Operation and maintenance requirements for attenuation storage tanks		
Maintenance schedule	**Required action**	**Typical frequency**
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action	Monthly for 3 months, then annually
	Remove debris from the catchment surface (where it may cause risks to performance)	Monthly
	For systems where rainfall infiltrates into the tank from above, check surface of filter for blockage by sediment, algae or other matter; remove and replace surface infiltration medium as necessary.	Annually
	Remove sediment from pre-treatment structures and/ or internal forebays	Annually, or as required
Remedial actions	Repair/rehabilitate inlets, outlet, overflows and vents	As required
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually
	Survey inside of tank for sediment build-up and remove if necessary	Every 5 years or as required

Designed not to flood for 1:100 years +40% climate change.

West side:
Adoptable carriageway area: 1011m²

730m² allowed for in Phase 1 design

Based on Phase 1 design the flow rate to be restricted to 2.1l/s

H24–Proposed flow control chamber
Cl.31.500
Il.30.465
Design flow: 2.1l/s
Design head: 1.000m

Existing spur level to be confirmed

Existing surface water manhole to remain

Existing gullies disconnected from removed sewer, reconnected to proposed sewer

Existing surface water sewer to be removed

Proposed connection to existing ES#03 manhole's spur

S03–Proposed flow control chamber
Cl.31.300
Il.29.768
Design flow: 2.9l/s
Design head: 1.500m

Designed not to flood for 1:100 years +40% climate change.

North side:
Adoptable carriageway area; 435m²
Total buildings area: 5395m²
Total private hard surface/pavement area: 2196m²

Development catchment area: 8026m²

Based on phase 1 design the flow rate to be restricted to 2.9l/s

Existing surface water road gully to remain

Existing foul sewer to be diverted subject to agreement with TW. Build Over agreement may also be required.

S13–Proposed flow control chamber
Cl.31.400
Il.29.844
Design flow: 1.6l/s
Design head: 1.500m

Proposed connection to existing MH:9610 manhole

Designed not to flood for 1:100 years +40% climate change.

South side:
Adoptable carriageway area: 210m²
Total private hard surface/pavement area: 693m²

Development catchment area: 903m²

Based on greefield runoff rate (FEH22)
Qbar: 2.1 l/s/ha
Calculated discharge rate: 1.5 l/s

Spur to allow for future development catchment area of 6190m²

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3. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER FOR ACTION PRIOR TO CONSTRUCTION.
4. THIS DRAWING IS BASED ON:
   - TOPOGRAPHIC SURVEY DWG 56562 DATED NOV 2021 BY SITECH SURVEYING SERVICES
   - GROUND FLOOR LAYOUT DWG: HTC-PRP-ZZ-00-DR-A-10050 - Site Plan Ground Level GA - P11
5. ALL DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY AND IN CONJUNCTION WITH ALL RELEVANT BRITISH STANDARDS, CODES OF PRACTICE AND 'CODE TO ADOPTION' AND ADDENDUMS AS APPROPRIATE. ALL DRAINAGE SHALL COMPLY WITH THE TYPICAL DRAINAGE CONSTRUCTION DETAILS AND THE REQUIREMENTS OF BS EN 752.
6. ALL EXISTING DRAINAGE ON SITE TO BE CONFIRMED BY CONTRACTOR. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER FOR ACTION PRIOR TO ANY NEW CONSTRUCTION. PROPOSED DRAINAGE SHOWN ON THIS DRAWING IS SUBJECT TO CHANGE UPON RECEIPT OF REVISED EXISTING DRAINAGE INFORMATION.
7. THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT AND DIVERSION WORKS NECESSARY, TO ALL EXISTING SERVICES TO THE SATISFACTION OF THE STATUTORY UNDERTAKER.
8. THE PROPOSED BUILDING OUTLINES SHOWN ON THIS DRAWING ARE FOR INFORMATION ONLY. REFER TO ARCHITECTS PLANS FOR SETTING OUT INFORMATION AND DETAILS.
9. FOR SETTING OUT DIMENSIONS OF SS'S, SVP'S, RWP'S, FLOOR GULLY & OTHER DRAINAGE 'POP UP' LOCATIONS, REFER TO ARCHITECTS OR MECHANICAL & ELECTRICAL ENGINEERS DRAWINGS. LOCATION OF EXTERNAL CHANNEL DRAINS AND GULLY LOCATIONS / REQUIREMENTS TO BE CONFIRMED BY ARCHITECT.
10. ALL DRAINAGE PIPEWORK SHOWN SHALL BE 100MM DIAMETER FOR FOUL AND 150MM FOR SURFACE WATER UNLESS NOTED OTHERWISE. ALL DRAINAGE PIPEWORK SHALL BE LAID SOFFIT TO SOFFIT UNLESS NOTED OTHERWISE.
11. ALL UNDERSLAB DRAINAGE SHALL BE LAID AT GRADIENTS OF 1:40 MIN. FOR FOUL PIPEWORK AND 1:150 MIN. FOR SURFACE WATER UNLESS NOTED OTHERWISE.
12. ALL SURFACE WATER PIPES 300MMØ OR LESS TO BE UPVC OR SIMILAR APPROVED. SURFACE WATER PIPES GREATER THAN 300MMØ TO BE CONCRETE. ALL 100MM AND 150MM DIAMETER FOUL WATER DRAINS TO BE UPVC.
13. ALL UNDERSLAB DRAINAGE SHALL BE CLEAR OF FOUNDATIONS UNLESS SHOWN OTHERWISE. ALL BENDS IN PIPEWORK TO BE AS LARGE A RADIUS AS POSSIBLE (EXCLUDING CONNECTIONS TO CHAMBERS) TO ENSURE FREE FLOW. SHORT RADIUS BENDS TO BE AGREED WITH DRAINAGE ENGINEER.
14. ALL SURFACE WATER DROP DOWN POSITIONS SHALL HAVE A BEND SET AT INVERT LEVEL NO GREATER THAN 1.3M BELOW FINISH FLOOR LEVEL.
15. AT LEAST ONE SOIL PIPE AT THE HEAD OF EACH FOUL RUN SHALL BE VENTED TO THE ATMOSPHERE. ALL SVP'S, SSS AND RWP DOWNPIPES SHALL BE ACCESSIBLE AT GROUND LEVEL FOR RODDING PURPOSES.
16. COVER LEVELS SHOWN ON THIS DRAWING ARE APPROXIMATE AND SHALL BE ADJUSTED TO SUIT LEVELS ON SITE BY CONTRACTOR. COVERS SHALL BE ORIENTATED TO SUIT PAVEMENT FINISHES WHERE APPROPRIATE. ALL COVER LEVELS ARE TO BE CONFIRMED BY THE ARCHITECT
17. ACCESS COVERS AND FRAMES SHALL COMPLY WITH THE LOADINGS SPECIFIED AND TO BS EN 124 AND KITEMARKED OR IF RECESSED COVERS ARE SPECIFIED THEN IN ACCORDANCE WITH FACTA ASSOCIATION EQUIVALENT. ALLOW FOR RECESS MANHOLE COVERS TO ACCEPT LANDSCAPE ARCHITECT FINISHES TO ALL LANDSCAPED AREAS
18. ALL PRIVATE DRAINAGE PIPEWORK FOR FOUL AND SURFACE WATER SYSTEMS HAVE BEEN DESIGNED ON THE BASIS OF UPVC TO BS EN 1401-1, UNLESS NOTED OTHERWISE. ALL PRIVATE DRAINAGE WORKS TO BE CARRIED OUT IN ACCORDANCE WITH BUILDING REGULATIONS PART H.
19. CONCRETE ENCASEMENT OF THE PIPEWORK SHALL BE REQUIRED WHERE VERTICAL CLEARANCE BETWEEN TWO PIPES CROSSING IS LESS THAN 300MM. ROCKER PIPES ARE TO BE PROVIDED AT ALL CONCRETE CASED INTERFACES. WHERE NEW DRAINAGE IS SITUATED WITHIN 5 METRES OF NEW OR EXISTING TREES THE PIPEWORK SHALL BE ENCASED IN CONCRETE TO REDUCE THE RISK OF ROOT INGRESS.
20. ALL DRAINAGE CONNECTING TO THE PUBLIC SEWER NETWORK SHALL NOT COMMENCE UNTIL RECEIPT OF THE APPROVAL FROM THE DRAINAGE AUTHORITY AND SHALL COMPLY WITH REQUIREMENTS USING VITRIFIED CLAY PIPEWORK TO BS EN 295 WITH PLAIN SLEEVED OR SOCKETED FLEXIBLE JOINTS SUBJECT TO APPROVAL.
21. PRIOR TO CONSTRUCTION THE FLOW CONTROL MANUFACTURER'S DRAWING AND HYDRAULIC TABLE SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL.
22. PRIOR TO CONSTRUCTION THE ATTENUATION TANK MANUFACTURER'S DRAWINGS SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL.
23. ALL PROPOSED DRAINAGE IS SUBECT TO APPROVAL FROM THE LLFA. DISCHARGE IS SUBJECT TO FORMAL APPROVAL BY THAMES WATER. WHERE DRAINAGE WORKS ARE CARRIED OUT IN THE PUBLIC HIGHWAY THE RELEVANT NECESSARY APPROVALS AND ROAD OPENING NOTICES SHALL BE OBTAINED FROM THE HIGHWAY AUTHORITY AND UTILITY COMPANIES.
24. UPON COMPLETION ALL NEW DRAINAGE INSTALLATION TOGETHER WITH ANY EXISTING DRAINAGE RETAINED SHALL BE JETTED AND CCTV SURVEYED UPON COMPLETION. CONTRACTOR TO ENSURE THAT THE DRAINAGE SYSTEM IS FULLY OPERATIONAL, FREE OF EXCESS DEBRIS/SILT AND ALL IDENTIFIED FAULTS RECTIFIED.

NOTES:

HEALTH & SAFETY: THE WORKS SHALL BE CARRIED OUT BY SPECIALIST COMPETENT AND EXPERIENCED CONTRACTORS. ALL OPERATIVES SHALL HAVE RECEIVED FULL AND APPROPRIATE TRAINING WITH APPROPRIATE QUALIFICATIONS FOR THE OPERATIONS THEY ARE REQUIRED TO UNDERTAKE. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT HEALTH & SAFETY REGULATIONS.

ATTENUATION VOLUME HAS BEEN CALCULATED BASED ON REQUIRED STORAGE FOR A 1 IN 100YR EVENT + 40% CLIMATE CHANGE

KEY:

LEGEND:

Key:

- Phase boundary
- Existing surface water drainage
- Phase 1 & existing foul water drainage
- Proposed adoptable surface water flow control chamber
- Proposed adoptable surface water sewer and manhole
- Proposed adoptable foul water sewer and manhole
- Existing pipe to be removed
- Private surface water/ Gully connection
- Surface water inspection chamber
- Surface water manhole
- Private foul water drain
- Foul water inspection chamber
- Surface water impermeable area building
- Surface water impermeable area hard landscaping
- Surface water impermeable area carriageway
- Proposed channel drain
- Proposed rain garden pipe
- Existing surface water road gully
- Proposed surface water road gully

REV	DATE	DRAWN/CHK	REVISION INFO
P04	16.01.26	IO/JAK	UPDATED TO NEW LAYOUT.
P03	30.10.25	GH/JAK	UPDATED DRAINAGE AND DETAILS ADDED.
P02	18.09.25	IO/JAK	UPDATED TO NEW LAYOUT.
P01	03.09.25	PB/JAK	PRELIMINARY ISSUE.

STATUS: PRELIMINARY

CLIENT: HIGGINS PARTNERSHIP

PROJECT: HAYES TOWN CENTRE PHASES 2 - 3

DRAWING TITLE: BELOW GROUND DRAINAGE GENERAL ARRANGEMENT

JOB NUMBER:	SCALE AT A0:	REV. STATUS:
SE2508	1:500	P04
DRAWING NUMBER:		REVISION:
HTC-IES-A1-00-DR-D-3000		S2

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5 APPENDIX C - HTC-IES-A1-00-DR-D-3010_DRAINAGE OVERLAND FLOODING ROUTE-P03 (RMA)

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3. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER FOR ACTION PRIOR TO CONSTRUCTION.
4. THIS DRAWING IS BASED ON:

- TOPOGRAPHIC SURVEY DWG 56562 DATED AUG 2022 BY SUBSIGHT
- SITE PLAN GROUND LEVEL GA REVISION P10 - PRELIMINARY DRAWING AVD-PRP-ZZ-00-DR-A-10050 DATED SEP 2025 BY PRP

NOTES:

HEALTH & SAFETY: THE WORKS SHALL BE CARRIED OUT BY SPECIALIST COMPETENT AND EXPERIENCED CONTRACTORS. ALL OPERATIVES SHALL HAVE RECEIVED FULL AND APPROPRIATE TRAINING WITH APPROPRIATE QUALIFICATIONS FOR THE OPERATIONS THEY ARE REQUIRED TO UNDERTAKE. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT HEALTH & SAFETY REGULATIONS.

LEGEND:

Key:

- Phase boundary
- Proposed channel drain
- Overland flooding route
- 79.10 — Proposed finished level
- 79.183 — Proposed back of footpath level
- 79.10 — Existing ground level
- 1:31 — Gradient
- R300 — Retaining wall (units in mm)

REV	DATE	DRAWN/CHK	REVISION INFO
P03	16.01.26	IO/JAK	DRAWING UPDATED TO LAYOUT.
P02	09.10.25	GH/JAK	LAYOUT ALIGNED TO PHASE 1.
P01	25.09.25	GH/JAK	PRELIMINARY ISSUE.

STATUS: PRELIMINARY

CLIENT: HIGGINS PARTNERSHIPS

PROJECT: HAYES TOWN CENTRE PHASES 2-3

DRAWING TITLE: OVERLAND FLOODING ROUTE

JOB NUMBER:	SCALE AT A1:	REV. STATUS:
SE2508	1:500	P03

DRAWING NUMBER: HTC-IES-A1-00-DR-D-3010 REVISION: S2

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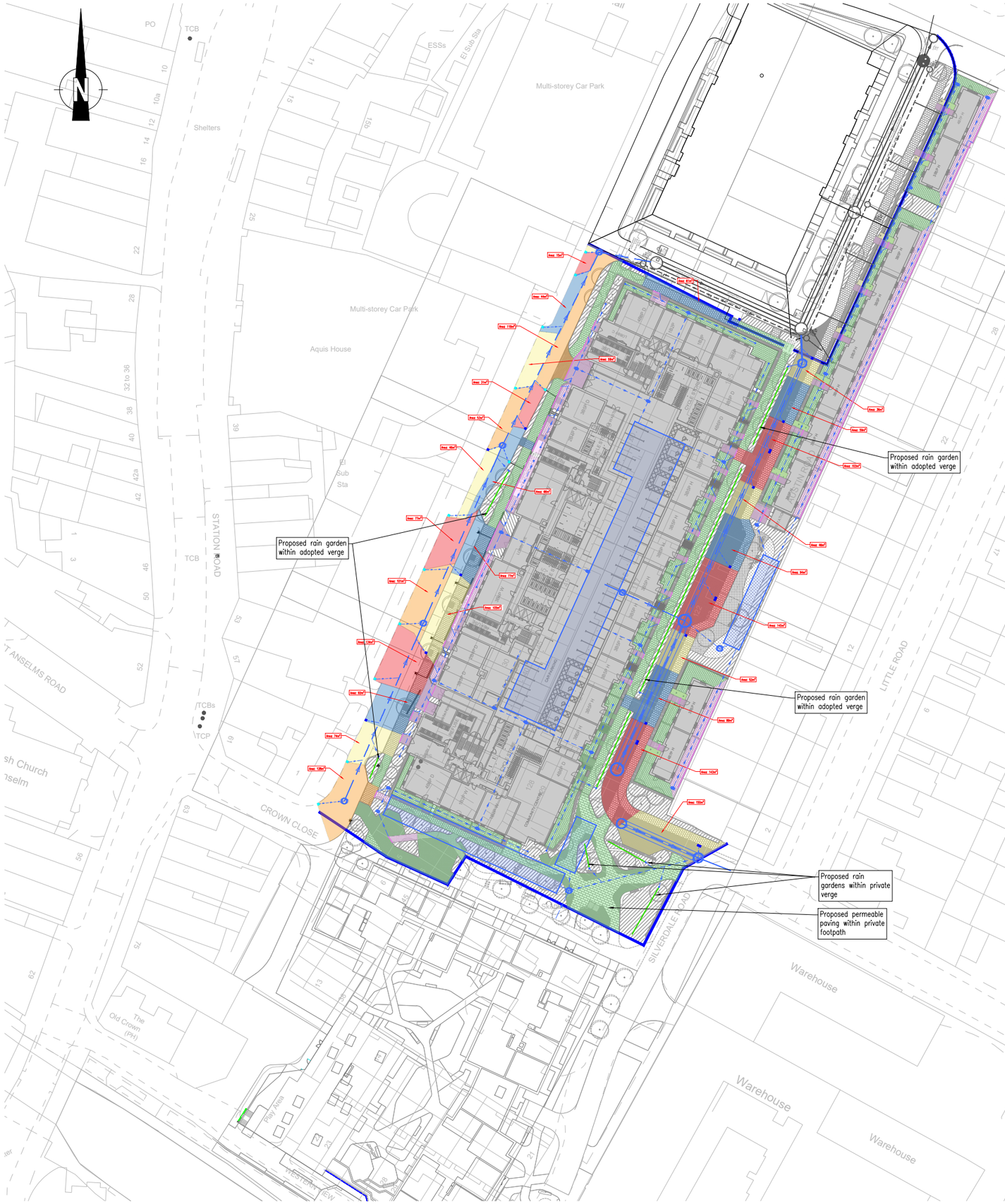
6 APPENDIX D - HTC-IES-A1-00-DR-D-3020_DRAINAGE CATCHMENT-P02 (RMA)



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) ALL LEVELS ARE IN METERS (m).
2. DO NOT SCALE FROM DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS, THE SPECIFICATION AND THE CONTRACT DOCUMENTS.
4. ALL WORK IS TO COMPLY WITH THE RELEVANT EUROCODES, CODES OF PRACTICE AND THE BUILDING REGULATIONS.
5. ANY DISCREPANCIES BETWEEN THE ARCHITECTS AND THE ENGINEERS DRAWINGS TO BE BROUGHT TO THE ATTENTION OF THE DESIGN TEAM.
6. ALL SETTING OUT TO BE VERIFIED WITH THE ARCHITECT PRIOR TO COMMENCEMENT OF SITE CONSTRUCTION.

Key:

- Site Boundary
- Adopted gully catchment area
- Private gully catchment area
- Catchment area to drain to rain garden or permeable ground
- Channel drain
- Proposed rain garden pipe
- Proposed road gully
- Existing road gully to remain
- Surface water impermeable area building

PRELIMINARY APPROVAL

REV	DATE	DRAWN/CHK	REVISION INFO
P02	16.01.26	IO/JAK	UPDATED TO NEW LAYOUT.
P01	16.10.25	GH/JAK	PRELIMINARY ISSUE.

STATUS: PRELIMINARY

CLIENT: HIGGINS PARTNERSHIPS

PROJECT: HAYES TOWN CENTRE PHASES 2-3

DRAWING TITLE: DRAINAGE CATCHMENT PLAN

JOB NUMBER:	SCALE AT A3:	REV. STATUS:
SE2508	1:500	A1

DRAWING NUMBER: HTC-IES-A1-00-DR-D-3020 REVISION: P02

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