

ITEM #	DESCRIPTION	UNIT	QUANTITY
202E11002	STRUCTURE REMOVED, OVER 20 FOOT SPAN	1	LS
202E22900	APPROACH SLAB REMOVED	107	SY
202E23500	WEARING COURSE REMOVED	364	SY
503E11101	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	1	LS
503E21320	UNCLASSIFIED EXCAVATION, INCLUDING ROCK	1	LS
507E00301	STEEL PILES HP14X73, FURNISHED, AS PER PLAN	880	FT
507E92201	PREBORED HOLES, AS PER PLAN	484	FT
509E10000	EPOXY COATED STEEL REINFORCEMENT	34641	LB
511E31613	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN	66	CY
511E44112	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	155	CY
511E46512	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	169	CY
512E10100	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	176	SY
512E33000	TYPE 2 WATERPROOFING	31	SY
515E12070	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB27-48 (66'-0 3/4")	9	EACH
516E13600	1" PREFORMED EXPANSION JOINT FILLER	122	SF
516E13900	2" PREFORMED EXPANSION JOINT FILLER	34	SF
516E14020	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	92	FT
516E41100	1/8" PREFORMED BEARING PAD, TYPE CDP	18	EACH
516E44100	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), (8" X 12" X 2 1/16")	36	EACH
517E70100	RAILING (THREE STEEL TUBE BRIDGE RAILING)	148	FT
518E20000	PREFABRICATED GEOCOMPOSITE DRAIN	42	SY
518E21200	POROUS BACKFILL WITH GEOTEXTILE FABRIC	93	CY
518E22300	SPECIAL - STEEL DRIP STRIP	126	FT
518E40000	6" PERFORATED CORRUGATED PLASTIC PIPE	190	FT
518E40010	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	60	FT
526E30010	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17")	240	SY
526E90010	TYPE A INSTALLATION	77	FT
601E32104	ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC	204	CY
613E41300	LOW STRENGTH MORTAR BACKFILL (TYPE 2)	110	CY
625E33000	STRUCTURE GROUNDING SYSTEM	1	EACH

202E11002	STRUCTURE REMOVED, OVER 20 FOOT SPAN	1	LS
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AREA: 2310.00 SF ~taken from CAD

UNIT COST: 35.00 \$/SF

COST: \$100,000.00 ~round up to 100,000 for part width removal

TOTAL:	1.00	LS
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202E22900	APPROACH SLAB REMOVED	107	SY
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COUNT: 2.00 EACH

LENGTH: 15.00 FT

WIDTH: 32.00 FT 2 EACH x 32 FT x 15 FT / 9 SY/SF

TOTAL:	106.7	SY
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202E23500	WEARING COURSE REMOVED	364	SY
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DECK:

LENGTH: 72.13 FT

WIDTH: 32.00 FT

AREA: 256.46 SY

APPROACH SLABS:

COUNT: 2.00 EACH

LENGTH: 15.00 FT

WIDTH: 32.00 FT ~existing approach slabs full width of roadway

AREA: 106.67 SY

TOTAL:	363	SY
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503E11101	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	1	LS
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503E21320	UNCLASSIFIED EXCAVATION, INCLUDING ROCK	1	LS
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RA (INC. WW's):

LENGTH:	81.33	FT	
WIDTH:	10.00	FT	
DEPTH:	3.00	FT	~average existing channel ground line to bottom of footing
VOLUME:	90.37	CY	

FA (INC. WW'S):

LENGTH:	81.33	FT	
WIDTH:	10.00	FT	
DEPTH:	9.50	FT	~average existing ground line to bottom of footing between front and back of fig.
VOLUME:	286.16	CY	

TOTAL:	376.53	CY	at ~\$75/CY
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TOTAL COST: \$	30,000.00
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507E00301	STEEL PILES HP14X73, FURNISHED, AS PER PLAN	880	FT
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FOOTINGS:

R.A:	22	EACH
F.A:	22	EACH
TOTAL:	44.00	EACH

LENGTH:	20	FT	~11.16 & 13.19' round up to 15' + 5'
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TOTAL	880.00	FT
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507E92201	PREBORED HOLES, AS PER PLAN	484	FT
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FOOTINGS:

R.A:	22	EACH
F.A:	22	EACH
TOTAL:	44.00	EACH

TOTAL	484.00	FT
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509E10000	EPOXY COATED STEEL REINFORCEMENT	34641	LB
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DECK & DIAPHRAGMS:

DECK:	11136.00	LB	~ See plans
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ABUTMENTS:

ABUT.:	23505.00	LB	~ See plans
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TOTAL:	34641	LB
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511E31613	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN	66	CY
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DECK:

LENGTH:	68.20	FT	~out to out of slab
WIDTH:	36.00	FT	
DEPTH:	0.60	FT	~6" deck w/ 1.25" additional haunch consideration
VOLUME:	54.94	CU YD	68.2 FT x 36 FT x 0.6 FT x 1CU YD/27CU FT

END DIAPHRAGM:

COUNT:	2	EACH	
LENGTH:	38.7	FT	~length of diaphragm
AVG. HEIGHT:	2.25	FT	~height of box beams
WIDTH:	1.50	FT	
VOLUME:	9.67	CU YD	2 EACH x 38.66 FT x 2.25 FT x 1.5 FT x 1 CU YD / 27 CU FT

COUNT:	2	EACH	~portion extending past edge of beam
LENGTH:	3.2	FT	
AVG. HEIGHT:	2.90	FT	~height of beam + deck + 1.75"
WIDTH:	1.50	FT	
VOLUME:	1.03	CU YD	

TOTAL:	66	CY	
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511E44112	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	155	CY
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BEAM SEAT:

F.A.

ROADWAY ELEVATION @ PGL:	658.60		
EL. BEAM SEAT:	653.61		
TOP OF FOOTING:	645.75		
LENGTH:	41.9	FT	
WIDTH:	3.00	FT	
AVG. HEIGHT:	7.85	FT	
VOLUME:	36.55	CU YD	41.9 FT x 3 FT x 7.85 FT x 1 CU YD / 27 CU FT

R.A.

ROADWAY ELEVATION @ PGL:	659.60		
EL. BEAM SEAT:	654.64		
TOP OF FOOTING:	645.35		
LENGTH:	41.9	FT	
WIDTH:	3.00	FT	
AVG. HEIGHT:	9.30	FT	
VOLUME:	43.30	CU YD	41.9 FT x 3 FT x 9.3 FT x 1 CU YD / 27 CU FT

ABUTMENT TOTAL VOLUME: 79.84 CU YD

WINGWALLS:

NW:

TOP (FLAT) LENGTH:	1.66	FT	
TAPER LENGTH:	12.60	FT	
TOP OF WW. HEIGHT:	11.77	FT	
TURNBACK LENGTH:	8.00	FT	
TURNBACK HEIGHT:	6.65	FT	
WIDTH:	2.50	FT	
VOLUME:	17.5	CU YD	

SW:

TOP (FLAT) LENGTH:	2.50	FT	
TAPER LENGTH:	14.80	FT	
TOP OF WW. HEIGHT:	13.15	FT	
TURNBACK LENGTH:	8.00	FT	
TURNBACK HEIGHT:	6.65	FT	
WIDTH:	2.50	FT	
VOLUME:	21.5	CU YD	

NE:

TOP (FLAT) LENGTH:	2.50	FT	
TAPER LENGTH:	12.00	FT	
TOP OF WW. HEIGHT:	10.41	FT	
TURNBACK LENGTH:	8.00	FT	
TURNBACK HEIGHT:	6.25	FT	
WIDTH:	2.50	FT	
VOLUME:	16.3	CU YD	

SE:

TOP (FLAT) LENGTH:	1.74	FT	
TAPER LENGTH:	15.60	FT	
TOP OF WW. HEIGHT:	11.73	FT	
TURNBACK LENGTH:	8.00	FT	
TURNBACK HEIGHT:	6.25	FT	
WIDTH:	2.50	FT	
VOLUME:	19.5	CU YD	

WINGWALL TOTAL: 74.82 CU YD

SLAB & EXTERIOR BEAMS

COUNT:	2.00	EACH	~beam count
PERIMETER:	3.35	FT	~height of box beam + 6" slab + 1.25" haunch + 6" underneath beam
LENGTH:	62.90	FT	~face to face of abutment wall
TOTAL:	15.61	SY	

ABUTMENTS:

RA EXPOSED HT:	8.00	SF	~beam seat to top of footing, 654.74 - 647.5 = 7.3, round to 8'
FA EXPOSED HT:	6.00	FT	~beam seat to top of footing, 653.61 - 648 = 5.61, round to 6'
LENGTH:	41.80	FT	
AREA:	65.02	SY	

WINGWALLS:

F.A:	695	SF	~area measured in CAD of front face + turnback areas + WW top/backside(2.5' top and 6" on backside) - area covered by
R.A:	711	SF	
WINGWALL AREA:	156.12	SY	

NW:

FRONT FACE AREA:	136.00	SF	
WW LENGTH:	14.33	FT	~from edge of beam seat to start turnback
BURIED HEIGHT:	2.15	FT	~top of soil - top of footing = 647.5 - 645.35
FRONTFACE EXPOSED AREA:	105.2	SF	136 SF - 14.33 FT x 2.15 FT
AREA:	39.75	SF	~turnback exposed face based on soil elevations
TURNBACK EXPOSED AREA:	39.75	SF	

LENGTH:	19.67	FT	~back face length
HEIGHT:	0.50	FT	~back face exposed height
BACKFACE EXPOSED AREA:	9.8	SF	

TOP LENGTH:	22.33	FT	
TOP AREA:	55.8	SF	

NW AREA:	210.6	SF	
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SW:

FRONT FACE AREA:	182.00	SF	
WW LENGTH:	17.33	FT	~from edge of beam seat to start turnback
BURIED HEIGHT:	2.15	FT	~top of soil - top of footing = 647.5 - 645.35
FRONTFACE EXPOSED AREA:	144.7	SF	182 SF - 17.33 FT x 2.15 FT
AREA:	36.50	SF	~turnback exposed face based on soil elevations
TURNBACK EXPOSED AREA:	36.50	SF	

LENGTH:	23.60	FT	~back face length
HEIGHT:	0.50	FT	~back face exposed height
BACKFACE EXPOSED AREA:	11.8	SF	

TOP LENGTH:	25.33	FT	
TOP AREA:	63.3	SF	

WW LENGTH:	14.34	FT	~from edge of beam seat to start turnback
BURIED HEIGHT:	2.75	FT	~top of soil - top of footing = 648.0 - 645.25
FRONTFACE EXPOSED AREA:	86.6	SF	126 SF - 14.34 FT x 2.75 FT

AREA:	28.50	SF	~turnback exposed face based on soil elevations
TURNBACK EXPOSED AREA:	28.50	SF	

LENGTH:	20.60	FT	~back face length
HEIGHT:	0.50	FT	~back face exposed height
BACKFACE EXPOSED AREA:	10.3	SF	

TOP LENGTH:	22.34	FT	
TOP AREA:	55.9	SF	

NE AREA:	181.2	SF	
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SE:			
FRONT FACE AREA:	160.00	SF	
WW LENGTH:	17.33	FT	~from edge of beam seat to start turnback
BURIED HEIGHT:	2.75	FT	~top of soil - top of footing = 648.0 - 645.25
FRONTFACE EXPOSED AREA:	112.3	SF	160 SF - 17.33 FT x 2.75 FT
AREA:	28.50	SF	~turnback exposed face based on soil elevations
TURNBACK EXPOSED AREA:	28.50	SF	
LENGTH:	22.67	FT	~back face length
HEIGHT:	0.50	FT	~back face exposed height
BACKFACE EXPOSED AREA:	11.3	SF	
TOP LENGTH:	22.30	FT	
TOP AREA:	55.8	SF	
SE AREA:	207.9	SF	
WINGWALL TOTAL:	95.1	SY	
TOTAL:	176	SY	

512E33000	TYPE 2 WATERPROOFING	31	SY
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SLAB & EXTERIOR BEAMS

R.A. LENGTH:	45.56	FT
F.A. LENGTH:	45.46	FT
WIDTH:	3.00	FT
TOTAL:	30.3	SY

515E12070	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB27-48 (66'-0 3/4")	9	EACH
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BEAMS:

COUNT:	9.00	EACH	~beam count
TOTAL:	9.00	EACH	

516E13600	1" PREFORMED EXPANSION JOINT FILLER	122	SF
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COUNT:	4.00	EACH	
HEIGHT:	1.42	EACH	~approach slab height
WIDTH:	0.50	FT	~approach slab overlap
COUNT:	4.00	EACH	
HEIGHT:	9.28	EACH	~avg. abutment height (beam seat to top of ftg.)
WIDTH:	3.19	FT	~abutment width
TOTAL:	121	SF	

516E13900	2" PREFORMED EXPANSION JOINT FILLER	34	SF
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COUNT:	4.00	EACH	~at side face of diaphragm/abutment joint
HEIGHT:	3.17	FT	~diaphragm ht.
WIDTH:	2.66	FT	~length along skew at side face of diaphragm/abutment joint
TOTAL:	34	SF	

516E14020	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	92	FT
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RA, LENGTH:	46	EACH
FA, LENGTH:	46	EACH
TOTAL:	92	EACH

516E41100	1/8" PREFORMED BEARING PAD, TYPE CDP	18	EACH
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COUNT:	2	PADS/BEAM
# BEAMS:	9	EACH
TOTAL:	18	EACH

516E44100	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), (8 X 12 X 2 1/16)	36	EACH
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REAR ABUT:	18	EACH	~2-3" elastomeric bearing assembly at abutments
FWD ABUT:	18	EACH	
TOTAL:	36	EACH	

517E70100	RAILING (THREE STEEL TUBE BRIDGE RAILING)	148	FT
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COUNT:	2	EACH	
LENGTH:	74.0	EACH	~58' to last post on deck + 8'-0" on either side
TOTAL:	148	FT	

518E20000	PREFABRICATED GEOCOMPOSITE DRAIN	42	SY
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COUNT:	1	EACH	
AREA:	378.0	SF	~RA only
TOTAL:	42	SY	

518E21200	POROUS BACKFILL WITH GEOTEXTILE FABRIC	93	CY
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END DIAPHRAGMS:

DEPTH:	3.00	FT	~2' depth on top of LSM fill for 38' + 1:1 tapers on either side
WIDTH:	2.00	FT	
LENGTH:	48.20	FT	~length between start of wingwall downslopes, measured in CAD
VOLUME:	0.00	CY	
F.A.:			
DEPTH:	9.65	FT	~forward abutment, top of roadway el - app slab - top of footing el = (656.82-1.42) - (642.25+3.5)
WIDTH:	2.00	FT	
LENGTH:	41.90	FT	~beam seat length
VOLUME:	29.95	CY	

WINGWALLS:

NW:			
TOP (FLAT) LENGTH:	1.74	FT	
TAPER LENGTH:	12.60	FT	
TOP OF WW. HEIGHT:	10.27	FT	~wingwall heights - 1'-6"
TURNBACK LENGTH:	8.00	FT	
TURNBACK HEIGHT:	5.15	FT	~wingwall heights - 1'-6"
WIDTH:	2.50	FT	
VOLUME:	14.46	CU YD	

SW:			
TOP (FLAT) LENGTH:	2.50	FT	
TAPER LENGTH:	14.80	FT	
TOP OF WW. HEIGHT:	11.65	FT	~wingwall heights - 1'-6"
TURNBACK LENGTH:	8.00	FT	
TURNBACK HEIGHT:	5.15	FT	~wingwall heights - 1'-6"
WIDTH:	2.50	FT	
VOLUME:	18.02	CU YD	

NE:			
TOP (FLAT) LENGTH:	2.50	FT	
TAPER LENGTH:	12.00	FT	
TOP OF WW. HEIGHT:	8.91	FT	~wingwall heights - 1'-6"
TURNBACK LENGTH:	8.00	FT	
TURNBACK HEIGHT:	4.75	FT	~wingwall heights - 1'-6"
WIDTH:	2.50	FT	
VOLUME:	13.17	CU YD	

SE:			
TOP (FLAT) LENGTH:	1.74	FT	
VOLUME:	16.43	CU YD	

TOTAL:	92.0	CY
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518E22300	SPECIAL - STEEL DRIP STRIP	126	FT
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LENGTH:	62.87	FT	~f/f diaphragm
COUNT:	2.00	EACH	

TOTAL:	126	EACH
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518E40000	6" PERFORATED CORRUGATED PLASTIC PIPE	190	FT
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R.A. LENGTH:	95.00	FT	
F.A. LENGTH:	95.00	FT	~total length of abutment + 2'

TOTAL:	190	FT
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518E40010	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	60	FT
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R.A. LENGTH:	30.00	FT	
F.A. LENGTH:	30.00	FT	

TOTAL:	60	FT
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526E30010	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17")	240	SY
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COUNT:	2.00	EACH	
LENGTH:	30.00	FT	
WIDTH:	36.00	FT	

TOTAL:	240	SY
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526E90010	TYPE A INSTALLATION	77	FT
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COUNT:	2.00	EACH	
WIDTH:	38.30	FT	

TOTAL:	77	FT
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601E32104	ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC	204	CY
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ABUTMENTS:

R.A. AREA: 1100.00 SF
F.A. AREA: 1100.00 SF
THICKNESS: 2.50 FT

TOTAL:	204	CY
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613E41300	LOW STRENGTH MORTAR BACKFILL (TYPE 2)	110	CY
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RA:

ROADWAY ELEVATION: 657.90
BOTTOM OF FOOTING: 641.85
APPROACH SLAB HEIGHT: 17.00 IN
LENGTH: 40.0 FT ~existing abutment length
WIDTH: 5.7 FT ~area between existing abutment (to remain) and new abutment backwall
DEPTH: 12.6 FT ~top of roadway - top of footing - 1.42 ft roadway/approach slab depth - 2' porous backfill

TOTAL:	110.00	CY
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625E33000	STRUCTURE GROUNDING SYSTEM	1	EACH
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TOTAL:	1	EACH
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