

March 4th, 2026

Suwannee River Water Management District
9225 CR 49
Live Oak, FL 32060

RE: ERP-023-207478-3
Zetrouer ADU Zero Rise Letter

Dear District Staff,

I have reviewed the original zero rise study on file for previous permit sequences, and have determined that a new zero rise study shall not be necessary for this permit modification. The original zero rise study completed by James M. Knight, P.E., modeled an obstruction block starting from the location of the existing house back towards SW Bluff Drive. This obstruction block was modeled from ground stations 14723 to 14873, representing 150FT. As shown on the provided site plan, this obstruction block completely encompasses the portion of the new ADU which lies within the regulatory floodway. In conclusion, all existing and proposed structures have been accounted for in the original zero rise study.

Please contact me if you have any questions.

Respectfully,

Travis Covington, P.E.
License No. 89637



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY TRAVIS COVINGTON, P.E. ON THE DATE ADJACENT TO THE SEAL.

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Zero Rise Floodway Study

Zetrouer Zero Rise
Columbia County

The subject property is located on the right bank of the Santa Fe River at River Mile 16.0. The property is located in the 100-year floodway of the River. A HEC-RAS analysis has been performed based on the HEC-2 deck obtained from the Suwannee River Water Management District. Duplicate, Existing and Proposed models depict the floodplain and floodway analyses and compare the stages for each condition. The Duplicate model is a replication of the HEC-2 deck. The existing model is the duplicate model with interpolated cross sections added at the area of interest as described below.

The proposed model blocks all of the flow area in the vicinity of the proposed home. For modeling purposes it was assumed that the home would block 150' of the cross section for a length of 150'. The cross sections at River Miles 15.75 and 16.53 were interpolated to create a cross section at River Mile 16.00 (Exit Section). This cross section was then copied upstream 150 feet (XS 16.01 Downstream Face), upstream 300 feet (XS 16.02 Upstream Face), and upstream 450 feet (XS 16.03 Approach). Cross Sections 16.01 and 16.02 were modified by blocking all flow area between Ground Stations 14723 and 14873. The right top of bank in the model is at Ground Station 14422. Cross section plots are attached.

Comparison of the floodway elevations at the regulatory cross sections upstream of the proposed fill indicates that the fill will not increase the elevation at any of the regulatory floodway cross sections. The fill placed on the property will cause zero rise in the regulatory floodway. Elevations from the duplicate, existing and proposed floodway models are summarized below.

Cross Section	Duplicate Floodway Elevation	Existing Floodway Elevation	Proposed Floodway Elevation
15.75	37.30	37.30	37.30
16.00 Exit	NA	37.37	37.37
16.01 Face	NA	37.38	37.38
16.02 Face	NA	37.39	37.39
16.03 Approach	NA	37.40	37.40
16.53	37.56	37.55	37.55
17.28	37.94	37.92	37.92
17.78	38.25	38.24	38.24

Above Elevations are NGVD 1929 Vertical Datum

The proposed home will be elevated on piles such that the structure's lowest horizontal member is elevation 37.7 feet NGVD 1929 vertical datum (one foot above the 100-year flood elevation).

James M. Knight 12/9/7
James M. Knight, P.E.
P.E. Number 47756

8725 - 288th Street
Branford, FL 32008

Phone 386-365-8840

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Existing

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1

Reach	River Sta	Profile	Q Total (cfs)	Min Chl Elev (ft)	W.S. Elev (ft)	Chl W/S (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Reach-1	10.62	PF 1	16717.00	17.74	38.53		38.60	0.000069	2.50	22629.94	2299.30	0.10
Reach-1	10.62	PF 2	16717.00	17.74	39.26		39.33	0.000065	2.49	18320.37	1224.00	0.10
Reach-1	18.49	PF 1	16717.00	8.89	37.93		38.04	0.000160	3.62	24424.11	3024.99	0.15
Reach-1	18.49	PF 2	16717.00	8.89	38.66		38.78	0.000162	3.74	18430.19	1587.00	0.15
Reach-1	17.78	PF 1	16717.00	15.15	37.51		37.57	0.000123	2.47	30241.68	3826.32	0.10
Reach-1	17.78	PF 2	16717.00	15.15	38.24		38.31	0.000123	2.53	21565.72	1615.00	0.10
Reach-1	17.28	PF 1	16717.00	13.26	37.21		37.27	0.000094	2.39	30031.92	3410.08	0.09
Reach-1	17.28	PF 2	16717.00	13.26	37.92		38.00	0.000101	2.54	19393.82	1444.96	0.10
Reach-1	16.53	PF 1	16717.00	13.60	36.86		36.91	0.000091	2.38	36749.59	3989.11	0.09
Reach-1	16.53	PF 2	16717.00	13.60	37.55		37.61	0.000095	2.48	25414.59	1668.00	0.09
Reach-1	16.03	PF 1	16717.00	12.45	36.69		36.73	0.000067	1.95	37387.94	5329.15	0.08
Reach-1	16.03	PF 2	16717.00	12.45	37.40		37.44	0.000060	1.89	26637.48	1844.00	0.07
Reach-1	16.02	PF 1	16717.00	12.45	36.68		36.72	0.000068	1.95	37333.36	5325.25	0.08
Reach-1	16.02	PF 2	16717.00	12.45	37.39		37.43	0.000060	1.89	26620.68	1844.00	0.07
Reach-1	16.01	PF 1	16717.00	12.45	36.67		36.71	0.000068	1.96	37278.67	5321.33	0.08
Reach-1	16.01	PF 2	16717.00	12.45	37.38		37.42	0.000061	1.89	26603.86	1844.00	0.07
Reach-1	16.00	PF 1	16717.00	12.45	36.66		36.70	0.000068	1.96	37223.93	5317.41	0.08
Reach-1	16.00	PF 2	16717.00	12.45	37.37		37.41	0.000061	1.89	26587.00	1844.00	0.07
Reach-1	15.75	PF 1	16717.00	11.90	36.59		36.62	0.000057	1.74	37165.67	5092.67	0.07
Reach-1	15.75	PF 2	16717.00	11.90	37.30		37.34	0.000057	1.77	25881.22	1927.00	0.07

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Proposed

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1

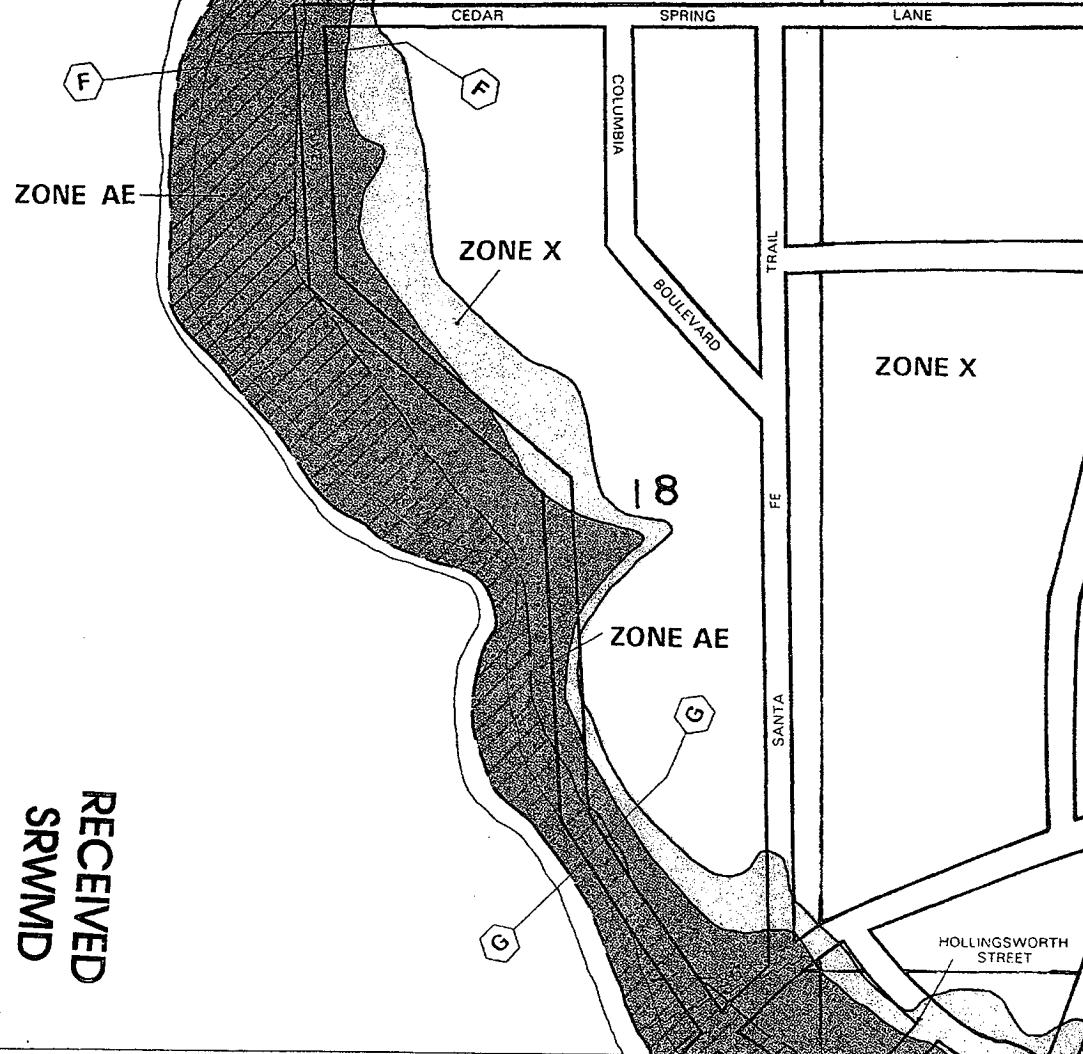
Reach	River Sta	Profile	Q Total	Min Chl Elev	W.S. Elev	Chl W.S	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	19.62	PF 1	16717.00	17.74	38.53		38.60	0.000069	2.50	22631.63	2299.34	0.10
Reach-1	19.62	PF 2	16717.00	17.74	39.26		39.33	0.000065	2.49	18322.41	1224.00	0.10
Reach-1	18.49	PF 1	16717.00	8.89	37.93		38.04	0.000160	3.62	24426.74	3025.04	0.15
Reach-1	18.49	PF 2	16717.00	8.89	38.66		38.78	0.000162	3.74	18433.21	1587.00	0.15
Reach-1	17.78	PF 1	16717.00	15.15	37.51		37.57	0.000123	2.47	30245.43	3826.40	0.10
Reach-1	17.78	PF 2	16717.00	15.15	38.24		38.31	0.000123	2.53	21569.11	1615.00	0.10
Reach-1	17.28	PF 1	16717.00	13.26	37.21		37.27	0.000094	2.39	30035.49	3410.29	0.09
Reach-1	17.28	PF 2	16717.00	13.26	37.92		38.00	0.000101	2.54	19397.03	1445.06	0.10
Reach-1	16.53	PF 1	16717.00	13.60	36.86		36.91	0.000091	2.38	36754.14	3989.47	0.09
Reach-1	16.53	PF 2	16717.00	13.60	37.55		37.61	0.000095	2.48	25418.56	1668.00	0.09
Reach-1	16.03	PF 1	16717.00	12.45	36.69		36.74	0.000067	1.95	37394.28	5329.61	0.08
Reach-1	16.03	PF 2	16717.00	12.45	37.40		37.44	0.000060	1.89	26642.00	1844.00	0.07
Reach-1	16.02	PF 1	16717.00	12.45	36.68		36.72	0.000069	1.98	35525.98	5174.50	0.08
Reach-1	16.02	PF 2	16717.00	12.45	37.39		37.43	0.000064	1.95	24708.32	1693.66	0.08
Reach-1	16.01	PF 1	16717.00	12.45	36.67		36.71	0.000070	1.98	35471.40	5170.48	0.08
Reach-1	16.01	PF 2	16717.00	12.45	37.38		37.42	0.000064	1.95	24691.97	1693.66	0.08
Reach-1	16.00	PF 1	16717.00	12.45	36.66		36.70	0.000068	1.96	37223.93	5317.41	0.08
Reach-1	16.00	PF 2	16717.00	12.45	37.37		37.41	0.000061	1.89	26587.00	1844.00	0.07
Reach-1	15.75	PF 1	16717.00	11.90	36.59		36.62	0.000057	1.74	37165.67	5092.67	0.07
Reach-1	15.75	PF 2	16717.00	11.90	37.30		37.34	0.000057	1.77	25881.22	1927.00	0.07

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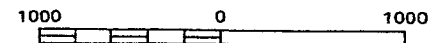
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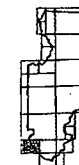
NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

COLUMBIA
COUNTY,
FLORIDA
(UNINCORPORATED AREAS)

PANEL 255 OF 290

PANEL LOCATION



COMMUNITY-PANEL NUMBER
120070 0255 B

EFFECTIVE DATE:
JANUARY 6, 1988



Federal Emergency Management Agency

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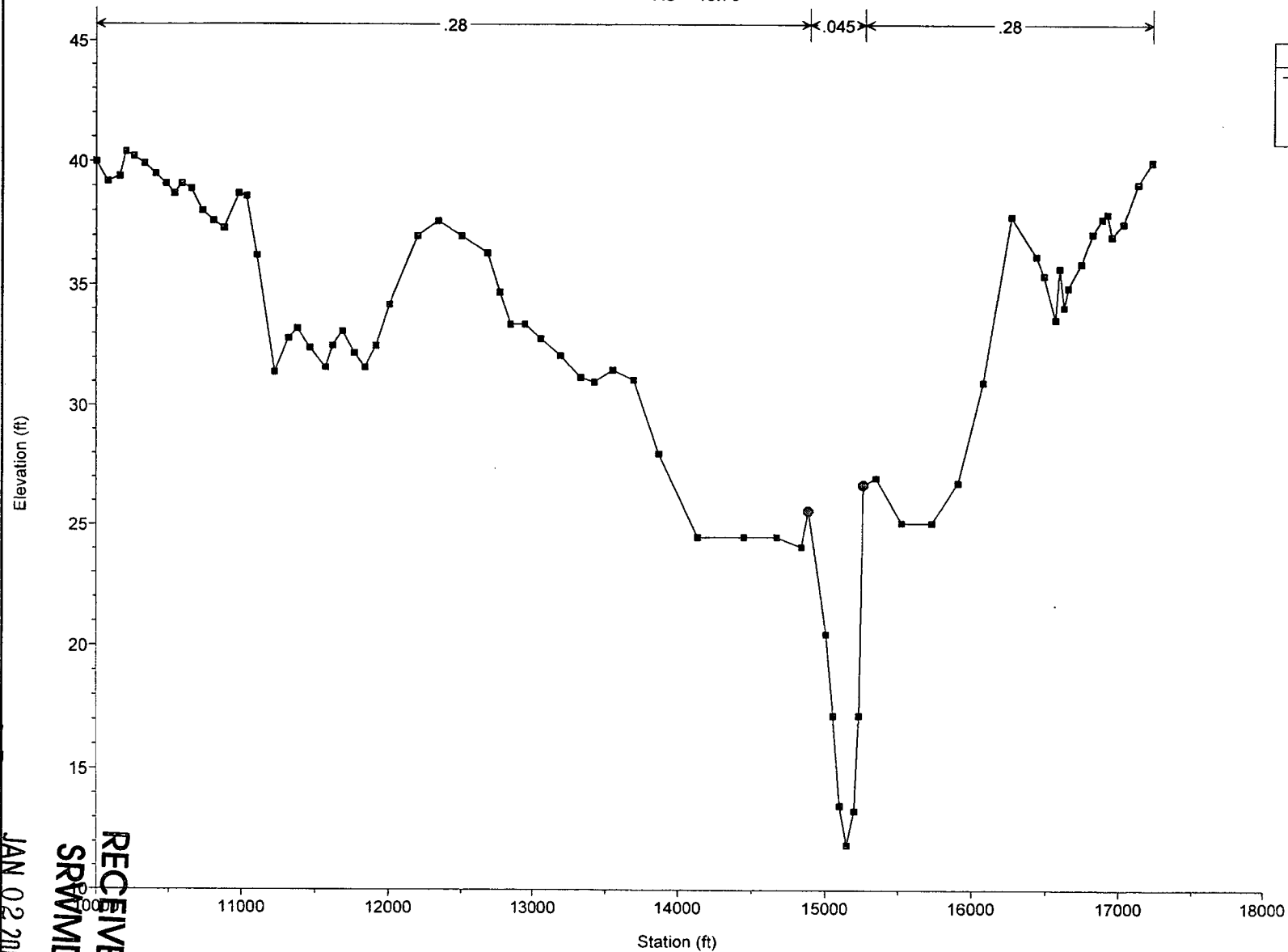
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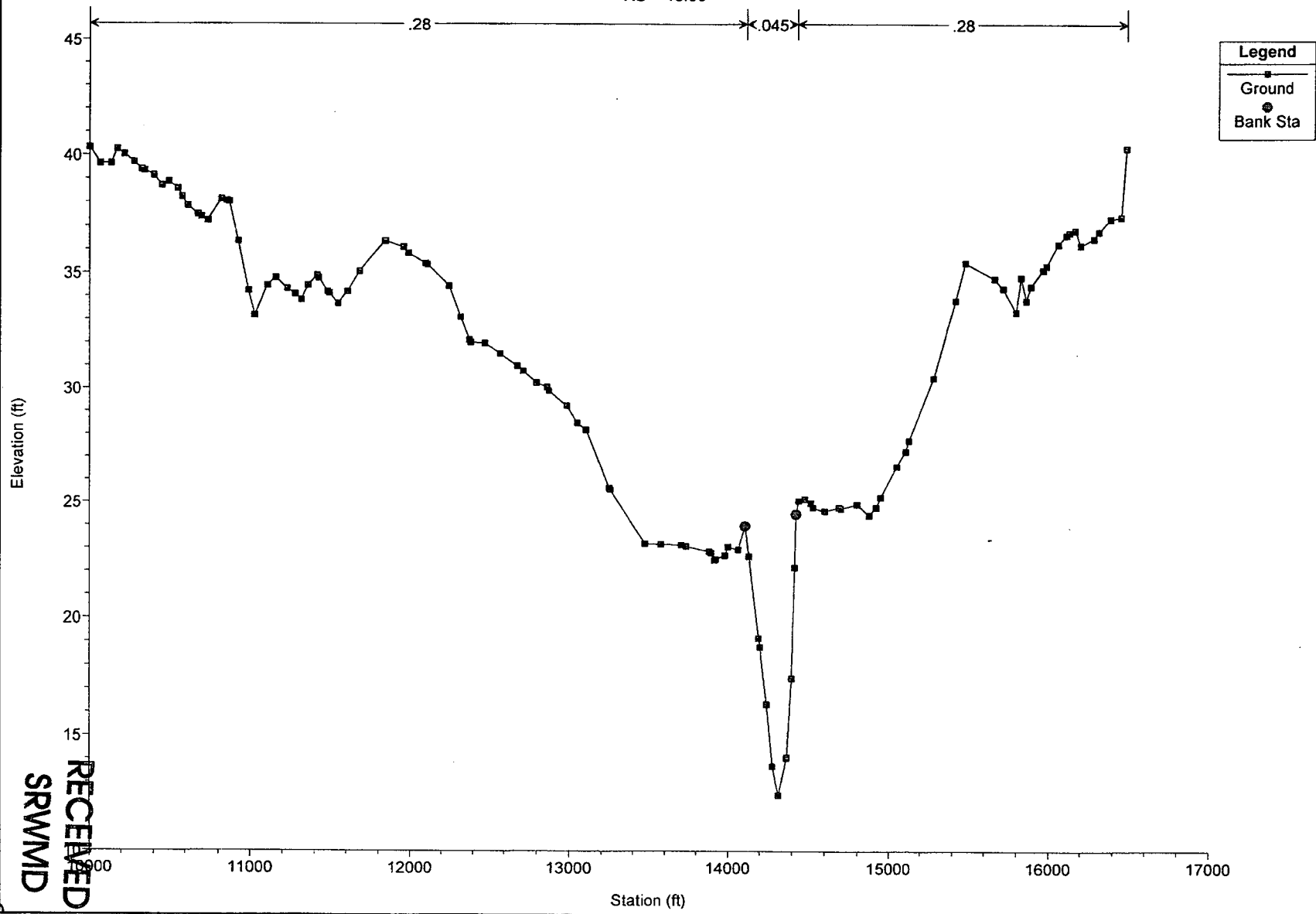
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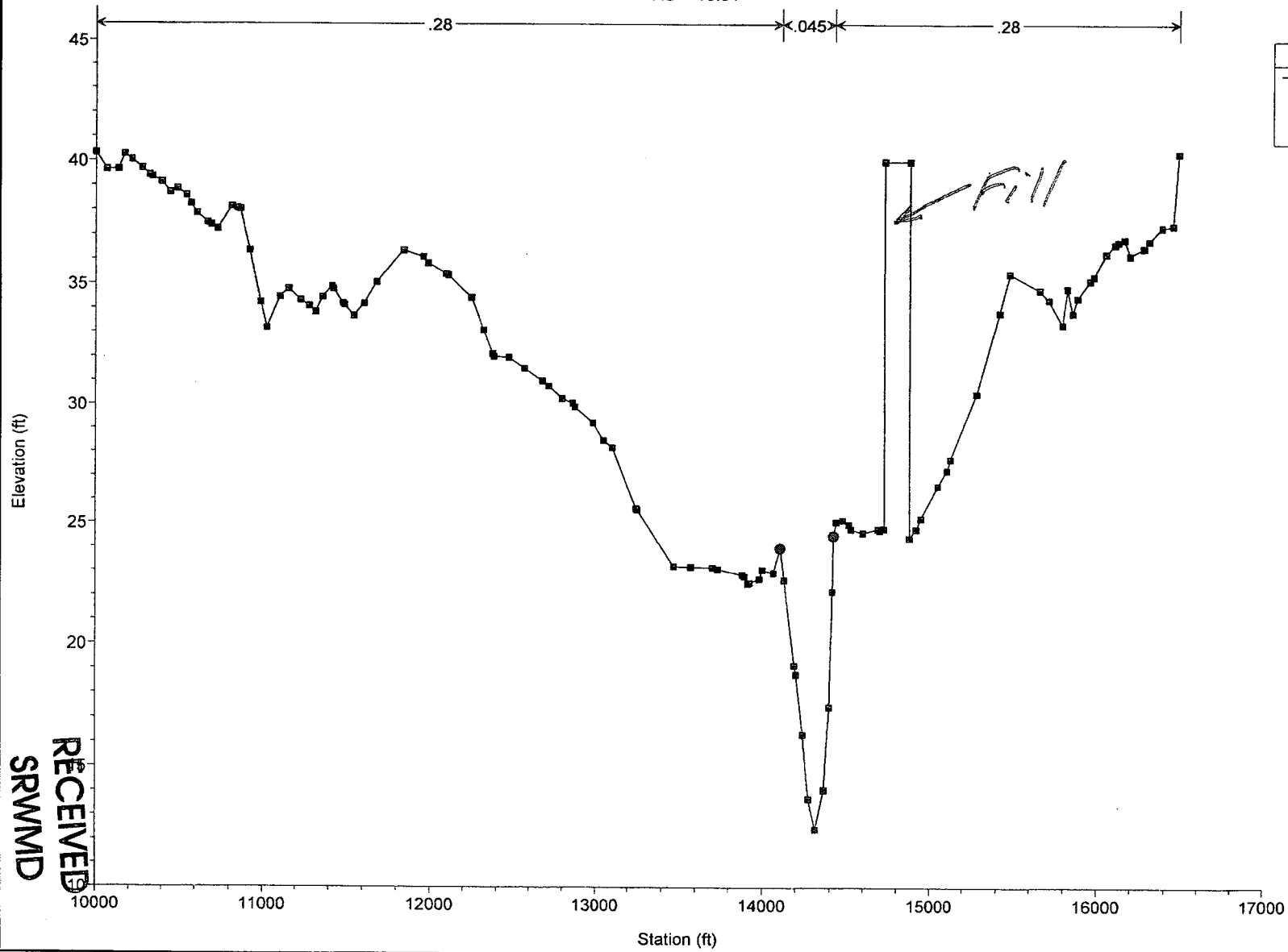


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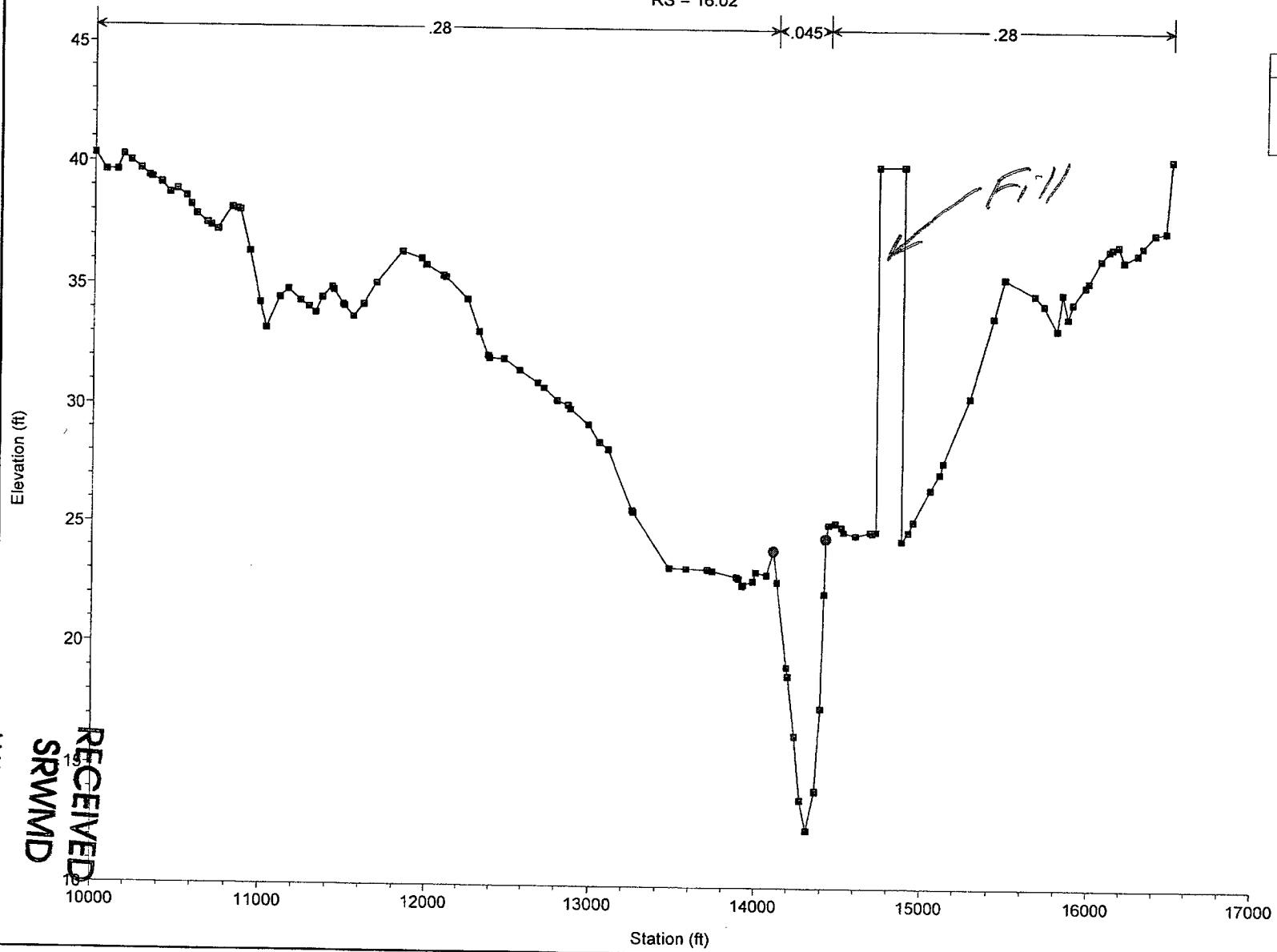


Legend	
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Legend	
■	Ground
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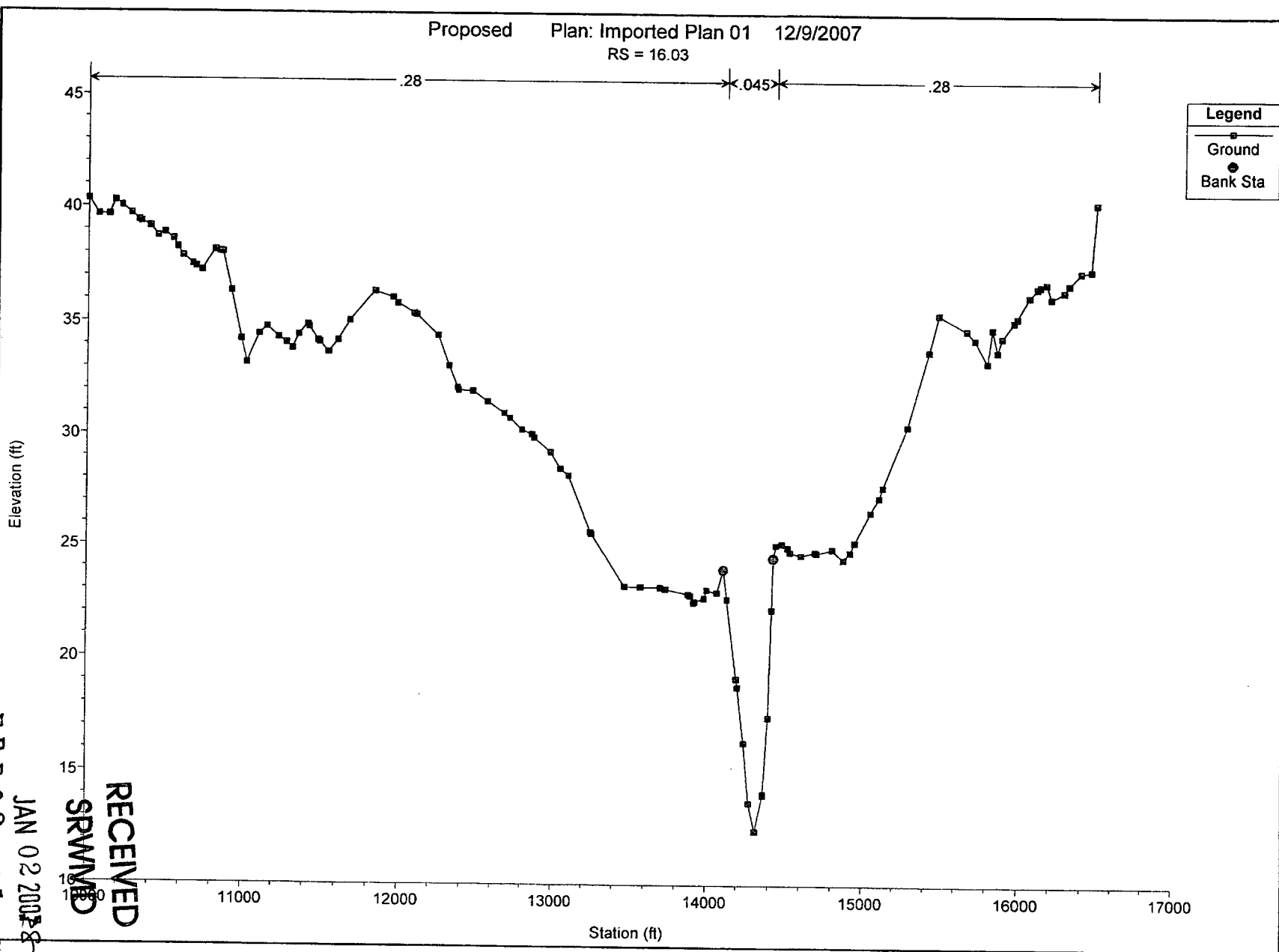
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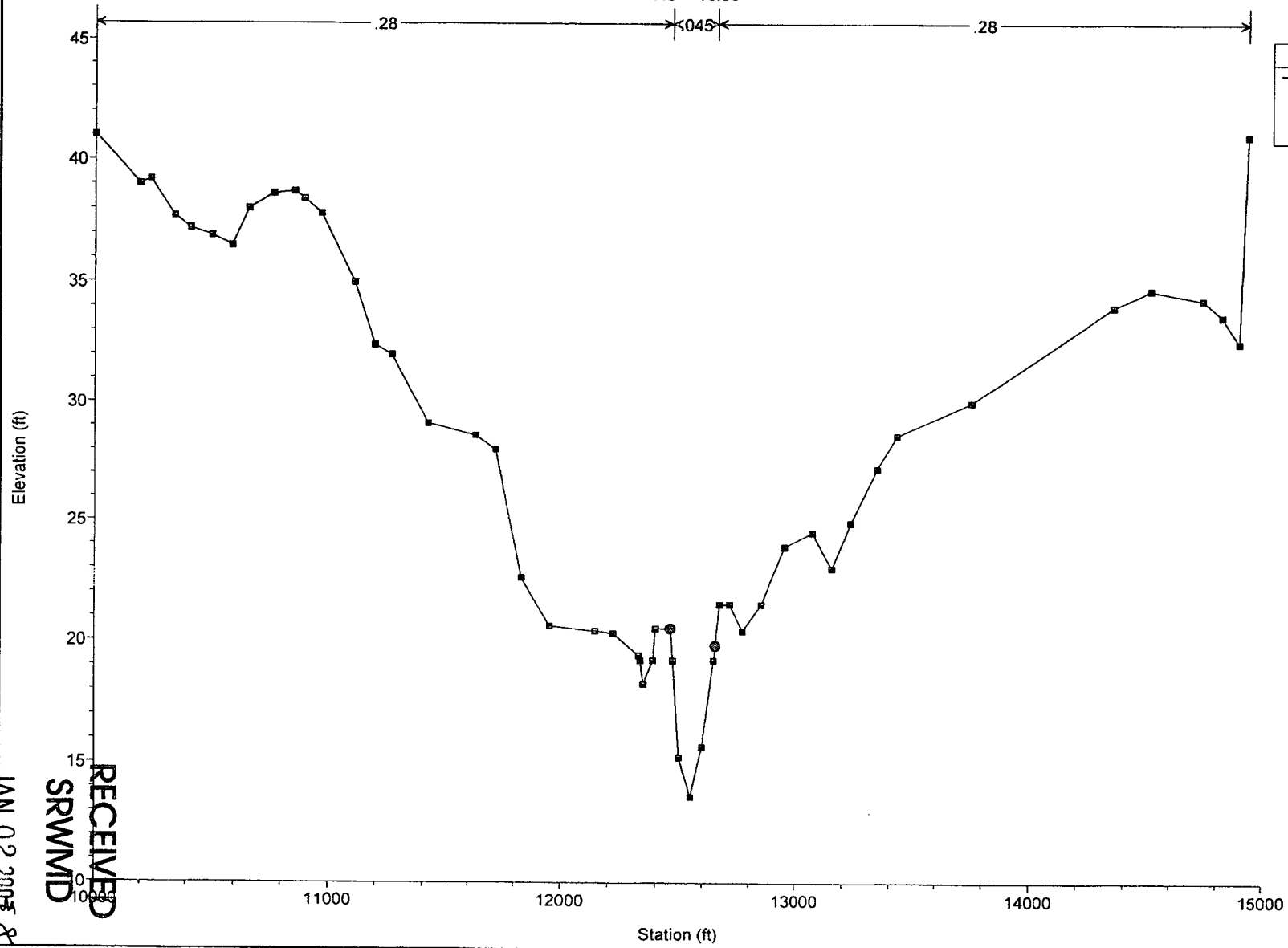
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RS = 16.53



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