## ENG-PUDSP21010-R3-PDR.pdf Markup Summary

1 (1)

Subject: EPC ENG Review

Page Index: 1

Date: 4/20/2022 8:22:57 AM

Author: dsdrice

Color: Layer: Space:

Page Label: 1

4 (1)

nary drainage report is the basis for approved MDDP for the site prepare lan\*, HR Green, November 2020 (M s 568 dwelling units. 567? 3 soil types within the proposed site a consist of Columbine gravelly san logic soil group B). See the soils m

Subject: Callout Page Index: 4

Date: 4/18/2022 9:46:03 AM

Author: dsdrice Color: Layer:

Space: Page Label: 4

5 (1)

Subject: Callout Page Index: 5

Date: 4/18/2022 1:13:23 PM

Author: dsdrice

Color: Layer: Space: Page Label: 5 Address the offsite basins as well

567?

6(2)

Subject: Callout Page Index: 6

Date: 4/18/2022 1:12:24 PM

Author: dsdrice Color:

Layer: Space: Page Label: 6

Subject: Callout Page Index: 6

Date: 4/18/2022 3:09:55 PM

Author: dsdrice

Color: Layer: Space: Page Label: 6 Address the combined flows including flows from the west

Main Stem Tributary #2?

7 (2) Subject: storm sewer north Page Index: 7 he **north** sid Date: 4/18/2022 3:21:08 PM Author: dsdrice Color: or to being re Layer: Space: Page Label: 7 Il then be routed to the north where torm sever piping, which will converte north side of the MS and west of to being released at historic rates in the severe piper. south? Date: 4/18/2022 3:21:25 PM — south? SD facilities has been completed wit 35 ac-ft and 0.522 ac-ft of storage c e Road crossing has been included Author: dsdrice Color: Layer: Space: Page Label: 7 8 (4) Subject: Callout The Rex Rd. TSB or SFB will need to be sized to Page Index: 8 function as a PBMP. Date: 4/18/2022 3:42:35 PM Author: dsdrice Color: Layer: Space: Page Label: 8 OW ILOW LU Snpiect: **SFB** Page Index: 8 :y (SFB) p Date: 4/18/2022 3:35:54 PM Author: dsdrice proposed r Color: Layer: Space: Page Label: 8 Subject: Callout TSB? Page Index: 8 Date: 4/18/2022 3:36:07 PM Author: dsdrice Color: Layer: Space: Page Label: 8 In-1 (1.22 AU, Us = 4.2 cfs, Qtoo = i ains the proposed Phase 1 improv lway improvements within the proje titer along Rex Rd. The flows will th losed Sand Filter Basin (SFB) when utary #2 channel. Subject: Sand Filter Basin (SFB Page Index: 8 Date: 4/18/2022 3:40:32 PM Author: dsdrice in A-2a (4.21 AC, Q<sub>5</sub> = 8.1 cfs, Q<sub>10</sub> Color: sists of residential lots. Tintagel Tra Layer: Space:

9 (1) ublic) 5' CD Subject: north Page Index: 9 ISt northea: Date: 4/18/2022 3:54:46 PM Author: dsdrice Color: Layer: Space: Page Label: 9 10 (2) Subject: and drive a (public) Page Index: 10 (public) CE Date: 4/18/2022 3:56:04 PM Author: dsdrice downstrea Color: Layer: Space: Page Label: 10 Subject: Callout private? Page Index: 10 Date: 4/18/2022 3:56:36 PM Author: dsdrice Color: Layer: Space: Page Label: 10 12 (8) Subject: d on the east 0 & R Page Index: 12 ds O & R. R Date: 4/18/2022 4:07:44 PM Author: dsdrice outed, via cu Color: Layer: Space: Page Label: 12 Subject: Callout Stoke Gabriel Way and Glampton Dr. and Totness Page Index: 12 Terrace Date: 4/18/2022 4:13:33 PM Author: dsdrice Color: Layer: Space: Page Label: 12 Subject: and the eastern half of Totness Terrace. Runoff Page Index: 12 from this basin will sheet flow Date: 4/18/2022 4:14:20 PM

Author: dsdrice

Color: Layer: Space: Page Label: 12 to the adjacent roadway. Flows will then be routed, via curb & gutter, to a proposed (public) 15' CDOT

Type 'R' at-grade inlet (DP 17a),

Subject: Cloud+ This doesn't match the grading now Page Index: 12 Date: 4/19/2022 7:38:50 AM Author: dsdrice Color: Layer: Space: Page Label: 12 oca (pablic) io Subject: DP 17g. ction of Stoke G Page Index: 12 Date: 4/19/2022 7:42:41 AM r to **DP 17g**. Author: dsdrice of the cite this h Color: Layer: Space: Page Label: 12 Subject: 3 cfs): Located i Page Index: 12 Galmpto f of Galmpton D Date: 4/19/2022 7:44:08 AM ed, via curb & gu Author: dsdrice taida at tha inte Color: Layer: Space: Page Label: 12 Subject: cfs,  $Q_{100} = 26$ . Page Index: 12 eastern the **eastern** ha Date: 4/19/2022 7:44:33 AM Il then be route Author: dsdrice Color: Layer: Space: Page Label: 12 Subject: proposed (pr Totnes Page Index: 12 of Totness T Date: 4/19/2022 7:45:16 AM Author: dsdrice 18b. Color: Layer: Space: Page Label: 12

western

13 (5)

Subject:

the central port Page Index: 13

the western half Date: 4/19/2022 7:46:09 AM

will then be rou Author: dsdrice

Layer:
Space:

Basin C-9a (3.5 AC, Q<sub>5</sub> = 5.6 cfs, Q<sub>1</sub> consists of residential lots, a portion from this basin will sheet flow to the : roposed (public) 15° CDOT Type 'Rust north of Hope Cove Loop, Ber Bergency overflows will overtop the Lurb and gutter to Design Point 18b Subject: just north of Hope Cove Loop Page Index: 13 Date: 4/19/2022 7:48:21 AM Author: dsdrice Basin C-9b (3.69 AC, Qs = 5.9 cfs, C pasin consists of residential lots and Color: Layer: Space: Page Label: 13 ) INIET (UP 1/g), IO Subject: Galmpton s are conveyed dc Page Index: 13 n of Galmpton Driv Date: 4/19/2022 7:48:40 AM Galmpton Drive. Author: dsdrice Color: Layer: Space: Page Label: 13 sin will shee Subject: ) 20' Page Index: 13 olic) 20' Date: 4/19/2022 7:50:08 AM Author: dsdrice f Hope Cov Color: Layer: Space: Page Label: 13 = 7.2 cfs): L Subject: north Page Index: 13 he north ha Date: 4/19/2022 7:51:42 AM Author: dsdrice s will then I Color: Layer: Space: Page Label: 13 14 (8) Subject: and the Page Index: 14 north half of Brixham Driv Date: 4/19/2022 2:40:18 PM Author: dsdrice Color: Layer: Space: Page Label: 14 )' CDOT Ty Subject: north Page Index: 14 JSt north of Date: 4/19/2022 2:40:57 PM Author: dsdrice op the crov Color: Layer: Space:

Subject: Callout enter crosspan and flow to DP24? Page Index: 14 Date: 4/19/2022 2:42:39 PM Author: dsdrice Color: Layer: Space: Page Label: 14 Subject: overflows will overtop the crown of Kate Meadow Page Index: 14 Lane and be Date: 4/19/2022 2:42:51 PM routed downstream via curb & gutter to Design Author: dsdrice Point 23 within Kate Meadow Lane Color: Layer: Space: Page Label: 14 Subject: Callout Verify grades, ped crossing and crosspan Page Index: 14 Date: 4/19/2022 2:45:53 PM Author: dsdrice Color: Layer: Space: Page Label: 14 Subject: ofs,  $Q_{100} = 14.0$  Page Index: 14 eastern the eastern hal Date: 4/19/2022 2:46:28 PM s will then be ro Author: dsdrice Color: Layer: Space: Page Label: 14 UDIIC) 15 | Subject: Page Index: 14

1), just sol Date: 4/19/2022 2:47:25 PM just Overtop th Color: Layer: Space: Page Label: 14 ISIN WIII SN Subject: ) 10' Page Index: 14 )IIC) 10' C[ Date: 4/19/2022 2:48:08 PM iust south Color: Layer: Space: Page Label: 14

15 (2)

Subject: Callout Page Index: 15

Author: dsdrice

Date: 4/19/2022 2:55:52 PM

Color: Layer: Space:

Page Label: 15

Subject: Callout Page Index: 15

Date: 4/19/2022 2:59:54 PM

Address the Eastonville culvert crossings into Ba D1, E1, and A-4a Author: dsdrice Color:

Layer: Space:

Page Label: 15

and offsite to the south

Address the Eastonville Road culvert crossings

into Basins D1, E1, and A-4a

Swales in A-1 and C-7 also?

16 (9)

Subject: Callout Page Index: 16

Date: 4/19/2022 3:20:49 PM

Author: dsdrice Color: Layer: Space:

Page Label: 16

Subject: Callout Page Index: 16

Date: 4/19/2022 3:01:44 PM

Author: dsdrice Color: Layer: Space:

Page Label: 16

Describe the size and provide cross-sections on

the drainage plan.

'QCV and EL

Subject: Page Index: 16

e is 4.254 Ac Date: 4/19/2022 3:05:25 PM

Author: dsdrice Color: Layer: Space:

Page Label: 16

4.254

imately mergin Page Index: 16

Subject:

-Ft & 2.104 Ac Date: 4/19/2022 3:05:35 PM

Author: dsdrice Color: Layer: Space:

Page Label: 16

& 2.104

Subject: s pond will di 1.653 Page Index: 16 t & 1.653 Ac Date: 4/19/2022 3:06:48 PM Author: dsdrice Color: Layer: Space: Page Label: 16 Subject: CV and EUR 3.355 Page Index: 16 e is 3.355 Ac Date: 4/19/2022 3:06:55 PM Author: dsdrice Color: Layer: Space: Page Label: 16 respectively. The total required dete Subject: 0.875 Ac-Ft & 2.405 Ac-F Pond C: Located on the southeast schannels. This pond will discharge in are 0.975 Ac-Ft & 2.405 Ac-Ft, responded: 4/19/2022 3:07:39 PM Pond D: Located centrally on the sit the Main Stem channel. The require respectively. The total required dete Color: Layer: Space: Page Label: 16 WQCV and E Subject: 4.941 Page Index: 16 e is 4.941 Ac Date: 4/19/2022 3:07:47 PM Author: dsdrice Color: Layer: Space: Page Label: 16 Subject: Callout Provide the volumes calculated by the MHFD Page Index: 16 routed hydrographs Date: 4/19/2022 3:09:21 PM Author: dsdrice Color: Layer: Space: Page Label: 16

17 (2)

High I wanted and it was the side of a loss of price of a regionary of the regionary of the region o

Subject: Callout Page Index: 17

Date: 4/19/2022 3:34:08 PM

Author: dsdrice
Color: Layer:
Space:
Page Label: 17

Address the other 2 for Eastonville Rd.

Subject: Callout Page Index: 17

Date: 4/19/2022 4:48:11 PM

Author: dsdrice

Color: Layer: Space: Page Label: 17 not found; also provide HEC-RAS tables showing

velocities, FR, shear, depths, etc.

18 (2)

Subject: Callout Page Index: 18

Date: 4/20/2022 8:06:04 AM

Author: dsdrice Color:

Layer: Space:

Page Label: 18

Subject: Callout Page Index: 18

Date: 4/20/2022 8:07:01 AM

Author: dsdrice Color: Layer: Space: Page Label: 18

provide final USACE determination

In Appendix? Provide report title and date

40 (2)



Subject: Text Box Page Index: 40

Date: 4/19/2022 4:44:39 PM

Author: dsdrice Color: Layer: Space:

Page Label: 40

(Tables and cross-sections not cross-checked with plans on this review)

Subject: Callout Page Index: 40

Date: 4/20/2022 8:13:36 AM

Author: dsdrice Color: Layer: Space: Page Label: 40

Provide for all existing offsite basins

42 (7)



Subject: Callout Page Index: 42

Date: 4/20/2022 8:18:29 AM

Author: dsdrice Color: Layer: Space:

Page Label: 42

the computed value needs to be used for existing conditions if it's higher than the Tc check (the area

isn't urbanized yet)

19.6 29.0	Subject: Page Index: 42 Date: 4/20/2022 8:19:00 AM Author: dsdrice Color: Layer: Space: Page Label: 42	19.6
19.6 29.0 33.7	Subject: Page Index: 42 Date: 4/20/2022 8:19:05 AM Author: dsdrice Color: Layer: Space: Page Label: 42	29.0
29.0 33.7 14.2	Subject: Page Index: 42 Date: 4/20/2022 8:19:11 AM Author: dsdrice Color: Layer: Space: Page Label: 42	33.7
33.7 (14.2 23.4	Subject: Page Index: 42 Date: 4/20/2022 8:19:15 AM Author: dsdrice Color: Layer: Space: Page Label: 42	14.
14.2 23.4 19.9	Subject: Page Index: 42 Date: 4/20/2022 8:19:19 AM Author: dsdrice Color: Layer: Space: Page Label: 42	23.4
23.4 19.9	Subject: Page Index: 42 Date: 4/20/2022 8:19:24 AM Author: dsdrice Color: Layer: Space: Page Label: 42	19.9

43 (1)

Not checked on this review

Subject: Text Box Page Index: 43

Date: 4/20/2022 8:20:06 AM

Author: dsdrice

Color: Layer: Space:

Page Label: 43

Not checked on this review

50 (1)



Subject: Text Box Page Index: 50

Date: 4/20/2022 8:20:46 AM

Author: dsdrice Color: Layer: Space:

Page Label: 50

Inlets not checked in detail with this review.

79 (1)



Subject:

Page Index: 79

Date: 4/19/2022 3:56:51 PM

Author: dsdrice Color: Layer:

Space: Page Label: 79

173 (1)



Subject: Text Box Page Index: 173

Date: 4/18/2022 3:39:24 PM

Author: dsdrice
Color: Layer:
Space:

Page Label: 173

Also provide the MHFD calculation sheets for this design to verify drain times.

176 (6)



Subject: Callout Page Index: 176

Date: 4/18/2022 5:09:57 PM

Author: dsdrice Color: Layer: Space:

Page Label: 176

show culverts and flows



Subject: Callout Page Index: 176

**Date:** 4/18/2022 10:18:02 AM

Author: dsdrice Color: Layer:

Space: Page Label: 176

Label flows



Subject: Callout

Page Index: 176 Date: 4/18/2022 10:24:01 AM

Author: dsdrice

Color: Layer: Space:

Page Label: 176

Label sub-basin



Subject:

Page Index: 176 Date: 4/18/2022 5:10:34 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 176



Subject: Callout Page Index: 176

Date: 4/18/2022 5:11:34 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 176

Label sub-basins



Subject:

Page Index: 176

Date: 4/18/2022 5:11:15 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 176

<del>177 (</del>14)



Subject: Callout

Page Index: 177

Date: 4/18/2022 10:27:07 AM

Author: dsdrice Color: Layer: Space:

Page Label: 177

Label the proposed channel construction



Subject: Callout

Page Index: 177

Date: 4/18/2022 3:18:00 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 177

Delete access



Subject: Callout Page Index: 177

Date: 4/18/2022 3:40:53 PM

Author: dsdrice Color:

Layer: Space:

Page Label: 177

Report says SFB



Subject: Text Box Page Index: 177

Date: 4/18/2022 3:47:45 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 177

(interim)



Subject: Callout Page Index: 177

Date: 4/19/2022 1:25:26 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 177

A berm can't be used to control the 100-year flood elevation, Add a note that the entire area will be filled with development east of the channel.



Subject: Callout Page Index: 177

Date: 4/18/2022 4:52:06 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 177

Show the 100-year water level in the channel (all

sheets)



Subject: Callout Page Index: 177

Date: 4/18/2022 4:52:29 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 177

Provide lot numbers (all sheets)



Subject:

Page Index: 177

Date: 4/18/2022 4:59:06 PM

Author: dsdrice

Color: Layer: Space:



Page Index: 177

Date: 4/18/2022 4:59:13 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 177



Subject: Callout Page Index: 177

Date: 4/18/2022 4:59:34 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 177

Address conveyance and flows here



Subject: Callout Page Index: 177

Date: 4/18/2022 5:01:24 PM

Author: dsdrice

Color: Layer:

Address where flows from here go, label culvert to be removed if that is the case

Space: Page Label: 177

Subject: Callout Page Index: 177

Date: 4/18/2022 6:06:51 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 177

Label channel centerline stationing



Subject: Callout Page Index: 177

Date: 4/19/2022 1:15:06 PM

Author: dsdrice Color: Layer:

Space: Page Label: 177 Will this much fill be allowed above the gas line?



Subject: Callout Page Index: 177

Date: 4/19/2022 1:22:01 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 177

Show the proposed floodplain boundary



Page Index: 178

Date: 4/18/2022 3:20:00 PM

Author: dsdrice Color: Layer: Space:

Page Label: 178



Subject:

Page Index: 178

Date: 4/18/2022 3:20:06 PM

Author: dsdrice Color: Layer: Space:

Page Label: 178



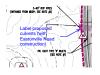
Subject: Callout Page Index: 178

Date: 4/18/2022 3:20:39 PM

Author: dsdrice Color: Layer: Space:

Page Label: 178





Subject: Callout Page Index: 178

Date: 4/18/2022 3:23:06 PM

Author: dsdrice Color:

Layer: Space:

Page Label: 178

Label proposed culverts (with Eastonville Road construction)



Subject: Callout Page Index: 178

Date: 4/18/2022 4:57:40 PM

Author: dsdrice Color: Layer: Space:

Page Label: 178

Show all grading to tie in

Show latest Parks options



Subject:

Page Index: 178

Date: 4/18/2022 4:56:38 PM

Author: dsdrice

Color: Layer: Space:



Page Index: 178

Date: 4/18/2022 4:57:28 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 178



Subject: Callout Page Index: 178

Date: 4/18/2022 5:05:53 PM

Author: dsdrice Color:

Layer: Space:

Page Label: 178

Address where flows from here go, label culverts

to be removed if that is the case



Subject:

Page Index: 178

Date: 4/19/2022 7:43:54 AM

Author: dsdrice

Color: Layer: Space:

Page Label: 178



Subject:

Page Index: 178

Date: 4/19/2022 7:45:09 AM

Author: dsdrice

Color: Layer: Space:

Page Label: 178



Subject: Callout

Page Index: 178

Date: 4/19/2022 7:56:02 AM

Author: dsdrice Color:

Layer: Space:

Page Label: 178

Show the 100-year floodplain.



Subject: Callout Page Index: 178

**Date:** 4/19/2022 1:31:04 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 178

Provide a drainage easement and conveyance for

flows from this area



Page Index: 178

Date: 4/19/2022 1:30:29 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 178



Subject: Highlight Page Index: 178

Date: 4/19/2022 1:30:59 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 178



Subject: Callout Page Index: 178

Date: 4/19/2022 2:29:12 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 178

If this will also be used for maintenance access label as such, or provide separate maintenance

access roads.



Subject:

Page Index: 178

PR. 15' CDOT Date: 4/19/2022 2:48:17 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 178



Subject: Callout Page Index: 178

Date: 4/19/2022 2:50:32 PM

Author: dsdrice Color:

Layer: Space:

Page Label: 178

provide design and cross-section on the plan



Subject:

Page Index: 178

Date: 4/19/2022 2:57:10 PM

Author: dsdrice

Color: Layer: Space:



Subject: Callout Page Index: 179

Date: 4/18/2022 4:49:39 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 179

Provide flow arrows



Subject: Callout Page Index: 179

Date: 4/19/2022 11:56:14 AM

Author: dsdrice

Color: Layer:

Page Label: 179

A berm can't be used to control the 100-year flood

elevation



Subject: Callout Page Index: 179

Date: 4/19/2022 12:01:02 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 179

A berm can't be used to control the 100-year flood

elevation



Subject: Callout Page Index: 179

Date: 4/18/2022 5:52:21 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 179

Address WQ for this area



Subject:

Page Index: 179

Date: 4/18/2022 5:53:00 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 179



Subject: Callout Page Index: 179

Date: 4/18/2022 5:53:27 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 179

Is a separate sub-basin needed for roadway flows?



Subject: Callout Page Index: 179

Date: 4/19/2022 2:32:25 PM

Author: dsdrice Color:

Color: Layer: Space:

Page Label: 179

Show all of the necessary improvements. Label

plans to reference for channel design.



Subject:

Page Index: 179

Date: 4/19/2022 7:49:18 AM

Author: dsdrice

Color: Layer: Space:

Page Label: 179



Subject:

Page Index: 179

PR. 15' CDOT Date: 4/19/2022 7:49:57 AM

Author: dsdrice

Color: Layer: Space:

Page Label: 179



Subject: Callout Page Index: 179

Date: 4/19/2022 7:53:23 AM

Author: dsdrice

Color: Layer: Space:

Page Label: 179

Show the outlet pipe



Subject: Callout Page Index: 179

**Date:** 4/19/2022 7:54:16 AM

Author: dsdrice

Color: Layer: Space:

Page Label: 179

How does spillway get through the berm?



Subject:

Page Index: 179

Date: 4/19/2022 11:59:34 AM

Author: dsdrice

Color: Layer: Space:

show grading for the spillway

Subject: Callout Page Index: 179

Date: 4/19/2022 12:00:15 PM

MATCHLINE - SEE

Author: dsdrice Color: Layer:

Space:

Page Label: 179

show grading for the spillway

Will this made III to a close of the control of the

Subject: Callout

Page Index: 179 Date: 4/19/2022 1:14:42 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 179

Will this much fill be allowed above the gas line?



Subject: Callout Page Index: 179

Date: 4/19/2022 2:32:33 PM

Author: dsdrice Color: Layer: Space:

Page Label: 179

Label offsite easements to be obtained



Subject: Callout Page Index: 179

**Date:** 4/19/2022 2:34:41 PM

Author: dsdrice Color: Layer:

Space: Page Label: 179 Provide design point and flows.



Subject: Callout Page Index: 179

**Date:** 4/19/2022 2:35:48 PM

Author: dsdrice Color: Layer:

Space: Page Label: 179 Label lots and tracts



Subject: Callout Page Index: 179

**Date:** 4/19/2022 2:36:11 PM

Author: dsdrice

Color: Layer: Space:

Page Label: 179

Provide grading for the cul-de-sac