Scotland's National Marine Plan (& UK Marine Planning Policy)

One of the foundations upon which Scotland's current policy is built is the improvement in water quality achieved through the introduction of secondary sewage treatment and collection and transfer of diffuse sewage outlets to centres for treatment through the late 1990s and early 2000s. This established the infrastructure vital both to public health and a healthy marine environment, supported by extensive environmental impact assessments and marine dispersion modelling to result in an integrated network of 21 pumping stations, 40km of pressure sewers and three treatment works to serve the Moray and Aberdeenshire coast. The result minimised the discharge of untreated sewage that had previously taken place through 30 short outfalls and one long outfall at Lossiemouth. Every component of the project contributes to this target outcome and the day-to-day repair and maintenance of the assets is a fundamental part of that and is integral to the delivery of the key objectives, under the umbrella of the Urban Wastewater Treatment Directive and bathing water quality targets.

Forming part of the pumping station and storm overflow network across the Moray coast are assets at Cummingston, Nook, Portknockie and Inverboyndie. These outfalls are licensed by SEPA as CSOs (Combined Sewer Overflows) and also Emergency Overflows in the event of a failure of the pumping station or downstream pipeline. The assets typically include the station for receiving and pumping sewage flows from the local area and upstream station and an outfall that extends to below mean low water spring to ensure dispersion of the storm overflow when there is excessive volume in the sewer system.

The outfall integrity is essential to ensure that the overflows are delivered into a higher volume receiving water to achieve dispersion. Damage to the protection, supports or outfall pipelines themselves will risk compromising the structure and function which is part of meeting the environmental and marine objectives. A collapse of blockage also risks creating onshore flooding of public areas or property.

GP1:-
The Moray Wastewater Project serves a resident population of c55,000 as well as local business and tourism. Sewage provision and function is a fundamental service and infrastructure requirement and these outfalls contribute towards the sewerage service for the various communities along the coastline from Burghed to Macduff.

GP2:-
The maintenance and repair of project assets provides work for local contractors and facilitates development by the relevant local authorities.

GP3:-
The collection, transfer and treatment of sewage is one of the fundamental social benefits provided by the water industry and is an essential service to any community for the purposes of public health and sustainable habitation. Whilst not always regarded as a social benefit few other benefits can be established or sustained without sewage systems.

GP4:-
The Moray Coast outfalls are a combination of old and new assets, many of which have been in place since the 1960s and some even older. The facilities were

constructed/extended in consultation with local communities, local authorities, The Crown Estate, landowners and many other stakeholders to ensure that they co-existed with other interests. Sewer systems serve everyone and favour no-one, a status that may not always be appreciated but despite that still remains essential at all times.

GP5:-
Climate change is affecting the coastline disproportionately and this affects sewer systems as these are often at the lowest points in communities and in coastal communities that include the inter-tidal zone; outfalls necessarily will cross the inter-tidal zone. Maintenance demands have historically been low but recent impacts of exceptional storms have created damage and morphological changes to the coastlines not seen previously so more defence, protection and even re-location of sewage assets is to be expected along with abandonment of some properties.

GP6:-
Some of the outfalls that form part of our project are regarded as historic features but they are functional parts of an integrated sewer system and the role as jetty/public walkway at various locations is entirely incidental. The outfalls were originally approved by the relevant local authorities and those decisions pre-date Catchment's involvement by several decades. Any works done to deliver our project in 2000/2001 was also approved and licensed by the relevant authorities. By providing improved sewage transfer the project has allowed then retention of older gravity sewers inland and the use of buildings and other facilities that may have become flood risks without the active transfer of sewage from the low points in the various communities.

GP7:-
The outfalls have all been in place in their current form since 2000 and most had been present in some form for many decades prior to that. Markers are only used on the largest outfalls and in accordance with Northern Lighthouse Board requirements. The outfalls are generally visually unremarkable and develop a surface coating of marine growth that enables them to blend in sufficiently to the shoreline. Even repair work is quickly re-covered by sea growth. They are an established part of the seascape and no changes are proposed to these structures (repairs are not seen visually to be changes despite the treatment as 'construction' for the purposes of licensing). The proposed repairs are only seeking to restore what has become damaged and they are expected to blend back into the main body of the outfall by the time light intensity rises in Spring to generate sufficient algal growth.

GP8:-
These outfalls play a vital role in regulating erosion and flooding along the Moray and Aberdeenshore coast as they serve communities to drain surface water and seawater flooding. Function of the full surface water drainage system is essential, of which outfalls are a part, to allow waters to be collected and directed to where they cause the least damage. Outfalls collapse or blockage risks surcharging of the pumping station and either discharge at a higher level on the beach or flooding from sewers in the collection network. However, it should be noted that pipelines and outfalls are themselves potential victims of flooding events, becoming damaged or exposed/undermined in a single event. The policy seeks to recognise all assets as part of the marine planning process and sewer systems are vulnerable and that risk is increasing due to coastal flooding.

GP9:-
The integrity of intertidal pipelines and outfalls is an integral part of compliance with our environmental licences (CAR licenses) as well as various landowner agreements and SEPA is the arbiter of environmental limits for the water industry.

Cummingston lies within the Moray Firth SAC area (west of Lossiemouth) but the outfall lies across a rocky shore that is flooded to a shallow depth at high tide and not an area associated with bottlenose dolphins. There are no other SAC or MPA designated areas relating to the other outfalls. None of the outfalls lie within a SSSI.

GP10:-
All coastal structures populate with native species of marine algae/kelp and none of the materials or equipment proposed for use during these repairs represent a risk of introduction of invasive species.

GP11:-
Marine Litter reduction is a key part of the pumping station function to transfer sewage debris to a central processing sites, which includes trash/litter removal, as well as screening overflow discharges prior to release to the outfall. Blockage or collapse of the outfall increases the risk of uncontrolled overflows which may not be screened and result in litter reaching the marine environment. Debris removal is at the core of the CAR licenses for each location.

GP12:-
The proposed works are specifically to avoid any deterioration in the receiving water quality in the event that the current damage turns into a full leak or the pipe structure is lost completely. These are existing facilities that have been present for many years providing a service to ensure the current high water quality standards. Maintenance and repair of these structures is a normal part of asset care, as it is with any structures and equipment, and this is necessary to maintain the water quality standards in the relevant localities.

GP13:-
The proposed works are of short duration, both in terms of working time during any single day and total number of days, and involves relatively low levels of noise generation. Disc cutters cannot be effectively silenced but air tools are partially silenced and excavator and dumper engine shrouding ensures noise is minimised where possible. It should be noted that the background noise in coastal areas is quite significant and work of this sort is not deemed noisy or a nuisance.

GP14:-
Due to the damp environment dust is not generally an issue beyond a few meters from the work site and no material emissions to air are expected beyond the vehicles necessary to transport tools and materials.

GP15:-
Terrestrial planners regard maintenance work of this sort as routine and essential and are usually pressing for it to be done immediately; these proposed works are no exception and sewage systems already fully integrate terrestrial and marine planning and objectives (were

it not so they would not be there). The Marine Plan does not align with Water quality objectives as it has no facility to enable rapid repairs to be made in the event of pipeline bursts; a discretionary option may exist but the test of risk is not compatible with the other policy objectives to lower risk. These maintenance works may become more significant before they are licensed and a further application may need to be made to reflect the difference in works required.

The current works will not alter the assets as designed and will not affect access to the shore.

GP16:-
Sewerage provision is aligned with all high level objectives as it reduces impacts on both terrestrial and marine environments.

GP17:-
Fairness is not applicable at this level of asset operation and maintenance and relies upon being applied at the design stage of asset and service provision to ensure that it matches the environmental, social and economic requirements of current and future generations; this applies fully to the Moray Coast Wastewater project which was required to provide services for 30 years (to 2031) and facilities for Scottish Water to operate and maintain thereafter. The maintenance and repair of the project outfalls does not affect the fairness of the original decisions relating to the project and the assets comprised therein.

GP18:-
Engagement was undertaken publicly by the Authority (North of Scotland Water) when contracting with Catchment Moray Ltd to provide sewerage services for the NE coast communities. Our operational staff live and work within the communities and interactions with local people, businesses, Councils and other parties is a routine part of operating and maintaining significant civil and mechanical assets anywhere. Our activities are closely monitored by Scottish Water and we have notified SEPA of our plans to undertake these works, together with local contacts at the Council and Harbours as a matter of courtesy. We also notify The Crown Estate as they own much of the intertidal areas along the Moray coast (but not all).

GP19:-
This project was designed after wide consultation, environmental assessments and marine modelling and was the ‘best fit’ to meet all of the environmental and service requirements; a core part of meeting those requirements is to maintain the assets when that is necessary and these proposals relate to that requirement.

GP20:-
Mush of the management of buried pipelines and outfalls is adaptive management as no such structure is excavated unless damage is suspected. If and when damage is observed, which can take a considerable time if it is buried (normally buried), plans are put into action to remedy the damage. The as-built damage protection is rarely changed unless there is a significant weather event that removes or changes the coast or triggers a material failure. These circumstances are the normal status for coastal pipelines and these repairs follow a change in the status of the beach/pipelines or both.

GP21:-
Coastal pipelines on the Moray coast are only occasionally affected directly by other activities such as cable laying or coastal defence work/flood prevention (although this is getting more likely). The main risk now is the indirect effects of climate change on the energy being dissipated onto the shoreline, in total and severity, by tidal/storm action or rainfall runoff; this is a risk being shared with all asset owners, private and public.