[redacted]

OBJECTION TO App. No. 2017/2471/P – 15 Lyndhurst Gardens NW3
From: THE HEATH AND HAMPSTEAD SOCIETY

The Heath and Hampstead Society vigorously objects to the above application to demolish a "positive contributor " to the Conservation Area and replace it with a disproportionately large house for its site with a basement excavation of nearly 70% of the entire site .

Our specific objections are :-

1. The proposed house has a new basement and light well excavation of approximately 70% of the entire plot , thus exceeding Camden's new policy (from this June 2017) of 50% maximum , as much vaunted by your Councillors and your Senior Officer Alan Wito at this year's seminar given by Camden and Historic England to all the chairs of Camden CAACs and other local groups . It is inconceivable that Camden would ignore their new Planning Policy in its first month of application .

2. The vast extent of the proposed new basement will at least jeopardise if not kill outright the veteran Horse chestnut in the front garden of no.17 near the Victorian boundary wall (also jeopardised by the proposed basement excavation) as it will cut into the tree's Root Protection Zone . This tree is mis-represented on all the application documents as less than a quarter of its size (height , canopy and trunk girth) . Ref. Arboricultural Report by Simon Pryce B.Sc, F Arbor. Assoc. , C.Biol ,MIC For, CEnv, Arboricultural Assoc. Registered Consultant , sent by A.Dutton Parish of no. 17 Lyndhurst Tce.

3. The proposal also includes 15% of the site as hard surfacing for parking for 2 cars and patio etc. leaving only 15% of the entire site for any green planting/garden -- let alone replacement of any of the lost mature trees . This is contrary to Camden's stated planning policy against off street parking in new developments .

4. The proposed house is of excessive mass and bulk for the site , closing any gap at both sides of the building (north and south) , blocking the street view of mature trees behind it -- this after the 3 "protected" mature trees in the front garden were illegally felled in preparation for a planning application to demolish AND Camden Tree Officer's order to replant has been consistently flouted , both by the former would-be developer Mr.Larholt and the new owner/would-be developer Mr.Mond .
Indeed the proposed house would semi-detach itself to the existing 1930s garage of no.17 next door (which is mis-represented on the applicant's plans as higher than it is , presumably to support their plan to block the gap at ground and first floor levels) .
NB. A side extension at first floor level reducing but not even closing the side gap to no.17 next door was refused by Camden and by Appeal in 2015 on these grounds .

5. The existing house has double historic / conservation value . It was until 2002 the home of Dame Beatrice Baroness Serota of Hampstead , early woman Minister in Harold Wilson's historic Labour Govt. of the 1960s , first female Government Whip of the House of Lords , Deputy Speaker of the House of Lords until her death in 2002 , Mother of Sir Nicholas Serota (of Turner Prize fame , founder of Tate Modern , Head of the Arts Council and Govt. Commissioner for Architecture) and Mother of Judith Serota (founder of the Spittlefield Festival) .

The existing house is by Hampstead (but internationally celebrated) architect Ted Levy and a rare example of his architecture for modest , UNIQUE , domestic houses . It is of the same 1960s period in which Baroness Serota's public star rose .
1960s architecture is at the nadir of its appreciation now but its acclaim is rising : in his day Ted Levy was just as fashionably acclaimed as Stephen Bates is now . Fashions come and go .
If the existing house is demolished it will permanently destroy these historic connections with the Hampstead Conservation Area .
The 20th Century Society support the retention of the existing house .

We therefore object to the proposal to demolish this "positive contributor" listed in the CA Statement .

6. We note the destruction of the award winning garden of Lady Serota , the probably illegal removal of its trees and the deliberate appearance of exterior dilapidation achieved by the would-be demolishers . The interior and structure of the house is still sound , indeed good enough to attract 4 young "luxury" tenants paying up to £200 rent each per week to lodge in the house as it is now . The back garden has even begun to recover with no help . There is absolutely no reason why the house and garden shouldn't be restored to fine condition and clear positive contribution to the CA. AS WELL AS its historic qualities .

The house could be sympathetically enlarged and extended without losing its historic value or integrity .

7. The vast basement excavation will result in the loss of the original Victorian brick wall of no.17 -- the plans propose to undermine it completely .

8. The path behind the site is called "Spring Path" because of the springs in the vicinity . A major Hampstead well is just a few houses to the south and the site's neighbours at nos. 13 & 11.Lyndhurst Tce.to the south and 19 Thurlow Rd. (opposite to the east) have all suffered water ingress problems in their old half-basements which took years to resolve . If such a vast basement and light wells are excavated and "tanked out" the water displaced must go to the neighbours . This problem would be exacerbated by the probable loss of the veteran horse chestnut at no.17 which currently must absorb an enormous amount of water from its roots .

The proposed application's demolition , excavation and build NOT ONLY are contrary to Camden's new (June 2017) Planning Rules on the extent of Basements but also are contrary to all the following Local Plan Policies :--

A1.... 6.3 , 6.4 , 6.37 , 6.38 , 6.58 c & e , 6.67 , 6.74 , 6.75 , 6.80

A5..... 6.112 , 6.113 , 6.124 , 6.125 , 6.127 , 6.129 , 6.132-6.136 , 6.139-6.141

D1..... 7.2 , 7.4 , 7.5 , 7.6 , 7.19 , 7.20 , 7.21 , 7.22 , 7.39 , 7.41 , 7.45 , 7.46 , 7.47 , 7.48 , 7.50 , 7.54

The question of whether or not the proposed house is more or less attractive than the existing is a question of fashion and taste and does not justify its demolition , nor does it fulfils the necessary requirement of being "to the public benefit" : it provides no extra housing unit nor any pubic or environmental benefit , only private financial benefit for the owner/developer .

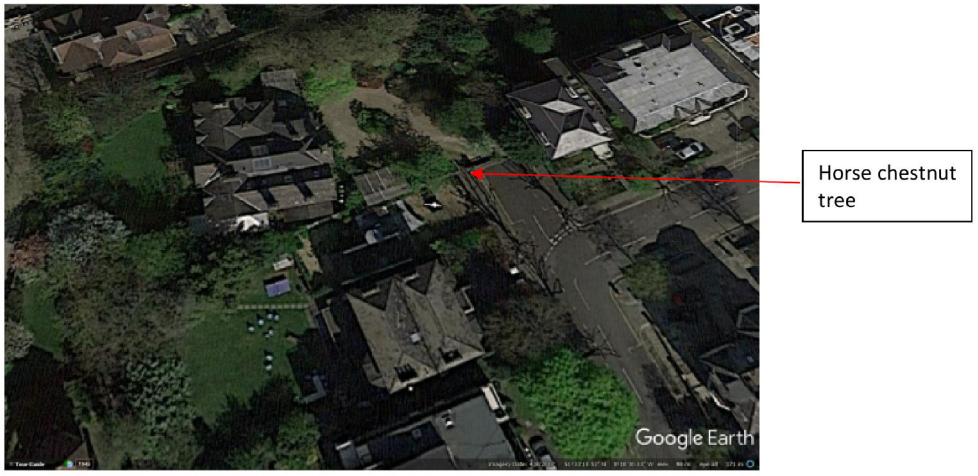
THEREFORE WE TRUST YOU WILL REFUSE THIS APPLICATION

NB. The Applicant and Architect did NOT consult the Heath & Hampstead Soc. (as requested by Sir Nicholas Serota months ago when they DID consult him) ; only AFTER the application was complete and submitted did they contact the Heath & Hampstead Soc. i.e.. too late to listen to our views .

Objection to 2017/2471/P planning application for 15 Lyndhurst Terrace

I am objecting to *some features* of this planning application, but first wish to make the comment that the arboriculturalist's 'Arboricultural Impact Statement' seems to be more an attempt to discredit a previous report and the arboriculturalist who wrote it. I am not going to go over its ramblings point by point as it is not worthy, but of course one can say more with the hindsight of the results of an airspaded trench, but this does not diminish the value of the previous report last year that admirably supported a much loved tree in a state of recovery following the decimation from the previous developer's insurance company, and also an important habitat in this area.

I shall merely give a more reasonable view of the tree demonstrating that it is recovering (see above, which also demonstrates the through-view of trees that will be lost to Lyndhurst Terrace) and from Google Earth 8 April 2017:



I will though comment in more detail on the Sustainability Statement which looks like cut and paste 'Green-Wash'.

The Sustainability Statement (section 3.3) mentions vertical ground source heating, contradicts itself by including a diagram of a horizontal system which is totally inappropriate here, then states "Any proposed GSHP would require the use of a large number of vertical boreholes across the site. Given the small foot print of the development site, the piling of the foundations that run below ground, this has been discounted owing to practical constraints associated with GSHP."

This is not the case.

Only one deep vertical borehole would be required, in the context of a development in one of the most expensive areas of London this is completely feasible cost-wise, and since the exclusion zone for railway tunnels is 10 metres, the piles would be outside the exclusion zone for the New Belsize Tunnel which passes east-west well to the south of the property. Since there are no trees on site, thanks to the previous developer-owner who felled the lot front and back, the height of the rig to dig such a deep vertical core would have no constraints from trees. Considering the large effect of ground water on this site, this core could also double-up as a sump well to control ground water in the immediate vicinity, as was used across many such soggy parts of Hampstead in Georgian and Victorian times.

For photovoltaics (section 3.7) this is proposed on the north side of the roof.

Photovoltaics are incompatible with tall trees with large canopies and thus inappropriate for a good deal of the Hampstead area. All the trees on site are reported by the previous owner to have been felled expressly to assist the building of a larger property on this small site. The proposed landscaping now includes robinia trees, which are welcomed though more would be appreciated, and it is not expected that these will survive the next round of salami-slicing applications once this one has been consented. The point however is that photovoltaic panels require full sunshine. The neighbour's trees on the north side of the house are only about 25 feet away. Even more to the point, number 13 Lyndhurst Terrace to the south will completely shadow this area being one and a half storeys and the roof higher, with 2 large chimney stacks - see architect's plan. There has been a failure to assess the effect of shadow from this neighbour on these panels. From the D&AS however, 3.7 Amenity Overshadowing: "In both the current and proposed situations the greater shadows are cast by the existing building at No.13."

Please refuse consent for these photovoltaics.

A large area of Green Roof is drawn on the proposed plan, though I cannot find any comment on this. Since this too is overshadowed by 13 Lyndhurst Terrace, this is ridiculous. Green Roofs provide no aesthetic benefit, and if the current state of the garden is anything to go by will rapidly die - as has happened to the few other roofs that have unfortunately been allowed to be laid in Hampstead. They are not appropriate for the Hampstead Conservation Area where tall trees are a major part of the visual features of the area, as well as their useful action on balancing groundwater and slowing surface rainwater run-off. The leaves of tall trees choke Green Roofs and Camden is now allowing some Hampstead householders to reverse previously conditioned Green Roofs.

Please refuse consent for the Green Roof and request a roof of more appropriate materials for this part of the Hampstead Conservation Area.

The **2017 BIA (revised submission** by Site Analytical Services Ltd of their previous BIA of 2015) demonstrates the permeability of the underlying Claygate Beds with a significant proportion of silt and sand. A basement that removes a considerable volume of water-absorbent soil, detrimentally impacting flooding of properties and trees in roads 'downstream' of this one, as occurred in 1976 and 2002, needs to mitigate this, but not, I would suggest by using green roofs that have very little impact; ***rainwater harvesting with additional space for storm water*** and ***increased tree canopy*** would be more appropriate and effective than a Green Roof.

Within the BIA it is stated that

"The existing ground level in the area of the proposed basement is believed to be approximately 95mOD. 22 Thurlow Road (located 65m east of the site) was conducted by GEA in July 2011....Arup measured the groundwater level in the four existing standpipes in June 2014. The maximum groundwater level was found at 7.9mbgl, i.e. at +89.4mOD." These and other statements indicate that GEA and Site Analytical Services believe there is just one layer of ground water here, like a water table, so it is appropriate to extrapolate from one set of boreholes to another. Nothing could be further from the truth. This is not uniform London Clay, as evidenced by the borehole results: there is a large proportion of silt and sand partings with much capability for transmitting ground water, particularly surges during and following rainfall.

Also from the 2017 BIA "Groundwater was not subsequently encountered in these monitoring standpipes in July, August and September 2015 with return visits in December 2016 and February 2017.... Monitoring has been carried out over three seasons, with no groundwater encountered and give a good indication of seasonal variation on site."

The boreholes were drilled on 24th July 2015 and "included one rotary percussive borehole (Borehole 1) drilled to 15m below ground level, two continuous flight auger boreholes (Boreholes 2 and 3) drilled to 8.30m below ground level and one hand dug trial pit (Trial Pit 1) excavated to 0.85m depth." Hardly an adequate range of sites across the likely flow of ground water.

"Following drilling operations groundwater monitoring standpipes were installed in Boreholes 1, 2 and 3 to approximately 6.00m below ground level (43.4 to 44.49mSD). Groundwater was not subsequently encountered in these monitoring standpipes after a period of approximately two months."

Camden's independent examiners for the previous BIA, Campbell Reith, stated: " 1.6. .... Three boreholes and a trial pit showed only very slight groundwater seepage in one borehole at below proposed basement depth, although no further groundwater monitoring to identify seasonal variations has taken place." and " 1.9. Further monitoring of groundwater levels is recommended in order to determine seasonal variations. Clarification is required with respect to the impact of increased paved areas."

Reason 3 for refusal of 2015/6278/P: "The applicant has failed to demonstrate that the proposed basement would avoid adversely affecting drainage and run-off or causing other damage to the water environment and avoid cumulative impacts upon the structural stability and/or the water environment in the local area contrary to policy CS5 (Managing the impact of growth and development) of the London Borough of Camden Local Development Framework Core Strategy and policies DP23 (Water) and DP27 (Basements and lightwells) of the London Borough of Camden Local Development Framework Development Policies."

The 2017 BIA reports:

BH	Ground Level	30/07/2015	21/08/2015	28/08/2015	12/12/2016	22/02/2017
	mSD	m	m	m	m	m
1	49.50	Dry	Dry	Dry	Dry	Dry
2	49.60	Dry	Dry	Dry	Dry	Dry
3	50.50	Dry	Dry	Dry	Dry	Dry

Table 5. Groundwater Monitoring Results.

Looking at rainfall data for these dates (see historic data tables from nw3 weather - http://nw3weather.co.uk/wxdataday.php - below) it can be seen that these studies are woefully inadequate. Not being continuous monitoring as they should have been, the days when the boreholes were looked at generally occurred during periods of dry weather, completely missing any days of heavy rainfall when surging could be monitored.

Failing to do this demonstrates a woeful lack of understanding of the ground and water conditions within Hampstead. The 2017 BIA actually states: "The presence of interbedded sands, silts and clays of the Claygate

Member gives rise to various springs. The River Tyburn rises at the Shepherd's Well near Fitzjohn's Street and is located approximately 150m south of the site. The direction of groundwater flow within the Claygate Member beneath the site is likely to be controlled by the local topography and is therefore likely to be in a southerly direction, in the direction that the former river flowed."

This typically fails to address the reasons for such hydrogeology and its potential implications. It also fails to observe that while the river may begin at Shepherd Well, many tributaries and other springs will contribute to this. The very names of the old paths both north and west of the property would indicate this: 'Shepherd Path' (named after the steam running down here) and 'Spring Path'. 15 Lyndhurst Terrace has no garden, but the other gardens along the road here have soggy moss-ridden gardens with heavy infestations of Honey Fungus. Testing should have reflected this; talking constructively without ulterior motives would have revealed this.

Since the plan is to use 'hit and miss' piling to form the Basement retaining walls within such silty soil with a history of water ingress in basements in the road, adequate testing should be performed to ensure that there are no surges in groundwater following heavy rainfall during its construction. Otherwise with this particular type of soil, massive silt erosion is likely to occur during such an event (as occurred to buildings near Air Studios during a past dig-out) causing subsidence of 17 Lyndhurst Terrace (Elm Bank) as well as flooding/wash out of the dig site. It is also necessary to ensure adequate testing has been performed to protect numbers 13 and 11 Lyndhurst Terrace 'downhill' from an increase in the water ingress their basements already endure. 15 Lyndhurst Terrace's basement excavation and build is likely to both dam up water behind it to the north drowning the chestnut tree and others in 'Elm Bank' and diverting water out to the gardens making the gardens even more soggy than they already are and risking the trees further.

It is suggested that rather than door stepping to make converts for their project, the developers should have spoken to those with local knowledge of the ground conditions and flooding in the area. No. 13 and no. 11 both have had major problems with water ingress to semi-basements in the past as has 19 Thurlow Road immediately opposite the proposed site.

As with 2015/6278/P please would the independent examiners for this application demand that adequate testing be done prior to planning permission to ensure that appropriate construction techniques are used to match the actual ground and water conditions, to prevent catastrophes during construction, and to protect neighbours *and trees* upstream and downstream from the effects of both damming up and constraining the local ground water. "Know what the ground does."

Loss of treescape amenity

Finally, my picture of the horse chestnut tree from Lyndhurst Terrace demonstrates the view of trees between 15 and 17 Lyndhurst Terrace that will be lost if this beautiful house of historic local importance is demolished to make way for the proposed house that will completely close this gap. Views of trees between houses are mentioned in both the old Conservation Area statement and the emerging new one.

Dr Vicki Harding

Tree Officer, Heath & Hampstead Society

Daily | Monthly | Weather Variable: Rainfall | Year 2015

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.6	1.7	3.3	1.7	0.0	0.0	0.0	0.0	4.7	0.0	0.0	3.7
2	0.9	0.0	0.0	2.2	0.3	0.2	0.1	0.0	3.9	0.0	0.0	0.2
3	15.6	2.5	0.0	5.2	2.4	0.0	0.0	0.0	0.0	0.0	0.0	3.0
4	0.0	0.0	0.0	0.2	4.5	0.0	4.8	0.0	0.0	0.0	6.9	0.4
5	0.0	0.6	0.0	0.0	3.5	0.2	0.2	1.1	0.3	8.9	4.6	0.0
6	1.3	0.0	0.0	0.0	12.9	0.0	0.0	0.1	0.0	11.1	2.0	1.3
7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	7.4	0.2
8	15.8	0.0	0.0	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.0	2.6
9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7
11	0.3	0.0	0.0	0.7	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.6
12	9.2	0.0	0.0	0.0	0.1	0.1	4.5	0.8	0.0	0.0	0.0	0.2
13	6.6	4.1	0.0	0.0	0.0	0.0	1.5	10.4	0.0	0.0	1.9	2.6
14	0.9	2.2	0.0	0.0	14.4	0.0	1.1	2.1	6.7	0.1	7.2	0.2
15	6.3	0.0	0.2	0.0	0.9	0.0	2.4	0.2	1.3	0.0	0.0	6.1
16	0.3	5.4	2.8	0.0	0.0	0.0	0.0	0.0	26.1	0.0	1.1	0.9
17	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	7.0	0.2
18	1.3	0.0	0.0	0.0	1.7	0.0	0.0	0.0	2.1	0.0	0.2	0.0
19	0.0	6.5	0.0	0.0	3.3	0.0	0.4	4.6	0.0	0.0	3.9	0.0
20	0.0	1.5	0.0	0.0	0.0	3.3	0.3	0.7	0.0	0.0	0.4	1.9
21	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	4.8	8.5	2.2	1.8
22	0.0	5.7	0.0	0.0	0.0	4.1	0.2	0.0	7.4	0.0	0.0	5.9
23	1.7	0.6	0.1	0.0	2.0	0.0	0.0	6.3	0.0	0.0	0.5	0.0
24	3.1	0.2	2.6	0.0	0.0	0.0	31.9	10.1	4.8	3.7	7.9	2.2
25	0.0	2.2	0.0	3.0	0.0	0.0	2.3	5.6	0.0	0.0	0.5	1.9
26	0.4	5.7	6.3	3.9	0.0	0.0	7.6	12.9	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.0	0.0	0.0	2.2	0.5
28	3.7	3.5	0.3	0.0	0.0	1.5	0.5	0.0	0.0	13.1	0.5	0.0
29	0.5		5.4	2.6	2.2	0.0	0.0	2.6	0.0	1.7	5.9	2.6
30	1.8		0.6	0.0	0.0	0.0	0.0	0.6	0.0	2.6	3.7	4.4
31	3.0		0.7		3.7		0.0	17.5		0.0		3.1
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
High	15.8	6.5	6.3	5.2	14.4	4.1	31.9	17.5	26.1	13.1	7.9	6.1
Total	75.7 (138%)	44.3 (111%)	22.3 (51%)	19.5 (40%)	52.1 (102%)	9.4 (17%)	58.5 (139%)	77.9 (147%)	63.9 (112%)	51.9 (80%)	66.0 (118%)	52.2 (93%)
Count	23	15	10	8	14	6	16	17	11	9	19	24
Cumulative	75.7 (138%)	120.0 (126%)	142.3 (102%)	161.8 (86%)	213.9 (89%)	223.3 (76%)	281.8 (84%)	359.7 (92%)	423.6 (95%)	475.5 (93%)	541.5 (96%)	593.7 (95%)

Missed storm

21/8/2015 Dry period

28/8/2015 2 days after moderate rainwater pulse: indicates surges are likely to be soon after storm events as would be expected near the head of the river, but the significance lost on these non-local 'experts'

30/7/2015 6 days after heavy rainfall when any ground water storm surge would have passed

Daily | Monthly | Weather Variable: Rainfall | Year 2016

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.4	0.0	5.7	0.0	0.0	0.5	0.5	4.6	0.0	10.2	0.0	0.0
2	6.5	0.0	1.7	2.7	0.2	0.0	0.2	7.7	0.0	0.0	0.0	0.4
3	5.6	0.0	1.6	1.8	0.0	0.0	0.0	0.2	5.5	0.0	0.2	0.0
4	0.0	0.2	2.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	7.2	0.0
5	0.5	0.9	0.3	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.0	0.0
6	0.3	4.8	0.6	0.7	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0
7	11.8	13.0	0.0	1.5	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.2	1.1	0.3	0.0	0.0	7.0	0.0	0.0	0.0	0.0	1.1	0.0
9	4.8	0.2	13.9	2.2	2.0	0.0	0.0	0.0	0.0	1.8	20.8	0.0
10	1.3	0.0	0.0	0.0	5.2	0.2	0.1	0.0	4.2	0.2	0.0	6.6
11	16.1	0.0	0.0	3.0	17.7	0.7	3.3	0.0	0.0	0.2	0.0	0.0
12	0.3	0.0	0.0	3.3	0.0	2.8	11.2	0.0	0.0	1.1	10.5	0.8
13	0.8	2.1	0.0	0.0	0.0	4.1	7.9	0.0	0.0	5.3	0.0	0.3
14	2.0	0.7	0.0	2.5	0.0	8.6	0.0	0.0	0.0	0.0	0.9	0.0
15	0.0	0.0	0.0	21.1	0.0	0.0	0.0	0.0	0.0	7.6	0.5	0.0
16	1.1	0.0	0.0	0.2	0.0	1.1	0.0	0.0	20.6	10.6	0.9	0.0
17	2.6	7.0	0.0	0.0	0.0	7.6	0.0	0.0	0.0	1.3	0.7	0.2
18	0.0	1.5	0.0	0.0	5.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.2	0.0	0.0	0.5	1.7	0.0	0.9	0.1	0.0	2.2	0.0
20	0.0	3.1	0.0	0.0	0.0	15.2	0.0	1.6	0.0	0.0	19.2	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	15.0	0.2
22	2.6	3.7	0.0	5.5	0.2	0.0	0.4	0.3	0.1	0.0	0.8	0.0
23	1.8	0.0	0.0	0.2	0.0	30.4	0.0	0.0	0.0	0.0	0.0	0.9
24	0.2	0.0	5.0	0.8	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
25	0.0	0.0	3.5	1.1	0.0	3.2	0.0	0.2	0.0	0.4	0.0	0.0
26	2.8	0.0	2.6	0.1	0.0	0.3	0.0	0.9	2.8	0.0	0.0	1.1
27	2.6	0.0	7.0	0.3	0.0	3.3	2.6	0.1	0.0	0.0	0.2	0.0
28	0.0	0.0	11.6	2.2	0.0	1.5	0.0	0.7	0.0	0.0	0.0	0.0
29	0.2	0.1	6.9	0.9	0.0	0.7	1.1	0.0	1.0	0.0	0.0	0.0
30	4.4		0.0	0.0	0.0	0.7	0.0	0.0	0.7	0.0	0.0	0.0
31	2.4		0.0		12.4		0.0	0.0		0.0		0.0
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
High	16.1	13.0	13.9	21.1	17.7	30.4	11.2	7.7	20.6	10.6	20.8	6.6
Total	71.3 (130%)	38.6 (97%)	63.3 (144%)	50.5 (103%)	43.4 (85%)	91.8 (167%)	22.3 (53%)	18.1 (34%)	38.7 (68%)	38.7 (60%)	82.4 (147%)	10.5 (19%)
Count	23	14	14	19	8	20	9	12	9	10	15	8
Cumulative	71.3 (130%)	109.9 (116%)	173.2 (125%)	223.7 (119%)	267.1 (112%)	358.9 (122%)	381.2 (113%)	399.3 (103%)	438.0 (98%)	476.7 (93%)	559.1 (99%)	569.6 (91%)

Missed storm surges

12/12/2016 0.8mm of rain within a very long dry period & missing the 6.6mm rainfall 2 days previously (same lack of conclusions to 28th Aug 2015). Maybe the testers don't like getting wet!

Daily | Monthly | Weather Variable: Rainfall | Year 2017

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	7.4	1.7	4.0	0.0	4.9	0.0	-	-	-	-	-	-
2	0.0	0.5	0.0	0.0	0.0	5.3	-	-	-	-	-	-
3	0.0	2.0	1.8	0.0	2.5	0.3	-	-	-	-	-	-
4	0.1	0.7	0.0	0.0	0.0	0.0	-	-	-	-	-	-
5	0.0	0.7	10.0	0.0	0.0	2.8	-	-	-	-	-	-
6	2.9	6.1	0.0	0.0	0.0	17.5	-	-	-	-	-	-
7	2.1	1.5	0.0	0.0	0.0	1.3	-	-	-	-	-	-
8	0.9	0.0	0.0	0.0	0.0	1.0	-	-	-	-	-	-
9	5.0	0.1	0.0	0.0	0.0	0.8	-	-	-	-	-	-
10	0.0	0.2	0.0	0.0	0.0	0.0	-	-	-	-	-	-
11	0.0	1.7	0.0	0.0	1.0	0.0	-	-	-	-	-	-
12	15.9	0.4	2.0	0.0	1.4	0.0	-	-	-	-	-	-
13	0.5	0.0	0.0	0.0	0.0	0.0	-	-	-	-	-	-
14	0.5	0.0	0.0	0.0	1.8	0.0	-	-	-	-	-	-
15	8.2	1.1	0.0	0.0	1.1	0.0	-	-	-	-	-	-
16	4.5	0.6	0.0	0.0	0.0	-	-	-	-	-	-	-
17	0.0	0.0	0.0	0.4	35.6	-	-	-	-	-	-	-
18	0.0	0.0	0.0	0.0	15.0	-	-	-	-	-	-	-
19	0.0	0.2	0.0	0.0	1.0	-	-	-	-	-	-	-
20	0.0	0.0	2.8	0.0	1.5	-	-	-	-	-	-	-
21	0.0	0.0	0.0	0.0	0.0	-	-	-	-	-	-	-
22	0.0	0.5	7.0	0.0	0.0	-	-	-	-	-	-	-
23	0.0	3.0	2.1	0.0	0.0	-	-	-	-	-	-	-
24	0.0	0.0	0.0	0.4	0.0	-	-	-	-	-	-	-
25	0.0	0.3	0.0	0.0	0.0	-	-	-	-	-	-	-
26	0.0	2.5	0.0	1.0	0.0	-	-	-	-	-	-	-
27	0.0	9.1	0.0	1.1	0.0	-	-	-	-	-	-	-
28	0.0	1.0	0.4	0.0	4.1	-	-	-	-	-	-	-
29	14.0		0.3	0.0	16.0	-	-	-	-	-	-	-
30	0.4		0.0	0.0	0.0	-	-	-	-	-	-	-
31	6.3		0.0		0.0		-	-		-		-

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
High	15.9	9.1	10.0	1.1	35.6	17.5	----	----	----	----	----	----
Total	68.7 (125%)	33.9 (85%)	30.4 (69%)	2.9 (6%)	85.9 (168%)	29.0 (53%)	----	----	----	----	----	----
Count	14	20	9	4	12	7	---	---	---	---	---	---
Cumu-lative	68.7 (125%)	102.6 (108%)	133.0 (96%)	135.9 (72%)	221.8 (93%)	250.8 (85%)	---	---	---	---	---	---

Big opportunity to reveal ground water conditions under heavy rainfall missed: lack of continuous monitoring

22/2/2017
Long dry period