

Ref: Erect cattle cubicle building including
underfloor slurry store
Low Shaw Farm
The Green
Millom, Cumbria LA18 5JD

'Rockland'
Lady Hall
Millom
Cumbria LA18 5HR

Flood Risk Assessment.

29-4-21

Enclosed :- (Showing features mentioned later in the assessment)

- Copy of OS map, scale 1:2500 showing :-
 - A) Position of proposed building relative to existing buildings. identified RED
 - B) Access Track (from Green Road - near station) - - - - - " YELLOW
 - C) Flood defence banking - - - - - " GREEN
- E.A. flood map for planning, showing :-
 - D) Location is within flood Zone 3 with benefit from flood defences, & defence banking - - - - - identified GREEN
- GOV.UK (longterm flood risk information, showing :-
 - E) Position of proposed building - - - - - identified RED
 - F) Risk of Flooding from "Rivers & Sea", & "surface water" is Low
(Edge of the dark 'Flood Zone 3' area is the flood defence banking extending from Millom to Duddon Bridge).
- 1) In the absence of OS levels, or bench marks in the local area, we can assess the general field level to be approx 5.7 AOD. This seems to be the average field plane, (from previous FR assessments where OS levels have been available), along the edge of the duddon estuary.
- 2) From previous environment agency correspondence, the flat calm tidal flood levels in this area are quoted below :-
 - 1 in 100 year undefended modelled flood level - - - = 5.97 AOD
 - 1 in 200 year " " " " - - - = 6.22 AOD
 - 1 in 1000 year " " " " - - - = 6.63 AOD.

& one model result, allowing for climate change, predicted for the year 2115 :-

 - 1 in 200 year undefended modelled flood level - - - 7.0 AOD
- 3) The flood defences mentioned on the E.A. map consists of a coastal embankment which was completed in 1963 & extends from Millom to Duddon Bridge with the only large interruption being where the "Black Beck" enters the estuary at Green Road station (the embankment returning both sides of the beck inwards as far as the railway line embankment). This embankment is believed to have been constructed by the owners of "Lowther estates" to protect their then owned farms, & is approx 7.0 AOD
- 4) All drains & gutters flow into main gutters running inward & parallel to the embankment & exit under the embankment via sluices into the estuary, & which appear to be kept in good working order.

- 5) Whilst the height of the defence embankment being approx the same as the predicted 1 in 200 year modelled flood level in 2015 of 7.0 m any wind/gale backed high tides would cause overlapping of the same. This does happen even now at such times & the embankment was breached in 2 places near Lady Hall during Feb. 2002.
- 6) The applicants have been tenants of Low Shaw farm for 65 years & are aware of potential flooding. The local tide tables & weather forecasts are used all the time, to know when to bring the sheep off the marsh into the fields.
- 7) The proposed building is to have its main floor level 150 mm (6") above the field & existing yard level, ie approx 5.35 AOD. This will ensure normal surface water flooding, which does fill the hollows in the fields during spells of heavy rain does not effect the building. If in the future, due to failure of the defence embankment as in para. 5 there was tidal flooding, the water would be able to enter & exit the building freely without effecting the livestock (the cubicles are 225 (9") above floor level also)
- 8) As much rainwater as possible is being reused, by catching roof water in banks of butts, to be used in daily washdowns of the milking byre, & only the overflow going into soakaways.

6810
● (14)
5.19

SD1985
5101
● (12)
10.62

MP 41.75

Drain

Drain

Track

Track

Issues

Crossing

Proposed

Sheep Pens

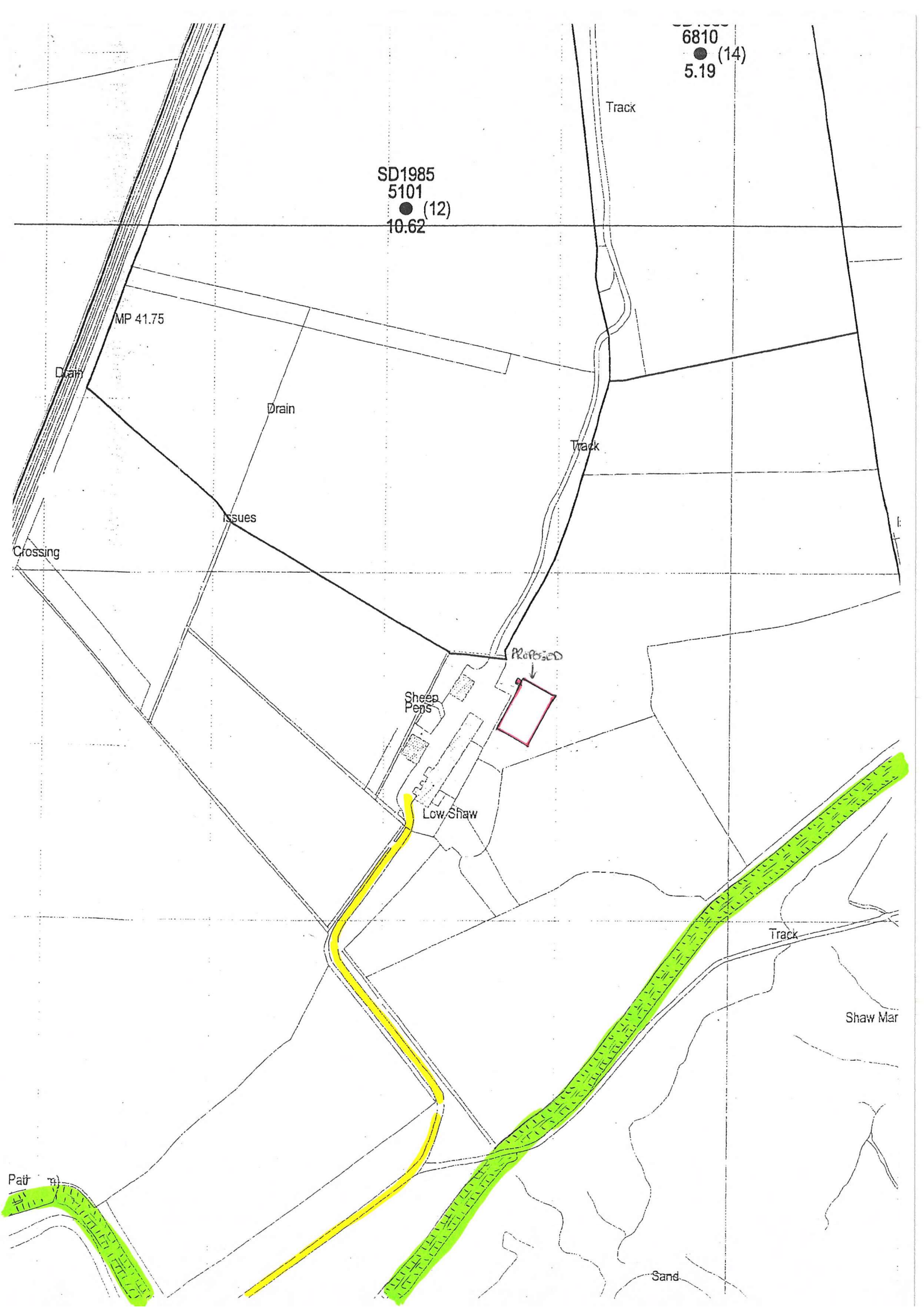
Low Shaw

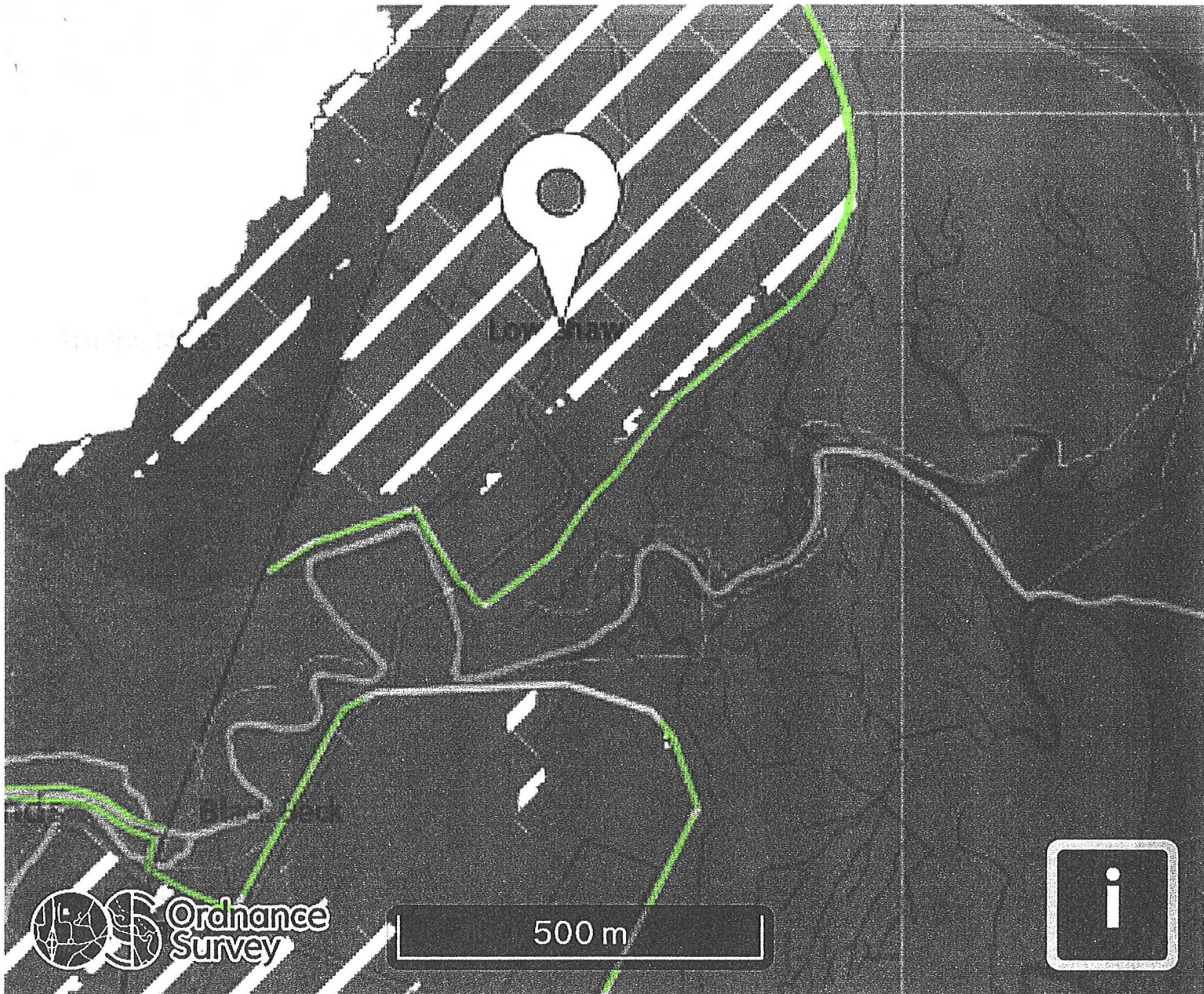
Track

Shaw Mar

Sand

Pair





Selected location



Flood zone 3



Areas benefiting from flood defences



Flood zone 2



Flood zone 1



Flood defence

LOW SHAW FARM, THE GREEN, MILLOM, LA18 5JD

Rivers and sea risk

Low risk

Low risk means that each year this area has a chance of flooding of between 0.1% and 1%.

Surface water risk

Low risk

Low risk means that each year this area has a chance of flooding of between 0.1% and 1%.

Lead local flood authorities (LLFA) manage the risk from surface water flooding and may hold more detailed information. Your LLFA is **Cumbria**.

Reservoir risk

There is no risk of reservoir flooding

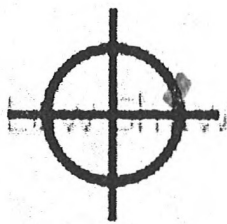
Groundwater risk

No risk of groundwater flooding

High Shaw

W Moss

Arnaby Moss



S
Beck

Green Road