

Preliminary flood risk assessment: Essex County Council

This addendum by Essex County Council (2017) updates the council's preliminary flood risk assessment report published in 2011. Read the addendum in conjunction with the [preliminary assessment report](#).

Addendum

The preliminary flood risk assessment (PFRA) and flood risk areas (FRAs) for Essex County Council were reviewed during 2017, using all relevant current flood risk data and information.

The review has identified that there are no changes to the assessment of risk since the preliminary assessment report was published in 2011.

The annexes to the preliminary assessment report have been reviewed and updated to show that there has been no new information since 2011.

Past flood risk

There have been 24 Flood Investigation Reports completed since 2011. These reports have originated from repeated and persistent flooding experienced by Essex residents and some of the flood investigations have occurred in areas identified as Critical Drainage Areas in the Surface Water Management Plans, especially in South Essex. However there have been other areas not identified as Critical Drainage Areas (CDAs) that have been greatly affected by devastating flooding episodes.

On 20th July 2014 Canvey Island, Castle Point Borough Council, experienced one of the most extreme rainfall events ever witnessed in Essex County. The event was unprecedented and the return period for this rainfall event was estimated at 1 in 316 years. Essex County Council (ECC) in conjunction with Anglian Water and the Environment Agency had been involved in the Canvey Island Integrated Urban Drainage (IUD) study. The study provided the tool needed to better understand the storm water drainage issues on the island as well as identifying root causes of the 2014 flood events. The modelling utilised in the IUD study was further modified in the Canvey Island Drainage Network Appraisal undertaken by the Environment Agency. This appraisal identified 492 residential properties at risk of internal flooding in a 1 in 100 year event across the 5 drainage districts on the Island based on the methodology of using an Ordnance Survey map building layer and assuming the building was wet if any one of the flooded triangles shown in the flood map touched the building outline.

Flood Investigation reports into flooding incidents which occurred in Great Bromley Tendring and Station Road Burnham Maldon; indicate the presence of other areas at significant risk of flooding. The storm event on both 17th and 23rd June 2016 flooded approximately 15 residential properties internally in Great Bromley Tendring alone.

Future flood risk

As part of the PFRA update an assessment has been undertaken of properties at risk for the whole County based on the technical report for the Updated Flood Map for Surface Water (uFMfSW) property points dataset (Environment Agency, 2014), which uses a methodology of depth of >200mm for >50% of the wetted perimeter. This identifies 1905 properties at risk during a 3.3% annual probability event, 4455 during a 1% event and 17,460 during a 0.1% event.

Flood risk areas (FRAs)

The following FRAs have been identified for the purposes of the Flood Risk Regulations second planning cycle:

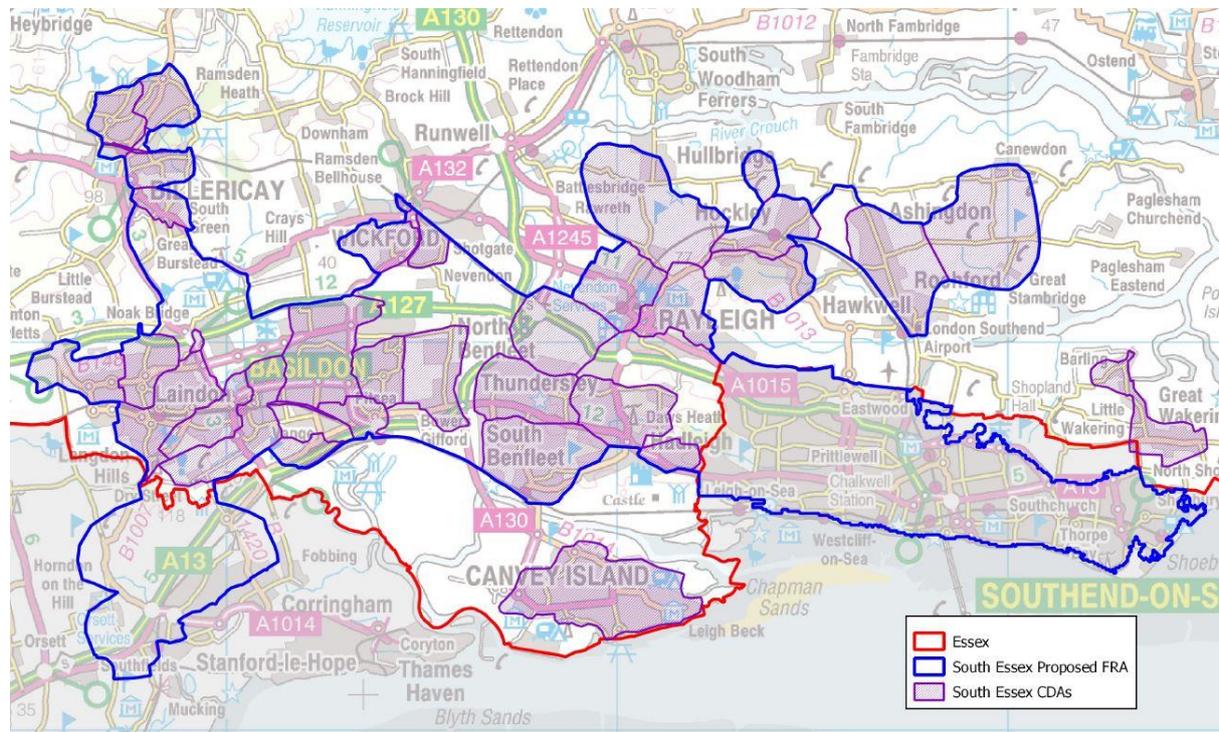
- South Essex
- Canvey Island
- Harlow
- Colchester
- Chelmsford

They broadly align with the CDAs identified in the South Essex, Harlow and Colchester Surface Water Management Plans. However the Chelmsford Surface Water Management Plan and the Canvey Island Integrated Urban Drainage Study indicates that there are over 1000 people at risk of flooding in a 1 in 100 year event in the area.

Area	Residential properties at risk of internal flooding in a 1 in 100 year event	People at risk of flooding
Chelmsford	585	1,369
Canvey Island	492	1,151

The boundaries of the identified FRAs reflect CDA boundaries and key infrastructure.

South Essex



There are 7,694 residential properties at risk which equates to 18,003 people at risk for the portion that covers Essex County Council's administrative area. The area also incorporates Stanford-le-Hope which is in the Thurrock Council administrative boundary and Southend which is in the Southend-on-Sea Borough Council administrative boundary, as the areas are geographically close and joined by the Cluster method. It must be noted that the property counts in the proposed FRA are based on the number of properties at risk in the CDAs

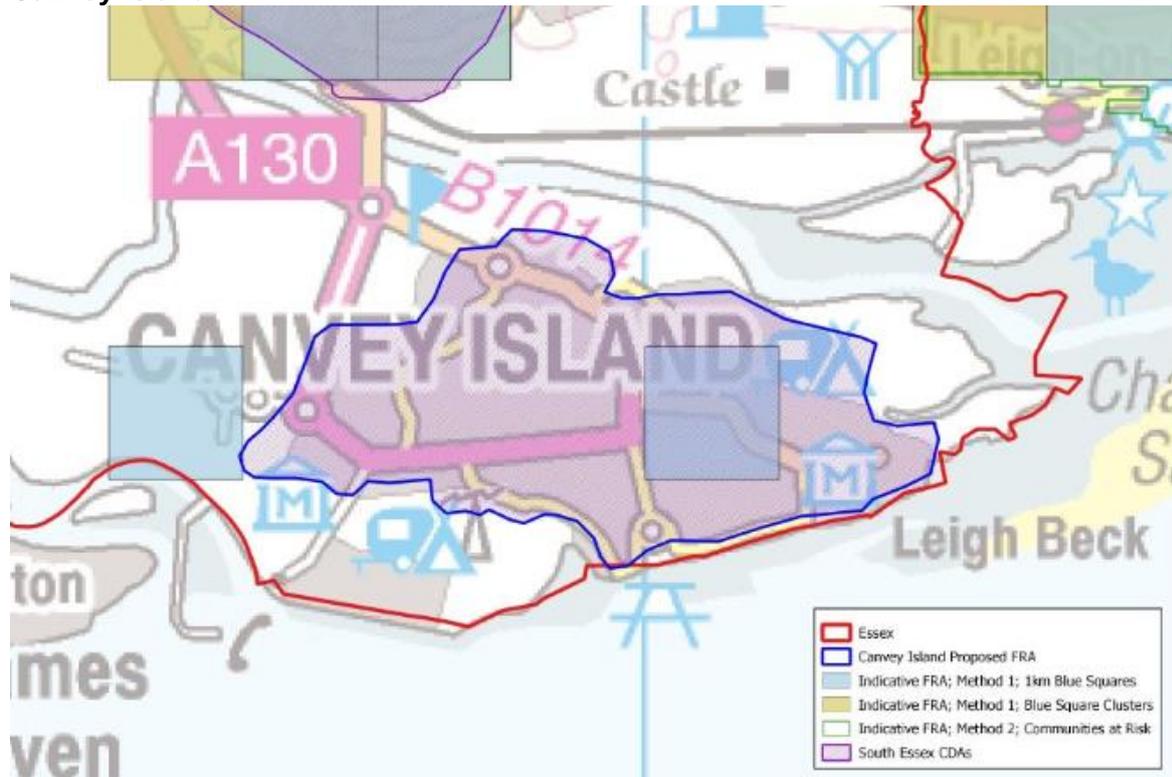
derived from the SWMP data and hence the properties in between CDAs in the FRA boundaries are not accounted for. A breakdown of the properties and people at risk by CDA is provided below:

CDA	Residential properties at risk (greater than 0.1m internal flooding in 1 in 100 year event)	People at risk
ROC 1	481	1126
ROC 2	63	147
ROC 3	25	59
ROC 4	204	477
ROC 5	96	225
ROC 6	208	487
ROC 7	271	634
ROC 8	18	42
CAS 1	542	1268
CAS 2	438	1025
CAS 3	209	489
CAS 4	46	108
CAS 5	7	16
BAS 1	317	742
BAS 2	3	7
BAS 3	226	529
BAS 4	599	1402
BAS 5	86	201
BAS 6	21	49
BAS 7	0	0
BAS 8	391	915
BAS 9	0	0
BAS 10	745	1743
BAS 11	230	538
BAS 12	317	742
BAS 13	0	0
BAS 14	439	1027
BAS 15	332	777
BAS 16	47	110
BAS 17	45	105
BAS 18	304	711
BAS 19	0	0
BAS 20	9	21
BAS 21	559	1308
BAS 22	416	973

The following CDA was excluded based on there being no locally available data to suggest it would meet the thresholds to be included under the cluster method.

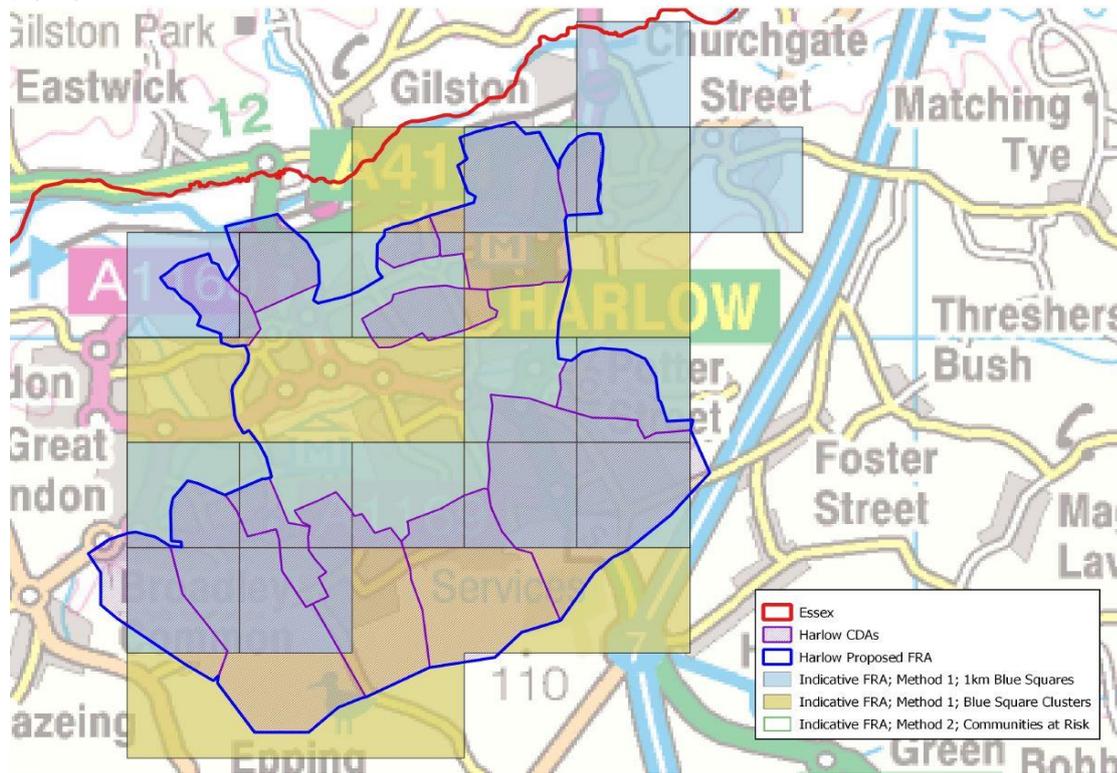
CDA	Residential properties at risk (greater than 0.1m internal flooding in 1 in 100 year event)	People at risk
ROC 9 (Great Wakering)	N/A	N/A

Canvey Island



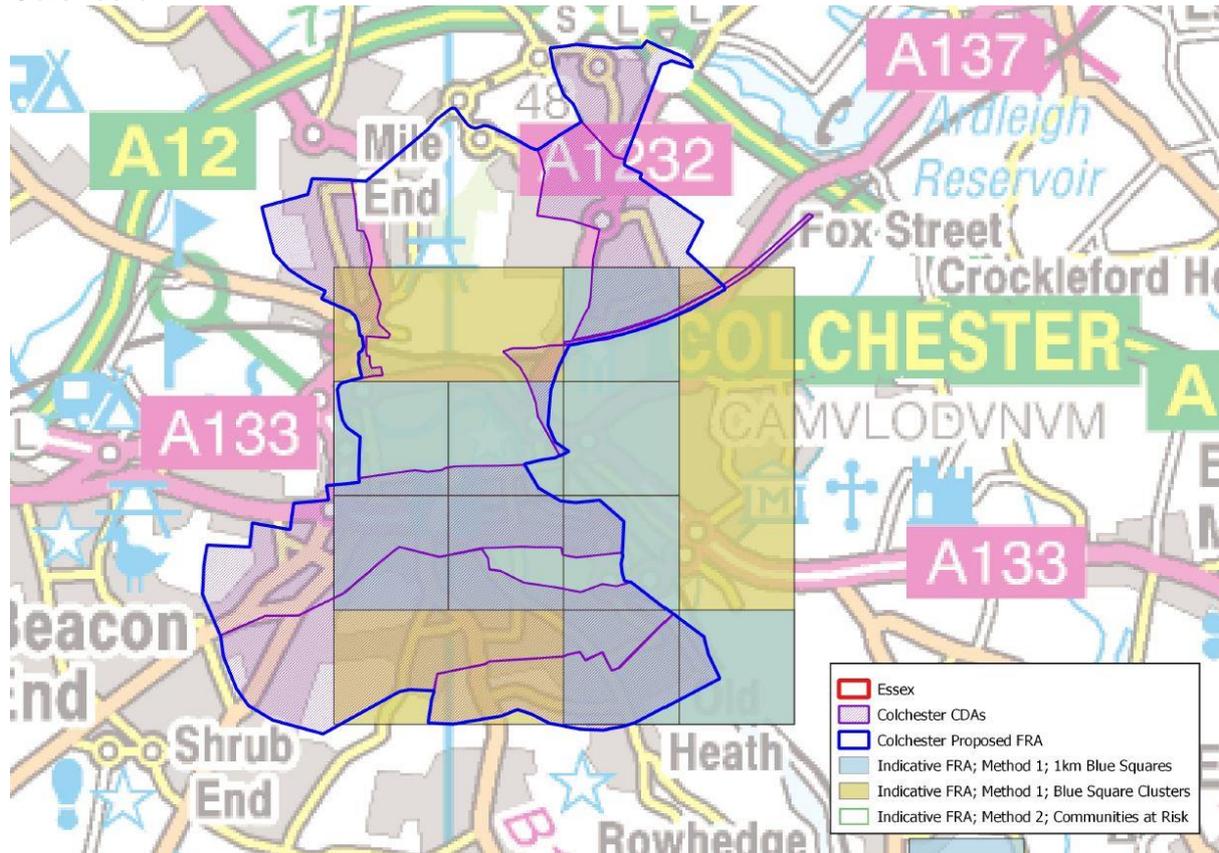
For the proposed Flood Risk Area there are 492 residential properties at risk which equates to 1,151 people at risk, exceeding the amount required under method 1 (where there are 5 grid squares to form a cluster, with each grid square having 200 people at risk) which is 1000 people at risk. It must be noted that the property counts in the proposed FRA are based on the number of properties at risk in the drainage districts studied in the IUD Study and hence the properties in between drainage districts in the FRA boundaries are not accounted for.

Harlow



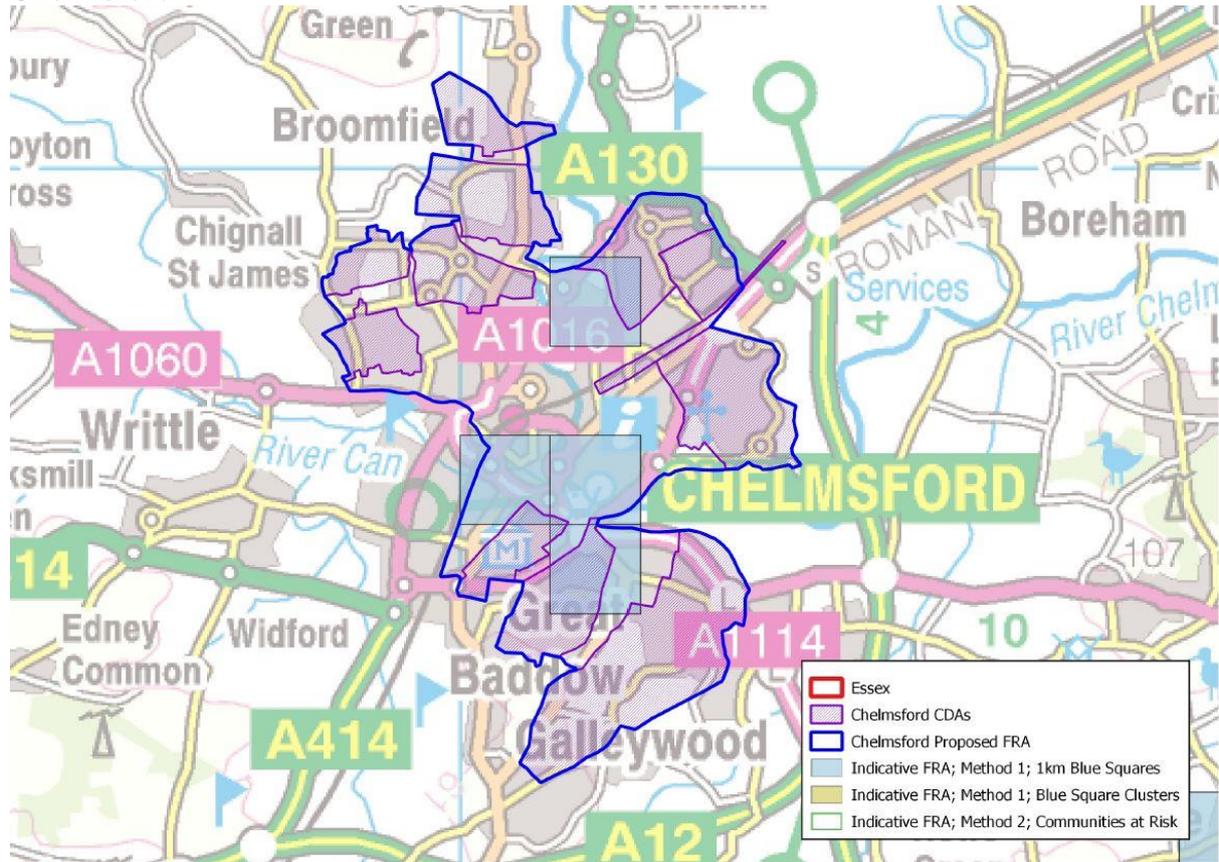
For the proposed Flood Risk Area there are 1,182 residential properties at risk which equates to 2,766 people at risk. It must be noted that the property counts in the proposed FRA are based on the number of properties at risk in the CDAs derived from the SWMP data and hence the properties in between CDAs in the FRA boundaries are not accounted for.

Colchester

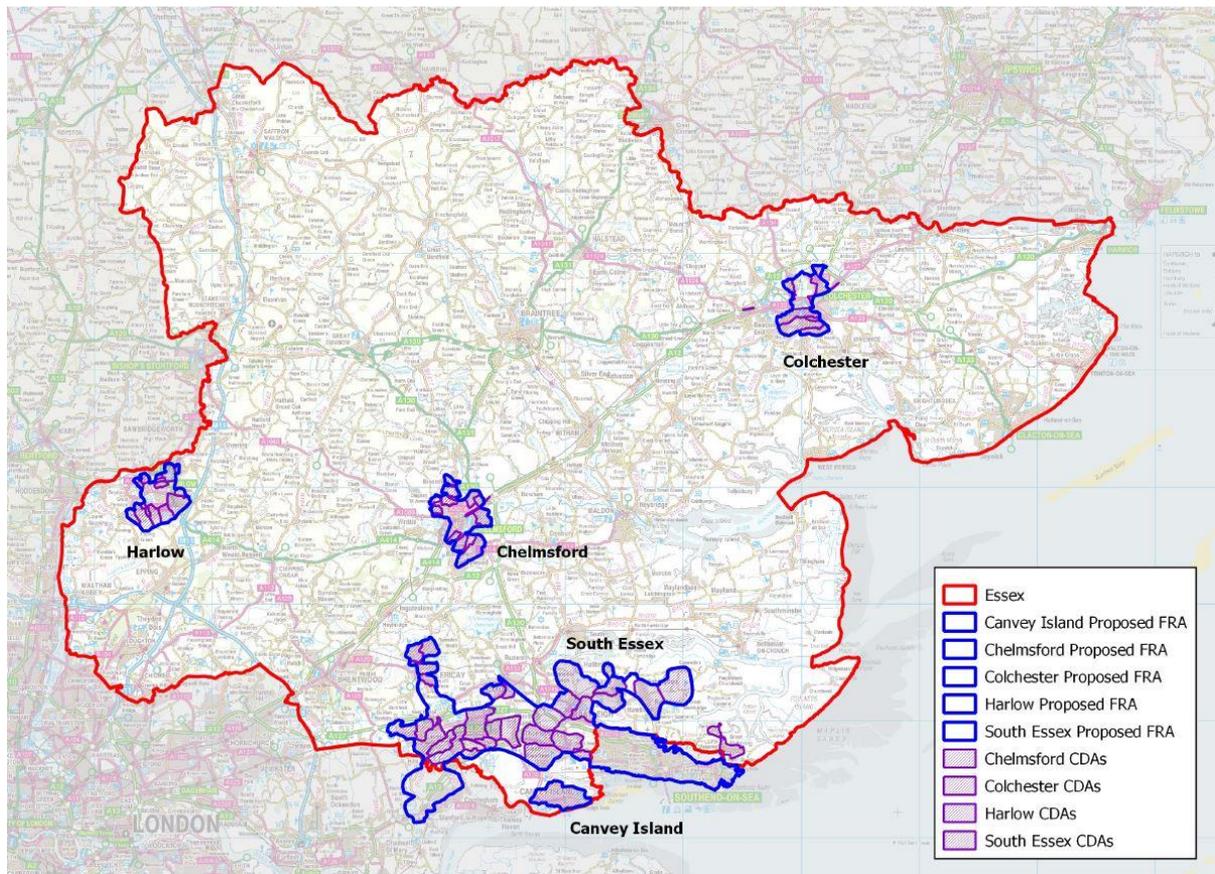


For the proposed Flood Risk Area there are 861 residential properties at risk which equates to 2,015 people at risk. It must be noted that the property counts in the proposed FRA are based on the number of properties at risk in the CDAs derived from the SWMP data and hence the properties in between CDAs in the FRA boundaries are not accounted for.

Chelmsford



For the proposed Flood Risk Area there are 585 residential properties at risk which equates to 1,369 people at risk, exceeding the amount required under method 1 (where there are 5 grid squares to form a cluster, with each grid square having 200 people at risk) which is 1000 people at risk. It must be noted that the property counts in the proposed FRA are based on the number of properties at risk in the CDAs derived from the SWMP data and hence the properties in between CDAs in the FRA boundaries are not accounted for.



For the modified and proposed Flood Risk Areas there are 12,034 residential properties at risk which equates to 28,160 people at risk. It must be noted that the property counts in the proposed FRA are based on the number of properties at risk in the CDAs derived from the SWMP data and hence the properties in between CDAs in the FRA boundaries are not accounted for.

Other changes

No other changes have been identified.

**Essex County Council
December 2017**