# Mark Sealy, Brithdir Forest Hydro. Intake: Front Elevations, Levels and Take Calculations

| Item | Level mAOD |
|---|---|
| Crest | 313.707 |
| Base of Screen | 313.255 |
| Existing water level 6m upstream | 313.862 |
| Downstream water level | 312.329 |
| X1 | 317.649 |
| X4 | 316.043 |
| X6 | 315.440 |
| X5 | 314.785 |

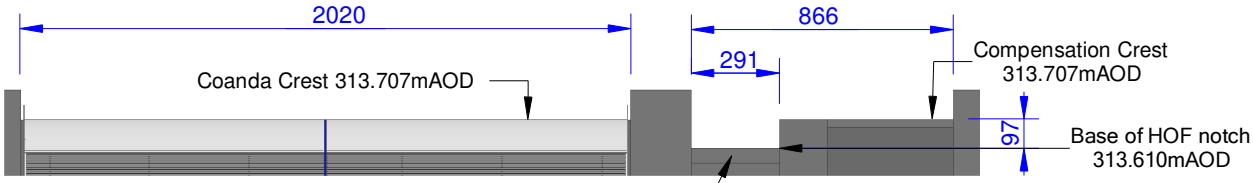
## Take

Total Crest Width : 2020mm + 866mm = 2886mm
Screen Width : 2020mm
Take : 2020/2886 = 70%

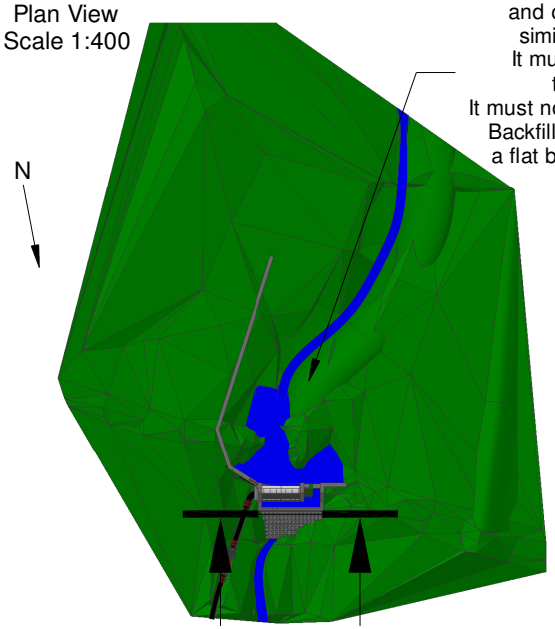
## Hands-off-flow

Calculation of flow over broad crested rectangular broad notch:
Discharge coefficient, Cd = 1.6
Notch depth, h = 0.097m
Notch width, w = 0.291m

Q = Cd * w * h^1.5
= 1.6 * 0.291 * 0.097^1.5
= 0.01407 m^3 / sec
= 14.07 lps



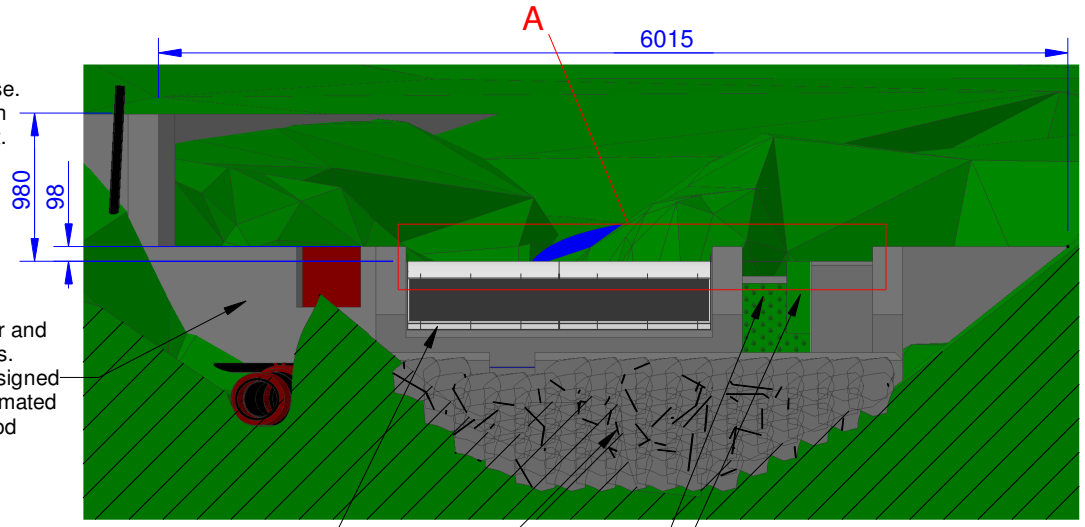

Plan View
Scale 1:400




The impoundment is to be pre-filled with gravel and cobble sized material (size mix similar to that found in the reach). It must be chemically inert or similar to that already in the reach. It must not be derived from the watercourse. Backfill to within 100mm of the crest with a flat backfill of the entire impoundment.

Chamfered edges on HOF notch

Detail A




All dimensions in mm.

Section A-A
Scale 1:50

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*Drawn By :* MJP

Date : 08/03/23
Scale : 1 : 25 @ A4
Drawing No : 23030801
Version : 2

Revision Details
v2: Filling of impoundment


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