

CRAWFORD COUNTY

BRIDGE DECK OVERLAY

FM-C024(75)--55-24

LETTING DATE

01-19-05

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, LAYOUTS, SIGNING, AND PAVEMENT MARKINGS INSTALLED WITHIN THE LIMITS OF THIS PROJECT SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AS ADOPTED BY THE DEPARTMENT PER 761 OF THE IOWA ADMINISTRATIVE CODE (IAC) CHAPTER 130."

DRAWING APPROVAL

ALL SHOP DRAWINGS THAT REQUIRE APPROVAL SHALL BE APPROVED BY SUNDQUIST ENGINEERING, P.C.

ADDRESS: 120 SOUTH MAIN, P.O. BOX 220
DENISON, IOWA 51442-0220
TELEPHONE: (712)263-8118

THESE SHOP DRAWINGS SHALL NOT BE SENT TO IOWA D.O.T. OFFICE OF BRIDGE DESIGN.



Iowa Department of Transportation
Highway Division

PLANS OF PROPOSED IMPROVEMENTS ON THE

FARM-TO-MARKET SYSTEM
CRAWFORD COUNTY
PROJECT NO. FM-C024(75)--55-24
BRIDGE DECK OVERLAY
ON COUNTY HIGHWAY E-59 OVER
GRIFFIN CREEK

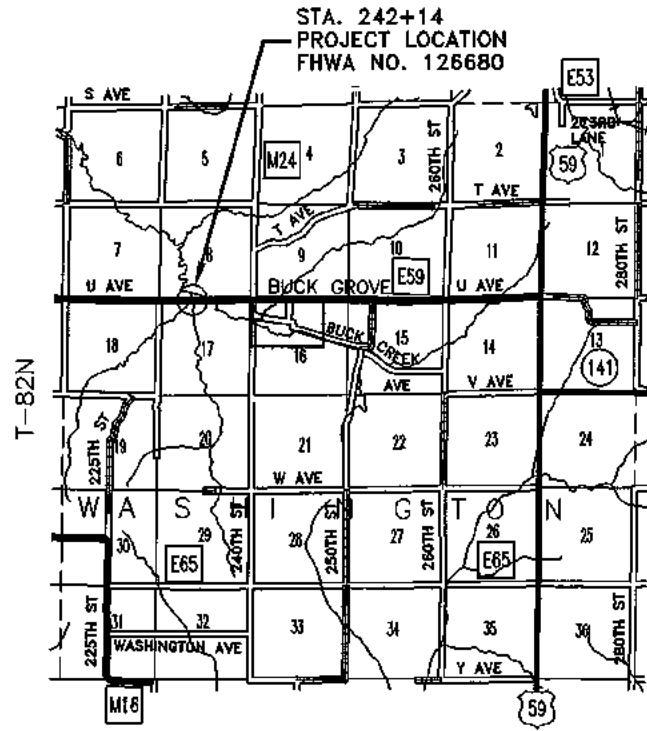
SCALES: AS NOTED

The Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, Series 2001, plus the applicable General Supplemental Specifications, Developmental Specifications, Supplemental Specifications and Special Provisions, shall apply to construction work on this project.

TOTAL SHEETS	4
PROJECT NUMBER	FM-C024(75)--55-24
R.O.W. PROJECT NUMBER	
PROJECT IDENTIFICATION NUMBER	

INDEX OF SHEETS

NO.	DESCRIPTION
A1	TITLE SHEET
B1	ESTIMATE SHEET, GENERAL NOTES AND ESTIMATE REFERENCE INFORMATION
C1	TABULATIONS, TYPICALS
V1	BRIDGE SITUATION PLAN



SHELBY CO. R-39W



27
KGH

LOCATION MAP SCALE



SUNDQUIST ENGINEERING, P.C.
CONSULTING ENGINEERS
HIGHWAYS • MUNICIPAL • MAPPING • SURVEYING
120 S. MAIN, P.O. BOX 220, DENISON, IOWA 51442-0220
PHONE: (712)263-8118 FAX: (712)263-2181

Approved

Mark Leggett
Steve Allen
A. Dean Hargis
Robert Johnson
John P. Lawler

BOARD OF SUPERVISORS

Approved

[Signature]
CRAWFORD COUNTY ENGINEER DATE

Iowa Department of Transportation
Highway Division

Accepted for Letting

[Signature] 10/27/04
DISTRICT 3 LOCAL SYSTEMS ENGINEER DATE

04-30-02 101-4

DESIGN DATA RURAL

2000 AADT	330	V.P.D.
2020 AADT	X	V.P.D.
201X DHV	X	V.P.H.
TRUCKS	X	%
TOTAL		
DESIGN ESALS		



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.

[Signature] 10/19/04
TROY J. GROTH, P.E. #14450 DATE

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2005.
PAGES OR SHEETS COVERED BY THIS SEAL:
ALL SHEETS

MILEAGE SUMMARY

LOCATION	LIN. FT.	MILES
BRIDGE AT STA. 242+14	102.00	0.019

STANDARD ROAD PLANS

The following Standard Road Plans shall be considered applicable to construction work on this project.

NUMBER	DATE	NUMBER	DATE	NUMBER	DATE
RG-6	10-02-01				
RS-27	10-28-97				

126680

GENERAL NOTES

THIS DESIGN IS FOR REPAIRS TO THE EXISTING 100'-0 X 28' CONTINUOUS CONCRETE SLAB BRIDGE ON COUNTY HIGHWAY E-59 OVER GRIFFIN CREEK. COPIES OF THE ORIGINAL DESIGN AND REPAIR PLANS WILL BE MADE AVAILABLE TO THE CONTRACTOR. CONTACT THE OFFICE OF CONTRACTS - PROJECT DEVELOPMENT DIVISION - IOWA D.O.T. - AMES.

REPAIR SHALL CONSIST OF:

1. BRIDGE FLOOR REPAIR, CLASS "A"
2. BRIDGE FLOOR REPAIR, CLASS "B"
3. BRIDGE FLOOR OVERLAY
4. REPAIRING DETERIORATED CONCRETE IN CURBS
5. INSTALLATION OF HMA LEVELING COURSES AT EACH APPROACH

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

BRIDGE FLOOR OVERLAY SHALL CONSIST OF REMOVING THE FLOOR CONCRETE TO A DEPTH OF 1/4" BELOW THE EXISTING SURFACE, EXCEPT AT DRAINS AND ELSEWHERE AS NOTED, TRANSPORTING THE CONCRETE REMOVED FROM THE PROJECT, AND OVERLAYING WITH 1 3/4" OF PCC.

UTILITY COMPANIES WHOSE FACILITIES ARE SHOWN ON THE PLANS OR ARE KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS SHALL BE NOTIFIED BY THE BRIDGE CONTRACTOR OF THE STARTING DATE.

CONTRACTOR SHALL NOTIFY ONE-CALL (1-800-292-8989) FOR UTILITY LOCATES PRIOR TO COMMENCING WORK.

PRESENT FLOOR THICKNESS IS ABOUT 14 3/4 INCHES. THE CONTRACTOR SHALL EXERCISE CARE IN ORDER TO PREVENT UNNECESSARY REMOVAL OF CONCRETE BELOW THE TOP OF THE TOP LAYER OF REINFORCING. THE ENERGY OF HAND TOOLS SHALL BE RESTRICTED NEAR THE BOTTOM OF THE DESIGNATED CLASS A REPAIR AREAS IN ORDER TO PREVENT UNBONDING OF REINFORCING. NO CONCRETE SHALL BE REMOVED BELOW THE TOP OF THE TOP LONGITUDINAL REINFORCING WITHOUT PRIOR PERMISSION FROM THE COUNTY ENGINEER.

AREAS OF CURB INDICATED ON THE "PLOT OF BRIDGE DECK DELAMINATIONS" OR DESIGNATED BY THE ENGINEER ARE TO BE REPAIRED USING CONCRETE REPAIR NOTES AND DETAILS INCLUDED IN THESE PLANS.

SURFACE RAISE, AS SHOWN ON THE PLANS, SHALL BE 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.

PLAN QUANTITY OF FLOOR REPAIR IS BASED ON THE "PLOT OF BRIDGE DECK DELAMINATIONS" AS SHOWN IN THESE PLANS. HATCHED PORTIONS REPRESENT CLASS B BRIDGE FLOOR REPAIR. ACTUAL SPALLED AND HOLLOW AREAS, AS DETERMINED BY THE ENGINEER AT THE TIME OF CONSTRUCTION SHALL BE REPAIRED.

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 INTO 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.

213-7

UNLESS OTHERWISE DIRECTED OR AUTHORIZED, ALL HOT MIX ASPHALT AND OTHER BITUMINOUS MATERIALS WHICH ARE NOT SPECIFICALLY ADDRESSED OR DESCRIBED IN THE CONTRACT DOCUMENTS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

THE CONTRACTOR, IN ACCORDANCE WITH CURRENT RULES AND REGULATIONS OF THE IOWA DEPARTMENT OF NATURAL RESOURCES, MAY:

1. WITH THE APPROVAL OF THE ENGINEER, BLEND OR OTHERWISE PROCESS THE MATERIAL FOR USE WITH SHOULDER OR SPECIAL BACKFILL AGGREGATE, FOR USE ON THE PROJECT.
2. WITH THE APPROVAL OF THE ENGINEER, PLACE WITH MATERIAL IN AREAS DESIGNATED BY THE ENGINEER AS SOIL AGGREGATE SUBBASE WITHOUT EXTRA CHARGE.
3. REMOVE THE MATERIAL FROM THE PROJECT AND STOCKPILE FOR THE CONTRACTOR'S FUTURE USE.

232-5

THE CONTRACTOR SHALL NOT DISTURB DESIRABLE GRASS AREAS AND DESIRABLE TREES OUTSIDE THE CONSTRUCTION LIMITS. THE CONTRACTOR WILL NOT BE PERMITTED TO PARK OR SERVICE VEHICLES AND EQUIPMENT OR USE THESE AREAS FOR STORAGE OF MATERIALS. STORAGE, PARKING AND SERVICE AREA(S) WILL BE SUBJECT TO THE APPROVAL OF THE COUNTY ENGINEER.

ESTIMATE REFERENCE INFORMATION

DATA LISTED BELOW IS FOR INFORMATIONAL PURPOSES ONLY AND SHALL NOT CONSTITUTE A BASIS FOR ANY EXTRA WORK ORDERS.

2303-0000100 HOT MIX ASPHALT MIXTURE, COMMERCIAL MIX (INCLUDES ASPHALT BINDER), AS PER PLAN
 CONTRACTOR SHALL PLACE TYPICAL ASPHALT LEVELING COURSES AT BRIDGE APPROACH SECTIONS AS NOTED AND SHOWN ON STANDARD ROAD PLAN RG-6. SHOULDER MATERIAL FOR AREAS AFFECTED BY LEVELING COURSES WILL BE PROVIDED AND PLACED BY COUNTY.

2413-0698071 BRIDGE FLOOR OVERLAY
 INCLUDES COST OF FURNISHING AND PLACING CONCRETE SEALER.

2413-0698072 BRIDGE FLOOR REPAIR, CLASS A
 CONCRETE SHALL BE PLACED MONOLITHICALLY WITH CONCRETE FOR BRIDGE FLOOR OVERLAY.

2413-0698072 BRIDGE FLOOR REPAIR, CLASS A
 2413-0698073 BRIDGE FLOOR REPAIR, CLASS B
 CARE SHALL BE EXERCISED TO PREVENT DAMAGING EXISTING REINFORCING STEEL DURING CONCRETE REMOVAL AND ALL OTHER OPERATIONS. CARE SHALL ALSO BE EXERCISED DURING ANY SAW CUTTING TO ENSURE DEPTH OF SAW CUT DOES NOT EXCEED THAT WHICH IS NECESSARY TO REMOVE UNSOUND CONCRETE.

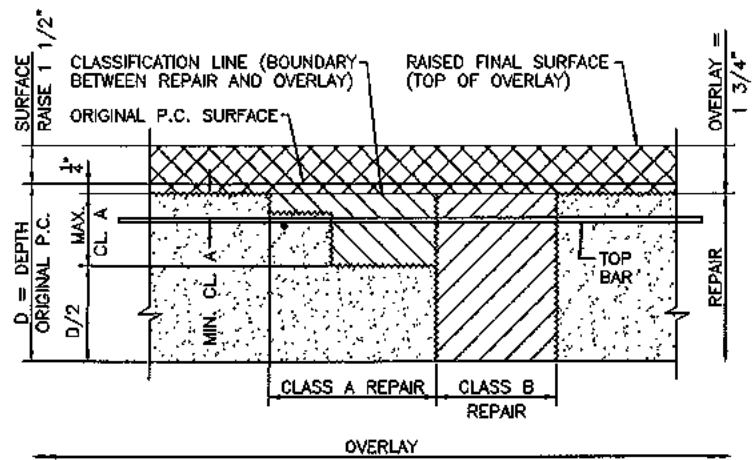
2426-6772016 CONCRETE REPAIR
 FOR CONCRETE REPAIR OF BRIDGE CURBS REFER TO DETAIL PROVIDED IN THESE PLANS.

ESTIMATED PROJECT QUANTITIES

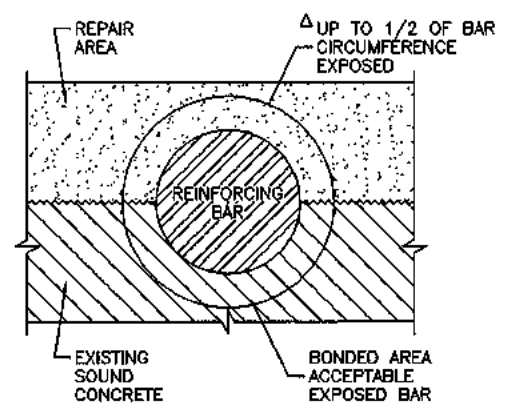
100-1A
 07-15-97

ITEM NUMBER	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUAN.
1	2303-0000100	HOT MIX ASPHALT MIXTURE, COMMERCIAL MIX (INCLUDES ASPHALT BINDER), AS PER PLAN	TON	10.3	
2	2413-0698071	BRIDGE FLOOR OVERLAY	SY	317.33	
3	2413-0698072	BRIDGE FLOOR REPAIR, CLASS A	SY	27.2	
4	2413-0698073	BRIDGE FLOOR REPAIR, CLASS B	SY	11.8	
5	2426-6772016	CONCRETE REPAIR	SF	27.7	
6	2518-6910000	SAFETY CLOSURE	EACH	2	
7	2527-9283109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	6.88	
8	2528-8445110	TRAFFIC CONTROL	LS	1	
9	2533-4980005	MOBILIZATION	LS	1	

ESTIMATED PROJECT QUANTITIES
 AND GENERAL INFORMATION
 FHWA NO. 126680

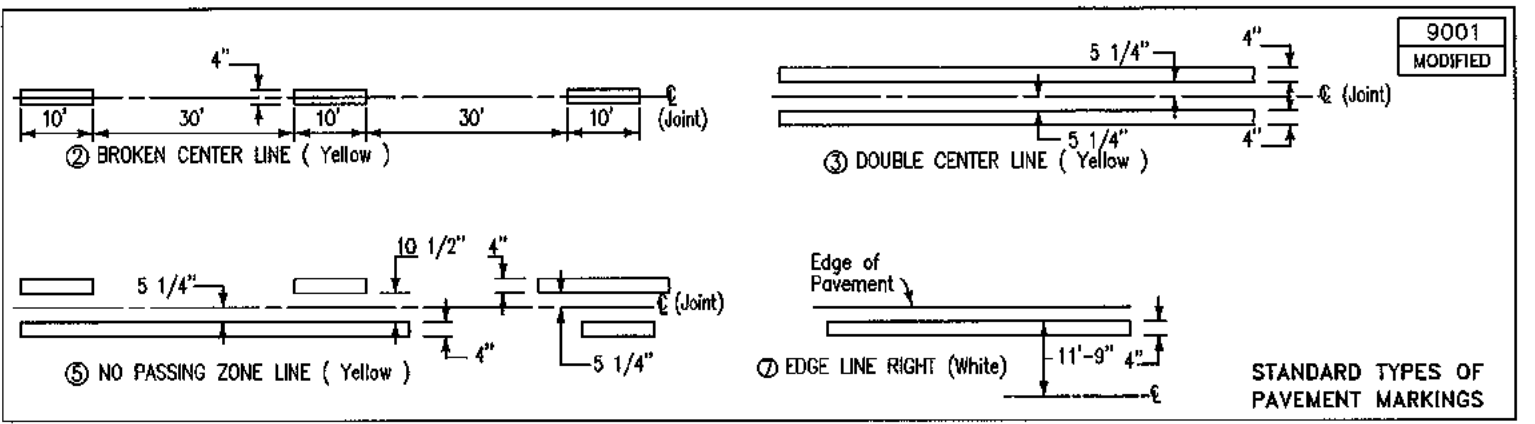


REPAIR AND OVERLAY DEFINITION



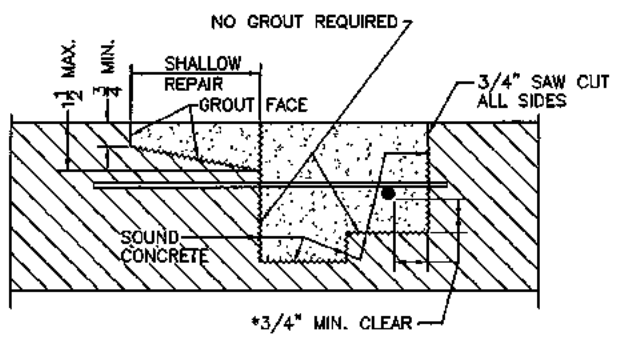
Δ UP TO 1/2 OF BAR CIRCUMFERENCE EXPOSED
 Δ IF MORE THAN 1/2 OF THE REBAR IS EXPOSED IT SHALL BE TREATED AS AN UN-BONDED REBAR.

TABULATION OF PAVEMENT MARKINGS							108-22 MODIFIED	
ROAD IDENTIFICATION		LOCATION		LENGTH (In Stations)				REMARKS
		STATION TO STATION		②	③	⑤	⑦	
		241+28 - 243+00			1.720		3.440	
		LENGTH SUBTOTALS			1.720		3.440	
		QUANTITY FACTORS		.25	2	1	1	
		TOTALS			3.440		3.440	



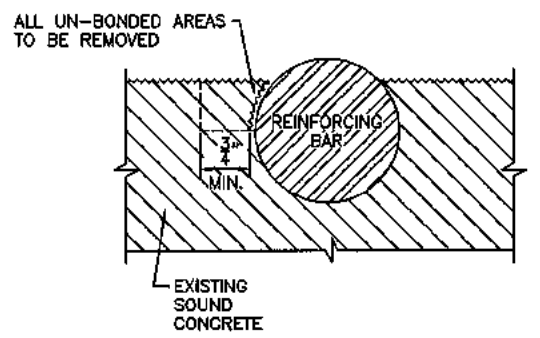
TABULATION OF RESURFACING RUNOUTS					106-3 10-29-02	
MILEPOST		LOCATION		TYPE	LENGTH (Lin. Ft.)	REMARKS
From	To	From	To			
		241+28	241+63		35	20' FULL, 15' RUNOUT
		242+65	243+00		35	20' FULL, 15' RUNOUT

TABULATION OF SAFETY CLOSURES				108-13A 10-28-97
Refer to Section 2518 of the St'd. Specifications				
STATION	CLOSURE TYPE		REMARKS	
	Road Qty.	Hazard Qty.		
240+75	1	-	WEST END	
243+50	1	-	EAST END	

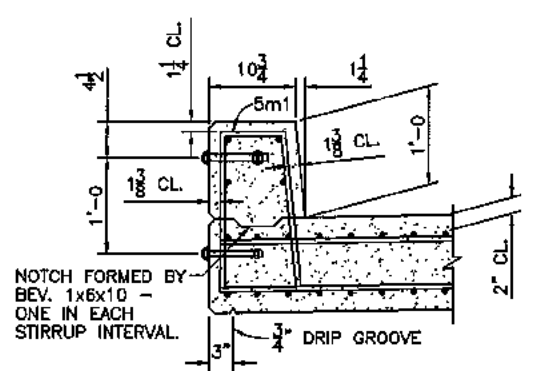


REPAIR DEFINITION

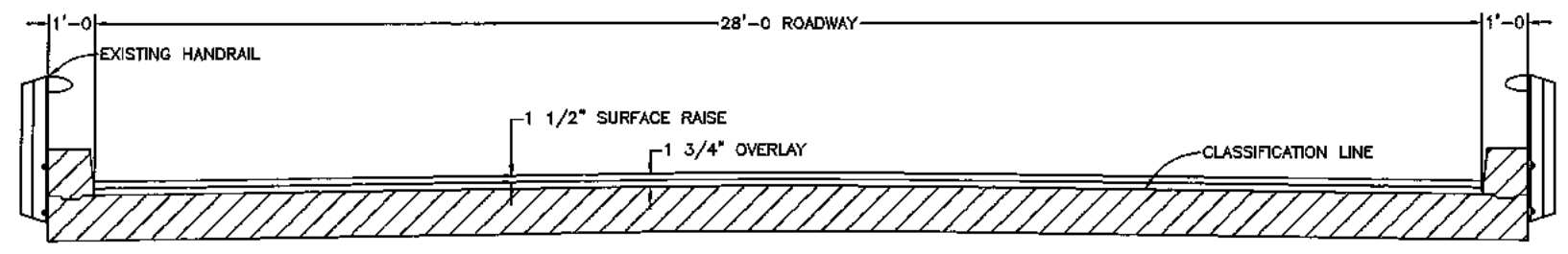
*INDICATES CLEARANCE FOR AN UN-BONDED REBAR



CONCRETE REMOVAL ADJACENT TO REINFORCING

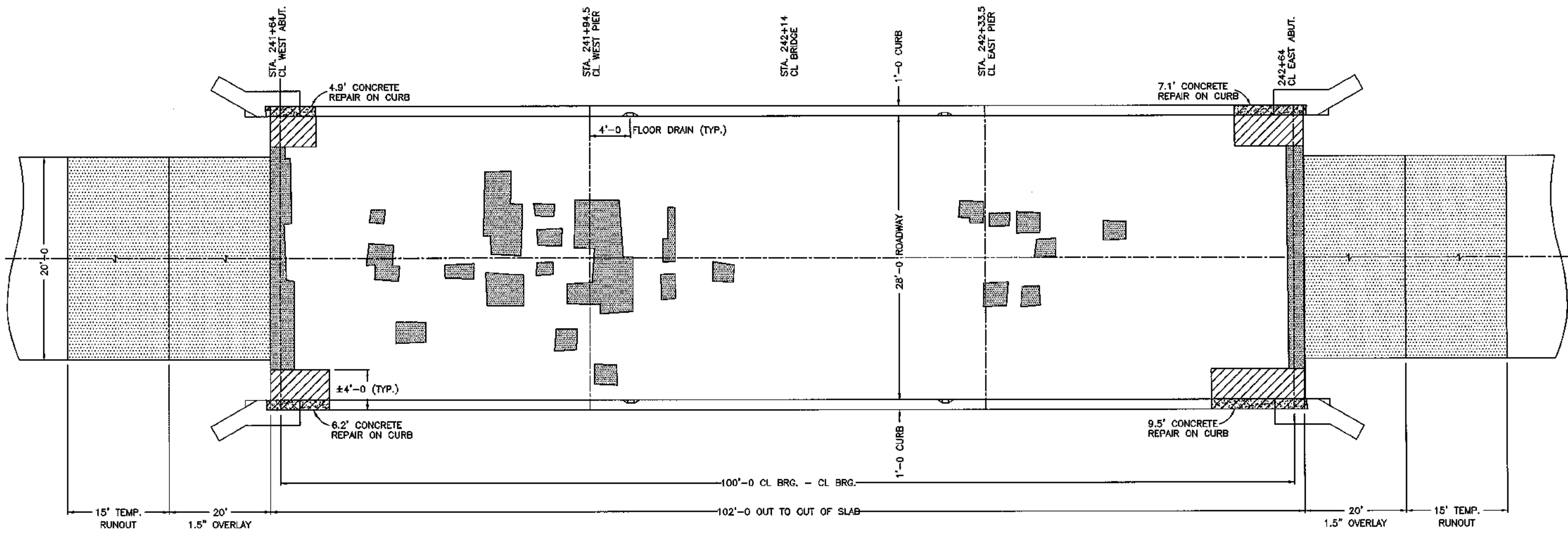


CURB DETAIL (SHOWN NEAR PIER)






TYPICAL CROSS SECTION

TABULATIONS, TYPICALS
 FHWA NO. 126680



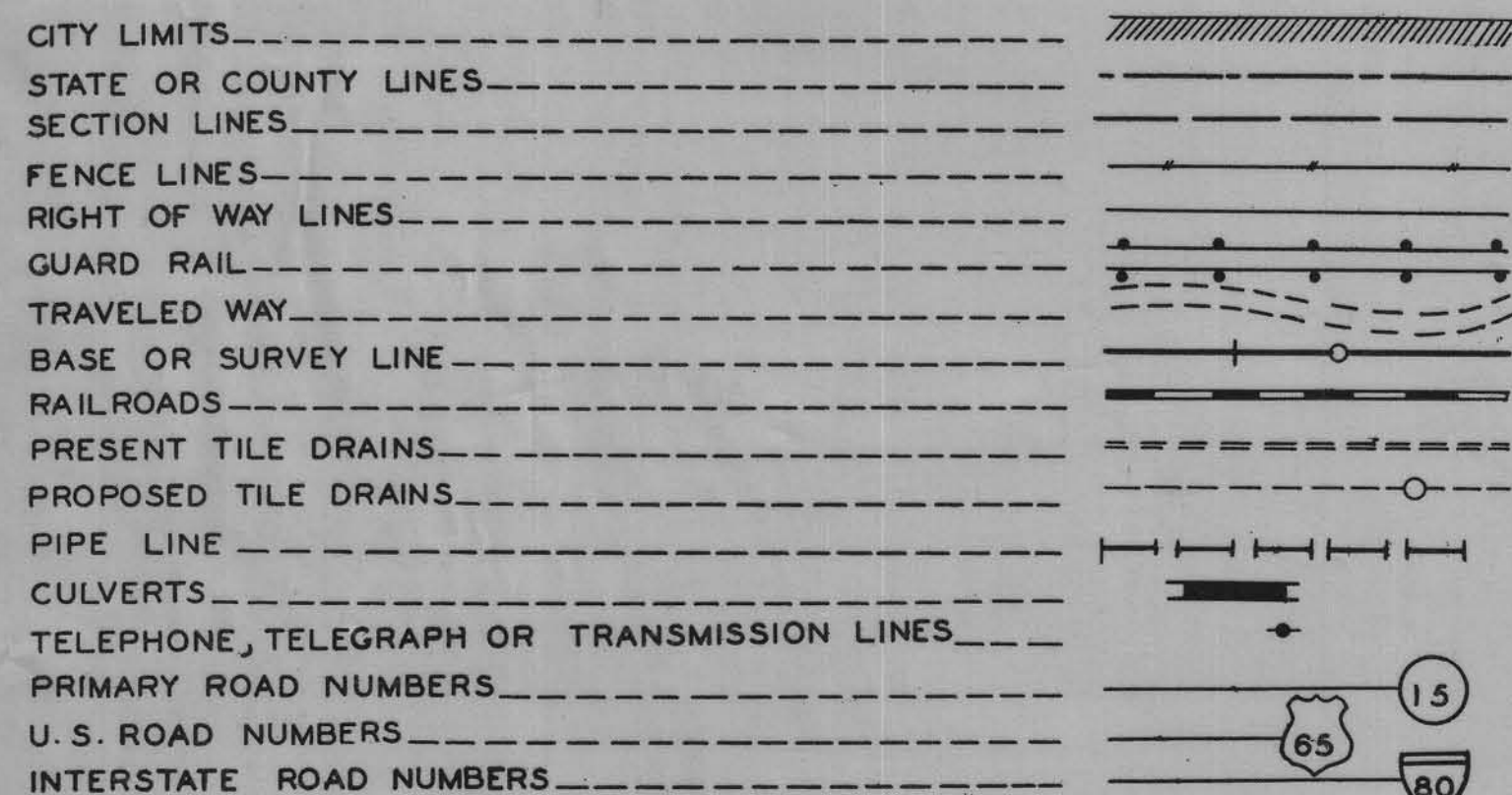
PLOT OF BRIDGE DECK DELAMINATIONS



-  BRIDGE FLOOR REPAIR, CLASS A
-  BRIDGE FLOOR REPAIR, CLASS B
-  CURB REPAIR

SITUATION PLAN
 100'-0 x 28' CONTINUOUS CONCRETE SLAB BRIDGE
 STEEL CHANNEL RAIL
 STUB ABUTMENT AND CONCRETE PILE BENTS
 STA. 242+14
 CRAWFORD COUNTY
 FHWA NO. 126680

CONVENTIONAL SIGNS



STATE OF IOWA
STATE HIGHWAY COMMISSION
 PLAN & PROFILE OF PROPOSED IMPROVEMENT
 ON THE
FARM TO MARKET SYSTEM
CRAWFORD COUNTY

FED. ROAD DIST. NO.	STATE	S. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IOWA	220(4)	1962	1	13

INDEX OF SHEETS

SHEET NO.	ITEM
1 2-13	TITLE SHEET & ESTIMATE OF QUANTITIES DETAILS

PROJECT NO. S-220(4)
 DESIGNS FOR REINFORCED CONCRETE BOX CULVERTS & 100'X28',
 125'X28', CONTINUOUS CONCRETE SLAB BRIDGES.

SCALES { PLAN 1 INCH=100 FT.
 PROFILE HOR. 1 INCH=100 FT.. VERT. 1 INCH=10 FT.

THE IOWA STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS
 FOR CONSTRUCTION WORK, SERIES OF 1960, SHALL
 APPLY TO WORK ON THIS PROJECT PLUS
 CURRENT SUPPLEMENTAL SPECIFICATIONS
 AND SPECIAL PROVISIONS

In Letting of April 24, 1962

PROJECT S-220(4) SEC. 8-17	DESIGN 962	STA. 242+14 WASHINGTON TOWNSHIP	
100' X 28' CONTINUOUS SLAB BRIDGE			
DESCRIPTION	ABUTMENTS	SUPERSTRUCTURE	TOTALS
STRUCTURAL CONCRETE	35.0 C.Y.	165.7 C.Y.	200.7 C.Y.
REINFORCING STEEL	2784 LBS.	36,715 LBS.	39,499 LBS.
STRUCTURAL STEEL		5,332 LBS.	5,332 LBS.
CREOSOTED PILES 20 @ 35'	700 L.F.		700 L.F.
CONCRETE PILES 14 @ 50' PIOA 16" TYPE III		700 L.F.	700 L.F.
EXCAV. CLASS 10 CHANNEL	108 C.Y.		108 C.Y.
EXCAV. CLASS 20	10 C.Y.		10 C.Y.
EXCAV. CLASS 24	56 C.Y.		56 C.Y.
REMOVAL OF OLD BRIDGE			LUMP SUM

BRIDGE SIGN ASSEMBLY NOTE:
 These bridges will require bridge sign assemblies
 (furnished and placed by others) in accordance with
 the Traffic and Highway Planning Instruction N^o 11,
 revised October 1, 1961.

In Letting of April 24, 1962

PROJECT S-220(4) SEC. 8-17	DESIGN 1062	STA. 251+10.0 WASHINGTON TOWNSHIP	
125' X 28' CONTINUOUS SLAB BRIDGE			
DESCRIPTION	ABUTMENTS	SUPERSTRUCTURE	TOTALS
STRUCTURAL CONCRETE	35.6 C.Y.	250.9 C.Y.	286.5 C.Y.
REINFORCING STEEL	1700 1700 LBS.	55,081 LBS.	56,481 56,781 LBS.
STRUCTURAL STEEL		6,533 LBS.	6,533 LBS.
CREOSOTED PILES 20 @ 40'	800 L.F.		800 L.F.
CONCRETE PILES 16 @ 50' PIOA 16" TYPE III		800 L.F.	800 L.F.
EXCAV. CLASS 10 CHANNEL	385 C.Y.		385 C.Y.
EXCAV. CLASS 20	5 C.Y.		5 C.Y.
REMOVAL OF OLD BRIDGE			LUMP SUM

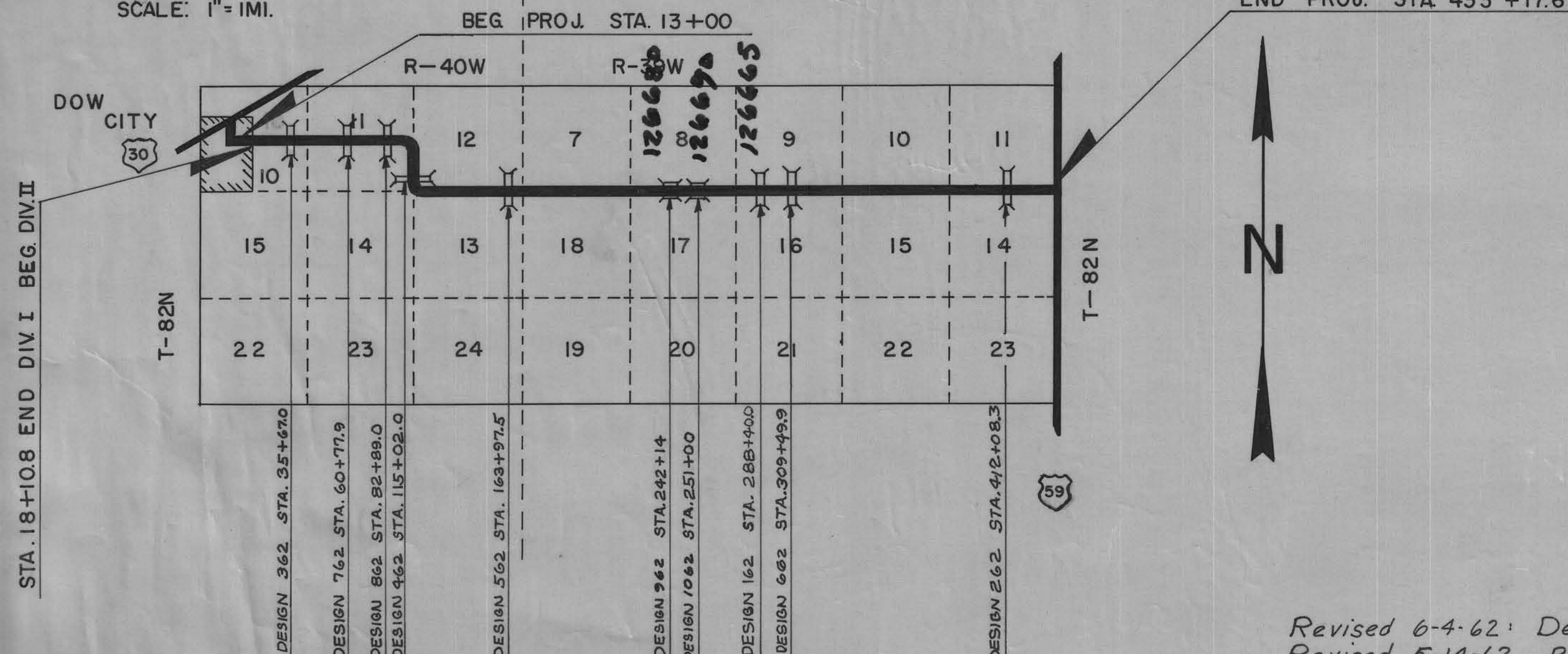
In Letting of April 24, 1962

DESIGN	LOCATION			DESCRIPTION	ESTIMATE OF QUANTITIES									
	SEC.	TWP.	STATION		CONCRETE	REIN. STEEL	CLASS 10 EXCAV.	CLASS 20 EXCAV.	CLASS 24 EXCAV.	FILTER MATERIAL	COMPACTION BACKFILL	PERFORATED FIBER PIPE	1/2" Galv. Rail	REMOVALS
					CU. YDS.	LBS.	CU.YD.	CU.YD.	CU.YD.	TONS	C.Y.	Lin. Ft.	Lbs.	LUMP SUM
362	10	82-40	35+67.0	5'X5'X14'-6" EXTENSION	12.71	1,040		7						As per plans
762	11	82-40	60+77.9	8'X10' EXTENSION WITH FLUME & DROP INLET	184.77	20,501		278		9.10	132	55	376	As per plans
862	11	82-40	82+89.0	10'X10' EXTENSION WITH FLUME & DROP INLET	154.59	17,070		70		9.50	247	52	356	As per plans
462	11-12	82-40	115+02.0	5'X5'X10' EXTENSION	10.15	835		12						As per plans
562	12-13	82-40	163+97.5	6'X8' EXTENSION & FLUME	64.92	7,295	56	33	23					As per plans
162	9-16	82-39	288+60.0	TWIN 10'X10'X93' 30° SKEW	359.96	50,732 49,863		1,128						
662	9-16	82-39	309+49.9	5'X5' EXTENSION LT & RT.	52.75	4,638		8	31					As per plans
262	11-14	82-39	412+08.3	10'X10'X64' R.C.B.C.	151.20	17,306		180						128'X65' structural Plate Culvert
TOTAL					991.0	118,554	56	1716	54	18.6	379	107	732	Lump Sum

DETAIL PLANS
 REDUCED IN SIZE
 (DO NOT SCALE)

S-220(4)
 APRIL 24 1962 LETT.

LOCATION SCALE: 1"=1MI.
 END PROJ. STA 433+17.6



Revised 6-4-62: Design 1062 - Abutment reinforcing steel corrected.
 Revised 5-14-62 Reinforcing Steel Quantity corrected on Design 162

APPROVED _____ DATE _____
 CHAIRMAN

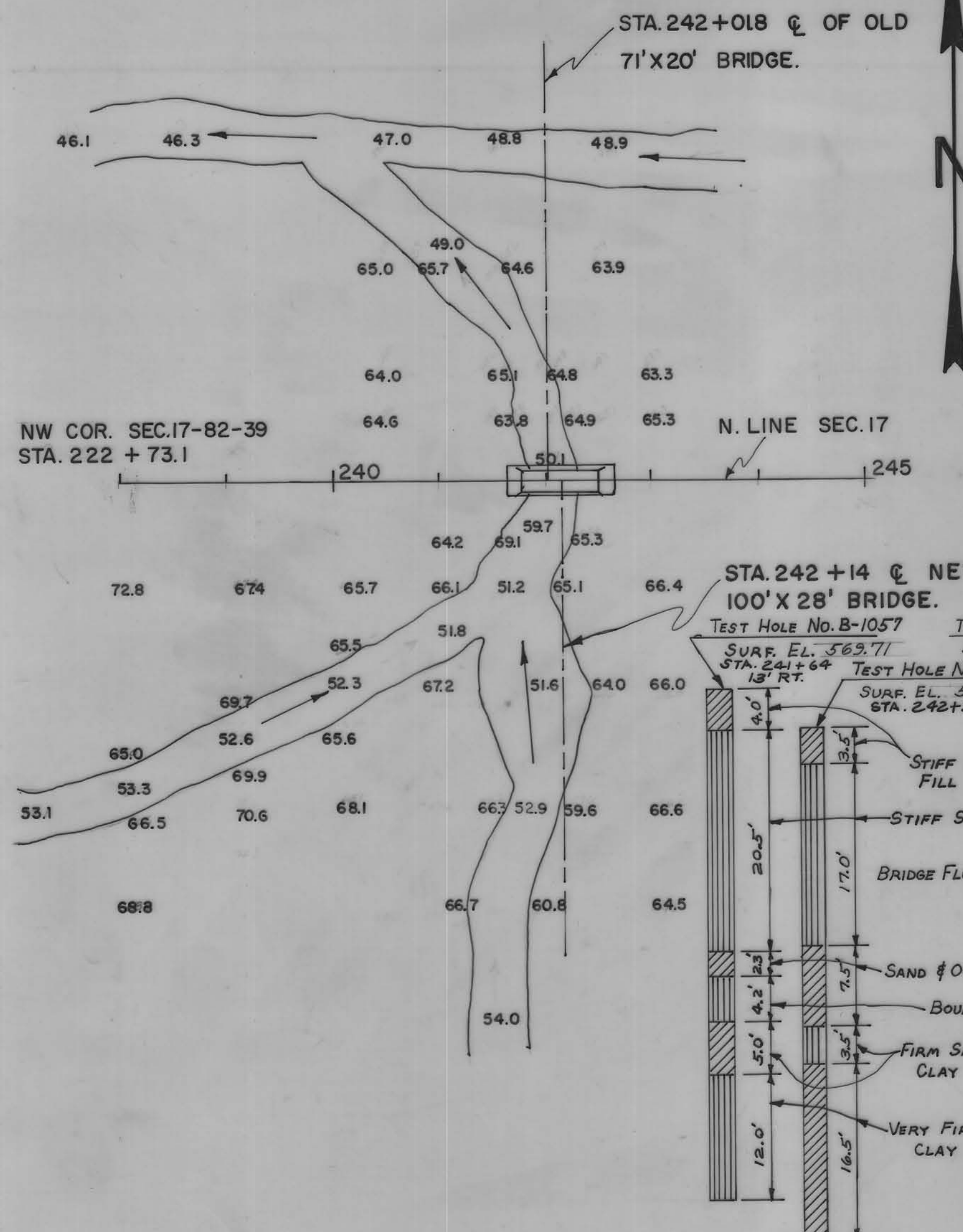
 BOARD OF SUPERVISORS

APPROVED
R.M. Tuttle MAR 21 1962
 DEPUTY CHIEF ENGINEER DATE _____
 IOWA HIGHWAY COMMISSION
 DEPARTMENT OF COMMERCE
 BUREAU OF PUBLIC ROADS
 APPROVED _____
 DIVISION ENGINEER DATE _____

WASHINGTON TOWNSHIP
T-82N R-39W
BET. SEC. 8 & 17

BM STA. 243+04 SPK. REA POLE 34' LT. EL. 566.91

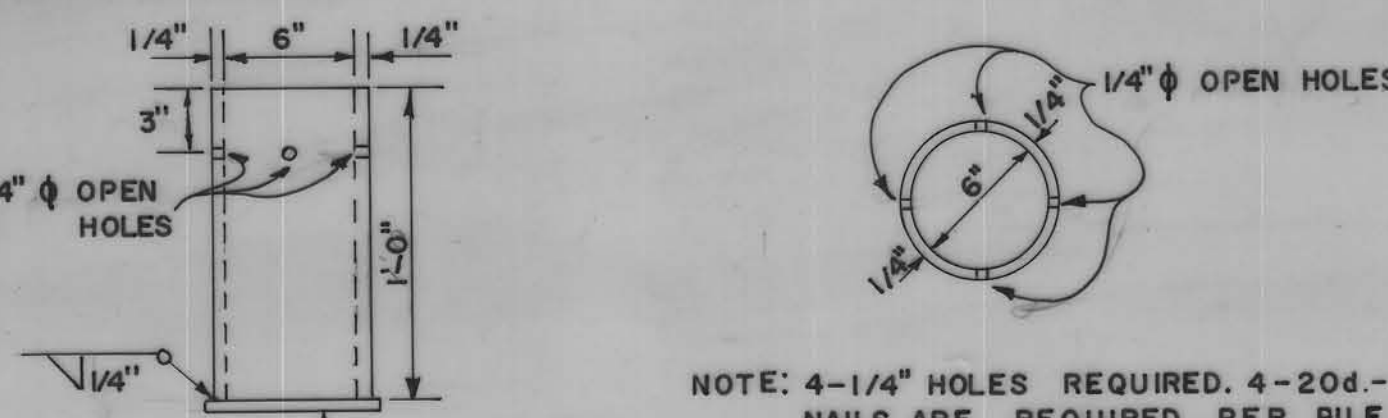
12



DESCRIPTION	ABUTMENTS	SUPERSTRUCTURE	TOTALS
STRUCTURAL CONCRETE	35.0 CU. YDS.	165.7 CU. YDS.	200.7 CU. YDS.
REINFORCING STEEL	2784 LBS.	36,715 LBS.	39,499 LBS.
STRUCTURAL STEEL		5,332 LBS.	5,332 LBS.
CREOSOTED PILES **20 @ 35'	700 L.F.		700 L.F.
CONCRETE PILES 14 @ 50' * P10A 16" TYPE III		700 L.F.	700 L.F.
EXCAV. CLASS 10 CHANNEL	108 CU. YDS.		108 CU. YDS.
EXCAV. CLASS 20	10 CU. YDS.		10 CU. YDS.
EXCAV. CLASS 24	56 CU. YDS.		56 CU. YDS.
REMOVAL OF OLD BRIDGE			LUMP SUM

NOTE: 858 METAL CHAIRS REQUIRED * DRIVING POINTS WILL BE USED ON P10A 16" PILES FOR DRIVING PILES. SEE DETAIL ON STD P10A. COST OF DRIVING POINTS TO BE INCLUDED IN THE PRICE BID PER LINEAL FOOT FOR PILING.
** METAL SHOE REQUIRED. SEE DETAIL.

STA. 242+01.8 @ 47'X20' PRESENT STEEL I BEAM BRIDGE WITH 24'X20' APPROACH, WOOD FLOOR, WOOD SUBSTRUCTURE. DA=3650AC. REPLACE WITH 100'X28' CONTINUOUS SLAB BRIDGE AT STA. 242+14. BRIDGE CONTRACTOR TO REMOVE OLD BRIDGE AND PILE WITHIN 300' OF BRIDGE SITE AS DIRECTED BY COUNTY ENGINEER.

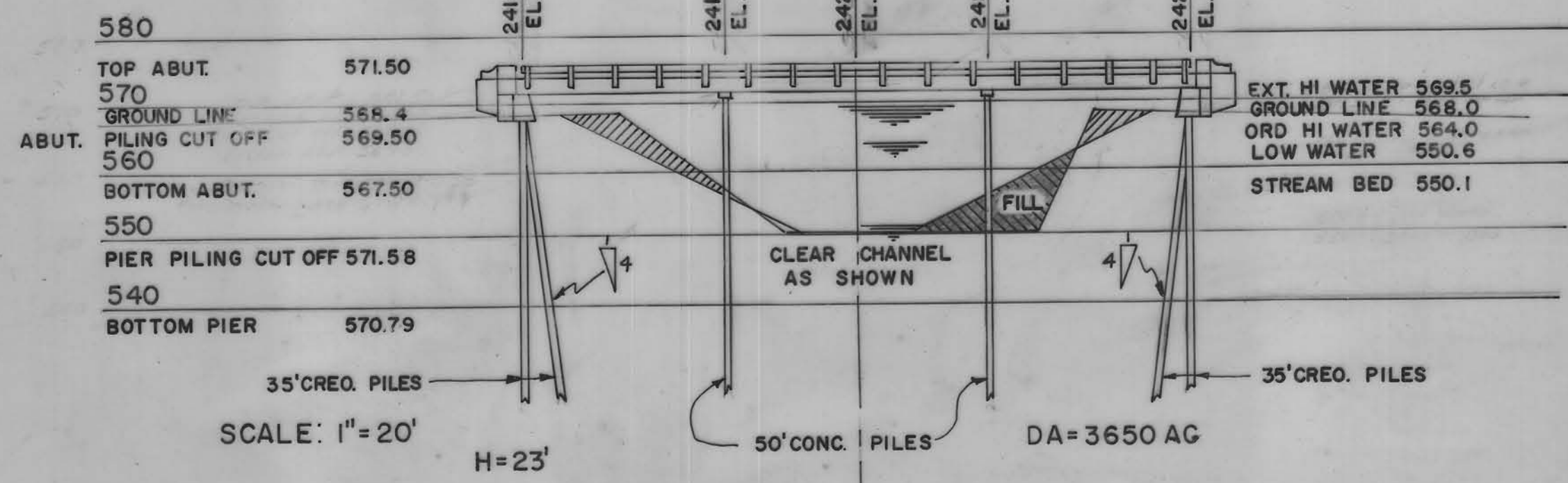


NOTE: 4-1/4" HOLES REQUIRED. 4-20d-4"XNO. 6. NAILS ARE REQUIRED PER PILE.
METAL SHOE DETAIL
METAL SHOE WILL BE USED ON CREOSOTED PILES FOR DRIVING PILES. COST OF METAL SHOE TO BE INCLUDED IN THE PRICE BID PER LINEAL FOOT FOR PILING.

GENERAL NOTES:
IOWA HIGHWAY COMMISSION STANDARD DESIGN J8-1, J8-2 AND J8-4, JULY, 1960, SHALL APPLY TO THIS BRIDGE, & P10A, JUNE, 1959.
ALL REINFORCING BARS SHALL BE SECURELY WIRED IN PLACE AND ADEQUATELY SUPPORTED ON BAR CHAIRS.
IOWA HIGHWAY COMMISSION STANDARD SPECIFICATIONS, SERIES OF 1960, WITH CURRENT SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS.

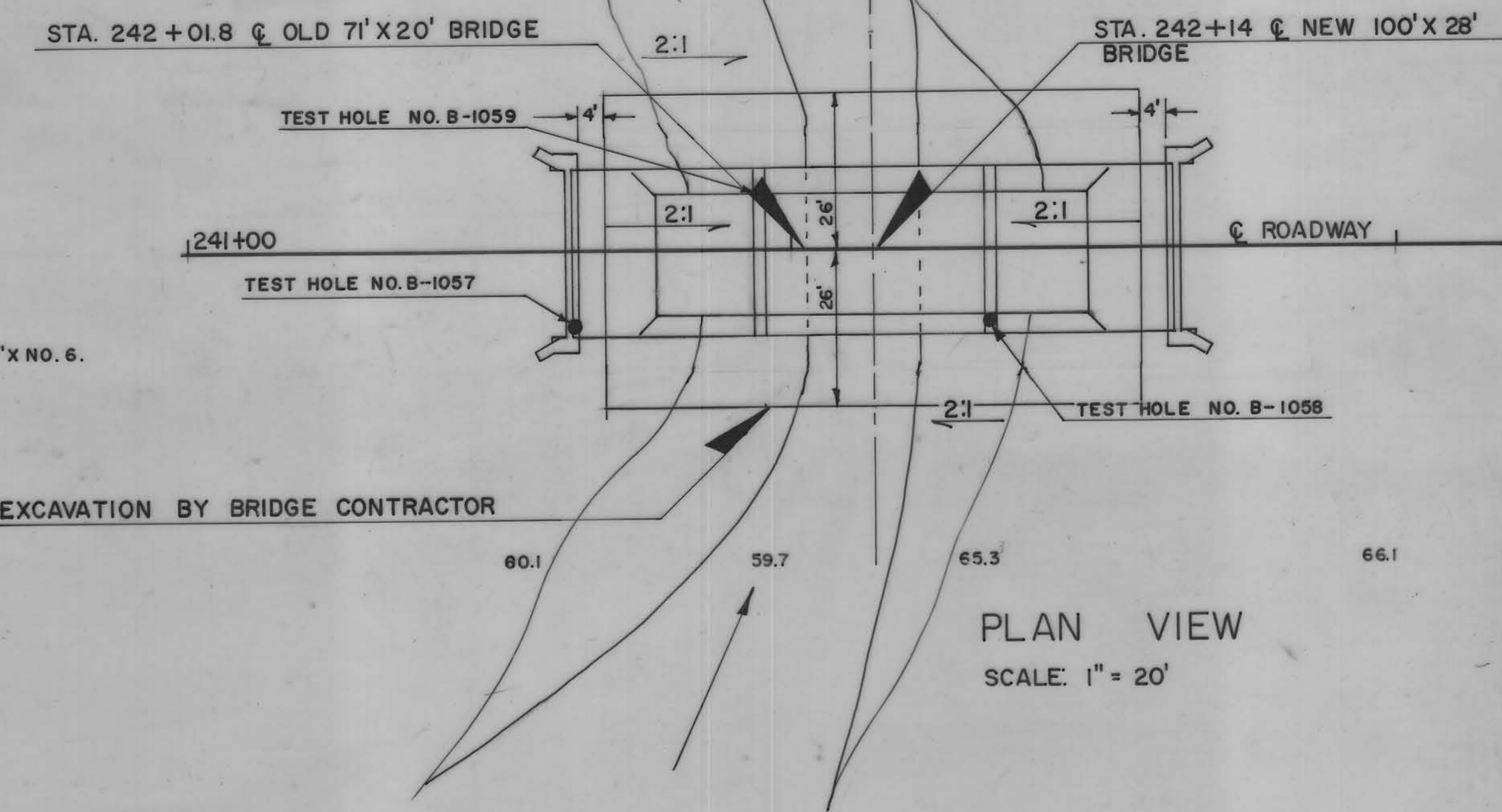
BRIDGE SIGN ASSEMBLY NOTE:
PLACE TRIPLE THREE-INCH REFLECTORS (M-200) AT EACH END OF THE BRIDGE ON THE RIGHT HAND SIDE ONLY FOR APPROACHING TRAFFIC. BY COUNTY. SEE TRAFFIC AND HIGHWAY PLANNING INSTRUCTION NO. II, REVISED OCTOBER 1, 1961

LOCATION
SEC. 8-17 WASHINGTON TWP.
OVER LOCAL CREEK

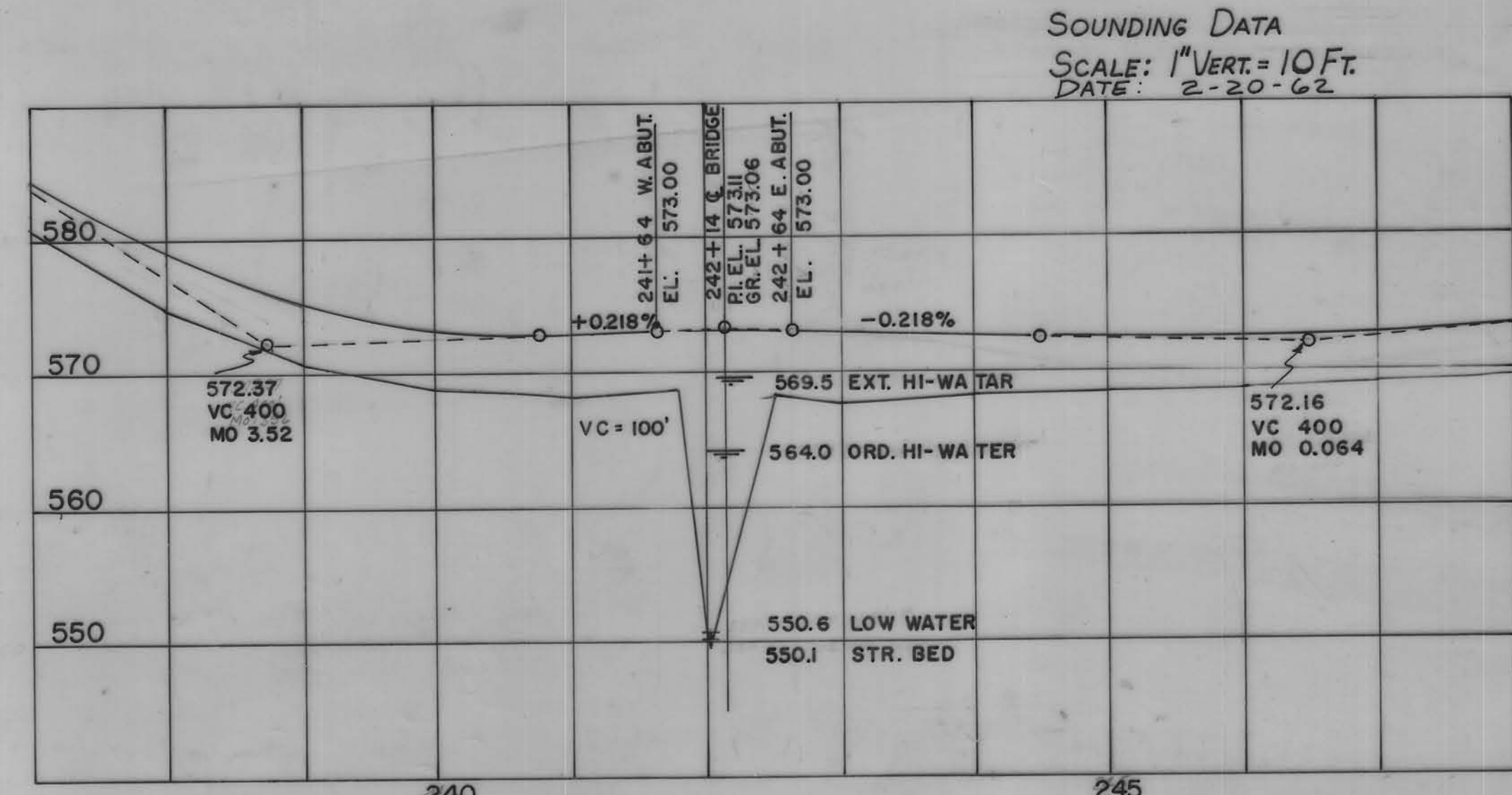


NOTE:
EXCAVATE CHANNEL AS SHOWN IN SHADED AREA USE SILTY CLAY FROM CHANNEL EXCAVATION FOR FILL AND PLACE AS DESCRIBED IN 2402.09 IN STANDARD SPECIFICATIONS.

LONGITUDINAL VIEW



PLAN VIEW
SCALE: 1" = 20'



SCALE: VERT 1" = 10'
HORZ 1" = 100'

DESIGN FOR
100'X28' CONTINUOUS SLAB BRIDGE
STEEL CHANNEL RAIL
STUB ABUTMENTS AND CONCRETE PILE BENTS
STA. 242+14 PROJECT NO. S-220(4)
CRAWFORD COUNTY, IOWA
FEB. 10, 1962

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