ENCLOSURE 1

DESIGN DIVISION MARKUP PLANS COMMENTS

CC4 STABILIY BUTTRESS PROJECT

Enclosure 1

RIP RAP PAD DESIGN				
PAD LETTER	UPSTREAM WIDTH ft	DOWNSTREAM WIDTH ft	LENGTH	RIP RAP D_{50}
"A"	4.5	18.5	28.0	300# GROUTED
"B"	4.5	16.5	24.0	300# GROUTED

This table does not match the details shown on Sheet 7.

This pad is not connected to the road gutter. How is the flow being collected?

Provide channel connection details

Provide channel connection details

Detail Q7 is not applicable here. Provide channel connection details

"BASIN A"

INSTALL 36"Ø CPP ROAD CROSSING CULVERT

INSTALL 48"Ø CPP ROAD CROSSING CULVERT

LINE C1
SEE SHEET 10

LINE B1
SEE SHEET 14

LINE D1
SEE SHEET 11

LINE D2
SEE SHEET 11

LINE D3
SEE SHEET 12

LINE A4 D4 per Sh 13
SEE SHEET 13

LINE A1
SEE SHEET 8

LINE A2
SEE SHEET 9

LINE A3
SEE SHEET 9

PAD "A"

PAD "B"

SCE TOWER 15

SCE TOWER 16

SCE TOWER ROAD

LANDFILL

WEST LINER

DRAINAGE CHANNEL

LIMIT

COUNTY OF LOS ANGELES
CITY OF LOS ANGELES

GRADING LIMITS REVISION LINE

CONTACT LINE

TRANSITION

6" THICK CONC PAD

2' HIGH SPLASH WALL L= 14'

LEGEND:

- COUNTY LINE
- GRADING LIMIT DAYLIGHT/CONTACT LINE
- (100) EXISTING GROUND SURFACE CONTOUR EL, FEET
- 100 PROPOSED GROUND SURFACE CONTOUR EL, FEET
- PROPOSED DRAINAGE COURSE
- REVISION / APPROVED GRADING LIMIT
- EXISTING DRAINAGE COURSE
- A / 1 LETTER SECTION SHEET DETAIL LOCATION
- SPLASH WALL SEE DETAIL M ON SHEET 6

LINE AND CURVE DATA TABLE ℄				
NUMBER	LENGTH	BEARING/DELTA	RADIUS	TANGENT
C1	82.57	107° 31' 06"	44.00	60.03
C2	126.82	173° 00' 29"	42.00	687.50
C3	68.17	36° 51' 00"	106.00	35.31
C4	101.08	134° 41' 29"	43.00	103.03
C5	91.15	130° 33' 52"	40.00	86.90
C6	17.18	24° 36' 50"	40.00	8.73
C7	54.18	37° 51' 36"	82.00	28.12
C8	32.49	25° 09' 24"	74.00	16.51
C9	45.68	45° 07' 20"	58.00	24.10
C10	58.33	25° 30' 49"	131.00	29.66
C11	132.61	52° 45' 56"	144.00	71.43
C12	73.69	75° 23' 36"	56.00	43.28
C13	149.42	113° 23' 34"	75.50	114.92
C14	26.38	19° 30' 01"	77.50	13.32
C15	107.33	22° 59' 06"	267.55	54.40
C16	61.88	45° 44' 12"	77.52	32.69
L1	16.21	N34° 31' 49.79"E		
L2	158.11	S37° 57' 04.44"E		
L3	63.95	N30° 57' 33.86"W		
L4	74.63	N5° 53' 25.87"E		
L5	105.91	S39° 25' 05.41"E		
L6	93.25	N23° 15' 13.25"E		
L7	15.35	N32° 51' 22.67"E		
L8	4.27	S51° 13' 31.63"E		
L9	164.15	S5° 16' 28.21"W		
L10	15.04	S5° 16' 29.13"W		
L11	195.15	S76° 24' 20.60"E		
L12	143.54	N9° 47' 54.52"W		
L13	59.71	N51° 36' 33.19"W		

N

60' 0' 30' 60' 120'

SCALE: 1" = 60'

REV. NO.	DATE	DESCRIPTION	APPROVED BY
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3	01/31/18	ADDED DETAIL G TO SHEET 5	ROBERT JOHNSON
4	10/26/18	REVISED GRADING	ROBERT JOHNSON
5	02/07/19	COMMENTS FROM COUNTY OF LOS ANGELES	ROBERT JOHNSON

DATE OF ISSUE: MARCH 2019
DESIGNED BY: R JOHNSON
DRAWN BY: J AMAYA
CHECKED BY: R JOHNSON
APPROVED BY: R JOHNSON

DIG ALERT 811

Geo-Logic ASSOCIATES
2777 EAST GUASTI ROAD
SUITE 1
ONTARIO, CA 91761
(909) 626-2282
www.geo-logic.com

REGISTERED PROFESSIONAL ENGINEER ROBERT DYER JOHNSON No. 61441 CIVIL 12/31/19 STATE OF CALIFORNIA

REPUBLIC SERVICES

SUNSHINE CANYON LANDFILL
14747 SAN FERNANDO ROAD
SYLMAR,CA. 91342

SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4

PRECISE GRADING PLAN

DWG NO. 4B

PROJECT NO. S018.1103

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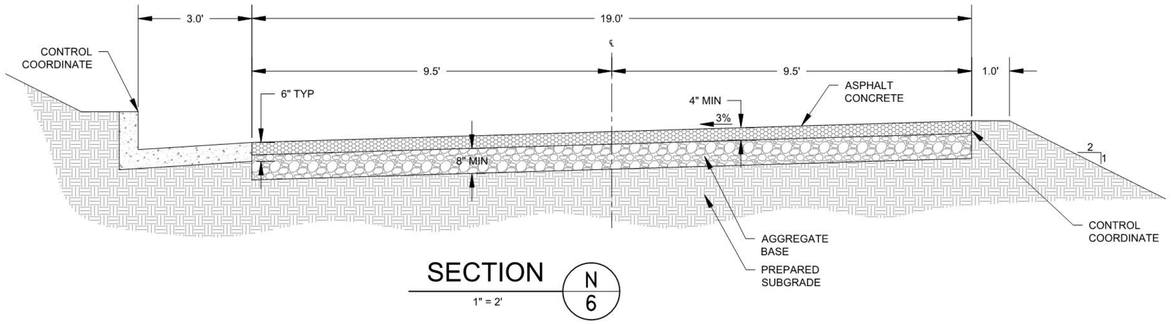
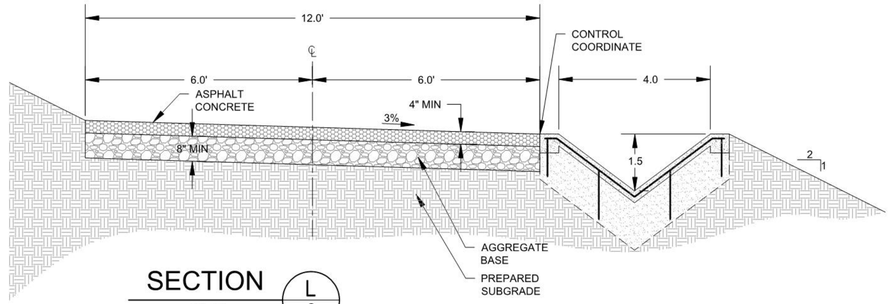
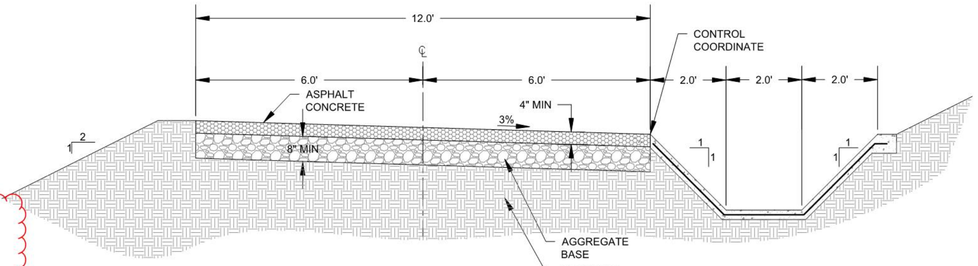


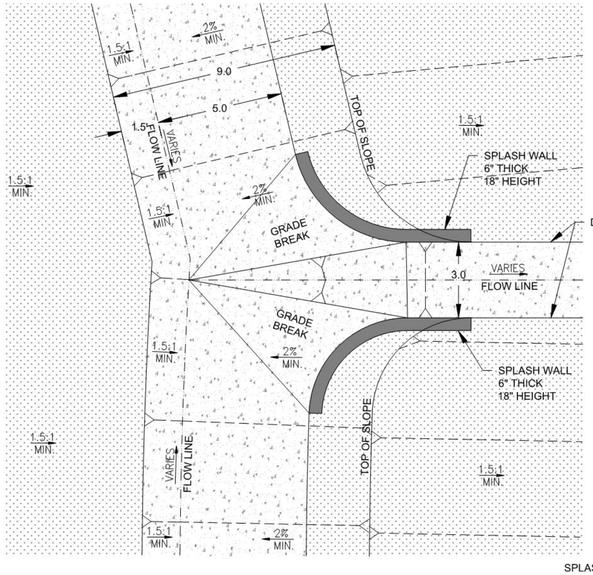
SECTION N 6
1" = 2'



SECTION L 6
1" = 2'

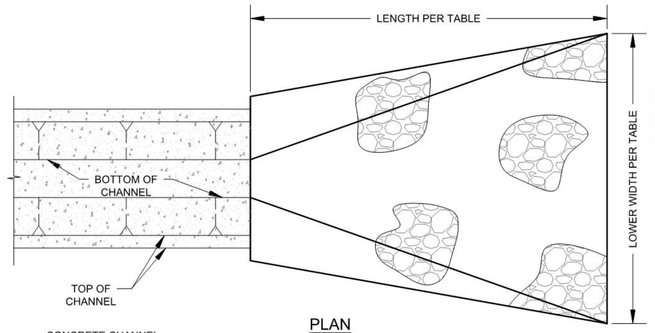


SECTION K 6
1" = 2'



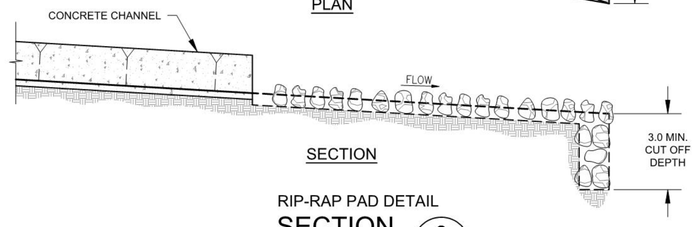
This table does not match the pads shown on Sheet 7

RIP RAP PAD DESIGN				
PAD LETTER	UPSTREAM WIDTH ft	DOWNSTREAM WIDTH ft	LENGTH	RIP RAP D_{50}
"A"	4.5	18.5	28.0	300# GROUTED
"B"	4.5	16.5	24.0	300# GROUTED



PLAN

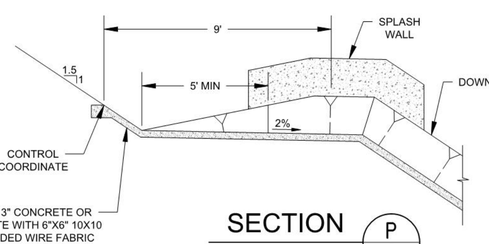
This pad configuration does not match the details on Sheet 7



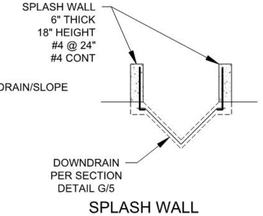
SECTION

RIP-RAP PAD DETAIL

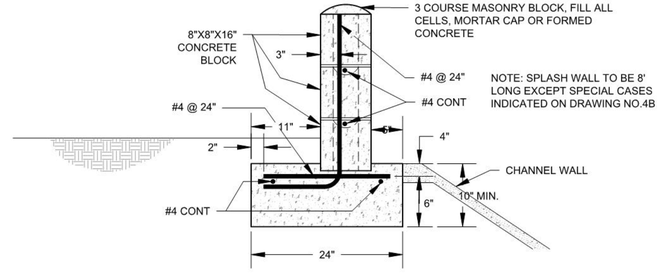
SECTION 0 6
1" = 3'



SECTION P 6
1" = 3'



SPLASH WALL



SECTION M 6
NTS

REV. NO.	DATE	DESCRIPTION	APPROVED BY
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2	12/08/17	ADD 30' SPLASH WALL TO SOUTH CHANNEL CURVES C3 & C6	ROBERT JOHNSON
3	01/31/18	ADDED DETAIL G TO SHEET 5	ROBERT JOHNSON
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Geo-Logic ASSOCIATES
2777 EAST GUASTI ROAD
SUITE 1
ONTARIO, CA 91761
(909) 626-2282
www.geo-logic.com

REGISTERED PROFESSIONAL ENGINEER ROBERT DYER JOHNSON No. C 61411 Exp. 12/31/19 CIVIL STATE OF CALIFORNIA

REPUBLIC SERVICES

SUNSHINE CANYON LANDFILL
14747 SAN FERNANDO ROAD
SYLMAR,CA. 91342

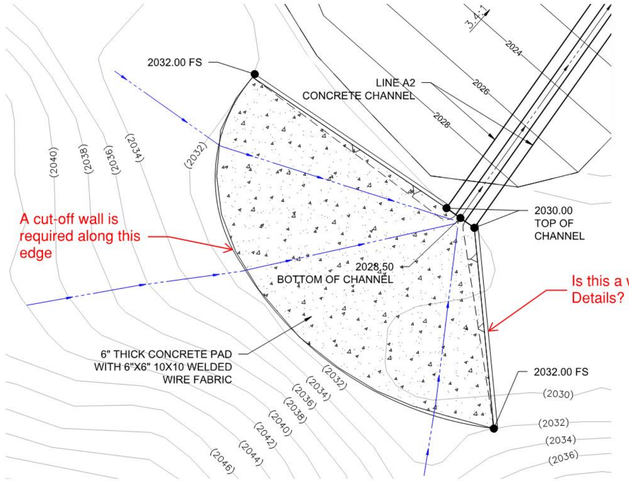
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4

DETAILS

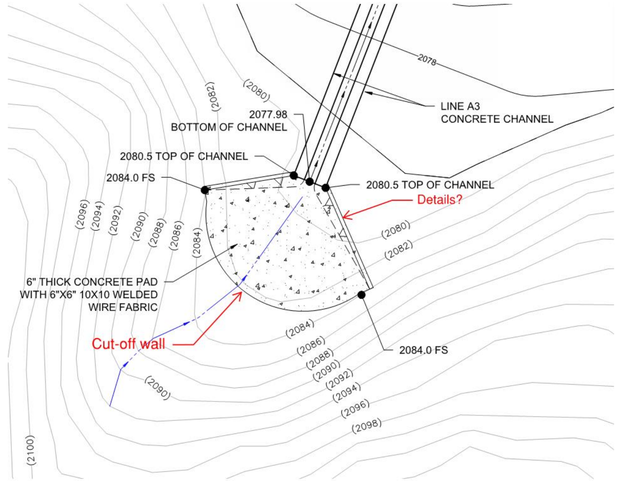
DWG NO. 6

PROJECT NO. S018.1103

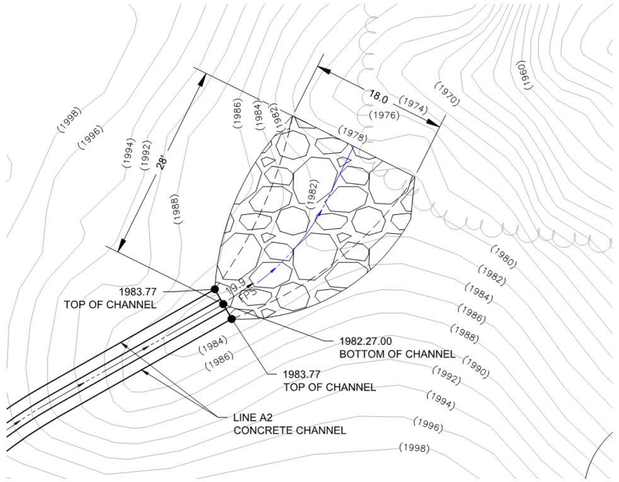
P:\SITES\SUNSHINE CYN LF\STABILITY BUTTRESS CC4 - COUNTY - 2018\GLA DWG SETS\S018.1103-SCL-SB-06-DT.DWG March 14, 2019 - 8:12 PM BY: GLA-USER



DETAIL Q/7
1" = 10'



DETAIL R/7
1" = 10'



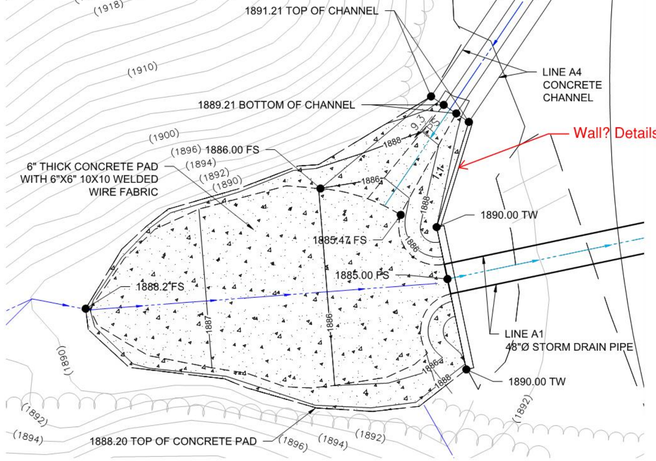
DETAIL S/7
1" = 10'

RIP RAP PAD "A"			
UPSTREAM WIDTH ft	DOWNSTREAM WIDTH ft	LENGTH	RIP RAP D_{50}
4.5	18	28	300# GROUTED

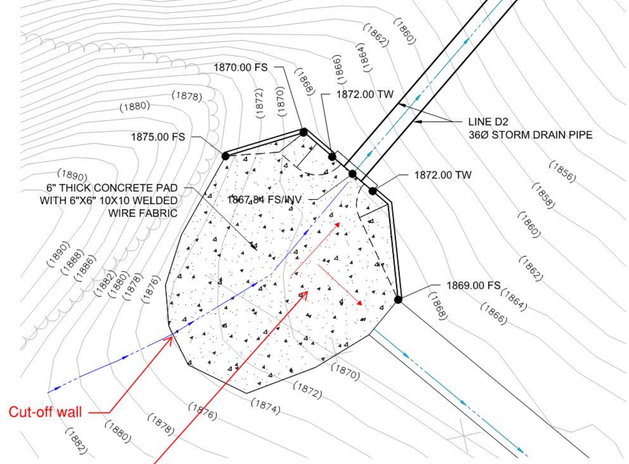
Wrong section used in WSPG run

Do = 1.5'
~~Q = 15.20 cfs~~
Vo = 19.97 fps

$$\frac{L_{SP}}{D_O} = 1.7 \times \frac{Q}{D_O^{5/2}} + 8$$

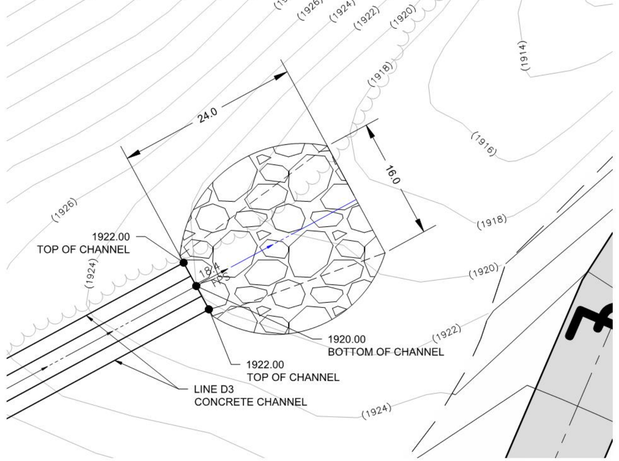


DETAIL T/7
1" = 10'



DETAIL U/7
1" = 10'

This sheet does not contain adequate details for a c;ear understanding of these pads. Provide more cross sections, dimensions, layout data, curve data, etc.



DETAIL V/7
1" = 10'

RIP RAP PAD "B"			
UPSTREAM WIDTH ft	DOWNSTREAM WIDTH ft	LENGTH	RIP RAP D_{50}
4.5	16	24	300# GROUTED

13.1 cfs per Hydrology

Do = 1.5'
Q = 10.91 cfs
Vo = 18.41 fps

$$\frac{L_{SP}}{D_O} = 1.7 \times \frac{Q}{D_O^{5/2}} + 8$$

10' 0' 5' 10' 20'
SCALE: 1" = 10'

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DIGALERT 811

Geo-Logic ASSOCIATES
2777 EAST GUASTI ROAD
SUITE 1
ONTARIO, CA 91761
(909) 626-2282
www.geo-logic.com

REGISTERED PROFESSIONAL ENGINEER ROBERT DYER CIVIL STATE OF CALIFORNIA exp. 12/31/19

REPUBLIC SERVICES

SUNSHINE CANYON LANDFILL
14747 SAN FERNANDO ROAD
SYLMAR,CA. 91342

SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4

DETAILS

DWG NO. 7
PROJECT NO. S018.1103

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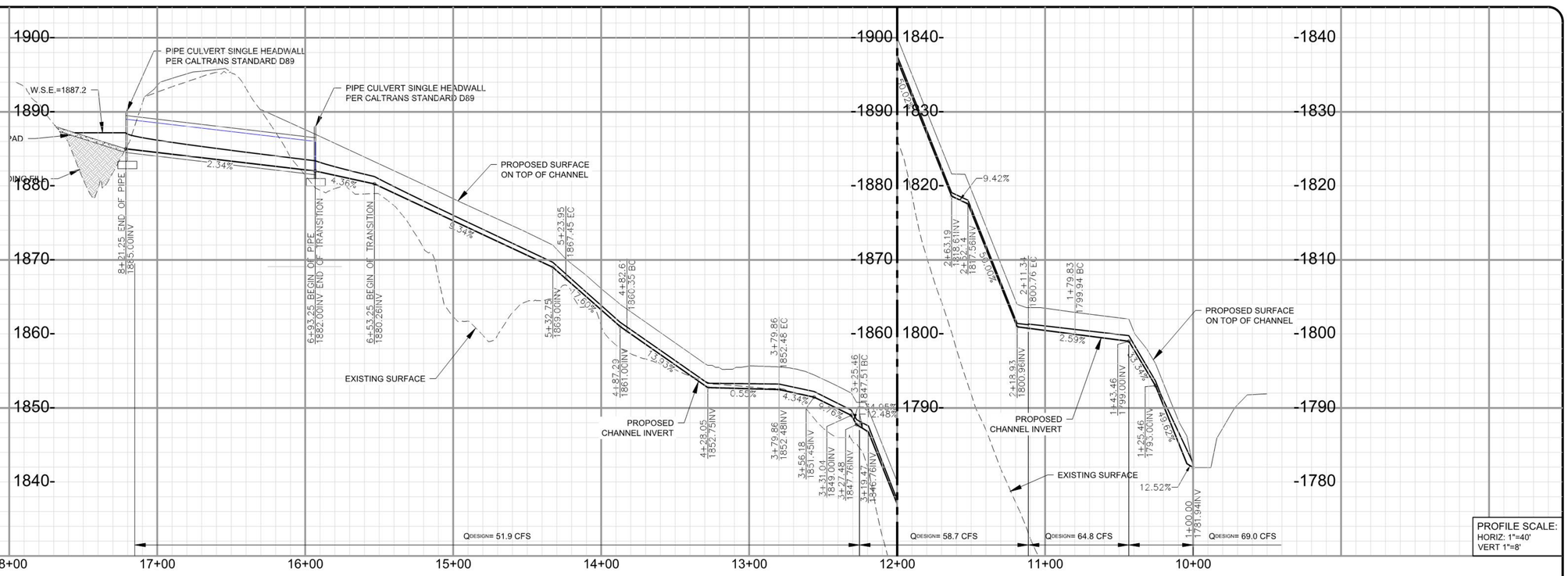
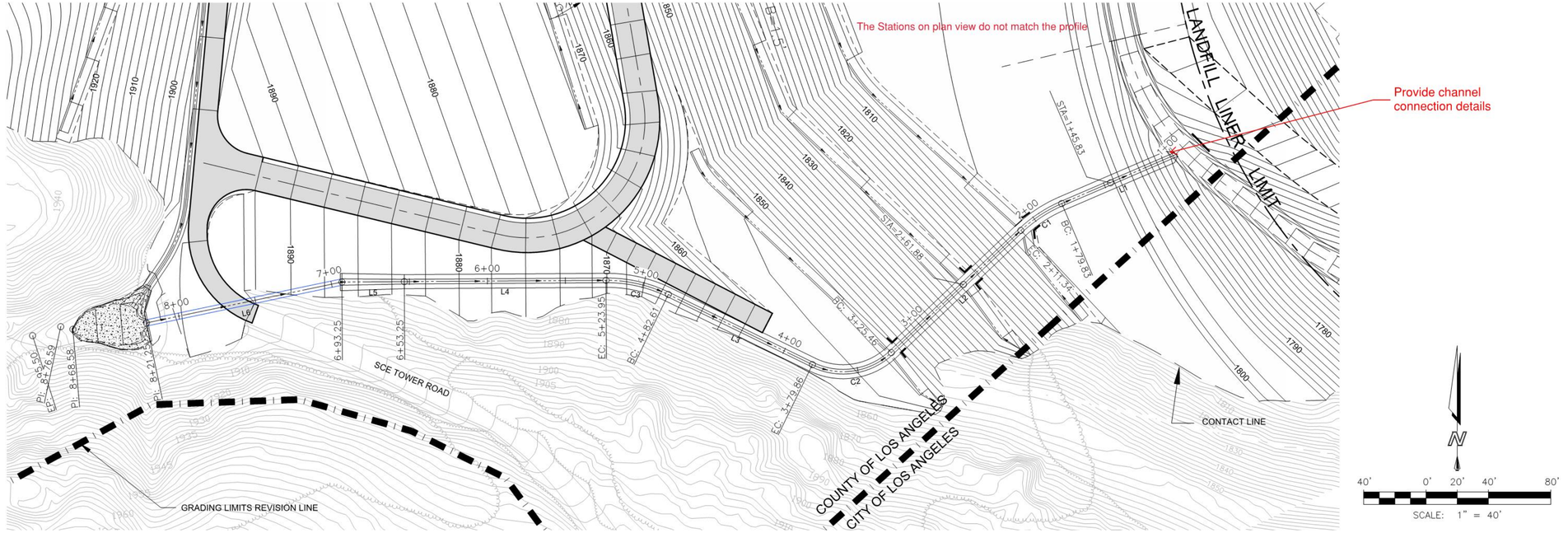


LINE AND CURVE DATA						
NUMBER	LENGTH	BEARING	RADIUS	TANGENT	BC	EC
L1	79.83	S66° 44' 59"W				
C1	31.51		90.00	15.92	1+79.83	2+11.34
L2	114.13	S46° 41' 22"W				
C2	54.39		45.00	31.08	3+25.46	3+79.86
L3	102.75	N64° 03' 14"W				
C3	41.34		90.00	21.04	4+82.61	5+23.95
L4	129.30	S89° 37' 40"W				
L5	40.00	S89° 37' 40"W				
L6	128.00	S78° 11' 24"W				



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4	10/26/18	REVISED GRADING	ROBERT JOHNSON

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Geo-Logic ASSOCIATES
2777 EAST GUASTI ROAD
SUITE 1
ONTARIO, CA 91761
(909) 626-2282
www.geo-logic.com

REGISTERED PROFESSIONAL ENGINEER ROBERT DYER JOHNSON No. 61641 CIVIL STATE OF CALIFORNIA Exp. 12/31/19

REPUBLIC SERVICES

SUNSHINE CANYON LANDFILL
14747 SAN FERNANDO ROAD
SYLMAR,CA. 91342

SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4
LINE A1 STORM DRAIN

DWG NO. 8
PROJECT NO. S018.1103

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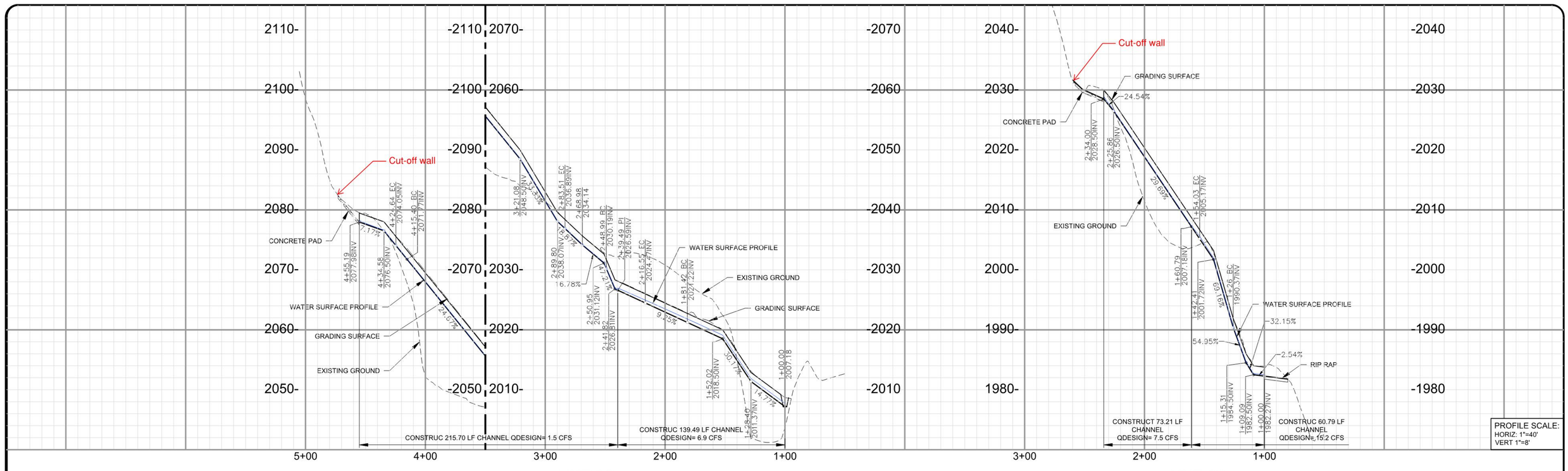
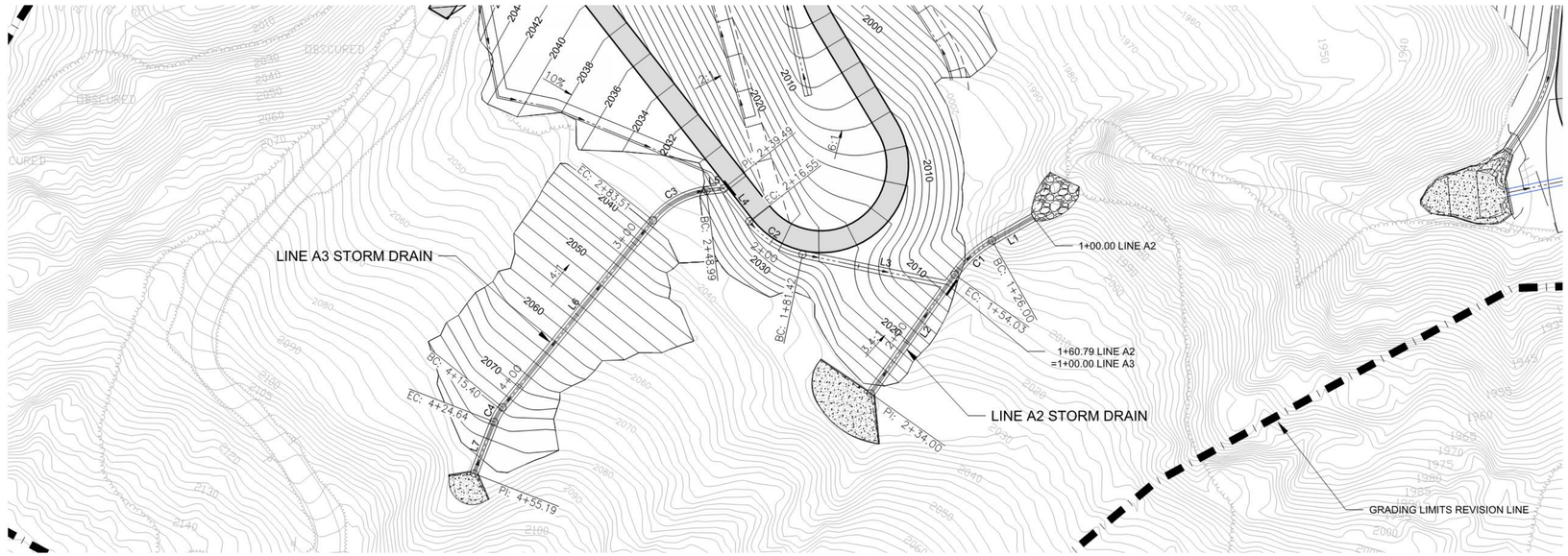


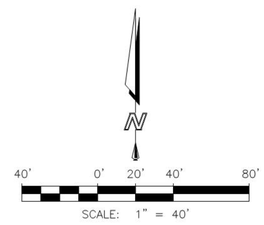
LINE A2

LINE AND CURVE DATA						
NUMBER	LENGTH	BEARING	RADIUS	TANGENT	BC	EC
L1	26.00	S60° 31' 47"W				
C1	28.03		63.50	14.25	1+26.00	1+54.03
L2	79.97	S35° 14' 17"W				

LINE A3

LINE AND CURVE DATA						
NUMBER	LENGTH	BEARING	RADIUS	TANGENT	BC	EC
L3	81.42	N78° 12' 19"W				
C2	35.13		50.00	18.32	1+81.42	2+16.55
L4	22.94	N37° 57' 04"W				
L5	9.50	S82° 47' 41"W				
C3	34.52		45.00	18.16	2+48.99	2+83.51
L6	131.89	S38° 50' 18"W				
C4	9.24		30.00	4.66	4+15.40	4+24.64
L7	30.56	S21° 11' 48"W				





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Geo-Logic ASSOCIATES
2777 EAST GUASTI ROAD
SUITE 1
ONTARIO, CA 91761
(909) 626-2282
www.geo-logic.com

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REPUBLIC SERVICES

SUNSHINE CANYON LANDFILL
14747 SAN FERNANDO ROAD
SYLMAR,CA. 91342

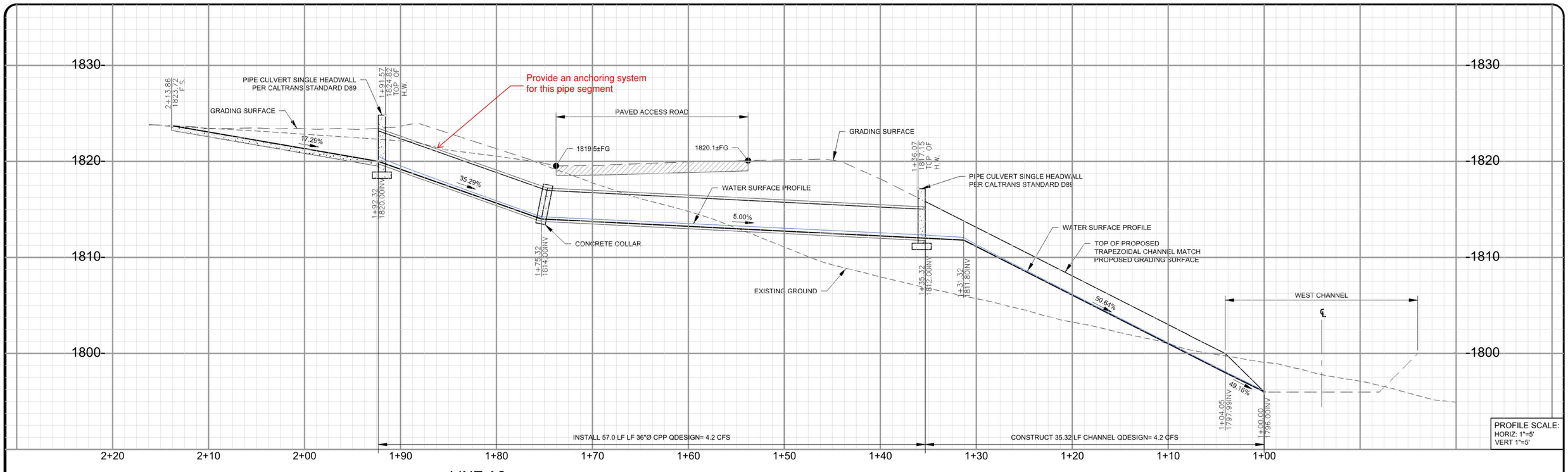
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4

LINE A2 AND LINE A3 STORM DRAIN

DWG NO. 9

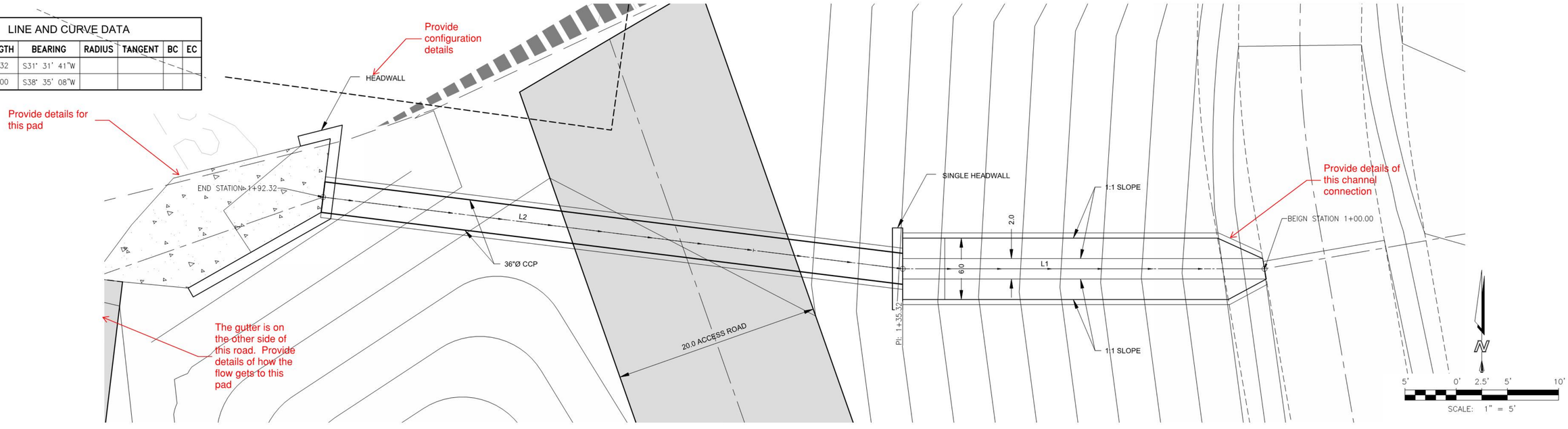
PROJECT NO. S018.1103

P:\SITES\SUNSHINE CYN LF\STABILITY BUTTRESS CC4 - COUNTY - 2018\GLA DWG SETS\S018.1103-SCL-SB-09-PR.DWG March 14, 2019 - 8:20 PM BY: GLA-USER



LINE A2

LINE AND CURVE DATA						
NUMBER	LENGTH	BEARING	RADIUS	TANGENT	BC	EC
L1	35.32	S31° 31' 41"W				
L2	57.00	S38° 35' 08"W				



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2777 EAST GUASTI ROAD
SUITE 1
ONTARIO, CA 91761
(909) 626-2282
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REGISTERED PROFESSIONAL ENGINEER
ROBERT DYER JOHNSON
No. 56041
Exp. 12/31/19
CIVIL
STATE OF CALIFORNIA

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SUNSHINE CANYON LANDFILL
14747 SAN FERNANDO ROAD
SYLMAR,CA. 91342

SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4

LINE C1 STORM DRAIN

DWG NO. 10
PROJECT NO. S018.1103

P:\SITES\SUNSHINE CYN LF\STABILITY BUTTRESS CC4 - COUNTY - 2018\GLA DWG SETS\S018.1103-SCL-SB-10-PR.DWG March 14, 2019 - 8:23 PM BY: GLA-USER

Cut-off wall

EXISTING GROUND

2+40.78
1870.96 T.O.

2+28.54
1870.96 T.O.

2+15.70
1869.68 F.S.

2+08.33
1872.00
TOP OF
H.W.

PIPE CULVERT SINGLE HEADWALL
PER CALTRANS STANDARD D89

2+08.33
1867.84INV

WATER SURFACE PROFILE

5.00%

Slope = 50%
Need pipe anchors

Elevations do not match WSPG program

1+55.00
1845.50
TOP OF
H.W.

PIPE CULVERT SINGLE HEADWALL
PER CALTRANS STANDARD D89

1+55.00
1841.16INV

INSTALL 53.33 LF 36"Ø CPP QDESIGN= 14.7 CFS

1+41.37
1840.50
TOP OF
H.W.

PIPE CULVERT SINGLE HEADWALL
PER CALTRANS STANDARD D89

Need pipe anchors

1+41.00
1836.35INV

84.25%

WATER SURFACE PROFILE

1+27.20
1824.72INV

51.20%

31.97%

1+06.26
1814.00INV

1+00.00
1812.00INV

INSTALL 41.0 LF 36"Ø CPP QDESIGN= 22.4 CFS

PROFILE SCALE:
HORIZ: 1"=5'
VERT 1"=5'

1870 1860 1850 1840

1840 1830 1820 1810

2+40 2+30 2+20 2+10 2+00 1+90 1+80 1+70 1+60 1+50

1+40 1+30 1+20 1+10 1+00

LINE D2

LINE D1

Provide details of how the flow is being channeled within this pad

How are these flows being split?

Provide configuration details

SPLASH WALL

HEADWALL

STA=2+08.33
END OF PIPE

LINE D2 STORM DRAIN

36"Ø CCP

2+00

L2

SPLASH WALL

STA=1+55.00
BEGIN OF PIPE

STA=1+41.00
END OF PIPE

SPLASH WALL

HEADWALL

HEADWALL

SPLASH WALL

L1

36"Ø CCP

LINE D1 STORM DRAIN

Is this an outlet structure? Provide details

1+00.00
BEGIN OF PIPE

No WSPG information provided for this line

No details provided for this pad. Show complete configuration of pad and walls, and show how the flow is being channeled through this confluence.

1811.86
CONC

1811.76
TOE BASIN

1811.84
TOE BASIN

1820

1825

5' 0' 2.5' 5' 10'

SCALE: 1" = 5'

LINE AND CURVE DATA

NUMBER	LENGTH	BEARING	RADIUS	TANGENT	BC	EC
L1	51.04	S16° 29' 29"E				
L2	77.50	S40° 39' 17"W				

REV. NO.	DATE	DESCRIPTION	APPROVED BY
1	11/06/17	ADD 30' SPLASH WALL TO SOUTH CHANNEL ON STA: 18+69.54	ROBERT JOHNSON
2	12/08/17	ADD 30' SPLASH WALL TO SOUTH CHANNEL CURVES C3 & C6	ROBERT JOHNSON
3	01/31/18	ADDED DETAIL G TO SHEET 5	ROBERT JOHNSON
4	10/26/18	REVISED GRADING	ROBERT JOHNSON
5	02/07/19	COMMENTS FROM COUNTY OF LOS ANGELES	ROBERT JOHNSON

DATE OF ISSUE: MARCH 2019
DESIGNED BY: R JOHNSON
DRAWN BY: J AMAYA
CHECKED BY: R JOHNSON
APPROVED BY: R JOHNSON

DIGALERT 811

Geo-Logic ASSOCIATES
2777 EAST GUASTI ROAD
SUITE 1
ONTARIO, CA 91761
(909) 626-2282
www.geo-logic.com

REGISTERED PROFESSIONAL ENGINEER ROBERT DYER JOHNSON No. 60441 Exp. 12/31/19 CIVIL STATE OF CALIFORNIA

REPUBLIC SERVICES

SUNSHINE CANYON LANDFILL
14747 SAN FERNANDO ROAD
SYLMAR,CA. 91342

SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4

LINE D1 AND LINE D2 STORM DRAIN

DWG NO. 11

PROJECT NO. S018.1103

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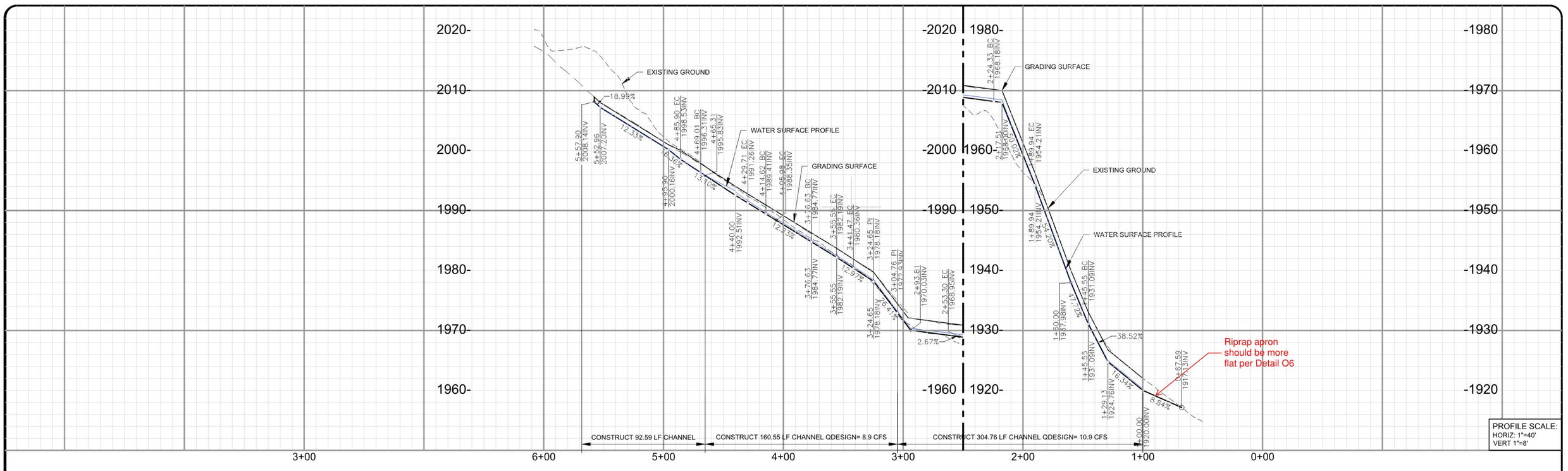

LINE AND CURVE DATA						
NUMBER	LENGTH	BEARING	RADIUS	TANGENT	BC	EC
L1	45.55	S61° 35' 44"W				
C1	44.39		50.00	23.78	1+45.55	1+89.94
L2	34.39	N67° 32' 28"W				
C2	28.97		22.50	16.89	2+24.33	2+53.30
L3	51.46	S38° 41' 09"W				
L4	19.89	S39° 31' 10"W				
L5	16.82	S36° 38' 37"W				
C3	14.07		87.50	7.05	3+41.47	3+55.55
L6	21.08	S27° 25' 46"W				
C4	29.35		42.50	15.29	3+76.63	4+05.98
L7	8.64	S12° 08' 33"E				
C5	15.09		47.50	7.61	4+14.62	4+29.71
L8	39.30	S6° 03' 36"W				
C6	16.89		50.00	8.52	4+69.01	4+85.90
L9	72.00	S13° 17' 22"E				

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2777 EAST GUASTI ROAD
SUITE 1
ONTARIO, CA 91761
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REGISTERED PROFESSIONAL ENGINEER ROBERT DYER JOHNSON Exp. 12/31/19 CIVIL STATE OF CALIFORNIA

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SUNSHINE CANYON LANDFILL
14747 SAN FERNANDO ROAD
SYLMAR,CA. 91342

SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4

LINE D3 STORM DRAIN

DWG NO. 12
PROJECT NO. S018.1103

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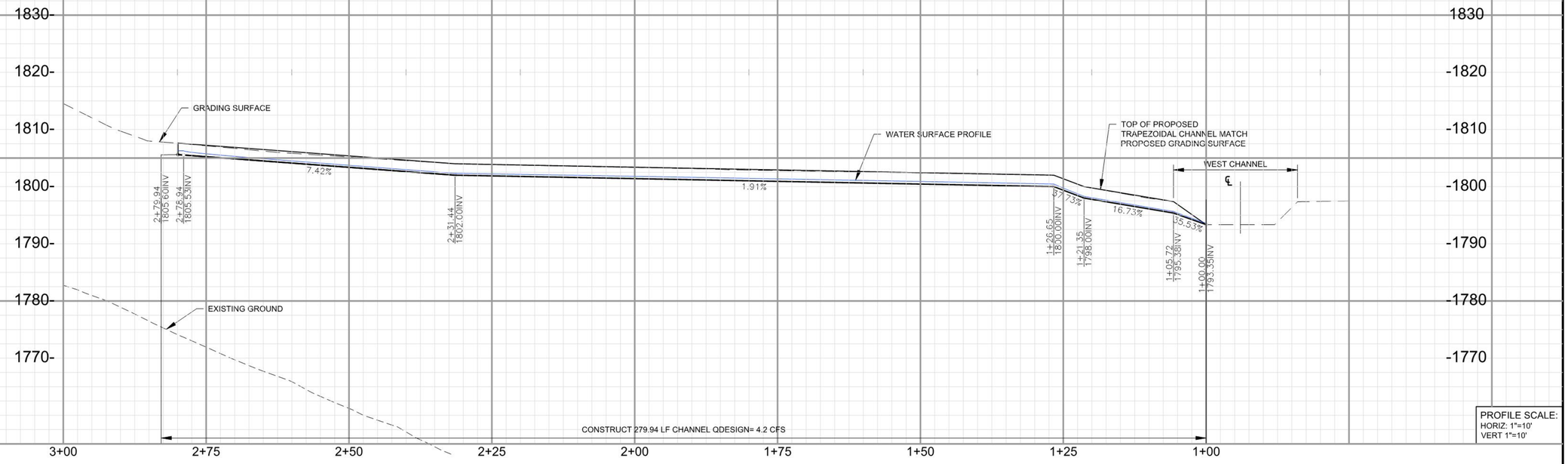
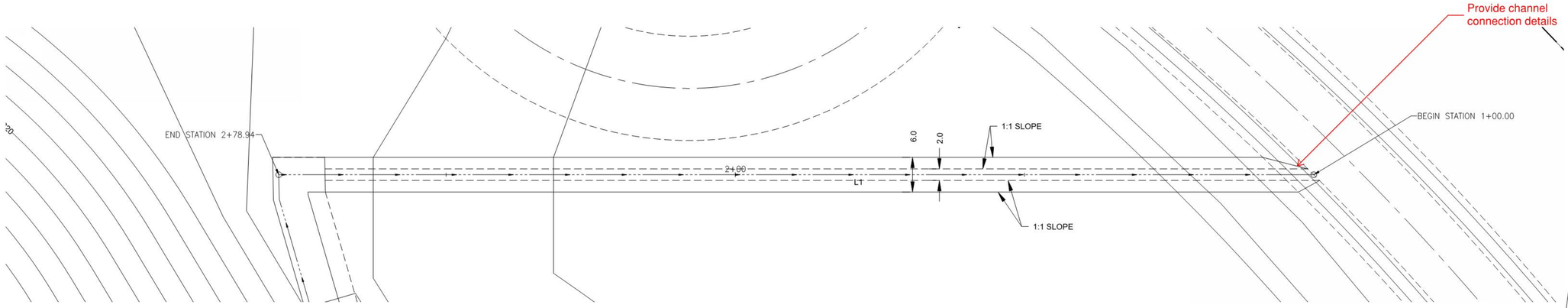


No WSPG calculations provided for this line



LINE AND CURVE DATA						
NUMBER	LENGTH	BEARING	RADIUS	TANGENT	BC	EC
L1	178.94	S89° 48' 40"W				

REV. NO.	DATE	DESCRIPTION	APPROVED BY
1	11/06/17	ADD 30' SPLASH WALL TO SOUTH CHANNEL ON STA: 18+69.54	ROBERT JOHNSON
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SUITE 1
ONTARIO, CA 91761
(909) 626-2282
www.geo-logic.com

REGISTERED PROFESSIONAL ENGINEER ROBERT DYER JOHNSON No. 56941 Exp. 12/31/19 CIVIL STATE OF CALIFORNIA

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SUNSHINE CANYON LANDFILL
14747 SAN FERNANDO ROAD
SYLMAR,CA. 91342

SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4

LINE B1 STORM DRAIN

DWG NO. 14

PROJECT NO. S018.1103

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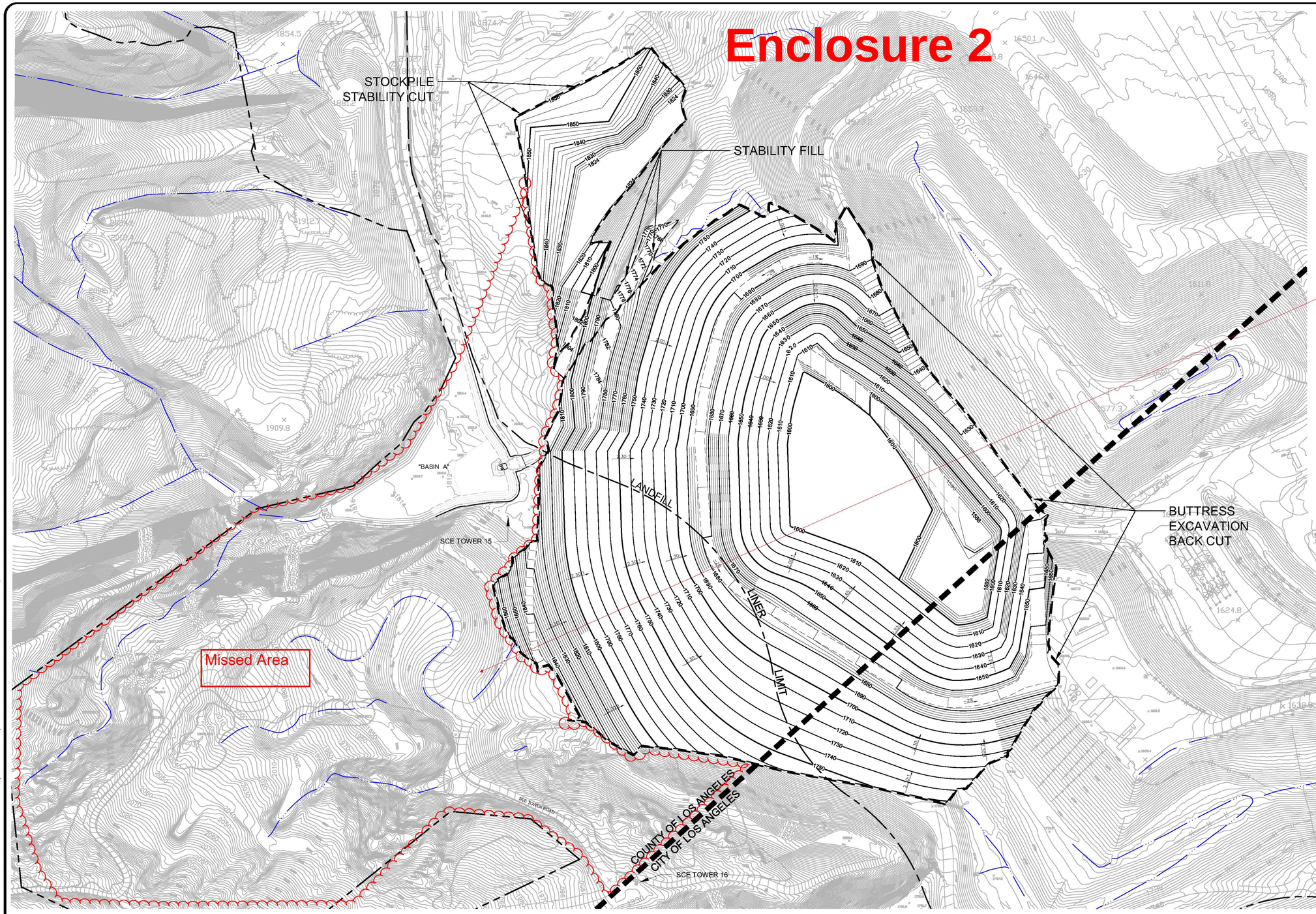
ENCLOSURE 2

BUILDING AND SAFETY DIVISION MARKUP PLANS COMMENTS

CC4 STABILITY BUTTRESS PROJECT

Enclosure 2



LEGEND:

- COUNTY LINE
- GRADING LIMIT DAYLIGHT/CONTACT LINE
- (100) EXISTING GROUND SURFACE CONTOUR EL, FEET
- 100 PROPOSED GROUND SURFACE CONTOUR EL, FEET
- REVISION / APPROVED GRADING LIMIT
- EXISTING DRAINAGE COURSE

N

100' 0' 50' 100' 200'

SCALE: 1" = 100'

P:\SITES\SUNSHINE CYN LF\STABILITY BUTTRESS CC4 - COUNTY - 2018\CLA DWG SETS\SO18.1103-SCL-S9-04A-EXCAV.DWG March 14, 2019 - 8:10 PM BY: CLA-USER

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1	11/06/17	ADD 30' SPLASH WALL TO SOUTH CHANNEL ON STA: 18+69.54	ROBERT JOHNSON
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Geo-Logic ASSOCIATES
2777 EAST GUASTI ROAD
SUITE 1
ONTARIO, CA 91761
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www.geo-logic.com

REGISTERED PROFESSIONAL ENGINEER
ROBERT DYER JOHNSON
12/31/19
CIVIL
STATE OF CALIFORNIA

REPUBLIC SERVICES

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14747 SAN FERNANDO ROAD
SYLMAR,CA. 91342

SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4

EXCAVATION PLAN

DWG NO. 4A

PROJECT NO. SO18.1103

RIP RAP PAD DESIGN				
PAD LETTER	UPSTREAM WIDTH ft	DOWNSTREAM WIDTH ft	LENGTH	RIP RAP D_{50}
"A"	4.5	18.5	28.0	300# GROUTED
"B"	4.5	16.5	24.0	300# GROUTED

LEGEND:

- COUNTY LINE
- GRADING LIMIT DAYLIGHT/CONTACT LINE
- (100) EXISTING GROUND SURFACE CONTOUR EL, FEET
- 100 PROPOSED GROUND SURFACE CONTOUR EL, FEET
- PROPOSED DRAINAGE COURSE
- REVISION / APPROVED GRADING LIMIT
- EXISTING DRAINAGE COURSE
- A/1 LETTER SECTION SHEET DETAIL LOCATION
- SPLASH WALL SEE DETAIL M ON SHEET 6

-Provide the data for Line B1 and Line C1 in which your determination was made not to include the splash walls at the end of these storm drain lines.

LINE AND CURVE DATA TABLE ℄				
NUMBER	LENGTH	BEARING/DELTA	RADIUS	TANGENT
C1	82.57	107° 31' 06"	44.00	60.03
C2	126.82	173° 00' 29"	42.00	687.50
C3	68.17	36° 51' 00"	106.00	35.31
C4	101.08	134° 41' 29"	43.00	103.03
C5	91.15	130° 33' 52"	40.00	86.90
C6	17.18	24° 36' 50"	40.00	8.73
C7	54.18	37° 51' 36"	82.00	28.12
C8	32.49	25° 09' 24"	74.00	16.51
C9	45.68	45° 07' 20"	58.00	24.10
C10	58.33	25° 30' 49"	131.00	29.66
C11	132.61	52° 45' 56"	144.00	71.43
C12	73.69	75° 23' 36"	56.00	43.28
C13	149.42	113° 23' 34"	75.50	114.92
C14	26.38	19° 30' 01"	77.50	13.32
C15	107.33	22° 59' 06"	267.55	54.40
C16	61.88	45° 44' 12"	77.52	32.69
L1	16.21	N34° 31' 49.79"E		
L2	158.11	S37° 57' 04.44"E		
L3	63.95	N30° 57' 33.86"W		
L4	74.63	N5° 53' 25.87"E		
L5	105.91	S39° 25' 05.41"E		
L6	93.25	N23° 15' 13.25"E		
L7	15.35	N32° 51' 22.67"E		
L8	4.27	S51° 13' 31.63"E		
L9	164.15	S5° 16' 28.21"W		
L10	15.04	S5° 16' 29.13"W		
L11	195.15	S76° 24' 20.60"E		
L12	143.54	N9° 47' 54.52"W		
L13	59.71	N51° 36' 33.19"W		

"BASIN A"
INSTALL 36"Ø CPP ROAD CROSSING CULVERT

LINE C1 SEE SHEET 10

LINE D1 SEE SHEET 11

LINE D2 SEE SHEET 11

LINE B1 SEE SHEET 14

LINE D3 SEE SHEET 12

LINE A4 SEE SHEET 13

LINE A2 SEE SHEET 9

LINE A3 SEE SHEET 9

LINE A1 SEE SHEET 8

6" THICK CONC PAD

SCE TOWER 15

SCE TOWER 16

PAD "A"

PAD "B"

GRADING LIMITS REVISION LINE

CONTACT LINE

TRANSITION

LANDFILL

WEST

LINER

DRAINAGE

CHANNEL

LIMIT

SCE TOWER ROAD

INSTALL 48"Ø CPP ROAD CROSSING CULVERT

2' HIGH SPLASH WALL L= 14'

Conflict

Clarify how the new extension of the SCE Tower Road goes over Line A1. See DWR NO. 8

COUNTY OF LOS ANGELES
CITY OF LOS ANGELES

N

60' 0' 30' 60' 120'

SCALE: 1" = 60'

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SUITE 1
ONTARIO, CA 91761
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REGISTERED PROFESSIONAL ENGINEER ROBERT DYER JOHNSON 12/31/19 CIVIL STATE OF CALIFORNIA

REPUBLIC SERVICES

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14747 SAN FERNANDO ROAD
SYLMAR,CA. 91342

SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4

PRECISE GRADING PLAN

DWG NO. 4B

PROJECT NO. S018.1103

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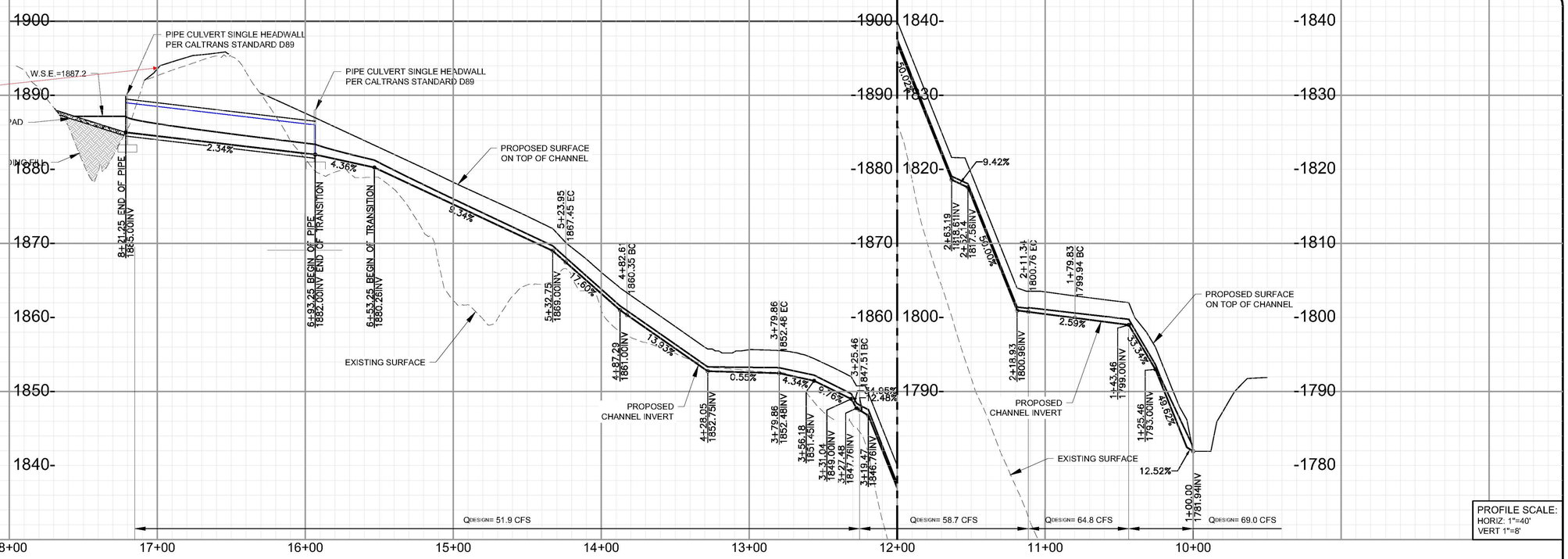
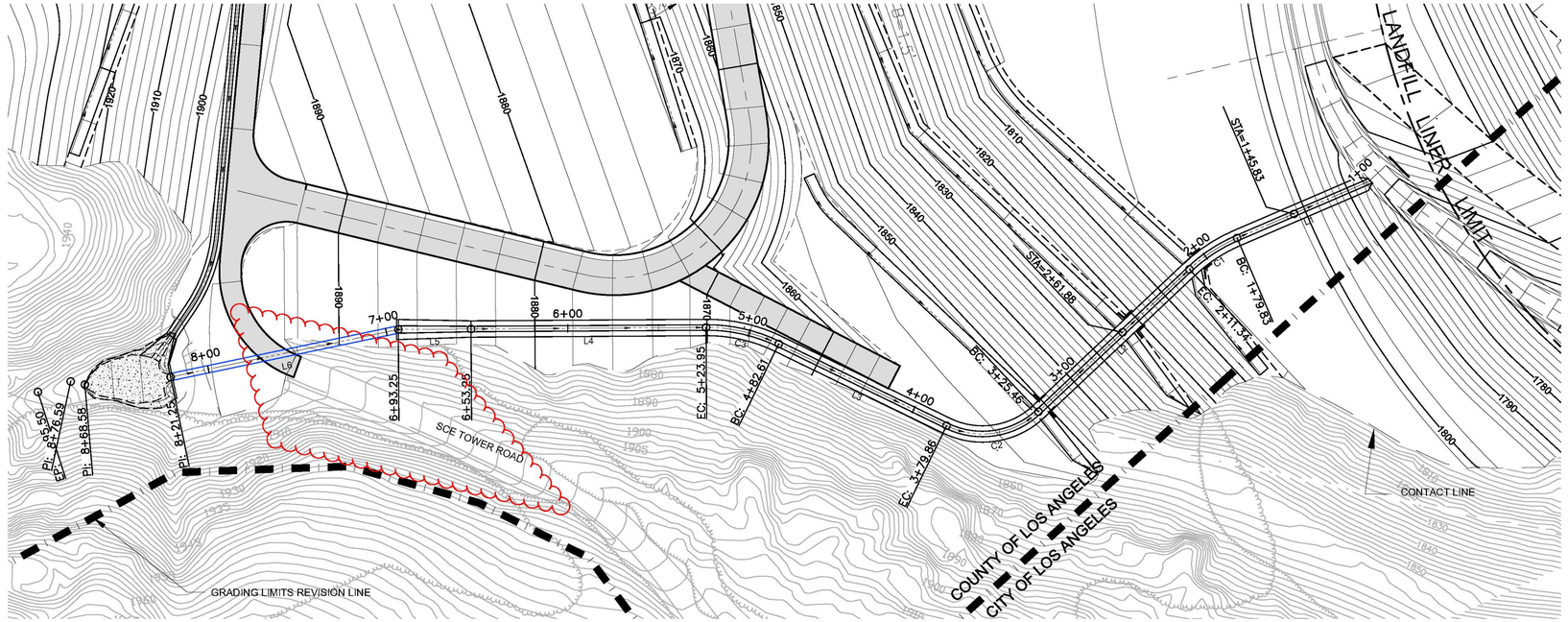
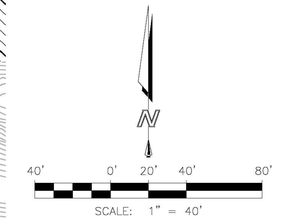
Clarify how the new extension of the SCE Tower Road goes over Line A1. See DWR NO. 8



PROFILE SCALE:
HORIZ: 1"=40'
VERT 1"=8'

LINE AND CURVE DATA						
NUMBER	LENGTH	BEARING	RADIUS	TANGENT	BC	EC
L1	79.83	S66° 44' 59"W				
C1	31.51		90.00	15.92	1+79.83	2+11.34
L2	114.13	S46° 41' 22"W				
C2	54.39		45.00	31.08	3+25.46	3+79.86
L3	102.75	N64° 03' 14"W				
C3	41.34		90.00	21.04	4+82.61	5+23.95
L4	129.30	S89° 37' 40"W				
L5	40.00	S89° 37' 40"W				
L6	128.00	S78° 11' 24"W				





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SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4

LINE A1 STORM DRAIN

DWG NO. 8

PROJECT NO. S018.1103

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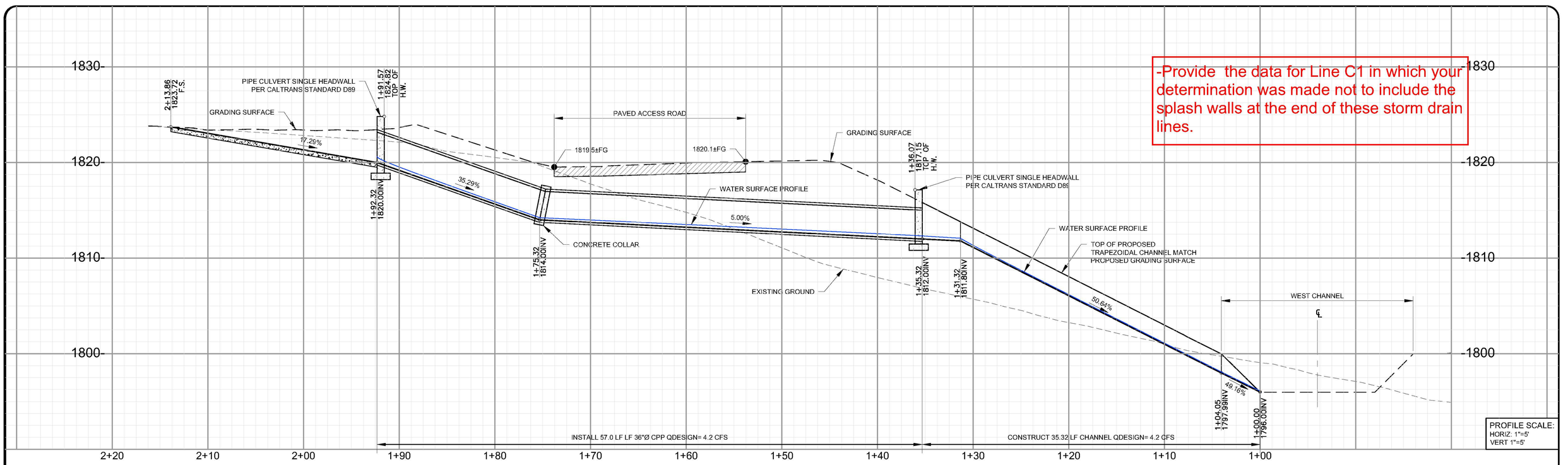
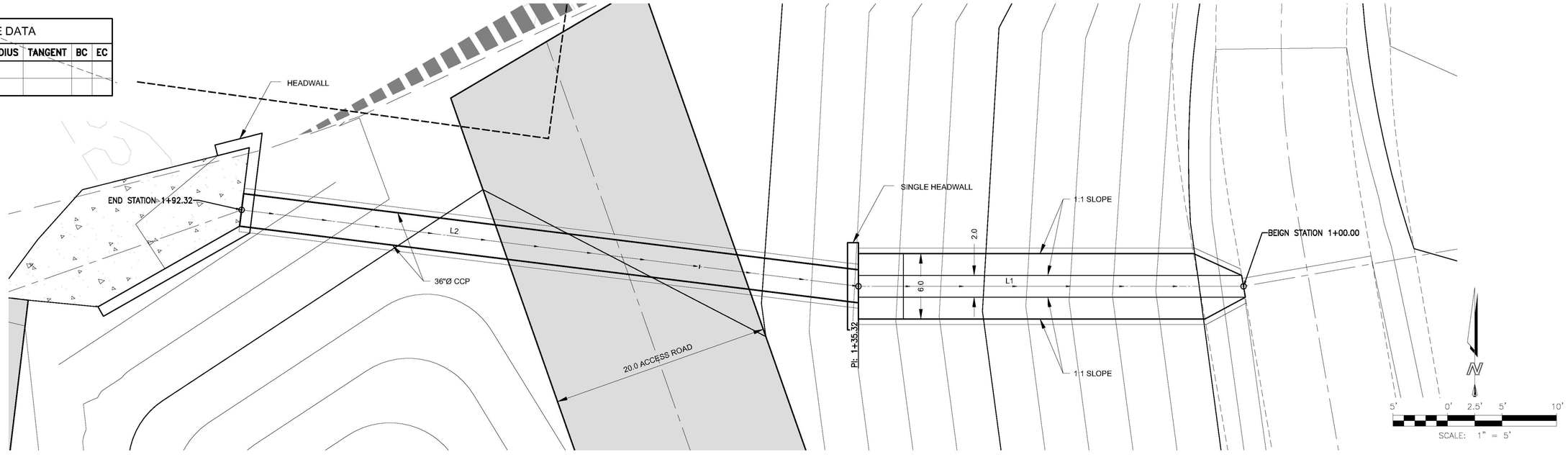
-Provide the data for Line C1 in which your determination was made not to include the splash walls at the end of these storm drain lines.



LINE A2

LINE AND CURVE DATA						
NUMBER	LENGTH	BEARING	RADIUS	TANGENT	BC	EC
L1	35.32	S31° 31' 41"W				
L2	57.00	S38° 35' 08"W				



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DRAWN BY: J AMAYA
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APPROVED BY: R JOHNSON

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Geo-Logic ASSOCIATES
2777 EAST GUASTI ROAD
SUITE 1
ONTARIO, CA 91761
(909) 626-2282
www.geo-logic.com

REGISTERED PROFESSIONAL ENGINEER ROBERT DYER JOHNSON No. C54641 12/31/19 CIVIL STATE OF CALIFORNIA

REPUBLIC SERVICES

SUNSHINE CANYON LANDFILL
14747 SAN FERNANDO ROAD
SYLMAR,CA. 91342

SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4

LINE C1 STORM DRAIN

DWG NO. 10
PROJECT NO. S018.1103

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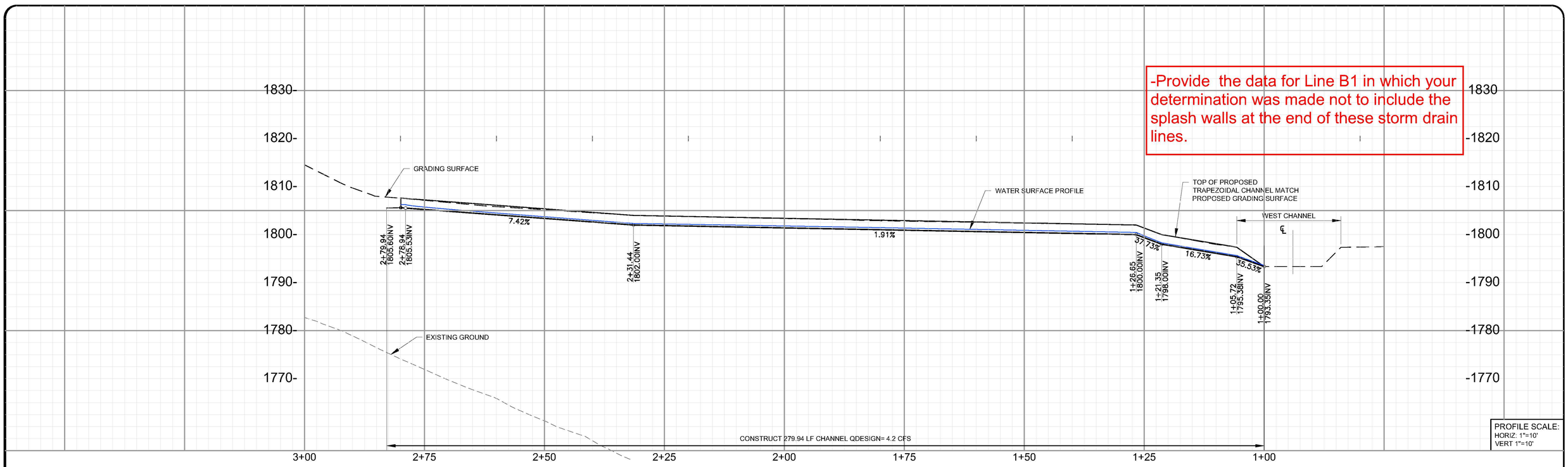
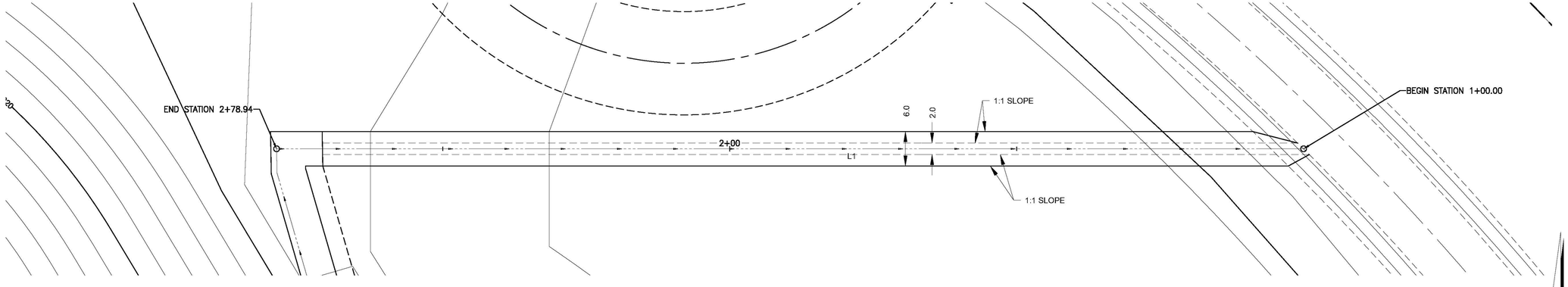
-Provide the data for Line B1 in which your determination was made not to include the splash walls at the end of these storm drain lines.





LINE AND CURVE DATA						
NUMBER	LENGTH	BEARING	RADIUS	TANGENT	BC	EC
L1	178.94	S89° 48' 40"W				

REV. NO.	DATE	DESCRIPTION	APPROVED BY
1	11/06/17	ADD 30' SPLASH WALL TO SOUTH CHANNEL ON STA: 18+69.54	ROBERT JOHNSON
2	12/08/17	ADD 30' SPLASH WALL TO SOUTH CHANNEL CURVES C3 & C6	ROBERT JOHNSON
3	01/31/18	ADDED DETAIL G TO SHEET 5	ROBERT JOHNSON
4	10/26/18	REVISED GRADING	ROBERT JOHNSON
5	02/07/19	COMMENTS FROM COUNTY OF LOS ANGELES	ROBERT JOHNSON

DATE OF ISSUE: MARCH 2019
DESIGNED BY: R JOHNSON
DRAWN BY: J AMAYA
CHECKED BY: R JOHNSON
APPROVED BY: R JOHNSON

DIGALERT 811

Geo-Logic ASSOCIATES
2777 EAST GUASTI ROAD
SUITE 1
ONTARIO, CA 91761
(909) 626-2282
www.geo-logic.com

REGISTERED PROFESSIONAL ENGINEER ROBERT DYER JOHNSON No. 12/31/19 CIVIL STATE OF CALIFORNIA

REPUBLIC SERVICES

SUNSHINE CANYON LANDFILL
14747 SAN FERNANDO ROAD
SYLMAR,CA. 91342

SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4

LINE B1 STORM DRAIN

DWG NO. 14

PROJECT NO. S018.1103

P:\SITES\SUNSHINE CYN LF\STABILITY BUTTRESS CC4 - COUNTY - 2018\GLA DWG SETS\S018.1103-SCL-39-14-PR.DWG March 14, 2019 - 8:32 PM BY: GLA-USER

Enclosure 3

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

MARK PESTRELLA, Director

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
http://dpw.lacounty.gov

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE
REFER TO FILE: EP-5

March 13, 2018

Mr. Chris Coyle, General Manager
Sunshine Canyon Landfill
14747 San Fernando Road
Sylmar, CA 91342-1021

Dear Mr. Coyle:

SUNSHINE CANYON CITY/COUNTY LANDFILL
CONDITIONAL USE PERMIT NO. 00-194-(5)
CELL CC-4 STABILITY BUTTRESS GRADING AND DRAINAGE PROJECT

We have completed our review of your request for approval of grading and drainage for the Cell CC-4 Stability Buttress Project (Project) at the Sunshine Canyon Landfill (Landfill) for compliance with Conditions 37 and 38 of the Conditional Use Permit No. 00-194-(5). The Project involves the construction of a stability buttress and associated excavation, which will construct a foundation for the Landfill liner, perimeter drainage channel, and related containment systems. The Project will also require grading inside the Landfill's grading limits as shown in the Drainage & Grading Limits Plans – Revision Number 4 approved by the Los Angeles County Department of Public Works
(Public Works) dated February 1, 2018, for the Revision of Grading Limits and Survey Monuments for the Sunshine Canyon Landfill. The documents reviewed in support of your request are listed in Enclosure A.

The reports and accompanied drawings meet our requirements for grading and drainage and are hereby <u>conditionally</u> approved. The conditions associated with this approval are specified in Enclosure B and describe that the mass excavation plan is conditionally approved and filling activities are conceptually approved pending the approval of the final mass excavation configuration. Please note that this conditional and conceptual approval is for mass excavation and filling activities respectively, associated with Cell CC-4 Stability Buttress only, which is within the approved Landfill

boundary as shown in Exhibit A-2 of the Conditional Use Permit No. 00-194-(5) dated December 5, 2017.

As described in Enclosure B – Sunshine Canyon Landfill Cell CC-4 Stability Buttress Required Conditions of Approval and Comments, Sunshine Canyon Landfill is required to meet the respective requirements prior to receiving the conceptual approval. In order for us to expedite the review of subsequent submittals, please provide a project schedule timeline, which includes estimated dates of commencement of each phase of this project, to this office within 30 days of the date of this letter. Also, provide routine monthly progress reports for the duration of the project. All documents and reports required by the conditions of approval shall be submitted digitally as well as to the following address:

County of Los Angeles
Department of Public Works
Environmental Programs Division
P.O. Box 1460
Alhambra, CA 91802-1460
Attention: Martins Aiyetiwa, Landfills Section

Additionally, any deviation from the information submitted, presented and/or proposed for the Cell CC-4 Stability Buttress Project will require updated plans, reports, and supporting information to be submitted to this office for prior review and approval.

Failure to comply with any of the requirements of this conditional approval letter may constitute a violation of the Conditional Use Permit No. 00-194-(5) and be subject to the penalty provision described in Condition No. 11 of the Conditional Use Permit No. 00-194-(5).

This approval and its requirements does not exempt Republic Services from the responsibility of complying with any other laws, regulations or requirements enforced by the Los Angeles Regional Water Quality Control Board or other regulatory agencies.

For questions or inquiries, please contact Mr. Martin Aiyetiwa at (626) 458-3553, Monday through Thursday, 7 a.m. to 5:30 p.m.

Very truly yours,

MARK PESTRELLA
Director of Public Works

PHIL K. DOUDAR
Assistant Deputy Director
Environmental Programs Division

VT:jl
P:\Sec\DPW Conditional Approval Letter for CC 4 Stability Buttress Project.doc

Enc.

cc: City of Los Angeles Planning Department (Ly Lam, Nicholas Hendrix)
Department of Regional Planning (Maria Masis, Tim Stapleton)
Sunshine Canyon Landfill – Local Enforcement Agency (David Thompson, Maurice Pantoja, Dorcas Hanson-Lugo)
Los Angeles Regional Water Quality Control Board (Wen Yang)

Enclosure A

Sunshine Canyon Landfill Cell CC-4 Stability Buttress
Documents Reviewed in Support of Republic Services Request

- Geotechnical Report for Cell CC-4 Subgrade Slope Stability for Sunshine Canyon City/County Landfill, prepared by Geo-Logic Associates, dated March 5, 2015
- Response to Comments for Addendum to Geotechnical Report for Sunshine Canyon City/County Landfill Cell CC-4 Subgrade Slope Stability, prepared by Geo-Logic Associates, and dated April 4, 2016 (submitted April 7, 2016)
- Revised Sunshine Canyon Landfill CC-4 Stability Buttress Excavation and Fill Plans (Mass Excavation Plan; Phase I Fill Plan; Phase 2 Fill Plan; and Phase 3 (Final) Fill Plan) for Sunshine Canyon City/County Landfill CC-4 Stability Buttress Project, prepared by Geo-Logic Associates, and dated April 4, 2016 (submitted April 7, 2016)
- Response to Comments (only addressing Geotechnical and Materials Engineering Division's Comments) for Sunshine Canyon City/County Landfill CC-4 Stability Buttress Project, prepared by Geo-Logic Associates, and dated July 10, 2016 (submitted July 11, 2016)
- Storm Hydrology Design Report for Sunshine Canyon City/County Landfill CC-4 Stability Buttress Project, prepared by Geo-Logic Associates, dated August 24, 2016 (re-submitted December 28, 2017)
- Hydraulic Calculations for Sunshine Canyon City/County Landfill CC-4 Stability Buttress Project, prepared by Geo-Logic Associates, dated August 5, 2016 and July 21, 2016 (re-submitted December 28, 2017)
- Revised Water Surface Profile Gradient (WSPG) Input Model and WSPG Output File for Sunshine Canyon City/County Landfill CC-4 Stability Buttress Project, prepared by Geo-Logic Associates, dated December 1, 2017 (re-submitted December 28, 2017)
- Revised Soils and Geotechnical Report for Sunshine Canyon City/County Landfill CC-4 Stability Buttress Project, prepared by Geo-Logic Associates, dated December 22, 2017 (re-submitted December 28, 2017)
- Revised CC-4 Stability Buttress Grading and Drainage Plans (9 sheets) for Sunshine Canyon City/County Landfill CC-4 Stability Buttress Project, prepared by Geo-Logic Associates, dated December 8, 2017 (re-submitted December 28, 2017 and January 31, 2018)

* NOTE: Document submittal dates referenced denote most recent submittal dates of information provided by Republic Services to Public Works. Intermittent submittal and re-submittals occurred throughout review process.

Enclosure B

Sunshine Canyon Landfill Cell CC-4 Stability Buttress
Required Conditions of Approval and Comments

Geotechnical Materials and Engineering Division

1. Geotechnical Materials and Engineering Division (GMED) takes no exception with the geotechnical reports submitted to date for Cell CC-4, referenced above.
2. GMED recommends approval of the Mass Excavation Plan from a geotechnical standpoint with the following conditions of approval:
   a) Provide an as-graded survey of the completed mass excavation grading.
   b) Provide a geologic/geotechnical sub-grade map that utilizes the as-graded survey in (2a).

   The final geologic map shall include all geologic data collected prior to and during the grading of the site, including geologic information obtained from inspections of excavations. The map shall also depict sufficient geologic symbols to clearly depict the geologic units and structure, and seeps or springs, if encountered.
3. GMED recommends conceptual approval of the [Stability Buttress] Phase 1 Fill Plan when the conditions of approval for the Mass Excavation have been met.
4. GMED recommends conceptual approval of the [Stability Buttress] Phase 2 Fill Plan. Approval will be recommended when conditions of approval for the Mass Excavation and Phase 1 Fill Plans have been met.
5. GMED recommends conceptual approval of the temporary West Drainage Channel. Approval will be recommended when conditions of approval for the Mass Excavation and Phase 1-3 Fill Plans have been met.
6. Based on the as-graded survey for the Mass Excavation Plan, provide final design plans for the Phase 1-3 Fill Plans within two months of completion.

** NOTE: a) This review does not constitute a review or approval of the following projects: revised grading limits, the proposed West Drainage Channel "Line C", or grading associated with the Pole Realignment Project for Pole 15.

b) The plans submitted for the subject review, entitled Stability Buttress for CC-4, and referenced above, appear to be the precise grading plans with focus on surface drainage improvements for the cut slope above the stability buttress.

Enclosure 4

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

MARK PESTRELLA, Director

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
http://dpw.lacounty.gov

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE
REFER TO FILE: EP-5

December 17, 2018

Mr. Chris Coyle, General Manager
Sunshine Canyon Landfill
Republic Services, Inc.
14747 San Fernando Road
Sylmar, CA 91342-1021

Dear Mr. Coyle:

SUNSHINE CANYON CITY/COUNTY LANDFILL
CONDITIONAL USE PERMIT NO. 00-194-(5)
CELL CC-4 DEVELOPMENT GRADING AND DRAINAGE REQUIREMENTS

We have reviewed the following documents submitted by Republic Services to Public Works on October 30, 2018, for the design change of CC-4 Stability Buttress Grading and Drainage project:

- Addendum to cell CC-4 Subgrade Slope Stability dated October 25, 2018 (93 pages).
- Storm Hydrology design and Hydraulic calculations dated October 2018 (81 pages).
- Excavation and Precise Grading Plans dated October 2018 (9 sheets).

Listed below are Public Works' comments on the submittal:

A. Geotechnical and Materials Engineering Division (GMED)

1. GMED takes no exception with the addendum geotechnical report submitted for Cell CC-4, referenced above.

2. Prior to filling, verify whether Phased Fill Plans will be required at completion of Mass Excavation. It appears that at least Phase 1 and 2 Fill Plans, per April 2016 plan, may still be required. Provide revised Phased Fill Plans, as necessary.

3. As previously stated, GMED recommends approval of the Mass Excavation Plan from a geotechnical standpoint with the following conditions of approval:

   a) Provide an as-graded survey of the completed mass excavation grading.

   b) Provide a geologic/geotechnical sub-grade map that utilizes the as-graded survey in 3a. The final geologic map shall include all geologic data collected prior to and during the grading of the site including geologic information obtained from inspections of excavations. The map shall also depict sufficient geologic symbols to clearly depict the geologic units and structure and seeps or springs, if encountered.

4. Based on the as-graded survey for the Mass Excavation Plan, provide final design plans for the Phased Fill Plans within two months of completion.

   NOTE:

   a) This review does not constitute a review or approval of the following projects: revised grading limits, the proposed West Drainage Channel "Line C", or grading associated with the Pole Realignment Project for Pole 15.

   b) The plans submitted for the subject review entitled Stability Buttress for CC-4, and referenced above, appear to be the precise grading plans with focus on surface drainage improvements for the cut slope above the stability buttress.

<u>B. Stormwater Engineering Division (SWD)</u>

1. The flow rates from the MODRAT calculations are incorrectly rounded on the drainage map. It appears the incorrectly rounded values are then used as inputs into the hydraulic calculations and WSPG.

2. The Hydraulic calculations use an N-value of 0.013 while the WSPG model uses an N-Value of 0.014. Please keep N-value consistent throughout.

3. It is recommended showing/labeling the receiving drainage structure(s) at the outlets of the laterals from the CC-4 sub-watershed.

4. The Design Q's used in the hydraulic calculations and in WSPG are inconsistent with the values shown on the drainage map. Please revise Line D1, as needed.

5. The expedite reviews, please provide calculations demonstrating how Design Q's are derived.

6. Provide the "Peak Burned Flowrate Summary" table.

C. Design Division (DD)

1. It was not able to adequately check the WSPG runs provided in the Hydraulic Report due to insufficient information provided. The only plan and profile shown on the plans was for Line A1. A plan and profile for each drain line with stationing and elevations shall be provided as well as the WSPG input files.

2. Line A1 (South channel) – the plan and profile shown on sheet 8 does not correspond to the stations, elevations, and flow rates called out on the WSPG output program. Provide a detail of the upstream concrete pad including dimensions, reinforcement, channel connection, and how water is collected and channeled into the section.

3. Line A2 – the plans identify this section as E5, but at a 3.4:1 slope, an anchored section is required. Alignment data was not provided, but based on the WSPG run, there is insufficient freeboard from Sta. 27 to 46. Provide calculations to show that Pad "A" will adequately dissipate the flow velocity of 23 fps to a non-scouring rate. Provide a detail of the upstream concrete pad including dimensions, reinforcement, channel connection, and how water is collected and channeled into the section.

4. Line A3 – the downstream section H5 is not adequately conveying the flows and needs to be upsized. The super elevation depth is overtopping the 8 feet height of the section. Based on the plans, the transition from Section A5 to H5 should occur at the junction (Sta. 139) but is shown on the WSPG run as occurring at Sta. 116. Provide a detail of the upstream concrete pad including dimensions, reinforcement, channel connection, and how water is collected and channeled into the section.

5. Line D1 – Alignment data was not provided, but based on the WSPG run, a transition is missing from section B5 to C5. A junction downstream of section C5

is not shown on the plans. Provide calculations to show that Pad "B" will adequately dissipate the flow velocity of 19 fps to a non-scouring rate.

6. See the attached markup file "DESIGN MARKUP PLANS - CC4 STABILITY BUTTRESS - EXCAVATION AND GRADING PLANS 10.2018" for the DD's comments.

D. Building and Safety Division (BSD)

1. Refer to the attached file "BUILDING AND SAFETY MARKUP PLANS – CC4 STABILITY BUTTRESS – EXCAVATION AND GRADING PLANS 10.2018" for the BSD's comments.

If you have any questions, please contact Dave Nguyen at (626) 458-5189, Monday through Thursday, 7 a.m. to 5:30 p.m.

Very truly yours,

MARK PESTRELLA
Director of Public Works

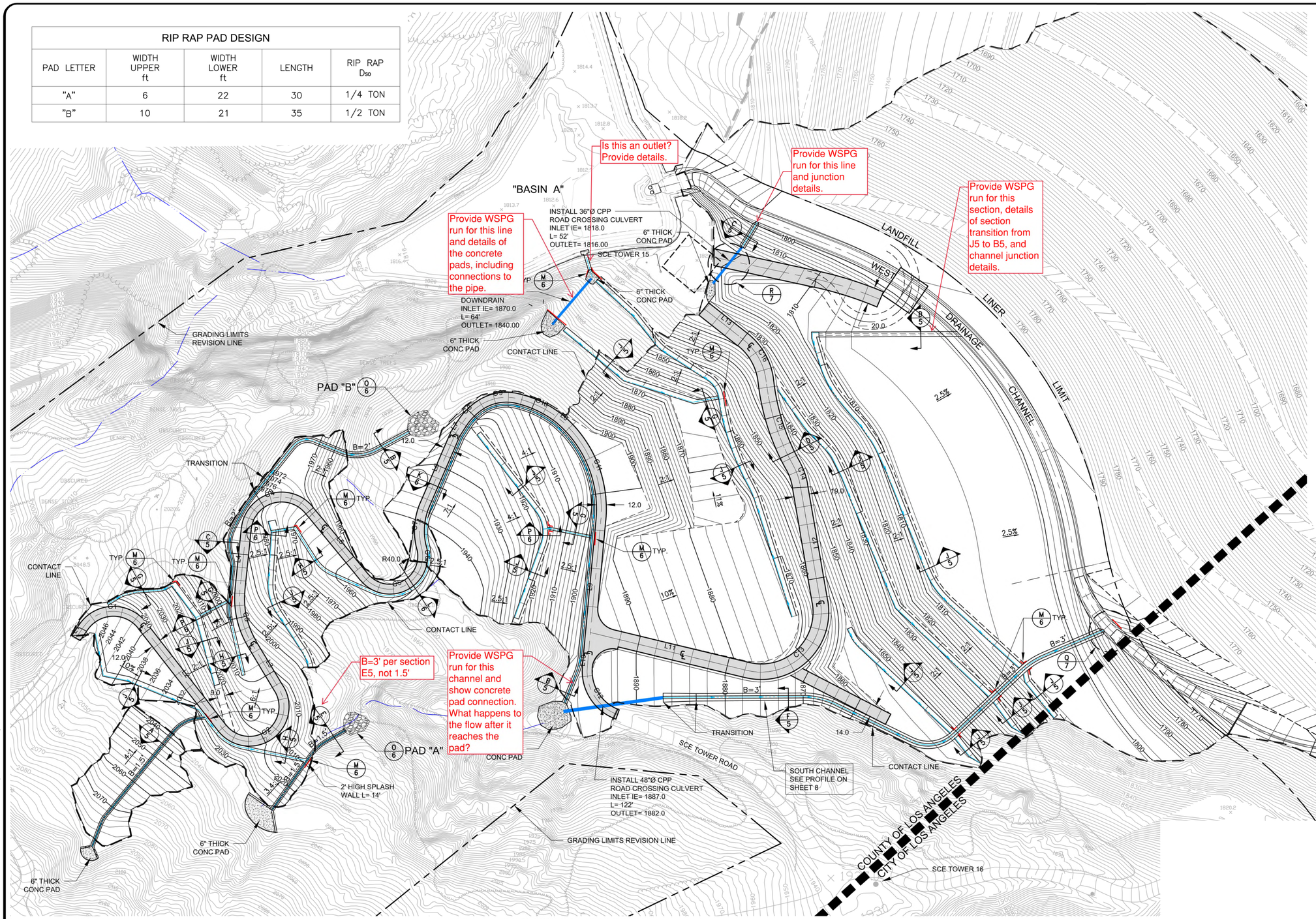
CARLOS RUIZ
Principal Engineer
Environmental Programs Division

VT:jl
P:\Sec\Cell CC-4 Development Grading Drainage Requirements Comment Letter (December 2018).docx

Enc.

cc: City of Los Angeles Planning Department (Tiffany Butler, Nicholas Hendrix)
Department of Regional Planning (Maria Masis, Tim Stapleton)
Sunshine Canyon Landfill — Local Enforcement Agency (David Thompson, Shikari Nakagawa-Ota, Dorcas Hanson-Lugo)
Los Angeles Regional Water Quality Control Board (Wen Yang)

RIP RAP PAD DESIGN				
PAD LETTER	WIDTH UPPER ft	WIDTH LOWER ft	LENGTH	RIP RAP D_{50}
"A"	6	22	30	1/4 TON
"B"	10	21	35	1/2 TON



LEGEND:

- COUNTY LINE
- GRADING LIMIT DAYLIGHT/CONTACT LINE
- (100) EXISTING GROUND SURFACE CONTOUR EL, FEET
- 100 PROPOSED GROUND SURFACE CONTOUR EL, FEET
- PROPOSED DRAINAGE COURSE
- REVISION / APPROVED GRADING LIMIT
- EXISTING DRAINAGE COURSE
- A/1 LETTER SECTION SHEET DETAIL LOCATION
- SPLASH WALL SEE DETAIL M ON SHEET 6

LINE AND CURVE DATA TABLE ℄				
NUMBER	LENGTH	BEARING/DELTA	RADIUS	TANGENT
C1	82.57	107° 31' 06"	44.00	60.03
C2	126.82	173° 00' 29"	42.00	687.50
C3	68.17	36° 51' 00"	106.00	35.31
C4	101.08	134° 41' 29"	43.00	103.03
C5	91.15	130° 33' 52"	40.00	86.90
C6	17.18	24° 36' 50"	40.00	8.73
C7	54.18	37° 51' 36"	82.00	28.12
C8	32.49	25° 09' 24"	74.00	16.51
C9	45.68	45° 07' 20"	58.00	24.10
C10	58.33	25° 30' 49"	131.00	29.66
C11	132.61	52° 45' 56"	144.00	71.43
C12	73.69	75° 23' 36"	56.00	43.28
C13	144.47	113° 23' 34"	73.00	111.12
C14	25.53	19° 30' 01"	75.00	12.89
C15	108.33	22° 59' 20"	270.00	54.91
C16	59.29	45° 17' 32"	75.00	31.29
L1	16.21	N34° 31' 49.79"E		
L2	158.11	S37° 57' 04.44"E		
L3	63.95	N30° 57' 33.86"W		
L4	74.63	N5° 53' 25.87"E		
L5	105.91	S39° 25' 05.41"E		
L6	93.25	N23° 15' 13.25"E		
L7	15.35	N32° 51' 22.67"E		
L8	4.27	S51° 13' 31.63"E		
L9	164.15	S5° 16' 28.21"W		
L10	15.04	S5° 16' 29.13"W		
L11	195.51	S76° 24' 20.60"E		
L12	143.54	N9° 47' 54.52"W		
L13	60.32	N51° 36' 33.19"W		

N

60' 0' 30' 60' 120'

SCALE: 1" = 60'

REV. NO.	DATE	DESCRIPTION	APPROVED BY
1	11/06/17	ADD 30' SPLASH WALL TO SOUTH CHANNEL ON STA: 18+69.54	ROBERT JOHNSON
2	12/08/17	ADD 30' SPLASH WALL TO SOUTH CHANNEL CURVES C3 & C6	ROBERT JOHNSON
3	01/31/18	ADDED DETAIL G TO SHEET 5	ROBERT JOHNSON
4	10/26/18	REVISED GRADING	ROBERT JOHNSON

DATE OF ISSUE: OCTOBER 2018
DESIGNED BY: R JOHNSON
DRAWN BY: J AMAYA
CHECKED BY: R JOHNSON
APPROVED BY: R JOHNSON

DIG ALERT 811

Geo-Logic ASSOCIATES
2777 EAST GUASTI ROAD
SUITE 1
ONTARIO, CA 91761
(909) 626-2282
www.geo-logic.com

REGISTERED PROFESSIONAL ENGINEER
ROBERT DYER JOHNSON
C 39641
EXP. 12-31-19
CIVIL
STATE OF CALIFORNIA

REPUBLIC SERVICES

SUNSHINE CANYON LANDFILL
14747 SAN FERNANDO ROAD
SYLMAR,CA. 91342

SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4

PRECISE GRADING PLAN

DWG NO. 4B
PROJECT NO. S018.1103

P:\SITES\SUNSHINE CYN LF\STABILITY BUTTRESS CC4 - COUNTY - 2018\GA DWG SETS\S018.1103-SCL-SB-04B-P0.DWG October 26, 2018 - 12:15 PM BY: GLA-USER

LOS ANGELES COUNTY GRADING GUIDELINES - JANUARY 2008

SECTION J109 DRAINAGE AND TERRACING

J109.1 General. Unless otherwise recommended by a Civil Engineer and approved by the Building Official, drainage facilities and terracing shall be provided in accordance with the requirements of Section J109.2 for all cut and fill slopes steeper than 3 units horizontal to 1 unit vertical (33 percent slope).

For slopes flatter than 3 units horizontal to 1 unit vertical (33 percent slope) and steeper than 5 units horizontal to 1 unit vertical (20 percent slope) a paved swale or ditch shall be installed at 30 foot (9.1 m) vertical intervals to control surface drainage and debris. Swales shall be sized based on contributory area and have adequate capacity to convey intercepted waters to the point of disposal as defined in Section J109.5. Swales must be paved with reinforced concrete not less than 3 inches (0.08 m) in thickness, reinforced with 6-inch (0.2 m) by 6-inch (0.2 m) No.10 by No.10 welded wire fabric or equivalent reinforcing centered in the concrete slab or an equivalent approved by the Building Official. Swales must have a minimum flow line depth of 1 foot (0.3 m) and a minimum paved width of 18 inches (0.5 m). Swales shall have a minimum gradient of not less than 5 percent. There shall be no reduction in grade along the direction of flow unless the velocity of flow is such that slope debris will remain in suspension on the reduced grade.

J109.2 Drainage Terraces. Drainage terraces at least 8 feet (2.4 m) in width shall be established at not more than 30 foot (9.1 m) vertical intervals on all cut or fill slopes to control surface drainage and debris. When only one terrace is required, it shall be at midheight. For cut or fill slopes greater than 100 feet (30.5 m) and up to 120 feet (36.6 m) in vertical height, one terrace at approximately midheight shall be 20 feet (6.1 m) in width. Terrace widths and spacing for cut and fill slopes greater than 120 feet (36.6 m) in height shall be designed by the Civil Engineer and approved by the Building Official. Suitable access shall be provided to permit proper cleaning and maintenance.

Drainage swales on terraces shall have a longitudinal grade of not less than 5 percent nor more than 12 percent and a minimum depth of 1 foot (0.3 m) at the flow line. There shall be no reduction in grade along the direction of flow unless the velocity of flow is such that slope debris will remain in suspension on the reduced grade. Drainage swales must be paved with reinforced concrete not less than 3 inches (0.08 m) in thickness, reinforced with 6-inch (0.2 m) by 6-inch (0.2 m) No. 10 by No. 10 welded wire fabric or equivalent reinforcing centered in the concrete slab or an approved equal paving. Drainage swales shall have a minimum depth at the deepest point of 1 foot (0.3 m) and a minimum paved width of 5 feet (1.5 m). Drainage terraces exceeding 8 feet (2.4 m) in width need only be so paved for a width of 8 feet (2.4 m) provided such pavement provides a paved swale at least 1 foot (0.3 m) in depth. Downdrains or drainage outlets shall be provided at approximately 300-foot (91.4 m) intervals along the drainage terrace or at equivalent locations. Downdrains and drainage outlets shall be of approved materials and of adequate capacity to convey the intercepted waters to the point of disposal as defined in Section J109.5.

J109.3 Interceptor drains and overflow protection. Berms, interceptor drains, swales or other devices shall be provided at the top of cut or fill slopes to prevent surface waters from overflowing onto and damaging the face of a slope. Berms used for slope protection shall not be less than 12 inches (3.0 m) above the level of the pad and shall slope back at least 4 feet (1.2 m) from the top of the slope.

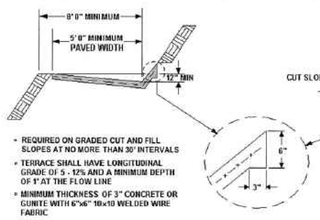
Interceptor drains shall be installed along the top of graded slopes greater than 5 feet in height receiving drainage from a slope with a tributary width greater than 30 feet (9.1 m) measured horizontally. They shall have a minimum depth of 1 foot (0.3 m) and a minimum width of 3 feet (0.9 m). The slope shall be approved by the Building Official, but shall not be less than 50 units horizontal to 1 unit vertical (2 percent). The drain shall be paved with concrete not less than 3 inches (0.08 m) in thickness, or by other materials suitable to the application and reinforced as required for drainage terraces. Discharge from the drain shall be accomplished in a manner to prevent erosion and shall be approved by the Building Official.

J109.4 Drainage across property lines. Drainage across property lines shall not exceed that which existed prior to grading. Excess or concentrated drainage shall be contained on site or directed to an approved drainage facility. Erosion of the ground in the area of discharge shall be prevented by installation of nonerosive down drains or other devices.

J109.5 Disposal. All drainage facilities shall be designed to convey waters to the nearest practicable street, storm drain, or natural watercourse or drainage way approved by the Building Official or other appropriate governmental agency provided that the discharge of such waters at that location will not create or increase a hazard to life or property. Erosion of the ground in the area of discharge shall be prevented by installation of non-erosive down drains or other devices. Desilting basins, filter barriers or other methods, as approved by the Building Official, shall be utilized to remove sediments from surface waters before such waters are allowed to enter streets, storm drains, or natural watercourses. If the drainage device discharges onto natural ground, riprap or a similar energy dissipator may be required.

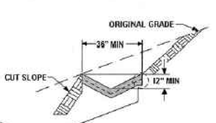
Building pads shall have a minimum drainage gradient of 2 percent toward an approved drainage facility or a public street unless otherwise directed by the Building Official. A lesser slope may be approved by the Building Official for sites graded in relatively flat terrain, or where special drainage provisions are made, when the Building Official finds such modification will not result in a hazard to life or property.

DRAINAGE TERRACE



- REQUIRED ON GRADED CUT AND FILL SLOPES AT NO MORE THAN 30' INTERVALS
- TERRACE SHALL HAVE LONGITUDINAL GRADE OF 5 - 12% AND A MINIMUM DEPTH OF 1' AT THE FLOW LINE
- MINIMUM THICKNESS OF 3" CONCRETE OR GUNITE WITH 6"x6" 10x10 WELDED WIRE FABRIC

TOP OF SLOPE SWALE

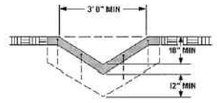


- REQUIRED FOR ALL SLOPES WITH A VERTICAL HEIGHT GREATER THAN 5'
- MINIMUM THICKNESS OF 3" CONCRETE OR GUNITE WITH 6"x6" 10x10 WELDED WIRE FABRIC

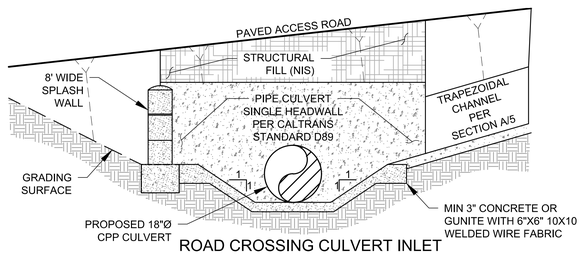
CONVEYANCE DEVICE

- DEVICE INTENDED TO CONDUCT TERRACE DRAINAGE TO THE STREET OR APPROVED DRAINAGE SYSTEM
- CAPACITY SHOULD BE ADEQUATE TO HANDLE ANTICIPATED FLOW AND MUST BE CHECKED BY THE DESIGNING CIVIL ENGINEER
- MINIMUM THICKNESS OF 3" CONCRETE OR GUNITE WITH 6"x6" 10x10 WELDED WIRE FABRIC

DOWN DRAIN AND ANCHOR



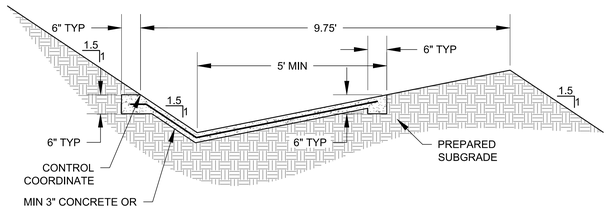
- DOWN DRAIN ANCHORS TO BE CONSTRUCTED EVERY 16' OF VERTICAL HEIGHT
- MINIMUM THICKNESS OF 3" CONCRETE OR GUNITE
- SUGGESTED MINIMUM REINFORCING: #3 BARS AS SHOWN WITH #3 TIE BARS 4' O.C. ANCHOR DOWEL TO BE TIED TO LONGITUDINAL BARS OR 6"x6" 10x10 WWF



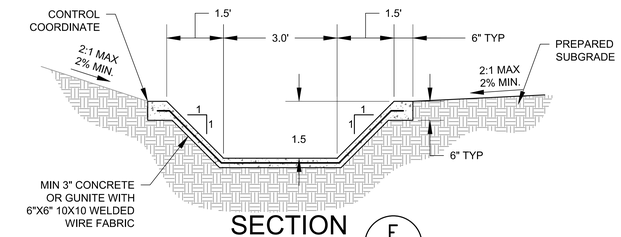
ROAD CROSSING CULVERT INLET

SECTION I / 5 — 1" = 2'

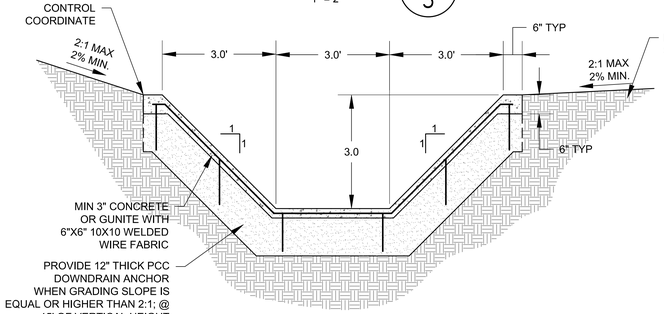
This section is no longer applicable



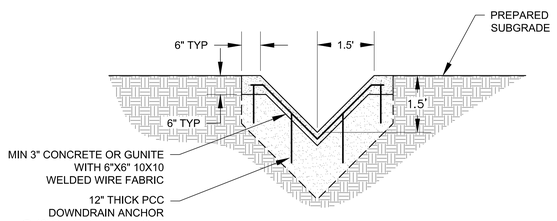
SECTION J / 5 — 1" = 2'



SECTION E / 5 — 1" = 2'

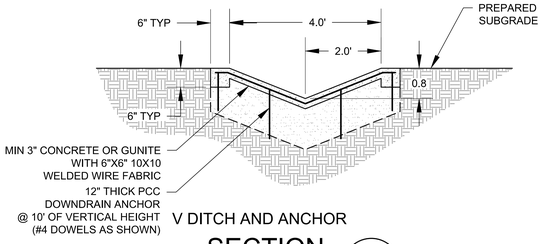


SECTION F / 5 — 1" = 2'



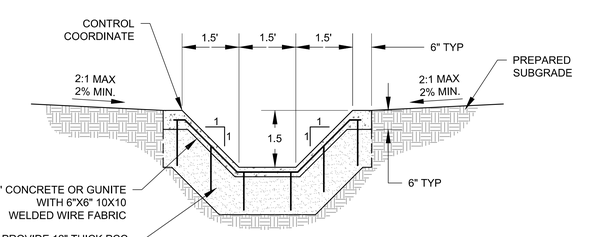
DOWNDRAIN AND ANCHOR

SECTION G / 5 — 1" = 2'

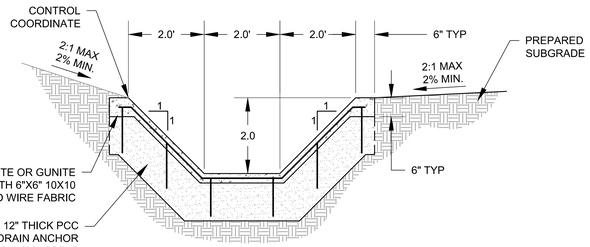


V DITCH AND ANCHOR

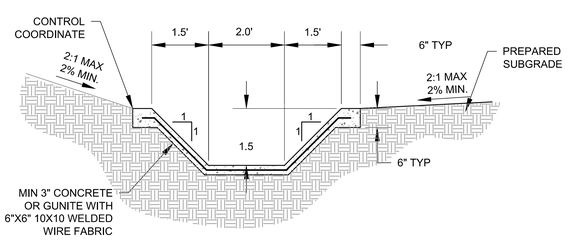
SECTION H / 5 — 1" = 2'



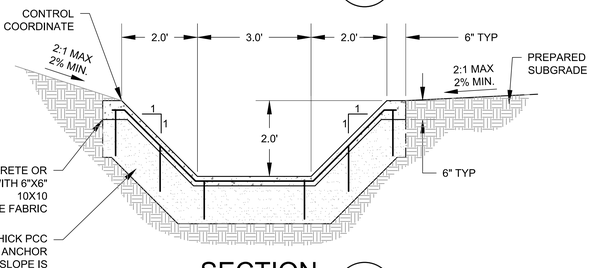
SECTION A / 5 — 1" = 2'



SECTION B / 5 — 1" = 2'



SECTION C / 5 — 1" = 2'



SECTION D / 5 — 1" = 2'

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4	10/26/18	REVISED GRADING	ROBERT JOHNSON

DATE OF ISSUE: OCTOBER 2018
DESIGNED BY: R JOHNSON
DRAWN BY: J AMAYA
CHECKED BY: R JOHNSON
APPROVED BY: R JOHNSON

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Geo-Logic ASSOCIATES
2777 EAST GUASTI ROAD
SUITE 1
ONTARIO, CA 91761
(909) 626-2282
www.geo-logic.com

REGISTERED PROFESSIONAL ENGINEER — ROBERT DYER JOHNSON — C 39641 — EXP. 12-31-19 — CIVIL — STATE OF CALIFORNIA

DIGITALLY SIGNED BY ROBERT DYER JOHNSON GLA-USER 23235

REPUBLIC SERVICES

SUNSHINE CANYON LANDFILL
14747 SAN FERNANDO ROAD
SYLMAR,CA. 91342

SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4

DETAILS

DWG NO. 5

PROJECT NO. SO18.1103

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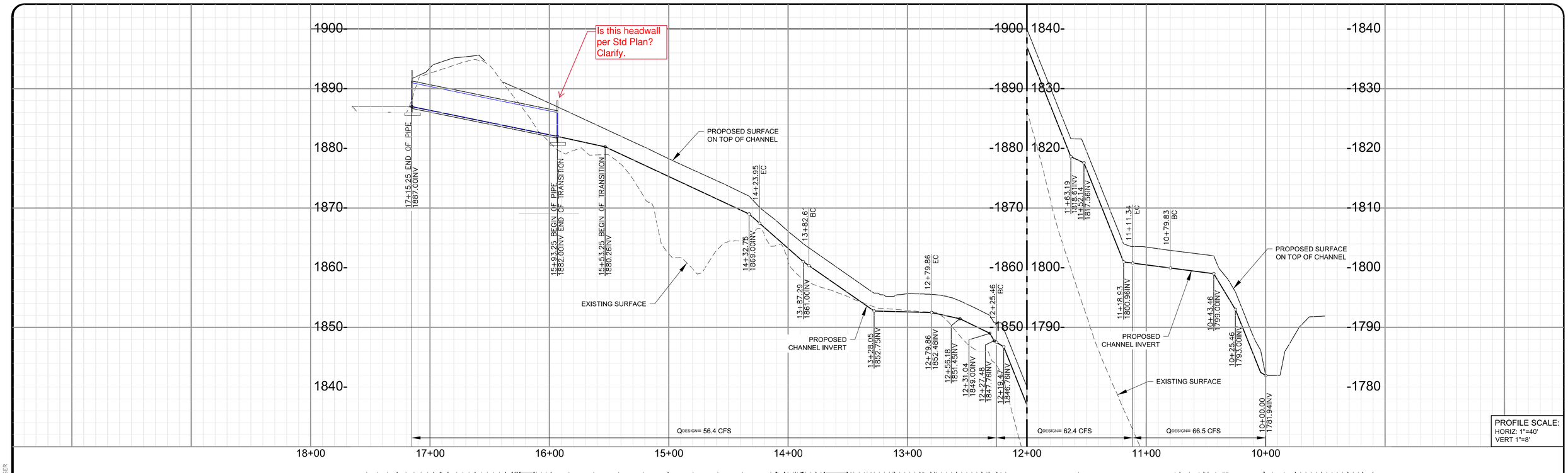
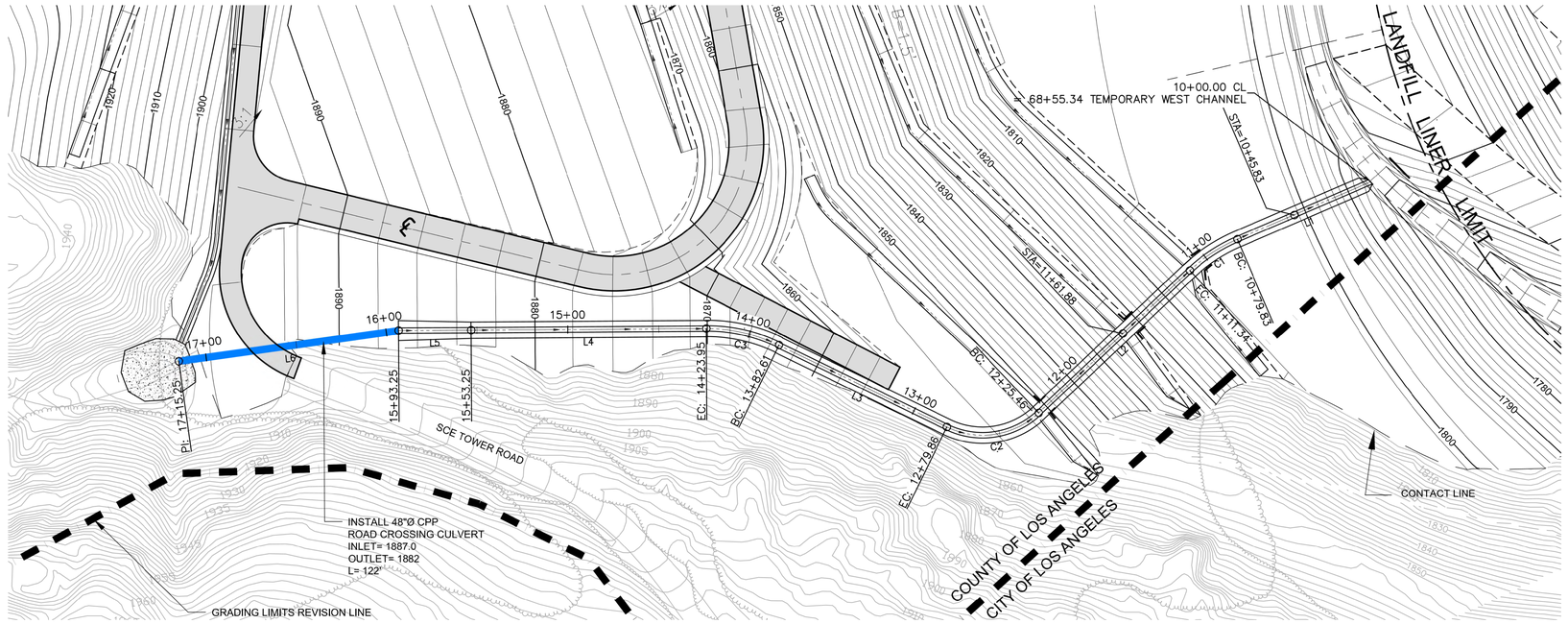


LINE AND CURVE DATA						
NUMBER	LENGTH	BEARING	RADIUS	TANGENT	BC	EC
L1	79.83	S66° 44' 59"W				
C1	31.51		90.00	15.92	10+79.83	11+11.34
L2	114.13	S46° 41' 22"W				
C2	54.39		45.00	31.08	12+25.46	12+79.86
L3	102.75	N64° 03' 14"W				
C3	41.34		90.00	21.04	13+82.61	14+23.95
L4	129.30	S89° 37' 40"W				
L5	40.00	S89° 37' 40"W				
L6	122.00	S82° 04' 23"W				



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Geo-Logic ASSOCIATES
2777 EAST GUASTI ROAD
SUITE 1
ONTARIO, CA 91761
(909) 626-2282
www.geo-logic.com

REGISTERED PROFESSIONAL ENGINEER ROBERT DYER JOHNSON C 39641 EXP. 12-31-19 CIVIL STATE OF CALIFORNIA
DIGITAL SIGNATURE FOR GLA 1235

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SOUTH CHANNEL PROFILE - STA 10+00 TO 17+15.25

DWG NO. 8
PROJECT NO. S018.1103

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STABILITY BUTTRESS FOR CC-4

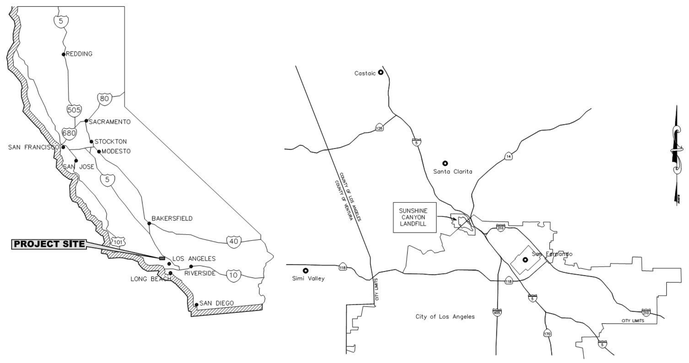
SUNSHINE CANYON LANDFILL

14747 SAN FERNANDO RD.

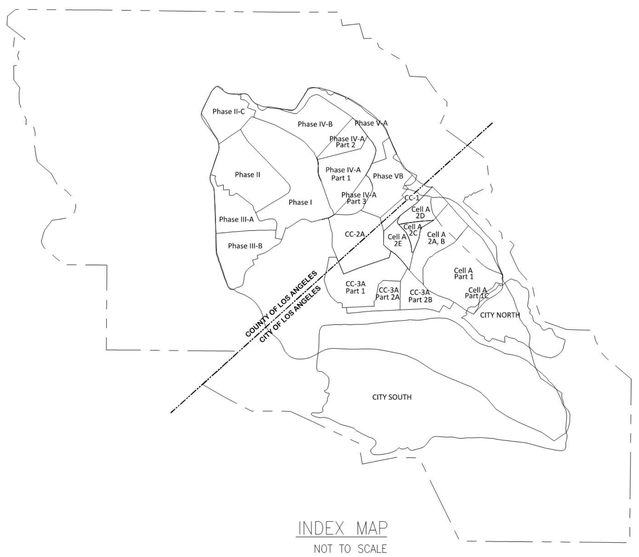
SYLMAR, CALIFORNIA 91342

OCTOBER 2018

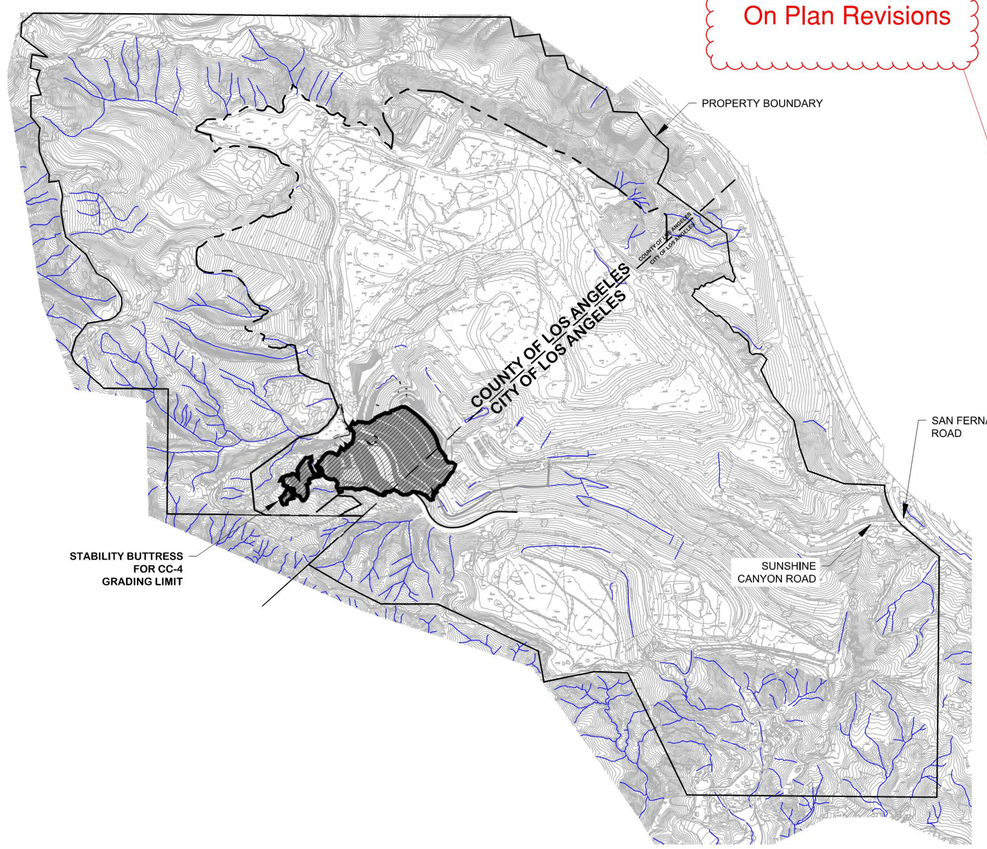
REPUBLIC SERVICES



LOCATION MAP
NOT TO SCALE



INDEX MAP
NOT TO SCALE



SITE MAP
SCALE: 1"=800'

Verify/Revise Earthwork Quantities Based On Plan Revisions

SHEET INDEX

GENERAL INFORMATION

- Grading Permit Application No. GR NOT APPLICABLE *
- Earthwork Volumes Cut 700,000 (cy), Fill 0 (cy) *
- Over Excavation/ Alluvial Removal & Compaction 900,000 (cy)*
- Export 223,200 (cy), Export Location: FRONT ENTRANCE AREA *
- Total Disturbed Area 15.3 (Acres)*
- Total Proposed Landscape Area 0 Square Feet *
- Total Turf Area 0% (Percent of Total Proposed Landscaping)
- Total Drought Tolerant Landscaping Area 0% (Percent of Total Proposed Landscaping) *
- Pre-Development Impervious area 15.3 (Acres)*
- STABILITY BUTTRESS FOR CC4-Development Impervious area 15.3 (Acres)*
- Waste Discharge Identification Number (WDID #) 419I001306
- Construction & Demolition Debris Recycling and Reuse Plan (RPP ID) N/A*
- STABILITY BUTTRESS FOR CC4-Construction BMP feature(s) GPS coordinates x 4,123,0850, y 4,234,455 (NAD 27)

PROPERTY INFORMATION

- Property Address 14747 San Fernando Rd. Sylmar, Ca. 91342 (If exist *)
- Tract / Parcel Map No. T3N R16W Lot/Parcel No. PORTIONS OF SECTIONS 23 & 24
- Property Owner Browing Ferris Industries *
- Assessors ID Number(s) 2826-027-002 *

ZONING, REGIONAL PLANNING, AND OTHER AGENCY INFORMATION

- Property Zoning: INDUSTRIAL
- Intended Land Use: LANDFILL
- Conditional Use Permit: CUP NO. 00-194-(5) Expiration Date: 01/29/2037
- Oak Tree Permit Number: OTP NO. 8632 Expiration Date: N/A
- Regional Water Quality Control Board Permit No. R4-2008- 0088 , Expiration Date N/A.
- Army Corps of Engineers Permit No. 94-124-A0A , Expiration Date N/A.
- Fish and Wildlife Permit No. 5-449-91 , Expiration Date N/A.

BENCHMARK:

CITY OF L.A. B.O.E. PRECISE BENCHMARK NO. 04-00871. SPK. IN N.E. CURV. SAN FERNANDO RD., 1.5FT. SE/O C/L PROD. BALBOA BLVD. ELEVATION - 1306.617 FEET (2000 ADJ., NAVD 1998 DATUM)

NOTE:

THE AERIAL SURVEY IS WITHIN +/- 4 FEET BASED ON THE NATIONAL STANDARD FOR SPATIAL DATA ACCURACY (NSSDA) FOR A CONTOUR INTERVAL OF 2-FEET AND MAP SCALE OF 1'=100

AIRSPACE VOLUME INDICATED BASED ON APRIL 29, 2016 AERIAL SURVEY BY COOPER AERIAL

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ROBERT DYER JOHNSON
C 39641
EXP. 12-31-19
CIVIL
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SUNSHINE CANYON LANDFILL
14747 SAN FERNANDO ROAD
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SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4

TITLE SHEET

DWG NO. 1
PROJECT NO. S018.1103

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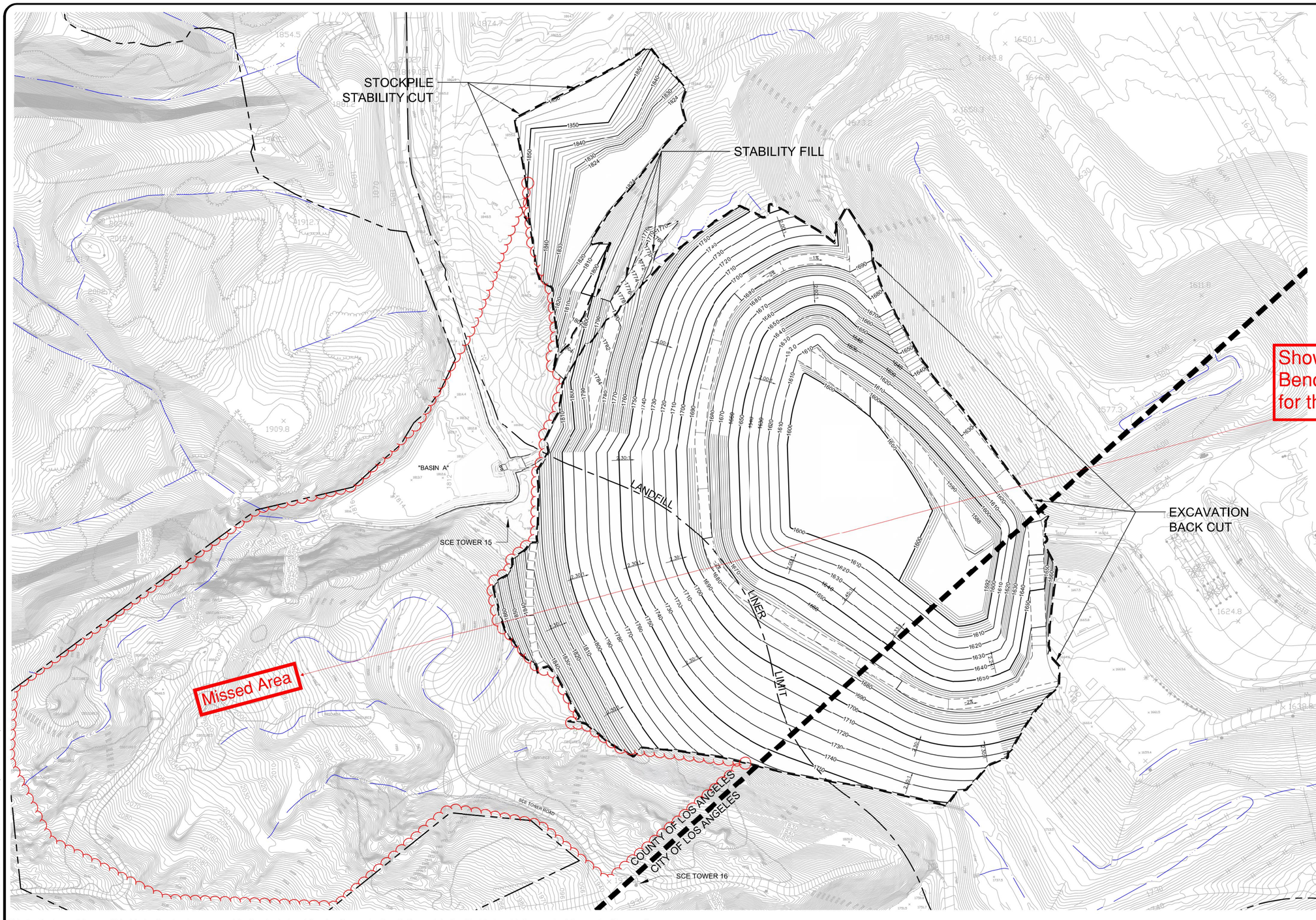

LEGEND:

- COUNTY LINE
- GRADING LIMIT DAYLIGHT/CONTACT LINE
- (100) EXISTING GROUND SURFACE CONTOUR EL, FEET
- 100 PROPOSED GROUND SURFACE CONTOUR EL, FEET
- REVISION / APPROVED GRADING LIMIT
- EXISTING DRAINAGE COURSE

Show Any Required Key or Benches on Rough Grade Plans for this location.

N

100' 0' 50' 100' 200'

SCALE: 1" = 100'

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SUITE 1
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ROBERT DYER JOHNSON
C 39641
EXP. 12-31-19
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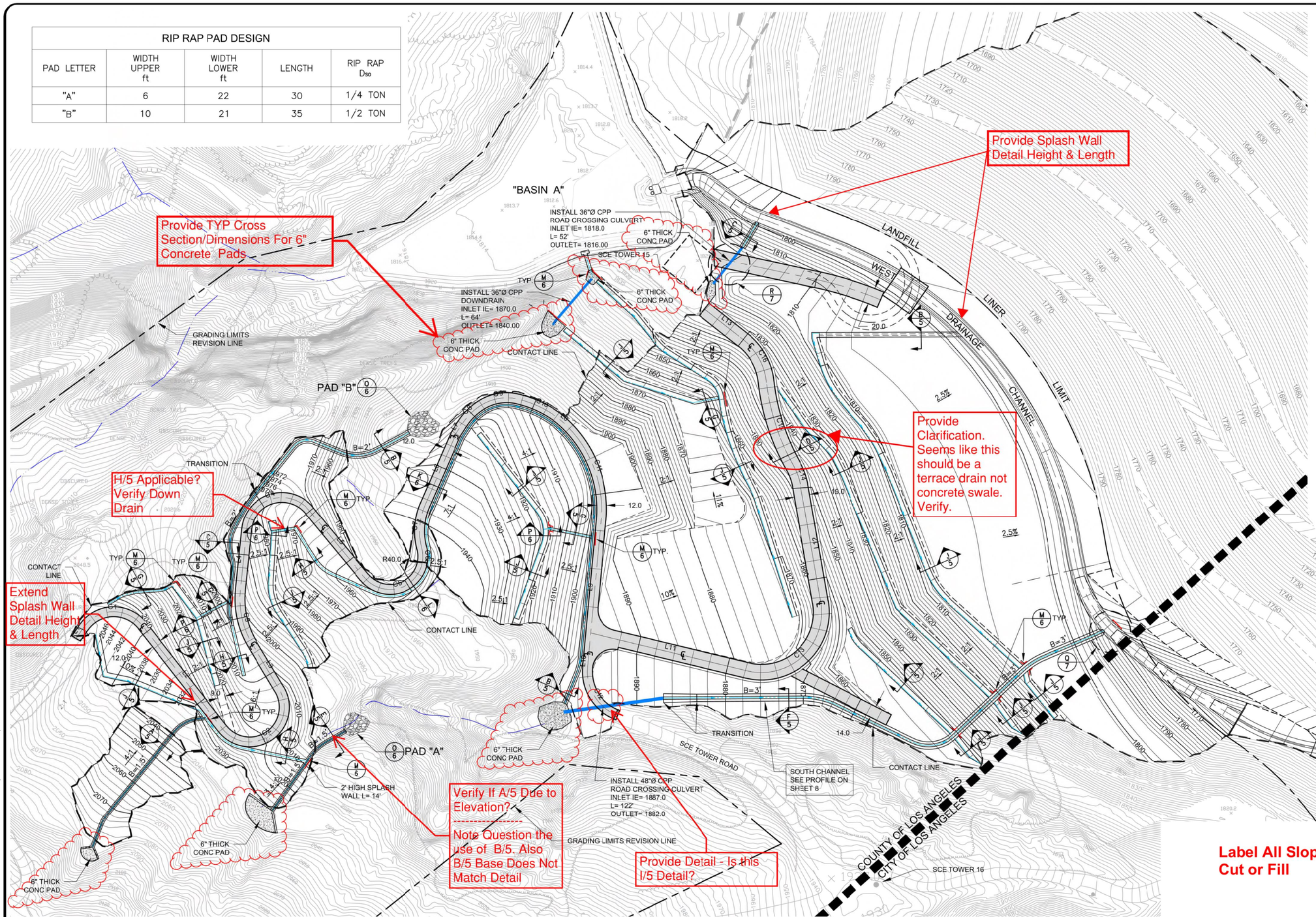
SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4

EXCAVATION PLAN

DWG NO.
4A

PROJECT NO.
S018.1103

RIP RAP PAD DESIGN				
PAD LETTER	WIDTH UPPER ft	WIDTH LOWER ft	LENGTH	RIP RAP D_{50}
"A"	6	22	30	1/4 TON
"B"	10	21	35	1/2 TON



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- (100) EXISTING GROUND SURFACE CONTOUR EL, FEET
- 100 PROPOSED GROUND SURFACE CONTOUR EL, FEET
- PROPOSED DRAINAGE COURSE
- REVISION / APPROVED GRADING LIMIT
- EXISTING DRAINAGE COURSE
- A/1 LETTER SECTION SHEET DETAIL LOCATION
- SPLASH WALL SEE DETAIL M ON SHEET 6

LINE AND CURVE DATA TABLE ℄				
NUMBER	LENGTH	BEARING/DELTA	RADIUS	TANGENT
C1	82.57	107° 31' 06"	44.00	60.03
C2	126.82	173° 00' 29"	42.00	687.50
C3	68.17	36° 51' 00"	106.00	35.31
C4	101.08	134° 41' 29"	43.00	103.03
C5	91.15	130° 33' 52"	40.00	86.90
C6	17.18	24° 36' 50"	40.00	8.73
C7	54.18	37° 51' 36"	82.00	28.12
C8	32.49	25° 09' 24"	74.00	16.51
C9	45.68	45° 07' 20"	58.00	24.10
C10	58.33	25° 30' 49"	131.00	29.66
C11	132.61	52° 45' 56"	144.00	71.43
C12	73.69	75° 23' 36"	56.00	43.28
C13	144.47	113° 23' 34"	73.00	111.12
C14	25.53	19° 30' 01"	75.00	12.89
C15	108.33	22° 59' 20"	270.00	54.91
C16	59.29	45° 17' 32"	75.00	31.29
L1	16.21	N34° 31' 49.79"E		
L2	158.11	S37° 57' 04.44"E		
L3	63.95	N30° 57' 33.86"W		
L4	74.63	N5° 53' 25.87"E		
L5	105.91	S39° 25' 05.41"E		
L6	93.25	N23° 15' 13.25"E		
L7	15.35	N32° 51' 22.67"E		
L8	4.27	S51° 13' 31.63"E		
L9	164.15	S5° 16' 28.21"W		
L10	15.04	S5° 16' 29.13"W		
L11	195.51	S76° 24' 20.60"E		
L12	143.54	N9° 47' 54.52"W		
L13	60.32	N51° 36' 33.19"W		

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STABILITY BUTTRESS FOR CC-4

PRECISE GRADING PLAN

DWG NO. 4B
PROJECT NO. SO18.1103

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LOS ANGELES COUNTY GRADING GUIDELINES - JANUARY 2008

SECTION J109 DRAINAGE AND TERRACING

J109.1 General. Unless otherwise recommended by a Civil Engineer and approved by the Building Official, drainage facilities and terracing shall be provided in accordance with the requirements of Section J109.2 for all cut and fill slopes steeper than 3 units horizontal to 1 unit vertical (33 percent slope).

For slopes flatter than 3 units horizontal to 1 unit vertical (33 percent slope) and steeper than 5 units horizontal to 1 unit vertical (20 percent slope) a paved swale or ditch shall be installed at 30 foot (9.1 m) vertical intervals to control surface drainage and debris. Swales shall be sized based on contributory area and have adequate capacity to convey intercepted waters to the point of disposal as defined in Section J109.5. Swales must be paved with reinforced concrete not less than 3 inches (0.08 m) in thickness, reinforced with 6-inch (0.2 m) by 6-inch (0.2 m) No.10 by No.10 welded wire fabric or equivalent reinforcing centered in the concrete slab or an equivalent approved by the Building Official. Swales must have a minimum flow line depth of 1 foot (0.3 m) and a minimum paved width of 18 inches (0.5 m). Swales shall have a minimum gradient of not less than 5 percent. There shall be no reduction in grade along the direction of flow unless the velocity of flow is such that slope debris will remain in suspension on the reduced grade.

J109.2 Drainage Terraces. Drainage terraces at least 8 feet (2.4 m) in width shall be established at not more than 30 foot (9.1 m) vertical intervals on all cut or fill slopes to control surface drainage and debris. When only one terrace is required, it shall be at midheight. For cut or fill slopes greater than 100 feet (30.5 m) and up to 120 feet (36.6 m) in vertical height, one terrace at approximately midheight shall be 20 feet (6.1 m) in width. Terrace widths and spacing for cut and fill slopes greater than 120 feet (36.6 m) in height shall be designed by the Civil Engineer and approved by the Building Official. Suitable access shall be provided to permit proper cleaning and maintenance.

Drainage swales on terraces shall have a longitudinal grade of not less than 5 percent nor more than 12 percent and a minimum depth of 1 foot (0.3 m) at the flow line. There shall be no reduction in grade along the direction of flow unless the velocity of flow is such that slope debris will remain in suspension on the reduced grade. Drainage swales must be paved with reinforced concrete not less than 3 inches (0.08 m) in thickness, reinforced with 6-inch (0.2 m) by 6-inch (0.2 m) No. 10 by No. 10 welded wire fabric or equivalent reinforcing centered in the concrete slab or an approved equal paving. Drainage swales shall have a minimum depth at the deepest point of 1 foot (0.3 m) and a minimum paved width of 5 feet (1.5 m). Drainage terraces exceeding 8 feet (2.4 m) in width need only be so paved for a width of 8 feet (2.4 m) provided such pavement provides a paved swale at least 1 foot (0.3 m) in depth. Downdrains or drainage outlets shall be provided at approximately 300-foot (91.4 m) intervals along the drainage terrace or at equivalent locations. Downdrains and drainage outlets shall be of approved materials and of adequate capacity to convey the intercepted waters to the point of disposal as defined in Section J109.5.

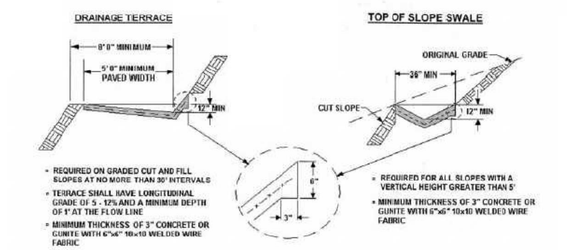
J109.3 Interceptor drains and overflow protection. Berms, interceptor drains, swales or other devices shall be provided at the top of cut or fill slopes to prevent surface waters from overflowing onto and damaging the face of a slope. Berms used for slope protection shall not be less than 12 inches (3.0 m) above the level of the pad and shall slope back at least 4 feet (1.2 m) from the top of the slope.

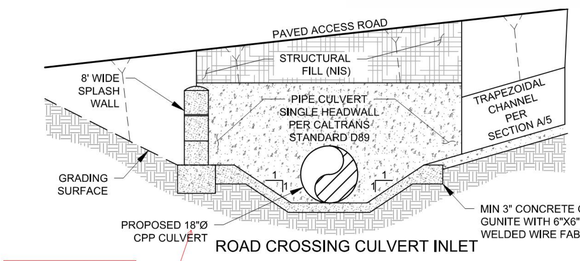
Interceptor drains shall be installed along the top of graded slopes greater than 5 feet in height receiving drainage from a slope with a tributary width greater than 30 feet (9.1 m) measured horizontally. They shall have a minimum depth of 1 foot (0.3 m) and a minimum width of 3 feet (0.9 m). The slope shall be approved by the Building Official, but shall not be less than 50 units horizontal to 1 unit vertical (2 percent). The drain shall be paved with concrete not less than 3 inches (0.08 m) in thickness, or by other materials suitable to the application and reinforced as required for drainage terraces. Discharge from the drain shall be accomplished in a manner to prevent erosion and shall be approved by the Building Official.

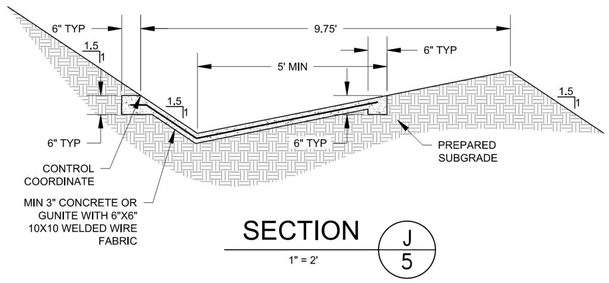
J109.4 Drainage across property lines. Drainage across property lines shall not exceed that which existed prior to grading. Excess or concentrated drainage shall be contained on site or directed to an approved drainage facility. Erosion of the ground in the area of discharge shall be prevented by installation of nonerosive down drains or other devices.

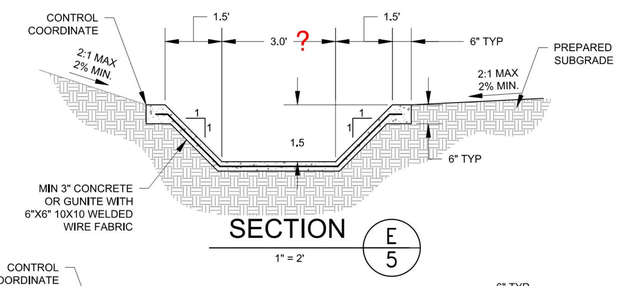
J109.5 Disposal. All drainage facilities shall be designed to convey waters to the nearest practicable street, storm drain, or natural watercourse or drainage way approved by the Building Official or other appropriate governmental agency provided that the discharge of such waters at that location will not create or increase a hazard to life or property. Erosion of the ground in the area of discharge shall be prevented by installation of non-erosive down drains or other devices. Desilting basins, filter barriers or other methods, as approved by the Building Official, shall be utilized to remove sediments from surface waters before such waters are allowed to enter streets, storm drains, or natural watercourses. If the drainage device discharges onto natural ground, riprap or a similar energy dissipator may be required.

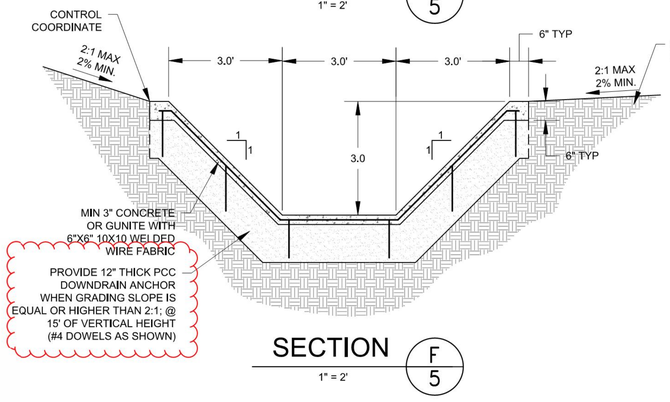
Building pads shall have a minimum drainage gradient of 2 percent toward an approved drainage facility or a public street unless otherwise directed by the Building Official. A lesser slope may be approved by the Building Official for sites graded in relatively flat terrain, or where special drainage provisions are made, when the Building Official finds such modification will not result in a hazard to life or property.

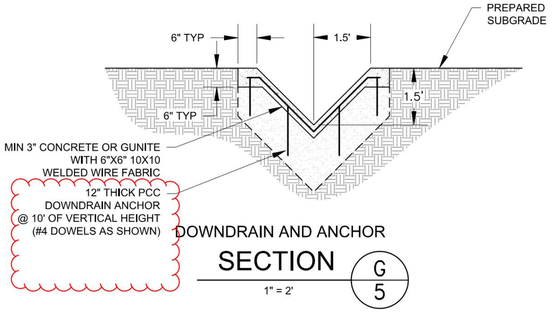


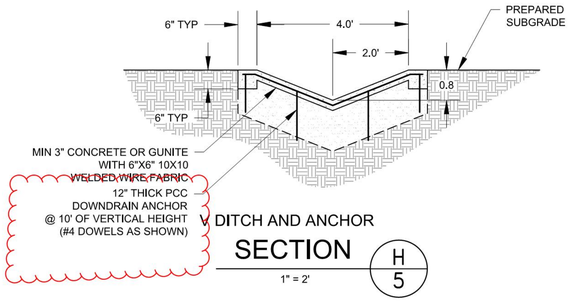


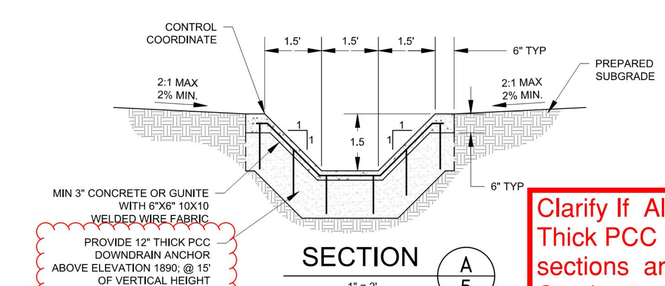




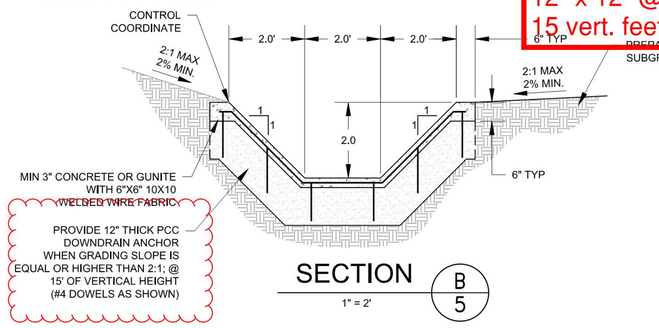


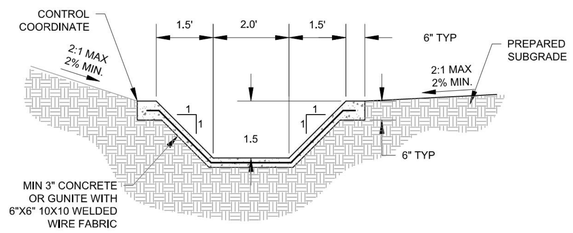


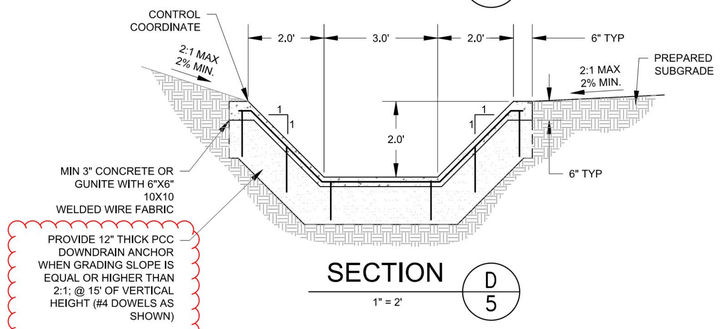




Clarify If All 12" Thick PCC sections are Continuous? If not, 12" x 12" @ every 15 vert. feet?







REV. NO.	DATE	DESCRIPTION	APPROVED BY
1	11/06/17	ADD 30' SPLASH WALL TO SOUTH CHANNEL ON STA: 18+69.54	ROBERT JOHNSON
2	12/08/17	ADD 30' SPLASH WALL TO SOUTH CHANNEL CURVES C3 & C6	ROBERT JOHNSON
3	01/31/18	ADDED DETAIL G TO SHEET 5	ROBERT JOHNSON
4	10/26/18	REVISED GRADING	ROBERT JOHNSON

DATE OF ISSUE: OCTOBER 2018
DESIGNED BY: R JOHNSON
DRAWN BY: J AMAYA
CHECKED BY: R JOHNSON
APPROVED BY: R JOHNSON

DIGALERT 811

Geo-Logic ASSOCIATES
2777 EAST GUASTI ROAD
SUITE 1
ONTARIO, CA 91761
(909) 626-2282
www.geo-logic.com

REGISTERED PROFESSIONAL ENGINEER ROBERT DYER JOHNSON C 39641 EXP. 12-31-19 CIVIL STATE OF CALIFORNIA
DISTRICT STAMP OR GLA 1235

REPUBLIC SERVICES

SUNSHINE CANYON LANDFILL
14747 SAN FERNANDO ROAD
SYLMAR,CA. 91342

SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
STABILITY BUTTRESS FOR CC-4

DETAILS

DWG NO. 5

PROJECT NO. S018.1103

P:\SITES\SUNSHINE CYN LF\STABILITY BUTTRESS CC4 - COUNTY - 2018\GLA DWG SETS\S018.1103-SGL-SB-05-DT.DWG October 26, 2018 - 11:55 AM BY: GLA-USER

Enclosure 5

Vu Truong

From: Mills, Joshua <JMills3@republicservices.com>
Sent: Tuesday, January 15, 2019 10:01 AM
To: Vu Truong
Cc: Coyle, Chris; Martins Aiyetiwa; Carlos Ruiz; Karin Burger; Karen Mendez; Dave Nguyen; Warner, Robbie; Johnson, Robert
Subject: RE: Sunshine Canyon Landfill - CC-4 Stability Buttress Project

Good Morning Vu,

During our conference call with LA County DPW (DPW) on Wednesday, January 9th to discuss recent design changes for the Cell CC-4 Stability Buttress project, Republic and GLA agreed to provide DPW with the following deliverables:

1. Utilizing the surveyed, as-built buttress backcut grading contours as a base map to provide an as-graded geologic map of the excavation "by the end of the month."
2. Provide updated slope stability calculations to show that the revised buttress design is in compliance with LA County standards (i.e. static Factor of Safety ≥ 1.5) within 3 to 4 weeks;
3. Provide Final Design Plans within two months of completion of the project; and
4. Provide this summary of deliverables and due dates.

Karen Berger further requested that Republic refer to DPW' December 17, 2018 letter (Ruiz-DPW to Coyle-Republic) to make sure that any further deliverables requested by the Geotechnical and Materials Engineering Division (GMED) are included in this summary and subsequent deliverables.

Phased fill plans were not a formal submittal requirement, and the final fill configuration will be reflected in the final design plans (Item #3 above).

Should DPW have a different understanding of the submittals discussed and associated due dates, please let us know. Otherwise, the 4 items above will be submitted to DPW as described above.

Please let me know if you have any questions.

Thank you,
Josh

Joshua Mills
Environmental Manager

14747 San Fernando Road
Sylmar, California 91342
e jmills3@republicservices.com
o (818) 362-2154 c (510) 691-4337
f (818) 362-5484 w RepublicServices.com

From: Vu Truong [mailto:vmtruong@dpw.lacounty.gov]
Sent: Tuesday, January 15, 2019 8:29 AM
To: Mills, Joshua
Cc: Coyle, Chris; Martins Aiyetiwa; Carlos Ruiz; Karin Burger; Karen Mendez; Dave Nguyen
Subject: Sunshine Canyon Landfill - CC-4 Stability Buttress Project

Good morning Josh,

As discussed at the January 9, 2019, phone conference meeting between Republic Services, its consultant, and Public Works staff to discuss CC-4 Stability Buttress Project, it was concluded that Republic Services or its consultant will provide an email stating its understanding of the discussion outcome and Public Works will provide an official response. As of now, Public Works has not received the subject email and would to follow up on the status.

Thank you,

Vu Truong, P.E.
Principal Civil Engineering Assistant
Los Angeles County Department of Public Works
Office: 626.458.3565

-----Original Appointment-----
From: Vu Truong
Sent: Tuesday, January 8, 2019 8:52 AM
To: Vu Truong; Coyle, Chris; Mills, Joshua; Karin Burger; Karen Mendez; Dave Nguyen
Cc: Martins Aiyetiwa; Gabriel Esparza; Maria Carlson; Saeid Shirzadegan
Subject: Sunshine Canyon Landfill - CC-4 Stability Buttress Project
When: Wednesday, January 9, 2019 2:00 PM-4:00 PM (UTC-08:00) Pacific Time (US & Canada).
Where: EPD Small Conference Room - Teleconference

- **Teleconference Line: Attendees will dial (888) 398-2342. The Access Code is 6219695**.

From: Vu Truong
Sent: Monday, January 7, 2019 3:00 PM
To: Coyle, Chris <CCoyle@republicservices.com>; 'Mills, Joshua' <JMills3@republicservices.com>
Cc: Martins Aiyetiwa <MAIYET@dpw.lacounty.gov>; Dave Nguyen <DNGUYEN@dpw.lacounty.gov>; Karin Burger <kburger@dpw.lacounty.gov>; Karen Mendez <kmendez@dpw.lacounty.gov>

Subject: FW: Sunshine Canyon Landfill - CC-4 Stability Buttress Project - Setting Up A Conference Call Meeting to Discuss Current issues

Good afternoon Chris and Joshua,

We've left both of you a similar voice mail this afternoon regarding setting up a conference call between your team and our geotechnical staff to discuss your below email.

Please let us know asap when you would be available this week for a conference call.

Thank you,

Vu Truong, P.E.
Principal Civil Engineering Assistant
Los Angeles County Department of Public Works
Office: 626.458.3565

From: Mills, Joshua <JMills3@republicservices.com>
Sent: Friday, January 4, 2019 2:36 PM
To: Martins Aiyetiwa <MAIYET@dpw.lacounty.gov>
Cc: Bahman Hajialiakbar <BHAJI@dpw.lacounty.gov>; Gabriel Esparza <GESPARZA@dpw.lacounty.gov>; Karin Burger <kburger@dpw.lacounty.gov>; Coyle, Chris <CCoyle@republicservices.com>; Dave Nguyen <DNGUYEN@dpw.lacounty.gov>; Ngo, Tuong-phu <TNgo@republicservices.com>; Vu Truong <vmtruong@dpw.lacounty.gov>; Deyoung, Michael <MDeyoung@republicservices.com>
Subject: RE: Sunshine Canyon Landfill - CC-4 Stability Buttress Project

Good Afternoon Martins,

Pursuant to the DPW's conditional approval of the Stability Buttress Project, please find attached hereto the routine monthly update for December, 2018.

Below is an excerpt of item 4 of the monthly update:

The purpose of the CC-4 Stability Buttress Project is to excavate an unstable claystone material that overlies a more competent sandstone material, then construct an earthen buttress in the footprint of this excavation to stabilize the slope.

Since it was known that the CC-4 Stability Buttress Project would entail excavation of slopes in geologically unstable areas, slopes and critical infrastructure (e.g. Southern California Edison Transmission Towers) in and near the work area are currently monitored in real time by an automated system. This system consists of survey prisms, in-place inclinometers, vibrating-wire piezometers and tiltmeters which are individually polled several times an hour. Throughout the duration of the CC-4 Stability Buttress Project, movements and deformations have been detected, but they were generally either false alarms (e.g. caused by wind), shallow and/or localized deformation, or of a low magnitude that was not of significant concern. Recently, an inclinometer near the Tower #15 has registered a little movement (approx. 1 inch) over discrete vertical intervals at depths of about 40 and 80 feet below ground surface.

It appears that the movement recently detected in the inclinometer is associated with a fault that is located within the vicinity of Tower #15. With the imminent approach of winter rains, there is an increased concern for ground movement in this area that could be triggered by storm water infiltration and increased pore pressures. With guidance from our consultant, we believe the best course of action is to start placement of the stability buttress fill.

At present, over 80 percent of the buttress foundation base has been excavated, including all of the unstable claystone within the buttress footprint. Based on the recommendations provided by our geotechnical consultant, we have stopped excavation of the project and started placing the stability buttress fill. With the unstable claystone removed from within the buttress footprint, and with no significant clay shears mapped in the excavation in this area within the underlying sandstone, our consultant believes that the reduced stability buttress size will sufficiently stabilize the slope.

A hard copy of the attached monthly update report has also been mailed to your office.

Please let me know if you have any questions.

Thank you,
Josh

Joshua Mills
Environmental Manager

14747 San Fernando Road
Sylmar, California 91342
e jmills3@republicservices.com
o (818) 362-2154 c (510) 691-4337
f (818) 362-5484 w RepublicServices.com

From: Mills, Joshua
Sent: Friday, December 07, 2018 7:24 AM
To: 'Martins Aiyetiwa'
Cc: 'Bahman Hajialiakbar'; 'Gabriel Esparza'; 'Karin Burger'; Coyle, Chris; 'Dave Nguyen'; Ngo, Tuong-phu; 'Vu Truong'; Deyoung, Michael (MDeyoung@republicservices.com)
Subject: RE: Sunshine Canyon Landfill - CC-4 Stability Buttress Project

Good Morning Martins,

Pursuant to the DPW's conditional approval of the Stability Buttress Project, please find attached hereto the routine monthly update for November, 2018.

A hard copy of the attached monthly update report has also been mailed to your office.

Please let me know if you have any questions.

Thank you,
Josh

Joshua Mills
Environmental Manager

14747 San Fernando Road
Sylmar, California 91342
e jmills3@republicservices.com
o (818) 362-2154 c (510) 691-4337
f (818) 362-5484 w RepublicServices.com

From: Mills, Joshua
Sent: Monday, November 05, 2018 1:56 PM
To: Martins Aiyetiwa
Cc: Bahman Hajialiakbar; Gabriel Esparza; Karin Burger; Coyle, Chris; Dave Nguyen; Ngo, Tuong-phu; Vu Truong; Deyoung, Michael (MDeyoung@republicservices.com)
Subject: RE: Sunshine Canyon Landfill - Cell CC-4 Stability Buttress Project

Good Afternoon Martins,

Pursuant to the DPW's conditional approval of the Stability Buttress Project, please find attached hereto the routine monthly update for October, 2018.

A hard copy of the attached monthly update report has also been mailed to your office.

Please let me know if you have any questions.

Thank you,
Josh

Joshua Mills
Environmental Manager

14747 San Fernando Road
Sylmar, California 91342
e jmills3@republicservices.com
o (818) 362-2154 c (510) 691-4337
f (818) 362-5484 w RepublicServices.com

From: Mills, Joshua
Sent: Friday, October 12, 2018 1:58 PM
To: 'Martins Aiyetiwa'
Cc: 'Bahman Hajialiakbar'; 'Gabriel Esparza'; 'Karin Burger'; Coyle, Chris; 'Dave Nguyen'; Ngo, Tuong-phu; 'Vu Truong'; Deyoung, Michael (MDeyoung@republicservices.com)
Subject: RE: Sunshine Canyon Landfill - Cell CC-4 Stability Buttress Project

Good Afternoon Martins,

Pursuant to the DPW's conditional approval of the Stability Buttress Project, please find attached hereto the routine monthly update for September, 2018.

A hard copy of the attached monthly update report has also been mailed to your office.

Please let me know if you have any questions.

Thank you,
Josh

Joshua Mills
Environmental Manager

14747 San Fernando Road
Sylmar, California 91342
e jmills3@republicservices.com
o (818) 362-2154 c (510) 691-4337
f (818) 362-5484 w RepublicServices.com

From: Mills, Joshua
Sent: Thursday, September 13, 2018 4:58 PM
To: Martins Aiyetiwa
Cc: Bahman Hajialiakbar; Gabriel Esparza; Karin Burger; Coyle, Chris; Dave Nguyen; Ngo, Tuong-phu; Vu Truong; Deyoung, Michael (MDeyoung@republicservices.com)
Subject: RE: Sunshine Canyon Landfill - Cell CC-4 Stability Buttress Project

Martins,

Pursuant to the DPW's conditional approval of the Stability Buttress Project, please find attached hereto the routine monthly update for August, 2018.

As mentioned per item 4 of this attachment, during excavation we encountered field conditions that our design engineers concluded required a smaller excavation envelope and slightly more engineered fill to better buttress the slope. Our work to date has all been within the excavation envelope previously approved by DPW and we are now planning to do less excavation than initially designed.

Geo-Logic Associates is in the process of finalizing the reevaluation of the slope stability based on existing geologic features identified during excavation. The evaluation of the slope stability and the associated drawings and data will be provided to the LA County DPW for review once the report is complete. We anticipate submitting the final evaluation report to DPW by the end of September 2018.

We request that DPW provide approval of the additional buttress fill no later than the end of October in order to prevent delays. Prolonging the exposure of the excavated subgrade in this area prolongs the risk of slope instability.

A hard copy of the attached monthly update report has also been mailed to your office.

Please let me know if you have any questions.

Thank you,
Josh

Joshua Mills
Environmental Manager

14747 San Fernando Road
Sylmar, California 91342
e jmills3@republicservices.com
o (818) 362-2154 c (510) 691-4337
f (818) 362-5484 w RepublicServices.com

From: Mills, Joshua
Sent: Monday, August 06, 2018 3:50 PM
To: Martins Aiyetiwa
Cc: Bahman Hajialiakbar; Gabriel Esparza; Karin Burger; Coyle, Chris; Dave Nguyen; Ngo, Tuong-phu
Subject: RE: Sunshine Canyon Landfill - Cell CC-4 Stability Buttress Project

Good Afternoon Martins,

Pursuant to the DPW's conditional approval of the Stability Buttress Project, please find attached hereto the routine monthly update for July, 2018.

A hard copy has also been mailed to your office.

Please let me know if you have any questions.

Thank you,
Josh

Joshua Mills
Environmental Manager

14747 San Fernando Road
Sylmar, California 91342
e jmills3@republicservices.com
o (818) 362-2154 c (510) 691-4337
f (818) 362-5484 w RepublicServices.com

From: Mills, Joshua
Sent: Thursday, July 05, 2018 4:57 PM
To: 'Martins Aiyetiwa'
Cc: 'Bahman Hajialiakbar'; 'Gabriel Esparza'; 'Karin Burger'; Coyle, Chris; 'Dave Nguyen'; Ngo, Tuong-phu
Subject: RE: Sunshine Canyon Landfill - Cell CC-4 Stability Buttress Project

Good Afternoon Martins,

Pursuant to the DPW's conditional approval of the Stability Buttress Project, please find attached hereto the routine monthly update for June, 2018.

A hard copy has also been mailed to your office.

Please let me know if you have any questions.

Thank you,
Josh

Joshua Mills
Environmental Manager

14747 San Fernando Road

Sylmar, California 91342
e jmills3@republicservices.com
o (818) 362-2154 c (510) 691-4337
f (818) 362-5484 w RepublicServices.com

From: Mills, Joshua
Sent: Wednesday, June 06, 2018 1:11 PM
To: 'Martins Aiyetiwa'
Cc: 'Phil Doudar'; 'Bahman Hajialiakbar'; 'Martins Aiyetiwa'; 'Gabriel Esparza'; 'Karin Burger'; Coyle, Chris; 'Dave Nguyen'; Ngo, Tuong-phu
Subject: RE: Sunshine Canyon Landfill - Cell CC-4 Stability Buttress Project

Good Afternoon Martins,

Pursuant to the DPW's conditional approval of the Stability Buttress Project, please find attached hereto the routine monthly update for May, 2018.

A hard copy has also been mailed to your office.

Please let me know if you have any questions.

Thank you,
Josh

Joshua Mills
Environmental Manager

14747 San Fernando Road
Sylmar, California 91342
e jmills3@republicservices.com
o (818) 362-2154 c (510) 691-4337
f (818) 362-5484 w RepublicServices.com

From: Mills, Joshua
Sent: Thursday, May 10, 2018 7:58 AM
To: Martins Aiyetiwa
Cc: Phil Doudar; Bahman Hajialiakbar; Martins Aiyetiwa; Gabriel Esparza; Karin Burger; Coyle, Chris; Dave Nguyen
Subject: RE: Sunshine Canyon Landfill - Cell CC-4 Stability Buttress Project

Good Morning Martins,

Pursuant to the DPW's conditional approval of the Stability Buttress Project, please find attached hereto the routine monthly update for April, 2018.

A hard copy has also been mailed to your office.

Please let me know if you have any questions.

Thank you,
Josh

Joshua Mills
Environmental Manager

14747 San Fernando Road
Sylmar, California 91342
e jmills3@republicservices.com
o (818) 362-2154 c (510) 691-4337
f (818) 362-5484 w RepublicServices.com

From: Dave Nguyen [mailto:DNGUYEN@dpw.lacounty.gov]
Sent: Tuesday, March 13, 2018 3:56 PM
To: Coyle, Chris
Cc: Phil Doudar; Bahman Hajialiakbar; Martins Aiyetiwa; Gabriel Esparza; Karin Burger; Mills, Joshua
Subject: Sunshine Canyon Landfill - Cell CC-4 Stability Buttress Project

Good Afternoon Chris,

Attached is Public Works' conditional approval letter for the Cell CC-4 Stability Buttress Grading and Drainage project at the Sunshine Canyon Landfill. A hard copy will be mailed to you shortly.

On a separate matter, we would like to schedule another site visit on Monday March 19th at 8 a.m., to observe the Landfill's Monday peel back operation. Please let me know if you or your staff are available.

Thank You,

David Nguyen
Civil Engineer
Los Angeles County Public Works
(626) 458-5189

Enclosure 6

Vu Truong

From: Mills, Joshua <JMills3@republicservices.com>
Sent: Tuesday, May 7, 2019 10:57 AM
To: Karin Burger; garylass@geo-logic.com; rwarner@geo-logic.com; mwvincent@geo-logic.com
Cc: Dave Nguyen; Saeid Shirzadegan; Vu Truong; Karen Mendez; Coyle, Chris; Johnson, Robert
Subject: RE: Sunshine Canyon Landfill - CC-4 Stability Buttress Project

Good Morning Karin,

As requested, we are planning on submitting a single final report to the County with the items you've requested once the project is substantially complete.

Currently, there are still a couple of engineered fills and final grading items that need to be accomplished before the project is considered substantially complete. Based on the most recent construction schedule, we anticipate completing these items by the end of the month (May 2019).

That said, we will be able to submit the final version of the items requested below by June 14th, which will allow us some time to review all of the data prior to submission.

Should you have any questions in the meantime, please feel free to contact us.

Thank you,
Josh

Joshua Mills
Environmental Manager

14747 San Fernando Road
Sylmar, California 91342
e jmills3@republicservices.com
o (818) 362-2154 c (510) 691-4337
f (818) 362-5484 w RepublicServices.com

From: Karin Burger <kburger@dpw.lacounty.gov>
Sent: Monday, May 06, 2019 4:39 PM
To: garylass@geo-logic.com; rwarner@geo-logic.com; mwvincent@geo-logic.com
Cc: Mills, Joshua <JMills3@republicservices.com>; Dave Nguyen <DNGUYEN@dpw.lacounty.gov>; Saeid Shirzadegan

<sshirzadegan@dpw.lacounty.gov>; Vu Truong <vmtruong@dpw.lacounty.gov>; Karen Mendez <kmendez@dpw.lacounty.gov>
Subject: Sunshine Canyon Landfill - CC-4 Stability Buttress Project

Good afternoon Gary,
Environmental Programs Division asked GMED to request the following outstanding items, per GMED’s conditions of approval, prior to the start of Phase 2 construction:

1) Final report including the geologic/geotechnical map and compaction test data for the buttress.
2) As-Built excavation plan.
3) As-built buttress plan, with any necessary substantiating stability analyses if the as-built plan deviates from the 2/15/19 stability analyses report submitted.

These items should be submitted under a single final report.

Please indicate when these items might be submitted so that GMED staff can accommodate a prompt review.

Regards,

Karin Burger CEG
Public Works
LOS ANGELES COUNTY
Direct: 626.458.7989
Mobile: 626.800.8542