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TPB Ref.: A/TP/684  
 Our Ref.: pa/tp/2107637

**By Post and Email (tpbpd@pland.gov.hk)**

Secretary  
 Town Planning Board  
 15/F., North Point Government Offices,  
 No. 333, Java Road,  
 North Point, Hong Kong  
 (Attn.: Ms. Leticia LEUNG)

18 October 2022

Dear Madam,

**S16 Application for Proposed Tai Po Kau Nature Academy  
 at Lot Nos. 1, 2, 4-8 in D.D.33 and Adjoining Government Land, Tai Po Kau, Tai Po**

We refer to the captioned S.16 application submitted on 22.7.2022 and subsequent departmental comments received from Environmental Protection Department (EPD).

EPD's comments on the Sewerage Impact Assessment (SIA) Report are noted. Please find below our Response-to-Comments in addition to our submission on 14.10.2022 for your consideration:

EPD's Comment	Our Response
1) 4. Please clarify the value of peak flow and peaking factor in the main text. And please clarify if there are any equalization tanks and its storage capacity, any backup power supply, and any sludge dewatering system.	<p>With a very limited upstream catchment, a peaking factor without stormwater allowance would be appropriate. Thus, with a population less than 10,000, the peaking factor would be 3 and the peak flow to the sewerage treatment plant (STP) would be approximately 0.75 l/s (daily flow of 21.5m<sup>3</sup>). However, with a proposed equalisation tank of 10m<sup>3</sup> capacity, this peak flow is theoretical only. The detailed design of the STP treatment process and equipment would be the responsibility of a specialist designer/contractor. Please refer to enclosed revised pages of SIA report.</p> <p>As stated in Paras 5.2.3 and 5.2.4 of the SIA Report, there will be a holding (equalisation) tank (capacity 10m<sup>3</sup>) and a backup power supply. No on-site sludge dewatering facilities are proposed, but there will be a sludge holding tank (capacity 12m<sup>3</sup>), with sludge to be taken off the application site by the specialist maintenance contractor for treatment and disposal</p>



The above information serves as a response to comments of relevant Government Departments under the Section 5(c) of the TPB Guideline No. 32, and we would like to seek an exemption from publication and recounting requirement. In case you decide that the above information is accepted but not exempted from publication and recounting requirement, we would like to proceed with the application with the further information.

Should you have any questions, please feel free to contact the undersigned.

Thank you for your kind attention.

Yours faithfully,  
For and on behalf of  
PlanArch Consultants Ltd.



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Betty S. F. Ho  
w/e.

c.c.

Client

Mr. Kevin LAU

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DPO/STN

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Park and there no downstream irrigation or fish-pond uses, so the sewage will need to be treated for discharge to Group D Inland Waters. It will therefore be necessary to treat the sewage with on-Site treatment facilities, to enable local discharge to the nearby stream.

- 5.2.2 The sewage generated will be 21.5m<sup>3</sup>/day (or 0.25l/s). With a very limited catchment, a peaking factor without stormwater allowance would be appropriate and, for a sewage treatment plant (STP) serving a population less than 10,000, the peaking factor would be 3. The theoretical peak flow to the STP would therefore be approximately 0.75l/s.
- 5.2.3 The most appropriate sewage treatment process for the Site flows and conditions is considered to be a Membrane Bio-Reactor (MBR) package STP and this will be the proposed treatment process for the development. Such facilities are fairly common in Hong Kong and are readily available. A description of an example project using MBR technology is included in **Appendix C**, with a brochure from a local supplier included in **Appendix D** (N.B. the brochure mentions reuse of treated effluent, but there is **no intention to reuse treated effluent for this Project**).
- 5.2.4 The MBR STP will be provided as a package unit and housed within a simple structure adjacent to the Plant Nursery, with appropriate odour control facilities. There will also be a holding tank for raw sewage, to enable peak discharges to be retained and the MBR unit to run at a fairly consistent flow rate and to provide some emergency storage.
- 5.2.5 In addition to the storage provided by the holding tank, emergency (back-up) power supply will be provided for the STP. Furthermore, the type of MBR STP proposed can easily be provided with parallel treatment streams, so that some treatment capacity can be maintained in the event of equipment failure. Also, it is expected that the STP will be maintained by a specialist contractor, with remote monitoring and alarm systems, as well as emergency maintenance teams.
- 5.2.6 Flows from the toilets at the Activity Centre and the Visitor Centre will be conveyed to the STP via gravity sewers (probably uPVC), as indicated on **Figure 2**. The STP will discharge via a dedicated pipe to the main streamcourse.
- 5.2.7 As the STP and sewerage facilities will be entirely within the Application Site, the Project Proponent will be responsible for the on-going operation and maintenance.
- 5.2.8 A Discharge Licence will be required for the STP and this will be applied for at later stages of implementation, at which time further details and specifications will be submitted for approval.

C197 - Proposed Tai Po Kau Nature Academy  
Sewage Flows for Treatment

Category	Population (Person)	Assumed Population Category <sup>1</sup>	Unit Flow Factor (m <sup>3</sup> /person/day)	Sewage Flow (m <sup>3</sup> /day)	Population Equivalent (m <sup>3</sup> /person/day)
Day Visitors	400	Student	0.04	16	0.27
Overnight Visitors	18	Temporary	0.15	2.7	
Staff - General	10	J11	0.28	2.8	
<b>Total</b>	428		=	<b>21.5 m<sup>3</sup>/day</b> <b>0.25 l/s</b>	80
Peaking Factor (STP)				3	<10,000
<b>Peak Flow (STP)</b>				<b>0.75 l/s</b>	

<sup>1</sup> Refer to EPD "Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning"