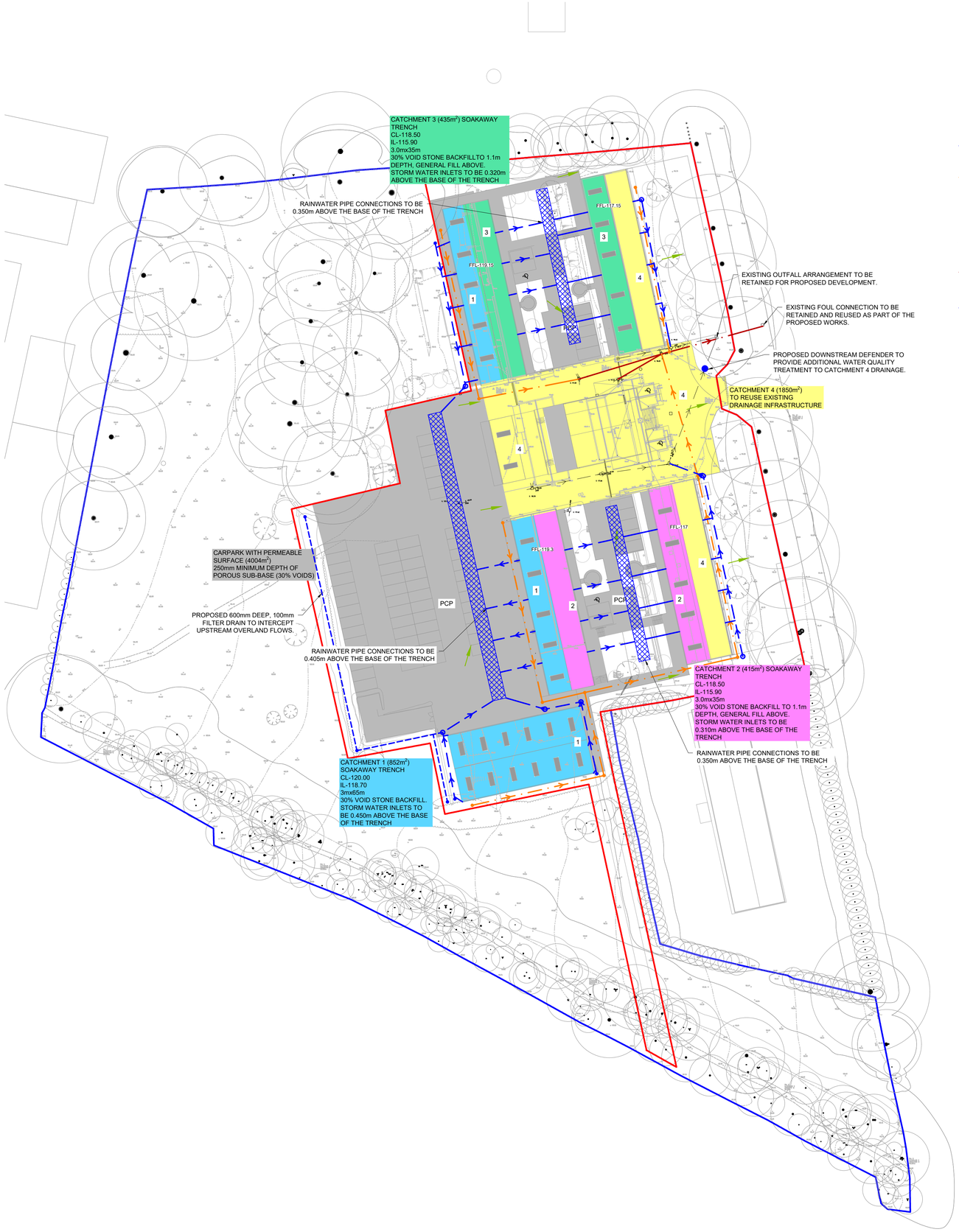

DRAINAGE KEY

- INDICATIVE PROPOSED UNDERGROUND STORM DRAINAGE. EXACT LOCATIONS TO BE COORDINATED WITH EXISTING DRAINS TO BE RETAINED.
- INDICATIVE PROPOSED UNDERGROUND FOUL DRAINAGE. EXACT LOCATIONS TO BE COORDINATED WITH EXISTING DRAINS TO BE RETAINED.
- PROPOSED TRENCH SOAKAWAY TO SERVE EXTERNAL AREAS AND ROOF DRAINS. REFER TO CALCULATIONS AND INDIVIDUAL CATCHMENTS FOR SIZES AND REQUIREMENTS.
- EXISTING STORM DRAINS BASED ON TOPOGRAPHICAL SURVEY. RUNS TO BE CONFIRMED PRIOR TO CONSTRUCTION.
- EXISTING FOUL DRAINS BASED ON TOPOGRAPHICAL SURVEY. RUNS TO BE CONFIRMED PRIOR TO CONSTRUCTION.
- PROPOSED STORM RODDING EYE
- PROPOSED FILTER DRAIN AT TOE OF EXCAVATION
- EXCEEDANCE OVERLAND FLOW ROUTE
- PROPOSED WATER BUTT. LOCATION SHOWN INDICATIVELY.

CATCHMENT KEY

PCP — PROPOSED CAR PARK WITH PERMEABLE SURFACE - TOTAL AREA 4004m²
CAR PARKS TO DRAIN DIRECTLY THROUGH POROUS SUB-BASE AND INFILTRATE TO THE GROUND. MINIMUM POROUS SUB-BASE DEPTH (30% VOIDS) TO BE 320mm, REFER TO MICRODRAINAGE CALCULATIONS PROVIDED.

AREAS WITHIN TREE ROOT PROTECTION AREAS TO BE CONSTRUCTED IN ACCORDANCE WITH ARBORICULTURIST ADVICE, INCLUDING ROOT PROTECTION SYSTEM BACKFILLED WITH VOIDED STONE

1 — PROPOSED BUILDING ROOF - 852m² - CATCHMENT 1
TO BE DRAIN THROUGH UNDERGROUND DRAINS TO SOAKAWAY TRENCH. REFER TO MICRODRAINAGE CALCULATIONS PROVIDED.
RAIN WATER PIPE CONNECTIONS TO BE LAID AT LEAST 0.405m ABOVE THE BASE, WHICH WILL BE ABOVE THE 10yr WATER LEVEL.

2 — PROPOSED BUILDING ROOF - 415m² - CATCHMENT 2
TO BE DRAIN THROUGH TO SOAKAWAY TRENCH. REFER TO MICRODRAINAGE CALCULATIONS PROVIDED.
RAIN WATER PIPE CONNECTIONS TO BE LAID AT LEAST 0.350m ABOVE THE BASE, WHICH WILL BE ABOVE THE 10yr WATER LEVEL.

3 — PROPOSED BUILDING ROOF - 435m² - CATCHMENT 3
TO BE DRAIN THROUGH TO SOAKAWAY TRENCH. REFER TO MICRODRAINAGE CALCULATIONS PROVIDED.
RAIN WATER PIPE CONNECTIONS TO BE LAID AT LEAST 0.350m ABOVE THE BASE, WHICH WILL BE ABOVE THE 10yr WATER LEVEL.

4 — PROPOSED BUILDING ROOF AND EXISTING EXTERNAL YARD - 1850m² - CATCHMENT 4
TO BE DRAINED THROUGH THE EXISTING DRAINAGE INFRASTRUCTURE WITHIN THE SITE. TOTAL AREA DISCHARGING UNRESTRICTED REDUCED BY 60% FROM 4650m². REFER TO DRAWING HMA-LE-GEN-XX-DR-501 - EXISTING IMPERMEABLE CATCHMENT DRAWING.

DRAINAGE NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE FLOOD RISK ASSESSMENT REPORT, HMA-LE-GEN-XX-RP-FRA01.
2. SITE PERMEABILITY BASED ON INFILTRATION TESTING COMPLETED AT 0.063m/hr AND 0.017mm/hr. 0.017mm/hr USED FOR DESIGN PURPOSES AS A CONSERVATIVE APPROACH.
3. DRAINAGE INFILTRATION CALCULATIONS COMPLETED FOR EACH CATCHMENT TO SIZE THE SOAKAWAY TRENCH.
4. TRENCHES AND PERMEABLE CAR PARKS TO BE FILLED WITH STONE OF 30% MINIMUM POROSITY.
5. THE REDUCTION IN IMPERMEABLE CATCHMENT DRAINING TO THE OUTFALL PROVIDES SIGNIFICANT BETTERMENT TO OFFSITE FLOODING AND SATISFIES NATIONAL AND LOCAL PLANNING REQUIREMENTS.

GENERAL NOTES

1. THIS DRAWING SHOULD NOT BE REPRODUCED IN WHOLE OR PART WITHOUT THE WRITTEN CONSENT OF LINK ENGINEERING.
2. DO NOT SCALE FROM THIS DRAWING. UNITS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
3. THE CONTRACTOR IS TO CHECK ALL INFORMATION PROVIDED PRIOR TO COMMENCING WORKS AND SEEK CLARIFICATION FROM THE ENGINEER IN RESPECT TO ANY AMBIGUITIES FOUND.
4. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER SCHEME SPECIFIC DRAWINGS.
5. PAVEMENT SURFACING AND FOUNDATIONS SHALL BE DESIGNED IN ACCORDANCE WITH THE DEPARTMENT FOR TRANSPORT'S DESIGN MANUAL FOR ROADS AND BRIDGES AND SHALL COMPLY WITH THE ADOPTING LOCAL HIGHWAY AUTHORITY'S DESIGN GUIDANCES WHERE APPLICABLE, FOLLOWING A FULL SITE INVESTIGATION TO ESTABLISH GROUND CONDITIONS.
6. ALL TRAFFIC SIGNS AND ROAD MARKINGS SHALL BE PROVIDED IN ACCORDANCE WITH THE TRAFFIC SIGNS REGULATIONS AND GENERAL DIRECTIONS 2016 (INCLUDING SUBSEQUENT AMENDMENTS 1 & 2) AND THE CORRESPONDING TRAFFIC SIGNS MANUALS
7. ALL ADOPTABLE STREETLIGHTING SHALL BE DESIGNED IN ACCORDANCE WITH THE ADOPTING LOCAL HIGHWAY AUTHORITY'S DESIGN GUIDANCES WHERE APPLICABLE. LIGHTING SHALL BE DESIGNED TO BS 5489 (2013) AND BS EN 13201 (2015) FOR THE APPROPRIATE ROUTE CLASSIFICATION.
8. ALL ADOPTABLE HIGHWAY WORKS SHALL BE ADOPTED VIA THE HIGHWAY AUTHORITY ACT 1980.
9. FOUL AND SURFACE WATER DRAINAGE STRATEGIES SHALL BE DESIGNED IN STRICT ACCORDANCE WITH THE SITE SPECIFIC FLOOD RISK ASSESSMENT RECOMMENDATIONS.
10. ALL ADOPTABLE DRAINAGE WORKS SHALL BE DESIGNED IN ACCORDANCE WITH "SEWERS FOR ADOPTION", THE "CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY" 6th EDITION AND ANY SUBSEQUENT AMENDMENTS TO THESE DOCUMENTS AS ADVISED.
11. ALL ADOPTABLE DRAINAGE WORKS SHALL BE ADOPTED VIA THE WATER INDUSTRY ACT 1991.
12. ALL PRIVATE WORKS SHALL BE DESIGNED TO THEIR RESPECTIVE PARTS OF BUILDING REGULATIONS.
13. FOR FINAL DEVELOPMENT LAYOUT AND LANDSCAPING PROPOSALS, SEE ARCHITECTS' PLANS.
14. PLANTING OR ANY OBSTRUCTIONS OF ANY KIND (OTHER THAN ESSENTIAL STREET FURNITURE) ARE NOT PERMITTED WITHIN THE CARRIAGEWAY VISIBILITY SPLAYS.
15. ALL EARTHWORK SLOPES TO BE NO STEEPER THAN 1 IN 3 UNLESS ADVISED OTHERWISE WITHIN SPECIFIC SITE INVESTIGATION DESIGN REPORT TO BE PROVIDED.

Rev.	Amendments	Date	By
E	UPDATED FOR LLFA COMMENTS	01.10.21	CH
D	ISSUED FOR PLANNING	23.03.21	CH
C	UPDATED LAYOUT AND CATCHMENTS	17.03.21	CH
B	UPDATED LAYOUT AND CATCHMENTS	07.04.20	CH
A	ISSUED FOR PLANNING	29.11.19	CH
-	INITIAL ISSUE.	21.11.19	CH

Revisions

Client
MIDDLE ASTON LIMITED

Link ENGINEERING
Find us @ www.linkeng.co.uk

Project
LE19055
THE HATCHERY
MIDDLE ASTON

Drawing
PROPOSED DRAINAGE STRATEGY

Scale @ A1	Drawn	Checked	Rev
1:500	CH	NHM	D

Status: PLANNING (S5)
HMA-LE-GEN-XX-DR-CE-500