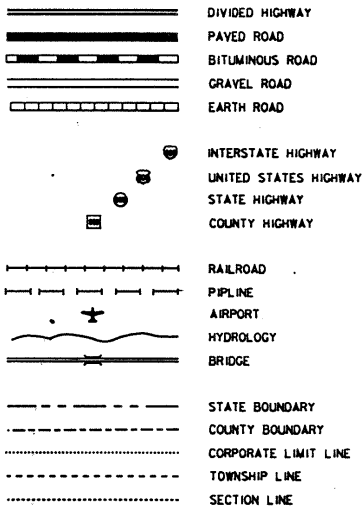


CONVENTIONAL SIGNS



IOWA
DEPARTMENT OF TRANSPORTATION

Project Development Division

PLANS OF PROPOSED IMPROVEMENTS ON THE

PRIMARY ROAD SYSTEM
POTTAWATTAMIE COUNTY

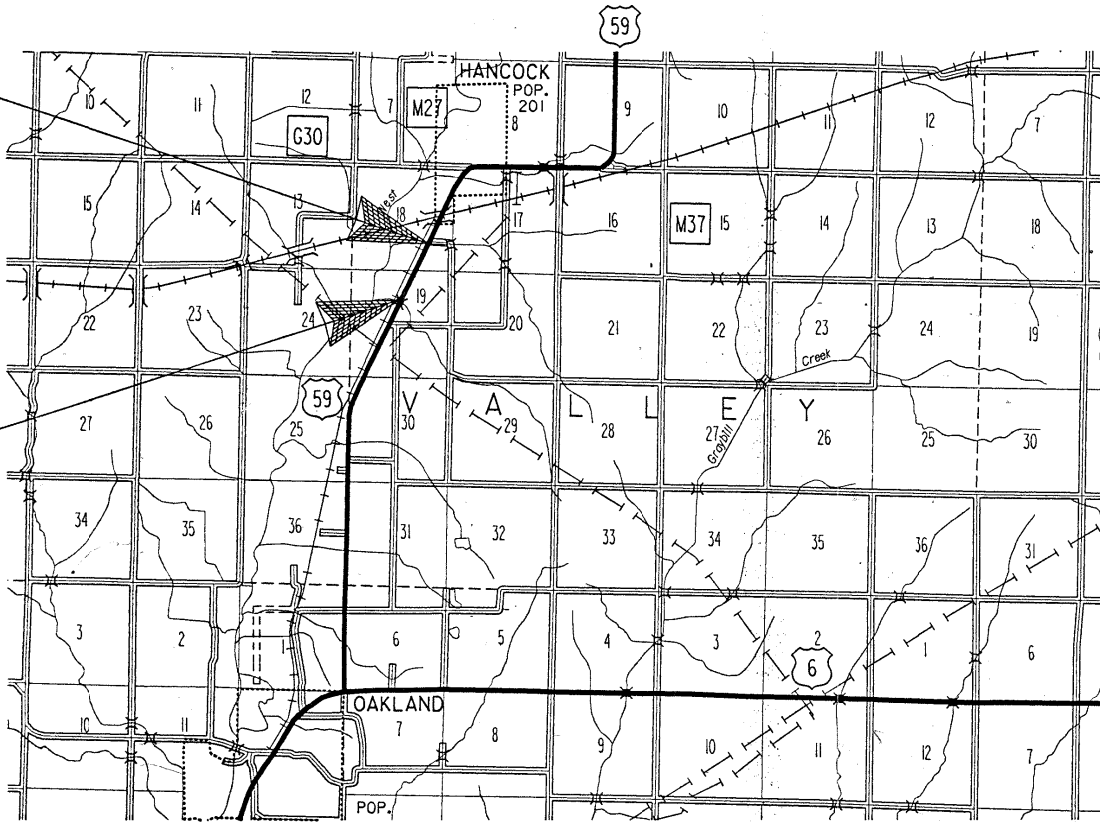
BRIDGE DECK REPAIR
AT TWO LOCATIONS ON U.S.59
SOUTH OF HANCOCK

SCALE: As Noted

The standard specifications, series of 1992 of the Iowa Department of Transportation, shall apply to construction work on this project.
(PLUS CURRENT SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS)

DESIGN NO. 2494

DESIGN NO. 1494



REVISION: TOTAL ESTIMATED BRIDGE QUANTITIES TABLE CHANGED, AASHTO SERIES CHANGED TO 1992. TAPE NO. 19, DATED 11-9-92.
REVISED: IDOT STANDARD SPECIFICATIONS, UPDATE: ARCH. TAPE NO. 12, DATE 4-20-92
HSD1038SG11-LEP: THIS SHEET REDRAWN, DEVICE: ZH04200.004 ARCH. TAPE NO. 15, DATE 9-8-88
REVISED: 6-21-93 - ESTIMATE REFERENCE INFORMATION CHANGED FOR "CONCRETE BARRIER RAIL - CAST IN PLACE".

TOTAL ESTIMATED BRIDGE QUANTITIES

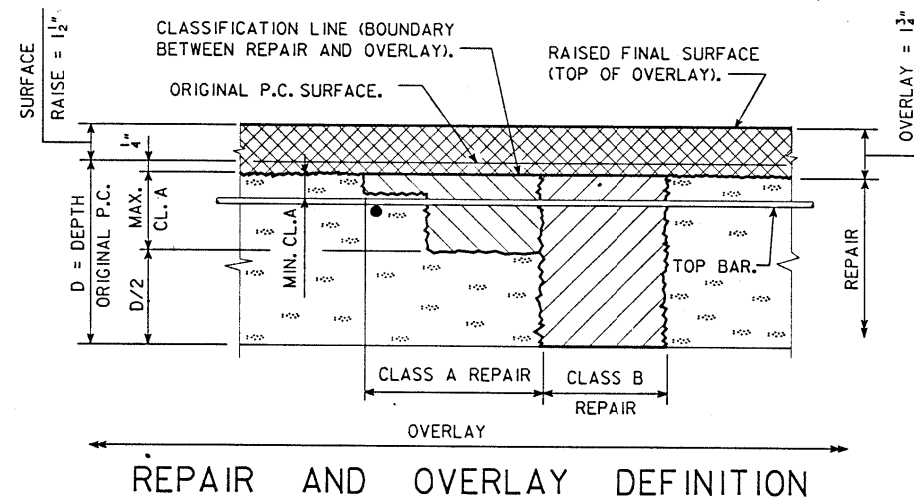
ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUANTITY
2413-0698071	BRIDGE FLOOR OVERLAY	SY	~~120.800~~	121.20
2413-0698072	BRIDGE FLOOR REPAIR, CLASS A	SY	~~4.000~~	6.01
2533-4980005	MOBILIZATION	LS	1.000	

ITEM CODE

2413-0698071

ESTIMATE REFERENCE INFORMATION

INCLUDES COST OF FURNISHING AND PLACING SEALER

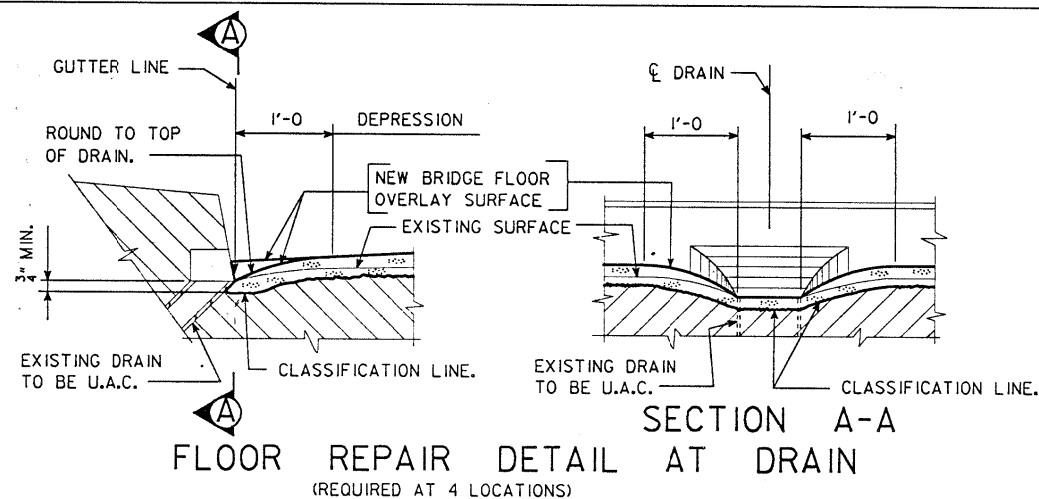


NOTE:
ROADWAY QUANTITIES SHOWN
ELSEWHERE IN THESE PLANS.

TRAFFIC CONTROL PLAN
NOTE: THE ROADWAY WILL BE OPEN
TO THRU TRAFFIC. REFER TO
THE TRAFFIC CONTROL PLAN ON THE
ROAD PLANS IN THESE PLANS.

DESIGN HISTORY AT THIS SITE

DES. NO.	TYPE OF WORK
4350	ORIGINAL DESIGN



SPECIFICATIONS:
CONSTRUCTION: IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS,
CURRENT SERIES, PLUS CURRENT SUPPLEMENTAL SPECIFICATIONS
AND SPECIAL PROVISIONS.

DESIGN STRESSES:
DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH
THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES OF 1992.
REINFORCING STEEL IN ACCORDANCE WITH SECTION 8, GRADE 60.
CONCRETE IN ACCORDANCE WITH SECTION 8, $f'_c = 3,500$ PSI.
STRUCTURAL STEEL IN ACCORDANCE WITH SECTION 10, ASTM A-36.

LOCATION:

MAINTENANCE NO. 7855.4s059
U.S. 59 OVER SMALL STREAM
T-76N R-39W
SECTION 19
VALLEY TWP
POTTAWATTAMIE COUNTY

DESIGN FOR REPAIRS TO A
32'-0 x 30' 1- BEAM BRIDGE
33'-3 SPAN
REPAIR DETAILS & QUANTITIES
STATION: 205+65.00 AUGUST, 1994
POTTAWATTAMIE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION
DESIGN SHEET NO. 1 OF 6 FILE NO. 28892 DESIGN NO. 1494

DESIGNED BY A. M. JEFFERS CHECKED BY M. J. DUNN
DETAILED BY E. W. OGAWA CADD FILE H781494.SOI
SECTION LEADER M. Pollmann

DECK REPAIR - QUANTITIES STANDARD SHEET 1038 POTTAWATTAMIE COUNTY

PROJECT NUMBER BRFN-59-3(25)--39-78

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7		3	23

SAVE SET _____ DATE _____

GENERAL NOTES:

THIS DESIGN IS FOR REPAIR TO THE EXISTING 32' x 30' I-BEAM BRIDGE, ORIGINAL DESIGN 4350 POTTAWATTAMIE COUNTY. PLAN DETAILS OF THE ORIGINAL STRUCTURE NOT INCLUDED IN THESE PLANS MAY BE OBTAINED AT THE AMES OFFICE OF THE IOWA DEPARTMENT OF TRANSPORTATION-PROJECT DEVELOPMENT DIVISION. REPAIRS SHALL CONSIST OF THE FOLLOWING:

- 1. BRIDGE FLOOR REPAIR
- 2. BRIDGE FLOOR OVERLAY
- 3. CONCRETE SEALER
- 4. INSTALL THREE BEAM GUARDRAIL ACROSS BRIDGE

PRESENT FLOOR THICKNESS IS ABOUT 8 1/2 INCHES. THE CONTRACTOR SHALL EXERCISE EXTREME CARE IN REMOVING CONCRETE IN ORDER TO PREVENT UNNECESSARY UNBONDING OF REINFORCING STEEL.

CONSTRUCTION SHALL BE DONE IN STAGES, WITH AT LEAST ONE LANE OF TRAFFIC MAINTAINED AT ALL TIMES IN ACCORDANCE WITH "TRAFFIC CONTROL PLAN" NOTE.

SURFACE RAISE, AS SHOWN ON THE PLANS, SHALL BE CONSIDERED A MINIMUM. IN ORDER TO LIMIT THE ADDITIONAL DEAD LOAD, SURFACE RAISE SHALL BE RESTRICTED TO A MAXIMUM OF 1/2" MORE THAN SHOWN ON THE PLANS. PROFILE MAY BE ADJUSTED TO THE EXTENT POSSIBLE WITHIN THESE LIMITS.

ALL DIMENSIONS AND DETAILS SHOWN ON THESE PLANS PERTINENT TO NEW CONSTRUCTION SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE STARTING CONSTRUCTION.

SCREED EXTENSION OR OVERLAY BEYOND THE LONGITUDINAL CONSTRUCTION JOINT MAY BE LESS THAN THE 6 INCHES REQUIRED BY SUB-ARTICLE 2413.03C.1. THE ENGINEER MAY REQUIRE ADDITIONAL VIBRATION OR SPECIAL FINISHING PROCEDURES ADJACENT TO THE LONGITUDINAL CONSTRUCTION JOINT.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE WASTE AREAS OR DISPOSAL SITES FOR EXCESS MATERIAL WHICH IS NOT DESIRABLE TO BE INCORPORATED IN THE WORK INVOLVED ON THIS PROJECT (EXCAVATION OR BROKEN CONCRETE). NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES.

THE BRIDGE CONTRACTOR IS ENCOURAGED TO TAKE FULL ADVANTAGE OF SPECIFICATION 1105.15 -- VALUE ENGINEERING INCENTIVE PROPOSAL. A PAMPHLET AND CONCEPTUAL PROPOSAL FORM WILL BE AVAILABLE AT THE PRECONSTRUCTION CONFERENCE.

PLAN QUANTITY OF FLOOR REPAIR IS BASED ON TWO TIMES THE SHADED AREAS SHOWN ON THE "SURVEY PLOT" IN THESE PLANS. SHADED AREAS REPRESENT CLASS A BRIDGE FLOOR REPAIR FOUND BY THE DELAMTECT PLOT. ACTUAL SPALLED AND HOLLOW AREAS AS DETERMINED BY THE ENGINEER AT THE TIME OF CONSTRUCTION, SHALL BE REPAIRED. THE ENTIRE CONCRETE SURFACE OF THE BRIDGE FLOOR, INCLUDING AREAS OVER BRIDGE FLOOR REPAIR, SHALL HAVE BRIDGE FLOOR OVERLAY.

DESIGN FOR REPAIRS TO A
32'-0 x 30' I- BEAM BRIDGE
33'-3 SPAN
GENERAL NOTES
STATION: 205+65.00AUGUST, 1994
POTTAWATTAMIE COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION
DESIGN SHEET NO. 2 OF 6FILE NO. 28892DESIGN NO. 1494

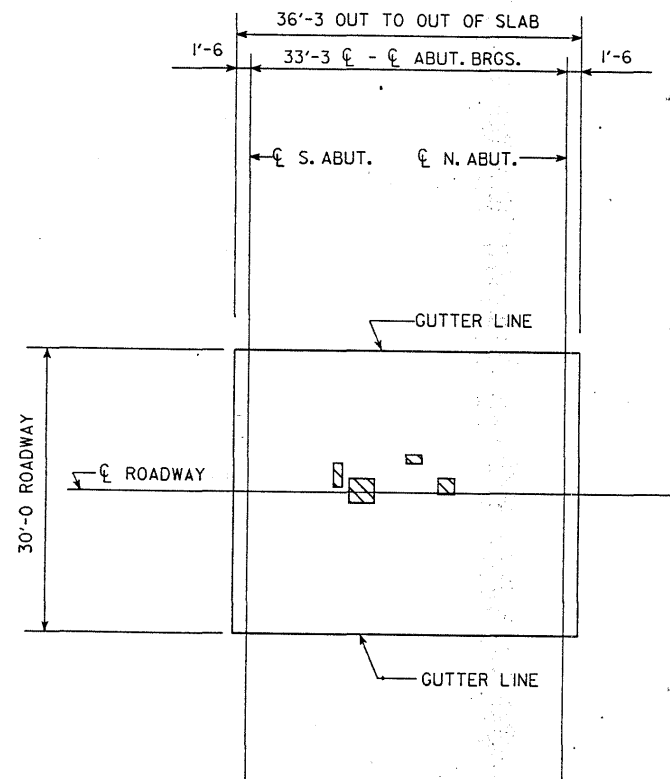
STATE	FIHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7		7	23

DESIGNED BY A. M. JEFFERSCHECKED BY M. J. DUNN
DETAILED BY E. W. OGAWACADD FILE h781494.s02

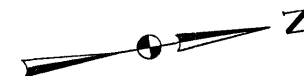
POTTAWATTAMIE COUNTY

PROJECT NUMBER

SAVE SET DATE



SURVEY PLOT



NOTE:
 HATCHED PORTIONS REPRESENT AREAS WHICH HAVE
 SPALLS AND DELAMINATIONS. PLAN QUANTITY FOR CLASS
 "A" BRIDGE FLOOR REPAIR IS BASED ON THESE AREAS.

DESIGN FOR REPAIRS TO A				
32'-0 x 30' I- BEAM BRIDGE				
33'-3 SPAN				
SURVEY PLOT				
STATION: 205+65.00			AUGUST, 1994	
POTTAWATTAMIE COUNTY				
IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION				
DESIGN SHEET NO. 3 OF 6		FILE NO. 28892	DESIGN NO. 1494	
STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7		5	23

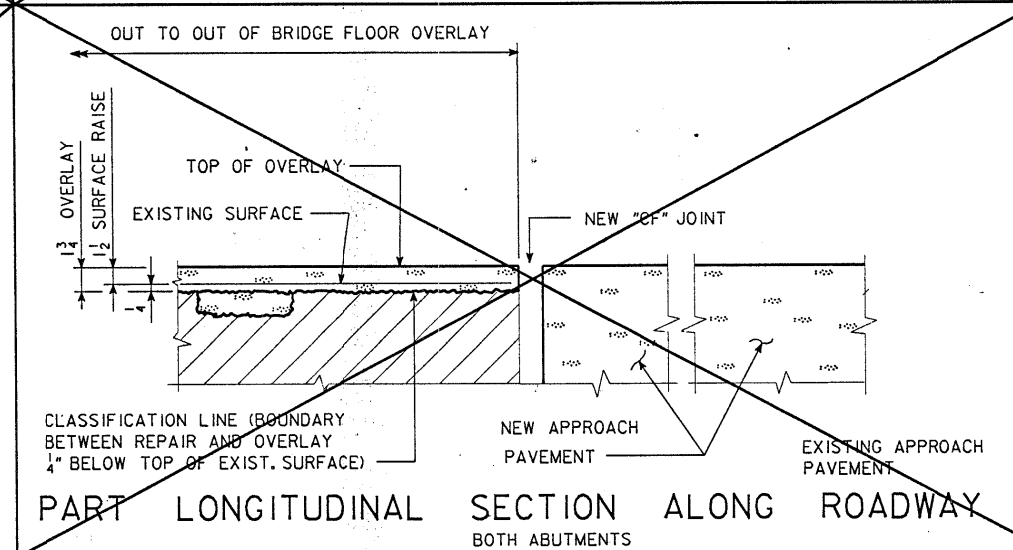
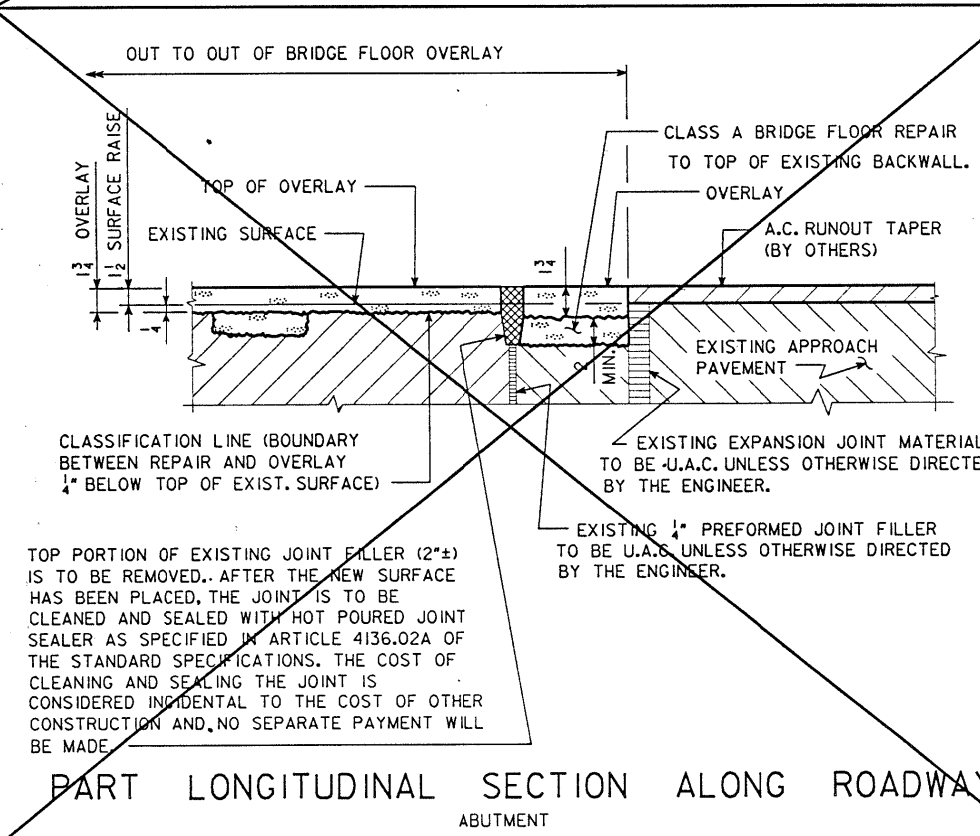
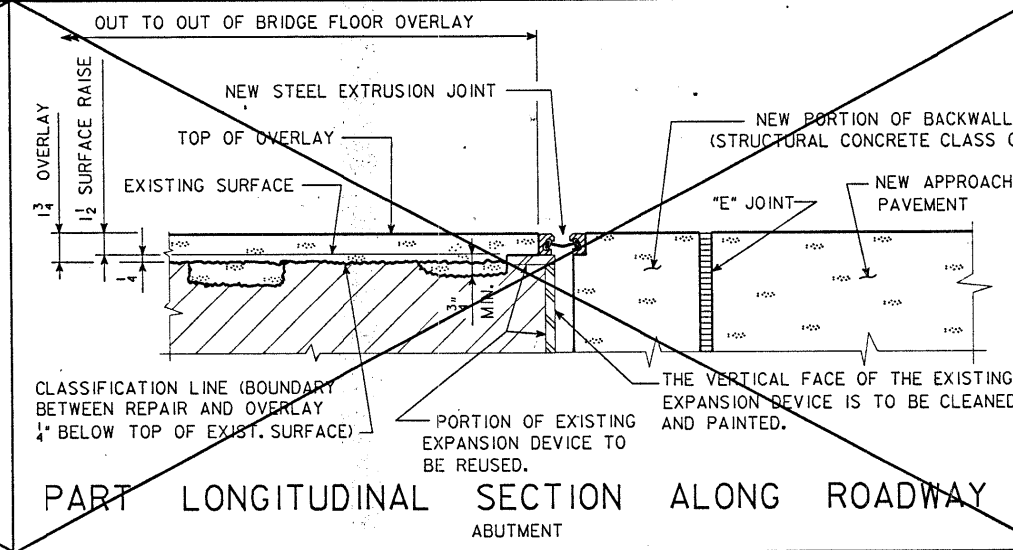
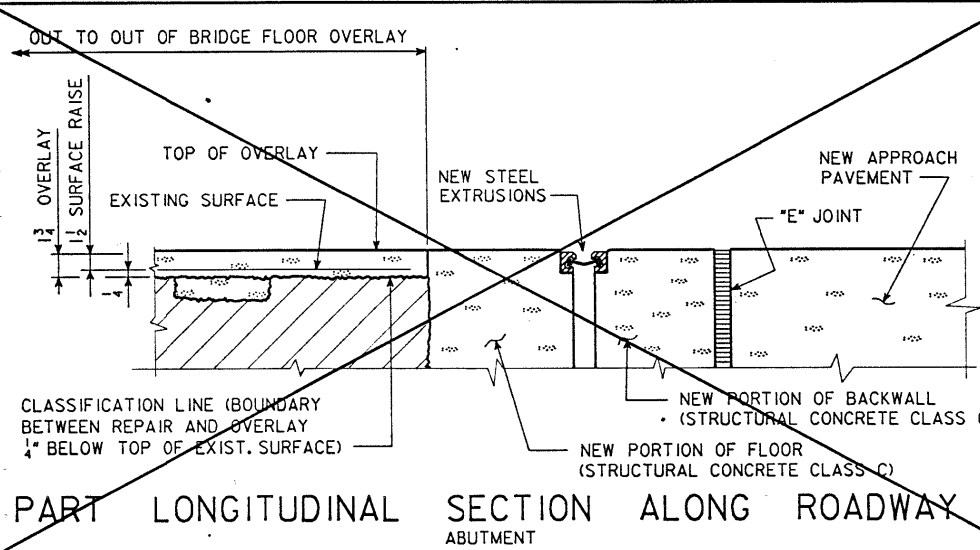
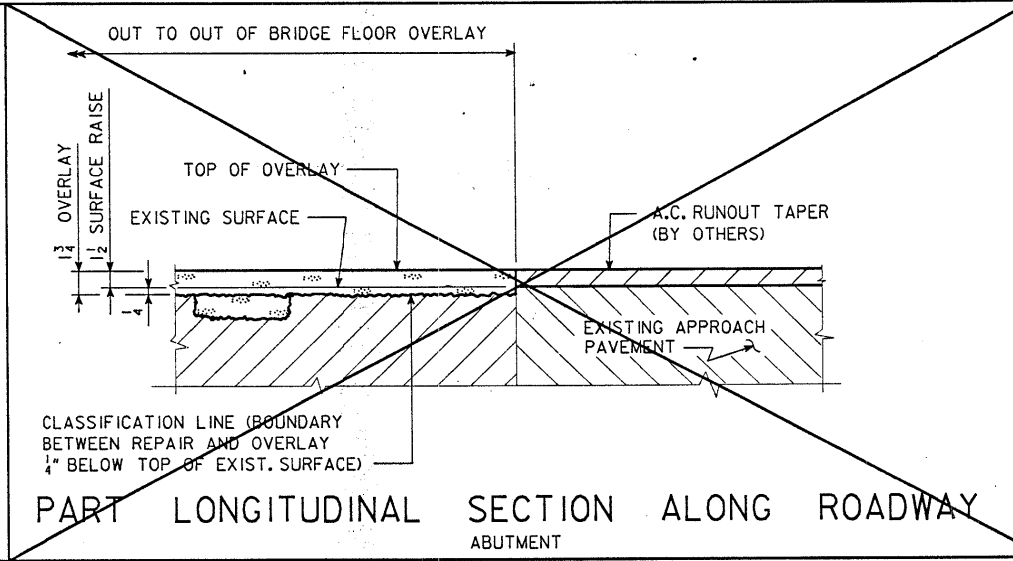
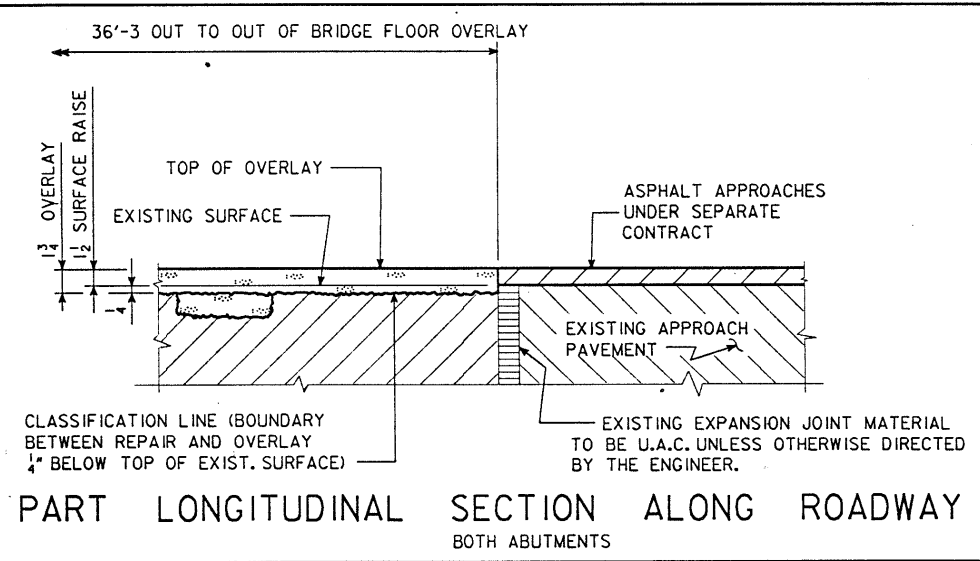
DESIGNED BY	A. M. JEFFERS	CHECKED BY	M. J. DUNN
DETAILED BY	E. W. OGAWA	CADD FILE	HT81494.S04

SAVE SET* DATE

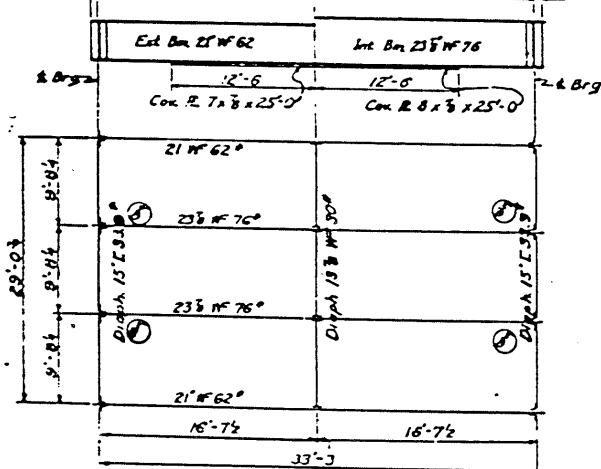
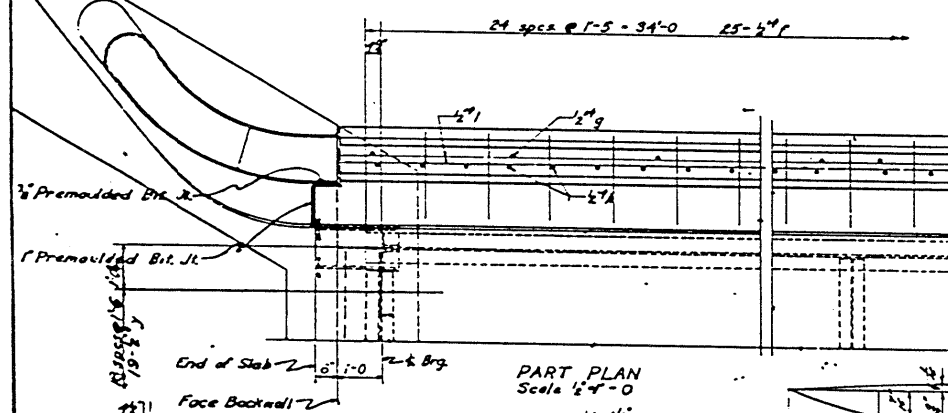
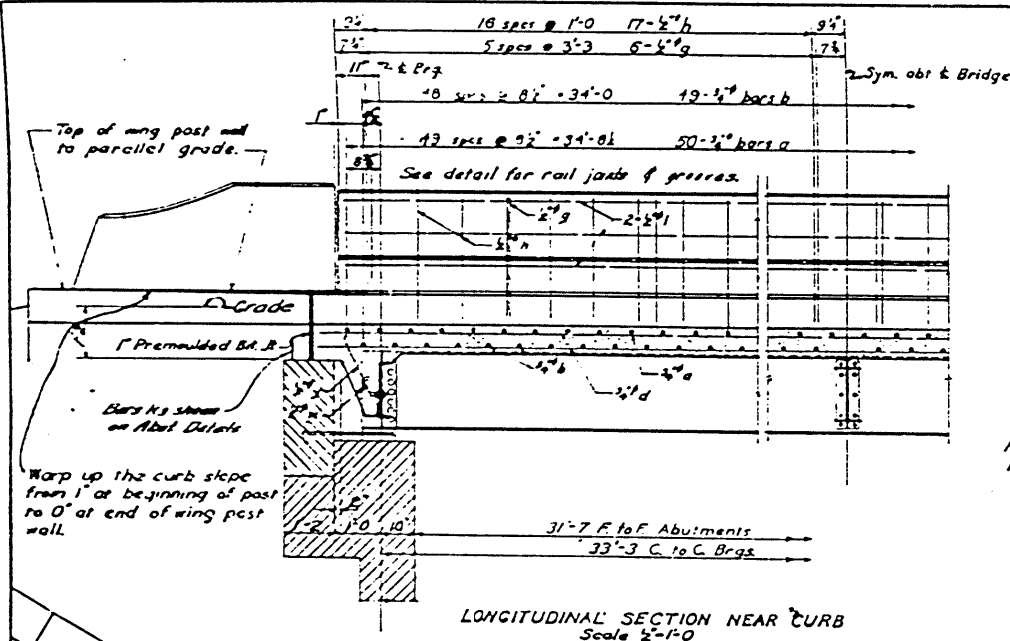
POTTAWATTAMIE COUNTY

PROJECT NUMBER

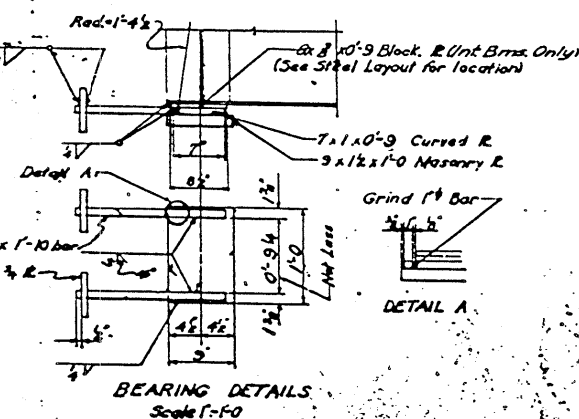
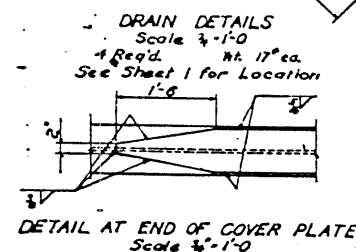
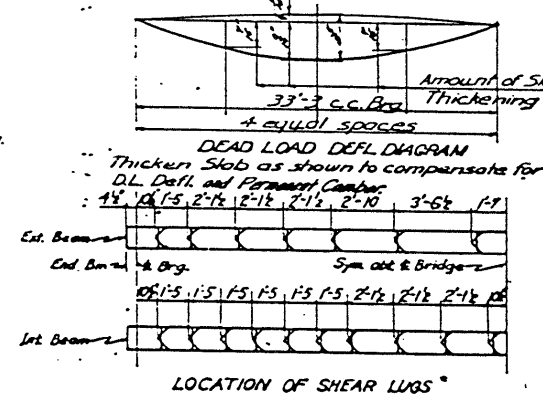
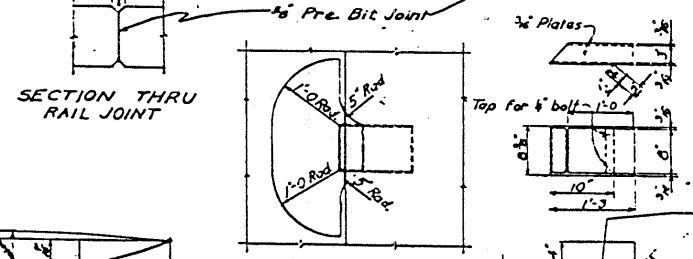
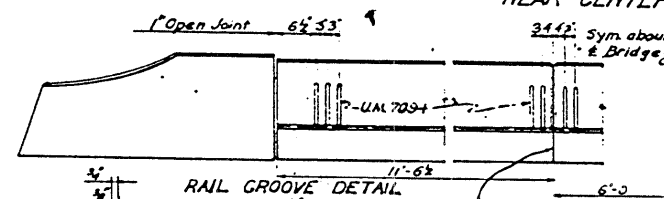
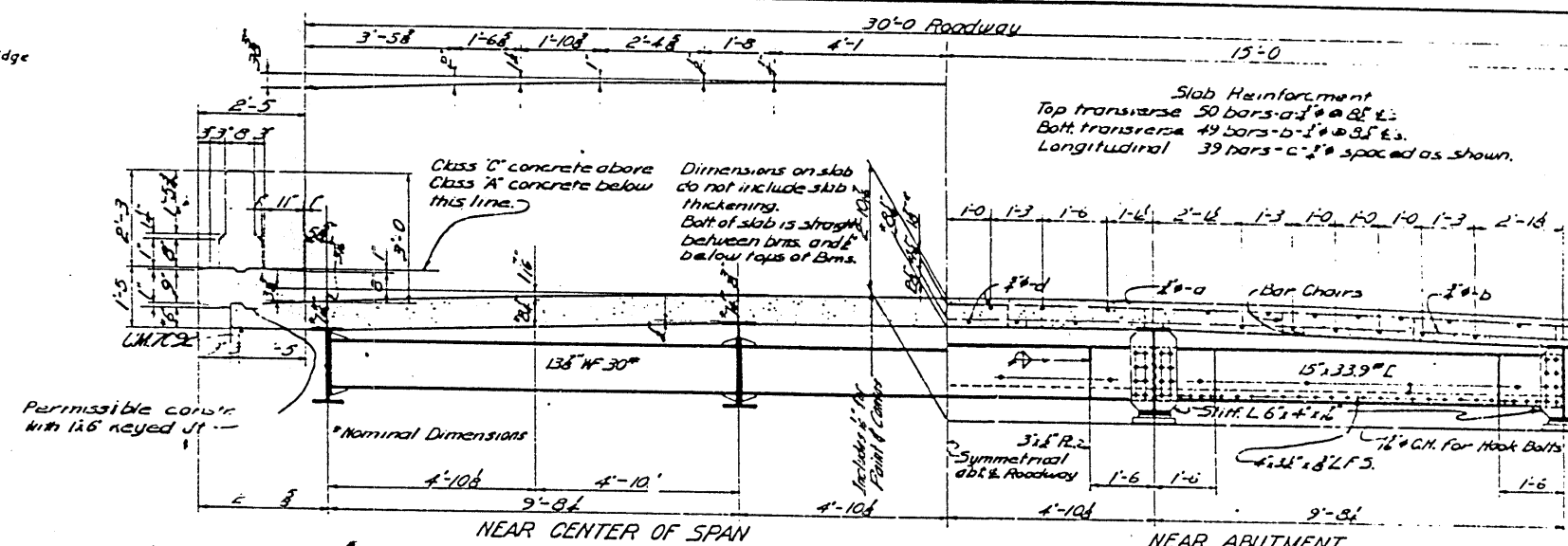
REVISED: STRUCTURAL CONCRETE CHANGED TO CLASS "C" AND CONCRETE SEALER DETAILS DELETED. TAPE NO. 12 DATED 9-26-91.
HSTD01040.S01--LEP: THIS SHEET REDRAWN, DEVICE:ZHA00(200,004) ARCH.TAPE NO. 15 DATE 9-8-88



DESIGN FOR REPAIRS TO A
32'-0 x 30' 1- BEAM BRIDGE
33'-3 SPAN
REPAIR DETAILS
STATION: 205+65.00 AUGUST, 1994
POTTAWATTAMIE COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION
DESIGN SHEET NO. 4 OF 6 FILE NO. 28892 DESIGN NO. 1494



Loading	Moment		Max Stress		Max Fiber Stress	
	East	West	East	West	East	West
Rail and Wearing Surf	50,116	19,360	2,200	580	2,200	580
Grade, Curb and Beams	53,640	39,660	6,550	6,750	6,550	6,750
L.L. = 33 % Impact	339,250	263,880	74,500	10,290	74,500	20,580
Totals	443,006	503,100	81,250	17,600	81,250	27,910



BILL OF REINFORCING						
NR	Location	Shape	Size	No.	Lgth.	Wt.
a	Slab, top, transv	—	2" x	50	33'-0"	24
b	Slab, bot, transv	—	2" x	49	33'-0"	24
d	Slab, long, top & bot	—	2" x	39	35'-11"	210
e	Curb long	—	2" x	10	34'-9"	23
f	Curb, transv	Detail	2" x	50	4'-0"	16
g	Rail vertical	—	2" x	24	2'-0"	4
h	Rail vertical	Detail	2" x	68	3'-9"	171
i	Rail horizontal	—	2" x	36	11'-4"	27
w	End diaphragm	—	2" x	6	9'-4"	3
y	End diaphragm	—	2" x	38	3'-9"	9
				Total		800

THIS SHEET ^{SUB E} FROM ORIGINAL
DESIGN IS INCLUDED FOR
INFORMATION ONLY.

General Notes:

This bridge is designed for H-20-44 loading plus 10 'bs. per sq. ft. of roadway for future wearing surface, with the following modifications:

1. Intermediate grade reinforcing steel, allowable stress 20,000 psi.
2. Except for the floor slab, this bridge is designed so that an increase in the live load and impact by 100 will not increase the total unit stress to more than 150 of the specification stresses.

The floor slab as shown includes 1/2" of wearing surface. Field connections to be bolted. All bolts to be 3/4", and all open holes 1 1/2". Shop rivets to be 3/4". Masonry plates to be set in paint and canvas. Bearing surfaces of unfinished masonry plates to be flat and true.

Forms for slab and curbs to be supported by the beams.

△ Moments due to live load, impact, future wearing surface and rail are resisted by composite action between beam and slab. Shear anchors are used to insure this composite action.

Determination of shear lag spacing:

- 1 Maximum value with doubled L.L. { 6x6: 52,700
2 Max. Spacing 4'-0 { 5x5: 44,000

SPEC. Design: A.A.S.H.O. (1949) H-20-44 loading
Construction: Iowa State Highway Commissioner
Series of 1948.

DESIGN NO. 1494
FILE NO. 28892
DES. SH. NO. 6 OF 6

ESTIMATED QUANTITIES

Class A Concrete	10.6 CY
Class C Concrete	4.6 CY
Reinforcing Steel	8,023 lbs.
Structural Steel	16,955 lbs.

Design For
32' x 30' I-BEAM BRIDGE

SUPERSTRUCTURE DETAILS

Sta 208+6500 Project F-554

POTTAWATTAMIE COUNTY

Iowa State Highway Commission
Sept. 1950

Sept. 1950. 8 of 23

Location:
Section 19
Kelley Township
Pittsburgh County

PLACEMENT QUANTITIES	
Slab	3594
Curbs	516
Roofs	465

Design 4382 Polk/Harris County File No 14712