

RTE. NO.	SECTION	COUNTY	TOTAL SHEETS
C.H. 20	05-00195-00-BR	MACON	10
FED. ROAD DIST. NO.	ILLINOIS PROJECT	BRS-549(101)	1

CONTRACT NO. 95492

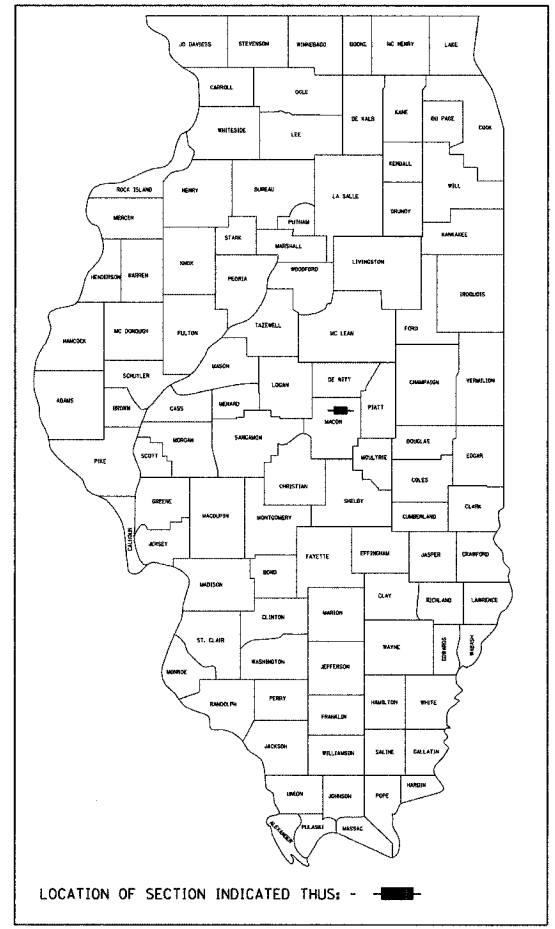
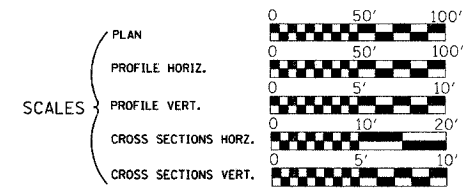
INDEX OF SHEETS

- 1 Cover Sheet
- 2 Summary of Quantities, General Notes, Typical Cross Sections and Details
- 3 Plan and Profile
- 4 Horizontal Layout
- 5-11 Station Cross Sections
- 12 Storm Water Pollution Prevention Plan
- 13-18 Bridge Plans

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
**PLANS FOR PROPOSED
LOCAL AGENCY IMPROVEMENT**

LIST OF STANDARDS

- Standard 000001-04 Standard symbols, abbreviations and patterns
- Standard 280001-03 Temporary erosion control systems
- Standard 515001-02 Name plate for bridges
- Standard 630001-07 Steel Plate Beam Guardrail
- Standard 630301-04 Shoulder Widening for Type 1 (Special) Guardrail Terminals
- Standard 631032-03 Traffic Barrier Terminal Type 6A
- Standard 635006-02 Reflective and Terminal Marker Placement
- Standard 701011-01 Off-road moving operations, 2-l, 2-w, day only, for speeds > 45 mph
- Standard 701301-02 Lane closure, 2-l, 2-w, short time operations
- Standard 702001-06 Traffic control devices
- Standard BLR-21-6 Typical application of traffic control devices for Construction on Rural Local Highways
- Standard BLR-22-4 Typical application of traffic control devices 2-l, 2-w, rural, Road closed to Thru Traffic



ROADWAY CLASSIFICATION: MAJOR COLLECTOR
2025 ADT = 2200 (2.0% TRUCKS)
2025 DHV = 285
DESIGN SPEED: 55 MPH

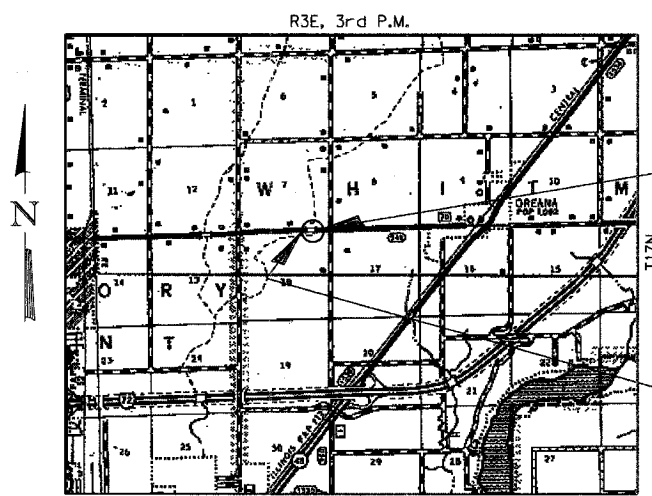
HIGHWAY BRIDGE PROGRAM
C.H. 20 OVER DRAINAGE DITCH
SECTION 05-00195-00-BR
MACON COUNTY
PROJECT BRS-549(101)

C-97-023-07

JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS
J.U.L.I.E. Telephone No. Toll Free 1-800-892-0123

CONTRACT NO. : 95492

URS
345 EAST ASH AVENUE, SUITE B
DECATUR, ILLINOIS 62526
PH. 217-875-4800



IMPROVEMENT ENDS
STA. 19+50.00

EXIST. STR. NO. 058-3012
PROP. STR. NO. 058-3377

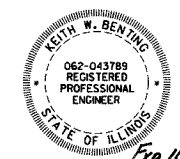
IMPROVEMENT BEGINS
STA. 10+85.00

IMPROVEMENT CONSISTS OF THE REMOVAL OF A SINGLE SPAN CAST-IN-PLACE CONCRETE SLAB WITH ONE PRECAST DECK BEAM ON EACH SIDE ON CLOSED CONCRETE ABUTMENTS WITH CONCRETE WINGWALLS. 0-0 DECK = 30'-2", BK.-BK. ABUTMENTS = 25'-0" AND THE CONSTRUCTION OF A SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE ON CONCRETE SPILL THRU ABUTMENTS. TOTAL LENGTH = 69'-6 3/8", WIDTH = 32'-0" 0-0. DECK AND NECESSARY APPROACH ROADWAY WORK.

LAYOUT

Approximate Scale: 1" = 1 mile

Total and Net Length of Improvement 865.00 Feet = 0.164 Miles



Keith M. Benting
Illinois Professional No. 43789

APPROVED October 19 2006
COUNTY ENGINEER

PASSED Michael J. [Signature] 2006
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

Releasing For Bid Based on Limited Review Christi M. [Signature] 11/8 2006
DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

10/18/2006
Date

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 20	05-00195-00-BR	MACON	18	2
FED. ROAD DIST. NO.		ILLINOIS	PROJECT BRS-549(101)	

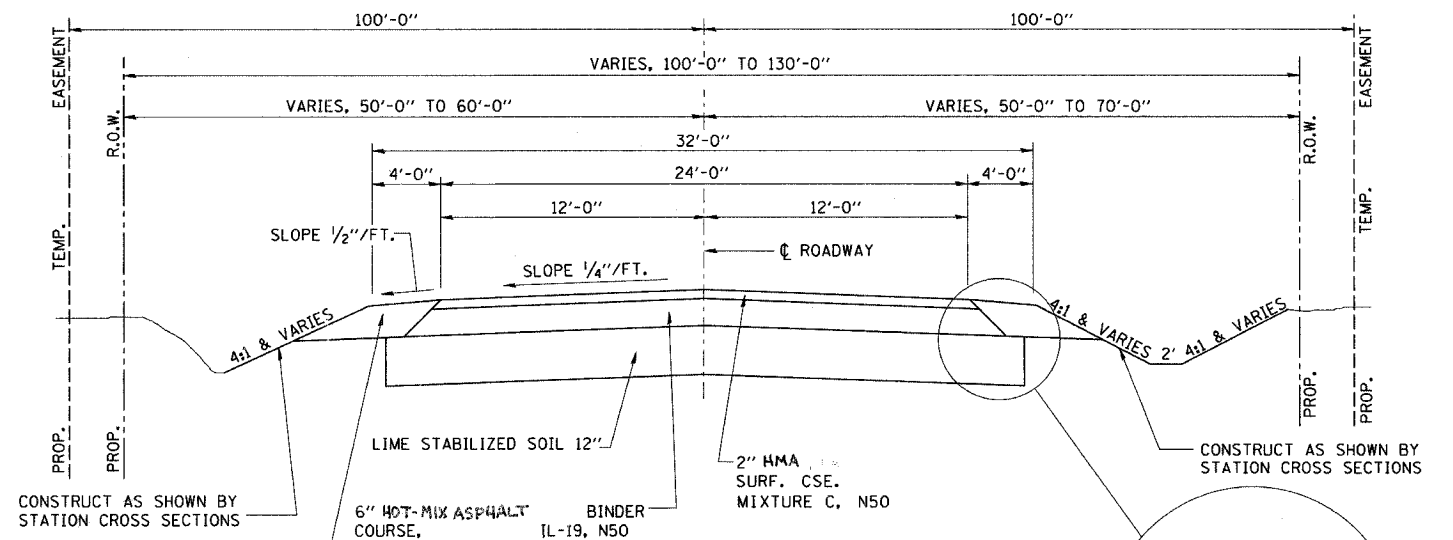
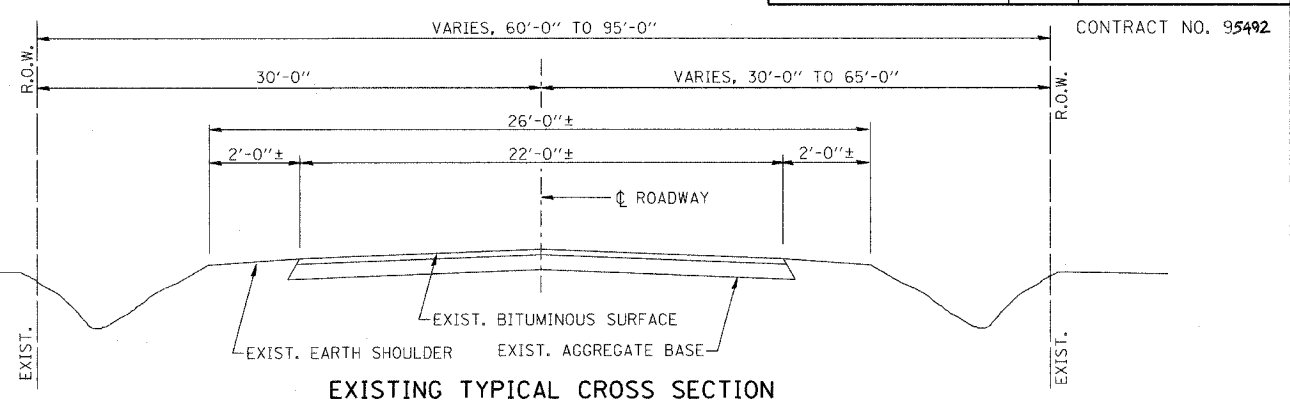
SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	718
20200300	EARTH EXCAVATION FOR EROSION CONTROL	CU YD	44
20300100	CHANNEL EXCAVATION	CU YD	314
20400800	FURNISHED EXCAVATION	CU YD	2707
25000200	SEEDING, CLASS 2	ACRE	1.2
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	108
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	108
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	108
25100115	MULCH, METHOD 2	ACRE	1.2
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	120
28000300	TEMPORARY DITCH CHECKS	EACH	6
28000400	PERIMETER EROSION BARRIER	FOOT	1170
28100107	STONE RIPRAP, CLASS A4	SO YD	1117
28200200	FILTER FABRIC	SO YD	1117
31001500	LIME	TON	52.4
31000600	PROCESSING LIME STABILIZED SOIL MIXTURE 12"	SO YD	2328
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	1228
40600300	AGGREGATE (PRIME COAT)	TON	5
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	737
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	264
48101200	AGGREGATE SHOULDERS, TYPE B	TON	473
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	36.5
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SO FT	2149
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	4380
50901050	STEEL RAILS TYPE SM	FOOT	135
51201005	FURNISHING METAL SHELL PILES 12"	FOOT	351
51202305	DRIVING PILES	FOOT	351
51203200	TEST PILE METAL SHELLS	EACH	1
51500100	NAME PLATES	EACH	1
58100200	WATERPROOFING MEMBRANE SYSTEM	SO YD	239
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	470
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	25.1
*63000005	STEEL PLATE BEAM GUARD RAIL, TYPE B	FOOT	800
*63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4
*63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	4
67100100	MOBILIZATION	L SUM	1
78201000	TERMINAL MARKER-DIRECT APPLIED	EACH	4

*SPECIALTY ITEMS

BITUMINOUS MIXTURE REQUIREMENTS

LOCATION	CH 20	CH 20
MIX USE	BINDER	SURFACE
AC/PG	PG 64-22	PG 64-22
RAP %	25	15
DESIGN VOIDS	4.0 @ N=50	4.0 @ N=50
MIXTURE COMPOSITION (GRAD. MIXTURE)	IL-19.0	IL-9.5
FRICTION	N/A	MIX C



PROPOSED TYPICAL CROSS SECTION

STA. 11+85.00 TO STA. 15+32.22
 STA. 16+01.75 TO STA. 18+50.00
 (TRANSITION STA. 10+85.00 TO STA. 11+85.00)
 (TRANSITION STA. 18+50.00 TO STA. 19+50.00)

ROADWAY QUANTITY SCHEDULE

LOCATION	PR LIM STAB SOIL M 12" (SQ YD)	BIT MATLS PR CT (GAL)	AGG PR CT (TON)	BCBC SUP IL-19.0 N50 (TON)	BC SC SUPER "C" N50 (TON)	AGGREGATE SHLDS B (TON)
M.L. STA. 6+90.00 TO STA. 10+85.00						87
M.L. STA. 10+85.00 TO STA. 15+32.22	1309	690	2.5	414	134	212
M.L. STA. 16+01.75 TO STA. 19+50.00	1019	538	2.5	323	105	174
OVERLAY AT STRUCTURE						25
TOTALS	2328	1228	5	737	264	473

GENERAL NOTES

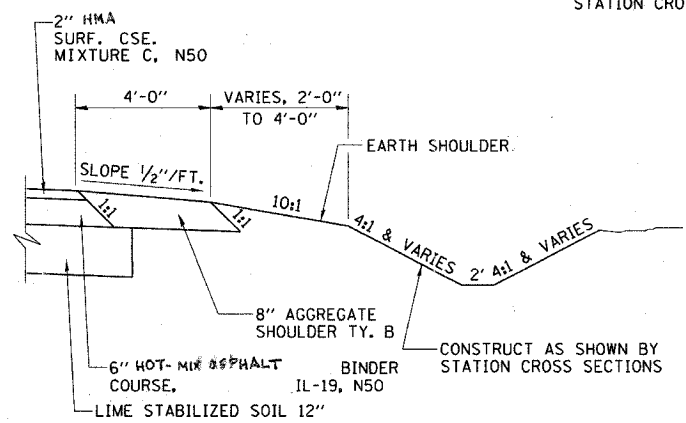
THE AREA TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT-OF-WAY AND EASEMENTS AS DIRECTED BY THE ENGINEER.

LAYOUT OF EROSION CONTROL ITEMS MAY BE VARIED IN THE FIELD TO SUIT GROUND CONDITIONS AS DIRECTED BY THE ENGINEER.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITY FACILITIES. HE SHALL ALSO OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULES OF THE UTILITY COMPANIES FOR THEIR MARKING OF THE EXACT LOCATION.

WHERE SECTION OR SUB-SECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL MONUMENTS UNTIL AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE COST OF HAVING AN AUTHORIZED SURVEYOR RE-ESTABLISH ANY SECTION OR SUB-SECTION MONUMENTS DESTROYED BY HIS OPERATIONS.

REMOVAL OF EXISTING PAVEMENT MATERIAL SHALL BE INCLUDED IN EARTH EXCAVATION.



APPLICATION RATES

LIME	45	LBS./S. Y.
GRANULAR MATERIALS	2.05	TONS/CU. YD.
BITUMINOUS MATERIALS-PRIME COAT	0.50	GALS./S. Y.
BITUMINOUS MATERIALS-FOG COAT	0.03	GALS./S. Y.
AGGREGATE PRIME COAT	2 OR 4	LBS./S. Y.
BITUMINOUS CONCRETE	112	LBS./S. Y./INCH
NITROGEN FERTILIZER NUTRIENT	90	LBS./ACRE
PHOSPHORUS FERTILIZER NUTRIENT	90	LBS./ACRE
POTASSIUM FERTILIZER NUTRIENT	90	LBS./ACRE
MULCH METHOD 2	2	TONS/ACRE

GENERAL DATA

Date	Designed MJP	C.H. 20 OVER DRAINAGE DITCH SECTION 05-00195-00-BR MACON COUNTY STA. 15+66.99 PROP. STR. NO. 058-3377
Revisions	Drawn REZ	
	Checked KWB	
	Approved KWB	
Prepared by:	URS	
345 East Ash Avenue Decatur, IL 62526		URS Job No. 36431466

BENCHMARK:
 R.R. SPIKE IN POWER POLE
 STA. 11+73.68, 31.7' LT.
 ELEV. 100.00

EXISTING STRUCTURE NO. 058-3012
 SINGLE SPAN CAST IN PLACE CONCRETE SLAB WITH ONE PRECAST DECK BEAM
 ON EACH SIDE ON CLOSED CONCRETE ABUTMENTS WITH CONCRETE WINGWALLS.
 25'-0" BK.-BK. ABUTMENTS
 30'-2" O.-O. DECK

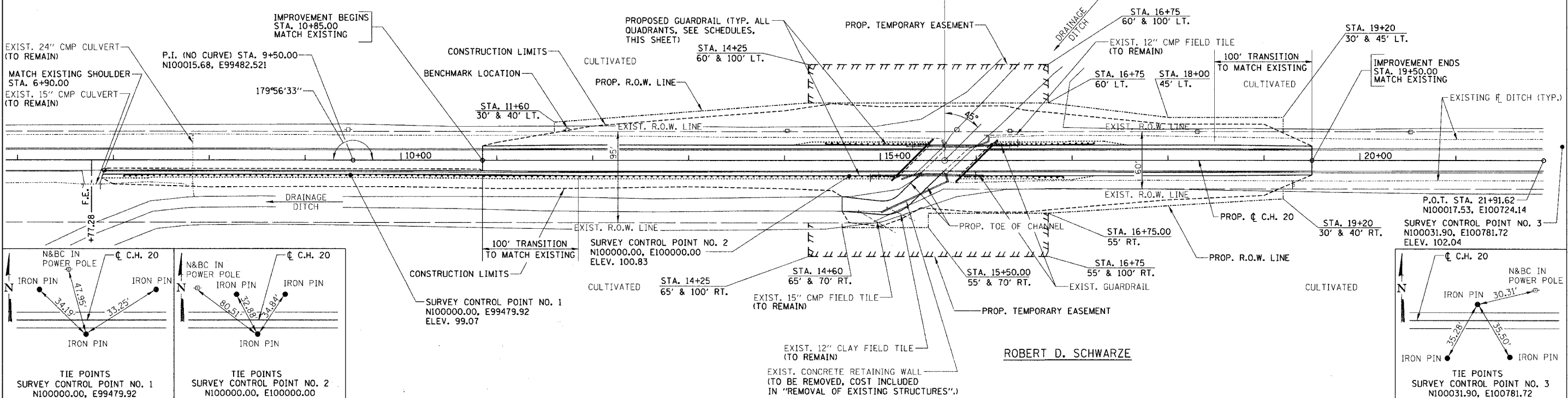
STA. 15+66.99, SPECIAL BRIDGE DESIGN,
 SINGLE SPAN PPC DECK BEAM BRIDGE,
 SPAN OF 65'-6 1/4" ON CONC. PILE BENT ABUT'S
 LENGTH = 69'-6 3/8" BK.-BK. ABUT'S,
 WIDTH = 32'-0" O.-O. DECK
 SKEW = 45° LT. FWD.
 PROP. STR. NO. 058-3377

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 20	05-00195-00-BR	MACON	18	3
STA. 9+50.00 TO STA. 21+91.62				
FED. ROAD DIST. NO.	ILLINOIS PROJECT	BRS-549101		

CONTRACT NO. 95492

DATE
 BY
 REVIEWED
 PLANNED
 ALIGNED
 CHECKED
 DATE
 FILE NAME
 NO.

DATE
 BY
 REVIEWED
 PLAN
 CHECKED
 DATE
 FILE NAME
 NO.



TIE POINTS SURVEY CONTROL POINT NO. 1
 N100000.00, E99479.92

TIE POINTS SURVEY CONTROL POINT NO. 2
 N100000.00, E100000.00

TIE POINTS SURVEY CONTROL POINT NO. 3
 N100031.90, E100781.72

STEEL PLATE BEAM GUARDRAIL, TYPE B
 RT. STA. 7+61.16 TO RT. STA. 14+86.16 = 725 FOOT
 LT. STA. 14+93.15 TO LT. STA. 15+18.15 = 25 FOOT
 RT. STA. 16+15.82 TO RT. STA. 16+40.82 = 25 FOOT
 LT. STA. 16+47.82 TO LT. STA. 16+72.82 = 25 FOOT
 TOTAL = 800 FOOT

TERMINAL MARKER - DIRECT APPLIED

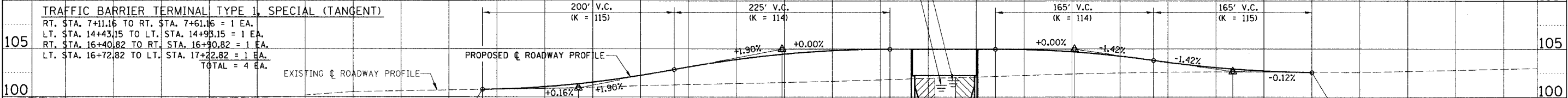
N.W. QUADRANT = 1 EA.
 S.W. QUADRANT = 1 EA.
 N.E. QUADRANT = 1 EA.
 S.E. QUADRANT = 1 EA.
 TOTAL = 4 EA.

EARTHWORK SUMMARY

EARTH EXCAVATION = 718 CU. YD.
 CHANNEL EXCAVATION = 314 CU. YD.
 FURNISHED EXCAVATION = 2707 CU. YD.

FOR INFORMATION ONLY

MATERIAL REQUIRED FOR EMBANKMENT
 (NOT A PAY ITEM) = 3203 CU. YD.
 UNSUITABLE CHANNEL EXCAVATION = 211 CU. YD.
 UNSUITABLE EXIST. PAV'T EXCAVATION = 160 CU. YD.
 FURNISHED EXCAVATION REQUIRED =
 3203 - (718 + 314 + 211 + 160) (0.75 SHRINKAGE) = 2707 CU. YD.



SEEDING, CLASS 2
 AREA INSIDE OF CONSTRUCTION LIMITS, LESS ROADWAY.
 TOTAL = 1.2 ACRES

NITROGEN FERTILIZER NUTRIENT
 TOTAL = 108 POUNDS

PHOSPHORUS FERTILIZER NUTRIENT
 TOTAL = 108 POUNDS

POTASSIUM FERTILIZER NUTRIENT
 TOTAL = 108 POUNDS

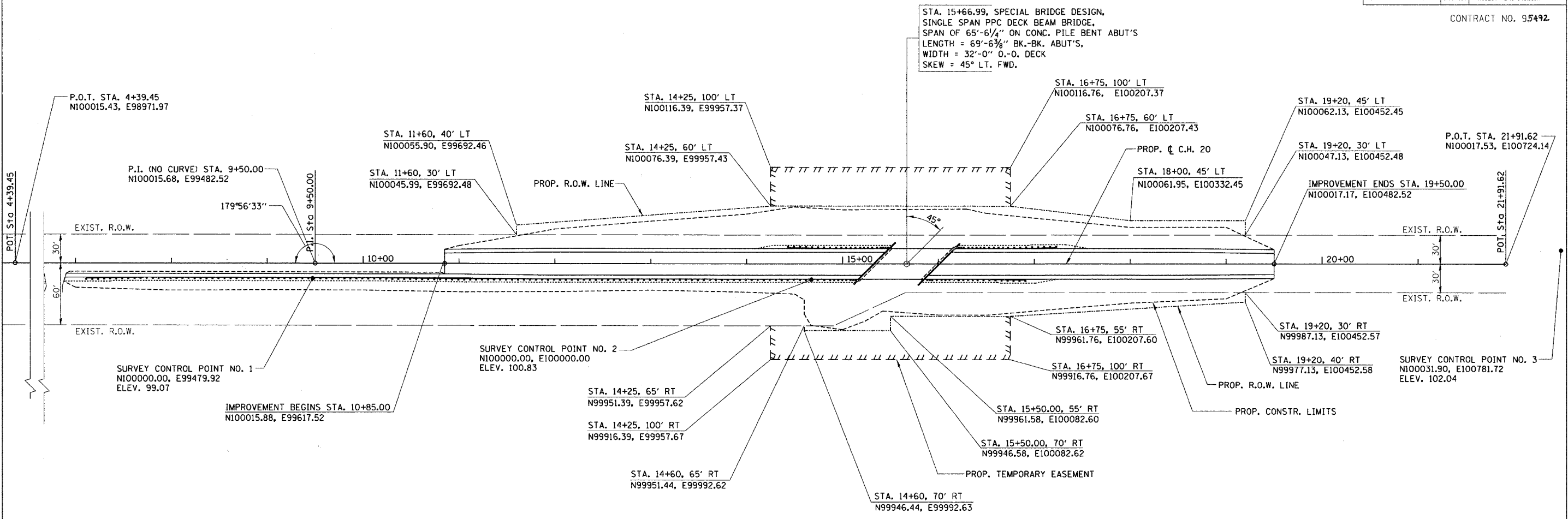
MULCH, METHOD 2
 TOTAL = 1.2 ACRES

Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation												
7+00	100.05	11+00	100.80	15+00	104.98	19+00	102.60	21+00	102.90	8+00	100.03	12+00	101.54	16+00	102.23	20+00	102.54	9+00	100.18	13+00	103.12	17+00	102.37	21+00	102.77	10+00	100.63	14+00	104.47	18+00	103.60	21+00	102.90

ROBERT D. SCHWARZE

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 20	05-00195-00-BR	MACON	18	4
STA. 10+00.00 TO STA. 20+60.00				
FED. ROAD DIST. NO.	ILLINOIS	PROJECT	BRS-549(101)	

CONTRACT NO. 95492



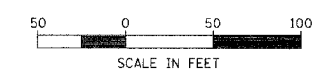
PROPOSED STRUCTURE LAYOUT

WEST ABUTMENT

BK. OF W. ABUT. STA. 15+32.22
 N100016.55, E100064.74
 C W. ABUT. STA. 15+33.99
 N100016.55, E100066.51
 FACE OF W. ABUT. STA. 15+35.76
 N100016.55, E100068.28

EAST ABUTMENT

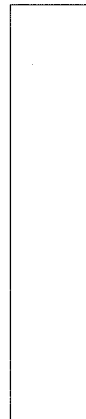
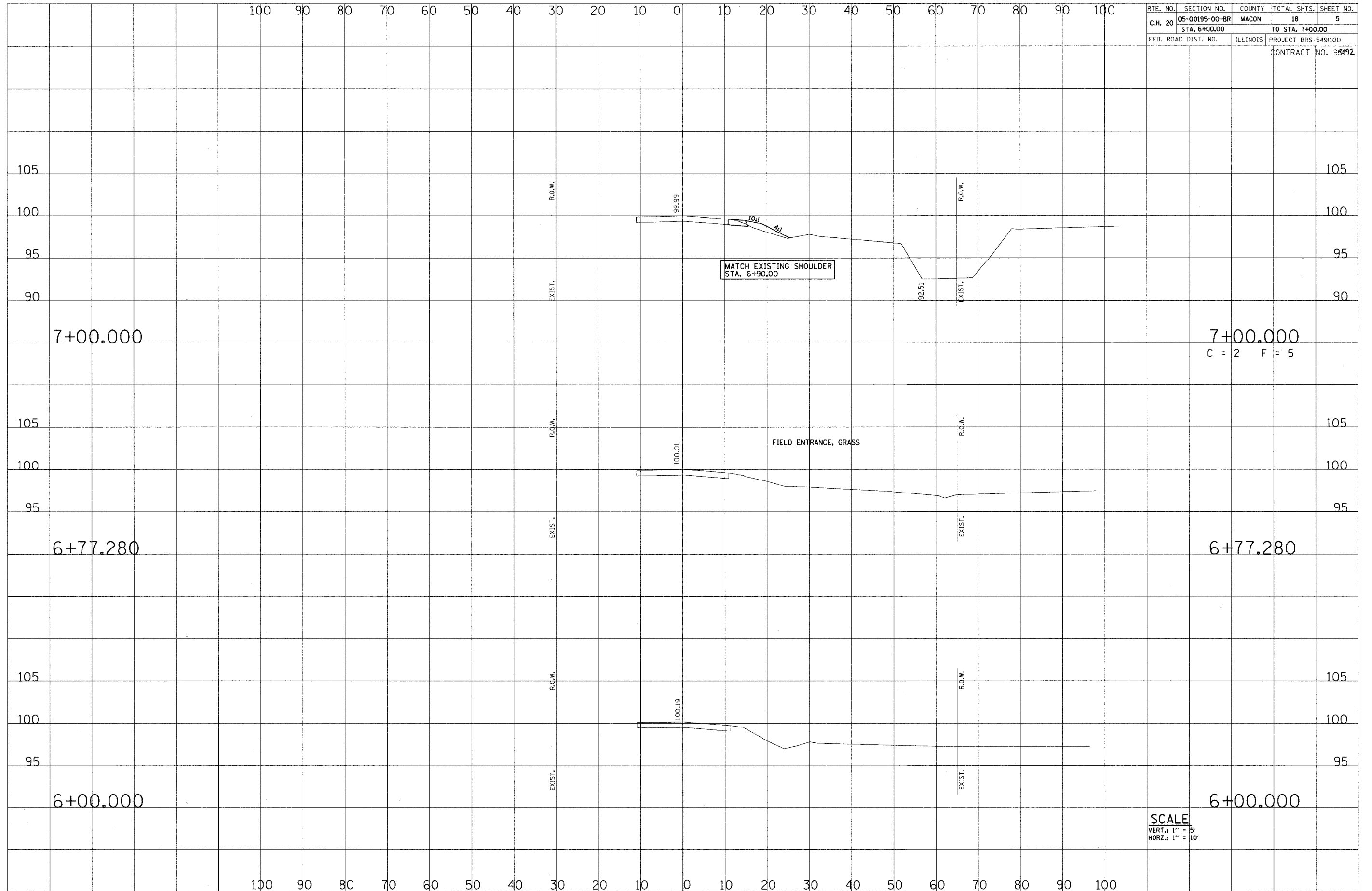
BK. OF E. ABUT. STA. 16+01.75
 N100016.65, E100134.27
 C E. ABUT. STA. 15+99.98
 N100016.65, E100132.50
 FACE OF E. ABUT. STA. 15+98.21
 N100016.65, E100130.73



NOTE:
 FOR TIE POINTS AND BENCHMARK LOCATION,
 SEE SHEET 3 OF 18.

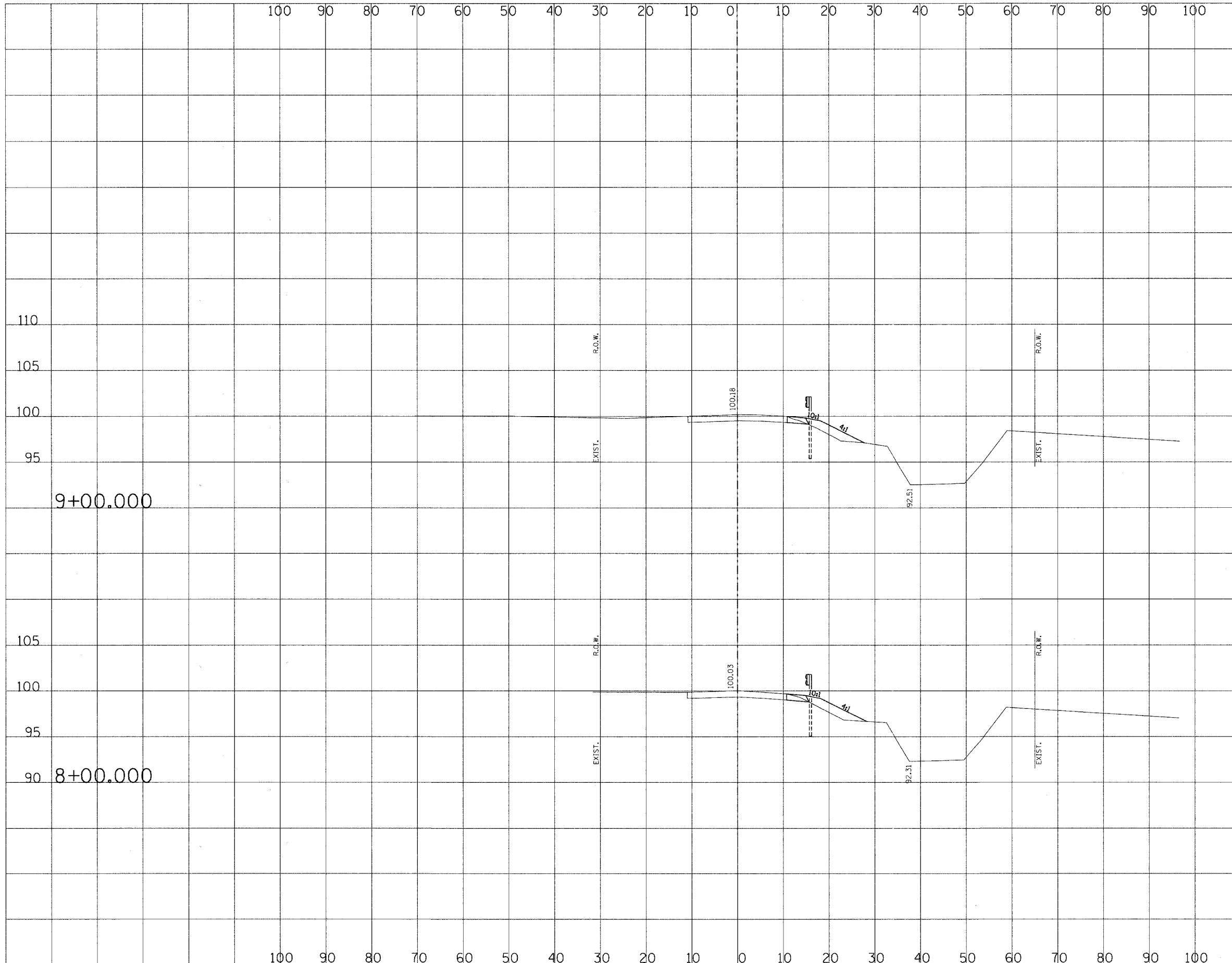
HORIZONTAL LAYOUT

RTE. NO.	SECTION NO.	COUNTY	TOTAL SHTS.	SHEET NO.
C.H. 20	05-00195-00-BR	MACON	18	5
	STA. 6+00.00		TO STA. 7+00.00	
FED. ROAD DIST. NO.	ILLINOIS	PROJECT BRS-549(101)		
CONTRACT NO. 95492				



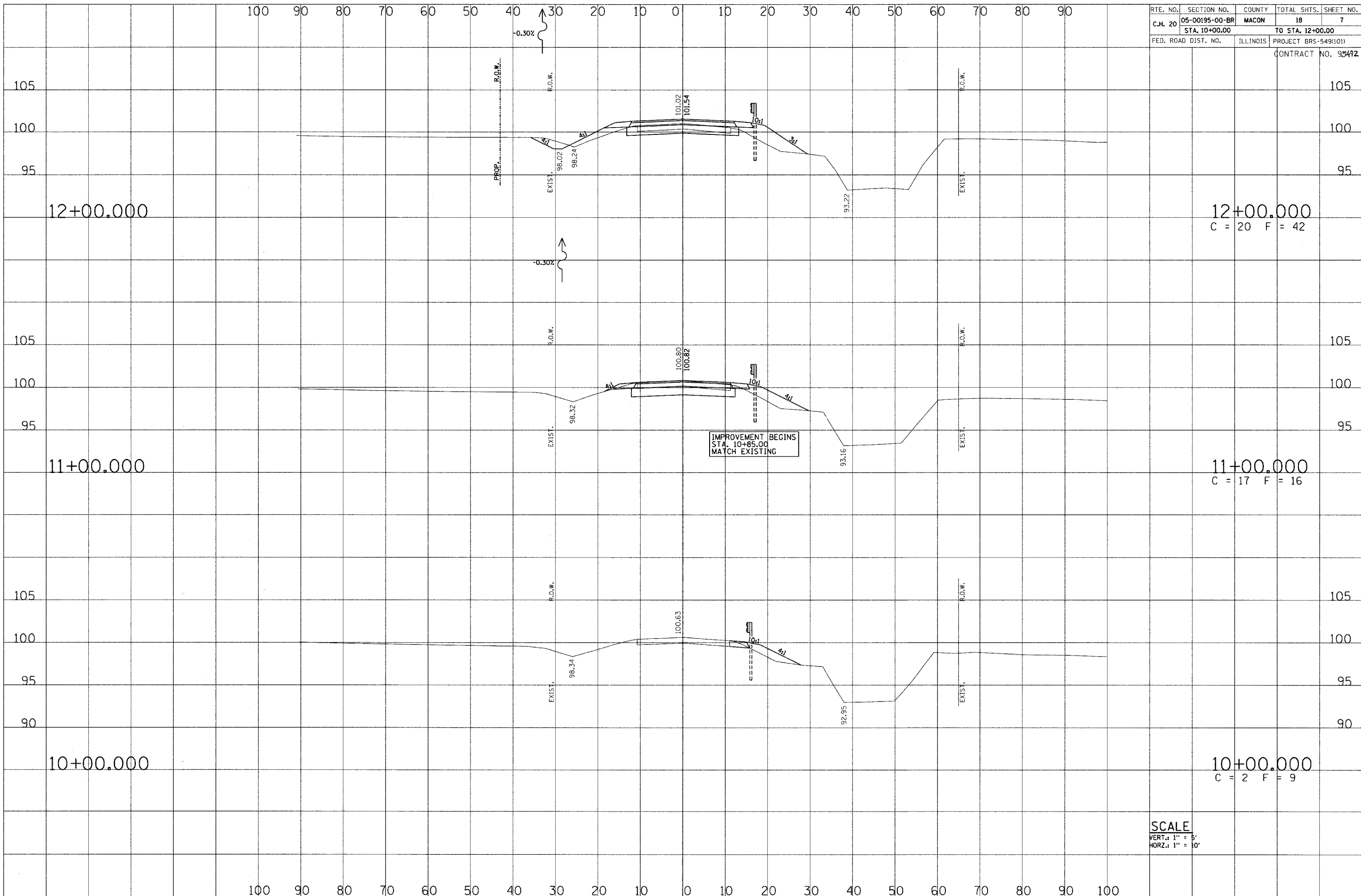
SCALE
 VERT.: 1" = 5'
 HORZ.: 1" = 10'

RTE. NO.	SECTION NO.	COUNTY	TOTAL SHTS.	SHEET NO.
C.H. 20	05-00195-00-8R	MACON	18	6
	STA. 8+00.00		TO STA. 9+00.00	
FED. ROAD DIST. NO.		ILLINOIS	PROJECT BRS-549(101)	
CONTRACT NO. 95492				



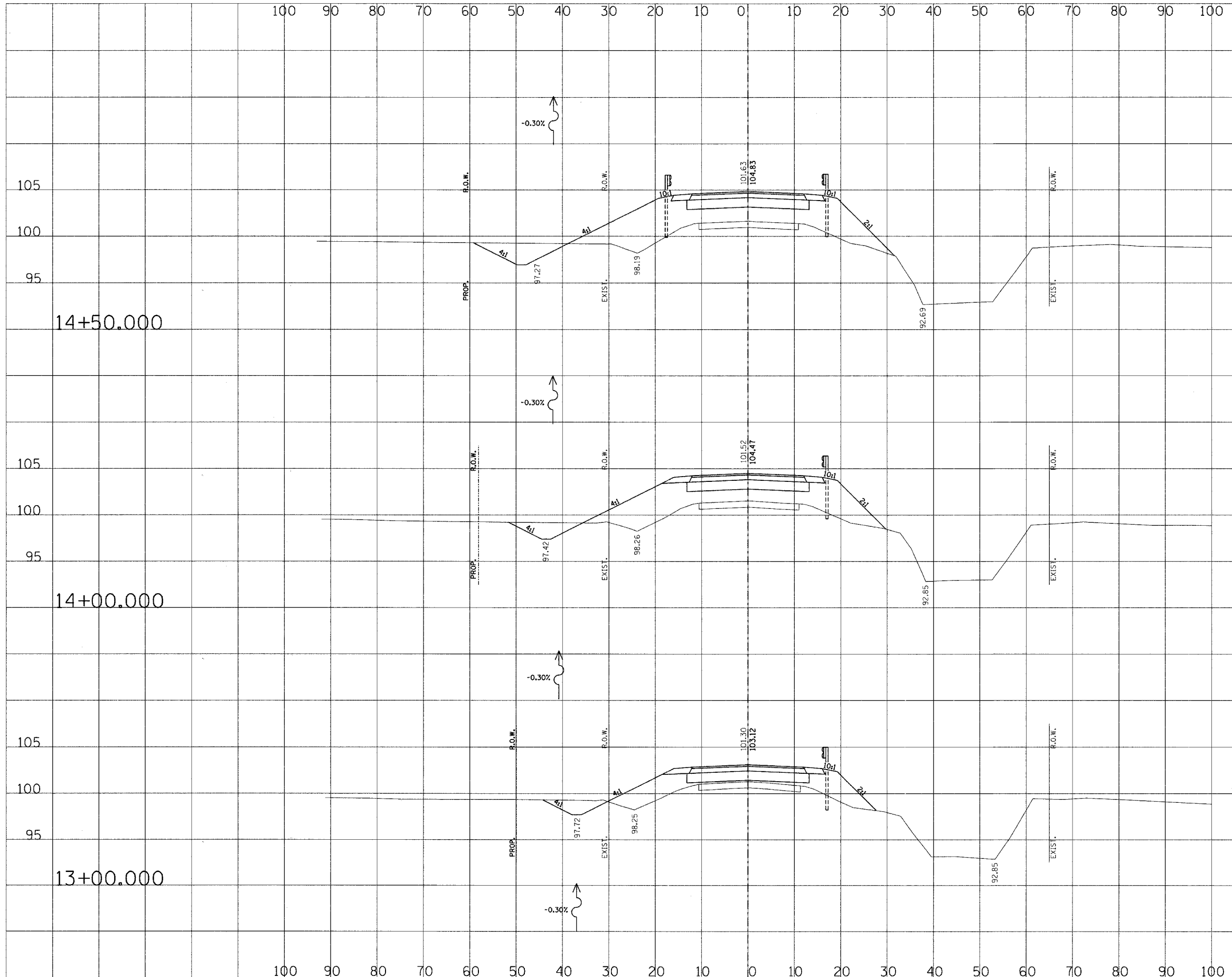
SCALE
 VERT.: 1" = 5'
 HORZ.: 1" = 10'

RTE. NO.	SECTION NO.	COUNTY	TOTAL SHTS.	SHEET NO.
C.H. 20	05-00195-00-BR	MACON	18	7
STA. 10+00.00		TO STA. 12+00.00		
FED. ROAD DIST. NO.	ILLINOIS	PROJECT BRS-549(101)		
CONTRACT NO. 95492				



SCALE
 VERT.: 1" = 5'
 HORZ.: 1" = 10'

RTE. NO.	SECTION NO.	COUNTY	TOTAL SHTS.	SHEET NO.
C.H. 20	05-00195-00-BR	MACON	18	8
STA. 13+00.00		TO STA. 14+50.00		
FED. ROAD DIST. NO.	ILLINOIS	PROJECT BRS-549(101)		
CONTRACT NO. 95492				



14+50.000

14+50.000
C = 26 F = 190

14+00.000

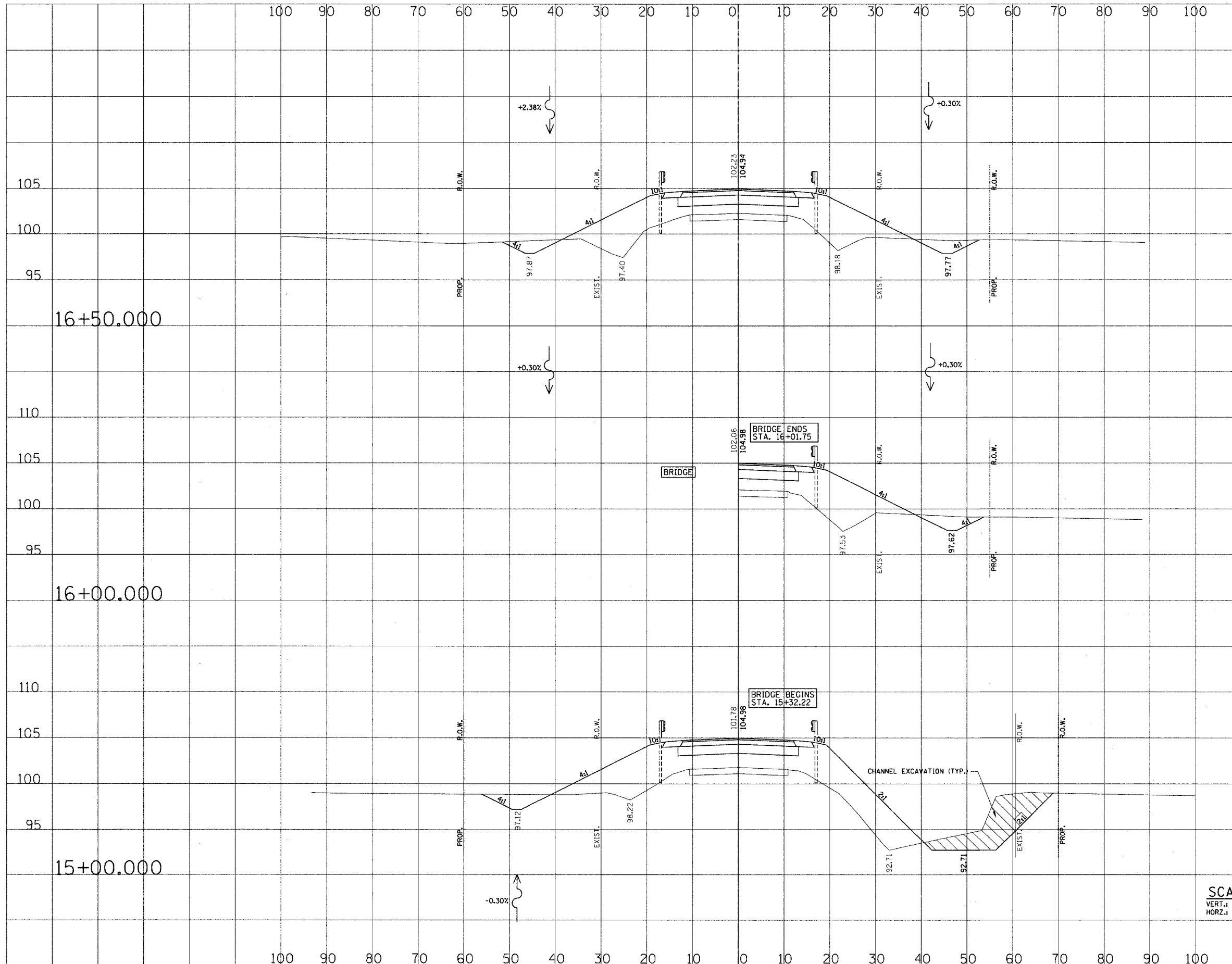
14+00.000
C = 16 F = 160

13+00.000

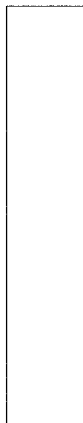
13+00.000
C = 13 F = 93

SCALE
VERT.: 1" = 5'
HORZ.: 1" = 10'

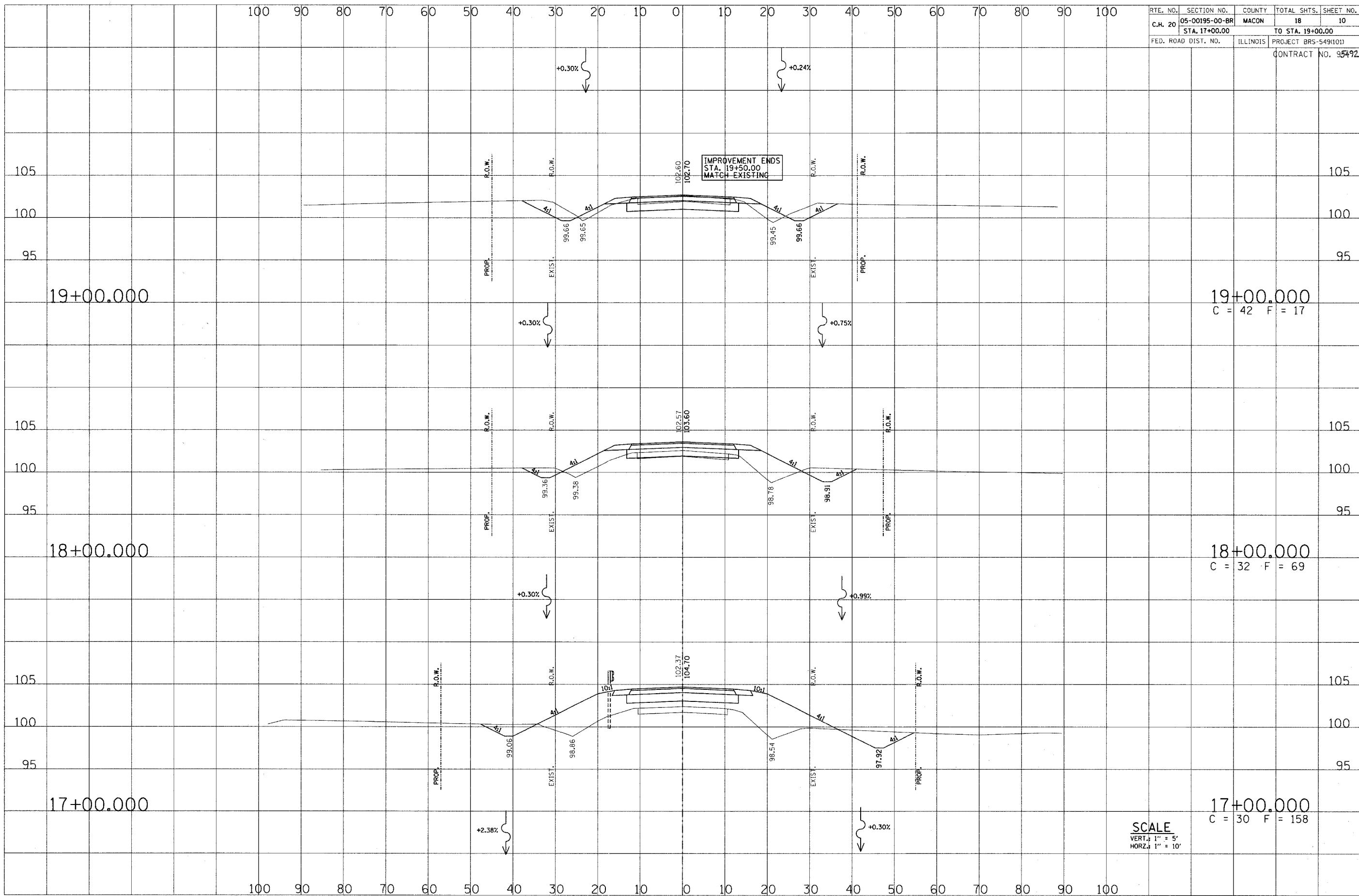
RT. NO.	SECTION NO.	COUNTY	TOTAL SHTS.	SHEET NO.
C.H. 20	05-00195-00-BR	MACON	18	9
STA. 15+00.00		TO STA. 16+50.00		
FED. ROAD DIST. NO.	ILLINOIS		PROJECT BRS-549(01)	
CONTRACT NO. 95492				



SCALE
 VERT.: 1" = 5'
 HORZ.: 1" = 10'

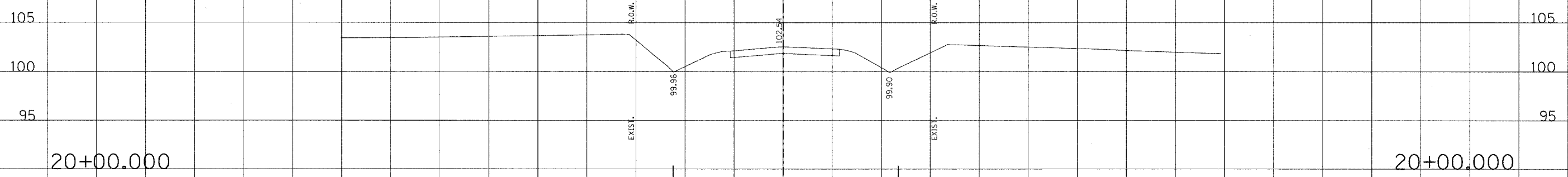
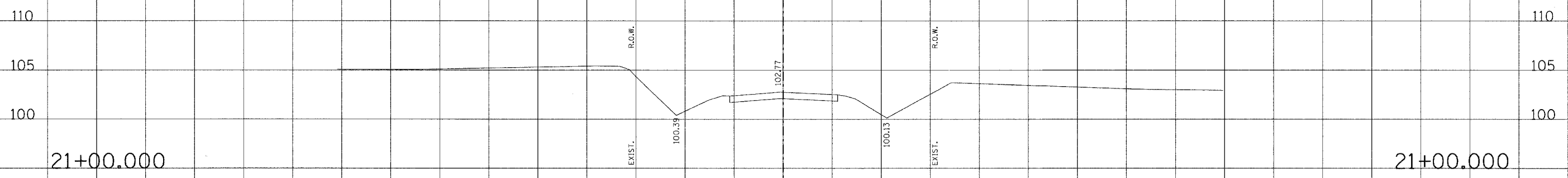


RTE. NO.	SECTION NO.	COUNTY	TOTAL SHTS.	SHEET NO.
C.H. 20	05-00195-00-BR	MACON	18	10
STA. 17+00.00		TO STA. 19+00.00		
FED. ROAD DIST. NO.	ILLINOIS	PROJECT BRS-549(101)		
CONTRACT NO. 95492				



100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100

RTE. NO.	SECTION NO.	COUNTY	TOTAL SHTS.	SHEET NO.
C.H. 20	05-00195-00-BR	MACON	18	11
	STA. 20+00.00		TO STA. 21+00.00	
FED. ROAD DIST. NO.	ILLINOIS	PROJECT BRS-549(101)		
CONTRACT NO. 95432				

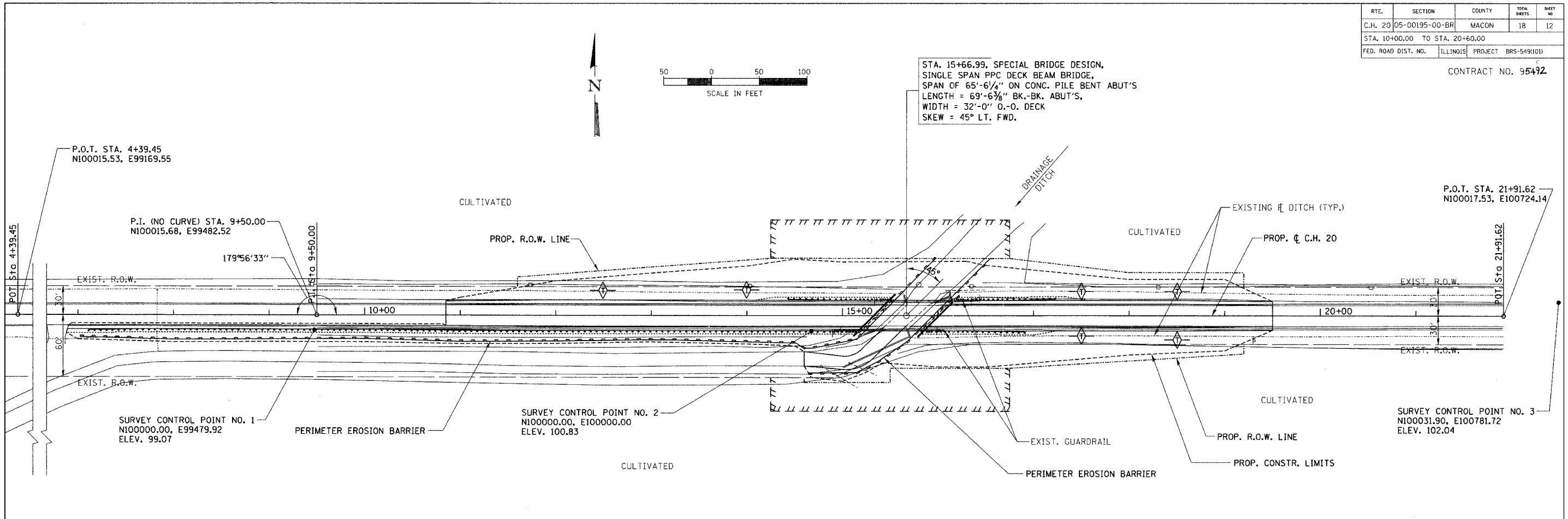


SCALE
VERT. 1" = 5'
HORZ. 1" = 10'

100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 20	05-00195-00-BR	MACON	18	12
STA. 10+00.00 TO STA. 20+60.00				
FED. ROAD DIST. NO. ILLINOIS PROJECT BRS-549(101)				

CONTRACT NO. 95492



STA. 15+66.99, SPECIAL BRIDGE DESIGN,
SINGLE SPAN PPC DECK BEAM BRIDGE,
SPAN OF 65'-6 1/4" ON CONC. PILE BENT ABUT'S,
LENGTH = 69'-6 3/8" BK.-BK. ABUT'S,
WIDTH = 32'-0" O.-O. DECK
SKEW = 45° LT. FWD.

LEGEND

- TEMPORARY AGGREGATE DITCH CHECK (TYP.)
(COST INCLUDED IN TEMPORARY DITCH CHECK,
SEE STD. 280001)
- PERIMETER EROSION BARRIER

ALL ITEMS SHALL BE CONSTRUCTED AS SHOWN ON STANDARD 280001 AND AS DIRECTED BY THE ENGINEER. MAINTENANCE AND CLEANING OF THE EROSION CONTROL ITEMS SHALL BE INCLUDED IN THE RESPECTIVE EROSION CONTROL PAY ITEM.

STORM WATER POLLUTION PREVENTION PLAN

DESCRIPTION OF INTENDED SEQUENCE FOR MAJOR CONSTRUCTION ACTIVITIES:

1. REMOVAL OF EXISTING STRUCTURE.
2. EXCAVATION WILL BE COMPLETED ALONG THE ENTIRE LENGTH OF THE JOB TO REMOVE THE EXISTING ROADWAY AND GRADE THE PROPOSED DITCHES.
3. NECESSARY EMBANKMENT WILL BE PLACED ALONG THE ENTIRE LENGTH OF THE JOB FOR THE PROPOSED ROADWAY.
4. PLACEMENT, MAINTENANCE, REMOVAL AND PROPER CLEAN-UP OF TEMPORARY EROSION CONTROL ITEMS, SUCH AS PERIMETER EROSION BARRIER, AGGREGATE DITCH CHECKS, TEMPORARY SEEDING AND OTHER MISCELLANEOUS EROSION CONTROL MEASURES.
5. CONSTRUCT NEW BRIDGE SUBSTRUCTURE UNITS.
6. PLACEMENT OF PERMANENT EROSION CONTROL ITEMS, INCLUDING RIPRAP AND SEEDING.
7. CONSTRUCT NEW BRIDGE SUPERSTRUCTURE AND APPROACH ROADWAY.
8. FINAL GRADING AND OTHER MISCELLANEOUS ITEMS.

NOTES:

ALL DITCH CHECKS SHALL BE AGGREGATE.
FOR LAYOUT OF STONE RIPRAP AT BRIDGE, SEE SHT. 13 OF 18.

SCHEDULE OF EROSION CONTROL QUANTITIES

- EARTH EXCAVATION FOR EROSION CONTROL**
TOTAL = 44 CU. YD.
- TEMPORARY EROSION CONTROL SEEDING**
100 LBS/ACRE X 1.2 ACRES = 120 POUNDS
- SEEDING, CLASS 2**
AREA INSIDE OF CONSTRUCTION LIMITS, LESS ROADWAY.
TOTAL = 1.2 ACRES
- NITROGEN FERTILIZER NUTRIENT**
TOTAL = 108 POUNDS
- PHOSPHORUS FERTILIZER NUTRIENT**
TOTAL = 108 POUNDS
- POTASSIUM FERTILIZER NUTRIENT**
TOTAL = 108 POUNDS
- MULCH, METHOD 2**
TOTAL = 1.2 ACRES
- PERIMETER EROSION BARRIER**
TO BE CONSTRUCTED AT LOCATIONS SHOWN ON PLANS. LAYOUT MAY VARY AS DIRECTED BY THE ENGINEER.
TOTAL = 1170 FOOT
- TEMPORARY DITCH CHECK**
STA. 12+50, LT. = 1 EACH
STA. 14+00, LT. = 1 EACH
STA. 17+50, LT. & RT. = 2 EACH
STA. 18+50, LT. & RT. = 2 EACH
TOTAL = 6 EACH

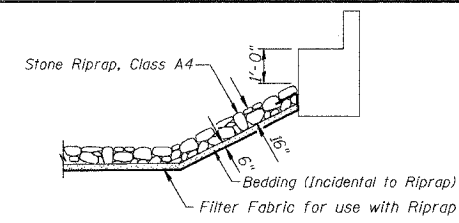
STORM WATER POLLUTION PREVENTION AND EROSION CONTROL PLAN

BENCHMARK:
R.R. Spike in power pole. Sta. 11+73.68, 31.7' Lt. Elev. 100.00

EXISTING STRUCTURE:
Single Span Cast-in-Place Concrete Slab with one Precast Deck Beam on Each Side on Closed Concrete Abutments.
30'-2" O.-O. of Deck. 25'-0" Bk.-Bk. Abutments

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 20	05-00195-00-BR	MACON	18	13
FED. ROAD DIST. NO.		ILLINOIS PROJECT	BRS-549(01)	

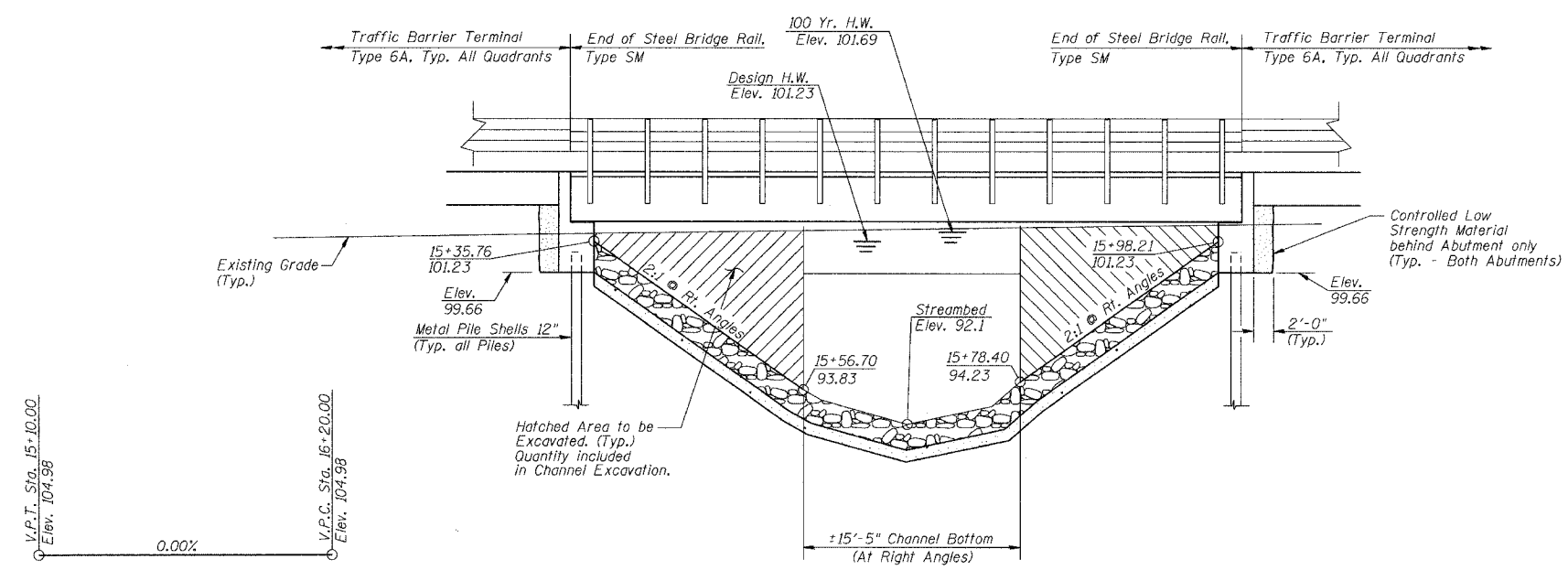
CONTRACT NO. 95492



STONE RIPRAP DETAIL

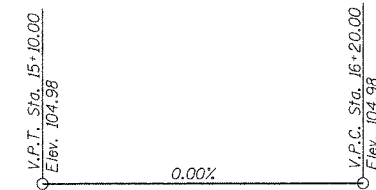
GENERAL NOTES

Layout of Riprap Slopes may be varied in the field to suit ground conditions as directed by the Engineer.
See Proposal for Boring Data.
Reinforcement Bars shall conform to the requirements of AASHTO M-31 or M-322, Grade 60.
The Contractor shall drive one Metal Shell Test Pile in a permanent location at the West Abutment as directed by the Engineer before ordering the remainder of piles.
The area between the bottom of the beams and the top of the caps shall be filled with non-shrink grout to prevent the beams from rocking.



ELEVATION

PROFILE C.H. 20



DRAINAGE DITCH BUILT 200... BY MACON COUNTY SECTION 05-00195-00-BR C.H. 20 STA. 15+66.99 STR. NO. 058-3377 LOADING HS-20 DRAPER BRIDGE

NAME PLATE
(See Std. 515001)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.		314	314
Stone Riprap, Class A4	Sq. Yd.		1117	1117
Filter Fabric	Sq. Yd.		1117	1117
Removal of Existing Structures	Each		1	1
Concrete Structures	Cu. Yd.		36.5	36.5
P.P.C. Deck Beams (27" Depth)	Sq. Ft.	2149		2149
Reinforcement Bars, Epoxy Coated	Pound		4380	4380
Steel Railing, Type SM	Foot	135		135
Furnishing Metal Shell Piles 12"	Foot		351	351
Driving Piles	Foot		351	351
Test Pile Metal Shells	Each		1	1
Name Plates	Each		1	1
Waterproofing Membrane System	Sq. Yd.	239		239
Portland Cement Mortar Fairing Course	Foot		470	470
Hot-Mix Asphalt Surface Course, Mixture "C", N50	Ton		24.6	24.6
Controlled Low Strength Material	Cu. Yd.		25.1	25.1

DESIGN SPECIFICATIONS

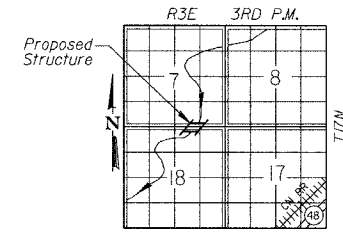
2002 AASHTO

LOADING HS20-44

Allowed 50#/sq. ft. for future wearing surface.

DESIGN STRESSES

FIELD UNITS	PPC UNITS
f _c = 3,500 p.s.i.	f _c = 4,000 p.s.i.
f _y = 60,000 p.s.i.	f _y = 5,000 p.s.i.
n = 9	f _s = 270,000 p.s.i.
	f _s = 189,000 p.s.i.



LOCATION SKETCH

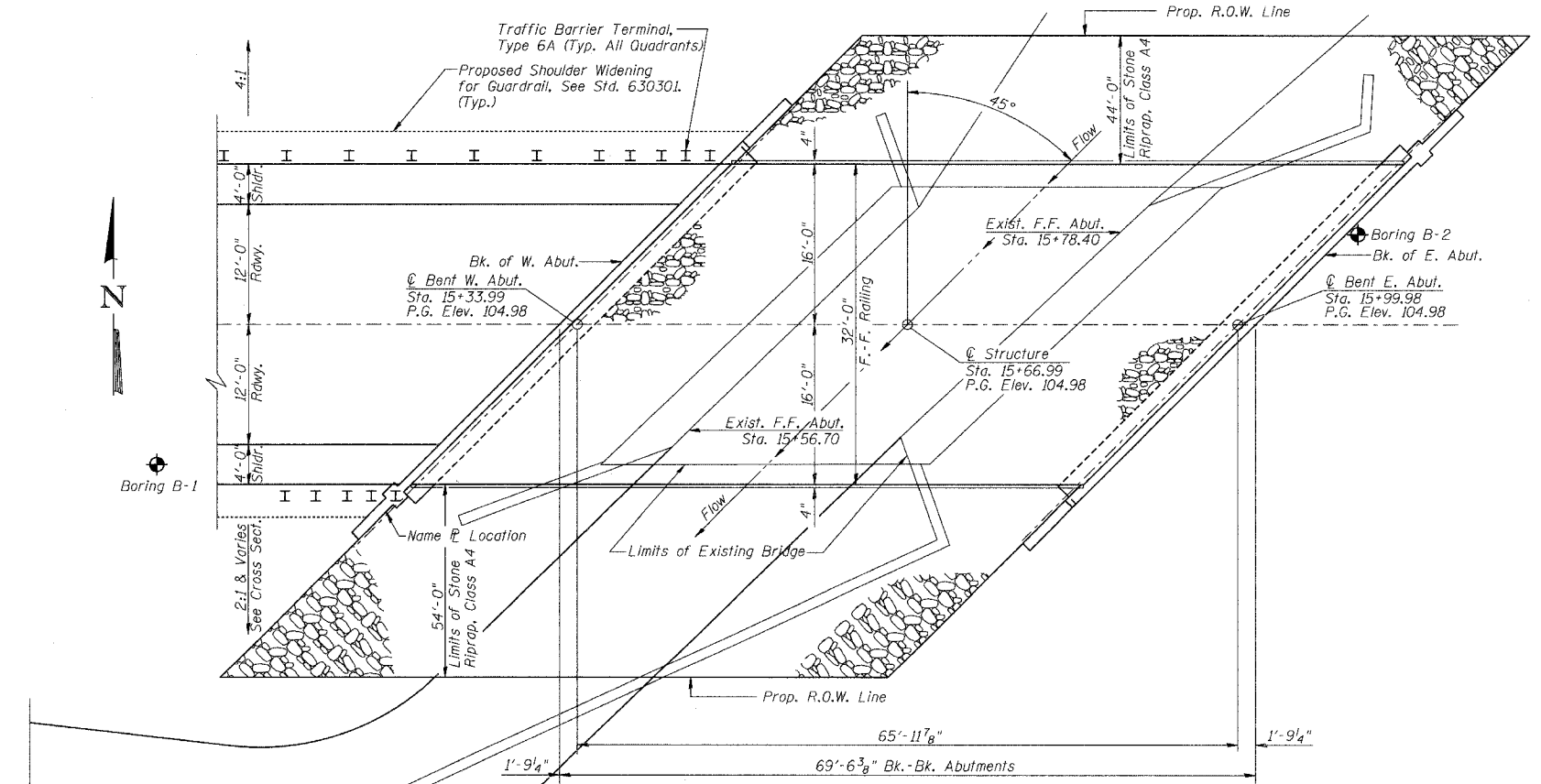
WATERWAY INFORMATION

Drainage Area = 10.8 Sq. Mi. Existing Low Grade Elev. 100.63 @ Sta. 10+00.00
Proposed Low Grade Elev. 100.63 @ Sta. 10+00.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Prop.	Net. H.W.E. Exist.	Prop.	Head-Ft. Exist.	Prop.	Headwater El. Exist.	Prop.
Design	30	876	104	243	101.23	0.47*	0.26*	101.70	101.48	
Base	100	1140	104	266	101.69	0.31*	0.31*	102.00	102.00	
Overtopping										
Max. Calc.	500	1472	104	276	102.18	0.16*	0.30*	102.34	102.48	

Low Beam Elev. (Prop.) = 102.23

* Over-the-Road Flow Occurs
EXISTING
30 Yr.: 144.4 Sq. Ft. over roadway
100 Yr.: 230.6 Sq. Ft. over roadway
500 Yr.: 320.8 Sq. Ft. over roadway
PROPOSED
30 Yr.: 44.7 Sq. Ft. over roadway
100 Yr.: 90.1 Sq. Ft. over roadway
500 Yr.: 137.0 Sq. Ft. over roadway



PLAN

DATE: October 18, 2006
Keith W. Benting
KEITH W. BENTING
ILL. STRUCTURAL NO. 4777

"I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THIS BRIDGE DESIGN IS STRUCTURALLY ADEQUATE FOR THE DESIGN LOADING SHOWN ON THE PLANS. THE DESIGN IS AN ECONOMICAL ONE FOR THE STYLE OF STRUCTURE AND COMPLIES WITH REQUIREMENTS OF THE CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES."

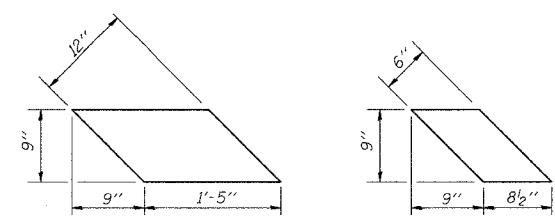


GENERAL PLAN AND ELEVATION

Date	Designed MJJP	C.H. 20 OVER DRAINAGE DITCH SECTION 05-00195-00-BR MACON COUNTY STA. 15+66.99 PROP. STR. NO. 058-3377	Sheet No.
Revisions	Drawn REZ		1
	Checked KWB		of 6
	Approved KWB		URS Job No. 36431466
Prepared by:	URS 345 East Ash Avenue Decatur, IL 62526		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 20	05-00195-00-BR	MACON	18	14
FED. ROAD DIST. NO.		ILLINOIS PROJECT:		

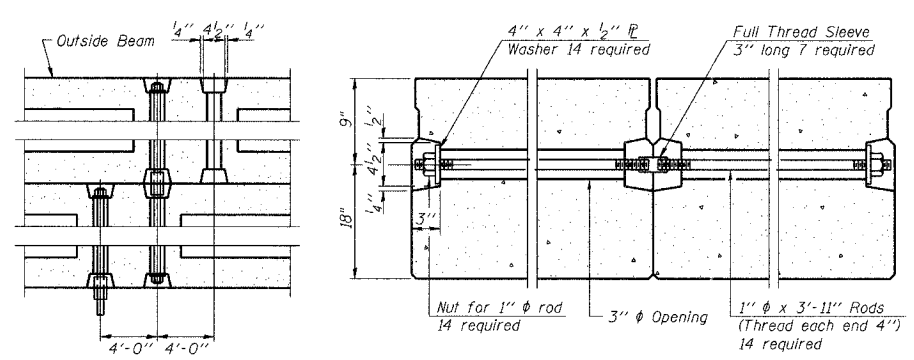
CONTRACT NO. 95492



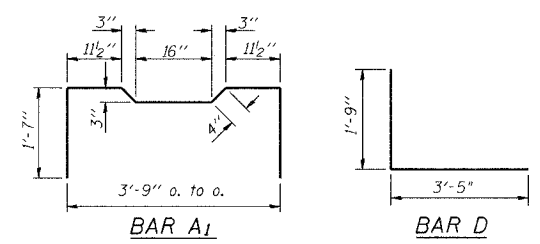
FABRIC BEARING PAD
(Interior) **FABRIC BEARING PAD**
(Exterior)

FIXED

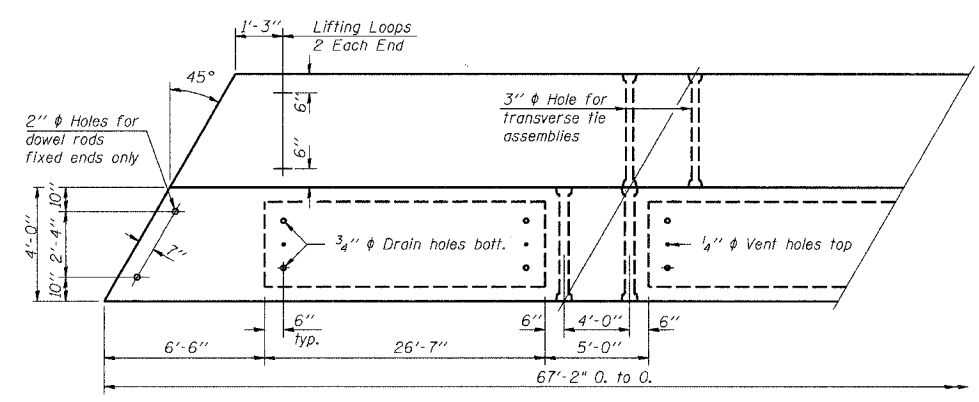
Note: Alternate Bearing Pads Required for Skews > 30°
(See Fig. 2.3.25 of IDOT Prestressed Manual)



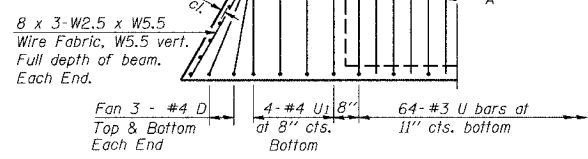
TYPICAL TRANSVERSE TIE ASSEMBLY



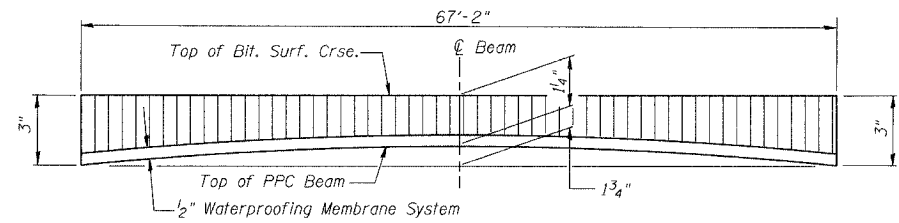
BAR A1 **BAR D**



PLAN



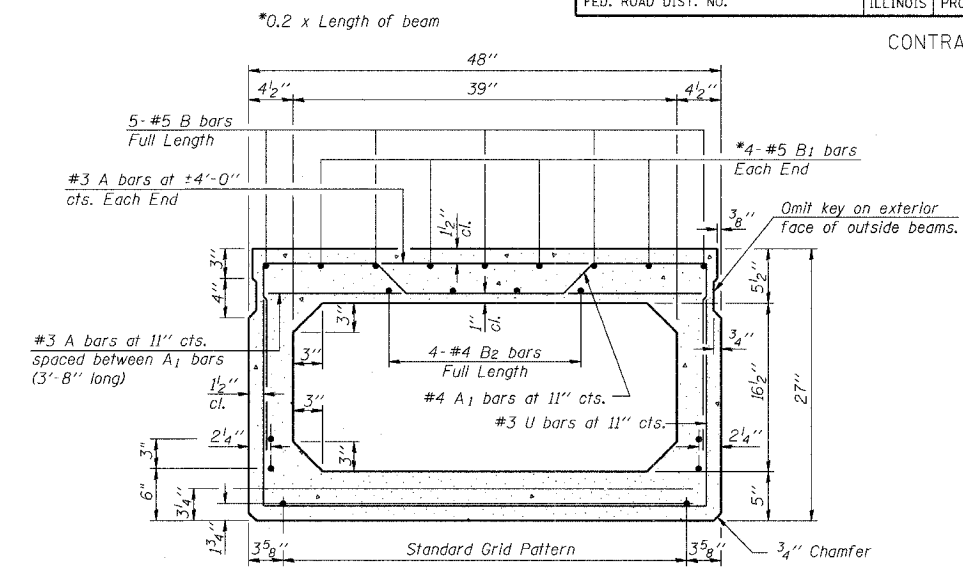
END PLAN



ANTICIPATED CAMBER DIAGRAM

NOTES

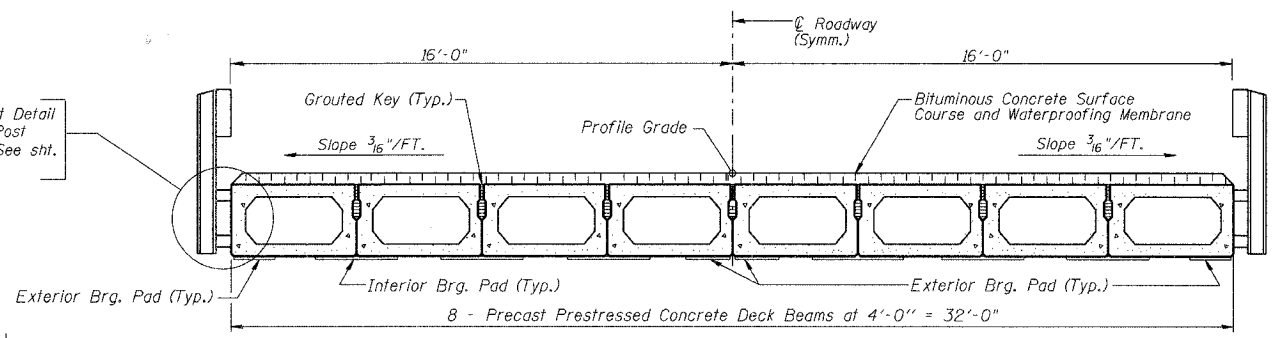
- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.
- The nominal diameter shall be 1/2 inch and the nominal cross-sectional area shall be 0.153 sq. in.
- Lifting loops shall be 3 - 1/2 inch diameter 270 ksi strands, as shown.
- The 1 inch diameter rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.
- Non prestressing steel shall conform to AASHTO M-31 or M-322, Grade 60.
- The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/2 inch fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.
- Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.
- Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.
- Required Release Strength, f'ci, shall be 4,000 p.s.i.
- When a waterproofing membrane is specified, the top surface of the beams shall be screeded with a straightedge and finished with a hand float. The finished surface shall be free of depressions or high spots with sharp corners and the top edge of keys shall be rounded or chamfered a minimum of 1/4 inch.
- After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
- Longitudinal keys shall be grouted.



TYPICAL SECTION

21 - 1/2 inch diameter Strands, Each Strand Stressed to 30,900 Lbs.
13 Strands 1 3/4 inch up, 4 Strands 3/4 inch up,
2 Strands 6 inch up, and 2 Strands 9 inch up

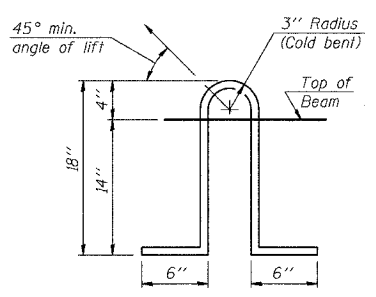
Note: Place strands symmetrically about centerline of beam.



CROSS SECTION

BILL OF MATERIAL

Item	Unit	Qty.
Hot-Mix Asphalt Surface Course, Mix "C", N 50	Ton	24.6
Waterproofing Membrane System	Sq Yd	239
Portland Cement Mortar Fairing Course	Foot	470
Precast Prestressed Conc. Deck Bms. 27"	Sq. Ft.	2149

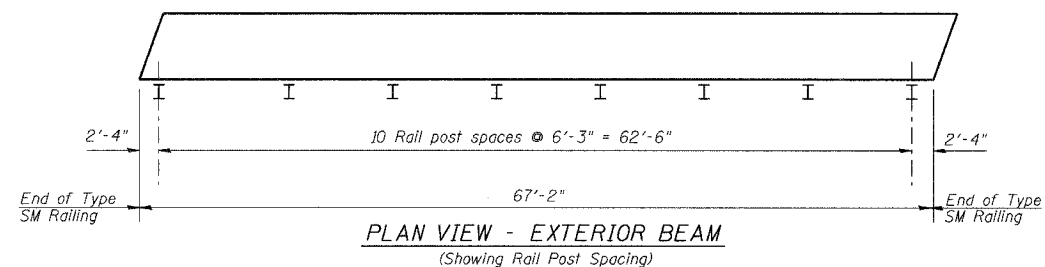


LIFTING LOOP DETAIL

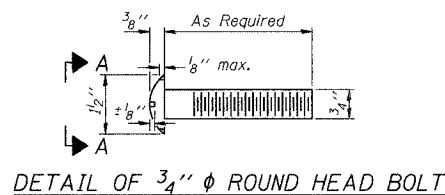
SUPERSTRUCTURE		Sheet No.
Date	Designed MJP	C.H. 20 OVER DRAINAGE DITCH SECTION 05-00195-00-BR MACON COUNTY STA. 15+66.99 PROP. STR. NO. 058-3377
Revisions	Drawn MLS	
	Checked KWB	
	Approved KWB	
Prepared by:	URS 345 East Ash Avenue Decatur, IL 62526	2 of 6
		URS Job No. 36431466

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 20	05-00195-00-BR	MACON	18	15
FED. ROAD DIST. NO.		ILLINOIS PROJECT BRS-549(101)		

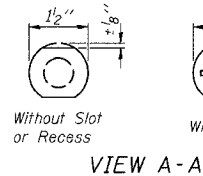
CONTRACT NO. 95492



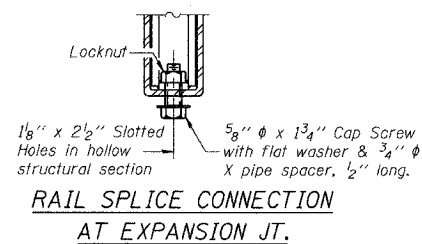
PLAN VIEW - EXTERIOR BEAM
(Showing Rail Post Spacing)



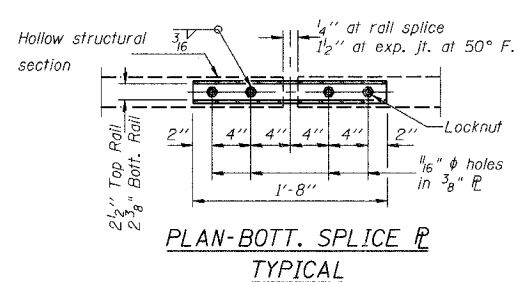
DETAIL OF 3/4" ϕ ROUND HEAD BOLT



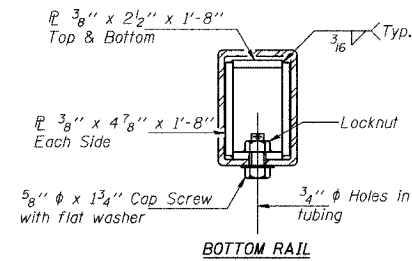
VIEW A-A



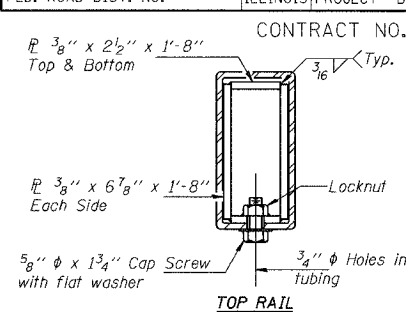
RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE TYPICAL



BOTTOM RAIL

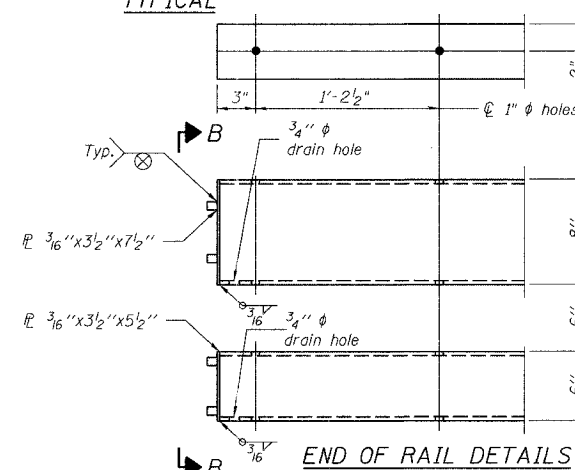


TOP RAIL

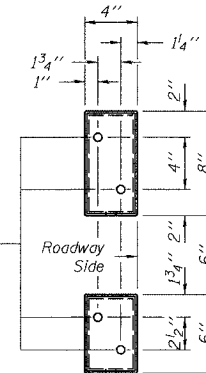
SECTIONS AT RAIL SPLICE

NOTES

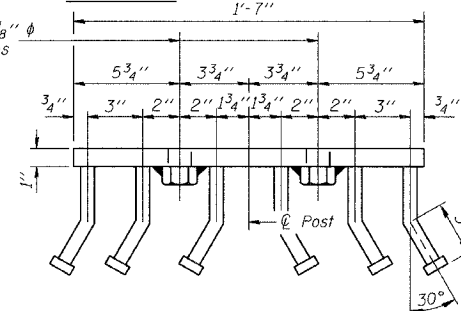
Hollow structural sections shall conform to the requirements of ASTM designation A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.
 All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36 except posts and angles shall conform to AASHTO M 270, Grade 50.
 Bolts, cap screws, and nuts shall conform to the requirements of ASTM designation A 307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M 164.
 All bolts, nuts, cap screws, washers and lock washers shall be galvanized according to AASHTO M 232.
 All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted.
 Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for Steel Bridge Rail, Type SM.
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Bridge Rail, Type SM.
 The 1/2" x 7" x 6" plates that come in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place 1/2" fabric bearing pads between the plates and concrete.
 The 3/4" ϕ high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened according to Article 505.04(FX2) of the Standard Specifications. The 1" ϕ high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/3 turn. The 5/8" ϕ cap screws in bottom of posts shall be tightened to a snug fit only.



END OF RAIL DETAILS



VIEW B-B

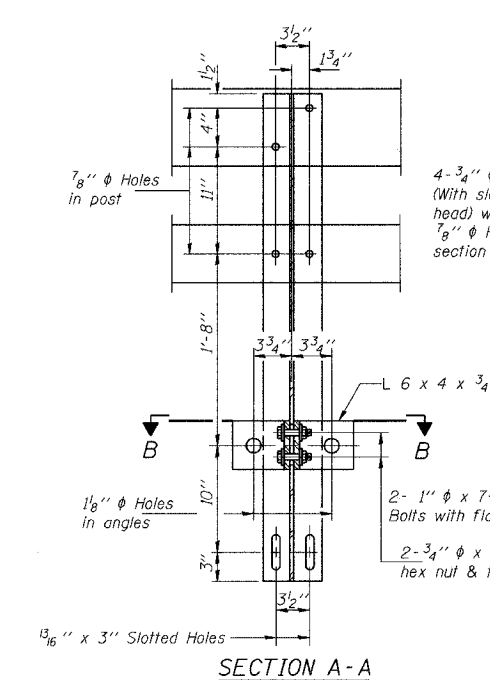


VIEW C-C

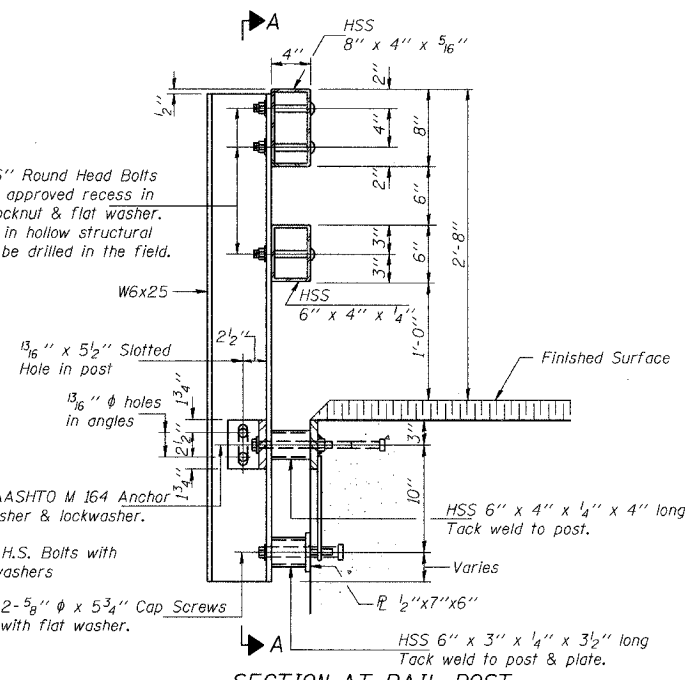
BILL OF MATERIAL

Item	Unit	Quantity
Steel Bridge Rail, Type SM	Foot	135

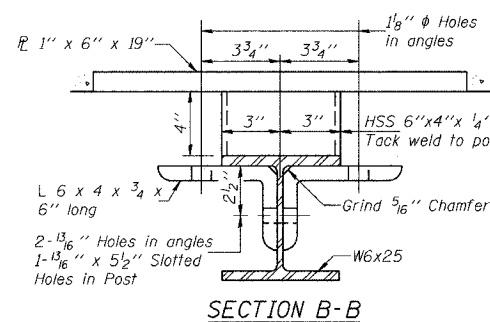
TYPE SM
STEEL BRIDGE RAIL SIDE MOUNTED



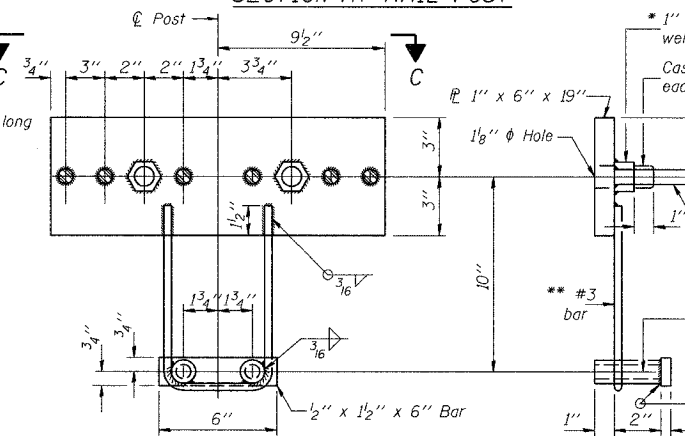
SECTION A-A



SECTION AT RAIL POST



SECTION B-B



ANCHOR DEVICE

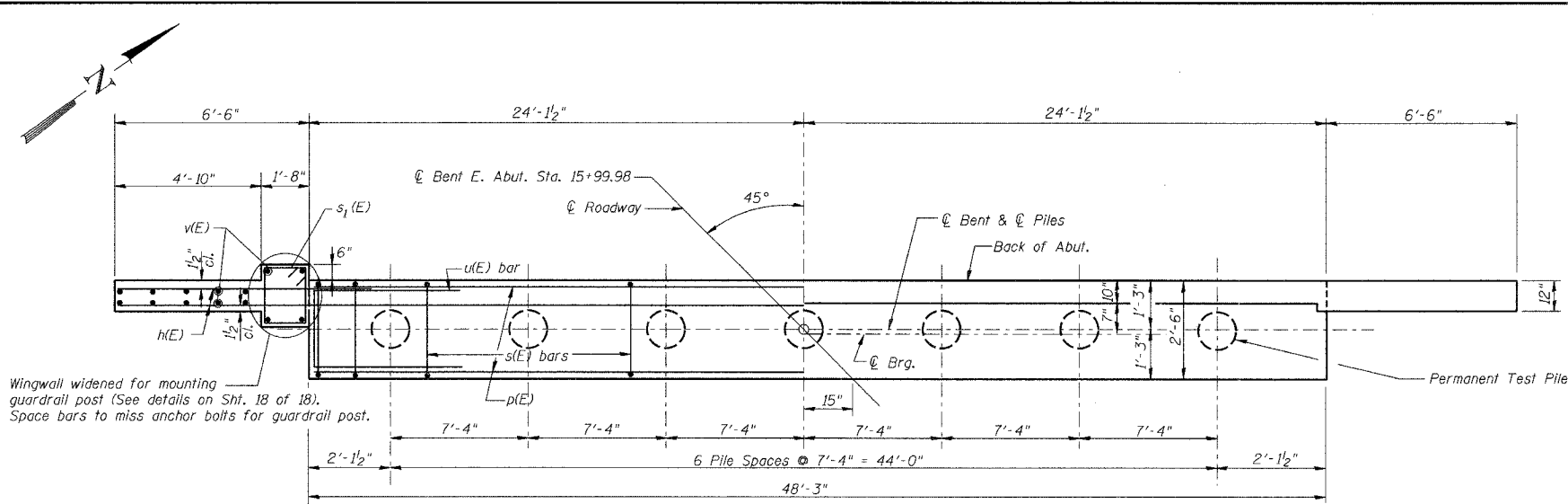
* Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".

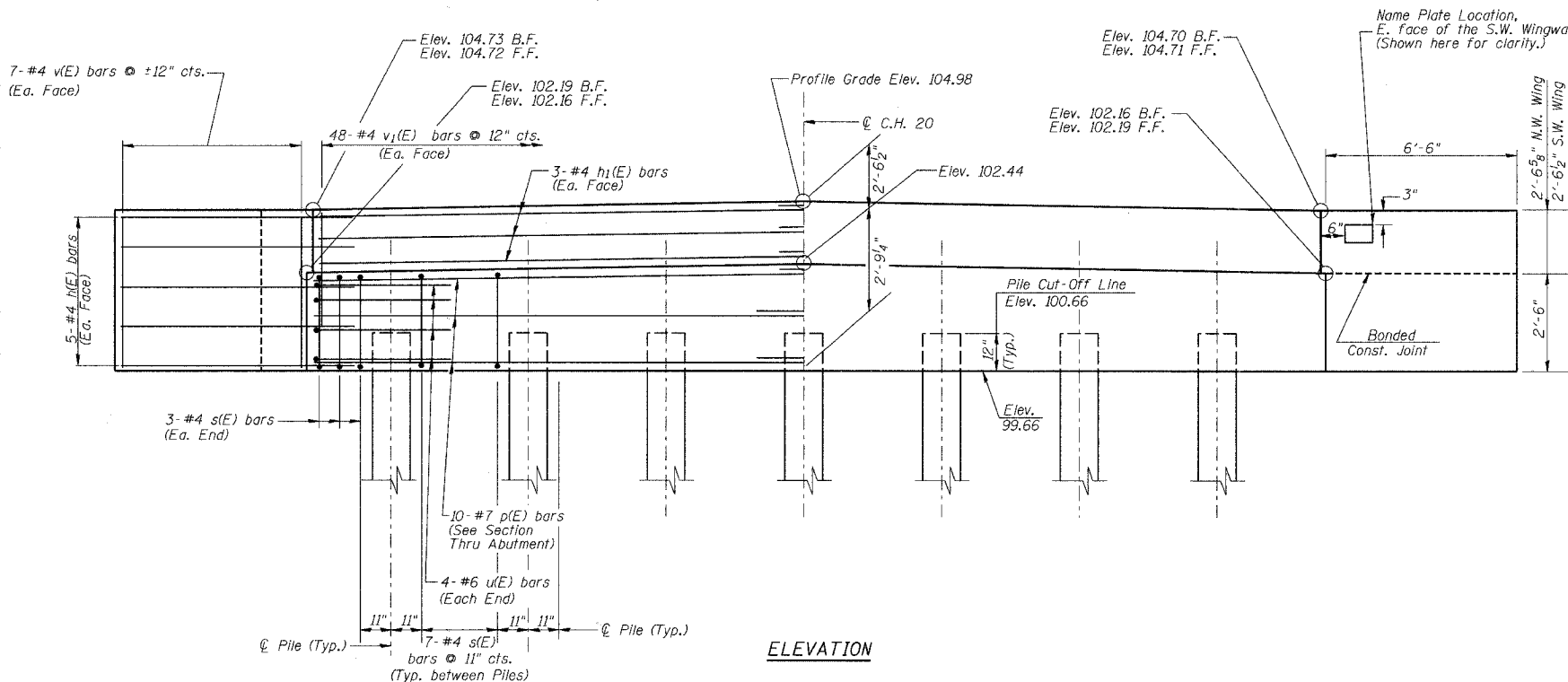
STEEL RAILING			Sheet No.
Date	Designed MJP	C.H. 20 OVER DRAINAGE DITCH	3
Revisions	Drawn MLS	SECTION 05-00195-00-BR	
	Checked KWB	MACON COUNTY	
	Approved KWB	STA. 15+66.99	
Prepared by: URS 345 East Ash Avenue			of 6
Decatur, IL 62526			URS Job No. 36431466

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 20	05-00195-00-BR	MACON	18	16
FED. ROAD DIST. NO.	ILLINOIS	PROJECT BRS-5491(0)		

CONTRACT NO. 95492

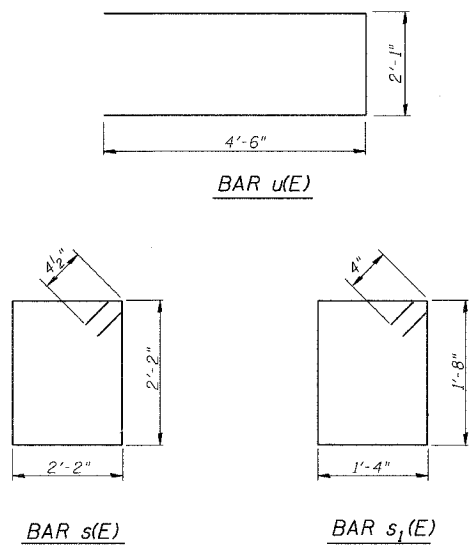
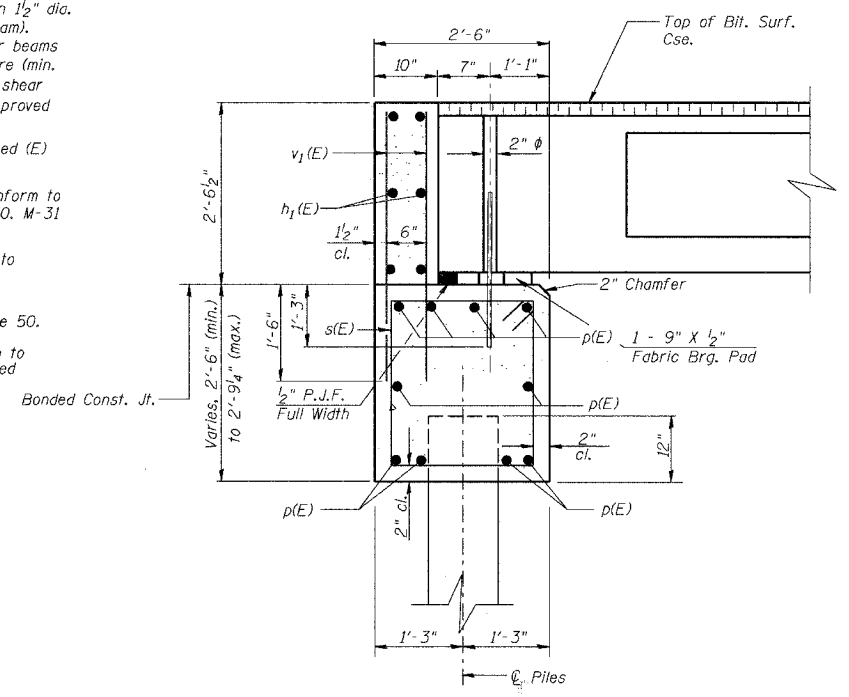


PILE DATA
 Type & Size: Metal Shell Piles - 12 in. dia. x 0.250 in. walls
 Nominal Required Bearing: 198 Kips
 Allowable Resistance Available: 66 Kips
 Est. Length: 27'-0"
 No. Required: 6 plus 1 permanent test pile (at end opposite of boring location)



- NOTES**
- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
 - 1" dia. x 2'-6" dowel rods in 1 1/2" dia. holes drilled in cap (4 each beam). Dowel rods to be grouted after beams are in place and allowed to cure (min. 24 hrs.) prior to grouting the shear keys. The grout shall be an approved non-shrink grout.
 - Reinforcement bars designated (E) shall be Epoxy coated.
 - Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60
 - Space reinforcement in cap to miss dowel rods.
 - The Steel H-Piles shall be according to AASHTO M270, Grade 50.
 - The Test Pile shall be driven to 110 percent of the Nominal Required Bearing indicated in the Pile Data information.

DESIGN STRESSES
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi



BILL OF MATERIAL WEST ABUTMENT

Bar	No.	Size	Length	Shape
h(E)	20	#4	8'-0"	—
h1(E)	12	#4	25'-2"	—
p(E)	20	#7	26'-5"	—
s(E)	48	#4	9'-5"	□
s1(E)	5	#4	6'-8"	□
u(E)	8	#6	11'-1"	—
v(E)	28	#4	4'-8"	—
v1(E)	96	#4	3'-11"	—
Concrete Structures			Cu. Yd.	18.25
Reinforcement Bars, Epoxy Coated			Pound	2190
Furnishing Metal Shell Piles 12"			Foot	162
Driving and Filling Shells			Foot	162
Test Pile Metal Shells			Each	1

BAR SPLICES

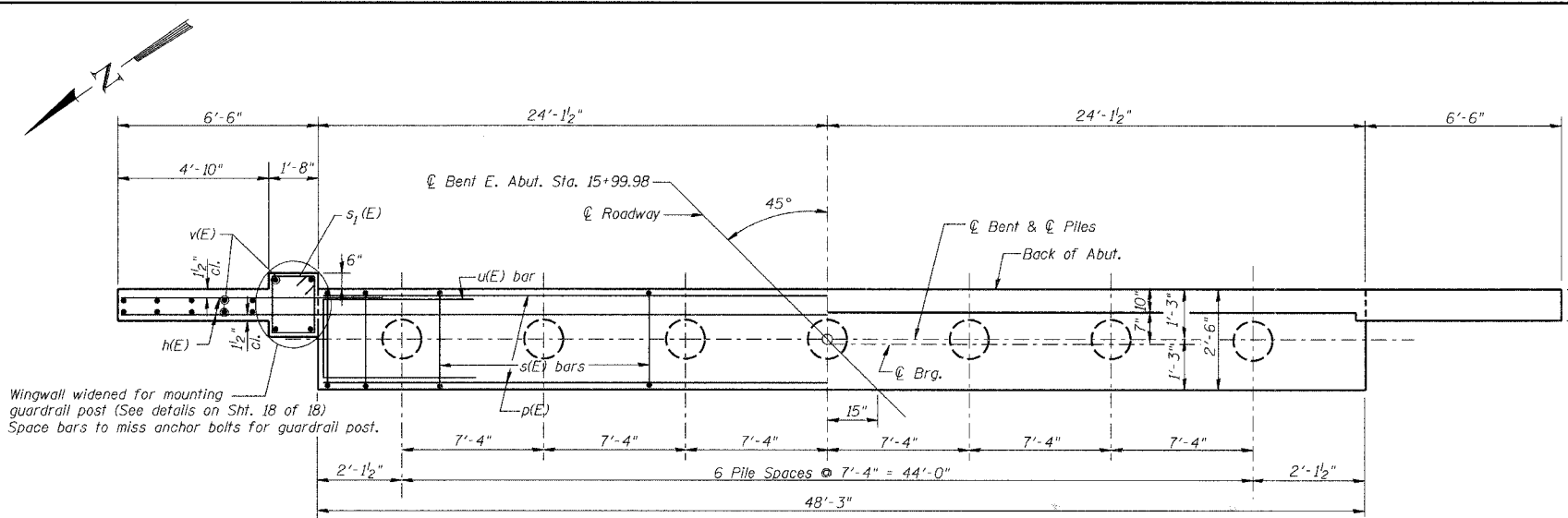
Bar	Size	Min. Length
h1	#4	2'-5"
p	#7	4'-10"

WEST ABUTMENT

Date	Designed MJP	C.H. 20 OVER DRAINAGE DITCH SECTION 05-00195-00-BR MACON COUNTY STA. 15+66.99 PROP. STR. NO. 058-3377	Sheet No.
Revisions	Drawn MJP		4
	Checked KWB		
	Approved KWB		
Prepared by:	URS 345 East Ash Avenue Decatur, IL 62526		of 6 URS Job No. 36431466

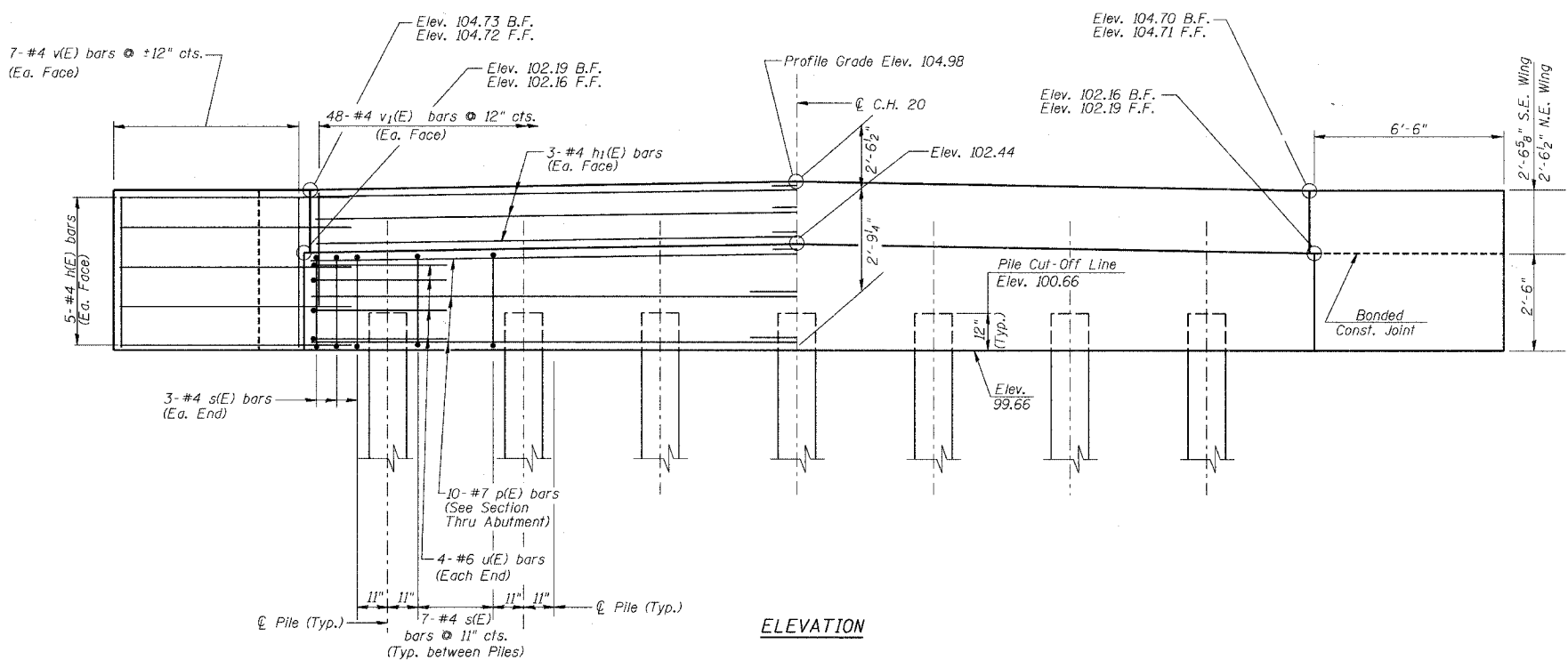
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 20	05-00195-00-BR	MACON	18	17
FED. ROAD DIST. NO.	ILLINOIS	PROJECT BRS-549(10)		

CONTRACT NO. 95492



PLAN

PILE DATA
 Type & Size: Metal Shell Piles - 12 in. dia. x 0.250 in. walls
 Nominal Required Bearing: 198 Kips
 Allowable Resistance Available: 66 Kips
 Est. Length: 27'-0"
 No. Required: 7

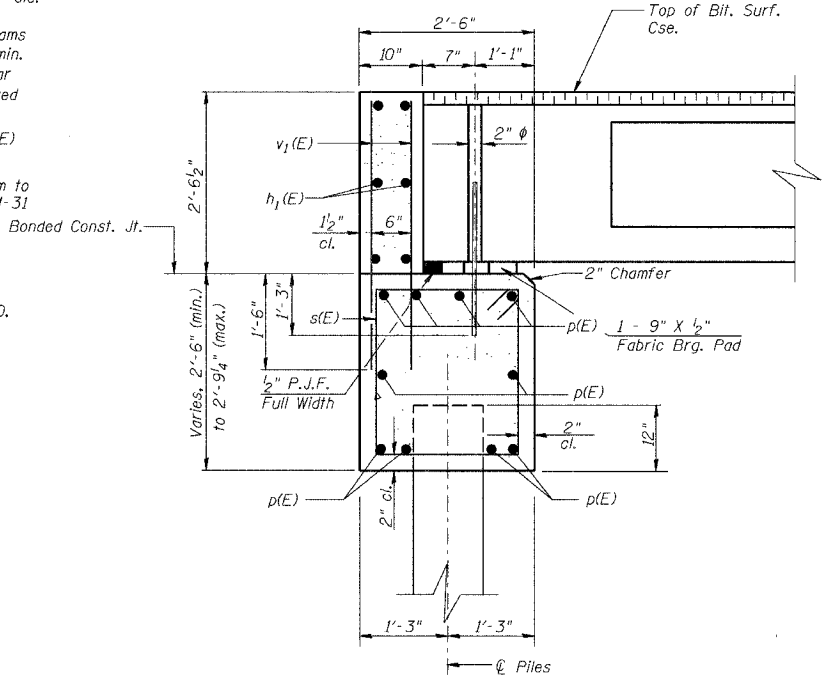


ELEVATION

- NOTES**
- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
 - 1" dia. x 2'-6" dowel rods in 1 1/2" dia. holes drilled in cap (4 each beam). Dowel rods to be grouted after beams are in place and allowed to cure (min. 24 hrs.) prior to grouting the shear keys. The grout shall be an approved non-shrink grout.
 - Reinforcement bars designated (E) shall be Epoxy coated.
 - Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60
 - Space reinforcement in cap to miss dowel rods.
 - The Steel H-Piles shall be according to AASHTO M270, Grade 50.
 - The Test Pile shall be driven to 110 percent of the Nominal Required Bearing indicated in the Pile Data information.

DESIGN STRESSES

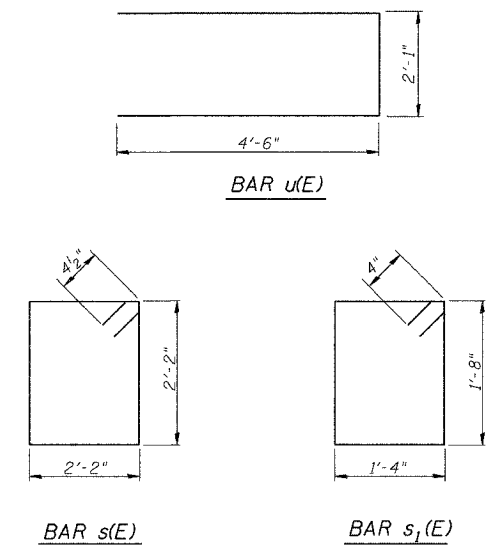
$f'_c = 3,500$ psi
 $f_y = 60,000$ psi



SECTION THRU ABUT.
(At Rt. Angles)

**BILL OF MATERIAL
EAST ABUTMENT**

Bar	No.	Size	Length	Shape
h(E)	20	#4	8'-0"	—
h1(E)	12	#4	25'-2"	—
p(E)	20	#7	26'-5"	—
s(E)	48	#4	9'-5"	□
s1(E)	5	#4	6'-8"	□
u(E)	8	#6	11'-1"	—
v(E)	28	#4	4'-8"	—
v1(E)	96	#4	3'-11"	—
Concrete Structures			Cu. Yd.	18.25
Reinforcement Bars, Epoxy Coated			Pound	2,190
Furnishing Metal Shell Piles 12"			Foot	189
Driving and Filling Shells			Foot	189



BAR SPLICES

Bar	Size	Min. Length
h1	#4	2'-5"
p	#7	4'-10"

EAST ABUTMENT

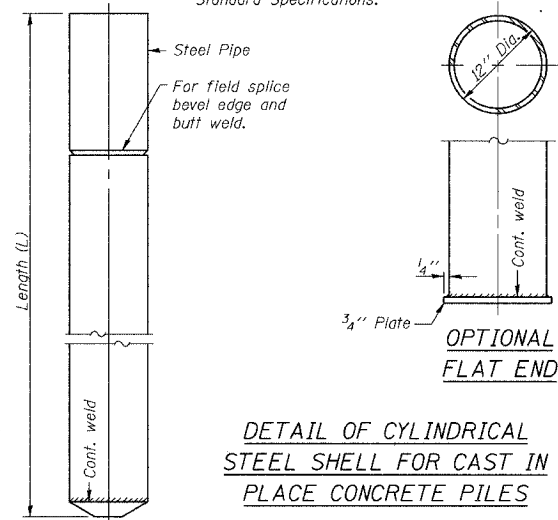
Date	Designed MJP	C.H. 20 OVER DRAINAGE DITCH SECTION 05-00195-00-BR MACON COUNTY STA. 15+66.99 PROP. STR. NO. 058-3377	Sheet No.
Revisions	Drawn MJP		5
	Checked KWB		of 6
	Approved KWB		URS Job No. 36431466
Prepared by: URS 345 East Ash Avenue Decatur, IL 62526			

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 20	05-00195-00-BR	MACON	18	18
FED. ROAD DIST. NO.	ILLINOIS		PROJECT BRS-549(10)	

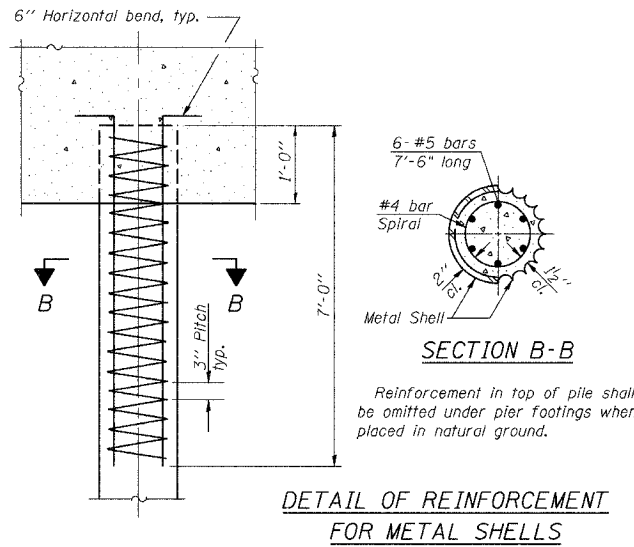
CONTRACT NO. 95492

PILE DETAILS

Notes: Driving and bearing ends of pipe shall be cut square. The thickness of the shell shall be 0.250 inches with a tolerance of 5%. The shell shall be according to Article 1006.05(a) of the Standard Specifications.

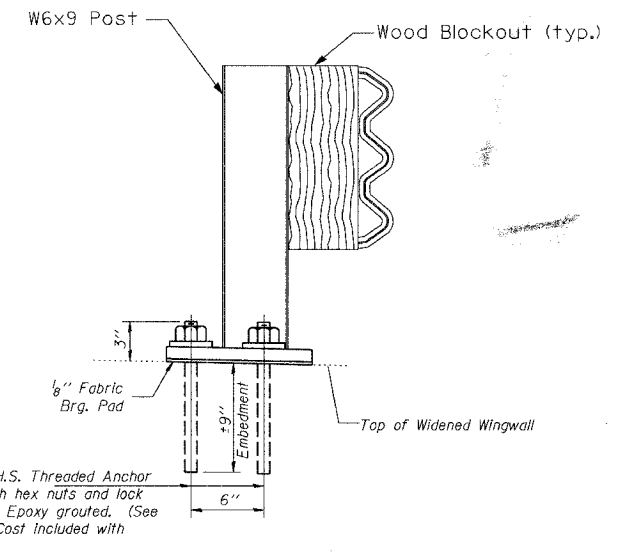
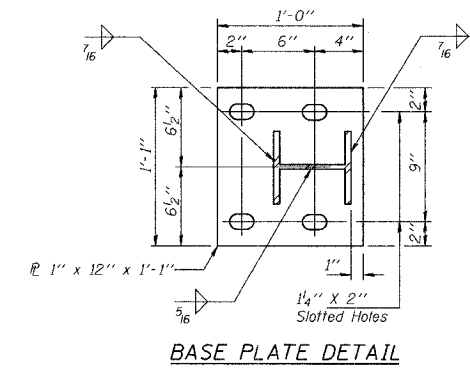


DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES



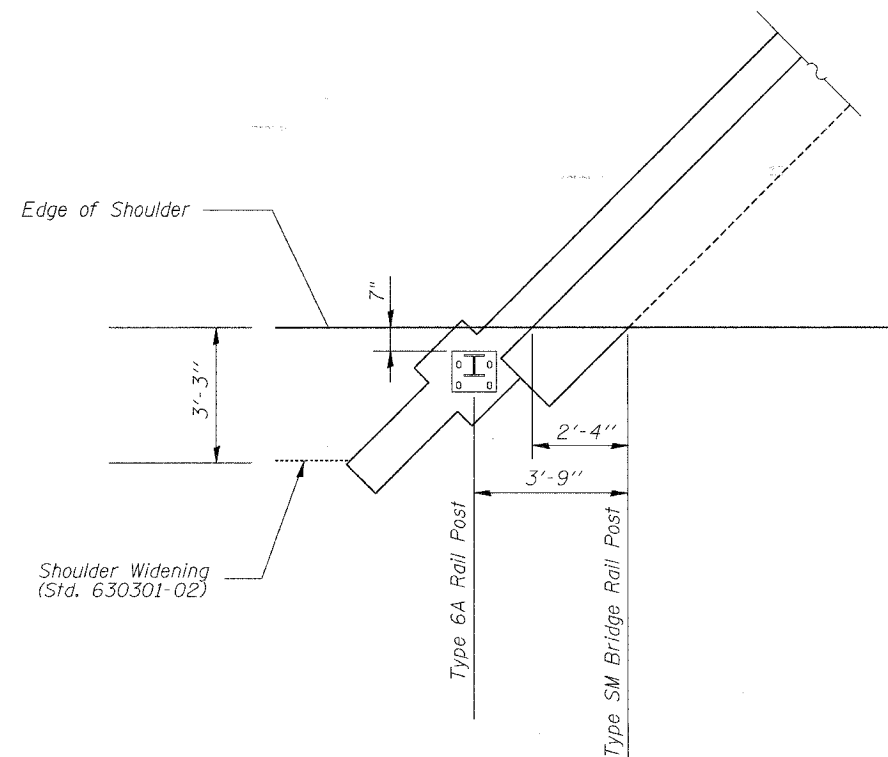
DETAIL OF REINFORCEMENT FOR METAL SHELLS

GUARDRAIL MOUNTING - S.W. & N.E. WINGWALLS



SECTION AT RAIL POST

S.W. & N.E. WINGWALLS



PILE & WINGWALL POST DETAILS

Date	Designed MJP	C.H. 20 OVER DRAINAGE DITCH SECTION 05-00195-00-BR MACON COUNTY STA. 15+66.99 PROP. STR. NO. 058-3377	Sheet No.
Revisions	Drawn MJP		6
	Checked KWB		
	Approved KWB		
Prepared by:	URS 345 East Ash Avenue Decatur, IL 62526		of 6 URS Job No. 36431466