

Ref: Erect Animal husbandry building
Waterblean
The Hill
Mullom LA18 5HA

'Rockland'
Lady Hall
Millom
Cumbria LA18 5HR

Flood Risk Assessment

18/12/2023

Enclosed :- (+ showing main features mentioned later in the assessment)

- ① Copy of O.S. map, scale 1:5000 showing
 - A) Location of proposed building, marked RED
 - B) Access track, identified YELLOW
 - C) Estuary Tidal protection embankment, identified GREEN
 - D) Farm Boundary, identified BLUE
 - ② Copy of environment agency flood map, scale 1:2500, showing
 - A) Location of proposed building, marked RED
 - B) Extent of flood Zone 3, benefitting from flood defences (ie 'c' above), identified HATCHED
 - C) Access track, identified YELLOW
- The location of the proposed building, along with all the modern existing farm buildings lie within a flood plane, i.e. Zone 3, as identified on EA map
 - All the land on the west side of the Duddon estuary is protected by an embankment (C) which was completed in 1963 + extends from Mullom to Duddon bridge with only one large interruption being where the 'Black Beck' enters the estuary at Green Road station, (the banking returning both sides of the beck as far as the railway embankment). This embankment was constructed by lowther estates + from levels taken for an earlier assessment, the height is approx 7.0 AOD.
 - All the drainage gutters serving the level land, run + flow to main gutters running inward + parallel to the embankment + exit into the estuary underneath, at various points, via sluices which appear to be kept in good working order.
 - During heavy spells of rain, The fields through this land plane have water standing in hollows, + all gutters do run full, especially when tides coincide, + the sluices are closed, causing 'back up', but cause no problem.
 - From previous environment agency correspondence, the flat calm tidal flood levels in this area as 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 for the year 2115.

1 in 200 year undefended modelled flood level	=	7.0 AOD.
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This being the approx height of the existing embankment (c) any wind / gale backed high tide would cause overlapping of the same.

Overlapping does happen even now at such times in places where the banking has sunk following culvert repairs etc. The embankment was breached in 2 places near Lady Hall during Feb 2002, & rebuilt after.

- The applicant is aware of the possibility of tidal flooding in the future if the embankment is breached or overlapped, & as do all the farmers in this area, use the tide tables rigorously because their sheep have to be collected & brought off the march at each high tide.
 - The proposed building has doors & gate openings so flood water can enter & exit freely without effecting the structure, & because livestock is not permanently housed within, there is no danger to the same.
- This area has never been flooded since the embankment was erected.











Flood map for planning

Your reference
Waterblean

Location (easting/northing)
317802/482410

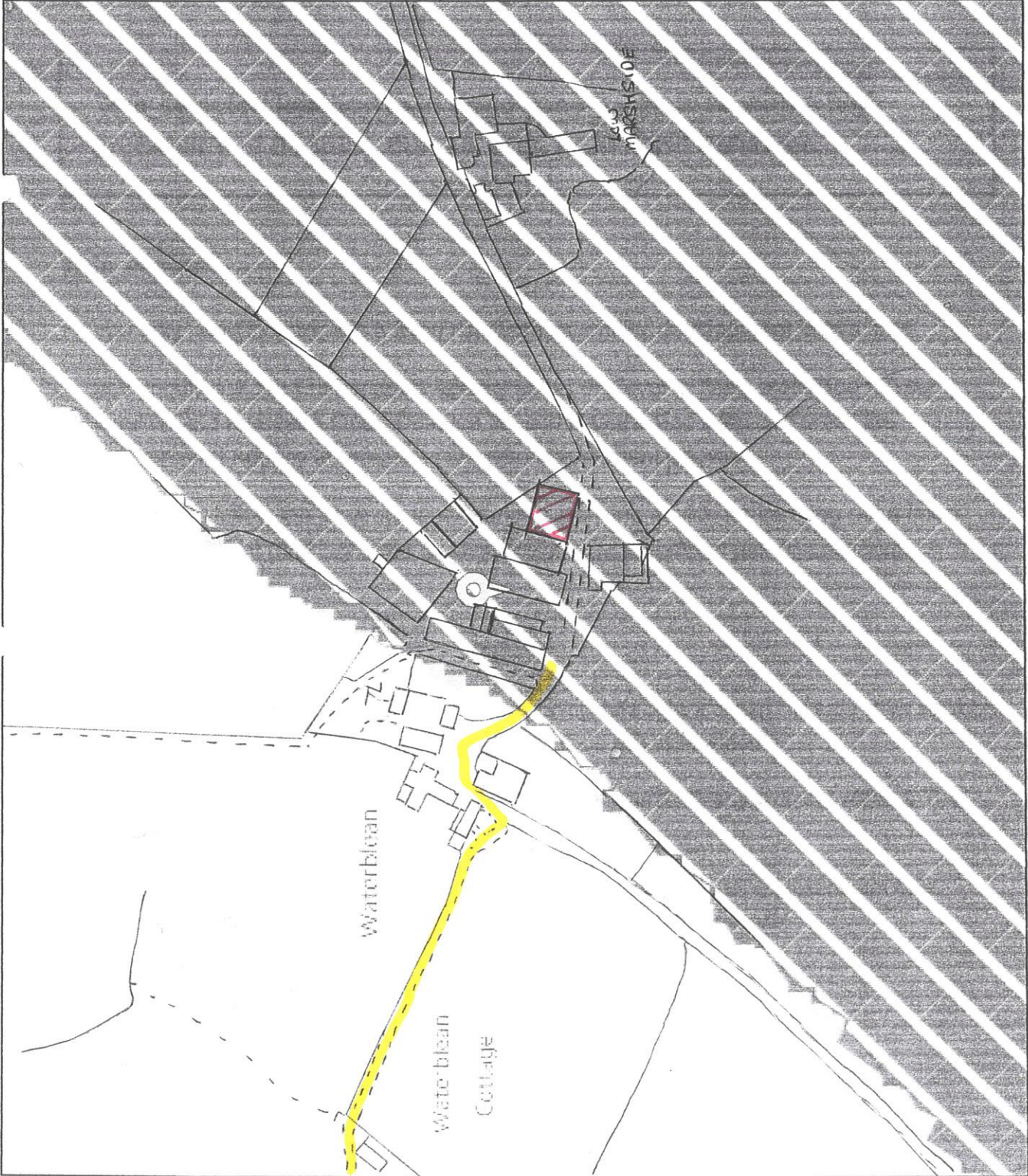
Scale
1:2500

Created
12 Feb 2019 9:54

-  Selected point
-  Flood zone 3
-  Flood zone 3: areas benefitting from flood defences
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Flood storage area



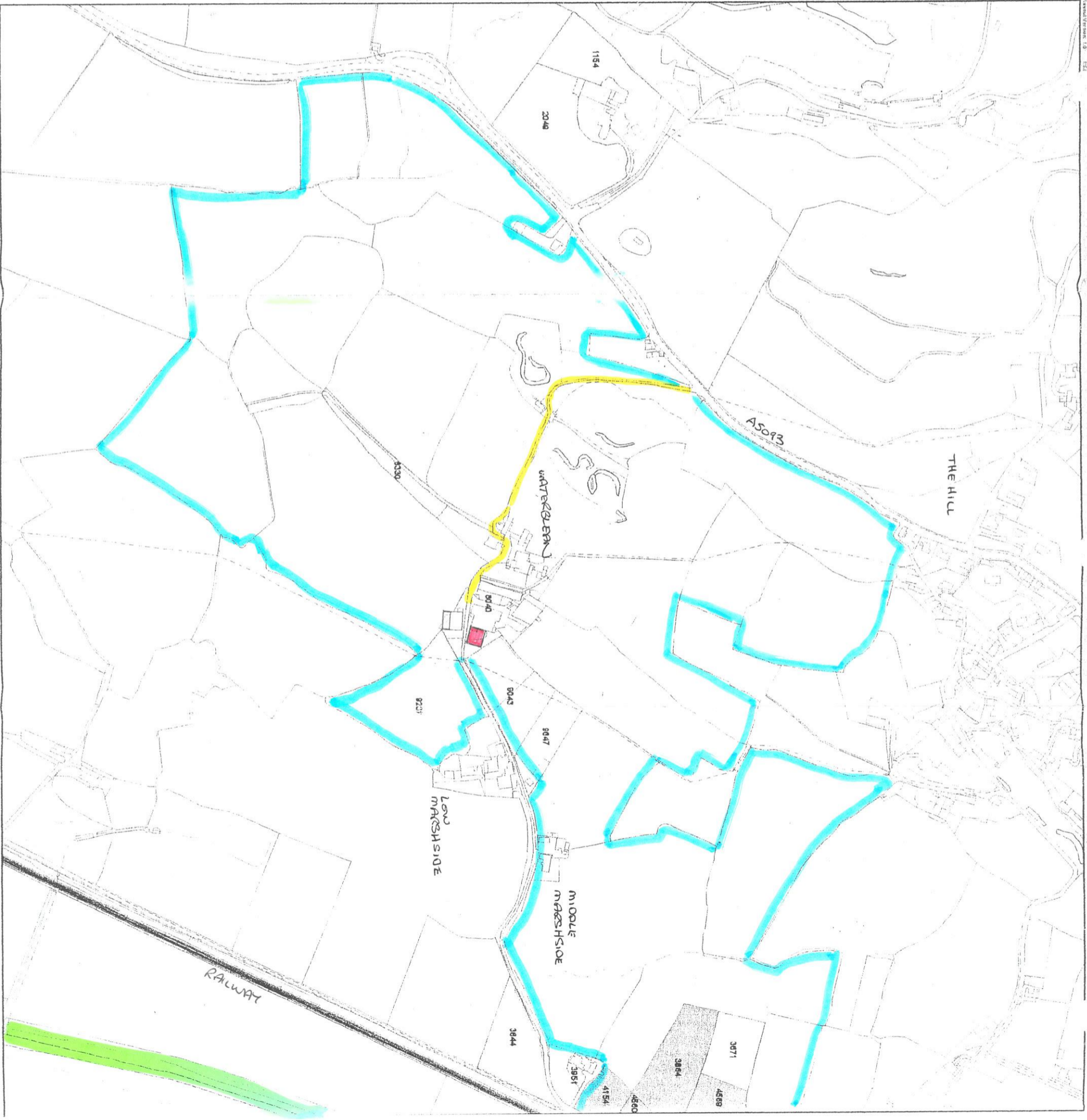
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483000



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SCALE 1:5000