MEMORANDUM

TO: Nick Senn

FROM: Mike Fowler

DATE: December 21, 2021

RE: **27th Street Underpass – Plan Revisions under Advertisement**

The plans listed below are hereby revised under advertisement due to the elimination of retaining walls 1 and 3 and some minor quantity changes. The boulder walls have been eliminated from the project and the slopes in these areas regraded. The revised plan sheets are attached and a revised Bid Schedule has been provided via email.

Sheet No.	Sheet Title
1	COVER SHEET
6	TYPICAL SECTIONS (1)
9	FENCE AND RAILING DETAILS
11	DETAILS (2)
16	SUMMARY OF APPROX. QUANTITIES (1)
17	SUMMARY OF APPROX. QUANTITIES (2)
18	SUMMARY OF APPROX. QUANTITIES (3)
19	SUMMARY OF APPROX. QUANTITIES (4)
25	TABULATION OF EARTHWORK AND SURFACING
27	TABULATION OF UTILITIES
28	TABULATION OF GUARDRAIL AND FENCING
35	OVERALL SITE PLAN
36	SITE IMPROVEMENTS PLAN
44	UTILITY PLAN INDEX
49	27TH STREET (WEST) UTILITY PLAN
50	RIO GRANDE TRAIL UTILITY PLAN
64	RIO GRANDE TRAIL PLAN & PROFILE (1)
66	N. 27TH ST SIDEWALK PLAN & PROFILE
72	ROADWAY PLAN (1)
74	PAVING PLAN (1)
78	PAVING PLAN (5)
83	TRAIL INTERSECTION DETAILS
97	GENERAL LAYOUT – 27TH ST UNDERPASS
101	ENGINEERING GEOLOGY – 27TH ST UNDERPASS
117	EXCAVATION AND BACKFILL
118	WALL SUMMARY OF QUANTITIES

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119	OVERALL WALL SITE PLAN
120	WALL GEOMETRY PLAN (1)
123	WALL GEOMETRY PLAN (4)
124	WALL 1 PLAN & ELEVATION
125	WALL 2 PLAN & ELEVATION
126	WALL 3 PLAN & ELEVATION
127	WALL 4 PLAN & ELEVATION
134	LWC 1 PLAN & ELEVATION
140	WALL DETAILS (2)
141	WALL DETAILS (4)
142	WALL SITE DETAILS (1)
192	STORMWATER MANAGEMENT PLAN (1)
193	STORMWATER MANAGEMENT PLAN (2)
196	STORMWATER MANAGEMENT PLAN (5)
197	EROSION CONTROL PLAN (1)
198	EROSION CONTROL PLAN (2)
202	SH82 – SIGNING & STRIPING (1)
203	SH82 – SIGNING & STRIPING (2)
205	27TH ST (WEST) - SIGNING & STRIPING
207	RGT – SIGNING & STRIPING (1)
300	PLANTING KEY PLAN
303	PLANTING ENLARGEMENT 2
306	PLANTING SCHEDULE AND NOTES
311	IRRIGATION PLAN
400	RGT CROSS SECTIONS (1)
401	RGT CROSS SECTIONS (2)

Attachments:
Plan Sheets as listed in table
Bid Schedule spreadsheet via separate email

I:\2020\2020-544-GWS27thPedUnderpass\001-Design\K-Bidding\Addenda\21-038 27th Street Underpasses Plan Revision (1).docx

118 W. 6th St, Ste 200 Glenwood Springs, CO 81601 Phone: 970-945-1004 Fax: 970-945-5948

PoDI / NHS	
FHWA PROJECT OF DIVISION INTEREST (PoDI)?	■ NO □ YES
NATIONAL HIGHWAY SYSTEM?	□ NO ■ YES

(R-1)

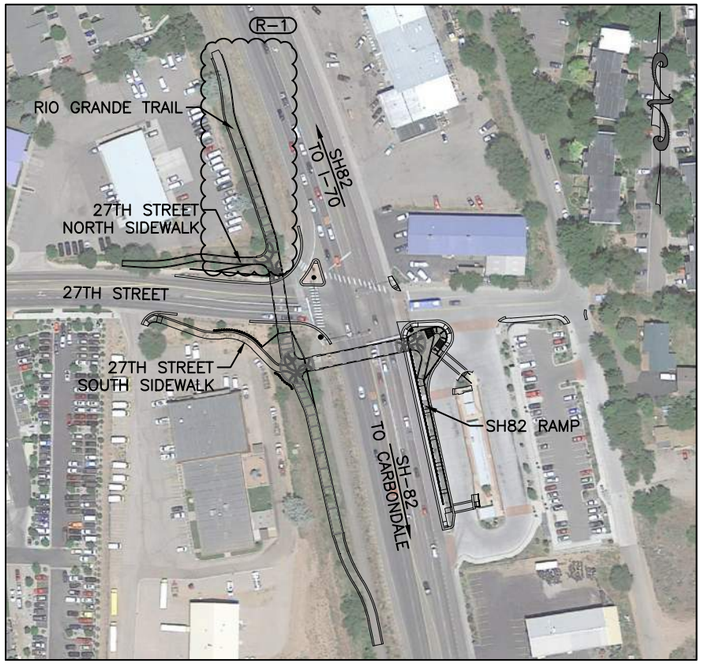
Related Projects:	
P. E. UNDER PROJECT:	
Project Number	MTF M535-007 / 008
Project Code:	23687 / 23975
R.O.W. Projects:	
R.O.W. Project Description	
N/A	

ROARING FORK TRANSPORTATION AUTHORITY

HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED FEDERAL AID PROJECT NO. MTF M535-007 / 008 27TH ST AND SH82 PEDESTRIAN UNDERPASS CONSTRUCTION PROJECT CODE NO. 23687 / 23975

TABULATION OF LENGTH & DESIGN DATA

STATION	FEET	
	TRAIL	UNDERPASS STRUCTURE
RIO GRANDE TRAIL STA 1000+28.53 – STA 1008+45.14	816.61 FT	79.25 FT
SH82 UNDERPASS/RAMP STA 4000+20.00 – STA 4004+20.66	400.66 FT	140.70 FT
27TH STREET NORTH SIDEWALK STA 2000+05.02 – STA 2001+99.21	194.19 FT	
27TH STREET SOUTH SIDEWALK STA 3000+11.66 – STA 3002+05.01	193.35 FT	
TOTAL	1604.81 FT	219.95 FT
SUMMARY OF PROJECT LENGTH	FEET	
PATHWAY (NET LENGTH)	1604.81 FT	219.95 FT



PROJECT LOCATION MAP

Scale: 1" = 200'

Section 16 & 21, Township 6 South, Range 89 West, Sixth Principal Meridian

BID PLANS

NOVEMBER 22, 2021

SHEET NO.	INDEX OF SHEETS
1	TITLE SHEET
2	STANDARD PLANS LIST SHEET
3-5	GENERAL NOTES
6-7	TYPICAL SECTIONS
8-15	DETAILS
16-23	SUMMARY OF APPROXIMATE QUANTITIES
24-29	TABULATIONS
30-34	SURVEY CONTROL DIAGRAM
35-36	OVERALL SITE PLAN
37-43	SUBSURFACE UTILITY ENGINEERING PLANS
44-50	UTILITY PLANS
51	SANITARY SEWER RELOCATION
52	WATER SERVICE RELOCATION
53-54	WATERLINE RELOCATIONS
55-60	REMOVAL PLANS
61-63	GEOMETRY PLANS
64-71	TRAIL PLAN & PROFILE SHEETS
72-86	ROADWAY PLANS
87-93	STORM SEWER PLAN & PROFILE SHEETS
94-114	UNDERPASS PLANS
115-146	WALL PLANS
151-156	SITE STAIR PLANS
157	UTILITY ROOM DETAILS
158-161	ELECTRICAL PLANS
162-173	MECHANICAL PLANS
174-181	PLUMBING PLANS
192-196	STORM WATER MANAGEMENT PLAN
197-199	EROSION CONTROL PLAN
200-208	SIGNING & STRIPING PLAN
209-216	TRAFFIC SIGNAL PLANS
217-243	CONSTRUCTION TRAFFIC CONTROL & PHASING PLANS
300-308	LANDSCAPE PLANS
309-316	IRRIGATION PLANS
400-407	CROSS SECTIONS

811 Know what's below. Call before you dig.

UNCC 1-800-922-1987

COLORADO LICENSED
ASHLEY MARIE CLINE
12/22/21
56117
PROFESSIONAL ENGINEER

Computer File Information	
Print Date: 12/20/21	
Last Modification Date: 12/20/21	
Drawing File Name: Hwy82PUP-Admin	
Autocad Ver. 2020 Scale: As Shown	
SGM Project No.: 2020-544.001 Quality Control: MDF	

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3, NO PODI	AMC

RFTA Roaring Fork Transportation Authority

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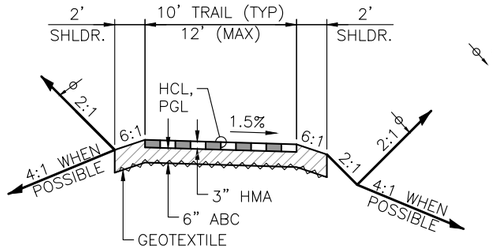
Glenwood Springs, CO 81601
970.945.1004 www.sgm-inc.com

As Constructed	
No Revisions:	
Revised:	
Void:	

Contract Information	
Contractor:	
Resident Engineer:	
Project Engineer:	
PROJECT STARTED: / /	ACCEPTED: / /
Comments:	

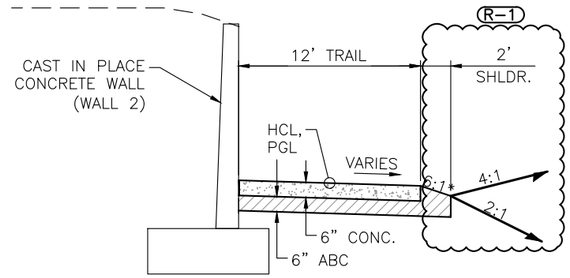
Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	1



= SOIL AUGMENTED WITH COMPOST

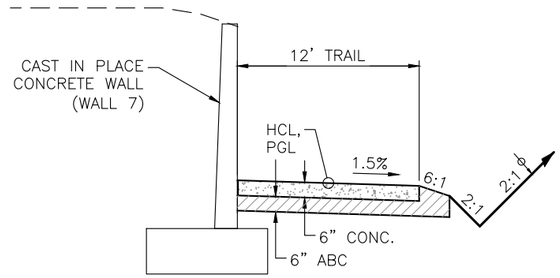
RIO GRANDE TRAIL TYPICAL SECTION

STA.1000+28.55 TO STA.1000+35.93 (NO DITCH, RIGHT)
STA.1006+88.91 TO STA.1008+45.14



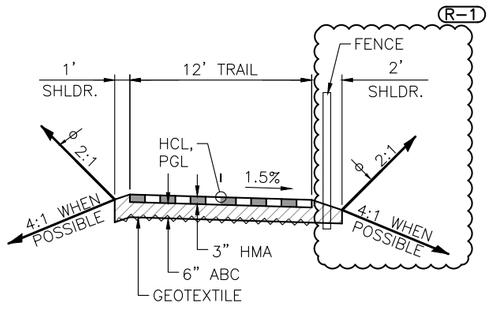
RIO GRANDE TRAIL UPHILL WALL SECTION

STA.1001+61.10 TO STA.1002+48.20
STA.1002+48.20 TO STA.1002+94.36 (NO 6:1) (R-1)



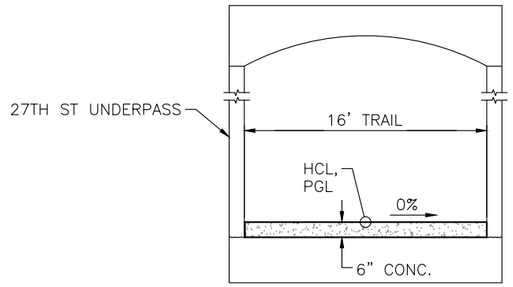
RIO GRANDE TRAIL UPHILL WALL SECTION

STA.1005+29.37 TO STA.1006+88.49



RIO GRANDE TRAIL FENCE SECTION

STA.1000+35.93 TO STA. 1001+61.10 (R-1)



RIO GRANDE TRAIL UNDERPASS SECTION

STA.1003+34.78 TO STA.1004+14.03

NOTE:

SEE TRAIL PLAN AND PROFILE SHEETS FOR TRAIL SEGMENTS NOT DEPICTED BY TYPICAL SECTIONS

COLORADO LICENSED
ASHLEY MARIE CLINE
12/17/21
56117
PROFESSIONAL ENGINEER

Computer File Information	
Print Date:	12/15/21
Last Modification Date:	06/30/21
Drawing File Name:	Hwy82PUP-Typicals
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: MDF

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Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MWM

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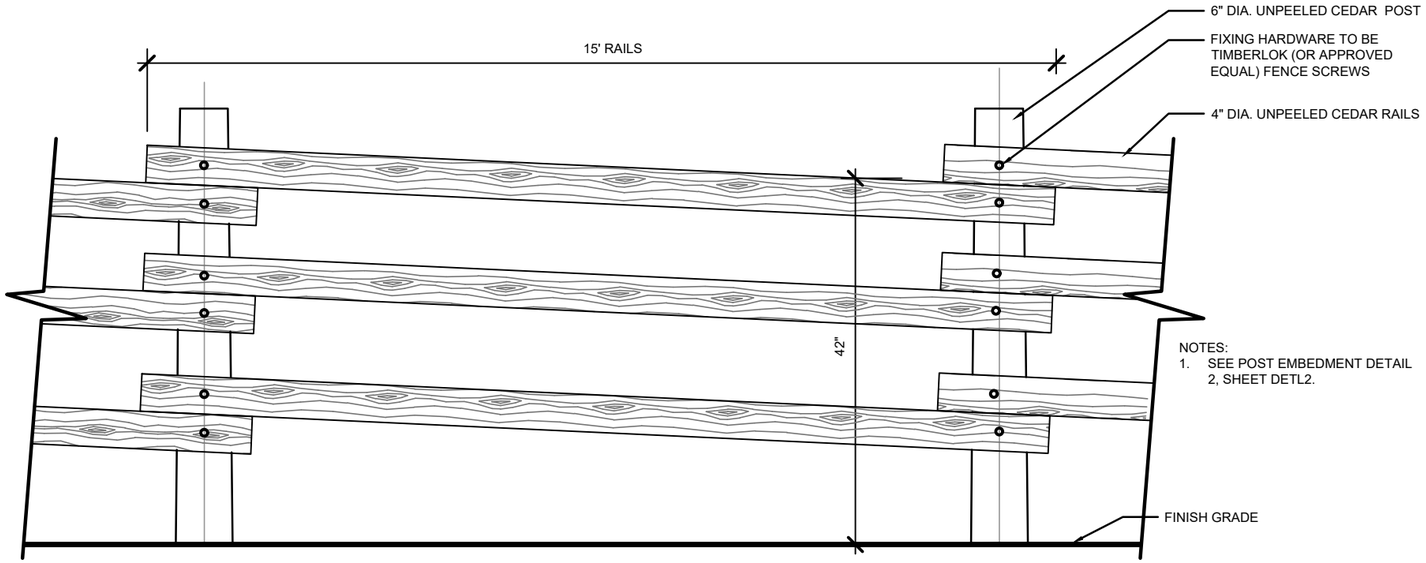
As Constructed
No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
TYPICAL SECTIONS (1)

Engineer:	MDF	Structure Numbers	
Drawn By:	AMC		
Sheet Subset:	TYP	Subset Sheets:	1 of 2

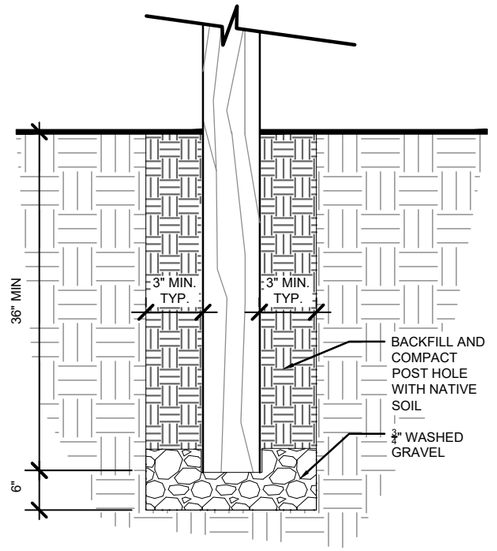
Project No./Code
MTF M535-007 / 008
23687 / 23975
Sheet Number 6



NOTES:
1. SEE POST EMBEDMENT DETAIL 2, SHEET DETL2.

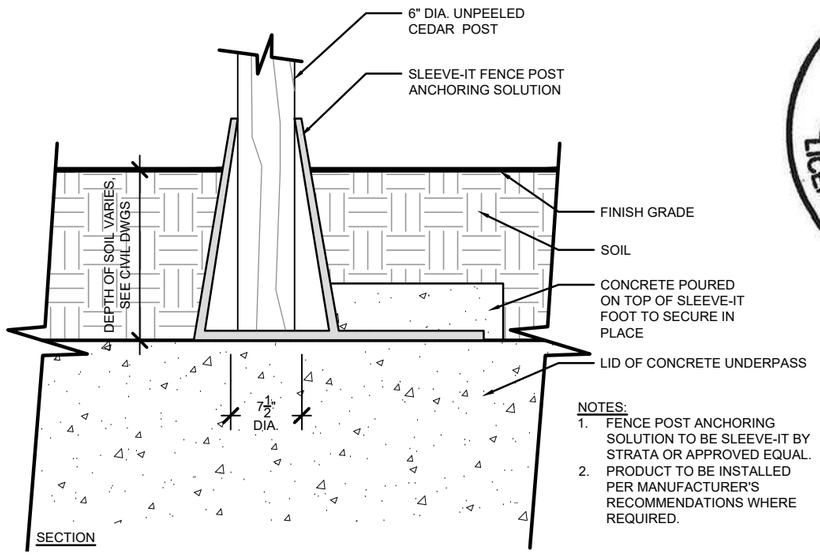
1 DETL2 FENCE WOOD RAILING

3/4" = 1'-0"



2 DETL2 POST EMBEDMENT (TYPICAL)

3/4" = 1'-0"



NOTES:
1. FENCE POST ANCHORING SOLUTION TO BE SLEEVE-IT BY STRATA OR APPROVED EQUAL.
2. PRODUCT TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS WHERE REQUIRED.

3 DETL2 POST EMBEDMENT ON UNDERPASS STRUCTURE

3/4" = 1'-0"

JASON M. JAYNES 240 12/22/21
01/01/2008 Original Date of Licensure
STATE OF COLORADO LICENSED LANDSCAPE ARCHITECT

4 DETL2 NOT USED

1/2" = 1'-0"

Computer File Information	
Print Date:	12/20/21
Last Modification Date:	12/22/21
Drawing File Name:	UNDERPASS_L-3-0_DETAILS rev numbers
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: XX

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12.22.21	ELIMINATED WALLS 1 & 3	

RFTA Roaring Fork Transportation Authority

DHM DESIGN

As Constructed
No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
FENCE AND RAILING DETAILS

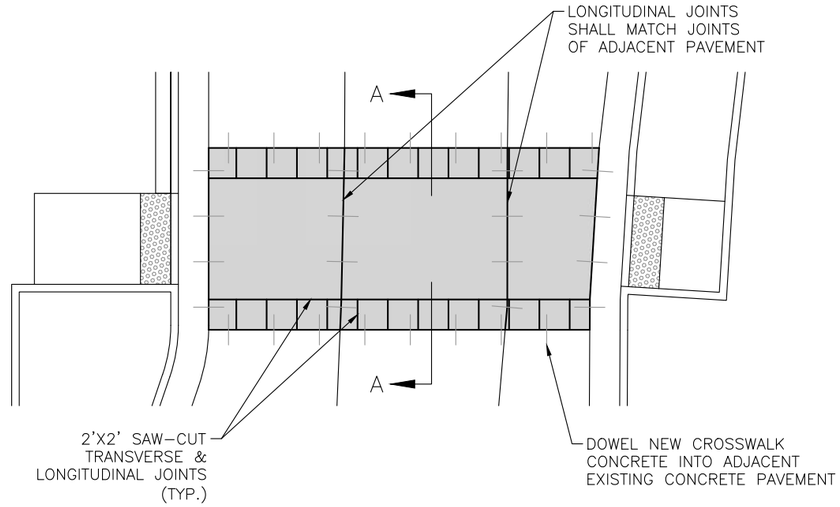
Designer:	JJ	Structure Numbers	
Drawn By:	DB		
Sheet Subset:	DETAILS	Subset Sheets:	2 of 8

Project No./Code	
MTF M535-007 / 008	
Code: 23687 / 23975	
Sheet Number	9

P:\CARBONDALE\RFTA 27TH STREET UNDERPASS - 20354\5_FOR SUBMITTAL\CAD\SHEETS\UNDERPASS_L-3-0_DETAILS REV NUMBERS.DWG Plotted: 12/20/2021 2:36 PM By: Nick LHeureux

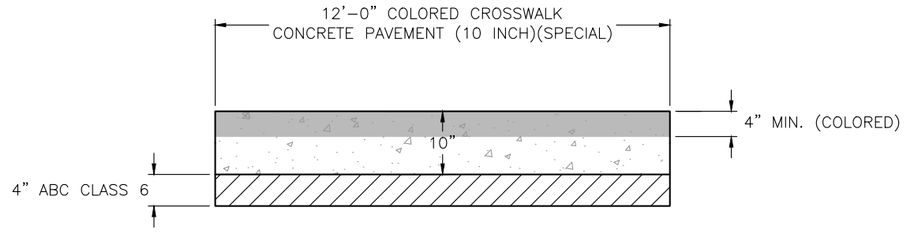
NOTES:

1. DECORATIVE CONCRETE CROSSWALK WILL BE PAID FOR AS CONCRETE PAVEMENT (10 INCH) (SPECIAL) AS MEASURED IN SQYD.
2. CONCRETE SHALL BE CLASS P UNLESS OTHERWISE APPROVED BY THE ENGINEER.
3. CONTRACTOR HAS THE OPTION TO PLACE 4 INCHES OF CLASS P CONCRETE (BRICK RED) WITH BROOM FINISH IN THE TOP 4 INCHES OF FINISHED CONCRETE. COLD JOINTS ARE NOT ACCEPTABLE.
4. CROSSWALK SHALL BE BROOM FINISHED TRANSVERSE TO THE DIRECTION OF THE CROSSWALK.



BRT STATION CROSSWALK PLAN VIEW

SCALE: 1"=10'

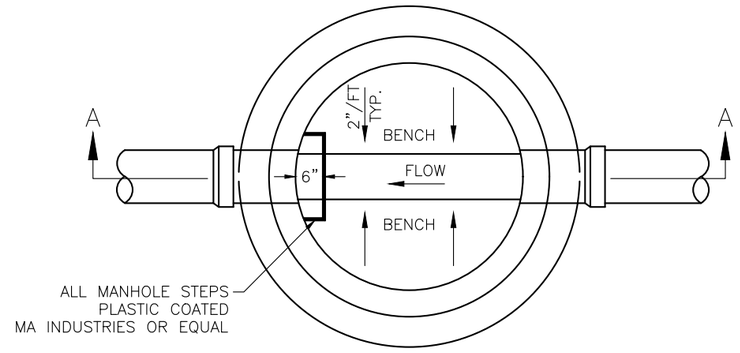


CROSSWALK CROSS SECTION A-A

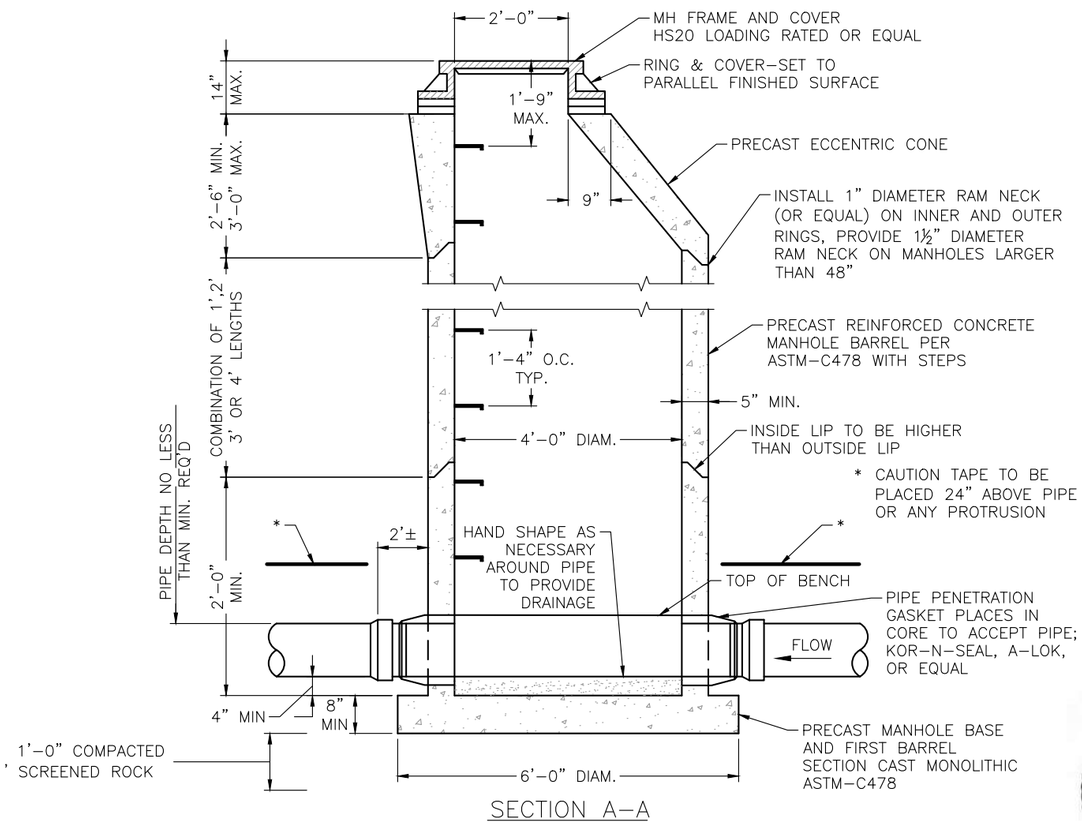
N.T.S.

NOTES:

1. CONCRETE SHALL COMPLY WITH CDOT SPECIFICATIONS.
2. MANHOLE TROUGH SHALL HAVE A MINIMUM OF 2" DROP FROM ENTRANCE THROUGH EXIT.
3. FLOW CHANNEL TO BE SHAPED AS TO NOT ALLOW STANDING WATER.
4. USE 5' I.D. WHEN PIPE SIZE IS 18" OR LARGER. (R-1)
5. EXTERIOR OF MANHOLE SHALL BE COATED WITH BITUMINOUS COATING PRIOR TO DELIVERY TO JOBSITE.
6. ORIENTATION OF MANHOLE STEPS FOR INFORMATION ONLY. FINAL ORIENTATION TO BE PROVIDED IN SHOP DRAWINGS.



PLAN



SECTION A-A

SANITARY SEWER MANHOLE

SCALE: 3/8" = 1'

COLORADO LICENSED ASHLEY MARIE CLINE 12/22/21 56117 PROFESSIONAL ENGINEER

Computer File Information	
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Rev.	Date	Comments	Init.
1	12/22/21	REVISED NOTE	AMC

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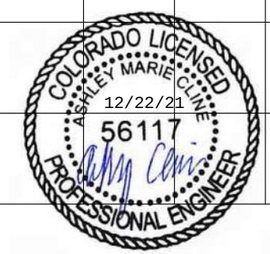
No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS DETAILS (2)

Engineer:	AMC	Structure Numbers	
Drawn By:	MWM		
Sheet Subset:	DETAILS	Subset Sheets:	4 of 8

Project No./Code
MTF M535-007 / 008
23687 / 23975
Sheet Number 11

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY/TRAIL		SH82 UNDERPASS		27TH ST UNDERPASS		RETAINING WALLS								PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.							PLAN	AS CONST.
			201-00000	Clearing And Grubbing	L S	1														1	
			202-00008	Tree Trimming	HOUR	8														8	
			202-00010	Removal of Tree	EACH	7														7	
			202-00019	Removal of Inlet	EACH	3														3	
			202-00021	Removal of Manhole	EACH	4														4	
			202-00030	Removal of Water Service	EACH	1														1	
			202-00032	Removal of Valve	EACH	3														3	
			202-00035	Removal of Pipe	LF	652														652	
			202-00090	Removal of Delineator	EACH	4														4	
			202-00190	Removal of Concrete Median Cover Material	SY	28														28	
			202-00200	Removal of Sidewalk	SY	505														505	
			202-00203	Removal of Curb and Gutter	LF	1088														1088	
			202-00206	Removal of Concrete Curb Ramp	SY	184														184	
			202-00210	Removal of Concrete Pavement	SY	793														793	
			202-00220	Removal of Asphalt Mat	SY	2708														2708	
			202-00240	Removal of Asphalt Mat (Planing)	SY	269														269	
			202-00250	Removal of Pavement Marking	SF	13000														13000	
			202-00420	Removal of Pedestrian Rail	LF	35														35	
			202-00600	Removal of Railroad Appurtenances	L S	1														1	
			202-00810	Removal of Ground Sign	EACH	9														9	
			202-00815	Removal of Sign (Special)	EACH	1														1	
			202-00827	Removal of Pull Box	EACH	7														7	
			202-00831	Removal of Traffic Signal Head	EACH	22														22	
			202-00832	Removal of Sign Panel (Special)	EACH	1														1	
			202-00840	Removal of Traffic Signal Pole	EACH	3														3	
			202-00855	Removal of Traffic Signal Controller Cabinet	EACH	1														1	
			202-00860	Removal of Pedestrian Push Button	EACH	6														6	
			202-01000	Removal of Fence	LF	68														68	
			202-01130	Removal of Guardrail Type 3	LF	390														390	
			202-01300	Removal of End Anchorage	EACH	2														2	
			202-04000	Plug Structure	EACH	2														2	
			202-04001	Plug Culvert	EACH	6														6	
			202-05006	Sawing Concrete (6 Inch)	LF	57														57	
			202-05010	Sawing Concrete (10 Inch)	LF	644														644	
			203-00010	Unclassified Excavation (Complete In Place)	CY	1322 (R-1)														1322 (R-1)	



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Sheet Revisions				
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MDF

Roaring Fork Transportation Authority

SGM
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Glenwood Springs, CO 81601
970.945.1004 www.sgm-inc.com

As Constructed
No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
SUMMARY OF APPROXIMATE QUANTITIES (1)

Engineer:	MDF	Structure Numbers	
Drawn By:	AMC		
Sheet Subset:	SAQ	Subset Sheets:	1 of 8

Project No./Code
MTF M535-007 / 008
23687 / 23975
Sheet Number 16

I:\2020\2020-544-GWS27THPEDUNDERPASS\001-DESIGN\H-DWGS\CIVIL\PS-SHEETSET\HWY82PUP-SAQ.DWG Plotted: 12/21/2021 11:15 AM By: Ashley Cline

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY/TRAIL		SH82 UNDERPASS		27TH ST UNDERPASS		RETAINING WALLS								PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.							PLAN	AS CONST.
			203-01510	Backhoe	HOUR	40														40	
			203-01565	Hydraulic Excavator	HOUR	40														40	
			203-01582	Truck (Dump)	HOUR	40														40	
			203-01594	Combination Loader	HOUR	40														40	
			203-01597	Potholing	HOUR	40														40	
			203-02330	Laborer	HOUR	80														80	
			206-00000	Structure Excavation	CY			4170		1700		12404								18274	
			206-00100	Structure Backfill (Class 1)	CY			1630		620		6384								8634	
			206-00360	Mechanical Reinforcement of Soil	CY			1630		620										2250	
			206-01781	Shoring (Area 1)	L S			1												1	
			206-01782	Shoring (Area 2)	L S					1										1	
			206-01783	Shoring (Area 3)	L S							1								1	
			207-01110	Planter Soil Mix	CY	118														118	
			208-00002	Erosion Log Type 1 (12 Inch)	LF	520	R-1												R-1	520	
			208-00035	Aggregate Bag	LF	100														100	
			208-00046	Pre-Fabricated Concrete Washout Structure (Type 1)	EACH	3														3	
			208-00051	Storm Drain Inlet Protection (Type I)	EACH	3														3	
			208-00052	Storm Drain Inlet Protection (Type II)	EACH	4														4	
			208-00056	Storm Drain Inlet Protection (Type III)	EACH	1														1	
			208-00075	Pre-Fabricated Vehicle Tracking Pad	EACH	2														2	
			208-00207	Erosion Control Management	DAY	180														180	
			210-00050	Reset Fire Hydrant	EACH	2	R-2												R-2	2	
			210-00090	Reset Delineator	EACH	2														2	
			210-00760	Reset Luminaire	EACH	3														3	
			210-00810	Reset Ground Sign	EACH	6														6	
			210-00842	Reset Traffic Signal Mast Arm	EACH	1														1	
			210-00862	Reset Wiring	L S	1														1	
			210-00866	Reset Fire Preemption Unit And Timer	EACH	1														1	
			210-00882	Reset Traffic Signal Vehicle Detector	EACH	2														2	
			212-00701	Compost (Mechanically Applied)	CY	166	R-1												R-1	166	
			212-00708	Seeding (Native) Broadcast	ACRE	1.23	R-1												R-1	1.23	
			213-00003	Mulching (Weed Free)	ACRE	1.23	R-1												R-1	1.23	
			213-00005	Mulching (Decorative)	CF	395														395	
			213-00008	Mulching (Wood Chip)	CF	790														790	
			213-00061	Mulch Tackifier	LB	246	R-1												R-1	246	

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SGM Project No.: 2020-544.001	Quality Control: MDF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MDF
2	12/22/21	REVISED QUANTITY	MDF

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27TH ST AND SH82 PEDESTRIAN UNDERPASS
SUMMARY OF APPROXIMATE QUANTITIES (2)

Engineer:	MDF	Structure Numbers	
Drawn By:	AMC		
Sheet Subset:	SAQ	Subset Sheets:	2 of 8

Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	17

INDEX BOOK	INDEX PAGE	INDEX SHEET	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY/TRAIL PLAN	ROADWAY/TRAIL AS CONST.	SH82 UNDERPASS PLAN	SH82 UNDERPASS AS CONST.	27TH ST UNDERPASS PLAN	27TH ST UNDERPASS AS CONST.	RETAINING WALLS PLAN	RETAINING WALLS AS CONST.	PROJECT TOTALS PLAN	PROJECT TOTALS AS CONST.
			213-00440	Metal Landscape Border (1/8X4 Inch)	LF	299								299	
			214-00220	Deciduous Tree (2 Inch Caliper)	EACH	8								8	
			214-00310	Deciduous Shrub (1 Gallon Container)	EACH	476								476	
			214-00350	Deciduous Shrub (5 Gallon Container)	EACH	385								385	
			214-00805	Ground Cover Vines (2.25 Inch Pots)	EACH	573								573	
			216-00201	Soil Retention Blanket (Straw-Coconut) (Biodegradable Class 1)	SY	1368	R-1							R-1 1368	
			240-00000	Wildlife Biologist	HOUR	20								20	
			240-00010	Removal of Nests	HOUR	8								8	
			304-02000	Aggregate Base Course (Class 2)	TON			780		60		3324		4164	
			304-06000	Aggregate Base Course (Class 6)	TON	1918	R-1	430		260				R-1 2608	
			403-34751	Hot Mix Asphalt (Grading SX) (75) (PG 64-28)	TON	862								862	
			411-10255	Emulsified Asphalt (Slow-Setting)	GAL	261								261	
			412-00600	Concrete Pavement (6 Inch)	SY	39								39	
			412-01000	Concrete Pavement (10 Inch)	SY	566								566	
			412-01001	Concrete Pavement (10 Inch) (Special)	SY	200								200	
			420-00133	Geotextile (Separator) (Class 2)	SY			376		212		1250		1838	
			420-00200	Geotextile (Weed Barrier)	SY	935	R-1							R-1 935	
			503-00036	Drilled Shaft (36 Inch)	LF	34								34	
			503-00054	Drilled Shaft (54 Inch)	LF	21								21	
						R-1						0	R-1	R-1 0	
			504-08050	Stone Landscape Wall	SF							343		343	
			508-00520	Insulation Material (2 Inch)	SF	4712								4712	
			514-00018	Pedestrian Railing (18 Inch)	LF							209		209	
			514-00042	Pedestrian Railing (42 Inch)	LF					35		115		150	
			514-00100	Hand Rail	LF	570								570	
						R-1						0	R-1	R-1 0	
			515-00120	Waterproofing (Membrane)	SY			384		216		12		612	
			517-00000	Waterproofing (Asphalt)	SY			311		171		149		631	
			518-00102	Waterstop	LF			324		201		206		731	
			601-03000	Concrete Class D	CY							8.2		8.2	
			601-03040	Concrete Class D (Bridge)	CY			236.2		131.1				367.3	
			601-03041	Concrete Class D (Bridge) (Special)	CY			2.3		2.7				5	
			601-03050	Concrete Class D (Wall)	CY							723.7		723.7	
			601-03055	Concrete Class D (Wall) (Special)	CY							493.8		493.8	
			601-40301	Structural Concrete Coating	SF			4600		2590				7190	

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Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MDF

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27TH ST AND SH82 PEDESTRIAN UNDERPASS
SUMMARY OF APPROXIMATE QUANTITIES (3)

Engineer:	MDF	Structure Numbers	
Drawn By:	AMC		
Sheet Subset:	SAQ	Subset Sheets:	3 of 8

Project No./Code	
	MTF M535-007 / 008
	23687 / 23975
Sheet Number	18

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY/TRAIL		SH82 UNDERPASS		27TH ST UNDERPASS		RETAINING WALLS								PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.							PLAN	AS CONST.
			601-40302	Structural Concrete Coating (Anti-Graffiti)	SF			4840		2820		12666								20326	
			601-50020	Porcelain Wall Tile	SF							1432								1432	
			602-00000	Reinforcing Steel	LB			41500		23600		202050								267150	
			602-00020	Reinforcing Steel (Epoxy Coated)	LB			2000		1700		700								4400	
			603-30024	24 Inch Steel End Section	EACH	1														1	
			603-33024	24 Inch Pipe Safety End Treatment	EACH	1														1	
			603-50006	6 Inch Plastic Pipe	LF	21														21	
			603-50012	12 Inch Plastic Pipe	LF	116														116	
			603-50018	18 Inch Plastic Pipe	LF	375														375	
			603-50024	24 Inch Plastic Pipe	LF	77														77	
			603-50030	30 Inch Plastic Pipe	LF	216														216	
			603-50200	Tee (Plastic Pipe)(12 Inch)	EACH	1														1	
			603-50201	90 Deg Elbow (Plastic Pipe)(12 Inch)	EACH	2														2	
			604-00315	Inlet Type C (15 Foot)	EACH	1														1	
			604-19115	Inlet Type R L 5 (15 Foot)	EACH	2														2	
			604-19712	Inlet Special (Trench Drain) (12 Inch Width)	LF	48														48	
			604-25011	Vane Grate Inlet Special (10 Foot)	EACH	2														2	
			604-25021	Vane Grate Inlet Special (20 Foot)	EACH	1														1	
			604-30005	Manhole Slab Base (5 Foot)	EACH	1														1	
			604-30010	Manhole Slab Base (10 Foot)	EACH	4	R-2												R-2	4	
			604-30015	Manhole Slab Base (15 Foot)	EACH	5	R-2												R-2	5	
			604-83103	3 Inch Plastic Pipe Sewer (Polyvinyl Chloride)	LF	15														15	
			604-83108	8 Inch Plastic Pipe Sewer (Polyvinyl Chloride)	LF	327														327	
			605-83002	Geocomposite Drain With Pipe	SY			384		208		1093	R-2						R-2	1685	
			606-00301	Guardrail Type 3 (6-3 Post Spacing)	LF	775														775	
			606-01402	Transition Type BR10B-GR3	EACH			1				1								2	
			606-02003	End Anchorage (Nonflared)	EACH	3														3	
			606-02005	End Anchorage (Flared)	EACH	1														1	
			606-11035	Bridge Rail Type 10 MASH	LF			11				201								212	
			607-11460	Fence Wood Railing	LF	985	R-1												R-1	985	
			607-11525	Fence (Plastic)	LF	3150														3150	
			607-32100	Fence Steel Snow	LF			18				178								196	
			608-00000	Concrete Sidewalk	SY	501														501	
			608-00006	Concrete Sidewalk (6 Inch)	SY	234		199		126										559	
			608-00010	Concrete Curb Ramp	SY	309														309	

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27TH ST AND SH82 PEDESTRIAN UNDERPASS
SUMMARY OF APPROXIMATE QUANTITIES (4)

Engineer:	MDF	Structure Numbers	
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Sheet Subset:	SAQ	Subset Sheets:	4 of 8

Project No./Code	
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TABULATION OF EARTHWORK AND SURFACING

LOCATION	SIDE	304-06000 AGGREGATE BASE COURSE (CLASS 6)	403-34751 HOT MIX ASPHALT (GRADING SX) (75) (PG 64-28)	411-10255 EMULSIFIED ASPHALT (SLOW-SETTING)	412-00600 CONCRETE PAVEMENT (6 INCH)	412-01000 CONCRETE PAVEMENT (10 INCH)	412-01001 CONCRETE PAVEMENT (10 INCH) (SPECIAL)	420-00200 GEOTEXTILE (WEED BARRIER)	REMARKS
		TON	TON	GAL	SY	SY	SY	SY	
BRT STATION									
14+56.91 TO 17+51.94	LT	106				346	172		CONCRETE PAVEMENT (10 INCH) (SPECIAL) = COLORED CONCRETE CROSSWALK
SH82									
13+14.73 TO 15+19.14	-	735	464	112					
27TH STREET									
1+05.02 TO 2+98.90	-	259	298	101	36	192	18		
RIO GRANDE TRAIL									
1+03.55 TO 1+10.93	-	88	29	18				251	
7+79.32 TO 9+20.14	-	86	29	18				245	
SHEET SUBTOTALS		1,274	821	249	37	539	190	496	
5% IRREGULARITIES		64	41	12	2	27	10	25	
PROJECT TOTALS		**1338**	**862**	**261**	**39**	**566**	**200**	**521**	

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ITEM	PROJECT TOTALS PLAN	PROJECT TOTALS FINAL
UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)(NET)	**CU. YD.**	**CU. YD.**
RIO GRANDE TRAIL (STA. 1+03.55 TO STA. 9+20.13)	781	
FOR CUT SLOPE TREATMENT - ASSUME 2% OF ROADWAY UNCL. EX.	16	
27TH STREET - NORTH SIDEWALK (STA. 1+05.00 TO STA. 2+96.25)	152	
FOR CUT SLOPE TREATMENT - ASSUME 2% OF ROADWAY UNCL. EX.	3	
27TH STREET - SOUTH SIDEWALK (STA. 0+23.31 TO STA. 2+13.17)	363	
FOR CUT SLOPE TREATMENT - ASSUME 2% OF ROADWAY UNCL. EX.	7	
TOTAL	**1,322**	
FOR INFORMATION ONLY		
EMBANKMENT MATERIAL (COMPLETE IN PLACE)(NET)	**CU. YD.**	**CU. YD.**
RIO GRANDE TRAIL (STA. 1+03.55 TO STA. 9+20.13)	346	
27TH STREET - NORTH SIDEWALK (STA. 1+05.00 TO STA. 2+96.25)	11	
27TH STREET - SOUTH SIDEWALK (STA. 0+23.31 TO STA. 2+13.17)	4	
TOTAL	**361**	
COMPACTION (AASHTO T 99)	**CU. YD.**	**CU. YD.**
TOTAL EMBANKMENT (NET)	361	
BASES OF CUTS AND FILLS - ASSUME 5% OF TOTAL EMBANKMENT	18	
TOTAL	**379**	
FOR INFORMATION ONLY		
EARTHWORK QUANTITIES BALANCE		
UNCLASSIFIED EXCAVATION	**CU. YD.**	**CU. YD.**
TOTAL	**1,322**	
EMBANKMENT (NET)		
TOTAL	**361**	
EMBANKMENT (NET) X COMPACTION FACTOR (1.10)		
TOTAL	**397**	
TOTAL EXCAVATION		
UNCLASSIFIED EXCAVATION	1,322	
STRUCTURE EXCAVATION FROM UNDERPASS	5,870	
STRUCTURE EXCAVATION FROM WALLS	11,891	
TOTAL	**19,083**	
EXCESS EXCAVATION TO BE PROPERTY OF THE CONTRACTOR		
TOTAL EXCAVATION MINUS FACTORED EMBANKMENT **TOTAL**	**18,686**	

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27TH ST AND SH82 PEDESTRIAN UNDERPASS
TABULATION OF EARTHWORK AND SURFACING

Engineer:	MDF	Structure Numbers	
Drawn By:	AMC		
Sheet Subset:	TABS	Subset Sheets:	2 of 6

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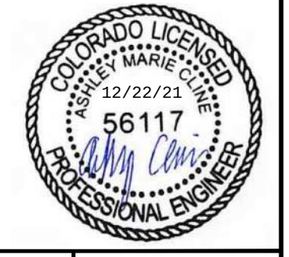
TABULATION OF WATERLINE

LOCATION			SIDE	619-00002	619-00007	619-06080	619-06100	619-06090	619-06115	619-75064	619-75080	REMARKS
				WATER SERVICE	CONNECT TO EXISTING WATERLINE	8 INCH DUCTILE IRON PIPE	10 INCH DUCTILE IRON PIPE	8 INCH DUCTILE IRON PIPE (FITTINGS)	10 INCH DUCTILE IRON PIPE (FITTINGS)	8 INCH GATE VALVE	10 INCH GATE VALVE	
				EACH	EACH	LF	LF	EACH	EACH	EACH	EACH	
0+00	TO	1+11.80	LT	1								SPEC 02555 PARAGRAPH 3.11.C.4.A
0+00	TO	0+80.00	LT	1								SPEC 02555 PARAGRAPH 3.11.C.4.A
0+00	TO	1+68.19	RT		2		168		8		3	
0+00	TO	0+39.86	RT		1	40		5		1		
PROJECT TOTALS				**2**	**3**	**40**	**168**	**5**	**8**	**1**	**3**	

TABULATION OF SANITARY SEWER

LOCATION	ID	MANHOLES - SLAB BASE (EACH)		STRUCTURE ELEVATIONS			PLASTIC SEWER PIPE (POLYVINYL CHLORIDE)		REMARKS
		4' DIAM.					DIAMETER (INCH)		
		10	15				3	8	
		604-30010	604-30015	RIM	INVERT	H (FT)	603-50003	604-83108	
14+64.59	1	1		41.89	31.89	10.00			
L1	PIPE							62	
14+78.06	2		1	45.36	33.16	12.20			
L2	PIPE							32	
15+12.04	3		1	46.27	33.62	12.65			
L3	PIPE							65	
L4	PIPE						15		
15+55.99	4	1		44.34	34.40	9.94			
L5	PIPE							151	
17+08.13	5		1	46.60	36.05	10.55			
L6	PIPE							17	
17+27.33	6		1	46.94	36.36	10.58			
PROJECT TOTALS		**2**	**4**				**15**	**327**	

(R-1)



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27TH ST AND SH82 PEDESTRIAN UNDERPASS
TABULATION OF UTILITIES

Engineer:	MDF	Structure Numbers	
Drawn By:	AMC		
Sheet Subset:	TABS	Subset Sheets:	4 of 6

Project No./Code	
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Sheet Number	27

TABULATION OF GUARDRAIL

LOCATION	SIDE	202-01130 REMOVAL OF GUARDRAIL TYPE 3	202-01300 REMOVAL OF END ANCHORAGE	606-00301 GUARDRAIL TYPE 3 (6-3 POST SPACING)	606-02003 END ANCHORAGE (NONFLARED)	606-02005 END ANCHORAGE (FLARED)	REMARKS
		LF	EACH	LF	EACH	EACH	
SH82							
13+08.81 TO 13+25.86	RT			212.5	2		
14+16.14 TO 19+50.90	RT	390	2	562.5	1	1	
				.			
PROJECT TOTALS		**390**	**2**	**775**	**3**	**1**	

NOTES:

1. SEE CURRENT M-606-1 FOR PAY LENGTHS AND TYPICAL GUARDRAIL INSTALLATION.
2. GUARDRAIL AND END ANCHORAGES SHALL BE MIDWEST GUARDRAIL SYSTEM (MGS).
3. ALL GUARDRAIL AND END ANCHORAGES SHALL BE GALVANIZED.
4. ALL GUARDRAIL POSTS SHALL BE GALVANIZED STEEL WITH COMPOSITE BLOCKOUTS.

TABULATION OF FENCING

LOCATION	SIDE	607-11460 FENCE WOOD RAILING	REMARKS
		LF	
RIO GRANDE TRAIL			
1000+35.93 TO 1002+40.35	RT	204	(R-1)
11+83.66 TO 13+52.93	RT	167	
14+54.15 TO 17+22.00	RT	264	
27TH STREET			
13+61.63 TO 13+23.59	RT	106	
14+11.40 TO 14+45.65	RT	69	
27TH ST SOUTH SIDEWALK			
3000+23.44 TO 3001+99.48	RT	175	
PROJECT TOTALS		**985**	

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TABULATION OF GUARDRAIL & FENCING

Engineer:	MDF	Structure Numbers	
Drawn By:	AMC		
Sheet Subset:	TABS	Subset Sheets:	5 of 6

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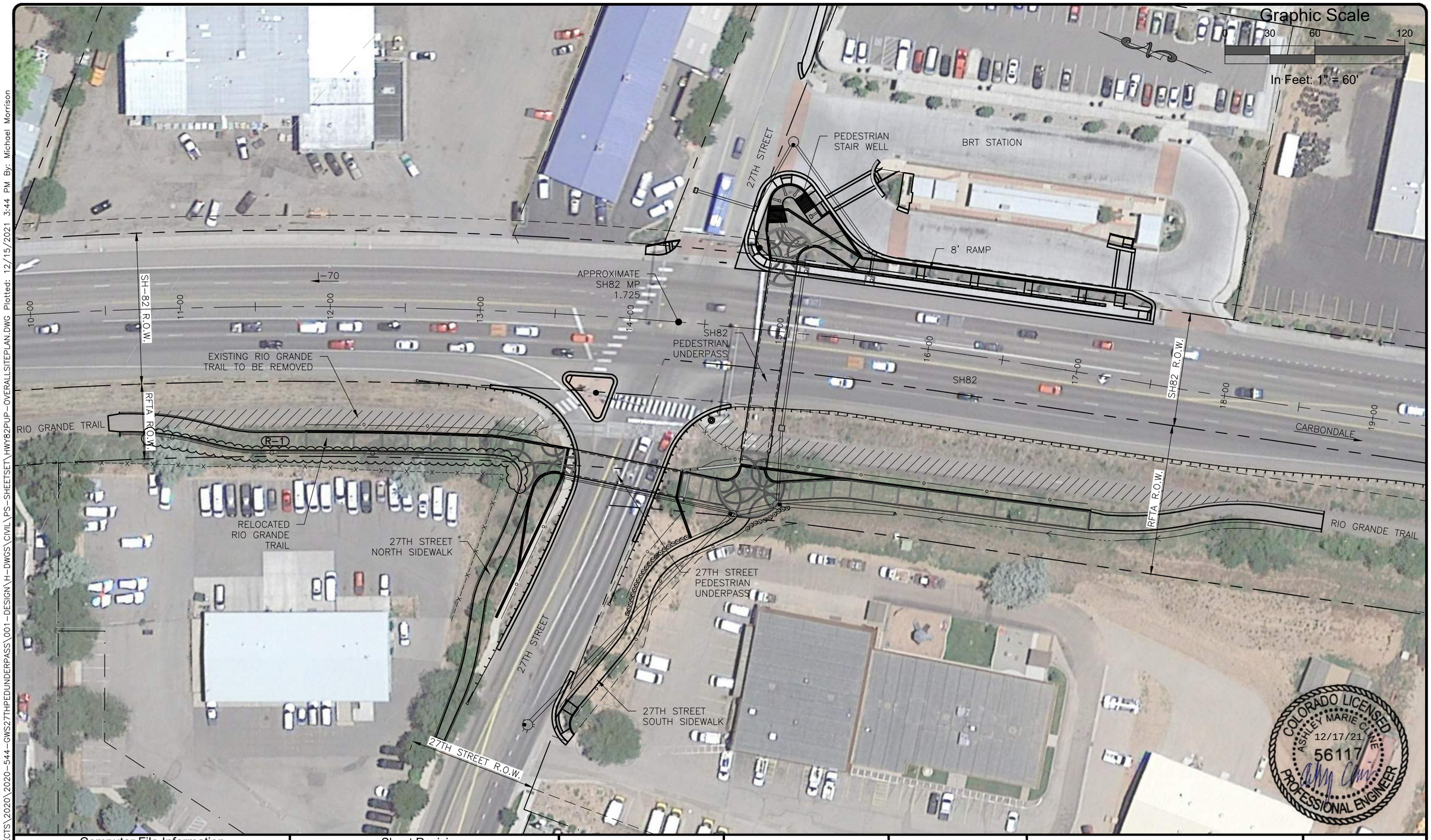

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27TH ST AND SH82 PEDESTRIAN UNDERPASS
OVERALL SITE PLAN

Engineer:	MDF	Structure Numbers	
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Sheet Subset:	SITE	Subset Sheets:	1 of 2

Project No./Code	
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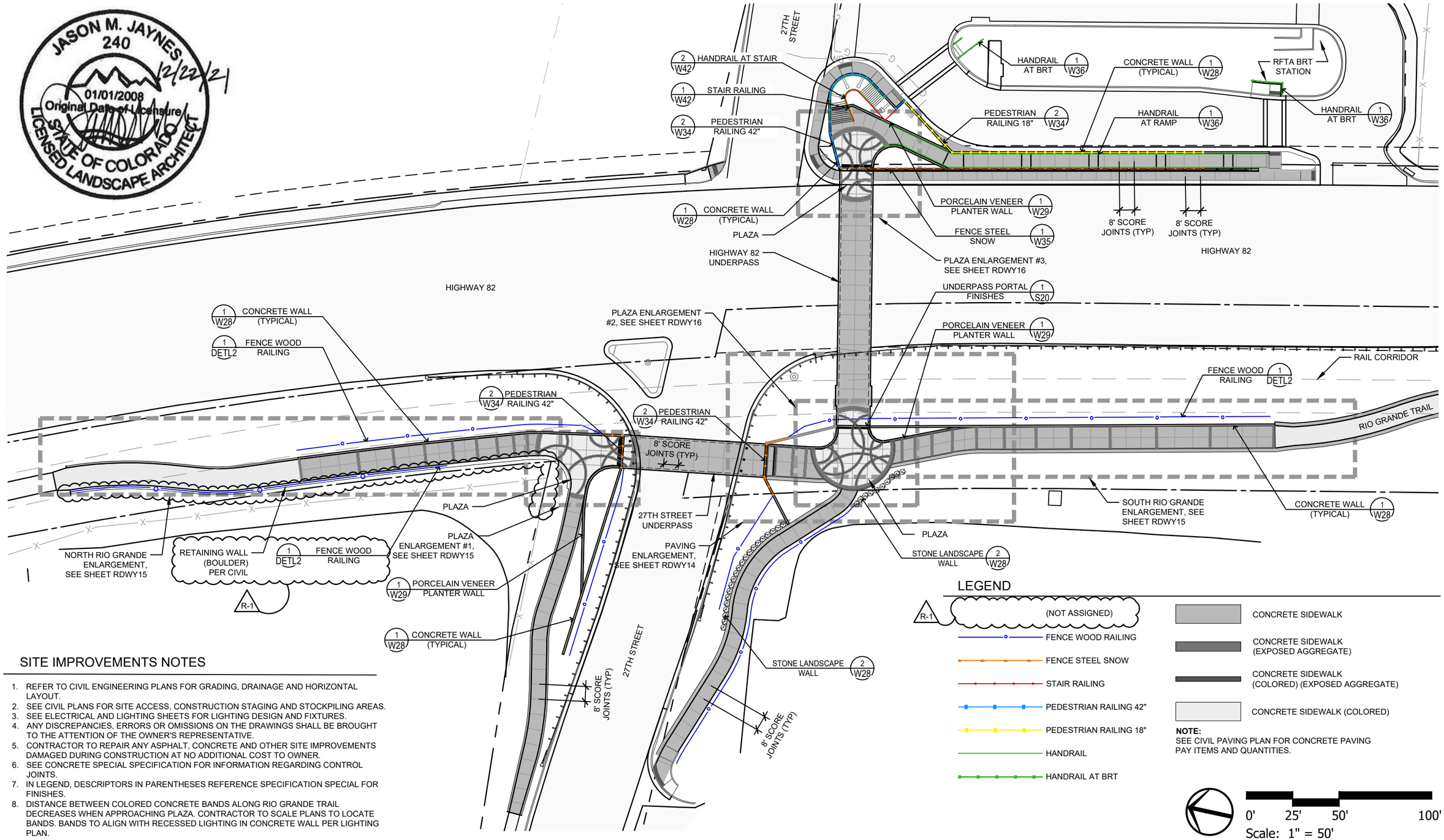


SITE IMPROVEMENTS NOTES

1. REFER TO CIVIL ENGINEERING PLANS FOR GRADING, DRAINAGE AND HORIZONTAL LAYOUT.
2. SEE CIVIL PLANS FOR SITE ACCESS, CONSTRUCTION STAGING AND STOCKPILING AREAS.
3. SEE ELECTRICAL AND LIGHTING SHEETS FOR LIGHTING DESIGN AND FIXTURES.
4. ANY DISCREPANCIES, ERRORS OR OMISSIONS ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.
5. CONTRACTOR TO REPAIR ANY ASPHALT, CONCRETE AND OTHER SITE IMPROVEMENTS DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COST TO OWNER.
6. SEE CONCRETE SPECIAL SPECIFICATION FOR INFORMATION REGARDING CONTROL JOINTS.
7. IN LEGEND, DESCRIPTORS IN PARENTHESES REFERENCE SPECIFICATION SPECIAL FOR FINISHES.
8. DISTANCE BETWEEN COLORED CONCRETE BANDS ALONG RIO GRANDE TRAIL DECREASES WHEN APPROACHING PLAZA. CONTRACTOR TO SCALE PLANS TO LOCATE BANDS. BANDS TO ALIGN WITH RECESSED LIGHTING IN CONCRETE WALL PER LIGHTING PLAN.

LEGEND

- R-1 (NOT ASSIGNED)
- FENCE WOOD RAILING
- FENCE STEEL SNOW
- STAIR RAILING
- PEDESTRIAN RAILING 42"
- PEDESTRIAN RAILING 18"
- HANDRAIL
- HANDRAIL AT BRT
- CONCRETE SIDEWALK
- CONCRETE SIDEWALK (EXPOSED AGGREGATE)
- CONCRETE SIDEWALK (COLORED) (EXPOSED AGGREGATE)
- CONCRETE SIDEWALK (COLORED)

NOTE:
SEE CIVIL PAVING PLAN FOR CONCRETE PAVING PAY ITEMS AND QUANTITIES.

0' 25' 50' 100'
Scale: 1" = 50'

Computer File Information	
Print Date:	12/20/21
Last Modification Date:	12/22/21
Drawing File Name:	UNDERPASS_L-1-0_SITE PLAN rev numbers
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: XX

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12.22.21	ELIMINATED WALLS 1 & 3	

Roaring Fork Transportation Authority

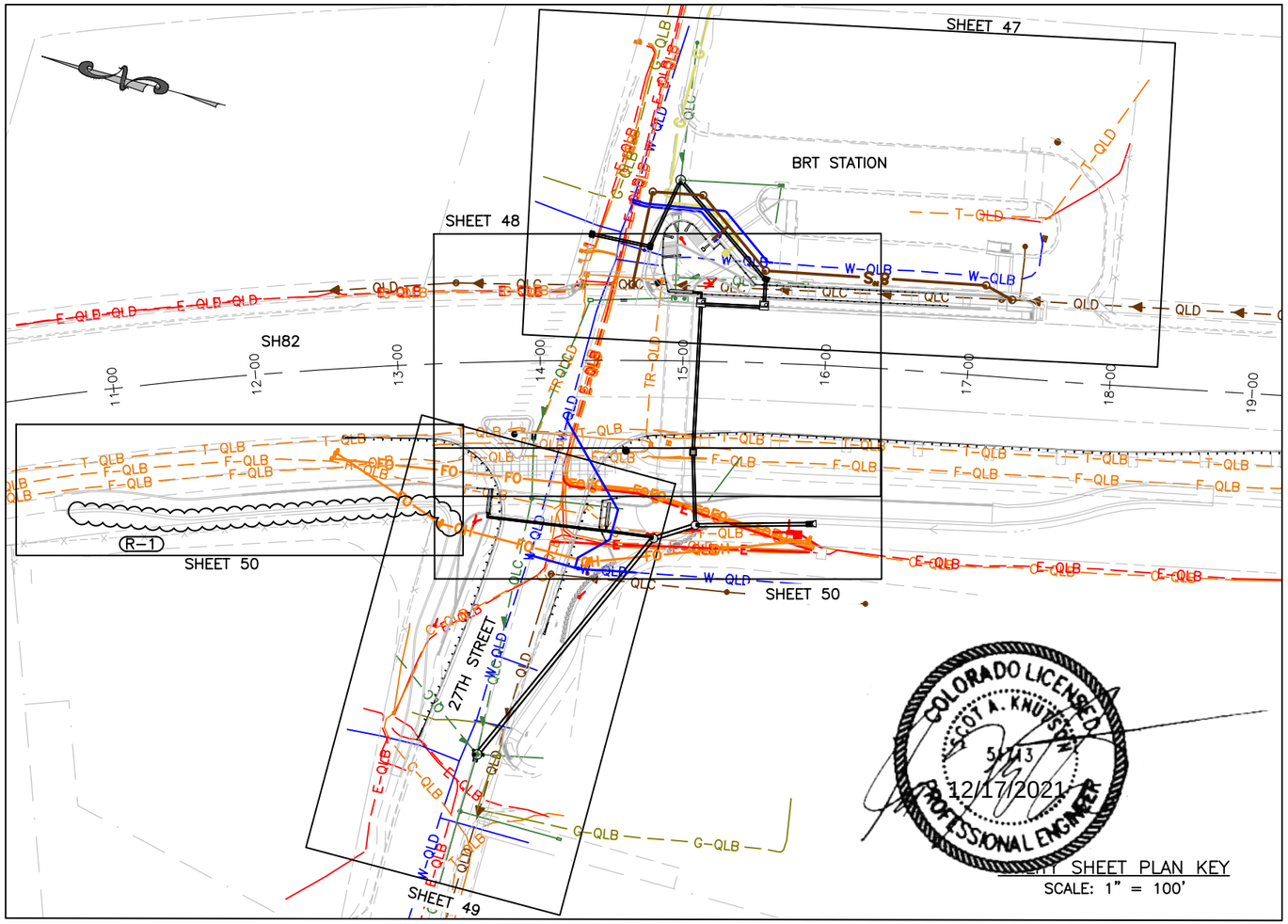
DHM DESIGN

As Constructed
No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
SITE IMPROVEMENTS PLAN

Designer:	JJ	Structure Numbers	
Drawn By:	DB		
Sheet Subset:	SITE	Subset Sheets:	2 of 2

Project No./Code	
MTF M535-007 / 008	
Code: 23687 / 23975	
Sheet Number	36



NOTES:

1. SEE PROJECT SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

LEGEND	EXISTING	PROPOSED
UNDERGROUND CABLE LINE	C-QLB	TV
UNDERGROUND CABLE LINE	C-QLC	TV
UNDERGROUND CABLE LINE	C-QLD	TV
FIBER OPTIC LINE	F-QLB	FO
FIBER OPTIC LINE	F-QLC	FO
FIBER OPTIC LINE	F-QLD	FO
UNDERGROUND TELEPHONE LINE	T-QLB	T
UNDERGROUND TELEPHONE LINE	T-QLC	T
UNDERGROUND TELEPHONE LINE	T-QLD	T
OVERHEAD FIBER OPTIC LINE	FO- -OH- -	FO OH
SEWER LINE	QLB	S
SEWER LINE	QLC	S
SEWER LINE	QLD	S
STORM SEWER LINE	QLB	
STORM SEWER LINE	QLC	
STORM SEWER LINE	QLD	
UNDERGROUND ELECTRIC LINE	E-QLB	E
UNDERGROUND ELECTRIC LINE	E-QLC	E
UNDERGROUND ELECTRIC LINE	E-QLD	E
OVERHEAD ELECTRIC LINE	E- - -OH- -	E OH
WATER LINE	W-QLB	6"W
WATER LINE	W-QLC	WS
WATER LINE	W-QLD	
GAS LINE	G-QLB	G
GAS LINE	G-QLC	G
GAS LINE	G-QLD	
TRAFFIC SIGNAL	TR-QLB	TR
TRAFFIC SIGNAL	TR-QLC	TR
TRAFFIC SIGNAL	TR-QLD	TR
UTILITY ABANDONMENT/REMOVAL		
UTILITY CONFLICT ID		
UTILITY TEST HOLE		

CONTACT LIST OF UTILITY OWNERS WITHIN VICINITY OF PROJECT LIMITS

ORGANIZATION NAME	ABBREVIATION	UTILITY TYPE	CONTACT NAME	CONTACT PHONE	CONTACT EMAIL	RECORDS RECEIVED
BLACK HILLS ENERGY	BHEN	GAS	JASON COX	(970) 456-3117	JASON.COX@BLACKHILLSCORP.COM	YES
CENTURYLINK (NOW LUMEN)	CNLK	TELEPHONE	JASON SHARPE	(970) 328-8290	**JASON.SHARPE@LUMEN.COM**	YES
CITY OF GLENWOOD SPRINGS ELECTRIC	COGS	ELECTRIC	DOUG HAZZARD	(970) 384-6353	DOUG.HAZZARD@COGS.US	YES
CITY OF GLENWOOD SPRINGS FIBER OPTIC	COGS	FIBER OPTIC	MICHAEL GARDNER	(970) 384-4800	MICHAEL.GARDNER@COGS.US	NO
CITY OF GLENWOOD SPRINGS SANITARY & WATER	COGS	SANITARY WATER	MIKE HOFFMAN	(970) 384-6343	MIKE.HOFFMAN@COGS.US	YES
COMCAST	CMCT	CABLE TV, FIBER OPTIC	**BRETT WESTPHALL**	(720) 979-1921	**BRETT_WESTPHALL@COMCAST.COM**	YES
COLORADO DEPARTMENT OF TRANSPORTATION	CDOT	FIBER OPTIC, TRAFFIC SIGNAL	DON OLMSTEAD	(970) 379-0539	DONALD.OLMSTEAD@STATE.CO.US	YES

Computer File Information	
Print Date: 12/15/21	
Last Modification Date: 06/30/21	
Drawing File Name: Hwy82PUP-UtilityPlan	
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: KJS

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MWM

RFTA Roaring Fork Transportation Authority

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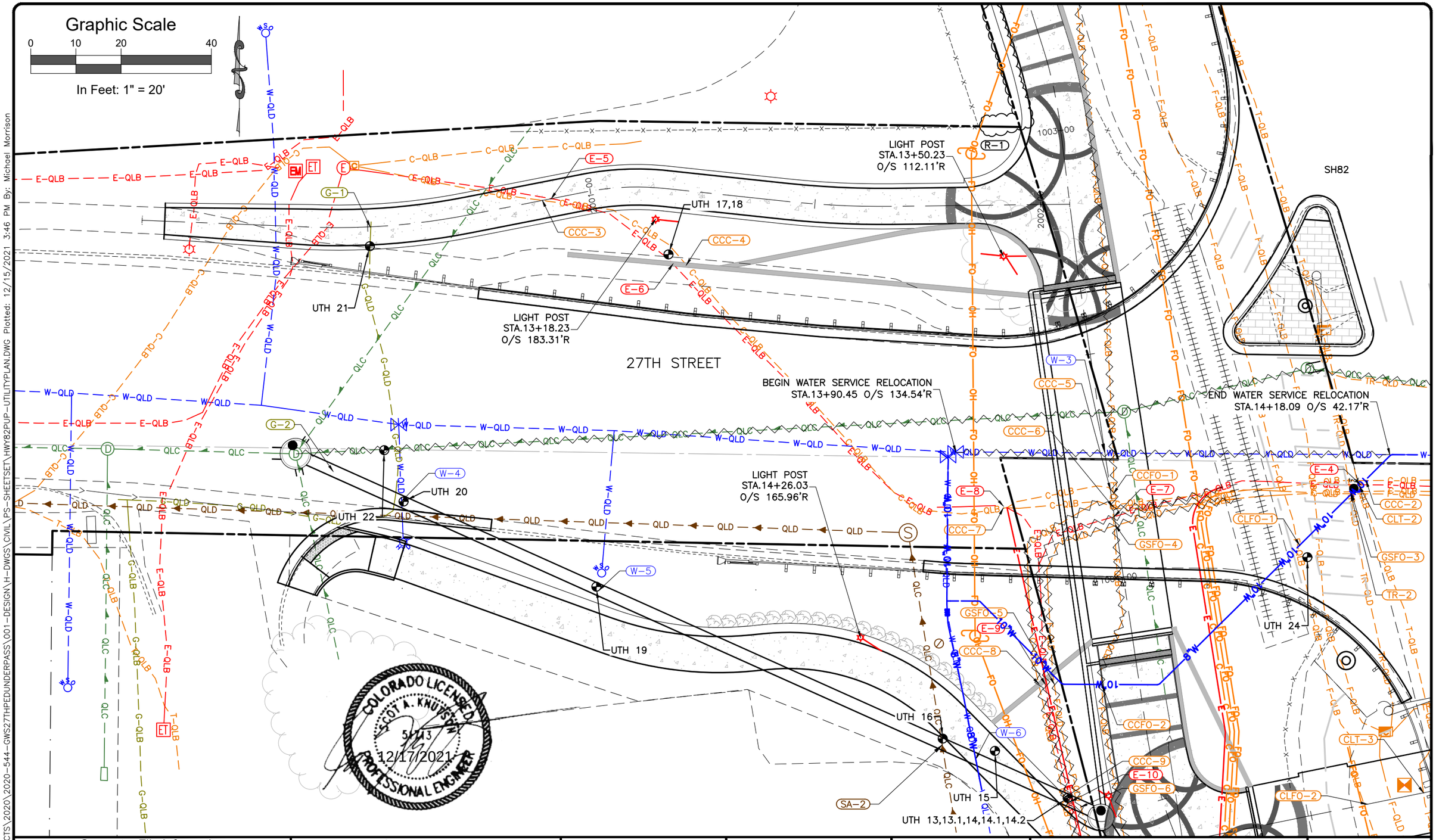
970.945.1004 www.sgm-inc.com

As Constructed
No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
UTILITY PLAN INDEX

Engineer:	MDF	Structure Numbers	
Drawn By:	AMC		
Sheet Subset:	UTIL	Subset Sheets:	1 of 11

Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	44



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Computer File Information	
Print Date:	12/15/21
Last Modification Date:	06/30/21
Drawing File Name:	Hwy82PUP-UtilityPlan
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: KJS

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MWM

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No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
27TH STREET (WEST) UTILITY PLAN

Engineer:	MDF	Structure Numbers	
Drawn By:	AMC		
Sheet Subset:	UTIL	Subset Sheets:	6 of 11

Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	49

Graphic Scale

0 10 20 40

In Feet: 1" = 20'

SH–82

TEMPORARY FIBER RELOCATION BY CMCT
STA.12+53.01 O/S 58.81'R

COMCAST TO BE RELOCATED BY CMCT

PROPOSED COMCAST (1) 4" PVC

Ex. Rio Grande Trail

RIO GRANDE TRAIL

TEMPORARY FIBER RELOCATION BY CMCT
STA.13+25.55 O/S 112.20'R

COLORADO LICENSED
SCOT A. KNUTSEN
51113
12/17/2021
PROFESSIONAL ENGINEER

UTH 10,11,11.1

UTH 09

UTH 08

PROPOSED COGS ELECTRIC (2) 6" PVC

PROPOSED COGS BROADBAND (1) 2" PVC

PROPOSED COMCAST (1) 3" PVC

CENTURYLINK TO BE RELOCATED BY CNLK

ELECTRIC PEDESTAL
STA.15+80.49 O/S 117.11'R

ELECTRIC TRANSFORMER
STA.15+85.81 O/S 117.21'R

LIGHT POST
STA.14+76.37
O/S 121.97'R

TEMPORARY FIBER RELOCATION BY CMCT
STA.15+94.01 O/S 123.13'R

LIGHT POST
STA.15+09.17
O/S 118.80'R

PROPOSED COGS ELECTRIC (2) 6" PVC

27TH STREET

TEMPORARY FIBER RELOCATION BY CMCT
STA.14+32.72 O/S 141.37'R

\\SGMFILE1\PROJECTS\2020\2020-544-GWS27THPEDUNDERPASS\001-DESIGN\H-DWGS\CIVIL\PS-SHEETSET\HWY82PUP-UTILITYPLAN.DWG Plotted: 12/15/2021 3:46 PM By: Michael Morrison

Computer File Information	
Print Date:	12/15/21
Last Modification Date:	12/14/21
Drawing File Name:	Hwy82PUP-UtilityPlan
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: KJS

Sheet Revisions

Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MWM

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Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
RIO GRANDE TRAIL UTILITY PLAN

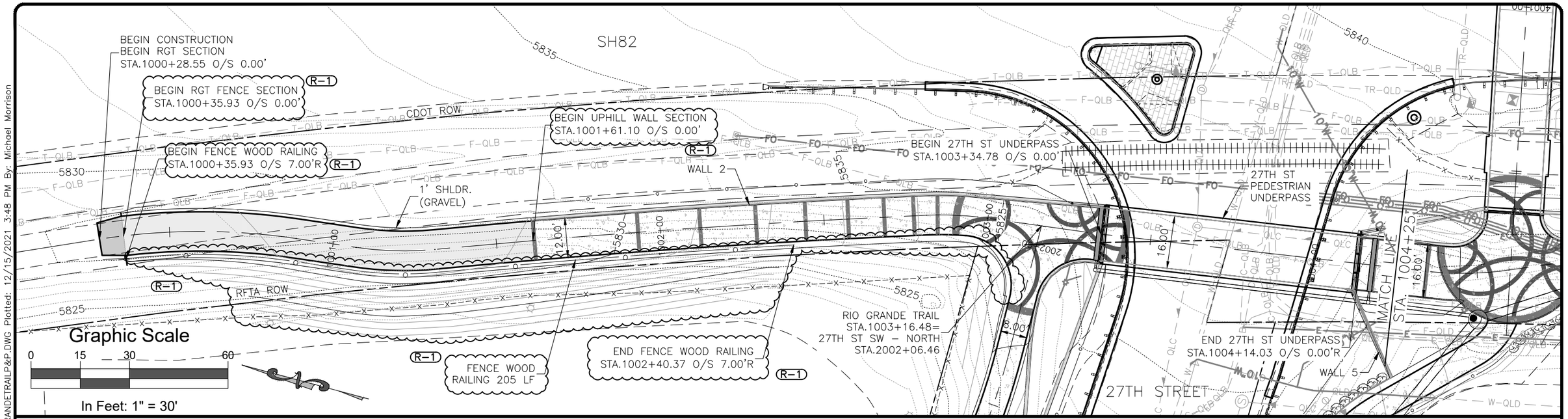
Engineer:	MDF	Structure Numbers	
Drawn By:	AMC		
Sheet Subset:	UTIL	Subset Sheets:	7 of 11

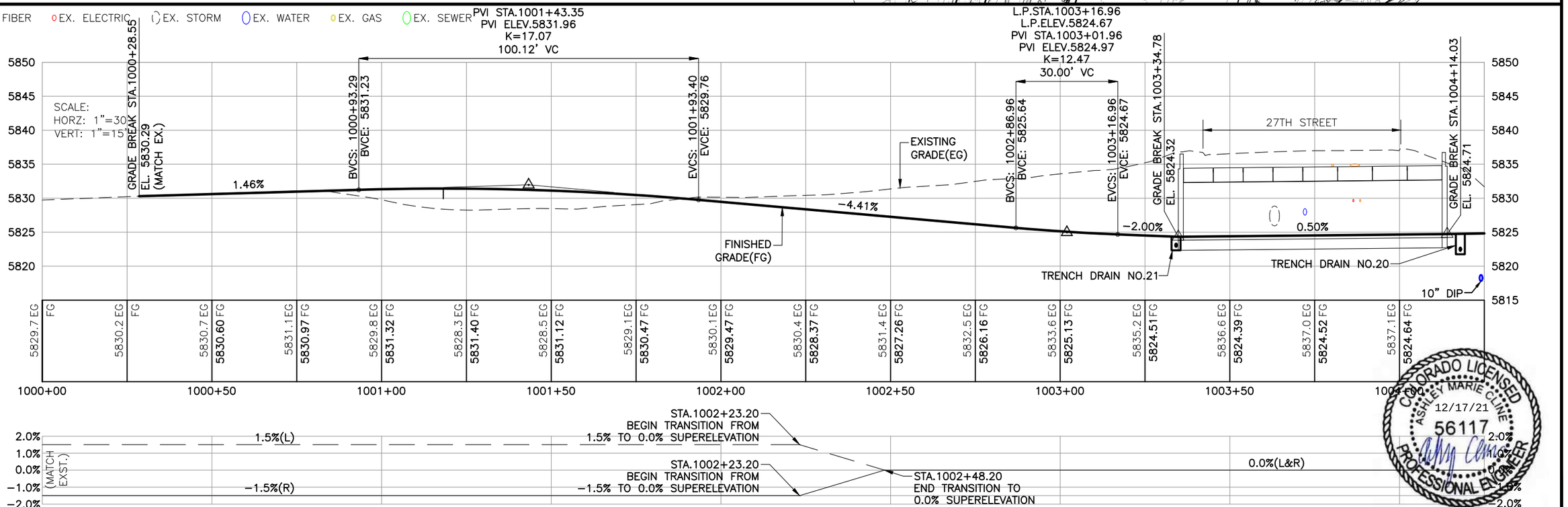
Project No./Code

MTF M535-007 / 008

23687 / 23975

Sheet Number 50





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Last Modification Date:	12/14/21
Drawing File Name:	Hwy82PUP-RioGrandeTrailP&P
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: MDF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MWM

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Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
RIO GRANDE TRAIL PLAN & PROFILE (1)

Engineer:	AMC	Structure Numbers	
Drawn By:	AMC		
Sheet Subset:	ROADWAY	Subset Sheets:	1 of 23

Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	64

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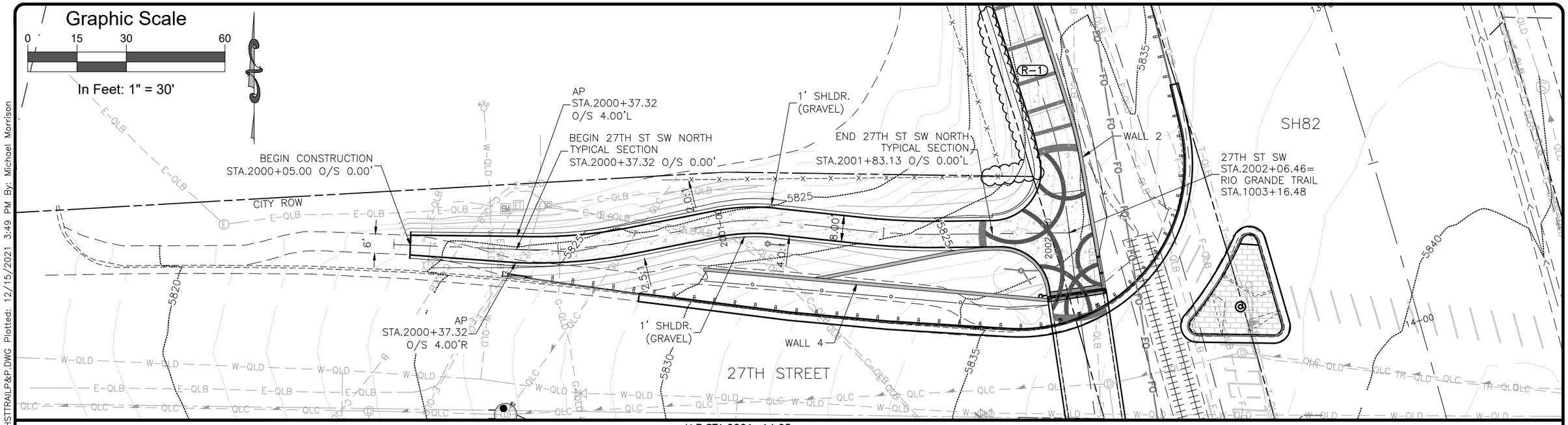

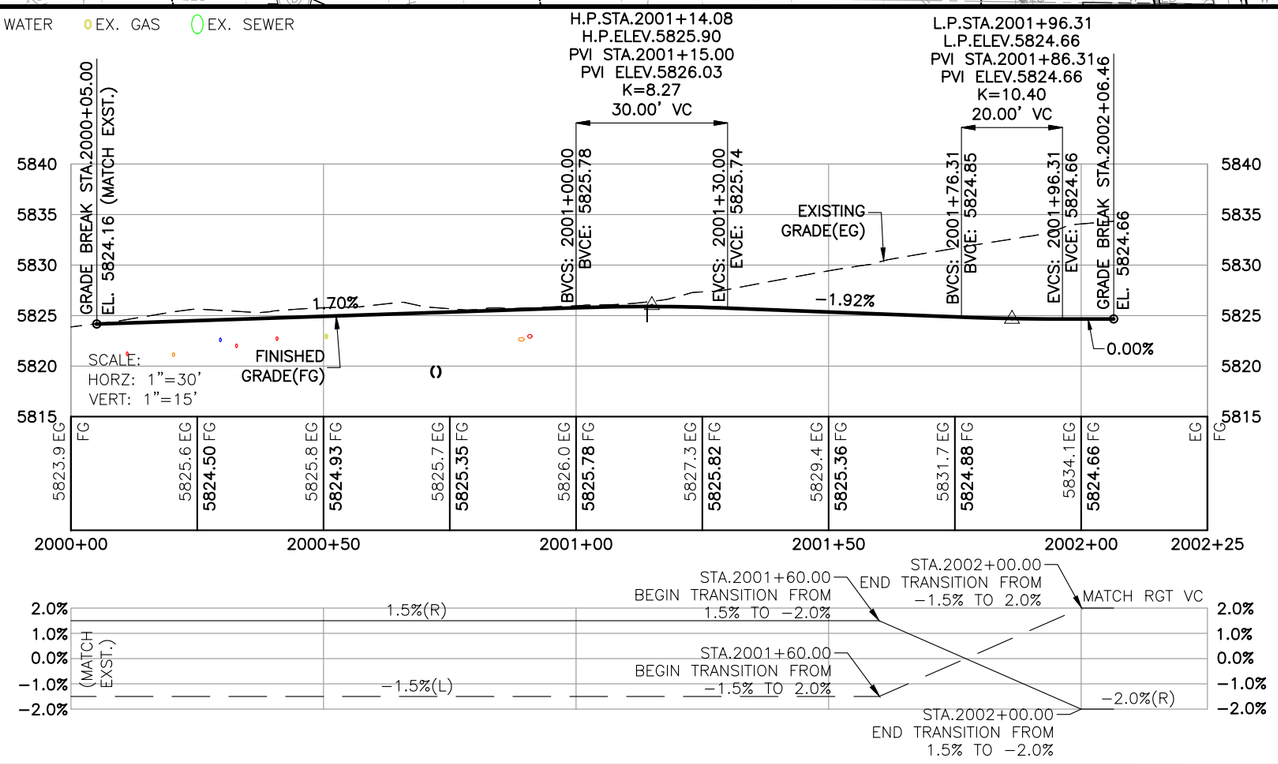

12/17/21
56117
COLORADO LICENSED
ASHLEY MARIE CLINE
PROFESSIONAL ENGINEER

Computer File Information	
Print Date:	12/15/21
Last Modification Date:	12/13/21
Drawing File Name:	Hwy82PUP-27thStTrailP&P
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: MDF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MWM

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Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
NORTH 27TH STREET SIDEWALK PLAN & PROFILE

Engineer:	AMC	Structure Numbers	
Drawn By:	AMC		
Sheet Subset:	ROADWAY	Subset Sheets:	3 of 23

Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	66

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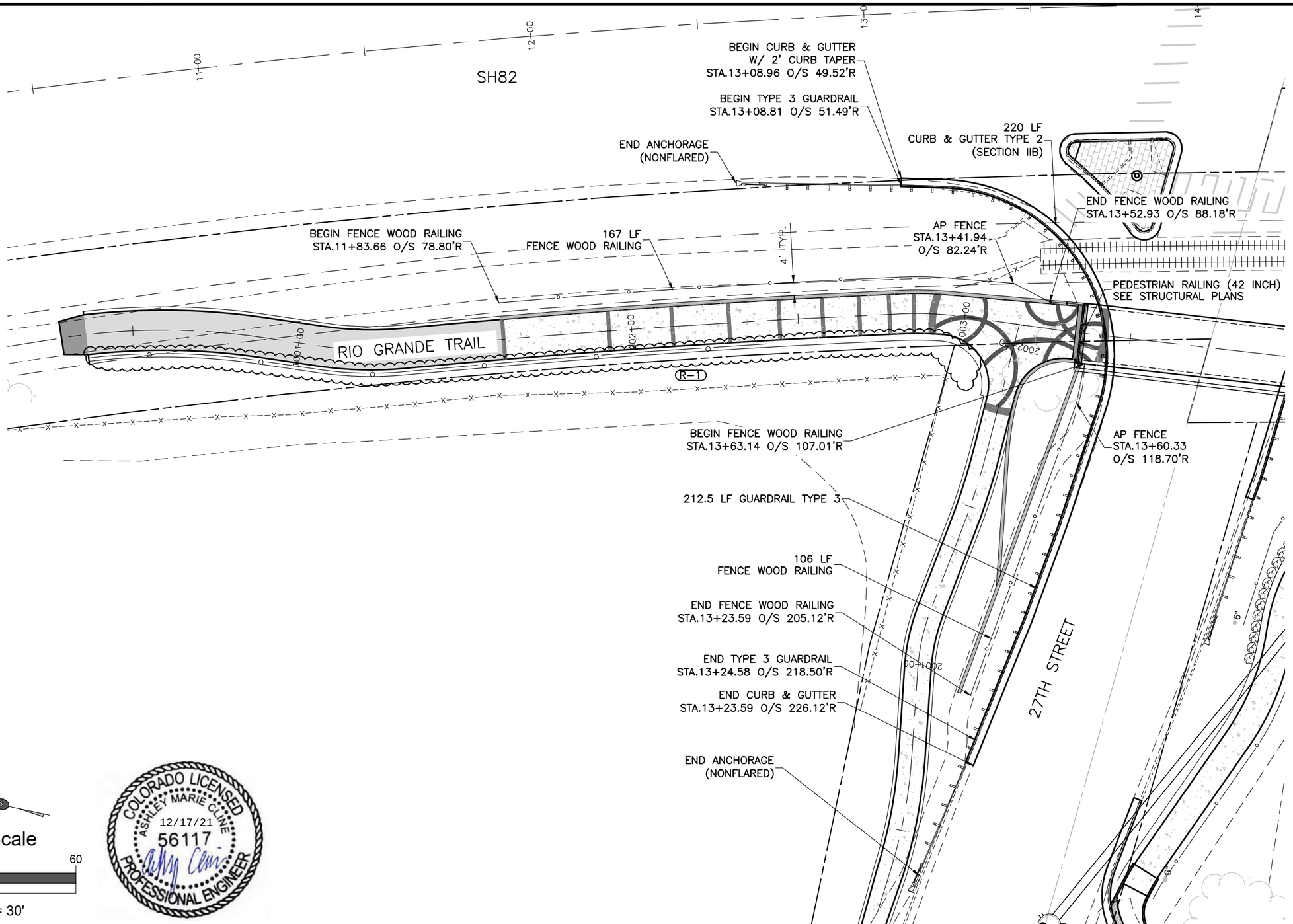

Graphic Scale

0 15 30 60

In Feet: 1" = 30'

COLORADO LICENSED
ASHLEY MARIE CLINE
12/17/21
56117
PROFESSIONAL ENGINEER

Computer File Information	
Print Date: 12/17/21	
Last Modification Date: 06/30/21	
Drawing File Name: Hwy82PUP-RoadwayPlan	
Autocad Ver. 2020 Scale: As Shown	
SGM Project No.: 2020-544.001	Quality Control: MDF

Sheet Revisions

Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MWM

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No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
ROADWAY PLAN (1)

Engineer:	AMC	Structure Numbers	
Drawn By:	AMC		
Sheet Subset:	ROADWAY	Subset Sheets:	9 of 23

Project No./Code
MTF M535-007 / 008
23687 / 23975
Sheet Number 72

LEGEND:

- HOT MIX ASPHALT (GRADING SX) (75) (PG 64-28) – 8"
- HOT MIX ASPHALT (GRADING SX) (75) (PG 64-28) – 6"
- HOT MIX ASPHALT (GRADING SX) (75) (PG 64-28) – 3"
- CONCRETE PAVEMENT (6 INCH)
- CONCRETE PAVEMENT (10 INCH)
- CONCRETE PAVEMENT (10 INCH) (SPECIAL)
- 2" HMA MILL AND OVERLAY
- CONCRETE SIDEWALK
- CONCRETE SIDEWALK (6 INCH)
- CONCRETE SIDEWALK (COLORED) (EXPOSED AGGREGATE)
- CONCRETE SIDEWALK (EXPOSED AGGREGATE)
- CONCRETE CURB RAMP
- CURB RAMP (SPECIAL)

NOTE: HMA TO BE MEASURED AND PAID FOR BY THE TON, AREA QUANTITIES SHOWN ARE FOR INFORMATION ONLY.

Graphic Scale
0 10 20 40
In Feet: 1" = 20'

SH82

R-1

151 SY

EOA STA.13+22.63 O/S 227.92'R

AP STA.13+27.78 O/S 275.97'R

AP STA.13+26.57 O/S 229.57'R

AP STA.13+56.38 O/S 166.89'R

AP STA.13+77.48 O/S 138.24'R

EOA STA.13+42.88 O/S 56.19'R

AP STA.13+54.29 O/S 38.41'R

EOA STA.13+56.05 O/S 34.50'R

EOA STA.13+89.26 O/S 34.12'R

AP STA.14+14.54 O/S 30.78'R

1159 SF

6459 SF

EOA STA.13+53.24 O/S 285.85'R

AP STA.13+51.33 O/S 225.84'R

27TH STREET

EOA STA.14+12.00 O/S 149.74'R

EOA STA.13+76.02 O/S 235.50'R

EOA STA.14+61.96 O/S 39.96'R

EOA STA.14+41.58 O/S 70.45'R

EOA STA.14+61.15 O/S 55.26'R

30 SY

162 SY

COLORADO LICENSED
ASHLEY MARIE CLINE
12/17/21
56117
PROFESSIONAL ENGINEER

Computer File Information	
Print Date:	12/15/21
Last Modification Date:	06/30/21
Drawing File Name:	Hwy82PUP-Pavement Plan
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: MDF

Sheet Revisions

Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MWM

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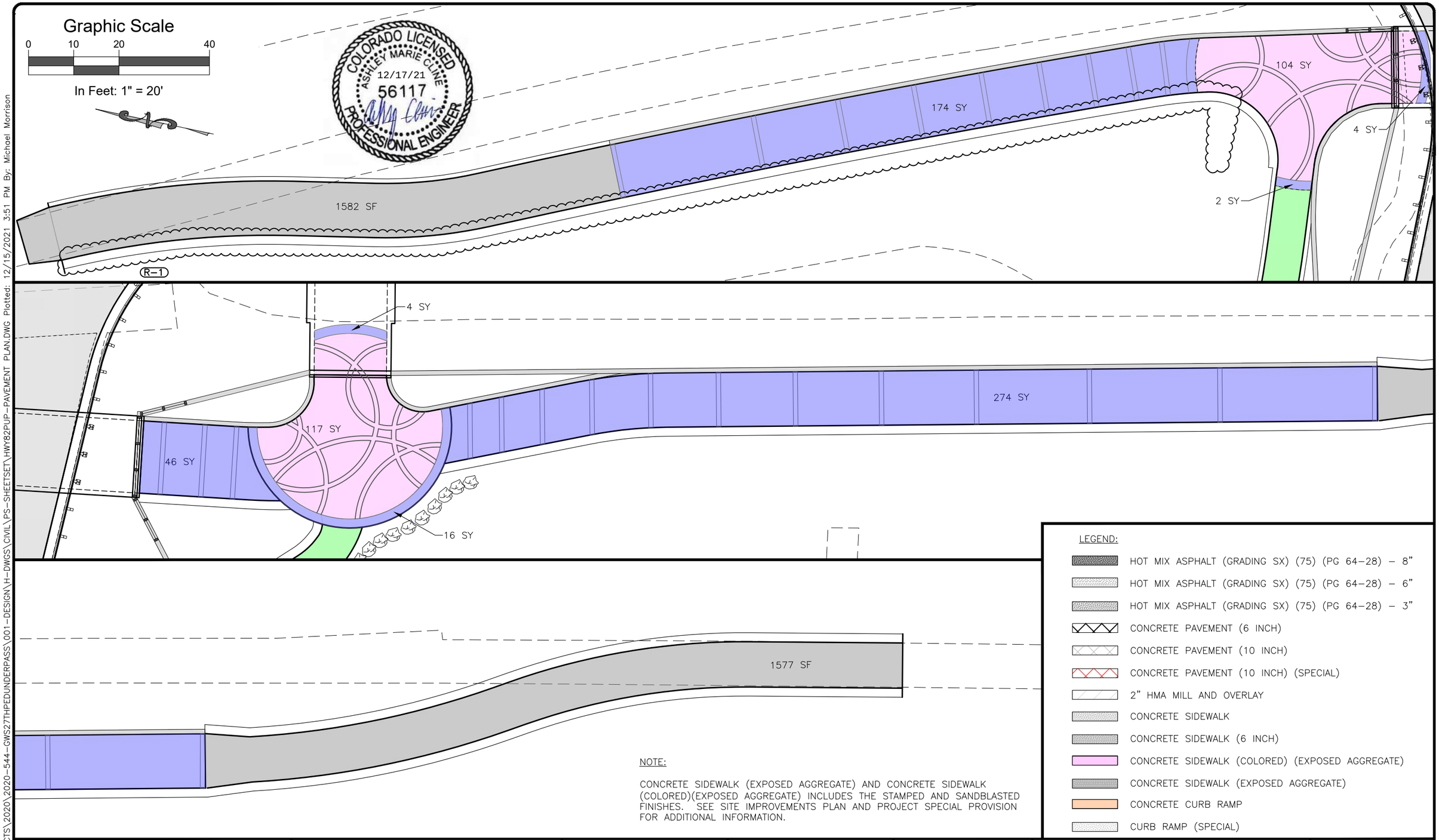
No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
PAVING PLAN (1)

Engineer:	AMC	Structure Numbers	
Drawn By:	MWM		
Sheet Subset:	ROADWAY	Subset Sheets:	11 of 23

Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	74



LEGEND:

- HOT MIX ASPHALT (GRADING SX) (75) (PG 64-28) – 8"
- HOT MIX ASPHALT (GRADING SX) (75) (PG 64-28) – 6"
- HOT MIX ASPHALT (GRADING SX) (75) (PG 64-28) – 3"
- CONCRETE PAVEMENT (6 INCH)
- CONCRETE PAVEMENT (10 INCH)
- CONCRETE PAVEMENT (10 INCH) (SPECIAL)
- 2" HMA MILL AND OVERLAY
- CONCRETE SIDEWALK
- CONCRETE SIDEWALK (6 INCH)
- CONCRETE SIDEWALK (COLORED) (EXPOSED AGGREGATE)
- CONCRETE SIDEWALK (EXPOSED AGGREGATE)
- CONCRETE CURB RAMP
- CURB RAMP (SPECIAL)

NOTE:

CONCRETE SIDEWALK (EXPOSED AGGREGATE) AND CONCRETE SIDEWALK (COLORED)(EXPOSED AGGREGATE) INCLUDES THE STAMPED AND SANDBLASTED FINISHES. SEE SITE IMPROVEMENTS PLAN AND PROJECT SPECIAL PROVISION FOR ADDITIONAL INFORMATION.

\\SGMFILE1\PROJECTS\2020\2020-544-GWS27THPEDUNDERPASS\001-DESIGN\H-DWGS\CIVIL\PS-SHEETSET\HWY82PUP-PAVEMENT PLAN.DWG Plotted: 12/15/2021 3:51 PM By: Michael Morrison

Computer File Information	
Print Date: 12/15/21	
Last Modification Date: 06/30/21	
Drawing File Name: Hwy82PUP-Pavement Plan	
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: MDF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MWM

Roaring Fork Transportation Authority

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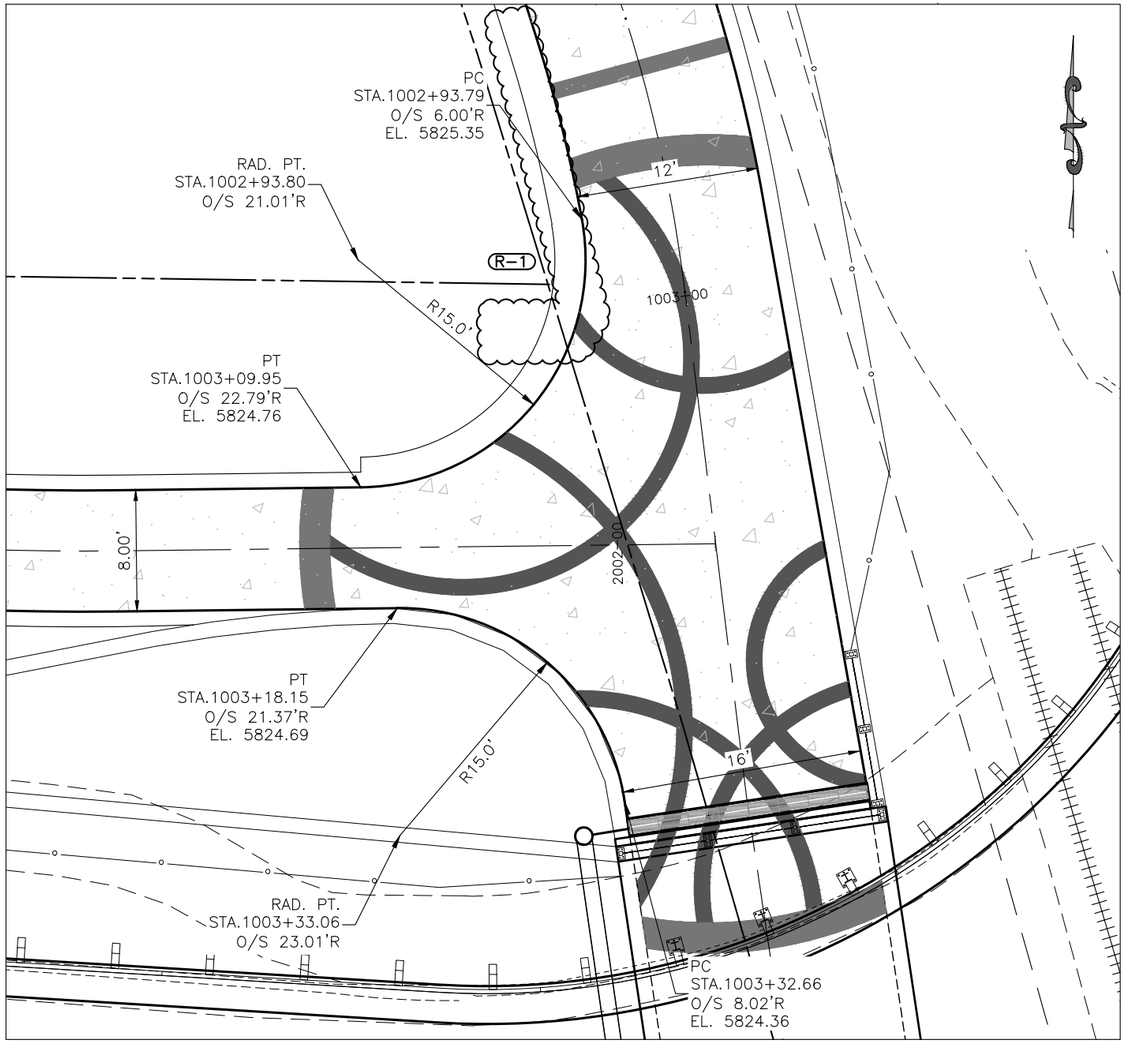
As Constructed
No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
PAVING PLAN (5)

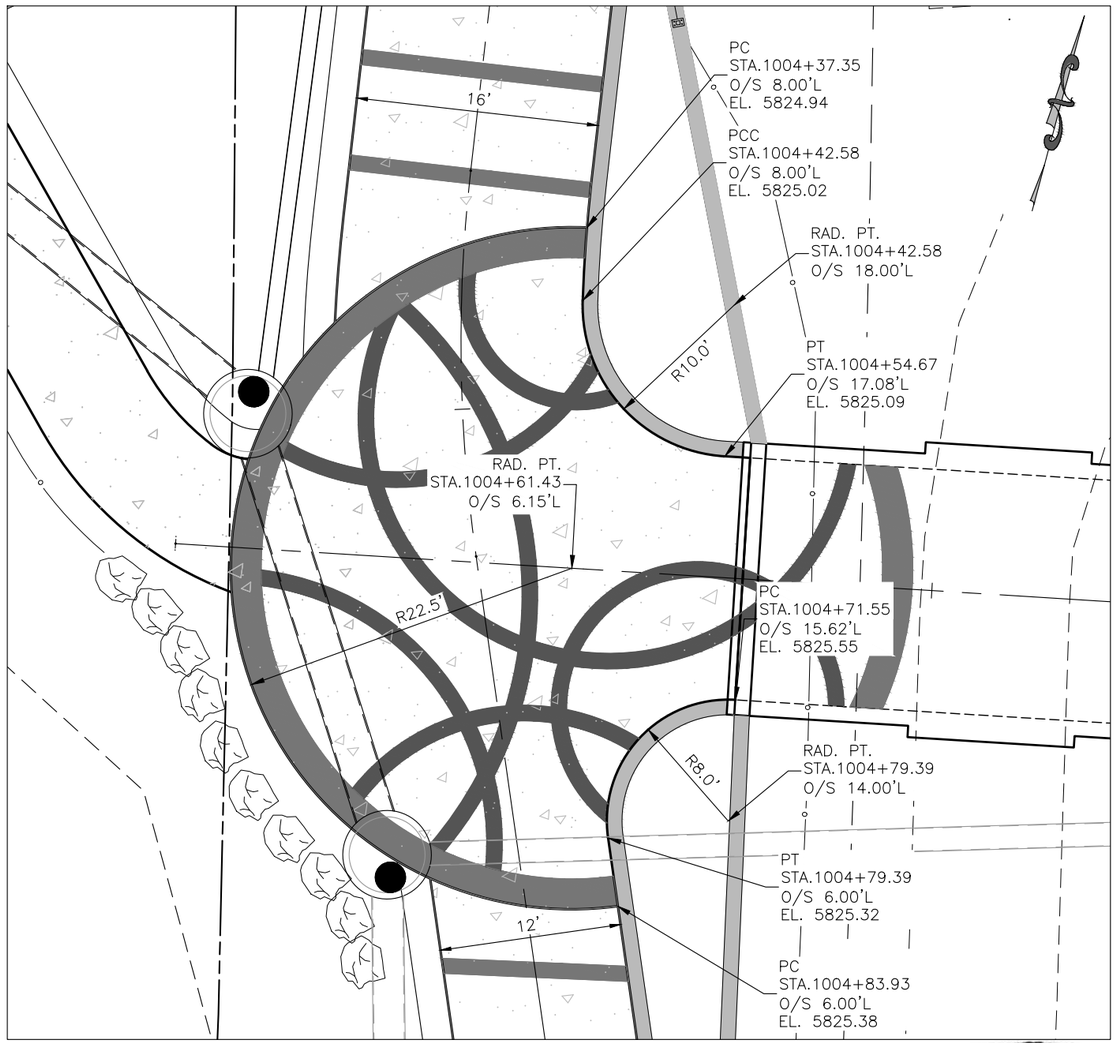
Engineer:	AMC	Structure Numbers	
Drawn By:	AMC		
Sheet Subset:	ROADWAY	Subset Sheets:	15 of 23

Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	78



NORTH 27TH STREET SIDEWALK & RIO GRANDE TRAIL

SCALE:1"=10'



SOUTH 27TH STREET SIDEWALK & RIO GRANDE TRAIL

SCALE:1"=10'

COLORADO LICENSED
ASHLEY MARIE CLINE
12/17/21
56117
PROFESSIONAL ENGINEER

Computer File Information	
Print Date: 12/15/21	
Last Modification Date: 12/13/21	
Drawing File Name: Hwy82PUP-UnderpassSidewalk	
Autocad Ver. 2020 Scale: As Shown	
SGM Project No.: 2020-544.001	Quality Control: MDF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MWM

Roaring Fork Transportation Authority

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Glenwood Springs, CO 81601
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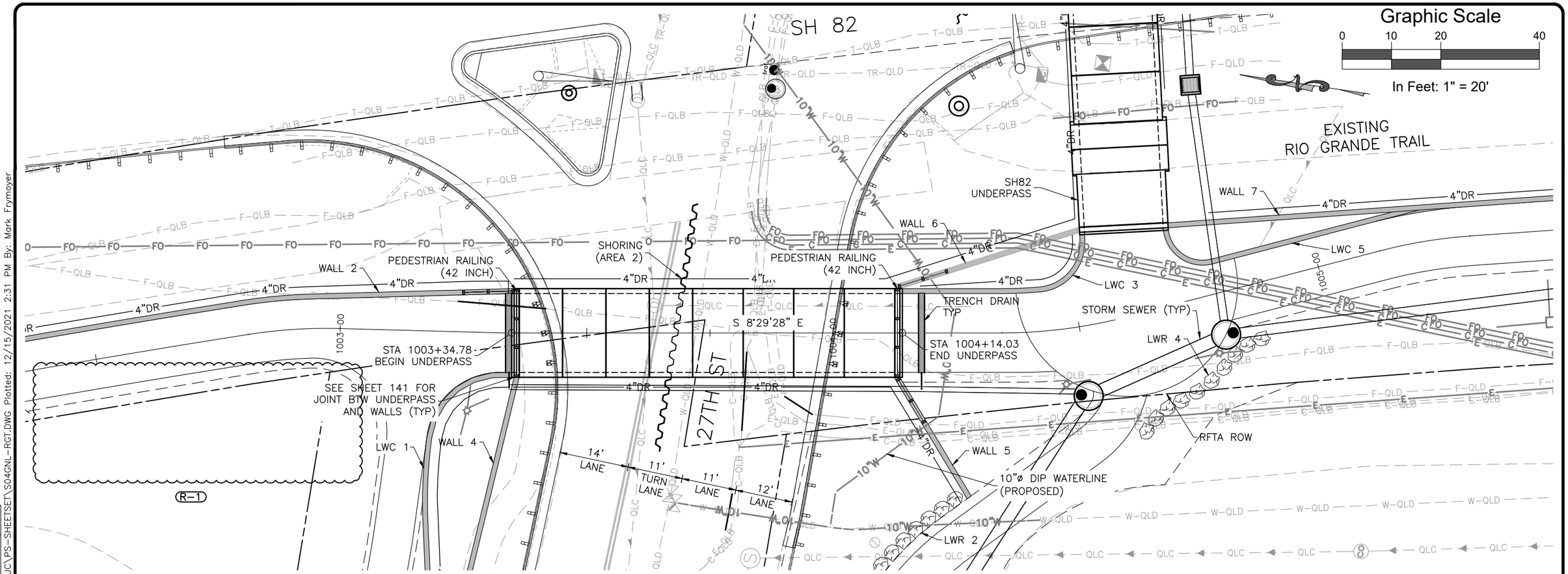
As Constructed
No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS TRAIL INTERSECTION DETAILS

Engineer:	AMC	Structure Numbers	
Drawn By:	MWM		
Sheet Subset:	ROADWAY	Subset Sheets:	20 of 23

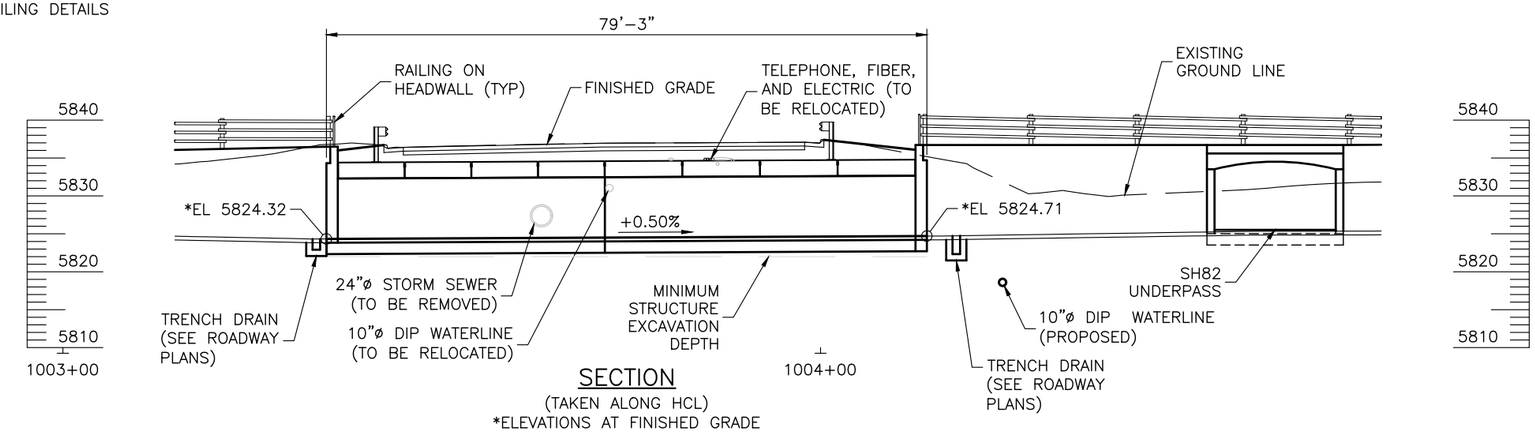
Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	83



PLAN

NOTES:

1. FENCE WOOD RAILING NOT SHOWN FOR CLARITY.
2. SEE LANDSCAPE PLANS FOR FENCE WOOD RAILING DETAILS
3. SEE SHEET 72 FOR FENCE LAYOUT.



SECTION

(TAKEN ALONG HCL)

*ELEVATIONS AT FINISHED GRADE

COLORADO LICENSED
MARK C. FRYMOYER
12/15/21
54729
PROFESSIONAL ENGINEER

Design	INITIAL	DATE
Designed By	MCF	08/21
Checked By	MLF	08/21

Detail	INITIAL	DATE
Detailed By	MDF	08/21
Checked By	MLF	06/21

Quantities	INITIAL	DATE
Quantities By	MDF	08/21
Checked By	MLF	08/21

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Computer File Information	
Print Date:	12/15/21
Last Modification Date:	12/15/21
Drawing File Name:	S04gnl-RGT
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: MLF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1 & 3	CWG

Roaring Fork Transportation Authority

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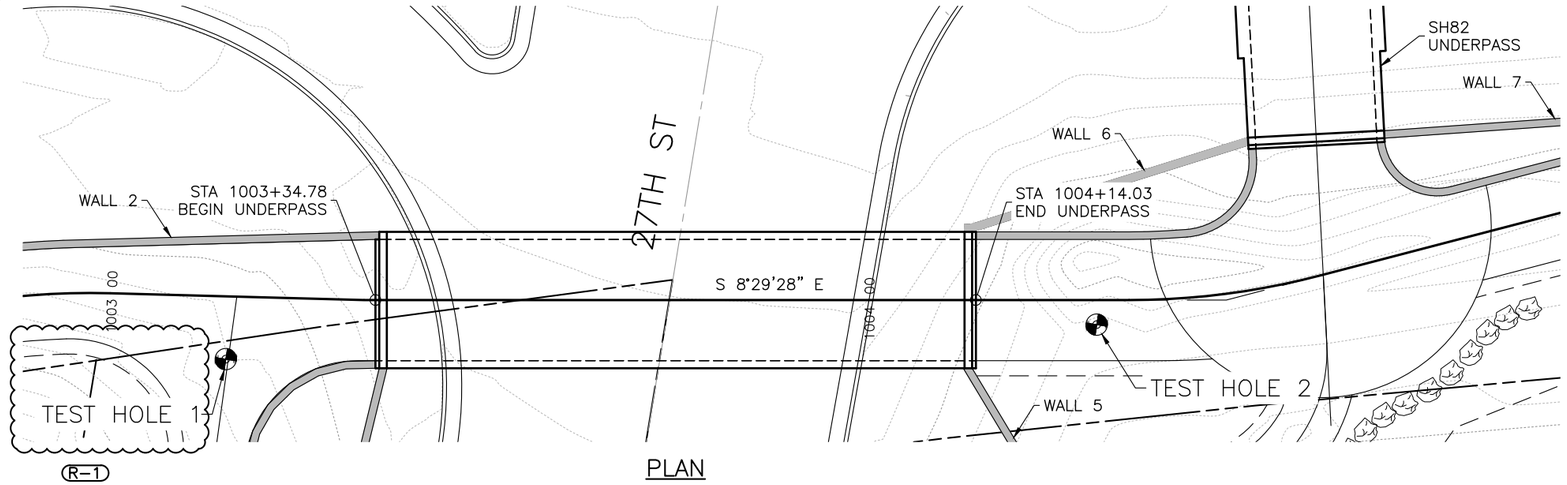
No Revisions:
Revised:
Void:

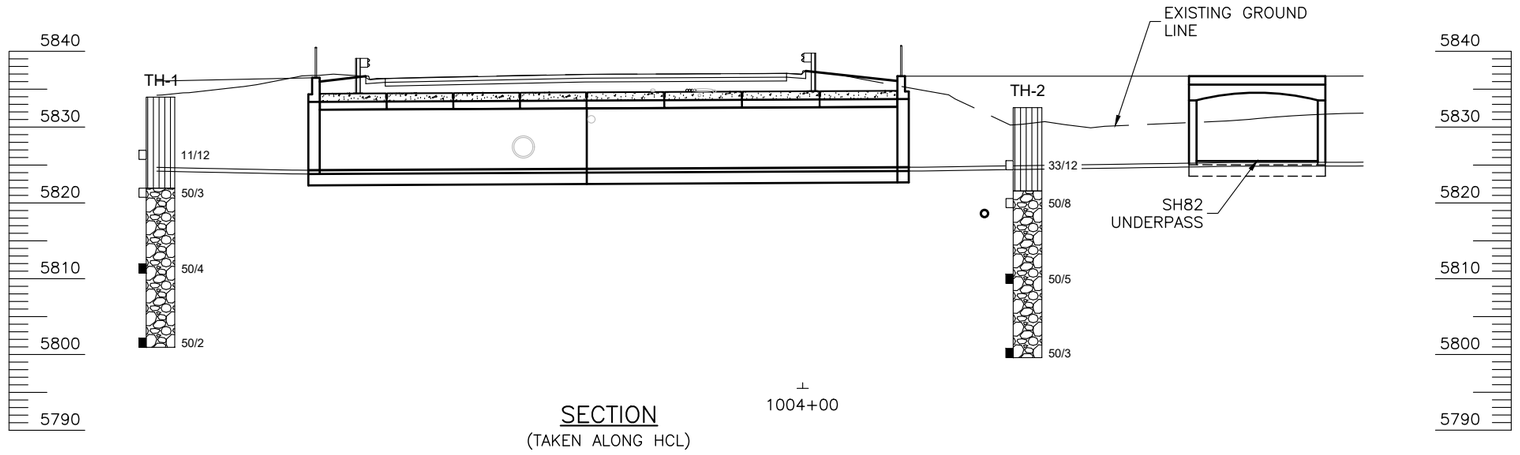
27TH ST AND SH82 PEDESTRIAN UNDERPASS
GENERAL LAYOUT - 27TH ST UNDERPASS

Engineer:	MCF	Structure Numbers	
Drawn By:	MDF		
Sheet Subset:	STRUCT	Subset Sheets:	S4 of 21

Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	97



PLAN



SECTION
(TAKEN ALONG HCL)

Graphic Scale

0 10 20 40

In Feet: 1" = 20'

Know what's below. Call before you dig.

NOTES:

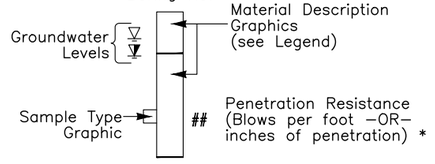
1. TEST HOLES WERE DRILLED ON DECEMBER 2 AND 4, 2020 WITH 7–INCH ODEX WITH PERCUSSIVE.
2. TEST HOLE DESCRIPTIONS ARE SUBJECT TO EXPLANATIONS CONTAINED IN THE REPORT, RJ ENGINEERING PROJECT NO. 20–037R–G1.
3. BOREHOLE LOCATIONS WERE SURVEYED BY SGM.
4. THE LINES BETWEEN THE MATERIALS SHOWN IN THE TEST HOLE LOGS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES AND THE ACTUAL TRANSITIONS MAY BE GRADUAL.
5. GROUND WATER WAS NOT ENCOUNTERED AT THE TIMES OF DRILLING. FLUCTUATIONS IN THE WATER LEVEL MAY OCCUR WITH TIME.

COLORADO LICENSED
MARK C. FRYMOYER
12/15/21
54729
PROFESSIONAL ENGINEER

MY RESPONSIBILITY WITH RESPECT TO THESE PLANS IS LIMITED TO STRUCTURAL ENGINEERING DESIGN.

COLORADO REGISTERED
RICHARD D. JOHNSON
35832
12/15/21
PROFESSIONAL ENGINEER

TYPICAL BORING LOG



RJ Engineering & Consulting, Inc.

SUMMARY OF TEST RESULTS

Sample Location			Classification		Grain Size Analysis (Percent)			Atterberg Limits			Water Content W %	Dry Unit Weight γ P.C.F.
Test Hole	Depth (ft)	Sample Type	Corps of Engrs. or Visual	AASHTO	Gravel > #4	Sand	Fines < #200	Liquid Limit LL	Plastic Limit PL	Plastic Index PI		
TH–1	7	CA	SILT, sandy, gravelly (ML)	–							10.7	104

TYPE OF MATERIAL

SILT, clayey to sandy with gravel, slightly moist to moist, stiff to very stiff, red–brown, red (ML).

GRAVEL, silty to sandy, abundant cobbles and boulders up to about 2 feet in diameter, medium dense to very dense, brown, light brown (GM)

LEGEND

11/12 — Modified California Sampler. The symbol 11/12 indicates that 11 blows from a 140 pound hammer falling 30 inches was used to drive a 2–in I.D. sampler 12 inches.

50/4 — Standard Split Spoon Sampler. The symbol 50/4 indicates that 50 blows from a 140 pound hammer falling 30 inches was used to drive a 1.5–in I.D. sampler 4 inches.

Design	INITIAL	DATE
Designed By	MCF	08/21
Checked By	MLF	08/21

Detail	INITIAL	DATE
Detailed By	MDF	08/21
Checked By	MLF	08/21

Quantities	INITIAL	DATE
Quantities By	MDF	08/21
Checked By	MLF	08/21

\\SGMFILE1\PROJECTS\2020\2020-544-GWS27THPEDUNDERPASS\001-DESIGN\H-DWGS\STRUC\PS-SHEETSET\S08ENG-RGT.DWG Plotted: 12/15/2021 2:16 PM By: Mark Frymoyer

Computer File Information

Print Date: 12/15/21
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Autocad Ver. 2020 Scale: As Shown
SGM Project No.: 2020-544.001 Quality Control: MLF

Sheet Revisions

Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1 & 3	CWG

RFTA Roaring Fork Transportation Authority

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Revised:
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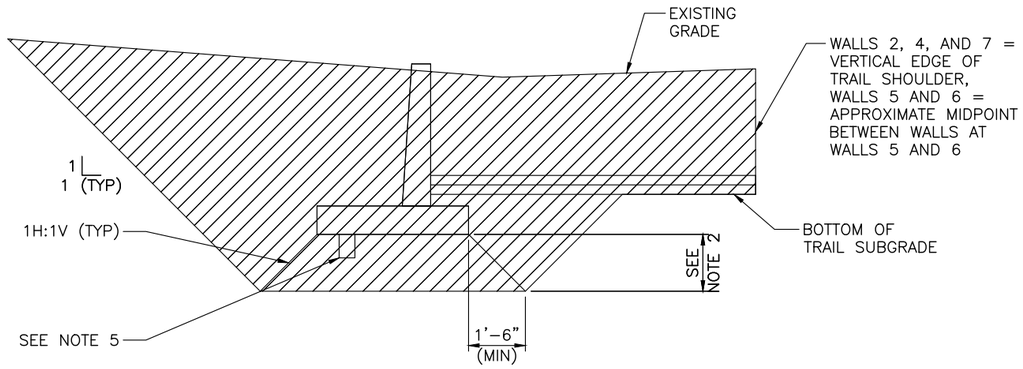
27TH ST AND SH82 PEDESTRIAN UNDERPASS
ENGINEERING GEOLOGY - 27TH ST UNDERPASS

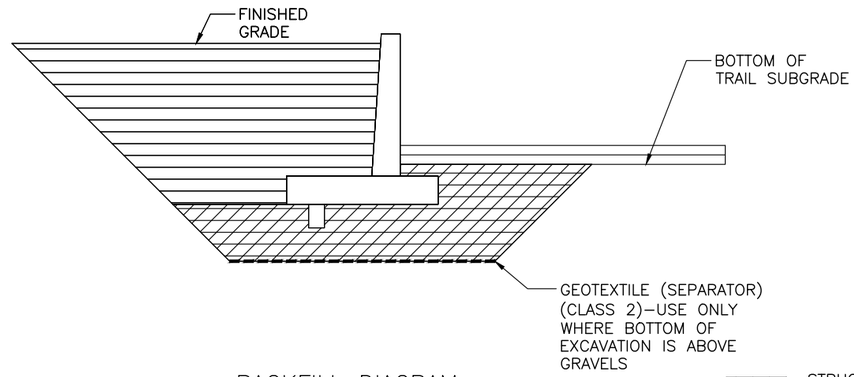
Engineer:	MCF	Structure Numbers	
Drawn By:	MDF		
Sheet Subset:	STRUCT	Subset Sheets:	S8 of 21

Project No./Code
MTF M535-007 / 008
23687 / 23975
Sheet Number 101



EXCAVATION DIAGRAM

(APPLICABLE TO WALLS 2, 4, 5, 6 AND 7)



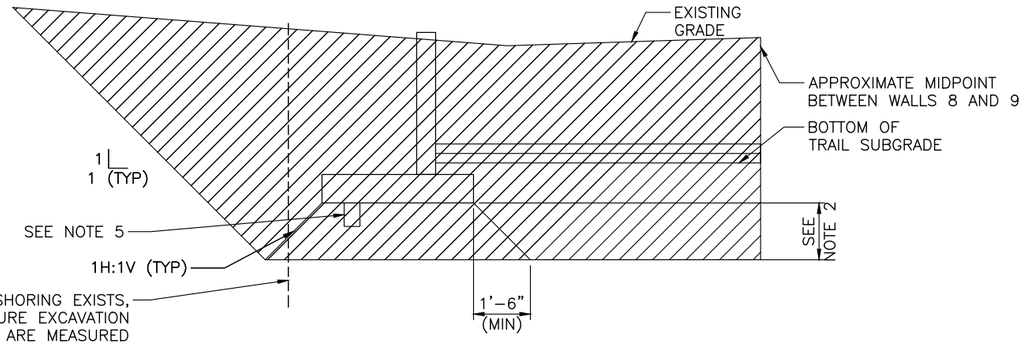
BACKFILL DIAGRAM

(APPLICABLE TO WALLS 2, 4, 5, 6 AND 7)

STRUCTURE EXCAVATION

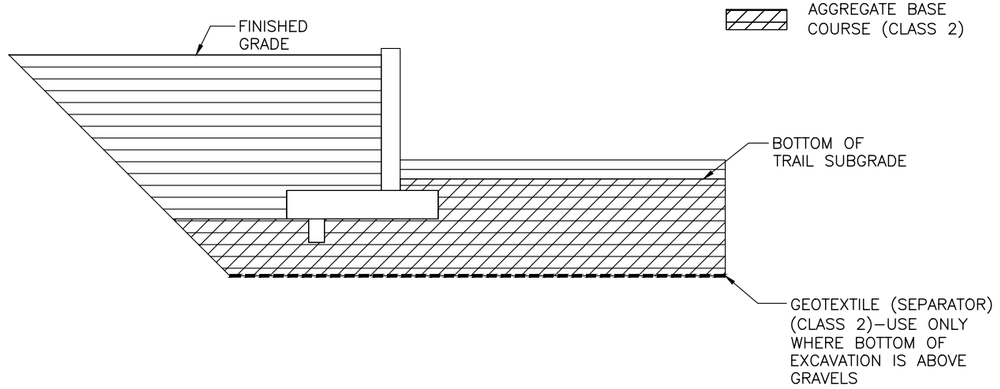
STRUCTURE BACKFILL (CLASS 1)

AGGREGATE BASE COURSE (CLASS 2)



EXCAVATION DIAGRAM

(APPLICABLE TO WALLS 8 AND 9)



BACKFILL DIAGRAM

(APPLICABLE TO WALLS 8 AND 9)

NOTES:

1. UNLESS SHOWN OTHERWISE IN THE PLANS, THIS DRAWING GIVES THE MINIMUM EXTENT OF STRUCTURE EXCAVATION AND BACKFILL. THE CONTRACTOR MAY ELECT TO EXTEND THE STRUCTURE EXCAVATION AND STRUCTURE BACKFILL BEYOND THE LIMITS SHOWN HERE. ANY ADDITIONAL EXCAVATION OR BACKFILL BEYOND THESE LIMITS WILL NOT BE MEASURED NOR PAID FOR.

2. OVEREXCAVATE AT A 1H:1V TO GRAVEL (APPROXIMATELY ELEVATION 5822) OR 3'-0", WHICHEVER IS LESS. IF BOTTOM OF FOOTING IS IN GRAVEL, NO OVEREXCAVATION IS REQUIRED. THIS DEPTH IS REPRESENTED IN THE WALL PLAN & ELEVATION SHEETS AS THE APPROXIMATE MINIMUM STRUCTURE EXCAVATION DEPTH. THIS DEPTH DOES NOT CONSIDER THE TRENCH REQUIRED FOR THE KEY.

3. CONCRETE LANDSCAPE WALLS AND STONE LANDSCAPE WALLS ARE NOT SHOWN IN THESE DIAGRAMS. ALL EXCAVATION FOR CONCRETE LANDSCAPE WALLS IS MEASURED AND PAID FOR WITH THE ADJACENT STRUCTURAL WALL. EXCAVATION AND BACKFILL FOR STONE LANDSCAPE WALLS WILL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.

R-1

4. WHERE CONCRETE LANDSCAPE WALLS EXIST IN FRONT OF STRUCTURAL WALLS, PROVIDE AGGREGATE BASE COURSE (CLASS 2) UP TO BOTTOM OF LANDSCAPE WALL FOOTING AND IN FRONT OF THE LANDSCAPE WALL TO THE BOTTOM OF THE TRAIL SUBGRADE. PROVIDE STRUCTURE BACKFILL (CLASS 1) BEHIND THE CONCRETE LANDSCAPE WALL FROM THE BOTTOM OF THE FOOTING UP TO THE BOTTOM OF TOPSOIL. AGGREGATE BASE COURSE (CLASS 2) BELOW LANDSCAPE WALL FOOTING IS MEASURED AND PAID FOR WITH THE ADJACENT STRUCTURAL WALL. STRUCTURE BACKFILL (CLASS 1) AND AGGREGATE BASE COURSE (CLASS 2) IS MEASURED AND PAID FOR WITH THE CONCRETE LANDSCAPE WALL.

5. WHEN KEY EXTENDS BELOW APPROXIMATE MINIMUM STRUCTURE EXCAVATION DEPTH, ADDITIONAL VOLUME OF STRUCTURE EXCAVATION WILL BE MEASURED AND PAID FOR AS FOLLOWS:

LENGTH	=	LENGTH OF KEY
WIDTH	=	WIDTH OF KEY PLUS 1'-0"
HEIGHT	=	DISTANCE FROM BOTTOM OF KEY TO APPROXIMATE MINIMUM STRUCTURE EXCAVATION DEPTH SHOWN IN THE PLAN & ELEVATION SHEETS

NO ADDITIONAL BACKFILL FOR THE KEY WILL BE MEASURED AND PAID FOR.

COLORADO LICENSED
MARK C. FRYMOYER
12/15/21
54729
PROFESSIONAL ENGINEER

Design				Detail				Quantities			
Designed By	INITIAL	CWG	09/21	Detailed By	INITIAL	CWG	09/21	Quantities By	INITIAL	CWG/MLF	09/21
Checked By	MLF/MCF	09/21		Checked By	MLF/MCF	09/21		Checked By	MLF/MCF	09/21	

\\SGMFILE1\PROJECTS\2020\2020-544-GWS27THPEDUNDERPASS\001-DESIGN\H-DWGS\STRUC\PS-SHEETSET\W01ADMIN.DWG Plotted: 12/15/2021 2:16 PM By: Mark Frymoyer

Computer File Information	
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Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: MCF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1 & 3	CWG

Roaring Fork Transportation Authority

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As Constructed
No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
EXCAVATION AND BACKFILL

Engineer:	MCF	Structure Numbers	R082A001746LRA
Drawn By:	CWG		
Sheet Subset:	WALLS	Subset Sheets:	W03 of 43

Project No./Code
MTF M535-007 / 008
23687 / 23975
Sheet Number 117

SUMMARY OF QUANTITIES

ITEM NUMBER	DESCRIPTION	UNIT	(R-1)	RGT WALL 2	(R-1)	27TH LWC 1	27TH WALL 4	RGT/27TH WALL 5	RGT/SH82 WALL 6	RGT/SH82 LWC 3	27TH LWR 2	RGT LWR 4	RGT WALL 7	RGT LWC 5	SH82 WALL 8	SH82 WALL 9	SH82 LWC 6	SH82 LWC 7	STAIRS	TOTAL
206-00000	STRUCTURE EXCAVATION	CY		1965			1180	483	836				3145		3238	1557				12404
206-00100	STRUCTURE BACKFILL (CLASS 1)	CY		1030		68	440	163	413	32			1567	27	1661	866	87	30		6384
206-01783	SHORING (AREA 3)	L S													1					1
304-02000	AGGREGATE BASE COURSE (CLASS 2)	TON		440		25	180	40	24	20			750	36	1133	567	60	49		3324
420-00133	GEOTEXTILE (SEPARATOR) (CLASS 2)	SY		85									219		550	356	19	21		1250
			0	(R-1)	0	(R-1)														0 (R-1)
504-08050	STONE LANDSCAPE WALL	SF									260	83								343
514-00018	PEDESTRIAN RAILING (18 INCH)	LF													209					209
514-00042	PEDESTRIAN RAILING (42 INCH)	LF		10				10	10						85					115
			0	(R-1)																0 (R-1)
515-00120	WATERPROOFING (MEMBRANE)	SY													12					12
517-00000	WATERPROOFING (ASPHALT)	SY				30				23				25	30		25	16		149
518-00102	WATERSTOP	LF		25			26	15	29				31		51	29				206
601-03000	CONCRETE CLASS D	CY																	8.2	8.2
601-03050	CONCRETE CLASS D (WALL)	CY		139.8		17.5	42.9	14.0	42.2	11.0			182.2	11.9	159.7	79.3	13.9	9.3		723.7
601-03055	CONCRETE CLASS D (WALL) (SPECIAL)	CY		78.4			35.8	10.6	31.1				111.4		131.6	94.9				493.8
601-40302	STRUCTURAL CONCRETE COATING (ANTI-GRAFFITI)	SF		1887			1192	368	640				2553		4408	1618				12666
601-50020	PORCELAIN WALL TILE	SF				365				256				287			315	209		1432
602-00000	REINFORCING STEEL	LB		31600		2200	11900	4850	11300	1300			40700	1500	64100	28300	1800	1400	1100	202050
602-00020	REINFORCING STEEL (EPOXY COATED)	LB													700					700
605-83002	GEOCOMPOSITE DRAIN WITH PIPE	SY		139		30	90	29	53	23			195	25	312	156	25	16		1093
606-01402	TRANSITION TYPE BR10B-GR3	EACH														1				1
606-11035	BRIDGE RAIL TYPE 10 MASH	LF														201				201
607-32100	FENCE STEEL SNOW	LF														178				178
621-00650	PEDESTRIAN STAIR STRUCTURE	L S																	1	1

Quantities — Initial: CWG/MLF 06/21; Quantities By: MLF/MCF 09/21; Checked By: MLF/MCF 09/21

Detail — Initial: CWG/MLF 06/21; Detailed By: MLF/MCF 09/21; Checked By: MLF/MCF 09/21

Design — Initial: CWG/MLF 06/21; Designed By: MLF/MCF 09/21; Checked By: MLF/MCF 09/21

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COLORADO LICENSED
MARK C. FRYMOYER
12/15/21
54729
PROFESSIONAL ENGINEER

Computer File Information	
Print Date:	12/15/21
Last Modification Date:	12/15/21
Drawing File Name:	Hwy82PUP-WallsQty
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: MCF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1 & 3	CWG

Roaring Fork Transportation Authority

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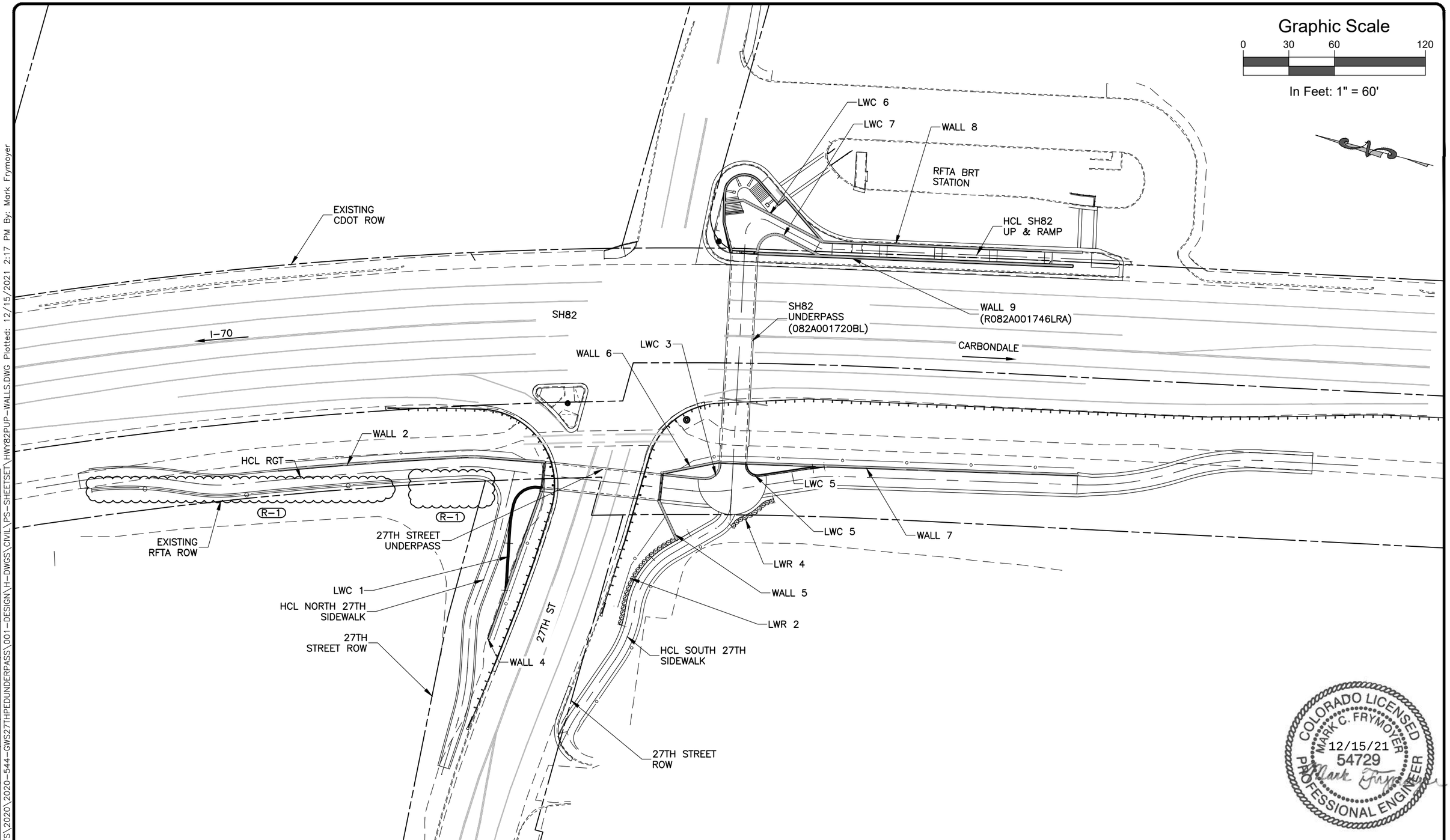
No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
WALL SUMMARY OF QUANTITIES

Engineer:	MCF	Structure Numbers	R082A001746LRA
Drawn By:	CWG		
Sheet Subset:	WALLS	Subset Sheets:	W04 of 43

Project No./Code
MTF M535-007 / 008
23687 / 23975
Sheet Number 118



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Design				Detail				Quantities			
	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By	CWG	09/21	Detailed By	CWG	09/21	Quantities By	CWG/MLF	09/21
Checked By	MCF	09/21	Checked By	MCF	09/21	Checked By	MLF/MCF	09/21

COLORADO LICENSED
MARK C. FRYMOYER
12/15/21
54729
PROFESSIONAL ENGINEER

Computer File Information	
Print Date: 12/15/21	
Last Modification Date: 06/30/21	
Drawing File Name: Hwy82PUP-Walls	
Autocad Ver. 2020 Scale: As Shown	
SGM Project No.: 2020-544.001	Quality Control: MCF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1 & 3	CWG

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27TH ST AND SH82 PEDESTRIAN UNDERPASS
OVERALL WALL SITE PLAN

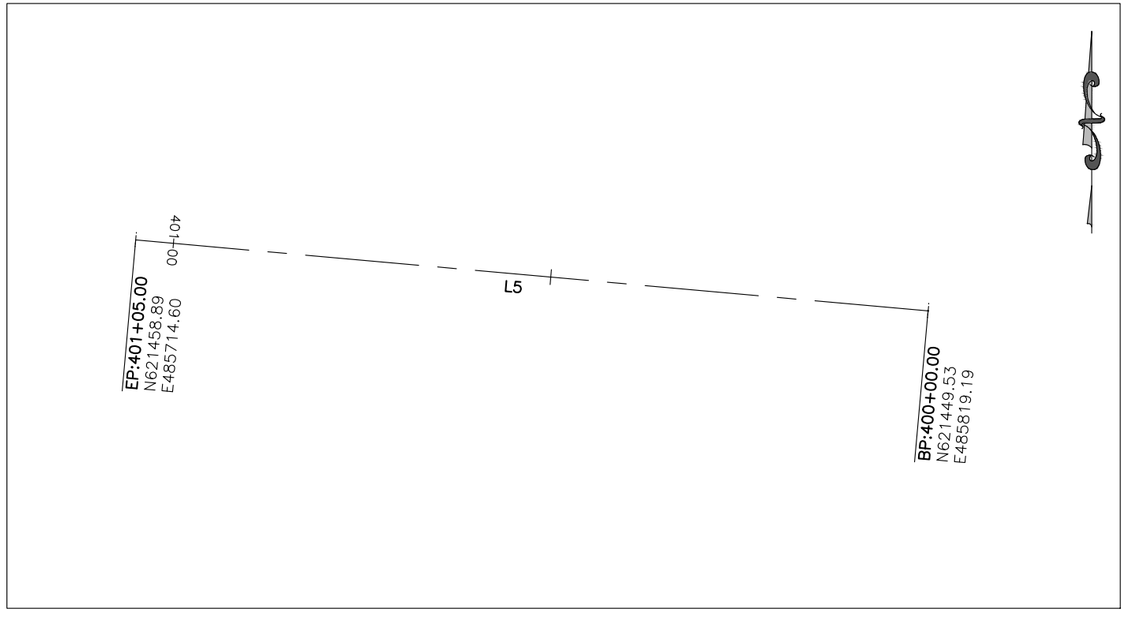
Engineer:	MCF	Structure Numbers	R082A001746LRA
Drawn By:	AMC/MCF		
Sheet Subset:	WALLS	Subset Sheets:	W05 of 43

Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	119

Design				Detail				Quantities			
	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By	MWM	09/21	Detailed By	MWM	09/21	Quantities By	CWG/MLF	09/21
Checked By	AMC/MCF	09/21	Checked By	AMC/MCF	09/21	Checked By	MLF/MCF	09/21

R-1

R-1



WALL 4 ALIGNMENT
SCALE: 1" = 20'

COLORADO LICENSED
MARK C. FRYMOYER
12/15/21
54729
PROFESSIONAL ENGINEER

Computer File Information	
Print Date:	12/15/21
Last Modification Date:	12/15/21
Drawing File Name:	Hwy82PUP-WallGeometryPlan
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: MCF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MWM

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Roaring Fork Transportation Authority

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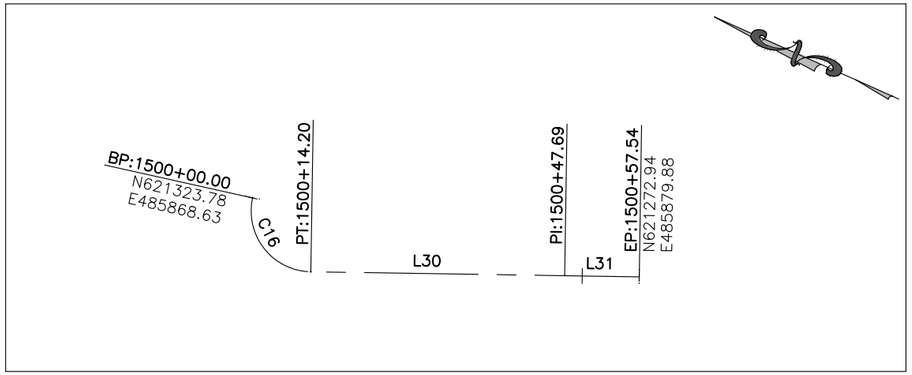
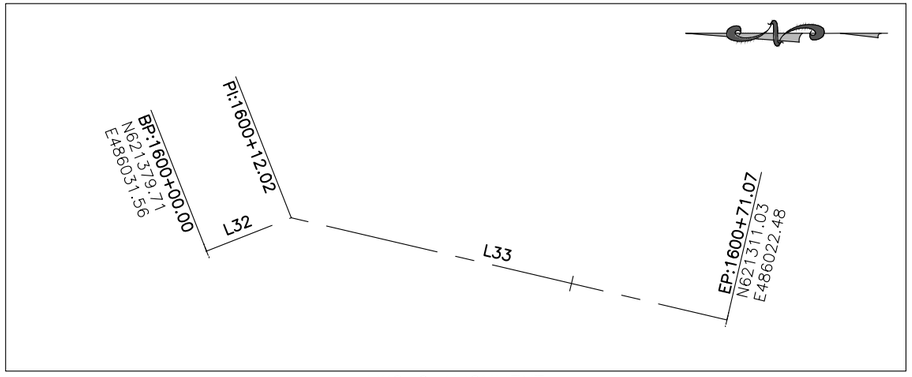
27TH ST AND SH82 PEDESTRIAN UNDERPASS
WALL GEOMETRY PLAN (1)

Engineer:	MCF	Structure Numbers	
Drawn By:	AMC		
Sheet Subset:	WALLS	Subset Sheets:	W06 of 43

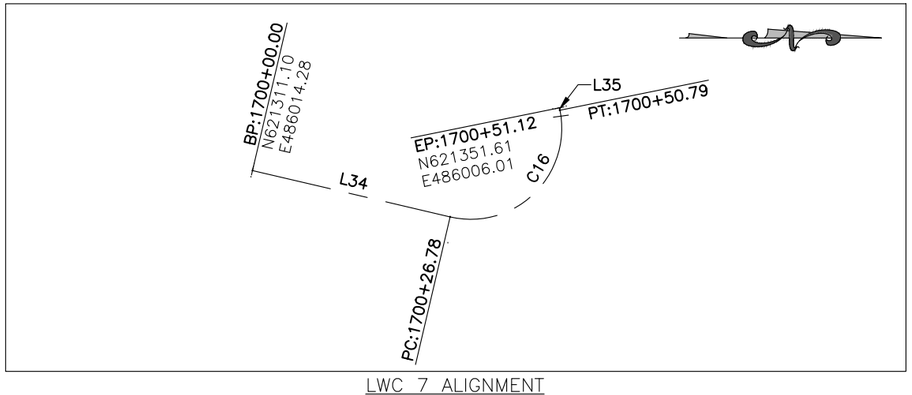
Project No./Code
MTF M535-007 / 008
23687 / 23975
Sheet Number 120



LWC 5 ALIGNMENT
SCALE: 1" = 20'



LWC 6 ALIGNMENT
SCALE: 1" = 20'



LWC 7 ALIGNMENT
SCALE: 1" = 20'

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C4	2857.37'	120.41'	60.21'	120.40'	S18°40'23"E	2° 24' 52"
C5	107.67'	13.22'	6.62'	13.21'	S13°56'13"E	7° 02' 01"
C11	15.00'	21.58'	13.14'	19.77'	N49°44'40"W	82° 26' 36"
C12	69.00'	9.77'	4.89'	9.76'	N88°21'25"E	8° 06' 37"
C13	56.00'	49.99'	26.80'	48.35'	S70°07'26"E	51° 08' 54"
C14	92.00'	7.68'	3.84'	7.68'	S10°52'56"E	4° 46' 57"
C15	10.00'	15.39'	9.69'	13.92'	S57°21'45"E	88° 10' 39"
C16	8.00'	14.20'	9.82'	12.41'	S27°42'53"W	101° 40' 05"
C16	12.00'	24.01'	18.71'	20.20'	N44°07'26"W	114° 39' 17"
C17	12.50'	30.11'	32.56'	23.34'	S34°04'59"E	137° 59' 54"

R-1

R-1

LINE TABLE		
LINE	BEARING	LENGTH
L2	S10°03'09"E	41.24'
L3	S8°29'28"E	0.50'
L5	N84°53'08"W	105.00'
L6	N50°32'12"E	28.11'
L7	S8°29'29"E	1.00'
L8	S25°53'28"E	38.51'
L9	S12°31'43"E	218.00'
L10	N62°56'03"E	19.00'
L11	N76°55'03"E	18.42'
L12	S34°54'57"W	20.00'
L13	S55°07'02"E	6.00'
L14	S34°54'57"W	37.67'
L15	S12°13'40"E	176.89'
L16	S12°13'40"E	40.35'
L17	S12°13'40"E	178.70'
L18	S89°02'02"W	4.14'
L19	S85°41'42"W	4.00'
L20	S83°19'07"W	4.00'
L21	S79°10'37"W	45.15'
L22	N84°18'07"E	3.04'
L23	S44°32'59"E	16.53'
L24	S8°29'28"E	20.21'
L25	N78°32'56"E	1.18'
L26	N31°35'22"W	5.85'
L27	N53°46'02"W	10.80'
L28	N41°10'12"W	11.51'
L29	N62°34'20"W	5.35'
L30	S23°07'10"E	33.50'
L31	S23°07'10"E	9.84'
L32	S21°31'57"E	12.02'
L33	S13°12'12"W	59.05'
L34	N13°12'12"E	26.78'
L35	S78°32'56"W	0.33'

COLORADO LICENSED
MARK C. FRYMOYER
12/15/21
54729
PROFESSIONAL ENGINEER

Design			Detail			Quantities		
	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By	WWM	09/21	Detailed By	WWM	09/21	Quantities By	CWG/MLF	09/21
Checked By	AMC/MCF	09/21	Checked By	AMC/MCF	09/21	Checked By	MLF/MCF	09/21

\\SGMFILE1\PROJECTS\2020\2020-544-GWS27THPEDUNDERPASS\001-DESIGN\H-DWGS\CIVIL\PS-SHEETSET\HWY82PUP-WALLGEOMETRYPLAN.DWG Plotted: 12/15/2021 2:18 PM By: Mark Frymoyer

Computer File Information	
Print Date:	12/15/21
Last Modification Date:	12/15/21
Drawing File Name:	Hwy82PUP-WallGeometryPlan
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: MCF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MWM

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As Constructed	
No Revisions:	
Revised:	
Void:	

27TH ST AND SH82 PEDESTRIAN UNDERPASS
WALL GEOMETRY PLAN (4)

Engineer:	MCF	Structure Numbers	R082A001746LRA
Drawn By:	AMC		
Sheet Subset:	WALLS	Subset Sheets:	W09 of 43

Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	123

(R-1) WALL 1 HAS BEEN REMOVED FROM THE PROJECT.

Design				Detail				Quantities			
	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By	MCF	09/21	Detailed By	CWG	09/21	Quantities By	CWG/MLF	09/21
Checked By	MLF	09/21	Checked By	MCF	09/21	Checked By	MLF/MCF	09/21

\\SGMFILE1\PROJECTS\2020\2020-544-GWS27THPEDUNDERPASS\001-DESIGN\H-DWGS\CIVIL\PS-SHEETSET\HWY82PUP-WALLS.DWG Plotted: 12/15/2021 2:19 PM By: Mark Frymoyer

Computer File Information	
Print Date: 12/15/21	
Last Modification Date: 06/30/21	
Drawing File Name: Hwy82PUP-Walls	
Autocad Ver. 2020 Scale: As Shown	
SGM Project No.: 2020-544.001	Quality Control: MCF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1 & 3	CWG

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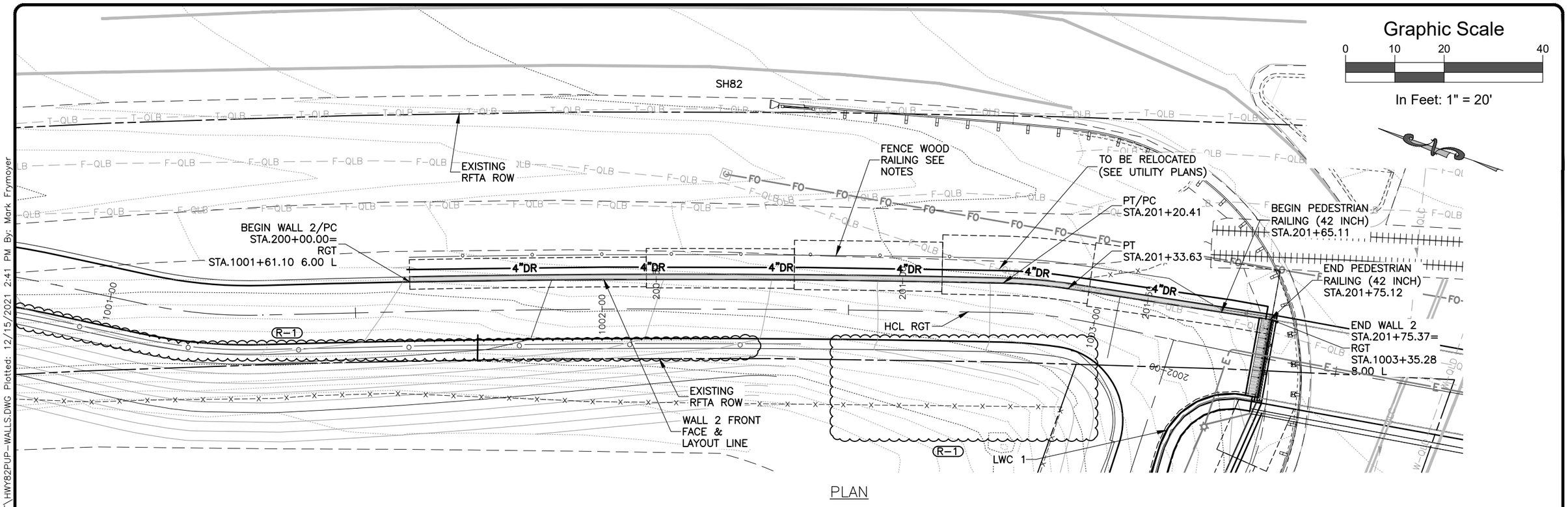
No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
WALL 1 PLAN & ELEVATION

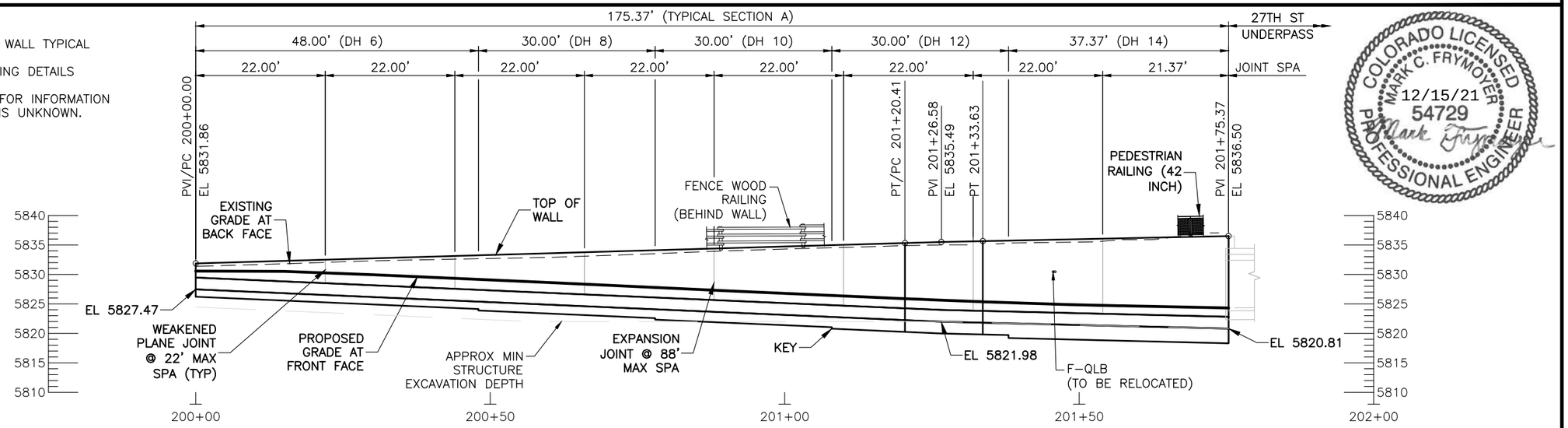
Engineer:	MCF	Structure Numbers	
Drawn By:	CWG		
Sheet Subset:	WALLS	Subset Sheets:	W10 of 43

Project No./Code
MTF M535-007 / 008
23687 / 23975
Sheet Number 124



NOTE:

1. SEE SHEETS 138 THROUGH 143 FOR WALL TYPICAL SECTIONS.
2. SEE SHEET 9 FOR FENCE WOOD RAILING DETAILS
3. SEE SHEET 72 FOR FENCE LAYOUT.
4. UTILITY F-QLB SHOWN IN ELEVATION FOR INFORMATION ONLY. ACTUAL ELEVATION OF UTILITY IS UNKNOWN.



ELEVATION

COLORADO LICENSED
MARK C. FRYMOYER
12/15/21
54729
PROFESSIONAL ENGINEER

Design			Detail			Quantities		
	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By	CWG	09/21	Detailed By	CWG	09/21	Quantities By	CWG/MLF	09/21
Checked By	MCF	09/21	Checked By	MCF	09/21	Checked By	MLF/MCF	09/21

\\SGMFILE1\PROJECTS\2020\2020-544-GWS27THPEDUNDERPASS\001-DESIGN\H-DWGS\CIVIL\PS-SHEETSET\HWY82PUP-WALLS.DWG Plotted: 12/15/2021 2:41 PM By: Mark Frymoyer

Computer File Information	
Print Date: 12/15/21	
Last Modification Date: 06/30/21	
Drawing File Name: Hwy82PUP-Walls	
Autocad Ver. 2020 Scale: As Shown	
SGM Project No.: 2020-544.001	Quality Control: MCF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1 & 3	CWG

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Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
WALL 2 PLAN & ELEVATION

Engineer:	MCF	Structure Numbers	
Drawn By:	CWG		
Sheet Subset:	WALLS	Subset Sheets:	W11 of 43

Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	125

(R-1) WALL 3 HAS BEEN REMOVED FROM THE PROJECT.

Design				Detail				Quantities			
	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By	MCF	09/21	Detailed By	CWG	09/21	Quantities By	CWG/MLF	09/21
Checked By	MLF	09/21	Checked By	MCF	09/21	Checked By	MLF/MCF	09/21

\\SGMFILE1\PROJECTS\2020\2020-544-GWS27THPEDUNDERPASS\001-DESIGN\H-DWGS\CIVIL\PS-SHEETSET\HWY82PUP-WALLS.DWG Plotted: 12/15/2021 2:19 PM By: Mark Frymoyer

Computer File Information	
Print Date: 12/15/21	
Last Modification Date: 06/30/21	
Drawing File Name: Hwy82PUP-Walls	
Autocad Ver. 2020 Scale: As Shown	
SGM Project No.: 2020-544.001	Quality Control: MCF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1 & 3	CWG

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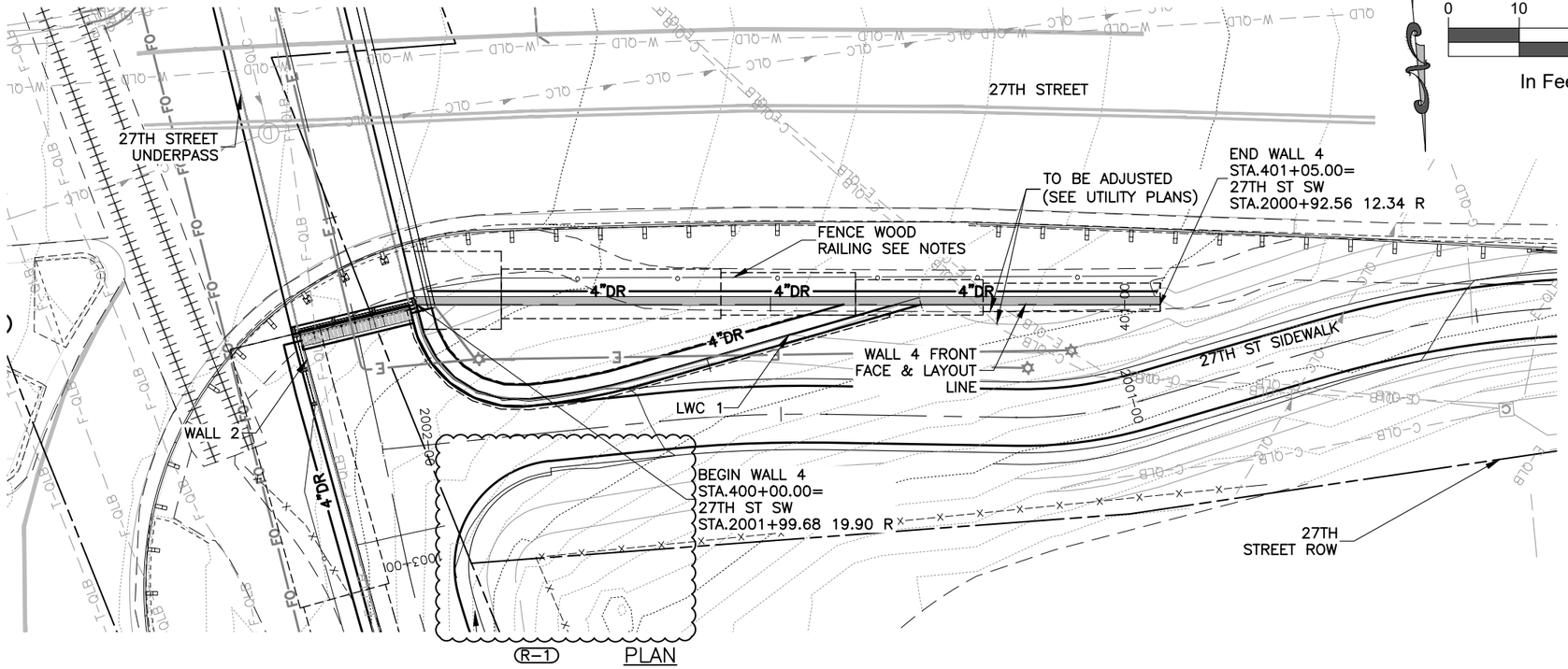
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
WALL 3 PLAN & ELEVATION

Engineer:	MCF	Structure Numbers	
Drawn By:	CWG		
Sheet Subset:	WALLS	Subset Sheets:	W12 of 43

Project No./Code
MTF M535-007 / 008
23687 / 23975
Sheet Number 126



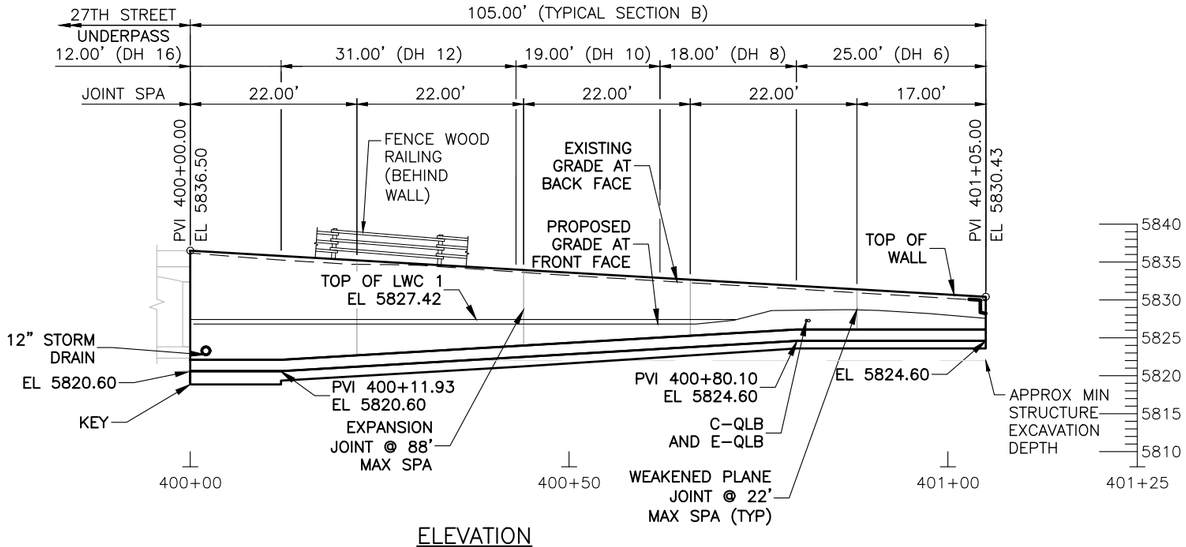
Graphic Scale

0 10 20 40

In Feet: 1" = 20'

NOTES:

1. SEE SHEETS 138 THROUGH 143 FOR WALL TYPICAL SECTIONS.
2. SEE SHEET 9 FOR FENCE WOOD RAILING DETAILS
3. SEE SHEET 72 FOR FENCE LAYOUT.
4. UTILITIES C-QLB AND E-QLB SHOWN IN ELEVATION FOR INFORMATION ONLY. ACTUAL ELEVATION OF UTILITY IS UNKNOWN.



ELEVATION

COLORADO LICENSED
MARK C. FRYMOYER
12/15/21
54729
PROFESSIONAL ENGINEER

Computer File Information	
Print Date:	12/15/21
Last Modification Date:	06/30/21
Drawing File Name:	Hwy82PUP-Walls
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: MCF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1 & 3	CWG

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Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
WALL 4 PLAN & ELEVATION

Engineer:	MCF	Structure Numbers	
Drawn By:	CWG		
Sheet Subset:	WALLS	Subset Sheets:	W13 of 43

Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	127

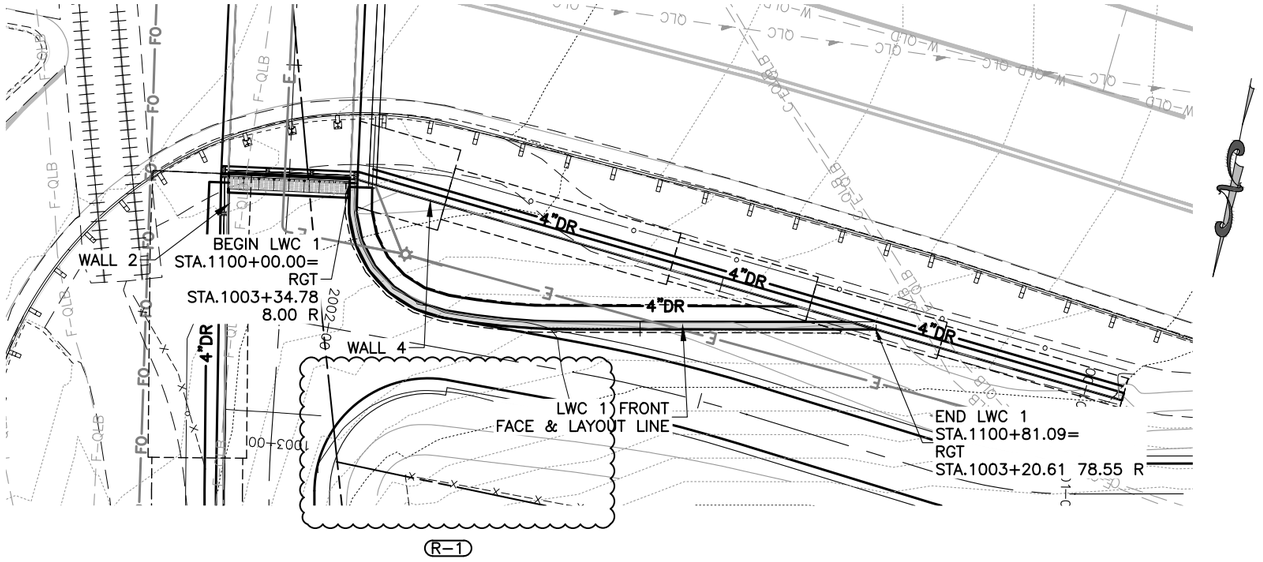
Design			Detail			Quantities		
	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By	CWG	09/21	Detailed By	CWG	09/21	Quantities By	CWG/MLF	09/21
Checked By	MCF	09/21	Checked By	MCF	09/21	Checked By	MLF/MCF	09/21

\\SGMFILE1\PROJECTS\2020\2020-544-GWS27THPEDUNDERPASS\001-DESIGN\H-DWGS\CIVIL\PS-SHEETSET\HWY82PUP-WALLS.DWG Plotted: 12/15/2021 2:19 PM By: Mark Frymoyer

Graphic Scale

0 10 20 40

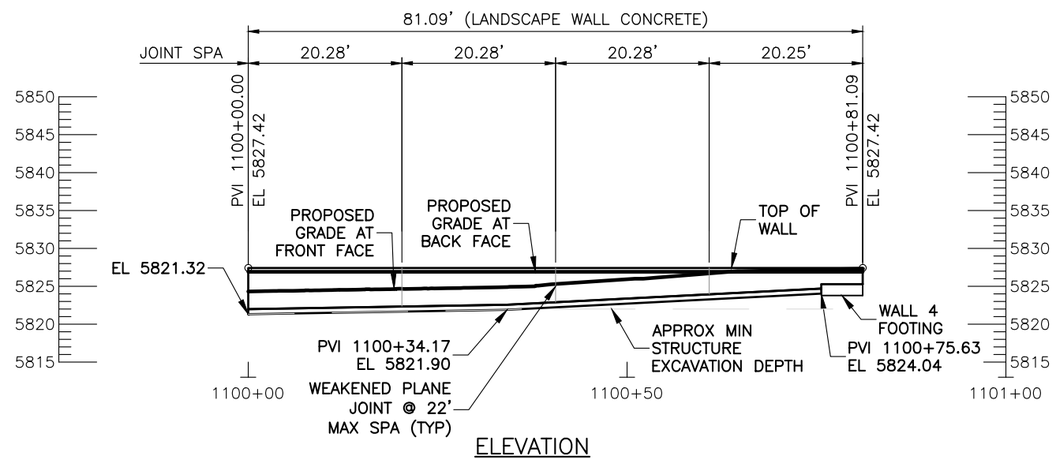
In Feet: 1" = 20'



PLAN

NOTES:

1. SEE SHEETS 138 THROUGH 143 FOR WALL TYPICAL SECTIONS.



ELEVATION

COLORADO LICENSED
MARK C. FRYMOYER
12/15/21
54729
PROFESSIONAL ENGINEER

Design			Detail			Quantities		
	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By	CWG	09/21	Detailed By	CWG	09/21	Quantities By	CWG/MLF	09/21
Checked By	MCF	09/21	Checked By	MCF	09/21	Checked By	MLF/MCF	09/21

\\SGMFILE1\PROJECTS\2020\2020-544-GWS27THPEDUNDERPASS\001-DESIGN\H-DWGS\CIVIL\PS-SHEETSET\HWY82PUP-WALLS.DWG Plotted: 12/15/2021 2:19 PM By: Mark Frymoyer

Computer File Information	
Print Date:	12/15/21
Last Modification Date:	06/30/21
Drawing File Name:	Hwy82PUP-Walls
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: MCF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1 & 3	CWG

Roaring Fork Transportation Authority

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No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
LWC 1 PLAN & ELEVATION

Engineer:	MCF	Structure Numbers	
Drawn By:	CWG		
Sheet Subset:	WALLS	Subset Sheets:	W20 of 43

Project No./Code
MTF M535-007 / 008
23687 / 23975
Sheet Number 134

R-1 WALL TYPE BOULDER HAS BEEN REMOVED FROM THIS PROJECT

Design			Detail			Quantities		
	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By	CWG	09/21	Detailed By	CWG	09/21	Quantities By	CWG/MLF	09/21
Checked By	MCF	09/21	Checked By	MCF	09/21	Checked By	MLF/MCF	09/21

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Computer File Information	
Print Date: 12/15/21	
Last Modification Date: 12/15/21	
Drawing File Name: W11typ	
Autocad Ver. 2020 Scale: ¼" = 1'	
SGM Project No.: 2020-544.001	Quality Control: MCF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1 & 3	CWG

Roaring Fork Transportation Authority

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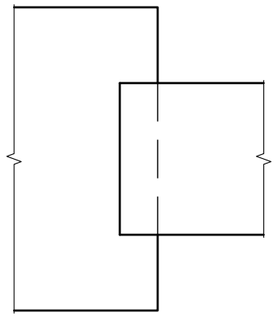
As Constructed
No Revisions:
Revised:
Void:

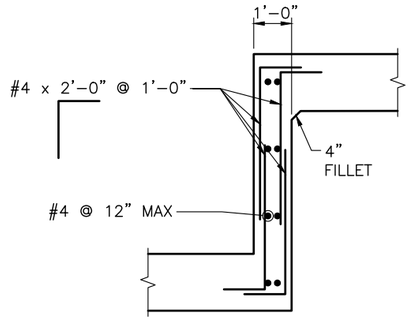
27TH ST AND SH82 PEDESTRIAN UNDERPASS
WALL DETAILS (3)

Engineer:	MCF	Structure Numbers	
Drawn By:	CWG		
Sheet Subset:	WALLS	Subset Sheets:	W26 of 43

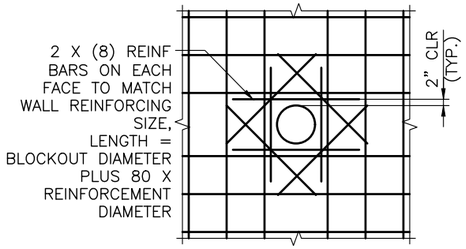
Project No./Code
MTF M535-007 / 008
23687 / 23975
Sheet Number 140



PLAN

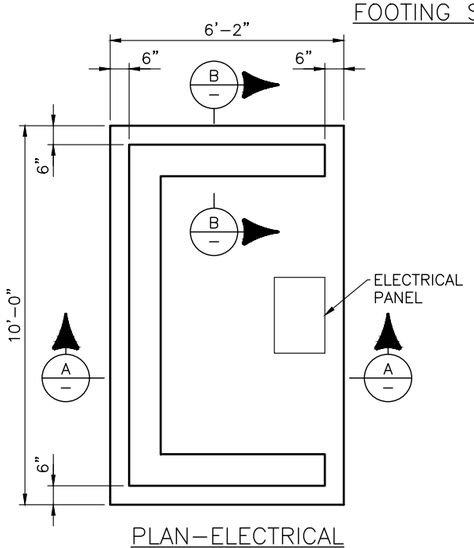


ELEVATION

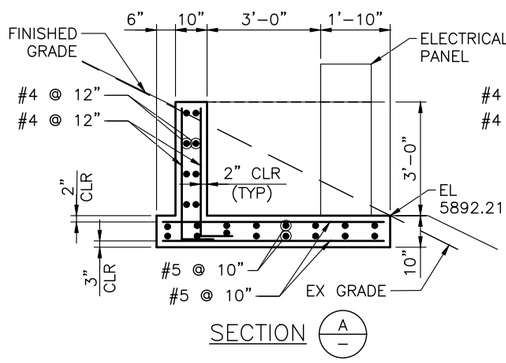


TYPICAL WALL PENETRATION DETAIL

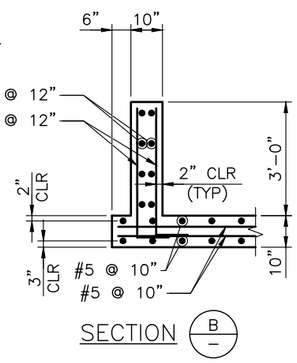
FOOTING STEP



PLAN–ELECTRICAL PANEL PEDESTAL



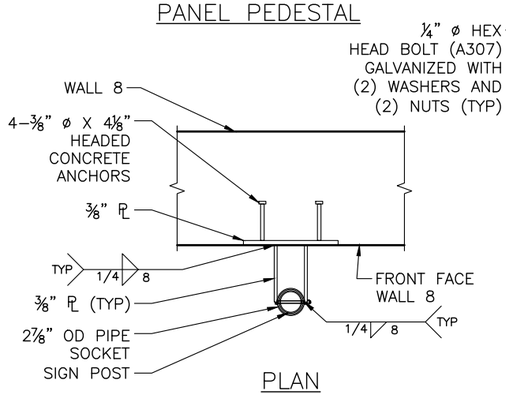
SECTION (A)



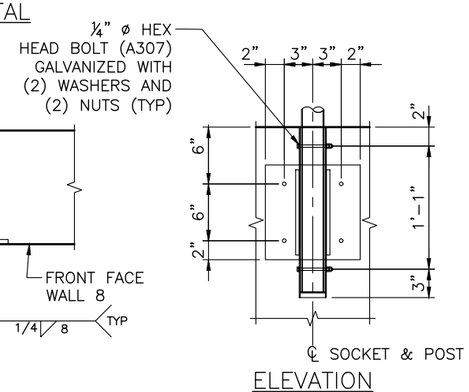
SECTION (B)

NOTES:

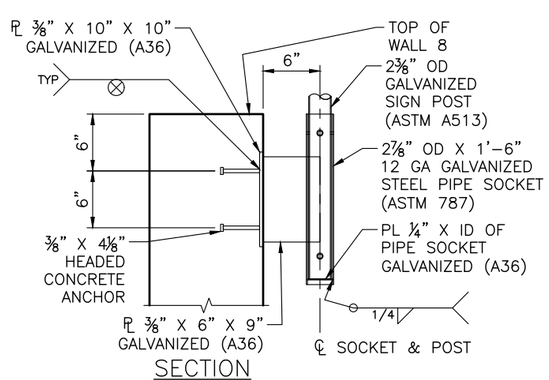
1. PEDESTAL CONCRETE SHALL BE CLASS D.
2. ALL REINFORCING SHALL BE GRADE 60.
3. ALL CONCRETE, REINFORCEMENT, AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE ELECTRICAL PANEL PEDESTAL WILL BE PAID FOR UNDER THE QUANTITY CONCRETE FOUNDATION PAD (EACH).



PLAN



ELEVATION



SECTION

SIGN CONNECTION TO WALL 8

NOTES:

1. HEADED CONCRETE ANCHOR SHALL MEET STANDARD SPECIFICATIONS SECTION 509.12.
2. SEE STANDARD PLAN S–614 FOR DETAILS NOT SHOWN.

R-1

COLORADO LICENSED
MARK C. FRYMOYER
12/15/21
54729
PROFESSIONAL ENGINEER

Computer File Information	
Print Date: 12/15/21	
Last Modification Date: 12/15/21	
Drawing File Name: W11typ	
Autocad Ver. 2020 Scale: NTS	
SGM Project No.: 2020-544.001	Quality Control: MCF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1 & 3	CWG

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As Constructed
No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
WALL DETAILS (4)

Engineer:	MCF	Structure Numbers	R082A001746LRA
Drawn By:	CWG		
Sheet Subset:	WALLS	Subset Sheets:	W27 of 43

Project No./Code
MTF M535-007 / 008
23687 / 23975
Sheet Number 141

Design				Detail				Quantities			
	INITIAL	DATE			INITIAL	DATE			INITIAL	DATE
Designed By	CWG	09/21	Detailed By	CWG	09/21	Quantities By	CWG/MLF	09/21
Checked By	MCF	09/21	Checked By	MCF	09/21	Checked By	MLF/MCF	09/21

\\SGMFILE1\PROJECTS\2020\2020-544-GW\S27THPEDUNDERPASS\001-DESIGN\H-DWGS\STRUC\PS-SHEETSET\W11TYP.DWG Plotted: 12/15/2021 2:20 PM By: Mark Frymoyer

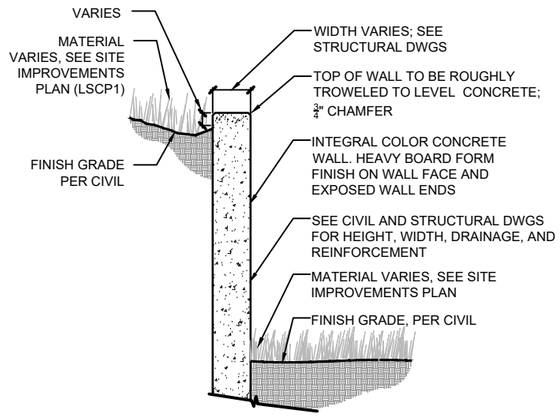



IMAGE OF HEAVY BOARD FORM FINISH TEXTURE


IMAGE OF HEAVY BOARD FORM FINISH TEXTURE


IMAGE OF FINISH ALONG EXPOSED WALL END

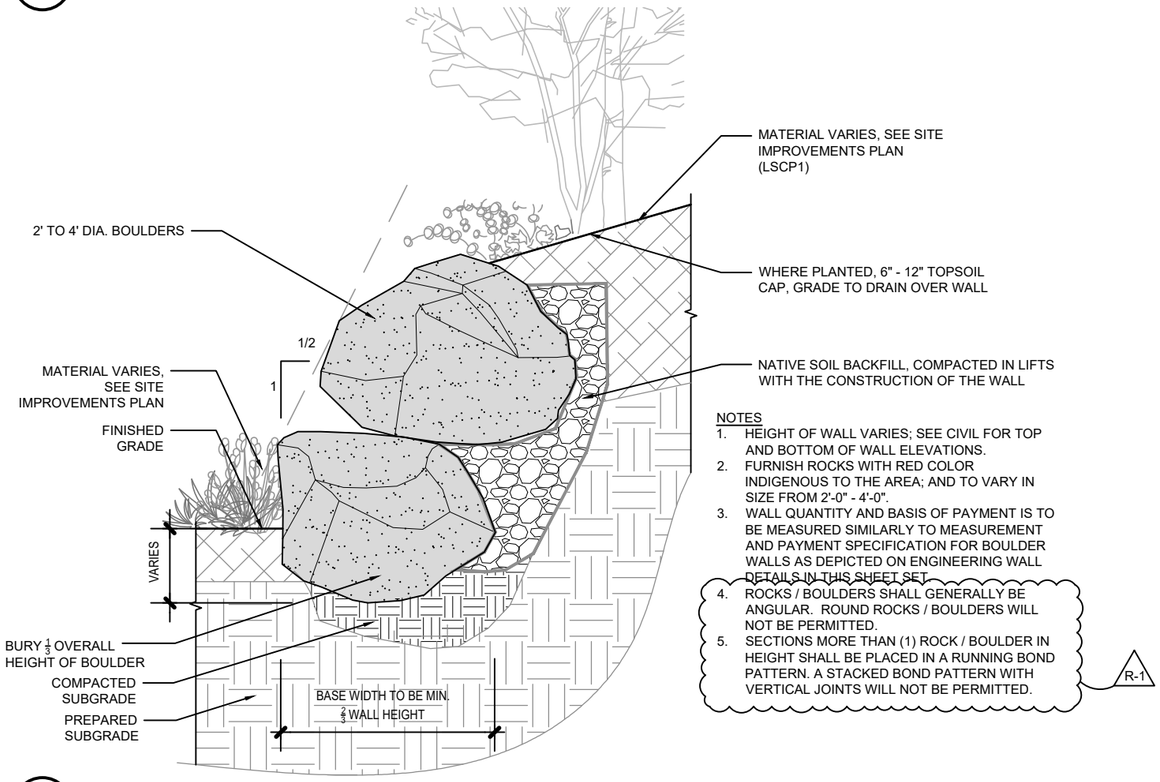

IMAGE OF DESIRED (INTEGRAL) COLOR

NOTES:
1. IMAGES PROVIDED TO ILLUSTRATE DESIGN INTENT. CONTRACTOR TO PROVIDE MOCK-UP OF WALL WITH INTEGRAL COLOR AND HEAVY BOARD FORM FINISH FOR FINAL APPROVAL.
2. INTENT OF THE INTEGRAL COLOR IS TO HAVE THE SAME DEPTH AND HUE AS RED SANDSTONE. COLOR TO BE DAVIS COLOR BRICK RED 160; APPROXIMATE FEDERAL STANDARD COLOR REFERENCES: 30109, 10091.

1 W28

CONCRETE WALL
TYPICAL

1/4" = 1'-0"



NOTES
1. HEIGHT OF WALL VARIES; SEE CIVIL FOR TOP AND BOTTOM OF WALL ELEVATIONS.
2. FURNISH ROCKS WITH RED COLOR INDIGENOUS TO THE AREA; AND TO VARY IN SIZE FROM 2'-0" - 4'-0".
3. WALL QUANTITY AND BASIS OF PAYMENT IS TO BE MEASURED SIMILARLY TO MEASUREMENT AND PAYMENT SPECIFICATION FOR BOULDER WALLS AS DEPICTED ON ENGINEERING WALL DETAILS IN THIS SHEET SET.
4. ROCKS / BOULDERS SHALL GENERALLY BE ANGULAR. ROUND ROCKS / BOULDERS WILL NOT BE PERMITTED.
5. SECTIONS MORE THAN (1) ROCK / BOULDER IN HEIGHT SHALL BE PLACED IN A RUNNING BOND PATTERN. A STACKED BOND PATTERN WITH VERTICAL JOINTS WILL NOT BE PERMITTED.

R-1

2 W28

STONE LANDSCAPE WALL

3/8" = 1'-0"

JASON M. JAYNES 240 STATE OF COLORADO LICENSED LANDSCAPE ARCHITECT 01/01/2008 Original Date of Licensure 12/22/21

Computer File Information	
Print Date: 12/20/21	
Last Modification Date: 12/22/21	
Drawing File Name: UNDERPASS_L-3-0_DETAILS rev numbers	
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: XX

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12.22.21	ELIMINATED WALLS 1 & 3	

RFTA Roaring Fork Transportation Authority

DHM DESIGN

As Constructed
No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
WALL SITE DETAILS (1)

Designer:	JJ	Structure Numbers	
Drawn By:	DB		
Sheet Subset:	WALLS	Subset Sheets:	W28 of 43

Project No./Code	
MTF M535-007 / 008	
Code: 23687 / 23975	
Sheet Number	142

P:\CARBONDALE\RFTA 27TH STREET UNDERPASS - 20354\5_FOR SUBMITTAL\CAD\SHEETS\UNDERPASS_L-3-0_DETAILS REV NUMBERS.DWG Plotted: 12/20/2021 2:37 PM By: Nick LHeureux

1. SITE DESCRIPTION

The Contractor shall comply with all contractual requirements and all requirements associated with the CDPS-SCP on this project. The SWMP Administrator for Construction shall update to reflect current project site conditions.

A. PROJECT SITE LOCATION: The project is located in Glenwood Springs, CO at the intersection of SH82 and 27th St.
Location or address of construction office:_____

B. PROJECT SITE DESCRIPTION: The project includes a trail reconfiguration, drainage improvements and construction of two underpasses underneath 27th St. and SH82.

C. PROPOSED SEQUENCING FOR MAJOR CONSTRUCTION ACTIVITIES:
Clearing and grubbing.
East Portal Construction and East half of SH82 Underpass Construction.
West half of SH82 Underpass, South half of 27th Street Underpass.
South portion of Rio Grande Trail & South 27th Street Sidewalk Construction.
North portion of Rio Grand Trail, North half of 27th Street Underpass, North 27th Street Sidewalk Construction.

D. ACRES OF DISTURBANCE: (R-1)
Total area of construction site (LOC (PERMITTED AREA)): 4.3 acres
Total area of proposed disturbance (LDA): 2.8 acres
Total area of seeding: 1.23 acres
Total area of pre-project impervious surface: 76,100 sq. ft.
Total area of final impervious surface: 79,320 sq. ft.

E. EXISTING SOIL DATA: In general, the surface soils consist of mostly sandy loam, gravelly sandy loam and gravelly sandy clay loam, Atencio-Azeltine complex, 1-3% slopes within the Hydrologic Soil Group B. This soil type has an erosion factor of 0.17, indicating the soil has low to moderate susceptibility to sheet and rill erosion. Data Source: USDA NRCS Web Soil Survey

F. EXISTING VEGETATION, INCLUDING PERCENT COVER: During design the SWMP Administrator for Design in consultation with the Engineer will determine if the SWMP Administrator for Design or the SWMP Administrator for Construction will conduct the Vegetation Transects as outlined in Chapter 4.11.2 of the CDOT's Erosion Control and Stormwater Quality Guide.

Pre-Construction Date of survey: _____ % Density: _____

Description of existing vegetation:
Map or table showing transect locations in SWMP tab 17:

Post-Construction Date of survey: _____ % Density: _____
Description of existing vegetation: Date of CDPS-SCP Closure: _____
Map or table showing transect locations in SWMP tab 17:

G. POTENTIAL POLLUTANTS SOURCES: Refer to Potential Pollutant Sources in SWMP Section 4A. The SWMP Administrator for Construction shall prepare a list of all potential pollutants and their locations in accordance with subsection 107.25.

H. RECEIVING WATER:
Outfall locations: 30" HDPE Drain Pipe (SH82 Sta.13+46.54 O/S 274.90'R), see Drainage Plans
Names of immediate receiving water(s) on site: Existing storm drain system in 27th Street, outfall into Roaring Fork River upstream of 27th Street Bridge
Ultimate receiving water(s): Colorado River
Description of all stream crossings located within the Construction Site Boundary: None

I. ALLOWABLE NON-STORMWATER DISCHARGES:

Discharge Description	Site Map #	Method Statement (Location)
Uncontaminated Springs		
Concrete Washout Water (in-ground washout structure)		
Landscape Irrigation Return Flows		
Discharges from Diversions of State Waters		
Emergency Fire Fighting		

J. DESCRIPTION OF DRAINAGE PATTERNS FROM THE SITE:
The water from the site is transported in the storm sewer system to the Roaring Fork River.

K. ALTERNATIVE DIVERSION CRITERIA:
When applicable, The Contractor is to provide a method statement based on data provided by the Hydraulic Engineer. The alternative diversion must be approved by CDPHE's Water Quality Control Division prior to implementation. The diversion method must be designate to minimize the discharge of pollutants and prevent the potential for pollution or degradation to state waters as a result of the diverted flow through the diversion structure. In addition, the alternative diversion method must minimize the discharge of pollutants throughout the installation, implementation and removal of the diversion.

L. ALTERNATIVE TEMPORARY STABILIZATION SCHEDULE:
If applicable, provide a description of the alternative temporary stabilization schedule. If temporary stabilization exceeds the 14-day schedule, then the SWMP must document the constraints necessitating the alternative schedule, provide the alternative schedule, and identify all the locations where the alternative schedule is applicable on the site map.

2. SITE MAP COMPONENTS:

Pre-construction

A. PROJECT CONSTRUCTION POTENTIAL SITE BOUNDARIES [See Erosion Control Plan]

B. FLOW ARROWS THAT DEPICT STORMWATER FLOW DIRECTIONS ON-SITE, RUN-ON AND RUNOFF DIRECTION [See Erosion Control Plan]

C. ALL AREAS OF GROUND SURFACE DISTURBANCE [See Erosion Control Plan]

D. AREAS OF CUT AND FILL [See Erosion Control Plan]

E. AREAS USED FOR STORING AND STOCKPILING OF MATERIALS, STAGING AREAS (field trailer, fueling, etc.) and LOCATIONS OF ALL WASTE ACCUMULATION and BATCH PLANTS INCLUDING MASONRY MIXING STATIONS [See Erosion Control Plan]

F. LOCATION OF ALL STRUCTURAL CONTROL MEASURES IDENTIFIED IN THE SWMP [See Erosion Control Plan]

G. LOCATION OF NON-STRUCTURAL CONTROL MEASURES AS APPLICABLE IN THE SWMP [See Erosion Control Plan]

H. SPRINGS, SPRINGS, WETLANDS AND OTHER STATE WATERS, INCLUDING AREAS THAT REQUIRE PRE-EXISTING VEGETATION BE MAINTAINED WITHIN 50 FEET OF A RECEIVING WATER [N/A]

I. LOCATIONS OF ALL STREAM CROSSING LOCATED WITHIN THE CONSTRUCTION SITE BOUNDARY: [N/A]

J. PROTECTION OF TREES, SHRUBS, SENSITIVE HABITAT, AND CULTURAL RESOURCES: [See Erosion Control Plan]

3. QUALIFIED STORMWATER MANAGERS:

A. SWMP ADMINISTRATOR FOR DESIGN: CDOT Certified Individual responsible for developing SWMP Plan Sheets and SWMP Site Maps during the design phase.

Name/Title	Contact Information	Certification #
Richard Saindon, PE	970-384-9078 / richards@sgm-inc.com	47AD96F6

B. SWMP ADIMISTRATOR FOR CONSTRUCTION: (As defined in Subsection 208) The Contractor shall designate a SWMP Administrator for Construction upon accepting co-permittee of the permit. The SWMP Administrator for Construction shall become the operator for the SWMP and assume responsibility for all design changes to the SWMP implementation and maintenance in accordance to 208.03, the SWMP shall remain the property of CDOT. The SWMP Administrator for Construction shall be responsible for implementing, maintaining and revising SWMP, including the title and contact information. The activities and responsibilities of the SWMP Administrator for Construction shall address all aspects of the project's SWMP. (Update the information below for each new SWMP Administrator for Construction) (Copy of TECS Certification must also be included in the SWMP.)

Name/Title	Contact Information (phone & email)	Certification #	Start Date	Engineer Approval

C. EROSION CONTROL INSPECTOR: (As defined in Subsection 208) The Contractor may designate an Erosion Control Inspector. The Erosion Control Inspector shall complete duties in accordance with subsection 208.03 (c) (Copy of TECS Certification must also be included in the SWMP.)

Name/Title	Contact Information (phone & email)	Certification #	Start Date	Engineer Approval

D. PERMANENT STABILIZATION SUBJECT MATTER EXPERT: This qualified individual will be either a Regional Environmental Staff member, or an Independent Contractor Controller (Independent Assurance Program). This expert is a project team leader responsible for ensuring project adherence to requirements of the 207 and 212 Project Special Provisions as follows, and will be available for questions regarding permanent stabilization requirements.

1. Review the Topsoil Management Plan and the Permanent Stabilization Site Maps.
2. Attend the Environmental Pre-construction Conference.
3. Coordinate the Site Pre-vegetation Conference.
4. Review and recommend approval of products.
5. Review and recommend approval of the Quantities Verification Prerequisite.
6. Attend the Substantial Landscape Completion Walkthrough.
7. Attend the Final Landscape Completion Walkthrough.

Name/Title	Contact Information

COLORADO LICENSED
ASHLEY MARIE CLINE
12/22/21
56117
PROFESSIONAL ENGINEER

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SGM Project No.:	2020-544.001 Quality Control: MDF

Sheet Revisions

Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MWM

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27TH ST AND SH82 PEDESTRIAN UNDERPASS
STORM WATER MANAGEMENT PLAN (1)

Engineer:	AMC	Structure Numbers	--
Drawn By:	MWM		--
Sheet Subset:	SWMP	Subset Sheets:	1 of 5

Project No./Code: MTF M535-007 / 008
Code: 23687 / 23975
Sheet Number: 192

4. STORMWATER MANAGEMENT CONTROLS FOR FIRST CONSTRUCTION ACTIVITIES

THE CONTRACTOR SHALL PERFORM THE FOLLOWING:

A. POTENTIAL POLLUTANT SOURCES

Evaluate, identify, locate and describe all potential sources of pollutants at the site in accordance with subsection 107.25, CDPS-SCP and place in the SWMP. All control measures related to potential pollutants shall be shown on the SWMP Site Map by the Contractor's SWMP Administrator for Construction.

B. OFFSITE DRAINAGE (RUN ON WATER)

Describe and record control measures on the SWMP Site Map that have been implemented to address off site run-on water in accordance with subsection 208.03.

C. VEHICLE TRACKING CONTROL

Control measures shall be implemented in accordance with subsection 208.04.

D. PERIMETER CONTROL

1. Perimeter control shall be established as the first item on the SWMP to prevent the potential for pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state waters. Perimeter control shall be in accordance with subsection 208.04
2. Perimeter control may consist of berms, silt fence, erosion logs, existing landforms, or other control measures as approved.

5. DURING CONSTRUCTION

RESPONSIBILITIES OF THE SWMP Administrator for Construction

The SWMP should be considered a "living document" that is continuously reviewed and modified throughout the construction phasing. During construction, the following items shall be added, updated, or amended as needed by the SWMP Administrator for Construction in accordance with subsection 208.03.

During construction, indicate how items that have not been addressed during design are being handled in construction. If items are covered in the template or other sections of the SWMP, indicate below what section the discussion takes place.

A. MATERIALS HANDLING AND SPILL PREVENTION AND RESPONSE PLAN: prior to construction commencing the Contractor shall submit a Spill Response Plan, see subsection 208.06. Materials handling shall be in accordance with subsection 208.06.

B. STOCKPILE MANAGEMENT: Shall be done in accordance with subsections 107.25 and 208.07

C. CONCRETE WASHOUT: Concrete washout water or waste from field laboratories and paving equipment shall be contained in accordance with subsection 208.05.

D. SAW CUTTING: Shall be done in accordance with subsections 107.25, 208.04, 208.05

E. STREET SWEEPING: Shall be done in accordance with subsection 208.04

6. INSPECTIONS

A. Water Quality Inspections shall be in accordance with subsection 208.03(c).
B. Permanent Stabilization Inspections shall be in accordance with subsections 207.03 and 212.05.

7. CONTROL MEASURE MAINTENANCE

A. Maintenance shall be in accordance with subsection 208.04(f).

8. RECORD KEEPING

A. Records shall be kept in accordance with subsection 208.03(d).

9. INTERIM, PERMANENT STABILIZATON and LONG TERM STORMWATER MANAGEMENT

The Contractor shall comply with all interim stabilization and permanent stabilization requirements in accordance with subsection 208.04(e).

A. SEEDING PLAN

Per Landscaping Plan Sagebrush Shrubland Seed Mix shall be used in all areas:

COMMON NAME	BOTANICAL NAME	LBS. PLS PER ACRE
Indian Rice Grass	Achnatherum Hymenoides	2.5
Bluebunch Wheatgrass	Agropyron Spicatum	2.2
Hooker Sandwort	Arenaria Hookeri	0.4
Fringed Wormwood	Artemisia Frigida	0.4
Black Sagebrush	Artemisia Nova	0.2
Mountain Big Sagebrush	Artemisia Tridentata Vaseyana	0.4
Arrowleaf Balsamroot	Balsamorhiza Sagittata	0.4
Side Oats Grama	Bouteloua Curtipendula	1.8
Hairy Golden Aster	Chrysopsis Villosa	0.4
Rubber Rabbitbrush	Chyrsolthanmus Nauseosus	0.9
Nuttall's Larkspur	Delphinium Nuttallii	0.7
Slender Wheatgrass	Elymus Trachycaulus	1.8
Rocky Mountain Fescue	Festuca Saximotana	1.8
Western Wheatgrass	Pascopyrum Smithii	1.8
Carpet Phlox	Phlox Hoodii	0.7
Letterman's Needlegrass	Stipa Lettermanii	1.8
TOTAL		18.0

B. SEEDING APPLICATION: The following seeding methods shall be used for all areas which are not surfaced and as shown on the Permanent Stabilization Site Maps. Soil compaction shall be minimized for areas where permanent stabilization will be achieved through vegetative cover.

SEEDING METHOD (subsection 212.05)	ACRE
Seeding (Native) Drill, CDOT Pay Item 212-00706	
Seeding (Native) Hydraulic, CDOT Pay Item 212-00707	
Seeding (Native) Broadcast, CDOT Pay Item 212-00708	1.23
Seeding (Wetland) Drill, CDOT Pay Item 212-00709	
Seeding (Wetland) Hydraulic, CDOT Pay Item 212-00710	
Seeding (Wetland) Broadcast, CDOT Pay Item 212-00711	
TOTAL	1.23

R-1

C. SOIL STABILIZATION METHODS:

Minimum soil stabilization methods (attached mulch) for all disturbances to receive seeding.

1. Apply certified weed free hay or certified weed free straw and mechanically crimp into the soil in combination with natural mulch tackifier in accordance with Section 213.
2. Apply Spray-on Mulch Blanket hydraulically in accordance with Section 213.
3. Install Soil Retention Blankets in accordance with Standard Plan M-216-1 and Section 216.

D. SPECIAL REQUIREMENTS:

1. Soil amendments, seedbed preparation, and permanent stabilization mulching shall be accomplished within four working days of placing the topsoil on the de-compacted civil subgrades. If placed topsoil is not mulched with permanent stabilization mulch within four working days, the Contractor shall complete interim stabilization methods in accordance with subsection 208.04(e) at no additional cost to the Department.
2. Complete permanent stabilization mulching within 24 hours of hydraulic application of native seed.
3. The Contractor shall submit a proposed Permanent Stabilization Phasing Plan to the Engineer for approval showing how implementation of SWMP Permanent Stabilization Plans will minimize damage to seeded areas.

E. SOIL AMENDMENT REQUIREMENTS: Minimum amendment material requirements for all disturbances to receive seeding.

1.23 Total Acres of Seeding (Native) Broadcast

	Pay Item	Description	Amount/Acre	Units	Total For This Method
Seeding (Native) Broadcast Pay Item 212-00708	212-00700	Organic Fertilizer		Pounds	
	212-00701	Compost (Mechanically Applied)	135	CY	166
	212-00703	Humate		Pounds	
	212-00704	Mycorrhizae		Pounds	
	212-00705	Elemental Sulfur		Pounds	

R-1

F. PERMANENT STABILIZATION APPLICATION UNDER STRUCTURES: Under structures shade patterns should be considered and the use of Median Cover Material (Stone) or other stabilized options with an approved Project Special Provision should be used. See SWMP Site Map for locations.

G. RESEEDING OPERATIONS/CORRECTIVE STABILIZATION:

Prior to partial acceptance.

1. All seeded areas shall be reviewed during the 7 day inspections by the SWMP Administrator for Construction and or Erosion Control Inspector for bare soils caused by surface or wind erosion. Bare areas caused by surface or gully erosion, blown away mulch, etc. shall be re-graded, seeded, and have the designated mulching applied as necessary, at no additional cost to the project.

H. LOCATION AND DESCRIPTION OF PLANNED PERMANENT CONTROL MEASURES:

Is Permanent Water Quality Required. Yes _____ No ___X___.

10. PRIOR TO PROJECT FINAL ACCEPTANCE

A. When directed by the Engineer, removal and disposal of temporary control measures shall be included in the cost of work.
B. At the end of the project, all ditch checks shall either consist of temporary erosion logs (or equivalent) or permanent riprap.

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ASHLEY MARIE CLINE
12/22/21
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PROFESSIONAL ENGINEER

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SGM Project No.: 2020-544.001	Quality Control: MDF

Sheet Revisions

Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MWM

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27TH ST AND SH82 PEDESTRIAN UNDERPASS
STORM WATER MANAGEMENT PLAN (2)

Engineer:	AMC	Structure Numbers	--
Drawn By:	MWM		--
Sheet Subset:	SWMP	Subset Sheets:	2 of 5

Project No./Code	
MTF M535-007 / 008	
Code:	23687 / 23975
Sheet Number:	193

12. TABULATION OF STORMWATER QUANTITIES

A. All control measure maintenance shall be included in the cost of the control measure.*

PSP Spec.	Pay Item	Description	Pay Unit	Initial Const.	Interim Const.	Permanent Stabilization	**Total Quantity	
	208-00002	Erosion Log Type 1 (12 inch)	LF	20	500		520	R-1
	208-00035	Aggregate Bag	LF		100		100	
	208-00046	Pre-fabricated Concrete Washout Structure (Type I)	Each		3		3	
	208-00051	Storm Drain Inlet Protection (Type I)	Each	1	2		3	
	208-00054	Storm Drain Inlet Protection (Type II)	Each	1	3		4	
	208-00056	Storm Drain Inlet Protection (Type III)	Each	1			1	
	208-00075	Pre-fabricated Vehicle Tracking Pad	Each	2			2	
	208-00207	Erosion Control Management	Day				180	
	212-00701	Compost (Mechanically Applied)	CY			166	166	
	212-00708	Seeding (Native) Broadcast	Acre			1.23	1.23	R-1
	213-00004	Mulching (Weed Free Straw)	Acre			1.23	1.23	
	213-00008	Mulching (Wood Chip)	CF			748	748	
	213-00061	Mulch Tackifier	LB			246	246	
	216-00201	Soil Retention Blanket (Straw/Coconut) (Biodegradable Class 1)	SY			1368	1368	R-1
	607-11525	Fence (Plastic)	LF	150			150	

*Removal and Disposal of Sediment and Sweeping will not be measured and paid for separately but shall be included in the work.

**It is anticipated that additional control measures and control measure quantities not shown on the SWMP Site Maps shall be required on the project for unforeseen conditions and replacement of items that are beyond their useful service life, see subsections 208.03 and 208.04. Quantities for all control measures shown above are estimated, and have been increased for unforeseen conditions and normal control measure life expectancy. Quantities shall be adjusted according to the conditions encountered in the field as directed and approved by the Engineer. Payment shall be for the actual work completed and material used.

13. BIOLOGIC IMPACTS and DEWATERING

A. ENVIRONMENTAL IMPACTS:

1. Wetland Impacts: NO
2. Stream Impacts: NO
3. Threatened and Endangered Species: No species are anticipated to be impacted by the project.

B. DEWATERING (Not Covered Under the CDPHE Low Risk Discharge Guidance Document of Uncontaminated Groundwater to Land):

https://www.colorado.gov/pacific/sites/default/files/WQ%20LOW%20RISK%20GW.pdf

1. Dewatering: Refer to other environmental permits in accordance with subsection 107.02 and the permits contained in Tab 16 of the SWMP.
2. If groundwater does not meet water quality standards for receiving water a separate CDPS Dewatering Permat shall be obtained by the Contractor from CDPHE in accordance with subsections 107.02 and 107.25.

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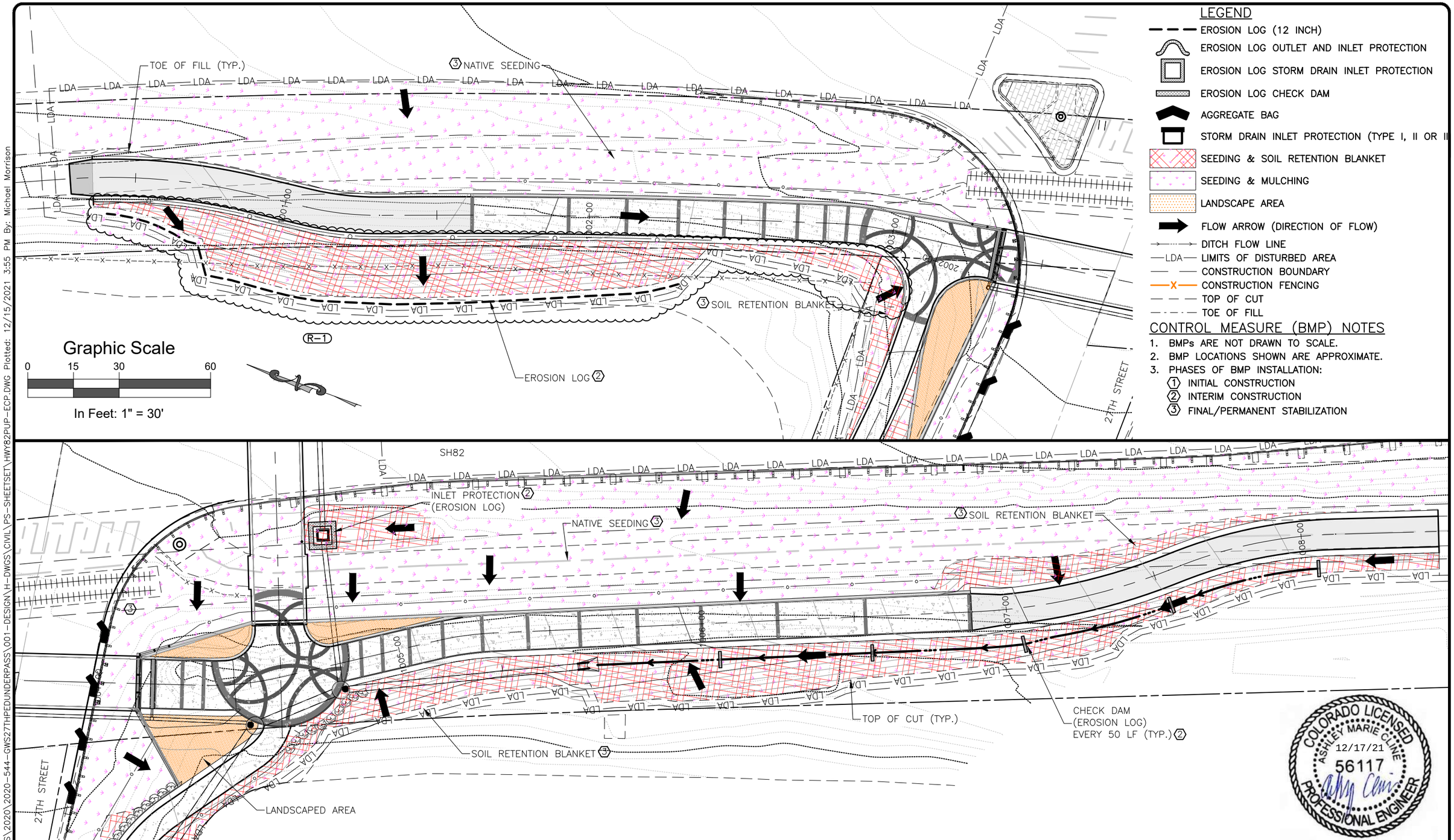
27TH ST AND SH82 PEDESTRIAN UNDERPASS
STORM WATER MANAGEMENT PLAN (5)

Engineer:	AMC	Structure Numbers	--
Drawn By:	MWM		--
Sheet Subset:	SWMP	Subset Sheets:	5 of 5

Project No./Code	
MTF M535-007 / 008	
Code:	23687 / 23975
Sheet Number:	196



LEGEND

- EROSION LOG (12 INCH)
- EROSION LOG OUTLET AND INLET PROTECTION
- EROSION LOG STORM DRAIN INLET PROTECTION
- EROSION LOG CHECK DAM
- AGGREGATE BAG
- STORM DRAIN INLET PROTECTION (TYPE I, II OR II
- SEEDING & SOIL RETENTION BLANKET
- SEEDING & MULCHING
- LANDSCAPE AREA
- FLOW ARROW (DIRECTION OF FLOW)
- DITCH FLOW LINE
- LDA — LIMITS OF DISTURBED AREA
- CONSTRUCTION BOUNDARY
- CONSTRUCTION FENCING
- TOP OF CUT
- TOE OF FILL

CONTROL MEASURE (BMP) NOTES

1. BMPs ARE NOT DRAWN TO SCALE.
2. BMP LOCATIONS SHOWN ARE APPROXIMATE.
3. PHASES OF BMP INSTALLATION:
   - 1 INITIAL CONSTRUCTION
   - 2 INTERIM CONSTRUCTION
   - 3 FINAL/PERMANENT STABILIZATION

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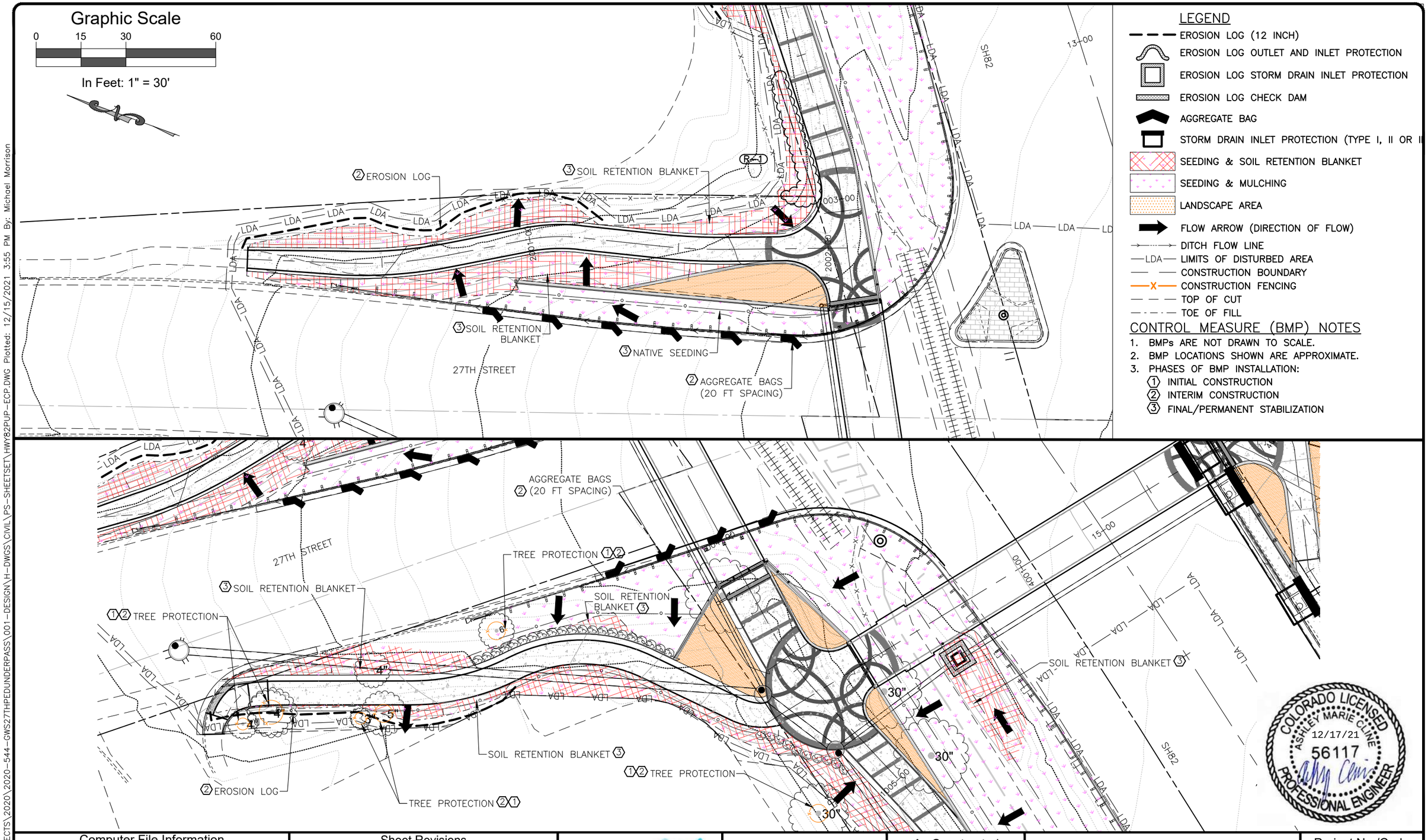
27TH ST AND SH82 PEDESTRIAN UNDERPASS
EROSION CONTROL PLAN (1)

Engineer:	AMC	Structure Numbers	
Drawn By:	MWM		
Sheet Subset:	EC	Subset Sheets:	1 of 3

Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	197



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27TH ST AND SH82 PEDESTRIAN UNDERPASS
EROSION CONTROL PLAN (2)

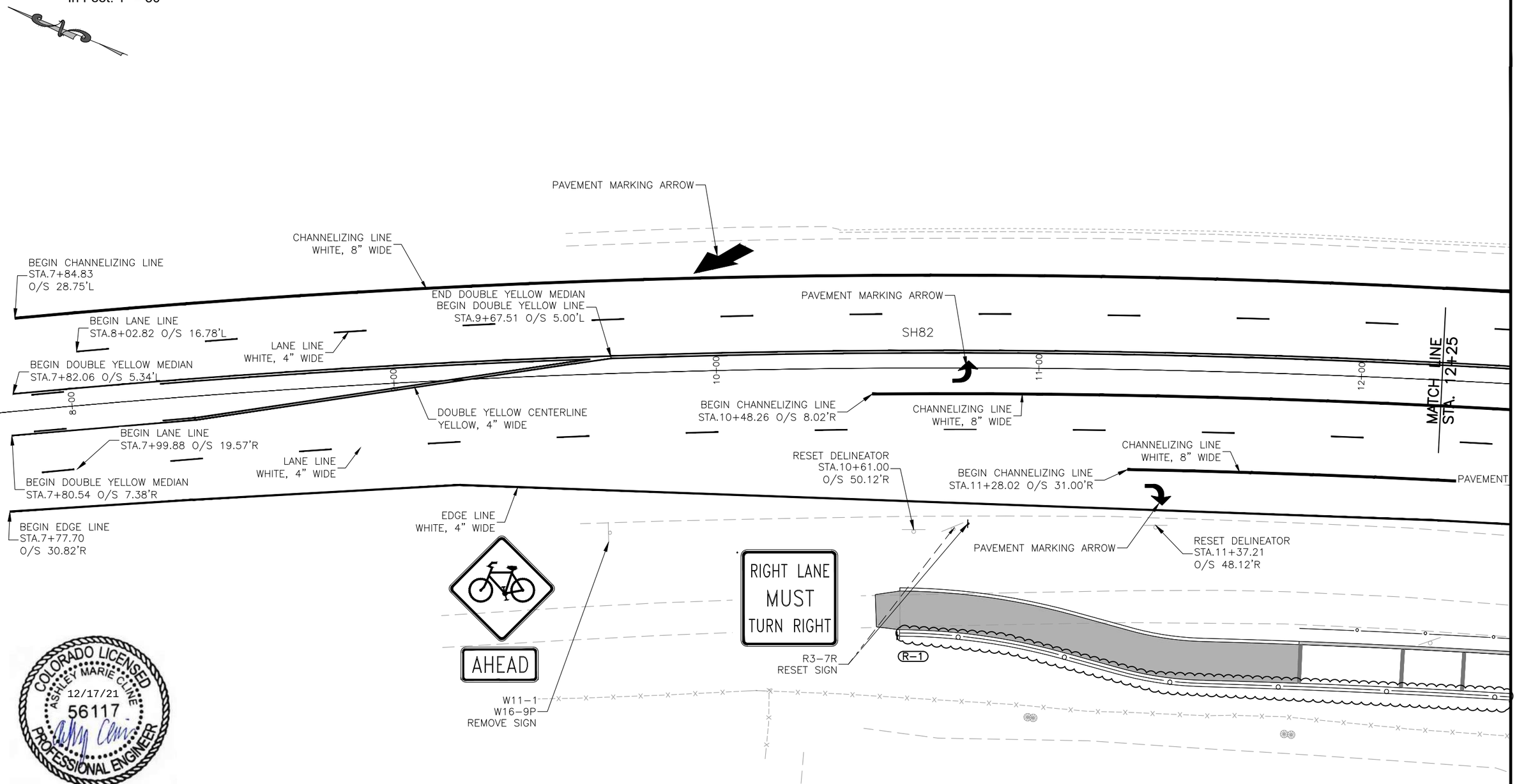
Engineer:	AMC	Structure Numbers	
Drawn By:	MWM		
Sheet Subset:	EC	Subset Sheets:	2 of 3

Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	198

Graphic Scale

0 15 30 60

In Feet: 1" = 30'



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27TH ST AND SH82 PEDESTRIAN UNDERPASS
SH82 - SIGNING & STRIPING (1)

Engineer:	AMC	Structure Numbers	
Drawn By:	MWM		
Sheet Subset:	SS	Subset Sheets:	3 of 9

Project No./Code

MTF M535-007 / 008

23687 / 23975

Sheet Number 202

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12/17/21
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PROFESSIONAL ENGINEER

Graphic Scale
0 15 30 60
In Feet: 1" = 30'

BRT STATION

END CHANNELIZING LINE
STA.14+05.14
O/S 28.03'L

END LANE LINE
BEGIN DASHED CHANNELIZING LINE
STA.13+69.70 O/S 16.79'L

END DOUBLE
YELLOW CENTERLINE
STA.13+62.72 O/S 5.00'L

END CHANNELIZING LINE
STA.13+63.07 O/S 7.98'R

CENTER LINE
DOUBLE YELLOW, 4" WIDE

LANE LINE
WHITE, 4" WIDE

MATCH LINE
STA. 12+25

13-00

STOP LINE
WHITE, 24" (36 LF)

CHANNELIZING LINE
WHITE, 8" WIDE

PAVEMENT MARKING ARROW

LANE LINE
WHITE, 4" WIDE

END LANE LINE
STA.13+62.36 O/S 19.03'R

PAVEMENT MARKING ARROW

CHANNELIZING LINE
WHITE, 8" WIDE

EDGE LINE
WHITE, 4" WIDE

BEGIN CHANNELIZING LINE
STA.13+14.62
O/S 31.00'R

END EDGE LINE
STA.13+20.26
O/S 49.24'R

END CHANNELIZING LINE
STA.13+83.14
O/S 31.00'R

CHANNELIZING LINE
WHITE, 8" WIDE

END CHANNELIZING LINE
STA.13+81.82
O/S 75.77'R

END DASHED CHANNELIZING LINE
STA.14+14.55 O/S 67.75'R

RIO GRANDE TRAIL

R-1

REMOVE SIGN
(SEE NOTE)
STA.13+13.95
O/S 57.96'R

YIELD

R1-2
RESET SIGN

27TH STREET

14-00

CHANNELIZING LINE
DOTTED WHITE, 8" WIDE

SH82

BEGIN CHANNELIZING LINE
STA.14+87.35 O/S 3.54'L

BEGIN DOUBLE
YELLOW CENTERLINE
STA.14+85.57
O/S 7.97'R

BEGIN CHANNELIZING LINE
STA.14+74.75
O/S 30.17'R

BEGIN EDGE LINE
STA.14+72.25
O/S 47.63'R

STOP LINE
WHITE, 24" WIDE (45 LF)

BEGIN CHANNELIZING LINE
STA.14+87.50 O/S 27.41'L

PAVEMENT MARKING ARROW

BEGIN LANE LINE
STA.15+17.96 O/S 14.80'L

CHANNELIZING LINE
WHITE, 8" WIDE

LANE LINE
WHITE, 4" WIDE

15-00

16-00

CHANNELIZING LINE
WHITE, 8" WIDE

PAVEMENT MARKING ARROW

CENTER LINE
DOUBLE YELLOW, 4" WIDE

MATCH LINE
STA. 16+70

BEGIN LANE LINE
STA.15+02.95
O/S 19.64'R

LANE LINE
WHITE, 4" WIDE

CHANNELIZING LINE
WHITE, 8" WIDE

EDGE LINE
WHITE, 4" WIDE

Computer File Information	
Print Date: 12/15/21	
Last Modification Date: 06/30/21	
Drawing File Name: Hwy82PUP-Signing&Striping	
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: MDF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MWM

RFTA
Roaring Fork Transportation Authority

SGM
118 West Sixth Street, Suite 200
Glenwood Springs, CO 81601
970.945.1004 www.sgm-inc.com

As Constructed

No Revisions:

Revised:

Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
SH82 - SIGNING & STRIPING (2)

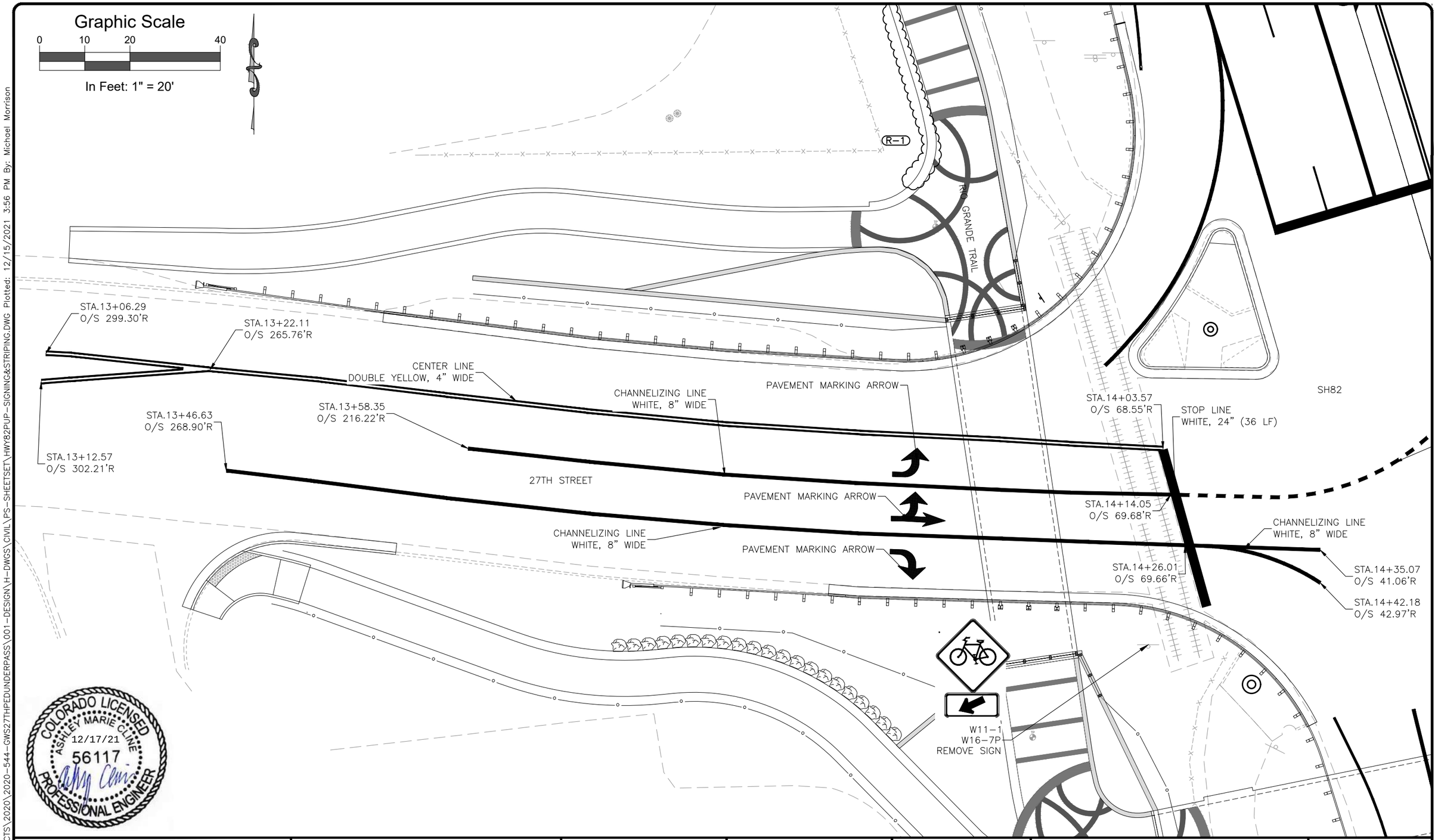
Engineer:	AMC	Structure Numbers	
Drawn By:	MWM		
Sheet Subset:	SS	Subset Sheets:	4 of 9

Project No./Code
MTF M535-007 / 008
23687 / 23975
Sheet Number 203

Graphic Scale

0 10 20 40

In Feet: 1" = 20'



COLORADO LICENSED
ASHLEY MARIE CLINE
12/17/21
56117
PROFESSIONAL ENGINEER

Computer File Information	
Print Date: 12/15/21	
Last Modification Date: 06/30/21	
Drawing File Name: Hwy82PUP-Signing&Striping	
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: MDF

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MWM

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27TH ST AND SH82 PEDESTRIAN UNDERPASS
27TH STREET (WEST) - SIGNING & STRIPING

Engineer:	AMC	Structure Numbers	
Drawn By:	MWM		
Sheet Subset:	SS	Subset Sheets:	6 of 9

Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	205

Graphic Scale

0 10 20 40

In Feet: 1" = 20'

SH82

TRAIL X-ING

24W11-15
18W11-15P

REMOVE REFLECTOR POST
(SEE NOTE)
STA.13+07.38
O/S 67.72'R

REMOVE DELINEATOR
STA.13+14.73
O/S 53.99'R

RIO GRANDE TRAIL

R-1

24W7-5

REMOVE SIGN
(SEE NOTE)
STA.12+25.17
O/S 81.03'R

SH82

REMOVE SIGN
(SEE NOTE)
STA.14+75.67
O/S 62.07'R

REMOVE REFLECTOR POST
(SEE NOTE)
STA.15+45.87
O/S 68.95'R

REMOVE SIGN
(SEE NOTE)
STA.15+57.78
O/S 67.67'R

REMOVE SIGN
(SEE NOTE)
STA.13+47.76
O/S 75.82'R

RIO GRANDE TRAIL

REMOVE SIGN
(SEE NOTE)
STA.15+57.66
O/S 84.09'R

27TH STREET

REMOVE REFLECTOR POST
(SEE NOTE)
STA.15+16.61
O/S 83.27'R

COLORADO LICENSED
ASHLEY MARIE CLINE
12/17/21
56117
PROFESSIONAL ENGINEER

\\SGMFILE1\PROJECTS\2020\2020-544-GWS27THPEDUNDERPASS\001-DESIGN\H-DWGS\CIVIL\PS-SHEETSET\HWY82PUP-SIGNING&STRIPING.DWG Plotted: 12/15/2021 3:56 PM By: Michael Morrison

Computer File Information	
Print Date: 12/15/21	
Last Modification Date: 06/30/21	
Drawing File Name: Hwy82PUP-Signing&Striping	
Autocad Ver. 2020 Scale: As Shown	
SGM Project No.: 2020-544.001	Quality Control: MDF

Sheet Revisions

Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MWM

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27TH ST AND SH82 PEDESTRIAN UNDERPASS
RIO GRANDE TRAIL - SIGNING & STRIPING (1)

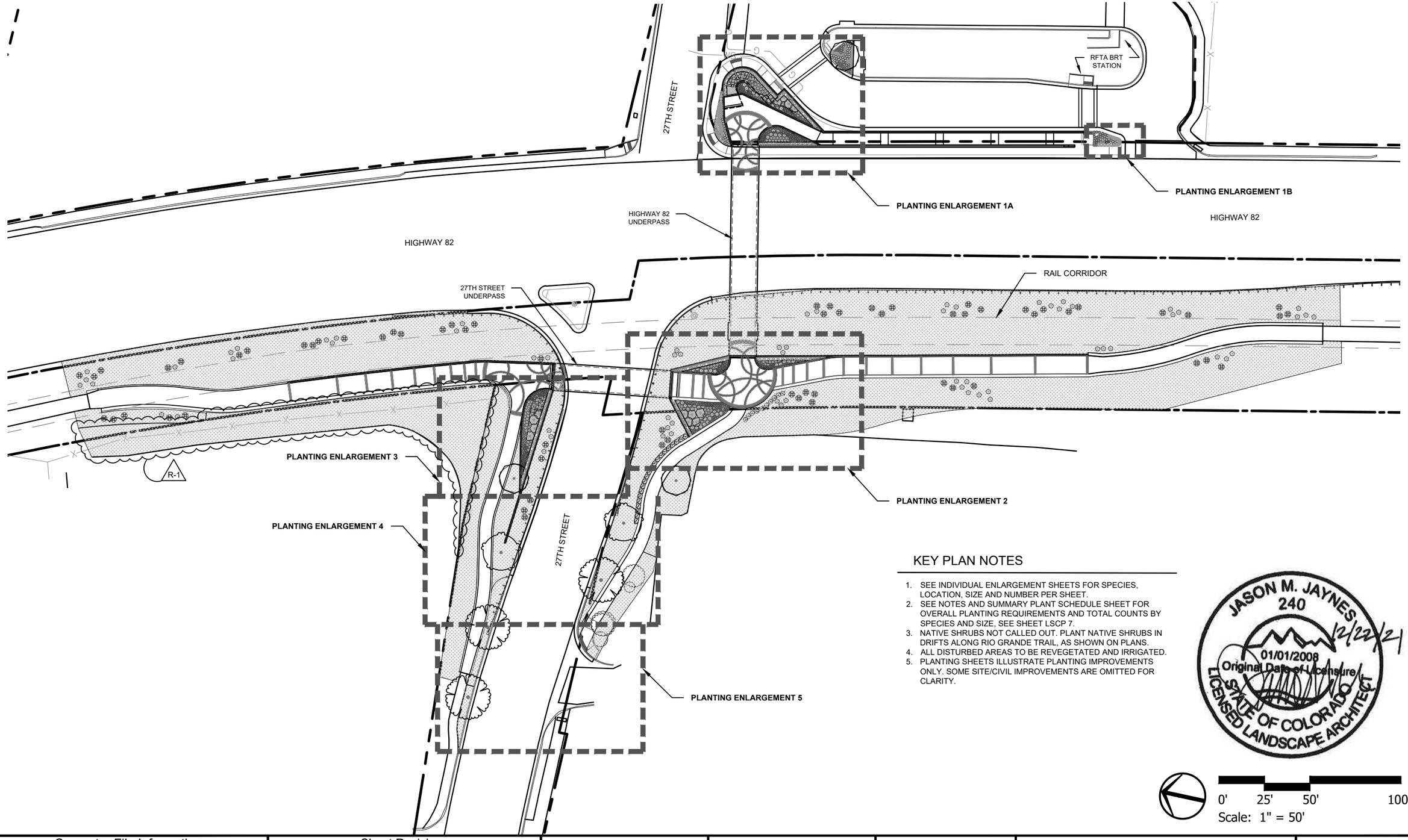
Engineer:	AMC	Structure Numbers	
Drawn By:	MWM		
Sheet Subset:	SS	Subset Sheets:	8 of 9

Project No./Code

MTF M535-007 / 008

23687 / 23975

Sheet Number 207



KEY PLAN NOTES

1. SEE INDIVIDUAL ENLARGEMENT SHEETS FOR SPECIES, LOCATION, SIZE AND NUMBER PER SHEET.
2. SEE NOTES AND SUMMARY PLANT SCHEDULE SHEET FOR OVERALL PLANTING REQUIREMENTS AND TOTAL COUNTS BY SPECIES AND SIZE, SEE SHEET LSCP 7.
3. NATIVE SHRUBS NOT CALLED OUT. PLANT NATIVE SHRUBS IN DRIFTS ALONG RIO GRANDE TRAIL, AS SHOWN ON PLANS.
4. ALL DISTURBED AREAS TO BE REVEGETATED AND IRRIGATED.
5. PLANTING SHEETS ILLUSTRATE PLANTING IMPROVEMENTS ONLY. SOME SITE/CIVIL IMPROVEMENTS ARE OMITTED FOR CLARITY.

0' 25' 50' 100'
Scale: 1" = 50'

Computer File Information	
Print Date: 12/20/21	
Last Modification Date: 12/22/21	
Drawing File Name: UNDERPASS_L-2-0_LANDSCAPE PLAN rev numbers	
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: XX

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12.22.21	ELIMINATED WALLS 1 & 3	

Roaring Fork Transportation Authority

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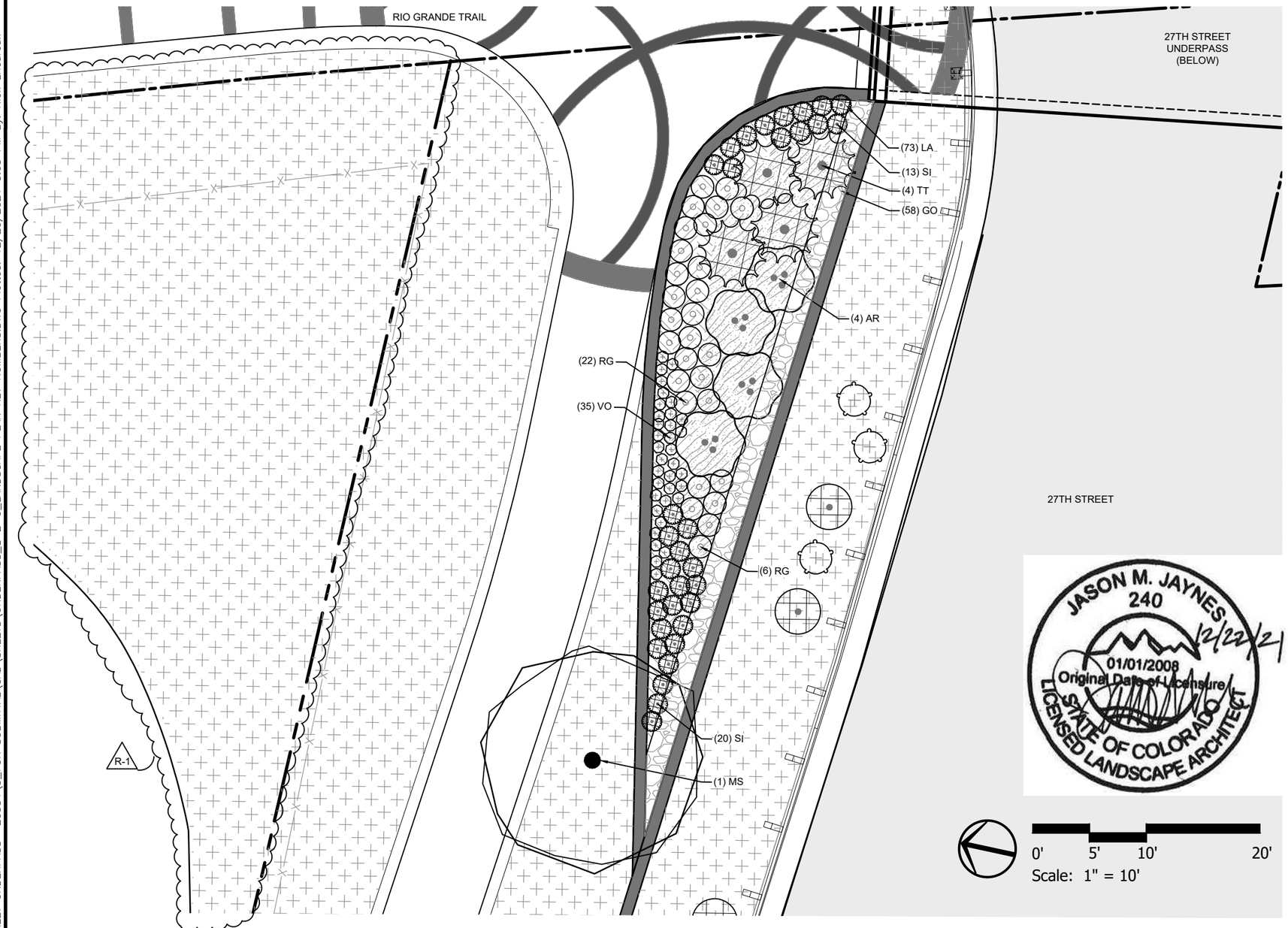
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
PLANTING KEY PLAN

Designer:	JJ	Structure Numbers	
Drawn By:	DB		
Sheet Subset:	LANDSCAPE	Subset Sheets:	1 of 9

Project No./Code	
MTF M535-007 / 008	
Code: 23687 / 23975	
Sheet Number	300



PLANT SCHEDULE ENLARGEMENT 3				
TREES	CODE	BOTANICAL / COMMON NAME	CONT	QTY
	MS	Malus x 'Spring Snow' Spring Snow Crabapple (Sterile Variety)	2" Cal B&B	1
SHRUBS	CODE	BOTANICAL / COMMON NAME	CONT	QTY
	VO	Viburnum opulus 'Nanum' Dwarf European Craberrybush	1 Gal	35
	RG	Ribes alpinum 'Green Mound' Green Mound Alpine Currant	5 Gal	28
	SI	Spiraea japonica 'Limemound' Limemound Spirea	5 Gal	33
	AR	Amelanchier alnifolia 'Regent' Regent Serviceberry	5 Gal	4
	TT	Taxus x media 'Tauntonii' Taunton's Anglo-Japanese Yew	5 Gal	4
NATIVE SHRUBS	CODE	BOTANICAL / COMMON NAME	CONT	QTY
	AV2	Artemisia tridentata vaseyana Mountain Big Sagebrush	1 Gal	2
	CR2	Chrysothamnus nauseosus Rubber Rabbitbrush	1 Gal	3
GROUND COVERS	CODE	BOTANICAL / COMMON NAME	CONT	QTY
	LA	Lysimachia nummularia 'Aurea' Golden Creeping Jenny	2.25" Pot	73
	GO	Galium odoratum Sweet Woodruff	2.25" Pot	58

JASON M. JAYNES
240
12/22/21
01/01/2008
Original Date of Licensure
STATE OF COLORADO
LICENSED LANDSCAPE ARCHITECT

0' 5' 10' 20'
Scale: 1" = 10'

LEGEND:

SAGEBRUSH SHRUBLAND MIX
(SEE SHEET LSCP 7)

COBBLE BAND
COBBLE TO BE: 'RIVER COBBLE', 4-8" MIX
INSTALL TO 8" MIN. DEPTH AND EDGE WITH
1/8" STAKED METAL EDGING AS REQUIRED

ENLARGEMENT NOTES:

1. NATIVE SHRUBS NOT CALLED OUT. PLANT NATIVE SHRUBS IN DRIFTS ALONG RIO GRANDE TRAIL.
2. ALL DISTURBED AREAS OUTSIDE OF PLANTING BEDS TO RECEIVE NATIVE SEEDING, ALSO REFERRED TO AS SAGEBRUSH SHRUBLAND MIX.
3. GROUND COVER HATCHES ILLUSTRATED AT HALF SCALE ON LEGEND.

P:\CARBONDALE\RFTA 27TH STREET UNDERPASS - 20354\5_FOR SUBMITTAL\CAD\SHEETS\UNDERPASS_L-2-0_LANDSCAPE PLAN REV NUMBERS.DWG Plotted: 12/20/2021 3:03 PM By: Nick LHeureux

Computer File Information	
Print Date:	12/20/21
Last Modification Date:	12/22/21
Drawing File Name:	UNDERPASS_L-2-0_LANDSCAPE PLAN rev numbers
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: XX

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12.22.21	ELIMINATED WALLS 1 & 3	

Roaring Fork Transportation Authority

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27TH ST AND SH82 PEDESTRIAN UNDERPASS
PLANTING ENLARGEMENT 3

Designer:	JJ	Structure Numbers	
Drawn By:	DB		
Sheet Subset:	LANDSCAPE	Subset Sheets:	4 of 9

Project No./Code	
	MTF M535-007 / 008
	Code: 23687 / 23975
Sheet Number	303

PLANTING NOTES

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH AND UNDERSTAND ALL UNDERGROUND UTILITIES, PIPES AND STRUCTURES LOCATED ON SITE. CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR COSTS INCURRED DUE TO DAMAGE AND THE REPLACEMENT OF SAID UTILITIES. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ACTUAL CONSTRUCTION. FOR INFORMATION CONTACT: UTILITY NOTIFICATION CENTER OF COLORADO, 303.232.1991 OR 8-1-1.
2. CONTRACTOR TO CONTACT THE UTILITY NOTIFICATION CENTER BEFORE DIGGING, INCLUDING BUT NOT LIMITED TO, TRENCHING AND SHRUB AND TREE PLANTING PITS. IF UTILITIES OCCUR AT LOCATIONS OF PROPOSED SHRUBS, OR WITHIN EIGHT (8) FEET OF PROPOSED TREES, THE CONTRACTOR SHALL REPORT SUCH CONDITIONS TO THE OWNER'S REPRESENTATIVE. DAMAGE TO EXISTING UTILITIES BY THE LANDSCAPE CONTRACTOR IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.
3. LANDSCAPE CONTRACTOR TO REMOVE ALL ROCK AND DEBRIS OVER 1" IN SIZE AND DISPOSE OF OFF-SITE LEGALLY PRIOR TO INSTALLATION OF ANY PLANT MATERIAL. ALL MATERIALS SHALL BE DISPOSED OF OFF-SITE LEGALLY AND PER LOCAL CODES & REGULATIONS.
4. CONTRACTOR SHALL FOLLOW THE LANDSCAPE PLAN. ANY DISCREPANCIES BETWEEN THE PLAN AND FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER'S AUTHORIZED REPRESENTATIVE BEFORE PROCEEDING WITH WORK.
5. CONTRACTOR SHALL USE LOCAL BEST MANAGEMENT PRACTICES FOR OBTAINING AND INSTALLING LANDSCAPE MATERIALS. COMPLETE THE WORK USING SKILLED PERSONNEL, PROFICIENT IN THE TRADES REQUIRED & IN A NEAT, ORDERLY AND RESPONSIBLE MANNER & WITH RECOGNIZED STANDARDS OF WORKMANSHIP.
6. ALL PLANTS TO BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. NOTIFY ENGINEER FOR INSPECTION AND APPROVAL OF PLANT MATERIAL AT TIME OF DELIVERY. TREES ARE TO BE TAGGED AT THE NURSERY BY THE OWNER. ANY PLANT NOT MEETING OWNER'S APPROVAL MAY BE REJECTED AT ANY TIME PRIOR TO FINAL ACCEPTANCE.
7. PLANT MATERIAL MUST MEET CURRENT LANDSCAPE NURSERY STANDARDS &/OR ANSI Z60.1.
8. IF PLANTS ARE NOT AVAILABLE, NOTIFY LANDSCAPE ARCHITECT FOR APPROVAL OF CHANGE BEFORE MAKING SUBSTITUTIONS.
9. THE OWNER'S AUTHORIZED REPRESENTATIVE MUST APPROVE ALL PLANTING LAYOUTS PRIOR TO PLANTING. ALL ADJUSTMENTS SHALL BE MADE BY THE CONTRACTOR PRIOR TO INSTALLING PLANTS. THE CONTRACTOR SHALL NOT DIG PLANT PITS UNTIL LOCATIONS ARE APPROVED.
10. MINOR FIELD ADJUSTMENTS TO THE PLANTING PLANS MAY BE NECESSARY BASED ON THE ACTUAL LOCATION OF LIGHTS, TRANSFORMERS, GROUND-MOUNTED HVAC UNITS, UTILITY PEDESTALS, AND SIMILAR FEATURES. ADDITIONAL LANDSCAPING AND SCREENING MAY BE REQUIRED BASED UPON FIELD CONDITIONS DURING THE SITE INSPECTION PRIOR TO INITIAL ACCEPTANCE. CONTRACTOR MUST OBTAIN APPROVAL FROM THE OWNER PRIOR TO ADJUSTING THE DESIGN.
11. ALL SHRUB BEDS AND SOD AREAS SHALL BE CONTAINED BY A STEEL EDGER, OR A CONCRETE CURB, WALK, OR OTHER SHRUB BED DEFINING ELEMENT.
12. TREE BASKETS SHALL BE REMOVED FROM ROOTBALLS AND KEPT BY THE PLANTED TREE UNTIL VERIFIED BY THE OWNER'S REPRESENTATIVE.
13. STOCKPILED PLANT MATERIAL TO BE PLACED IN THE SHADE AND HAND-WATERED UNTIL PLANTED.
14. MAINTAIN POSITIVE DRAINAGE AWAY FROM WALLS, WALKS, AND OTHER STRUCTURES AT ALL TIMES. FINE GRADING SHALL BE APPROVED PRIOR TO SEEDING OR INSTALLATION OF ANY PLANT MATERIAL.
15. THE CONTRACTOR SHALL FINE GRADE ALL AREAS TO BE PLANTED. THE CONTRACTOR SHALL REMOVE REQUIRED DEPTH OF SOIL ALONG WALK WAYS TO ACCOMMODATE SEED OR MULCH DEPTH TO BRING BACK TO GRADE.
16. ALL DISTURBED AREAS TO BE RE-VEGETATED AS DESIGNATED IN THE PLANS.
17. NOXIOUS VEGETATION SHALL BE CONTROLLED BY LANDSCAPE CONTRACTOR IN ALL AREAS AFFECTED BY THE WORK DURING INSTALLATION AND THROUGHOUT THE MAINTENANCE REVIEW.
18. ALL LANDSCAPE AREAS WILL BE IRRIGATED WITH A FULLY AUTOMATIC UNDERGROUND IRRIGATION SYSTEM.
19. MULCH - ALL PLANTING BEDS SHALL BE COVERED BY A SPECIFIED MULCH (OR ACCEPTED SUBSTITUTION) AS APPROVED BY OWNER. ALSO REFER TO SPECIFICATIONS AND DETAILS.
    - 19.1. ALL SHRUB BEDS SHALL RECEIVE A MINIMUM OF 4" OF MULCH, INCLUDING THE DRY ZONE AROUND THE BUILDINGS.
      - 19.1.1. EXCEPT GROUNDCOVERS SHALL RECEIVE 3" OF MULCH.
      - 19.1.2. DO NOT BURY PERENNIALS OR ORNAMENTAL GRASSES WITH MULCH.
    - 19.2. MULCH AROUND TREES SHALL BE 4" DEEP IN NON-TURF AREAS & 2" DEEP IN TURF AREAS.
      - 19.2.1. PULL MULCH BACK 6" FROM TRUNK OF TREES AS PER DETAILS.
      - 19.2.2. DO NOT PROVIDE A WATER BASIN FOR TREES IN LAWN AREAS
20. SPACING / LAYOUT.
    - 20.1. TREES TO BE A MINIMUM OF 8' FROM CENTER LINE OF UNDERGROUND UTILITIES SUCH AS STORM SEWERS, WATER MAINS, ETC.
    - 20.2. LARGE SHRUBS (THOSE OVER 6' SPACING AS SHOWN IN THE PLANT SCHEDULE) SHALL BE PLANTED A MINIMUM OF 5' FROM EDGER OR WALKS.
    - 20.3. SMALLER SHRUBS (THOSE LESS THAN 6' SPACING AS SHOWN IN THE PLANT SCHEDULE) SHALL BE PLANTED A MINIMUM OF 3' FROM EDGER OR WALKS.
21. WHEN PLANTING TREES, THE 1ST STRUCTURAL ROOT SHOULD BE PLACED 1" ABOVE THE FINISHED GRADE. SEE DETAILS.

CONCEPT PLANT SCHEDULE

53,500 sf → R-1

SAGEBRUSH SHRUBLAND MIX		
Achnatherum hymenoides / Indian Rice Grass	7,394 sf	14%
Agropyron spicatum / Bluebunch Wheatgrass	6,338 sf	12%
Arenaria hookeri / Hookers Sandwort	1,056 sf	2%
Artemisia frigida / Fringed Wormwood	1,056 sf	2%
Artemisia nova / Black Sagebrush	528 sf	1%
Artemisia tridentata vaseyana / Mountain Big Sagebrush	1,056 sf	2%
Balsamorhiza sagittata / Arrowleaf Balsamroot	1,056 sf	2%
Bouteloua curtipendula / Side Oats Grama	5,282 sf	10%
Chrysopsis villosa / Hairy Golden Aster	1,056 sf	2%
Chrysothamnus nauseosus / Rubber Rabbitbrush	2,641 sf	5%
Delphinium nuttallii / Nuttall's Larkspur	2,113 sf	4%
Elymus trachycaulus / Slender Wheatgrass	5,282 sf	10%
Festuca saximontana / Rocky Mountain Fescue	5,282 sf	10%
Pascopyrum smithii / Western Wheatgrass	5,282 sf	10%
Phlox hoodii / Carpet Phlox	2,113 sf	4%
Stipa lettermanii / Letterman's Needlegrass	5,282 sf	10%

APPLICATION RATE: 18 LBS/ACRE

PLANT SCHEDULE

TREES	CODE	BOTANICAL / COMMON NAME	CONT	QTY
	TG	Tilia cordata 'Greenspire' Greenspire Littleleaf Linden	2" Cal B&B	2
	AP	Acer platanoides 'Royal Red' Royal Red Maple	2" Cal B&B	3
	MS	Malus x 'Spring Snow' Spring Snow Crabapple (Sterile Variety)	2" Cal B&B	3
SHRUBS	**CODE**	**BOTANICAL / COMMON NAME**	**CONT**	**QTY**
	VO	Viburnum opulus 'Nanum' Dwarf European Craberrybush	1 Gal	35
	RG	Ribes alpinum 'Green Mound' Green Mound Alpine Currant	5 Gal	93
	SI	Spiraea japonica 'Limemound' Limemound Spirea	5 Gal	112
	PM	Pinus mugo 'Mops' Mops Mugo Pine	5 Gal	57
	AR	Amelanchier alnifolia 'Regent' Regent Serviceberry	5 Gal	13
	BT	Berberis thunbergii Royal Burgundy Rose Glow Japenese Barberry	5 Gal	103
	TT	Taxus x media 'Tauntonii' Taunton's Anglo-Japanese Yew	5 Gal	7
GRASSES	**CODE**	**BOTANICAL / COMMON NAME**	**CONT**	**QTY**
	BB	Bouteloua gracilis 'Blonde Ambition' Blonde Ambition Blue Grama	1 Gal	149
	HS	Helictotrichon sempervirens Blue Oat Grass	1 Gal	40
	PC	Panicum virgatum 'Cheyenne Sky' Cheyenne Sky Switch Grass	1 Gal	73
	PH2	Pennisetum alopecuroides 'Hameln' Hameln Fountain Grass	1 Gal	26
	CB	Calamagrostis brachytricha Korean Feather Reed Grass	1 Gal	25
NATIVE SHRUBS	**CODE**	**BOTANICAL / COMMON NAME**	**CONT**	**QTY**
	AV2	Artemisia tridentata vaseyana Mountain Big Sagebrush	1 Gal	64
	CR2	Chrysothamnus nauseosus Rubber Rabbitbrush	1 Gal	64
GROUND COVERS	**CODE**	**BOTANICAL / COMMON NAME**	**CONT**	**QTY**
	LA	Lysimachia nummularia 'Aurea' Golden Creeping Jenny	2.25" Pot	332
	GO	Galium odoratum Sweet Woodruff	2.25" Pot	241

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Autocad Ver. 2020 Scale: As Shown	
SGM Project No.: 2020-544.001 Quality Control: XX	

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12.22.21	ELIMINATED WALLS 1 & 3	

Roaring Fork Transportation Authority

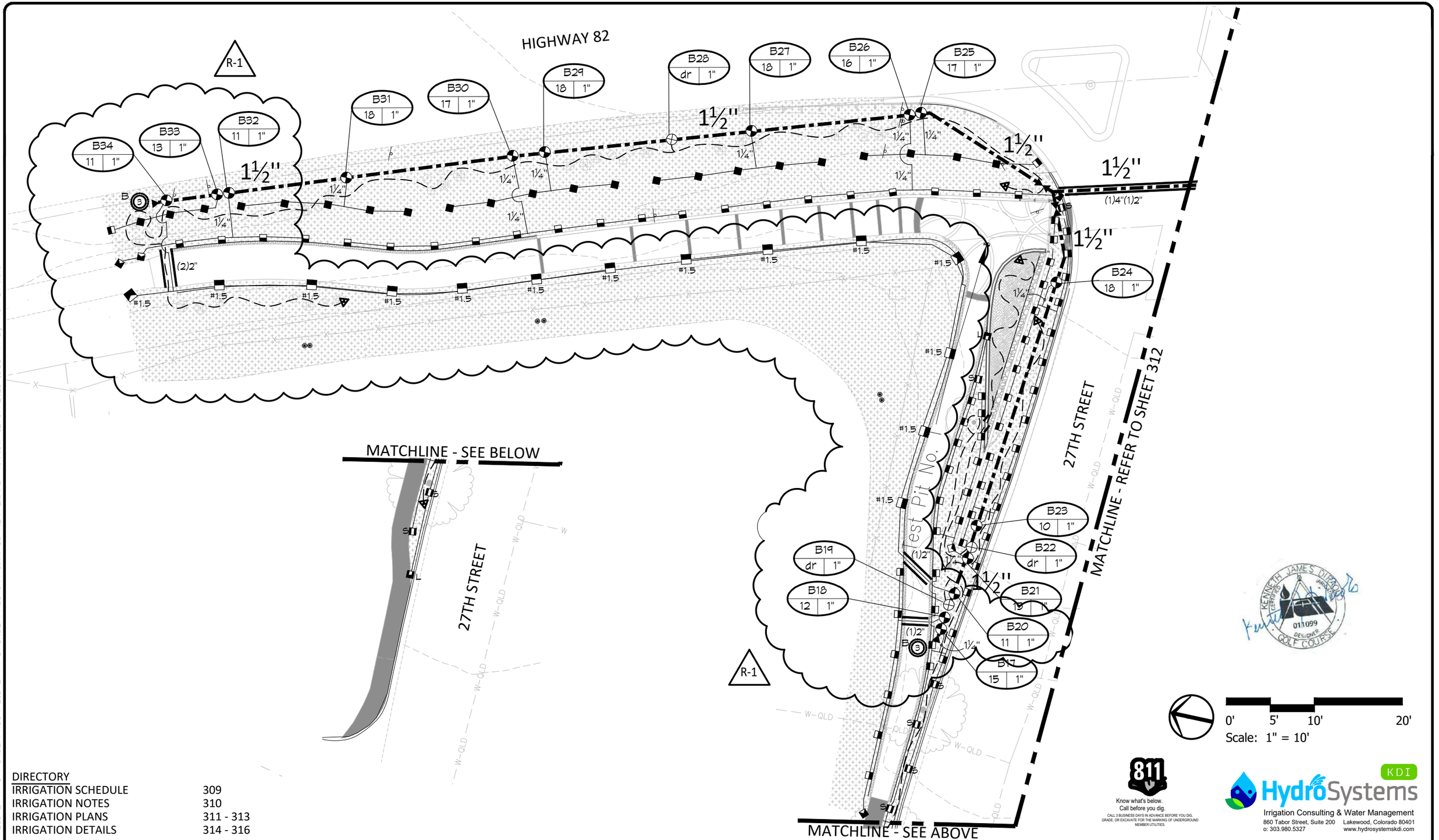
DHM DESIGN

As Constructed
No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
PLANTING SCHEDULE AND NOTES

Designer:	JJ	Structure Numbers	
Drawn By:	DB		
Sheet Subset:	LANDSCAPE	Subset Sheets:	7 of 9

Project No./Code	
MTF M535-007 / 008	
Code: 23687 / 23975	
Sheet Number	306



DIRECTORY

IRRIGATION SCHEDULE	309
IRRIGATION NOTES	310
IRRIGATION PLANS	311 - 313
IRRIGATION DETAILS	314 - 316

Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

KDI HydroSystems
Irrigation Consulting & Water Management
860 Tabor Street, Suite 200 Lakewood, Colorado 80401
o: 303.980.5327 www.hydrosystemskdi.com

Computer File Information	
Print Date:	11/22/21
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Autocad Ver.	Scale: As Shown
SGM Project No.:	2018-419.001 Quality Control:XX

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12.22.21	ELIMINATED WALLS 1 & 3	

Roaring Fork Transportation Authority

SGM
118 West Sixth Street, Suite 200
Glenwood Springs, CO 81601
970.945.1004 www.sgm-inc.com

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No Revisions:
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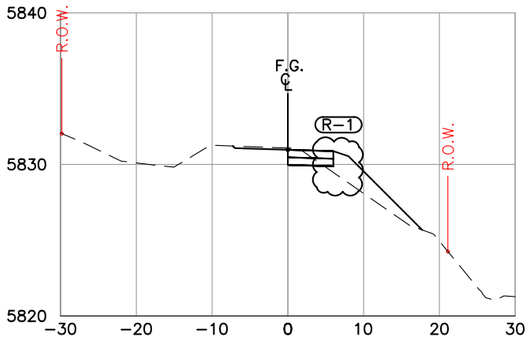
HWY. 82 & 27TH STREET PEDESTRIAN UNDERPASS
IRRIGATION PLAN

Engineer:	JSB	Structure Numbers	
Drawn By:	KJD		
Sheet Subset:	IRRIG	Subset Sheets:	3 of 8

Project No./Code	
MTF M535-007/ 008	
23687 / 23975	
Sheet Number	311



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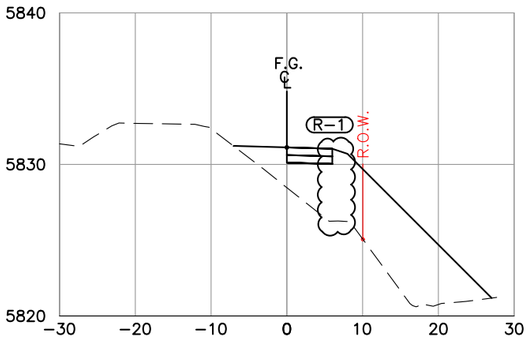

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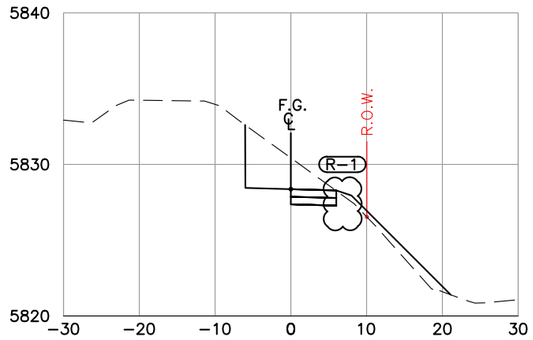

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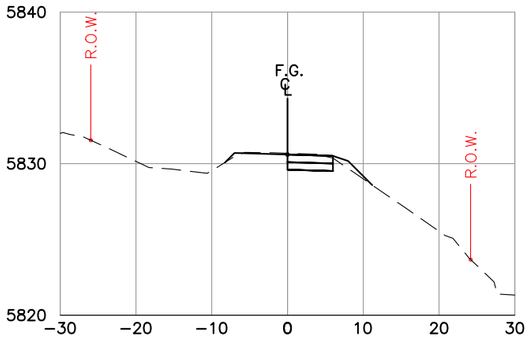

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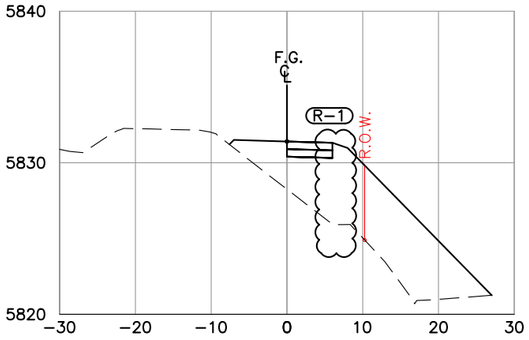

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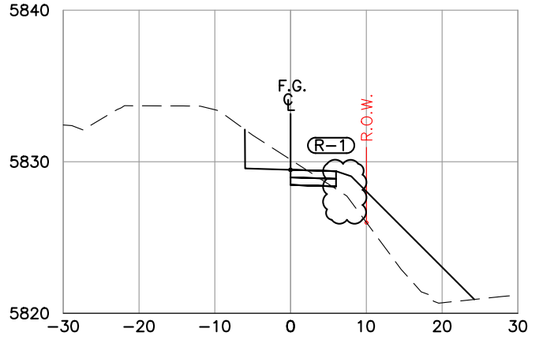

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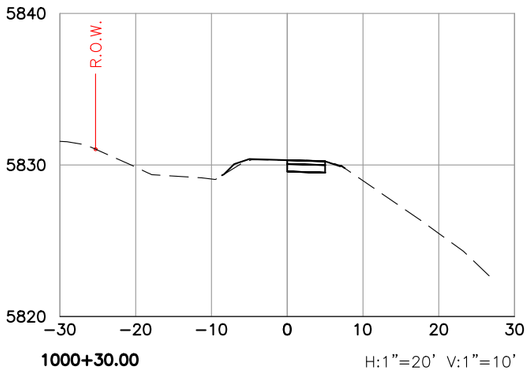

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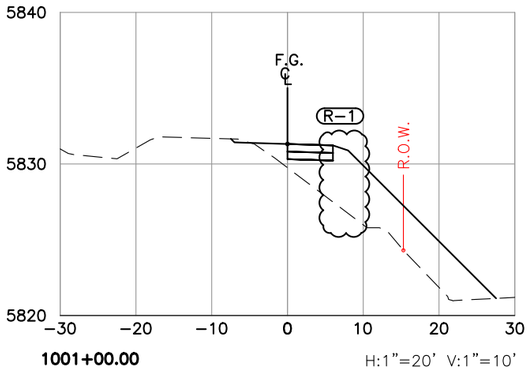

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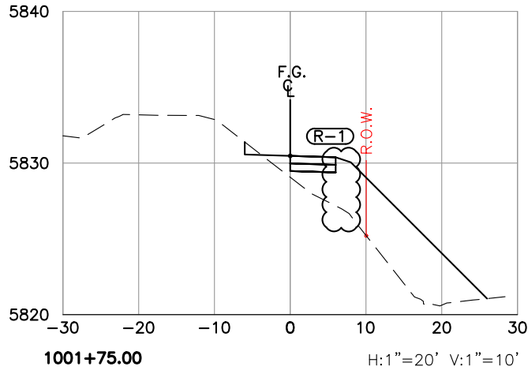

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LEGEND:

- PROP. WATER
- PROP. STORM
- PROP. SEWER

COLORADO LICENSED
ASHLEY MARIE CLINE
12/17/21
56117
PROFESSIONAL ENGINEER

Computer File Information	
Print Date: 12/15/21	
Last Modification Date: 06/30/21	
Drawing File Name: Hwy82PUP-Xsections	
Autocad Ver. 2020	Scale: As Shown
SGM Project No.: 2020-544.001	Quality Control: AMC

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALLS 1&3	MWM

RFTA Roaring Fork Transportation Authority

SGM
118 West Sixth Street, Suite 200
Glenwood Springs, CO 81601
970.945.1004 www.sgm-inc.com

As Constructed
No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
RIO GRANDE TRAIL CROSS SECTIONS (1)

Engineer:	MDF	Structure Numbers	
Drawn By:	MWM		
Sheet Subset:	SECTIONS	Subset Sheets:	1 of 8

Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	400

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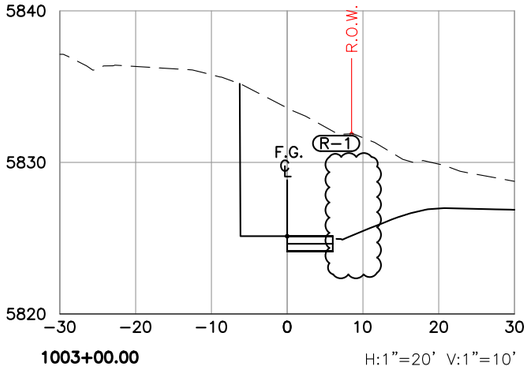

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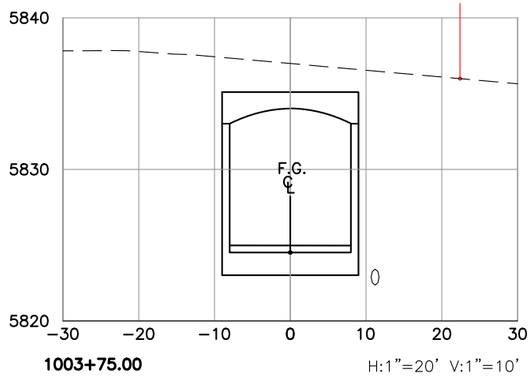

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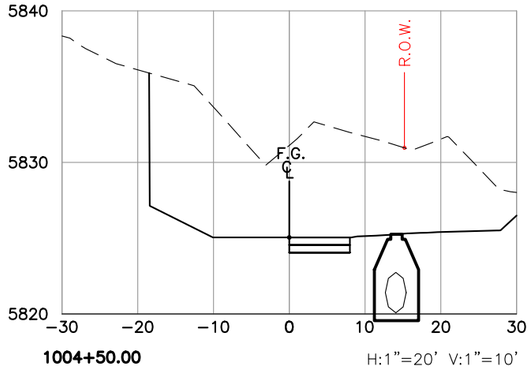

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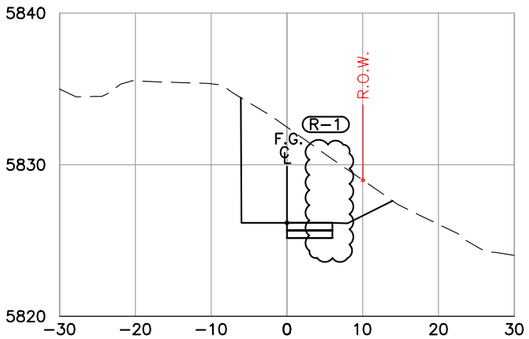

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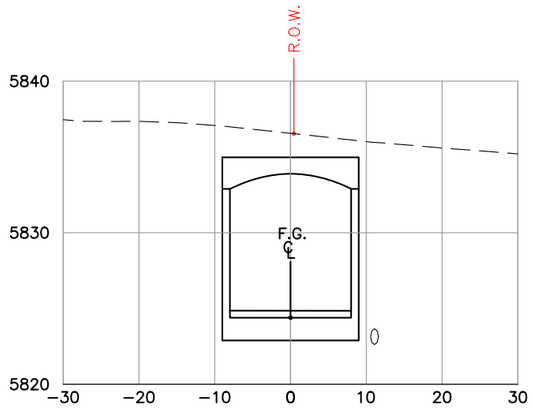

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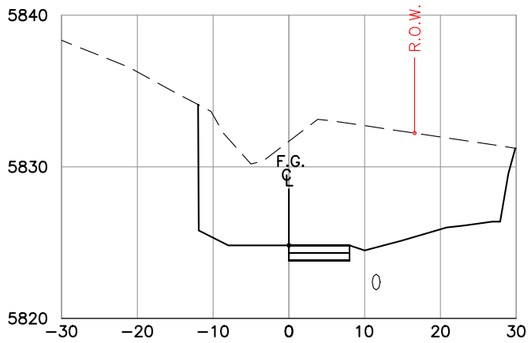

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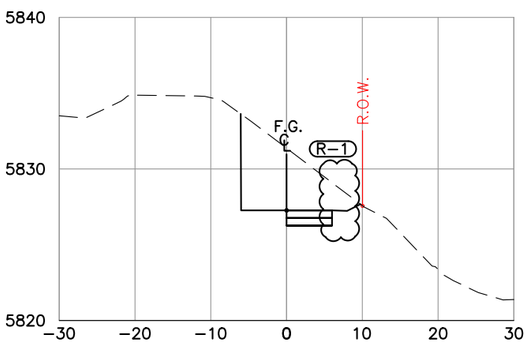

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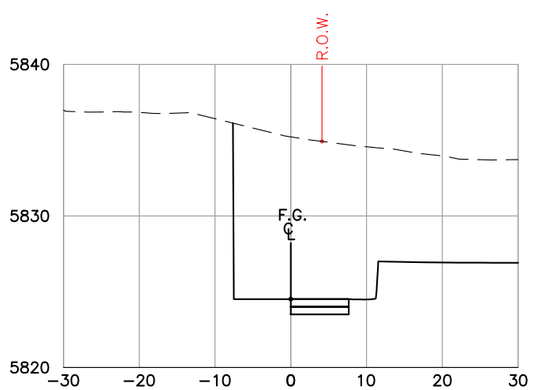

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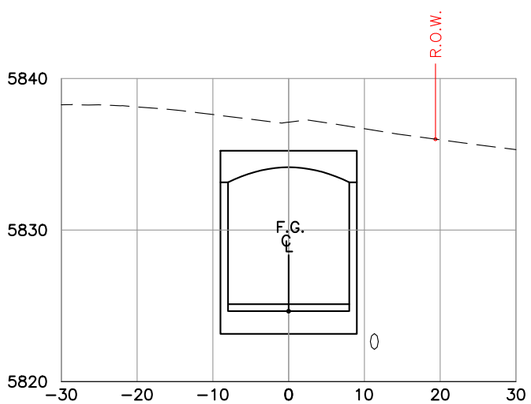

1004+00.00 H:1"=20' V:1"=10'

LEGEND:

- PROP. WATER
- PROP. STORM
- PROP. SEWER

COLORADO LICENSED
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56117
PROFESSIONAL ENGINEER

Computer File Information	
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SGM Project No.: 2020-544.001	Quality Control: AMC

Sheet Revisions			
Rev.	Date	Comments	Init.
1	12/22/21	ELIMINATED WALL 1&3	MWM

RFTA Roaring Fork Transportation Authority

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Glenwood Springs, CO 81601
970.945.1004 www.sgm-inc.com

As Constructed
No Revisions:
Revised:
Void:

27TH ST AND SH82 PEDESTRIAN UNDERPASS
RIO GRANDE TRAIL CROSS SECTIONS (2)

Engineer:	MDF	Structure Numbers	
Drawn By:	MWM		
Sheet Subset:	SECTIONS	Subset Sheets:	8 of 7

Project No./Code	
MTF M535-007 / 008	
23687 / 23975	
Sheet Number	401

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