

LETTING DATE

7/1/08

CRAWFORD COUNTY

PROJECT NO. LB41-27W BRIDGE REPLACEMENT

PROJECT NO. LB41-27W

# IOWA DEPARTMENT OF TRANSPORTATION

Project Development Division  
Plans of Proposed Improvement on The  
**SECONDARY ROAD SYSTEM**  
**CRAWFORD COUNTY**  
PROJECT NO. LB41-27W

**PROJECT TRAFFIC CONTROL PLAN**

THIS ROAD WILL BE CLOSED TO THROUGH TRAFFIC DURING CONSTRUCTION. LOCAL TRAFFIC TO ADJACENT PROPERTIES WILL BE MAINTAINED AS PROVIDED FOR IN ARTICLE 1107.08 OF THE CURRENT STANDARD SPECIFICATIONS. TRAFFIC CONTROL DEVICES, PROCEDURES AND LAYOUTS SHALL BE AS PER PART VI OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AS ADOPTED BY THE DEPARTMENT PER 761 OF THE IOWA ADMINISTRATIVE CODE (ICA), CHAPTER 130.

TRAFFIC CONTROL TO BE FURNISHED BY CRAWFORD COUNTY.

INDEX OF SHEETS	
NO.	DESCRIPTION
1	TITLE PAGE, LOCATION MAP, MILEAGE SUMMARY, TRAFFIC NOTES ROAD STANDARD PLANS
2	QUANTITY SHEET INCLUDING ESTIMATE OF QUANTITIES, ITEM NOTES GENERAL NOTES
3	DETAIL SHEET, BRIDGE
4	DETAIL SHEET, ABUTMENT CAP
5	DETAIL SHEET, PIER CAP
6	SITUATION PLAN
7-8	ROADWAY CROSS SECTIONS

ON 130th ST. 0.29 MILES SOUTH OF THE INTERSECTION OF K AVE. AND 130th ST.

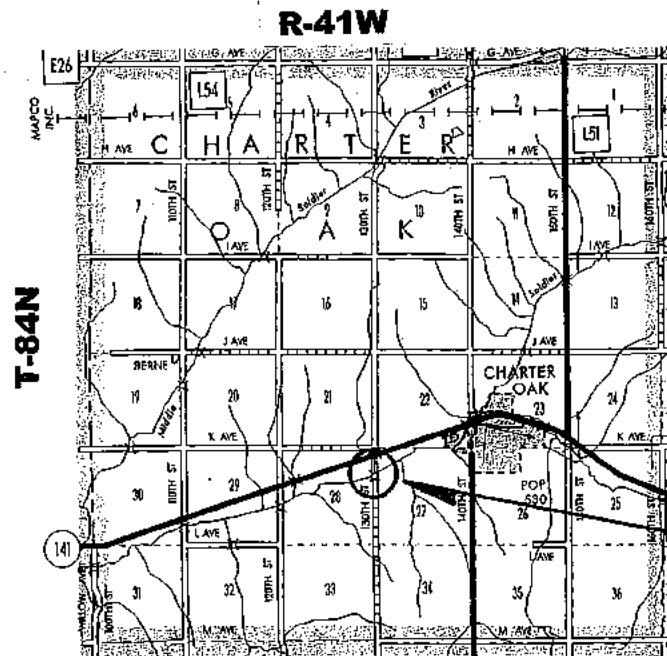
## BRIDGE REPLACEMENT

THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2001, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT

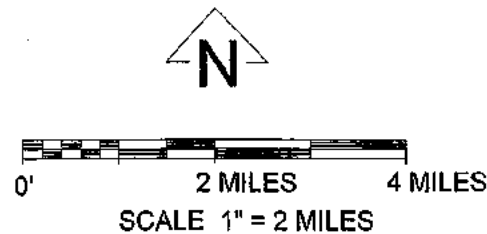
Scales As Noted

STANDARD BRIDGE PLANS			
The following Standard Plans shall be considered applicable to construction work on this project.			
Identification	Date	Identification	Date
P10A	9/-/06		

ROAD STANDARD PLANS			
The following Standard Plans shall be considered applicable to construction work on this project.			
Identification	Date	Identification	Date
RL-16	04/15/08		



133'-10" x 24'-0" STEEL GIRDER BRIDGE  
TIMBER FLOOR



1996 AADT 10 V.P.D.

*John P. Lundy*

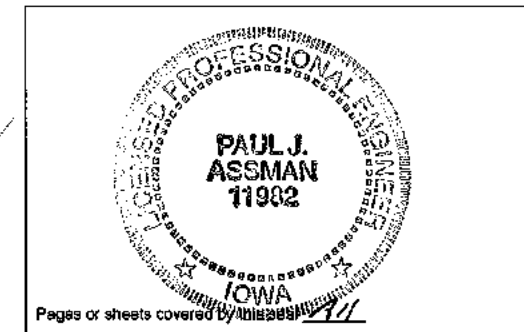
*Mark Leggett*

*Steve L...*

*Robert L...*

*Paul J. Assman*

APPROVED  
BOARD OF SUPERVISORS



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

*Paul J. Assman*  
Paul J. Assman Date 6/10/08

MY LICENSE RENEWAL DATE IS 12/31/08

129731

ESTIMATE OF QUANTITIES				
REF. NO.	ITEM CODE	ITEM	UNIT	TOTAL
1	2104-2710020	CLASS 10, CHANNEL EXCAVATION	CU. YDS.	247.0
2	2401-6745625	REMOVAL OF EXISTING BRIDGE	L.S.	1.0
3	2402-2720000	CLASS 20 EXCAVATION	CU. YDS.	28.0
4	2403-0100010	STRUCTURAL CONCRETE (BRIDGE)	CU. YDS.	33.0
5	2404-7775000	REINFORCING STEEL	LB.	4238.0
6	2501-0201042	PILE STEEL HP10 X 42 (DRIVE ONLY)	LIN. FT.	1800.0
7	2408-7700020	STRUCTURAL STEEL - ERECT	LB.	98777.0
8	2501-5475042	CONC. ENCASE. OF STEEL H PILES, HP10X42 (P10A TYPE 3)	LIN. FT.	360.0
9	2533-4980005	MOBILIZATION	L.S.	1.0
10	2547-0000100	TEMPORARY STREAM ACCESS	L.S.	1.0

### ESTIMATE REFERENCE INFORMATION

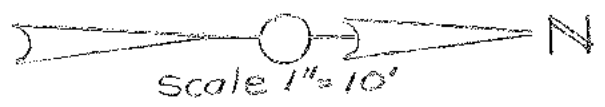
#### REF. NO.

- 1 & 3 & 6 REMOVAL OF EXISTING RIP RAP MAY BE REQUIRED TO COMPLETE THESE ITEMS OF WORK. AFTER WORK IS COMPLETED RIP RAP IS TO BE REPLACED AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL AND REPLACEMENT OF RIP RAP TO BE CONSIDERED INCIDENTAL TO CLASS 10 CHANNEL EXCAVATION.
- 2 ITEM INCLUDES REMOVAL AND DISPOSAL OF ALL BRIDGE ELEMENTS EXCEPT AS NOTED. THE EXISTING APPROACH SPAN STEEL STRINGERS AND ALL DECK PLANK SHALL BE REMOVED BY AND SHALL REMAIN THE PROPERTY OF CRAWFORD COUNTY. REMOVALS SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS 2401.
- 4 ITEM INCLUDES 9.3 C.Y. CONCRETE IN EACH ABUTMENT AND 7.2 C.Y. CONCRETE IN EACH PIER. ALL STRUCTURAL CONCRETE TO BE CLASS "C". CERTIFIED PLANT INSPECTION IS REQUIRED AND INCLUDED IN THE COST OF THIS ITEM.
- 5 ITEM INCLUDES 1260 LBS. OF STEEL IN EACH ABUTMENT AND 859 LBS. OF STEEL IN EACH PIER. STEEL TO BE UNCOATED.
- 6 INCLUDES 6 PILES AT 50'-0" FOR EACH ABUTMENT, 8 PILES AT 60'-0" FOR EACH PIER AND 4 PILES AT 30'-0" FOR EACH WINGWALL. HP10 X 42 PILING TO BE FURNISHED AND DELIVERED TO THE SITE BY CRAWFORD COUNTY.
- 7 ITEM INCLUDES INSTALLING ALL BEARING PLATES, STEEL BEAMS, AND DIAPHRAGMS AS SHOWN HEREIN. SAID MATERIALS INCLUDING BOLTS SHALL BE FURNISHED AND DELIVERED TO THE SITE BY CRAWFORD COUNTY. DIAPHRAGMS SHALL BE BOLTED TO BEAM WEBS USING 3-7/8" BOLTS AT EACH CONNECTION. HOLES IN BEAM WEB SHALL BE FIELD CUT OR DRILLED.  
18" I-BEAMS 41,572 LBS.  
24" I-BEAMS 49,140 LBS.  
DIAPHRAGMS 6065 LBS.
- 8 THE PILING ENCASEMENTS ARE TO EXTEND DOWN TO THE ELEVATIONS SHOWN ON THE PLANS, SHEET NO. 3. THE UNIT PRICE BID FOR ENCASEMENT SHALL BE FULL PAYMENT FOR FURNISHING AND PLACING MATERIAL AND WHERE NECESSARY, EXCAVATION. SEE STANDARD P10A REVISED SEPTEMBER 2006 FOR DETAILS.
- 10 FILL MATERIALS AND PIPE CULVERT MATERIALS FOR THE TEMPORARY CROSSING SHALL BE FURNISHED BY THE CONTRACTOR. THE MATERIALS SHALL MEET THE REQUIREMENTS OF STANDARD ROAD PLAN RL-16 AND THE GENERAL SUPPLEMENTAL SPECIFICATIONS. USE OF DREDGED MATERIAL OR OTHER MATERIAL NOT MEETING THE SPECIFIED MATERIAL REQUIREMENTS WILL NOT BE ALLOWED. THE TEMPORARY CROSSING MUST MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS TO QUALIFY FOR "LUMP SUM" PAYMENT.

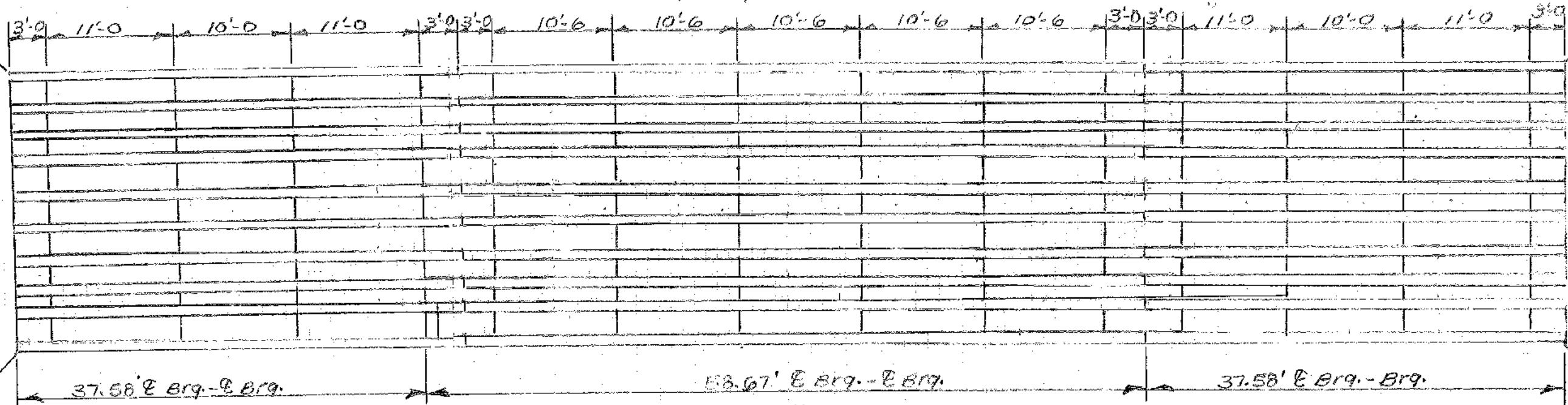
### GENERAL NOTES

- 213-1  
IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE WASTE AREAS OR DISPOSAL SITES FOR EXCESS MATERIAL (EXCAVATED MATERIAL OR BROKEN CONCRETE) WHICH IS NOT DESIRABLE TO BE INCORPORATED IN THE WORK INVOLVED ON THIS PROJECT. THESE AREAS SHALL NOT IMPACT WETLANDS OR "WATERS OF THE U.S." NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES. NO MATERIAL SHALL BE PLACED WITHIN THE RIGHT-OF-WAY, UNLESS SPECIFICALLY STATED IN THE PLANS.
- 251-1  
THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN ACCESS TO INDIVIDUAL PROPERTIES DURING CONSTRUCTION.  
  
RELOCATED ACCESS SHALL BE COMPLETED TO INDIVIDUAL PROPERTIES PRIOR TO REMOVAL OF EXISTING ACCESS.  
  
IF THE PERMANENT ACCESS CANNOT BE COMPLETED PRIOR TO REMOVAL OF THE EXISTING ACCESS, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN AN ALTERNATE ACCESS. TEMPORARY GRANULAR SURFACING WILL BE FURNISHED BY THE COUNTY.
- 271-9  
A SCRAPE SAMPLE WAS TAKEN FROM ONE AREA OF THIS BRIDGE TO GET AN INDICATION OF THE EXISTENCE OF THE LEVEL OF TOTAL CHROMIUM AND TOTAL LEAD. ANALYSIS OF TOTAL LEAD ON THIS SAMPLE WAS 15100 mg/kg. ANALYSIS OF TOTAL CHROMIUM ON THIS SAMPLE WAS 22200 mg/kg. THESE ANALYSIS SHOW THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS. LEVELS INDICATED BY THESE TESTS COULD CREATE CONDITIONS ABOVE REGULATORY LIMITS FOR HEALTH AND SAFETY REQUIREMENTS. NO OTHER CONSTITUENTS WERE ANALYZED. THE BIDDER SHOULD NOT RELY ON THE CONTRACTING AUTHORITY'S TESTING AND ANALYSIS FOR ANY PURPOSE OTHER THAN AS AN INDICATION OF THE EXISTANCE OF THESE TWO TOXIC CONSTITUENTS.  
  
CONSTRUCTION STAKING SHALL BE PROVIDED BY THE OWNER IN ACCORDANCE WITH ARTICLE 1105.06 OF THE CURRENT STANDARD SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR CONDUCTING AN INDEPENDENT CHECK OF ALL CONSTRUCTION STAKES PLACED FOR THE PROJECT. THIS INDEPENDENT CHECK SHALL BE SUFFICIENT TO UNDERSTAND THE PLACEMENT AND INTENT OF THE STAKES.

BM Spike in South end Bridge Elev. 503.74  
 10+00 South end of existing bridge.

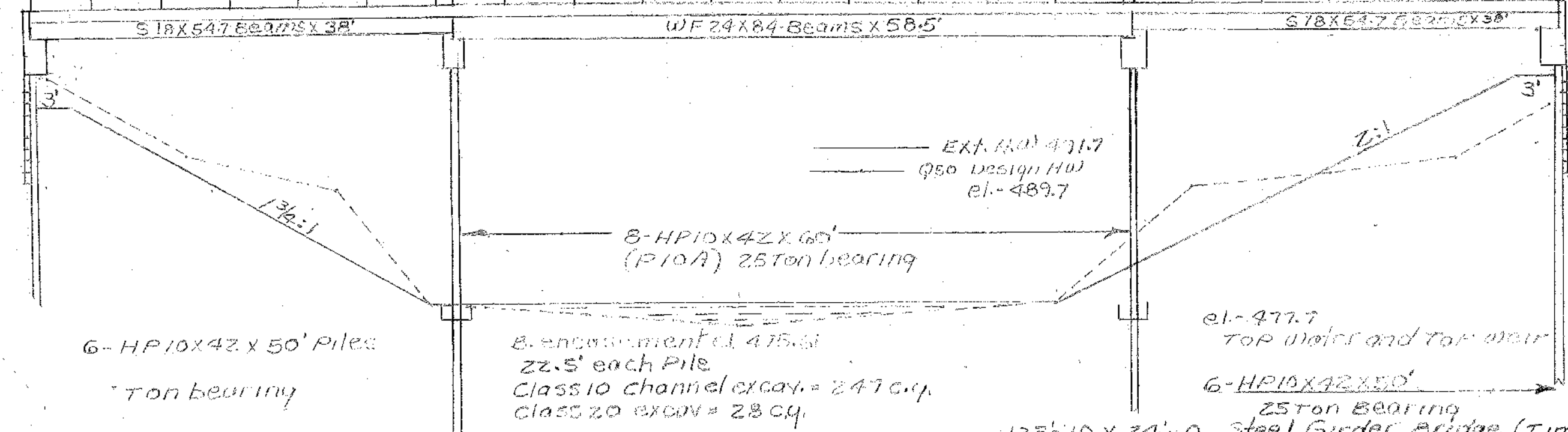
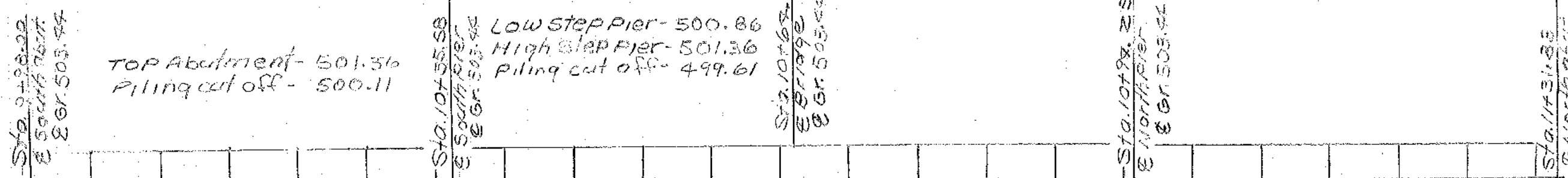


Diaphragm Spacing

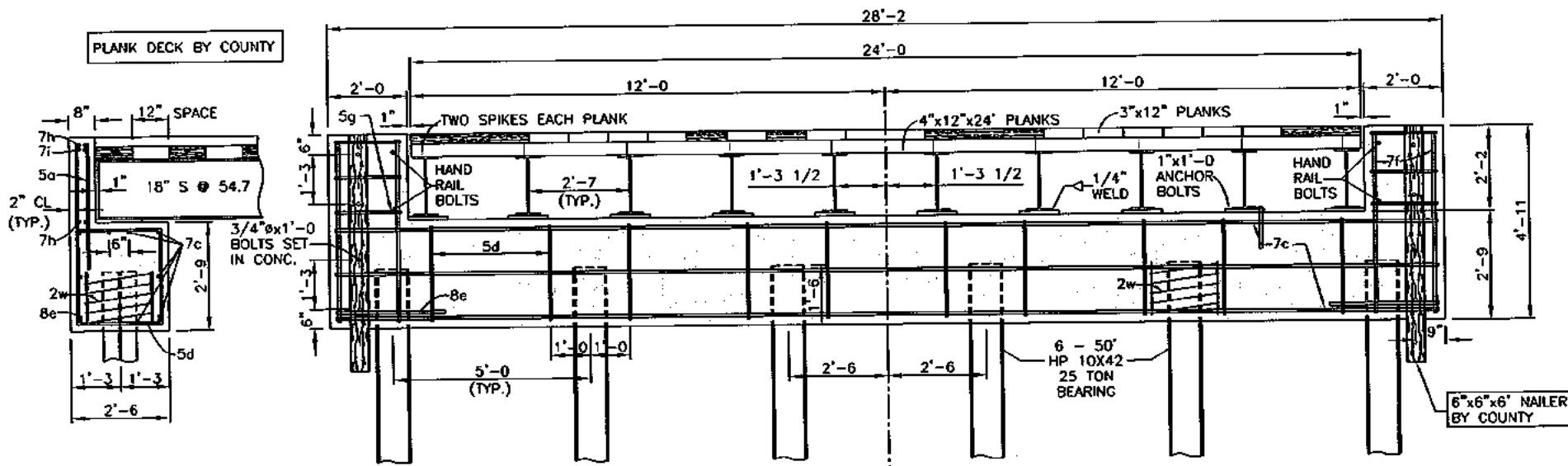


HP10X42X50  
 by contractor

HP10X42X50  
 by contractor



BRIDGE DETAIL SHEET



### REINFORCING STEEL ONE ABUTMENT

BAR	SIZE	LENGTH	NO.	WEIGHT
a	5	3'-2	40	132
c	7	27'-10	10	569
d	5	10'-3	12	128
e	8	7'-8	2	41
f	7	4'-7	8	75
g	5	3'-10	12	48
h	7	23'-10	4	195
i	7	4'-0	4	33
w	2	27'-6	6	28
SPACER	7/8	1'-3	12	11
TOTAL WEIGHT (LBS.)				1260

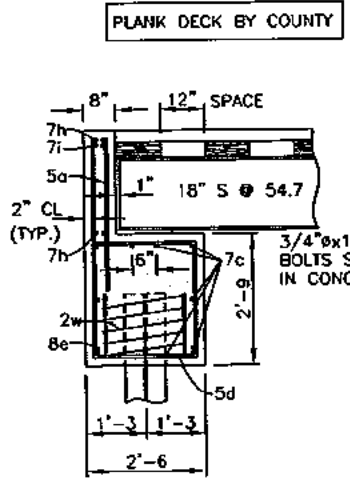
SPIRAL SPACER L 7/8x7/8x1/8x 0.70

### CONCRETE QUANTITIES ONE ABUTMENT

CLASS "C" STRUCTURAL CONCRETE	= 9.3 C.Y.
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### STRUCTURAL STEEL

ITEM	NO.
24"x84" WF @ 84 LBS/FT	10
18"x54.7" S @ 54.7 LBS/FT	20
STEEL DIAPHRAGMS EACH	126
BEARING PLATES 1"x14"x12"	40
BEARING PLATES 1"x14"x15"	20



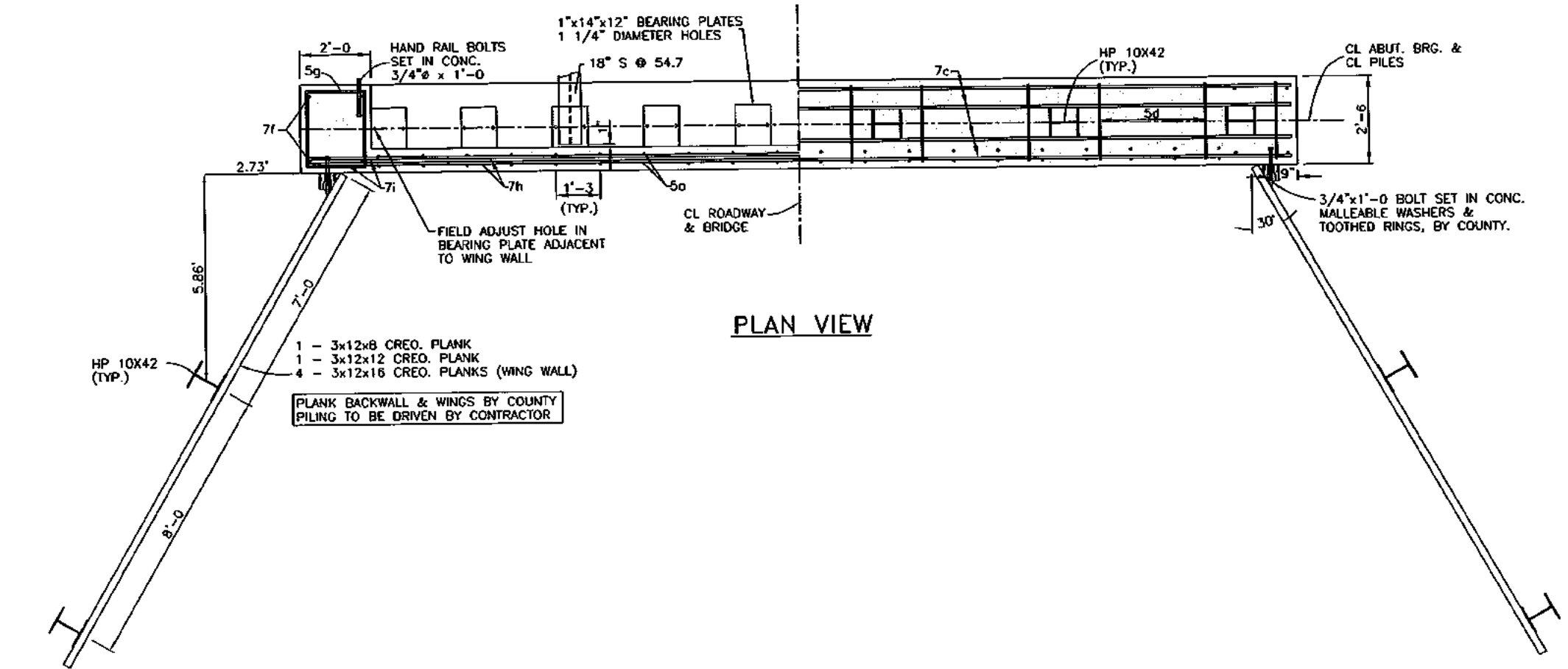
END VIEW

ELEVATION VIEW

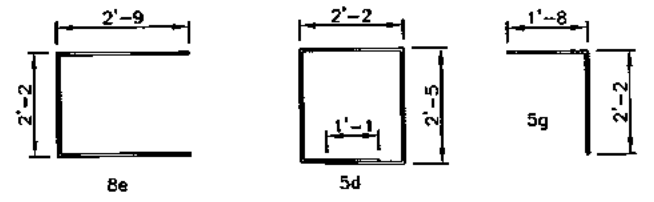
NOTE:  
THE SPIRAL AT THE TOP OF EACH PILE TO BE 5 TURNS OF NO. 2 BAR, 21" DIAMETER, 3" PITCH WITH 2 - L 7/8x7/8x1/8 SPACERS PUNCHED TO HOLD SPIRAL.

### ABUTMENT NOTES:

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.  
ALL EMBEDDED BOLTS PROVIDED BY COUNTY, INSTALLED BY CONTRACTOR.



PLAN VIEW

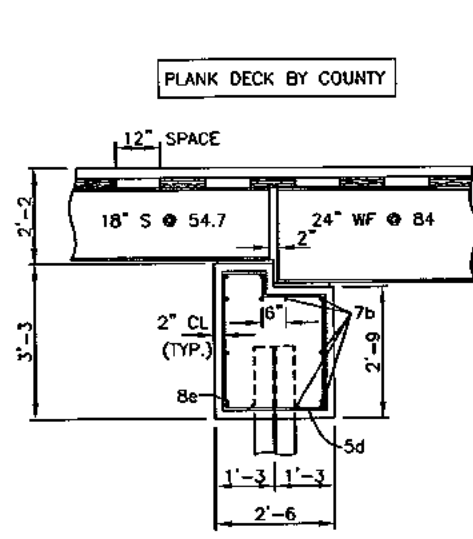


### BENT BAR DETAILS

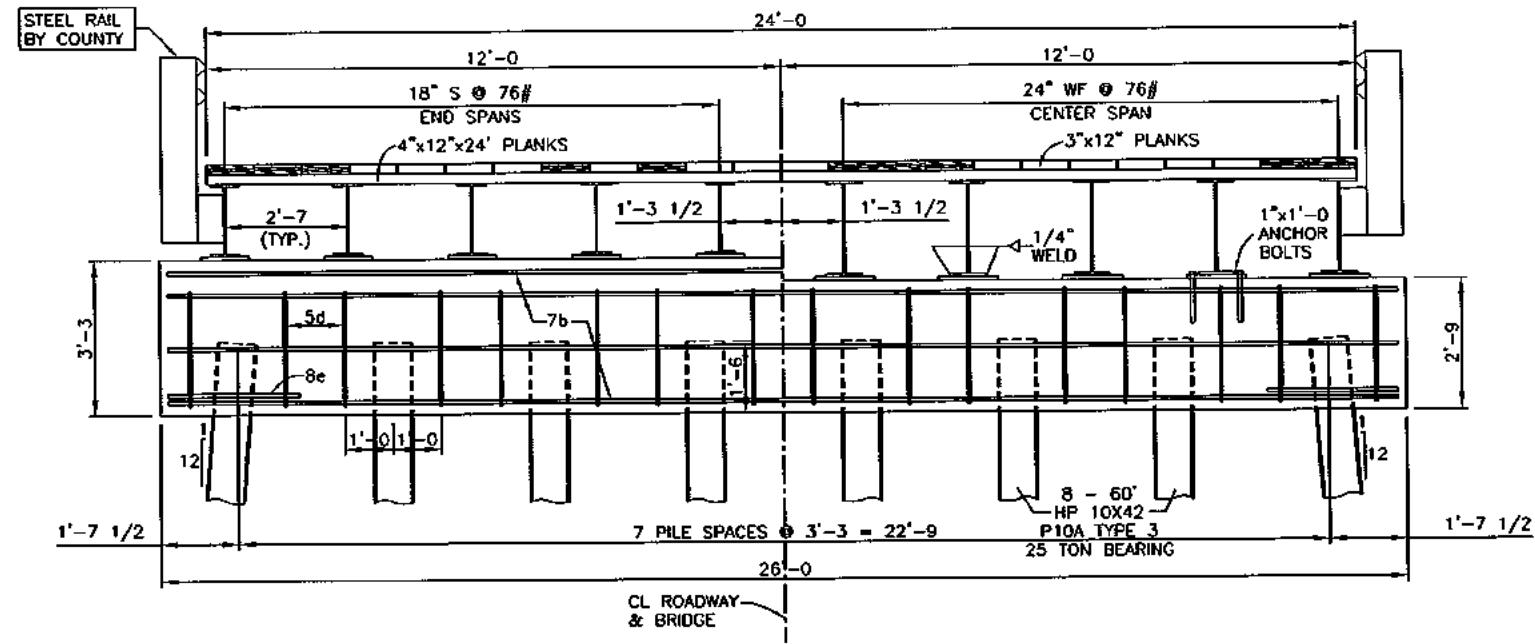
NOTE:  
ALL DIMENSIONS ARE OUT TO OUT.



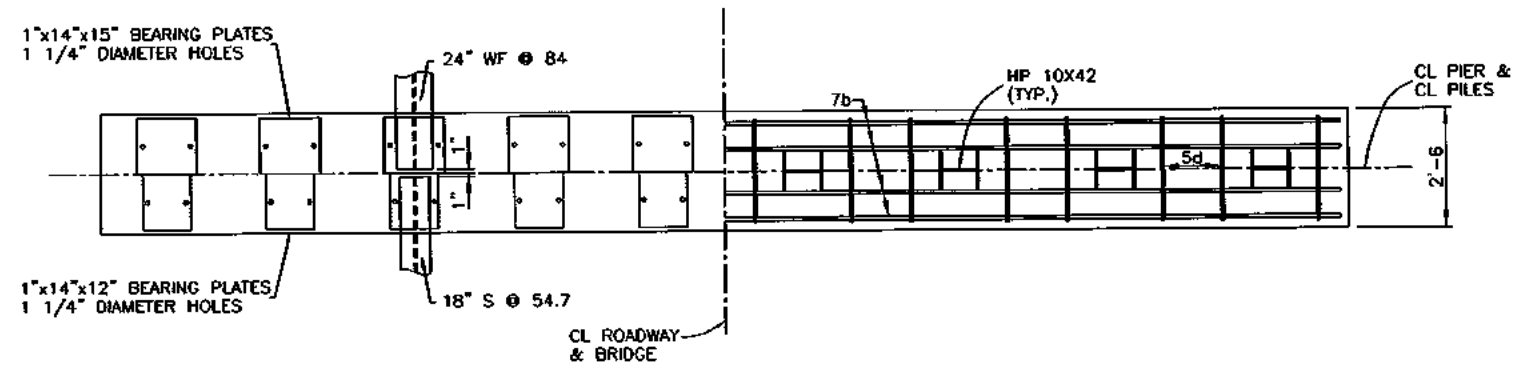
NOTE:  
THE HANDRAIL AND POSTS SHALL BE DESIGNED,  
FURNISHED AND INSTALLED BY THE COUNTY.



END VIEW



ELEVATION VIEW



PLAN VIEW

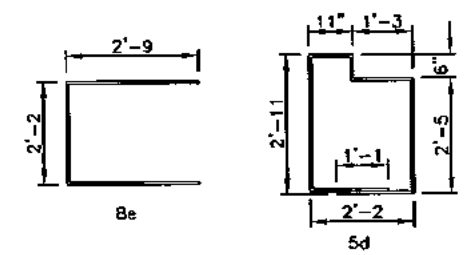
REINFORCING STEEL ONE PIER				
BAR	SIZE	LENGTH	NO.	WEIGHT
b	7	25'-8	12	630
d	5	11'-3	16	188
e	8	7'-8	2	41
TOTAL WEIGHT (LBS.)				859

CONCRETE QUANTITIES  
ONE PIER  
CLASS "C" STRUCTURAL CONCRETE = 7.2 C.Y.

PIER NOTES:

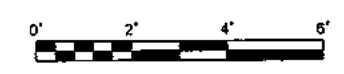
MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

ALL EMBEDDED BOLTS PROVIDED BY COUNTY, INSTALLED BY CONTRACTOR.



BENT BAR DETAILS

NOTE:  
ALL DIMENSIONS ARE OUT TO OUT.

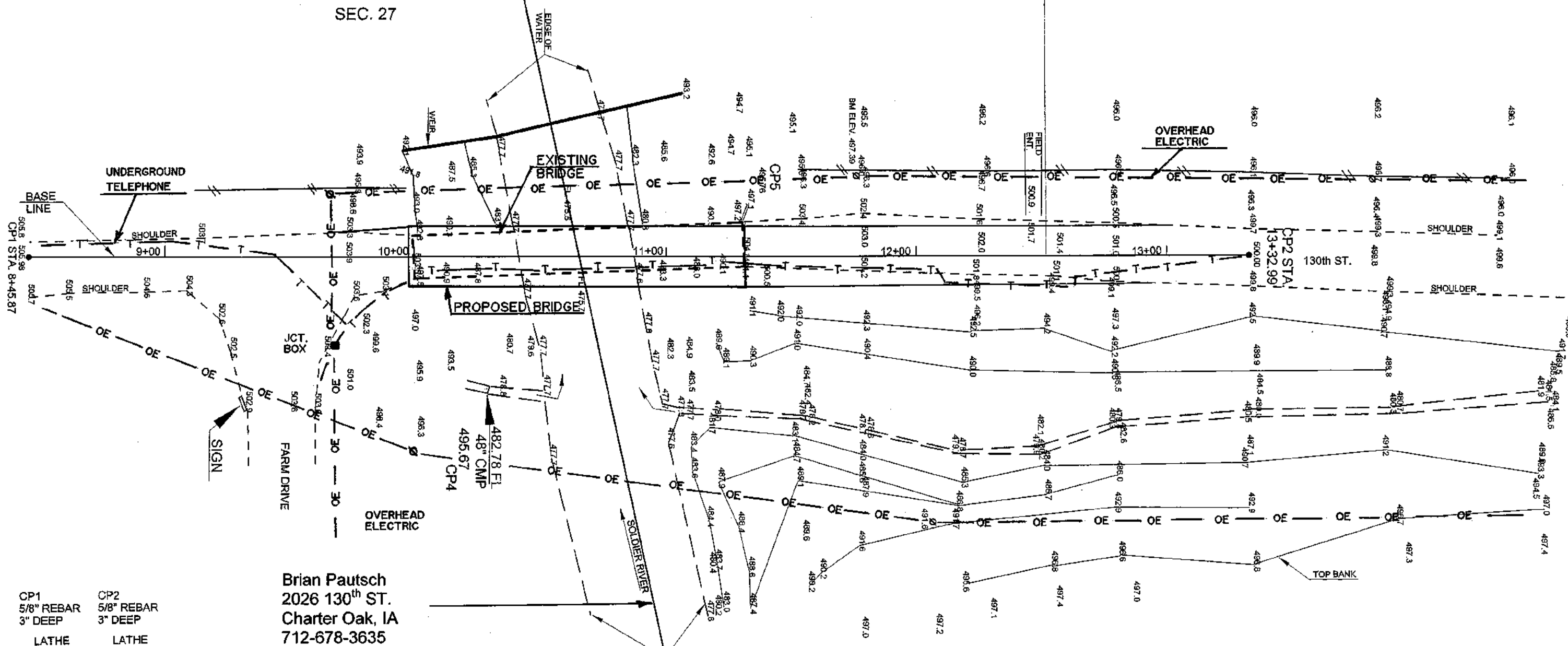


Stanley Ferguson  
2037 130<sup>th</sup> St.  
Charter Oak, IA  
712-678-3379

Sharon Knudsen  
13729 Bay Hill CT  
Clive, IA  
515-267-9626

Joseph Weed  
526 Riddle Ave.  
Ute, IA  
712-885-2696

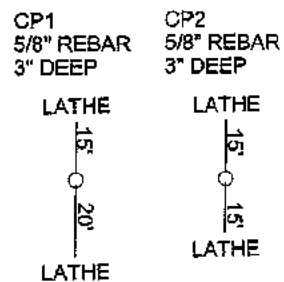
SEC. 27



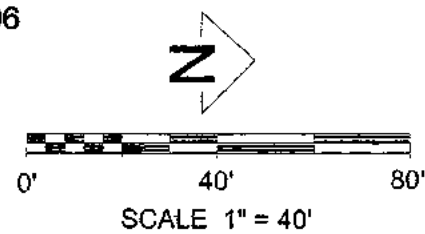
Brian Pautsch  
2026 130<sup>th</sup> ST.  
Charter Oak, IA  
712-678-3635

Joseph Weed  
526 Riddle Ave.  
Ute, IA  
712-885-2696

CHARTER OAK TOWNSHIP  
SEC. 28



	N	E	Z		STA.
CP1	10000.00	10000.00	505.98	5/8" REBAR IN ROAD	8+45.87
CP2	10487.12	10000.00	500.00	5/8" REBAR IN ROAD	13+32.99
CP3	10154.13	10000.00	503.74	SPIKE IN CENTER OF BRIDGE SOUTH END	10+00.00
CP4	10171.87	10078.35	495.67	5/8" REBAR IN FIELD	
CP5	10285.64	9971.21	495.76	5/8" REBAR IN FIELD	
BM	10329.85	9967.58	497.39	SPIKE IN POWER POLE	11+75 33' LT.



SITUATION PLAN  
BRIDGE REPLACEMENT  
FHWA NO. 129730

CHARTER OAK TOWNSHIP  
SEC. 27-28  
T-84N R-41W

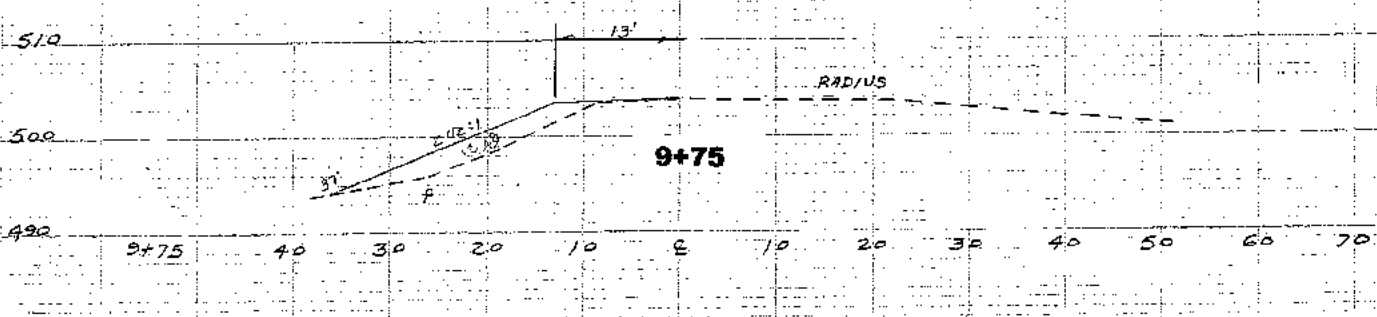
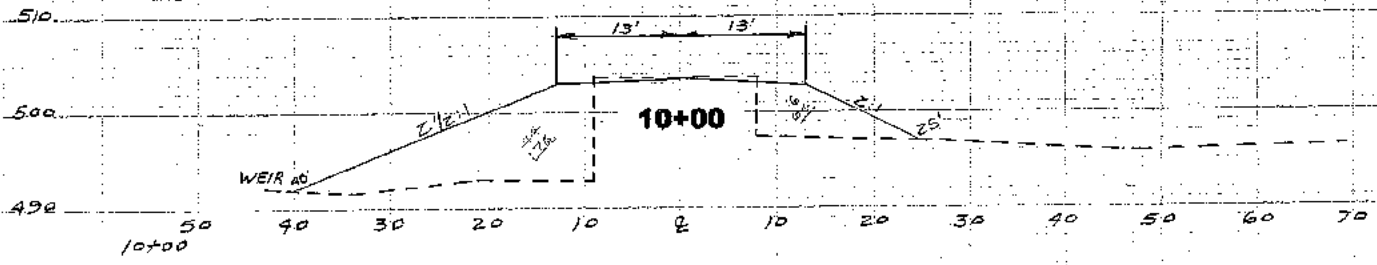
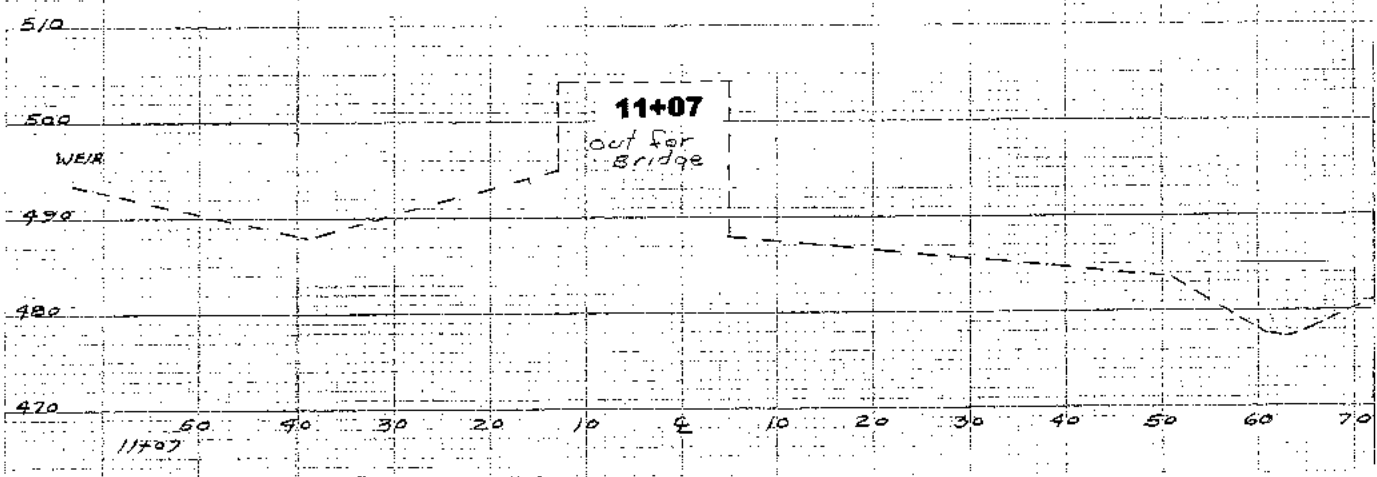
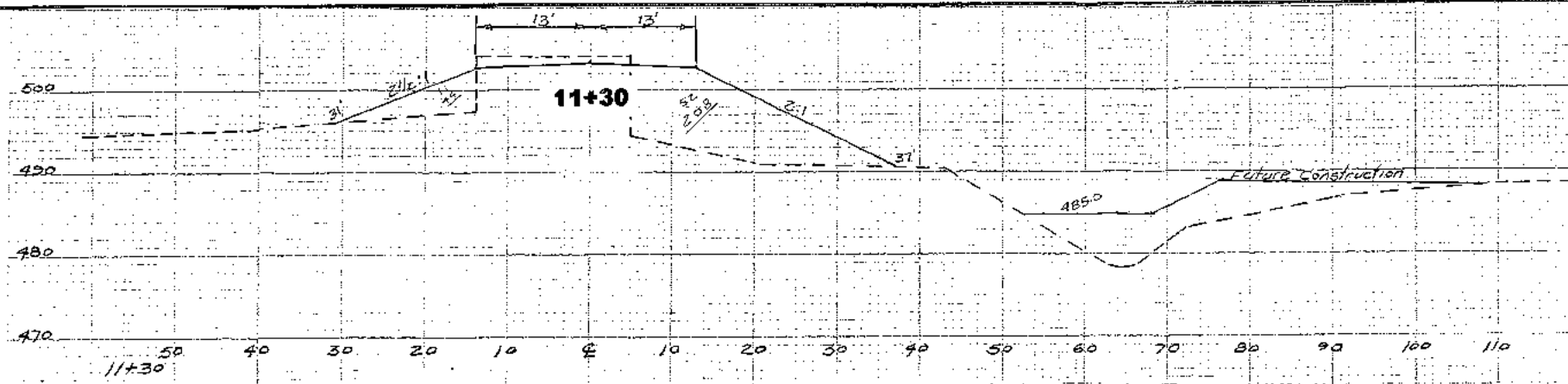
CRAWFORD COUNTY ENGINEER'S OFFICE  
P.O. 458, DENISON, IOWA 51442  
PHONE: (712) 263-2449 FAX: (712) 263-3423

DRAWN BY: MFB  
REVIEWED BY: PJA  
APPROVED BY: PJA

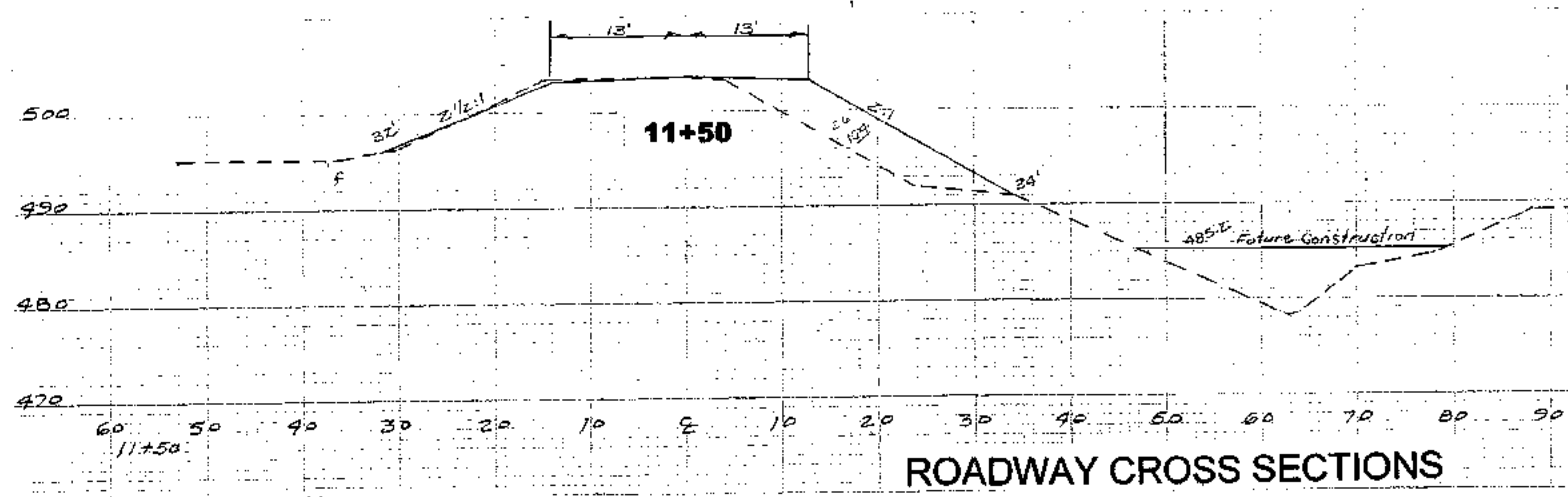
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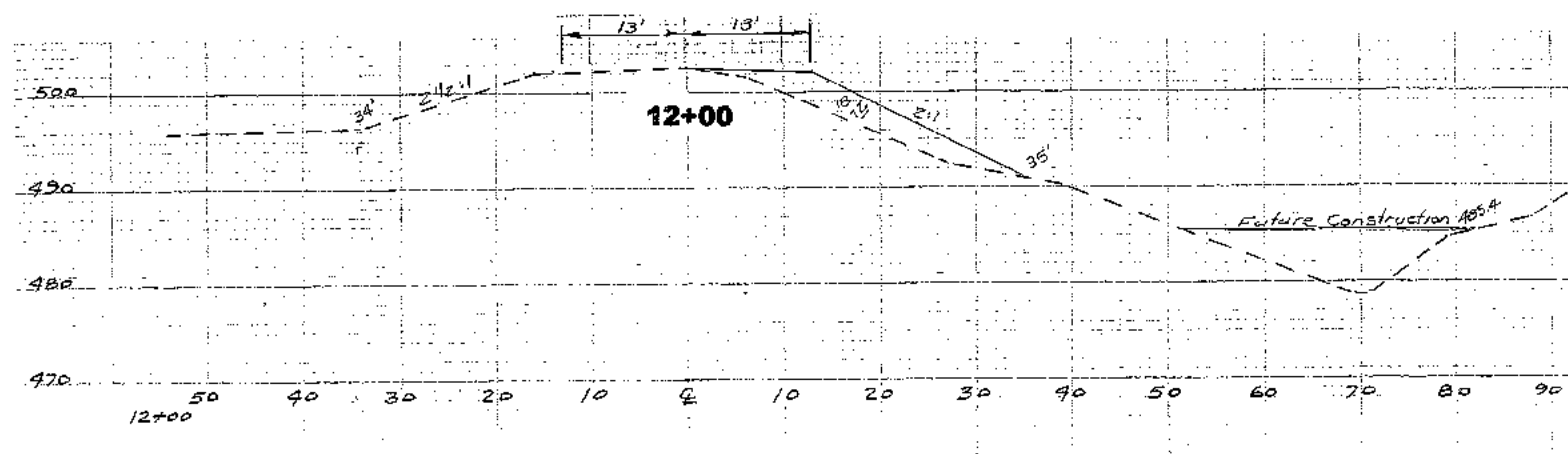
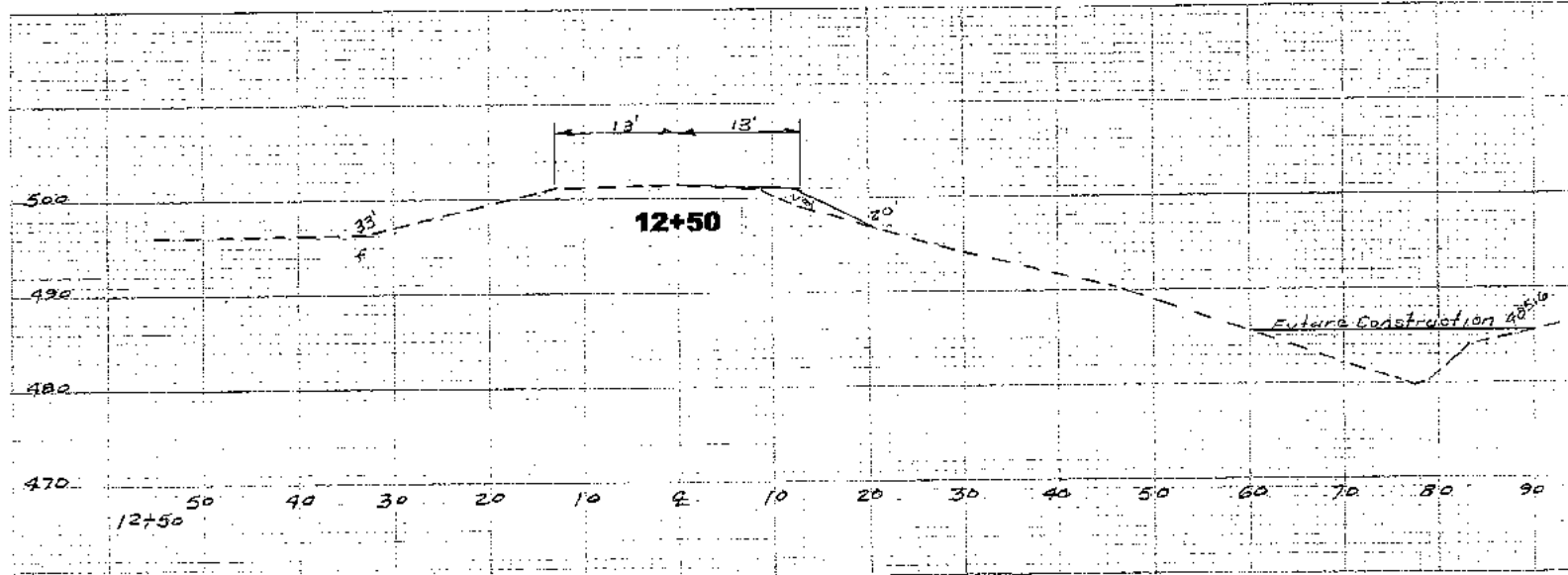
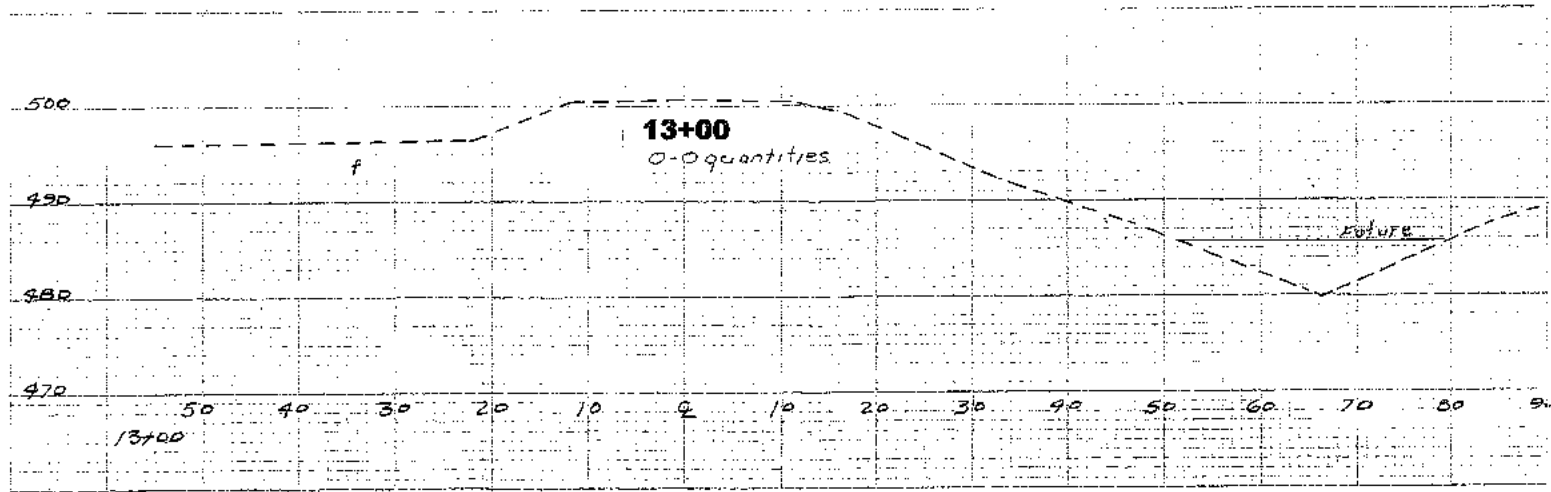
SHEET NO. 6 of 8



625 CU. YD.S OF CLASS 10 ROADWAY AND BORROW TO BE DONE BY OTHERS.



ROADWAY CROSS SECTIONS



ROADWAY CROSS SECTIONS

CRAWFORD COUNTY ENGINEER'S OFFICE  
 P.O. 458, DENISON, IOWA 51442  
 PHONE: (712) 263-2449 FAX: (712) 263-3423

DRAWN BY: MFB  
 REVIEWED BY: PJA  
 APPROVED BY: PJA

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SHEET NO. 8 of 8