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| **PROJECT** | **Flood Risk Management – Coastal Erosion and Flooding** |
| LEADER / PARTNERS | Parish or Town Council, Council with coast protection authority, Environment Agency, landowners, DEFRA funding and policy writing. |
| COUNCIL POWERS | Flood and Water Management Act 2010 – outlines strategies, funding and ownership aspects  Coast Protection Act 1949 – a council with coast protection authority has permissive powers to protect the coast from erosion and encroachment by the sea. The Act requires the council to inspect and maintain coast protection structures in its locality.  Council duties:   * Develop, maintain and monitor a strategy for local flood risk management in its area * cooperate with other relevant authorities in the exercise of their flood and coastal erosion risk management functions * record, investigate and publish reports on flooding incidents in the county and make the results available to the public   The risk management flooding and coastal erosion strategy is set out below. [https://www.gov.uk/government/publications/national-flood-and-coastal-erosion-risk-management-strategy-for-england--2](about:blank) |
| FUNDING SOURCES | Environment Agency grants from DEFRA.  To apply for an EA grant:   * Develop an FCERM (Flood & Coastal Erosion Risk Management) project proposal [https://www.gov.uk/guidance/flood-and-coastal-erosion-risk-management-projects-and-funding#develop-an-fcerm-project-proposal](about:blank#develop-an-fcerm-project-proposal) * Submit FCERM project proposal to local EA authority [https://www.gov.uk/guidance/flood-and-coastal-erosion-risk-management-projects-and-funding#submit-an-fcerm-project-proposal](about:blank#submit-an-fcerm-project-proposal) * Develop an FCERM project business case [https://www.gov.uk/guidance/flood-and-coastal-erosion-risk-management-projects-and-funding#develop-an-fcerm-project-business-case](about:blank#develop-an-fcerm-project-business-case) * Submit FCERM project grant claims and financial reports   [https://www.gov.uk/guidance/flood-and-coastal-erosion-risk-management-projects-and-funding#submit-fcerm-project-grant-claims-and-financial-reports](about:blank#submit-fcerm-project-grant-claims-and-financial-reports) |
| ADVICE / USEFUL CONTACTS | Environment Agency.  Grants – [https://www.gov.uk/government/publications/national-flood-and-coastal-erosion-risk-management-strategy-for-england--2](about:blank)  Water Management Alliance. |
| ***Requirements:*** |  |
| SKILLS | Professional Coastal engineering assessors – potential firms include WSP, ABPmer, HR Wallingford, Boskalis. |
| RESOURCES | Land Registry for ownerships,  [Flood Risk Capital Grants applications information](about:blank#the-criteria-for-capital-grant)  [FCERM appraisal guidance](about:blank)  [FCERM template](about:blank).  [Risk assessment of coastal erosion – final report](about:blank) |
| MATERIALS | Engineering materials for flood defences: |
| PERMISSION | Landowners affected, planning authority, Environment Agency |
| CONTRACTORS | Independent coastal erosion risk assessors,  Contractors to set up the defences (along with volunteers if possible). Geologists if natural flood mitigation is chosen. |
| ***Steps to Success:*** | 1. Assess the level of risk from flooding and coastal erosion 2. Commission a coastal erosion risk assessment 3. Select one or a combination of four management policy options to chose from:    * Hold the line    * Advance the line    * Managed realignment    * No active intervention 4. Complete appraisal of options and consult affected members of the public 5. Chose option or combination of options to implement following advice. 6. Hire contractors to carry out building work. 7. Apply to Environment Agency for funding. |
| Greenhouse gas reduction/  Net Zero outcomes | Hard engineering flood defence options may have negative implications for net zero goals due to the construction, implementation and maintenance of concrete structures.  Managed realignment solutions that create coastal marshes provide carbon sinks that have net zero benefits. |
| Adaptation and Resilience outcomes | Resilience options:  Hard engineering   * coastal defence approach using artificial structures to stop or slow erosion and flooding. Consider: highly visible structures, expensive to construct, expensive to maintain, may quickly be outdated. * Examples: Revetments (Fairhaven and Church Scar Sea Defence Project), groynes (Walney Island, Cumbria), breakwaters (fish-tail breakwater in Morecambe), sea walls (Rossall and Anchorsholme Lancashire).   Natural Flood Management   * manage flood risk and erosion using natural methods. May require a longer time span to become effective but generally less expensive option. Some will require ongoing maintenance programmes to maintain. * Examples: managed realignment which creates coastal marshes (Hesketh Out Marsh East), dune regeneration (Fylde Sand Dunes), beach nourishment (Lincolnshire Beach Nourishment), cliff stabilisation (Scarborough).   Look at [https://thefloodhub.co.uk/wp-content/uploads/2021/05/FT-Q-R118-Coastal-Management-Booklet.pdf](about:blank) for further information. |
| Biodiversity/ Nature Recovery/  Ecosystem outcomes | Managed realignment coastal erosion methods create sustainable intertidal habitats like mud flats and salt marshes that provide a rich environment for wildlife. |
| Community/social outcomes | Maintains communities transport and accessibility to towns/shops. Large flood defences like sea walls may limit accessibility to beaches. |
| Economic implications | Capital cost but saving on erosion recovery/damage. |
| MAINTENANCE | All solutions will require some degree of maintenance. |