

Visual Estimate Measurement No (From gauging register)

..... River at

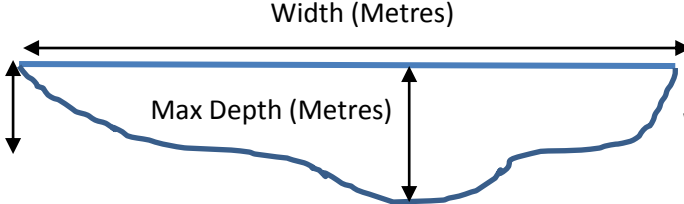
Measuredmeters upstream / downstream of at map reference:.....

Or GPS coordinates:

Party Date

External Staff Gauge Logger stage Time..... NZST

Measured by: velocity / area Culvert other:

Method code: **23** Flow state: Flowing static pool dry Please fill in all fields above.


Width (Metres)

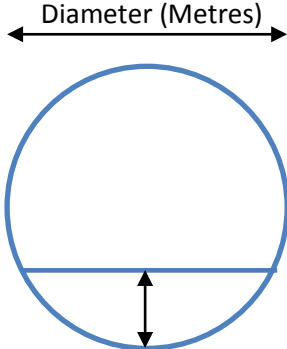
Mean Depth (Metres)

Max Depth (Metres)

W = Width Metres

D = Mean Depth Metres

A = Area = Width x Mean Depth (W x D) Metres squared



Diameter (Metres)

Fill Height (Metres)

d = Diameter Metres

y = Fill Height Metres

Calculate (To Radians):

$T = 2\sqrt{y(d - y)}$ T =

$\Theta = 2 \sin^{-1}\left(\frac{T}{d}\right)$

and if $y > \frac{d}{2}$ then $\Theta = 2\pi - \Theta$ $\Theta = \dots\dots\dots$

Area of culvert: $A = \frac{d^2}{8} (\Theta - \sin(\Theta))$ A =

V = Mean surface velocity = Max Surface velocity..... x 0.83 = Mean Velocity Metres / secondQ = Discharge = Area x Mean Velocity (A x V) Cubic metres / second

Photo taken(s): Stored / file name:.....

Remarks:.....

Computed by:.....

Checked by:.....