

STAGE I-NORTH HALF

Bar	No.	Size	Length (m)	Shape
a1	297	#15	1.94	—
a2	83	#15	1.50	—
a3	7	#20	1.58	—
h1	24	#15	8.36	—
h2	102	#15	8.91	—
h3	78	#15	8.69	—
h4	38	#10	10.30	—
h5	12	#10	5.90	—
h6*	20	#10	6.25	—
h7	8	#20	2.50	—
h8	44	#15	2.44	—
h9	16	#15	7.20	—
h40	7	#15	1.12	—
h41	4	#20	3.00	—
n(E)	168	#20	1.32	—
n1(E)	18	#25	1.88	—
n2(E)	8	#25	3.00	—
n3(E)	4	#20	1.50	—
t	220	#15	3.93	—
t1*	12	#15	6.84	—
t2	49	#20	1.60	—
t3	49	#15	0.80	—
v	344	#15	2.46	—
v1	8	#15	0.90	—
v2	8	#15	1.30	—
v3	8	#15	1.25	—
v4	44	#20	3.40	—
v5	18	#25	3.40	—
v6*	48	#20	4.05	—
v7	8	#15	3.04	—
v41	8	#20	1.80	—
v42	5	#15	1.70	—
w	172	#15	3.00	—
w1	44	#15	9.00	—
w2	30	#15	1.35	—
w3	10	#15	6.08	—
Porous Granular Embankment		m ³	223	
Concrete Removal		m ³	4	
Structure Excavation		m ³	846	
Reinforcement Bars		kg	10,670	
Reinforcement Bars, Epoxy Coated		kg	770	
Concrete Box Culverts		m ³	126.5	

* See Cutting Diagram

STAGE I-SOUTH HALF

Bar	No.	Size	Length (m)	Shape
a1	138	#15	1.94	—
a2	39	#15	1.50	—
a3	2	#20	1.58	—
d	17	#15	1.76	—
h20	81	#15	8.10	—
h21	30	#15	8.43	—
h22	4	#20	1.61	—
h41	4	#20	3.00	—
v	101	#15	2.46	—
v3	8	#15	1.25	—
v20	4	#15	3.66	—
v41	8	#20	1.80	—
v42	5	#15	1.25	—
Porous Granular Embankment		m ³	84	
Concrete Removal		m ³	65	
Structure Excavation		m ³	149	
Reinforcement Bars		kg	2,510	
Concrete Box Culverts		m ³	40.4	
Expansion Bolts M20		Each	16	

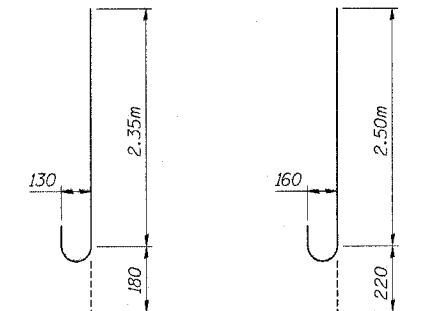
STAGE II-NORTH HALF

Bar	No.	Size	Length (m)	Shape
a1	125	#15	1.94	—
a2	35	#15	1.50	—
a3	4	#20	1.58	—
h10	78	#15	7.33	—
h11	24	#15	7.99	—
h40	10	#15	1.12	—
v	140	#15	2.46	—
v3	14	#15	1.25	—
Porous Granular Embankment		m ³	76	
Concrete Removal		m ³	201	
Structure Excavation		m ³	321	
Reinforcement Bars		kg	2,290	
Concrete Box Culverts		m ³	35.2	
Expansion Bolts M20		Each	72	

STAGE II-SOUTH HALF

Bar	No.	Size	Length (m)	Shape
h30	22	#15	6.40	—
h31	20	#15	5.27	—
h40	10	#15	1.12	—
n30(E)	56	#15	2.33	—
n31(E)	56	#20	2.72	—
t30	124	#15	1.88	—
t31*	6	#15	2.99	—
v30	112	#15	1.91	—
v40	10	#15	1.12	—
w30	10	#15	6.40	—
w31	20	#15	5.27	—
Porous Granular Embankment		m ³	29	
Concrete Removal		m ³	151	
Structure Excavation		m ³	220	
Reinforcement Bars		kg	1,420	
Reinforcement Bars, Epoxy Coated		kg	570	
Concrete Box Culverts		m ³	26.4	
Expansion Bolts M20		Each	40	

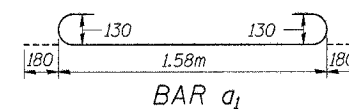
* See Cutting Diagram



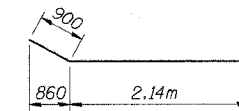
BAR n₃₀(E)

BAR n₃₁(E)

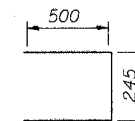
WORK TO BE ADDED TO CONTRACT # 62105



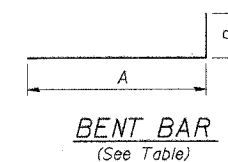
BAR a₁



BAR v₇

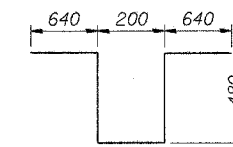


BAR v₃

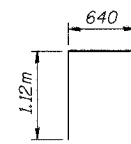


BENT BAR
(See Table)

Bar	A	B
n(E)	1000	320
n ₁ (E)	1480	400
n ₂ (E)	2600	400
t ₂ (E)	800	800
v ₂ (E)	900	400



BAR h_g



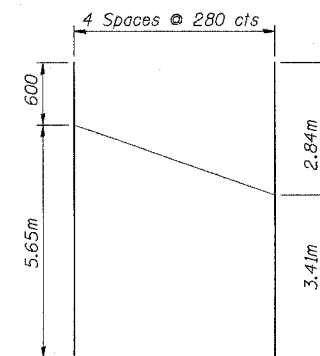
BAR d

LAP LENGTHS

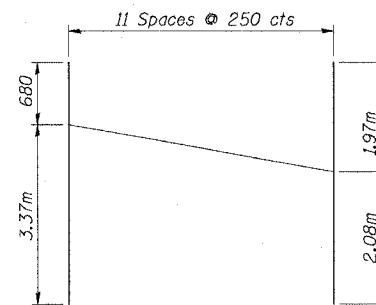
Bar Size	Lap Length (Min)
#10	450
#15	640
#20	790
#25	1320

Reinforcement bars designated (E) shall be epoxy coated.

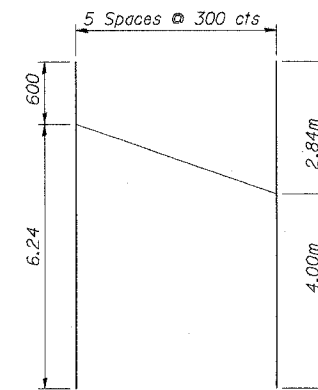
Bars indicated thus 1 x 2-#15 etc. indicates 1 line of bars with 2 lengths per line.



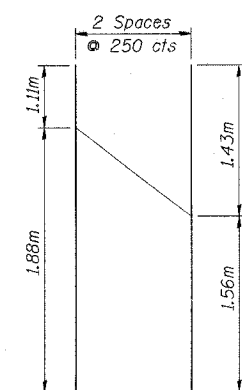
BAR h₆



BAR v₆



BAR t₁



BAR t₃₁

CUTTING DIAGRAMS

BC - 7

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. ROUTE 80/94 (INTERSTATE 80/294) BOX CULVERT BAR BEND & BILL OF MATERIAL STA. 31+327.73 (194 WB) TO STA. 218+879.08 (RAMP V) STRUCTURE NO. 016-C009 DESIGNED BY JCE DRAWN BY JCE DATE: July 8, 2004 CHECKED BY JCA
NAME	DATE	
ADDENDUM #1	12/29/05	

McDonough Associates Inc.
Engineers / Architects