

Highways, Transportation & Waste, Earl Bournier Drainage, Structures Asset Manager Highway Drainage – Winter Ready



Winter ready... But Climate change is having a Major Impact

- Winter is likely to be 2C warmer with 14% more rain
- Higher risk of flooding from storms, damaging housing, businesses and infrastructure and threatening costal towns
- The last 2 extreme rain fall events took place not in Winter but..
- May 2018
- June 2019



Regular occurring Flood events

- June 2019 the Environment Agency recorded the rainfall in Snodland as a 1 in 256 year flood event.
- Worth noting that drainage systems are not designed to cope with the amount of rain which fell, this equated to nearly 2 months worth of rain in an hour and half.



What can KCC do to help

- Help residents with clearing water and protecting property as the event is happening
- Respond to questions and complaints why did my house flood..
- Investigate the drainage system, CCTV surveys, root cutting, jetting systems, cleansing soakways and flood testing.
- Keeping the Highway user safe.



14/11/19

What can KCC do to help

- **Reactive cleansing since April 2019**
- Cleansing jobs – 4267 (Following customer Enquires)
- Emergencies – 337
- CCTV Surveys – 353
- Soakaway Cleansing – 69
- Repairs – 321
- Schemes 111



What can KCC do to help

- Pre inspection of over 90,000 gullies on main road identifying if cleansing is required, new process this year.
- Known flooding hot spots cleansed twice a year 300 odd roads.
- Capital investment – updating / replacing and installing new drainage systems to prevent flooding
- Budget for Capital works 5 million per year up from 3 million
- Annually spend 2.5 Million on drainage cleansing
- Flood Forums – Multi Agency collaborative working, with residents impacted by flooding



Pre inspection on scheduled cleansing

District	Ashford	Tonbridge & Malling	Folkestone & Hythe	Dover	Thanet	Tunbridge Wells
Month Cleansing Due	April	May	June	July	August	September
No gullies due for inspection	6790	6361	5377	4144	4407	5946
Total gullies found upon inspection	9925	8463	7061	6186	4705	6835
% Extra gullies found	35%	33%	31%	49%	7%	15%
Number gullies requiring cleansing	2200	1804	1180	1622	1598	2832
% Requiring Cleansing	22%	21%	17%	26%	34%	41%
Number gullies requiring dig out	92	718	426	447	449	535
% Requiring Dig Out	1%	8%	6%	7%	10%	8%
No gullies jammed	1252	2016	1692	1688	1560	1307
% Requiring Unjamming	13%	24%	24%	27%	33%	19%
No gullies requiring lid replacement	194	137	286	119	200	55
% Requiring Lid Replacement	2%	2%	4%	2%	4%	1%
District	Canterbury	Sevenoaks	Maidstone	Dartford	Gravesham	Swale
Month Cleansing Due	October	November	December	January	February	March
No gullies due for inspection	6188	4564	6082	3990	3995	4921
Total gullies found upon inspection	6738	4568				
% Extra gullies found	9%	1%				
Number gullies requiring cleansing	2626	3505				
% Requiring Cleansing	39%	77%				
Number gullies requiring dig out	317	167				
% Requiring Dig Out	5%	4%				
No gullies jammed	951	676				
% Requiring Unjamming	14%	15%				
No gullies requiring lid replacement	83	45				
% Requiring Lid Replacement	1%	1%				

Try to Educate

- Educate Residents, certain areas are low lying and will be prone to flooding, due to the Topography of the land.
- Houses built in bottom of valleys all the surface water will reach the low points.
- A high percentage of properties have created large driveway, with no drainage thus taking away the grass which acts as natural soakage areas this all runs generally onto the Highway.
- Water run off from fields and debris big problem
- Self help, flood doors, better protection (Boundary walls)
Government

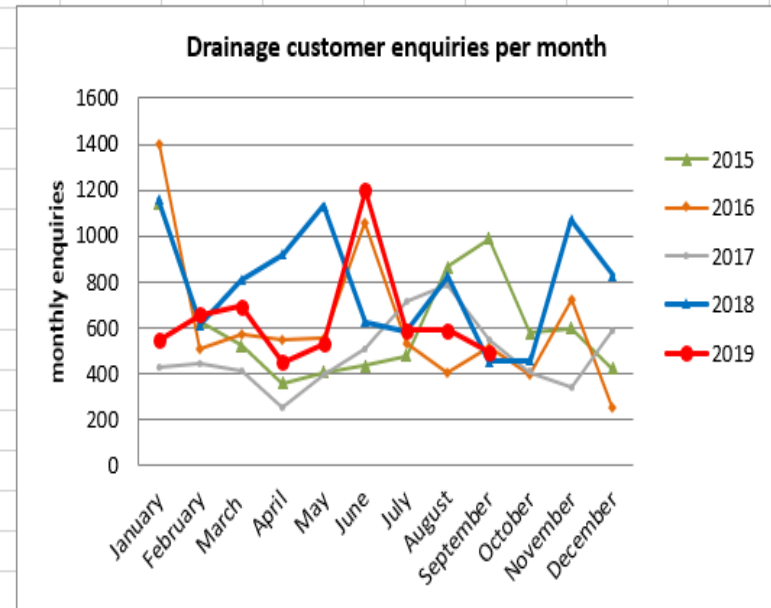


KCC Highways receive over 7,000 enquires a year relating to flooding either on the highway or impacting private property which could be internal property flooding



Number of Drainage enquires received since 2014 to date

Drainage	2014	2015	2016	2017	2018	2019
January	2225	1138	1401	431	1158	548
February	1910	625	512	445	615	658
March	731	524	575	416	810	692
April	537	359	549	256	919	452
May	676	409	556	401	1131	529
June	481	434	1059	506	624	1198
July	759	477	531	717	587	592
August	891	865	407	785	825	592
September	513	987	514	545	456	493
October	1082	580	399	409	458	
November	1103	599	723	345	1070	
December	578	421	254	586	830	
Total Drainage	11486	7418	7480	5842	9483	5754



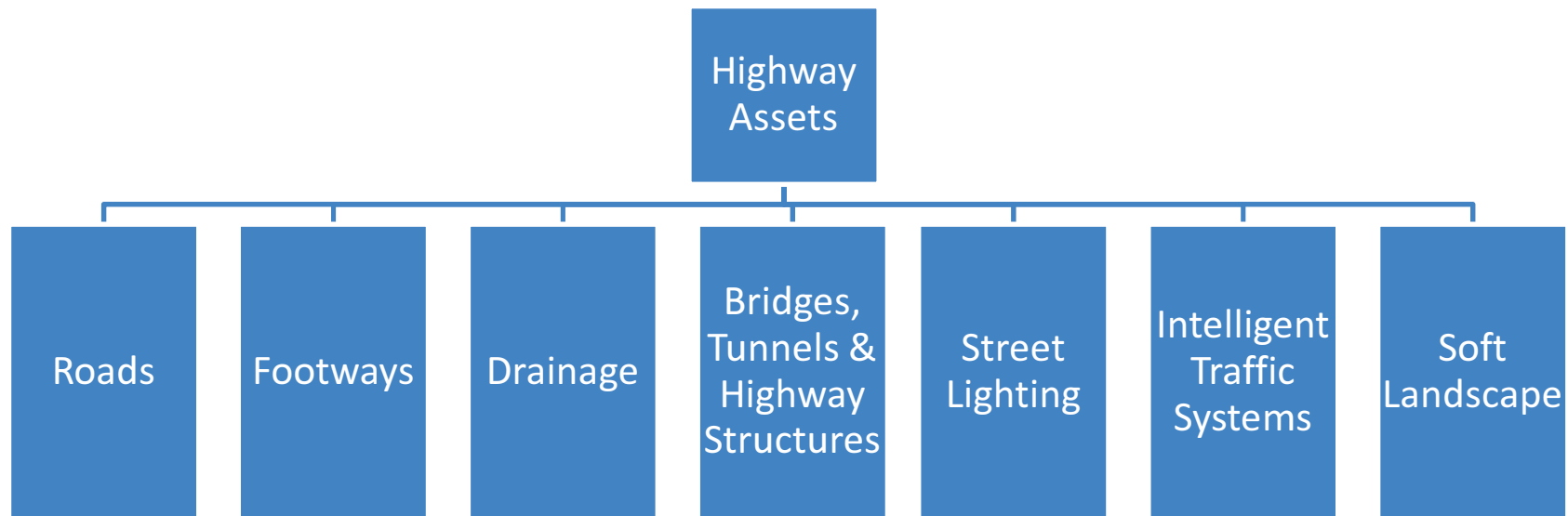
Example – Drainage

The Drainage Asset

Roadside drains	250,000
Ponds and Lagoons	250
Pumping Stations	15
Soakaways	8,500

- Maintain road **safety** and minimise nuisance
- Prevent damage to the structural integrity of the highway and **maximise** it's **lifespan**
- Minimise the impact of highway water on the surrounding environment

How are KCC Highways Managing the Drainage asset, part of this is to move to an Asset Management approach.

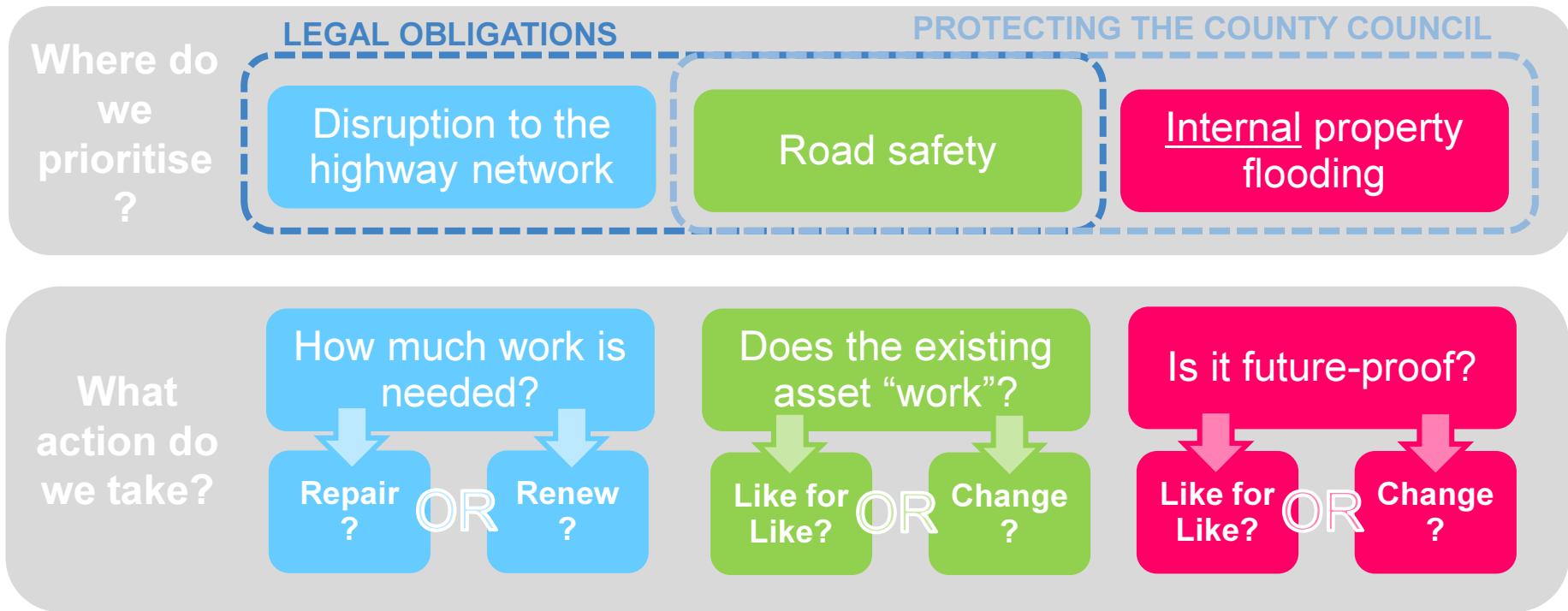


What Our Approach to Asset Management in Highway means for each asset Group

The Asset	What is the asset and what is it's purpose?
Condition Assessments and Inspections	How do we go about assessing and inspecting our assets so that we understand their condition and performance?
Prioritisation of Investment	How do we prioritise where carry out maintenance and invest our Capital Maintenance Grant?
Other Significant Factors that affect maintenance	What other factors impact upon how our assets perform and the approach we take to maintenance and improvements
Levels of Service	What do we consider when setting levels of service? What are the current levels of service? What are the options for the next financial year?

Example – Drainage

Prioritisation of Investment



Example – Drainage

Significant Factors Affecting Maintenance

- Damaged and Aging Infrastructure
- Limited Capacity
- Reliance on Third Party Infrastructure
- Land Drainage
- Reductions in other services such as street sweeping



We want to achieve the following outcomes

- Fewer incidents of highway flooding
- Increased customer satisfaction and confidence
- A robust defence against increased claims for damage and personal injury
- Roads and footways that are protected from the adverse effects of standing water
- Reduced disruption due to carriageway flooding
- Greater resilience against increasingly frequent intense rainfall events.



Any Questions

