

RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR107A	14-23744-00-BR	LASALLE	61	1
		ILLINOIS	CONTRACT NO. 87632	

**INDEX OF SHEETS**

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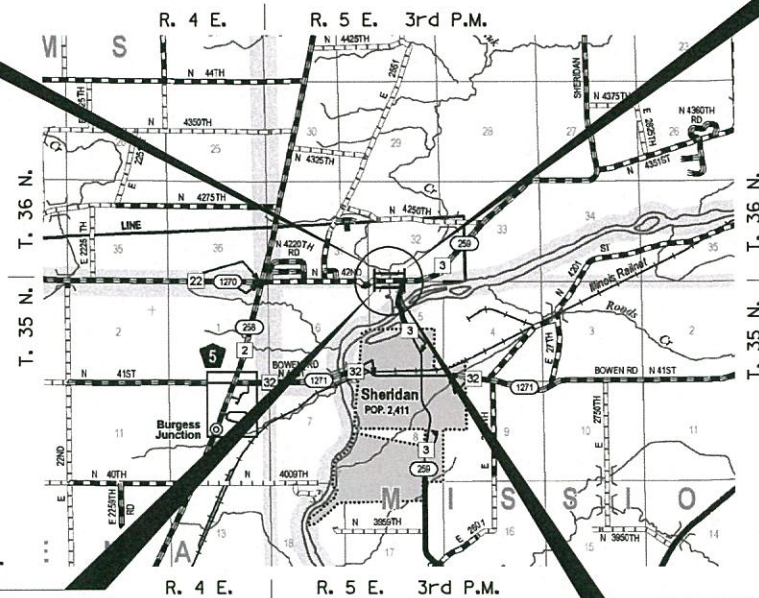
# LASALLE COUNTY HIGHWAY DEPARTMENT PLANS FOR ILLINOIS MAJOR BRIDGE PROGRAM

**TR 107A (N. 42ND RD.)  
OVER SOMONAUK CREEK  
NORTHVILLE TOWNSHIP  
LASALLE COUNTY  
SECTION 14-23744-00-BR  
PROJECT NO. E07H(592)  
STRUCTURE REPLACEMENT**

C-93-113-15

**END IMPROVEMENT  
TR 107A (N. 42ND RD.)  
STA. 112 + 53.93**

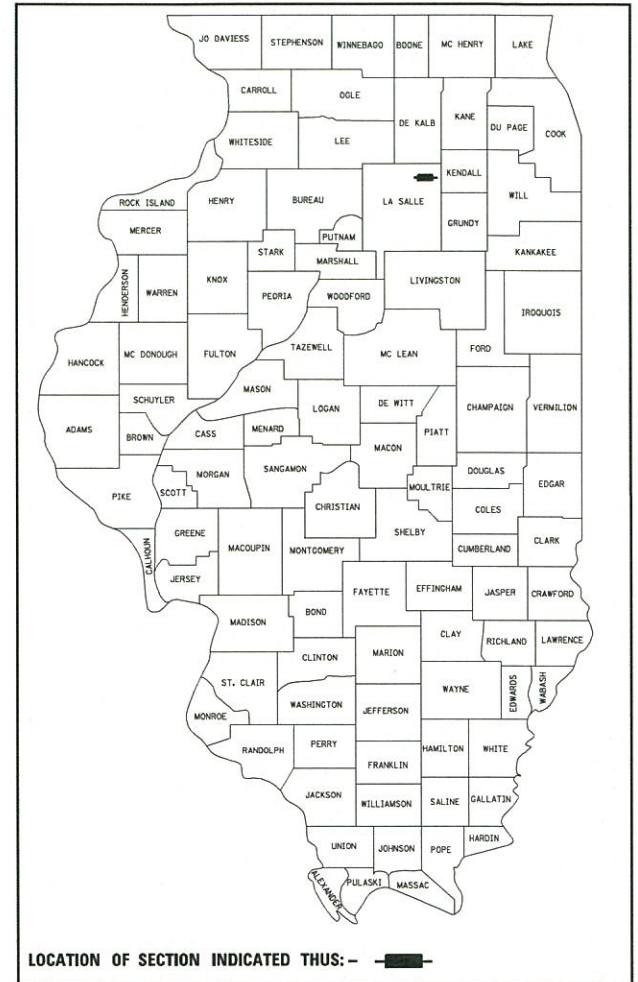
**EXISTING STRUCTURE SN 050-3441  
THREE SPAN PRECASTED SLAB BRIDGE  
WITH CLOSED TIMBER ABUTMENTS,  
CONCRETE CAPS ON TIMBER PILING,  
99'-9" BK TO BK AND 26'-3" O-O  
DECK NO SKEW (TO BE REMOVED)**



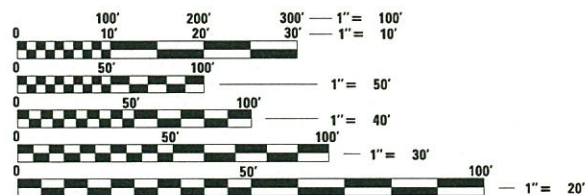
**BEGIN IMPROVEMENT  
TR 107A (N. 42ND RD.)  
STA. 100 + 00.00**

**PROPOSED STRUCTURE SN 050-3618  
THREE SPAN REINFORCED CONCRETE DECK  
ON STEEL I-BEAM BRIDGE STRUCTURE ON  
CONCRETE SPILL THRU PILE BENT ABUTMENTS,  
120'-0" BK TO BK AND 33'-0" O TO O DECK  
NO SKEW**

TR 107A (N. 42ND RD.) GROSS LENGTH = 1,253.93 FT. = 0.237 MILE  
TR 107A (N. 42ND RD.) NET LENGTH = 1,253.93 FT. = 0.237 MILE



**DESIGN CLASSIFICATION: LOCAL HIGHWAY  
CURRENT ADT (2011): 1350  
DESIGN ADT (2036): 1960  
DESIGN SPEED: 50 MPH**



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

**CONTRACT NO. 87632**

**Hutchinson Engineering, Inc.**  
Jacksonville - Peoria - Shorewood  
Since 1945  
2017 JOB #3677



*Daniel J. Draher*  
SIGNATURE  
ENGINEER'S SEAL

APPROVED _____ 2017 <i>Lawrence G. Krizek</i> LASALLE COUNTY ENGINEER	
PASSED _____ 2017 <i>Daniel B. E.</i> DISTRICT THREE ENGINEER OF LOCAL ROADS & STREETS	
RELEASED FOR BID BASED ON LIMITED REVIEW _____ 2017 <i>Kevin Jankovics</i> REGION TWO ENGINEER	
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	

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OF THE STATE OF ILLINOIS**

## GENERAL NOTES

THE CONTRACTOR WILL BE REQUIRED TO COMPLY WITH ALL STATE REGULATIONS REGARDING AIR, WATER AND NOISE POLLUTION. HE WILL NOT BE ALLOWED TO BUILD FIRES ON THE SITE.

THE SCALE SHOWN ON THE DRAWINGS APPLIES ONLY TO FULL SIZE PLANS AND NOT TO THE REDUCED SIZE PLANS.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN EXISTING FIELD CONDITIONS BEFORE BIDDING ON THIS PROJECT, SPECIFICALLY AS THEY RELATE TO THE LUMP SUM PAY ITEMS.

THE LOCATIONS OF KNOWN UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE AND DOES NOT GUARANTEE THEIR ACCURACY. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THESE UTILITIES AND THE EXISTENCE AND LOCATION OF ANY UTILITY NOT SHOWN ON THE PLANS.

THE CONTRACTOR SHALL NOTIFY THE UTILITIES AT LEAST TEN (10) DAYS PRIOR TO ANY CONSTRUCTION IN THE AREA AND SHALL COMPLY WITH ALL RESTRICTIONS FOR EQUIPMENT MOVEMENTS AND CLEARANCES AS REGARDS TO THEIR FACILITIES.

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR MUST CALL J.U.L.I.E. AT 1-800-892-0123 FOR FIELD LOCATIONS OF BURIED ELECTRICAL, TELEPHONE, GAS FACILITIES, AND ALL PUBLIC UTILITIES. A 48 HOUR NOTIFICATION IS REQUIRED.

MEMBERS OF J.U.L.I.E. KNOWN TO BE WITHIN THE LIMITS OF THE IMPROVEMENT ARE:  
1. AMEREN IP (NORTH)  
2. FRONTIER COMMUNICATIONS

THE CONTRACTOR SHALL USE ALL NECESSARY PRECAUTIONS AND PROTECTIVE MEASURES REQUIRED TO MAINTAIN EXISTING UTILITIES, SEWER AND APPURTENANCES THAT MUST BE KEPT IN OPERATION. IN PARTICULAR, THE CONTRACTOR WILL TAKE ADEQUATE MEASURES TO PREVENT THE UNDERMINING OF UTILITIES AND SEWERS WHICH ARE STILL IN SERVICE.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.

THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTIES AT ALL TIMES DURING CONSTRUCTION OF THE PROJECT.

IF ANY LOOSE MATERIAL IS DEPOSITED DURING CONSTRUCTION OPERATIONS IN THE FLOW LINE OF DITCHES, GUTTERS OR DRAINAGE STRUCTURES SO THAT IT RESTRICTS THE NATURAL FLOW OF WATER, IT SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE STRUCTURES SO AFFECTED SHALL BE FREE FROM ALL DEBRIS. THIS WORK SHALL BE CONSIDERED INCLUDED IN THE COST OF THIS CONTRACT.

ALL FRAMES, GRATES, SIGNS, FENCES AND DELINEATORS, NEW OR EXISTING, DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE.

EXISTING PAVEMENT, SIDEWALK, DRIVEWAY PAVEMENT, CURB AND GUTTER AND EXISTING DRAINAGE STRUCTURES NOT INCLUDED IN THE PLANS FOR REMOVAL, BUT DAMAGED DUE TO THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.

NO WORK SHALL COMMENCE UNTIL TRAFFIC CONTROL REQUIREMENTS ARE MET.

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 PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER AND AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

THE THICKNESS OF HMA SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE HMA IS PLACED.

BEFORE ORDERING PIPE CULVERTS OR PIPE DRAINS, THE CONTRACTOR SHALL CONSULT THE ENGINEER FOR EXACT LENGTHS.

ALL EMBANKMENTS AND SUB-GRADE SHALL BE COMPACTED TO THE SATISFACTION OF THE ENGINEER PRIOR TO PLACING SUB-BASE GRANULAR MATERIAL.

TREES NOT MARKED FOR REMOVAL SHALL BE CONSIDERED AS DESIGNATED TO BE SAVED AND SHALL BE PROTECTED UNDER THE PROVISIONS OF ARTICLE 201.05.

ALL CONSTRUCTION PERSONNEL WILL BE REQUIRED TO WEAR CLASS II VESTS AT ALL TIMES WHILE ON THE CONSTRUCTION SITE. COMPLIANCE WITH THIS REQUIREMENT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE CONTRACT.

EXCEPT AS NOTED ON THE PLANS, PAVEMENT GRADES SHOWN ARE AT THE TOP OF PAVEMENT SURFACES.

THE ENGINEER WILL BE THE SOLE JUDGE CONCERNING CURING TIME FOR THE VARIOUS HMA LIFTS.

FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF FOUR SAND BAGS PER BARRICADE.

SEEDING SHALL NOT BE PERMITTED AT ANY TIME WHEN THE GROUND IS FROZEN, WET, OR IN AN UNTILLABLE CONDITION. LOCATIONS TO BE SEEDED WILL BE DETERMINED BY THE ENGINEER.

ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER SHOWN IN THE LIST OF STANDARDS OR THE COPY INCLUDED IN THESE PLANS.

THERE ARE NO COMMITMENTS FOR THIS PROJECT.

THE FOLLOWING RATES OF APPLICATION HAVE BEEN ASSUMED IN CALCULATING PLAN QUANTITIES:

GRANULAR MATERIALS-----	2.05 TONS/CU YD	
BITUMINOUS MATERIALS TACK COAT-----	0.05 LBS/SQ FT OR	
	0.025 LBS/SQ FT	
PRIME COAT FOR AGGREGATE BASES-----	0.25 TONS/SQ YD	
HOT-MIX ASPHALT SURFACE COURSE-----	112 LBS/SQ YD/INCH	
HOT-MIX ASPHALT BINDER COURSE-----	115 LBS/SQ YD/INCH	
LEVELING BINDER (MACHINE METHOD)-----	112 LBS/SQ YD/INCH	
NITROGEN FERTILIZER NUTRIENT-----	60 LBS/ACRE (SODDING)	90 LBS/ACRE (SEEDING)
PHOSPHORUS FERTILIZER NUTRIENT-----	60 LBS/ACRE (SODDING)	90 LBS/ACRE (SEEDING)
POTASSIUM FERTILIZER NUTRIENT-----	60 LBS/ACRE (SODDING)	90 LBS/ACRE (SEEDING)

## LIST OF STANDARDS

000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
420406	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB
482001-02	HOT-MIX SHOULDER ADJACENT TO FLEXIBLE PAVEMENT
515001-03	NAME PLATE FOR BRIDGES
630001-11	STEEL PLATE BEAM GUARDRAIL
630301-07	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631032-09	TRAFFIC BARRIER TERMINAL, TYPE 6A
666001-01	RIGHT OF WAY MARKERS
701901-06	TRAFFIC CONTROL DEVICES
725001-01	OBJECT AND TERMINAL MARKERS
780001-05	TYPICAL PAVEMENT MARKINGS
782006	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
B.L.R. 21-9	TYPICAL APPLICATION OF T.C.D. FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
B.L.R. 22-7	TYPICAL APPLICATION OF T.C.D. FOR RURAL LOCAL HWYS. (2L 2W RURAL TRAFF.) (RD. CLOSED TO THRU TRAFF.)
B.L.R. 24-2	MAILBOX TURNOUT FOR LOCAL ROADS

## LEGEND



 PROPOSED DITCH FLOW

FILE NAME = V:\3677\CADD Sheets\3677-sht-gennote.dgn	USER NAME = LZeller	DESIGNED -	REVISED -	<b>LASALLE COUNTY HIGHWAY DEPARTMENT</b>	<b>TR 107A (N. 42ND RD.) LIST OF STANDARDS, GENERAL NOTES &amp; LEGEND</b>	RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED -			TRI07A	14-23744-00-BR	LASALLE	61	2	
	PLOT SCALE = 2.000' / in.	CHECKED -	REVISED -			CONTRACT NO. 87632					
	PLOT DATE = 8/10/2017	DATE -	REVISED -			SCALE: N/A	SHEET NO. 1 OF 1 SHEETS	STA. N/A	TO STA. N/A	ILLINOIS	

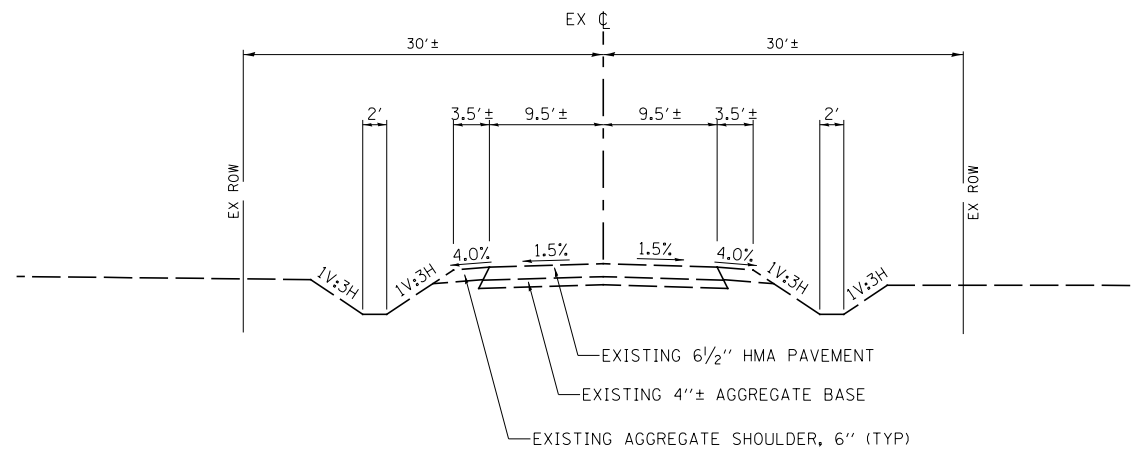
SUMMARY OF QUANTITIES

ITEM NO.	SPECIALTY ITEM &/OR SPECIAL PROVISION	CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	ITEM NO.	SPECIALTY ITEM &/OR SPECIAL PROVISION	CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
1		20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	122	41		50300225	CONCRETE STRUCTURES	CU YD	123.1
2		20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	74	42		50300255	CONCRETE SUPERSTRUCTURE	CU YD	224.8
3		20100500	TREE REMOVAL, ACRES	ACRE	0.25	43		50300260	BRIDGE DECK GROOVING	SQ YD	599
4	SP	20200100	EARTH EXCAVATION	CU YD	953	44		50300280	CONCRETE ENCASEMENT	CU YD	5.9
5		20300100	CHANNEL EXCAVATION	CU YD	1425	45		50300300	PROTECTIVE COAT	SQ YD	662
6		20400800	FURNISHED EXCAVATION	CU YD	2088	46		50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1
7		20800150	TRENCH BACKFILL	CU YD	65	47		50500505	STUD SHEAR CONNECTORS	EACH	2835
8		21301052	EXPLORATION TRENCH 52" DEPTH	FOOT	1448	48		50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	73660
9		25000210	SEEDING, CLASS 2A	ACRE	1.00	49	SI	50901050	STEEL RAILING, TYPE SM	FOOT	256
10		25000400	NITROGEN FERTILIZER NUTRIENT	POUND	94	50		51201400	FURNISHING STEEL PILES HP 10X42	FOOT	156
11		25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	94	51		51201600	FURNISHING STEEL PILES HP 12X53	FOOT	255
12		25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	94	52		51202305	DRIVING PILES	FOOT	156
13		25100115	MULCH, METHOD 2	ACRE	1.00	53		51203400	TEST PILE STEEL HP 10X42	EACH	2
14		25100630	EROSION CONTROL BLANKET	SQ YD	4928	54		51500100	NAME PLATES	EACH	1
15		28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	714	55		52100520	ANCHOR BOLTS, 1"	EACH	40
16		28000305	TEMPORARY DITCH CHECKS	FOOT	350	56		54200217	PIPE CULVERTS, CLASS D, TYPE 1 12"	FOOT	28
17		28000400	PERIMETER EROSION BARRIER	FOOT	261	57		54200220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	42
18		28000500	INLET AND PIPE PROTECTION	EACH	6	58		54200229	PIPE CULVERTS, CLASS D, TYPE 1 24"	FOOT	104
19	SP	28100109	STONE RIPRAP, CLASS A5	SQ YD	1250	59		59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	53
20		28200200	FILTER FABRIC	SQ YD	1250	60		60100060	CONCRETE HEADWALLS FOR PIPE DRAINS	EACH	4
21	SP	30300112	AGGREGATE SUBGRADE IMPROVEMENT 12"	SQ YD	2902	61		60108100	PIPE UNDERDRAINS 4" (SPECIAL)	FOOT	60
22		35101800	AGGREGATE BASE COURSE, TYPE B 6"	SQ YD	502	62	SI	63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	50.0
23		40200500	AGGREGATE SURFACE COURSE, TYPE A 6"	SQ YD	143	63	SI	63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4
24		40201000	AGGREGATE FOR TEMPORARY ACCESS	TON	222	64	SI	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4
25		40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	7382	65	SI	63200310	GUARDRAIL REMOVAL	FOOT	723
26	BDE	40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	600	66		66600105	FURNISHING AND ERECTING RIGHT OF WAY MARKERS	EACH	12
27		40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	916	67		67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4
28	SP	40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	223	68		67100100	MOBILIZATION	L SUM	1
29		40800050	INCIDENTAL HOT-MIX ASPHALT SURFACING	TON	59	69		72400310	REMOVE SIGN PANEL - TYPE 1	SQ FT	22
30		44000100	PAVEMENT REMOVAL	SQ YD	2691	70		72400500	RELOCATE SIGN PANEL ASSEMBLY - TYPE A	EACH	1
31		44000200	DRIVEWAY PAVEMENT REMOVAL	SQ YD	198	71		72400710	RELOCATE SIGN PANEL - TYPE 1	SQ FT	8
32		48101200	AGGREGATE SHOULDERS, TYPE B	TON	216	72	SI	72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
33		48203027	HOT-MIX ASPHALT SHOULDERS, 7 1/2"	SQ YD	622	73		73000100	WOOD SIGN SUPPORT	FOOT	42
34	SP	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	74	SI	78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	4926
35		50105220	PIPE CULVERT REMOVAL	FOOT	83	75	SI	78001180	PAINT PAVEMENT MARKING - LINE 24"	FOOT	17
36		50200100	STRUCTURE EXCAVATION	CU YD	165	76	SI	78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	16
37		50200300	COFFERDAM EXCAVATION	CU YD	45	77		X5860110	GRANULAR BACKFILL FOR STRUCTURES	CU YD	90
38		50201101	COFFERDAM (TYPE 1) (LOCATION - 1)	EACH	1	78	SP	X6013600	PIPE UNDERDRAINS 4" (MODIFIED)	FOOT	2115
39		50201102	COFFERDAM (TYPE 1) (LOCATION - 2)	EACH	1	79	SP	X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
40		50300100	FLOOR DRAINS	EACH	10	80	RSP	Z0013798	CONSTRUCTION LAYOUT	L SUM	1

SP=SPECIAL PROVISION SI=SPECIALITY ITEM BDE=BUREAU OF DESIGN AND ENVIRONMENT GBSP=GUIDE BRIDGE SPECIAL PROVISION RSP=RECURRING SPECIAL PROVISION CONSTRUCTION TYPE CODE: 0011

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PLOT SCALE = 2.000' / 1" =	CHECKED -	REVISED -	10107A			14-23744-00-BR	LASALLE	61	3	
PLOT DATE = 8/18/2017	DATE -	REVISED -	CONTRACT NO. 87632			[LIDIGIS]				
SCALE: N/A		SHEET NO. 1 OF 2 SHEETS				STA. N/A TO STA. N/A				

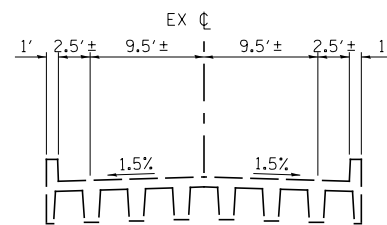




**EXISTING TYPICAL SECTION**

**TR 107A (N. 42ND RD.)**

STA 100+00.0 TO STA 104+16.6  
 STA 105+14.5 TO STA 112+53.9

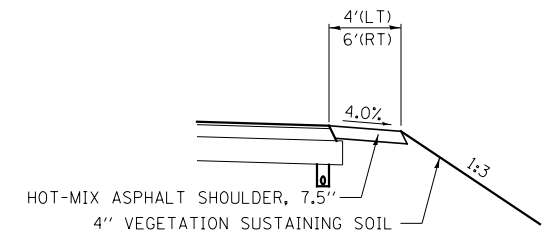
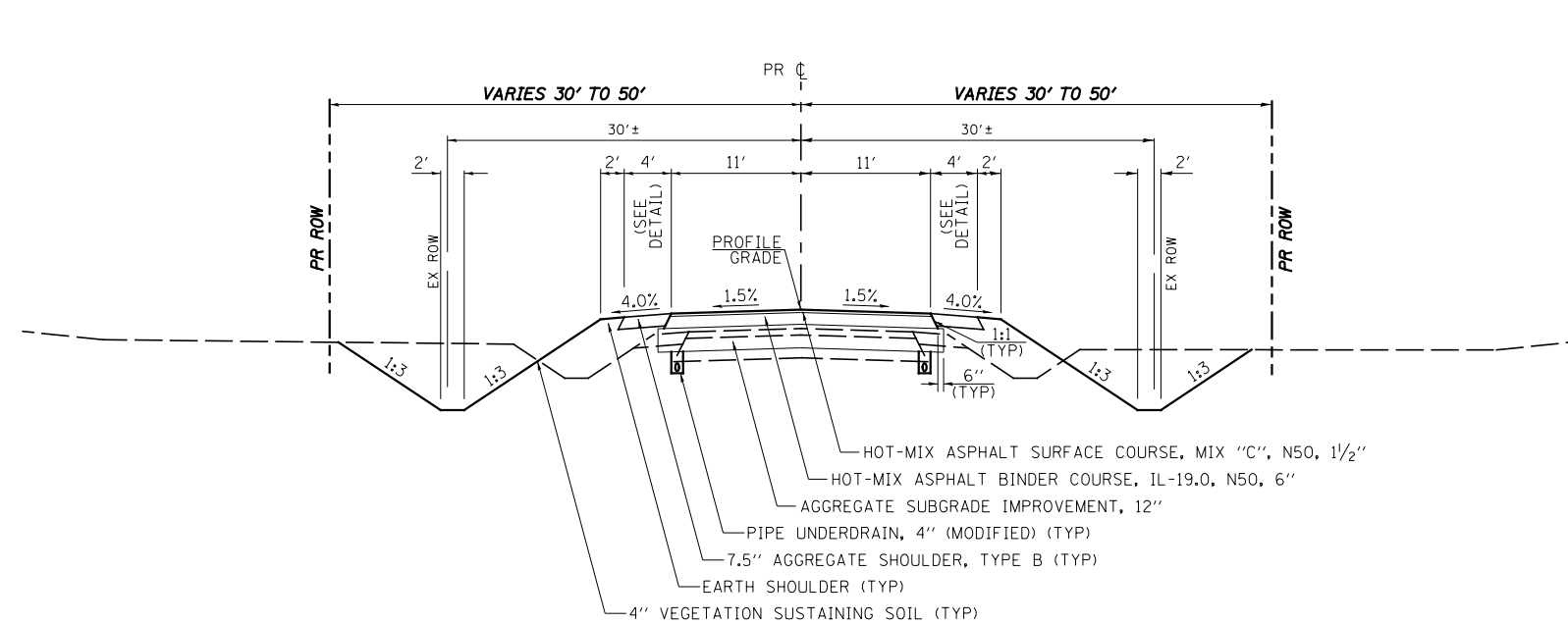


**EXISTING TYPICAL SECTION**

**TR 107A (N. 42ND RD.)**

STA 104+16.6 TO STA 105+14.5

FILE NAME = V:\3677\CADD Sheets\3677-sh-typical-01.dgn	USER NAME = LZeller	DESIGNED -	REVISED -	<b>LASALLE COUNTY HIGHWAY DEPARTMENT</b>	<b>TR 107A (N. 42ND RD.) TYPICAL SECTIONS</b>	RTE. NO. TR107A	SECTION 14-23744-00-BR	COUNTY LASALLE	TOTAL SHEETS 61	SHEET NO. 5	
PLOT SCALE = 16.0000' / in.	CHECKED -	REVISED -	SCALE: N/A			SHEET NO. 1 OF 2 SHEETS	STA. N/A	TO STA. N/A	ILLINOIS		
PLOT DATE = 8/10/2017	DATE -	REVISED -									
CONTRACT NO. 87632											



**DETAIL**

STA. 111+26.3 TO STA. 112+53.9 LT  
 STA. 111+36.0 TO STA. 112+53.9 RT

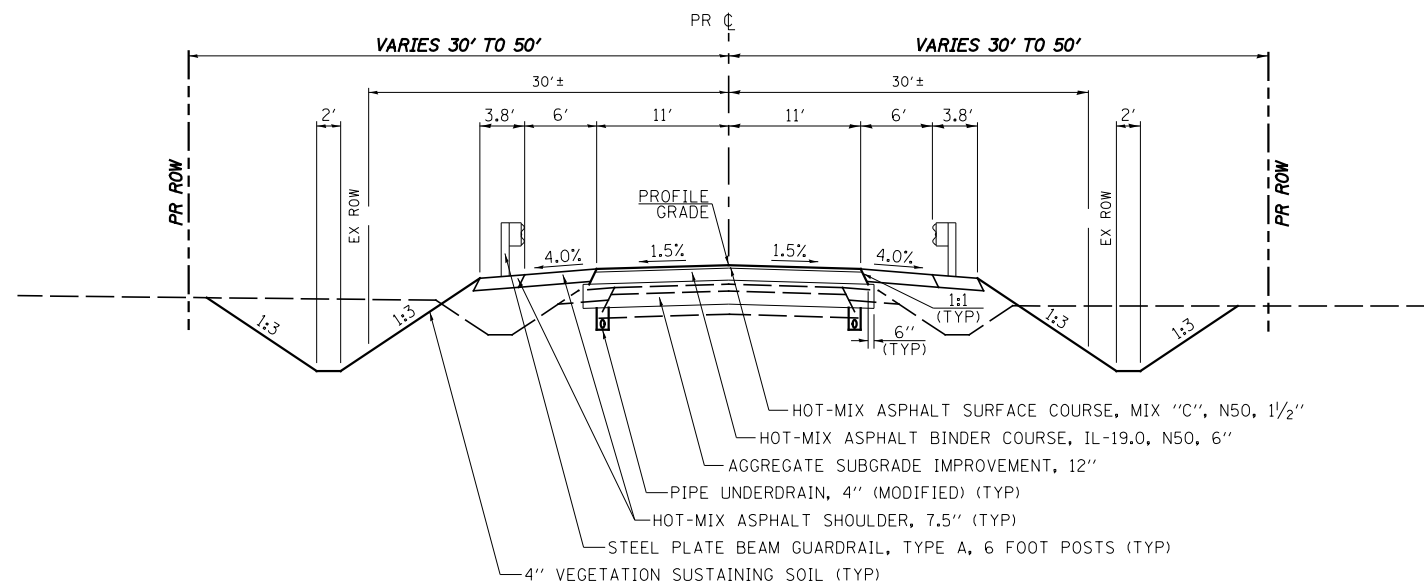
**TR 107A (N. 42ND RD.) STRUCTURAL PAVEMENT DESIGN**  
 STRUCTURAL DESIGN TRAFFIC (S.D.T.) YEAR 2021  
 PV = 1,391 SU = 111 MU = 79  
 CLASS III ROAD  
 SUBGRADE = POOR  
 TRAFFIC FACTOR = 0.43  
 PAVEMENT STRUCTURE MATERIALS:  
 SURFACE COURSE TYPE: HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50, 1 1/2"  
 BINDER COURSE TYPE: HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50, 6"  
 SUB-BASE TYPE: AGGREGATE SUBGRADE IMPROVEMENT, 12"

**PROPOSED TYPICAL SECTION**

**TR 107A (N. 42ND RD.)**

STA. 100+00.0 TO STA. 102+49.3 RT  
 STA. 100+00.0 TO STA. 102+74.3 LT  
 STA. 106+57.8 TO STA. 112+53.9 RT  
 STA. 106+82.8 TO STA. 112+53.9 LT

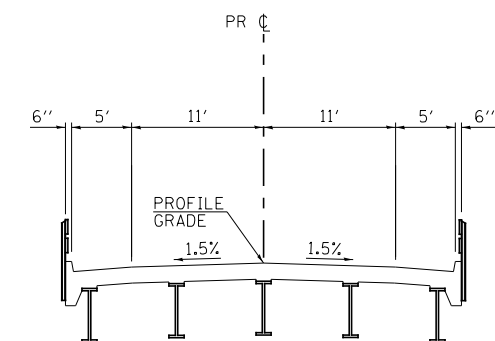
HOT-MIX ASPHALT MIXTURE REQUIREMENTS					
LOCATION(S):	ENTIRE PROJECT	ENTIRE PROJECT	ENTIRE PROJECT	ENTIRE PROJECT	ENTIRE PROJECT
MIXTURE USE(S):	HMA SURFACE	HMA BINDER	HMA SHOULDER BOTTOM LIFT(S)	HMA SHOULDER TOP LIFT	HMA INCIDENTAL
BINDER GRADE (PG):	PG 64-22	PG 64-22	PG 64-22	PG 64-22	PG 64-22
DESIGN AIR VOIDS:	4.0% @ N50	4.0% @ N50	4.0% @ N50	4.0% @ N50	4.0% @ N50
MIXTURE COMPOSITION: (MIXTURE GRADATION)	IL 9.5	IL 19.0	IL 19.0	IL 9.5	IL 9.5
FRICTION AGGREGATE:	MIXTURE C				
MIXTURE WEIGHT:	112.0 LB/SY/IN	112.0 LB/SY/IN	112.0 LB/SY/IN	112.0 LB/SY/IN	112.0 LB/SY/IN
QUALITY MANAGEMENT PROGRAM:	QCOA	QCOA	QCOA	QCOA	QCOA
SUBLOT SIZE:	NA	NA	NA	NA	NA
DENSITY TEST METHOD:	CORES/NUCLEAR	CORES/NUCLEAR	CORES/NUCLEAR	CORES/NUCLEAR	SATISFACTION OF ENGINEER



**PROPOSED TYPICAL SECTION**

**TR 107A (N. 42ND RD.)**

STA. 102+49.3 TO STA. 103+77.0 RT  
 STA. 102+74.3 TO STA. 103+77.0 LT  
 STA. 105+55.0 TO STA. 106+57.8 RT  
 STA. 105+55.0 TO STA. 106+82.8 LT



**PROPOSED TYPICAL SECTION**

**TR 107A (N. 42ND RD.)**

STA 103+77.0 TO STA 105+55.0

FILE NAME = V:\3677\CADD Sheets\3677-sht-typical-02.dgn	USER NAME = LZeller	DESIGNED -	REVISED -	<b>LASALLE COUNTY HIGHWAY DEPARTMENT</b>	<b>TR 107A (N. 42ND RD.) TYPICAL SECTIONS</b>			RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 16.0000' / in.	CHECKED -	REVISED -	REVISED -					TR107A	14-23744-00-BR	LASALLE	61	6
PLOT DATE = 8/10/2017	DATE -	REVISED -	REVISED -		SCALE: N/A	SHEET NO. 2 OF 2 SHEETS	STA. N/A TO STA. N/A	CONTRACT NO. 87632				
								ILLINOIS				

TREE REMOVAL			
LOCATION		6 TO 15 UNITS DIAMETER	OVER 15 UNITS DIAMETER
STATION	OFFSET		
TR 107A (N. 42ND RD.)			
106+26	47' LT	8	
106+29	36' LT	8	
106+29	36' LT	8	
106+45	39' LT	7	
106+87	38' LT	6	
108+36	33' LT	8	
108+51	33' LT	8	
108+68	33' LT	8	
108+83	31' LT	8	
108+97	30' LT	8	
109+11	30' LT	8	
109+28	30' LT	8	
110+08	23' RT		30
110+12	23' RT	15	
110+13	23' RT	6	
110+14	23' RT		16
110+15	31' LT	8	
111+76	27' LT		28
TOTAL		122	74
OFFSETS ARE FROM PROPOSED CENTERLINE			

PIPE CULVERT REMOVAL				
STATION +/-	SIDE	PIPE CULVERT		TRENCH BACKFILL
		12" CMP	15" CMP	
		FT		CU YD
TR 107A (N. 42ND RD.)				
100+53	LT	22		3
107+48	LT		37	15
108+25	RT	24		3
SUB-TOTAL		46	37	21
TOTAL		83		21
NOTE: END SECTION REMOVAL WILL BE INCLUDED IN THE COST OF PIPE CULVERT REMOVAL.				

GUARDRAIL REMOVAL				
STATION +/-	TO	STATION +/-	SIDE	FOOT
TR 107A (N. 42ND RD.)				
102+68	TO	104+16	RT	149
102+68	TO	104+16	LT	149
105+15	TO	107+27	RT	212
105+15	TO	107+27	LT	213
TOTAL				723

TREE REMOVAL, ACRES				
STATION	TO	STATION	SIDE	ACRE
TR 107A (N. 42ND RD.)				
104+99	TO	106+40	RT	0.1
105+11	TO	105+88	LT	0.1
TOTAL				0.25

EXPLORATION TRENCH 52" DEPTH				
STATION	TO	STATION	SIDE	LENGTH FOOT
TR 107A (N. 42ND RD.)				
100+44	TO	104+05	LT	362
102+00	TO	104+00	RT	201
105+00	TO	109+40	RT	446
105+26	TO	109+55	LT	439
TOTAL				1448

DRIVEWAY PAVEMENT REMOVAL			
LOCATION		TYPE	HOT-MIX ASPHALT
STATION	SIDE		
TR 107A (N. 42ND RD.)			
100+52.9	LT	PE	47
107+47.2	LT	PE	49
109+43.9	LT	PE	41
110+32.0	LT	PE	22
110+50.7	RT	PE	39
TOTAL			198

EARTHWORK									
1		2		3		4		5	
STATION	TO	STATION	TO	STATION	TO	STATION	TO	STATION	TO
		EARTH EXCAVATION	SUITABLE EXCAVATION ADJUSTED FOR SHRINKAGE		EMBANKMENT		EARTHWORK BALANCE WASTE(+) OR SHORTAGE(-)		
		CU YD							
TR 107A (N. 42ND RD.)									
100+00	TO	103+77	569	427	295	132			
105+55	TO	112+54	384	288	2507	-2219			
TOTAL		953	715	2802	-2088				
SHRINKAGE FACTOR: 25%									
EARTH EXCAVATION:									
COLUMN 1, 2 & 4 - LOCATION AND QUANTITIES FROM CROSS SECTIONS.									
CUT = EARTH EXCAVATION FILL = EMBANKMENT									
COLUMN 3 = COLUMN 2 x (1 - EARTH EXCAVATION SHRINKAGE FACTOR)									
COLUMN 5 = COLUMN 3 - COLUMN 4									
PAY ITEMS:									
COLUMN 2 IS		EARTH EXCAVATION =		953 CU YD					
COLUMN 5 IS		FURNISHED EXCAVATION =		2088 CU YD					
NOTES:									
1. THE TOP 4" OF EMBANKMENT SHALL CONSIST OF VEGETATION SUSTAINING SOIL.									

CHANNEL EXCAVATION				
STATION	TO	STATION	SIDE	CU YD
TR 107A (N. 42ND RD.)				
104+43	TO	105+10	LT	970
TOTAL				970

PAVEMENT REMOVAL			
LOCATION			AREA
STATION +/-	TO	STATION +/-	SQ YD
TR 107A (N. 42ND RD.)			
100+00	TO	104+17	910
105+15	TO	112+54	1781
TOTAL			2691

PAVEMENT									
LOCATION		AGGREGATE SUBGRADE IMPROVEMENT 12"	BITUMINOUS MATERIALS (PRIME COAT)	BITUMINOUS MATERIALS (TACK COAT)	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	HOT-MIX ASPHALT SHOULDERS, 7 1/2"	AGGREGATE SHOULDERS, TYPE B	
STATION	TO	STATION	SQ YD	POUND	POUND	TON	TON	SQ YD	TON
TR 107A (N. 42ND RD.)									
100+00.0	TO	103+77.0	1011	2180	209	319	78	254	82
105+55.0	TO	112+53.9	1891	4080	391	597	145	368	134
TOTAL		2902	6260	600	916	223	622	216	

ENTRANCES						
LOCATION			AGGREGATE BASE COURSE, TYPE B 6"	AGGREGATE SURFACE COURSE, TYPE A 6"	BITUMINOUS MATERIALS (PRIME COAT)	INCIDENTAL HOT-MIX ASPHALT SURFACING
STATION	SIDE	TYPE	SQ YD	SQ YD	POUND	TON
TR 107A (N. 42ND RD.)						
100+52.9	LT	PE	46		102	6
107+47.2	LT	PE	81		181	9
109+07.3	RT	FE		143		
109+43.9	LT	PE	80		178	9
110+32.0	LT	PE	79		176	9
110+50.7	RT	PE	66		148	8
111+13.8	LT	PE	78		175	9
111+25.3	RT	PE	72		162	9
TOTAL			502	143	1122	59

SEEDING, EROSION CONTROL BLANKET & NUTRIENTS							
LOCATION			SEEDING, CLASS 2A	NITROGEN FERTILIZER NUTRIENT	PHOSPHORUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	EROSION CONTROL BLANKET
STATION +/- TO	STATION +/-	SIDE	ACRE	POUND	POUND	POUND	SQ YD
TR 107A (N. 42ND RD.)							
100+00	TO 104+06	LT	0.17	16	16	16	813
100+00	TO 104+06	RT	0.14	13	13	13	666
105+26	TO 112+54	LT	0.33	30	30	30	1619
105+26	TO 112+27	RT	0.38	35	35	35	1830
TOTAL			1.00	94	94	94	4928
SEEDING NUTRIENTS RATE OF APPLICATION: 90 LBS/ACRE							

PERIMETER EROSION BARRIER				
STATION +/- TO	STATION +/-	SIDE	LENGTH FOOT	
TR 107A (N. 42ND RD.)				
109+46	TO 110+17	LT	138	
110+31	TO 111+04	LT	123	
TOTAL			261	
PERIMETER EROSION BARRIER IS SILT FENCE.				

AGGREGATE FOR TEMPORARY ACCESS						
LOCATION		TYPE	WIDTH	LENGTH	THICKNESS	TON
STATION +/-	SIDE		FOOT			
100+52.9	LT	PE	16	20	0.5	13
107+47.2	LT	PE	9	57	0.5	20
109+07.3	RT	FE	24	59	0.75	81
109+43.9	LT	PE	12	54	0.5	25
110+32.0	LT	PE	14	45	0.5	24
110+50.7	RT	PE	11	34	0.5	15
111+13.8	LT	PE	15	40	0.5	23
111+25.3	RT	PE	15	36	0.5	21
TOTAL						222

REMOVAL OF THE TEMPORARY AGGREGATE IS TO BE CONSIDERED INCLUDED IN THE COST OF AGGREGATE FOR TEMPORARY ACCESS.

LENGTHS MAY VARY DUE TO FIELD REQUIREMENTS.  
WIDTHS OF ENTRANCES SHOULD MATCH EXISTING ENTRANCES.

TEMPORARY DITCH CHECKS		
LOCATION		LENGTH
STATION	OFFSET	FOOT
TR 107A (N. 42ND RD.)		
100+00	20' LT	10
100+00	21' RT	10
100+25	23' LT	10
100+50	24' RT	10
100+74	27' LT	10
101+00	27' LT	10
101+00	25' RT	10
101+50	29' LT	10
101+50	25' RT	10
102+00	31' LT	10
102+00	26' RT	10
102+50	34' LT	10
102+50	28' RT	10
103+00	38' LT	10
103+00	32' RT	10
103+50	35' RT	10
104+00	42' LT	10
104+00	36' RT	10
105+27	42' LT	10
105+28	43' RT	10
106+00	44' LT	10
106+00	44' RT	10
107+00	40' LT	10
107+00	40' RT	10
108+00	36' LT	10
108+00	38' RT	10
109+00	32' LT	10
109+50	32' RT	10
110+39	31' RT	10
111+35	23' LT	10
111+54	31' RT	10
111+68	29' LT	10
111+90	31' RT	10
112+00	27' LT	10
112+47	23' LT	10
TOTAL		350

INLET AND PIPE PROTECTION		
STATION	OFFSET	EACH
TR 107A (N. 42ND RD.)		
100+41	24 LT	1
107+70	37 LT	1
109+27	33 RT	1
110+75	31 RT	1
111+39	31 RT	1
111+88	24 LT	1
TOTAL		6

PAINT PAVEMENT MARKING					
LOCATION		LINE			
		4"		24"	
		SOLID	DOUBLE	SOLID	
		WHITE	YELLOW	WHITE	
STATION TO	STATION	EDGE OF PAVT	CENTERLINE	EDGE OF PAVT	
FOOT					
TR 107A (N. 42ND RD.)					
100+00	TO 112+54	2480	2446	17	
SUB TOTALS		2480	2446	17	
TOTAL		4926		17	



DRAINAGE					
LOCATION		PIPE CULVERTS, CLASS D, TYPE 1 12"	PIPE CULVERTS, CLASS D, TYPE 1 15"	PIPE CULVERTS, CLASS D, TYPE 1 24"	TRENCH BACKFILL
STATION	SIDE	FOOT	FOOT	FOOT	CU YD
TR 107A (N.42ND RD.)					
100+52.9	LT	28			3
107+47.2	LT		42		19
109+07.3	RT			40	9
110+50.7	RT			32	6
111+25.3	RT			32	7
TOTAL		28	42	104	44

FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS			
STATION	SIDE	OFFSET	EACH
TR 107A (N. 42ND RD.)			
100+43.52	LT	30.00'	1
102+00.00	RT	30.00'	1
102+50.00	LT	45.00'	1
104+00.00	RT	50.00'	1
105+10.00	LT	45.00'	1
105+10.00	LT	50.00'	1
106+50.00	LT	50.00'	1
108+00.00	LT	40.00'	1
109+37.70	RT	50.69'	1
109+39.55	RT	43.55'	1
109+55.00	LT	30.00'	1
109+55.00	LT	40.00'	1
TOTAL			12

TEMPORARY EROSION CONTROL SEEDING								
STATION +/-	TO	STATION +/-	SIDE	SEEDING CLASS	POUNDS PER APPLICATION PER ACRE	NUMBER OF APPLICATIONS	TOTAL	MULCH, METHOD 2
				7 ACRES			POUND	ACRE
100+00	TO	104+06	LT	0.17	100	7	119	0.17
100+00	TO	104+06	RT	0.14	100	7	98	0.14
105+26	TO	112+54	LT	0.33	100	7	231	0.33
105+26	TO	112+27	RT	0.38	100	7	266	0.38
TOTAL							714	1.00

SEE SEEDING & NUTRIENTS SCHEDULE FOR SEEDING AREAS.

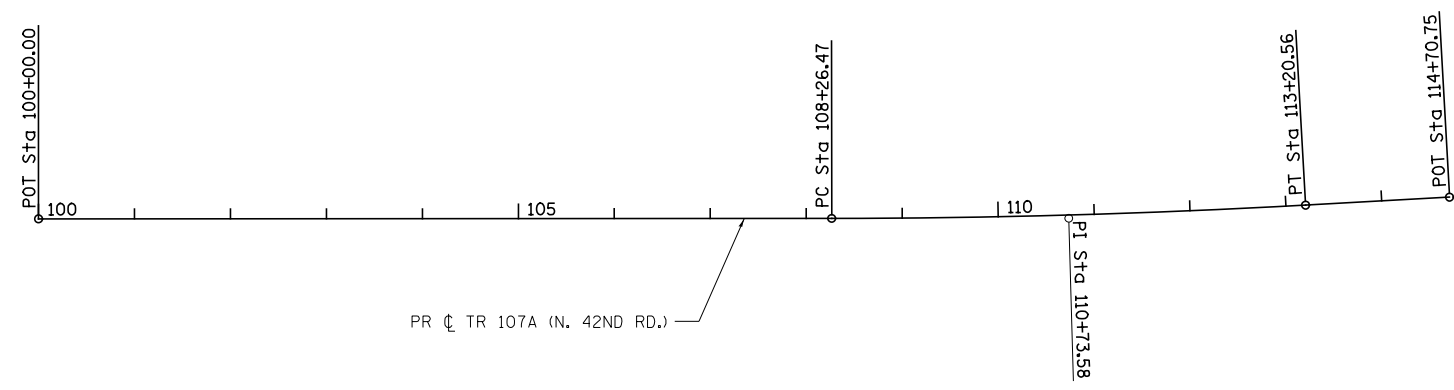
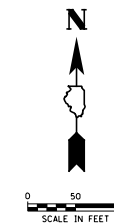
STEEL PLATE BEAM GUARDRAIL								
STATION +/- TO	STATION +/-	SIDE	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	TRAFFIC BARRIER TERMINAL, TYPE 6A	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	GUARDRAIL REFLECTORS, TYPE A	TERMINAL MARKER - DIRECT APPLIED	
			FOOT	EACH	EACH	EACH	EACH	
102+83.25	TO	104+02.00	RT	25.0	1	1	4	1
103+08.25	TO	104+02.00	LT		1	1	4	1
105+30.00	TO	106+23.75	RT		1	1	4	1
105+30.00	TO	105+98.75	LT	25.0	1	1	4	1
TOTAL				50.0	4	4	16	4

SIGNING								
STATION	SIDE	SIGN DESCRIPTION	SIGN SIZE		REMOVE SIGN PANEL - TYPE 1	RELOCATE SIGN PANEL ASSEMBLY - TYPE A	RELOCATE SIGN PANEL - TYPE 1	WOOD SIGN SUPPORT
			WIDTH INCHES	HEIGHT				
TR 107A (N. 42ND RD.)								
102+15	LT	CURVE AHEAD	30	30			1	15
		SPEED LIMIT 25 MPH	18	18				
102+64	RT	OBJECT MARKER	12	36	3.0			
102+65	LT	OBJECT MARKER	12	36	3.0			
105+87	LT	DO NOT PASS	24	30	5.0			
107+29	LT	OBJECT MARKER	12	36	3.0			
107+30	RT	OBJECT MARKER	12	36	3.0			
107+38	RT	STOP AHEAD	30	30			6.3	14
111+25	LT	FIRE DEPT #2533	12	12			1.0	13
112+07	LT	WEIGHT LIMIT 15 TONS	24	30	5.0			
TOTAL					22	1	8	42

NOTE: ANY DAMAGE TO RELOCATED SIGNS OR SUPPORTS FROM CONTRACTOR OPERATIONS SHALL BE REPAIRED AT OWN EXPENSE.

NOTE: RELOCATION OF SIGN PANEL ASSEMBLY INCLUDES THE FLASHING LIGHT.

PIPE UNDERDRAINS						
STATION TO	STATION	SIDE	PIPE UNDERDRAINS 4" (MODIFIED)	PIPE UNDERDRAINS 4" (SPECIAL)	CONCRETE HEADWALLS FOR PIPE UNDERDRAINS	
			FOOT	FOOT	EACH	
TR 107A (N.42ND RD.)						
100+00	TO	103+75	LT	375	15	1
100+00	TO	103+75	RT	375	15	1
105+58	TO	112+54	LT	696	15	1
105+58	TO	112+25	RT	669	15	1
TOTAL				2115	60	4



COORDINATE INFORMATION

TR 107A (N. 42ND RD.)

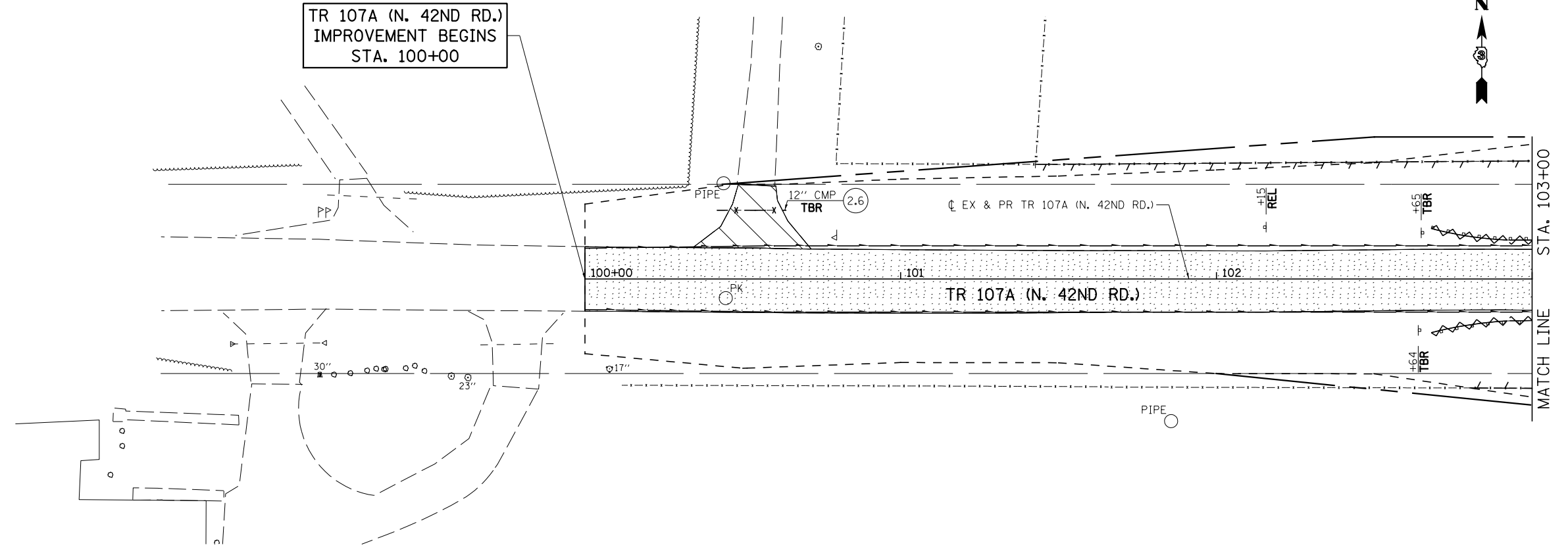
P.O.T. 100+00.00	=	N:	1776516.3313
		E:	887027.5868
P.C. 108+26.47	=	N:	1776516.7756
		E:	887854.0536
P.I. 110+73.58	=	N:	1776516.9085
		E:	888101.1645
P.T. 113+20.56	=	N:	1776530.6006
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P.O.T. 114+70.75	=	N:	1776538.9220
		E:	888497.8460

BENCHMARK LIST

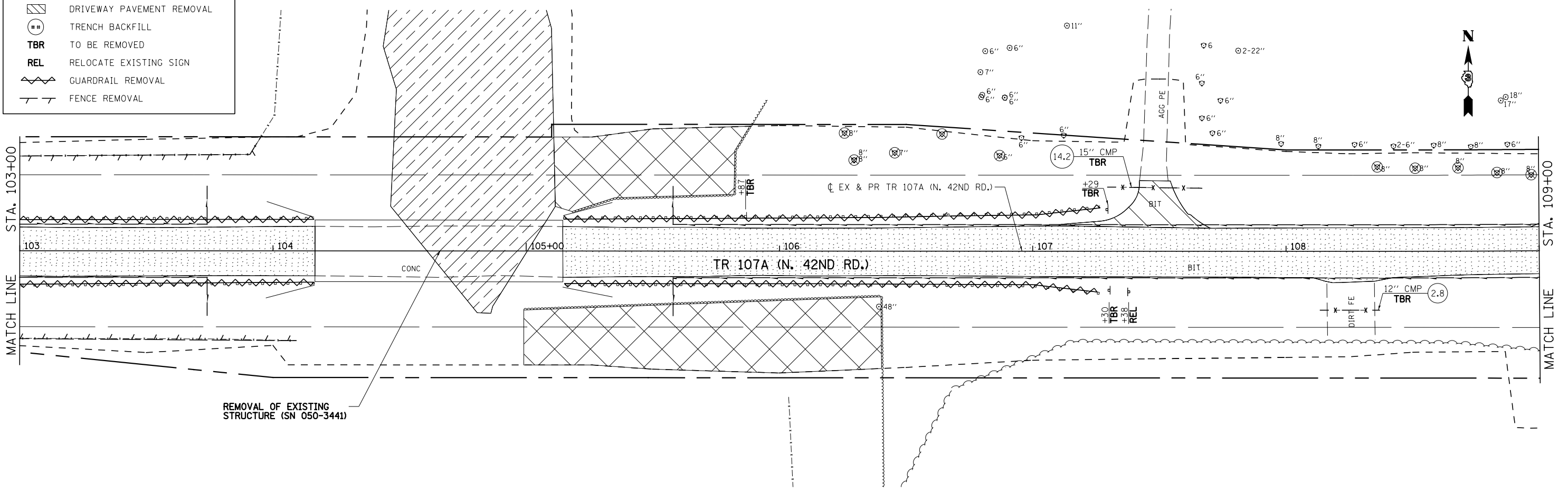
BM 1	=	CHISELED SQUARE ON TOP OF 24" PIPE CULVERT STA. 111+90.02 RT, ELEV. = 544.54
BM 2	=	RR SPIKE IN POWER POLE ON NORTH SIDE OF ROAD STA. 108+46.80 LT, ELEV. = 543.91
BM 3	=	CHISELED SQUARE ON N.W. CORNER BRIDGE STA. 104+16.59 LT, ELEV. = 547.39
BM 4	=	SURVEY SPIKE IN POWER POLE ON NORTH SIDE OF ROAD STA. 100+33.69 LT, ELEV. = 549.17

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Default		DRAWN -	REVISED -		SCALE: 1"=100'	SHEET 1	OF 1	SHEETS	STA.	TO STA.	LASALLE	61	10
		CHECKED -	REVISED -								ILLINOIS		
		DATE -	REVISED -								<b>CONTRACT NO. 87632</b>		

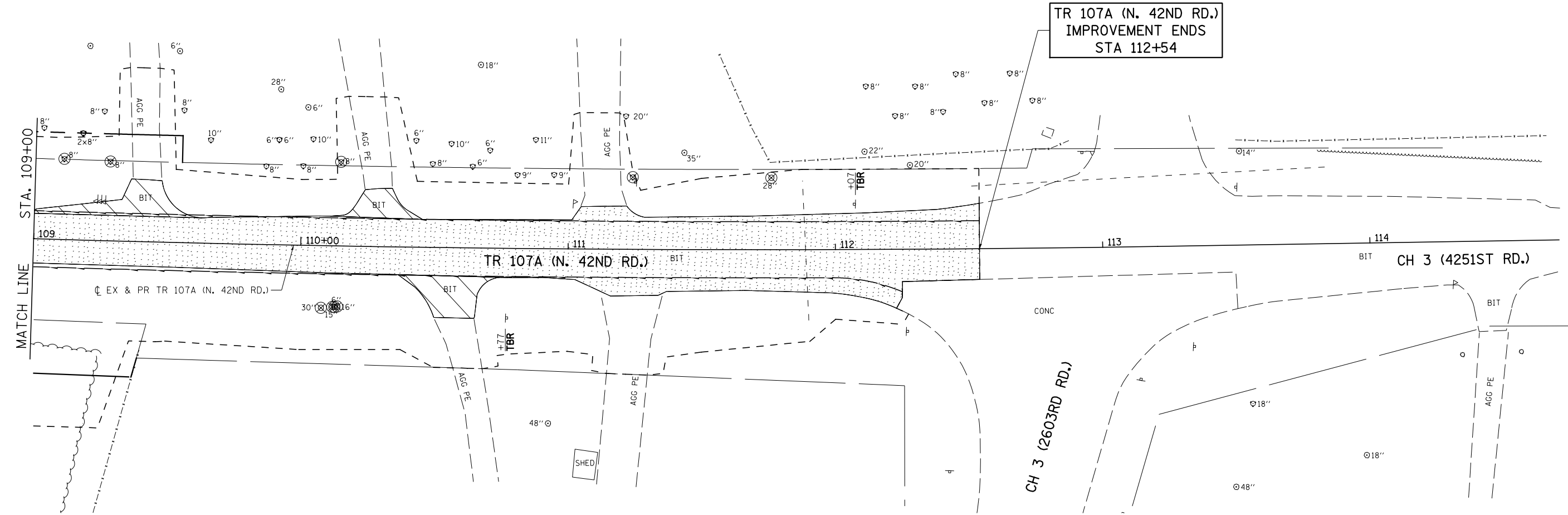
TR 107A (N. 42ND RD.)  
IMPROVEMENT BEGINS  
STA. 100+00



LEGEND	
	PAVEMENT REMOVAL
	PIPE CULVERT REMOVAL
	TREE REMOVAL (UNITS)
	TREE REMOVAL (ACRES)
	SANDBAR REMOVAL
	DRIVEWAY PAVEMENT REMOVAL
	TRENCH BACKFILL
<b>TBR</b>	TO BE REMOVED
<b>REL</b>	RELOCATE EXISTING SIGN
	GUARDRAIL REMOVAL
	FENCE REMOVAL



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Default	PLOT SCALE = 48.0000' / in.	CHECKED -	REVISED -		SCALE: 1"=20'	SHEET 1	OF 2 SHEETS	STA. 100+00	TO STA. 109+00	CONTRACT NO. 87632		
	PLOT DATE = 8/10/2017	DATE -	REVISED -		ILLINOIS							



LEGEND	
	PAVEMENT REMOVAL
	PIPE CULVERT REMOVAL
	TREE REMOVAL (UNITS)
	TREE REMOVAL (ACRES)
	SANDBAR REMOVAL
	DRIVEWAY PAVEMENT REMOVAL
	TRENCH BACKFILL
<b>TBR</b>	TO BE REMOVED
<b>REL</b>	RELOCATE EXISTING SIGN
	GUARDRAIL REMOVAL
	FENCE REMOVAL

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	PLOT DATE = 8/10/2017	DATE -	REVISED -

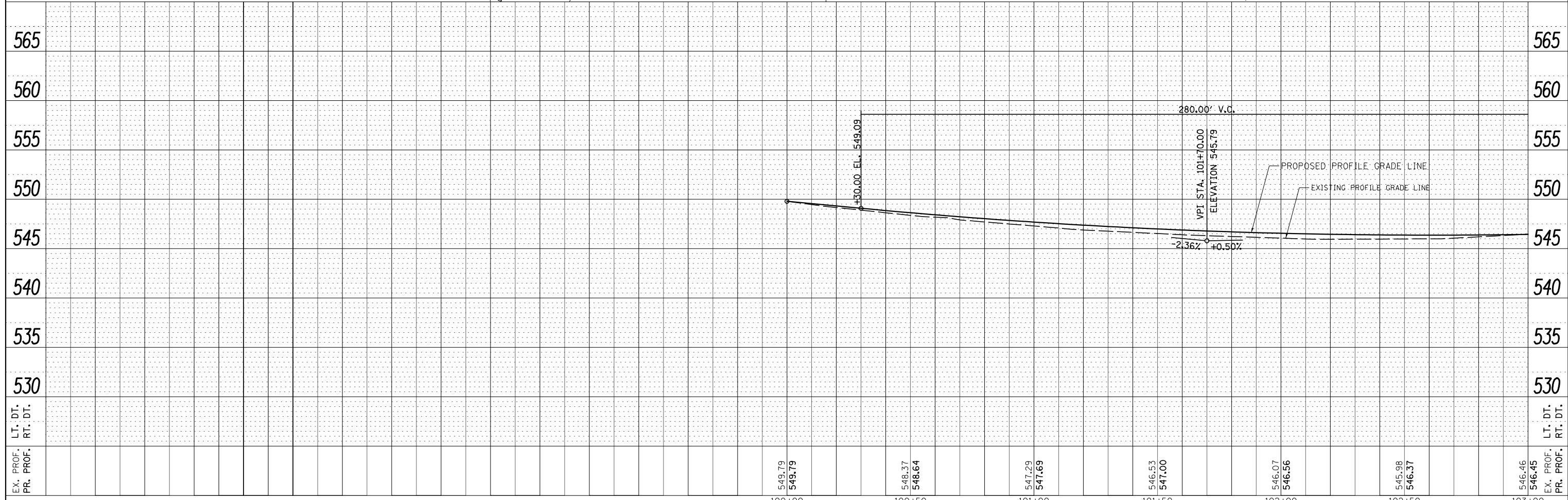
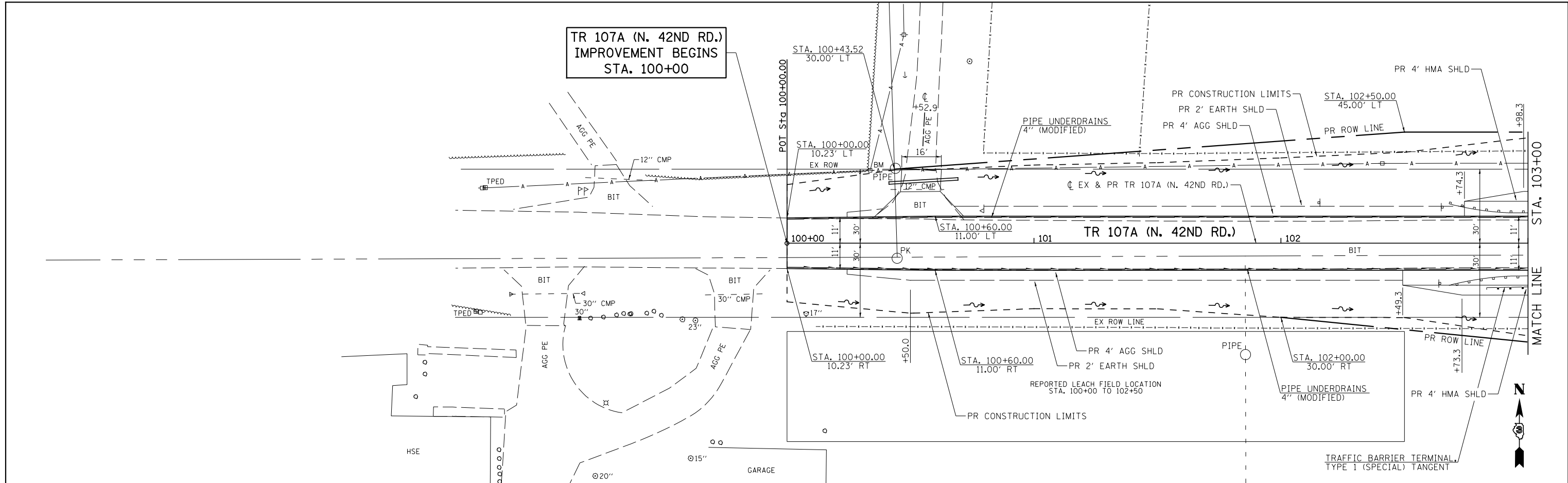
**LASALLE COUNTY  
HIGHWAY DEPARTMENT**

<b>TR 107A (N. 42ND RD.) REMOVAL PLAN</b>			
SCALE: 1"=20'	SHEET 2	OF 2 SHEETS	STA. 109+00 TO STA. 114+70.75

RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR107A	14-23744-00-BR	LASALLE	61	12
ILLINOIS			CONTRACT NO. 87632	

PLAN	SURVEYED	DATE
	PLOTTED	
	ALIGNED	
	CHECKED	
	FILED	
NOTE BOOK NO.	CADD FILE NAME	

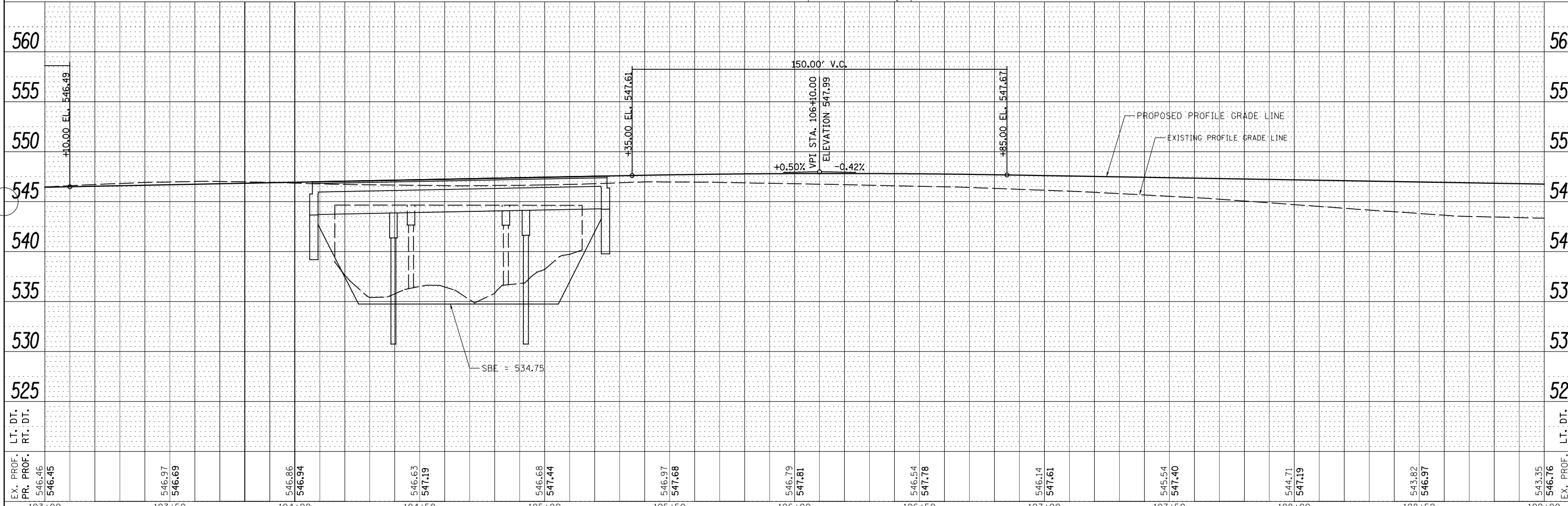
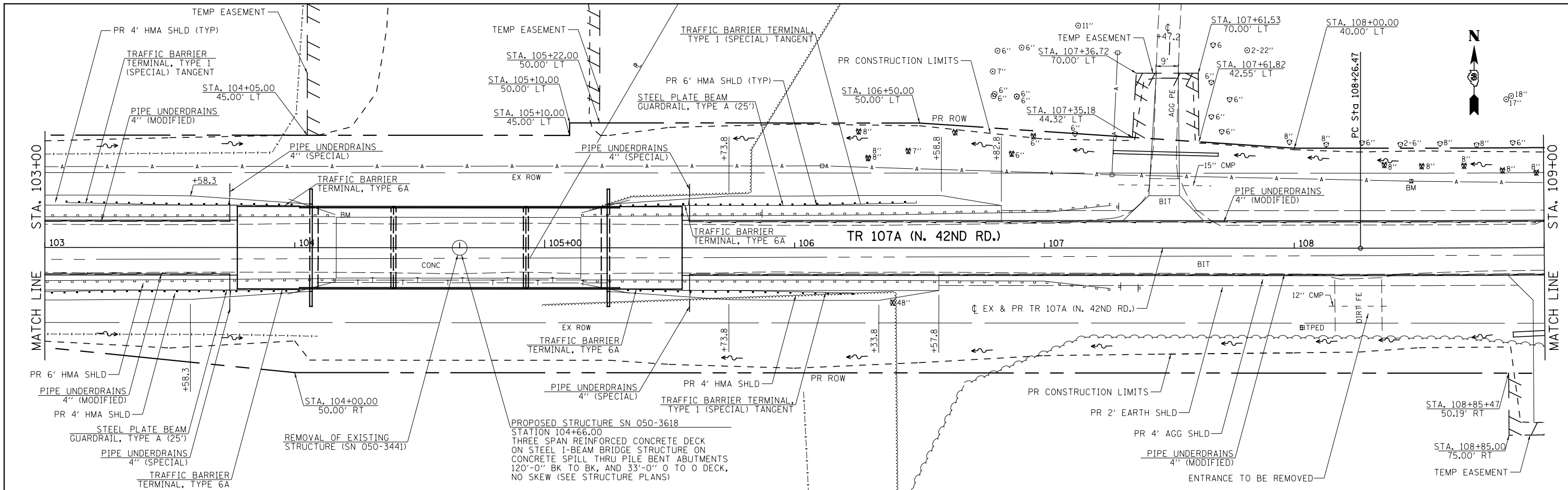
PROFILE	SURVEYED	DATE
	PLOTTED	
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
NOTE BOOK NO.	CADD FILE NAME	



FILE NAME =	USER NAME = LZeller	DESIGNED -	REVISED -	<b>LASALLE COUNTY HIGHWAY DEPARTMENT</b>	<b>TR 107A (N. 42ND RD.) PLAN AND PROFILE</b>	SCALE: H=20 V=5	SHEET 1	OF 3 SHEETS	STA. 100+00	TO STA. 103+00	ILLINOIS
V:\3677\CADD Sheets\3677-sht-plnprf-1.dgn		DRAWN -	REVISED -			RT. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default		CHECKED -	REVISED -			TR107A	14-23744-00-BR	LASALLE	61	13	
		DATE -	REVISED -			CONTRACT NO. 87632					

PLAN	SURVEYED	DATE
	PLOTTED	
	ALIGNED	
	CHECKED	
	FILED	
	NO.	

PROFILE	SURVEYED	DATE
	PLOTTED	
	GRADES	
	CHECKED	
	STRUCTURE	
	NOTATIONS	
	CHKD	
	NO.	



EX. PROF.	546.46	546.45	546.97	546.69	546.86	546.94	546.63	547.19	546.68	547.44	546.97	547.68	546.79	547.81	546.54	547.78	546.14	547.61	545.54	547.40	544.71	547.19	543.82	546.97	543.35	546.76
PR. PROF.	546.46	546.45	546.97	546.69	546.86	546.94	546.63	547.19	546.68	547.44	546.97	547.68	546.79	547.81	546.54	547.78	546.14	547.61	545.54	547.40	544.71	547.19	543.82	546.97	543.35	546.76
LT. DT.																										
RT. DT.																										
FILE NAME	USER NAME = LZeller		DESIGNED -	REVISED -	DRAWN -		REVISED -	CHECKED -		REVISED -	DATE -		REVISED -	SCALE: H=20 V=5		SHEET 2 OF 3 SHEETS		STA. 103+00 TO STA. 109+00		ILLINOIS		CONTRACT NO. 87632		TOTAL SHEETS 61 SHEET NO. 14		

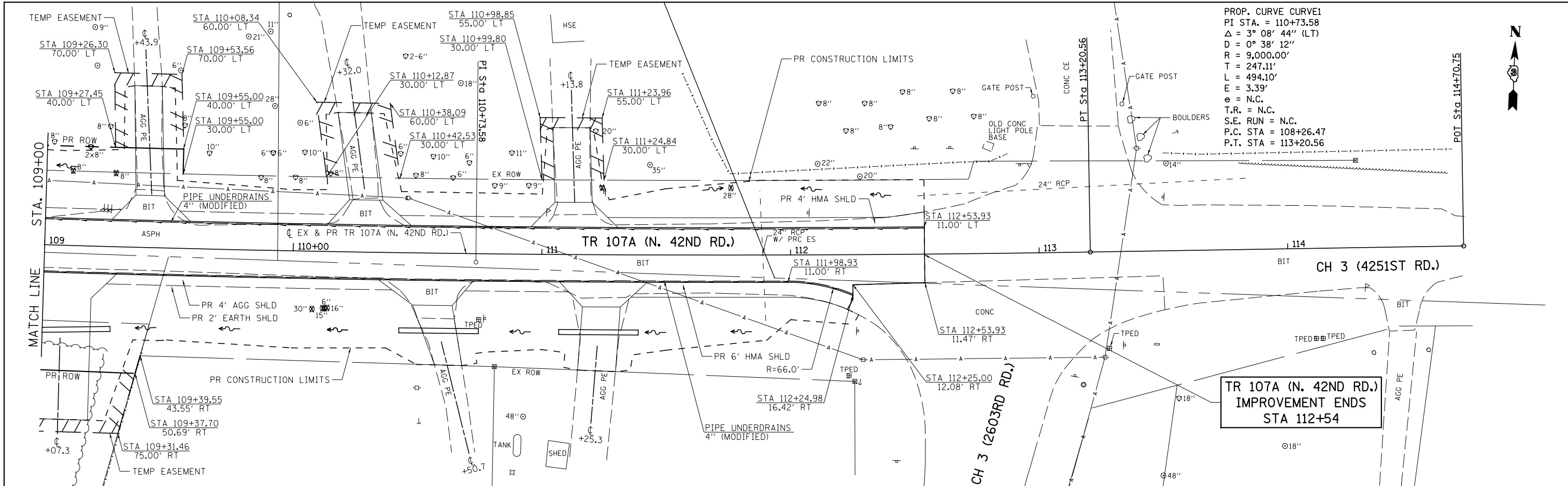
LASALLE COUNTY  
HIGHWAY DEPARTMENT

TR 107A (N. 42ND RD.)  
PLAN AND PROFILE

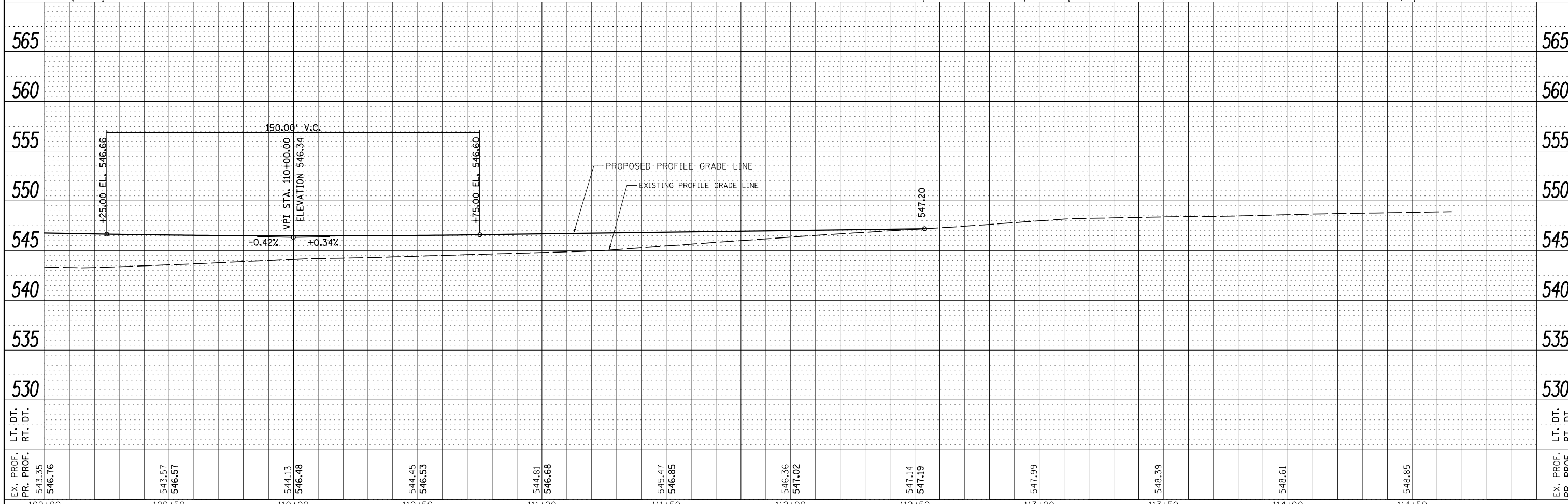
RT. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR107A	14-23744-00-BR	LASALLE	61	14
CONTRACT NO. 87632				

PLAN	SURVEYED	DATE
	PLOTTED	
	NOTE BOOK	
	CHECKED	
	FILE NAME	
	NO.	

PROFILE	SURVEYED	DATE
	PLOTTED	
	GRADES CHECKED	
	STRUCTURE	
	NOTATIONS CHECKED	
	NO.	



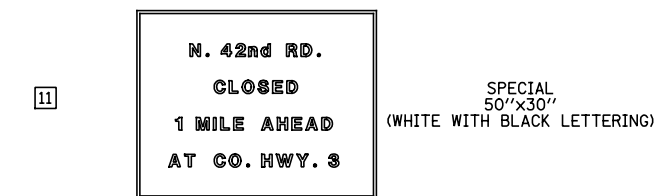
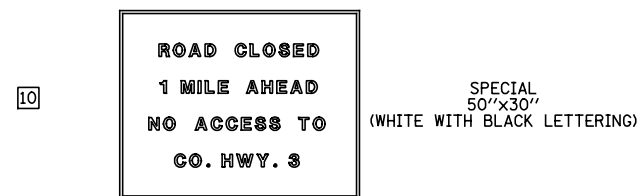
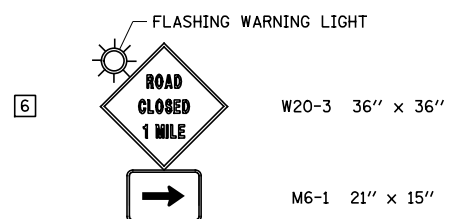
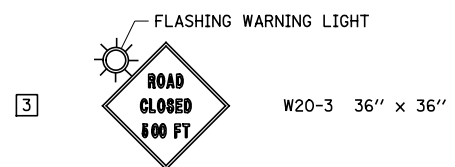
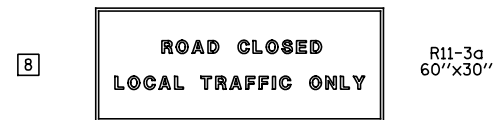
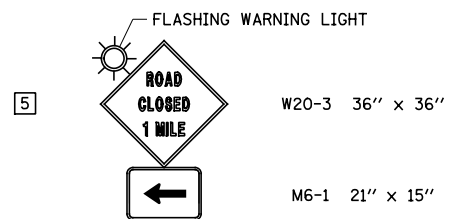
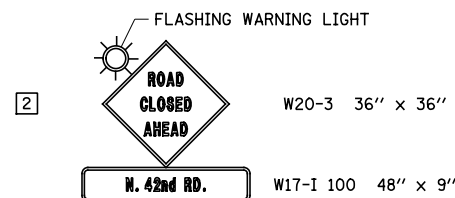
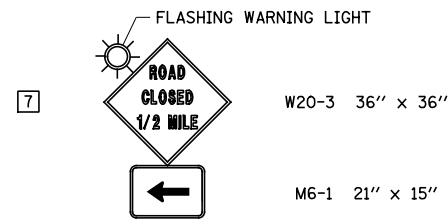
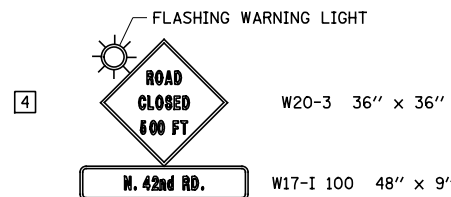
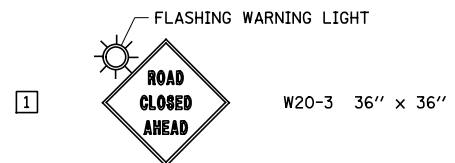
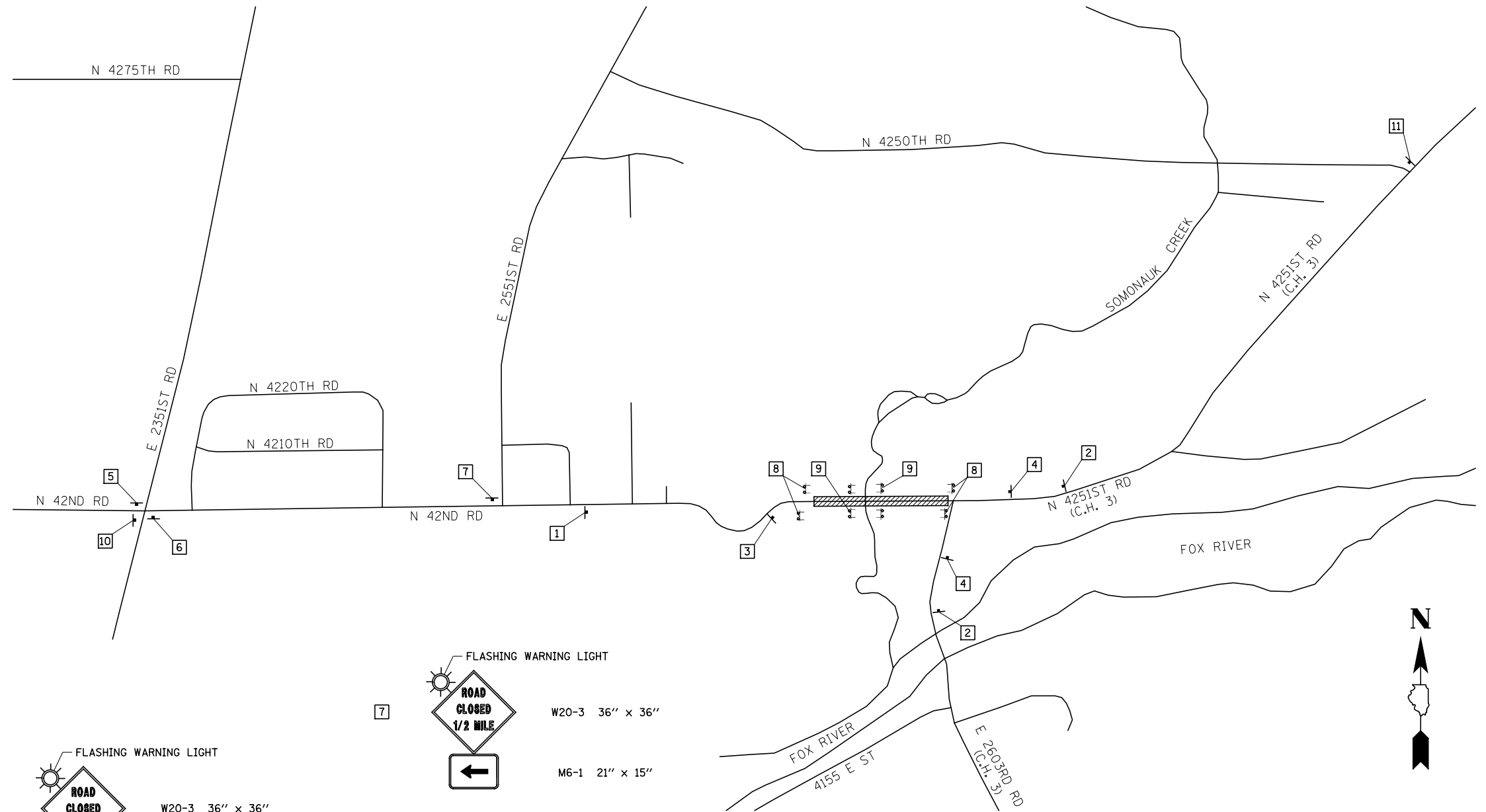
PROP. CURVE CURVE1  
 PI STA. = 110+73.58  
 $\Delta = 3^\circ 08' 44''$  (LT)  
 $D = 0^\circ 38' 12''$   
 $R = 9,000.00'$   
 $T = 247.11'$   
 $L = 494.10'$   
 $E = 3.39'$   
 $e = N.C.$   
 $T.R. = N.C.$   
 $S.E. RUN = N.C.$   
 $P.C. STA = 108+26.47$   
 $P.T. STA = 113+20.56$



EX. PROF. 543.35	543.57	544.13	544.45	544.81	545.47	546.36	547.14	547.99	548.59	548.61	548.85	549.76
PR. PROF. 546.76	546.57	546.48	546.53	546.68	546.85	547.02	547.19					
109+00	109+50	110+00	110+50	111+00	111+50	112+00	112+50	113+00	113+50	114+00	114+50	

**GENERAL NOTES**

- 1.) ALL SIGNING SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JAN. 1, 2016", AND THE LATEST EDITION OF THE STATE OF ILLINOIS "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".
- 2.) THE ENGINEER SHALL BE NOTIFIED IN WRITING AT LEAST THREE WEEKS PRIOR TO THE DAY THE ROAD IS TO BE CLOSED.
- 3.) THE CONTRACTOR SHALL NOTIFY ALL ADJACENT PROPERTY OWNERS IN WRITING ONE WEEK PRIOR TO CLOSING THE ROAD TO THROUGH TRAFFIC.
- 4.) THE CONTRACTOR SHALL SUPPLY TO THE ENGINEER THE NAMES TELEPHONE NUMBERS OF HIS OR HER REPRESENTATIVES RESPONSIBLE FOR THE ROAD CLOSURE PRIOR TO THE START OF WORK. THE LASALLE COUNTY REPRESENTATIVE IS:  
  
MR. LAWRENCE KINZER, P.E., P.L.S.  
LASALLE COUNTY ENGINEER  
GRUNDY COUNTY HIGHWAY DEPARTMENT  
1400 N. 27TH RD.  
OTTAWA, IL. 61350
- 5.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL BARRICADES, SIGNS, LIGHTS AND OTHER DEVICES INSTALLED BY HIM OR HER ARE IN PLACE AND OPERATING 24 HOURS EACH DAY INCLUDING SUNDAYS AND HOLIDAYS DURING THE TIME THE CLOSURE IS IN EFFECT.
- 6.) THE CONTRACTOR SHALL MAKE ALL CHANGES IN SIGNING THAT ARE DEEMED NECESSARY BY THE ENGINEER.
- 7.) THE ENGINEER SHALL BE NOTIFIED AT LEAST TWO (2) HOURS BEFORE THE ROAD IS TO BE OPENED TO TRAFFIC.
- 8.) THE COST OF THE ITEMS ASSOCIATED WITH THIS WORK, OTHER THAN THE CHANGEABLE MESSAGE SIGN, WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST FOR TRAFFIC CONTROL & PROTECTION, (SPECIAL).
- 9.) TYPE III BARRICADES SHALL BE PLACED ACCORDING TO STANDARD 701901.



**MAP LEGEND**

- POST MOUNTED SIGN
- ⚡ TYPE III BARRICADE WITH FLASHING LIGHTS (2 EA.)
- ▨ ROAD CLOSURE LOCATION

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PLOT DATE = 8/10/2017	DATE -	REVISOR -	REVISED -

**LASALLE COUNTY  
HIGHWAY DEPARTMENT**

**TR 107A (N. 42ND RD.)  
TRAFFIC CONTROL DETAILS**

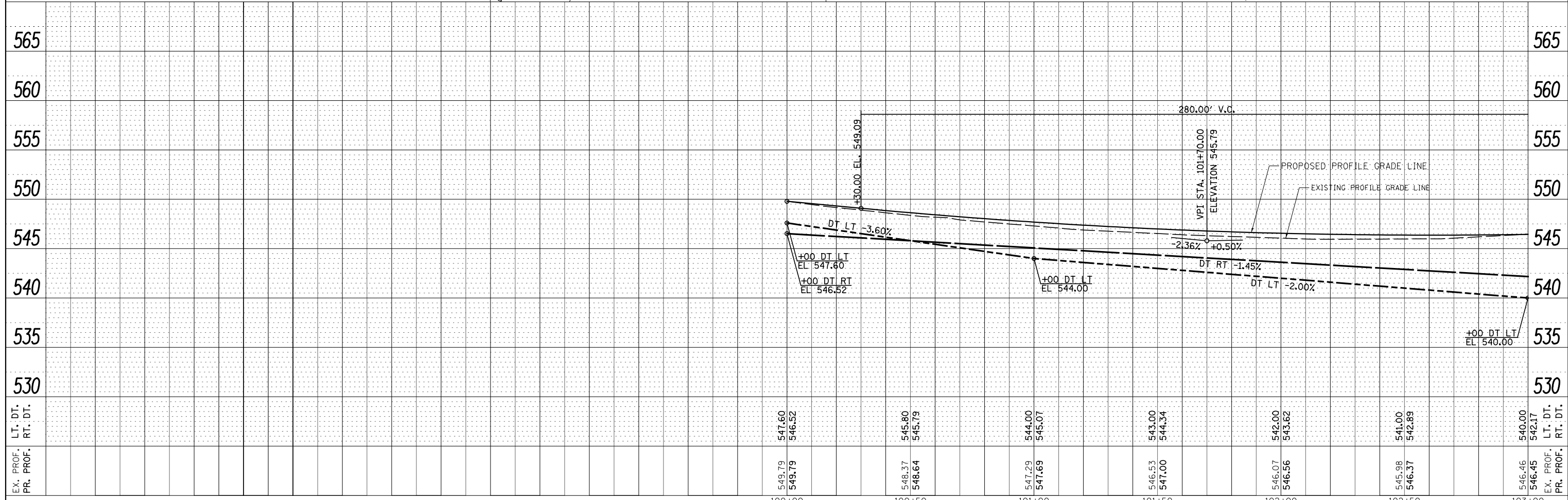
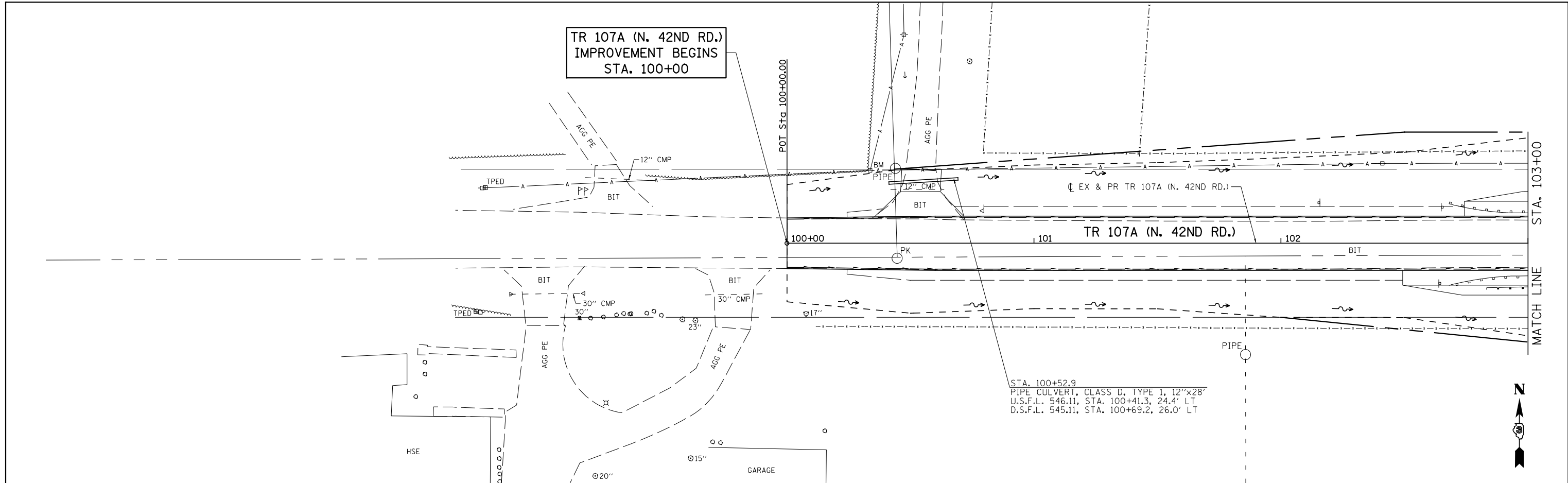
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RT. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR107A	14-23744-00-BR	LASALLE	61	16
CONTRACT NO. 87632				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



PLAN	SURVEYED	DATE
	PLOTTED	
	ALIGNED	
	CHECKED	
	FILE NAME	
	NO.	

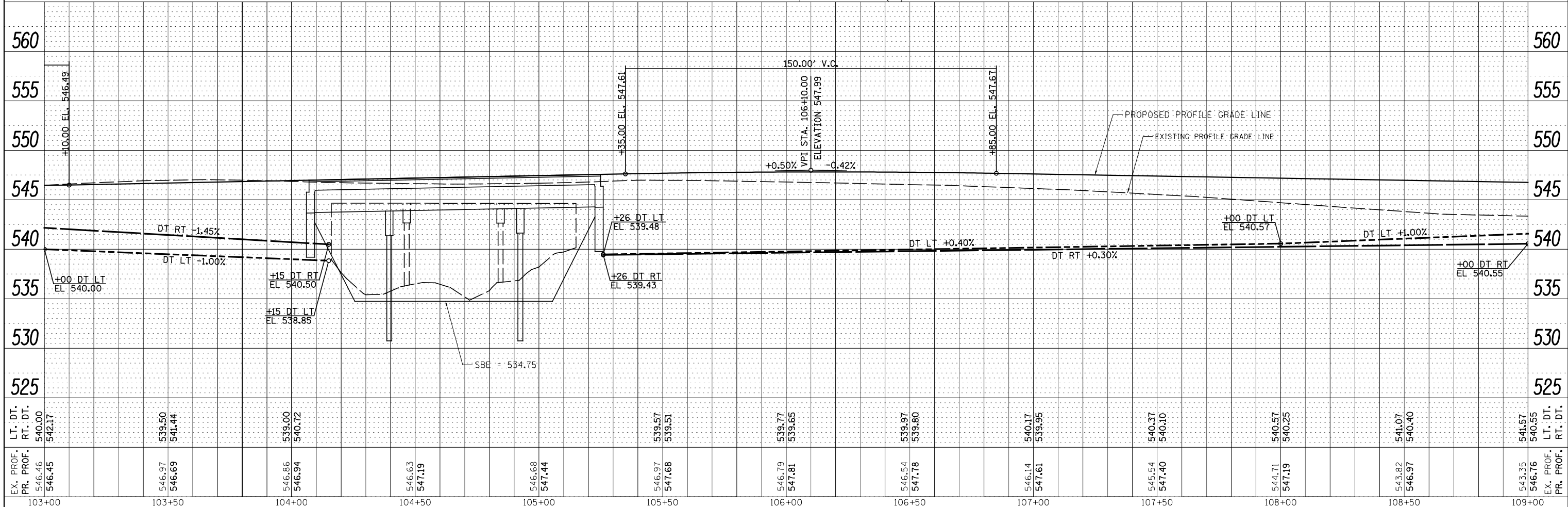
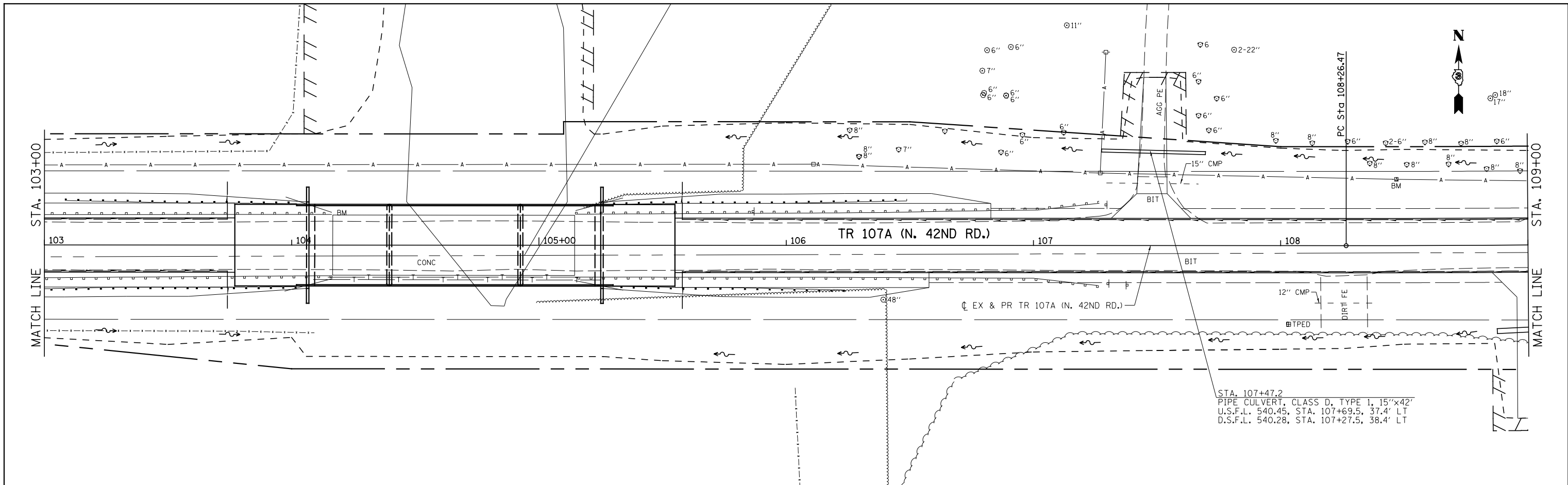
PROFILE	SURVEYED	DATE
	PLOTTED	
	GRADES CHECKED	
	STRUCTURE	
	NOTATIS	
	NO.	



EX. PROF.	549.79	548.37	547.29	546.53	546.07	545.98	540.00	546.46
PR. PROF.	549.79	548.64	547.69	547.00	546.56	546.37	542.17	546.45
LT. DT.	547.60	545.80	544.00	543.00	542.00	541.00	540.00	540.00
RT. DT.	546.52	545.79	545.07	544.34	543.62	542.89	542.17	542.17
	100+00	100+50	101+00	101+50	102+00	102+50	103+00	

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	NOTE BOOK		
	NO.		
	CHECKED		
	FILE NAME		

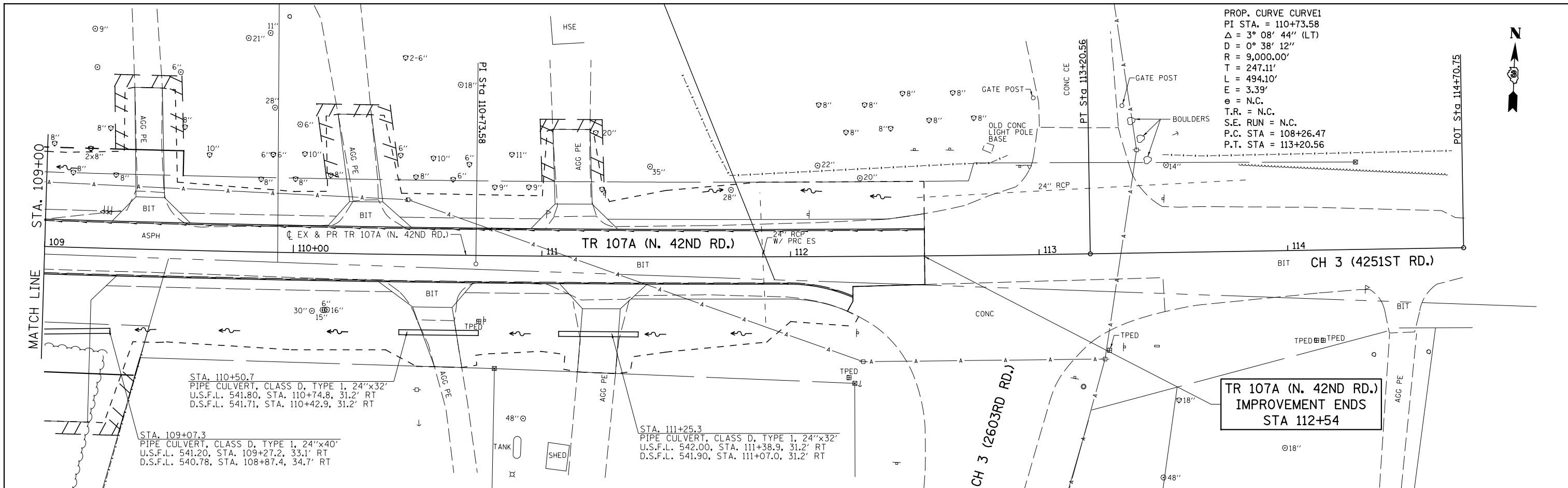
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	PLOTTED		
	GRADES CHECKED		
	NOTE BOOK		
	NO.		
	STRUCTURE		
	NOTATIS CHKD		



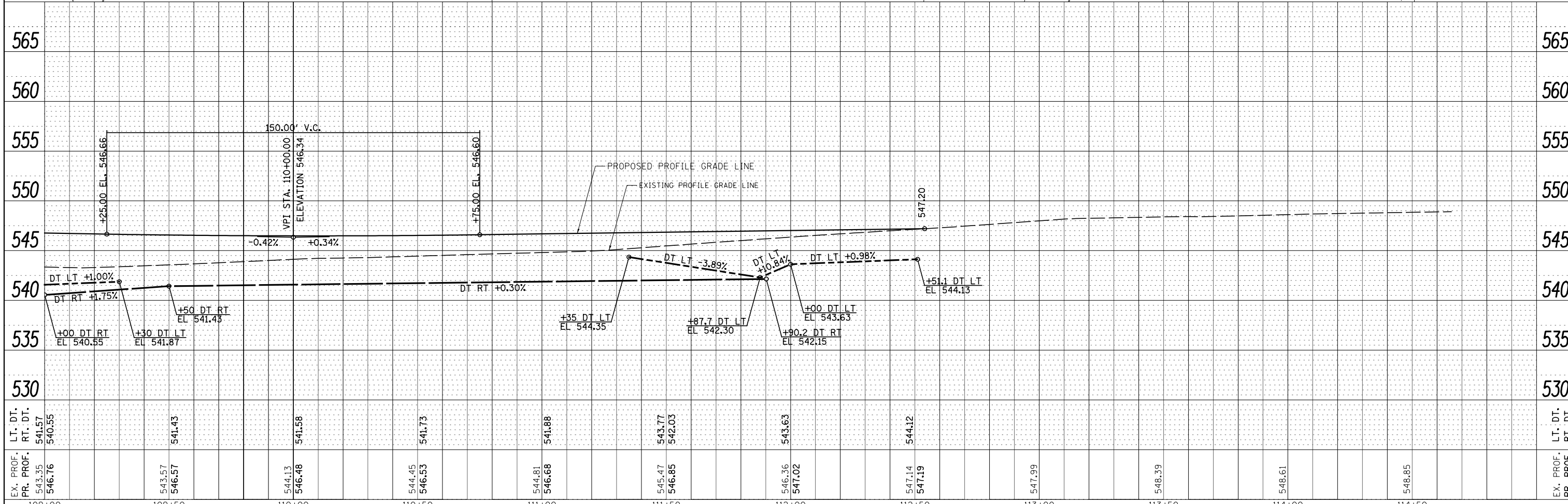
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Default		CHECKED -	REVISED -			CONTRACT NO. 87632				
		DATE -	REVISED -			ILLINOIS				

PLAN	SURVEYED	DATE
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	NOTE BOOK	
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	FILE NAME	

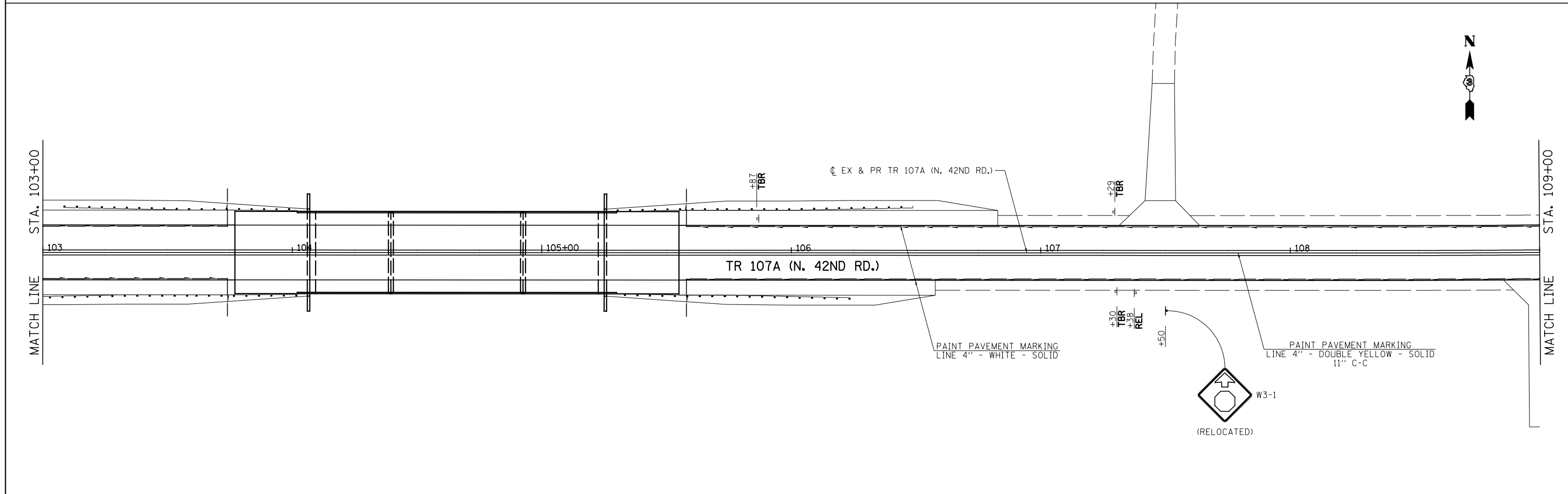
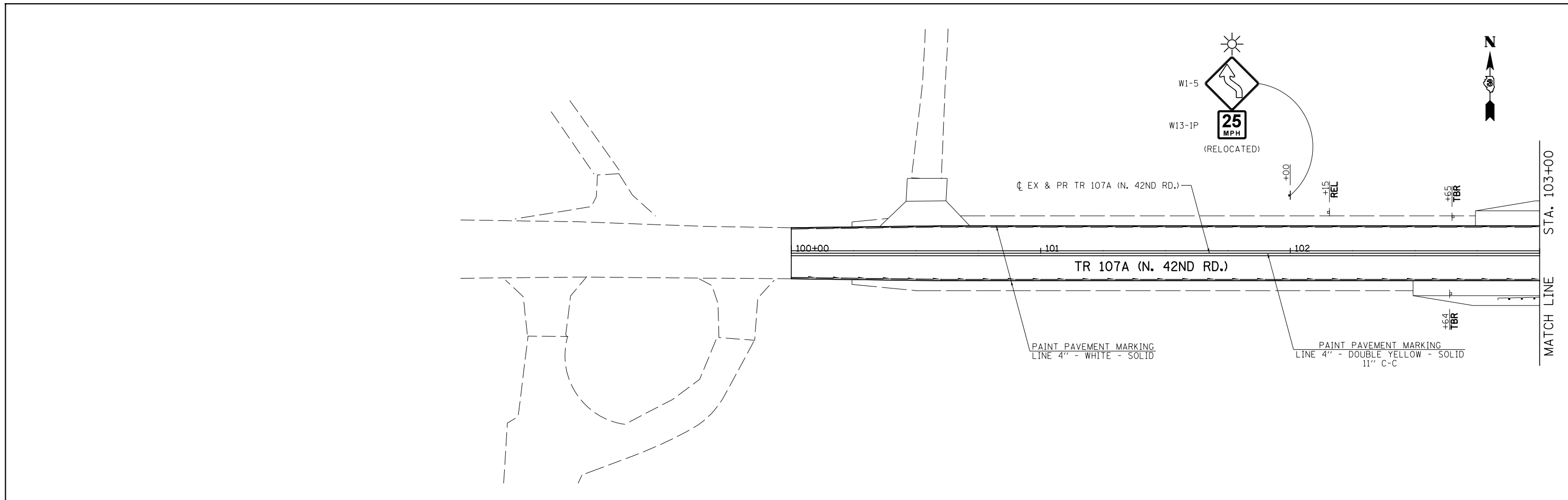
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	STRUCTURE	
	NOTATIONS CHECKED	
	NO.	



PROP. CURVE CURVE1  
 PI STA. = 110+73.58  
 $\Delta = 3^\circ 08' 44''$  (LT)  
 $D = 0^\circ 38' 12''$   
 $R = 9,000.00'$   
 $T = 247.11'$   
 $L = 494.10'$   
 $E = 3.39'$   
 $e = N.C.$   
 $T.R. = N.C.$   
 $S.E. RUN = N.C.$   
 $P.C. STA = 108+26.47$   
 $P.T. STA = 113+20.56$

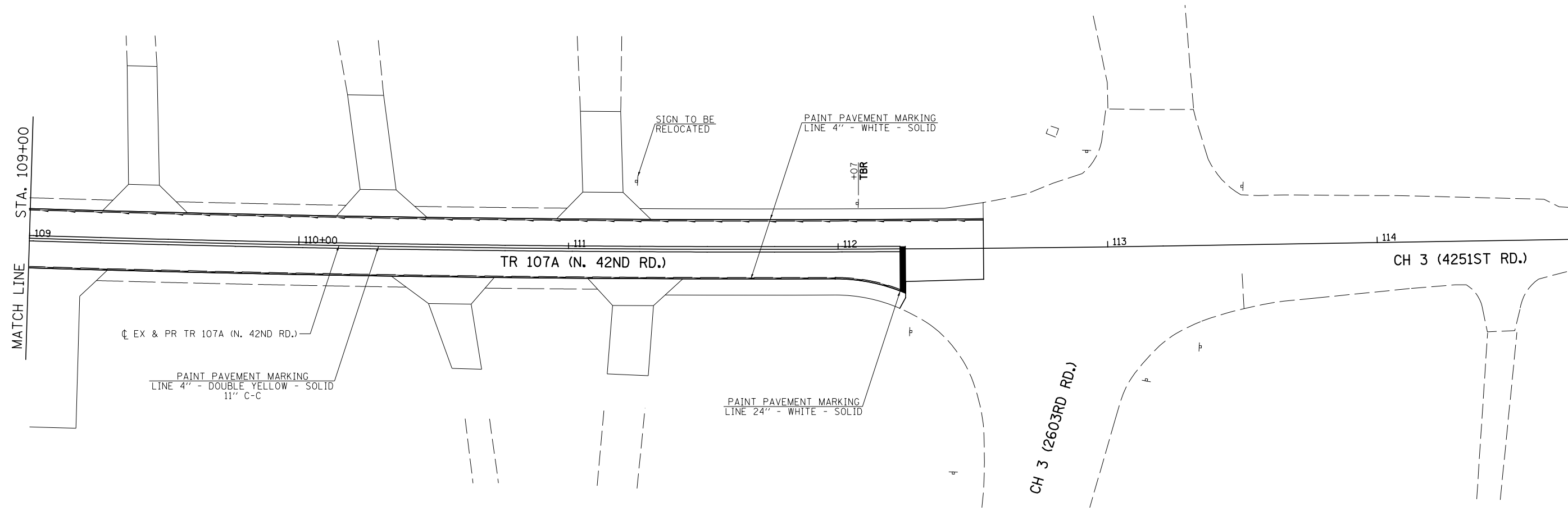


EX. PROF. PR. PROF.	543.35 546.76	543.57 546.57	544.13 546.48	544.45 546.53	544.81 546.68	545.47 546.85	546.36 547.02	547.14 547.19	547.99	548.39	548.61	548.85	EX. PROF. PR. PROF.	548.85 548.85				
LT. DT. RT. DT.	541.57 540.55	541.43	541.58	541.73	541.88	543.77 542.03	543.63	544.12					LT. DT. RT. DT.	543.63 544.13				
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Default	PLOT DATE = 8/10/2017		CHECKED -	REVISIED -									SCALE: H=20 V=5		SHEET 3 OF 3 SHEETS	STA. 109+00 TO STA. 114+70.75	CONTRACT NO. 87632	
			DATE -	REVISIED -													ILLINOIS	



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	PLOT DATE = 8/10/2017	CHECKED -	REVISED -									
		DATE -	REVISED -									

ILLINOIS CONTRACT NO. 87632



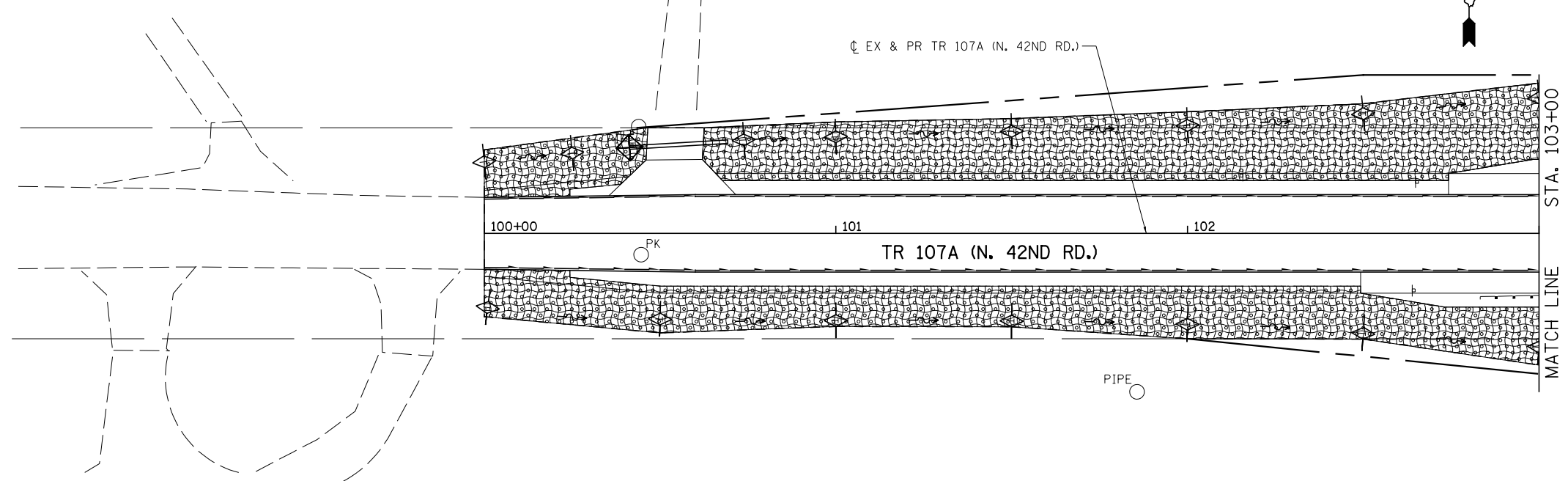
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	PLOT DATE = 8/10/2017	DATE -	REVISED -

**LASALLE COUNTY  
HIGHWAY DEPARTMENT**

**TR 107A (N. 42ND RD.)  
PAVEMENT MARKING AND SIGNING PLAN**

SCALE: 1"=20'    SHEET 2 OF 2 SHEETS    STA. 109+00 TO STA. 114+70.75

RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR107A	14-23744-00-BR	LASALLE	61	21
ILLINOIS			CONTRACT NO. 87632	

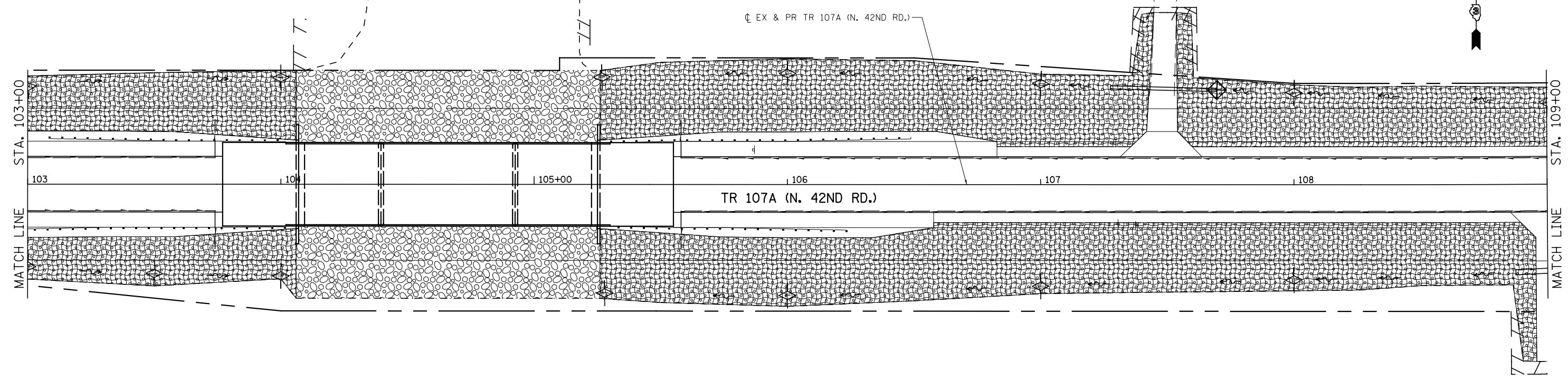


**LEGEND**

	TEMPORARY DITCH CHECKS		SEEDING, CLASS 2A AND TOPSOIL FURNISH & PLACE
	PERIMETER EROSION BARRIER		STONE RIPRAP
	INLET AND PIPE PROTECTION		EROSION CONTROL BLANKET

**EROSION CONTROL NOTES:**

- TEMPORARY EROSION CONTROL SEEDING SHALL BE PLACED ON ALL ERODIBLE / BARE AREAS AS REQUIRED BY ART. 280.04(f) UNTIL PERMANENT SEEDING IS PLACED.



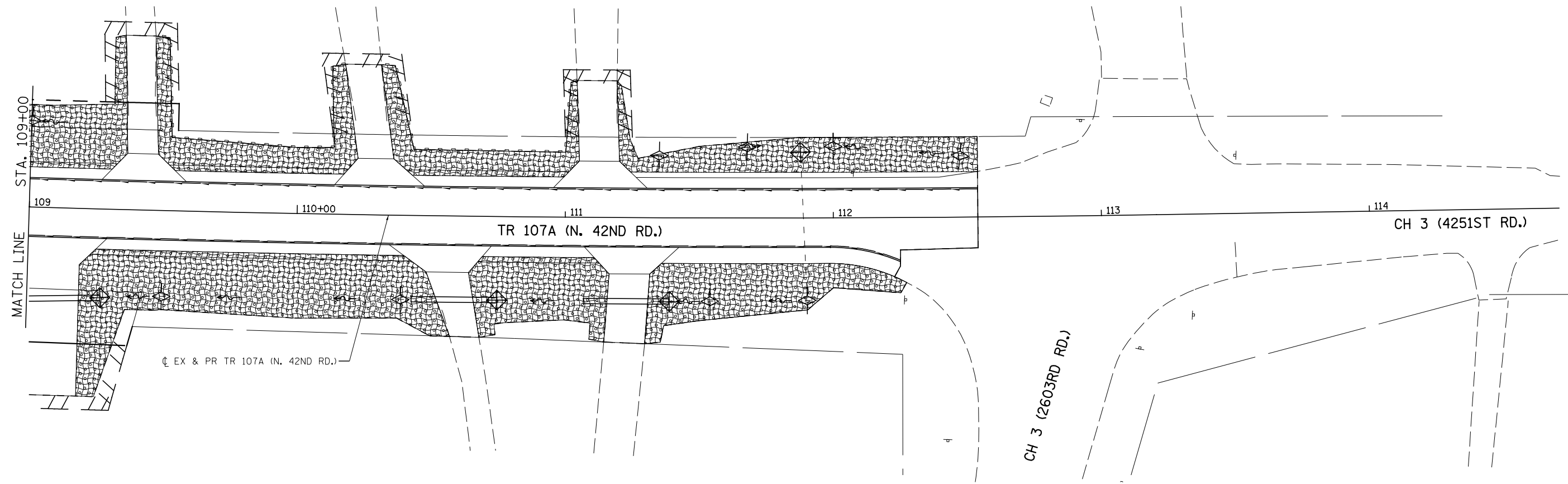
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Default	PLOT DATE = 8/10/2017	DATE -	REVISED -

**LASALLE COUNTY  
HIGHWAY DEPARTMENT**

**TR 107A (N. 42ND RD.)  
EROSION CONTROL PLAN**

SCALE: 1"=20'      SHEET 1 OF 2 SHEETS      STA. 100+00 TO STA. 109+00

RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR107A	14-23744-00-BR	LASALLE	61	22
			CONTRACT NO. 87632	
ILLINOIS				



- EROSION CONTROL NOTES:
1. TEMPORARY EROSION CONTROL SEEDING SHALL BE PLACED ON ALL ERODIBLE / BARE AREAS AS REQUIRED BY ART. 280.04(f) UNTIL PERMANENT SEEDING IS PLACED.

**LEGEND**

	TEMPORARY DITCH CHECKS		SEEDING, CLASS 2A AND TOPSOIL FURNISH & PLACE
	PERIMETER EROSION BARRIER		STONE RIPRAP
	INLET AND PIPE PROTECTION		EROSION CONTROL BLANKET

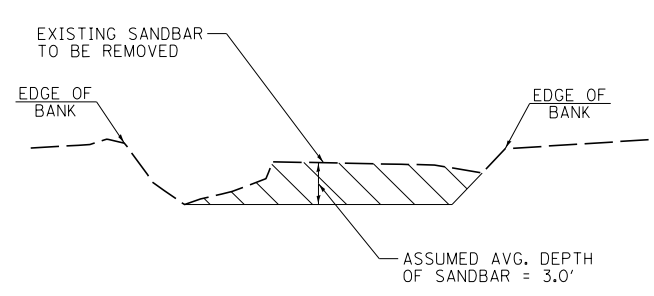
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		CHECKED -	REVISED -
		DATE -	REVISED -
Default	PLOT DATE = 8/10/2017		

**LASALLE COUNTY  
HIGHWAY DEPARTMENT**

**TR 107A (N. 42ND RD.)  
EROSION CONTROL PLAN**

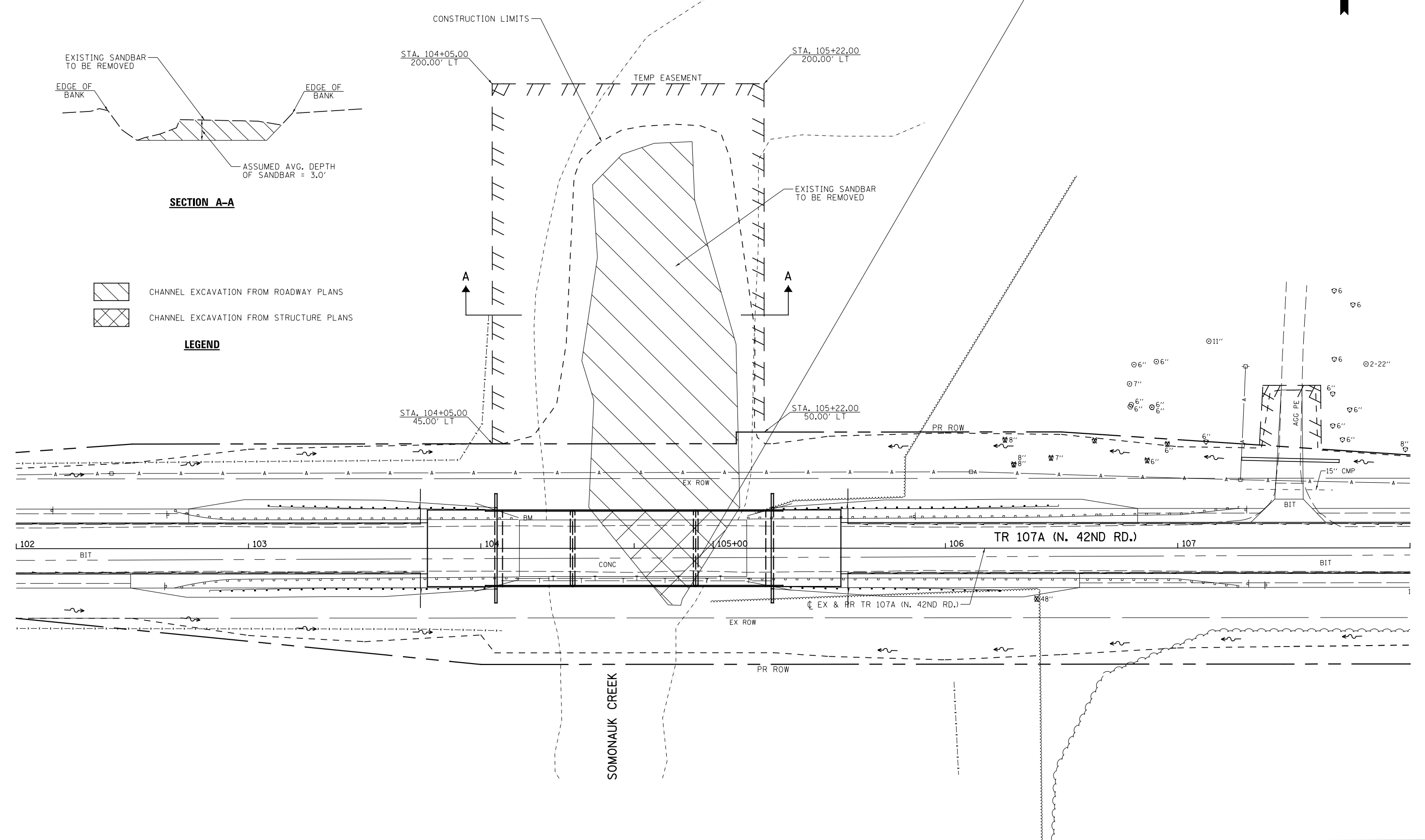
SCALE: 1"=20'    SHEET 2 OF 2 SHEETS    STA. 109+00 TO STA. 114+70.75

RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR107A	14-23744-00-BR	LASALLE	61	23
ILLINOIS			CONTRACT NO. 87632	



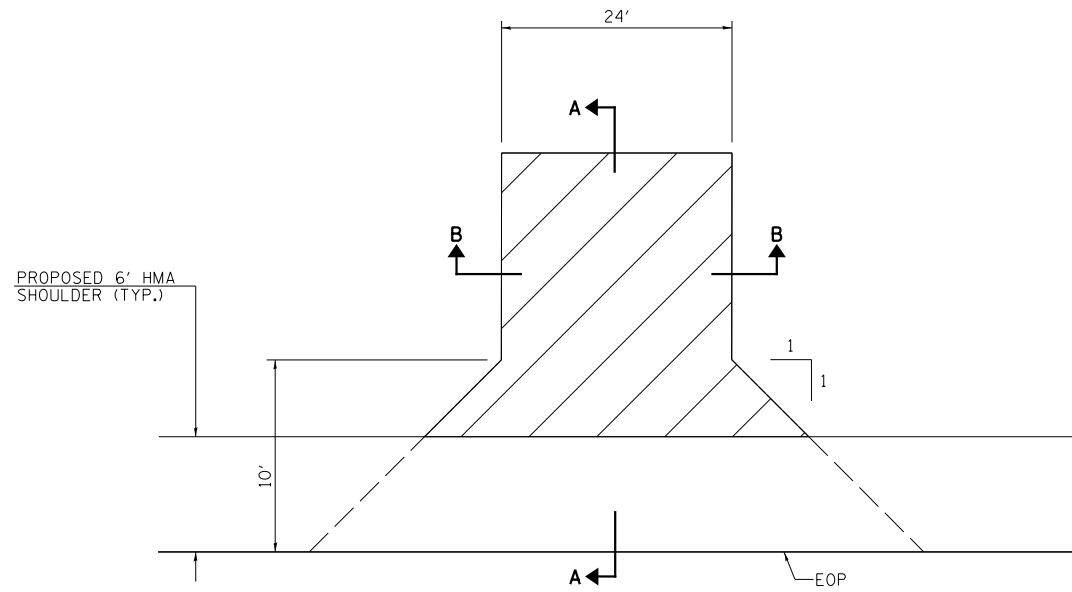
**SECTION A-A**

- LEGEND**
- CHANNEL EXCAVATION FROM ROADWAY PLANS
  - CHANNEL EXCAVATION FROM STRUCTURE PLANS

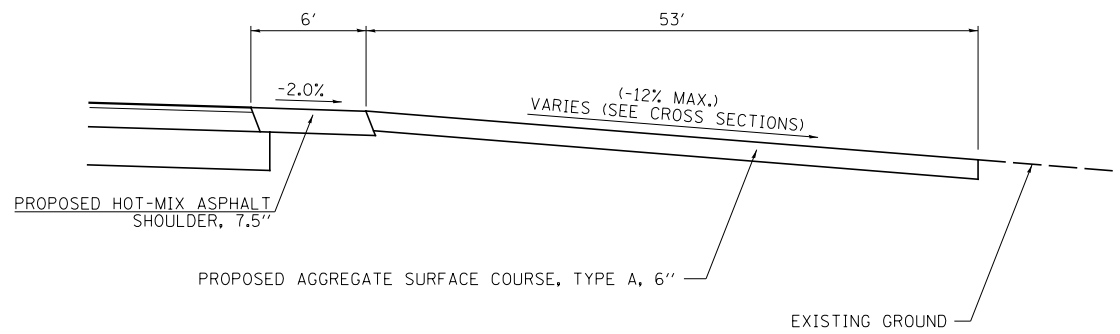


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Default	PLOT SCALE = 48.0642' / in.	DRAWN -	REVISED -		TR107A	14-23744-00-BR	LASALLE	61	24	CONTRACT NO. 87632		
	PLOT DATE = 8/10/2017	CHECKED -	REVISED -		SCALE: 1"=20'			SHEET 1 OF 1 SHEETS			STA. 102+00 TO STA. 108+00	
		DATE -	REVISED -		ILLINOIS							

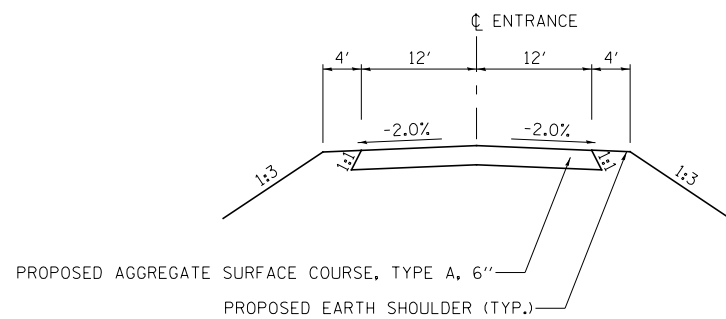




**PLAN**



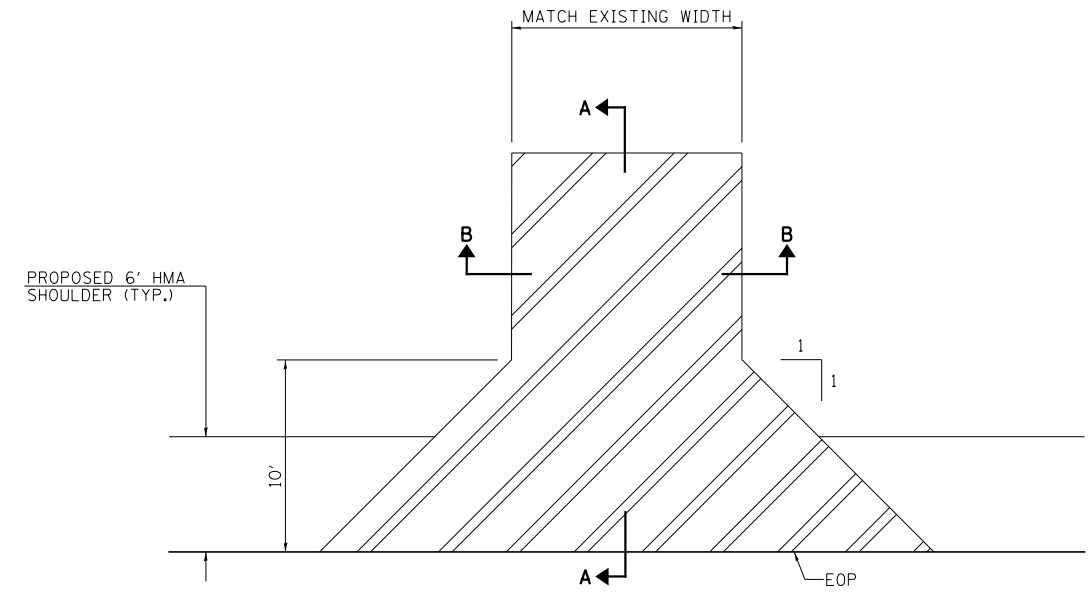
**SECTION A-A**



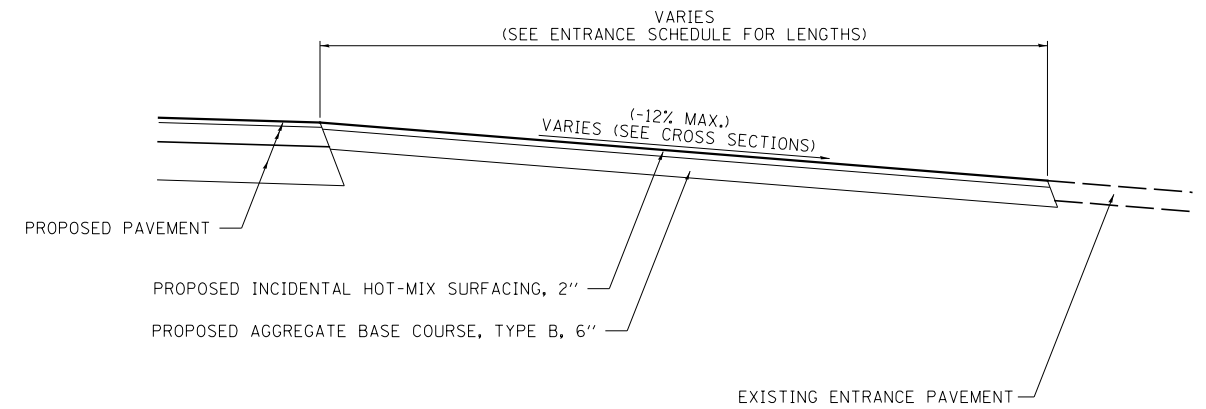
**SECTION B-B**

**FIELD ENTRANCE (FE) DETAILS**

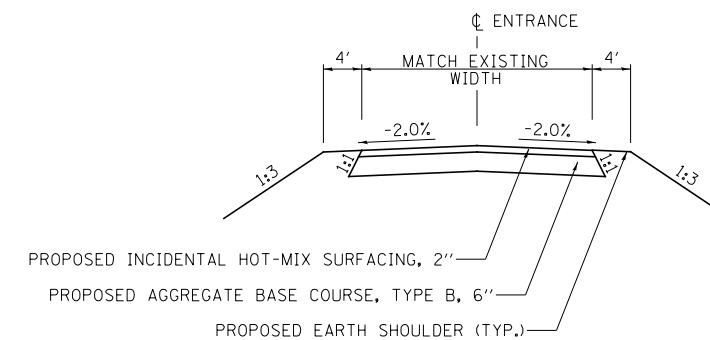
**SEE ENTRANCE SCHEDULE FOR LOCATIONS**



**PLAN**



**SECTION A-A**



**SECTION B-B**

**PRIVATE ENTRANCE (PE) DETAILS**

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	PLOT SCALE = 10.000' / in.	CHECKED -	REVISED -
	PLOT DATE = 8/10/2017	DATE -	REVISED -

**LASALLE COUNTY  
HIGHWAY DEPARTMENT**

<b>TR 107A (N. 42ND RD.) ENTRANCE DETAILS</b>			
SCALE: N/A	SHEET NO. 1 OF 1 SHEETS	STA. N/A	TO STA. N/A

RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR107A	14-23744-00-BR	LASALLE	61	25
CONTRACT NO. 87632				
ILLINOIS				

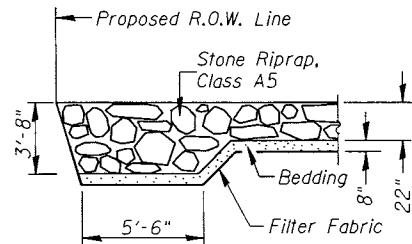
B.M.: Survey Spike in Power Pole  
Sta. 100+34, 30' Lt.  
Elev. 549.17

RR Spike in Power Pole  
Sta. 108+47, ±27' Lt.  
Elev. 543.91

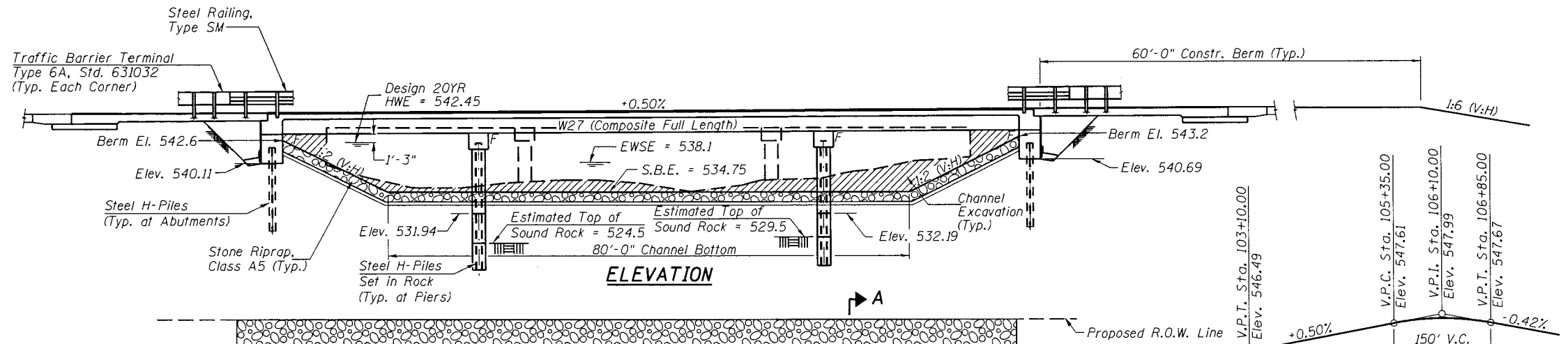
Existing Structure:  
Three span precast concrete channel beam superstructure. The substructure consists of reinforced concrete pile bent piers and timber closed abutments with reinforced concrete caps and timber deadmen. The structure is 99'-9" back to back of abutments, 26'-3" out to out deck, and is not skewed. The structure was built in 1976.  
Str. No. 050-3441.

Salvage: None  
Road to be closed to traffic during construction.

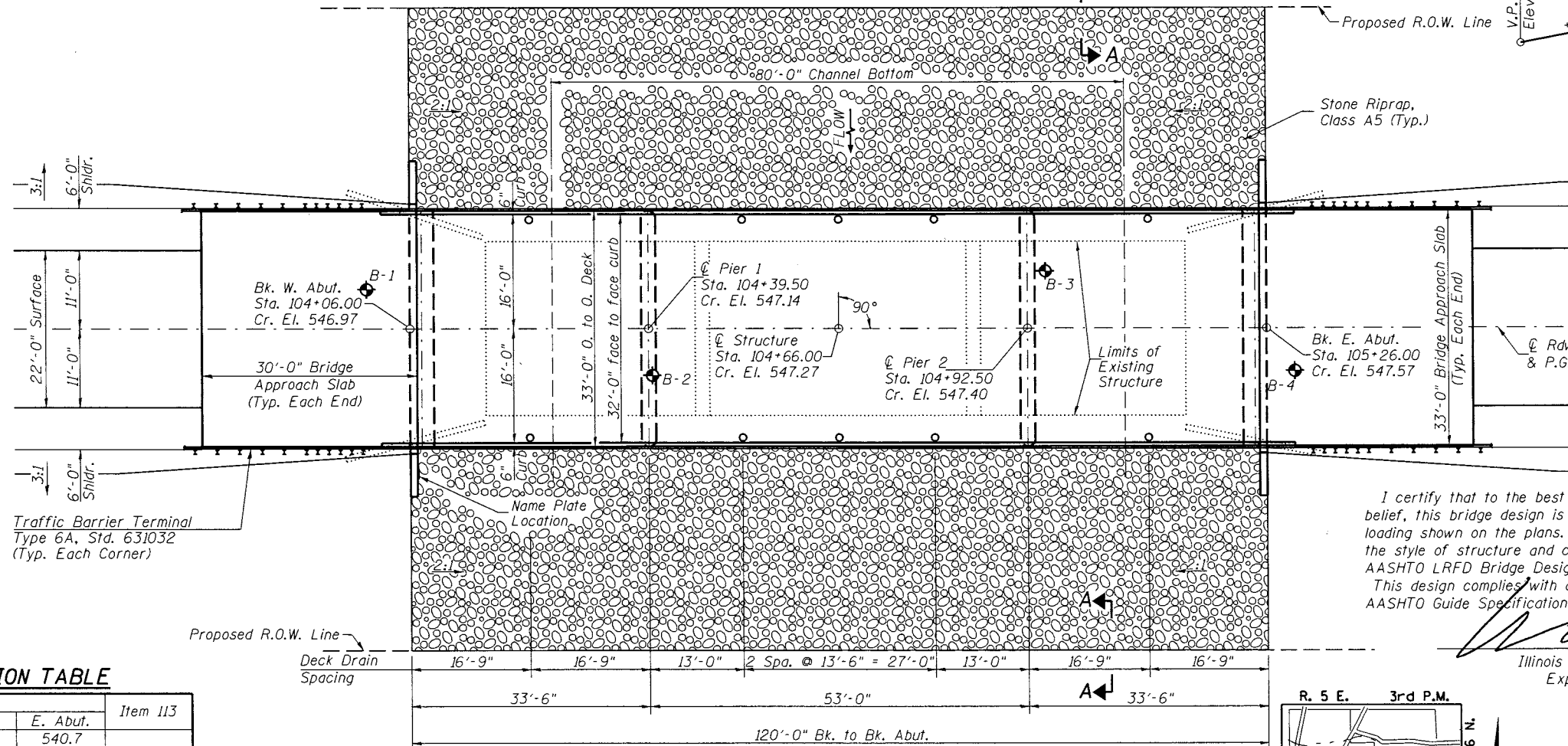
Note:  
See Sheet 2 of 22 for Total Bill of Materials and Index of Sheets.



SECTION A-A



PROFILE GRADE  
(TR 107A)



PLAN

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevations (ft.)					Item 113
	W. Abut.	Pier 1	Pier 2	E. Abut.	
Q100	540.1	529.9	529.9	540.7	8
Q200	540.1	529.4	529.4	540.7	
Design	540.1	529.9	529.9	540.7	
Check	540.1	529.4	529.4	540.7	

WATERWAY INFORMATION

Drainage Area = 82.8 Sq. Mi.		Low Grade Elev. = 546.37 @ Sta. 102+60.97						
Flood	Freq. Yr.	0 C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	20	2,760	534	542.45	0.44	0.43	542.89	542.88
Base	100	3,800	572	542.86	0.89	0.79	543.75	543.65

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 Interims

SEISMIC DATA

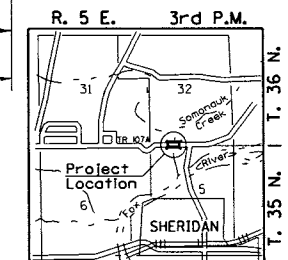
Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.067g  
Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.125g  
Soil Site Class = C

DESIGN STRESSES

(FIELD UNITS)  
 $f'_c$  = 3,500 psi (Substructure)  
 $f'_c$  = 5,000 psi (Superstructure)  
 $f_y$  = 60,000 psi (Reinforcement)  
 $f_y$  = 50,000 psi (M270 Grade 50W)

LOADING HL-93

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



LOCATION SKETCH

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 LRFD Bridge Design Specifications. This design complies with all requirements of the current AASHTO Guide Specifications for Seismic Design of highway bridges.

Illinois Structural No. 6527  
Expires 11/30/2018

GENERAL PLAN & ELEVATION

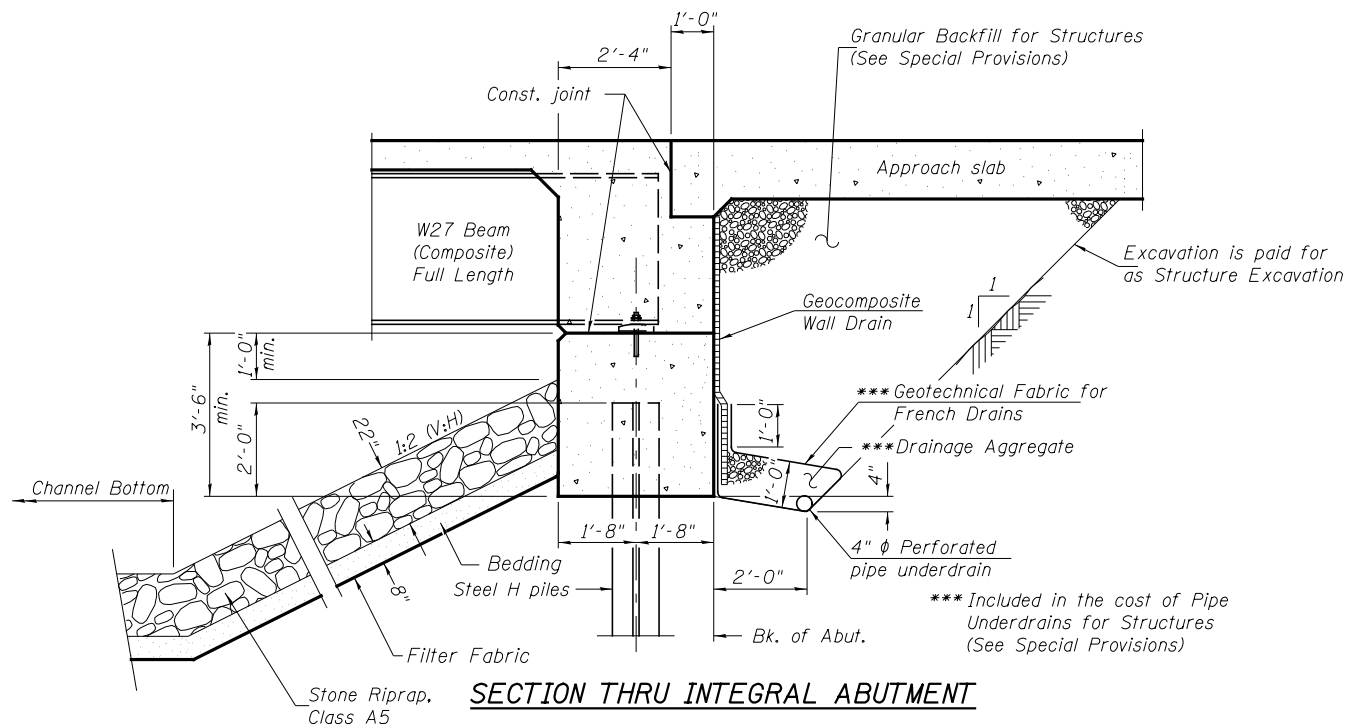
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	TR 107A	14-23744-00-BR	LASALLE	61	26
22 SHEETS	SN 050-3618		CONTRACT NO. 87632		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT E07H(592)		

**GENERAL NOTES**

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts in painted areas and ASTM A325 type 3 in unpainted areas. Bolts 7/8" φ, holes 15/16" φ, unless otherwise noted.  
 Calculated weight of Structural Steel = 59,680 lb (AASHTO M270 Gr. 50W)  
 All structural steel shall be AASHTO M270 Gr. 50W.  
 No field welding is permitted except as specified in the contract documents. Reinforcement bars designated (E) shall be epoxy coated.  
 Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.  
 Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 inches. Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.  
 Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.  
 The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.  
 Protective Coat shall be applied to the top of the deck, approach pavement, and face and top of curbs.  
 Bridge Deck Grooving is figured 1'-0" from curb face and 1'-0" from the edge of approach pavement when the curb is omitted. It shall be applied to the bridge deck and the approach pavements.  
 Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.  
 Portions of the existing structure's tie rods may need to be removed to allow driving of new piles. Cost included with the Removal of Existing Structures. See Sheets 48 thru 53 of 61 for existing structure plans.

**INDEX OF SHEETS**

SH. #'s	DESCRIPTION
1	General Plan and Elevation
2	General Notes, Details, Bill of Material & Footing Layout
3-4	Top of Deck Elevations
5-6	Top of Approach Slab Elevations
7	Superstructure
8	Superstructure Details
9	Diaphragm Details
10-11	Bridge Approach Slab Details
12	Steel Railing Type SM
13	Framing Plan
14-15	Structural Steel Details
16	Bearing Details
17	Abutments
18	Piers
19	HP Pile Details
20-22	Soil Boring & Rock Core Logs



**SECTION THRU INTEGRAL ABUTMENT**

Note:  
 All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into \*\*\*concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

**SOMONAUK CREEK  
 BUILT 201 BY  
 NORTHVILLE TOWNSHIP  
 LASALLE COUNTY  
 SEC. 14-23744-00-BR  
 T.R. 107A STATION 104+66.00  
 F.A. PROJ. BROS-0099(05X)  
 STR. NO. 050-3618 LOADING HL-93**

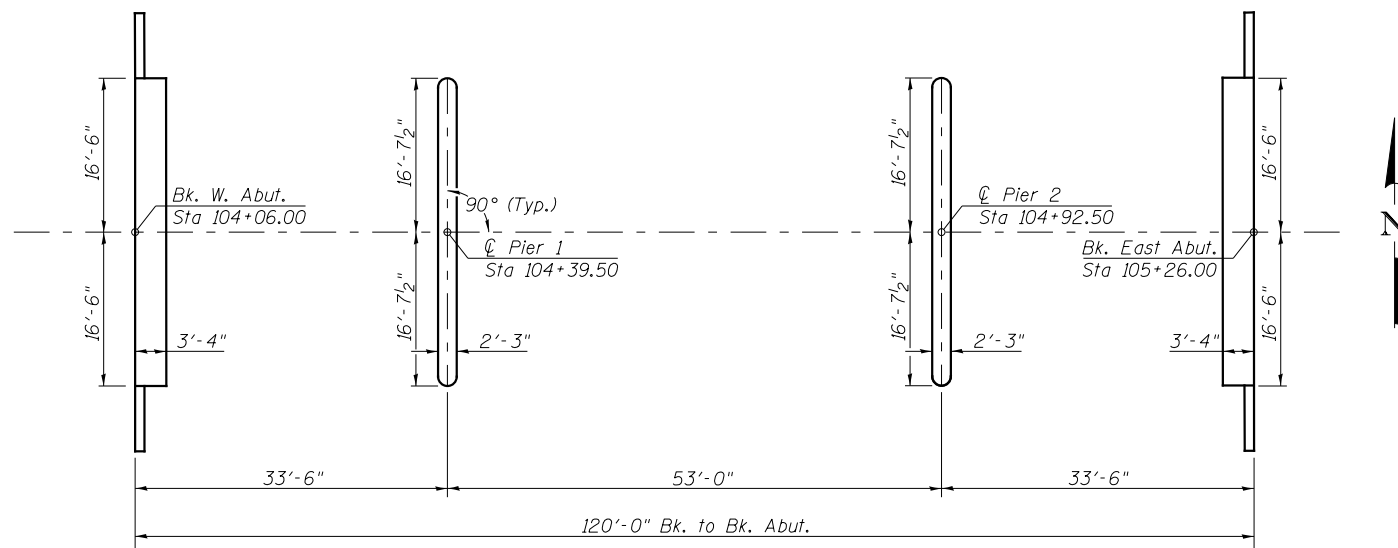
**NAME PLATE**

Locate Name Plate on S.W. Wingwall of Bridge (See Std. 515001)

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	CU YD	—	455	455
Stone Riprap, Class A5	SQ YD	—	1,250	1,250
Filter Fabric	SQ YD	—	1,250	1,250
① Granular Backfill for Structures	CU YD	—	90	90
① Removal of Existing Structures	EACH	—	—	1
Cofferdam Excavation	CU YD	—	45	45
Structure Excavation	CU YD	—	165	165
Concrete Structures	CU YD	—	123.1	123.1
Concrete Superstructure	CU YD	224.8	—	224.8
Bridge Deck Grooving	SQ YD	599	—	599
Protective Coat	SQ YD	662	—	662
Furnishing and Erecting Structural Steel	L SUM	1	—	1
Reinforcement Bars, Epoxy Coated	POUND	62,240	11,420	73,660
Stud Shear Connectors	EACH	2,835	—	2,835
Anchor Bolts, 1"	EACH	—	40	40
Furnishing Steel Piles HP10x42	FOOT	—	156	156
Furnishing Steel Piles HP12x53	FOOT	—	255	255
Test Pile Steel HP10x42	EACH	—	2	2
Driving Piles	FOOT	—	156	156
Name Plates	EACH	1	—	1
① Setting Piles in Rock	EACH	—	10	10
Concrete Encasement	CU YD	—	5.9	5.9
Steel Railing, Type SM	FOOT	256	—	256
Floor Drains	EACH	10	—	10
Geocomposite Wall Drain	SQ YD	—	53	53
① Pipe Underdrains For Structures 4"	FOOT	—	116	116
① Cofferdam (Type 1) (Location-1)	EACH	—	1	1
① Cofferdam (Type 1) (Location-2)	EACH	—	1	1

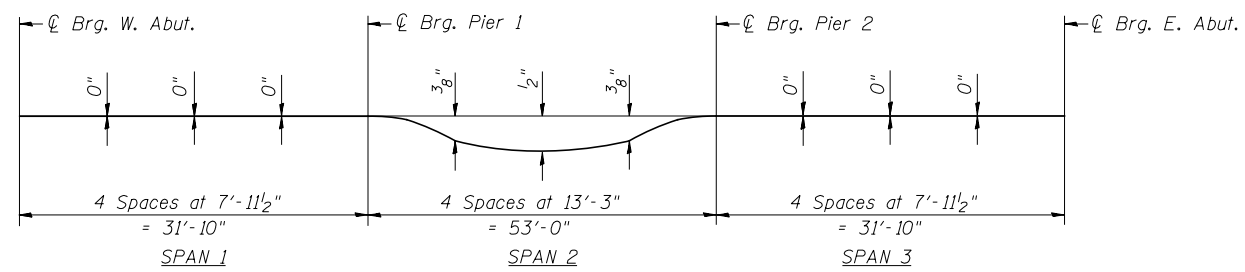
① See Special Provisions



**FOOTING LAYOUT**

**GENERAL NOTES, DETAILS, BILL OF MATERIAL & FOOTING LAYOUT**

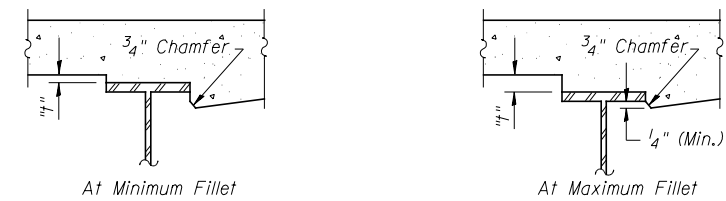
SHEET NO. 2	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	TR 107A	14-23744-00-BR	LASALLE	61	27
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 87632		
FED. AID PROJECT E07H(592)					



**DEAD LOAD DEFLECTION DIAGRAM**

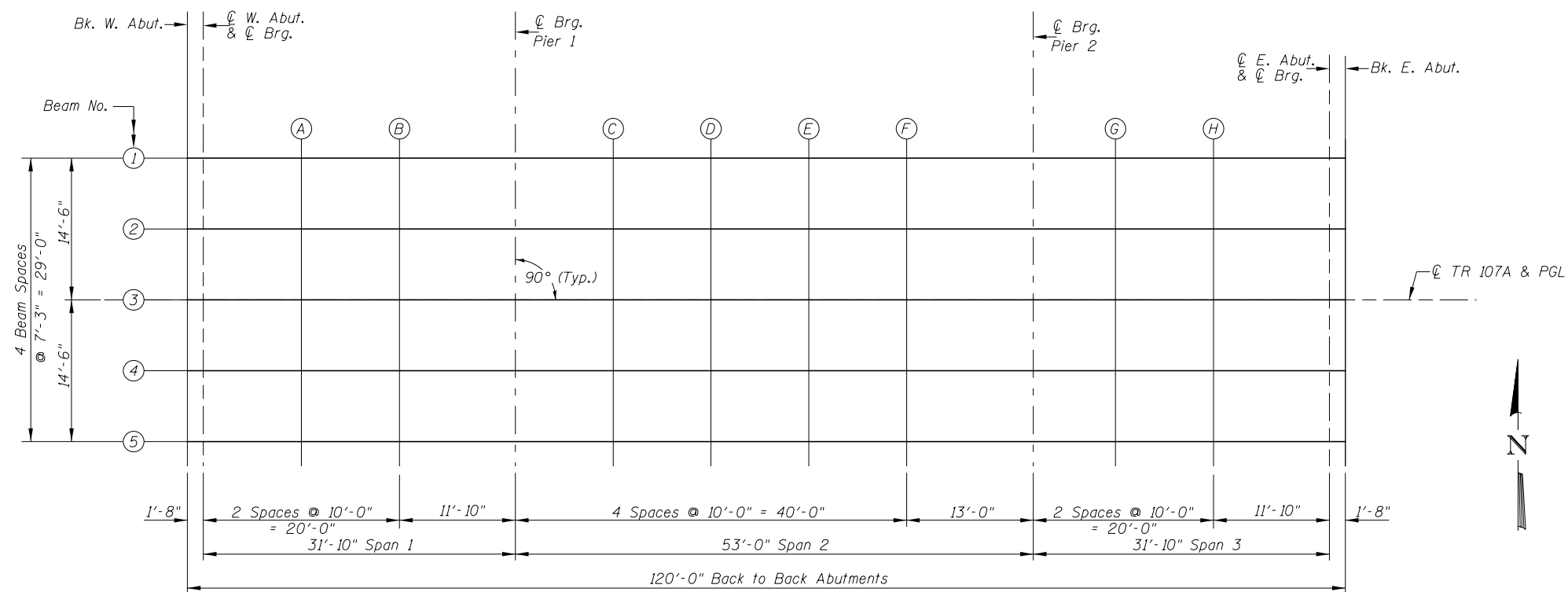
(Includes weight of concrete only)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown in the tables on Sheets 4 of 22.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown in the tables on Sheets 4 of 22, minus slab thickness, equals the fillet height "t" above top flange of beams.

**FILLET HEIGHTS**



**PLAN**

**TOP OF SLAB ELEVATIONS**

SHEET NO. 3 22 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	28
	SN 050-3618		CONTRACT NO. 87623		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT E07H(592)		

**BEAM #1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk W. Abutment	10406.00	-14.50	546.73	546.73
CL Brg W. Abut.	10407.67	-14.50	546.73	546.73
A	10417.67	-14.50	546.78	546.79
B	10427.67	-14.50	546.83	546.83
CL Brg Pier 1	10439.50	-14.50	546.89	546.89
C	10449.50	-14.50	546.94	546.96
D	10459.50	-14.50	546.99	547.03
E	10469.50	-14.50	547.04	547.08
F	10479.50	-14.50	547.09	547.12
CL Brg Pier 2	10492.50	-14.50	547.16	547.16
G	10502.50	-14.50	547.21	547.21
H	10512.50	-14.50	547.26	547.26
CL Brg E. Abut.	10524.33	-14.50	547.32	547.32
Bk E. Abutment	10526.00	-14.50	547.33	547.33

**BEAM #2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk W. Abutment	10406.00	-7.25	546.86	546.86
CL Brg W. Abut.	10407.67	-7.25	546.87	546.87
A	10417.67	-7.25	546.92	546.92
B	10427.67	-7.25	546.97	546.96
CL Brg Pier 1	10439.50	-7.25	547.02	547.02
C	10449.50	-7.25	547.07	547.09
D	10459.50	-7.25	547.12	547.16
E	10469.50	-7.25	547.17	547.21
F	10479.50	-7.25	547.22	547.25
CL Brg Pier 2	10492.50	-7.25	547.29	547.29
G	10502.50	-7.25	547.34	547.34
H	10512.50	-7.25	547.39	547.39
CL Brg E. Abut.	10524.33	-7.25	547.45	547.45
Bk E. Abutment	10526.00	-7.25	547.46	547.46

**BEAM #3 & PROFILE GRADE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk W. Abutment	10406.00	0.00	546.97	546.97
CL Brg W. Abut.	10407.67	0.00	546.98	546.98
A	10417.67	0.00	547.03	547.03
B	10427.67	0.00	547.08	547.08
CL Brg Pier 1	10439.50	0.00	547.14	547.14
C	10449.50	0.00	547.19	547.21
D	10459.50	0.00	547.24	547.28
E	10469.50	0.00	547.29	547.33
F	10479.50	0.00	547.34	547.36
CL Brg Pier 2	10492.50	0.00	547.40	547.40
G	10502.50	0.00	547.45	547.45
H	10512.50	0.00	547.50	547.50
CL Brg E. Abut.	10524.33	0.00	547.56	547.56
Bk E. Abutment	10526.00	0.00	547.57	547.57

**BEAM #4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk W. Abutment	10406.00	7.25	546.86	546.86
CL Brg W. Abut.	10407.67	7.25	546.87	546.87
A	10417.67	7.25	546.92	546.92
B	10427.67	7.25	546.97	546.96
CL Brg Pier 1	10439.50	7.25	547.02	547.02
C	10449.50	7.25	547.07	547.09
D	10459.50	7.25	547.12	547.16
E	10469.50	7.25	547.17	547.21
F	10479.50	7.25	547.22	547.25
CL Brg Pier 2	10492.50	7.25	547.29	547.29
G	10502.50	7.25	547.34	547.34
H	10512.50	7.25	547.39	547.39
CL Brg E. Abut.	10524.33	7.25	547.45	547.45
Bk E. Abutment	10526.00	7.25	547.46	547.46

**BEAM #5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk W. Abutment	10406.00	14.50	546.73	546.73
CL Brg W. Abut.	10407.67	14.50	546.73	546.73
A	10417.67	14.50	546.78	546.79
B	10427.67	14.50	546.83	546.83
CL Brg Pier 1	10439.50	14.50	546.89	546.89
C	10449.50	14.50	546.94	546.96
D	10459.50	14.50	546.99	547.03
E	10469.50	14.50	547.04	547.08
F	10479.50	14.50	547.09	547.12
CL Brg Pier 2	10492.50	14.50	547.16	547.16
G	10502.50	14.50	547.21	547.21
H	10512.50	14.50	547.26	547.26
CL Brg E. Abut.	10524.33	14.50	547.32	547.32
Bk E. Abutment	10526.00	14.50	547.33	547.33

**TOP OF SLAB ELEVATIONS**

SHEET NO. 4 22 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	29
	SN 050-3618		CONTRACT NO. 87632		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT E07H(592)		

**NORTH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
W. End W. App. Slab	10377.00	-16.00	546.55
A	10387.00	-16.00	546.60
B	10397.00	-16.00	546.65
E. End W. App. Slab	10407.00	-16.00	546.70

**NORTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
W. End W. App. Slab	10377.00	-11.00	546.65
A	10387.00	-11.00	546.70
B	10397.00	-11.00	546.75
E. End W. App. Slab	10407.00	-11.00	546.80

**PROFILE GRADE & C ROADWAY**

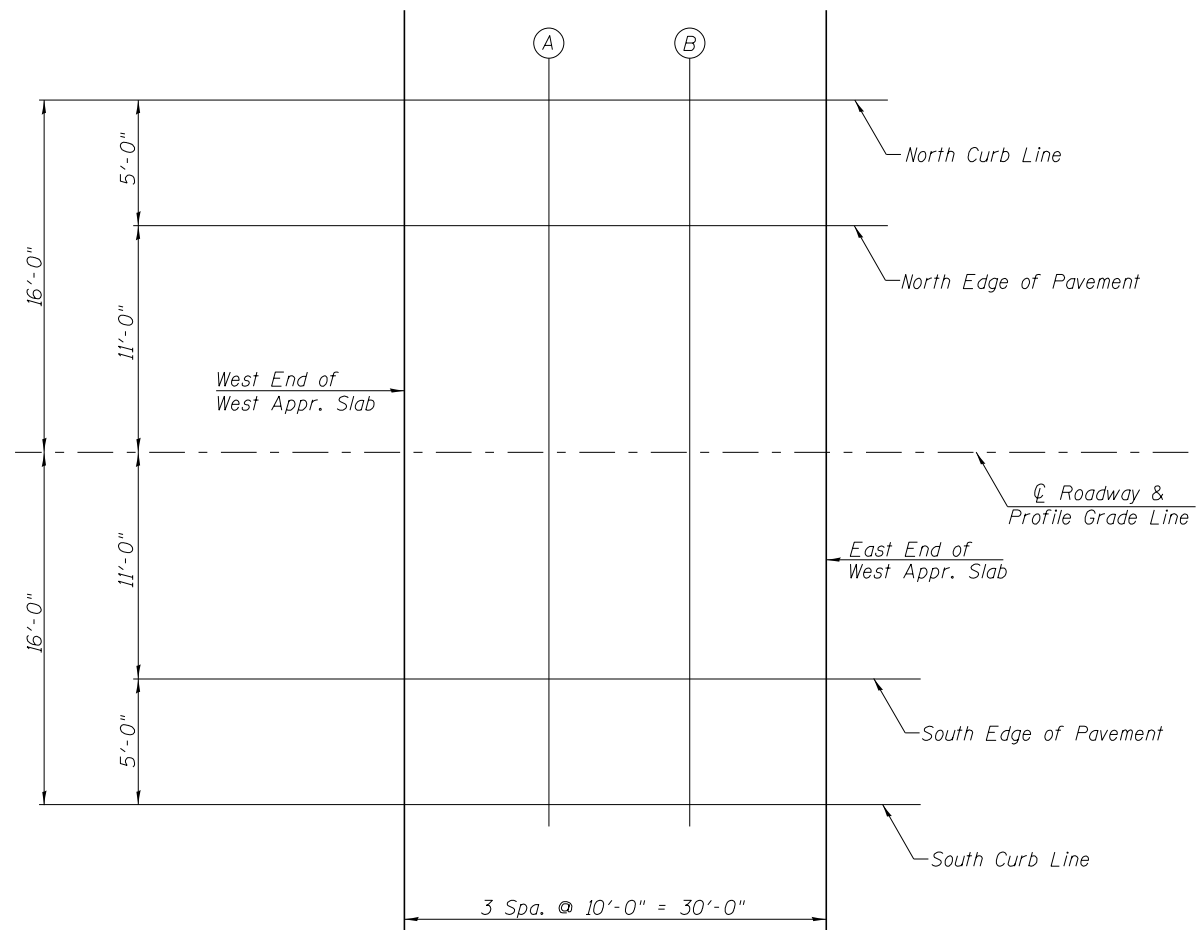
Location	Station	Offset	Theoretical Grade Elevations
W. End W. App. Slab	10377.00	0.00	546.83
A	10387.00	0.00	546.88
B	10397.00	0.00	546.93
E. End W. App. Slab	10407.00	0.00	546.98

**SOUTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
W. End W. App. Slab	10377.00	11.00	546.65
A	10387.00	11.00	546.70
B	10397.00	11.00	546.75
E. End W. App. Slab	10407.00	11.00	546.80

**SOUTH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
W. End W. App. Slab	10377.00	16.00	546.55
A	10387.00	16.00	546.60
B	10397.00	16.00	546.65
E. End W. App. Slab	10407.00	16.00	546.70



**PLAN WEST APPROACH SLAB**

**TOP OF WEST APPROACH SLAB ELEVATIONS**

SHEET NO. 5 22 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	30
	SN 050-3618		CONTRACT NO. 87632		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT E07H(592)		

**NORTH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
W. End E. App. Slab	10525.00	-16.00	547.29
A	10535.00	-16.00	547.34
B	10545.00	-16.00	547.39
E. End E. App. Slab	10555.00	-16.00	547.43

**NORTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
W. End E. App. Slab	10525.00	-11.00	547.39
A	10535.00	-11.00	547.44
B	10545.00	-11.00	547.49
E. End E. App. Slab	10555.00	-11.00	547.53

**PROFILE GRADE & C ROADWAY**

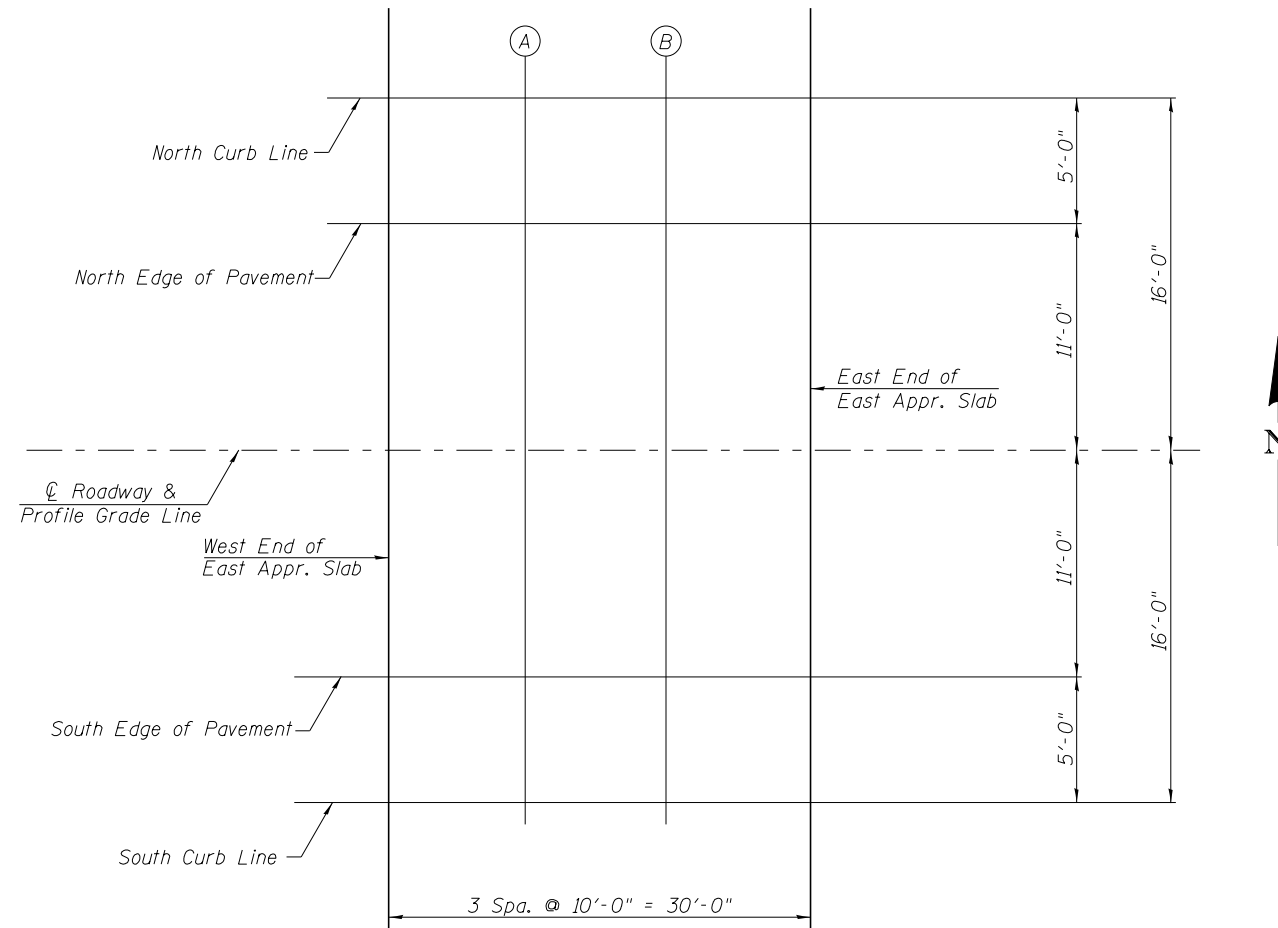
Location	Station	Offset	Theoretical Grade Elevations
W. End E. App. Slab	10525.00	0.00	547.57
A	10535.00	0.00	547.62
B	10545.00	0.00	547.66
E. End E. App. Slab	10555.00	0.00	547.70

**SOUTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
W. End E. App. Slab	10525.00	11.00	547.39
A	10535.00	11.00	547.44
B	10545.00	11.00	547.49
E. End E. App. Slab	10555.00	11.00	547.53

**SOUTH CURB LINE**

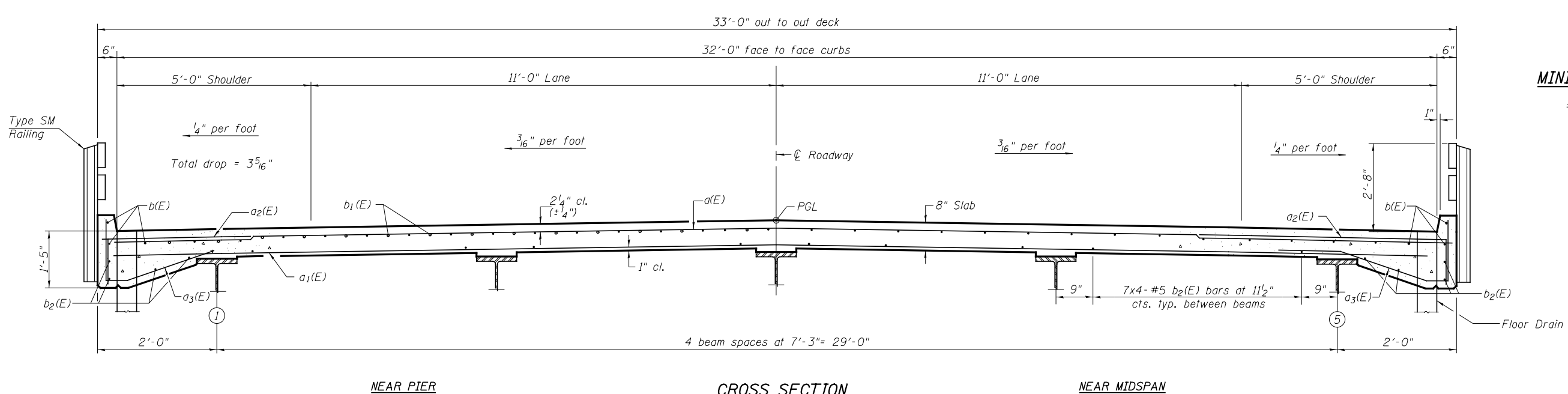
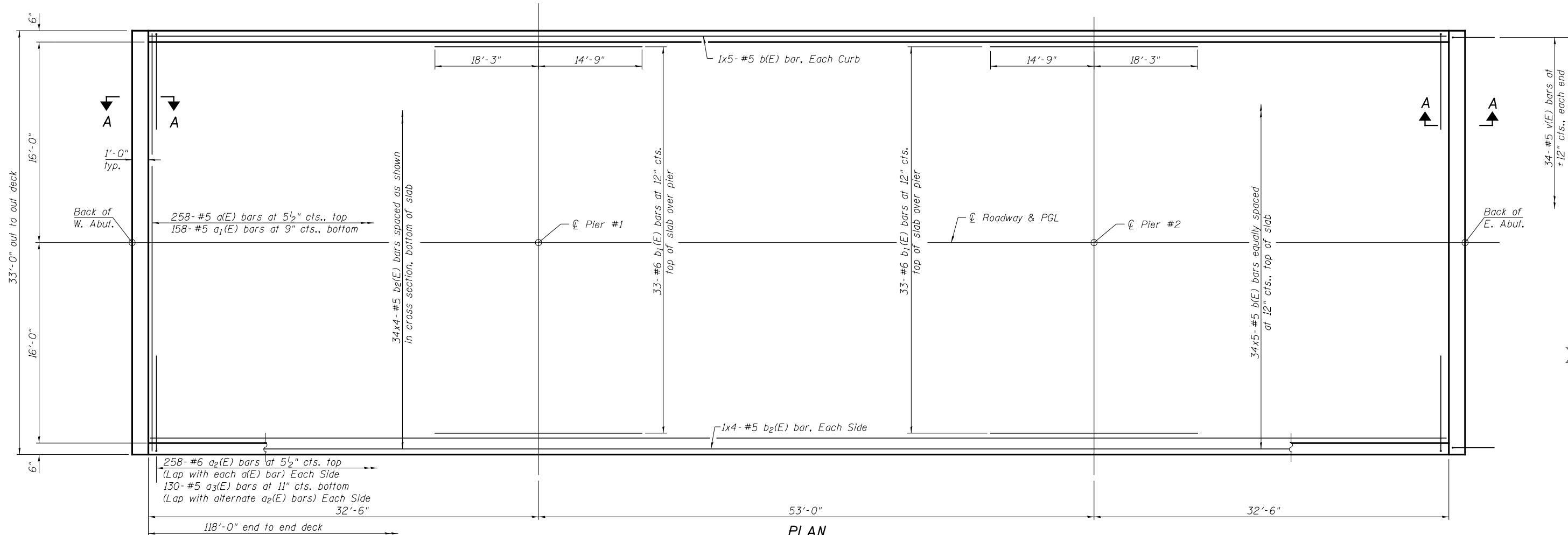
Location	Station	Offset	Theoretical Grade Elevations
W. End E. App. Slab	10525.00	16.00	547.29
A	10535.00	16.00	547.34
B	10545.00	16.00	547.39
E. End E. App. Slab	10555.00	16.00	547.43



**PLAN EAST APPROACH SLAB**

**TOP OF EAST APPROACH SLAB ELEVATIONS**

SHEET NO. 6 22 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	31
	SN 050-3618		CONTRACT NO. 87632		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT E07H(592)		



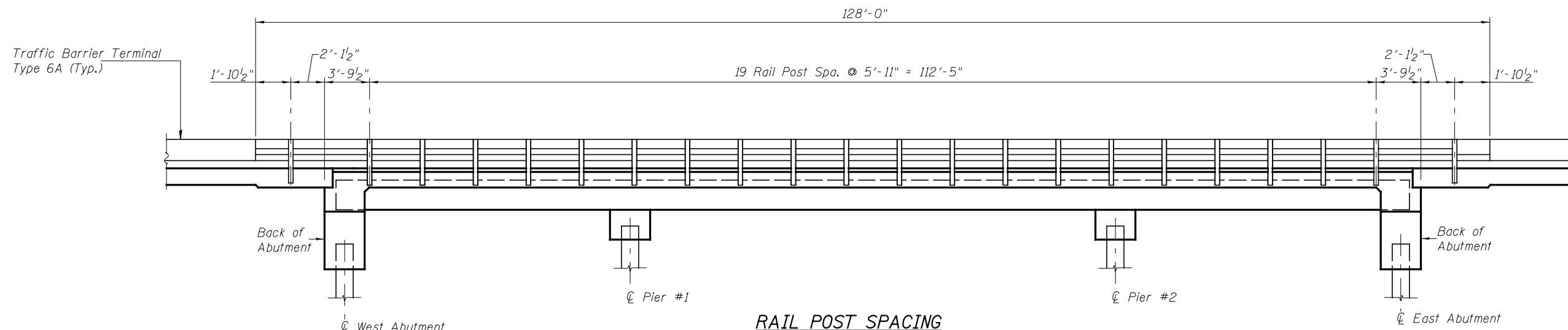
**MINIMUM BAR LAP**  
(Deck)  
#5 bar = 3'-6"

**Notes:**  
 Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.  
 See Sheet 1 of 22 for Floor Drain locations.  
 See Sheet 8 of 22 for superstructure details and Bill of Material.  
 See Sheet 9 of 22 for Section A-A and diaphragm details.  
 See Sheet 12 of 22 for rail details.

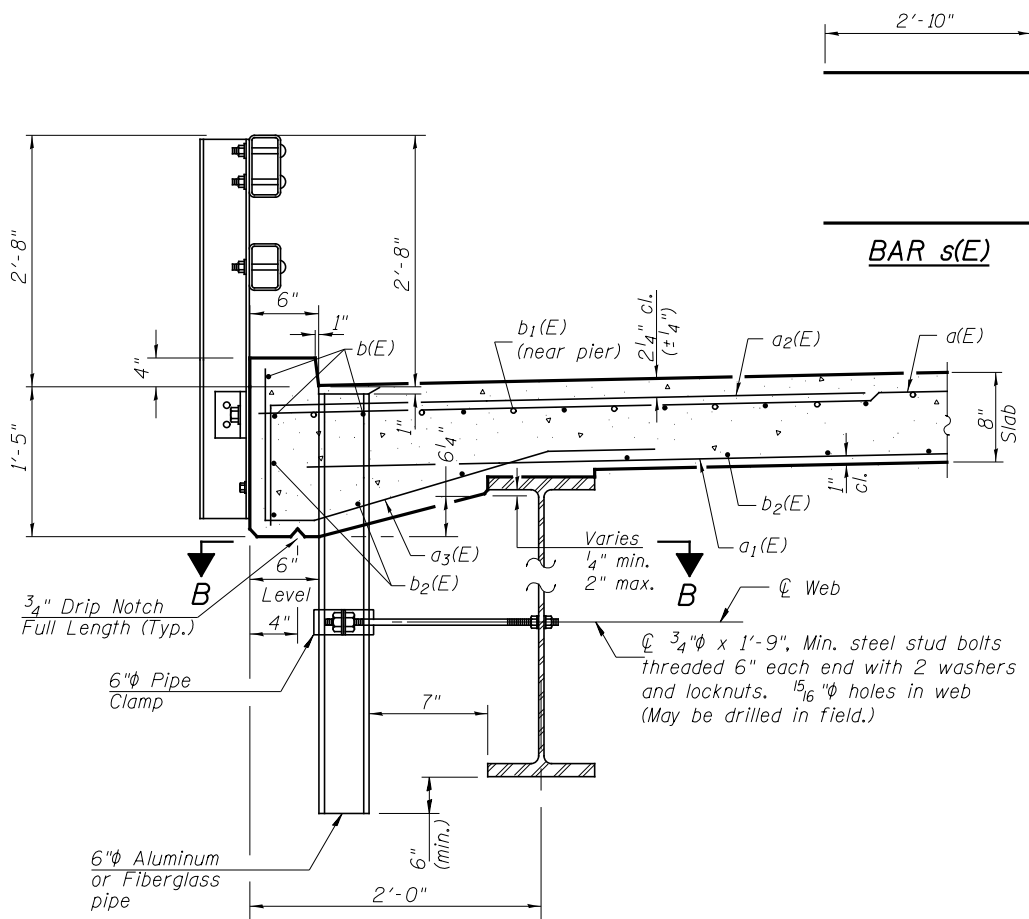
**SUPERSTRUCTURE**

SHEET NO. 7  22 SHEETS	ROUTE NO. TR 107A	SECTION 14-23744-00-BR	COUNTY LASALLE	TOTAL SHEETS 61	SHEET NO. 32
	SN 050-3618		CONTRACT NO. 87632		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT E07H(592)		





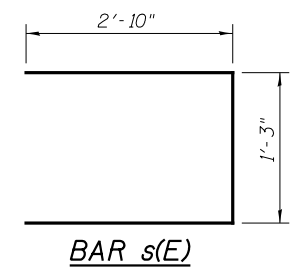
**RAIL POST SPACING**



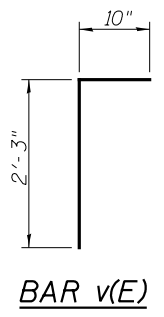
**SECTION THRU DECK OVERHANG**

See Sheet 12 of 22 for Rail Post Anchor Details.

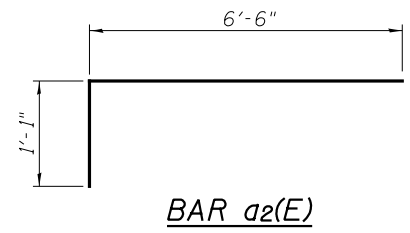
**Notes:**  
 Drains shall be located clear of all diaphragms.  
 The exterior surfaces of the floor drains shall be painted according to Article 506 with the finish coat as specified. The exterior surfaces of the drains shall be cleaned according to Society of Protective Coatings Spec. SSPC-SP1 prior to painting.  
 Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.  
 Galvanized clamping device according to AASHTO M232. Cost of clamping device and inserts is included with Floor Drains.



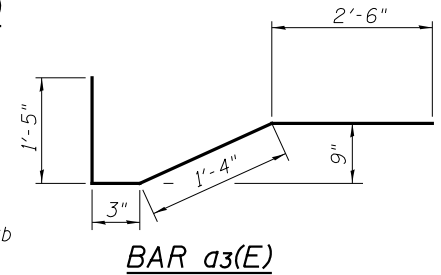
**BAR s(E)**



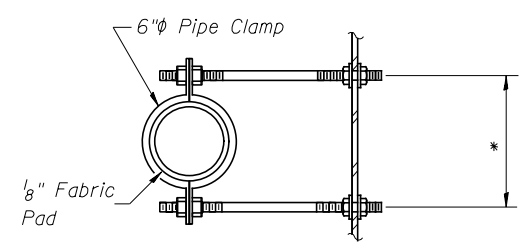
**BAR v(E)**



**BAR a2(E)**

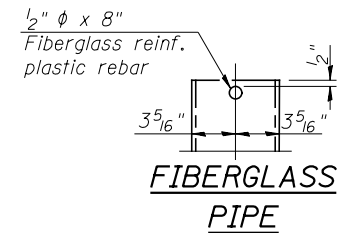


**BAR a3(E)**

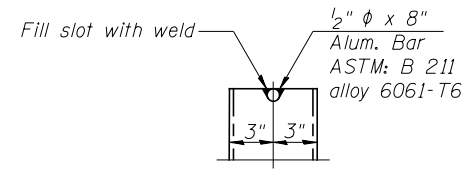


**SECTION B-B**

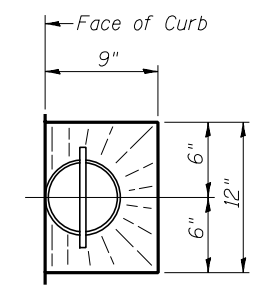
\*Dimension as required by Pipe Clamp



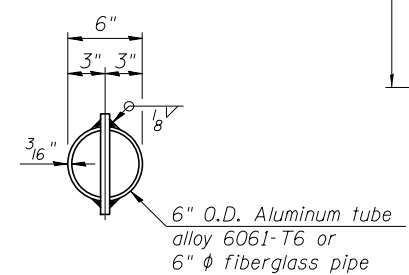
**FIBERGLASS PIPE**



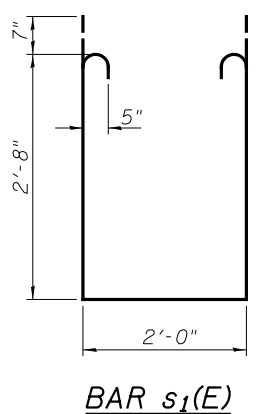
**ALUMINUM TUBE**



**TOP PLAN**



**TOP PLAN (Showing aluminum tube)**



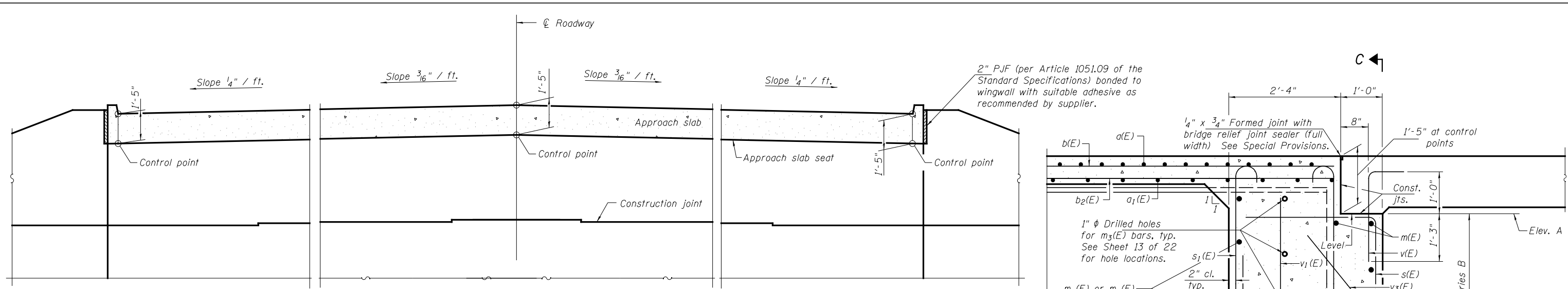
**BAR s1(E)**

**SUPERSTRUCTURE BILL OF MATERIAL**

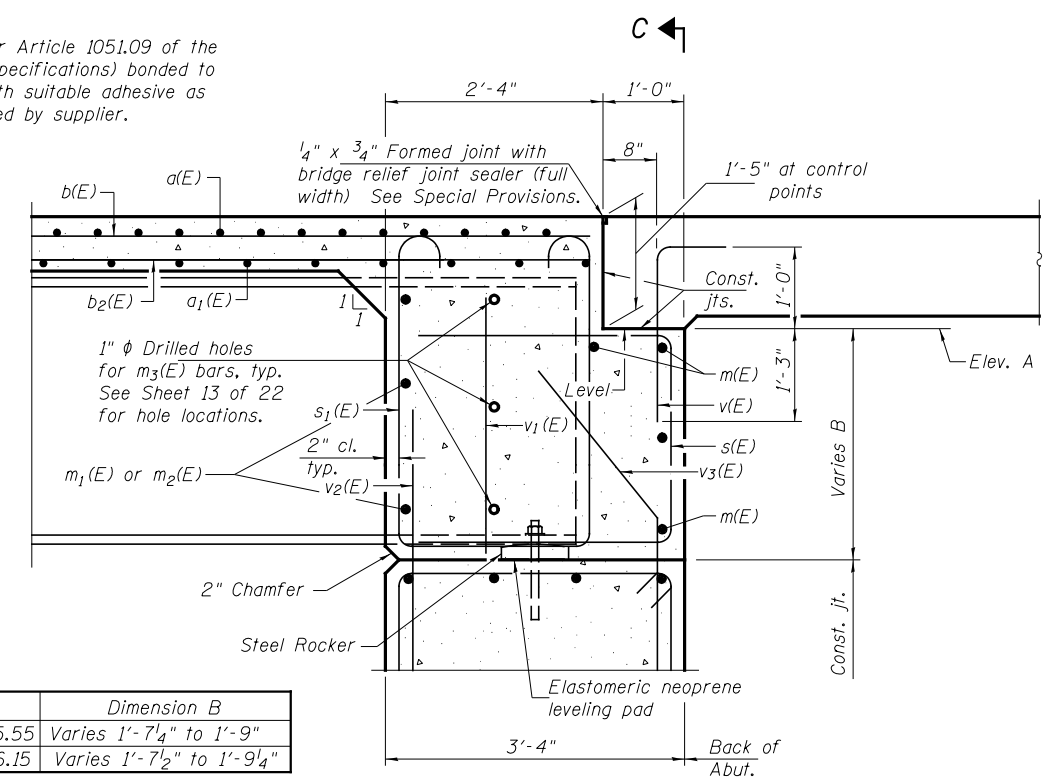
BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	258	#5	32'-9"	—
a1(E)	158	#5	31'-9"	—
a2(E)	516	#6	7'-7"	┌
a3(E)	260	#5	5'-6"	┌
b(E)	180	#5	26'-5"	—
b1(E)	66	#6	33'-0"	—
b2(E)	144	#5	32'-1"	—
m(E)	8	#6	32'-9"	—
m1(E)	24	#6	7'-0"	—
m2(E)	12	#6	1'-9"	—
m3(E)	30	#5	4'-0"	—
s(E)	64	#5	6'-11"	┌
s1(E)	64	#5	8'-6"	┌
v(E)	68	#5	3'-1"	┌
v1(E)	20	#4	2'-2"	—
Reinforcement Bars, Epoxy Coated			POUND	36,540
Concrete Superstructure			CU YD	124.3

**SUPERSTRUCTURE DETAILS**

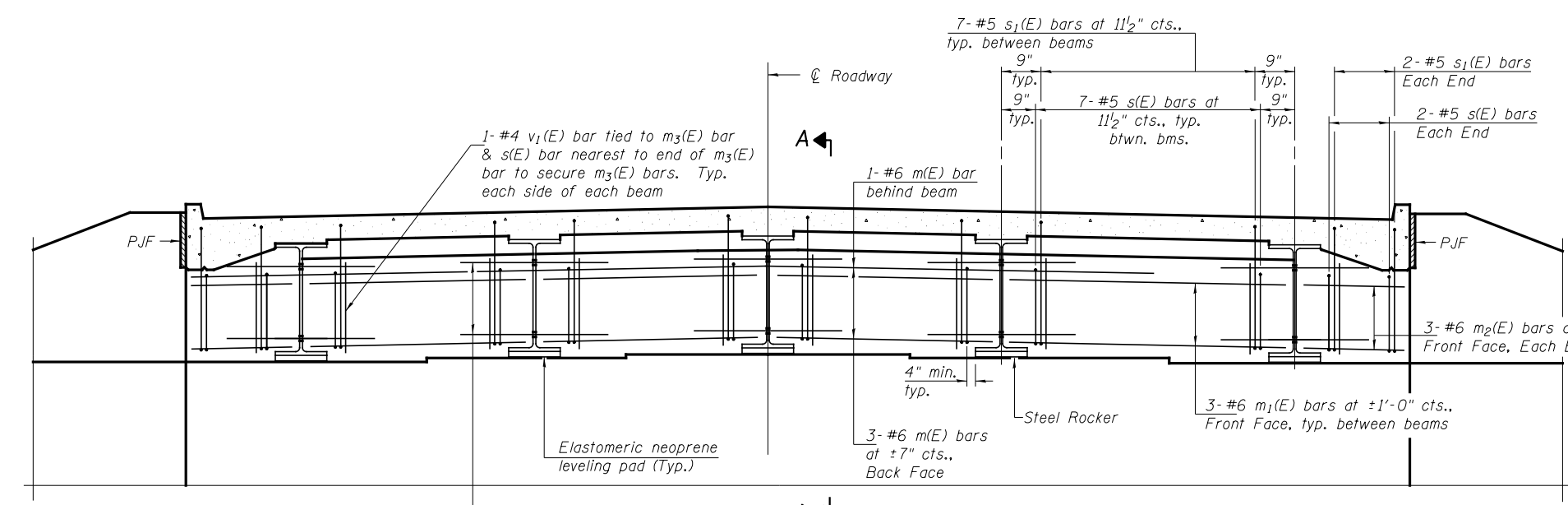
SHEET NO. 8 22 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	33
	SN 050-3618		CONTRACT NO. 87632		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT E07H(592)		



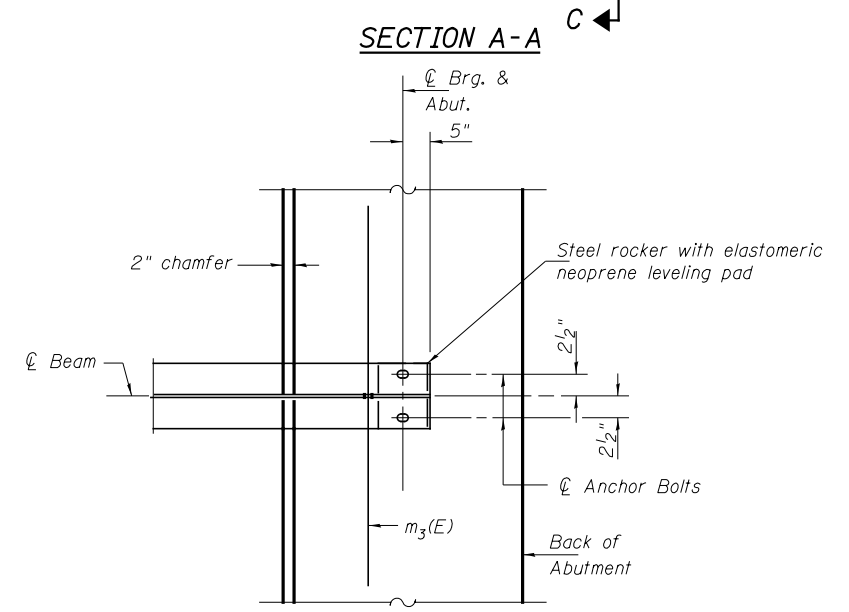
**SECTION C-C**  
West Abut. Looking West, East Abut. Looking East



Location	Elevation A	Dimension B
W. Abutment	Varies 545.26 to 545.55	Varies 1'-7 1/4" to 1'-9"
E. Abutment	Varies 545.86 to 546.15	Varies 1'-7 1/2" to 1'-9 1/4"



**DIAPHRAGM ELEVATION AT ABUTMENT**  
West Abut. Looking West, East Abut. Looking East



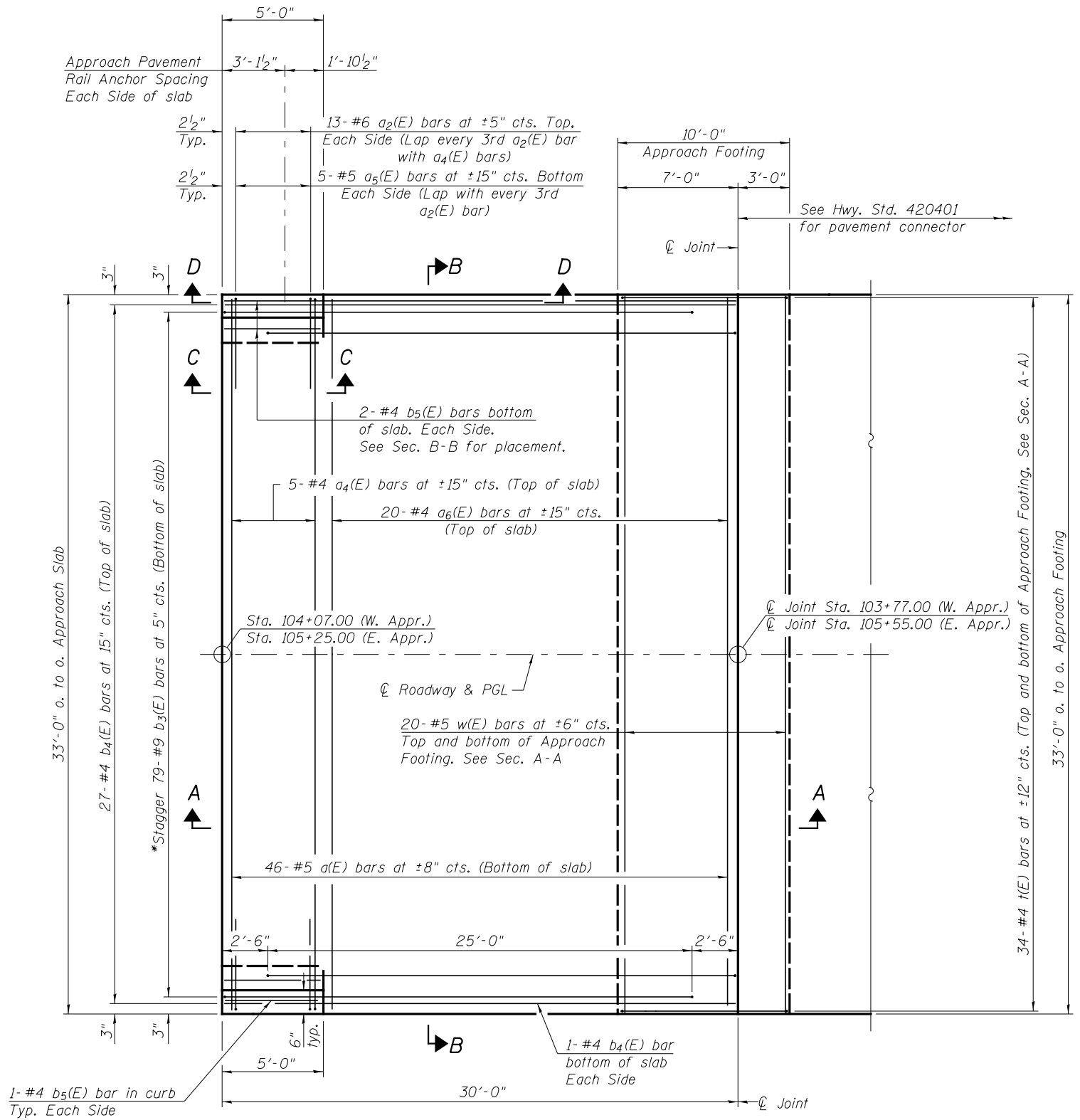
**PARTIAL PLAN AT ABUTMENT**  
(Showing bottom flange of beam)

Notes:  
 Reinforcement bars in diaphragm are billed with superstructure on Sheet 8 of 22.  
 Concrete in diaphragm is included with Concrete Superstructure on Sheet 8 of 22.  
 See Sheet 8 of 22 for details of bars s(E), s1(E) and v(E).  
 The approach slab seat shall have a constant slope determined from the control points shown.  
 See Sheet 16 of 22 for bearing details.

**DIAPHRAGM DETAILS**

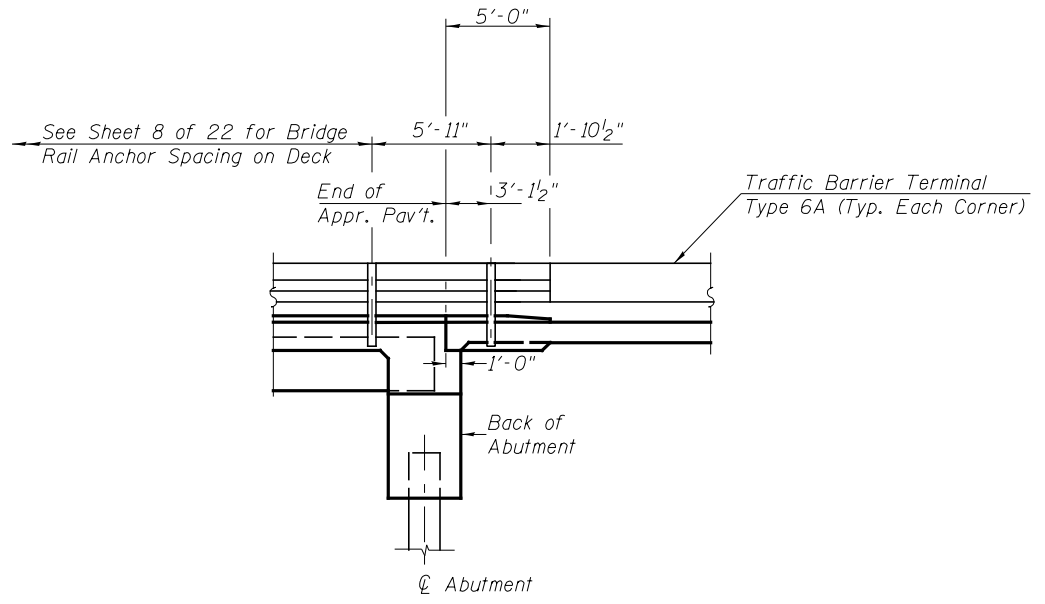
SHEET NO. 9	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	34
22 SHEETS	SN 050-3618		CONTRACT NO. 87632		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT E07H(592)		

Notes:  
 See Sheet 11 of 22 for Sections A-A, B-B, D-D and View C-C.  
 $a_1(E)$ ,  $a_2(E)$ ,  $a_4(E)$ ,  $a_5(E)$ , and  $a_6(E)$  bar spacings measured along  $\text{C.R.}$   
 See Sheet 12 of 22 for Rail Post Anchor Details.

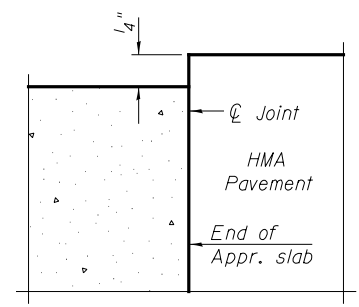


PLAN

\* Tilt #9  $b_3(E)$  bars as required to maintain clearance.

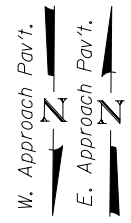


RAIL POST ANCHOR SPACING



FLEXIBLE PAVEMENT

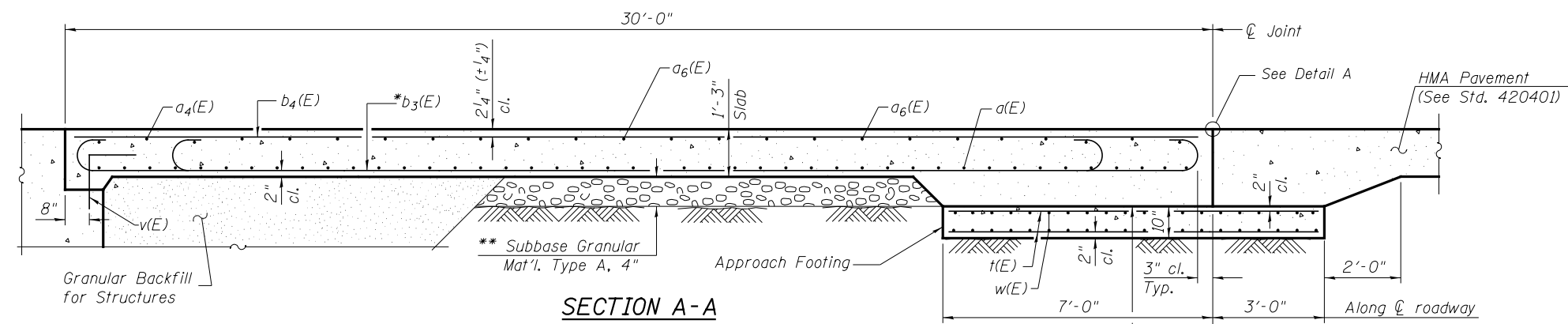
DETAIL A



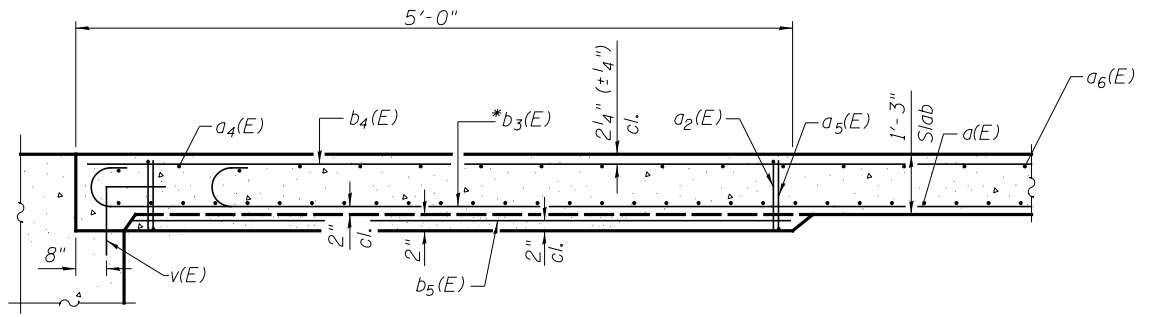
(Sheet 1 of 2)

BRIDGE APPROACH SLAB DETAILS

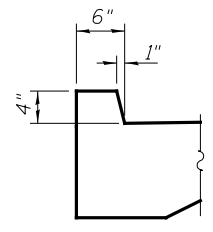
SHEET NO. 10	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	22 SHEETS	TR 107A	14-23744-00-BR	LASALLE	61
SN 050-3618			CONTRACT NO. 87632		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT E07H(592)		



**SECTION A-A**



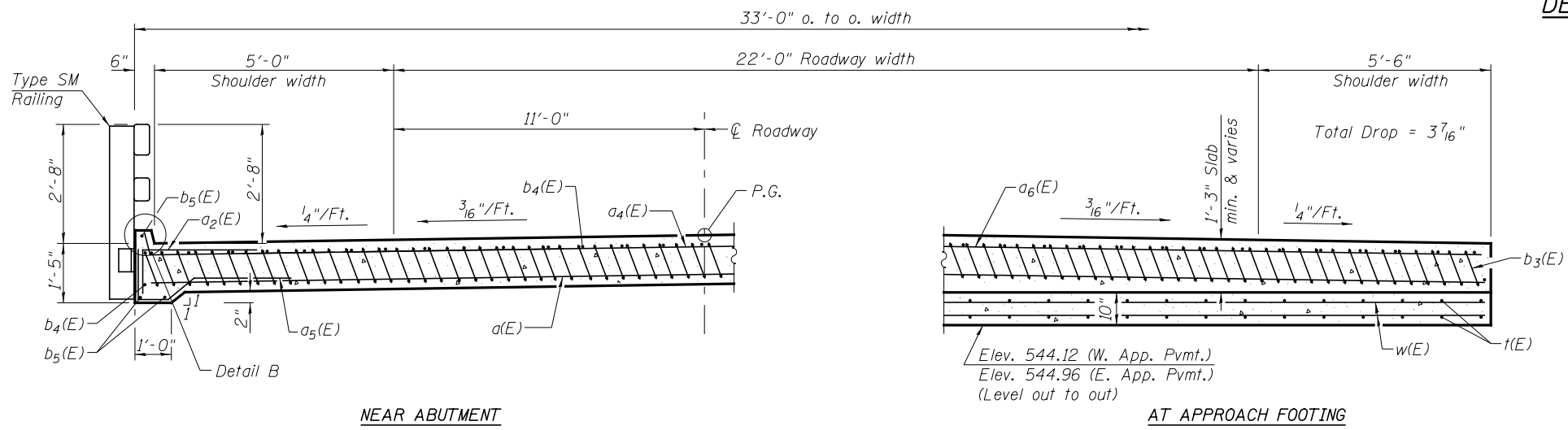
**SECTION D-D**



**DETAIL B**

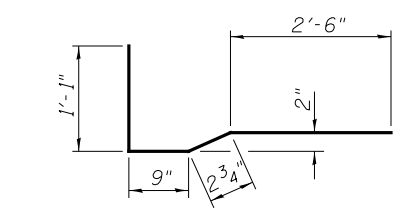
Notes:  
 See Sheet 10 of 22 for Detail A.  
 Approach slab and curb shall be paid for as Concrete Superstructure.  
 Approach footing concrete shall be paid for as Concrete Structures.  
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.  
 See Sheet 8 of 22 for v(E) bar details.  
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.  
 Cost of excavation for approach footing included with Concrete Structures.  
 See Sheet 2 of 22 for Granular Backfill and drainage treatment details.

\* Tilt #9 b<sub>3</sub>(E) bars as required to maintain clearance.  
 \*\* Cost included with Concrete Superstructure

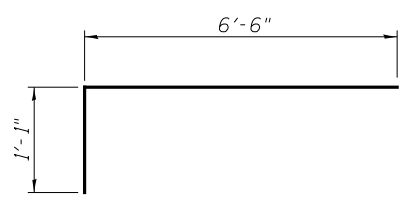


**SECTION B-B**

(See Plan for dimensions not shown)



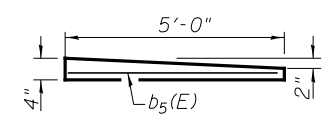
**BAR a<sub>5</sub>(E)**



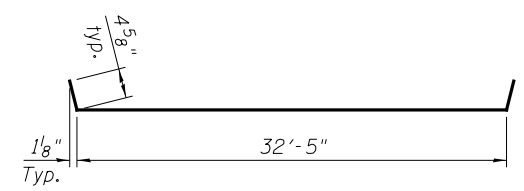
**BAR a<sub>2</sub>(E)**

**TWO APPROACHES  
 BILL OF MATERIAL**

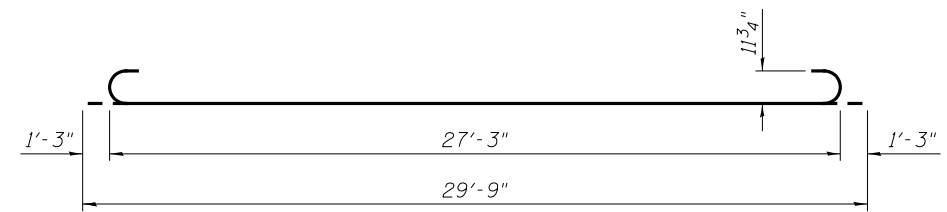
BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	92	#5	32'-9"	—
a <sub>2</sub> (E)	52	#6	7'-7"	┌
a <sub>4</sub> (E)	10	#4	33'-3"	┌
a <sub>5</sub> (E)	20	#5	4'-7"	┌
a <sub>6</sub> (E)	40	#4	32'-9"	—
b <sub>3</sub> (E)	158	#9	29'-9"	┌
b <sub>4</sub> (E)	58	#4	29'-8"	—
b <sub>5</sub> (E)	12	#4	4'-8"	—
t(E)	136	#4	9'-8"	—
w(E)	80	#5	32'-8"	—
Concrete Superstructure			CU YD	100.5
Concrete Structures			CU YD	20.4
Reinforcement Bars, Epoxy Coated			POUND	25,700



**VIEW C-C**



**BAR a<sub>4</sub>(E)**



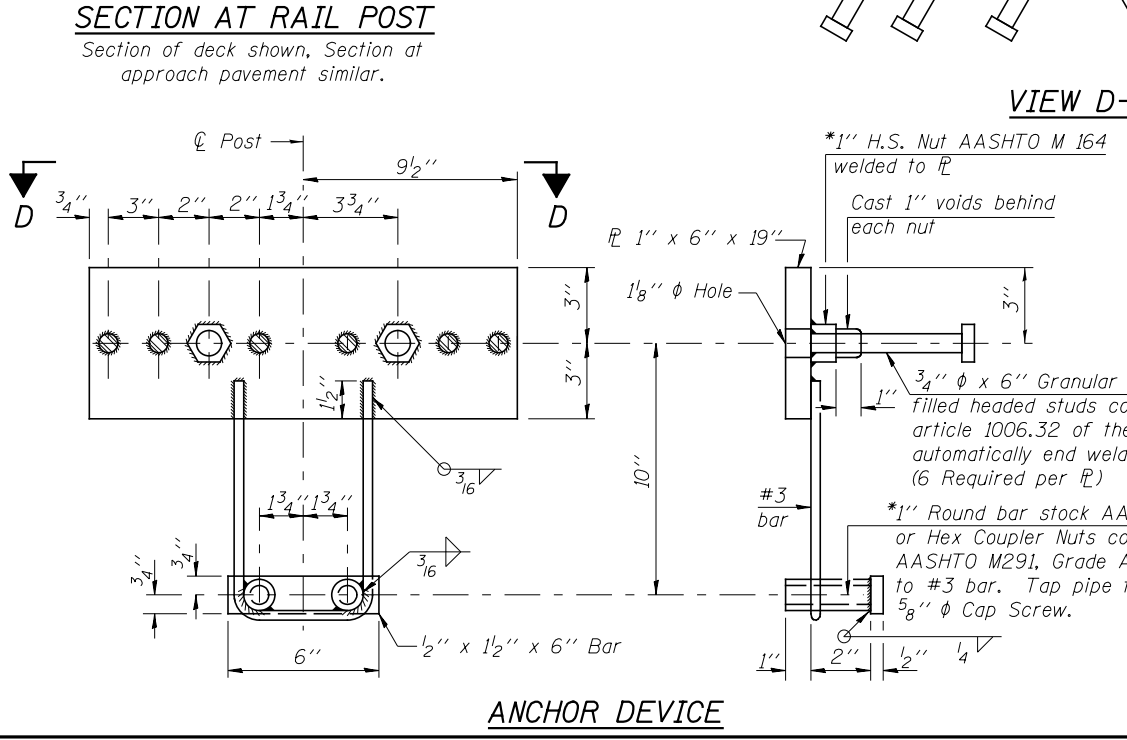
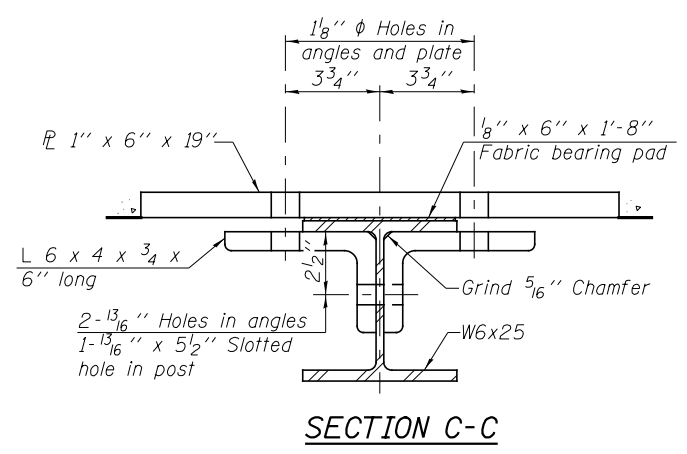
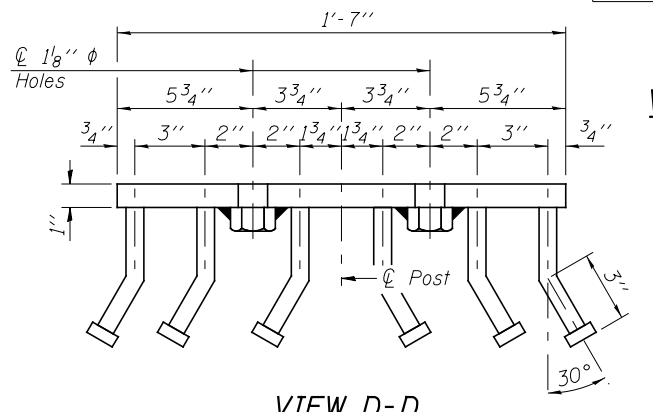
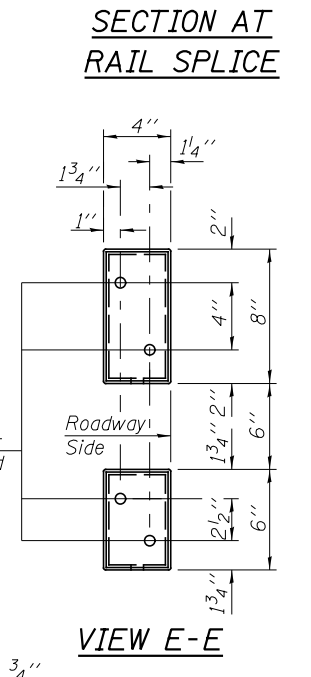
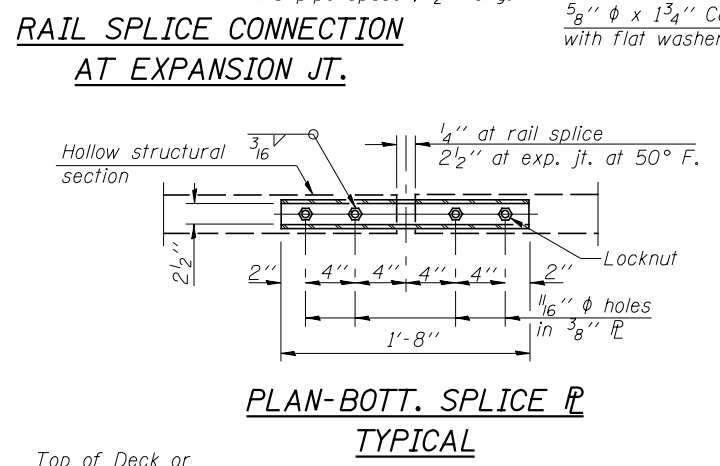
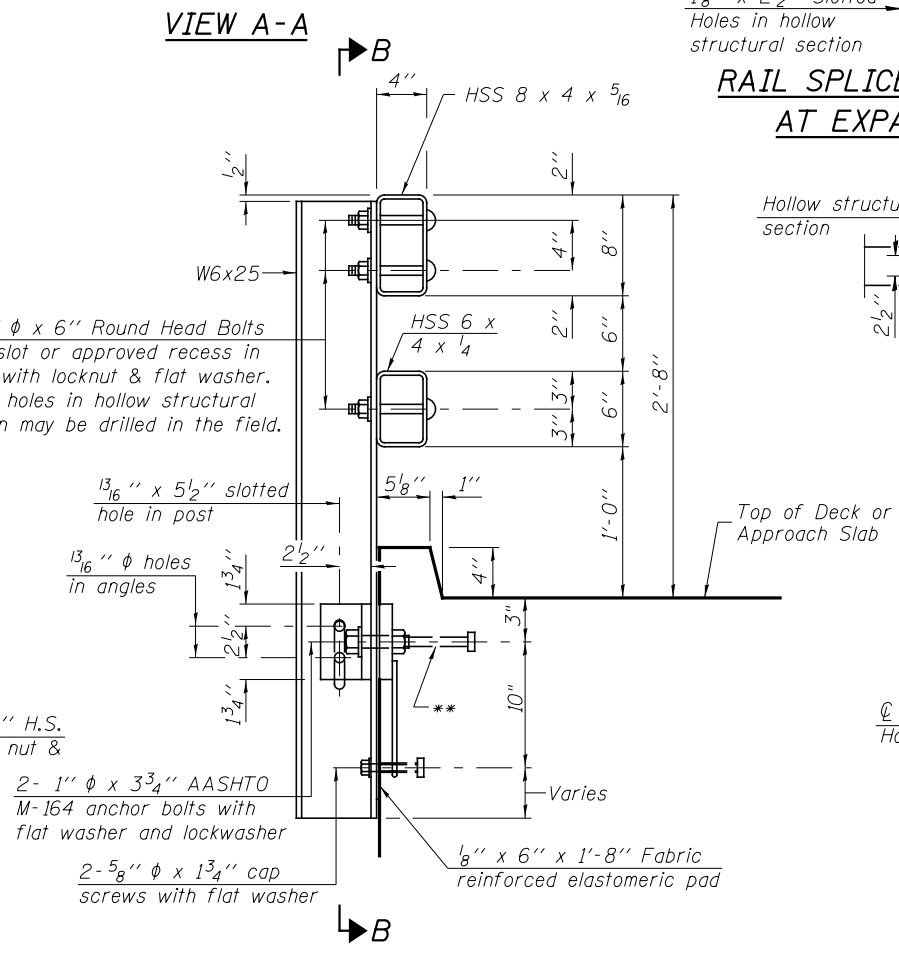
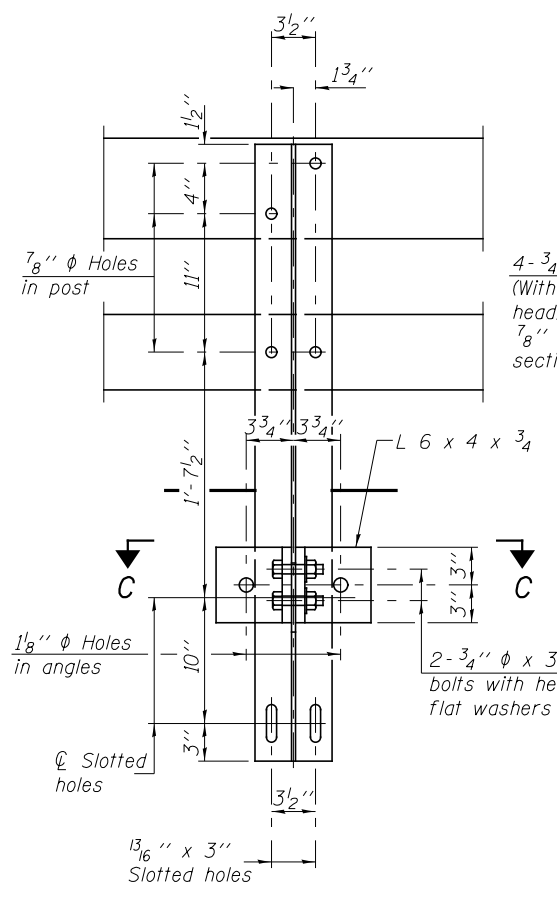
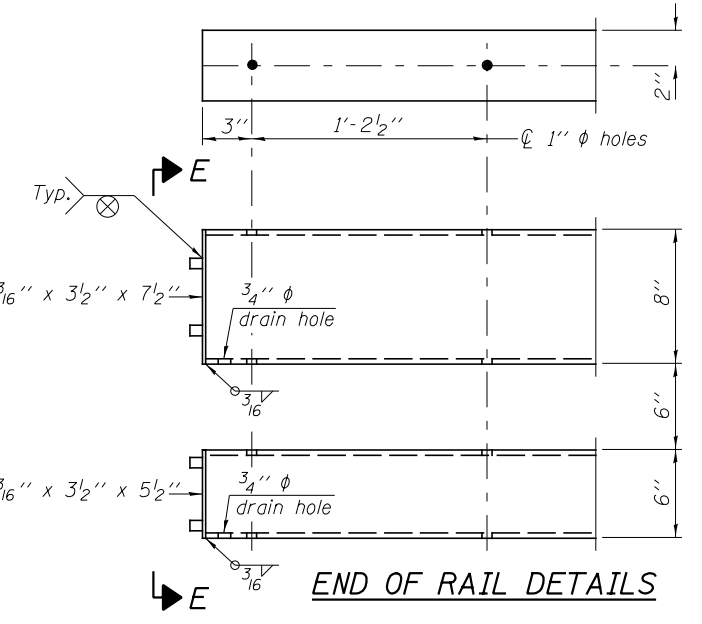
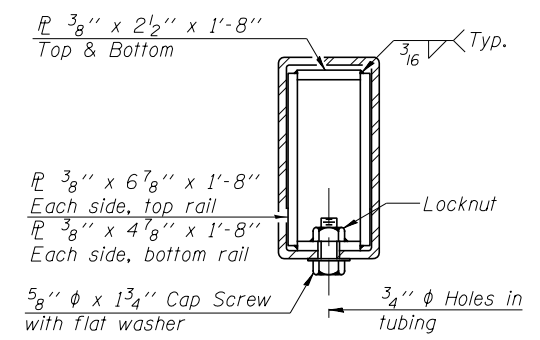
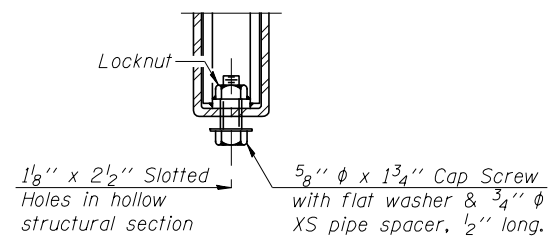
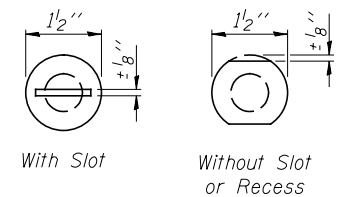
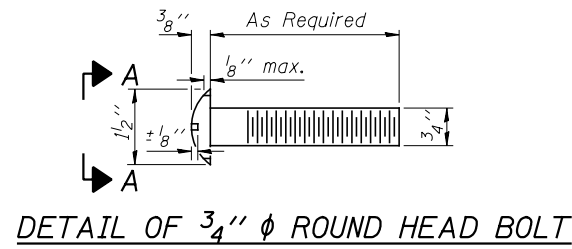
**BAR b<sub>3</sub>(E)**

**BRIDGE APPROACH SLAB DETAILS**

(Sheet 2 of 2)

SHEET NO. 11 22 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	36
SN 050-3618			CONTRACT NO. 87632		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT E07H(592)		

FOR RAIL POST SPACING SEE SHEET 8 OF 22.



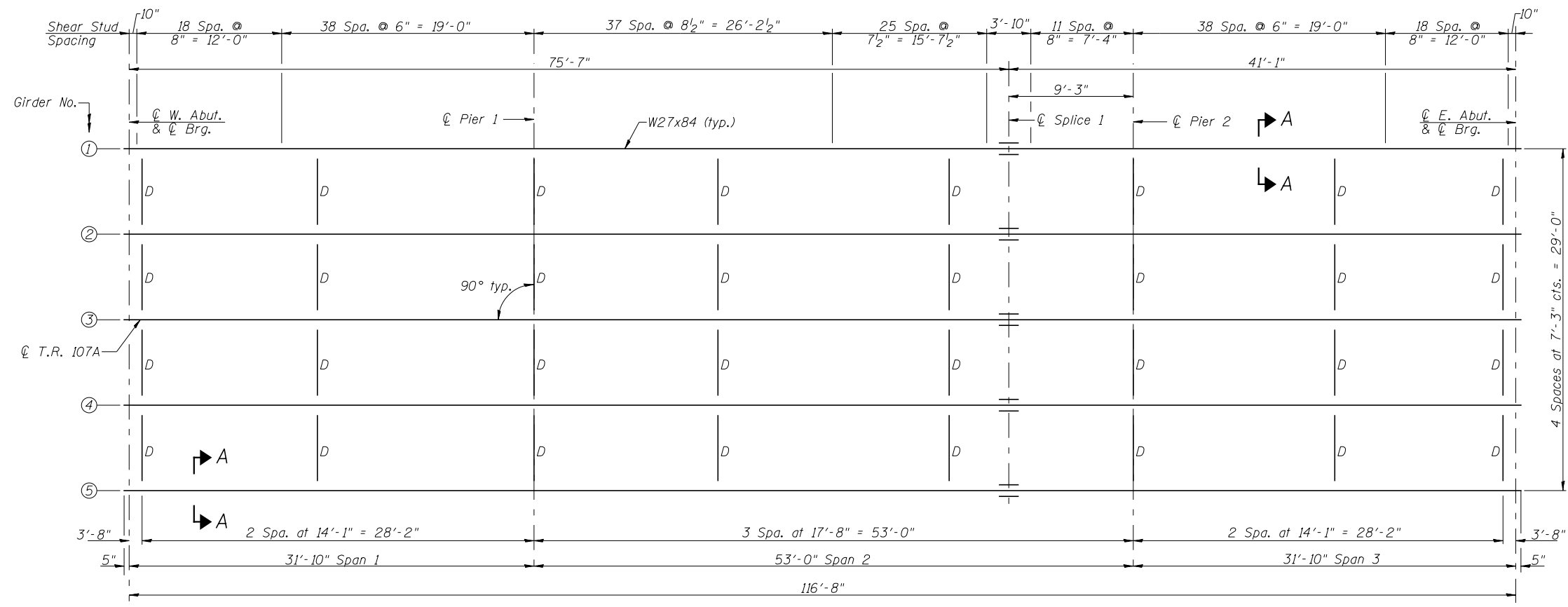
Notes:  
 All field drilled holes shall be coated with an approved zinc rich paint before erection.  
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.  
 All steel railing elements shall be galvanized according to Article 509.05 of the Standard Specifications.  
 \*\* The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Steel Railing, Type SM	FOOT	256

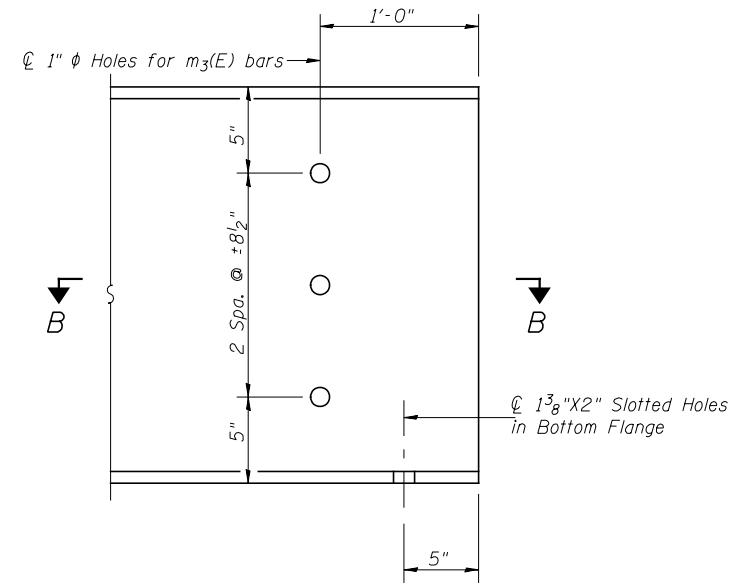
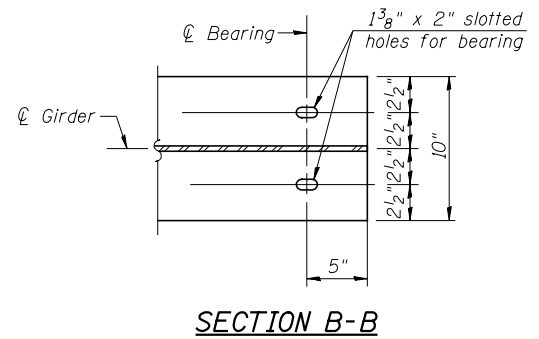
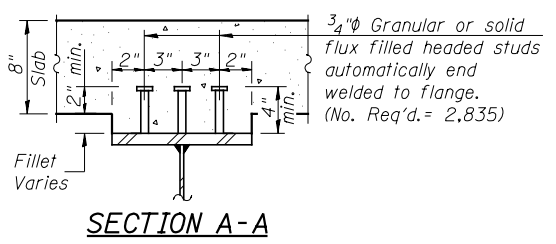
**STEEL RAILING TYPE SM**

SHEET NO. 12 22 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	37
SN 050-3618			CONTRACT NO. 87632		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT E07H(592)		



**FRAMING PLAN**

All beams shall be AASHTO M270, Gr. 50W (NTR)



Notes:  
Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.  
See Sheets 14 & 15 of 22 for Structural Steel Details.

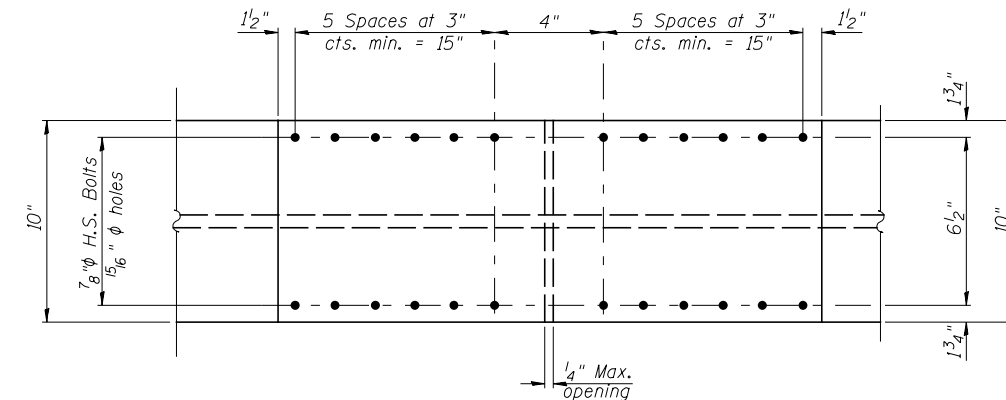
**FRAMING PLAN**

SHEET NO. 13 22 SHEETS	ROUTE NO. TR 107A	SECTION 14-23744-00-BR	COUNTY LASALLE	TOTAL SHEETS 61	SHEET NO. 38
	SN 050-3618		CONTRACT NO. 87632		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT E07H(592)		

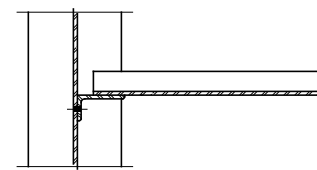
**\*TOP OF BEAM ELEVATIONS**

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5
℄ Brg. at W. Abut.	546.01	546.15	546.26	546.15	546.01
℄ Brg. at Pier 1	546.15	546.29	546.40	546.29	546.15
℄ Splice 1	546.35	546.49	546.60	546.49	546.35
℄ Brg. at Pier 2	546.40	546.54	546.65	546.54	546.40
℄ Brg. at E. Abut.	546.59	546.73	546.84	546.73	546.59

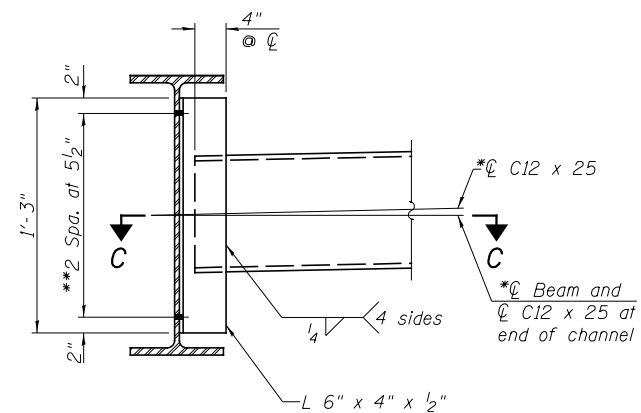
\*For fabrication only



**FLANGE SPLICE PLATE**  
(Top and Bottom Flange)

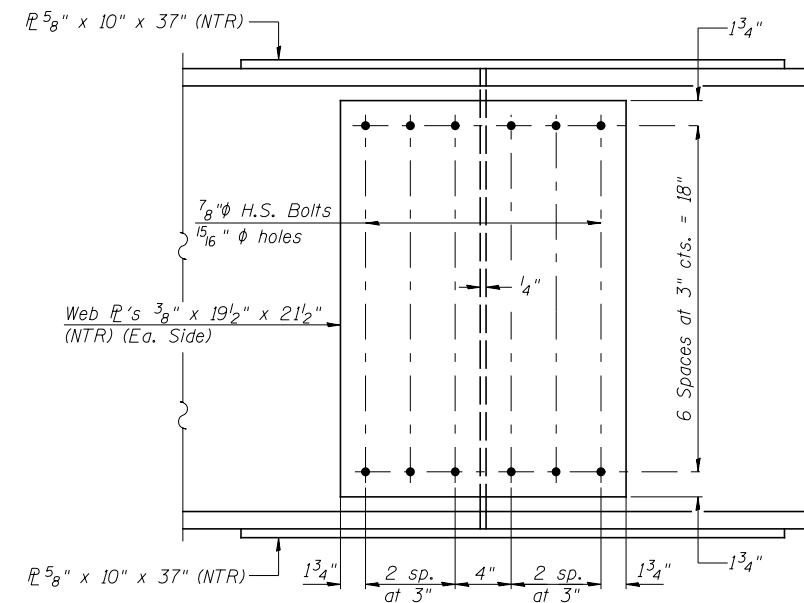


**SECTION C-C**



**INTERIOR DIAPHRAGM**  
(32 Required)

Note:  
Two hardened washers required for each set of oversized holes.  
\*Alternate channels, C12 x 30, are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Township.  
\*\*3/4" φ HS bolts, 15/16" φ holes



**ELEVATION**

**FIELD SPLICE DETAILS**

(5 req'd)  
All plates shall be AASHTO M270, Grade 50W (NTR)

**Notes:**

Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.  
All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

(Sheet 1 of 2)

**STRUCTURAL STEEL DETAILS**

SHEET NO. 14 22 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	39
	SN 050-3618		CONTRACT NO. 87632		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT E07H(592)		

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1 & 0.6 Sp. 3	Pier 1 & Pier 2	0.5 Sp. 2
$I_s$	(in <sup>4</sup> )	2,850	2,850	2,850
$I_c(n)$	(in <sup>4</sup> )	8,915	8,915	8,915
$I_c(3n)$	(in <sup>4</sup> )	6,792	6,792	6,792
$I_c(cr)$	(in <sup>4</sup> )	-	4,704	-
$S_s$	(in <sup>3</sup> )	213	213	213
$S_c(n)$	(in <sup>3</sup> )	337	337	337
$S_c(3n)$	(in <sup>3</sup> )	306	306	306
$S_c(cr)$	(in <sup>3</sup> )	-	269	-
DC1	(k/')	0.850	0.850	0.850
M <sub>DC1</sub>	('k)	39	173	126
DC2	(k/')	0.030	0.030	0.030
M <sub>DC2</sub>	('k)	1	6	4
DW	(k/')	0.363	0.363	0.363
M <sub>DW</sub>	('k)	16	74	54
M <sub>ℓ + IM</sub>	('k)	334	400	417
M <sub>u</sub> (Strength I)	('k)	659	1,035	973
Φ <sub>r</sub> M <sub>n</sub>	('k)	1,782	1,315	1,689
f <sub>s</sub> DC1	(ksi)	2.20	9.75	7.10
f <sub>s</sub> DC2	(ksi)	0.04	0.24	0.16
f <sub>s</sub> DW	(ksi)	0.63	2.90	2.12
f <sub>s</sub> (ℓ + IM)	(ksi)	11.89	14.24	14.85
f <sub>s</sub> (Service II)	(ksi)	18.32	31.40	28.68
0.95R <sub>n</sub> F <sub>yf</sub>	(ksi)	47.50	47.50	47.50
f <sub>s</sub> (Total)(Strength I)	(ksi)	-	-	-
Φ <sub>r</sub> F <sub>n</sub>	(ksi)	-	-	-
V <sub>f</sub>	(k)	19.8	22.5	17.1

INTERIOR GIRDER REACTION TABLE			
		W. Abut. & E. Abut.	Pier 1 & Pier 2
R <sub>DC1</sub>	(k)	8.1	41.5
R <sub>DC2</sub>	(k)	0.3	1.5
R <sub>DW</sub>	(k)	3.5	17.7
R <sub>ℓ + IM</sub>	(k)	56.1	93.0
R <sub>Total</sub>	(k)	68.0	153.7

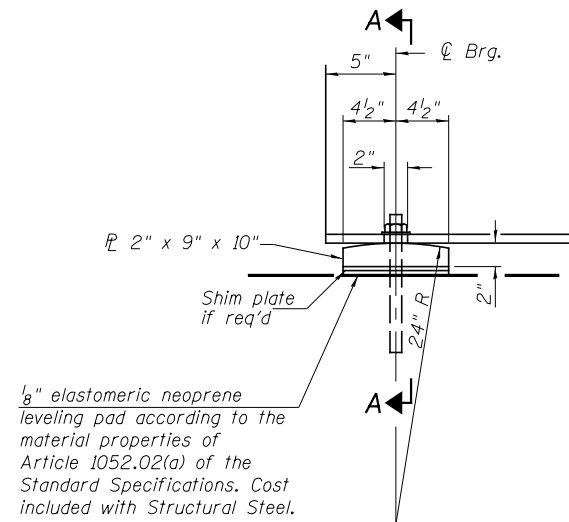
- $I_s, S_s$ : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$  (Total-Strength I, and Service II) due to non-composite dead loads (in<sup>4</sup> and in<sup>3</sup>).
- $I_c(n), S_c(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$  (Total-Strength I, and Service II) due to short-term composite live loads (in<sup>4</sup> and in<sup>3</sup>).
- $I_c(3n), S_c(3n)$ : Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing  $f_s$  (Total-Strength I, and Service II) in uncracked sections due to long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).
- $I_c(cr), S_c(cr)$ : Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing  $f_s$  (Total -Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).
- DC1: Un-factored non-composite dead load (kips/ft.).
- M<sub>DC1</sub>: Un-factored moment due to non-composite dead load (kip-ft.).
- DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- M<sub>DC2</sub>: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- M<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- M<sub>ℓ + IM</sub>: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
- M<sub>u</sub> (Strength I): Factored design moment (kip-ft.).  
1.25 (M<sub>DC1</sub> + M<sub>DC2</sub>) + 1.5 M<sub>DW</sub> + 1.75 M<sub>ℓ + IM</sub>
- Φ<sub>r</sub>M<sub>n</sub>: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).
- f<sub>s</sub> DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).  
M<sub>DC1</sub> / S<sub>nc</sub>
- f<sub>s</sub> DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).  
M<sub>DC2</sub> / S<sub>c(3n)</sub> or M<sub>DC2</sub> / S<sub>c(cr)</sub> as applicable.
- f<sub>s</sub> DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).  
M<sub>DW</sub> / S<sub>c(3n)</sub> or M<sub>DW</sub> / S<sub>c(cr)</sub> as applicable.
- f<sub>s</sub> (ℓ + IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).  
M<sub>ℓ + IM</sub> / S<sub>c(n)</sub> or M<sub>ℓ + IM</sub> / S<sub>c(cr)</sub> as applicable.
- f<sub>s</sub> (Service II): Sum of stresses as computed below (ksi).  
f<sub>s</sub>DC1 + f<sub>s</sub>DC2 + f<sub>s</sub>DW + 1.3 f<sub>s</sub> (ℓ + IM)
- 0.95R<sub>n</sub>F<sub>yf</sub>: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
- f<sub>s</sub> (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).  
1.25 (f<sub>s</sub>DC1 + f<sub>s</sub>DC2) + 1.5 f<sub>s</sub>DW + 1.75 f<sub>s</sub> (ℓ + IM)
- Φ<sub>r</sub>F<sub>n</sub>: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).
- V<sub>f</sub>: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

(Sheet 2 of 2)

**STRUCTURAL STEEL DETAILS**

SHEET NO. 15	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	40
22 SHEETS	SN 050-3618		CONTRACT NO. 87632		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT E07H(592)		

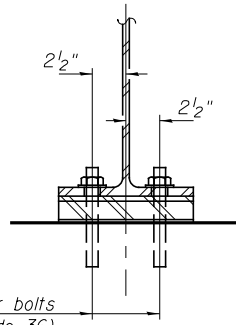




**ELEVATION AT ABUTMENT**

1/8" elastomeric neoprene leveling pad according to the material properties of Article 1052.02(a) of the Standard Specifications. Cost included with Structural Steel.

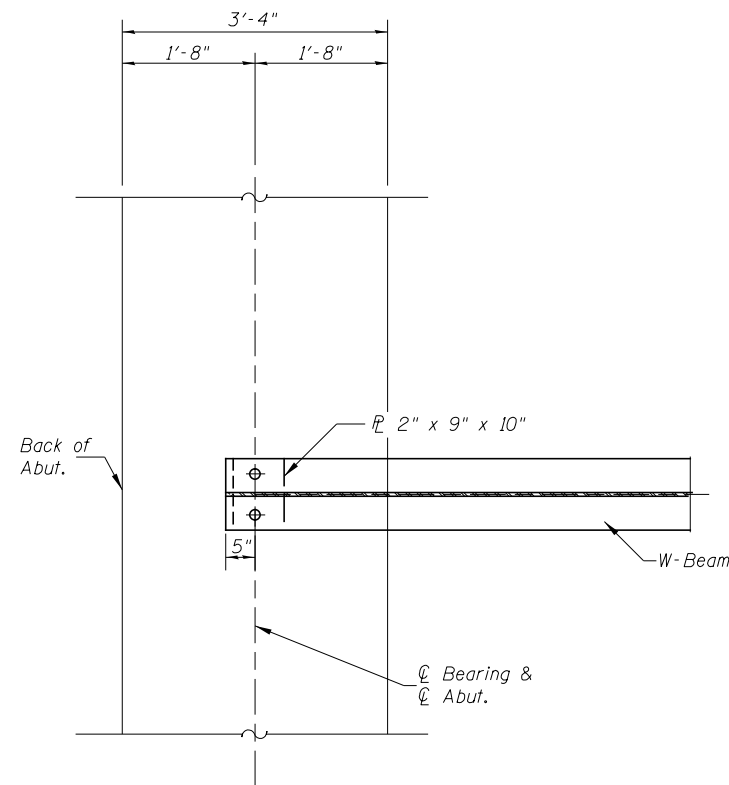
1" x 12" anchor bolts (ASTM F1554, Grade 36) with 2 1/4" x 2 1/4" x 5/16" washer under nut. 1 3/8" x 2" slotted hole in flange. 1/2" holes in bearing plate.



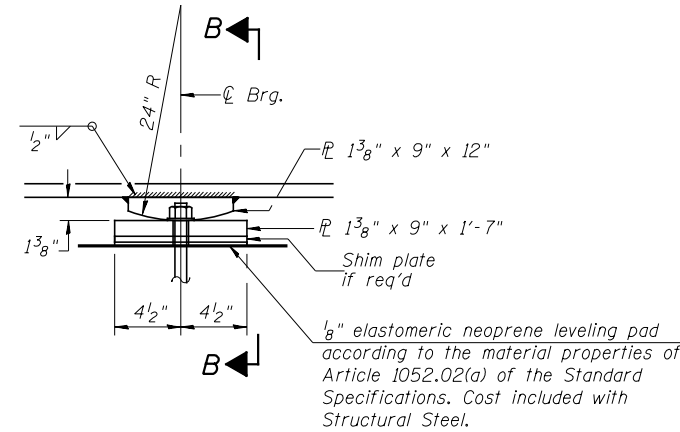
**SECTION A-A**

**FIXED BEARING AT ABUTMENTS**

(10 Required)

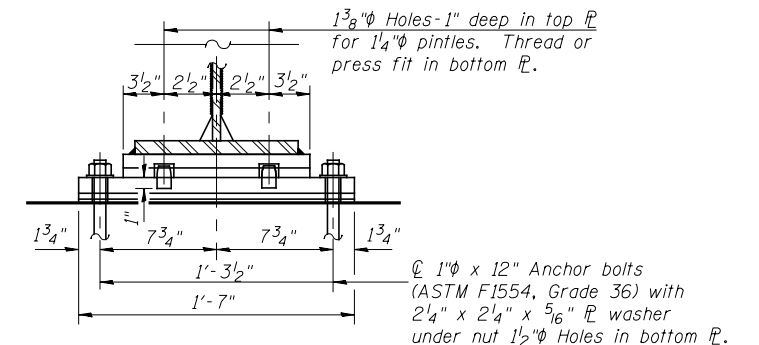


**PARTIAL PLAN AT ABUTMENTS**



**ELEVATION AT PIER**

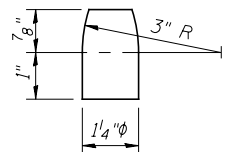
1/8" elastomeric neoprene leveling pad according to the material properties of Article 1052.02(a) of the Standard Specifications. Cost included with Structural Steel.



**SECTION B-B**

**FIXED BEARING AT PIERS**

(10 Required)



**PINTLE**

(M270 Grade 50W)

**Notes:**

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

The structural steel bearing plates shall conform to the requirements of AASHTO M270 Grade 50W.

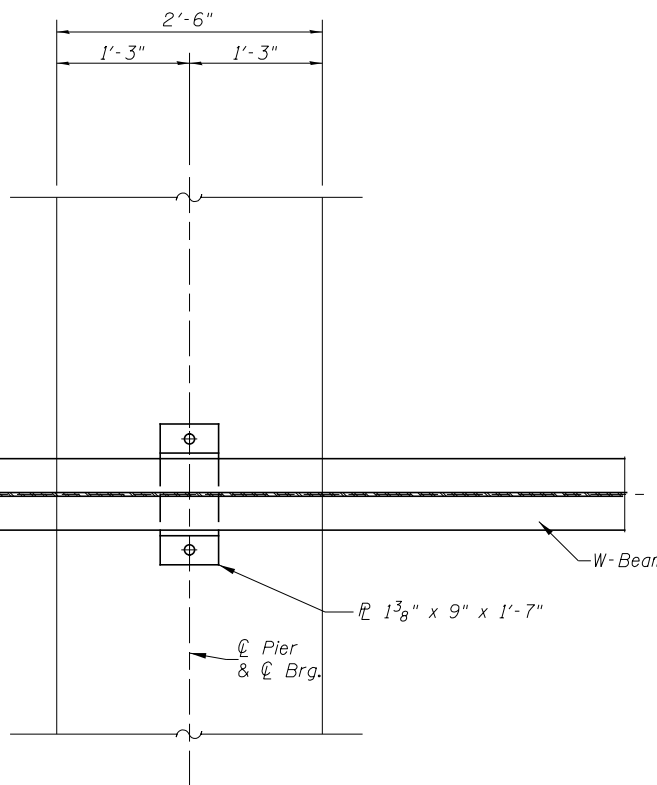
Two 1/8 inch adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

Beams shall be braced for stability during erection and remain braced until deck is poured and cured.

Anchor bolts at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Anchor Bolts, 1"	EACH	40



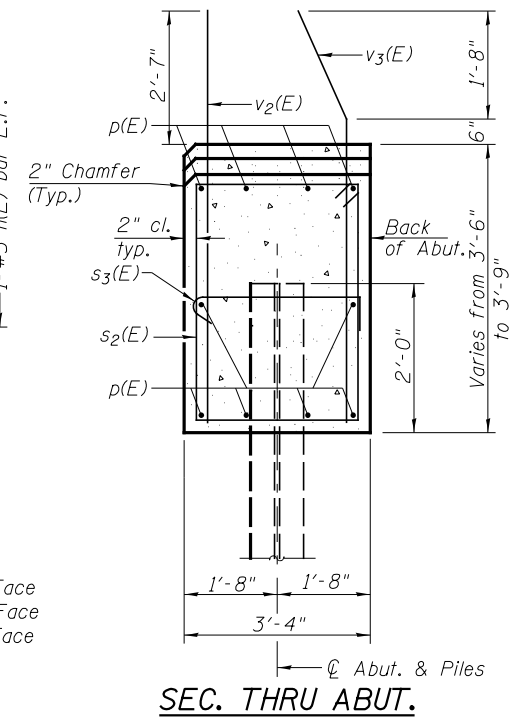
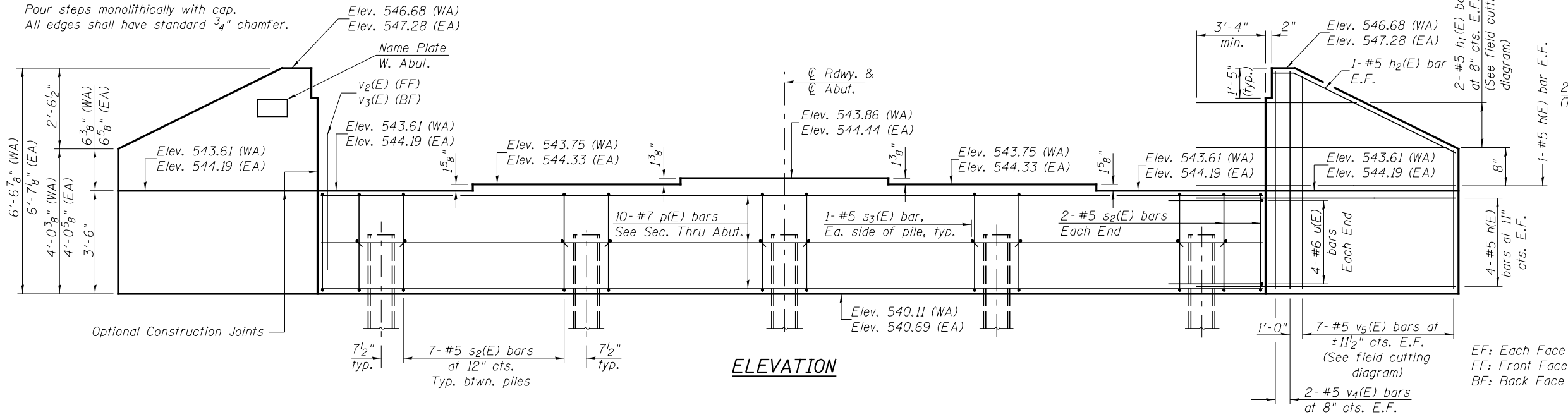
**PARTIAL PLAN AT PIERS**

**BEARING DETAILS**

SHEET NO. 16	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	41
22 SHEETS	SN 050-3618		CONTRACT NO. 87632		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT E07H(592)		

**Notes:**

Pour steps monolithically with cap.  
All edges shall have standard 3/4" chamfer.



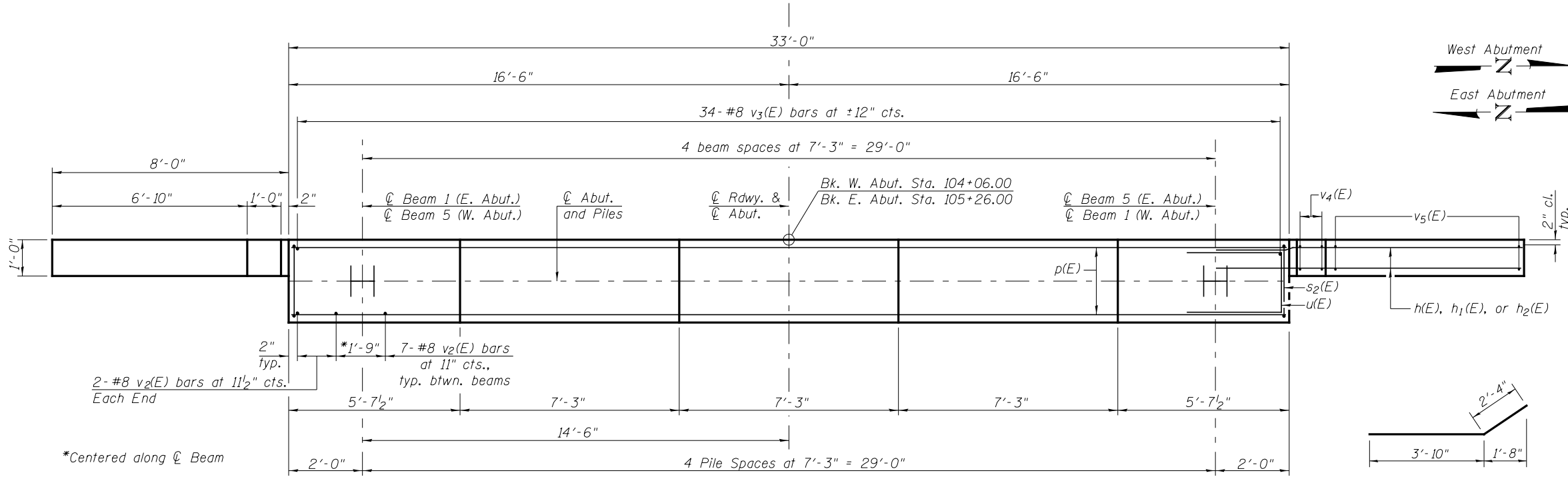
**ELEVATION**

**SEC. THRU ABUT.**

EF: Each Face  
FF: Front Face  
BF: Back Face

**BILL OF MATERIALS  
TWO ABUTMENTS**

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	40	#5	11'-2"	—
h1(E)	8	#5	18'-4"	—
h2(E)	8	#5	7'-10"	—
p(E)	20	#7	32'-9"	—
s2(E)	64	#5	13'-3"	□
s3(E)	20	#5	4'-0"	◁
u(E)	16	#6	10'-7"	□
v2(E)	64	#8	5'-11"	—
v3(E)	68	#8	6'-2"	—
v4(E)	16	#5	6'-2"	—
v5(E)	28	#5	9'-8"	—
Structure Excavation	CU YD		165	
Concrete Structures	CU YD		35.9	
Reinforcement Bars, Epoxy Coated	POUND		5,760	
Name Plates	EACH		1	
Furnishing Steel Piles HP 10x42	FOOT		156	
Driving Piles	FOOT		156	
Test Pile Steel HP 10x42	EACH		2	

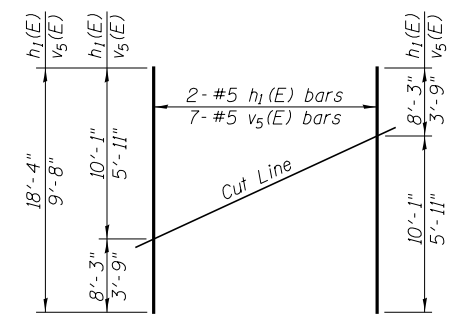


**PLAN**

**BAR v3(E)**

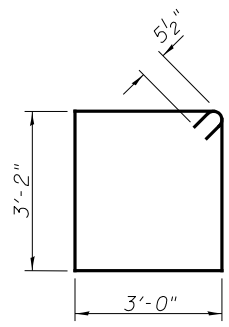
**PILE DATA**

Type: Steel HP 10x42  
Nominal Required Bearing: 335 kips  
Factored Resistance Available: 184 kips  
Est. Length: 20' W. Abutment  
19' E. Abutment  
No. Required: 10 (Includes 1 Test Pile at Each Abut.)

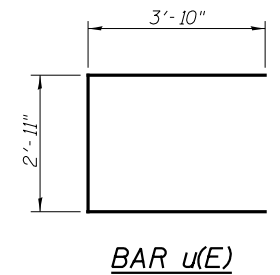


**FIELD CUTTING DIAGRAM**

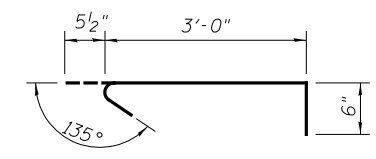
Order h1(E) and v5(E) full length. Cut as shown and use remainder of bars in opposite face.



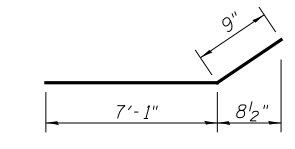
**BAR s2(E)**



**BAR u(E)**



**BAR s3(E)**



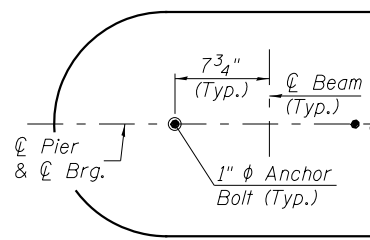
**BAR h2(E)**

For details of H-Piles, see sheet 19 of 22.  
Space reinforcement to miss anchor bolts.

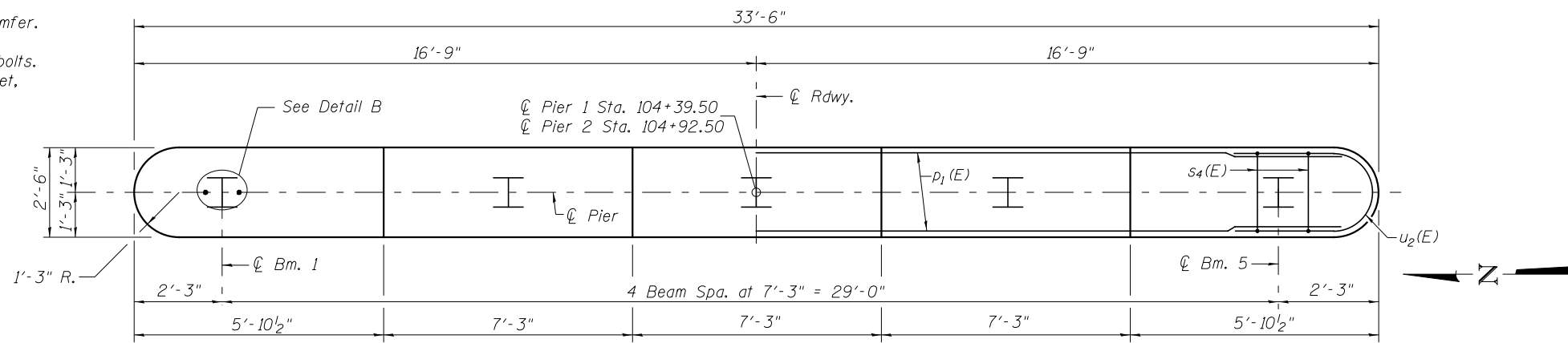
**ABUTMENTS**

SHEET NO. 17 22 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	42
	SN 050-3618		CONTRACT NO. 87632		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT E07H(592)		

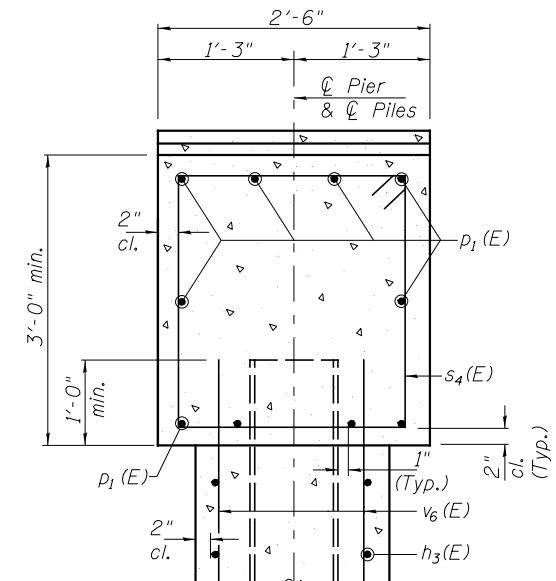
Notes:  
 All edges shall have standard  $\frac{3}{4}$ " chamfer.  
 Pour steps monolithically with cap.  
 Space reinforcement to miss anchor bolts.  
 See Sh. 19 of 22 for pile, rock socket, and concrete encasement details.



**DETAIL B**  
**ANCHOR BOLT LOCATION**



**TOP PLAN**

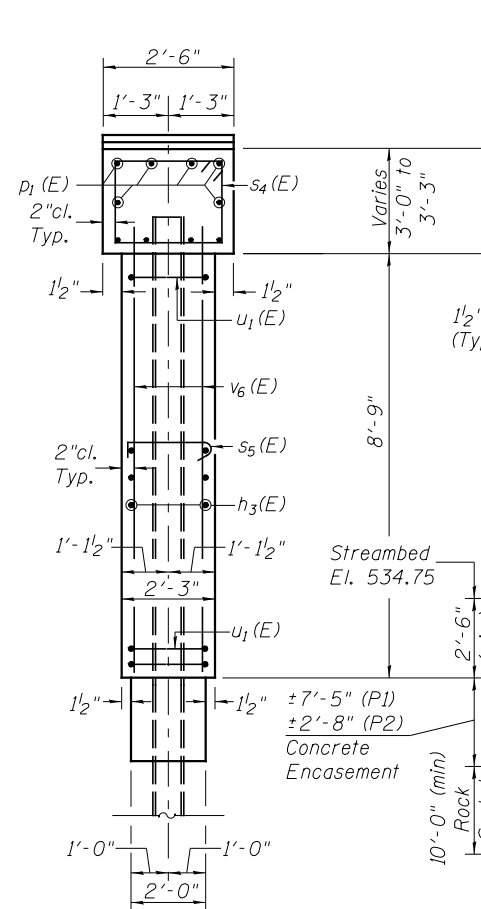


**SECTION A-A**

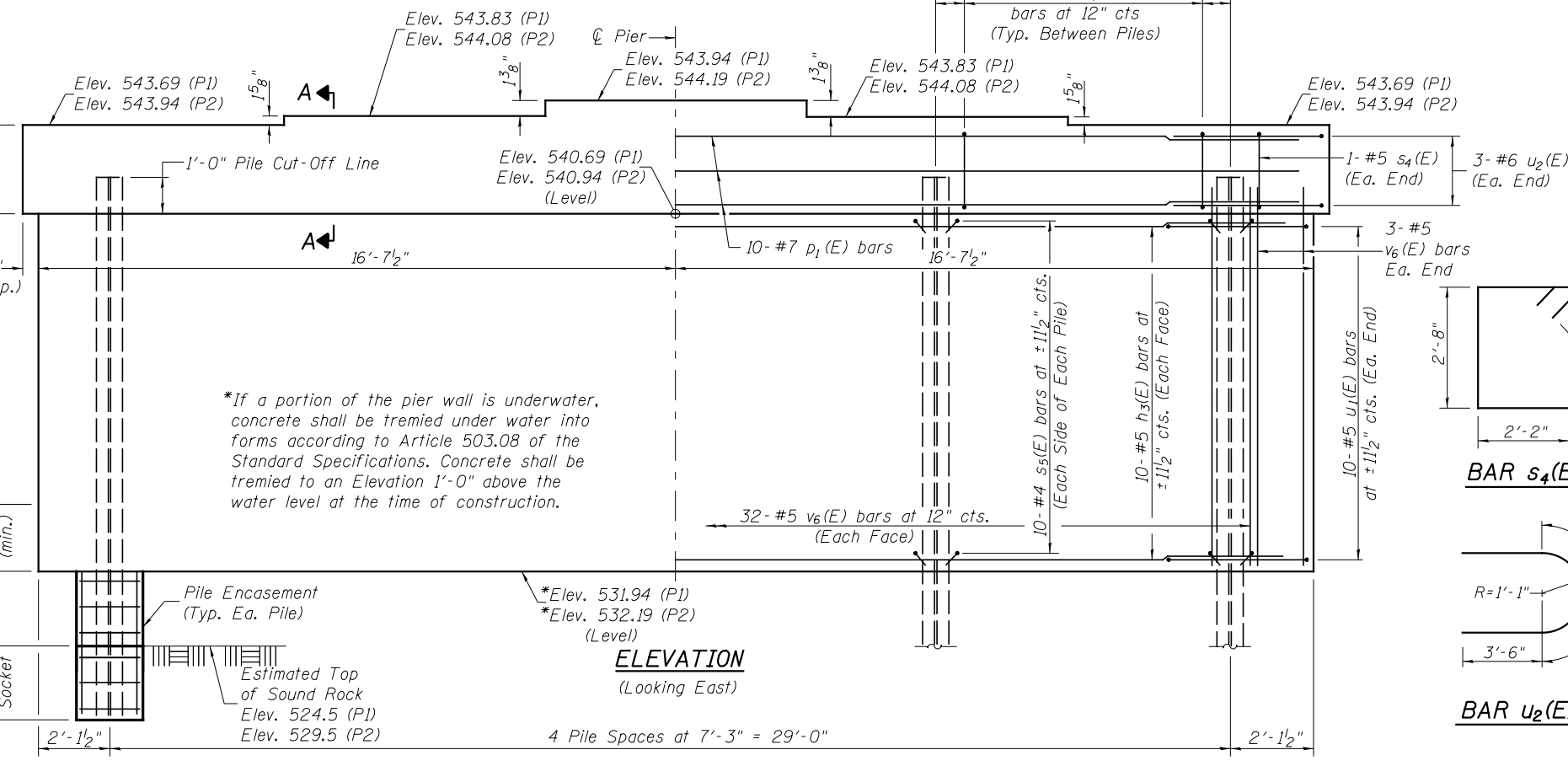
**BILL OF MATERIAL**  
**TWO PIERS**

BAR	NO.	SIZE	LENGTH	SHAPE	
h <sub>3</sub> (E)	40	#5	31'-0"	—	
p <sub>1</sub> (E)	20	#7	31'-0"	—	
s <sub>4</sub> (E)	60	#5	10'-7"	□	
s <sub>5</sub> (E)	200	#4	2'-9"	┌	
u <sub>1</sub> (E)	40	#5	11'-8"	U	
u <sub>2</sub> (E)	12	#6	10'-5"	U	
v <sub>6</sub> (E)	140	#5	9'-7"	—	
Concrete Structures				CU YD	66.8
Cofferdam Excavation				CU YD	45
Reinforcement Bars, Epoxy Coated				POUND	5,660
Furnishing Steel Piles HPI2x53				FOOT	255
① Setting Piles in Rock				EACH	10
① Concrete Encasement				CU YD	5.9
① Cofferdam (Type 1) (Location-1)				EACH	1
① Cofferdam (Type 1) (Location-2)				EACH	1

① See Special Provisions

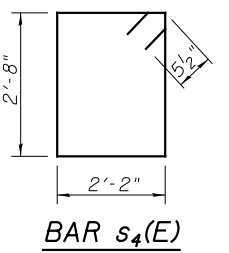


**END VIEW**

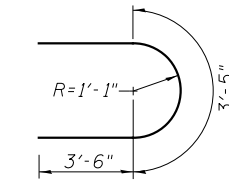


**ELEVATION**  
 (Looking East)

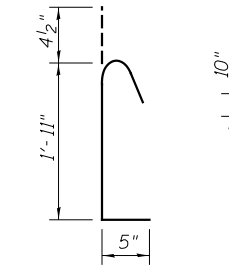
\*If a portion of the pier wall is underwater, concrete shall be tremied under water into forms according to Article 503.08 of the Standard Specifications. Concrete shall be tremied to an Elevation 1'-0" above the water level at the time of construction.



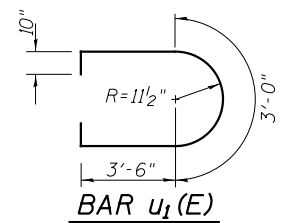
**BAR s<sub>4</sub>(E)**



**BAR u<sub>2</sub>(E)**

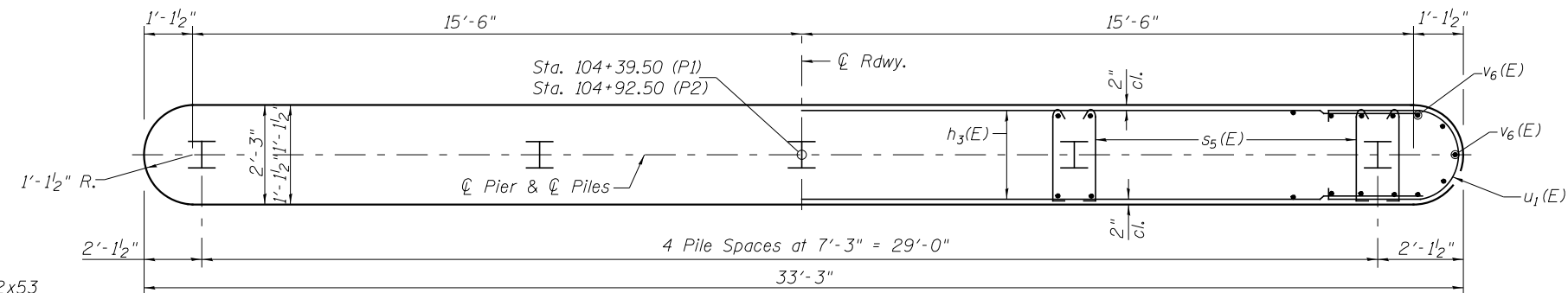


**BAR s<sub>5</sub>(E)**



**BAR u<sub>1</sub>(E)**

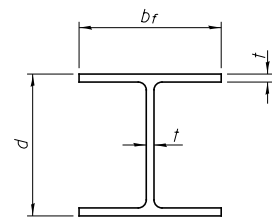
**PILE DATA**  
 Type & Size: Steel HPI2x53  
 Nominal Required Bearing: Set in Rock (419 kips)  
 Factored Resistance Available: Set in Rock (230 kips)  
 Est. Length: 28' (Pier 1)  
 23' (Pier 2)  
 No. Required: 10



**FOOTING PLAN**

**PIERS**

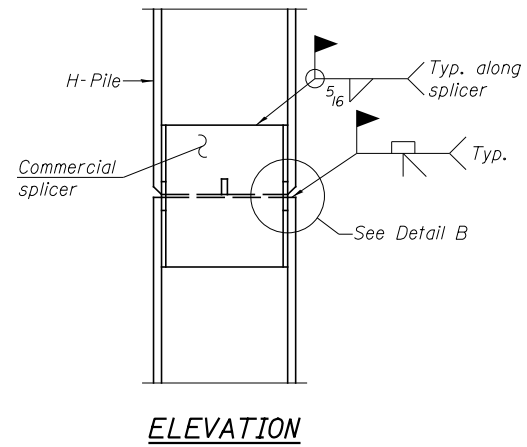
SHEET NO.	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
18	TR 107A	14-23744-00-BR	LASALLE	61	43
22 SHEETS		SN 050-3618		CONTRACT NO. 87632	
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT E07H(592)		



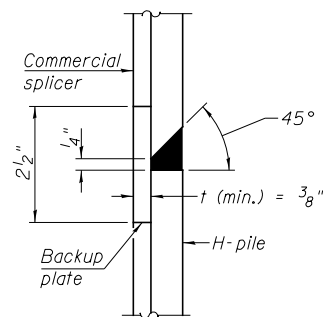
**STEEL PILE TABLE**

Designation	Depth d	Flange width b <sub>f</sub>	Web and Flange thickness t	Encasement diameter
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"

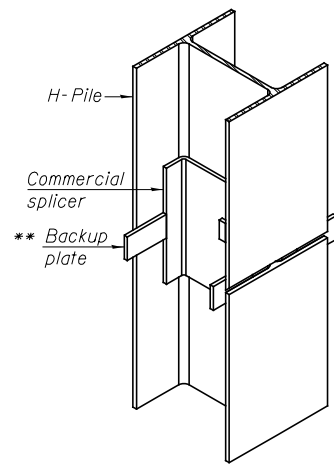
Note:  
The steel H-piles shall be according to AASHTO M270 Grade 50.



**ELEVATION**

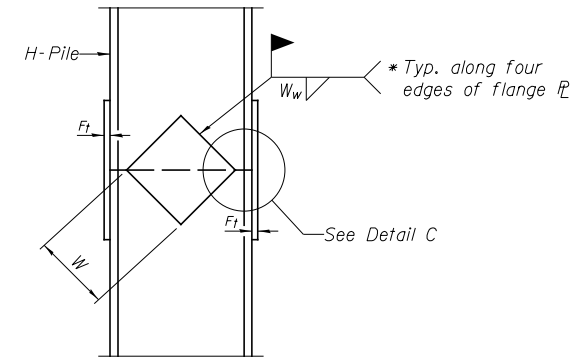


**DETAIL "B"**

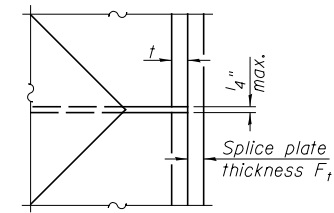


**ISOMETRIC VIEW**

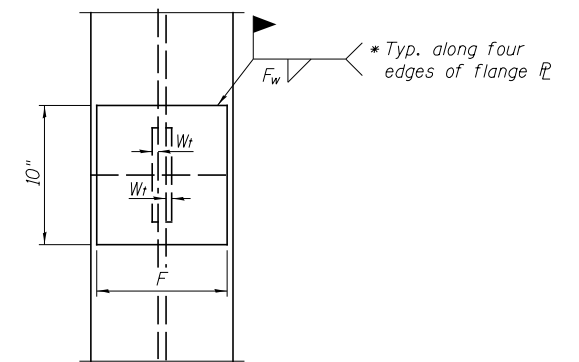
**WELDED COMMERCIAL SPLICE**



**ELEVATION**

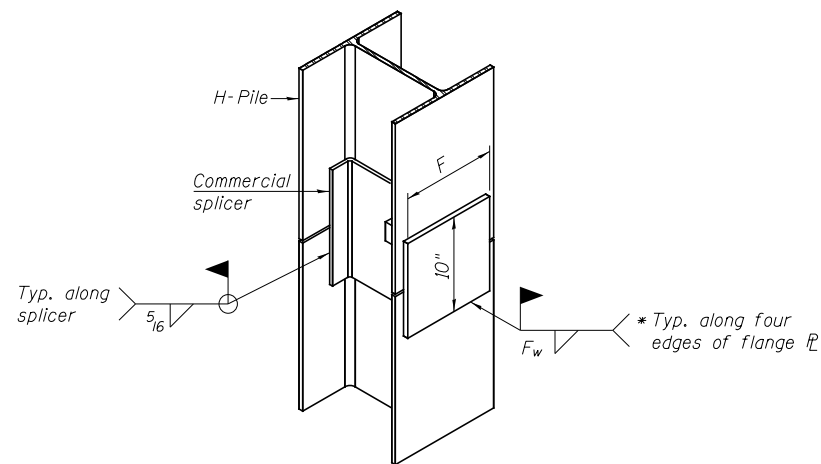


**DETAIL C**



**END VIEW**

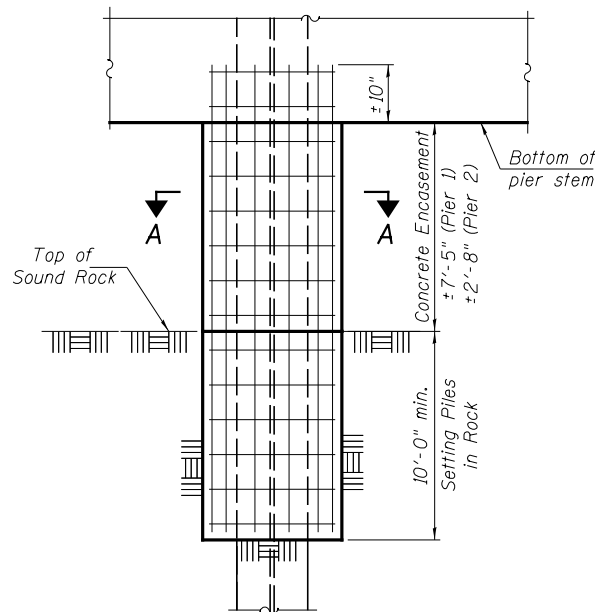
Designation	F	F <sub>t</sub>	F <sub>w</sub>	W	W <sub>t</sub>	W <sub>w</sub>
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"



**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE ALTERNATE**

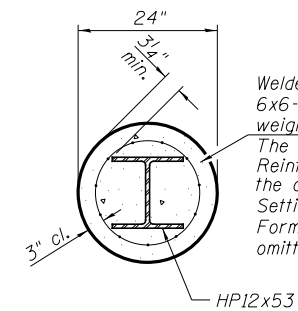
- \* Interrupt welds 1/4" from end of web and/or each flange.
- \*\* Remove portions of backup plates that extend outside the flanges.



**PIER ELEVATION**

**PILE ENCASEMENT**

**WELDED PLATE FIELD SPLICE**



**SECTION A-A**

Welded wire fabric  
6x6-W4.0xW4.0  
weighing 58#/100 sq. ft.  
The cost of Excavation and Reinforcement is included with the cost of Concrete Encasement or Setting Piles in Rock as indicated. Forms for encasement may be omitted when soil conditions will permit.

**HP PILE DETAILS**

SHEET NO. 19 22 SHEETS	ROUTE NO. TR 107A	SECTION 14-23744-00-BR	COUNTY LASALLE	TOTAL SHEETS 61	SHEET NO. 44
	SN 050-3618		CONTRACT NO. 87632		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT E07H(592)		



**BORING LOG**

Phone: 815-223-6696  
 Fax: 815-223-6659  
 e-mail: mts37@comcast.net

Sheet 1 of 2

Client: Hutchison Engineering, Inc.  
 Project Name: TR 107A over Somonauk Cr., Exist. SN050-344  
 Project Site: LaSalle County

Boring No. B-1  
 Surface Elev. 546.50  
 Auger Depth 24.25 Rotary Depth NA  
 Start Date 12/14/15 Finish Date 12/14/15

Location: Sta. 104+00  
 5.5' LL

DEPTH ELEV.	DESCRIPTION OF MATERIALS	Composite Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bludge / Shear		
546.50	6.5" HMA over 4" Clayey Agg. Base								Geocon	
545.50	Medium dense brown Sand & Gravel, moist		1	SS	22		2.7			
544.50			2							
543.50	Loose brown Sand & Gravel, moist		3	SS	7		9.6			
542.50			4							
541.50	Loose brown Sand & Gravel, wet		5	SS	16		3.3			
540.50			6							
539.50	Medium dense brown Sand & Gravel		7	SS	7		14.1			
538.50			8							
537.50	w/fractured Limestone pieces		9	SS	14		13.6			
536.50			10							
535.50	Washed		11	SS	26		8.8			
534.50			12							
533.50	No recovery		13							
532.50			14							
531.50			15							
530.50			16							
529.50			17	SS	57		8.2			
528.50			18							
527.50			19							
526.50			20							
	Medium dense gray Silica Sand w/gravel pieces washed into sample		8	SS	16		14.1			

Groundwater Data: First encounter at 8'  
 Comments:



**BORING LOG**

Phone: 815-223-6696  
 Fax: 815-223-6659  
 e-mail: mts37@comcast.net

Sheet 2 of 2

Client: Hutchison Engineering, Inc.  
 Project Name: TR 107A over Somonauk Cr., Exist. SN050-344  
 Project Site: LaSalle County

Boring No. B-1  
 Surface Elev. 546.50  
 Auger Depth 24.25 Rotary Depth NA  
 Start Date 12/14/15 Finish Date 12/14/15

Location: Sta. 104+00  
 3.5' LL

DEPTH ELEV.	DESCRIPTION OF MATERIALS	Composite Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bludge / Shear		
525.50	continued from previous page								Geocon	
524.50	Gray Clay		22	9	GS	170	15.1			
523.50	Dense weathered Sandstone		23							
522.50	End of Boring		24	10	SS	50/1.5"	12.7			
521.50			25							
520.50			26							
519.50			27							
518.50			28							
517.50			29							
516.50			30							
515.50			31							
514.50			32							
513.50			33							
512.50			34							
511.50			35							
510.50			36							
509.50			37							
508.50			38							
507.50			39							
506.50			40							
505.50			41							

Groundwater Data: First encounter at 8'  
 Comments: 0



**BORING LOG**

Phone: 815-223-6696  
 Fax: 815-223-6659  
 e-mail: mts37@comcast.net

Sheet 1 of 2

Client: Hutchison Engineering, Inc.  
 Project Name: TR 107A over Somonauk Cr. Exist SN050-3441  
 Project Site: LaSalle County

Boring No. B-2  
 Surface Elev. 546.50  
 Auger Depth 34.00 Rotary Depth NA  
 Start Date 12/15/15 Finish Date 12/15/15

Location: Sta. 104+40  
 6.5' RL

DEPTH ELEV.	DESCRIPTION OF MATERIALS	Composite Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bludge / Shear		
546.50	5" PCC 2" HMA (Bridge Deck)								Geocon	
545.50	Air		1							
544.50			2							
543.50	Streambed		3							
542.50			4							
541.50	Stream water level = 537.64 ft. Elev.		5							
540.50			6							
539.50	Brown Gravelly Rubble		7							
538.50			8							
537.50	Streambed		9							
536.50			10							
535.50	Dense white & gray Silica Sand		11							
534.50			12							
533.50	Dense white Silica Sand		13							
532.50			14	1	SS	60/5"	8.2			
531.50			15							
530.50			16							
529.50			17	2	SS	31	18.0			
528.50			18							
527.50			19							
526.50			20	3	SS	85	17.9			

Groundwater Data: First encounter at 11.5'  
 Comments:

**SOIL BORING & ROCK CORE LOGS**

SHEET NO. 20 22 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	45
		SN 050-3618		CONTRACT NO. 87632	
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT E07H(592)		



**BORING LOG**

Phone: 815-223-6696  
 Fax: 815-223-6659  
 e-mail: mts37@comcast.net

Sheet 2 of 2

Client: Hutchison Engineering Inc.  
 Project Name: TR 107A over Somonauk Cr. Exist. SN050-3441  
 Project Site: LaSalle County

Boring No.: B-2  
 Surface Elev.: 546.50  
 Auger Depth: 34.00 Rotary Depth: NA  
 Start Date: 12/15/15 Finish Date: 12/15/15

Location: Sta. 104+40  
 6.5' RL

DEPTH ELEV.	DESCRIPTION OF MATERIALS	Comp. Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear		
525.50	continued from previous page									
524.50	Dense white Silica Sand		22	4	SS		38		13.6	
523.50	Dense lightly cemented white Sandstone		23							
522.50	Begin Rock Core		24							
521.50			25							
520.50			26							
519.50			27							
518.50			28							
517.50			29							
516.50			30							
515.50			31							
514.50			32							
513.50			33							
512.50	End Rock Core		34	5			100/2.75"		10.8	
511.50			35							
510.50			36							
509.50			37							
508.50			38							
507.50			39							
506.50			40							
505.50			41							

Groundwater Data: First encounter at 11.5'  
 Comments: 0



**Rock Core Log**

Route: TR 107A Structure No.: 050-3441 (Exist.) (Prop.) Date: 12-14- Page: 1 of 1  
 Section: 14-23744-00-BR Description: Over Somonauk Creek near Sheridan  
 County: LaSalle Logged by: TLM

Boring No.: B-2 Coring Method: Rotary with Rod (Not wireline) Core Diameter: 2 in  
 Station: 104+40 Barrel Type: Solid  
 Offset: 6.5' RL Barrel Size: 2"  
 Latitude: 41.5436481 Top of Rock Elev.: 524.5 ft  
 Longitude: -88.6868763 Begin Core Elev.: 522.5 ft

Rock Type, Description and Observations		ELEV.	DEPTH	CORE No.	RECOV. (%)	R. Q. D. (%)	TIME (min/ft)	U. C. S. Qu (tsf)
Dense white weathered lightly cemented Sandstone, cobble at 2.67'				1	0	0	1.7	
				2	27.3	0	1.35	

Color pictures of the cores taken (Y/N): Y Cores will be disposed of after: \_\_\_\_\_  
 Cores will be stored for examination at: Midwest Testing Services, Inc.  
 The U.C.S. Qu column represents the Unconfined Compressive Strength using ASTM D-2938

File Name: BBS 138.docx Printed: 1/5/2016 8:49 AM BBS 138 (Rev. 01/04/2012)



**BORING LOG**

Phone: 815-223-6696  
 Fax: 815-223-6659  
 e-mail: mts37@comcast.net

Sheet 1 of 2

Client: Hutchison Engineering Inc.  
 Project Name: TR 107A over Somonauk Cr. Exist. SN050-3441  
 Project Site: LaSalle County

Boring No.: B-3  
 Surface Elev.: 546.53  
 Auger Depth: 24' Rotary Depth: NA  
 Start Date: 12/14/15 Finish Date: 12/14/15

Location: Sta. 104+95  
 8' RL

DEPTH ELEV.	DESCRIPTION OF MATERIALS	Comp. Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear		
546.53	2" HMA, 5.5" PCC Deck									
545.53	Air		1							
544.53		2								
543.53			3							
542.53			4							
541.53			5							
540.53			6							
539.53			7							
538.53			8							
537.53	Stream water level = 537.64 ft. Elev.		9							
535.53	Very Loose brown/gray Silty Sand, trace gravel		10	1	SS		1		24.0	
535.53		11								
534.53	Medium dense gray Sand & Gravel		12	2	SS		22		12.6	
533.53		13								
532.53			14							
531.53	Medium dense white Silica Sand (possibly Very weathered Sandstone)		15	3	SS		29		15.0	
530.53		16								
529.53			17							
528.53	White weathered lightly cemented Sandstone		18	4	SS		150		14.8	
527.53		19	5	SS		117		17.2		
525.53		20								

Groundwater Data: First encountered at 9.5'  
 Comments:

**SOIL BORING & ROCK CORE LOGS**

SHEET NO. 21  22 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	46
		SN 050-3618	CONTRACT NO. 87632		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT E07H(592)		



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

**BORING LOG**

Sheet 2 of 2

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

Client: Hutchison Engineering Inc.  
Project Name: TR 107A over Somonauk Cr. Exist. SN050-3441  
Project Site: LaSalle County

Boring No. B-3  
Surface Elev. 546.53  
Auger Depth 24' Rotary Depth NA  
Start Date 12/14/15 Finish Date 12/14/15

Location: Sta. 104+95  
6' Lt.

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu. (TSF)	N Value (Blows)	Blow / Shear	Moisture (%)	
525.53									Geocon CME-55 Diagnoh D-120	
524.53	White weathered lightly cemented Sandstone (continued)		22	6	SS	50.4"		15.6		
523.53			23							
522.53	End of Boring		24	7	SS	50.5"		17.0		
521.53			25							
520.53			26							
519.53			27							
518.53			28							
517.53			29							
516.53			30							
515.53			31							
514.53			32							
513.53			33							
512.53			34							
511.53			35							
510.53			36							
509.53			37							
508.53			38							
507.53			39							
506.53			40							
505.53			41							

Groundwater Data: First encountered at 9.5'  
Comments: 0



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

**BORING LOG**

Sheet 1 of 2

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

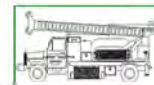
Client: Hutchison Engineering Inc.  
Project Name: TR 107A over Somonauk Cr. Exist. SN050-3441  
Project Site: LaSalle County

Boring No. B-4  
Surface Elev. 546.83  
Auger Depth 24' Rotary Depth NA  
Start Date 12/15/15 Finish Date 12/15/15

Location: Sta. 105+30  
6' RL

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu. (TSF)	N Value (Blows)	Blow / Shear	Moisture (%)	
546.83									Geocon	
545.83	5 3/4" HMA over gravel base		1							
544.83			2	1	SS		13	9.2		
543.83			3							
542.83	Medium dense clayey Sand & Gravel, moist		4	2	SS		14	7.0		
541.83			5							
540.83			6							
539.83			7	3	SS		20	10.2		
538.83			8							
537.83	Loose coarse Sand & Gravel, wet		9	4	SS		7	11.5		
536.83			10							
535.83			11							
534.83			12	5	SS		55	18.7		
533.83			13							
532.83	Dense gray fine Sand, cobbles, some gravel, wet		14	6	SS		34	14.5		
531.83			15							
530.83			16							
529.83	Pieces of fractured Limestone		17	7	SS		72	16.0		
528.83			18							
527.83	Dense white Silica Sand		19	8	SS		80	16.7		
526.83			20							

Groundwater Data: First encounter 8'  
Comments:



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

**BORING LOG**

Sheet 2 of 2

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

Client: Hutchison Engineering Inc.  
Project Name: TR 107A over Somonauk Cr. Exist. SN050-3441  
Project Site: LaSalle County

Boring No. B-4  
Surface Elev. 546.83  
Auger Depth 24' Rotary Depth NA  
Start Date 12/15/15 Finish Date 12/15/15

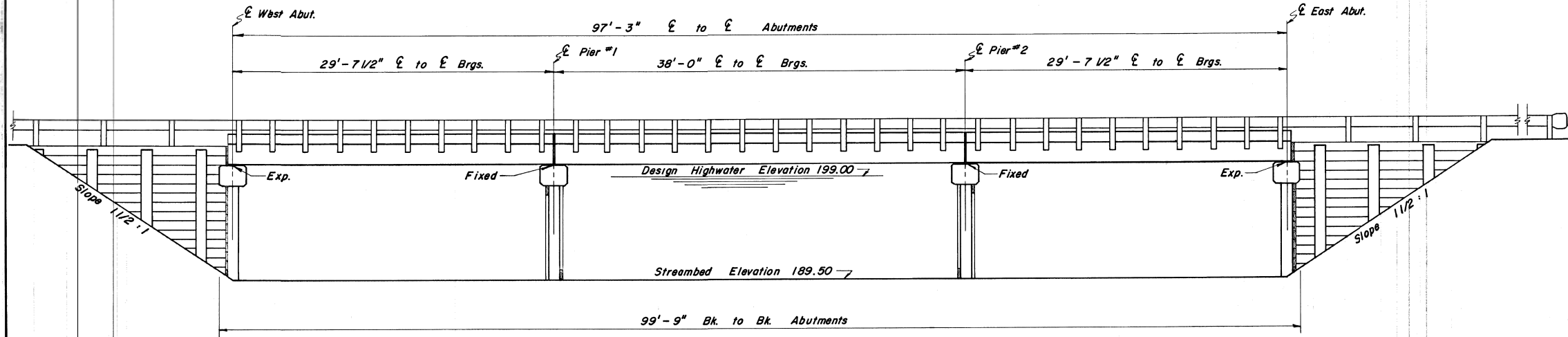
Location: Sta. 105+30  
6' RL

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu. (TSF)	N Value (Blows)	Blow / Shear	Moisture (%)	
525.83									Geocon	
524.83			22	9	SS		50/3"	17.9		
523.83	Dense weathered lightly cemented Sandstone (continued)		23							
522.83			24	10	SS		190	15.3		
521.83			25							
520.83			26							
519.83	End of Boring		27	11	SS		50/2"	13.6		
518.83			28							
517.83			29							
516.83			30							
515.83			31							
514.83			32							
513.83			33							
512.83			34							
511.83			35							
510.83			36							
509.83			37							
508.83			38							
507.83			39							
506.83			40							
505.83			41							

Groundwater Data: First encounter 8'  
Comments: 0

**SOIL BORING & ROCK CORE LOGS**

SHEET NO. 22 22 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	47
		SN 050-3618		CONTRACT NO. 87632	
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT E07H(592)		



**ELEVATION**



**GENERAL NOTES**

The Contractor shall drive 2 Test Piles, one at East Abutment and one at Pier #1, both in permanent locations as directed by the Engineer before ordering remainder of Piles. Excavation for Structures shall not be Classified. Compensation for such shall be considered as included in the Unit Price Bid for F.B.M. of Treated Timber. All Shop Drawings are to be approved by the County. All Hardware shall be Hot Dipped Galvanized. The Standard Specifications for Road and Bridge Construction adopted July 2, 1973 shall apply to this work.

**PILE DATA**

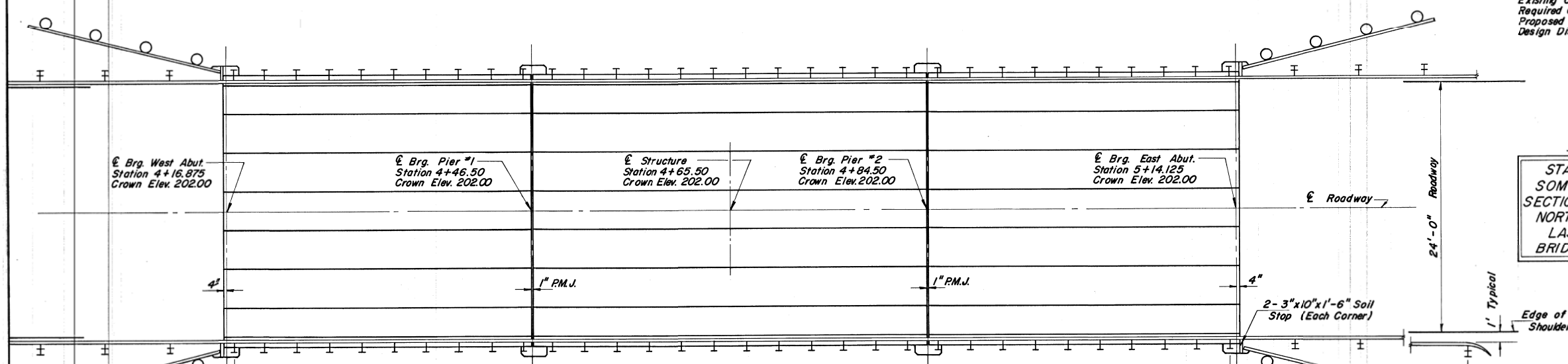
Type 12" Creosoted Timber  
 Number Required 40 + 2 Test Piles  
 Estimated Length 25 Ft.  
 Minimum Capacity 20 Ton/Pile (Abutments)  
 24 Ton/Pile (Piers)  
 10 Ton/Pile (Wings)

**WATERWAY INFORMATION**

Drainage Area 56,128 Acres  
 Existing Opening 760 Sq. Ft.  
 Required Opening 880 Sq. Ft.  
 Proposed Opening 880 Sq. Ft.  
 Design Discharge 4,400 c.f.s. (15 Yr.)

**NAME PLATE**

STATION 4+65.50  
 SOMONAUK CREEK  
 SECTION 109-B-TR BUILT 1975  
 NORTHVILLE TOWNSHIP  
 LASALLE COUNTY HS-20  
 BRIDGE NO. 050-3441



**PLAN**

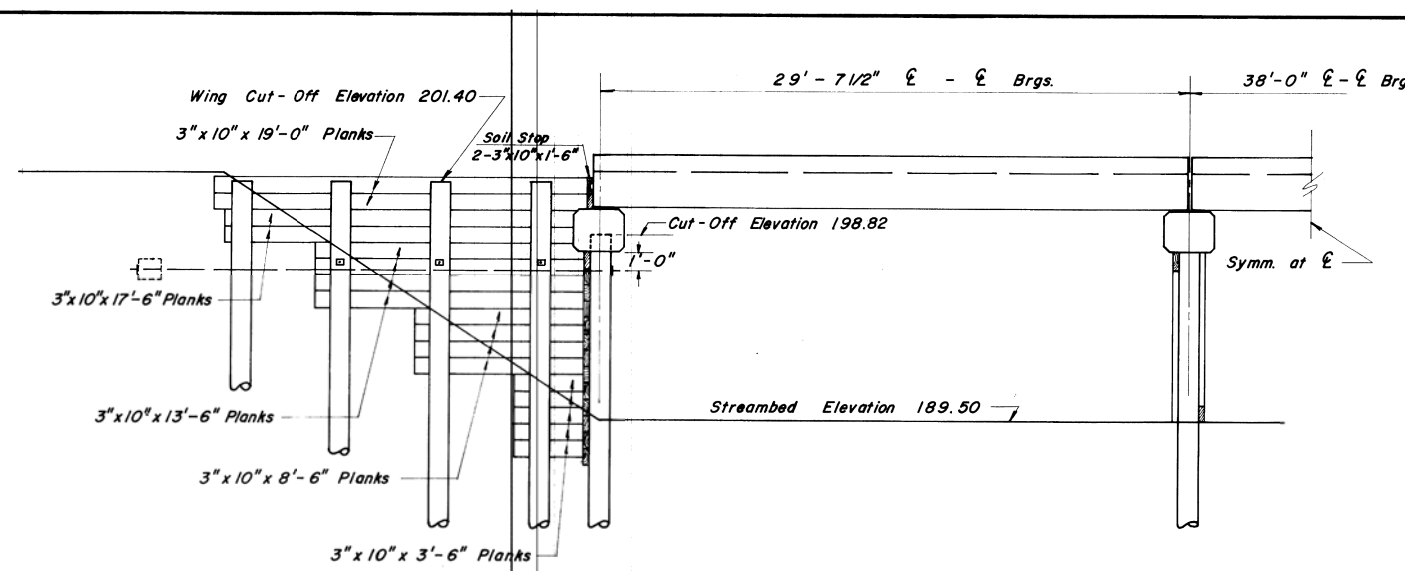
**GENERAL PLAN & ELEVATION SOMONAUK CREEK SECTION 109-B-TR NORTHVILLE TWP. LASALLE COUNTY STATION 4+65.50**

*Dwight R. Wilkins*  
 8-27-74

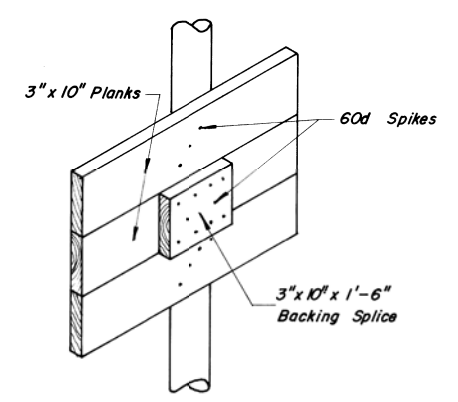
**EXISTING STRUCTURE PLANS**

SHEET NO. 1  6 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	48
	CONTRACT NO. 87632				
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT E07H(592)		

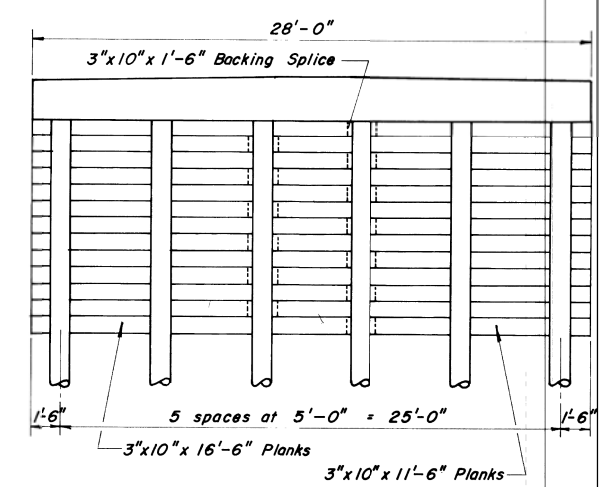




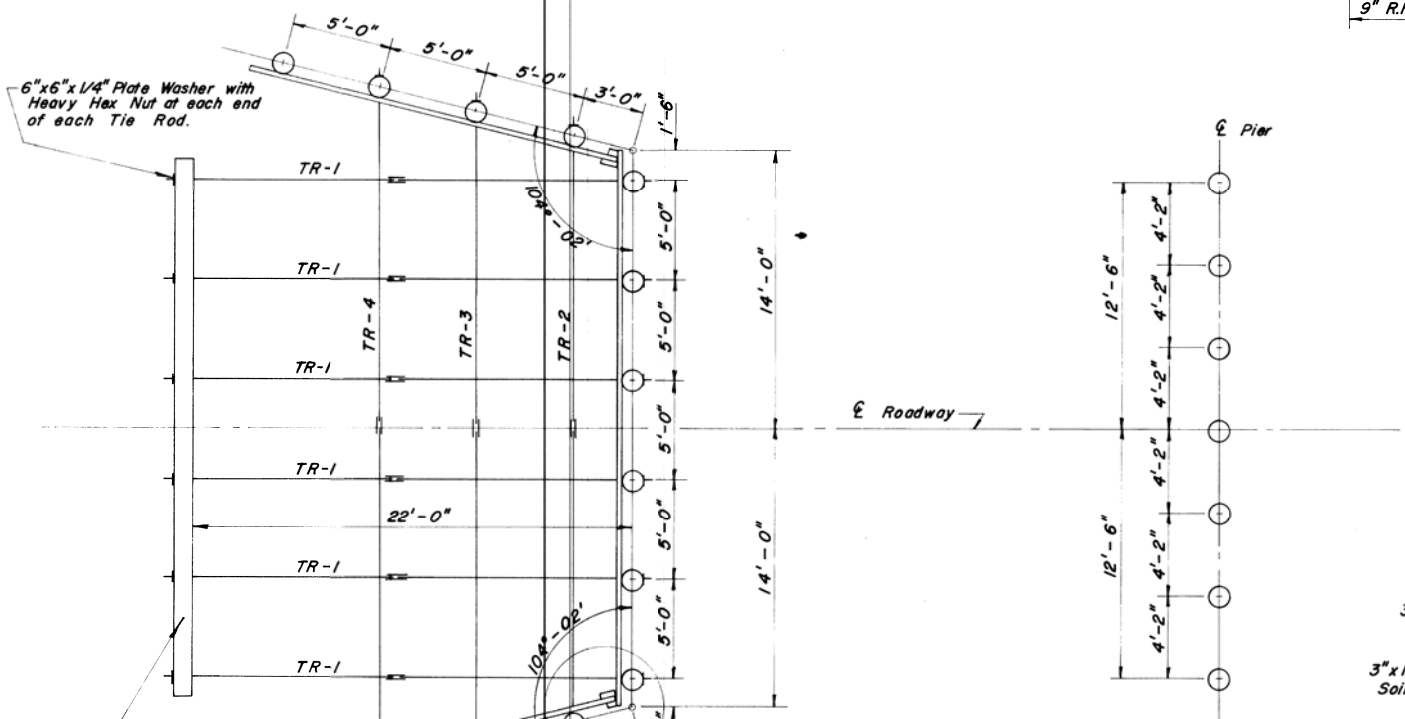
**ELEVATION**



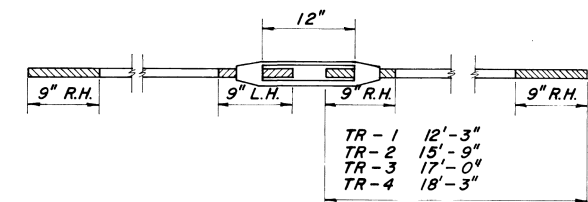
**BACKING SPLICE**



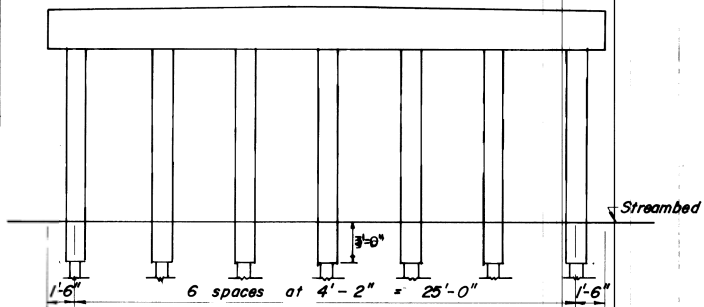
**ABUTMENT ELEVATION**



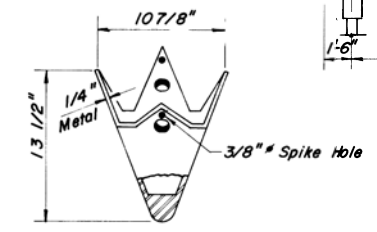
**PLAN**



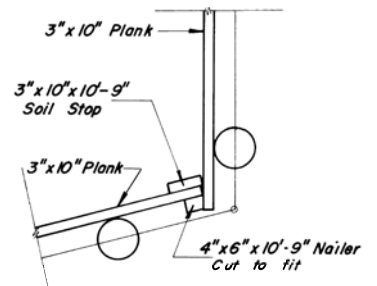
**TURNBUCKLE & TIE ROD ASSEMBLY**



**PIER ELEVATION**



**METAL PILE SHOE**



**DETAIL "A"**

**TREATED TIMBER**

NO.	ITEM	SIZE	LENGTH
8	Wing Plank	3" x 10"	19'-0"
8	Wing Plank	3" x 10"	17'-6"
16	Wing Plank	3" x 10"	13'-6"
16	Wing Plank	3" x 10"	8'-6"
20	Wing Plank	3" x 10"	3'-6"
26	Abutment Plank	3" x 10"	16'-6"
26	Abutment Plank	3" x 10"	11'-6"
8	Cross Bracing	3" x 10"	16'-0"
4	Nailer	4" x 6"	10'-9"
4	Soil Stop	3" x 10"	10'-9"
8	Soil Stop	3" x 10"	1'-6"
26	Backing Splice	3" x 10"	1'-6"
2	Deadman	12" x 12"	27'-0"
TOTAL			F.B.M. 4894

**HARDWARE \***

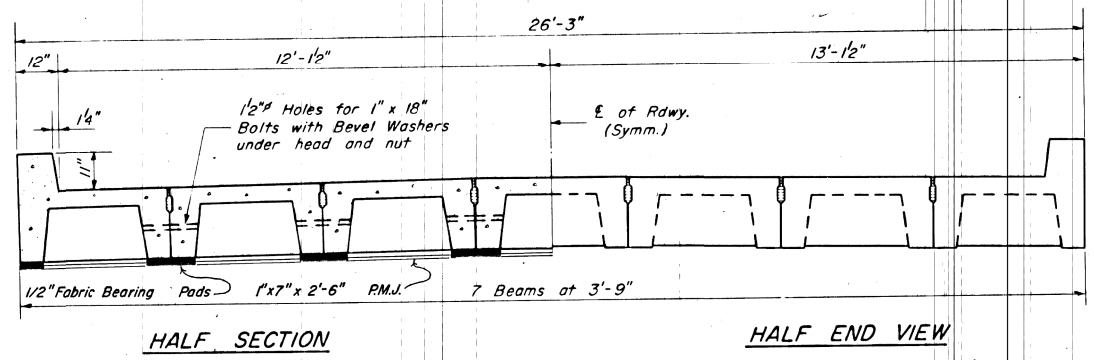
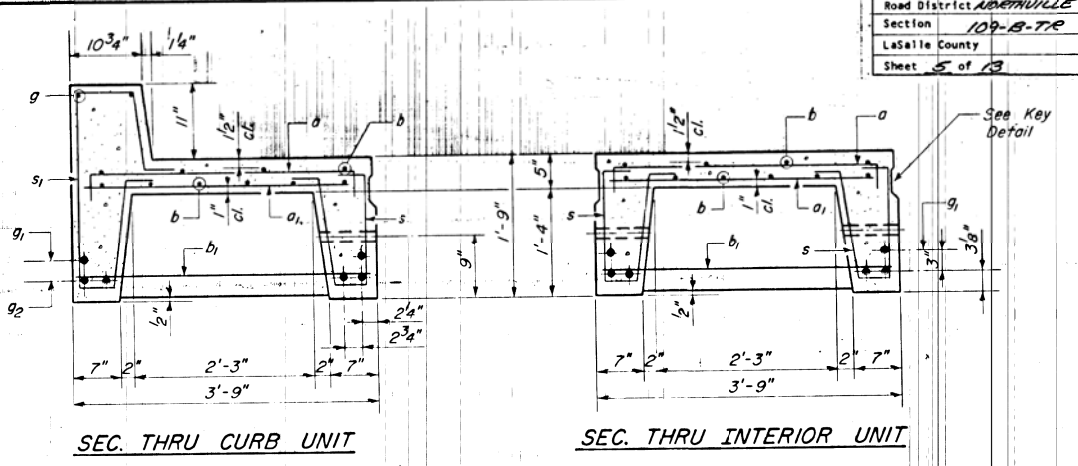
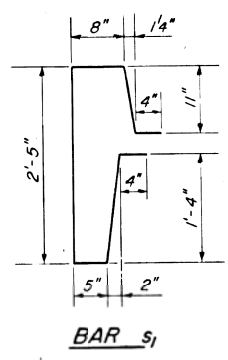
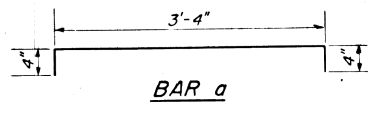
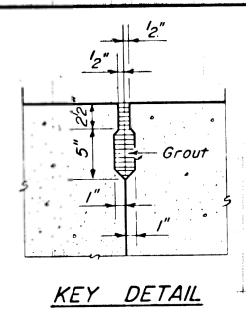
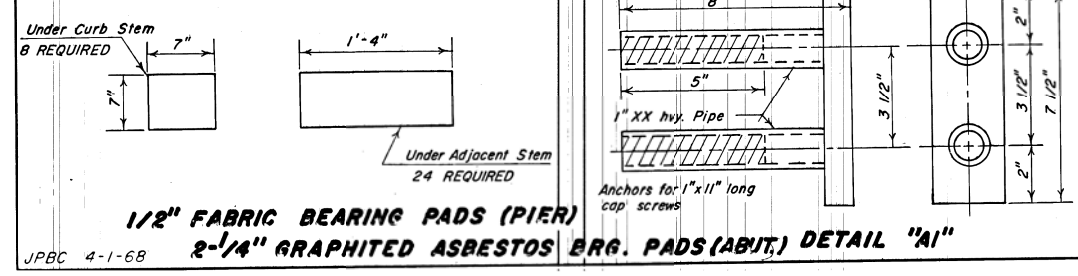
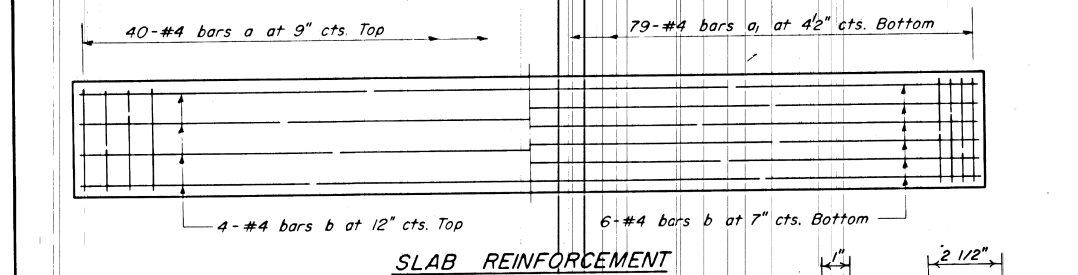
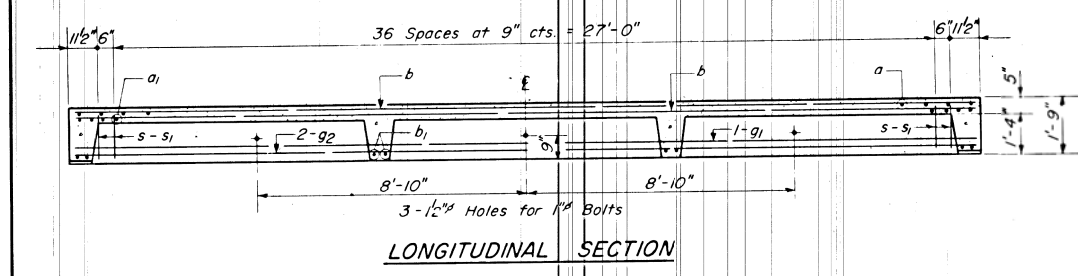
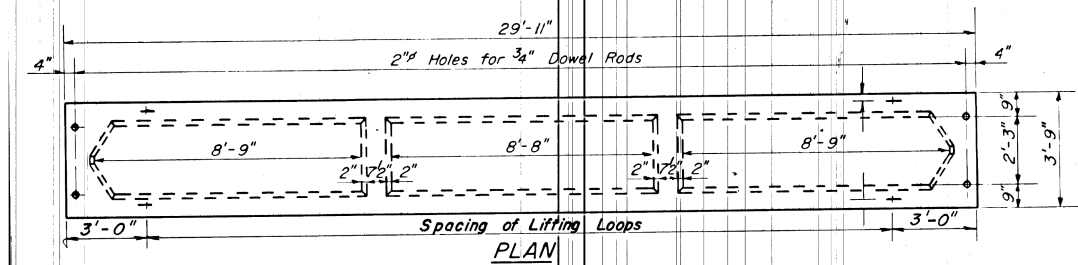
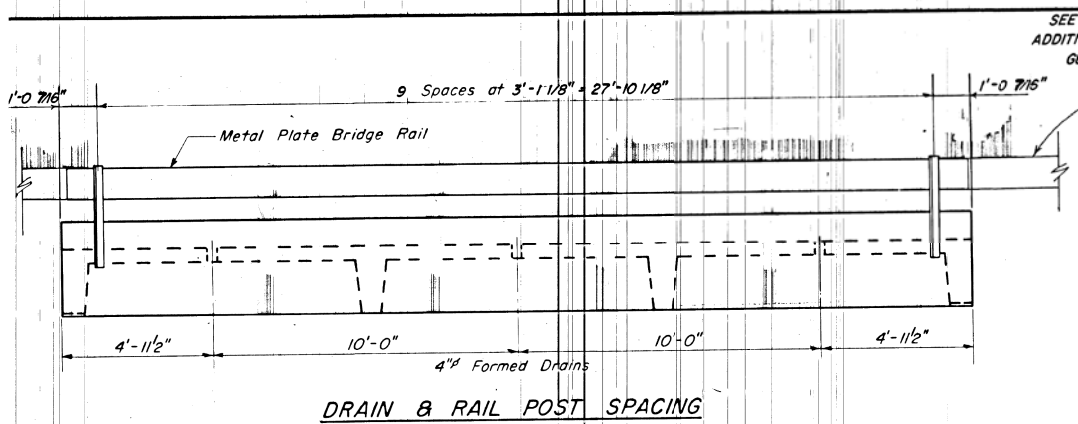
QUANTITY	HARDWARE	LENGTH
12	Tie Rod (TR-1)	24'-6"
2	Tie Rod (TR-2)	51'-6"
2	Tie Rod (TR-3)	34'-0"
2	Tie Rod (TR-4)	36'-6"
18	Turnbuckles	
36	6" x 6" x 1/4" Plate Washers	
36	Heavy Hex Nuts	
24	Bolts 1" with nut and 2 washers	1'-6"
4	Bolts 1" with nut and 2 washers	2'-0"
1502	60d Spikes	
TOTAL		POUNDS 1858

\* Includes 3 1/2 % for Galvanizing

**ABUTMENT DETAILS  
SOMONAUK CREEK  
SECTION 109-B-TR  
NORTHVILLE TWP.  
LASALLE COUNTY  
STATION 4+65.50**

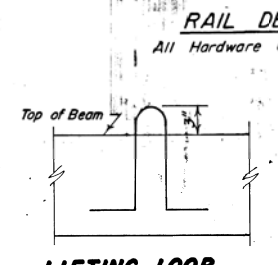
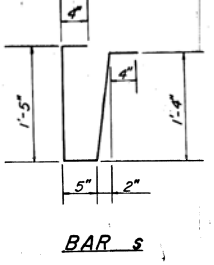
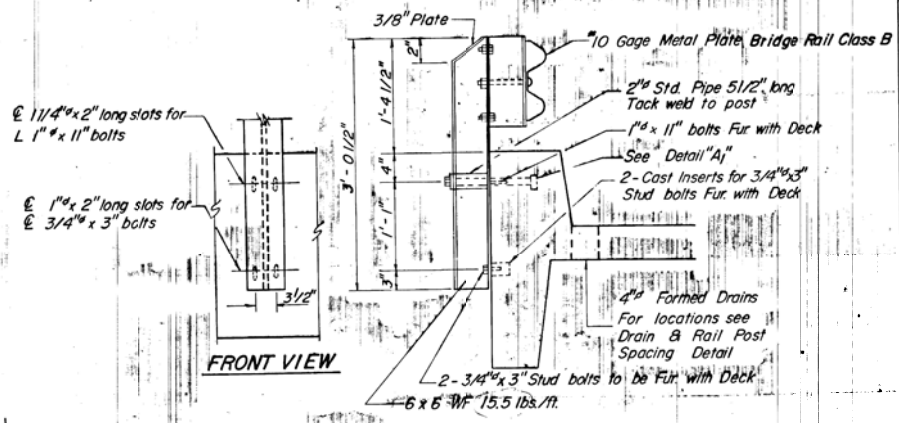
EXISTING STRUCTURE PLANS

SHEET NO. 2 6 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	49
	FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 87632	
			FED. AID PROJECT E07H(592)		



**BILL OF MATERIAL - FOR ONE BEAM**

30' Beam		Curb Unit		Interior Unit			
Bar	Size	No.	Length	Weight	No.	Length	Weight
a	#4	40	4'-0"	107	40	4'-0"	107
a <sub>1</sub>	#4	79	3'-3"	172	79	3'-3"	172
b	#4	10	29'-6"	197	10	29'-6"	197
b <sub>1</sub>	#4	8	3'-6"	19	8	3'-6"	19
g	#4	2	29'-6"	39	-	-	-
g <sub>1</sub>	#11	2	29'-6"	313	2	29'-6"	313
g <sub>2</sub>	#11	4	29'-6"	627	4	29'-6"	627
s	#3	39	3'-10"	56	78	3'-10"	112
s <sub>1</sub>	#3	39	6'-5"	94	-	-	-
Class X Concrete		Cu. Yds.		5.1			4.1
Reinforcement Bars		Lbs.		1,624			1,547
Total Weight		Lbs.		20,655			16,605



**DESIGN STRESSES**

f<sub>c</sub> = 4,500 psi.  
 f<sub>c</sub> = 1,800 psi.  
 f<sub>s</sub> = 20,000 psi.  
 n = 8

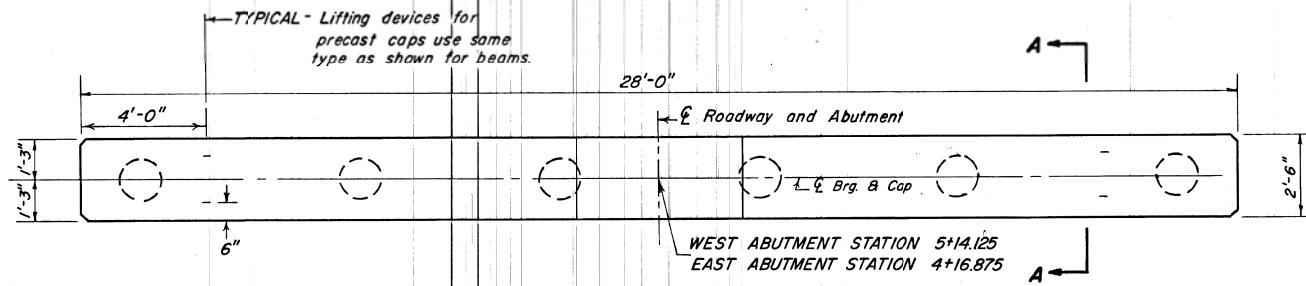
**USE 2-7/16" DIA. H.S. STRANDS**      **LOADING HS20-44**

**DECK DETAIL**  
**SOMONAUK CREEK**  
**SECTION 109-B-TR**  
**NORTHVILLE TOWNSHIP**  
**LASALLE COUNTY**  
**STATION 4+65.50**

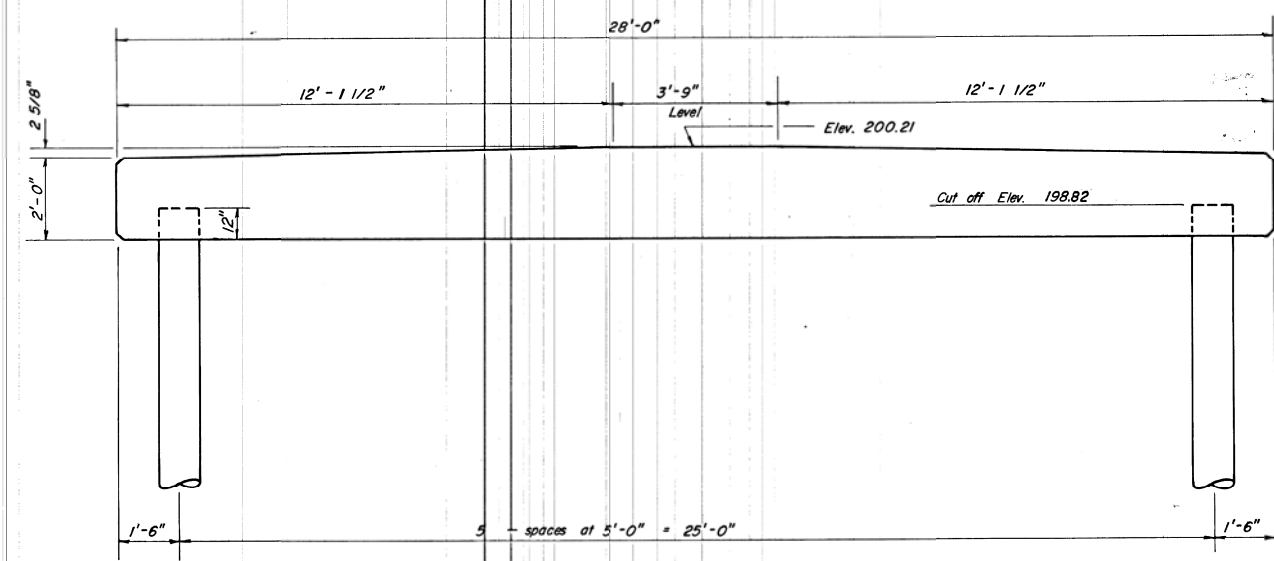
**EXISTING STRUCTURE PLANS**

SHEET NO. 3	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	50
6 SHEETS	FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 87632	
	FED. AID PROJECT E07H(592)				

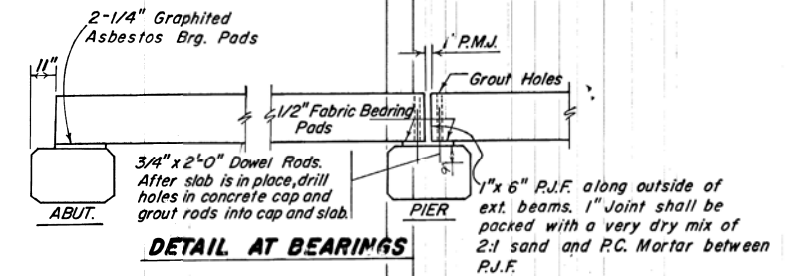




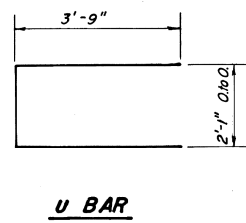
**PLAN**



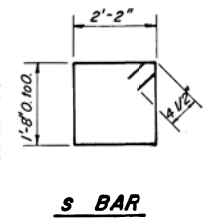
**ELEVATION**



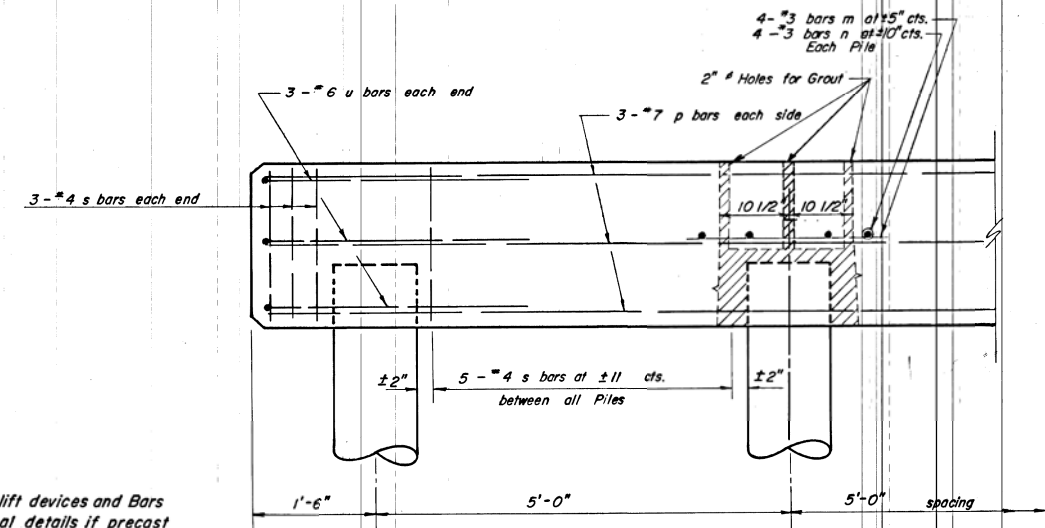
**DETAIL AT BEARINGS**



**U BAR**



**S BAR**



**PARTIAL ELEVATION**  
Showing Reinforcement

**BILL OF MATERIAL \***

Bar	No.	Size	Length	Shape	
p	6	#7	27'-8"		
s	31	#4	8'-5"		
u	6	#6	9'-7"		
Reinforcement bars				Lbs.	600
Class X Concrete				Cu. Yd.	5.3

\* Quantity is for one Cap only

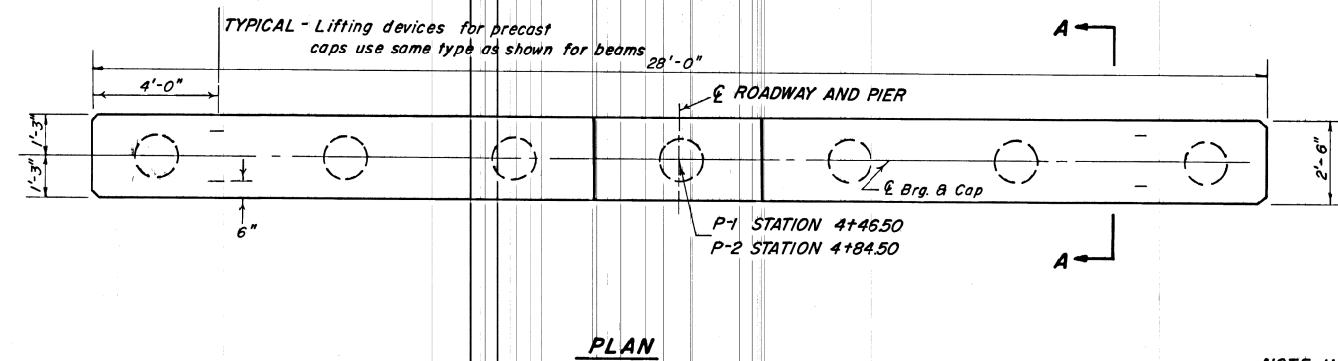
**GENERAL NOTES**

All Reinforcement bars shall be lapped a minimum of 24 bar diameters.  
 The Pile Cap may be precast or poured in place at the option of the Contractor.  
 A Precast Cap shall be constructed and erected in accordance with Section 505 of the Standard Specifications.  
 A poured in place Pile Cap shall be constructed in accordance with Section 504 of the Standard Specifications.  
 Payment shall include all the work and materials to complete the work specified and shall be paid for at the Unit Price each for the item Concrete Pile Cap.

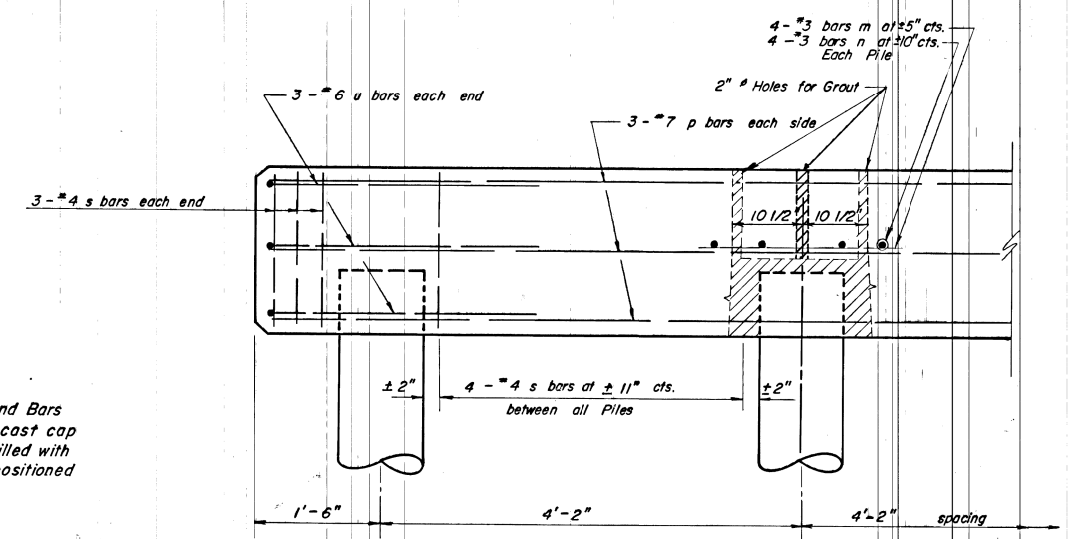
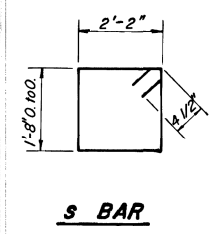
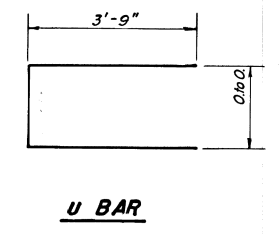
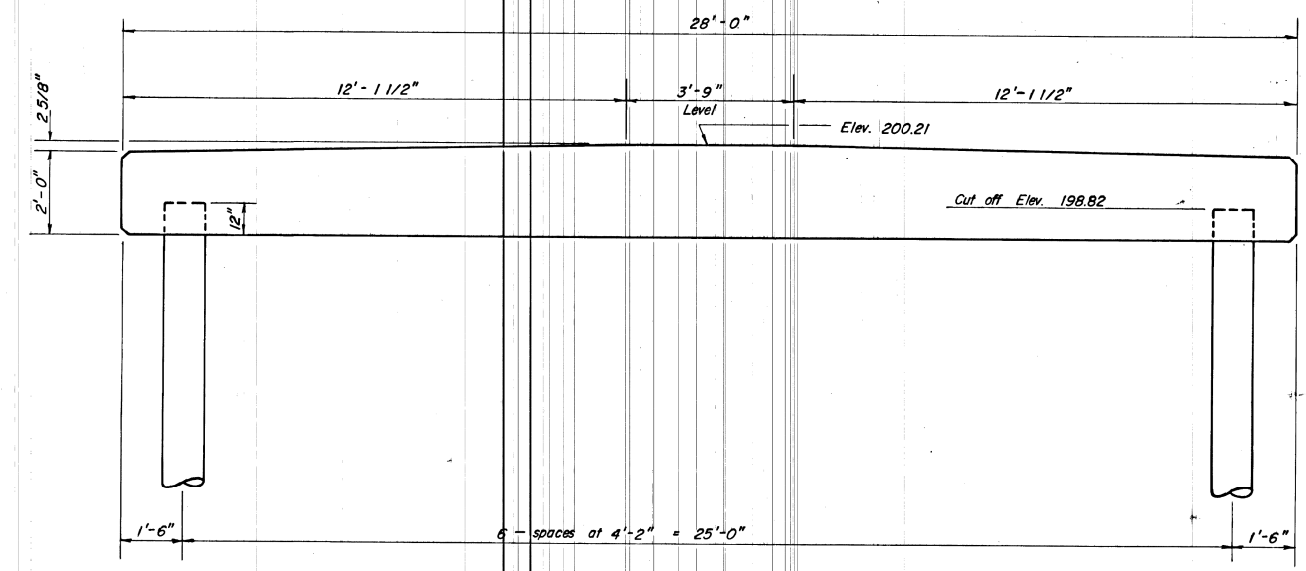
**CAP DETAIL**  
**SOMONAUK CREEK**  
**SECTION 109-B-TR**  
**NORTHVILLE TOWNSHIP**  
**LASALLE COUNTY**  
**STATION 4+65.50**

**EXISTING STRUCTURE PLANS**

SHEET NO. 5  6 SHEETS	ROUTE NO. TR 107A	SECTION 14-23744-00-BR	COUNTY LASALLE	TOTAL SHEETS 61	SHEET NO. 52
	FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 87632	
				FED. AID PROJECT E07H(592)	



NOTE: Hatched Area, Lifting devices and Bars m & n are typical details if precast cap is used. Hatched areas to be filled with grout after pile cap has been positioned over piles.



**PARTIAL ELEVATION**  
 Showing Reinforcement

**BILL OF MATERIAL \***

Bar	No.	Size	Length	Shape
p	6	#7	27'-8"	□
s	30	#4	8'-5"	□
u	6	#6	9'-7"	□
Reinforcement bars				Lbs. 600
Class X Concrete				Cu. Yd. 5.3

\* Quantity is for one Cap only

**GENERAL NOTES**

All Reinforcement bars shall be lapped a minimum of 24 bar diameters.

The Pile Cap may be precast or poured in place at the option of the Contractor.

A Precast Cap shall be constructed and erected in accordance with Section 505 of the Standard Specifications.

A poured in place Pile Cap shall be constructed in accordance with Section 504 of the Standard Specifications.

Payment shall include all the work and materials to complete the work specified and shall be paid for at the Unit Price each for the Item Concrete Pile Cap.

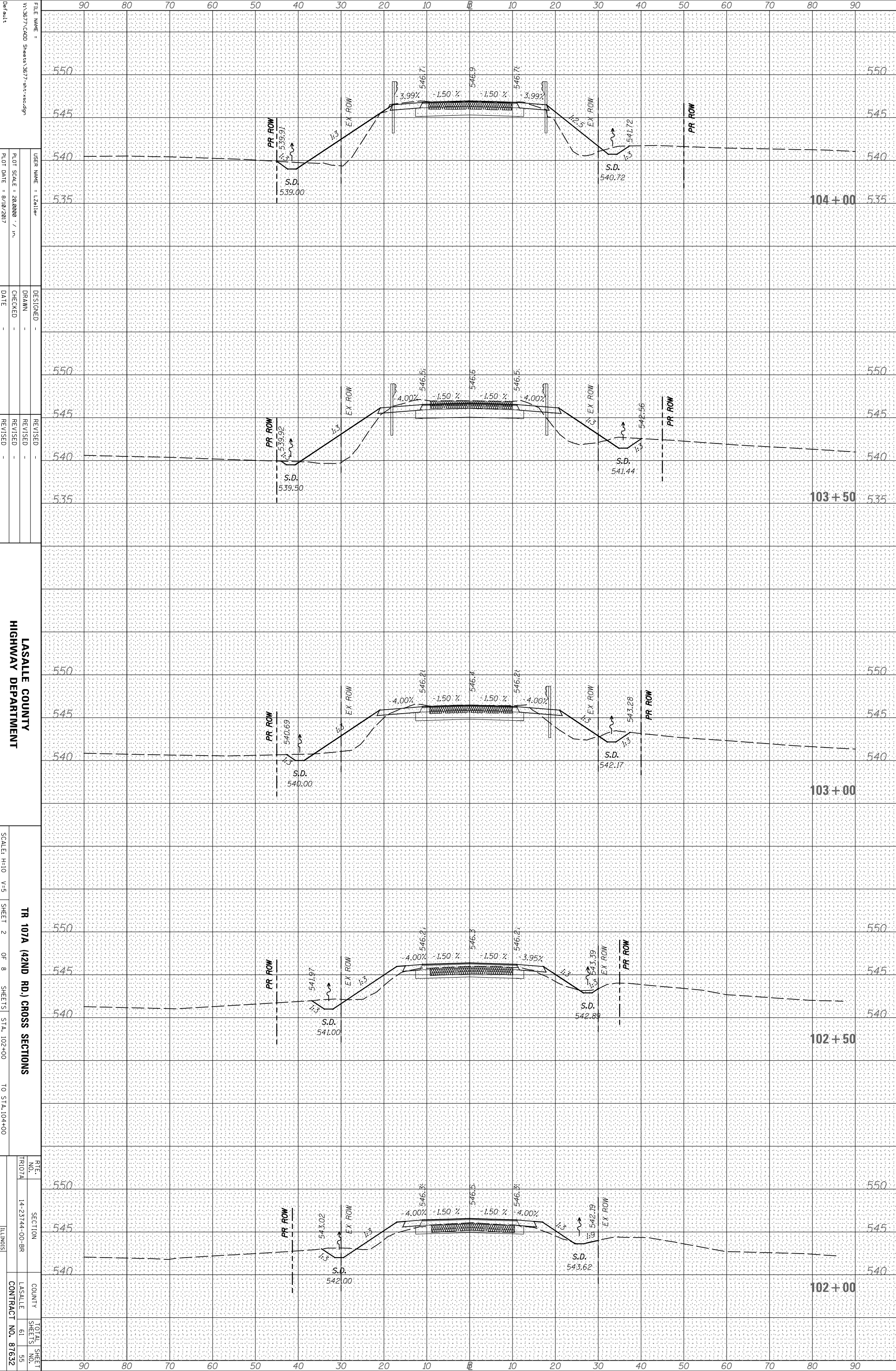
**PIER CAP DETAIL  
 SOMONAUK CREEK  
 SECTION 109-B-TR  
 NORTHVILLE TOWNSHIP  
 LASALLE COUNTY  
 STATION 4+65.50**

EXISTING STRUCTURE PLANS

SHEET NO. 6 6 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 107A	14-23744-00-BR	LASALLE	61	53
	FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 87632	
			FED. AID PROJECT E07H(592)		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		



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 SHEET 2 OF 8 SHEETS STA. 102+00 TO STA. 104+00

**LASALLE COUNTY**  
**HIGHWAY DEPARTMENT**

**TR 107A (2ND RD.) CROSS SECTIONS**

SECTION NO. TR107A  
 COUNTY LASALLE  
 CONTRACT NO. 87632

TOTAL SHEET NO. 61  
 SHEETS 55

ORIGINAL SURVEY	SURVEYED _____	BY _____	DATE _____
NOTE BOOK	PLOTTED _____		
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NOTE BOOK	PLOTTED _____		
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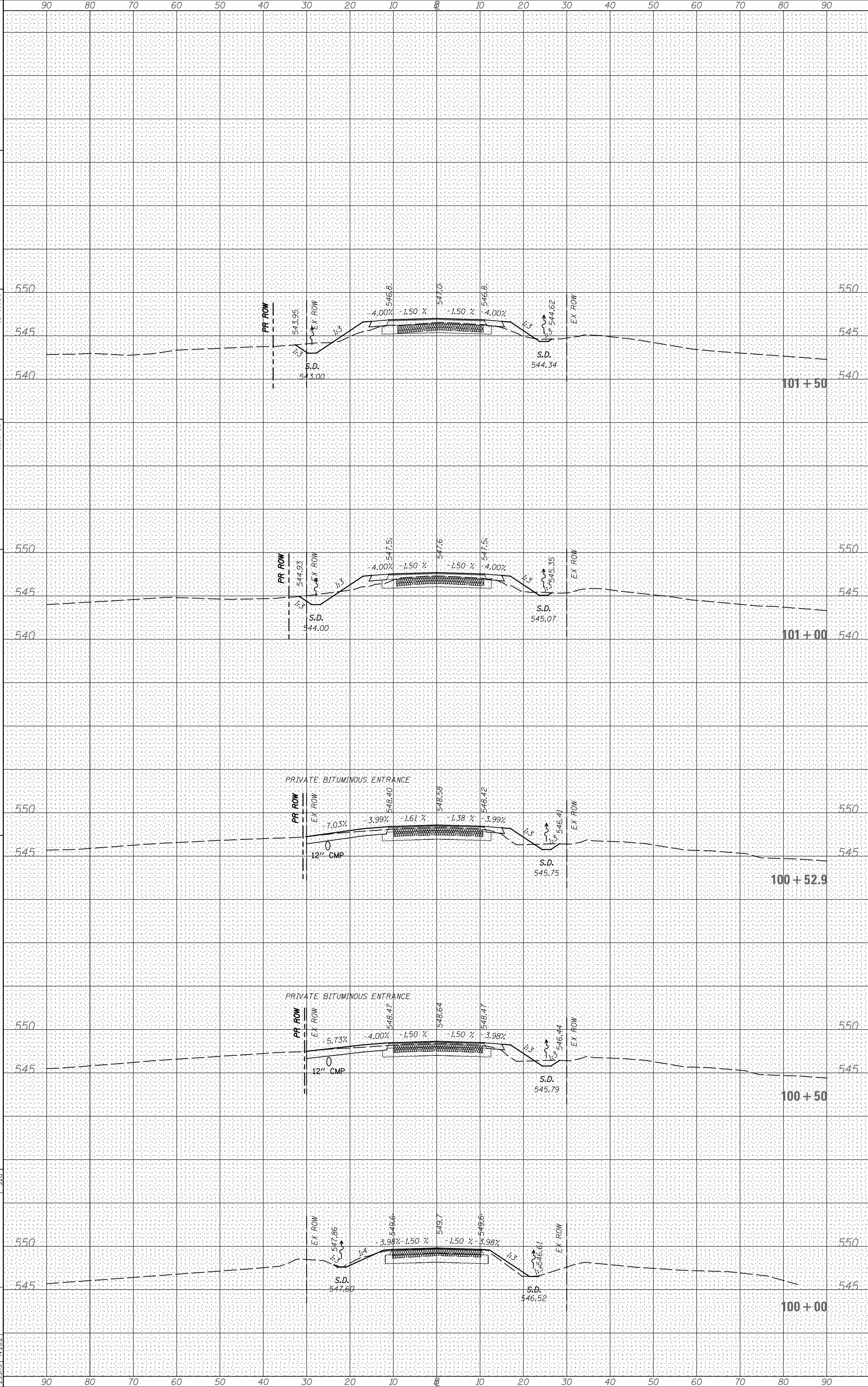
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**LASALLE COUNTY  
 HIGHWAY DEPARTMENT**

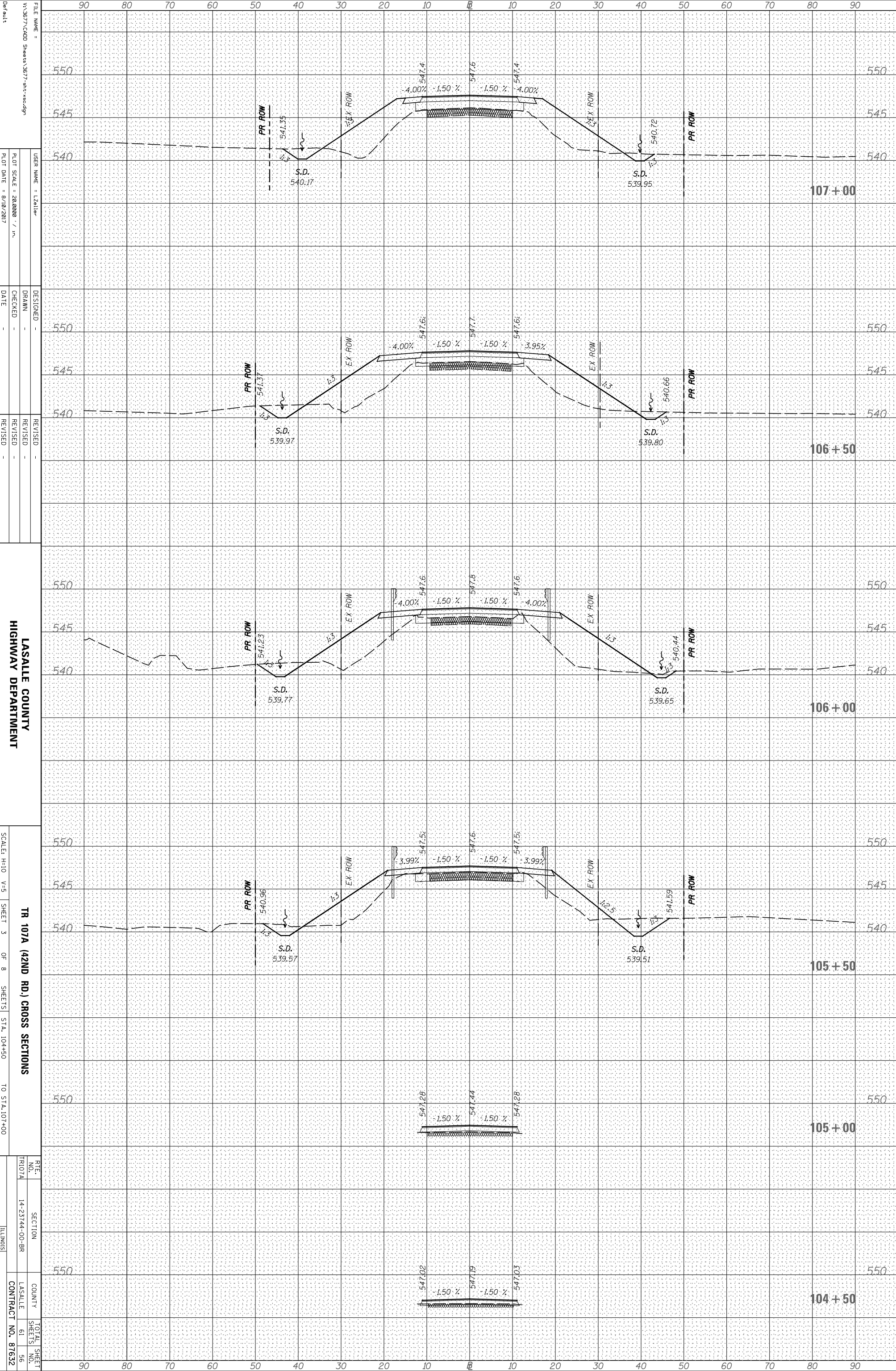
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 SHEET 1 OF 8 SHEETS STA. 100+00 TO STA. 101+50  
**TR 107A (2ND RD.) CROSS SECTIONS**

RTE. NO. TR107A  
 SECTION 14-23144-00-BR  
 COUNTY LASALLE  
 TOTAL SHEET NO. 61  
 SHEETS 54  
 CONTRACT NO. 87632



ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
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	AREAS		
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FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
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	AREAS		
	AREAS CHECKED		



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**LASALLE COUNTY  
 HIGHWAY DEPARTMENT**

SCALE: H=10 V=5  
 SHEET 3 OF 8 SHEETS STA. 104+50 TO STA. 107+00

**TR 107A (2ND RD.) CROSS SECTIONS**

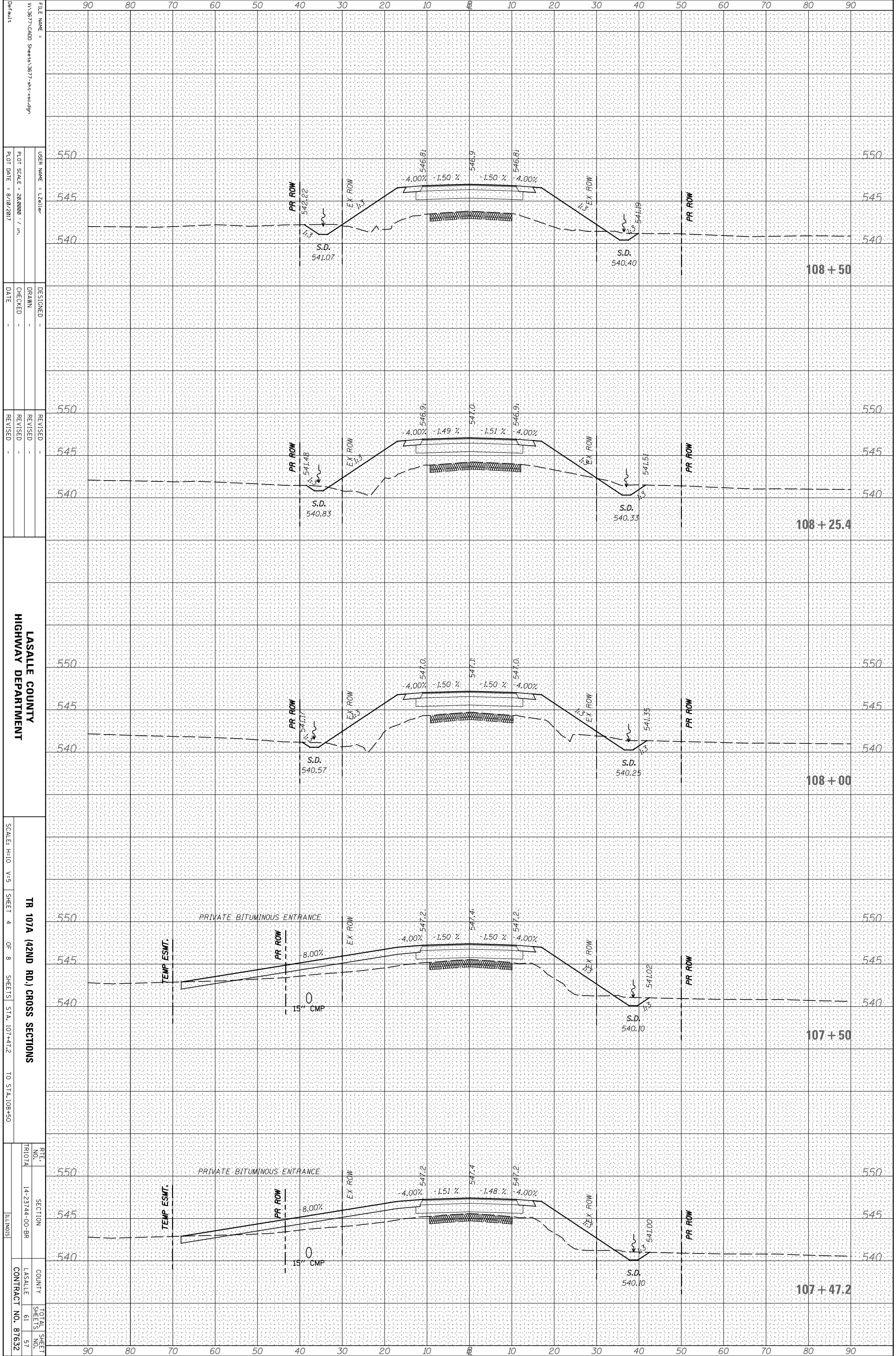
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TR107A	14-23744-00-BR	LASALLE	61
			56
			CONTRACT NO. 87632

ILLINOIS



ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
	CHECKED		

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
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LASALLE COUNTY  
 HIGHWAY DEPARTMENT

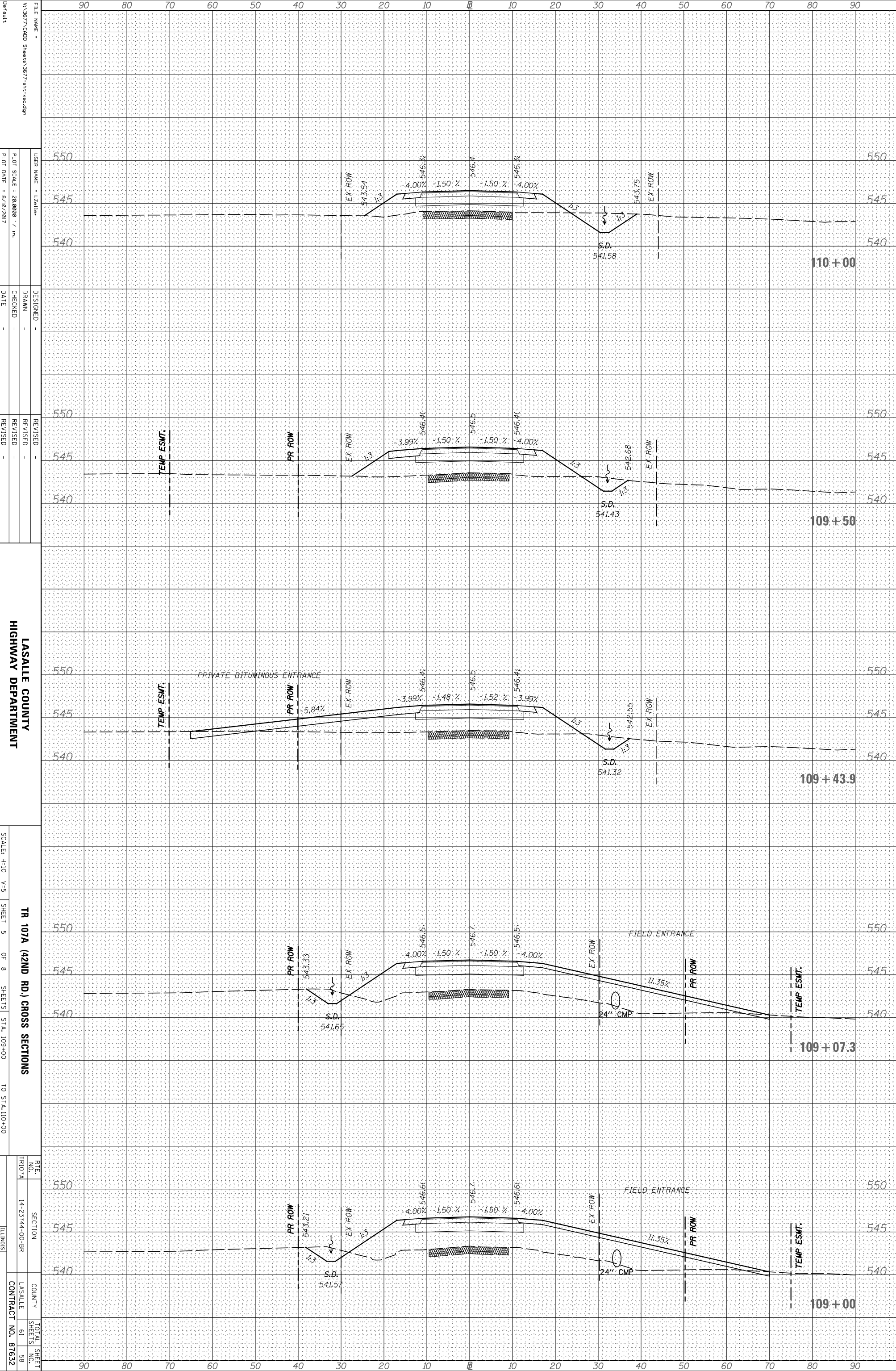
TR 107A (42ND RD.) CROSS SECTIONS

SCALE: H=10 V=5  
 SHEET 4 OF 8 SHEETS STA. 107+47.2 TO STA. 108+50

TR107A	SECTION	COUNTY	TOTAL SHEET NO.
14-23744-00-BR	LASALLE	ILLINOIS	61
			57
			CONTRACT NO. 87632

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
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FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
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 SCALE: H=10 V=5  
 SHEET 5 OF 8 SHEETS STA. 109+00 TO STA. 110+00  
 TR 107A (2ND RD.) CROSS SECTIONS  
 COUNTY: LASALLE  
 CONTRACT NO.: 87632

90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90  
 550  
 545  
 540  
 110+00  
 550  
 545  
 540  
 109+50  
 550  
 545  
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 109+43.9  
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 545  
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 109+07.3  
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 545  
 540  
 109+00

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
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FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
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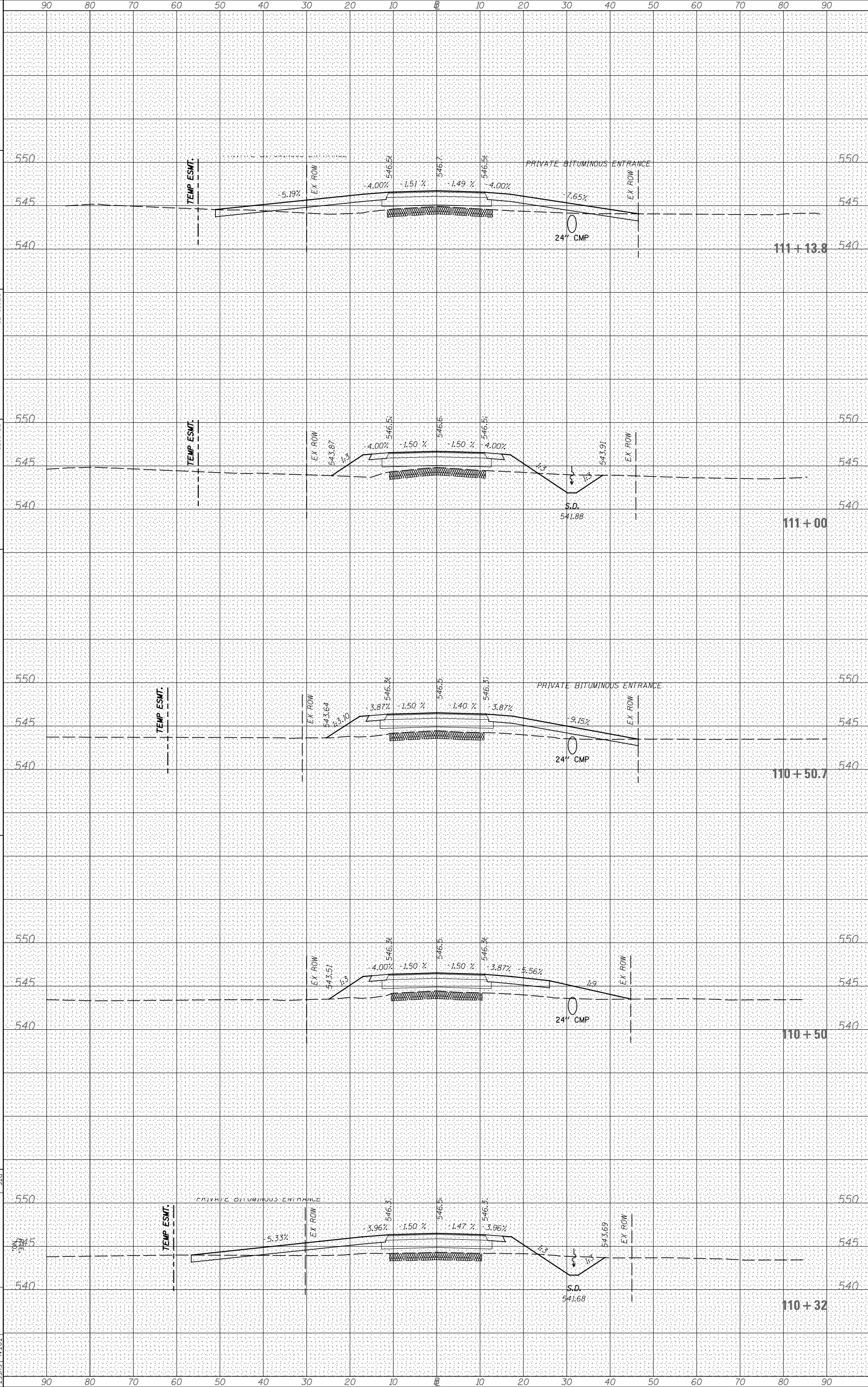
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**LASALLE COUNTY  
 HIGHWAY DEPARTMENT**

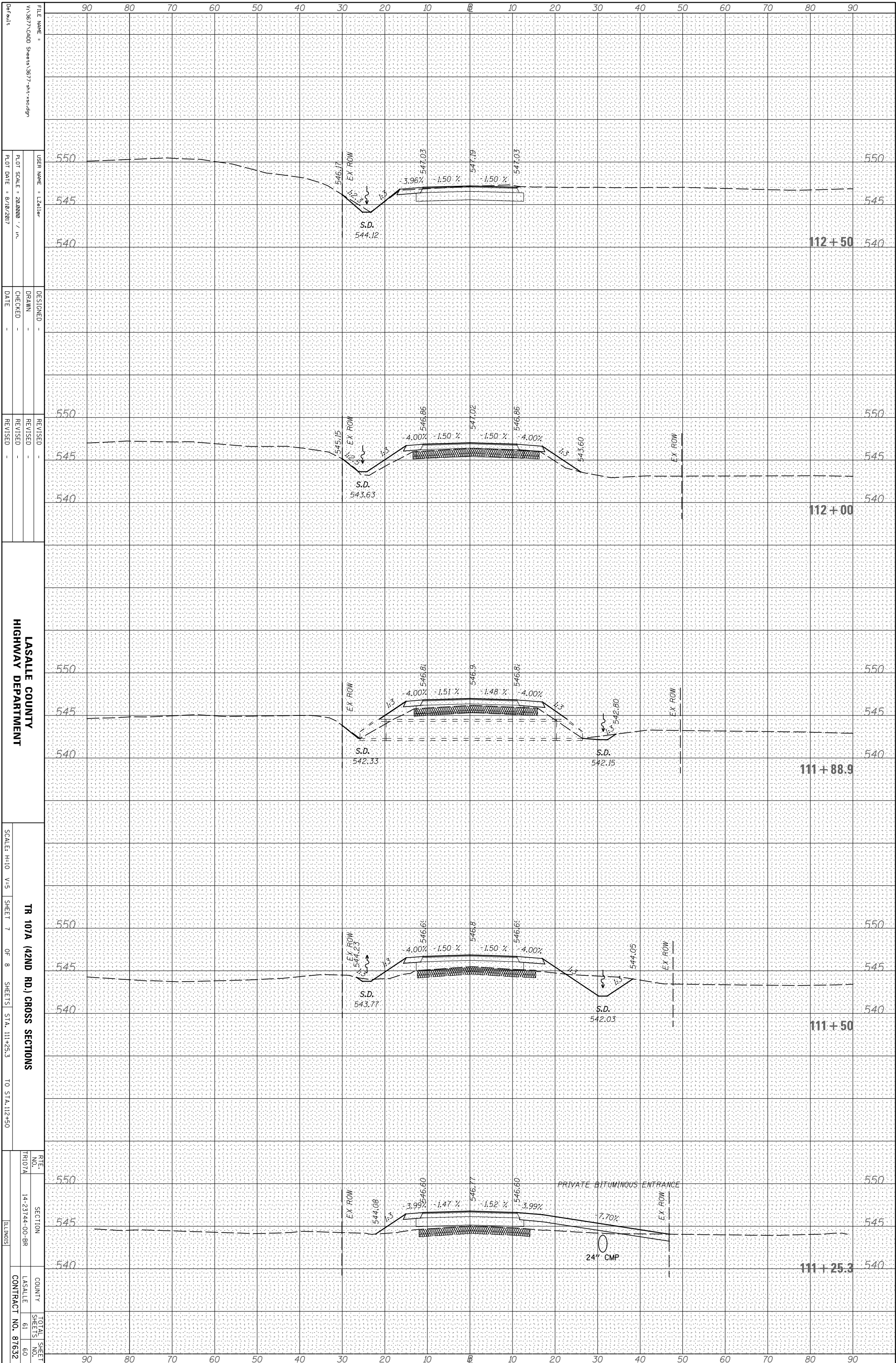
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 SHEET 6 OF 8 SHEETS STA. 110+32 TO STA. 111+13.8

TR 107A (2ND RD.) CROSS SECTIONS  
 COUNTY LASALLE  
 CONTRACT NO. 87632



ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		



LASALLE COUNTY  
HIGHWAY DEPARTMENT

TR 107A (2ND RD.) CROSS SECTIONS

SCALE: H=10 V=5 SHEET 7 OF 8 SHEETS STA. 111+25.3 TO STA. 112+50

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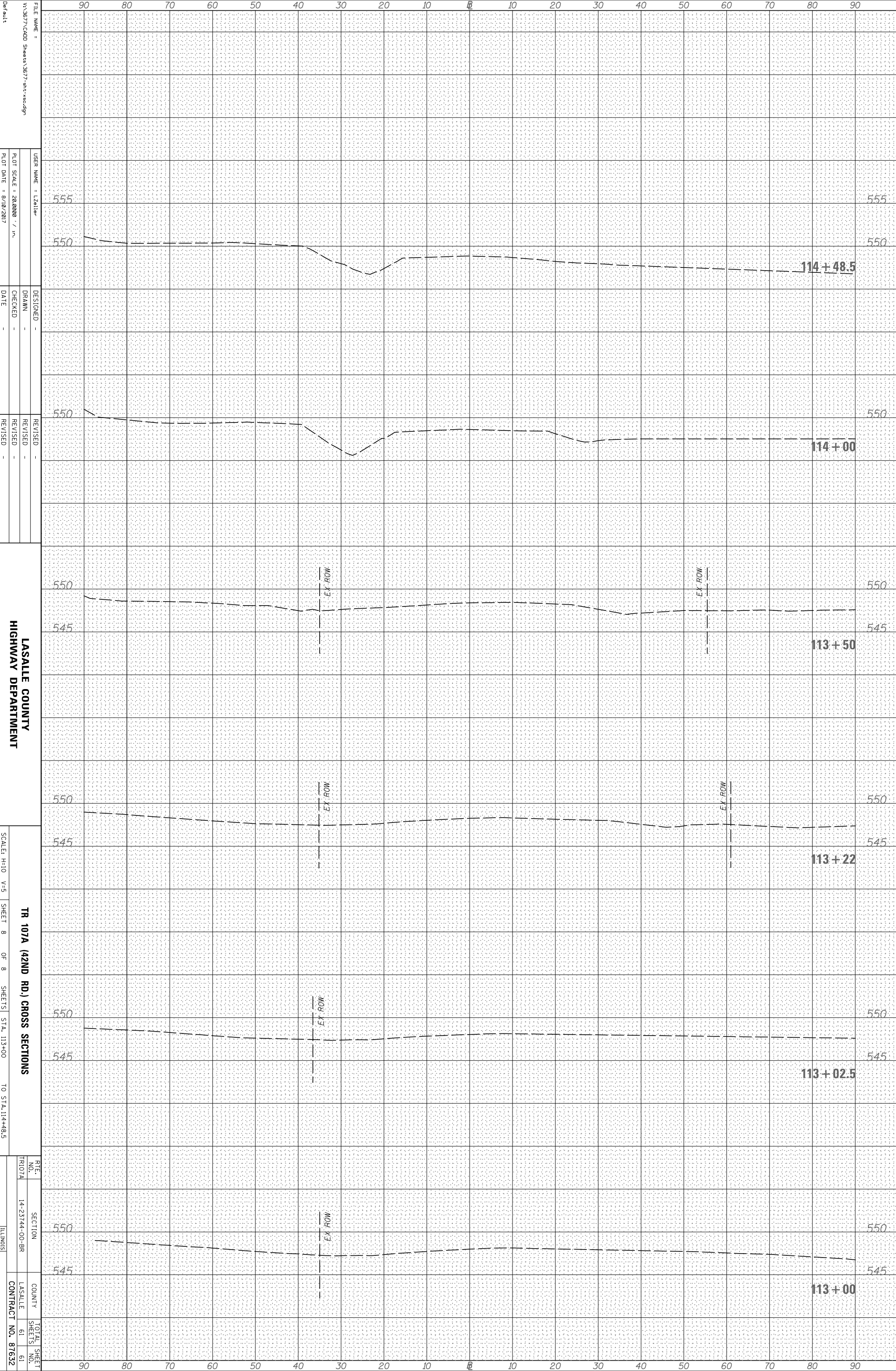
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ROUTE NO.	SECTION	COUNTY	TOTAL SHEET NO.
TR107A	14-23744-00-BR	LASALLE	61
			60
		CONTRACT NO. 87632	

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
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FINAL SURVEY	SURVEYED	BY	DATE
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LASALLE COUNTY  
 HIGHWAY DEPARTMENT

SCALE: H=10 V=5  
 SHEET 8 OF 8 SHEETS STA. 113+00 TO STA. 114+48.5

TR 107A (2ND RD.) CROSS SECTIONS

RT#	SECTION	COUNTY	TOTAL SHEET NO.
TR107A	14-23744-00-BR	LASALLE	61
	ILLINOIS		61
		CONTRACT NO. 87632	