# APPENDIX K

## 90th Percentile Temperature Calculations

Table K.1. Calculations for 90th percentile temperature for Flat River east of Taylortown, Louisiana (LDEQ 2

Summer 90th percentile = 29.33
Winter 90th percentile = 20.78

| Date | Water Temp (C) | Season | Percentile |
|---|---|---|---|
| 10/15/02 | 16.75 | summer | 1.67% |
| 10/11/94 | 17.16 | summer | 5.00% |
| 10/14/97 | 17.96 | summer | 8.33% |
| 10/11/93 | 18.55 | summer | 11.67% |
| 10/9/95 | 19.10 | summer | 15.00% |
| 10/15/96 | 20.29 | summer | 18.33% |
| 10/16/90 | 21.00 | summer | 21.67% |
| 10/12/92 | 21.90 | summer | 25.00% |
| 10/14/91 | 23.11 | summer | 28.33% |
| 6/12/95 | 23.43 | summer | 31.67% |
| 5/14/02 | 23.62 | summer | 35.00% |
| 8/8/94 | 23.92 | summer | 38.33% |
| 6/10/96 | 24.50 | summer | 41.67% |
| 9/17/02 | 24.64 | summer | 45.00% |
| 8/13/91 | 25.05 | summer | 48.33% |
| 6/11/91 | 25.26 | summer | 51.67% |
| 6/9/97 | 26.01 | summer | 55.00% |
| 8/14/90 | 26.10 | summer | 58.33% |
| 6/14/93 | 26.15 | summer | 61.67% |
| 8/9/93 | 26.57 | summer | 65.00% |
| 8/13/96 | 26.59 | summer | 68.33% |
| 6/13/94 | 27.07 | summer | 71.67% |
| 7/9/02 | 27.35 | summer | 75.00% |
| 8/12/97 | 27.89 | summer | 78.33% |
| 6/11/02 | 28.47 | summer | 81.67% |
| 8/15/95 | 28.77 | summer | 85.00% |
| 8/5/02 | 28.96 | summer | 88.33% |
| 8/11/92 | 29.70 | summer | 91.67% |
| 6/11/90 | 31.00 | summer | 95.00% |
| 6/15/92 | 31.97 | summer | 98.33% |

| Date | Water Temp (C) | Season | Percentile |
|---|---|---|---|
| 12/11/95 | 6.01 | winter | 1.61% |
| 2/14/95 | 7.74 | winter | 4.84% |
| 12/13/94 | 8.34 | winter | 8.06% |
| 2/18/97 | 9.66 | winter | 11.29% |
| 2/13/96 | 10.72 | winter | 14.52% |
| 12/9/97 | 11.06 | winter | 17.74% |
| 1/15/02 | 11.21 | winter | 20.97% |
| 2/10/92 | 11.36 | winter | 24.19% |
| 12/14/93 | 11.77 | winter | 27.42% |
| 12/10/90 | 12.00 | winter | 30.65% |
| 12/9/96 | 12.39 | winter | 33.87% |
| 11/18/02 | 12.46 | winter | 37.10% |
| 12/14/92 | 12.60 | winter | 40.32% |
| 2/4/91 | 13.50 | winter | 43.55% |
| 2/19/02 | 13.81 | winter | 46.77% |
| 2/10/98 | 14.39 | winter | 50.00% |
| 2/12/90 | 15.30 | winter | 53.23% |
| 4/9/02 | 16.27 | winter | 56.45% |
| 12/10/91 | 16.28 | winter | 59.68% |
| 4/15/97 | 16.84 | winter | 62.90% |
| 4/6/92 | 17.07 | winter | 66.13% |
| 4/9/90 | 17.10 | winter | 69.35% |
| 2/8/93 | 17.50 | winter | 72.58% |
| 4/8/96 | 17.82 | winter | 75.81% |
| 3/19/02 | 18.23 | winter | 79.03% |
| 4/4/95 | 18.30 | winter | 82.26% |
| 2/8/94 | 18.90 | winter | 85.48% |
| 4/12/94 | 20.56 | winter | 88.71% |
| 4/16/91 | 21.10 | winter | 91.94% |
| 4/13/93 | 21.54 | winter | 95.16% |
| 4/14/98 | 21.68 | winter | 98.39% |

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# APPENDIX L

**Published 7Q10 Information and 7Q10 Calculations**

| | | |
|---|---|---|
| 7q10 for Red Chute Bayou at Sligo 1980-1999 = | 4.4 | cfs |
| drainage area USGS gage 07349860 = | 980 | sq mi |
| Red Chute Bayou 7Q10 flow/area = | 0.00449 | cfs/sq mi |
| Drainage area Red Chute Bayou = | 1000 | sq mi |
| Estimated 7Q10 Red Chute Bayou flow = | 4.489796 | cfs |

| | | |
|---|---|---|
| headwater 7Q10 estimated from avg q ratios = | 0.122398 | cfs |

FILE: R:\PROJECTS\2110-616\TECH\LA-QUAL\FLAT\FLAT GEOMETRY AND FLOW.XLS

| | | |
|---|---|---|
| 7q10 for Red Chute Bayou at Sligo 1980-1999 Dec-Feb= | 44 | cfs |
| drainage area USGS gage 07349860 = | 980 | sq mi |
| Red Chute Bayou 7Q10 flow/area = | 0.044898 | cfs/sq mi |
| Drainage area Red Chute Bayou = | 1000 | sq mi |
| Estimated 7Q10 Red Chute Bayou flow = | 44.89796 | cfs |

| | | |
|---|---|---|
| headwater 7Q10 estimated from avg q ratios = | 1.223979 | cfs |

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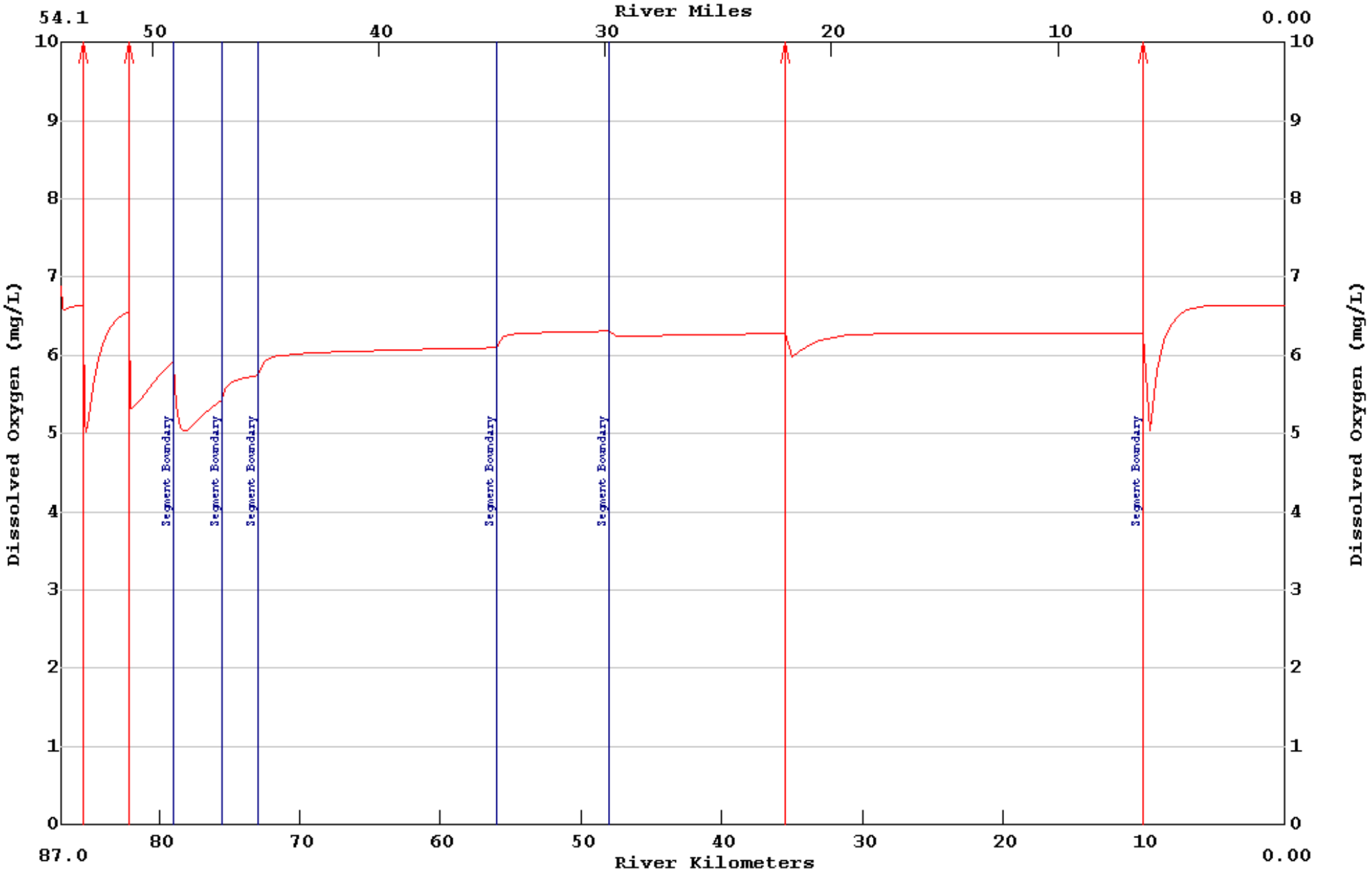
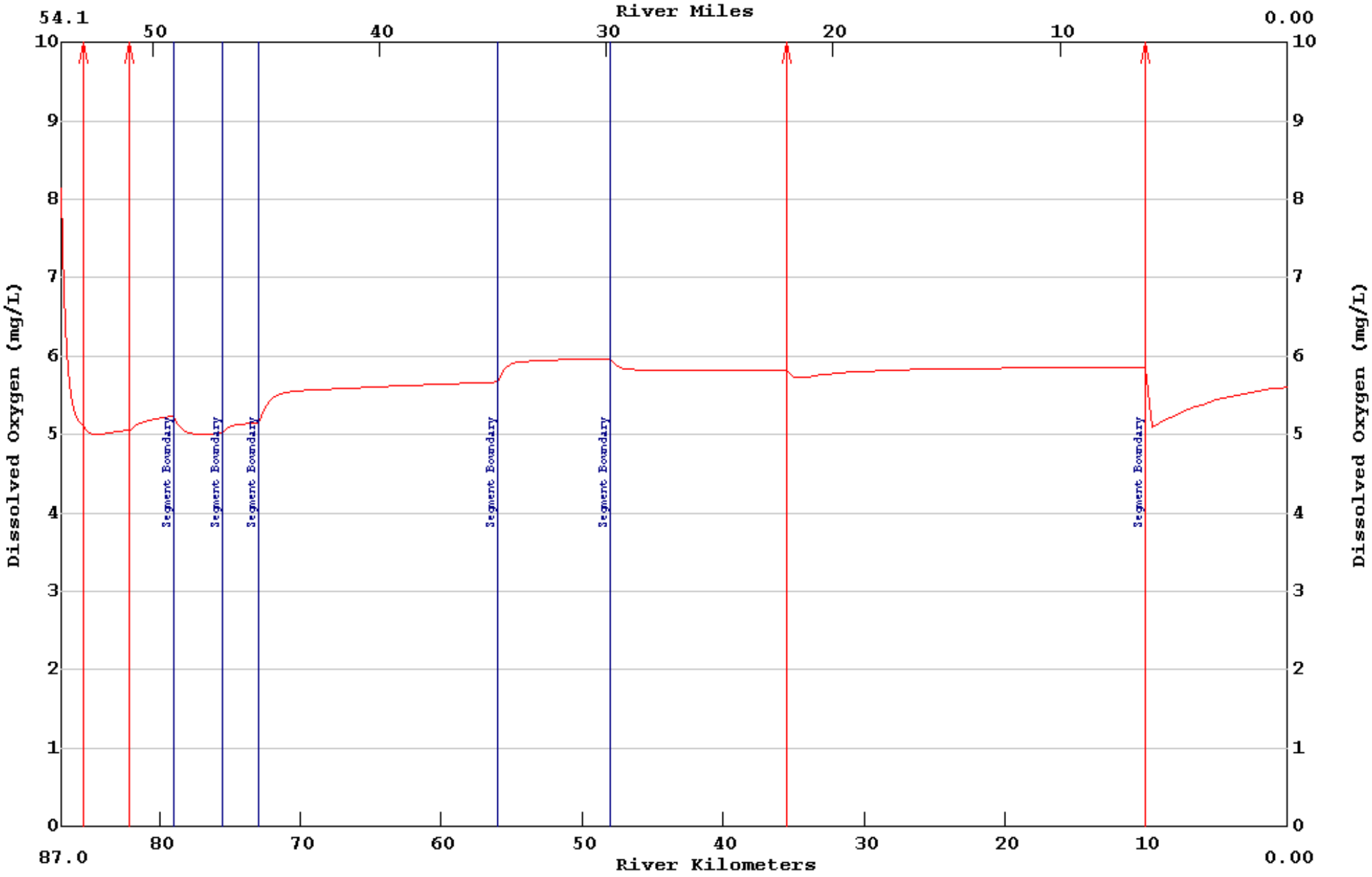
# APPENDIX M

## Plots of Predicted DO for Projections

LA-QUAL Version 8.11 Run at 10:19 on 09/28/2007 File D:\comp_models\LA-QUAL_8p11\flatsum.txt
Summer Projection 50 min= 5.02 max= 6.88
Flat River



LA-QUAL Version 8.11  Run at 15:39 on 09/27/2007  File D:\comp_models\LA-QUAL_8p11\flatwin.txt
Winter Projection 35
Flat River



# APPENDIX N

## Printout of Model Output for Summer Projection

```
LA-QUAL Version 8.11
Louisiana Department of Environmental Quality

Input file is D:\comp_models\LA-QUAL_8p11\flatsum.txt
Output produced at 10:19 on 09/28/2007

$$$ DATA TYPE 1 (TITLES AND CONTROL CARDS) $$$

CARD TYPE       CONTROL TITLES

TITLE01         LA-QUAL Projection for Flat River
TITLE02         Summer Projection 50
CNTROL03   NO   SEQU                        <Warning: legacy control - line ignored>
CNTROL04  YES   METR
CNTROL05  YES   OXYG                        <Warning: legacy control - line ignored>
ENDATA01

$$$ DATA TYPE 2 (MODEL OPTIONS) $$$

CARD TYPE       MODEL OPTION

MODOPT01   NO   TEMP
MODOPT02   NO   SALI
MODOPT03   NO   CONSERVATIVE MATERIAL
MODOPT04   NO   CONSERVATIVE MATERIAL II
MODOPT05  YES   DISS
MODOPT06  YES   BIOC
MODOPT07  YES   NITR
MODOPT08   NO   PHOS
MODOPT09   NO   CHLO
MODOPT10   NO   MACR
MODOPT11   NO   COLI
MODOPT12   NO   NONC
ENDATA02

$$$ DATA TYPE 3 (PROGRAM CONSTANTS) $$$

CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

PROGRAM         HYDRAULIC CALCULATION METHOD       =        2.00000 (widths and depths)
PROGRAM         MAXIMUM ITERATION LIMIT            =      500.00000
ENDATA03

$$$ DATA TYPE 4 (TEMPERATURE CORRECTION CONSTANTS FOR RATE COEFFICIENTS) $$$

 CARD TYPE     RATE CODE     THETA VALUE

THETA        NH3 DECA       1.07000
ENDATA04

$$$ CONSTANTS TYPE 5 (TEMPERATURE DATA) $$$
```

CARD TYPE DESCRIPTION OF CONSTANT VALUE

ENDATA05

$$$ DATA TYPE 6 (ALGAE CONSTANTS) $$$

CARD TYPE DESCRIPTION OF CONSTANT VALUE

ENDATA06

$$$ DATA TYPE 7 (MACROPHYTE CONSTANTS) $$$

CARD TYPE DESCRIPTION OF CONSTANT VALUE

ENDATA07

$$$ DATA TYPE 8 (REACH IDENTIFICATION DATA) $$$

| CARD TYPE | REACH | ID | NAME | BEGIN REACH km | | END REACH km | ELEM LENGTH km | REACH LENGTH km | ELEMS PER RCH | BEGIN ELEM NUM | END ELEM NUM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| REACH ID | 1 | FR | C Flat R Drainage Canal | 87.00 | TO | 79.00 | 0.1000 | 8.00 | 80 | 1 | 80 |
| REACH ID | 2 | FR | C Flat R Drainage Canal | 79.00 | TO | 75.50 | 0.1000 | 3.50 | 35 | 81 | 115 |
| REACH ID | 3 | FR | C Flat R Drainage Canal | 75.50 | TO | 73.00 | 0.1000 | 2.50 | 25 | 116 | 140 |
| REACH ID | 4 | FR | Flat River | 73.00 | TO | 56.00 | 0.5000 | 17.00 | 34 | 141 | 174 |
| REACH ID | 5 | FR | Flat River | 56.00 | TO | 48.00 | 0.5000 | 8.00 | 16 | 175 | 190 |
| REACH ID | 6 | FR | Flat River | 48.00 | TO | 10.00 | 0.5000 | 38.00 | 76 | 191 | 266 |
| REACH ID | 7 | FR | Flat River | 10.00 | TO | 0.00 | 0.5000 | 10.00 | 20 | 267 | 286 |

ENDATA08

$$$ DATA TYPE 9 (ADVECTIVE HYDRAULIC COEFFICIENTS) $$$

| CARD TYPE | REACH | ID | WIDTH "A" | WIDTH "B" | WIDTH "C" | DEPTH "D" | DEPTH "E" | DEPTH "F" | SLOPE | MANNINGS "N" |
|---|---|---|---|---|---|---|---|---|---|---|
| HYDR-1 | 1 | FR | 0.000 | 0.000 | 11.670 | 0.000 | 0.000 | 0.280 | 0.00000 | 0.000 |
| HYDR-1 | 2 | FR | 0.000 | 0.000 | 10.520 | 0.000 | 0.000 | 0.450 | 0.00000 | 0.000 |
| HYDR-1 | 3 | FR | 0.000 | 0.000 | 13.410 | 0.000 | 0.000 | 0.330 | 0.00000 | 0.000 |
| HYDR-1 | 4 | FR | 0.000 | 0.000 | 15.360 | 0.000 | 0.000 | 0.300 | 0.00000 | 0.000 |
| HYDR-1 | 5 | FR | 0.000 | 0.000 | 31.680 | 0.000 | 0.000 | 0.310 | 0.00000 | 0.000 |
| HYDR-1 | 6 | FR | 0.000 | 0.000 | 31.680 | 0.000 | 0.000 | 0.400 | 0.00000 | 0.000 |
| HYDR-1 | 7 | FR | 0.000 | 0.000 | 12.010 | 0.000 | 0.000 | 0.170 | 0.00000 | 0.000 |

ENDATA09

$$$ DATA TYPE 10 (DISPERSIVE HYDRAULIC COEFFICIENTS) $$$

| CARD TYPE | REACH | ID | TIDAL RANGE | DISPERSION "A" | DISPERSION "B" | DISPERSION "C" | DISPERSION "D" |
|---|---|---|---|---|---|---|---|

ENDATA10

$$$ DATA TYPE 11 (INITIAL CONDITIONS) $$$

| CARD TYPE | REACH | ID | TEMP | SALIN | DO | NH3 | NO3+2 | PHOS | CHL A | MACRO |
|---|---|---|---|---|---|---|---|---|---|---|
| INITIAL | 1 | FR | 29.30 | 0.00 | 5.16 | 0.38 | 0.00 | 0.00 | 0.00 | 0.00 |
| INITIAL | 2 | FR | 29.30 | 0.00 | 0.37 | 0.38 | 0.00 | 0.00 | 0.00 | 0.00 |
| INITIAL | 3 | FR | 29.30 | 0.00 | 1.44 | 0.38 | 0.00 | 0.00 | 0.00 | 0.00 |
| INITIAL | 4 | FR | 29.30 | 0.00 | 2.16 | 0.38 | 0.00 | 0.00 | 0.00 | 0.00 |
| INITIAL | 5 | FR | 29.30 | 0.00 | 2.16 | 0.38 | 0.00 | 0.00 | 0.00 | 0.00 |
| INITIAL | 6 | FR | 29.30 | 0.00 | 2.87 | 0.38 | 0.00 | 0.00 | 0.00 | 0.00 |
| INITIAL | 7 | FR | 29.30 | 0.00 | 5.26 | 0.38 | 0.00 | 0.00 | 0.00 | 0.00 |

ENDATA11

$$$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) $$$

| CARD TYPE | RCH NUM | RCH ID | K2 OPT | K2 "A" | K2 "B" | K2 "C" | BKGRND SOD g/m²/d | BOD DECAY per day | BOD SETT m/d | BOD CONV TO SOD | ANAER BOD2 DECAY per day | BOD2 DECAY per day | BOD2 SETT m/d | BOD2 CONV TO SOD | ANAER BOD2 DECAY per day |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| COEFF-1 | 1 | FR | 15 LOUISIANA | 0.000 | 0.000 | 0.000 | 0.450 | 0.120 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| COEFF-1 | 2 | FR | 15 LOUISIANA | 0.000 | 0.000 | 0.000 | 0.738 | 0.120 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| COEFF-1 | 3 | FR | 15 LOUISIANA | 0.000 | 0.000 | 0.000 | 0.750 | 0.120 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| COEFF-1 | 4 | FR | 15 LOUISIANA | 0.000 | 0.000 | 0.000 | 0.675 | 0.120 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| COEFF-1 | 5 | FR | 15 LOUISIANA | 0.000 | 0.000 | 0.000 | 0.550 | 0.120 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| COEFF-1 | 6 | FR | 15 LOUISIANA | 0.000 | 0.000 | 0.000 | 0.550 | 0.120 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| COEFF-1 | 7 | FR | 15 LOUISIANA | 0.000 | 0.000 | 0.000 | 1.100 | 0.120 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

ENDATA12

$$$ DATA TYPE 13 (NITROGEN AND PHOSPHORUS COEFFICIENTS) $$$

| CARD TYPE | REACH | ID | ORG-N DECA | ORG-N SETT | ORGN CONV TO NH3 SRCE | NH3 DECA | NH3 SRCE | PHOS SRCE | DENIT RATE |
|---|---|---|---|---|---|---|---|---|---|
| COEFF-2 | 1 | FR | 0.020 | 0.000 | 1.000 | 0.090 | 0.000 | 0.000 | 0.000 |
| COEFF-2 | 2 | FR | 0.020 | 0.000 | 1.000 | 0.090 | 0.000 | 0.000 | 0.000 |
| COEFF-2 | 3 | FR | 0.020 | 0.000 | 1.000 | 0.090 | 0.000 | 0.000 | 0.000 |
| COEFF-2 | 4 | FR | 0.020 | 0.000 | 1.000 | 0.070 | 0.000 | 0.000 | 0.000 |
| COEFF-2 | 5 | FR | 0.020 | 0.000 | 1.000 | 0.070 | 0.000 | 0.000 | 0.000 |
| COEFF-2 | 6 | FR | 0.020 | 0.000 | 1.000 | 0.090 | 0.000 | 0.000 | 0.000 |
| COEFF-2 | 7 | FR | 0.020 | 0.000 | 1.000 | 0.090 | 0.000 | 0.000 | 0.000 |

ENDATA13

$$$ DATA TYPE 14 (ALGAE AND MACROPHYTE COEFFICIENTS) $$$

| CARD TYPE | REACH | ID | SECCHI DEPTH | ALGAE: CHL A | ALGAE SETT | ALG CONV TO SOD | ALGAE GROW | ALGAE RESP | MACRO GROW | MACRO RESP | SHADING |
|---|---|---|---|---|---|---|---|---|---|---|---|

ENDATA14

$$$ DATA TYPE 15 (COLIFORM AND NONCONSERVATIVE COEFFICIENTS) $$$

```
CARD TYPE      REACH  ID    COLIFORM       NCM       NCM    NCM CONV
                            DIE-OFF     DECAY      SETT     TO SOD

ENDATA15

$$$ DATA TYPE 16 (INCREMENTAL DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) $$$

CARD TYPE      REACH  ID       OUTFLOW      INFLOW      TEMP     SALIN      CM-I     CM-II   IN/DIST  OUT/DIST

ENDATA16

$$$ DATA TYPE 17 (INCREMENTAL DATA FOR DO, BOD, AND NITROGEN) $$$

CARD TYPE      REACH  ID          DO       BOD     ORG-N     NH3-N     NO3-N     BOD#2

ENDATA17

$$$ DATA TYPE 18 (INCREMENTAL DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

 CARD TYPE      REACH  ID        PHOS     CHL A      COLI       NCM

ENDATA18

$$$ DATA TYPE 19 (NONPOINT SOURCE DATA) $$$

CARD TYPE      REACH  ID       BOD#1     ORG-N      COLI       NCM        DO     BOD#2

NONPOINT         1   FR        1.65      0.07      5.00      0.00      0.00      0.00
NONPOINT         2   FR        5.00      0.20      5.00      0.00      0.00      0.00
NONPOINT         3   FR        3.75      0.20      5.00      0.00      0.00      0.00
NONPOINT         4   FR       23.75      1.20      5.00      0.00      0.00      0.00
NONPOINT         5   FR       21.25      1.20      5.00      0.00      0.00      0.00
NONPOINT         6   FR      150.00      6.20      5.00      0.00      0.00      0.00
NONPOINT         7   FR        6.00      5.00      0.00      0.00      0.00      0.00
ENDATA19

$$$ DATA TYPE 20 (HEADWATER FOR FLOW, TEMPERATURE, SALINITY AND CONSERVATIVES) $$$

CARD TYPE     ELEMENT   NAME                  UNIT     FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                        m³/s      cfs   deg C      ppt

HDWTR-1          1     Flat R Drainage Cana    0   0.00300    0.106   29.30     0.00     0.000     0.000   0.00
ENDATA20

$$$ DATA TYPE 21 (HEADWATER DATA FOR DO, BOD, AND NITROGEN) $$$

CARD TYPE     ELEMENT   NAME                        DO     BOD#1     ORG-N     NH3-N     NO3-N     BOD#2
                                                   mg/L      mg/L      mg/L      mg/L      mg/L      mg/L

HDWTR-2          1     Flat R Drainage Cana       6.88      1.90      0.50      0.09      0.00      0.00
```

ENDATA21

$$$ DATA TYPE 22 (HEADWATER DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

| CARD TYPE | ELEMENT | NAME | PHOS | CHL A | COLI | NCM |
|---|---|---|---|---|---|---|
| | | | mg/L | mg/L | mg/L | mg/L |

ENDATA22

$$$ DATA TYPE 23 (JUNCTION DATA) $$$

| CARD TYPE | JUNCTION ELEMENT | UPSTRM ELEMENT | RIVER KILOM | NAME |
|---|---|---|---|---|

ENDATA23

$$$ DATA TYPE 24 (WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) $$$

| CARD TYPE | ELEMENT | RKILO | NAME | FLOW | FLOW | FLOW | TEMP | SALIN | CM-I | CM-II |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | $m^3/s$ | cfs | MGD | deg C | ppt | | |
| WSTLD-1 | 17 | 85.40 | River Ridge Subdvsn | 0.00270 | 0.09534 | 0.062 | 29.30 | 0.00 | 0.000 | 0.000 |
| WSTLD-1 | 50 | 82.10 | Palmetto Park | 0.02190 | 0.77331 | 0.500 | 29.30 | 0.00 | 0.000 | 0.000 |
| WSTLD-1 | 216 | 35.50 | Elm Grove Jr High | 0.00140 | 0.04944 | 0.032 | 29.30 | 0.00 | 0.000 | 0.000 |
| WSTLD-1 | 267 | 10.00 | NPS Red Chute Bayou | 0.12700 | 4.48446 | 2.899 | 29.30 | 0.00 | 0.000 | 0.000 |

ENDATA24

$$$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) $$$

| CARD TYPE | ELEMENT | NAME | DO | BOD | % BOD RMVL | ORG-N | NH3-N | % NITRIF | NO3-N | BOD#2 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | mg/L | mg/L | | mg/L | mg/L | | mg/L | mg/L |
| WSTLD-2 | 17 | River Ridge Subdvsn | 5.00 | 46.00 | 0.00 | 3.00 | 7.00 | 0.00 | 0.00 | 0.00 |
| WSTLD-2 | 50 | Palmetto Park | 5.00 | 23.00 | 0.00 | 7.00 | 3.00 | 0.00 | 0.00 | 0.00 |
| WSTLD-2 | 216 | Elm Grove Jr High | 2.00 | 69.00 | 0.00 | 5.00 | 10.00 | 0.00 | 0.00 | 0.00 |
| WSTLD-2 | 267 | NPS Red Chute Bayou | 3.00 | 1.90 | 0.00 | 0.22 | 0.03 | 0.00 | 0.00 | 0.00 |

ENDATA25

$$$ DATA TYPE 26 (WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

| CARD TYPE | ELEMENT | NAME | PHOS | CHL A | COLI | NCM |
|---|---|---|---|---|---|---|
| | | | mg/L | mg/L | mg/L | mg/L |

ENDATA26

$$$ DATA TYPE 27 (LOWER BOUNDARY CONDITIONS) $$$

| CARD TYPE | CONSTITUENT | CONCENTRATION |
|---|---|---|

ENDATA27

```
$$$ DATA TYPE 28 (DAM DATA) $$$

CARD TYPE     ELEMENT   NAME                  EQN      "A"       "B"       "H"

ENDATA28

$$$ DATA TYPE 29 (SENSITIVITY ANALYSIS DATA) $$$

CARD TYPE       PARAMETER     COL 1     COL 2     COL 3     COL 4     COL 5     COL 6     COL 7     COL 8

ENDATA29

$$$ DATA TYPE 30 (PLOT CONTROL CARDS) $$$


NUMBER OF PLOTS =  1
NUMBER OF REACHES IN PLOT 1 =   7
PLOT RCH  1  2  3  4  5  6  7
ENDATA30

$$$ DATA TYPE 31 (OVERLAY PLOT DATA) $$$


OVERLAY 1 FlatR proj.ovl                  :Flat River
ENDATA31



     .....NO ERRORS DETECTED IN INPUT DATA
     .....HYDRAULIC CALCULATIONS COMPLETED
     .....TRIDIAGONAL MATRIX TERMS INITIALIZED
     .....OXYGEN DEPENDENT RATES CONVERGENT IN  22 ITERATIONS
     .....CONSTITUENT CALCULATIONS COMPLETED
     .....GRAPHICS DATA FOR PLOT 1 WRITTEN TO UNIT 11


FINAL REPORT    Flat R Drainage Cana                            LA-QUAL Projection for Flat River
REACH NO.  1    C Flat R Drainage Canal                         Summer Projection 50
```

********** REACH INPUTS **********

| ELEM NO. | TYPE | FLOW | TEMP deg C | SALN ppt | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | PHOS mg/L | CHL A µg/L | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | HDWTR | 0.00300 | 29.30 | 0.00 | 0.00 | 0.00 | 6.88 | 1.90 | 0.00 | 1.90 | 0.00 | 0.50 | 0.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 17 | WSTLD | 0.00270 | 29.30 | 0.00 | 0.00 | 0.00 | 5.00 | 46.00 | 0.00 | 46.00 | 0.00 | 3.00 | 7.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 50 | WSTLD | 0.02190 | 29.30 | 0.00 | 0.00 | 0.00 | 5.00 | 23.00 | 0.00 | 23.00 | 0.00 | 7.00 | 3.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

********** HYDRAULIC PARAMETER VALUES **********

| ELEM NO. | BEGIN DIST km | ENDING DIST km | FLOW $m^3/s$ | PCT EFF | ADVCTV VELO m/s | TRAVEL TIME days | DEPTH m | WIDTH m | VOLUME $m^3$ | SURFACE AREA $m^2$ | X-SECT AREA $m^2$ | TIDAL PRISM $m^3$ | TIDAL VELO m/s | DISPRSN $m^2/s$ | MEAN VELO m/s |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 87.00 | 86.90 | 0.00300 | 0.0 | 0.00092 | 1.26 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.001 |
| 2 | 86.90 | 86.80 | 0.00300 | 0.0 | 0.00092 | 1.26 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.001 |
| 3 | 86.80 | 86.70 | 0.00300 | 0.0 | 0.00092 | 1.26 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.001 |
| 4 | 86.70 | 86.60 | 0.00300 | 0.0 | 0.00092 | 1.26 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.001 |
| 5 | 86.60 | 86.50 | 0.00300 | 0.0 | 0.00092 | 1.26 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.001 |
| 6 | 86.50 | 86.40 | 0.00300 | 0.0 | 0.00092 | 1.26 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.001 |
| 7 | 86.40 | 86.30 | 0.00300 | 0.0 | 0.00092 | 1.26 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.001 |
| 8 | 86.30 | 86.20 | 0.00300 | 0.0 | 0.00092 | 1.26 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.001 |
| 9 | 86.20 | 86.10 | 0.00300 | 0.0 | 0.00092 | 1.26 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.001 |
| 10 | 86.10 | 86.00 | 0.00300 | 0.0 | 0.00092 | 1.26 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.001 |
| 11 | 86.00 | 85.90 | 0.00300 | 0.0 | 0.00092 | 1.26 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.001 |
| 12 | 85.90 | 85.80 | 0.00300 | 0.0 | 0.00092 | 1.26 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.001 |
| 13 | 85.80 | 85.70 | 0.00300 | 0.0 | 0.00092 | 1.26 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.001 |
| 14 | 85.70 | 85.60 | 0.00300 | 0.0 | 0.00092 | 1.26 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.001 |
| 15 | 85.60 | 85.50 | 0.00300 | 0.0 | 0.00092 | 1.26 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.001 |
| 16 | 85.50 | 85.40 | 0.00300 | 0.0 | 0.00092 | 1.26 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.001 |
| 17 | 85.40 | 85.30 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 18 | 85.30 | 85.20 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 19 | 85.20 | 85.10 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 20 | 85.10 | 85.00 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 21 | 85.00 | 84.90 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 22 | 84.90 | 84.80 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 23 | 84.80 | 84.70 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 24 | 84.70 | 84.60 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 25 | 84.60 | 84.50 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 26 | 84.50 | 84.40 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 27 | 84.40 | 84.30 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 28 | 84.30 | 84.20 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 29 | 84.20 | 84.10 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 30 | 84.10 | 84.00 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 31 | 84.00 | 83.90 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 32 | 83.90 | 83.80 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 33 | 83.80 | 83.70 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 34 | 83.70 | 83.60 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 35 | 83.60 | 83.50 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 36 | 83.50 | 83.40 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 37 | 83.40 | 83.30 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 38 | 83.30 | 83.20 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 39 | 83.20 | 83.10 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 40 | 83.10 | 83.00 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 41 | 83.00 | 82.90 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 42 | 82.90 | 82.80 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 43 | 82.80 | 82.70 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 44 | 82.70 | 82.60 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 45 | 82.60 | 82.50 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 46 | 82.50 | 82.40 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 47 | 82.40 | 82.30 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 48 | 82.30 | 82.20 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 49 | 82.20 | 82.10 | 0.00570 | 47.4 | 0.00174 | 0.66 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.002 |
| 50 | 82.10 | 82.00 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 51 | 82.00 | 81.90 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 52 | 81.90 | 81.80 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 53 | 81.80 | 81.70 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 54 | 81.70 | 81.60 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 55 | 81.60 | 81.50 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 56 | 81.50 | 81.40 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 57 | 81.40 | 81.30 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 58 | 81.30 | 81.20 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 59 | 81.20 | 81.10 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 60 | 81.10 | 81.00 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 61 | 81.00 | 80.90 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 62 | 80.90 | 80.80 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 63 | 80.80 | 80.70 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 64 | 80.70 | 80.60 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 65 | 80.60 | 80.50 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 66 | 80.50 | 80.40 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 67 | 80.40 | 80.30 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 68 | 80.30 | 80.20 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 69 | 80.20 | 80.10 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 70 | 80.10 | 80.00 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 71 | 80.00 | 79.90 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 72 | 79.90 | 79.80 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 73 | 79.80 | 79.70 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 74 | 79.70 | 79.60 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 75 | 79.60 | 79.50 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 76 | 79.50 | 79.40 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 77 | 79.40 | 79.30 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 78 | 79.30 | 79.20 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 79 | 79.20 | 79.10 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| 80 | 79.10 | 79.00 | 0.02760 | 89.1 | 0.00845 | 0.14 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.008 |
| TOT | | | | | | 46.31 | | | 26140.79 | 93360.00 | | | | | |
| AVG | | | | | 0.0020 | | 0.28 | 11.67 | | | 3.27 | | | | |
| CUM | | | | | | 46.31 | | | | | | | | | |

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

| ELEM NO. | ENDING DIST | SAT D.O. mg/L | REAER RATE 1/da | BOD#1 DECAY 1/da | BOD#1 SETT 1/da | ABOD#1 DECAY 1/da | BOD#2 DECAY 1/da | BOD#2 SETT 1/da | ABOD#2 DECAY 1/da | BKGD SOD * | FULL SOD * | CORR SOD * | ORGN DECAY 1/da | ORGN SETT 1/da | NH3 DECAY 1/da | NH3 SRCE * | DENIT RATE 1/da | PO4 SRCE * | ALG PROD ** | MAC PROD ** | COLI DECAY 1/da | NCM DECAY 1/da | NCM SETT 1/da |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 86.900 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | 86.800 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 86.700 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4 | 86.600 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | 86.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 86.400 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 86.300 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8 | 86.200 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9 | 86.100 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 86.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11 | 85.900 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12 | 85.800 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13 | 85.700 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14 | 85.600 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15 | 85.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 16 | 85.400 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 17 | 85.300 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 18 | 85.200 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 19 | 85.100 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 20 | 85.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 21 | 84.900 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 22 | 84.800 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 23 | 84.700 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 24 | 84.600 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 25 | 84.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 26 | 84.400 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 27 | 84.300 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 28 | 84.200 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 29 | 84.100 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 84.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 31 | 83.900 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 32 | 83.800 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 33 | 83.700 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 34 | 83.600 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 35 | 83.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 36 | 83.400 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 37 | 83.300 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 38 | 83.200 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 39 | 83.100 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 40 | 83.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 41 | 82.900 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 42 | 82.800 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 43 | 82.700 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 44 | 82.600 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 45 | 82.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 46 | 82.400 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 47 | 82.300 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 48 | 82.200 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 49 | 82.100 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 50 | 82.000 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 51 | 81.900 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 52 | 81.800 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 53 | 81.700 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 54 | 81.600 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 55 | 81.500 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 56 | 81.400 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 81.300 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 58 | 81.200 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 59 | 81.100 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 81.000 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 61 | 80.900 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 62 | 80.800 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 63 | 80.700 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 64 | 80.600 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 65 | 80.500 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 66 | 80.400 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 67 | 80.300 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 68 | 80.200 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 69 | 80.100 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 70 | 80.000 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 71 | 79.900 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 72 | 79.800 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 73 | 79.700 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 74 | 79.600 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75 | 79.500 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 76 | 79.400 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 77 | 79.300 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 78 | 79.200 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 79 | 79.100 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 80 | 79.000 | 7.65 | 3.33 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| AVG 20 DEG C RATE | | | 2.62 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.45 | | | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 |

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

| ELEM NO. | ENDING DIST | TEMP DEG C | SALN PPT | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | TOTN mg/L | PHOS mg/L | CHL A µg/L | MACRO g/m³ | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 86.900 | 29.30 | 0.00 | 0.00 | 0.00 | 6.63 | 1.61 | 0.00 | 1.61 | 0.00 | 0.48 | 0.09 | 0.02 | 0.59 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 2 | 86.800 | 29.30 | 0.00 | 0.00 | 0.00 | 6.58 | 1.37 | 0.00 | 1.37 | 0.00 | 0.47 | 0.09 | 0.04 | 0.60 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 3 | 86.700 | 29.30 | 0.00 | 0.00 | 0.00 | 6.59 | 1.18 | 0.00 | 1.18 | 0.00 | 0.46 | 0.08 | 0.05 | 0.60 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 4 | 86.600 | 29.30 | 0.00 | 0.00 | 0.00 | 6.59 | 1.02 | 0.00 | 1.02 | 0.00 | 0.45 | 0.08 | 0.07 | 0.60 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 5 | 86.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.60 | 0.89 | 0.00 | 0.89 | 0.00 | 0.44 | 0.08 | 0.09 | 0.61 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 6 | 86.400 | 29.30 | 0.00 | 0.00 | 0.00 | 6.61 | 0.79 | 0.00 | 0.79 | 0.00 | 0.43 | 0.08 | 0.10 | 0.61 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 7 | 86.300 | 29.30 | 0.00 | 0.00 | 0.00 | 6.62 | 0.70 | 0.00 | 0.70 | 0.00 | 0.42 | 0.07 | 0.12 | 0.61 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 8 | 86.200 | 29.30 | 0.00 | 0.00 | 0.00 | 6.62 | 0.64 | 0.00 | 0.64 | 0.00 | 0.41 | 0.07 | 0.13 | 0.62 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 9 | 86.100 | 29.30 | 0.00 | 0.00 | 0.00 | 6.63 | 0.58 | 0.00 | 0.58 | 0.00 | 0.40 | 0.07 | 0.15 | 0.62 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 10 | 86.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.63 | 0.54 | 0.00 | 0.54 | 0.00 | 0.40 | 0.07 | 0.16 | 0.62 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 11 | 85.900 | 29.30 | 0.00 | 0.00 | 0.00 | 6.63 | 0.50 | 0.00 | 0.50 | 0.00 | 0.39 | 0.07 | 0.17 | 0.63 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 12 | 85.800 | 29.30 | 0.00 | 0.00 | 0.00 | 6.63 | 0.47 | 0.00 | 0.47 | 0.00 | 0.38 | 0.06 | 0.19 | 0.63 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 13 | 85.700 | 29.30 | 0.00 | 0.00 | 0.00 | 6.64 | 0.45 | 0.00 | 0.45 | 0.00 | 0.37 | 0.06 | 0.20 | 0.63 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 14 | 85.600 | 29.30 | 0.00 | 0.00 | 0.00 | 6.64 | 0.43 | 0.00 | 0.43 | 0.00 | 0.36 | 0.06 | 0.21 | 0.64 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 15 | 85.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.64 | 0.41 | 0.00 | 0.41 | 0.00 | 0.36 | 0.06 | 0.22 | 0.64 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 16 | 85.400 | 29.30 | 0.00 | 0.00 | 0.00 | 6.64 | 0.40 | 0.00 | 0.40 | 0.00 | 0.35 | 0.06 | 0.24 | 0.64 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | 85.300 | 29.30 | 0.00 | 0.00 | 0.00 | 5.14 | 19.64 | 0.00 | 19.64 | 0.00 | 1.58 | 3.06 | 0.44 | 5.08 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 18 | 85.200 | 29.30 | 0.00 | 0.00 | 0.00 | 5.02 | 17.54 | 0.00 | 17.54 | 0.00 | 1.56 | 2.79 | 0.73 | 5.08 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 19 | 85.100 | 29.30 | 0.00 | 0.00 | 0.00 | 5.09 | 15.67 | 0.00 | 15.67 | 0.00 | 1.54 | 2.56 | 0.99 | 5.08 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 20 | 85.000 | 29.30 | 0.00 | 0.00 | 0.00 | 5.22 | 14.01 | 0.00 | 14.01 | 0.00 | 1.51 | 2.34 | 1.23 | 5.08 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 21 | 84.900 | 29.30 | 0.00 | 0.00 | 0.00 | 5.35 | 12.52 | 0.00 | 12.52 | 0.00 | 1.49 | 2.14 | 1.45 | 5.08 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 22 | 84.800 | 29.30 | 0.00 | 0.00 | 0.00 | 5.47 | 11.20 | 0.00 | 11.20 | 0.00 | 1.47 | 1.96 | 1.66 | 5.09 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 23 | 84.700 | 29.30 | 0.00 | 0.00 | 0.00 | 5.59 | 10.01 | 0.00 | 10.01 | 0.00 | 1.45 | 1.79 | 1.85 | 5.09 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 24 | 84.600 | 29.30 | 0.00 | 0.00 | 0.00 | 5.69 | 8.96 | 0.00 | 8.96 | 0.00 | 1.43 | 1.64 | 2.02 | 5.09 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 25 | 84.500 | 29.30 | 0.00 | 0.00 | 0.00 | 5.78 | 8.03 | 0.00 | 8.03 | 0.00 | 1.41 | 1.51 | 2.18 | 5.09 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 26 | 84.400 | 29.30 | 0.00 | 0.00 | 0.00 | 5.87 | 7.19 | 0.00 | 7.19 | 0.00 | 1.39 | 1.38 | 2.33 | 5.09 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 27 | 84.300 | 29.30 | 0.00 | 0.00 | 0.00 | 5.95 | 6.44 | 0.00 | 6.44 | 0.00 | 1.37 | 1.27 | 2.46 | 5.10 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 28 | 84.200 | 29.30 | 0.00 | 0.00 | 0.00 | 6.01 | 5.78 | 0.00 | 5.78 | 0.00 | 1.35 | 1.16 | 2.59 | 5.10 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 29 | 84.100 | 29.30 | 0.00 | 0.00 | 0.00 | 6.07 | 5.19 | 0.00 | 5.19 | 0.00 | 1.33 | 1.07 | 2.70 | 5.10 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 30 | 84.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.13 | 4.66 | 0.00 | 4.66 | 0.00 | 1.31 | 0.99 | 2.81 | 5.10 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 31 | 83.900 | 29.30 | 0.00 | 0.00 | 0.00 | 6.18 | 4.19 | 0.00 | 4.19 | 0.00 | 1.29 | 0.91 | 2.90 | 5.10 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 32 | 83.800 | 29.30 | 0.00 | 0.00 | 0.00 | 6.22 | 3.77 | 0.00 | 3.77 | 0.00 | 1.27 | 0.84 | 2.99 | 5.10 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 33 | 83.700 | 29.30 | 0.00 | 0.00 | 0.00 | 6.26 | 3.40 | 0.00 | 3.40 | 0.00 | 1.25 | 0.78 | 3.08 | 5.11 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 34 | 83.600 | 29.30 | 0.00 | 0.00 | 0.00 | 6.30 | 3.07 | 0.00 | 3.07 | 0.00 | 1.23 | 0.72 | 3.15 | 5.11 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 35 | 83.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.33 | 2.77 | 0.00 | 2.77 | 0.00 | 1.22 | 0.67 | 3.23 | 5.11 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 36 | 83.400 | 29.30 | 0.00 | 0.00 | 0.00 | 6.36 | 2.51 | 0.00 | 2.51 | 0.00 | 1.20 | 0.62 | 3.29 | 5.11 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 37 | 83.300 | 29.30 | 0.00 | 0.00 | 0.00 | 6.39 | 2.27 | 0.00 | 2.27 | 0.00 | 1.18 | 0.58 | 3.36 | 5.11 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 38 | 83.200 | 29.30 | 0.00 | 0.00 | 0.00 | 6.41 | 2.06 | 0.00 | 2.06 | 0.00 | 1.17 | 0.54 | 3.41 | 5.11 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 39 | 83.100 | 29.30 | 0.00 | 0.00 | 0.00 | 6.43 | 1.88 | 0.00 | 1.88 | 0.00 | 1.15 | 0.50 | 3.47 | 5.12 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 40 | 83.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.45 | 1.71 | 0.00 | 1.71 | 0.00 | 1.13 | 0.47 | 3.52 | 5.12 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 41 | 82.900 | 29.30 | 0.00 | 0.00 | 0.00 | 6.47 | 1.56 | 0.00 | 1.56 | 0.00 | 1.12 | 0.44 | 3.57 | 5.12 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 42 | 82.800 | 29.30 | 0.00 | 0.00 | 0.00 | 6.49 | 1.43 | 0.00 | 1.43 | 0.00 | 1.10 | 0.41 | 3.61 | 5.12 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 43 | 82.700 | 29.30 | 0.00 | 0.00 | 0.00 | 6.50 | 1.31 | 0.00 | 1.31 | 0.00 | 1.09 | 0.39 | 3.65 | 5.12 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 44 | 82.600 | 29.30 | 0.00 | 0.00 | 0.00 | 6.51 | 1.20 | 0.00 | 1.20 | 0.00 | 1.07 | 0.36 | 3.69 | 5.13 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 45 | 82.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.52 | 1.11 | 0.00 | 1.11 | 0.00 | 1.06 | 0.34 | 3.73 | 5.13 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 46 | 82.400 | 29.30 | 0.00 | 0.00 | 0.00 | 6.53 | 1.03 | 0.00 | 1.03 | 0.00 | 1.04 | 0.32 | 3.76 | 5.13 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 47 | 82.300 | 29.30 | 0.00 | 0.00 | 0.00 | 6.54 | 0.95 | 0.00 | 0.95 | 0.00 | 1.03 | 0.31 | 3.80 | 5.13 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 48 | 82.200 | 29.30 | 0.00 | 0.00 | 0.00 | 6.55 | 0.89 | 0.00 | 0.89 | 0.00 | 1.01 | 0.29 | 3.83 | 5.13 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 49 | 82.100 | 29.30 | 0.00 | 0.00 | 0.00 | 6.56 | 0.83 | 0.00 | 0.83 | 0.00 | 1.00 | 0.28 | 3.86 | 5.13 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 50 | 82.000 | 29.30 | 0.00 | 0.00 | 0.00 | 5.32 | 17.98 | 0.00 | 17.98 | 0.00 | 5.74 | 2.41 | 0.85 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 51 | 81.900 | 29.30 | 0.00 | 0.00 | 0.00 | 5.32 | 17.54 | 0.00 | 17.54 | 0.00 | 5.72 | 2.37 | 0.90 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 52 | 81.800 | 29.30 | 0.00 | 0.00 | 0.00 | 5.33 | 17.12 | 0.00 | 17.12 | 0.00 | 5.70 | 2.34 | 0.95 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 53 | 81.700 | 29.30 | 0.00 | 0.00 | 0.00 | 5.35 | 16.71 | 0.00 | 16.71 | 0.00 | 5.69 | 2.31 | 1.00 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 54 | 81.600 | 29.30 | 0.00 | 0.00 | 0.00 | 5.37 | 16.31 | 0.00 | 16.31 | 0.00 | 5.67 | 2.28 | 1.05 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 55 | 81.500 | 29.30 | 0.00 | 0.00 | 0.00 | 5.40 | 15.91 | 0.00 | 15.91 | 0.00 | 5.65 | 2.25 | 1.10 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 56 | 81.400 | 29.30 | 0.00 | 0.00 | 0.00 | 5.42 | 15.53 | 0.00 | 15.53 | 0.00 | 5.63 | 2.22 | 1.14 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 57 | 81.300 | 29.30 | 0.00 | 0.00 | 0.00 | 5.44 | 15.16 | 0.00 | 15.16 | 0.00 | 5.61 | 2.19 | 1.19 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 58 | 81.200 | 29.30 | 0.00 | 0.00 | 0.00 | 5.47 | 14.79 | 0.00 | 14.79 | 0.00 | 5.60 | 2.16 | 1.24 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 59 | 81.100 | 29.30 | 0.00 | 0.00 | 0.00 | 5.49 | 14.44 | 0.00 | 14.44 | 0.00 | 5.58 | 2.14 | 1.28 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 60 | 81.000 | 29.30 | 0.00 | 0.00 | 0.00 | 5.52 | 14.09 | 0.00 | 14.09 | 0.00 | 5.56 | 2.11 | 1.33 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 61 | 80.900 | 29.30 | 0.00 | 0.00 | 0.00 | 5.54 | 13.75 | 0.00 | 13.75 | 0.00 | 5.54 | 2.08 | 1.38 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 62 | 80.800 | 29.30 | 0.00 | 0.00 | 0.00 | 5.57 | 13.42 | 0.00 | 13.42 | 0.00 | 5.52 | 2.06 | 1.42 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 63 | 80.700 | 29.30 | 0.00 | 0.00 | 0.00 | 5.59 | 13.10 | 0.00 | 13.10 | 0.00 | 5.51 | 2.03 | 1.46 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 64 | 80.600 | 29.30 | 0.00 | 0.00 | 0.00 | 5.62 | 12.79 | 0.00 | 12.79 | 0.00 | 5.49 | 2.00 | 1.51 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 65 | 80.500 | 29.30 | 0.00 | 0.00 | 0.00 | 5.64 | 12.48 | 0.00 | 12.48 | 0.00 | 5.47 | 1.98 | 1.55 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 66 | 80.400 | 29.30 | 0.00 | 0.00 | 0.00 | 5.66 | 12.18 | 0.00 | 12.18 | 0.00 | 5.45 | 1.96 | 1.59 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 67 | 80.300 | 29.30 | 0.00 | 0.00 | 0.00 | 5.68 | 11.89 | 0.00 | 11.89 | 0.00 | 5.44 | 1.93 | 1.63 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 68 | 80.200 | 29.30 | 0.00 | 0.00 | 0.00 | 5.70 | 11.61 | 0.00 | 11.61 | 0.00 | 5.42 | 1.91 | 1.68 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 69 | 80.100 | 29.30 | 0.00 | 0.00 | 0.00 | 5.72 | 11.33 | 0.00 | 11.33 | 0.00 | 5.40 | 1.88 | 1.72 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 70 | 80.000 | 29.30 | 0.00 | 0.00 | 0.00 | 5.75 | 11.06 | 0.00 | 11.06 | 0.00 | 5.38 | 1.86 | 1.76 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 71 | 79.900 | 29.30 | 0.00 | 0.00 | 0.00 | 5.77 | 10.80 | 0.00 | 10.80 | 0.00 | 5.37 | 1.84 | 1.80 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 72 | 79.800 | 29.30 | 0.00 | 0.00 | 0.00 | 5.78 | 10.54 | 0.00 | 10.54 | 0.00 | 5.35 | 1.82 | 1.84 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 73 | 79.700 | 29.30 | 0.00 | 0.00 | 0.00 | 5.80 | 10.29 | 0.00 | 10.29 | 0.00 | 5.33 | 1.80 | 1.88 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 74 | 79.600 | 29.30 | 0.00 | 0.00 | 0.00 | 5.82 | 10.05 | 0.00 | 10.05 | 0.00 | 5.31 | 1.77 | 1.92 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 75 | 79.500 | 29.30 | 0.00 | 0.00 | 0.00 | 5.84 | 9.81 | 0.00 | 9.81 | 0.00 | 5.30 | 1.75 | 1.95 | 9.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 76 | 79.400 | 29.30 | 0.00 | 0.00 | 0.00 | 5.86 | 9.58 | 0.00 | 9.58 | 0.00 | 5.28 | 1.73 | 1.99 | 9.01 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 77 | 79.300 | 29.30 | 0.00 | 0.00 | 0.00 | 5.88 | 9.35 | 0.00 | 9.35 | 0.00 | 5.26 | 1.71 | 2.03 | 9.01 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 78 | 79.200 | 29.30 | 0.00 | 0.00 | 0.00 | 5.89 | 9.13 | 0.00 | 9.13 | 0.00 | 5.25 | 1.69 | 2.07 | 9.01 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 79 | 79.100 | 29.30 | 0.00 | 0.00 | 0.00 | 5.91 | 8.91 | 0.00 | 8.91 | 0.00 | 5.23 | 1.67 | 2.10 | 9.01 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 80 | 79.000 | 29.30 | 0.00 | 0.00 | 0.00 | 5.93 | 8.70 | 0.00 | 8.70 | 0.00 | 5.21 | 1.66 | 2.14 | 9.01 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |

FINAL REPORT Flat R Drainage Cana LA-QUAL Projection for Flat River
REACH NO. 2 C Flat R Drainage Canal Summer Projection 50

********** REACH INPUTS **********

| ELEM NO. | TYPE | FLOW | TEMP deg C | SALN ppt | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | PHOS mg/L | CHL A µg/L | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81 | UPR RCH | 0.02760 | 29.30 | 0.00 | 0.00 | 0.00 | 5.93 | 8.70 | 0.00 | 8.70 | 0.00 | 5.21 | 1.66 | 2.14 | 0.00 | 0.00 | 0.00 | 0.00 |

********** HYDRAULIC PARAMETER VALUES **********

| ELEM NO. | BEGIN DIST km | ENDING DIST km | FLOW $m^3/s$ | PCT EFF | ADVCTV VELO m/s | TRAVEL TIME days | DEPTH m | WIDTH m | VOLUME $m^3$ | SURFACE AREA $m^2$ | X-SECT AREA $m^2$ | TIDAL PRISM $m^3$ | TIDAL VELO m/s | DISPRSN $m^2/s$ | MEAN VELO m/s |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81 | 79.00 | 78.90 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 82 | 78.90 | 78.80 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 83 | 78.80 | 78.70 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 84 | 78.70 | 78.60 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 85 | 78.60 | 78.50 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 86 | 78.50 | 78.40 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 87 | 78.40 | 78.30 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 88 | 78.30 | 78.20 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 89 | 78.20 | 78.10 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 90 | 78.10 | 78.00 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 91 | 78.00 | 77.90 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 92 | 77.90 | 77.80 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 93 | 77.80 | 77.70 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 94 | 77.70 | 77.60 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 95 | 77.60 | 77.50 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 96 | 77.50 | 77.40 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 97 | 77.40 | 77.30 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 98 | 77.30 | 77.20 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 99 | 77.20 | 77.10 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 100 | 77.10 | 77.00 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 101 | 77.00 | 76.90 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 102 | 76.90 | 76.80 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 103 | 76.80 | 76.70 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 104 | 76.70 | 76.60 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 105 | 76.60 | 76.50 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 106 | 76.50 | 76.40 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 107 | 76.40 | 76.30 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 108 | 76.30 | 76.20 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 109 | 76.20 | 76.10 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 110 | 76.10 | 76.00 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 111 | 76.00 | 75.90 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 112 | 75.90 | 75.80 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 113 | 75.80 | 75.70 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 114 | 75.70 | 75.60 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| 115 | 75.60 | 75.50 | 0.02760 | 89.1 | 0.00583 | 0.20 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.006 |
| TOT | | | | | | 6.95 | | | 16569.01 | 36820.00 | | | | | |
| AVG | | | | | 0.0058 | | 0.45 | 10.52 | | | 4.73 | | | | |
| CUM | | | | | | 53.26 | | | | | | | | | |

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

| ELEM NO. | ENDING DIST | SAT D.O. mg/L | REAER RATE 1/da | BOD#1 DECAY 1/da | BOD#1 SETT 1/da | ABOD#1 DECAY 1/da | BOD#2 DECAY 1/da | BOD#2 SETT 1/da | ABOD#2 DECAY 1/da | BKGD SOD * | FULL SOD * | CORR SOD * | ORGN DECAY 1/da | ORGN SETT 1/da | NH3 DECAY 1/da | NH3 SRCE * | DENIT RATE 1/da | PO4 SRCE * | ALG PROD ** | MAC PROD ** | COLI DECAY 1/da | NCM DECAY 1/da | NCM SETT 1/da |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81 | 78.900 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 82 | 78.800 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 83 | 78.700 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 84 | 78.600 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 85 | 78.500 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 86 | 78.400 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 87 | 78.300 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 88 | 78.200 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 89 | 78.100 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 90 | 78.000 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 91 | 77.900 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 92 | 77.800 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 93 | 77.700 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 94 | 77.600 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95 | 77.500 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 96 | 77.400 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 97 | 77.300 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 98 | 77.200 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 99 | 77.100 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 100 | 77.000 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 101 | 76.900 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 102 | 76.800 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 103 | 76.700 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 104 | 76.600 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 105 | 76.500 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 106 | 76.400 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 107 | 76.300 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 108 | 76.200 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 109 | 76.100 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 110 | 76.000 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 111 | 75.900 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 112 | 75.800 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 113 | 75.700 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 114 | 75.600 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 115 | 75.500 | 7.65 | 1.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 1.32 | 1.32 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| AVG 20 DEG C RATE | | | 1.66 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.74 | | | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 |

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

| ELEM NO. | ENDING DIST | TEMP DEG C | SALN PPT | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | TOTN mg/L | PHOS mg/L | CHL A µg/L | MACRO g/m³ | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81 | 78.900 | 29.30 | 0.00 | 0.00 | 0.00 | 5.61 | 8.46 | 0.00 | 8.46 | 0.00 | 5.19 | 1.63 | 2.19 | 9.01 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 82 | 78.800 | 29.30 | 0.00 | 0.00 | 0.00 | 5.40 | 8.22 | 0.00 | 8.22 | 0.00 | 5.17 | 1.60 | 2.24 | 9.01 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 83 | 78.700 | 29.30 | 0.00 | 0.00 | 0.00 | 5.25 | 7.99 | 0.00 | 7.99 | 0.00 | 5.15 | 1.58 | 2.29 | 9.01 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 84 | 78.600 | 29.30 | 0.00 | 0.00 | 0.00 | 5.16 | 7.76 | 0.00 | 7.76 | 0.00 | 5.12 | 1.56 | 2.34 | 9.02 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 85 | 78.500 | 29.30 | 0.00 | 0.00 | 0.00 | 5.10 | 7.55 | 0.00 | 7.55 | 0.00 | 5.10 | 1.53 | 2.38 | 9.02 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 86 | 78.400 | 29.30 | 0.00 | 0.00 | 0.00 | 5.06 | 7.34 | 0.00 | 7.34 | 0.00 | 5.08 | 1.51 | 2.43 | 9.02 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 87 | 78.300 | 29.30 | 0.00 | 0.00 | 0.00 | 5.04 | 7.14 | 0.00 | 7.14 | 0.00 | 5.06 | 1.49 | 2.48 | 9.02 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 88 | 78.200 | 29.30 | 0.00 | 0.00 | 0.00 | 5.03 | 6.95 | 0.00 | 6.95 | 0.00 | 5.04 | 1.47 | 2.52 | 9.03 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 89 | 78.100 | 29.30 | 0.00 | 0.00 | 0.00 | 5.04 | 6.76 | 0.00 | 6.76 | 0.00 | 5.02 | 1.45 | 2.56 | 9.03 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 90 | 78.000 | 29.30 | 0.00 | 0.00 | 0.00 | 5.05 | 6.58 | 0.00 | 6.58 | 0.00 | 4.99 | 1.43 | 2.61 | 9.03 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 91 | 77.900 | 29.30 | 0.00 | 0.00 | 0.00 | 5.06 | 6.41 | 0.00 | 6.41 | 0.00 | 4.97 | 1.41 | 2.65 | 9.03 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 92 | 77.800 | 29.30 | 0.00 | 0.00 | 0.00 | 5.07 | 6.24 | 0.00 | 6.24 | 0.00 | 4.95 | 1.39 | 2.69 | 9.04 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 93 | 77.700 | 29.30 | 0.00 | 0.00 | 0.00 | 5.09 | 6.08 | 0.00 | 6.08 | 0.00 | 4.93 | 1.37 | 2.74 | 9.04 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 94 | 77.600 | 29.30 | 0.00 | 0.00 | 0.00 | 5.11 | 5.92 | 0.00 | 5.92 | 0.00 | 4.91 | 1.35 | 2.78 | 9.04 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 95 | 77.500 | 29.30 | 0.00 | 0.00 | 0.00 | 5.12 | 5.77 | 0.00 | 5.77 | 0.00 | 4.89 | 1.34 | 2.82 | 9.04 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 96 | 77.400 | 29.30 | 0.00 | 0.00 | 0.00 | 5.14 | 5.63 | 0.00 | 5.63 | 0.00 | 4.87 | 1.32 | 2.86 | 9.04 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 97 | 77.300 | 29.30 | 0.00 | 0.00 | 0.00 | 5.16 | 5.49 | 0.00 | 5.49 | 0.00 | 4.85 | 1.30 | 2.90 | 9.05 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 98 | 77.200 | 29.30 | 0.00 | 0.00 | 0.00 | 5.18 | 5.35 | 0.00 | 5.35 | 0.00 | 4.83 | 1.29 | 2.94 | 9.05 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 99 | 77.100 | 29.30 | 0.00 | 0.00 | 0.00 | 5.20 | 5.22 | 0.00 | 5.22 | 0.00 | 4.81 | 1.27 | 2.98 | 9.05 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 100 | 77.000 | 29.30 | 0.00 | 0.00 | 0.00 | 5.21 | 5.09 | 0.00 | 5.09 | 0.00 | 4.78 | 1.25 | 3.02 | 9.05 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 101 | 76.900 | 29.30 | 0.00 | 0.00 | 0.00 | 5.23 | 4.97 | 0.00 | 4.97 | 0.00 | 4.76 | 1.24 | 3.05 | 9.06 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 102 | 76.800 | 29.30 | 0.00 | 0.00 | 0.00 | 5.25 | 4.85 | 0.00 | 4.85 | 0.00 | 4.74 | 1.22 | 3.09 | 9.06 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 103 | 76.700 | 29.30 | 0.00 | 0.00 | 0.00 | 5.26 | 4.74 | 0.00 | 4.74 | 0.00 | 4.72 | 1.21 | 3.13 | 9.06 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 104 | 76.600 | 29.30 | 0.00 | 0.00 | 0.00 | 5.28 | 4.63 | 0.00 | 4.63 | 0.00 | 4.70 | 1.19 | 3.17 | 9.06 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 105 | 76.500 | 29.30 | 0.00 | 0.00 | 0.00 | 5.30 | 4.53 | 0.00 | 4.53 | 0.00 | 4.68 | 1.18 | 3.20 | 9.07 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 106 | 76.400 | 29.30 | 0.00 | 0.00 | 0.00 | 5.31 | 4.43 | 0.00 | 4.43 | 0.00 | 4.66 | 1.17 | 3.24 | 9.07 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 107 | 76.300 | 29.30 | 0.00 | 0.00 | 0.00 | 5.33 | 4.33 | 0.00 | 4.33 | 0.00 | 4.64 | 1.15 | 3.27 | 9.07 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 108 | 76.200 | 29.30 | 0.00 | 0.00 | 0.00 | 5.34 | 4.23 | 0.00 | 4.23 | 0.00 | 4.62 | 1.14 | 3.31 | 9.07 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 109 | 76.100 | 29.30 | 0.00 | 0.00 | 0.00 | 5.35 | 4.14 | 0.00 | 4.14 | 0.00 | 4.61 | 1.13 | 3.35 | 9.08 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 110 | 76.000 | 29.30 | 0.00 | 0.00 | 0.00 | 5.37 | 4.05 | 0.00 | 4.05 | 0.00 | 4.59 | 1.11 | 3.38 | 9.08 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 111 | 75.900 | 29.30 | 0.00 | 0.00 | 0.00 | 5.38 | 3.97 | 0.00 | 3.97 | 0.00 | 4.57 | 1.10 | 3.41 | 9.08 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 112 | 75.800 | 29.30 | 0.00 | 0.00 | 0.00 | 5.39 | 3.89 | 0.00 | 3.89 | 0.00 | 4.55 | 1.09 | 3.45 | 9.08 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 113 | 75.700 | 29.30 | 0.00 | 0.00 | 0.00 | 5.40 | 3.81 | 0.00 | 3.81 | 0.00 | 4.53 | 1.08 | 3.48 | 9.09 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 114 | 75.600 | 29.30 | 0.00 | 0.00 | 0.00 | 5.42 | 3.73 | 0.00 | 3.73 | 0.00 | 4.51 | 1.06 | 3.51 | 9.09 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 115 | 75.500 | 29.30 | 0.00 | 0.00 | 0.00 | 5.43 | 3.66 | 0.00 | 3.66 | 0.00 | 4.49 | 1.05 | 3.55 | 9.09 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |

FINAL REPORT Flat R Drainage Cana LA-QUAL Projection for Flat River
REACH NO. 3 C Flat R Drainage Canal Summer Projection 50

********** REACH INPUTS **********

| ELEM NO. | TYPE | FLOW | TEMP deg C | SALN ppt | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | PHOS mg/L | CHL A µg/L | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 116 | UPR RCH | 0.02760 | 29.30 | 0.00 | 0.00 | 0.00 | 5.43 | 3.66 | 0.00 | 3.66 | 0.00 | 4.49 | 1.05 | 3.55 | 0.00 | 0.00 | 0.00 | 0.00 |

********** HYDRAULIC PARAMETER VALUES **********

| ELEM NO. | BEGIN DIST km | ENDING DIST km | FLOW $m^3/s$ | PCT EFF | ADVCTV VELO m/s | TRAVEL TIME days | DEPTH m | WIDTH m | VOLUME $m^3$ | SURFACE AREA $m^2$ | X-SECT AREA $m^2$ | TIDAL PRISM $m^3$ | TIDAL VELO m/s | DISPRSN $m^2/s$ | MEAN VELO m/s |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 116 | 75.50 | 75.40 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 117 | 75.40 | 75.30 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 118 | 75.30 | 75.20 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 119 | 75.20 | 75.10 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 120 | 75.10 | 75.00 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 121 | 75.00 | 74.90 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 122 | 74.90 | 74.80 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 123 | 74.80 | 74.70 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 124 | 74.70 | 74.60 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 125 | 74.60 | 74.50 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 126 | 74.50 | 74.40 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 127 | 74.40 | 74.30 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 128 | 74.30 | 74.20 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 129 | 74.20 | 74.10 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 130 | 74.10 | 74.00 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 131 | 74.00 | 73.90 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 132 | 73.90 | 73.80 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 133 | 73.80 | 73.70 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 134 | 73.70 | 73.60 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 135 | 73.60 | 73.50 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 136 | 73.50 | 73.40 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 137 | 73.40 | 73.30 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 138 | 73.30 | 73.20 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 139 | 73.20 | 73.10 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| 140 | 73.10 | 73.00 | 0.02760 | 89.1 | 0.00624 | 0.19 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.006 |
| TOT | | | | | | 4.64 | | | 11063.25 | 33525.00 | | | | | |
| AVG | | | | | 0.0062 | | 0.33 | 13.41 | | | 4.43 | | | | |
| CUM | | | | | | 57.90 | | | | | | | | | |

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

| ELEM NO. | ENDING DIST | SAT D.O. mg/L | REAER RATE 1/da | BOD#1 DECAY 1/da | BOD#1 SETT 1/da | ABOD#1 DECAY 1/da | BOD#2 DECAY 1/da | BOD#2 SETT 1/da | ABOD#2 DECAY 1/da | BKGD SOD * | FULL SOD * | CORR SOD * | ORGN DECAY 1/da | ORGN SETT 1/da | NH3 DECAY 1/da | NH3 SRCE * | DENIT RATE 1/da | PO4 SRCE * | ALG PROD ** | MAC PROD ** | COLI DECAY 1/da | NCM DECAY 1/da | NCM SETT 1/da |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 116 | 75.400 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 117 | 75.300 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 118 | 75.200 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 119 | 75.100 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 120 | 75.000 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 121 | 74.900 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 122 | 74.800 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 123 | 74.700 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 124 | 74.600 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 125 | 74.500 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 126 | 74.400 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 127 | 74.300 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 128 | 74.200 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 129 | 74.100 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 130 | 74.000 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 131 | 73.900 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 132 | 73.800 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 133 | 73.700 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 134 | 73.600 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 135 | 73.500 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 136 | 73.400 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 137 | 73.300 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 138 | 73.200 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 139 | 73.100 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 140 | 73.000 | 7.65 | 2.71 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| AVG 20 DEG C RATE | | | 2.28 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.75 | | | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 |

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

| ELEM NO. | ENDING DIST | TEMP DEG C | SALN PPT | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | TOTN mg/L | PHOS mg/L | CHL A µg/L | MACRO g/m³ | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 116 | 75.400 | 29.30 | 0.00 | 0.00 | 0.00 | 5.50 | 3.60 | 0.00 | 3.60 | 0.00 | 4.47 | 1.04 | 3.58 | 9.09 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117 | 75.300 | 29.30 | 0.00 | 0.00 | 0.00 | 5.55 | 3.54 | 0.00 | 3.54 | 0.00 | 4.46 | 1.03 | 3.61 | 9.10 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 118 | 75.200 | 29.30 | 0.00 | 0.00 | 0.00 | 5.58 | 3.48 | 0.00 | 3.48 | 0.00 | 4.44 | 1.02 | 3.64 | 9.10 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 119 | 75.100 | 29.30 | 0.00 | 0.00 | 0.00 | 5.61 | 3.43 | 0.00 | 3.43 | 0.00 | 4.42 | 1.01 | 3.67 | 9.10 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 120 | 75.000 | 29.30 | 0.00 | 0.00 | 0.00 | 5.63 | 3.38 | 0.00 | 3.38 | 0.00 | 4.41 | 1.00 | 3.70 | 9.11 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 121 | 74.900 | 29.30 | 0.00 | 0.00 | 0.00 | 5.64 | 3.33 | 0.00 | 3.33 | 0.00 | 4.39 | 0.99 | 3.73 | 9.11 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 122 | 74.800 | 29.30 | 0.00 | 0.00 | 0.00 | 5.65 | 3.28 | 0.00 | 3.28 | 0.00 | 4.37 | 0.98 | 3.76 | 9.11 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 123 | 74.700 | 29.30 | 0.00 | 0.00 | 0.00 | 5.66 | 3.23 | 0.00 | 3.23 | 0.00 | 4.36 | 0.97 | 3.78 | 9.12 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 124 | 74.600 | 29.30 | 0.00 | 0.00 | 0.00 | 5.67 | 3.18 | 0.00 | 3.18 | 0.00 | 4.34 | 0.97 | 3.81 | 9.12 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 125 | 74.500 | 29.30 | 0.00 | 0.00 | 0.00 | 5.68 | 3.14 | 0.00 | 3.14 | 0.00 | 4.33 | 0.96 | 3.84 | 9.12 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 126 | 74.400 | 29.30 | 0.00 | 0.00 | 0.00 | 5.68 | 3.10 | 0.00 | 3.10 | 0.00 | 4.31 | 0.95 | 3.87 | 9.13 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 127 | 74.300 | 29.30 | 0.00 | 0.00 | 0.00 | 5.69 | 3.06 | 0.00 | 3.06 | 0.00 | 4.30 | 0.94 | 3.90 | 9.13 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 128 | 74.200 | 29.30 | 0.00 | 0.00 | 0.00 | 5.69 | 3.02 | 0.00 | 3.02 | 0.00 | 4.28 | 0.93 | 3.92 | 9.13 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 129 | 74.100 | 29.30 | 0.00 | 0.00 | 0.00 | 5.70 | 2.98 | 0.00 | 2.98 | 0.00 | 4.26 | 0.92 | 3.95 | 9.14 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 130 | 74.000 | 29.30 | 0.00 | 0.00 | 0.00 | 5.70 | 2.94 | 0.00 | 2.94 | 0.00 | 4.25 | 0.91 | 3.98 | 9.14 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 131 | 73.900 | 29.30 | 0.00 | 0.00 | 0.00 | 5.71 | 2.90 | 0.00 | 2.90 | 0.00 | 4.23 | 0.91 | 4.00 | 9.14 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 132 | 73.800 | 29.30 | 0.00 | 0.00 | 0.00 | 5.71 | 2.87 | 0.00 | 2.87 | 0.00 | 4.22 | 0.90 | 4.03 | 9.15 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 133 | 73.700 | 29.30 | 0.00 | 0.00 | 0.00 | 5.72 | 2.84 | 0.00 | 2.84 | 0.00 | 4.20 | 0.89 | 4.06 | 9.15 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 134 | 73.600 | 29.30 | 0.00 | 0.00 | 0.00 | 5.72 | 2.80 | 0.00 | 2.80 | 0.00 | 4.19 | 0.88 | 4.08 | 9.15 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 135 | 73.500 | 29.30 | 0.00 | 0.00 | 0.00 | 5.73 | 2.77 | 0.00 | 2.77 | 0.00 | 4.17 | 0.88 | 4.11 | 9.16 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 136 | 73.400 | 29.30 | 0.00 | 0.00 | 0.00 | 5.73 | 2.74 | 0.00 | 2.74 | 0.00 | 4.16 | 0.87 | 4.14 | 9.16 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 137 | 73.300 | 29.30 | 0.00 | 0.00 | 0.00 | 5.73 | 2.71 | 0.00 | 2.71 | 0.00 | 4.14 | 0.86 | 4.16 | 9.16 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 138 | 73.200 | 29.30 | 0.00 | 0.00 | 0.00 | 5.74 | 2.68 | 0.00 | 2.68 | 0.00 | 4.13 | 0.86 | 4.19 | 9.17 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 139 | 73.100 | 29.30 | 0.00 | 0.00 | 0.00 | 5.74 | 2.65 | 0.00 | 2.65 | 0.00 | 4.11 | 0.85 | 4.21 | 9.17 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 140 | 73.000 | 29.30 | 0.00 | 0.00 | 0.00 | 5.75 | 2.63 | 0.00 | 2.63 | 0.00 | 4.10 | 0.84 | 4.24 | 9.17 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |

FINAL REPORT Flat R Drainage Cana LA-QUAL Projection for Flat River
REACH NO. 4 Flat River Summer Projection 50

********** REACH INPUTS **********

| ELEM NO. | TYPE | FLOW | TEMP deg C | SALN ppt | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | PHOS mg/L | CHL A µg/L | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 141 | UPR RCH | 0.02760 | 29.30 | 0.00 | 0.00 | 0.00 | 5.75 | 2.63 | 0.00 | 2.63 | 0.00 | 4.10 | 0.84 | 4.24 | 0.00 | 0.00 | 0.00 | 0.00 |

********** HYDRAULIC PARAMETER VALUES **********

| ELEM NO. | BEGIN DIST km | ENDING DIST km | FLOW $m^3/s$ | PCT EFF | ADVCTV VELO m/s | TRAVEL TIME days | DEPTH m | WIDTH m | VOLUME $m^3$ | SURFACE AREA $m^2$ | X-SECT AREA $m^2$ | TIDAL PRISM $m^3$ | TIDAL VELO m/s | DISPRSN $m^2/s$ | MEAN VELO m/s |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 141 | 73.00 | 72.50 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 142 | 72.50 | 72.00 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 143 | 72.00 | 71.50 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 144 | 71.50 | 71.00 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 145 | 71.00 | 70.50 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 146 | 70.50 | 70.00 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 147 | 70.00 | 69.50 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 148 | 69.50 | 69.00 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 149 | 69.00 | 68.50 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 150 | 68.50 | 68.00 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 151 | 68.00 | 67.50 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 152 | 67.50 | 67.00 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 153 | 67.00 | 66.50 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 154 | 66.50 | 66.00 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 155 | 66.00 | 65.50 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 156 | 65.50 | 65.00 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 157 | 65.00 | 64.50 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 158 | 64.50 | 64.00 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 159 | 64.00 | 63.50 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 160 | 63.50 | 63.00 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 161 | 63.00 | 62.50 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 162 | 62.50 | 62.00 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 163 | 62.00 | 61.50 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 164 | 61.50 | 61.00 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 165 | 61.00 | 60.50 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 166 | 60.50 | 60.00 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 167 | 60.00 | 59.50 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 168 | 59.50 | 59.00 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 169 | 59.00 | 58.50 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 170 | 58.50 | 58.00 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 171 | 58.00 | 57.50 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 172 | 57.50 | 57.00 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 173 | 57.00 | 56.50 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| 174 | 56.50 | 56.00 | 0.02760 | 89.1 | 0.00599 | 0.97 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.006 |
| TOT | | | | | | 32.85 | | | 78336.01 | 261120.00 | | | | | |
| AVG | | | | | 0.0060 | | 0.30 | 15.36 | | | 4.61 | | | | |
| CUM | | | | | | 90.75 | | | | | | | | | |

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

| ELEM NO. | ENDING DIST | SAT D.O. mg/L | REAER RATE 1/da | BOD#1 DECAY 1/da | BOD#1 SETT 1/da | ABOD#1 DECAY 1/da | BOD#2 DECAY 1/da | BOD#2 SETT 1/da | ABOD#2 DECAY 1/da | BKGD SOD * | FULL SOD * | CORR SOD * | ORGN DECAY 1/da | ORGN SETT 1/da | NH3 DECAY 1/da | NH3 SRCE * | DENIT RATE 1/da | PO4 SRCE * | ALG PROD ** | MAC PROD ** | COLI DECAY 1/da | NCM DECAY 1/da | NCM SETT 1/da |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 141 | 72.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.12 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 142 | 72.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.12 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 143 | 71.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 144 | 71.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 145 | 70.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 146 | 70.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 147 | 69.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 148 | 69.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 149 | 68.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150 | 68.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 151 | 67.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 152 | 67.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 153 | 66.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 154 | 66.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 155 | 65.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 156 | 65.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 157 | 64.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 158 | 64.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 159 | 63.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 160 | 63.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 161 | 62.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 162 | 62.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 163 | 61.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 164 | 61.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 165 | 60.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 166 | 60.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 167 | 59.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 168 | 59.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 169 | 58.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 170 | 58.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 171 | 57.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 172 | 57.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 173 | 56.500 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 174 | 56.000 | 7.65 | 2.97 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.21 | 1.21 | 1.21 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| AVG 20 DEG C RATE | | | 2.50 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.68 | | | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 |

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

| ELEM NO. | ENDING DIST | TEMP DEG C | SALN PPT | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | TOTN mg/L | PHOS mg/L | CHL A µg/L | MACRO g/m³ | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 141 | 72.500 | 29.30 | 0.00 | 0.00 | 0.00 | 5.92 | 2.48 | 0.00 | 2.48 | 0.00 | 4.02 | 0.84 | 4.34 | 9.19 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 142 | 72.000 | 29.30 | 0.00 | 0.00 | 0.00 | 5.98 | 2.35 | 0.00 | 2.35 | 0.00 | 3.94 | 0.83 | 4.44 | 9.20 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 143 | 71.500 | 29.30 | 0.00 | 0.00 | 0.00 | 5.99 | 2.25 | 0.00 | 2.25 | 0.00 | 3.87 | 0.82 | 4.54 | 9.22 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 144 | 71.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.01 | 2.16 | 0.00 | 2.16 | 0.00 | 3.79 | 0.81 | 4.63 | 9.23 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 145 | 70.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.01 | 2.08 | 0.00 | 2.08 | 0.00 | 3.72 | 0.80 | 4.73 | 9.25 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 146 | 70.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.02 | 2.02 | 0.00 | 2.02 | 0.00 | 3.65 | 0.79 | 4.82 | 9.26 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 147 | 69.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.02 | 1.96 | 0.00 | 1.96 | 0.00 | 3.58 | 0.78 | 4.92 | 9.28 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 148 | 69.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.03 | 1.91 | 0.00 | 1.91 | 0.00 | 3.52 | 0.77 | 5.01 | 9.29 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 149 | 68.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.03 | 1.87 | 0.00 | 1.87 | 0.00 | 3.45 | 0.76 | 5.10 | 9.31 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 150 | 68.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.04 | 1.84 | 0.00 | 1.84 | 0.00 | 3.39 | 0.74 | 5.19 | 9.32 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 151 | 67.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.04 | 1.81 | 0.00 | 1.81 | 0.00 | 3.32 | 0.73 | 5.28 | 9.34 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 152 | 67.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.05 | 1.79 | 0.00 | 1.79 | 0.00 | 3.26 | 0.72 | 5.37 | 9.35 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 153 | 66.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.05 | 1.76 | 0.00 | 1.76 | 0.00 | 3.20 | 0.71 | 5.45 | 9.37 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 154 | 66.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.05 | 1.75 | 0.00 | 1.75 | 0.00 | 3.14 | 0.70 | 5.54 | 9.38 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 155 | 65.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.06 | 1.73 | 0.00 | 1.73 | 0.00 | 3.09 | 0.69 | 5.62 | 9.40 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 156 | 65.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.06 | 1.72 | 0.00 | 1.72 | 0.00 | 3.03 | 0.68 | 5.70 | 9.41 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 157 | 64.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.06 | 1.71 | 0.00 | 1.71 | 0.00 | 2.98 | 0.66 | 5.78 | 9.43 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 158 | 64.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.06 | 1.70 | 0.00 | 1.70 | 0.00 | 2.92 | 0.65 | 5.86 | 9.44 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 159 | 63.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.07 | 1.69 | 0.00 | 1.69 | 0.00 | 2.87 | 0.64 | 5.94 | 9.46 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 160 | 63.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.07 | 1.69 | 0.00 | 1.69 | 0.00 | 2.82 | 0.63 | 6.02 | 9.47 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 161 | 62.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.07 | 1.68 | 0.00 | 1.68 | 0.00 | 2.77 | 0.62 | 6.09 | 9.49 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 162 | 62.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.07 | 1.68 | 0.00 | 1.68 | 0.00 | 2.72 | 0.61 | 6.17 | 9.50 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 163 | 61.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.08 | 1.67 | 0.00 | 1.67 | 0.00 | 2.68 | 0.60 | 6.24 | 9.51 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 164 | 61.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.08 | 1.67 | 0.00 | 1.67 | 0.00 | 2.63 | 0.59 | 6.31 | 9.53 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 165 | 60.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.08 | 1.66 | 0.00 | 1.66 | 0.00 | 2.59 | 0.58 | 6.38 | 9.54 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 166 | 60.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.08 | 1.66 | 0.00 | 1.66 | 0.00 | 2.54 | 0.57 | 6.45 | 9.56 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 167 | 59.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.08 | 1.66 | 0.00 | 1.66 | 0.00 | 2.50 | 0.56 | 6.52 | 9.57 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 168 | 59.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.09 | 1.66 | 0.00 | 1.66 | 0.00 | 2.46 | 0.55 | 6.58 | 9.59 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 169 | 58.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.09 | 1.66 | 0.00 | 1.66 | 0.00 | 2.41 | 0.54 | 6.65 | 9.60 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 170 | 58.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.09 | 1.66 | 0.00 | 1.66 | 0.00 | 2.37 | 0.53 | 6.71 | 9.62 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 171 | 57.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.09 | 1.65 | 0.00 | 1.65 | 0.00 | 2.33 | 0.52 | 6.78 | 9.63 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 172 | 57.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.09 | 1.65 | 0.00 | 1.65 | 0.00 | 2.30 | 0.51 | 6.84 | 9.65 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 173 | 56.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.09 | 1.65 | 0.00 | 1.65 | 0.00 | 2.26 | 0.50 | 6.90 | 9.66 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 174 | 56.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.10 | 1.65 | 0.00 | 1.65 | 0.00 | 2.22 | 0.50 | 6.96 | 9.68 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |

FINAL REPORT Flat R Drainage Cana LA-QUAL Projection for Flat River
REACH NO. 5 Flat River Summer Projection 50

********** REACH INPUTS **********

| ELEM NO. | TYPE | FLOW | TEMP deg C | SALN ppt | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | PHOS mg/L | CHL A µg/L | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 175 | UPR RCH | 0.02760 | 29.30 | 0.00 | 0.00 | 0.00 | 6.10 | 1.65 | 0.00 | 1.65 | 0.00 | 2.22 | 0.50 | 6.96 | 0.00 | 0.00 | 0.00 | 0.00 |

********** HYDRAULIC PARAMETER VALUES **********

| ELEM NO. | BEGIN DIST km | ENDING DIST km | FLOW $m^3/s$ | PCT EFF | ADVCTV VELO m/s | TRAVEL TIME days | DEPTH m | WIDTH m | VOLUME $m^3$ | SURFACE AREA $m^2$ | X-SECT AREA $m^2$ | TIDAL PRISM $m^3$ | TIDAL VELO m/s | DISPRSN $m^2/s$ | MEAN VELO m/s |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 175 | 56.00 | 55.50 | 0.02760 | 89.1 | 0.00281 | 2.06 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.003 |
| 176 | 55.50 | 55.00 | 0.02760 | 89.1 | 0.00281 | 2.06 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.003 |
| 177 | 55.00 | 54.50 | 0.02760 | 89.1 | 0.00281 | 2.06 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.003 |
| 178 | 54.50 | 54.00 | 0.02760 | 89.1 | 0.00281 | 2.06 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.003 |
| 179 | 54.00 | 53.50 | 0.02760 | 89.1 | 0.00281 | 2.06 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.003 |
| 180 | 53.50 | 53.00 | 0.02760 | 89.1 | 0.00281 | 2.06 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.003 |
| 181 | 53.00 | 52.50 | 0.02760 | 89.1 | 0.00281 | 2.06 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.003 |
| 182 | 52.50 | 52.00 | 0.02760 | 89.1 | 0.00281 | 2.06 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.003 |
| 183 | 52.00 | 51.50 | 0.02760 | 89.1 | 0.00281 | 2.06 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.003 |
| 184 | 51.50 | 51.00 | 0.02760 | 89.1 | 0.00281 | 2.06 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.003 |
| 185 | 51.00 | 50.50 | 0.02760 | 89.1 | 0.00281 | 2.06 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.003 |
| 186 | 50.50 | 50.00 | 0.02760 | 89.1 | 0.00281 | 2.06 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.003 |
| 187 | 50.00 | 49.50 | 0.02760 | 89.1 | 0.00281 | 2.06 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.003 |
| 188 | 49.50 | 49.00 | 0.02760 | 89.1 | 0.00281 | 2.06 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.003 |
| 189 | 49.00 | 48.50 | 0.02760 | 89.1 | 0.00281 | 2.06 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.003 |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 190 | 48.50 | 48.00 | 0.02760 | 89.1 | 0.00281 | 2.06 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.003 | | | | | | | |
| TOT | | | | | | 32.95 | | | 78566.39 | 253440.00 | | | | | | | | | | | | |
| AVG | | | | | 0.0028 | | 0.31 | 31.68 | | | 9.82 | | | | | | | | | | | |
| CUM | | | | | | 123.70 | | | | | | | | | | | | | | | | |

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

| ELEM NO. | ENDING DIST | SAT D.O. mg/L | REAER RATE 1/da | BOD#1 DECAY 1/da | BOD#1 SETT 1/da | ABOD#1 DECAY 1/da | BOD#2 DECAY 1/da | BOD#2 SETT 1/da | ABOD#2 DECAY 1/da | BKGD SOD * | FULL SOD * | CORR SOD * | ORGN DECAY 1/da | ORGN SETT 1/da | NH3 DECAY 1/da | NH3 SRCE * | DENIT RATE 1/da | PO4 SRCE * | ALG PROD ** | MAC PROD ** | COLI DECAY 1/da | NCM DECAY 1/da | NCM SETT 1/da |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 175 | 55.500 | 7.65 | 2.70 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 176 | 55.000 | 7.65 | 2.70 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 177 | 54.500 | 7.65 | 2.70 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 178 | 54.000 | 7.65 | 2.70 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 179 | 53.500 | 7.65 | 2.70 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 180 | 53.000 | 7.65 | 2.70 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 181 | 52.500 | 7.65 | 2.70 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 182 | 52.000 | 7.65 | 2.70 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 183 | 51.500 | 7.65 | 2.70 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 184 | 51.000 | 7.65 | 2.70 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 185 | 50.500 | 7.65 | 2.70 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 186 | 50.000 | 7.65 | 2.70 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 187 | 49.500 | 7.65 | 2.70 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 188 | 49.000 | 7.65 | 2.70 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 189 | 48.500 | 7.65 | 2.70 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 190 | 48.000 | 7.65 | 2.70 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| AVG 20 DEG C RATE | | | 2.27 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.55 | | | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 |

* $g/m^2/d$ ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

| ELEM NO. | ENDING DIST | TEMP DEG C | SALN PPT | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | TOTN mg/L | PHOS mg/L | CHL A µg/L | MACRO $g/m^3$ | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 175 | 55.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.24 | 1.60 | 0.00 | 1.60 | 0.00 | 2.15 | 0.48 | 7.08 | 9.71 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 176 | 55.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.27 | 1.57 | 0.00 | 1.57 | 0.00 | 2.08 | 0.46 | 7.20 | 9.74 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 177 | 54.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.27 | 1.54 | 0.00 | 1.54 | 0.00 | 2.01 | 0.45 | 7.32 | 9.77 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 178 | 54.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.52 | 0.00 | 1.52 | 0.00 | 1.94 | 0.43 | 7.43 | 9.80 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 179 | 53.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.51 | 0.00 | 1.51 | 0.00 | 1.88 | 0.41 | 7.54 | 9.83 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 180 | 53.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.29 | 1.50 | 0.00 | 1.50 | 0.00 | 1.82 | 0.40 | 7.64 | 9.87 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 181 | 52.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.29 | 1.49 | 0.00 | 1.49 | 0.00 | 1.77 | 0.39 | 7.74 | 9.90 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 182 | 52.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.29 | 1.48 | 0.00 | 1.48 | 0.00 | 1.71 | 0.37 | 7.84 | 9.93 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 183 | 51.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.30 | 1.48 | 0.00 | 1.48 | 0.00 | 1.66 | 0.36 | 7.94 | 9.96 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 184 | 51.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.30 | 1.48 | 0.00 | 1.48 | 0.00 | 1.61 | 0.35 | 8.03 | 9.99 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 185 | 50.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.30 | 1.48 | 0.00 | 1.48 | 0.00 | 1.57 | 0.34 | 8.12 | 10.02 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 186 | 50.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.30 | 1.47 | 0.00 | 1.47 | 0.00 | 1.52 | 0.33 | 8.20 | 10.05 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 187 | 49.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.30 | 1.47 | 0.00 | 1.47 | 0.00 | 1.48 | 0.32 | 8.28 | 10.09 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 188 | 49.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.31 | 1.47 | 0.00 | 1.47 | 0.00 | 1.44 | 0.31 | 8.37 | 10.12 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 189 | 48.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.31 | 1.47 | 0.00 | 1.47 | 0.00 | 1.40 | 0.30 | 8.44 | 10.15 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 190 | 48.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.31 | 1.47 | 0.00 | 1.47 | 0.00 | 1.37 | 0.29 | 8.52 | 10.18 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |

FINAL REPORT Flat R Drainage Cana LA-QUAL Projection for Flat River
REACH NO. 6 Flat River Summer Projection 50

********** REACH INPUTS **********

| ELEM NO. | TYPE | FLOW | TEMP deg C | SALN ppt | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | PHOS mg/L | CHL A µg/L | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 191 | UPR RCH | 0.02760 | 29.30 | 0.00 | 0.00 | 0.00 | 6.31 | 1.47 | 0.00 | 1.47 | 0.00 | 1.37 | 0.29 | 8.52 | 0.00 | 0.00 | 0.00 | 0.00 |
| 216 | WSTLD | 0.00140 | 29.30 | 0.00 | 0.00 | 0.00 | 2.00 | 69.00 | 0.00 | 69.00 | 0.00 | 5.00 | 10.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

********** HYDRAULIC PARAMETER VALUES **********

| ELEM NO. | BEGIN DIST km | ENDING DIST km | FLOW $m^3/s$ | PCT EFF | ADVCTV VELO m/s | TRAVEL TIME days | DEPTH m | WIDTH m | VOLUME $m^3$ | SURFACE AREA $m^2$ | X-SECT AREA $m^2$ | TIDAL PRISM $m^3$ | TIDAL VELO m/s | DISPRSN $m^2/s$ | MEAN VELO m/s |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 191 | 48.00 | 47.50 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 192 | 47.50 | 47.00 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 193 | 47.00 | 46.50 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 194 | 46.50 | 46.00 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 195 | 46.00 | 45.50 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 196 | 45.50 | 45.00 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 197 | 45.00 | 44.50 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 198 | 44.50 | 44.00 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 199 | 44.00 | 43.50 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 200 | 43.50 | 43.00 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 201 | 43.00 | 42.50 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 202 | 42.50 | 42.00 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 203 | 42.00 | 41.50 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 204 | 41.50 | 41.00 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 205 | 41.00 | 40.50 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 206 | 40.50 | 40.00 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 207 | 40.00 | 39.50 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 208 | 39.50 | 39.00 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 209 | 39.00 | 38.50 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 210 | 38.50 | 38.00 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 211 | 38.00 | 37.50 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 212 | 37.50 | 37.00 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 213 | 37.00 | 36.50 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 214 | 36.50 | 36.00 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 215 | 36.00 | 35.50 | 0.02760 | 89.1 | 0.00218 | 2.66 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 216 | 35.50 | 35.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 217 | 35.00 | 34.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 218 | 34.50 | 34.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 219 | 34.00 | 33.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 220 | 33.50 | 33.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 221 | 33.00 | 32.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 222 | 32.50 | 32.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 223 | 32.00 | 31.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 224 | 31.50 | 31.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 225 | 31.00 | 30.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 226 | 30.50 | 30.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 227 | 30.00 | 29.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 228 | 29.50 | 29.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 229 | 29.00 | 28.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 230 | 28.50 | 28.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 231 | 28.00 | 27.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 232 | 27.50 | 27.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 233 | 27.00 | 26.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 234 | 26.50 | 26.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 235 | 26.00 | 25.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 236 | 25.50 | 25.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 237 | 25.00 | 24.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 238 | 24.50 | 24.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 239 | 24.00 | 23.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 240 | 23.50 | 23.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 241 | 23.00 | 22.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 242 | 22.50 | 22.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 243 | 22.00 | 21.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 244 | 21.50 | 21.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 245 | 21.00 | 20.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 246 | 20.50 | 20.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 247 | 20.00 | 19.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 248 | 19.50 | 19.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 249 | 19.00 | 18.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 250 | 18.50 | 18.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 251 | 18.00 | 17.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 252 | 17.50 | 17.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 253 | 17.00 | 16.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 254 | 16.50 | 16.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 255 | 16.00 | 15.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 256 | 15.50 | 15.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 257 | 15.00 | 14.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 258 | 14.50 | 14.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 259 | 14.00 | 13.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 260 | 13.50 | 13.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 261 | 13.00 | 12.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 262 | 12.50 | 12.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 263 | 12.00 | 11.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 264 | 11.50 | 11.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 265 | 11.00 | 10.50 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |
| 266 | 10.50 | 10.00 | 0.02900 | 89.7 | 0.00229 | 2.53 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.002 |

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOT | | | | | | | 195.39 | | | | | | | 481536.00 | 1203840.00 | | | | | | | | |
| AVG | | | | | | 0.0023 | | | 0.40 | 31.68 | | | | | | | | 12.67 | | | | | |
| CUM | | | | | | | 319.09 | | | | | | | | | | | | | | | | |

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

| ELEM NO. | ENDING DIST | SAT D.O. mg/L | REAER RATE 1/da | BOD#1 DECAY 1/da | BOD#1 SETT 1/da | ABOD#1 DECAY 1/da | BOD#2 DECAY 1/da | BOD#2 SETT 1/da | ABOD#2 DECAY 1/da | BKGD SOD * | FULL SOD * | CORR SOD * | ORGN DECAY 1/da | ORGN SETT 1/da | NH3 DECAY 1/da | NH3 SRCE * | DENIT RATE 1/da | PO4 SRCE * | ALG PROD ** | MAC PROD ** | COLI DECAY 1/da | NCM DECAY 1/da | NCM SETT 1/da |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 191 | 47.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 192 | 47.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 193 | 46.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 194 | 46.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 195 | 45.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 196 | 45.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 197 | 44.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 198 | 44.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 199 | 43.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 200 | 43.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 201 | 42.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 202 | 42.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 203 | 41.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 204 | 41.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 205 | 40.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 206 | 40.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 207 | 39.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 208 | 39.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 209 | 38.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 210 | 38.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 211 | 37.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 212 | 37.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 213 | 36.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 214 | 36.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 215 | 35.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 216 | 35.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 217 | 34.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 218 | 34.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 219 | 33.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 220 | 33.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 221 | 32.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 222 | 32.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 223 | 31.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 224 | 31.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 225 | 30.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 226 | 30.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 227 | 29.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 228 | 29.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 229 | 28.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 230 | 28.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 231 | 27.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 232 | 27.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 233 | 26.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 234 | 26.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 235 | 25.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 236 | 25.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 237 | 24.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 238 | 24.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 239 | 23.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 240 | 23.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 241 | 22.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 242 | 22.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 243 | 21.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 244 | 21.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 245 | 20.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 246 | 20.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 247 | 19.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 248 | 19.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 249 | 18.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 250 | 18.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 251 | 17.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 252 | 17.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 253 | 16.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 254 | 16.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 255 | 15.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 256 | 15.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 257 | 14.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 258 | 14.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 259 | 13.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 260 | 13.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 261 | 12.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 262 | 12.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 263 | 11.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 264 | 11.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 265 | 10.500 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 266 | 10.000 | 7.65 | 2.08 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.99 | 0.99 | 0.99 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| AVG 20 DEG C RATE | | | 1.75 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.55 | | | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 |

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

| ELEM NO. | ENDING DIST | TEMP DEG C | SALN PPT | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | TOTN mg/L | PHOS mg/L | CHL A µg/L | MACRO g/m³ | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 191 | 47.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.25 | 1.54 | 0.00 | 1.54 | 0.00 | 1.32 | 0.26 | 8.63 | 10.21 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 192 | 47.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.24 | 1.59 | 0.00 | 1.59 | 0.00 | 1.27 | 0.24 | 8.74 | 10.25 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 193 | 46.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.24 | 1.63 | 0.00 | 1.63 | 0.00 | 1.23 | 0.22 | 8.83 | 10.28 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 194 | 46.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.25 | 1.65 | 0.00 | 1.65 | 0.00 | 1.18 | 0.21 | 8.92 | 10.32 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 195 | 45.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.25 | 1.66 | 0.00 | 1.66 | 0.00 | 1.15 | 0.20 | 9.01 | 10.35 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 196 | 45.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.25 | 1.67 | 0.00 | 1.67 | 0.00 | 1.11 | 0.19 | 9.09 | 10.39 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 197 | 44.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.25 | 1.68 | 0.00 | 1.68 | 0.00 | 1.07 | 0.18 | 9.17 | 10.42 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 198 | 44.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.26 | 1.68 | 0.00 | 1.68 | 0.00 | 1.04 | 0.17 | 9.24 | 10.45 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 199 | 43.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.26 | 1.69 | 0.00 | 1.69 | 0.00 | 1.01 | 0.17 | 9.31 | 10.49 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 200 | 43.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.26 | 1.69 | 0.00 | 1.69 | 0.00 | 0.98 | 0.16 | 9.38 | 10.52 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 201 | 42.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.26 | 1.69 | 0.00 | 1.69 | 0.00 | 0.96 | 0.15 | 9.45 | 10.56 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 202 | 42.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.26 | 1.69 | 0.00 | 1.69 | 0.00 | 0.93 | 0.15 | 9.51 | 10.59 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 203 | 41.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.26 | 1.69 | 0.00 | 1.69 | 0.00 | 0.91 | 0.14 | 9.57 | 10.63 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 204 | 41.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.27 | 1.69 | 0.00 | 1.69 | 0.00 | 0.89 | 0.14 | 9.63 | 10.66 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 205 | 40.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.27 | 1.69 | 0.00 | 1.69 | 0.00 | 0.86 | 0.14 | 9.69 | 10.69 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 206 | 40.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.27 | 1.69 | 0.00 | 1.69 | 0.00 | 0.84 | 0.13 | 9.75 | 10.73 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 207 | 39.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.27 | 1.69 | 0.00 | 1.69 | 0.00 | 0.83 | 0.13 | 9.81 | 10.76 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 208 | 39.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.27 | 1.69 | 0.00 | 1.69 | 0.00 | 0.81 | 0.13 | 9.86 | 10.80 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 209 | 38.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.27 | 1.69 | 0.00 | 1.69 | 0.00 | 0.79 | 0.12 | 9.91 | 10.83 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 210 | 38.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.27 | 1.69 | 0.00 | 1.69 | 0.00 | 0.78 | 0.12 | 9.97 | 10.86 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 211 | 37.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.27 | 1.69 | 0.00 | 1.69 | 0.00 | 0.76 | 0.12 | 10.02 | 10.90 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 212 | 37.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.27 | 1.69 | 0.00 | 1.69 | 0.00 | 0.75 | 0.12 | 10.07 | 10.93 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 213 | 36.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.27 | 1.69 | 0.00 | 1.69 | 0.00 | 0.74 | 0.11 | 10.12 | 10.97 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 214 | 36.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.72 | 0.11 | 10.17 | 11.00 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 215 | 35.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.71 | 0.11 | 10.21 | 11.04 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 216 | 35.000 | 29.30 | 0.00 | 0.00 | 0.00 | 5.98 | 3.91 | 0.00 | 3.91 | 0.00 | 0.90 | 0.46 | 9.91 | 11.26 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 217 | 34.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.05 | 3.21 | 0.00 | 3.21 | 0.00 | 0.88 | 0.36 | 10.05 | 11.29 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 218 | 34.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.11 | 2.73 | 0.00 | 2.73 | 0.00 | 0.86 | 0.29 | 10.17 | 11.32 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 219 | 33.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.16 | 2.40 | 0.00 | 2.40 | 0.00 | 0.84 | 0.25 | 10.27 | 11.36 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 220 | 33.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.19 | 2.17 | 0.00 | 2.17 | 0.00 | 0.82 | 0.21 | 10.36 | 11.39 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 221 | 32.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.22 | 2.02 | 0.00 | 2.02 | 0.00 | 0.80 | 0.18 | 10.43 | 11.42 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 222 | 32.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.24 | 1.92 | 0.00 | 1.92 | 0.00 | 0.79 | 0.16 | 10.50 | 11.46 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 223 | 31.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.25 | 1.85 | 0.00 | 1.85 | 0.00 | 0.77 | 0.15 | 10.56 | 11.49 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 224 | 31.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.26 | 1.80 | 0.00 | 1.80 | 0.00 | 0.76 | 0.14 | 10.62 | 11.52 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 225 | 30.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.26 | 1.76 | 0.00 | 1.76 | 0.00 | 0.75 | 0.13 | 10.67 | 11.55 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 226 | 30.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.27 | 1.74 | 0.00 | 1.74 | 0.00 | 0.74 | 0.12 | 10.72 | 11.59 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 227 | 29.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.27 | 1.73 | 0.00 | 1.73 | 0.00 | 0.72 | 0.12 | 10.77 | 11.62 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 228 | 29.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.27 | 1.72 | 0.00 | 1.72 | 0.00 | 0.71 | 0.12 | 10.82 | 11.65 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 229 | 28.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.27 | 1.71 | 0.00 | 1.71 | 0.00 | 0.70 | 0.11 | 10.87 | 11.68 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 230 | 28.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.70 | 0.00 | 1.70 | 0.00 | 0.69 | 0.11 | 10.91 | 11.72 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 231 | 27.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.70 | 0.00 | 1.70 | 0.00 | 0.68 | 0.11 | 10.96 | 11.75 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 232 | 27.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.70 | 0.00 | 1.70 | 0.00 | 0.68 | 0.11 | 11.00 | 11.78 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 233 | 26.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.70 | 0.00 | 1.70 | 0.00 | 0.67 | 0.10 | 11.04 | 11.81 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 234 | 26.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.70 | 0.00 | 1.70 | 0.00 | 0.66 | 0.10 | 11.08 | 11.85 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 235 | 25.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.70 | 0.00 | 1.70 | 0.00 | 0.65 | 0.10 | 11.12 | 11.88 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 236 | 25.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.65 | 0.10 | 11.17 | 11.91 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 237 | 24.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.64 | 0.10 | 11.21 | 11.94 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 238 | 24.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.63 | 0.10 | 11.25 | 11.98 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 239 | 23.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.63 | 0.10 | 11.28 | 12.01 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 240 | 23.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.62 | 0.09 | 11.32 | 12.04 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 241 | 22.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.62 | 0.09 | 11.36 | 12.07 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 242 | 22.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.61 | 0.09 | 11.40 | 12.11 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 243 | 21.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.61 | 0.09 | 11.44 | 12.14 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 244 | 21.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.60 | 0.09 | 11.48 | 12.17 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 245 | 20.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.60 | 0.09 | 11.51 | 12.20 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 246 | 20.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.60 | 0.09 | 11.55 | 12.24 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 247 | 19.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.59 | 0.09 | 11.59 | 12.27 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 248 | 19.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.59 | 0.09 | 11.62 | 12.30 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 249 | 18.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.59 | 0.09 | 11.66 | 12.33 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 250 | 18.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.58 | 0.09 | 11.69 | 12.37 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 251 | 17.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.58 | 0.09 | 11.73 | 12.40 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 252 | 17.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.58 | 0.09 | 11.77 | 12.43 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 253 | 16.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.58 | 0.09 | 11.80 | 12.46 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 254 | 16.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.57 | 0.09 | 11.84 | 12.50 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 255 | 15.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.57 | 0.09 | 11.87 | 12.53 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 256 | 15.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.57 | 0.09 | 11.91 | 12.56 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 257 | 14.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.57 | 0.08 | 11.94 | 12.59 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 258 | 14.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.57 | 0.08 | 11.98 | 12.63 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 259 | 13.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.28 | 1.69 | 0.00 | 1.69 | 0.00 | 0.56 | 0.08 | 12.01 | 12.66 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 260 | 13.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.29 | 1.69 | 0.00 | 1.69 | 0.00 | 0.56 | 0.08 | 12.05 | 12.69 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 261 | 12.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.29 | 1.69 | 0.00 | 1.69 | 0.00 | 0.56 | 0.08 | 12.08 | 12.73 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 262 | 12.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.29 | 1.69 | 0.00 | 1.69 | 0.00 | 0.56 | 0.08 | 12.11 | 12.76 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 263 | 11.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.29 | 1.69 | 0.00 | 1.69 | 0.00 | 0.56 | 0.08 | 12.15 | 12.79 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 264 | 11.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.29 | 1.69 | 0.00 | 1.69 | 0.00 | 0.56 | 0.08 | 12.18 | 12.82 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 265 | 10.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.29 | 1.69 | 0.00 | 1.69 | 0.00 | 0.56 | 0.08 | 12.22 | 12.86 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 266 | 10.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.29 | 1.69 | 0.00 | 1.69 | 0.00 | 0.55 | 0.08 | 12.25 | 12.89 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |

FINAL REPORT Flat R Drainage Cana LA-QUAL Projection for Flat River
REACH NO. 7 Flat River Summer Projection 50

********** REACH INPUTS **********

| ELEM NO. | TYPE | FLOW | TEMP deg C | SALN ppt | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | PHOS mg/L | CHL A µg/L | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 267 | UPR RCH | 0.02900 | 29.30 | 0.00 | 0.00 | 0.00 | 6.29 | 1.69 | 0.00 | 1.69 | 0.00 | 0.55 | 0.08 | 12.25 | 0.00 | 0.00 | 0.00 | 0.00 |
| 267 | WSTLD | 0.12700 | 29.30 | 0.00 | 0.00 | 0.00 | 3.00 | 1.90 | 0.00 | 1.90 | 0.00 | 0.22 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

********** HYDRAULIC PARAMETER VALUES **********

| ELEM NO. | BEGIN DIST km | ENDING DIST km | FLOW $m^3/s$ | PCT EFF | ADVCTV VELO m/s | TRAVEL TIME days | DEPTH m | WIDTH m | VOLUME $m^3$ | SURFACE AREA $m^2$ | X-SECT AREA $m^2$ | TIDAL PRISM $m^3$ | TIDAL VELO m/s | DISPRSN $m^2/s$ | MEAN VELO m/s |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 267 | 10.00 | 9.50 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| 268 | 9.50 | 9.00 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| 269 | 9.00 | 8.50 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| 270 | 8.50 | 8.00 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| 271 | 8.00 | 7.50 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| 272 | 7.50 | 7.00 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| 273 | 7.00 | 6.50 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| 274 | 6.50 | 6.00 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 275 | 6.00 | 5.50 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| 276 | 5.50 | 5.00 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| 277 | 5.00 | 4.50 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| 278 | 4.50 | 4.00 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| 279 | 4.00 | 3.50 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| 280 | 3.50 | 3.00 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| 281 | 3.00 | 2.50 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| 282 | 2.50 | 2.00 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| 283 | 2.00 | 1.50 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| 284 | 1.50 | 1.00 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| 285 | 1.00 | 0.50 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| 286 | 0.50 | 0.00 | 0.15600 | 98.1 | 0.07641 | 0.08 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.076 |
| TOT | | | | | | 1.51 | | | 20417.00 | 120100.00 | | | | | |
| AVG | | | | | 0.0764 | | 0.17 | 12.01 | | | 2.04 | | | | |
| CUM | | | | | | 320.60 | | | | | | | | | |

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

| ELEM NO. | ENDING DIST | SAT D.O. mg/L | REAER RATE 1/da | BOD#1 DECAY 1/da | BOD#1 SETT 1/da | ABOD#1 DECAY 1/da | BOD#2 DECAY 1/da | BOD#2 SETT 1/da | ABOD#2 DECAY 1/da | BKGD SOD * | FULL SOD * | CORR SOD * | ORGN DECAY 1/da | ORGN SETT 1/da | NH3 DECAY 1/da | NH3 SRCE * | DENIT RATE 1/da | PO4 SRCE * | ALG PROD ** | MAC PROD ** | COLI DECAY 1/da | NCM DECAY 1/da | NCM SETT 1/da |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 267 | 9.500 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 268 | 9.000 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 269 | 8.500 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 270 | 8.000 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 271 | 7.500 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 272 | 7.000 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 273 | 6.500 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 274 | 6.000 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 275 | 5.500 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 276 | 5.000 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 277 | 4.500 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 278 | 4.000 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 279 | 3.500 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 280 | 3.000 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 281 | 2.500 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 282 | 2.000 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 283 | 1.500 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 284 | 1.000 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 285 | 0.500 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 286 | 0.000 | 7.65 | 11.88 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.98 | 1.98 | 1.98 | 0.02 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| AVG 20 DEG C RATE | | | 10.00 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.10 | | | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 |

* $g/m^2/d$ ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

| ELEM NO. | ENDING DIST | TEMP DEG C | SALN PPT | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | TOTN mg/L | PHOS mg/L | CHL A µg/L | MACRO g/m³ | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 267 | 9.500 | 29.30 | 0.00 | 0.00 | 0.00 | 5.05 | 1.86 | 0.00 | 1.86 | 0.00 | 0.30 | 0.04 | 2.28 | 2.62 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 268 | 9.000 | 29.30 | 0.00 | 0.00 | 0.00 | 5.80 | 1.85 | 0.00 | 1.85 | 0.00 | 0.32 | 0.04 | 2.28 | 2.64 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 269 | 8.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.20 | 1.85 | 0.00 | 1.85 | 0.00 | 0.34 | 0.04 | 2.28 | 2.65 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 270 | 8.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.41 | 1.85 | 0.00 | 1.85 | 0.00 | 0.36 | 0.04 | 2.28 | 2.67 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 271 | 7.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.52 | 1.84 | 0.00 | 1.84 | 0.00 | 0.38 | 0.04 | 2.28 | 2.69 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 272 | 7.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.58 | 1.84 | 0.00 | 1.84 | 0.00 | 0.39 | 0.04 | 2.28 | 2.71 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 273 | 6.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.61 | 1.84 | 0.00 | 1.84 | 0.00 | 0.41 | 0.04 | 2.28 | 2.73 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 274 | 6.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.62 | 1.83 | 0.00 | 1.83 | 0.00 | 0.43 | 0.04 | 2.28 | 2.75 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 275 | 5.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.63 | 1.83 | 0.00 | 1.83 | 0.00 | 0.45 | 0.04 | 2.28 | 2.77 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 276 | 5.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.64 | 1.83 | 0.00 | 1.83 | 0.00 | 0.46 | 0.04 | 2.28 | 2.78 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 277 | 4.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.64 | 1.82 | 0.00 | 1.82 | 0.00 | 0.48 | 0.04 | 2.28 | 2.80 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 278 | 4.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.64 | 1.82 | 0.00 | 1.82 | 0.00 | 0.50 | 0.04 | 2.28 | 2.82 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 279 | 3.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.64 | 1.82 | 0.00 | 1.82 | 0.00 | 0.52 | 0.04 | 2.28 | 2.84 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 280 | 3.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.64 | 1.82 | 0.00 | 1.82 | 0.00 | 0.54 | 0.04 | 2.28 | 2.86 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 281 | 2.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.64 | 1.81 | 0.00 | 1.81 | 0.00 | 0.55 | 0.04 | 2.28 | 2.88 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 282 | 2.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.64 | 1.81 | 0.00 | 1.81 | 0.00 | 0.57 | 0.04 | 2.28 | 2.90 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 283 | 1.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.64 | 1.81 | 0.00 | 1.81 | 0.00 | 0.59 | 0.04 | 2.29 | 2.91 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 284 | 1.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.64 | 1.80 | 0.00 | 1.80 | 0.00 | 0.61 | 0.04 | 2.29 | 2.93 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 285 | 0.500 | 29.30 | 0.00 | 0.00 | 0.00 | 6.64 | 1.80 | 0.00 | 1.80 | 0.00 | 0.62 | 0.04 | 2.29 | 2.95 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |
| 286 | 0.000 | 29.30 | 0.00 | 0.00 | 0.00 | 6.64 | 1.80 | 0.00 | 1.80 | 0.00 | 0.64 | 0.04 | 2.29 | 2.97 | 0.00 | 0.00 | 0.00 | 0. | 0.00 |

STREAM SUMMARY
Flat R Drainage Cana

LA-QUAL Projection for Flat River
Summer Projection 50

| | | | | | |
|---|---|---|---|---|---|
| TRAVEL TIME | = | 320.60 | DAYS | | |
| MAXIMUM EFFLUENT | = | 98.08 | PERCENT | | |
| FLOW | = | 0.00300 | TO | 0.15600 | m³/s |
| DISPERSION | = | 0.0000 | TO | 0.0000 | m²/s |
| VELOCITY | = | 0.00092 | TO | 0.07641 | m/s |
| DEPTH | = | 0.17 | TO | 0.45 | m |
| WIDTH | = | 10.52 | TO | 31.68 | m |
| BOD DECAY | = | 0.18 | TO | 0.18 | per day |
| NH3 DECAY | = | 0.12 | TO | 0.16 | per day |
| SOD | = | 0.81 | TO | 1.98 | g/m²/d |
| NH3 SOURCE | = | 0.00 | TO | 0.00 | g/m²/d |
| REAERATION | = | 1.97 | TO | 11.88 | per day |
| BOD SETTLING | = | 0.00 | TO | 0.00 | per day |
| ORG-N DECAY | = | 0.02 | TO | 0.02 | per day |
| ORG-N SETTLING | = | 0.00 | TO | 0.00 | per day |
| TEMPERATURE | = | 29.30 | TO | 29.30 | deg C |
| DISSOLVED OXYGEN | = | 5.02 | TO | 6.64 | mg/L |

LA-QUAL Projection for Flat River
Summer Projection 50

INPUT/OUTPUT LOADING SUMMARY

| | FLOW $m^3/s$ | DO kg/d | BOD#1 kg/d | BOD#2 kg/d | ORG-N kg/d | NH3-N kg/d | NO3-N kg/d | PHOS kg/d | CHL A | NCM |
|---|---|---|---|---|---|---|---|---|---|---|
| HEADWATER FLOW | 0.003 | 1.8 | 0.5 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| INCREMENTAL INFLOW | 0.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| INCREMENTAL OUTFLOW | 0.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| WASTELOADS | 0.153 | 43.8 | 83.4 | 0.0 | 17.0 | 8.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| WITHDRAWLS | 0.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| FLOW THRU LOWER BNDRY | -0.156 | -89.5 | -24.2 | 0.0 | -8.6 | -0.6 | -30.8 | 0.0 | 0.0 | 0.0 |
| DISPERSION THRU LOWER BNDRY | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| DISPERSION THRU HDWTR BNDRY | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| NON-POINT INPUT | | 0.0 | 211.4 | 0.0 | 14.1 | | | | | 0.0 |
| NATURAL REAERATION | | 2611.4 | | | | | | | | |
| DAM REAERATION | | 0.0 | | | | | | | | |
| BACKGROUND SOD | | -2162.9 | | | | | | | | |
| BOD#1 DECAY | | -271.1 | -271.1 | | | | | | | |
| BOD#1 SETTLING | | 0.0 | 0.0 | | | | | | | |
| ANAEROBIC BOD#1 DECAY | | | 0.0 | | | | | | | |
| BOD#2 DECAY | | 0.0 | | 0.0 | | | | | | |
| BOD#2 SETTLING | | 0.0 | | 0.0 | | | | | | |
| ANAEROBIC BOD#2 DECAY | | | | 0.0 | | | | | | |
| ORG-N DECAY | | 0.0 | | | -22.6 | 22.6 | | | | |
| ORG-N SETTLING | | | | | 0.0 | 0.0 | | | | |
| NH3 DECAY | | -133.5 | | | | -30.8 | 30.8 | | | |
| BACKGROUND NH3 SOURCE | | | | | | 0.0 | | | | |
| OTHER DENITRIFICATION | | | | | | | 0.0 | | | |
| PHOSPHORUS SOURCE | | | | | | | | 0.0 | | |
| ALGAE PHOTOSYNTHESIS | | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | |
| ALGAE RESPIRATION | | 0.0 | | | | 0.0 | | 0.0 | 0.0 | |
| ALGAE SETTLING | | 0.0 | | | | | | | 0.0 | |
| MACRO PHOTOSYNTHESIS | | 0.0 | | | | 0.0 | 0.0 | 0.0 | | |
| NCM DECAY | | 0.0 | | | | | | | | 0.0 |
| NCM SETTLING | | 0.0 | | | | | | | | 0.0 |
| TOTAL INPUTS | 0.156 | 2656.9 | 295.3 | 0.0 | 31.2 | 31.4 | 30.8 | 0.0 | 0.0 | 0.0 |
| TOTAL OUTPUTS | -0.156 | -2657.1 | -295.3 | 0.0 | -31.2 | -31.4 | -30.8 | 0.0 | 0.0 | 0.0 |
| NET CONVERGENCE ERROR | 0.000 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

.....EXECUTION COMPLETED

# APPENDIX O

## Printout of Model Output for Winter Projection

```
LA-QUAL Version 8.11
Louisiana Department of Environmental Quality

Input file is D:\comp_models\LA-QUAL_8p11\flatwin.txt
Output produced at 15:39 on 09/27/2007

$$$ DATA TYPE 1 (TITLES AND CONTROL CARDS) $$$

CARD TYPE       CONTROL TITLES

TITLE01         LA-QUAL Projection for Flat River
TITLE02         Winter Projection 35
CNTROL03   NO   SEQU                        <Warning: legacy control - line ignored>
CNTROL04  YES   METR
CNTROL05  YES   OXYG                        <Warning: legacy control - line ignored>
ENDATA01

$$$ DATA TYPE 2 (MODEL OPTIONS) $$$

CARD TYPE       MODEL OPTION

MODOPT01   NO   TEMP
MODOPT02   NO   SALI
MODOPT03   NO   CONSERVATIVE MATERIAL
MODOPT04   NO   CONSERVATIVE MATERIAL II
MODOPT05  YES   DISS
MODOPT06  YES   BIOC
MODOPT07  YES   NITR
MODOPT08   NO   PHOS
MODOPT09   NO   CHLO
MODOPT10   NO   MACR
MODOPT11   NO   COLI
MODOPT12   NO   NONC
ENDATA02

$$$ DATA TYPE 3 (PROGRAM CONSTANTS) $$$

CARD TYPE       DESCRIPTION OF CONSTANT                       VALUE

PROGRAM         HYDRAULIC CALCULATION METHOD       =        2.00000 (widths and depths)
PROGRAM         MAXIMUM ITERATION LIMIT            =      500.00000
ENDATA03

$$$ DATA TYPE 4 (TEMPERATURE CORRECTION CONSTANTS FOR RATE COEFFICIENTS) $$$

 CARD TYPE     RATE CODE     THETA VALUE

THETA        NH3 DECA       1.07000
ENDATA04

$$$ CONSTANTS TYPE 5 (TEMPERATURE DATA) $$$
```

```
CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

ENDATA05

$$$ DATA TYPE 6 (ALGAE CONSTANTS) $$$

CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

ENDATA06

$$$ DATA TYPE 7 (MACROPHYTE CONSTANTS) $$$

CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

ENDATA07

$$$ DATA TYPE 8 (REACH IDENTIFICATION DATA) $$$
                                                     BEGIN        END    ELEM   REACH    ELEMS  BEGIN   END
CARD TYPE  REACH  ID  NAME                           REACH      REACH  LENGTH  LENGTH  PER RCH  ELEM   ELEM
                                                        km         km      km      km           NUM    NUM

REACH ID     1   FR  C Flat R Drainage Canal         87.00  TO  79.00  0.1000    8.00     80      1     80
REACH ID     2   FR  C Flat R Drainage Canal         79.00  TO  75.50  0.1000    3.50     35     81    115
REACH ID     3   FR  C Flat R Drainage Canal         75.50  TO  73.00  0.1000    2.50     25    116    140
REACH ID     4   FR  Flat River                      73.00  TO  56.00  0.5000   17.00     34    141    174
REACH ID     5   FR  Flat River                      56.00  TO  48.00  0.5000    8.00     16    175    190
REACH ID     6   FR  Flat River                      48.00  TO  10.00  0.5000   38.00     76    191    266
REACH ID     7   FR  Flat River                      10.00  TO   0.00  0.5000   10.00     20    267    286
ENDATA08

$$$ DATA TYPE 9 (ADVECTIVE HYDRAULIC COEFFICIENTS) $$$

CARD TYPE  REACH  ID      WIDTH      WIDTH      WIDTH      DEPTH      DEPTH      DEPTH     SLOPE   MANNINGS
                           "A"        "B"        "C"        "D"        "E"        "F"                 "N"

HYDR-1       1   FR      0.000      0.000     11.670      0.000      0.000      0.280   0.00000   0.000
HYDR-1       2   FR      0.000      0.000     10.520      0.000      0.000      0.450   0.00000   0.000
HYDR-1       3   FR      0.000      0.000     13.410      0.000      0.000      0.330   0.00000   0.000
HYDR-1       4   FR      0.000      0.000     15.360      0.000      0.000      0.300   0.00000   0.000
HYDR-1       5   FR      0.000      0.000     31.680      0.000      0.000      0.310   0.00000   0.000
HYDR-1       6   FR      0.000      0.000     31.680      0.000      0.000      0.400   0.00000   0.000
HYDR-1       7   FR      0.000      0.000     12.010      0.000      0.000      0.170   0.00000   0.000
ENDATA09

$$$ DATA TYPE 10 (DISPERSIVE HYDRAULIC COEFFICIENTS) $$$

CARD TYPE  REACH  ID     TIDAL     DISPERSION     DISPERSION     DISPERSION     DISPERSION
                         RANGE        "A"            "B"            "C"            "D"

ENDATA10
```

$$$ DATA TYPE 11 (INITIAL CONDITIONS) $$$

| CARD TYPE | REACH | ID | TEMP | SALIN | DO | NH3 | NO3+2 | PHOS | CHL A | MACRO |
|---|---|---|---|---|---|---|---|---|---|---|
| INITIAL | 1 | FR | 20.80 | 0.00 | 8.14 | 0.38 | 0.00 | 0.00 | 20.00 | 0.00 |
| INITIAL | 2 | FR | 20.80 | 0.00 | 8.14 | 0.38 | 0.00 | 0.00 | 20.00 | 0.00 |
| INITIAL | 3 | FR | 20.80 | 0.00 | 8.14 | 0.38 | 0.00 | 0.00 | 20.00 | 0.00 |
| INITIAL | 4 | FR | 20.80 | 0.00 | 8.14 | 0.38 | 0.00 | 0.00 | 20.00 | 0.00 |
| INITIAL | 5 | FR | 20.80 | 0.00 | 8.14 | 0.38 | 0.00 | 0.00 | 25.00 | 0.00 |
| INITIAL | 6 | FR | 20.80 | 0.00 | 8.14 | 0.38 | 0.00 | 0.00 | 25.00 | 0.00 |
| INITIAL | 7 | FR | 20.80 | 0.00 | 8.14 | 0.38 | 0.00 | 0.00 | 25.00 | 0.00 |

ENDATA11

$$$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) $$$

| CARD TYPE | RCH NUM | RCH ID | K2 OPT | K2 "A" | K2 "B" | K2 "C" | BKGRND SOD g/m²/d | BOD DECAY per day | BOD SETT m/d | BOD CONV TO SOD | ANAER BOD2 DECAY per day | BOD2 DECAY per day | BOD2 SETT m/d | BOD2 CONV TO SOD | ANAER BOD2 DECAY per day |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| COEFF-1 | 1 | FR | 15 LOUISIANA | 0.000 | 0.000 | 0.000 | 3.060 | 0.120 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| COEFF-1 | 2 | FR | 15 LOUISIANA | 0.000 | 0.000 | 0.000 | 2.861 | 0.120 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| COEFF-1 | 3 | FR | 15 LOUISIANA | 0.000 | 0.000 | 0.000 | 2.910 | 0.120 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| COEFF-1 | 4 | FR | 15 LOUISIANA | 0.000 | 0.000 | 0.000 | 2.619 | 0.120 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| COEFF-1 | 5 | FR | 15 LOUISIANA | 0.000 | 0.000 | 0.000 | 2.134 | 0.120 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| COEFF-1 | 6 | FR | 15 LOUISIANA | 0.000 | 0.000 | 0.000 | 2.134 | 0.120 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| COEFF-1 | 7 | FR | 15 LOUISIANA | 0.000 | 0.000 | 0.000 | 5.335 | 0.120 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

ENDATA12

$$$ DATA TYPE 13 (NITROGEN AND PHOSPHORUS COEFFICIENTS) $$$

| CARD TYPE | REACH | ID | ORG-N DECA | ORG-N SETT | ORGN CONV TO NH3 SRCE | NH3 DECA | NH3 SRCE | PHOS SRCE | DENIT RATE |
|---|---|---|---|---|---|---|---|---|---|
| COEFF-2 | 1 | FR | 0.020 | 0.000 | 1.000 | 0.090 | 0.000 | 0.000 | 0.000 |
| COEFF-2 | 2 | FR | 0.020 | 0.000 | 1.000 | 0.090 | 0.000 | 0.000 | 0.000 |
| COEFF-2 | 3 | FR | 0.020 | 0.000 | 1.000 | 0.090 | 0.000 | 0.000 | 0.000 |
| COEFF-2 | 4 | FR | 0.020 | 0.000 | 1.000 | 0.070 | 0.000 | 0.000 | 0.000 |
| COEFF-2 | 5 | FR | 0.020 | 0.000 | 1.000 | 0.070 | 0.000 | 0.000 | 0.000 |
| COEFF-2 | 6 | FR | 0.020 | 0.000 | 1.000 | 0.090 | 0.000 | 0.000 | 0.000 |
| COEFF-2 | 7 | FR | 0.020 | 0.000 | 1.000 | 0.090 | 0.000 | 0.000 | 0.000 |

ENDATA13

$$$ DATA TYPE 14 (ALGAE AND MACROPHYTE COEFFICIENTS) $$$

| CARD TYPE | REACH | ID | SECCHI DEPTH | ALGAE: CHL A | ALGAE SETT | ALG CONV TO SOD | ALGAE GROW | ALGAE RESP | MACRO GROW | MACRO RESP | SHADING |
|---|---|---|---|---|---|---|---|---|---|---|---|

ENDATA14

$$$ DATA TYPE 15 (COLIFORM AND NONCONSERVATIVE COEFFICIENTS) $$$

```
CARD TYPE      REACH  ID    COLIFORM       NCM       NCM    NCM CONV
                            DIE-OFF     DECAY      SETT     TO SOD

ENDATA15

$$$ DATA TYPE 16 (INCREMENTAL DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) $$$

CARD TYPE      REACH  ID       OUTFLOW      INFLOW      TEMP     SALIN      CM-I     CM-II   IN/DIST  OUT/DIST

ENDATA16

$$$ DATA TYPE 17 (INCREMENTAL DATA FOR DO, BOD, AND NITROGEN) $$$

CARD TYPE      REACH  ID          DO       BOD     ORG-N     NH3-N     NO3-N     BOD#2

ENDATA17

$$$ DATA TYPE 18 (INCREMENTAL DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

 CARD TYPE      REACH  ID        PHOS     CHL A      COLI       NCM

ENDATA18

$$$ DATA TYPE 19 (NONPOINT SOURCE DATA) $$$

CARD TYPE      REACH  ID       BOD#1     ORG-N      COLI       NCM        DO     BOD#2

NONPOINT         1   FR       11.22      0.51      0.00      0.00      0.00      0.00
NONPOINT         2   FR       19.40      0.97      0.00      0.00      0.00      0.00
NONPOINT         3   FR       14.55      0.97      0.00      0.00      0.00      0.00
NONPOINT         4   FR       92.15      4.85      0.00      0.00      0.00      0.00
NONPOINT         5   FR       82.45      4.85      0.00      0.00      0.00      0.00
NONPOINT         6   FR      582.00     24.25      0.00      0.00      0.00      0.00
NONPOINT         7   FR       29.10     24.25      0.00      0.00      0.00      0.00
ENDATA19

$$$ DATA TYPE 20 (HEADWATER FOR FLOW, TEMPERATURE, SALINITY AND CONSERVATIVES) $$$

CARD TYPE     ELEMENT   NAME                  UNIT     FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                        m³/s      cfs   deg C      ppt

HDWTR-1          1     Flat R Drainage Cana    0   0.03500    1.236   20.80     0.00     0.000     0.000   0.00
ENDATA20

$$$ DATA TYPE 21 (HEADWATER DATA FOR DO, BOD, AND NITROGEN) $$$

CARD TYPE     ELEMENT   NAME                        DO     BOD#1     ORG-N     NH3-N     NO3-N     BOD#2
                                                   mg/L      mg/L      mg/L      mg/L      mg/L      mg/L

HDWTR-2          1     Flat R Drainage Cana       8.14      7.37      1.92      0.37      0.00      0.00
```

ENDATA21

$$$ DATA TYPE 22 (HEADWATER DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

| CARD TYPE | ELEMENT | NAME | PHOS | CHL A | COLI | NCM |
|---|---|---|---|---|---|---|
| | | | mg/L | mg/L | mg/L | mg/L |

ENDATA22

$$$ DATA TYPE 23 (JUNCTION DATA) $$$

| CARD TYPE | JUNCTION ELEMENT | UPSTRM ELEMENT | RIVER KILOM | NAME |
|---|---|---|---|---|

ENDATA23

$$$ DATA TYPE 24 (WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) $$$

| CARD TYPE | ELEMENT | RKILO | NAME | FLOW | FLOW | FLOW | TEMP | SALIN | CM-I | CM-II |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | $m^3/s$ | cfs | MGD | deg C | ppt | | |
| WSTLD-1 | 17 | 85.40 | River Ridge Subdvsn | 0.00270 | 0.09534 | 0.062 | 20.80 | 0.00 | 0.000 | 0.000 |
| WSTLD-1 | 50 | 82.10 | Palmetto Park | 0.02190 | 0.77331 | 0.500 | 20.80 | 0.00 | 0.000 | 0.000 |
| WSTLD-1 | 216 | 35.50 | Elm Grove Jr High | 0.00140 | 0.04944 | 0.032 | 20.80 | 0.00 | 0.000 | 0.000 |
| WSTLD-1 | 267 | 10.00 | NPS Red Chute Bayou | 1.27000 | 44.84463 | 28.988 | 20.80 | 0.00 | 0.000 | 0.000 |

ENDATA24

$$$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) $$$

| CARD TYPE | ELEMENT | NAME | DO | BOD | % BOD RMVL | ORG-N | NH3-N | % NITRIF | NO3-N | BOD#2 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | mg/L | mg/L | | mg/L | mg/L | | mg/L | mg/L |
| WSTLD-2 | 17 | River Ridge Subdvsn | 5.00 | 46.00 | 0.00 | 3.00 | 7.00 | 0.00 | 0.00 | 0.00 |
| WSTLD-2 | 50 | Palmetto Park | 5.00 | 23.00 | 0.00 | 7.00 | 3.00 | 0.00 | 0.00 | 0.00 |
| WSTLD-2 | 216 | Elm Grove Jr High | 2.00 | 69.00 | 0.00 | 5.00 | 10.00 | 0.00 | 0.00 | 0.00 |
| WSTLD-2 | 267 | NPS Red Chute Bayou | 5.00 | 7.37 | 0.00 | 0.87 | 0.10 | 0.00 | 0.00 | 0.00 |

ENDATA25

$$$ DATA TYPE 26 (WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

| CARD TYPE | ELEMENT | NAME | PHOS | CHL A | COLI | NCM |
|---|---|---|---|---|---|---|
| | | | mg/L | mg/L | mg/L | mg/L |

ENDATA26

$$$ DATA TYPE 27 (LOWER BOUNDARY CONDITIONS) $$$

| CARD TYPE | CONSTITUENT | CONCENTRATION |
|---|---|---|

ENDATA27

```
$$$ DATA TYPE 28 (DAM DATA) $$$

CARD TYPE     ELEMENT   NAME                  EQN      "A"       "B"       "H"

ENDATA28

$$$ DATA TYPE 29 (SENSITIVITY ANALYSIS DATA) $$$

CARD TYPE       PARAMETER     COL 1     COL 2     COL 3     COL 4     COL 5     COL 6     COL 7     COL 8

ENDATA29

$$$ DATA TYPE 30 (PLOT CONTROL CARDS) $$$


NUMBER OF PLOTS =  1
NUMBER OF REACHES IN PLOT 1 =   7
PLOT RCH  1  2  3  4  5  6  7
ENDATA30

$$$ DATA TYPE 31 (OVERLAY PLOT DATA) $$$


OVERLAY 1 FlatR proj.ovl                  :Flat River
ENDATA31



     .....NO ERRORS DETECTED IN INPUT DATA
     .....HYDRAULIC CALCULATIONS COMPLETED
     .....TRIDIAGONAL MATRIX TERMS INITIALIZED
     .....OXYGEN DEPENDENT RATES CONVERGENT IN   2 ITERATIONS
     .....CONSTITUENT CALCULATIONS COMPLETED
 ***** WARNING:  NEGATIVE CONCENTRATIONS SET TO ZERO FOR Nitrate+Nitrite Nitrogen
     .....GRAPHICS DATA FOR PLOT 1 WRITTEN TO UNIT 11


FINAL REPORT    Flat R Drainage Cana                            LA-QUAL Projection for Flat River
REACH NO.  1    C Flat R Drainage Canal                         Winter Projection 35


 ******************************************************** REACH INPUTS ************************************************************
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| ELEM NO. | TYPE | FLOW | TEMP deg C | SALN ppt | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | PHOS mg/L | CHL A µg/L | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | HDWTR | 0.03500 | 20.80 | 0.00 | 0.00 | 0.00 | 8.14 | 7.37 | 0.00 | 7.37 | 0.00 | 1.92 | 0.37 | 0.00 | 0.00 | 20.00 | 0.00 | 0.00 |
| 17 | WSTLD | 0.00270 | 20.80 | 0.00 | 0.00 | 0.00 | 5.00 | 46.00 | 0.00 | 46.00 | 0.00 | 3.00 | 7.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 50 | WSTLD | 0.02190 | 20.80 | 0.00 | 0.00 | 0.00 | 5.00 | 23.00 | 0.00 | 23.00 | 0.00 | 7.00 | 3.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

********** HYDRAULIC PARAMETER VALUES **********

| ELEM NO. | BEGIN DIST km | ENDING DIST km | FLOW m³/s | PCT EFF | ADVCTV VELO m/s | TRAVEL TIME days | DEPTH m | WIDTH m | VOLUME m³ | SURFACE AREA m² | X-SECT AREA m² | TIDAL PRISM m³ | TIDAL VELO m/s | DISPRSN m²/s | MEAN VELO m/s |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 87.00 | 86.90 | 0.03500 | 0.0 | 0.01071 | 0.11 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.011 |
| 2 | 86.90 | 86.80 | 0.03500 | 0.0 | 0.01071 | 0.11 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.011 |
| 3 | 86.80 | 86.70 | 0.03500 | 0.0 | 0.01071 | 0.11 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.011 |
| 4 | 86.70 | 86.60 | 0.03500 | 0.0 | 0.01071 | 0.11 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.011 |
| 5 | 86.60 | 86.50 | 0.03500 | 0.0 | 0.01071 | 0.11 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.011 |
| 6 | 86.50 | 86.40 | 0.03500 | 0.0 | 0.01071 | 0.11 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.011 |
| 7 | 86.40 | 86.30 | 0.03500 | 0.0 | 0.01071 | 0.11 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.011 |
| 8 | 86.30 | 86.20 | 0.03500 | 0.0 | 0.01071 | 0.11 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.011 |
| 9 | 86.20 | 86.10 | 0.03500 | 0.0 | 0.01071 | 0.11 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.011 |
| 10 | 86.10 | 86.00 | 0.03500 | 0.0 | 0.01071 | 0.11 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.011 |
| 11 | 86.00 | 85.90 | 0.03500 | 0.0 | 0.01071 | 0.11 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.011 |
| 12 | 85.90 | 85.80 | 0.03500 | 0.0 | 0.01071 | 0.11 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.011 |
| 13 | 85.80 | 85.70 | 0.03500 | 0.0 | 0.01071 | 0.11 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.011 |
| 14 | 85.70 | 85.60 | 0.03500 | 0.0 | 0.01071 | 0.11 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.011 |
| 15 | 85.60 | 85.50 | 0.03500 | 0.0 | 0.01071 | 0.11 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.011 |
| 16 | 85.50 | 85.40 | 0.03500 | 0.0 | 0.01071 | 0.11 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.011 |
| 17 | 85.40 | 85.30 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 18 | 85.30 | 85.20 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 19 | 85.20 | 85.10 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 20 | 85.10 | 85.00 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 21 | 85.00 | 84.90 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 22 | 84.90 | 84.80 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 23 | 84.80 | 84.70 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 24 | 84.70 | 84.60 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 25 | 84.60 | 84.50 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 26 | 84.50 | 84.40 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 27 | 84.40 | 84.30 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 28 | 84.30 | 84.20 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 29 | 84.20 | 84.10 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 30 | 84.10 | 84.00 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 31 | 84.00 | 83.90 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 32 | 83.90 | 83.80 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 33 | 83.80 | 83.70 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 34 | 83.70 | 83.60 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 35 | 83.60 | 83.50 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 36 | 83.50 | 83.40 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 37 | 83.40 | 83.30 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 38 | 83.30 | 83.20 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 39 | 83.20 | 83.10 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 40 | 83.10 | 83.00 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 41 | 83.00 | 82.90 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 42 | 82.90 | 82.80 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 43 | 82.80 | 82.70 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 44 | 82.70 | 82.60 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 45 | 82.60 | 82.50 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 46 | 82.50 | 82.40 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 47 | 82.40 | 82.30 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 48 | 82.30 | 82.20 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 49 | 82.20 | 82.10 | 0.03770 | 7.2 | 0.01154 | 0.10 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.012 |
| 50 | 82.10 | 82.00 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 51 | 82.00 | 81.90 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 52 | 81.90 | 81.80 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 53 | 81.80 | 81.70 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 54 | 81.70 | 81.60 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 55 | 81.60 | 81.50 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 56 | 81.50 | 81.40 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 57 | 81.40 | 81.30 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 58 | 81.30 | 81.20 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 59 | 81.20 | 81.10 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 60 | 81.10 | 81.00 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 61 | 81.00 | 80.90 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 62 | 80.90 | 80.80 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 63 | 80.80 | 80.70 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 64 | 80.70 | 80.60 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 65 | 80.60 | 80.50 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 66 | 80.50 | 80.40 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 67 | 80.40 | 80.30 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 68 | 80.30 | 80.20 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 69 | 80.20 | 80.10 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 70 | 80.10 | 80.00 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 71 | 80.00 | 79.90 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 72 | 79.90 | 79.80 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 73 | 79.80 | 79.70 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 74 | 79.70 | 79.60 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 75 | 79.60 | 79.50 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 76 | 79.50 | 79.40 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 77 | 79.40 | 79.30 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 78 | 79.30 | 79.20 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 79 | 79.20 | 79.10 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| 80 | 79.10 | 79.00 | 0.05960 | 41.3 | 0.01824 | 0.06 | 0.28 | 11.67 | 326.76 | 1167.00 | 3.27 | 0.00 | 0.000 | 0.000 | 0.018 |
| TOT | | | | | | 7.01 | | | 26140.79 | 93360.00 | | | | | |
| AVG | | | | | 0.0132 | | 0.28 | 11.67 | | | 3.27 | | | | |
| CUM | | | | | | 7.01 | | | | | | | | | |

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

| ELEM NO. | ENDING DIST | SAT D.O. mg/L | REAER RATE 1/da | BOD#1 DECAY 1/da | BOD#1 SETT 1/da | ABOD#1 DECAY 1/da | BOD#2 DECAY 1/da | BOD#2 SETT 1/da | ABOD#2 DECAY 1/da | BKGD SOD * | FULL SOD * | CORR SOD * | ORGN DECAY 1/da | ORGN SETT 1/da | NH3 DECAY 1/da | NH3 SRCE * | DENIT RATE 1/da | PO4 SRCE * | ALG PROD ** | MAC PROD ** | COLI DECAY 1/da | NCM DECAY 1/da | NCM SETT 1/da |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 86.900 | 8.95 | 2.96 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | 86.800 | 8.95 | 2.96 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 86.700 | 8.95 | 2.96 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4 | 86.600 | 8.95 | 2.96 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 86.500 | 8.95 | 2.96 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6 | 86.400 | 8.95 | 2.96 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 86.300 | 8.95 | 2.96 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8 | 86.200 | 8.95 | 2.96 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9 | 86.100 | 8.95 | 2.96 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 86.000 | 8.95 | 2.96 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11 | 85.900 | 8.95 | 2.96 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12 | 85.800 | 8.95 | 2.96 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13 | 85.700 | 8.95 | 2.96 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14 | 85.600 | 8.95 | 2.96 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15 | 85.500 | 8.95 | 2.96 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 16 | 85.400 | 8.95 | 2.96 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 17 | 85.300 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 18 | 85.200 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 19 | 85.100 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 20 | 85.000 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 21 | 84.900 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 22 | 84.800 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 23 | 84.700 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 24 | 84.600 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 25 | 84.500 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 26 | 84.400 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 27 | 84.300 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 28 | 84.200 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 29 | 84.100 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 84.000 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 31 | 83.900 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 32 | 83.800 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 33 | 83.700 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 34 | 83.600 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 35 | 83.500 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 36 | 83.400 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 37 | 83.300 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 38 | 83.200 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 39 | 83.100 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 40 | 83.000 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 41 | 82.900 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 42 | 82.800 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 43 | 82.700 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 44 | 82.600 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 45 | 82.500 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 46 | 82.400 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 47 | 82.300 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 48 | 82.200 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 49 | 82.100 | 8.95 | 3.01 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 50 | 82.000 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 51 | 81.900 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 52 | 81.800 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 53 | 81.700 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 54 | 81.600 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 55 | 81.500 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 56 | 81.400 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 57 | 81.300 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 58 | 81.200 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 59 | 81.100 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 81.000 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 61 | 80.900 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 62 | 80.800 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 63 | 80.700 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 64 | 80.600 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 65 | 80.500 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 66 | 80.400 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 67 | 80.300 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 68 | 80.200 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 69 | 80.100 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 70 | 80.000 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 71 | 79.900 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 72 | 79.800 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 73 | 79.700 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 74 | 79.600 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75 | 79.500 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 76 | 79.400 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 77 | 79.300 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 78 | 79.200 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 79 | 79.100 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 80 | 79.000 | 8.95 | 3.35 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.22 | 3.22 | 3.22 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| AVG 20 DEG C RATE | | | 3.08 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | | | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 |

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

| ELEM NO. | ENDING DIST | TEMP DEG C | SALN PPT | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | TOTN mg/L | PHOS mg/L | CHL A µg/L | MACRO g/m³ | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 86.900 | 20.80 | 0.00 | 0.00 | 0.00 | 7.39 | 7.32 | 0.00 | 7.32 | 0.00 | 1.92 | 0.37 | 0.00 | 2.29 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 2 | 86.800 | 20.80 | 0.00 | 0.00 | 0.00 | 6.83 | 7.27 | 0.00 | 7.27 | 0.00 | 1.92 | 0.37 | 0.00 | 2.29 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 3 | 86.700 | 20.80 | 0.00 | 0.00 | 0.00 | 6.40 | 7.22 | 0.00 | 7.22 | 0.00 | 1.91 | 0.37 | 0.00 | 2.29 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 4 | 86.600 | 20.80 | 0.00 | 0.00 | 0.00 | 6.08 | 7.17 | 0.00 | 7.17 | 0.00 | 1.91 | 0.37 | 0.00 | 2.28 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 5 | 86.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.84 | 7.12 | 0.00 | 7.12 | 0.00 | 1.91 | 0.37 | 0.00 | 2.28 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 6 | 86.400 | 20.80 | 0.00 | 0.00 | 0.00 | 5.65 | 7.07 | 0.00 | 7.07 | 0.00 | 1.91 | 0.37 | 0.00 | 2.28 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 7 | 86.300 | 20.80 | 0.00 | 0.00 | 0.00 | 5.51 | 7.02 | 0.00 | 7.02 | 0.00 | 1.91 | 0.37 | 0.00 | 2.28 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 8 | 86.200 | 20.80 | 0.00 | 0.00 | 0.00 | 5.41 | 6.97 | 0.00 | 6.97 | 0.00 | 1.90 | 0.37 | 0.00 | 2.28 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 9 | 86.100 | 20.80 | 0.00 | 0.00 | 0.00 | 5.33 | 6.93 | 0.00 | 6.93 | 0.00 | 1.90 | 0.37 | 0.00 | 2.28 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 10 | 86.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.27 | 6.88 | 0.00 | 6.88 | 0.00 | 1.90 | 0.37 | 0.00 | 2.27 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 11 | 85.900 | 20.80 | 0.00 | 0.00 | 0.00 | 5.22 | 6.84 | 0.00 | 6.84 | 0.00 | 1.90 | 0.37 | 0.00 | 2.27 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 12 | 85.800 | 20.80 | 0.00 | 0.00 | 0.00 | 5.19 | 6.79 | 0.00 | 6.79 | 0.00 | 1.90 | 0.37 | 0.00 | 2.27 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 13 | 85.700 | 20.80 | 0.00 | 0.00 | 0.00 | 5.17 | 6.75 | 0.00 | 6.75 | 0.00 | 1.89 | 0.38 | 0.00 | 2.27 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 14 | 85.600 | 20.80 | 0.00 | 0.00 | 0.00 | 5.15 | 6.70 | 0.00 | 6.70 | 0.00 | 1.89 | 0.38 | 0.00 | 2.27 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 15 | 85.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.13 | 6.66 | 0.00 | 6.66 | 0.00 | 1.89 | 0.38 | 0.00 | 2.27 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 85.400 | 20.80 | 0.00 | 0.00 | 0.00 | 5.12 | 6.62 | 0.00 | 6.62 | 0.00 | 1.89 | 0.38 | 0.00 | 2.26 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 17 | 85.300 | 20.80 | 0.00 | 0.00 | 0.00 | 5.08 | 9.36 | 0.00 | 9.36 | 0.00 | 1.97 | 0.85 | 0.00 | 2.81 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 18 | 85.200 | 20.80 | 0.00 | 0.00 | 0.00 | 5.06 | 9.29 | 0.00 | 9.29 | 0.00 | 1.96 | 0.84 | 0.00 | 2.81 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 19 | 85.100 | 20.80 | 0.00 | 0.00 | 0.00 | 5.04 | 9.22 | 0.00 | 9.22 | 0.00 | 1.96 | 0.84 | 0.00 | 2.80 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 20 | 85.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.03 | 9.15 | 0.00 | 9.15 | 0.00 | 1.96 | 0.84 | 0.00 | 2.80 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 21 | 84.900 | 20.80 | 0.00 | 0.00 | 0.00 | 5.02 | 9.08 | 0.00 | 9.08 | 0.00 | 1.96 | 0.83 | 0.00 | 2.79 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 22 | 84.800 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 9.01 | 0.00 | 9.01 | 0.00 | 1.96 | 0.83 | 0.00 | 2.78 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 23 | 84.700 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 8.94 | 0.00 | 8.94 | 0.00 | 1.95 | 0.83 | 0.00 | 2.78 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 24 | 84.600 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 8.87 | 0.00 | 8.87 | 0.00 | 1.95 | 0.82 | 0.00 | 2.77 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 25 | 84.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.00 | 8.80 | 0.00 | 8.80 | 0.00 | 1.95 | 0.82 | 0.00 | 2.77 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 26 | 84.400 | 20.80 | 0.00 | 0.00 | 0.00 | 5.00 | 8.74 | 0.00 | 8.74 | 0.00 | 1.95 | 0.81 | 0.00 | 2.76 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 27 | 84.300 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 8.67 | 0.00 | 8.67 | 0.00 | 1.95 | 0.81 | 0.00 | 2.76 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 28 | 84.200 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 8.61 | 0.00 | 8.61 | 0.00 | 1.94 | 0.81 | 0.00 | 2.75 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 29 | 84.100 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 8.54 | 0.00 | 8.54 | 0.00 | 1.94 | 0.80 | 0.00 | 2.75 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 30 | 84.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 8.48 | 0.00 | 8.48 | 0.00 | 1.94 | 0.80 | 0.00 | 2.74 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 31 | 83.900 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 8.42 | 0.00 | 8.42 | 0.00 | 1.94 | 0.80 | 0.01 | 2.74 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 32 | 83.800 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 8.36 | 0.00 | 8.36 | 0.00 | 1.94 | 0.79 | 0.01 | 2.74 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 33 | 83.700 | 20.80 | 0.00 | 0.00 | 0.00 | 5.02 | 8.30 | 0.00 | 8.30 | 0.00 | 1.93 | 0.79 | 0.01 | 2.74 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 34 | 83.600 | 20.80 | 0.00 | 0.00 | 0.00 | 5.02 | 8.24 | 0.00 | 8.24 | 0.00 | 1.93 | 0.79 | 0.01 | 2.73 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 35 | 83.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.02 | 8.18 | 0.00 | 8.18 | 0.00 | 1.93 | 0.78 | 0.01 | 2.73 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 36 | 83.400 | 20.80 | 0.00 | 0.00 | 0.00 | 5.03 | 8.12 | 0.00 | 8.12 | 0.00 | 1.93 | 0.78 | 0.02 | 2.73 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 37 | 83.300 | 20.80 | 0.00 | 0.00 | 0.00 | 5.03 | 8.06 | 0.00 | 8.06 | 0.00 | 1.93 | 0.78 | 0.02 | 2.72 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 38 | 83.200 | 20.80 | 0.00 | 0.00 | 0.00 | 5.03 | 8.01 | 0.00 | 8.01 | 0.00 | 1.92 | 0.78 | 0.02 | 2.72 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 39 | 83.100 | 20.80 | 0.00 | 0.00 | 0.00 | 5.03 | 7.95 | 0.00 | 7.95 | 0.00 | 1.92 | 0.77 | 0.02 | 2.72 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 40 | 83.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.04 | 7.89 | 0.00 | 7.89 | 0.00 | 1.92 | 0.77 | 0.02 | 2.71 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 41 | 82.900 | 20.80 | 0.00 | 0.00 | 0.00 | 5.04 | 7.84 | 0.00 | 7.84 | 0.00 | 1.92 | 0.77 | 0.03 | 2.71 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 42 | 82.800 | 20.80 | 0.00 | 0.00 | 0.00 | 5.04 | 7.79 | 0.00 | 7.79 | 0.00 | 1.92 | 0.76 | 0.03 | 2.71 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 43 | 82.700 | 20.80 | 0.00 | 0.00 | 0.00 | 5.04 | 7.73 | 0.00 | 7.73 | 0.00 | 1.91 | 0.76 | 0.03 | 2.70 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 44 | 82.600 | 20.80 | 0.00 | 0.00 | 0.00 | 5.05 | 7.68 | 0.00 | 7.68 | 0.00 | 1.91 | 0.76 | 0.03 | 2.70 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 45 | 82.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.05 | 7.63 | 0.00 | 7.63 | 0.00 | 1.91 | 0.75 | 0.03 | 2.70 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 46 | 82.400 | 20.80 | 0.00 | 0.00 | 0.00 | 5.05 | 7.58 | 0.00 | 7.58 | 0.00 | 1.91 | 0.75 | 0.03 | 2.69 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 47 | 82.300 | 20.80 | 0.00 | 0.00 | 0.00 | 5.05 | 7.52 | 0.00 | 7.52 | 0.00 | 1.91 | 0.75 | 0.04 | 2.69 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 48 | 82.200 | 20.80 | 0.00 | 0.00 | 0.00 | 5.06 | 7.47 | 0.00 | 7.47 | 0.00 | 1.90 | 0.75 | 0.04 | 2.69 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 49 | 82.100 | 20.80 | 0.00 | 0.00 | 0.00 | 5.06 | 7.42 | 0.00 | 7.42 | 0.00 | 1.90 | 0.74 | 0.04 | 2.68 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 50 | 82.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.06 | 13.07 | 0.00 | 13.07 | 0.00 | 3.77 | 1.57 | 0.03 | 5.37 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 51 | 81.900 | 20.80 | 0.00 | 0.00 | 0.00 | 5.08 | 13.00 | 0.00 | 13.00 | 0.00 | 3.77 | 1.56 | 0.04 | 5.37 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 52 | 81.800 | 20.80 | 0.00 | 0.00 | 0.00 | 5.09 | 12.92 | 0.00 | 12.92 | 0.00 | 3.76 | 1.56 | 0.04 | 5.37 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 53 | 81.700 | 20.80 | 0.00 | 0.00 | 0.00 | 5.11 | 12.85 | 0.00 | 12.85 | 0.00 | 3.76 | 1.56 | 0.05 | 5.36 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 54 | 81.600 | 20.80 | 0.00 | 0.00 | 0.00 | 5.12 | 12.77 | 0.00 | 12.77 | 0.00 | 3.76 | 1.55 | 0.05 | 5.36 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 55 | 81.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.13 | 12.70 | 0.00 | 12.70 | 0.00 | 3.75 | 1.55 | 0.06 | 5.36 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 56 | 81.400 | 20.80 | 0.00 | 0.00 | 0.00 | 5.14 | 12.63 | 0.00 | 12.63 | 0.00 | 3.75 | 1.54 | 0.06 | 5.36 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 57 | 81.300 | 20.80 | 0.00 | 0.00 | 0.00 | 5.15 | 12.56 | 0.00 | 12.56 | 0.00 | 3.75 | 1.54 | 0.07 | 5.36 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 58 | 81.200 | 20.80 | 0.00 | 0.00 | 0.00 | 5.16 | 12.48 | 0.00 | 12.48 | 0.00 | 3.74 | 1.53 | 0.08 | 5.35 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 59 | 81.100 | 20.80 | 0.00 | 0.00 | 0.00 | 5.16 | 12.41 | 0.00 | 12.41 | 0.00 | 3.74 | 1.53 | 0.08 | 5.35 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 60 | 81.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.17 | 12.34 | 0.00 | 12.34 | 0.00 | 3.74 | 1.53 | 0.09 | 5.35 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 61 | 80.900 | 20.80 | 0.00 | 0.00 | 0.00 | 5.17 | 12.27 | 0.00 | 12.27 | 0.00 | 3.73 | 1.52 | 0.09 | 5.35 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 62 | 80.800 | 20.80 | 0.00 | 0.00 | 0.00 | 5.18 | 12.20 | 0.00 | 12.20 | 0.00 | 3.73 | 1.52 | 0.10 | 5.35 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 63 | 80.700 | 20.80 | 0.00 | 0.00 | 0.00 | 5.18 | 12.14 | 0.00 | 12.14 | 0.00 | 3.72 | 1.51 | 0.10 | 5.34 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 64 | 80.600 | 20.80 | 0.00 | 0.00 | 0.00 | 5.19 | 12.07 | 0.00 | 12.07 | 0.00 | 3.72 | 1.51 | 0.11 | 5.34 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 65 | 80.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.19 | 12.00 | 0.00 | 12.00 | 0.00 | 3.72 | 1.51 | 0.11 | 5.34 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 66 | 80.400 | 20.80 | 0.00 | 0.00 | 0.00 | 5.19 | 11.93 | 0.00 | 11.93 | 0.00 | 3.71 | 1.50 | 0.12 | 5.34 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 67 | 80.300 | 20.80 | 0.00 | 0.00 | 0.00 | 5.20 | 11.87 | 0.00 | 11.87 | 0.00 | 3.71 | 1.50 | 0.13 | 5.33 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 68 | 80.200 | 20.80 | 0.00 | 0.00 | 0.00 | 5.20 | 11.80 | 0.00 | 11.80 | 0.00 | 3.71 | 1.49 | 0.13 | 5.33 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 69 | 80.100 | 20.80 | 0.00 | 0.00 | 0.00 | 5.21 | 11.74 | 0.00 | 11.74 | 0.00 | 3.70 | 1.49 | 0.14 | 5.33 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 70 | 80.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.21 | 11.67 | 0.00 | 11.67 | 0.00 | 3.70 | 1.49 | 0.14 | 5.33 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 71 | 79.900 | 20.80 | 0.00 | 0.00 | 0.00 | 5.21 | 11.61 | 0.00 | 11.61 | 0.00 | 3.70 | 1.48 | 0.15 | 5.33 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 72 | 79.800 | 20.80 | 0.00 | 0.00 | 0.00 | 5.22 | 11.54 | 0.00 | 11.54 | 0.00 | 3.69 | 1.48 | 0.15 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 73 | 79.700 | 20.80 | 0.00 | 0.00 | 0.00 | 5.22 | 11.48 | 0.00 | 11.48 | 0.00 | 3.69 | 1.48 | 0.16 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 74 | 79.600 | 20.80 | 0.00 | 0.00 | 0.00 | 5.22 | 11.42 | 0.00 | 11.42 | 0.00 | 3.69 | 1.47 | 0.16 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 75 | 79.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.22 | 11.35 | 0.00 | 11.35 | 0.00 | 3.68 | 1.47 | 0.17 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 76 | 79.400 | 20.80 | 0.00 | 0.00 | 0.00 | 5.23 | 11.29 | 0.00 | 11.29 | 0.00 | 3.68 | 1.46 | 0.17 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 77 | 79.300 | 20.80 | 0.00 | 0.00 | 0.00 | 5.23 | 11.23 | 0.00 | 11.23 | 0.00 | 3.68 | 1.46 | 0.18 | 5.31 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 78 | 79.200 | 20.80 | 0.00 | 0.00 | 0.00 | 5.23 | 11.17 | 0.00 | 11.17 | 0.00 | 3.67 | 1.46 | 0.18 | 5.31 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 79 | 79.100 | 20.80 | 0.00 | 0.00 | 0.00 | 5.24 | 11.11 | 0.00 | 11.11 | 0.00 | 3.67 | 1.45 | 0.19 | 5.31 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 80 | 79.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.24 | 11.05 | 0.00 | 11.05 | 0.00 | 3.67 | 1.45 | 0.19 | 5.31 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |

FINAL REPORT Flat R Drainage Cana LA-QUAL Projection for Flat River
REACH NO. 2 C Flat R Drainage Canal Winter Projection 35

********** REACH INPUTS **********

| ELEM NO. | TYPE | FLOW | TEMP deg C | SALN ppt | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | PHOS mg/L | CHL A µg/L | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81 | UPR RCH | 0.05960 | 20.80 | 0.00 | 0.00 | 0.00 | 5.24 | 11.05 | 0.00 | 11.05 | 0.00 | 3.67 | 1.45 | 0.19 | 0.00 | 20.00 | 0.00 | 0.00 |

********** HYDRAULIC PARAMETER VALUES **********

| ELEM NO. | BEGIN DIST km | ENDING DIST km | FLOW $m^3/s$ | PCT EFF | ADVCTV VELO m/s | TRAVEL TIME days | DEPTH m | WIDTH m | VOLUME $m^3$ | SURFACE AREA $m^2$ | X-SECT AREA $m^2$ | TIDAL PRISM $m^3$ | TIDAL VELO m/s | DISPRSN $m^2/s$ | MEAN VELO m/s |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81 | 79.00 | 78.90 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 82 | 78.90 | 78.80 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 83 | 78.80 | 78.70 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 84 | 78.70 | 78.60 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 85 | 78.60 | 78.50 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 86 | 78.50 | 78.40 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 87 | 78.40 | 78.30 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 88 | 78.30 | 78.20 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 89 | 78.20 | 78.10 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 90 | 78.10 | 78.00 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 91 | 78.00 | 77.90 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 92 | 77.90 | 77.80 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 93 | 77.80 | 77.70 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 94 | 77.70 | 77.60 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 95 | 77.60 | 77.50 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 96 | 77.50 | 77.40 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 97 | 77.40 | 77.30 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 98 | 77.30 | 77.20 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 99 | 77.20 | 77.10 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 100 | 77.10 | 77.00 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 101 | 77.00 | 76.90 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 102 | 76.90 | 76.80 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 103 | 76.80 | 76.70 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 104 | 76.70 | 76.60 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 105 | 76.60 | 76.50 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 106 | 76.50 | 76.40 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 107 | 76.40 | 76.30 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 108 | 76.30 | 76.20 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 109 | 76.20 | 76.10 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 110 | 76.10 | 76.00 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 111 | 76.00 | 75.90 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 112 | 75.90 | 75.80 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 113 | 75.80 | 75.70 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 114 | 75.70 | 75.60 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| 115 | 75.60 | 75.50 | 0.05960 | 41.3 | 0.01259 | 0.09 | 0.45 | 10.52 | 473.40 | 1052.00 | 4.73 | 0.00 | 0.000 | 0.000 | 0.013 |
| TOT | | | | | | 3.22 | | | 16569.01 | 36820.00 | | | | | |
| AVG | | | | | 0.0126 | | 0.45 | 10.52 | | | 4.73 | | | | |
| CUM | | | | | | 10.22 | | | | | | | | | |

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

| ELEM NO. | ENDING DIST | SAT D.O. mg/L | REAER RATE 1/da | BOD#1 DECAY 1/da | BOD#1 SETT 1/da | ABOD#1 DECAY 1/da | BOD#2 DECAY 1/da | BOD#2 SETT 1/da | ABOD#2 DECAY 1/da | BKGD SOD * | FULL SOD * | CORR SOD * | ORGN DECAY 1/da | ORGN SETT 1/da | NH3 DECAY 1/da | NH3 SRCE * | DENIT RATE 1/da | PO4 SRCE * | ALG PROD ** | MAC PROD ** | COLI DECAY 1/da | NCM DECAY 1/da | NCM SETT 1/da |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81 | 78.900 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 82 | 78.800 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 83 | 78.700 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 84 | 78.600 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 85 | 78.500 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 86 | 78.400 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 87 | 78.300 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 88 | 78.200 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 89 | 78.100 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 90 | 78.000 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 91 | 77.900 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 92 | 77.800 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 93 | 77.700 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 94 | 77.600 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95 | 77.500 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 96 | 77.400 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 97 | 77.300 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 98 | 77.200 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 99 | 77.100 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 100 | 77.000 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 101 | 76.900 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 102 | 76.800 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 103 | 76.700 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 104 | 76.600 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 105 | 76.500 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 106 | 76.400 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 107 | 76.300 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 108 | 76.200 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 109 | 76.100 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 110 | 76.000 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 111 | 75.900 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 112 | 75.800 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 113 | 75.700 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 114 | 75.600 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 115 | 75.500 | 8.95 | 1.91 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.01 | 3.01 | 3.01 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| AVG 20 DEG C RATE | | | 1.88 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.86 | | | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 |

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

| ELEM NO. | ENDING DIST | TEMP DEG C | SALN PPT | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | TOTN mg/L | PHOS mg/L | CHL A µg/L | MACRO g/m³ | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81 | 78.900 | 20.80 | 0.00 | 0.00 | 0.00 | 5.20 | 11.03 | 0.00 | 11.03 | 0.00 | 3.66 | 1.44 | 0.20 | 5.31 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 82 | 78.800 | 20.80 | 0.00 | 0.00 | 0.00 | 5.16 | 11.01 | 0.00 | 11.01 | 0.00 | 3.66 | 1.44 | 0.21 | 5.31 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 83 | 78.700 | 20.80 | 0.00 | 0.00 | 0.00 | 5.13 | 10.99 | 0.00 | 10.99 | 0.00 | 3.66 | 1.43 | 0.22 | 5.31 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 84 | 78.600 | 20.80 | 0.00 | 0.00 | 0.00 | 5.11 | 10.97 | 0.00 | 10.97 | 0.00 | 3.66 | 1.43 | 0.22 | 5.31 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 85 | 78.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.09 | 10.96 | 0.00 | 10.96 | 0.00 | 3.66 | 1.42 | 0.23 | 5.31 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 86 | 78.400 | 20.80 | 0.00 | 0.00 | 0.00 | 5.07 | 10.94 | 0.00 | 10.94 | 0.00 | 3.66 | 1.42 | 0.24 | 5.31 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 87 | 78.300 | 20.80 | 0.00 | 0.00 | 0.00 | 5.06 | 10.92 | 0.00 | 10.92 | 0.00 | 3.65 | 1.41 | 0.24 | 5.31 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 88 | 78.200 | 20.80 | 0.00 | 0.00 | 0.00 | 5.05 | 10.91 | 0.00 | 10.91 | 0.00 | 3.65 | 1.41 | 0.25 | 5.31 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 89 | 78.100 | 20.80 | 0.00 | 0.00 | 0.00 | 5.04 | 10.89 | 0.00 | 10.89 | 0.00 | 3.65 | 1.40 | 0.26 | 5.31 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 90 | 78.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.03 | 10.87 | 0.00 | 10.87 | 0.00 | 3.65 | 1.40 | 0.26 | 5.31 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 91 | 77.900 | 20.80 | 0.00 | 0.00 | 0.00 | 5.02 | 10.85 | 0.00 | 10.85 | 0.00 | 3.65 | 1.39 | 0.27 | 5.31 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 92 | 77.800 | 20.80 | 0.00 | 0.00 | 0.00 | 5.02 | 10.84 | 0.00 | 10.84 | 0.00 | 3.65 | 1.39 | 0.28 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 93 | 77.700 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 10.82 | 0.00 | 10.82 | 0.00 | 3.65 | 1.38 | 0.29 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 94 | 77.600 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 10.81 | 0.00 | 10.81 | 0.00 | 3.64 | 1.38 | 0.29 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 95 | 77.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 10.79 | 0.00 | 10.79 | 0.00 | 3.64 | 1.38 | 0.30 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 96 | 77.400 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 10.77 | 0.00 | 10.77 | 0.00 | 3.64 | 1.37 | 0.31 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 97 | 77.300 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 10.76 | 0.00 | 10.76 | 0.00 | 3.64 | 1.37 | 0.31 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 98 | 77.200 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 10.74 | 0.00 | 10.74 | 0.00 | 3.64 | 1.36 | 0.32 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 99 | 77.100 | 20.80 | 0.00 | 0.00 | 0.00 | 5.00 | 10.73 | 0.00 | 10.73 | 0.00 | 3.64 | 1.36 | 0.33 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 100 | 77.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.00 | 10.71 | 0.00 | 10.71 | 0.00 | 3.64 | 1.35 | 0.33 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 101 | 76.900 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 10.70 | 0.00 | 10.70 | 0.00 | 3.63 | 1.35 | 0.34 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 102 | 76.800 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 10.68 | 0.00 | 10.68 | 0.00 | 3.63 | 1.34 | 0.34 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 103 | 76.700 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 10.67 | 0.00 | 10.67 | 0.00 | 3.63 | 1.34 | 0.35 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 104 | 76.600 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 10.66 | 0.00 | 10.66 | 0.00 | 3.63 | 1.33 | 0.36 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 105 | 76.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 10.64 | 0.00 | 10.64 | 0.00 | 3.63 | 1.33 | 0.36 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 106 | 76.400 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 10.63 | 0.00 | 10.63 | 0.00 | 3.63 | 1.33 | 0.37 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 107 | 76.300 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 10.61 | 0.00 | 10.61 | 0.00 | 3.63 | 1.32 | 0.38 | 5.32 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 108 | 76.200 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 10.60 | 0.00 | 10.60 | 0.00 | 3.63 | 1.32 | 0.38 | 5.33 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 109 | 76.100 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 10.59 | 0.00 | 10.59 | 0.00 | 3.62 | 1.31 | 0.39 | 5.33 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 110 | 76.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.01 | 10.57 | 0.00 | 10.57 | 0.00 | 3.62 | 1.31 | 0.40 | 5.33 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 111 | 75.900 | 20.80 | 0.00 | 0.00 | 0.00 | 5.02 | 10.56 | 0.00 | 10.56 | 0.00 | 3.62 | 1.30 | 0.40 | 5.33 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 112 | 75.800 | 20.80 | 0.00 | 0.00 | 0.00 | 5.02 | 10.55 | 0.00 | 10.55 | 0.00 | 3.62 | 1.30 | 0.41 | 5.33 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 113 | 75.700 | 20.80 | 0.00 | 0.00 | 0.00 | 5.02 | 10.53 | 0.00 | 10.53 | 0.00 | 3.62 | 1.30 | 0.41 | 5.33 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 114 | 75.600 | 20.80 | 0.00 | 0.00 | 0.00 | 5.02 | 10.52 | 0.00 | 10.52 | 0.00 | 3.62 | 1.29 | 0.42 | 5.33 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 115 | 75.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.02 | 10.51 | 0.00 | 10.51 | 0.00 | 3.62 | 1.29 | 0.43 | 5.33 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |

FINAL REPORT Flat R Drainage Cana LA-QUAL Projection for Flat River
REACH NO. 3 C Flat R Drainage Canal Winter Projection 35

********** REACH INPUTS **********

| ELEM NO. | TYPE | FLOW | TEMP deg C | SALN ppt | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | PHOS mg/L | CHL A µg/L | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 116 | UPR RCH | 0.05960 | 20.80 | 0.00 | 0.00 | 0.00 | 5.02 | 10.51 | 0.00 | 10.51 | 0.00 | 3.62 | 1.29 | 0.43 | 0.00 | 20.00 | 0.00 | 0.00 |

********** HYDRAULIC PARAMETER VALUES **********

| ELEM NO. | BEGIN DIST km | ENDING DIST km | FLOW $m^3/s$ | PCT EFF | ADVCTV VELO m/s | TRAVEL TIME days | DEPTH m | WIDTH m | VOLUME $m^3$ | SURFACE AREA $m^2$ | X-SECT AREA $m^2$ | TIDAL PRISM $m^3$ | TIDAL VELO m/s | DISPRSN $m^2/s$ | MEAN VELO m/s |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 116 | 75.50 | 75.40 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 117 | 75.40 | 75.30 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 118 | 75.30 | 75.20 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 119 | 75.20 | 75.10 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 120 | 75.10 | 75.00 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 121 | 75.00 | 74.90 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 122 | 74.90 | 74.80 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 123 | 74.80 | 74.70 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 124 | 74.70 | 74.60 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 125 | 74.60 | 74.50 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 126 | 74.50 | 74.40 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 127 | 74.40 | 74.30 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 128 | 74.30 | 74.20 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 129 | 74.20 | 74.10 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 130 | 74.10 | 74.00 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 131 | 74.00 | 73.90 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 132 | 73.90 | 73.80 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 133 | 73.80 | 73.70 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 134 | 73.70 | 73.60 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 135 | 73.60 | 73.50 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 136 | 73.50 | 73.40 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 137 | 73.40 | 73.30 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 138 | 73.30 | 73.20 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 139 | 73.20 | 73.10 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| 140 | 73.10 | 73.00 | 0.05960 | 41.3 | 0.01347 | 0.09 | 0.33 | 13.41 | 442.53 | 1341.00 | 4.43 | 0.00 | 0.000 | 0.000 | 0.013 |
| TOT | | | | | | 2.15 | | | 11063.25 | 33525.00 | | | | | |
| AVG | | | | | 0.0135 | | 0.33 | 13.41 | | | 4.43 | | | | |
| CUM | | | | | | 12.37 | | | | | | | | | |

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

| ELEM NO. | ENDING DIST | SAT D.O. mg/L | REAER RATE 1/da | BOD#1 DECAY 1/da | BOD#1 SETT 1/da | ABOD#1 DECAY 1/da | BOD#2 DECAY 1/da | BOD#2 SETT 1/da | ABOD#2 DECAY 1/da | BKGD SOD * | FULL SOD * | CORR SOD * | ORGN DECAY 1/da | ORGN SETT 1/da | NH3 DECAY 1/da | NH3 SRCE * | DENIT RATE 1/da | PO4 SRCE * | ALG PROD ** | MAC PROD ** | COLI DECAY 1/da | NCM DECAY 1/da | NCM SETT 1/da |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 116 | 75.400 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 117 | 75.300 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 118 | 75.200 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 119 | 75.100 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 120 | 75.000 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 121 | 74.900 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 122 | 74.800 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 123 | 74.700 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 124 | 74.600 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 125 | 74.500 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 126 | 74.400 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 127 | 74.300 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 128 | 74.200 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 129 | 74.100 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 130 | 74.000 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 131 | 73.900 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 132 | 73.800 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 133 | 73.700 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 134 | 73.600 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 135 | 73.500 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 136 | 73.400 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 137 | 73.300 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 138 | 73.200 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 139 | 73.100 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 140 | 73.000 | 8.95 | 2.64 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 3.06 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| AVG 20 DEG C RATE | | | 2.60 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.91 | | | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 |

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

| ELEM NO. | ENDING DIST | TEMP DEG C | SALN PPT | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | TOTN mg/L | PHOS mg/L | CHL A µg/L | MACRO g/m³ | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 116 | 75.400 | 20.80 | 0.00 | 0.00 | 0.00 | 5.04 | 10.51 | 0.00 | 10.51 | 0.00 | 3.62 | 1.28 | 0.43 | 5.33 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 117 | 75.300 | 20.80 | 0.00 | 0.00 | 0.00 | 5.06 | 10.51 | 0.00 | 10.51 | 0.00 | 3.62 | 1.28 | 0.44 | 5.34 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 118 | 75.200 | 20.80 | 0.00 | 0.00 | 0.00 | 5.08 | 10.51 | 0.00 | 10.51 | 0.00 | 3.62 | 1.28 | 0.44 | 5.34 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 119 | 75.100 | 20.80 | 0.00 | 0.00 | 0.00 | 5.09 | 10.51 | 0.00 | 10.51 | 0.00 | 3.62 | 1.27 | 0.45 | 5.34 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 120 | 75.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.10 | 10.51 | 0.00 | 10.51 | 0.00 | 3.62 | 1.27 | 0.45 | 5.34 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 121 | 74.900 | 20.80 | 0.00 | 0.00 | 0.00 | 5.10 | 10.51 | 0.00 | 10.51 | 0.00 | 3.62 | 1.27 | 0.46 | 5.35 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 122 | 74.800 | 20.80 | 0.00 | 0.00 | 0.00 | 5.11 | 10.51 | 0.00 | 10.51 | 0.00 | 3.62 | 1.26 | 0.46 | 5.35 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 123 | 74.700 | 20.80 | 0.00 | 0.00 | 0.00 | 5.12 | 10.51 | 0.00 | 10.51 | 0.00 | 3.63 | 1.26 | 0.47 | 5.35 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 124 | 74.600 | 20.80 | 0.00 | 0.00 | 0.00 | 5.12 | 10.51 | 0.00 | 10.51 | 0.00 | 3.63 | 1.26 | 0.47 | 5.36 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 125 | 74.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.13 | 10.51 | 0.00 | 10.51 | 0.00 | 3.63 | 1.25 | 0.48 | 5.36 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 126 | 74.400 | 20.80 | 0.00 | 0.00 | 0.00 | 5.13 | 10.51 | 0.00 | 10.51 | 0.00 | 3.63 | 1.25 | 0.49 | 5.36 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 127 | 74.300 | 20.80 | 0.00 | 0.00 | 0.00 | 5.13 | 10.52 | 0.00 | 10.52 | 0.00 | 3.63 | 1.25 | 0.49 | 5.37 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 128 | 74.200 | 20.80 | 0.00 | 0.00 | 0.00 | 5.13 | 10.52 | 0.00 | 10.52 | 0.00 | 3.63 | 1.24 | 0.50 | 5.37 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 129 | 74.100 | 20.80 | 0.00 | 0.00 | 0.00 | 5.14 | 10.52 | 0.00 | 10.52 | 0.00 | 3.63 | 1.24 | 0.50 | 5.37 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 130 | 74.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.14 | 10.52 | 0.00 | 10.52 | 0.00 | 3.63 | 1.24 | 0.51 | 5.38 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 131 | 73.900 | 20.80 | 0.00 | 0.00 | 0.00 | 5.14 | 10.52 | 0.00 | 10.52 | 0.00 | 3.63 | 1.23 | 0.51 | 5.38 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 132 | 73.800 | 20.80 | 0.00 | 0.00 | 0.00 | 5.14 | 10.52 | 0.00 | 10.52 | 0.00 | 3.64 | 1.23 | 0.52 | 5.38 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 133 | 73.700 | 20.80 | 0.00 | 0.00 | 0.00 | 5.14 | 10.52 | 0.00 | 10.52 | 0.00 | 3.64 | 1.23 | 0.52 | 5.38 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 134 | 73.600 | 20.80 | 0.00 | 0.00 | 0.00 | 5.14 | 10.52 | 0.00 | 10.52 | 0.00 | 3.64 | 1.22 | 0.53 | 5.39 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 135 | 73.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.14 | 10.52 | 0.00 | 10.52 | 0.00 | 3.64 | 1.22 | 0.53 | 5.39 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 136 | 73.400 | 20.80 | 0.00 | 0.00 | 0.00 | 5.14 | 10.52 | 0.00 | 10.52 | 0.00 | 3.64 | 1.22 | 0.54 | 5.39 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 137 | 73.300 | 20.80 | 0.00 | 0.00 | 0.00 | 5.14 | 10.52 | 0.00 | 10.52 | 0.00 | 3.64 | 1.21 | 0.54 | 5.40 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 138 | 73.200 | 20.80 | 0.00 | 0.00 | 0.00 | 5.14 | 10.52 | 0.00 | 10.52 | 0.00 | 3.64 | 1.21 | 0.55 | 5.40 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 139 | 73.100 | 20.80 | 0.00 | 0.00 | 0.00 | 5.15 | 10.52 | 0.00 | 10.52 | 0.00 | 3.64 | 1.21 | 0.55 | 5.40 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |
| 140 | 73.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.15 | 10.52 | 0.00 | 10.52 | 0.00 | 3.65 | 1.20 | 0.56 | 5.41 | 0.00 | 20.00 | 0.00 | 0. | 0.00 |

FINAL REPORT Flat R Drainage Cana LA-QUAL Projection for Flat River
REACH NO. 4 Flat River Winter Projection 35

********** REACH INPUTS **********

| ELEM NO. | TYPE | FLOW | TEMP deg C | SALN ppt | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | PHOS mg/L | CHL A µg/L | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 141 | UPR RCH | 0.05960 | 20.80 | 0.00 | 0.00 | 0.00 | 5.15 | 10.52 | 0.00 | 10.52 | 0.00 | 3.65 | 1.20 | 0.56 | 0.00 | 20.00 | 0.00 | 0.00 |

********** HYDRAULIC PARAMETER VALUES **********

| ELEM NO. | BEGIN DIST km | ENDING DIST km | FLOW $m^3/s$ | PCT EFF | ADVCTV VELO m/s | TRAVEL TIME days | DEPTH m | WIDTH m | VOLUME $m^3$ | SURFACE AREA $m^2$ | X-SECT AREA $m^2$ | TIDAL PRISM $m^3$ | TIDAL VELO m/s | DISPRSN $m^2/s$ | MEAN VELO m/s |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 141 | 73.00 | 72.50 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 142 | 72.50 | 72.00 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 143 | 72.00 | 71.50 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 144 | 71.50 | 71.00 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 145 | 71.00 | 70.50 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 146 | 70.50 | 70.00 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 147 | 70.00 | 69.50 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 148 | 69.50 | 69.00 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 149 | 69.00 | 68.50 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 150 | 68.50 | 68.00 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 151 | 68.00 | 67.50 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 152 | 67.50 | 67.00 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 153 | 67.00 | 66.50 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 154 | 66.50 | 66.00 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 155 | 66.00 | 65.50 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 156 | 65.50 | 65.00 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 157 | 65.00 | 64.50 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 158 | 64.50 | 64.00 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 159 | 64.00 | 63.50 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 160 | 63.50 | 63.00 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 161 | 63.00 | 62.50 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 162 | 62.50 | 62.00 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 163 | 62.00 | 61.50 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 164 | 61.50 | 61.00 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 165 | 61.00 | 60.50 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 166 | 60.50 | 60.00 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 167 | 60.00 | 59.50 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 168 | 59.50 | 59.00 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 169 | 59.00 | 58.50 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 170 | 58.50 | 58.00 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 171 | 58.00 | 57.50 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 172 | 57.50 | 57.00 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 173 | 57.00 | 56.50 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| 174 | 56.50 | 56.00 | 0.05960 | 41.3 | 0.01293 | 0.45 | 0.30 | 15.36 | 2304.00 | 7680.00 | 4.61 | 0.00 | 0.000 | 0.000 | 0.013 |
| TOT | | | | | | 15.21 | | | 78336.01 | 261120.00 | | | | | |
| AVG | | | | | 0.0129 | | 0.30 | 15.36 | | | 4.61 | | | | |
| CUM | | | | | | 27.59 | | | | | | | | | |

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

| ELEM NO. | ENDING DIST | SAT D.O. mg/L | REAER RATE 1/da | BOD#1 DECAY 1/da | BOD#1 SETT 1/da | ABOD#1 DECAY 1/da | BOD#2 DECAY 1/da | BOD#2 SETT 1/da | ABOD#2 DECAY 1/da | BKGD SOD * | FULL SOD * | CORR SOD * | ORGN DECAY 1/da | ORGN SETT 1/da | NH3 DECAY 1/da | NH3 SRCE * | DENIT RATE 1/da | PO4 SRCE * | ALG PROD ** | MAC PROD ** | COLI DECAY 1/da | NCM DECAY 1/da | NCM SETT 1/da |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 141 | 72.500 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.05 | 0.00 | 0.00 | 0.00 | 0.00 |
| 142 | 72.000 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.05 | 0.00 | 0.00 | 0.00 | 0.00 |
| 143 | 71.500 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.06 | 0.00 | 0.00 | 0.00 | 0.00 |
| 144 | 71.000 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.07 | 0.00 | 0.00 | 0.00 | 0.00 |
| 145 | 70.500 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.08 | 0.00 | 0.00 | 0.00 | 0.00 |
| 146 | 70.000 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.08 | 0.00 | 0.00 | 0.00 | 0.00 |
| 147 | 69.500 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.09 | 0.00 | 0.00 | 0.00 | 0.00 |
| 148 | 69.000 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 149 | 68.500 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.11 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150 | 68.000 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.11 | 0.00 | 0.00 | 0.00 | 0.00 |
| 151 | 67.500 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.12 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 152 | 67.000 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 153 | 66.500 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 154 | 66.000 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 155 | 65.500 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.15 | 0.00 | 0.00 | 0.00 | 0.00 |
| 156 | 65.000 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.16 | 0.00 | 0.00 | 0.00 | 0.00 |
| 157 | 64.500 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.17 | 0.00 | 0.00 | 0.00 | 0.00 |
| 158 | 64.000 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.17 | 0.00 | 0.00 | 0.00 | 0.00 |
| 159 | 63.500 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.18 | 0.00 | 0.00 | 0.00 | 0.00 |
| 160 | 63.000 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.19 | 0.00 | 0.00 | 0.00 | 0.00 |
| 161 | 62.500 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.20 | 0.00 | 0.00 | 0.00 | 0.00 |
| 162 | 62.000 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.21 | 0.00 | 0.00 | 0.00 | 0.00 |
| 163 | 61.500 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.21 | 0.00 | 0.00 | 0.00 | 0.00 |
| 164 | 61.000 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.22 | 0.00 | 0.00 | 0.00 | 0.00 |
| 165 | 60.500 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.23 | 0.00 | 0.00 | 0.00 | 0.00 |
| 166 | 60.000 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.24 | 0.00 | 0.00 | 0.00 | 0.00 |
| 167 | 59.500 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.24 | 0.00 | 0.00 | 0.00 | 0.00 |
| 168 | 59.000 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.25 | 0.00 | 0.00 | 0.00 | 0.00 |
| 169 | 58.500 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.26 | 0.00 | 0.00 | 0.00 | 0.00 |
| 170 | 58.000 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.27 | 0.00 | 0.00 | 0.00 | 0.00 |
| 171 | 57.500 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.27 | 0.00 | 0.00 | 0.00 | 0.00 |
| 172 | 57.000 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.28 | 0.00 | 0.00 | 0.00 | 0.00 |
| 173 | 56.500 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.29 | 0.00 | 0.00 | 0.00 | 0.00 |
| 174 | 56.000 | 8.95 | 2.87 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.75 | 2.75 | 2.75 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| AVG 20 DEG C RATE | | | 2.83 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.62 | | | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 |

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

| ELEM NO. | ENDING DIST | TEMP DEG C | SALN PPT | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | TOTN mg/L | PHOS mg/L | CHL A µg/L | MACRO g/m³ | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 141 | 72.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.37 | 10.46 | 0.00 | 10.46 | 0.00 | 3.64 | 1.20 | 0.57 | 5.41 | 0.00 | 20.15 | 0.00 | 0. | 0.00 |
| 142 | 72.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.47 | 10.41 | 0.00 | 10.41 | 0.00 | 3.63 | 1.19 | 0.59 | 5.41 | 0.00 | 20.29 | 0.00 | 0. | 0.00 |
| 143 | 71.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.51 | 10.36 | 0.00 | 10.36 | 0.00 | 3.63 | 1.19 | 0.60 | 5.42 | 0.00 | 20.44 | 0.00 | 0. | 0.00 |
| 144 | 71.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.53 | 10.31 | 0.00 | 10.31 | 0.00 | 3.62 | 1.18 | 0.62 | 5.42 | 0.00 | 20.59 | 0.00 | 0. | 0.00 |
| 145 | 70.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.55 | 10.27 | 0.00 | 10.27 | 0.00 | 3.62 | 1.18 | 0.63 | 5.43 | 0.00 | 20.74 | 0.00 | 0. | 0.00 |
| 146 | 70.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.56 | 10.22 | 0.00 | 10.22 | 0.00 | 3.61 | 1.17 | 0.64 | 5.43 | 0.00 | 20.88 | 0.00 | 0. | 0.00 |
| 147 | 69.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.56 | 10.18 | 0.00 | 10.18 | 0.00 | 3.61 | 1.17 | 0.66 | 5.43 | 0.00 | 21.03 | 0.00 | 0. | 0.00 |
| 148 | 69.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.57 | 10.14 | 0.00 | 10.14 | 0.00 | 3.60 | 1.16 | 0.67 | 5.44 | 0.00 | 21.18 | 0.00 | 0. | 0.00 |
| 149 | 68.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.57 | 10.11 | 0.00 | 10.11 | 0.00 | 3.60 | 1.16 | 0.68 | 5.44 | 0.00 | 21.32 | 0.00 | 0. | 0.00 |
| 150 | 68.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.58 | 10.07 | 0.00 | 10.07 | 0.00 | 3.59 | 1.16 | 0.69 | 5.44 | 0.00 | 21.47 | 0.00 | 0. | 0.00 |
| 151 | 67.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.58 | 10.04 | 0.00 | 10.04 | 0.00 | 3.59 | 1.15 | 0.70 | 5.44 | 0.00 | 21.62 | 0.00 | 0. | 0.00 |
| 152 | 67.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.59 | 10.01 | 0.00 | 10.01 | 0.00 | 3.58 | 1.15 | 0.72 | 5.45 | 0.00 | 21.76 | 0.00 | 0. | 0.00 |
| 153 | 66.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.59 | 9.98 | 0.00 | 9.98 | 0.00 | 3.58 | 1.14 | 0.73 | 5.45 | 0.00 | 21.91 | 0.00 | 0. | 0.00 |
| 154 | 66.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.60 | 9.95 | 0.00 | 9.95 | 0.00 | 3.57 | 1.14 | 0.74 | 5.45 | 0.00 | 22.06 | 0.00 | 0. | 0.00 |
| 155 | 65.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.60 | 9.92 | 0.00 | 9.92 | 0.00 | 3.57 | 1.14 | 0.75 | 5.45 | 0.00 | 22.21 | 0.00 | 0. | 0.00 |
| 156 | 65.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.60 | 9.90 | 0.00 | 9.90 | 0.00 | 3.56 | 1.13 | 0.76 | 5.46 | 0.00 | 22.35 | 0.00 | 0. | 0.00 |
| 157 | 64.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.61 | 9.88 | 0.00 | 9.88 | 0.00 | 3.56 | 1.13 | 0.77 | 5.46 | 0.00 | 22.50 | 0.00 | 0. | 0.00 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 158 | 64.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.61 | 9.85 | 0.00 | 9.85 | 0.00 | 3.56 | 1.12 | 0.78 | 5.46 | 0.00 | 22.65 | 0.00 | 0. | 0.00 |
| 159 | 63.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.62 | 9.83 | 0.00 | 9.83 | 0.00 | 3.55 | 1.12 | 0.79 | 5.46 | 0.00 | 22.79 | 0.00 | 0. | 0.00 |
| 160 | 63.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.62 | 9.81 | 0.00 | 9.81 | 0.00 | 3.55 | 1.12 | 0.80 | 5.46 | 0.00 | 22.94 | 0.00 | 0. | 0.00 |
| 161 | 62.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.62 | 9.79 | 0.00 | 9.79 | 0.00 | 3.54 | 1.11 | 0.81 | 5.46 | 0.00 | 23.09 | 0.00 | 0. | 0.00 |
| 162 | 62.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.63 | 9.77 | 0.00 | 9.77 | 0.00 | 3.54 | 1.11 | 0.81 | 5.46 | 0.00 | 23.24 | 0.00 | 0. | 0.00 |
| 163 | 61.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.63 | 9.76 | 0.00 | 9.76 | 0.00 | 3.53 | 1.11 | 0.82 | 5.46 | 0.00 | 23.38 | 0.00 | 0. | 0.00 |
| 164 | 61.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.64 | 9.74 | 0.00 | 9.74 | 0.00 | 3.53 | 1.10 | 0.83 | 5.46 | 0.00 | 23.53 | 0.00 | 0. | 0.00 |
| 165 | 60.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.64 | 9.73 | 0.00 | 9.73 | 0.00 | 3.52 | 1.10 | 0.84 | 5.46 | 0.00 | 23.68 | 0.00 | 0. | 0.00 |
| 166 | 60.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.64 | 9.71 | 0.00 | 9.71 | 0.00 | 3.52 | 1.10 | 0.85 | 5.46 | 0.00 | 23.82 | 0.00 | 0. | 0.00 |
| 167 | 59.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.65 | 9.70 | 0.00 | 9.70 | 0.00 | 3.52 | 1.09 | 0.85 | 5.46 | 0.00 | 23.97 | 0.00 | 0. | 0.00 |
| 168 | 59.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.65 | 9.68 | 0.00 | 9.68 | 0.00 | 3.51 | 1.09 | 0.86 | 5.46 | 0.00 | 24.12 | 0.00 | 0. | 0.00 |
| 169 | 58.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.65 | 9.67 | 0.00 | 9.67 | 0.00 | 3.51 | 1.09 | 0.87 | 5.46 | 0.00 | 24.26 | 0.00 | 0. | 0.00 |
| 170 | 58.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.66 | 9.66 | 0.00 | 9.66 | 0.00 | 3.50 | 1.08 | 0.87 | 5.46 | 0.00 | 24.41 | 0.00 | 0. | 0.00 |
| 171 | 57.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.66 | 9.65 | 0.00 | 9.65 | 0.00 | 3.50 | 1.08 | 0.88 | 5.46 | 0.00 | 24.56 | 0.00 | 0. | 0.00 |
| 172 | 57.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.66 | 9.64 | 0.00 | 9.64 | 0.00 | 3.49 | 1.08 | 0.89 | 5.46 | 0.00 | 24.71 | 0.00 | 0. | 0.00 |
| 173 | 56.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.67 | 9.63 | 0.00 | 9.63 | 0.00 | 3.49 | 1.08 | 0.89 | 5.46 | 0.00 | 24.85 | 0.00 | 0. | 0.00 |
| 174 | 56.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.67 | 9.62 | 0.00 | 9.62 | 0.00 | 3.49 | 1.07 | 0.90 | 5.46 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |

FINAL REPORT Flat R Drainage Cana LA-QUAL Projection for Flat River
REACH NO. 5 Flat River Winter Projection 35

********** REACH INPUTS **********

| ELEM NO. | TYPE | FLOW | TEMP deg C | SALN ppt | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | PHOS mg/L | CHL A µg/L | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 175 | UPR RCH | 0.05960 | 20.80 | 0.00 | 0.00 | 0.00 | 5.67 | 9.62 | 0.00 | 9.62 | 0.00 | 3.49 | 1.07 | 0.90 | 0.00 | 25.00 | 0.00 | 0.00 |

********** HYDRAULIC PARAMETER VALUES **********

| ELEM NO. | BEGIN DIST km | ENDING DIST km | FLOW $m^3/s$ | PCT EFF | ADVCTV VELO m/s | TRAVEL TIME days | DEPTH m | WIDTH m | VOLUME $m^3$ | SURFACE AREA $m^2$ | X-SECT AREA $m^2$ | TIDAL PRISM $m^3$ | TIDAL VELO m/s | DISPRSN $m^2/s$ | MEAN VELO m/s |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 175 | 56.00 | 55.50 | 0.05960 | 41.3 | 0.00607 | 0.95 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.006 |
| 176 | 55.50 | 55.00 | 0.05960 | 41.3 | 0.00607 | 0.95 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.006 |
| 177 | 55.00 | 54.50 | 0.05960 | 41.3 | 0.00607 | 0.95 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.006 |
| 178 | 54.50 | 54.00 | 0.05960 | 41.3 | 0.00607 | 0.95 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.006 |
| 179 | 54.00 | 53.50 | 0.05960 | 41.3 | 0.00607 | 0.95 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.006 |
| 180 | 53.50 | 53.00 | 0.05960 | 41.3 | 0.00607 | 0.95 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.006 |
| 181 | 53.00 | 52.50 | 0.05960 | 41.3 | 0.00607 | 0.95 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.006 |
| 182 | 52.50 | 52.00 | 0.05960 | 41.3 | 0.00607 | 0.95 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.006 |
| 183 | 52.00 | 51.50 | 0.05960 | 41.3 | 0.00607 | 0.95 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.006 |
| 184 | 51.50 | 51.00 | 0.05960 | 41.3 | 0.00607 | 0.95 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.006 |
| 185 | 51.00 | 50.50 | 0.05960 | 41.3 | 0.00607 | 0.95 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.006 |
| 186 | 50.50 | 50.00 | 0.05960 | 41.3 | 0.00607 | 0.95 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.006 |
| 187 | 50.00 | 49.50 | 0.05960 | 41.3 | 0.00607 | 0.95 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.006 |
| 188 | 49.50 | 49.00 | 0.05960 | 41.3 | 0.00607 | 0.95 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.006 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 189 | 49.00 | 48.50 | 0.05960 | 41.3 | 0.00607 | 0.95 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.006 |
| 190 | 48.50 | 48.00 | 0.05960 | 41.3 | 0.00607 | 0.95 | 0.31 | 31.68 | 4910.40 | 15840.00 | 9.82 | 0.00 | 0.000 | 0.000 | 0.006 |
| TOT | | | | | | 15.26 | | | 78566.39 | 253440.00 | | | | | |
| AVG | | | | | 0.0061 | | 0.31 | 31.68 | | | 9.82 | | | | |
| CUM | | | | | | 42.84 | | | | | | | | | |

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

| ELEM NO. | ENDING DIST | SAT D.O. mg/L | REAER RATE 1/da | BOD#1 DECAY 1/da | BOD#1 SETT 1/da | ABOD#1 DECAY 1/da | BOD#2 DECAY 1/da | BOD#2 SETT 1/da | ABOD#2 DECAY 1/da | BKGD SOD * | FULL SOD * | CORR SOD * | ORGN DECAY 1/da | ORGN SETT 1/da | NH3 DECAY 1/da | NH3 SRCE * | DENIT RATE 1/da | PO4 SRCE * | ALG PROD ** | MAC PROD ** | COLI DECAY 1/da | NCM DECAY 1/da | NCM SETT 1/da |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 175 | 55.500 | 8.95 | 2.46 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 176 | 55.000 | 8.95 | 2.46 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 177 | 54.500 | 8.95 | 2.46 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 178 | 54.000 | 8.95 | 2.46 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 179 | 53.500 | 8.95 | 2.46 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 180 | 53.000 | 8.95 | 2.46 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 181 | 52.500 | 8.95 | 2.46 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 182 | 52.000 | 8.95 | 2.46 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 183 | 51.500 | 8.95 | 2.46 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 184 | 51.000 | 8.95 | 2.46 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 185 | 50.500 | 8.95 | 2.46 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 186 | 50.000 | 8.95 | 2.46 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 187 | 49.500 | 8.95 | 2.46 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 188 | 49.000 | 8.95 | 2.46 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 189 | 48.500 | 8.95 | 2.46 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 190 | 48.000 | 8.95 | 2.46 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| AVG 20 DEG C RATE | | | 2.42 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.13 | | | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 |

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

| ELEM NO. | ENDING DIST | TEMP DEG C | SALN PPT | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | TOTN mg/L | PHOS mg/L | CHL A µg/L | MACRO g/m³ | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 175 | 55.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.84 | 9.49 | 0.00 | 9.49 | 0.00 | 3.48 | 1.07 | 0.91 | 5.45 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 176 | 55.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.90 | 9.38 | 0.00 | 9.38 | 0.00 | 3.47 | 1.06 | 0.92 | 5.45 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 177 | 54.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.92 | 9.28 | 0.00 | 9.28 | 0.00 | 3.46 | 1.06 | 0.93 | 5.45 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 178 | 54.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.93 | 9.19 | 0.00 | 9.19 | 0.00 | 3.45 | 1.05 | 0.94 | 5.45 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 179 | 53.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.94 | 9.11 | 0.00 | 9.11 | 0.00 | 3.45 | 1.05 | 0.95 | 5.44 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 180 | 53.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.94 | 9.04 | 0.00 | 9.04 | 0.00 | 3.44 | 1.04 | 0.96 | 5.44 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 181 | 52.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.95 | 8.97 | 0.00 | 8.97 | 0.00 | 3.43 | 1.04 | 0.97 | 5.44 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 182 | 52.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.95 | 8.91 | 0.00 | 8.91 | 0.00 | 3.42 | 1.03 | 0.98 | 5.43 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 183 | 51.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.95 | 8.86 | 0.00 | 8.86 | 0.00 | 3.42 | 1.03 | 0.99 | 5.43 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 184 | 51.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.96 | 8.82 | 0.00 | 8.82 | 0.00 | 3.41 | 1.02 | 1.00 | 5.43 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 185 | 50.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.96 | 8.78 | 0.00 | 8.78 | 0.00 | 3.40 | 1.02 | 1.00 | 5.43 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 186 | 50.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.96 | 8.74 | 0.00 | 8.74 | 0.00 | 3.39 | 1.01 | 1.01 | 5.42 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 187 | 49.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.96 | 8.71 | 0.00 | 8.71 | 0.00 | 3.39 | 1.01 | 1.02 | 5.42 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 188 | 49.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.97 | 8.68 | 0.00 | 8.68 | 0.00 | 3.38 | 1.01 | 1.03 | 5.42 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 189 | 48.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.97 | 8.65 | 0.00 | 8.65 | 0.00 | 3.37 | 1.00 | 1.03 | 5.41 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 190 | 48.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.97 | 8.63 | 0.00 | 8.63 | 0.00 | 3.37 | 1.00 | 1.04 | 5.41 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |

FINAL REPORT Flat R Drainage Cana LA-QUAL Projection for Flat River
REACH NO. 6 Flat River Winter Projection 35

********** REACH INPUTS **********

| ELEM NO. | TYPE | FLOW | TEMP deg C | SALN ppt | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | PHOS mg/L | CHL A µg/L | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 191 | UPR RCH | 0.05960 | 20.80 | 0.00 | 0.00 | 0.00 | 5.97 | 8.63 | 0.00 | 8.63 | 0.00 | 3.37 | 1.00 | 1.04 | 0.00 | 25.00 | 0.00 | 0.00 |
| 216 | WSTLD | 0.00140 | 20.80 | 0.00 | 0.00 | 0.00 | 2.00 | 69.00 | 0.00 | 69.00 | 0.00 | 5.00 | 10.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

********** HYDRAULIC PARAMETER VALUES **********

| ELEM NO. | BEGIN DIST km | ENDING DIST km | FLOW $m^3/s$ | PCT EFF | ADVCTV VELO m/s | TRAVEL TIME days | DEPTH m | WIDTH m | VOLUME $m^3$ | SURFACE AREA $m^2$ | X-SECT AREA $m^2$ | TIDAL PRISM $m^3$ | TIDAL VELO m/s | DISPRSN $m^2/s$ | MEAN VELO m/s |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 191 | 48.00 | 47.50 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 192 | 47.50 | 47.00 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 193 | 47.00 | 46.50 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 194 | 46.50 | 46.00 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 195 | 46.00 | 45.50 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 196 | 45.50 | 45.00 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 197 | 45.00 | 44.50 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 198 | 44.50 | 44.00 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 199 | 44.00 | 43.50 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 200 | 43.50 | 43.00 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 201 | 43.00 | 42.50 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 202 | 42.50 | 42.00 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 203 | 42.00 | 41.50 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 204 | 41.50 | 41.00 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 205 | 41.00 | 40.50 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 206 | 40.50 | 40.00 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 207 | 40.00 | 39.50 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 208 | 39.50 | 39.00 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 209 | 39.00 | 38.50 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 210 | 38.50 | 38.00 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 211 | 38.00 | 37.50 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 212 | 37.50 | 37.00 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 213 | 37.00 | 36.50 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 214 | 36.50 | 36.00 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 215 | 36.00 | 35.50 | 0.05960 | 41.3 | 0.00470 | 1.23 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 216 | 35.50 | 35.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 217 | 35.00 | 34.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 218 | 34.50 | 34.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 219 | 34.00 | 33.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 220 | 33.50 | 33.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 221 | 33.00 | 32.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 222 | 32.50 | 32.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 223 | 32.00 | 31.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 224 | 31.50 | 31.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 225 | 31.00 | 30.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 226 | 30.50 | 30.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 227 | 30.00 | 29.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 228 | 29.50 | 29.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 229 | 29.00 | 28.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 230 | 28.50 | 28.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 231 | 28.00 | 27.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 232 | 27.50 | 27.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 233 | 27.00 | 26.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 234 | 26.50 | 26.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 235 | 26.00 | 25.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 236 | 25.50 | 25.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 237 | 25.00 | 24.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 238 | 24.50 | 24.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 239 | 24.00 | 23.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 240 | 23.50 | 23.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 241 | 23.00 | 22.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 242 | 22.50 | 22.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 243 | 22.00 | 21.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 244 | 21.50 | 21.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 245 | 21.00 | 20.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 246 | 20.50 | 20.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 247 | 20.00 | 19.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 248 | 19.50 | 19.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 249 | 19.00 | 18.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 250 | 18.50 | 18.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 251 | 18.00 | 17.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 252 | 17.50 | 17.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 253 | 17.00 | 16.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 254 | 16.50 | 16.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 255 | 16.00 | 15.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 256 | 15.50 | 15.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 257 | 15.00 | 14.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 258 | 14.50 | 14.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 259 | 14.00 | 13.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 260 | 13.50 | 13.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 261 | 13.00 | 12.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 262 | 12.50 | 12.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 263 | 12.00 | 11.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 264 | 11.50 | 11.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |
| 265 | 11.00 | 10.50 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 |

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 266 | 10.50 | 10.00 | 0.06100 | 42.6 | 0.00481 | 1.20 | 0.40 | 31.68 | 6336.00 | 15840.00 | 12.67 | 0.00 | 0.000 | 0.000 | 0.005 | | | | | | | | |
| TOT | | | | | | 92.07 | | | 481536.00 | 1203840.00 | | | | | | | | | | | | | |
| AVG | | | | | 0.0048 | | 0.40 | 31.68 | | | 12.67 | | | | | | | | | | | | |
| CUM | | | | | | 134.91 | | | | | | | | | | | | | | | | | |

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

| ELEM NO. | ENDING DIST | SAT D.O. mg/L | REAER RATE 1/da | BOD#1 DECAY 1/da | BOD#1 SETT 1/da | ABOD#1 DECAY 1/da | BOD#2 DECAY 1/da | BOD#2 SETT 1/da | ABOD#2 DECAY 1/da | BKGD SOD * | FULL SOD * | CORR SOD * | ORGN DECAY 1/da | ORGN SETT 1/da | NH3 DECAY 1/da | NH3 SRCE * | DENIT RATE 1/da | PO4 SRCE * | ALG PROD ** | MAC PROD ** | COLI DECAY 1/da | NCM DECAY 1/da | NCM SETT 1/da |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 191 | 47.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 192 | 47.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 193 | 46.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 194 | 46.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 195 | 45.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 196 | 45.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 197 | 44.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 198 | 44.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 199 | 43.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 200 | 43.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 201 | 42.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 202 | 42.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 203 | 41.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 204 | 41.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 205 | 40.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 206 | 40.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 207 | 39.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 208 | 39.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 209 | 38.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 210 | 38.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 211 | 37.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 212 | 37.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 213 | 36.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 214 | 36.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 215 | 35.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 216 | 35.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 217 | 34.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 218 | 34.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 219 | 33.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 220 | 33.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 221 | 32.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 222 | 32.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 223 | 31.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 224 | 31.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 225 | 30.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 226 | 30.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 227 | 29.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 228 | 29.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 229 | 28.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 230 | 28.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 231 | 27.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 232 | 27.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 233 | 26.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 234 | 26.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 235 | 25.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 236 | 25.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 237 | 24.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 238 | 24.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 239 | 23.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 240 | 23.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 241 | 22.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 242 | 22.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 243 | 21.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 244 | 21.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 245 | 20.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 246 | 20.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 247 | 19.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 248 | 19.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 249 | 18.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 250 | 18.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 251 | 17.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 252 | 17.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 253 | 16.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 254 | 16.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 255 | 15.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 256 | 15.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 257 | 14.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 258 | 14.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 259 | 13.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 260 | 13.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 261 | 12.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 262 | 12.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 263 | 11.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 264 | 11.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 265 | 10.500 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 266 | 10.000 | 8.95 | 1.86 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 | 2.24 | 2.24 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| AVG 20 DEG C RATE | | | 1.83 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.13 | | | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 |

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

| ELEM NO. | ENDING DIST | TEMP DEG C | SALN PPT | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | TOTN mg/L | PHOS mg/L | CHL A µg/L | MACRO g/m³ | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 191 | 47.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.87 | 8.77 | 0.00 | 8.77 | 0.00 | 3.35 | 0.97 | 1.07 | 5.39 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 192 | 47.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.84 | 8.90 | 0.00 | 8.90 | 0.00 | 3.33 | 0.95 | 1.10 | 5.37 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 193 | 46.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.83 | 9.00 | 0.00 | 9.00 | 0.00 | 3.30 | 0.93 | 1.13 | 5.36 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 194 | 46.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.10 | 0.00 | 9.10 | 0.00 | 3.28 | 0.90 | 1.15 | 5.34 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 195 | 45.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.18 | 0.00 | 9.18 | 0.00 | 3.26 | 0.89 | 1.17 | 5.32 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 196 | 45.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.25 | 0.00 | 9.25 | 0.00 | 3.25 | 0.87 | 1.19 | 5.30 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 197 | 44.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.31 | 0.00 | 9.31 | 0.00 | 3.23 | 0.85 | 1.21 | 5.29 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 198 | 44.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.36 | 0.00 | 9.36 | 0.00 | 3.21 | 0.84 | 1.22 | 5.27 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 199 | 43.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.41 | 0.00 | 9.41 | 0.00 | 3.19 | 0.82 | 1.24 | 5.25 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 200 | 43.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.45 | 0.00 | 9.45 | 0.00 | 3.17 | 0.81 | 1.25 | 5.23 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 201 | 42.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.48 | 0.00 | 9.48 | 0.00 | 3.16 | 0.80 | 1.26 | 5.21 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 202 | 42.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.51 | 0.00 | 9.51 | 0.00 | 3.14 | 0.79 | 1.27 | 5.20 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 203 | 41.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.54 | 0.00 | 9.54 | 0.00 | 3.12 | 0.78 | 1.28 | 5.18 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 204 | 41.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.56 | 0.00 | 9.56 | 0.00 | 3.11 | 0.77 | 1.29 | 5.16 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 205 | 40.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.58 | 0.00 | 9.58 | 0.00 | 3.09 | 0.76 | 1.29 | 5.14 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 206 | 40.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.60 | 0.00 | 9.60 | 0.00 | 3.08 | 0.75 | 1.30 | 5.13 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 207 | 39.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.61 | 0.00 | 9.61 | 0.00 | 3.06 | 0.74 | 1.30 | 5.11 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 208 | 39.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.63 | 0.00 | 9.63 | 0.00 | 3.05 | 0.73 | 1.31 | 5.09 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 209 | 38.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.64 | 0.00 | 9.64 | 0.00 | 3.03 | 0.73 | 1.31 | 5.07 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 210 | 38.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.65 | 0.00 | 9.65 | 0.00 | 3.02 | 0.72 | 1.31 | 5.05 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 211 | 37.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.83 | 9.65 | 0.00 | 9.65 | 0.00 | 3.01 | 0.72 | 1.31 | 5.04 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 212 | 37.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.83 | 9.66 | 0.00 | 9.66 | 0.00 | 3.00 | 0.71 | 1.31 | 5.02 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 213 | 36.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.83 | 9.67 | 0.00 | 9.67 | 0.00 | 2.98 | 0.70 | 1.31 | 5.00 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 214 | 36.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.83 | 9.67 | 0.00 | 9.67 | 0.00 | 2.97 | 0.70 | 1.31 | 4.98 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 215 | 35.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.83 | 9.68 | 0.00 | 9.68 | 0.00 | 2.96 | 0.69 | 1.31 | 4.96 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 216 | 35.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.72 | 10.87 | 0.00 | 10.87 | 0.00 | 2.99 | 0.88 | 1.30 | 5.18 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 217 | 34.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.73 | 10.72 | 0.00 | 10.72 | 0.00 | 2.98 | 0.86 | 1.32 | 5.16 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 218 | 34.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.74 | 10.58 | 0.00 | 10.58 | 0.00 | 2.97 | 0.84 | 1.34 | 5.14 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 219 | 33.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.75 | 10.47 | 0.00 | 10.47 | 0.00 | 2.96 | 0.82 | 1.35 | 5.13 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 220 | 33.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.76 | 10.37 | 0.00 | 10.37 | 0.00 | 2.95 | 0.80 | 1.36 | 5.11 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 221 | 32.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.77 | 10.28 | 0.00 | 10.28 | 0.00 | 2.93 | 0.79 | 1.37 | 5.09 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 222 | 32.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.78 | 10.21 | 0.00 | 10.21 | 0.00 | 2.92 | 0.77 | 1.38 | 5.07 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 223 | 31.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.79 | 10.14 | 0.00 | 10.14 | 0.00 | 2.91 | 0.76 | 1.38 | 5.06 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 224 | 31.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.79 | 10.09 | 0.00 | 10.09 | 0.00 | 2.90 | 0.75 | 1.39 | 5.04 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 225 | 30.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.80 | 10.04 | 0.00 | 10.04 | 0.00 | 2.89 | 0.74 | 1.39 | 5.02 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 226 | 30.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.80 | 10.00 | 0.00 | 10.00 | 0.00 | 2.88 | 0.73 | 1.40 | 5.00 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 227 | 29.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.81 | 9.96 | 0.00 | 9.96 | 0.00 | 2.87 | 0.72 | 1.40 | 4.99 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 228 | 29.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.81 | 9.93 | 0.00 | 9.93 | 0.00 | 2.86 | 0.71 | 1.40 | 4.97 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 229 | 28.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.90 | 0.00 | 9.90 | 0.00 | 2.85 | 0.70 | 1.40 | 4.95 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 230 | 28.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.87 | 0.00 | 9.87 | 0.00 | 2.85 | 0.69 | 1.40 | 4.93 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 231 | 27.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.82 | 9.85 | 0.00 | 9.85 | 0.00 | 2.84 | 0.69 | 1.39 | 4.92 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 232 | 27.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.83 | 9.83 | 0.00 | 9.83 | 0.00 | 2.83 | 0.68 | 1.39 | 4.90 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 233 | 26.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.83 | 9.82 | 0.00 | 9.82 | 0.00 | 2.82 | 0.67 | 1.39 | 4.88 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 234 | 26.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.83 | 9.80 | 0.00 | 9.80 | 0.00 | 2.81 | 0.67 | 1.39 | 4.86 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 235 | 25.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.83 | 9.79 | 0.00 | 9.79 | 0.00 | 2.80 | 0.66 | 1.38 | 4.85 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 236 | 25.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.84 | 9.78 | 0.00 | 9.78 | 0.00 | 2.80 | 0.66 | 1.38 | 4.83 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 237 | 24.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.84 | 9.77 | 0.00 | 9.77 | 0.00 | 2.79 | 0.65 | 1.37 | 4.81 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 238 | 24.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.84 | 9.76 | 0.00 | 9.76 | 0.00 | 2.78 | 0.65 | 1.37 | 4.79 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 239 | 23.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.84 | 9.76 | 0.00 | 9.76 | 0.00 | 2.77 | 0.64 | 1.36 | 4.78 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 240 | 23.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.84 | 9.75 | 0.00 | 9.75 | 0.00 | 2.77 | 0.64 | 1.35 | 4.76 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 241 | 22.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.84 | 9.74 | 0.00 | 9.74 | 0.00 | 2.76 | 0.64 | 1.35 | 4.74 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 242 | 22.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.84 | 9.74 | 0.00 | 9.74 | 0.00 | 2.75 | 0.63 | 1.34 | 4.73 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 243 | 21.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.84 | 9.74 | 0.00 | 9.74 | 0.00 | 2.75 | 0.63 | 1.33 | 4.71 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 244 | 21.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.73 | 0.00 | 9.73 | 0.00 | 2.74 | 0.63 | 1.32 | 4.69 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 245 | 20.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.73 | 0.00 | 9.73 | 0.00 | 2.73 | 0.63 | 1.31 | 4.67 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 246 | 20.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.73 | 0.00 | 9.73 | 0.00 | 2.73 | 0.62 | 1.30 | 4.66 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 247 | 19.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.72 | 0.00 | 9.72 | 0.00 | 2.72 | 0.62 | 1.30 | 4.64 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 248 | 19.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.72 | 0.00 | 9.72 | 0.00 | 2.72 | 0.62 | 1.29 | 4.62 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 249 | 18.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.72 | 0.00 | 9.72 | 0.00 | 2.71 | 0.62 | 1.28 | 4.60 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 250 | 18.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.72 | 0.00 | 9.72 | 0.00 | 2.70 | 0.61 | 1.27 | 4.59 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 251 | 17.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.72 | 0.00 | 9.72 | 0.00 | 2.70 | 0.61 | 1.26 | 4.57 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 252 | 17.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.72 | 0.00 | 9.72 | 0.00 | 2.69 | 0.61 | 1.25 | 4.55 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 253 | 16.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.72 | 0.00 | 9.72 | 0.00 | 2.69 | 0.61 | 1.24 | 4.53 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 254 | 16.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.71 | 0.00 | 9.71 | 0.00 | 2.68 | 0.61 | 1.23 | 4.52 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 255 | 15.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.71 | 0.00 | 9.71 | 0.00 | 2.68 | 0.60 | 1.22 | 4.50 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 256 | 15.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.71 | 0.00 | 9.71 | 0.00 | 2.67 | 0.60 | 1.20 | 4.48 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 257 | 14.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.71 | 0.00 | 9.71 | 0.00 | 2.67 | 0.60 | 1.19 | 4.46 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 258 | 14.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.71 | 0.00 | 9.71 | 0.00 | 2.67 | 0.60 | 1.18 | 4.45 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 259 | 13.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.71 | 0.00 | 9.71 | 0.00 | 2.66 | 0.60 | 1.17 | 4.43 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 260 | 13.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.71 | 0.00 | 9.71 | 0.00 | 2.66 | 0.60 | 1.16 | 4.41 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 261 | 12.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.71 | 0.00 | 9.71 | 0.00 | 2.65 | 0.59 | 1.15 | 4.39 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 262 | 12.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.71 | 0.00 | 9.71 | 0.00 | 2.65 | 0.59 | 1.14 | 4.38 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 263 | 11.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.71 | 0.00 | 9.71 | 0.00 | 2.64 | 0.59 | 1.12 | 4.36 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 264 | 11.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.85 | 9.71 | 0.00 | 9.71 | 0.00 | 2.64 | 0.59 | 1.11 | 4.34 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 265 | 10.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.86 | 9.71 | 0.00 | 9.71 | 0.00 | 2.64 | 0.59 | 1.10 | 4.32 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 266 | 10.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.86 | 9.71 | 0.00 | 9.71 | 0.00 | 2.63 | 0.59 | 1.09 | 4.31 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |

FINAL REPORT Flat R Drainage Cana LA-QUAL Projection for Flat River
REACH NO. 7 Flat River Winter Projection 35

********** REACH INPUTS **********

| ELEM NO. | TYPE | FLOW | TEMP deg C | SALN ppt | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | PHOS mg/L | CHL A µg/L | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 267 | UPR RCH | 0.06100 | 20.80 | 0.00 | 0.00 | 0.00 | 5.86 | 9.71 | 0.00 | 9.71 | 0.00 | 2.63 | 0.59 | 1.09 | 0.00 | 25.00 | 0.00 | 0.00 |
| 267 | WSTLD | 1.27000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.00 | 7.37 | 0.00 | 7.37 | 0.00 | 0.87 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

********** HYDRAULIC PARAMETER VALUES **********

| ELEM NO. | BEGIN DIST km | ENDING DIST km | FLOW $m^3/s$ | PCT EFF | ADVCTV VELO m/s | TRAVEL TIME days | DEPTH m | WIDTH m | VOLUME $m^3$ | SURFACE AREA $m^2$ | X-SECT AREA $m^2$ | TIDAL PRISM $m^3$ | TIDAL VELO m/s | DISPRSN $m^2/s$ | MEAN VELO m/s |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 267 | 10.00 | 9.50 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| 268 | 9.50 | 9.00 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| 269 | 9.00 | 8.50 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| 270 | 8.50 | 8.00 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| 271 | 8.00 | 7.50 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| 272 | 7.50 | 7.00 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| 273 | 7.00 | 6.50 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 274 | 6.50 | 6.00 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| 275 | 6.00 | 5.50 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| 276 | 5.50 | 5.00 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| 277 | 5.00 | 4.50 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| 278 | 4.50 | 4.00 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| 279 | 4.00 | 3.50 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| 280 | 3.50 | 3.00 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| 281 | 3.00 | 2.50 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| 282 | 2.50 | 2.00 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| 283 | 2.00 | 1.50 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| 284 | 1.50 | 1.00 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| 285 | 1.00 | 0.50 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| 286 | 0.50 | 0.00 | 1.33100 | 97.4 | 0.65191 | 0.01 | 0.17 | 12.01 | 1020.85 | 6005.00 | 2.04 | 0.00 | 0.000 | 0.000 | 0.652 |
| TOT | | | | | | 0.18 | | | 20417.00 | 120100.00 | | | | | |
| AVG | | | | | 0.6519 | | 0.17 | 12.01 | | | 2.04 | | | | |
| CUM | | | | | | 135.09 | | | | | | | | | |

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

| ELEM NO. | ENDING DIST | SAT D.O. mg/L | REAER RATE 1/da | BOD#1 DECAY 1/da | BOD#1 SETT 1/da | ABOD#1 DECAY 1/da | BOD#2 DECAY 1/da | BOD#2 SETT 1/da | ABOD#2 DECAY 1/da | BKGD SOD * | FULL SOD * | CORR SOD * | ORGN DECAY 1/da | ORGN SETT 1/da | NH3 DECAY 1/da | NH3 SRCE * | DENIT RATE 1/da | PO4 SRCE * | ALG PROD ** | MAC PROD ** | COLI DECAY 1/da | NCM DECAY 1/da | NCM SETT 1/da |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 267 | 9.500 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 268 | 9.000 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 269 | 8.500 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 270 | 8.000 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 271 | 7.500 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 272 | 7.000 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 273 | 6.500 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 274 | 6.000 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 275 | 5.500 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 276 | 5.000 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 277 | 4.500 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 278 | 4.000 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 279 | 3.500 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 280 | 3.000 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 281 | 2.500 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 282 | 2.000 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 283 | 1.500 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 284 | 1.000 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 285 | 0.500 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 286 | 0.000 | 8.95 | 10.16 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.61 | 5.61 | 5.61 | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| AVG 20 DEG C RATE | | | 10.00 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.34 | | | 0.02 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 |

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

| ELEM NO. | ENDING DIST | TEMP DEG C | SALN PPT | CM-I | CM-II | DO mg/L | BOD#1 mg/L | BOD#2 mg/L | EBOD#1 mg/L | EBOD#2 mg/L | ORGN mg/L | NH3 mg/L | NO3+2 mg/L | TOTN mg/L | PHOS mg/L | CHL A µg/L | MACRO g/m³ | COLI #/100mL | NCM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 267 | 9.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.10 | 7.48 | 0.00 | 7.48 | 0.00 | 0.96 | 0.12 | 0.05 | 1.13 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 268 | 9.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.15 | 7.49 | 0.00 | 7.49 | 0.00 | 0.97 | 0.12 | 0.05 | 1.14 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 269 | 8.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.20 | 7.49 | 0.00 | 7.49 | 0.00 | 0.98 | 0.12 | 0.05 | 1.15 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 270 | 8.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.24 | 7.50 | 0.00 | 7.50 | 0.00 | 1.00 | 0.12 | 0.05 | 1.16 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 271 | 7.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.28 | 7.50 | 0.00 | 7.50 | 0.00 | 1.01 | 0.12 | 0.05 | 1.17 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 272 | 7.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.32 | 7.51 | 0.00 | 7.51 | 0.00 | 1.02 | 0.12 | 0.05 | 1.18 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 273 | 6.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.35 | 7.51 | 0.00 | 7.51 | 0.00 | 1.03 | 0.12 | 0.05 | 1.19 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 274 | 6.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.38 | 7.51 | 0.00 | 7.51 | 0.00 | 1.04 | 0.12 | 0.05 | 1.20 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 275 | 5.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.41 | 7.52 | 0.00 | 7.52 | 0.00 | 1.05 | 0.12 | 0.05 | 1.21 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 276 | 5.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.44 | 7.52 | 0.00 | 7.52 | 0.00 | 1.06 | 0.12 | 0.05 | 1.22 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 277 | 4.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.46 | 7.53 | 0.00 | 7.53 | 0.00 | 1.07 | 0.12 | 0.04 | 1.23 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 278 | 4.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.49 | 7.53 | 0.00 | 7.53 | 0.00 | 1.08 | 0.12 | 0.04 | 1.24 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 279 | 3.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.51 | 7.54 | 0.00 | 7.54 | 0.00 | 1.09 | 0.12 | 0.04 | 1.25 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 280 | 3.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.52 | 7.54 | 0.00 | 7.54 | 0.00 | 1.10 | 0.12 | 0.04 | 1.26 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 281 | 2.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.54 | 7.54 | 0.00 | 7.54 | 0.00 | 1.11 | 0.12 | 0.04 | 1.27 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 282 | 2.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.56 | 7.55 | 0.00 | 7.55 | 0.00 | 1.12 | 0.12 | 0.04 | 1.28 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 283 | 1.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.57 | 7.55 | 0.00 | 7.55 | 0.00 | 1.13 | 0.12 | 0.04 | 1.29 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 284 | 1.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.59 | 7.56 | 0.00 | 7.56 | 0.00 | 1.14 | 0.12 | 0.04 | 1.30 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 285 | 0.500 | 20.80 | 0.00 | 0.00 | 0.00 | 5.60 | 7.56 | 0.00 | 7.56 | 0.00 | 1.15 | 0.12 | 0.04 | 1.31 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |
| 286 | 0.000 | 20.80 | 0.00 | 0.00 | 0.00 | 5.61 | 7.57 | 0.00 | 7.57 | 0.00 | 1.16 | 0.12 | 0.04 | 1.32 | 0.00 | 25.00 | 0.00 | 0. | 0.00 |

STREAM SUMMARY
Flat R Drainage Cana

LA-QUAL Projection for Flat River
Winter Projection 35

| | | | | | |
|---|---|---|---|---|---|
| TRAVEL TIME | = | 135.09 | DAYS | | |
| MAXIMUM EFFLUENT | = | 97.37 | PERCENT | | |
| FLOW | = | 0.03500 | TO | 1.33100 | m³/s |
| DISPERSION | = | 0.0000 | TO | 0.0000 | m²/s |
| VELOCITY | = | 0.00470 | TO | 0.65191 | m/s |
| DEPTH | = | 0.17 | TO | 0.45 | m |
| WIDTH | = | 10.52 | TO | 31.68 | m |
| BOD DECAY | = | 0.12 | TO | 0.12 | per day |
| NH3 DECAY | = | 0.07 | TO | 0.09 | per day |
| SOD | = | 2.24 | TO | 5.61 | g/m²/d |
| NH3 SOURCE | = | 0.00 | TO | 0.00 | g/m²/d |
| REAERATION | = | 1.86 | TO | 10.16 | per day |
| BOD SETTLING | = | 0.00 | TO | 0.00 | per day |
| ORG-N DECAY | = | 0.02 | TO | 0.02 | per day |
| ORG-N SETTLING | = | 0.00 | TO | 0.00 | per day |
| TEMPERATURE | = | 20.80 | TO | 20.80 | deg C |
| DISSOLVED OXYGEN | = | 5.00 | TO | 7.39 | mg/L |

LA-QUAL Projection for Flat River
Winter Projection 35

INPUT/OUTPUT LOADING SUMMARY

| | FLOW $m^3/s$ | DO kg/d | BOD#1 kg/d | BOD#2 kg/d | ORG-N kg/d | NH3-N kg/d | NO3-N kg/d | PHOS kg/d | CHL A | NCM |
|---|---|---|---|---|---|---|---|---|---|---|
| HEADWATER FLOW | 0.035 | 24.6 | 22.3 | 0.0 | 5.8 | 1.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| INCREMENTAL INFLOW | 0.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| INCREMENTAL OUTFLOW | 0.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| WASTELOADS | 1.296 | 559.5 | 871.5 | 0.0 | 110.3 | 19.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| WITHDRAWLS | 0.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| FLOW THRU LOWER BNDRY | -1.331 | -645.0 | -870.1 | 0.0 | -133.5 | -14.0 | -4.6 | 0.0 | 0.0 | 0.0 |
| DISPERSION THRU LOWER BNDRY | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| DISPERSION THRU HDWTR BNDRY | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| NON-POINT INPUT | | 0.0 | 830.9 | 0.0 | 60.7 | | | | | 0.0 |
| NATURAL REAERATION | | 5407.5 | | | | | | | | |
| DAM REAERATION | | 0.0 | | | | | | | | |
| BACKGROUND SOD | | -5177.4 | | | | | | | | |
| BOD#1 DECAY | | -854.6 | -854.6 | | | | | | | |
| BOD#1 SETTLING | | 0.0 | 0.0 | | | | | | | |
| ANAEROBIC BOD#1 DECAY | | | 0.0 | | | | | | | |
| BOD#2 DECAY | | 0.0 | | 0.0 | | | | | | |
| BOD#2 SETTLING | | 0.0 | | 0.0 | | | | | | |
| ANAEROBIC BOD#2 DECAY | | | | 0.0 | | | | | | |
| ORG-N DECAY | | 0.0 | | | -43.3 | 43.3 | | | | |
| ORG-N SETTLING | | | | | 0.0 | 0.0 | | | | |
| NH3 DECAY | | -213.4 | | | | -49.3 | 49.3 | | | |
| BACKGROUND NH3 SOURCE | | | | | | 0.0 | | | | |
| OTHER DENITRIFICATION | | | | | | | 0.0 | | | |
| PHOSPHORUS SOURCE | | | | | | | | 0.0 | | |
| ALGAE PHOTOSYNTHESIS | | 900.3 | | | | 0.0 | -45.0 | 0.0 | 0.0 | |
| ALGAE RESPIRATION | | 0.0 | | | | 0.0 | | 0.0 | 0.0 | |
| ALGAE SETTLING | | 0.0 | | | | | | | 0.0 | |
| MACRO PHOTOSYNTHESIS | | 0.0 | | | | 0.0 | 0.0 | 0.0 | | |
| NCM DECAY | | 0.0 | | | | | | | | 0.0 |
| NCM SETTLING | | 0.0 | | | | | | | | 0.0 |
| TOTAL INPUTS | 1.331 | 6891.9 | 1724.7 | 0.0 | 176.8 | 63.6 | 49.3 | 0.0 | 0.0 | 0.0 |
| TOTAL OUTPUTS | -1.331 | -6890.3 | -1724.7 | 0.0 | -176.8 | -63.2 | -49.6 | 0.0 | 0.0 | 0.0 |
| NET CONVERGENCE ERROR | 0.000 | 1.6 | 0.0 | 0.0 | 0.0 | 0.4 | -0.4 | 0.0 | 0.0 | 0.0 |

.....EXECUTION COMPLETED

# APPENDIX P

## Input File for TMDL Calculation Program

```
100406                  Subsegment number for this TMDL
"Flat River"            Subsegment name (max 50 chars)
"flatsum.out"           Name of LA-QUAL output file
7                       Total number of reaches in the model
110401                  Subsegment that reach 1 is in
110401                  Subsegment that reach 2 is in
110401                  Subsegment that reach 3 is in
110401                  Subsegment that reach 4 is in
110401                  Subsegment that reach 5 is in
110401                  Subsegment that reach 6 is in
110401                  Subsegment that reach 7 is in
10                      point source margin of safety (%)
10                      point source Future Gorwth (%)
10                      NPS margin of safety (%)
10                      NPS Future Growth (%)
4.33                    Ratio of oxygen demand to nitrogen
10                      Number of minor point sources
                        MINOR POINT SOURCE DISCHARGE #1:
"LAG480035"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.0456                     Flow (MGD)
"LA MILITARY DEPT"         Comment for flow (max 40 chars)
0                          CBOD5 or BOD5 permit limit
200                        COD permit limit
0                          Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #2:
"LAG480223"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.0008                     Flow (MGD)
"La Machinery Co. Inc."    Comment for flow (max 40 chars)
0                          CBOD5 or BOD5 permit limit
200                        COD permit limit
0                          Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #3:
"LAG540038"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.0097                     Flow (MGD)
"JEFF HALL MINISTRIES"     Comment for flow (max 40 chars)
30                         CBOD5 or BOD5 permit limit
0                          COD permit limit
0                          Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #4:
"LAG540494"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.025                      Flow (MGD)
"Maplewood Park"           Comment for flow (max 40 chars)
30                         CBOD5 or BOD5 permit limit
0                          COD permit limit
0                          Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #5:
"LAG541141"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.0208                     Flow (MGD)
"Magnolia Chase Subdvn"    Comment for flow (max 40 chars)
30                         CBOD5 or BOD5 permit limit
0                          COD permit limit
0                          Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #6:
```

```
"LAG541272"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.008796                   Flow (MGD)
"Haymeadow Subdivision"    Comment for flow (max 40 chars)
30                         CBOD5 or BOD5 permit limit
0                          COD permit limit
0                          Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                       MINOR POINT SOURCE DISCHARGE #7:
"LAG541293"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.0232                     Flow (MGD)
"St Charles Court     "    Comment for flow (max 40 chars)
30                         CBOD5 or BOD5 permit limit
0                          COD permit limit
0                          Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                      MINOR POINT SOURCE DISCHARGE #8:
"LAG560063"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.05                       Flow (MGD)
"Oak Creek Devel"          Comment for flow (max 40 chars)
20                         CBOD5 or BOD5 permit limit
0                          COD permit limit
0                          Ammonia N permit limit
"taken from LAG560083"     Comment for conc. limits (max 40 chars)
                     MINOR POINT SOURCE DISCHARGE #9:
"LAG470050"                NPDES permit number (9 chars)
"005"                      Outfall number (3 chars)
0.000828                   Flow (MGD)
"RED RIVER MOTOR CO"       Comment for flow (max 40 chars)
45                         CBOD5 or BOD5 permit limit
0                          COD permit limit
0                          Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                     MINOR POINT SOURCE DISCHARGE #10:
"LAG470050"                NPDES permit number (9 chars)
"006"                      Outfall number (3 chars)
0.000828                   Flow (MGD)
"RED RIVER MOTOR CO"       Comment for flow (max 40 chars)
45                         CBOD5 or BOD5 permit limit
0                          COD permit limit
0                          Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
No                     Nutrient TMDL needed?
1.0                    Natural ratio of total N to total P
```

```
100406                  Subsegment number for this TMDL
"Flat River"            Subsegment name (max 50 chars)
"flatwin.out"           Name of LA-QUAL output file
7                       Total number of reaches in the model
110401                  Subsegment that reach 1 is in
110401                  Subsegment that reach 2 is in
110401                  Subsegment that reach 3 is in
110401                  Subsegment that reach 4 is in
110401                  Subsegment that reach 5 is in
110401                  Subsegment that reach 6 is in
110401                  Subsegment that reach 7 is in
10                      point source margin of safety (%)
10                      point source Future Gorwth (%)
10                      NPS margin of safety (%)
10                      NPS Future Growth (%)
4.33                    Ratio of oxygen demand to nitrogen
10                      Number of minor point sources
                        MINOR POINT SOURCE DISCHARGE #1:
"LAG480035"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.0456                     Flow (MGD)
"LA MILITARY DEPT"         Comment for flow (max 40 chars)
0                          CBOD5 or BOD5 permit limit
200                        COD permit limit
0                          Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #2:
"LAG480223"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.0008                     Flow (MGD)
"La Machinery Co. Inc."    Comment for flow (max 40 chars)
0                          CBOD5 or BOD5 permit limit
200                        COD permit limit
0                          Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #3:
"LAG540038"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.0097                     Flow (MGD)
"JEFF HALL MINISTRIES"     Comment for flow (max 40 chars)
30                         CBOD5 or BOD5 permit limit
0                          COD permit limit
0                          Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #4:
"LAG540494"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.025                      Flow (MGD)
"Maplewood Park"           Comment for flow (max 40 chars)
30                         CBOD5 or BOD5 permit limit
0                          COD permit limit
0                          Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #5:
"LAG541141"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.0208                     Flow (MGD)
"Magnolia Chase Subdvn"    Comment for flow (max 40 chars)
30                         CBOD5 or BOD5 permit limit
0                          COD permit limit
0                          Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #6:
```

```
"LAG541272"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.008796                   Flow (MGD)
"Haymeadow Subdivision"    Comment for flow (max 40 chars)
30                         CBOD5 or BOD5 permit limit
0                          COD permit limit
0                          Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                       MINOR POINT SOURCE DISCHARGE #7:
"LAG541293"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.0232                     Flow (MGD)
"St Charles Court     "    Comment for flow (max 40 chars)
30                         CBOD5 or BOD5 permit limit
0                          COD permit limit
0                          Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                      MINOR POINT SOURCE DISCHARGE #8:
"LAG560063"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.05                       Flow (MGD)
"Oak Creek Devel"          Comment for flow (max 40 chars)
20                         CBOD5 or BOD5 permit limit
0                          COD permit limit
0                          Ammonia N permit limit
"taken from LAG560083"     Comment for conc. limits (max 40 chars)
                     MINOR POINT SOURCE DISCHARGE #9:
"LAG470050"                NPDES permit number (9 chars)
"005"                      Outfall number (3 chars)
0.000828                   Flow (MGD)
"RED RIVER MOTOR CO"       Comment for flow (max 40 chars)
45                         CBOD5 or BOD5 permit limit
0                          COD permit limit
0                          Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                     MINOR POINT SOURCE DISCHARGE #10:
"LAG470050"                NPDES permit number (9 chars)
"006"                      Outfall number (3 chars)
0.000828                   Flow (MGD)
"RED RIVER MOTOR CO"       Comment for flow (max 40 chars)
45                         CBOD5 or BOD5 permit limit
0                          COD permit limit
0                          Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
No                     Nutrient TMDL needed?
1.0                    Natural ratio of total N to total P
```

# APPENDIX Q

## Output File for TMDL Calculation Program

TMDL CALCULATIONS FOR SUBSEGMENT: 100406 Flat River
FTN ASSOCIATES, LTD.
Program:Pr20m6f

INFO FOR INPUT FILE WITH USER SPECIFIED DATA AND OPTIONS:
File name:tmdlflrs.inp

INFO FOR LA-QUAL OUTPUT FILE:
File name:flatsum.out
Date/Time:Output produced at 10:19 on 09/28/2007
LA-QUAL Version 8.11

LIST OF ALL REACHES IN LA-QUAL OUTPUT FILE:
Reach 1 (Elements 1 - 80) is in subsegment 110401 C Flat R Draina
Reach 2 (Elements 81 - 115) is in subsegment 110401 C Flat R Draina
Reach 3 (Elements 116 - 140) is in subsegment 110401 C Flat R Draina
Reach 4 (Elements 141 - 174) is in subsegment 110401 Flat River
Reach 5 (Elements 175 - 190) is in subsegment 110401 Flat River
Reach 6 (Elements 191 - 266) is in subsegment 110401 Flat River
Reach 7 (Elements 267 - 286) is in subsegment 110401 Flat River

==========

CALCULATIONS FOR LOADS FROM NPS INFLOWS (HEADWATERS, TRIBUTARIES, AND INCREMENTAL INFLOW):

Equation used: (Load, kg/day) = (Inflow rate, m3/sec) * (Conc., mg/L) * 1.0E-6 kg/mg * 1.0E3 L/m3 * 86400 sec/day

Values from LA-QUAL output:

| Reach or Element number | Inflow rate (m3/sec) | CBODu conc. (mg/L) | Organic N conc. (mg/L) | Ammonia N conc. (mg/L) | NO2+NO3 N conc. (mg/L) | Name of inflow |
|---|---|---|---|---|---|---|
| 1 | 0.00300 | 1.90 | 0.50 | 0.09 | 0.00 | Flat R Drainage Cana |
| 267 | 0.12700 | 1.90 | 0.22 | 0.03 | 0.00 | NPS Red Chute Bayo |

Calculated values:

| Element number | CBODu load (kg/day) | Organic N load (kg/day) | Ammonia N load (kg/day) | NO2+NO3 N load (kg/day) |
|---|---|---|---|---|
| 1 | 0.49 | 0.13 | 0.02 | 0.00 |
| 267 | 20.85 | 2.41 | 0.33 | 0.00 |
| Subsegment totals: | 21.68 | 2.54 | 0.35 | 0.00 |

==========

CALCULATIONS FOR NONPOINT SOURCE MASS LOADS IN DATA TYPE 19:

Values from LA-QUAL output:

| Reach number | CBODu mass load (kg/day) | Organic N mass load (kg/day) |
|---|---|---|
| 1 | 1.65 | 0.07 |
| 2 | 5.00 | 0.20 |
| 3 | 3.75 | 0.20 |
| 4 | 23.75 | 1.20 |
| 5 | 21.25 | 1.20 |
| 6 | 150.00 | 6.20 |
| 7 | 6.00 | 5.00 |
| Subsegment totals | 211.40 | 14.07 |

CALCULATIONS FOR LOADS FROM SOD AND BENTHIC AMMONIA:

SOD temperature correction factor used in LA-QUAL model: 1.065 (default)

Equations used: SOD temp. corrected = (SOD at 20 C) * 1.065^(Water temp - 20 C)
SOD load = (SOD temp. corrected, g/m2/day) * (Surface area, m2) * 1.0E-3 kg/g
Benthic NH3-N load = (Benthic ammonia N, g/m2/day) * (Surface area, m2) * 1.0E-3 kg/g

| | | Values from LA-QUAL output: | | | | Calculated values: | | |
|---|---|---|---|---|---|---|---|---|
| Reach number | Element number | Water temp. (deg C) | Surface area (m2) | SOD at 20 C (g/m2/day) | Benthic ammonia N (g/m2/day) | SOD temp. corrected (g/m2/day) | SOD load (kg/day) | Benthic NH3-N load (kg/day) |
| 1 | 1 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 2 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 3 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 4 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 5 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 6 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 7 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 8 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 9 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 10 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 11 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 12 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 13 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 14 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 15 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 16 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 17 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 18 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 19 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 20 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 21 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 22 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 23 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 24 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 25 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 26 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 27 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 28 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 29 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 30 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 31 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 32 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 33 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 34 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 35 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 36 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 37 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 38 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 39 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 40 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 41 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 42 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 43 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 44 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 45 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 46 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 47 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 48 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 49 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 50 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 51 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 52 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | 53 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 54 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 55 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 56 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 57 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 58 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 59 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 60 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 61 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 62 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 63 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 64 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 65 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 66 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 67 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 68 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 69 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 70 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 71 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 72 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 73 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 74 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 75 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 76 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 77 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 78 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 79 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 1 | 80 | 29.30 | 1167.0 | 0.810 | 0.00 | 0.810 | 0.95 | 0.00 |
| 2 | 81 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 82 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 83 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 84 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 85 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 86 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 87 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 88 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 89 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 90 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 91 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 92 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 93 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 94 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 95 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 96 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 97 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 98 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 99 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 100 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 101 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 102 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 103 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 104 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 105 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 106 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 107 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 108 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 109 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 110 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 111 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 112 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 113 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 114 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 2 | 115 | 29.30 | 1052.0 | 0.810 | 0.00 | 1.320 | 1.39 | 0.00 |
| 3 | 116 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 117 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 118 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 119 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 120 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 121 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3 | 122 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 123 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 124 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 125 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 126 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 127 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 128 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 129 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 130 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 131 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 132 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 133 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 134 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 135 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 136 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 137 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 138 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 139 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 3 | 140 | 29.30 | 1341.0 | 0.810 | 0.00 | 1.350 | 1.81 | 0.00 |
| 4 | 141 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 142 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 143 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 144 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 145 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 146 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 147 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 148 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 149 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 150 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 151 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 152 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 153 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 154 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 155 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 156 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 157 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 158 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 159 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 160 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 161 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 162 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 163 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 164 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 165 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 166 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 167 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 168 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 169 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 170 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 171 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 172 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 173 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 4 | 174 | 29.30 | 7680.0 | 0.810 | 0.00 | 1.210 | 9.29 | 0.00 |
| 5 | 175 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 5 | 176 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 5 | 177 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 5 | 178 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 5 | 179 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 5 | 180 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 5 | 181 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 5 | 182 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 5 | 183 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 5 | 184 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 5 | 185 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 5 | 186 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 5 | 187 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 5 | 188 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 5 | 189 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 5 | 190 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6 | 191 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 192 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 193 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 194 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 195 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 196 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 197 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 198 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 199 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 200 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 201 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 202 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 203 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 204 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 205 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 206 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 207 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 208 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 209 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 210 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 211 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 212 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 213 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 214 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 215 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 216 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 217 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 218 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 219 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 220 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 221 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 222 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 223 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 224 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 225 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 226 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 227 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 228 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 229 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 230 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 231 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 232 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 233 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 234 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 235 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 236 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 237 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 238 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 239 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 240 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 241 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 242 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 243 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 244 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 245 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 246 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 247 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 248 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 249 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 250 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 251 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 252 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 253 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 254 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 255 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 256 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 257 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 258 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 259 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6 | 260 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 261 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 262 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 263 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 264 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 265 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 6 | 266 | 29.30 | 15840.0 | 0.810 | 0.00 | 0.990 | 15.68 | 0.00 |
| 7 | 267 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 268 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 269 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 270 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 271 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 272 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 273 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 274 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 275 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 276 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 277 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 278 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 279 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 280 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 281 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 282 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 283 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 284 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 285 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| 7 | 286 | 29.30 | 6005.0 | 0.810 | 0.00 | 1.980 | 11.89 | 0.00 |
| | | | | | | | --- | --- |
| | | | | Subsegment totals: | | | 2165.94 | 0.00 |

CALCULATIONS FOR LOADS FROM POINT SOURCE DISCHARGES EXPLICITLY MODELED:

Equation used: (Load, kg/day) = (Inflow rate, m3/sec) * (Conc., mg/L) * 1.0E-6 kg/mg * 1.0E3 L/m3 * 86400 sec/day

Values from LA-QUAL output:

| Element number | Inflow rate (m3/sec) | CBODu conc. (mg/L) | Organic N conc. (mg/L) | Ammonia N conc. (mg/L) | NO2+NO3 N conc. (mg/L) | Name of discharge |
|---|---|---|---|---|---|---|
| 17 | 0.00270 | 46.000 | 3.000 | 7.000 | 0.000 | River Ridge Subdvs |
| 50 | 0.02190 | 23.000 | 7.000 | 3.000 | 0.000 | Palmetto Park |
| 216 | 0.00140 | 69.000 | 5.000 | 10.000 | 0.000 | Elm Grove Jr High |

Calculated values:

| Element number | CBODu load (kg/day) | Organic N load (kg/day) | Ammonia N load (kg/day) | NO2+NO3 N load (kg/day) |
|---|---|---|---|---|
| 17 | 10.73 | 0.70 | 1.63 | 0.00 |
| 50 | 43.52 | 13.25 | 5.68 | 0.00 |
| 216 | 8.35 | 0.60 | 1.21 | 0.00 |
| Subsegment total | 62.60 | 14.55 | 8.52 | 0.00 |

CALCULATIONS FOR LOADS FROM POINT SOURCE DISCHARGES NOT EXPLICITLY MODELED:

Equations used: Flow rate from TMDL calcs = Permit flow rate * 1.250 (to incorporate MOS and FG)

(Load, kg/day) = (Flow rate, MGD) * (Conc., mg/L) * 3.785 L/gal * 1.0E6 gal/MG * 1.0E-6 kg/mg

Assumptions: Ratio of CBODu to CBOD5 for point source dissharges = 2.3 (guidance from LTP).
For permits with BOD or ammonia limits, NO2+NO3 = 10 mg/L (drinking water criteria).
For permits with COD limits, assume that CBODu is about the same magnitude as COD and that discharges of nitrogen (organic, ammonia, and NO2+NO3) are negligible.

| NPDES permit number | Outfall number | Permit flow rate (MGD) | Factor to incorporate MOS and FG into flow | Flow rate for TMDL calcs (MGD | Comments |
|---|---|---|---|---|---|
| LAG480035 | 001 | 0.046 | 1.250 | 0.057 | LA MILITARY DEPT |
| LAG480223 | 001 | 0.001 | 1.250 | 0.001 | La Machinery Co. Inc. |
| LAG540038 | 001 | 0.010 | 1.250 | 0.012 | JEFF HALL MINISTRIES |
| LAG540494 | 001 | 0.025 | 1.250 | 0.031 | Maplewood Park |
| LAG541141 | 001 | 0.021 | 1.250 | 0.026 | Magnolia Chase Subdvn |
| LAG541272 | 001 | 0.009 | 1.250 | 0.011 | Haymeadow Subdivision |
| LAG541293 | 001 | 0.023 | 1.250 | 0.029 | St Charles Court |
| LAG560063 | 001 | 0.050 | 1.250 | 0.063 | Oak Creek Devel |
| LAG470050 | 005 | 0.001 | 1.250 | 0.001 | RED RIVER MOTOR CO |
| LAG470050 | 006 | 0.001 | 1.250 | 0.001 | RED RIVER MOTOR CO |

User specified permit limits:

| NPDES permit number | Outfall number | CBOD5 (mg/L) | COD (mg/L) | Ammonia (mg/L) | Comments |
|---|---|---|---|---|---|
| LAG480035 | 001 | 0.0 | 200.0 | 0.0 | |
| LAG480223 | 001 | 0.0 | 200.0 | 0.0 | |
| LAG540038 | 001 | 30.0 | 0.0 | 0.0 | |
| LAG540494 | 001 | 30.0 | 0.0 | 0.0 | |
| LAG541141 | 001 | 30.0 | 0.0 | 0.0 | |
| LAG541272 | 001 | 30.0 | 0.0 | 0.0 | |
| LAG541293 | 001 | 30.0 | 0.0 | 0.0 | |
| LAG560063 | 001 | 20.0 | 0.0 | 0.0 | taken from LAG560083 |
| LAG470050 | 005 | 45.0 | 0.0 | 0.0 | |
| LAG470050 | 006 | 45.0 | 0.0 | 0.0 | |

Values for TMDL calculations:

| NPDES permit number | Outfall number | CBODu (mg/L) | Organic N (mg/L) | Ammonia N (mg/L) | NO2+NO3 N (mg/L) | Comments |
|---|---|---|---|---|---|---|
| LAG480035 | 001 | 200.00 | 0.00 | 0.00 | 0.00 | |
| LAG480223 | 001 | 200.00 | 0.00 | 0.00 | 0.00 | |
| LAG540038 | 001 | 69.00 | 0.00 | 0.00 | 0.00 | |
| LAG540494 | 001 | 69.00 | 0.00 | 0.00 | 0.00 | |
| LAG541141 | 001 | 69.00 | 0.00 | 0.00 | 0.00 | |
| LAG541272 | 001 | 69.00 | 0.00 | 0.00 | 0.00 | |
| LAG541293 | 001 | 69.00 | 0.00 | 0.00 | 0.00 | |
| LAG560063 | 001 | 46.00 | 0.00 | 0.00 | 0.00 | |
| LAG470050 | 005 | 103.50 | 0.00 | 0.00 | 0.00 | |
| LAG470050 | 006 | 103.50 | 0.00 | 0.00 | 0.00 | |

Calculated loads:

| NPDES permit number | Outfall number | CBODu (kg/day) | Organic N (kg/day) | AmmoniaN (kg.day) | NO2+NO3 N (kg.day) | Comments |
|---|---|---|---|---|---|---|
| LAG480035 | 001 | 43.15 | 0.00 | 0.00 | 0.00 | |

| | | | | | |
|---|---|---|---|---|---|
| LAG480223 | 001 | 0.76 | 0.00 | 0.00 | 0.00 |
| LAG540038 | 001 | 3.17 | 0.00 | 0.00 | 0.00 |
| LAG540494 | 001 | 8.16 | 0.00 | 0.00 | 0.00 |
| LAG541141 | 001 | 6.79 | 0.00 | 0.00 | 0.00 |
| LAG541272 | 001 | 2.87 | 0.00 | 0.00 | 0.00 |
| LAG541293 | 001 | 7.57 | 0.00 | 0.00 | 0.00 |
| LAG560063 | 001 | 10.88 | 0.00 | 0.00 | 0.00 |
| LAG470050 | 005 | 0.41 | 0.00 | 0.00 | 0.00 |
| LAG470050 | 006 | 0.41 | 0.00 | 0.00 | 0.00 |
| | | --- | --- | --- | --- |
| Subsegment total | | 84.16 | 0.00 | 0.00 | 0.00 |

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SUMMARY OF NONPOINT SOURCE OXYGEN DEMAND FOR THIS SUBSEGEMENT:

Equations used: Organic N oxygen demand, kg/day = 4.3300 * Organic N load, kg/day of N
Ammonia N oxygen demand, kg/day = 4.3300 * Ammonia N load, kg/day of N
Margin of safety = 10.0% * nonpoint source load
Future Growth = 10.0% * nonpoint source load
Load Allocation = 80.0% * nonpoint source load

Values from calculations above

| | | | Nitrogen loads (kg/day of N): | | |
|---|---|---|---|---|---|
| | SOD (kg/day) | CBODu (kg/day) | Organic (kg/day) | Ammonia (kg/day) | NO2+NO3 N (kg/day) |
| NPS inflows | N/A | 21.68 | 2.54 | 0.35 | 0.00 |
| Mass LOads (data type 19) | N/A | 211.40 | 14.07 | N/A | N/A |
| SOD and Benthic | 2165.94 | N/A | N/A | 0.00 | N/A |

Calculated loads of oxygen demand:

| | | | Oygen demand loads: | | Total Oxygen demand |
|---|---|---|---|---|---|
| | SOD (kg/day) | CBODu (kg/day) | Organic (kg/day) | Ammonia (kg/day) | (kg/day) |
| NPS inflows | N/A | 21.68 | 11.00 | 1.52 | 34.20 |
| Mass LOads (data type 19) | N/A | 211.40 | 60.92 | N/A | 272.32 |
| SOD and Benthic | 2165.94 | N/A | N/A | 0.00 | 2165.94 |
| Total for all NPS loads | 2165.94 | 233.08 | 71.92 | 1.52 | 2472.47 |
| NPS future growth (10.0%) | 216.59 | 23.31 | 7.19 | 0.15 | 247.25 |
| NPS margin of safety (10.0%) | 216.59 | 23.31 | 7.19 | 0.15 | 247.25 |
| NPS load allocation (80.0%) | 1732.76 | 186.46 | 57.54 | 1.22 | 1977.97 |

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SUMMARY OF POINT SOURCE OXYGEN DEMAND FOR THIS SUBSEGEMENT

Equations used: Organic N oxygen demand, kg/day = 4.3300 * Organic N load, kg/day of N
Ammonia N oxygen demand, kg/day = 4.3300 * Ammonia N load, kg/day of N
Margin of Safety = 10.0% * point source load
Future Growth = 10.0% * nonpoint source load
Wasteload Allocation (WLA) for modeled point source = 80.0% * modeled load
Wasteload Allocation (WLA) for minor point sources = 80.0% * calculated load

Values from calculations above

| | | Nitrogen loads (kg/day of N): | | |
|---|---|---|---|---|
| | CBODu (kg/day) | Organic N (kg/day) | Ammonia N (kg/day) | NO3+NO2 (kg/day) |
| Modeled load for: River Ridge Subdvs | 10.73 | 0.70 | 1.63 | 0.00 |

| | | | | |
|---|---|---|---|---|
| Modeled load for: Palmetto Park | 43.52 | 13.25 | 5.68 | 0.00 |
| Modeled load for: Elm Grove Jr High | 8.35 | 0.60 | 1.21 | 0.00 |
| Calculated load for minor point source | 84.16 | 0.00 | 0.00 | 0.00 |

Calculated loads of oxygen demand

| | | | Oygen demand loads: | | Total |
|---|---|---|---|---|---|
| | | CBODu (kg/day) | Organic N (kg/day) | Ammonia N (kg/day) | Oxygen demand (kg/day) |
| Modeled load for: River Ridge Subdvs | | 10.73 | 3.03 | 7.07 | 20.83 |
| Modeled load for: Palmetto Park | | 43.52 | 57.35 | 24.58 | 125.45 |
| Modeled load for: Elm Grove Jr High | | 8.35 | 2.62 | 5.24 | 16.20 |
| Calculated load for minor point source | | 84.16 | 0.00 | 0.00 | 84.16 |
| Total for all point source loads | | 146.76 | 63.00 | 36.89 | 246.65 |
| MOS for all point Sources | (10.0%) | 14.68 | 6.30 | 3.69 | 24.66 |
| FG for all point Sources | (10.0%) | 14.68 | 6.30 | 3.69 | 24.66 |
| WLA for: River Ridge Subdvs | (80.0%) | 8.58 | 2.42 | 5.66 | 16.67 |
| WLA for: Palmetto Park | (80.0%) | 34.82 | 45.88 | 19.66 | 100.36 |
| WLA for: Elm Grove Jr High | (80.0%) | 6.68 | 2.10 | 4.19 | 12.96 |
| WLA for minor point sources | (80.0%) | 67.33 | 0.00 | 0.00 | 67.33 |

TMDL CALCULATIONS FOR SUBSEGMENT: 100406 Flat River
FTN ASSOCIATES, LTD.
Program:Pr20m6f

INFO FOR INPUT FILE WITH USER SPECIFIED DATA AND OPTIONS:
File name:tmdlflrw.inp

INFO FOR LA-QUAL OUTPUT FILE:
File name:flatwin.out
Date/Time:Output produced at 15:39 on 09/27/2007
LA-QUAL Version 8.11

LIST OF ALL REACHES IN LA-QUAL OUTPUT FILE:
Reach 1 (Elements 1 - 80) is in subsegment 110401 C Flat R Draina
Reach 2 (Elements 81 - 115) is in subsegment 110401 C Flat R Draina
Reach 3 (Elements 116 - 140) is in subsegment 110401 C Flat R Draina
Reach 4 (Elements 141 - 174) is in subsegment 110401 Flat River
Reach 5 (Elements 175 - 190) is in subsegment 110401 Flat River
Reach 6 (Elements 191 - 266) is in subsegment 110401 Flat River
Reach 7 (Elements 267 - 286) is in subsegment 110401 Flat River

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CALCULATIONS FOR LOADS FROM NPS INFLOWS (HEADWATERS, TRIBUTARIES, AND INCREMENTAL INFLOW):

Equation used: (Load, kg/day) = (Inflow rate, m3/sec) * (Conc., mg/L) * 1.0E-6 kg/mg * 1.0E3 L/m3 * 86400 sec/day

Values from LA-QUAL output:

| Reach or Element number | Inflow rate (m3/sec) | CBODu conc. (mg/L) | Organic N conc. (mg/L) | Ammonia N conc. (mg/L) | NO2+NO3 N conc. (mg/L) | Name of inflow |
|---|---|---|---|---|---|---|
| 1 | 0.03500 | 7.37 | 1.92 | 0.37 | 0.00 | Flat R Drainage Cana |
| 267 | 1.27000 | 7.37 | 0.87 | 0.10 | 0.00 | NPS Red Chute Bayo |

Calculated values:

| Element number | CBODu load (kg/day) | Organic N load (kg/day) | Ammonia N load (kg/day) | NO2+NO3 N load (kg/day) |
|---|---|---|---|---|
| 1 | 22.29 | 5.81 | 1.12 | 0.00 |
| 267 | 808.70 | 95.46 | 10.97 | 0.00 |
| Subsegment totals: | 817.41 | 101.27 | 12.09 | 0.00 |

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CALCULATIONS FOR NONPOINT SOURCE MASS LOADS IN DATA TYPE 19:

Values from LA-QUAL output:

| Reach number | CBODu mass load (kg/day) | Organic N mass load (kg/day) |
|---|---|---|
| 1 | 11.22 | 0.51 |
| 2 | 19.40 | 0.97 |
| 3 | 14.55 | 0.97 |
| 4 | 92.15 | 4.85 |
| 5 | 82.45 | 4.85 |
| 6 | 582.00 | 24.25 |
| 7 | 29.10 | 24.25 |
| Subsegment totals | 830.87 | 60.65 |

CALCULATIONS FOR LOADS FROM SOD AND BENTHIC AMMONIA:

SOD temperature correction factor used in LA-QUAL model: 1.065 (default)

Equations used: SOD temp. corrected = (SOD at 20 C) * 1.065^(Water temp - 20 C)
SOD load = (SOD temp. corrected, g/m2/day) * (Surface area, m2) * 1.0E-3 kg/g
Benthic NH3-N load = (Benthic ammonia N, g/m2/day) * (Surface area, m2) * 1.0E-3 kg/g

| | | Values from LA-QUAL output: | | | | Calculated values: | | |
|---|---|---|---|---|---|---|---|---|
| Reach number | Element number | Water temp. (deg C) | Surface area (m2) | SOD at 20 C (g/m2/day) | Benthic ammonia N (g/m2/day) | SOD temp. corrected (g/m2/day) | SOD load (kg/day) | Benthic NH3-N load (kg/day) |
| 1 | 1 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 2 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 3 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 4 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 5 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 6 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 7 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 8 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 9 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 10 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 11 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 12 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 13 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 14 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 15 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 16 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 17 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 18 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 19 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 20 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 21 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 22 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 23 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 24 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 25 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 26 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 27 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 28 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 29 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 30 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 31 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 32 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 33 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 34 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 35 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 36 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 37 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 38 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 39 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 40 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 41 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 42 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 43 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 44 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 45 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 46 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 47 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 48 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 49 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 50 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 51 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 52 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | 53 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 54 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 55 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 56 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 57 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 58 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 59 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 60 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 61 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 62 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 63 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 64 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 65 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 66 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 67 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 68 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 69 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 70 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 71 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 72 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 73 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 74 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 75 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 76 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 77 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 78 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 79 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 1 | 80 | 20.80 | 1167.0 | 3.220 | 0.00 | 3.220 | 3.76 | 0.00 |
| 2 | 81 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 82 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 83 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 84 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 85 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 86 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 87 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 88 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 89 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 90 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 91 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 92 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 93 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 94 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 95 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 96 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 97 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 98 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 99 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 100 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 101 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 102 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 103 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 104 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 105 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 106 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 107 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 108 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 109 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 110 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 111 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 112 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 113 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 114 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 2 | 115 | 20.80 | 1052.0 | 3.220 | 0.00 | 3.010 | 3.17 | 0.00 |
| 3 | 116 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 117 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 118 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 119 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 120 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 121 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3 | 122 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 123 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 124 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 125 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 126 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 127 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 128 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 129 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 130 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 131 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 132 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 133 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 134 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 135 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 136 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 137 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 138 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 139 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 3 | 140 | 20.80 | 1341.0 | 3.220 | 0.00 | 3.060 | 4.10 | 0.00 |
| 4 | 141 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 142 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 143 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 144 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 145 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 146 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 147 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 148 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 149 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 150 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 151 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 152 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 153 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 154 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 155 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 156 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 157 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 158 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 159 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 160 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 161 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 162 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 163 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 164 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 165 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 166 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 167 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 168 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 169 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 170 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 171 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 172 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 173 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 4 | 174 | 20.80 | 7680.0 | 3.220 | 0.00 | 2.750 | 21.12 | 0.00 |
| 5 | 175 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 5 | 176 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 5 | 177 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 5 | 178 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 5 | 179 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 5 | 180 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 5 | 181 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 5 | 182 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 5 | 183 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 5 | 184 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 5 | 185 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 5 | 186 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 5 | 187 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 5 | 188 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 5 | 189 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 5 | 190 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6 | 191 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 192 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 193 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 194 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 195 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 196 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 197 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 198 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 199 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 200 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 201 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 202 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 203 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 204 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 205 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 206 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 207 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 208 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 209 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 210 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 211 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 212 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 213 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 214 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 215 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 216 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 217 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 218 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 219 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 220 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 221 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 222 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 223 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 224 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 225 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 226 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 227 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 228 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 229 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 230 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 231 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 232 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 233 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 234 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 235 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 236 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 237 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 238 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 239 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 240 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 241 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 242 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 243 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 244 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 245 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 246 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 247 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 248 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 249 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 250 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 251 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 252 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 253 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 254 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 255 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 256 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 257 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 258 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 259 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6 | 260 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 261 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 262 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 263 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 264 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 265 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 6 | 266 | 20.80 | 15840.0 | 3.220 | 0.00 | 2.240 | 35.48 | 0.00 |
| 7 | 267 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 268 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 269 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 270 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 271 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 272 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 273 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 274 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 275 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 276 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 277 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 278 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 279 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 280 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 281 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 282 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 283 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 284 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 285 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| 7 | 286 | 20.80 | 6005.0 | 3.220 | 0.00 | 5.610 | 33.69 | 0.00 |
| | | | | | | | --- | --- |
| | | | | Subsegment totals: | | | 5170.18 | 0.00 |

CALCULATIONS FOR LOADS FROM POINT SOURCE DISCHARGES EXPLICITLY MODELED:

Equation used: (Load, kg/day) = (Inflow rate, m3/sec) * (Conc., mg/L) * 1.0E-6 kg/mg * 1.0E3 L/m3 * 86400 sec/day

Values from LA-QUAL output:

| Element number | Inflow rate (m3/sec) | CBODu conc. (mg/L) | Organic N conc. (mg/L) | Ammonia N conc. (mg/L) | NO2+NO3 N conc. (mg/L) | Name of discharge |
|---|---|---|---|---|---|---|
| 17 | 0.00270 | 46.000 | 3.000 | 7.000 | 0.000 | River Ridge Subdvs |
| 50 | 0.02190 | 23.000 | 7.000 | 3.000 | 0.000 | Palmetto Park |
| 216 | 0.00140 | 69.000 | 5.000 | 10.000 | 0.000 | Elm Grove Jr High |

Calculated values:

| Element number | CBODu load (kg/day) | Organic N load (kg/day) | Ammonia N load (kg/day) | NO2+NO3 N load (kg/day) |
|---|---|---|---|---|
| 17 | 10.73 | 0.70 | 1.63 | 0.00 |
| 50 | 43.52 | 13.25 | 5.68 | 0.00 |
| 216 | 8.35 | 0.60 | 1.21 | 0.00 |
| Subsegment total | 62.60 | 14.55 | 8.52 | 0.00 |

CALCULATIONS FOR LOADS FROM POINT SOURCE DISCHARGES NOT EXPLICITLY MODELED:

Equations used: Flow rate from TMDL calcs = Permit flow rate * 1.250 (to incorporate MOS and FG)

(Load, kg/day) = (Flow rate, MGD) * (Conc., mg/L) * 3.785 L/gal * 1.0E6 gal/MG * 1.0E-6 kg/mg

Assumptions: Ratio of CBODu to CBOD5 for point source dissharges = 2.3 (guidance from LTP).
For permits with BOD or ammonia limits, NO2+NO3 = 10 mg/L (drinking water criteria).
For permits with COD limits, assume that CBODu is about the same magnitude as COD and that discharges of nitrogen (organic, ammonia, and NO2+NO3) are negligible.

| NPDES permit number | Outfall number | Permit flow rate (MGD) | Factor to incorporate MOS and FG into flow | Flow rate for TMDL calcs (MGD | Comments |
|---|---|---|---|---|---|
| LAG480035 | 001 | 0.046 | 1.250 | 0.057 | LA MILITARY DEPT |
| LAG480223 | 001 | 0.001 | 1.250 | 0.001 | La Machinery Co. Inc. |
| LAG540038 | 001 | 0.010 | 1.250 | 0.012 | JEFF HALL MINISTRIES |
| LAG540494 | 001 | 0.025 | 1.250 | 0.031 | Maplewood Park |
| LAG541141 | 001 | 0.021 | 1.250 | 0.026 | Magnolia Chase Subdvn |
| LAG541272 | 001 | 0.009 | 1.250 | 0.011 | Haymeadow Subdivision |
| LAG541293 | 001 | 0.023 | 1.250 | 0.029 | St Charles Court |
| LAG560063 | 001 | 0.050 | 1.250 | 0.063 | Oak Creek Devel |
| LAG470050 | 005 | 0.001 | 1.250 | 0.001 | RED RIVER MOTOR CO |
| LAG470050 | 006 | 0.001 | 1.250 | 0.001 | RED RIVER MOTOR CO |

User specified permit limits:

| NPDES permit number | Outfall number | CBOD5 (mg/L) | COD (mg/L) | Ammonia (mg/L) | Comments |
|---|---|---|---|---|---|
| LAG480035 | 001 | 0.0 | 200.0 | 0.0 | |
| LAG480223 | 001 | 0.0 | 200.0 | 0.0 | |
| LAG540038 | 001 | 30.0 | 0.0 | 0.0 | |
| LAG540494 | 001 | 30.0 | 0.0 | 0.0 | |
| LAG541141 | 001 | 30.0 | 0.0 | 0.0 | |
| LAG541272 | 001 | 30.0 | 0.0 | 0.0 | |
| LAG541293 | 001 | 30.0 | 0.0 | 0.0 | |
| LAG560063 | 001 | 20.0 | 0.0 | 0.0 | taken from LAG560083 |
| LAG470050 | 005 | 45.0 | 0.0 | 0.0 | |
| LAG470050 | 006 | 45.0 | 0.0 | 0.0 | |

Values for TMDL calculations:

| NPDES permit number | Outfall number | CBODu (mg/L) | Organic N (mg/L) | Ammonia N (mg/L) | NO2+NO3 N (mg/L) | Comments |
|---|---|---|---|---|---|---|
| LAG480035 | 001 | 200.00 | 0.00 | 0.00 | 0.00 | |
| LAG480223 | 001 | 200.00 | 0.00 | 0.00 | 0.00 | |
| LAG540038 | 001 | 69.00 | 0.00 | 0.00 | 0.00 | |
| LAG540494 | 001 | 69.00 | 0.00 | 0.00 | 0.00 | |
| LAG541141 | 001 | 69.00 | 0.00 | 0.00 | 0.00 | |
| LAG541272 | 001 | 69.00 | 0.00 | 0.00 | 0.00 | |
| LAG541293 | 001 | 69.00 | 0.00 | 0.00 | 0.00 | |
| LAG560063 | 001 | 46.00 | 0.00 | 0.00 | 0.00 | |
| LAG470050 | 005 | 103.50 | 0.00 | 0.00 | 0.00 | |
| LAG470050 | 006 | 103.50 | 0.00 | 0.00 | 0.00 | |

Calculated loads:

| NPDES permit number | Outfall number | CBODu (kg/day) | Organic N (kg/day) | AmmoniaN (kg.day) | NO2+NO3 N (kg.day) | Comments |
|---|---|---|---|---|---|---|
| LAG480035 | 001 | 43.15 | 0.00 | 0.00 | 0.00 | |

| | | | | | |
|---|---|---|---|---|---|
| LAG480223 | 001 | 0.76 | 0.00 | 0.00 | 0.00 |
| LAG540038 | 001 | 3.17 | 0.00 | 0.00 | 0.00 |
| LAG540494 | 001 | 8.16 | 0.00 | 0.00 | 0.00 |
| LAG541141 | 001 | 6.79 | 0.00 | 0.00 | 0.00 |
| LAG541272 | 001 | 2.87 | 0.00 | 0.00 | 0.00 |
| LAG541293 | 001 | 7.57 | 0.00 | 0.00 | 0.00 |
| LAG560063 | 001 | 10.88 | 0.00 | 0.00 | 0.00 |
| LAG470050 | 005 | 0.41 | 0.00 | 0.00 | 0.00 |
| LAG470050 | 006 | 0.41 | 0.00 | 0.00 | 0.00 |
| | | --- | --- | --- | --- |
| Subsegment total | | 84.16 | 0.00 | 0.00 | 0.00 |

SUMMARY OF NONPOINT SOURCE OXYGEN DEMAND FOR THIS SUBSEGEMENT:

Equations used: Organic N oxygen demand, kg/day = 4.3300 * Organic N load, kg/day of N
Ammonia N oxygen demand, kg/day = 4.3300 * Ammonia N load, kg/day of N
Margin of safety = 10.0% * nonpoint source load
Future Growth = 10.0% * nonpoint source load
Load Allocation = 80.0% * nonpoint source load

Values from calculations above

| | | | Nitrogen loads (kg/day of N): | | |
|---|---|---|---|---|---|
| | SOD (kg/day) | CBODu (kg/day) | Organic (kg/day) | Ammonia (kg/day) | NO2+NO3 N (kg/day) |
| NPS inflows | N/A | 817.41 | 101.27 | 12.09 | 0.00 |
| Mass LOads (data type 19) | N/A | 830.87 | 60.65 | N/A | N/A |
| SOD and Benthic | 5170.18 | N/A | N/A | 0.00 | N/A |

Calculated loads of oxygen demand:

| | | | Oygen demand loads: | | Total Oxygen demand |
|---|---|---|---|---|---|
| | SOD (kg/day) | CBODu (kg/day) | Organic (kg/day) | Ammonia (kg/day) | (kg/day) |
| NPS inflows | N/A | 817.41 | 438.50 | 52.35 | 1308.26 |
| Mass LOads (data type 19) | N/A | 830.87 | 262.61 | N/A | 1093.48 |
| SOD and Benthic | 5170.18 | N/A | N/A | 0.00 | 5170.18 |
| Total for all NPS loads | 5170.18 | 1648.28 | 701.11 | 52.35 | 7571.93 |
| NPS future growth (10.0%) | 517.02 | 164.83 | 70.11 | 5.23 | 757.19 |
| NPS margin of safety (10.0%) | 517.02 | 164.83 | 70.11 | 5.23 | 757.19 |
| NPS load allocation (80.0%) | 4136.14 | 1318.62 | 560.89 | 41.89 | 6057.55 |

SUMMARY OF POINT SOURCE OXYGEN DEMAND FOR THIS SUBSEGEMENT

Equations used: Organic N oxygen demand, kg/day = 4.3300 * Organic N load, kg/day of N
Ammonia N oxygen demand, kg/day = 4.3300 * Ammonia N load, kg/day of N
Margin of Safety = 10.0% * point source load
Future Growth = 10.0% * nonpoint source load
Wasteload Allocation (WLA) for modeled point source = 80.0% * modeled load
Wasteload Allocation (WLA) for minor point sources = 80.0% * calculated load

Values from calculations above

| | | Nitrogen loads (kg/day of N): | | |
|---|---|---|---|---|
| | CBODu (kg/day) | Organic N (kg/day) | Ammonia N (kg/day) | NO3+NO2 (kg/day) |
| Modeled load for: River Ridge Subdvs | 10.73 | 0.70 | 1.63 | 0.00 |

| | | | | |
|---|---|---|---|---|
| Modeled load for: Palmetto Park | 43.52 | 13.25 | 5.68 | 0.00 |
| Modeled load for: Elm Grove Jr High | 8.35 | 0.60 | 1.21 | 0.00 |
| Calculated load for minor point source | 84.16 | 0.00 | 0.00 | 0.00 |

Calculated loads of oxygen demand

| | | | Oygen demand loads: | | Total |
|---|---|---|---|---|---|
| | | CBODu (kg/day) | Organic N (kg/day) | Ammonia N (kg/day) | Oxygen demand (kg/day) |
| Modeled load for: River Ridge Subdvs | | 10.73 | 3.03 | 7.07 | 20.83 |
| Modeled load for: Palmetto Park | | 43.52 | 57.35 | 24.58 | 125.45 |
| Modeled load for: Elm Grove Jr High | | 8.35 | 2.62 | 5.24 | 16.20 |
| Calculated load for minor point source | | 84.16 | 0.00 | 0.00 | 84.16 |
| Total for all point source loads | | 146.76 | 63.00 | 36.89 | 246.65 |
| MOS for all point Sources | (10.0%) | 14.68 | 6.30 | 3.69 | 24.66 |
| FG for all point Sources | (10.0%) | 14.68 | 6.30 | 3.69 | 24.66 |
| WLA for: River Ridge Subdvs | (80.0%) | 8.58 | 2.42 | 5.66 | 16.67 |
| WLA for: Palmetto Park | (80.0%) | 34.82 | 45.88 | 19.66 | 100.36 |
| WLA for: Elm Grove Jr High | (80.0%) | 6.68 | 2.10 | 4.19 | 12.96 |
| WLA for minor point sources | (80.0%) | 67.33 | 0.00 | 0.00 | 67.33 |

# APPENDIX R

## Source Code for TMDL Calculation Program

```
        program pr20m6f
C**** For this prograqm to work the echo of the input and final report must be turned on:
C     1) The echo of the input provides MAJORITY of the ionformation for the calcuations,
C     2) The Hydralic, SOD, and NH3Sr data (needed for surface area for the SOD) are found
C        in the final report reach summary.

C     Printing:
C     This is printed in MSWord or VSlick by setting the left and right margins to 0.3 and 0.38
C     and setting the font to Courier New 9 pt normal text.

C     This program is specifcally formated for LA-QUAL 8.11.


C***********************************Search program (part 1)****************************************
C This whole program is written by Richard R. Bennett on 9/20/07 for LA-QUAL version 8.0
C Every variable is used in this program except

       INTEGER imp,i,a,c,d,e,f,g,h,j,k,l,m,n,o,q,k1
       Character*132 line,stream_id
       Character*8 target
       character*21 target2
       character*15 target3
       character*16 target3b,target5b,target5c,target6,t
     &arget7,target8,target9,target10
       character*36 target4


C**********All arrays are entered in the order in which they occurr in the program
C**************Input REAL arrays

      integer total_elem
      integer incr_reach(1:999)
       REAL SOD_temp_cor(1:999),C2_NH3SR(1:999),
     &incr2_CBODu_con(1:999),incr2_Org_N_con(1:999), incr2_Amm_N_con(1:
     &999),incr2_Nitrate_con(1:999), NP_BOD(1:999),NP_ORG(1:999),
     & HDWT1_Flow(1:999),incr_flow(1:999)
       INTEGER HDWT1_elem(1:999)
       REAL WSTLD_Flow(1:999),Elem_end(1:999),Elem_begin(1:999)
       character NPS_wstld_name(1:999)*25,PS_Wstld_name(1:999)*20
       REAL WSTLD2_BOD(1:999),WSTLD2_ORG(1:999),WSTLD2
     &_NH3(1:999), WSTLD2_NO3(1:999)
       REAL nps_WSTLD_Flow(1:999),nps_elem_wstld(1:999)
       REAL NPS_WSTLD2_BOD(1:999),NPS_WSTLD2_ORG(1:999),NPS_WSTLD2
     &_NH3(1:999),NPS_WSTLD2_NO3(1:999)
       REAL PS_WSTLD_Flow(1:999),ps_elem_wstld(1:999)
       REAL ps_WSTLD2_BOD(1:999),ps_WSTLD2_ORG(1:999),ps_WSTLD2
     &_NH3(1:999),ps_WSTLD2_NO3(1:999)
       Integer NP_reach(1:999),elem_wstld(1:999),num,num_pt_sour
       real ps_mos,ps_mos_per,nps_mos,nps_mos_per
       real ps_FG,ps_FG_per,nps_FG,nps_FG_per
       Real Temp(1:999),S_area_int(1:1000)
       integer elem_col_int
       character source_type(1:999)*3,reach_name(1:999)*15,wstld_name(1:
     &100)*20, hdwt1_name(1:999)*25,reach_subseg_num(1:999)*20,
     &permit_number(1:999)*20,outfall_num(1:999)*20,comment(1:999)*40,
     &comment_con(1:999)*40,nut_tmdl_need*4
       Real perm_flow(1:999),CBOD5_Perm(1:999), cod_perm(1:999),ammon_pe
     &rm(1:999),nat_rat,ammoxy_rat
       real HDWT2_BOD_con(1:999),HDWT2_ORG_con(1:999), HDWT2_NH3_con(1:1
     &00), HDWT2_NO3_con(1:999)
       real incr_outflow(1:999),incr_inflow(1:999)

C****************Character Search Strings
      target = 'CNTROL04'
      target2= 'THETA        BENTHAL'
      target3= '$$$ DATA TYPE 8'  ! Reach ID data
      target3b='$$$ DATA TYPE 11' ! Reach Initial conditions (need temps)
      target4= 'BIOLOGICAL AND PHYSICAL COEFFICIENTS' ! SOD and NH3Sr rates (Final Report)
      target5b= '$$$ DATA TYPE 16'  ! Incrmental flows
      target5c= '$$$ DATA TYPE 17'  ! Incrmental WQ
      target6= '$$$ DATA TYPE 19'   ! Mass laods
      target7= '$$$ DATA TYPE 20'   ! Headwater flows
      Target8= '$$$ DATA TYPE 21'   ! Headwater WQ
      Target9= '$$$ DATA TYPE 24'   ! Wasteload flows
```

```
      target10= '$$$ DATA TYPE 25'  ! Wastelaod WQ

C****************Array counterrs
      num=0
      num_incr=0
      num_hdwt=0
      num_wstld=0
      nps_num_wstld=0
      ps_num_wstld=0
      a=0
      cir=0
      c=0
      d=0
      e=0
      f=0
      g=0
      h=0
      j=0
      k=0
      k1=0
      l=0
      m=0
      nps=1
      ps=1
      n=0
      o=0
      q=0


      Character*70 userFilename,Laqualfilename,subsegname,subsegnumber,
     &pertime,LAQUAL_version,laqualfileoutput

      print*,'Enter user input filename: ' ! this is the TMDL program input file
      read*,userfilename                   ! it is NOT hte LA-QUAL file!!!!

      imp=1000000


C*Read input file
      OPEN(UNIT=12, FILE=userfilename, STATUS='OLD') ! input file
      Open (unit=11, FILE='tmdl-res.txt', Status='UNKNOWN')  ! output file
c      OPEN (UNIT=13, FILE='inter-res.txt', Status='UNKNOWN') ! debugging file
      REad(12,*)subsegnumber  ! subsegment number
      REad(12,*)subsegname    ! subsegment name
      read(12,*)laqualfileoutput ! LA-QUAL output file
      read(12,*)usernum          ! number of reaches in output file
      do 10 I=1,usernum          ! read subsegment number for each reach loop
10       read(12,*)reach_subseg_num(I)
      read(12,*)ps_mos_per  ! point source MOS in percent
      read(12,*)ps_FG_per   ! point source FG in percent
      read(12,*)nps_mos_per  ! nonpoint source MOS in percent
      read(12,*)nps_FG_per   ! nonpoint source FG in percent
      READ(12,*)ammoxy_rat   ! ammonia oxidation rate
      read(12,*)num_pt_sour  ! number of point sources in input file
      do 20 I=1,num_pt_sour  ! read point source data loop
         read(12,*)
         read(12,*)permit_number(I) ! permit number
         read(12,*)outfall_num(I)   ! outfall number
         read(12,*)perm_flow(I)     ! permit flow (MGD)
         read(12,*)comment(I)       ! comment (usually facility name)
         read(12,*)cbod5_perm(I)    ! CBOD5 or BOD5 permit conc in mg/L
         read(12,*)COD_perm(I)      ! COD permit conc in mg/L
         read(12,*)ammon_perm(I)    ! ammonia permit conc in mg/L
         read(12,*)comment_con(I)   ! comment for concentration
20    continue
      read(12,*)nut_tmdl_need       ! is a nutrietn TMDL needed?
      read(12,*) nat_rat            ! ratio of natural nitrogen to phosphorus

      ps_mos=ps_mos_per/100.000
      ps_FG=ps_FG_per/100.000
      nps_mos=nps_mos_per/100.000
      nps_FG=nps_FG_per/100.000

      laqualfilename=laqualfileoutput
```

```
      OPEN(UNIT=10, FILE=Laqualfilename, STATUS='OLD') ! this is teh LA-QUAL output file

1030  FORMAT(A35,3X,A25)
      DO 100 i=1,imp
      READ(10,'(A132)') line

C**********Are we at the end of the file?
      if(line(11:29).EQ.'EXECUTION COMPLETED')GO TO 900


C************ read LA-QUAL version
      if (i .EQ. 1) then
          read (line(1:32),'(A32)') LAQUAL_version
      end if

C**********when was the LA-QUAL file made and metric units
      if (line (1:6) .EQ. 'Output') then
         read(line(1:38),'(A38)') pertime
      else IF (line(1:8).EQ. target) then
1020     FORMAT (A35,3X,A10,3X,A10)

C**********Look for theta Benthal
         else IF (line(1:21).EQ. target2) then
1040        Format (A36,5X,A40)

C**********Data T8,Count number of reaches
         else IF (line (1:15) .EQ. target3) then
            Read (10,*)
            Read (10,*)
            Read (10,*)
            Read (10,*)
105         Read (10, '(A132)') stream_id
            if (stream_id(1:8).EQ. 'REACH ID')then
              num=num+1
              read(stream_ID(23:48),'(A15)')reach_name(num)
              read(stream_ID(109:111),)elem_begin(num)
              read(stream_ID(116:118),)elem_end(num)
              total_elem=elem_end(num)
              go to 105
            end if

C**********Data T11, read temp
      else IF (line (1:16).EQ. target3b) then
            READ (10,*)
            READ (10,*)
            READ (10,*)
107         READ (10,'(A132)') stream_id
            if (stream_id(1:7) .EQ. 'INITIAL') then
               q=q+1
               READ(stream_id(32:36),'(F5.0)') temp(q)
               go to 107
               end if

C**********FINAL REPORT,(read COEF-1 Bckgrd SOD and NH3SR)
      else IF (line (49:84) .EQ. target4) then
            Read (10,*)
            Read (10,*)
            Read (10,*)
            Read (10,*)
            Read (10,*)
110         Read (10, '(A132)') stream_id
            if (stream_id(1:7).NE. ' ') then
               a=a+1
               READ(Stream_id(1:4),'(I4)')elem
               READ(stream_id(68:73),'(F7.0)') SOD_temp_cor(elem)
               READ(Stream_id(106:111),'(F6.0)') C2_NH3SR(elem)
c               elem is used to put them in numerical order, NOT
c               in the order they are read from the LA_QUAL file!
c               (this only comes into play for branched models)
1060        FORMAT (A35,5X,A10,5X,A10)
            GO TO 110
            end if

C***********Data Type (incremenatal flow data part1)
```

```
       else if (line(1:16) .EQ. target5b) then
            read(10,*)
            read(10,*)
            read(10,*)
117         read(10,'(A132)')stream_id
            if (stream_id(1:6) .EQ. 'INCR-1') then
                num_incr=num_incr+1
                read(stream_id(17:19),'(I3)') incr_reach(num_incr)
                read(stream_id(32:38),'(F7.0)') incr_outflow(num_incr)
                read(stream_id(44:50),'(F7.0)') incr_inflow(num_incr)
                incr_flow(num_incr) = abs(incr_inflow(num_incr))-abs(inc
     &r_outflow(num_incr))
            go to 117
            end if

C**********Data Tyoe (incremental flow part 2)
       else if (line(1:16) .EQ. target5c) then
            num_incr=0
            read(10,*)
            read(10,*)
            read(10,*)
118          read(10,'(A132)')stream_id
            if (stream_id(1:6) .EQ. 'INCR-2') then
            num_incr=num_incr+1
            read(stream_id(37:46),'(F10.0)') incr2_CBODu_con(num_incr)
            read(stream_id(47:56),'(F10.0)') incr2_Org_N_con(num_incr)
            read(stream_id(57:66),'(F10.0)') incr2_Amm_N_con(num_incr)
            read(stream_id(67:76),'(F10.0)') incr2_Nitrate_con(num_incr)
            go to 118
            end if

C***********Data T19(reads BOD and ORG-N)
       else IF (line (1:16) .EQ. target6) then
            Read (10,*)
            Read (10,*)
            READ (10,*)
120         Read (10, '(A132)') stream_id
            if (stream_id(1:8).EQ. 'NONPOINT') then
               c=c+1
               d=d+1
               read(stream_ID(17:19),'(I3)')NP_reach(c)
               READ(stream_id(28:36),'(F9.0)')NP_BOD(c)
               READ(stream_id(38:46),'(F9.0)')NP_ORG(d)
1080        Format (A35,5X,A10,2X,A10,2X,A10)
            GO TO 120
            end if

C**********DATA T20(reads flow for HDWTR-1)
         else IF (line (1:16) .EQ. target7) then
            Read (10,*)
            READ (10,*)
            Read (10,*)
            REad (10,*)
125         Read (10, '(A132)') stream_id
            if (stream_id(1:7).EQ. 'HDWTR-1') then
               num_hdwt=num_HDwt+1
               e=e+1
               Read(stream_id(17:19),'(I3)')HDWT1_elem(e)
               read(stream_id(25:44),'(A20)')hdwt1_name(e)
               READ(stream_id(53:59),'(F7.0)') HDWT1_Flow(e)
               GO TO 125
            end if

C**********DATA T21(read BOD,ORG-N,NH3,NO3+2 for HDWTR-2)
         else IF (line (1:16) .EQ. target8) then
            Read (10,*)
            Read (10,*)
            READ (10,*)
            Read (10,*)
130         Read (10, '(A132)') stream_id
            if (stream_id(1:7).EQ. 'HDWTR-2') then
            f=f+1
            g=g+1
            h=h+1
```

```
            j=j+1
            READ(stream_id(58:66),'(F9.0)') HDWT2_BOD_con(f)
            READ(stream_id(68:76),'(F9.0)') HDWT2_ORG_con(g)
            READ(stream_id(78:86),'(F9.0)') HDWT2_NH3_con(h)
            READ(stream_id(88:96),'(F9.0)') HDWT2_NO3_con(j)
1090        Format (A35,5X,A5,5X,A5,5X,A5,5X,A5)
            GO TO 130
            end if

C**********DATA T24(flow for WSTLD-1)
          ps=1
          nps=1
          else IF (line (1:16) .EQ. target9) then
            Read (10,*)
            Read (10,*)
            Read (10,*)
            READ (10,*)
135         Read (10, '(A132)') stream_id
            if (stream_id(1:7).EQ. 'WSTLD-1') then
               num_wstld=num_wstld+1
               k=k+1
               READ(stream_id(52:59),'(F8.0)')WSTLD_Flow(k)
               read(stream_id(13:16),'(I4)')elem_wstld(k)
               read(stream_id(30:47),'(A18)')wstld_name(k)
               if (stream_id(30:32).EQ.'NPS') then !
                  nps_num_wstld=nps_num_wstld+1
                  NPS_wstld_name(nps) = wstld_name(K)
                  NPS_elem_wstld(nps) = elem_wstld(K)
                  NPS_wstld_flow(nps) = wstld_flow(K)
                  nps=nps+1
               else
                     ps_num_wstld=ps_num_wstld+1
                     PS_wstld_name(ps) = wstld_name(K)
                     PS_elem_wstld(ps) = elem_wstld(K)
                     PS_wstld_flow(ps) = wstld_flow(K)
                     ps=ps+1
c                    this loop and if statement is used to separate
c                    point and nonpoint wastelaods
               end if
            GO TO 135
            end if

C**********DATA T25(BOD,ORG-N,NH3,NO3+2) for WSTLD-2
      ps=1
      nps=1
         else IF (line (1:16) .EQ. target10) then
            Read (10,*)
            Read (10,*)
            READ (10,*)
            READ (10,*)
140         Read (10, '(A132)') stream_id
            if (stream_id(1:7).EQ. 'WSTLD-2') then
            l=l+1
            m=m+1
            n=n+1
            o=o+1
            k1=k1+1
            READ(stream_id(25:27),'(A3)')source_type(k1)
            READ(stream_id(57:66),'(F10.0)')WSTLD2_BOD(l)
            READ(stream_id(77:86),'(F10.0)')WSTLD2_ORG(m)
            READ(stream_id(87:96),'(F10.0)')WSTLD2_NH3(n)
            READ(stream_id(107:116),'(F10.0)')WSTLD2_NO3(o)
            if (source_type(K1).EQ.'NPS') then
                  nps_wstld2_bod(nps) = wstld2_bod(l)
                  nps_wstld2_org(nps) = wstld2_org(m)
                  nps_wstld2_nh3(nps) = WSTLD2_NH3(N)
                  nps_wstld2_no3(nps) = wstld2_no3(o)
                  nps=nps+1
               else
                  ps_wstld2_bod(ps) = wstld2_bod(l)
                  ps_wstld2_org(ps) = wstld2_org(m)
                  ps_wstld2_nh3(ps) = WSTLD2_NH3(N)
                  ps_wstld2_no3(ps) = wstld2_no3(o)
                  ps=ps+1
```

```
                 end if
c must have blank space after else or the else will only apply to the first statement and NOT
c to all of them

1095        Format (A35,6X,A5,2X,A5,2X,A5,2X,A5,2X,A5)
            GO TO 140
            end if

C*************FINAL REPORT, hydrualic parameter
        else IF (line (1:62) .EQ. ' ************************************
     &*************** HYDRAULIC') then
             Read (10,*)
             READ (10,*)
             READ (10,*)
             READ (10,*)
             READ (10,*)
145          Read (10, '(A132)') stream_id
             if (stream_id(3:5).NE. '   ') then
c               p=p+1
C* these numbers are NOT in numerical order, they are in Branch (ie model layout) order
               read(stream_id(3:5),'(I3)')elem_col_int
               READ(stream_id(84:94),'(F11.0)')S_Area_int(elem_col_int)
               GO TO 145
            end if
1200  FORMAT (A35,5X,I4)
      END IF
100   Continue
900   CONTINUE
      Print*,'Program has finished reading the inputs!!!'


C****************************PART 2************************************
C************************Calculations

C*variables mostly in order of use
      real con3,con4,nps_FG_summary_org
      real mldt19_tot_cbodu, mldt19_tot_org
      real incr_CBODu(1:999), incr_Org_N(1:999), incr_Amm_N(1:999),
     &incr_NItrate(1:999)
      real incr_CBODu_tot, incr_Org_N_tot, incr_Amm_N_tot,incr_NItrate_t
     &ot
      real WSTLD2_BOD_con(1:999),WSTLD2_ORG_con(1:999),WSTLD2_NH3_con
     &(1:999),WSTLD2_NO3_con(1:999)
      real WSTLD2_BOD_cal(1:999),WSTLD2_Org_cal(1:999),WSTLD2_NH3_cal
     &(1:999),WSTLD2_NO3_cal(1:999)
      real WSTLD2_BOD_cal_tot,WSTLD2_Org_cal_tot,WSTLD2_NH3_cal_tot,
     &WSTLD2_NO3_cal_tot
      real ps_WSTLD2_BOD_con(1:999),ps_WSTLD2_ORG_con(1:999),ps_WSTLD2_N
     &H3_con(1:999),ps_WSTLD2_NO3_con(1:999)
      real ps_WSTLD2_BOD_cal(1:999),ps_WSTLD2_Org_cal(1:999),ps_WSTLD2_N
     &H3_cal(1:999),ps_WSTLD2_NO3_cal(1:999)
      real ps_WSTLD2_BOD_cal_tot, ps_WSTLD2_Org_cal_tot, ps_WSTLD2_NH3_c
     &al_tot,ps_WSTLD2_NO3_cal_tot
      real nps_WSTLD2_BOD_con(1:999),nps_WSTLD2_ORG_con(1:999),nps_WSTLD
     &2_NH3_con(1:999),nps_WSTLD2_NO3_con(1:999)
      real nps_WSTLD2_BOD_cal(1:999),nps_WSTLD2_Org_cal(1:999),nps_WSTLD
     &2_NH3_cal(1:999),nps_WSTLD2_NO3_cal(1:999)
      real nps_WSTLD2_BOD_cal_tot,nps_WSTLD2_Org_cal_tot, nps_WSTLD2_NH3
     &_cal_tot,nps_WSTLD2_NO3_cal_tot
      real nps_BOD_tot,nps_Org_N_tot,nps_NH3_N_tot,nps_NO3_tot
      real HDWT_BOD_cal(1:999), HDWT_Org_cal(1:999), HDWT_NH3_cal(1:999)
     &, HDWT_NO3_cal(1:999)
      real HDWT_BOD_cal_tot, HDWT_Org_cal_tot, HDWT_NH3_cal_tot,
     &HDWT_NO3_cal_tot
      real elem_benthis(1:1000), elem_sod(1:1000), elem_temp(1:1000)
     &,sod_load(1:1000), benthic(1:1000)
      real nps_sod_load_tot, nps_benthic_tot,fac_mos_FG
      reaL tmdl_cal_flow(1:999)
      real cbodu_tmdl_val(1:999), org_N_tmdl_val(1:999),ammon_tmdl_val(1
     &:100),no3_tmdl_val(1:999)
      real  cbodu_tmdl_cal(1:999),org_N_tmdl_cal(1:999), ammon_tmdl_cal(
     &1:100), no3_tmdl_cal(1:999)
      real  cbodu_tmdl_tot,org_N_tmdl_tot,ammon_tmdl_tot,no3_tmdl_tot
      real nps_summary_cbodu,nps_summary_org,nps_summary_ammon
```

```
 real oxy_dem_nps_org_N_tot, oxy_dem_nps_nh3_tot
 real nps_mos_sod_load_tot,nps_mos_summary_cbodu,nps_mos_summary_or
&g,nps_mos_summary_ammon,nps_mos_nps_NO3_tot
 real nps_FG_sod_load_tot,nps_FG_summary_cbodu
&,nps_FG_summary_ammon,nps_FG_nps_NO3_tot
 real nps_LA_sod_load_tot,nps_LA_summary_cbodu,nps_LA_summary_org,n
&ps_LA_summary_ammon,nps_LA_nps_NO3_tot
 real ps_summary_cbodu,ps_summary_org,ps_summary_nh3_n
 real mos_ps_summary_cbodu,mos_ps_summary_org,mos_ps_summary_nh3_n
 real FG_ps_summary_cbodu,FG_ps_summary_org,FG_ps_summary_nh3_n
 real wla_ps_cbodu_tmdl_tot,wla_ps_org_N_tmdl_tot, wla_ps_ammon_tmd
&l_tot
 real wla_ps_WSTLD2_BOD_cal(1:999),wla_ps_WSTLD2_ORG_cal(1:999),wla
&_ps_WSTLD2_NH3_cal(1:999)
 real oxy_dem_mldt19_tot_org,nps_inflows_tot_oxy_demand,
&mldt19_tot_oxy_dem,tot_oxy_dem_sod_ben
 real oxy_dem_ps_WSTLD2_Bod_cal(1:999),oxy_dem_ps_WSTLD2_ORG_cal(1:
&100),oxy_dem_ps_WSTLD2_Nh3_cal(1:999),tot_oxy_dem_nps,
&wla_min_ps_summary_tot
 real oxy_dem_ps_WSTLD2_Org_cal_tot,oxy_dem_ps_WSTLD2_NH3_cal_tot
 real nps_mos_tot_oxy_dem,nps_FG_tot_oxy_dem,nps_LA_tot_oxy_dem
 real oxy_dem_org_N_tmdl,oxy_dem_ammon_tmdl,min_ps_summary_tot,
&mod_tot_oxy_dem_ps(1:999),mos_tot_oxy_dem_summary,wla_mod_tot_oxy_
&dem_ps(1:999)
 real nut_tmdl_nps_org_N_tot,nps_tot_nitrogen_load,nps_total_P
 real ps_nut_tmdl_summary_org_N_tot,ps_nut_tmdl_summary_nh3_N_tot,
&ps_nut_tmdl_summary_no3_N_tot,ps_tot_nitrogen_final_load,ps_tot_P_
&final,ps_tot_sum_total_nitrogen_load,ps_tot_sum_total_P
 real mos_ps_nut_tmdl_sum_org_N_tot,
&mos_ps_nut_tmdl_sum_nh3_N_tot,
&mos_ps_nut_tmdl_sum_no3_N_tot,
&mos_ps_tot_nitrogen_final_load,
&mos_ps_tot_P_final
 real FG_ps_nut_tmdl_sum_org_N_tot,
&FG_ps_nut_tmdl_sum_nh3_N_tot,
&FG_ps_nut_tmdl_sum_no3_N_tot,
&FG_ps_tot_nitrogen_final_load,
&FG_ps_tot_P_final
 real wla_min_ps_nut_tmdl_sum_org,
&wla_min_ps_nut_tmdl_sum_nh3,
&wla_min_ps_nut_tmdl_sum_no3,
&wla_min_ps_nitrogen_final_load,
&wla_min_ps_P_final
 real wla_ps_WSTLD2_org_cal_sum(1:999),wla_ps_WSTLD2_NH3_cal_sum(1:
&100),wla_ps_WSTLD2_NO3_cal_sum(1:999)
 real wla_ps_total_nitrogen_load(1:999), wla_ps_total_P(1:999)
 real nps_mos_nut_tmdl_nps_Org_N_tot,nps_mos_nps_nh3_n_tot,
&nps_mos_tot_nitrogen_load,nps_mos_total_p
 real nps_FG_nut_tmdl_nps_Org_N_tot,nps_FG_nps_nh3_n_tot,
&nps_FG_tot_nitrogen_load,nps_FG_total_p
 real nps_la_nut_tmdl_nps_Org_N_tot,nps_la_nps_nh3_n_tot,
&nps_la_tot_nitrogen_load,nps_la_total_p
 real min_ps_total_nitrogen_load,min_ps_total_P
 real ps_total_nitrogen_load(1:999),ps_total_P(1:999)

 if (usernum.NE.num) then
   print*,'Usernum does not equal num, there has been a read failur
&e!',num,usernum
   Write(11,*)'This output is NOT correct!'
   end if

 mldt19_tot_cbodu=0
 mldt19_tot_org=0

 incr_CBODu_tot=0
 incr_Org_N_tot=0
 incr_Amm_N_tot=0
 incr_Nitrate_tot=0

 ps_WSTLD2_BOD_cal_tot=0
 ps_WSTLD2_Org_cal_tot=0
 ps_WSTLD2_NH3_cal_tot=0

 nps_WSTLD2_BOD_cal_tot=0
```

```
      nps_WSTLD2_Org_cal_tot=0
      nps_WSTLD2_NH3_cal_tot=0

      WSTLD2_BOD_cal_tot=0
      WSTLD2_Org_cal_tot=0
      WSTLD2_NH3_cal_tot=0

      HDWT_BOD_cal_tot=0
      HDWT_Org_cal_tot=0
      HDWT_NH3_cal_tot=0
      HDWT_NO3_cal_tot=0

      nps_sod_load_tot=0
      nps_benthic_tot=0

      cbodu_tmdl_tot=0
      org_N_tmdl_tot=0
      ammon_tmdl_tot=0
      no3_tmdl_tot=0

      fac_mos_FG=1/(1-(ps_mos+ps_FG))
      con3 = 1.00/1000000.00*1000.00*86400.00
      con4 = 3.7850000000 ! MGD * mg/L * con4,
c     con4 = 3.785 L/gal * 1.0E6 gal/MG * 1.0E-6 kg/mg

      do 180 I=1,num
      mldt19_tot_cbodu=mldt19_tot_cbodu+NP_bod(I)
      mldt19_tot_org= mldt19_tot_org+NP_org(I)
180   continue

C* Here I will arrange the elemntal surface areas into the numerical order to match the order the SOD
C* and NH3 data are in.
c          elem_col(1) = elem_col_int(1)
c          S_Area(1) = S_Area_int(1)
c      DO 185 I=2,total_elem   !need to start at 2 for comaprisons
c          elem_col(I)=I
c          if (elem_col_int(I).EQ.I) then
c             S_Area(I) = S_Area_int(I)
c          else
c
c             DO 184 R=1,total_elem  !go through the list until we get a match
c             if (Elem_col_int(R).EQ.Elem_col(I)) then
c                S_Area(I) = S_Area_int(I)
c             end if
c184          continue
c          end if

c185   continue

      cir=num_incr
      DO 190 cirr=1,cir

      incr_CBODu(cirr)=incr_flow(cirr)*incr2_CBODu_con(cirr)*con3
      incr_Org_N(cirr)=incr_flow(cirr)*incr2_Org_N_con(cirr)*con3
      incr_Amm_N(cirr)=incr_flow(cirr)*incr2_Amm_N_con(cirr)*con3
      incr_NItrate(cirr)=incr_flow(cirr)*incr2_Nitrate_con(cirr)*con3

      incr_CBODu_tot=incr_CBODu_tot+incr_CBODu(cirr)
      incr_Org_N_tot=incr_Org_N_tot+incr_Org_N(cirr)
      incr_Amm_N_tot=incr_Amm_N_tot+incr_Amm_N(cirr)
      incr_Nitrate_tot=incr_Nitrate_tot+incr_Nitrate(cirr)
190   continue

C*********** calcualtions for point soucers EXPLICITLY modeled
      cir=ps_num_wstld
      DO 194 cirr=1,cir
      ps_WSTLD2_BOD_con(cirr)=ps_wstld2_bod(cirr)
      ps_WSTLD2_ORG_con(cirr)=ps_wstld2_org(cirr)
      ps_WSTLD2_NH3_con(cirr)=ps_wstld2_nh3(cirr)
      ps_WSTLD2_NO3_con(cirr)=ps_wstld2_no3(cirr)

      ps_WSTLD2_BOD_cal(cirr)=ps_WSTLD_Flow(cirr)*ps_WSTLD2_BOD_con(cirr
     &)*con3
      ps_WSTLD2_Org_cal(cirr)=ps_WSTLD_FLow(cirr)*ps_WSTLD2_Org_con(cirr
```

```
     &)*con3
      ps_WSTLD2_NH3_cal(cirr)=ps_WSTLD_FLow(cirr)*ps_WSTLD2_NH3_con(cirr
     &)*con3
      ps_WSTLD2_NO3_cal(cirr)=ps_WSTLD_Flow(cirr)*ps_WSTLD2_NO3_con(cirr
     &)*con3

      wla_ps_WSTLD2_org_cal_sum(cirr)=ps_WSTLD2_org_cal(cirr)*(1-ps_mos-
     &ps_FG)
      wla_ps_WSTLD2_NH3_cal_sum(cirr)=ps_WSTLD2_NH3_cal(cirr)*(1-ps_mos-
     &ps_FG)
      wla_ps_WSTLD2_NO3_cal_sum(cirr)=ps_WSTLD2_NO3_cal(cirr)*(1-ps_mos-
     &ps_FG)

      ps_WSTLD2_BOD_cal_tot=ps_WSTLD2_BOD_cal_tot+ps_WSTLD2_BOD_cal(cirr
     &)
      ps_WSTLD2_Org_cal_tot=ps_WSTLD2_Org_cal_tot+ps_WSTLD2_Org_cal(cirr
     &)
      ps_WSTLD2_NH3_cal_tot=ps_WSTLD2_NH3_cal_tot+ps_WSTLD2_NH3_cal(cirr
     &)
      ps_WSTLD2_NO3_cal_tot=ps_WSTLD2_NO3_cal_tot+ps_WSTLD2_NO3_cal(cirr
     &)

        oxy_dem_ps_wstld2_bod_cal(cirr)=1*ps_WSTLD2_BOD_cal(cirr
     &)
        oxy_dem_ps_wstld2_org_cal(cirr)=ammoxy_rat*ps_wstld2_org_cal(cirr
     &)
        oxy_dem_ps_wstld2_nh3_cal(cirr)=ammoxy_rat*ps_wstld2_nh3_cal(cirr
     &)
        mod_tot_oxy_dem_ps(cirr)=oxy_dem_ps_wstld2_bod_cal(cirr)+oxy_dem_
     &ps_wstld2_org_cal(cirr)+ oxy_dem_ps_wstld2_nh3_cal(cirr)

        wla_ps_wstld2_bod_cal(cirr)=ps_wstld2_bod_cal(cirr)*(1-ps_mos-ps_
     &FG)
        wla_ps_WSTLD2_ORG_cal(cirr)=oxy_dem_ps_WSTLD2_Org_cal(cirr)*(1-ps
     &_mos-ps_FG)
        wla_ps_wstld2_nh3_cal(cirr)=oxy_dem_ps_WSTLD2_NH3_cal(cirr)*(1-ps
     &_mos-ps_FG)
        wla_mod_tot_oxy_dem_ps(cirr)=mod_tot_oxy_dem_ps(cirr)*(1-ps_mos-p
     &s_FG)

C     rounding functions (uisng the anint function)

        wla_ps_wstld2_bod_cal(cirr)=wla_ps_wstld2_bod_cal(cirr)*100
        wla_ps_wstld2_bod_cal(cirr)=anint(wla_ps_wstld2_bod_cal(cirr))
        wla_ps_wstld2_bod_cal(cirr)=wla_ps_wstld2_bod_cal(cirr)/100

        wla_ps_wstld2_org_cal(cirr)=wla_ps_wstld2_org_cal(cirr)*100
        wla_ps_wstld2_org_cal(cirr)=anint(wla_ps_wstld2_org_cal(cirr))
        wla_ps_wstld2_org_cal(cirr)=wla_ps_wstld2_org_cal(cirr)/100

        wla_ps_wstld2_nh3_cal(cirr)=wla_ps_wstld2_nh3_cal(cirr)*100
        wla_ps_wstld2_nh3_cal(cirr)=anint(wla_ps_wstld2_nh3_cal(cirr))
        wla_ps_wstld2_nh3_cal(cirr)=wla_ps_wstld2_nh3_cal(cirr)/100

        wla_mod_tot_oxy_dem_ps(cirr)=wla_mod_tot_oxy_dem_ps(cirr)*100
        wla_mod_tot_oxy_dem_ps(cirr)=anint(wla_mod_tot_oxy_dem_ps(cirr))
        wla_mod_tot_oxy_dem_ps(cirr)=wla_mod_tot_oxy_dem_ps(cirr)/100

C**************** nps wasteload calculations
194   continue
      do 196 cirr=1,nps_num_wstld
      nps_WSTLD2_BOD_con(cirr)=nps_wstld2_bod(cirr)
      nps_WSTLD2_ORG_con(cirr)=nps_wstld2_org(cirr)
      nps_WSTLD2_NH3_con(cirr)=nps_wstld2_nh3(cirr)
      nps_WSTLD2_NO3_con(cirr)=nps_wstld2_no3(cirr)

      nps_WSTLD2_BOD_cal(cirr)=nps_WSTLD_Flow(cirr)*nps_WSTLD2_BOD_con(c
     &irr)*con3
      nps_WSTLD2_Org_cal(cirr)=nps_WSTLD_FLow(cirr)*nps_WSTLD2_Org_con(c
     &irr)*con3
      nps_WSTLD2_NH3_cal(cirr)=nps_WSTLD_FLow(cirr)*nps_WSTLD2_NH3_con(c
     &irr)*con3
      nps_WSTLD2_NO3_cal(cirr)=nps_WSTLD_Flow(cirr)*nps_WSTLD2_NO3_con(c
     &irr)*con3
```

```
      nps_WSTLD2_BOD_cal_tot=nps_WSTLD2_BOD_cal_tot+nps_WSTLD2_BOD_cal(c
     &irr)
      nps_WSTLD2_Org_cal_tot=nps_WSTLD2_Org_cal_tot+nps_WSTLD2_Org_cal(c
     &irr)
      nps_WSTLD2_NH3_cal_tot=nps_WSTLD2_NH3_cal_tot+nps_WSTLD2_NH3_cal(c
     &irr)
      nps_WSTLD2_NO3_cal_tot=nps_WSTLD2_NO3_cal_tot+nps_WSTLD2_NO3_cal(c
     &irr)

      nps_WSTLD2_BOD_cal_tot=nps_WSTLD2_BOD_cal_tot*100
      nps_WSTLD2_BOD_cal_tot=anint(nps_WSTLD2_BOD_cal_tot)
      nps_WSTLD2_BOD_cal_tot=nps_WSTLD2_BOD_cal_tot/100

      nps_WSTLD2_Org_cal_tot=nps_WSTLD2_Org_cal_tot*100
      nps_WSTLD2_Org_cal_tot=anint(nps_WSTLD2_Org_cal_tot)
      nps_WSTLD2_Org_cal_tot=nps_WSTLD2_Org_cal_tot/100

      nps_WSTLD2_NH3_cal_tot=nps_WSTLD2_NH3_cal_tot*100
      nps_WSTLD2_NH3_cal_tot=anint(nps_WSTLD2_NH3_cal_tot)
      nps_WSTLD2_NH3_cal_tot=nps_WSTLD2_NH3_cal_tot/100

      nps_WSTLD2_NO3_cal_tot=nps_WSTLD2_NO3_cal_tot*100
      nps_WSTLD2_NO3_cal_tot=anint(nps_WSTLD2_NO3_cal_tot)
      nps_WSTLD2_NO3_cal_tot=nps_WSTLD2_NO3_cal_tot/100


c**********only wasteloads can be divided into point source and non point sources
196   continue

      do 198 cirr= 1, num_wstld
      WSTLD2_BOD_con(cirr)=WSTLD2_BOD(cirr)
      WSTLD2_ORG_con(cirr)=WSTLD2_Org(cirr)
      WSTLD2_NH3_con(cirr)=WSTLD2_NH3(cirr)
      WSTLD2_NO3_con(cirr)=WSTLD2_NO3(cirr)

      WSTLD2_BOD_cal(cirr)=WSTLD_Flow(cirr)*WSTLD2_BOD_con(cirr)*con3
      WSTLD2_Org_cal(cirr)=WSTLD_FLow(cirr)*WSTLD2_Org_con(cirr)*con3
      WSTLD2_NH3_cal(cirr)=WSTLD_FLow(cirr)*WSTLD2_NH3_con(cirr)*con3
      WSTLD2_NO3_cal(cirr)=WSTLD_Flow(cirr)*WSTLD2_NO3_con(cirr)*con3

      WSTLD2_BOD_cal_tot=WSTLD2_BOD_cal_tot+WSTLD2_BOD_cal(cirr)
      WSTLD2_Org_cal_tot=WSTLD2_Org_cal_tot+WSTLD2_Org_cal(cirr)
      WSTLD2_NH3_cal_tot=WSTLD2_NH3_cal_tot+WSTLD2_NH3_cal(cirr)
      WSTLD2_NO3_cal_tot=WSTLD2_NO3_cal_tot+WSTLD2_NO3_cal(cirr)

      wstld2_bod_cal_tot=wstld2_bod_cal_tot*100
      wstld2_bod_cal_tot=anint(wstld2_bod_cal_tot)
      wstld2_bod_cal_tot=wstld2_bod_cal_tot/100

      wstld2_org_cal_tot=wstld2_org_cal_tot*100
      wstld2_org_cal_tot=anint(wstld2_org_cal_tot)
      wstld2_org_cal_tot=wstld2_org_cal_tot/100

      wstld2_NH3_cal_tot=wstld2_NH3_cal_tot*100
      wstld2_NH3_cal_tot=anint(wstld2_NH3_cal_tot)
      wstld2_NH3_cal_tot=wstld2_NH3_cal_tot/100

      wstld2_NO3_cal_tot=wstld2_NO3_cal_tot*100
      wstld2_NO3_cal_tot=anint(wstld2_NO3_cal_tot)
      wstld2_NO3_cal_tot=wstld2_NO3_cal_tot/100
198   continue

      cir=num_hdwt

      DO 199 cirr=1,cir

      HDWT_BOD_cal(cirr)=HDWT1_Flow(cirr)*HDWT2_BOD_con(cirr)*con3
      HDWT_Org_cal(cirr)=HDWT1_FLow(cirr)*HDWT2_Org_con(cirr)*con3
      HDWT_NH3_cal(cirr)=HDWT1_FLow(cirr)*HDWT2_NH3_con(cirr)*con3
      HDWT_NO3_cal(cirr)=HDWT1_Flow(cirr)*HDWT2_NO3_con(cirr)*con3

      HDWT_BOD_cal_tot=HDWT_BOD_cal_tot+HDWT_BOD_cal(cirr)
```

```
      HDWT_Org_cal_tot=HDWT_Org_cal_tot+HDWT_Org_cal(cirr)
      HDWT_NH3_cal_tot=HDWT_NH3_cal_tot+HDWT_NH3_cal(cirr)
      HDWT_NO3_cal_tot=HDWT_NO3_cal_tot+HDWT_NO3_cal(cirr)

      HDWT_bod_cal_tot=HDWT_bod_cal_tot*100
      HDWT_bod_cal_tot=anint(HDWT_bod_cal_tot)
      HDWT_bod_cal_tot=wstld2_bod_cal_tot/100

      HDWT_org_cal_tot=HDWT_org_cal_tot*100
      HDWT_org_cal_tot=anint(HDWT_org_cal_tot)
      HDWT_org_cal_tot=HDWT_org_cal_tot/100

      HDWT_NH3_cal_tot=HDWT_NH3_cal_tot*100
      HDWT_NH3_cal_tot=anint(HDWT_NH3_cal_tot)
      HDWT_NH3_cal_tot=HDWT_NH3_cal_tot/100

      HDWT_NO3_cal_tot=HDWT_NO3_cal_tot*100
      HDWT_NO3_cal_tot=anint(HDWT_NO3_cal_tot)
      HDWT_NO3_cal_tot=HDWT_NO3_cal_tot/100



199   Continue


C*************** total up NPS values from incremetnal flow, tribs and headwaters
      nps_BOD_tot=incr_CBODu_tot+nps_WSTLD2_BOD_cal_tot+
     &HDWT_BOD_cal_tot
      nps_Org_N_tot=incr_Org_N_tot+nps_WSTLD2_Org_cal_tot+
     &HDWT_Org_cal_tot
      nps_NH3_N_tot=incr_Amm_N_tot+nps_WSTLD2_NH3_cal_tot+HDWT_NH3
     &_cal_tot
      nps_NO3_tot=incr_Nitrate_tot+nps_WSTLD2_NO3_cal_tot+HDWT_NO3_cal_t
     &ot

C************* total up oxygen demand for NPS
      oxy_dem_nps_org_N_tot=ammoxy_rat*nps_org_N_tot
      oxy_dem_nps_nh3_tot=ammoxy_rat*nps_nh3_N_tot
      oxy_dem_mldt19_tot_org=ammoxy_rat*mldt19_tot_org


C************* create the element and reach column, as well as other columns for
C************* for SOD and benthic ammonia
      DO 201 I=1,num
          DO 200 J=elem_begin(I), elem_end(I)
               elem_benthis(J)= C2_NH3SR (I)
               elem_sod(J)=SOD_temp_cor(I)
               elem_temp(J)=temp(I)
200            continue
201   continue



      do 202 I=1,total_elem
c               sod_temp_cor(I)=elem_sod(I)*1.065**(elem_temp(I)-20)
               sod_load(I)=sod_temp_cor(I)*s_area_int(I)*1.00/1000.00
               benthic(I)=elem_benthis(I)*s_area_int(I)*1.00/1000.00
               nps_sod_load_tot=nps_sod_load_tot+sod_load(I)
               nps_benthic_tot=nps_benthic_tot+benthic(I)
202   continue


C*****************calculate values for PS and NPS summary sections
      oxy_dem_nps_benthic_tot=ammoxy_rat*nps_benthic_tot

      nps_inflows_tot_oxy_demand=nps_BOD_tot+oxy_dem_nps_org_N_tot+oxy_d
     &em_nps_nh3_tot
      mldt19_tot_oxy_dem=mldt19_tot_cbodu+oxy_dem_mldt19_tot_org
      tot_oxy_dem_sod_ben=nps_sod_load_tot+oxy_dem_nps_benthic_tot

      tot_oxy_dem_nps=nps_inflows_tot_oxy_demand+mldt19_tot_oxy_dem+tot_
     &oxy_dem_sod_ben

      oxy_dem_ps_WSTLD2_Org_cal_tot=ps_WSTLD2_Org_cal_tot*ammoxy_rat
```

```
 oxy_dem_ps_WSTLD2_NH3_cal_tot=ps_WSTLD2_NH3_cal_tot*ammoxy_rat

 nps_summary_cbodu=nps_bod_tot+mldt19_tot_cbodu
 nps_summary_org=oxy_dem_nps_org_N_tot+oxy_dem_mldt19_tot_org
 nps_summary_ammon=oxy_dem_nps_nh3_tot+oxy_dem_nps_benthic_tot

 nps_mos_sod_load_tot=nps_sod_load_tot*nps_mos
 nps_mos_sod_load_tot=nps_mos_sod_load_tot*100
 nps_mos_sod_load_tot=anint(nps_mos_sod_load_tot)/100

 nps_mos_summary_cbodu=nps_summary_cbodu*nps_mos
 nps_mos_summary_cbodu=nps_mos_summary_cbodu*100
 nps_mos_summary_cbodu=anint(nps_mos_summary_cbodu)/100

 nps_mos_summary_org=nps_summary_org*nps_mos
 nps_mos_summary_org=nps_mos_summary_org*100
 nps_mos_summary_org=anint(nps_mos_summary_org)/100

 nps_mos_summary_ammon=nps_summary_ammon*nps_mos
 nps_mos_summary_ammon=nps_mos_summary_ammon*100
 nps_mos_summary_ammon=anint(nps_mos_summary_ammon)/100

 nps_FG_sod_load_tot=nps_sod_load_tot*nps_FG
 nps_FG_sod_load_tot=nps_FG_sod_load_tot*100
 nps_FG_sod_load_tot=anint(nps_FG_sod_load_tot)/100


 nps_FG_summary_cbodu=nps_summary_cbodu*nps_FG
 nps_FG_summary_cbodu=nps_FG_summary_cbodu*100
 nps_FG_summary_cbodu=anint(nps_FG_summary_cbodu)/100

 nps_FG_summary_org=nps_summary_org*nps_FG
 nps_FG_summary_org=nps_FG_summary_org*100
 nps_FG_summary_org=anint(nps_FG_summary_org)/100

 nps_FG_summary_ammon=nps_summary_ammon*nps_FG
 nps_FG_summary_ammon=nps_FG_summary_ammon*100
 nps_FG_summary_ammon=anint(nps_FG_summary_ammon)/100


 nps_mos_tot_oxy_dem=tot_oxy_dem_nps*nps_mos
 nps_mos_tot_oxy_dem=nps_mos_tot_oxy_dem*100
 nps_mos_tot_oxy_dem=anint(nps_mos_tot_oxy_dem)/100


 nps_FG_tot_oxy_dem=tot_oxy_dem_nps*nps_FG
 nps_FG_tot_oxy_dem=nps_FG_tot_oxy_dem*100
 nps_FG_tot_oxy_dem=anint(nps_FG_tot_oxy_dem)/100


 nps_mos_nps_NO3_tot=nps_NO3_tot*nps_mos
 nps_mos_nps_NO3_tot=nps_mos_nps_NO3_tot*100
 nps_mos_nps_NO3_tot=anint(nps_mos_nps_NO3_tot)/100


 nps_FG_nps_NO3_tot=nps_NO3_tot*nps_FG
 nps_FG_nps_NO3_tot=nps_FG_nps_NO3_tot*100
 nps_FG_nps_NO3_tot=anint(nps_FG_nps_NO3_tot)/100


 nps_LA_sod_load_tot=nps_sod_load_tot-nps_MOS_sod_load_tot-nps_FG_s
&od_load_tot
 nps_LA_summary_cbodu=nps_summary_cbodu-nps_MOS_summary_cbodu-nps_F
&G_summary_cbodu
 nps_LA_summary_org=nps_summary_org-nps_MOS_summary_org-nps_FG_summ
&ary_org
 nps_LA_summary_ammon=nps_summary_ammon-nps_MOS_summary_ammon-nps_F
&G_summary_ammon
 nps_LA_nps_NO3_tot=nps_NO3_tot-nps_MOS_nps_NO3_tot-nps_FG_nps_NO3_
&tot

 nps_LA_tot_oxy_dem=tot_oxy_dem_nps-nps_mos_tot_oxy_dem-nps_fg_tot_
&oxy_dem
```

```
c these values are from reading data from La_qual output (and thus ARE NOT minor point sources)
      ps_BOD_tot=ps_WSTLD2_BOD_cal_tot
      ps_Org_N_tot=ps_WSTLD2_Org_cal_tot
      ps_NH3_N_tot=ps_WSTLD2_NH3_cal_tot
      ps_NO3_tot=ps_WSTLD2_NO3_cal_tot

c this produces the "values for tmdl calculations table"
      do 204 I =1, num_pt_sour
               cbodu_tmdl_val(I)=2.30*cbod5_perm(I)
               if (CBOD5_perm(I).EQ.0.OR.CBOD5_perm(I).EQ.-999)then
                  cbodu_tmdl_val(I)=1.00*cod_perm(I)
                  if (cod_perm(I).EQ.0.OR.Cod_perm(I).EQ.-999)then
                  cbodu_tmdl_val(I)=0
               end if
               end if

               ammon_tmdl_val(I)=ammon_perm(I)
               if (ammon_perm(I) .EQ.-999) then
                  ammon_tmdl_val(I)=2*cbod5_perm(I)
                  if (cbod5_perm(I).EQ.-999) then
                     ammon_tmdl_val(I)=0
               end if
               end if

               no3_tmdl_val(I) = 0

               org_N_tmdl_val(I)=ammon_tmdl_val(I)*2.00

               if (cbod5_perm(I).EQ.0.AND.ammon_perm(I).EQ.0) then
               org_N_tmdl_val(I)=0
               ammon_tmdl_val(I)=0
               no3_tmdl_val(I) = 0
               end if

204   continue

C *** caluculate tmdl vlues for tmdl load chart
      do 206 I=1,num_pt_sour
         tmdl_cal_flow(I)=perm_flow(I)*fac_mos_FG
         cbodu_tmdl_cal(I) = tmdl_cal_flow(I)*cbodu_tmdl_val(I)*con4
         org_N_tmdl_cal(I) = tmdl_cal_flow(I)*org_N_tmdl_val(I)*con4
         ammon_tmdl_cal(I) = tmdl_cal_flow(I)*ammon_tmdl_val(I)*con4
         no3_tmdl_cal(I) = tmdl_cal_flow(I)*no3_tmdl_val(I) *con4

         cbodu_tmdl_tot=cbodu_tmdl_tot+cbodu_tmdl_cal(I)
         org_N_tmdl_tot=org_N_tmdl_tot+org_N_tmdl_cal(I)
         ammon_tmdl_tot=ammon_tmdl_tot+ammon_tmdl_cal(I)
         no3_tmdl_tot=no3_tmdl_tot+no3_tmdl_cal(I)

         oxy_dem_org_N_tmdl= org_N_tmdl_tot*ammoxy_rat
         oxy_dem_ammon_tmdl= ammon_tmdl_tot*ammoxy_rat


206   continue
c*********calculate tmdl values for summary chart (using ammox multiplier



c first term is read in from La-qual second is from User supplied data
c more summary calculations
      ps_summary_cbodu=ps_bod_tot+cbodu_tmdl_tot
      ps_summary_org= oxy_dem_ps_wstld2_org_cal_tot+ oxy_dem_org_N_tmdl

      ps_summary_nh3_n=oxy_dem_ps_WSTLD2_NH3_cal_tot+oxy_dem_ammon_tmdl

      tot_oxy_dem_summary=ps_summary_cbodu+ps_summary_org+ps_summary_nh3
     &_n

      mos_ps_summary_cbodu=ps_summary_cbodu*ps_mos
      mos_ps_summary_org=ps_summary_org*ps_mos
      mos_ps_summary_nh3_n= ps_summary_nh3_n*ps_mos

      FG_ps_summary_cbodu=ps_summary_cbodu*ps_FG
      FG_ps_summary_org=ps_summary_org*ps_FG
```

```
      FG_ps_summary_nh3_n= ps_summary_nh3_n*ps_FG


      min_ps_summary_tot=cbodu_tmdl_tot+oxy_dem_org_N_tmdl+oxy_dem_ammon
     &_tmdl

      mos_tot_oxy_dem_summary=tot_oxy_dem_summary*ps_mos
      FG_tot_oxy_dem_summary=tot_oxy_dem_summary*ps_FG

c WLA for minor point sources
      wla_ps_cbodu_tmdl_tot=cbodu_tmdl_tot*(1-ps_mos-ps_FG)
      wla_ps_org_N_tmdl_tot=oxy_dem_org_N_tmdl*(1-ps_mos-ps_FG)
      wla_ps_ammon_tmdl_tot=oxy_dem_ammon_tmdl*(1-ps_mos-ps_FG)
      wla_min_ps_summary_tot=min_ps_summary_tot*(1-ps_mos-ps_FG)


C*********** Nutrient TMDL calucaltions (a lot of the NPS calcualatiosn are done above
C********* in lines 677-684
C just need to take nps_org_N_tot from
C the first equtaion (which has org_N from heads, tribs and increments)
C and add mass loads data type 19
C (seen in last term),


C******** the loop below should be with the section "calcualtions for point sources explicitly modeled
C*since the loop below is all PS stuff but oh well I do not want to risk moving it

      if (ps_num_wstld .EQ.0) then
      go to 207
      end if



      do 208 cir=1,ps_num_wstld
             ps_total_nitrogen_load(cir)=ps_WSTLD2_ORG_cal(cir)+ps_WSTLD
     &2_Nh3_cal(cir)+ps_WSTLd2_NO3_cal(cir)
             ps_total_P(cir)=ps_total_nitrogen_load(cir)/nat_rat

             ps_tot_sum_total_nitrogen_load=ps_tot_sum_total_nitrogen_lo
     &ad+ps_total_nitrogen_load(cir)
             ps_tot_sum_total_P=ps_tot_sum_total_P+ps_total_P(cir)

             wla_ps_total_nitrogen_load(cir)=ps_total_nitrogen_load(cir)
     &*(1-ps_mos-ps_FG)
             wla_ps_total_P(cir)=ps_total_P(cir)*(1-ps_mos-ps_FG)

208   continue



207   nut_tmdl_nps_Org_N_tot=nps_org_N_tot+mldt19_tot_org
      nps_tot_nitrogen_load= nut_tmdl_nps_org_N_tot+nps_nh3_n_tot+
     &nps_NO3_tot

      nps_total_P=nps_tot_nitrogen_load/nat_rat

      nps_mos_nut_tmdl_nps_Org_N_tot=nut_tmdl_nps_Org_N_tot*nps_mos
      nps_mos_nps_nh3_n_tot=nps_nh3_n_tot*nps_mos
      nps_mos_nps_NO3_tot=nps_NO3_tot*nps_mos
      nps_mos_tot_nitrogen_load=nps_tot_nitrogen_load*nps_mos
      nps_mos_total_p=NPS_total_p*nps_mos

      nps_FG_nut_tmdl_nps_Org_N_tot=nut_tmdl_nps_Org_N_tot*nps_FG
      nps_FG_nps_nh3_n_tot=nps_nh3_n_tot*nps_FG
      nps_FG_nps_NO3_tot=nps_NO3_tot*nps_FG
      nps_FG_tot_nitrogen_load=nps_tot_nitrogen_load*nps_FG
      nps_FG_total_p=NPS_total_p*nps_FG

      nps_la_nut_tmdl_nps_Org_N_tot=nut_tmdl_nps_Org_N_tot*(1-nps_mos-np
     &s_FG)
      nps_la_nps_nh3_n_tot=nps_nh3_n_tot*(1-nps_mos)
      nps_la_nps_NO3_tot=nps_NO3_tot*(1-nps_mos)
      nps_la_tot_nitrogen_load=nps_tot_nitrogen_load*(1-nps_mos)
```

```
      nps_la_total_p=npS_total_p*(1-nps_mos)

      min_ps_total_nitrogen_load=org_N_tmdl_tot+ammon_tmdl_tot+no3_tmdl_
     &tot
      min_ps_total_P=min_ps_total_nitrogen_load/nat_rat

      ps_nut_tmdl_summary_org_N_tot=ps_WSTLD2_Org_cal_tot+org_N_tmdl_tot
      ps_nut_tmdl_summary_nh3_N_tot=ps_WSTLD2_NH3_cal_tot+ammon_tmdl_tot
      ps_nut_tmdl_summary_no3_N_tot=ps_WSTLD2_NO3_cal_tot+no3_tmdl_tot

      ps_tot_nitrogen_final_load=min_ps_total_nitrogen_load+ps_tot_sum_t
     &otal_nitrogen_load
      ps_tot_P_final=min_ps_total_P+ps_tot_sum_total_P

      mos_ps_nut_tmdl_sum_org_N_tot=ps_nut_tmdl_summary_org_N_tot*ps_mos
      mos_ps_nut_tmdl_sum_nh3_N_tot=ps_nut_tmdl_summary_nh3_N_tot*ps_mos
      mos_ps_nut_tmdl_sum_no3_N_tot=ps_nut_tmdl_summary_no3_N_tot*ps_mos

      FG_ps_nut_tmdl_sum_org_N_tot=ps_nut_tmdl_summary_org_N_tot*ps_FG
      FG_ps_nut_tmdl_sum_nh3_N_tot=ps_nut_tmdl_summary_nh3_N_tot*ps_FG
      FG_ps_nut_tmdl_sum_no3_N_tot=ps_nut_tmdl_summary_no3_N_tot*ps_FG

      mos_ps_tot_nitrogen_final_load=ps_tot_nitrogen_final_load*ps_mos
      mos_ps_tot_P_final=ps_tot_P_final*ps_mos

      FG_ps_tot_nitrogen_final_load=ps_tot_nitrogen_final_load*ps_FG
      FG_ps_tot_P_final=ps_tot_P_final*ps_FG

      wla_min_ps_nut_tmdl_sum_org=org_N_tmdl_tot*(1-ps_mos-ps_FG)
      wla_min_ps_nut_tmdl_sum_nh3=ammon_tmdl_tot*(1-ps_mos-ps_FG)
      wla_min_ps_nut_tmdl_sum_no3=no3_tmdl_tot*(1-ps_mos-ps_FG)

      wla_min_ps_nitrogen_final_load=min_ps_total_nitrogen_load*(1-p
     &s_mos-ps_FG)
      wla_min_ps_P_final=min_ps_total_P*(1-ps_mos-ps_FG)

c590   write(11,6090)'Calculated load for minor point sources   ',org_N_t
c     &mdl_tot,ammon_tmdl_tot,no3_tmdl_tot,min_ps_total_nitrogen_load,min
c     &_ps_total_P



c      write(11,6090)'Total for all point source loads             ',ps_n
c     &ut_tmdl_summary_org_N_tot,ps_nut_tmdl_summary_nh3_N_tot,ps_nut_tmd
c     &l_summary_no3_N_tot,ps_tot_nitrogen_final_load,ps_tot_P_final




C***********Output File Write Statements

C*****SECTION: "TMDL CALCULATIONS FOR SUBSEGMENT:"

990   format(A33,2x,A10,2x,A20)
      Write (11,990)'TMDL CALCULATIONS FOR SUBSEGMENT:',subsegnumber,sub
     &segname
      Write(11,*)'FTN ASSOCIATES, LTD.'
      Write(11,*)'Program:Pr20m6f'
      Write(11,*)' '
      Write(11,*)'INFO FOR INPUT FILE WITH USER SPECIFIED DATA AND OPTIO
     &NS:'
      Write(11,*)'File name:',userfilename
      write(11,*)' '
      write(11,*)'INFO FOR LA-QUAL OUTPUT FILE:'
      Write(11,*)'File name:',laqualfilename
      Write(11,*)'Date/Time:',pertime
      write(11,*)LAQUAL_version
      write(11,*)'  '
      Write(11,*)'LIST OF ALL REACHES IN LA-QUAL OUTPUT FILE:'
      DO 209 numm=1, num
1000      Format(A7,1x,I3,1x,A10,1x,I3,1x,A1,1x,I3,A18,2x,A6,1x,A15)
209       WRITE(11,1000)'Reach',np_Reach(numm),'(Elements',Elem_begin(nu
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```
     &mm),'-',elem_end(numm),') is in subsegment',reach_subseg_num(numm)
     &,reach_name(numm)
      write(11,*)' '


C***** SECTION:"CALCULATIONS FOR LOADS FROM NPS INFLOWS (HEADWATERS, TRIBUTARIES, AND INCREMENTAL INFLOW):"

      Write(11,3030)
      write(11,*)' '
3030  FORmat(102('='))
      Write(11,*)'CALCULATIONS FOR LOADS FROM NPS INFLOWS (HEADWATERS, T
     &RIBUTARIES, AND INCREMENTAL INFLOW):'
      Write(11,*)' '
      write(11,*)'Equation used: (Load, kg/day) = (Inflow rate, m3/sec)
     &* (Conc., mg/L) * 1.0E-6 kg/mg * 1.0E3 L/m3 *'
      write(11,*)'
     &                            86400 sec/day'
      write(11,*)' '
      Write(11,*)'Values from LA-QUAL output:'
      write(11,*)' '
      Write(11,*)'Reach or   Inflow      CBODu     Organic N   Ammonia N
     &        NO2+NO3 N'
      write(11,*)'Element     rate        conc.       conc.       conc.
     &          conc.'
      write(11,*)'number    (m3/sec)     (mg/L)      (mg/L)      (mg/L)
     &          (mg/L)     Name of inflow'
      write(11,*)'------    --------    --------    --------    --------
     &        --------     --------------------'
3050  Format(I3,5x,f10.5,4x,f8.2,4x,f8.2,4x,f8.2,8x,f8.2,5x,A25)
      do 210 cir=1,num_hdwt
210      write(11,3050) HDWT1_elem(cir), HDWT1_Flow(cir), HDWT2_BOD_con(
     &cir),HDWT2_ORG_con(cir),HDWT2_NH3_con(cir), HDWT2_NO3_con(cir),
     &hdwt1_name(cir)
      do 220 cir=1,nps_num_wstld
220   write(11,3050)nps_elem_wstld(cir),nps_WSTLD_Flow(cir), nps_WSTL
     &D2_BOD_con(cir),nps_WSTLD2_ORG_con(cir), nps_WSTLD2_NH3_con(cir),
     &nps_WSTLD2_NO3_con(cir),NPS_wstld_name(cir)
      do 222 cir=1,num_incr
222   write(11,3050)incr_reach(cir),incr_inFlow(cir), incr2_CBODu_con(ci
     &r),incr2_ORG_N_con(cir),incr2_Amm_N_con(cir),incr2_Nitrate_con(cir
     &),'Incremental Reach flow   '
      write(11,*)'  '
c      write(11,*)'------    --------    --------    --------    --------
c     &        --------     --------------------'
      write(11,*)'  '
      write(11,*)'Calculated values:'
      write(11,*)' '
      write(11,*)'                        CBODu     Organic N   Ammonia
     &N   NO2+NO3 N'
      write(11,*)'             Element     load        load        load
     &     load'
      write(11,*)'             number    (kg/day)    (kg/day)    (kg/day
     &)    (kg/day)'
      write(11,*)'             ------    --------    --------    --------
     &    --------'
3060  Format(13x,I3,5x,f10.2,2x,f10.2,1x,f10.2,2x,f10.2)
      cir=num_hdwt
      do 224 cirr=1,cir
224      write(11,3060) HDWT1_elem(cirr), HDWT_BOD_cal(cirr),
     &HDWT_ORG_cal(cirr),HDWT_NH3_cal(cirr), HDWT_NO3_
     &cal(cirr)
      cir=nps_num_wstld
      do 226 cirr=1,cir
226      write(11,3060)nps_elem_wstld(cirr),nps_WSTLD2_BOD_cal(cirr)
     &, nps_WSTLD2_ORG_cal(cirr), nps_WSTLD2_NH3_cal(cirr), nps_WSTLD2_N
     &O3_cal(cirr)
      do 228 cirr=1,num_incr
228      write(11,3060)incr_reach(cirr),incr_CBODu(cirr)
     &, incr_Org_N(cirr), incr_Amm_N(cirr),incr_NITrate(cirr)
      write(11,*)'             ------    --------    --------    --------
     &    --------'
3070  Format(A19,f12.2,2x,f10.2,1x,f10.2,2x,f10.2)
      write(11,3070)'Subsegment totals:',nps_BOD_tot,nps_Org_N_tot,nps_
     &NH3_N_tot,nps_NO3_tot
```

```
      write(11,*)' '


C***** SECTION:"CALCULATIONS FOR NONPOINT SOURCE MASS LOADS IN DATA TYPE 19:"

      Write(11,3030)
      write(11,*)' '
      write(11,*)'CALCULATIONS FOR NONPOINT SOURCE MASS LOADS IN DATA TY
     &PE 19:'
      write(11,*)' '
      write(11,*)'Values from LA-QUAL output:'
      write(11,*)' '
      write(11,*)'                                        CBODu       Orga
     &nic N'
      write(11,*)'                        Reach      mass load     mass
     & load'
      write(11,*)'                        number      (kg/day)      (kg
     &/day)'
      write(11,*)'                        ------      --------    -----
     &------'
      DO 230 numm=1,num
3080  Format(26X,I3,6x,F10.2,5x,F10.2)
230      Write(11,3080)NP_reach(numm),NP_BOD(numm), NP_Org(numm)
      write(11,*)'                        ------      --------    -----
     &------'
3090  format(A33,F12.2,3x,F12.2)
      write(11,3090)'Subsegment totals                ',MLDT19_tot_CBODu
     &,MLDT19_tot_org
      write(11,*)' '


C***** SECTION:"CALCULATIONS FOR LOADS FROM SOD AND BENTHIC AMMONIA:"

      ctr=1
      write(11,3030)
      write(11,*)'  '
      write(11,*)'CALCULATIONS FOR LOADS FROM SOD AND BENTHIC AMMONIA:'
      write(11,*)'  '
      write(11,*)'SOD temperature correction factor used in LA-QUAL mode
     &l: 1.065 (default)'
      write(11,*)' '
      write(11,*)'Equations used: SOD temp. corrected = (SOD at 20 C) *
     &1.065^(Water temp - 20 C)'
      write(11,*)'                SOD load = (SOD temp. corrected, g/m2/
     &day) * (Surface area, m2) * 1.0E-3 kg/g'
      write(11,*)'                Benthic NH3-N load = (Benthic ammonia
     &N, g/m2/day) * (Surface area, m2) * 1.0E-3 kg/g'
      write(11,*)' '
      write(11,*)' '
      write(11,*)'                            Values from LA-QUAL output
     &:                    Calculated values:'
      write(11,*)'                    ----------------------------------
     &---------    -------------------------------'
      write(11,*)'                     Water     Surface      SOD at
     &Benthic      SOD temp.     SOD       Benthic'
      write(11,*)'Reach    Element     temp.       area        20 C
     &ammonia N    corrected     load     NH3-N load'
      write(11,*)'number   number     (deg C)      (m2)     (g/m2/day)
     &(g/m2/day)  (g/m2/day)   (kg/day)    (kg/day)'
      write(11,*)'------   ------    --------    --------    --------
     &--------     --------    --------    ---------'
      DO 300 cir=1, total_elem
4000  format(I3,7x,I3,4x,f10.2,1x,f10,3x,f10.3,1x,f10.2,5x,f6.3,3x,f10.2
     &,6x,f6.2)
4001  if (cir.LT.elem_begin(ctr)) then

      ctr=ctr-1
      go to 4001
      end if

4002  if (cir.GT.elem_end(ctr)) then
      ctr=ctr+1
      go to 4002
      end if
```

```
4009  FORMAT(I3,2x,I3,2x,I3,2x,F6.2,2x,I3,2x,I3,2x,F8.4)
C      write(13,4009)cir,elem_begin(ctr),elem_end(ctr),elem_col(cir),ctr,
C     &np_reach(ctr),elem_sod(cir)

      write (11,4000)np_reach(ctr),cir,elem_temp(cir),
     &s_area_int(cir),elem_sod(cir), elem_benthis(cir),sod_temp_cor(cir)
     &,sod_load(cir),benthic(cir)

300   continue
      write(11,*)'
     &                        --------    ---------'
4010  format(A60,16x,F10.2,2x,f10.2)
      write(11,4010)'Subsegment totals:',nps_sod_load_tot,nps_benthic_to
     &t
      write(11,*)' '


C***** SECTION:"CALCULATIONS FOR LOADS FROM POINT SOURCE DISCHARGES EXPLICITLY MODELED:"

      write(11,3030)
      write(11,*)' '
      write(11,*)'CALCULATIONS FOR LOADS FROM POINT SOURCE DISCHARGES EX
     &PLICITLY MODELED:'
      write(11,*)' '
      if (ps_num_wstld.EQ.0) then
      WRITE(11,*)'For this subsegment, there are no point source dischar
     &ges explicitly modeled.'
      go to 335
      end if
      write(11,*)'Equation used: (Load, kg/day) = (Inflow rate, m3/sec)
     &* (Conc., mg/L) * 1.0E-6 kg/mg * 1.0E3 L/m3 *'
      write(11,*)'
     &                               86400 sec/day'
      write(11,*)'  '
      write(11,*)'Values from LA-QUAL output:'
      write(11,*)'  '
      write(11,*)'          Inflow      CBODu     Organic N   Ammonia N
     &   NO2+NO3 N'
      write(11,*)'Element     rate        conc.       conc.       conc.
     &     conc.'
      write(11,*)'number    (m3/sec)     (mg/L)      (mg/L)      (mg/L)
     &      (mg/L)     Name of discharge'
      write(11,*)'------    --------    --------    --------    --------
     &    --------    --------------------'
      DO 330 cir=1,ps_num_wstld
4020  Format(I3,5x,f10.5,5x,f7.3,5x,f7.3,5x,f7.3,5x,f7.3,6x,A20)
        write(11,4020)ps_elem_wstld(cir),ps_WSTLD_Flow(cir), ps_WSTL
     &D2_BOD_con(cir),ps_WSTLD2_ORG_con(cir), ps_WSTLD2_NH3_con(cir),
     &ps_WSTLD2_NO3_con(cir),PS_wstld_name(cir)
330   continue
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'Calculated values:'
      write(11,*)' '
      write(11,*)'  '
      write(11,*)'                      CBODu     Organic N   Ammonia N
     & NO2+NO3 N'
      write(11,*)'            Element     load        load        load
     &       load'
      write(11,*)'            number    (kg/day)    (kg/day)    (kg/day)
     &    (kg/day)'
      write(11,*)'            ------    --------    --------    --------
     &    --------'
      cir=ps_num_wstld
      if (ps_num_wstld .EQ.0) then
      write(11,*)'             NONE         0.00        0.00        0.00
     &        0.00'
      go to 342
      end if
      do 340 cirr=1,cir
4030  Format(13x,I3,4x,f10.2,4x,f8.2,4x,f8.2,4x,f8.2)
340      write(11,4030)ps_elem_wstld(cirr),ps_WSTLD2_BOD_cal(cirr)
```

```
     &, ps_WSTLD2_ORG_cal(cirr), ps_WSTLD2_NH3_cal(cirr), ps_WSTLD2_N
     &O3_cal(cirr)
342   write(11,*)'            ------    --------    --------    --------
     &    --------'
4040  Format(A16,4x,f10.2,2x,f10.2,2x,f10.2,2x, f10.2)
      write(11,4040)'Subsegment totals:',ps_BOD_tot,ps_Org_N_tot,ps_
     &NH3_N_tot,ps_NO3_tot
      write(11,*)'  '
      write(11,*)'  '


C*****SECTION:"CALCULATIONS FOR LOADS FROM POINT SOURCE DISCHARGES NOT EXPLICITLY MODELED:"

335   write(11,3030)
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'CALCULATIONS FOR LOADS FROM POINT SOURCE DISCHARGES NO
     &T EXPLICITLY MODELED:'
      write(11,*)'  '
      if (num_pt_sour.EQ.0) THEN
         WRITE(11,*)'For this subsegment, there are no point source disc
     &harges not explicitly modeled.'
         write(11,*)' '
         GO TO 431
         END IF
4045  format (A62,f6.3,A33)
      write(11,4045)'Equations used: Flow rate from TMDL calcs = Permit
     &flow rate * ',fac_mos_FG,' (to incorporate MOS and FG) '
      write(11,*)'                (Load, kg/day) = (Flow rate, MGD) * (C
     &onc., mg/L) * 3.785 L/gal * 1.0E6 gal/MG * 1.0E-6 kg/mg'
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'Assumptions: Ratio of CBODu to CBOD5 for point source
     & dissharges = 2.3 (guidance from LTP).'
      write(11,*)'             For permits with BOD or ammonia limits, N
     &O2+NO3 = 10 mg/L (drinking water criteria).'
      write(11,*)'             For permits with COD limits, assume that
     &CBODu is about the same magnitude as COD and'
      write(11,*)'                        that discharges of nitrogen (o
     &rganic, ammonia, and NO2+NO3) are negligible.'
      write(11,*)' '
      write(11,*)'  '
      write(11,*)'                         Permit    Factor to      Flow
     &'
      write(11,*)'NPDES                    flow    incorporate   rate fo
     &r'
      write(11,*)'permit      Outfall      rate     MOS and FG   TMDL ca
     &lcs             '
      write(11,*)'number      number       (MGD)     into flow       (MG)
     &D      Comments'
      write(11,*)'--------    --------    --------    --------    ------
     &--    ----------------------------------------'
      do 400 I= 1,num_pt_sour
         tmdl_cal_flow(I)=perm_flow(I)*fac_mos_FG
4050     Format(A10,4x,A3,5x,F10.3,3x,F6.3,4x,f10.3,5x,A40)
         write (11,4050)permit_number(I), outfall_num(I),perm_flow(I),fa
     &c_mos_FG,tmdl_cal_flow(I), comment(I)
400    continue
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'                          User specified permit limits
     &:'
      write(11,*)' NPDES                  -------------------------------
     &-'
      write(11,*)' permit      Outfall     CBOD5        COD       Ammoni
     &a'
      write(11,*)' number      number      (mg/L)      (mg/L)      (mg/L
     &)     Comments'
      write(11,*)'--------    --------    --------    --------    ------
     &--    ---------------------------------------'
      do 410 I= 1,num_pt_sour
4060     Format(A10,4x,A3,5x,F10.1,2x,F10.1,2x,F10.1,4x,A40)
410      write (11,4060)permit_number(I), outfall_num(I),CBOD5_perm(I),
```

```
     &COD_perm(I), ammon_perm(I),comment_con(I)
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'                                Values for TMDL calcul
     &ations:'
      write(11,*)' NPDES                  ------------------------------
     &--------------'
      write(11,*)' permit      Outfall     CBODu     Organic N   Ammonia
     & N   NO2+NO3 N'
      write(11,*)'  number      number      (mg/L)      (mg/L)      (mg/
     &L)      (mg/L)     Comments'
      write(11,*)'--------    --------    --------    --------    ------
     &--    --------    ----------------------------'
      do 420 I= 1,num_pt_sour
         tmdl_cal_flow(I)=perm_flow(I)*fac_MOS_fg
4070     Format(A10,4x,A3,5x,F10.2,2x,F10.2,2x,F10.2,2x,F10.2)
420      write (11,4070)permit_number(I), outfall_num(I),CBODu_tmdl_val(
     &I),org_N_tmdl_val(I),ammon_tmdl_val(I), no3_tmdl_val(I)
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'                                      Calculated loads
     &:'
      write(11,*)' NPDES                  ------------------------------
     &--------------'
      write(11,*)' permit      Outfall     CBODu     Organic N   Ammonia
     &N   NO2+NO3 N'
      write(11,*)' number      number     (kg/day)    (kg/day)    (kg.da
     &y)   (kg.day)     Comments'
      write(11,*)'--------    --------    --------    --------    ------
     &--    --------    ----------------------------'
      DO 430 I= 1,num_pt_sour
4080     Format(A10,4x,A3,5x,F10.2,2x,F10.2,2x,F10.2,2x,F10.2)
         write(11,4080)permit_number(I), outfall_num(I),cbodu_tmdl_cal(I
     &), org_n_tmdl_cal(I),ammon_tmdl_cal(I),no3_tmdl_cal(I)
430   continue
      write(11,*)'                        --------    --------    ------
     &--    --------'
4090  format(A20,2x,f10.2,2x,f10.2,2x,f10.2,2x, f10.2)
      write(11,4090)'Subsegment total',cbodu_tmdl_tot,org_N_tmdl_tot,amm
     &on_tmdl_tot,no3_tmdl_tot


C*****SECTION:"SUMMARY OF NONPOINT SOURCE OXYGEN DEMAND FOR THIS SUBSEGEMENT:"

431   write(11,3030)
      write(11,*)' '
      write(11,*)'SUMMARY OF NONPOINT SOURCE OXYGEN DEMAND FOR THIS SUBS
     &EGEMENT:'
      write(11,*)' '
      write(11,*)' '
4093  format(A52,f6.4,A30)
      write(11,4093)'Equations used:  Organic N oxygen demand, kg/day =
     &',ammoxy_rat,' * Organic N load, kg/day of N'
4094  format(A52,F6.4,A30)
      write(11,4094)'                 Ammonia N oxygen demand, kg/day =
     &',ammoxy_rat,' * Ammonia N load, kg/day of N'
4095  format(A37,f4.1,A24)
      write(11,4095)'                 Margin of safety = ',nps_mos_per,'
     &% * nonpoint source load'
4097  format(A34,f4.1,A24)
      write(11,4097)'                 Future Growth = ',nps_FG_per,'% *
     &nonpoint source load'
4099  format(A36,f4.1,A24)
      write(11,4099)'                 Load Allocation = ',100-nps_mos_pe
     &r-ps_FG_per,'% * nonpoint source load'
      write(11,*)' '
      write(11,*)'Values from calculations above'
      write(11,*)' '
      write(11,*)'
     &    Nitrogen loads (kg/day of N):'
      write(11,*)'
     &----------------------------------'
```

```
      write(11,*)'                                   SOD       CBODu
     &Organic      Ammonia     NO2+NO3 N'
      write(11,*)'                              (kg/day)    (kg/day)   (
     &kg/day)     (kg/day)     (kg/day)'
      write(11,*)'                              --------    --------   -
     &-------     --------     ---------'
5000  format(A36,4x,f10.2,1x,f10.2,3x,f10.2,4x,f10.2)
      write(11,5000)'NPS inflows                     N/A ',nps_bod_tot,n
     &ps_org_N_tot,nps_nh3_n_tot,nps_NO3_tot
5010  format(A36,4x,f10.2,1x,f10.2,4x,A20)
      write(11,5010)'Mass LOads (data type 19)       N/A ',mldt19_tot_cb
     &odu,mldt19_tot_org,'N/A          N/A'
5020  format(A15,13x,f10.2,1x,A20,5x,f10.2,7x,A4)
      write(11,5020)'SOD and Benthic ammonia',nps_sod_load_tot,'N/A
     &   N/A',nps_benthic_tot,'N/A'
c      write(11,*)'                               --------    --------   -
c     &-------     --------     ---------'
      write(11,*)'  '
      write(11,*)'Calculated loads of oxygen demand:'
      write(11,*)'
     & Oygen demand loads:     Total'
      write(11,*)'
     & -------------------     Oxygen'
      write(11,*)'                                   SOD       CBODu
     &Organic      Ammonia     demand'
      write(11,*)'                              (kg/day)    (kg/day)   (
     &kg/day)     (kg/day)     (kg/day)'
      write(11,*)'                              --------    --------   -
     &-------     --------     ---------'
c5000  format(A36,4x,f10.5,2x,f10.5,2x,f10.5,3x,f10.5)

      write(11,5000)'NPS inflows                     N/A ',nps_bod_tot,
     &oxy_dem_nps_org_N_tot,oxy_dem_nps_nh3_tot,nps_inflows_tot_oxy_dema
     &nd
5011  format(A36,4x,f10.2,1x,f10.2,8x,A3,6x,f10.2)
      write(11,5011)'Mass LOads (data type 19)       N/A ',mldt19_tot_cb
     &odu,oxy_dem_mldt19_tot_org,'N/A',mldt19_tot_oxy_dem
5021  format(A15,13x,f10.2,1x,A20,5x,f10.2,4x,f10.2)
      write(11,5021)'SOD and Benthic ammonia',nps_sod_load_tot,'N/A
     &   N/A',oxy_dem_nps_benthic_tot,tot_oxy_dem_sod_ben
      write(11,*)' '
5030  format(A23,5x,f10.2,2x,f10.2,1x,f10.2,3x,f10.2,4x,f10.2)
      write(11,5030)'Total for all NPS loads',nps_sod_load_tot,nps_summa
     &ry_cbodu,nps_summary_org,nps_summary_ammon, tot_oxy_dem_nps
      write(11,*)' '
5035  format(A22,f4.1,A2,f10.2,2x,f10.2,1x,f10.2,3x,f10.2,4x,f10.2)
      write(11,5035)'NPS future growth    (',nps_FG_per,'%)    ',nps_FG_
     &sod_load_tot,nps_FG_summary_cbodu,nps_FG_summary_org,nps_FG_s
     &ummary_ammon,nps_FG_tot_oxy_dem
5040  format(A22,f4.1,A2,f10.2,2x,f10.2,1x,f10.2,3x,f10.2,4x,f10.2)
      write(11,5040)'NPS margin of safety (',nps_mos_per,'%)    ',nps_mo
     &s_sod_load_tot,nps_mos_summary_cbodu,nps_mos_summary_org,nps_mos_s
     &ummary_ammon,nps_mos_tot_oxy_dem
5050  format(A22,f4.1,A2,f10.2,2x,f10.2,1x,f10.2,3x,f10.2,4x,f10.2)
      write(11,5050)'NPS load allocation  (',100-nps_MOS_PER-nps_FG_PER
     &,'%)    ',npS_LA_sod_load_tot,nps_LA _summary_cbodu,nps_LA_summary
     &_org,nps_La_summary_ammon,nps_LA_tot_oxy_dem
      write(11,*)' '
      write(11,*)'  '


C*****SECTION:"SUMMARY OF POINT SOURCE OXYGEN DEMAND FOR THIS SUBSEGEMENT"

      write(11,3030)
      write(11,*)' '
      Write(11,*)'SUMMARY OF POINT SOURCE OXYGEN DEMAND FOR THIS SUBSEGE
     &MENT'
      write(11,*)' '
      if (num_pt_sour+ps_num_wstld.EQ.0) THEN
         WRITE(11,*)'For this subsegment, there are no point source disc
     &harges either modeled or unmodeled in this subsegment.'
         write(11,*)' '
         GO TO 561
         end if
```

```
      write(11,*)'  '
      write(11,4093)' Equations used: Organic N oxygen demand, kg/day =
     & ',ammoxy_rat,' * Organic N load, kg/day of N'
      write(11,4093)'                 Ammonia N oxygen demand, kg/day =
     & ',ammoxy_rat,' * Ammonia N load, kg/day of N'
5052  format(A36,f4.1,A21)
      write(11,5052)'                 Margin of Safety = ',ps_mos_per,'%
     & * point source load'
5053  format(A33,F4.1,A24)
      write(11,5053)'                 Future Growth = ',nps_FG_per,'% *
     &nonpoint source load'
5054  format(A71,f4.1,A16)
      write(11,5054)'                 Wasteload Allocation (WLA) for mod
     &eled point source = ',100-ps_mos_per-ps_FG_per,'% * modeled load'
5056  format(A70,f4.1,A19)
      write(11,5056)'                 Wasteload Allocation (WLA) for min
     &or point sources = ',100-ps_mos_per-ps_FG_per,'% * calculated load
     &'
      write(11,*)' '
      write(11,*)'Values from calculations above'
      write(11,*)'
     & Nitrogen loads (kg/day of N):'
      write(11,*)'                                                      -
     &--------------------------------'
      write(11,*)'                                           CBODu    O
     &rganic N   Ammonia N    NO3+NO2'
      write(11,*)'                                          (kg/day)
     &(kg/day)    (kg/day)    (kg/day)'
      write(11,*)'                                          -------   -
     &--------    --------    --------'
      if (ps_num_wstld .EQ.0) then
      go to 470
      end if
      DO 450 cir=1,ps_num_wstld
5060  Format(A17,1x,A20,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
      write(11,5060)'Modeled load for:' ,ps_wstld_name(cir),
     &ps_WSTLD2_Bod_cal(cir),ps_WSTLD2_ORG_cal(cir), ps_WSTLD2_N
     &h3_cal(cir),ps_WSTLd2_NO3_cal(cir)
450   continue
5080  format(A38,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
470   write(11,5080)'Calculated load for minor point sources   ',cbodu_t
     &mdl_tot,org_N_tmdl_tot,ammon_tmdl_tot,no3_tmdl_tot
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'Calculated loads of oxygen demand'
      write(11,*)' '
      write(11,*)'
     & Oygen demand loads:     Total'
      write(11,*)'
     & --------------------     Oxygen'
      write(11,*)'                                           CBODu    O
     &rganic N   Ammonia N     demand'
      write(11,*)'                                          (kg/day)
     &(kg/day)    (kg/day)    (kg/day)'
      write(11,*)'                                          -------   -
     &--------    --------    --------'
      if (ps_num_wstld .EQ.0) then
      go to 540
      end if
      DO 490 cir=1,ps_num_wstld
      write(11,5060)'Modeled load for:',ps_wstld_name(cir),
     &oxy_dem_ps_WSTLD2_Bod_cal(cir),oxy_dem_ps_WSTLD2_ORG_cal(cir),oxy_
     &dem_ps_WSTLD2_Nh3_cal(cir),mod_tot_oxy_dem_ps(cir)
490   continue
540   write(11,5080)'Calculated load for minor point sources   ',cbodu_t
     &mdl_tot,oxy_dem_org_N_tmdl, oxy_dem_ammon_tmdl,min_ps_summary_tot
      write(11,5080)'Total for all point source loads             ',ps_s
     &ummary_cbodu, ps_summary_org,ps_summary_nh3_n,tot_oxy_dem_summary
      write(11,*)' '
5090  Format(A31,f4.1,A3,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
      write(11,5090)'MOS for all point Sources     (',ps_mos_per,'%)  ',
     &mos_ps_summary_cbodu, mos_ps_summary_org,mos_ps_summary_nh3_n,mos_
     &tot_oxy_dem_summary
5092  Format(A31,f4.1,A3,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
```

```
      write(11,5092)'FG for all point Sources      (',ps_FG_per,'%)  ',
     &FG_ps_summary_cbodu,FG_ps_summary_org,FG_ps_summary_nh3_n,FG_
     &tot_oxy_dem_summary

      if (ps_num_wstld .EQ.0) then
      go to 560
      end if
      DO 550 cir=1,ps_num_wstld
5095  Format(A8,1x,A21,A1,f4.1,A2,3x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
      write(11,5095)'WLA for:',ps_wstld_name(cir),'(',100-ps_mos_per-ps_
     &FG_per,'%)',wla_ps_WSTLD2_BOD_cal(cir),wla_ps_WSTLD2_ORG_cal(cir),
     &wla_ps_WSTLd2_nH3_cal(cir),wla_mod_tot_oxy_dem_ps(cir)
550   continue
6000  format(A31,f4.1,A2,3x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
560   write(11,6000)'WLA for minor point sources   (',100-ps_mos_per-ps_
     &FG_per,'%)   ',wla_ps_cbodu_tmdl_tot,wla_ps_org_N_tmdl_tot, wla_ps
     &_ammon_tmdl_tot,wla_min_ps_summary_tot


      if (nut_tmdl_need .EQ. 'YES') then
         goto 561
      else
         go to 605
      end if


C*****SECTION:"NUTRIENT TMDL CALCULATIONS:"

561   write(11,3030)
      write(11,*)' '
      write(11,*)' '
      write(11,*)'NUTRIENT TMDL CALCULATIONS:'
      write(11,*)'  '
      if(nut_tmdl_need.EQ.'NO') then
      write(11,*)'No nutrient TMDL is needed for this subsegment'
      go to 605
      end if
      write(11,*)'Assumptions: Naturally occurring ratio of total N to t
     &otal P = ',nat_rat
      write(11,*)' '
      write(11,*)'Equations used: Total N = (Organic N) + (Ammonia N) +
     &(NO2+NO3 N)'
      write(11,*)'                Total P = (Total N) / (Naturally occur
     &ring ratio of total N to total P)'
6010  format(A39,f4.1,A24)
      write(11,6010)'              NPS margin of safety = ',nps_mos_per,
     &'% * nonpoint source load'
6015  format(A36,f4.1,A24)
      write(11,6015)'              NPS Future Growth = ',nps_FG_per,
     &'% * nonpoint source load'
6020  format(A38,f4.1,A24)
      write(11,6020)'                NPS load allocation = ',100-nps_mos
     &_per-nps_FG_per,'% * nonpoint source load'
6030  format(A57,f4.1,A27)
      write(11,6030)'                Margin of safety for all point sour
     &ces = ',ps_mos_per,'% * total point source load'
6035  format(A53,F4.1,A24)
      write(11,6035)'                Future Growth for all point soures
     &= ',nps_FG_per,'% * nonpoint source load'
6040  format(A70,f4.1,A16)
      write(11,6040)'                Wasteload allocation (WLA) for mode
     &led point source = ',100-ps_mos_per-ps_FG_per,'% * modeled load'
6050  format(A69,f4.1,A19)
      write(11,6050)'                Wasteload allocation (WLA) for mino
     &r point sources = ',100-ps_mos_per-ps_FG_per,'% * calculated load'
      write(11,*)'  '
      write(11,*)' '
      write(11,*)'Nonpoint sources:'
      write(11,*)'                                            Organic N
     &Ammonia N   NO2+NO3 N    Total N     Total P'
      write(11,*)'                                             (kg/day)
     & (kg/day)    (kg/day)    (kg/day)    (kg/day)'
      write(11,*)'                                             --------
     & --------    --------    --------    --------'
```

```
6060  format(A25,16x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
      write(11,6060)'Total for all NPS loads                    ',nut_tm
     &dl_nps_org_N_tot,nps_nh3_n_tot,nps_NO3_tot,nps_tot_nitrogen_load,n
     &ps_total_P
      write(11,*)'  '
6070  format(A22,f4.1,A2,13x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
      write(11,6070)'NPS margin of safety (',nps_mos_per,'%)    ',nps_mo
     &s_nut_tmdl_nps_Org_N_tot,nps_mos_nps_nh3_n_tot,nps_mos_nps_NO3_tot
     &,nps_mos_tot_nitrogen_load,nps_mos_total_p
6075  format(A22,f4.1,A2,13x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
      write(11,6075)'NPS Future Growth    (',nps_mos_per,'%)    ',nps_FG
     &_nut_tmdl_nps_Org_N_tot,nps_FG_nps_nh3_n_tot,nps_FG_nps_NO3_tot
     &,nps_FG_tot_nitrogen_load,nps_FG_total_p
6080  format(A22,f4.1,A2,13x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
      write(11,6080)'NPS load allocation  (',100-nps_mos_per-nps_FG_per,
     &'%)    ',nps_la_nut_tmdl_nps_Org_N_tot,nps_la_nps_nh3_n_tot,nps_la
     &_nps_NO3_tot,nps_la_tot_nitrogen_load,nps_la_total_p
      write(11,*)' '
      write(11,*)'  '
      write(11,*)'Point sources:'
      write(11,*)' '
      write(11,*)'                                          Organic N
     &Ammonia N   NO2+NO3 N    Total N     Total P'
      write(11,*)'                                           (kg/day)
     & (kg/day)    (kg/day)    (kg/day)    (kg/day)'
      write(11,*)'                                           --------
     & --------    --------    --------    --------'
      if (ps_num_wstld .EQ.0) then
      go to 590
      end if
      DO 585 cir=1,ps_num_wstld
6085  Format(A17,1x,A14,8x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
        write(11,6085)'Modeled load for:',ps_wstld_name(cir),
     &ps_WSTLD2_ORG_cal(cir),ps_WSTLD2_Nh3_cal(cir),ps_WSTLd2_NO3_cal(c
     &ir),ps_total_nitrogen_load(cir),ps_total_P(cir)

585   continue
c5080  format(A38,2x,f10.5,2x,f10.5,2x,f10.5,2x,f10.5)
6090  format(A38,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
590   write(11,6090)'Calculated load for minor point sources   ',org_N_t
     &mdl_tot,ammon_tmdl_tot,no3_tmdl_tot,min_ps_total_nitrogen_load,min
     &_ps_total_P
      write(11,*)'                                           --------
     & --------    --------    --------    --------'
      write(11,6090)'Total for all point source loads             ',ps_n
     &ut_tmdl_summary_org_N_tot,ps_nut_tmdl_summary_nh3_N_tot,ps_nut_tmd
     &l_summary_no3_N_tot,ps_tot_nitrogen_final_load,ps_tot_P_final
      write(11,*)' '
7000  Format(A31,f4.1,A2,3x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
      write(11,7000)'MOS for all point Sources     (',ps_mos_per,'%)',
     &mos_ps_nut_tmdl_sum_org_N_tot,mos_ps_nut_tmdl_sum_nh3_N_tot,
     &mos_ps_nut_tmdl_sum_no3_N_tot,mos_ps_tot_nitrogen_final_load,
     &mos_ps_tot_P_final
7005  Format(A31,f4.1,A2,3x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
      write(11,7005)'FG for all point Sources      (',ps_mos_p
     &er,'%)',FG_ps_nut_tmdl_sum_org_N_tot,FG_ps_nut_tmdl_sum_nh3_N_to
     &t,FG_ps_nut_tmdl_sum_no3_N_tot,FG_ps_tot_nitrogen_final_load,
     &FG_ps_tot_P_final
      if (ps_num_wstld .EQ.0) then
      go to 610
      end if
      DO 600 cir=1,ps_num_wstld
7010  Format(A9,1x,A20,A1,f4.1,A2,3x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2
     &x,f10.2)
600   write(11,7010)'WLA for: ',ps_wstld_name(cir),'(',100-ps_mos_per-ps
     &_FG_per,'%)',wla_ps_WSTLD2_ORG_cal_sum(cir),wla_ps_WSTLd2_nH3_cal_
     &sum(cir),wla_ps_wstLD2_NO3_cal_sum(cir),wla_ps_total_nitrogen_load
     &(cir),wla_ps_total_P(cir)
610   continue
7020  format(A31,f4.1,A2,3x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)

      write(11,7020)'WLA for minor point sources   (',100-ps_mos_per-ps_
     &FG_per,'%)   ',wla_min_ps_nut_tmdl_sum_org,wla_min_ps_nut_tmdl_sum
     &_nh3,wla_min_ps_nut_tmdl_sum_no3,wla_min_ps_nitrogen_final_load
```

```
     &,wla_min_ps_P_final

605   Print*,'Program has made the output file!!!'

606   STOP
      END
```

# APPENDIX S

## Ammonia Toxicity Calculations

AMMONIA TOXICITY CALCULATIONS FOR FLAT RIVER (SUBSEGMENT 100406)

Equations from 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, Dec. 1999.

Use chronic criterion when fish early life stages are present (as mentioned on page 88, this is the same as CCC for early life stages absent when temp > 15$^{o}$C)

CCC, in mg N/L = $[\ 0.0577/(1+10^{7.688-pH}) + 2.487/(1+10^{pH-7.688})\ ] * MIN\ [2.85,\ 1.45*10^{0.028*(25-T)}]$

Note: CCC is the Chronic Criterion Concentration

CCC calculations below use seasonal average pH from LDEQ ambient monitoring data at station 272 (Flat River east of Taylortown):

| Summer (May-Oct) | | Winter (Nov-Apr) | |
|---|---|---|---|
| Date | pH (su) | Date | pH (su) |
| 11-JUN-1990 | 8.2 | 12-FEB-1990 | 7.22 |
| 14-AUG-1990 | 7.45 | 09-APR-1990 | 6.89 |
| 16-OCT-1990 | 7.55 | 10-DEC-1990 | 7.42 |
| 11-JUN-1991 | 7.05 | 04-FEB-1991 | 7.53 |
| 13-AUG-1991 | 7.48 | 10-DEC-1991 | 6.89 |
| 14-OCT-1991 | 7.23 | 10-FEB-1992 | 6.98 |
| 15-JUN-1992 | 6.92 | 06-APR-1992 | 6.82 |
| 11-AUG-1992 | 7.6 | 14-DEC-1992 | 7.2 |
| 12-OCT-1992 | 7.82 | 08-FEB-1993 | 7.5 |
| 14-JUN-1993 | 7.46 | 13-APR-1993 | 7.44 |
| 09-AUG-1993 | 7.17 | 14-DEC-1993 | 7.62 |
| 11-OCT-1993 | 7.55 | 08-FEB-1994 | 8 |
| 13-JUN-1994 | 7.75 | 12-APR-1994 | 7.41 |
| 08-AUG-1994 | 8.11 | 13-DEC-1994 | 7.29 |
| 11-OCT-1994 | 7.36 | 14-FEB-1995 | 7.39 |
| 12-JUN-1995 | 7.47 | 04-APR-1995 | 7.32 |
| 15-AUG-1995 | 7.6 | 11-DEC-1995 | 7.46 |
| 09-OCT-1995 | 7.49 | 13-FEB-1996 | 7.41 |
| 10-JUN-1996 | 7.68 | 08-APR-1996 | 7.92 |
| 13-AUG-1996 | 7.24 | 09-DEC-1996 | 7.13 |
| 15-OCT-1996 | 8.1 | 18-FEB-1997 | 7.76 |
| 09-JUN-1997 | 7.72 | 15-APR-1997 | 7.21 |
| 12-AUG-1997 | 7.2 | 09-DEC-1997 | 6.42 |
| 14-OCT-1997 | 7.11 | 10-FEB-1998 | 7.12 |
| 14-MAY-2002 | 7.52 | 14-APR-1998 | 6.87 |
| 11-JUN-2002 | 7.46 | 15-JAN-2002 | 6.79 |
| 09-JUL-2002 | 7.37 | 19-FEB-2002 | 7.07 |
| 05-AUG-2002 | 7.6 | 19-MAR-2002 | 7.46 |
| 17-SEP-2002 | 7.52 | 09-APR-2002 | 6.87 |
| 15-OCT-2002 | 7.37 | 18-NOV-2002 | 7.26 |
| Average = | 7.48 | Average = | 7.26 |

| Model Element | Summer | | | | Winter | | | |
|---|---|---|---|---|---|---|---|---|
| | Temp. in projection run (ºC) | Calculated CCC (mg N/L) | Predicted NH3-N conc. in projection (mg N/L) | Toxic ? | Temp. in projection run (ºC) | Calculated CCC (mg N/L) | Predicted NH3-N conc. in projection (mg N/L) | Toxic ? |
| 1 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.37 | No |

| Model Element | Summer | | | | Winter | | | |
|---|---|---|---|---|---|---|---|---|
| | Temp. in projection run (ºC) | Calculated CCC (mg N/L) | Predicted NH3-N conc. in projection (mg N/L) | Toxic ? | Temp. in projection run (ºC) | Calculated CCC (mg N/L) | Predicted NH3-N conc. in projection (mg N/L) | Toxic ? |
| 2 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.37 | No |
| 3 | 29.3 | 1.71 | 0.08 | No | 20.8 | 3.48 | 0.37 | No |
| 4 | 29.3 | 1.71 | 0.08 | No | 20.8 | 3.48 | 0.37 | No |
| 5 | 29.3 | 1.71 | 0.08 | No | 20.8 | 3.48 | 0.37 | No |
| 6 | 29.3 | 1.71 | 0.08 | No | 20.8 | 3.48 | 0.37 | No |
| 7 | 29.3 | 1.71 | 0.07 | No | 20.8 | 3.48 | 0.37 | No |
| 8 | 29.3 | 1.71 | 0.07 | No | 20.8 | 3.48 | 0.37 | No |
| 9 | 29.3 | 1.71 | 0.07 | No | 20.8 | 3.48 | 0.37 | No |
| 10 | 29.3 | 1.71 | 0.07 | No | 20.8 | 3.48 | 0.37 | No |
| 11 | 29.3 | 1.71 | 0.07 | No | 20.8 | 3.48 | 0.37 | No |
| 12 | 29.3 | 1.71 | 0.06 | No | 20.8 | 3.48 | 0.37 | No |
| 13 | 29.3 | 1.71 | 0.06 | No | 20.8 | 3.48 | 0.38 | No |
| 14 | 29.3 | 1.71 | 0.06 | No | 20.8 | 3.48 | 0.38 | No |
| 15 | 29.3 | 1.71 | 0.06 | No | 20.8 | 3.48 | 0.38 | No |
| 16 | 29.3 | 1.71 | 0.06 | No | 20.8 | 3.48 | 0.38 | No |
| 17 | 29.3 | 1.71 | 3.06 | Toxic | 20.8 | 3.48 | 0.85 | No |
| 18 | 29.3 | 1.71 | 2.79 | Toxic | 20.8 | 3.48 | 0.84 | No |
| 19 | 29.3 | 1.71 | 2.56 | Toxic | 20.8 | 3.48 | 0.84 | No |
| 20 | 29.3 | 1.71 | 2.34 | Toxic | 20.8 | 3.48 | 0.84 | No |
| 21 | 29.3 | 1.71 | 2.14 | Toxic | 20.8 | 3.48 | 0.83 | No |
| 22 | 29.3 | 1.71 | 1.96 | Toxic | 20.8 | 3.48 | 0.83 | No |
| 23 | 29.3 | 1.71 | 1.79 | Toxic | 20.8 | 3.48 | 0.83 | No |
| 24 | 29.3 | 1.71 | 1.64 | No | 20.8 | 3.48 | 0.82 | No |
| 25 | 29.3 | 1.71 | 1.51 | No | 20.8 | 3.48 | 0.82 | No |
| 26 | 29.3 | 1.71 | 1.38 | No | 20.8 | 3.48 | 0.81 | No |
| 27 | 29.3 | 1.71 | 1.27 | No | 20.8 | 3.48 | 0.81 | No |
| 28 | 29.3 | 1.71 | 1.16 | No | 20.8 | 3.48 | 0.81 | No |
| 29 | 29.3 | 1.71 | 1.07 | No | 20.8 | 3.48 | 0.80 | No |
| 30 | 29.3 | 1.71 | 0.99 | No | 20.8 | 3.48 | 0.80 | No |
| 31 | 29.3 | 1.71 | 0.91 | No | 20.8 | 3.48 | 0.80 | No |
| 32 | 29.3 | 1.71 | 0.84 | No | 20.8 | 3.48 | 0.79 | No |
| 33 | 29.3 | 1.71 | 0.78 | No | 20.8 | 3.48 | 0.79 | No |
| 34 | 29.3 | 1.71 | 0.72 | No | 20.8 | 3.48 | 0.79 | No |
| 35 | 29.3 | 1.71 | 0.67 | No | 20.8 | 3.48 | 0.78 | No |
| 36 | 29.3 | 1.71 | 0.62 | No | 20.8 | 3.48 | 0.78 | No |
| 37 | 29.3 | 1.71 | 0.58 | No | 20.8 | 3.48 | 0.78 | No |
| 38 | 29.3 | 1.71 | 0.54 | No | 20.8 | 3.48 | 0.78 | No |
| 39 | 29.3 | 1.71 | 0.50 | No | 20.8 | 3.48 | 0.77 | No |
| 40 | 29.3 | 1.71 | 0.47 | No | 20.8 | 3.48 | 0.77 | No |
| 41 | 29.3 | 1.71 | 0.44 | No | 20.8 | 3.48 | 0.77 | No |
| 42 | 29.3 | 1.71 | 0.41 | No | 20.8 | 3.48 | 0.76 | No |
| 43 | 29.3 | 1.71 | 0.39 | No | 20.8 | 3.48 | 0.76 | No |
| 44 | 29.3 | 1.71 | 0.36 | No | 20.8 | 3.48 | 0.76 | No |
| 45 | 29.3 | 1.71 | 0.34 | No | 20.8 | 3.48 | 0.75 | No |
| 46 | 29.3 | 1.71 | 0.32 | No | 20.8 | 3.48 | 0.75 | No |
| 47 | 29.3 | 1.71 | 0.31 | No | 20.8 | 3.48 | 0.75 | No |
| 48 | 29.3 | 1.71 | 0.29 | No | 20.8 | 3.48 | 0.75 | No |
| 49 | 29.3 | 1.71 | 0.28 | No | 20.8 | 3.48 | 0.74 | No |
| 50 | 29.3 | 1.71 | 2.41 | Toxic | 20.8 | 3.48 | 1.57 | No |
| 51 | 29.3 | 1.71 | 2.37 | Toxic | 20.8 | 3.48 | 1.56 | No |
| 52 | 29.3 | 1.71 | 2.34 | Toxic | 20.8 | 3.48 | 1.56 | No |
| 53 | 29.3 | 1.71 | 2.31 | Toxic | 20.8 | 3.48 | 1.56 | No |

| Model Element | Summer | | | | Winter | | | |
|---|---|---|---|---|---|---|---|---|
| | Temp. in projection run (ºC) | Calculated CCC (mg N/L) | Predicted NH3-N conc. in projection (mg N/L) | Toxic ? | Temp. in projection run (ºC) | Calculated CCC (mg N/L) | Predicted NH3-N conc. in projection (mg N/L) | Toxic ? |
| 54 | 29.3 | 1.71 | 2.28 | Toxic | 20.8 | 3.48 | 1.55 | No |
| 55 | 29.3 | 1.71 | 2.25 | Toxic | 20.8 | 3.48 | 1.55 | No |
| 56 | 29.3 | 1.71 | 2.22 | Toxic | 20.8 | 3.48 | 1.54 | No |
| 57 | 29.3 | 1.71 | 2.19 | Toxic | 20.8 | 3.48 | 1.54 | No |
| 58 | 29.3 | 1.71 | 2.16 | Toxic | 20.8 | 3.48 | 1.53 | No |
| 59 | 29.3 | 1.71 | 2.14 | Toxic | 20.8 | 3.48 | 1.53 | No |
| 60 | 29.3 | 1.71 | 2.11 | Toxic | 20.8 | 3.48 | 1.53 | No |
| 61 | 29.3 | 1.71 | 2.08 | Toxic | 20.8 | 3.48 | 1.52 | No |
| 62 | 29.3 | 1.71 | 2.06 | Toxic | 20.8 | 3.48 | 1.52 | No |
| 63 | 29.3 | 1.71 | 2.03 | Toxic | 20.8 | 3.48 | 1.51 | No |
| 64 | 29.3 | 1.71 | 2.00 | Toxic | 20.8 | 3.48 | 1.51 | No |
| 65 | 29.3 | 1.71 | 1.98 | Toxic | 20.8 | 3.48 | 1.51 | No |
| 66 | 29.3 | 1.71 | 1.96 | Toxic | 20.8 | 3.48 | 1.50 | No |
| 67 | 29.3 | 1.71 | 1.93 | Toxic | 20.8 | 3.48 | 1.50 | No |
| 68 | 29.3 | 1.71 | 1.91 | Toxic | 20.8 | 3.48 | 1.49 | No |
| 69 | 29.3 | 1.71 | 1.88 | Toxic | 20.8 | 3.48 | 1.49 | No |
| 70 | 29.3 | 1.71 | 1.86 | Toxic | 20.8 | 3.48 | 1.49 | No |
| 71 | 29.3 | 1.71 | 1.84 | Toxic | 20.8 | 3.48 | 1.48 | No |
| 72 | 29.3 | 1.71 | 1.82 | Toxic | 20.8 | 3.48 | 1.48 | No |
| 73 | 29.3 | 1.71 | 1.80 | Toxic | 20.8 | 3.48 | 1.48 | No |
| 74 | 29.3 | 1.71 | 1.77 | Toxic | 20.8 | 3.48 | 1.47 | No |
| 75 | 29.3 | 1.71 | 1.75 | Toxic | 20.8 | 3.48 | 1.47 | No |
| 76 | 29.3 | 1.71 | 1.73 | Toxic | 20.8 | 3.48 | 1.46 | No |
| 77 | 29.3 | 1.71 | 1.71 | No | 20.8 | 3.48 | 1.46 | No |
| 78 | 29.3 | 1.71 | 1.69 | No | 20.8 | 3.48 | 1.46 | No |
| 79 | 29.3 | 1.71 | 1.67 | No | 20.8 | 3.48 | 1.45 | No |
| 80 | 29.3 | 1.71 | 1.66 | No | 20.8 | 3.48 | 1.45 | No |
| 81 | 29.3 | 1.71 | 1.63 | No | 20.8 | 3.48 | 1.44 | No |
| 82 | 29.3 | 1.71 | 1.60 | No | 20.8 | 3.48 | 1.44 | No |
| 83 | 29.3 | 1.71 | 1.58 | No | 20.8 | 3.48 | 1.43 | No |
| 84 | 29.3 | 1.71 | 1.56 | No | 20.8 | 3.48 | 1.43 | No |
| 85 | 29.3 | 1.71 | 1.53 | No | 20.8 | 3.48 | 1.42 | No |
| 86 | 29.3 | 1.71 | 1.51 | No | 20.8 | 3.48 | 1.42 | No |
| 87 | 29.3 | 1.71 | 1.49 | No | 20.8 | 3.48 | 1.41 | No |
| 88 | 29.3 | 1.71 | 1.47 | No | 20.8 | 3.48 | 1.41 | No |
| 89 | 29.3 | 1.71 | 1.45 | No | 20.8 | 3.48 | 1.40 | No |
| 90 | 29.3 | 1.71 | 1.43 | No | 20.8 | 3.48 | 1.40 | No |
| 91 | 29.3 | 1.71 | 1.41 | No | 20.8 | 3.48 | 1.39 | No |
| 92 | 29.3 | 1.71 | 1.39 | No | 20.8 | 3.48 | 1.39 | No |
| 93 | 29.3 | 1.71 | 1.37 | No | 20.8 | 3.48 | 1.38 | No |
| 94 | 29.3 | 1.71 | 1.35 | No | 20.8 | 3.48 | 1.38 | No |
| 95 | 29.3 | 1.71 | 1.34 | No | 20.8 | 3.48 | 1.38 | No |
| 96 | 29.3 | 1.71 | 1.32 | No | 20.8 | 3.48 | 1.37 | No |
| 97 | 29.3 | 1.71 | 1.30 | No | 20.8 | 3.48 | 1.37 | No |
| 98 | 29.3 | 1.71 | 1.29 | No | 20.8 | 3.48 | 1.36 | No |
| 99 | 29.3 | 1.71 | 1.27 | No | 20.8 | 3.48 | 1.36 | No |
| 100 | 29.3 | 1.71 | 1.25 | No | 20.8 | 3.48 | 1.35 | No |
| 101 | 29.3 | 1.71 | 1.24 | No | 20.8 | 3.48 | 1.35 | No |
| 102 | 29.3 | 1.71 | 1.22 | No | 20.8 | 3.48 | 1.34 | No |
| 103 | 29.3 | 1.71 | 1.21 | No | 20.8 | 3.48 | 1.34 | No |
| 104 | 29.3 | 1.71 | 1.19 | No | 20.8 | 3.48 | 1.33 | No |
| 105 | 29.3 | 1.71 | 1.18 | No | 20.8 | 3.48 | 1.33 | No |

| Model Element | Summer | | | | Winter | | | |
|---|---|---|---|---|---|---|---|---|
| | Temp. in projection run (ºC) | Calculated CCC (mg N/L) | Predicted NH3-N conc. in projection (mg N/L) | Toxic ? | Temp. in projection run (ºC) | Calculated CCC (mg N/L) | Predicted NH3-N conc. in projection (mg N/L) | Toxic ? |
| 106 | 29.3 | 1.71 | 1.17 | No | 20.8 | 3.48 | 1.33 | No |
| 107 | 29.3 | 1.71 | 1.15 | No | 20.8 | 3.48 | 1.32 | No |
| 108 | 29.3 | 1.71 | 1.14 | No | 20.8 | 3.48 | 1.32 | No |
| 109 | 29.3 | 1.71 | 1.13 | No | 20.8 | 3.48 | 1.31 | No |
| 110 | 29.3 | 1.71 | 1.11 | No | 20.8 | 3.48 | 1.31 | No |
| 111 | 29.3 | 1.71 | 1.10 | No | 20.8 | 3.48 | 1.30 | No |
| 112 | 29.3 | 1.71 | 1.09 | No | 20.8 | 3.48 | 1.30 | No |
| 113 | 29.3 | 1.71 | 1.08 | No | 20.8 | 3.48 | 1.30 | No |
| 114 | 29.3 | 1.71 | 1.06 | No | 20.8 | 3.48 | 1.29 | No |
| 115 | 29.3 | 1.71 | 1.05 | No | 20.8 | 3.48 | 1.29 | No |
| 116 | 29.3 | 1.71 | 1.04 | No | 20.8 | 3.48 | 1.28 | No |
| 117 | 29.3 | 1.71 | 1.03 | No | 20.8 | 3.48 | 1.28 | No |
| 118 | 29.3 | 1.71 | 1.02 | No | 20.8 | 3.48 | 1.28 | No |
| 119 | 29.3 | 1.71 | 1.01 | No | 20.8 | 3.48 | 1.27 | No |
| 120 | 29.3 | 1.71 | 1.00 | No | 20.8 | 3.48 | 1.27 | No |
| 121 | 29.3 | 1.71 | 0.99 | No | 20.8 | 3.48 | 1.27 | No |
| 122 | 29.3 | 1.71 | 0.98 | No | 20.8 | 3.48 | 1.26 | No |
| 123 | 29.3 | 1.71 | 0.97 | No | 20.8 | 3.48 | 1.26 | No |
| 124 | 29.3 | 1.71 | 0.97 | No | 20.8 | 3.48 | 1.26 | No |
| 125 | 29.3 | 1.71 | 0.96 | No | 20.8 | 3.48 | 1.25 | No |
| 126 | 29.3 | 1.71 | 0.95 | No | 20.8 | 3.48 | 1.25 | No |
| 127 | 29.3 | 1.71 | 0.94 | No | 20.8 | 3.48 | 1.25 | No |
| 128 | 29.3 | 1.71 | 0.93 | No | 20.8 | 3.48 | 1.24 | No |
| 129 | 29.3 | 1.71 | 0.92 | No | 20.8 | 3.48 | 1.24 | No |
| 130 | 29.3 | 1.71 | 0.91 | No | 20.8 | 3.48 | 1.24 | No |
| 131 | 29.3 | 1.71 | 0.91 | No | 20.8 | 3.48 | 1.23 | No |
| 132 | 29.3 | 1.71 | 0.90 | No | 20.8 | 3.48 | 1.23 | No |
| 133 | 29.3 | 1.71 | 0.89 | No | 20.8 | 3.48 | 1.23 | No |
| 134 | 29.3 | 1.71 | 0.88 | No | 20.8 | 3.48 | 1.22 | No |
| 135 | 29.3 | 1.71 | 0.88 | No | 20.8 | 3.48 | 1.22 | No |
| 136 | 29.3 | 1.71 | 0.87 | No | 20.8 | 3.48 | 1.22 | No |
| 137 | 29.3 | 1.71 | 0.86 | No | 20.8 | 3.48 | 1.21 | No |
| 138 | 29.3 | 1.71 | 0.86 | No | 20.8 | 3.48 | 1.21 | No |
| 139 | 29.3 | 1.71 | 0.85 | No | 20.8 | 3.48 | 1.21 | No |
| 140 | 29.3 | 1.71 | 0.84 | No | 20.8 | 3.48 | 1.20 | No |
| 141 | 29.3 | 1.71 | 0.84 | No | 20.8 | 3.48 | 1.20 | No |
| 142 | 29.3 | 1.71 | 0.83 | No | 20.8 | 3.48 | 1.19 | No |
| 143 | 29.3 | 1.71 | 0.82 | No | 20.8 | 3.48 | 1.19 | No |
| 144 | 29.3 | 1.71 | 0.81 | No | 20.8 | 3.48 | 1.18 | No |
| 145 | 29.3 | 1.71 | 0.80 | No | 20.8 | 3.48 | 1.18 | No |
| 146 | 29.3 | 1.71 | 0.79 | No | 20.8 | 3.48 | 1.17 | No |
| 147 | 29.3 | 1.71 | 0.78 | No | 20.8 | 3.48 | 1.17 | No |
| 148 | 29.3 | 1.71 | 0.77 | No | 20.8 | 3.48 | 1.16 | No |
| 149 | 29.3 | 1.71 | 0.76 | No | 20.8 | 3.48 | 1.16 | No |
| 150 | 29.3 | 1.71 | 0.74 | No | 20.8 | 3.48 | 1.16 | No |
| 151 | 29.3 | 1.71 | 0.73 | No | 20.8 | 3.48 | 1.15 | No |
| 152 | 29.3 | 1.71 | 0.72 | No | 20.8 | 3.48 | 1.15 | No |
| 153 | 29.3 | 1.71 | 0.71 | No | 20.8 | 3.48 | 1.14 | No |
| 154 | 29.3 | 1.71 | 0.70 | No | 20.8 | 3.48 | 1.14 | No |
| 155 | 29.3 | 1.71 | 0.69 | No | 20.8 | 3.48 | 1.14 | No |
| 156 | 29.3 | 1.71 | 0.68 | No | 20.8 | 3.48 | 1.13 | No |
| 157 | 29.3 | 1.71 | 0.66 | No | 20.8 | 3.48 | 1.13 | No |

| Model Element | Summer | | | | Winter | | | |
|---|---|---|---|---|---|---|---|---|
| | Temp. in projection run (ºC) | Calculated CCC (mg N/L) | Predicted NH3-N conc. in projection (mg N/L) | Toxic ? | Temp. in projection run (ºC) | Calculated CCC (mg N/L) | Predicted NH3-N conc. in projection (mg N/L) | Toxic ? |
| 158 | 29.3 | 1.71 | 0.65 | No | 20.8 | 3.48 | 1.12 | No |
| 159 | 29.3 | 1.71 | 0.64 | No | 20.8 | 3.48 | 1.12 | No |
| 160 | 29.3 | 1.71 | 0.63 | No | 20.8 | 3.48 | 1.12 | No |
| 161 | 29.3 | 1.71 | 0.62 | No | 20.8 | 3.48 | 1.11 | No |
| 162 | 29.3 | 1.71 | 0.61 | No | 20.8 | 3.48 | 1.11 | No |
| 163 | 29.3 | 1.71 | 0.60 | No | 20.8 | 3.48 | 1.11 | No |
| 164 | 29.3 | 1.71 | 0.59 | No | 20.8 | 3.48 | 1.10 | No |
| 165 | 29.3 | 1.71 | 0.58 | No | 20.8 | 3.48 | 1.10 | No |
| 166 | 29.3 | 1.71 | 0.57 | No | 20.8 | 3.48 | 1.10 | No |
| 167 | 29.3 | 1.71 | 0.56 | No | 20.8 | 3.48 | 1.09 | No |
| 168 | 29.3 | 1.71 | 0.55 | No | 20.8 | 3.48 | 1.09 | No |
| 169 | 29.3 | 1.71 | 0.54 | No | 20.8 | 3.48 | 1.09 | No |
| 170 | 29.3 | 1.71 | 0.53 | No | 20.8 | 3.48 | 1.08 | No |
| 171 | 29.3 | 1.71 | 0.52 | No | 20.8 | 3.48 | 1.08 | No |
| 172 | 29.3 | 1.71 | 0.51 | No | 20.8 | 3.48 | 1.08 | No |
| 173 | 29.3 | 1.71 | 0.50 | No | 20.8 | 3.48 | 1.08 | No |
| 174 | 29.3 | 1.71 | 0.50 | No | 20.8 | 3.48 | 1.07 | No |
| 175 | 29.3 | 1.71 | 0.48 | No | 20.8 | 3.48 | 1.07 | No |
| 176 | 29.3 | 1.71 | 0.46 | No | 20.8 | 3.48 | 1.06 | No |
| 177 | 29.3 | 1.71 | 0.45 | No | 20.8 | 3.48 | 1.06 | No |
| 178 | 29.3 | 1.71 | 0.43 | No | 20.8 | 3.48 | 1.05 | No |
| 179 | 29.3 | 1.71 | 0.41 | No | 20.8 | 3.48 | 1.05 | No |
| 180 | 29.3 | 1.71 | 0.40 | No | 20.8 | 3.48 | 1.04 | No |
| 181 | 29.3 | 1.71 | 0.39 | No | 20.8 | 3.48 | 1.04 | No |
| 182 | 29.3 | 1.71 | 0.37 | No | 20.8 | 3.48 | 1.03 | No |
| 183 | 29.3 | 1.71 | 0.36 | No | 20.8 | 3.48 | 1.03 | No |
| 184 | 29.3 | 1.71 | 0.35 | No | 20.8 | 3.48 | 1.02 | No |
| 185 | 29.3 | 1.71 | 0.34 | No | 20.8 | 3.48 | 1.02 | No |
| 186 | 29.3 | 1.71 | 0.33 | No | 20.8 | 3.48 | 1.01 | No |
| 187 | 29.3 | 1.71 | 0.32 | No | 20.8 | 3.48 | 1.01 | No |
| 188 | 29.3 | 1.71 | 0.31 | No | 20.8 | 3.48 | 1.01 | No |
| 189 | 29.3 | 1.71 | 0.30 | No | 20.8 | 3.48 | 1.00 | No |
| 190 | 29.3 | 1.71 | 0.29 | No | 20.8 | 3.48 | 1.00 | No |
| 191 | 29.3 | 1.71 | 0.26 | No | 20.8 | 3.48 | 0.97 | No |
| 192 | 29.3 | 1.71 | 0.24 | No | 20.8 | 3.48 | 0.95 | No |
| 193 | 29.3 | 1.71 | 0.22 | No | 20.8 | 3.48 | 0.93 | No |
| 194 | 29.3 | 1.71 | 0.21 | No | 20.8 | 3.48 | 0.90 | No |
| 195 | 29.3 | 1.71 | 0.20 | No | 20.8 | 3.48 | 0.89 | No |
| 196 | 29.3 | 1.71 | 0.19 | No | 20.8 | 3.48 | 0.87 | No |
| 197 | 29.3 | 1.71 | 0.18 | No | 20.8 | 3.48 | 0.85 | No |
| 198 | 29.3 | 1.71 | 0.17 | No | 20.8 | 3.48 | 0.84 | No |
| 199 | 29.3 | 1.71 | 0.17 | No | 20.8 | 3.48 | 0.82 | No |
| 200 | 29.3 | 1.71 | 0.16 | No | 20.8 | 3.48 | 0.81 | No |
| 201 | 29.3 | 1.71 | 0.15 | No | 20.8 | 3.48 | 0.80 | No |
| 202 | 29.3 | 1.71 | 0.15 | No | 20.8 | 3.48 | 0.79 | No |
| 203 | 29.3 | 1.71 | 0.14 | No | 20.8 | 3.48 | 0.78 | No |
| 204 | 29.3 | 1.71 | 0.14 | No | 20.8 | 3.48 | 0.77 | No |
| 205 | 29.3 | 1.71 | 0.14 | No | 20.8 | 3.48 | 0.76 | No |
| 206 | 29.3 | 1.71 | 0.13 | No | 20.8 | 3.48 | 0.75 | No |
| 207 | 29.3 | 1.71 | 0.13 | No | 20.8 | 3.48 | 0.74 | No |
| 208 | 29.3 | 1.71 | 0.13 | No | 20.8 | 3.48 | 0.73 | No |
| 209 | 29.3 | 1.71 | 0.12 | No | 20.8 | 3.48 | 0.73 | No |

| Model Element | Summer | | | | Winter | | | |
|---|---|---|---|---|---|---|---|---|
| | Temp. in projection run (ºC) | Calculated CCC (mg N/L) | Predicted NH3-N conc. in projection (mg N/L) | Toxic ? | Temp. in projection run (ºC) | Calculated CCC (mg N/L) | Predicted NH3-N conc. in projection (mg N/L) | Toxic ? |
| 210 | 29.3 | 1.71 | 0.12 | No | 20.8 | 3.48 | 0.72 | No |
| 211 | 29.3 | 1.71 | 0.12 | No | 20.8 | 3.48 | 0.72 | No |
| 212 | 29.3 | 1.71 | 0.12 | No | 20.8 | 3.48 | 0.71 | No |
| 213 | 29.3 | 1.71 | 0.11 | No | 20.8 | 3.48 | 0.70 | No |
| 214 | 29.3 | 1.71 | 0.11 | No | 20.8 | 3.48 | 0.70 | No |
| 215 | 29.3 | 1.71 | 0.11 | No | 20.8 | 3.48 | 0.69 | No |
| 216 | 29.3 | 1.71 | 0.46 | No | 20.8 | 3.48 | 0.88 | No |
| 217 | 29.3 | 1.71 | 0.36 | No | 20.8 | 3.48 | 0.86 | No |
| 218 | 29.3 | 1.71 | 0.29 | No | 20.8 | 3.48 | 0.84 | No |
| 219 | 29.3 | 1.71 | 0.25 | No | 20.8 | 3.48 | 0.82 | No |
| 220 | 29.3 | 1.71 | 0.21 | No | 20.8 | 3.48 | 0.80 | No |
| 221 | 29.3 | 1.71 | 0.18 | No | 20.8 | 3.48 | 0.79 | No |
| 222 | 29.3 | 1.71 | 0.16 | No | 20.8 | 3.48 | 0.77 | No |
| 223 | 29.3 | 1.71 | 0.15 | No | 20.8 | 3.48 | 0.76 | No |
| 224 | 29.3 | 1.71 | 0.14 | No | 20.8 | 3.48 | 0.75 | No |
| 225 | 29.3 | 1.71 | 0.13 | No | 20.8 | 3.48 | 0.74 | No |
| 226 | 29.3 | 1.71 | 0.12 | No | 20.8 | 3.48 | 0.73 | No |
| 227 | 29.3 | 1.71 | 0.12 | No | 20.8 | 3.48 | 0.72 | No |
| 228 | 29.3 | 1.71 | 0.12 | No | 20.8 | 3.48 | 0.71 | No |
| 229 | 29.3 | 1.71 | 0.11 | No | 20.8 | 3.48 | 0.70 | No |
| 230 | 29.3 | 1.71 | 0.11 | No | 20.8 | 3.48 | 0.69 | No |
| 231 | 29.3 | 1.71 | 0.11 | No | 20.8 | 3.48 | 0.69 | No |
| 232 | 29.3 | 1.71 | 0.11 | No | 20.8 | 3.48 | 0.68 | No |
| 233 | 29.3 | 1.71 | 0.10 | No | 20.8 | 3.48 | 0.67 | No |
| 234 | 29.3 | 1.71 | 0.10 | No | 20.8 | 3.48 | 0.67 | No |
| 235 | 29.3 | 1.71 | 0.10 | No | 20.8 | 3.48 | 0.66 | No |
| 236 | 29.3 | 1.71 | 0.10 | No | 20.8 | 3.48 | 0.66 | No |
| 237 | 29.3 | 1.71 | 0.10 | No | 20.8 | 3.48 | 0.65 | No |
| 238 | 29.3 | 1.71 | 0.10 | No | 20.8 | 3.48 | 0.65 | No |
| 239 | 29.3 | 1.71 | 0.10 | No | 20.8 | 3.48 | 0.64 | No |
| 240 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.64 | No |
| 241 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.64 | No |
| 242 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.63 | No |
| 243 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.63 | No |
| 244 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.63 | No |
| 245 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.63 | No |
| 246 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.62 | No |
| 247 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.62 | No |
| 248 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.62 | No |
| 249 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.62 | No |
| 250 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.61 | No |
| 251 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.61 | No |
| 252 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.61 | No |
| 253 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.61 | No |
| 254 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.61 | No |
| 255 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.60 | No |
| 256 | 29.3 | 1.71 | 0.09 | No | 20.8 | 3.48 | 0.60 | No |
| 257 | 29.3 | 1.71 | 0.08 | No | 20.8 | 3.48 | 0.60 | No |
| 258 | 29.3 | 1.71 | 0.08 | No | 20.8 | 3.48 | 0.60 | No |
| 259 | 29.3 | 1.71 | 0.08 | No | 20.8 | 3.48 | 0.60 | No |
| 260 | 29.3 | 1.71 | 0.08 | No | 20.8 | 3.48 | 0.60 | No |
| 261 | 29.3 | 1.71 | 0.08 | No | 20.8 | 3.48 | 0.59 | No |

| Model Element | Summer | | | | Winter | | | |
|---|---|---|---|---|---|---|---|---|
| | Temp. in projection run (ºC) | Calculated CCC (mg N/L) | Predicted NH3-N conc. in projection (mg N/L) | Toxic ? | Temp. in projection run (ºC) | Calculated CCC (mg N/L) | Predicted NH3-N conc. in projection (mg N/L) | Toxic ? |
| 262 | 29.3 | 1.71 | 0.08 | No | 20.8 | 3.48 | 0.59 | No |
| 263 | 29.3 | 1.71 | 0.08 | No | 20.8 | 3.48 | 0.59 | No |
| 264 | 29.3 | 1.71 | 0.08 | No | 20.8 | 3.48 | 0.59 | No |
| 265 | 29.3 | 1.71 | 0.08 | No | 20.8 | 3.48 | 0.59 | No |
| 266 | 29.3 | 1.71 | 0.08 | No | 20.8 | 3.48 | 0.59 | No |
| 267 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 268 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 269 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 270 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 271 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 272 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 273 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 274 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 275 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 276 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 277 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 278 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 279 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 280 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 281 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 282 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 283 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 284 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 285 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |
| 286 | 29.3 | 1.71 | 0.04 | No | 20.8 | 3.48 | 0.12 | No |

Number of elements with toxicity = 34 Number of elements with toxicity = 0

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# APPENDIX T

## Nutrient TMDL Calculations

# SUMMER NUTRIENT TMDL CALCULATIONS FOR FLAT RIVER (SUBSEGMENT 100406)

Naturally occurring ratio of total nitrogen to total phosphorus = 10.0 (from LDEQ reference stream data for South Central Plain Ecoregion)
Percentage for explicit margin of safety = 10%
Percentage for explicit future growth = 10%

| | Allowable loads from TMDL program (Appendix O) | | Flow in model | Assumed conc. of NO2+NO3 | NO2+NO3 load | Allowable loads of total N | Allowable loads of total P | Allowable loads of total N | Allowable loads of total P | Equivalent conc. of total N | Equivalent conc. of total P |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Organic N (kg/day) | Ammonia (kg/day) | (m3/sec) | (mg/L) | (kg/day) | (kg/day) | (kg/day) | (lbs/day) | (lbs/day) | (mg/L) | (mg/L) |
| Nonpoint Sources: | | | | | | | | | | | |
| Upstream & tributary inflows | 2.54 | 0.35 | 0.13 | 0.2 | 2.25 | 5.14 | 0.514 | 11.33 | 1.133 | 0.46 | 0.05 |
| Mass loads (Data Type 19) | 14.07 | -- | -- | -- | -- | 14.07 | 1.407 | 31.02 | 3.102 | -- | -- |
| Benthic loads (Data Type 13) | -- | 0.00 | -- | -- | -- | 0.00 | 0.000 | 0.00 | 0.000 | -- | -- |
| Point Sources (w/ MOS and FG) | | | | | | | | | | | |
| LA0102980 | 13.25 | 5.68 | 0.0219 | 10.00 | 18.92 | 37.85 | 3.785 | 83.44 | 8.344 | 20.00 | 2.00 |
| LAG560083 | 0.70 | 1.63 | 0.0027 | 10.00 | 2.33 | 4.66 | 0.466 | 10.27 | 1.027 | 19.98 | 2.00 |
| LAG540188 | 0.60 | 1.21 | 0.0014 | 10.00 | 1.21 | 3.02 | 0.302 | 6.66 | 0.666 | 24.97 | 2.50 |
| LAG540038 | 0.00 | 0.00 | 0.0005256 | 10.00 | 0.45 | 1.14 | 0.114 | 2.51 | 0.251 | 25.10 | 2.51 |
| LAG540494 | 0.00 | 0.00 | 0.0013578 | 10.00 | 1.17 | 2.93 | 0.293 | 6.46 | 0.646 | 24.98 | 2.50 |
| LAG541141 | 0.00 | 0.00 | 0.0011388 | 10.00 | 0.98 | 2.46 | 0.246 | 5.42 | 0.542 | 25.00 | 2.50 |
| LAG541272 | 0.00 | 0.00 | 0.0004818 | 10.00 | 0.42 | 1.04 | 0.104 | 2.29 | 0.229 | 24.98 | 2.50 |
| LAG541293 | 0.00 | 0.00 | 0.0012702 | 10.00 | 1.1 | 2.74 | 0.274 | 6.04 | 0.604 | 24.97 | 2.50 |
| LAG560063 | 0.00 | 0.00 | 0.0027594 | 10.00 | 2.38 | 4.77 | 0.477 | 10.52 | 1.052 | 20.01 | 2.00 |
| LAG470050 | 0.00 | 0.00 | 0.0000876 | 10.00 | 0.08 | 0.19 | 0.019 | 0.42 | 0.042 | 25.10 | 2.51 |
| Total Nonpoint Source Loading | | | | | | 19.21 | 1.921 | 42.35 | 4.235 | -- | -- |
| Total Point Source Loading (w/o MOS and FG) | | | | | | 48.64 | 4.864 | 107.22 | 10.722 | -- | -- |
| Explicit Margin of Safety | | | | | | 8.48 | 0.848 | 18.7 | 1.870 | -- | -- |
| Explicit Future Growth | | | | | | 8.48 | 0.848 | 18.7 | 1.870 | -- | -- |
| Total maximum daily loads: | | | | | | 84.81 | 8.481 | 186.97 | 18.697 | | |

Notes:
1. First two columns of numbers were taken directly from TMDL program output.
2. Flow for upstream and tributaries was sum of flows in the model (0.003+0.127).
3. Flow for point sources was design flow times 1.25 (to incorporate 20% MOS+FG).
4. NO2+NO3 conc. for upstream and tributaries was average of LDEQ data for Flat River at Station 272 during summer, assuming 0.01 for less than detection (see Table 7.2).
5. NO2+NO3 conc. for point sources was an assumed value based on maximum allowable value for drinking water with no dilution.
6. NO2+NO3 loads were calculated as flow in model times assumed NO2+NO3 conc. times conversion factor of 86.4.
7. Organic + ammonia N loads for minor point sources with zero loads in TMDL program were calculated using concentrations from LTP based on BOD5 permit limits.
8. Allowable loads of total N were calculated as allowable loads of organic N and ammonia, plus the NO2+NO3 load.
9. Allowable loads of total P were calculated as allowable loads of total N divided by naturally occurring ratio of total N to total P.
10. Explicit MOS loads were calculated as total NPS and point source loads divided by 80% (1 minus MOS minus FG), then multiplied by 10% (MOS).
11. Explicit FG loads were calculated as total NPS and point source loads divided by 80% (1 minus MOS minus FG), then multiplied by 10% (FG).
12. Equivalent conc's of total N and total P were calculated as the allowable loads divided by the flow in the model divided by 86.4 (conversion factor).

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# WINTER NUTRIENT TMDL CALCULATIONS FOR FLAT RIVER (SUBSEGMENT 100406)

Naturally occurring ratio of total nitrogen to total phosphorus = 10.0 (from LDEQ reference stream data for South Central Plain Ecoregion)
Percentage for explicit margin of safety = 10%
Percentage for explicit future growth = 10%

| | Allowable loads from TMDL program (Appendix O) | | Flow in model | Assumed conc. of NO2+NO3 | NO2+NO3 load | Allowable loads of total N | Allowable loads of total P | Allowable loads of total N | Allowable loads of total P | Equivalent conc. of total N | Equivalent conc. of total P |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Organic N (kg/day) | Ammonia (kg/day) | (m3/sec) | (mg/L) | (kg/day) | (kg/day) | (kg/day) | (lbs/day) | (lbs/day) | (mg/L) | (mg/L) |
| Nonpoint Sources: | | | | | | | | | | | |
| Upstream & tributary inflows | 101.27 | 12.09 | 1.305 | 0.2 | 22.55 | 135.91 | 13.591 | 299.63 | 29.963 | 1.21 | 0.12 |
| Mass loads (Data Type 19) | 60.65 | -- | -- | -- | -- | 60.65 | 6.065 | 133.71 | 13.371 | -- | -- |
| Benthic loads (Data Type 13) | -- | 0.00 | -- | -- | -- | 0.00 | 0.000 | 0.00 | 0.000 | -- | -- |
| Point Sources (w/ MOS and FG) | | | | | | | | | | | |
| LA0102980 | 13.25 | 5.68 | 0.0219 | 10.00 | 18.92 | 37.85 | 3.785 | 83.44 | 8.344 | 20.00 | 2.00 |
| LAG560083 | 0.70 | 1.63 | 0.0027 | 10.00 | 2.33 | 4.66 | 0.466 | 10.27 | 1.027 | 19.98 | 2.00 |
| LAG540188 | 0.60 | 1.21 | 0.0014 | 10.00 | 1.21 | 3.02 | 0.302 | 6.66 | 0.666 | 24.97 | 2.50 |
| LAG540038 | 0.00 | 0.00 | 0.0005256 | 10.00 | 0.45 | 1.14 | 0.114 | 2.51 | 0.251 | 25.10 | 2.51 |
| LAG540494 | 0.00 | 0.00 | 0.0013578 | 10.00 | 1.17 | 2.93 | 0.293 | 6.46 | 0.646 | 24.98 | 2.50 |
| LAG541141 | 0.00 | 0.00 | 0.0011388 | 10.00 | 0.98 | 2.46 | 0.246 | 5.42 | 0.542 | 25.00 | 2.50 |
| LAG541272 | 0.00 | 0.00 | 0.0004818 | 10.00 | 0.42 | 1.04 | 0.104 | 2.29 | 0.229 | 24.98 | 2.50 |
| LAG541293 | 0.00 | 0.00 | 0.0012702 | 10.00 | 1.1 | 2.74 | 0.274 | 6.04 | 0.604 | 24.97 | 2.50 |
| LAG560063 | 0.00 | 0.00 | 0.0027594 | 10.00 | 2.38 | 4.77 | 0.477 | 10.52 | 1.052 | 20.01 | 2.00 |
| LAG470050 | 0.00 | 0.00 | 0.0000876 | 10.00 | 0.08 | 0.19 | 0.019 | 0.42 | 0.042 | 25.10 | 2.51 |
| Total Nonpoint Source Loading | | | | | | 196.56 | 19.656 | 433.34 | 43.334 | -- | -- |
| Total Point Source Loading (w/o MOS and FG) | | | | | | 48.64 | 4.864 | 107.22 | 10.722 | -- | -- |
| Explicit Margin of Safety | | | | | | 30.65 | 3.065 | 67.57 | 6.757 | -- | -- |
| Explicit Future Growth | | | | | | 30.65 | 3.065 | 67.57 | 6.757 | -- | -- |
| Total maximum daily loads: | | | | | | 306.50 | 30.650 | 675.70 | 67.570 | | |

Notes:
1. First two columns of numbers were taken directly from TMDL program output.
2. Flow for upstream and tributaries was sum of flows in the model (0.035+1.27).
3. Flow for point sources was design flow times 1.25 (to incorporate 20% MOS+FG).
4. NO2+NO3 conc. for upstream and tributaries was average of LDEQ data for Flat River at Station 272 during summer, assuming 0.01 for less than detection (see Table 7.2).
5. NO2+NO3 conc. for point sources was an assumed value based on maximum allowable value for drinking water with no dilution.
6. NO2+NO3 loads were calculated as flow in model times assumed NO2+NO3 conc. times conversion factor of 86.4.
7. Organic + ammonia N loads for minor point sources with zero loads in TMDL program were calculated using concentrations from LTP based on BOD5 permit limits.
8. Allowable loads of total N were calculated as allowable loads of organic N and ammonia, plus the NO2+NO3 load.
9. Allowable loads of total P were calculated as allowable loads of total N divided by naturally occurring ratio of total N to total P.
10. Explicit MOS loads were calculated as total NPS and point source loads divided by 80% (1 minus MOS minus FG), then multiplied by 10% (MOS).
11. Explicit FG loads were calculated as total NPS and point source loads divided by 80% (1 minus MOS minus FG), then multiplied by 10% (FG).
12. Equivalent conc's of total N and total P were calculated as the allowable loads divided by the flow in the model divided by 86.4 (conversion factor).

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