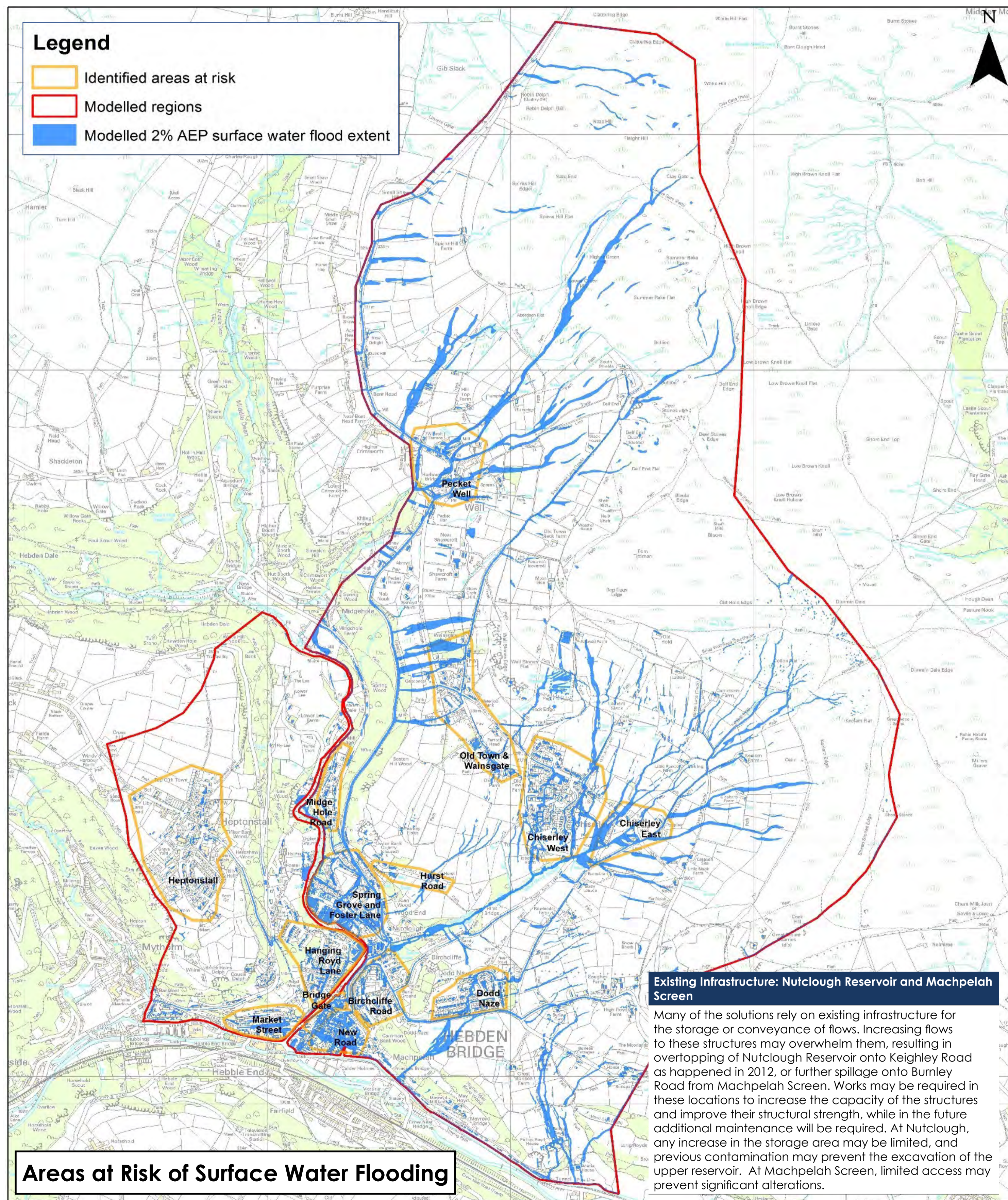


# Surface water flooding: Potential Interventions



### Market Street

**Flooding Mechanism:** Ponding

**Option 1:** Reprofile road around Hebble End and utilise the Co-op carpark to collect flow discharging down Market Street and Hanging Royd Road. Piped outlet from the area to direct flow to the River Calder near Hebble End Bridge.

**Key Considerations:**

- Requires significant alteration to the road
- Dependant on the river water level, the wall to be removed may be part of a flood defence.
- Intrusive measure, which may have high associated costs
- This will require maintenance
- The piped outlet may not have sufficient gradient to work effectively

**Option 2:** Pump water from the area towards the River Calder upstream of the confluence

**Key Considerations:**

- Pumps will need maintenance
- Reliability issues
- May contribute to flooding in the River Calder (although unlikely)

### New Road, Crown St, Albert St and Hope St

**Flooding Mechanism:** Ponding

**Option 1:** Flow can be conveyed from the area towards the Machpelah Screen waterway at Wadsworth Road. This will, in turn, convey the flow down towards the River Calder via an existing passage. Additionally, flows can also be collected on Sandy Gate and directed towards Nutclough and from Keighley Road/Birchcliffe directly to Hebble Water.

**Key Considerations:**

- The capacity of the existing waterway and culvert may not be able to convey this flood flow
- The new conveyance mechanism will require considerable works, disruptions and cost.
- The increased flooding may cause flows of high velocities in the Machpelah area
- This will only limit some flow in the area, and not address all the discharge creating the ponding issue

**Option 2:** Pump water from the area across the canal allowing it to flow into Calder Holmes Park and allow it to flow to the River Calder

**Key Considerations:**

- Pumps will need maintenance
- Purchase of pumps
- Reliability issues

### Bridge Gate and St Georges Square

**Flooding Mechanism:** Flow from Birchcliffe Road and Keighley Road entering Bridge Gate

**Option 1:** The water reaching this area is predominantly from Keighley Road and Birchcliffe Road. Flow on Keighley Road can be diverted into Hebble Water upstream of the White Lion Hotel. Flow reaching Birchcliffe Road can be diverted into Nutclough and/or Machpelah Screen to prevent flows reaching this area.

**Key Considerations:**

- Diverting flows to Hebble Water upstream of the town may increase risk of river flooding.
- Diverting flows to Nutclough and Machpelah Screen may require additional works at these locations.
- Flow at Dodd Naze from Rowland Lane is also anticipated to increase flooding here.

### Hangingroyd Lane, Bond Street, Regent Street and Sackville St

**Flooding Mechanism:** Flow from Lee Wood Road

**Option 1:** Improve drainage down Bond Street, directing flow to Greenwood Street to discharge to Hebble Water via improved drainage in road. This could potentially drain through Regent Street

**Key Considerations:**

- Difficulty in interface between the river and surface water flooding
- Additional investigation required to establish what route is more suitable

**Option 2:** Divert flow via an upgraded drainage network towards Valley Road Car Park and temporarily store surface water

**Key Considerations:**

- Limited space in the location and may not be able to store the entirety of the surface water.
- Ownership of the car park and acquisition of it as a flood defence
- This will require additional maintenance

**Option 3:** Improve drainage on Slaterbank and Moss Lane reduce inflows from this area.

**Key Considerations:**

- Increasing drainage capacity along the road may have added maintenance requirements

**Areas at Risk of Surface Water Flooding**