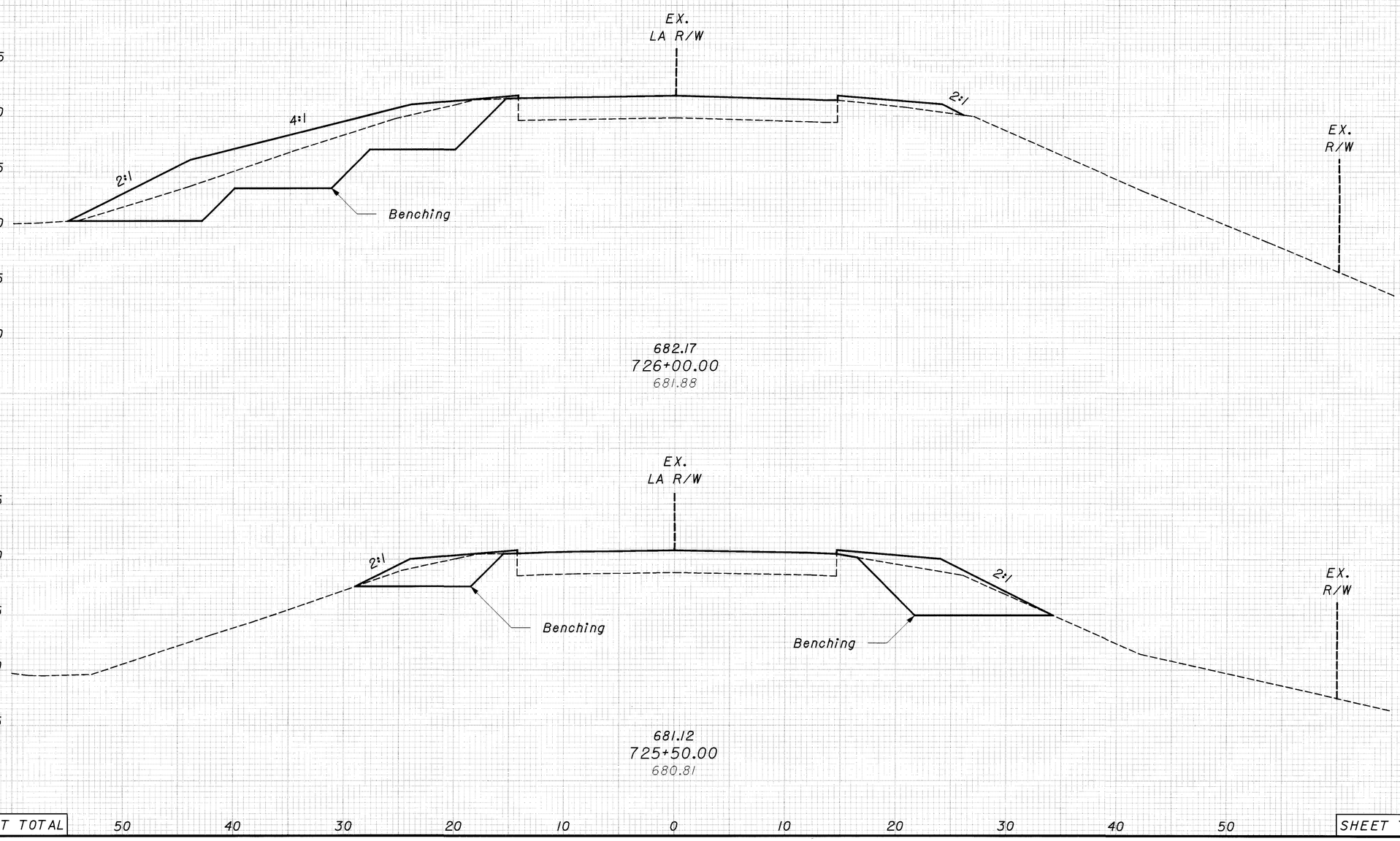
SEEDING		END AREA		VOLUME		CALCULATED EAL / CHECKED JAD
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	
58		99	154			
	272			151	217	
40		64	80			
	225			111	149	
	497			262	366	



CROSS SECTIONS - S.R. 424
STA. 725+50.00 TO STA. 726+00.00

HEN-110/424-4.18/13.78

56
115

SEEDING	
END WIDTH	SQ. YDS.
19	
	206
55	
	314
	520

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	3		
		85	123
92	130		
		177	263
		262	386

CALCULATED EAL
CHECKED JAD

CROSS SECTIONS - S.R. 424
STA. 726+50.00 TO STA. 727+00.00

HEN-110/424-4.18/13.78

57
115

SHEET TOTAL

SHEET TOTAL

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SEEDING END WIDTH	SEEDING SQ. YDS.
29	
	41
29	
	108
	10
	81
	230

EXISTING ASPHALT PAVEMENT TO BE REMOVED AND BACKFILLED

STRUCTURE HEN-424-1379
STA. 728+12.67 To STA. 730+45.33

+12.67 Back

EX. LA R/W

2:1

Benching

EX. R/W

685.00
728+00.00
684.55

APPROACH SLAB
STA. 727+87.67 To STA. 728+12.67

+87.67 Ahead
+87.67 Back

See U.S. 6 Cross Sections

Quantities are included on the U.S. 6 Cross Sections

Catch Basin No. 2-2A
Sta. 861+42.42, 117.96' Rt.
Grate El. = 662.03'
℄ 21" East El. = 657.26'
℄ 12" South El. = 657.26'

MATCHLINE A

14'-12" Type C
4.5% Slope

Sta. 727+95.26, 91.15' Lt.
℄ El. = 657.82'

Catch Basin No. 3A
Sta. 727+68.00, 17.00' Lt.
Grade El. = 684.13'
℄ 12" South El. = 680.60'
℄ 12" North El. = 680.60'

Catch Basin No. 3A
Sta. 727+71.00, 17.00' Rt.
Grade El. = 684.16'
℄ 12" North El. = 680.91'

5'-12" Type C
2.0% Slope

34' - 12" Type B @ 1.0% Slope

Sta. 727+69.72, 21.40' Lt.
℄ El. = 680.52'

79'-12" Type F
30% Slope

684.50
727+50.00
684.20

BEGIN FULL DEPTH PAVEMENT
STA. 727+12.00

+12.00 Ahead
+12.00 Back

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
89	92		
		42	43
89	92		
		37	39
75	77		
107	77		
		119	75
63	31		
		89	44
63	31		
0	3		
		0	1
		287	202

CALCULATED EAL
CHECKED JAD

CROSS SECTIONS - S.R. 424
STA. 727+50.00 TO STA. 728+00.00

HEN-110/424-4.18/13.78

58
115

SHEET TOTAL

50 40 30 20 10 0 10 20 30 40 50

110 100 90 80 70 60

685 680 675 670 665 660 655

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SEEDING	
END WIDTH	SQ. YDS.
19	
	192
50	
	26
50	
SHEET TOTAL	218

END FULL DEPTH PAVEMENT
STA. 731+46.00

EX. R/W
MATCHLINE A
EXISTING ASPHALT PAVEMENT TO BE REMOVED AND BACKFILLED
+46.00 Ahead
+46.00 Back
Sta. 730+63.91, 88.56' Rt.
℄ El. = 652.75'
Sta. 730+69.37, 73.53' Rt.
℄ El. = 653.27
16'-12" Type C
3.3% Slope
Headwall per HW-2.1 or HW-2.2

Catch Basin No. 3A
Sta. 730+87.00, 17.00' Lt.
Grate El. = 684.64'
℄ 12" South El. = 681.39'

EX. LA R/W
3:1
6:1
34' - 12" Type B @ 1.0% Slope
5'-12" Type C
2.0% Slope
Sta. 730+88.29, 21.41' Rt.
℄ El. = 681.00'

Catch Basin No. 3A
Sta. 730+90.00, 17.00' Rt.
Grade El. = 684.62'
℄ 12" North El. = 681.08'
℄ 12" South El. = 681.08'

EX. R/W
MATCHLINE A
62'-12" Type F
50% Slope

685.11
731+00.00
685.01

3:1
2:1
Benching

685.44
730+50.00
685.03

APPROACH SLAB
STA. 730+45.33 To STA. 730+70.33

STRUCTURE HEN-424-1379
STA. 728+12.67 To STA. 730+45.33

+45.33 Ahead
+70.33 Ahead
+70.33 Back
+45.33 Ahead

690 685 680 675 670 665

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	5		
64	26		
		109	44
64	26		
		101	82
120	123		
88	123		
		81	118
127	190		
		22	33
127	190		
SHEET TOTAL		313	277

CALCULATED EAL
CHECKED JAD

CROSS SECTIONS - S.R. 424
STA. 730+50.00 TO STA. 731+00.00

HEN-110/424-4.18/13.78

59
115

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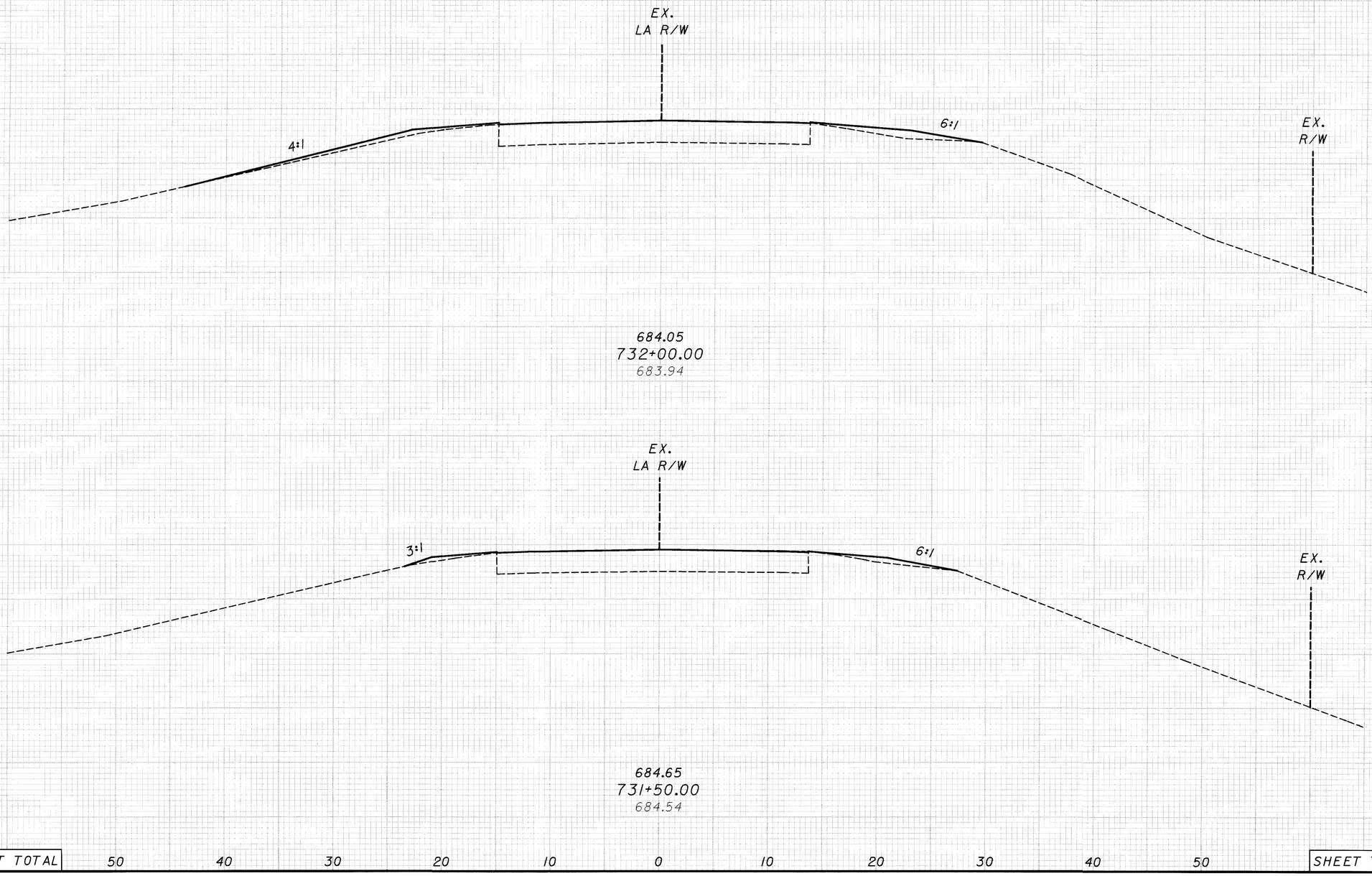
SEEDING		END AREA		VOLUME		
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	
						CALCULATED EAL
						CHECKED JAD



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
49		0	13		
	200			0	17
23		0	5		
	117			0	1
	317	SHEET TOTAL		0	18

CROSS SECTIONS - S.R. 424
STA. 731+50.00 TO STA. 732+00.00

HEN-110/424-4.18/13.78

60
115

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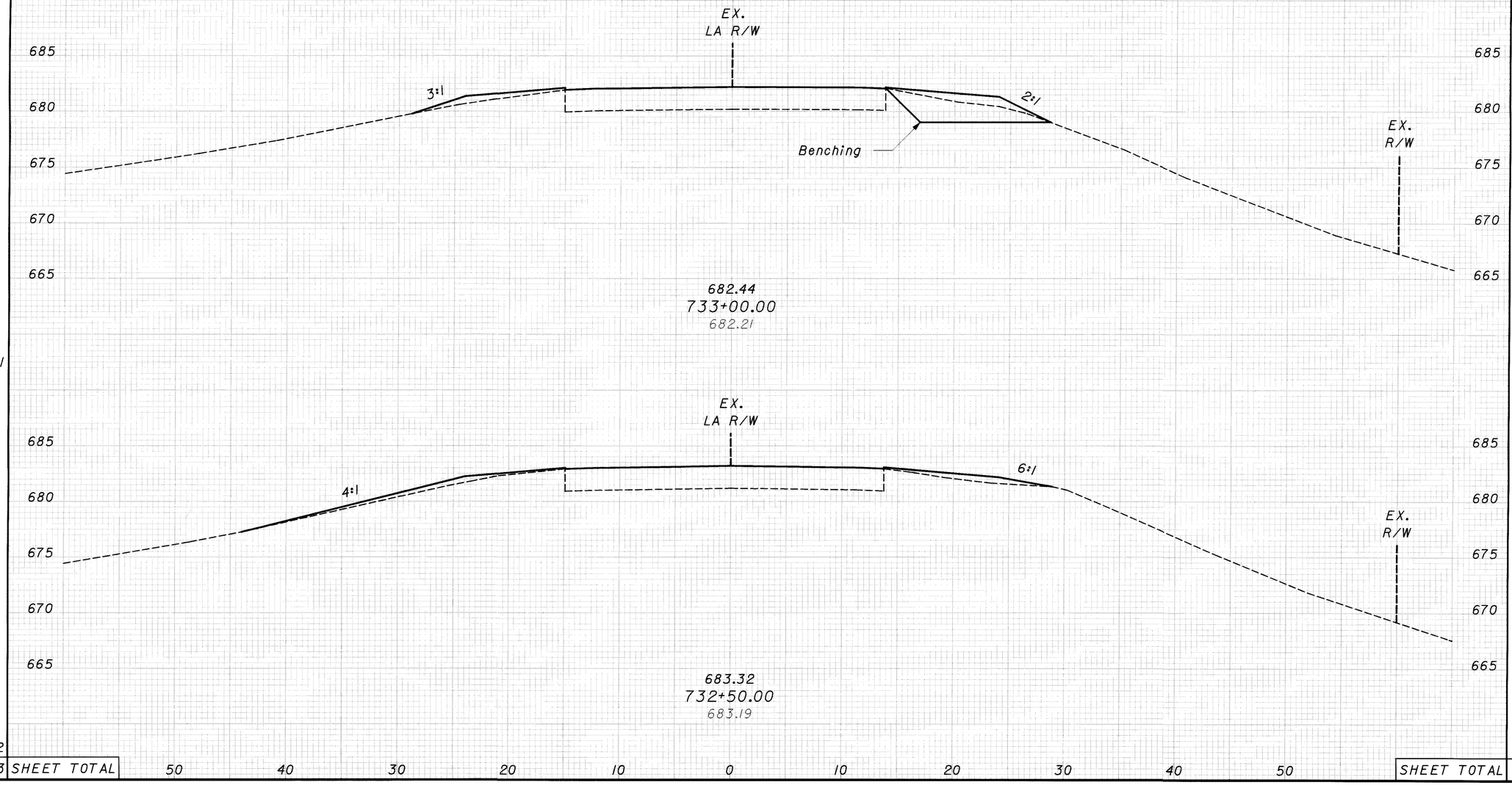
SEEDING	
END WIDTH	SQ. YDS.
34	231
49	
	272
	503



SHEET TOTAL

SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
21	34		
		19	43
0	12		
		0	23
		19	66

CALCULATED: EAL
CHECKED: JAD

CROSS SECTIONS - S.R. 424
STA. 732+50.00 TO STA. 733+00.00

HEN-110/424-4.18/13.78

61
115

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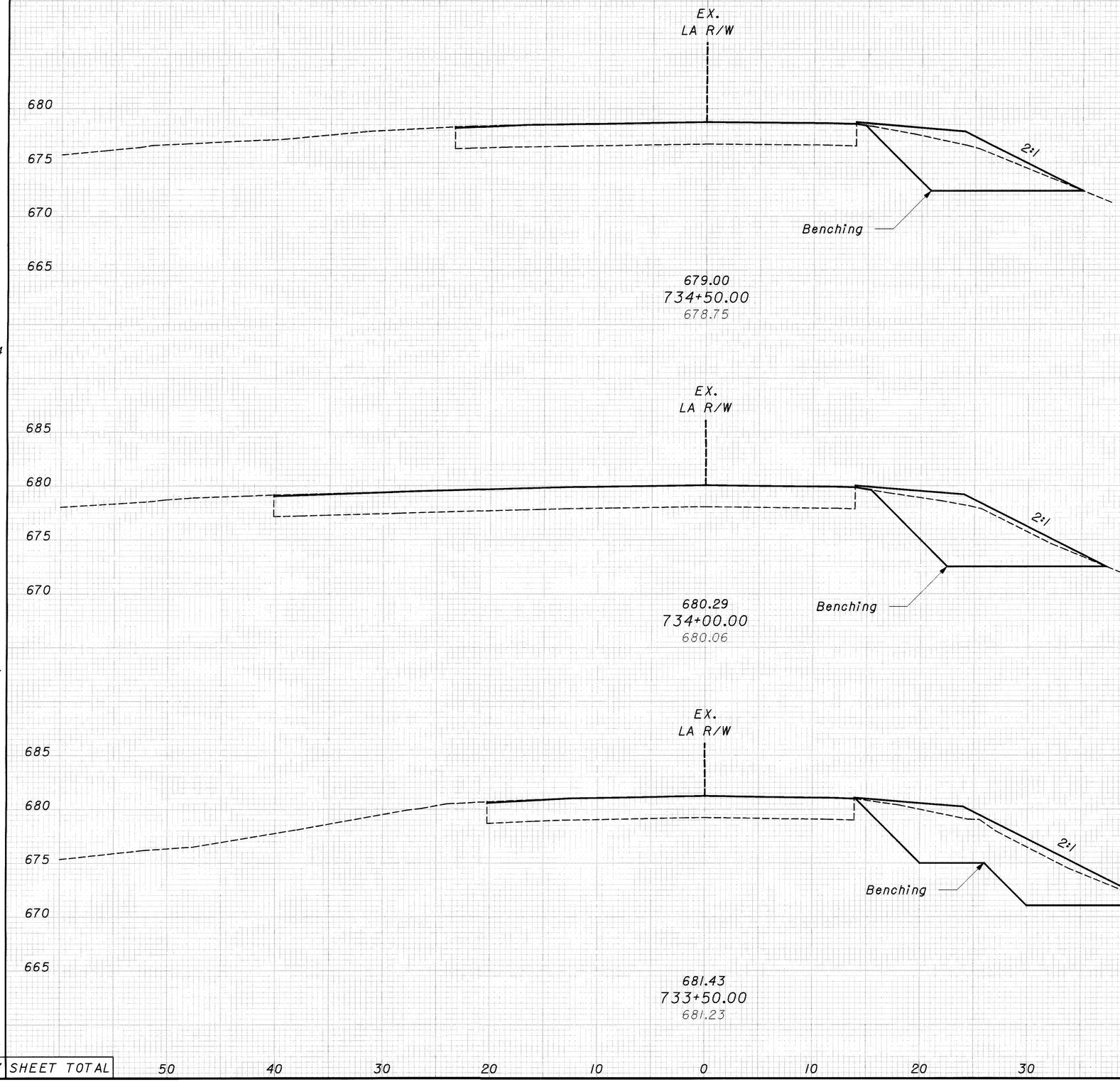
SEEDING	
END WIDTH	SQ. YDS.
25	
	144
27	
	167
33	
	186
	497



END AREA		VOLUME	
CUT	FILL	CUT	FILL
54	67		
		114	136
69	80		
		149	173
92	107		
		105	131
		368	440

SHEET TOTAL

SHEET TOTAL

CALCULATED EAL
CHECKED JAD

CROSS SECTIONS - S.R. 424
STA. 733+50.00 TO STA. 734+50.00

HEN-110/424-4.18/13.78

62
115

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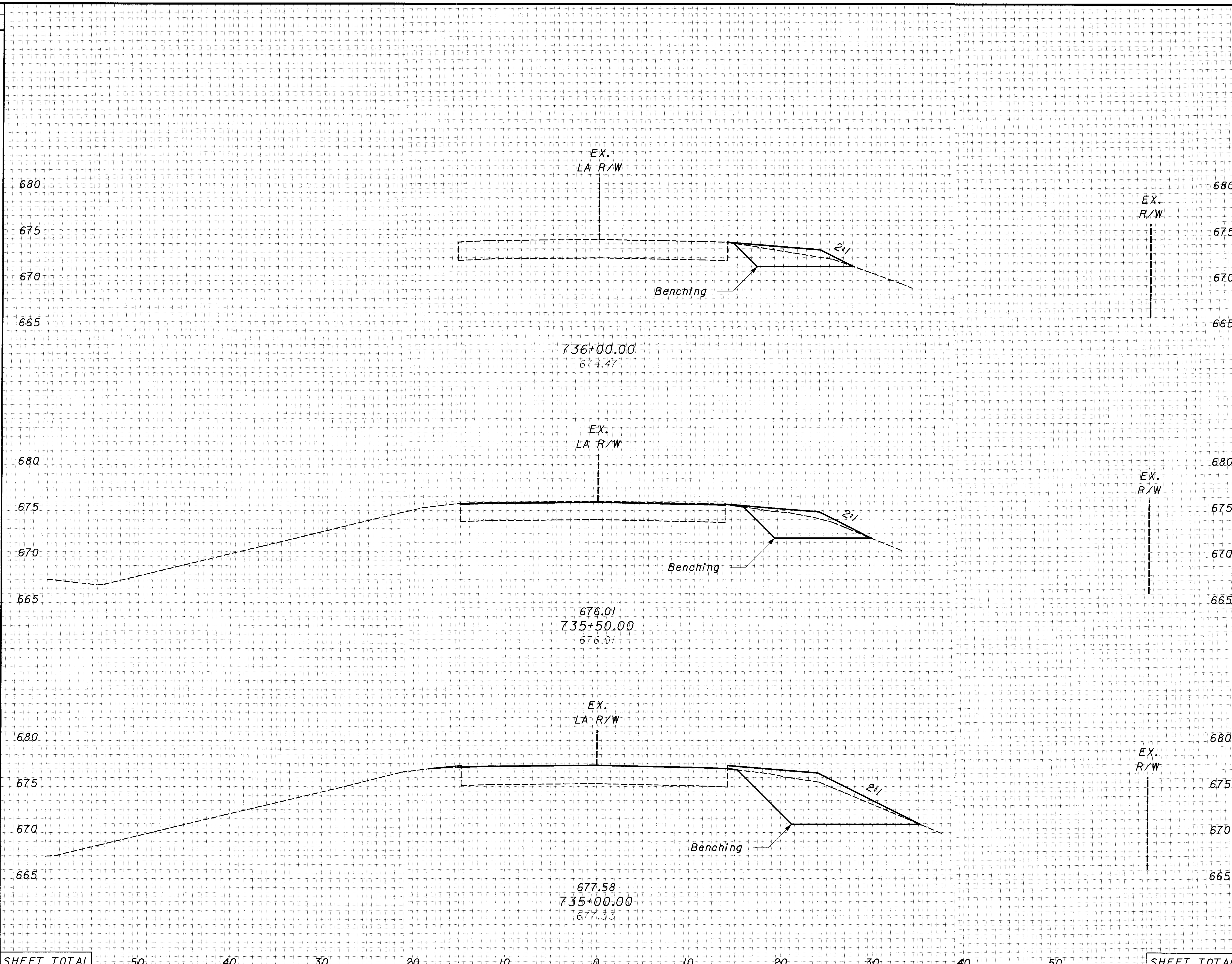
CROSS SECTIONS - S.R. 424
STA. 735+00.00 TO STA. 736+00.00

HEN-110/ 424-4.18/ 13.78

CALCULATED EAL — CHECKED JAD



SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
16		736+00.00	16	21		
	97				37	46
19		735+50.00	24	29		
	136				73	89
30		735+00.00	55	67		
	153				101	124
SHEET TOTAL	386				211	259

63 / 115

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SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		EX. LA R/W — 675 / 670 / 665 — EX. R/W — 675 / 670 / 665 — 738+00.00 — 669.29				
		EX. LA R/W — 675 / 670 / 665 — EX. R/W — 675 / 670 / 665 — 737+50.00 — 670.36				
0		+30.00 Back — END EARTHWORK STA. 737+30.00 — +30.00 Back	0	0		
	28				10	12
		EX. LA R/W — 675 / 670 / 665 — EX. R/W — 675 / 670 / 665 — 737+00.00 — 671.48				
17		Benching; 2:1	18	22		
	86				17	23
		EX. LA R/W — 675 / 670 / 665 — EX. R/W — 675 / 670 / 665 — 736+50.00 — 672.88				
14		2:1	0	3		
	83				15	22
	197	SHEET TOTAL			42	57

50 40 30 20 10 0 10 20 30 40 50

SHEET TOTAL

CALCULATED EAL

CHECKED JAD

CROSS SECTIONS - S.R. 424
STA. 736+50.00 TO STA. 738+00.00

HEN-110/424-4.18/13.78

63A / 115

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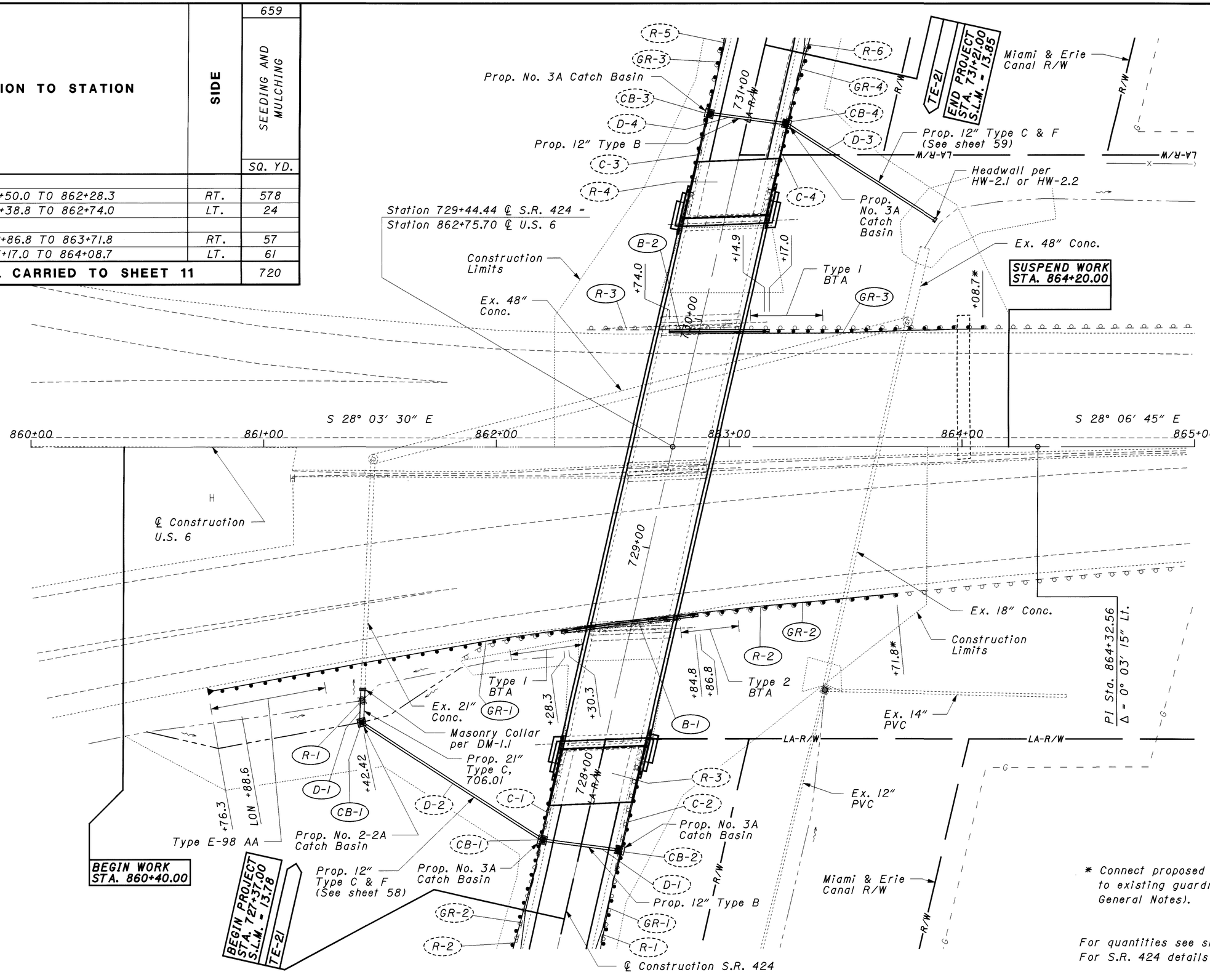
STATION TO STATION	SIDE	659 SEEDING AND MULCHING SQ. YD.
860+50.0 TO 862+28.3	RT.	578
862+38.8 TO 862+74.0	LT.	24
862+86.8 TO 863+71.8	RT.	57
863+17.0 TO 864+08.7	LT.	61
TOTAL CARRIED TO SHEET 11		720



HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN - U.S. 6
STA. 860+00 TO STA. 865+00

HEN-110/424-4.18/13.78

64
115

STATION TO STATION	SIDE	SEEDING AND MULCHING 659 SQ. YD.
882+39.3 TO 883+30.9	RT.	61
883+02.5 TO 883+88.0	LT.	62
883+91.9 TO 884+76.7	RT.	57
884+48.9 TO 885+40.6	LT.	61
TOTAL CARRIED TO SHEET 11		241

P.I. Sta = 229+84.02
D = 8° 49′ 59″ (RT)
Dc = 1° 20′ 00″
R = 4,297.39′
T = 331.91′
L = 662.50′
E = 12.80′
e = 0.032

Station 227+50.57 ℄ S.R. 110 =
Station 883+89.08 ℄ U.S. 6

Sta. 883+62.79, 74.60′ Lt.
℄ El. = 661.83′

N 28° 06′ 45″ W

881+00 882+00 883+00 884+00 885+00 886+00

228+00 227+00 226+00 229+00

Headwall per HW-2.1 or HW-2.2
Prop. 12″ Type C & F (See sheet 37)
Prop. No. 3A Catch Basin
Ex. 60″ Conc.
Prop. 12″ Type B
Construction Limits
Headwall per HW-2.2
** Type 2 BTA
Prop. 15″ Type B, 706.01
Masonry Collar per DM-1.1
Ex. 15″ Conc.
Type 1 BTA
Type 2 BTA
Type 1 BTA
Ex. 60″ Conc.
℄ Construction U.S. 6
Construction Limits
Headwall per HW-2.1 or HW-2.2
Prop. No. 3A Catch Basin
Prop. 12″ Type C & F (See sheet 37)
Prop. 12″ Type B
Prop. No. 3A Catch Basin
℄ Construction S.R. 110
PC Sta. 226+52.11

LA-R/W

+02.5* +88.0 +90.0 +46.8 +48.9 +40.6*
+39.3* +30.9 +33.0 +89.9 +91.9 +76.7*

R-5 D-4 GR-3 R-6 GR-4 CB-4 C-3 R-4 CB-3 C-4 D-3 D-1 B-2 GR-2 R-2 GR-4 GR-1 R-1 B-1 R-3 C-2 CB-2 GR-2 R-2 GR-1 R-1 C-1 D-2 CB-1 D-1 GR-3

TE-21
END PROJECT STA. 229+44.00 S.L.M. - 4.25

RESUME WORK STA. 880+90.00

BEGIN PROJECT STA. 225+58.00 S.L.M. - 4.18 TE-21

END WORK STA. 885+55.00

* Connect proposed guardrail to existing guardrail. (See General Notes).

** Field adjust location of 15″ pipe to avoid conflict with guardrail posts.

For quantities see sheet 16.
For S.R. 110 details see sheet 28.

HORIZONTAL SCALE IN FEET 0 10 20 40

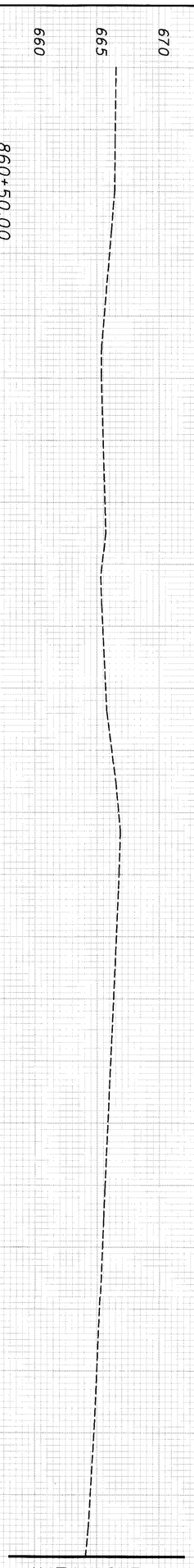
PLAN - U.S. 6
STA. 880+50 TO STA. 886+00

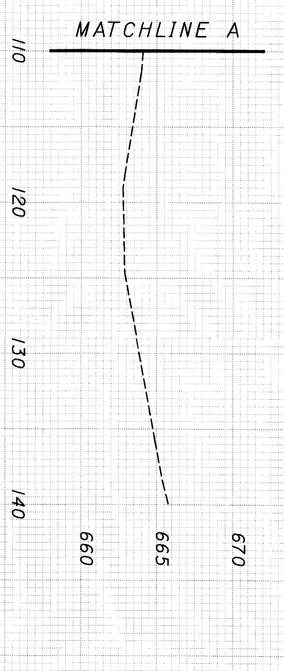
HEN-110/424-4.18/13.78

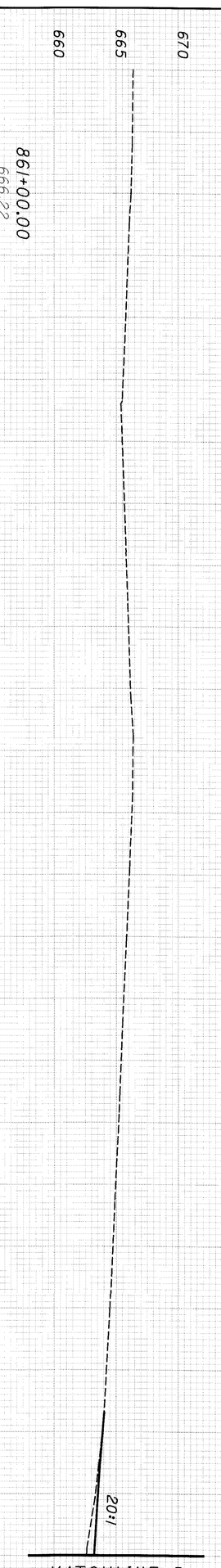
65
115

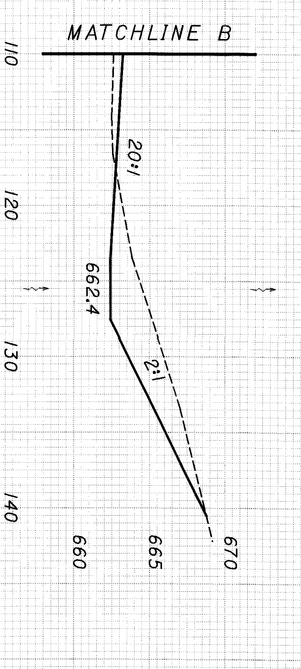
SEEDING: END WIDTH | SQ. YDS.

* See sheet 64 for seeding quantity.









SHEET TOTAL	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	31	8	29	7
0	0	0	0	0

66 / 115

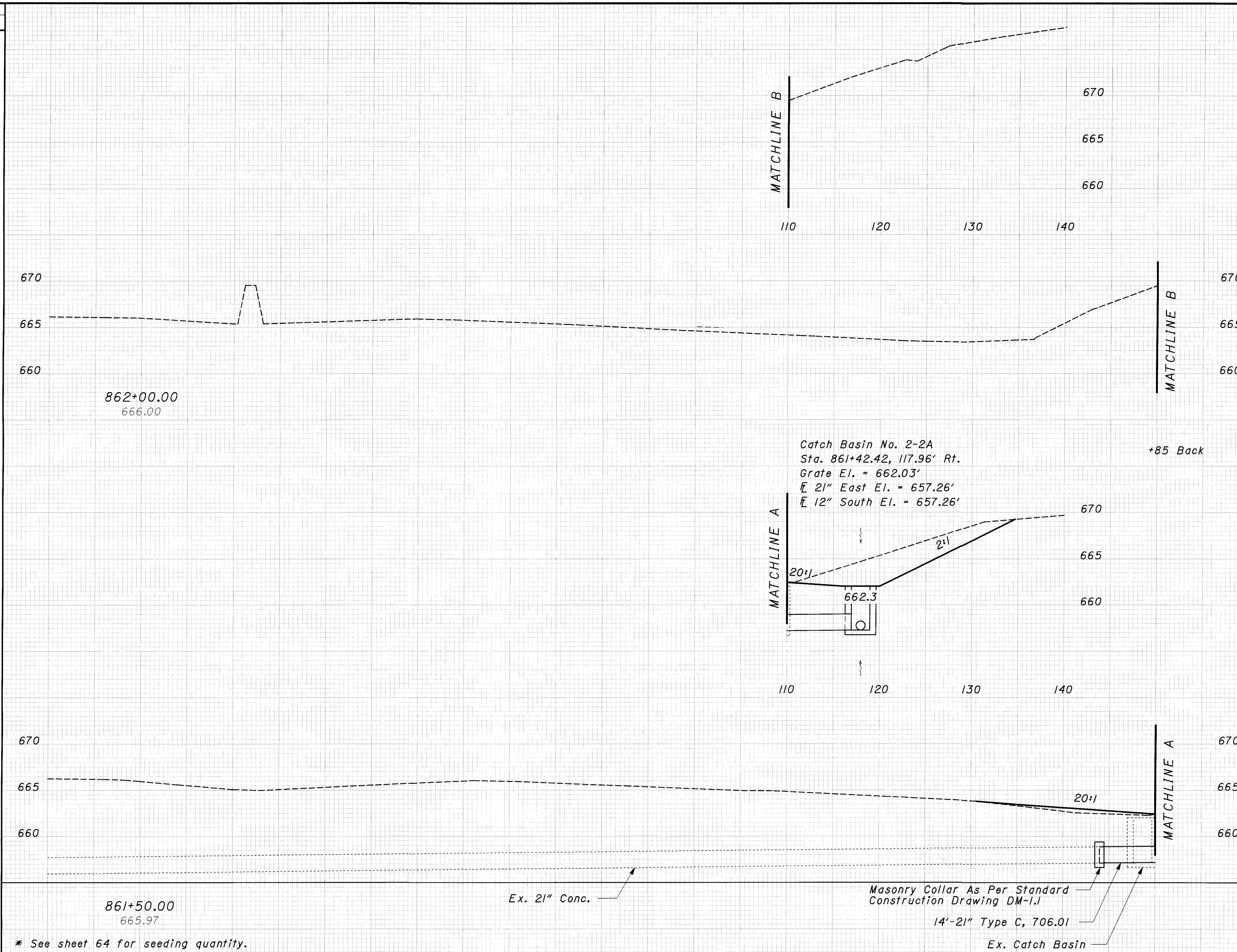
HEN-110/424-4.18/13.78

CROSS SECTIONS - U.S. 6
STA. 860+50.00 TO STA. 861+00.00

CALCULATED GFR

CHECKED JAD

SEEDING	
END WIDTH	SQ. YDS.
	*



* See sheet 64 for seeding quantity.

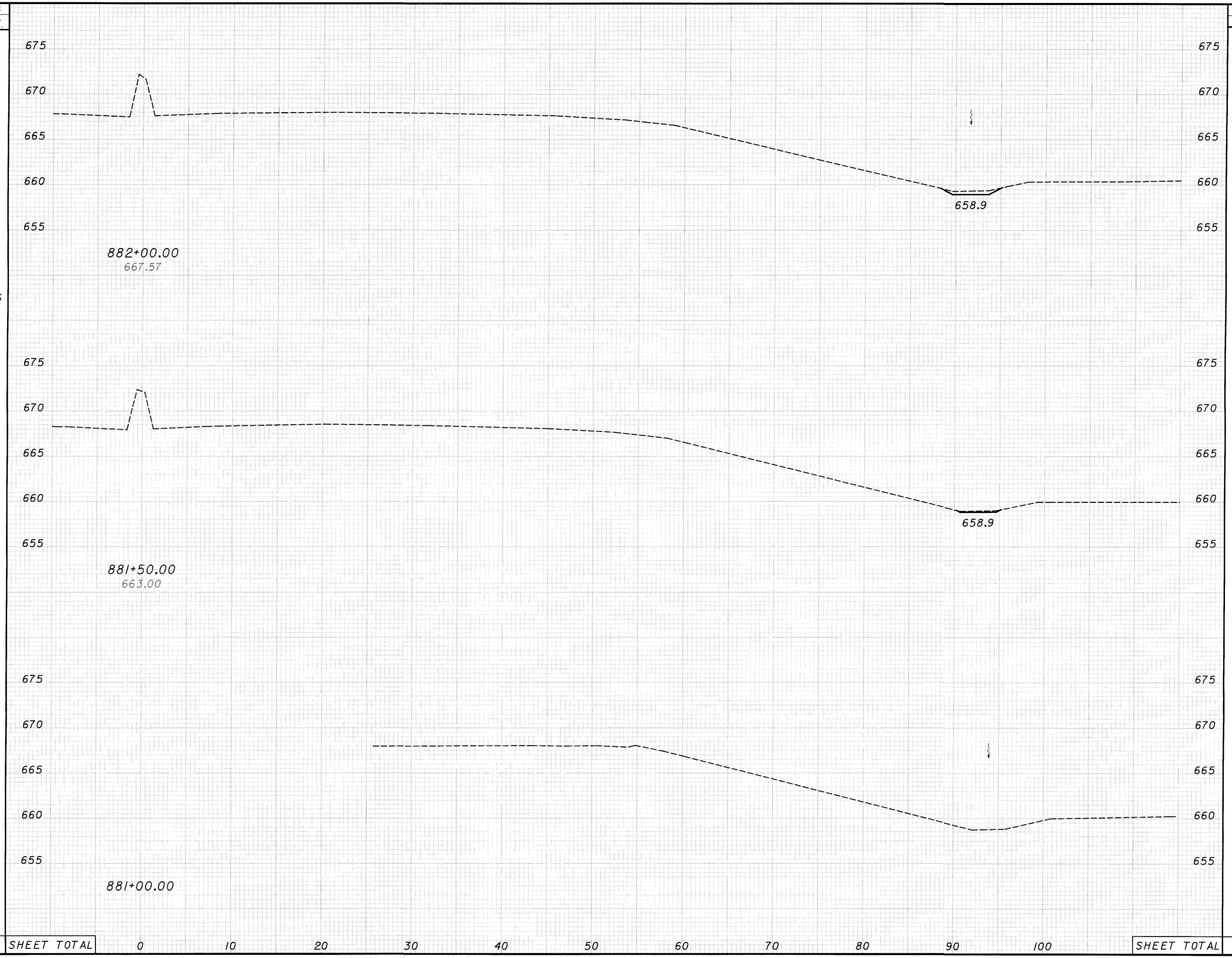
	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
+85 Back	0	0		
			29	5
861+50.00	44	7		
			69	14
SHEET TOTAL			98	19

CALCULATED GFR
CHECKED JAD

CROSS SECTIONS - U.S. 6
STA. 861+50.00 TO STA. 862+00.00

HEN-110/ 424-4.18/ 13.78

SEEDING	
END WIDTH	SQ. YDS.
11	56
9	25
0	
	81



END AREA		VOLUME	
CUT	FILL	CUT	FILL
2	0		
		3	0
1	0		
		1	0
0	0		
SHEET TOTAL		4	0

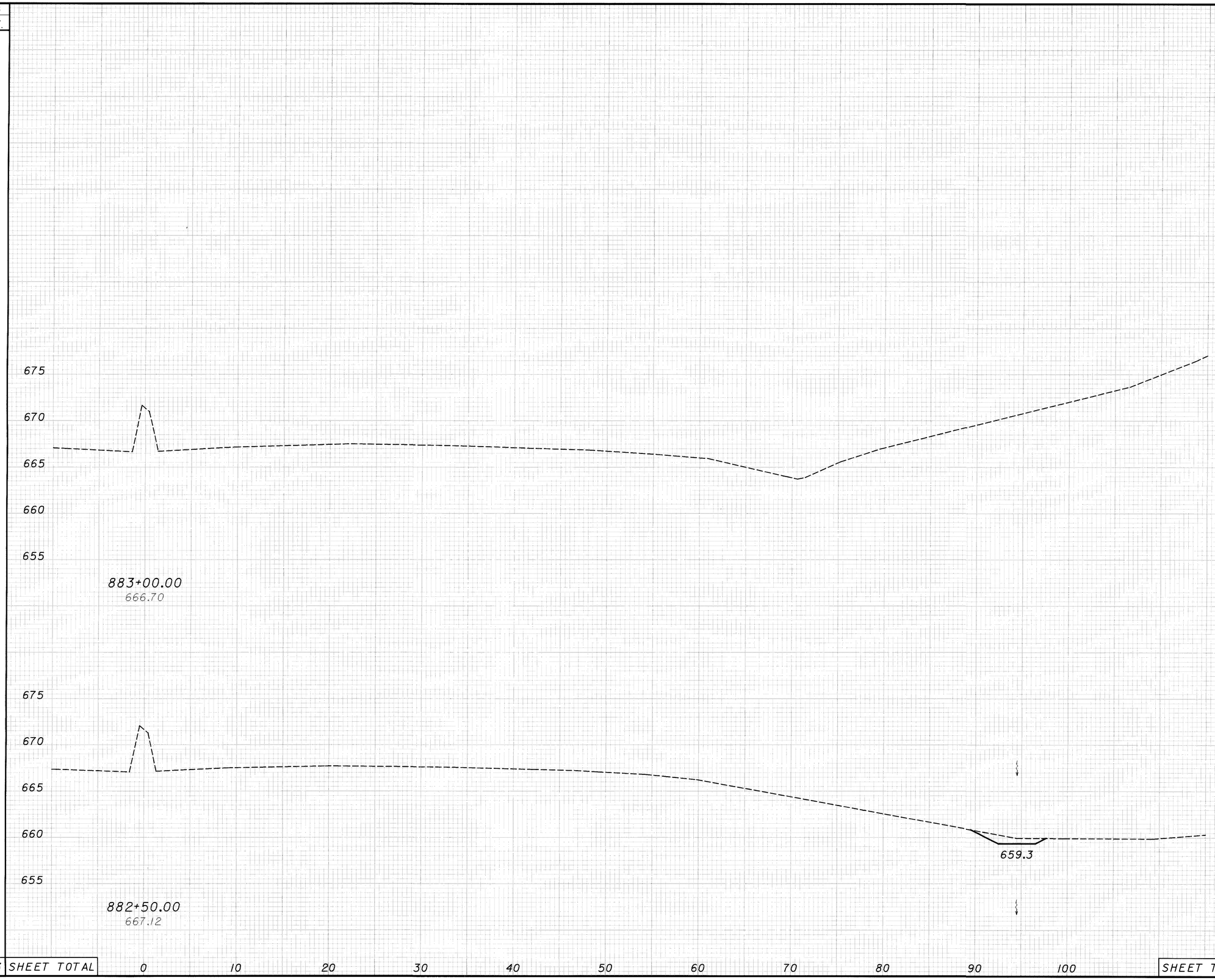
CALCULATED GFR
CHECKED JAD

CROSS SECTIONS - U.S. 6
STA. 881+00.00 TO STA. 882+00.00

HEN-110/ 424-4.18/ 13.78

68
115

SEEDING	
END WIDTH	SQ. YDS.
0	
	36
13	
	67
	103



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		5	0
5	0		
		6	0
		11	0

SHEET TOTAL

SHEET TOTAL

CALCULATED GFR

CHECKED JAD

CROSS SECTIONS - U.S. 6

STA. 882+50.00 TO STA. 883+00.00

HEN-110/424-4.18/13.78

69
115

21-MAR-2003 11:02AM grysavy

H:\pr\project\HEN\2262\dgn\2262lxs03_us6.dgn

SUPERELEVATION TABLE

P.I. STATION - 229+84.02 S.R. 110 | Dc - 1°20'00"

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS
685.13	↑	-0.19	-0.016	12.0	225+41.43	685.32	12.0	-0.016	-0.19		685.13	N.C.
685.25		-0.17	-0.014	12.0	225+50	685.42	12.0	↑	↑		685.23	
685.61		-0.07	-0.006	12.0	225+75	685.68	12.0				685.49	
685.87		0.00	0.000	12.0	225+96.77	685.87	12.0				685.68	½ LEVEL
685.91	288:1	+0.01	+0.001	12.0	226+00	685.90	12.0				685.71	
686.19		+0.10	+0.008	12.0	226+25	686.09	12.0				685.90	
686.43		+0.18	+0.015	12.0	226+50	686.25	12.0				686.06	
686.45		+0.19	+0.016	12.0	226+52.11	686.26	12.0	-0.016	-0.19	↑	686.07	R.C./P.C.
686.65		+0.28	+0.023	12.0	226+75	686.37	12.0	-0.023	-0.28	288:1	686.09	
686.81		+0.36	+0.030	12.0	227+00	686.45	12.0	-0.030	-0.36		686.09	
686.85	↓	+0.38	+0.032	12.0	227+07.44	686.47	12.0	-0.032	-0.38	↓	686.09	F.S.
686.88		↑	↑	12.0	227+25	686.50	12.0	↑	↑		686.12	
686.90				12.0	227+50	686.52	12.0				686.14	
686.88				12.0	227+75	686.50	12.0				686.12	
686.83				12.0	228+00	686.45	12.0				686.07	
686.75				12.0	228+25	686.37	12.0				685.99	
686.63				12.0	228+50	686.25	12.0				685.87	
686.47				12.0	228+75	686.09	12.0				685.71	
686.28				12.0	229+00	685.90	12.0				685.52	
686.06				12.0	229+25	685.68	12.0				685.30	
685.80				12.0	229+50	685.42	12.0				685..04	
685.51				12.0	229+75	685.13	12.0				684.75	
685.18				12.0	230+00	684.80	12.0				684.42	
684.82				12.0	230+25	684.44	12.0				684.06	
684.42				12.0	230+50	684.04	12.0				683.66	
683.99				12.0	230+75	683.61	12.0				683.23	
683.53				12.0	231+00	683.15	12.0				682.77	
683.03				12.0	231+25	682.65	12.0				682.27	
682.49				12.0	231+50	682.11	12.0				681.73	
681.93				12.0	231+75	681.55	12.0				681.17	
681.32				12.0	232+00	680.94	12.0				680.56	
680.69				12.0	232+25	680.31	12.0				679.93	
680.01		↓	↓	12.0	232+50	679.63	12.0	↓	↓		679.25	
679.76	↑	+0.38	+0.032	12.0	232+59.29	679.38	12.0	-0.032	-0.38	↑	679.00	F.S.
679.25		+0.32	+0.027	12.0	232+75	678.93	12.0	-0.031	-0.37		678.56	
678.41	244:1	+0.22	+0.018	12.0	233+00	678.19	12.0	-0.028	-0.34	945:1	677.85	
677.90		+0.16	+0.013	12.0	233+14.62	677.74	12.0	-0.027	-0.32		677.42	P.T. *
677.57		+0.12	+0.010	12.0	233+25	677.45	12.0	-0.026	-0.31		677.14	
676.70	↓	+0.01	+0.001	12.0	233+50	676.69	12.0	-0.024	-0.29	↓	676.40	

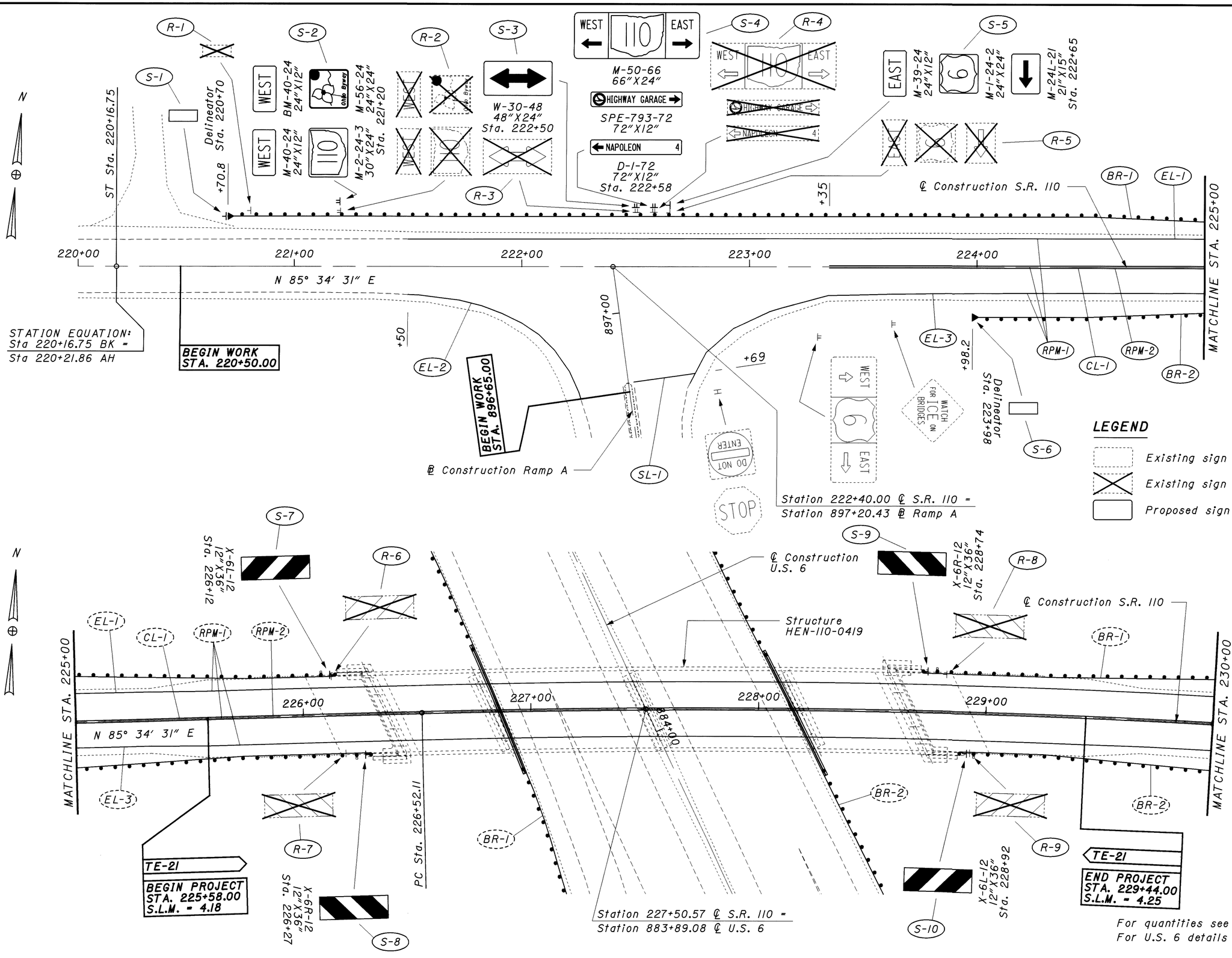
* 90.71' transition to match existing slopes.

CALCULATED GFR
CHECKED JAD

SUPERELEVATION TABLE

HEN-110/424-4.18/13.78

70
115

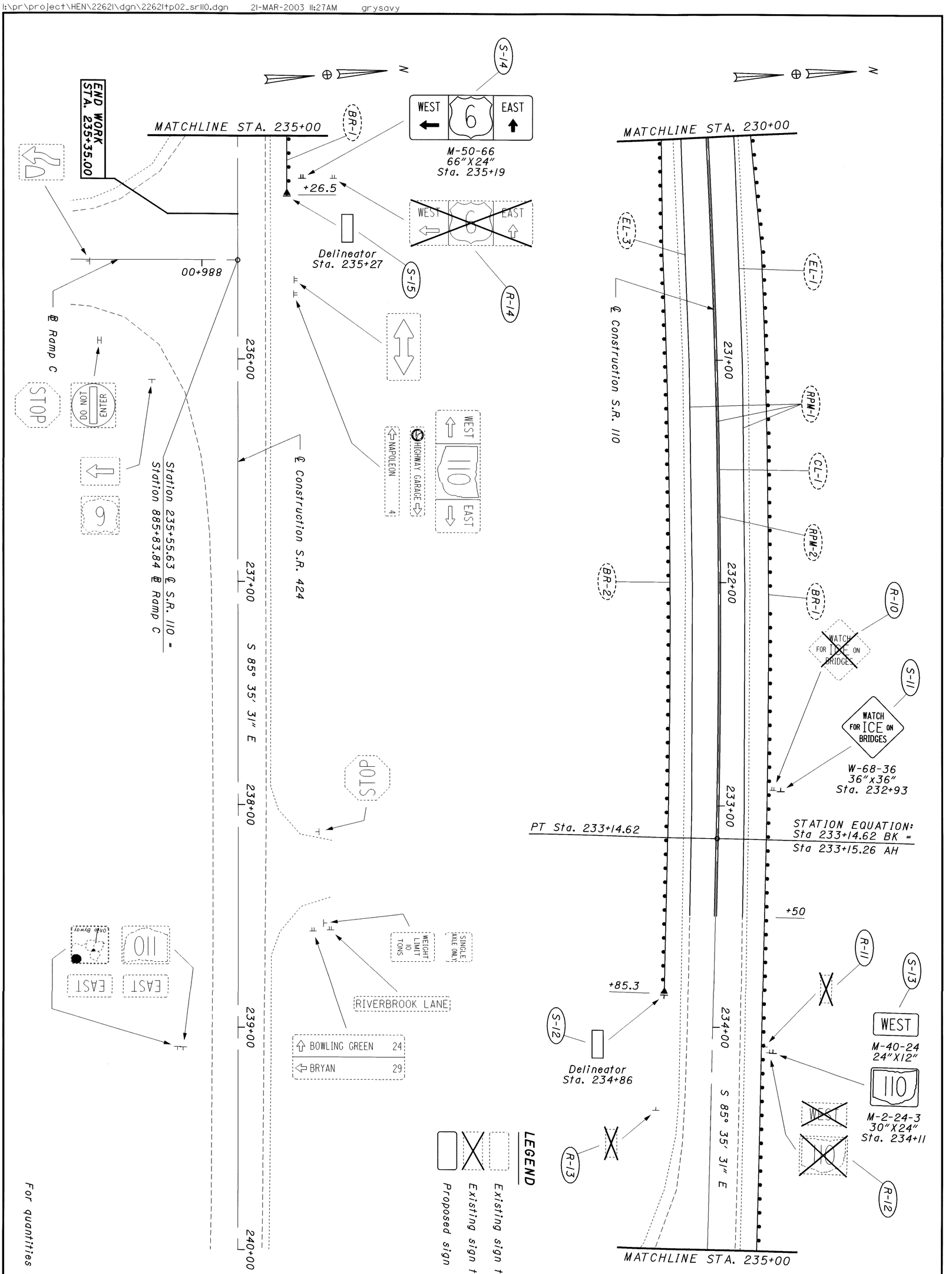


For quantities see sheet 17.
For U.S. 6 details see sheet 77.

SIGNING AND PAVEMENT MARKING PLAN - S.R. 110 STA. 220+00 TO STA. 230+00

HEN-110/424-4.18/13.78

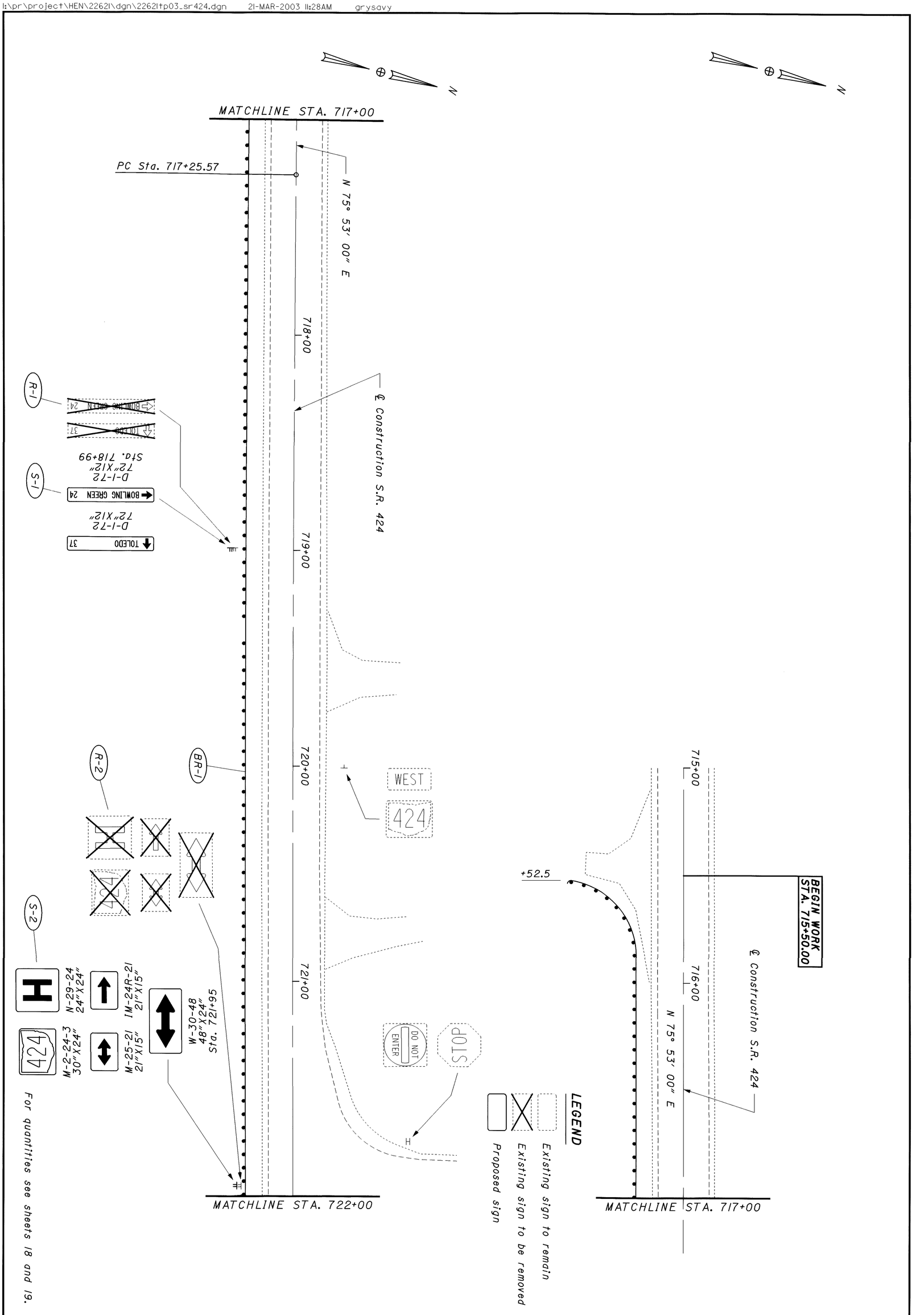
71
115



For quantities see sheet 17.

SIGNING AND PAVEMENT MARKING PLAN - S.R. 110
STA. 230+00 TO STA. 240+00

HORIZONTAL SCALE IN FEET
0 20 10 40



73 / 115	HEN-110/ 424-4.18/ 13.78	SIGNING AND PAVEMENT MARKING PLAN - S.R. 424 STA. 715+00 TO STA. 722+00

0 20 10 40
HORIZONTAL SCALE IN FEET

SIGNING AND PAVEMENT MARKING PLAN - S.R. 424
STA. 722+00 TO STA. 732+00

HORIZONTAL SCALE IN FEET
0 10 20 40

HEN-110/ 424-4.18/ 13.78

74
115

℄ Ramp A

Station 722+05.79 ℄ S.R. 424 =
Station 858+76.35 ℄ Ramp A

MATCHLINE STA. 722+00

723+00 724+00 725+00 726+00

℄ Construction S.R. 424

N 74° 43′ 00″ E

PT Sta. 724+25.57

MATCHLINE STA. 727+00

EAST 6 — +25

JCT 6

S-5 Delineator Sta. 725+77 +77.6

EL-1 CL-1 RPM-1 RPM-2 BR-1 EL-2 BR-2

M-24L-21 21″X15″ Sta. 722+19
M-1-24-2 24″X24″
M-39-24 24″X12″ EAST
M-56-24 24″X24″
BM-39-24 24″X12″ EAST
W-68-36 36″X36″ Sta. 722+88
WATCH FOR ICE ON BRIDGES
R-4 S-4
S-3 R-5 S-6 R-3

D-1-72 72″X12″ NAPOLEON 4
D-1-72 72″X12″ Sta. 727+02 BOWLING GREEN 24
X-6L-12 12″X36″ Sta. 727+94
S-7 R-6

℄ Construction U.S. 6

862+00

Structure HEN-424-1379

883+00

R-8 S-9
X-6R-12 12″X36″ Sta. 730+55

MATCHLINE STA. 727+00

728+00 729+00 730+00 731+00

N 74° 43′ 00″ E

EL-1 EL-2 BR-1 BR-2 RPM-1 CL-1 RPM-2

MATCH LINE STA. 732+00

TE-21
BEGIN PROJECT
STA. 727+37.00
S.L.M. - 13.78

X-6R-12 12″X36″ Sta. 728+03
S-8 R-7

R-9 S-10
X-6L-12 12″X36″ Sta. 730+64

TE-21
END PROJECT
STA. 731+21.00
S.L.M. - 13.85

Station 729+44.44 ℄ S.R. 424 =
Station 862+75.70 ℄ U.S. 6

LEGEND

- Existing sign to remain
- Existing sign to be removed
- Proposed sign

For quantities see sheets 18 and 19.
For U.S. 6 details see sheet 76.

SIGNING AND PAVEMENT MARKING PLAN - S.R. 424
STA. 732+00 TO STA. 742+00

HORIZONTAL SCALE IN FEET
0 10 20 40

HEN-110/424-4.18/13.78

75
115

MATCHLINE STA. 732+00

MATCHLINE STA. 737+00

℄ Construction S.R. 424

℄ Construction Ramp C

N 74° 43′ 00″ E

N 0° 56′ 30″ E

733+00 734+00 735+00 736+00 738+00 739+00 740+00 741+00 742+00

849+00

740+00

+83.8 +70 +50 +75 +22.8

END WORK STA. 849+45.00

END WORK STA. 737+30.00

Station 734+13.75 ℄ S.R. 424 =
Station 848+59.55 ℄ Ramp C

Station 739+72.10 ℄ S.R. 424 =
Station 739+72.10 ℄ Old S.R. 424

PC Sta. 739+92.44

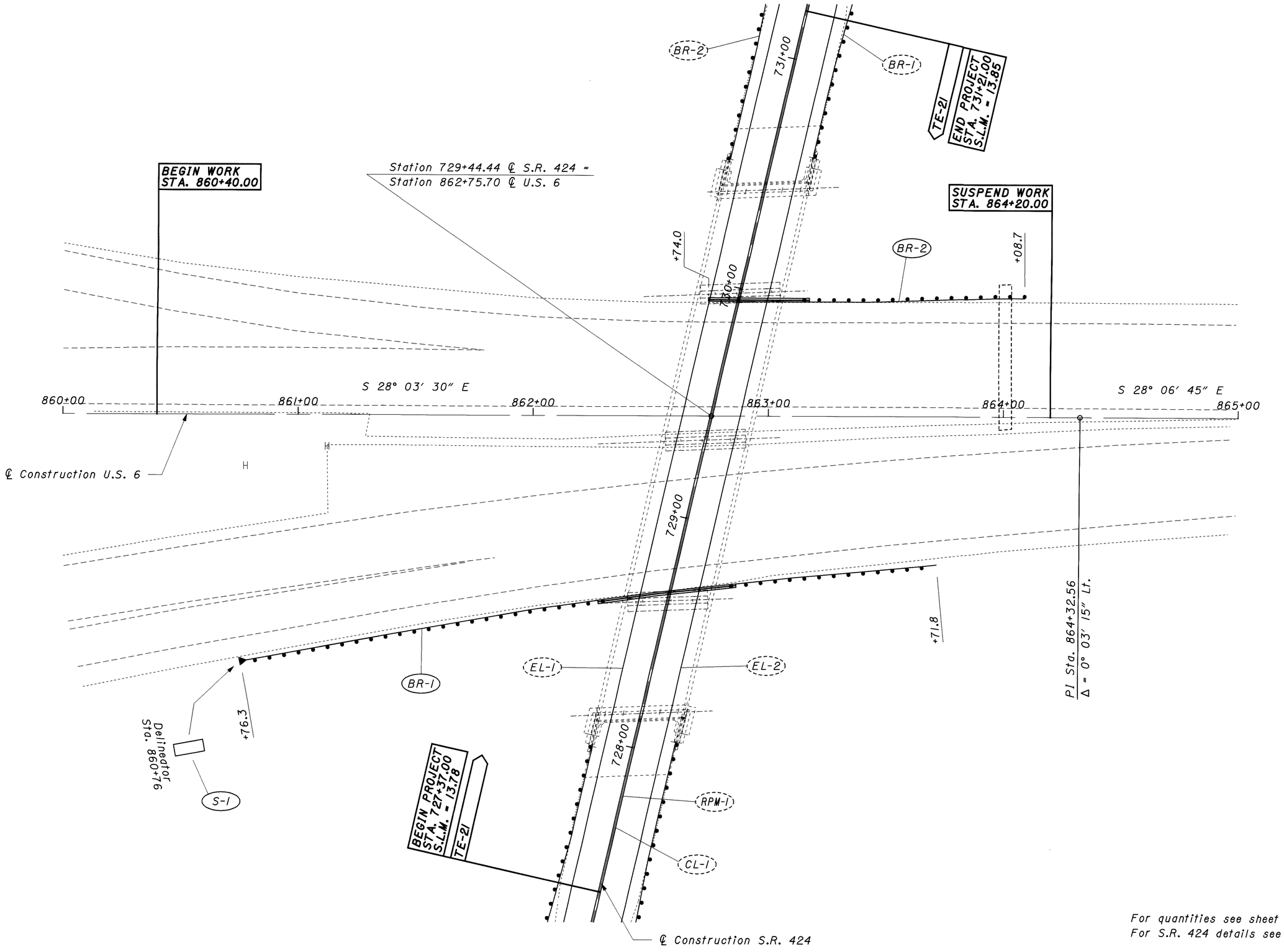
S-11 R-10 N-29-24 24″X24″ IM-26-21 21″X15″ Sta. 732+43 S-12 Delineator Sta. 732+84 BR-2 CL-1 RPM-1 RPM-2 EL-2 EL-1 EL-3 CL-2 RPM-3 BR-1 R-11 IM-24R-21 21″X15″ Sta. 734+18 W-30-48 48″X24″ Sta. 734+22 M-24L-21 21″X15″ M-25-21 21″X15″ M-1-24-2 24″X24″ M-2-24-3 30″X24″ R-12 R-13 W-14-30 30″X30″ W-143-18 18″X18″ Sta. 734+63 20 MPH S-15 S-13 N-29-24 24″X24″ S-14 WEST 424 STOP DO NOT ENTER WATCH FOR ICE ON BRIDGES NORTH 424 TO 24 EAST 6 424 NO OUTLET

N

LEGEND

- Existing sign to remain
- Existing sign to be removed
- Proposed sign

For quantities see sheets 18 and 19.



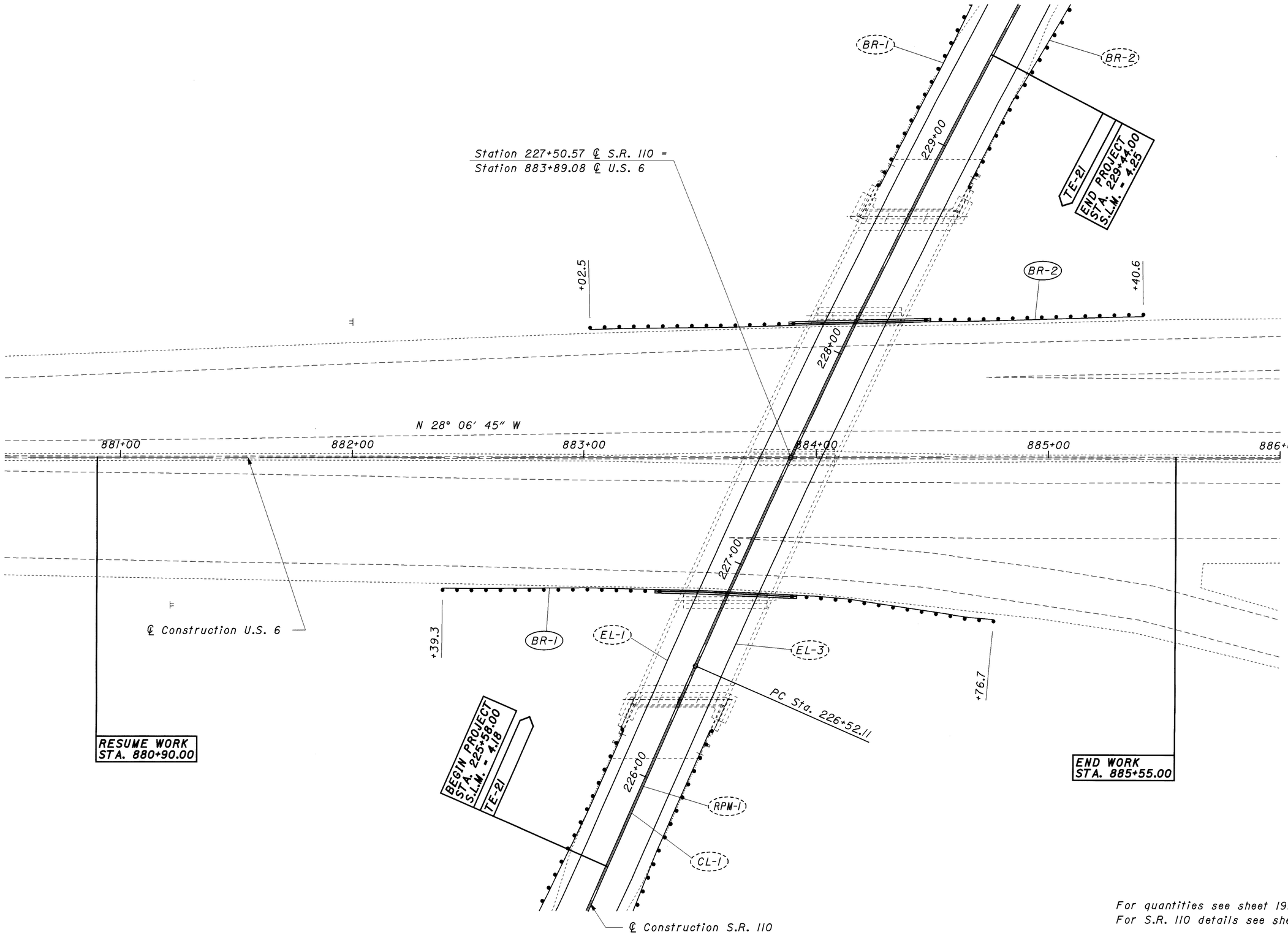
For quantities see sheet 19.
For S.R. 424 details see sheet 74.

HORIZONTAL SCALE IN FEET
0 10 20 40

SIGNING AND PAVEMENT MARKING PLAN - U.S. 6
STA. 860+00 TO STA. 865+00

HEN-110/424-4.18/13.78

76
115



For quantities see sheet 19.
For S.R. 110 details see sheet 71.

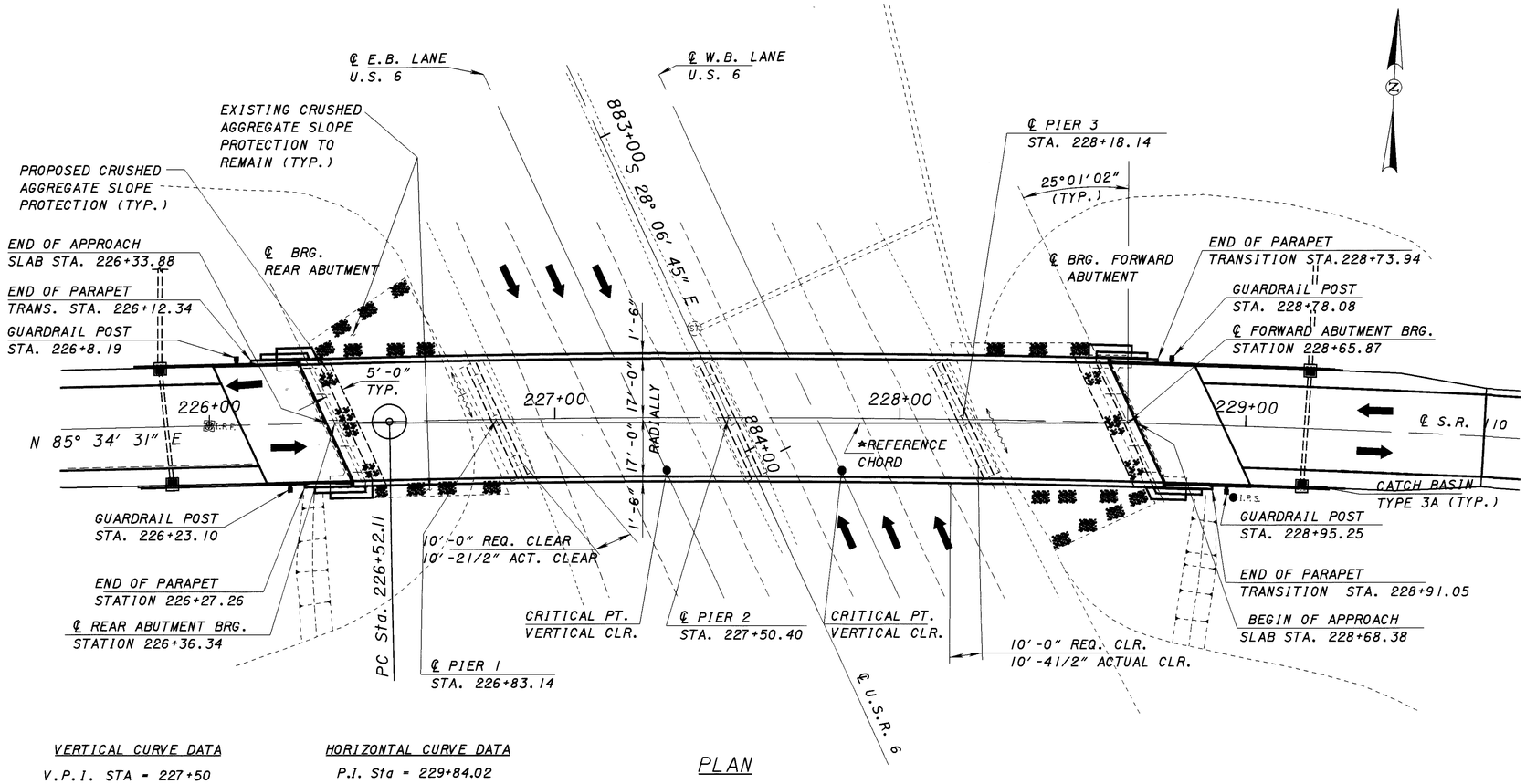
HORIZONTAL SCALE IN FEET
0 10 20 40

SIGNING AND PAVEMENT MARKING PLAN - U.S. 6
STA. 880+50 TO STA. 886+00

HEN-110/424-4.18/13.78

77
115

I:\dr\project\HEN\2262\dgn\2262tp07_us6.dgn 24-MAR-2003 14:50PM grysavy



PLAN

VERTICAL CURVE DATA

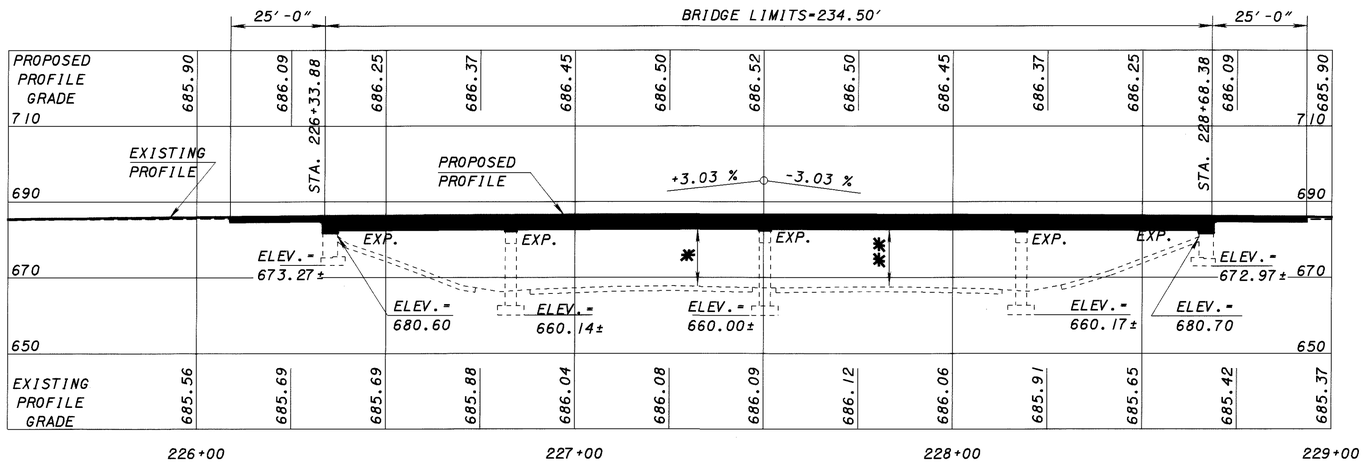
V.P.I. STA = 227+50
V.P.I. ELEVATION = 694.86
L.V.C. = 1,100 FEET
g1 = 3.03%
g2 = -3.03%

HORIZONTAL CURVE DATA

P.I. Sta = 229+84.02
D = 8° 49' 58" (RT)
Dc = 1° 20' 00"
R = 4,297.39'
T = 331.91'
L = 662.50'
E = 12.80'
e = 0.032'

* REFERENCE CHORD IS MEASURED FROM THE INTERSECTION OF ℄ S.R. 110 AND ℄ OF THE ABUTMENT BEARINGS. THE REFERENCE DIAGRAM IS SHOWN ON SHEET 5/20.

THE REFERENCE CHORD BEARING IS N 86° 54' 08" E



PROFILE
(ALONG ℄ S.R. 110)

FOR PAVEMENT TRANSITION DETAIL, SEE SHEET 14/20.

▭ - PROPOSED BRIDGE WORK SEE SHEET 4/20 FOR DESCRIPTION OF THE PROPOSED WORK.

NOTES

✱ 16'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
15'-2" ACTUAL MINIMUM VERTICAL CLEARANCE

✱✱ 16'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
15'-4" ACTUAL MINIMUM VERTICAL CLEARANCE

DESIGN TRAFFIC

2003 ADT - 2300 2003 ADTT - 667
2023 ADT - 3200 2023 ADTT - 928

BENCHMARK DATA

MONUMENT
STATION 220+16.75 BK - 220 +21.86 AH,
℄ CONSTRUCTION S.R. 110, ELEVATION - 673.16

MONUMENT
STATION 233+14.62 BK - 233+15.26 AH,
℄ CONSTRUCTION S.R. 110, ELEVATION - 677.70

EXISTING STRUCTURE
(TO BE REHABILITATED)

TYPE: CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES.

SPANS: 47'-3"±, 67'-6"±, 67'-6"±, 47'-3"± C/C BRGS.

ROADWAY: 30'-0"± T/T OF CURB 2'-0" SAFETY CURB

LOADING: CF 400 (57)

SKEW: 25°01'02"± (R.F)

WEARING SURFACE: ASPHALT

APPROACH SLABS: 25'-0" LONG (SPECIAL DESIGN)

ALIGNMENT: 1°20' CURVE TO RIGHT

SUPERELEVATION: VARIES

DATE BUILT: 1968 CONDITION: FAIR

SFN: 3503240

PROPOSED STRUCTURE

TYPE: 4-SPAN CONTINUOUS COMPOSITE STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE UNITS WITH SEMI-INTEGRAL ABUTMENTS, CAP AND COLUMN PIERS.

SPANS: 47'-3"±, 67'-6"±, 67'-6"±, 47'-3"± C/C BRGS.*

ROADWAY: 34'-0" T/T OF PARAPETS

LOADING: HS-20-44 (CASE II) AND ALTERNATE MILITARY LOADING

SKEW: 25°01'02" (R.F)

WEARING SURFACE: MONOLITHIC CONCRETE

APPROACH SLABS: AS-1-81 (25'-0" LONG)

ALIGNMENT: 1° 20" CURVE TO RIGHT

SUPERELEVATION: VARIES
LONGITUDE: 84°03'35" LATITUDE 41°24'35"

DESIGN AGENCY: ODOT CENTRAL OFFICE OFFICE OF PRODUCTION
DATE: 8-21-01
REVIEWED: TAA
DRAWN: TGM
DESIGNED: TGM
CHECKED: JF
STRUCTURE FILE NUMBER: 3503240
REVISED:

HENRY COUNTY
STA. 226+33.88
STA. 228+68.38

SITE PLAN

HEN-110-0419
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78

1/20

78/115

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN	LUMP		LUMP		SHEET NUMBER 3/20
503	21101	482	CU YD	UNCLASSIFIED EXCAVATION, AS PER PLAN				482	SHEET NUMBER 4/20
509	10000	88867	POUND	EPOXY COATED REINFORCING STEEL	12415	1357	75095		SHEET NUMBER 4/20
509	20001	100	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				100	SHEET NUMBER 4/20
510	10000	474	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	174	300			
513	20000	2595	EACH	WELDED STUD SHEAR CONNECTORS			2595		
514	00050	11826	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL *			11826		
514	00056	11826	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT *			11826		
514	00060	11826	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT *			11826		
514	00066	11826	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT *			11826		
514	00504	80	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			80		
516	13900	115	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	115				
516	14021	98	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN	98				SHEET NUMBER 4/20
516	44100	15	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE		15			
				(NEOPRENE), (10½"x17"x2 1/16" PAD & 11½"x18"x1 5/8" PLATE)					
516	44101	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE	10				SHEET NUMBER 19/20
				(NEOPRENE), (9"x14"x2 13/16" PAD & 12"x15"x1½" PLATE), AS PER PLAN					
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			LUMP		SHEET NUMBER 4/20
518	21200	48	CU YD	POROUS BACKFILL WITH FILTER FABRIC	48				
518	40000	69	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	69				
518	40010	100	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	100				
519	11101	66	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	12	54			SHEET NUMBER 4/20
526	25001	402	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN			206		SHEET NUMBER 18/20
864	10100	951	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	123	276	552		
898	10200	300	CU YD	QC/QA CONCRETE CLASS QSC2 SUPERSTRUCTURE (DECK)			300		
898	11000	75	CU YD	QC/QA CONCRETE CLASS QSC2 SUPERSTRUCTURE (PARAPET) **			75		
898	20000	58	CU YD	QC/QA CONCRETE CLASS QSC1 SUBSTRUCTURE	51	7			

* 25% ADDED TO NOMINAL BEAM AREA FOR INCIDENTALS.
** PARAPET ON THE APPROACH SLAB IS INCLUDED WITH THIS PAY ITEM.

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
REVIEWED: BCW DATE: 10-01-01
STRUCTURE FILE NUMBER: 3503240
DRAWN: JFF
REVISED:
DESIGNED: JFF
CHECKED: TAA

ESTIMATED QUANTITIES
HEN-110-0419
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78

GENERAL NOTES

STANDARD DRAWINGS AND SPECIFICATIONS:

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

AS-1-81	DATED 7-19-02
SICD-1-96	DATED 7-19-02

AND TO SUPPLEMENTAL SPECIFICATIONS:

864	DATED 7-11-00
898	DATED 1-17-03
954	DATED 9-09-97

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996 INCLUDING THE 1997-2000 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING:

HS20, CASE II AND THE ALTERNATE MILITARY LOADING.
FUTURE WEARING SURFACE = 60 PSF

DESIGN DATA:

CLASS QSC2 CONCRETE - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CLASS QSC1 CONCRETE - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615, A616 OR A617 GRADE 60 MINIMUM YIELD STRENGTH 60 KSI.

STRUCTURAL STEEL - A36 - YIELD STRENGTH 36 KSI

DECK PROTECTION METHOD - EPOXY COATED REINFORCING STEEL AND 2½" CONCRETE COVER AND HIGH PERFORMANCE CONCRETE.

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

EXISTING BRIDGE PLANS MAY BE INSPECTED IN THE OFFICE OF STRUCTURAL ENGINEERING IN COLUMBUS, OHIO OR AT THE ODOT DISTRICT TWO OFFICE IN BOWLING GREEN, OHIO.

UTILITY LINES:

ALL EXPENSE INVOLVED IN THE RELOCATION OF EFFECTED UTILITY LINES SHALL BE BORNE BY THE UTILITY. THE CONTRACTOR AND UTILITY ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD AT A MINIMUM.

ITEM 202 PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN:

DESCRIPTION:
THIS WORK SHALL CONSIST OF THE REMOVAL OF ASPHALT WEARING SURFACE,
CONCRETE DECKS INCLUDING SIDEWALKS, SCUPPERS, PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, CROSSFRAMES, ETC.). CARE SHALL BE TAKEN DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. IN THIS RESPECT, THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED.

PROTECTION OF TRAFFIC:
PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR), UNDER THE STRUCTURE TO THE ENGINEER FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE ENGINEER.

PROTECTION OF STEEL SUPPORT SYSTEMS:
BEFORE DECK SLAB CUTTING IS PERMITTED, THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK SHALL BE DRAWN ON THE SURFACE OF DECK. SMALL DIAMETER PILOT HOLES SHALL BE DRILLED 2" OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2" OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2" OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. DURING CUTTING OF THE DECK SLAB, CARE SHALL BE TAKEN NOT TO DAMAGE STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

REMOVAL METHODS:
CONCRETE MAY BE REMOVED BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS ABOVE STEEL MEMBERS, A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS MAY BE USED AT THE APPROVAL OF THE ENGINEER, TO ENSURE ADEQUATE DEPTH CONTROL AND TO PREVENT NICKING OR GOUGING THE PRIMARY STEEL MEMBERS.

DECK REMOVALS:
DUE TO THE POSSIBLE PRESENCE OF WELDED ATTACHMENTS TO EXISTING STRUCTURAL STEEL (FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.), CARE SHALL BE TAKEN DURING DECK REMOVAL TO AVOID DAMAGING STRINGERS WHICH ARE TO REMAIN. STRINGERS DAMAGED BY THE CONTRACTOR'S REMOVAL OPERATIONS SHALL, AT NO COST TO THE PROJECT, BE REPLACED OR REPAIRED. PROPOSED REPAIRS, DEVELOPED BY A REGISTERED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED IN WRITING FOR REVIEW AND APPROVAL BY THE ENGINEER.

EXTRANEOUS MEMBERS:
EXISTING EXTRANEOUS MEMBERS (I.E., FINISHING MACHINE AND FORM SUPPORTS, ETC., AND THE SUPPORT FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) ATTACHED BY WELDED CONNECTIONS TO PORTIONS OF THE TOP FLANGES DESIGNATED "TENSION" SHALL BE REMOVED AND THE FLANGE SURFACES GROUND SMOOTH. GRINDING SHALL BE CAREFULLY DONE AND PARALLEL TO THE FLANGES.

LOADING LIMITATIONS:
NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF THE ALLOWABLE UNIT STRESSES GIVEN IN THE AASHTO STANDARD SPEC. FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF EQUIPMENT ON OR ACROSS THE STRUCTURE. STRUCTURAL ANALYSIS COMPUTATIONS, BY A REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHOD OR EQUIPMENT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE START OF THE WORK.

PAYMENT:
THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTAL NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

INSPECTION OF EXISTING STRUCTURAL STEEL:

THE ENGINEER WILL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THE WELDS, PLATES AND BEAMS OR GIRDERS ARE FREE OF DEFECTS AND CRACKS. IF THE DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS INTERFERE WITH THE ENGINEER'S INSPECTION THEY SHALL BE REMOVED OR NOT BE ERECTED UNTIL AFTER THE INSPECTION. THE INSPECTION SHALL NOT TAKE PLACE UNTIL AFTER THE TOP FLANGES ARE CLEANED AS SPECIFIED IN 511.10, BUT IT SHALL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE COST ASSOCIATED WITH THIS INSPECTION SHALL BE INCLUDED WITH ITEM 511, SUPERSTRUCTURE CONCRETE FOR PAYMENT. ANY CRACKS FOUND SHOULD BE REPORTED TO THE OFFICE OF CONSTRUCTION IN CENTRAL OFFICE, BRIDGE CONSTRUCTION SPECIALIST, ALONG WITH SPECIFIC INFORMATION ON LOCATION OF THE CRACKS, LENGTH, AND DEPTH SO AN EVALUATION AND REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE.

CUT LINE CONSTRUCTION JOINT PREPARATION:

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS. REMOVE CONCRETE TO A ROUGH SURFACE. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACE. THE JOINT SURFACE SHALL BE THROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. CONCRETE BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

SUBSTRUCTURE CONCRETE REMOVAL:

SUBSTRUCTURE CONCRETE REMOVAL SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18" OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18" LIMIT, A HAMMER HEAVIER THAN 35 POUNDS, BUT NOT TO EXCEED 90 POUNDS, MAY BE USED AT THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

TRAFFIC MAINTENANCE:

SEE ROADWAY PLANS FOR ADDITIONAL TRAFFIC NOTES AND DETAILS.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
JFF	JFF	BCW	10-01-01
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAA		3503240	

GENERAL NOTES
HEN-110-0419
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78

GENERAL NOTES CONTINUED

ITEM 516 JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:

THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO RAISE OR REPOSITION ANY EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION AND OPERATION OF AN ADEQUATE JACKING SYSTEM, INCLUDING ANY TEMPORARY OR PERMANENT SUPPORTS NECESSARY TO PERFORM THE WORK DESCRIBED IN THE PROJECT PLANS. THREE (3) SETS OF JACKING PLANS, WHICH INCLUDE THE INFORMATION DESCRIBED IN THIS NOTE, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL AT LEAST THIRTY (30) DAYS BEFORE ACTUAL WORK IS TO BEGIN. THE PLANS SHALL BE PREPARED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER.

JACKING SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

1. THE SIGNATURE AND NUMBER, OR PROFESSIONAL SEAL, OF THE REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THE SUBMITTAL.

2. CALCULATIONS AND ANALYSIS OF THE STRUCTURE TO DETERMINE AND DEFINE THE ACTUAL LOADING APPLIED AT THE CONTRACTOR'S SELECTION JACKING POINTS.

3. A DRAWING SHOWING THE PHYSICAL AND DIMENSIONAL POSITION OF THE JACKS WITH RESPECT TO THE STRUCTURE INCLUDING CLEARANCES AND CENTER OF LIFT.

4. A SCHEMATIC LAYOUT OF JACKS, CHECK VALVES, PUMPS WITH 3 WAY RETRACTOR VALVE, PRESSURE GAGES, FLOW CONTROL VALVES,ETC. IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ALL JACKS FOR EACH ABUTMENT OR PIER SHALL BE CONNECTED TOGETHER. ALL JACKS AT EACH ABUTMENT OR PIER SHALL BE THE SAME SIZE.

5. ANALYSIS AND CALCULATIONS OF THE STRESSES INDUCED OR CREATED IN THE STRUCTURE AND ANY TEMPORARY OR PERMANENT SUPPORTS. DESIGN CALCULATIONS FOR ANY TEMPORARY OR PERMANENT SUPPORTS.

6. PHYSICAL DIMENSIONS, MATERIALS, AND FABRICATION DETAILS OF ANY TEMPORARY OR PERMANENT SUPPORTS. HORIZONTAL AND VERTICAL MOVEMENT RESTRAINT SHALL BE PROVIDED.

7. A STEP BY STEP PROCEDURE DETAILING ALL STEPS IN THE JACKING OPERATION.

8. METHOD OF ATTACHMENT TO STRUCTURAL MEMBERS. WELDING TO TENSION AREAS WILL NOT BE PERMITTED.

THE ENTIRE SYSTEM INCLUDING JACKS SHALL HAVE 20% MORE CAPACITY THAN REQUIRED BASED ON CALCULATED LOADS.

FOR LIFTS GREATER THAN 1", JACKS SHALL HAVE LOCKING NUTS TO POSITIVELY LOCK AND SUPPORT THE STRUCTURE DURING THE LIFT.

JACKS SHALL HAVE A SWIVEL LOAD CAP, A DOMED PISTON HEAD OR SOME OTHER DEVICE TO PROTECT AGAINST THE EFFECTS OF SIDE LOAD ON THE JACK.

JACKS ALONE SHALL NOT BE USED TO SUPPORT LOADS EXCEPT DURING THE ACTUAL JACKING OPERATION. TEMPORARY SUPPORTS, BLOCKING OR OTHER METHODS APPROVED BY THE ENGINEER SHALL BE USED.

SINGLE ACTING RAMS WITH NO OVER-TRAVEL PROTECTION SYSTEM SHALL NOT BE USED.

SPARE EQUIPMENT SHALL BE AVAILABLE ON SITE FOR THE REQUIRED STRUCTURE RAISING TO PROCEED IN THE EVENT OF BREAKDOWN. A LIST OF SPARE EQUIPMENT SHALL BE PROVIDED TO THE ENGINEER.

AT A MINIMUM, A JACKING OPERATION SHALL LIFT ALL BEAMS AT ANY ONE ABUTMENT OR PIER SIMULTANEOUSLY. THE ONLY EXCEPTION IS THE SITUATION WHERE THE WORK INVOLVES REPLACING OR REHABILITATING INDIVIDUAL BEARINGS; NO PERMANENT SHIMMING IS REQUIRED AND THE HEIGHT OF THE LIFT SHALL NOT EXCEED 1/4 INCH.

MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ANY ADJACENT ABUTMENTS OR PIERS SHALL BE 1" OR LESS. THIS HEIGHT MAY BE MODIFIED IF CALCULATIONS, BY THE CONTRACTOR'S OHIO REGISTERED PROFESSIONAL ENGINEER, SHOW THE SUPERSTRUCTURE COMPONENTS WILL NOT BE TEMPORARILY STRESSED BEYOND ALLOWABLE STRESSES FOR THOSE COMPONENTS AND THAT NO PERMANENT STRESSES WILL BE INDUCED IN THE COMPONENTS AFTER THEY OBTAIN THEIR FINAL POSITION.

JACKING OPERATIONS WILL NOT BE PERMITTED UNTIL ALL EXISTING CONCRETE DECK IS REMOVED. NO LIVE LOAD WILL BE PERMITTED ON THE SUPERSTRUCTURE WHILE JACKING OPERATIONS ARE BEING PERFORMED.

THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER THAT THE BRIDGE BEARINGS ARE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUITABLE MEANS OF REPAIR, SUBJECT TO THE ENGINEERS APPROVAL, WILL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.

PAYMENT SHALL BE MADE AT THE LUMP SUM PRICE BID FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPER-STRUCTURE, AS PER PLAN AND SHALL INCLUDE ALL NECESSARY TOOLS, LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

ITEM 509 REINFORCING STEEL
REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:

ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY THE CONTRACTOR'S CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT THE CONTRACTOR'S COST. ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW STEEL. AN ALLOWANCE OF 100 POUNDS IS INCLUDED IN ITEM 509 FOR THIS PURPOSE, LISTED IN THE "GENERAL" COLUMN OF THE ESTIMATED QUANTITIES TABLE.

ITEM 509 EPOXY COATED REINFORCING STEEL:

NEW REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO BE PROPERLY FITTED. PAYMENT SHALL BE INCLUDED UNDER ITEM 509.

ITEM 519 PATCHING CONCRETE STRUCTURE, AS PER PLAN:

ALL SURFACES TO BE PATCHED AND THE EXPOSED REINFORCING STEEL WITHIN SHALL BE THOROUGHLY CLEANED BY ABRASIVE BLASTING PRIOR TO THE CLEANING SPECIFIED BY 519.04. CLEANING SHALL PRECEDE APPLICATION OF THE PATCHING MATERIAL OR ERECTION OF THE FORMS BY NOT MORE THAN 24 HOURS.

ITEM 516 SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN:

INSTALL A 3 FOOT WIDE STRIP, 3/32 INCH THICK, GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT AT LOCATIONS SHOWN IN THE PLANS. SECURE THE 3 FOOT WIDE NEOPRENE SHEETING TO THE CONCRETE WITH 1 1/4" X #10 GAGE (LENGTH x SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKE THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. OTHER SIMILAR GALVANIZED DEVICES WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE MAY BE USED SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES (+/-) FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES (+/-) FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS, AT 6 INCHES CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS WHERE THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHOULD COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAPS IN THE LENGTH OF THE HORIZONTAL STRIPS DUE TO MATERIAL MANUFACTURING SHALL BE AT LEAST ONE FOOT IN LENGTH, IF NOT VULCANIZED OR ADHESIVE BONDED, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32 INCH THICK GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E. I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D 751	0.94 +/- .01
BREAKING STRENGTH,GRAB WXF, LBS, MINIMUM	D 751	700 X 700
ADHESIVE 1" STRIP, 2" MINIMUM, LBS,MINIMUM	D 751	9
BURST STRENGTH (MULLEN) PSI, MINIMUM	D 751	1400
HEAT AGING 70 HOURS T 212 F, 180 BEND WITHOUT CRACKING	D 2136	NO CRACKING OF COATING
LOW TEMPERATURE BRITTLENESS 1 HOUR AT -40 F, BEND AROUND 1/4 INCH MANDREL	D 2136	NO CRACKING OF COATING

IN LIEU OF THE NEOPRENE SHEETING THE CONTRACTOR MAY CHOOSE TO SUPPLY TYPE 3 MEMBRANE, 711.29 .

PAYMENT FOR LABOR MATERIALS AND INSTALLATION OF THESE ITEMS SHALL BE INCLUDED IN ITEM 516 SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

PROPOSED WORK:

1. REMOVE EXISTING DECK, PARAPETS, SCUPPERS AND END DAMS.

2. JACK AND SUPPORT SUPERSTRUCTURE STRINGERS.

3. REMOVE PORTION OF SUBSTRUCTURES.

4. RECONSTRUCT SUBSTRUCTURES, RESUPPORT SUPERSTRUCTURE AND RECONSTRUCT SUPERSTRUCTURE DECK.

5. RECONSTRUCT PARAPETS AND APPROACHES.

6. PAINT STRUCTURAL STEEL, SEAL CONCRETE SURFACES.

ITEM 503 UNCLASSIFIED EXCAVATION AS PER PLAN :

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT ALL BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE 304.02 PLACED IN 6 INCH LIFTS AS PER 304.05.

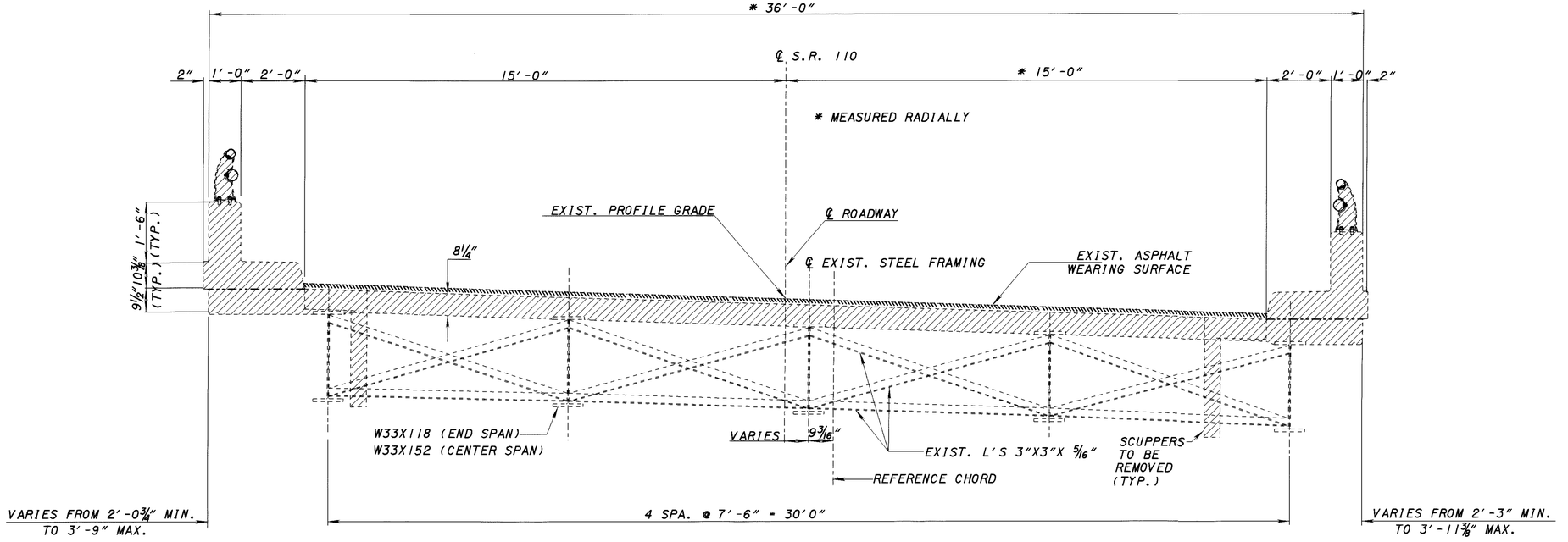
THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR VERIFICATION, HIS METHOD OF FASEWORK SUPPORT AT THE DECK EDGE CANTILEVERS. THIS SUBMITTAL SHALL INCLUDE STRESS AND DEFLECTION CALCULATIONS PREPARED BY AN OHIO REGISTERED ENGINEER. PENDING THE RESULTS OF THESE CALCULATIONS AND METHOD OFSUPPORT, THE DECK SCREED ELEVATIONS SHOWN IN THIS PLAN MAY NEED TO BE MODIFIED.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED JFF | DRAWN JFF | CHECKED TAA | REVISED | REVISED BCW 10-01-01 | DATE | STRUCTURE FILE NUMBER 3503240

GENERAL NOTES
HEN-110-0419
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78



EXISTING TRANSVERSE CROSS - SECTION

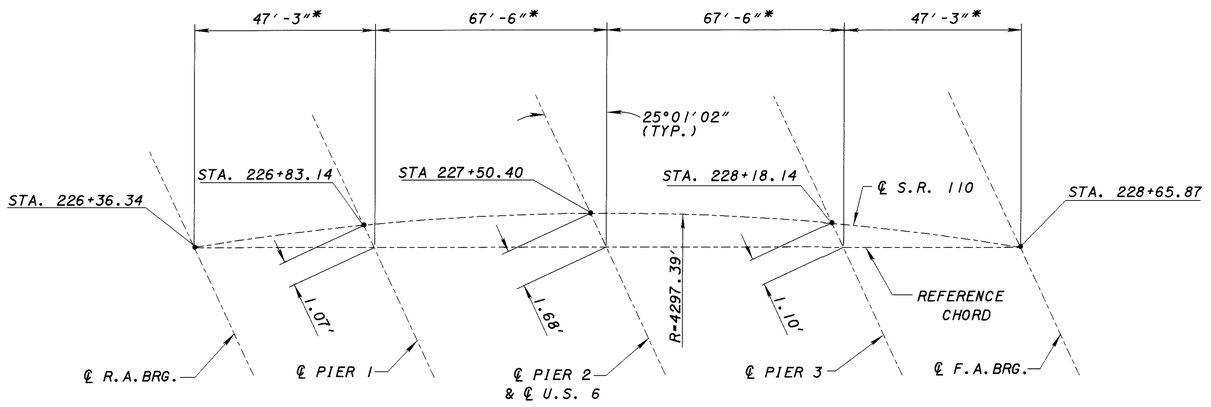
NOTES:

FIELD VERIFY ALL EXISTING DIMENSIONS.

ALL DIMENSIONS ARE ± ON THE EXISTING STRUCTURE.

▨ - INDICATES AREAS TO BE REMOVED UNDER ITEM 202 - PORTIONS OF STRUCTURE TO BE REMOVED, AS PER PLAN.

SCUPPER ANCHORING BARS WELDED TO BEAM SHALL BE REMOVED AND GROUND FLUSH AT WEB DURING REMOVAL. GRINDING SHALL BE DONE IN A HORIZONTAL DIRECTION. PAYMENT INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN.



REFERENCE DIAGRAM

* MEASURED ALONG REFERENCE CHORD

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED BCW DATE 10-01-01
STRUCTURE FILE NUMBER 3503240

DRAWN JFF REVISED
DESIGNED JFF CHECKED TAA

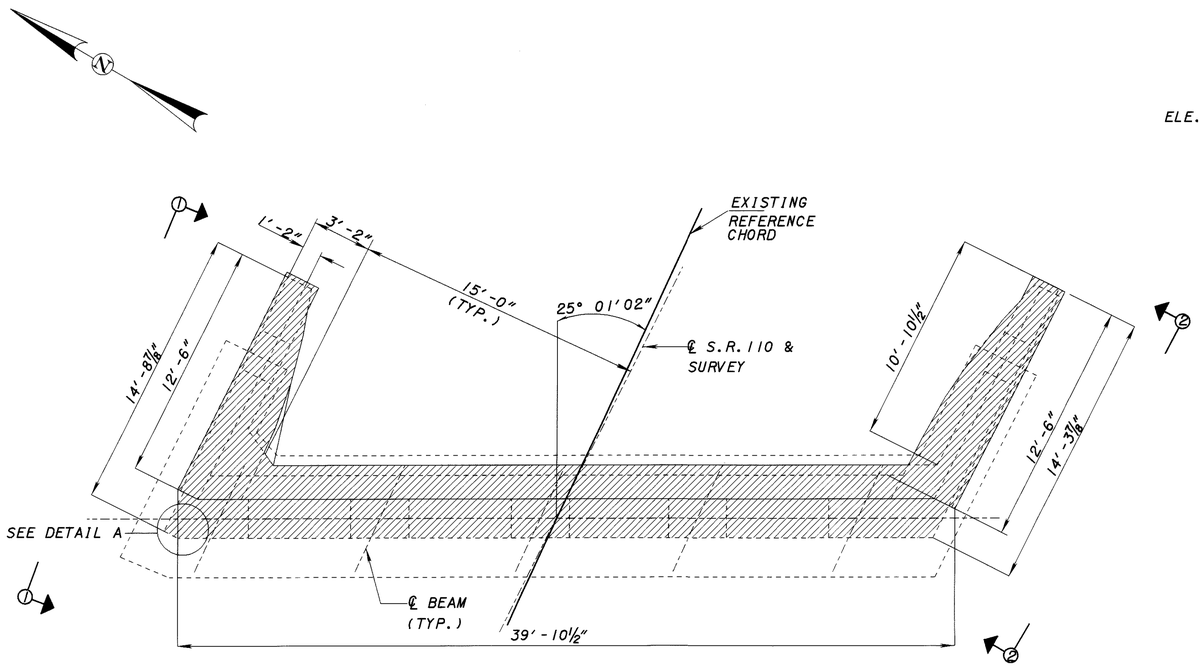
EXISTING SUPERSTRUCTURE REMOVAL DETAILS

HEN-110-0419
S.R. 110 OVER U.S. 6

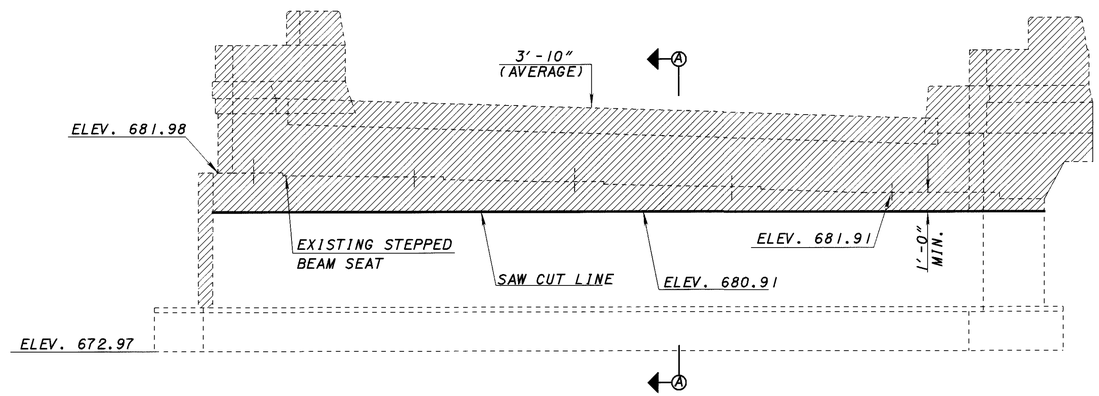
HEN-110/424-4.18/13.78

5 / 20

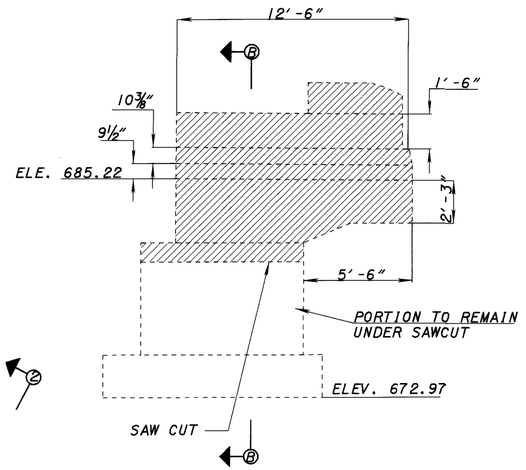
82 / 115



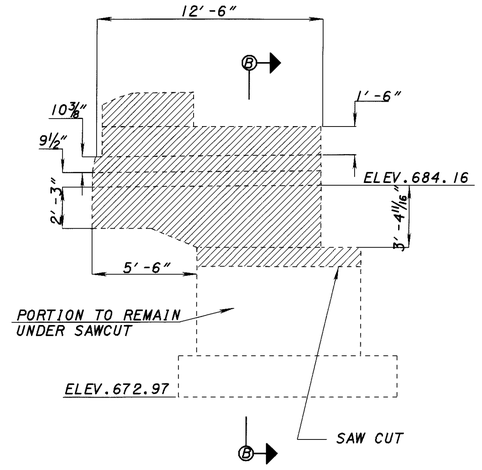
FORWARD ABUTMENT PLAN



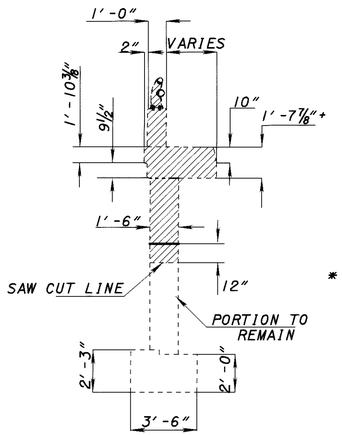
FORWARD ABUTMENT ELEVATION



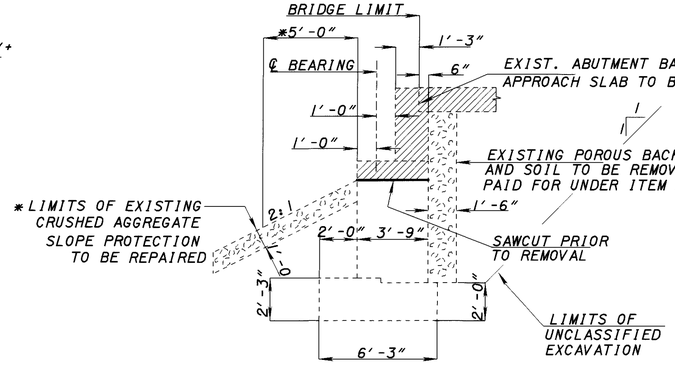
VIEW 2-2
EXIST. NORTH WINGWALL



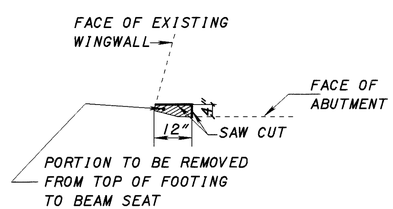
VIEW 1-1
EXIST. SOUTH WINGWALL



SECTION B-B



SECTION A-A



DETAIL A

NOTES:

FIELD VERIFY ALL EXISTING DIMENSIONS.

ALL DIMENSIONS ARE ± ON THE EXISTING STRUCTURE.

▨ - INDICATES AREAS TO BE REMOVED UNDER ITEM 202 - PORTIONS OF STRUCTURE TO BE REMOVED, AS PER PLAN.

CUT ALL EXISTING VERTICAL REINFORCING STEEL AT REMOVAL LINE

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION

REVIEWED: BCW | DATE: 10-01-01 | STRUCTURE FILE NUMBER: 3503240

DRAWN: JFF | REVISED:

DESIGNED: JFF | CHECKED: TAA

EXISTING FORWARD ABUTMENT REMOVAL DETAILS

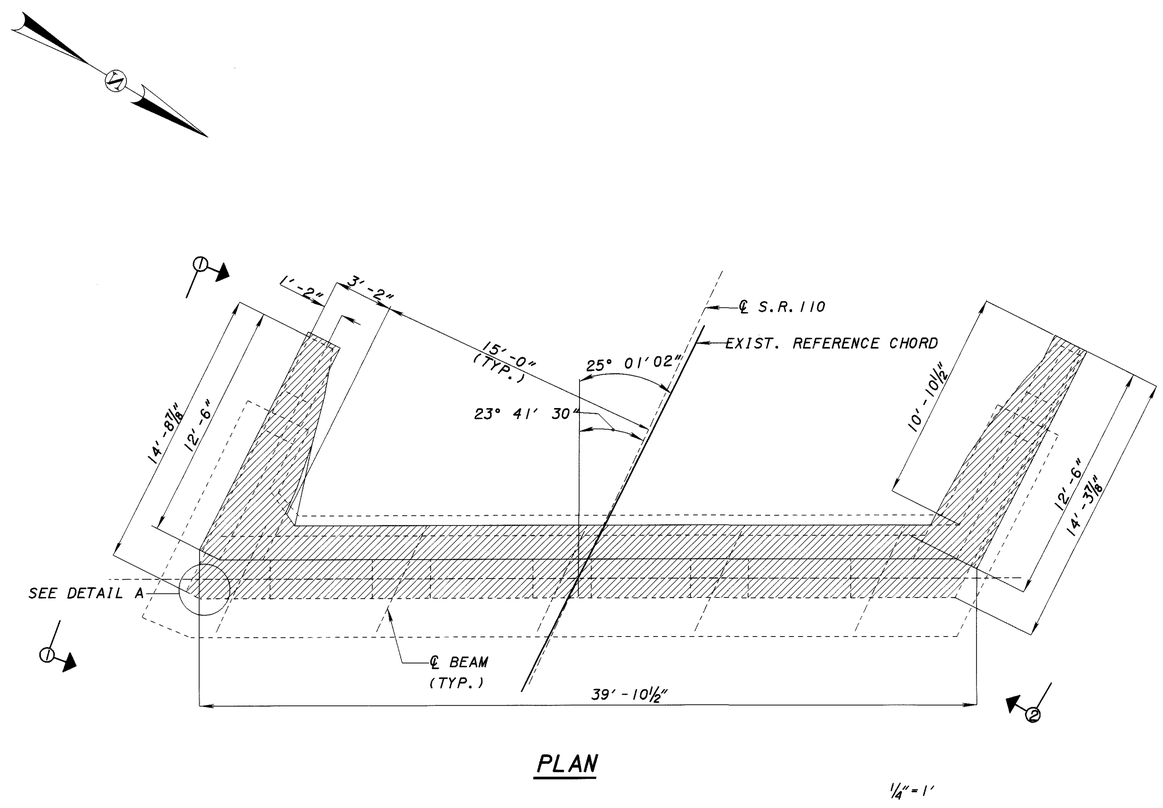
HEN-110-0419

S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78

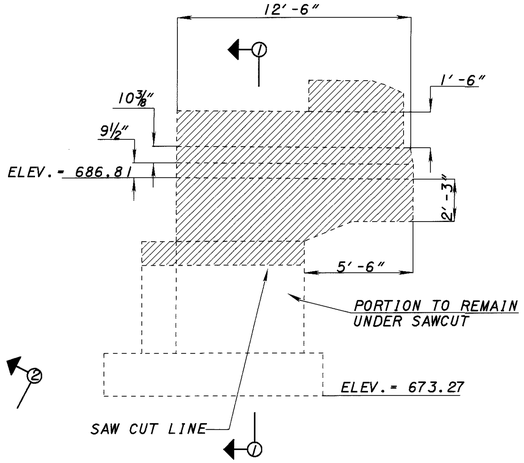
6/20

83/115

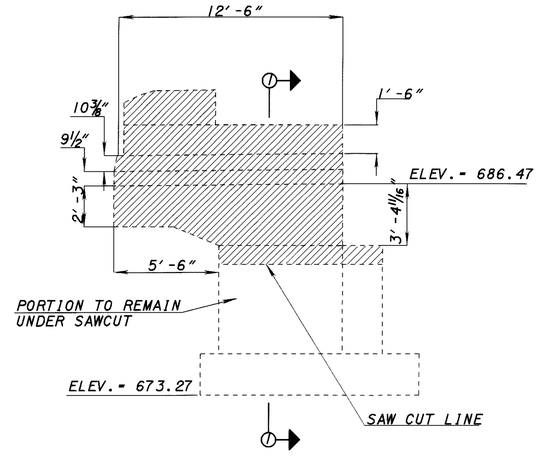


PLAN

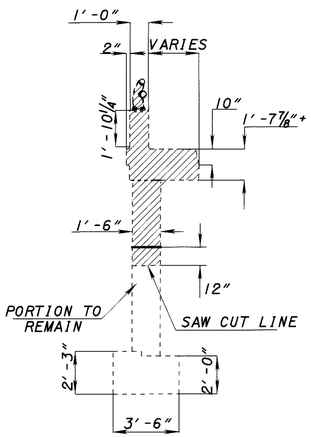
1/4" = 1'



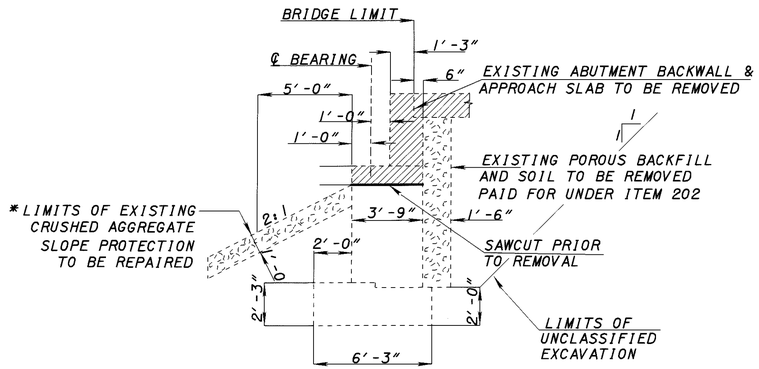
VIEW 2-2
EXIST. NORTH WINGWALL



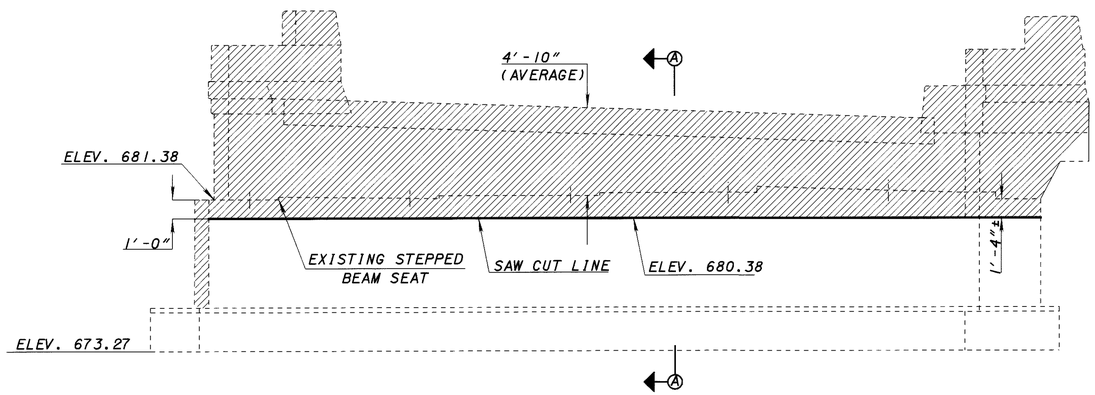
VIEW 1-1
EXIST. SOUTH WINGWALL



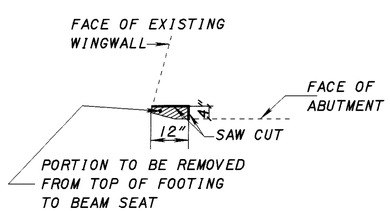
SECTION B-B



SECTION A-A



REAR ABUTMENT ELEVATION



DETAIL A

NOTES:

FIELD VERIFY ALL EXISTING DIMENSIONS.

ALL DIMENSIONS ARE ± ON THE EXISTING STRUCTURE.

▨ - INDICATES AREAS TO BE REMOVED UNDER ITEM 202 - PORTIONS OF STRUCTURE TO BE REMOVED, AS PER PLAN.

CUT ALL EXISTING VERTICAL REINFORCING STEEL AT REMOVAL LINE

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
DATE: 10-01-01
REVIEWED: BCW
STRUCTURE FILE NUMBER: 3503240
DRAWN: JFF
REVISED:
DESIGNED: JFF
CHECKED: TAA

EXISTING REAR ABUTMENT REMOVAL DETAILS

HEN-110-0419
S.R. 110 OVER U.S. 6

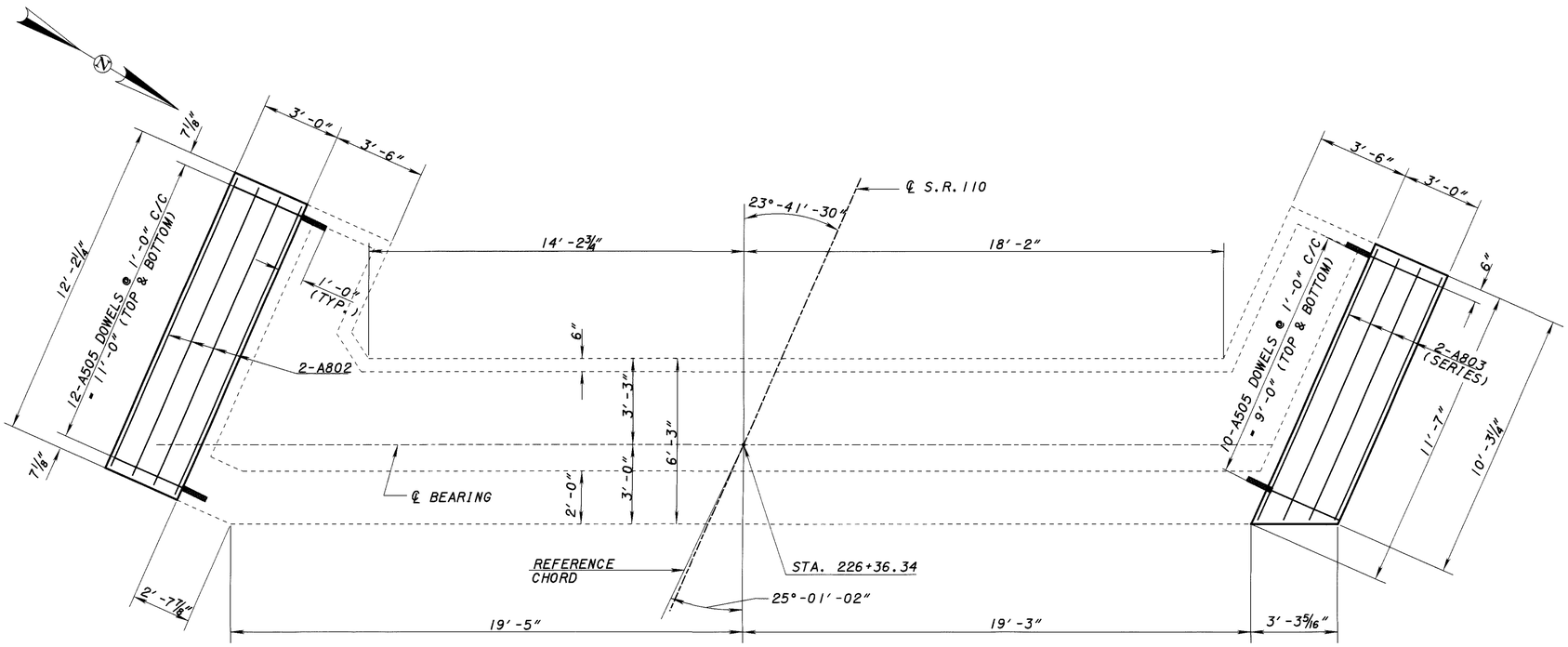
HEN-110/424-4.18/13.78

NOTES

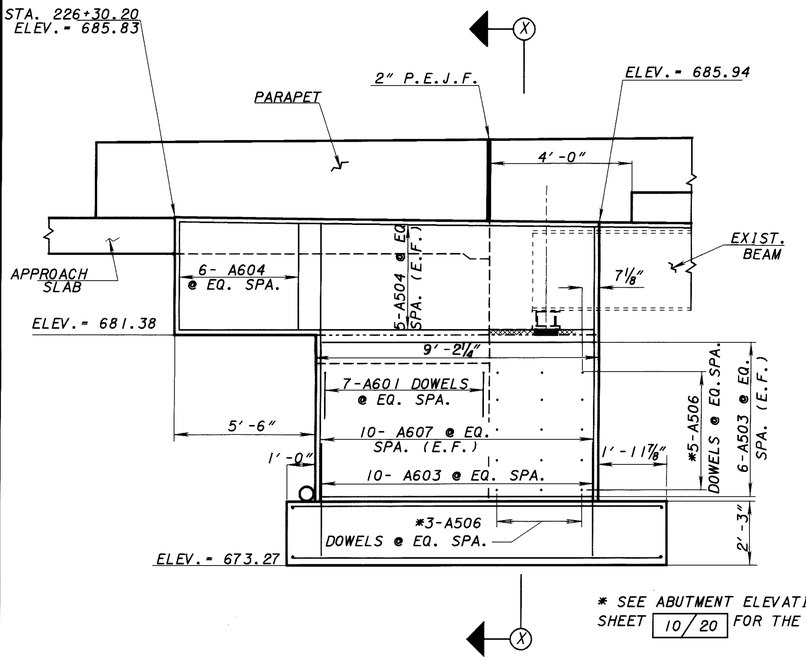
POROUS BACKFILL:

POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 12" BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE FACE OF THE WINGWALLS.

FOR VIEW B-B AND C-C SEE SHEET 10/20

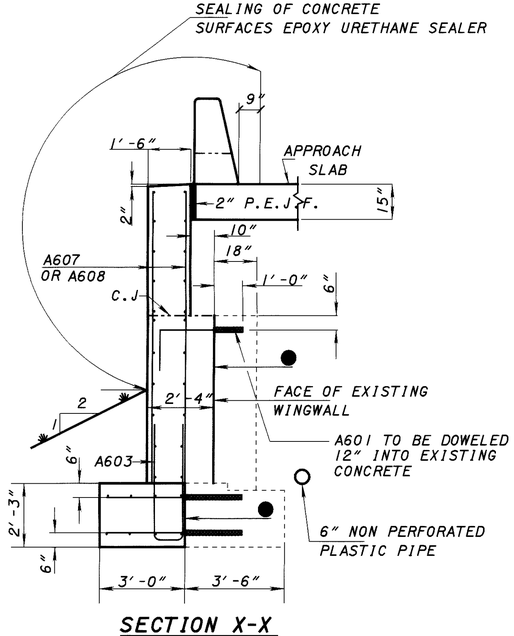


PLAN
FOOTING PLAN



* SEE ABUTMENT ELEVATION VIEW ON SHEET 10/20 FOR THE DOWEL LOCATION.

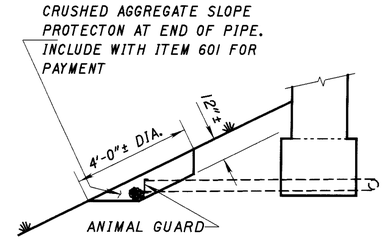
VIEW C-C
WINGWALL ELEVATION

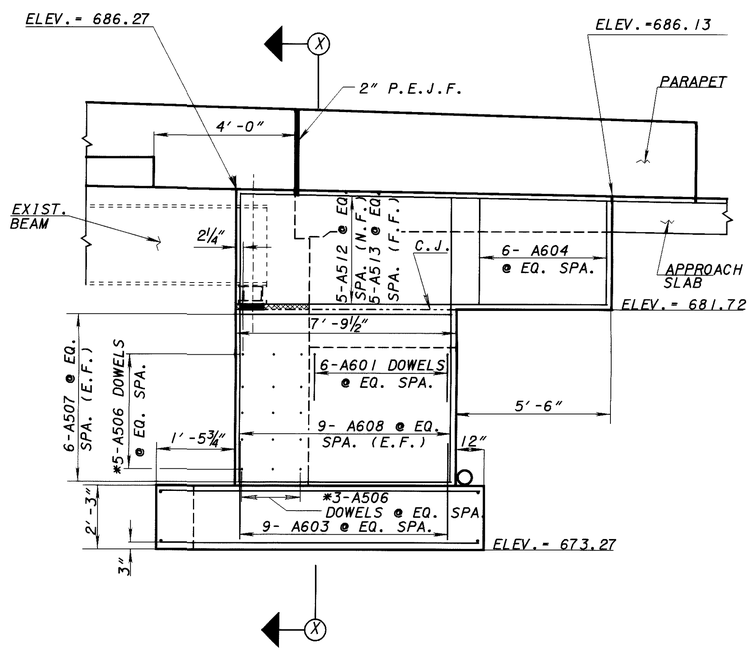


SECTION X-X

● EXISTING CONCRETE SURFACE TO BE SCARIFIED ¼" PRIOR TO PLACING THE NEW CONCRETE. PAYMENT TO BE INCLUDED WITH ITEM 898.

PIPE OUTLET DETAIL





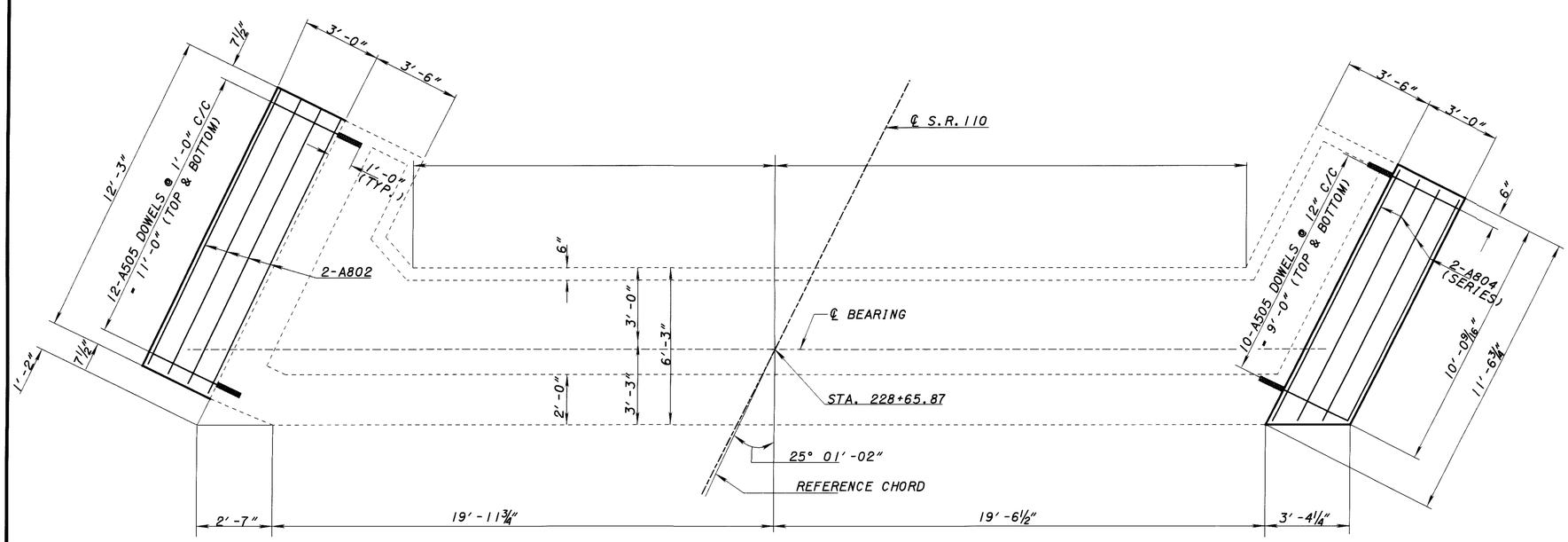
VIEW B-B
WINGWALL ELEVATION

DESIGN AGENCY: ODOT CENTRAL OFFICE OFFICE OF PRODUCTION
DATE: 10/01/01
REVIEWED: BCW
DRAWN: JFF
DESIGNED: JFF
CHECKED: TAA
REVISED:
STRUCTURE FILE NUMBER: 3503240

REAR ABUTMENT FOOTING AND WINGWALL DETAILS

HEN-110-0419
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78



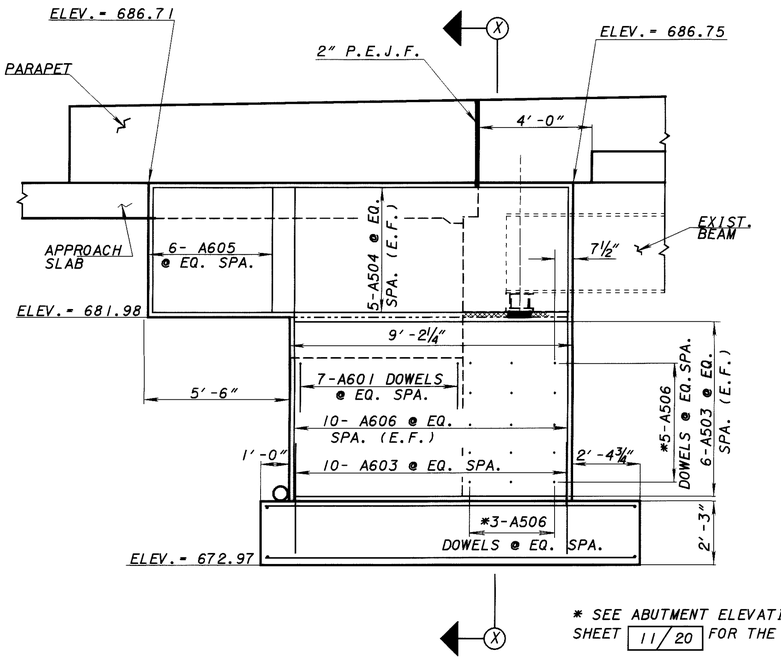
FOOTING PLAN

NOTES

POROUS BACKFILL:

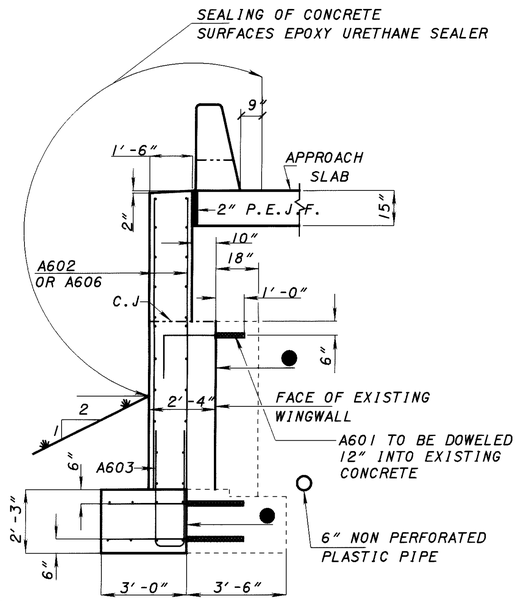
POROUS BACKFILL WITH FILTER FABRIC, 2′-0″ THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 12″ BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE FACE OF THE WINGWALLS.

FOR VIEW D-D & E-E SEE SHEET 11/20



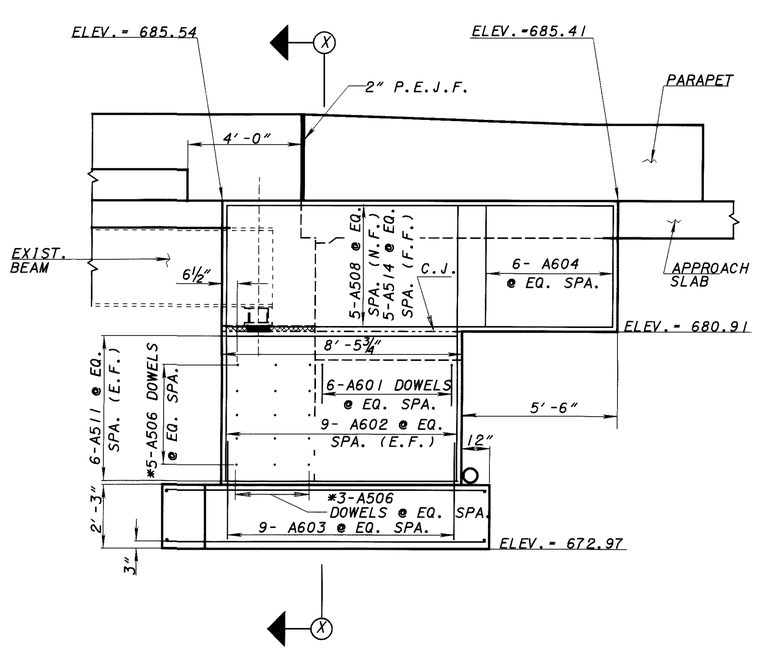
* SEE ABUTMENT ELEVATION VIEW ON SHEET 11/20 FOR THE DOWEL LOCATION.

VIEW E-E
WINGWALL ELEVATION



SECTION X-X

● EXISTING CONCRETE SURFACE TO BE SCARIFIED ¼″ PRIOR TO PLACING THE NEW CONCRETE. PAYMENT TO BE INCLUDED WITH ITEM 898.



VIEW D-D
WINGWALL ELEVATION

DESIGN AGENCY: ODOT CENTRAL OFFICE OFFICE OF PRODUCTION

DESIGNED JFF | DRAWN JFF | REVIEWED BCW | DATE 10-01-01

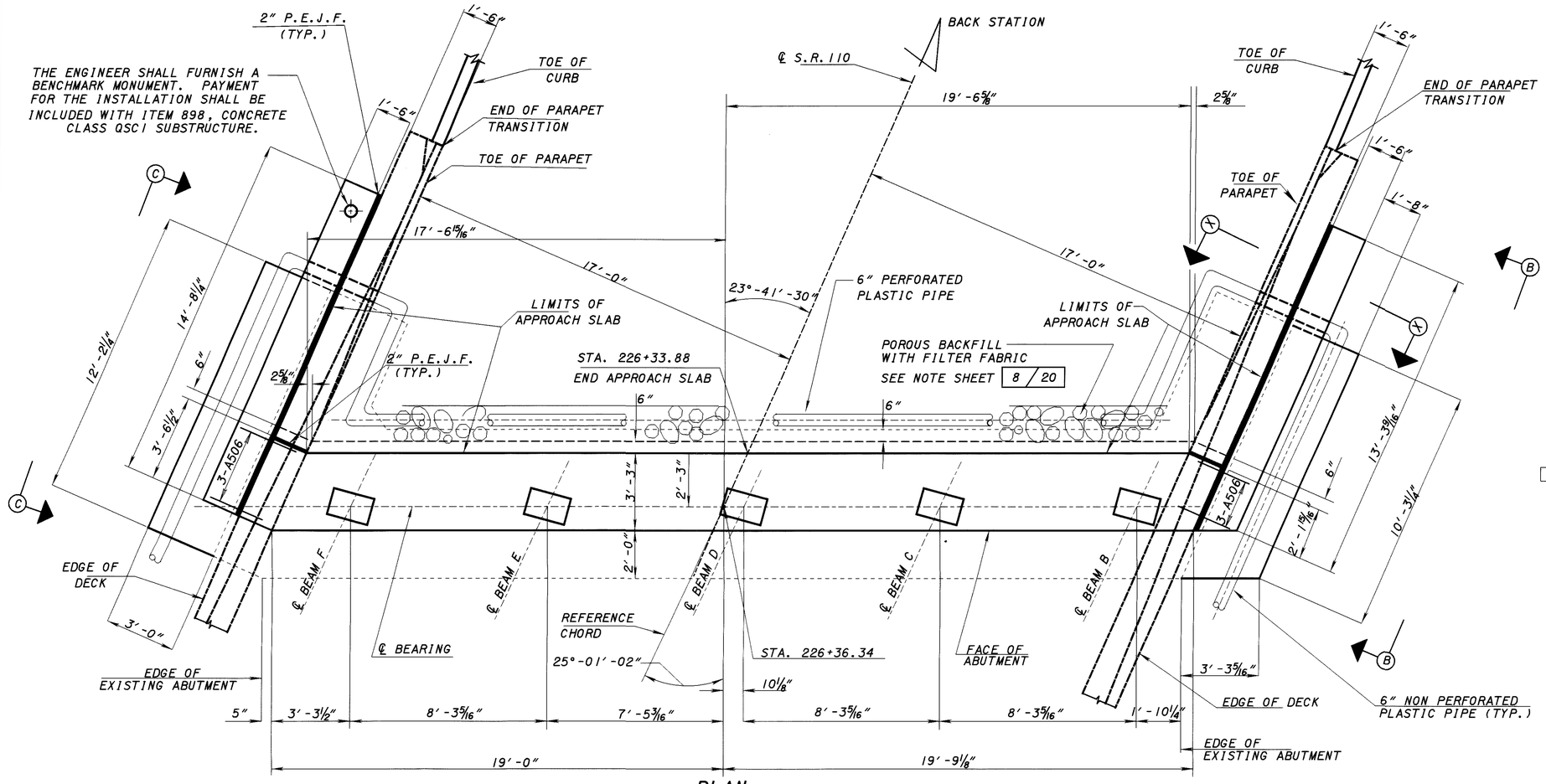
CHECKED TAA | REVISED | STRUCTURE FILE NUMBER 3503240

FORWARD ABUTMENT FOOTING AND WINGWALL DETAILS

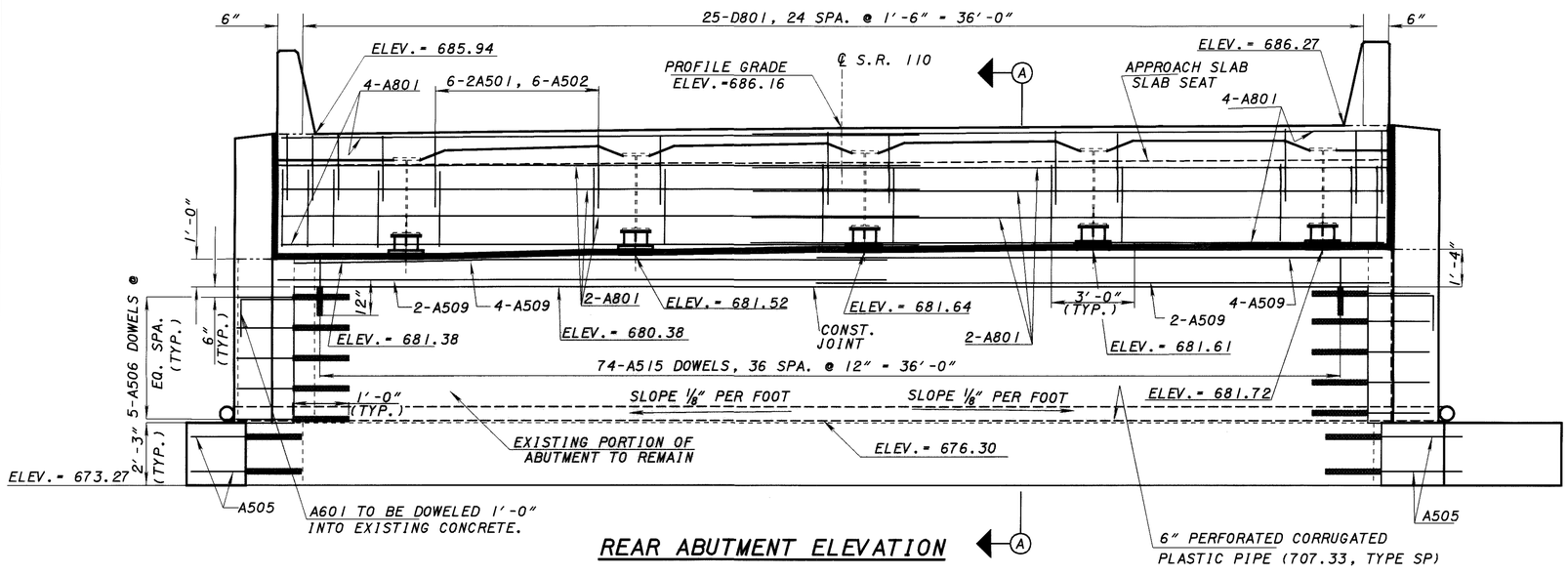
HEN-110-0419

S.R. 110 OVER U.S. 6

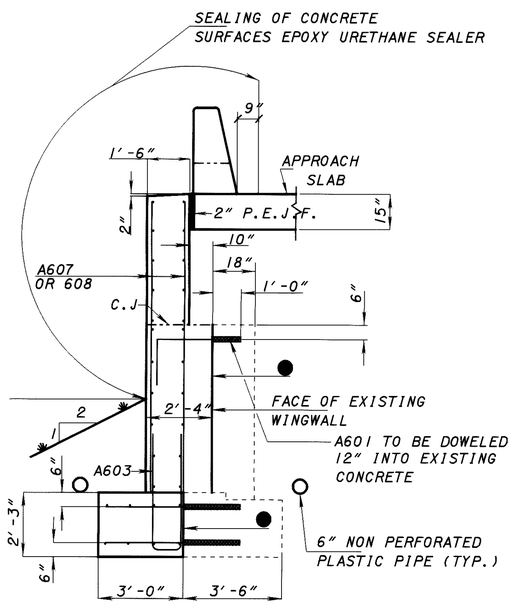
HEN-110/424-4.18/13.78



PLAN



REAR ABUTMENT ELEVATION



SECTION X-X

NOTES

FOR SECTION A-A SEE SHEET 11/20

FOR VIEW B-B AND C-C SEE SHEET 8/20

NOTES & LEGEND

P.E.J.F.- PREFORMED EXPANSION JOINT FILLER

8 BAR MIN. LAP - 6'-0"

5 BAR MIN. LAP - 2'-6"

FOR ADDITIONAL INFORMATION ON DOWEL HOLES SEE ITEM 510.

ALL ELEVATIONS SHOWN ARE MEASURED ALONG THE BRIDGE LIMITS. BEAM SEAT ELEVATIONS ARE MEASURED ALONG ℄ OF BEARING.

☐ EXISTING PORTION OF ABUTMENT TO REMAIN.

● EXISTING CONCRETE SURFACE TO BE SCARIFIED 1/4" PRIOR TO PLACING THE NEW CONCRETE. PAYMENT TO BE INCLUDED WITH ITEM 898.

ABUTMENT DIAPHRAGM CONCRETE, STEEL SUPERSTRUCTURE:

THE CONTRACTOR SHALL PLACE THE DIAPHRAGM CONCRETE SEPARATELY. THE CONCRETE SHALL HAVE AT LEAST 48 HOURS OF SET TIME BEFORE DECK CONCRETE CAN BE PLACED. THE HORIZONTAL CONSTRUCTION JOINT BETWEEN THE DIAPHRAGM AND DECK SHOULD BE AT THE BOTTOM OF THE TOP FLANGE.

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION

REVIEWED: BCW | DATE: 10-01-01 | STRUCTURE FILE NUMBER: 3503240

DRAWN: JFF | REVISED:

DESIGNED: JFF | CHECKED: TAA

REAR ABUTMENT

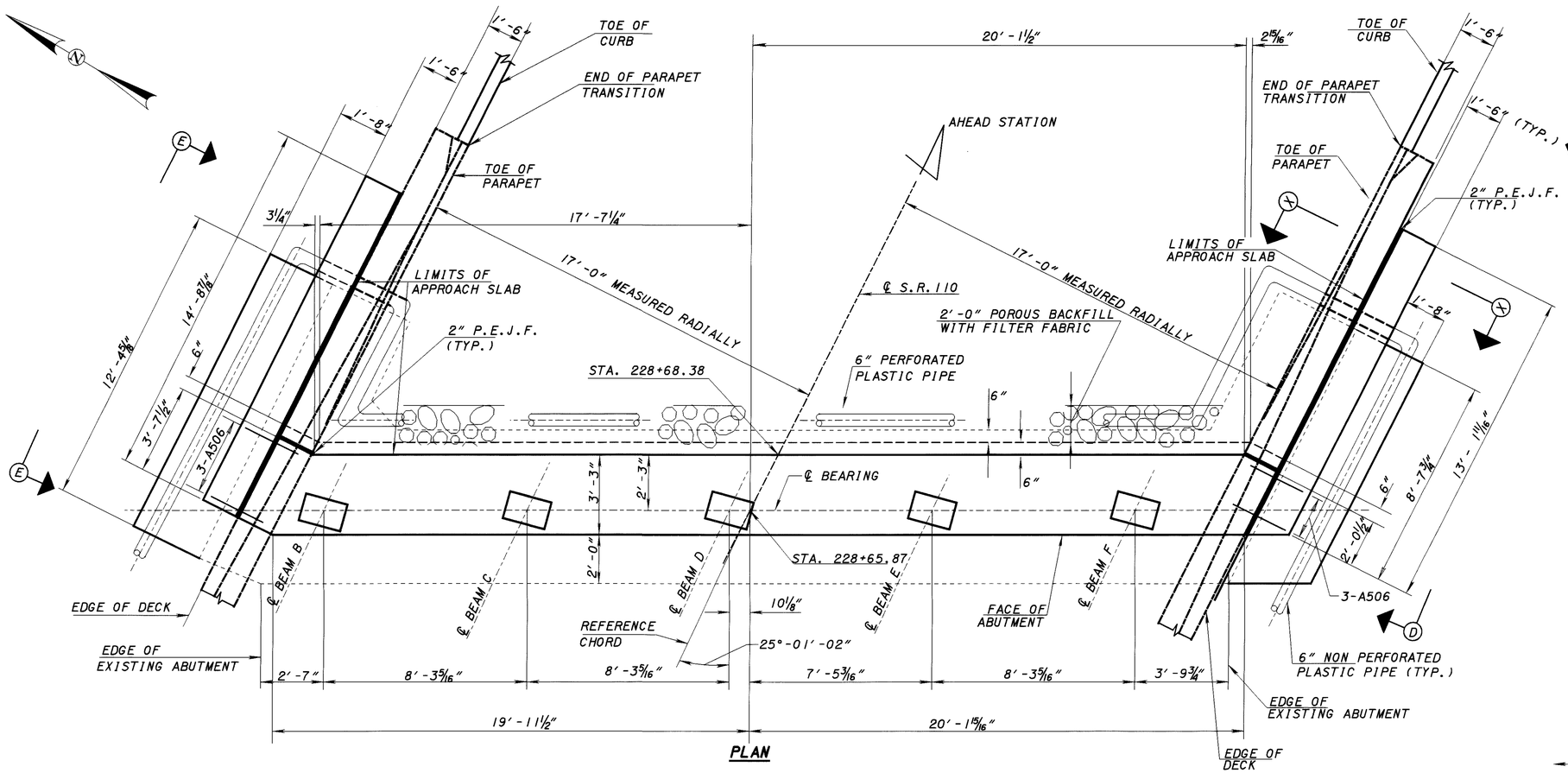
HEN-110-0419

S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78

10/20

87/115



NOTES

FOR VIEW D-D AND E-E SEE SHEET 9/20

FOR SECTION X-X SEE SHEET 10/20

ALL ELEVATIONS SHOWN ARE MEASURED ALONG THE BRIDGE LIMITS. BEAM SEAT ELEVATIONS ARE MEASURED ALONG ℄ OF BEARING.

ABUTMENT DIAPHRAGM CONCRETE, STEEL SUPERSTRUCTURE:

THE CONTRACTOR SHALL PLACE THE DIAPHRAGM CONCRETE SEPARATELY. THE CONCRETE SHALL HAVE AT LEAST 48 HOURS OF SET TIME BEFORE DECK CONCRETE CAN BE PLACED. THE HORIZONTAL CONSTRUCTION JOINT BETWEEN THE DIAPHRAGM AND DECK SHOULD BE AT THE BOTTOM OF THE TOP FLANGE.

NOTES & LEGEND

* NYLON REINFORCED NEOPRENE SHEETING, 3'-0" WIDE, CENTERED ABOUT JOINTS. AT WINGWALL TURN BACK 1'-6" (NO ANCHORS REQUIRED) HOLD BACK AGAINST WINGWALL UNTIL POROUS BACKFILL IS IN PLACE. INCLUDE WITH ITEM 516 SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL FOR PAYMENT.

P.E.J.F.- PREFORMED EXPANSION JOINT FILLER

* 8 BAR MIN. LAP = 6'-0"

* 5 BAR MIN. LAP = 2-6"

FOR ADDITIONAL INFORMATION ON DOWEL HOLES SEE ITEM 510.

☐ EXISTING PORTION OF ABUTMENT TO REMAIN.

DESIGN AGENCY: ODOT CENTRAL OFFICE OFFICE OF PRODUCTION

DESIGNED JFF | DRAWN JFF | CHECKED TAA | REVIEWED BCW | REVISED | DATE 10-01-01 | STRUCTURE FILE NUMBER 3503240

FORWARD ABUTMENT

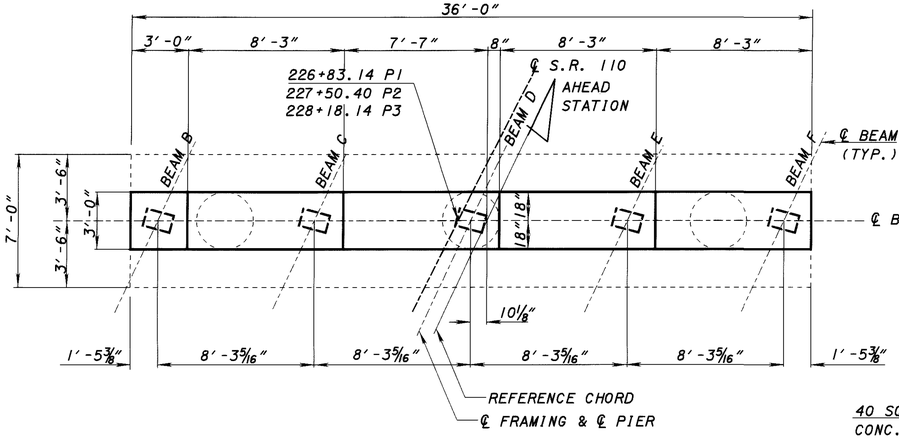
HEN-110-04.19

S.R. 110 OVER U.S. 6

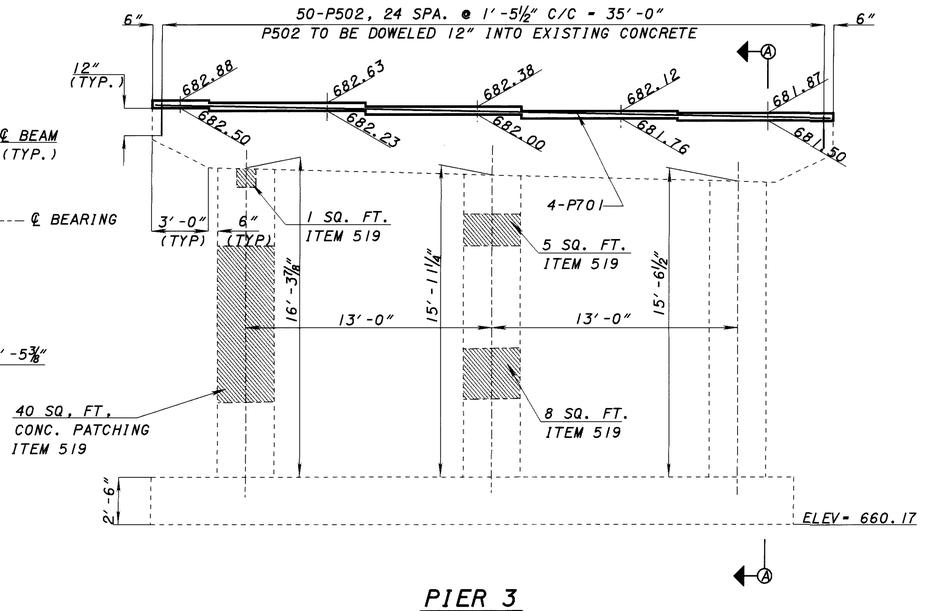
HEN-110/4.24-4.18/13.78

11/20

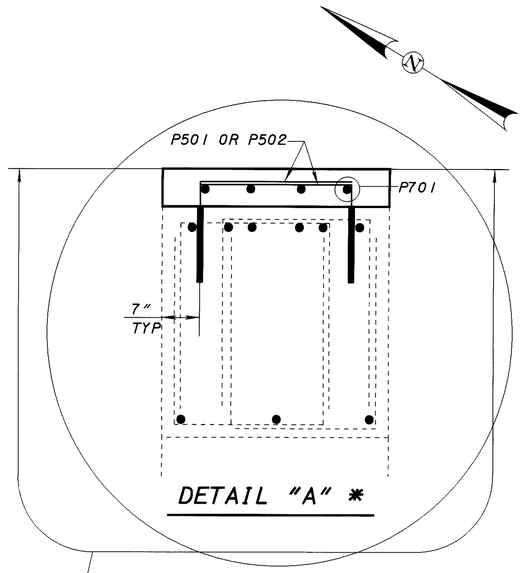
88/115



PLAN
(ALL PIERS)



PIER 3

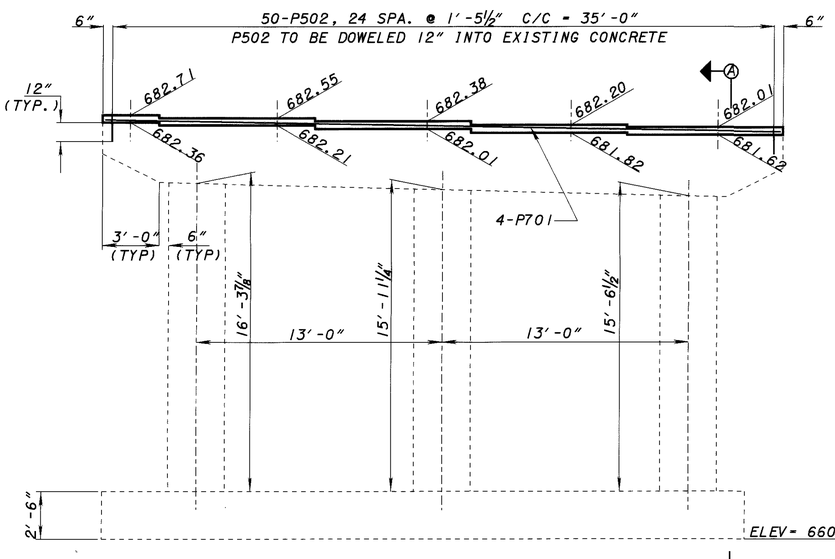


DETAIL "A" *

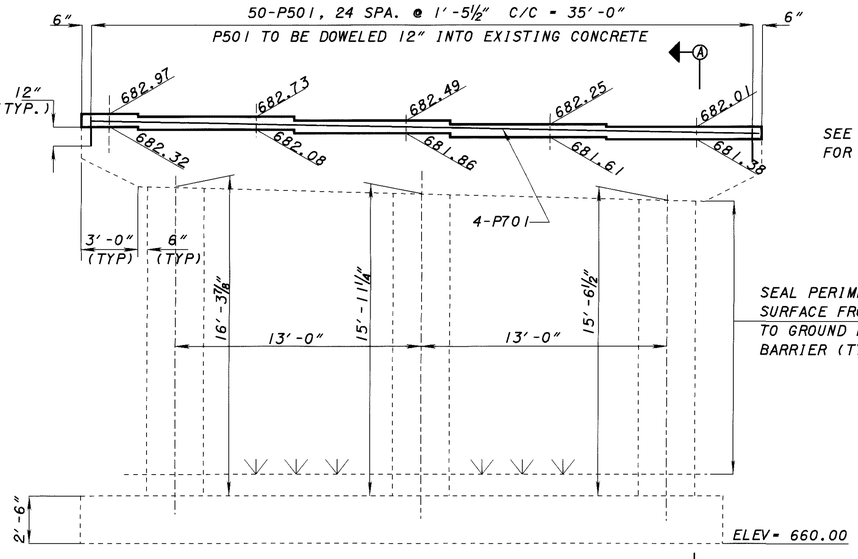
LIMITS FOR SEALING
OF CONCRETE SURFACES
EPOXY-URETHANE

* BEFORE DOWELING P501 OR P502 BARS, LOCATE EXISTING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF RE- BAR HOLES.

¼″ SCARIFICATIONS: THE EXISTING PIER BRIDGE SEAT SURFACE SHALL BE SCARIFIED ¼″ INTO SOUND CONCRETE PRIOR TO PLACEMENT OF THE CONCRETE. THE SURFACE SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIALS BY THE USE OF WATER, AIR UNDER PRESSURE, OR ANOTHER METHOD THAT PRODUCES RESULTS SATISFACTORY TO THE ENGINEER. THE CONCRETE BONDING SURFACE SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED. PAYMENT SHALL BE INCIDENTAL TO ITEM 898 CLASS QSC1 CONCRETE, SUBSTRUCTURE.

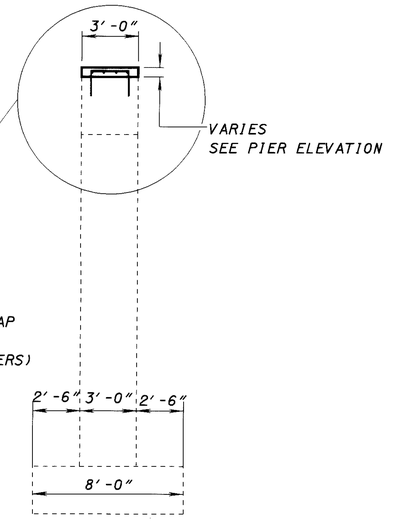


PIER 1



PIER 2

SEAL PERIMETER OF COLUMN SURFACE FROM BOTTOM OF CAP TO GROUND LINE ON TOP OF BARRIER (TYP. FOR ALL PIERS)



SECTION A-A

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED	DATE
BCW	10-01-01
DRAWN	REVISED
JFF	
DESIGNED	CHECKED
JFF	TAA

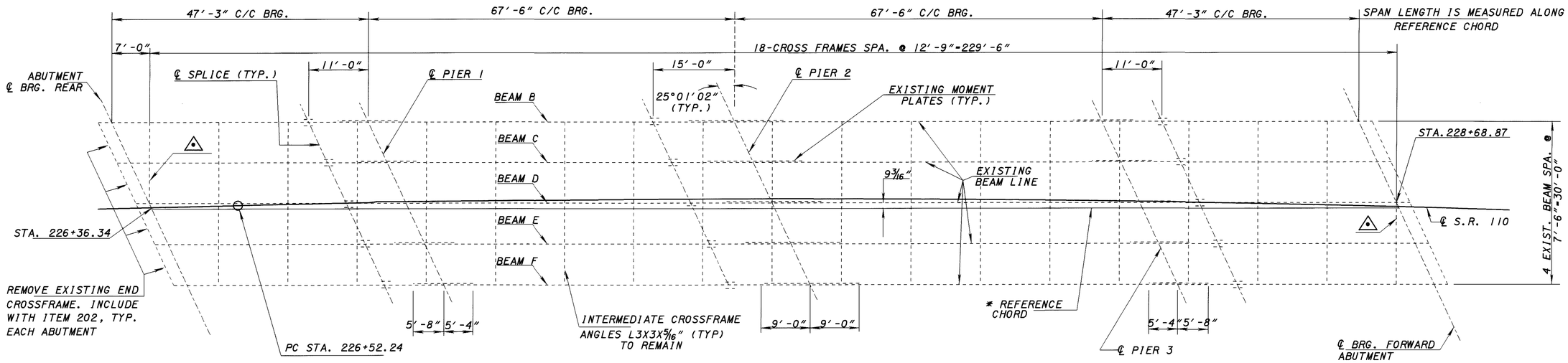
STRUCTURE FILE NUMBER
3503240

PIER DETAILS
HEN-110-0419
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78

12/20

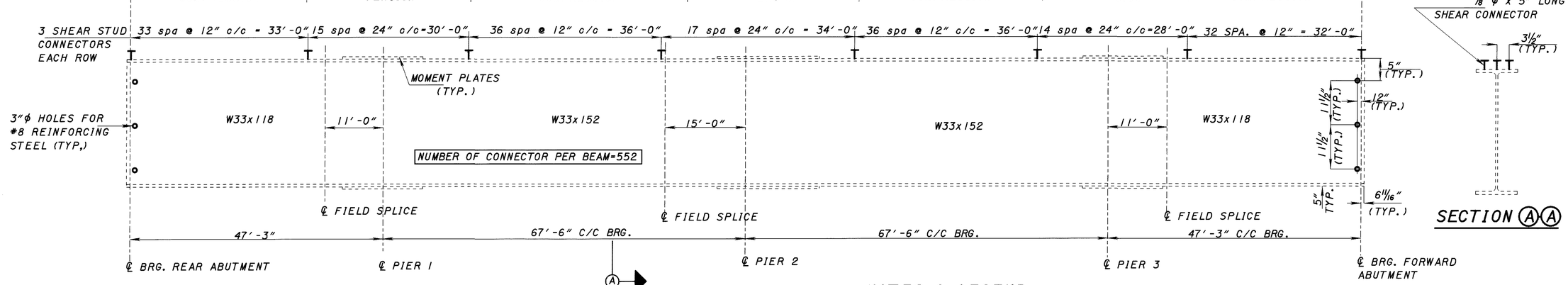
89
115



STEEL FRAMING PLAN

⚠ REMOVE EXISTING INTERMEDIATE CROSSFRAME GRIND EXISTING WELDMENTS FLUSH WITH EXISITING BEAM SURFACES.

* REFERENCE CHORD IS MEASURED FROM THE INTERSECTION OF ℄ S.R. 110 AND THE ℄ OF THE ABUTMENT BEARINGS.



ELEVATION

NOTES & LEGEND:

FOR SCREED DIAGRAM AND TABLE SEE SHEET 14/20

WELDED ATTACHMENT:

FINISHING MACHINE MAY BE MADE TO AREAS OF THE FACIA STRINGER FLANGES DESIGNATED "COMPRESSION". ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 1" FROM EDGE OF FLANGE, BE NOT MORE THAN 2" LONG, AND BE NOT SMALLER THAN 1/4" FOR THICKNESS UP TO 3/4" AND 5/16" FOR GREATER THAN 3/4" THICK. 3"1/16 HOLES DRILLED IN THE EXISTING BEAMS SHALL BE PAID UNDER ITEM 511-CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN. THIS PAYMENT IS INCIDENTAL TO THE PAY ITEM LATERAL AND LONGITUDINAL SPACING OF WELDED STUD CONNECTORS MAY BE ALTERED AT FIELD SPLICE LOCATIONS TO AVOID INTERFERENCE WITH FLANGE SPLICE BOLTS PROVIDED THAT AT LEAST THE NUMBER OF STUDS SPECIFIED IN THE BEAM ELEVATION ARE PROVIDED.

CAULKING NOTE:

PAID FOR UNDER FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT. THE PERIMETER OF ALL BEAM SPLICE PLATED LOCATED ON THE BEAM WEB AND INNER AND OUTER BOTTOM FLANGE SURFACE SHALL BE CAULKED. BEAM ENDS AT THE FACE OF THE SEMI-INTEGRAL ABUTMENT BACKWALLS SHALL ALSO BE CAULKED.

LATERAL AND LONGITUDINAL SPACING OF WELDED STUD CONNECTORS MAY BE ALTERED AT FIELD SPLICE LOCATIONS TO AVOID INTERFERENCE WITH FLANGE SPLICE BOLTS PROVIDED THAT AT LEAST THE NUMBER OF STUDS SPECIFIED IN THE BEAM ELEVATION ARE PROVIDED.

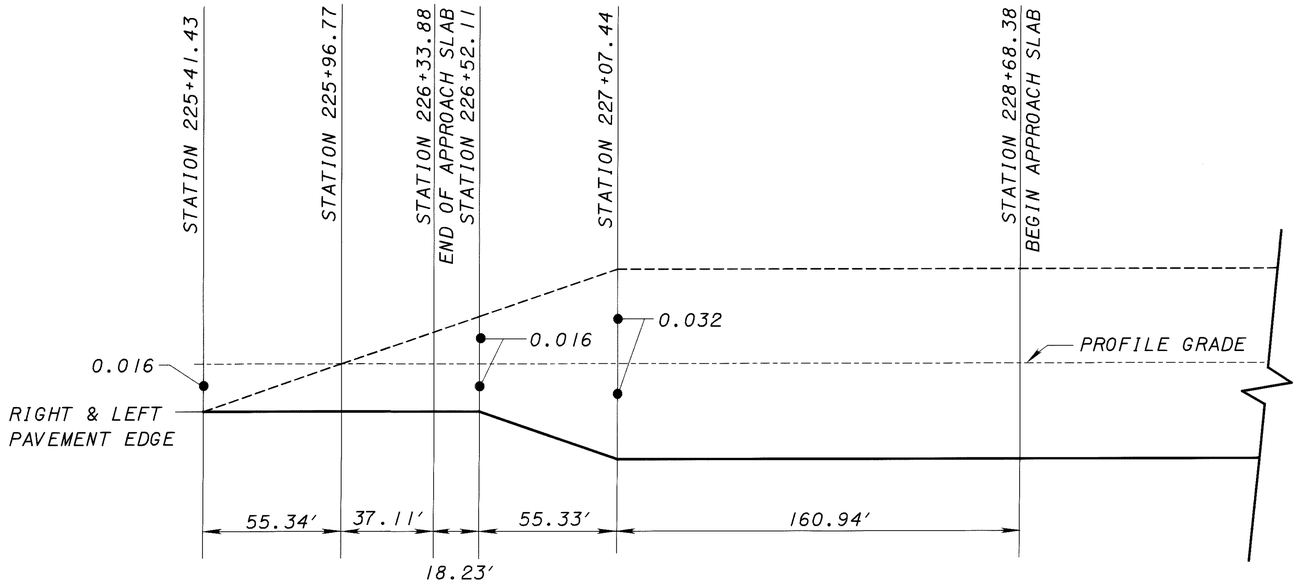
DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
DATE: 10-01-01
REVIEWED: BCW
STRUCTURE FILE NUMBER: 3503240
DRAWN: JFF
REVISED:
DESIGNED: JFF
CHECKED: TAA

FRAMING PLAN
HEN-110-0419
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78

13/20

90/115



PAVEMENT TRANSITION DETAIL

NOTE:

SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATION OF THE CALCULATED DEAD LOAD DEFLECTION.

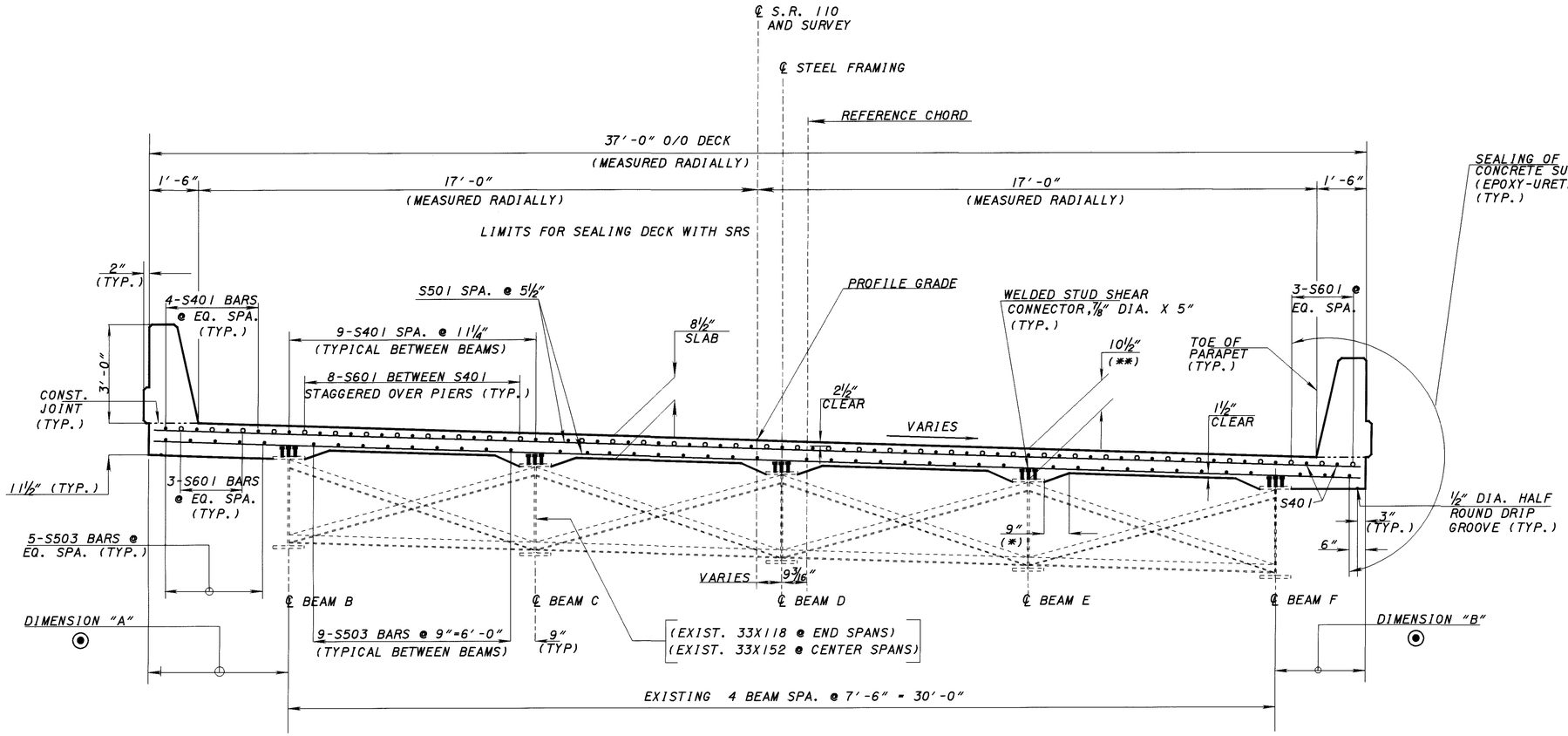
SCREED ELEVATIONS BEFORE PLACEMENT OF CONCRETE DECK

DIFFERENT LOCATION		REAR ABUT.	SPAN NO. 1			PIER 1	SPAN NO. 2			PIER 2	SPAN NO. 3			PIER 3	SPAN NO. 4			FORWARD ABUT.
			1/4 POINT	1/2 POINT	3/4 POINT		1/4 POINT	1/2 POINT	3/4 POINT		1/4 POINT	1/2 POINT	3/4 POINT		1/4 POINT	1/2 POINT	3/4 POINT	
LEFT TOE OF PARAPET	STATION	226+28.88	226+40.58	226+52.27	226+63.92	226+75.57	226+92.30	227+09.04	227+25.77	227+42.51	227+59.36	227+76.21	227+93.07	228+09.92	228+21.79	228+33.67	228+45.54	228+57.42
	FINAL DECK ELEVATION	686.27	686.41	686.53	686.65	686.76	686.90	687.02	687.05	687.06	687.06	687.05	687.02	686.97	686.92	686.87	686.81	686.75
BEAM B	STATION	226+29.35	226+41.16	226+52.96	226+64.73	226+76.50	226+93.31	227+10.13	227+26.96	227+43.78	227+60.60	227+77.41	227+94.23	228+11.05	228+22.82	228+34.59	228+46.36	228+58.12
	FINAL DECK ELEVATION	686.27	686.40	686.51	686.62	686.72	686.84	686.94	686.97	686.98	686.98	686.96	686.93	686.89	686.85	686.81	686.76	686.70
BEAM C	STATION	226+32.68	226+44.48	226+56.28	226+68.07	226+79.86	226+96.71	227+13.56	227+30.41	227+47.26	227+64.11	227+80.95	227+97.80	228+14.64	228+26.44	228+38.23	228+50.01	228+61.80
	FINAL DECK ELEVATION	686.23	686.33	686.41	686.49	686.56	686.65	686.71	686.73	686.74	686.73	686.71	686.68	686.64	686.60	686.55	686.50	686.44
PROFILE GRADE	STATION	226+36.34	226+48.04	226+59.74	226+71.44	226+83.14	226+99.96	227+16.77	227+33.58	227+50.40	227+67.34	227+84.27	228+01.21	228+18.14	228+30.07	228+42.01	228+53.94	228+65.89
	FINAL DECK ELEVATION	686.16	686.23	686.29	686.35	686.39	686.45	686.49	686.51	686.52	686.51	686.49	686.45	686.39	686.34	686.28	686.22	686.15
BEAM D	STATION	226+36.00	226+47.81	226+59.62	226+71.42	226+83.23	227+00.11	227+16.99	227+33.87	227+50.75	227+67.63	227+84.50	228+01.38	228+18.25	228+30.07	228+41.88	228+53.69	228+65.49
	FINAL DECK ELEVATION	686.17	686.24	686.30	686.35	686.39	686.44	686.47	686.49	686.50	686.49	686.47	686.43	686.39	686.34	686.30	686.24	686.18
BEAM E	STATION	226+39.33	226+51.13	226+62.96	226+74.79	226+86.62	227+03.53	227+20.44	227+37.35	227+54.26	227+71.16	227+88.07	228+04.97	228+21.88	228+33.71	228+45.54	228+57.37	228+69.20
	FINAL DECK ELEVATION	686.07	686.14	686.17	686.19	686.21	686.22	686.24	686.26	686.26	686.25	686.22	686.19	686.13	686.09	686.04	685.98	685.92
BEAM F	STATION	226+42.65	226+54.47	226+66.32	226+78.17	226+90.02	227+06.95	227+23.89	227+40.83	227+57.77	227+74.71	227+91.65	228+08.58	228+25.51	228+37.36	228+49.21	228+61.06	228+72.91
	FINAL DECK ELEVATION	685.97	686.03	686.03	686.02	686.01	685.98	686.00	686.02	686.02	686.00	685.98	685.94	685.88	685.84	685.78	685.72	685.66
RIGHT TOE OF PARAPET	STATION	226+43.80	226+55.52	226+67.27	226+79.03	226+90.78	227+07.53	227+24.28	227+41.02	227+58.36	227+75.38	227+92.40	228+09.42	228+26.43	228+38.42	228+50.42	228+62.41	228+74.40
	FINAL DECK ELEVATION	685.94	685.99	685.99	685.98	685.96	685.93	685.96	685.98	685.98	685.96	685.93	685.88	685.82	685.76	685.70	685.63	685.55

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
REVIEWED: BCW DATE: 10-01-01
STRUCTURE FILE NUMBER: 3503240
DRAWN: JFF REVISED:
DESIGNED: JFF CHECKED: TAA

SUPERSTRUCTURE DETAILS
HEN-110-0419
S.R. 110 OVER U.S. 6

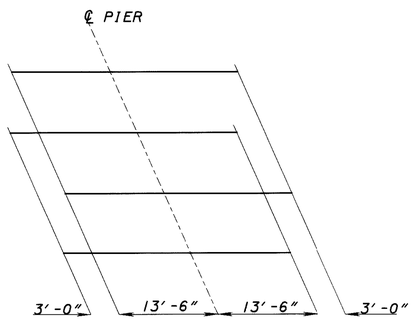
HEN-110/424-4.18/13.78



TRANSVERSE SECTION

◉ DIMENSION "A" & "B" ARE MEASURED PERPENDICULAR TO THE FASCIA BEAMS.

LOCATION	DIMENSION "A"	DIMENSION "B"
℄ REAR ABUT.	2′-6¾″	4′-1⅜″
¼ SPAN 1	2′-10⅛″	3′-10⅛″
½ SPAN 1	3′-1⅜″	3′-7⅛″
¾ SPAN 1	3′-4½″	3′-4½″
℄ PIER 1	3′-7⅛″	3′-2¼″
¼ SPAN 1	3′-10¼″	2′-11¾″
½ SPAN 1	4′-0⅝″	2′-10″
¾ SPAN 1	4′-2⅛″	2′-9⅛″
℄ PIER 2	4′-3″	2′-9″
¼ SPAN 2	4′-2⅞″	2′-9¾″
½ SPAN 2	4′-2⅛″	2′-11¼″
¾ SPAN 2	4′-0½″	3′-1½″
℄ PIER 3	3′-10″	3′-4½″
¼ SPAN 3	3′-8″	3′-7¼″
½ SPAN 3	3′-5¼″	3′-10¼″
¾ SPAN 3	3′-2½″	4′-1⅝″
℄ FWD. ABUT.	2′-11⅛″	4′-5½″



STAGGER OF S601 BARS OVER PIERS

NOTES

1. ALL REINFORCING STEEL IS EPOXY COATED.

   FOR PARAPET DETAILS, SEE SHEET 17,18 / 20

   REINFORCING STEEL MAY BE FIELD OR SHOP BENT TO ACCOMMODATE THE CROWN OF THE DECK. PAYMENT SHALL BE INCLUDED WITH ITEM 509 EPOXY COATED REINFORCING STEEL.

(**) **DECK SLAB DEPTH:** THE THEORETICAL DESIGN THICKNESS FOR THE SLAB IS 8½″. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON THIS DIMENSION EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. A HAUNCH WIDTH OF 9″ SHALL BE USED FOR COMPUTING CONCRETE QUANTITY . HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6″AND 12″.

(*) A HAUNCH WIDTH OF 9 INCHES SHALL BE USED. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6 INCHES AND 12 INCHES.

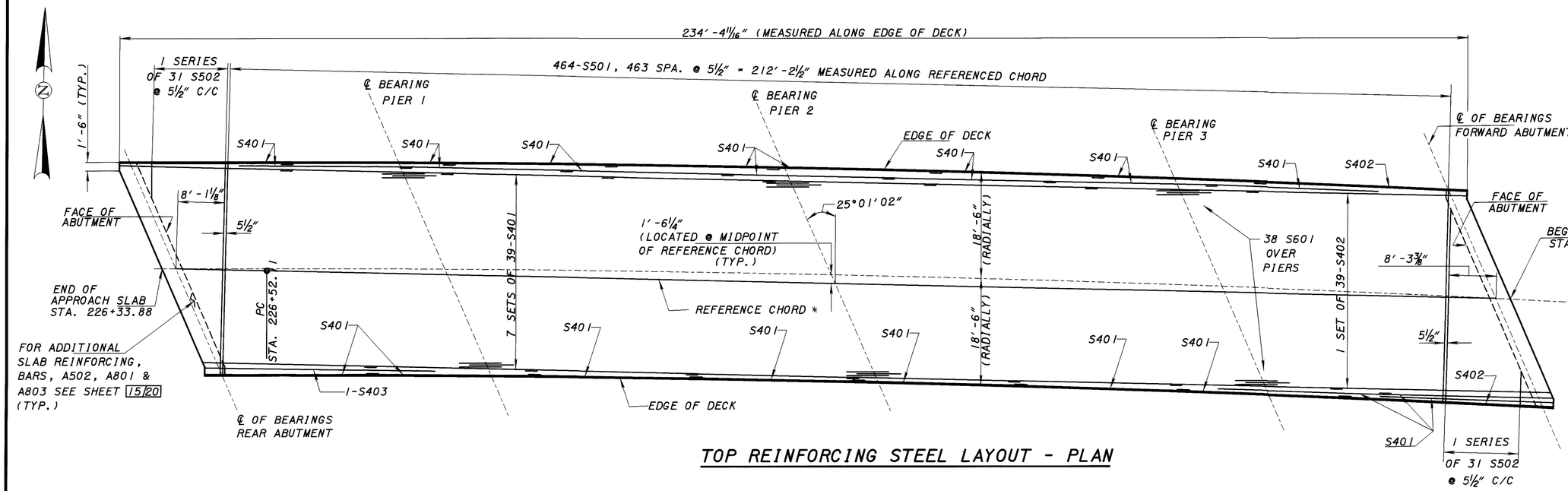
DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
REVIEWED: BCW | DATE: 10-01-01
DRAWN: JFF | REVISED:
DESIGNED: JFF | CHECKED: TAA
STRUCTURE FILE NUMBER: 3503240

SUPERSTRUCTURE DETAILS
HEN-110-0419
S.R. 110 OVER U.S. 6

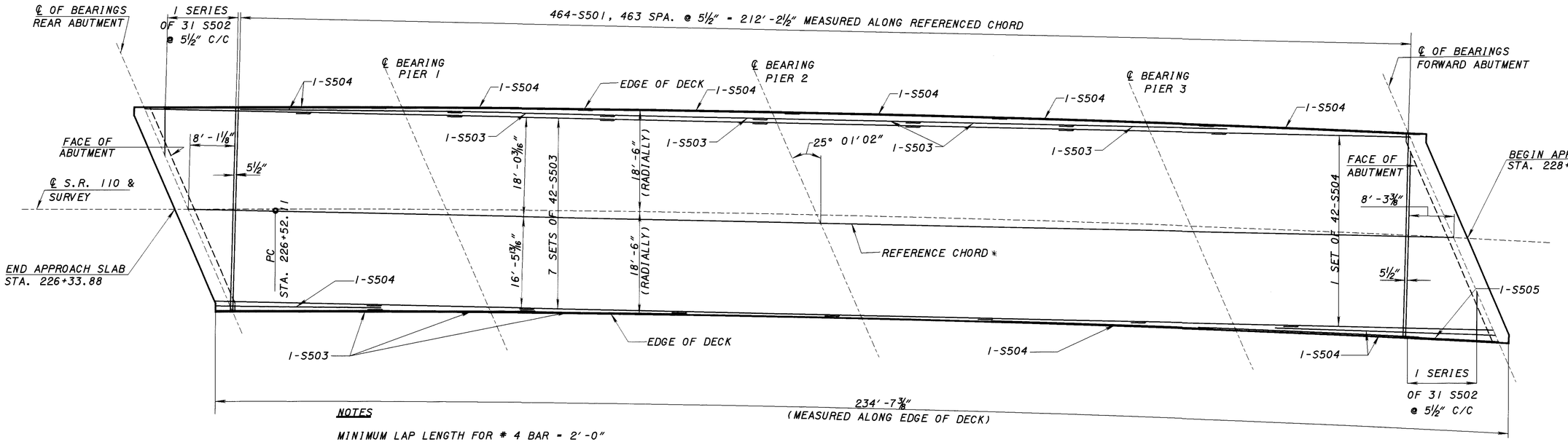
HEN-110/424-4.18/13.78

15/20

92/115



TOP REINFORCING STEEL LAYOUT - PLAN



BOTTOM REINFORCING STEEL LAYOUT-PLAN

NOTES

MINIMUM LAP LENGTH FOR # 4 BAR = 2′-0″

MINIMUM LAP LENGTH FOR # 5 BAR = 2′-6″

MINIMUM LAP LENGTH FOR # 6 BAR = 3′-0″

ALL TRANSVERSE STEEL ARE PLACED PERPENDICULAR TO REFERENCE CHORD.

ALL LONGITUDITIONAL STEEL ARE PLACED PARALLEL TO THE REFERENCE CHORD OR AS NOTED.

* REFERENCE CHORD IS MEASURED FROM THE INTERSECTION OF ℄ S.R. 110 AND THE ℄ OF THE ABUTMENT BEARINGS.

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION

REVIEWED: BCW | DATE: 10-01-01 | STRUCTURE FILE NUMBER: 3503240

DRAWN: JFF | REVISED:

DESIGNED: JFF | CHECKED: TAA

SUPERSTRUCTURE DETAILS

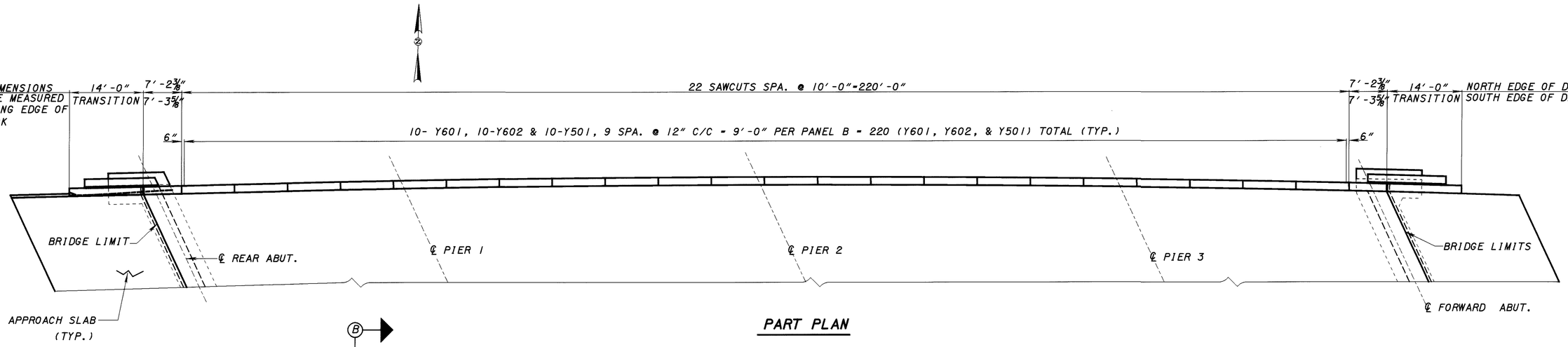
HEN-110-0419

S.R. 110 OVER U.S. 6

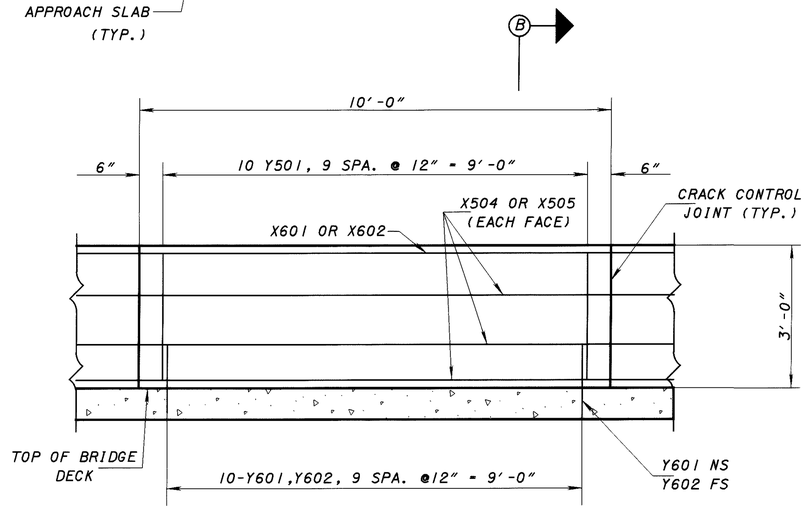
HEN-110/424-4.18/13.78

16/20

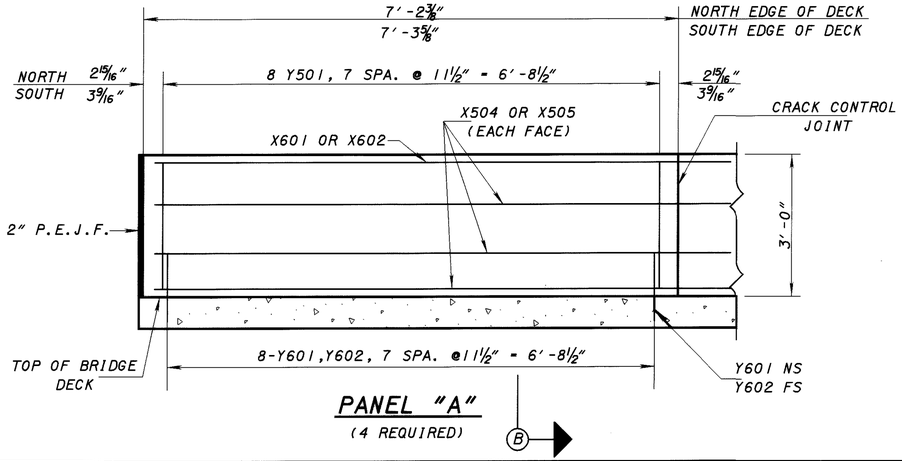
93/115



PART PLAN



PANEL "B"
(44 REQUIRED)

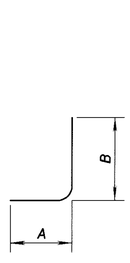


PANEL "A"
(4 REQUIRED)

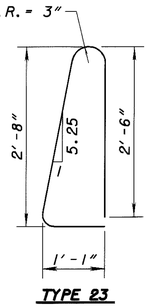
MARK	TOTAL	LENGTH	WEIGHT LB	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PARAPETS											
Y501	472	6'-5"	3159	23							
Y601	472	3'-11"	2777	34							
Y602	472	3'-0"	2127	1	1'-1"	1'-11"					
	8 SR	4'-4"			3'-6"						
Y603	OF	TO	595	1	TO	10"					3/8"
	11	4'-8"			3'-10"						
Y604	40	4'-0"	240	1	3'-6"	6"					
X501	32	10'-0"	334	STR							
X502	12	5'-6"	69	25							
X503	20	5'-6"	115	STR							
X504	96	30'-0"	3004	STR							
X505	12	14'-6"	182	STR							
X601	16	30'-0"	721	STR							
X602	2	18'-6"	56	STR							
TOTAL = 13,379 LBS											

NOTES

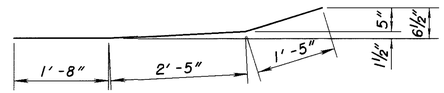
FOR SECTION B-B SEE SHEET 18/20
GENERAL NOTES SHEET 3/20 FOR
PARAPET CRACK CONTROL SAW JOINT DETAILS SEE DETAIL A SHEET 18/20



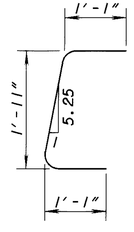
TYPE 1



TYPE 23



TYPE 25



TYPE 34

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
DATE: 10-01-01
REVIEWED: BCW
STRUCTURE FILE NUMBER: 3503240
DRAWN: JFF
REVISED:
DESIGNED: JFF
CHECKED: TAA

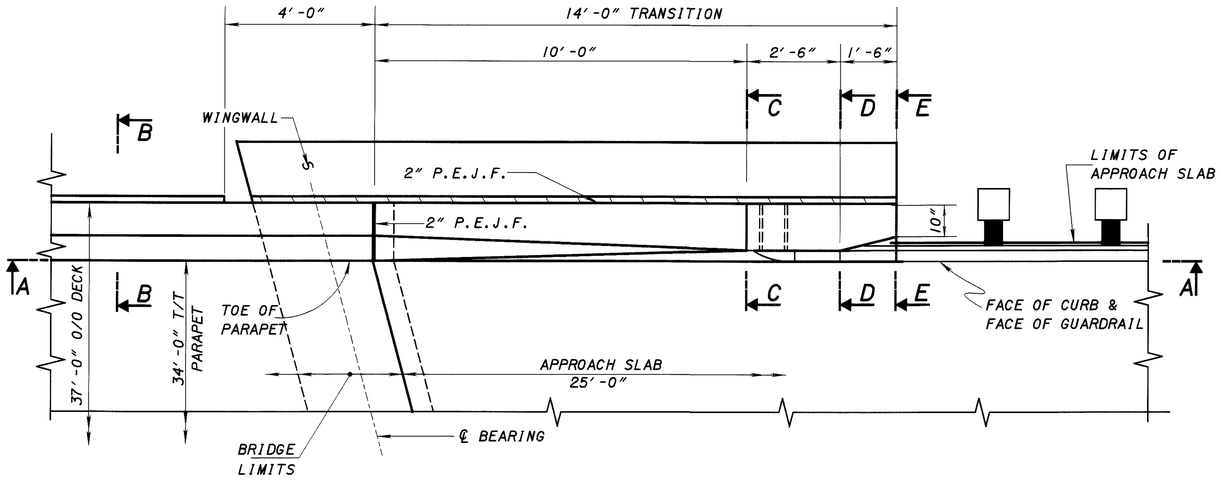
PARAPET DETAILS

HEN-110-0419
S.R. 110 OVER U.S. 6

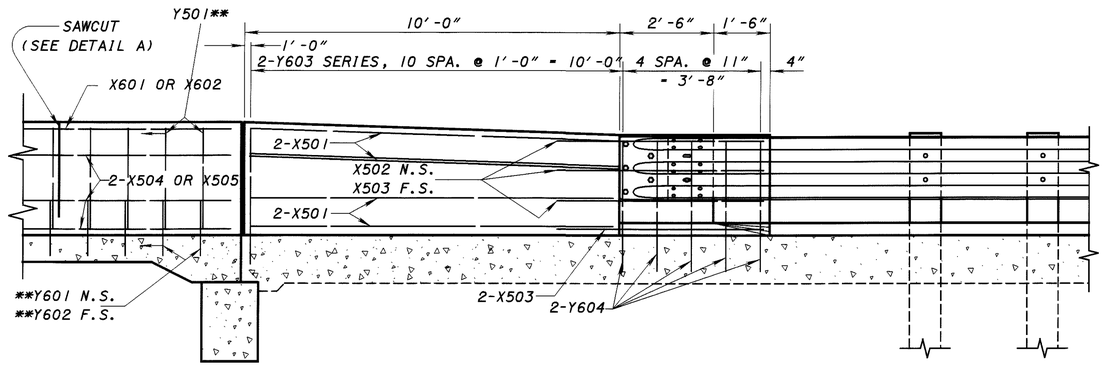
HEN-110/424-4.18/13.78

17/20

94/115

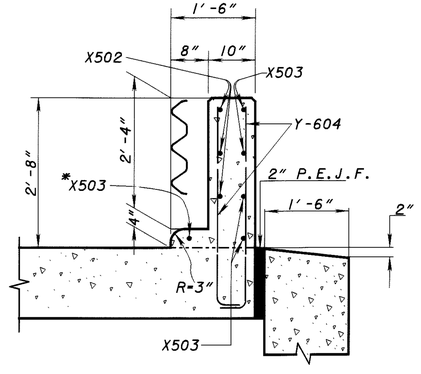


PART PLAN AT ABUTMENT



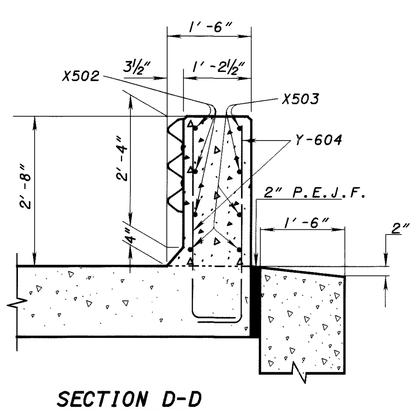
**SPACING SHOWN ON SHEET 15/18

VIEW A-A

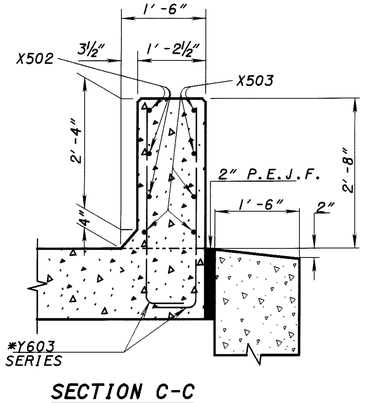


SECTION E-E

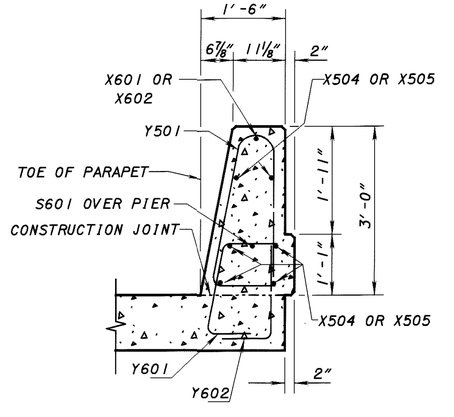
* FIELD BEND IF NECESSARY



SECTION D-D

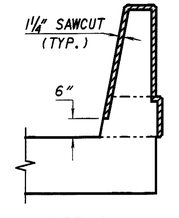


SECTION C-C



SECTION B-B

Area = 3.81 ft²



DETAIL A

(Section through sawcut)
Sawcut Perimeter = 7'-6"

NOTES

CONTROL JOINTS FOR CONCRETE PARAPETS: AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 1¼" DEEP CONTROL JOINTS SHALL BE SAWED INTO THE PERIMETER OF THE CONCRETE PARAPET. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. THE SAWCUTS SHALL BE PLACED AT A MINIMUM OF 6'-0". AND A MAXIMUM OF 10'-0" ON CENTERS. THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO INSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼". THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E TO A MINIMUM DEPTH OF 1 INCH. THE BOTTOM ½" OF THE INSIDE AND OUTSIDE FACE SHOULD BE LEFT UNSEALED TO ALLOW WATER TO ESCAPE. THE COST OF THE 1¼" SAWCUT AND THE CAULKING MATERIAL SHALL BE INCLUDED WITH THE ABOVE ITEM 898 FOR PAYMENT.

QUANTITIES OF CONCRETE FOR THE PARAPET ARE INCLUDED WITH ITEM 898 QC/QA CONCRETE CLASS QSC2 SUPERSTRUCTURE (PARAPET).

FOR BRIDGE TERMINAL ASSEMBLY SEE STANDARD CONSTRUCTION DRAWING GR-3.1 AND GR-3.2.

MIN. LAP SPLICES: #5 BAR = 2'-6"
#6 BAR = 3'-0"

LEGEND: N.S. = NEAR SIDE
F.S. = FAR SIDE

FOR ADDITIONAL REINFORCEMNT, SEE STD DRAWING AS-1-81.

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS, (T= 15")

CONCRETE FOR THIS ITEM SHALL BE CLASS HP CONCRETE, MIX 3 OR 4.

DESIGN AGENCY: ODOT CENTRAL OFFICE OFFICE OF PRODUCTION

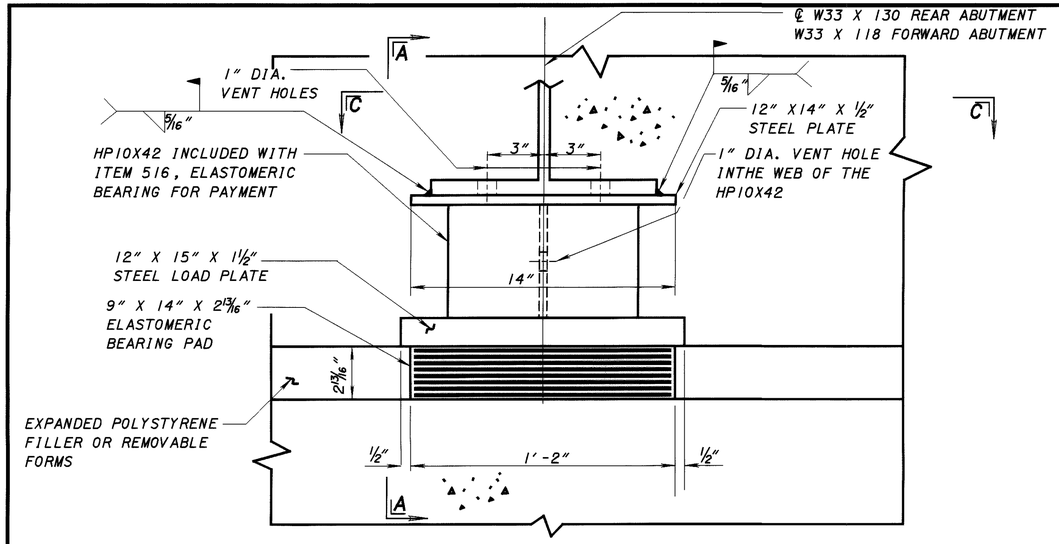
DESIGNED	DRAWN	REVISED	DATE	STRUCTURE FILE NUMBER
JFF	JFF	BCW	10-01-01	3503240
CHECKED				
TAA				

APPROACH SLAB PARAPET DETAILS
HEN-110-0419
S.R. 110 OVER U.S. 6

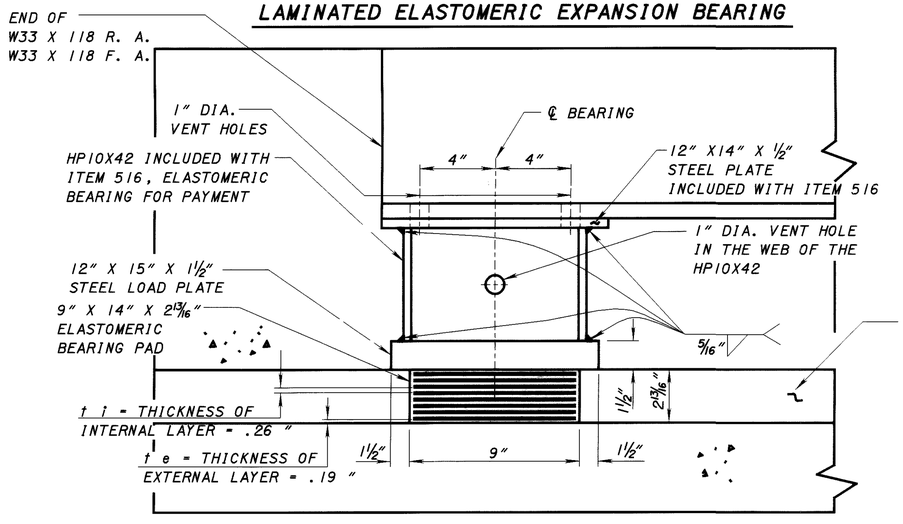
HEN-110/424-4.18/13.78

18/20

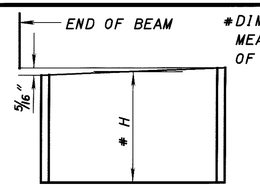
95/115



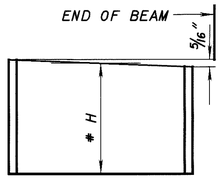
REAR AND FORWARD ABUTMENT
LAMINATED ELASTOMERIC EXPANSION BEARING



SECTION (A)—(A)



HP10X42 BEVELED DETAIL
(AT REAR ABUTMENT)



HP10X42 BEVELED DETAIL
(AT FORWARD ABUTMENT)

*DIMENSION H IS MEASURED TO ℄ OF HP10x42.

DIMENSION H (INCHES)		
	REAR ABUT	FWD ABUT
BEAM B	7.93"	9.97"
BEAM C	8.77"	9.61"
BEAM D	7.68"	9.49"
BEAM E	7.93"	9.73"
BEAM F	8.41"	10.33"

BEARING TABLE

BEARING LOCATION	TYPE	L	W	t_1 In.	t_e In.	n_1	n_2	STEEL LOAD ℄	TOTAL HEIGHT*	DL, Kips	LL, Kips	TOTAL, Kips
REAR & FORWARD ABUTMENT	EXP	9"	14"	.26"	.19"	7	8	12"x15"x1½"	4 5/16"	65	40	105
PIER 1	EXP	10½"	17"	.31"	.22"	4	5	11½"x18"x1 5/8"	3 11/16"	100	52	152
PIER 2	EXP	10½"	17"	.31"	.22"	4	5	11½"x18"x1 5/8"	3 11/16"	111	55	166
PIER 3	EXP	10½"	17"	.31"	.22"	4	5	11½"x18"x1 5/8"	3 11/16"	100	52	152

n_1 - NUMBER OF INTERNAL ELASTOMER LAYERS, t_1 ELASTOMER LAYERS ARE 50 DUROMETERS
n_2 - NUMBER OF STEEL LAMINATES, 0.0747" THICKNESS * TOTAL HEIGHT INCLUDES LOAD PLATE

NOTES:

MATERIALS: THE HP SHAPE (SUPPORT MEMBER) AND STEEL LOAD PLATES SHALL BE A36 STEEL. THE HP SHAPE AND STEEL PLATES SHALL BE GALVANIZED.

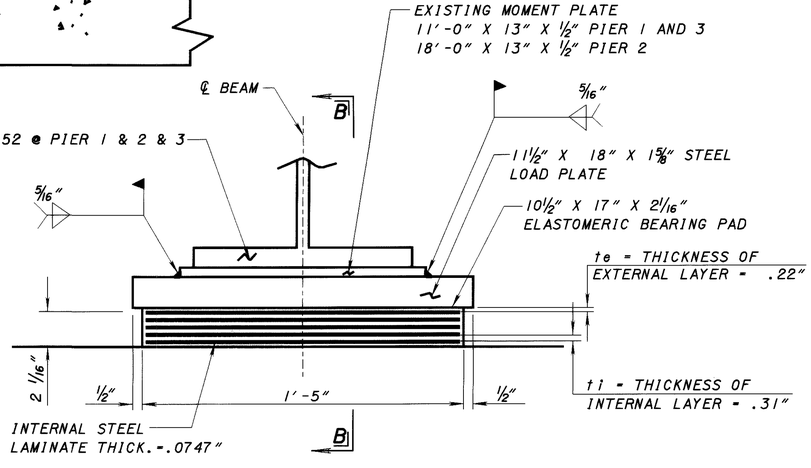
WELDING: WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

ELASTOMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES, SECTION 18, BEARING DEVICES, DIVISION II, CONSTRUCTION ARTICLES 18.4.5.1 AND 18.5.6.2. BEARINGS SHALL BE GRADE 3, 50 DUROMETER ELASTOMER AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIREMENTS DEFINED IN ARTICLE 18.7.4.5 OF THE AASHTO DOCUMENT LISTED ABOVE.

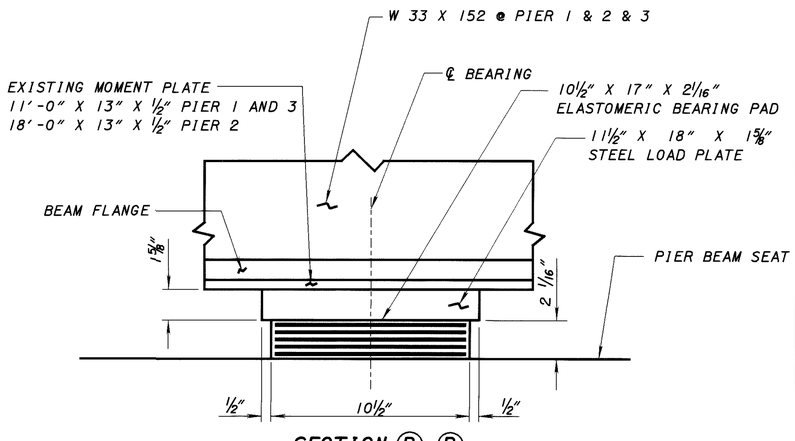
BEARING REPOSITIONING: IF THE EXISTING STEEL BEAMS ARE AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F WHEN THE BEARINGS ARE PLACED AND THE BEARING SHEAR DEFLECTION EXCEEDS ONE SIXTH OF THE BEARING HEIGHTS AT 60°F ± 10°F, THE BEAMS SHALL BE RAISED TO ALLOW THE BEARING TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ± 10°F.

BASIS OF PAYMENT: THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, TESTING, VENT HOLES, PROTECTIVE COATING, HP10x42, STEEL PLATES AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE):

9"x14"x2 13/16" WITH 12"x15"x1½" LOAD PLATE, AS PER PLAN (ABUTMENTS)
10½"x17"x2 1/16" WITH 11½"x18"x1 5/8" LOAD PLATE. (PIERS)



PIER 1, PIER 2 AND PIER 3
LAMINATED ELASTOMERIC EXPANSION BEARING



SECTION (B)—(B)

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
DATE: 10/01/01
REVIEWED: BCW
STRUCTURE FILE NUMBER: 3503240
DRAWN: DB
REVISED:
DESIGNED: DB
CHECKED: TAA

BEARING PAD DETAILS
HEN-110-04.19
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78

19/20
96/115

MARK	NUMBER REAR	NUMBER FWD	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
ABUTMENTS													
A501	60	60	120	9′-3″	1158	2	2′-11″	3′-5″	2′-11″				
A502	30	30	60	7′-9″	485	2	2′-5″	2′-11″	2′-5″				
A503	12	12	24	8′-10″	221	STR							
A504	10	10	20	14′-4″	299	STR							
A505	44	44	88	3′-9″	344	STR							
A506	30	30	60	3′-1″	193	STR							
A507	12		12	7′-5″	93	STR							
A508		10	10	12′-9″	133	STR							
A509	12	16	28	22′-0″	643	STR							
		2 SR		4′-6″			1′-9″						
A510		0F	74	TO	388	1	TO	2′-9″					3/16″
		37		5′-7″			2′-10″						
A511		12	12	8′-1″	101	STR							
A512	5		5	12′-11″	68	STR							
A513	5		5	13′-7″	71	STR							
A514	5		5	13′-5″	70	STR							
A515	74		74	4′-11″	380	1	2′-2″	2′-9″					
A601	13	13	26	5′-3″	205	2	1′-1″	3′-1″	1′-1″				
A602		18	18	10′-1″	273	STR							
A603	19	19	38	11′-2″	638	2	5′-0″	1′-2″	5′-0″				
A604	12	6	18	9′-4″	252	2	4′-1″	1′-2″	4′-1″				
A605		6	6	9′-8″	87	2	4′-3″	1′-2″	4′-3″				
A606		20	20	11′-4″	341	STR							
A607	20		20	10′-2″	305	STR							
A608	18		18	10′-6″	284	STR							
A801	28	28	56	23′-1″	3451	STR							
A802	8	8	16	11′-9″	502	STR							
	2SR			9′-11″									
A803	0F		8	TO	450	STR							5″
	4			11′-2″									
		2SR		9′-8″									
A804		0F	8	TO	223	STR							6″
		4		11′-2″									
D801	25	25	50	5′-8″	757	18	2′-10″	1′-0″	1′-0″				
PIERS													
P501			50	3′-3″	169	1	1′-5″	1′-10″					
P502			100	3′-0″	313	1	1′-2″	1′-10″					
P701			12	35′-8″	875	STR							
TOTAL - 13,772 LBS													

MARK	TOTAL	LENGTH	WEIGHT LB	TYPE	DIMENSIONS A	B	C	INC
SUPERSTRUCTURE								
S401	297	30′-0″	5952	STR				
S402	41	38′-0″	1041	STR				
S403	1	40′-0″	27	STR				
S501	928	36′-7″	35409	STR				
	4 SR	6′-0″						
S502	0F	TO	2554	STR				11″
	31	33′-6″						
S503	302	30′-0″	9450	STR				
S504	51	40′-0″	2128	STR				
S505	1	17′-0″	18	STR				
S601	114	30′-0″	5137	STR				
TOTAL - 61,716 LBS								

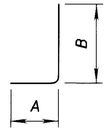
TOTAL - 88,867 LBS

NOTES

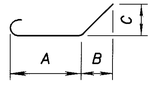
ALL REINFORCING STEEL SHALL BE EPOXY COATED.

THE BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT INDICATES THE BAR SIZE. FOR EXAMPLE, AN A501 IS A #5 BAR. THE DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. "R" INDICATES THE INSIDE RADIUS.

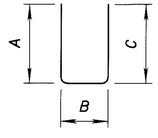
REIFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO BE PROPERLY FITTED. PAYMENT SHALL BE INCLUDED WITH THE ASSOCIATED CONCRETE ITEM.



TYPE-1



TYPE-18



TYPE-2

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED BCW DATE 10-01-01
STRUCTURE FILE NUMBER 3503240

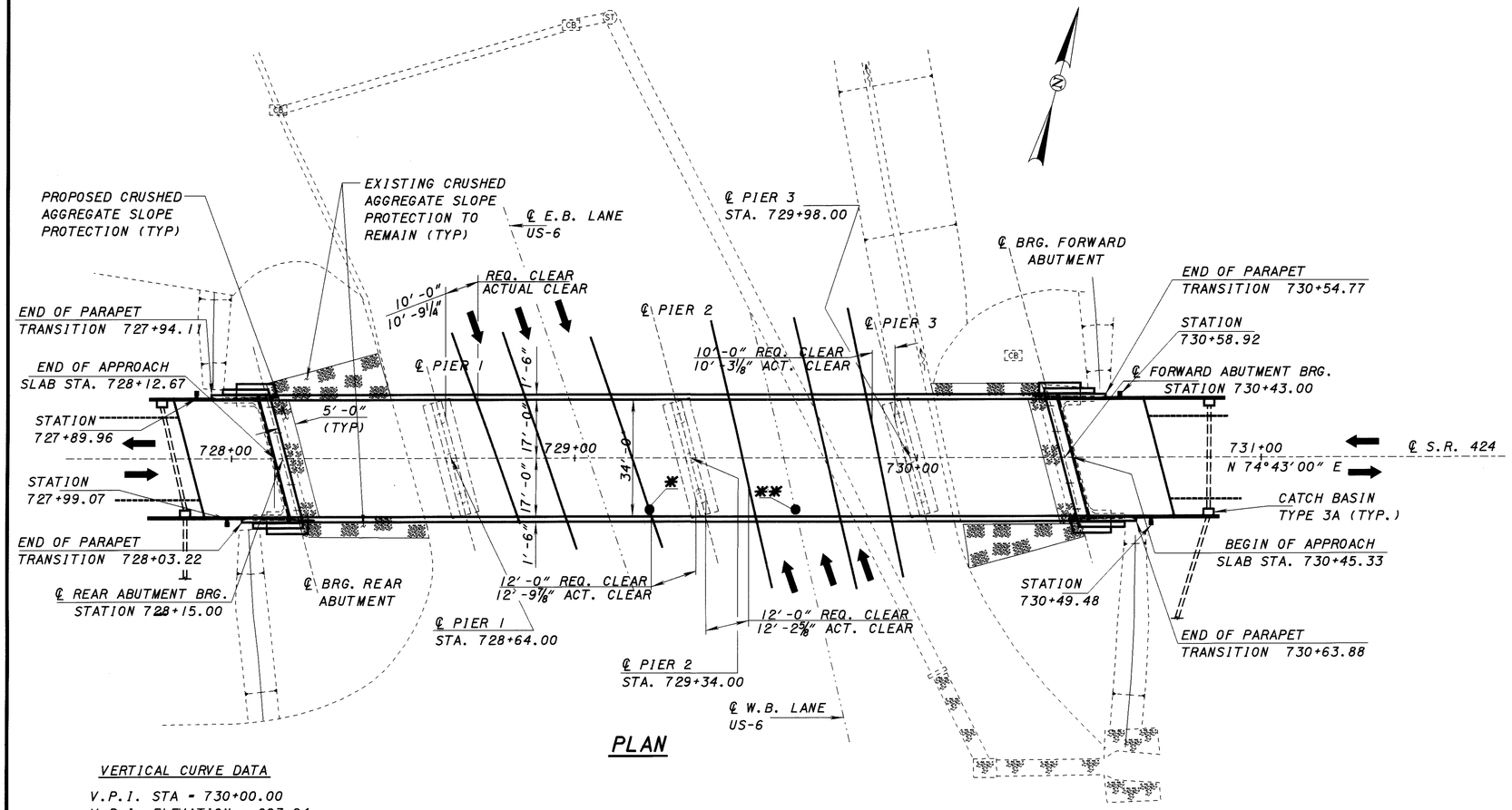
DRAWN JFF REVISED

DESIGNED JFF CHECKED TAA

REINFORCING STEEL SCHEDULE

HEN-110-0419
S.R. 110 OVER U.S. 6

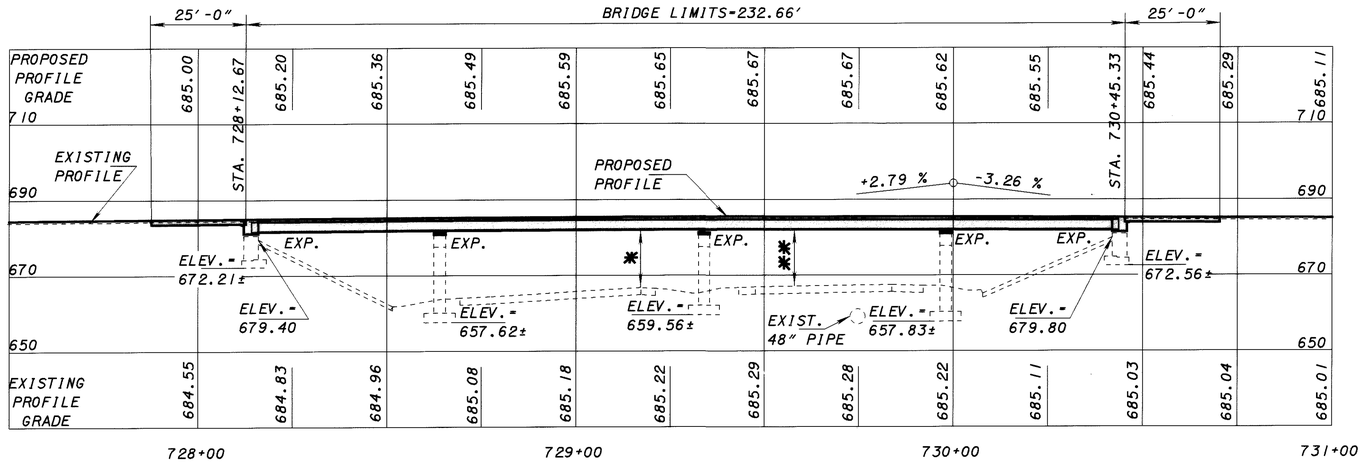
HEN-110/424-4.18/13.78



PLAN

VERTICAL CURVE DATA

V.P.I. STA = 730+00.00
V.P.I. ELEVATION = 693.94
L.V.C. = 1100 FEET
g1 = 2.79%
g2 = -3.26%



PROFILE ALONG ℄ S.R. 424

☐ - PROPOSED BRIDGE WORK

NOTES

✱ 16'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
15'-10" ACTUAL MINIMUM VERTICAL CLEARANCE

✱✱ 16'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
15'-5" ACTUAL MINIMUM VERTICAL CLEARANCE

DESIGN TRAFFIC

2003 ADT - 2100 2003 ADTT - 126
2023 ADT - 2700 2020 ADTT - 162

BENCHMARK DATA

MONUMENT
STATION 720+75.57, 1.78' RT. ℄ CONSTRUCTION S.R.424
ELEVATION - 671.36

MONUMENT
STATION 739+72.19 ℄ CONSTRUCTION S.R.424
ELEVATION - 667.86

EXISTING STRUCTURE
(TO BE REHABILITATED)

TYPE: CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.

SPANS: 49'-0"±, 70'-0"±, 64'-0"±, 45'-0"± C/C BRGS.

ROADWAY: 30'-0"± T/T OF CURB 2' SAFETY CURB

LOADING: CF 400 (57)

SKEW: 15°00'00"± (R.F)

WEARING SURFACE: ASPHALT

APPROACH SLABS: 25'-0" LONG SPECIAL DESIGN

ALIGNMENT: TANGENT

CROWN: 3/16" PER FOOT

DATE BUILT: 1968 CONDITION: FAIR

SFN: 3503755

PROPOSED STRUCTURE

TYPE: 4-SPAN CONTINUOUS COMPOSITE STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE UNITS WITH SEMI-INTEGRAL ABUTMENTS, CAP AND COLUMN PIERS.

SPANS: 49'-0"±, 70'-0"±, 64'-0±", 45'-0±" C/C BRGS.

ROADWAY: 34'-0" T/T OF PARAPETS

LOADING: HS-20-44 (CASE II) AND ALTERNATE MILITARY LOADING

SKEW: 15°00'00" (R.F)

WEARING SURFACE: CONCRETE

APPROACH SLABS: 25'-0" LONG AS-1-81

ALIGNMENT: TANGENT

CROWN: 3/16" PER FOOT
LONGITUDE: 84°03'35" LATITUDE 41°24'35"

DESIGN AGENCY: ODOT CENTRAL OFFICE OFFICE OF PRODUCTION
DATE: 7-11-01
REVIEWED: BCW
STRUCTURE FILE NUMBER: 3503755
DRAWN: TAA
REVISED:
DESIGNED: TAA
CHECKED: RJH

HENRY COUNTY
STA. 728+12.67
STA. 730+45.33

N

SITE PLAN
HEN-424-1379
S.R.424 OVER U.S.6

HEN-110/424-4.18/13.78

1/18

98/115

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN	LUMP		LUMP		SHEET NUMBER 3/18
503	21101	482	CU YD	UNCLASSIFIED EXCAVATION, AS PER PLAN				482	SHEET NUMBER 4/18
509	10000	80699	POUND	EPOXY COATED REINFORCING STEEL	11500	1293	67906		
509	20001	100	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				100	SHEET NUMBER 4/18
510	10000	456	EACH	DOWEL HOLES WITH NON SHRINK, NON METALLIC GROUT	180	276			
513	20000	2595	EACH	WELDED STUD SHEAR CONNECTORS			2595		
514	00050	11634	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL *			11634		
514	00056	11634	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT *			11634		
514	00060	11634	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT *			11634		
514	00066	11634	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT *			11634		
514	00504	80	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			80		
516	13900	134	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	134				
516	14021	101	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN	101				SHEET NUMBER 4/18
516	44100	15	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE		15			
				(NEOPRENE), (10½"x17"x2 1/16" PAD & 11½"x18"x1⅝" PLATE)					
516	44101	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE	10				SHEET NUMBER 17/18
				(NEOPRENE), (9"x14"x2 13/16" PAD & 12"x15"x1½" PLATE), AS PER PLAN					
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			LUMP		SHEET NUMBER 4/18
518	21200	52	CU YD	POROUS BACKFILL WITH FILTER FABRIC	52				
518	40000	96	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	96				
518	40010	100	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	100				
519	11101	66	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	12	54			SHEET NUMBER 4/18
526	25001	206	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				206	SHEET NUMBER 16/18
864	10100	878	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	129	200	549		
898	10200	295	CU YD	QC/QA CONCRETE CLASS QSC2 SUPERSTRUCTURE (DECK)			295		
898	11000	73	CU YD	QC/QA CONCRETE CLASS QSC2 SUPERSTRUCTURE (PARAPET) **			73		
898	20000	56	CU YD	QC/QA CONCRETE CLASS QSC1 SUBSTRUCTURE	49	7			

* 25% ADDED TO NOMINAL BEAM AREA FOR INCIDENTALS.
** PARAPET ON THE APPROACH SLAB IS INCLUDED WITH THIS PAY ITEM.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED BCW DATE 7-11-01
STRUCTURE FILE NUMBER 3503755
DRAWN TAA
REVISED
DESIGNED TAA
CHECKED RJH

ESTIMATED QUANTITIES
HEN-424-13.79
S.R. 424 OVER U.S. 6

HEN-110/424-4.18/13.78

GENERAL NOTES

STANDARD DRAWINGS AND SPECIFICATIONS:

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

AS-1-81	DATED 7-19-02
SICD-1-96	DATED 7-19-02

AND TO SUPPLEMENTAL SPECIFICATIONS:

864	DATED 7-11-00
898	DATED 1-17-03
954	DATED 9-09-97

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996 INCLUDING THE 1997-2000 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING:

HS20, CASE II AND THE ALTERNATE MILITARY LOADING.
FUTURE WEARING SURFACE = 60 PSF

DESIGN DATA:

CLASS QSC2 CONCRETE - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CLASS QSC1 CONCRETE - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615, A616 OR A617
GRADE 60 MINIMUM YIELD STRENGTH 60 KSI.

STRUCTURAL STEEL - A36 - YIELD STRENGTH 36 KSI

DECK PROTECTION METHOD - EPOXY COATED REINFORCING STEEL AND 2½" CONCRETE COVER AND HIGH PERFORMANCE CONCRETE.

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

EXISTING BRIDGE PLANS MAY BE INSPECTED IN THE OFFICE OF STRUCTURAL ENGINEERING IN COLUMBUS, OHIO OR AT THE ODOT DISTRICT TWO OFFICE IN BOWLING GREEN, OHIO.

UTILITY LINES:

ALL EXPENSE INVOLVED IN THE RELOCATION OF EFFECTED UTILITY LINES SHALL BE BORNE BY THE UTILITY. THE CONTRACTOR AND UTILITY ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD AT A MINIMUM.

ITEM 202 PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN:

DESCRIPTION:
THIS WORK SHALL CONSIST OF THE REMOVAL OF ASPHALT WEARING SURFACE,
CONCRETE DECKS INCLUDING SIDEWALKS, SCUPPERS, PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, CROSSFRAMES, ETC.). CARE SHALL BE TAKEN DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. IN THIS RESPECT, THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED.

PROTECTION OF TRAFFIC:
PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR), UNDER THE STRUCTURE TO THE ENGINEER FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE ENGINEER.

PROTECTION OF STEEL SUPPORT SYSTEMS:
BEFORE DECK SLAB CUTTING IS PERMITTED, THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK SHALL BE DRAWN ON THE SURFACE OF DECK. SMALL DIAMETER PILOT HOLES SHALL BE DRILLED 2" OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2" OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2" OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. DURING CUTTING OF THE DECK SLAB, CARE SHALL BE TAKEN NOT TO DAMAGE STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

REMOVAL METHODS:
CONCRETE MAY BE REMOVED BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS ABOVE STEEL MEMBERS, A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS MAY BE USED AT THE APPROVAL OF THE ENGINEER, TO ENSURE ADEQUATE DEPTH CONTROL AND TO PREVENT NICKING OR GOUGING THE PRIMARY STEEL MEMBERS.

DECK REMOVALS:
DUE TO THE POSSIBLE PRESENCE OF WELDED ATTACHMENTS TO EXISTING STRUCTURAL STEEL (FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.), CARE SHALL BE TAKEN DURING DECK REMOVAL TO AVOID DAMAGING STRINGERS WHICH ARE TO REMAIN. STRINGERS DAMAGED BY THE CONTRACTOR'S REMOVAL OPERATIONS SHALL, AT NO COST TO THE PROJECT, BE REPLACED OR REPAIRED. PROPOSED REPAIRS, DEVELOPED BY A REGISTERED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED IN WRITING FOR REVIEW AND APPROVAL BY THE ENGINEER.

EXTRANEOUS MEMBERS:
EXISTING EXTRANEOUS MEMBERS (I.E., FINISHING MACHINE AND FORM SUPPORTS, ETC., AND THE SUPPORT FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) ATTACHED BY WELDED CONNECTIONS TO PORTIONS OF THE TOP FLANGES DESIGNATED "TENSION" SHALL BE REMOVED AND THE FLANGE SURFACES GROUND SMOOTH. GRINDING SHALL BE CAREFULLY DONE AND PARALLEL TO THE FLANGES.

LOADING LIMITATIONS:
NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF THE ALLOWABLE UNIT STRESSES GIVEN IN THE AASHTO STANDARD SPEC. FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF EQUIPMENT ON OR ACROSS THE STRUCTURE. STRUCTURAL ANALYSIS COMPUTATIONS, BY A REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHOD OR EQUIPMENT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE START OF THE WORK.

PAYMENT:
THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTAL NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

INSPECTION OF EXISTING STRUCTURAL STEEL:

THE ENGINEER WILL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THE WELDS, PLATES AND BEAMS OR GIRDERS ARE FREE OF DEFECTS AND CRACKS. IF THE DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS INTERFERE WITH THE ENGINEER'S INSPECTION THEY SHALL BE REMOVED OR NOT BE ERECTED UNTIL AFTER THE INSPECTION. THE INSPECTION SHALL NOT TAKE PLACE UNTIL AFTER THE TOP FLANGES ARE CLEANED AS SPECIFIED IN 511.10, BUT IT SHALL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE COST ASSOCIATED WITH THIS INSPECTION SHALL BE INCLUDED WITH ITEM 511, SUPERSTRUCTURE CONCRETE FOR PAYMENT. ANY CRACKS FOUND SHOULD BE REPORTED TO THE OFFICE OF CONSTRUCTION IN CENTRAL OFFICE, BRIDGE CONSTRUCTION SPECIALIST, ALONG WITH SPECIFIC INFORMATION ON LOCATION OF THE CRACKS, LENGTH, AND DEPTH SO AN EVALUATION AND REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE.

CUT LINE CONSTRUCTION JOINT PREPARATION:

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS. REMOVE CONCRETE TO A ROUGH SURFACE. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACE. THE JOINT SURFACE SHALL BE THROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. CONCRETE BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

SUBSTRUCTURE CONCRETE REMOVAL:

SUBSTRUCTURE CONCRETE REMOVAL SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18" OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18" LIMIT, A HAMMER HEAVIER THAN 35 POUNDS, BUT NOT TO EXCEED 90 POUNDS, MAY BE USED AT THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

TRAFFIC MAINTENANCE:

SEE ROADWAY PLANS FOR ADDITIONAL TRAFFIC NOTES AND DETAILS.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
TAA	TAA	BCW	7-11-01
CHECKED	REVISED	REVISED	STRUCTURE FILE NUMBER
RJH			3503755

GENERAL NOTES
HEN-424-1379
S.R. 424 OVER U.S. 6

HEN-110/424-4.18/13.78

GENERAL NOTES CONTINUED

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:

THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO RAISE OR REPOSITION ANY EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION AND OPERATION OF AN ADEQUATE JACKING SYSTEM, INCLUDING ANY TEMPORARY OR PERMANENT SUPPORTS NECESSARY TO PERFORM THE WORK DESCRIBED IN THE PROJECT PLANS. THREE (3) SETS OF JACKING PLANS, WHICH INCLUDE THE INFORMATION DESCRIBED IN THIS NOTE, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL AT LEAST THIRTY (30) DAYS BEFORE ACTUAL WORK IS TO BEGIN. THE PLANS SHALL BE PREPARED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER.

JACKING SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

1. THE SIGNATURE AND NUMBER, OR PROFESSIONAL SEAL, OF THE REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THE SUBMITTAL.

2. CALCULATIONS AND ANALYSIS OF THE STRUCTURE TO DETERMINE AND DEFINE THE ACTUAL LOADING APPLIED AT THE CONTRACTOR'S SELECTION JACKING POINTS.

3. A DRAWING SHOWING THE PHYSICAL AND DIMENSIONAL POSITION OF THE JACKS WITH RESPECT TO THE STRUCTURE INCLUDING CLEARANCES AND CENTER OF LIFT.

4. A SCHEMATIC LAYOUT OF JACKS, CHECK VALVES, PUMPS WITH 3 WAY RETRACTOR VALVE, PRESSURE GAGES, FLOW CONTROL VALVES,ETC. IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ALL JACKS FOR EACH ABUTMENT OR PIER SHALL BE CONNECTED TOGETHER. ALL JACKS AT EACH ABUTMENT OR PIER SHALL BE THE SAME SIZE.

5. ANALYSIS AND CALCULATIONS OF THE STRESSES INDUCED OR CREATED IN THE STRUCTURE AND ANY TEMPORARY OR PERMANENT SUPPORTS. DESIGN CALCULATIONS FOR ANY TEMPORARY OR PERMANENT SUPPORTS.

6. PHYSICAL DIMENSIONS, MATERIALS, AND FABRICATION DETAILS OF ANY TEMPORARY OR PERMANENT SUPPORTS. HORIZONTAL AND VERTICAL MOVEMENT RESTRAINT SHALL BE PROVIDED.

7. A STEP BY STEP PROCEDURE DETAILING ALL STEPS IN THE JACKING OPERATION.

8. METHOD OF ATTACHMENT TO STRUCTURAL MEMBERS. WELDING TO TENSION AREAS WILL NOT BE PERMITTED.

THE ENTIRE SYSTEM INCLUDING JACKS SHALL HAVE 20% MORE CAPACITY THAN REQUIRED BASED ON CALCULATED LOADS.

FOR LIFTS GREATER THAN 1", JACKS SHALL HAVE LOCKING NUTS TO POSITIVELY LOCK AND SUPPORT THE STRUCTURE DURING THE LIFT.

JACKS SHALL HAVE A SWIVEL LOAD CAP, A DOMED PISTON HEAD OR SOME OTHER DEVICE TO PROTECT AGAINST THE EFFECTS OF SIDE LOAD ON THE JACK.

JACKS ALONE SHALL NOT BE USED TO SUPPORT LOADS EXCEPT DURING THE ACTUAL JACKING OPERATION. TEMPORARY SUPPORTS, BLOCKING OR OTHER METHODS APPROVED BY THE ENGINEER SHALL BE USED.

SINGLE ACTING RAMS WITH NO OVER-TRAVEL PROTECTION SYSTEM SHALL NOT BE USED.

SPARE EQUIPMENT SHALL BE AVAILABLE ON SITE FOR THE REQUIRED STRUCTURE RAISING TO PROCEED IN THE EVENT OF BREAKDOWN. A LIST OF SPARE EQUIPMENT SHALL BE PROVIDED TO THE ENGINEER.

AT A MINIMUM, A JACKING OPERATION SHALL LIFT ALL BEAMS AT ANY ONE ABUTMENT OR PIER SIMULTANEOUSLY. THE ONLY EXCEPTION IS THE SITUATION WHERE THE WORK INVOLVES REPLACING OR REHABILITATING INDIVIDUAL BEARINGS; NO PERMANENT SHIMMING IS REQUIRED AND THE HEIGHT OF THE LIFT SHALL NOT EXCEED 1/4 INCH.

MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ANY ADJACENT ABUTMENTS OR PIERS SHALL BE 1" OR LESS. THIS HEIGHT MAY BE MODIFIED IF CALCULATIONS, BY THE CONTRACTOR'S OHIO REGISTERED PROFESSIONAL ENGINEER, SHOW THE SUPERSTRUCTURE COMPONENTS WILL NOT BE TEMPORARILY STRESSED BEYOND ALLOWABLE STRESSES FOR THOSE COMPONENTS AND THAT NO PERMANENT STRESSES WILL BE INDUCED IN THE COMPONENTS AFTER THEY OBTAIN THEIR FINAL POSITION.

JACKING OPERATIONS WILL NOT BE PERMITTED UNTIL ALL EXISTING CONCRETE DECK IS REMOVED. NO LIVE LOAD WILL BE PERMITTED ON THE SUPERSTRUCTURE WHILE JACKING OPERATIONS ARE BEING PERFORMED.

THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER THAT THE BRIDGE BEARINGS ARE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUITABLE MEANS OF REPAIR, SUBJECT TO THE ENGINEERS APPROVAL, WILL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.

PAYMENT SHALL BE MADE AT THE LUMP SUM PRICE BID FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPER-STRUCTURE, AS PER PLAN AND SHALL INCLUDE ALL NECESSARY TOOLS, LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

ITEM 509 REINFORCING STEEL
REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:

ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY THE CONTRACTOR'S CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT THE CONTRACTOR'S COST. ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW STEEL. AN ALLOWANCE OF 100 POUNDS IS INCLUDED IN ITEM 509 FOR THIS PURPOSE, LISTED IN THE "GENERAL" COLUMN OF THE ESTIMATED QUANTITIES TABLE.

ITEM 509 EPOXY COATED REINFORCING STEEL:

NEW REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO BE PROPERLY FITTED. PAYMENT SHALL BE INCLUDED UNDER ITEM 509 REINFORCING STEEL.

ITEM 519 PATCHING CONCRETE STRUCTURE, AS PER PLAN:

ALL SURFACES TO BE PATCHED AND THE EXPOSED REINFORCING STEEL WITHIN SHALL BE THOROUGHLY CLEANED BY ABRASIVE BLASTING PRIOR TO THE CLEANING SPECIFIED BY 519.04. CLEANING SHALL PRECEDE APPLICATION OF THE PATCHING MATERIAL OR ERECTION OF THE FORMS BY NOT MORE THAN 24 HOURS.

ITEM 516 SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN:

INSTALL A 3 FOOT WIDE STRIP, 3/32 INCH THICK, GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT AT LOCATIONS SHOWN IN THE PLANS. SECURE THE 3 FOOT WIDE NEOPRENE SHEETING TO THE CONCRETE WITH 1 1/4" X #10 GAGE (LENGTH x SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKE THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. OTHER SIMILAR GALVANIZED DEVICES WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE MAY BE USED SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES (+/-) FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES (+/-) FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS, AT 6 INCHES CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS WHERE THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHOULD COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAPS IN THE LENGTH OF THE HORIZONTAL STRIPS DUE TO MATERIAL MANUFACTURING SHALL BE AT LEAST ONE FOOT IN LENGTH, IF NOT VULCANIZED OR ADHESIVE BONDED, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32 INCH THICK GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E. I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D 751	0.94 +/- .01
BREAKING STRENGTH,GRAB WXF, LBS, MINIMUM	D 751	700 X 700
ADHESIVE 1" STRIP, 2" MINIMUM, LBS,MINIMUM	D 751	9
BURST STRENGTH (MULLEN) PSI, MINIMUM	D 751	1400
HEAT AGING 70 HOURS T 212 F, 180 BEND WITHOUT CRACKING	D 2136	NO CRACKING OF COATING
LOW TEMPERATURE BRITTLENESS 1 HOUR AT -40 F, BEND AROUND 1/4 INCH MANDREL	D 2136	NO CRACKING OF COATING

IN LIEU OF THE NEOPRENE SHEETING THE CONTRACTOR MAY CHOOSE TO SUPPLY TYPE 3 MEMBRANE, 711.29 .

PAYMENT FOR LABOR MATERIALS AND INSTALLATION OF THESE ITEMS SHALL BE INCLUDED IN ITEM 516 SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

PROPOSED WORK:

1. REMOVE EXISTING DECK, PARAPETS, SCUPPERS AND END DAMS.
2. JACK AND SUPPORT SUPERSTRUCTURE STRINGERS.
3. REMOVE PORTION OF SUBSTRUCTURES.
4. RECONSTRUCT SUBSTRUCTURES, RESUPPORT STRUCTURES AND RECONSTRUCT SUPERSTRUCTURE DECK.
5. RECONSTRUCT PARAPET AND APPROACHES.
6. PAINT STRUCTURAL STEEL. SEAL CONCRETE SURFACES.

ITEM 503 UNCLASSIFIED EXCAVATION AS PER PLAN :

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT ALL BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE 304.02 PLACED IN 6 INCH LIFTS AS PER 304.05.

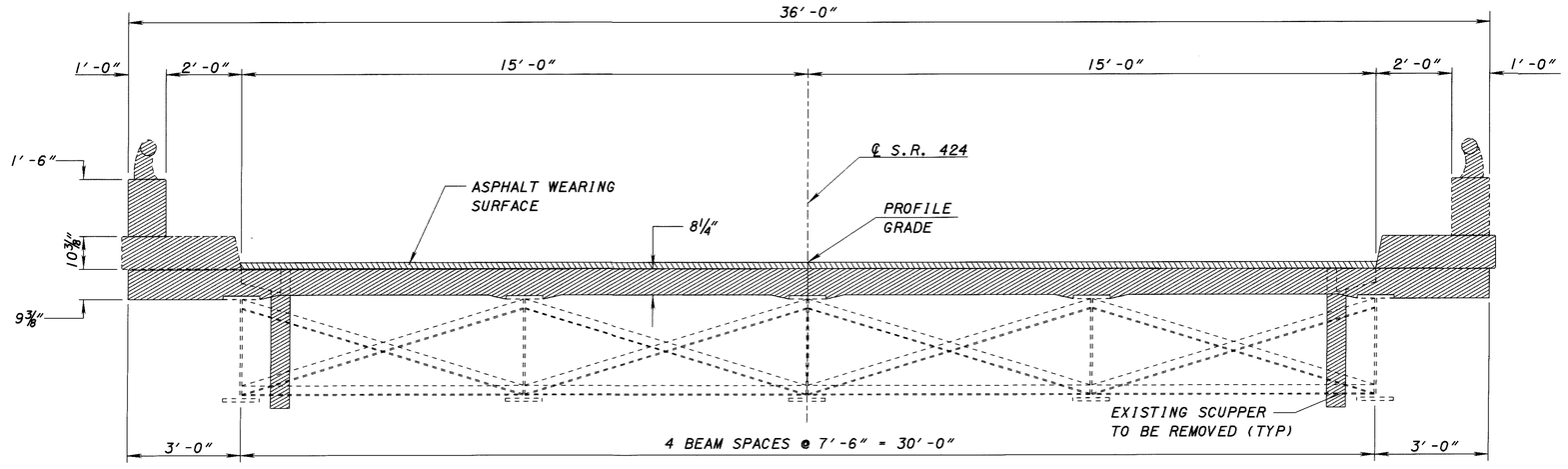
DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
DESIGNED: TAA | DRAWN: TAA | CHECKED: RJH | REVISED:
REVIEWED: BCW | DATE: 7-11-01 | STRUCTURE FILE NUMBER: 3503755

GENERAL NOTES
HEN-424-1379
S.R. 424 OVER U.S. 6

HEN-110/424-4.18/13.78

4 / 18

101 / 115



EXISTING TRANSVERSE CROSS-SECTION

REMOVAL NOTES

FIELD VERIFY ALL EXISTING DIMENSIONS.

ALL DIMENSIONS ARE ± ON THE EXISTING STRUCTURE.

- INDICATES AREAS TO BE REMOVED UNDER ITEM 202 - PORTIONS OF STRUCTURE TO BE REMOVED.

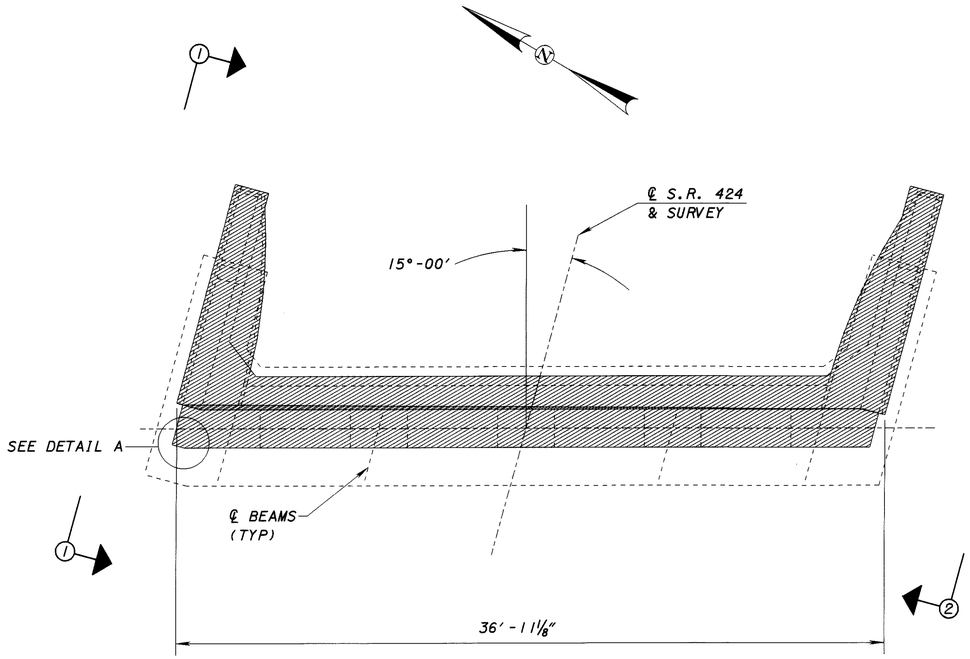
SCUPPER ANCHORING BARS WELDED TO BEAM SHALL BE REMOVED AND GROUND FLUSH AT WEB DURING REMOVAL. GRINDING SHALL BE DONE IN A HORIZONTAL DIRECTION. PAYMENT INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED RJH | DRAWN RJH | REVIEWED BCW | DATE 7-11-01
CHECKED TAA | REVISED | STRUCTURE FILE NUMBER 3503755

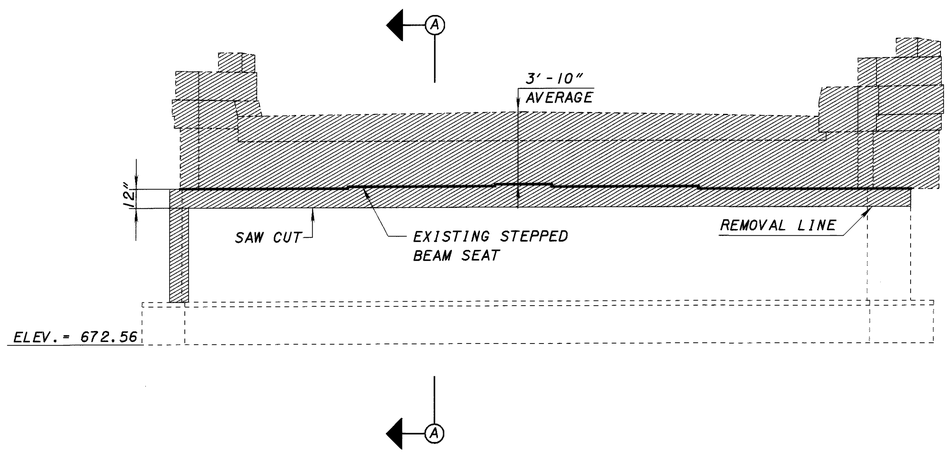
EXISTING SUPERSTRUCTURE REMOVAL DETAILS
HEN-424-1379
S.R. 424 OVER U.S. 6

HEN-110/424-4.18/13.78

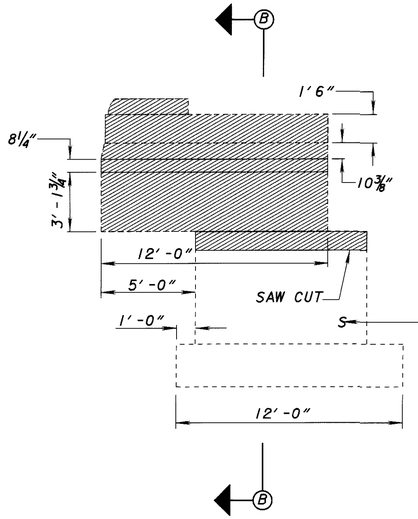


PLAN

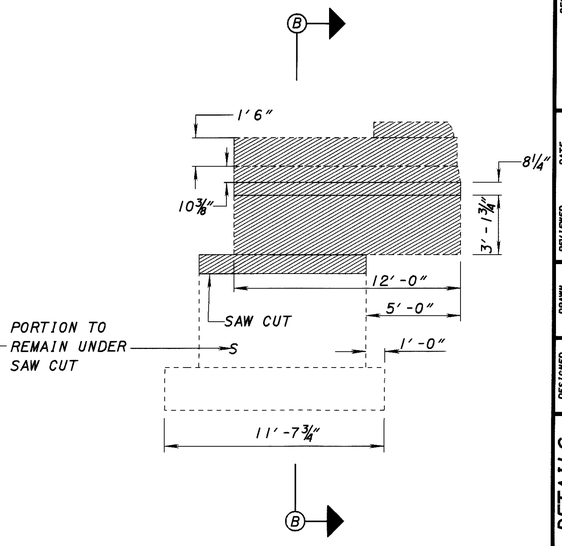
DETAIL A



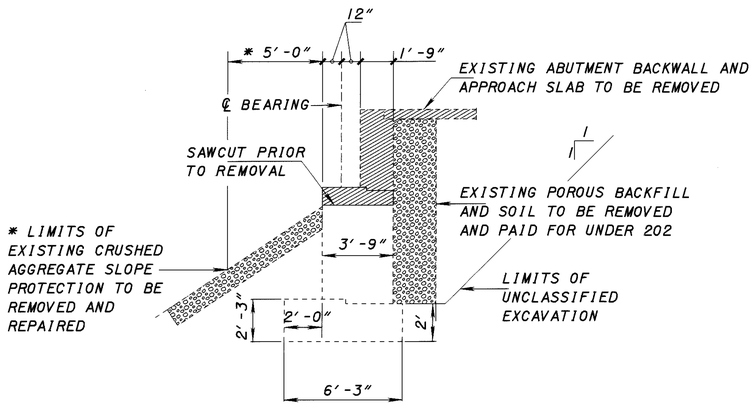
FORWARD ABUTMENT



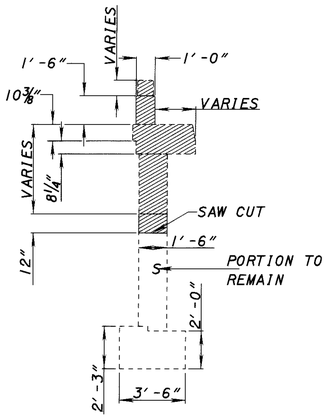
VIEW 1-1
NORTH WINGWALL



VIEW 2-2
SOUTH WINGWALL



SECTION A-A



SECTION B-B

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED	DATE	STRUCTURE FILE NUMBER
BCW	7-11-01	3503755

DRAWN	REVISED
RJH	

DESIGNED	CHECKED
RJH	TAA

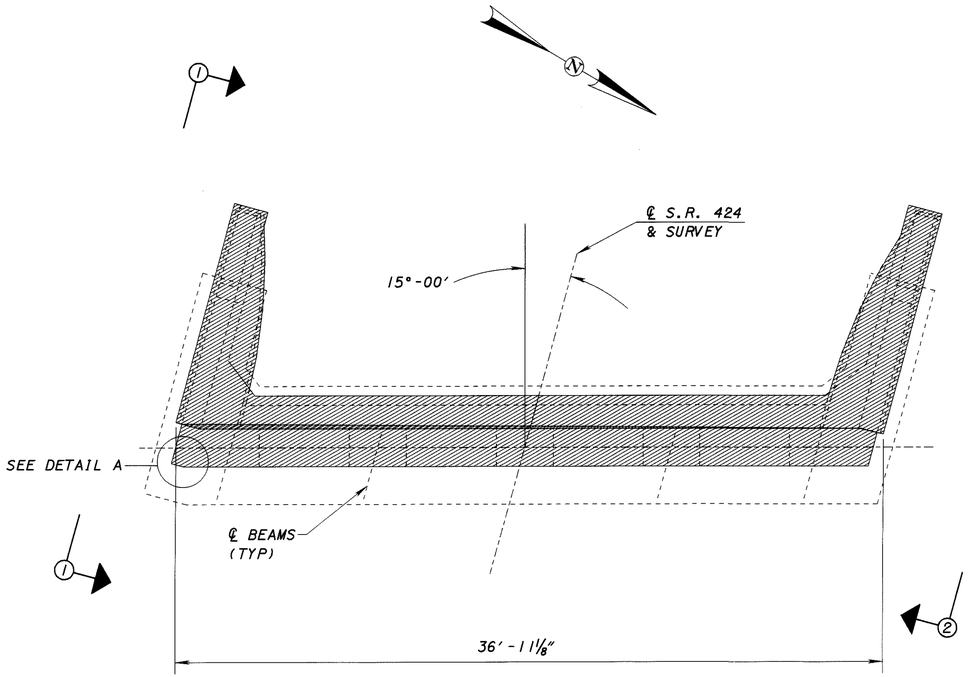
EXISTING FWD. ABUTMENT REMOVAL DETAILS

HEN-424-1379
S.R. 424 OVER U.S. 6

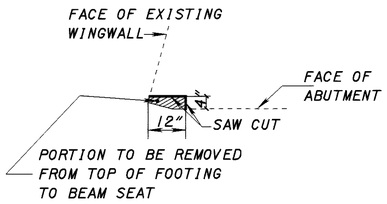
HEN-110/424-4.18/13.78

6 / 18

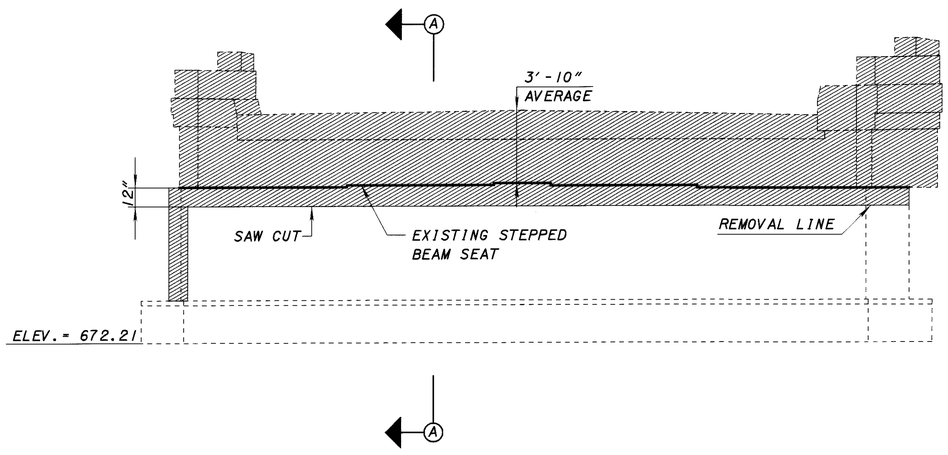
103
115



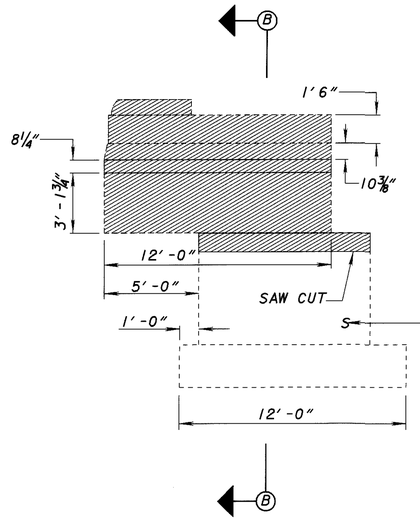
PLAN



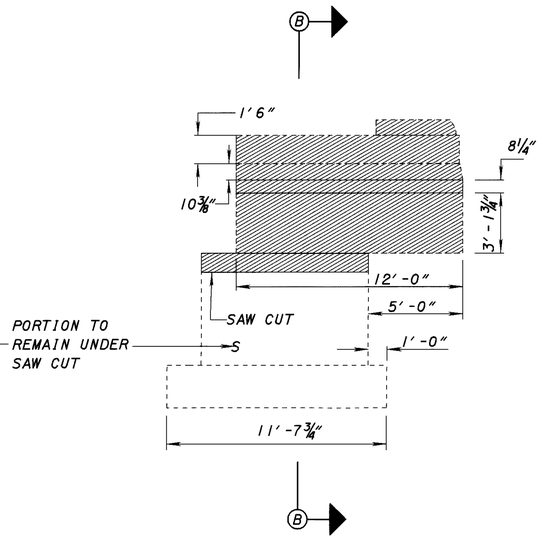
DETAIL A



REAR ABUTMENT

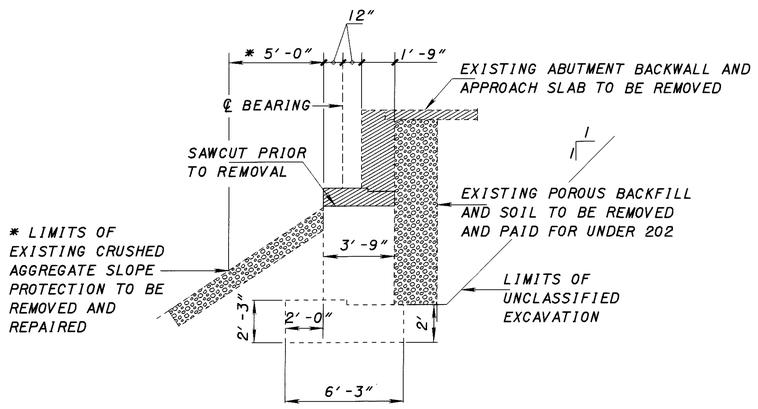


VIEW 1-1
NORTH WINGWALL

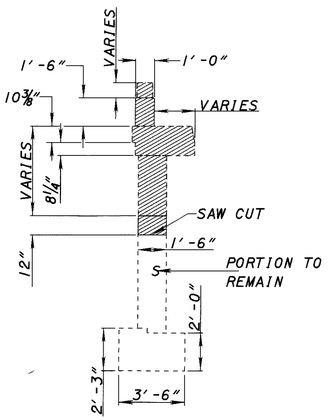


PORTION TO
REMAIN UNDER
SAW CUT

VIEW 2-2
SOUTH WINGWALL



SECTION A-A



SECTION B-B

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

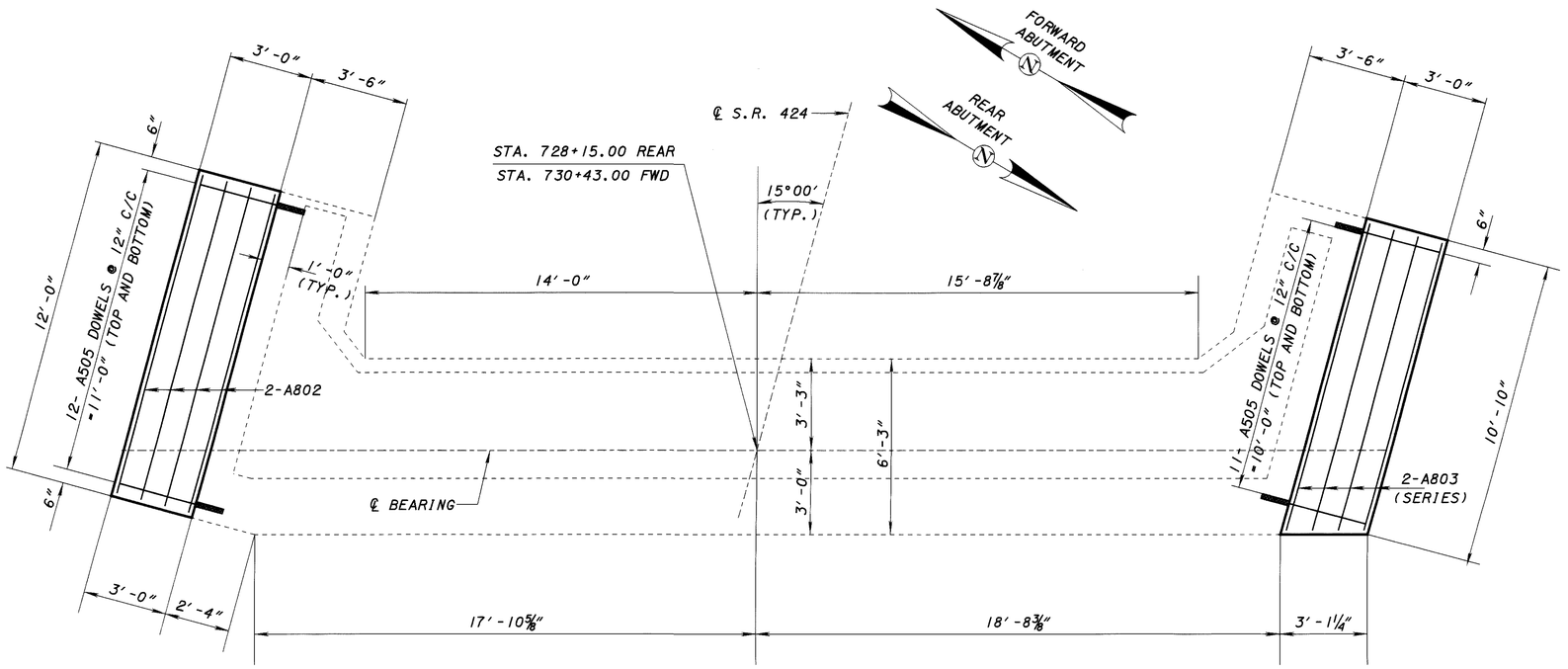
REVIEWED	DATE
BCW	7-11-01
STRUCTURE FILE NUMBER	
3503755	
DRAWN	REVISED
RJH	
DESIGNED	CHECKED
RJH	TAA

EXISTING REAR ABUTMENT REMOVAL DETAILS
HEN-424-1379
S.R. 424 OVER U.S. 6

HEN-110/424-4.18/13.78

7/18

104/115

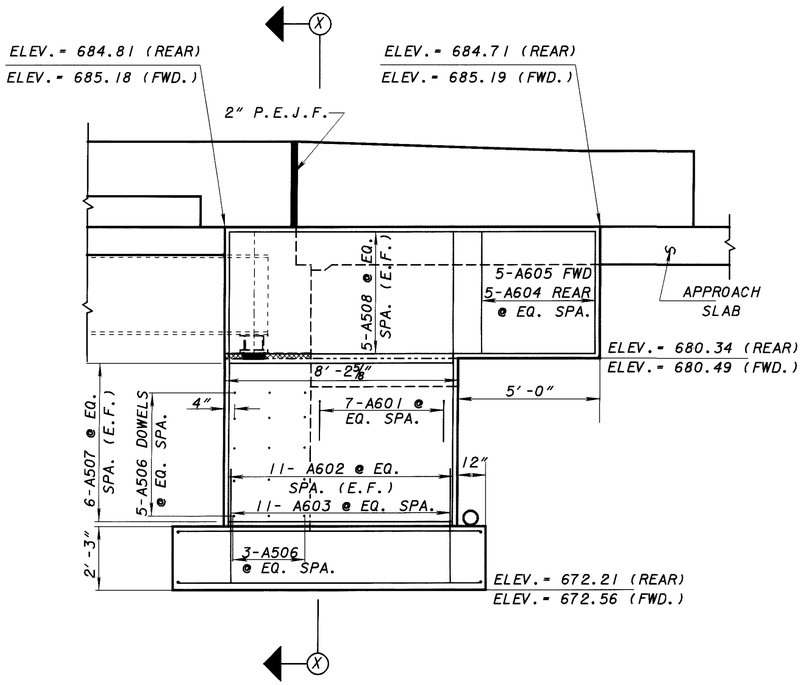


PLAN

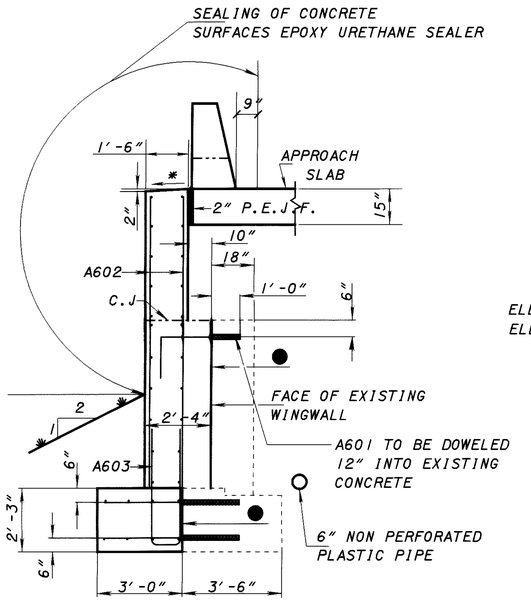
REAR & FORWARD ABUTMENT

NOTES

POROUS BACKFILL: POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 12" BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE FACE OF THE WINGWALLS.

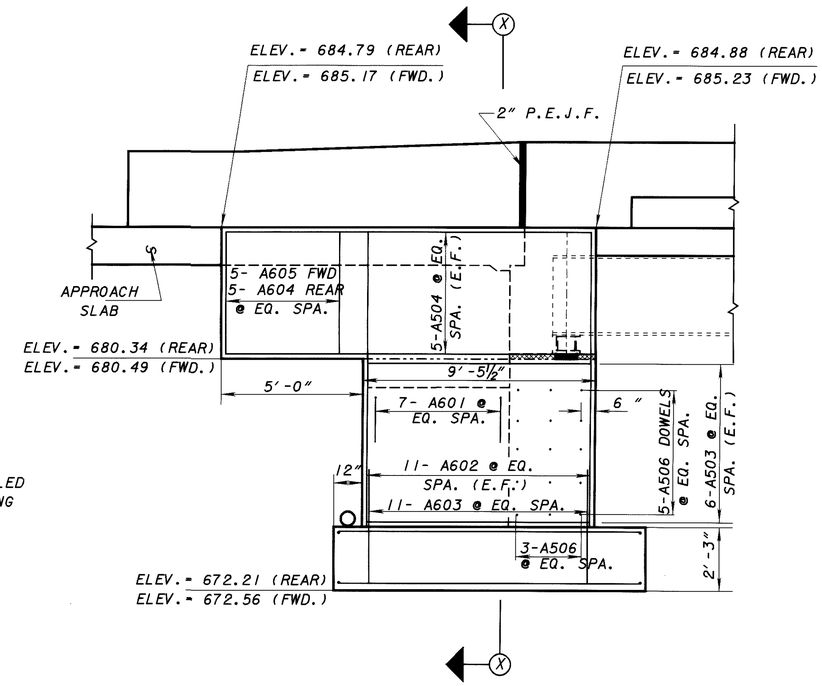


VIEW B-B (FORWARD ABUTMENT)
VIEW D-D (REAR ABUTMENT)



SECTION X-X

● EXISTING CONCRETE SURFACE TO BE SCARIFIED 1/4" PRIOR TO PLACING THE NEW CONCRETE. PAYMENT TO BE INCLUDED WITH ITEM 898.



VIEW C-C (FORWARD ABUTMENT)
VIEW E-E (REAR ABUTMENT)

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
DESIGNED: TAA | DRAWN: TAA | REVIEWED: BCW | DATE: 7-11-01
CHECKED: RJH | REVISED: | STRUCTURE FILE NUMBER: 3503755

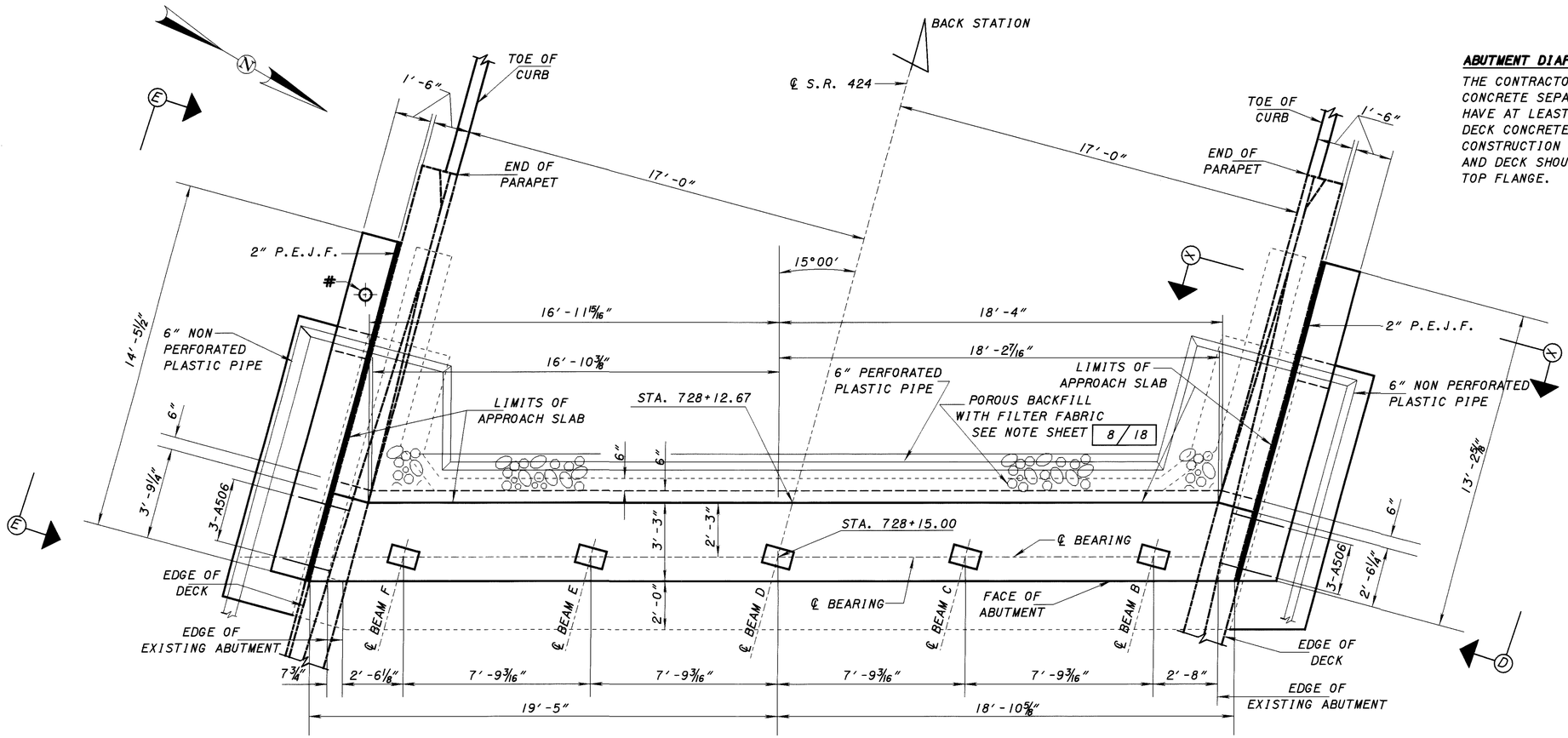
FOOTING AND WINGWALL DETAILS

HEN-424-1.79
S.R. 424 OVER U.S. 6

HEN-110/424-4.18/13.78

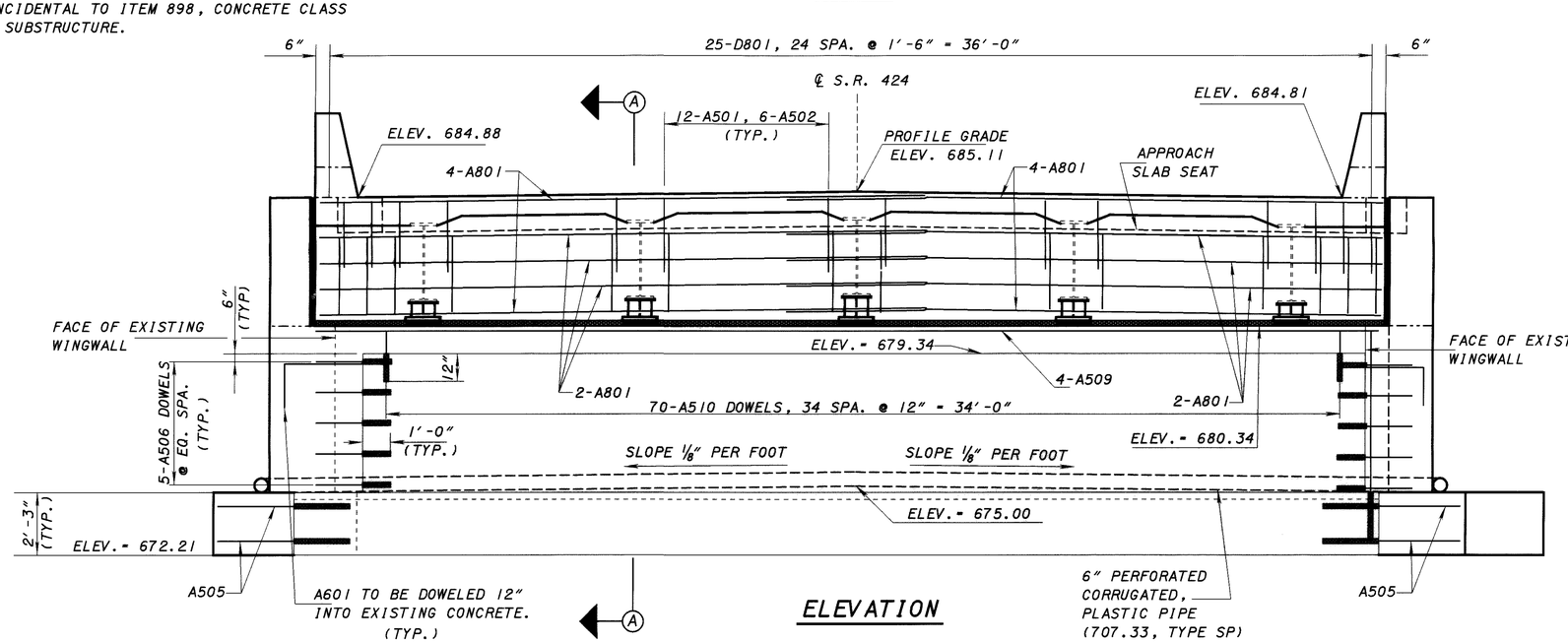
8/18

105/115

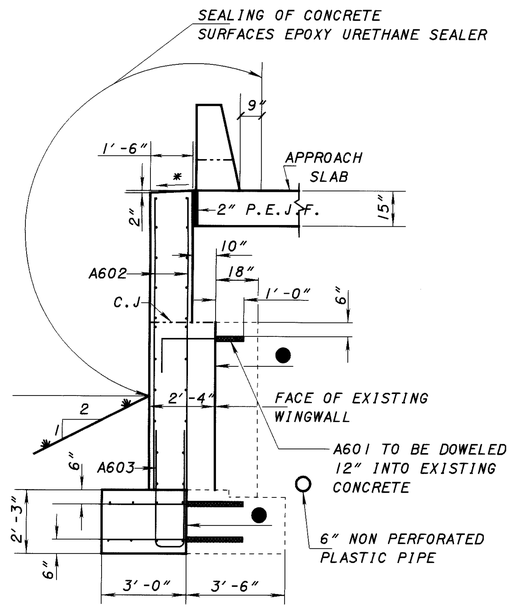


THE ENGINEER SHALL FURNISH A BENCH MARK MONUMENT. PAYMENT FOR INSTALLATION SHALL BE INCIDENTAL TO ITEM 898, CONCRETE CLASS QSC1 SUBSTRUCTURE.

PLAN



ELEVATION



SECTION X-X

NOTES

ABUTMENT DIAPHRAGM CONCRETE, STEEL SUPERSTRUCTURE:

THE CONTRACTOR SHALL PLACE THE DIAPHRAGM CONCRETE SEPARATELY. THE CONCRETE SHALL HAVE AT LEAST 48 HOURS OF SET TIME BEFORE DECK CONCRETE CAN BE PLACED. THE HORIZONTAL CONSTRUCTION JOINT BETWEEN THE DIAPHRAGM AND DECK SHOULD BE AT THE BOTTOM OF THE TOP FLANGE.

NOTES & LEGEND

8 BAR MIN. LAP - 6'-0"
FOR ADDITIONAL INFORMATION ON DOWEL HOLES SEE ITEM 510.
P.E.J.F.- PREFORMED EXPANSION JOINT FILLER

FOR SECTION A-A SEE SHEET 10/18

FOR VIEW D-D AND E-E SEE SHEET 8/18

ELEVATIONS SHOWN ARE MEASURED ALONG THE BRIDGE LIMITS

EXISTING PORTION OF ABUTMENT TO REMAIN

● EXISTING CONCRETE SURFACE TO BE SCARIFIED 1/4" PRIOR TO PLACING THE NEW CONCRETE. PAYMENT TO BE INCLUDED WITH ITEM 898.

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION

REVIEWED BCW | DATE 7-11-01 | STRUCTURE FILE NUMBER 3503755

DRAWN TAA | REVISED

DESIGNED TAA | CHECKED RJH

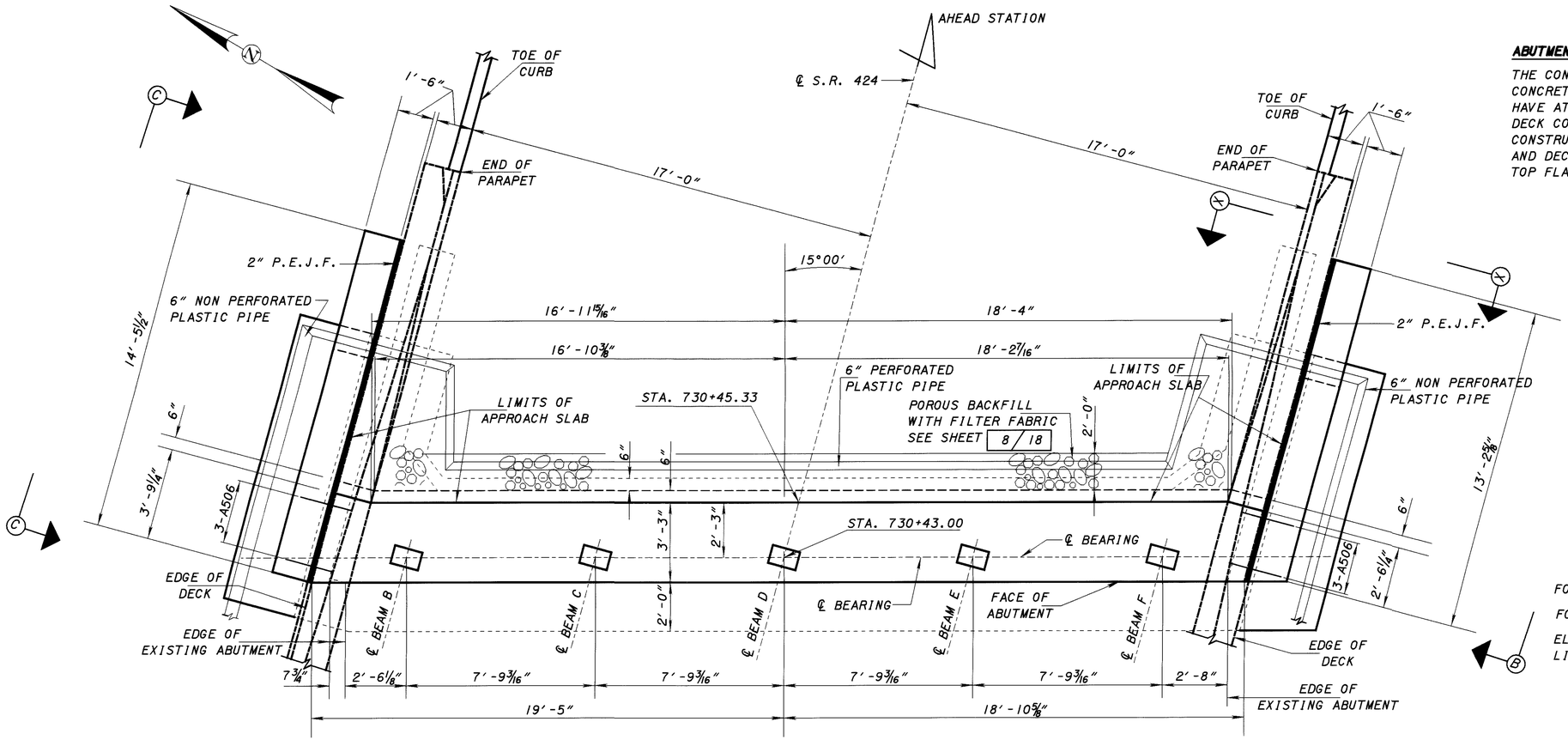
REAR ABUTMENT

HEN-424-1379
S.R. 424 OVER U.S. 6

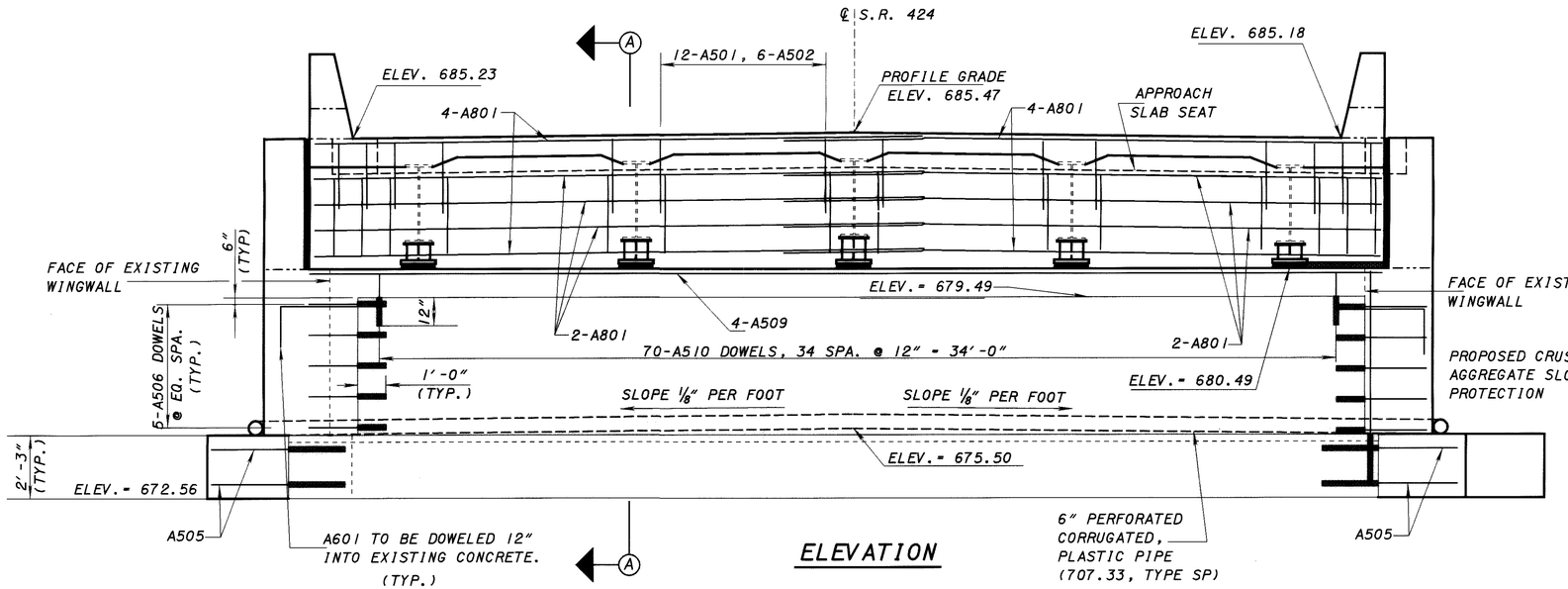
HEN-110/424-4.18/13.78

9/18

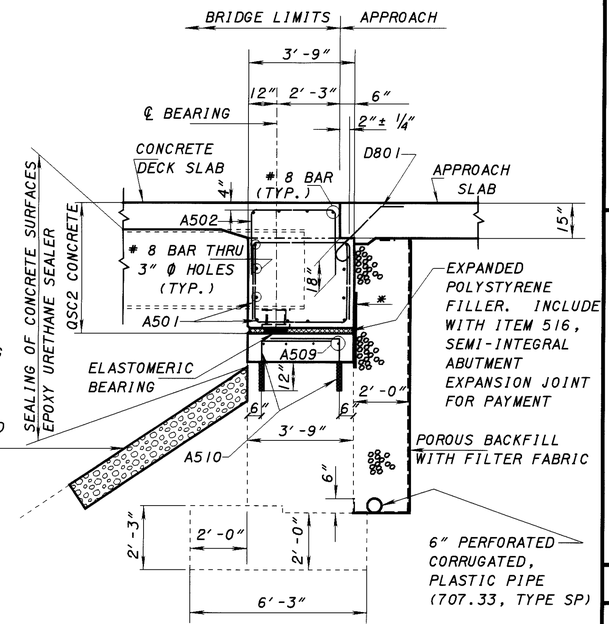
106/115



PLAN



ELEVATION



SECTION A-A

NOTES

ABUTMENT DIAPHRAGM CONCRETE, STEEL SUPERSTRUCTURE:

THE CONTRACTOR SHALL PLACE THE DIAPHRAGM CONCRETE SEPARATELY. THE CONCRETE SHALL HAVE AT LEAST 48 HOURS OF SET TIME BEFORE DECK CONCRETE CAN BE PLACED. THE HORIZONTAL CONSTRUCTION JOINT BETWEEN THE DIAPHRAGM AND DECK SHOULD BE AT THE BOTTOM OF THE TOP FLANGE.

NOTES & LEGEND

* NYLON REINFORCED NEOPRENE SHEETING, 3′-0″ WIDE, CENTERED ABOUT JOINTS. AT WINGWALL TURN BACK 1′-6″ (NO ANCHORS REQUIRED) HOLD BACK AGAINST WINGWALL UNTIL POROUS BACKFILL IS IN PLACE. INCLUDE WITH ITEM 516, SEMI-INTEGRAL ABUTMENT EXPANSION JOINT FOR ABUTMENT.

P.E.J.F.- PREFORMED EXPANSION JOINT FILLER

8 BAR MIN. LAP - 6′-0″

FOR ADDITIONAL INFORMATION ON DOWEL HOLES SEE ITEM 510.

FOR SECTION X-X SEE SHEET 9 / 18

FOR VIEW B-B AND C-C SEE SHEET 8 / 18

ELEVATIONS SHOWN ARE MEASURED ALONG THE BRIDGE LIMITS

EXISTING PORTION OF ABUTMENT TO REMAIN

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION

DATE: 7-11-01

REVIEWED: BCW

STRUCTURE FILE NUMBER: 3503755

DRAWN: TAA

REVISED:

DESIGNED: TAA

CHECKED: RJH

FORWARD ABUTMENT

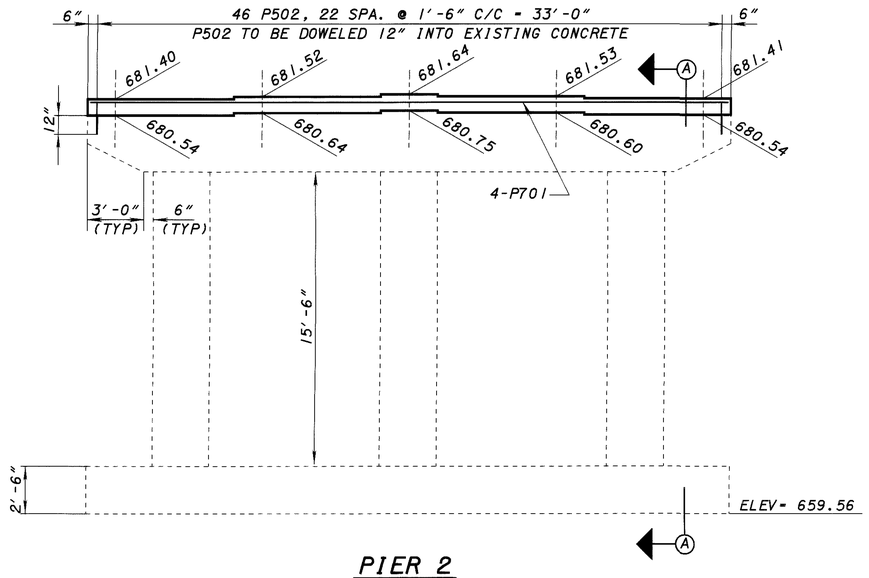
HEN-424-1379

S.R. 424 OVER U.S. 6

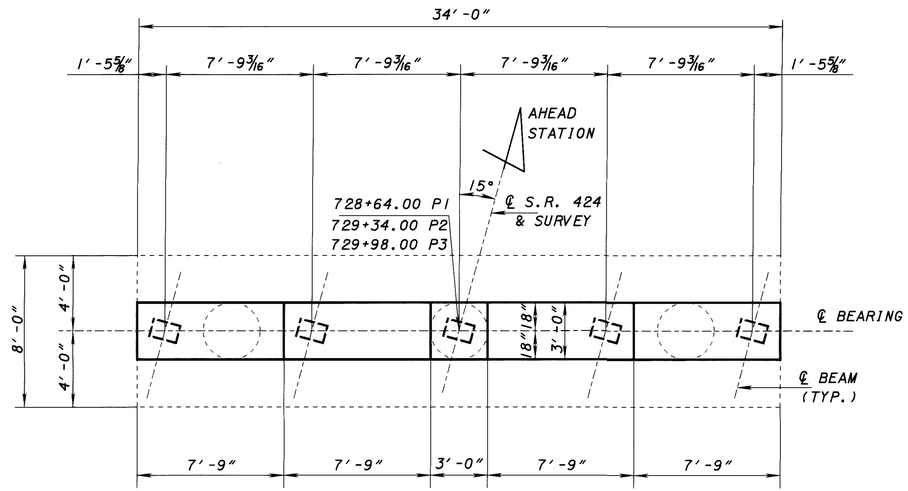
HEN-110/424-4.18/13.78

10 / 18

107 / 115

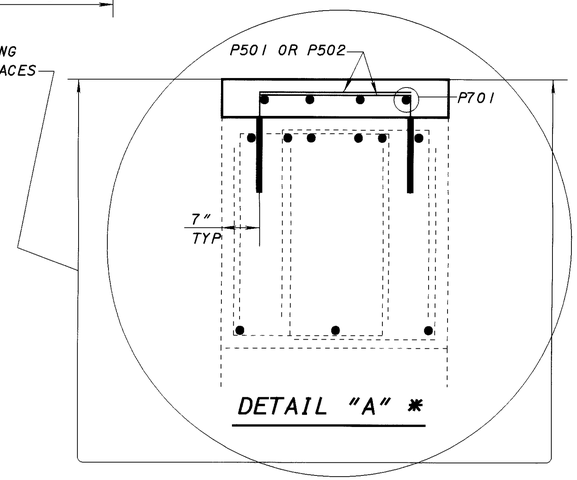


PIER 2



PLAN (ALL PIERS)

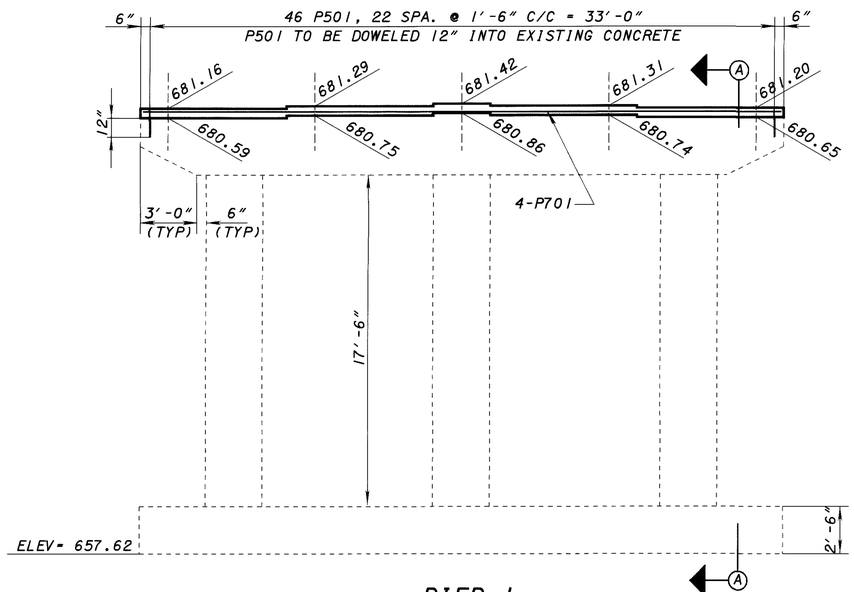
LIMITS FOR SEALING OF CONCRETE SURFACES EPOXY-URETHANE



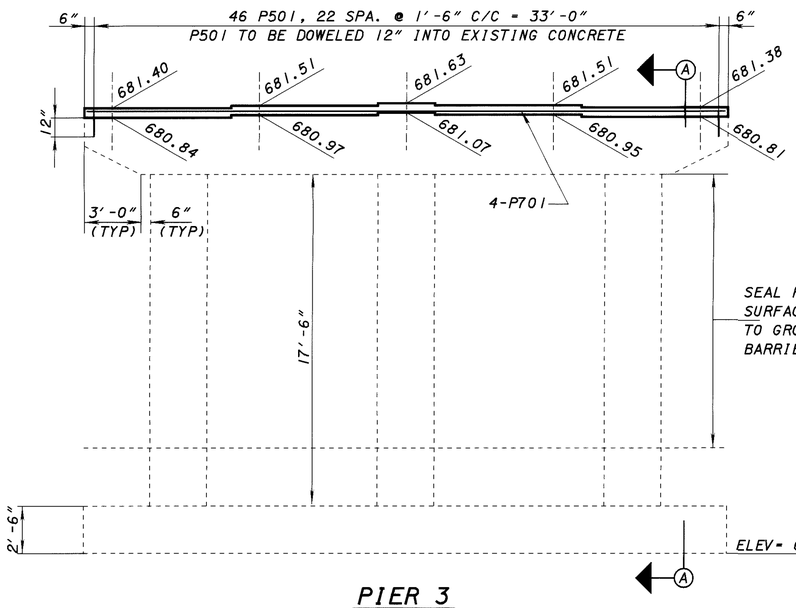
DETAIL "A" *

* BEFORE DOWELING P501 OR P502 BARS, LOCATE EXISTING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF RE- BAR HOLES.

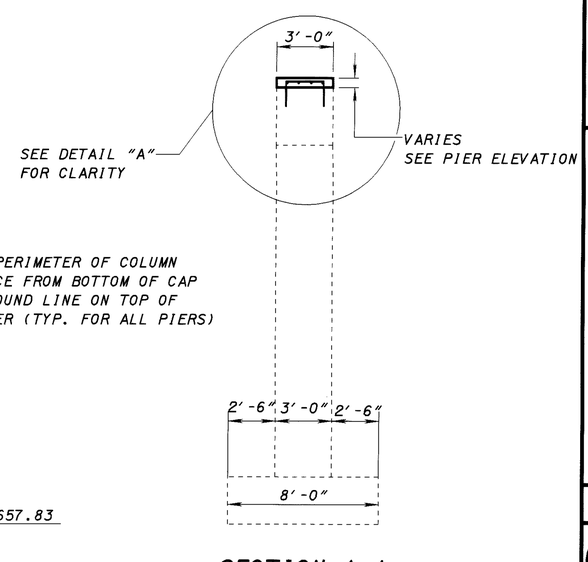
¼" SCARIFICATIONS: THE EXISTING PIER BRIDGE SEAT SURFACE SHALL BE SCARIFIED ¼" INTO SOUND CONCRETE PRIOR TO PLACEMENT OF THE CONCRETE. THE SURFACE SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIALS BY THE USE OF WATER, AIR UNDER PRESSURE, OR ANOTHER METHOD THAT PRODUCES RESULTS SATISFACTORY TO THE ENGINEER. THE CONCRETE BONDING SURFACE SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED. PAYMENT SHALL BE INCIDENTAL TO ITEM 898 CONCRETE CLASS QSC1 SUBSTRUCTURE.



PIER 1



PIER 3



SECTION A-A

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
DESIGNED: TAA | DRAWN: TAA | REVIEWED: BCW | DATE: 7-11-01
CHECKED: RJH | REVISED: | STRUCTURE FILE NUMBER: 3503755

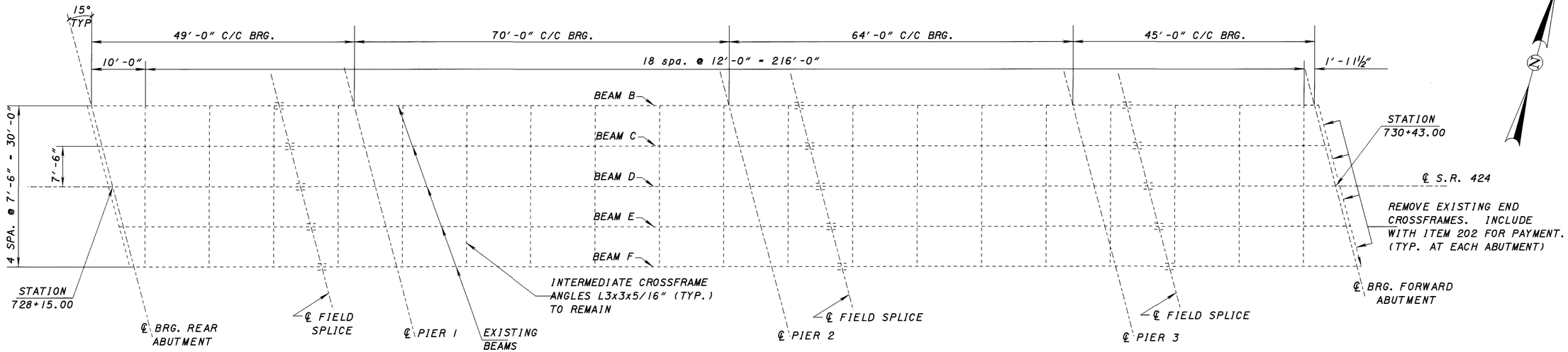
PIER DETAILS

HEN-424-1379
S.R. 424 OVER U.S. 6

HEN-110/424-4.18/13.78

11/18

108/115



FRAMING PLAN

NOTES & LEGEND:

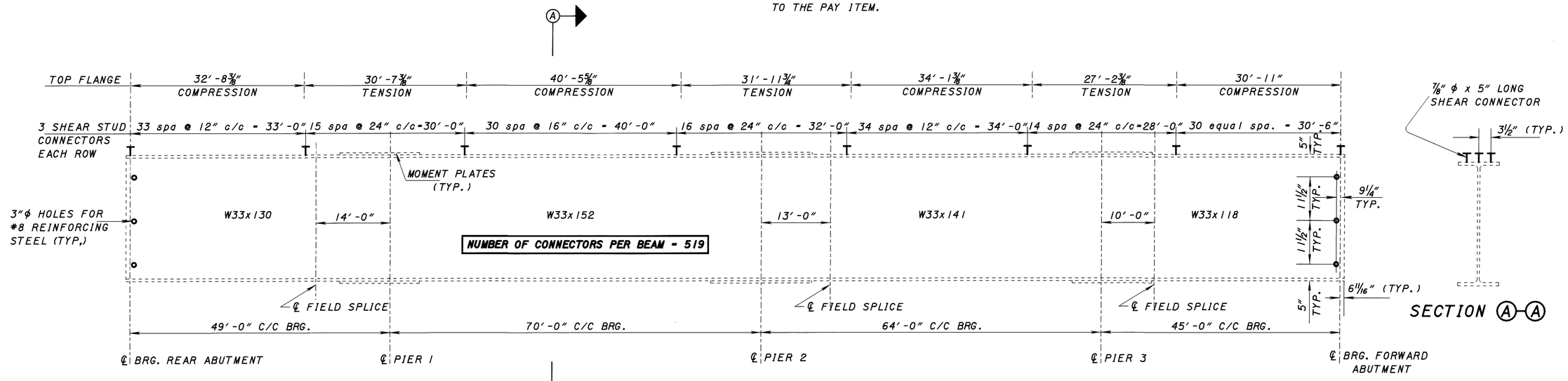
FOR SCREED DIAGRAM AND TABLE SEE SHEET 13/18

WELDED ATTACHMENT:
WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE FACIA STRINGER FLANGES DESIGNATED "COMPRESSION" ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 1" FROM EDGE OF FLANGE, BE NOT MORE THAN 2" LONG, AND BE NOT SMALLER THAN THE 1/4" FOR THICKNESS UP TO 3/4" AND 5/16" FOR GREATER THAN 3/4" THICKNESS.

3"1/16 HOLES DRILLED IN THE EXISTING BEAMS SHALL BE PAID UNDER ITEM ITEM 511, CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN. THIS PAYMENT IS INCIDENTAL TO THE PAY ITEM.

CAULKING NOTE:
PAID FOR UNDER FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT. THE PERIMETER OF ALL BEAM SPLICE PLATED LOCATED ON THE BEAM WEB AND INNER AND OUTER BOTTOM FLANGE SURFACE SAHALL BE CAULKED. BEAM ENDS AT THE FACE OF THE SEMI-INTEGRAL ABUTMENT BACKWALLS SHALL ALSO BE CAULKED.

LATERAL AND LONGITUDINAL SPACING OF WELDED STUD CONNECTORS MAY BE ALTERED AT FIELD SPLICE LOCATIONS TO AVOID INTERFERENCE WITH FLANGE SPLICE BOLTS PROVIDED THAT AT LEAST THE NUMBER OF STUDS SPECIFIED IN THE BEAM ELEVATION ARE PROVIDED.



ELEVATION

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
DESIGNED: TAA
DRAWN: TAA
CHECKED: RJH
REVIEWED: BCW
DATE: 7-11-01
REVISED:
STRUCTURE FILE NUMBER: 3503755

FRAMING PLAN
HEN-424-1379
S.R. 424 OVER U.S. 6

HEN-110/424-4.18/13.78

12/18

109/115

SCREED ELEVATIONS BEFORE PLACEMENT OF CONCRETE DECK																
LOCATION		REAR ABUTMENT	1/4 POINT	1/2 POINT	3/4 POINT	PIER 1	1/4 POINT	1/2 POINT	3/4 POINT	PIER 2	1/4 POINT	1/2 POINT	3/4 POINT	PIER 3	1/4 POINT	1/2 POINT
LEFT TOE OF PARAPET	STATION	728+10.44	728+22.69	728+34.94	728+47.19	728+59.44	728+76.94	728+94.44	729+11.94	729+29.44	729+45.44	729+61.44	729+77.44	729+93.44	730+04.69	730+15.94
	FINAL DECK ELEVATION	684.82	684.91	685.00	685.08	685.15	685.23	685.30	685.35	685.39	685.41	685.41	685.40	685.37	685.35	685.32
BEAM B	STATION	728+10.98	728+23.23	728+35.48	728+47.73	728+59.98	728+77.48	728+94.98	729+12.48	729+29.98	729+45.98	729+61.98	729+77.98	729+93.98	730+05.23	730+16.48
	FINAL DECK ELEVATION	684.85	684.94	685.03	685.11	685.18	685.26	685.33	685.38	685.42	685.43	685.44	685.43	685.40	685.37	685.34
BEAM C	STATION	728+12.99	728+25.24	728+37.49	728+49.74	728+61.99	728+79.49	728+96.99	729+14.49	729+31.99	729+47.99	729+63.99	729+79.99	729+95.99	730+07.24	730+18.49
	FINAL DECK ELEVATION	684.98	685.08	685.16	685.24	685.30	685.39	685.45	685.50	685.54	685.55	685.55	685.54	685.51	685.49	685.45
BEAM D AND PROFILE GRADE	STATION	728+15.00	728+27.25	728+39.50	728+51.75	728+64.00	728+81.50	728+99.00	729+16.50	729+34.00	729+50.00	729+66.00	729+82.00	729+98.00	730+09.25	730+20.50
	FINAL DECK ELEVATION	685.11	685.21	685.29	685.37	685.43	685.51	685.58	685.63	685.66	685.67	685.67	685.65	685.63	685.60	685.56
BEAM E	STATION	728+17.01	728+29.26	728+41.51	728+53.76	728+66.01	728+83.51	729+01.01	729+18.51	729+36.01	729+52.01	729+68.01	729+84.01	730+00.01	730+11.26	730+22.51
	FINAL DECK ELEVATION	685.01	685.10	685.19	685.26	685.33	685.40	685.47	685.51	685.54	685.55	685.55	685.53	685.50	685.47	685.44
BEAM F	STATION	728+19.02	728+31.27	728+43.52	728+55.77	728+68.02	728+85.52	729+03.02	729+20.52	729+38.02	729+54.02	729+70.02	729+86.02	730+02.02	730+13.27	730+24.52
	FINAL DECK ELEVATION	684.91	685.00	685.08	685.15	685.22	685.30	685.36	685.40	685.43	685.44	685.43	685.41	685.38	685.35	685.31
RIGHT TOE OF PARAPET	STATION	728+19.56	728+31.81	728+44.06	728+56.31	728+68.56	728+86.06	729+03.56	729+21.06	729+38.56	729+54.56	729+70.56	729+86.56	730+02.56	730+13.81	730+25.06
	FINAL DECK ELEVATION	684.89	684.98	685.06	685.13	685.19	685.27	685.33	685.37	685.40	685.41	685.41	685.39	685.35	685.32	685.28

SCREED ELEVATIONS			
LOCATION		3/4 POINT	FWD. ABUTMENT
LEFT TOE OF PARAPET	STATION	730+27.19	730+38.44
	FINAL DECK ELEVATION	685.28	685.23
BEAM B	STATION	730+27.73	730+38.98
	FINAL DECK ELEVATION	685.30	685.25
BEAM C	STATION	730+29.74	730+40.99
	FINAL DECK ELEVATION	685.41	685.36
BEAM D AND PROFILE GRADE	STATION	730+31.75	730+43.00
	FINAL DECK ELEVATION	685.52	685.47
BEAM E	STATION	730+33.76	730+45.01
	FINAL DECK ELEVATION	685.39	685.34
BEAM F	STATION	730+35.77	730+47.02
	FINAL DECK ELEVATION	685.27	685.22
RIGHT TOE OF PARAPET	STATION	730+36.31	730+47.56
	FINAL DECK ELEVATION	685.24	685.19

NOTE:

SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATION OF THE CALCULATED DEAD LOAD DEFLECTIONS.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED BCW DATE 7-11-01
STRUCTURE FILE NUMBER 3503755

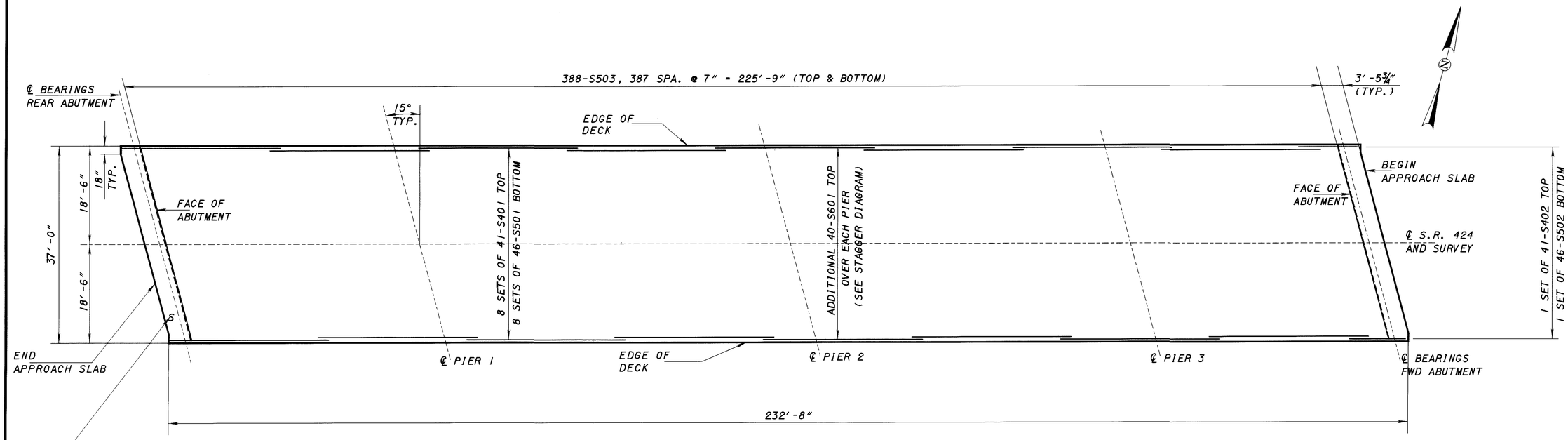
DRAWN TAA REVISED
DESIGNED TAA CHECKED RJH

SUPERSTRUCTURE DETAILS 6
HEN-424-13.79
S.R. 424 OVER U.S. 6

HEN-110/424-4.18/13.78

13/18

110/115

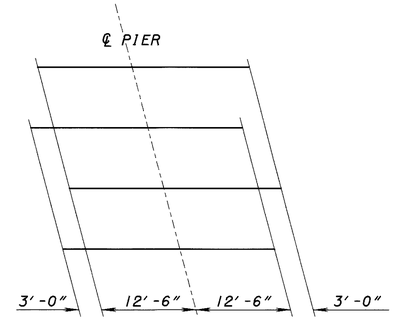


SEE ADDITIONAL SLAB REINF., A801, A803 AND A502 ON SHEET 10/18 (TYP.)

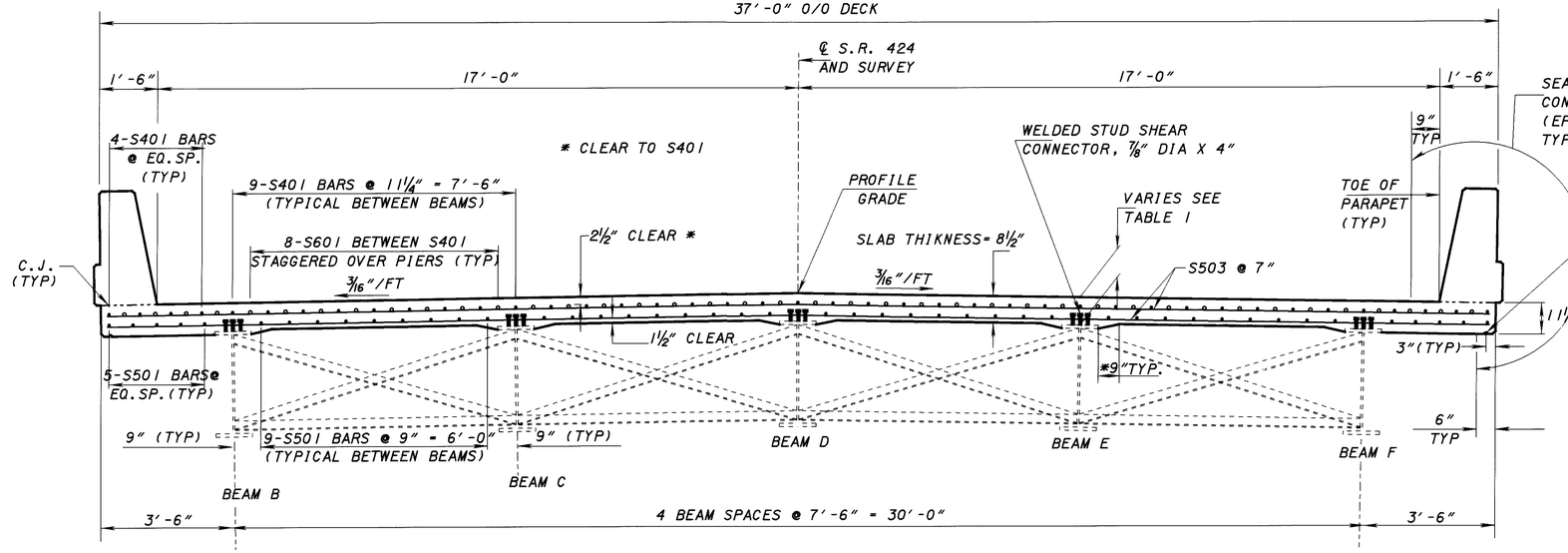
DECK REINFORCEMENT

DESCRIPTION	DIM.**
W33x130	10"
W33x152	9 13/16"
W33x141	9 15/16"
W33x118	10 1/8"

TABLE 1



STAGGER OF S601 BARS OVER PIERS



TRANSVERSE CROSS SECTION

MINIMUM LAP FOR # 4 BAR = 2'-0"
MINIMUM LAP FOR # 5 BAR = 2'-6"
MINIMUM LAP FOR # 6 BAR = 3'-0"

NOTES

1. ALL REINFORCING STEEL IS EPOXY COATED.
2. FOR PARAPET DETAILS, SEE SHEET 15 & 16/18
3. REINFORCING STEEL MAY BE FIELD OR SHOP BENT TO ACCOMMODATE THE CROWN OF THE DECK. PAYMENT SHALL BE INCLUDED WITH ITEM 509, EPOXY COATED REINFORCING STEEL.
4. DECK SLAB DEPTH:
THE THEORETICAL DESIGN THICKNESS FOR THE SLAB IS 8½". THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON THIS DIMENSION EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. A HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING CONCRETE QUANTITY . HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12".
5. *A HAUNCH WIDTH OF 9 INCHES SHALL BE USED. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6 INCHES AND 12 INCHES.

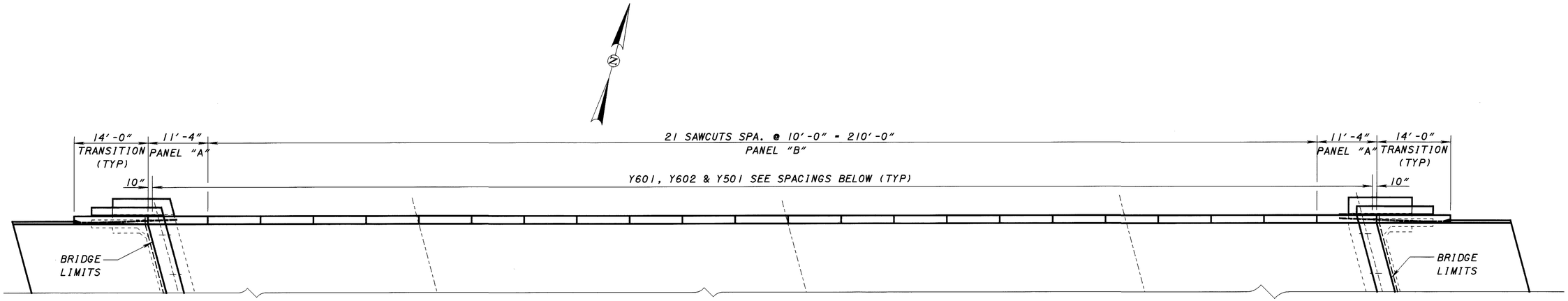
DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
DESIGNED RJH | DRAWN RJH | CHECKED TAA | REVISED | REVIEWED BCW | DATE 7-11-01 | STRUCTURE FILE NUMBER 3503755

SUPERSTRUCTURE DETAILS
HEN-424-1379
S.R. 424 OVER U.S. 6

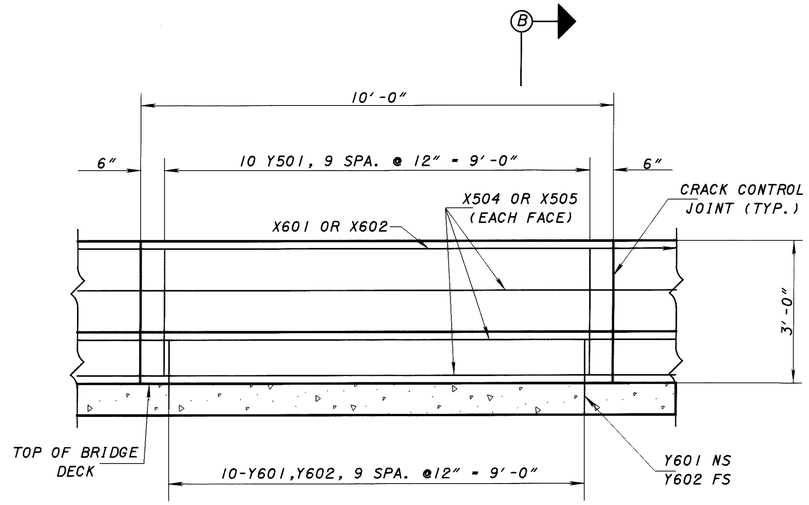
HEN-110/424-4.18/13.78

14/18

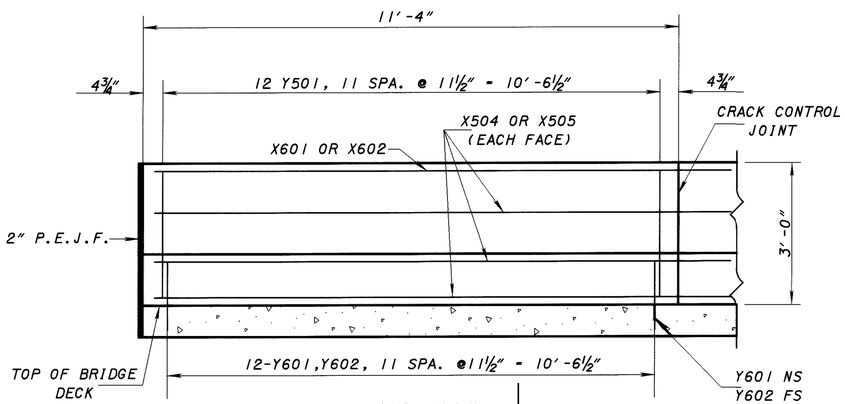
111/115



PART PLAN



PANEL "B"
(42 REQUIRED)



PANEL "A"
(4 REQUIRED)

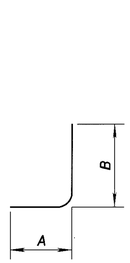
MARK	TOTAL	LENGTH	WEIGHT LB	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PARAPETS											
Y501	468	6'-5"	3132	23							
Y601	468	3'-11"	2716	34							
Y602	468	2'-10"	1989	1	1'-1"	1'-11"					
	8 SR	4'-2"			3'-6"						
Y603	OF	TO	572	1	TO	10"					3/8"
	11	4'-6"			3'-10"						
Y604	40	3'-10"	230	1	3'-6"	6"					
X501	32	10'-0"	334	STR							
X502	12	5'-6"	69	25							
X503	20	5'-6"	115	STR							
X504	96	30'-0"	3004	STR							
X505	12	14'-10"	186	STR							
X601	16	30'-0"	721	STR							
X602	2	16'-4"	49	STR							
TOTAL = 13,157 LB.											

NOTES

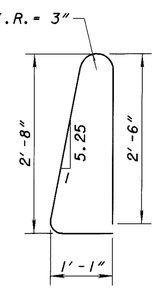
FOR SECTION B-B SEE SHEET 16/18

SEE DETAIL A SHEET 16/18 AND

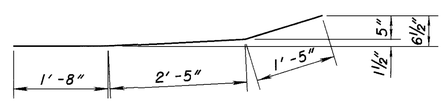
GENERAL NOTES SHEET 3/18 FOR PARAPET CRACK CONTROL SAW JOINT DETAILS



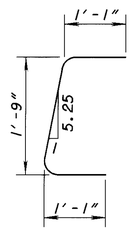
TYPE 1



TYPE 23



TYPE 25



TYPE 34

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION

DESIGNED RJH | DRAWN RJH | CHECKED TAA | REVISED | REVIEWED BCW | DATE 7-11-01 | STRUCTURE FILE NUMBER 3503755

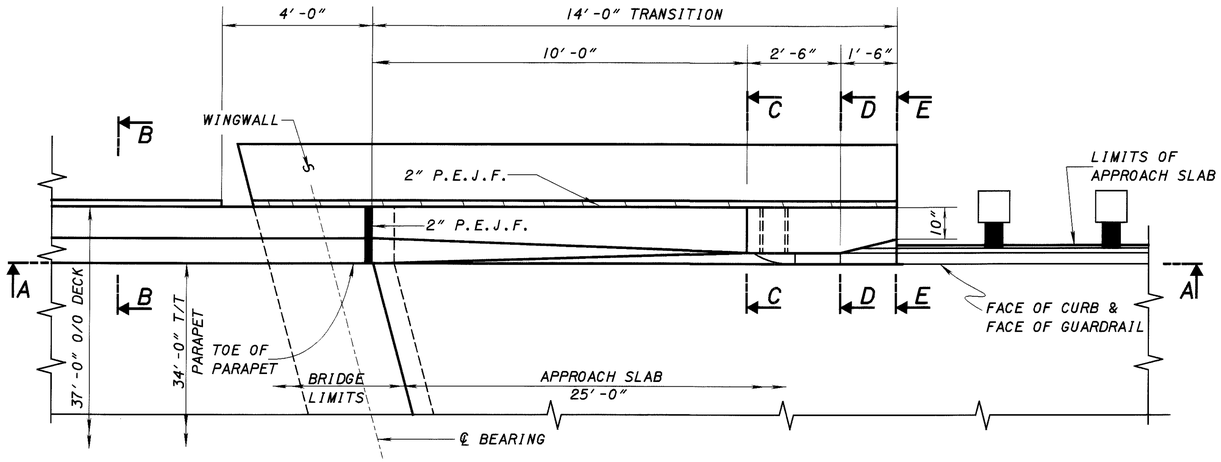
PARAPET DETAILS

HEN-424-1379
S.R. 424 OVER U.S. 6

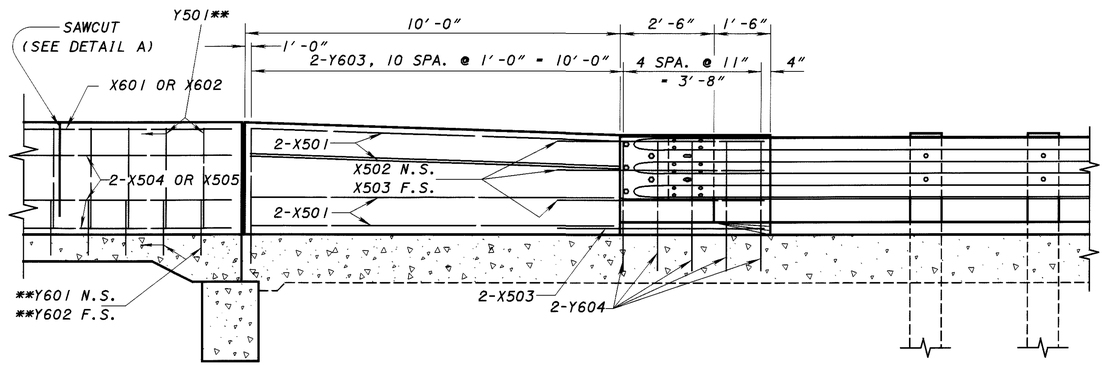
HEN-110/424-4.18/13.78

15/18

112/115

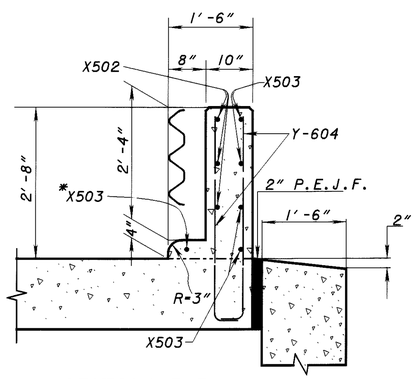


PART PLAN AT ABUTMENT



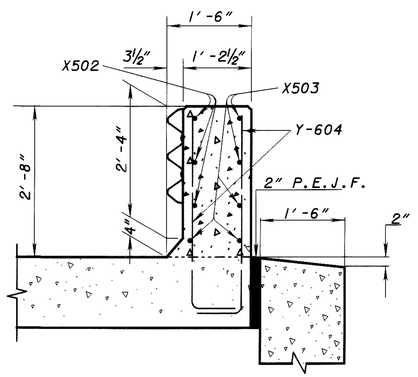
**SPACING SHOWN ON SHEET 15/18

VIEW A-A

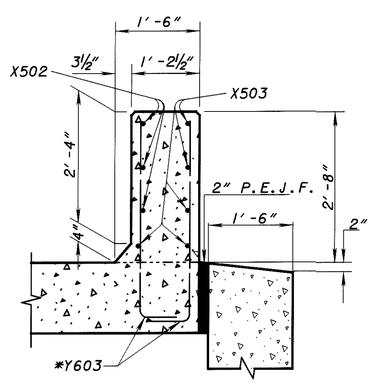


SECTION E-E

* FIELD BEND IF NECESSARY



SECTION D-D



SECTION C-C

NOTES

CONTROL JOINTS FOR CONCRETE PARAPETS: AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 1¼" DEEP CONTROL JOINTS SHALL BE SAWED INTO THE PERIMETER OF THE CONCRETE PARAPET. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. THE SAWCUTS SHALL BE PLACED AT A MINIMUM OF 6'-0". AND A MAXIMUM OF 10'-0" ON CENTERS. THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO INSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼". THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E TO A MINIMUM DEPTH OF 1 INCH. THE BOTTOM ½" OF THE INSIDE AND OUTSIDE FACE SHOULD BE LEFT UNSEALED TO ALLOW WATER TO ESCAPE. THE COST OF THE 1¼" SAWCUT AND THE CAULKING MATERIAL SHALL BE INCLUDED WITH THE ABOVE ITEM 898 FOR PAYMENT.

QUANTITIES OF CONCRETE FOR THE PARAPET ARE INCLUDED WITH ITEM 898 QC/QA CONCRETE CLASS QSC2 SUPERSTRUCTURE (PARAPET).

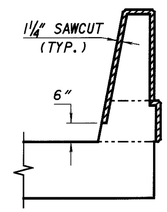
ITEM 526 REINFORCED CONCRETE APPROACH SLABS, (T=15")
CONCRETE FOR THIS ITEM SHALL BE CLASS HP CONCRETE, MIX 3 OR 4.

FOR BRIDGE TERMINAL ASSEMBLY SEE STANDARD CONSTRUCTION DRAWING GR-3.1 AND GR-3.2.

MIN. LAP SPLICES: #5 BAR - 2'-6"
#6 BAR - 3'-0"

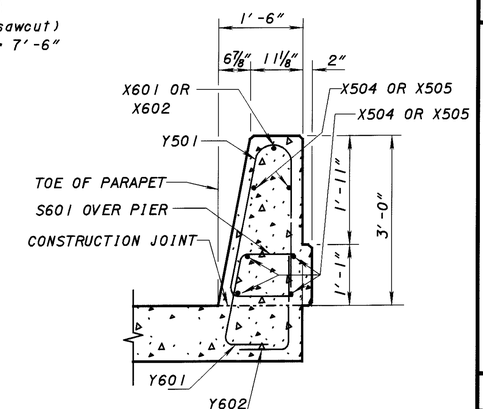
LEGEND: N.S. - NEAR SIDE
F.S. - FAR SIDE

FOR ADDITIONAL REINF., SEE STD. DWG. AS-1-81.



DETAIL A

(Section through sawcut)
Sawcut Perimeter = 7'-6"



SECTION B-B

Area = 3.81 ft²

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

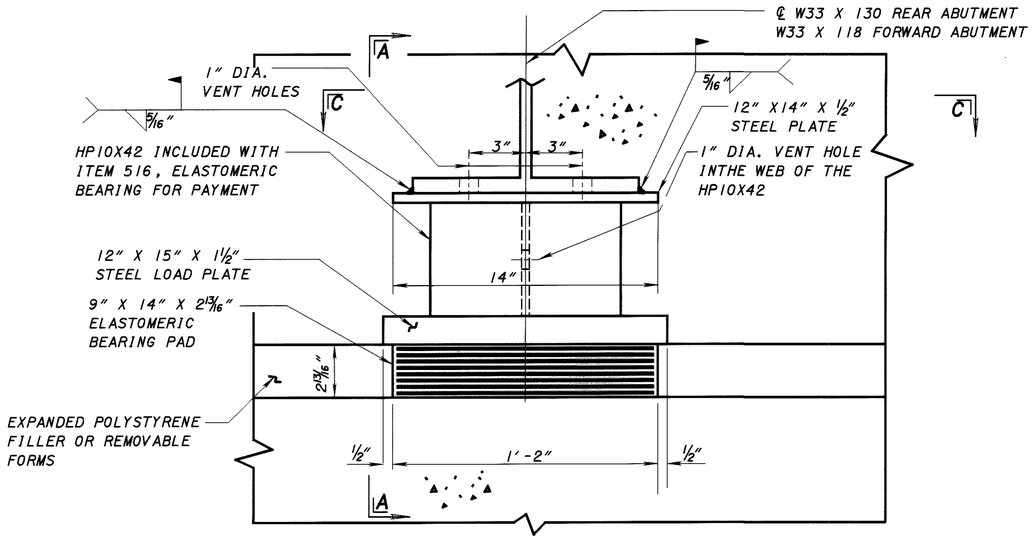
DESIGNED	DRAWN	REVIEWED	DATE
RJH	RJH	BCW	7-11-01
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAA		3503755	

APPROACH SLAB PARAPET DETAILS
HEN-424-1379
S.R. 424 OVER U.S. 6

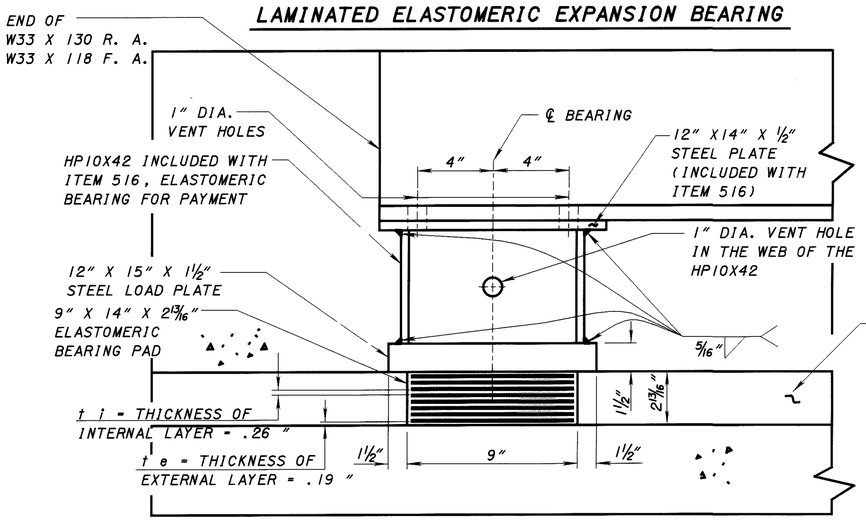
HEN-110/424-4.18/13.78

16/18

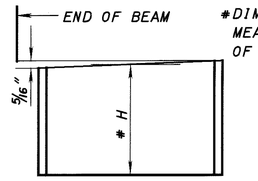
113/115



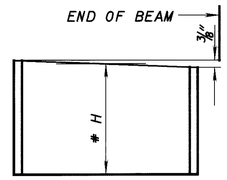
REAR AND FORWARD ABUTMENT
LAMINATED ELASTOMERIC EXPANSION BEARING



SECTION (A)–(A)



HP10X42 BEVELED DETAIL
(AT REAR ABUTMENT)



HP10X42 BEVELED DETAIL
(AT FORWARD ABUTMENT)

*DIMENSION H IS MEASURED TO ℄ OF HP10x42.

DIMENSION H (INCHES)		
	REAR ABUT	FWD ABUT
BEAM B	5 7/16"	8 3/4"
BEAM C	7 1/16"	10 1/16"
BEAM D	8 5/8"	11 5/16"
BEAM E	7 7/16"	9 3/16"
BEAM F	6 3/16"	8 5/16"

BEARING TABLE

BEARING LOCATION	TYPE	L	W	t_i in.	t_e in.	n_1	n_2	STEEL LOAD PL	TOTAL HEIGHT*	DL, Kips	LL, Kips	TOTAL, Kips
REAR & FORWARD ABUTMENT	EXP	9"	14"	.26"	.19"	7	8	12"x15"x1½"	4 5/16"	67	43	110
PIER 1	EXP	10½"	17"	.31"	.22"	4	5	11½"x18"x1 5/8"	3 11/16"	105	52	157
PIER 2	EXP	10½"	17"	.31"	.22"	4	5	11½"x18"x1 5/8"	3 11/16"	109	51	160
PIER 3	EXP	10½"	17"	.31"	.22"	4	5	11½"x18"x1 5/8"	3 11/16"	93	51	144

n_1 - NUMBER OF INTERNAL ELASTOMER LAYERS, t_i ELASTOMER LAYERS ARE 50 DUROMETERS
n_2 - NUMBER OF STEEL LAMINATES, 0.0747" THICKNESS * TOTAL HEIGHT INCLUDES LOAD PLATE

NOTES:

MATERIALS: THE HP SHAPE (SUPPORT MEMBER) AND STEEL LOAD PLATES SHALL BE A36 STEEL. THE HP SHAPE AND STEEL PLATES SHALL BE GALVANIZED.

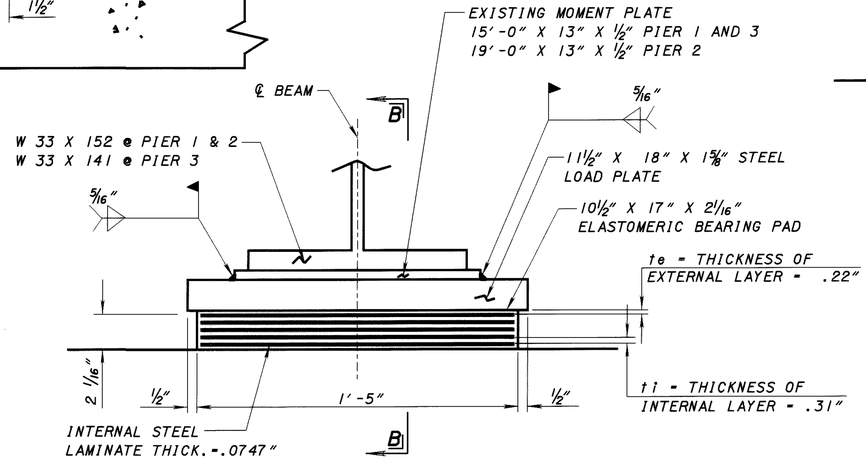
WELDING: WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

ELASTOMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES, SECTION 18, BEARING DEVICES, DIVISION II, CONSTRUCTION ARTICLES 18.4.5.1 AND 18.5.6.2. BEARINGS SHALL BE GRADE 3, 50 DUROMETER ELASTOMER AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIREMENTS DEFINED IN ARTICLE 18.7.4.5 OF THE AASHTO DOCUMENT LISTED ABOVE.

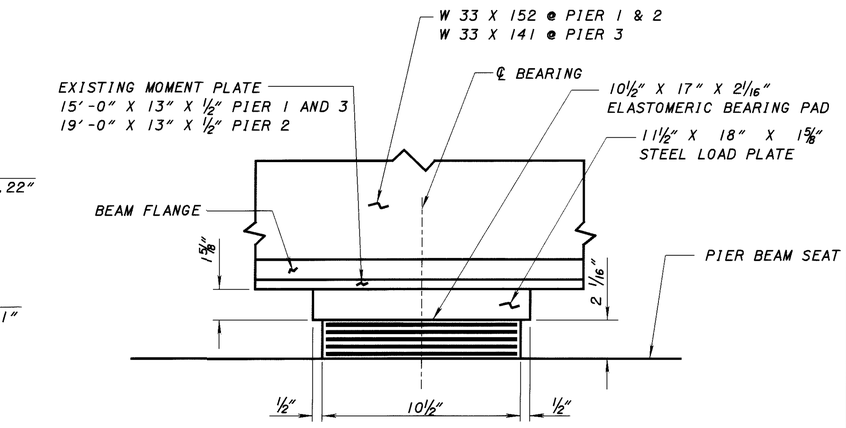
BEARING REPOSITIONING: IF THE EXISTING STEEL BEAMS ARE AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F WHEN THE BEARINGS ARE PLACED AND THE BEARING SHEAR DEFLECTION EXCEEDS ONE SIXTH OF THE BEARING HEIGHTS AT 60°F ± 10°F, THE BEAMS SHALL BE RAISED TO ALLOW THE BEARING TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ± 10°F.

BASIS OF PAYMENT: THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, TESTING, VENT HOLES, PROTECTIVE COATING, HP10x42, STEEL PLATES AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE):

9"x14"x2 13/16" WITH 12"x15"x1½" LOAD PLATE, AS PER PLAN (ABUTMENTS)
10½"x17"x2 1/16" WITH 11½"x18"x1 5/8" LOAD PLATE. (PIERS)



PIER 1, PIER 2 AND PIER 3
LAMINATED ELASTOMERIC EXPANSION BEARING



SECTION (B)–(B)

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
DESIGNED DB | DRAWN DB | CHECKED TAA | REVISED | REVIEWED BCW | DATE 7-11-01 | STRUCTURE FILE NUMBER 3503755

BEARING PAD DETAILS
HEN-424-1.79
S.R. 424 OVER U.S. 6

HEN-110/424-4.18/13.78

17 / 18

114 / 115

MARK	NUMBER REAR	NUMBER FWD	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
ABUTMENTS													
A501	60	60	120	9′-0″	1127	2	2′-11″	3′-5″	2′-11″				
A502	30	30	60	7′-6″	469	2	2′-5″	2′-11″	2′-5″				
A503	12	12	24	9′-1″	227	STR							
A504	10	10	20	14′-1″	294	STR							
A505	46	46	92	3′-9″	360	STR							
A506	30	30	60	3′-1″	193	STR							
A507	12	12	24	7′-10″	196	STR							
A508	10	10	20	12′-10″	268	STR							
A509	4	4	8	38′-4″	320	STR							
A510	70	70	140	4′-6″	657	1	1′-10″	2′-9″					
A601	14	14	28	4′-10″	203	1	1′-0″	4′-0″					
A602	44	44	88	10′-1″	1332	STR							
A603	22	22	44	10′-10″	716	2	5′-0″	1′-2″	5′-0″				
A604	10		10	6′-6″	98	2	4′-0″	1′-2″	4′-0″				
A605		10	10	7′-0″	105	2	4′-3″	1′-2″	4′-3″				
A801	28	28	56	22′-2″	3313	STR							
A802	8	8	16	11′-8″	500	STR							
	2SR	2SR		10′-6″									
A803	OF	OF	16	TO	465	STR							3″
	4	4		11′-3″									
D801	25	25	50	4′-11″	657	18	2′-8″	1′-0″	1′-0″				
SUB TOTAL = 11,500 LB													
PIERS													
P501			92	3′-2″	303	1	1′-10″	1′-5″					
P502			46	3′-5″	164	1	1′-10″	1′-8″					
P701			12	33′-8″	826	STR							
SUB TOTAL = 1,293 LB													

GRAND TOTAL = 80,699 LB (INCLUDES QUANTITY FROM SHT. 15/18)

MARK	TOTAL	LENGTH	WEIGHT LB	TYPE	DIMENSIONS A	B	C	INC
SUPERSTRUCTURE								
S401	328	30′-0″	6573	STR				
S402	41	10′-4″	283	STR				
S501	368	30′-0″	11515	STR				
S502	46	14′-10″	712	STR				
S503	776	37′-10″	30619	STR				
S601	120	28′-0″	5047	STR				
SUB TOTAL = 54,749 LB								

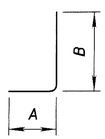
NOTES

ALL REINFORCING STEEL SHALL BE EPOXY COATED.

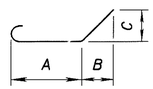
THE BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT INDICATES THE BAR SIZE. FOR EXAMPLE, AN A501 IS A #5 BAR. THE DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. "R" INDICATES THE INSIDE RADIUS.

REIFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO BE PROPERLY FITTED. PAYMENT SHALL BE INCLUDED WITH THE ASSOCIATED CONCRETE ITEM.

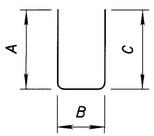
TOTAL = 80,699 LB



TYPE-1



TYPE-18



TYPE-2

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED BCW
DATE 7-11-01
STRUCTURE FILE NUMBER 3503755

DRAWN RJH
REVISED

DESIGNED RJH
CHECKED TAA

REINFORCING STEEL SCHEDULE

HEN-424-1379
S.R. 424 OVER U.S. 6

HEN-110/424-4.18/13.78

18/18

115/115