ENG-CDR23021-R2-FDR-S2.pdf Markup Summary

1 (2) Subject: Text Box See comment letter also. Page Index: 1 Date: 4/10/2024 12:19:03 PM Author: Jeff Rice - EPC Engineering Review Layer: Space: Page Label: 1 Subject: PCD Comment Legend Page Index: 1 Date: 4/10/2024 12:19:12 PM Author: Jeff Rice - EPC Engineering Review Color: Layer: Space: Page Label: 1 3 (1) Subject: Callout Include reference material (see items mentioned Page Index: 3 throughout the report to include) Date: 4/9/2024 1:53:26 PM Author: CDurham Color: Layer: Space: Page Label: 3 4 (6) Subject: Callout nt 2 of the project 1 Page Index: 4 Date: 4/8/2024 4:21:27 PM Author: CDurham Color: n as 'the site' he Layer: Space: Page Label: 4 Subject: b. Location temporary pavement Page Index: 4 Eastonville Road from Lond Date: 4/10/2024 10:55:02 AM temporary pavement road i depth, and therefore descri wide El Paso County Right-Author: Jeff Rice - EPC Engineering Review Principal Meridian, in El Pa Color: Layer: Space: Page Label: 4 Subject: Callout gravel Page Index: 4 Date: 4/10/2024 10:56:25 AM Author: Jeff Rice - EPC Engineering Review Color: Layer: Space:

Page Label: 4

ve Filings. A separate FDR

from Londonderry Dr. to Reent road in El Paso County,

Subject:

Page Index: 4

Date: 4/10/2024 10:55:25 AM

Author: Jeff Rice - EPC Engineering Review

re described as 'temporary
ntv Rinht_of_Wav within Sai

Color:

Layer:
Space:

Layer: Space: Page Label: 4

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unplatted. A vicinity map is pres

ection the existing pavement is a nis report. The existing temporar

gravel shoulders and native land

sting temp

Subject:

Page Index: 4

Date: 4/10/2024 10:56:00 AM

Author: Jeff Rice - EPC Engineering Review

Color: Layer: Space: Page Label: 4

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temporary pavement roadway n the existing pavement is not port. The existing temporary p Il shoulders and native landsca bypassed under the road throu Page Index: 4

Subject:

Date: 4/10/2024 10:56:09 AM

Author: Jeff Rice - EPC Engineering Review

Color: Layer: Space: Page Label: 4

existing pavement i

temporary pavement

Londonderry Dr.

6 (2)

eloped peak flow rates from the

aluate the existing conditions

a and temporary pavement area es with flows from Latigo Trails total area of 321.5 acres (The tyeved across Eastonville Road Subject: Page Index: 6

Date: 4/10/2024 11:11:42 AM

Author: Jeff Rice - EPC Engineering Review

Color: Layer: Space: Page Label: 6

temporary pavement

An experimental programs for the contract of t

Subject: Callout Page Index: 6

Date: 4/10/2024 11:43:37 AM

Author: Jeff Rice - EPC Engineering Review

Color: Layer: Space: Page Label: 6

replace all "temporary pavement" with "treated gravel"

7 (12)

pasins EA10 & EA11.

EA1 is 0.22 acres of proposed road vater (Q_5 = 0.7 cfs Q_{100} = 1.3 cfs) is pe R sump inlet (Public) and piped ained by the Pond C Sand Filter. EA2 is 0.25 acres of proposed road

Subject: Highlight Page Index: 7

Date: 4/9/2024 12:52:51 PM

Author: CDurham

Color: Layer: Space:

Page Label: 7

Q5 = 0.8 cfs Q100 = 1.5 cfsPage Index: 7 EA2 is 0.25 acres of proposed roadway water ($Q_5 = 0.8$ cfs $Q_{100} = 1.5$ cfs) is corpe R sump inlet (Public) and piped to F Date: 4/9/2024 12:53:07 PM Author: CDurham EA3 is 0.20 acres of proposed roadway water ($Q_5 = 0.7$ cfs $Q_{100} = 1.4$ cfs) is continued by the P europinial (Public) and piped to Color: Layer: Space: Page Label: 7 Subject: Highlight oposed road 1.4 cfs Page Index: 7 $_0 = 1.4 \text{ cfs}$) is Date: 4/9/2024 12:53:16 PM Author: CDurham Color: lic) and pipec Layer: Space: Page Label: 7 Subject: Callout Page Index: 7 Verify all basin flows with hydrology spreadsheet Date: 4/9/2024 12:58:44 PM Author: CDurham Color: Layer: Space: Page Label: 7 Subject: Callout Unresolved: Page Index: 7 DP6.1? There is no DP9.1 shown on map or listed Date: 4/9/2024 12:56:07 PM in hydrology spreadsheet Author: CDurham Color: Layer: Space: Page Label: 7 Subject: Highlight Page Index: 7 conveyed in c DP9.1. to DP9.1. Ba Date: 4/9/2024 12:55:52 PM Author: CDurham ed within Meric Color: Layer: Space: Page Label: 7 Subject: Highlight s conveyed ir DP9.1 Page Index: 7 to DP9.1. B: Date: 4/9/2024 12:55:55 PM Author: CDurham ied within Με Color: Layer: Space: Page Label: 7

Subject: Highlight

EA2 will be detained by the Pond ban Minor Arterial Roadway Cross and gutter to DP5. Flows at DP5 EA3 will not be detained per the N n Ranch.

and gutter to DP6. Flows at DP6

ban Minor Arterial Roadway Cross

Subject: Highlight Page Index: 7

Date: 4/9/2024 12:57:32 PM

Author: CDurham

Color: Layer: Space: Page Label: 7

an Minor Arterial Roadway Cri and gutter to DP6. Flows at D :A4 will not be detained per the

the Pond C Sand Filter. Storm

Subject: Highlight Page Index: 7

Date: 4/9/2024 12:57:35 PM

Author: CDurham

Color: Layer: Space: Page Label: 7

Subject: Callout Page Index: 7

Date: 4/9/2024 12:57:56 PM

Author: CDurham

Color: Layer: Space: Page Label: 7

Include excerpt in appendix from Meridian Ranch

MDDP and highlight this

ill not be detained p

Subject: Page Index: 7

Date: 4/10/2024 12:15:07 PM

Author: Jeff Rice - EPC Engineering Review

Color: Layer: Space: Page Label: 7 temporary pavement

ders and weedy swales located c oad through a series of existing c id south to the southern property wide temporary pavement and re on consisting of 48' pavement an

EA1-EA11.

nprovements FDR for subbasin ir

Subject: Page Index: 7

Date: 4/10/2024 12:15:22 PM

Author: Jeff Rice - EPC Engineering Review

Color: Layer: Space: Page Label: 7 temporary pavement

8 (1)

Subject: Callout Page Index: 8

Date: 4/9/2024 1:02:54 PM

Author: CDurham

Color: Layer: Space: Page Label: 8 Unresolved:

Verify all basin flows with hydrology spreadsheet. Include all basins in spreadsheet and summary

table on maps

9 (1)

~

d south to the southern property wide temporary pavement and ren consisting of 48' pavement and low points and roundabout entrim detention pond, sand filter or

Subject: Page Index: 9

Date: 4/10/2024 12:17:16 PM

Author: Jeff Rice - EPC Engineering Review

Color: Layer: Space: Page Label: 9

emporary pavement

10 (2)

Unresolved: Quantities and unit costs should match with FAE estimate Subject: Text Box Page Index: 10

Date: 4/9/2024 1:05:20 PM

Author: CDurham

Color: Layer: Space:

Page Label: 10

Unresolved:

Quantities and unit costs should match with FAE

estimate



Subject: Callout Page Index: 10

Date: 4/9/2024 1:05:54 PM

Author: CDurham

Color: Layer: Space:

Page Label: 10

18" is minimum size allowed

11 (1)



Subject: SW - Textbox with Arrow

Page Index: 11

Date: 4/2/2024 4:24:50 PM

Author: Glenn Reese - EPC Stormwater

Color: ■
Layer:
Space:
Page Label: 11

does not match what is shown in Section 1 of FAE

26 (1)



Subject: Callout Page Index: 26

Date: 4/9/2024 1:11:09 PM

Author: CDurham

Color: Layer: Space: Page Label: 26

Unresolved:

Basin labels do not match basin labels on drainage map. Please revise to show same labels. Labels listed here are design points. From map, need to

list basins FG35, Ex1 thru Ex4

27 (1)



Subject: Text Box Page Index: 27

Date: 4/9/2024 1:12:18 PM

Author: CDurham

Color: Layer: Space:

Page Label: 27

Provide excerpts from Sanctuary FDR for these calculations. Include them in "Excerpts from other reports" section.

29 (1)

4 CGC 93278

Subject: Callout Page Index: 29

Date: 4/9/2024 1:13:07 PM

Author: CDurham

Color: Layer: Space:

Page Label: 29

Unresolved:

Basin Labels need to match with basin labels on

map

34 (2)



Subject: Callout Page Index: 34

Date: 4/9/2024 1:14:21 PM

Author: CDurham

Color: Layer: Space:

Page Label: 34

Unresolved:

Delete one of the OS3 basins?

EA10 0.16 0.70 5.0 C

Subject: Text Box Page Index: 34

Date: 4/9/2024 1:16:36 PM

Author: CDurham

Color: Layer: Space:

Page Label: 34

Unresolved:

Missing Basins OS1, OS2, FG35 & OS6

36 (4)

Subject: Text Box Page Index: 36

Date: 4/9/2024 1:56:54 PM

Author: CDurham

Color: Layer: Space: Page Label: 36

Unresolved:

Provide design calculations for all proposed swales

& ditches

APPENDOX C - HYDRAMAIC CALCULATIONS

Subject: Text Box Page Index: 36

Date: 4/9/2024 1:57:26 PM

Author: CDurham

Color: Layer: Space: Page Label: 36

Unresolved:

Provide design calculations for riprap outlet

protection at end of all culverts

APPENDIX C - HYDRAULIC CALCULATIONS

Subject: Text Box Page Index: 36

Date: 4/9/2024 1:57:28 PM

Author: CDurham

Color: Layer: Space:

Page Label: 36

Unresolved:

Provide analysis of any existing culverts that

remain

Subject: Text Box Page Index: 36

Date: 4/9/2024 1:57:30 PM

Author: CDurham

Color: Layer: Space: Page Label: 36

Unresolved:

Include DP1 calculations for existing and needed

culvert size

39 (1)



Subject: Text Box Page Index: 39

Date: 4/9/2024 1:23:16 PM

Author: CDurham

Color: Layer: Space:

Page Label: 39

Delete this sheet. DP3 is for the flow in the roadside ditch, not within the roadway, so street capacity calculation not needed for DP3

40 (1)



Subject: Text Box Page Index: 40

Date: 4/9/2024 2:29:17 PM

Author: CDurham

Color: Layer: Space:

Page Label: 40

Delete this portion as DP 3 is within the roadside ditch at the culvert opening, not a curb inlet. Provide inlet design if an area inlet is being used at

DP 3 and delete if not.

44 (1)



Subject: Callout Page Index: 44

Date: 4/9/2024 1:27:28 PM

Author: CDurham

Color:
Layer:
Space:
Page Label: 44

Unresolved:

Per hydrology spreadsheet, DP6 has Q100 of 2.4 cfs. Interception capacity is not adequate at this

inlet

48 (2)



Subject: Highlight Page Index: 48

Date: 4/9/2024 1:28:52 PM

Author: CDurham

Color: Layer: Space: Page Label: 48

9.5



Subject: Callout Page Index: 48

Date: 4/9/2024 1:29:09 PM

Author: CDurham

Color: Layer: Space: Page Label: 48

Verify correct design flows are being used at all

inlets.

53 (1)



Subject: Callout Page Index: 53

Date: 4/9/2024 1:31:58 PM

Author: CDurham

Color: Layer: Space:

Page Label: 53

Culverts should not be design within stormCAD, use something culvertmaster, HY8 or MHFD

Culvert spreadsheet or

60 (1)



Subject: Callout Page Index: 60

Date: 4/9/2024 1:34:27 PM

Author: CDurham

Color: Layer: Space:

Page Label: 60

Inlet is flooding. Please revise design to ensure HGL is 1 ft below grade.

61 (1)



Subject: Callout Page Index: 61

Date: 4/9/2024 1:34:51 PM

Author: CDurham

Color: Layer: Space: Page Label: 61

Inlet is flooding. Please revise design to ensure HGL is 1 ft below grade.

63 (1)



Subject: Callout Page Index: 63

Date: 4/9/2024 1:38:09 PM

Author: CDurham

Color: Layer: Space:

Page Label: 63

Verify that HGL is 1 foot below grade.

64 (1)



Subject: Text Box Page Index: 64

Date: 4/9/2024 1:39:02 PM

Author: CDurham

Color: Layer: Space:

Page Label: 64

Use other format besides StormCAD to design culverts, to properly determine HW elevation,

overtopping, etc

66 (2)



Subject: Callout Page Index: 66

Date: 4/9/2024 1:40:25 PM

Author: CDurham

Color: Layer: Space: Page Label: 66

Verify that HGL is 1 foot below grade.



Subject: Callout Page Index: 66

Date: 4/9/2024 1:44:52 PM

Author: CDurham

Color: Layer:
Space:
Page Label: 66

Per ECM Section 3.3.1.D storm sewer pipes shall be "...free of pressure head except for short runs..."

96 (5)



Subject: Text Box Page Index: 96

Date: 4/9/2024 1:59:03 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] 201662.08_FDR_map_ex_Seg2-E DR 1

Unresolved:

Have consistent basin labels throughout report and

appendixes. Hydrology spreadsheet uses Sanctuary design point labels on some

calculations and then EX basin names are used on

others



Subject: Callout Page Index: 96

Date: 4/9/2024 2:00:27 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] 201662.08_FDR_map_ex_Seg2-E DR 1

Unresolved:

Include this symbol in legend



Subject: Callout Page Index: 96

Date: 4/9/2024 2:00:50 PM

Author: CDurham

Color: Layer:

Page Label: [1] 201662.08_FDR_map_ex_Seg2-E DR 1

Unresolved:

Include ROW width & road classification



Subject: Text Box Page Index: 96

Date: 4/9/2024 2:01:15 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] 201662.08_FDR_map_ex_Seg2-E DR 1

Unresolved:

.....

Add additional contour labels



Subject: Text Box Page Index: 96

Date: 4/9/2024 2:01:47 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] 201662.08_FDR_map_ex_Seg2-E DR 1

Unresolved:

- Add Basin and Design Point Summary Tables

- Label all existing easements (all maps)

- Text is hard to read, suggest making it a little larger

-Could not find Design Points G15, G18, FG36, or G16 in the Sanctuary FDR for comparison. Recommended highlighting them in the reference section.



Subject: Text Box Page Index: 97

Date: 4/9/2024 2:02:47 PM

Author: CDurham

Color: Layer: Space:

Page Label: [2] 201662.08_FDR_map_ex_Seg2-E DR 2

Unresolved:

Viewport appears to be at a larger scale than the previous sheet, even though scales say they are the same. Please have viewport at same scale as

previous sheet.

98 (11)



Subject: Callout Page Index: 98

Date: 4/9/2024 2:03:31 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Unresolved:

Is there a wall along here? If so, please label

Unresolved: Add additional contour labels Subject: Text Box Page Index: 98

Date: 4/9/2024 2:03:45 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Unresolved:

Add additional contour labels



Subject: Callout Page Index: 98

Date: 4/9/2024 2:31:34 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Provide MH size



Subject: Callout Page Index: 98

Date: 4/9/2024 2:33:35 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Can't read label



Subject: Callout Page Index: 98

Date: 4/9/2024 2:34:11 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Unresolved:

Label road and include ROW width and

classification



Subject: Callout Page Index: 98

Date: 4/9/2024 2:34:57 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Unresolved:

Ensure all existing and proposed easements are

labeled

Missing Basins OS1, OS2, OS6 & FG35 in summary table. Subject: Text Box Page Index: 98

Date: 4/9/2024 2:36:24 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Missing Basins OS1, OS2, OS6 & FG35 in

summary table.



Subject: Callout Page Index: 98

Date: 4/9/2024 2:37:29 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

These are design point labels. Please move to design point table and list corresponding basins in

this table.



Subject: Callout Page Index: 98

Date: 4/9/2024 2:39:29 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Label all storm infrastructure, include if public/private and existing/proposed/future.



Subject: Callout Page Index: 98

Date: 4/9/2024 2:39:55 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Label inlets and include if sump/at-grade and size



Subject: Callout Page Index: 98

Date: 4/9/2024 3:31:50 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Label drainage easement. Easement needs to include all of riprap.



Subject: Callout Page Index: 99

Date: 4/9/2024 2:41:07 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] FDR Map 2

Provide DP



Subject: Callout Page Index: 99

Date: 4/9/2024 3:05:36 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] FDR Map 2

Unresolved:

Provide calculations for all swales



Subject: Callout Page Index: 99

Date: 4/9/2024 3:06:36 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] FDR Map 2

Unresolved:

Show and label existing culvert, mentioned in report. Show limits of water elevation overtopping

roadway



Subject: Callout Page Index: 99

Date: 4/9/2024 3:07:28 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] FDR Map 2

Unresolved:

Show and label Basin FG38



Subject: Callout Page Index: 99

Date: 4/9/2024 3:07:56 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] FDR Map 2

Unresolved:

Do OS1/G18 flows spill this way before

overtopping Eastonville?



Subject: Callout Page Index: 99

Date: 4/9/2024 3:20:31 PM

Author: CDurham

Color: Layer: Space:

Page Label: [1] FDR Map 2

CD's have these culverts as remaining. Please coordinate between plans and map to show same information. If they remain, please provide analysis showing how pipes work with developed flow