APPENDIX 4B

Interpretative Report for Infiltration System (Rancho Bonito)

INTERPRETIVE REPORT
FOR INFILTRATION SYSTEM DESIGN,
PROPOSED RANCHO BONITO TOWN HOMES
COMMUNITY AND SHOPPING CENTER,
ASSESSOR'S PARCEL NUMBER 360-350-006,
LOT NUMBER 1 OF PARCEL MAP NUMBER
13523, LOCATED ON THE SOUTH SIDE OF
GARBANI ROAD BETWEEN SHERMAN ROAD
AND HAUN ROAD, CITY OF MENIFEE,
RIVERSIDE COUNTY, CALIFORNIA

PROJECT NO. 151015-12A

ISSUED: February 29, 2016

EARTH STRATA GEOTECHNICAL SERVICES, INC.

February 29, 2016 Project No. 151015-12A

SHERMAN & GARBANI. LLC
31103 Rancho Viejo Road
San Juan Capistrano, CA 92675

Subject: **Interpretive Report for Infiltration System Design, Proposed Rancho Bonito Town Home Community and Shopping Center, Assessor's Parcel Number 360-350-006, Lot Number 1 of Parcel Map Number 13523, Located on the South Side of Garbani Road Between Sherman Road and Haun Road, City of Menifee, Riverside County, California**

Reference: Earth Strata Geotechnical Services, 2016, *Preliminary Geotechnical Interpretive Report, Proposed Rancho Bonito Town Home Community and Shopping Center, Assessor's Parcel Number 360-350-006, Lot Number 1 of Parcel Map Number 13523, Located on the South Side of Garbani Road Between Sherman and Haun Road, City of Menifee, Riverside County, California*, dated February 4.

Earth Strata Geotechnical Services is pleased to present this interpretive report for the proposed development, located on the south side of Garbani Road between Sherman Road and Haun Road in the City of Menifee in Riverside County, California. The purpose of our study was to determine the infiltration rates and physical characteristics of the subsurface earth materials within the proposed development. We have provided guidelines for the design of onsite bio swale retention systems, where applicable. This study is intended to provide onsite infiltration rates for the earth materials at the approximate depth of the proposed water quality retention areas located in the northeast corner of the subject property.

PROPERTY DESCRIPTION

The subject property is located on the south side of Garbani Road between Sherman Road and Haun Road in the City of Menifee in Riverside County, California (see Figure 1). The subject property consists of an undeveloped parcel of land with relatively flat terrain. The subject property is underlain by alluvium deposits.

PROPOSED CONSTRUCTION

Based on information provided by you, the proposed development will consist of one (1) to three (3) story, multi-family apartment buildings which include interior driveways, utilities and two on-site water quality management areas located along the northeast corner of the proposed development.

SUBSURFACE EXPLORATION AND INFILTRATION TESTING

SUBSURFACE EXPLORATION

Subsurface exploration of the subject site consisted of eight (8) exploratory excavations to a depth of 9 feet conducted on December 28, 2015 for the geotechnical study and five (5) infiltration tests performed on December 30, 2015. The exploratory holes were excavated to evaluate insitu soils. Infiltration tests were executed and tested

to evaluate insitu permeability rates. The approximate locations of the exploratory excavations and infiltration tests are shown on the attached Infiltration Location Map, Plate 1. The boring logs for the geotechnical study are included in the referenced report.

EARTH MATERIALS

A general description of the earth materials observed on site is provided below.

- Quaternary Very Old Alluvial Channel Deposits (map symbol Qvoa): Quaternary very old alluvial deposits were encountered to the maximum explored depth. These alluvial deposits consist predominately of interlayered reddish brown to yellowish brown, fine to coarse grained silty sand. These deposits were generally noted to be in a slightly moist to moist, medium dense to very dense state.

- Cretaceous Gabbro (map symbol Kgb): Cretaceous age plutonic rock consisting of gabbro was mapped within the western portion of the site. The gabbro was observed to be dark gray to olive gray, fine to coarse grained, and in a moderately hard to very hard state. Typically, the upper 1 to 3 feet of this unit is more weathered and not as hard.

- Cretaceous Monzogranitic Rock (map symbol Kpvg): Cretaceous age monzogranitic rocks composed of a wide variety of compositions make up this unit. Rock types typically include monzogranite, granodiorite, tonalite and gabbro, with the most common being tonalite (Morton, 2004). This rock unit was mapped within the eastern portion of the site. These granitic rocks were observed to be yellowish brown to reddish brown, medium to coarse-grained, and in a moderately hard to very hard state. Typically, the upper 1 to 3 feet of this unit is more weathered and not as hard.

GROUNDWATER

Groundwater was not observed within the exploratory excavations.

INFILTRATION TESTING

The infiltration testing was performed per the Appendix A of the Riverside County Flood Control Water Conservation District, Best Management Practices. The testing performed followed the percolation testing requirements of the Riverside County Department of Environmental Health. The percolation rates were then converted per to infiltration rates utilizing the Porchet Method as per Appendix A of the Flood Control Manual.

INFILTRATION TEST SUMMARY

TEST NUMBER	INFILTRATION HOLE DEPTH (ft.)	INFILTRATION RATE (inches/hour)	DESCRIPTION
P-1	5.5	0	Silty SAND
P-2	4.7	0.30	Silty SAND
P-3	4	0.62	Silty SAND
P-4	3	0.30	Silty SAND
P-5	3	0	Silty SAND

The infiltration test rates ranged from 0 to .62 inches per hour.

CONCLUSIONS AND RECOMMENDATIONS

The following Porchet equation was used in order to convert the percolation rates to infiltration rates.

$$I_t = \frac{\Delta H \ (60) \ r}{\Delta t \ (r + 2Havg)}$$

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 water quality management areas can be designed for an infiltration rate of 0.30 inches per hour.

See attached sheet for infiltration tests and field data.

GRADING PLAN REVIEW AND CONSTRUCTION SERVICES

This report has been prepared for the exclusive use of **SHERMAN & GARBANI** 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 Geotechnical Services 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 Geotechnical Services 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 Geotechnical Services 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

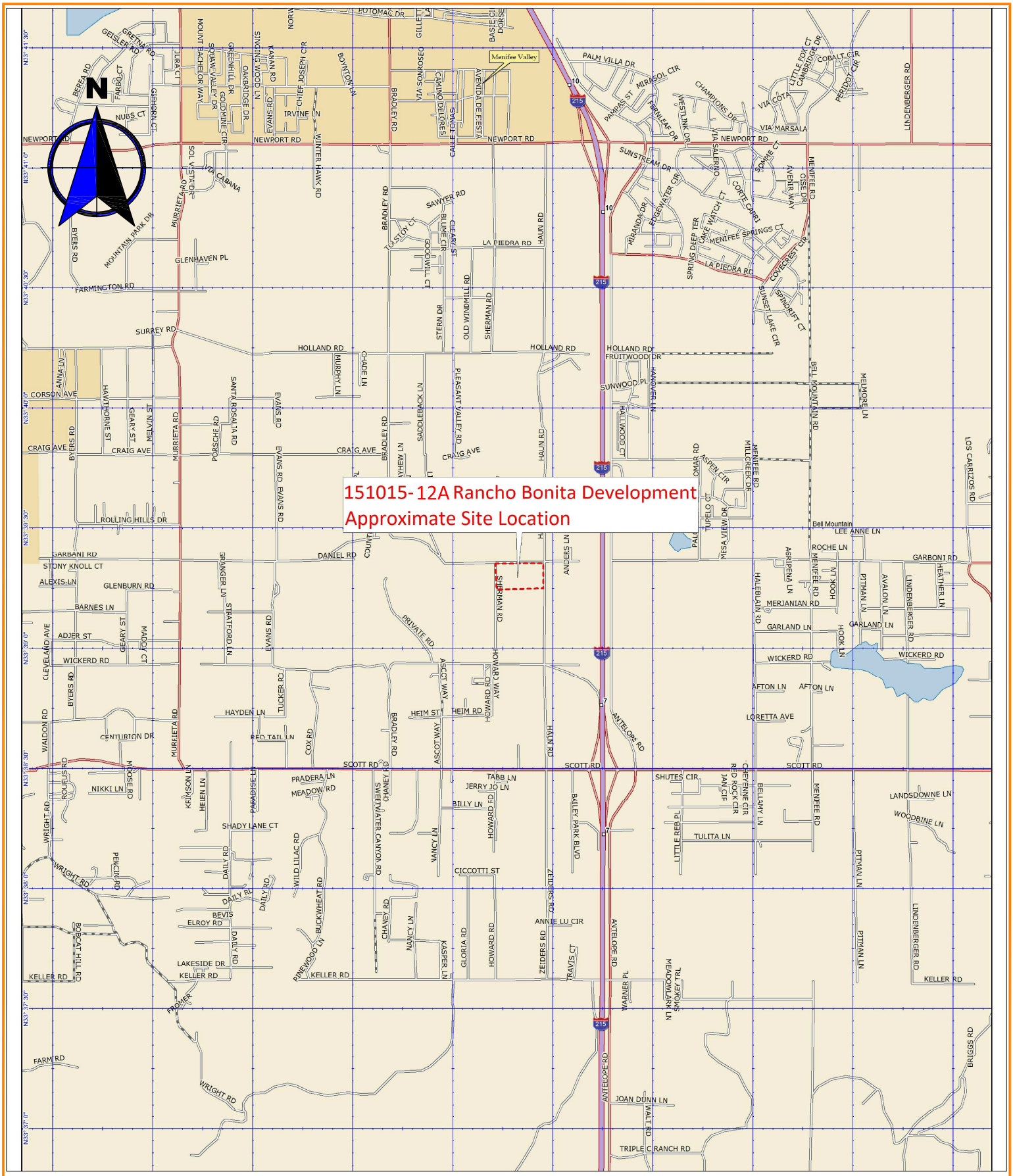
SMP/mw/sw

Distribution: (2) Addressee

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

FIGURE 1

VICINITY MAP



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ES-GS
Geotechnical, Environmental, and Materials Testing Consultants

RANCHO BONITA DEVELOPMENT		151015-12A
VICINITY MAP	SCALE 1:40,625	
	FEB 2016	FIGURE 1

APPENDIX A

INFILTRATION TEST SHEETS

Job No.: 151015-12A
Job Name: Rancho Bonito Town Homes
Test Hole Number: P-1
Soil Classification: SM
Test Hole Depth (ft): 5' 5"

Tested By: RCG
Test Hole Diameter (inches): 8
Date Excavated: 12/28/2015
Date Tested: 12/30/2015
Time Interval of Presoak
0
Amount of Water Used / Comments

Date / Time
Start 12/30/15 11:11
Stop 12/30/15 17:11

"It" is the tested infiltration rate.
Time interval, Δt Initial Depth to Water, D_0
Final Depth to Water, D_f Total Depth of Test Hole, D_T
$_2$Test Hole Radius, r
The conversion equation is used:
"Havg" is the average head height over the time interval.

$$It = \frac{\Delta H\ 60\ r}{\Delta t(r+2Havg)}$$

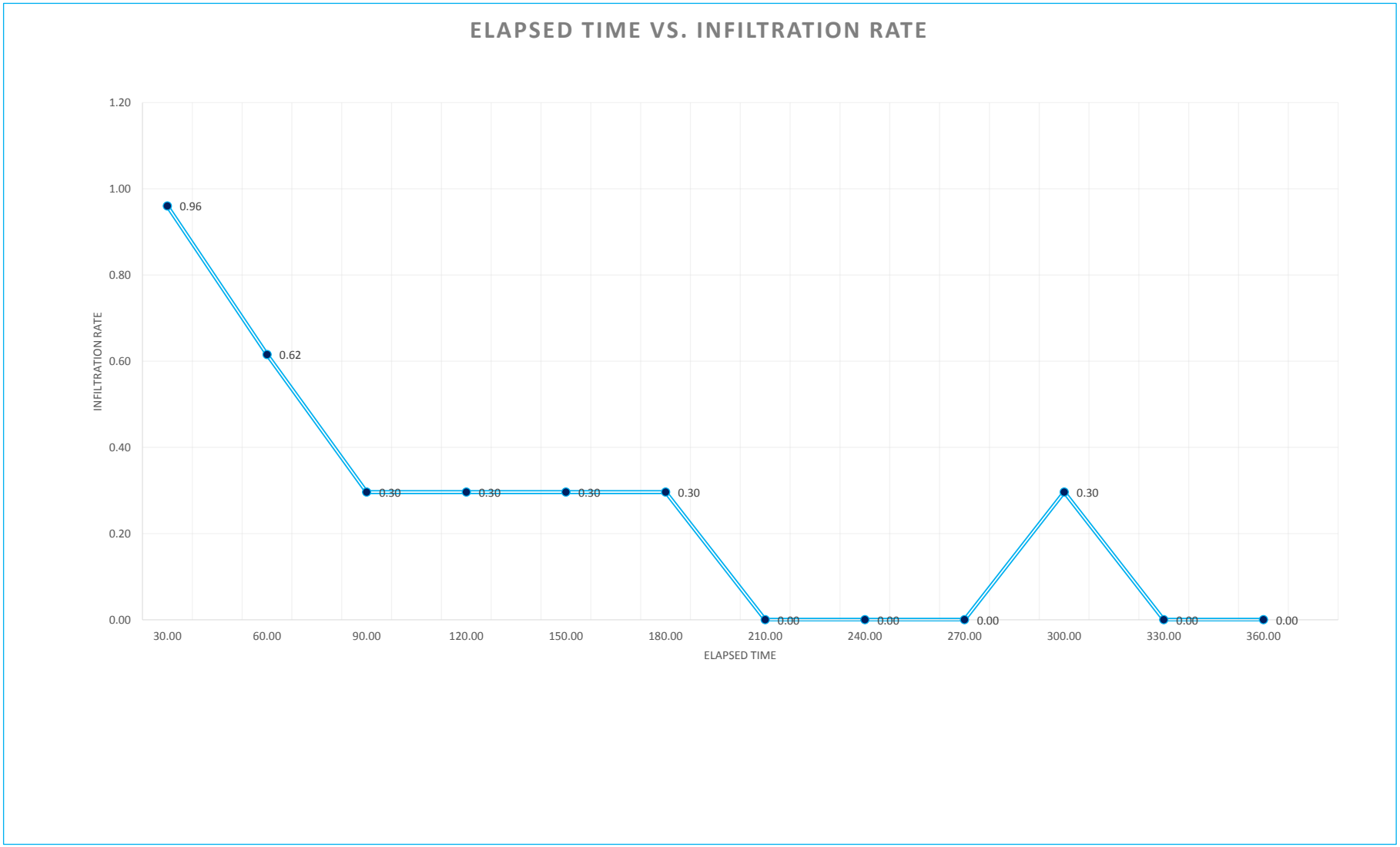
Time	Time Interval (min.)	Initial Water Level (Inches)	Final Water Level (Inches)	Water Level Drop (Inches)	Percolation Rate (Min./Inch)	Total Depth of Percolation Hole
11:11	30	53	56	3.00	10	65.00
11:41						
11:41	30	51	53	2.00	15	63.00
12:11						
12:11	30	50	51	1.00	30	62.00
12:41						
12:41	30	50	51	1.00	30	62.00
13:11						
13:11	30	50	51	1.00	30	62.00
13:41						
13:41	30	49	50	1.00	30	61.00
14:11						
14:11	30	49	49	0.00	-	61.00
14:41						
14:41	30	49	49	0.00	-	61.00
15:11						
15:11	30	49	49	0.00	-	61.00
15:41						
15:41	30	49	50	1.00	30	61.00
16:11						
16:11	30	49	49	0.00	-	61.00
16:41						
16:41	30	49	49	0.00	-	61.00
17:11						

Time interval Δt	Initial Water H_0	Final Water H_f	Total Depth of Test Hole D_t	Raduis of Perc Hole r	ΔH	H Avg	ΔH 60 r)/(Δt (r+2Havg)) It	ELAPSED TIME Δt
30.00	12.00	9.00	65.00	4.00	3.00	10.50	0.96	30.00
30.00	12.00	10.00	63.00	4.00	2.00	11.00	0.62	60.00
30.00	12.00	11.00	62.00	4.00	1.00	11.50	0.30	90.00
30.00	12.00	11.00	62.00	4.00	1.00	11.50	0.30	120.00
30.00	12.00	11.00	62.00	4.00	1.00	11.50	0.30	150.00
30.00	12.00	11.00	61.00	4.00	1.00	11.50	0.30	180.00
30.00	12.00	12.00	61.00	4.00	0.00	12.00	0.00	210.00
30.00	12.00	12.00	61.00	4.00	0.00	12.00	0.00	240.00
30.00	12.00	12.00	61.00	4.00	0.00	12.00	0.00	270.00
30.00	12.00	11.00	61.00	4.00	1.00	11.50	0.30	300.00
30.00	12.00	12.00	61.00	4.00	0.00	12.00	0.00	330.00
30.00	12.00	12.00	61.00	4.00	0.00	12.00	0.00	360.00

Job No.: 151015-12A

Job Name: Rancho Bonito Town Homes

Test Hole Number: P-1



Job No.: 151015-12A
Job Name: Rancho Bonito Town Homes
Test Hole Number: P-2
Soil Classification: SM
Test Hole Depth (ft): 4' 8"

Tested By: RCG
Test Hole Diameter (inches): 8
Date Excavated: 12/28/2015
Date Tested: 12/30/2015
Time Interval of Presoak
0
Amount of Water Used / Comments

Date / Time
Start 12/30/15 11:12
Stop 12/30/15 17:12
0

"It" is the tested infiltration rate.
Time interval, Δt Initial Depth to Water, D_0
Final Depth to Water, D_f Total Depth of Test Hole, D_T
$_2$Test Hole Radius, r
The conversion equation is used:
"Havg" is the average head height over the time interval.

$$It = \frac{\Delta H\ 60\ r}{\Delta t(r+2Havg)}$$

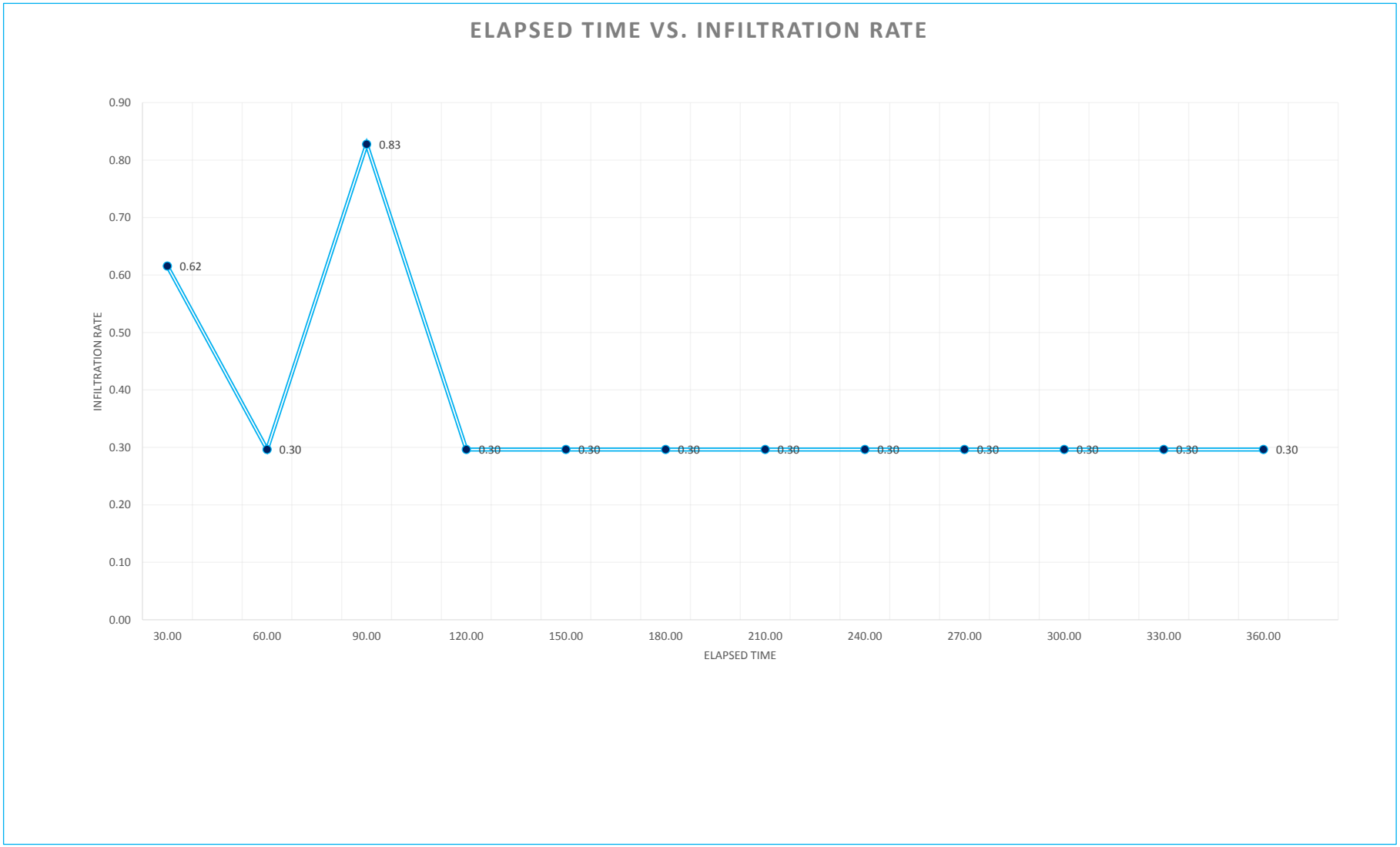
Time	Time Interval (min.)	Initial Water Level (Inches)	Final Water Level (Inches)	Water Level Drop (Inches)	Percolation Rate (Min./Inch)	Total Depth of Percolation Hole
11:12	30	44	46	2.00	15	56.00
11:42						
11:42	30	44	45	1.00	30	56.00
12:12						
12:12	30	42	45	3.00	10	56.00
12:42						
12:42	30	41	42	1.00	30	53.00
13:12						
13:12	30	41	42	1.00	30	53.00
13:42						
13:42	30	41	42	1.00	30	53.00
14:12						
14:12	30	41	42	1.00	30	53.00
14:42						
14:42	29	41	42	1.00	29	53.00
15:11						
15:11	31	41	42	1.00	31	53.00
15:42						
15:42	30	41	42	1.00	30	53.00
16:12						
16:12	30	41	42	1.00	30	53.00
16:42						
16:42	30	41	42	1.00	30	53.00
17:12						

Time interval Δt	Initial Water H_0	Final Water H_f	Total Depth of Test Hole D_t	Raduis of Perc Hole r	ΔH	H Avg	ΔH 60 r)/(Δt (r+2Havg)) It	ELAPSED TIME Δt
30.00	12.00	10.00	56.00	4.00	2.00	11.00	0.62	30.00
30.00	12.00	11.00	56.00	4.00	1.00	11.50	0.30	60.00
30.00	14.00	11.00	56.00	4.00	3.00	12.50	0.83	90.00
30.00	12.00	11.00	53.00	4.00	1.00	11.50	0.30	120.00
30.00	12.00	11.00	53.00	4.00	1.00	11.50	0.30	150.00
30.00	12.00	11.00	53.00	4.00	1.00	11.50	0.30	180.00
30.00	12.00	11.00	53.00	4.00	1.00	11.50	0.30	210.00
30.00	12.00	11.00	53.00	4.00	1.00	11.50	0.30	240.00
30.00	12.00	11.00	53.00	4.00	1.00	11.50	0.30	270.00
30.00	12.00	11.00	53.00	4.00	1.00	11.50	0.30	300.00
30.00	12.00	11.00	53.00	4.00	1.00	11.50	0.30	330.00
30.00	12.00	11.00	53.00	4.00	1.00	11.50	0.30	360.00

Job No.: 151015-12A

Job Name: Rancho Bonito Town Homes

Test Hole Number: P-2



Job No.: 151015-12A
Job Name: Rancho Bonito Town Homes
Test Hole Number: P-3
Soil Classification: SM
Test Hole Depth (ft): 4

Tested By: RCG
Test Hole Diameter (inches): 8
Date Excavated: 12/28/2015
Date Tested: 12/30/2015
Time Interval of Presoak: 0
Amount of Water Used / Comments:

Date / Time
Start 12/30/15 11:13
Stop 12/30/15 17:13

"It" is the tested infiltration rate.
Time interval, Δt Initial Depth to Water, D_0
Final Depth to Water, D_f Total Depth of Test Hole, D_T
$_2$Test Hole Radius, r
The conversion equation is used:
"Havg" is the average head height over the time interval.

$$It = \frac{\Delta H \, 60 \, r}{\Delta t (r + 2Havg)}$$

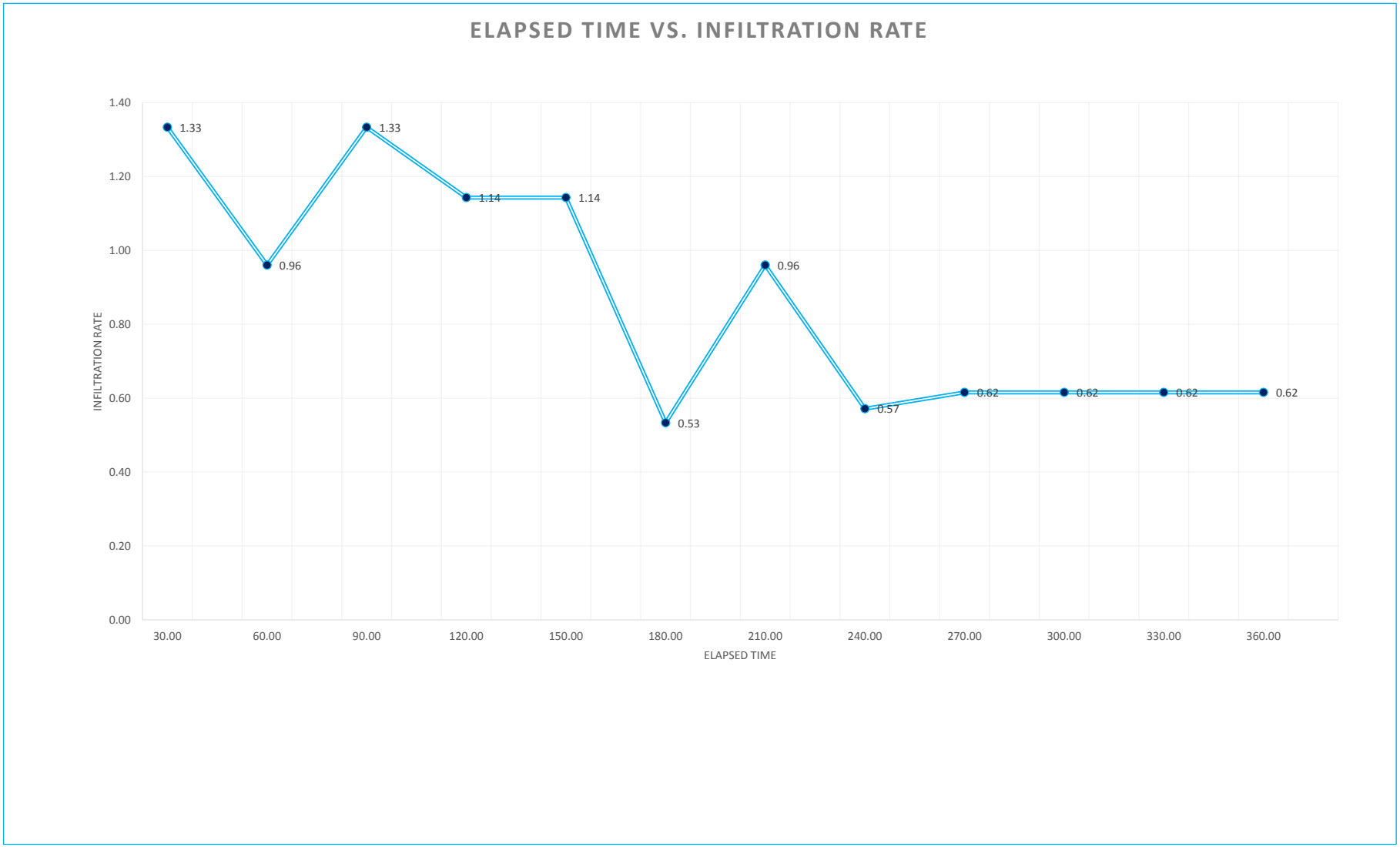
Time	Time Interval (min.)	Initial Water Level (Inches)	Final Water Level (Inches)	Water Level Drop (Inches)	Percolation Rate (Min./Inch)	Total Depth of Percolation Hole
11:13	30	41	45	4.00	8	53.00
11:43						
11:43	30	40	43	3.00	10	52.00
12:13						
12:13	30	36	40	4.00	8	48.00
12:43						
12:43	30	34	38	4.00	8	48.00
13:13						
13:13	30	34	38	4.00	8	48.00
13:43						
13:43	30	34	36	2.00	15	48.00
14:13						
14:13	30	34	37	3.00	10	46.00
14:43						
14:43	30	33	35	2.00	15	46.00
15:13						
15:13	30	33	35	2.00	15	45.00
15:43						
15:43	30	32	34	2.00	15	44.00
16:13						
16:13	30	32	34	2.00	15	44.00
16:43						
16:43	30	31	33	2.00	15	43.00
17:13						

Time interval Δt	Initial Water H_0	Final Water H_f	Total Depth of Test Hole D_t	Raduis of Perc Hole r	ΔH	H Avg	ΔH 60 r)/(Δt (r+2Havg)) It	ELAPSED TIME Δt
30.00	12.00	8.00	53.00	4.00	4.00	10.00	1.33	30.00
30.00	12.00	9.00	52.00	4.00	3.00	10.50	0.96	60.00
30.00	12.00	8.00	48.00	4.00	4.00	10.00	1.33	90.00
30.00	14.00	10.00	48.00	4.00	4.00	12.00	1.14	120.00
30.00	14.00	10.00	48.00	4.00	4.00	12.00	1.14	150.00
30.00	14.00	12.00	48.00	4.00	2.00	13.00	0.53	180.00
30.00	12.00	9.00	46.00	4.00	3.00	10.50	0.96	210.00
30.00	13.00	11.00	46.00	4.00	2.00	12.00	0.57	240.00
30.00	12.00	10.00	45.00	4.00	2.00	11.00	0.62	270.00
30.00	12.00	10.00	44.00	4.00	2.00	11.00	0.62	300.00
30.00	12.00	10.00	44.00	4.00	2.00	11.00	0.62	330.00
30.00	12.00	10.00	43.00	4.00	2.00	11.00	0.62	360.00

Job No.: 151015-12A

Job Name: Rancho Bonito Town Homes

Test Hole Number: P-3



Job No.: 151015-12A
Job Name: Rancho Bonito Town Homes
Test Hole Number: P-4
Soil Classification: SM
Test Hole Depth (ft): 3

Tested By: RCG
Test Hole Diameter (inches): 8
Date Excavated: 12/28/2015
Date Tested: 12/30/2015

Time Interval of Presoak 0

Date / Time
Start 12/30/15 11:14
Stop 12/30/15 17:14

Amount of Water Used / Comments 0

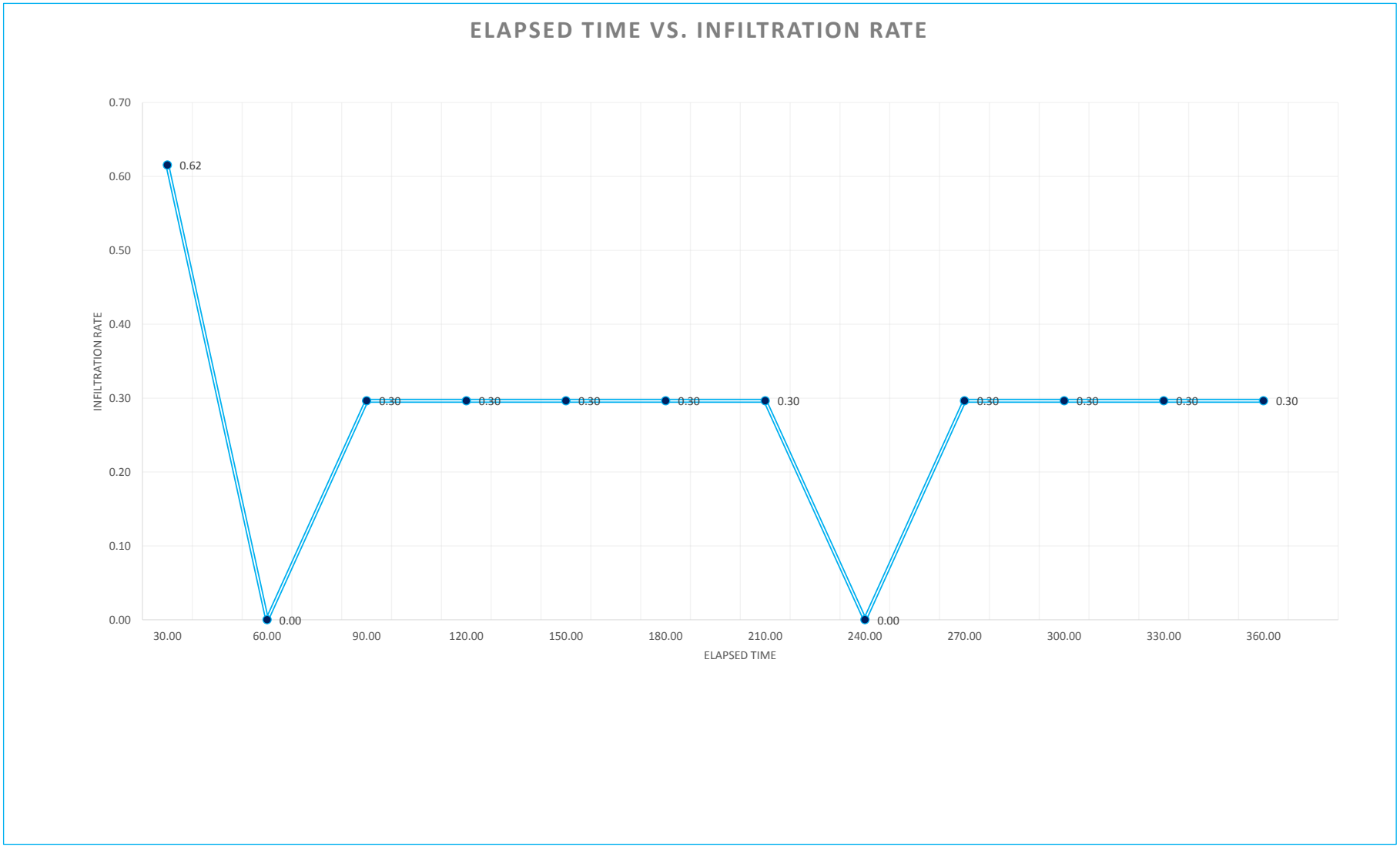
"It" is the tested infiltration rate.
Time interval, Δt Initial Depth to Water, D_0
Final Depth to Water, D_f Total Depth of Test Hole, D_T
$_2$Test Hole Radius, r
The conversion equation is used:
"Havg" is the average head height over the time interval.

$$It = \frac{\Delta H\ 60\ r}{\Delta t(r+2Havg)}$$

Time	Time Interval (min.)	Initial Water Level (Inches)	Final Water Level (Inches)	Water Level Drop (Inches)	Percolation Rate (Min./Inch)	Total Depth of Percolation Hole
11:14	30	27	29	2.00	15	39.00
11:44						
11:44	30	27	27	0.00	-	39.00
12:14						
12:14	30	23	24	1.00	30	35.00
12:44						
12:44	30	23	24	1.00	30	35.00
13:14						
13:14	30	23	24	1.00	30	35.00
13:44						
13:44	30	23	24	1.00	30	35.00
14:14						
14:14	30	23	24	1.00	30	35.00
14:44						
14:44	30	23	23	0.00	-	35.00
15:14						
15:14	30	23	24	1.00	30	35.00
15:44						
15:44	30	23	24	1.00	30	35.00
16:14						
16:14	30	23	24	1.00	30	35.00
16:44						
16:44	30	23	24	1.00	30	35.00
17:14						

Time interval Δt	Initial Water H_0	Final Water H_f	Total Depth of Test Hole D_t	Raduis of Perc Hole r	ΔH	H Avg	ΔH 60 r)/(Δt (r+2Havg)) It	ELAPSED TIME Δt
30.00	12.00	10.00	39.00	4.00	2.00	11.00	0.62	30.00
30.00	12.00	12.00	39.00	4.00	0.00	12.00	0.00	60.00
30.00	12.00	11.00	35.00	4.00	1.00	11.50	0.30	90.00
30.00	12.00	11.00	35.00	4.00	1.00	11.50	0.30	120.00
30.00	12.00	11.00	35.00	4.00	1.00	11.50	0.30	150.00
30.00	12.00	11.00	35.00	4.00	1.00	11.50	0.30	180.00
30.00	12.00	11.00	35.00	4.00	1.00	11.50	0.30	210.00
30.00	12.00	12.00	35.00	4.00	0.00	12.00	0.00	240.00
30.00	12.00	11.00	35.00	4.00	1.00	11.50	0.30	270.00
30.00	12.00	11.00	35.00	4.00	1.00	11.50	0.30	300.00
30.00	12.00	11.00	35.00	4.00	1.00	11.50	0.30	330.00
30.00	12.00	11.00	35.00	4.00	1.00	11.50	0.30	360.00

Job No.: 151015-12A
Job Name: Rancho Bonito Town Homes
Test Hole Number: P-4



Job No.: 151015-12A
Job Name: Rancho Bonito Town Homes
Test Hole Number: P-5
Soil Classification: SM
Test Hole Depth (ft): 3

Tested By: RCG
Test Hole Diameter (inches): 8
Date Excavated: 12/28/2015
Date Tested: 12/30/2015

Time Interval of Presoak: 0

Date / Time
Start: 12/30/15 11:15
Stop: 12/30/15 17:15

Amount of Water Used / Comments: 0

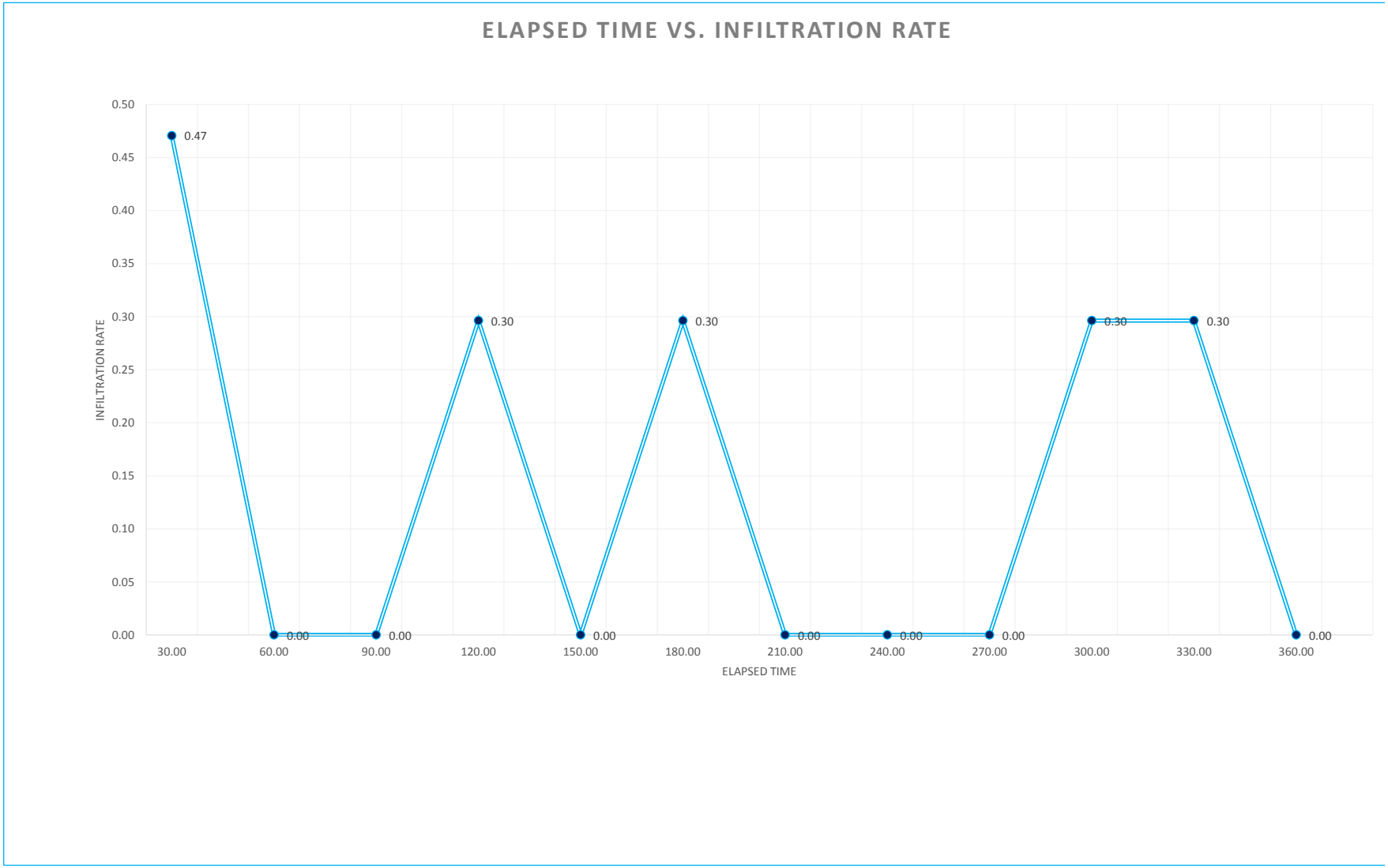
"It" is the tested infiltration rate.
Time interval, Δt Initial Depth to Water, D_0
Final Depth to Water, D_f Total Depth of Test Hole, D_T
$_2$Test Hole Radius, r
The conversion equation is used:
"Havg" is the average head height over the time interval.

$$It = \frac{\Delta H\ 60\ r}{\Delta t(r+2Havg)}$$

Time	Time Interval (min.)	Initial Water Level (Inches)	Final Water Level (Inches)	Water Level Drop (Inches)	Percolation Rate (Min./Inch)	Total Depth of Percolation Hole
11:15	30	42	44	2.00	15	58.00
11:45						
11:45	30	42	42	0.00	-	56.00
12:15						
12:15	30	39	39	0.00	-	51.00
12:45						
12:45	30	39	40	1.00	30	51.00
13:15						
13:15	30	39	39	0.00	-	51.00
13:45						
13:45	30	39	40	1.00	30	51.00
14:15						
14:15	30	39	39	0.00	-	51.00
14:45						
14:45	30	39	39	0.00	-	51.00
15:15						
15:15	30	39	39	0.00	-	51.00
15:45						
15:45	30	39	40	1.00	30	51.00
16:15						
16:15	30	39	40	1.00	30	51.00
16:45						
16:45	30	39	39	0.00	-	51.00
17:15						

Time interval Δt	Initial Water H_0	Final Water H_f	Total Depth of Test Hole D_t	Raduis of Perc Hole r	ΔH	H Avg	ΔH 60 r)/(Δt (r+2Havg)) It	ELAPSED TIME Δt
30.00	16.00	14.00	58.00	4.00	2.00	15.00	0.47	30.00
30.00	14.00	14.00	56.00	4.00	0.00	14.00	0.00	60.00
30.00	12.00	12.00	51.00	4.00	0.00	12.00	0.00	90.00
30.00	12.00	11.00	51.00	4.00	1.00	11.50	0.30	120.00
30.00	12.00	12.00	51.00	4.00	0.00	12.00	0.00	150.00
30.00	12.00	11.00	51.00	4.00	1.00	11.50	0.30	180.00
30.00	12.00	12.00	51.00	4.00	0.00	12.00	0.00	210.00
30.00	12.00	12.00	51.00	4.00	0.00	12.00	0.00	240.00
30.00	12.00	12.00	51.00	4.00	0.00	12.00	0.00	270.00
30.00	12.00	11.00	51.00	4.00	1.00	11.50	0.30	300.00
30.00	12.00	11.00	51.00	4.00	1.00	11.50	0.30	330.00
30.00	12.00	12.00	51.00	4.00	0.00	12.00	0.00	360.00

Job No.: 151015-12A
Job Name: Rancho Bonito Town Homes
Test Hole Number: P-5



Geotechnical Boring Log MW-1

Date: December 28, 2015	**Project Name: Rancho Bonito Town Homes** **Page: 1 of 1**
Project Number: 151015-12A	**Logged By: TJ**
Drilling Company:	**Type of Rig:**
Drive Weight (lbs): 140	**Drop (in): 30 Hole Diameter (in): 8**
Top of Hole Elevation (ft):	**Hole Location: See Geotechnical Map**

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						**Old Alluvial Fan Deposits (Qof):**
					SC	Clayey SAND; reddish brown, moist, medium dense
					SM	Silty SAND; reddish brown, moist, dense
						Medium dense
5						
						Light yellowish brown, very dense
10						
						Refusal at 12 feet
						End of Boring 12 feet
						No Groundwater
15						
20						
25						
30						

42217 Rio Nedo Road, Suite A-104, Temecula, CA 92590

LEGEND

Locations are Approximate

Symbols

- Limits of Report

P-4 - Percolation Test Location

INFILTRATION LOCATION MAP

LOCATED ON THE SOUTH SIDE OF GARBANI ROAD, BETWEEN SHERMAN ROAD AND HAUN ROAD

CITY OF MENIFEE, RIVERSIDE COUNTY, CALIFORNIA

APN 360-350-006

PROJECT	RANCHO BONITA DEVELOPMENT		
CLIENT	SHERMAN AND GARBANI, LLC		
PROJECT NO.	151015-12A		
DATE	FEBRUARY 2016		
SCALE	1:120		
DWG XREFS			
REVISION			
DRAWN BY	CCS	PLATE	1 OF 1

ES-GS

Geotechnical, Environmental, and Materials Testing Consultants