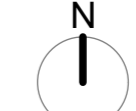
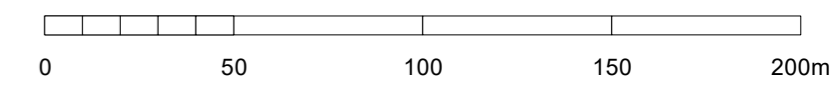




NOTES
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- Key**
- Site Boundary 27.00Ha
 - Proposed dwellings
 - Proposed Green Infrastructure 23.09Ha
(Includes indicative roads crossing green infrastructure)
 - Proposed vehicular access
 - Indicative pedestrian / cycle access
 - Indicative emergency / cycle access
 - Indicative Primary Street
 - Indicative Informal Footpath route
 - Indicative segregated cycle link
 - Potential location for interpretation board
 - Potential location for bench / resting area
 - Proposed tree planting
 - Proposed historic hedge replanting
 - Proposed SuDS
 - Indicative LEAP Play Area with 20m offset
 - Existing Tree and hedgerows
 - Trees/hedges to be removed
 - Retained/ existing moat
 - Existing Public Right of Way / footpath
 - Existing contours
 - Indicative mown grass footpath route

P07 27.10.2023 Plan updated to client comments. OWB KMN

rev	date	description	drn	chk

masterplanning ■
environmental assessment ■
landscape design ■
urban design ■
ecology ■
architecture ■
arboriculture ■

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client
Wain Estates

project
**Land north of Wilderness Lane,
 Great Barr, Birmingham**

drawing title
Illustrative Masterplan

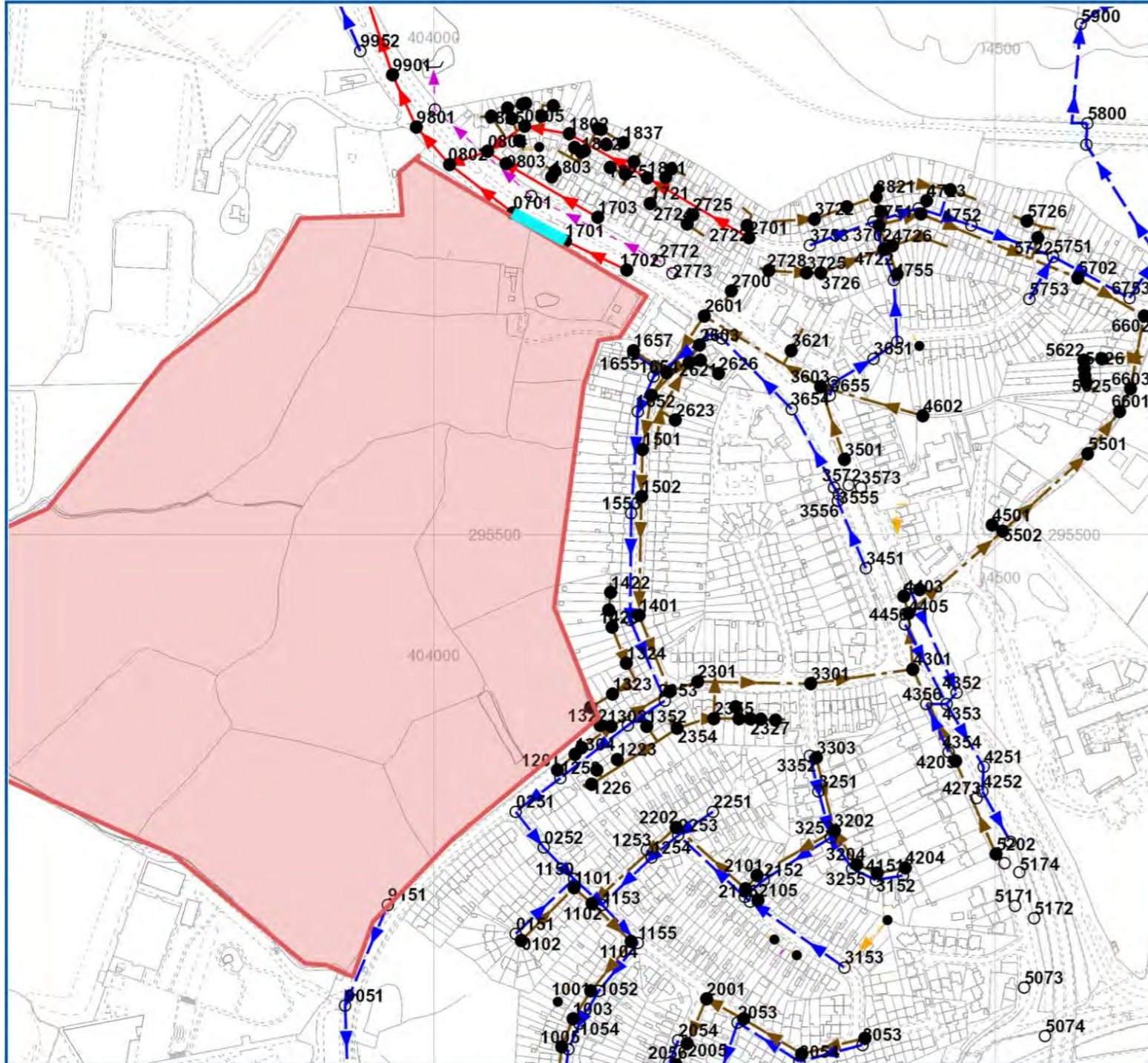
scale 1:2000 @ A2	drn OWB	chk KMN	date created 18 AUGUST 2023
project number 9364	status S1	issue P07	

document number
09364-FPCR-XX-ZZ-DR-L-0012

Project Code - Originator - Zone - Level - Type - Role - Drawing Number



Appendix C Severn Trent Water Asset Mapping



Reference	Cover Level	Invert Level Upstream	Invert Level Downstream	Purpose	Material	Pipe Shape	Max Size	Min Size	Gradient	Year Laid
SP04951656	0	0	0	S	<UNK>	<UNK>	225	0	0	31/12/1899 00:00:00
SP04951655	0	0	0	S	<UNK>	<UNK>	225	0	0	31/12/1899 00:00:00
SP04952656	0	0	157.14	F	VC	C	225	0	<UNK>	31/12/1899 00:00:00
SP04951657	0	0	0	F	<UNK>	<UNK>	0	0	0	31/12/1899 00:00:00
SP04951104	151.9179	149.318	148.08	F	VC	C	225	<UNK>	45.85	31/12/1899 00:00:00
SP04951150	152.738	150.659	150.355	S	VC	C	225	<UNK>	113.23	31/12/1899 00:00:00
SP04951321	157.66	157.08	156.05	F	VC	C	100	<UNK>	17.67	31/12/1899 00:00:00
SP04952056	150.6909	147.691	<UNK>	S	VC	C	225	<UNK>	0	31/12/1899 00:00:00
SP04952251	157.054	155.539	153.22	S	VC	C	225	<UNK>	16.14	31/12/1899 00:00:00
SP04952728	<UNK>	<UNK>	158.41	F	VC	C	<UNK>	<UNK>	0	31/12/1899 00:00:00
SP04953101	159.1049	156.155	155.828	F	VC	C	225	<UNK>	59.7	31/12/1899 00:00:00
SP04953352	160.8139	158.154	157.172	S	VC	C	225	<UNK>	33.65	31/12/1899 00:00:00
SP04954651	159.9819	157.902	156.403	S	VC	C	225	<UNK>	36.72	31/12/1899 00:00:00
SP04954704	158.7129	156.383	154.446	F	VC	C	225	<UNK>	24.13	31/12/1899 00:00:00
SP04954722	157.27	155.68	<UNK>	F	VC	C	150	<UNK>	0	31/12/1899 00:00:00
SP04954251	162.6069	159.846	159.754	S	VC	C	300	<UNK>	244.67	31/12/1899 00:00:00
SP04955624	<UNK>	<UNK>	<UNK>	F	VC	C	<UNK>	<UNK>	0	31/12/1899 00:00:00
SP04956601	155.5299	151.26	151.199	F	VC	C	225	<UNK>	372.67	31/12/1899 00:00:00
SP04952773	160.662	0	0	S	<UNK>	<UNK>	0	0	0	31/12/1899 00:00:00
SP04950820	<UNK>	<UNK>	155.35	F	VC	C	<UNK>	<UNK>	0	31/12/1899 00:00:00
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SP04951654	160.2189	158.819	158.62	S	VC	C	225	<UNK>	170.05	31/12/1899 00:00:00
SP04950252	153.6609	152.38	150.659	S	VC	C	225	<UNK>	22.62	31/12/1899 00:00:00
SP04951001	150.58	148.08	146.802	F	VC	C	225	<UNK>	23.19	31/12/1899 00:00:00
SP04951056	148.199	146.119	145.147	S	VC	C	225	<UNK>	23.91	31/12/1899 00:00:00
SP04951102	152.4759	150.013	149.318	F	VC	C	225	<UNK>	69.71	31/12/1899 00:00:00
SP04951553	159.11	157.83	157.079	S	VC	C	225	<UNK>	126.68	31/12/1899 00:00:00
SP04951601	159.96	157.14	156.84	F	VC	C	225	<UNK>	162.2	31/12/1899 00:00:00

LEGEND

Ancillary

- Balancing Lagoon
- Grease Trap
- Interceptor
- Screen
- Chamber
- Flushing Chamber
- Scalway
- Overflow
- Fitting
- Blind Shaft
- Facility Connector
- Head Node
- Lamphole
- Sewerage Air Valve
- Sewerage Chemical Injection Point
- Sewerage Hatch Box
- Sewerage Pressure Washout
- Vent Column
- Waste Water Outfall
- Control Valve
- Hydrobrake
- Penstock

Manhole

- Foul Bifurcation Manhole
- Combined Bifurcation Manhole
- Surface Water Bifurcation Manhole
- Dual Manhole
- Foul Single Manhole
- Combined Single Manhole
- Surface Water Single Manhole
- Twin Manhole
- Foul Adopted Manhole
- Combined Adopted Manhole
- Surface Adopted Manhole
- Transfered Manhole
- Unsurveyed Manhole

Storage

- Disposal Site
- Off-Line Waste Water Storage
- On-Line Waste Water Storage
- Weir Well

Waste Water Process Structure

- Sewage Treatment Point
- Sewage Treatment Structure
- Sludge Treatment Point
- Sludge Treatment Structure

Gravity Sewer Pipe

- Foul Gravity Sewer
- Combined Gravity Sewer
- Surface Water Gravity Sewer
- S104 Surface Water Gravity Sewer
- S104 Combined Gravity Sewer
- S104 Foul Gravity Sewer
- Private Surface Water Gravity Sewer
- Private Combined Gravity Sewer

Pressure Sewer Pipe

- Surface Water Pressure Sewer
- Combined Pressure Sewer
- Foul Pressure Sewer
- S104 Surface Water Pressure Sewer
- S104 Combined Pressure Sewer
- S104 Foul Pressure Sewer
- Private Surface Water Pressure Sewer
- Private Combined Pressure Sewer
- Private Foul Pressure Sewer

Service Pipe

- Private Foul Gravity Sewer
- Surface Water Unserved Pipe
- Combined Unserved Pipe
- Foul Unserved Pipe
- Transfered Surface Water Sewer
- Transfered Foul Sewer
- Disposal Pipe
- Overflow Pipe
- Waste Internal Site Pipe
- Sewer Service Connection
- Gravety Sewer Others
- Private Combined Vacuum Sewer
- Private Foul Vacuum Sewer
- Surface Water Siphon
- Combined Siphon
- Foul Siphon
- Private Surface Water Siphon
- Private Combined Siphon
- Private Foul Siphon
- S104 Surface Water Siphon
- S104 Combined Siphon
- S104 Foul Siphon
- Surface Water Unserved Pipe
- Combined Unserved Pipe
- Foul Unserved Pipe
- Disposal Pipe

Null

- None
- Highway Drain
- Adopted Sewer

MATERIALS

- NONE
- AC - ASBESTOS CEME
- BR - BRICK
- CC - CONCRETE BOX CULVERT
- CI - CAST IRON
- CO - CONCRETE
- CSB - CONCRETE SEGMENTS (BOLTED)
- CSU - CONCRETE SEGMENTS (UNBOLTED)
- DI - DUCTILE IRON
- GRP - GLASS REINFORCED PLASTIC
- MAC - MASONRY IN REGULAR COURSES
- MAR - MASONRY RANDOMLY COURSED
- PE - POLYETHYLENE
- PF - PITCH
- PP - POLYPROPYLENE
- PSC - PLASTIC STEEL COMPOSITE
- PVC - POLYVINYL CHLORIDE
- RPM - REINFORCED PLASTIC MATRIX
- SI - SPUN (GREY) IRON
- ST - STEEL
- U - UNKNOWN
- VC - VITRIFIED CLAY
- XXX - OTHER

CATEGORIES

- W - WEIR
- C - CASCADE
- DB - DAMBOARD
- SE - SIDE ENTRY
- FV - FLAP VALVE
- BD - BACK DROP
- S - SIPHON
- D - HIGHWAY DRAIN
- S104 - SECTION 104

SHAPE

- C - CIRCULAR
- E - EGG SHAPED
- O - OTHER
- R - RECTANGLE
- S - SQUARE
- T - TRAPEZOIDAL
- U - UNKNOWN

PURPOSE

- C - COMBINED
- E - FINAL EFFLUENT
- F - FOUL
- L - SLUDGE
- S - SURFACE WATER

Sewer Trent Water Limited
Asset Data Management
PO Box 5344
Coventry
CV3 9FT
Telephone: 0345 601 6616

SEWER RECORD (Tabular)

O/S Map Scale: 1:5,000 **This map is centred upon:**
Date of Issue: 16-12-22 **X: 404129.81 Y: 295499.75**

Disclaimer Statement

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- On 1 October 2011 most private sewers and private lateral drains in Severn Trent Water's sewerage area, which were connected to a public sewer as at 1 July 2011, transferred to the ownership of Severn Trent Water and became public sewers and public lateral drains. A further transfer takes place on 1 October 2012. Private pumping stations, which form part of these sewers or lateral drains, will transfer to ownership of Severn Trent Water on or before 1 October 2016. Severn Trent Water does not possess complete records of these assets. These assets may not be displayed on the map.
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Appendix D Existing Drainage Features Plan

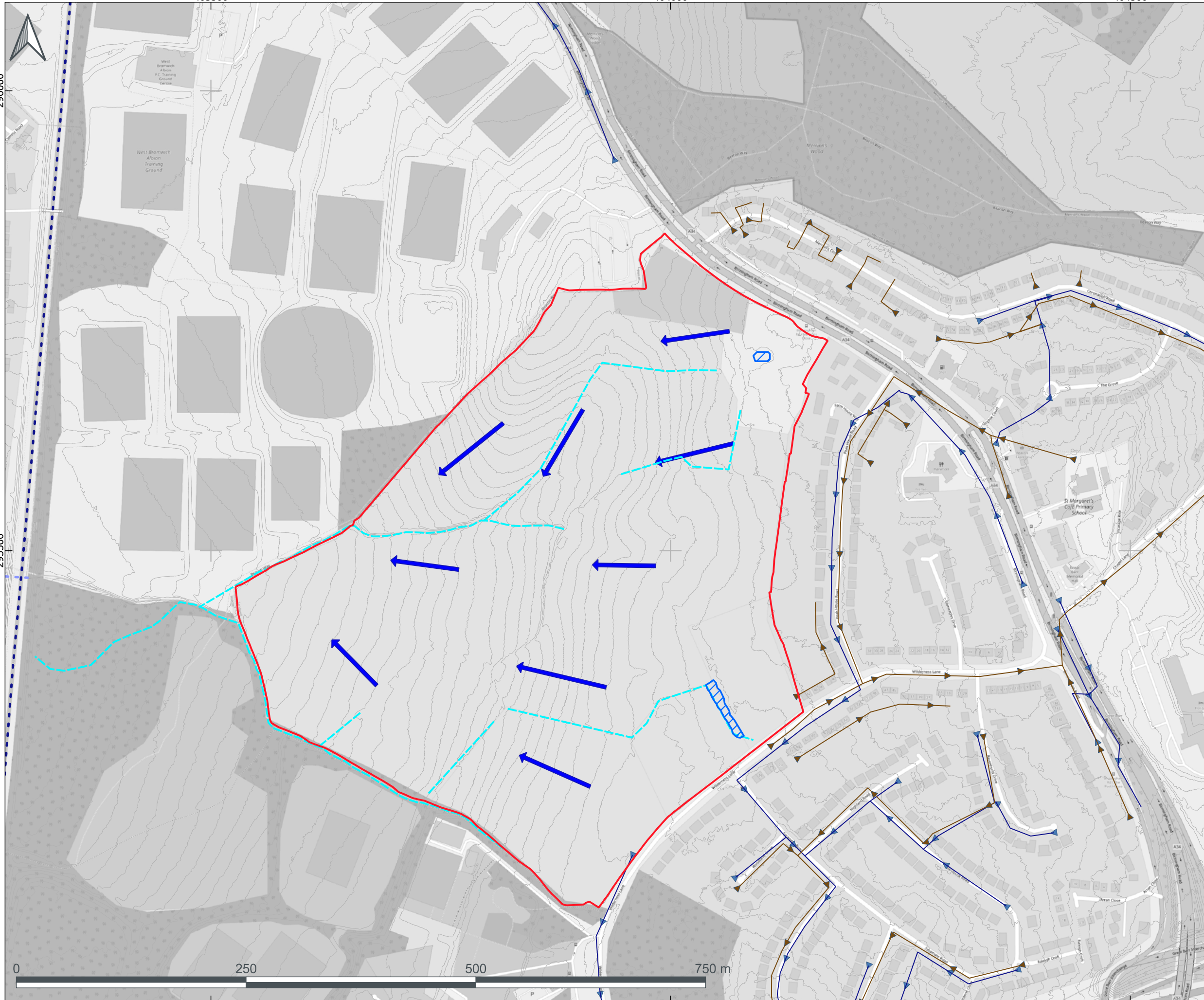
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KEY:

- Site Boundary
- ▶ Existing Severn Trent Water Combined Sewers
- ▶ Existing Severn Trent Water Foul Water Sewers
- ▶ Existing Severn Trent Water Surface Water Sewers
- - - Ditch Network
- - - Rushall Canal
- ▨ Existing Topographical Depressions
- ▶ Surface Water Flow Route
- Contours produced from 1m DTM LiDAR

Notes

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CLIENT

Wain Estates

PROJECT

Wilderness Park

DRAWING TITLE

Existing Drainage Features Plan

DRAWING INFORMATION STATUS

FOR INFORMATION

SCALE @ A3

DRAWN	REVIEWED	DATE
PR	AN	27/10/23

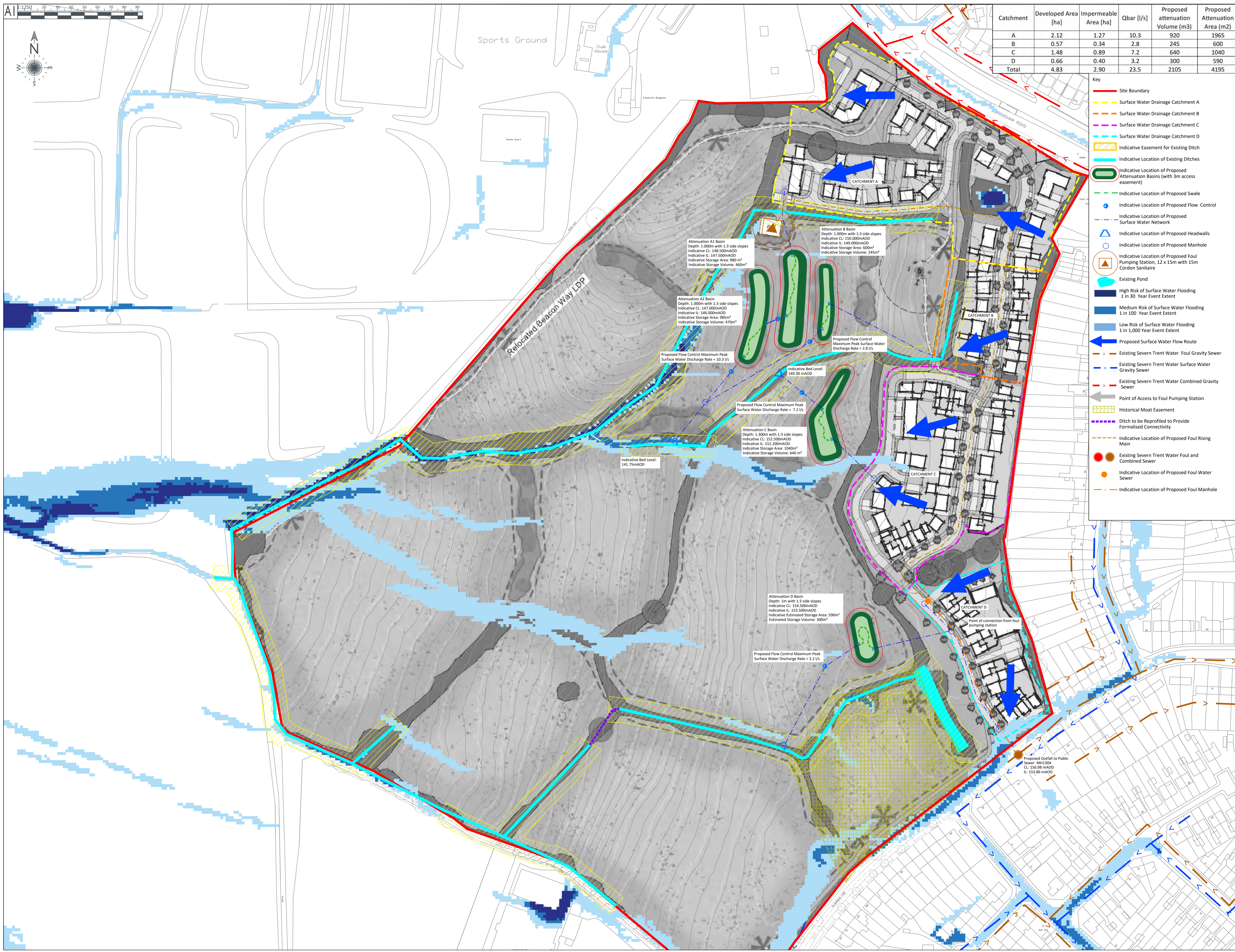
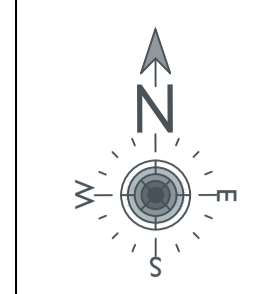
FIGURE NUMBER

REVISION
P02





Appendix E Drainage Strategy Drawings



Catchment	Developed Area [ha]	Impermeable Area [ha]	Qbar [l/s]	Proposed attenuation Volume (m3)	Proposed Attenuation Area (m2)
A	2.12	1.27	10.3	920	1965
B	0.57	0.34	2.8	245	600
C	1.48	0.89	7.2	640	1040
D	0.66	0.40	3.2	300	590
Total	4.83	2.90	23.5	2105	4195

- Key**
- Site Boundary
 - Surface Water Drainage Catchment A
 - Surface Water Drainage Catchment B
 - Surface Water Drainage Catchment C
 - Surface Water Drainage Catchment D
 - Indicative Easement for Existing Ditch
 - Indicative Location of Existing Ditches
 - Indicative Location of Proposed Swale
 - Indicative Location of Proposed Flow Control
 - Indicative Location of Proposed Surface Water Network
 - Indicative Location of Proposed Headwalls
 - Indicative Location of Proposed Manhole
 - Indicative Location of Proposed Foul Pumping Station, 12 x 15m with 15m Cordon Sanitaire
 - Existing Pond
 - High Risk of Surface Water Flooding 1 in 30 Year Event Extent
 - Medium Risk of Surface Water Flooding 1 in 100 Year Event Extent
 - Low Risk of Surface Water Flooding 1 in 1,000 Year Event Extent
 - Proposed Surface Water Flow Route
 - Existing Severn Trent Water Foul Gravity Sewer
 - Existing Severn Trent Water Surface Water Gravity Sewer
 - Existing Severn Trent Water Combined Gravity Sewer
 - Point of Access to Foul Pumping Station
 - Historical Moat Easement
 - Ditch to be Reprofiled to Provide Formalised Connectivity
 - Indicative Location of Proposed Foul Rising Main
 - Existing Severn Trent Water Foul and Combined Sewer
 - Indicative Location of Proposed Foul Water Sewer
 - Indicative Location of Proposed Foul Manhole

- NOTES**
1. These drawings have been produced with reference to the CDM Regulations 2015. Please note that these are pre-construction phase drawings and should be subject to further design risk management as required in accordance with Regulation 9
 2. Do not scale from this drawing.
 3. This drawing is not to be represented in any part or form without the consent of PJA Civil Engineering Ltd. All copyright reserved.
 4. No assessment of earthworks and proposed levels has been undertaken at this stage.
 5. No assessment of the potential impact of a Surcharged Outfall has been undertaken at this stage.
 6. Drawing should be read in conjunction with all other relevant scheme drawings.
 - 6.1. Illustrative Masterplan, FPCR, provided in October 2023.
 - 6.2. Risk of Surface Water Mapping Extents downloaded from the Environment Agency, November 2022.
 - 6.3. Sewer locations based on Severn Trent Records, December 2022.
 - 6.4. Topographical Survey, JLP Surveying dated 27th July 2023.
 7. Indicative Surface Water Drainage Strategy assumes:
 - 7.1. Attenuation Basins are 1.3m deep or 1.0m deep with 1:3 side slopes for all Catchments.
 - 7.2. Attenuation features to have a minimum of 300mm freeboard.
 - 7.3. Volume within the conveyance features has not been included within attenuation calculations at this stage.
 - 7.4. 60% impermeable area for residential development, with an additional 10% added for Urban Creep. Discharge limited to Qbar rate for all events up to and including 100 year plus 40% Climate Change event.
 - 7.5. FEH rainfall data.
 8. Proposed foul water connection to existing public combined/foul sewer subject to approval from Severn Trent Water.
 9. Point of foul connection to public sewer at MH1304 to be confirmed with Severn Trent Water Limited and subject to sewer capacity modeling.
 10. Foul Pumping Station Compound Adoptable size is 12m x 15m with a 15m Cordon Sanitaire from any inhabitable development to be applied. Access to be achieved via adoptable highway.

REV	DATE	REVISION NOTE	BY
P7	30.10.23	UPDATED FOLLOWING SITE WALKOVER	PR
P6	28.09.23	FOUL EDITS	AB
P5	27.09.23	REVISED MASTERPLAN	AB
P4	19.09.2023	REVISED MASTERPLAN	AB
P3	01.09.2023	REVISED MASTERPLAN	PR
P2	31.08.2023	UPDATED FOR INCLUSION WITH FRA	MT
P1	29.08.2023	REVISED MASTERPLAN	MT
P0	17.08.2023	ISSUE	MT

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Wain Estates

Wilderness Park

Indicative Drainage Strategy

INFORMATION
 PJA JOB No. SUB-CODE DRAWING NO. REVISION
06832 - WR - 0503 - P7

SCALE DRAWN REVIEWED DATE
 AI@1:1250 MT AN September 2023