

## Impact Water Quality Monitoring for Dredging Activities at ESC CMP Vd

| Sampling Date | Tide | Station | Time  | Depth | Depth (m) | Current Direction | Current Velocity (m/s) | Water Temp (°C) | Salinity (ppt) | D.O. Saturation (%) | D.O. (mg/L) | Turbidity (NTU) | pH   | SS (mg/L) |
|---------------|------|---------|-------|-------|-----------|-------------------|------------------------|-----------------|----------------|---------------------|-------------|-----------------|------|-----------|
| 2017/08/11    | MF   | MW1     | 07:26 | B     | 19.1      | 36.6              | 0.17                   | 26.81           | 28.01          | 51.34               | 3.51        | 7.35            | 7.76 | 4.50      |
| 2017/08/11    | MF   | MW1     | 07:28 | M     | 11        | 160.7             | 0.17                   | 27.94           | 23.7           | 62.05               | 4.26        | 4.44            | 7.75 | 3.90      |
| 2017/08/11    | MF   | MW1     | 07:29 | T     | 1.2       | 44.3              | 0.17                   | 29.03           | 19.22          | 74.47               | 5.15        | 4.44            | 7.76 | 4.30      |
| 2017/08/11    | MF   | MW1     | 07:31 | B     | 19        | 324.6             | 0.07                   | 26.22           | 29.85          | 52.56               | 3.59        | 7.75            | 7.73 | 4.60      |
| 2017/08/11    | MF   | MW1     | 07:32 | M     | 10.6      | 175.8             | 0.15                   | 27.89           | 23.87          | 60.57               | 4.16        | 4.54            | 7.77 | 3.80      |
| 2017/08/11    | MF   | MW1     | 07:33 | T     | 1         | 242.1             | 0.17                   | 29.02           | 19.04          | 74.49               | 5.15        | 4.44            | 7.79 | 4.40      |
| 2017/08/11    | MF   | DS1     | 08:40 | B     | 8.1       | 310.7             | 0.33                   | 28.67           | 21.24          | 69.14               | 4.76        | 16.56           | 7.78 | 20.60     |
| 2017/08/11    | MF   | DS1     | 08:41 | M     | 5         | 289.6             | 0.55                   | 28.89           | 19.95          | 70.76               | 4.88        | 16.06           | 7.79 | 20.20     |
| 2017/08/11    | MF   | DS1     | 08:42 | T     | 1         | 310               | 0.65                   | 29.32           | 17.52          | 76.29               | 5.3         | 6.15            | 7.79 | 18.40     |
| 2017/08/11    | MF   | DS1     | 08:43 | B     | 8.1       | 275.7             | 0.33                   | 28.5            | 22.1           | 63.42               | 4.35        | 15.96           | 7.76 | 21.10     |
| 2017/08/11    | MF   | DS1     | 08:44 | M     | 5         | 308.2             | 0.59                   | 28.88           | 19.99          | 69.76               | 4.81        | 19.96           | 7.79 | 21.00     |
| 2017/08/11    | MF   | DS1     | 08:45 | T     | 0.9       | 307.3             | 0.89                   | 29.31           | 17.56          | 76.1                | 5.28        | 6.45            | 7.79 | 18.30     |
| 2017/08/11    | MF   | DS2     | 08:53 | B     | 7.1       | 321.4             | 0.38                   | 28.91           | 19.94          | 70.8                | 4.88        | 38.08           | 7.79 | 34.20     |
| 2017/08/11    | MF   | DS2     | 08:54 | M     | 4.6       | 313               | 0.61                   | 28.99           | 19.36          | 72.62               | 5.02        | 23.16           | 7.79 | 16.50     |
| 2017/08/11    | MF   | DS2     | 08:55 | T     | 1.1       | 320.8             | 0.52                   | 29.43           | 16.78          | 77.35               | 5.38        | 6.55            | 7.78 | 4.50      |
| 2017/08/11    | MF   | DS2     | 08:58 | B     | 7         | 301.1             | 0.42                   | 28.9            | 19.92          | 71.32               | 4.92        | 38.08           | 7.77 | 32.10     |
| 2017/08/11    | MF   | DS2     | 08:58 | M     | 4.2       | 299.5             | 0.58                   | 28.95           | 19.62          | 71.83               | 4.96        | 23.26           | 7.78 | 15.40     |
| 2017/08/11    | MF   | DS2     | 08:59 | T     | 1.1       | 311.3             | 0.71                   | 29.39           | 16.91          | 77.37               | 5.38        | 5.65            | 7.77 | 4.70      |
| 2017/08/11    | MF   | DS3     | 09:05 | B     | 7         | 312.5             | 0.51                   | 28.99           | 19.3           | 74.37               | 5.14        | 27.07           | 7.77 | 9.20      |
| 2017/08/11    | MF   | DS3     | 09:06 | M     | 4.4       | 316.8             | 0.66                   | 29.16           | 18.29          | 74.78               | 5.18        | 10.55           | 7.77 | 8.40      |
| 2017/08/11    | MF   | DS3     | 09:06 | T     | 1.2       | 316.3             | 0.42                   | 29.48           | 16.66          | 79.21               | 5.51        | 5.65            | 7.77 | 4.90      |
| 2017/08/11    | MF   | DS3     | 09:09 | B     | 7         | 323.6             | 0.52                   | 28.91           | 19.84          | 71.77               | 4.95        | 27.67           | 7.75 | 9.10      |
| 2017/08/11    | MF   | DS3     | 09:10 | M     | 4.7       | 310.3             | 0.64                   | 29.09           | 18.66          | 73.39               | 5.08        | 15.36           | 7.77 | 8.60      |
| 2017/08/11    | MF   | DS3     | 09:11 | T     | 0.9       | 327               | 0.55                   | 29.46           | 16.73          | 77.62               | 5.4         | 6.15            | 7.77 | 4.90      |
| 2017/08/11    | MF   | DS4     | 09:16 | B     | 7         | 300.3             | 0.8                    | 28.99           | 19.36          | 75.23               | 5.2         | 21.96           | 7.76 | 16.50     |
| 2017/08/11    | MF   | DS4     | 09:17 | M     | 4.4       | 318.5             | 0.66                   | 29.33           | 17.28          | 76.54               | 5.32        | 8.15            | 7.78 | 5.50      |
| 2017/08/11    | MF   | DS4     | 09:17 | T     | 1         | 352.4             | 0.45                   | 29.61           | 14.48          | 85.1                | 5.98        | 5.65            | 7.78 | 5.10      |
| 2017/08/11    | MF   | DS4     | 09:21 | B     | 6.6       | 325.4             | 0.8                    | 29.15           | 18.21          | 75.25               | 5.22        | 20.06           | 7.74 | 15.70     |
| 2017/08/11    | MF   | DS4     | 09:21 | M     | 4.7       | 296.8             | 0.69                   | 29.32           | 17.25          | 76.36               | 5.31        | 7.05            | 7.76 | 5.40      |
| 2017/08/11    | MF   | DS4     | 09:22 | T     | 1         | 293.3             | 0.46                   | 29.44           | 16.6           | 79.08               | 5.51        | 5.45            | 7.75 | 5.00      |
| 2017/08/11    | MF   | DS5     | 09:28 | B     | 7.1       | 312.7             | 0.56                   | 29.22           | 17.98          | 75.28               | 5.22        | 25.06           | 7.75 | 5.90      |
| 2017/08/11    | MF   | DS5     | 09:29 | M     | 4.5       | 358.1             | 0.37                   | 29.33           | 16.71          | 77.29               | 5.39        | 7.75            | 7.74 | 7.10      |
| 2017/08/11    | MF   | DS5     | 09:29 | T     | 1         | 17.8              | 0.47                   | 29.6            | 13.49          | 85.26               | 6.02        | 7.35            | 7.75 | 6.10      |
| 2017/08/11    | MF   | DS5     | 09:30 | B     | 7         | 323.6             | 0.41                   | 29.23           | 17.85          | 76.6                | 5.32        | 13.85           | 7.71 | 5.50      |
| 2017/08/11    | MF   | DS5     | 09:31 | M     | 4.4       | 353.1             | 0.46                   | 29.34           | 16.72          | 76.9                | 5.36        | 9.65            | 7.74 | 7.40      |
| 2017/08/11    | MF   | DS5     | 09:31 | T     | 1.1       | 31.1              | 0.36                   | 29.65           | 13.48          | 84.87               | 5.99        | 6.85            | 7.76 | 23.00     |
| 2017/08/11    | MF   | US1     | 09:46 | B     | 9         | 270.6             | 0.09                   | 28.53           | 21.56          | 69.5                | 4.78        | 13.55           | 7.76 | 23.00     |
| 2017/08/11    | MF   | US1     | 09:47 | M     | 5.4       | 305.5             | 0.31                   | 28.53           | 21.61          | 68.29               | 4.7         | 10.55           | 7.75 | 8.10      |
| 2017/08/11    | MF   | US1     | 09:47 | T     | 1.1       | 269               | 0.5                    | 28.88           | 20.34          | 72.64               | 5           | 3.94            | 7.76 | 4.30      |
| 2017/08/11    | MF   | US1     | 09:48 | B     | 9         | 357.5             | 0.18                   | 28.47           | 21.76          | 67.09               | 4.62        | 16.76           | 7.74 | 22.00     |
| 2017/08/11    | MF   | US1     | 09:49 | M     | 5.5       | 302               | 0.29                   | 28.54           | 21.6           | 67.9                | 4.67        | 7.85            | 7.75 | 8.30      |
| 2017/08/11    | MF   | US1     | 09:50 | T     | 0.9       | 300.7             | 0.49                   | 28.88           | 20.37          | 72.04               | 4.96        | 4.04            | 7.76 | 4.10      |
| 2017/08/11    | MF   | US2     | 09:55 | B     | 13        | 339.3             | 0.35                   | 28.72           | 20.76          | 72.47               | 4.99        | 6.85            | 7.75 | 9.80      |
| 2017/08/11    | MF   | US2     | 09:56 | M     | 7.6       | 335.6             | 0.5                    | 29              | 19.7           | 74.89               | 5.17        | 5.15            | 7.75 | 5.90      |
| 2017/08/11    | ME   | US2     | 14:04 | B     | 7.1       | 113.1             | 0.64                   | 28.82           | 20.57          | 72.24               | 4.97        | 17.76           | 7.71 | 22.30     |
| 2017/08/11    | ME   | US2     | 14:05 | M     | 4.5       | 114.4             | 0.8                    | 29.24           | 18.91          | 75.13               | 5.18        | 6.75            | 7.72 | 6.00      |
| 2017/08/11    | ME   | US2     | 14:06 | T     | 1.2       | 132               | 0.89                   | 30.2            | 17.89          | 93.68               | 6.4         | 3.84            | 7.76 | 4.70      |
| 2017/08/11    | ME   | US2     | 14:07 | B     | 6.5       | 117.4             | 0.66                   | 28.85           | 20.4           | 70.03               | 4.82        | 21.06           | 7.72 | 22.30     |
| 2017/08/11    | ME   | US2     | 14:08 | M     | 4.7       | 139.7             | 0.63                   | 29.26           | 19.01          | 76.51               | 5.27        | 7.35            | 7.73 | 6.20      |
| 2017/08/11    | ME   | US2     | 14:09 | T     | 1.2       | 110.6             | 0.98                   | 30.12           | 17.89          | 90.87               | 6.21        | 4.04            | 7.76 | 4.50      |
| 2017/08/11    | ME   | US1     | 14:13 | B     | 9.1       | 95.9              | 0.49                   | 28.84           | 20.53          | 72.1                | 4.96        | 24.96           | 7.72 | 27.80     |
| 2017/08/11    | ME   | US1     | 14:14 | M     | 5.3       | 129.1             | 0.8                    | 29.09           | 19.44          | 75.09               | 5.18        | 12.85           | 7.71 | 3.80      |
| 2017/08/11    | ME   | US1     | 14:15 | T     | 1.2       | 119.5             | 0.77                   | 30.16           | 17.84          | 90.64               | 6.2         | 3.84            | 7.75 | 3.70      |
| 2017/08/11    | ME   | US1     | 14:15 | B     | 8.8       | 98.4              | 0.62                   | 28.86           | 20.48          | 72.39               | 4.98        | 22.56           | 7.72 | 29.70     |
| 2017/08/11    | ME   | US1     | 14:16 | M     | 5.4       | 129.9             | 0.69                   | 29.03           | 19.74          | 71.68               | 4.94        | 12.85           | 7.71 | 3.90      |
| 2017/08/11    | ME   | US1     | 14:17 | T     | 1.2       | 88.1              | 0.94                   | 30.1            | 17.82          | 89.63               | 6.13        | 4.14            | 7.75 | 3.60      |
| 2017/08/11    | ME   | DS1     | 14:22 | B     | 7.8       | 114.6             | 0.59                   | 29.03           | 19.74          | 72.16               | 4.97        | 15.05           | 7.73 | 16.20     |
| 2017/08/11    | ME   | DS1     | 14:23 | M     | 5         | 130.3             | 0.73                   | 29.86           | 17.63          | 81.62               | 5.61        | 4.94            | 7.74 | 4.50      |

Impact Water Quality Monitoring for Dredging Activities at ESC CMP Vd

|            |    |     |       |   |      |       |      |       |       |       |      |       |      |       |
|------------|----|-----|-------|---|------|-------|------|-------|-------|-------|------|-------|------|-------|
| 2017/08/11 | ME | DS1 | 14:23 | T | 1.3  | 133.3 | 0.78 | 29.92 | 17.21 | 83.11 | 5.72 | 4.34  | 7.73 | 5.80  |
| 2017/08/11 | ME | DS1 | 14:24 | B | 8    | 114.1 | 0.58 | 29.12 | 19.59 | 74.84 | 5.15 | 11.95 | 7.71 | 16.30 |
| 2017/08/11 | ME | DS1 | 14:25 | M | 5.6  | 131.4 | 0.63 | 29.87 | 17.65 | 81.01 | 5.57 | 5.55  | 7.73 | 4.10  |
| 2017/08/11 | ME | DS1 | 14:25 | T | 0.8  | 109.5 | 0.71 | 29.84 | 17.46 | 81.81 | 5.63 | 4.24  | 7.72 | 5.60  |
| 2017/08/11 | ME | DS2 | 14:31 | B | 18.9 | 312.4 | 0.09 | 27.31 | 26.03 | 57.08 | 3.91 | 20.96 | 7.68 | 20.60 |
| 2017/08/11 | ME | DS2 | 14:32 | M | 10.6 | 101   | 0.21 | 28.77 | 20.79 | 67.73 | 4.66 | 19.96 | 7.72 | 23.50 |
| 2017/08/11 | ME | DS2 | 14:32 | T | 1.3  | 117.7 | 0.53 | 30.23 | 16.8  | 84.56 | 5.81 | 5.85  | 7.74 | 10.50 |
| 2017/08/11 | ME | DS2 | 14:34 | B | 19   | 164.2 | 0.08 | 27.27 | 26.13 | 55.97 | 3.83 | 21.66 | 7.67 | 21.30 |
| 2017/08/11 | ME | DS2 | 14:35 | M | 10.6 | 107.7 | 0.35 | 28.78 | 20.8  | 67.62 | 4.65 | 18.46 | 7.71 | 23.30 |
| 2017/08/11 | ME | DS2 | 14:36 | T | 1.3  | 106.9 | 0.82 | 30.06 | 17    | 83.15 | 5.72 | 5.45  | 7.74 | 10.90 |
| 2017/08/11 | ME | DS3 | 14:45 | B | 7.9  | 111.6 | 0.53 | 28.81 | 20.63 | 69.07 | 4.75 | 19.76 | 7.72 | 24.10 |
| 2017/08/11 | ME | DS3 | 14:45 | M | 5.1  | 121.4 | 0.7  | 28.94 | 20.08 | 70.36 | 4.85 | 11.75 | 7.71 | 14.00 |
| 2017/08/11 | ME | DS3 | 14:46 | T | 1    | 144.6 | 0.91 | 29.79 | 17.53 | 81.01 | 5.58 | 4.84  | 7.72 | 5.10  |
| 2017/08/11 | ME | DS3 | 14:47 | B | 8.3  | 97.2  | 0.52 | 28.79 | 20.74 | 69.06 | 4.75 | 17.26 | 7.7  | 24.10 |
| 2017/08/11 | ME | DS3 | 14:48 | M | 5.4  | 109.8 | 0.78 | 28.88 | 20.34 | 69.26 | 4.77 | 13.95 | 7.7  | 14.10 |
| 2017/08/11 | ME | DS3 | 14:48 | T | 0.9  | 144.5 | 0.91 | 29.9  | 17.28 | 81.39 | 5.6  | 5.25  | 7.72 | 4.80  |
| 2017/08/11 | ME | DS4 | 14:58 | B | 16   | 158.8 | 0.17 | 26.87 | 27.78 | 53    | 3.62 | 30.77 | 7.66 | 23.60 |
| 2017/08/11 | ME | DS4 | 14:59 | M | 9    | 107.8 | 0.21 | 28.78 | 20.75 | 66.92 | 4.61 | 25.77 | 7.73 | 19.00 |
| 2017/08/11 | ME | DS4 | 15:00 | T | 1.2  | 134.7 | 0.75 | 30.1  | 17.07 | 82.33 | 5.66 | 5.95  | 7.74 | 4.70  |
| 2017/08/11 | ME | DS4 | 15:02 | B | 15.9 | 331   | 0.07 | 26.66 | 28.33 | 46.73 | 3.19 | 28.27 | 7.68 | 23.50 |
| 2017/08/11 | ME | DS4 | 15:03 | M | 8.8  | 122   | 0.15 | 28.72 | 21.12 | 68.3  | 4.7  | 30.07 | 7.72 | 18.50 |
| 2017/08/11 | ME | DS4 | 15:04 | T | 1.4  | 107.7 | 0.8  | 29.97 | 17.2  | 82.51 | 5.68 | 5.35  | 7.72 | 4.60  |
| 2017/08/11 | ME | DS5 | 15:10 | B | 6.6  | 96.9  | 0.5  | 28.84 | 20.69 | 72.34 | 4.98 | 25.27 | 7.72 | 28.90 |
| 2017/08/11 | ME | DS5 | 15:11 | M | 4.5  | 106.3 | 0.69 | 28.9  | 20.32 | 70.75 | 4.87 | 14.85 | 7.71 | 6.90  |
| 2017/08/11 | ME | DS5 | 15:11 | T | 0.8  | 113.4 | 1.03 | 30.19 | 16.66 | 85.45 | 5.88 | 4.74  | 7.73 | 4.90  |
| 2017/08/11 | ME | DS5 | 15:12 | B | 6.7  | 97.4  | 0.55 | 28.84 | 20.69 | 70.74 | 4.87 | 25.27 | 7.7  | 30.20 |
| 2017/08/11 | ME | DS5 | 15:13 | M | 4.1  | 107.7 | 0.73 | 28.94 | 20.14 | 70.14 | 4.83 | 15.16 | 7.71 | 6.90  |
| 2017/08/11 | ME | DS5 | 15:14 | T | 1.4  | 117.8 | 0.92 | 29.96 | 17.13 | 84.74 | 5.83 | 5.45  | 7.72 | 4.70  |
| 2017/07/31 | MF | MW1 | 15:50 | B | 19.1 | 351.3 | 0.25 | 29.02 | 21.36 | 75.34 | 5.15 | 5.75  | 7.78 | 7.00  |
| 2017/07/31 | MF | MW1 | 15:50 | M | 10.5 | 125.7 | 0.22 | 29.03 | 21.24 | 74.84 | 5.12 | 6.55  | 7.76 | 8.10  |
| 2017/07/31 | MF | MW1 | 15:51 | T | 1.4  | 102   | 0.75 | 29.28 | 20.4  | 78.01 | 5.33 | 4.34  | 7.76 | 4.80  |
| 2017/07/31 | MF | MW1 | 15:52 | B | 18.9 | 5.6   | 0.3  | 29    | 21.34 | 74.04 | 5.06 | 5.55  | 7.72 | 7.10  |
| 2017/07/31 | MF | MW1 | 15:53 | M | 10.6 | 74.4  | 0.28 | 28.96 | 21.41 | 73.74 | 5.04 | 5.55  | 7.72 | 8.20  |
| 2017/07/31 | MF | MW1 | 15:54 | T | 0.6  | 92.5  | 1.05 | 29.46 | 19.91 | 79.68 | 5.45 | 3.84  | 7.74 | 4.90  |