



MBM- MONITORING BENCHMARK
 ● 1/2 INCH IRON ROD 4 FEET LONG
 INSIDE 4 INCH PVC SLEEVE WITH CAP
 COUNTERSUNK 4 TO 6 INCHES

SJRA SEGMENT W1A GEOLOGICAL MONITORING SURVEY

POINT ID	INITIAL SURVEY MARCH, 2015 ELEV.	SEPTEMBER, 2015 ELEV.	MARCH, 2016 ELEV.	SEPTEMBER, 2016 ELEV.	APRIL, 2017 ELEV.	SEPTEMBER, 2017 ELEV.	MARCH, 2018 ELEV.	SEPTEMBER, 2018 ELEV.	MARCH, 2019 ELEV.	SEPTEMBER, 2019 ELEV.	MARCH, 2020 ELEV.	NOVEMBER, 2020 ELEV.	MARCH, 2021 ELEV.	SEPTEMBER, 2021 ELEV.	MARCH, 2022 ELEV.	SEPTEMBER, 2022 ELEV.
MBM-1	189.24	189.23	189.23	189.23	189.23	189.23	189.23	189.23	189.24	189.24	189.23	189.24	189.24	189.23	189.25	
MBM-2	189.27	189.27	189.26	189.26	189.26	189.27	189.26	189.26	189.27	189.27	189.27	189.27	189.27	189.26	189.28	
MBM-3	189.45	189.45	189.44	189.44	189.44	189.45	189.44	189.45	189.45	189.44	189.44	189.44	189.44	189.44	189.45	
MBM-4	189.73	189.73	189.72	189.72	189.72	189.73	189.72	189.72	189.73	189.73	189.72	189.72	189.72	189.72	189.73	
MBM-5	190.41	190.41	190.40	190.40	190.40	190.40	190.40	190.40	190.40	190.39	190.39	DESTROYED	DESTROYED	DESTROYED	DESTROYED	
MBM-6	190.26	190.26	190.26	190.26	190.26	190.26	190.26	190.26	190.26	190.26	190.25	DESTROYED	DESTROYED	DESTROYED	DESTROYED	
MBM-7	188.81	188.81	188.81	188.80	188.81	188.81	188.81	188.80	188.81	188.80	188.80	188.80	188.80	188.80	188.81	
MBM-8	188.28	188.28	188.28	188.28	188.28	188.28	188.28	188.28	188.28	188.27	188.27	188.27	188.27	188.27	188.29	
MBM-9	187.93	187.92	187.92	187.92	187.92	187.92	187.92	187.92	187.92	187.92	187.91	187.92	187.92	187.91	187.93	
MBM-10	187.76	187.76	187.76	187.76	187.76	187.76	187.76	187.76	187.76	187.76	187.75	187.75	187.75	187.75	187.76	
MBM-11	188.00	187.98	187.96	187.96	187.95	187.95	187.94	187.93	187.93	187.91	187.90	187.89	187.89	187.88	187.90	
MBM-12	187.77	187.76	187.76	187.76	187.76	187.76	187.76	187.75	187.76	187.75	187.75	187.75	187.75	187.75	187.76	
MBM-13	187.50	187.50	187.50	187.49	187.49	187.49	187.49	187.49	187.49	187.49	187.49	187.49	187.49	187.48	187.50	
MBM-14	187.75	187.74	187.74	187.74	187.74	187.74	187.74	187.73	187.74	187.73	187.73	187.73	187.73	187.73	187.74	
MBM-15	188.49	188.49	188.49	188.49	188.49	188.48	188.49	188.48	188.48	188.48	188.48	188.48	188.48	188.48	188.49	
MBM-16	187.86	187.85	187.85	187.85	187.85	187.84	187.85	187.84	187.85	187.84	187.84	187.84	187.84	187.84	187.85	
MBM-17	189.31	189.31	189.30	189.30	189.30	189.30	189.30	189.30	189.30	189.30	189.29	189.29	189.30	189.29	189.31	
MBM-18	189.75	189.74	189.74	189.74	189.74	189.74	189.74	189.74	189.74	189.73	189.73	189.73	189.73	189.73	189.74	
MBM-19	189.32	189.32	189.31	189.31	189.31	189.31	189.31	189.31	189.32	189.31	189.31	189.31	189.31	189.30	189.32	
MBM-20	188.55	188.55	188.54	188.54	188.54	188.54	188.54	188.54	188.54	188.54	188.53	188.53	188.53	188.53	188.54	

TBM "W1A" DESTROYED SEE NOTE 2.
 Top of South Bolt on Signal Light Pole at the southeast corner of Research Forest Drive and FM 2978.
 Elevation = 195.68' (SJRA Project Vertical Control Datum)

- NOTES:
- All elevations are referenced to the SJRA Groundwater Reduction Plan Project Vertical Control Datum. Project Benchmark: SJRA Benchmark No. 5, Elevation = 212.00 feet.
 - TBM "W1A" was destroyed between September, 2018 and March, 2019, due to the construction of new road widening at the intersection of FM 2978 and Research Forest Drive. SJRA BM 30 has been observed throughout the monitoring and will be used for benchmark for the remaining duration. Refer to SJRA GRP Program Survey Monumentation System handbook for BM 30.
 - MBM-5 & MBM-6 were destroyed between March, 2020 and November, 2020 by the construction of a new driveway.

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DATE: FEBRUARY 27, 2015
 SCALE: 1" = 20'
 DRAWING No.: 2038-D-
 JOB No.: 1420224, 2020163 & 2220031
 SHEET No.: 1 OF 1