



Sladden Engineering

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October 22, 2024

Project No. 544-24159
24-10-561

Relevant Living
6417 Selma Avenue, 2nd Floor
Los Angeles, California 90028

Project: Proposed The Ranch at Coachella
Mixed-Use Development
APN's 780-040-001, 003, 780-060-001 & 002
SWC 52nd Avenue & Van Buren Street
Coachella, California

Subject: Percolation/Infiltration Testing for Stormwater Management

Ref: Geotechnical Investigation report, Proposed "The Ranch at Coachella" Mixed-Use Development, APNs 780-040-001, 003 & 780-060-001 & 002 Coachella, California, Project No. 544-24159, Report No. 24-07-358.

In accordance with your request, we have performed percolation testing on the subject site to evaluate the infiltration potential of the near-surface soil to assist in stormwater management system design. It is our understanding that on-site stormwater retention including infiltration is planned for the proposed project.

Percolation testing has been performed within 8 shallow test holes excavated on the site. Testing was performed at a depth of approximately 4 and 6 feet below the existing ground surface. The approximate locations of the test holes are presented on the attached Test Location Photograph (Figure 3). Proposed testing locations were provided to Sladden Engineering by MSA Consulting, Inc. However, final locations were adjusted based on encountered field conditions and by on site tenant's request.

Testing was performed by placing water within the test bores and recording the drop in the water surface with time. Testing was performed in general accordance with Section 2.3 of Riverside County – Low Impact Development BMP Design Handbook for percolation testing. Test results are summarized in the following table.

PERCOLATION/INFILTRATION TEST RESULTS

Test No.	Depth (Ft)	USCS	Percolation Rate (in/hr)	Infiltration Rate (in/hr)
P-1	6.00	SM	24.00	3.00
P-2	6.00	SM	27.50	3.64
P-3	4.00	SM	40.00	6.67
P-4	6.00	SM	40.00	6.67

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October 22, 2024

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Project No. 544-24159

24-10-561

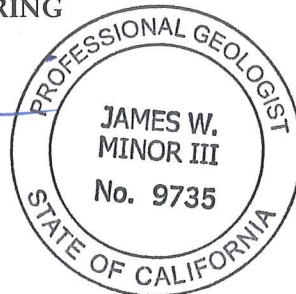
P-5	6.00	SM	32.50	4.68
P-6	4.00	SM	40.00	6.67
P-7	4.00	SM	40.00	6.67
P-8	4.00	SM	40.00	6.67

The percolation rates determined represent the ultimate field rates that do not include a safety factor. The corresponding infiltration rates were calculated using the Porchet Method. An appropriate safety factor should be incorporated into stormwater retention/infiltration system design.

If you have any questions regarding this memo, please contact the undersigned.

Respectfully submitted,
SLADDEN ENGINEERING

James W. Minor III
Senior Geologist

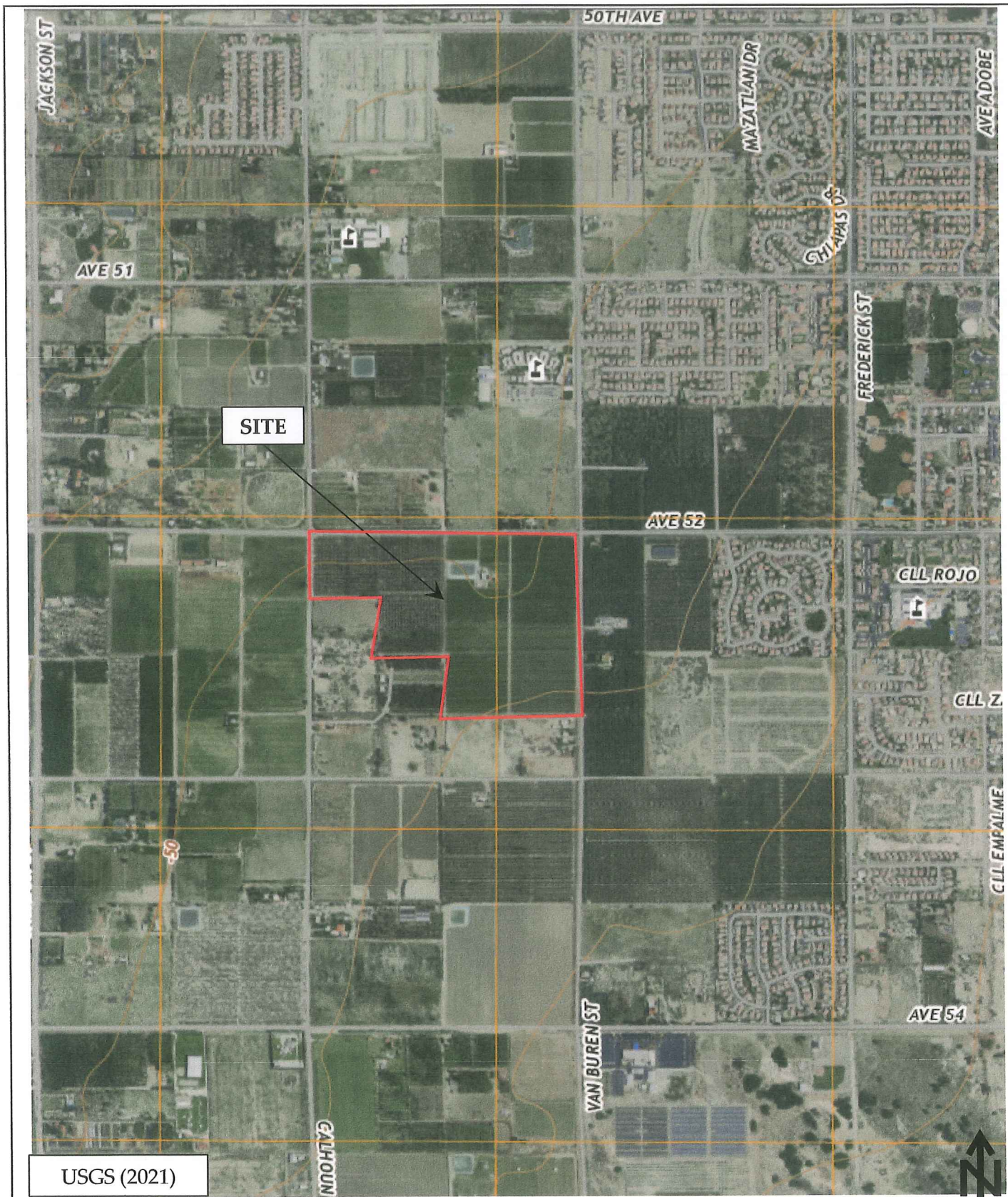


Brett L. Anderson
Principal Engineer



Copies: pdf/Addressee

SITE LOCATION MAP
REGIONAL GEOLOGIC MAP
TEST LOCATION PHOTOGRAPH



SITE LOCATION MAP

FIGURE

1



Sladden Engineering

Project Number:

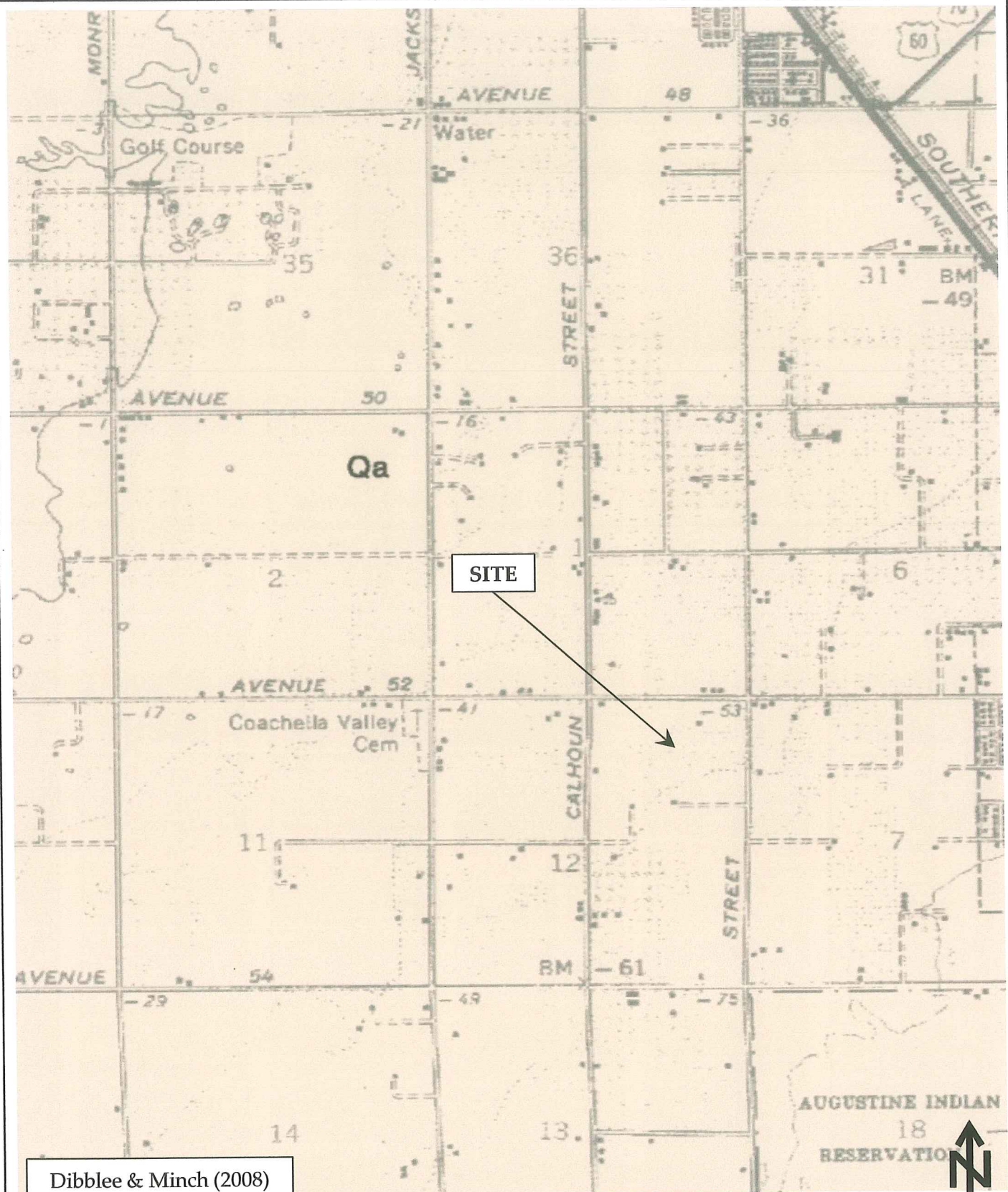
544-24159

Report Number:

24-10-561

Date:

October 22, 2024



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Sladden Engineering

REGIONAL GEOLOGIC MAP

Project Number:	544-24159
Report Number:	24-10-561
Date:	October 22, 2024

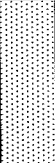
FIGURE

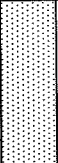
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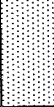


 Sladden Engineering	TEST LOCATION PHOTOGRAPH		FIGURE 3
	Project Number:	544-24159	
	Report Number:	24-10-561	
	Date:	October 22, 2024	

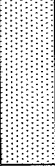
BORING LOGS
STORMWATER TESTING DATA SHEETS

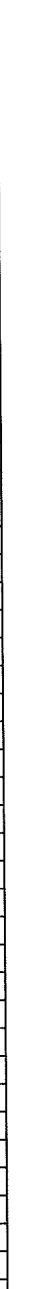
 Sladden Engineering								BORE LOG			
								Equipment: MOBILE B-61		Date Drilled: 9/26/2024	
								Elevation: -50 FT MSL		Boring No: P-1	
Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (Feet)	Graphic Lithology	Description		
							2		Silty Sand (SM); grayish brown, moist, fine-to coarse-grained, micaceous, with trace of clay.		
						4					
						6	Terminated at ~ 6 ft bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered. Borehole Cased with Perforated Pipe for Percolation Testing.				
						8					
						10					
						12					
						14					
						16					
						18					
						20					
						22					
						24					
						26					
						28					
						30					
						32					
						34					
						36					
						38					
						40					
						42					
						44					
						46					
						48					
						50					
Completion Notes:								MIXED-USE DEVELOPMENT SWC 52ND AVENUE & VAN BUREN, COACHELLA Project No: 544-24159 Report No: 24-10-561			
								Page		1	

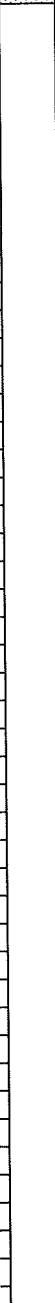
 Sladden Engineering								BORE LOG			
								Equipment: MOBILE B-61		Date Drilled: 9/26/2024	
								Elevation: -50 FT MSL		Boring No: P-2	
Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (Feet)	Graphic Lithology	Description		
							2		Silty Sand (SM); grayish brown, moist, fine-to coarse-grained, micaceous, with trace of clay. Terminated at ~ 6 ft bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered. Borehole Cased with Perforated Pipe for Percolation Testing.		
						4					
						6					
						8					
						10					
						12					
						14					
						16					
						18					
						20					
						22					
						24					
						26					
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						42					
						44					
						46					
						48					
						50					
Completion Notes:								MIXED-USE DEVELOPMENT SWC 52ND AVENUE & VAN BUREN, COACHELLA Project No: 544-24159 Report No: 24-10-561			
								Page		2	

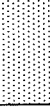
 Sladden Engineering								BORE LOG			
								Equipment: MOBILE B-61		Date Drilled: 9/26/2024	
								Elevation: -50 FT MSL		Boring No: P-3	
Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (Feet)	Graphic Lithology	Description		
							2		Silty Sand (SM); grayish brown, slightly moist, fine-to coarse-grained, micaceous.		
							4				
							6				
							8				
							10				
							12		Terminated at ~ 4 ft bgs.		
							14		No Bedrock Encountered.		
							16		No Groundwater or Seepage Encountered.		
							18		Borehole Cased with Perforated Pipe for Percolation Testing.		
							20				
							22				
							24				
							26				
							28				
							30				
							32				
							34				
							36				
							38				
							40				
							42				
							44				
							46				
							48				
							50				
Completion Notes:								MIXED-USE DEVELOPMENT SWC 52ND AVENUE & VAN BUREN, COACHELLA			
								Project No: 544-24159		Page	3
								Report No: 24-10-561			

 Sladden Engineering								BORE LOG			
								Equipment: MOBILE B-61		Date Drilled: 9/26/2024	
								Elevation: -50 FT MSL		Boring No: P-4	
Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (Feet)	Graphic Lithology	Description		
							2		Silty Sand (SM); grayish brown, slightly moist, fine-to coarse-grained, micaceous.		
						4					
						6	Terminated at ~ 6 ft bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered. Borehole Cased with Perforated Pipe for Percolation Testing.				
						8					
						10					
						12					
						14					
						16					
						18					
						20					
						22					
						24					
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						32					
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						42					
						44					
						46					
						48					
						50					
Completion Notes:								MIXED-USE DEVELOPMENT SWC 52ND AVENUE & VAN BUREN, COACHELLA Project No: 544-24159 Report No: 24-10-561			
								Page		4	

 Sladden Engineering								BORE LOG			
								Equipment: MOBILE B-61		Date Drilled: 9/26/2024	
								Elevation: -50 FT MSL		Boring No: P-5	
Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (Feet)	Graphic Lithology	Description		
							2		Silty Sand (SM); grayish brown, slightly moist, fine-to coarse-grained, micaceous.		
						4					
						6	Terminated at ~ 6 ft bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered. Borehole Cased with Perforated Pipe for Percolation Testing.				
						8					
						10					
						12					
						14					
						16					
						18					
						20					
						22					
						24					
						26					
						28					
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						32					
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						42					
						44					
						46					
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						50					
Completion Notes:								MIXED-USE DEVELOPMENT SWC 52ND AVENUE & VAN BUREN, COACHELLA			
								Project No: 544-24159		Page	5
								Report No: 24-10-561			

 Sladden Engineering								BORE LOG			
								Equipment: MOBILE B-61		Date Drilled: 9/26/2024	
								Elevation: -50 FT MSL		Boring No: P-6	
Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (Feet)	Graphic Lithology	Description		
							2		Silty Sand (SM); grayish brown, slightly moist, fine-to coarse-grained, micaceous.		
							4				
							6		Terminated at ~ 4 ft bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered. Borehole Cased with Perforated Pipe for Percolation Testing.		
							8				
							10				
							12				
							14				
							16				
							18				
							20				
							22				
							24				
							26				
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							30				
							32				
							34				
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							38				
							40				
							42				
							44				
							46				
							48				
							50				
Completion Notes:								MIXED-USE DEVELOPMENT SWC 52ND AVENUE & VAN BUREN, COACHELLA			
								Project No: 544-24159		Page	6
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 Sladden Engineering								BORE LOG			
								Equipment: MOBILE B-61		Date Drilled: 9/26/2024	
								Elevation: -50 FT MSL		Boring No: P-7	
Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (feet)	Graphic Lithology	Description		
							2		Silty Sand (SM); grayish brown, slightly moist, fine-to coarse-grained, micaceous.		
							4				
							6		Terminated at ~ 4 ft bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered. Borehole Cased with Perforated Pipe for Percolation Testing.		
							8				
							10				
							12				
							14				
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							22				
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							40				
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							50				
Completion Notes:								MIXED-USE DEVELOPMENT SWC 52ND AVENUE & VAN BUREN, COACHELLA Project No: 544-24159 Report No: 24-10-561			
								Page		7	

 Sladden Engineering								BORE LOG			
								Equipment: MOBILE B-61		Date Drilled: 9/26/2024	
								Elevation: -50 FT MSL		Boring No: P-8	
Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (Feet)	Graphic Lithology	Description		
							2		Silty Sand (SM); grayish brown, slightly moist, fine-to coarse-grained, micaceous.		
							4				
							6		Terminated at ~ 4 ft bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered. Borehole Cased with Perforated Pipe for Percolation Testing.		
							8				
							10				
							12				
							14				
							16				
							18				
							20				
							22				
							24				
							26				
							28				
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							32				
							34				
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							38				
							40				
							42				
							44				
							46				
							48				
							50				
Completion Notes:								MIXED-USE DEVELOPMENT SWC 52ND AVENUE & VAN BUREN, COACHELLA Project No: 544-24159 Report No: 24-10-561			
								Page		8	

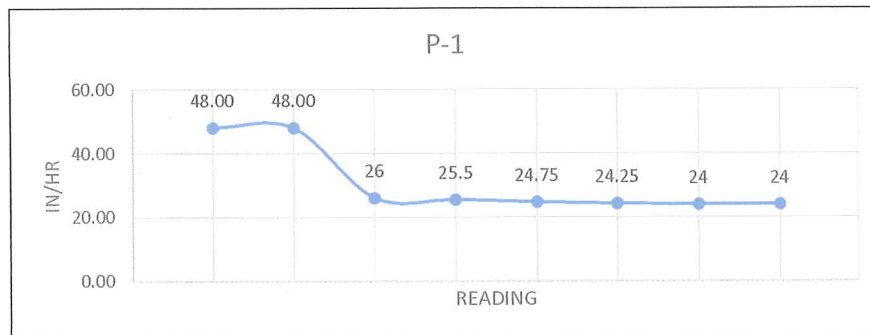
STORMWATER PERCOLATION SHEET (LESS THAN 10 FT)

Project: Mixed-Use Development
 Job No. : 544-24159
 Date: 10/21/2024
 Test Hole #: P-1

Depth (ft): 6.00
 USCS Soil Class: SM
 Sandy Soil: Favorable
 Tested By: Robert

READING	TIME (min)	DEPTH (ft)	INITIAL W (in)	FINAL W (in)	ΔW (in)	IN/HR
A	25.00	6.00	20	0	20	48.00
B	25.00	6.00	20	0	20	48.00

READING	TIME (min)	DEPTH (ft)	INITIAL W (in)	FINAL W (in)	ΔW (in)	IN/HR
1	30.00	6.00	20	7	13	26
2	30.00	6.00	20	7 2/8	12 6/8	25.5
3	30.00	6.00	20	7 5/8	12 3/8	24.75
4	30.00	6.00	20	7 7/8	12 1/8	24.25
5	30.00	6.00	20	8	12	24
6	30.00	6.00	20	8	12	24



PERCOLATION RATE CONVERSION (PORCHET METHOD)

$$I_t = \frac{\Delta H \cdot 60 \cdot R}{\Delta t(r + 2H_{avg})}$$

Δt = 30.00
 D_f = 64.00
 r = 4.00
 D₀ = 52
 D_t = 72.00
 H₀ = 20
 H_f = 8
 ΔH = 12.00
 H_{avg} = 14.00

Δt (minutes)
 D_f (Final Depth to water)
 r (hole radius in inches)
 D₀ (Initial Depth to water)
 D_t (Total Depth of test hole)
 H₀ (initial height of water at selected time interval)
 $H_0 = D_t - D_0$
 H_f (final height of water at the selected time interval)
 $H_f = D_t - D_f$
 ΔH (change in head over the time interval)
 $\Delta H = H_0 - H_f$
 H_{avg} (average head height over the time interval)
 $H_{avg} = (H_0 + H_f) / 2$

Field Rate: 24 in/hr
 Infiltration Rate: 3.00 in/hr

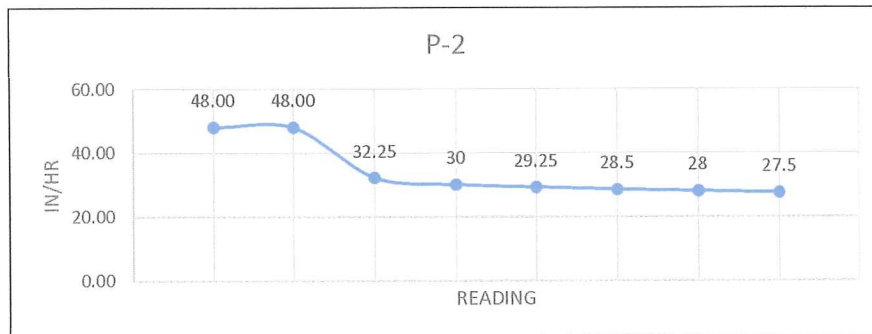
STORMWATER PERCOLATION SHEET (LESS THAN 10 FT)

Project: Mixed-Use Development
 Job No. : 544-24159
 Date: 10/21/2024
 Test Hole #: P-2

Depth (ft): 6.00
 USCS Soil Class: SM
 Sandy Soil: Favorable
 Tested By: Robert

READING	TIME (min)	DEPTH (ft)	INITIAL W (in)	FINAL W (in)	ΔW (in)	IN/HR
A	25.00	6.00	20	0	20	48.00
B	25.00	6.00	20	0	20	48.00

READING	TIME (min)	DEPTH (ft)	INITIAL W (in)	FINAL W (in)	ΔW (in)	IN/HR
1	30.00	6.00	20	3 7/8	16 1/8	32.25
2	30.00	6.00	20	5	15	30
3	30.00	6.00	20	5 3/8	14 5/8	29.25
4	30.00	6.00	20	5 6/8	14 2/8	28.5
5	30.00	6.00	20	6	14	28
6	30.00	6.00	20	6 2/8	13 6/8	27.5



PERCOLATION RATE CONVERSION (PORCHET METHOD)

$I_t = \frac{\Delta H \cdot 60 \cdot R}{\Delta t(r + 2H_{avg})}$	Δt (minutes)
	D_f (Final Depth to water)
	r (hole radius in inches)
	D_0 (Initial Depth to water)
$\Delta t = 30.00$	D_t (Total Depth of test hole)
$D_f = 65.75$	H_0 (initial height of water at selected time interval)
$r = 4.00$	$H_0 = D_t - D_0$
$D_0 = 52$	H_f (final height of water at the selected time interval)
$D_t = 72.00$	$H_f = D_t - D_f$
$H_0 = 20$	ΔH (change in head over the time interval)
$H_f = 6.25$	$\Delta H = H_0 - H_f$
$\Delta H = 13.75$	H_{avg} (average head height over the time interval)
$H_{avg} = 13.13$	$H_{avg} = (H_0 + H_f)/2$

Field Rate: 27.5 in/hr
 Infiltration Rate: 3.64 in/hr

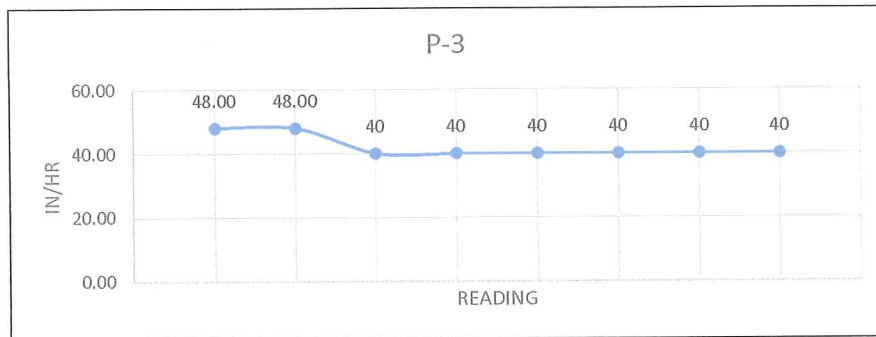
STORMWATER PERCOLATION SHEET (LESS THAN 10 FT)

Project: Mixed-Use Development
 Job No. : 544-24159
 Date: 10/21/2024
 Test Hole #: P-3

Depth (ft): 4.00
 USCS Soil Class: SM
 Sandy Soil: Favorable
 Tested By: Robert

READING	TIME (min)	DEPTH (ft)	INITIAL W (in)	FINAL W (in)	ΔW (in)	IN/HR
A	25.00	4.00	20	0	20	48.00
B	25.00	4.00	20	0	20	48.00

READING	TIME (min)	DEPTH (ft)	INITIAL W (in)	FINAL W (in)	ΔW (in)	IN/HR
1	30.00	4.00	20	0	20	40
2	30.00	4.00	20	0	20	40
3	30.00	4.00	20	0	20	40
4	30.00	4.00	20	0	20	40
5	30.00	4.00	20	0	20	40
6	30.00	4.00	20	0	20	40



PERCOLATION RATE CONVERSION (PORCHET METHOD)

$$I_t = \frac{\Delta H \cdot 60 \cdot R}{\Delta t(r + 2H_{avg})}$$

$$\Delta t = 30.00$$

$$D_f = 48.00$$

$$r = 4.00$$

$$D_0 = 28$$

$$D_t = 48.00$$

$$H_0 = 20$$

$$H_f = 0$$

$$\Delta H = 20.00$$

$$H_{avg} = 10.00$$

Δt (minutes)

D_f (Final Depth to water)

r (hole radius in inches)

D₀ (Initial Depth to water)

D_t (Total Depth of test hole)

H₀ (initial height of water at selected time interval)

$$H_0 = D_t - D_0$$

H_f (final height of water at the selected time interval)

$$H_f = D_t - D_f$$

ΔH (change in head over the time interval)

$$\Delta H = H_0 - H_f$$

H_{avg} (average head height over the time interval)

$$H_{avg} = (H_0 + H_f) / 2$$

Field Rate: 40 in/hr
 Infiltration Rate: 6.67 in/hr

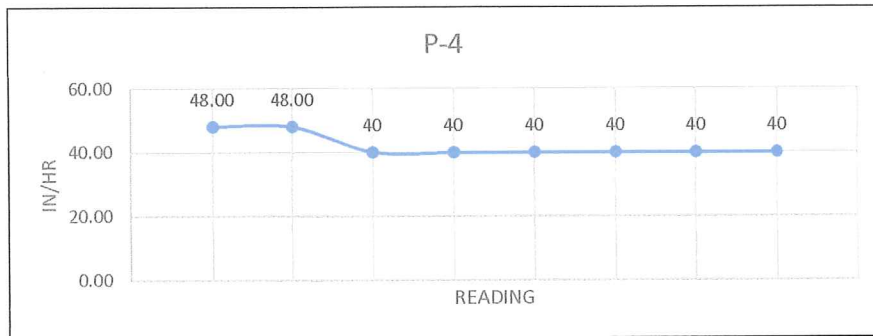
STORMWATER PERCOLATION SHEET (LESS THAN 10 FT)

Project: Mixed-Use Development
 Job No.: 544-24159
 Date: 10/21/2024
 Test Hole #: P-4

Depth (ft): 6.00
 USCS Soil Class: SM
 Sandy Soil: Favorable
 Tested By: Robert

READING	TIME (min)	DEPTH (ft)	INITIAL W (in)	FINAL W (in)	ΔW (in)	IN/HR
A	25.00	6.00	20	0	20	48.00
B	25.00	6.00	20	0	20	48.00

READING	TIME (min)	DEPTH (ft)	INITIAL W (in)	FINAL W (in)	ΔW (in)	IN/HR
1	30.00	6.00	20	0	20	40
2	30.00	6.00	20	0	20	40
3	30.00	6.00	20	0	20	40
4	30.00	6.00	20	0	20	40
5	30.00	6.00	20	0	20	40
6	30.00	6.00	20	0	20	40



PERCOLATION RATE CONVERSION (PORCHET METHOD)

$I_t =$	$\frac{\Delta H \ 60 \ R}{\Delta t(r+2H_{avg})}$	Δt (minutes)
$\Delta t =$	30.00	D_f (Final Depth to water)
$D_f =$	72.00	r (hole radius in inches)
$r =$	4.00	D_0 (Initial Depth to water)
$D_0 =$	52	D_t (Total Depth of test hole)
$D_t =$	72.00	H_0 (initial height of water at selected time interval)
$H_0 =$	20	$H_0 = D_t - D_0$
$H_f =$	0	H_f (final height of water at the selected time interval)
$\Delta H =$	20.00	$H_f = D_t - D_f$
$H_{avg} =$	10.00	ΔH (change in head over the time interval)
		$\Delta H = H_0 - H_f$
		H_{avg} (average head height over the time interval)
		$H_{avg} = (H_0 + H_f)/2$

Field Rate: 40 in/hr
 Infiltration Rate: 6.67 in/hr

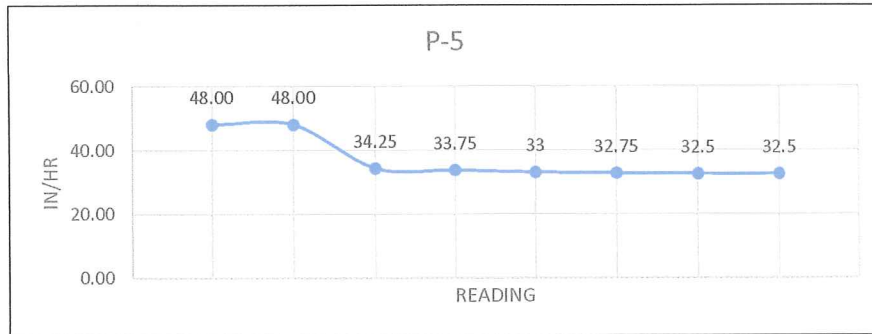
STORMWATER PERCOLATION SHEET (LESS THAN 10 FT)

Project: Mixed-Use Development
 Job No.: 544-24159
 Date: 10/21/2024
 Test Hole #: P-5

Depth (ft): 6.00
 USCS Soil Class: SM
 Sandy Soil: Favorable
 Tested By: Robert

READING	TIME (min)	DEPTH (ft)	INITIAL W (in)	FINAL W (in)	ΔW (in)	IN/HR
A	25.00	6.00	20	0	20	48.00
B	25.00	6.00	20	0	20	48.00

READING	TIME (min)	DEPTH (ft)	INITIAL W (in)	FINAL W (in)	ΔW (in)	IN/HR
1	30.00	6.00	20	2 7/8	17 1/8	34.25
2	30.00	6.00	20	3 1/8	16 7/8	33.75
3	30.00	6.00	20	3 4/8	16 4/8	33
4	30.00	6.00	20	3 5/8	16 3/8	32.75
5	30.00	6.00	20	3 6/8	16 2/8	32.5
6	30.00	6.00	20	3 6/8	16 2/8	32.5



PERCOLATION RATE CONVERSION (PORCHET METHOD)

$$I_t = \frac{\Delta H \cdot 60 \cdot R}{\Delta t(r + 2H_{avg})}$$

		Δt (minutes)
		D _f (Final Depth to water)
		r (hole radius in inches)
		D ₀ (Initial Depth to water)
Δt =	30.00	D _t (Total Depth of test hole)
D _f =	68.25	H ₀ (initial height of water at selected time interval)
r =	4.00	H ₀ = D _t - D ₀
D ₀ =	52	H _f (final height of water at the selected time interval)
D _t =	72.00	H _f = D _t - D _f
H ₀ =	20	ΔH (change in head over the time interval)
H _f =	3.75	ΔH = H ₀ - H _f
ΔH =	16.25	H _{avg} (average head height over the time interval)
H _{avg} =	11.88	H _{avg} = (H ₀ + H _f)/2

Field Rate: 32.5 in/hr
 Infiltration Rate: 4.68 in/hr

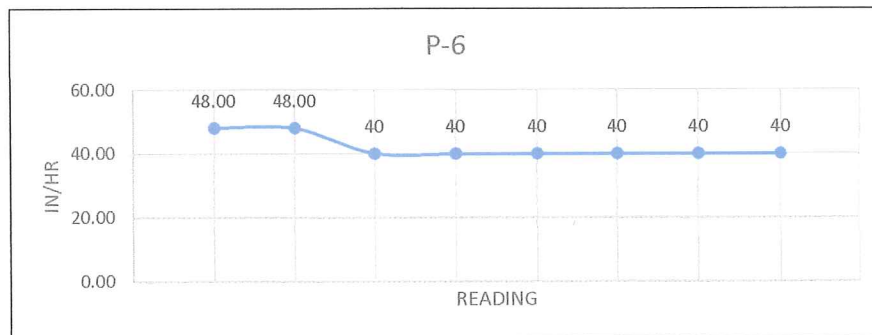
STORMWATER PERCOLATION SHEET (LESS THAN 10 FT)

Project: Mixed-Use Development
 Job No. : 544-24159
 Date: 10/21/2024
 Test Hole #: P-6

Depth (ft): 4.00
 USCS Soil Class: SM
 Sandy Soil: Favorable
 Tested By: Robert

READING	TIME (min)	DEPTH (ft)	INITIAL W (in)	FINAL W (in)	ΔW (in)	IN/HR
A	25.00	4.00	20	0	20	48.00
B	25.00	4.00	20	0	20	48.00

READING	TIME (min)	DEPTH (ft)	INITIAL W (in)	FINAL W (in)	ΔW (in)	IN/HR
1	30.00	4.00	20	0	20	40
2	30.00	4.00	20	0	20	40
3	30.00	4.00	20	0	20	40
4	30.00	4.00	20	0	20	40
5	30.00	4.00	20	0	20	40
6	30.00	4.00	20	0	20	40



PERCOLATION RATE CONVERSION (PORCHET METHOD)

$$I_t = \frac{\Delta H \cdot 60 \cdot R}{\Delta t(r+2H_{avg})}$$

$\Delta t =$ 30.00
 $D_f =$ 48.00
 $r =$ 4.00
 $D_0 =$ 28
 $D_t =$ 48.00
 $H_0 =$ 20
 $H_f =$ 0
 $\Delta H =$ 20.00
 $H_{avg} =$ 10.00

Δt (minutes)
 D_f (Final Depth to water)
 r (hole radius in inches)
 D_0 (Initial Depth to water)
 D_t (Total Depth of test hole)
 H_0 (initial height of water at selected time interval)
 H_f (final height of water at the selected time interval)
 ΔH (change in head over the time interval)
 H_{avg} (average head height over the time interval)

$H_0 = D_t - D_0$
 $H_f = D_t - D_f$
 $\Delta H = H_0 - H_f$
 $H_{avg} = (H_0 + H_f)/2$

Field Rate: 40 in/hr
 Infiltration Rate: 6.67 in/hr

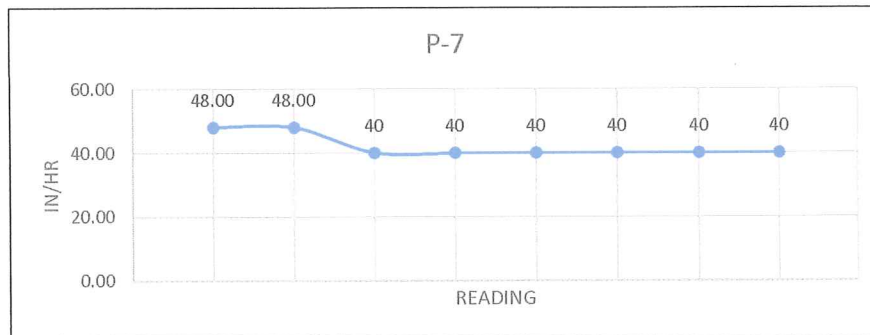
STORMWATER PERCOLATION SHEET (LESS THAN 10 FT)

Project: Mixed-Use Development
 Job No. : 544-24159
 Date: 10/21/2024
 Test Hole #: P-7

Depth (ft): 4.00
 USCS Soil Class: SM
 Sandy Soil: Favorable
 Tested By: Robert

READING	TIME (min)	DEPTH (ft)	INITIAL W (in)	FINAL W (in)	ΔW (in)	IN/HR
A	25.00	4.00	20	0	20	48.00
B	25.00	4.00	20	0	20	48.00

READING	TIME (min)	DEPTH (ft)	INITIAL W (in)	FINAL W (in)	ΔW (in)	IN/HR
1	30.00	4.00	20	0	20	40
2	30.00	4.00	20	0	20	40
3	30.00	4.00	20	0	20	40
4	30.00	4.00	20	0	20	40
5	30.00	4.00	20	0	20	40
6	30.00	4.00	20	0	20	40



PERCOLATION RATE CONVERSION (PORCHET METHOD)

$$I_t = \frac{\Delta H \cdot 60 \cdot R}{\Delta t(r + 2H_{avg})}$$

Δt =	30.00	Δt (minutes)
D_f =	48.00	D_f (Final Depth to water)
r =	4.00	r (hole radius in inches)
D_0 =	28	D_0 (Initial Depth to water)
D_t =	48.00	D_t (Total Depth of test hole)
H_0 =	20	H_0 (initial height of water at selected time interval)
H_f =	0	H_f (final height of water at the selected time interval)
ΔH =	20.00	ΔH (change in head over the time interval)
H_{avg} =	10.00	H_{avg} (average head height over the time interval)

$$H_0 = D_t - D_0$$

$$H_f = D_t - D_f$$

$$\Delta H = H_0 - H_f$$

$$H_{avg} = (H_0 + H_f) / 2$$

Field Rate: 40 in/hr
 Infiltration Rate: 6.67 in/hr

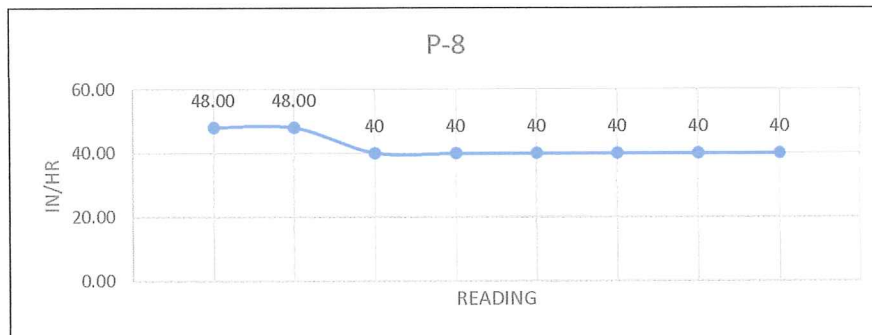
STORMWATER PERCOLATION SHEET (LESS THAN 10 FT)

Project: Mixed-Use Development
 Job No. : 544-24159
 Date: 10/21/2024
 Test Hole #: P-8

Depth (ft): 4.00
 USCS Soil Class: SM
 Sandy Soil: Favorable
 Tested By: Robert

READING	TIME (min)	DEPTH (ft)	INITIAL W (in)	FINAL W (in)	ΔW (in)	IN/HR
A	25.00	4.00	20	0	20	48.00
B	25.00	4.00	20	0	20	48.00

READING	TIME (min)	DEPTH (ft)	INITIAL W (in)	FINAL W (in)	ΔW (in)	IN/HR
1	30.00	4.00	20	0	20	40
2	30.00	4.00	20	0	20	40
3	30.00	4.00	20	0	20	40
4	30.00	4.00	20	0	20	40
5	30.00	4.00	20	0	20	40
6	30.00	4.00	20	0	20	40



PERCOLATION RATE CONVERSION (PORCHET METHOD)

$$I_t = \frac{\Delta H \cdot 60 \cdot R}{\Delta t(r + 2H_{avg})}$$

Δt = 30.00
 D_f = 48.00
 r = 4.00
 D₀ = 28
 D_t = 48.00
 H₀ = 20
 H_f = 0
 ΔH = 20.00
 H_{avg} = 10.00

Δt (minutes)
 D_f (Final Depth to water)
 r (hole radius in inches)
 D₀ (Initial Depth to water)
 D_t (Total Depth of test hole)
 H₀ (initial height of water at selected time interval)
 $H_0 = D_t - D_0$
 H_f (final height of water at the selected time interval)
 $H_f = D_t - D_f$
 ΔH (change in head over the time interval)
 $\Delta H = H_0 - H_f$
 H_{avg} (average head height over the time interval)
 $H_{avg} = (H_0 + H_f) / 2$

Field Rate: 40 in/hr
 Infiltration Rate: 6.67 in/hr