

Dave Ward Drive Pedestrian Overpass

Schematic Study Report - Appendices



Prepared For:
City of Conway

February 2017





Conway Job No. 14-118
AHTD Job No. 080522

APPENDIX A

Design Criteria

**DAVE WARD DR. PED. OVERPASS
(CONWAY) (RTP-15) (S)
FAP RTP-1302(265)
AHTD JOB NO. 080522**



STONE DAM CREEK TRAIL DESIGN CRITERIA SUMMARY

GENERAL INFORMATION	
Functional Classification	Shared Use Path
Design Speed	18 mph (30 mph Desirable)
Design Units	English

TYPICAL SECTION	
Travel Lanes	
Number of Lanes	1 Lane
Lane Width	12' (Match Existing Width)
Cross Slope	NC = 2%
Max Superelevation	No Superelevation
Shoulders	
Shoulder Width	3' (Open Shoulder), 1' (Walls and Hand Rails)
Cross Slope	4% (Open Shoulder), 2% (Walls and Hand Rails)
Side Slopes	
Clear Zone Width	2' (3' Desirable)
Slope Inside Clear Zone	6:1
Slope Outside Clear Zone	3:1

HORIZONTAL ALIGNMENT	
Max Degree of Curve	95° 15'00" (34° 30'00" Desirable) (2012 Bicycle Guidelines Table 5-2)

VERTICAL ALIGNMENT	
Max Grade	
Ascending	5%
Descending	5%
Min Curvature (K)	
Sag Vertical Curve	5 (Comfort Criteria)
Crest Vertical Curve	See Figure 5-8 in 2012 Bicycle Guidelines

DRAINAGE	
Calculation of Q	Rational Method for DA < 200 Acres SCS Method for 200 < DA < 2000 Acres USGS Regression for DA > 2000 Acres
Cross Drains	
Flood Frequency	10 Year (25 Year Review)
Pipe Material	See AHTD Guidelines (Local Road)
Minimum Freeboard	1.5' Below Top of Subgrade, HW/D ≤ 1.5
Side Drains	
Flood Frequency	2 Year
Pipe Material	AHTD Specifications Section 606
Storm Drains	
Flood Frequency	2 Year
Pipe Material	See AHTD Guidelines (Local Road)
Pavement Spread	1/2 Lane Width
Minimum Pipe Size	24" (Cross Drain), 18" (Storm Drain)
Minimum Cover	1.0' from Top of Structure to Top of Subgrade

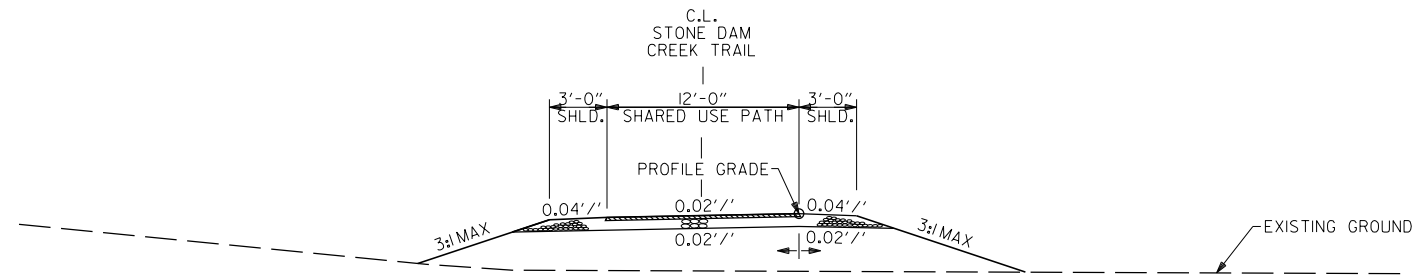


Conway Job No. 14-118
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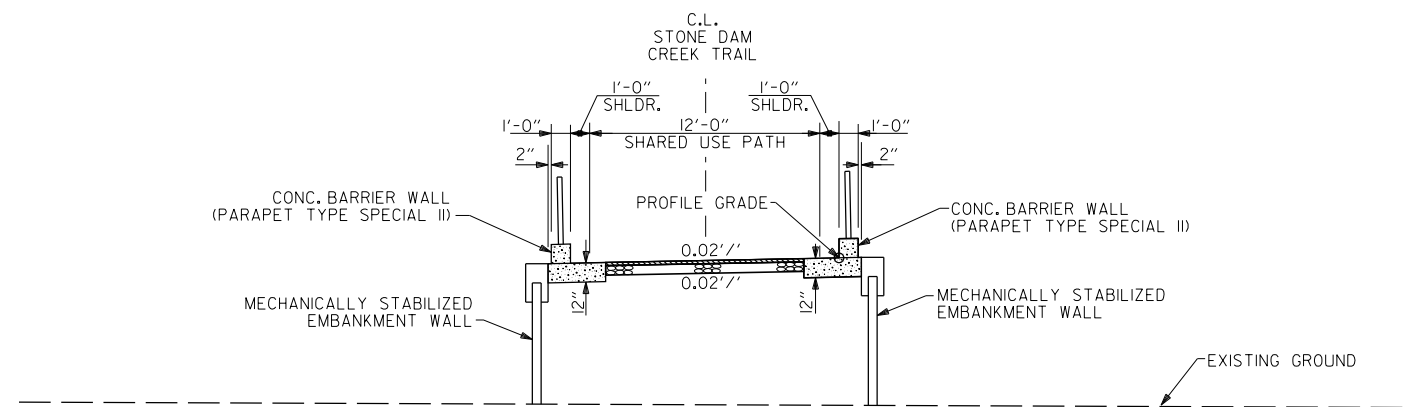
APPENDIX B

Schematic Plans

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	080522			
								2
TYPICAL SECTIONS OF IMPROVEMENT								



STONE DAM CREEK TRAIL



STONE DAM CREEK TRAIL
W/ MSE WALLS

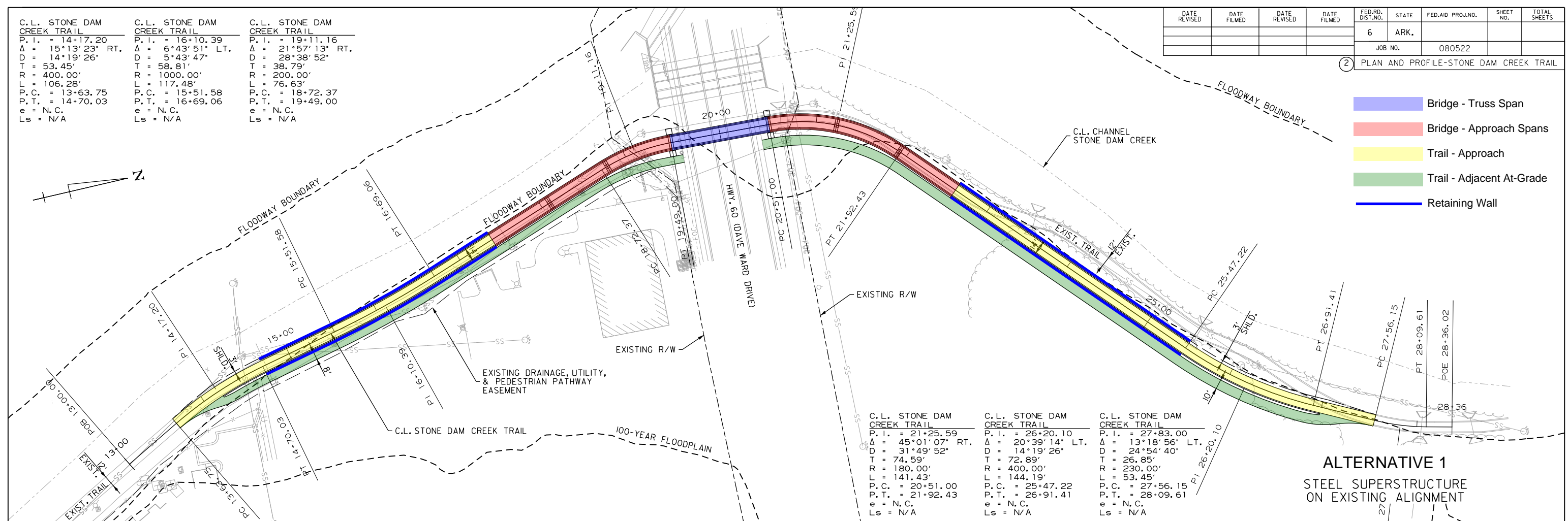
USER
 DATE
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 FILE
 REVISED DATE:

C.L. STONE DAM CREEK TRAIL	C.L. STONE DAM CREEK TRAIL	C.L. STONE DAM CREEK TRAIL
P.I. = 14+17.20	P.I. = 16+10.39	P.I. = 19+11.16
Δ = 15°13'23" RT.	Δ = 6°43'51" LT.	Δ = 21°57'13" RT.
D = 14°19'26"	D = 5°43'47"	D = 28°38'52"
T = 53.45'	T = 58.81'	T = 38.79'
R = 400.00'	R = 1000.00'	R = 200.00'
L = 106.28'	L = 117.48'	L = 76.63'
P.C. = 13+63.75	P.C. = 15+51.58	P.C. = 18+72.37
P.T. = 14+70.03	P.T. = 16+69.06	P.T. = 19+49.00
e = N.C.	e = N.C.	e = N.C.
Ls = N/A	Ls = N/A	Ls = N/A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 080522								

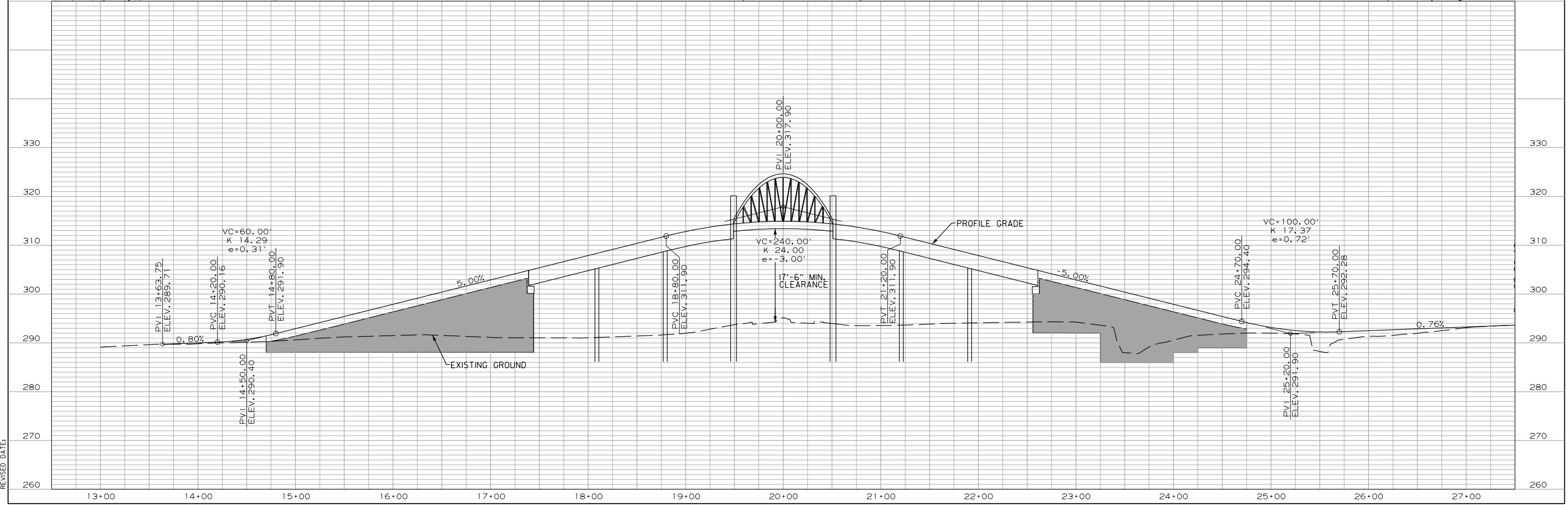
2 PLAN AND PROFILE-STONE DAM CREEK TRAIL

- Bridge - Truss Span
- Bridge - Approach Spans
- Trail - Approach
- Trail - Adjacent At-Grade
- Retaining Wall



C.L. STONE DAM CREEK TRAIL	C.L. STONE DAM CREEK TRAIL	C.L. STONE DAM CREEK TRAIL
P.I. = 21+25.59	P.I. = 26+20.10	P.I. = 27+83.00
Δ = 45°01'07" RT.	Δ = 20°39'14" LT.	Δ = 13°18'56" LT.
D = 31°49'52"	D = 14°19'26"	D = 24°54'40"
T = 74.59'	T = 72.89'	T = 26.85'
R = 180.00'	R = 400.00'	R = 230.00'
L = 141.43'	L = 144.19'	L = 53.45'
P.C. = 20+51.00	P.C. = 25+47.22	P.C. = 27+56.15
P.T. = 21+92.43	P.T. = 26+91.41	P.T. = 28+09.61
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Ls = N/A	Ls = N/A	Ls = N/A

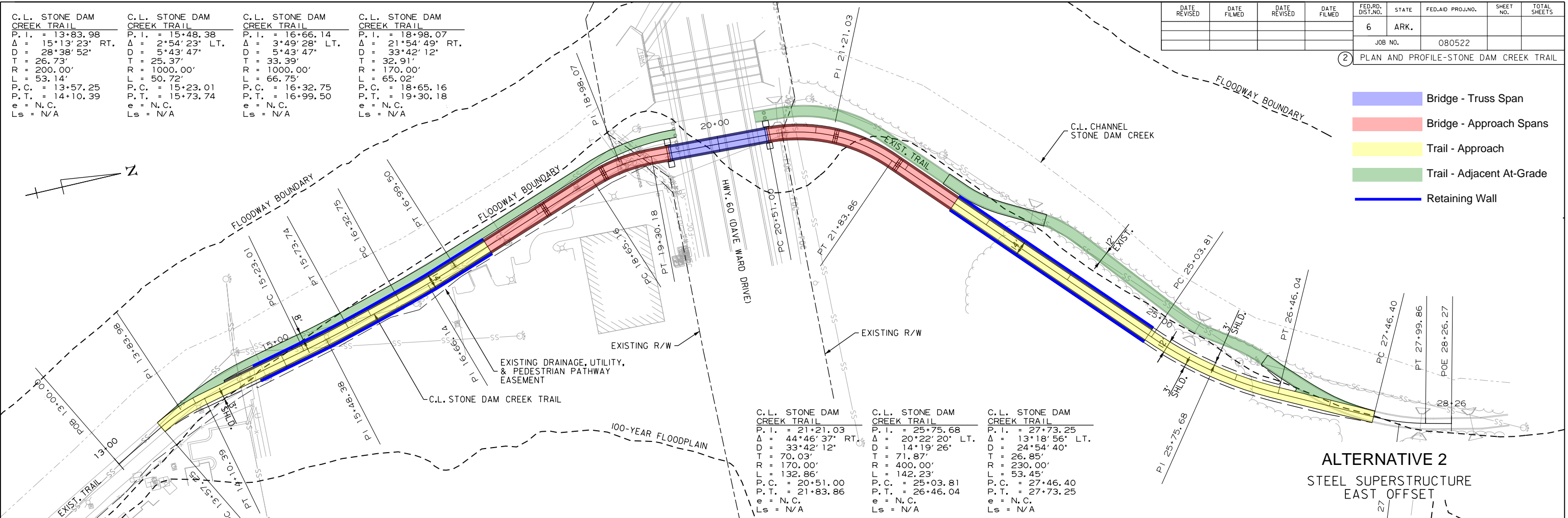
ALTERNATIVE 1
STEEL SUPERSTRUCTURE ON EXISTING ALIGNMENT



USER: \$DATE\$ \$TIME\$
WORKSPACE: \$WORKSPACE\$
FILE: \$FILE\$
REVISED DATE:

C.L. STONE DAM CREEK TRAIL	C.L. STONE DAM CREEK TRAIL	C.L. STONE DAM CREEK TRAIL	C.L. STONE DAM CREEK TRAIL
P.I. = 13+83.98	P.I. = 15+48.38	P.I. = 16+66.14	P.I. = 18+98.07
Δ = 15°13'23" RT.	Δ = 2°54'23" LT.	Δ = 3°49'28" LT.	Δ = 21°54'49" RT.
D = 28°38'52"	D = 5°43'47"	D = 5°43'47"	D = 33°42'12"
T = 26.73'	T = 25.37'	T = 33.39'	T = 32.91'
R = 200.00'	R = 1000.00'	R = 1000.00'	R = 170.00'
L = 53.14'	L = 50.72'	L = 66.75'	L = 65.02'
P.C. = 13+57.25	P.C. = 15+23.01	P.C. = 16+32.75	P.C. = 18+65.16
P.T. = 14+10.39	P.T. = 15+73.74	P.T. = 16+99.50	P.T. = 19+30.18
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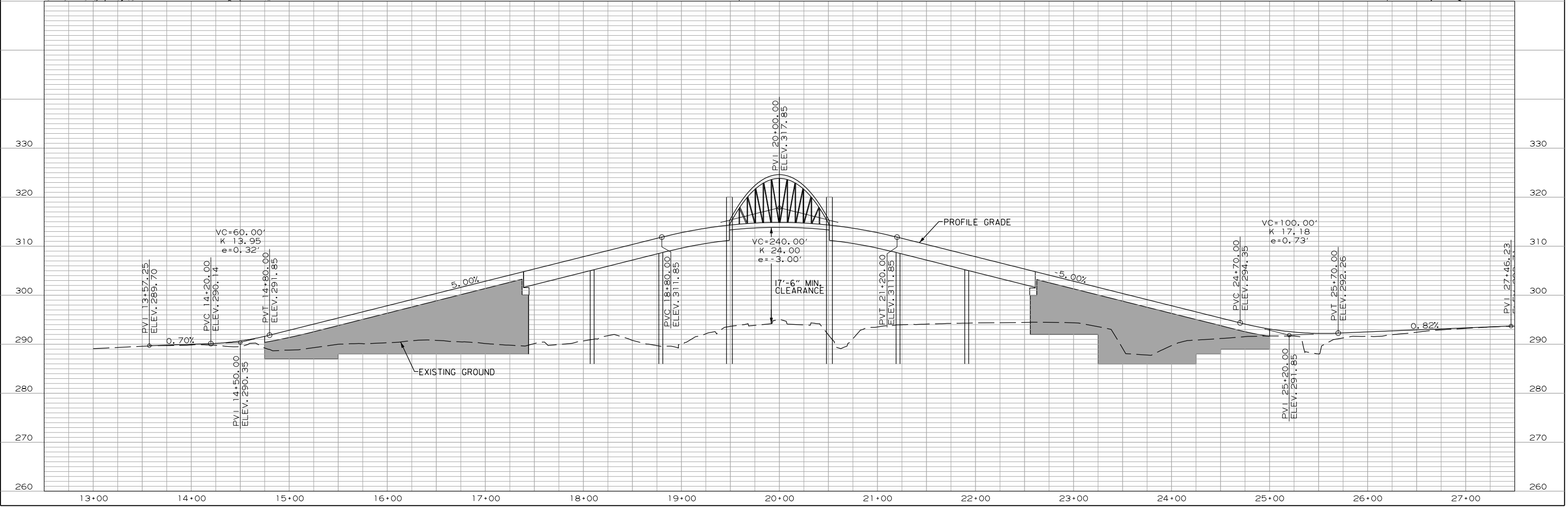
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				6	ARK.			
				JOB NO.		080522		
				PLAN AND PROFILE-STONE DAM CREEK TRAIL				



- Bridge - Truss Span
- Bridge - Approach Spans
- Trail - Approach
- Trail - Adjacent At-Grade
- Retaining Wall

C.L. STONE DAM CREEK TRAIL	C.L. STONE DAM CREEK TRAIL	C.L. STONE DAM CREEK TRAIL
P.I. = 21+21.03	P.I. = 25+75.68	P.I. = 27+73.25
Δ = 44°46'37" RT.	Δ = 20°22'20" LT.	Δ = 13°18'56" LT.
D = 33°42'12"	D = 14°19'26"	D = 24°54'40"
T = 70.03'	T = 71.87'	T = 26.85'
R = 170.00'	R = 400.00'	R = 230.00'
L = 132.86'	L = 142.23'	L = 53.45'
P.C. = 20+51.00	P.C. = 25+03.81	P.C. = 27+46.40
P.T. = 21+83.86	P.T. = 26+46.04	P.T. = 27+73.25
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Ls = N/A	Ls = N/A	Ls = N/A

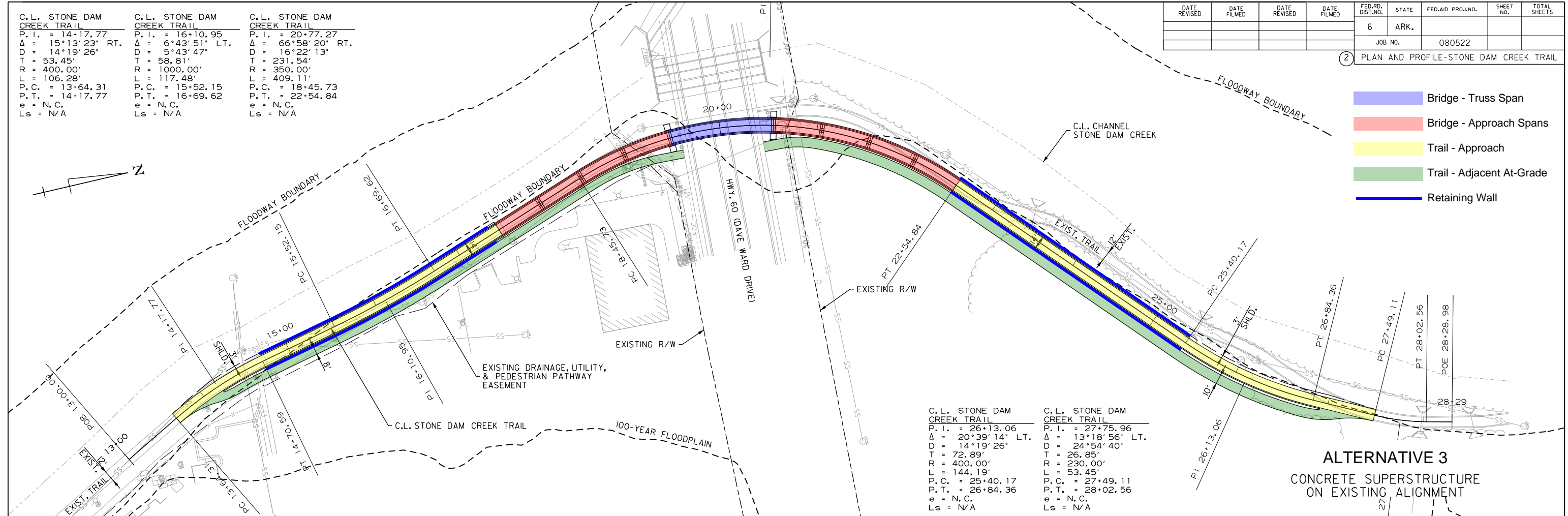
ALTERNATIVE 2
STEEL SUPERSTRUCTURE
EAST OFFSET



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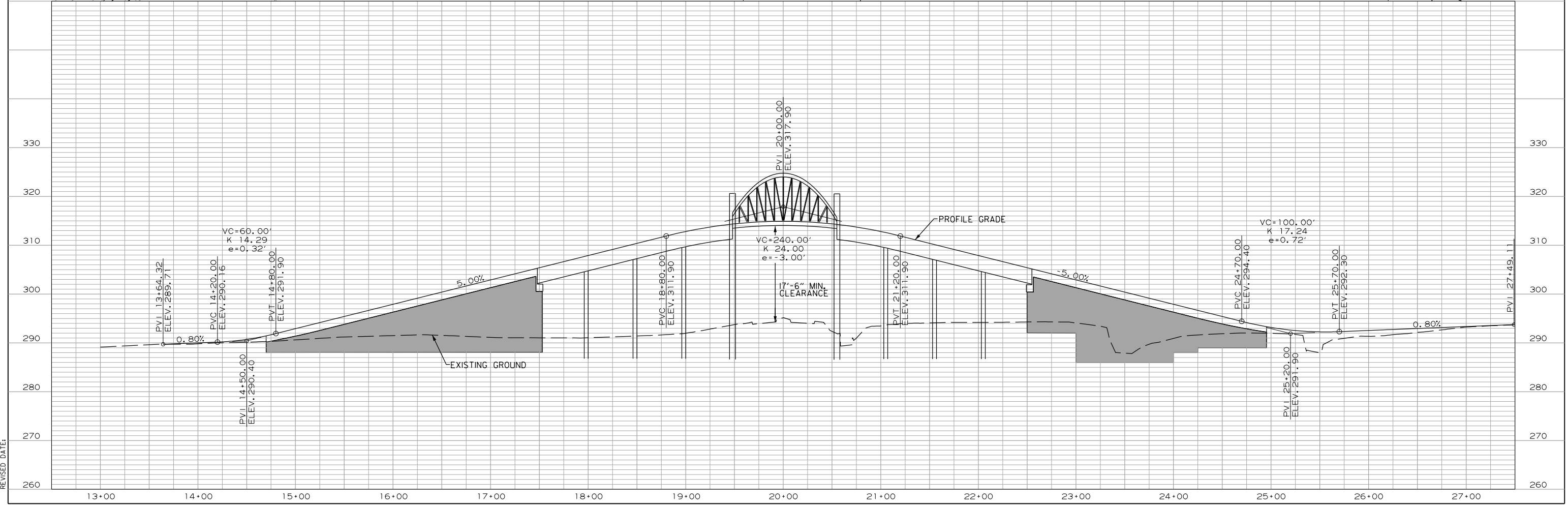
C.L. STONE DAM CREEK TRAIL	C.L. STONE DAM CREEK TRAIL	C.L. STONE DAM CREEK TRAIL
P.I. = 14+17.77	P.I. = 16+10.95	P.I. = 20+77.27
Δ = 15°13'23" RT.	Δ = 6°43'51" LT.	Δ = 66°58'20" RT.
D = 14°19'26"	D = 5°43'47"	D = 16°22'13"
T = 53.45'	T = 58.81'	T = 231.54'
R = 400.00'	R = 1000.00'	R = 350.00'
L = 106.28'	L = 117.48'	L = 409.11'
P.C. = 13+64.31	P.C. = 15+52.15	P.C. = 18+45.73
P.T. = 14+17.77	P.T. = 16+69.62	P.T. = 22+54.84
e = N.C.	e = N.C.	e = N.C.
Ls = N/A	Ls = N/A	Ls = N/A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	080522			
				PLAN AND PROFILE-STONE DAM CREEK TRAIL				



C.L. STONE DAM CREEK TRAIL	C.L. STONE DAM CREEK TRAIL
P.I. = 26+13.06	P.I. = 27+75.96
Δ = 20°39'14" LT.	Δ = 13°18'56" LT.
D = 14°19'26"	D = 24°54'40"
T = 72.89'	T = 26.85'
R = 400.00'	R = 230.00'
L = 144.19'	L = 53.45'
P.C. = 25+40.17	P.C. = 27+49.11
P.T. = 26+84.36	P.T. = 28+02.56
e = N.C.	e = N.C.
Ls = N/A	Ls = N/A

ALTERNATIVE 3
CONCRETE SUPERSTRUCTURE
ON EXISTING ALIGNMENT

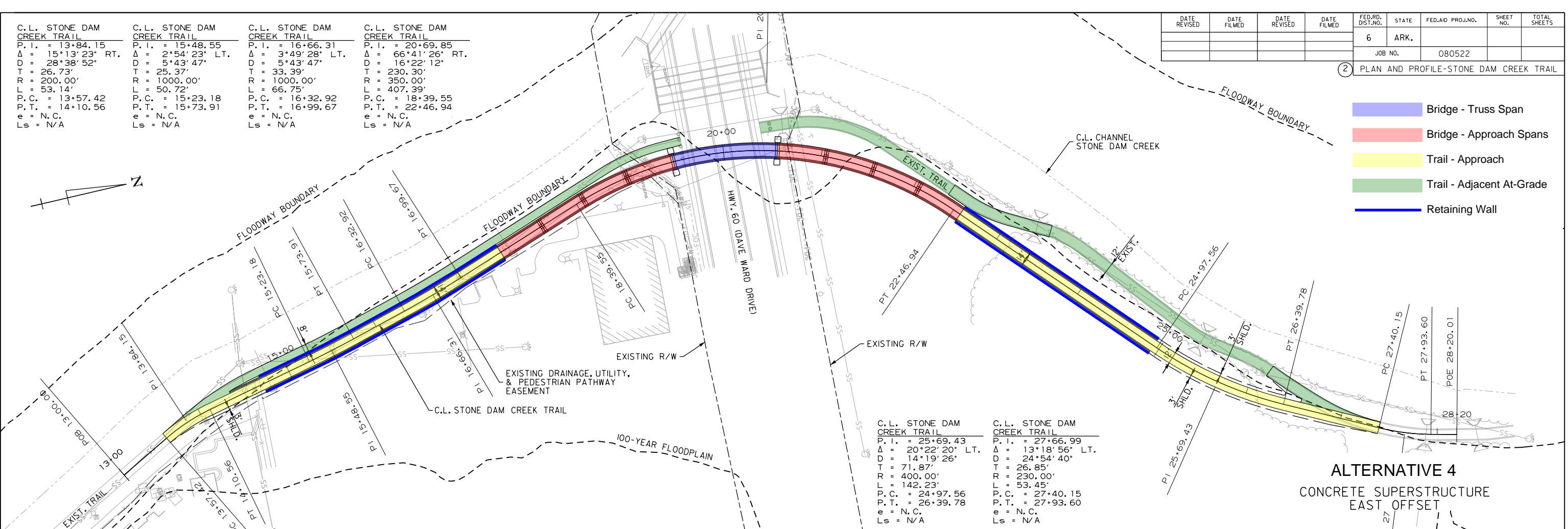


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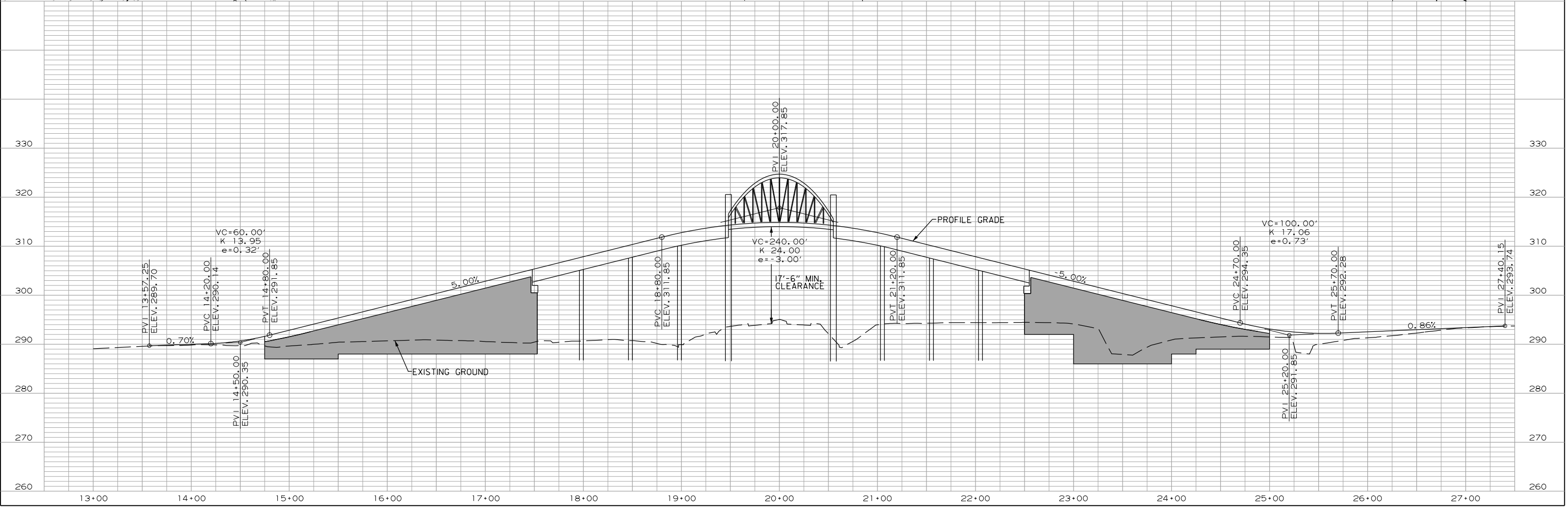
C.L. STONE DAM CREEK TRAIL	C.L. STONE DAM CREEK TRAIL	C.L. STONE DAM CREEK TRAIL	C.L. STONE DAM CREEK TRAIL
P.I. = 13+84.15	P.I. = 15+48.55	P.I. = 16+66.31	P.I. = 20+69.85
Δ = 15°13'23" RT.	Δ = 2°54'23" LT.	Δ = 3°49'28" LT.	Δ = 66°41'26" RT.
D = 28°38'52"	D = 5°43'47"	D = 5°43'47"	D = 16°22'12"
T = 26.73'	T = 25.37'	T = 33.39'	T = 230.30'
R = 200.00'	R = 1000.00'	R = 1000.00'	R = 350.00'
L = 53.14'	L = 50.72'	L = 66.75'	L = 407.39'
P.C. = 13+57.42	P.C. = 15+23.18	P.C. = 16+32.92	P.C. = 18+39.55
P.T. = 14+10.56	P.T. = 15+73.91	P.T. = 16+99.67	P.T. = 22+46.94
e = N.C.	e = N.C.	e = N.C.	e = N.C.
Ls = N/A	Ls = N/A	Ls = N/A	Ls = N/A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080522		

2 PLAN AND PROFILE-STONE DAM CREEK TRAIL



ALTERNATIVE 4
CONCRETE SUPERSTRUCTURE
EAST OFFSET



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FILE: \$FILE\$
REVISED DATE:



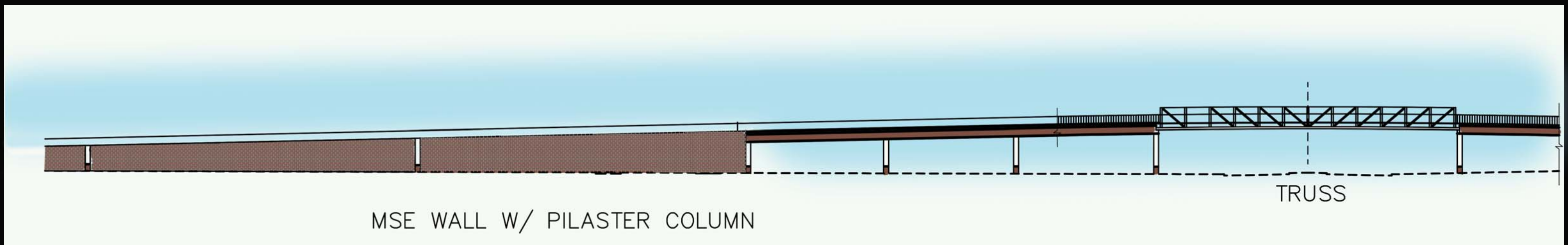
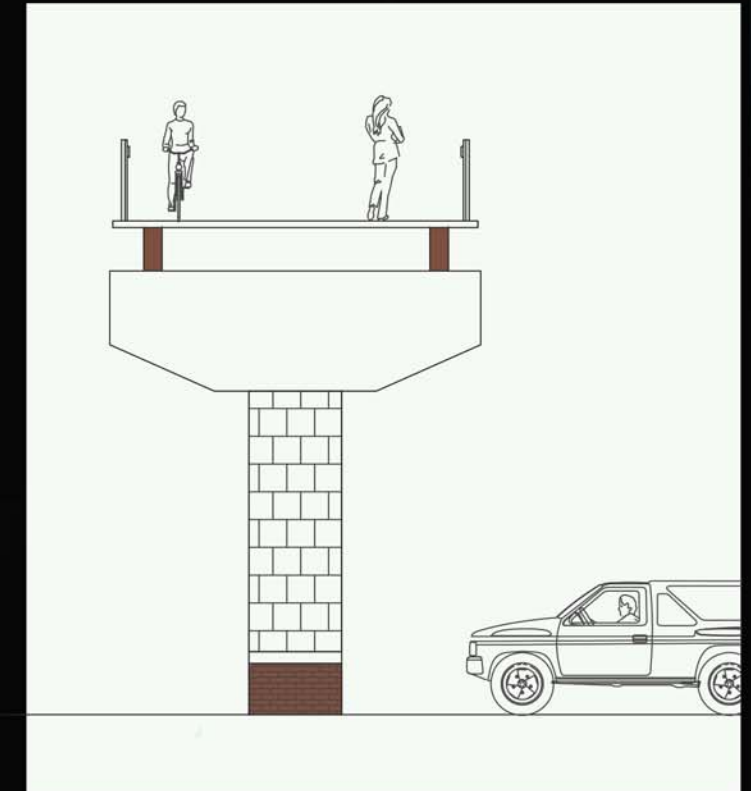
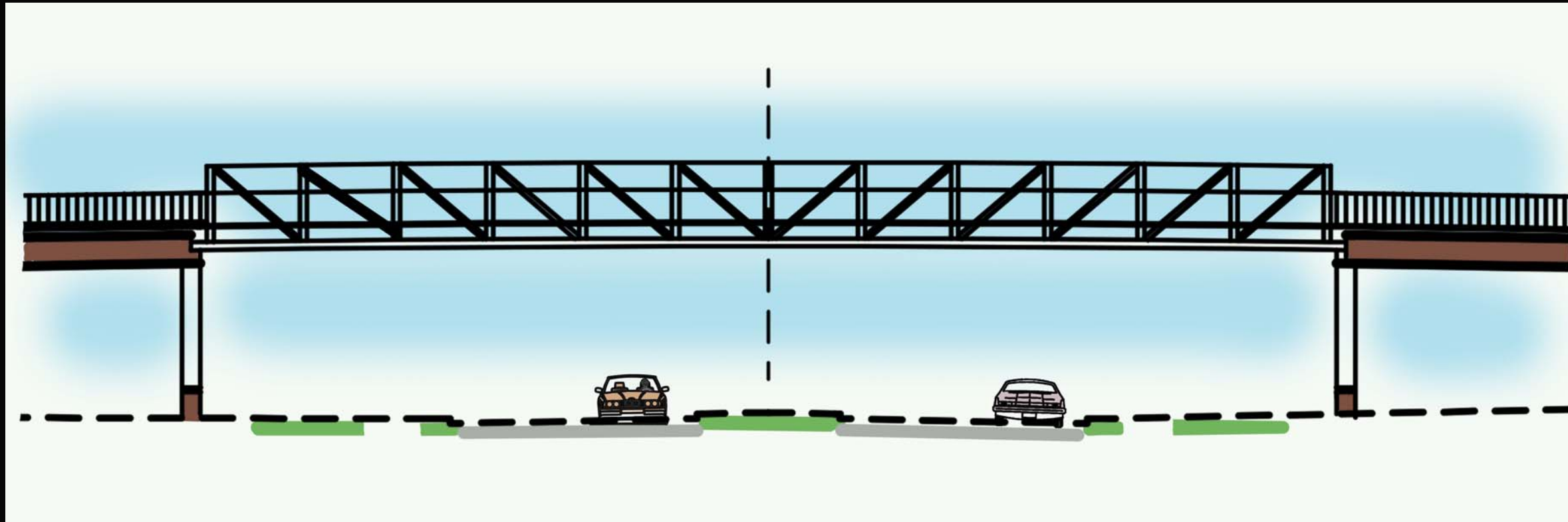
Conway Job No. 14-118
AHTD Job No. 080522

APPENDIX C

Concept Renderings

Simplicity

Painted truss and railings,
brick MSE wall, with stone
pilasters, standard truss.



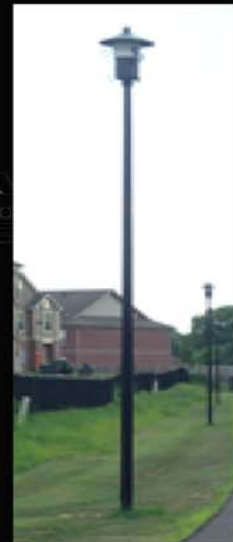
Materials Palette Simplicity



*Incorporate UCA architectural
building colors and texture in design.*



*Red Brick or Red Stamped Concrete
Precast Sphere and Block
Off-White Cut Stone or Stamped
Concrete*



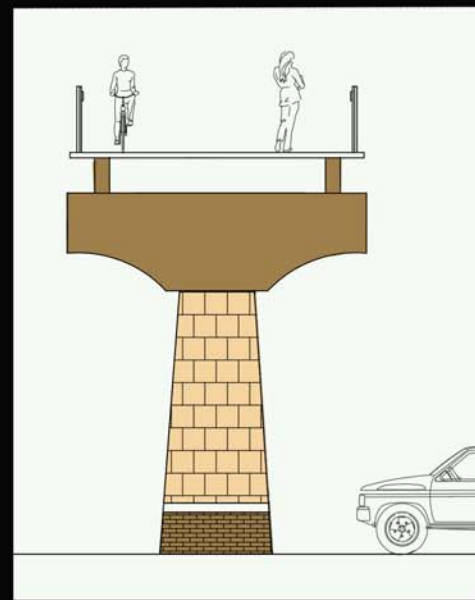
*Conway Corp
Standard Light
Fixture
Full-Cutoff*



Basic Steel Railing

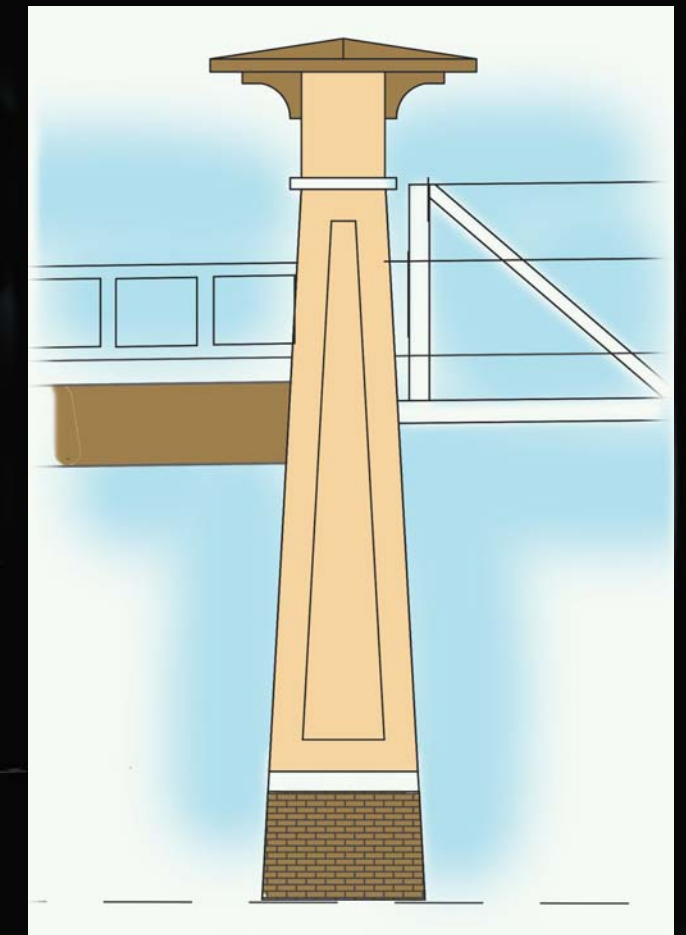
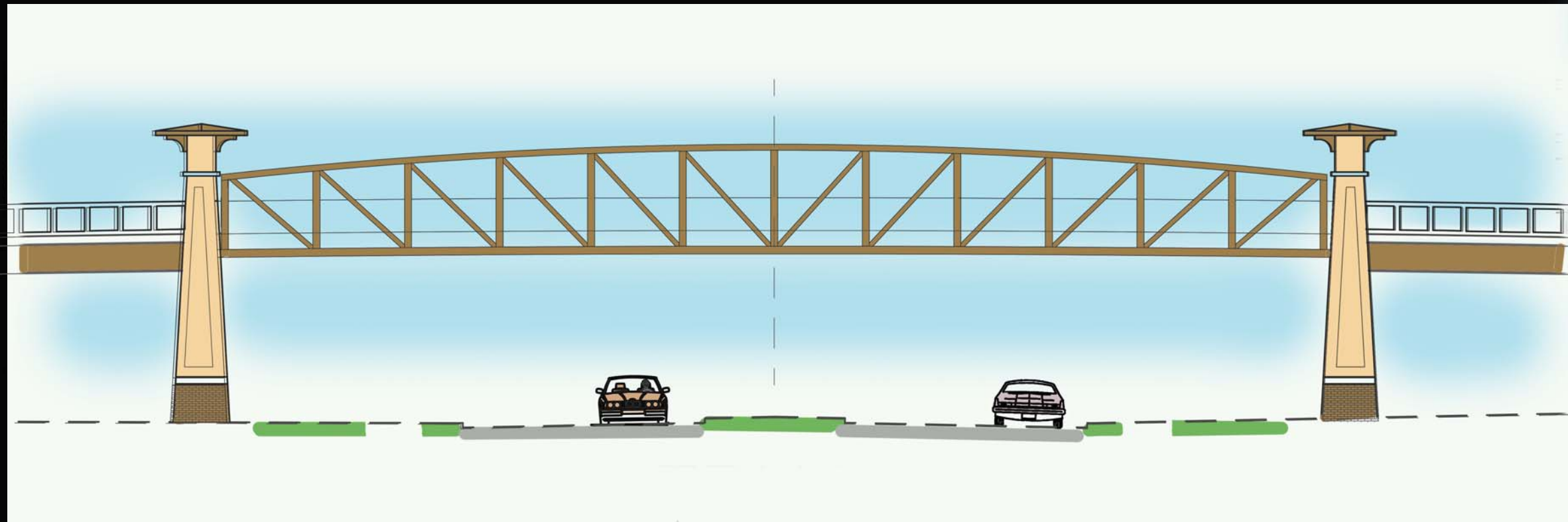


Standard Truss



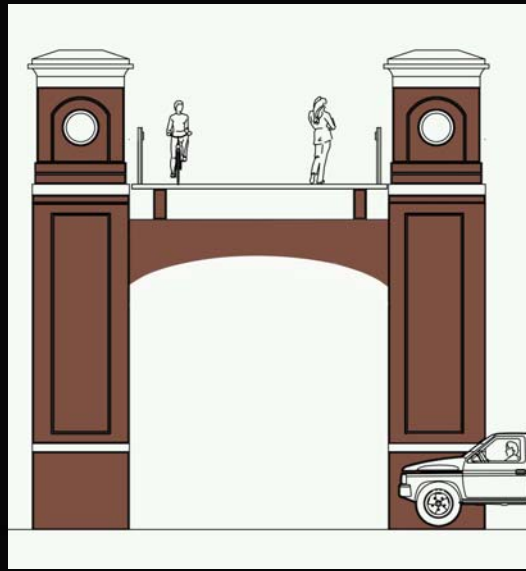
Stonecraft

Ledgestone enhancements with cut stone form liner khaki painted truss, mesh panels, modified bowstring truss.



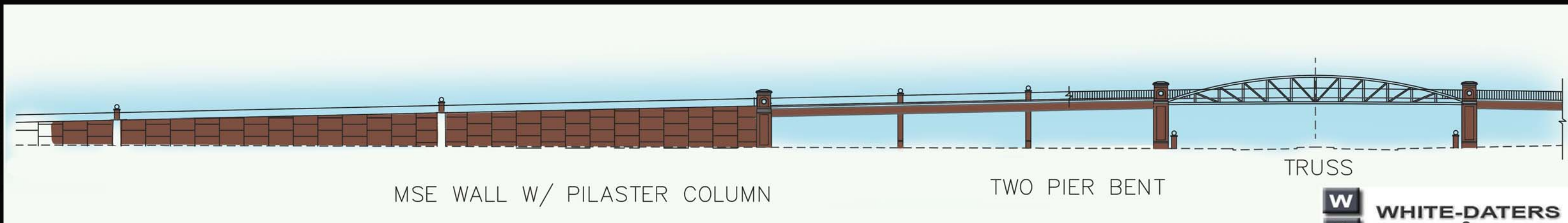
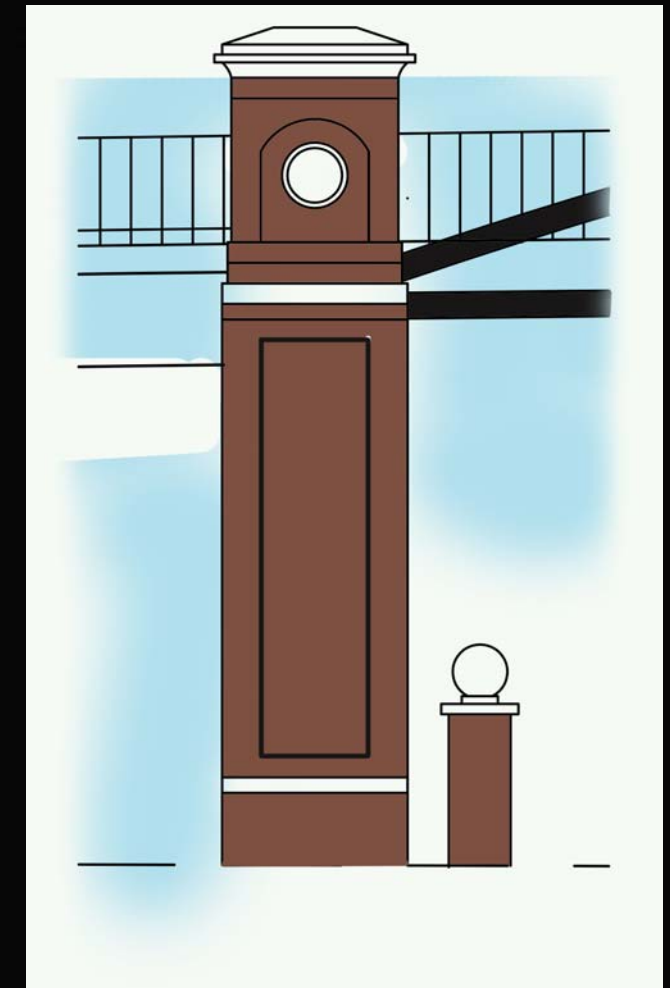
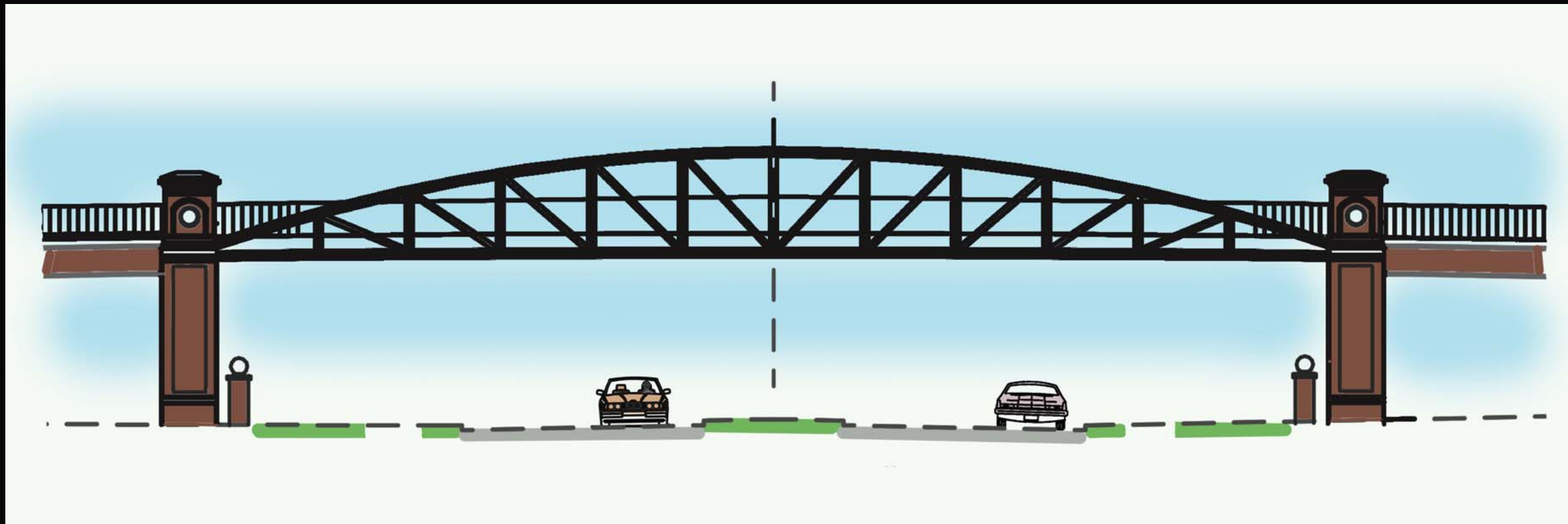
MSE WALL W/ PILASTER COLUMN

TRUSS



Classic

Collegiate Architectural Elements (arch, sphere on column, red brick, cut stone) Bowstring truss.



MSE WALL W/ PILASTER COLUMN

TWO PIER BENT

TRUSS



WHITE-DATERS
&
ASSOCIATES, INC.
Since 1906

Materials Palette Classic



Incorporate UCA architectural elements in design. Arch form, brick columns w sphere, decorative light.



*Decorative
Acorn Light
Full-Cutoff*



*Decorative
Steel Railing*



Bowstring Truss

*Red Brick or Red Stamped Concrete
Precast Sphere and Block
Off-White Cut Stone or Stamped
Concrete*



Conway Job No. 14-118
AHTD Job No. 080522

APPENDIX D

Customized Concept Selection

Cost Factor		Truss Span					
		Concrete Superstructure			Steel Superstructure		
Truss Style		Standard	Modified Bowstring	Bowstring	Standard	Modified Bowstring	Bowstring
Sub-Total		\$315,000.00	\$335,000.00	\$355,000.00	\$200,000.00	\$210,000.00	\$225,000.00
		Selection Sub-Total = _____			Selection Sub-Total = _____		
Cost Factor		Approach Spans					
		Concrete Superstructure			Steel Superstructure		
Concept Style		Simplicity	Classic	Stonecraft	Simplicity	Classic	Stonecraft
Sub-Total		\$915,000.00	\$925,000.00	\$925,000.00	\$995,000.00	\$1,005,000.00	\$1,005,000.00
		Selection Sub-Total = _____			Selection Sub-Total = _____		
Cost Factor		Trail Approach					
		Concrete Superstructure			Steel Superstructure		
Concept Style		Simplicity	Classic	Stonecraft	Simplicity	Classic	Stonecraft
Retaining Walls		\$900,000.00	\$1,060,000.00	\$1,060,000.00	\$900,000.00	\$1,060,000.00	\$1,060,000.00
Trail (Grading, Paving, Drainage, Etc.)		\$230,000.00	\$230,000.00	\$230,000.00	\$230,000.00	\$230,000.00	\$230,000.00
Trail Lighting		\$180,000.00	\$200,000.00	\$200,000.00	\$180,000.00	\$200,000.00	\$200,000.00
Sub-Total		\$1,310,000.00	\$1,490,000.00	\$1,490,000.00	\$1,310,000.00	\$1,490,000.00	\$1,490,000.00
		Selection Sub-Total = _____			Selection Sub-Total = _____		
		Selection Total = _____			Selection Total = _____		
		10% Contengincy = _____			10% Contengincy = _____		
		Total Estimated Construction Cost = _____			Total Estimated Construction Cost = _____		

Additional Features	
Accent Lighting - Truss Only	\$210,000.00
Accent Lighting - Truss and Approaches	\$670,000.00
Overlooks (Each)	\$35,000.00

