



Environment Scrutiny Panel

Waste Water Strategy

TUESDAY, 6th May 2014

Panel:

Deputy J.H. Young of St. Brelade (Chairman)
Deputy S.G. Luce of St. Martin (Vice-Chairman)
Deputy J.M. Le Bailly of St. Mary
Connétable P.J. Rondel of St. John
Mr. D. Morris (Adviser)

Witnesses:

The Minister for Transport and Technical Services
Assistant Minister for Transport and Technical Services
Director of Operations
Director of Waste Management Strategies
Assistant Director, Waste Water Treatment
Chief Officer
Mr. K. Conlan (Consultant)
Mr. H. Buckland (Consultant)
Finance Director, Transport and Technical Services

[15:35]

Deputy J.H. Young of St. Brelade (Chairman):

Welcome to this second public hearing, discussing Jersey's Waste Water Strategy of the Minister for Transport and Technical Services. Today's hearing will be a little bit different in that the documentation for this subject, produced by Transport and Technical Services that supports their draft strategy report, which is going to be discussed by States in its next sitting, has been looked carefully through by our external consultant. You will note that we have with us today a representative of AECOM, Mr. Dylan Morris, senior engineer. AECOM are international engineers and design consultants and he will be with us raising questions. I should also add that we have just had a session with the Minister for Planning and Environment who took a lot of positions that were hitherto unknown to us on various matters and we will want to, as well as raising the questions we plan to talk to, we will be seeking to get your responses to those points. We will use these 2 sessions productively because time is very short for us to do some comment. Firstly, to introduce ourselves for the record, Deputy John Young, Chairman of the Environment Scrutiny Panel.

Deputy J.H. Young:

Right, thank you very much. I think we would like to begin by what you understand about the legislative framework that the liquid waste infrastructure we will be having to deal with. Can you tell us, with your strategy what will be the main improvements in emission standards that will apply?

The Minister for Transport and Technical Services:

Do you want to kick off then?

Director of Waste Management Strategies Director of Waste Management Strategies:

On the basis of what we are working to at the moment the new sewage treatment works we are planning is to be a conventional activated-sludge process that will give an improved quality of effluent in terms of suspended solids, probably B.O.D. (Biological Oxygen Demand) and probably C.O.D. (Chemical Oxygen Demand).

The Minister for Transport and Technical Services:

Yes, and suspended solids to some extent.

Chief Officer:

Yes, the key benefit for the new works, I think one that perhaps has not been highlighted, is the amount of sewage we treat and the capacity of the sewage treatment works. We have been

limited for the last 15 years on a flow to full treatment that is into the secondary stage of 600 litres a second and that ...

Deputy J.H. Young:

Sorry, can you just speak up a bit, I am having trouble ...

Chief Officer:

Sorry, the flow to full treatment has been limited to 600 litres a second and it will be going to ...

The Minister for Transport and Technical Services:

830.

Chief Officer:

... 830 litres per second for the future. This means that in times of heavy rainfall and times where we suffer from surface water ingress, which we will always do because of some of the Victorian sewers we have, we will be able to deal with more sewage at any one time.

The Deputy of St. Martin:

How have you come to that conclusion that it is going to be 830 litres per second?

Chief Officer:

There are certain formulas that are utilised in the water industry, which works out the amount of industrial load, the amount of people, the amount of visitors and you basically work out your formula flows based on that and that is what we are aiming at.

Deputy J.H. Young:

One of the things that was said just in our earlier session by the Minister for Planning and Environment is that your separation, your plan to separate out surface water from the network, would mean that parts of the network would not have sufficient flows. How would you respond to that?

Chief Officer:

There is quite a lot of misunderstanding about surface water separation. It is an intent and a goal but the reality is there are parts of the network where, for example, the forecourt of a petrol station ... some of our facilities at T.T.S. where you want to collect the rainfall and you want to break through the sewage treatment works because you do not want that finding a water course. Although you can separate from a domestic environment all this sewage and the water from the household and you can use sustainable mechanisms within the household to deal with the waste

water, you can put it twice through the bath but you have still got water to flow through. You are never going to lose all of the flows. What you do is you finish up with less flows and less flows in storm conditions and that is the key thing, to have less flows when you have got heavy rainfall. I think this last winter has highlighted the challenges we face when we have difficult weather patterns.

Deputy J.H. Young:

The Minister for Planning and Environment suggested that one of the problems was there was insufficient flows, particularly from the outlying districts, that when you got storm conditions this resulted in a sudden surge of material that resulted into the plant, which meant that it bypassed the full treatment. How would you respond to that?

Chief Officer:

That is incorrect, that is not based on any facts or any knowledge of the system. That was an incorrect statement.

Deputy J.H. Young:

Yes, the Minister suggested that you have got no information at all on flow rates in the network, is that true?

Chief Officer:

That is incorrect.

Deputy J.H. Young:

Can you just explain to us what information you keep?

Director of Waste Management Strategies Director of Waste Management Strategies:

We have recently built a sewer network model the last couple of years when there was quite a bit of flow verification done on the network with flow monitors. We have quite a lot of information on flows.

The Deputy of St. Martin:

Are there any parts of the network, particularly older parts, where the levels are not quite what you would wish them to be and the flow through the network is not really as good as it might be?

Director of Waste Management Strategies Director of Waste Management Strategies:

Sorry, I do not follow the question.

The Deputy of St. Martin:

Are there any parts of the sewerage network in St. Helier or outside of St. Helier where the level of the pipes is not at the right level for sewage to really flow properly, where you get build-ups? Does that have ...

Director of Waste Management Strategies Director of Waste Management Strategies:

You are talking about silt build up.

The Deputy of St. Martin:

Yes.

Director of Waste Management Strategies:

No, you are talking about flat surfaces.

The Deputy of St. Martin:

I am just talking about ...

Male Speaker:

Yes, flowing across the sewage.

Director of Waste Management Strategies Director of Waste Management Strategies:

Yes, sorry, sorry. Yes, there are certainly the old Victorian sewers in town, particularly we do get issues with silt but we are aware of a lot of those areas and clean regularly, check regularly.

Chief Officer:

We do have an in-house maintenance team that spend their life doing this and we have got that equipment.

The Deputy of St. Martin:

Any ideas of percentage of the total network or the number of metres or yards or whatever it is that is not quite as you would have it?

Chief Officer:

It is a really difficult question. I think sewage is not a standard thing and if you have got issues with restaurants and how people are utilising it, particularly in an urban environment, you can get other issues like fat builds up and grit as well from some areas. Genuinely the earlier the sewer then when you are digging the roads by hand and doing it then they perhaps did not put as much

thought into it as they should have done but it depends on the topography as well. I would guess 5 per cent, 10 per cent would be suboptimal.

The Deputy of St. Martin:

Is there any likelihood in the future that those areas might be replaced with new pipes with the proper fall or was it just cheaper to know that there is an issue and cure it with jetting.

Chief Officer:

Our highest priority is surface water separation certainly within St. Helier, which gives us huge advantage in that. When we stop having to pump lots of water we stop having the inundation into the system when we have high floods because we have quite a small catchment area compared to the U.K. (United Kingdom) or other areas. It is quite a quick response from a rainfall event to it coming into the sewer. The more we can do with separation the better. What that does is it gives us a few things, it takes the pressure off the sewer network and then allows the surface water to flow to sea.

[15:45]

Director of Waste Management Strategies Director of Waste Management Strategies:

What we do with some of the surface water separation schemes is we never combine a sewer that takes rainwater and foul, which is quite a large sewer. If there is a risk of taking surface water off and causing issues we put a new surface water sewer in but a smaller foul one as well, so we take the big one out.

Deputy J.H. Young:

You have got a computer model of those.

Chief Officer:

Yes. As Steve said, we have had a model over the last few years. We have had a model for a long, long time but we have spent the last probably 5 years updating that to a ...

Director of Waste Management Strategies Director of Waste Management Strategies:

Well, it is a newer one.

Chief Officer:

... state of the art system, which is a live model and a dynamic model that we can do very elegant simulation on now.

Deputy J.H. Young:

Has the Minister for Planning and Environment at any of your meetings ever asked you for that information or asked to see the model or asked about it?

Chief Officer:

No.

Deputy J.H. Young:

Has it been discussed in any of your meetings of the Ministerial Steering Group?

Chief Officer:

Yes, on the Ministerial Oversight Group for Liquid Waste we have discussed sewerage systems, yes.

Deputy J.H. Young:

Yes, but has this issue of the water-based flow system not been raised by the Minister for Planning and Environment at those meetings?

The Minister for Transport and Technical Services:

Not to my knowledge.

Chief Officer:

The Minister for Planning and Environment has raised other options, which is a non-liquid-based system.

Deputy J.H. Young:

He has.

Chief Officer:

He has raised that, yes.

The Deputy of St. Martin:

What was the outcome of discussions when he raised that? Were there any outcomes from those discussions?

Chief Officer:

Sorry, what was ...

Deputy J.H. Young:

Yes, the Minister for Planning and Environment took a very strong position that we should not be looking at a water transport system at all.

The Minister for Transport and Technical Services:

Yes.

Deputy J.H. Young:

We queried with him why this had been a late submission because up until now we had not seen that position being taken in any papers. I wanted to get it clear whether this had been discussed in the Oversight Group and your reasons for not following it up.

The Minister for Transport and Technical Services:

In the Oversight Group lots of things were discussed and obviously the Minister for Planning and Environment expressed a preference for deep-shaft technology, composting toilets and all sorts of things. But our expert advice is to go with a replacement plant that we have now.

Deputy J.H. Young:

Okay then.

Chief Officer:

Just for clarity, at the Ministerial Oversight Group there was the vote from the political members on whether there should be more research undertaken into a non-liquid-based system and a majority decision suggested it should not be taken forward. It was more about the perception of having a composting toilet and a bagged system to be taken somewhere.

Deputy J.H. Young:

A what system? A bag system.

Chief Officer:

A bag system where you basically compost your contributions and then you would take it to a central area where it would be processed or composted or whatever.

Deputy J.H. Young:

You mean a bit like a refuse collection, the house has a collection where they collect it from.

Chief Officer:

Exactly, yes. I think the view from the other members of the Ministerial Oversight Group was that that would be a retrograde step for a modern society and one where the majority of societies are moving up the scale of things in a sewerage network and a flushing toilet in your house is a luxury which everybody aspires to. They did not feel as though moving away from that and disconnecting toilets within households to go to a composting toilet would be a step that would be accepted by the public of Jersey.

The Deputy of St. Martin:

Minister, are you aware that the Minister for Planning and Environment was instructed in his response to Scrutiny that he was not to mention a dry composting system and that he was only to mention the replacement system that was to go at Bellozane?

The Minister for Transport and Technical Services:

I was not aware of that.

Deputy J.H. Young:

Okay. Let us just move on from that now. You spoke about one of the major gains from your plans is that the flow rates will move or increase, did I hear you right? Is that because of your predictions for expected population increase or extra rainfall or what is it?

Chief Officer:

It is the formula flow that we need based on ... we have that to model population increase and it is based on the figures I think the States have agreed as the interim figures that are 325.

Director of Waste Management Strategies Director of Waste Management Strategies:

Yes.

Chief Officer:

We have also had to take into consideration the tourist industry and the number of beds we have, the number of people who visit Jersey because you cannot ...

Deputy J.H. Young:

Could you speak up because I ...

Chief Officer:

Sorry. You cannot bottle this and store it. Once people contribute then you have got to deal with it. The system has got to have enough capacity within the system where it can deal with the eventuality but also it cannot be too big because it then stops being an effective process.

Deputy J.H. Young:

This increase in volume you need it to work the system properly and that calculation is taken into account, tourism increase, population increase. As I understand it, you have used the population assumption and a plus factor, is that correct?

Chief Officer:

Yes. It is a population equivalent, which is the standard mechanism for sizing sewage treatment works and you have got to have some capacity within there. We have also, as part of the design and the design concept, allowed us to expand and to increase. If Jersey's population changed fundamentally beyond those predictions we have designed there now our conceptual design and within the configuration an ability to increase that capacity.

The Deputy of St. Martin:

Minister, we are now looking at an increased flow and increased amounts of water but we have seen the reports that 75 per cent of your pumping stations are not in good repair. In the scale of 1 to 5, which 5 being the worst, 75 per cent come in the region of 3 to 5, 37 per cent are in category 4 and 3 per cent are in category 5. Do you feel that you should be spending a bit more time and effort and money on updating your pumping stations, given you have got predicted increases in flows?

The Minister for Transport and Technical Services:

There is a planned maintenance programme.

Chief Officer:

Can I just clarify the increase in flows? We are increasing the flow to the secondary treatment aspect, which means that the pumps at First Tower, the flow through First Tower increases a marginal amount. We are not planning to pump more, we are planning to treat more.

The Deputy of St. Martin:

Okay.

Chief Officer:

Pumping stations wear out and pumping stations and mechanical electrical elements of a pumping station you are lucky to do 15 years. The rising mains have done 30-odd years and we are due to, I think, replace most of them.

Director of Waste Management Strategies:

We have got quite a few of the older ones to replace.

Chief Officer:

Yes. They are a mechanical device dealing with difficult things every minute of the day.

The Deputy of St. Martin:

We do not doubt that at all. Our concern is that we found, when reading the reports, that the pumping stations are not in best condition.

Chief Officer:

Yes.

The Deputy of St. Martin:

We do not expect them to be pristine but, at the same time, it would have been nice if we had seen 2 to 4 rather than 3 to 5.

Chief Officer:

Yes, we are aware of that and Ellen has been investigating those. They are quite tricky things to work on because you need them and we have got a programme of replacing pumps and replacing panels, which are the key things that wear out and we are probably a bit behind on that. Our sewage network is in really good fettle but the sewerage pumping stations are difficult but we have got a plan and we are fairly well clear on the panel side on that.

Director of Operations:

Replacing about 30 panels, as we speak at the moment and we have also secured the money to do the maintenance on the pumps. We have got additional mechanical resources now doing maintenance at pumping stations and we are just working through that programme. We have also got money to do the signals works, which is £250,000 a year.

The Deputy of St. Martin:

That is reassuring Minister because there is little point in having a spanking new treatment works and a fantastic sewer system if the pumps cannot move the liquids around.

The Minister for Transport and Technical Services:

Absolutely or in the plant maintenance.

Deputy J.H. Young:

Though I think we want to be clearer about what the capital forecasts include and what they do not include. For example, as we understand it, we have got here in the feasibility report a breakdown of the £75 million, which we understand is for the sewage treatment works and then we have also got a separate figure of £134 million for a total cost over 20 years. When one looks at the list one cannot find the works of these rising mains and the pumping stations in the £75 million. I want to be clear, what is your agreement with the Minister for Treasury and Resources on what funding is certain and what is uncertain and, therefore, cannot be done unless extra money is provided? Can you be clear and help us with that?

Director of Waste Management Strategies:

The strategy ...

Deputy J.H. Young:

I suppose because we do not want to end up agreeing a plan as half a plan when we do not know with clarity what it is going to cost to see it through and where that money is coming from.

The Minister for Transport and Technical Services:

In the info here.

Chief Officer:

If we ask John, John our F.D. (Finance Director) will explain.

Finance Director, Transport and Technical Services:

The strategy, as it is written, is dealing with the sewage treatment works part of it but our infrastructure rolling vote deals with a lot of the other maintenance aspects of the programme. Over the 20-year period what we are looking at is the cost of replacing the S.T.W. (Sewage Treatment Works) as part of this strategy but our existing capital allocations deal with the rolling programme of rising mains, pumping stations and so on.

Chief Officer:

And sewage.

Finance Director, Transport and Technical Services:

Our forecasts will be met within our future allocations to that.

Deputy J.H. Young:

Providing you get them.

Chief Officer:

The agreement with Treasury is 1 per cent of our asset value is given to us every year as part of a gap analysis, a gap mechanism for paying for infrastructure, so that is money that we have been secured to the Treasury.

The Connétable of St. John:

That is locked in for how many years, basic, yes?

Chief Officer:

You can only lock it in annually, Constable, but it is something that we have now got an agreement with Treasury for.

The Connétable of St. John:

Do you believe 1 per cent is the right figure or should it be more?

Chief Officer:

That is a great question.

The Connétable of St. John:

Let me know what the answer is going to be.

Deputy J.H. Young:

Tell us, we want to know facts.

The Connétable of St. John:

We want it on record. It should be more.

Chief Officer:

Yes. It has been more than we have had in the past. It has allowed us to maintain our assets to a better standard. We have been very fortunate in Jersey in that our predecessors have invested heavily in a sewage network and the systems. Our sewage system is in a good state of repair and we can maintain that for the money we are given.

The Connétable of St. John:

Yes, but if our pumping system which, at the end of the day, if those fail because you are grade 4 and 5, all decide to go at once we have got problems, so that is where you could do with additional funding, just to make sure nothing got to below 3 in your grading. All right, you may have the odd one but you should be making sure that the system you have put in place, you say your system is at the top end, we want the entire system at the top end, so how much extra funding would you need to make sure that everything is kept up to scratch? Instead of £1 million guaranteed each year, what would you like as the figure? Not like, what would you need as the figure?

Chief Officer:

I do not think we are so far off it. The difficulty with the infrastructure rolling vote is we have got to share it between roads, which we know about, do we not, and sewers and these issues? We have always got a trade off in T.T.S. and as a Scrutiny Panel you have worked with us for the last 2½ years on discovering that and we can always do with more money. We fell behind with the road programme, which you know about. To get back up to speed with that we would need another £3 million a year for a period of time. With pumping stations I think a couple of years with a couple of million in each year would get us back on track and then we would be able to maintain it for the 1 per cent.

The Connétable of St. John:

Minister, you are going back to the Council of Ministers and ask for another £2 million for the next 3 years, year on year, to give you sufficient bang for your buck or whatever you want to call it, so that you get everything back up to the 1s, 2s and 3s and we can knock off the 4 and 5 grades in this report.

The Minister for Transport and Technical Services:

We have got an ongoing dialogue with the Minister for Treasury and Resources at the moment who has been very understanding.

The Connétable of St. John:

No, but are you going back?

Deputy J.H. Young:

Right, but would you not accept Minister ... sorry to interrupt but we have got a report that says the condition of the pumping station is poor, do you accept that?

The Minister for Transport and Technical Services:

I would not say poor. It obviously needs some repair ...

Deputy J.H. Young:

I think it comes from your report.

The Minister for Transport and Technical Services:

It needs upgrading, which Ellen is to..

Deputy J.H. Young:

Therefore, for us, there is no point in spending £75 million if the pumping gear that is getting the material to the plant is not up to speed.

Chief Officer:

I think you are making a link that is ... we have not done it because the money ... there have been other issues with the pumping station refurbishment which have been about resources, design, ability to do it and it has been more than just the money. If we are doing 30 panels, 30 panels is a huge amount of work because each pumping station needs to stay operational while you change the panel out and that is not an easy job. You just cannot turn them off because they are constantly in use, 24/7, 365. The logistics and planning alone are difficult.

[16:00]

The Connétable of St. John:

The question I put, Minister, will you go back to the Council of Ministers and say: "Right, to get this up to where we need to be with all our new equipment we are putting in, we need another £3 million for the next couple of years, year on year, within our budget"? Will you go and do that?

The Minister for Transport and Technical Services:

I am always asking the Treasury for more money.

The Connétable of St. John:

No, will you go and do that, that is what I am asking? I am trying to get you additional funds to make sure that you come out with a gold star and not a bronze star.

The Minister for Transport and Technical Services:

It is not a question of stars for me, it is having a sewerage treatment works that is ...

The Connétable of St. John:

You are not answering the question.

The Minister for Transport and Technical Services:

... suitable for the Island.

The Connétable of St. John:

It is yes or no.

The Minister for Transport and Technical Services:

I will do my best to get more money for whatever we need.

Director of Operations:

Over the last couple of years though we have secured additional money, so where we had, say, £2 million per annum it has now gone up to roughly £5 million per annum and that is why we are going to really hope to catch up with the backlog of maintenance that is required on rising mains and pumping stations and doing some of the surface water infiltration works. We have now secured the money. I think it is about us trying to go and deliver those projects.

The Deputy of St. Martin:

I am sure you are familiar, Minister, with the concept of polluter pays.

The Minister for Transport and Technical Services:

Yes.

The Deputy of St. Martin:

At some stage surely we are going to have to start charging people to use our sewerage system. We do at the moment, those who have to have tankers to empty their tight tanks, pay your charge and they see a tanker turn up with some of your men doing a very unpleasant job, which we are always grateful for, those that put their sewage into the main drains do not see all the expense that the taxpayer has to go to to maintain the system, to maintain the pumping stations. When are you going to be coming to the House with proposals to get those people to contribute something towards the considerable cost of maintaining our sewerage system?

The Minister for Transport and Technical Services:

It is not something that I am progressing at the moment.

Deputy J.H. Young:

Minister, your report sets out that you will look at all these options.

The Minister for Transport and Technical Services:

We look at all options.

Deputy J.H. Young:

Yes, but I think you are not ...

The Minister for Transport and Technical Services:

But a sewage tax is not something I am progressing at the moment.

Deputy J.H. Young:

Right, so, therefore, in the report we could comment that even though it says that you will look at alternative funding, you are not going to do it.

The Minister for Transport and Technical Services:

I said it is not something I am progressing.

Deputy J.H. Young:

Right, so the States need to be advised that they can discount that possibility when they debate it.

Director of Waste Management Strategies:

I think the report and proposition says there is no new taxes in position ...

Deputy J.H. Young:

No, but I mean the report highlights the issue of funding and I am not surprised when we have got £200 million in all, £75 million and I assume that is coming from M.T.F.P. (Medium Term Financial Plan) allocations, plus another £130 million. I am not surprised that funding options is an issue that should be looked at but you are telling us that; "It says it in the report but we are not going to do it, not look at it".

The Minister for Transport and Technical Services:

I did not say we are not looking at, I said it is not something I am progressing at the moment.

The Deputy of St. Martin:

Do you think it is fair, Minister, that some parts of the population pay to have their sewage transported from their house to your plant at Bellozanne and others do not because that is what is happening?

The Minister for Transport and Technical Services:

I know it is not fair, which is why we are trying to get as many people as we can on to the main sewerage network.

The Deputy of St. Mary:

Does that also mean that you will be considering extending the network into the north of the Island?

The Minister for Transport and Technical Services:

Yes, as much as we can.

The Deputy of St. Mary:

Is there a timescale for that?

The Connétable of St. John:

Will you give thought to putting satellite stations in, as we have already got one in Bonne Nuit?

The Minister for Transport and Technical Services:

Yes.

The Connétable of St. John:

Would that be one of your options?

The Minister for Transport and Technical Services:

That is something we are looking at, yes.

Chief Officer:

The reality is that I think that the decision about sewage charges and the history with sewage charges is a very political decision but the reality is lots of things T.T.S. do in other places are charged for. We have an Energy from Waste plant where the cost for the commercial people utilising it to take their waste to it is free and I am still trying to find another jurisdiction in this world where that happens and I cannot. There are lots of things that T.T.S. do that the taxpayer has funded for many years but the reality is it is inequitable that that continues, very difficult and very political decisions.

The Deputy of St. Mary:

At the moment people are of the idea that while you are charging them for a tanker system you will not be putting main drains in because you are getting money out of them anyway.

Chief Officer:

We would stop it tomorrow, John, because we do not make any money out of it. It is a subsidised service, it costs us money and environmentally a septic tank soakaway is not the optimum solution. The Constable's summation that a package plant in Bonne Nuit is something we could replicate and we certainly could. There are lots of other options. There are options of private systems, which there is another 300 in the Island at present and extending them is something that we are certainly focused on. The challenge is the cost versus value argument on some of the plants or extensions. We got to the point 10 years ago where the actual value added did not outweigh the high costs we were paying for this foul sewer extension we put in.

The Deputy of St. Martin:

Surely though all those things you have just mentioned, the fact that the tanker system costs you money and the cost of extending the network into the countryside is just a good case for charging people to use main drains.

Chief Officer:

It is, I agree.

The Deputy of St. Martin:

You are at a contretemps with your Minister then over the charging for the use of the system?

Chief Officer:

No.

The Connétable of St. John:

What work have you done on wayleaves in place given that many sewerage pump systems need to cross the other person's land and there is a ransom strip? Have you done any work in putting wayleaves in place?

Director of Waste Management Strategies:

Not physical work at the moment, no. It is in the strategy to look at that, and part of the proposition is that the Minister for T.T.S. will be tasked at looking at options for doing that. It is something that we want to do because it does cause us a problem in terms of people wanting to have the funding to connect but cannot connect because of ransom strips if you like.

Deputy J.H. Young:

Will looking at options include use of compulsory purchase of land to enable some of those outlying networks to go ahead?

The Minister for Transport and Technical Services:

I am not looking at compulsory purchase but there are new systems that are non-intrusive in crossing people's land which can be very beneficial. I believe in the old days you had inspection panels for every 50 yards or something and that is not required with new modern devices. It can be tunnelled through and really good quality pipe work put through.

Deputy J.H. Young:

Do you think that will deal with landowners' objections?

The Minister for Transport and Technical Services:

I think it will help certainly but there will always be a ransom strip which the Constable is well aware of. It does happen from time to time but that is going to be a work in progress.

Deputy J.H. Young:

That is where compulsory purchase comes in, does it not? If you have somebody who demands a ransom price for a sewerage connection which is vital to serve the community that is what that power in the law is for, is it?

Director of Waste Management Strategies:

Yes, the law allows you to lay a sewer across private land but if you recall a former Minister for Transport and Technical Services tried to do that on behalf of the developer so there are issues.

The Connétable of St. John:

What about putting legislation in place? Do you work in legislation whereby you will limit the amount a landowner can charge a person or a household to cross their land because that is one of the biggest issues I have come across, as you know my background, is getting from A to B across a field to find your closest main, and there is a ransom strip of anything between £10,000 to £20,000 per household.

Chief Officer:

One of the things we have looked at as part of this strategy and because of the foul sewer extension although it is our intent to do it we need to do it in different ways and will be using micro bore pipe work, macerated pumps and the systems that the private contractors utilise. There is a balance between enabling and what we would like to look at is the difficulty ... at the moment is the law in place for us and for the Minister to grant those wayleaves. What we are looking at is various mechanisms where there is a schedule of charges where the landowner gets a reasonable figure, the person wanting the pumping station pays a reasonable amount, and it is that reasonable balance. There are real issues when you start talking about developers and

developers' profit and various other things. One of the options we are looking is perhaps the Ministry is advised by a sub panel and we can take a more balanced view on the benefits, the environmental and social benefits of that pumping station and that connection. That panel advises the Minister for Transport and Technical Services who then makes a decision with a broader basis.

Assistant Minister for Transport and Technical Services:

You have 2 or 3 issues. We have your side of the argument possibly from the point of view is you want to get the facility in to get the connection to the main drains. The other arguments that come out of that are obviously any existing property owner who is not on main drains and clearly gets an uplift in value so should the landowner have the drains put across their land which automatically gives somebody an uplift in value without having an appropriate compensation? The other issue you go back to the toilet tax charge, the sewerage charge is we charge everybody who is connected to the main drains already then what they are paying income tax for? It is a very large argument. It is not just bang, let us do it that way.

The Connétable of St. John:

No, you are moving the argument now.

Assistant Minister for Transport and Technical Services:

No, I am just saying I am giving you the other side of the argument.

The Deputy of St. Martin:

Why are you therefore charging people to use tankers?

Assistant Minister for Transport and Technical Services:

That seems to be the thrust of the strategy is you deal with that issue rather than trying to deal with the 87 per cent who are connected to the main drains.

The Deputy of St. Martin:

If you accept the concept of polluter pays why do you not feel that you should charge some people?

Assistant Minister for Transport and Technical Services:

I know I am just saying it is about what the concept of income tax is for. You have certain taxes for the provision of general services, and going to the toilet is one of the most basic services you can provide or at least the treatment of sewage as a result of it. If you want to turn around and say: "Drop income tax by a per cent," fine, but it is about the theory of what you are paying your income

taxes for in the first place. I am not giving a policy at the moment I am giving a view that that is the other part of the argument that you need to consider in the round.

Deputy J.H. Young:

Yes, I merely wanted to establish whether it is going to be part of the strategy whether these issues are going to be looked at in terms of funding these matters. Just picking up the Constable's point, this issue you spoke about wanting to change the distribution of the financial gain where these connections are made. That suggests to me you may need to seek to modify the compulsory purchase of land acquisition or is that something that you have gone into anyway?

The Minister for Transport and Technical Services:

Possibly.

Deputy J.H. Young:

Thank you for that. Could I move now just to clear up this question of what is in the project moneywise and what is not before we get on to some of the more technical things? Our adviser who has gone through this carefully advises us that there are bits of the strategy which are already funded separately, for example Phillips Street shaft is clearly already funded. It is clearly an important part of the network. As we understand it will certainly help the performance of the cavern when we get storm water conditions. Are there any other parts of the network apart from what we have just discussed about pumping stations because obviously we dealt with that specifically which come from other funds which are unknown or are pre-existing?

Director of Waste Management Strategies:

No, I think just Phillips Street shaft is the main project.

Deputy J.H. Young:

How much is that?

Chief Officer:

It is in the contract. Obviously you are talking about the network.

Deputy J.H. Young:

How much is the Phillips Street? How much is that?

Chief Officer:

I think it is £5 million.

Deputy J.H. Young:

Twenty five? There is already an extra 25.

Chief Officer:

Five.

Deputy J.H. Young:

£5 million. That is fine.

The Deputy of St. Martin:

If we extended the outfall into St. Aubin's Bay is that funded under this strategy?

The Minister for Transport and Technical Services:

That is not currently funded, no.

The Deputy of St. Martin:

It is not currently funded at all.

The Connétable of St. John:

The sludge system, how much is that?

Chief Officer:

Ten.

Deputy J.H. Young:

Can we just check this surface water out because we have looked at your document here called *Feasibility Study Report* of March 2013 on page 69 which gave us a breakdown of £75 million which we assume is the figure that is going to be bid for or funded, and it seems to include effluent outfall, 3.575. What is that for, please?

Chief Officer:

That is the remediation of the existing outfall.

Deputy J.H. Young:

It is not to extend it?

Chief Officer:

It is not an extension.

Deputy J.H. Young:

What does remediation mean?

Chief Officer:

Remediation.

Deputy J.H. Young:

What does that mean?

Chief Officer:

It is renewal, reconditioned. It is basically to fix it.

Deputy J.H. Young:

To improve its aesthetics or just what?

Chief Officer:

It is hard to improve.

Deputy J.H. Young:

We understood in the strategy that part of the proposal was to bury it. Is that not happening?

Chief Officer:

The existing outfall served the Island for the last 50 years and has suffered a significant amount of deterioration and it needs to be basically fixed which is a structural and hydraulic work on the outfall mainly internally.

The Deputy of St. Martin:

Is that all the way from the works to the outfall or to just on the beach?

Chief Officer:

No, it is the works to the outfall.

The Deputy of St. Martin:

All the way through.

Chief Officer:

Yes, because it runs under carriageways.

Deputy J.H. Young:

Yes. That money is not for...

Chief Officer:

No, any extension to the outfall.

The Deputy of St. Martin:

If you are going to replace it you are going to put it below the level of the sand when it is on the beach?

Director of Waste Management Strategies:

It is unlikely to be replaced, it will more likely be refurbished.

The Deputy of St. Martin:

It would be a relining basically.

Director of Waste Management Strategies:

Yes, or something like that.

Chief Officer:

When we were looking at extending the outfall which we have had probably 5 years of discussion about then we were looking at getting that hopefully as low as we could on the beach because of the significant effect it would have on the amenity value and the use of the beach.

[16:15]

Deputy J.H. Young:

It already has that effect.

Chief Officer:

Yes, but only for a short part of the beach.

The Deputy of St. Martin:

If it comes to the cost of a denitrification plant or an extension to the outfall surely you are going to want to go to the outfall though, are you not?

Chief Officer:

That is an interesting discussion and one which I think we have probably moved on with which Kieran should perhaps answer.

Mr. K. Conlan:

What I was asked to do was look at what the regulatory requirements is at the moment, where it might move to in the future. Something that we found interesting when we started out was the current regulatory requirements for urban wastewater treatment directive as you know it is predicated on that 1991 one when that came out, and there were certain requirements round Europe at the time for sewage. That in effect dictated what Member States should do. Regulation, it is a question you asked right at the start and I think it is probably right to bring it up at the moment is regulation has moved on in Europe in many ways and one of the key ways it has moved on, it has probably been talked about already is the Water Framework Directive which is a receptor based regulation. Rather than being very prescriptive about process it has said: "Right, not everybody is going to need everything all of the time. We are going to have a look at more what is appropriate in a particular place", and obviously St. Aubin's Bay is a particular place. What that does is it changes the dynamic regulation and it says: "What does this place need?", and it says: "Let us look at the ecology and the ecosystems of this place, and then let us work out from those receptors what is appropriate", and then work back from there. It is a different way of regulating. When I came into this we started to talk to D.O.E. (Department of the Environment) about how they might want to regulate in the future, and they are along a journey along the way to putting the Water Framework Directive in place. One of the elements of that then becomes is there an impact of the existing sewage treatment, sewage discharge in the bay. If there is what do we do about it and there are various ways that you could remedy that if there were to be an issue. A lot of the work that I have been doing over the past year and a half has been trying to work out what the immediate impact of the existing situation is from which then you can work out what the remedy might be. I think it is contained in the report that what the previous round of investigations said was that as a precaution they would put nutrient stripping in with the last round. What we have found is that the water quality in the bay is of good status in terms of Water Framework Directive, the way that they have put it is it is of good status and it has not deteriorated over that period, quite a long period. We have been looking at what is the issue. We are still in the situation where we the community, the people, T.T.S. and the Department for Environment, are in those discussions at the moment. We feel the water quality has not deteriorated. It has been good throughout and the issue for us is then what the implication is on ecology. We are going into a planning application and discharge consent or a discharge permit discussion and debate, and it all surrounds is it necessary to do nutrient stripping although at the moment we state we do not think it is from the evidence we have, and is it necessary to put a longer outfall in place. Again at the moment with the information we have to hand we have said we do not think it is because we have

not seen any detriment to the environment that is related to its discharge. At the moment we have this week people going out into the bay, we are going to be collecting and monitoring data. We are going to develop a model and we will be able to run scenarios to see if the existing situation is the right one and gives sufficient protection, and if not then those 2 scenarios might be ones that we might want to run as potential remedies should we see that there is an issue with it. At the moment we do not feel that there is.

The Deputy of St. Martin:

But then to be fair it is not yourself that is going to make those decisions, is it?

Mr. K. Conlan:

No, I just feed in that evidence and it is for others to make that decision.

Deputy J.H. Young:

The Minister for Planning and Environment told us or at least the officers when we pressed them and spent quite a bit of time on this is that the situation was emerging is that they could not be certain about this until 2015. The Minister for Planning and Environment was very, very strong is that we must follow precautionary principles. We must follow E.U. (European Union) to the best standards and his view was there should be a denitrification plant.

Chief Officer:

Is that what he said?

Deputy J.H. Young:

Yes, he did. We pressed him strongly on particularly when we had conflicting results that the 1997, I think it was, assessment of the bay was that it was subject to eutrophication and therefore blooms of sea lettuce, but highly relevant to that discussion is whether it was zone A, zone B, zone C. At the moment the effluent goes into zone A, and there does not seem to be a doubt that zone A is sensitive the closest to the foreshore and they said it was tied up with issues about the degree of dilution and the circulation in the bay.

The Deputy of St. Martin:

To be fair though on the other hand we did also ascertain that the latest results show that the bay is not into eutrophication so they really should not be imposing limits on you but that the situation is not quite as clear as that and there is ongoing testing for other results coming out in 2015.

Mr. K. Conlan:

I think that is right but we had a discussion in a meeting with the Department of the Environment 2 weeks ago where we wanted clarity as we start this process, clarity on where we think we are and then an understanding of the types of evidence we need to collect to arrive at that decision. Is there an impact? If there is an impact that is unacceptable what do we do about it? We had quite a lot of debate with the Department of the Environment about what is our current understanding. Our current understanding which I think is an agreed statement is that it is not a sensitive area and relevant to a wastewater treatment directive. They are happy that zones B and C, and we do not want to get too bogged down in that but that is the general bay and the wider marine environment, does not trigger that sensitive area designation under a wastewater treatment directive.

Mr. D. Morris:

Two questions first of all, you mentioned the quality of the water was good in St. Aubin's Bay under the W.F.D. (Water Framework Directive).

Mr. K. Conlan:

Yes.

Mr. D. Morris:

Its interim classification is moderate, is that correct, because of high nutrients?

Mr. K. Conlan:

No.

Mr. D. Morris:

We have a set of common responses on a report from the Minister for Planning and Environment.

Mr. K. Conlan:

That is not correct, no. If you have a look, we agreed last Tuesday on the basis of the data that the chemical status in the bay is good.

Mr. D. Morris:

The comments are incorrect.

Mr. K. Conlan:

Can you repeat the comments?

Mr. D. Morris:

The bay has an interim provisional classification of moderate status.

Mr. K. Conlan:

That is different. That is based on the ecological status of the bay. With the Water Framework Directive, I have to go a bit technical, there is a chemical water classification and an ecological classification. The overarching classification is taken on the base of the worst of those classification statuses. That is the way it works. At the moment with a year's data they have said that the ecology in the bay is of moderate status. Again part of the agreement that we have on last Tuesday, a week on Tuesday, was that we have some misgivings around that status and we have been open about that. I am not entirely convinced that the locations that are used are appropriate for the Water Framework Directive, and that they are going away to check those.

Deputy J.H. Young:

He told us one of them was La Haule and the other one was Victoria Pool.

Mr. K. Conlan:

They said there were 3, and we have never really had extremely good locations.

Director of Waste Management Strategies:

I think that is the bathing water at that location.

Mr. K. Conlan:

They are different. I think they have 3 locations in the bay, and we are trying to find out where they are and then particularly the middle one of those because that might be close to the outfall in which case you would not use it.

The Deputy of St. Martin:

If you do not know where they are how are you then in conflict with them over where the sitings are?

Mr. K. Conlan:

No, what we are saying is we know roughly where they are but we do not know precisely where they are.

Chief Officer:

Can I just sort of set up a bit of a non-technical view of this because this does get very technical and that is one of the reason we brought Kieran in? To get any firm evidence of any detriment or

any improvement you basically need 5 years. What we do not have is 5 years. We have a sewage treatment works which is degrading annually because of the technology that we have installed. The sewage treatment work does not meet its standard and we have had a decision from the Attorney General to state that we have to go forwards and improve the situation. What we have agreed with the Environment Department is we will deliver the asset replacement and then they lead in terms of if we do not meet the standard then we will go to the next phase.

The Deputy of St. Martin:

I think we accept all that, Chief Officer. What we are just trying to do here, and we have no dispute with anything that you have just said, is to work out whether we would prefer to spend less money on extending the outfall or a lot more money on a plant, a bolt on add on, after you have finished building your new plant.

Chief Officer:

In terms of extending outfall there are real challenges to that, one, telling people about Jersey's tidal systems which you know a lot more than I do, but extending the outfall is a massive undertaking. To get it out the bay is I think 5 kilometres of main which requires pumping. There is devastation in terms of installation of the sea grass and all the issues there. It is a very challenging engineering project of a huge cost and huge risk. We have also found indications that the nitrate levels further out to sea are just as high as they are at the foreshore. The other point to note is St. Aubin's Bay is affected by the sewage treatment works and pretty much every stream in Jersey which discharges into St. Aubin's Bay because of the topography. It is a multi-faceted issue and one where the Water Framework Directive allows you to pull other levers like better farming practices and other things to assist the situation there.

Deputy J.H. Young:

We were told the pollution roughly is 50 per cent S.D.W. (Solid Domestic Waste), 50 per cent other sources, is that correct?

Male Speaker:

That was the nitrates.

Deputy J.H. Young:

I am sorry, nitrates.

Mr. K. Conlan:

The issue is what we found is there is a general issue about lack of data and lack of evidence. We are at the moment in a process of collecting data. We are going to be developing a model of the

system so in a relatively few months time we will have far more information on which to base a sound decision. That is the first thing. Just to answer that specific question, the work that we have done would show that the predominant nutrient source in the bay is from the external marine environment, then the sewage works and the streams in the general catchment area depending on the time of year. In the summer I think it might be slightly more sewage treatment, slightly less streams. In winter it is the converse of that, more from the streams and less from the sewerage works.

Deputy J.H. Young:

When will you have that new information?

Mr. K. Conlan:

In the next 3 to 4 months. The model should be built then. In the next 2 weeks we are going to have some very good local information quite intensively from the bay on water quality and how that operates over spring and deep tides.

Deputy J.H. Young:

With the difficulty that we have is that clearly at the moment it is out as it were. It is not proposed to do this. The Minister for Planning and Environment says it should be done. We heard at length about how papers were referred to the Attorney General, the file had gone because you did not meet the standards in I think it was 2009 and 2010 that there was no question of an evidential test. The figures we were given up to 28, I think, was it not, something like that, whatever the unit of it is that it was over the limit. The Attorney General has advised that there would not be a prosecution because of the public interest test and because there was a clear need to do something about it. Environment could not be specific as to where this something is. They could not pin this down and we are certainly troubled that there is this doubt and uncertainty at a time when we are being asked to approve this project because it is a massive financial impact on the project. If it came that that bay was classified as having to have denitrification measures it would trigger another £30 million, would it not? That is what would happen.

Chief Officer:

Yes that would be 10 years off.

Deputy J.H. Young:

Sorry? You think that is 10 years off?

Chief Officer:

It is 10 years off because you need 10 years.

Deputy J.H. Young:

Can you just explain why? I must have missed the point.

Chief Officer:

At the moment we are in a situation which does not meet the standard and we have to do something about it. That is going to take us 5 years to build. Then we need 5 years of data after we have done that to see the effect in the bay. This is about how the bay behaves with the inputs that we give it. What you cannot do is you cannot say: "Hold it there, we will do some testing for 5 years", because I can tell you now it will get worse over the next 5 years because the existing works is not coping. The existing works is going to cause more and more problems because of the technology we have installed.

The Deputy of St. Martin:

That begs the question why are we bothering to do this testing at the moment then.

Chief Officer:

We are trying to gather as much information as possible to make sure the Environment Department feel confident with what we are doing. We are confident with what we are doing but we are trying to make sure the Environment Department feel confident with what we are doing.

The Deputy of St. Martin:

Yes, you want a baseline as of a certain date.

[16:30]

Chief Officer:

Exactly, yes. You cannot ever have enough data with these things.

Deputy J.H. Young:

No, but from what you have said if I have it correctly, the monitoring and the sampling and all that will go on for the next 5 years.

Chief Officer:

It will go on for ever.

Deputy J.H. Young:

Yes, okay, but during the next 5 years we will find out whether the goalposts are going to move but we may not have a plan to deal with it.

Chief Officer:

No, we have a plan.

Mr. D. Morris:

Okay, so there is no threat that if it is decided that the bay is sensitive by next year by June 2015 or July that will not trigger the need for denitrification or nitrification if the nutrient levels are regarded as higher because it does state in here it is moderate for ecological reasons? I appreciate you saying it. I do not think it is.

Mr. K. Conlan:

I am saying if it is.

Mr. D. Morris:

Yes, I have that. I have that.

Mr. K. Conlan:

That is quite different.

Mr. D. Morris:

Yes, of course; I am not putting you on the spot. That is not the intention.

Chief Officer:

One of the things with the denitrifying plan is the energy use is at least double if not triple. There is a carbon element to this. We have done this once badly as an Island. Let us be really careful before we go down the same road again and being precautionary to the extent where you can chuck a load of money at it, a load of energy at it is fine and it was probably fine when you had an energy form next to it but we were not getting any money for our energy. Energy was not even looked at in the 1990s. Now energy is one of the key things moving forward and we have to optimise and make sure we have put the most efficient plan as possible in place.

The Deputy of St. Martin:

There is the same case for the same old incinerator where we did not put the correct measures in place, or not at the time as we realised and we were remiss in what was coming of the chimney at Bellozanne for a number of years and I think the case is being made here that what we need to be sure of is that we are not being remiss in what is going to come out of our new sewage treatment works.

Chief Officer:

One of the main focuses of the design team, and I think that so far ... this is prior to contractor involvement and consultation, I think we have had 28 iterations on the design. We have insisted on its future proof so whether it is carbonaceous, it is nitrified, it is denitrified, all those options are available in the land and the land take we have. Whether it needs to get bigger in certain areas, we need to shrink in certain areas, we need another additional site plan or whatever, we have made sure that there is enough space now for the next 50 years.

The Deputy of St. Martin:

Are you categorically 100 per cent sure there is enough space to build an activated sludge pond on site?

Chief Officer:

We are, 100 per cent.

The Deputy of St. Martin:

You are 100 per cent sure?

Chief Officer:

Yes.

The Deputy of St. Martin:

There is no possibility of when you come to do the detailed plans that you have not allowed a couple of metres for some pipe to run down here, the road had to be moved and this had to put round here. All of a sudden you do not have space to do it. You are 100 per cent sure you have the space there.

Chief Officer:

We have, and it is practical and we will be able to do it. That is why it took I think 28 versions of the design. I was not very popular.

The Deputy of St. Martin:

Can I just ask what the sequence batch ... it seems a suitable alternative. Can you explain why you preferred the option you have gone for?

Chief Officer:

Can I hand over to Harold?

Mr. H. Buckland:

It is a conventional treatment which we are proposing for Bellozanne, which I think is important on the Island because they have to be able to stand alone without having to get lots of input from the mainland. S.B.R.s (Sequencing Batch Reactor) are an option and it may be that a contractor will offer an S.B.R., and it may be that it might be an interesting solution. S.B.R.s, they work sometimes and they do not work other times. The S.B.R., if I look at the Yorkshire Water region, at Hull WwTW SBR works well. The one they put in at Knostrop ended up in a court case which tells you that sometimes they works and sometimes they do not. The other one back to Hull again, it is very much dependent on a black box technology to operate the thing and if the operators then try to change the parameters in the black box it can run into serious troubles in running the plant. In fact we had to go back in and put a new black box in for them because of that problem. Yes, they do work. I do not think they are terribly good at being able to retrofit for higher standards however, certainly not for total nitrogen removal, and it would be tricky to do. You could build in one to remove ammonia and nitrify but to convert one would be a little bit more difficulty. There are some advantages. Obviously the space that they take up is smaller because you have your aeration and you have your settlement all in the same tanks and it is done sequentially rather than having final tanks. Activated sludge has been here, it is 100 years this year it has been around and it is still there as a very robust process and one that is flexible to changes. We can do things with an activated sludge plant if you want to make it nitrifying, and we can extend it. What they are proposing here is an extension with 2 further basins but there are other ways of doing it in a smaller footprint which may be appropriate or not, depending upon what the standard eventually ends up as. It is a flexible process, which is the reason why I would recommend activated sludge rather than S.B.R.

Mr. D. Morris:

Yes. We fully agree with the activated sludge being a good solution. We made that clear from the start. The main driver for us for S.B.R. as a secondary option was the footprint, because it was given to us as a key consideration on the Island. Of course at this stage I had not visited the site, I have not seen any, other than the plans in here which are quite basic compared to what you have developed since, in conjunction with them, so it seems that activated sludge is a good technology, but there might be a case where it does maybe have to increase in size and from what you are saying the risk is minimal. The other interesting point there is a contractor may offer sequence batch reactor technology which leads me on to another question. Would you consider other technologies?

Chief Officer:

Yes.

Mr. D. Morris:

Any technology, or based on cost and other factors?

Chief Officer:

Right, we have been bitten.

Mr. D. Morris:

I appreciate that.

Chief Officer:

We will be very conservative with technologies, but we are not blind to them and we were discussing some of the new technologies that have been developed around sludge liquors and a few other technologies in terms of aeration, so we are very much interested in new technologies, but it has got to be proven, it has got to be done somewhere else and we are not going to be the first ones to do anything. If you want that then you will need a new Chief Officer because it is too risky. This is a conservative industry and sewage never stops coming towards you, so you have got to have that. We are very open to new technologies, it is just the A.S.P. (Activated Sludge Process) gives us the flexibility to play tunes with it and to not stay rigid. I am sure we are going to move on to deep shaft soon and the excitement of that but one of the problems you have got is the inflexibility you have when you go for these sorts of technologies. So, A.S.P., 100 years old, everybody has played every tune possible on it and it is the conservative option, but I am not making excuses for that. But if a contractor said: "We have got this S.B.R., it has worked in 10 different places, come and have a look at it" and it is tickety-boo, it sits there, it is brilliant, then it is something we will definitely look at.

Deputy J.H. Young:

That leads me to a related question. If you are open to alternative technologies what is your planned approach to procurement? What sort of contract have you got in mind, or is that still to be determined?

Chief Officer:

No, the procurement strategy is we have just brought our technical consultants on board, which are hopefully sitting around the table. There is a headline figure of £75 million and less than half of that is the main contract. There are a lot of enabling works to clear the site and then the real debate is to find the right partners to work with, and to try to get a contractor involved as early as possible. So we are looking at developing our design and then going out to a market place where we can get contractors interested in working in Jersey, because Jersey is a difficult place to work. Hopefully they will tie up with a local contractor, which we find is a very proven way of them

understanding the subtleties of working here, and then we will work with them to develop this solution.

The Deputy of St. Martin:

As an aside, have you got the funding in hand to move the recycling that you currently do at Bellozanne down to La Collette?

Chief Officer:

Yes.

The Deputy of St. Martin:

That is already accounted for and paid for?

Chief Officer:

It is part of the enabling moves, yes.

Deputy J.H. Young:

Have you got the money to build a new clinical waste incinerator?

Chief Officer:

Yes, that was granted this year. We have already got that funded.

Deputy J.H. Young:

So for the example of the phase-in, you have got to build a new one and then get rid of the old one?

Chief Officer:

That is right, yes. Apart from the States Debate, that is the other critical path element and although it is a new disposal route for clinical waste it is not a new incinerator.

Deputy J.H. Young:

This will meet environmental standards, I trust?

Chief Officer:

Of course. It is a very different solution. It is potentially an autoclave as opposed to incinerator.

Deputy J.H. Young:

Okay. We will get back to the main agenda, as it were. I think we have got to ask you about deep shaft aeration. Sorry, I will hand over to Steve.

The Deputy of St. Martin:

No, I was going to talk about sludge which I thought was far more relevant.

Deputy J.H. Young:

We have got to clear it up. We heard from the Minister for Planning and Environment, because we had seen a paper that he was considering that this should feature as part of a review of alternative technologies, but he did stress that his preference overall would be to have a non-water-based system. The comments were basically that if you have a water-based system, a centralised system, as it were, then deep shaft should be looked at. The reasons that we were given were that this could serve both as storm water storage, and an anaerobic digester. There was a third one, there were 3 reasons why. Ethanol. What we would like to do is hear your response, please.

Chief Officer:

I think we will hand over to Harold.

Mr. H. Buckland:

Deep shaft? The process was originally developed by ICI back in the 1970s, as I recall, for treating their chemical waste. It tended to be rather recalcitrant in nature, and therefore there was a lot of C.O.D. to remove. It has been used to treat domestic sewage in I think at least 2 locations in the U.K. but it is pretty rare. We have not used it in the U.K. for years and years, so it would be very novel and unusual to adopt this process, which of course straight away for Jersey is a problem because it would be very novel. The other problem is you need the sewage to be as strong as you can possibly get it, which means you do not need primary treatment, but you do need primary treatment here, because if you do not have primary treatment then all the investment that you have made in the sludge treatment scheme and the anaerobic digestion is money just lost. The digesters will not run without primary sludge. Secondary sludge is not treatable by anaerobic digesters. It is not supportable. You would have to be putting heat into the system by town gas. You could not do it, it would not be self-sustaining. That really is the first reason. I know there is some information I think on the capital costs estimates. It is a very expensive process to build these deep shafts. The other one is the amount of air that you get in the system. You get a tremendous amount of air and in fact it does not settle. It tends to float, rather than settle, so you need a flotation system rather than a settlement system. There is so much oxygen in there that I suspect aerobic digestion will be more appropriate for it than anaerobic digestion. I cannot imagine a situation where you would have anaerobic conditions in that plant at all, except if

you had an anoxic zone outside of it. I understand the challenge inasmuch as to try to make this as small a footprint as possible, and indeed there are ways that you can have a small footprint plant. The existing plant is about 3.8 metres deep. Using the current standard we would certainly have a plant 6 metres deep now and we would probably go a little deeper than that, but not 80 metres deep.

The Connétable of St. John:

Forward the comment that it could be used for storm water, but when we did the measurements it was about one-sixth of the size of our current cavern, not even that, for the pair of them down at about 100 metres.

Chief Officer:

Anything that goes 100 metres down you have got to pump air into it, so you have got to pump air at a pressure of 100 metres plus the system losses.

[16:45]

What happens is from a mechanical perspective you go from air being pumped in with a blower, which is a simple mechanical device, into being a compressor, which is a very complicated mechanical device. They are not very energy efficient, because you also utilise the air for transportation as well through the system. The practical element here is how do you maintain it?

The Connétable of St. John:

Health and safety.

Chief Officer:

How do you get down there? Someone today suggested a reverse bungee if there is a problem which is a really good idea but you would not want to be the first person to try it, would you? These are people's lives we are talking about who have to maintain this equipment, and hence we quite like the concept of what has been suggested, but from all of the 3 consultants that we have had look at it, yours included, this is not a practical solution for Jersey. Unfortunately that does not seem to be enough of an answer. If you can run on 2 you will probably need 3 because to maintain one of them you are going to have to take one out of service, so you are talking about a massive level of investment. The Minister for Planning and Environment has asked us to do a cost benefit analysis of this, and we refused, if I am honest, because from an environmental and process perspective we decided it was not suitable, but he asked us from a cost benefit to do it. So we have done one, and we have done it at a quite high level, recently which comes out with a

strategy, and this is without standby facilities, at a figure of £84.3 million on CAPEX (Capital Expenditure). So it is a significant increase on the existing strategy.

Deputy J.H. Young:

That is £83 million to compare with what?

The Deputy of St. Martin:

£30-something million. Would that include all the other bits and pieces? You did say earlier your £75 million, only about half of that, is the project itself, the works.

Chief Officer:

Yes, and a total of £89 million if we wrote off the 50 per cent ...

The Connétable of St. John:

Is that with 3 shafts or just one?

Chief Officer:

That was 2 shafts.

Mr. D. Morris:

Did that include primary settlement as well?

Chief Officer:

No.

The Deputy of St. Martin:

Does that include storm tanks? It did?

The Connétable of St. John:

How big were the storm tanks?

Chief Officer:

Well, the same size.

The Connétable of St. John:

What capacity would they take?

Chief Officer:

You would not use a deep shaft for storms. It is bonkers.

Deputy J.H. Young:

I mean in the papers the cost estimate was always an issue, but from what you are telling us you have checked that out and it makes £14 million difference, which is not a magnitude of difference. Another issue that was raised as one of the reasons, there has been a longstanding problem with odours in Bellozanne Valley which was said would be made easier to deal with, because they could be covered in a deep shaft.

Chief Officer:

Well, the plan is the new sewage will be odour-controlled from the start and all the key elements of process which develops odour will be covered.

Mr. D. Morris:

Which does not include A.S.P. generally.

Chief Officer:

Exactly. If you are pumping huge amounts of air into an aeration lane your odour control unit has got to take all that air and treat it as well, once it has been through the system. But aeration lanes do not smell and you will know from your trips around the front end is the one that puts hairs on your chest and as you go through it the smells diminish and the final tanks and A.S.P.s do not smell.

Deputy J.H. Young:

Another reason is that it was argued that treating water is the prime consideration, that it produces you a better standard of water effluent out of the thing. That is what was said. Is that correct?

Mr. H. Buckland:

No, I do not think so. These are very much designed as carbonaceous plants rather than for nitrification, so I do not think it does, no.

Deputy J.H. Young:

Any more questions on that? Okay, can we move on now? If the project gets the go-ahead over what period will the £75 million works be carried out?

The Deputy of St. Martin:

We rather hoped you would have an answer to that question.

Director of Waste Management Strategies:

We do. Completion on the current programme will be the first quarter 2020.

Deputy J.H. Young:

When will it commence?

Director of Waste Management Strategies:

Providing we get approval from the States and the budgets are in place preliminary enabling works next year, with the main construction works 2016.

Deputy J.H. Young:

So by 2020 we will have a complete, fully functioning replacement plant?

Director of Waste Management Strategies:

Correct.

Deputy J.H. Young:

With all the elements in it that you have set out?

Chief Officer:

One of the things just to bear in mind and I think it is a key, especially I think the Constable will remember the previous job, and another reason why we had 28 iterations on the design, is that there is no detriment in the way we are doing this to the existing process. We are not taking aeration lanes out and taking primary tanks out. What we are doing is we are using a phased approach in terms of building it, so that we build the inlet works and primary tanks. We then re-feed that back into the existing aeration system, then we knock down the existing and we build a new aeration. So what happens is that throughout all the phases there is not one day where we get detrimental treatment. When we worked on the previous job and we modified the previous sewage treatment works we spent 4 years with a lesser treatment standard and it is something that within Jersey we have got to be really careful of. So the reason it has taken us probably 2 years longer than it should do is because we are doing it in this phased manner, but it is the right way to do it and we do not have the added risk of running with less plant.

Deputy J.H. Young:

Just so we can be clear, is this money going to be voted in the Medium Term Plan, then for 2015, 2016, 2017?

Chief Officer:

There is an allocation in the 2015 capital programme but of course each year's capital programme is voted individually.

Deputy J.H. Young:

We will be doing the 2015 one this year under this States, and how much is that? £24 million this year.

Director of Waste Management Strategies:

Sorry, it is £24 million and £38 million next year.

Chief Officer:

And the remaining will be the start of 2016, so that will be the main contract.

Deputy J.H. Young:

That will allow you to commence work?

Chief Officer:

Yes.

Deputy J.H. Young:

Okay, just so we clear that up.

Chief Officer:

That is the cash flow forecast we have agreed with Treasury.

Deputy J.H. Young:

Now matching that with the discharge consents, that time scale, you said earlier on that, going back to what Environment said, they said they would know by 2015 what the position was of this status of the bay under the directive.

Mr. K. Conlan:

Just to chip back in on that, and it finishes that particular element. We had a very constructive meeting 2 weeks ago when we discussed all of these issues with the officers from the Department of Planning and Environment. We got a very clear programme of work to develop that evidence. Two of the things that we decided to channel through for the next 5 years are the odour issue, which we might or might not come on to, and the issue of nutrients. None of us know what the causation of that is, so we need to have a look at that as a piece of R. and D. (Research and

Development) and knowledge gathering and that will probably take 5 years. Equally the issues around nutrients in wider ecosystems and to some extent that moderate, if it were to be a moderate, over those years. Now, the figures are ongoing at the moment, and even if it were to be moderate they are not going to tell you what the cause of that is. That is just a classification. They would not then be able to say: "That is the sewage works" because as we have just described we already know that the majority of the nutrients come from external sources beyond the bay. So they would not then be able to say: "Right, that is the sewage works. You must trigger that investment". They are then going to have to have an understanding of what the causation of that is, what the source is and what the impacts are. Just because you have proved that classification does not then prove that is the measure that you have to take, unless in the intervening period they are going to do that. To my knowledge they are not.

Deputy J.H. Young:

That is fine. Any points on that? I would like to move on now to sludge, if I can. Steve, do you want to pick that up?

The Deputy of St. Martin:

I am desperate to move on to sludge.

Deputy J.H. Young:

Steve, would you lead on sludge, please?

The Deputy of St. Martin:

It would give me great pleasure. Minister, you are proposing moving to a different system. At the moment we use lime with our sludge before we then take it out, but you are proposing to move to pasteurisation. Can you tell us why that is, please?

Mr. H. Buckland:

The issue at the moment is that you are using lime and unfortunately, and I have been present at Bellozanne when the odour was released on one occasion, it does leave a rather strong fishy smell from amides that I think is released from the polymers in the dewatering of the sludge cake with the lime, which is not very nice. Liming does give you an effective log 6 kill, which is what you are looking for to widen the base at which you can take the sludge to land. The pasteurisation process, which is part of the anaerobic digestion process, does the same. You are pasteurising first, and in this instance the Doosan Empure process is I think 55 degrees centigrade for 4 hours, so basically cooking it for 4 hours at 55 degrees centigrade. This is sufficient to kill off the organisms and you then digest it to prevent re-growth. That avoids the smell. Really the odour is

the biggest issue and advantage of going for pasteurisation and you get your log 6 kill which is very useful.

The Deputy of St. Martin:

What are we paying for this lack of odour?

Chief Officer:

There is a significant OPEX (Operating Expenditure) saving, in that the cost of lime is negated by utilising this process. Then with the new process we are going to get better gas production and more energy from the process, so the OPEX, and OPEX is something we are focusing on completely now moving forwards on any capital scheme is we have got to be sustainable and have our operational costs as low as possible. The OPEX is significantly cheaper in the new process. The farmers may not like it as much but again we have done a significant amount of market testing and work with the farmers and we have visited with our sludge consultant and our sludge contractor in Ireland last year to look at how they dealt with pasteurised sludge, how it was handled, how it felt, how it smelled, and we saw a very successful process.

The Deputy of St. Martin:

What testing process does the sludge that comes out of the plant at the moment go through?

Assistant Director, Waste Water Treatment:

It gets analysed 6-monthly by an independent consultant and they will go around and talk to the farmers, explain to the farmers what nutrient content, what heavy metal content it is and what may be applied to their land.

The Deputy of St. Martin:

Have you got any parameters over which it is not allowed to be put on the land?

Assistant Director, Waste Water Treatment:

There are set parameters but the majority of them are heavy metals. We are never anywhere near the heavy metal limits because there is no heavy industry in the Island. We are very lucky. There are very little heavy metals coming into the works.

The Deputy of St. Martin:

We understand from the environment team that we do not have legislation in Jersey covering sludge. Is that correct?

Assistant Director, Waste Water Treatment:

There is various guidance such as the ADAS sludge matrix¹ and that is basically ...

The Deputy of St. Martin:

But it is not law in Jersey.

Assistant Director, Waste Water Treatment:

It is not legally binding, however if people do not follow it the supermarkets and retail consortium will not buy crops off local farmers, so it is effectively governed by² ...

The Deputy of St. Martin:

Do you know, or can you tell us, what exactly the criteria is for exporting of vegetables which have been grown or can you grow vegetables in a field that has had an application of sludge within 12 months? Do you know?

Assistant Director, Waste Water Treatment:

There are various constraints for different crops, such as for potato crops, for instance, you can only put sludge on if the harvest is later than 10 months down the line. It is quite a long time period and the other thing is we only produce enhanced treated sludge. There are different standards of sewage sludge treatment and we go for the highest possible enhanced treated status so that gives us more of a land bank to put the sludge on.

The Deputy of St. Martin:

Do you have an issue with land bank?

Chief Officer:

What we have done is we have commissioned a significant piece of work looking at land bank because we would get challenged at some points throughout the year and it is particularly around the closed season and this winter, when it rained for how long?

[17:00]

¹ Guidelines for the application of sewage sludge to agricultural land, The Safe Sludge Matrix, British Retail Consortium, Water UK and ADAS. April 2001

² Subsequently corrected - legislation is in place to regulate the use of sewage sludge in agriculture: the Water Pollution (Code of Good Agricultural Practice) (Jersey) Order 2009 which exists alongside the Water Pollution (Jersey) Law 2000 for the protection of water.

The Deputy of St. Martin:

Only 2 or 3 days in St. Martin.

Chief Officer:

Well, St. Martin must have had a lot of sludge then. You could not get a tractor on a field for about 3 or 4 months, so in that period we really struggled. One of the reasons we put in an incinerator, on the Energy from Waste plant there is a sludge facility there which gives us some backup and resilience, but we are also looking at other innovations like co-composting with our green waste compost, which has proved to be very successful. So we are looking at developing other products and doing other things but the key thing with sewage sludge is to turn them into a product which farmers want and then farmers have a better understanding of the benefits they give to their land.

The Connétable of St. John:

But do they only want it because it is being given to them, or you are paying them to take it? If there was no cash inducement would they still take it?

Chief Officer:

Constable, you know Jersey farmers better than anybody else. We would really like to not give a cash inducement, because we believe it is a product that has a huge value and benefit to the agriculture industry. It is not a large figure and what we are looking at is perhaps doing soil sampling and soil analysis in lieu of a payment for the industry and that is something we have been talking with them about.

The Deputy of St. Martin:

Given that the quality if I can use that word of our sludge locally is very high, and the fact that we also do not have this large contamination of heavy metals, do you not think you would be better to just mix it with green waste and sell it as part of the compost? I do not know the process. Does it mix easily?

Chief Officer:

It does. We have been very successful with our trials of that, yes, and it is certainly an avenue that we are looking at, because you can top dress that with a combination of compost and sludge and top dress grassland which then opens up more land bank. Whether you could market it, bag it up and flog it off down the garden centre, I would buy some but it has certainly been done in the past. I think it was done in Yorkshire many years ago, Harold, was it not?

Mr. H. Buckland:

Yes, it was done in Yorkshire.

The Deputy of St. Martin:

Are there any other significant differences or would there be any other significant differences in the sludge coming out of the proposed plant, the activated plant that you have at the moment, other than the difference in the way you are going to treat it? No difference in volumes, no difference in concentrations, anything like that?

Assistant Director, Waste Water Treatment:

It may look slightly darker. The current product is quite brown. It might look a bit darker in the future but that is about it. Chemically it would be the same.

The Connétable of St. John:

So we are still going to be getting the chromium, cadmium and mercury in small quantities within it?

Chief Officer:

Trace elements.

The Connétable of St. John:

They will still be there?

Chief Officer:

It is not produced in sludge. I do not know where the sources are but they are going to be minute sources going in and minute sources coming out of it.

The Deputy of St. Martin:

We got away from your land bank survey that you are spending a lot of money on. Can you just go back and remind us again? So you commissioned a piece of work which is going to allow you to see what is available at any time of the year?

Chief Officer:

Yes. The secret of sludge disposal is to provide a high quality sludge, explaining to the farmers the benefit of it, offering a variety of products and the key thing we went to Ireland to see and the thing we saw that was most impressive was a big shed to put it in.

The Deputy of St. Martin:

You do not have any space for big sheds, Chief Officer.

Chief Officer:

We need one.

The Deputy of St. Martin:

We know that because you tell us every time we are looking for skip operator space you have got no space left, so we are sure you will not have space for a big shed for sludge.

Chief Officer:

That is what we want.

The Connétable of St. John:

Given that you still want to put sludge on land and you are still prepared to pay the industry in one way or another can you prove to us that this material you are putting on the land is good for the crops?

Chief Officer:

Yes.

The Connétable of St. John:

You can? You have got the evidence to prove it?

Chief Officer:

Yes.

The Connétable of St. John:

I would like to see that.

Chief Officer:

We can provide that.

The Connétable of St. John:

Also, are you still transporting the effluent from the ash pits at La Collette and putting the effluent into the digesters?

Chief Officer:

The effluent goes into the sewage treatment works and you know the answer to that question.

The Connétable of St. John:

Well, yes, but can I have it on record?

Chief Officer:

The answer is your son-in-law drives the tanker. **[Laughter]**.

The Connétable of St. John:

I was not aware of that bit. I declare an interest on that bit. **[Laughter]** The bit I am concerned about is that effluent would go into the dry sludge cake, and therefore it is not treated before, between going from the Energy from Waste plant, i.e. the pit, to your digesters or into your system. It is not treated to try to remove any more of the heavy metals. That is the bit I am concerned about. That is where I am coming from, because I have great concerns of any traces of those heavy metals getting into the food chain. That has always worried me, by putting it on land.

Chief Officer:

The predominant heavy metals contamination in our sewage is from roads and from vehicles.

The Connétable of St. John:

From where?

Chief Officer:

From roads. From the vehicles that travel on the roads, the minute quantities of metal particulates, hydrocarbon and so on.

The Deputy of St. Mary:

Does sludge pose any risk to polluting water courses or wells and should it be used in areas that are not on mains water?

Chief Officer:

We have a very strict protocol in terms of where the sludge is utilised. We have a computerised database which shows where all the wells are. We have had for the last 20 years some issues and I think the Constable has been aware of a few of them, but basically the control is away from any bore holes, water courses, water catchment areas, and so that is part of how we manage the land bank.

The Deputy of St. Mary:

So you have been quite reliant on the past survey for people to register their bore holes and wells?

Chief Officer:

No, we know where they are beforehand. I am not sure if the survey ties up with every single bore hole and well. I never registered mine when I lived in St. Ouen. Our data on that is pretty good.

The Connétable of St. John:

That is a good honest answer, Chief Officer.

Chief Officer:

I have moved since then, just to clarify.

The Connétable of St. John:

It is a good honest answer because we put that question to the Minister and his team in the previous part of the review and they were quite adamant that they had captured the majority, more than the majority. They reckoned there were over 3,000-odd. I do stand to be corrected, and somebody might tell me the exact figure that we were told that they had captured with the amount of bore holes and wells.

Scrutiny Officer:

It was 3,200 out of a total number of about 3,600 or so, they think.

The Connétable of St. John:

They think, and of course I would have disputed that. Like yourself, I have got a number of bore holes and I declared one of them on the property.

Deputy J.H. Young:

While we are on the subject of other pollutants going into the sewerage treatment works which the Constable raised about the effluent from the ash pits, when we raised that with the Minister for Planning and Environment we asked the subject and they referred us to you about trade discharge consents or something of that nature. We asked them whether there were any other sources and they flagged up the Milk Marketing Board. Could you enlighten us? Is there any particular pollutant materials that have to be released slowly into the sewage treatment stream?

Assistant Director, Waste Water Treatment:

Not really. The Milk Marketing Board is the biggest trade effluent consent we have got and it is basically an organic that needs to be broken down, so it is readily broken down, the fat, in the sewage treatment process. We do get them to discharge on an overnight period, so when we are getting less waste from the human flushing system they are bringing their waste into the system and it keeps the plant going overnight. The rest of the trade effluent consents are car washes,

laundrettes, nothing with any real load in it, and a small brewery, but we do not have much trade effluent waste really.

Deputy J.H. Young:

Do you get any ingress into the sewage network from contaminated land sites? For example we have heard about Mont Mado and obviously that is on the north of the Island and there are a lot of other areas. Planning have a register of contaminated land. Are you aware of any sites of ingress where that material can get into the ...

Chief Officer:

We have a pumping station at Beauport but that is an organic potato waste.

The Minister for Transport and Technical Services:

That is so weak now apparently it comes straight into the main sewage system, I believe.

Deputy J.H. Young:

Potatoes at Beauport, is that all finished now?

Chief Officer:

No, we have still got a pumping station there. It will probably pump for the next 20 years.

The Connétable of St. John:

You are still getting that kind of pollution from the potato waste?

Chief Officer:

Now and again, yes.

The Minister for Transport and Technical Services:

It is far less than it was previously.

The Connétable of St. John:

I appreciate that, yes.

The Minister for Transport and Technical Services:

So instead of tankering it away it goes into the main sewers.

The Connétable of St. John:

So it goes directly?

The Minister for Transport and Technical Services:

Into the main sewers.

Chief Officer:

Every parish had a dump, and we all know that. The majority of the contamination of those areas has gone to the surface water and stream network. Very little, I would suggest, gets into the sewage network.

The Connétable of St. John:

It runs to sea, in our case.

Chief Officer:

Yes. Mont Mado does.

The Connétable of St. John:

In a big way, and obviously you are aware that at least twice or 3 times a year the bay goes red.

Chief Officer:

Yes, we normally get blamed, do we not?

Deputy J.H. Young:

So not connected to the network. Can I shift now to a subject of what we call on our note total sustainability which is really about I just want you to clarify a bit for us on these population assumptions that you have made and also I want to deal with the forecasts. You have got a prediction of increased rainfall which obviously is part of global climate change. Can you just talk us through those assumptions that you have made, please?

Chief Officer:

Population increase is 325.

Deputy J.H. Young:

So that is the target that the States agreed the other day?

The Deputy of St. Martin:

You have worked on 325, have you?

Chief Officer:

Yes, from the start.

The Deputy of St. Martin:

So you are hoping very much that the States, now they have passed this policy, will stick to it? It is a serious question because I do not believe they are going to stick to it, but you are basing your new plant on 325. Do you think that is wise? Perhaps that is a question for the Minister.

The Minister for Transport and Technical Services:

It is more of a political question, in fairness.

Chief Officer:

We have designed this plant to deal with pretty much every eventuality and have been flexible in terms of being scalable up and down is a key consideration. You do not design a sewage works just based on the number of heads of household particularly in a tourist environment like we have and with the dairy providing a significant load, so the population equivalent, which is the mechanism used to design the works encompasses a lot of free board, and there is a lot of flexibility there.

The Deputy of St. Martin:

I hope this does not sound like a stupid question but it may come out that way. What part of the total input to Bellozanne is population and how much is commercial? Do we know?

Assistant Director, Waste Water Treatment:

The population would be 98 per cent. Around that figure would be population.

The Deputy of St. Martin:

So there is so little commercial input that it is insignificant in the big sphere of things?

Assistant Director, Waste Water Treatment:

Absolutely.

The Deputy of St. Mary:

So you could cope with a plus of 10 per cent or 15 per cent on that?

Chief Officer:

What is the flexibility you have built into that?

Director of Waste Management Strategies:

Well, the outline designs that we have done so far on the feasibility allows for 20 per cent.

Deputy J.H. Young:

Twenty per cent on what? On the population assumption on where we are now?

Director of Waste Management Strategies:

The population assumption increasing to 325.

Deputy J.H. Young:

Just clearing it up so that I have got the numbers in my head, in your report you have got population forecasts for 2020 and 2035. We have got numbers all over the place here. 2035 118,000. Is that the one you have adopted?

Director of Waste Management Strategies:

Yes for 2035 horizon, yes. Bearing in mind that is not just resident population. That is visitors to the Island, tourists, so although we are working on a resident population increase objective of plus 325 we have to make allowance for tourists and visitors and so on.

Deputy J.H. Young:

That is in there?

Director of Waste Management Strategies:

Also seasonal workers, yes.

Deputy J.H. Young:

But you also have got the fact that not all the properties are connected to the drains, so not everybody contributes to the waste stream.

[17:15]

Chief Officer:

I think in the tanker regions, that is right.

Deputy J.H. Young:

They do not do it directly. They do it through tankers.

Chief Officer:

Yes. Again, some of the solutions the Constable suggested is like the package point at Bonne Nuit deals with the waste in a different way and I think the Minister for Planning and Environment

has promoted and there is some package treatment plants within the Island and that might be some small amount of growth in the future.

Deputy J.H. Young:

There are a lot of septic tanks and soakaways still in the Island, are there not?

Chief Officer:

There are, yes.

Deputy J.H. Young:

Do we have a number on those roughly?

Chief Officer:

Yes. Well, it is 13 per cent of the Island not connected and the majority of them will be septic tank soakaways which is a form of treatment and we normally take out 2 loads a year, but if they get blocked then we can give them a tight tank which then we take all of those back to Bellozanne.

The Deputy of St. Martin:

I see that separate sewer modelling work has been carried out to assess the impact of climate change on the network and you have used the figure of 7 per cent. How did you come to that figure?

Director of Waste Management Strategies:

I believe that is the generally accepted figure in the U.K. at the moment as advised by consultants.

The Deputy of St. Martin:

Is that just a figure that is introduced over and on top of the annual number? So rainfall was now X, it is now going to be X plus 7 per cent?

Director of Waste Management Strategies:

Something like that, yes. They have done some preliminary work, and we accept there is more work to do on that, but the work has been done and modelled on that 7 per cent increase in rainfall. It has highlighted that existing problem areas just get a bit worse. We do not get any more, but it is the problem areas.

The Deputy of St. Martin:

Is the existing problem area as much at the pumping stations as it is in the main treatment works?

Director of Waste Management Strategies:

Well, no. Most of the flooding in those areas is in fields. We do get problems obviously with pumping stations but we have got quite a comprehensive programme of infiltration and rehabilitation works at the moment because we have a big issue with infiltration and also surface water connections. That is one of our main drivers on the sewer network at the moment is to resolve these infiltration and surface water connection issues. That in itself will free up capacity in sewers for climate change.

The Deputy of St. Martin:

We did have an instance last year where the pumps at Le Dicq could not cope, even though the cavern was only half full, but it could not pump the water quickly enough and we had an out-spill there, did we not?

Assistant Director, Waste Water Treatment:

Yes. The reason for that is effectively because a lot of town is still on what we call a combined sewer network and so when it does flow towards the Le Dicq it does take an element of rainfall as well. So it overloaded the Dicq pumping system and we could not pump it to the cavern quick enough, so it was a sort of one-off flash flood. We are trying, as much as possible, as John mentioned earlier, to carry on with these separation schemes and take that fresh water off the system.

The Deputy of St. Martin:

Does the Phillip Street work have any effect on the Dicq?

Director of Waste Management Strategies:

No.

Deputy J.H. Young:

As well as getting a general 7 per cent increase in the rainfall, would not one expect that you are going to get an increase of storm frequencies where you get high volumes of rain at certain times?

Director of Waste Management Strategies:

Yes. I think, as I say, we accept there is more work to do in that area.

Deputy J.H. Young:

Would that have an impact on the project?

Chief Officer:

The sewage works does not treat rain.

Deputy J.H. Young:

No, I am talking about the network.

Chief Officer:

Yes. In terms of the network there are lessons learned from this last winter where we were about 10 miles off a one-in-100 year storm which hit Guernsey in terms of rainfall. We have got to be very aware of the intensity of the rain with the rate the weather patterns are changing and we have got to make sure that we are as resilient as possible moving forward.

The Deputy of St. Martin:

What is the volume of those 2 storm tanks you are proposing at Bellozanne?

Director of Waste Management Strategies:

It is about 6,000 cubic metres.

The Deputy of St. Martin:

Each or in total?

Director of Waste Management Strategies:

In total.

The Deputy of St. Martin:

Do you think that is sufficient, given that it is only a quarter of the volume of the cavern and you fill the cavern up pretty quickly?

Chief Officer:

Yes. One of the things we are looking at is the cavern is a great asset and it will continue to be a great asset for us, but the secret is to get the surface water off the system. The more we invest in that, when we look at prioritising work within T.T.S. you have hit on the pumping station, but absolutely the second highest priority is the surface water separation scheme. The more this stuff flows out to sea the better and that is the way we protect, instead of keeping on building bigger and bigger holes.

The Deputy of St. Martin:

You are not in the least bit concerned that the separating of all of this water out of the sewage system is going to impact on its ability to flow properly to Bellozanne?

Chief Officer:

No.

The Deputy of St. Martin:

I know this is going to be very inconsistent, but I am just looking at the map of your proposed plant at Bellozanne and the activated sludge plant that you have got bang in the middle, is that the one that is there at the moment? Because you have got a new future activated sludge plant at the top of the site.

Chief Officer:

The new activated sludge tank will be where the primary tanks are now and then phases 2 and 3, which are the future-proofing, which is the nitrified and the denitrified ones are where the existing activated sludge is and the existing final tanks are. So that part of Bellozanne ...

The Deputy of St. Martin:

So the activated sludge plot at number 4 shown on this map is the plot that is there at the moment?

Chief Officer:

You will have to show me the map closer.

The Deputy of St. Martin:

In the middle of the site you have got an activated sludge plant.

Chief Officer:

That is the new one.

The Deputy of St. Martin:

It is the new one?

Chief Officer:

Yes.

The Deputy of St. Martin:

So this future activated sludge plant then at the top is new-new?

Chief Officer:

Cases 2 and 3 will be new-new, yes.

The Deputy of St. Martin:

But only if we need to denitrify?

Chief Officer:

That is right. The existing activated sludge plant is hydraulically at the wrong place. As Harold said the depth of it is 3.5 metres. Its energy efficiency is off the scale in terms of bad.

The Minister for Transport and Technical Services:

We will try and get hold of the colour-coded one for you. Everything becomes much clearer. We get into the snooker element of course.

Deputy J.H. Young:

I think I will start to begin to draw it to a close. John, you had some extra points you wanted to clear up?

The Deputy of St. Mary:

It is one for the future. When you extend the drainage system to the north of the Island would you consider doing this as a joint venture with the water works company?

Chief Officer:

Undoubtedly. We did that at St. Ouen. It is work we have done in the past. One trench, which makes sense, does it not?

Deputy J.H. Young:

So it is digging the roads up? Love it. Co-ordination? Wow.

The Deputy of St. Mary:

It will never happen. The drainage will never happen.

Chief Officer:

No. It is a great idea. We should be doing it. One other thing, our conventional way of doing drainage was through a gravity system and I think ... which meant that the water system is

pumped, the gravity flows down so it becomes a very different thing, but if you are putting 2 pipes in, one a pumped sewage system and one a pumped water system, it makes perfect sense to put it in the ground at the same time with the same hole.

Deputy J.H. Young:

Talking about the water company, if we had to invest £31 million in a denitrification plant is it better to invest in that from our water supply than it is to the effluent that goes into the sea?

Chief Officer:

That is an interesting question. No arguments from me.

Deputy J.H. Young:

Any views on that?

Assistant Director, Waste Water Treatment:

The difficulty is if you take the nitrates out of the water supply where do you put them? It is probably a question for Environment.

Deputy J.H. Young:

I thought the idea of denitrification was you recover solid material out of it, do you not?

Assistant Director, Waste Water Treatment:

I believe it is normally a high saline liquor of concentrated nitrate.

Deputy J.H. Young:

That is what you get, you get a liquor out of it.

Chief Officer:

At the moment that goes back into the sea.

Assistant Director, Waste Water Treatment:

There may be a case for better land management maybe.

Deputy J.H. Young:

So if you were to do that ...

The Deputy of St. Martin:

Sorry, just to be clear you said that if you did it at the moment you would put the liquor back into the sea?

Chief Officer:

Yes, the de-sal plant, yes.

Deputy J.H. Young:

That is what happens at the moment. That is what you get with a denitrification plant, a liquor.

The Deputy of St. Martin:

But the farmers would surely store it up and put it on their crops, would they not?

Deputy J.H. Young:

No, we were told it is a liquor.

The Deputy of St. Martin:

Yes, but you can apply liquor. We used to do it when I worked in the 1980s in the U.K. It was all the rage.

Deputy J.H. Young:

Then what? The nitrogen comes back through the surface water?

The Deputy of St. Martin:

You have got to do something with it.

Chief Officer:

You have got to remember that the farmers bring a lot of nitrogen every year into Jersey, do they not?

The Deputy of St. Martin:

Not as much as they used to, Chief.

Chief Officer:

That is because it is so expensive.

The Deputy of St. Martin:

There are restrictions as to what they can put on the land.

Deputy J.H. Young:

Does that discussion not illustrate the need on the issue of denitrification to have a joined up strategy with the water company? Clearly because they strongly relate to each other.

The Minister for Transport and Technical Services:

The Environment Department oversees that.

Deputy J.H. Young:

Well, one would hope so but I think it is an issue that is worth flagging up.

The Minister for Transport and Technical Services:

Absolutely, yes.

Deputy J.H. Young:

Good. Now, closing questions. Phil? Steve?

The Deputy of St. Martin:

No, not unless somebody knows the value of how many nitrates there are in bore hole water? Does anyone have the answer to that, the level of nitrates in bore hole water?

Chief Officer:

It depends on the bore hole.

The Deputy of St. Martin:

It depends whether it has been authorised and admitted or not.

Chief Officer:

Put it this way. The nitrogen limit on clean water is currently higher than the nitrogen limit on our effluent from our sewage works.

The Deputy of St. Martin:

Yes, we know that. We are taking that up with the Minister today.

Deputy J.H. Young:

All right. Thank you.

The Minister for Transport and Technical Services:

Just for clarity, from a Ministerial non-technical point of view, I am very interested in new technologies and new systems, so nothing has been dismissed out of hand, but when you are talking about tens of millions of pounds for a project then I cannot take chances on that kind of thing. I prefer tried and tested. Whether it is a sewage treatment or an Energy from Waste plant, when it comes to pushing that green button it has got to work, and that is where I am coming from.

Deputy J.H. Young:

Thank you for that, Minister. I have been told I need to correct something I said earlier, that the Minister had said that denitrification of the plant, that we should definitely do denitrification. What he said was: "If money was no object".

The Minister for Transport and Technical Services:

Sorry, who was that?

Deputy J.H. Young:

The Minister for Planning and Environment. I was incorrect on that.

The Connétable of St. John:

Can I also clarify while we are doing clarification? When I said I had some other bore holes, in fact they are geothermal bore holes. On the record.

Deputy J.H. Young:

Thank you, Minister and your team for being so helpful with information. I will close the meeting. Thank you.

[17:26]