**Strategic outline care (SOC) FLAG notes**

1. Project summary...

A further £581k required to prepare Outline Business Case (OBC), then progress to submit Full Business Case (FBC).

Initial assessment has determined that cost-beneficial options exist to alleviate flooding.

Recommended to be taken forward to OBC.

**2 The Economic case**

2.1 The catchment area (4.4km2 gradient of 1:50) is within a groundwater source protection outer zone.

In relation to surface water flow from Queens Park via the Money pit (capacity 967 m3) north towards Coulsdon common soak-away (capacity 11 m3) on Stites Hill road, the report acknowledges this asset has no safe over-flow mechanism.

The capacity of the surface water network is insufficient to cope.... Hurrah at last, in black and white.

2.2.1 Tandridge District Council (TDC) works with the local lead flood authority (LLFA), Surrey County Council (SCC, south of the catchment) and therefore, 'should'... control development within the area to ensure the management of flood risk. Well that's definitely NOT what the draft local plan proposes!!!

TDC is required to help as a category 1 responder... By providing sandbags to residents and businesses at risk of flooding. WHY then are TDC 'selling' empty sandbags to residents?

2.2.2 Caterham on the hill flood alleviation scheme (FAS) is included in the Environment Agency (EA) investment programme (£2.3 billion being spent on 1500 projects), hurrah !!!

2.2.3 TDC's strategic flood risk assessment (SFRA) is based on outdated EA flood maps, which the TDC local plan refers to, therefore both are outdated.

London Borough of Croydon (LBC, LLFA in the north of the catchment) local plan has now been adopted, this FAS will help LBC achieve their objectives.

First Atkins report acknowledges objective but neglects to mention, these were ignored.

LBC section 19 acknowledges actions (AND historic flooding) nb Local Government Ombudsman upheld complaint against LBC, failure to manage flood risk.

The enormity of the situation residents face (repeatedly) isn't highlighted but promising reading so far... However only 'IF' the scheme continues past the SOC stage (as mentioned in Surrey CC objectives 1-8).

2.3 Environment and other considerations, would appreciate City of London's comments on this section.

Listed Coal tax post... seems to have greater priority than living residents and their homes !!!

We have to have a balance.

2.6 Main Benefits... Flood risk management appears to be technically and economically viable... Great news but query number of builds to be protected (120), not what Tor told us (?)

2.7 Main risks... Funding, reputational damage... public confidence is already rock bottom!

2.8 Constraints... Securing funding, obtaining landowner permission for this FAS, technical limitations ie densely populated and steep catchment (restricting space available for FAS) and environmental limitations, construction may result in significant tree loss.

2.9 Dependancies... agreement of all partners on the project board, funding (required, cannot be fully funded by Grant in Aid), planning permission to be granted. If they're all working together surely these can be resolved in advance(?)

**3 The economic case**

3.1 The 'Maintain' scenario has been used as a baseline in the economic case, as opposed to the 'Do Nothing' scenario, this assumes pipework to be free from blockages, this could under-value the option benefits, to counter this effect the current maintenance regime costs have been excluded, leading to a more appropriate benefit cost ratio.

3.4.1 From options short list, reinstate broken pipes, clear root masses and silt along the piped water course. More regular clearing required (no sh\*\* Sherlock)

3.4.2 Even with the piped water course kept in operational service, flood risk issues will still occur.

Clear gullies are 'essential' for road drainage… why when reported, is this not undertaken?

This section goes on to discuss each option in detail...

Option 1) Bund in Queen's Park, approx 1.5m high (making access impossible for wheelchairs and pushchairs), upper catchment protection.

Option 2) Surface water storage under Hillcroft school, playing fields (ongoing maintenance costs), mid-section protection.

Option 3) Western Coulsdon Common, 'downstream' protection. 1.2m high bunds proposed (high risk of environmental disruption, on natural England's priority habitats inventory).

Option 4) as 3 but 2.4 to 2.5 m high bunds.

Option 5) Removal of money pit.

Option 6) Divert water from Money pit to golf course, expensive option and technically difficult.

Option 7) Divert water along Foxon Lane, another expensive option, disruptive too (it should be noted that Surrey asked Atkins to consider ALL options).

Option 8) Coulsdon Common soak-away over flow, only seems to protect the road from flooding NOT homes downstream.

Option 9) Silt Trap upstream of money pit, requires frequent maintenance (but would reduce to cost of maintenance downtream).

Option 10) Litter campaign, difficult to determine effectiveness but IF successful could reduce blockages in the system.

Option 11) SuD's, may be the only technically viable way of reducing surface water flood risk (TDC Local plan therefore should insist upon such), robust planning policy recommended in minor and major developments. Retrofitting to be a long term strategy.

Option 12) Property Flood resistance, grants MAY be available to properties that have flooded before.

3.5 Economic appraisal.

The average value of a UK motor vehicle is £3100 (I query this in Surrey), I can't ascertain house value used in these calculations (£?????£), lots of numbers on various charts BUT these demonstrate that each option, excluding No 5, benefits properties, removal of the Monet pit worsens flooding, recommend the structure NOT be removed.

OBC 2018/19

FBC 2019/20

Construction 2020/21... I was rather naive when we set off, expecting a fix within the first year.

Option 6 &7 already dismissed as being prohibitively costly.

3.6 This project has the potential to achieve benefits beyond the direct flood risk reductions, a few options could deliver environmental enhancement or habitat creation.

3.7 Leading options... QP bund only reduces flood risk on the upstream section of the catchment (12% of the whole catchment) , a combination is the preferred. Combination 2  (option 1, 2, 3 & 4) is the leading option... Dependent on funding, further investigation and analysis are recommended to make a more informed decision on choosing a preferred option and that the project should therefore be taken forward to OBC phase.

SuD's solutions (managing surface water at source) recommended in addition to engineered options.

BERT (Brockham emergency response team (ie flood group)) referred to as example, potential to introduce a similar group here (for Nick (parish council emergency officer to consider ???))

**5. The financial case**

5.1 The scheme is requesting Flood and Coastal Erosion Risk Management Grant in Aid (FCERM GIA) with the 6 year programme.

Partnership contributions will need to be secured (eg SCC, LBC, TDC, TW and community (?)). A detailed funding strategy will be developed through the next phase (OBC) of the project.

**6. The management case**

6.1 Surrey CC will manage the OBC, taking lead on the project partnership board. Project board being EA, SCC, LBC, TDC & Thames Water (TW)).

6.4 Milestone timetable...   So it can't rain until March 2022 (defect end date, assets created by March 2021).

6.7 Benefits realisation... At the SOC stage, the potential whole life benefits have been calculated as being in the order of £10 million.

6.12 No formal contingency plans in place... In the event of flooding the project board would work closely alongside the emergency services and other partners.

**7. Recommendations**

Subject to funding, it is recommended the project is taken forward to OBC.

Given the constraints in this urban, steep catchment, SuD's and property flood resistance (previously informed that another contractor will be appointed to survey properties, for those flooded (internally) the survey will be free, concerned residents (not flooded but at risk) may pay a contribution for expert advice, possible grant funding for property level protection (PLP, which may (?) reduce insurance premiums)) will form part of any preferred option.

**Appendix –**

Model build report.

As part of this study an integrated catchment model (ICM) was built to assess the surface water flow routes to inform the development of flood risk management options. The aim of the ICM is to replicate the flood mechanism, to develop and assess the options and facilitate the determination of whether the options are technically and economically viable.

The model comprises of 2.6km of main surface water drain, 2.3km surface water sewer and 12.7 km of foul sewer (all that discharging to the Croydon system via gravity into one 9" pipe on Caterham drive (old Coulsdon)).

Of the five soak-aways on the main surface water sewer, three were not surveyed and therefore assumed to be as soak-away No 2, which does NOT function correctly, these have been included in the ICM (acting as storage only, no infiltration to ground).

The ICM was run using the June 2016 rainfall data, future model development/additions are identified to increase confidence in model results.

**Conclusion**

A high-level report, as would be expected and in line with Government reporting and expectations.

Up to date software and guidance have been used to create the report and the rainfall data from June 2016 has been used to generate the simulations.

It’s a financially driven optioneering report (no social impact addressed).

Essentially, it’s a desk-based virtual tender, further surveying will be required to engineer each option, which may see the costs vary.