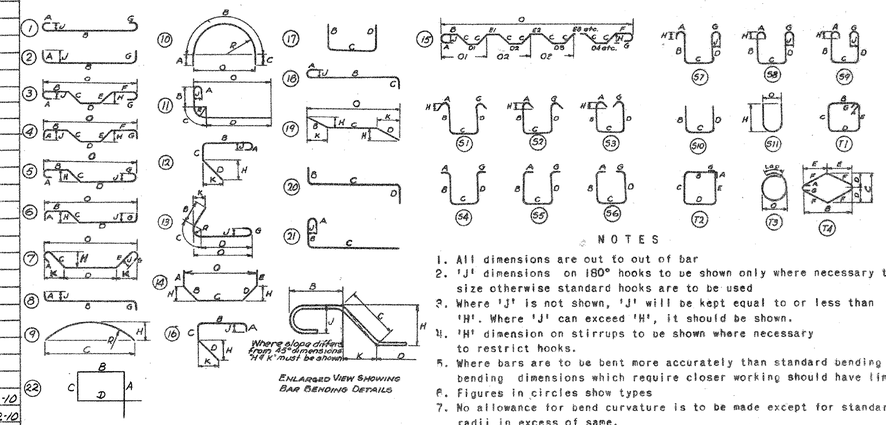
Item	No. Pieces	Size	Length	Mark	Type	A	B	C	D	E	F	G	H	J	K	R	O
						ABUTMENT No. 4											
1						FOOTING											
2	16	6	35-0	4A601	Str												
3	10	6	13-6	4A604	Str												
4	8	6	21-0	4A605	Str												
5																	
6	63	6	5-5	4A602	17		0-11	4-6									
7	22	6	9-4	4A606	17		0-11	7-6	0-11								
8																	
9	69	8	9-6	4A801	17		1-3	7-0	1-3								
10	14	8	12-0	4A802	17		1-3	9-6	1-3								
11	15	8	6-7	4A803	17		1-3	5-4									
12																	
13	11	9	7-3	4A901	17		1-5	5-10									
14	10	9	9-5	4A902	17		1-5	8-0									
15																	
16						STEM & WINGS											
17	12	4	13-6	4A401A	Str												
18	16	4	24-9	4A401B	Str												
19	20	4	29-9	4A401C	Str												
20	61	4	7-1	4A403	Str												
21	16	4	12-6	4A404A	Str												
22	16	4	24-9	4A404B	Str												
23	16	4	27-2	4A404C	Str												
24	1	4	17-3	4A405A	Str												
25	↓	↓	to	thru	↑	1 each, vary in 9 increments of 0-7											
26	1	4	22-6	4A405J	Str												
27	1	4	19-6	4A405K	Str												
28	1	4	20-1	4A405L	Str												
29	1	4	20-8	4A405M	Str												
30	3	4	21-6	4A405N	Str												
31	14	4	11-8	4A406	Str												
32	1	4	10-3	4A407A	Str												
33	↓	↓	to	thru	↑	1 each, vary in 3 increments of 1-9											
34	1	4	5-0	4A407D	Str												
35	6	4	8-10	4A408A	Str												
36	6	4	9-1	4A408B	Str												
37	6	4	9-4	4A408C	Str												
38	1	4	8-10	4A409A	Str												
39	↓	↓	to	thru	↑	1 each, vary in 3 increments of 1-3											
40	1	4	5-1	4A409D	Str												
41	6	4	21-6	4A411	Str												
42	8	4	4-0	4A412	Str												
43	20	4	6-9	4A413	Str												
44	1	4	3-11	4A414A	Str												
45	1	4	4-10	4A414B	Str												
46	1	4	5-9	4A414C	Str												
47	8	4	8-4	4A415A	Str												
48	8	4	8-9	4A415B	Str												
49	8	4	9-2	4A415C	Str												
50	1	4	4-11	4A416A	Str												
51	↓	↓	to	thru	↑	1 each, vary in 4 increments of 0-10											
52	1	4	8-3	4A416E	Str												
53	1	4	21-6	4A417A	Str												
54	↓	↓	to	thru	↑	1 each, vary in 4 increments of 1-0											
55	1	4	25-6	4A417E	Str												
56	1	4	24-9	4A417F	Str												
57	1	4	25-9	4A417G	Str												
58	1	4	26-9	4A417H	Str												
59	3	4	27-6	4A417I	Str												
60	6	4	27-6	4A418	Str												
61																	
62	63	5	7-1	4A501	Str												
63	1	5	11-3	4A502A	Str												
64	↓	↓	to	thru	↑	1 each, vary in 12 increments of 0-7											
65	1	5	18-3	4A502M	Str												
66	3	5	19-0	4A502N	Str												
67	6	5	8-4	4A503A	Str												
68	6	5	8-7	4A503B	Str												
69	6	5	8-11	4A503C	Str												
70	1	5	4-11	4A504A	Str												
71	↓	↓	to	thru	↑	1 each, vary in 4 increments of 0-10											
72	1	5	8-3	4A504E	Str												
73	1	5	16-0	4A505A	Str												
74	↓	↓	to	thru	↑	1 each, vary in 7 increments of 1-0											
75	1	5	23-0	4A505H	Str												
76	3	5	24-0	4A505I	Str												
77																	
78	15	6	6-10	4A603A	Str												
79	11	6	7-10	4A603B	Str												
80	12	6	8-10	4A603C	Str												
81	11	6	9-9	4A603D	Str												
82	11	6	10-9	4A603E	Str												
83	3	6	11-9	4A603F	Str												
84	5	6	8-10	4A607A	Str												
85	5	6	9-1	4A607B	Str												
86	5	6	9-4	4A607C	Str												
87	1	6	8-9	4A608A	Str												
88	↓	↓	to	thru	↑	1 each, vary in 3 increments of 1-3											
89	1	6	5-0	4A608D	Str												
90																	
91	15	8	6-10	4A804	Str												
92	1	8	3-11	4A805A	Str												
93	1	8	4-10	4A805B	Str												
94	1	8	5-9	4A805C	Str												
95	30	8	3-0	4A806	Str												
96																	
97	11	9	12-2	4A903	Str												
98	1	9	10-9	4A904A	Str												
99	↓	↓	to	thru	↑	1 each, vary in 3 increments of 1-9											
100	1	9	5-6	4A904D	Str												
101																	
102	10	4	8-10	4A402A	17		0-8	3-8	4-6								
103	11	4	9-10	4A402B	17		0-8	3-8	5-6								
104	12	4	10-10	4A402C	17		0-8	3-8	6-6								
105	11	4	11-9	4A402D	17		0-8	3-8	7-5								
106	11	4	12-9	4A402E	17		0-8	3-8	8-5								
107	8	4	13-9	4A402F	17		0-8	3-8	9-5								
108	50	4	6-4	4A410	22	2-9	1-1	1-0	1-6								
109																	
110	17	5	6-2	4A506	14		1-0	4-2	1-0				0-11				4-10
111	12	5	13-0	4A507	14		1-0	11-0	1-0				0-4				12-10
112																	
113																	
114																	
115							PIER No. 1										
116							FOOTING										
117	*64	9	14-4	1P901	2	1-5	11-6					1-5					
118	*73	10	16-8	1P1001	2	1-7	13-6					1-7					
119	*79	14S	10-3	1P1451	2	2-1	8-2										
120																	
121							COLUMN										
122	26	9	31-4	1P902	Str												
123	26	9	33-2	1P903	Str												
124	26	9	34-11	1P904	Str												
125	13	14S	32-8	1P1452	St												
126	26	14S	30-8	1P1453	Str												
127																	
128	13	11	30-10	1P1101	3		5-8	2-0	23-2				0-2				30-10
129	*27	11	28-10	1P1102	3		5-8	2-0	21-2				0-2				28-10
130						Spiral	Core	Pitch	Turns	Spacers							
131	1	5	26-10	1P501	4-0	3½	95	4									
132	2	5	24-9½	1P502	4-0	3½	88	4									
133	1	5	27-5	1P503	4-0	3½	97	4									
134	1	5	29-2	1P504	4-0	3½	103	4									
135	1	5	31-2½	1P505	4-0	3½	110	4									
136																	
137							CAP										
138	20	5	8-6	1P506	Str												
139	10	5	5-6	1P507	Str												
140	16	6	25-9	1P603	Str												
141	10	8	22-4	1P801	Str												
142	6	9	15-0	1P905	Str												
143	8	9	28-5	1P906	Str												
144																	
145	*49	4	8-6	1P401	17		2-0	4-6	2-0								
146	38	6	21-6	1P601	T1	0-7	4-6	5-8	4-6	5-8		0-7					
147	*13	6	12-4	1P602	10	2-6	7-4	2-6								2-4	4-8
148	20	10	23-8	1P1002	17		5-0	18-8									
149																	
150																	
151																	
152							PIER No. 2										
153							FOOTING										
154	63	9	14-4	2P901	2	1-5	11-6					1-5					
155	72	10	16-8	2P1001	2	1-7	13-6					1-7					
156	78	14S	10-3	2P1451	2	2-1	8-2										
157																	
158							COLUMN										
159	26	9	27-9	2P902	Str												
160	26	9	29-9	2P903	Str												
161	26	9	31-8	2P904	Str												
162	39	14S	30-8	2P1452	Str												

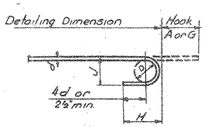
TYPICAL BAR BENDS



NOTES

1. All dimensions are out to out of bar
2. 'J' dimensions on 180° hooks to be shown only where necessary to restrict hook size otherwise standard hooks are to be used
3. Where 'J' is not shown, 'J' will be kept equal to or less than 'H'. Where 'J' can exceed 'H', it should be shown.
4. 'H' dimension on stirrups to be shown where necessary to restrict hooks.
5. Where bars are to be bent more accurately than standard bending tolerances bending dimensions which require closer working should have limits indicated
6. Figures in circles show types
7. No allowance for bend curvature is to be made except for standard hook & radii in excess of same.

Item	No. Pieces	Size	Length	Mark	Type	A	B	C	D	E	F	G	H	J	K	R	O
163																	
164	39	11	28-10	2P1101	3		5-8	2-0	21-2				0-2				28-10
165																	
166				Spiral	Core	Pitch	Turns	Spacers									
167	3	5	24-9½	2P501	4-0	3½	88	4									
168	1	5	23-11	2P502	4-0	3½	85	4									
169	1	5	25-11½	2P503	4-0	3½	92	4									
170	1	5	28-0	2P504	4-0	3½	99	4									
171																	
172							CAP										
173	20	5	8-6	2P505	Str												
174	10	5	5-6	2P506	Str												
175	16	6	27-9	2P603	Str												
176	10	8	23-10	2P801	Str												
177	6	9	16-6	2P905	Str												
178	8	9	30-5	2P906	Str												
179																	
180	48	4	8-6	2P401	17		2-0	4-6	2-0								
181	44	6	21-6	2P601	T1	0-7	4-6	5-8	4-6	5-8		0-7					
182	12	6	12-4	2P602	10	2-6	7-4	2-6								2-4	4-8
183	20	10	24-11	2P1002	17		5-0	19-11									
184																	
185																	
186																	
187																	
188																	
189																	
190																	



STANDARD HOOK DETAIL

BAR SIZES

Equivalent Size	Present Number	Weight per ft.
¼" ϕ	2	.167
3/8" ϕ	3	.376
½" ϕ	4	.668
5/8" ϕ	5	1.043
¾" ϕ	6	1.502
⅞" ϕ	7	2.044
1" ϕ	8	2.670
1⅛" ϕ	9	3.400
1¼" ϕ	10	4.303
1⅜" ϕ	11	5.313
1½" ϕ	14S	7.650
2" ϕ	18S	13.600

THIS SHEET FOR REFERANCE ONLY
BERLIN IM 089-1(20)
BRIDGES 40 N&S

SHEET 103 OF 104

GENERAL NOTES

(1) Unless otherwise designated all standard reinforcement shall be deformed bars conforming with the requirements of the "Standard Specification for Billet-Steel Bars for Concrete Reinforcement"(Intermediate Grade) AASHO Designation M31-60 or its latest revision.

(2) Unless otherwise designated all special large size reinforcement shall be deformed bars conforming with the requirements of the "Standard Specification for Special Large size Deformed Billet-Steel Bars for Concrete Reinforcement"(Intermediate Grade) AASHO Designation M-174-60 or its latest revision.

(3) * Denotes one extra bar added for testing purposes.

(4) Stirrups and tie bars shall be bent around a pin having a diameter not less than two times the minimum thickness of the bar. Bends for other bars shall be made around a pin having a diameter not less than six times the minimum thickness except for bars larger than 1 inch, in which case the bends shall be made around a pin of eight bar diameters.

(5) All Spiral Reinforcement shall conform to AASHO designation M32-60, Cold Drawn Steel Wire For Concrete Reinforcement.

ESTIMATED QUANTITIES

LOCATION	PLAN (LBS)	FINAL (LBS)
ABUTMENT 4		
PIER 1		
PIER 2		

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROJECT BERLIN - MONTPELIER
TOWNS OF BERLIN & MONTPELIER
ROUTE NO I 89 STA 193+50±
I 89 OVER VT. 12
REINFORCING - ABUTMENT 4 & PIERS 1 & 2
IN CHARGE W. SMITH
DRAWN BY W. TRIPP CHECKED BY E. GILMAN R. LADD 11-67
PROJECT I NO. 89-1(12)
SHEET 127 OF 497 BR. 426