

**National Infrastructure Planning
Cleve Hill Solar Park
CPRE Kent (Reference 0022146)**

**Written representations:
FLOODING**

Description of flooding from modelling

The Flood Risk Assessment and the Coastal Flood Modelling reports describe the results of flood analysis in terms of 'flood depths' (see for example Table 1 of Section 3.1.1 of the Environmental Statement Technical Appendix A 10.1 or Table 3-2: Breach Parameters, of the Coastal Flood Modelling Report).

Flood impact is described with respect to ground levels which vary throughout the site. Industry best practice for describing flood impact is generally 'flood elevation' with respect to an Ordnance Datum. This provides an objective description of a flood to a national framework and can therefore be used throughout the UK.

It is disappointing that the developer has used an unprofessional and unscientific approach to the description of flood impact which cannot be supported by other objective evidence. No reference is made to historically extreme flood events, such as in 1953 or 1978. Evidence to describe the impact of the 1953 event is readily available – as shown in the attached photograph of the Nagden defence in "The East Coast Floods" by Dorothy Summers, 1978 and again in our submission of journalistic pieces of the day such as these from the Herne Bay Press Ltd (Appendix 1).

It is understandable that analysis of the impact of a flood event needs to be described in relation to its impact on the site, however, in terms of comparing flood events between sites and historical data, reference should be made to 'flood elevation' with respect to Ordnance Datum. This is a significant failing of the Flood Risk Assessment and Flood Modelling reports because no attempt can be made to compare the impact of the modelled flooding with that of historic recorded flooding. Such comparison provides a means of benchmarking the accuracy of flood modelling. Without this means of comparison the reports cannot be validated, and any results should be viewed with extreme caution and are basically unscientific.

Meteorological Conditions

The Coastal Flood Modelling report does not describe the fundamental meteorological conditions which would have existed to generate the worst sea-state conditions.

For example, Section 2.1 of the report does not elucidate upon such parameters as extreme water levels and wind speed or direction, surge magnitude and wave action.

Again, there appears to be a lack of objectivity in the report which brings into question the reliability and unscientific nature of the results.

Breach Conditions

No supporting evidence has been provided to demonstrate how the breach parameters were identified in Section 3.2 of the Flood Modelling Report.

The engineering assumptions made are not supported with evidence for validation. This evidence would be expected to be based on original historical conditions such as records, photographs or papers from post flood conferences.

Implications of the Environment Agency's draft National Flood and Coastal Erosion Risk Management Strategy for England (published May 2019)

The proposed development is contrary to policy for residual risk of flooding contained within Environment Agency's draft National Flood and Coastal Erosion Risk Management Strategy for England.

For instance:

1. The EA National Strategic Objective 1.1, states there is a proposal to "raise the National Standard of flood resilience from 1 in 200 year to 1 in 1000 year" (for Faversham) - this means the national strategy increases the need to use Graveney as a flood storage area in accordance with the Environment Agency's MEASS.
2. The EA National Strategic Objective 1.2, states "making decisions on land use which reflect current and future flood risk means that development must be directed away from areas at risk, using natural flood management such as realignment" (at Graveney as proposed in the Environment Agency's MEASS) - this supports the Environment Agency's proposal to realign.

Environment Agency Medway Estuary and Swale Strategy (MEASS)

Not only is the proposed development contrary to Government policy (see above). Any delay in implementing the proposal to realign defences as a result of this development, will increase the flood risk to Faversham town, by virtue of the timescale of sea level rise.

Representations from the Environment Agency

CPRE Kent is concerned that the Environment Agency has "no concerns in terms of flood risk" as stated in Chapter 10 of the Environmental Statement (page 10-12). This statement appears contrary to the latest policies and draft objectives for the Agency as explained above.

The same applies to the Environment Agency's considerations for the Medway Estuary and Swale Strategy (MEASS), insofar as that the proposed solar park will have a life of 40 years. This is well into the era for MEASS and means a significant delay in providing reduced flood risk to Faversham.

Legal issues/financial risk to the Government

Currently, the maintenance of the sea defences at Graveney are carried out under permissive powers within Section 165(2) of the Water Resources Act. These powers are not transferable to private developers. This means that the Environment Agency will still be the only Authority empowered to carry out works in the event of damage to the sea defences.

Accordingly, Cleve Hill Solar will not necessarily be liable for the cost of repairs – resulting in a drain on public finances. It would be possible for the Environment Agency to enter into a Commuted Lump Sum Agreement with the applicant in order to continue maintenance, but this again involves risk to public finances.

25th June 2019

Richard W Francis MBE

THE EAST COAST FLOODS

Dorothy Summers

On 31 January 1953 a storm surge, driven by north-westerly winds of hideous ferocity, crashed against the east coast sea defences, which were progressively overwhelmed as the surge travelled south. The damage extended over a thousand miles of coastline, from south Yorkshire to the north Fenland, and 307 people lost their lives while thousands more became homeless. Industry in the area, notably along the Thames estuary, was thrown out of production for several weeks, while the consequences of the disaster to local farming were catastrophic.

Dorothy Summers describes the disaster and examines the causes, nature and frequency of storm surges throughout the last 900 years, and — against a background of sinking land, rising sea levels and the utter inability of the experts to predict the likely frequency of the meteorological conditions which produce great storm surges — she questions the effectiveness of current defence practices, particularly in central London where many areas are critically below the 1953 surge level.

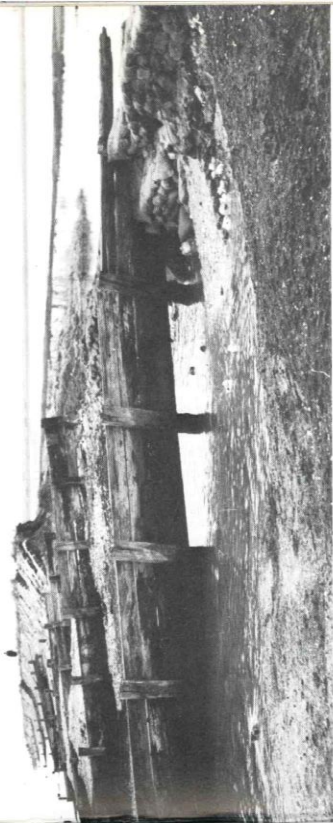
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without warning into their deep water for hours. Their's clinging to floating furniture, sinks or stoves, sometimes crouching on rooftops, many of comparative safety into of shock and exposure. On death roll made no allowance short by the nightmare that night. Especially vulnerable living alone, and those hose illnesses. On Canvey at the rate climbed significantly the disaster, as compared previous year. But despite death spirit of the islanders shone catastrophe, and was typified the message it bore defiant of they will live again.

Island was facing disaster at Tilbury, further westwards between 12.40 and 1.15am some a waist deep. One boy disappeared on a large cake tray. Hardly some form; more than 6,000 the sewage works was submerged. An old lady, seventy-as trapped by floodwater in a wind. Simultaneously disaster of West Ham. The inflow of million litres) of water effective area of about 250 acres commercial undertakings, schools, es into a lake. In the flooded Son the night-watchman escaped to the first floor, only to be

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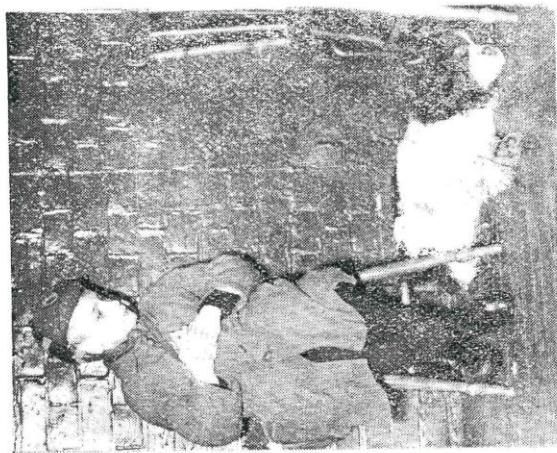


Damage to the Kent defences, January 1953: The old sea-wall at Nagden breached by the flood

killed by coal gas escaping from a fractured main.

Even central London caught the tail-end of the catastrophe. Water actually lapped the top of the parapet along the Victoria and Chelsea embankments and Millbank. The defences were overtopped by a few inches between Greenwich Pier and London Bridge, and by about 1in (2.5cm) just upstream of Woolwich. At the same time the southern shore of the Thames estuary and the north Kent coast were being heavily battered.

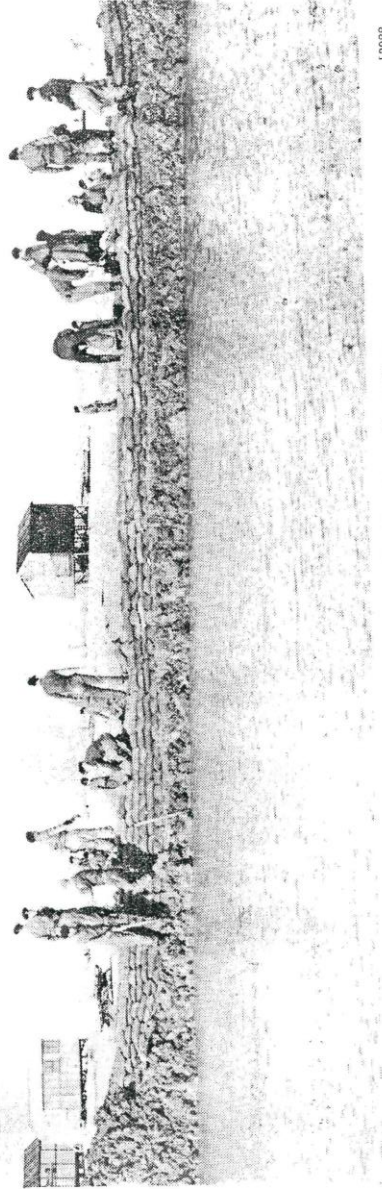
The coast of north Kent, with its marshes and intervening stretches of clay cliff, is in many respects similar to that of Essex on the opposite side of the Thames estuary. But one difference is of paramount importance in assessing the effects of the surge in the two areas. Whereas the Essex coast is relatively sheltered from north and north-westerly gales, the Kent coast is fully exposed to their fury. In 1953 almost the whole length of the Kent River Board's coastline was overtopped, from Woolwich in the west as far eastward as Birchington. The damage to the sea defences was catastrophic, with about 400 major or minor breaches, frequently some hundreds



Animals as well as children and adults, suffered in the flood. This scene was taken in one of the first centres

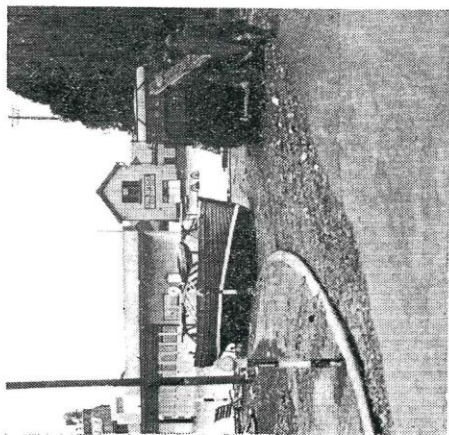


Wreckage of boats on Island Wall

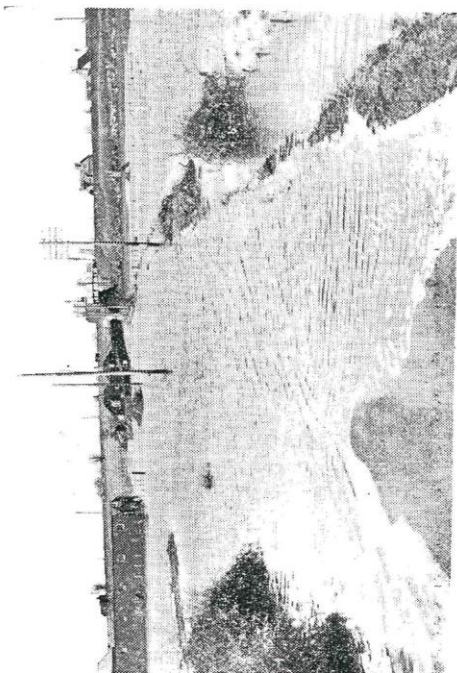


Royal Marines at work repairing the sea wall at Seasalter with sandbags

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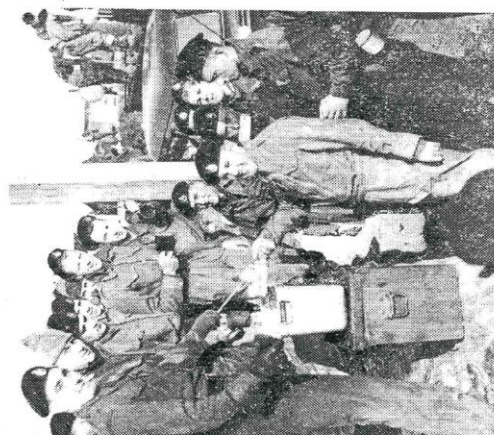


Cabin cruiser washed up at Tower Parade [3924]

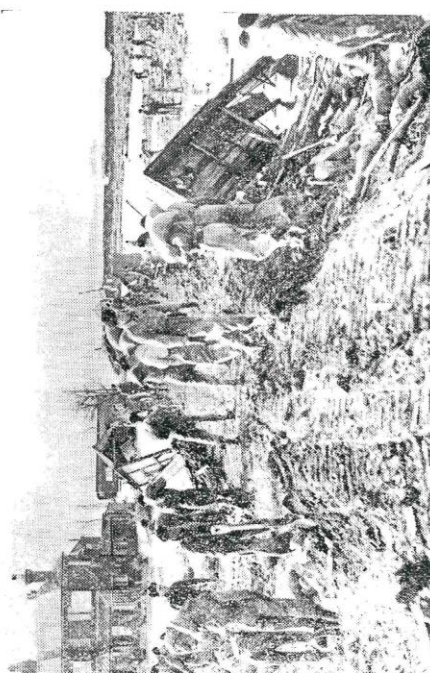


The Whitstable/Faversham road

[3941]



Interval for refreshments. A group of Royal Marines who were employed on defence construction work [3942]



Troops constructing flood defences at Seasalter

[3943]