



**COUNTY OF ORANGE
OC PUBLIC WORKS DEPARTMENT
SANTA ANA, CALIFORNIA**

JAMES TREADAWAY, DIRECTOR

**2023
ROUND CANYON RETARDING BASIN
SCOUR STUDY**

Prepared by:

**KEVIN HILLS, COUNTY SURVEYOR
COUNTY OF ORANGE PUBLIC WORKS
SURVEY FIELD UNIT**

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2023
SCOUR STUDY

ROUND CANYON RETARDING BASIN (F16B03)

STATION 18+50 TO 26+00

AS-BUILT PLANS: F16B02-101-1R

NOTE: BASIS OF SPILLWAY CREST ELEVATION WAS DERIVED FROM O&M MANUAL DATED SEPTEMBER 1998 ALL ELEVATIONS HAVE BEEN ADJUSTED FROM NGVD29 DATUM TO NAVD88 DATUM, WITH AN ADDITIONAL +0.15' ADJUSTMENT FOR MSL (MEAN SEA LEVEL).

VERTICAL DATUM

NAVD 1988/O.C.S. 1995 ADJUSTMENT

Office Check by:	Michael LaFontaine, PLS, Deputy County Surveyor Elliott Medina, PLS, Senior Land Surveyor
Field Data Provided by:	OCS UAV UNIT
Survey Party Chief:	Kevin Martinez, Surveyor III
Computer processing done by:	Itai Islas, Surveyor II

COUNTY of ORANGE
OC PUBLIC WORKS DEPARTMENT
OC SURVEY SERVICE AREA
FIELD UNIT

2023 SCOURS STUDY - (AS-BUILT PLAN) - VOLUME REPORT

ROUND CANYON RETARDING BASIN (F16B03), STATION 18+50 to 26+00

ALIGNMENT: Round Canyon Basin Control Line

SURFACE 1: EG_ROUND_UAV_LIDAR_2023 (2023 Ground)

SURFACE 2: F16B03-05pln_NAVD88 (1995 As-Built Topo)

BASELINE STATION NUMBER	STATION CUT AREA	STATION CUT VOLUME	STATION FILL AREA	STATION FILL VOLUME	MASS ORDINATE VOLUME
18+50	18.00	0.00	0.00	198.80	0.00
19+00	422.34	543.39	455.00	589.23	-45.84
19+50	537.4	886.99	446.55	834.75	6.40
20+00	767.7	1202.70	179.48	561.19	647.91
20+50	906.98	1548.91	184.98	337.44	1859.38
21+00	1051.72	1811.96	39.05	190.75	3480.59
21+50	506.05	1411.92	47.26	79.79	4812.72
22+00	219.16	653.24	40.49	81.17	5384.79
22+50	268.70	450.95	181.53	189.97	5645.77
23+00	289.27	516.53	156.58	312.78	5849.52
23+50	270.81	518.50	130.42	265.37	6102.65
24+00	136.64	370.25	103.34	215.96	6256.94
24+50	275.03	373.79	54.59	143.85	6486.88
25+00	160.25	398.29	24.71	71.63	6813.54
25+50	148.16	285.50	20.59	41.89	7057.15
26+00	198.88	320.18	8.12	25.71	7351.62

CUT: 11,293.10 Cu. Yds.

FILL: 3,641.48 Cu. Yds.

NET: 7,351.62 Cu. Yds

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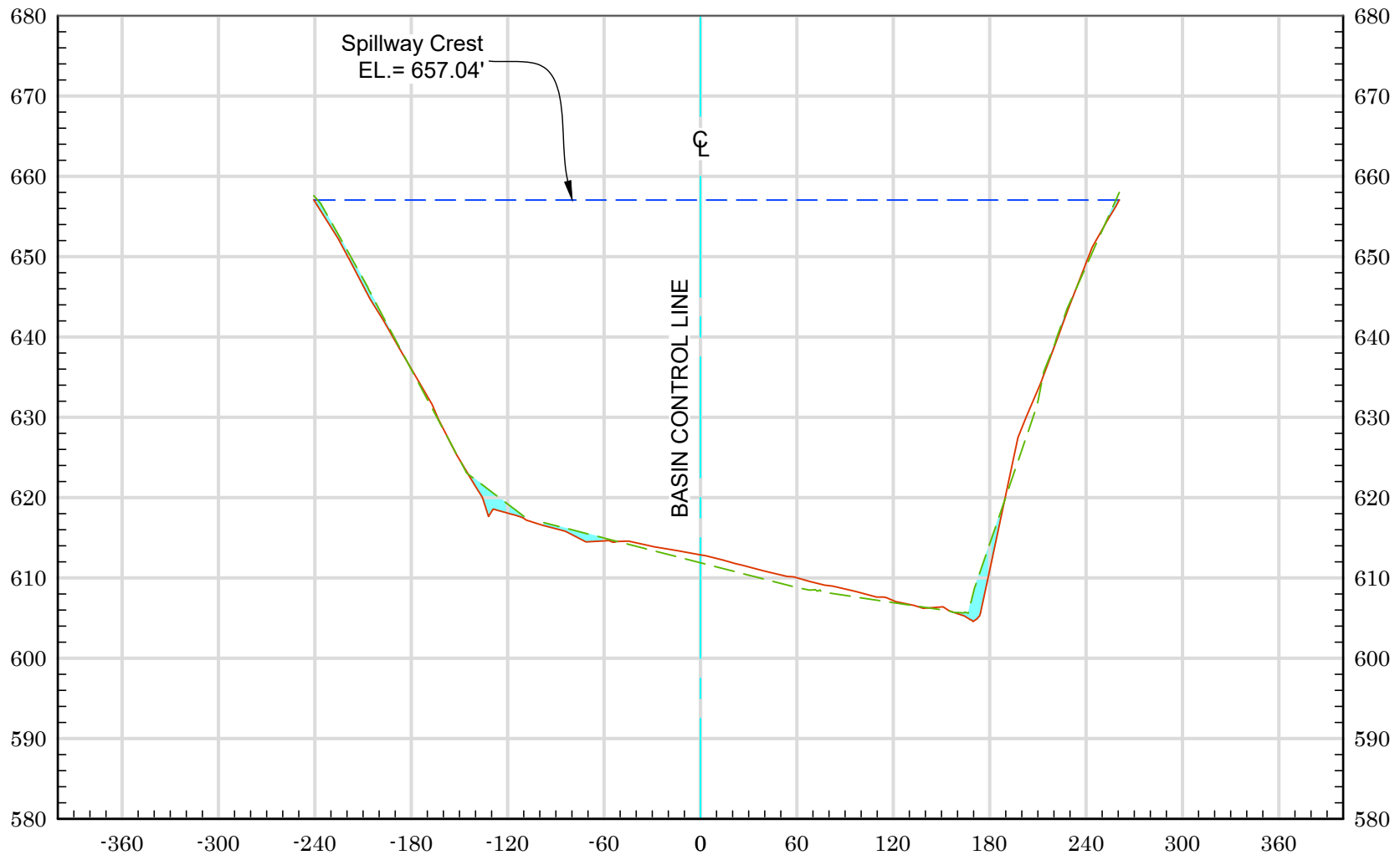
2023 SCOURS STUDY - % OF MAXIMUM CAPACITY VOLUME REPORT

ROUND CANYON RETARDING BASIN (F16B03), STATION 18+50 to 26+00

<u>STATION</u>	<u>CUT AREA</u>	<u>CUT VOLUME</u>	<u>FILL AREA</u>	<u>FILL VOLUME</u>	<u>% of CAPACITY</u>
18+50	181.27	0.00	17813.07	0.00	0.00%
19+00	422.34	543.39	19808.58	34818.51	1.56%
19+50	537.94	886.99	18079.66	35069.52	2.53%
20+00	767.77	1202.7	17858.62	33275.97	3.61%
20+50	906.98	1548.91	17357.05	32606	4.75%
21+00	1051.72	1811.96	15425.12	30336.28	5.97%
21+50	506.05	1411.92	13803.52	27049.67	5.22%
22+00	219.16	653.24	13611.35	25383.94	2.57%
22+50	268.7	450.95	13663.89	25254.84	1.79%
23+00	289.27	516.53	12728.68	24432.45	2.11%
23+50	270.81	518.5	11907.8	22807.33	2.27%
24+00	136.64	370.25	7126.26	17435.75	2.12%
24+50	275.03	373.79	6238.38	12365.56	3.02%
25+00	160.25	398.29	5250.8	10625.01	3.75%
25+50	148.16	285.5	4110.72	8646.57	3.30%
26+00	198.88	320.18	3393.43	6937.69	4.62%
		TOTAL CUT VOLUME		TOTAL MODIFIED BASIN VOLUME	PERCENT OF CAPACITY
Cu.Yds.		11,293.1		347,045.08	3.25%

NOTE: NO STATIONS ARE FILLED BEYOND 50% OF THE MAXIMUM BASIN CAPACITY

ROUND CANYON RETARDING BASIN (F16-B03) - 2023

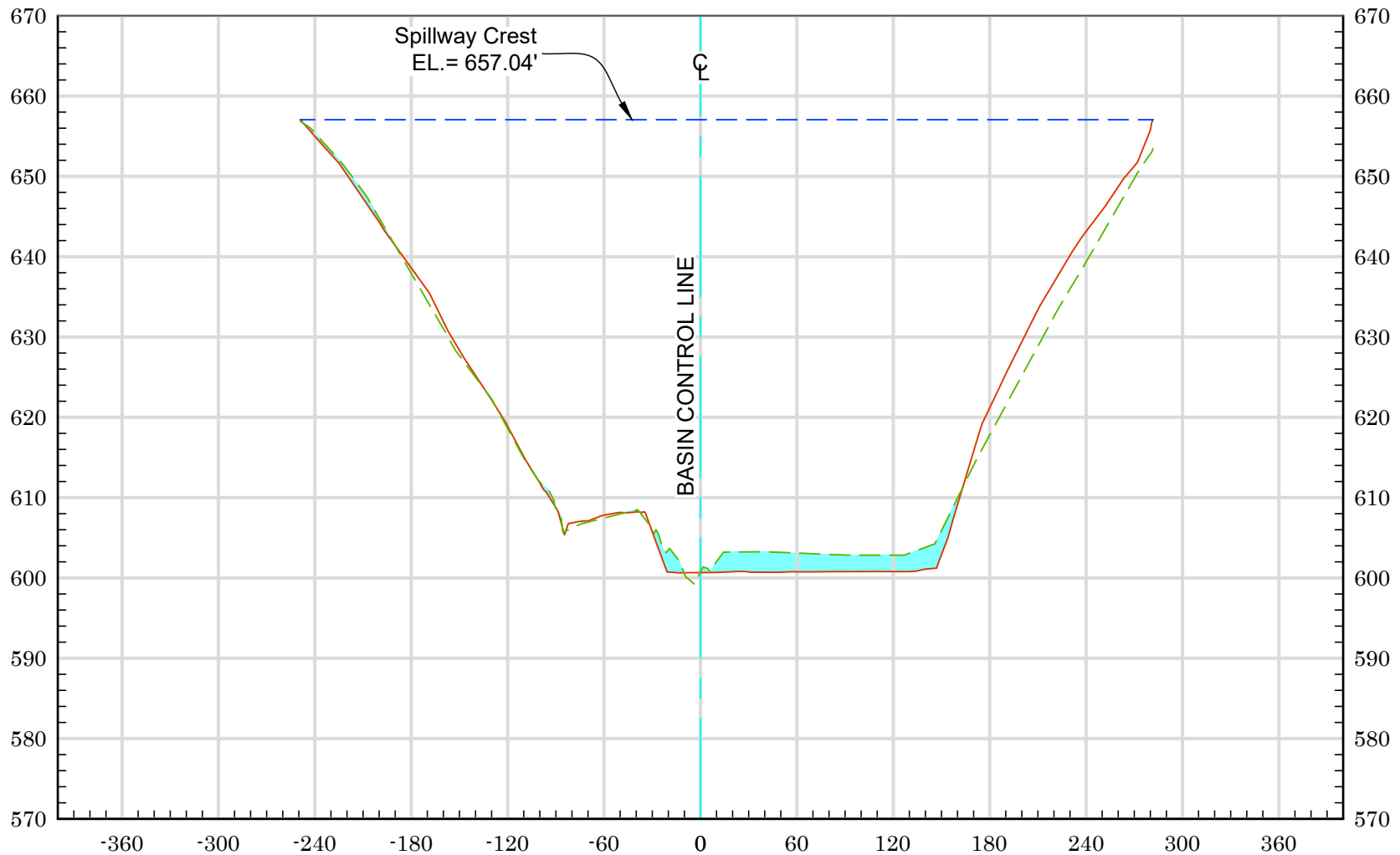


18+50

As-Built Plan ——— 2023 Ground ———
 Max Cap Line ——— Sediment

Vert. Scale: 1" = 20'
 Horiz. Scale: 1" = 100'

ROUND CANYON RETARDING BASIN (F16-B03) - 2023

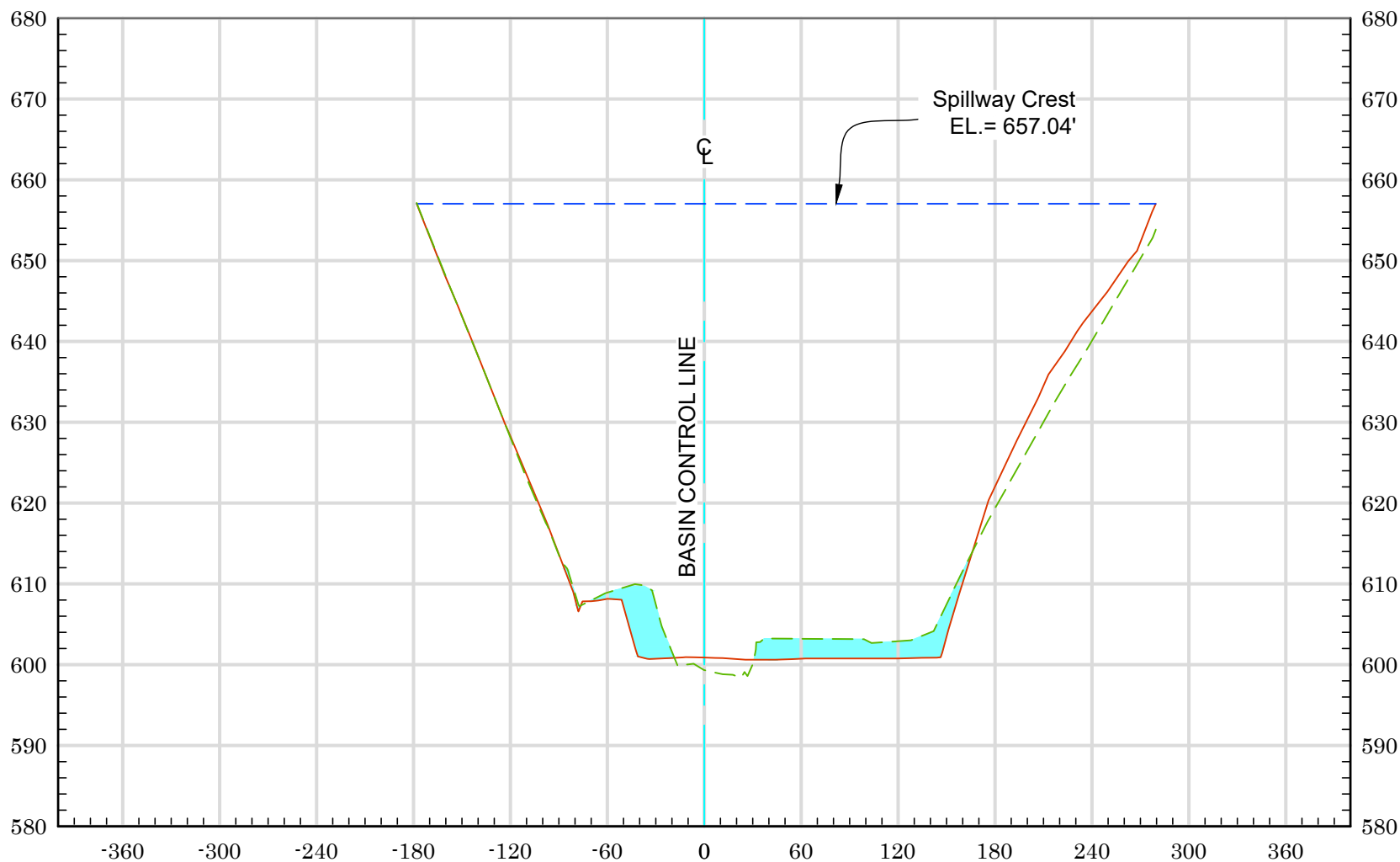


19+00

As-Built Plan ——— 2023 Ground ———
 Max Cap Line ——— Sediment

Vert. Scale: 1" = 20'
 Horiz. Scale: 1" = 100'

ROUND CANYON RETARDING BASIN (F16-B03) - 2023

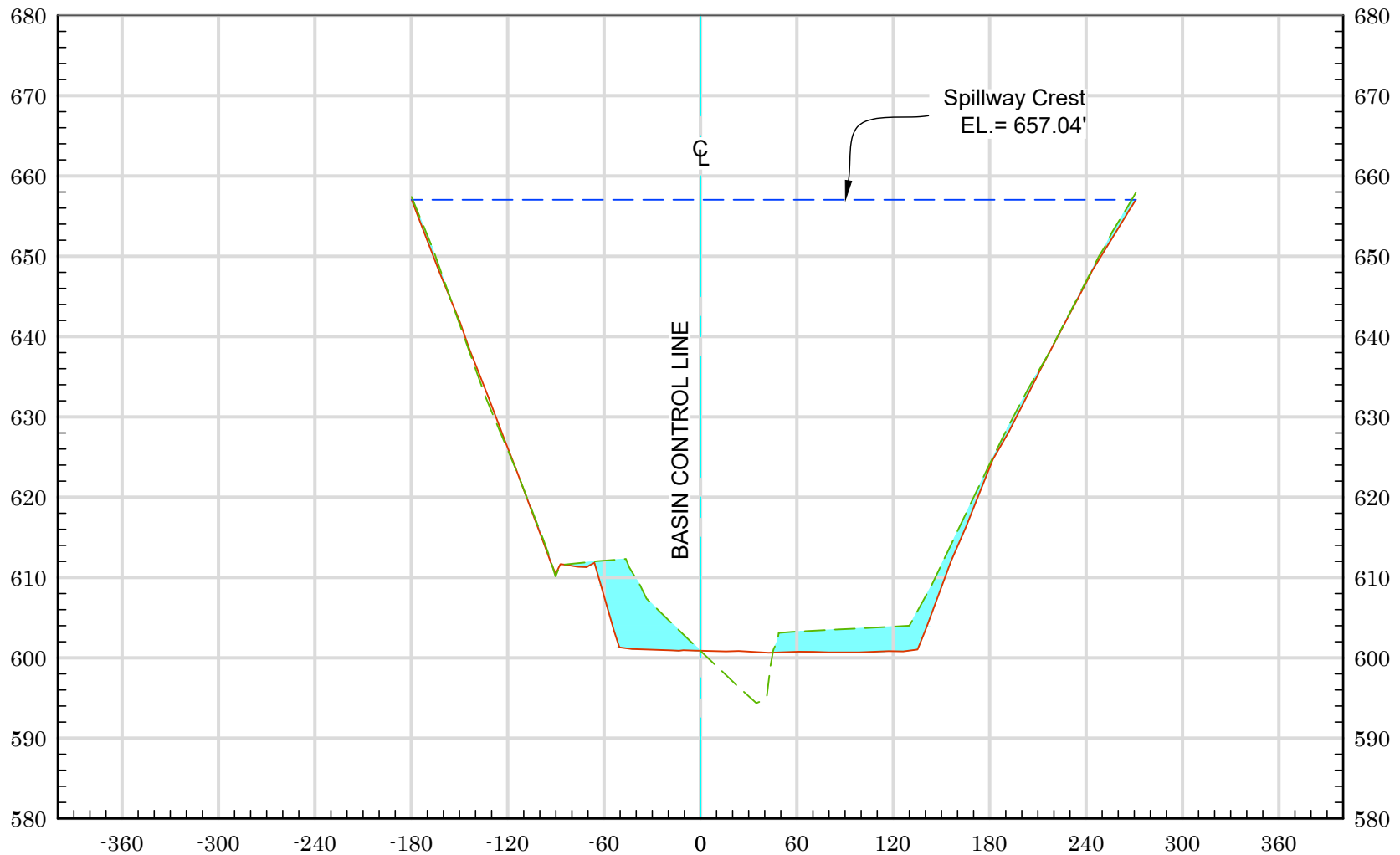


19+50

As-Built Plan ——— 2023 Ground ———
 Max Cap Line ——— Sediment

Vert. Scale: 1" = 20'
 Horiz. Scale: 1" = 100'

ROUND CANYON RETARDING BASIN (F16-B03) - 2023

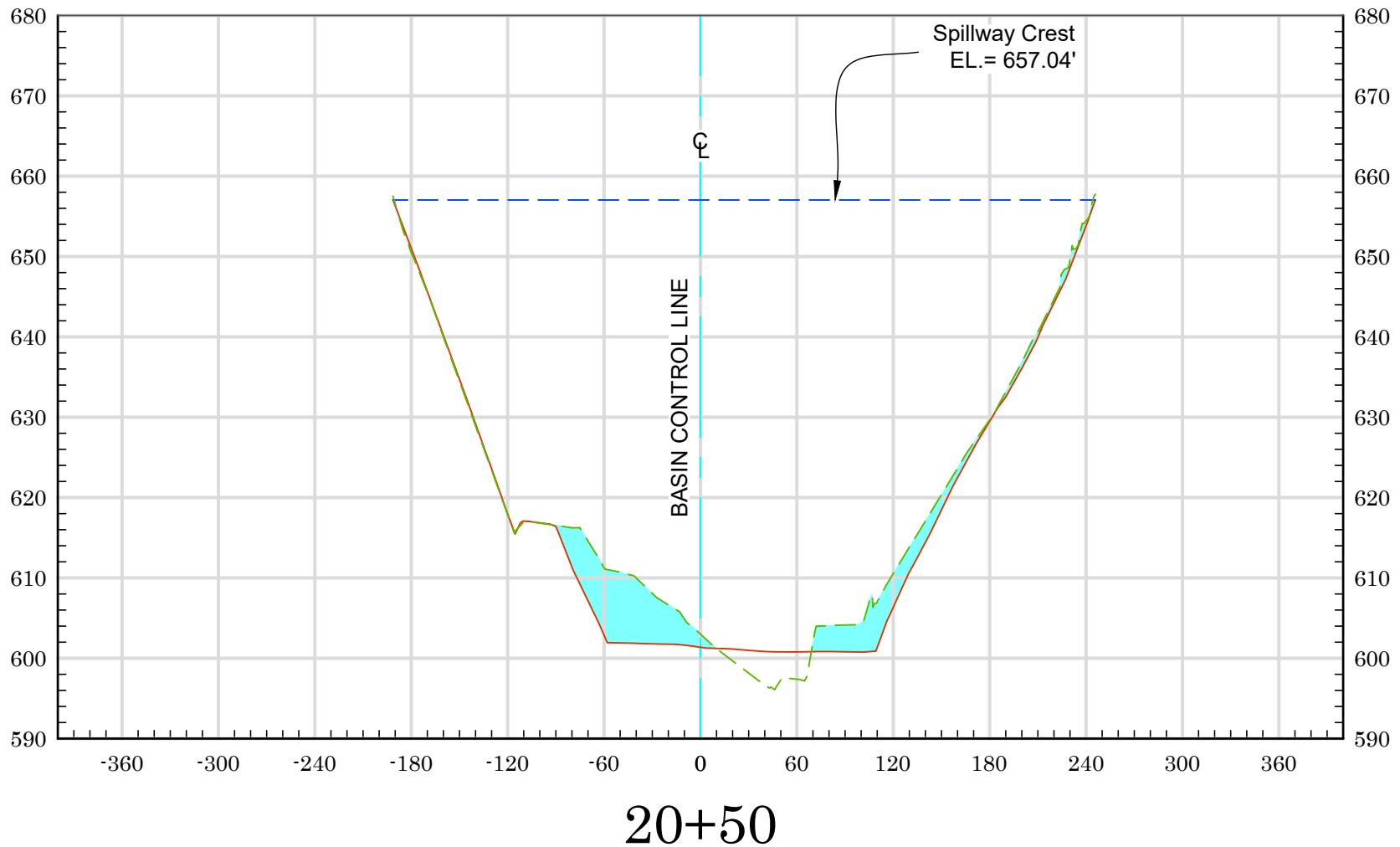


20+00

As-Built Plan ——— 2023 Ground ———
 Max Cap Line ——— Sediment

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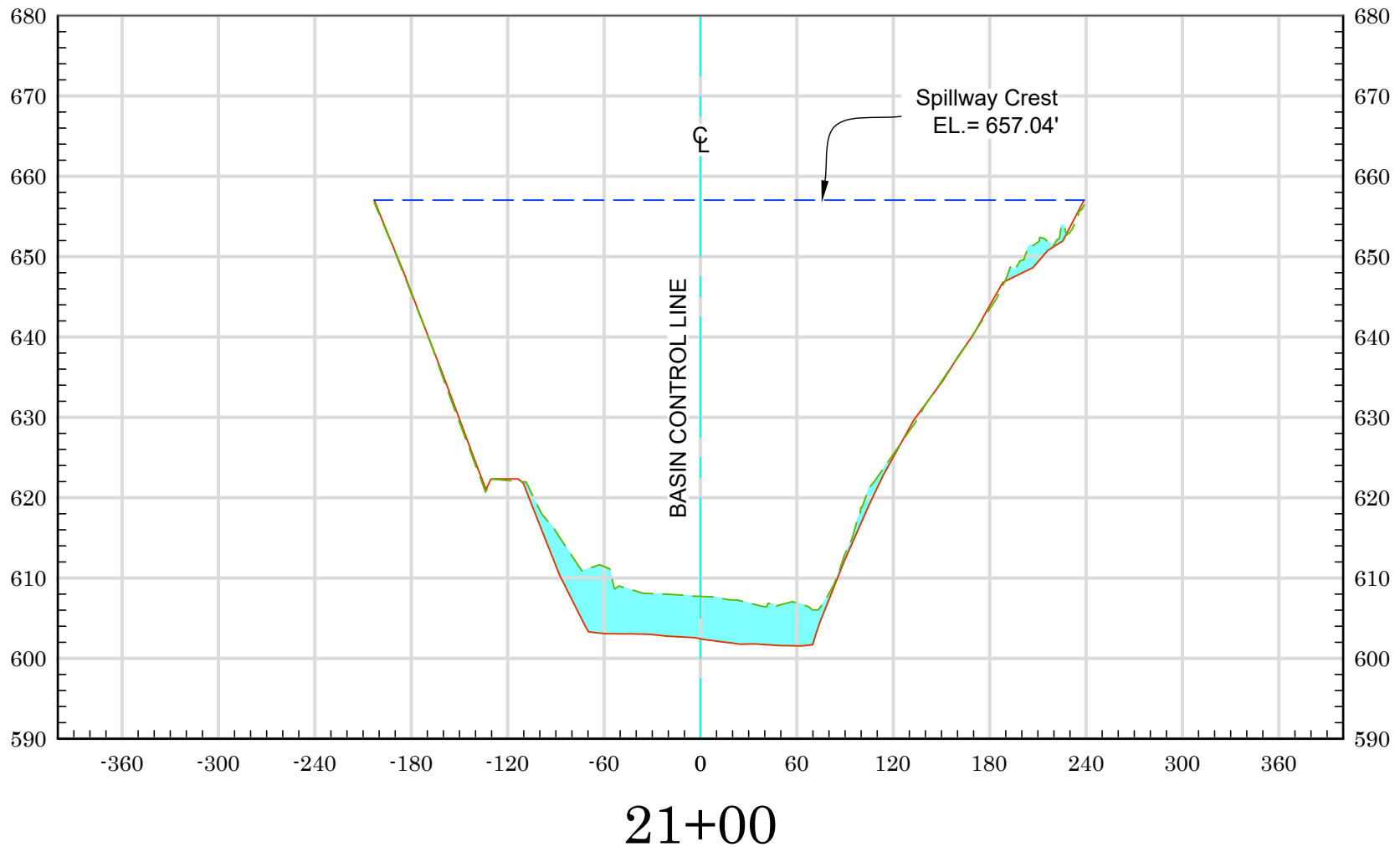
ROUND CANYON RETARDING BASIN (F16-B03) - 2023



As-Built Plan ——— 2023 Ground ———
 Max Cap Line ——— Sediment

Vert. Scale: 1" = 20'
 Horiz. Scale: 1" = 100'

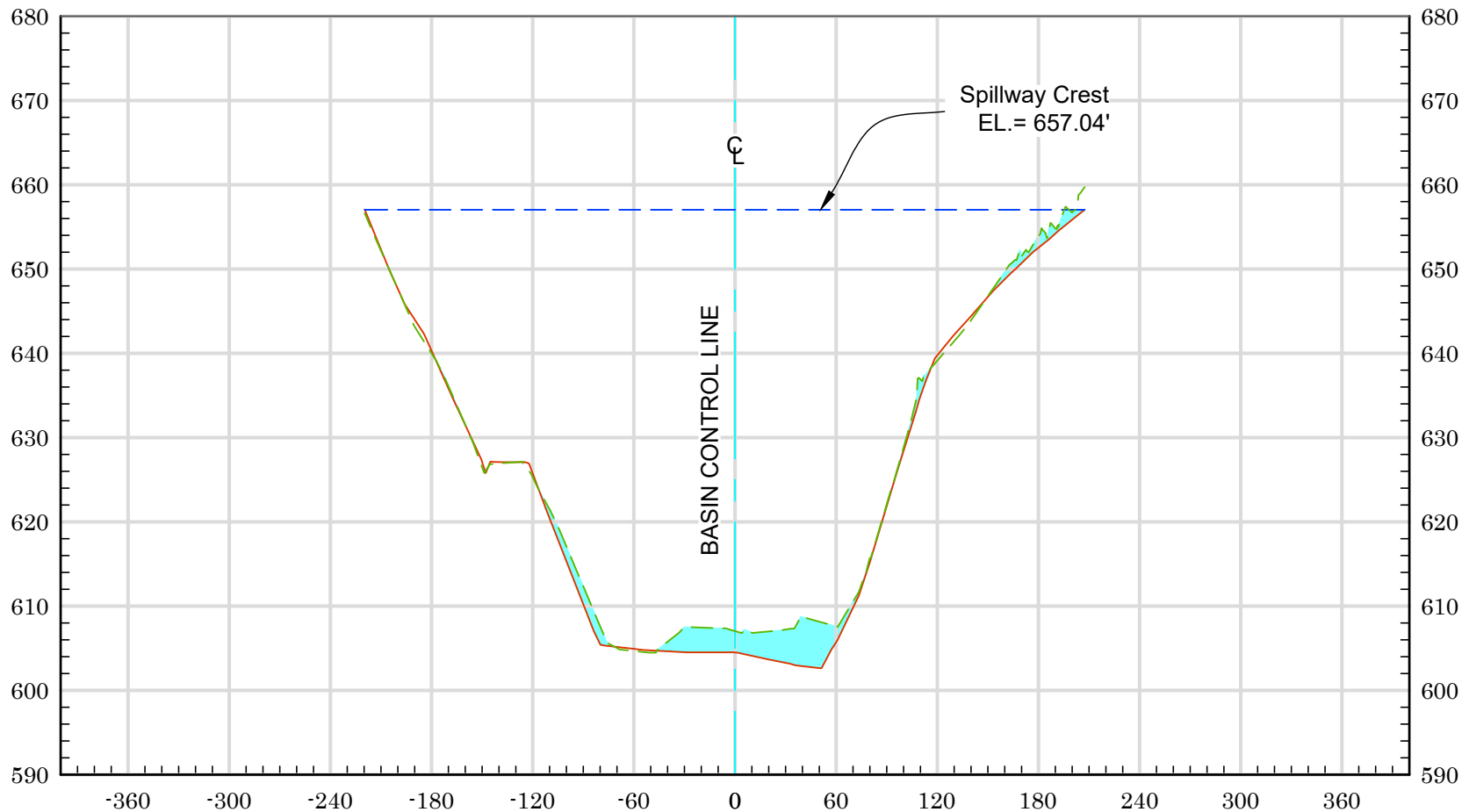
ROUND CANYON RETARDING BASIN (F16-B03) - 2023



As-Built Plan ——— 2023 Ground ———
 Max Cap Line ——— Sediment

Vert. Scale: 1" = 20'
 Horiz. Scale: 1" = 100'

ROUND CANYON RETARDING BASIN (F16-B03) - 2023

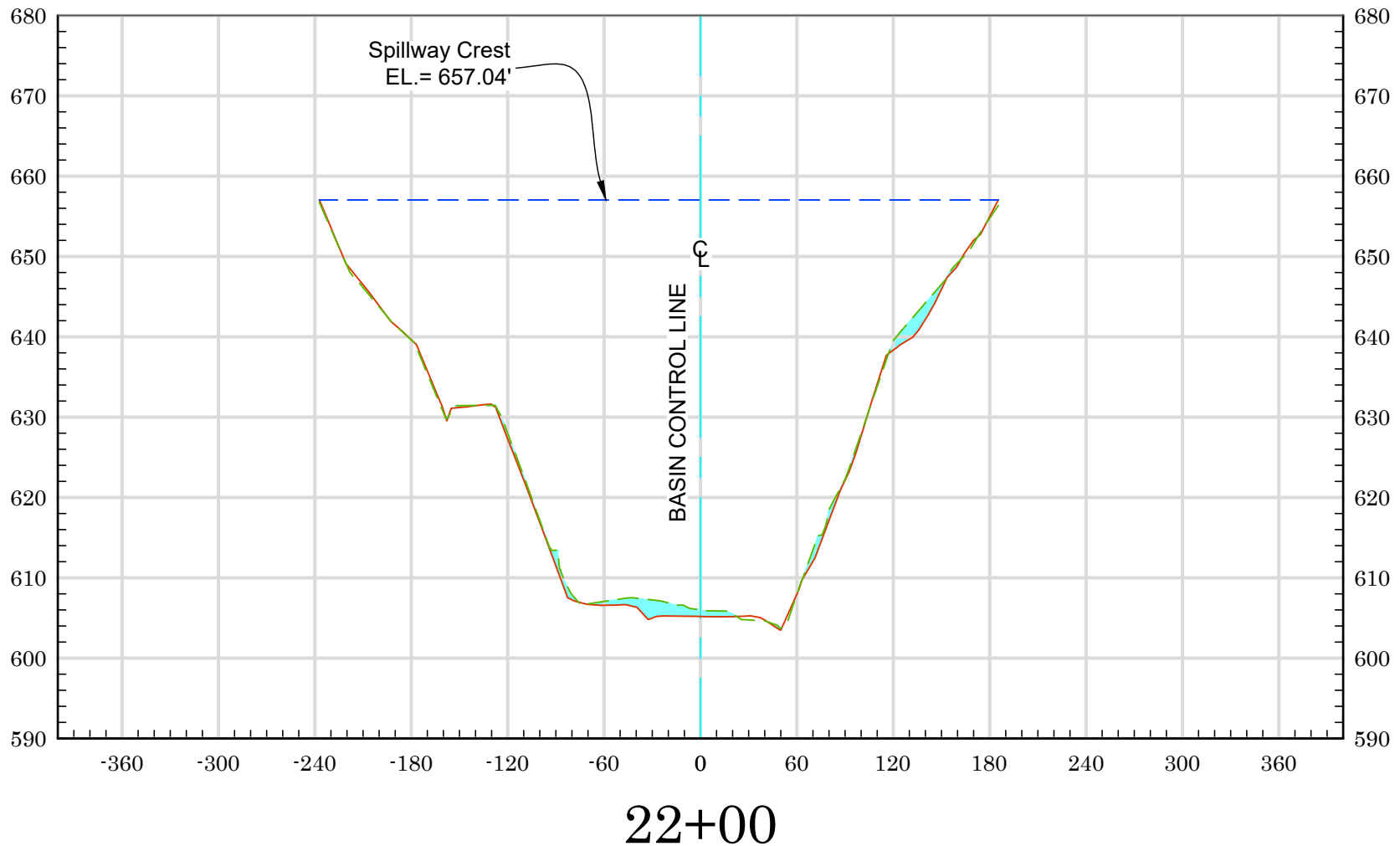


21+50

As-Built Plan ——— 2023 Ground ———
 Max Cap Line ——— Sediment

Vert. Scale: 1" = 20'
 Horiz. Scale: 1" = 100'

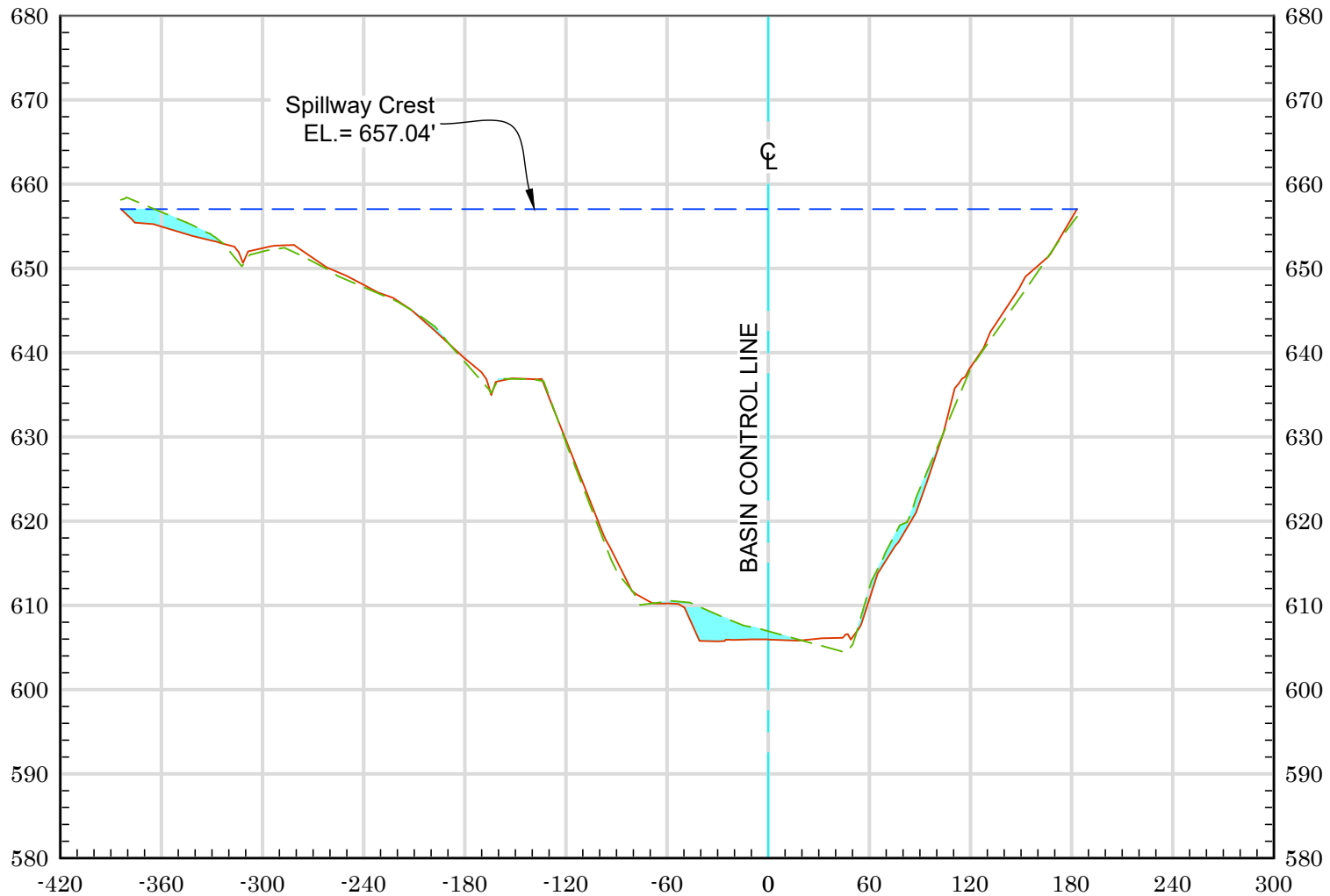
ROUND CANYON RETARDING BASIN (F16-B03) - 2023



As-Built Plan ——— 2023 Ground ———
 Max Cap Line ——— Sediment

Vert. Scale: 1" = 20'
 Horiz. Scale: 1" = 100'

ROUND CANYON RETARDING BASIN (F16-B03) - 2023

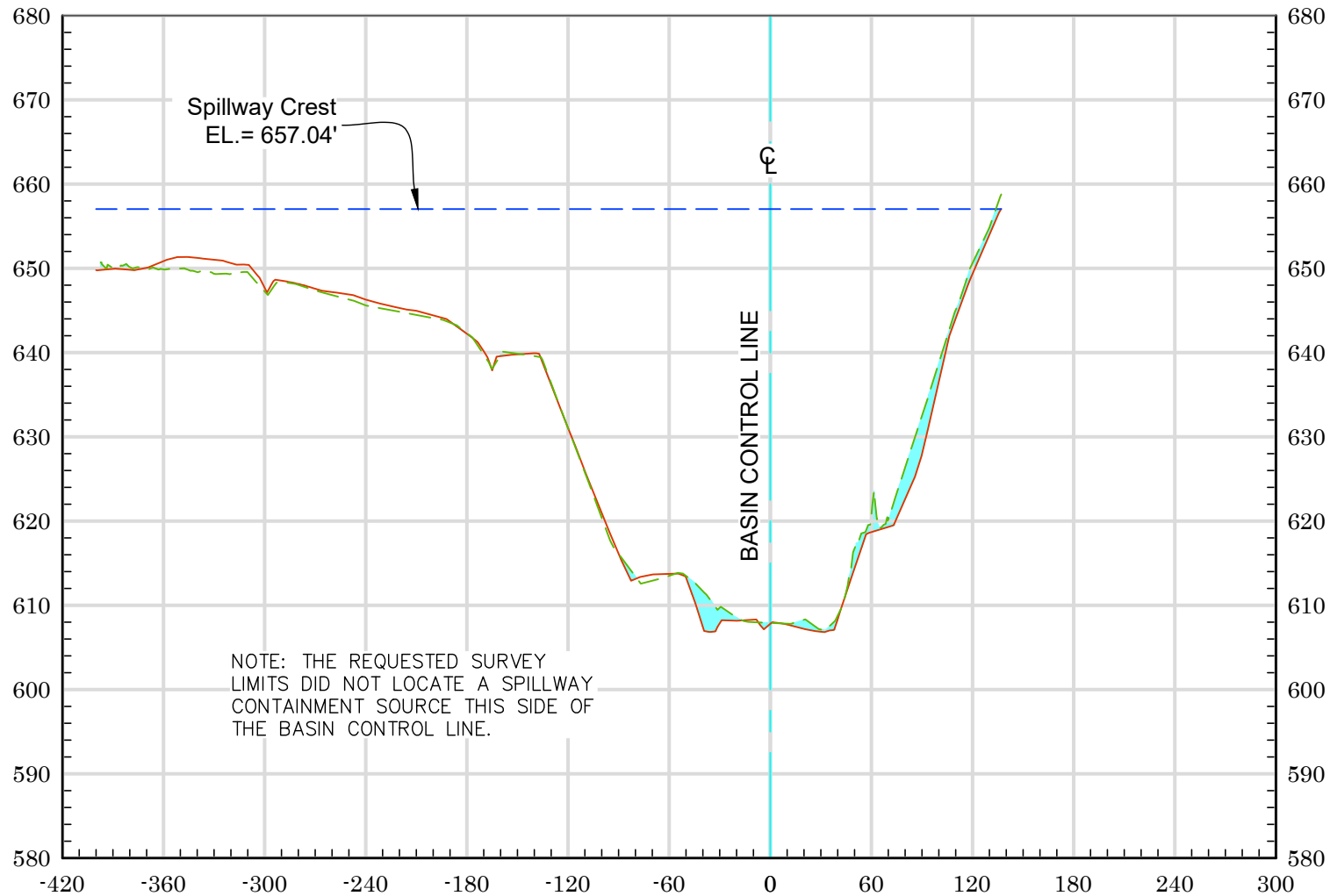


22+50

As-Built Plan ——— 2023 Ground ———
 Max Cap Line ——— Sediment

Vert. Scale: 1" = 20'
 Horiz. Scale: 1" = 100'

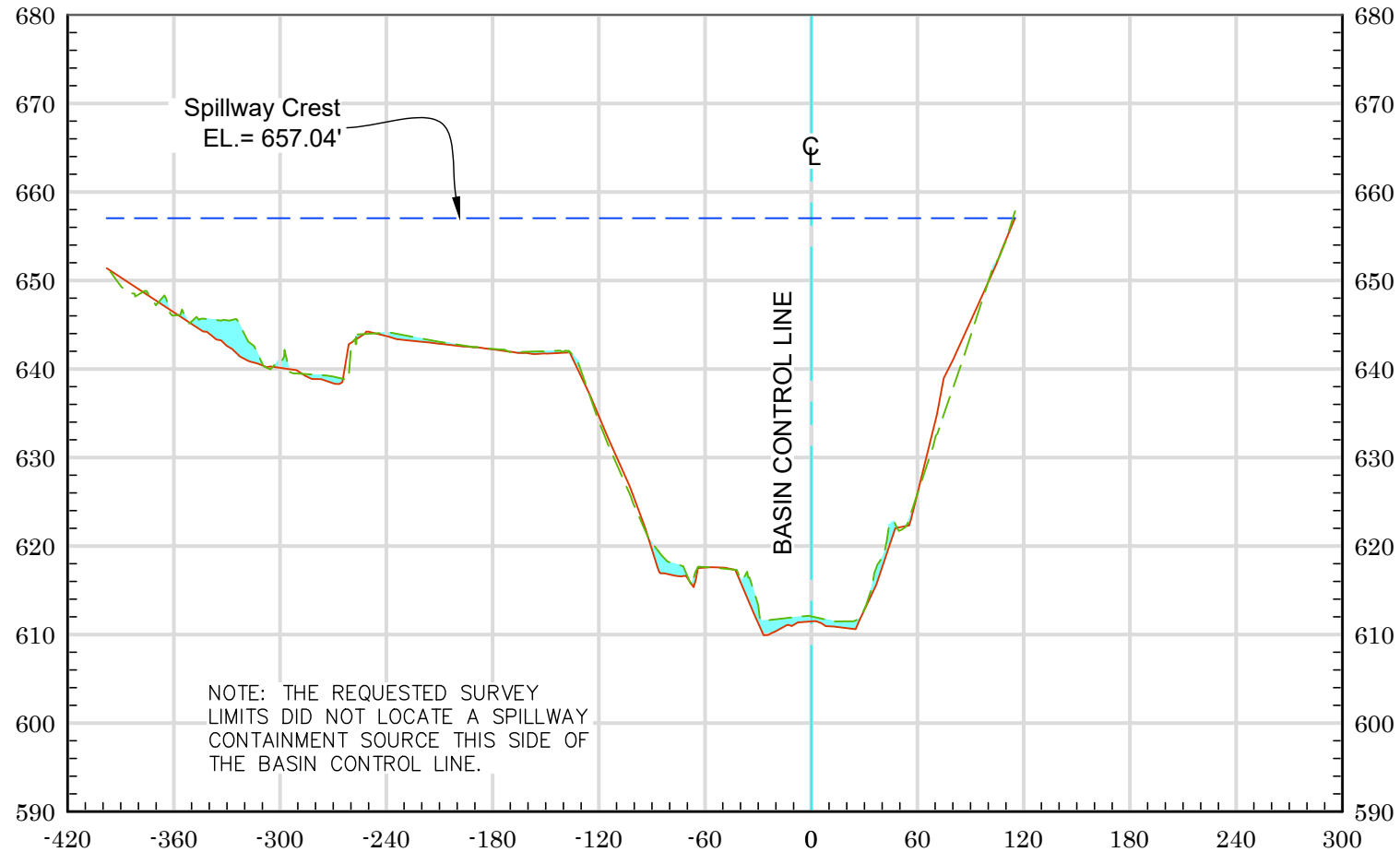
ROUND CANYON RETARDING BASIN (F16-B03) - 2023



As-Built Plan ——— 2023 Ground ———
 Max Cap Line ——— Sediment

Vert. Scale: 1" = 20'
 Horiz. Scale: 1" = 100'

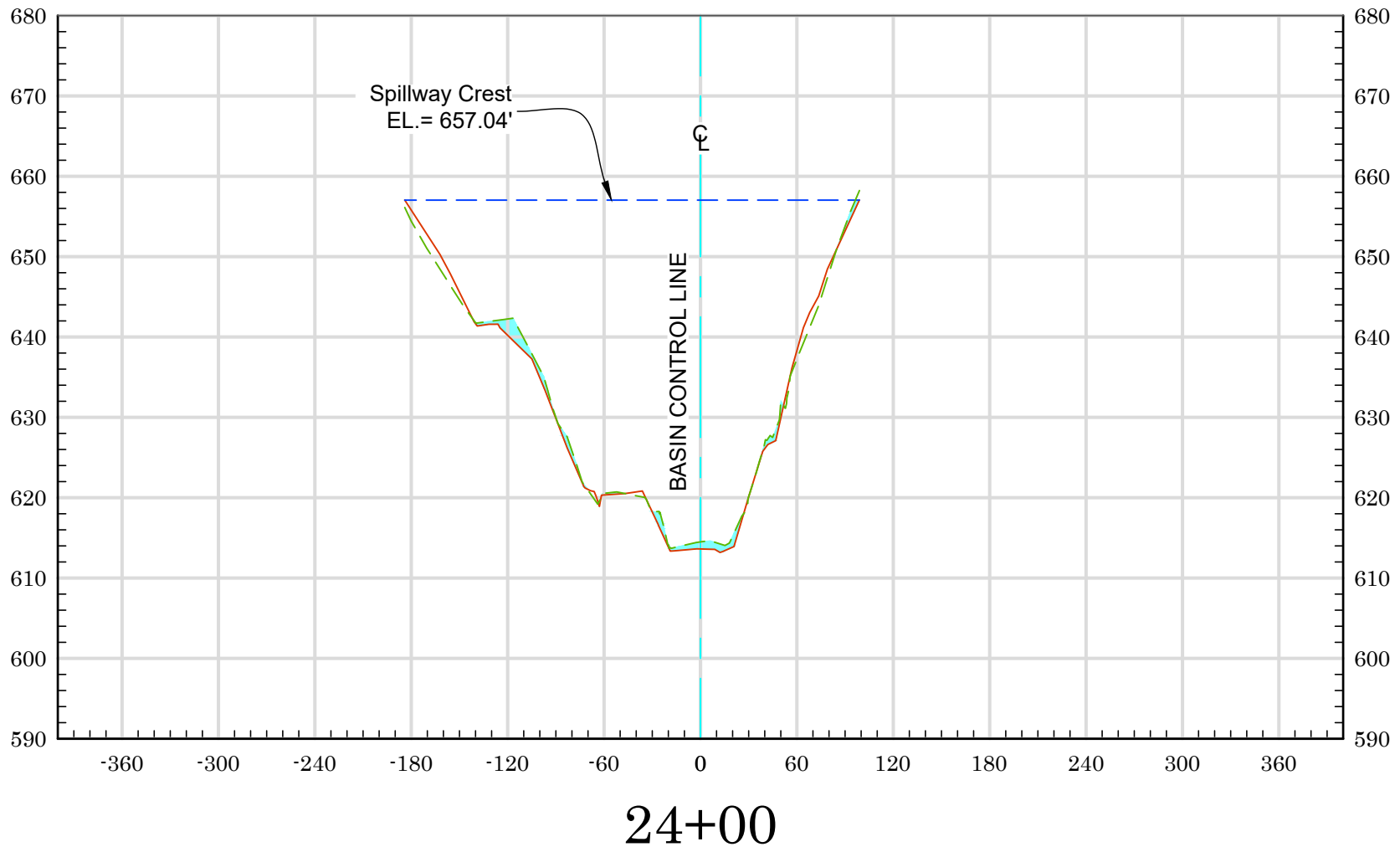
ROUND CANYON RETARDING BASIN (F16-B03) - 2023



As-Built Plan ——— 2023 Ground ———
 Max Cap Line ——— Sediment

Vert. Scale: 1" = 20'
 Horiz. Scale: 1" = 100'

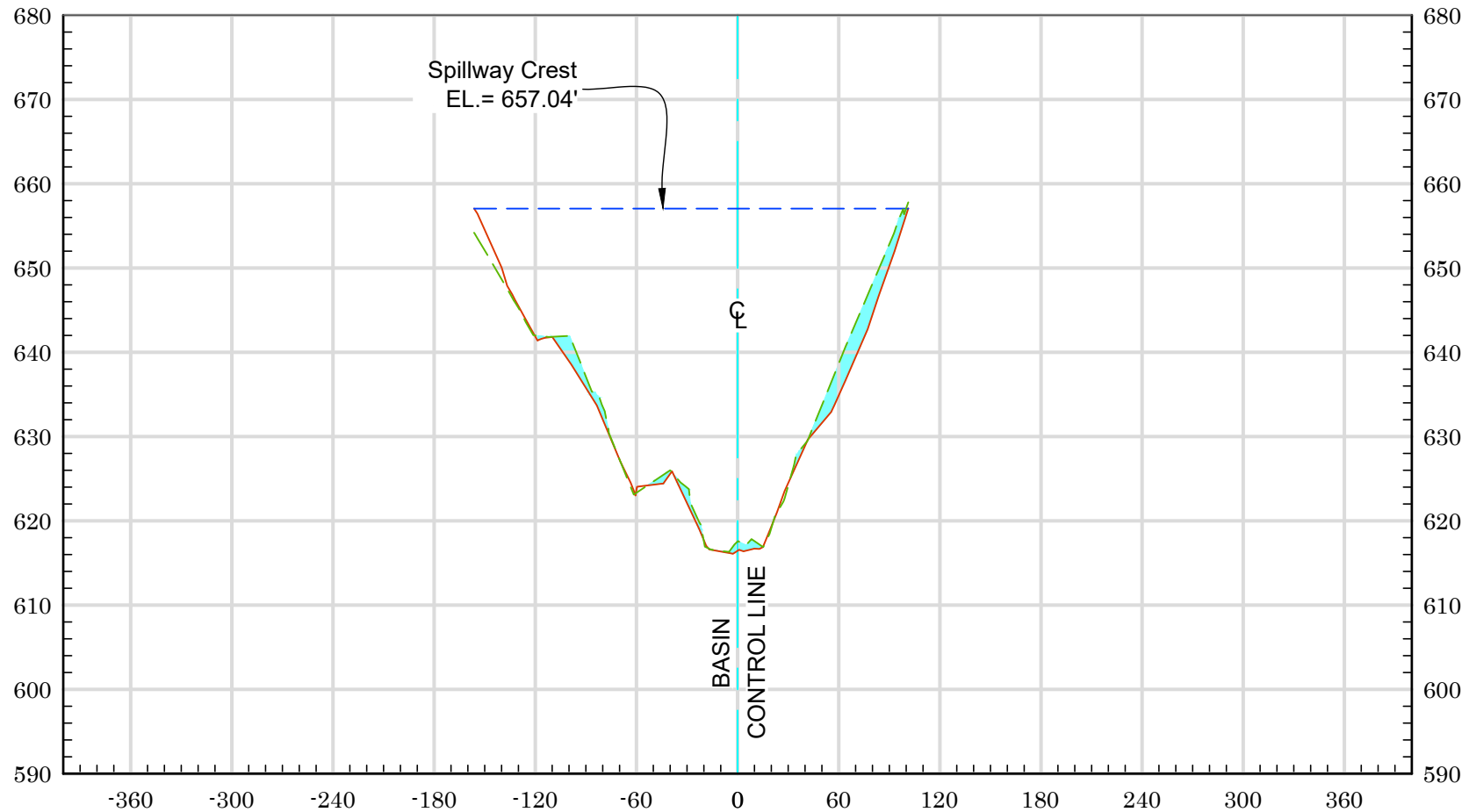
ROUND CANYON RETARDING BASIN (F16-B03) - 2023



As-Built Plan ——— 2023 Ground ———
 Max Cap Line ——— Sediment

Vert. Scale: 1" = 20'
 Horiz. Scale: 1" = 100'

ROUND CANYON RETARDING BASIN (F16-B03) - 2023

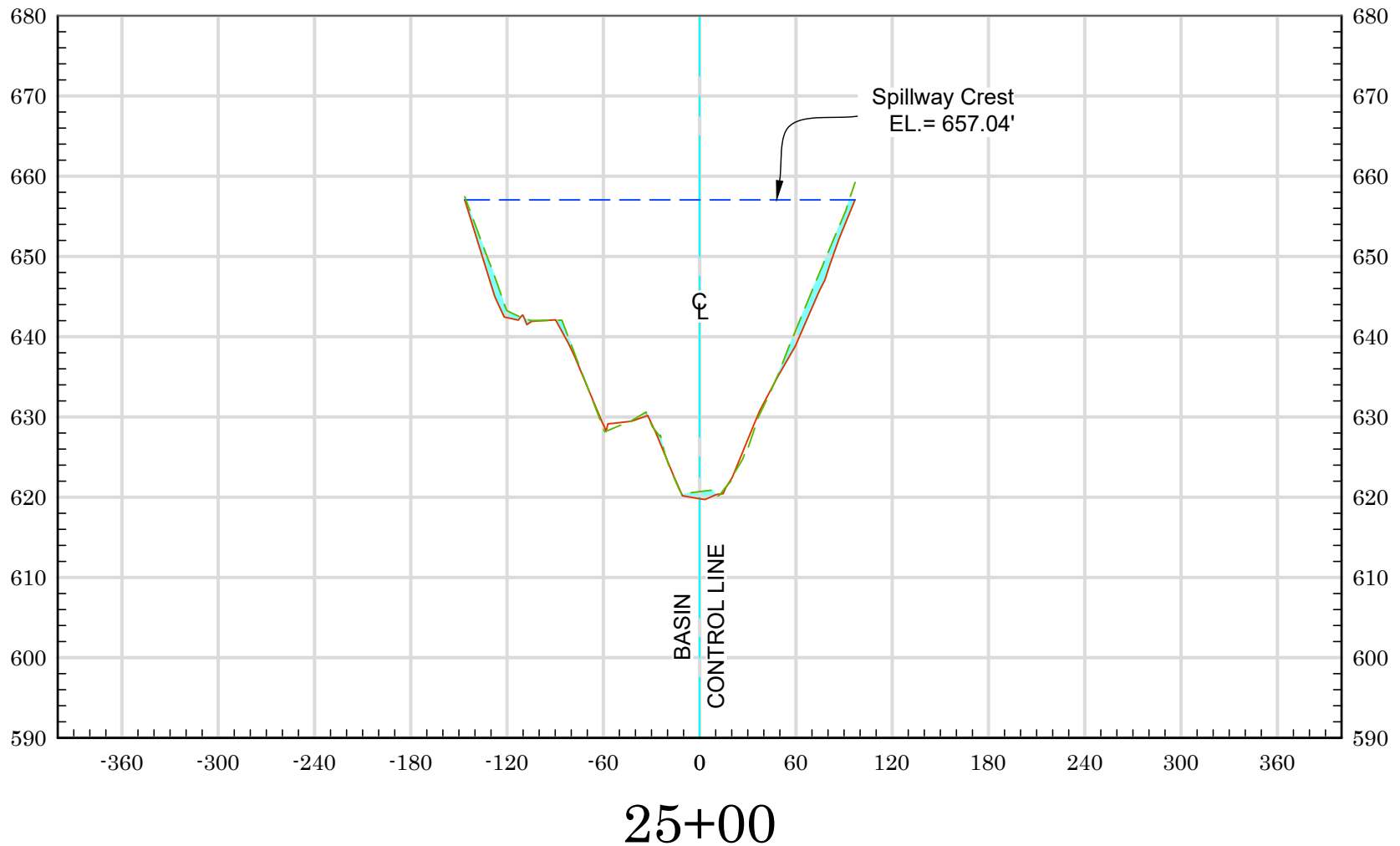


24+50

As-Built Plan ——— 2023 Ground ———
 Max Cap Line ——— Sediment

Vert. Scale: 1" = 20'
 Horiz. Scale: 1" = 100'

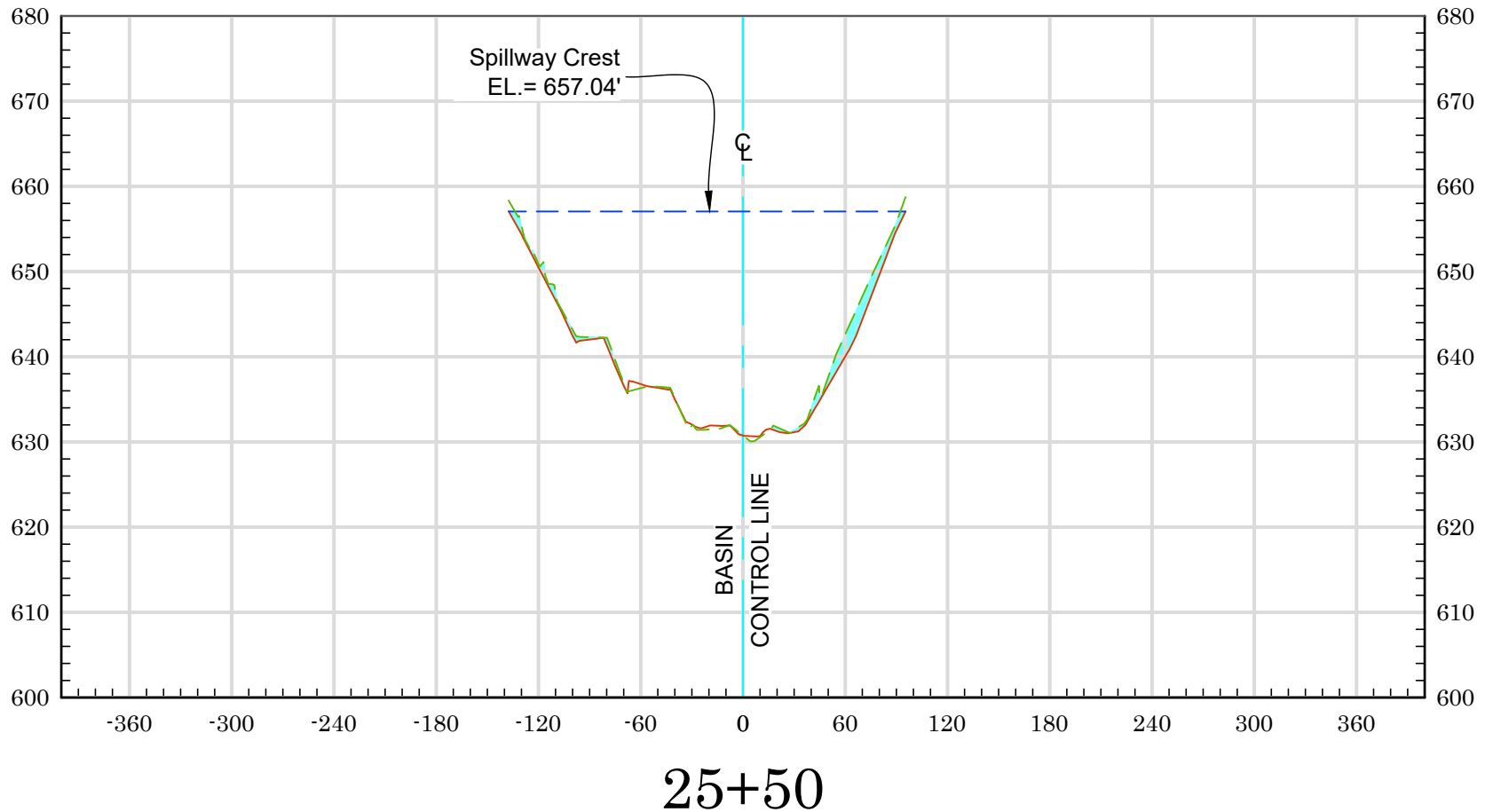
ROUND CANYON RETARDING BASIN (F16-B03) - 2023



As-Built Plan ——— 2023 Ground ———
 Max Cap Line ——— Sediment

Vert. Scale: 1" = 20'
 Horiz. Scale: 1" = 100'

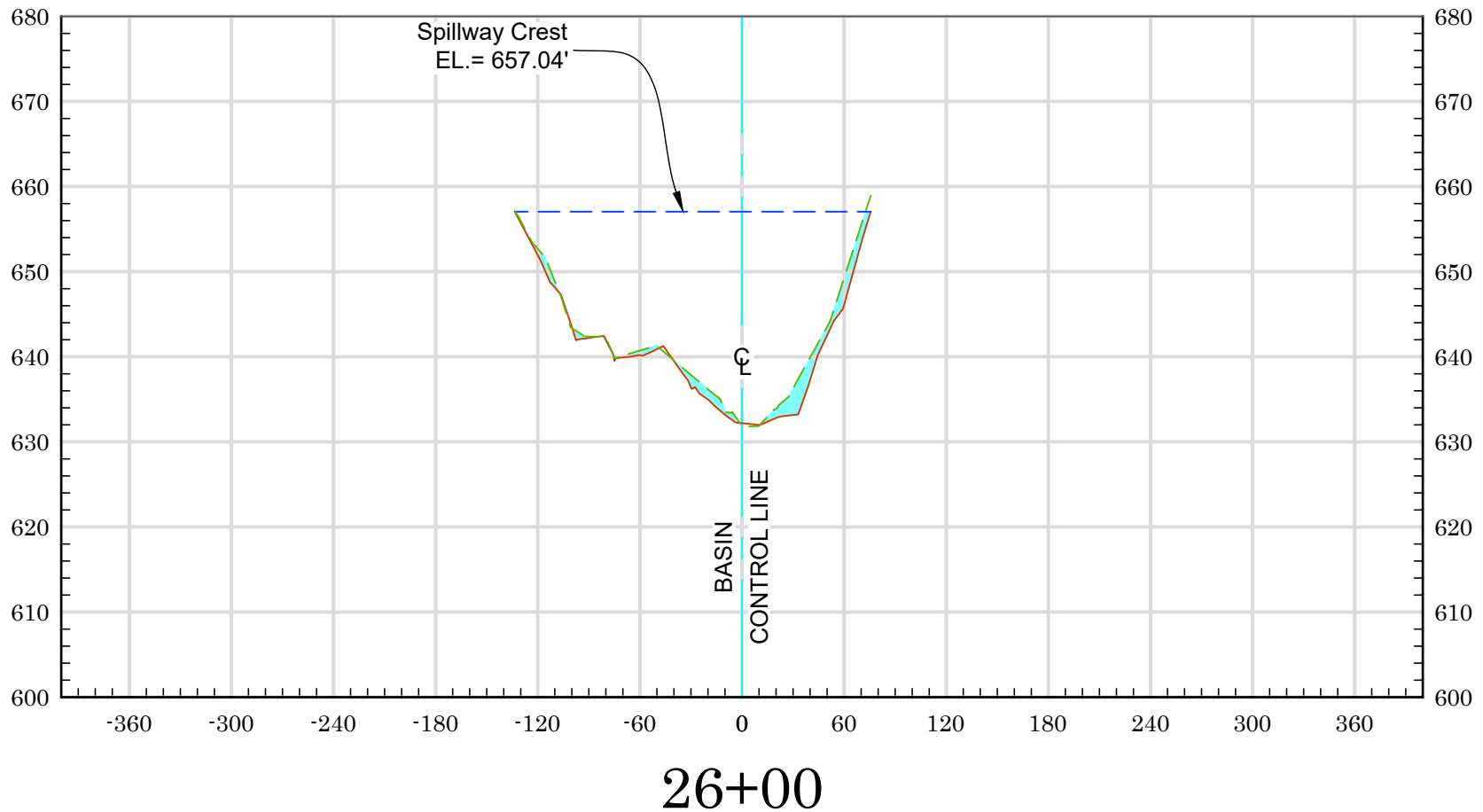
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As-Built Plan ——— 2023 Ground ———
 Max Cap Line ——— Sediment

Vert. Scale: 1" = 20'
 Horiz. Scale: 1" = 100'

ROUND CANYON RETARDING BASIN (F16-B03) - 2023



As-Built Plan ——— 2023 Ground ———
 Max Cap Line ——— Sediment

Vert. Scale: 1" = 20'
 Horiz. Scale: 1" = 100'