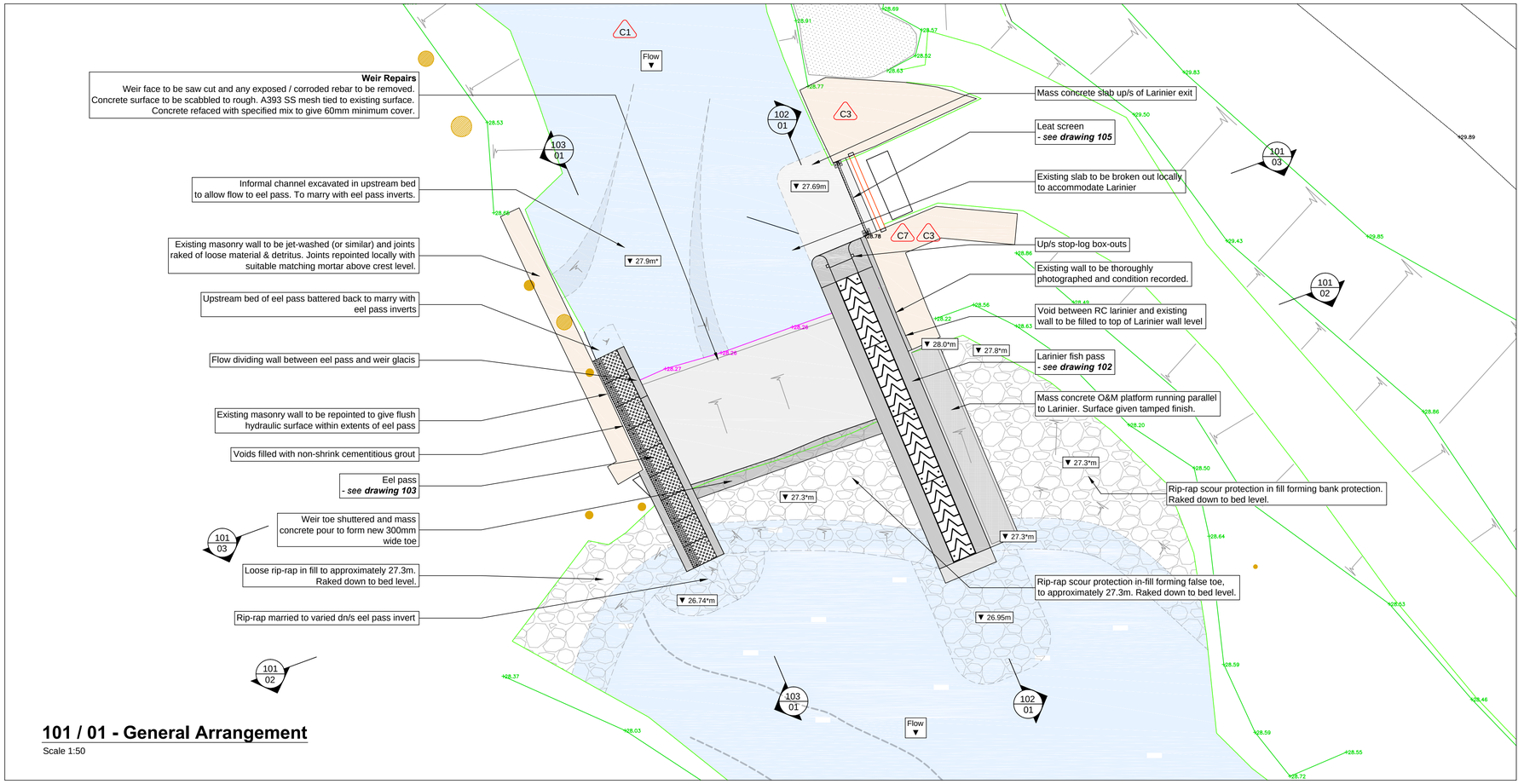
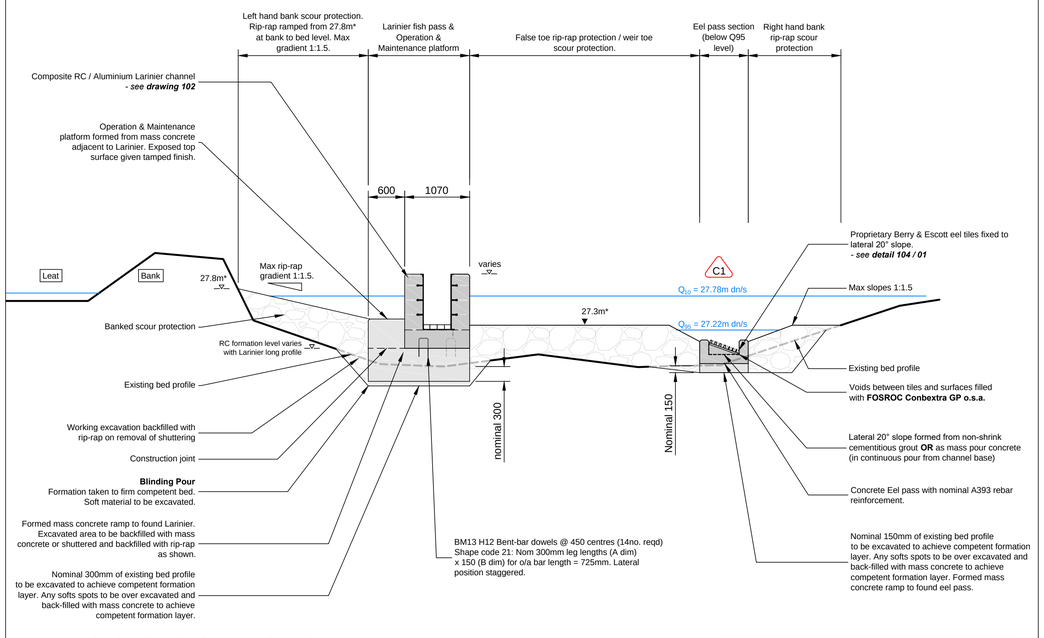
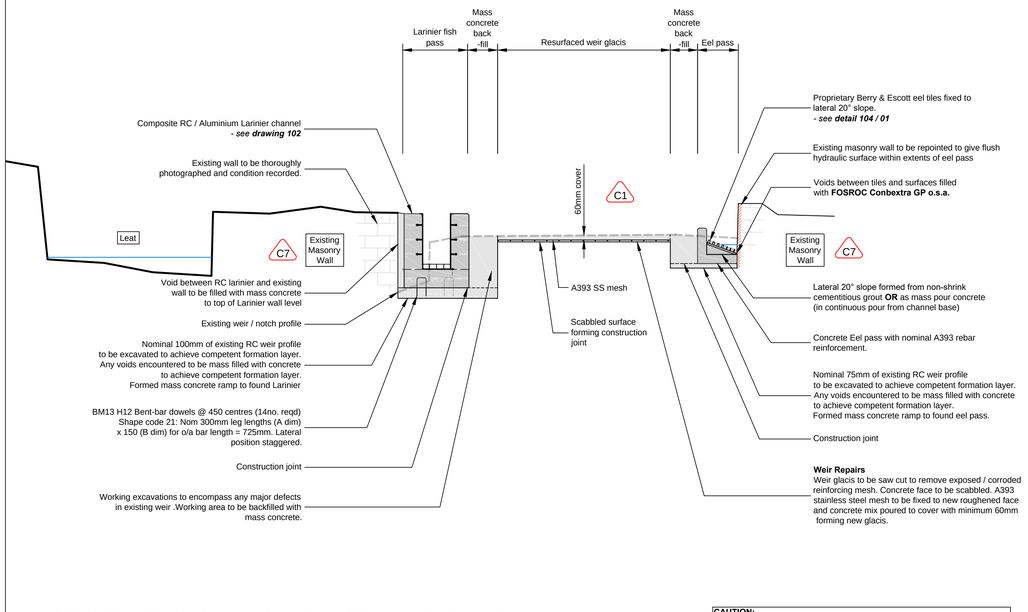




101 / 02 - Dn/s Cross-Section

Scale 1:50

CAUTION:
Varying formation surfaces. Soft spots in bed strata and voids in weir formation to be back-filled with typical mass concrete mix to from suitable foundation surface. To be assessed by works supervisor.



101 / 03 - Up/s Cross Section (Through Crest)

Scale 1:50

CAUTION:
Varying formation surfaces. Soft spots in bed strata and voids in weir formation to be back-filled with typical mass concrete mix to from suitable foundation surface. To be assessed by works supervisor.

SAFETY HEALTH & ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the type of work detailed on this drawing, note the following risks and information.

Risks listed here are not exhaustive. Refer to Designer's Risk Assessment and pre-construction phase plan.

CONSTRUCTION

C1 Managing flow & stage levels in River Fowey
- Monitor flow levels & flood warnings.
- Check adequacy of cut-off & stability of cofferdams.

C2 Managing seepage flows through weir
- Monitor seepage.
-Check stability of cut face in weir and assess permeability of formation material.
- Check adequacy of cut-off & stability of cofferdams.

C3 Risk of falls from height
- Check depth of excavations.
-Check adequate edge protection and access provision onto weir.

C4 Lifting
- Check cranage lifting facilities & constraints.
- Check access weight & size restrictions for cranage along access route to site.

C5 Interface with public & other site operations
- Check adequate warning signs and fencing in place.

C6 Services
- Check for services.

C7 Stability of Excavations & Structures
- Check temporary works & construction sequencing to maintaining structural integrity of weir and stability of adjacent walls.

For information relating to Use, Cleaning and Maintenance see the Health and Safety File

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement

NOTES:

1. DIMENSIONS:
- Are in millimetres unless otherwise stated
- Marked thus (*) are approximate
- All levels are in metres to Site Datum
- Critical levels set out to crest level. Temporary site datum to be agreed on site.

2. SPECIFICATION:
All works to be carried out in accordance with the Environment Agency Minimum Technical Requirements which shall be the Civil Engineering Specification for the Water Industry (CESWI).

3. REINFORCED & MASS CONCRETE
- All concrete to comply with BS 8500-2.
- **Mass concrete** and **reinforced concrete** of the same mix.
- Concrete to have a minimum strength class of C35 / 45.
- Designated Mix REQUIREMENTS:
  - RC 35 / 45
  - 20mm max. aggregate size
  - S3 consistency class
- Reinforcement: All steel reinforcement shall be deformed Type 2 and shall be cut and bent to BS4466 or BS4449.
- Minimum cover to reinforcement C_{min} = 60mm.
- All exposed edges to have 25mm chamfer, with exception to abutting joints.
- Exposed formed concrete to have fair worked finish.
- Exposed unformed concrete to have wood float finish.
- Operation and maintenance platform given tamped finish.
- Nominal 100mm layer of mass concrete blinding for pours.

4. RIP-RAP SCOUR PROTECTION:
- Rip-rap scour protection to comprise of natural hard stone with nominal density 2700kg/m^3. Approximate grading to be: 50% 300mm<Ø<450mm, 50% 150mm<Ø<300mm.

Issue	Description	Date
P01	For Information	20 / 06 / 19

Status: Detailed Design

Scales	As shown	Current Issue Signatures
		Author M.Giblin
Original Size	A1	Checker M.Lakin
Datum	N/A	Approver I.St.-R.
Grid	N/A	© Copyright reserved

Filename:

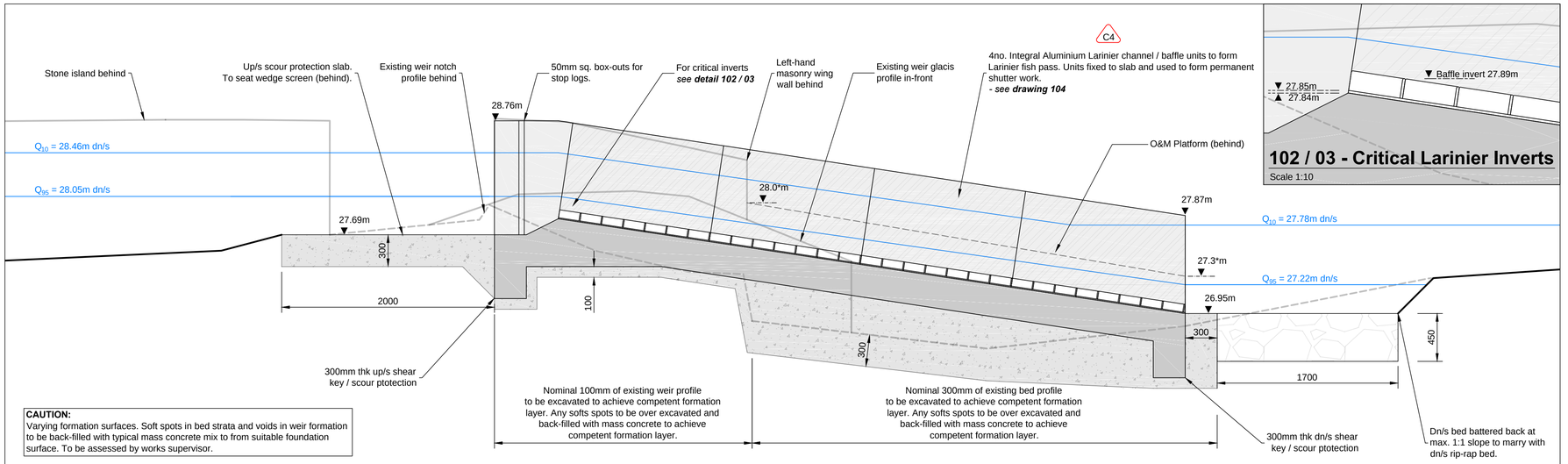
Client: Westcountry Rivers Trust

FISHTEK CONSULTING

PROJECT: WFG Framework Glynn Weir

TITLE: General Arrangement and Sections

Drawing No.	Project No.	Issue
0101	- 02458 -	P01



CAUTION:
Varying formation surfaces. Soft spots in bed strata and voids in weir formation to be back-filled with typical mass concrete mix to from suitable foundation surface. To be assessed by works supervisor.

102 / 01 - Long Section Through Larinier

Scale 1:25

102 / 03 - Critical Larinier Inverts

Scale 1:10

SAFETY HEALTH & ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the type of work detailed on this drawing, note the following risks and information.

Risks listed here are not exhaustive. Refer to Designer's Risk Assessment and pre-construction phase plan.

CONSTRUCTION

C1 **Managing flow & stage levels in River Fowey**
- Monitor flow levels & flood warnings.
- Check adequacy of cut-off & stability of cofferdams.

C2 **Managing seepage flows through weir**
- Monitor seepage.
-Check stability of cut face in weir and assess permeability of formation material.
- Check adequacy of cut-off & stability of cofferdams.

C3 **Risk of falls from height**
- Check depth of excavations.
-Check adequate edge protection and access provision onto weir.

C4 **Lifting**
- Check cranage lifting facilities & constraints.
- Check access weight & size restrictions for cranage along access route to site.

C5 **Interface with public & other site operations**
- Check adequate warning signs and fencing in place.

C6 **Services**
- Check for services.

C7 **Stability of Excavations & Structures**
- Check temporary works & construction sequencing to maintaining structural integrity of weir and stability of adjacent walls.

For information relating to Use, Cleaning and Maintenance see the Health and Safety File

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement

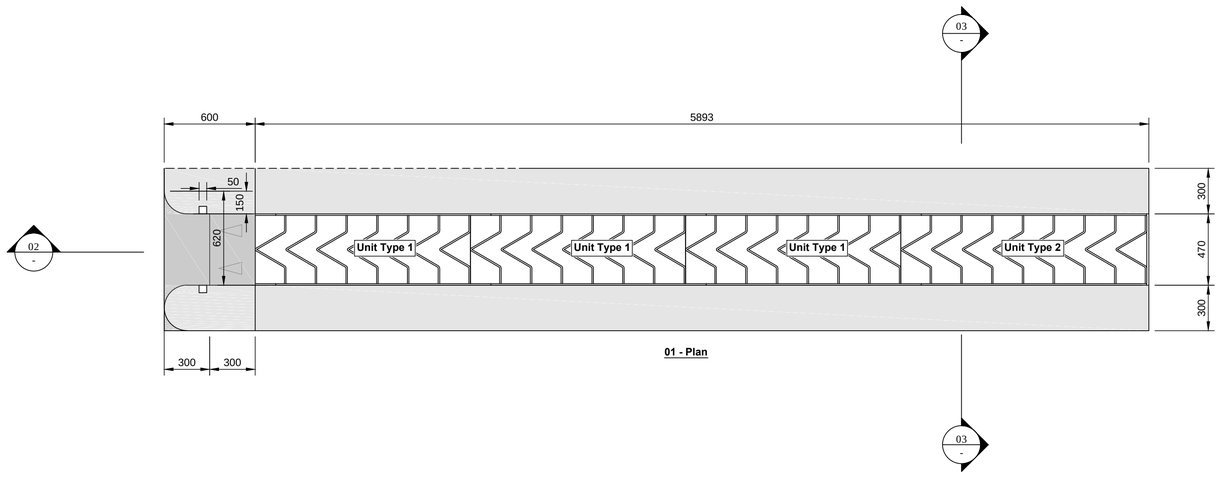
NOTES:

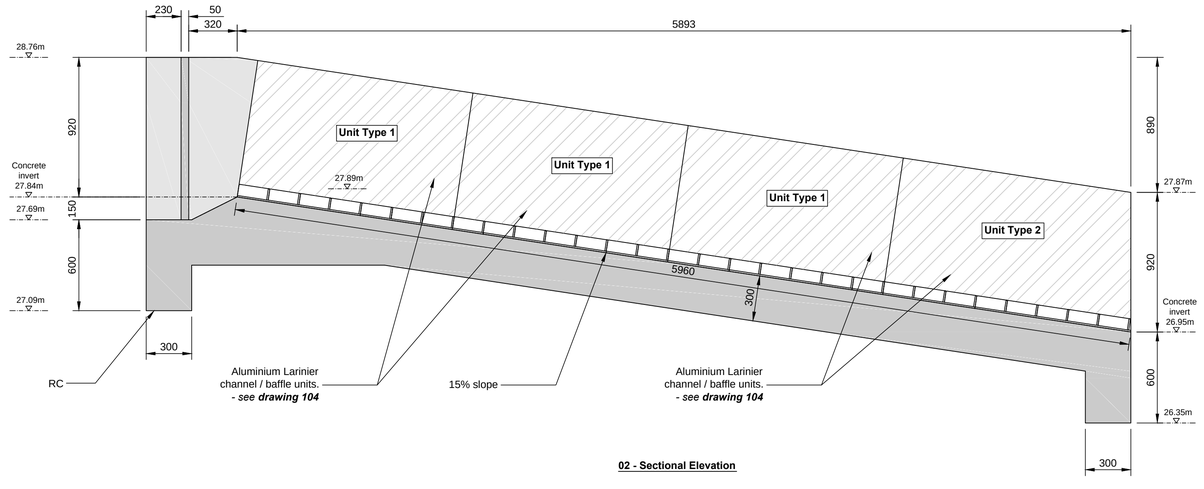
1. DIMENSIONS:
- Are in millimetres unless otherwise stated
- Marked thus (*) are approximate
- All levels are in metres to Site Datum
- Critical levels set out to crest level. Temporary site datum to be agreed on site.

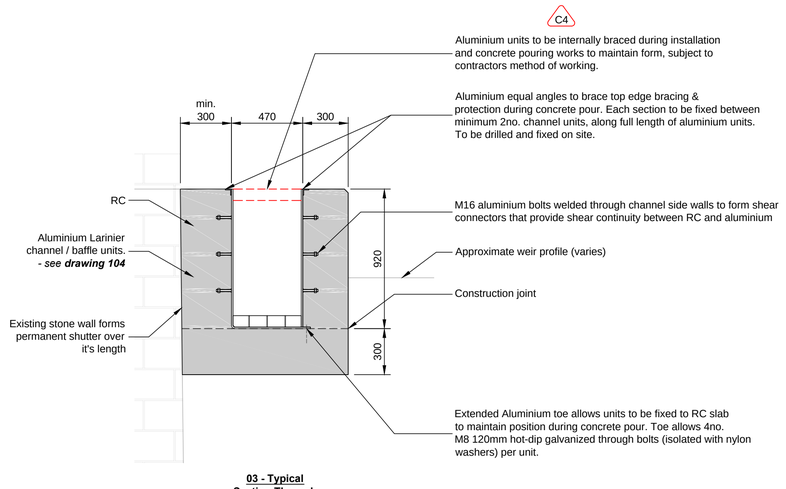
2. SPECIFICATION:
All works to be carried out in accordance with the Environment Agency Minimum Technical Requirements which shall be the Civil Engineering Specification for the Water Industry (CESWI).

3. REINFORCED & MASS CONCRETE
- All concrete to comply with BS 8500-2.
- **Mass concrete** and **reinforced concrete** of the same mix.
- Concrete to have a minimum strength class of C35 / 45.
- Designated Mix REQUIREMENTS:
  - RC 35 / 45
  - 20mm max. aggregate size
  - S3 consistency class
- Reinforcement: All steel reinforcement shall be deformed Type 2 and shall be cut and bent to BS4466 or BS4449.
- Minimum cover to reinforcement C_{min} = 60mm.
- All exposed edges to have 25mm chamfer, with exception to abutting joints.
- Exposed formed concrete to have fair worked finish.
- Exposed unformed concrete to have wood float finish.
- Nominal 100mm layer of mass concrete blinding for pours.

4. RIP-RAP SCOUR PROTECTION:
- Rip-rap scour protection to comprise of natural hard stone with nominal density 2700kg/m^3. Approximate grading to be: 50% 300mm<Ø<450mm, 50% 150mm<Ø<300mm.







102 / 02 - Composite Larinier (plan & sections)

Scale 1:20

Issue	Description	Date
P01	For Information	20 / 06 / 19

Status: Detailed Design

Scales	As shown	Current Issue Signatures	
		Author M.Giblin	
Original Size	A1	Checker M.Lakin	
Datum	N/A	Approver I.St.-R.	
Grid	N/A	© Copyright reserved	

Filename:

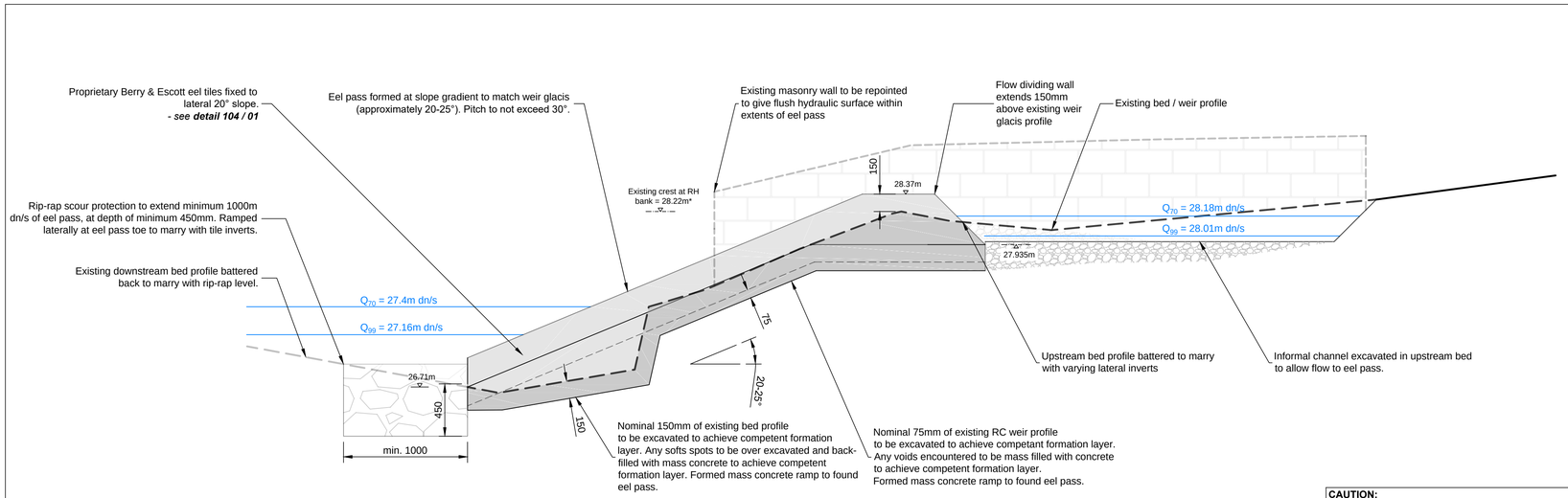
Client: Westcountry Rivers Trust

FISHTEK CONSULTING

PROJECT: WFG Framework
Glynn Weir

TITLE: Larinier Fish Pass
Plan and Sections

Drawing No.	Project No.	Issue
0102	- 02458	- P01



103 / 01 - Long Section Through Eel Pass

Scale 1:25

CAUTION:
Varying formation surfaces. Soft spots in bed strata and voids in weir formation to be back-filled with typical mass concrete mix to from suitable foundation surface. To be assessed by works supervisor.

SAFETY HEALTH & ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the type of work detailed on this drawing, note the following risks and information.

Risks listed here are not exhaustive. Refer to Designer's Risk Assessment and pre-construction phase plan.

CONSTRUCTION

C1 **Managing flow & stage levels in River Fowey**
- Monitor flow levels & flood warnings.
- Check adequacy of cut-off & stability of cofferdams.

C2 **Managing seepage flows through weir**
- Monitor seepage.
-Check stability of cut face in weir and assess permeability of formation material.
- Check adequacy of cut-off & stability of cofferdams.

C3 **Risk of falls from height**
- Check depth of excavations.
-Check adequate edge protection and access provision onto weir.

C4 **Lifting**
- Check cranage lifting facilities & constraints.
- Check access weight & size restrictions for cranage along access route to site.

C5 **Interface with public & other site operations**
- Check adequate warning signs and fencing in place.

C6 **Services**
- Check for services.

C7 **Stability of Excavations & Structures**
- Check temporary works & construction sequencing to maintaining structural integrity of weir and stability of adjacent walls.

For information relating to Use, Cleaning and Maintenance see the Health and Safety File

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement

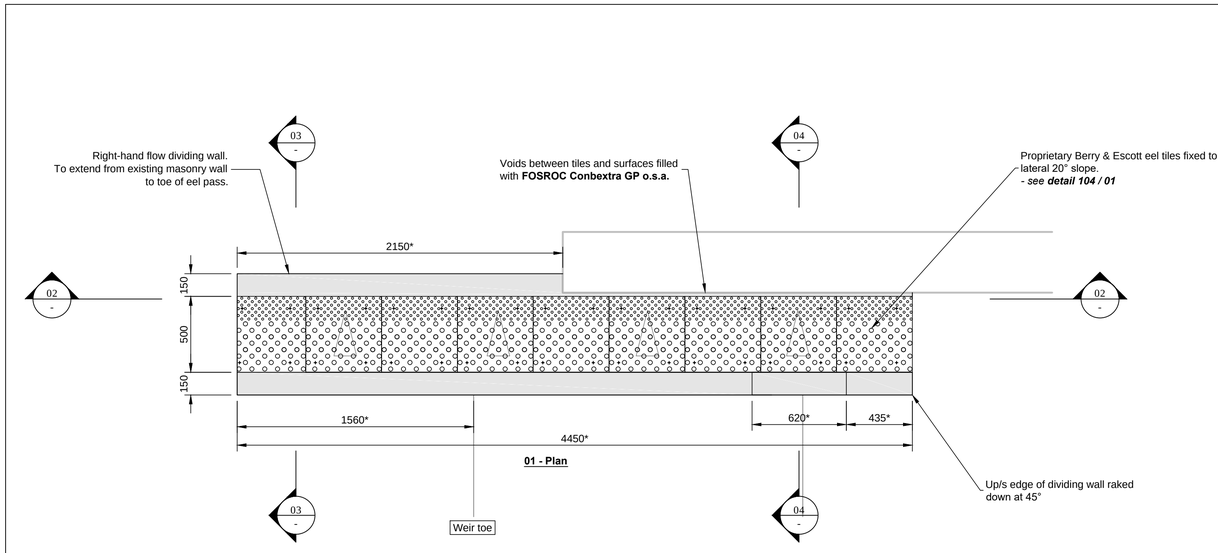
NOTES:

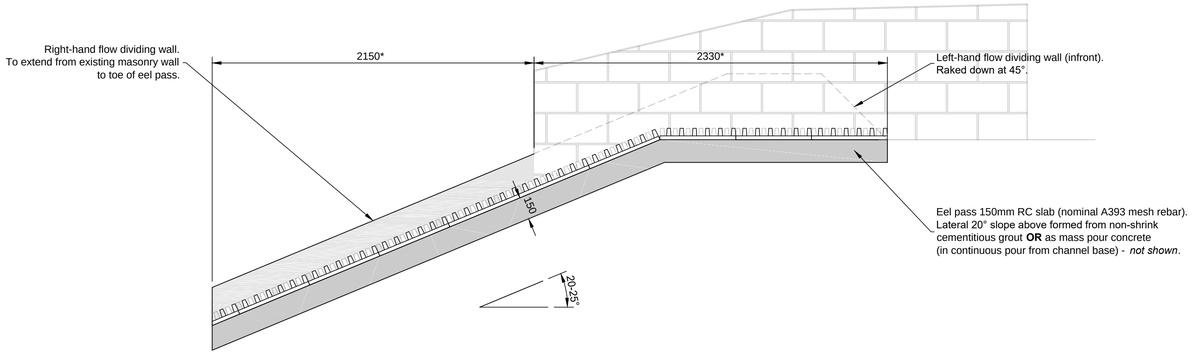
1. DIMENSIONS:
- Are in millimetres unless otherwise stated
- Marked thus (*) are approximate
- All levels are in metres to Site Datum
- Critical levels set out to crest level. Temporary site datum to be agreed on site.

2. SPECIFICATION:
All works to be carried out in accordance with the Environment Agency Minimum Technical Requirements which shall be the Civil Engineering Specification for the Water Industry (CESWI).

3. REINFORCED & MASS CONCRETE
- All concrete to comply with BS 8500-2.
- **Mass concrete** and **reinforced concrete** of the same mix.
- Concrete to have a minimum strength class of C35 / 45.
- Designated Mix REQUIREMENTS:
  - RC 35 / 45
  - 20mm max. aggregate size
  - S3 consistency class
- Reinforcement: All steel reinforcement shall be deformed Type 2 and shall be cut and bent to BS4466 or BS4449.
- Minimum cover to reinforcement C_{min} = 60mm.
- All exposed edges to have 25mm chamfer, with exception to abutting joints.
- Exposed formed concrete to have fair worked finish.
- Exposed unformed concrete to have wood float finish.
- Nominal 100mm layer of mass concrete blinding for pours.

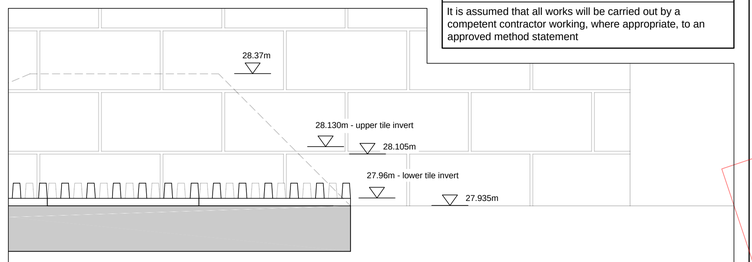
4. RIP-RAP SCOUR PROTECTION:
- Rip-rap scour protection to comprise of natural hard stone with nominal density 2700kg/m^3. Approximate grading to be: 50% 300mm<Ø<450mm, 50% 150mm<Ø<300mm.





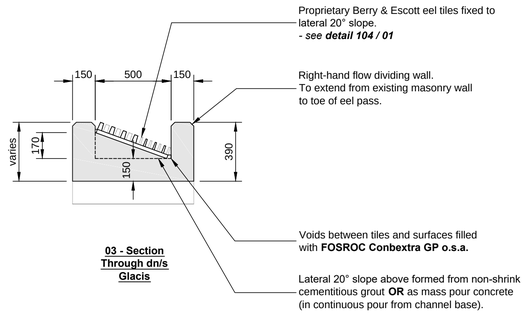
103 / 02 - Eel Pass (plan & sections)

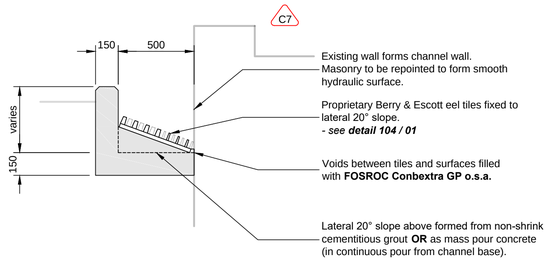
Scale 1:20



103 / 03 - Eel Pass (critical up/s levels)

Scale 1:10





Issue	Description	Date
P01	For Information	20 / 06 / 19

Status: Detailed Design

Scales	As shown	Current Issue Signatures
Original Size	A1	Author M.Giblin
Datum	N/A	Checker M.Lakin
Grid	N/A	Approver I.St.-R.
Filename:		© Copyright reserved

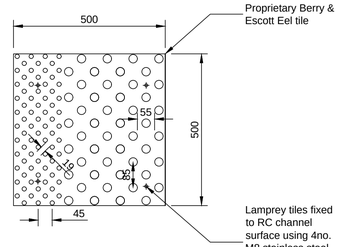
Client: Westcountry Rivers Trust

FISHTEK CONSULTING

PROJECT: WFG Framework Glynn Weir

TITLE: Eel Pass Plan and Sections

Drawing No.	Project No.	Issue
0103	- 02458	- P01



Approximately 11no. Required, cut to suit where required

104 / 01 - Eel Tile Substrate

Scale 1:10

SAFETY HEALTH & ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the type of work detailed on this drawing, note the following risks and information.

Risks listed here are not exhaustive. Refer to Designer's Risk Assessment and pre-construction phase plan.

CONSTRUCTION

C1 **Managing flow & stage levels in River Fowey**
- Monitor flow levels & flood warnings.
- Check adequacy of cut-off & stability of cofferdams.

C2 **Managing seepage flows through weir**
- Monitor seepage.
-Check stability of cut face in weir and assess permeability of formation material.
- Check adequacy of cut-off & stability of cofferdams.

C3 **Risk of falls from height**
- Check depth of excavations.
-Check adequate edge protection and access provision onto weir.

C4 **Lifting**
- Check cranage lifting facilities & constraints.
- Check access weight & size restrictions for cranage along access route to site.

C5 **Interface with public & other site operations**
- Check adequate warning signs and fencing in place.

C6 **Services**
- Check for services.

C7 **Stability of Excavations & Structures**
- Check temporary works & construction sequencing to maintaining structural integrity of weir and stability of adjacent walls.

For information relating to Use, Cleaning and Maintenance see the Health and Safety File

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement

NOTES:

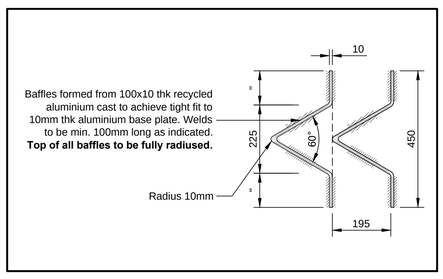
1. DIMENSIONS:
- Are in millimetres unless otherwise stated
- Marked thus (*) are approximate
- All levels are in metres to Site Datum

2. SPECIFICATION:
All works to be carried out in accordance with the Environment Agency Minimum Technical Requirements which shall be the Civil Engineering Specification for the Water Industry (CESWI).

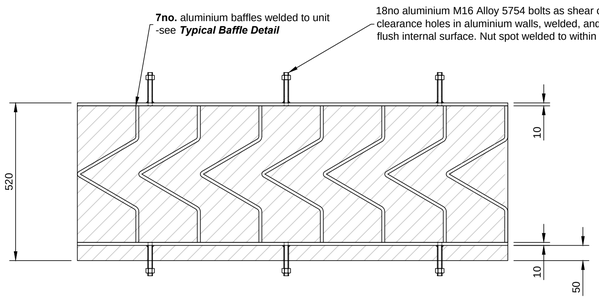
3. REINFORCED & MASS CONCRETE
- All concrete to comply with BS 8500-2.
- **Mass concrete** and **reinforced concrete** of the same mix.
- Concrete to have a minimum strength class of C35 / 45.
- Designated Mix REQUIREMENTS:
  - RC 35 / 45
  - 20mm max. aggregate size
  - S3 consistency class
- Reinforcement: All steel reinforcement shall be deformed Type 2 and shall be cut and bent to BS4466 or BS4449.
- Minimum cover to reinforcement C_{min} = 60mm.
- All exposed edges to have 25mm chamfer, with exception to abutting joints.
- Exposed formed concrete to have fair worked finish.
- Exposed unformed concrete to have wood float finish.
- Nominal 100mm layer of mass concrete blinding for pours.

4. ALUMINIUM:
- All structural aluminium alloys to BS8118.
- Sheet plate grade to be Alloy 5251 H22 Temper, **o.s.a**.
- All aluminium welds to be 10mm continuous fillet welds unless otherwise indicated.

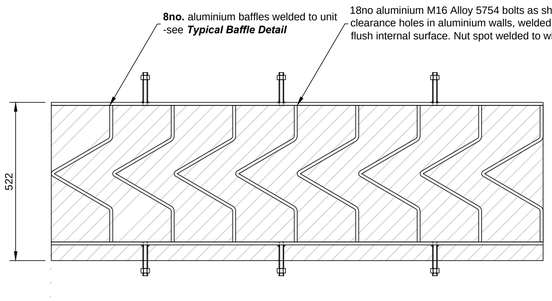
5. FABRICATION:
- Fabricator to prepare fabrication drawings.
- All structural **material components** & all **fabricated** aluminium structures executed to conform to BS EN 1090-2.
- Size of connection plates & bolt hole positions to suit fabrication tolerances and checked prior to delivery to site.



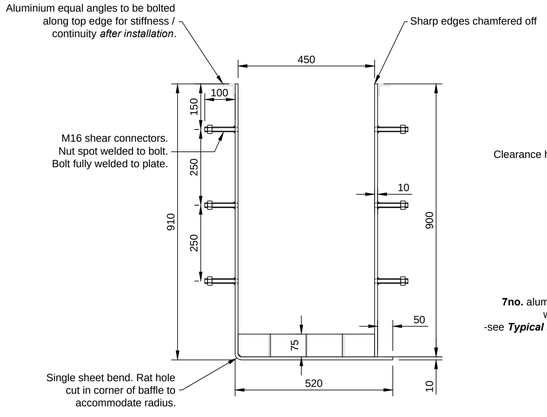
Typical Baffle Detail - 29no required



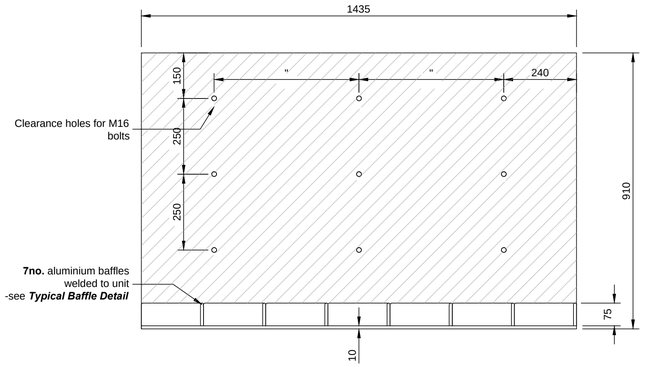
Plan (Unit Type 1)



Plan (Unit Type 1)



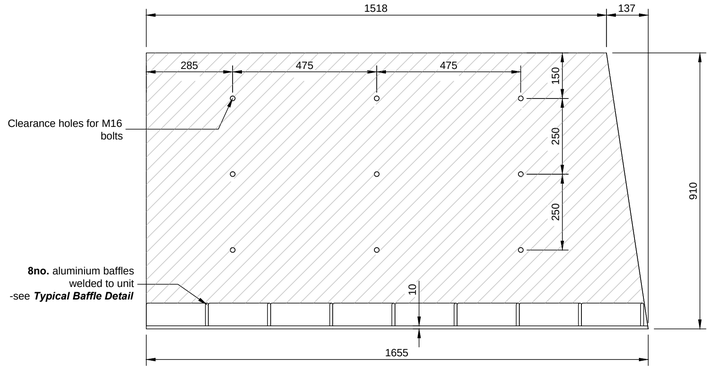
Typical Section (Unit 1 & Unit 2)



Long Section (Unit Type 1)

C7

Caution:
Estimated lift weight= 110kg
Aluminium units to be internally braced during installation and concrete pouring works to maintain form, subject to contractors method of working.



Long Section (Unit Type 1)

C7

Caution:
Estimated lift weight= 120kg
Aluminium units to be internally braced during installation and concrete pouring works to maintain form, subject to contractors method of working.

104 / 02 - Larinier - Fabricated Aluminium Elements

Scale 1:10

Issue	Description	Date
P01	For Information	20 / 06 / 19

Status: Detailed Design

Scales	As shown	Current Issue Signatures	
		Author M.Giblin	
Original Size	A1	Checker M.Lakin	
Datum	N/A	Approver I.St.-R.	
Grid	N/A	© Copyright reserved	

Filename:

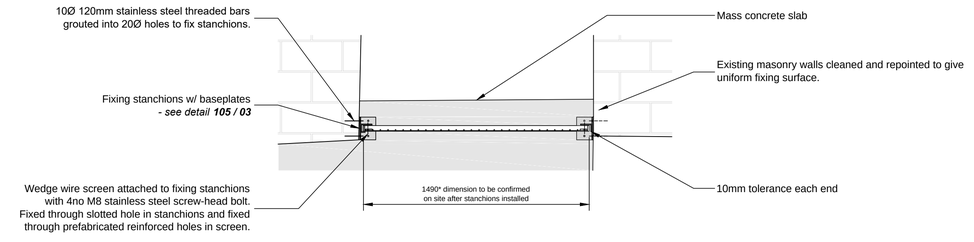
Client: Westcountry Rivers Trust

FISHTEK CONSULTING

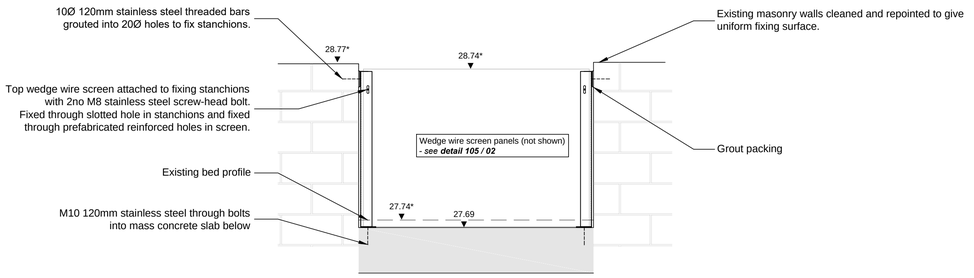
PROJECT: WFG Framework
Glynn Weir

TITLE: Aluminium Larinier Fabricated Elements and Eel Tiles

Drawing No.	Project No.	Issue
0104	- 02458	- P01



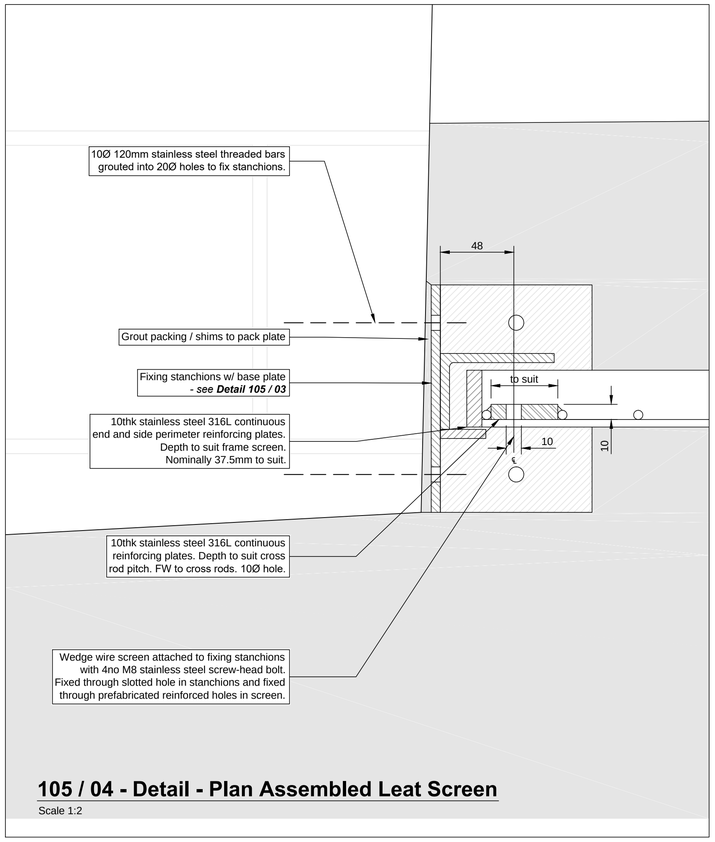
Plan



Elevation

105 / 01 - Detail - Assembled Leat Screen

Scale 1:20



105 / 04 - Detail - Plan Assembled Leat Screen

Scale 1:2

SAFETY HEALTH & ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the type of work detailed on this drawing, note the following risks and information.

Risks listed here are not exhaustive. Refer to Designer's Risk Assessment and pre-construction phase plan.

CONSTRUCTION

C1 **Managing flow & stage levels in River Fowey**
- Monitor flow levels & flood warnings.
- Check adequacy of cut-off & stability of cofferdams.

C2 **Managing seepage flows through weir**
- Monitor seepage.
-Check stability of cut face in weir and assess permeability of formation material.
- Check adequacy of cut-off & stability of cofferdams.

C3 **Risk of falls from height**
- Check depth of excavations.
-Check adequate edge protection and access provision onto weir.

C4 **Lifting**
- Check cranage lifting facilities & constraints.
- Check access weight & size restrictions for cranage along access route to site.

C5 **Interface with public & other site operations**
- Check adequate warning signs and fencing in place.

C6 **Services**
- Check for services.

C7 **Stability of Excavations & Structures**
- Check temporary works & construction sequencing to maintaining structural integrity of weir and stability of adjacent walls.

For information relating to Use, Cleaning and Maintenance see the Health and Safety File

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement

NOTES:

1. DIMENSIONS:
- Are in millimetres unless otherwise stated
- Marked thus (*) are approximate
- All levels are in metres to Site Datum
- Critical levels set out to crest level. Temporary site datum to be agreed on site.

2. SPECIFICATION:
All works to be carried out in accordance with the Environment Agency Minimum Technical Requirements which shall be the Civil Engineering Specification for the Water Industry (CESWI).

3. ALUMINIUM:
- All structural aluminium alloys to BS8118.
- Sheet plate grade to be Alloy 5251 H22 Temper, **o.s.a**.
- All aluminium welds to be 10mm continuous fillet welds unless otherwise indicated.

4. FABRICATION:
- Fabricator to prepare fabrication drawings.
- All structural **material components** & all **fabricated** aluminium or stainless steel structures executed to conform to BS EN 1090-2.
- Size of connection plates & bolt hole positions to suit fabrication tolerances and checked prior to delivery to site.

5. STAINLESS STEEL:
- All structural stainless steel 316L, **o.s.a.**
- Wedge wire screen by Screen Systems (Wireworkers) Ltd.

Issue	Description	Date
P01	For Information	20 / 06 / 19

Status: Detailed Design

Scales	As shown	Current Issue Signatures
		Author M.Giblin
Original Size	A1	Checker M.Lakin
Datum	N/A	Approver I.St.-R.
Grid	N/A	© Copyright reserved

Filename:

Client: Westcountry Rivers Trust

FISHTEK CONSULTING

PROJECT: WFG Framework
Glynn Weir

TITLE: Leat Screen Assembly and Fabrication Details

Drawing No.	Project No.	Issue
0105	- 02458	- P01

Intake Screens

SB34 (stainless steel gr 316L) Wedge Wire, Aperture Size = 5mm, $\frac{3}{4}$" cross-rods at 50mm centres. Wedge wire and reinf bars to run with flow direction.

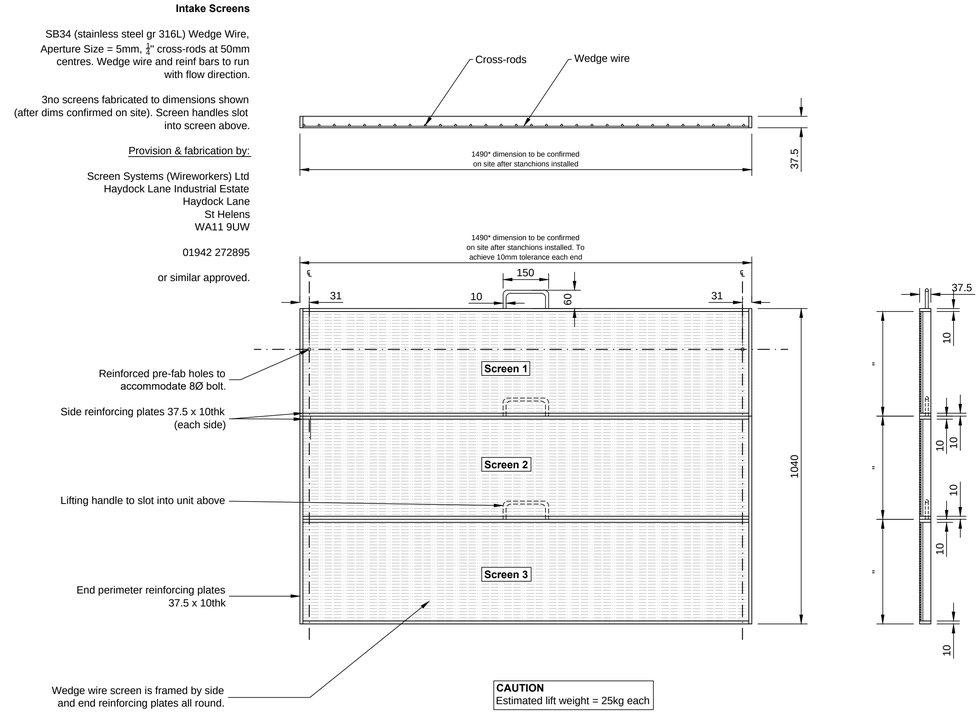
3no screens fabricated to dimensions shown (after dims confirmed on site). Screen handles slot into screen above.

Provision & fabrication by:

Screen Systems (Wireworkers) Ltd
Haydock Lane Industrial Estate
Haydock Lane
St Helens
WA11 9UW

01942 272895

or similar approved.

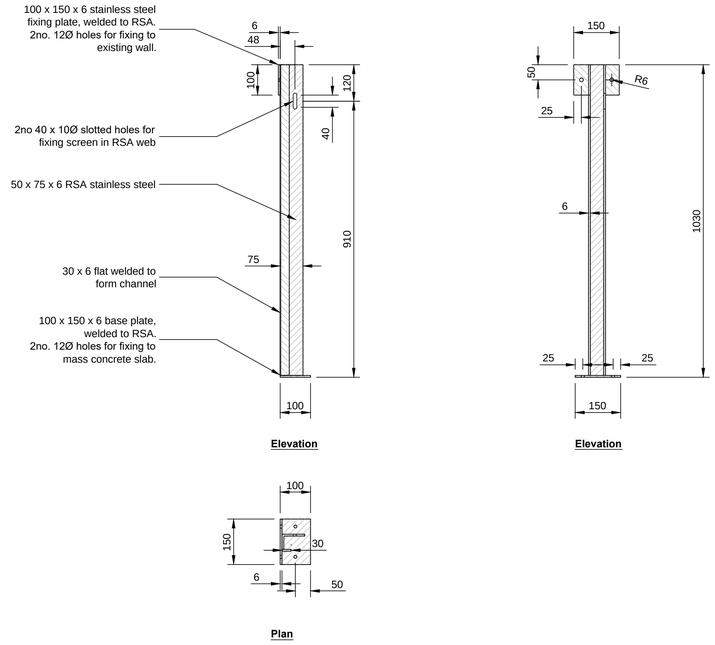


CAUTION
Estimated lift weight = 25kg each

105 / 02 - Detail - Wedge Wire Screen

Scale 1:10

All elements stainless grade steel 316L



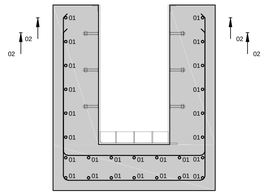
Elevation

Elevation

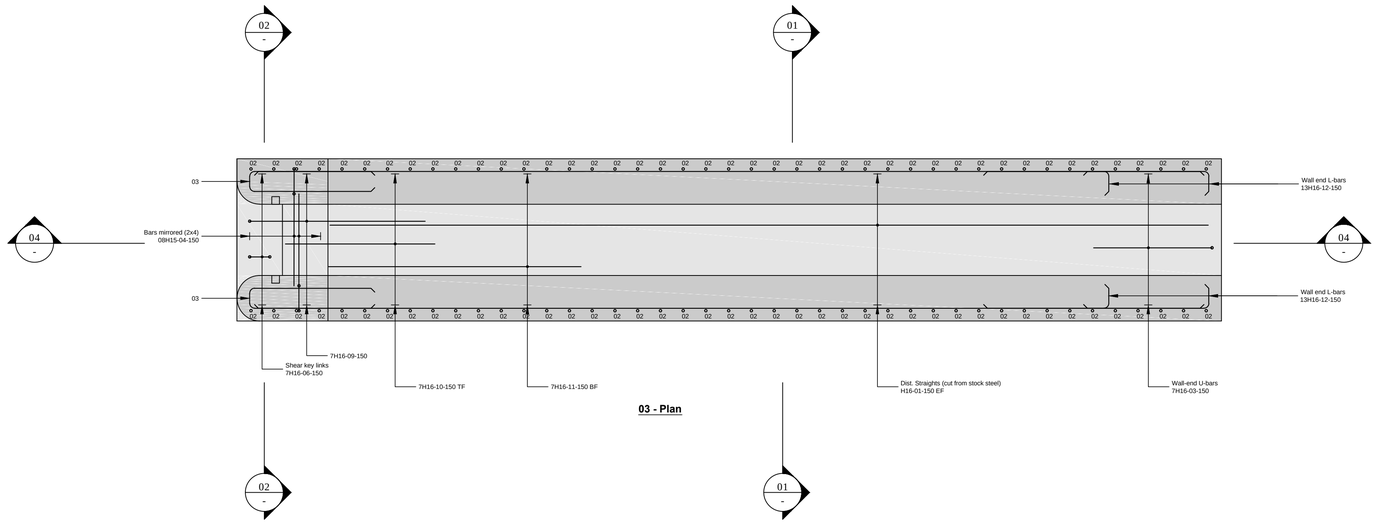
Plan

105 / 03 - Detail - Leat Screen - Fixing Stanchions w/ Base Plates

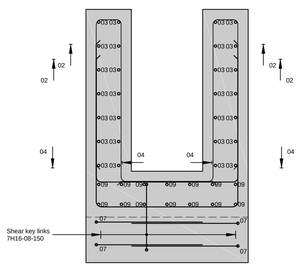
Scale 1:10



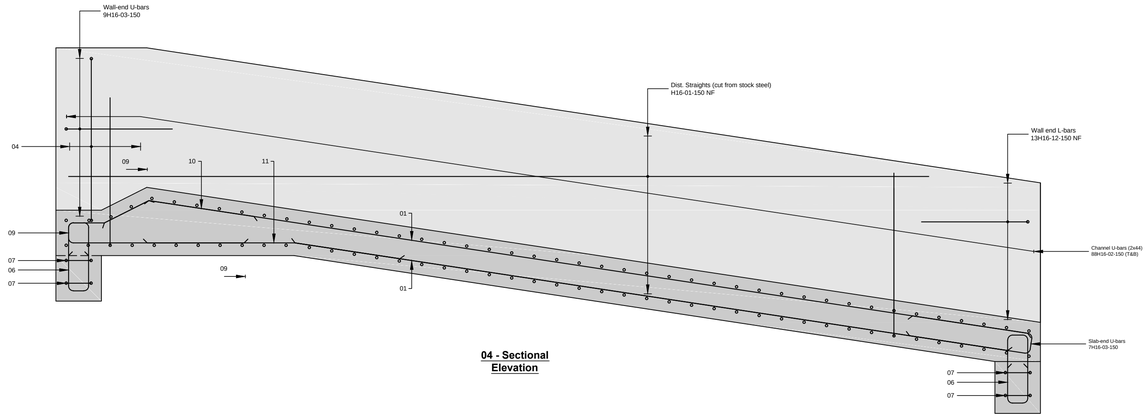
01 - Typical Section



03 - Plan



02 - Section through up/s end



04 - Sectional Elevation

106 / 01 - Larinier - RC Details

Scale 1:20

106 / 02 - Larinier - RC Schedule

NTS

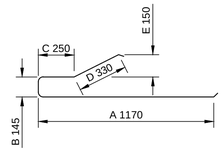
		BAR SCHEDULE											DRAWING No. 106			SHEET 1	REV P01
TITLE	Glynn Weir												DATE	JUN 19			
ITEM	Larinier												NAME	MTG			
													REV.	P01			
MEMBER	BAR MARK	TYPE AND SIZE	No. OF MEMS	No. OF BARS IN EACH	TOTAL No.	LENGTH OF EACH BAR, MM*	SHAPE CODE	A*	B*	C*	D*	E/I*					
	01	H16	1	40	40	6000	00	6000	180	Straights **							
	02	H16	1	88	88	2825	21	980	950	Channel U-bars							
	03	H16	1	25	25	1475	21	700	145	Wall/slab-end U-bars							
	04	H16	1	08	08	2750	32	970	180	1080	615						
	05	Not used															
	06	H16	1	14	14	1625	63	465	145	210	210	Links					
	07	H16	1	08	08	1550	21	710	180	Shear link U-bars							
	08	Not used															
	09	H16	1	07	07	1925	99	1170	145	250	330	150					
	10	H16	1	07	07	1030	15	330	200	700							
	11	H16	1	07	07	1675	15	700	115	975							
	12	H16	1	32	32	1020	12	210	810	Wall-end L-bars*							
	13	H12	1	14	14	725	21	300	150	U-bar dowels (***101***)							
	14	A393 Mesh (approx. 4.5m^2 eel pass)															
	15	A393 SS grade 304 mesh (approx. 15.0m^2 weir repair)															

Cover: Cover to reinforcement to be min 60mm (exposed faces)

Laps: Tension faces 40Ø (480mm)

* Legs cut to suit on site

** Length cut to suit from stock steel



BM09 - SC99 - Bespoke bar

NOTES:

1. DIMENSIONS:
- Are in millimetres unless otherwise stated
- Marked thus (*) are approximate
- All levels are in metres to Site Datum

2. SPECIFICATION:
All works to be carried out in accordance with the Environment Agency Minimum Technical Requirements which shall be the Civil Engineering Specification for the Water Industry (CESWI).

3. REINFORCED & MASS CONCRETE
- All concrete to comply with BS 8500-2.
- **Mass concrete** and **reinforced concrete** of the same mix.
- Concrete to have a minimum strength class of C35 / 45.
- Designated Mix REQUIREMENTS:
  - RC 35 / 45
  - 20mm max. aggregate size
  - S3 consistency class
- Reinforcement: All steel reinforcement shall be deformed Type 2 and shall be cut and bent to BS4466 or BS4449.
- Minimum cover to reinforcement C_{min} = 60mm.
- All exposed edges to have 25mm chamfer, with exception to abutting joints.
- Exposed formed concrete to have fair worked finish.
- Exposed unformed concrete to have wood float finish.
- Nominal 100mm layer of mass concrete blinding for pours.

Issue	Description	Date
P01	For Information	20 / 06 / 19

Status: Detailed Design

Scales	As shown	Current Issue Signatures
		Author M.Giblin
Original Size	A1	Checker M.Lakin
Datum	N/A	Approver I.St.-R.
Grid	N/A	© Copyright reserved

Filename:

Client: Westcountry Rivers Trust

FISHTEK CONSULTING

PROJECT: WFG Framework
Glynn Weir

TITLE: Reinforced Concrete Details and Schedule

Drawing No.	Project No.	Issue
0106	- 02458	- P01