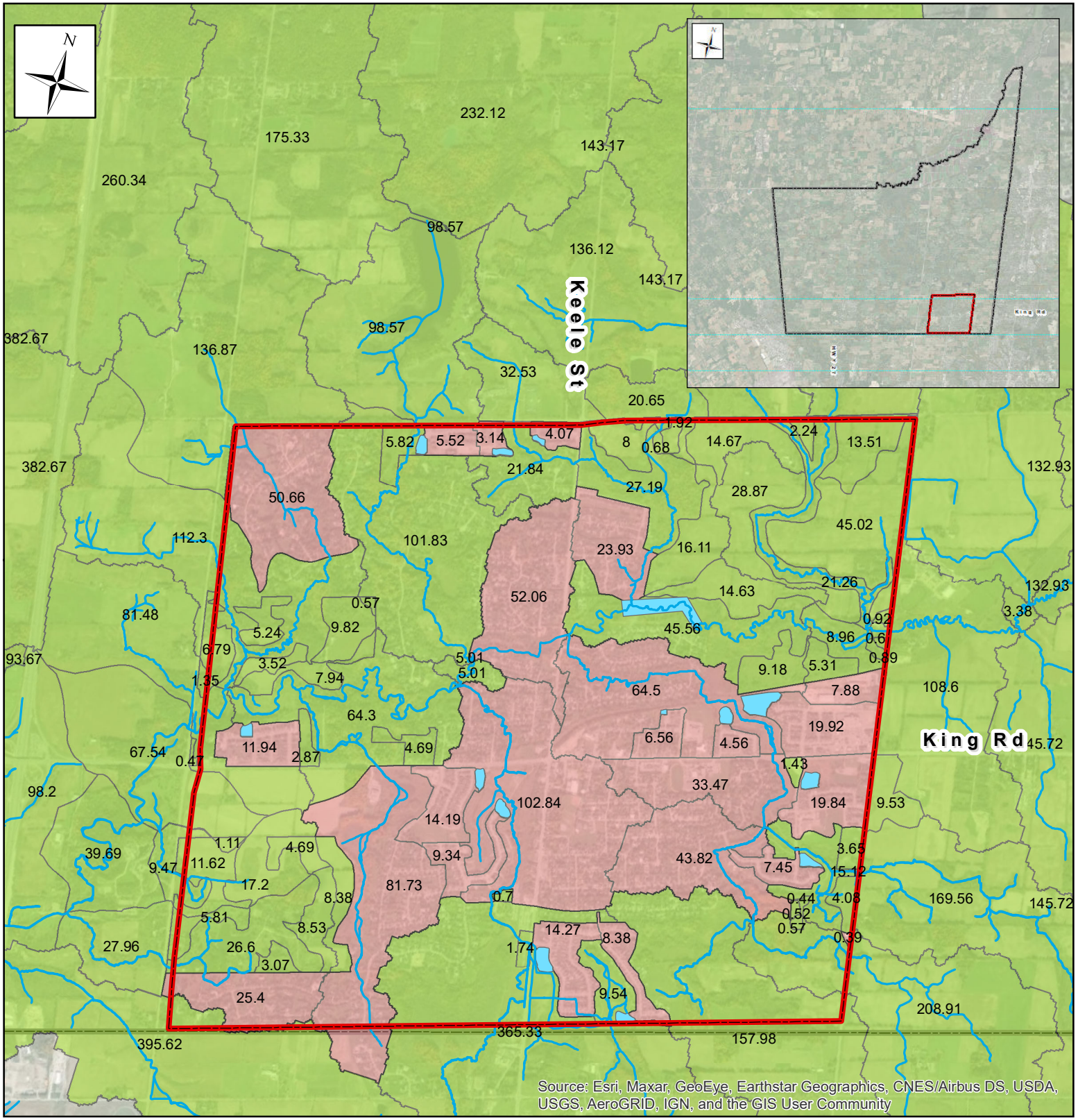
# *APPENDIX L*

## *VO Model Results*

# *Existing Conditions*




## Legend

- King City Boundary
- Township of King Boundary
- Stormwater Management Pond
- Watercourse
- 1,2 **Subcatmchents**
  - Area (ha)
- NasHyd
- StandHyd

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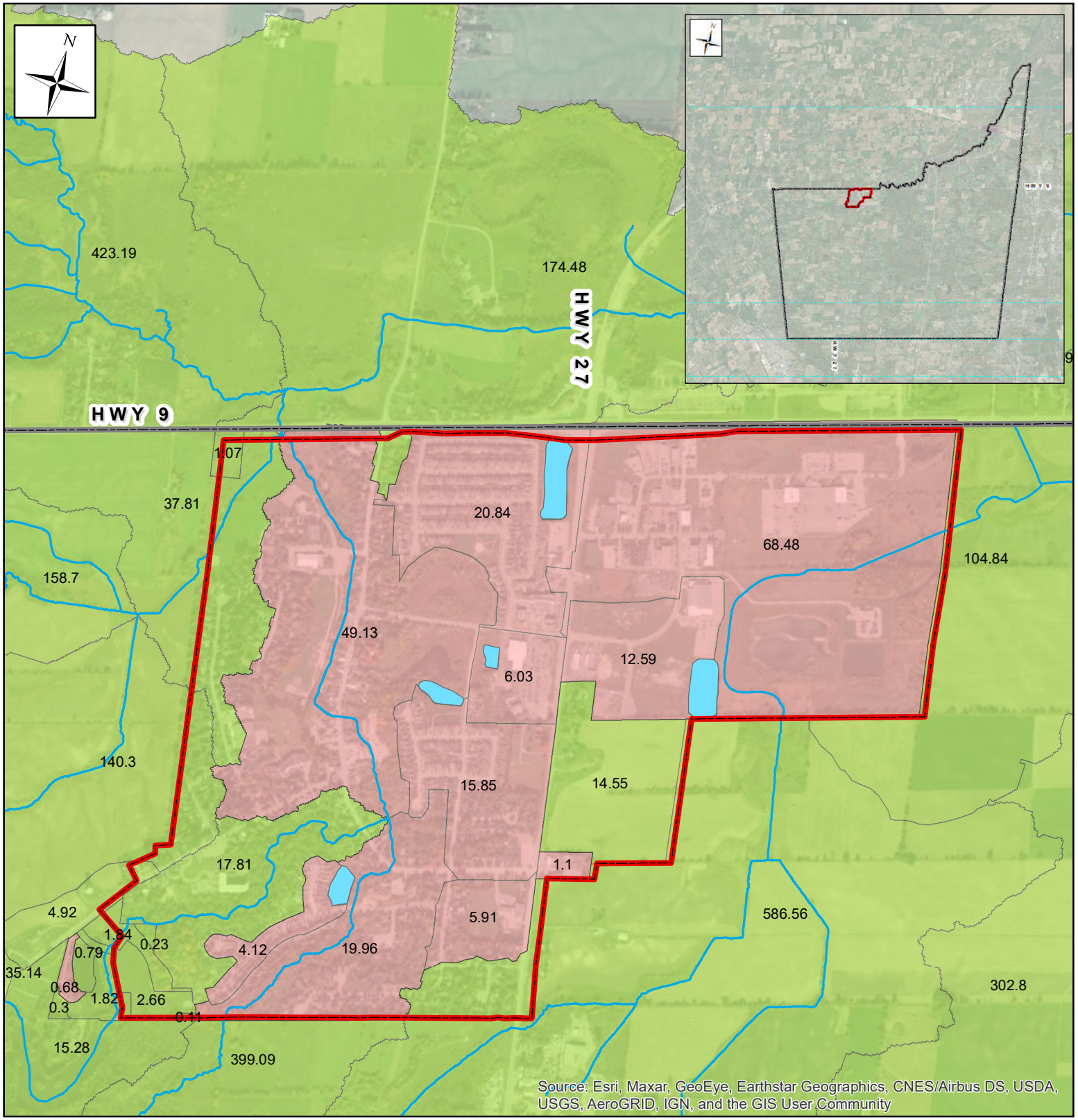
**KNG18-0003**
**Stormwater Management Masterplan**

**Figure L-1 : Existing Delineated Catchment Areas King City**

Drawn By: D.R. Date: 2021-04-05

0 205 410 820
Meters




## Legend

- Schomberg Boundary
- Township of King Boundary
- Stormwater Management Pond
- Watercourse
- 1,2 **Subcatmchents**
  - Area (ha)
- NasHyd
- StandHyd

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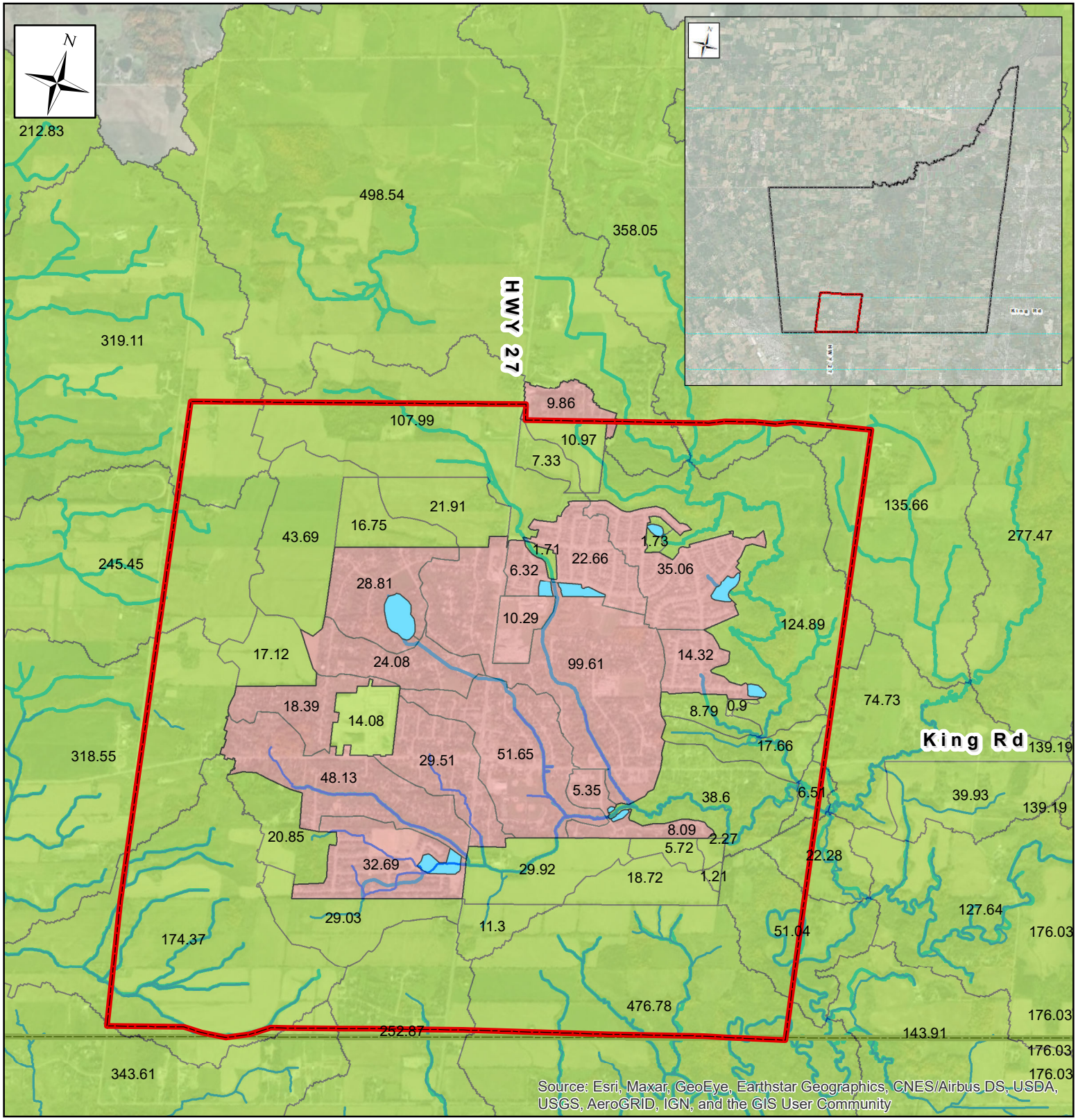
**Figure L-2: Existing Delineated Catchment Areas Schomberg**

Drawn By: D.R. Date: 2021-04-05

0 95 190 380
Meters




## Legend

- Nobleton Boundary
- Township of King Boundary
- Stormwater Management Pond
- Watercourse
- 1.2 **Subcatmchents**
  - Area (ha)
- NasHyd
- StandHyd

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**Stormwater Management Masterplan**

**Figure L-3: Existing Delineated Catchment Areas Nobleton**

Drawn By: D.R. Date: 2021-04-05

0 210 420 840
Meters

## Target point AH105

## Peak Flow:

## Existing condition

```
*******************************
** SIMULATION:Run 01         **
*******************************


--------------------
| ADD HYD  (  0105)|
|  1 +  2 =  3   |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0104):   712.98   8.995    10.60    23.49
     + ID2= 2 (  0106):  1063.11   7.458    11.95    16.10
      ================================================
      ID = 3 (  0105):  1776.09  14.492    10.80    19.06

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|  3 +  2 =  1   |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1776.09  14.492    10.80    19.06
     + ID2= 2 (  0111):     2.27   0.031    10.27    13.26
      ================================================
      ID = 1 (  0105):  1778.36  14.502    10.78    19.06
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0105): 1778.36 14.502 10.78 19.06

+ ID2= 2 ( 0022): 38.60 0.452 10.55 14.98

==========

ID = 3 ( 0105): 1816.96 14.936 10.78 19.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1816.96 14.936 10.78 19.01

+ ID2= 2 ( 0023): 17.66 0.246 10.32 14.92

==========

ID = 1 ( 0105): 1834.62 15.091 10.73 18.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 02 **

**********

```
--------------------
| ADD HYD  (  0105)|
|  1 +  2 =  3   |       AREA    QPEAK    TPEAK     R.V.
--------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0104):   712.98  13.418    10.67    33.19
    + ID2= 2 (  0106):  1063.11  11.712    12.02    24.70
      ================================================
      ID = 3 (  0105):  1776.09  22.751    10.82    28.11

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|  3 +  2 =  1   |       AREA    QPEAK    TPEAK     R.V.
--------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1776.09  22.751    10.82    28.11
    + ID2= 2 (  0111):     2.27   0.047    10.27    21.06
      ================================================
      ID = 1 (  0105):  1778.36  22.766    10.82    28.10

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|  1 +  2 =  3   |       AREA    QPEAK    TPEAK     R.V.
--------------------       (ha)    (cms)    (hrs)     (mm)
```

```
      ID1= 1 (  0105):  1778.36  22.766    10.82    28.10
     + ID2= 2 (  0022):    38.60   0.698    10.53    23.15
      ====================================================
      ID = 3 (  0105):  1816.96  23.422    10.80    28.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
---------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1816.96  23.422    10.80    28.06
     + ID2= 2 (  0023):    17.66   0.375    10.32    23.20
      ====================================================
      ID = 1 (  0105):  1834.62  23.645    10.78    28.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 03         **
*******************************


--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
---------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0104):   712.98  16.642    10.63    39.92
     + ID2= 2 (  0106):  1063.11  14.830    11.97    30.94
```

```
      ================================================
      ID = 3 (  0105):  1776.09  28.356    10.78    34.54

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
---------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1776.09  28.356    10.78    34.54
     + ID2= 2 (  0111):     2.27   0.059    10.25    26.77
      ================================================
      ID = 1 (  0105):  1778.36  28.375    10.77    34.54

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
---------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0105):  1778.36  28.375    10.77    34.54
     + ID2= 2 (  0022):    38.60   0.873    10.52    29.06
      ================================================
      ID = 3 (  0105):  1816.96  29.207    10.75    34.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD  (  0105)|
|  3 +  2 =  1   |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1816.96  29.207    10.75    34.49
     + ID2= 2 (  0023):    17.66   0.465    10.30    29.19
      ================================================
      ID = 1 (  0105):  1834.62  29.500    10.73    34.47

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 04         **
*******************************

--------------------
| ADD HYD  (  0105)|
|  1 +  2 =  3   |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0104):   712.98  20.682    10.57    48.63
     + ID2= 2 (  0106):  1063.11  18.915    11.95    39.22
      ================================================
      ID = 3 (  0105):  1776.09  35.582    10.72    43.00

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
```

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1776.09 35.582 10.72 43.00

+ ID2= 2 ( 0111): 2.27 0.074 10.25 34.37

==========

ID = 1 ( 0105): 1778.36 35.606 10.72 42.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0105): 1778.36 35.606 10.72 42.99

+ ID2= 2 ( 0022): 38.60 1.104 10.50 36.88

==========

ID = 3 ( 0105): 1816.96 36.676 10.70 42.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1816.96 36.676 10.70 42.95

+ ID2= 2 ( 0023): 17.66 0.584 10.30 37.11

```
      ================================================
      ID = 1 (  0105):  1834.62  37.074    10.68    42.92

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
---------------------------------------------------------------------------
*******************************
** SIMULATION:Run 05         **
*******************************

--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0104):   712.98  23.616    10.55    55.21
     + ID2= 2 (  0106):  1063.11  22.015    11.93    45.60
      ================================================
      ID = 3 (  0105):  1776.09  41.017    10.68    49.46

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
---------------------------------------------------------------------------

--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1776.09  41.017    10.68    49.46
     + ID2= 2 (  0111):     2.27   0.086    10.25    40.28
      ================================================
      ID = 1 (  0105):  1778.36  41.046    10.68    49.45
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0105): 1778.36 41.046 10.68 49.45

+ ID2= 2 ( 0022): 38.60 1.281 10.50 42.92

==========

ID = 3 ( 0105): 1816.96 42.292 10.67 49.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1816.96 42.292 10.67 49.41

+ ID2= 2 ( 0023): 17.66 0.674 10.30 43.23

==========

ID = 1 ( 0105): 1834.62 42.769 10.65 49.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 06 **

**********

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

--- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0104): 712.98 26.530 10.53 61.88

+ ID2= 2 ( 0106): 1063.11 25.214 11.92 52.17

==========

ID = 3 ( 0105): 1776.09 46.597 10.67 56.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

--- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1776.09 46.597 10.67 56.07

+ ID2= 2 ( 0111): 2.27 0.098 10.25 46.39

==========

ID = 1 ( 0105): 1778.36 46.630 10.67 56.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

```
---------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0105):  1778.36  46.630    10.67    56.06
    + ID2= 2 (  0022):    38.60   1.462    10.48    49.13
      ================================================
      ID = 3 (  0105):  1816.96  48.056    10.65    56.02

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
---------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1816.96  48.056    10.65    56.02
    + ID2= 2 (  0023):    17.66   0.765    10.30    49.54
      ================================================
      ID = 1 (  0105):  1834.62  48.608    10.63    56.00

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 07         **
*******************************


--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
---------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0104):   712.98  48.118     5.63    77.87
```

```
     + ID2= 2 (  0106):  1063.11  42.179     7.35    67.37
       ================================================
       ID = 3 (  0105):  1776.09  73.183     5.78    71.58

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0105):  1776.09  73.183     5.78    71.58
     + ID2= 2 (  0111):     2.27   0.241     5.27    65.17
       ================================================
       ID = 1 (  0105):  1778.36  73.260     5.78    71.57

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0105):  1778.36  73.260     5.78    71.57
     + ID2= 2 (  0022):    38.60   2.752     5.70    69.84
       ================================================
       ID = 3 (  0105):  1816.96  76.001     5.77    71.54

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1816.96 76.001 5.77 71.54

+ ID2= 2 ( 0023): 17.66 1.749 5.33 69.28

==========

ID = 1 ( 0105): 1834.62 77.147 5.73 71.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

Proposed condition

**********

** SIMULATION:Run 01 **

**********

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0104): 712.98 10.011 10.55 25.92

+ ID2= 2 ( 0106): 1063.11 7.513 12.00 16.26

==========

ID = 3 ( 0105): 1776.09 15.584 10.77 20.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

```
--------------------
| ADD HYD  (  0105)|
|  3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1776.09  15.584    10.77    20.14
     + ID2= 2 (  0111):     2.27   0.031    10.28    18.95
      ================================================
      ID = 1 (  0105):  1778.36  15.608    10.77    20.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|  1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0105):  1778.36  15.608    10.77    20.14
     + ID2= 2 (  0022):    38.60   0.452    10.55    14.98
      ================================================
      ID = 3 (  0105):  1816.96  16.046    10.75    20.07

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|  3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
```

ID1= 3 ( 0105): 1816.96 16.046 10.75 20.07

+ ID2= 2 ( 0023): 17.66 0.246 10.32 14.92

==========

ID = 1 ( 0105): 1834.62 16.207 10.72 20.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 02 **

**********

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0104): 712.98 14.521 10.62 36.07

+ ID2= 2 ( 0106): 1063.11 11.763 12.02 24.90

==========

ID = 3 ( 0105): 1776.09 23.802 10.75 29.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1776.09 23.802 10.75 29.38

+ ID2= 2 ( 0111): 2.27 0.047 10.27 27.75

```
      ================================================
      ID = 1 (  0105):  1778.36  23.835    10.73    29.38

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
---------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0105):  1778.36  23.835    10.73    29.38
     + ID2= 2 (  0022):    38.60   0.698    10.53    23.16
      ================================================
      ID = 3 (  0105):  1816.96  24.510    10.73    29.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
---------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1816.96  24.510    10.73    29.31
     + ID2= 2 (  0023):    17.66   0.375    10.32    23.20
      ================================================
      ID = 1 (  0105):  1834.62  24.758    10.70    29.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

```
*********************************
** SIMULATION:Run 03         **
*********************************

--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0104):   712.98  17.826    10.57    43.05
     + ID2= 2 (  0106):  1063.11  14.886    11.95    31.15
      ================================================
      ID = 3 (  0105):  1776.09  29.473    10.70    35.93

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1776.09  29.473    10.70    35.93
     + ID2= 2 (  0111):    2.27   0.058    10.27    34.06
      ================================================
      ID = 1 (  0105):  1778.36  29.514    10.70    35.93

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
```

```
| ADD HYD  (  0105)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
---------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0105):  1778.36  29.514    10.70    35.93
     + ID2= 2 (  0022):    38.60   0.873    10.52    29.07
      ==================================================
      ID = 3 (  0105):  1816.96  30.364    10.70    35.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
---------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1816.96  30.364    10.70    35.85
     + ID2= 2 (  0023):    17.66   0.465    10.30    29.19
      ==================================================
      ID = 1 (  0105):  1834.62  30.686    10.67    35.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 04         **
*******************************


--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
```

```
----------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0104):   712.98  21.954    10.53    52.03
     + ID2= 2 (  0106):  1063.11  18.967    11.95    39.45
       ================================================
       ID = 3 (  0105):  1776.09  36.776    10.65    44.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
----------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0105):  1776.09  36.776    10.65    44.50
     + ID2= 2 (  0111):    2.27   0.073    10.27    42.40
       ================================================
       ID = 1 (  0105):  1778.36  36.828    10.65    44.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
----------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0105):  1778.36  36.828    10.65    44.50
     + ID2= 2 (  0022):    38.60   1.104    10.50    36.88
       ================================================
       ID = 3 (  0105):  1816.96  37.913    10.65    44.42
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1816.96 37.913 10.65 44.42

+ ID2= 2 ( 0023): 17.66 0.584 10.30 37.11

==========

ID = 1 ( 0105): 1834.62 38.344 10.63 44.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 05 **

**********

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0104): 712.98 24.939 10.52 58.77

+ ID2= 2 ( 0106): 1063.11 22.066 11.93 45.84

==========

ID = 3 ( 0105): 1776.09 42.265 10.63 51.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1776.09 42.265 10.63 51.03

+ ID2= 2 ( 0111): 2.27 0.085 10.27 48.80

==========

ID = 1 ( 0105): 1778.36 42.324 10.63 51.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0105): 1778.36 42.324 10.63 51.03

+ ID2= 2 ( 0022): 38.60 1.281 10.50 42.92

==========

ID = 3 ( 0105): 1816.96 43.586 10.62 50.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1816.96 43.586 10.62 50.96

+ ID2= 2 ( 0023): 17.66 0.674 10.30 43.24

==========

ID = 1 ( 0105): 1834.62 44.097 10.60 50.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 06 **

**********

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0104): 712.98 27.865 10.50 65.60

+ ID2= 2 ( 0106): 1063.11 25.261 11.90 52.43

==========

ID = 3 ( 0105): 1776.09 47.837 10.63 57.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1776.09 47.837 10.63 57.72

```
     + ID2= 2 (  0111):    2.27   0.096    10.27    55.38
       ==================================================
       ID = 1 (  0105):  1778.36  47.903    10.62    57.71

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0105):  1778.36  47.903    10.62    57.71
     + ID2= 2 (  0022):    38.60   1.462    10.48    49.14
       ==================================================
       ID = 3 (  0105):  1816.96  49.346    10.62    57.64

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0105):  1816.96  49.346    10.62    57.64
     + ID2= 2 (  0023):    17.66   0.765    10.30    49.54
       ==================================================
       ID = 1 (  0105):  1834.62  49.928    10.60    57.60

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

---

**********

** SIMULATION:Run 07 **

**********

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0104): 712.98 51.231 5.57 81.91

+ ID2= 2 ( 0106): 1063.11 42.209 7.33 67.64

==========

ID = 3 ( 0105): 1776.09 75.999 5.67 73.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1776.09 75.999 5.67 73.37

+ ID2= 2 ( 0111): 2.27 0.234 5.27 70.51

==========

ID = 1 ( 0105): 1778.36 76.119 5.67 73.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

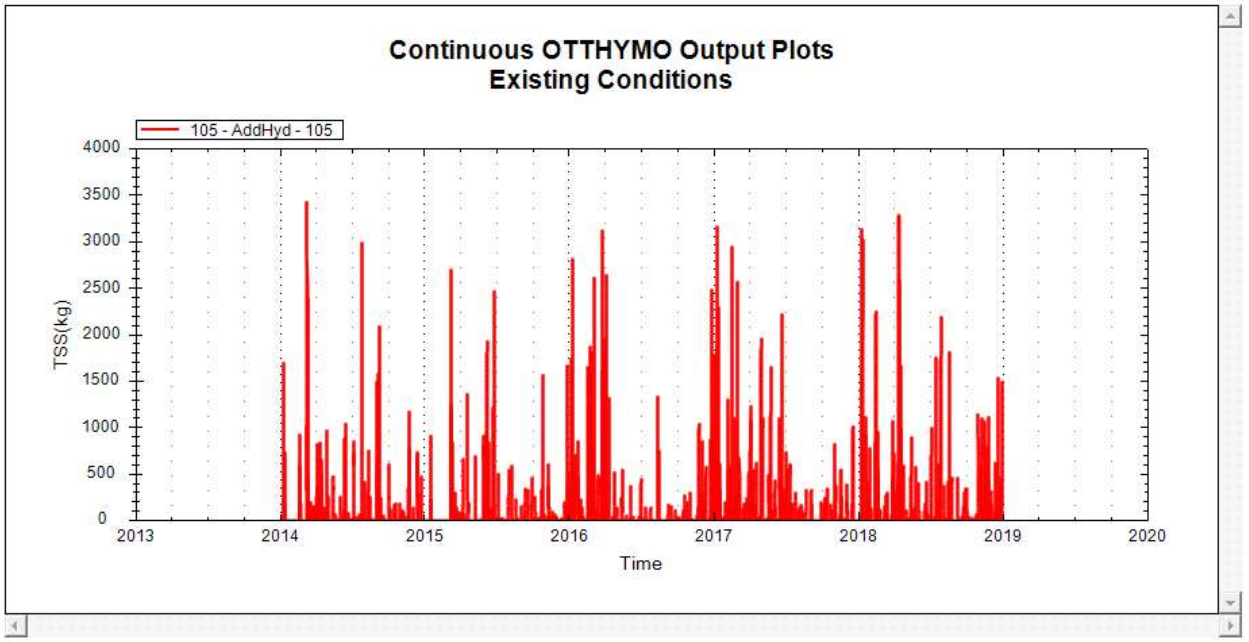
---

```
--------------------
| ADD HYD  (  0105)|
|  1 +  2 =  3   |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0105):  1778.36  76.119     5.67    73.37
     + ID2= 2 (  0022):    38.60   2.752     5.70    69.85
      ==================================================
      ID = 3 (  0105):  1816.96  78.868     5.67    73.29

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|  3 +  2 =  1   |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1816.96  78.868     5.67    73.29
     + ID2= 2 (  0023):    17.66   1.749     5.33    69.28
      ==================================================
      ID = 1 (  0105):  1834.62  80.189     5.65    73.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

## Water quality

## TSS

Graph

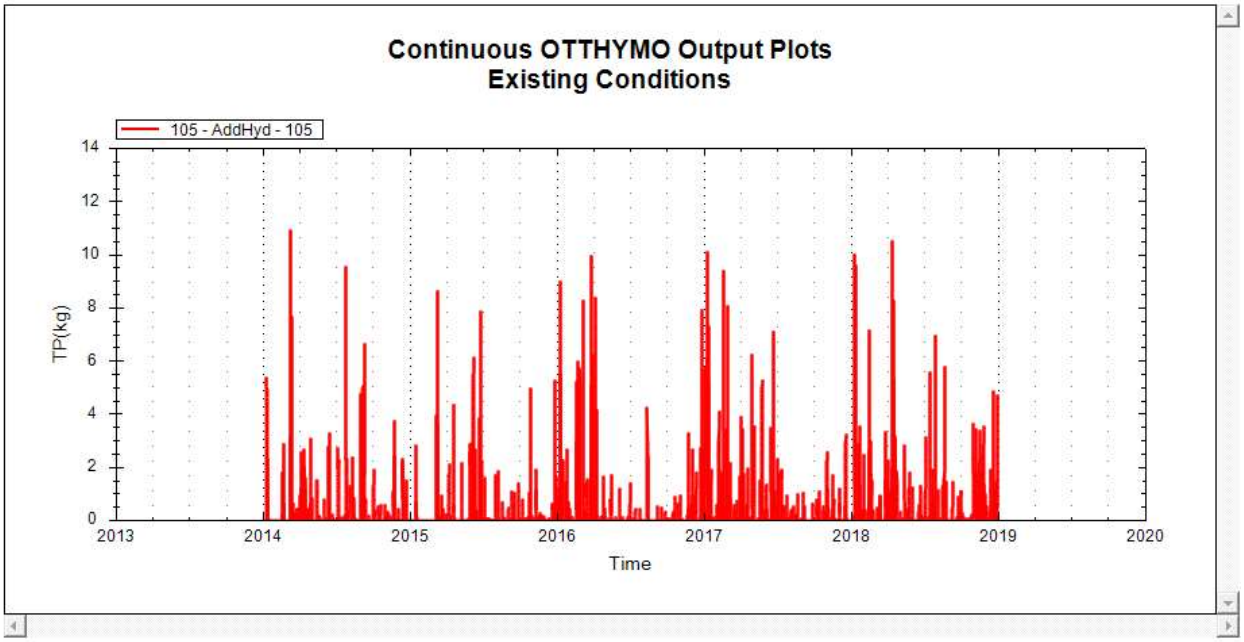



Statistics

| Glyph Name | Variable | Min | Max | Average | Total |
|---|---|---|---|---|---|
| AddHyd - 105 | TSS | 0 | 3427.1909 | 66.7867 | |

TP

Graph




Statistics

| Glyph Name | Variable | Min | Max | Average | Total |
|---|---|---|---|---|---|
| AddHyd - 105 | TP | 0 | 10.9345 | 0.2132 | |

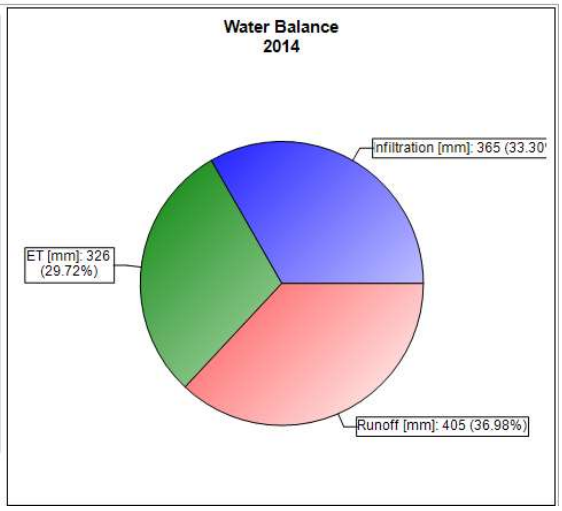
## Water Balance

Water Balance - AddHyd - 105

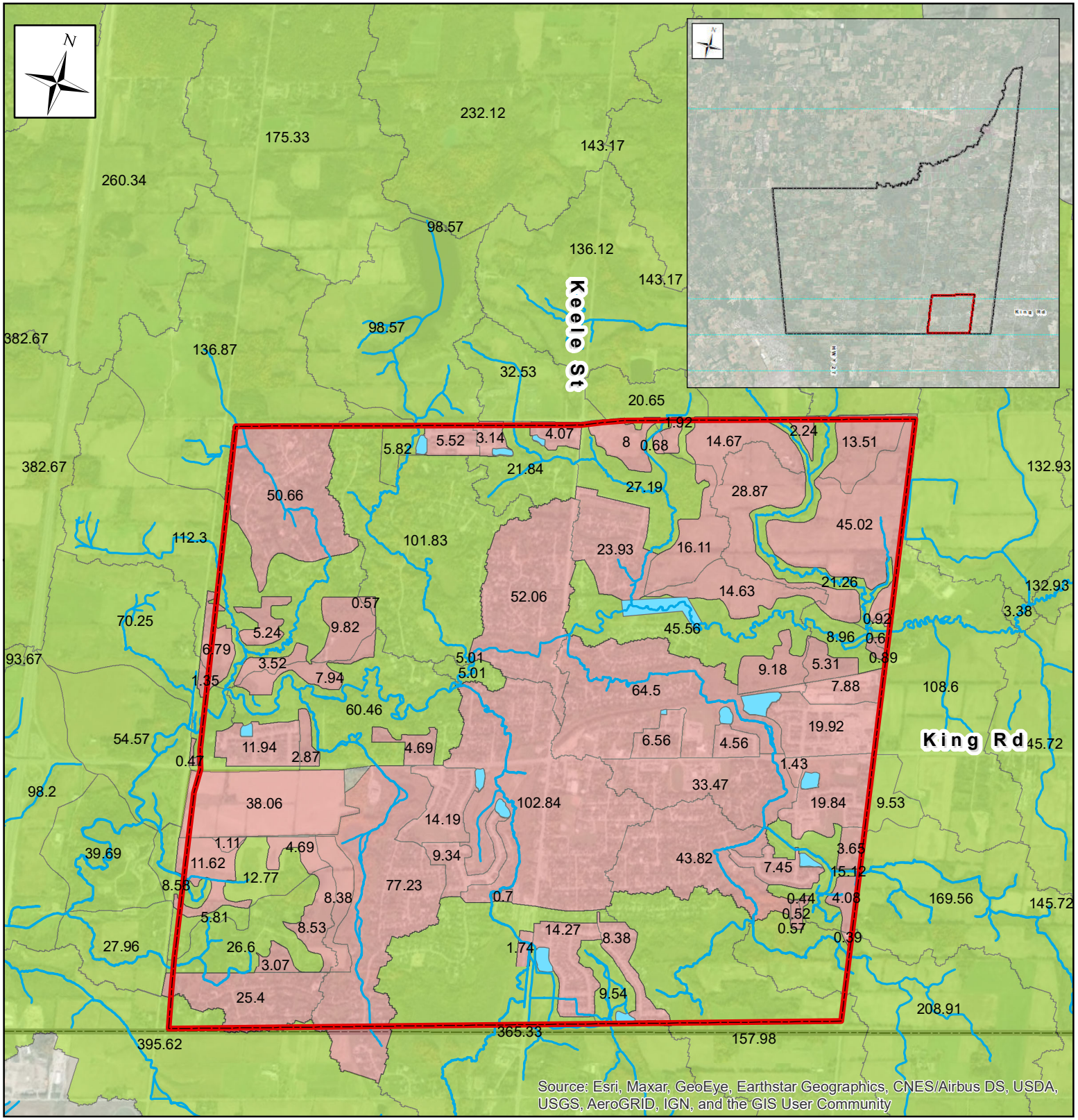
Year | Month | Season

| Year | Precipitation (mm) | Rainfall (mm) | Snowfall (mm) | Snowmelt (mm) | ET (mm) | Infiltration (mm) | GWI (mm) | Runoff (mm) | ΔStorage (mm) | Runoff Coefficie |
|---|---|---|---|---|---|---|---|---|---|---|
| 2014 | 945 | 797 | 148 | 179 | 326 | 365 | 143 | 405 | 71 | 0.429 |
| 2015 | 809 | 718 | 91 | 88 | 343 | 334 | 142 | 304 | 20 | 0.376 |
| 2016 | 759 | 572 | 187 | 202 | 304 | 295 | 139 | 305 | 11 | 0.401 |
| 2017 | 1044 | 927 | 117 | 132 | 296 | 401 | 273 | 479 | -3 | 0.458 |
| 2018 | 1038 | 874 | 165 | 205 | 353 | 432 | 223 | 469 | -6 | 0.451 |
| Avg | 919 | 778 | 142 | 161 | 324 | 365 | 184 | 392 | 18 | 0.427 |

**ΔStorage = Precipitation - ET - GWI - Runoff**



# *Future Conditions*




## Legend

- King City Boundary
- Township of King Boundary
- Stormwater Management Pond
- Watercourse
- 1,2 **Subcatmchents**
  - Area (ha)
- NasHyd
- StandHyd

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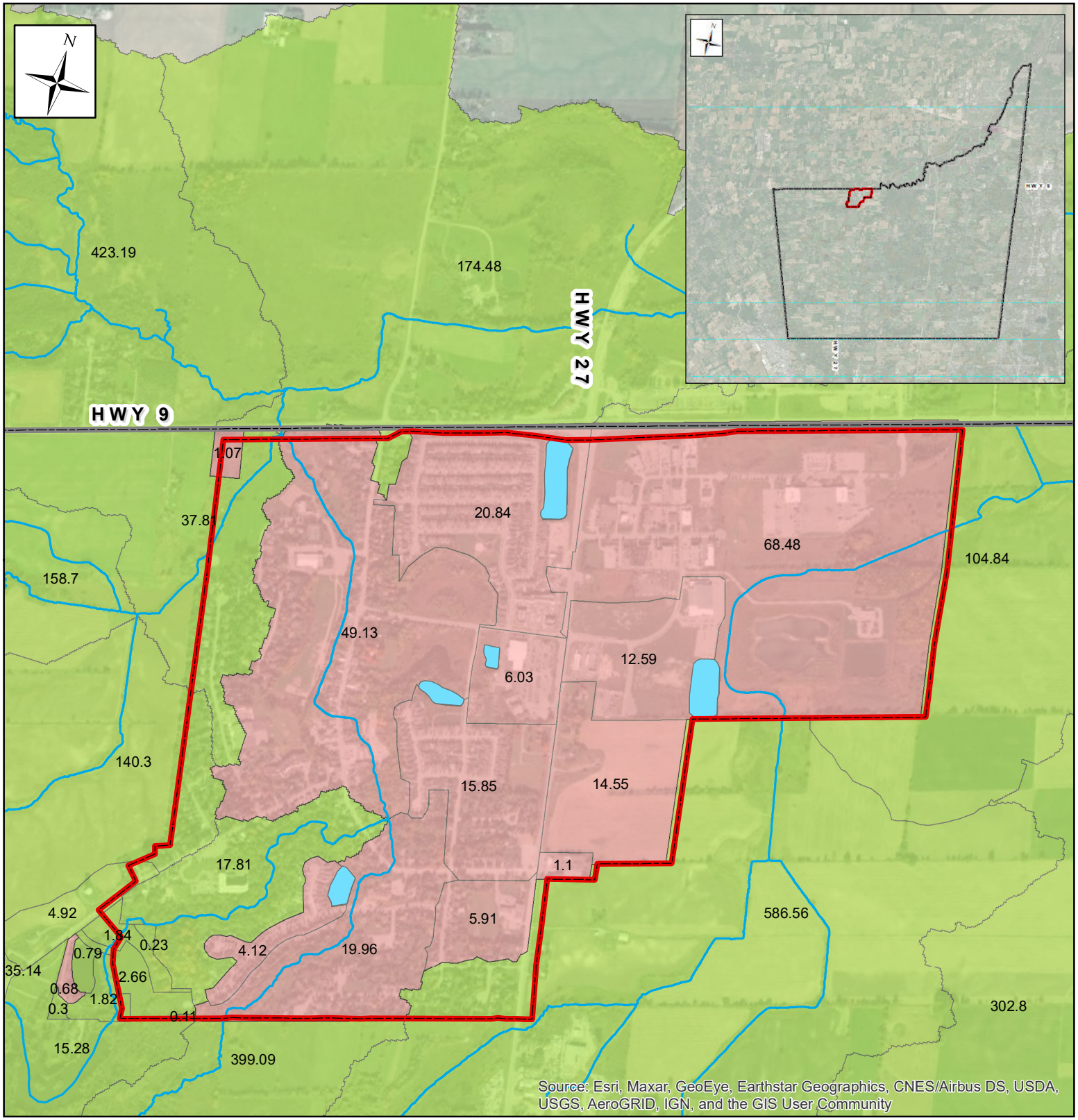
**Stormwater Management Masterplan**

**Figure L-4 : Proposed Delineated Catchment Areas King City**

Drawn By: D.R. Date: 2021-05-03

0 215 430 860
Meters




## Legend

- Schomberg Boundary
- Township of King Boundary
- Stormwater Management Pond
- Watercourse
- 1,2 **Subcatmchents**
  - Area (ha)
- NasHyd
- StandHyd

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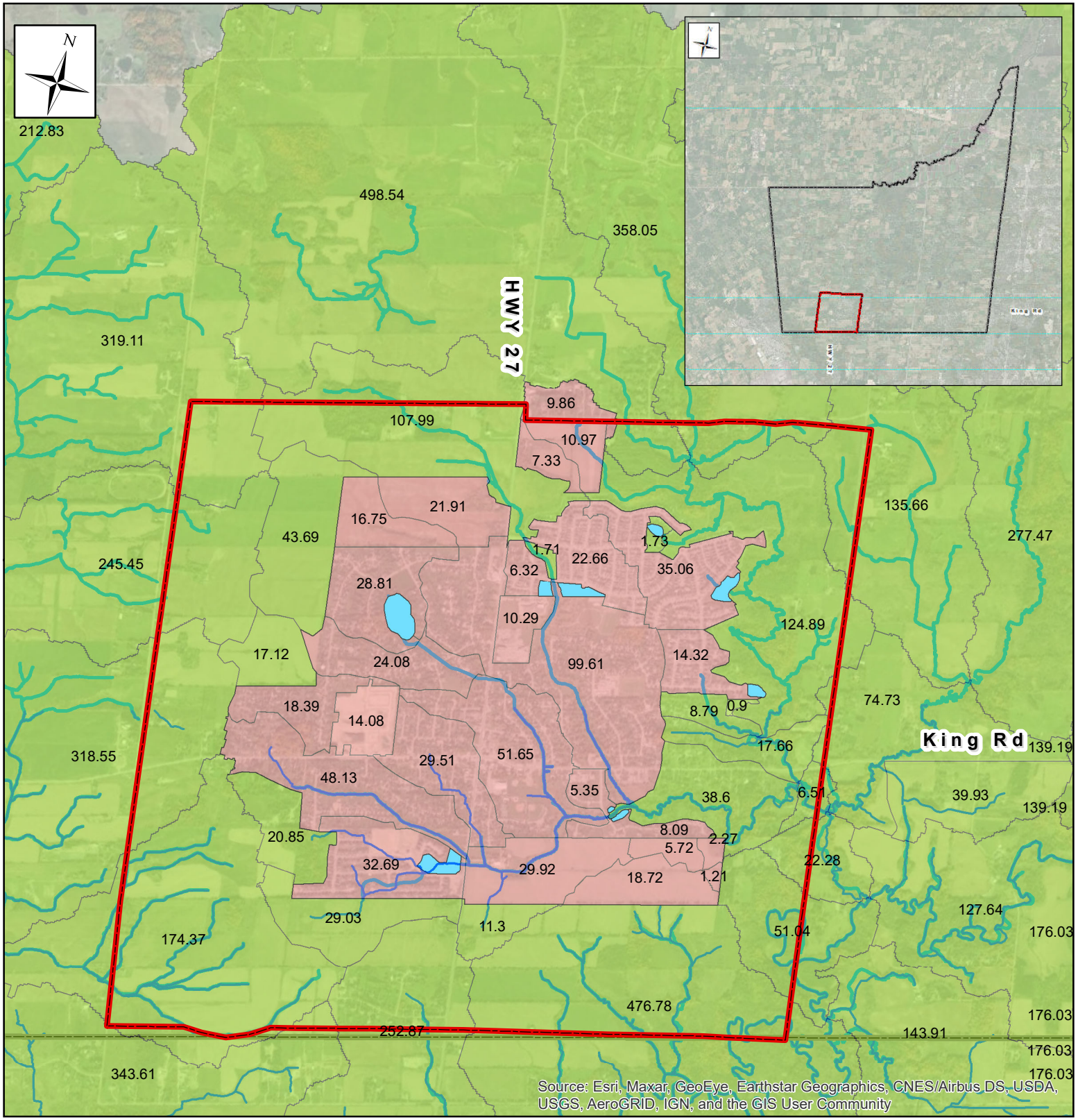
**Stormwater Management Masterplan**

**Figure L-5: Proposed Delineated Catchment Areas Schomberg**

Drawn By: D.R. Date: 2021-04-05

0 95 190 380
Meters




## Legend

- Nobleton Boundary
- Township of King Boundary
- Stormwater Management Pond
- Watercourse
- 1,2 **Subcatmchents**
  - Area (ha)
- NasHyd
- StandHyd

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**Stormwater Management Masterplan**

**Figure L-6: Nobleton**
**Delineated Catchment Areas**
**Nobleton**

Drawn By: D.R. Date: 2021-04-05

0 210 420 840
Meters

## Target point AH105

## Peak Flow:

## Future condition

## Peak flow

```
*******************************
** SIMULATION:Run 01         **
*******************************


---------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
---------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0104):   712.98  10.011    10.55    25.92
     + ID2= 2 (  0106):  1063.11   7.513    12.00    16.26
      ================================================
      ID = 3 (  0105):  1776.09  15.584    10.77    20.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


---------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
---------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1776.09  15.584    10.77    20.14
     + ID2= 2 (  0111):    2.27   0.031    10.28    18.95
      ================================================
```

ID = 1 ( 0105): 1778.36 15.608 10.77 20.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0105): 1778.36 15.608 10.77 20.14

+ ID2= 2 ( 0022): 38.60 0.452 10.55 14.98

==========

ID = 3 ( 0105): 1816.96 16.046 10.75 20.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1816.96 16.046 10.75 20.07

+ ID2= 2 ( 0023): 17.66 0.246 10.32 14.92

==========

ID = 1 ( 0105): 1834.62 16.207 10.72 20.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 02 **

**********

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

--- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0104): 712.98 14.521 10.62 36.07

+ ID2= 2 ( 0106): 1063.11 11.763 12.02 24.90

==========

ID = 3 ( 0105): 1776.09 23.802 10.75 29.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

--- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1776.09 23.802 10.75 29.38

+ ID2= 2 ( 0111): 2.27 0.047 10.27 27.75

==========

ID = 1 ( 0105): 1778.36 23.835 10.73 29.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0105): 1778.36 23.835 10.73 29.38

+ ID2= 2 ( 0022): 38.60 0.698 10.53 23.16

==========

ID = 3 ( 0105): 1816.96 24.510 10.73 29.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1816.96 24.510 10.73 29.31

+ ID2= 2 ( 0023): 17.66 0.375 10.32 23.20

==========

ID = 1 ( 0105): 1834.62 24.758 10.70 29.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 03 **

**********

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0104): 712.98 17.826 10.57 43.05

+ ID2= 2 ( 0106): 1063.11 14.886 11.95 31.15

==========

ID = 3 ( 0105): 1776.09 29.473 10.70 35.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1776.09 29.473 10.70 35.93

+ ID2= 2 ( 0111): 2.27 0.058 10.27 34.06

==========

ID = 1 ( 0105): 1778.36 29.514 10.70 35.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0105): 1778.36 29.514 10.70 35.93

+ ID2= 2 ( 0022): 38.60 0.873 10.52 29.07

==========

ID = 3 ( 0105): 1816.96 30.364 10.70 35.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1816.96 30.364 10.70 35.85

+ ID2= 2 ( 0023): 17.66 0.465 10.30 29.19

==========

ID = 1 ( 0105): 1834.62 30.686 10.67 35.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 04 **

**********

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0104): 712.98 21.954 10.53 52.03

+ ID2= 2 ( 0106): 1063.11 18.967 11.95 39.45

==========

ID = 3 ( 0105): 1776.09 36.776 10.65 44.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

```
--------------------
| ADD HYD  (  0105)|
|  3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1776.09  36.776    10.65    44.50
     + ID2= 2 (  0111):     2.27   0.073    10.27    42.40
      ================================================
      ID = 1 (  0105):  1778.36  36.828    10.65    44.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|  1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0105):  1778.36  36.828    10.65    44.50
     + ID2= 2 (  0022):    38.60   1.104    10.50    36.88
      ================================================
      ID = 3 (  0105):  1816.96  37.913    10.65    44.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|  3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
```

ID1= 3 ( 0105): 1816.96 37.913 10.65 44.42

+ ID2= 2 ( 0023): 17.66 0.584 10.30 37.11

==========

ID = 1 ( 0105): 1834.62 38.344 10.63 44.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 05 **

**********

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

--- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0104): 712.98 24.939 10.52 58.77

+ ID2= 2 ( 0106): 1063.11 22.066 11.93 45.84

==========

ID = 3 ( 0105): 1776.09 42.265 10.63 51.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

--- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1776.09 42.265 10.63 51.03

+ ID2= 2 ( 0111): 2.27 0.085 10.27 48.80

```
      ================================================
      ID = 1 (  0105):  1778.36  42.324    10.63    51.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0105):  1778.36  42.324    10.63    51.03
     + ID2= 2 (  0022):    38.60   1.281    10.50    42.92
      ================================================
      ID = 3 (  0105):  1816.96  43.586    10.62    50.96

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1816.96  43.586    10.62    50.96
     + ID2= 2 (  0023):    17.66   0.674    10.30    43.24
      ================================================
      ID = 1 (  0105):  1834.62  44.097    10.60    50.92

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

```
**********
** SIMULATION:Run 06         **
**********

---------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
---------------------        (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0104):   712.98  27.865    10.50    65.60
     + ID2= 2 (  0106):  1063.11  25.261    11.90    52.43
       ==================================================
       ID = 3 (  0105):  1776.09  47.837    10.63    57.72

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


---------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
---------------------        (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0105):  1776.09  47.837    10.63    57.72
     + ID2= 2 (  0111):     2.27   0.096    10.27    55.38
       ==================================================
       ID = 1 (  0105):  1778.36  47.903    10.62    57.71

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


---------------------
```

```
| ADD HYD  (  0105)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
---------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0105):  1778.36  47.903    10.62    57.71
     + ID2= 2 (  0022):    38.60   1.462    10.48    49.14
      ================================================
      ID = 3 (  0105):  1816.96  49.346    10.62    57.64

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
---------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1816.96  49.346    10.62    57.64
     + ID2= 2 (  0023):    17.66   0.765    10.30    49.54
      ================================================
      ID = 1 (  0105):  1834.62  49.928    10.60    57.60

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 07         **
*******************************


--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
```

```
----------          (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0104):   712.98  51.231     5.57    81.91
    + ID2= 2 (  0106):  1063.11  42.209     7.33    67.64
     ================================================
      ID = 3 (  0105):  1776.09  75.999     5.67    73.37

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
----------          (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1776.09  75.999     5.67    73.37
    + ID2= 2 (  0111):    2.27   0.234     5.27    70.51
     ================================================
      ID = 1 (  0105):  1778.36  76.119     5.67    73.37

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
----------          (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0105):  1778.36  76.119     5.67    73.37
    + ID2= 2 (  0022):    38.60   2.752     5.70    69.85
     ================================================
      ID = 3 (  0105):  1816.96  78.868     5.67    73.29
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1816.96 78.868 5.67 73.29

+ ID2= 2 ( 0023): 17.66 1.749 5.33 69.28

==========

ID = 1 ( 0105): 1834.62 80.189 5.65 73.25

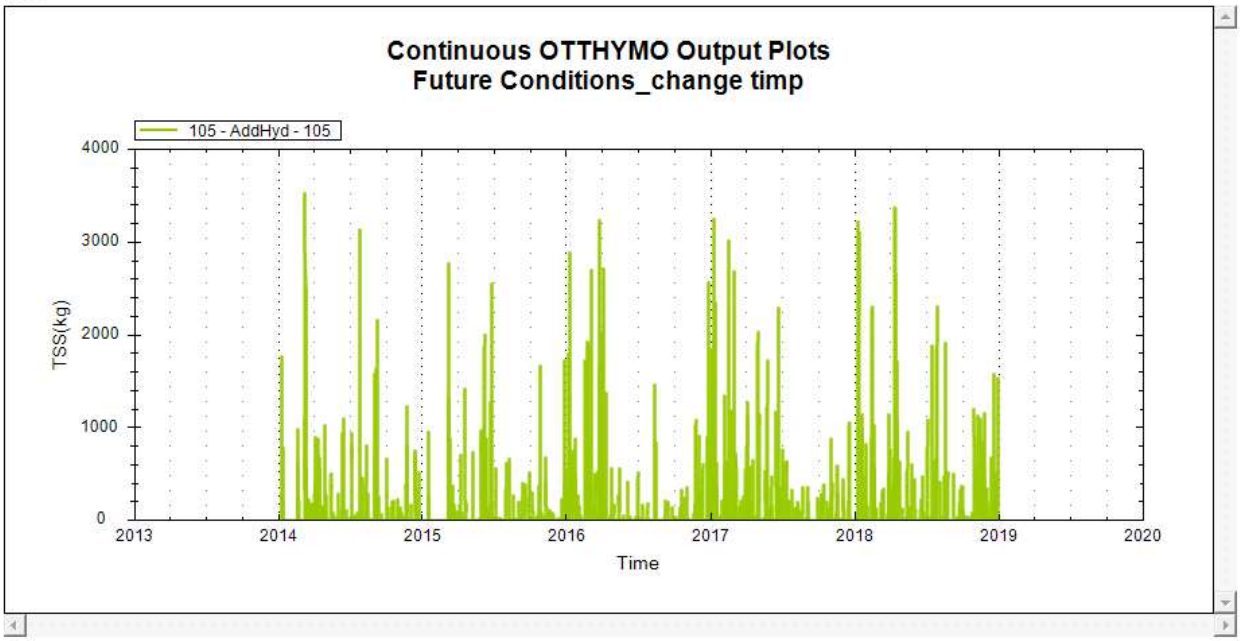
NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**Water quality**

**TSS**

Graph

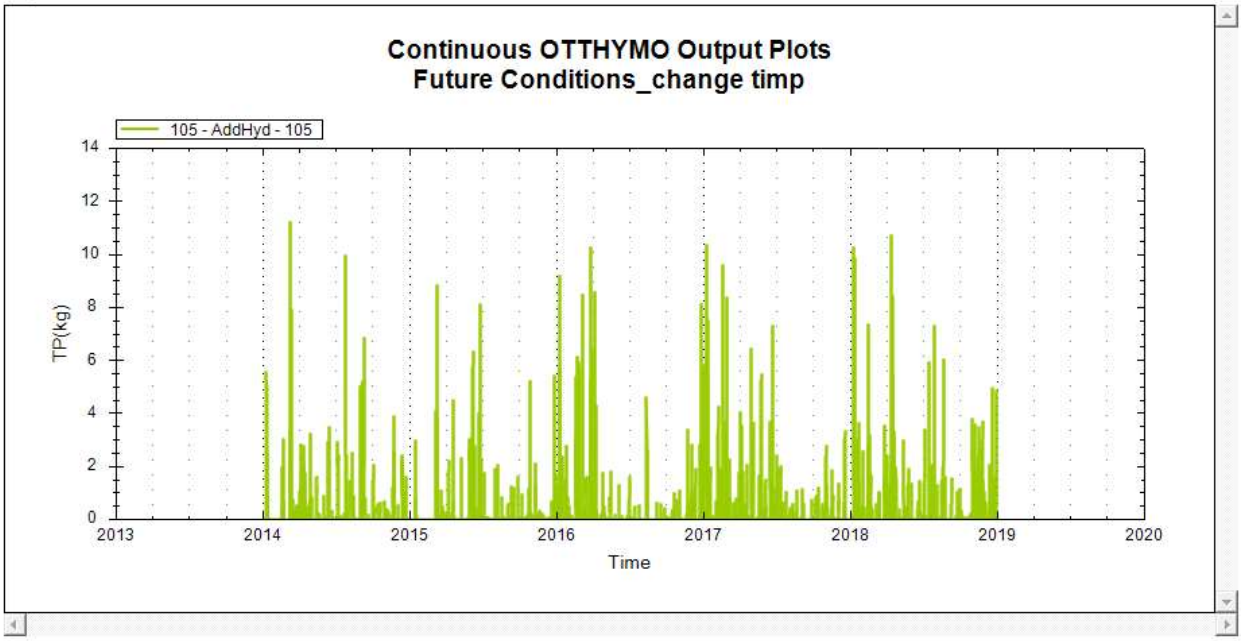



Statistics

| Glyph Name | Variable | Min | Max | Average | Total |
|---|---|---|---|---|---|
| AddHyd - 105 | TSS | 0 | 3527.4233 | 72.0798 | |

**TP**

Graph




Statistics

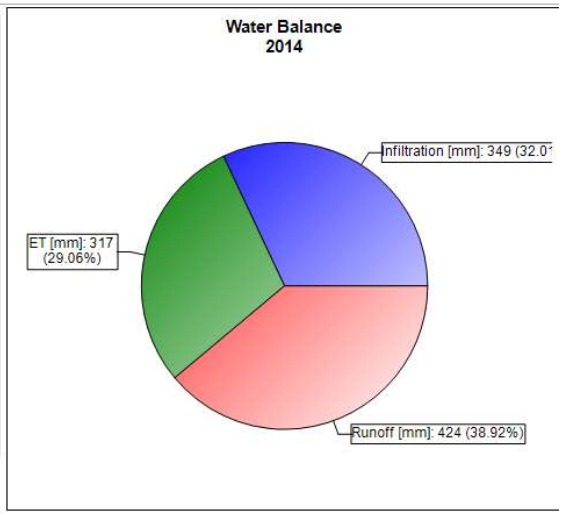
| Glyph Name | Variable | Min | Max | Average | Total |
|---|---|---|---|---|---|
| AddHyd - 105 | TP | 0 | 11.2081 | 0.2279 | |

# Water balance

Year | Month | Season

| Year | Precipitation (mm) | Rainfall (mm) | Snowfall (mm) | Snowmelt (mm) | ET (mm) | Infiltration (mm) | GWI (mm) | Runoff (mm) | ΔStorage (mm) | Runoff Coefficie |
|---|---|---|---|---|---|---|---|---|---|---|
| 2014 | 945 | 797 | 148 | 179 | 317 | 349 | 135 | 424 | 68 | 0.449 |
| 2015 | 809 | 718 | 91 | 88 | 333 | 320 | 135 | 321 | 21 | 0.396 |
| 2016 | 759 | 572 | 187 | 202 | 294 | 282 | 132 | 320 | 13 | 0.421 |
| 2017 | 1044 | 927 | 117 | 132 | 288 | 383 | 258 | 500 | -1 | 0.478 |
| 2018 | 1038 | 874 | 165 | 205 | 342 | 412 | 211 | 491 | -5 | 0.473 |
| Avg | 919 | 778 | 142 | 161 | 315 | 349 | 174 | 411 | 19 | 0.447 |

**ΔStorage = Precipitation - ET - GWI - Runoff**



## Target point AH336

## Peak Flow:

## Existing condition

```
*******************************
** SIMULATION:Run 01         **
*******************************


--------------------
| ADD HYD  (  0336)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
---------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0165):    39.69   0.477    10.40    13.48
     + ID2= 2 (  0172):    27.96   0.206    10.58     9.49
      ================================================
      ID = 3 (  0336):    67.66   0.678    10.43    13.37

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0336)|
|   3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
---------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0336):    67.66   0.678    10.43    13.37
     + ID2= 2 (  0337):  6031.38  44.226    12.87    17.41
      ================================================
      ID = 1 (  0336):  6099.03  44.459    12.87    17.36
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0336)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0336): 6099.03 44.459 12.87 17.36

+ ID2= 2 ( 0340): 60.88 0.898 10.35 20.14

==========

ID = 3 ( 0336): 6159.92 44.736 12.85 17.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 02 **

**********

---

| ADD HYD ( 0336)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0165): 39.69 0.748 10.38 21.38

+ ID2= 2 ( 0172): 27.96 0.336 10.55 15.43

==========

ID = 3 ( 0336): 67.66 1.076 10.42 21.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

```
--------------------
| ADD HYD  (  0336)|
|  3 +  2 =  1   |       AREA    QPEAK    TPEAK     R.V.
---------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0336):    67.66   1.076    10.42    21.16
     + ID2= 2 (  0337):  6031.38  67.106    12.77    25.84
      ================================================
      ID = 1 (  0336):  6099.03  67.475    12.75    25.79

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0336)|
|  1 +  2 =  3   |       AREA    QPEAK    TPEAK     R.V.
---------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0336):  6099.03  67.475    12.75    25.79
     + ID2= 2 (  0340):    60.88   1.347    10.33    29.51
      ================================================
      ID = 3 (  0336):  6159.92  67.876    12.75    25.82

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 03         **
*******************************

--------------------
```

```
| ADD HYD  (  0336)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
----------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0165):    39.69   0.942    10.37    27.14
     + ID2= 2 (  0172):    27.96   0.433    10.53    19.91
      ================================================
      ID = 3 (  0336):    67.66   1.365    10.40    26.88

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0336)|
|   3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
----------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0336):    67.66   1.365    10.40    26.88
     + ID2= 2 (  0337):  6031.38  83.671    12.72    31.92
      ================================================
      ID = 1 (  0336):  6099.03  84.140    12.70    31.87

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0336)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
----------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0336):  6099.03  84.140    12.70    31.87
     + ID2= 2 (  0340):    60.88   1.661    10.32    36.16
```

```
      ================================================
      ID = 3 (  0336):  6159.92  84.626    12.68    31.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
---------------------------------------------------------------------------
*******************************
** SIMULATION:Run 04         **
*******************************

--------------------
| ADD HYD  (  0336)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0165):    39.69   1.196    10.37    34.81
     + ID2= 2 (  0172):    27.96   0.565    10.53    26.00
      ================================================
      ID = 3 (  0336):    67.66   1.749    10.40    34.56

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
---------------------------------------------------------------------------

--------------------
| ADD HYD  (  0336)|
|   3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0336):    67.66   1.749    10.40    34.56
     + ID2= 2 (  0337):  6031.38 105.713    12.67    39.99
      ================================================
      ID = 1 (  0336):  6099.03 106.312    12.67    39.93
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0336)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0336): 6099.03 106.312 12.67 39.93

+ ID2= 2 ( 0340): 60.88 2.071 10.32 44.90

==========

ID = 3 ( 0336): 6159.92 106.912 12.65 39.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 05 **

**********

---

| ADD HYD ( 0336)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0165): 39.69 1.391 10.35 40.75

+ ID2= 2 ( 0172): 27.96 0.669 10.52 30.82

==========

ID = 3 ( 0336): 67.66 2.046 10.38 40.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0336)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0336): 67.66 2.046 10.38 40.53

+ ID2= 2 ( 0337): 6031.38 122.620 12.65 46.19

==========

ID = 1 ( 0336): 6099.03 123.322 12.63 46.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0336)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0336): 6099.03 123.322 12.63 46.13

+ ID2= 2 ( 0340): 60.88 2.382 10.30 51.57

==========

ID = 3 ( 0336): 6159.92 124.004 12.62 46.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 06 **

**********

```
--------------------
| ADD HYD  (  0336)|
|  1 +  2 =  3   |       AREA    QPEAK    TPEAK     R.V.
--------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0165):    39.69   1.590    10.35    46.90
    + ID2= 2 (  0172):    27.96   0.778    10.52    35.88
      ================================================
      ID = 3 (  0336):    67.66   2.353    10.38    46.71

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0336)|
|  3 +  2 =  1   |       AREA    QPEAK    TPEAK     R.V.
--------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0336):    67.66   2.353    10.38    46.71
    + ID2= 2 (  0337):  6031.38 140.106    12.62    52.57
      ================================================
      ID = 1 (  0336):  6099.03 140.910    12.60    52.51

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0336)|
|  1 +  2 =  3   |       AREA    QPEAK    TPEAK     R.V.
--------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0336):  6099.03 140.910    12.60    52.51
```

+ ID2= 2 ( 0340): 60.88 2.702 10.30 58.41

==========

ID = 3 ( 0336): 6159.92 141.680 12.60 52.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 07 **

**********

---

| ADD HYD ( 0336)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

--- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0165): 39.69 3.356 5.45 66.61

+ ID2= 2 ( 0172): 27.96 1.498 5.72 53.19

==========

ID = 3 ( 0336): 67.66 4.758 5.50 61.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0336)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

--- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0336): 67.66 4.758 5.50 61.06

+ ID2= 2 ( 0337): 6031.38 236.470 8.00 67.40

==========

ID = 1 ( 0336): 6099.03 237.485 7.98 67.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0336)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0336): 6099.03 237.485 7.98 67.33

+ ID2= 2 ( 0340): 60.88 6.230 5.33 74.04

==========

ID = 3 ( 0336): 6159.92 238.307 7.98 67.39

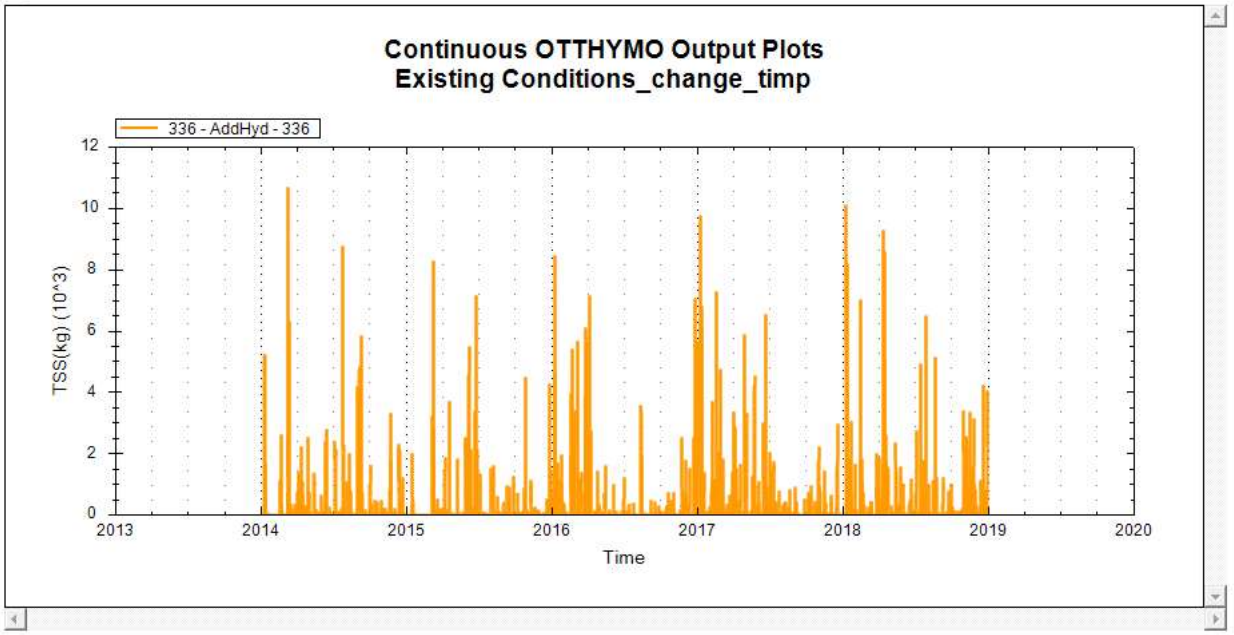
NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

## Water quality

## TSS

Graph

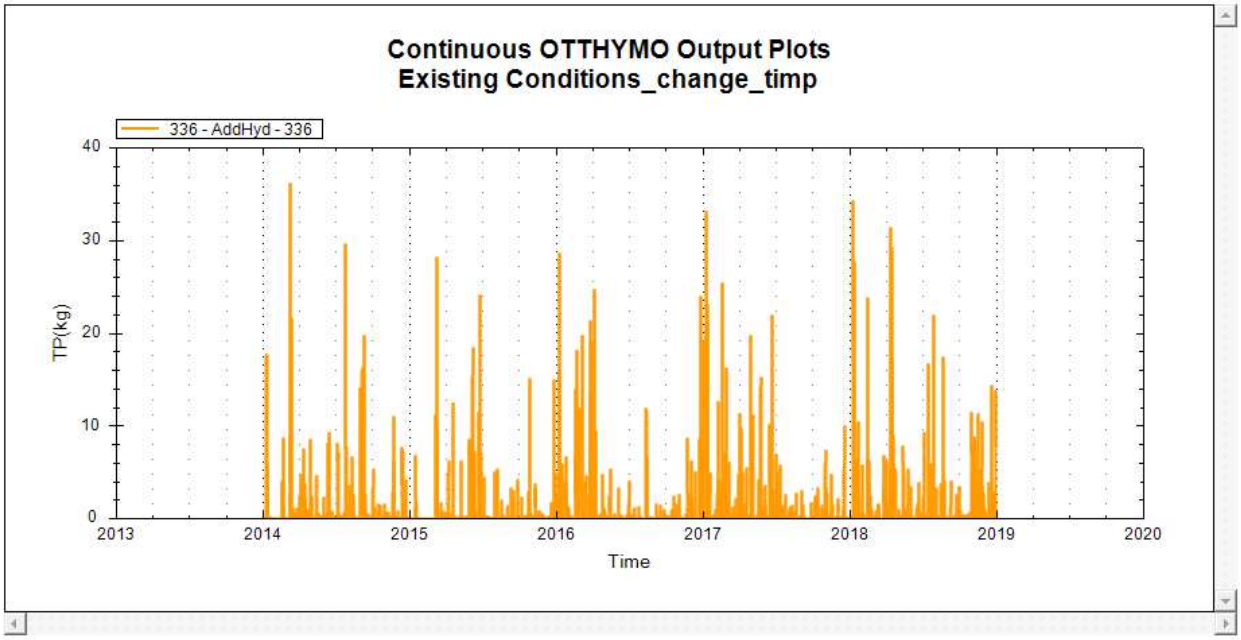



Statistics

| Glyph Name | Variable | Min | Max | Average | Total |
|---|---|---|---|---|---|
| AddHyd - 336 | TSS | 0 | 10669.8516 | 185.4816 | |

**TP**

Graph




Statistics

| Glyph Name | Variable | Min | Max | Average | Total |
|---|---|---|---|---|---|
| AddHyd - 336 | TP | 0 | 36.1267 | 0.6332 | |

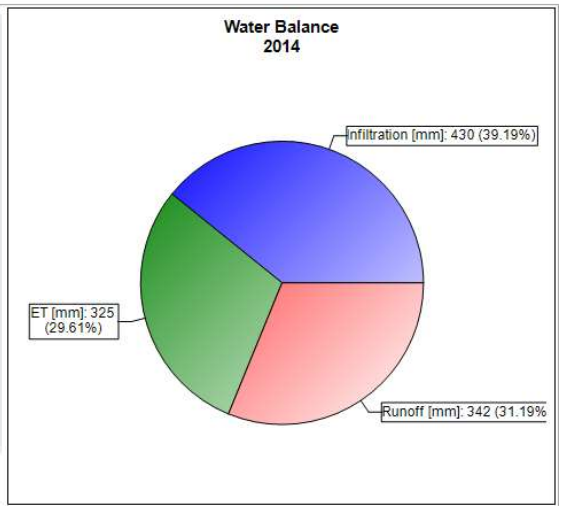
## Water balance

Water Balance - AddHyd - 336

Year | Month | Season

| Year | Precipitation (mm) | Rainfall (mm) | Snowfall (mm) | Snowmelt (mm) | ET (mm) | Infiltration (mm) | GWI (mm) | Runoff (mm) | ΔStorage (mm) | Runoff Coefficie |
|---|---|---|---|---|---|---|---|---|---|---|
| 2014 | 945 | 797 | 148 | 179 | 325 | 430 | 172 | 342 | 105 | 0.363 |
| 2015 | 809 | 718 | 91 | 88 | 347 | 384 | 189 | 255 | 19 | 0.316 |
| 2016 | 759 | 572 | 187 | 202 | 333 | 346 | 174 | 255 | -3 | 0.336 |
| 2017 | 1044 | 927 | 117 | 132 | 296 | 484 | 344 | 398 | 7 | 0.381 |
| 2018 | 1038 | 874 | 165 | 205 | 354 | 502 | 286 | 400 | -2 | 0.385 |
| Avg | 919 | 778 | 142 | 161 | 331 | 429 | 233 | 330 | 25 | 0.359 |

**ΔStorage = Precipitation - ET - GWI - Runoff**



**Target point AH336**

**Peak Flow:**

**Future condition:**

```
*******************************
** SIMULATION:Run 01         **
*******************************


--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0104):   712.98  10.011    10.55    25.92
     + ID2= 2 (  0106):  1063.11   7.513    12.00    16.26
      ================================================
      ID = 3 (  0105):  1776.09  15.584    10.77    20.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1776.09  15.584    10.77    20.14
```

+ ID2= 2 ( 0111): 2.27 0.031 10.28 18.95

==========

ID = 1 ( 0105): 1778.36 15.608 10.77 20.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

--- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0105): 1778.36 15.608 10.77 20.14

+ ID2= 2 ( 0022): 38.60 0.452 10.55 14.98

==========

ID = 3 ( 0105): 1816.96 16.046 10.75 20.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

--- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1816.96 16.046 10.75 20.07

```
     + ID2= 2 (  0023):    17.66   0.246    10.32    14.92
       ==================================================
       ID = 1 (  0105):  1834.62  16.207    10.72    20.04

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 02         **
*******************************

--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0104):   712.98  14.521    10.62    36.07
     + ID2= 2 (  0106):  1063.11  11.763    12.02    24.90
       ==================================================
       ID = 3 (  0105):  1776.09  23.802    10.75    29.38

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0105)|
```

```
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1776.09  23.802    10.75    29.38
     + ID2= 2 (  0111):     2.27   0.047    10.27    27.75
      ==================================================
      ID = 1 (  0105):  1778.36  23.835    10.73    29.38

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0105):  1778.36  23.835    10.73    29.38
     + ID2= 2 (  0022):    38.60   0.698    10.53    23.16
      ==================================================
      ID = 3 (  0105):  1816.96  24.510    10.73    29.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
```

```
|  3 +  2 =  1   |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1816.96  24.510    10.73    29.31
     + ID2= 2 (  0023):    17.66   0.375    10.32    23.20
      ================================================
      ID = 1 (  0105):  1834.62  24.758    10.70    29.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 03         **
*******************************

--------------------
| ADD HYD  (  0105)|
|  1 +  2 =  3   |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0104):   712.98  17.826    10.57    43.05
     + ID2= 2 (  0106):  1063.11  14.886    11.95    31.15
      ================================================
      ID = 3 (  0105):  1776.09  29.473    10.70    35.93

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1776.09  29.473    10.70    35.93
     + ID2= 2 (  0111):     2.27   0.058    10.27    34.06
      ================================================
      ID = 1 (  0105):  1778.36  29.514    10.70    35.93

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0105):  1778.36  29.514    10.70    35.93
     + ID2= 2 (  0022):    38.60   0.873    10.52    29.07
      ================================================
      ID = 3 (  0105):  1816.96  30.364    10.70    35.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1816.96  30.364    10.70    35.85
     + ID2= 2 (  0023):    17.66   0.465    10.30    29.19
      ================================================
      ID = 1 (  0105):  1834.62  30.686    10.67    35.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*********************************
** SIMULATION:Run 04         **
*********************************

--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0104):   712.98  21.954    10.53    52.03
     + ID2= 2 (  0106):  1063.11  18.967    11.95    39.45
      ================================================
      ID = 3 (  0105):  1776.09  36.776    10.65    44.50
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---

(ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1776.09 36.776 10.65 44.50

+ ID2= 2 ( 0111): 2.27 0.073 10.27 42.40

==========

ID = 1 ( 0105): 1778.36 36.828 10.65 44.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---

(ha) (cms) (hrs) (mm)

ID1= 1 ( 0105): 1778.36 36.828 10.65 44.50

+ ID2= 2 ( 0022): 38.60 1.104 10.50 36.88

==========

ID = 3 ( 0105): 1816.96 37.913 10.65 44.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1816.96 37.913 10.65 44.42

+ ID2= 2 ( 0023): 17.66 0.584 10.30 37.11

==========

ID = 1 ( 0105): 1834.62 38.344 10.63 44.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 05 **

**********

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0104): 712.98 24.939 10.52 58.77

+ ID2= 2 ( 0106): 1063.11 22.066 11.93 45.84

==========

ID = 3 ( 0105): 1776.09 42.265 10.63 51.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1776.09 42.265 10.63 51.03

+ ID2= 2 ( 0111): 2.27 0.085 10.27 48.80

==========

ID = 1 ( 0105): 1778.36 42.324 10.63 51.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0105): 1778.36 42.324 10.63 51.03

```
     + ID2= 2 (  0022):    38.60   1.281    10.50    42.92
       ================================================
       ID = 3 (  0105):  1816.96  43.586    10.62    50.96

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0105):  1816.96  43.586    10.62    50.96
     + ID2= 2 (  0023):    17.66   0.674    10.30    43.24
       ================================================
       ID = 1 (  0105):  1834.62  44.097    10.60    50.92

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 06         **
*******************************


--------------------
| ADD HYD  (  0105)|
```

```
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0104):   712.98  27.865    10.50    65.60
     + ID2= 2 (  0106):  1063.11  25.261    11.90    52.43
      ====================================================
      ID = 3 (  0105):  1776.09  47.837    10.63    57.72

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1776.09  47.837    10.63    57.72
     + ID2= 2 (  0111):     2.27   0.096    10.27    55.38
      ====================================================
      ID = 1 (  0105):  1778.36  47.903    10.62    57.71

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
```

```
|  1 +  2 =  3   |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0105):  1778.36  47.903    10.62    57.71
     + ID2= 2 (  0022):    38.60   1.462    10.48    49.14
      ==================================================
      ID = 3 (  0105):  1816.96  49.346    10.62    57.64

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|  3 +  2 =  1   |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1816.96  49.346    10.62    57.64
     + ID2= 2 (  0023):    17.66   0.765    10.30    49.54
      ==================================================
      ID = 1 (  0105):  1834.62  49.928    10.60    57.60

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 07         **
*******************************
```

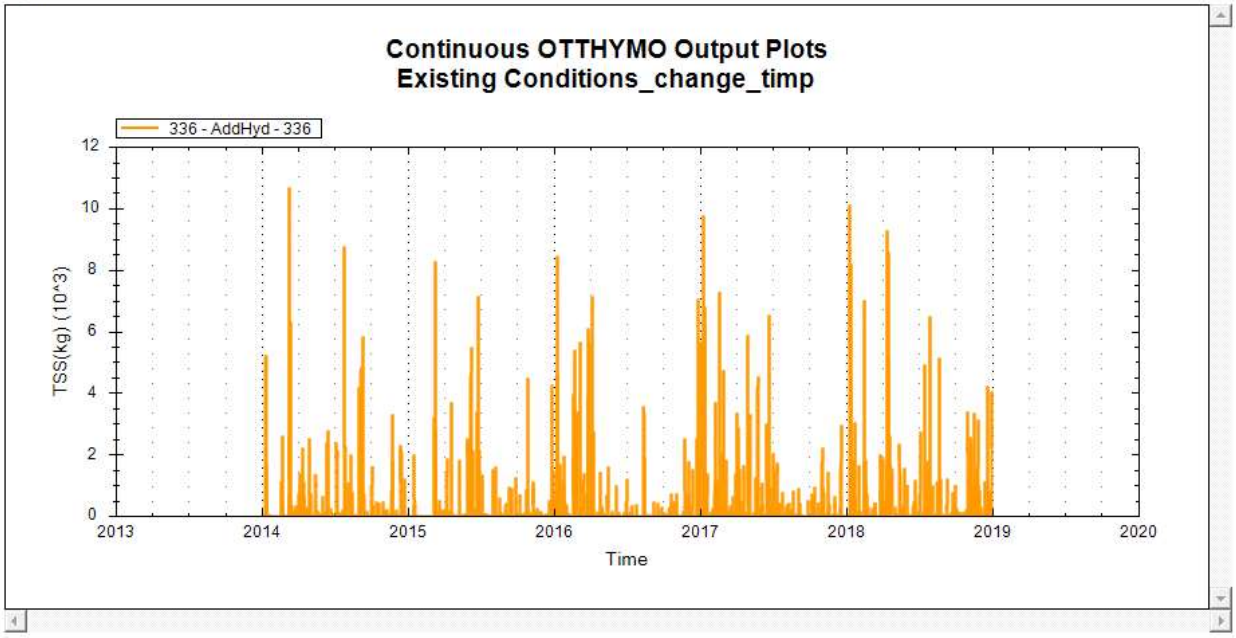
```
--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0104):   712.98  51.231     5.57    81.91
     + ID2= 2 (  0106):  1063.11  42.209     7.33    67.64
      ================================================
      ID = 3 (  0105):  1776.09  75.999     5.67    73.37

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1776.09  75.999     5.67    73.37
     + ID2= 2 (  0111):     2.27   0.234     5.27    70.51
      ================================================
      ID = 1 (  0105):  1778.36  76.119     5.67    73.37

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD  (  0105)|
|  1 +  2 =  3   |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0105):  1778.36  76.119     5.67    73.37
     + ID2= 2 (  0022):    38.60   2.752     5.70    69.85
      ================================================
      ID = 3 (  0105):  1816.96  78.868     5.67    73.29

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|  3 +  2 =  1   |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1816.96  78.868     5.67    73.29
     + ID2= 2 (  0023):    17.66   1.749     5.33    69.28
      ================================================
      ID = 1 (  0105):  1834.62  80.189     5.65    73.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

## Water quality

## TSS

Graph

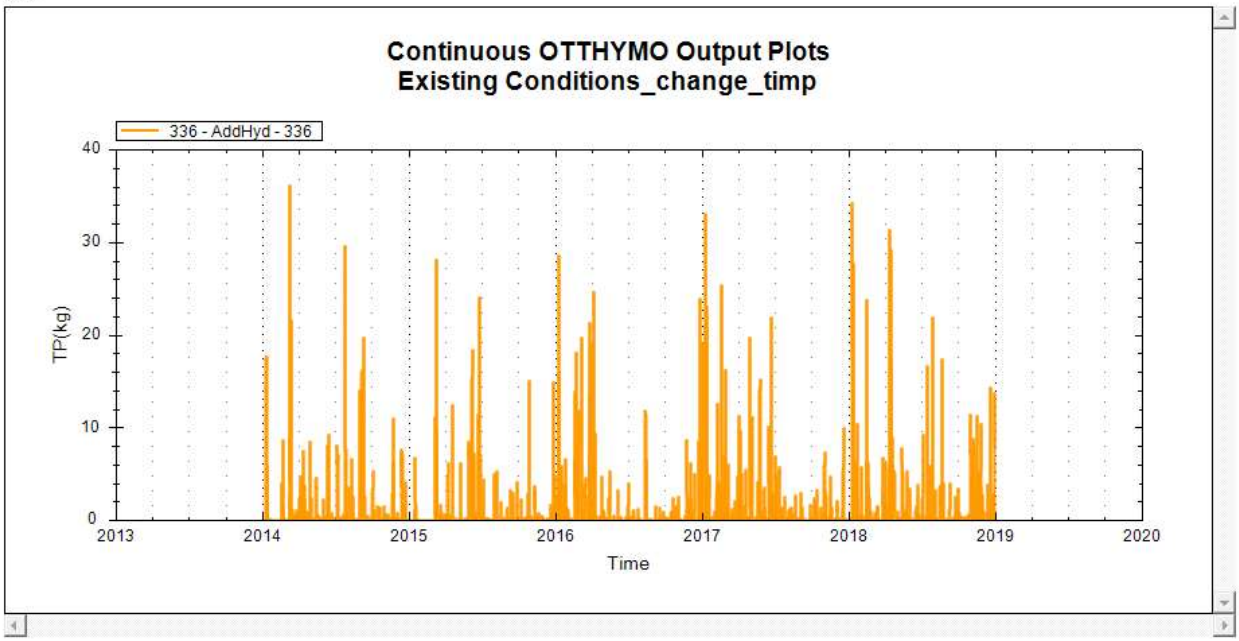



Statistics

| Glyph Name | Variable | Min | Max | Average | Total |
|---|---|---|---|---|---|
| AddHyd - 336 | TSS | 0 | 10669.8516 | 185.4816 | |

## TP

Graph




Statistics

| Glyph Name | Variable | Min | Max | Average | Total |
|---|---|---|---|---|---|
| AddHyd - 336 | TP | 0 | 36.1267 | 0.6332 | |

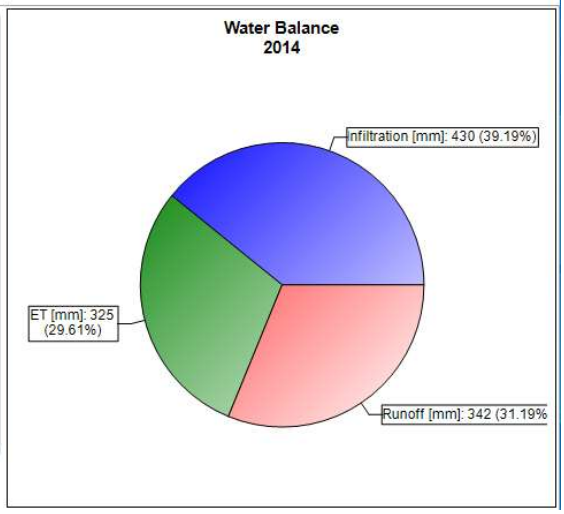
## Water Balance

Water Balance - AddHyd - 336

Year | Month | Season

| Year | Precipitation (mm) | Rainfall (mm) | Snowfall (mm) | Snowmelt (mm) | ET (mm) | Infiltration (mm) | GWI (mm) | Runoff (mm) | ΔStorage (mm) | Runoff Coefficie |
|---|---|---|---|---|---|---|---|---|---|---|
| 2014 | 945 | 797 | 148 | 179 | 325 | 430 | 172 | 342 | 105 | 0.363 |
| 2015 | 809 | 718 | 91 | 88 | 347 | 384 | 189 | 255 | 19 | 0.316 |
| 2016 | 759 | 572 | 187 | 202 | 333 | 346 | 174 | 255 | -3 | 0.336 |
| 2017 | 1044 | 927 | 117 | 132 | 296 | 484 | 344 | 398 | 7 | 0.381 |
| 2018 | 1038 | 874 | 165 | 205 | 354 | 502 | 286 | 400 | -2 | 0.385 |
| Avg | 919 | 778 | 142 | 161 | 331 | 429 | 233 | 330 | 25 | 0.359 |

**ΔStorage = Precipitation - ET - GWI - Runoff**



**Target point AH624**

**Peak Flow:**

**Existing condiiton**

```
*******************************
** SIMULATION:Run 01         **
*******************************


--------------------
| ADD HYD  (  0624)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0410):     1.10   0.029    10.25    36.30
     + ID2= 2 (  0424):    14.55   0.267    10.27    20.76
      ================================================
      ID = 3 (  0624):    15.65   0.296    10.27    23.45

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0624)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0624):    15.65   0.296    10.27    23.45
```

+ ID2= 2 ( 0425): 586.56 4.544 11.37 13.04

==========

ID = 1 ( 0624): 602.21 4.636 11.37 15.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 02 **

**********

---

| ADD HYD ( 0624)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0410): 1.10 0.039 10.25 48.71

+ ID2= 2 ( 0424): 14.55 0.382 10.27 30.14

==========

ID = 3 ( 0624): 15.65 0.420 10.27 33.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0624)|

```
|  3 +  2 =  1   |       AREA    QPEAK    TPEAK     R.V.
--------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0624):    15.65   0.420    10.27    33.62
     + ID2= 2 (  0425):   586.56   7.274    11.28    20.69
      ================================================
      ID = 1 (  0624):   602.21   7.402    11.28    24.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 03         **
*******************************

--------------------
| ADD HYD  (  0624)|
|  1 +  2 =  3   |       AREA    QPEAK    TPEAK     R.V.
--------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0410):     1.10   0.045    10.25    57.10
     + ID2= 2 (  0424):    14.55   0.461    10.27    36.76
      ================================================
      ID = 3 (  0624):    15.65   0.506    10.27    40.77

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD  (  0624)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0624):    15.65   0.506    10.27    40.77
     + ID2= 2 (  0425):   586.56   9.255    11.25    26.27
      ================================================
      ID = 1 (  0624):   602.21   9.408    11.23    31.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 04         **
*******************************

--------------------
| ADD HYD  (  0624)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0410):     1.10   0.053    10.25    67.75
     + ID2= 2 (  0424):    14.55   0.562    10.27    45.38
      ================================================
      ID = 3 (  0624):    15.65   0.615    10.25    50.08
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0624)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0624): 15.65 0.615 10.25 50.08

+ ID2= 2 ( 0425): 586.56 11.890 11.20 33.70

==========

ID = 1 ( 0624): 602.21 12.076 11.20 39.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 05 **

**********

---

| ADD HYD ( 0624)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0410): 1.10 0.059 10.25 75.67

```
     + ID2= 2 (  0424):    14.55   0.638    10.27    51.97
       ================================================
       ID = 3 (  0624):    15.65   0.697    10.25    57.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0624)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0624):    15.65   0.697    10.25    57.14
     + ID2= 2 (  0425):   586.56  13.922    11.18    39.44
       ================================================
       ID = 1 (  0624):   602.21  14.132    11.18    46.34

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 06         **
*******************************


--------------------
| ADD HYD  (  0624)|
```

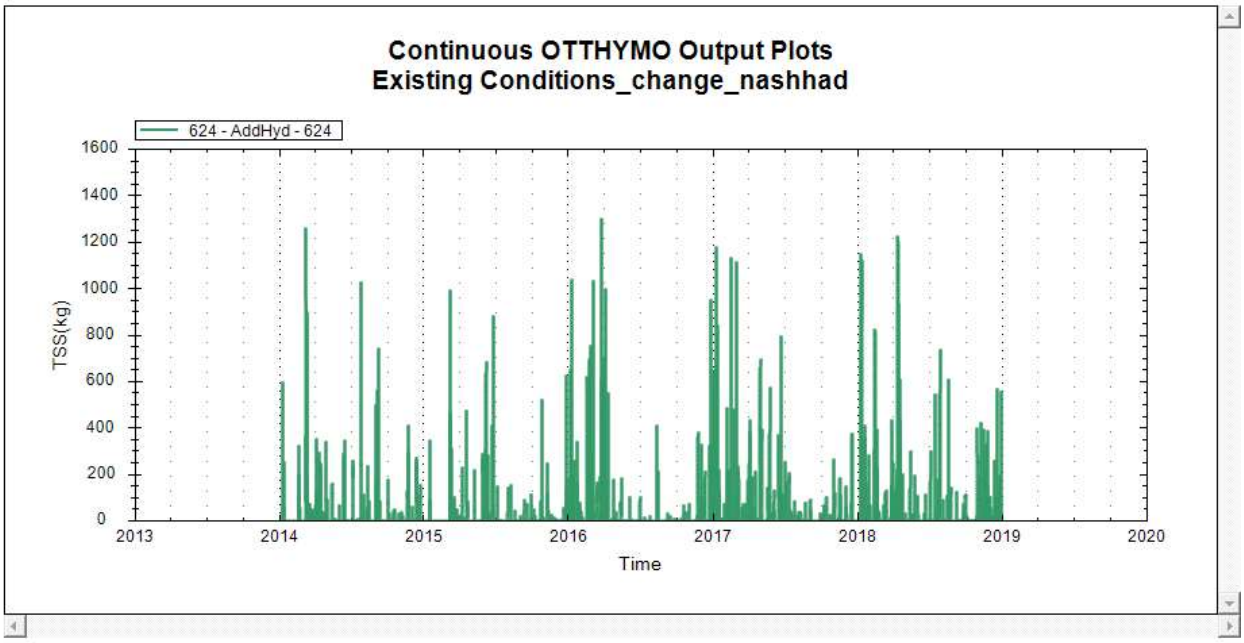
```
|  1 +  2 =  3   |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0410):     1.10   0.065    10.25    83.64
     + ID2= 2 (  0424):    14.55   0.715    10.27    58.69
      ==================================================
      ID = 3 (  0624):    15.65   0.780    10.25    64.34

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0624)|
|  3 +  2 =  1   |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0624):    15.65   0.780    10.25    64.34
     + ID2= 2 (  0425):   586.56  16.020    11.17    45.38
      ==================================================
      ID = 1 (  0624):   602.21  16.254    11.15    53.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 07         **
*******************************
```

```
--------------------
| ADD HYD  (  0624)|
|  1 +  2 =  3   |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0410):     1.10   0.154     5.25   101.46
     + ID2= 2 (  0424):    14.55   1.723     5.27    79.12
      ================================================
      ID = 3 (  0624):    15.65   1.876     5.27    80.70

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0624)|
|  3 +  2 =  1   |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0624):    15.65   1.876     5.27    80.70
     + ID2= 2 (  0425):   586.56  27.438     6.63    68.19
      ================================================
      ID = 1 (  0624):   602.21  27.822     6.60    68.57

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

## Water quality

## TSS

Graph

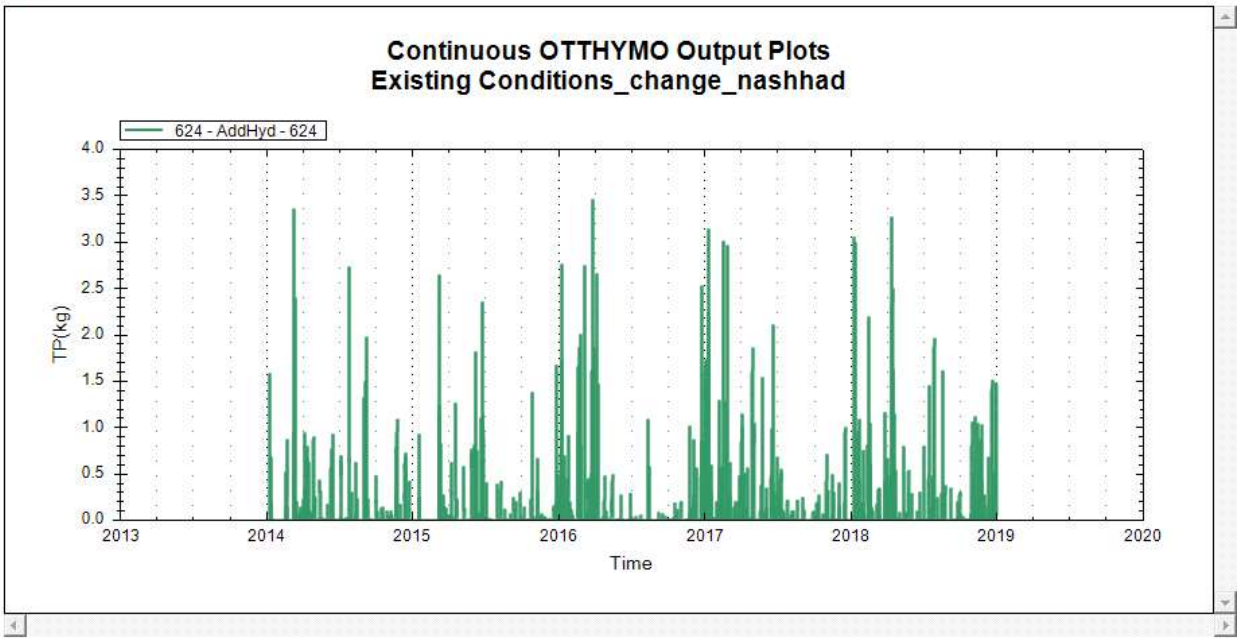



Statistics

| Glyph Name | Variable | Min | Max | Average | Total |
|---|---|---|---|---|---|
| AddHyd - 624 | TSS | 0 | 1298.9679 | 20.5492 | |

## TP

Graph




Statistics

| Glyph Name | Variable | Min | Max | Average | Total |
|---|---|---|---|---|---|
| AddHyd - 624 | TP | 0 | 3.4515 | 0.0546 | |

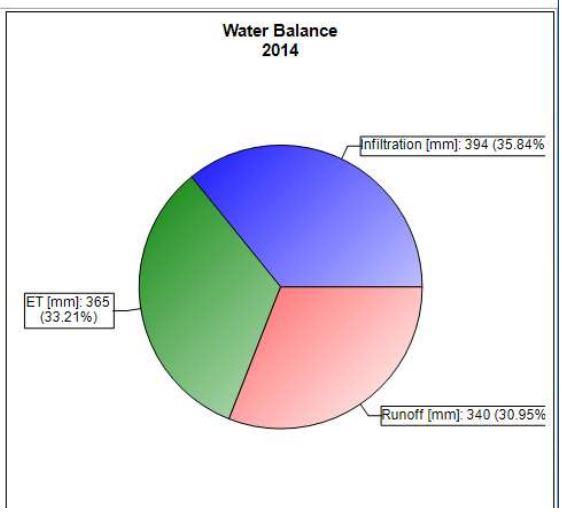
## Water Balance

Water Balance - AddHyd - 624

Year | Month | Season

| Year | Precipitation (mm) | Rainfall (mm) | Snowfall (mm) | Snowmelt (mm) | ET (mm) | Infiltration (mm) | GWI (mm) | Runoff (mm) | ΔStorage (mm) | Runoff Coefficie |
|---|---|---|---|---|---|---|---|---|---|---|
| 2014 | 945 | 797 | 148 | 179 | 365 | 394 | 165 | 340 | 75 | 0.360 |
| 2015 | 809 | 718 | 91 | 88 | 384 | 361 | 162 | 247 | 17 | 0.305 |
| 2016 | 759 | 572 | 187 | 202 | 338 | 314 | 155 | 255 | 11 | 0.336 |
| 2017 | 1044 | 927 | 117 | 132 | 332 | 437 | 310 | 411 | -9 | 0.393 |
| 2018 | 1038 | 874 | 165 | 205 | 400 | 472 | 249 | 398 | -9 | 0.384 |
| Avg | 919 | 778 | 142 | 161 | 364 | 396 | 208 | 330 | 17 | 0.359 |

**ΔStorage = Precipitation - ET - GWI - Runoff**



**Target point AH624**

**Peak Flow:**

**Future condition**

```
*******************************
** SIMULATION:Run 01         **
*******************************


-------------------
| ADD HYD  (  0624)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0410):     1.10   0.033    10.25    45.58
     + ID2= 2 (  0424):    14.55   0.436    10.25    45.57
      ==================================================
      ID = 3 (  0624):    15.65   0.469    10.25    45.57

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


-------------------
| ADD HYD  (  0624)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
```

ID1= 3 ( 0624): 15.65 0.469 10.25 45.57

+ ID2= 2 ( 0425): 586.56 4.544 11.37 13.04

==========

ID = 1 ( 0624): 602.21 4.683 11.35 16.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 02 **

**********

---

| ADD HYD ( 0624)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0410): 1.10 0.042 10.23 58.58

+ ID2= 2 ( 0424): 14.55 0.558 10.25 58.57

==========

ID = 3 ( 0624): 15.65 0.600 10.25 58.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

```
| ADD HYD  (  0624)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0624):    15.65   0.600    10.25    58.57
     + ID2= 2 (  0425):   586.56   7.274    11.28    20.70
      ================================================
      ID = 1 (  0624):   602.21   7.450    11.27    25.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 03         **
*******************************

--------------------
| ADD HYD  (  0624)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0410):     1.10   0.048    10.23    67.25
     + ID2= 2 (  0424):    14.55   0.639    10.25    67.25
      ================================================
      ID = 3 (  0624):    15.65   0.687    10.25    67.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0624)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0624):    15.65   0.687    10.25    67.25
     + ID2= 2 (  0425):   586.56   9.255    11.25    26.27
      ================================================
      ID = 1 (  0624):   602.21   9.456    11.23    31.96

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 04         **
*******************************


--------------------
| ADD HYD  (  0624)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0410):     1.10   0.056    10.23    78.19
     + ID2= 2 (  0424):    14.55   0.740    10.25    78.18
      ================================================
```

```
      ID = 3 (  0624):    15.65   0.796    10.25    78.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0624)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0624):    15.65   0.796    10.25    78.18
     + ID2= 2 (  0425):   586.56  11.891    11.20    33.70
      ================================================
      ID = 1 (  0624):   602.21  12.123    11.20    40.52

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
*********************************
** SIMULATION:Run 05         **
*********************************


--------------------
| ADD HYD  (  0624)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
```

ID1= 1 ( 0410): 1.10 0.062 10.23 86.29

+ ID2= 2 ( 0424): 14.55 0.816 10.25 86.28

==========

ID = 3 ( 0624): 15.65 0.877 10.25 86.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0624)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0624): 15.65 0.877 10.25 86.28

+ ID2= 2 ( 0425): 586.56 13.922 11.18 39.44

==========

ID = 1 ( 0624): 602.21 14.178 11.18 47.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 06 **

**********

---

```
| ADD HYD  (  0624)|
|  1 +  2 =  3   |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0410):     1.10   0.067    10.23    94.41
     + ID2= 2 (  0424):    14.55   0.891    10.25    94.40
      ================================================
      ID = 3 (  0624):    15.65   0.959    10.25    94.40

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0624)|
|  3 +  2 =  1   |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0624):    15.65   0.959    10.25    94.40
     + ID2= 2 (  0425):   586.56  16.020    11.17    45.38
      ================================================
      ID = 1 (  0624):   602.21  16.299    11.15    53.86

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 07         **
```

**********

---

| ADD HYD ( 0624)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0410): 1.10 0.160 5.23 112.49

+ ID2= 2 ( 0424): 14.55 2.116 5.25 112.48

==========

ID = 3 ( 0624): 15.65 2.276 5.25 112.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0624)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0624): 15.65 2.276 5.25 112.48

+ ID2= 2 ( 0425): 586.56 27.438 6.63 68.19

==========

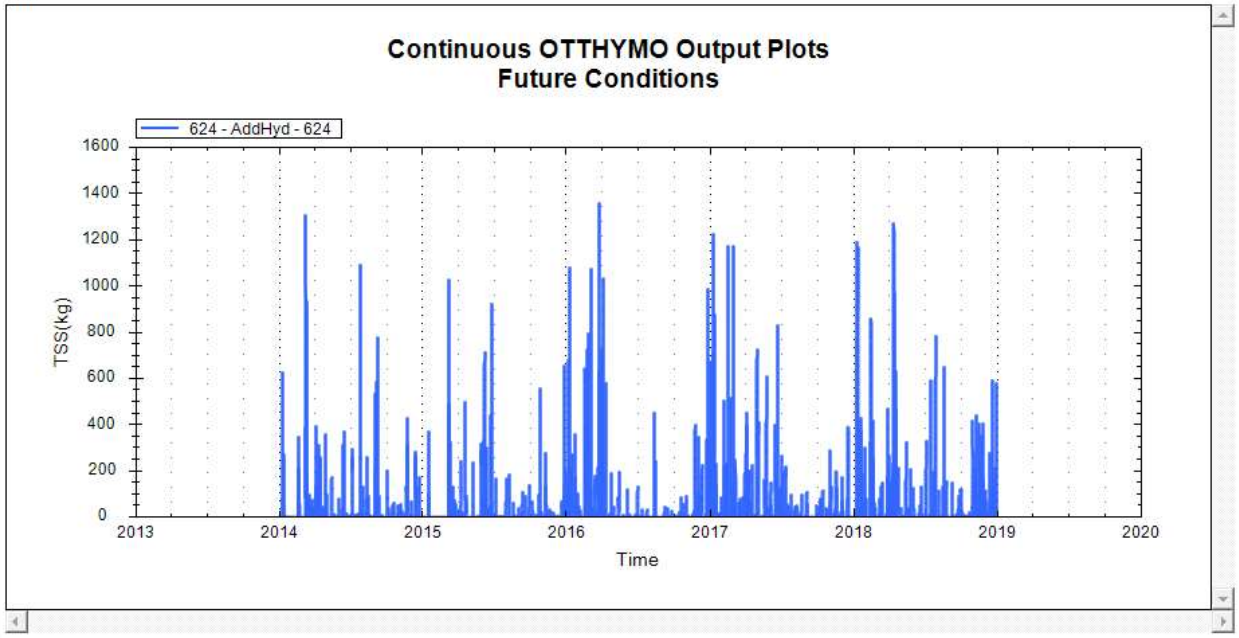
ID = 1 ( 0624): 602.21 27.810 6.62 69.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

## Water quality

## TSS

Graph

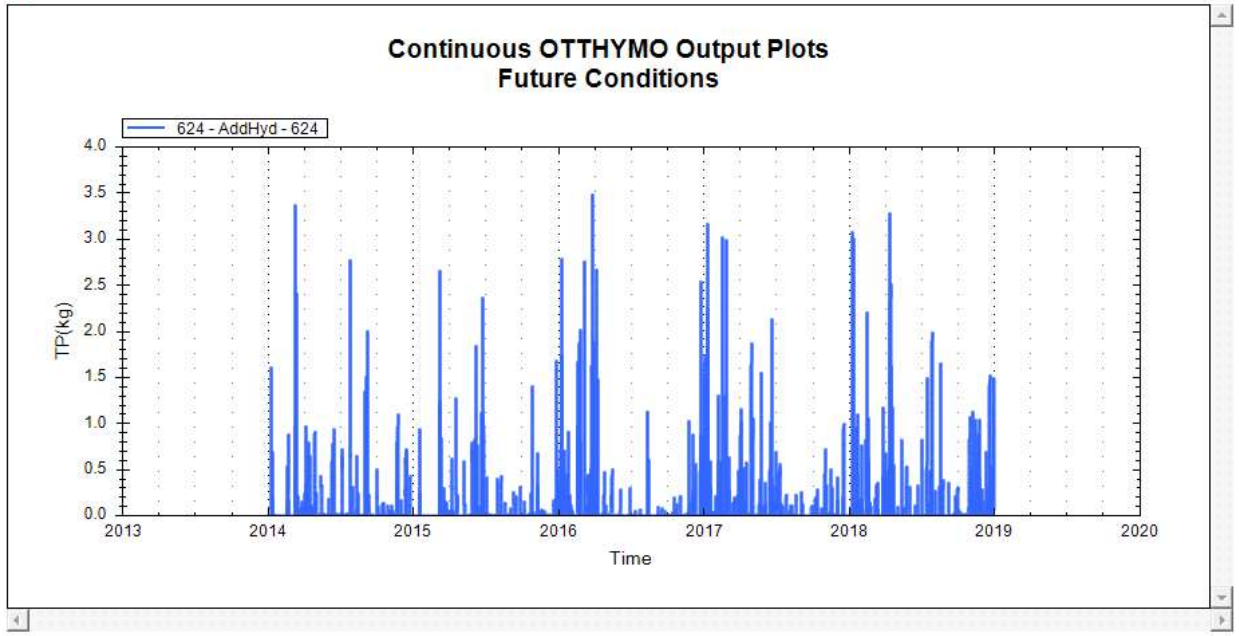



Statistics

| Glyph Name | Variable | Min | Max | Average | Total |
|---|---|---|---|---|---|
| AddHyd - 624 | TSS | 0 | 1357.1570 | 23.0328 | |

## TP

Graph




Statistics

| Glyph Name | Variable | Min | Max | Average | Total |
|---|---|---|---|---|---|
| AddHyd - 624 | TP | 0 | 3.4803 | 0.057 | |

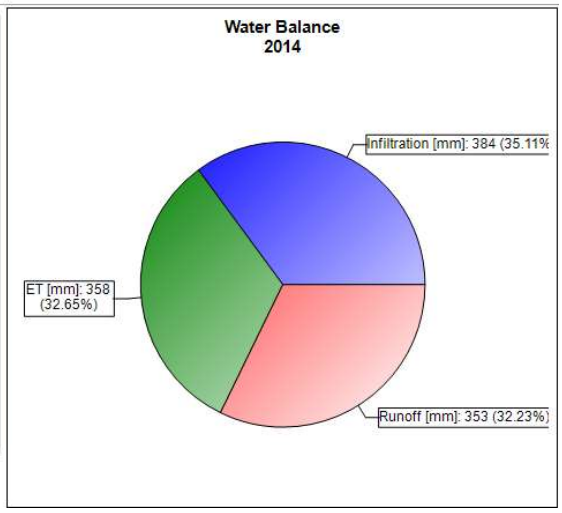
## Water balance

Water Balance - AddHyd - 624

Year | Month | Season

| Year | Precipitation (mm) | Rainfall (mm) | Snowfall (mm) | Snowmelt (mm) | ET (mm) | Infiltration (mm) | GWI (mm) | Runoff (mm) | ΔStorage (mm) | Runoff Coefficie |
|---|---|---|---|---|---|---|---|---|---|---|
| 2014 | 945 | 797 | 148 | 179 | 358 | 384 | 161 | 353 | 73 | 0.374 |
| 2015 | 809 | 718 | 91 | 88 | 377 | 353 | 158 | 258 | 17 | 0.319 |
| 2016 | 759 | 572 | 187 | 202 | 332 | 307 | 151 | 265 | 11 | 0.350 |
| 2017 | 1044 | 927 | 117 | 132 | 326 | 426 | 303 | 424 | -9 | 0.406 |
| 2018 | 1038 | 874 | 165 | 205 | 392 | 461 | 243 | 412 | -9 | 0.397 |
| Avg | 919 | 778 | 142 | 161 | 357 | 386 | 203 | 343 | 17 | 0.373 |

**ΔStorage = Precipitation - ET - GWI - Runoff**



# *Future Conditions - Preferred Solution*

**Target point AH105**

**Peak Flow:**

**Future Flow Control Condition**

**********

**** SIMULATION:Run 01 ****

**********

---

**| ADD HYD ( 0105)|**

**| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 1 ( 0104): 712.98 8.137 10.53 21.74**

**+ ID2= 2 ( 0106): 1063.11 7.397 12.03 15.96**

**==========**

**ID = 3 ( 0105): 1776.09 13.518 10.87 18.28**

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

---

---

**| ADD HYD ( 0105)|**

**| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 3 ( 0105): 1776.09 13.518 10.87 18.28**

**+ ID2= 2 ( 0022): 38.60 0.452 10.55 14.98**

**==========**

**ID = 1 ( 0105): 1814.69 13.943 10.82 18.25**

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

---

**| ADD HYD ( 0105)|**

**| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 1 ( 0105): 1814.69 13.943 10.82 18.25**

**+ ID2= 2 ( 0023): 17.66 0.246 10.32 14.92**

**==========**

**ID = 3 ( 0105): 1832.34 14.087 10.80 18.24**

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

---

**| ADD HYD ( 0105)|**

**| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 3 ( 0105): 1832.34 14.087 10.80 18.24**

**+ ID2= 2 ( 0633): 2.27 0.001 27.05 3.40**

**==========**

**ID = 1 ( 0105): 1834.62 14.087 10.80 18.22**

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

---

**********************************

**** SIMULATION:Run 02 ****

**********************************

---

**| ADD HYD ( 0105)|**

**| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 1 ( 0104): 712.98 12.122 10.67 30.51**

**+ ID2= 2 ( 0106): 1063.11 11.611 12.03 24.49**

**==========**

**ID = 3 ( 0105): 1776.09 21.291 10.85 26.90**

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

---

---

**| ADD HYD ( 0105)|**

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1776.09 21.291 10.85 26.90

+ ID2= 2 ( 0022): 38.60 0.698 10.53 23.16

==========

ID = 1 ( 0105): 1814.69 21.942 10.82 26.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0105): 1814.69 21.942 10.82 26.88

+ ID2= 2 ( 0023): 17.66 0.375 10.32 23.20

==========

ID = 3 ( 0105): 1832.34 22.158 10.80 26.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1832.34 22.158 10.80 26.87

+ ID2= 2 ( 0633): 2.27 0.003 19.38 9.51

==========

ID = 1 ( 0105): 1834.62 22.158 10.80 26.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 03 **

**********

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0104): 712.98 15.007 10.62 36.57

+ ID2= 2 ( 0106): 1063.11 14.702 11.97 30.66

==========

ID = 3 ( 0105): 1776.09 26.507 10.80 33.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**----------**

**| ADD HYD ( 0105)|**

**| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 3 ( 0105): 1776.09 26.507 10.80 33.03**

**+ ID2= 2 ( 0022): 38.60 0.873 10.52 29.07**

**==========**

**ID = 1 ( 0105): 1814.69 27.335 10.77 33.02**

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

**----------**

**----------**

**| ADD HYD ( 0105)|**

**| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 1 ( 0105): 1814.69 27.335 10.77 33.02**

**+ ID2= 2 ( 0023): 17.66 0.465 10.30 29.19**

**==========**

**ID = 3 ( 0105): 1832.34 27.623 10.75 33.01**

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

**----------**

```
--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1832.34  27.623    10.75    33.01
     + ID2= 2 (  0633):     2.27   0.005    16.62    14.43
      ================================================
      ID = 1 (  0105):  1834.62  27.624    10.75    32.99

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*********************************
** SIMULATION:Run 04         **
*********************************


--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0104):   712.98  18.605    10.57    44.39
     + ID2= 2 (  0106):  1063.11  18.755    11.97    38.87
      ================================================
      ID = 3 (  0105):  1776.09  33.209    10.72    41.09
```

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

---

---

**| ADD HYD ( 0105)|**

**| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 3 ( 0105): 1776.09 33.209 10.72 41.09**

**+ ID2= 2 ( 0022): 38.60 1.104 10.50 36.88**

**==========**

**ID = 1 ( 0105): 1814.69 34.276 10.70 41.08**

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

---

---

**| ADD HYD ( 0105)|**

**| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 1 ( 0105): 1814.69 34.276 10.70 41.08**

**+ ID2= 2 ( 0023): 17.66 0.584 10.30 37.11**

**==========**

**ID = 3 ( 0105): 1832.34 34.672 10.68 41.08**

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

---

---

| ADD HYD ( 0105)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0105): 1832.34 34.672 10.68 41.08

+ ID2= 2 ( 0633): 2.27 0.007 16.35 20.89

==========

ID = 1 ( 0105): 1834.62 34.675 10.68 41.05

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

---

**********

** SIMULATION:Run 05 **

**********

---

| ADD HYD ( 0105)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0104): 712.98 21.202 10.53 50.28

**+ ID2= 2 ( 0106): 1063.11 21.826 11.95 45.19**

**==========**

**ID = 3 ( 0105): 1776.09 38.233 10.68 47.24**

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

---

**| ADD HYD ( 0105)|**

**| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 3 ( 0105): 1776.09 38.233 10.68 47.24**

**+ ID2= 2 ( 0022): 38.60 1.281 10.50 42.92**

**==========**

**ID = 1 ( 0105): 1814.69 39.479 10.68 47.24**

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

---

**| ADD HYD ( 0105)|**

**| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 1 ( 0105): 1814.69 39.479 10.68 47.24**

```
     + ID2= 2 (  0023):    17.66   0.674    10.30    43.24
       ================================================
       ID = 3 (  0105):  1832.34  39.953    10.65    47.24

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0105):  1832.34  39.953    10.65    47.24
     + ID2= 2 (  0633):     2.27   0.009    15.12    25.90
       ================================================
       ID = 1 (  0105):  1834.62  39.958    10.65    47.22

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
*********************************
** SIMULATION:Run 06         **
*********************************


--------------------
| ADD HYD  (  0105)|
```

```
|  1 +  2 =  3   |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0104):   712.98  23.775    10.53    56.27
    + ID2= 2 (  0106):  1063.11  25.000    11.93    51.71
      ==================================================
      ID = 3 (  0105):  1776.09  43.401    10.67    53.54

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|  3 +  2 =  1   |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1776.09  43.401    10.67    53.54
    + ID2= 2 (  0022):    38.60   1.462    10.48    49.14
      ==================================================
      ID = 1 (  0105):  1814.69  44.827    10.67    53.55

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
```

```
|  1 +  2 =  3   |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0105):  1814.69  44.827    10.67    53.55
     + ID2= 2 (  0023):    17.66   0.765    10.30    49.54
      ==============================================
      ID = 3 (  0105):  1832.34  45.379    10.63    53.56

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|  3 +  2 =  1   |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1832.34  45.379    10.63    53.56
     + ID2= 2 (  0633):     2.27   0.011    14.88    31.03
      ==============================================
      ID = 1 (  0105):  1834.62  45.386    10.63    53.53

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
********************************
** SIMULATION:Run 07         **
********************************
```

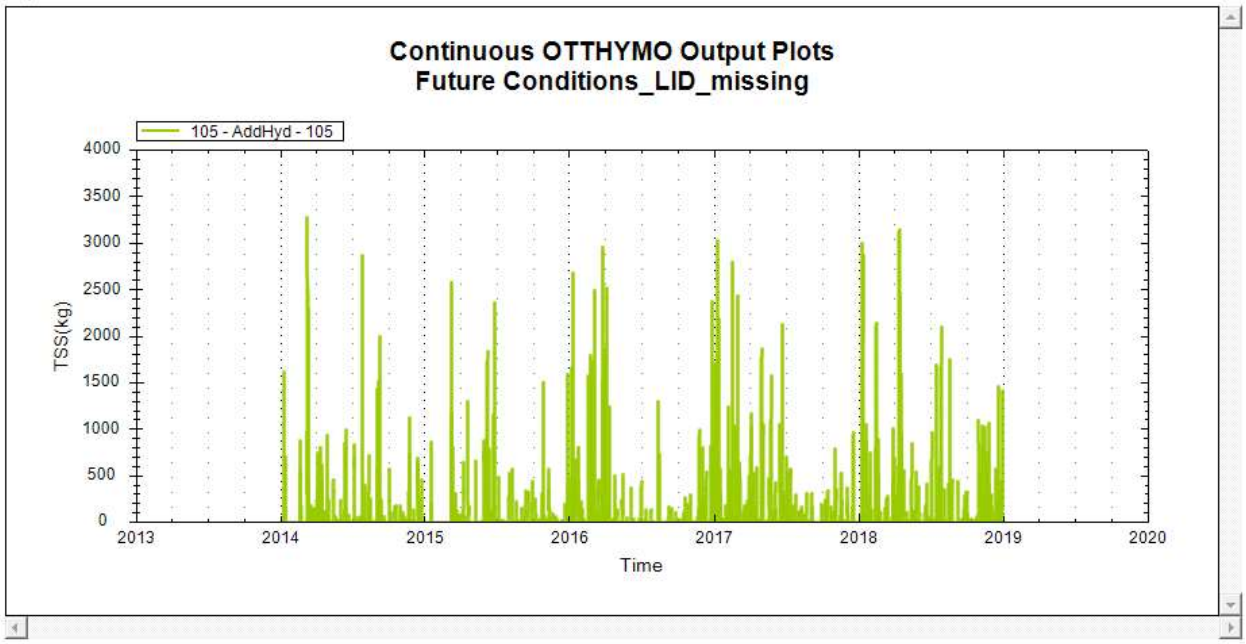
```
--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0104):   712.98  43.156     5.62    70.77
     + ID2= 2 (  0106):  1063.11  41.838     7.35    66.79
      ================================================
      ID = 3 (  0105):  1776.09  67.255     5.73    68.39

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1776.09  67.255     5.73    68.39
     + ID2= 2 (  0022):    38.60   2.752     5.70    69.85
      ================================================
      ID = 1 (  0105):  1814.69  70.004     5.73    68.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD  (  0105)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0105):  1814.69  70.004     5.73    68.42
     + ID2= 2 (  0023):    17.66   1.749     5.33    69.28
      ================================================
      ID = 3 (  0105):  1832.34  71.211     5.70    68.43

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0105)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0105):  1832.34  71.211     5.70    68.43
     + ID2= 2 (  0633):     2.27   0.019     8.50    48.99
      ================================================
      ID = 1 (  0105):  1834.62  71.223     5.70    68.40

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

## Water quality

## TSS

Graph

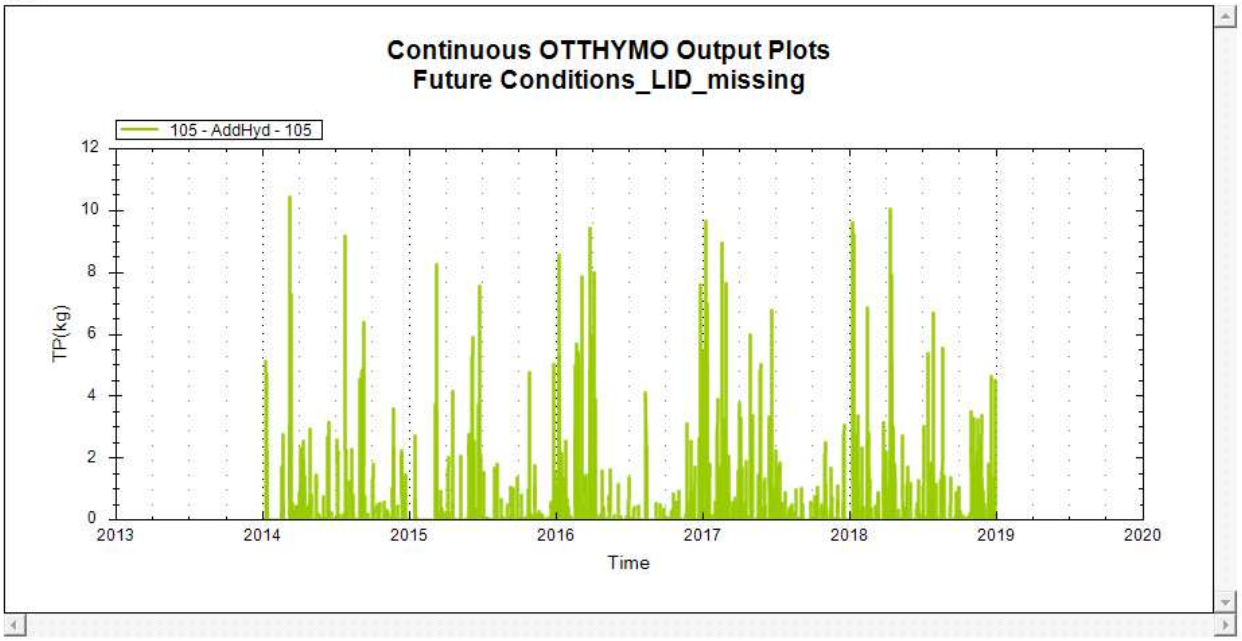



Statistics

| Glyph Name | Variable | Min | Max | Average | Total |
|---|---|---|---|---|---|
| AddHyd - 105 | TSS | 0 | 3276.3579 | 64.2869 | |

## TP

Graph




Statistics

| Glyph Name | Variable | Min | Max | Average | Total |
|---|---|---|---|---|---|
| AddHyd - 105 | TP | 0 | 10.4714 | 0.2046 | |

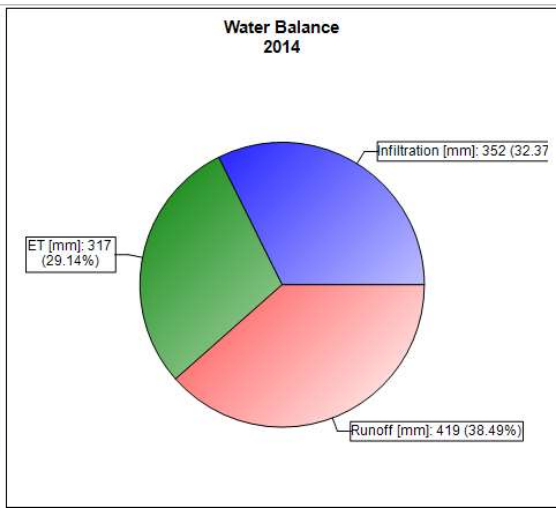
## Water Balance

Water Balance - AddHyd - 105

Year | Month | Season

| Year | Precipitation (mm) | Rainfall (mm) | Snowfall (mm) | Snowmelt (mm) | ET (mm) | Infiltration (mm) | GWI (mm) | Runoff (mm) | ΔStorage (mm) | Runoff Coefficie |
|---|---|---|---|---|---|---|---|---|---|---|
| 2014 | 945 | 797 | 148 | 179 | 317 | 352 | 136 | 419 | 72 | 0.444 |
| 2015 | 809 | 718 | 91 | 88 | 333 | 323 | 136 | 318 | 22 | 0.393 |
| 2016 | 759 | 572 | 187 | 202 | 295 | 285 | 134 | 316 | 15 | 0.416 |
| 2017 | 1044 | 927 | 117 | 132 | 288 | 387 | 260 | 497 | -1 | 0.476 |
| 2018 | 1038 | 874 | 165 | 205 | 342 | 416 | 213 | 485 | -3 | 0.467 |
| Avg | 919 | 778 | 142 | 161 | 315 | 353 | 176 | 407 | 21 | 0.443 |

**ΔStorage = Precipitation - ET - GWI - Runoff**



**Target point AH336**

**Peak Flow:**

**Future Flow Control Condition**

**********

**** SIMULATION:Run 01 ****

**********

---

**| ADD HYD ( 0336)|**

**| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 1 ( 0165): 39.69 0.477 10.40 13.48**

**+ ID2= 2 ( 0172): 27.96 0.206 10.58 9.49**

**==========**

**ID = 3 ( 0336): 67.66 0.678 10.43 13.37**

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

---

---

**| ADD HYD ( 0336)|**

**| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 3 ( 0336): 67.66 0.678 10.43 13.37**

```
     + ID2= 2 (  0337):  6041.40  43.291    12.90    17.01
       ================================================
       ID = 1 (  0336):  6109.06  43.520    12.88    16.97

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


-------------------
| ADD HYD  (  0336)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0336):  6109.06  43.520    12.88    16.97
     + ID2= 2 (  0340):    60.88   0.867    10.35    19.83
       ================================================
       ID = 3 (  0336):  6169.94  43.786    12.88    17.00

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
*********************************
** SIMULATION:Run 02         **
*********************************


-------------------
| ADD HYD  (  0336)|
```

**| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 1 ( 0165): 39.69 0.748 10.38 21.38**

**+ ID2= 2 ( 0172): 27.96 0.336 10.55 15.43**

**==========**

**ID = 3 ( 0336): 67.66 1.076 10.42 21.16**

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

**---**

**---**

**| ADD HYD ( 0336)|**

**| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 3 ( 0336): 67.66 1.076 10.42 21.16**

**+ ID2= 2 ( 0337): 6041.40 65.403 12.80 25.12**

**==========**

**ID = 1 ( 0336): 6109.06 65.766 12.78 25.07**

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

**---**

**---**

**| ADD HYD ( 0336)|**

```
|  1 +  2 =  3   |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0336):  6109.06  65.766    12.78    25.07
     + ID2= 2 (  0340):    60.88   1.297    10.33    29.07
      ================================================
      ID = 3 (  0336):  6169.94  66.148    12.78    25.11

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 03         **
*******************************

--------------------
| ADD HYD  (  0336)|
|  1 +  2 =  3   |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0165):    39.69   0.942    10.37    27.14
     + ID2= 2 (  0172):    27.96   0.433    10.53    19.91
      ================================================
      ID = 3 (  0336):    67.66   1.365    10.40    26.88

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

```
-------------------
| ADD HYD  (  0336)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0336):    67.66   1.365    10.40    26.88
     + ID2= 2 (  0337):  6041.40  81.378    12.75    30.97
      ================================================
      ID = 1 (  0336):  6109.06  81.840    12.73    30.93

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------


-------------------
| ADD HYD  (  0336)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0336):  6109.06  81.840    12.73    30.93
     + ID2= 2 (  0340):    60.88   1.598    10.32    35.63
      ================================================
      ID = 3 (  0336):  6169.94  82.304    12.72    30.97

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
```

**********

** SIMULATION:Run 04 **

**********

---

| ADD HYD ( 0336)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

--- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0165): 39.69 1.196 10.37 34.81

+ ID2= 2 ( 0172): 27.96 0.565 10.53 26.00

==========

ID = 3 ( 0336): 67.66 1.749 10.40 34.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0336)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

--- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0336): 67.66 1.749 10.40 34.57

+ ID2= 2 ( 0337): 6041.40 102.638 12.70 38.72

==========

ID = 1 ( 0336): 6109.06 103.229 12.68 38.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0336)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0336): 6109.06 103.229 12.68 38.68

+ ID2= 2 ( 0340): 60.88 1.991 10.32 44.25

==========

ID = 3 ( 0336): 6169.94 103.800 12.68 38.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 05 **

**********

---

| ADD HYD ( 0336)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0165): 39.69 1.391 10.35 40.76

```
     + ID2= 2 (  0172):    27.96   0.669    10.52    30.82
       ================================================
       ID = 3 (  0336):    67.66   2.046    10.38    40.53

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


-------------------
| ADD HYD  (  0336)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0336):    67.66   2.046    10.38    40.53
     + ID2= 2 (  0337):  6041.40 118.934    12.68    44.68
       ================================================
       ID = 1 (  0336):  6109.06 119.625    12.67    44.64

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


-------------------
| ADD HYD  (  0336)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0336):  6109.06 119.625    12.67    44.64
```

+ ID2= 2 ( 0340): 60.88 2.288 10.30 50.84

==========

ID = 3 ( 0336): 6169.94 120.275 12.65 44.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 06 **

**********

---

| ADD HYD ( 0336)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0165): 39.69 1.590 10.35 46.90

+ ID2= 2 ( 0172): 27.96 0.778 10.52 35.88

==========

ID = 3 ( 0336): 67.66 2.353 10.38 46.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0336)|

```
|  3 +  2 =  1   |       AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0336):    67.66   2.353    10.38    46.71
    + ID2= 2 (  0337):  6041.40 135.799    12.65    50.81
      ==============================================
      ID = 1 (  0336):  6109.06 136.592    12.63    50.77

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0336)|
|  1 +  2 =  3   |       AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0336):  6109.06 136.592    12.63    50.77
    + ID2= 2 (  0340):    60.88   2.595    10.30    57.60
      ==============================================
      ID = 3 (  0336):  6169.94 137.325    12.63    50.83

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 07         **
*******************************
```

```
--------------------
| ADD HYD  (  0336)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0165):    39.69   3.356     5.45    66.61
     + ID2= 2 (  0172):    27.96   1.498     5.72    53.18
       ================================================
       ID = 3 (  0336):    67.66   4.758     5.50    61.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0336)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0336):    67.66   4.758     5.50    61.06
     + ID2= 2 (  0337):  6041.40 229.272     8.03    65.10
       ================================================
       ID = 1 (  0336):  6109.06 230.273     8.02    65.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

**----------**

**| ADD HYD ( 0336)|**

**| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 1 ( 0336): 6109.06 230.273 8.02 65.06**

**+ ID2= 2 ( 0340): 60.88 5.974 5.33 73.50**

**==========**

**ID = 3 ( 0336): 6169.94 231.068 8.02 65.14**

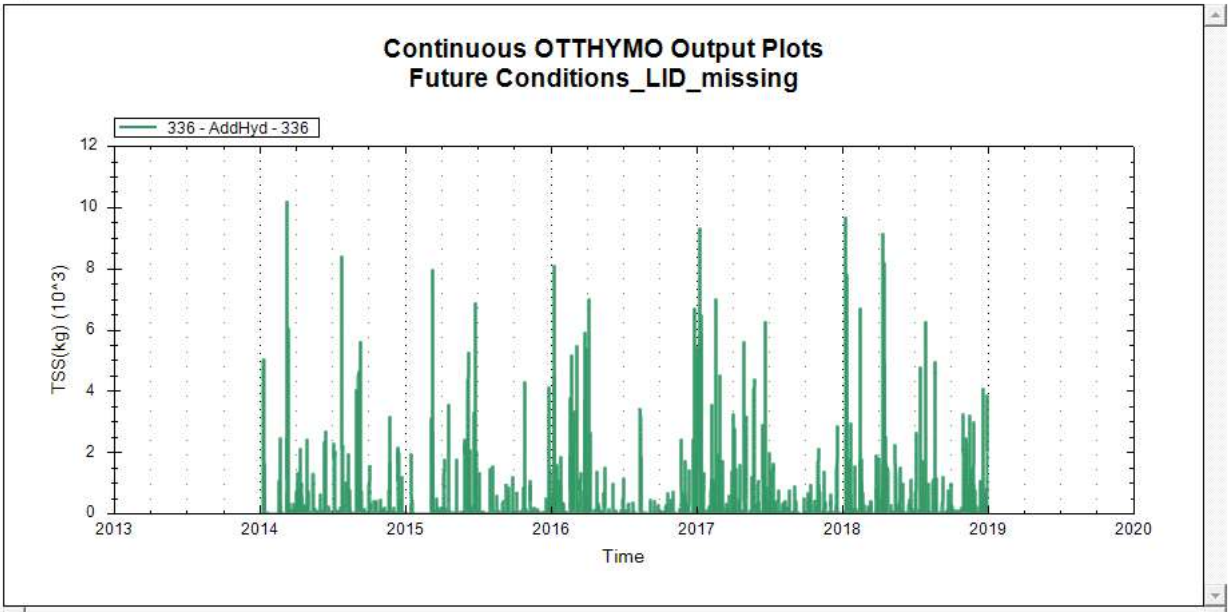
**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

**----------**

## Water quality

## TSS

Graph

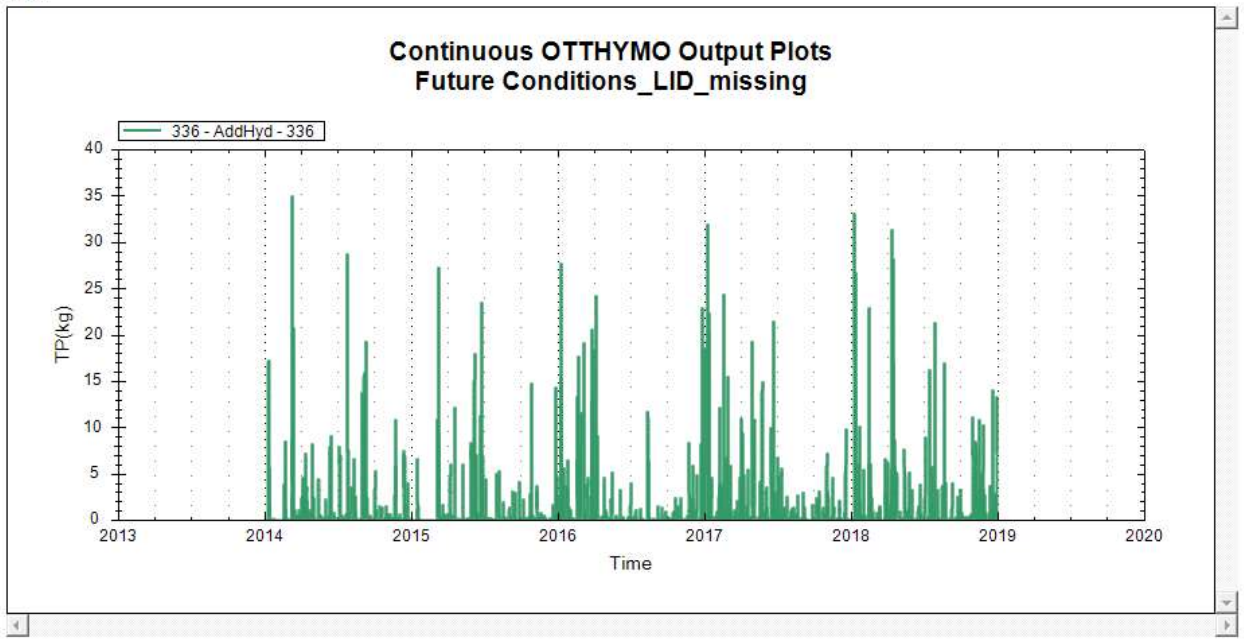



Statistics

| Glyph Name | Variable | Min | Max | Average | Total |
|---|---|---|---|---|---|
| AddHyd - 336 | TSS | 0 | 10202.1328 | 180.1271 | |

## TP

Graph




Statistics

| Glyph Name | Variable | Min | Max | Average | Total |
|---|---|---|---|---|---|
| AddHyd - 336 | TP | 0 | 34.9277 | 0.6208 | |

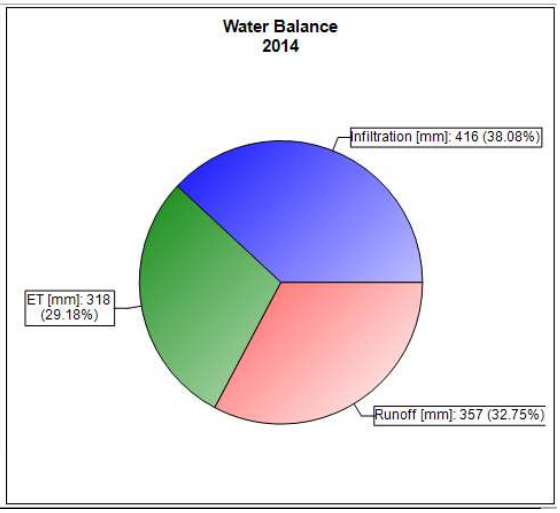
## Water balance

Water Balance - AddHyd - 336

Year | Month | Season

| Year | Precipitation (mm) | Rainfall (mm) | Snowfall (mm) | Snowmelt (mm) | ET (mm) | Infiltration (mm) | GWI (mm) | Runoff (mm) | ΔStorage (mm) | Runoff Coefficie |
|---|---|---|---|---|---|---|---|---|---|---|
| 2014 | 945 | 797 | 148 | 179 | 318 | 416 | 164 | 357 | 105 | 0.378 |
| 2015 | 809 | 718 | 91 | 88 | 338 | 371 | 180 | 271 | 21 | 0.334 |
| 2016 | 759 | 572 | 187 | 202 | 324 | 334 | 166 | 268 | 1 | 0.353 |
| 2017 | 1044 | 927 | 117 | 132 | 290 | 466 | 327 | 419 | 8 | 0.401 |
| 2018 | 1038 | 874 | 165 | 205 | 346 | 484 | 273 | 419 | 1 | 0.403 |
| Avg | 919 | 778 | 142 | 161 | 323 | 414 | 222 | 347 | 27 | 0.377 |

**ΔStorage = Precipitation - ET - GWI - Runoff**



**Target point AH624**

**Peak Flow:**

**Future Flow Control Condition**

**********

**** SIMULATION:Run 02 ****

**********

---

**| ADD HYD ( 0624)|**

**| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 1 ( 0425): 586.56 4.544 11.37 13.04**

**+ ID2= 2 ( 0783): 14.55 0.002 25.07 1.09**

**==========**

**ID = 3 ( 0624): 601.11 4.544 11.37 15.41**

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

---

---

**| ADD HYD ( 0624)|**

**| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 3 ( 0624): 601.11 4.544 11.37 15.41**

**+ ID2= 2 ( 0790): 1.10 0.002 27.55 5.89**

**==========**

**ID = 1 ( 0624): 602.21 4.544 11.37 15.39**

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

---

**********************************

**** SIMULATION:Run 03 ****

**********************************

---

**| ADD HYD ( 0624)|**

**| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.**

**---------- (ha) (cms) (hrs) (mm)**

**ID1= 1 ( 0425): 586.56 7.274 11.28 20.70**

**+ ID2= 2 ( 0783): 14.55 0.004 24.98 1.96**

**==========**

**ID = 3 ( 0624): 601.11 7.275 11.28 24.07**

**NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.**

---

---

**| ADD HYD ( 0624)|**

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0624): 601.11 7.275 11.28 24.07

+ ID2= 2 ( 0790): 1.10 0.004 14.43 18.26

==========

ID = 1 ( 0624): 602.21 7.275 11.28 24.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 04 **

**********

---

| ADD HYD ( 0624)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0425): 586.56 9.255 11.25 26.27

+ ID2= 2 ( 0783): 14.55 0.006 24.92 2.65

==========

ID = 3 ( 0624): 601.11 9.257 11.25 30.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

```
--------------------
| ADD HYD  (  0624)|
|   3 +  2 =  1    |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0624):   601.11   9.257    11.25    30.33
     + ID2= 2 (  0790):     1.10   0.006    14.32    26.61
      ================================================
      ID = 1 (  0624):   602.21   9.261    11.25    30.32

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*********************************
** SIMULATION:Run 05         **
*********************************


--------------------
| ADD HYD  (  0624)|
|   1 +  2 =  3    |       AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0425):   586.56  11.891    11.20    33.70
     + ID2= 2 (  0783):    14.55   0.008    24.90     3.61
      ================================================
      ID = 3 (  0624):   601.11  11.893    11.20    38.65
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

---

| ADD HYD ( 0624)|

| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 3 ( 0624): 601.11 11.893 11.20 38.65

+ ID2= 2 ( 0790): 1.10 0.008 12.70 37.11

==========

ID = 1 ( 0624): 602.21 11.900 11.20 38.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---

**********

** SIMULATION:Run 06 **

**********

---

| ADD HYD ( 0624)|

| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

---------- (ha) (cms) (hrs) (mm)

ID1= 1 ( 0425): 586.56 13.922 11.18 39.44

```
     + ID2= 2 (  0783):    14.55   0.009    24.87     4.42
       ================================================
       ID = 3 (  0624):   601.11  13.925    11.18    45.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


-------------------
| ADD HYD  (  0624)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0624):   601.11  13.925    11.18    45.05
     + ID2= 2 (  0790):     1.10   0.010    12.47    44.92
       ================================================
       ID = 1 (  0624):   602.21  13.935    11.18    45.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
**********************************
** SIMULATION:Run 07         **
**********************************


-------------------
| ADD HYD  (  0624)|
```

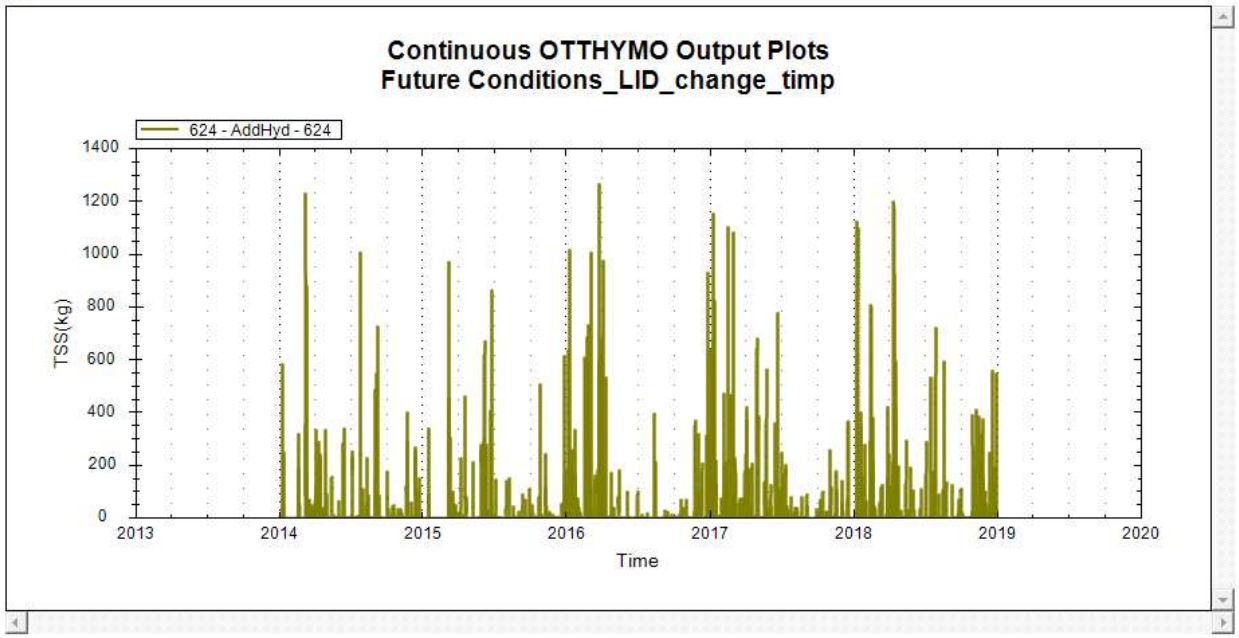
```
|  1 +  2 =  3   |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0425):   586.56  16.020    11.17    45.38
    + ID2= 2 (  0783):    14.55   0.011    24.85     5.29
      ==========================================================
      ID = 3 (  0624):   601.11  16.024    11.17    51.63

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0624)|
|  3 +  2 =  1   |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0624):   601.11  16.024    11.17    51.63
    + ID2= 2 (  0790):     1.10   0.012    12.40    52.76
      ==========================================================
      ID = 1 (  0624):   602.21  16.035    11.17    51.64

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
*******************************
** SIMULATION:Run 08         **
*******************************
```

```
--------------------
| ADD HYD  (  0624)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0425):   586.56  27.438     6.63    68.19
     + ID2= 2 (  0783):    14.55   0.015    16.65     9.53
      ================================================
      ID = 3 (  0624):   601.11  27.446     6.63    66.83

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0624)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
      ID1= 3 (  0624):   601.11  27.446     6.63    66.83
     + ID2= 2 (  0790):     1.10   0.021     7.32    76.66
      ================================================
      ID = 1 (  0624):   602.21  27.467     6.63    66.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

## Water quality

## TSS

Graph

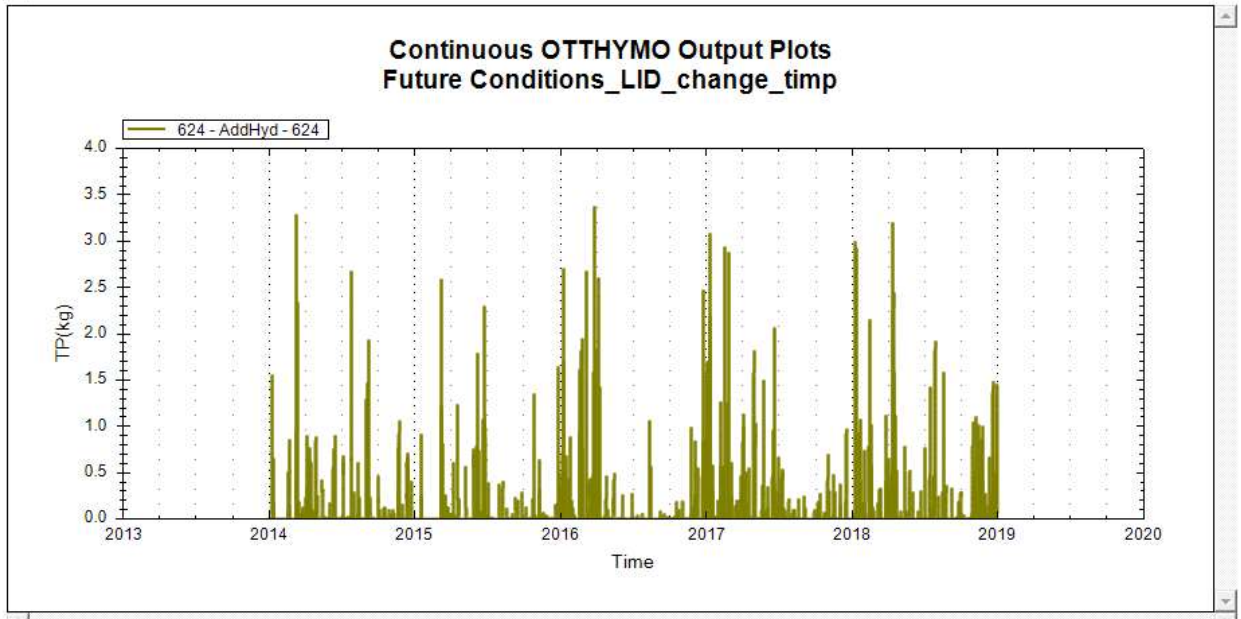



Statistics

| Glyph Name | Variable | Min | Max | Average | Total |
|---|---|---|---|---|---|
| AddHyd - 624 | TSS | 0 | 1264.9470 | 20.0563 | |

## TP

Graph




Statistics

| Glyph Name | Variable | Min | Max | Average | Total |
|---|---|---|---|---|---|
| AddHyd - 624 | TP | 0 | 3.3654 | 0.0534 | |

## Water Balance

Water Balance - AddHyd - 624

Year | Month | Season

| Year | Precipitation (mm) | Rainfall (mm) | Snowfall (mm) | Snowmelt (mm) | ET (mm) | Infiltration (mm) | GWI (mm) | Runoff (mm) | ΔStorage (mm) | Runoff Coefficie |
|---|---|---|---|---|---|---|---|---|---|---|
| 2014 | 945 | 797 | 148 | 179 | 358 | 386 | 161 | 350 | 76 | 0.371 |
| 2015 | 809 | 718 | 91 | 88 | 377 | 354 | 158 | 256 | 19 | 0.317 |
| 2016 | 759 | 572 | 187 | 202 | 332 | 308 | 151 | 263 | 13 | 0.347 |
| 2017 | 1044 | 927 | 117 | 132 | 326 | 428 | 303 | 423 | -7 | 0.405 |
| 2018 | 1038 | 874 | 165 | 205 | 392 | 463 | 243 | 410 | -6 | 0.395 |
| Avg | 919 | 778 | 142 | 161 | 357 | 388 | 203 | 340 | 19 | 0.370 |

**ΔStorage = Precipitation - ET - GWI - Runoff**