

Highgate Conservation Area Advisory Committee

16 March 2026

HGY/2023/0338: Mallinson Sports Centre (MSC) Objection re. Climate Change and Personal Safety

Highgate Conservation Area Advisory Committee (HCAAC) has the gravest concerns about personal safety. The margins of safety the School is comfortable with are miniscule.

Flood-proof doors and cills proposed to be at AOD 107.00 and the same for windows with cills at or lower than AOD 107.00.

The ground floor level to access the New Sports Hall is AOD 107.00 but the floor level of the Sports Hall is AOD 103.450, that is, 3.55m below the entrance level. The gallery to the new Sports Hall and its Foyer and linking corridors are at AOD 106.87 giving a safety factor of just 130mm.

HCAAC considers these are fractional levels of security given the activities are 3.55m below ground level in this part of the building. Edenvale Young report the Fives Courts would be inundated in any event.

The measures proposed consist of many parts in addition to the proposed Arena 'basin'. If any one of those were to fail in a flooding event there would potentially be a disaster.

Parents and staff should be fully informed of the risks arising from this application.

It is not clear from the submitted documents which level of Climate change is proposed or whether Haringey has expressed an opinion to the School on what the Environment Agency requires for this building.

Most of the specialist reports, some dating back to 2019, are out of date and appear to be testing different levels of climate change options. Not only are these documents no longer valid, they potentially confuse members of the Planning Sub Committee as well as parents and staff. HCAAC urges the School to withdraw all specialist documents other than the latest version of Pringuer-James Consulting Engineer's submissions (main report and appendices) dated 29 January 2025 although even that document also does not make it clear what level of climate change risk is proposed. Revised reports from Edenvale Young and other consultants should be provided once the appropriate level of climate change risk has been established.

The consultation version of the National Planning Policy Framework states that educational buildings fall into the category of 'Moderate Risk' and also that the safety measures are required for the life of the building now, not introduced at a later date.

HCAAC submits herewith our additional objections and comments reflecting what we have learned about Highgate School's proposals regarding flood risk since submitting our earlier objections in May 2023; and having reviewed all the documents submitted since then. There are a number of very serious issues with this application.

Flood risks

Some of the specialist reports are possibly considerably out of date and so, if they are, in order to avoid any confusion for Planning Subcommittee Members, any out-of-date documents should be withdrawn.

The submitted reports, taken together, are confusing and unclear about what the target expected to be achieved in terms of surface water flooding with regard to climate change is required by Haringey. As we understand it the targets are set by the Environment Agency (EA) and that their parameters have recently been radically changed. So, the Committee will need to know what the new parameters for this site are given that it is in a 'critical flood zone' on Haringey's map. The emerging New Local Plan and the proposed revisions to the NPPF also need to be considered.

1 Haringey Council's emerging New Local Plan CR4: Managing and reducing flood risk: 21.61 UK Climate Change Allowances are Guidelines produced by the Environment Agency. 21.62: Proposals should always apply the upper end of climate change scenarios. 21.63:Proposals must be designed to be safe for a 1% exceedance probability (AEP) including an upper end climate change allowance...no net loss of flood storage. Proposals should set out a full list of vulnerability classifications.

21.70: Proposals should refer to the Haringey SFRA. Government annex 3-flood risk vulnerability classification: Educational establishments.

2 Under the following requirements this application falls under the 'More vulnerable' category of risk in:

<https://www.gov.uk/guidance/national-planning-policy-framework/annex-3-flood-risk-vulnerability-classification>:

More vulnerable

Hospitals

Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels.

Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels.

Non-residential uses for health services, nurseries and educational

establishments. Landfill* and sites used for waste management facilities for hazardous waste. Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.

3 These are the essential measures which Pringuer-James Consulting Engineers show in their drawing Pringuer-James L2384-SK-C-102-SuDS Strategy Concept for Development, Appendix E:

1. Arena Basin (outside area of drawing)
2. Connection from Arena Basin to existing ditch east of Junior playing field 3. Attenuation tank no. 1 on MOL, parallel to Fives Courts
4. Hydrobrake no. 1
5. Green roof to Fives Court on MOL
6. Offline attenuation tank no. 2 in gap between existing buildings
7. Internal flow control for offline tank
8. Green roofs to proposed Sports Hall and storage building
9. Hydrobrake no. 2 to outfall to Storm drain in Bishopswood Road
10. Existing connection Foul Water connection to be reused

HCAAC notes that a Bund, located on MOL, is not listed above and not shown on the Landscape drawings but is mentioned in the Design and Access Statement.

All of these assets would need to be checked on an agreed and very regular basis. It appears item 7 is controlled manually from inside the building. Failure of any of these ‘moving parts’, including clearing of gutters and maintenance regimes, could or would jeopardise lives.

Appendix G: The correspondence with Thames Water is not in the Appendix. The Appendix is empty.

HCAAC has looked at all the documents submitted on line by the applicant with regards to surface water flooding. These are pertinent extracts from those documents. The given site area varies from document to document with The Orchard sometimes included and sometimes not. HCAAC asks Officers to consider our notes below very carefully. HCAAC considers it would be unsafe to reach a Decision on this application as it stands.

HCAAC asks the Planning Committee to note the 100-year target in the EIA application. It will be evident that the climate change target varies from document to document

from the extracts set out below and that the EIA application should not have been approved:

HGY/2023/0331: EIA Mallinson Sports Centre. This application has been approved:

“The Mallinson Sports Centre is located on the Bishopswood Road Campus of the School estate. The building has been constructed on sloping ground, with a difference in levels from north up to south of approximately 4m. The Proposed Development lies in Flood Zone 1 (the lowest risk). The main flood risk posed to the site is surface water flooding. Highgate School, EIA Screening Report Page 3. The southern face of the Mallinson Sports Centre is within the north edge of the area designated as Metropolitan Open Land. The west side of the sports centre faces onto Bishopswood Road, separated by a grass verge with interspersed mature trees along the street frontage. On the east side, the sports centre lies adjacent to part of the site boundary of the house and rear garden of No 27, Broadlands Road. Additionally, on the east side are the Orchard playing fields within the School’s ownership. Along the eastern boundary a ditch has formed in the landscaping for natural surface water drainage, and there are mature trees located up to the site boundary. On the north side up to Broadlands Road, the site is occupied by a large open covered Fives court.”

*“Mallinson Sports Centre A landscape design strategy has been prepared for the Mallinson Sports Centre (Robert Myers Associates **November 2022**). The scheme involves two main areas. The first is around the new building and involves the implementation of a new hard landscape, including connecting paths and courtyard areas around the main entrances; and soft landscaping around the perimeter of the site which will involve replacing three existing trees with new, semi-mature trees. The second area is a sports pitch flood basin on the existing orchard site, to the east of the new building. Although it is necessary for the removal of a number of trees to enable the built development and flood basin, the proposals will provide a net increase in the number of trees across the site.”*

*“Water Resources and Flood Risk: A site wide Flood Risk Assessment (FRA) has been prepared in support of the Proposed Development (Edendale Young Associates Ltd, **September 2019**). The FRA outlines flood risk at the Bishopswood Road Campus (the Mallinson Sports Centre, the Richards Music Centre Far Field and the Decant Site) and the Senior School Campus (the Science Block and the Dyne House and Island Site. Additionally, site specific documents in relation to the other sites have been prepared. These are:*

- *FRA for the Mallinson Sports Centre (PJCE November 2022);*

- *Sustainable Urban Drainage Statement for the Richards Music Centre (Expedition July 2022);*

● *Flood Risk Assessment and Surface Water Drainage Strategy Report for the Science Block (Price and Myers (July 2022));*

● *Sustainable Urban Drainage Statement for Dyne House and the Island Site (Expedition, July 2022);*

● *FRA for the Decant Site (Peter Deer Associates, April 2020); and*

● *Flood Risk, Surface Water and Foul Drainage Strategy for Far Field (Corner Water Consulting, July 2022). A summary of the proposed drainage strategies for each of the applications is provided below. Mallinson Sports Centre The FRA prepared for the Mallinson Sports Centre shows that the site is at significant risk of future flooding after heavy rainfall within a 100-year period, due to limitations in the existing surface water drainage system which will primarily impact the northern end of the site. Other sources of flooding such as infrastructure flooding, rivers and groundwater flooding have been considered but are considered very low risk.”*

*“Mallinson Sports Centre The FRA prepared for the Mallinson Sports Centre shows that the site is at significant risk of future flooding after heavy rainfall within a **100-year period**, due to limitations in the existing surface water drainage system which will primarily impact the northern end of the site. Other sources of flooding such as infrastructure flooding, rivers and groundwater flooding have been considered but are considered very low risk.”*

EIA Application continued: *“A hydraulic model has been constructed of the Highgate School catchment using industry standard ESTRY TU FLOW software to assess surface water flooding at the existing sports facilities and for proposed sports facilities. A number of mitigation options have been considered but the mitigation measure of choice is to use the Orchard sports site to the east of the Mallinson Sports Centre as a flood basin, by excavating down from current levels, with planted bund walls to divert surface water into this area from higher ground levels, and a swale will connect down to the existing ditch. Additionally, the floor level of the northern block has been raised to a level where the entrance doors at west and east ends are one metre above local ground level, and above the **anticipated worst-case 100-year level** (including the attenuation mitigation provided by the Orchard basin).*

“7.0 Conclusion The need for EIA for each project should be considered on its merits, as has

*been done in this report. Potential environmental effects associated with waste, transport, noise and vibration, air quality, landscape and visual, archaeology, ground conditions and contamination, ecology, arboriculture, **water resources and flood risk, and climate change resulting from the Proposed Development are not expected to be significant after the implementation of standard, not complex and effective***

mitigation measures. This determination has taken account of the nature and scale of the Proposed Development, its location, the sensitivity of the existing environment and the types and characteristic of potential impacts likely to be experienced. The site area exceeds the threshold criteria for an ‘urban development project’ as classified in Schedule 2, but it is not within or partially within an environmentally sensitive area, as defined by the EIA Regulations (e.g. a SSSI). The site is not considered to be sensitive to new development and environmental impacts are unlikely to be complex or widespread. This has included consideration of cumulative impacts. Standard mitigation measures can be used to effectively reduce all other impacts identified. The Proposed Development has been considered on its merits, both individually and in combination with other development commitments, which have the potential for cumulative effects. **From this, a site-specific understanding of the environmental constraints has been undertaken, and based upon evidence, it can be concluded that the Proposed Development does not constitute EIA Development.”**

Haringey should not have approved the EIA application.

Councillors should be aware that the EIA Decision was based on the assumption that the flood risk was based on “*the **anticipated worst-case 100-year level***” and that the proposals to protect lives do not rest entirely on the Attenuation Basin in the Orchard. They also

include ensuring the amount of grass and other open space will be retained. As far as we can see none of the specialist reports deduct the area of the Attenuation Basin from the existing areas of ‘greenfield’ land.

The applicant must show that the disposal of rainwater in the storm water drain in Broadlands Road will not exceed the existing flows.

Councillors should be aware the discharge into the Thames Water surface water drain in Broadlands Road is subject to both the capacity of the Thames Water drain and a legal agreement. HCAAC suggests it is too risky for Haringey to leave this agreement to post planning consent.

The Pringuer James report states flood-proof doors and cills at AOD 107.00 are required and the same for windows with cills at or lower than AOD 107.00. The ground floor level to access the New Sports Hall is AOD 107.00 but the floor level of the Sports Hall is AOD 103.450, that is, 3.55m below the entrance level.

The gallery to the new Sports Hall and its Foyer and linking corridors are at AOD 106.87 giving a safety factor of just 130mm. See further calculations below.

HCAAC considers these are fractional levels of security given the activities are 3.55m below ground level in this part of the building.

Government guidance is clear: **Government annex 3-flood risk vulnerability classification: Educational establishments:**

<https://www.gov.uk/guidance/national-planning-policy-framework/annex-3-flood-risk-vulnerability-classification>: [See following page]

More vulnerable

Hospitals

Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels.

Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels.

Non-residential uses for health services, nurseries and **educational establishments.**

Landfill* and sites used for waste management facilities for hazardous waste. Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan

Haringey Council's emerging New Local Plan is also relevant.

CR4: Managing and reducing flood risk:

21.61 UK Climate Change Allowances are Guidelines produced by the Environment Agency. 21.62: Proposals should always apply the upper end of climate change scenarios.

21.63:Proposals must be designed to be safe for a 1% exceedance probability (AEP) including an upper end climate change allowance...no net loss of flood storage. Proposals should set out a full list of vulnerability classifications.

21.70: Proposals should refer to the Haringey SFRA.

The building is required to be safe for children and adults for the life of the building under the emerging revision to the NPPF. Is it prudent to work to such very small margins of safety where the life of the building could be in excess of, say, 80 or so years?

Unfortunately, the School's record for maintaining drains, at Far Field for example, is not good. Several of the submitted documents stress the importance of a maintenance regime of all these 'working parts' to ensure the safety of occupants over the lifetime of the buildings.

It is probably appropriate to mention here the complexity of roof forms, one of which has solar panels, and therefore it follows that the rainwater disposal, guttering, etc. will

be vulnerable. The access for maintenance and protective railings need to be shown on the drawings. The various reports highlight the need for regular maintenance of ditches, etc. which could be onerous but maintenance of the roof drainage will also be crucial to deliver the whole rainwater disposal arrangements.

The boreholes the School has commissioned, such as they are, are few, however they do show that the clay layer was found immediately below the surface in all areas except in the Orchard. The natural springs in the woodland indicate the level of the clay layer which is, of course, impermeable. Few boreholes in and around the existing buildings and none on neighbours' land have been done. HCAAC notes that the existing ditch is at the same level as one of the neighbouring rear gardens. We urge Haringey to consider the impact on several properties in Broadlands Road. Would the School's immediate neighbour also need raised thresholds, for example; and as their rear gardens are lower than The Orchard, why would they not get flooded in a 1 in 100 + 40% or flash flooding event?

Safety to life and limb

The use of this building is projected to be intensive as set out in the Headmaster's Statement.

1. No consistency on long term flood risk across documents

The potential risks to people being trapped in the building in a 100 year flood have been highlighted in reports submitted with this application. Although policy may, even in the short term, extend the risk to a 200 year event, several additional specialist reports have been submitted since February 2023, each of which evaluates different time frames. Haringey must establish what the appropriate time frame is and ensure that all submitted specialist reports consistently use that agreed time frame. Any redundant reports should be taken down from the website.

This is the muddled picture across the various reports shown on Haringey's planning website for this application:

Edenvale Young 4.7.22:

"1.2 Study overview

1.2.1 Hydraulic modelling using TUFLOW software has been undertaken, which incorporates site specific details such as topographic survey and the local drainage network.

1.2.2 This allows the derivation of more representative surface water flood levels on site, compared to the Environment Agency surface water mapping which does not include these details. 1.2.3 The updated modelling allows more suitable threshold levels to be determined for the development as well as the modelling of flood mitigation options.

*1.2.4 Existing flood risk at the site has been assessed by running the existing condition for three storm durations (3.5 hr, 4.5 hr and 5.5 hrs.) and the standard return periods for rainfall required by the local authority; 1 in 10 year, 1 in 30 year, 1 in 100 year, 1 in 100 year with a 20% allowance for climate change, 1 in 100 with a 40% allowance for climate change year and 1 in 1000 year. 1.2.5 In addition, a further modelling exercise has been undertaken to assess the flood risk at the site for the development of the sports facilities and flood mitigation options. **There will be particular focus on the 1 in 100 year event with a 40% allowance for climate change as this is to be considered the design case.***

However, Edenvale Young, in that Report dated 4.7.22, also show in Fig 7.2, they were working to a **1 in 100 year event + 20%**. In their earlier Report dated 23.1.23 (FRA Rev F Figures pages 25 – 27) they also work to a 1 in 100 year event + 20%. The discrepancy will be obvious. Also note their Appendix B is a Haringey Surface Water floor map dated 12.7.11 but based on Environment Agency/London Councils' map of unknown date. Is there a later version than 2011?

Appendix E Rev. date 11.9.19 Fig 3.2 (P11) gives figures for six dates from 1 in 10 years to 1 in 1000 years for rainfall event of **3.5 hrs duration**.

Figure 7.3 gives outcome for a **1 in 100 year +20% event**.

PJCE in their Drainage and SuDS Statement revision 03 dated 1.7.22 tested **1 in 30 years** and **1 in 100 years events**.

Proposed Runoff Volume Statutory guidance states that the development site discharge volume, when possible, needs to be as close as possible to Greenfield volume. Existing and proposed volumes were accessed with and without attenuation to understand the level of mitigation offered by SuDS. It was found that for 1-in-30 and 1-in-100-year events the volumes are significantly reduced from existing. **During 1-in-1 year storm the volumes have slightly increased, which is mostly the result of site constraint and cannot be easily mitigated.** “Detailed design cannot be provided due to complexities of the site. Detailed design to be provided at later stages once all key information is known.” “Discussion was held with Haringey Council regarding drainage strategy for existing buildings and new buildings and the agreement was that retained buildings can be excluded from drainage calculations. The overall roof area of retaining buildings is 1,754m², resulting in overall reduced drainage area to 12,168m². The site is currently at risk from surface water flood and is located within critical drainage zone.”

“The proposal is for various facilities such as new sports hall, five courts, new teaching office, changing room, new entrance foyer and others. For full details of proposed works please refer to Design and Access Statement submitted under separate cover. **The overall impermeable area of the site will increase from the existing**

2,185m² (18% impermeable) to 3,846m² (32% impermeable). The development will discharge surface water in line with the requirements of the local planning authority and statutory undertakers and utilize Sustainable Urban Drainage System. **Storm water will discharge to existing Thames Water storm water sewer.**” HCAAC asks the Planning Sub Committee to note that connection to the Thames Water storm water sewer requires a legal agreement which we understand from other documents would be arranged after planning consent. This is so crucial we consider a letter-of-comfort from Thames Water’s legal department at the very least is provided to the Planning Sub Committee.

2. 1-in-1 year Storm

PJCE in their Drainage and SuDS Statement revision 03 dated 1.7.22 tested a 1-in-1 year storm

“5.1 Background Statutory guidance requires that where reasonably practicable, for developments which have been previously developed, the runoff volume from the development to any highway drain, sewer or surface water body in the 1-in-100 year 6-hour rainfall event must be constrained to a value as close as is reasonably practicable to the Greenfield runoff volume for the same event. It should ideally not exceed the runoff volume from the development site prior to re-development for that event.

The overall volume increases by 22% during 1-in-1year storm compared to existing due to significant increase in impermeable areas. It is consequently reduced by 34% during 1-in 30year storm which is considered critical as it is higher intensity storms when most of the flooding occurs. The change over is expected to occur around 1-in-10year mark, however this was not modelled. What is evident from the calculations is that by restricting the site to 8.0l/s and 12.0l/s it will mimic natural greenfield rate during larger and more critical events that are typically causes of the flowing. During the lower events, the site discharge cannot be restricted further for practical considerations.”

HCAAC is also concerned about the lack of clarity about the run-off calculations. HCAAC understands this to mean that the proposed attenuation basin is critical to reduce the risks arising from these extreme events but the attenuation basin in The Orchard is itself very large thus removing a large area of ‘greenfield’. HCAAC has been unable to find that the reduction in the greenfield area has been taken into account. It is clear to HCAAC that the attenuation basin cannot double as a greenfield site. We also note that the first Edenvale

Young Report (11.9.21) shows the site area limited to the site of the proposed buildings and excludes The Orchard, the woodland and Tathams Field and even the Junior Field, where crucial amelioration measures are required.

Proposed Runoff Rate

The report established existing Brownfield and Greenfield discharge rate for each major event (**1-in-1 / 30 /100 year**). HCAAC notes the 1-in-1 risk figures are lower and less onerous than the target in the next paragraph.

“Given the site is located within Haringey critical drainage area, the report focused on minimising flood risk and achieving discharge as close as possible to the Greenfield Rate. With complex site and following detailed technical review of the practical and appropriate flow rate to achieve the target greenfield rate, **it was found that both 1-in-1year flows were too low and not impractical for the development.**” The meaning of this is unclear. “The proposal is to limit the site to 8.0l/s up to 1-in-30-year storm (greenfield rate) and increase this to 12.0l/s for rainfall up to **1-in-100year +40% Climate Change (greenfield rate)**, thus delivering as close as possible to greenfield runoff rate during higher intensity and more critical rainfall events. Attenuation structures will be designed to capture and store all storms up to 1-in-100year +40% Climate Change event.”

5.2.3 The flood mitigation options for this scenario are shown in Figure 5.1 and include:

- An amphitheatre which doubles as a flood storage attenuation area with ground levels set to 107.5mAOD at the lowest level.
- A bund set to 110mAOD surrounding the southerly sports facility buildings in order to prevent the main flow route from the south-east flooding the buildings.

The applicant’s DAS states at p 102 that the QRP advised: “*The approach taken to the southern elevation, incorporating the Fives Courts, successfully enhances what is currently a bland façade.*” There is no mention of a bund.

See:

- PJCE Report Nov 22
- Edenvale 2.1.3, 2.2.2
- P11 Summary
- Hydraulic modelling Page 21
- 5.1 Conclusions
- 5.2 Recommendations: flood doors to all doors

Surface Water Modelling by Edenvale

“1.1.3 There are no watercourses in the immediate vicinity”. It is true the ‘swale’ varies depending on the amount of rainfall. HCAAC cannot find any assessment of the capacity of the swale and the risk of flooding from it.

7.2.4 The survey drawings indicate that the finished floor levels in the existing swimming pool are 106.86mAOD and there is no risk to the existing swimming pool at 1 in 30 years but if the threshold levels at the entrance are less than the peak water levels shown in the table then there could be a risk of inundation at higher return periods.

Edenvale Young Flood Risk Assessment (Site specific) Rev F:

“The proposed new sports hall is partly below ground level, however with suitable tanking and an entrance threshold level above the potential surface water flood level, this should mitigate some risk of development.”

“As part of the new sports facility development, various flood mitigation options have been proposed, which include:

- An amphitheatre which doubles as a flood storage attenuation area with ground levels set to 107.5mAOD at the lowest level.
- A bund set to 110mAOD surrounding the southerly sports facility buildings to protect them from surface water run-off.
- Ground levels around the most northerly buildings are set to 106.00mAOD as indicated by the plans. There is a proposed extra gully to help drain this area.
- An existing swale has been diverted through the proposed all weather sports pitch area.
- The north block has two entrances, at east and west ends. The interior FFL at the entrances is set at 107.00m AOD. In each entry lobby the users will then step down [or use lift access] to a main floor level set at 106.150.
- All window cills will be set at least 107.000 m AOD datum.
- the proposal is effectively to tank all the walls from lower basement right up to the 107.0m AOD datum, so that flood water cannot enter below this level
- The tanking will be concealed by the outer skin of brickwork of the insulated cavity construction
- The flood level for the 1 in 100 year design event + 40% climate change is 106.62mAOD at the northern end of the site. This gives a freeboard of 0.38m to the interior FFL at the entrances to the building.

Suitable flood doors shall be installed at the entrance to the buildings to mitigate the risk of internal flooding in a 1 in 100 year event with a climate change allowance of 40% on rainfall plus a freeboard of 0.3m.

Appendices to Edenvale report:

Appendix E:

7.2.4 The survey drawings indicate that the finished floor levels in the existing swimming pool are 106.86mAOD and there is no risk to the existing swimming pool at 1 in 30 years but if the threshold levels at the entrance are less than the peak water levels shown in the table then there could be a risk of inundation at higher return periods.”

7.3.2 Figure

7.3 shows the modelled flood depths at the site for the 1 in 100 year event with climate change allowances of 20%. The modelling indicates that the maximum depth is approximately 0.40m for this event, with an equivalent water level of 106.40mAOD at sample point 1.

7.3.3 This is below the proposed finished floor level of 106.40mAOD and therefore the proposed new development should be free from flooding in this event. Table 7.2: 1 in 100 +20% CC 106.40 AOD; 0.40 [400mm deep]

8 Conclusions and recommendations

8.1 Conclusions

8.1.2 As part of the new sports facility development, various flood mitigation options have been proposed, which include:

- An amphitheatre which doubles as a flood storage attenuation area with ground levels set to 107.5mAOD at the lowest level.
 - A bund set to 110mAOD surrounding the southerly sports facility buildings to protect them from surface water run-off
 - Ground levels around the most northerly buildings are set to 106.00mAOD as indicated by the plans. There is a proposed extra gully to help drain this area.
 - An existing swale has been diverted through the proposed all weather sports pitch area.
- 8.1.3 The latest modelling has demonstrated that:

- The modelled flood mitigation options are effective at preventing internal flooding to the school up to and including the 1 in 100 year design event + 20% climate change. They also provide a benefit for those downstream of the school, with a reduction in flood level of up to 100mm.
- The flood level for the 1 in 100 year design event + 20% climate change is 106.40mAOD at the northern end of the site. This is the same as the proposed finished floor level of 106.40mAOD, so there is no internal flooding for this event.
- The proposed sports facilities are at risk of flooding in the 1 in 100 year event + 40% climate change and the 1 in 1000 year event.

8.2 Recommendations

8.2.1 The following recommendations are considered appropriate:

- **If possible, lowering the ground levels below 106.00mAOD around the northern proposed buildings would be effective in providing more freeboard between the finished floor level of 106.40mAOD and the design flood level.**
- **Provision of flood doors at the entrance to buildings in conjunction with ensuring that the building is sealed at pipe entrance points will provide further flood resilience**

Turning to the proposed relocation of the Fives Courts to Metropolitan Open Land, HCAAC cannot agree with the QRP's comments (see above). The Fives Courts would be inundated in the event of a 100 year + 40% rainfall event or even a 3 hour long downpour now therefore the proposed location and means of escape needs to be fully explained for the benefit of the Planning Sub-Committee members. The roof which would be a green roof would only extend over about half of the excavated area. The 'gash' in the green sward of the MOL would be very evident which, taken together with the large artificial grass pitch and unsightly footpaths, seriously impact the quality of the MOL and the setting of Highpoint

(Grade 1). Taking all these considerations together, the proposed siting of the relocated Fives Courts would not be acceptable, contrary to the advice given to Haringey by the QRP in 2021.

P 58: *"The proposed sports facilities are at risk of flooding in the 1 in 100 year event + 40% climate change and the 1 in 1000 year event. It is considered that the risk of internal flooding can be mitigated through the provision of flood proof doors."* Mitigation is not elimination.

HCAAC has doubts about connecting the proposed attenuation basin to the existing swale. Anecdotally (from Nicky Gavron who lived in Broadlands Road) this swale has surface water when the weather is wet but otherwise dry. Is it not the case that the swale (ditch) will have burst its banks and so will lack any capacity to take storm water from the attenuation tank? Also, it is not clear whether bunds around the Fives Courts are proposed now or not but, even if they are, they do not appear to be continuous.

In summary, for all the reasons set out above, HCAAC has considerable reservations about safety in the event of flooding.