

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANS FOR PROPOSED HIGHWAY BRIDGE PROGRAM

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	02-00208-01-BR	LIVINGSTON	24	1
STA. 171+70		TO STA. 174+70		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 87283				

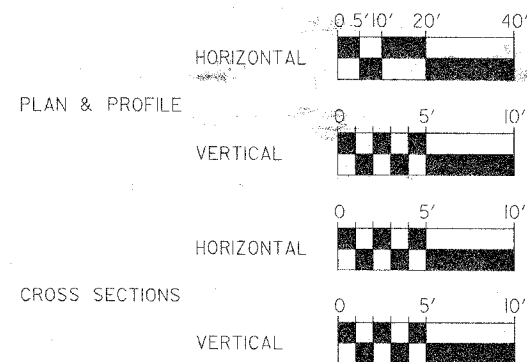
INDEX OF SHEETS

- 1 COVER SHEET
- 2 SUMMARY OF QUANTITIES & SCHEDULE OF QUANTITIES
- 3 TYPICAL SECTIONS
- 4 DETOUR MAPS
- 5 PLAN & PROFILE
- 6-21 BRIDGE STRUCTURE NO. 053-3454
- 22-24 CROSS SECTIONS

STATE STANDARD DETAILS

- 000001-04 702001-06
- 515001-02 780001-01
- 630301-04 B.L.R. 21-6
- 631026-03 B.L.R. 22-4
- 635006-02

SCALES



UTILITIES

POWER - EASTERN ILLINELECTRIC COOPERATIVE
 TELEPHONE - VERIZON
 GAS - PEOPLE'S GAS LIGHT & COKE COMPANY
 CRUDE OIL PIPELINE - EXXONMOBIL PIPELINE COMPANY

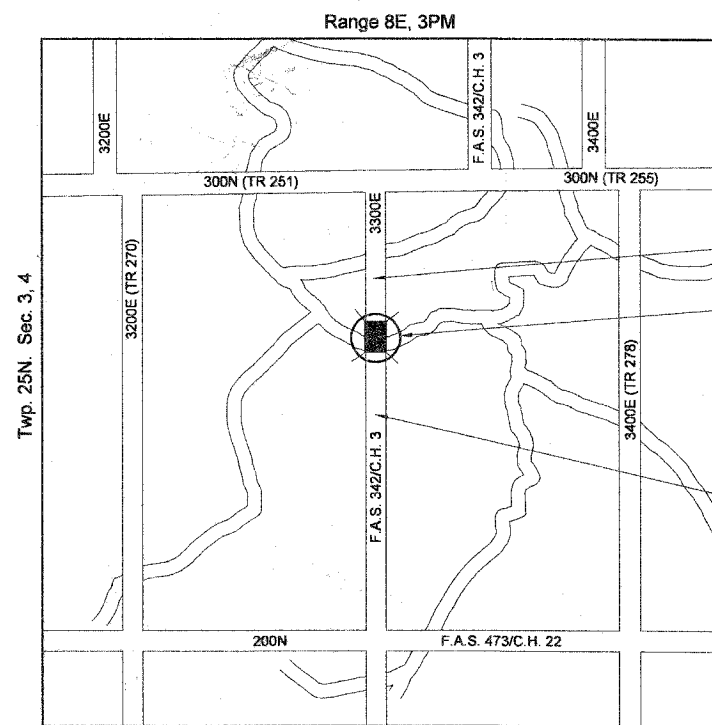
J.U.L.I.E. SYSTEM - THE TOLL FREE TELEPHONE
 NUMBER FOR JOINT UTILITY LOCATING INFORMATION
 FOR EXCAVATOR IS 1-800-892-0123.

BENCHMARKS:

- 1.) EXISTING "□", ON THE N.E. CORNER OF EAST BRIDGE RAIL ELEVATION = 81.12
- 2.) IRON ROD, CP #14 ±1200' S. OF BRIDGE ON E. SIDE OF ROAD
 N 8807.79, E 10018.98 ELEVATION = 77.55
- 3.) IRON ROD, CP #17 S.E. QUADRANT TOB STA. 173+23/46' RT
 N 9992.61, E 10046.26 ELEVATION = 73.76

JOB NO. C-93-101-04
 CONTRACT NO.: 87283
 CONSTRUCTION TYPE CODE: ROADWAY 1000
 BRIDGE X020

LIVINGSTON COUNTY SECTION 02-00208-01-BR F.A.S. ROUTE 342/C.H. 3 FEDERAL PROJECT BRS-342(106)



IMPROVEMENT ENDS
STA. 174+70

PROPOSED STRUCTURE NO: 053-3454
 THE PROPOSED BRIDGE SUPERSTRUCTURE
 IS A THREE-SPAN CAST-IN-PLACE CONCRETE
 DECK. THE SUBSTRUCTURE CONSIST OF
 SPILL-THRU ABUTMENTS ON PILES AND PIERS
 BUILT FROM DRIVING PILES. THE BRIDGE IS
 SKEWED 20 DEGREES RIGHT FORWARD. THE
 STRUCTURE IS 30'-0" OUT TO OUT AND 100'-0"
 BACK TO BACK OF ABUTMENTS.

IMPROVEMENT BEGINS
STA. 171+70

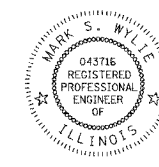
FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR (NON-URBAN)
 DESIGN SPEED: 55 M.P.H.
 DESIGN TRAFFIC: 374 (2023)
 % TRUCKS: 5.0%



LOCATION MAP

F.A.S. 342/C.H. 3 GROSS LENGTH OF PROJECT = 300.00 FT = 0.057 MILE; NET LENGTH OF PROJECT = 300.00 FT = 0.057 MILE
 TOTAL GROSS LENGTH OF PROJECT = 300.00 FT = 0.057 MILE; NET LENGTH OF PROJECT = 300.00 FT = 0.057 MILE

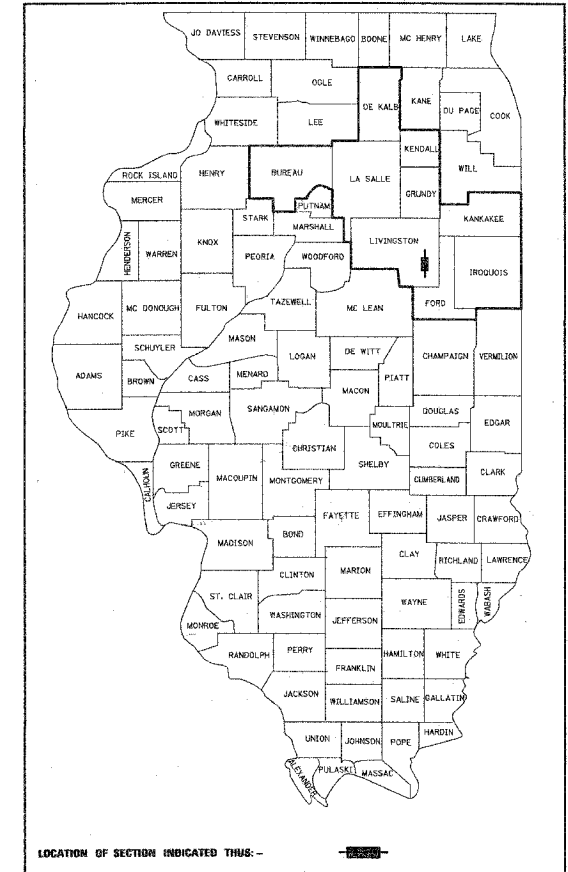
Farnsworth GROUP
 2709 McGraw Drive
 Bloomington, Illinois 61704
 309/663-8435, 309/663-1571 fax



Mark S. Wylie Date 12/11/06
 MARK S. WYLIE
 ILLINOIS PROFESSIONAL ENGINEER
 NO. 062-043716
 EXPIRATION 11/30/07

DATE: 12/01/06

C - 93-101-04



APPROVED	<i>12/11/06</i>	20 06
	<i>Walt Wylie</i>	COUNTY ENGINEER
PASSED	DEC. 21	20 06
	<i>Ken Jung</i>	DISTRICT ENGINEER OF LOCAL ROADS & STREETS
APPROVED	DEC 21	20 06
	<i>Dave DeLuca</i>	DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	02-00208-01-BR	LIVINGSTON	24	2
STA. 171+70		TO STA. 174+70		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT*		
CONTRACT NO. 87283				

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITIES	BRIDGE X020-2A	ROADWAY 1000-2A
20200100	EARTH EXCAVATION	CU YD	89		89
20700110	POROUS GRANULAR EMBANKMENT	TON	98	98	
25000200	SEEDING, CLASS 2	ACRE	0.4		0.4
28100207	STONE RIPRAP, CLASS A4	TON	784	784	
28200200	FILTER FABRIC	SQ YD	862	862	
35100100	AGGREGATE BASE COURSE, TYPE A	TON	50		50
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	94		94
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	9		9
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX C, N50	TON	41		41
44000155	HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2"	SQ YD	320		320
48101200	AGGREGATE SHOULDERS, TYPE B	TON	102		102
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1	
50200100	STRUCTURE EXCAVATION	CU YD	1010	1010	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	197.1	197.1	
50300260	BRIDGE DECK GROOVING	SQ YD	308	308	
50300300	PROTECTIVE COAT	SQ YD	330	330	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	33710	33710	
50900205	STEEL RAILING, TYPE S1	FOOT	198	198	
51204200	TEST PILE CONCRETE	EACH	2	2	
51500100	NAME PLATES	EACH	1	1	
55080040	STORM SEWERS, CLASS B, TYPE 1 10"	FOOT	10		10
55100400	STORM SEWER REMOVAL 10"	FOOT	34		34
63000000	STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	150		150
63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	4		4
63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	4		4
63200310	GUARDRAIL REMOVAL	FOOT	545		545
67100100	MOBILIZATION	L SUM	1		1
70103700	TRAFFIC CONTROL COMPLETE	L SUM	1		1
78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	690		690
78200400	GUARDRAIL REFLECTORS	EACH	16		16
XX004285	FURNISHING & DRIVING CONCRETE PILES	FOOT	1340	1340	

* DENOTES SEE SPECIAL PROVISIONS
 Δ SPECIALTY ITEMS

SCHEDULE OF QUANTITIES

SEEDING, CLASS 2 - 25000200

STATION	TO	STATION	ACRE
171+70		174+70	0.4
TOTAL			0.4

AGGREGATE BASE COURSE, TYPE A - 35100100

STATION	TO	STATION	TON
172+68.30		172+83	25
173+83		173+97.70	25
TOTAL			50

BITUMINOUS MATERIALS (PRIME COAT) - 40600100

STATION	TO	STATION	GALLON
171+70		172+83	28 (RC-70)
173+83		174+70	21 (RC-70)
171+70 LT&RT		172+68.30 LT&RT	9 (MC-30)
172+68.30		172+83	15 (MC-30)
173+83		173+97.70	15 (MC-30)
173+97.70 LT&RT		174+70 LT&RT	6 (MC-30)
TOTAL			94

HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50 - 40603080

STATION	TO	STATION	TON
171+70 LT&RT		172+68.30 LT&RT	2
172+68.30		172+83	3
173+83		173+97.70	3
173+97.70 LT&RT		174+70 LT&RT	1
TOTAL			9

HOT-MIX ASPHALT SURFACE COURSE, MIX C, N50 - 40603310

STATION	TO	STATION	TON
171+70		172+83	23
172+83		174+70	18
TOTAL			41

HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2" - 44000155

STATION	TO	STATION	SQ YD
171+70		172+52	182
174+08		174+70	138
TOTAL			320

AGGREGATE SHOULDERS, TYPE B - 48101200

STATION	TO	STATION	TON
171+70 LT		172+78 LT	29
171+70 RT		172+88 RT	31
173+88 LT		174+70 LT	23
173+98 RT		174+70 RT	19
TOTAL			102

STORM SEWERS, CLASS B, TYPE 1 10" - 55080040

STATION	TO	STATION	FOOT
173+03/49' RT		173+12/44' RT	10
TOTAL			10

STORM SEWER REMOVAL 10" - 55100400

STATION	TO	STATION	FOOT
173+03/49' RT		173+33/32' RT	34
TOTAL			34

STEEL PLATE BEAM GUARDRAIL, TYPE A - 63000000

STATION	TO	STATION	FOOT
172+33.97 LT		172+46.47 LT	12.5
172+44.80 RT		172+57.30 RT	12.5
174+08.70 LT		175+21.20 LT	12.5
174+19.53 RT		174+32.03 RT	12.5
TOTAL			50

TRAFFIC BARRIER TERMINAL, TYPE 5A - 63100075

STATION	TO	STATION	EACH
ALL FOUR BRIDGE QUADRANTS			4
TOTAL			4

TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT) - 63100167

STATION	TO	STATION	EACH
171+83.97 LT			1
171+94.80 RT			1
175+71.20 LT			1
174+82.03 RT			1
TOTAL			4

GUARDRAIL REMOVAL - 63200310

STATION	TO	STATION	FOOT
171+82 RT		173+09 RT	127
172+07 LT		173+09 LT	102
173+52 LT		175+66 LT	214
173+52 RT		174+54 RT	102
TOTAL			545

MOBILIZATION - 67100100

STATION	THROUGHOUT PROJECT	L SUM
TOTAL		1

TRAFFIC CONTROL COMPLETE - 70103700

STATION	THROUGHOUT PROJECT	L SUM
TOTAL		1

PAINT PAVEMENT MARKING - LINE 4" - 78001110

STATION	TO	STATION	FOOT
171+70 LT		174+70 LT	300
171+70 RT		174+70 RT	300
171+70		174+70 CENTER LINE	90
TOTAL			690

GUARDRAIL REFLECTORS - 78200400

STATION	TO	STATION	EACH
171+84 LT		175+71 LT	9
171+95 RT		174+82 RT	7
TOTAL			16

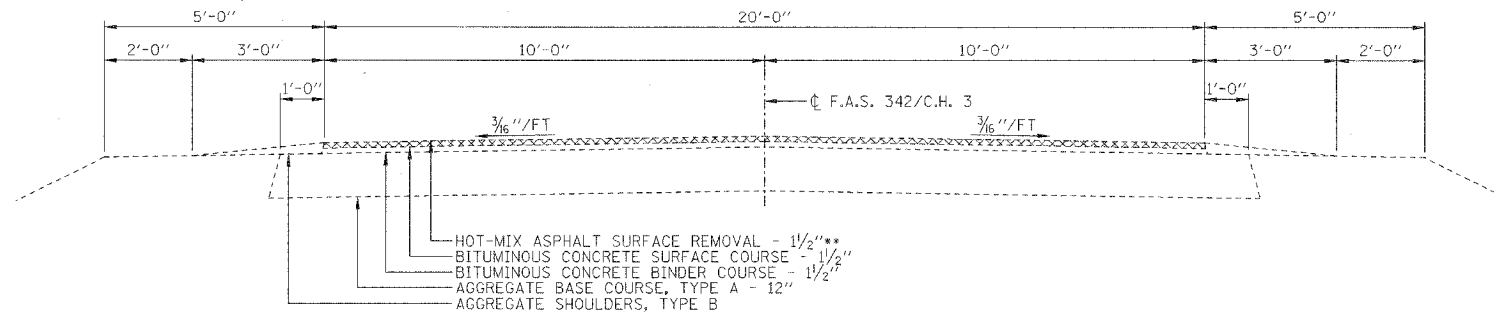
SECTION 02-00208-01-BR
 LIVINGSTON COUNTY
 F.A.S. 342/C.H. 3

SUMMARY OF QUANTITIES & SCHEDULE OF QUANTITIES

DRAWN BY DMM	FILE NO. 24-7131
DATE 12/01/06	BOOK NO. 2606
CHECKED BY MSW	SHEET NO. 2 OF 24

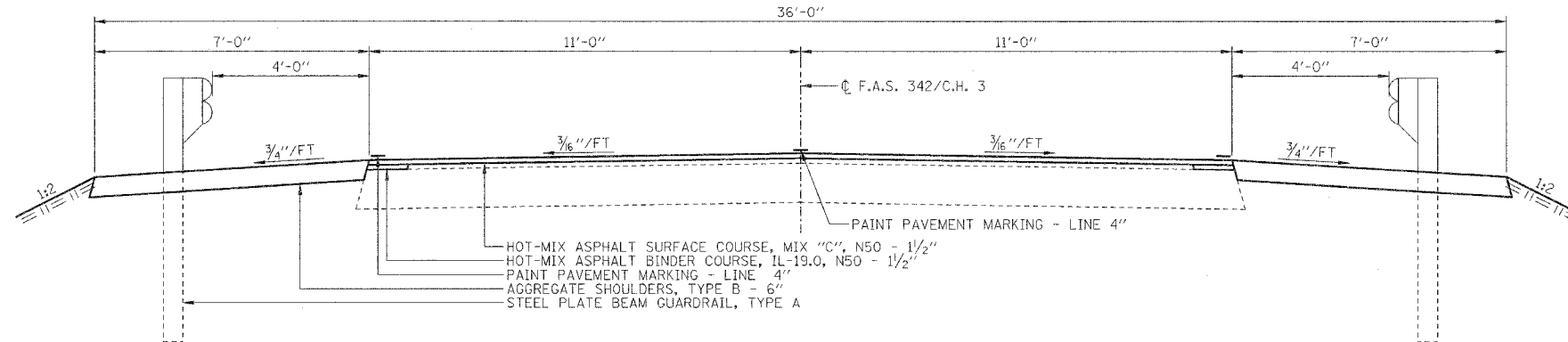


F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	02-00208-01-BR	LIVINGSTON	24	3
STA. 171+70		TO STA. 174+70		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 87283				



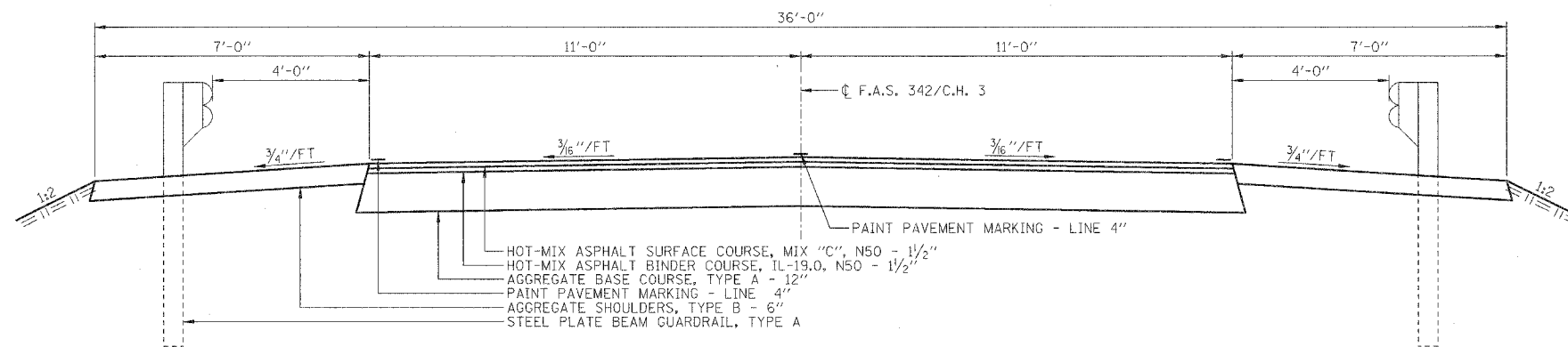
EXISTING TYPICAL SECTION

**SEE PLAN & PROFILE SHEET AND SCHEDULE OF QUANTITIES FOR LOCATIONS.



PROPOSED TYPICAL SECTION

NOTE: FROM STA. 171+70.00 TO STA. 172+68.30 & FROM STA. 173+97.70 TO STA. 174+70.00



PROPOSED TYPICAL SECTION

FROM STA. 172+68.30 TO STA. 172+83.00 & FROM STA. 173+83.00 TO STA. 173+97.70

BRIDGE FROM STA. 172+83.00 TO STA. 173+83.00

	HOT-MIX SURFACE COURSE	HOT-MIX BINDER COURSE
PG GRADE	PG64-22	PG64-22
MAX % RAP ALLOWABLE*	0%	25%
DESIGN AIR Voids	4.0% @ N50	4.0% @ N50
MIXTURE COMPOSITION	IL 12.5 OR IL 9.5	IL 19.0
FRICTION AGGREGATE	MIXTURE C	

* IF RAP OPTION IS SELECTED, THE ASPHALT CEMENT GRADE MAY NEED TO BE ADJUSTED. THIS WILL BE DETERMINED BY THE ENGINEER.

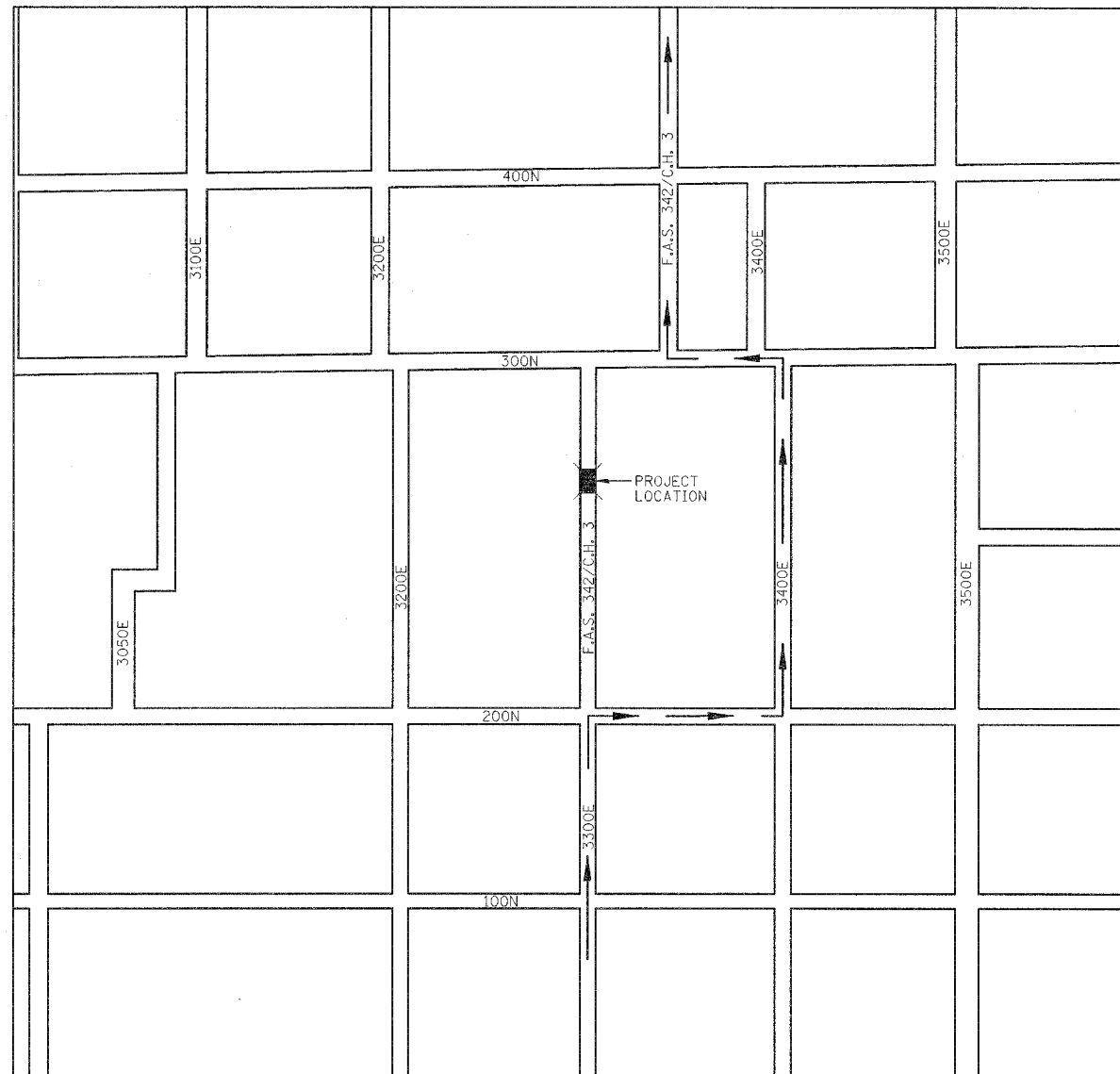
ASSUMED BITUMINOUS WEIGHT = 112 LB/SQ YD-IN

SECTION 02-00208-01-BR
LIVINGSTON COUNTY
F.A.S. 342/C.H. 3

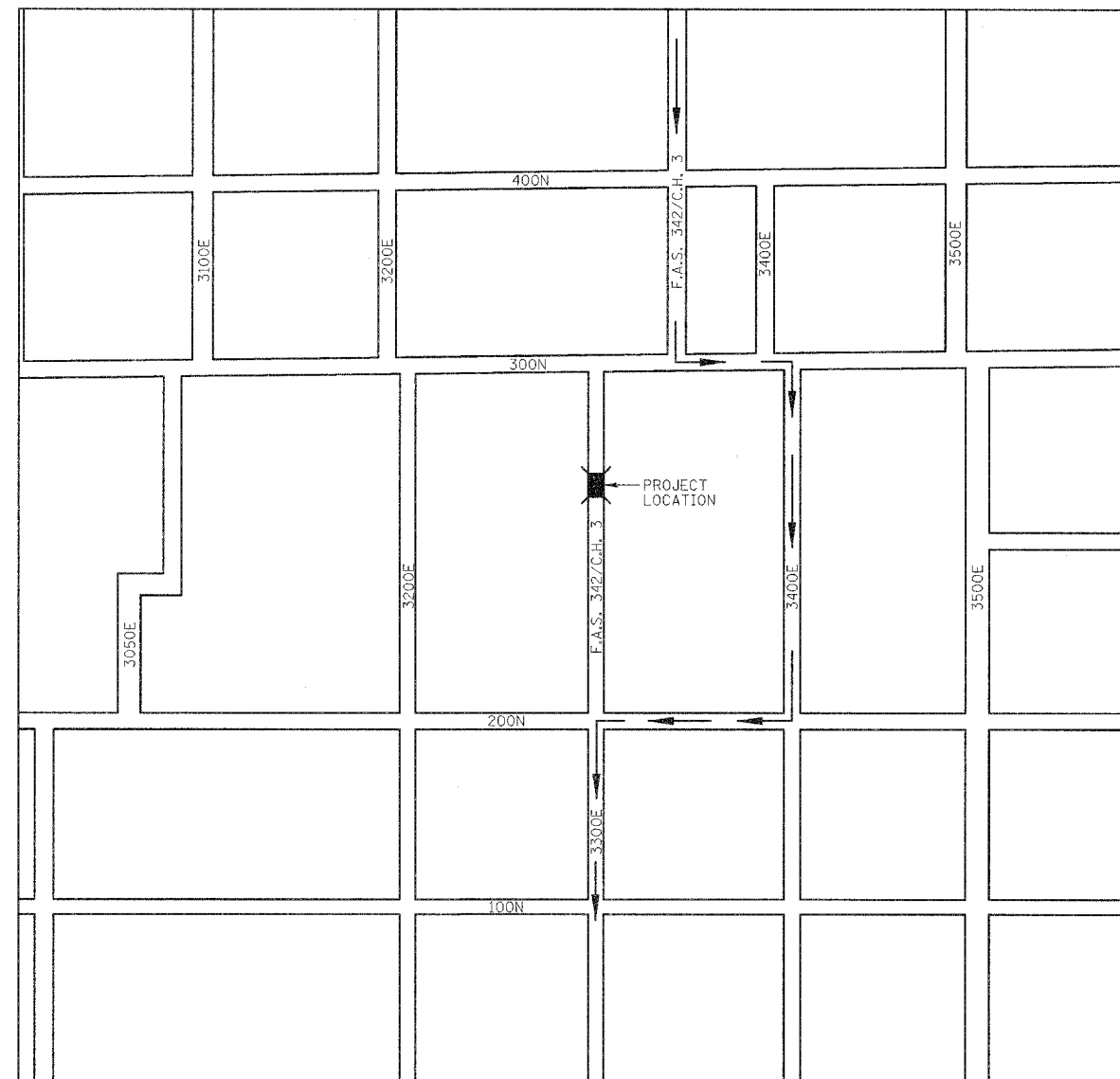
TYPICAL SECTIONS

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DATE 12/01/06		SHEET NO. 2606
CHECKED BY MSW	2709 McGraw Drive Springfield, Illinois 61704 308/985-8600 FAX 308/985-8671	SHEET NO. 3 OF 24

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	02-00208-01-BR	LIVINGSTON	24	4
STA. 171+70		TO STA. 174+70		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 87283				



DETOUR MAP - NORTHBOUND



DETOUR MAP - SOUTHBOUND

NOTES:

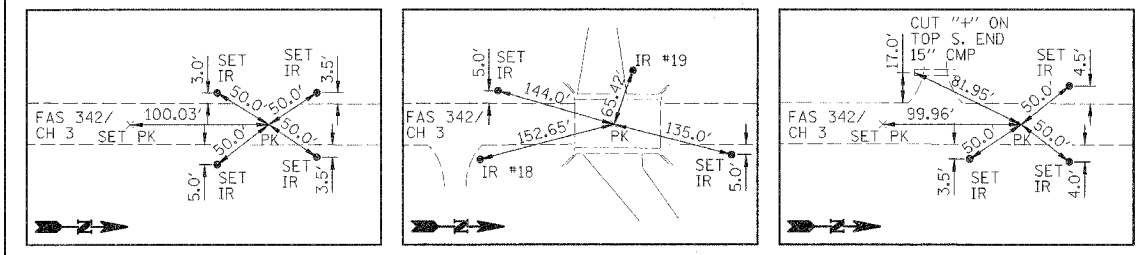
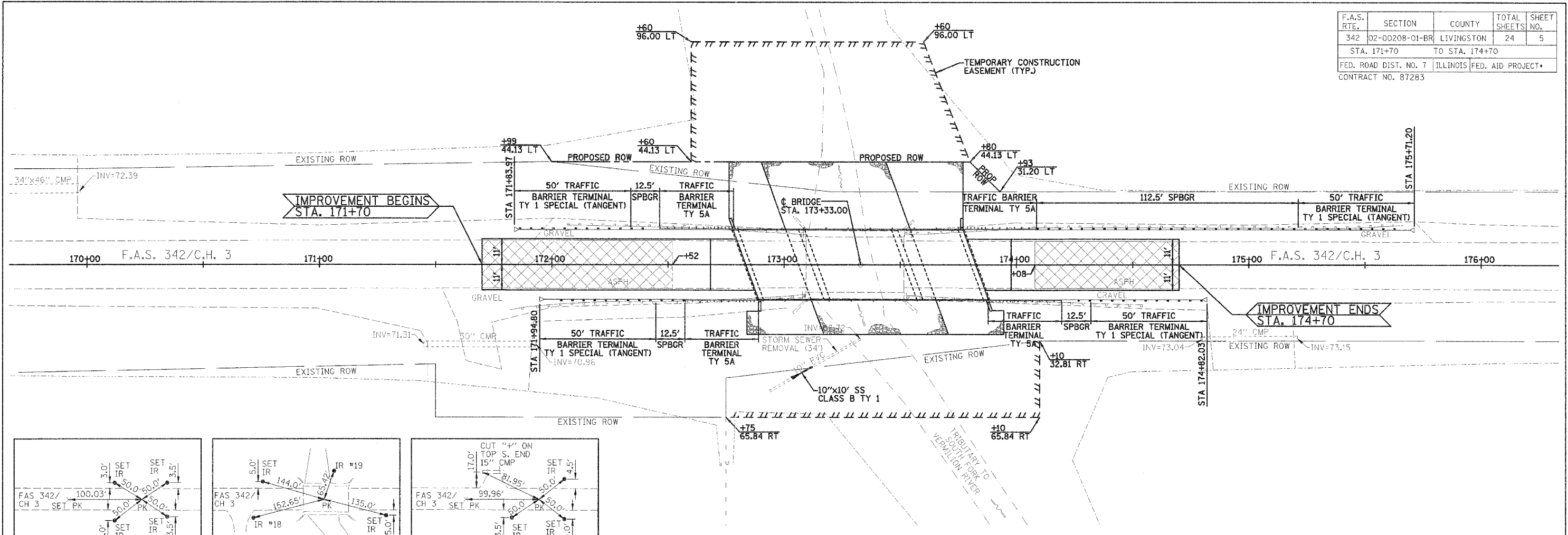
- 1.) DETOUR SIGNS WILL BE PLACED BY OTHERS.
- 2.) CONTRACTOR TO CONTACT ALL EMERGENCY SERVICES AND MAIL ROUTES A MINIMUM OF 72 HOURS IN ADVANCE OF STARTING CONSTRUCTION.

SECTION 02-00208-01-BR
LIVINGSTON COUNTY
F.A.S. 342/C.H. 3

DETOUR MAPS

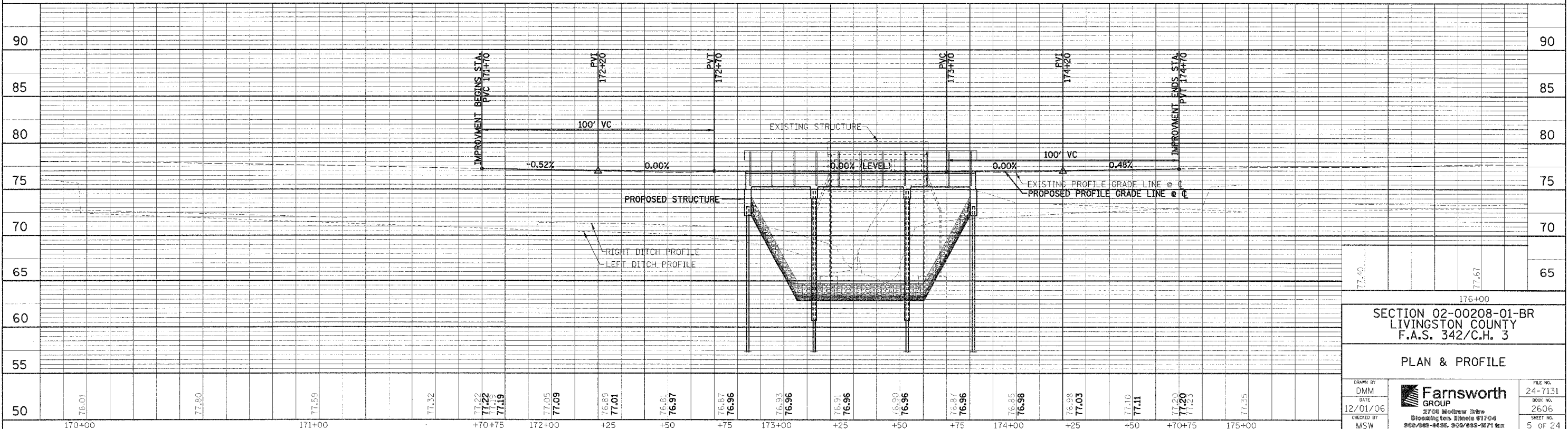
DRAWN BY DMM	 <p>2700 McQueen Drive Bloomington, Illinois 61704 309/983-0656, 309/983-1671 fax</p>	FEE NO. 24-7131
DATE 12/01/06		BOOK NO. 2606
CHECKED BY MSW		SHEET NO. 4 OF 24

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	02-00208-01-BR	LIVINGSTON	24	5
STA. 171+70		TO STA. 174+70		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT*		
CONTRACT NO. 87283				



BENCHMARKS:
 1.) EXISTING "□", ON THE N.E. CORNER OF EAST BRIDGE RAIL ELEVATION = 81.12
 2.) IRON ROD, CP #14 ±1200' S. OF BRIDGE ON E. SIDE OF ROAD
 N 8807.79, E 10018.98 ELEVATION = 77.55
 3.) IRON ROD, CP #17 S.E. QUADRANT TOB STA. 173+23/46' RT
 N 9992.61, E 10046.26 ELEVATION = 73.76

HOT-MIX ASPHALT
 SURFACE REMOVAL, 1 1/2"



176+00
 SECTION 02-00208-01-BR
 LIVINGSTON COUNTY
 F.A.S. 342/C.H. 3
 PLAN & PROFILE

DRAWN BY DMM	DATE 12/01/06	CHECKED BY MSW	FILE NO. 24-7131	BOOK NO. 2606	SHEET NO. 5 OF 24
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Benchmarks: 1.) Existing "□", on the N.E. corner of East Bridge Elevation 81.12
 2.) Iron Rod, CP #14 ±1200' S. of bridge on E. side of road;
 3.) N 8807.79, E 10018.98 Elevation = 77.55
 Iron Rod, CP #17 S.E. quadrant TOB Sta. 173+2.3/46' Rt;
 N 9992.61, E 10046.26 Elevation = 73.76

Existing Structure: Structure Number 053-0087, built in 1929 and carries F.A.S. 342 (C.H. 3) over a Tributary to the South Fork of the Vermillion River. Consisting of a 40'-0" single-span reinforced concrete thru girder superstructure with a bituminous wearing surface supported by reinforced concrete closed abutments on spread footings. The slab thickness varies from 20" at the centerline of the bridge to 15" at the face of the parapet. The structure is not skewed to the roadway and is approximately 28'-10" out to out and 43'-0" back to back of abutments. The existing structure has no salvage value.

DESIGN SPECIFICATIONS

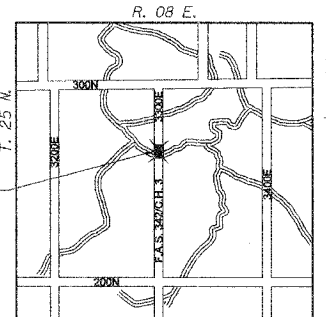
AASHTO 2002
LOADING HS20-44
 Allow 50#/sq. ft. for future wearing surface.
DESIGN STRESSES

CAST IN PLACE CONCRETE (FIELD UNITS)
 $f'_c = 4,000$ psi
 $f_y = 60,000$ psi (Reinforcement)

SEISMIC DATA

Seismic Performance Category (SPC) = A
 Bedrock Acceleration Coefficient (A) = 0.043
 Site Coefficient (S) = 1.0

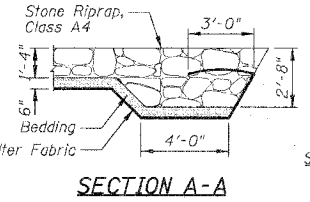
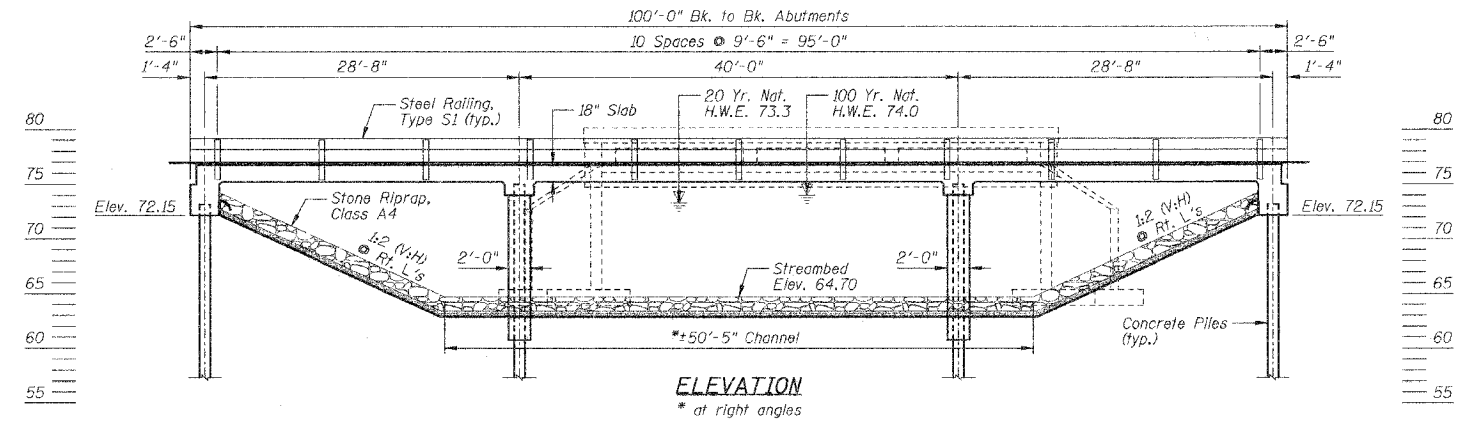
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	02-00208-01-BR	LIVINGSTON	24	6
STA. 171+70 TO STA. 174+70				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				
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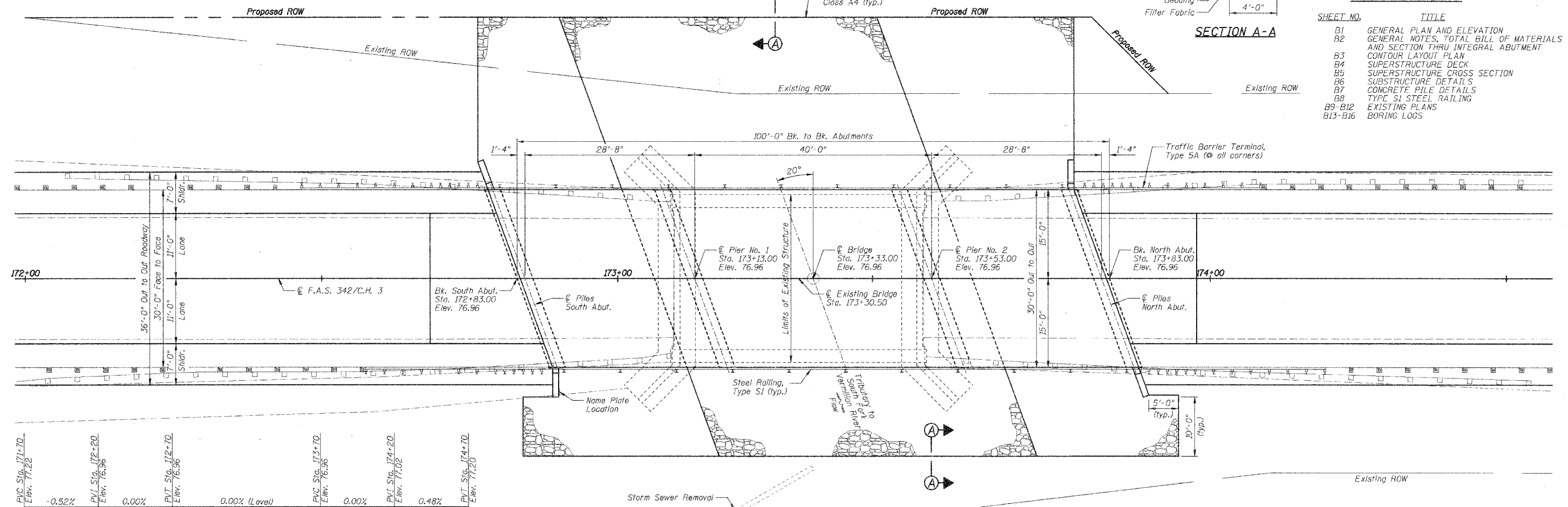
LOCATION MAP

INDEX TO SHEETS

SHEET NO.	TITLE
B1	GENERAL PLAN AND ELEVATION
B2	GENERAL NOTES, TOTAL BILL OF MATERIALS AND SECTION THRU INTEGRAL ABUTMENT
B3	CONTOUR LAYOUT PLAN
B4	SUPERSTRUCTURE DECK
B5	SUPERSTRUCTURE CROSS SECTION
B6	SUBSTRUCTURE DETAILS
B7	CONCRETE PILE DETAILS
B8	TYPE S1 STEEL RAILING
B9-B12	EXISTING PLANS
B13-B16	BORING LOGS



SECTION A-A



PROFILE GRADE

F.A.S. 342/C.H. 3 (along @ roadway)

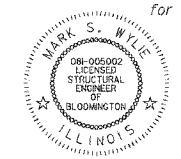
PVC Sta. 171+70 Elev. 77.22	-0.52%	PVI Sta. 172+20 Elev. 76.96	0.00%	PVT Sta. 172+70 Elev. 76.96	0.00% (Level)	PVC Sta. 173+70 Elev. 76.96	0.00%	PVI Sta. 174+20 Elev. 77.02	0.48%	PVT Sta. 174+70 Elev. 77.20
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WATERWAY INFORMATION

Drainage Area (Sq. Mi.) = 7.35 Low Grade Elev. = 76.81 @ Sta. 172+50

Flood Year	Freq.	Q	Opening (Sq. Ft.)	Nat. H.W.E.	Head-Ft.	Headwater El.
		C.F.S.	Exist. Prop.	Exist. Prop.	Exist. Prop.	Exist. Prop.
Design	20	830	276 374	73.2 74.0	0.0 0.1	73.2 73.3
Base	100	1179	306 436	74.0	0.0 0.0	74.0 74.0
Max. Freq.						
Overtopping						

I certify that to the best of my knowledge, 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'.



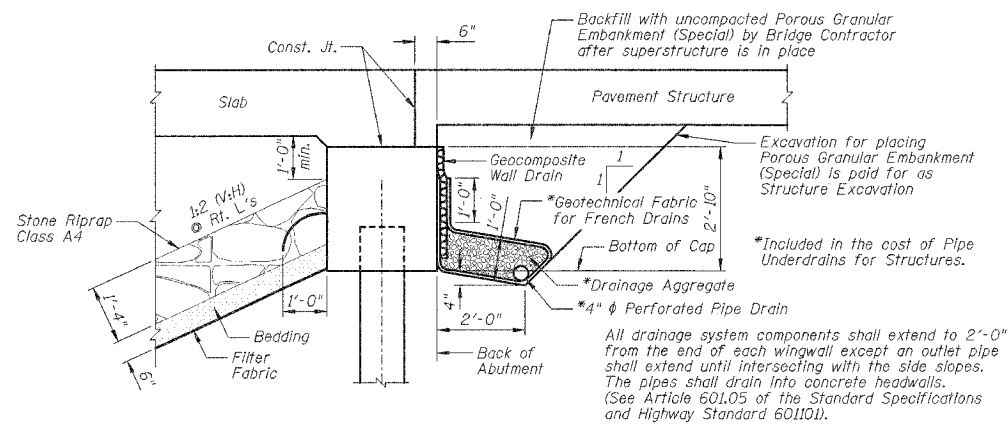
Mark S. Wylie Date 12/1/06
 MARK S. WYLIE
 ILLINOIS STRUCTURAL ENGINEER
 NO. 081-005002
 Exp. Date 11/30/08

SECTION 02-00208-01-BR
 LIVINGSTON COUNTY
 F.A.S. 342/C.H. 3

GENERAL PLAN AND ELEVATION

DRAWN BY DMM	FILE NO. 24-7131
DATE 12/01/06	BOOK NO. 2606
CHECKED BY MSW	SHEET NO. 6 OF 24

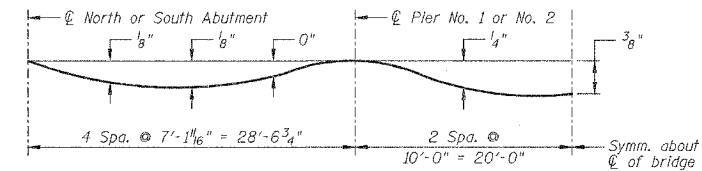
Farnsworth GROUP
 2700 McGraw Drive
 Bloomington, Illinois 61704
 309/898-8636, 309/898-1871 fax



SECTION THRU INTEGRAL ABUTMENT

GENERAL NOTES

- 1.) All items deemed salvageable by the Engineer shall become property of the county and shall be stockpiled within the right-of-way.
- 2.) The design specifications are the 2002 AASHTO Standard Specifications for Highway Bridges.
- 3.) The live loading is HS20 with an allowance of 50 lb/sq. ft. for future wearing surface.
- 4.) This project shall be constructed in accordance with IDOT Standard Specifications for Road and Bridge Construction Adopted January 1, 2002.
- 5.) Class BD Concrete shall be used for the Deck Slab. The Deck Slab shall be finished in accordance with Article 503.17 of the Standard Specifications and shall be cast in one continuous operation.
- 6.) The Contractor shall drive two Test Piles to 110% of the nominal required bearing, each in a permanent location, one Test Pile in Pier No. 2 and one Test Pile in the South Abutment before ordering the remaining piles.
- 7.) Reinforcement bars shall meet the requirements of ASTM A706 Grade 60 (IL Modified), see Special Provisions. The reinforcement strength is 60,000 psi. All reinforcing bars shall be epoxy coated.
- 8.) See sheets B13-B16 for boring data.
- 9.) Layout of the stone riprap may be varied in the field to suit ground conditions as directed by the Engineer.
- 10.) For field data, see Farnsworth Group field book No. 2606.
- 11.) Pier piles shall have a minimum tip elevation of 15' below streambed (min. tip elev. = 49.70).
- 12.) This structure has been designed to be stable for scour conditions in accordance with the FHWA Technical Advisory - T 5140.23, "Evaluating Scour at Bridges" Hydraulic Engineering Circular 18 - "Evaluating Scour at Bridges".



DEADLOAD DEFLECTION DIAGRAM

TOTAL BRIDGE BILL OF MATERIALS

ITEM	UNIT	TOTAL
Porous Granular Embankment	Ton	98
Stone Riprap, Class A4	Ton	784
Filter Fabric	Sq. Yd.	862
Removal of Existing Structures	Each	1
Structure Excavation	Cu. Yd.	1010
Concrete Superstructure	Cu. Yd.	197.1
Bridge Deck Grooving	Sq. Yd.	308
Protective Coat	Sq. Yd.	330
Reinforcement Bars, Epoxy Coated	Pound	33710
Steel Railing, Type S1	Foot	198
Test Pile Concrete	Each	2
Name Plates	Each	1
Furnishing & Driving Concrete Piles	Foot	1340

Note: Pile lengths are based on 12" Metal Shells.

TRIBUTARY TO SOUTH FORK
 VERMILION RIVER
 BUILT 200... BY
 GERMANVILLE ROAD DISTRICT
 LIVINGSTON COUNTY
 SEC. 02-00208-01-BR
 STATION 173+33.00
 STR. NO. 053-3454 LOADING HS20

NAME PLATE DETAIL

See Standard 515001

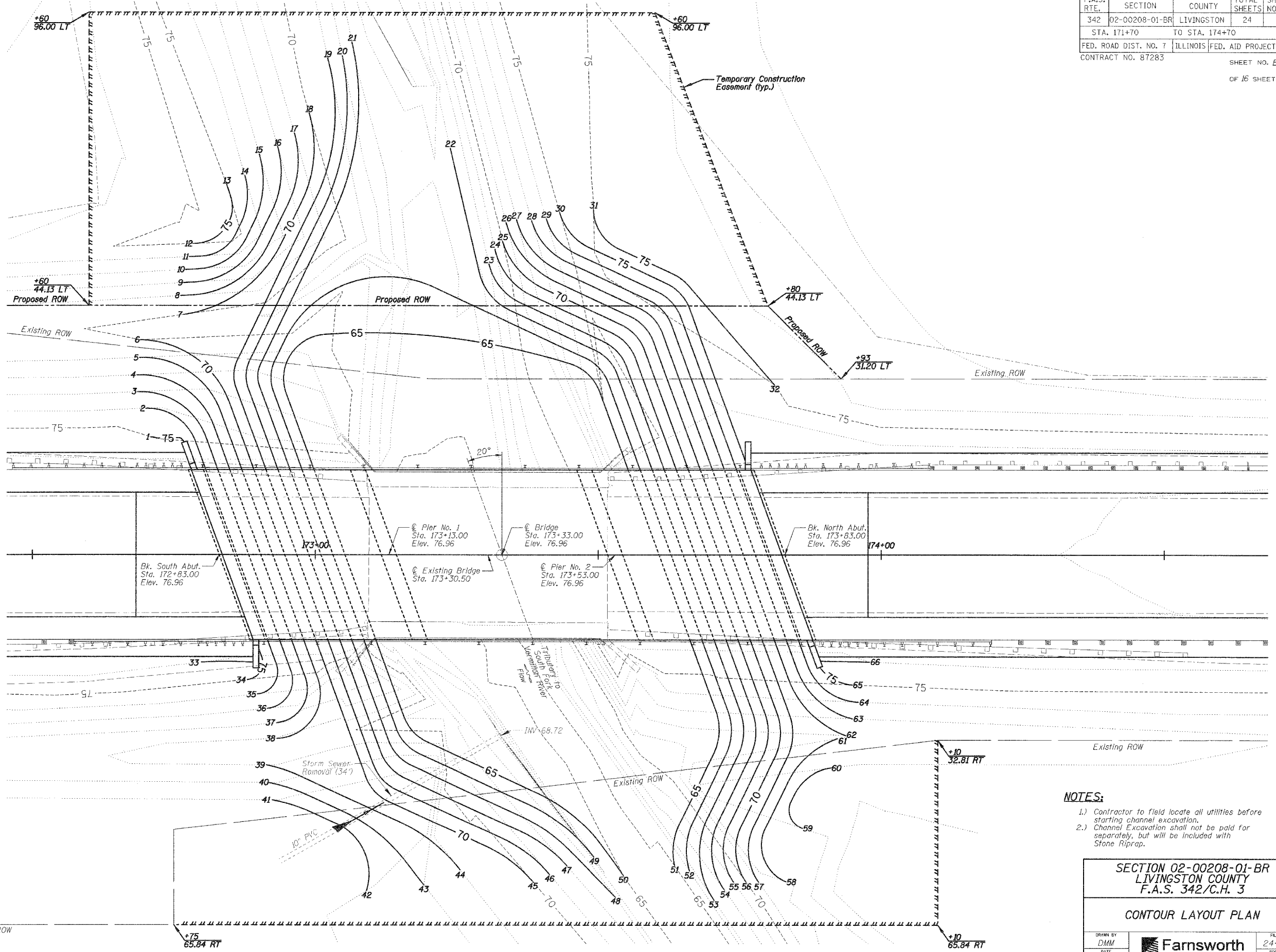
SECTION 02-00208-01-BR LIVINGSTON COUNTY F.A.S. 342/C.H. 3			
GENERAL NOTES, TOTAL BILL OF MATERIALS AND SECTION THRU INTEGRAL ABUTMENT			
DRAWN BY DMM DATE 12/01/06 CHECKED BY MSW	<table border="1"> <tr> <td> </td> <td> FILE NO. 24-7131 BOOK NO. 2606 SHEET NO. 7 OF 24 </td> </tr> </table>		FILE NO. 24-7131 BOOK NO. 2606 SHEET NO. 7 OF 24
	FILE NO. 24-7131 BOOK NO. 2606 SHEET NO. 7 OF 24		

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	02-00208-01-BR	LIVINGSTON	24	8
STA. 171+70		TO STA. 174+70		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT*		
CONTRACT NO. 87283		SHEET NO. B3		
OF 16 SHEETS				

**PROPOSED CONTOUR
END LOCATIONS**

LOCATION	ELEVATION	STATION	OFFSET
1	75	172+71	21' LT
2	74	172+70	26' LT
3	73	172+69	29' LT
4	72	172+69	32' LT
5	71	172+69	35' LT
6	70	172+69	38' LT
7	70	172+77	43' LT
8	71	172+76	46' LT
9	72	172+77	48' LT
10	73	172+77	50' LT
11	74	172+78	53' LT
12	75	172+79	55' LT
13	75	172+84	66' LT
14	74	172+88	67' LT
15	73	172+90	71' LT
16	72	172+93	72' LT
17	71	172+96	75' LT
18	70	172+99	78' LT
19	69	173+02	88' LT
20	68	173+05	88' LT
21	67	173+06	91' LT
22	67	173+24	72' LT
23	68	173+31	52' LT
24	69	173+32	54' LT
25	70	173+33	56' LT
26	71	173+34	59' LT
27	72	173+36	59' LT
28	73	173+38	59' LT
29	74	173+41	60' LT
30	75	173+43	61' LT
31	75	173+49	61' LT
32	75	173+81	30' LT
33	76	172+80	19' RT
34	75	172+88	22' RT
35	74	172+90	25' RT
36	73	172+92	27' RT
37	72	172+93	30' RT
38	71	172+93	33' RT
39	71	172+91	37' RT
40	72	172+92	40' RT
41	73	172+93	43' RT
42	73	173+09	60' RT
43	72	173+19	59' RT
44	71	173+26	56' RT
45	70	173+39	58' RT
46	69	173+41	57' RT
47	68	173+45	55' RT
48	67	173+53	61' RT
49	66	173+49	54' RT
50	65	173+54	57' RT
51	65	173+64	55' RT
52	66	173+66	56' RT
53	67	173+71	61' RT
54	68	173+72	60' RT
55	69	173+74	58' RT
56	70	173+76	58' RT
57	71	173+78	58' RT
58	72	173+83	58' RT
59	73	173+86	49' RT
60	73	173+91	38' RT
61	72	172+92	33' RT
62	72	173+94	32' RT
63	73	173+95	29' RT
64	74	173+96	26' RT
65	75	173+95	23' RT
66	76	173+98	19' RT

Note: Stations and offsets for the proposed contour end locations are from the roadway centerline.



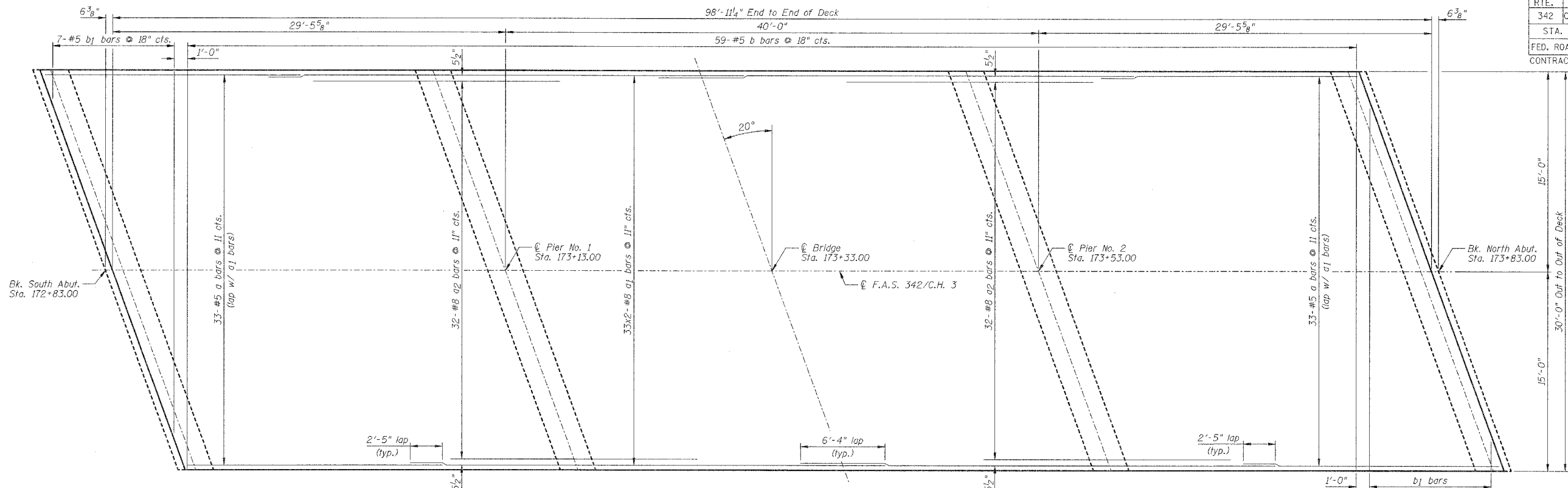
- NOTES:**
- Contractor to field locate all utilities before starting channel excavation.
 - Channel Excavation shall not be paid for separately, but will be included with Stone Riprap.

**SECTION 02-00208-01-BR
LIVINGSTON COUNTY
F.A.S. 342/C.H. 3**

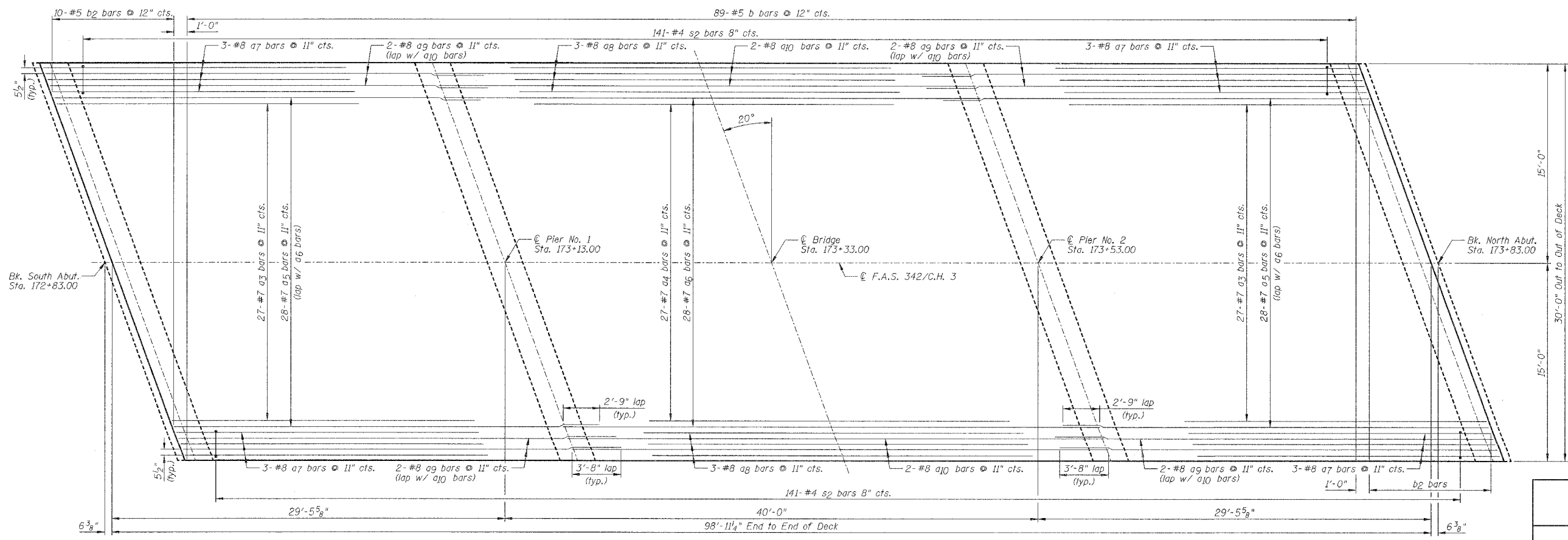
CONTOUR LAYOUT PLAN

DRAWN BY DMM DATE 12/01/06 CHECKED BY MSW	<p>Farnsworth GROUP 2700 Woodrow Drive Bloomington, Illinois 61704 309/898-6626 309/898-1271 fax</p>	FILE NO. 24-7131 BOOK NO. 2606 SHEET NO. 8 OF 24
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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	02-00208-01-BR	LIVINGSTON	24	9
STA. 171+70		TO STA. 174+70		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 87283		SHEET NO. B4		
OF 16 SHEETS				



TOP OF DECK REINFORCING PLAN

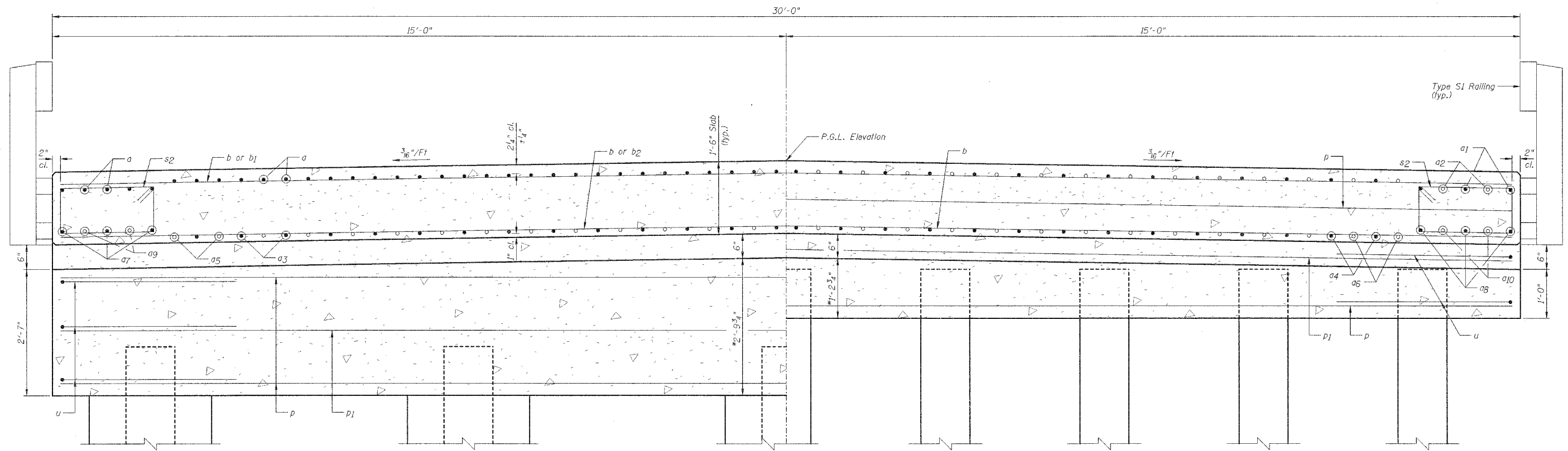


BOTTOM OF DECK REINFORCING PLAN

- NOTES:**
- 1.) Cut b1 & b2 bars as shown in Bar Cutting Diagram on Sheet B5 & use remainder of bar in other end.
 - 2.) Bars indicated thus 33x2-#8 etc. indicates 33 lines of bars with 2 lengths per line.

SECTION 02-00208-01-BR
LIVINGSTON COUNTY
F.A.S. 342/C.H. 3
SUPERSTRUCTURE DECK

DRAWN BY DMM		FILE NO. 24-7131
DATE 12/01/06		BOOK NO. 2606
CHECKED BY MSW	2730 Midway Drive Bloomington, Illinois 61704 308/282-9636, 308/282-2571 fax	SHEET NO. 9 OF 24

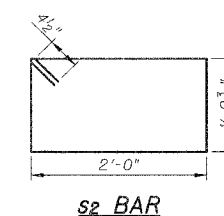
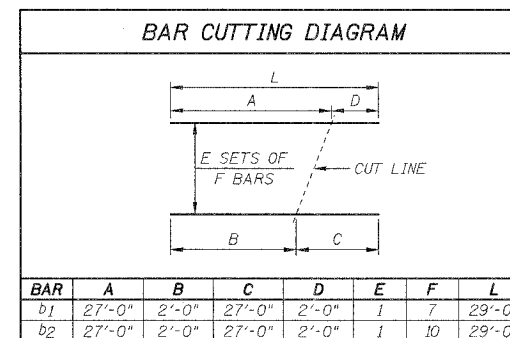


HALF SECTION NEAR ABUTMENTS
*At $\frac{1}{2}$ of Bridge

HALF SECTION NEAR PIERS
*At $\frac{1}{2}$ of Bridge

**SUPERSTRUCTURE
BILL OF MATERIALS**

Bar	No.	Size	Length	Shape
a	66	#5	19'-2"	—
a1	66	#8	35'-8"	—
a2	64	#8	18'-6"	—
a3	54	#7	22'-8"	—
a4	27	#7	27'-0"	—
a5	56	#7	31'-11"	—
a6	28	#7	40'-3"	—
a7	12	#8	22'-8"	—
a8	6	#8	28'-6"	—
a9	8	#8	32'-10"	—
a10	4	#8	40'-3"	—
b	148	#5	29'-8"	—
b1	7	#5	29'-0"	—
b2	10	#5	29'-0"	—
s2	282	#4	6'-10 $\frac{1}{2}$ "	□
Item	Unit	Quantity		
Concrete Superstructure	Cu. Yd.	164.9		
Bridge Deck Grooving	Sq. Yd.	308		
Protective Coat	Sq. Yd.	330		
Reinforcement Bars, Epoxy Coated	Pound	29,420		



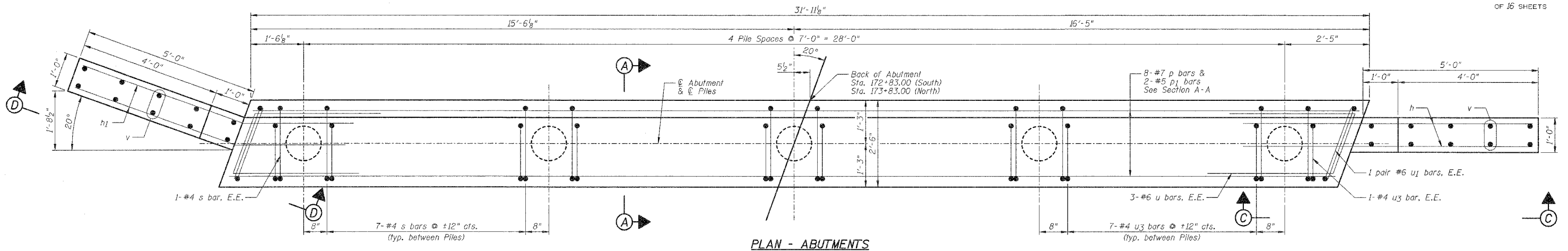
SECTION 02-00208-01-BR
LIVINGSTON COUNTY
F.A.S. 342/C.H. 3

SUPERSTRUCTURE CROSS SECTION

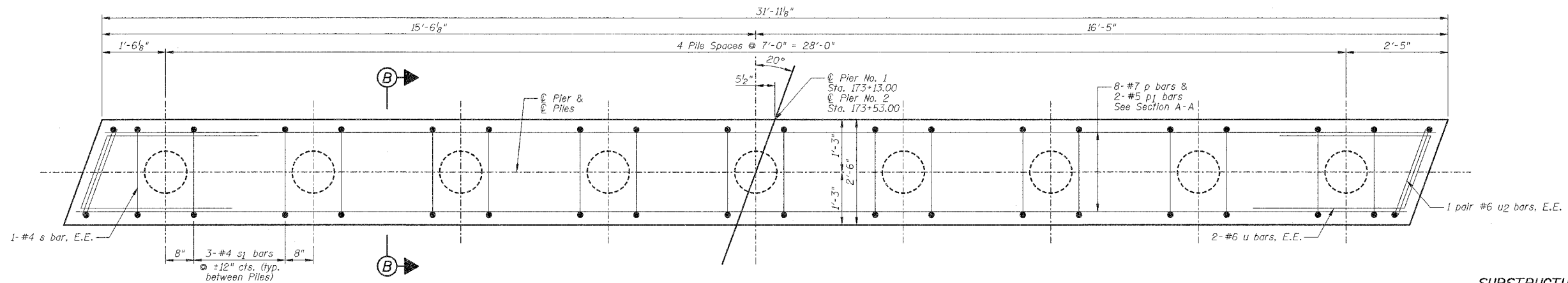
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DATE 12/01/06		BOOK NO. 2606
CHECKED BY MSW		SHEET NO. 10 OF 24

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	02-00208-01-BR	LIVINGSTON	24	11
STA. 171+70		TO STA. 174+70		
FED. ROAD DIST. NO. 7	ILLINOIS FED. AID PROJECT			
CONTRACT NO. 87283		SHEET NO. B6		

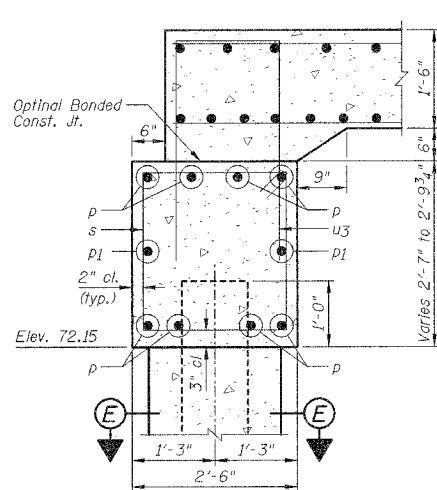
OF 16 SHEETS



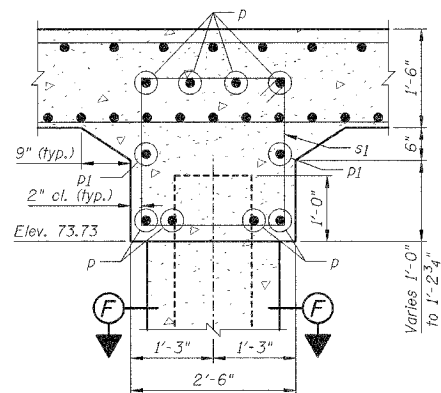
PLAN - ABUTMENTS



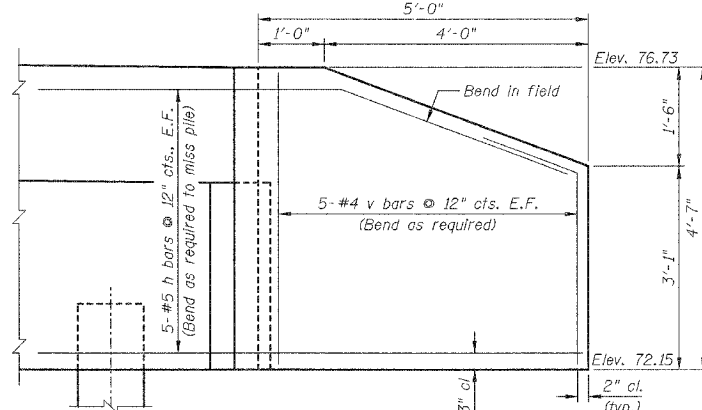
PLAN - PIERS



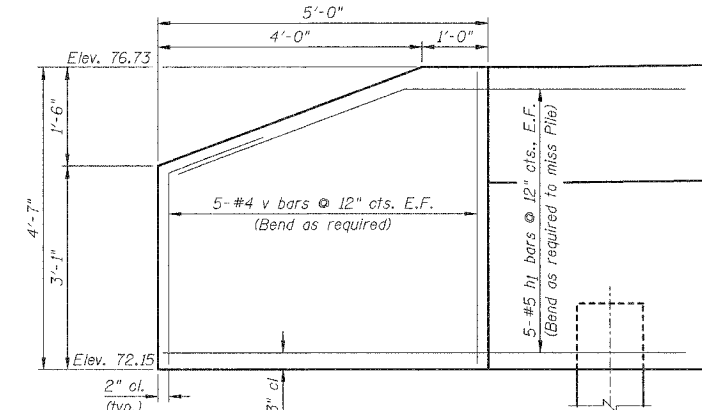
SECTION A-A



SECTION B-B



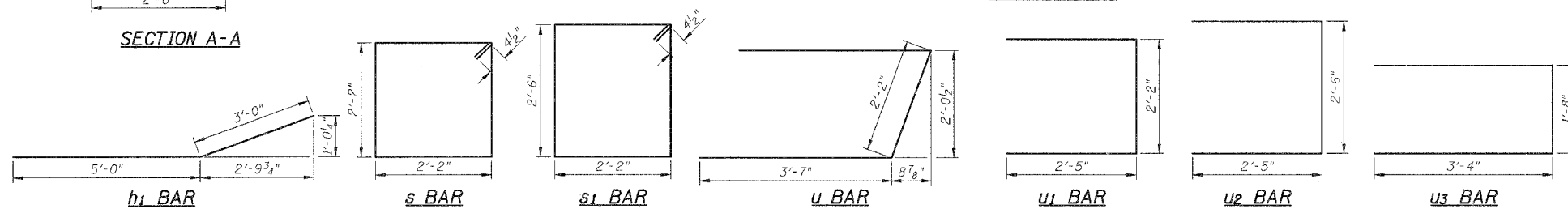
WINGWALL ELEVATION (SECTION C-C)



WINGWALL ELEVATION (SECTION D-D)

SUBSTRUCTURE BILL OF MATERIALS

Bar	No.	Size	Length	Shape
h	20	#5	8'-3"	
h1	20	#5	8'-0"	
p	32	#7	31'-6"	
p1	8	#5	31'-6"	
s	60	#4	9'-5"	
s1	52	#4	10'-1"	
u	20	#6	9'-4"	
u1	8	#6	7'-0"	
u2	8	#6	7'-4"	
u3	60	#4	8'-4"	
v	40	#4	4'-2"	
Item	Unit	Quantity		
Concrete	Cu. Yd.	32.2		
Superstructure				
Reinforcement Bars, Epoxy Coated	Pound	4,290		



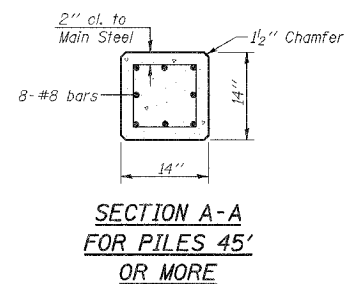
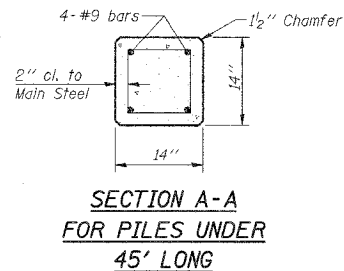
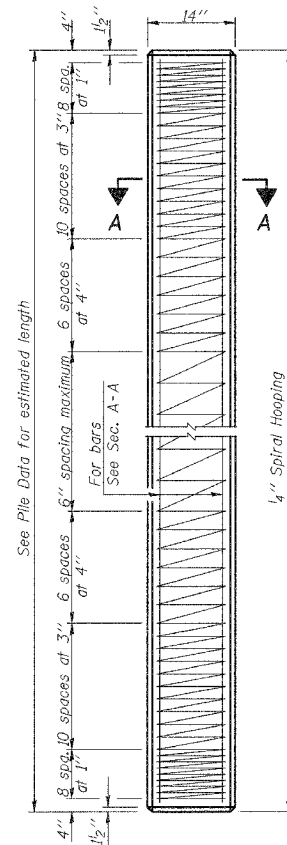
NOTES:

- 1.) All exposed edges shall have 3/4" x 3/4" chamfers except as noted.
- 2.) E.F. denotes each face, E.E. denotes each end.
- 3.) For Section E-E and F-F see Sheet B7.

SECTION 02-00208-01-BR
LIVINGSTON COUNTY
F.A.S. 342/C.H. 3

SUBSTRUCTURE DETAILS

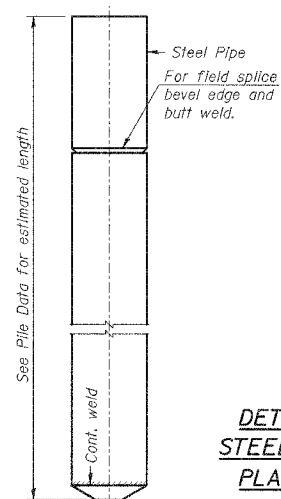
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DATE 12/01/06		BOOK NO. 2606
CHECKED BY MSW	2708 McGraw Drive Livingston, Illinois 61704 308/683-0435, 308/683-1871 fax	SHEET NO. 11 OF 24



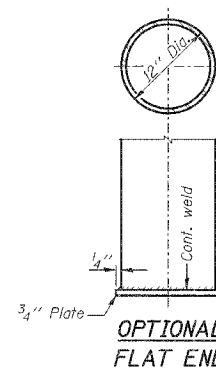
Handling: For Pile lengths up to 45' use two slings placed at a distance of 0.21L from each end. For Piles longer than 45', use three slings placed at a distance of 0.12L from each end and at mid point of pile.

DETAIL OF PRECAST CONCRETE PILES

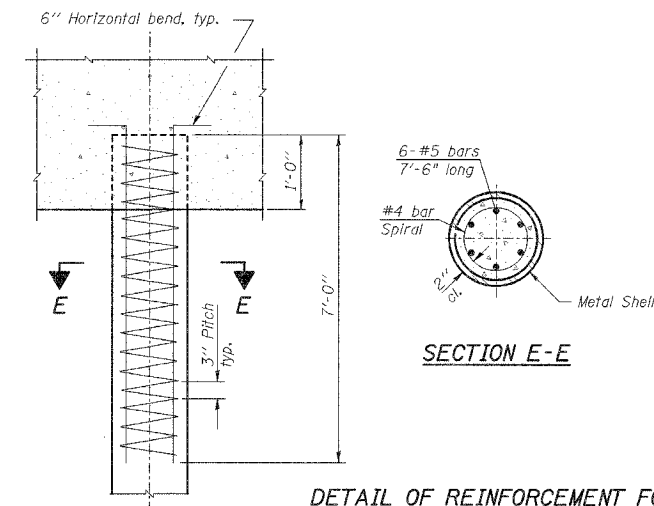
Notes:
Driving and bearing ends of pipe shall be cut square. The thickness of the shell shall be 0.1793 inches with a tolerance of 5%. The shell shall be according to Article 1006.05(a) of the Standard Specifications.



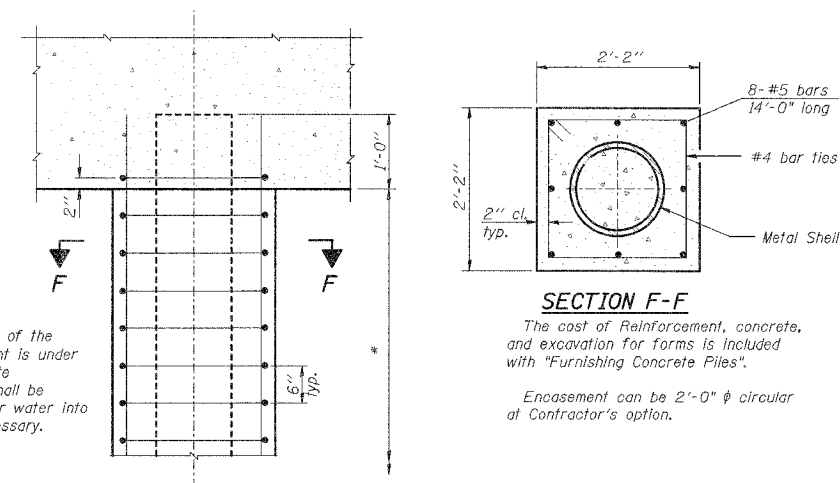
DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES



OPTIONAL FLAT END



DETAIL OF REINFORCEMENT FOR METAL SHELLS AT ABUTMENTS



DETAIL OF PROTECTION FOR METAL SHELLS AT PIERS

BILL OF MATERIAL

Item	Unit	Quantity
Test Pile Concrete	Each	2
Furnishing & Driving Concrete Piles	Foot	1340

Note: Pile Lengths are based on 12" ϕ Metal Shells.

PILE DATA (ABUTMENT)

No. Req'd:	9+1 Test Pile
Est. Length:	32' 14" Square 45' 12" ϕ Metal Shell
Nominal Required Bearing:	270 Kips
Allowable Resistance Available:	90 Kips

PILE DATA (PIERS)

No. Req'd:	17+1 Test Pile
Est. Length:	40' 14" Square 55' 12" ϕ Metal Shell
Nominal Required Bearing:	270 Kips
Allowable Resistance Available:	90 Kips

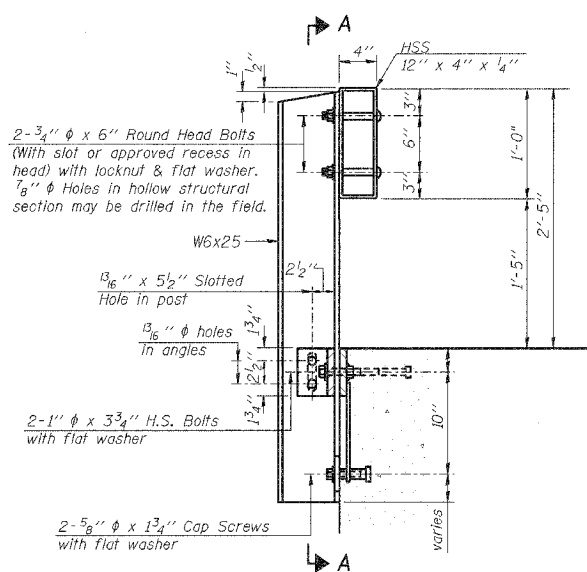
SECTION 02-00208-01-BR
LIVINGSTON COUNTY
F.A.S. 342/C.H. 3

CONCRETE PILE DETAILS

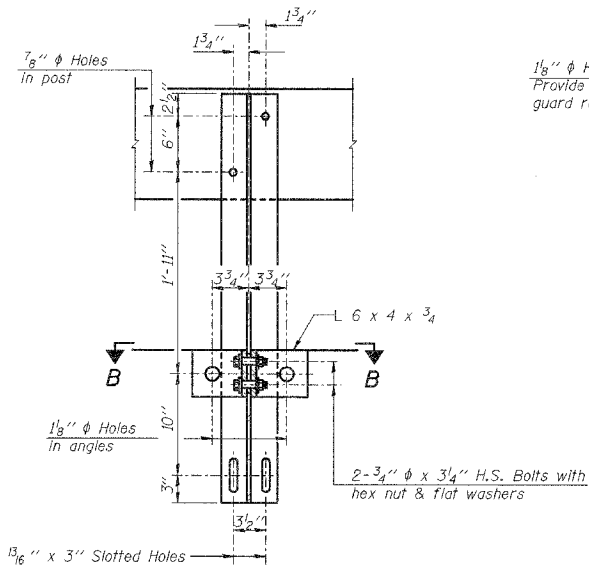
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DATE 12/01/06		BOOK NO. 2605
CREATED BY MSW		SHEET NO. 12 OF 24

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	02-00208-01-BR	LIVINGSTON	24	13
STA. 171+70		TO STA. 174+70		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 87283		SHEET NO. BB		

OF 26 SHEETS

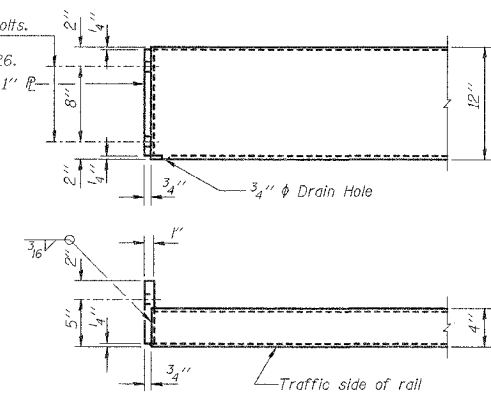


SECTION AT RAIL POST

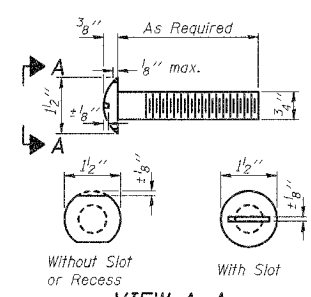


SECTION A-A

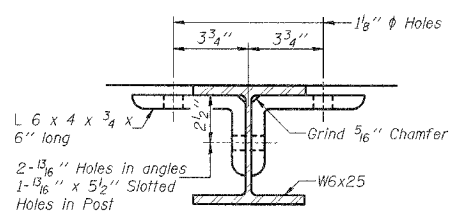
1/8" ϕ Holes for 1" ϕ x 4" Round Head Bolts. Provide 2 Flat washers & locknuts for guard rail connection shown on Std. 631026.



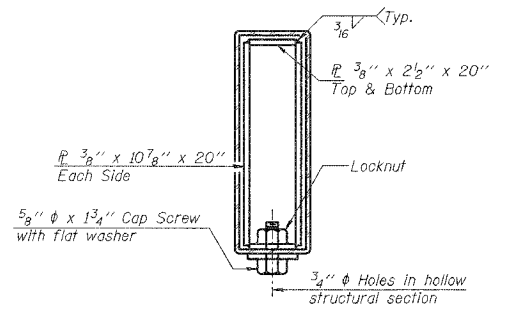
END OF RAIL DETAILS



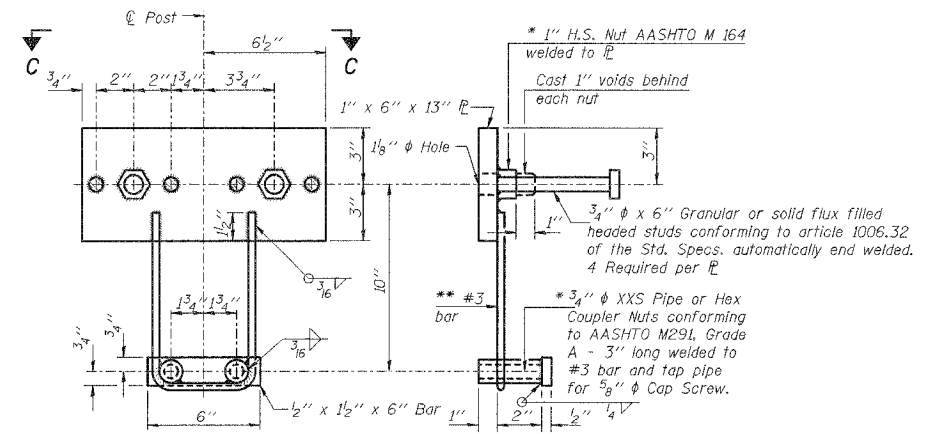
VIEW A-A ROUND HEAD BOLT



SECTION B-B

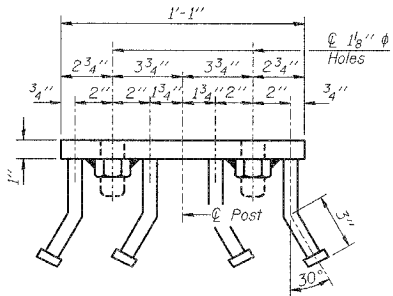


SECTIONS AT RAIL SPLICE

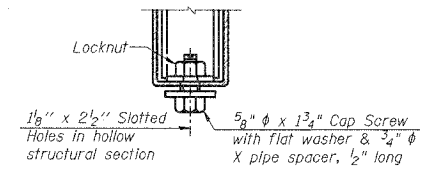


ANCHOR DEVICE

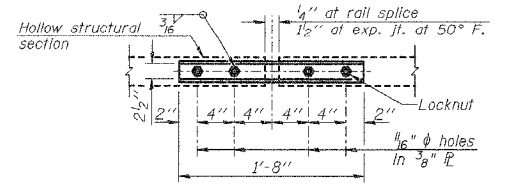
* Threaded areas shall be plugged or blocked off during casting of beam.
 ** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



VIEW C-C



RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE R TYPICAL

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 RAILING, TYPE S-1.
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place 1/8" fabric bearing pad between the post and concrete.
 The 3/4" 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(F)(2) of the Standard Specifications. The 1" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/2 turn. The 5/8" cap screws in bottom of posts shall be tightened to a snug fit only.
 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 RAILING, TYPE S-1.

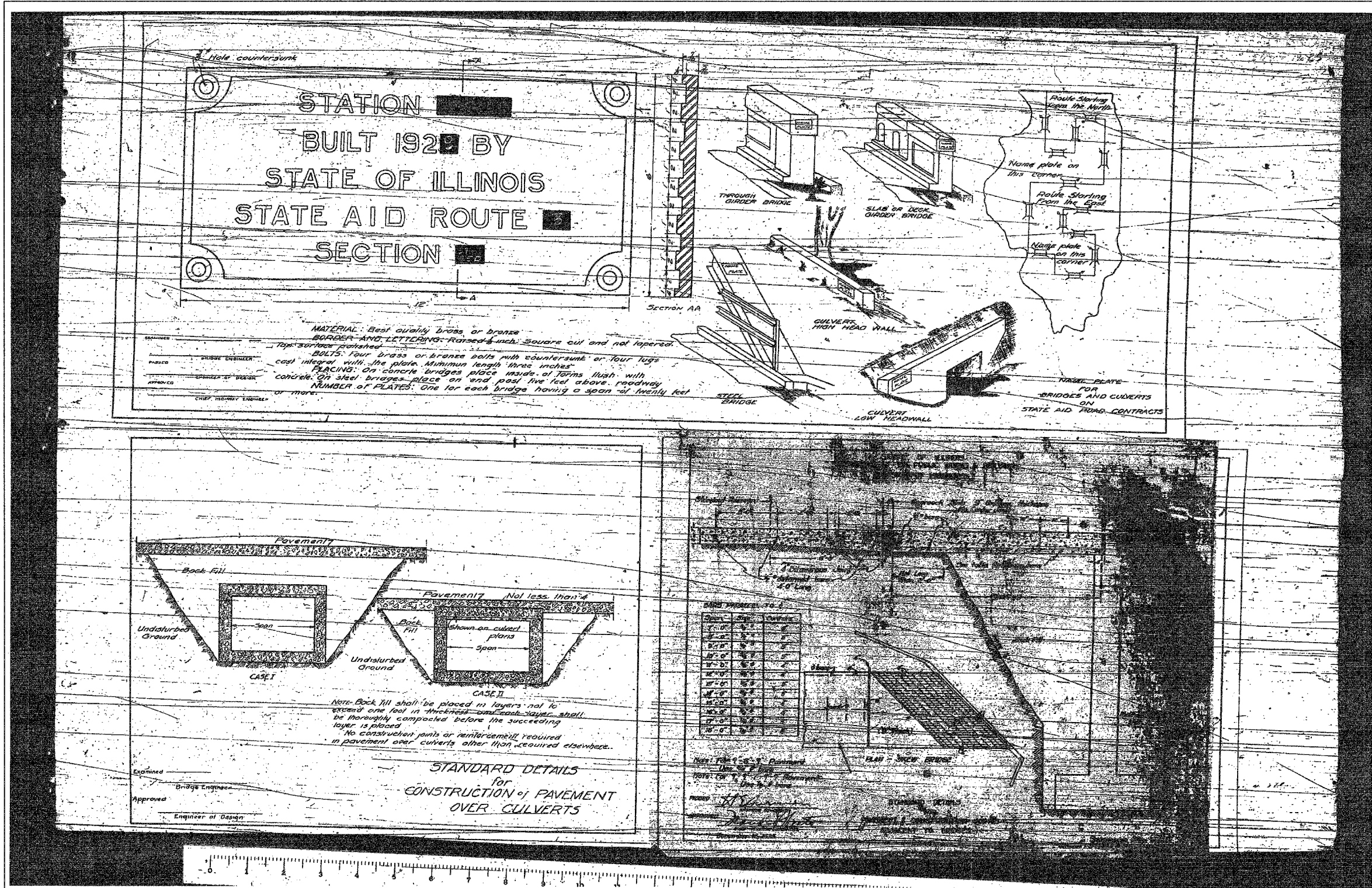
BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S1	Foot	198

SECTION 02-00208-01-BR
 LIVINGSTON COUNTY
 F.A.S. 342/C.H. 3

TYPE S1 STEEL RAILING

DRAWN BY DMM		FILE NO. 24-7131
DATE 12/01/06		BOOK NO. 2606
CHECKED BY MSW		SHEET NO. 13 OF 24

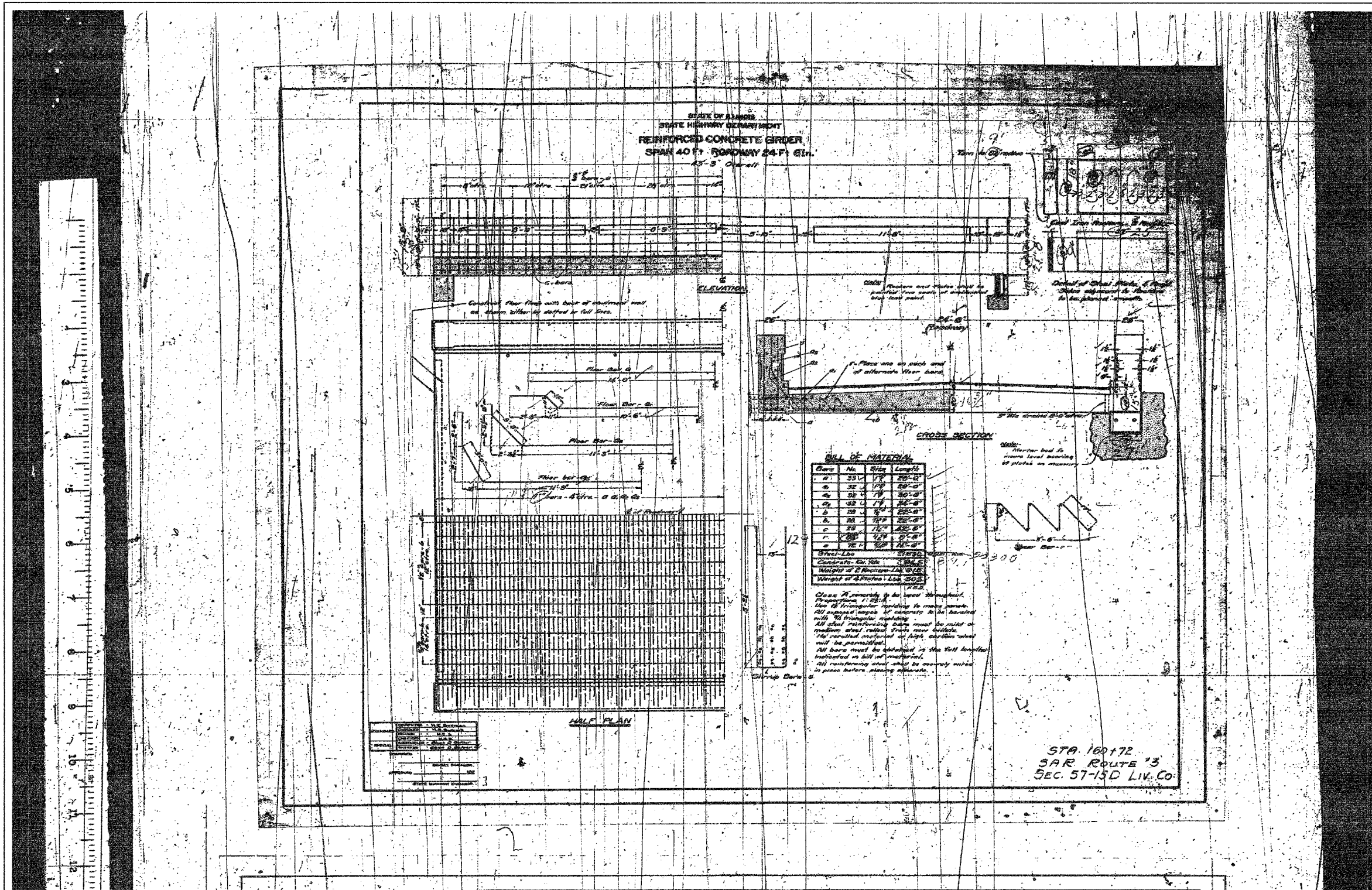


FOR INFORMATIONAL
 USE ONLY

SECTION 02-00208-01-BR
 LIVINGSTON COUNTY
 F.A.S. 342/C.H. 3

EXISTING PLANS

DRAWN BY DMM	 2700 Woodrow Drive Bloomington, Illinois 61704 309/888-8636, 309/888-8671 fax	FILE NO. 24-7131
DATE 12/01/06		BOOK NO. 2606
CHECKED BY MSW		SHEET NO. 15 OF 24

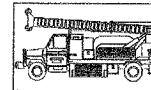


FOR INFORMATIONAL
USE ONLY

SECTION 02-00208-01-BR
LIVINGSTON COUNTY
F.A.S. 342/C.H. 3

EXISTING PLANS

DRAWN BY DMM	Farnsworth GROUP 3700 McQueen Drive Bloomington, Illinois 61704 309/883-8838, 309/883-9871 fax	FILE NO. 24-7131
DATE 12/01/06		BOOK NO. 2606
CHECKED BY MSW		SHEET NO. 17 OF 24



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Phone: 815-223-6696
Fax: 815-223-6659
E-Mail: Midwest@TheRamp.net

Sheet 1 of 4

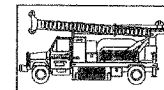
Client: Farnsworth Group
Project Name: Section 02-00203-01-BR
Project Site: Livingston County, Germanville Township

Boring No. B-1
Surface Elev. 99.90
Auger Depth 71' Rotary Depth NA
Start Date 02/18/04 Finish Date 02/18/04

Location: 7' Rt. of centerline of road.
Station 173 + 62.5

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY		REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	
99.90											
98.90			1								
97.90			2								
96.90	Stiff Black And Brown Silty Clay (Fill)		3	1	SS	1.2	8	S	15		
95.90			4								
94.90			5								
93.90			6								
92.90			7								
91.90			8								
90.90	Stiff Brown Silty Clay		9								
89.90			10								
88.90			11	4	SS	1.4	10	B	18		
87.90			12								
86.90			13	5	SS	4.7	21	B	12		
85.90			14								
84.90	Hard Brownish Gray Silty Clay Till		15								
83.90			16	6	SS	4.1	20	B	13		
82.90			17								
81.90			18	7	SS	4.3	20	B	13		
80.90			19								
79.90	Medium Gray Fine To Coarse Sand		20	8	SS	--	16	--	--		

Groundwater Data: Static water level after auger removal elevation 80.5
Comments: Assumed center of existing bridge deck as 100.0



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Phone: 815-223-6696
Fax: 815-223-6659
E-Mail: Midwest@TheRamp.net

Sheet 2 of 4

Client: Farnsworth Group
Project Name: Section 02-00203-01-BR
Project Site: Livingston County, Germanville Township

Boring No. B-1
Surface Elev. 99.90
Auger Depth 71' Rotary Depth NA
Start Date 02/18/04 Finish Date 02/18/04

Location: 7' Rt. of centerline of road.
Station 173 + 62.5

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY		REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	
78.90											
77.90			22								
76.90			23	9	SS	3.6	18	B	14		
75.90			24								
74.90			25								
73.90			26	10	SS	3.7	18	B	14		
72.90	Very Stiff Brownish Gray Silty Clay Till		27								
71.90			28	11	SS	3.3	16	B	16		
70.90			29								
69.90			30								
68.90			31	12	SS	3.5	19	B	15		
67.90			32								
66.90			33	13	SS	4.5	21	B	13		
65.90			34								
64.90			35								
63.90			36	14	SS	4.3	21	B	12		
62.90	Hard Gray Silty Clay Till		37								
61.90			38	15	SS	4.0	20	B	13		
60.90			39								
59.90			40								
58.90			41	16	SS	4.4	22	B	12		

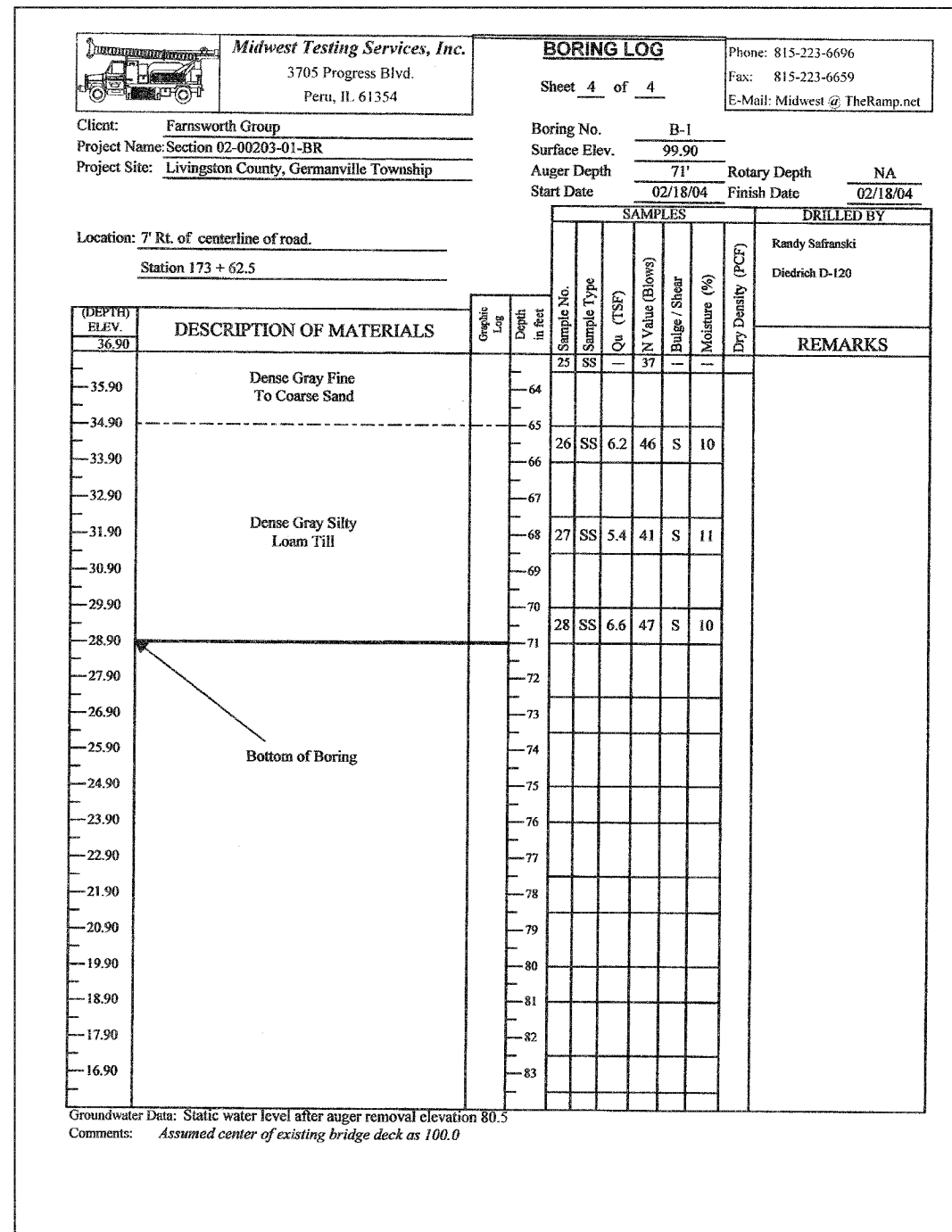
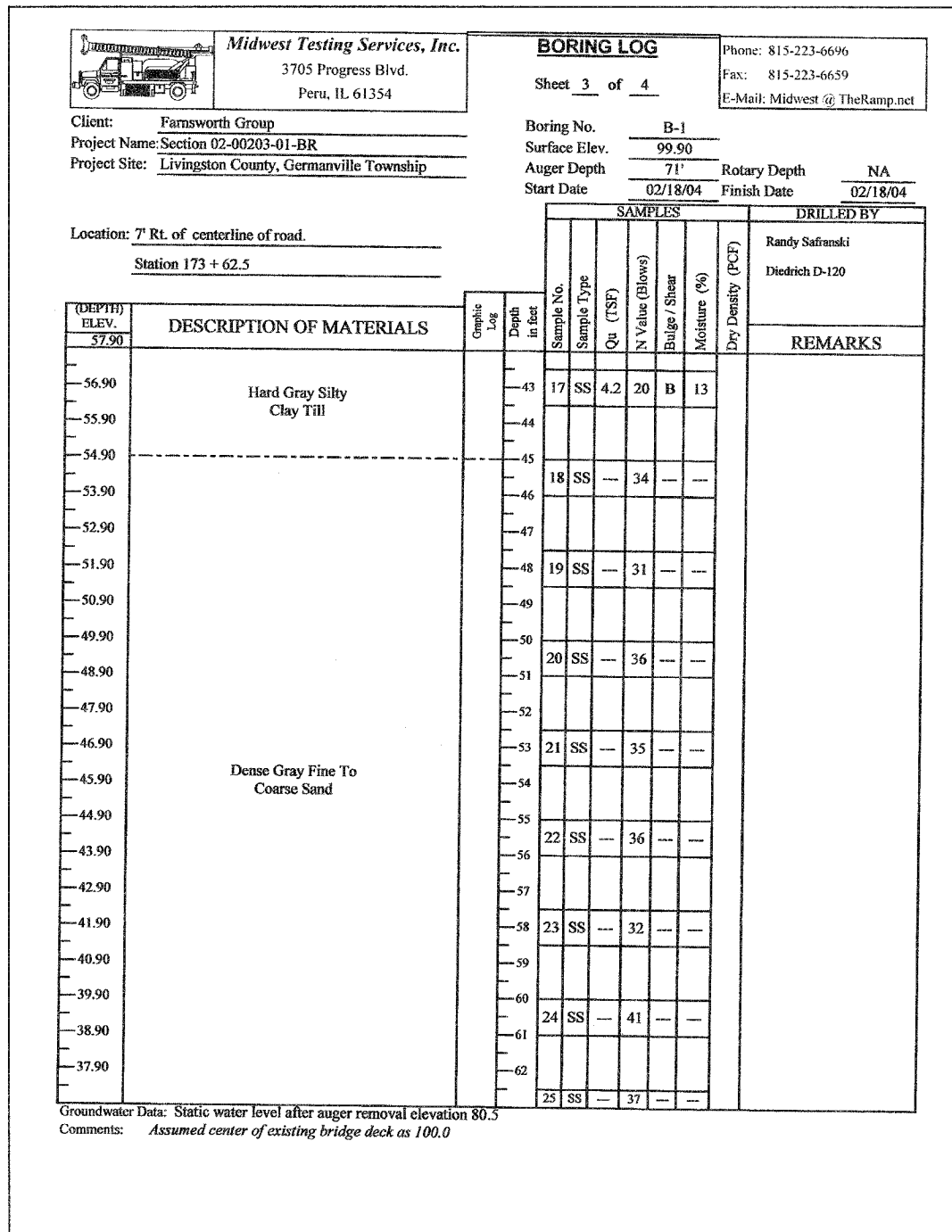
Groundwater Data: Static water level after auger removal elevation 80.5
Comments: Assumed center of existing bridge deck as 100.0

NOTE:
Elevation 100.00 = Plan Elevation ±76.9.

SECTION 02-00208-01-BR
LIVINGSTON COUNTY
F.A.S. 342/C.H. 3

BORING LOGS

DRAWN BY DMM	 Farnsworth GROUP 2709 McGraw Drive Bloomington, Illinois 61704 808/888-9438, 808/888-1671 fax	FILE NO. 24-7131
DATE 12/01/06		BOOK NO. 2606
CHECKED BY MSW		SHEET NO. 18 OF 24




NOTE:
Elevation 100.00 = Plan Elevation ±76.9.

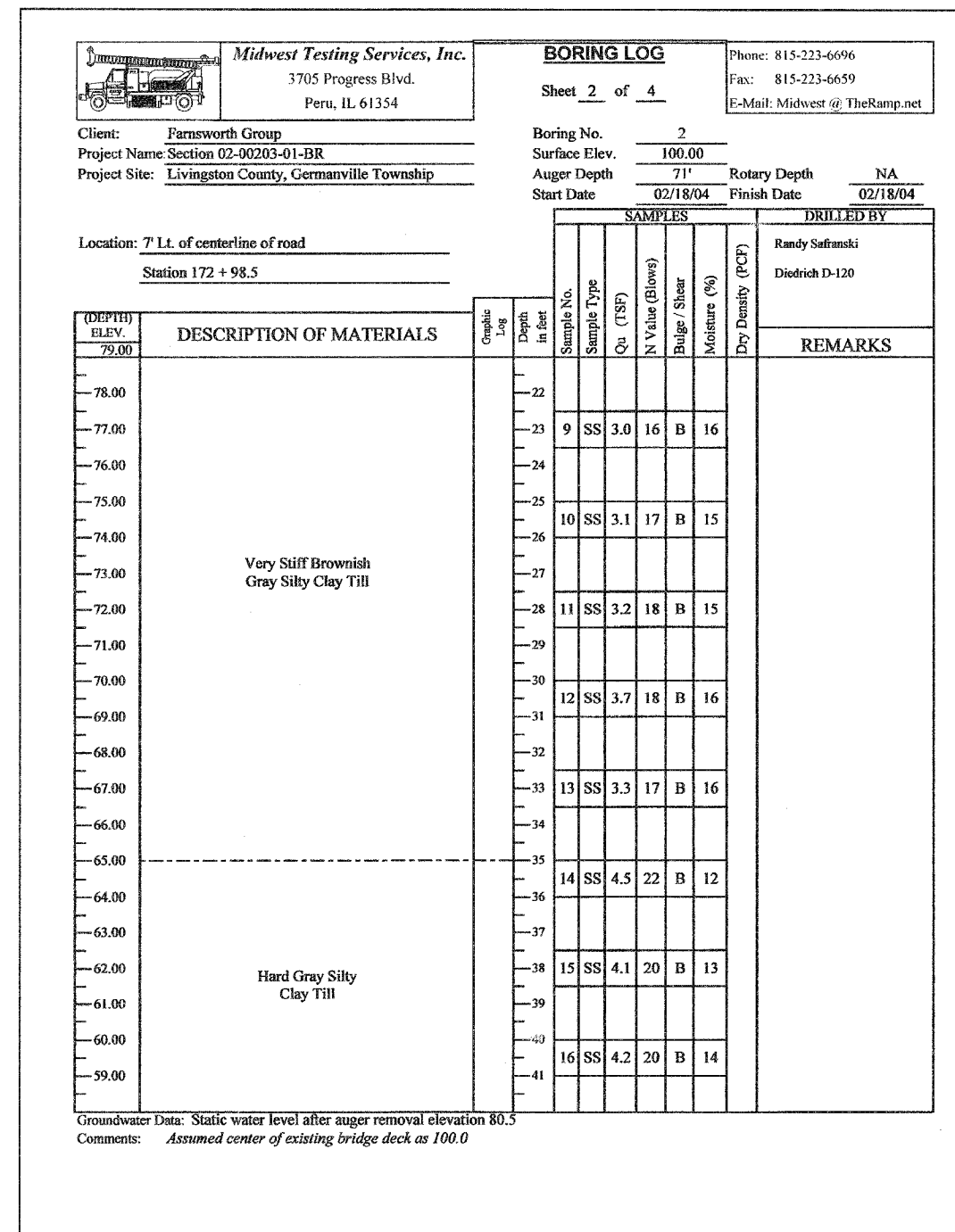
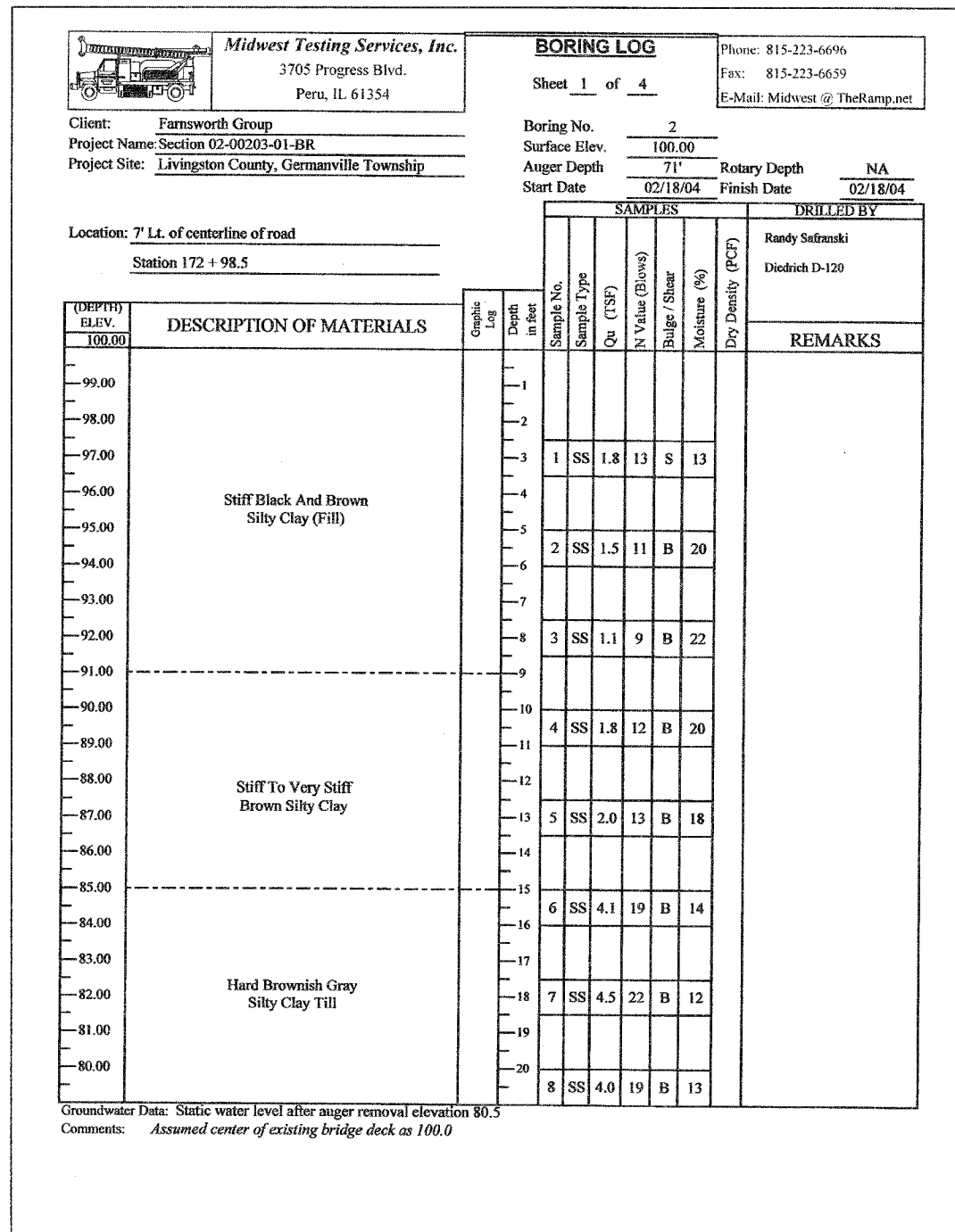
SECTION 02-00208-01-BR
LIVINGSTON COUNTY
F.A.S. 342/C.H. 3

BORING LOGS

DRAWN BY <u>DMM</u>	FILE NO. <u>24-7131</u>
DATE <u>12/01/06</u>	BOOK NO. <u>2606</u>
CHECKED BY <u>MSW</u>	SHEET NO. <u>19 OF 24</u>



Farnsworth GROUP
2700 McNew Drive
Bloomington, Illinois 61706
309/901-9555 309/953-5871 fax



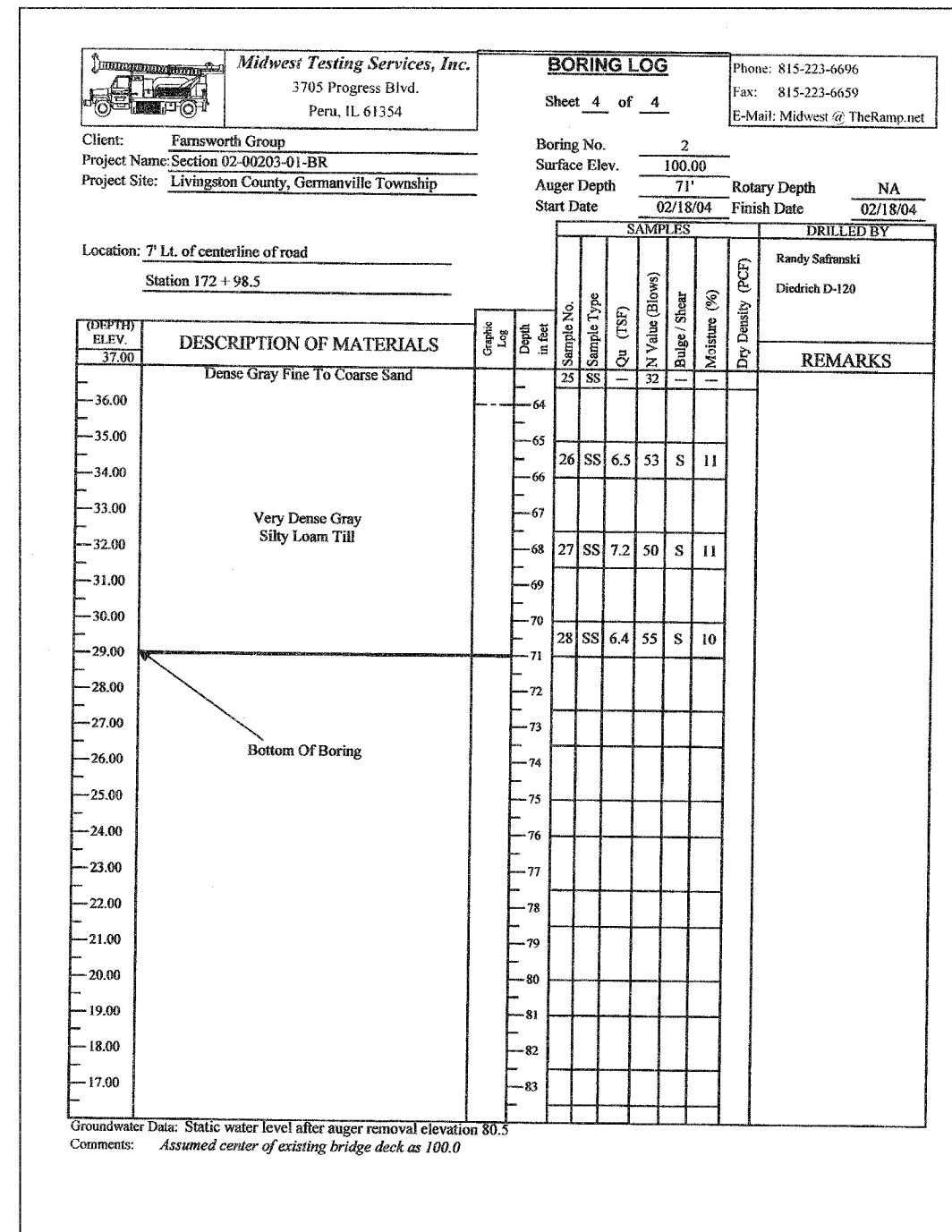
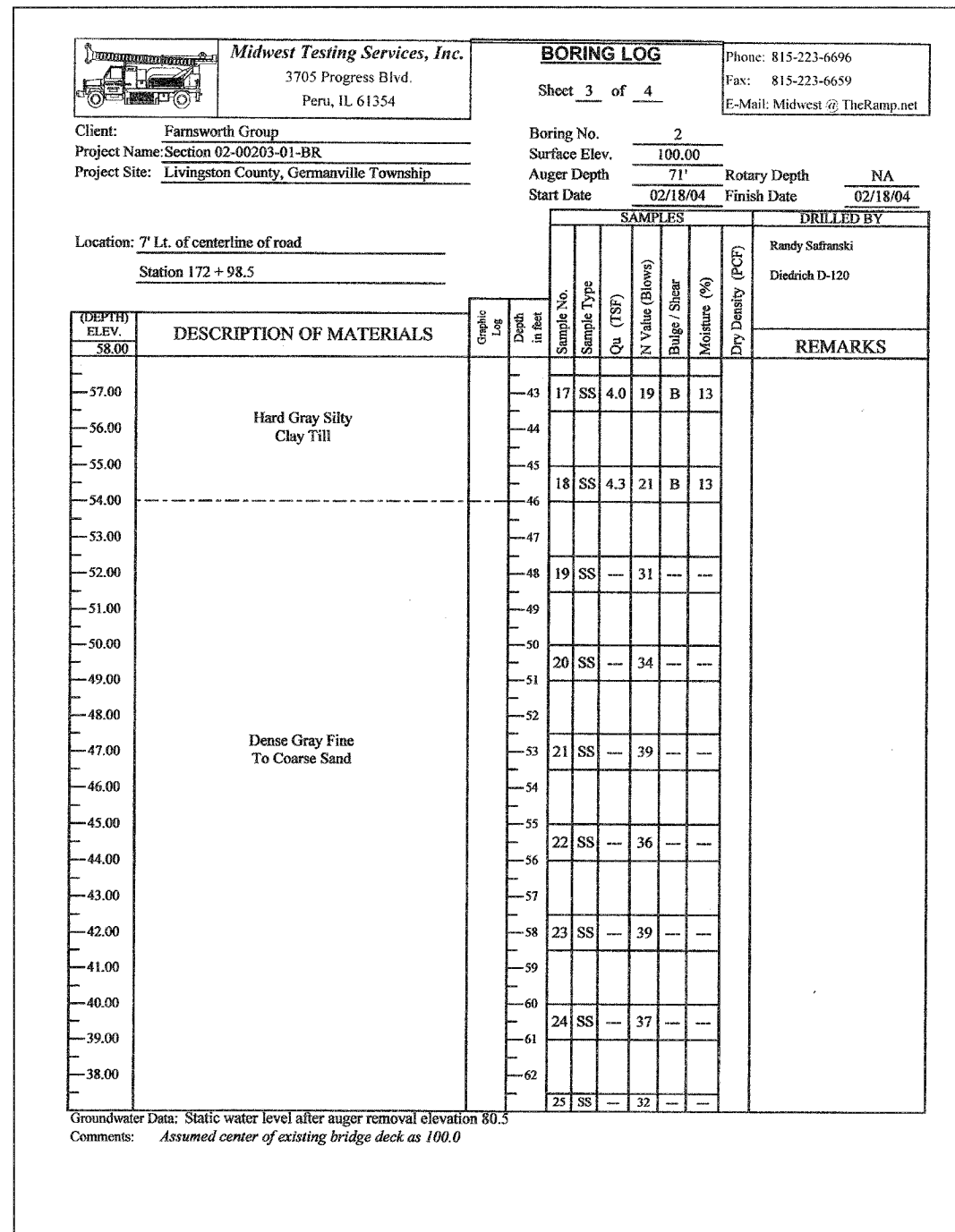
NOTE:
Elevation 100.00 = Plan Elevation ±76.9.

SECTION 02-00208-01-BR
LIVINGSTON COUNTY
F.A.S. 342/C.H. 3


BORING LOGS

DRAWN BY DMM	FILE NO. 24-7131	DATE 12/01/06
CHECKED BY MSW	BOOK NO. 2606	SHEET NO. 20 OF 24

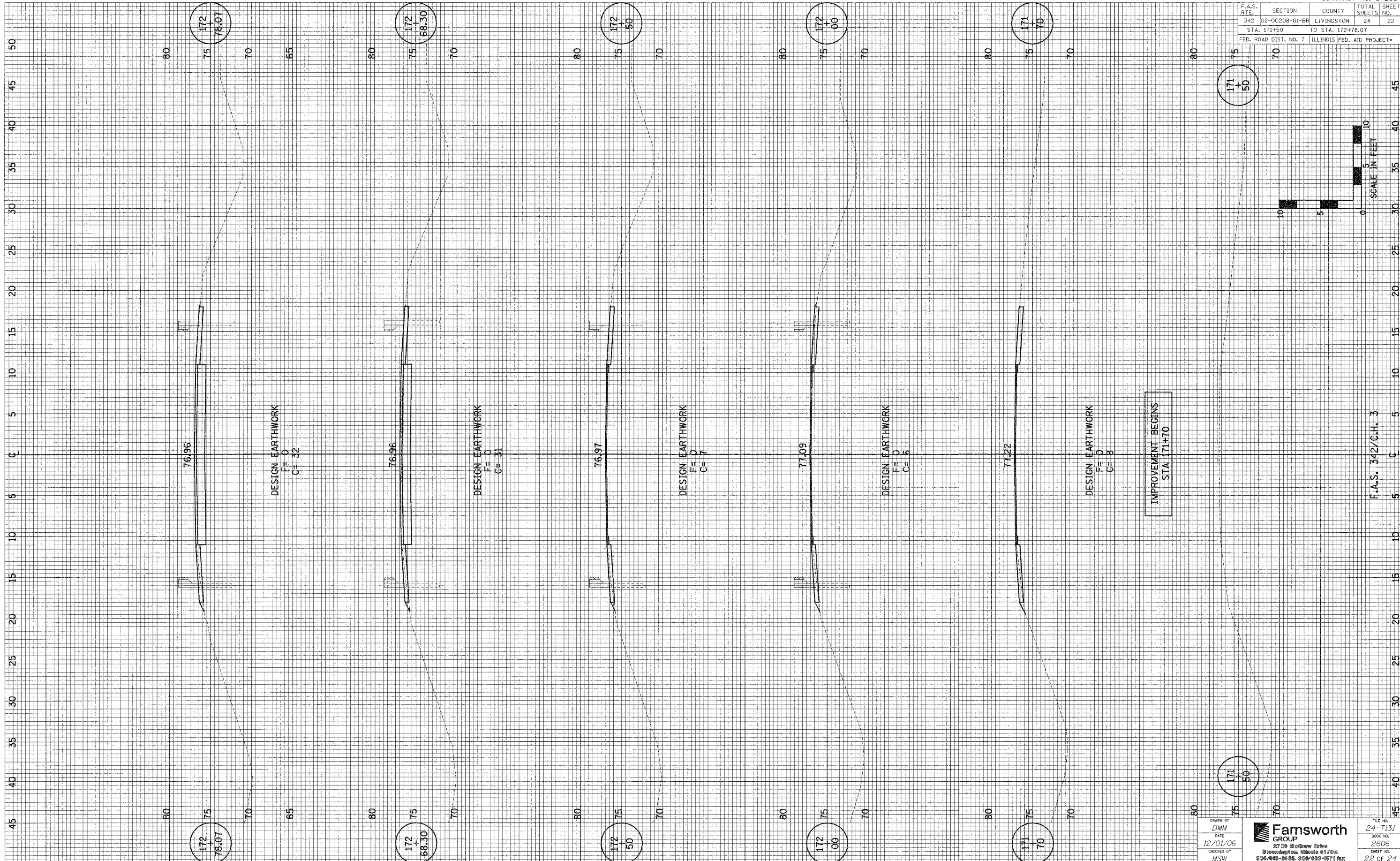
Farnsworth GROUP
2700 McGraw Drive
Bloomington, Illinois 61704
309/463-8626 309/463-1671 Fax



NOTE:
Elevation 100.00 = Plan Elevation ±76.9.

SECTION 02-00208-01-BR LIVINGSTON COUNTY F.A.S. 342/C.H. 3		
BORING LOGS		
DRAWN BY DMM	 <p>Farnsworth GROUP 2708 McGraw Drive Bloomington, Illinois 61704 309/668-8435, 309/683-8711 fax</p>	FILE NO. 24-7131
DATE 12/01/06		BOOK NO. 2606
CHECKED BY MSW		SHEET NO. 21 OF 24

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	02-00208-01-BR	LIVINGSTON	24	22
STA. 171+50		TO STA. 172+78.07		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT*				



DESIGN EARTHWORK
F = 0
C = 32

DESIGN EARTHWORK
F = 0
C = 31

DESIGN EARTHWORK
F = 0
C = 7

DESIGN EARTHWORK
F = 0
C = 5

DESIGN EARTHWORK
F = 0
C = 8

IMPROVEMENT BEGINS
STA 171+10

F.A.S. 342/C.H. 3

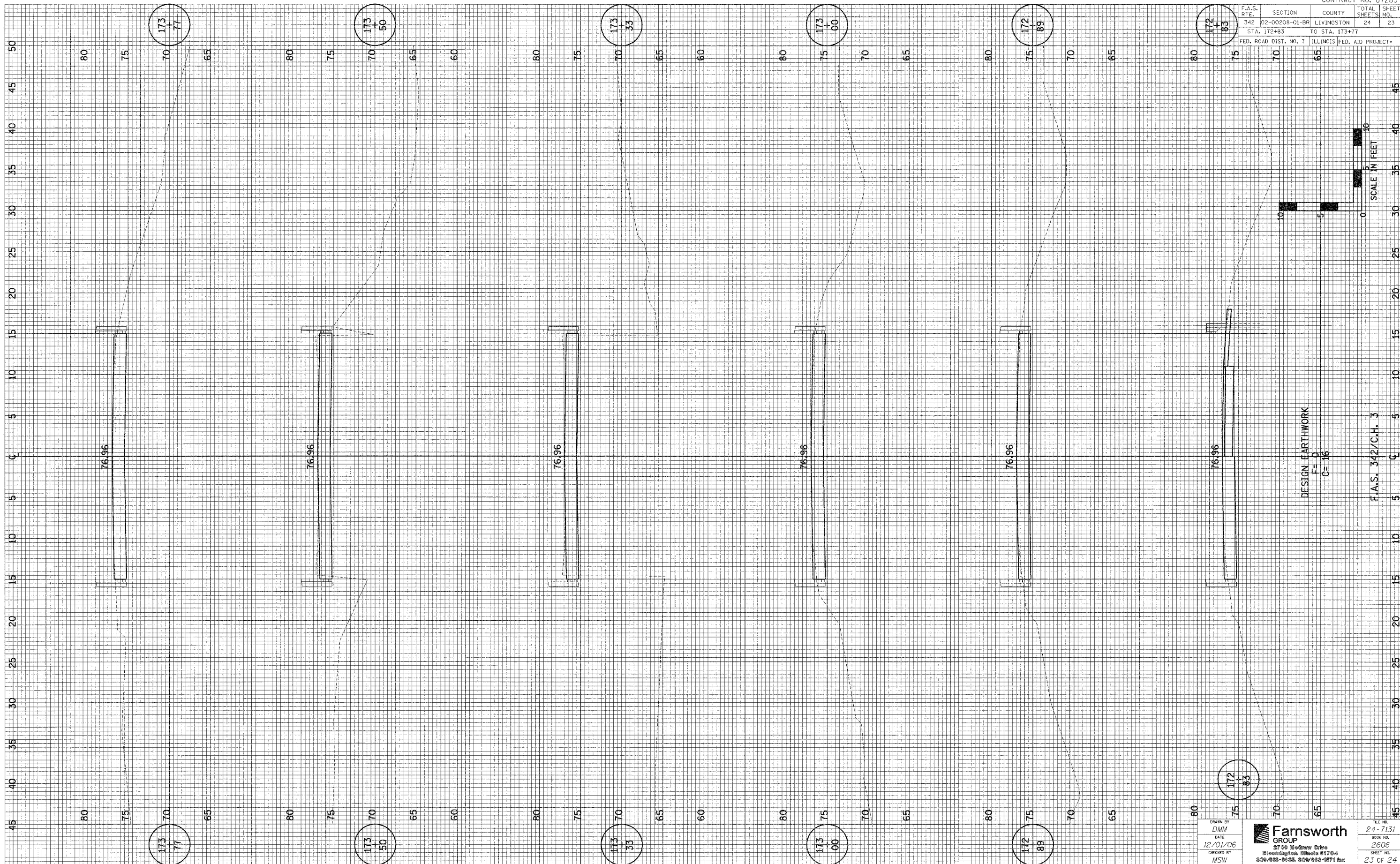
DRAWN BY
DATE
12/01/06
CHECKED BY
MSW

Farnsworth GROUP
2700 Woodrow Drive
Bloomington, Illinois 61704
800/455-9636, 858/993-9771 fax

FILE NO.
24-7131
BOOK NO.
2606
SHEET NO.
22 OF 24

F.A.S. DIST.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	02-00208-01-BR	LIVINGSTON	24	23
STA. 172+83		TO STA. 173+77		

FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT

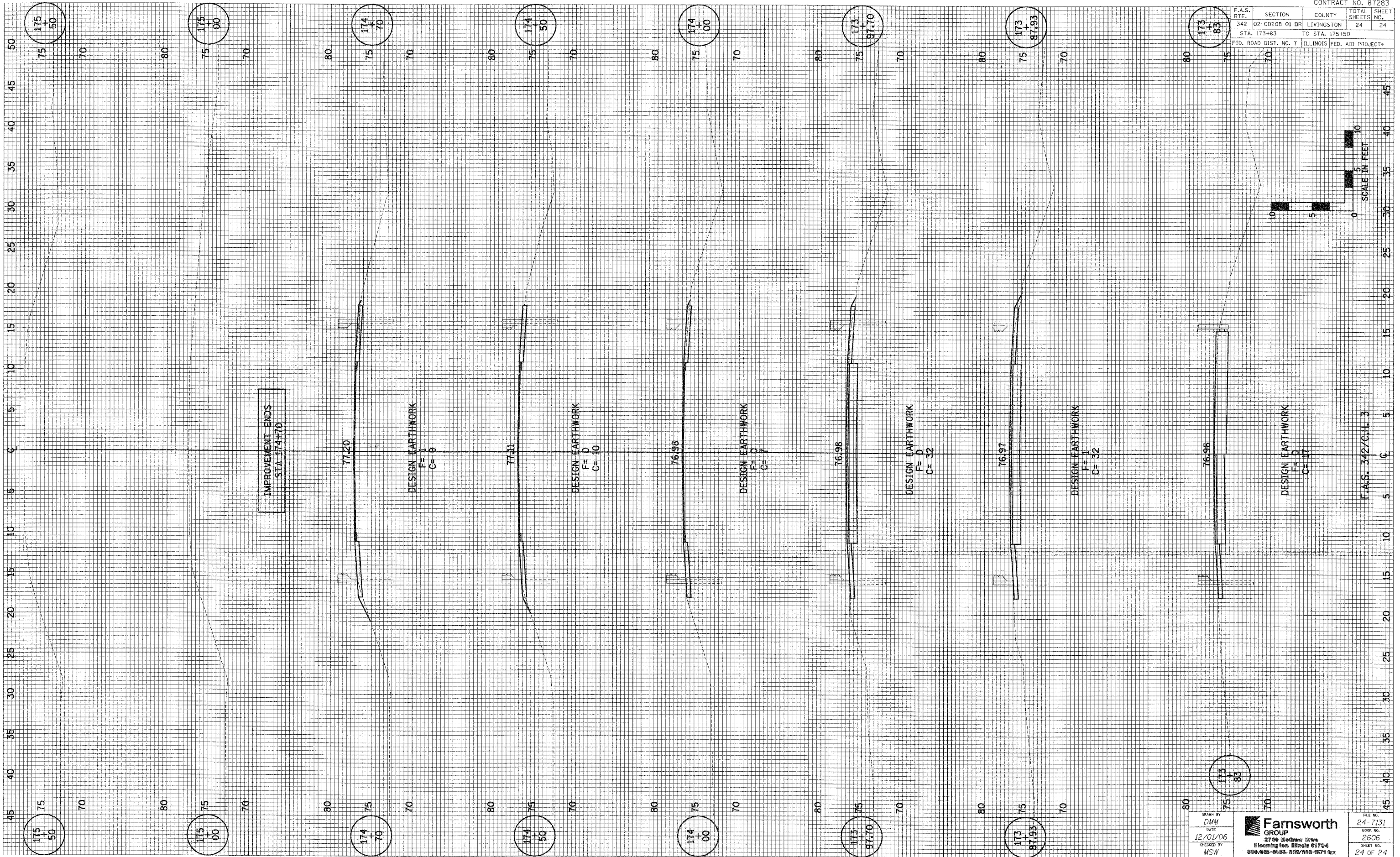


DESIGN EARTHWORK
 F=0
 C=.16

F.A.S. 342/C.H. 3

DRAWN BY	DMM	DATE	12/01/06	CHECKED BY	MSW
Farnsworth GROUP		3700 Meadow Drive	Winchester, Illinois 61704	309/483-9635, 309/663-1871 fax	
FILE NO.	24-7131	BOOK NO.	2606	SHEET NO.	23 OF 24

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS NO.
342	02-00208-01-BR	LIVINGSTON	24
STA. 173+83	TO STA. 175+50		
FED. ROAD DIST. NO. 7			ILLINOIS FED. AID PROJECT



IMPROVEMENT ENDS
STA 174+70

DESIGN EARTHWORK
F=1
C=9

DESIGN EARTHWORK
F=D
C=10

DESIGN EARTHWORK
F=D
C=7

DESIGN EARTHWORK
F=0
C=32

DESIGN EARTHWORK
F=1
C=32

DESIGN EARTHWORK
F=0
C=17

F.A.S. 342/C.H. 3

DRAWN BY
DMM
DATE
12/01/06
CHECKED BY
MSW

Farnsworth GROUP
 2700 McGraw Drive
 Bloomington, Illinois 61704
 309/823-8683, 309/823-1671 fax

FILE NO.
24-7131
BOOK NO.
2606
SHEET NO.
24 OF 24