

LISTING OF PROJECT REVISIONS

DATE	SHEET NUMBER	DESCRIPTION OF REVISIONS	DATE	SHEET NUMBER	DESCRIPTION OF REVISIONS
11-20-07	1A	REVISION SHEET ADDED.			
11-20-07	65-76	WALL ELEVATIONS REVISED. REASON: GRADING CHANGES TO ACCOMMODATE 3' BERM IN FRONT OF ABUTMENTS.			
11-20-07	80 & 81	SUBDRAIN ELEVATIONS REVISED. REASON: REVISED WALL ELEVATIONS.			
01-18-08	4 & 52	ADDED STEEL PEDESTRIAN HAND RAILING TO THE EAST SEPERATION BARRIER REASON: PER IADOT'S REQUEST			
01-23-08	4, 5, 9 & 11	REVISED QUANTITY ITEMS NO. 4 & 7 REVISED LOW STEP ELEVATIONS AT PIER NO. 1 REVISED PIER STEP ELEVATIONS AND HEIGHTS REVISED PIER STEP REINFORCING AND QUANTITIES REASON: ACTUAL DISC BEARING HEIGHTS ARE SHALLOWER THAN ASSUMED.			

POTTAWATTAMIE COUNTY
DESIGN NOS. 508 & 708
REVISION SHEET
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

ESTIMATED BRIDGE QUANTITIES

ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUANTITY
1	2401-6745625	RMVL OF EXIST BRIDGE	LS	1.0	
2	2402-2720000	EXCAVATION, CL 20	CY	1031.0	
3	2403-0100010	STRUCT CONC (BRIDGE)	CY	96.2	
4	2403-7000210	HIGH PERFORMANCE STRUC CONC	CY	1088.2	1089.4
5	2403-7000220	TRIAL BATCH HIGH PERFORMANCE STRUC CONC	LS	1.0	
6	2403-7302000	COLORLED SEALER COAT - STRUCT CONC	SY	1711.0	
7	2404-7775005	REINFORC STEEL, EPOXY COATED	LB	164433	164537
8	2408-7800000	STRUCTURAL STEEL	LB	1485189	
9	2413-0698110	BRIDGE FLOOR SURF	SY	3072	
10	2413-1200000	STEEL EXTRUSION JOINT W/NEOPRENE	LF	211.5	
11	2414-6425410	CONC BARRIER, REINFORCED, SEPARATION	LF	745.0	
12	2414-6425420	CONC BARRIER, PARAPET	LF	708.5	
13	2414-6445100	STRUCTURAL STEEL PEDESTRIAN HAND RAIL	LF	372.3	744.5
14	2414-6772020	STEEL FENCE, WELDED WIRE MESH	LF	707.3	
15	2501-0201057	PILE, STEEL, HP 10x57	LF	13250.0	
16	2501-0201489	PILE, STEEL, HP 14x89	LF	8100.0	
17	2501-8400172	TEMP SHORING	LS	1.0	
18	2526-8285000	CONSTRUCTION SURVEY	LS	1.0	
19	2533-4980005	MOBILIZATION	LS	1.0	
20	2599-9999005	PRECAST POST-TENSIONED SLAB PANELS	EA	70.0	
21	2599-9999005	DISC BEARINGS	EA	12.0	
22	2599-9999014	STONE VENEER	SF	2428	
23	2601-2638610	CONC SLOPE PROTECTION	SY	572.0	

ITEM NO.

ESTIMATE REFERENCE INFORMATION

- 1 INCLUDES ALL COSTS ASSOCIATED WITH DECK FORMING AS SHOWN ON DETAIL "C" ON DESIGN SHEET 7.
- 3 ALL PIER FOOTING CONCRETE SHALL BE CLASS "C".
- 4 ALL CAST-IN-PLACE SLAB CONCRETE, INCLUDING CLOSURE POUR AND END SECTIONS, PRECAST SLAB PANELS, SIDEWALK, PIER CONCRETE ABOVE FOOTING AND CONCRETE FOR ABUTMENTS SHALL BE STRUCTURAL CONCRETE (HIGH PERFORMANCE). INCLUDES 722 FT. OF 3" DIA. RIGID STEEL CONDUIT IN SIDEWALK, 227 FT. OF 2" DIA. RIGID STEEL CONDUIT AND 629 FT. OF 1" DIA. RIGID STEEL CONDUIT. INCLUDES ALL COSTS ASSOCIATED WITH FURNISHING AND PLACING CONDUITS IN THE ABUTMENTS, SIDEWALKS AND UNDER SLAB FOR BRIDGE LIGHTING. INCLUDES FURNISHING AND PLACING SUBDRAIN (INCLUDING EXCAVATION), GRANULAR BACKFILL, POROUS BACKFILL, AND SUBDRAIN OUTLET AT ABUTMENTS. INCLUDES FURNISHING AND PLACING CONCRETE SEALER. INCLUDES ALL PREFORMED EXPANSION JOINT FILLER REQUIRED. INCLUDES 36.8 CY OF INTEGRALLY COLORED CONCRETE FOR RAISED MEDIAN. INCLUDES ANCHOR BOLTS AND PLATES AT LIGHT POLE BASES. INCLUDES ALL COSTS ASSOCIATED WITH THE PIER FORM LINER.
- 7 INCLUDES COST OF 149 LBS. OF STAINLESS STEEL REINFORCING IN THE ABUTMENT PAVING NOTCHES. FOR DETAILS, SEE DESIGN SHEET 15.
- 8 INCLUDES 662,991 LBS. OF ASTM A709 GRADE HPS 70W (AASHTO M270 GRADE HPS 70W) WEATHERING STEEL. INCLUDES COST OF ABUTMENT BEARING MATERIALS.
- 9 PORTLAND CEMENT CONCRETE OVERLAY. INCLUDES ALL COSTS ASSOCIATED WITH FURNISHING, PLACING AND REMOVING PLUGS OVER MECHANICAL CONNECTORS FOR MEDIAN CONSTRUCTION.
- 10 INCLUDES ALL NECESSARY HARDWARE AND ACCESSORIES INCLUDING THE ANCHORAGE SYSTEM, TEMPORARY ERECTION MATERIAL, AND THE COVER PLATES WITH THEIR ANCHORAGE SYSTEMS.
- 11, 12 IF PLACEMENT OF CONCRETE IS DONE BY THE SLIPFORMING METHOD, CLASS BR CONCRETE IS REQUIRED. CAST-IN-PLACE BARRIER RAILS SHALL USE CLASS C MIX. PRICE BID FOR THIS ITEM SHALL INCLUDE THE COST OF CAST-IN-PLACE FORMS IF REQUIRED FOR PLACEMENT OF THE CONCRETE. INCLUDES ALL COSTS ASSOCIATED WITH FURNISHING AND PLACING CONDUITS IN BARRIERS. INCLUDES 1068 FT. OF 2" DIA. RIGID STEEL CONDUIT, 15 FT. OF 1" DIA. RIGID STEEL CONDUIT AND 133 FT. OF 3/4" DIA. RIGID STEEL CONDUIT IN BARRIERS. INCLUDES MATERIAL AND LABOR ASSOCIATED WITH PROVIDING AND INSTALLING RIGID STEEL CONDUIT, JUNCTION BOXES AND FITTINGS.
- 14 ALL COSTS ASSOCIATED WITH THE FENCE INCLUDING THE ANCHORAGES AND PAINTING SHALL BE INCLUDED IN THE PRICE BID FOR "STEEL FENCE, WELDED WIRE MESH".
- 15, 16 PILING SHALL BE GRADE 50.
- 17 INCLUDES THE COST TO DESIGN, FURNISH AND INSTALL SHEETING & SHORING AS REQUIRED TO FACILITATE CONSTRUCTION OF THE ABUTMENTS AND THE PIER WITHOUT LOSS OF SUPPORT OF THE ADJACENT AT-GRADE PAVEMENT. TEMPORARY SHEET PILING & SHORING SHALL BE MEASURED AND PAID FOR AT THE LUMP SUM CONTRACT PRICE.
- 20 THIS ITEM INCLUDES ALL COSTS ASSOCIATED WITH FURNISHING AND PLACING THE PRECAST SLAB PANELS. INCLUDING GROUT FOR TRANSVERSE JOINTS (19.8 CY), 3/4" DIA. TRANSVERSE BACKING ROD (3559 LF), LEVELING DEVICES, CONCRETE FOR GIRDER HAUNCHES & SHEAR STUD POCKETS (125.8 CY), HIGH PERFORMANCE STRUCTURAL CONCRETE FOR PANELS (812.0 CY) MILD REINFORCING (124,021 LBS), 0.6" DIA. 270-LL POST TENSIONING STRANDS (78,400 LF), P.T. PRESSURE GROUT INSIDE OF DUCTS AND REQUIRED POST TENSION END ANCHORAGES, ALL EMBEDDED ITEMS SUCH AS DUCTS & DUCT SPLICES, LIFTING AND LEVELING DEVICES. TRIAL BATCH FOR CLASS 0-4 WR CONCRETE.
- 22 INCLUDES ALL COSTS ASSOCIATED WITH FURNISHING AND APPLYING ANTI-GRAFFITI COATING (270.0 SY).
- 23 METHOD OF MEASUREMENT AND BASIS OF PAYMENT SHALL BE PER SQUARE YARD AS MEASURED IN THE FIELD.

REVISED 01-23-08,
REVISED QUANTITY ITEM NO. 4
REVISED QUANTITU ITEM NO. 7

REVISED 01-18-08,
REVISED QUANTITY ITEM NO. 13



HDR Engineering, Inc.

DESIGN FOR 0° SKEW

**353'-6X82' CONT. WELDED GIRDER BRIDGE
W/8'-4 SIDEWALK & 10'-4 SHARED USE PATH**

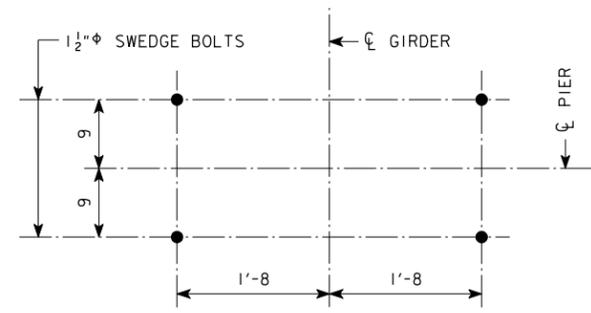
24TH STREET OVER I-80
178'-6 & 175'-0 SPANS

ESTIMATED QUANTITIES

STA. 40176+95.25 (24TH STREET) JUNE, 2007
STA. 7476+95.25 (FUTURE I-80)

POTTAWATTAMIE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 3 OF 62 FILE NO. 30169 DESIGN NO. 508



ANCHOR BOLT LAYOUT

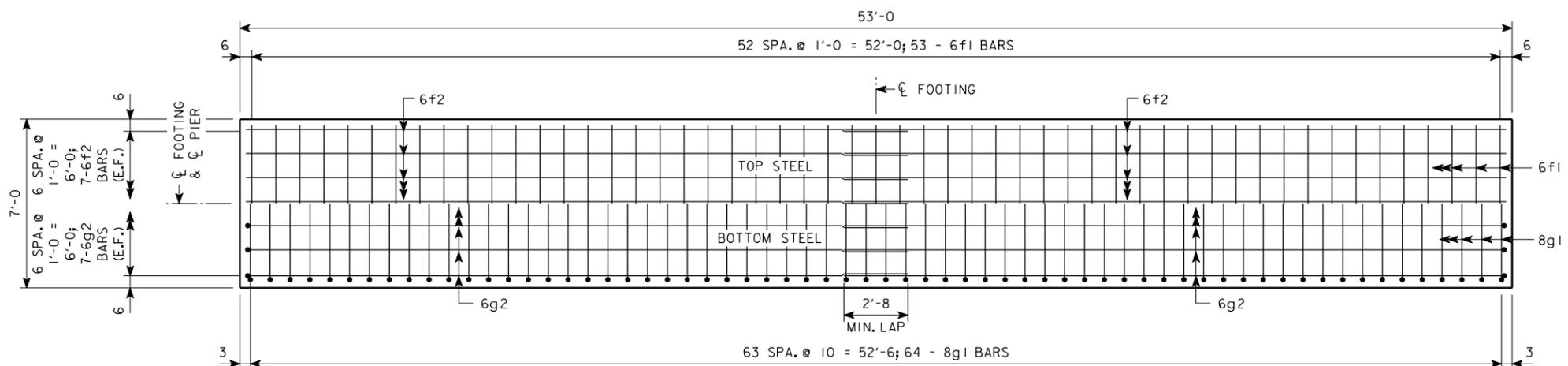
NOTE:
ANCHOR BOLT LAYOUT IS DEPENDENT ON FINAL BEARING DESIGN. FINAL ANCHOR BOLT LOCATIONS SHALL BE DETERMINED BY BEARING MANUFACTURER.

CONCRETE PLACEMENT QUANTITIES (EACH PHASE)	
LOCATION	QUANTITY
WALL & STEPS (HIGH PERFORMANCE CONCRETE) *	106.8
FOOTING	48.1
TOTAL C.Y.	154.9

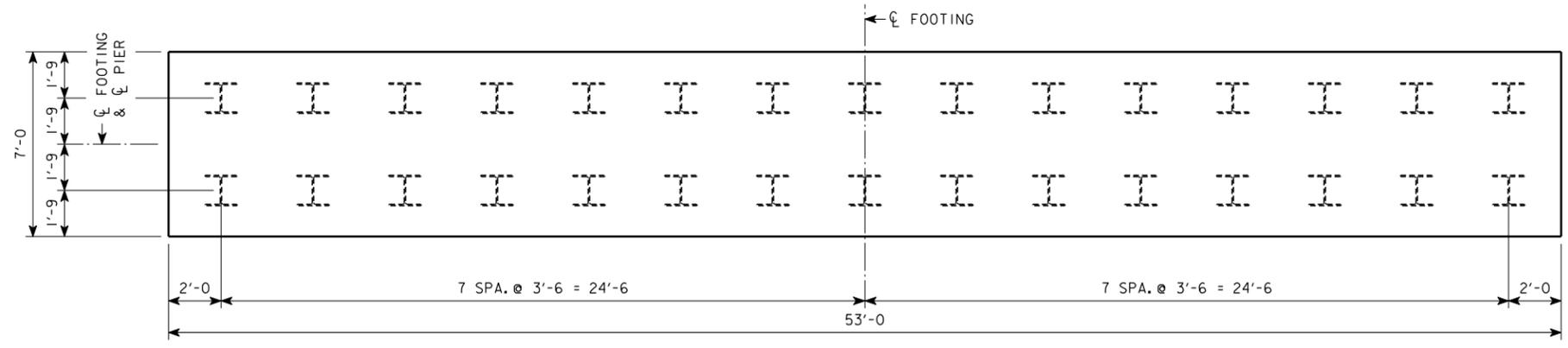
ESTIMATED QUANTITIES				
ITEM	UNIT	PHASE 1 PIER	PHASE 2 PIER	QUANTITY
STRUCTURAL CONCRETE (HIGH PERFORMANCE)	C.Y.	106.8	107.4	213.6
STRUCTURAL CONCRETE (BRIDGE)	C.Y.	48.1	48.1	96.2
REINFORCING STEEL - EPOXY COATED	LB.	19,044	19,063	38,107
CLASS 20 EXCAVATION	C.Y.	139	138	277
HPI4x89 STEEL BEARING PILING	L.F.	30 @ 135	30 @ 135	8100

* QUANTITY IS CALCULATED ASSUMING THE WALL THICKNESS IS 2'-6 AND IGNORES THE DEDUCTION OF CONCRETE VOLUME DUE TO THE FORM LINER.

REINFORCING STEEL (EACH PHASE)					
BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6a1	WALL, TOP, LONGITUDINAL	—	12	29'-11"	539
5a2	WALL, SIDE, LONGITUDINAL	—	8	26'-2"	218
5a3	WALL, SIDE, LONGITUDINAL	—	2	36'-6"	76
5a4	WALL, SIDE, LONGITUDINAL	—	2	16'-0"	33
5a5	WALL, SIDE, LONGITUDINAL	—	2	32'-8"	68
5a6	WALL, SIDE, LONGITUDINAL	—	2	19'-9"	41
5a7	WALL, SIDE, LONGITUDINAL	—	2	20'-9"	43
5a8	WALL, SIDE, LONGITUDINAL	—	2	8'-11"	19
5a9	WALL, SIDE, LONGITUDINAL	—	2	25'-0"	52
5a10	WALL, SIDE, LONGITUDINAL	—	60	27'-2"	1700
5c1	CAP, STIRRUP	—	68	7'-10"	556
5c2	CAP, STIRRUP	—	11	10'-0"	115
5c3	CAP, STIRRUP	—	23	11'-10"	284
9d1	FOOTING TO COLUMN DOWELS	—	108	11'-0"	4039
9d2	WALL, VERTICAL, ENDS	—	6	20'-6"	418
9d3	WALL, VERTICAL	—	4	13'-8"	186
9d4	WALL, VERTICAL	—	98	20'-6"	6831
4e1	WALL, ENDS	—	40	4'-0"	107
6f1	FOOTING, TOP	—	53	6'-8"	531
6f2	FOOTING, TOP	—	14	27'-8"	582
8g1	FOOTING, BOTTOM	—	64	9'-4"	1595
6g2	FOOTING, BOTTOM	—	14	28'-8"	603
4m1	PEDESTAL, TRANSVERSE	—	48	7'-6"	240
4n1	PEDESTAL, LONGITUDINAL	—	30	8'-4"	167
				9'-4"	187
REINFORCING STEEL EPOXY COATED - TOTAL (LBS.)					19,044



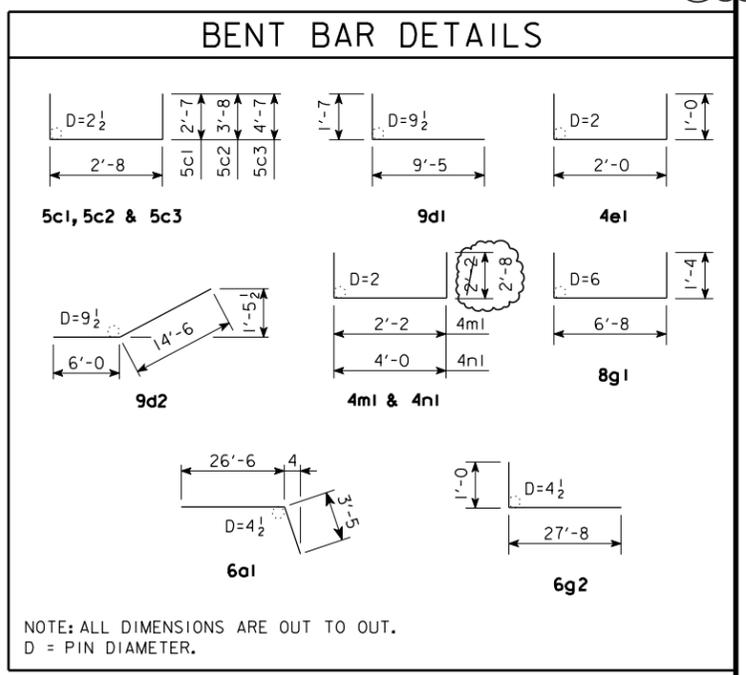
FOOTING REINFORCING LAYOUT (EACH PHASE)



FOOTING PILE LAYOUT (EACH PHASE)

PIER NOTES:
MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.
ALL EXPOSED CORNERS 90° OR SHARPER TO BE FILLETED WITH A 3/4" DRESSED AND BEVELED STRIP.
ALL REINFORCING IS TO BE SECURELY WIRED IN PLACE BEFORE CONCRETE IS POURED.
30 - HPI4x89 STEEL BEARING PILING ARE REQUIRED FOR EACH FOOTING.
THE DESIGN BEARING FOR THE PIER PILES IS 78 TONS.
SEE GENERAL NOTES ON DESIGN SHEET 2 FOR ADDITIONAL NOTES REGARDING TEXTURED CONCRETE FORM LINERS AND REQUIRED TEXTURED CONCRETE MOCK-UP PANEL.

REVISED 01-23-08
REVISED 4m1 & 4n1 BENT BAR DETAILS, LENGTHS AND WEIGHTS
REVISED QUANTITIES



NOTE: ALL DIMENSIONS ARE OUT TO OUT.
D = PIN DIAMETER.

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DESIGN SHEET NO. 10 OF 62 FILE NO. 30169 DESIGN NO. 508

HDR
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