

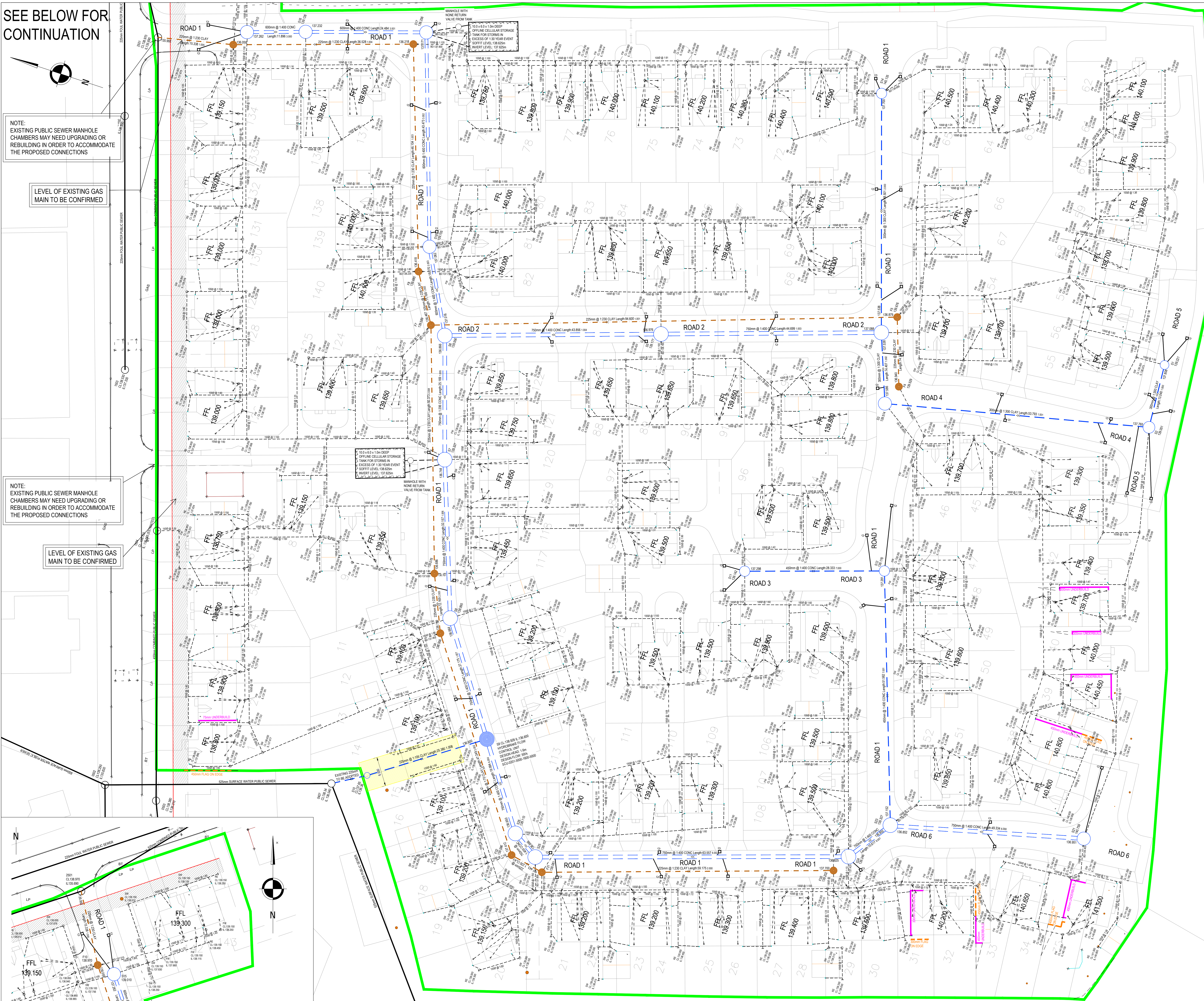
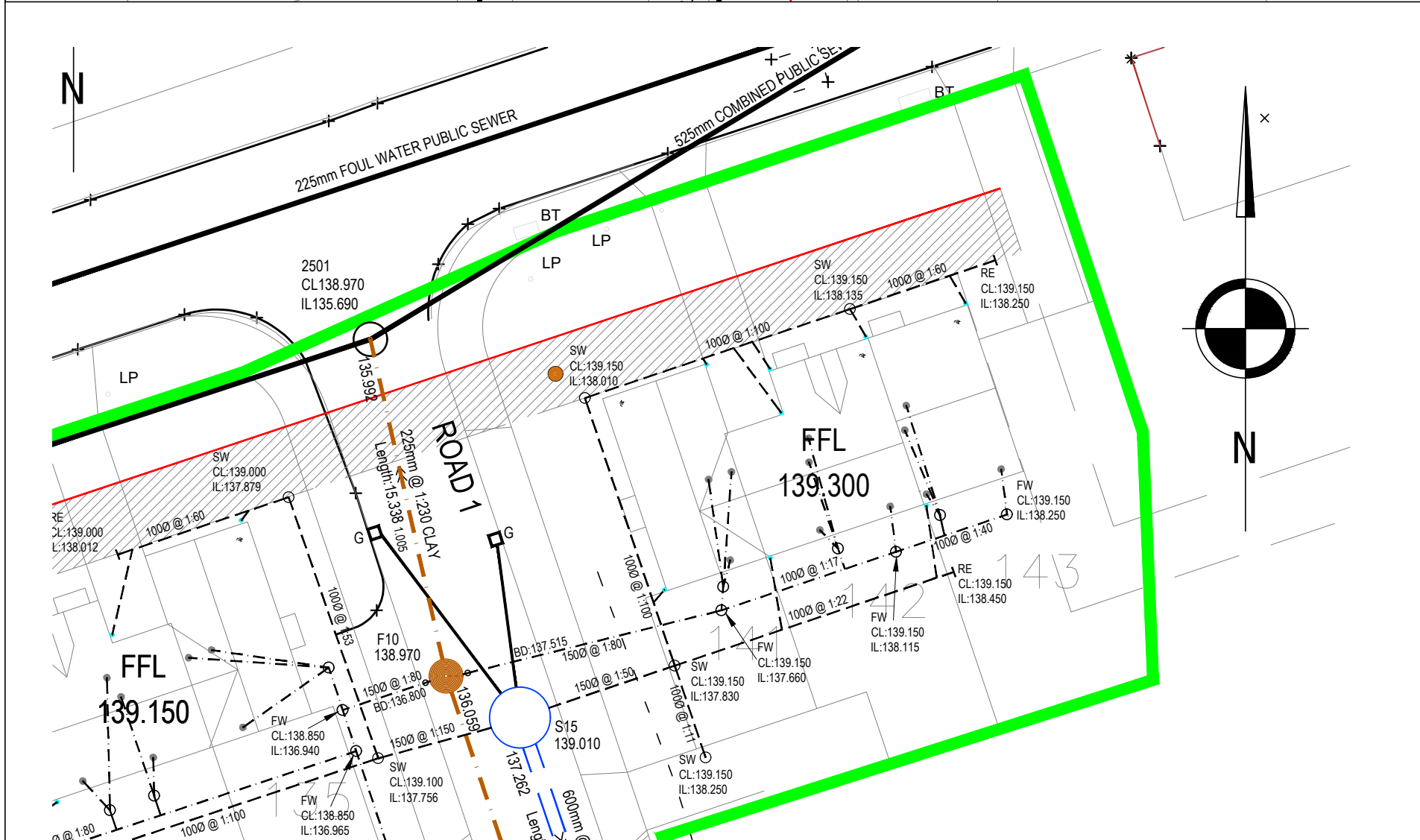
SEE BELOW FOR CONTINUATION

NOTE:
EXISTING PUBLIC SEWER MANHOLE CHAMBERS MAY NEED UPGRADING OR REBUILDING IN ORDER TO ACCOMMODATE THE PROPOSED CONNECTIONS

LEVEL OF EXISTING GAS MAIN TO BE CONFIRMED

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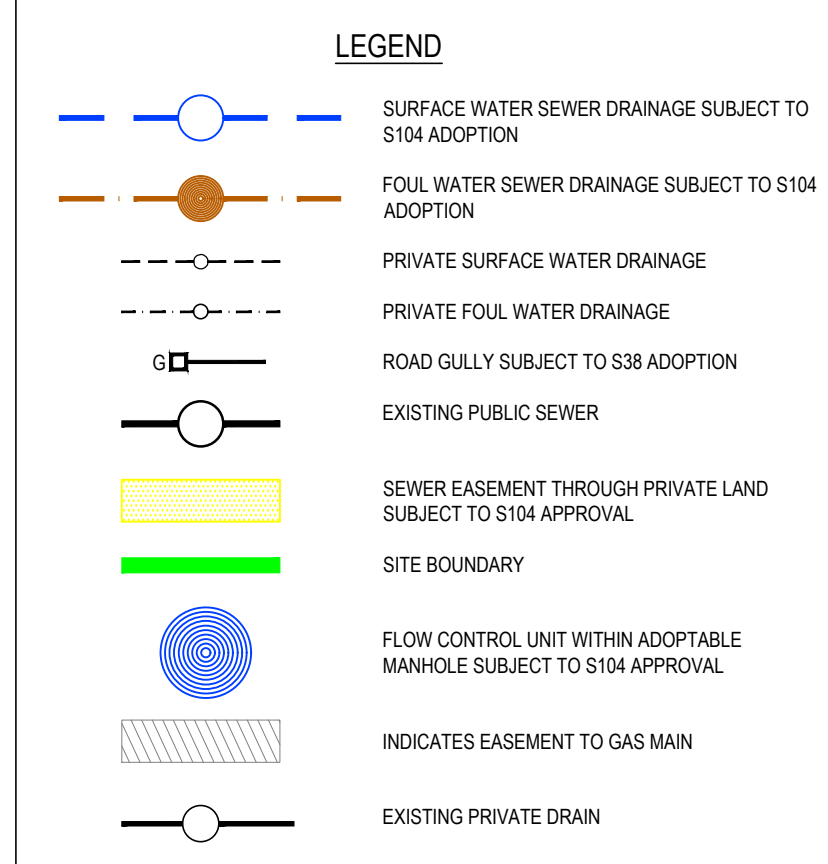


GENERAL NOTES

- SETTING OUT SHALL BE UNDERTAKEN USING ONLY THE INFORMATION GIVEN. DISTANCES SHOULD NOT BE SCALED FROM THIS DRAWING.
- ALL SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SEWERS FOR ADOPTION 6TH EDITION AND UNITED UTILITIES DETAILS & GUIDELINES.
- THE MINIMUM GRAVITY PIPE DIAMETER UNDER ADOPTABLE HIGHWAYS SHALL BE 150mm.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION GIVEN WITH REGARDS TO EXISTING SERVICES AND DRAINAGE CONNECTIONS ETC. PRIOR TO COMMENCING THE WORKS. THE RATES SHALL INCLUDE FOR HANDING AROUND SERVICES WHERE NECESSARY. THE CONTRACTOR SHALL ADVISE TO THE CON REGULATIONS AT ALL TIMES.
- THE OUTSIDES OF ALL SEWERS SHALL BE A MINIMUM OF 1.0m FROM KERB LINES AND THE OUTSIDE OF MANHOLES SHALL BE A MINIMUM OF 0.3m FROM KERB LINES.
- EXISTING FLOWS IN WATERCOURSES, SEWERS AND LAND DRAINS SHALL BE MAINTAINED AT ALL TIMES.
- ONLY TRAINED PERSONNEL SHALL BE PERMITTED TO ENTER CONFINED SPACES.
- ALL MATERIALS TO BE USED FOR THE RELEVANT S.S. RETANKING AND COMPLY FULLY WITH THE SPECIFICATIONS. ALL CONCRETE & CONCRETE PRODUCTS MUST USE SULPHATE RESISTANT CEMENT UNLESS THE SITE INVESTIGATION REPORT PROVES THAT SULPHATE ATTACK FROM SOILS AND GROUNDWATER FROM NOT OCCUR TO WITHSTAND A CLASS.
- ALL OPENING NOTICES ETC. AS REQUIRED UNDER HIGHWAYS ACTS ETC. ARE TO BE OBTAINED PRIOR TO COMMENCEMENT OF WORKS. ALL WORKS ARE TO BE INSPECTED BY L.A., N.H.S. OR THE NETWORK OPERATOR AS APPLICABLE.
- WHERE 'ULTRA RIGID' UPVC PIPES OR SIMILAR APPROVED ARE USED IN ADOPTABLE DRAINAGE THEY SHALL STILL BE HANDLED AND LAD IN ACCORDANCE WITH THE SPECIFICATION AND GUIDANCE ISSUED BY THE HIGH PERFORMANCE PIPE ASSOCIATION.
- CLASS 3 BEDDING AND SURROUND MUST BE USED FOR SUCH PIPES. TRENCH BACKFILL IN HIGHWAYS TO WITHIN 1M OF HIGHWAY SHALL AS DIRECTED BY THE HIGHWAY AUTHORITY BE A SUITABLE GRANULAR MATERIAL AL IN ACCORDANCE WITH SEWERS FOR ADOPTION CL 4.3.4.
- SUB LEVELS SHALL NOT BE VARIED WITHOUT REFERENCE TO THE ENGINEER FOR GUIDANCE.
- DOMESTIC DRAINAGE SHALL BE TO BUILDING REGULATIONS APPROVED COMMODITY 110mm UP V.C. PIPES LAD TO THE FOLLOWING MINIMUM FALLS UNLESS OTHERWISE SHOWN:

PIPE SIZE	FALL
100mm	1 in 60
150mm	1 in 80
- ALL GULLY CONNECTIONS TO BE 150mm VITRIFIED CLAY UNLESS NOTED OTHERWISE.
- MINIMUM DRAINAGE COVER TO SOFT: LANDSCAPING TRAFFICABLE AREAS HIGHWAYS
0.600m 0.900m 1.200m

- CLASS 3 BEDDING AND SURROUND TO BE USED WHERE MINIMUM COVER IS ACHIEVED.
- WHERE MINIMUM COVER IS NOT ACHIEVED CLASS 2 BEDDING AND SURROUND (CONCRETE ENCASEMENT) IS TO BE USED.



REFER TO UNITED UTILITIES STANDARD DRAWINGS FOR CONSTRUCTION DETAILS

- STND/19/001 - TYPE 1 MANHOLE
- STND/19/002 - TYPE 2 MANHOLE & INVERT ACCESS DETAIL
- STND/19/003 - SHALLOW MANHOLE DETAIL FOR SMALL DIAMETER PIPES
- STND/19/004 - SHALLOW SW MANHOLE DETAIL
- STND/19/007 - EXTERNAL AND INTERNAL BACKDROPS
- STND/19/008 - PIPE EMBEDMENT DETAILS
- STND/19/010 - VARIABLE MANHOLE GUIDANCE NOTES

SURFACE WATER NETWORK

SURFACE WATER IS COLLECTED ON SITE THROUGH A TRADITIONAL PRIVATE DRAINAGE PIPE SYSTEM AND HIGHWAY GULLIES. THE FLOWS ARE DIRECTED INTO THE ADOPTABLE SEWERS (SUBJECT TO S104 AGREEMENT) AND DISCHARGED TO THE EXISTING SURFACE WATER SEWER NETWORK ON QUEEN VICTORIA STREET.

THE SURFACE WATER DRAINAGE NETWORK IS RESTRICTED TO EXISTING GREENFIELD DISCHARGE RATES THROUGH THE USE OF FLOW CONTROL UNIT PRIOR TO ENTERING THE EXISTING PUBLIC SEWER SYSTEM. THE MICRODRAINAGE NETWORK AND SIMULATION CALCULATIONS INDICATED NO FLOODING FROM THE SURFACE WATER NETWORK FOR STORM UP TO AND INCLUDING THE 100 YEAR - 30% CLIMATE CHANGE EVENT.

THE SURFACE WATER NETWORK PROVIDES ATTENUATION WITHIN THE PIPE NETWORK FOR STORM EVENTS UP TO AND INCLUDING THE 30 YEAR EVENT.

AN OVERFLOW ATTENUATION SYSTEM FOR STORMS IN EXCESS OF THE 30 YEAR EVENT IS UTILISED IN THE FORM OF AN OFFLINE CELLULAR STORAGE TANK WITHIN THE PRIVATE SHARED DRIVEWAY AREA WITH NO RETURN VALVES PREVENT USE DURING MILD STORM EVENTS.

THE GROUND INVESTIGATION INDICATES FAVOURABLE SOIL CONDITIONS FOR INFILTRATION TECHNIQUES. HOWEVER SHALLOW WATER STRIKES WERE PRESENT THROUGHOUT THE SITE. FOR THE PURPOSE OF THE FLOOD RISK ASSESSMENT HAS RULED OUT THE USE OF INFILTRATION TECHNIQUES ON THIS SITE.

FOUL WATER NETWORK

FOUL WATER IS COLLECTED ON SITE THROUGH A TRADITIONAL PRIVATE DRAINAGE PIPE SYSTEM. THE FLOWS ARE DIRECTED INTO THE ADOPTABLE SEWERS (SUBJECT TO S104 AGREEMENT) AND DISCHARGED INTO THE EXISTING COMBINED SEWER NETWORK VIA AN EXISTING MANHOLE AT THE SITE ENTRANCE.

DECREASE INVERT LEVEL TO SUIT REVISED DRAINAGE STRATEGY. PLOT DRAINAGE

COVER LEVELS TO ADOPTABLE MANHOLES REVERSED ALONG ROADS 1 & 2 TO SUIT NEW PROPOSED LEVELS. PLOT DRAINAGE LEVELS AMENDED TO SUIT FINISHED LEVELS.

PLOTS 35-36 AND PLOT 47 FINISHED FLOOR LEVELS AMENDED TO SUIT FINISHED LEVELS. DRAWING 217-013-011 REV 03 DRAINAGE AMENDED TO SUIT.

OUTFALL LOCATION AMENDED TO SITE BOUNDARY OVER EXISTING SEWER. ADJUSTMENTS TO INVERT LEVELS TO SUIT EXISTING OUTFALL POSITION AND LEVEL.

SEWERS AND PRIVATE DRAINAGE INVERT LEVELS AMENDED TO SUIT EXISTING PRIVATE DRAINAGE. PLOT 47 FINISHED FLOOR LEVELS AMENDED TO SUIT FINISHED LEVELS. PLOTS 35-36 AND PLOT 47 FINISHED FLOOR LEVELS AMENDED TO SUIT FINISHED LEVELS. PLOTS 35-36 AND PLOT 47 FINISHED FLOOR LEVELS AMENDED TO SUIT FINISHED LEVELS.

PROPOSED SEWERS AMENDED TO SUIT REVISED DRAINAGE STRATEGY. PLOT DRAINAGE AMENDED TO SUIT SEWER INVERT.

ROAD REFERENCES ADDED FOR CLARITY.

UPDATED TO SUIT LATEST ARCHITECTURAL LAYOUT AND EXISTING SERVICES TO SITE.

CONSTRUCTION ISSUE.

DATE DESCRIPTION BY CHK APP

CONSTRUCTION

CLIENT: GLEESON

ARCHITECT:

PROJECT: BALDERSTONE SCHOOL, ROCHDALE

TITLE: DRAINAGE LAYOUT

STATUS: PROJECT NUMBER: 217-013 DRAWING NO: D01 REV: C11

SCALE & NO: 1:250 DESIGNED: N McGarry DRAWN: N McGarry CHECKED: N McGarry APPROVED: K O'Brien DATE: JANUARY 2017

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