

- General:
- This drawing is to be read in conjunction with all relevant Architects, Engineers and Specialists drawings and specifications.
 - All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
 - The contractor is to check and verify all dimensions and levels before commencing work.
 - Any discrepancies noted on site are to be reported to the Engineer immediately.
 - Background plan based on topographic survey data created by others and supplied for the purpose of carrying out engineering works. We cannot be held responsible for the content, completeness and accuracy provided to us by others. Topographical survey taken from **Greenhalgh** plan reference:
 - **37824.LT (8/9/20)**
 - Architectural layout taken from **CRE** plan reference:
 - **2136 - PL001 - 2 (24 September 2019)**
- Drainage:
- Do not scale this drawing. All dimensions must be checked / verified on site. If in doubt ask.
 - This drawing is to be read in conjunction with all relevant Architects, Engineers and Specialists drawings and specifications.
 - All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
 - Any discrepancies noted on site are to be reported to the Engineer immediately.
 - The base specification for drainage works shall be the Water Authority Association 'Sewers for Adoption (7th Edition)
 - For details of ground conditions refer to the Ground Investigation Report.
 - The following pipe strengths shall be adopted unless noted otherwise:
 - Pipes 150mm diameter up to and including 225mm to be clayware to BS EN 295 Class 160.
 - Pipes over 300mm diameter to be concrete to BS 5911 Class M.
 - All pipe runs to be laid with flexible joints.
 - All pipes entering and exiting manholes are to be connected with pipe soffits level unless noted otherwise.
 - Bedding and surround to be as follows:-

Location	Cover to Soffit	Bedding
Roads	>1.2m	Class 'S' granular bed and surround.
	<1.2m	Class 'X' Concrete surround.
Hard and soft landscaping	>0.6m	Class 'S' granular bed and surround.
	<0.6m	Class 'X' Concrete surround.

- The following concrete mixes are to be used (all in accordance with BS 5800):

Location	Mix Reference
Concrete surround to pipes	ST4
Concrete base and surround to manholes	ST4

The above concrete mixes have been selected for BS 5800 Class 2 Sulphates.
- All precast concrete products (ie pipes, manholes rings etc.) shall be of suitable concrete mix to cater for Class 2 sulphates.
- Pre-formed channels are to be used in manholes where applicable.
- Granolithic concrete benching to be steel trowelled to a dense smooth face neatly shaped and finished to all branch connections and laid in accordance with the Specification.
- All connections to be turned in direction of flow using pipe bends.
- Manhole covers and frames to be ductile iron medium duty Grade D400 circular or rectangular to BS EN124 positions inside vehicular trafficked areas.
- First flexible joint in pipes adjacent to a manhole shall be a maximum of 600mm from inside face of manhole, connecting to rocker pipe.

The length of rocker pipe is as follows:-

Pipe Diameter	Length of Rocker pipe
150mm-600mm	600mm
- Manholes with outgoing pipes greater than 600mm diameter shall be fitted with guard bars, safety chains or other safety devices.
- The Principle Contractor shall be responsible for checking the existing line and invert levels of any connection points for both the foul and surface water systems, prior to undertaking installation of any new drainage works. Any deviation to the levels and positions indicated on the drawing should be brought to the immediate attention of the Project Engineer.
- All inverts specified are culching (except backdrops). All pipe are to be laid soffits levels U.N.O.
- All Foul pipes to be 100mm Diameter & Storm to 150mm Diameter unless marked otherwise.
- All connections to be made by purpose made junctions as far as practicable.
- Manhole covers in block paved areas to be recessed to receive required surface finish.
- The contractor is to protect existing and new buried pipes (particularly shallow pipes) and tree roots from damage caused by loads imposed by construction plant.

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KEY

- EXISTING STORM DRAINAGE
- PROPOSED STORM DRAINAGE
- PROPOSED PERFORATED PIPE
- PROPOSED CELLULAR TANK
- PROPOSED PERMEABLE PAVING

FOR INFORMATION

Rev	Date	Description	By	Chkd By
A	17/12/2020	AMENDED TO SUIT LATEST LAYOUT.	JH	GL
-	25/09/2020	First Issue	JH	GL

Revision Schedule

Project Title					
ADDITIONAL CAR PARKING PROLOGIS PARK – BIRMINGHAM INTERCHANGE					
Drawing Title					
PROPOSED DRAINAGE PLAN					
Drawn by	JH	Checked by	GL	Project Engineer	GL
Date	SEPT 20	Scale	1:500	Project No	12992
				Drawing No	100
				Rev	A

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