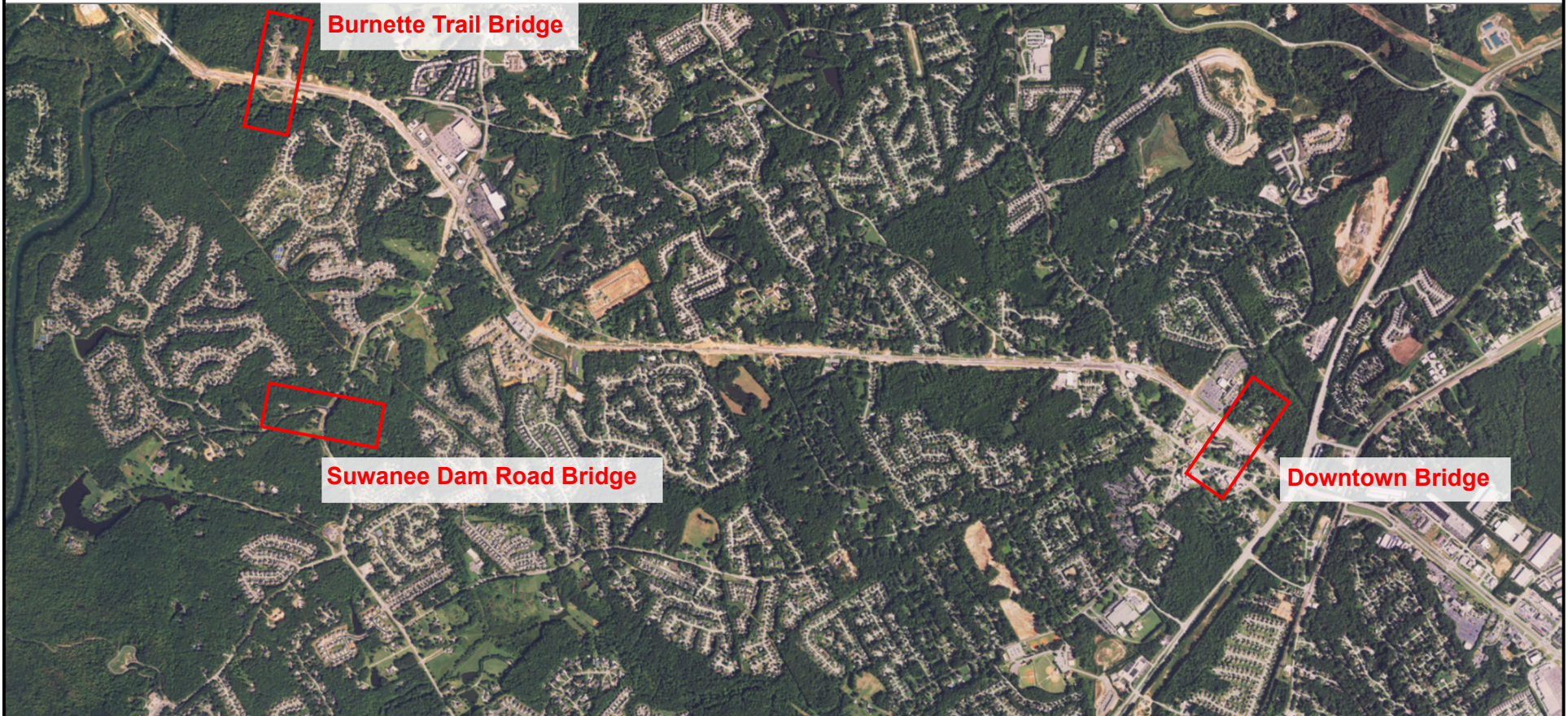
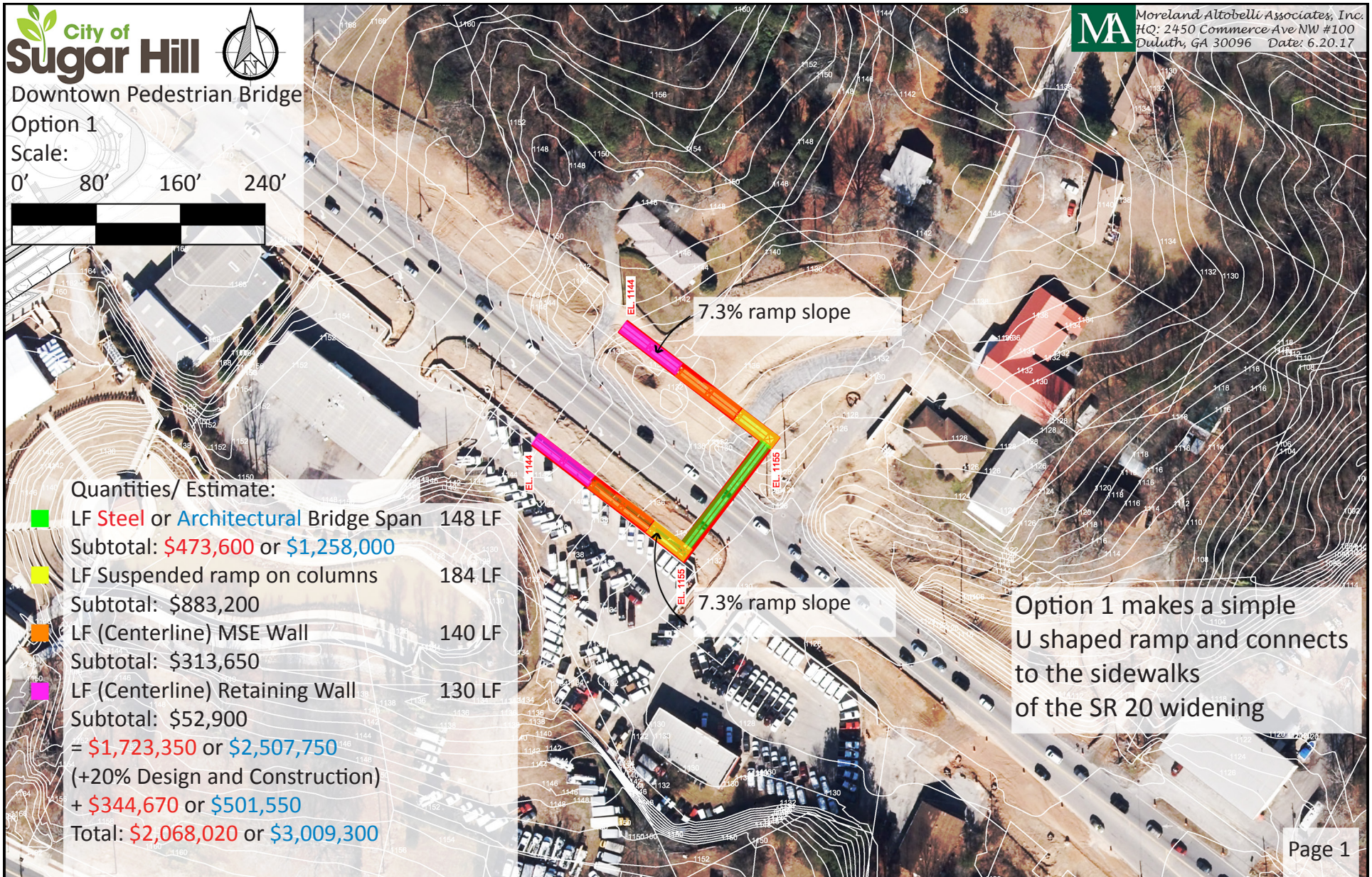




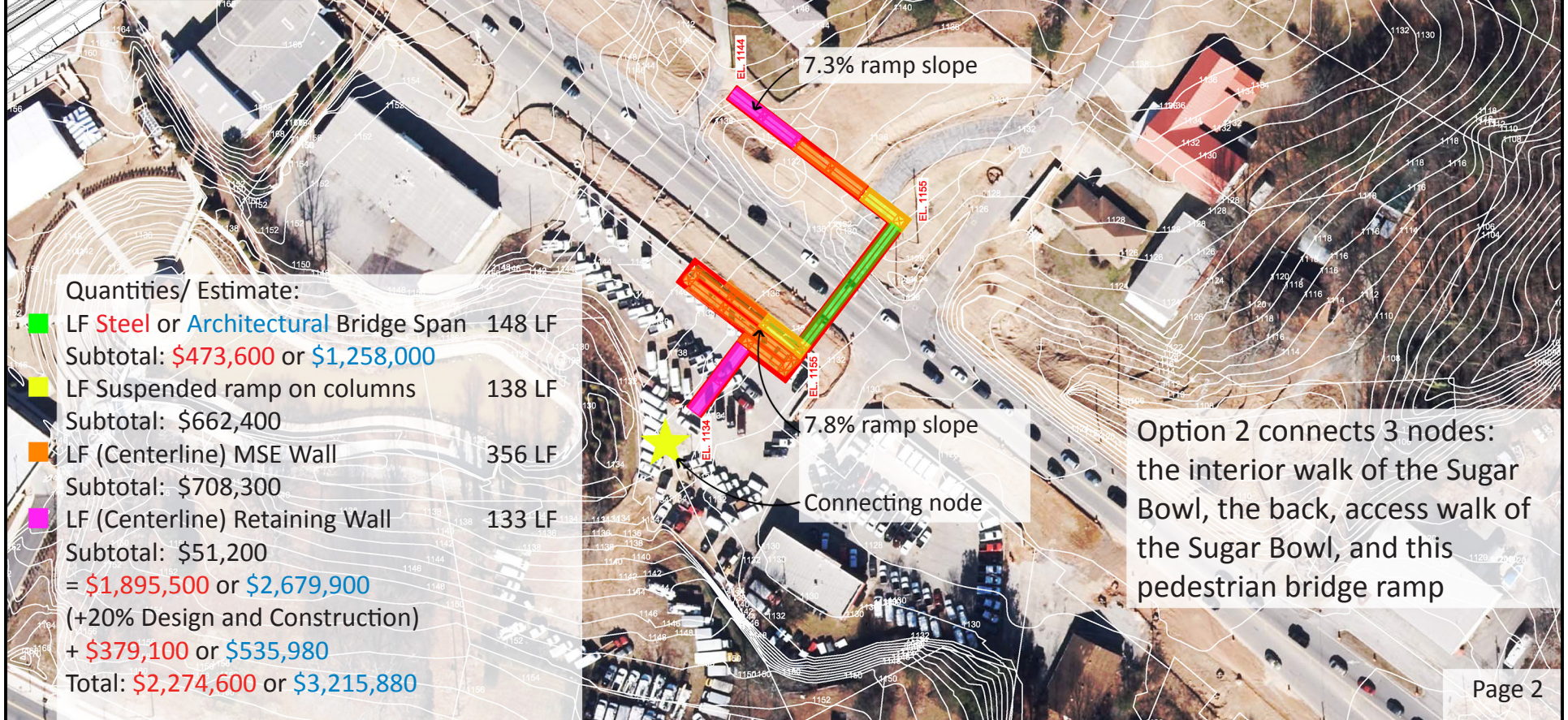
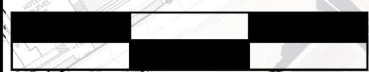
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- I created all plans, rendering and estimates for concepts for 3 pedestrian bridges in Sugar Hill, Georgia
- the bridges are presented in two styles, architectural (concrete) and steel truss. There is a price change for each style.
- items to consider were auto circulation under the bridge, making the bridge ramps ADA compliant, and minimizing fill and cut soil (placing the ramps at the best possible location so their ends could meet grade smoothly)



- the downtown bridge concept is presented in 2 concepts. This particular concept connects the ramp ends to the sidewalks of the future widening of the road that the bridge is spanning.
- each portion of the bridge is color coded to show how each segment might be estimated according to its material. An estimate for the two styles, steel or architectural (concrete) is shown for the bridge.



- the second, downtown bridge concept turns the southern ramp towards a future node, where 2 other walkways will connect
- this concept is slightly more costly than the first, as it uses more material to meet the grade of the area where it connects to the node



- this perspective shows how a steel truss bridge would appear on the downtown site (background photo)
- a photo of an existing, steel truss bridge at a local university was taken and Photoshopped and altered to fit the background

*SR 20 Perspective
Style: Architectural*



- this perspective shows how an architectural (concrete) bridge would appear on the downtown site (background photo)



- a perspective is shown for an earlier iteration of the bridge downtown area, but this sheet was not used in the final report
- this concept was not used due to cost: the curved shape of the bridge increased the cost beyond the client's wishes



Burnette Trail Road

Scale:

0' 80' 160' 240'



Quantities/ Estimate:

■ LF Steel or Architectural Bridge Span	165 LF
Subtotal: \$528,000 or \$1,402,500	
■ LF Suspended ramp on columns	229 LF
Subtotal: \$1,099,200	
■ LF (Centerline) MSE Wall	124 LF
Subtotal: \$95,600	
■ LF (Centerline) Retaining Wall	287 LF
Subtotal: \$34,950	
= \$1,756,750 or \$2,631,250	
(+20% Design and Construction)	
+ \$351,350 or \$526,250	
Total: \$2,108,100 or \$3,157,500	

switchback with retaining walls for safety

bridge start

bridge start 165' bridge span

7.9% ramp slope includes
handicapped landings every 30'

- the second area connects a future trail that is to run through a roundabout to the North with a future trail to the south of the road
- the North side of the road has a steep slope, so safety measures should be in place, as well as multiple trail turns, for walkers and bicyclists coming down the hillside



- a perspective shows how a steel truss bridge would appear over the second site area



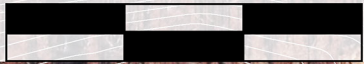
- a perspective shows how an architectural style (concrete) bridge would appear for the second site area



Suwanee Dam Road Bridge

Scale:

0' 80' 160' 240'



8% ramp slope

trail follows right of way along SDR after ramp system

The bridge makes use of the plateau that is East of Suwanee Dam Rd. No ramp system is required on this side to meet grade. However, on the west side of SDR there is a ramp system required to meet grade.

trail follows contours

Quantities/ Estimate:

LF Steel or Architectural Bridge Span	124 LF
Subtotal: \$396,800 or \$1,054,000	
LF Suspended ramp on columns	162 LF
Subtotal: \$777,600	
LF (Centerline) MSE Wall	124 LF
Subtotal: \$117,050	
LF (Centerline) Retaining Wall	131 LF
Subtotal: \$36,250	
= \$1,327,700 or \$2,001,700	
(+20% Design and Construction)	
+ \$265,540 or \$400,340	
Total: \$1,593,240 or \$2,402,040	

- the third area's concept uses right of way along the road for less land acquisition cost

Option 1 Downtown	Quantities	Unit Label	Unit Cost	Subtotal
Steel bridge span	148	LF	\$ 3,200	\$ 473,600
Suspended ramp on columns	184	LF	\$ 4,800	\$ 883,200
MSE wall	5002	FSF	\$ 50	\$ 250,100
Fill	1271	CY	\$ 50	\$ 63,550
Concrete retaining wall	60	CY	\$ 600	\$ 36,000
Fill	338	CY	\$ 50	\$ 16,900
+ 20% Design and Construction				\$ 1,723,350
	Total:			\$ 2,068,020
Option 2 Downtown	Quantities	Unit Label	Unit Cost	
Steel bridge span	148	LF	\$ 3,200	\$ 473,600
Suspended ramp on columns	138	LF	\$ 4,800	\$ 662,400
MSE wall	7662	FSF	\$ 50	\$ 383,100
Fill	6504	CY	\$ 50	\$ 325,200
Concrete retaining wall	63	CY	\$ 600	\$ 37,800
Fill	268	CY	\$ 50	\$ 13,400
+ 20% Design and Construction				\$ 1,895,500
	Total:			\$ 2,274,600
Burnette Trial Bridge Quantities/ Estimates	Quantities	Unit Label	Unit Cost	
Steel bridge span	165	LF	\$ 3,200	\$ 528,000
Suspended ramp on columns	229	LF	\$ 4,800	\$ 1,099,200
MSE wall	1644	FSF	\$ 50	\$ 82,200
Fill	248	CY	\$ 50	\$ 12,400
Concrete retaining wall	37	CY	\$ 600	\$ 22,200
Fill	255	CY	\$ 50	\$ 12,750
+ 20% Design and Construction				\$ 1,756,750
	Total:			\$ 2,108,100
Suwanee Dam Road	Quantities	Unit Label	Unit Cost	
Steel bridge span	124	LF	\$ 3,200	\$ 396,800
Suspended ramp on columns	162	LF	\$ 4,800	\$ 777,600
MSE wall	1746	FSF	\$ 50	\$ 87,300
Fill	595	CY	\$ 50	\$ 29,750
Concrete retaining wall	43	CY	\$ 600	\$ 25,800
Fill	209	CY	\$ 50	\$ 10,450
+ 20% Design and Construction				\$ 1,327,700
	Total:			\$ 1,593,240

Option 1 Downtown	Quantities	Unit Label	Unit Cost	Subtotal
Concrete bridge span	148	LF	\$ 8,500	\$ 1,258,000
Suspended ramp on columns	184	LF	\$ 4,800	\$ 883,200
MSE wall	5002	FSF	\$ 50	\$ 250,100
Fill	1271	CY	\$ 50	\$ 63,550
Concrete retaining wall	60	CY	\$ 600	\$ 36,000
Fill	338	CY	\$ 50	\$ 16,900
+ 20% Design and Construction				\$ 2,507,750
	Total:			\$ 3,009,300
Option 2 Downtown	Quantities	Unit Label	Unit Cost	
Concrete bridge span	148	LF	\$ 8,500	\$ 1,258,000
Suspended ramp on columns	138	LF	\$ 4,800	\$ 662,400
MSE wall	7662	FSF	\$ 50	\$ 383,100
Fill	6504	CY	\$ 50	\$ 325,200
Concrete retaining wall	63	CY	\$ 600	\$ 37,800
Fill	268	CY	\$ 50	\$ 13,400
+ 20% Design and Construction				\$ 2,679,900
	Total:			\$ 3,215,880
Burnette Trial Bridge Quantities/ Estimates	Quantities	Unit Label	Unit Cost	
Concrete bridge span	165	LF	\$ 8,500	\$ 1,402,500
Suspended ramp on columns	229	LF	\$ 4,800	\$ 1,099,200
MSE wall	1644	FSF	\$ 50	\$ 82,200
Fill	248	CY	\$ 50	\$ 12,400
Concrete retaining wall	37	CY	\$ 600	\$ 22,200
Fill	255	CY	\$ 50	\$ 12,750
+ 20% Design and Construction				\$ 2,631,250
	Total:			\$ 3,157,500
Suwanee Dam Road	Quantities	Unit Label	Unit Cost	
Concrete bridge span	124	LF	\$ 8,500	\$ 1,054,000
Suspended ramp on columns	162	LF	\$ 4,800	\$ 777,600
MSE wall	1746	FSF	\$ 50	\$ 87,300
Fill	656	CY	\$ 50	\$ 32,800
Concrete retaining wall	43	CY	\$ 600	\$ 25,800
Fill	484	CY	\$ 50	\$ 24,200
+ 20% Design and Construction				\$ 2,001,700
	Total:			\$ 2,402,040