

# Culvert Replacement

Catts Place, Tonbridge



**Kent County Council's Flood and Water Management Team has successfully supported a local community to replace a damaged culvert that was causing significant repeated flooding to properties.**

At Catts Place, in Paddock Wood, a culverted watercourse frequently became overwhelmed in heavy rainfall and caused the watercourse to overflow, leading to flooding and multiple callouts to the Fire and Rescue Service.

Investigations found the culvert was blocked with substantial tree roots and silt and had multiple defects. The best solution was to replace the culvert. However, the culvert was in multiple ownership, and it was difficult for the residents to organise fixing this problem.

The Flood and Water Management team secured funding from the Environment Agency and the Southern Region Flood and Coastal Committee to deliver the replacement. KCC oversaw the design of the replacement and managed the construction of the new culvert.

The new culvert provides many benefits, such as:

- ◆ Reduced flood risk
- ◆ Increased resilience to climate change
- ◆ Improved resilience to blockages

**Between 2014 and 2021, Catts Place residents and highway in Paddock Wood, experienced 20 incidents of flooding.** The poor condition of the culvert caused the floods. It's length, at over 100 m, and lack of access points made it difficult to maintain using the standard equipment for pipe clearance. It was also in poor condition, with displaced joints that meant blockages were likely to reoccur even if they were removed.



*Photo of backed up ditch on the left due to ineffective culvert*

**Working closely with residents, the Flood and Water Management Team assessed options to replace the culvert, reduce flood risk and improve the maintainability of the system. The preferred** scheme replaced the long culvert with a culvert in three sections, with access at approximately every 30 m, which will allow access for maintenance and allow overpumping if further blockages do occur.

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The culvert is located under driveways, garden walls, and vegetation at the front of the resident's gardens and between the services and utilities serving the properties. The new culvert was installed with the minimum of disruption.



*Laying of new culvert*



*Photo of new manhole*

**Three manhole chambers** were installed to add capacity and aid future maintenance and repair work by landowners. It also allows standard jetting equipment to be used as the length of culverted sections is reduced.

In 2023, the project was successfully delivered to the satisfaction of the residents.

## Resident Feedback:

Residents strongly agreed that all relevant information was communicated with them for this project.

Residents are very confident that replacing the culvert has reduced flood risk to their homes.

Residents felt their questions and concerns were addressed very effectively during the project.



*Headwall at the end of the culvert*

*'Clearly a huge improvement on the old pipe.'*

*'The flood team have been very helpful.'*