Epoxy Steel Reinforcing for Superstructure-140' Bridge

	Degree Skew		0			15			30			45		
Location	Shape	Bar	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight
Slab Longitudinal Bottom		9a1	53	26'-10"	4836	53	26'-10"	4836	53	26'-10"	4836	53	26'-10"	4836
Slab Longitudinal Bottom		10a2	53	42'-10"	9769	53	42'-10"	9769	53	42'-10"	9769	53	42'-10"	9769
Slab Longitudinal Bottom		9a3	53	44'-11"	8094	53	44'-11"	8094	53	44'-11"	8094	53	44'-11"	8094
Slab Longitudinal Bottom		10a4	52	33'-10"	7571	52	33'-10"	7571	52	33'-10"	7571	52	33'-10"	7571
Slab Longitudinal Bottom		9a5	26	35'-11"	3176	26	35'-11"	3176	26	35'-11"	3176	26	35'-11"	3176
Slab Longitudinal Bottom, at Rail		9a6	8	42'-2"	1147	8	42'-2"	1147	8	42'-2"	1147	8	42'-2"	1147
Slab Longitudinal Bottom, at Rail		9a7	4	53'-10"	733	4	53'-10"	733	4	53'-10"	733	4	53'-10"	733
Slab Longitudinal Bottom, at Rail		9a8	8	30'-5"	828	8	30'-5"	828	8	30'-5"	828	8	30'-5"	828
Slab Longitudinal Bottom, at Rail		10a9	4	39'-10"	686	4	39'-10"	686	4	39'-10"	686	4	39'-10"	686
Slab Longitudinal Bottom, at Rail		9a10	8	12'-4"	336	8	12'-4"	336	8	12'-4"	336	8	12'-4"	336
Slab Longitudinal Top		8b1	53	6'-7"	932	53	6'-7"	932	53	6'-7"	932	53	6'-7"	932
Slab Longitudinal Top		11b2	53	24'-7"	6923	53	24'-7"	6923	53	24'-7"	6923	53	24'-7"	6923
Slab Longitudinal Top		11b3	53	24'-1"	6782	53	24'-1"	6782	53	24'-1"	6782	53	24'-1"	6782
Slab Longitudinal Top		11b4	52	21'-11"	6056	52	21'-11"	6056	52	21'-11"	6056	52	21'-11"	6056
Slab Longitudinal Top		6b5	26	41'-4"	1615	26	41'-4"	1615	26	41'-4"	1615	26	41'-4"	1615
Slab Longitudinal Top		8b6	53	33'-9"	4776	53	33'-9"	4776	53	33'-9"	4776	53	33'-9"	4776
Slab Longitudinal Top, at Rail		6b8	8	37'-9"	454	8	37'-9"	454	8	37'-9"	454	8	37'-9"	454
Slab Longitudinal Top, at Rail		6b9	8	42'-9"	514	8	42'-9"	514	8	42'-9"	514	8	42'-9"	514
Slab Longitudinal Top, at Rail		6b10	4	34'-6"	208	4	34'-6"	208	4	34'-6"	208	4	34'-6"	208
Slab Longitudinal Top, at Rail		11b11	8	25'-6"	1084	8	25'-6"	1084	8	25'-6"	1084	8	25'-6"	1084
Slab Longitudinal Top, at Rail		10b12	8	13'-6"	465	8	13'-6"	465	8	13'-6"	465	8	13'-6"	465
Slab Transverse Bottom		6c1	137	24'-4"	5008	137	25'-2"	5179	127	24'-4"	4642	117	24'-4"	4277
Slab Transverse Bottom		6c2	137	21'-3"	4373	137	22'-0"	4528	129	21'-3"	4118	121	21'-3"	3863
Slab Transverse Ends, Bottom		6c3	-	-	-	-	-	-	13	VARIES	262	21	VARIES	447
Slab Transverse Ends, Bottom		6c4	-	-	-	-	-	-	11	VARIES	233	20	VARIES	386
Slab Transverse Ends, Bottom		6c5	-	-	-	-	-	-	10	VARIES	173	17	VARIES	298
Slab Transverse Ends, Bottom		6c6	-	-	-	-	-	-	11	VARIES	191	17	VARIES	311
Slab Transverse Top		5d1	137	25'-3"	3608	137	26'-1"	3728	127	25'-3"	3345	117	25'-3"	3082
Slab Transverse Top		5d2	137	21'-10"	3120	137	22'-7"	3227	129	21'-10"	2938	121	21'-10"	2756
Slab Transverse Ends, Top		5d3	-	-	-	-	-	-	13	VARIES	188	21	VARIES	324
Slab Transverse Ends, Top		5d4	-	-	-	-	-	-	11	VARIES	166	20	VARIES	275
Slab Transverse Ends, Top		5d5	-	-	-	-	-	-	10	VARIES	120	17	VARIES	207
Slab Transverse Ends, Top		5d6	-	-	-	-	-	-	11	VARIES	139	17	VARIES	227
Slab, Tansverse at Abutment		8e1	18	26'-4"	1266	18	27'-1"	1302	18	29'-6"	1418	18	34'-8"	1667
Slab, Tansverse at Abutment		8e2	18	21'-4"	1026	18	22'-0"	1058	18	24'-5"	1174	18	29'-7"	1422
Slab, Tansverse at Abutment		6e3	92	5'-0"	691	92	5'-1"	703	92	5'-5"	749	92	6'-1"	841
Slab, Tansverse at Abutment		6e4	92	5'-11"	818	92	5'-11"	818	92	5'-11"	818	92	5'-11"	818
Top of Slab, Transverse, at Rail		5j1	272	6'-9"	1915	272	6'-9"	1915	262	6'-9"	1845	256	6'-9"	1803
Wing, Vertical		5m1	40	4'-5"	185	40	4'-5"	185	40	4'-5"	185	40	4'-5"	185
Wing, Horizontal Back Face		5n1	48	6'-8"	334	48	6'-8"	334	48	6'-8"	334	48	6'-8"	334
Epoxy Reinforcing Total Weight (lbs)					89,329			89,962			90,023			90,508
Rail Single-Slope Barrier – Quantities - See Sheet J40-48-25.					5827			5827			5827			5827
Rail Open Barrier – Quantities - See Sheet J40-52-25.					6774			6774			6774			6774
Epoxy Coated Rail Total-lbs. Monolithic Single-Slope Rail					95,156			95,789			95,850			96,335
Epoxy Coated Rail Total-lbs. Monolithic Open Rail					96,103			96,736			96,797			97,282
Epoxy Coated Rail Total-lbs. Non-Monolithic Single-Slope Rail					95,156			95,789			95,850			96,335
Epoxy Coated Rail Total-lbs. Non-Monolithic Open Rail					96,103			96,736			96,797			97,282
Stainless Steel Rail Total-lbs. Single-Slope Rail					3096			3096			3096			3096
Stainless Steel Rail Total-lbs. Open Rail					2711			2711			2711			2711

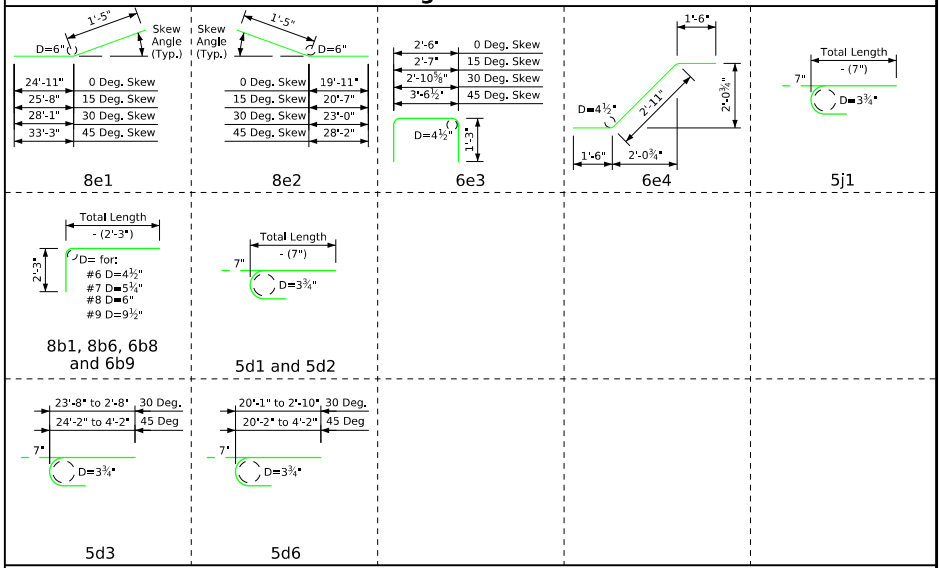
Estimated Quantities for Superstructure 140' Bridge

	Monolithic Cap				Non-Monolithic Cap			
Item	0°	15°	30°	45°	0°	15°	30°	45°
With Single-Slope Rail								
* Structural Concrete (Bridge) (c.y.)	441.8	442.5	444.4	449.1	445.1	445.9	448.3	453.7
Reinf. Steel Epoxy Coated (lbs.)	95,156	95,789	95,850	96,335	95,156	95,789	95,850	96,335
Δ Reinf. Steel Stainless Steel (lbs.)	3319	3319	3319	3319	3319	3319	3319	3319
Concrete single-slope barrier or open rail (lin.ft.)	302	302.2	302.9	304.5	302	302.2	302.9	304.5
With Open Rail								
* Structural Concrete (Bridge) (c.y.)	441.5	442.2	444.2	448.2	444.9	445.6	448.1	453.4
Reinf. Steel Epoxy Coated (lbs.)	96,103	96,736	96,797	97,282	96,103	96,736	96,797	97,282
Δ Reinf. Steel Stainless Steel (lbs.)	2934	2934	2934	2934	2934	2934	2934	2934

* Includes 4 wings at 1.114 cubic yard each; excludes rail concrete.

Δ Includes abutment paving notch bar weight.

140'-0 Bridge-Bent Bar Details



Note: All Dimensions Are Out To Out. D=pin Diameter.

Stainless Steel Reinforcing for Superstructure

(All Skews)

Location	Shape	Bar	No.	Length	Weight
Abutment Paving Notch Bar		8u1	40	2'-1	223

8u1 bars are to be paid for under the price bid for **"Reinforcing Steel, Stainless Steel"**. Weight = lbs.

Note:
See J40-26-25 Sheet for Monolithic Pier Cap reinforcing details and quantities.
See J40-28-25 Sheet for Non-Monolithic Pier Cap reinforcing details and quantities.

Latest Revision Date

Approved by Bridge Engineer

IOWA DOT

Standard Design-40'-0" Roadway, 3 Span Bridge

Continuous Concrete Slab Bridge

July, 2025

Superstructure Details
140'-0" Bridge Quantities

J40-17-25