FieldForce4
WORKPLACE PERFORMANCE SPECIALISTS

Far North District Council

Service Review Report

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1. EXECUTIVE SUMMARY

Far North Districts Council (FNDC) commissioned FieldForce4 (FF4) to undertake a review of its asset management functions across the business.

FF4 reviewed current performance against best practice and made recommendations for improvements.

This Service Review recommends potential areas for improvement - assessing the processes and efficiency of the delivery of asset management activities by:

- undertaking a current state analysis of the asset management functions provided by FNDC
- comparing industry best practice with current practice and identifying opportunities for quality of service and efficiency gains taking in consideration the unique facets of FNDC
- assessing process, data and technology requirements to identify gaps including an asset management organisational maturity assessment
- identifying current constraints to improving efficiencies and provide a plan for achieving sustainable service levels into the future and with implementation recommendations.

Considering the unique features of FNDC (asset management), the purpose of the review is to identify key opportunities and efficiency gains with recommended areas for improvement and an implementation plan.

1.1. KEY FINDINGS

Structure and People

- There are role/responsibility ambiguities in current structure that need to be clarified - a structure that more clearly identifies key Asset Management (AM) component responsibilities
- Getting resources with the right skills/experience in AM is a challenge - positions remain vacant for extended periods
- A lot of people we interviewed show talent, commitment and passion to getting better AM outcomes but have a high degree of frustration - could be a risk for retention
- No clear succession planning or knowledge management - lot of knowledge resides in people's heads and with high turnover having no system in place to hold knowledge is a big risk
- Data is not valued as an asset because there is a general lack of awareness about AM across the organisation. Needs to be AM education across the business
- Reporting is high volume, excessive detail - takes up staff time, loses the key messages and probably encourages elected member interference in operational details
- Is an issue with siloed work groups - both within IAM and across the Council directorates. Is a need for greater collaboration in key areas (e.g. IAM and Strategy Planning & Policy)
- Is a skill gap for basic AM capability. Lack of business case development/options analysis knowledge, limited project management skills, planning forward growth and renewals programs, maintenance strategy development etc. This is exacerbated by lack of AM skills/experience at the two levels above the team members within IAM
- Staff are overwhelmed by reactive work (swamped by RFSs) that can often go around in circles taking time because firm decisions that need to be made aren't. Complainants can continue the debate. So AM staff cannot devote the time needed to their real core jobs
- Alliance - is a lack of trust between the parties - each suspect the other is trying to take advantage of them. Doesn't work as a real alliance and this is felt at the work front level despite apparent message from senior management that it is going well

- Staff want to do a good job but feel unsupported by available systems and a lack of suitable data
- There is a lack of clear visibility, responsibility and accountability across the key asset management roles within the business
- There is no evidence of an active plan for succession of critical roles
- Elements of work areas are "siloed" without understanding the down or upstream impacts (not all on the same page) which also impacts on knowledge sharing
- Lack of effective communication and timely decision making

Asset Management Planning & Process

- The key processes are not documented (e.g. how to create a renewals project). Once the new AMS is implemented the lack of process documentation means that the only benefit achieved will be a better repository for data - but still no clear methodology on how to use it
- Data - is a key gap. Issue is multi-faceted covering ready access to data, collecting the right data (not everything), creating standard data reports for analysis purposes (both on infrastructure systems and on work force performance), integration of different data sources - work order info, SCADA data, GIS data, asset register data, financial data
- Alliance - are they using up to date work practices and tools (e.g. use of cameras when clearing blockages to ensure full pipe clean) and are they being asked to provide the right data to support AM planning
- There is no documented approach for future growth planning - how do planners monitor new development activity coming on line, how system models are kept calibrated to actual field performance (using SCADA info), a specified program of system reviews on some agreed rolling cycle - or adhoc where an unexpected major change in development is flagged for a system. (e.g. Typically if had 9 water schemes might plan to update the system models for two each year so roughly have a 5-year cycle)
- No renewals models/strategies. Many utilities develop replacement models for assets such as watermains, small pumps etc. Also is no real condition assessment strategy - except to try and fund condition assessment of all assets. Should be able to establish criteria on where detailed condition assessment is economic and where the risk/cost of failure would suggest it isn't. Then target the key assets from an economic/risk perspective. (e.g. might be major assets to inspect, might be a minor retic main that is in the main street and failure causes major disruption and high restoration cost)

- Maintenance contract - no apparent work practice quality KPIs. If contractor gets reimbursed for all reactive work what incentive is there to do the job right the first time. For instance, who measures extent of repeat work. Also, should be some incentive to provide all requested data (*not clear if they do or not from discussions - suggestion they didn't but it is improving*). For instance, specify that completion of a job includes provision of required data and payment occurs only when job is complete. If monthly payments, then contractor has till they submit an invoice to ensure data for jobs done has been submitted. If not, then such jobs are withheld from payment

- Approval processes for project tenders can inhibit the efficient delivery of the program. Requirement for tenders on some types of jobs and need for Procurement Board approval (meets infrequently) delays them unnecessarily. Should be able to make use of Alliance for delivery of many renewals type projects - while keeping track of unit rates to ensure fair outcomes. That should be a benefit in admin costs to council, an opportunity for Alliance to make some profit and win/win all round

Asset Management organisational maturity assessment

- The assessment against the AM maturity matrix resulted in a rating significantly lower than the self-assessment previously done by the council – a total score of 43 against the council score of 58

- The matrix has five maturity ratings – Aware, Basic, Core, Intermediate, Advanced. The assessment shows that overall, the Council sits just into the Core ranking. For individual elements of the matrix the Council generally spans across the Basic/Core boundary

- The matrix has 16 questions and groups them into three sub-categories of Understanding/Defining requirement, Developing Lifecycle Strategies and Asset Management enablers. The results show that the Council needs to do similar levels of improvement work in each of the three categories

- Implementation of the new INFORS IPS alone is not going to shift the Council to a robust state of asset management without significant effort in other areas

- There are significant improvement areas in management systems, performance and condition information, levels of service/performance management and operational planning

- With the Council setting appropriate targets for all 16 questions as being in the Intermediate and Advanced ranking there is a lot of improvement activity to be undertaken

- There is a lack of clarity around asset management responsibilities between Asset Management, Strategy Planning & Policy and the Alliance

1.2. IMPROVEMENT OPPORTUNITIES

The following is a high-level summary of the key recommendation areas for FNDC:

Result Areas	Improvement Opportunities
Structure and People	▪ Review IAM structure and role/responsibility allocation ▪ Create a broad AM awareness program for the business ▪ Develop service level agreements for key internal areas ▪ Reduce the RFS noise impacting staff in long-term planning roles ▪ Review approach to staff retention, recruitment & succession ▪ Alliance – re-establish trust between partners
Asset Management Planning & Process	▪ Document key AM processes ▪ Identify required data & ensure collection, storage and accessibility ▪ Alliance – review work practices/tools - not state of art ▪ Document approach to future growth planning ▪ Develop & document renewals models/strategies ▪ Develop quality KPIs for maintenance work practices ▪ Review approval processes for efficient capital delivery
Asset Management organisational maturity assessment	▪ Develop an overarching Asset Management governance framework ▪ Council needs to commit to broad improvement program beyond the INFORS IPS implementation ▪ Council determine they will adopt ISO 55000 management system for certification or at least alignment ▪ Council needs to accept where they really sit in AM maturity

1.3. NEXT STEPS

- Finalisation and approval of the Service Review report
    - Management to socialise and digest report
    - Consider and assess the viability of the proposed recommendations
- Consider further consultation with Fieldforce4 to include a 2nd wider review of Operations Delivery to maintain momentum and demonstrate to staff that improvements are taking place
- Consider external engagement opportunities for fulfilling the outstanding AM role with a remote specialist AM consultant to establish the program of improvements, finalise high level design of the program with approved funding

2. OVERVIEW AND PURPOSE

FieldForce4 have been engaged to complete a Service Review of the Infrastructure Asset Management directorate of the Far North District Council (FNDC). The purpose of the review is to assess the current status of asset management maturity, compare this to industry best practice and identify opportunities for improvements and efficiency gains across the asset management functions of the council.

This Service Review will recommend potential areas for improvement, identify benefits and an implementation plan, considering the unique features of FNDC.

3. DRIVERS FOR CHANGE

At the commencement of the review, FieldForce4 and key stakeholders from the relevant groups developed the key drivers for change.

Challenges

- People – Attraction and retention of staff
- Culture – Pockets of "old Council Culture"
- Performance management – Lack of data or measures to support any performance management
- Disparate corporate / operational IT systems and integration (internal and 3rd party)
- Lack of quality data
- Several key areas/roles are under resourced
- Limited AM skills base
- Get elected members out of operational issues (still)

Goals

- Overall visibility of an Annual and Long-Term Planning
- Asset Management planning that efficiently utilises resources and optimises works delivery
- Effective communication and collaboration between internal business units enabling productive works delivery to actively disengage the historical siloed work groups
- Rolling program LTP is a placemark scattergun approach of potential project revised
- Understanding of the yearly work program leading to the effective management of the program

Success

- Accurate data and ability to support planning
- Efficient delivery of work and services
- Reduction in customer complaints
- Asset management practices converted into a proactive renewals program
- Consistent and streamlined process to effectively manage all stakeholders
- Alliance operating in a trust environment and used more cleverly for efficient work delivery
- Value data as an asset
- Clear idea of critical data

Barriers

- HR - Support across recruitment process and performance management process
- Disparate process / application – Inhibiting business, process improvement and field workforce productivity
- System constraints and data –evolving to provide quality data to drive and enable business decisions
- Roles and responsibilities clarity

4. IN SCOPE

Assess the processes and efficiency of Infrastructure Asset Management at Far North District Council by:

- Reviewing the current systems and technology to ensure they are fit for delivering services
- Identifying current constraints to improving efficiencies
- Assessing the current business processes to identify gaps in processes and duplicated effort
- Reviewing the current level of service to customers
- Assessing the current data requirements and identify gaps in data quality and data availability
- Reviewing the current level of asset management skills capability within the team

What are Fieldforce4 drivers:

- Keep rates down
- Improve customer service and community outcomes
- Increase community satisfaction with the Council
- Improve staff engagement, communication and collegial working between departments
- Improve efficiencies and effectiveness
- Raise staff capabilities
- Deliver all improvements on a cost neutral basis (self-funding)

Conduct of the Review

The review was conducted by the following Fieldforce4 representatives:

Conrad, Executive Consultant – Business Improvement: Training & Change Director – FF4
15+ years' experience in training and coaching across many companies. Delivered Workforce management strategic improvement model reviews and training for Electrix, WaterCare, Powercor, North Power, Power & Water Corp and Auckland Motorway Alliance.
Specific Expertise in: Works Management Systems, Business and Functional Requirements, Change management, People and Process Reviews.
He is an expert in training on digital transformation (Apple seconds him to deliver international training on their products). Conrad trains staff on the new WOW (way of working) required when implementing and realizing benefits from integrated Work Management Systems.

Russell, Principal Consultant – Asset Management expert FF4 and seasoned executive
42 years' experience water industry, 15 years executive management, 15 years asset management, 10 years operational management from the utility industry. Russell was head of asset management at Water Corp in Perth using SAP asset management. He is trained in the ISO55000 asset management standard and also implemented SCADA for Water Corp.

Internal Peer Review was conducted by the following FieldForce4 team member(s):

Murray, Executive Consultant – Project Assurance: Managing Director – FF4

Quality Assurance to ensure the review outcomes are delivered.

Comprehensive data was provided and a total of 18 staff were interviewed for this report including:

- Senior management
- Team leaders
- Asset managers
- Data analysts
- Managers/staff from outside the Division (IT, Alliance, Finance)

With a focus on:

- Accountabilities and responsibilities
- Process inputs and outputs
- Performance measures and decision support tools
- Manual activities & level of technology integration
- Comparison against FF4 'Best Practice' Methodology
- Recommendations focus on foundation and technology actions that will promote performance in line with 'Best Practice' methodologies

Factors for Success

Our experience suggests successful delivery of transformations rely on several key factors to be in place for the duration of implementation

- **Executive Support:** The support of the GM (& Executive Group) is essential to deliver the right outcome. To be clearly articulated through both formal and informal methods.
- **Clear Vision:** The business has a clear vision for the Change, which is continually communicated and reinforced to staff and key stakeholders.
- **Managing Change:** Bring people on the journey through experiential learning, participation and recognition.
- **Right Capability:** Critical to allocate or insource and/or outsource the right expertise and invest in ongoing development/improvements to sustain the change.
- **Integrated Approach:** Structured Governance Framework used to manage an integrated and enterprise wide approach to development and implementation.
- **Single Source of Truth:** Knowledge is shared across the program/organisation and occurs via a disciplined approach to creating, sharing and maintaining single source of truth for key information.
- **Mandated Processes and Systems:** Mandated processes and systems are clearly prioritised for use across the organisation.

5. SERVICE VIEW APPROACH

The Service review covers two elements:

Foundation Analysis (Current State)

- Structure and People
- Asset Management Planning and Process
- Asset Management organizational maturity assessment

Business Improvement Justification

- Improvement Opportunities Action list
- Mitigating the risk of future asset deterioration with a recommended strategy having the correct mix capital and operating budgets across Annual and Long-Term Planning

6. KEY FINDINGS AND OBSERVATIONS

FF4 findings have been summarised into 2 categories:

1. Structure & People
2. Asset Management Planning & Process.

6.1. STRUCTURE AND PEOPLE

Findings and Observations

- There are role/responsibility ambiguities in current structure that need to be clarified - a structure that more clearly identifies key AM component responsibilities
- Getting resources with the right skills/experience in AM is a challenge - positions remain vacant for extended periods
- A lot of people we interviewed show talent, commitment and passion to getting better AM outcomes but have a high degree of frustration - could be a risk for retention
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- Data is not valued as an asset because there is a general lack of awareness about AM across the organisation. Needs to be AM education across the business.
- Reporting is high volume, excessive detail - takes up staff time, loses the key messages and probably encourages elected member interference in operational details.
- Is an issue with siloed work groups - both within IAM and across the Council directorates. Is a need for greater collaboration in key areas (e.g. IAM and Strategy Planning & Policy)
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- Staff are overwhelmed by reactive work (swamped by RFSs) that can often go around in circles taking time because firm decisions that need to be made aren't. Complainants can continue the debate. So AM staff cannot devote the time needed to their real jobs

- Alliance - is a lack of trust between the parties - each suspect the other is trying to take advantage of them. Doesn't work at as a real alliance and this is felt at the work front level despite apparent message from senior management that it is going well

Pressures

The Infrastructure Asset Management division are impacted by factors external to the organisation and by internal key support areas which reduce the effectiveness of outcomes delivery

- Staff attraction and retention issues

- Skill set requirements not met, short term tenures, Roles unfilled for long periods, Knowledge loss an actioning exit interview data, interdepartmental role gaps created upon , succession planning

- Internal Plant costs and poor level of service

- Reduced utilisation levels, high costs and poor communication from the Plant servicing department

- Asset Management practices

- Potential to assess level of investment versus customer expectations

Strength and Weakness

The review has identified the following key strengths and weakness of the current asset management model - people

- **Strengths:**

    - Strong leadership team – with a diverse array of experience and strengths

    - Pockets of innovation within team driving their own performance

    - Clear desire from many staff to 'do the right thing', do their job well and deliver a good outcome

    - Acknowledgement that there are issues and a clear desire from staff to make improvements

- **Weaknesses:**
  - Limited forward planning common processes across a large proportion of the business leading to inefficient use of resources – no process even if new software in place
  - Contractual, Plant and contractor constraints regularly impacting productivity, costs and staff morale
  - No single source of truth - multiple systems or individual IP knowledge for different work types
  - Limited performance data / reporting to drive performance and business decisions
  - Customer requests driving a reactive mindset with no consistent process
  - Though high level in place - No detailed plan for improving the business
  - Lack of end to end processes and business rules including staff understanding and adherence
  - Lack of end to end system integration
  - Lack of evidence-based data driving decision making
  - level of staff business knowledge – operational and task based is sporadic

Organisational Structure

Critical human factors that are supporting or detracting from business objectives:

- Not getting out to visit assets regularly
- Tier 3 asset manager role needs to be filled asap – pay a premium if required?
- Identified pockets of excellence but also poor performance due to workload, distraction or non-understanding of accountability in end to end processes (noise over nominated job)
- Poor change management implementation, particularly with respect to process planning implementation
- General level of frustration with Alliance at a practical operational level

6.2. ASSET MANAGEMENT PLANNING & PROCESS

Assessment of current state processes and policies to identify the gap with best practice

- Inconsistent or non-existent implementation of policy and processes across the business leading to the inefficient utilisation of resources, low productivity and staff frustration
- General view that work is reactive, and that RFS's are excessive and constantly change job priorities – this is driving the way you operate
- Slow HR and recruitment process – including simple 'like for like', 'in budget' replacements impacting the ability to maintain service levels and lowering productivity
- Training overload – too many SOPs with too much training on them – full training data has been difficult to ascertain and validate
- The current field structure, works processes, technology and communications doesn't support effective works management potentially leading to increased customer complaints, lost productivity and higher costs

Asset Management Planning & Process issues

- The key processes are not documented (e.g. how to create a renewals project). Once the new AMS is implemented the lack of process documentation means that the only benefit achieved will be a better repository for data - but still no clear methodology on how to use it
- Data - is a key gap. Issue is multi-faceted covering ready access to data, collecting the right data (not everything), creating standard data reports for analysis purposes (both on infrastructure systems and on work force performance), integration of different data sources - work order info, SCADA data, GIS data, asset register data, financial data
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Treasury Maturity Matrix observations

- The assessment against the AM maturity matrix resulted in a rating significantly lower than the self-assessment previously done by the council – a total score of 43 against the council score of 58
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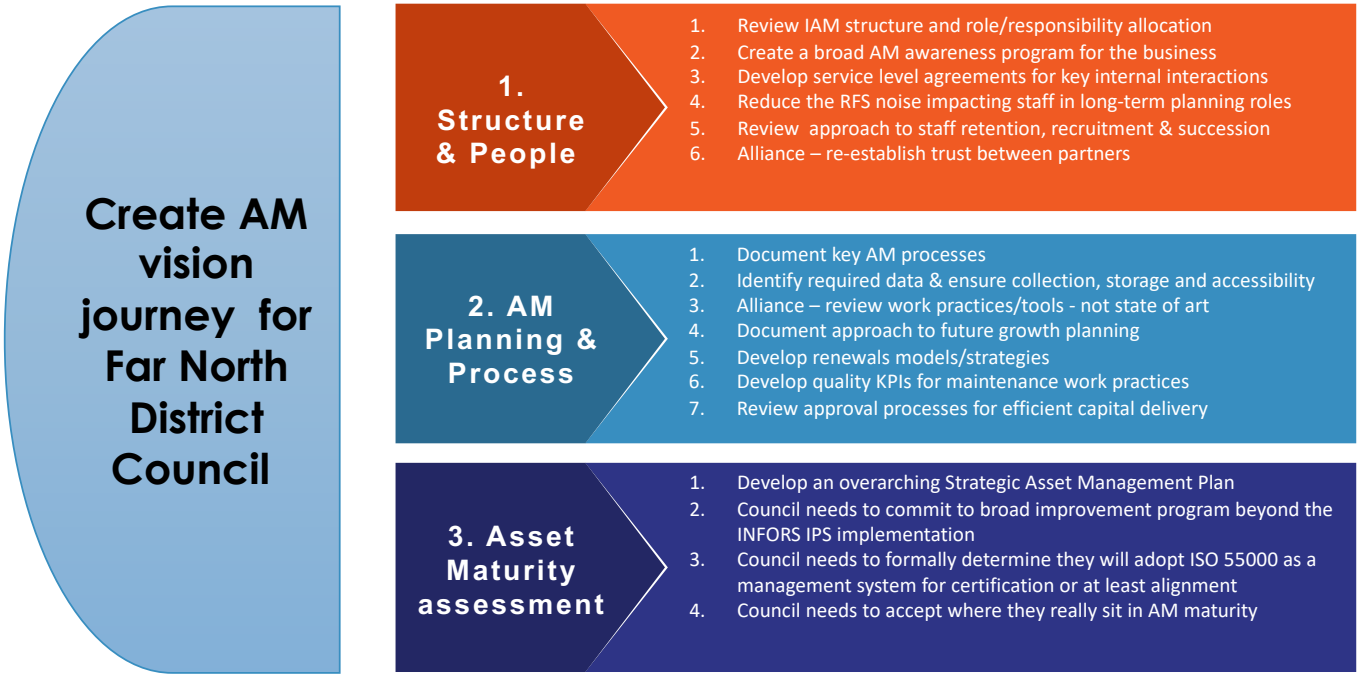
- The matrix has 16 questions and groups them into three sub-categories of Understanding/Defining requirement, Developing Lifecycle Strategies and Asset Management enablers. The results show that the Council needs to do similar levels of improvement work in each of the three categories
- Implementation of the new INFORS IPS alone is not going to shift the Council to a robust state of asset management without significant effort in other areas
- There are significant improvement areas in management systems, performance and condition information, levels of service/performance management and operational planning
- With the Council setting appropriate targets for all 16 questions as being in the Intermediate and Advanced ranking there is a lot of improvement activity to be undertaken

7. IMPROVEMENT OPPORTUNITIES

The improvement opportunities have been categorised into the following key areas:



7.1. STRUCTURE AND PEOPLE

1.(i) Review IAM structure and roles/responsibility allocation

There is an existing structure within IAM that is meant to deliver on the AM requirements of the Council. The current structure does not recognise that there are quite different skills and tools required for the various components of asset management. The development of maintenance standards and planned maintenance strategies requires different knowledge and experience to say the development of condition assessment strategies and renewals models for various classes of assets. The skills and tools for undertaking system modelling and business case options analysis for growth planning are different again.

Given the size of the Council much of these tasks would need to be supported by external consultant resources rather than done in-house but Council staff still need to know enough to be able to act as good consultant managers. Areas that would likely need external support would include things such as:

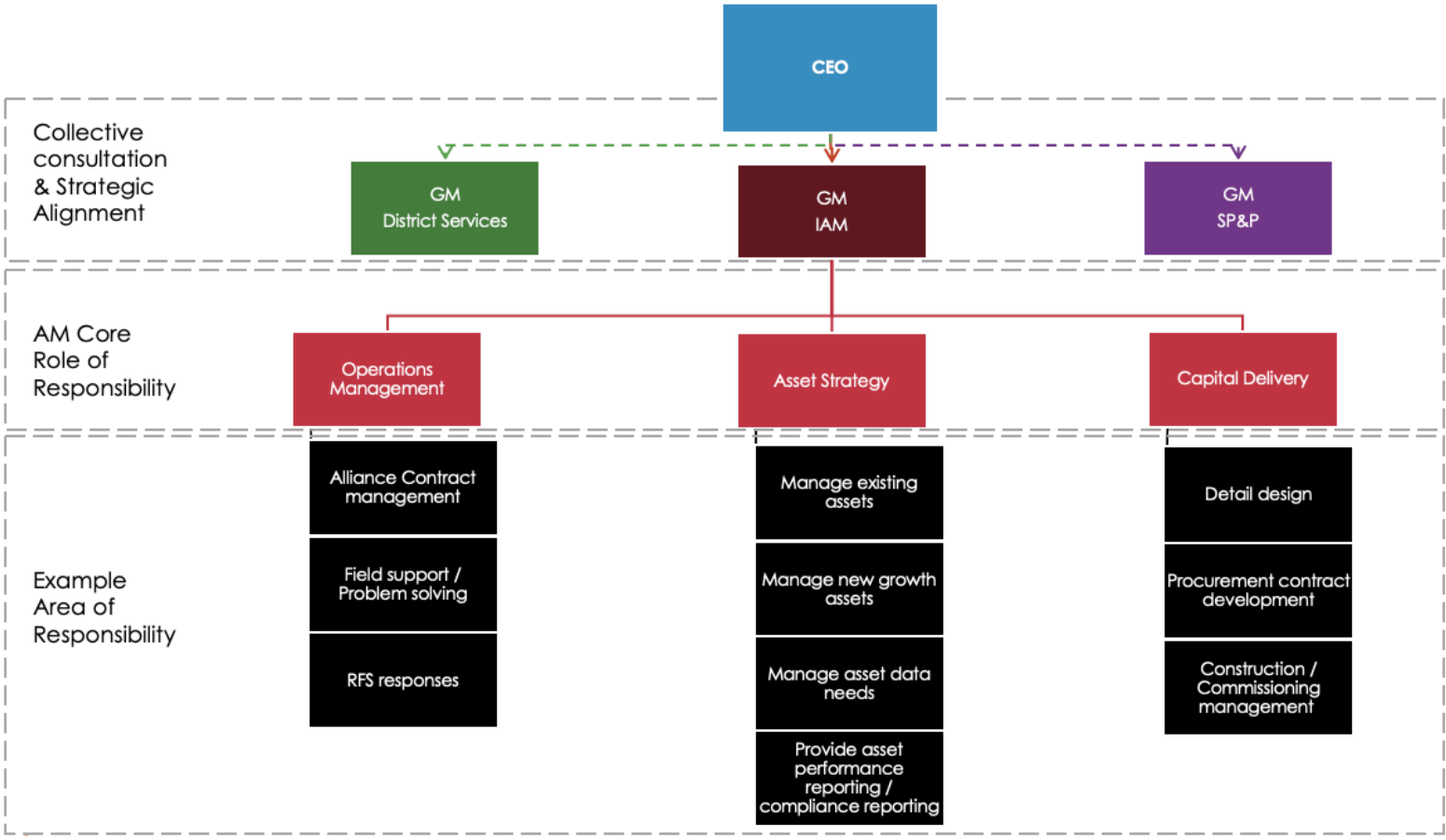
- The development of maintenance strategies often requires the skillset of good reliability engineers with experience in electrical and mechanical engineering
- Creation and analysis of system models for growth planning
- Generation of renewals decision tools
- Undertaking of specialist condition assessments – particularly condition assessments of large watermains and sewer pressure mains, or use of drone technology to inspect water storage tanks and dams

It makes sense to group maintenance and renewals work into one team as they effectively trade-off against each other – you renew when it is not economic to continue to maintain. Planning for growth, however, should be done in a separate team and their focus would be on monitoring the available dynamic system performance data along with the level of development applications/approvals, resultant new connection rates and all relevant census information. They would then develop briefs for system modelling work to go to consultants.

Additionally, having a dedicated information management team to support all the data needs is sensible as again this is a different skillset. This team would be responsible for engaging with key AM areas to determine their information needs across all forms of data (static, transactional and dynamic). They would also be responsible for documenting the system integration needs of end users (e.g. an ability to display work order fault data on a spatial map, or to take a 'cut' of a GIS and load it into a hydraulic model for planning work).

Proposal

- Consider adopting the draft structure below.
- Adopt the allocation of roles proposed under each team.



Asset Strategy
Information Management
Assets in service (where, what)
Failure history / costs
Connected property info
Demand / property
Standard reports
Performance Dashboards
3 waters existing assets
Renewals management
- failure assessments
- condition programs
- prioritisation of forward works
Maintenance management
- develop standards
- Planned maintenance strategies (what, when)
3 waters growth planning
Growth analysis
- actual / forecast
Review development applications / approvals
Create / maintain system models (calibrated to field data)
Manage rolling program of system reviews
Compliance monitoring of systems
Concept designs for upgrades needed
District facilities
Demand monitoring
Condition assessment
Renewals planning
Maintenance contracting
Program formulation
Reporting

1.(ii) Create a broad AM awareness program for the business

The sense we got from the interviews was that there is still not a lot of AM awareness and buy-in from parts of the Council outside of IAM. There are several areas of the Council who need to have strong links with IAM and who can be sources of key information in the development of AM strategies and planning. The current lack of awareness of the AM role and how it works can mitigate against productive working relationships.

It is recommended that the IAM group, as a part of the current Program Darwin, look to develop an overarching asset management awareness package that can be rolled out across the business.

Such a package should look to focus on two aspects:

- An overview of what good asset management entails – the key elements and how they interlink. There are some useful AM stories available such as the Institute of Asset Management - 'The Big Picture' which is a visual tool for generating AM conversations.
- An overview as to how the Council wishes to give effect to its own AM functions and who within the Council would be affected.

Proposal

Initiatives to improve the AM awareness of staff within the Council include:

- Creation of an AM overview presentation package
- Initially as a component of Program Darwin IAM management present the package to:
    - The SLT and even Councillors
    - The lead teams of all other directorates
    - Staff in areas where key interactions with IAM exist
- Ultimately present it across the entire Council

1.(iii) Develop service level agreements for key internal interactions

There are several key interactions that IAM has with other parts of the Council. There are also some interactions within IAM that are important. The feedback from a number of the interviews indicated that some of these interactions have a degree of tension and a lack of collaboration. There is potential for work being done in one team not being compatible with the direction of another, which can create rework and hence wasted time/cost. Where the work of one team can impact that of another within the Council there needs to be confidence that all are on the same page. There needs to be good communication and consultation, and this could be achieved through the creation of a series of internal service level agreements (SLAs).

The use of service level agreements is now a very common approach for internal teams within council and utility organisations. The process of creating the SLAs is very useful in itself as it generates the level of discussion from both parties to the agreement that will bring to the fore misunderstandings, past problems and a clear picture of respective needs. If done in a constructive and collaborative way the journey to document an SLA can create a sense of teamwork between the signatories to the agreement and break down tensions that might now exist. Based on experience in other places it can take six to eight weeks to create an effective SLA with the timeframe allowing everyone to absorb all the inputs and build the relationships.

Proposal

- Create SLA between Asset Management and Project Delivery within the IAM group that outlines the timing and detail requirements of scoping documents for project delivery and the information requirements (e.g. data, ops manuals) needed at project commissioning/handover.
- Create SLA between IAM and SP & P around respective inputs for the creation of long-term plans
- Create SLA between IAM and Finance covering aspects such as revaluations, asset register data
- Create SLA between IAM and District Services covering all key areas of interaction

1.(iv) Reduce the RFS noise impacting staff in long-term planning roles

The fundamental role of an asset manager is the medium to long-term focus on holistic asset management. The development of maintenance strategies, renewals strategies and future growth planning. It is not a day to day operational type role. One of the consistent feedback themes was the extent of reactive work that was being imposed on IAM's asset management staff through customer and elected member initiated RFSs. It was commented that in many cases these should be nipped in the bud with routine responses but that the Council culture allows ongoing debate when the initiator refuses to accept a legitimate response. To enable the asset managers to focus on the medium/longer term areas that will ultimately create better operational outcomes for the Council there needs to be a genuine effort made to reduce the impact of these RFSs. It was noted that this same issue was raised in the CouncilMark assessment of 2017.

An overview of holistic asset management shows that it can be broadly considered in three components with these being strategic, tactical and operational asset management. These components are not totally independent but in large organisations can be established as separate entities who act in collaboration with each other as needed. In smaller organisations such as FNDC the economy of scale issues generally means that only one AM group can exist. However, where the 'firefighting' aspects within the Council reach a point where the long-term AM planning work is not getting done another option is to try and separate the more daily operational asset management away from the other two components. This at least gives a chance for the strategy and tactical components to get a genuine focus which is important as this is where the greater benefits in optimal decision making will derive from.

Proposal

- Council executive staff need to engage with the elected members and ensure that they abide by appropriate processes and protocols and avoid getting involved in day to day operational issues
- An assessment of the RFSs received needs to be made with an objective of redirecting them away from the asset managers so they can do their primary and important roles
- Consider creating an 'operational AM' team within Operations Management component of IAM who would take lead role on RFS responses

1.(v) Review approach to staff retention, recruitment & succession

A key finding identified issues around the attraction and retention of key staff. There was reference to a high level of staff turnover in the Council and a lack of robust succession planning. These issues become more important when internal processes create frustration for the talented people already in the organisation.

This combined with difficulties attracting younger staff and/or families due to the Far North perception of isolation, or few large stable employers requires a co-ordinated approach to make Council an employer of choice.

Proposal

- Council to consider:
- Rebranding and communication program to lift the potential employees' perception of the Council and the extraordinary offerings of the Far North
- Investigate and re-energise current programmes or alternatives such as graduate programs, subsidised housing in the regions and benefits programs to position the council better in the market. Note: clearly target at business outcomes required
- Provide clear career paths for workers.
- Ensure reward systems are for recognition of work beyond normal duties and that these are genuine and systematically distinguished.
- Identification of critical skill sets and critical positions across the Council's AM functions
- Development of a comprehensive plan to manage succession planning, cross skilling and knowledge sharing

1.(vi) Alliance – re-establish trust between the partners

There was an often-repeated theme across the interviews that there were issues between the Council and the alliance partner, Broadspectrum. A lack of trust was regularly referred to by staff. This is an important long-term arrangement that is crucial to the AM outcomes of the Council both for delivery of work (opex & capex) and for the provision of key asset performance data.

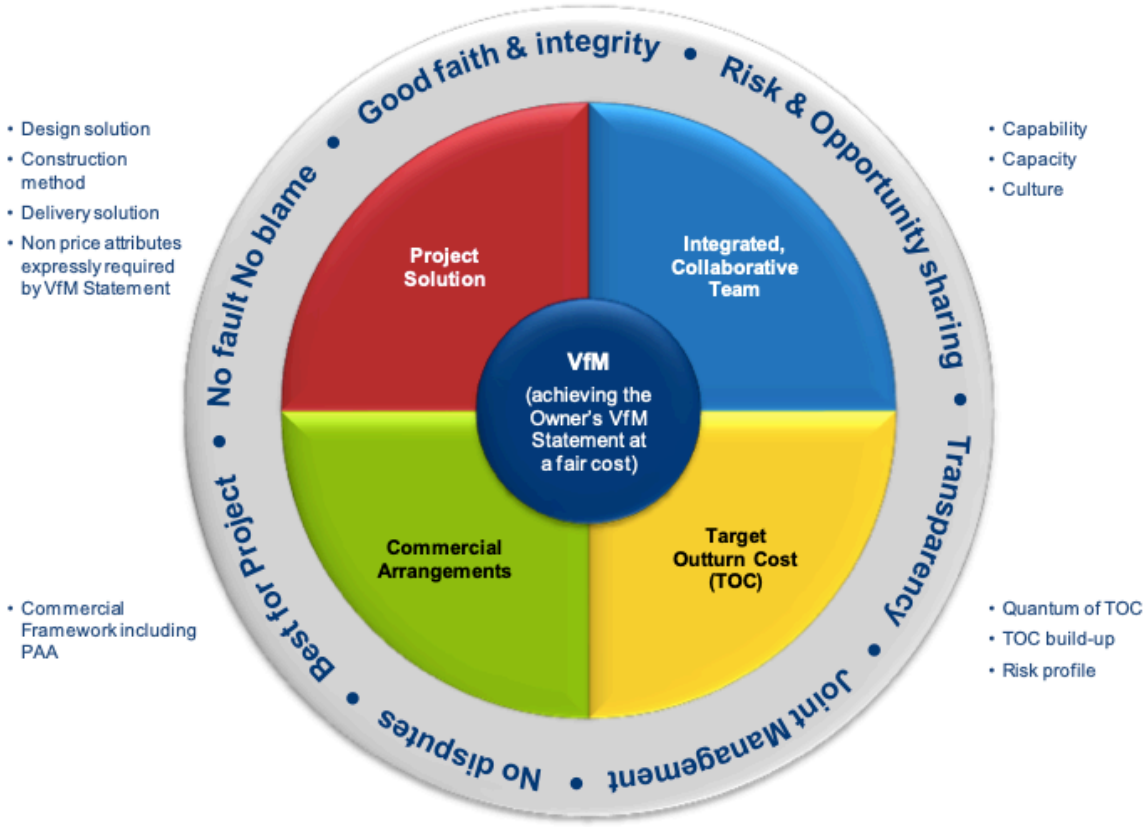
It is essential that to get best outcomes for both partners that a true alliance attitude is created and maintained. This should result in robust discussions around work practices, allocation of project work, ready information sharing and a shared view toward change and innovation over the duration of the alliance.

Proposal

Council to take appropriate actions to re-establish the trust by:

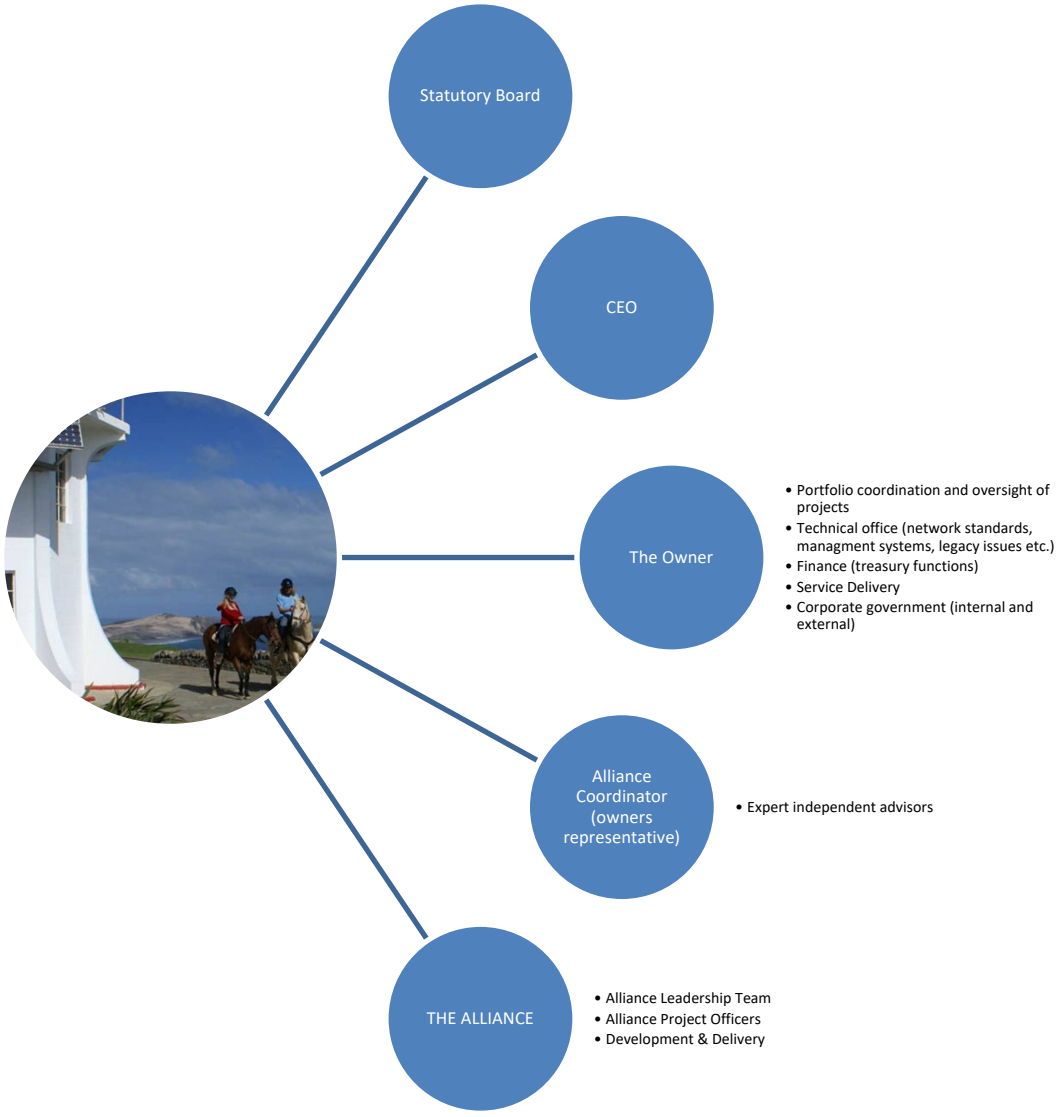
- Utilising major and minor review contractual agreement consultation and planning phases to discuss (for example);
    - Typical workflows for most common projects including the information delivery cycle
    - Commonality of language and definitions glossary
    - Open transparency and acknowledgement of the Asset owner
    - Acknowledgement of co-data ownership
    - Update and communicate;
        - key alliance contacts
        - project goals
        - competency requirements of all parties
        - Information management & exchange
    - Technical interoperability and integration architecture for a common structured data environment
    - Execution plans, Deliverables, sign off gates and final sign off with handover checklists
    - Quality Control Assurance methodologies
    - Model element responsibilities and requirements table(s) with best practice examples

- Requisite reference documents and standards (including revision protocols)
- Formulate or update an Alliance Success dynamics framework (see example)



- Overall, appreciation of each alliance members' End-to-End delivery processes and how each interaction plays a part in the input and output requirements that affect successful upstream and downstream delivery and benefit realisation.
- New Way of Working improvements, for example improved process(es) for reporting asset operational issues or design faults which can result in issues reoccurring. A capture process is required to ensure faults are reported timely to the appropriate department.
- Further productivity and efficiency gains can be made through the adoption of work practices that will improve the job triage process between alliance members and a fair transparent maintenance of price tension.

- Formalise and distribute Alliance governance structure to all stakeholders (example only)



Asset Management and Planning Process

2.(i) Document key AM processes

At the current time there is a program of work to deliver a new asset management system (via INFORS). This will provide a repository for a robust asset register, a capacity to hold the required fault data currently held by the Alliance and some reporting capability. A review of the INFORS proposal also showed that it has some high-level process information, but these need to be developed for the specific AM tasks as done in the Council. Processes need to be documented for a range of aspects such as capital procurement, maintenance strategy implementation, renewals strategy implementation, information management, development assessment process and so on.

Within the overarching AM improvement program there needs to be a suite of work dedicated to identifying all the key processes that will be supported by the new system and then for those to be documented. Assuming that the approach is to adopt the INFORS system in its vanilla form as far as possible (as we were advised) it may be that past practices may have to be reworked to fit with the new system. Such a review also provides an opportunity to see if there are current process barriers that reduce efficiency and effectiveness in AM delivery and make changes as necessary.

Proposal

- Develop a scope of work as another component of Program Darwin dedicated to ensuring that all key AM processes are identified and documented

2.(ii) Identify required data & ensure collection, storage & accessibility

Asset data is the fundamental building block of asset management. Lack of data, or the difficulty in accessing it, was a problem that many people raised as a barrier to effective asset management. Data can be considered in three broad areas as follows:

- Static data – the information collected in an asset register that records what is in service and the required attributes (e.g. Brand, material, install date etc)
- Transactional data – generally work order information, fault history/costs etc
- Dynamic data – performance information such as pump hours run, reservoir levels, system pressures etc

There is a program of work to establish and populate a new asset register and an ongoing data cleansing exercise occurring in concert with that work. This work will allow the completion of the defined asset hierarchy agreed as part of Program Darwin and deals with static data.

There also needs to be a review of the transactional and dynamic data to assess what needs to be collected for AM decision making and what is currently being collected. This should be assessed against maintenance, renewals and growth planning needs.

Consideration should also be given to the creation of an AM/operational dashboard that can give a quick overview of system performance. The types of aspects that could be incorporated into such a dashboard include:

- Using SCADA data from W/W pump stations to flag high wet well levels on a summary page
- Using SCADA data to flag potential pump problems (hours run above normal expectation may flag infiltration/inflow issues)
- Using SCADA data to show where duty/standby pumps (if they work in a flip/flop mode) have significantly different run hours may flag a pump is starting to build up a chokage
- Calculate historical stats for daily levels of complaints (e.g. dirty water, water leaks, water taste & odour, sewer chokes/overflows etc) the report on a dashboard whenever these complaints exceed the normal expected level by some determined %. If enough data history can even do the daily expectation varying for times of the year so that typically busier complaint periods only get highlighted as an issue if they go above the normally higher level

Such dashboards when established make the data available/accessible in a very meaningful way for both operational managers and for asset managers. It can be

presented in a way that allows these people to scan across a lot of issue quickly and then do more follow-up analysis if something is highlighted as abnormal.

Proposal

- Assess the current work on static data to ensure are not collecting data that will not be used for decision making – don't want efforts to collect everything getting in the way of collecting the real needs
- Review transactional data needs and their collection process to ensure it can be attributed against replaceable asset components
- Review the dynamic data and ensure it meets growth planning needs and can also highlight more immediate performance trends (e.g. pump deterioration, I/I problems in a catchment etc)
- Consider the future use of asset performance dashboards

2.(iii) Alliance – review work practices & tools – not state of art

It was suggested in some of the interviews that the Alliance may not be investing in the most modern equipment for undertaking its work practices. Normally as part of a service review this would be confirmed by onsite visits to see what was done and what equipment was used.

The specific areas of concern that were raised were in the management of clearing sewer blockages. The issue arose through some AM related questions about the level of repeat work at the same location. The discussion drew our attention to the fact that the Alliance does not appear to make use of reasonably cost effective 'pencil' type cameras to confirm that blockages have really been fully cleared or just enough to have flows re-established – a fairly common verification practice nowadays. It was also suggested that the type of jetting technology used may not be up to date.

It was considered that it may be appropriate to undertake a quick assessment of the key equipment used for Alliance tasks and to determine if there needs to be some investment in new gear that could result is less rework and much greater time between failures. It is possible that this outcome would generate an acceptable payback time.

Proposal

- Assess the current fleet of equipment used by the Alliance, the level of repeat work on key tasks and whether there is a driver for equipment update

2.(iv) Document approach to future growth planning

Based on the most recent .ID population report the Council needs to plan for growth of around 0.8-1.0% per annum over the next 20 years. In addition to the growth in the substantive resident population consideration also needs to be given to the additional system loads generated by tourism across a substantial (up to 5 months) portion of the year.

Growth planning is done by monitoring current system demands, new development applications and resultant property connection rates and forecast new growth over a 20 to 25-year horizon. This information is then used in system hydraulic models (water, wastewater and stormwater) to assess where new assets will be required to enable the system to maintain service levels expected. A mature asset management approach would have the process documented and the key tasks clearly allocated so that the organisation's planning and ensuing capital needs are ahead of the demand curve. Generally, this entails a rolling program of system modelling of all schemes across a nominated timeframe. Exceptions to review timings can occur if extraordinary unplanned growth gets flagged for any scheme.

Our understanding is that there is a current program of work to review the stormwater catchment models with the work being done by GHD. As part of this work the existing models are being transferred to a more up to date modelling tool.

We were also advised that most, if not all, of the water and wastewater models have not been updated for more than a decade. While this may be alright in areas where there has been no growth it is much too long where there is growth – even if at a slow rate as it compounds - or where there are factors such as tourism peaks. Advice was that the Council uses INFOWorks software for both its water and wastewater modelling. If this is correct these are very suitable modelling tools for both areas.

Proposal

- Document the key steps in the growth planning function and allocate responsibilities
- Assess the number of schemes across 3 waters that require system models, the maximum capacity to review schemes in any year and then determine a rolling program of reviews

2.(v) Develop renewals models/strategies

Asset renewals are usually driven by the fact they no longer deliver the required service levels at a sustainable ongoing maintenance cost. Some renewals work is done infrequently (e.g. the need to replace or refurbish a sewer pump station wet or dry well, a holding tank in a treatment facility, a water storage tank) and can be assessed on a case by case basis. For these the key issue is having a robust condition assessment plan in place.

Other assets such as the water and sewer pipe networks are more widespread and have a regular and ongoing renewals need. For water pipes the cost of condition monitoring is generally not economic and the consequence of failures (except large pipes) is not high. Monitoring failure history and creating replacement models that trade off current unit rates for replacement works against projected ongoing repair costs can be set up to avoid the need for individual business cases for every renewal project. For sewer gravity pipes, which unlike water pipes, are constructed to grade and so have very variable depths, the repair costs can vary greatly even for pipes of the same diameter. For these, models can be created to assess the asset criticality based on cost of repair, proximity to sensitive waters, proximity to buildings and so on. The analysis can be used to determine which sewers it makes sense to inspect for condition to avoid a failure that would rule out use of trenchless technology repair techniques. This critical thinking approach should be applied to all asset classes.

Proposal

- Assess the asset base (pipes, electrical, mechanical, SCADA, treatment, pump stations) and determine the economics of condition assessment strategies and then create programs to implement – do not assume that you need to condition assess everything
- For more frequent asset renewal types consider the develop of decision models to speed up the justification process for projects

2.(vi) Develop quality KPIs for maintenance work practices

A review of the IAM monthly report did not show any evidence of analysis being undertaken on the quality of maintenance work being undertaken. Nor did we see any evidence that there was any monitoring of the trend costs of maintenance.

From an AM perspective the Council should have a clear idea of the cost drivers within the maintenance function. If you monitor cost trends for specific tasks (e.g. repairing a 100mm diameter water main) then any changes can prompt discussions with the contractor. At times the changes may be legitimate such as driven by a requirement for greater traffic control or new rules on confined space meaning additional resources are mandatory on some tasks. The key thing, however, is that the Council knows, and the contractor knows you are monitoring.

Another very useful KPI to include is a capacity to know when any reactive work must be repeated within a short timeframe. This can be an indicator of a more serious problem in the asset or an indicator that the work (e.g. clearing a sewer blockage) was not performed adequately in the first place. Standard reports to look at repeat work at the same location can drive analysis that can save future costs. The saving may be in bringing forward a minor renewal job to avoid ongoing reactive breakdown costs or it may come from reviewing the work practice to ensure a better job first time. The use of cameras to verify a full pipe clean when clearing sewer blockages has, in some utilities, increased the time between chokes from as little as 3 months to as great as 2-3 years – simply by ensuring the blockage was fully removed the first time.

Similarly, aspects such as average manhours/cost/time to complete job tasks should be monitored for trends. Where changes, up or down, occur that are significant the Council should be raising them with the contractor. Such information can be used to better assess need for asset inspections, renewals, and changes in maintenance strategy.

Proposal

- Develop at suite of KPIs that can be used to assess work practices trends and work quality trends as part of the Alliance agreement

2.(vii) Review approval processes for efficient capital delivery

At the current time the Council has difficulty in delivering its approved program of works each year. Recent years have seen large underspends against the approved budget. While we believe that there are potentially some projects on the current program that would not be there if rigorous justification processes had been followed, it is still a concern that jobs which are genuinely required may not be getting completed.

For routine works such as renewal of water mains, which is not greatly different in skill set to water main repairs, making better use of the Alliance contractor to undertake such work would seem logical. It offers a saving in delivery time and in the contract administration costs for the council. If the Alliance contractor offers rates that are comparable with recent works (and occasionally this can be tested in the market) then it should be a win/win scenario. It is common for utilities to set up rolling contracts with a single entity for regular minor works. This has often been done for water renewals and sewer relining type works. It also offers the benefit that the contractor can set their own systems up to integrate with Council systems, such as the GIS. It makes management/planning of the works easier if they have a stream of work committed for a reasonable time. This cannot be done if every job goes to tender. The incentive is there for the Alliance to be fair with costs and quality or risk losing the work stream. Another option would be to set up the same type of arrangement but as a panel of two contractors to ensure some competition.

The other aspect that was raised that also suggests that more use of the Alliance for minor renewals is that where projects go to tender the approvals are via the Council's Procurement Board which only meets 3 times a year. This can become a significant constraint on expeditious project delivery.

Proposal

- Establish a set of unit rates for renewals type works with the Alliance to facilitate faster capital work delivery of minor capital projects

7.2. ASSET MATURITY ASSESSMENT

3.(i) Develop an overarching Asset Management governance strategy

As part of a best practice approach to asset management as outlined in ISO 55000 the Council should implement a governance strategy. This entails the existence of an executive approved Asset Policy document, an overarching Strategic Asset Management Plan that aligns with the Council's corporate objectives and an AM Steering Committee. The Steering Committee would typically include the CEO, key relevant members of the Senior Lead Team and a couple of the senior asset management staff from IAM (aside from the GM IAM). The Steering Committee should have a documented charter and an agreed meeting frequency with specified agendas and minutes kept.

Within the Council there has recently been an Asset Policy documented and approved (Dec 2019) but there is no documented SAMP and no AM Steering Committee. Addressing these gaps would help to educate the broader business about AM and its important in both customer service and financial sustainability of the Council.

A SAMP should cover the following:

- Document the approach to implementing the principles laid out in the AM policy
- Document the framework for achieving the AM objectives and their relationship to the organisational objectives
- Should be scaled to meet the size/complexity of the organisation
- Should include a statement of stakeholders and their needs
- Should include a statement of scope of cover of the AM system
- The method and criteria for decision making and prioritising
- The processes and methods for managing assets over their lifecycle
- The planning horizons and review periods
- Overall resources, responsibilities, timeframes

Proposal

- Create an AM Steering Committee as outlined above to drive the Council's AM journey
- Develop a Strategic Asset Management Plan aligned to Council's corporate objectives

3.(ii) Council needs to commit to broad improvement program beyond the INFORS IPS implementation

Based on the results of the maturity assessment it is considered that the Council still has a significant amount of effort to undertake on its AM journey beyond the implementation of the INFORS IPS targeted for September 2020. Program Darwin already includes elements of people and culture change, role and responsibility reviews and a condition assessment program of works. In addition to these areas the improvement journey also needs to include development and documentation of all the key asset management processes, development of sound maintenance standards and strategies, development of a well-structured and economically sound condition assessment program (not condition assessment of every asset in service) and development of a strategy for growth planning. It is considered that from the current level of maturity completion of this work would take between 3 to 5 years depending on resource constraints.

Proposal

- Re-assess the current Program Darwin to incorporate all elements of an AM improvement journey necessary to achieve alignment with ISO 55000
- Develop a timeline and resource commitment to deliver the revised program of work

3.(iii) Council determine they will adopt ISO 55000 management system for certification or at least alignment

The delivery of sound AM requires a commitment to implementing appropriate support systems and processes and then having a management system in place to ensure that these are used consistently. It also requires a commitment to ongoing improvement through a regular review/audit process. The ISO 55000 International Asset Management standard is the most suitable mechanism currently available to ensure this.

It is a significant commitment for any organisation to put in place the requirements against this ISO standard but in any capital-intensive industry such as the Council (with significant value of assets in roads, 3 waters and facilities) the long-term benefits of sound decision making justify the commitment. The choice then becomes one of deciding whether to seek certification against the standard or whether to seek to align with the standard without going to a formal audit step.

An option often followed by organisations is to achieve certification and then maintain it for 3-5 years to ensure that processes are well embedded. Beyond that time to then forego the regular audits and the costs involved and just internally manage keeping an alignment.

Proposal

- Commit to achieving alignment with ISO 55000 over the next 3 years. At the end of that time determine if full certification is needed to properly embed processes or if alignment alone can be continued.

3.(iv) Council needs to accept where they really sit re AM maturity

The assessment against the Treasury maturity matrix undertaken by FF4 resulted in a significantly lower result than that previously reported through a self-assessment done by the Council. The assessment showed that Council overall was marginally above the 'Basic' level of the matrix criteria while the self-assessment had indicated a level of maturity marginally under the 'Intermediate' level. The difference in ratings score was 15 (just over a 25% lower rating).

This means that the Council has a significantly greater improvement journey to reach their desired level of asset maturity and see themselves rated as a *'leading exponent of AM in New Zealand*'. To reach that objective will require an acknowledgement of where Council currently sits and a willingness to commit to an extended improvement timeframe of 3-5 years.

Proposal

- Council acknowledge the maturity assessment and the improvement journey required
- Council commit to a 3-5 year overall improvement timeframe that will address system upgrades, process development and implementation, generation of a suitable data history for robust decision making and a change/culture shift across the Council.

3.(v) Develop Data Analysis Capability

Once the collection of data is improved, Asset Management then will need to be able to decide what data is needed to improve decision making capabilities and plan to effectively analyse the data through reporting, interdepartmental self-service lookup and live dashboards.

The Asset Management team needs to develop a 'live' data analysis capability within its team to support all areas of the business, from work planning, performance management through to budget and funding requests, etc.

Proposal

- Review data analysis capabilities to identify gaps within the team
- Incorporate this review into the recommended structural realignment for consideration

8. QUICK STAFF CAPABILITY ASSESSMENT

The assessment was conducted within our interview framework as an informal assessment of staff based on Able, Cooperative and Energetic qualities.

The focus to move staff capability up the scale should include:

- Development of a skills matrix for each job profile
- Identify required staff training and business requirements for numbers for each skill profile
- Move away from more generic role descriptions to those with more granular accountabilities and responsibilities
- Actively manage performance & provide feedback
- A fairer dispersing of responsibilities across teams, especially where gaps are identified or roles still vacant

9. (SAMPLE) FF4>>DRIVE: LEADERSHIP FOCUSED PERFORMANCE CULTURE

Reactive Way of Working….

- Firefighting
- I spend all my time resolving the latest issues…it never seems to stop
- Management by procedures and rules
- I spend all my time following procedures, responding to Head Office, HR and Supply Chain…how do you expect me to lead my team?
- Blame game
- Some people do not pull their weight, and others have to step in and pick up the slack. It's not fair
- Disconnected Performance
- I do not see how my individual performance impacts my team or our overall business success

Performance based Way of Working…

- Proactive Management
- I foresee and escalate issues before they arise. I have confidence that they will be resolved
- Management by Leading
- I have a structured day, that allows me spend time with my team and focus on what is important
- Working Together
- We work together to resolve issues and solve problems as they arise. I am skilled at implementing sustainable changes
- Connected Performance
- I know what is required of me on a day-to-day basis and can see how it impacts my team and contributes to the business' success

10. FF4 FUNDAMENTALS FOR BEST PRACTICE

Key concepts and principles for FNDC to develop and follow with the aim of creating sustainable and enhanced Performance across Asset Management

Lead by example

- Provide clear messages and expectation for all staff at all levels involved in works delivery
- Lift or manage out poor performers
- Coach managers and staff on performance and productivity management with regular training needs analysis to identify emerging gaps

Accessible

- Visual management practices where work plans are visible, driving efficient use of resources
- Build institutional knowledge into documented policy, processes and procedures
- Ensure that reference material is stored centrally and is easily accessible for all staff

What gets measured gets done

- Align the organisation structure with lines of accountability
- Implement a measurement & management system based around desired business outcomes by role

Monitor

- Build a Measurement system to monitor - data quality, process compliance and operational performance
- Build the measurement & management feedback into the daily WOW (Way of Working)
- Create a continuous improvement process based on performance measurement targets and trends

11. ROOT CAUSE ANALYSIS

The following end to end root cause factors were notable:

Wasted effort and time driven by a reactive work process and limited forward planning

- No effective process to respond to RF requests
- Lack of quality work data

Works Delivery focus not optimised

- Low threshold for assessing and approving customer requested work
- Low defect risk appetite leading to high work volumes and potential over servicing driving large backlogs in certain areas

Limited/no documentation or consistency of application of end to end process and business rules

- Duplication of responsibilities between several roles

Inadequate Performance Measurement Framework

- No measurement of field Productivity or Utilisation
- No understanding of job task estimates

12. ASSET MANAGEMENT ORGANISATIONAL MATURITY ASSESSMENT

Treasury Maturity Matrix

FNDC has previously carried out a self-assessment of its asset management functions against the Treasury Maturity Matrix. This matrix incorporates a total of 16 questions ranging across the elements of robust asset management practice. The questions collectively cover the three followings areas:

- Understanding and defining requirements
    - Asset policy and strategy
    - Levels of service and performance management
    - Forecasting demand
    - Asset register data
    - Asset performance and condition
- Developing Asset Management Lifecycle requirements
    - Decision making
    - Managing risk
    - Operational planning
    - Capital works planning
    - Financial planning
- Asset management enablers
    - Asset management leadership and teams
    - Asset management plans
    - Management systems
    - Asset management information systems
    - Service delivery mechanisms
    - Audit and Improvement

Against each of the 16 questions we have rated FNDC based on Treasury's 5-tier scale as follows:

1. Aware - (0-20)
2. Basic - (21-40)
3. Core - (41-60)
4. Intermediate - (61-80)
5. Advanced - (80-100)

Commentary against each of the maturity questions is summarised below. This commentary has been used to assign a rating score against the criteria for each question in the matrix as summarised in Table A following.

Asset Policy and Strategy

An Asset Policy has recently been endorsed (Dec 2019). This policy is comprehensive and requires an alignment of asset management outcomes to the Corporate strategy and objectives which is consistent with ISO 55000 requirements. The policy document also sets out the Council's AM objectives and outlines the accountabilities for AM from CEO, through the Senior Lead Team to the GM Infrastructure and Asset Management and resources reporting to the GM.

An overarching Infrastructure Strategy document is also in place. This is a regulatory requirement which must be produced on a 3-yearly cycle. While the document exists, we were advised that it was formulated without access to the relevant asset information needed to create a robust strategy. Further it was commented that most people do not refer to it – it becomes a 'tick the box' as completed exercise and does not drive asset management thinking in the Council. There was also no clear evidence of any alignment of asset management work with the overarching Corporate objectives. This may change going forward as the AM policy which requires such alignment has only just been endorsed.

Levels of Service and Performance Management

The Council has specified levels of service for some regulated areas such as drinking water quality and the discharge of treated wastewater. There are also water extraction rules in place for the raw water sources.

For network assets there does not appear to be any customer service KPIs around the performance of the assets. There are some response/rectification time KPIs for the maintenance contract and some notification requirements to customers before any planned system interruptions but none that relate to impacts of asset failures on customers. In the Wastewater AMP 2018 there was reference to some proposed level of service KPIs such as number of overflows per 1000 properties. It is not clear whether any of these, or similar ones for the water network (e.g. number of breaks per kilometre of main or complaints/1000 connected properties), have ever been formally adopted and built into the reporting processes. If they have been these measures are system wide average measures rather than individual customer impact measures.

Certainly there does not appear to be any specific customer impact measures in place (e.g. a maximum number of overflows onto a property/year, water supply interruptions not to exceed a specified amount of time in a year, a property should not experience a low water pressure event more than a specified frequency each year). There was also no record that we saw of any consultation process around potential customer level of service KPIs.

Forecasting Demand

Population forecasts are prepared through the Strategy Planning and Policy area based on national census data. The most recent report was prepared by .ID and it provides growth forecasts out to 2043 for each of the population centres serviced by the council. The report is current as of February 2020 and is very comprehensive. However, the report does not look at different growth scenarios. There is no low, medium and high assessment that the council could review to get a sense of how its investment strategy may need to change if in future years actual growth deviates from that outlined in the report, which is assumed to detail the 'most likely' growth scenario.

However, one of the areas of concern is that the growth forecasts only relate to substantive population growth. They do not consider the substantial impact of tourism which can add significant loads onto the water and wastewater infrastructure for up to 4-5 months of the year. This is an aspect that needs to be addressed in the asset management forward planning.

Asset Register data

The Council has a reasonable grasp on the extent of its asset base for both the 3 waters assets and for its facility assets. This could clearly be demonstrated through a review of the last revaluation report for the water and wastewater assets. Some less material areas such as walkways are not as well identified but the majority of the asset base value is documented. Within the asset register we were advised that it is not uncommon for certain asset attributes to be missing. A key area of concern is the installation date of assets which is relevant in both assessing useful lives, renewals planning and determining depreciation. Through the GIS system in place the council also have a good idea of the location of their assets. We were advised that on occasions the GIS spatial information is incorrect (e.g. pipes shown on the wrong side of a street) but that this is not common.

In terms of the matrix requirements the financial data is in a robust system, but the asset data is currently in an interim database, with plans to move to a new INFORS system in September. To some degree data collection has a process but it was clear from interviews that this process is not always adhered to and requires staff responsible for data input to make follow-up calls to chase the information. Based on interview feedback it could not be claimed that the asset register data supports sound program prioritisation – especially in the area of asset renewals.

Asset Performance and condition data

The quality of asset performance data is an issue for the asset managers within council. Everyone that was interviewed raised the issue that access to performance data was difficult or that it did not exist. Fault history (e.g. water main breaks or sewer blockages) are recorded in an Alliance database. At the present time the Council does not have a system that is suitable to take this data and while we were advised that the Alliance has provided log-in access to Council staff to access fault history it is not stored in a way that allows easy analysis. We had the impression that not many Council staff use this capability.

It was also repeatedly reported that there was little or no information available on the condition of the assets – both above and below ground assets. There is a proposed forward program of works to try and correct this but at the present time this gap means there is a significant risk of non-optimal investment in asset renewals and maintenance effort.

Decision Making

At the current time due to the lack of good quality data some asset decisions are made using input/judgement of operations and asset management staff. At that level it is only to agree the items can be included on the forward capital program. This program then goes through a broader consultation and review process to determine the corporate priorities for the annual capital program. Asset related projects are then considered in concert with items from a range of other sources including elected members.

Some documentation reviewed (e.g. 2018 Wastewater AMP) also indicated that for some major projects decision techniques such as Multi Criteria Assessment (MCA) are employed. It also outlined that for such projects different options must be assessed, a business case prepared and whole of life costing of options undertaken. This is the expected standard for major capital investment. The approach is considered inconsistent with the feedback received that many capital items have no clear objectives, no cost justification and no scoping document. The council needs to ensure that an appropriate level of rigour is applied to all capital projects before funds are approved.

Managing Risk

The Council has established a Risk & Improvement team and has a Risk Policy 1311 in place. Risk is assessed against 5 criteria with these being Financial, Customer, Reputation, Compliance/Legal and Health/Safety.

Under the risk management requirements, it is necessary that critical services and assets are understood and considered by staff involved in maintenance and renewals decisions. Feedback from the asset team indicated that while they understand the concept of critical assets the Council is only in the very early days of being able to categorise and identify its critical assets. Some of this is outlined broadly in the Water and Wastewater AMPs but there has not been progress in documenting risk mitigations for nominated critical assets excepting the purchase of spares in some cases.

In terms of critical services, the Council clearly understands the regulatory service requirements that are critical (e.g. drinking water quality) and through its consultation processes can get community input on what other services need to be prioritised.

Operational Planning

Maintenance management is not as mature as the other asset management areas. There is little effort put into maintenance strategy development except for some outsourced contract tasks and there is little effort to get a good preventative/reactive maintenance balance for Council and contractor resources. The areas where planned maintenance is undertaken includes things such as ground maintenance (mowing frequencies are specified) or routine pump station inspections.

Many of the operational processes are based on historical practices and we were advised that in some specialist areas such as the treatment facilities the operational knowledge is in the heads of the operators. It was advised that some of these are nearing retirement age and that there is a pressing need to download their knowledge into facility operations plans. Council is a long way off having operational procedures in place for all its processes.

Capital Works Planning

Sound capital works planning within the council is required to cover needs for:

- Asset renewals
- New assets for growth or changes in standards
- Investment for business efficiency (e.g. IT investments)
- Investment for new business opportunities (e.g. Sale of biosolids as a soil conditioner)

Any item put forward for inclusion on the capital program should be justified through a business case that outlines the need, options considered to meet the need and a recommendation. The business case should look at the upfront capital cost and the ongoing maintenance/operational costs as part of the options analysis so that a least whole of life recommendation can be identified.

There was no indication that this level of rigour is applied in formulating the Council's Long-Term Program. We were repeatedly advised that the current program has multiple line items included that have no explanation as to why they are on the program and no justification/scope/objective. It was commented on several occasions that the current LTP should be ignored and rebuilt from a zero base. Capital planning is clearly an area in need of improvement.

Scoping of projects is not in place for a 3-year horizon. In fact, many project scopes are not provided to Project Delivery until well into the delivery year. In March the Project Delivery team is still awaiting project scopes for the current financial year meaning they will have little capability to be able to deliver those projects.

In terms of prioritisation of projects on the annual and long-term plans there does not appear to be any rigorous criteria or framework to follow for the ranking of projects. It appears to be a much more subjective approach.

Financial Planning

At the current time the Council's Financial Fixed Assets Register (FAR) acts as the asset register for aspects such as renewals planning as the Council has no asset management system in place.

Operational cost planning is largely based on past trends and broad assumptions about the future. There was no evidence that there is any attempt to create a zero-based budget, assessing the full range of activities to be carried out, the resources (labour, materials, plant etc) needed to for each activity and the expected quantities of each activity. There is a risk that the current budget approach, which is heavily driven by the requirement to keep rates affordable, will ultimately work in tension with the Council's desire to become more proactive rather than reactive. Resources will not be available to develop the planned approach and as budgets tighten with ageing assets and a growing asset base it is usually the reactive tasks that take priority. The firefighting uses up available resources.

Financial capital planning looking out beyond the short-term is encapsulated in the Long-Term Plan (LTP). This shows expected capital forecasts for the next 10 years. The major issue with this plan revolves around the lack of confidence asset managers, and others in Council, have around the justification of many items listed on it. In no way could it be claimed that all projects on the LTP are supported by details from current comprehensive Asset Management Plans with detailed supporting assumptions and expenditure estimates.

Asset Management Leadership and Teams

Given the major asset improvement project that is currently underway it is clear the Council recognises the benefit of a well-structured asset management function. As well as the suite of projects under Program Darwin the Council has supported the creation of a dedicated asset management team under a GM Infrastructure and Asset Management. This ensures that the asset management function has a voice on the Senior Lead Team (SLT) and direct access to the CEO. It was commented that there is still a sense that not all the SLT have fully bought in to the importance of asset management to the achievement of Council outcomes. Also, there is still an education process to inform the broader Council staff of the asset management functions and how they interact with areas such as Finance, Customer Services and Strategy Planning & Policy.

Within the IAM group itself the various positions have job profiles that reflect the asset management roles. What is not as well established is the co-ordination of processes between groups within the IAM group (e.g. from Asset Management to Project Delivery, or from Asset Management to Infrastructure Planning). There is also a lack of co-ordination between IAM and the Strategy Planning & Policy team.

Asset Management Plans

The Council has developed a suite of Asset Management Plans (AMPs)covering Water, Wastewater, Stormwater and the full range of Facilities Assets (e.g. Airports, Librarys, Parks etc). The asset management plans have been developed over the last few years and incorporate a lot of information on objectives for the assets, maintenance, renewals and growth. They outline risk profiles – predominantly related to treatment assets and potential for breaches of consent conditions but also risks relating to capacity shortfalls.

The AMPs particularly for the 3 waters tend not to have any detail around specifics such as maintenance strategy. In that area they are very generic, and it is not possible to see in the documents how the asset managers try to balance maintenance and renewals. While these two aspects are opposite sides of the same coin, they seem to be treated in isolation of each other. The AMPs also do not give any detail on supporting asset management processes. This is likely due to the fact they are written as all-encompassing documents. For instance, the Water AMP covers every element of the water system from raw water to the customer tap and to cover every aspect of all extraction, treatment, distribution and reticulation in the one document would become unwieldy.

Management Systems

There is no quality management system in place to cover the asset management processes. To a large extent the actual processes are not yet adequately documented.

There is a stated intent that the development of the asset management processes is to be in a way that we ultimately allow alignment, and possibly certification at some future time, to the ISO 55000 International Asset Management standard.

Asset Management Information Systems

The Council had an asset register system in place up until a couple of years ago. Since that was decommissioned there has been an interim database established as a stopgap measure. The interim system still holds the basic required data, but it does not have the functionality of a true Asset Management System. For operational works management the Alliance contractor operates their own system which allocates tasks and collects work order data when they are completed. The Council does not have capacity at this time to receive a copy of this fault data and won't until the implementation of the new INFORS AMS later this year. At that time, it will be necessary for the Council to create interfaces between the new AMS, the contractor's works management system and the existing Council TechONE financial system. Once that is completed the Council will have access to fault data in an integrated system and will be able to create standard asset reports for a range of purposes such as asset revaluations and renewals planning.

Service Delivery Mechanisms

The delivery of in field asset related work for 3 waters is through an Alliance contract between the Council and Broadspectrum. The respective roles of each party are generally understood although there is some ambiguity around the contractor's role in the development of planned maintenance strategies – is that a contractor or IAM role or is it meant to be a joint role. There are also other contract arrangements in place for facility and grounds maintenance – areas such as mowing of parks and verges, cleaning toilets, emptying rubbish bins and so on. These facility contracts are well specified for tasks to undertake. The area where these facility related contracts could be improved is in condition assessment. The contractors are regularly on site at Council assets and if structured into the contracts it would be a relatively minor addition for them to report any asset defects that they observe (e.g. a damaged footpath, a broke park bench) as an ancillary to their primary function.

So, while there is some scope for minor tweaks to improve them, the arrangements with external providers are well specified in formal contracts.

Arrangements between internal services are less rigorous. There are no internal service level agreements between teams that interact as part of their work delivery. For instance, an internal service agreement between the Asset Management team and Project Delivery could outline the expectations on level of detail in a scoping document for it to proceed to procurement. It could also outline the timing requirements for when scopes need to be delivered to meet construction completion targets. Benefits could also be gained by setting up agreements between IAM and Strategy Planning & Policy and between the Asset Management team and District Planning. Agreements would clarify what is expected of each participant and ultimately work to reduce some of the tensions that exist between them.

Audit and Improvement

The Council clearly recognises the benefits of improving its asset management systems and processes as it has invested in a significant improvement journey through Program Darwin. This program of work entails a suite of projects covering upgrade of the key IT system to support asset management as well as a condition assessment program, work on AM role definition and responsibilities across the business and a people and culture component.

There is a project schedule and key actions have been identified and allocated across the program although issues such as the drought and Covid-19 are currently impacting the timeframes for delivery. The other risk is that the current Program Manager is about to take up a new role within the business. While the transition out of the project will take place over a couple of months there is no current suitable replacement in-house, so the Council is looking to recruit externally. This has often proved to be a very slow process.

The other risk to the overall program is that potentially some in the Council see the implementation of the new INFORS asset management system as the solution to all the asset management problems. The new system is just an enabler for sound AM – the business still needs to develop, document and manage the implementation of all the needed AM processes across data management, maintenance strategy development, renewals planning, growth planning, compliance monitoring and so on. This is still a major task to be undertaken beyond the new system being turned on. There is a risk that the resources to complete this next stage of work may not be available as there is no articulation at this stage of a work plan for this effort.

For the current work effort there is regular reporting to senior management and the elected members of the program progress.

Table A – Results (by question) of Treasury Asset Management maturity matrix tool

Reference	Question	Summary Results	Current Score	Target Score	Difference
IIMM 2.1	1	AM Policy & Strategy	45	90	-45
IIMM 2.2	2	LoS & Performance Mgt	37	80	-43
IIMM 2.3	3	Forecasting demand	50	85	-35
IIMM 2.4	4	Asset Register data	45	90	-45
IIMM 2.5	5	Asset Performance & Condition	35	70	-35
Understanding and defining requirements		***CATEGORY SCORE***	***42.4***	***83.0***	***-40.6***
		SUBTOTAL	**212**	**415**	**-203**
IIMM 3.1	6	Decision Making	43	70	-27
IIMM 3.2	7	Managing Risk	45	70	-25
IIMM 3.3	8	Operational Planning	36	85	-49
IIMM 3.4	9	Capital Works Planning	44	85	-41
IIMM 3.5	10	Financial Planning	48	80	-32
Developing AM Lifecycle Strategies		***CATEGORY SCORE***	***43.2***	***78.0***	***-34.8***
		SUBTOTAL	**216**	**390**	**-174**
IIMM 4.1	11	AM Leadership & Team	52	90	-38
IIMM 4.2	12	AM Plans	50	90	-40
IIMM 4.3	13	Management Systems	25	85	-60
IIMM 4.4	14	AM Information Systems	40	85	-45
IIMM 4.5	15	Service Delivery mechanism	48	90	-42
IIMM 4.6	16	Audit & Improvement	55	75	-20
Asset Management enablers		***CATEGORY SCORE***	***45.0***	***85.8***	***-40.8***
		SUBTOTAL	**270**	**515**	**-245**
		OVERALL SCORE	***43.5***	***82.3***	***-38.7***
		Overall TOTAL	**698**	**1320**	**-622**

Table B – Summary Results of Treasury Asset Management maturity matrix tool

Summary Results	Current Score	Target Score	Difference
Understanding and defining requirements (1-5)	212	415	-203
Developing AM Lifecycle Strategies (6-10)	216	390	-174
Asset Management enablers (11-16)	270	515	-245
Total	*698*	*1320*	-622
Score	***43.6***		***-38.9***