

Proposed Residential Development Site

Wythenshawe Park Cycle Facilities

Learn to ride and Pump Track

Flood Risk Assessment Report

Prepared for

Manchester City Council

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Sir Frederick Snow & Partners Ltd
Consulting Engineers
211-213 Higher Hillgate, Stockport, SK1 3RB
Tel: 0161 477 3365
e-mail: northwest@fsnow.co.uk

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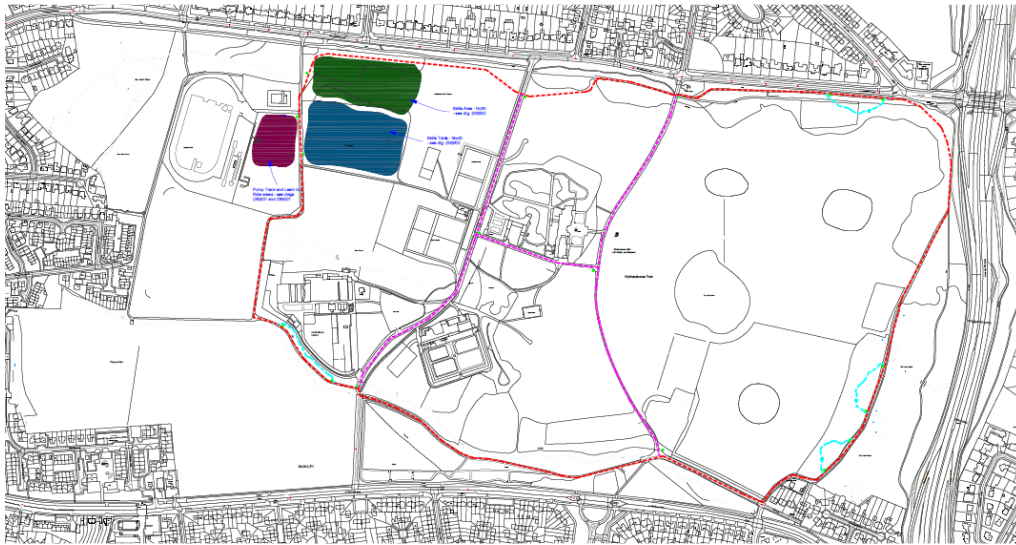


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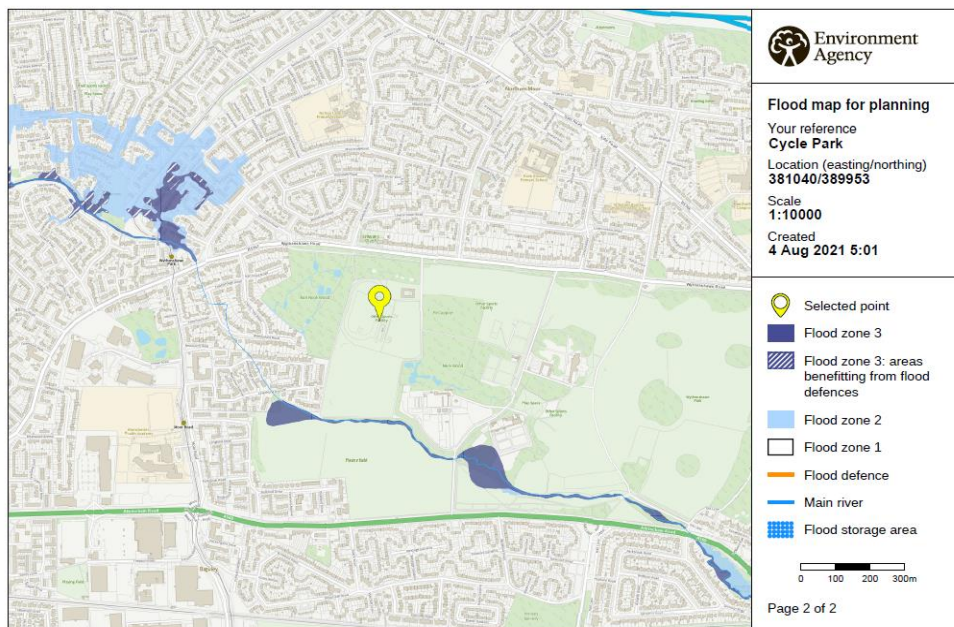
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1.0 Introduction

1.1 This Flood Risk Assessment has been prepared in support of the Planning Application LP/44968 for the creation of a cycling facilities at Wythenshawe Park. The proposed development comprises of a Learn to Ride Area and Pump Track (the mauve shaded area), Perimeter Trail (red dashed line), Skills Area (the green area) and Skills Trail (the blue area). All as shown on the extract below from drawing Proposed Track Route WYP-MCC-XX-XX-DR-B-0010-S2. The background and details are described in the Planning Supporting Statement-Specification and Construction Details document provided with the Planning Application. Pertinent details will be included in appendices for ease of reference.



1.2 While most of the park proposed development falls within a Zone 1 the Perimeter Trail passes through a Zone 3 Flood Risk area as delineated on the Environmental Agency's (EA's) Flood Risk Map on their web site, extract below, which need to be addressed for any development that falls within them.



1.3 Also, in discussion with the Council's Flood Risk Management Team Officer there has been identified specific requirements relating to recent flood records in the park as recorded on the Lead Local Flood Authority (LLFA) Data Screen reproduced below (full details in Appendix B). This shows a cluster of incidents on the Western Park boundary together with one to Fir Coppice (denoted by the ! in a yellow triangle, full key in Appendix A). Also the yellow hashed area to Nan Nook Wood in the north west corner of the park is identified as a recorded flooding area.



1.4 The incident in Fir Coppice was a manhole cover not a flooding occurrence (a copy of the incident report provided by LLFA is in Appendix B) and so can be ignored for this assessment.

1.5 This Flood Risk Assessment Report will follow the guidelines of the EA's guidance flood risk assessment standing advice. It will address each of the five facilities in turn and then summaries the whole scheme. Following the submission of the original report further investigation and design development has been undertaken to address concern raised by the MCC Flood Risk Team and these are presented in this revised report.

1.6 This report addresses the Learn to Ride and Pump Track Area as each of the three main areas shaded above have separate drainage and flooding issues due to their terrain, vegetation and the proposed facility.

2.0 Site Information

2.1 Site Address

The site address is Wythenshawe Park, Manchester M23 0AB

3.0 Description of Development

3.1 As described in the introduction 1.1 the proposed development are cycling facilities within the existing Park and detailed in the full planning application. The relevant documents are;

- i. Drawing WYP-MCC-XX-XX-DR-B-0010-S3 - Site Location Plan
- ii. Drawing 20-011-(07)001-D3 – Site Plan
- iii. Drawing 20-011-(08)001-D3 – Pump Track and LTR Area
- iv. Drawing 20-011-(08)002-D3 – Skills Area & Skills Trail
- v. Drawing 20-011-(09)001-D3 – Pump Track and Trail Sections
- vi. Drawing 20-011-(08)002-D3 – Skills Area & Skills Trail
- vii. Drawing 20-011-(09)001-D3 – Pump Track and Trail Sections
- viii. LP/44968 – Heritage Statement - Wythenshawe Park Cycle Facilities
- ix. LP/44968 – Arboricultural Statement - Wythenshawe Park Cycle Facilities
- x. LP/44968 - Tree Survey Location Plans - Wythenshawe Park Cycle Facilities
- xi. LP/44968 - Tree Survey Data - Wythenshawe Park Cycle Facilities

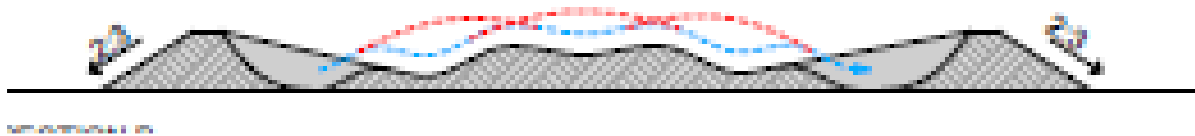
3.2 Wythenshawe Park has Baguley Brook, a tributary that feeds into the River Mersey, running through it from East to West which is culverted beyond the park boundaries. The topography of the Park is such that there are two areas of Zone 3 Flood Risk identified as shown in 1.2 above as well as along the full length of the water course itself. The Perimeter Trail crosses the water course and runs through one of these Flood Zones. The park includes numerous streams and ponds which reflect it's low lying and flat topography. Other than the perimeter Trail all the other proposed developments are in Zone 1 Flood risk areas.

3.3 The Learn to Ride Area and Pump Track areas are proposed east of the existing running track on an area of open grassland to the south of the surfaced car park and changing rooms. This area would appear to be part of the catchment that feeds the west boundary cluster of flood records and, as the extract from google below shows, ponds locally due to the existing topography.



3.4 As part of the site investigation works undertaken for the drainage assessment two soak away tests were conducted in this area both were excavated up to three meters and were both in clay which had no meaningful discharge. As such this area needs any additional run off to be collected and controlled hence the proposed attenuation tank and controlled discharge to the natural water course to the north. This should also relieve the boundary flooding as it will reduce the initial run off from the catchment area to the present ponding area in the west.

3.5 The proposed scheme for the Learn to Ride Area and Pump Track areas will result in more surfaced areas than present with stoned and asphalt tracks and ramps but as the cross sections and plans show (Plans 1683720 & 22 Appendix D) it's design creates a bowl which will be able to contain local runoff and collect it. This will then be piped to an attenuation tank and then by a new pipe across the car park to the valley to the north where the natural water course is at an agreed discharge rate controlled by a hydro brake. This will have the added benefit of reducing the run off reporting to the west boundary cluster ponding and improving the present situation. The proposed drainage collection scheme, attenuation tank and discharge location are shown in appendix E.



4.0 Assessment of Flood Risk

4.1

While the proposed development has Flood Risk Zoning up to Zone 3 under the EA guidance Table 2: Flood Risk vulnerability classification these proposed developments can be classified as Water Compatible Development as they can be classified under;

- Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms.

Then in Table 3: Flood Risk vulnerability and Flood Zone 'Compatibility';

Flood Zones	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	✗	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	✗	✗	✗	✓*

Key:

✓ Development is appropriate

✗ Development should not be permitted.

Denotes that the development is appropriate and can be permitted.

5.0 Climate Change

5.1 An assessment of Flood Risk needs to consider an allowance for Climate change. Wythenshawe Park is naturally a low level flat area with numerous existing ponds. With the predicted increase in rainfall due to Climate Change it will potentially flood more often but the proposed development of the cycle routes and skill areas will not exacerbate this. Indeed the mitigation of the Learn to ride and Pump Track area attenuation tank will potentially reduce the effects of the increased run off the climate change predicts.

6.0 Conclusion

In conclusion while the site for the proposed cycle facilities lie within Zone 1, 2 and 3 Flood risk areas as identified by the EA Flood risk map the proposed use is assessed as Water Compatible and can be deemed an appropriate development.

The proposed flood mitigation for the Learn to Ride area and Pump track of attenuation retention improve the present flood risk potential and reduce Climate change risk.

Appendix A

DATA SCREEN SYMBOLOGY

Bridge

-  Good
-  Fair
-  Poor
-  Very Poor
-  Unknown

Trash Screen

-  Good
-  Fair
-  Poor
-  Very Poor
-  Unknown

Culvert Orifice

-  Very Good
-  Good
-  Fair
-  Poor
-  Very Poor
-  Unknown

Culvert Conduit

-  CCTV surveyed
-  Not CCTV surveyed
-  Ordinary Watercourse Conduit
-  MCC SuDS
-  MCC Flood Incident Points
-  MCC Section 19 Report
-  MCC Flood Incident Polygons
-  MCC Local Authority Boundary

Supplementary Information where available:

Critical Drainage Area – The site is within the Manchester Trafford Critical Drainage Area (CDA)

Flood Incidents –

MCC Flood Incident Polygon 23/04/2021: Blocked outlet led to flooding in the park, MCC maintenance attended to unblock.

MCC Flood Incident Points: A cluster of 5 points around the Lawnhurst Avenue area is noted (date range 15/12/2019 to 04/02/2021). These are recorded as ‘blocked gully or drain’ and ‘unspecified’, however due to data form limitations they may relate to surface water flooding. We recommend any data from public concern is considered. An incident 02/11/2020 in Fir Coppice is recorded as “Loose/rattling gully/grid or manhole cover”.

Culvert Conduits – There are several indicative ordinary watercourse culverts on-site. Should any be pertinent to the proposed development, please enquire with the LLFA for zoomed-in maps and searches for further information.

Survey and Design Archive – Extract from the 1984 survey of major drainage is included.

Any other information – The site would benefit from an assessment of surface water flood risk, main rivers & associated assets, fluvial flood risk, historic events & flood warning areas. We recommend the applicant screens appropriate EA datasets during their investigation.



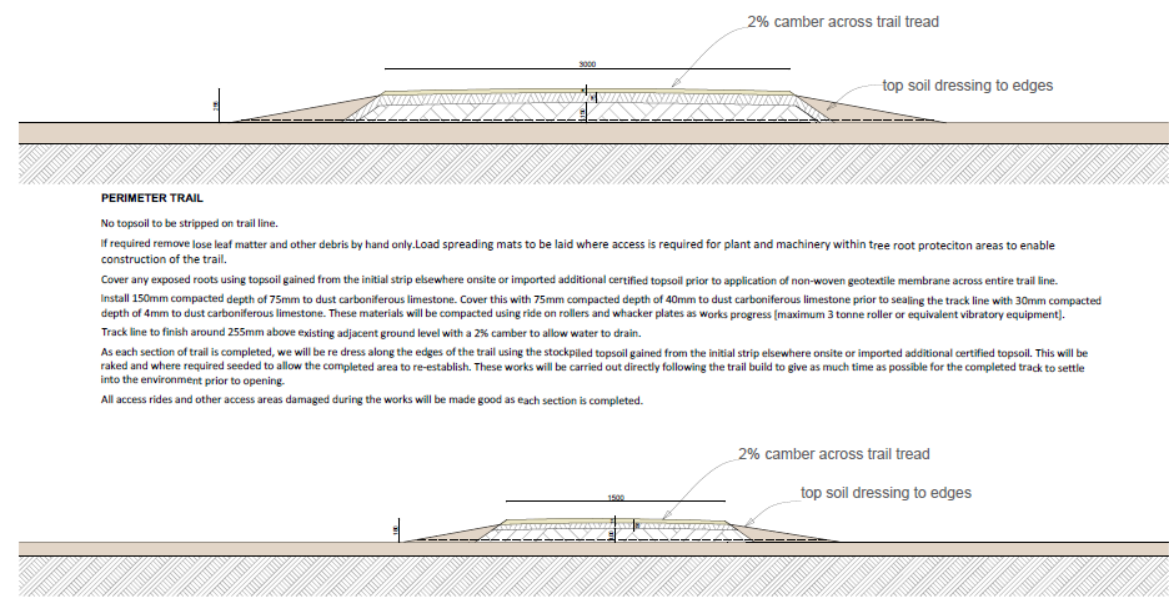
Appendix B

Extract from LLFA correspondence on the Fir Coppice incident report.

Thank you for your enquiry. Below is the full record for the Fir Coppice incident. Please note we do not have any record in our asset register of what the asset served by this gull/grid/manhole could be.

ServiceCategoryName	Drainage	
CRMReferenceNumber	CRM-426-6369	
FinancialYear	2020-21	
FinancialQuarter	Qtr 3	
MonthCreatedon	November	
DayCreatedon	2	
CreatedOn	20201102	
TimeStamp	02/11/2020 15:30:00	
Address	In Wythenshawe Park 80m north of Wythenshawe Park Wythenshawe Road Manchester M23 0AB	
Easting	381326	
Northing	389935	
Ward	Brooklands	
NeighbourhoodFocusArea	South & Wythenshawe	
StatusDesc	Closed	
DrainageThirdParty	Other third party	
DrainageProblem	Loose/rattling gully/grid or manhole cover	
FaultType	<null>	
DrainageStatuscodeDesc	Inspected - Passed to a Third Party	
Enquiry LLPG Reference	77251823	
Shape	Point	

Appendix C



PERIMETER TRAIL

No topsoil to be stripped on trail line.

If required remove loose leaf matter and other debris by hand only. Load spreading mats to be laid where access is required for plant and machinery within tree root protection areas to enable construction of the trail.

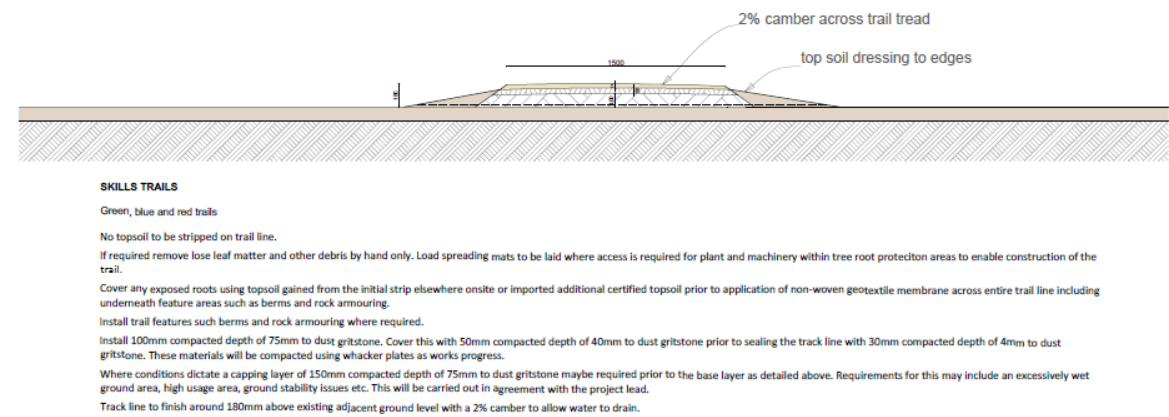
Cover any exposed roots using topsoil gained from the initial strip elsewhere onsite or imported additional certified topsoil prior to application of non-woven geotextile membrane across entire trail line.

Install 150mm compacted depth of 75mm to dust carboniferous limestone. Cover this with 75mm compacted depth of 40mm to dust carboniferous limestone prior to sealing the track line with 30mm compacted depth of 4mm to dust carboniferous limestone. These materials will be compacted using ride on rollers and whacker plates as works progress (maximum 3 tonne roller or equivalent vibratory equipment).

Track line to finish around 255mm above existing adjacent ground level with a 2% camber to allow water to drain.

As each section of trail is completed, we will be re dress along the edges of the trail using the stockpiled topsoil gained from the initial strip elsewhere onsite or imported additional certified topsoil. This will be raked and where required seeded to allow the completed area to re-establish. These works will be carried out directly following the trail build to give as much time as possible for the completed track to settle into the environment prior to opening.

All access rides and other access areas damaged during the works will be made good as each section is completed.



SKILLS TRAILS

Green, blue and red trails

No topsoil to be stripped on trail line.

If required remove loose leaf matter and other debris by hand only. Load spreading mats to be laid where access is required for plant and machinery within tree root protection areas to enable construction of the trail.

Cover any exposed roots using topsoil gained from the initial strip elsewhere onsite or imported additional certified topsoil prior to application of non-woven geotextile membrane across entire trail line including underneath feature areas such as berms and rock armouring.

Install trail features such berms and rock armouring where required.

Install 100mm compacted depth of 75mm to dust gritstone. Cover this with 50mm compacted depth of 40mm to dust gritstone prior to sealing the track line with 30mm compacted depth of 4mm to dust gritstone. These materials will be compacted using whacker plates as works progress.

Where conditions dictate a capping layer of 150mm compacted depth of 75mm to dust gritstone maybe required prior to the base layer as detailed above. Requirements for this may include an excessively wet ground area, high usage area, ground stability issues etc. This will be carried out in agreement with the project lead.

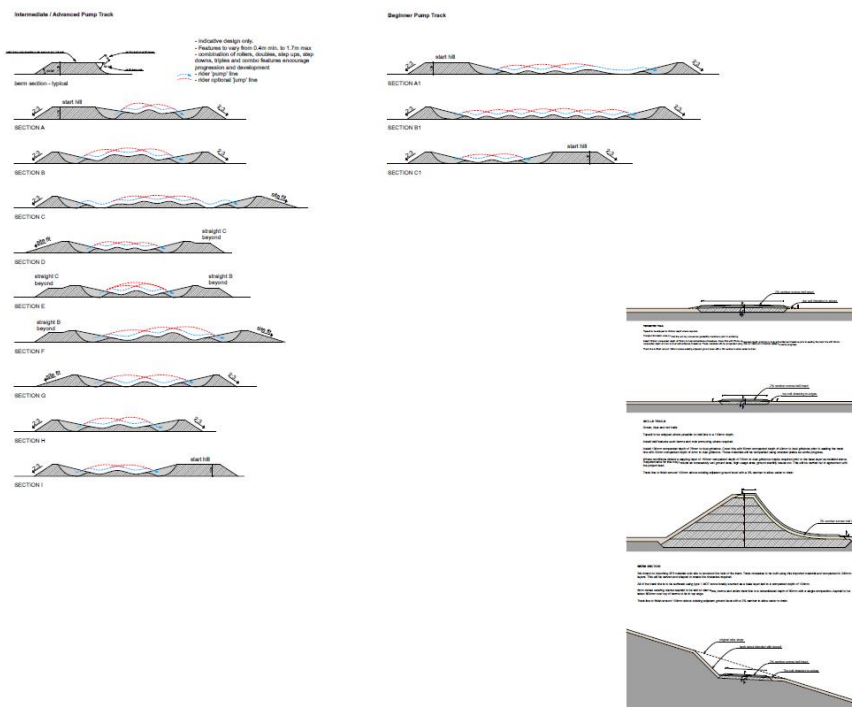
Track line to finish around 180mm above existing adjacent ground level with a 2% camber to allow water to drain.

Details of proposed trailways raised to avoid root damage

Appendix D



Plan 1683720 Pump Track Area



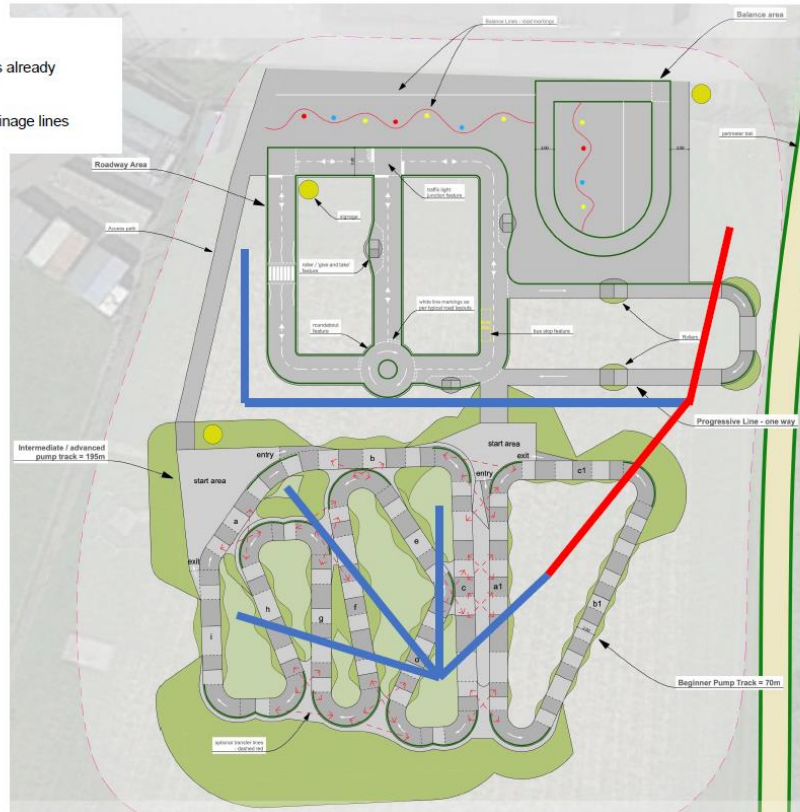
Plan 1683722 Pump track & Trails sections

[illegible][illegible]

Key

 Drainage lines already allocated for

 Additional drainage lines required

[illegible]