# POINT B - GRAVITY OUTFALL - WHERE THE WATER WILL BE DISCHARGED

# POINT C - LOCATION OF ABSTRACTION

EXISTING 2NO. REDUNDANT PIPES IN THIS-LOCATION TO BE REMOVED (CUT BACK. ZE AND LOCATION INDICATIVE Δ

PAR SI BLAZEY STREAM

1-200mm DIA. RIP RAP STONE EMBEDDED INTO TI BE OF CULVERT WITH SIKA MONOTOP 4012 REPAIR IRTAR OR SIMILAR APPROVED. REFER TO DRAWING VIMSW002205-ATK-00-4XX-DR-C-000005 FOR TAILS.

> EXISTING FENCING AND VEGETATION— LOCALLY REMOVED TO ACCOMMODATE NEI HEADWALL, PIPE, FENCING AND GATE

RETAINING WALL SEE DRAWING ENVIMSW002205-ATK-00-4XX-DR-C-000003

EXISTING WALL LOCALLY EXCAVATED AROUND CENTRE LINE OF PIPE TO ACCOMMODATE NEW PIPE INLET

`

A

RAILWAY LINE

CONTRACTOR TO ALLOW FOR—
PARTIAL DEMOLITION OF EXISTING
CONCRETE WALL EXISTING
STRUCTURE TO BE REPAIRED ON
COMPLETION OF WORKS

SOLUFORM CONCRETE FILLED—— BAGWORK OR SIMILAR APPROVED

1000mm X 800mm FRAME MOUNTED ALUMINUM— STOPLOG WEIR WITH STANLESS STEEL STOPLOG SUPPORT FRAMES (IBS ENDINEERED PRODUCTS OR SIMILAR APPROVED), CHANNEL AT MINIMUM ELEVATION OF 2.1 mAOD. REFER TO DRAWING ENVIMSW002205-ATK-00-AXX-DR-C-000007. 250mm DIEP REINFORCED CONCRETE SLAB IN ACCORDANCE WITH MICHW VO LUNE 3. REFER TO REINFORCEMENT DRAWINGS.
CONCRET GRADE TO BE 032/40 IN ACCORDANCE WITH B88500-2

NEW 1.1m HIGH GALVANISED STEEL KEE KLAMP FENCE AND 1.2m WIDE GATE WITH ANTI-CLIMB MESH TOP AND BOTTOM

-LADDER ACCESS SHOWN INDICATIVELY, EA FIELD TEAM TO LIAISE WITH CONTRACTOR ON EXACT FIXINGS FOR RETRACTABLE LADDER

EXISTING HEADWALL LOCALLY BROKEN OUT TO ACCOMMODATE ELLIPTICAL CONCRETE CULVERT

-

FISH FRIENDLY FLAPVALVES TO BE INSTALLE ON THE OUTLET. AQUIKO 1350 X 1045 HOPE FISH FRIENDLY FLAP VALVE OSA (SS316L) OR SIMILAR APPROVED N

13.

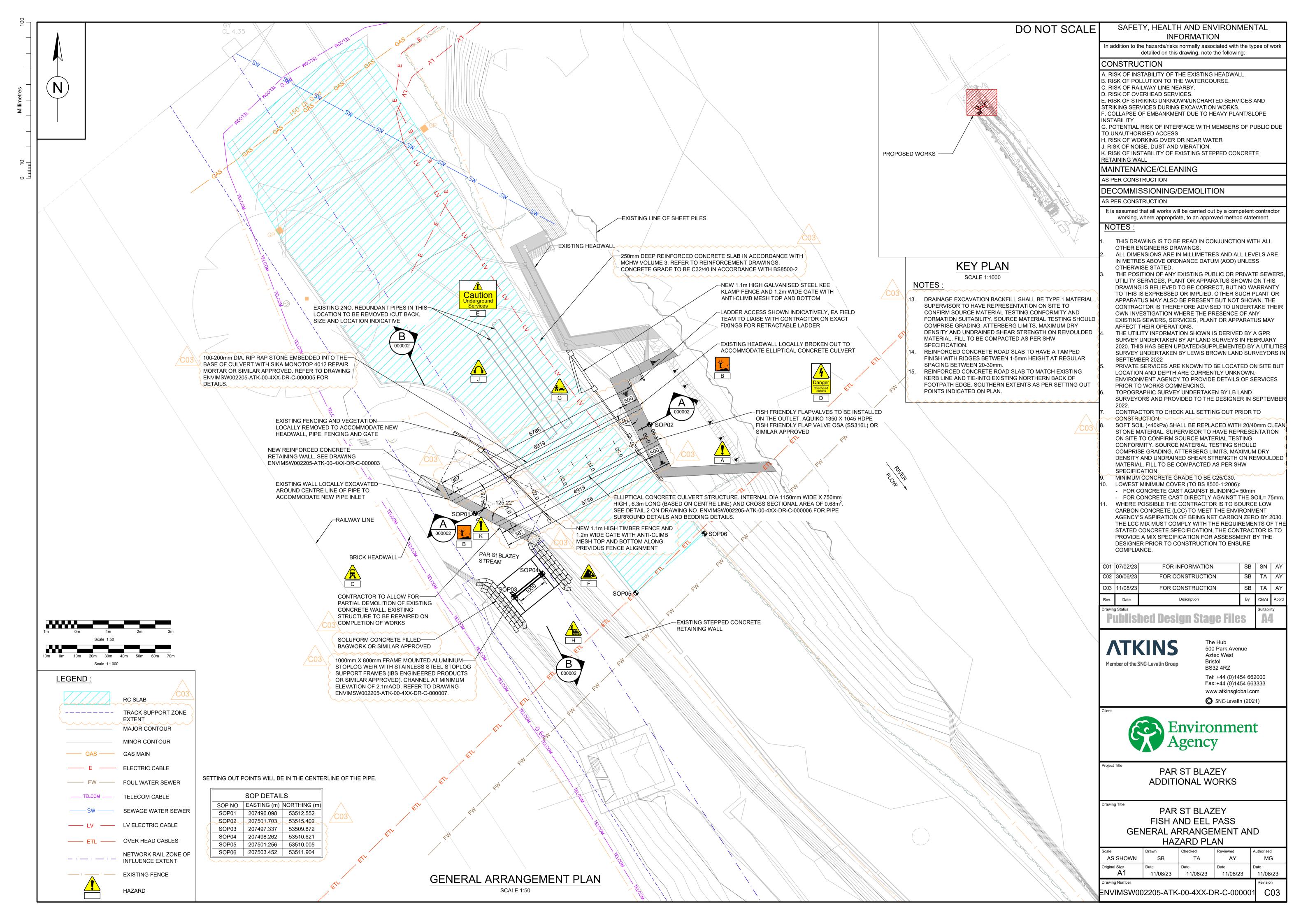
ELLIPTICAL CONCRETE CULVERT STRUCTURE. INTERNAL DIA 1150mm WIDE X 750mm HIGH, 6.3m LONG (BASED ON CENTRE LINE) AND CROSS SECTIONAL AREA OF 0.68mm SEE DETAL 2 ON DRAWING NO. ENVIMISMO02205-ATK-00-4XX-DR-C-000006 FOR PIPE SURROUND DETAILS AND BEDDING DETAILS.

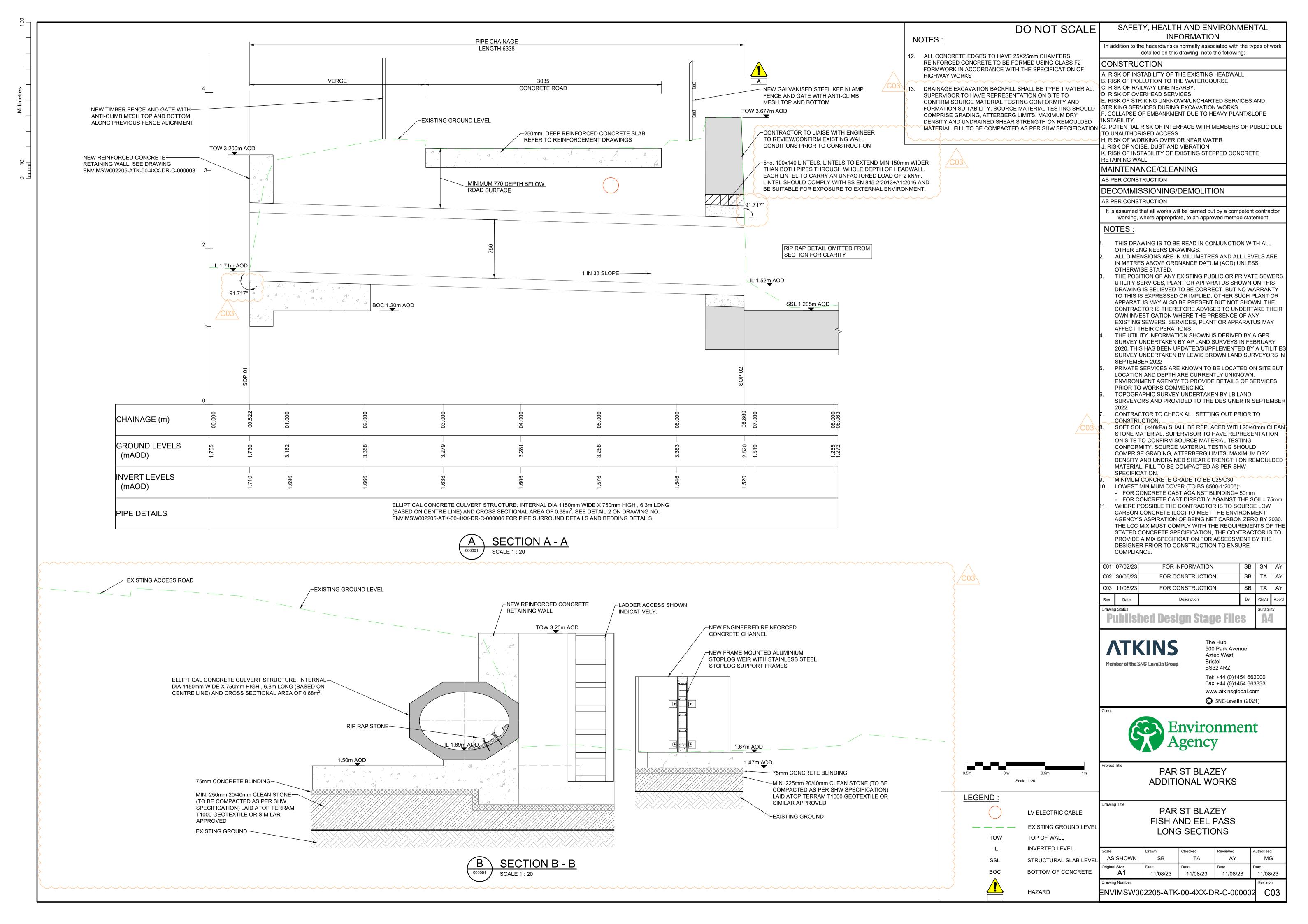
NEW 1.1m HIGH TIMBER FENCE AND 1.2m WIDE GATE WITH ANTI-CLIMB MESH TOP AND BOTTOM ALONG PREVIOUS FENCE ALIGNMENT

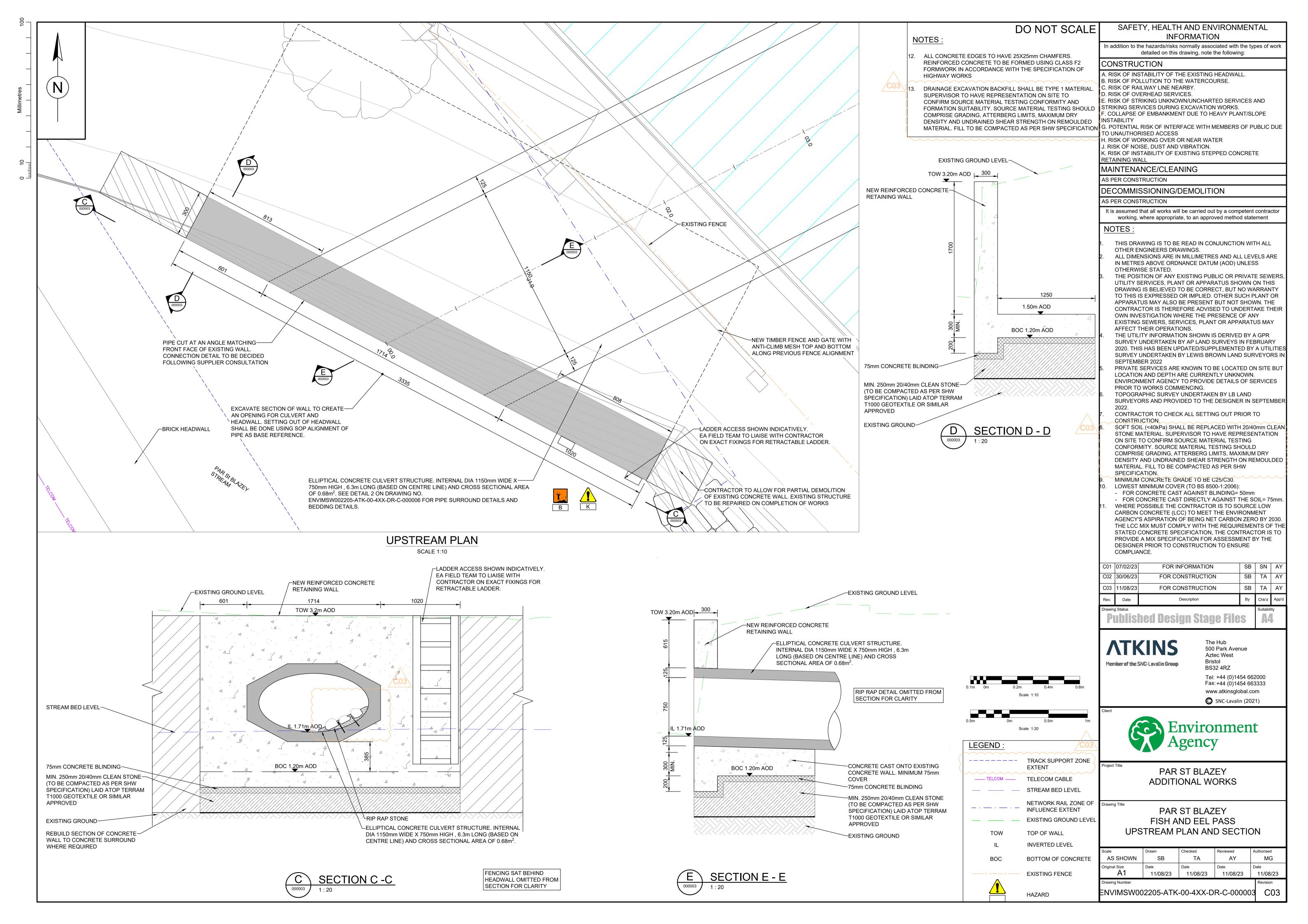
SOP05

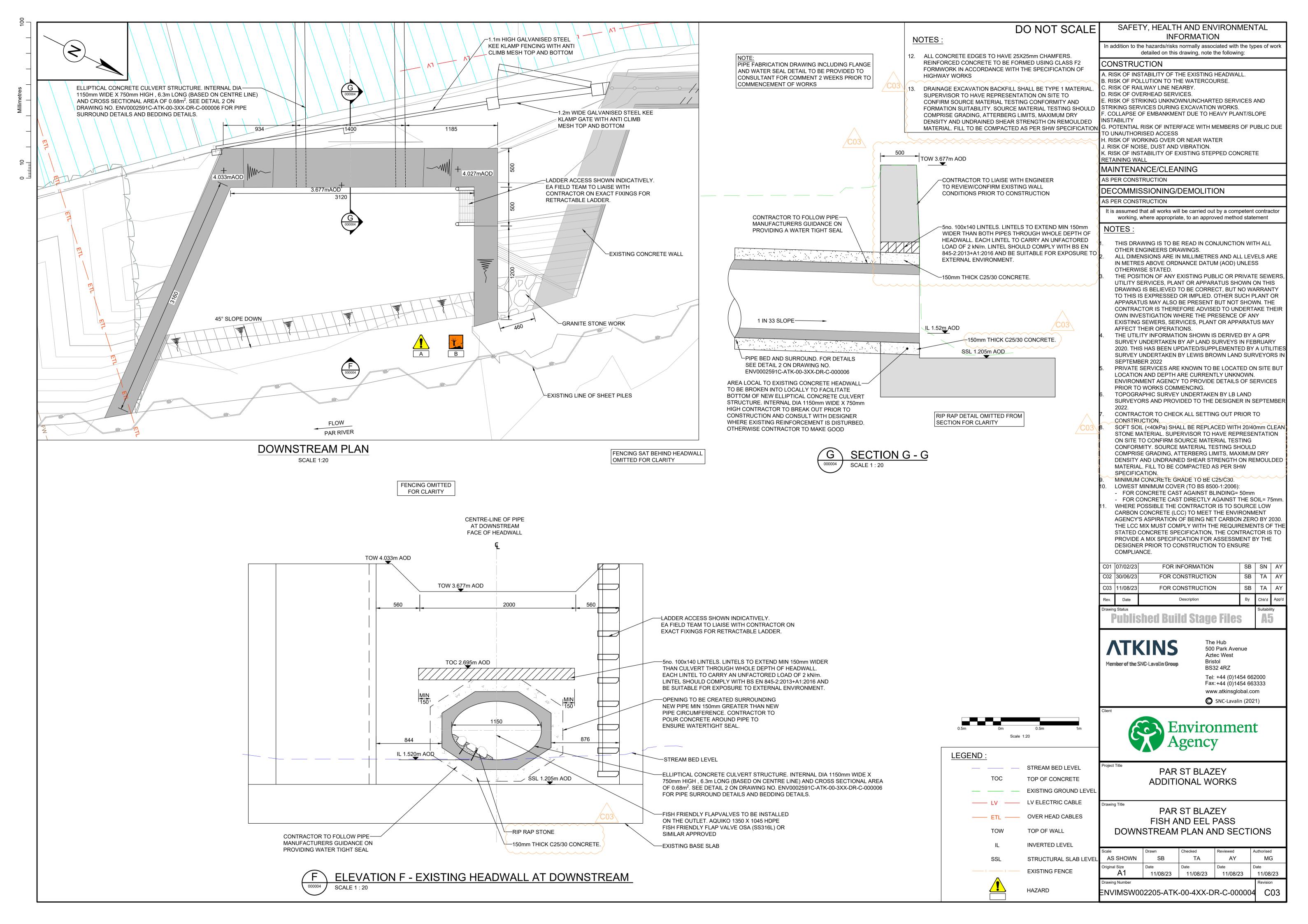
EXISTING STEPPED CONCRETE

POINT A -LOCATION OF IMPOUNDMENT









SEE NOTE 3

1400

**CULVERT BARREL DETAIL** 

SCALE 1:5

# DO NOT SCALE

#### SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:

#### CONSTRUCTION

A. RISKS WHEN WORKING IN CONFINED SPACE INSIDE CULVERT. B. RISK OF WORKING OVER OR NEAR WATER / AREA OF FLOOD

C. RISK OF NOISE, DUST AND VIBRATION FROM DRILLING ACTIVITY. D. RISK OF INJURY WHEN MANUAL HANDLING GRANITE RIP RAP. E. RISK OF TRAPPED FINGERS WHEN HANDLING GRANITE RIP RAP. F. RISK OF POLLUTION TO THE WATERCOURSE.

#### MAINTENANCE/CLEANING

#### AS PER CONSTRUCTION

#### DECOMMISSIONING/DEMOLITION

#### AS PER CONSTRUCTION

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

#### NOTES:

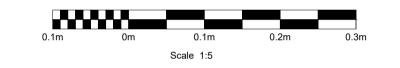
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL
- OTHER ENGINEERS DRAWINGS. ALL DIMENSIONS ARE IN MILLIMETRES AND ALL LEVELS ARE
- IN METRES ABOVE ORDNANCE DATUM (AOD) UNLESS OTHERWISE STATED.
- WALL TIE SPECIFICATION: HELIFIX STAR TIES USED AT THE FOLLOWING SPECIFICATION:
- MATERIAL AUSTENITIC STAINLESS STEEL GRADE 304 (1.4301)
- STANDARD LENGTH 155mm
- **DIAMETER 8mm**
- DIAMETER OF PILOT HOLE 6mm PENETRATION INTO FAR LEAF MATERIAL - 70mm
- EMBEDMENT DEPTH INTO NEAR LEAF MATERIAL 3/4 OF THE NEAR LEAF THICKNESS
- MINIMUM FIXING DENSITY 5 TIES PER m<sup>2</sup>

#### REPAIR MORTAR SPECIFICATION:

4. REPAIR MORTAR SHALL BE SIKA MONOTOP 4012 OR SIMILAR

5. REPAIR MORTAR SHALL BE PREPARED AND APPLIED IN ACCORDANCE WITH THE MANUFACTURES RECOMMENDATIONS. 6. RIP RAP STONE TO BE EMBEDDED IN TO REPAIR MORTAR

EQUIVALENT TO 50% - 75% OF THE EFFECTIVE STONE AREA FOR SUFFICIENT BONDING.



Drawing Status					Suitability	
Rev.	Date	Description	Ву	Chk'd	App'd	
C02	11/08/23	FOR CONSTRUCTION		TA	AY	
C01	07/02/23	FOR INFORMATION	SB	SN	AY	

Published Design Stage Files

**ATKINS** 

Member of the SNC-Lavalin Group

The Hub 500 Park Avenue Aztec West Bristol BS32 4RZ

Tel: +44 (0)1454 662000 Fax: +44 (0)1454 663333 www.atkinsglobal.com

SNC-Lavalin (2023)



PAR ST BLAZEY ADDITIONAL WORKS

PAR ST BLAZEY FISH AND EEL PASS **CULVERT BARREL DETAIL** 

Scale	Drawn	Checked	Reviewed	Authorised
AS SHOWN	SB	TA	AY	MG
Original Size	Date 11/08/23	Date 11/08/23	Date 11/08/23	Date 11/08/23

ENVIMSW002205-ATK-00-4XX-DR-C-000005

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:

### CONSTRUCTION

A. RISK OF INSTABILITY OF THE EXISTING HEADWALL.

B. RISK OF POLLUTION TO THE WATERCOURSE.

C. RISK OF RAILWAY LINE NEARBY. D. RISK OF OVERHEAD SERVICES.

E. RISK OF STRIKING UNKNOWN/UNCHARTED SERVICES AND STRIKING SERVICES DURING EXCAVATION WORKS. F. COLLAPSE OF EMBANKMENT DUE TO HEAVY PLANT/SLOPE

G. POTENTIAL RISK OF INTERFACE WITH MEMBERS OF PUBLIC DUE TO UNAUTHORISED ACCESS

H. RISK OF WORKING OVER OR NEAR WATER J. RISK OF NOISE, DUST AND VIBRATION.

K. RISK OF INSTABILITY OF EXISTING STEPPED CONCRETE RETAINING WALL

MAINTENANCE/CLEANING

AFFECT THEIR OPERATIONS.

## AS PER CONSTRUCTION

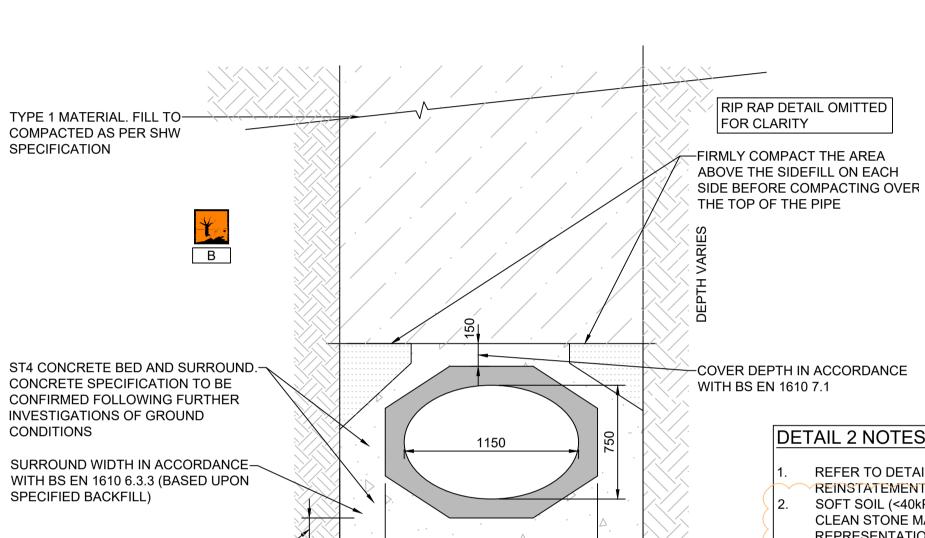
#### DECOMMISSIONING/DEMOLITION

#### AS PER CONSTRUCTION

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

#### NOTES:

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL
- OTHER ENGINEERS DRAWINGS. ALL DIMENSIONS ARE IN MILLIMETRES AND ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (AOD) UNLESS
- OTHERWISE STATED. TYPICAL DETAILS. PIPE TO BE INSTALLED IN LINE WITH MANUFACTURERS RECOMMENDATIONS.
- THE POSITION OF ANY EXISTING PUBLIC OR PRIVATE SEWERS UTILITY SERVICES, PLANT OR APPARATUS SHOWN ON THIS DRAWING IS BELIEVED TO BE CORRECT, BUT NO WARRANTY TO THIS IS EXPRESSED OR IMPLIED. OTHER SUCH PLANT OR APPARATUS MAY ALSO BE PRESENT BUT NOT SHOWN. THE CONTRACTOR IS THEREFORE ADVISED TO UNDERTAKE THEIR OWN INVESTIGATION WHERE THE PRESENCE OF ANY EXISTING SEWERS, SERVICES, PLANT OR APPARATUS MAY
- PRIVATE SERVICES ARE KNOWN TO BE LOCATED ON SITE BUT LOCATION AND DEPTH ARE CURRENTLY UNKNOWN. ENVIRONMENT AGENCY TO PROVIDE DETAILS OF SERVICES PRIOR TO WORKS COMMENCING.
- TOPOGRAPHIC SURVEY UNDERTAKEN BY LB LAND SURVEYORS AND PROVIDED TO THE DESIGNER IN SEPTEMBER
- CONTRACTOR TO CHECK ALL SETTING OUT PRIOR TO CONSTRUCTION.



"SEE DETAIL 1 FOR RELEVANT

BEDDING DEPTH IN ACCORDANCE-

WITH SPECIFICATION FOR

HIGHWAY WORKS

REINSTATEMENT DETAILS"

DETAIL 2 - PIPE BED AND SURROUND

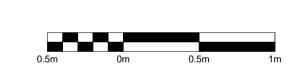
SCALE 1:25

DETAIL 2 NOTES:

- REFER TO DETAIL 1 AND 2 FOR TRENCH AND REINSTATEMENT DETAILS.
- SOFT SOIL (<40kPa) SHALL BE REPLACED WITH 20/40mm CLEAN STONE MATERIAL. SUPERVISOR TO HAVE REPRESENTATION ON SITE TO CONFIRM SOURCE MATERIAL TESTING CONFORMITY. SOURCE MATERIAL TESTING SHOULD COMPRISE GRADING, ATTERBERG LIMITS, MAXIMUM DRY

DENSITY AND UNDRAINED SHEAR STRENGTH ON REMOULDED

- MATERIAL. FILL TO BE COMPACTED AS PER SHW SPECIFICATION. DRAINAGE EXCAVATION BACKFILL SHALL BE TYPE 1 MATERIAL. SUPERVISOR TO HAVE REPRESENTATION ON SITE TO CONFIRM SOURCE MATERIAL TESTING CONFORMITY AND FORMATION SUITABILITY. SOURCE MATERIAL TESTING SHOULD COMPRISE GRADING, ATTERBERG LIMITS, MAXIMUM DRY DENSITY AND UNDRAINED SHEAR STRENGTH ON REMOULDED MATERIAL. FILL TO BE COMPACTED AS PER SHW
- SPECIFICATION. WIDTH OF TRENCH - IN ACCORDANCE WITH BS EN 1610 TRENCH TO BE PIPE EXTERNAL DIA +1.0m MINIMUM.



C01	07/02/23	FOR INFORMATION	SB	SN	AY
C02	30/06/23	FOR CONSTRUCTION	SB	TA	AY
C03	11/08/23	FOR CONSTRUCTION	SB	TA	AY
Rev.	Date	Description	Ву	Chk'd	App'd

**Published Design Stage Files** 

**ATKINS** 

Member of the SNC-Lavalin Group

500 Park Avenue Aztec West Bristol BS32 4RZ

The Hub

Tel: +44 (0)1454 662000 Fax: +44 (0)1454 663333 www.atkinsglobal.com

© SNC-Lavalin (2021)



PAR ST BLAZEY ADDITIONAL WORKS

PAR ST BLAZEY FISH AND EEL PASS DETAILED DESIGN REINSTATEMENT DETAILS

AS SHOWN SB TA ΑY MG Α1 11/08/23 11/08/23 11/08/23 11/08/23

ENVIMSW002205-ATK-00-4XX-DR-C-000006

COMPRISE GRADING, ATTERBERG LIMITS, MAXIMUM DRY

REMOULDED MATERIAL. FILL TO BE COMPACTED AS PER

WIDTH OF TRENCH - IN ACCORDANCE WITH BS EN 1610

DENSITY AND UNDRAINED SHEAR STRENGTH ON

TRENCH TO BE PIPE EXTERNAL DIA +1.0m MINIMUM.

SHW SPECIFICATION.

EXISTING GROUND LEVEL AS EXISTING TOP SOIL MIN. 150 SUB-BASE **BACK FILL DEPTH** VARIES TO SUIT **DETAIL 1 NOTES:** TOPSOIL TO BE SEEDED AS PER ENVIMSW002205-ATK-00-4ZZ-SP-L-000001 EXCAVATED TOPSOIL OR SOFT SOIL (<40kPa) SHALL BE REPLACED WITH 20/40mm CLEAN STONE MATERIAL. SUPERVISOR TO HAVE REPRESENTATION ON SITE TO CONFIRM SOURCE MATERIAL TESTING CONFORMITY. SOURCE MATERIAL TESTING SHOULD COMPRISE GRADING, ATTERBERG LIMITS, MAXIMUM DRY DENSITY AND UNDRAINED SHEAR STRENGTH ON REMOULDED MATERIAL FILL TO BE COMPACTED AS PER SHW SPECIFICATION. BACKFILL SHALL BE TYPE 1 MATERIAL. SUPERVISOR TO HAVE REPRESENTATION ON SITE TO CONFIRM SOURCE MATERIAL TESTING CONFORMITY AND FORMATION SUITABILITY. SOURCE MATERIAL TESTING SHOULD

DETAIL 1 - REINSTATEMENT OF VERGE ALONGSIDE TRACK

L\_\_\_\_\_\_

TRENCH WIDTH (W)

SCALE 1:25

