Appendix 11.0

Double Ring Infiltration Testing Report

Earth Strata Geotechnical Services, Inc.
Geotechnical, Environmental and Materials Testing Consultants

September 20, 2018

Project No. 182250-12A
MDMG Project 1585 KCG BLU, LLC

Mr. Don Maclean
KCG BLUE, LLC
3961 Citrus Drive
Fallbrook, CA 92028

Subject: **Double Ring Infiltration Testing Report, Proposed Gun Shooting Range and Tactical Training Facility, Assessor Parcel Number 367-020-038, Lot Number 115 of Sedco Tract 1 Subdivision, Located at 34020 Mission Trail, City of Wildomar, Riverside County, California**

Earth Strata Geotechnical Services is pleased to present this infiltration feasibility report for the proposed commercial development, Assessor Parcel Number 367-020-038, located at 34020 Mission Trail in the City of Wildomar of Riverside County, California. The purpose of our study was to determine the infiltration rates and physical characteristics of the subsurface earth materials at the approximate depth of the proposed WQMP area within the proposed development. This feasibility report provides the infiltration rates to be used for the design and the development of the water quality management plan, where applicable.

PROPERTY DESCRIPTION

The subject property is located at 34020 Mission Trail in the City of Wildomar, Riverside County, California. The approximate location of the site is shown on the Vicinity Map, Figure 1.

The subject property is comprised of approximately 2.33 acres of developed land with an existing single-family residence and accessory building to be removed. Topographic relief at the subject property is relatively low with the terrain being generally flat. Elevations at the site is approximately 1,305 feet above mean sea level (msl). Drainage within the subject property generally flows to the northwest.

The site is currently bordered by residential development to the east, commercial development to the north, and vacant property to the west and south. Most of the vegetation on the site consists of moderate amounts of annual weeds/grasses.

PROPOSED CONSTRUCTION

The proposed commercial development is expected to consist of concrete, wood or steel framed two-story structure utilizing slab on grade construction with associated streets, parking, landscape areas, and

utilities. The current development plans include demolition of the existing single-family residence and accessory building and construction of one (1) building pad for the proposed two-story structure.

SUBSURFACE EXPLORATION AND INFILTRATION TESTING

SUBSURFACE EXPLORATION

Subsurface exploration of the subject site consisted of four exploratory borings within the proposed development for geotechnical evaluation purposes to a maximum depth of 31.5 feet, conducted on August 21, 2018. The approximate locations of the exploratory excavations are shown on the attached Infiltration Location Map, Plate 1.

EARTH MATERIALS

The earth materials on the site are primarily comprised of topsoil and Quaternary alluvial materials. A general description of the dominant earth materials observed on the site is provided below:

- Topsoil (no map symbol): Residual topsoil, encountered in the upper 1 foot, blankets the site and underlying alluvium. These materials were noted to be generally strong brown to dark brown, silty sand and clayey sand which were very porous, dry and in a loose to medium dense state.

- Quaternary Young Alluvial Fan Deposits (map symbol Qyv): Quaternary young alluvial fan deposits were encountered at the surface and beneath the topsoil to the full depth of our exploration. These young alluvial deposits consist predominately of interlayered strong brown, yellowish brown to gray brown, fine to coarse grained silty sand, clayey sand, and sandy silt. These deposits were generally noted to be in a dry to moist, loose to very dense state.

GROUNDWATER

Groundwater was not observed within the exploratory borings excavated to a depth of 31.5 feet.

INFILTRATION TESTING

The double ring infiltrometer test method was utilized to perform a total of four (4) infiltration tests on August 30, 2018 to evaluate near surface infiltration rates in order to estimate the amount of storm water runoff that can infiltrate into the onsite water quality treatment plan areas. The infiltration tests were performed in general accordance with the requirements of double ring infiltration testing, ASTM D3385 and Appendix A of the Riverside County Flood Control and Water Conservation District.

The infiltration tests were performed using double ring infiltrometer and Mariotte tubes at a depth of 5 feet below existing grades. The locations of the infiltration tests are indicated on the attached infiltration Location Map, Plate 1. The double ring infiltrometer tests were located by property boundary measurement on the site plan and by using geographic features. Infiltration test data recorded in the field are summarized in the following table and is included within Appendix B including the graph of Infiltration Rate versus Elapsed Time.

INFILTRATION TEST SUMMARY

TEST NUMBER	INFILTRATION HOLE DEPTH (ft.)	INFILTRATION RATE (in/hr)	DESCRIPTION
DR-1	5	0.27	Clayey SAND
DR-2	5	0.22	Clayey SAND
DR-3	5	1.89	Silty SAND
DR-4	5	0.25	Sandy CLAY

The infiltration test rates ranged from 0.22 to 1.89 inches per hour (in/hr).

CONCLUSIONS AND RECOMMENDATIONS

General

From geotechnical and engineering geologic points of view, the proposed WQMP areas, where tested, is considered suitable for infiltration for the proposed development, provided the following conclusions and recommendations are incorporated into the plans and are implemented during construction.

Groundwater

Groundwater was not observed during our subsurface exploration. Potential groundwater impact is considered very low to low. Local well data indicates regional groundwater highs approximately 385 feet below existing surface, which meets the minimum separation of >10 feet from the bottom of infiltration facility to the groundwater mark.

Geologic/ Geotechnical Screening

These proposed WQMP areas in the vicinity of DR-1 and DR-2 (see Plate 1) are located at a lower elevation than the proposed structures in competent native earth materials.

The proposed structures will be supported by compacted fill and competent alluvium, with groundwater at a depth of approximately 385 feet. As such, the potential for earthquake induced liquefaction and lateral spreading beneath the proposed structures is considered very low to remote due to the recommended compacted fill, relatively low groundwater level, and the dense nature of the deeper onsite earth materials.

Therefore, infiltration within the proposed WQMP areas will not encroach on any proposed structures and will not increase the risk of geologic hazards.

Preliminary laboratory test results indicate onsite earth materials exhibit an expansion potential of **LOW** as classified in accordance with 2016 CBC Section 1803.5.3 and ASTM D4829.

Recommended Factor of Safety

The recommended factor of safety for the infiltration design is 3.

Based on the data presented in this report and the recommendations set forth herein, it is the opinion of Earth Strata Geotechnical Services that the WQMP area can be designed for an infiltration rate of 0.26 inches per hour.

GRADING PLAN REVIEW AND CONSTRUCTION SERVICES

This report has been prepared for the exclusive use of **Mr. Don McClean** and their authorized representative. It likely does not contain sufficient information for other parties or other uses. Earth Strata Geotechnical Services should be engaged to review the final design plans and specifications prior to construction. This is to verify that the recommendations contained in this report have been properly incorporated into the project plans and specifications. Should Earth Strata Geotechnical Services not be accorded the opportunity to review the project plans and specifications, we are not responsibility for misinterpretation of our recommendations.

Earth Strata should be retained to provide observations during construction to validate this report. In order to allow for design changes in the event that the subsurface conditions differ from those anticipated prior to construction.

Earth Strata should review any changes in the project and modify and approve in writing the conclusions and recommendations of this report. This report and the drawings contained within are intended for design input purposes only and are not intended to act as construction drawings or specifications. In the event that conditions encountered during grading or construction operations appear to be different than those indicated in this report, this office should be notified immediately, as revisions may be required.

REPORT LIMITATIONS

Our services were performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable soils engineers and geologists, practicing at the time and location this report was prepared. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report.

Earth materials vary in type, strength, and other geotechnical properties between points of observation and exploration. Groundwater and moisture conditions can also vary due to natural processes or the works of man on this or adjacent properties. As a result, we do not and cannot have complete knowledge of the subsurface conditions beneath the subject property. No practical study can completely eliminate uncertainty with regard to the anticipated geotechnical conditions in connection with a subject property.

The conclusions and recommendations within this report are based upon the findings at the points of observation and are subject to confirmation by Earth Strata during construction. This report is considered valid for a period of one year from the time the report was issued.

This report was prepared with the understanding that it is the responsibility of the owner or their representative, to ensure that the conclusions and recommendations contained herein are brought to the attention of the other project consultants and are incorporated into the plans and specifications. The owners' contractor should properly implement the conclusions and recommendations during grading and construction, and notify the owner if they consider any of the recommendations presented herein to be unsafe or unsuitable.

Respectfully submitted,

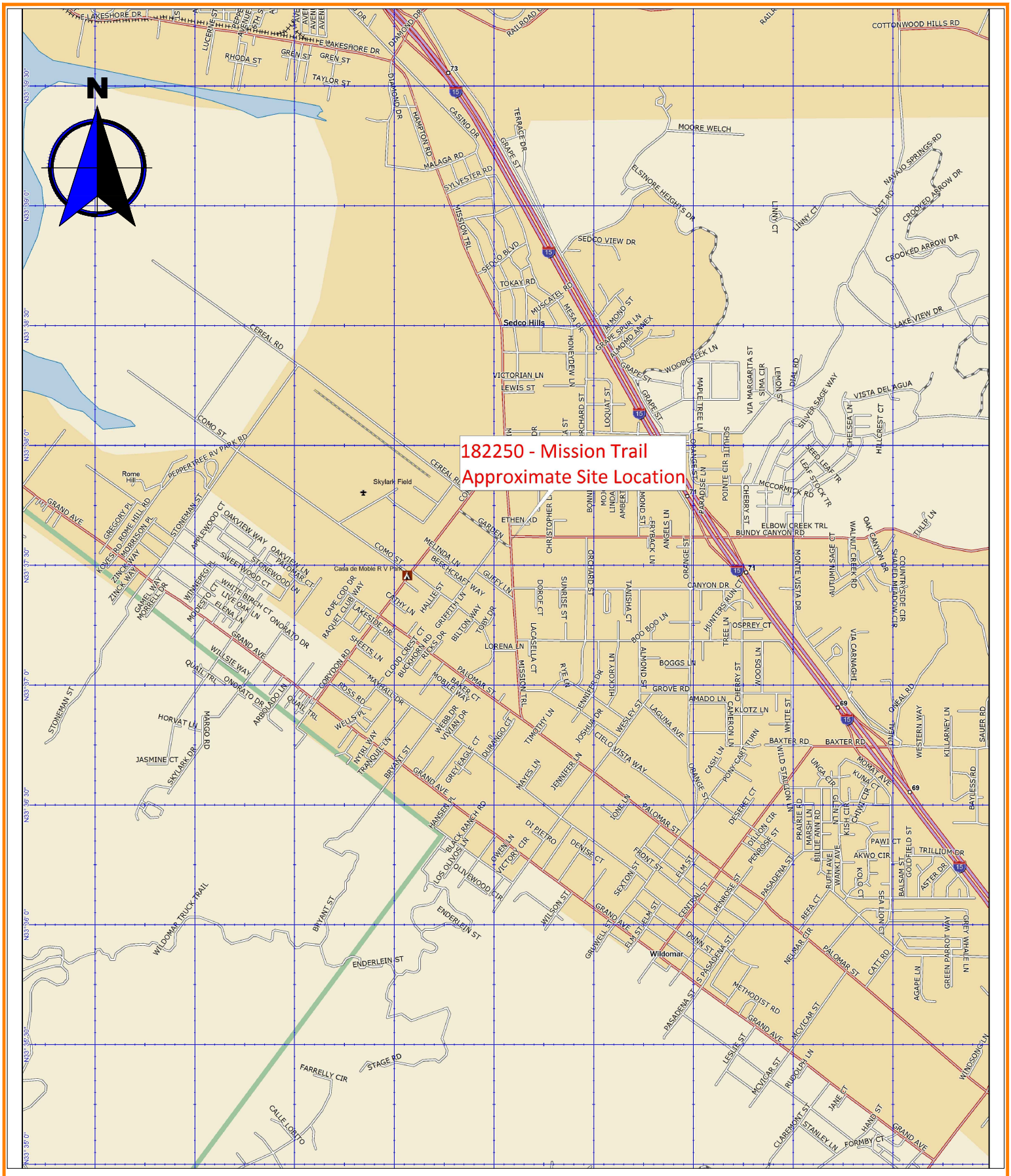
EARTH STRATA GEOTECHNICAL SERVICES

Stephen M. Poole, PE 40219
President
Principal Engineer

SMP/jf/snj

Distribution: (1) Addressee

Attachments: Figure 1 – Vicinity Map *(Rear of Text)*
Appendix A – Exploratory Logs *(Rear of Text)*
Appendix B – Infiltration Test Sheets *(Rear of Text)*
Plate 1 – Infiltration Location Map *(Rear of Text)*



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MISSION TRAIL | 182250-12A

VICINITY MAP | SCALE 1:40,625 | SEP 2018 | FIGURE 1

APPENDIX A

EXPLORATORY LOGS

Geotechnical Boring Log B-1

Date: August 21, 2018	**Project Name: Mission Trail** **Page: 1 of 2**
Project Number: 182250-10A	**Logged By: JF**
Drilling Company: Drilling It	**Type of Rig: B-61**
Drive Weight (lbs): 140	**Drop (in): 30** **Hole Diameter (in): 8**
Top of Hole Elevation (ft): See Map	**Hole Location: See Geotechnical Map**

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0		0-5'				**Topsoil**
					SC	Clayey SAND; dark brown, dry, dense, fine to medium sand, trace gravel
	25	2.5'	115.3	9.0		**Quaternary Young Alluvial Fan Deposits (Qyv)**
					ML	Sandy SILT; medium brown, dry, medium dense, fine to coarse sand, trace clay
						and gravel
5	21	5'	104.7	6.4	SM	Silty SAND; yellowish brown, dry, dense, fine to coarse sand
	40	7.5'	118.4	10.5	CL	Sandy CLAY with Silt; yellowish red to brown, dry, dense, fine to coarse sand,
						trace gravel
10	33	10'	119.8	14.6		
					SM	Silty SAND; strong brown, slightly moist, dense, fine to medium sand, trace clay
15	50	15'	123.5	10.4	ML	Sandy SILT; strong brown, dry, dense, fine to medium sand
20	61	20'	118.5	14.0	SM	Silty SAND; yellowish brown, slighty mosit, very dense, fine to medium sand
25	41	25'	117.5	14.7	ML	Sandy SILT; yellowish brown to grayish brown, moist, dense, fine sand
30						

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Geotechnical Boring Log B-1

Date: August 21, 2018	**Project Name: Mission Trail** **Page: 2 of 2**
Project Number: 182250-10A	**Logged By: JF**
Drilling Company: Drilling It	**Type of Rig: B-61**
Drive Weight (lbs): 140	**Drop (in): 30** **Hole Diameter (in): 8**
Top of Hole Elevation (ft): See Map	**Hole Location: See Geotechnical Map**

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
30	53	30'	112.4	15.1		Yellowish gray to strong brown, very dense below 30 feet
						Total Depth: 31.5 feet
						No Groundwater
35						
40						
45						
50						
55						
60						

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Geotechnical Boring Log B-2

Date: August 21, 2018	**Project Name: Mission Trail** **Page: * of ***
Project Number: 182250-10A	**Logged By: JF**
Drilling Company: Drilling It	**Type of Rig: B-61**
Drive Weight (lbs): 140	**Drop (in): 30** **Hole Diameter (in): 8**
Top of Hole Elevation (ft): See Map	**Hole Location: See Geotechnical Map**

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						**Quaternary Young Alluvial Fan Deposits (Qyv)**
	48	2.5'	118.5	6.5	SM	Silty SAND; brown, dry, dense, fine to coarse sand, trace clay and gravel
						Strong brown below 4 feet
5	34	5'	118.2	10.8	SC	Clayey SAND; dark reddish brown, dry, dense, fine to coarse sand
	36	7.5'	115.4	11.5	SM	Silty SAND; yellowish brown, dry, dense, fine to coarse sand, trace clay
10	90/9"	10'	128.8	7.1		Light yellowish brown, very dense below 10 feet
15	74	15'	132.5	8.6		Light reddish brown to strong brown, with clay
						Total Depth: 16.5 feet
						No Groundwater
20						
25						
30						

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Geotechnical Boring Log B-3

Date: August 21, 2018	**Project Name: Mission Trail** **Page: 1 of 1**
Project Number: 182250-10A	**Logged By: JF**
Drilling Company: Drilling It	**Type of Rig: B-61**
Drive Weight (lbs): 140	**Drop (in): 30** **Hole Diameter (in): 8**
Top of Hole Elevation (ft): See Map	**Hole Location: See Geotechnical Map**

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						**Topsoil**
					SM	Silty SAND; strong brown, dry, loose, fine to coarse sand, trace gravel
	10	2.5'	98.6	9.9		**Quaternary Young Alluvial Fan Deposits (Qyv)**
					SM	Silty SAND; brown, moist, loose, fine to coarse sand
5						
	18	5'	113.4	7.5	SP-SC	Poorly-Graded SAND with Clay; dark reddish brown, moist, medium dense, fine to coarse sand
	35	7.5'	120.1	14.2	SC	Clayey SAND; strong brown to yellowish brown, moist, dense, fine to coarse sand, trace gravel
10						
	38	10'	114.8	17.4	SM	Silty SAND; grayish brown, moist, dense, fine to medium sand with clay
15						
	41	15'	125.4	13.5	SC	Clayey SAND; yellowish red, moist, dense, fine to coarse sand
						Total Depth: 16.5 feet
						No Groundwater
20						
25						
30						

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Geotechnical Boring Log B-4

Date: August 21, 2018	**Project Name: Mission Trail** **Page: 1 of 1**
Project Number: 182250-10A	**Logged By: JF**
Drilling Company: Drilling It	**Type of Rig: B-61**
Drive Weight (lbs): 140	**Drop (in): 30** **Hole Diameter (in): 8**
Top of Hole Elevation (ft): See Map	**Hole Location: See Geotechnical Map**

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0		0-5'				**Topsoil**
					SC	Clayey SAND; strong brown, dry, medium dense, fine to medium sand, trace gravel
						Quaternary Young Alluvial Fan Depsoits (Qyv)
					SM	Silty SAND; brown, moist, medium dense to dense, fine to coarse sand
5						Total Depth: 5 feet
						No Groundwater
10						
15						
20						
25						
30						

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APPENDIX B

INFILTRATION TEST SHEETS

Test No.	DR-1	Location	See Map	Turf-Tec International - Record Chart for IN10-W - (12 & 24 Inch Infiltration Rings)

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Project Identification:	182250-12A				**Constants**	**Area cm2**	**Depth of Liquid (cm)**	**Liquid Container Number**		**Marriotte Tube Volume**	
Test Location:	DR-1				**Inner Ring**	729	10.0	1		3000	
Liquid Used:	TAP WATE	**pH:**	8.0		**Annular Ring**	2189	10.0	2		10000	
Tested By:	MM/DI		**Date**	8/30/2018		**Liquid level maintained**	(X) Flow Valve	( ) Float Valve	( ) Mariotte Tubes		
Depth to water table:	> 30 Feet		**Depth of Test**	4.5'		**Penetration Depth of Outer Ring:**		9 cm		**Other**	

Trial #	Start / End	Date MM/DD/YY	Time HR:MIN	Time Increment /(Total)	Elapsed Time (Min)	Flow Readings: Inner Ring Reading cm	Flow Readings: Inner Maroitte Tube Flow (ml)	Flow Readings: Annular Space Reading cm	Flow Readings: Annular Space Marriotte Tube Flow (ml)	Liquid Temp ºF	Infiltration Rates: Inner Infiltration Rate cm/h	Infiltration Rates: Inner Infiltration Rate In/h	Infiltration Rates: Annular Infiltration Rate cm/h	Infiltration Rates: Annular Infiltration Rate In/h	Ground Temperature: Ground Temp Depth (cm)	Ground Temperature: Temp at Depth (c)	Remarks: Weather conditions Etc...
1	Start Test	8/30/2018	10:06	0:30	30												
	End Test	8/30/2018	10:36	0:30		6.00	0	6.00	2500		0.00	**0.00**	2.28	**0.90**			
2	Start Test	8/30/2018	10:36	0:30	60												
	End Test	8/30/2018	11:06	1:00		6.00	400	6.00	2000		1.10	**0.43**	1.83	**0.72**			
3	Start Test	8/30/2018	11:06	0:30	90												
	End Test	8/30/2018	11:36	1:30		6.00	250	6.00	2000		0.69	**0.27**	1.83	**0.72**			
4	Start Test	8/30/2018	11:36	0:30	120												
	End Test	8/30/2018	12:06	2:00		6.00	250	6.00	2000		0.69	**0.27**	1.83	**0.72**			
5	Start Test	8/30/2018	12:06	0:30	150												
	End Test	8/30/2018	12:36	2:30		6.00	250	6.00	1500		0.69	**0.27**	1.37	**0.54**			
6	Start Test	8/30/2018	12:36	0:30	180												
	End Test	8/30/2018	13:06	3:00		6.00	200	6.00	1500		0.55	**0.22**	1.37	**0.54**			
7	Start Test	8/30/2018	13:06	0:30	210												
	End Test	8/30/2018	13:36	3:30		6.00	250	6.00	1500		0.69	**0.27**	1.37	**0.54**			
8	Start Test	8/30/2018	13:36	0:30	240												
	End Test	8/30/2018	14:06	4:00		6.00	250	6.00	1500		0.69	**0.27**	1.37	**0.54**			

Turf-Tec International

Project Identification:	182250-12A		
Test Location:	DR-1		
Liquid Used:	TAP WATE	**pH:**	8.0
Tested By:	MM/DI		
Depth to water table:	> 30 Feet		

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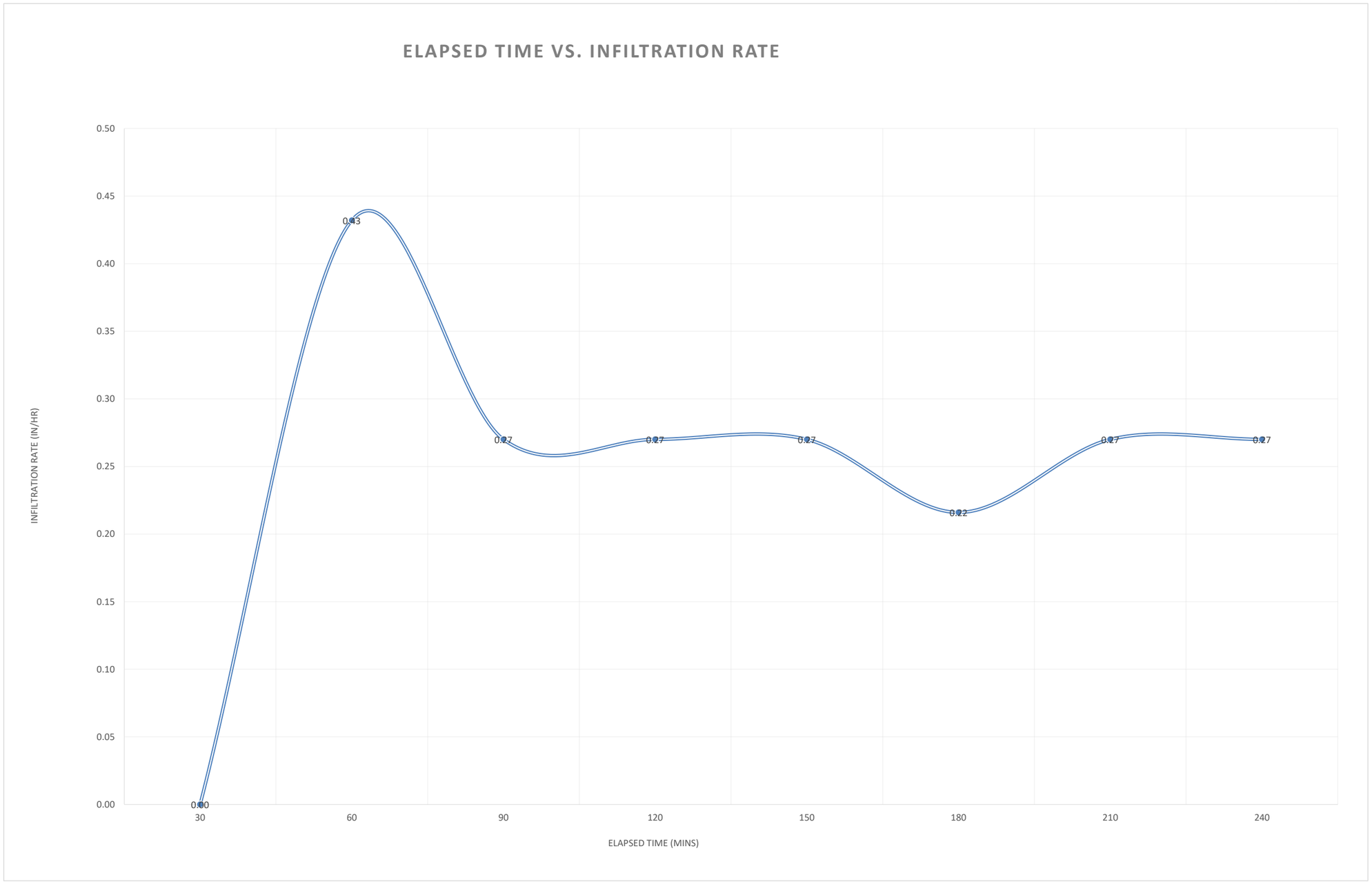

Test No.	DR-2	Location	See Map

Turf-Tec International - Record Chart for IN10-W - (12 & 24 Inch Infiltration Rings)

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Project Identification:	182250-12A		Constants	Area cm2	Depth of Liquid (cm)	Liquid Container Number	Marriotte Tube Volume
Test Location:	DR-2		Inner Ring	729	10.0	1	3000
Liquid Used:	TAP WATE	pH: 8.0	Annular Ring	2189	10.0	2	10000
Tested By:	MM/DI	Date 8/30/2018	Liquid level maintained	(X) Flow Valve ( ) Float Valve ( ) Mariotte Tubes			
Depth to water table:	> 30 Feet	Depth of Test 4.5'	Penetration Depth of Outer Ring:	9 cm			Other

Trial #	Start / End	Date MM/DD/YY	Time HR:MIN	Time Increment /(Total)	Elapsed Time (Min)	Flow Readings: Inner Ring Reading cm	Inner Maroitte Tube Flow (ml)	Annular Space Reading cm	Annular Space Marriotte Tube Flow (ml)	Liquid Temp ºF	Infiltration Rates: Inner Infiltration Rate cm/h	Inner Infiltration Rate In/h	Annular Infiltration Rate cm/h	Annular Infiltration Rate In/h	Ground Temperature: Ground Temp Depth (cm)	Temp at Depth (c)	Remarks: Weather conditions Etc...
	Start Test	8/30/2018	10:52	0:30	30												
1	End Test	8/30/2018	11:22	0:30		6.00	100	6.00	8500		0.27	**0.11**	7.77	**3.06**			
	Start Test	8/30/2018	11:22	0:30	60												
2	End Test	8/30/2018	11:52	1:00		6.00	100	6.00	7000		0.27	**0.11**	6.40	**2.52**			
	Start Test	8/30/2018	12:08	0:30	90												
3	End Test	8/30/2018	12:38	1:30		6.00	100	6.00	4500		0.27	**0.11**	4.11	**1.62**			
	Start Test	8/30/2018	12:38	0:30	120												
4	End Test	8/30/2018	13:08	2:00		6.00	400	6.00	3000		1.10	**0.43**	2.74	**1.08**			
	Start Test	8/30/2018	13:08	0:30	150												
5	End Test	8/30/2018	13:38	2:30		6.00	200	6.00	4500		0.55	**0.22**	4.11	**1.62**			
	Start Test	8/30/2018	13:38	0:30	180												
6	End Test	8/30/2018	14:08	3:00		6.00	200	6.00	2500		0.55	**0.22**	2.28	**0.90**			
	Start Test	8/30/2018	14:08	0:30	210												
7	End Test	8/30/2018	14:38	3:30		6.00	200	6.00	2500		0.55	**0.22**	2.28	**0.90**			
	Start Test	8/30/2018	14:38	0:30	240												
8	End Test	8/30/2018	15:08	4:00		6.00	200	6.00	2500		0.55	**0.22**	2.28	**0.90**			

Turf-Tec International

Project Identification:	182250-12A		
Test Location:	DR-2		
Liquid Used:	TAP WATE	**pH:**	8.0
Tested By:	MM/DI		
Depth to water table:	> 30 Feet		

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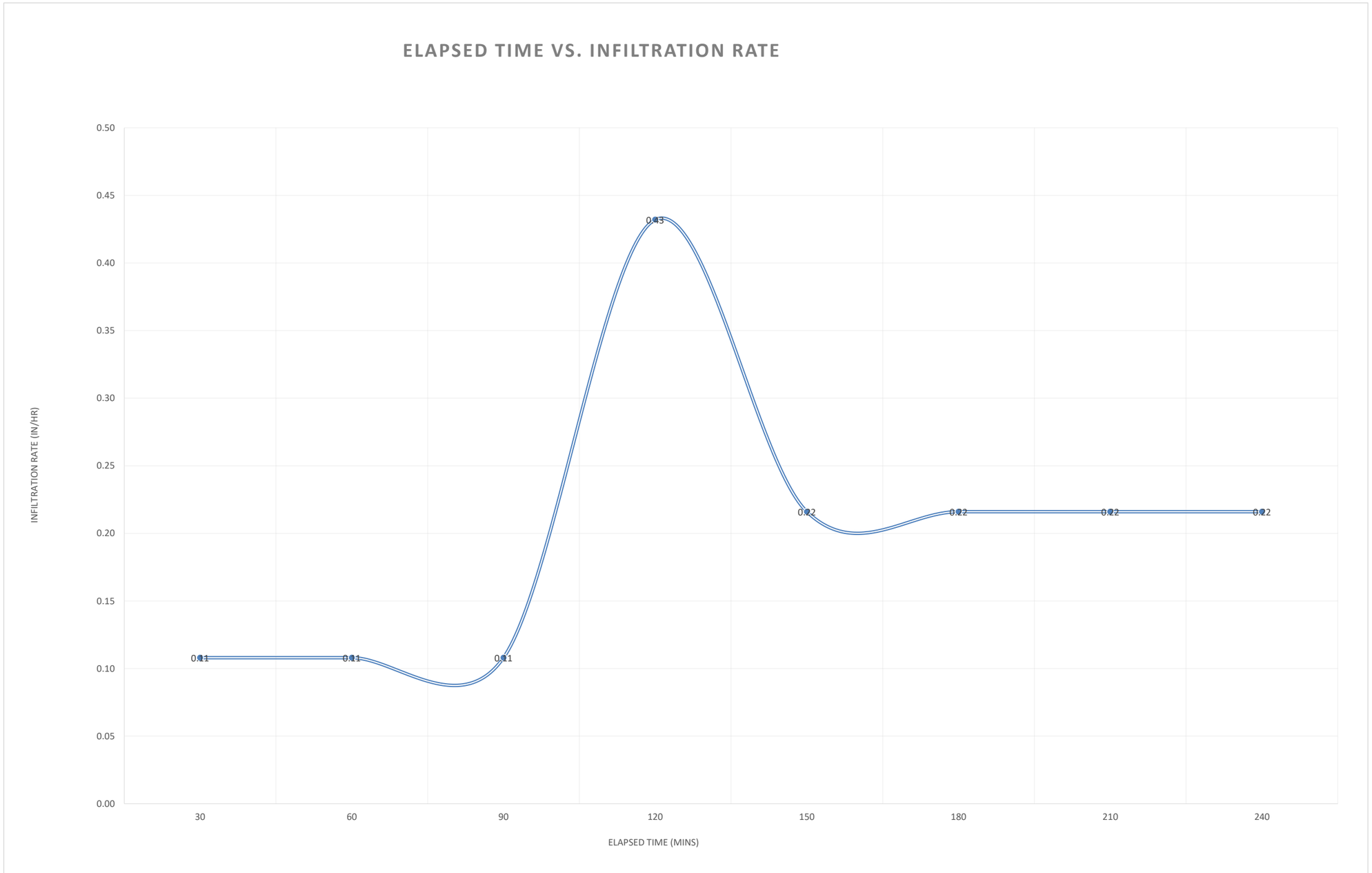

Test No.	DR-3	Location	See Map	Turf-Tec International - Record Chart for IN10-W - (12 & 24 Inch Infiltration Rings)

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Project Identification:	182250-12A			**Constants**	**Area cm2**	**Depth of Liquid (cm)**	**Liquid Container Number**		**Marriotte Tube Volume**	
Test Location:	DR-3			**Inner Ring**	729	10.0	1		3000	
Liquid Used:	TAP WATE	**pH:**	8.0	**Annular Ring**	2189	10.0	2		10000	
Tested By:	MM/DI	**Date**	8/30/2018	**Liquid level maintained**	**(X) Flow Valve ( ) Float Valve ( ) Mariotte Tubes**					
Depth to water table:	> 30 Feet	**Depth of Test**	4.5'	**Penetration Depth of Outer Ring:**	9 cm				**Other**	

Trial #	Start / End	Date MM/DD/YY	Time HR:MIN	Time Increment /(Total)	Elapsed Time (Min)	Flow Readings: Inner Ring Reading cm	Flow Readings: Inner Maroitte Tube Flow (ml)	Flow Readings: Annular Space Reading cm	Flow Readings: Annular Space Marriotte Tube Flow (ml)	Liquid Temp °F	Infiltration Rates: Inner Infiltration Rate cm/h	Infiltration Rates: Inner Infiltration Rate In/h	Infiltration Rates: Annular Infiltration Rate cm/h	Infiltration Rates: Annular Infiltration Rate In/h	Ground Temperature: Ground Temp Depth (cm)	Ground Temperature: Temp at Depth (c)	Remarks: Weather conditions Etc...
1	Start Test	8/30/2018	15:16	0:30	30												
	End Test	8/30/2018	15:46	0:30		6.00	750	6.00	3000		2.06	**0.81**	2.74	**1.08**			
2	Start Test	8/30/2018	15:46	0:30	60												
	End Test	8/30/2018	16:16	1:00		6.00	2000	6.00	4000		5.49	**2.16**	3.65	**1.44**			
3	Start Test	8/30/2018	16:16	0:30	90												
	End Test	8/30/2018	16:46	1:30		6.00	2000	6.00	4000		5.49	**2.16**	3.65	**1.44**			
4	Start Test	8/30/2018	16:46	0:30	120												
	End Test	8/30/2018	17:16	2:00		6.00	2250	6.00	4500		6.17	**2.43**	4.11	**1.62**			
5	Start Test	8/30/2018	17:16	0:30	150												
	End Test	8/30/2018	17:46	2:30		6.00	1350	6.00	4500		3.70	**1.46**	4.11	**1.62**			
6	Start Test	8/30/2018	17:46	0:30	180												
	End Test	8/30/2018	18:16	3:00		6.00	1850	6.00	6000		5.08	**2.00**	5.48	**2.16**			
7	Start Test	8/30/2018	18:16	0:30	210												
	End Test	8/30/2018	18:46	3:30		6.00	1750	6.00	4500		4.80	**1.89**	4.11	**1.62**			
8	Start Test	8/30/2018	18:46	0:30	240												
	End Test	8/30/2018	19:16	4:00		6.00	1750	6.00	4500		4.80	**1.89**	4.11	**1.62**			

Turf-Tec International

Project Identification:	182250-12A		
Test Location:	DR-3		
Liquid Used:	TAP WATE	**pH:**	8.0
Tested By:	MM/DI		
Depth to water table:	> 30 Feet		

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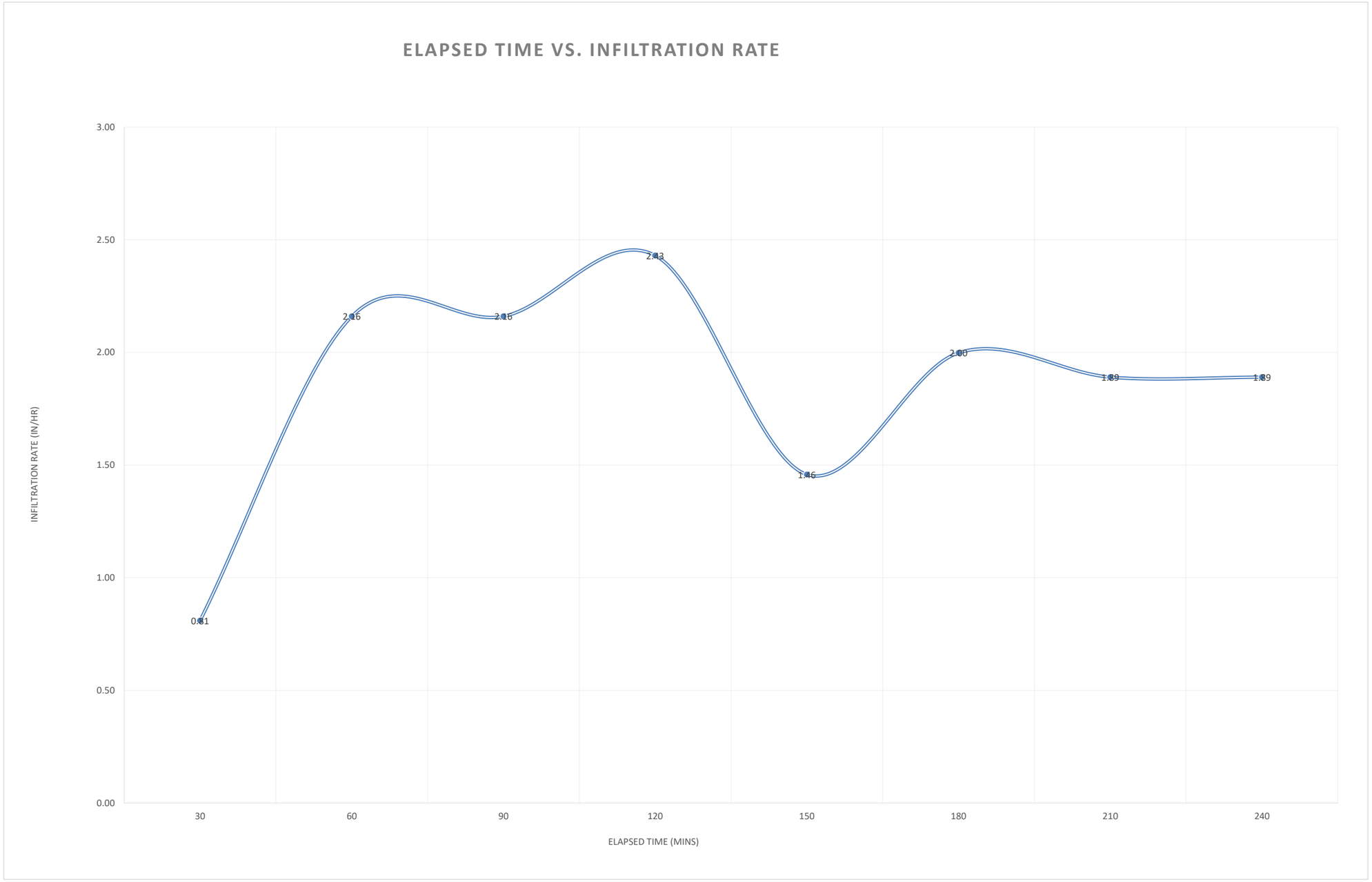

Test No.	DR-4	Location	See Map	Turf-Tec International - Record Chart for IN10-W - (12 & 24 Inch Infiltration Rings)

Project Identification:	182250-12A			**Constants**	**Area cm2**	**Depth of Liquid (cm)**	**Liquid Container Number**		**Marriotte Tube Volume**	Earth Strata Geotechnical Services, Inc.
Test Location:	DR-4			**Inner Ring**	729	10.0	1		3000	Geotechnical, Environmental and Materials Testing Consultants
Liquid Used:	TAP WATE	**pH:**	8.0	**Annular Ring**	2189	10.0	2		10000	www.ESGSINC.com (951) 397-8315
Tested By:	MM/DI	**Date**	8/30/2018	**Liquid level maintained**	(X) Flow Valve	( ) Float Valve	( ) Mariotte Tubes			
Depth to water table:	> 30 Feet	**Depth of Test**	4.5'	**Penetration Depth of Outer Ring:**	9 cm		**Other**			

						Flow Readings					Infiltration Rates				Ground Temperature		Remarks
Trial #	**Start / End**	**Date MM/DD/YY**	**Time HR:MIN**	**Time Increment /(Total)**	**Elapsed Time (Min)**	**Inner Ring Reading in**	**Inner Maroitte Tube Flow (ml)**	**Annular Space Reading in**	**Annular Space Marriotte Tube Flow (ml)**	**Liquid Temp ºF**	**Inner Infiltration Rate cm/h**	**Inner Infiltration Rate In/h**	**Annular Infiltration Rate cm/h**	**Annular Infiltration Rate In/h**	**Ground Temp Depth (cm)**	**Temp at Depth (c)**	**Weather conditions Etc...**
1	Start Test	8/30/2018	15:39	0:30	30	4.00		2.00									
	End Test	8/30/2018	16:09	0:30		3.00	1850	0.50	8340		5.08	**2.00**	7.62	**3.00**			
2	Start Test	8/30/2018	16:09	0:30	60	4.50		2.00									
	End Test	8/30/2018	16:39	1:00		4.00	925.83	1.00	5560		2.54	**1.00**	5.08	**2.00**			
3	Start Test	8/30/2018	16:39	0:30	90	4.00		2.00									
	End Test	8/30/2018	17:09	1:30		3.50	925	1.50	2780		2.54	**1.00**	2.54	**1.00**			
4	Start Test	8/30/2018	17:09	0:30	120	3.50		1.50									
	End Test	8/30/2018	17:39	2:00		3.38	230	1.25	1390		0.63	**0.25**	1.27	**0.50**			
5	Start Test	8/30/2018	17:39	0:30	150	4.00		2.00									
	End Test	8/30/2018	18:09	2:30		3.88	230	1.75	1390		0.63	**0.25**	1.27	**0.50**			
6	Start Test	8/30/2018	18:09	0:30	180	3.88		1.75									
	End Test	8/30/2018	18:39	3:00		3.75	230	1.50	1390		0.63	**0.25**	1.27	**0.50**			
7	Start Test	8/30/2018	18:39	0:30	210	3.75		1.50									
	End Test	8/30/2018	19:09	3:30		3.63	230	1.25	1390		0.63	**0.25**	1.27	**0.50**			
8	Start Test	8/30/2018	19:09	0:30	240	4.50		1.25									
	End Test	8/30/2018	19:39	4:00		4.38	230	1.00	1390		0.63	**0.25**	1.27	**0.50**			

Turf-Tec International

Project Identification:	182250-12A		
Test Location:	DR-4		
Liquid Used:	TAP WATE	**pH:**	8.0
Tested By:	MM/DI		
Depth to water table:	> 30 Feet		

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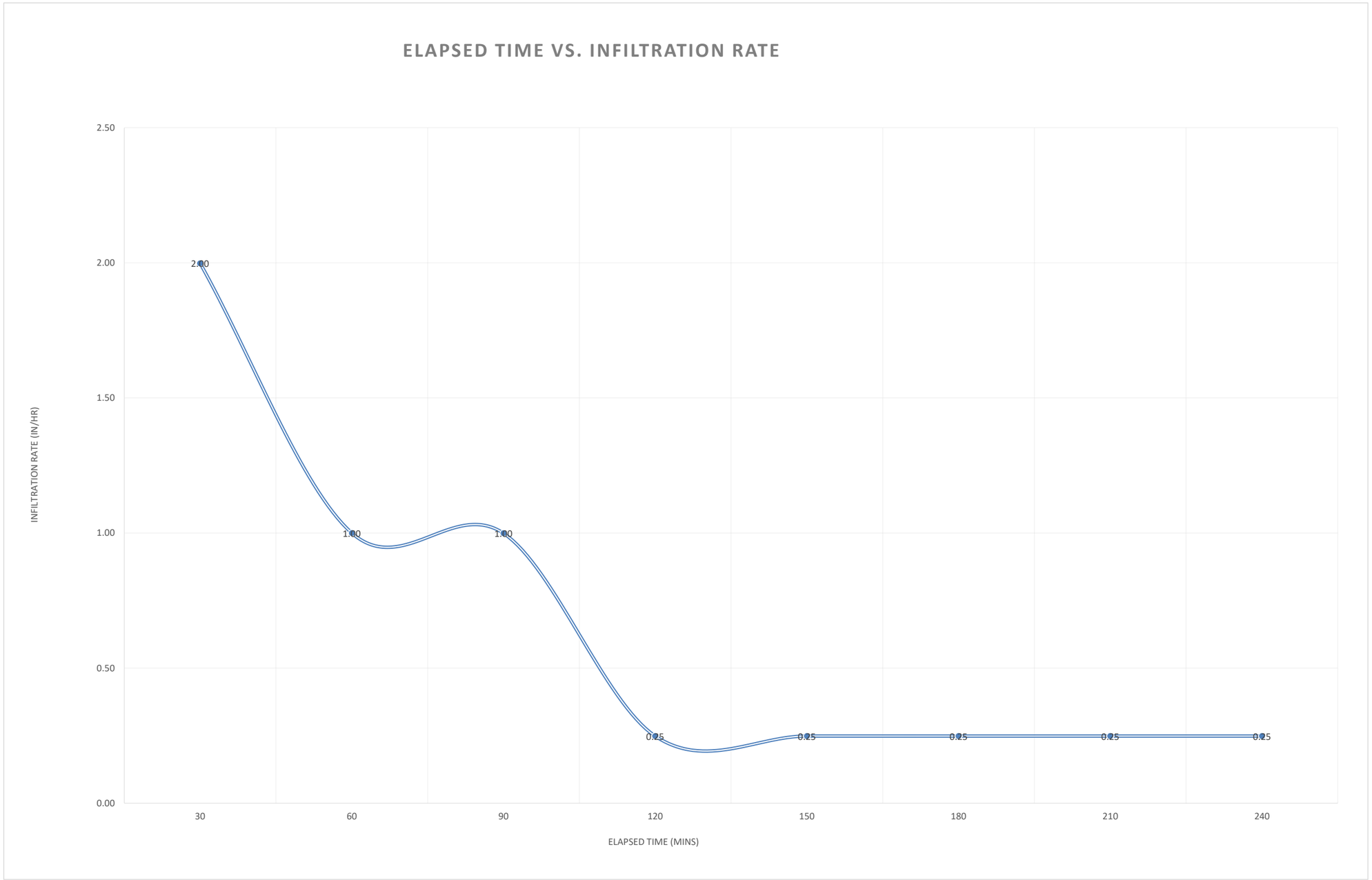

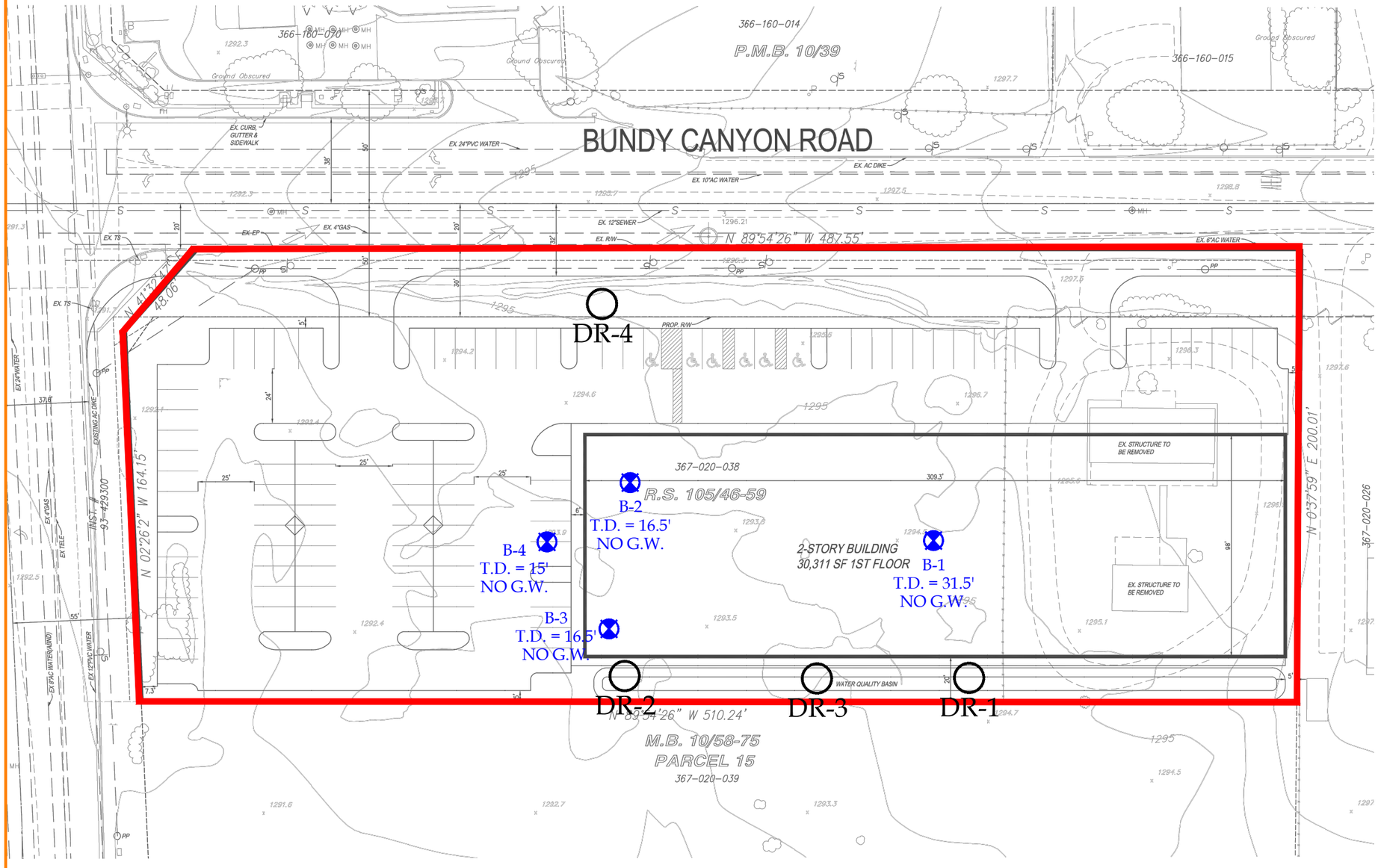

LEGEND

Locations are Approximate

Symbols

- Limits of Report
- B-4 T.D. = 15' NO G.W. — Boring Location, Including Total Depth and Depth to Groundwater
- DR-4 — Double Ring Test Location

North

INFILTRATION MAP

LOCATED AT 34020 MISSION TRAIL

CITY OF WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA

APN 367-020-038

PROJECT	***MISSION TRAIL***		
CLIENT	***MR. DON MACLEAN***		
PROJECT NO.	***182250-12A***		
DATE	***SEPTEMBER 2018***		
SCALE	***1:50***		
DWG XREFS			
REVISION			
DRAWN BY	***JDG***	***PLATE***	***1 OF 1***

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