

9.0 Appendices

Appendix A Risk Register Template

Appendix B Consequence Scoring Table

CONSEQUENCE TABLE - THREATS

| Impact Description | SERVICE DELIVERY | SOCIAL / CULTURAL | | | | | ENVIRONMENT | | ECONOMIC | | Consequence Rating | |
|--------------------|---|--|--|---|--|--|---|--|--|---|--|-------------------------|
| | Compliance with Key Performance Measures (KPIs) | Health & Wellbeing | Personal Safety & Security | Community | Cultural Partnerships | Compliance / Governance | Reputation / Perceptions of Council | Natural Environment | Built Environment | Direct Cost / Benefit | | Indirect Cost / Benefit |
| Extreme | Complete failure to meet performance measures | Multiple fatalities | Significant increase in recorded crime rate trends for selected crimes across the district | Extended unplanned disruption to essential/significant community services and/or structures (non-Council owned or operated) | Complete breakdown of partnership / relationship with Maori or other significant cultural group | Royal commission of Inquiry in relation to breach of compliance by Council | Negative international media coverage | Loss of, or serious irreversible damage / degradation to an area of critical importance (e.g. unique flora, fauna, biodiversity, quality of life, visitor experience etc) | Complete or long term loss of large area of built environment (i.e. loss of amenity) | >\$25M/yr | >\$250M/yr | 100 |
| | Failure to deliver service for an extended period of time | Widespread severe illness throughout the district | Significant decrease in perception of safety across the district | Significant damage to multiple public properties | Partnership / relationship with Maori or other significant cultural group significantly negatively affected | Commissioner appointed | Sustained negative national media coverage | Loss of, or significant irreversible damage to, an area of nationally significant natural / recreational / open space or productive land | Complete or long term loss a highly significant part of the built environment (i.e. loss of amenity) | | Significant long term negative impact on economy across the district | |
| Major | Failure to meet multiple significant performance measures | Multiple fatalities with reasonable defence | Increase in recorded crime rate trends for selected crimes across the district | Simultaneous unplanned disruption to numerous households or commercial premises or community services and/or structures (non-Council owned or operated) | | Partnership / relationship with Maori or other significant cultural group negatively affected | Ministerial Inquiry commissioned in relation to breach of compliance by Council | Negative international media coverage with reasonable defence | Long term serious damage / degradation to an area of critical importance (e.g. unique flora, fauna, biodiversity, quality of life, visitor experience etc) | Significant damage to large area of built environment | >\$2.5M/yr to \$25M/yr | >\$25M/yr to \$250M/yr |
| | Significant negative impact on delivery of service for an extended period of time | Single fatality | Significant increase in recorded crime rate trends for selected crimes within a local community | Significant damage to public property | Ministerial questions in parliament in relation to breach of compliance by Council | | Sustained negative national media coverage with reasonable defence | Loss of, or significant irreversible damage to, an area of regionally significant natural / recreational / open space or productive land | Complete or long term loss of significant area of built environment (i.e. loss of amenity) | Significant negative impact on economy across the district | | |
| | Failure to deliver service for a short period of time | Multiple severe illnesses spread throughout the district or widespread severe illness within a local community | Decrease in perception of safety across the district | Formal complaint by key stakeholder | Very negative effect on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression) across the district or extremely negative within any one local community | | Law suit resulting in imprisonment of Management &/or Council | Negative national media coverage | Significant degradation or damage to, an area of nationally significant recreational / open / natural space or productive land, or loss of a significant part of such land | Long term serious damage to an asset of highly significant economic, cultural or heritage value | Significant long term negative impact on economy of local community | |
| | | Reduction in life expectancy, permanent disability, or long term negative health effects of many people | | | | | Heavy prosecution of Management &/or Council | Sustained negative regional media coverage | | Significant reduction in the level of satisfaction with the amenity of the built environment across the district | | |
| | | Significant negative impact on delivery of service for a short period of time | Multiple severe illnesses within a local community | Decrease in perception of safety within a local community | Negative effect on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression) across the district or very negative within any one local community | | Breach of Act, regulation or consent condition with major material effect. | Council is extremely poorly perceived by its peers | Very poor districtwide perception of Council | Universal dissatisfaction with the amenity of the built environment within local community | | |
| | | | | | | | | Breach of Act, regulation or consent condition with modest material effect. | | Poor perception of Council in a local community | Universal dissatisfaction with the amenity of the built environment within local community | |
| Medium | Failure to meet significant performance measures | Single fatality with reasonable defence | Minor increase in recorded crime rate trends for selected crimes across the district | Simultaneous unplanned disruption to multiple households or commercial premises or community services and/or structures (non-Council owned or operated) | Partnership / relationship with Maori or other significant culturally identified group negatively affected | Ministerial questions or 3rd party investigation in relation to breach of compliance by Council | Negative national media coverage with reasonable defence | Medium to long term major but recoverable damage / degradation to an area of critical importance (e.g. unique flora, fauna, biodiversity, quality of life, visitor experience etc) | Damage to large area of built environment | >\$250K/yr to \$2.5M/yr | >\$2.5M/yr to 25M/yr | 40 |
| | | Multiple serious injuries throughout the district | Increase in recorded crime rate trends for selected crimes within a local community | Formal complaint by member of the public or ratepayer | | Breach of Act, consent condition or regulation with strong legal rebuke | Negative regional media coverage | Loss of, or significant irreversible damage to, an area of locally significant natural / recreational / open space or productive land | Significant damage to significant area of built environment (i.e. loss of amenity) | | Negative impact on economy across the district | |
| | Negative impact on delivery of service for extended period of time | Severe illness or illness to multiple individuals throughout the district | Minor decrease in perception of safety across the district | Formal complaint by key stakeholder with reasonable defence | | Breach of Act, regulation or consent condition with modest material effect. | Sustained negative local media coverage | Significant degradation or damage to, an area of regionally significant recreational / open / natural space or productive land, or loss of a significant part of such land | Reduction in the level of satisfaction with the amenity of the built environment across the district | | | |
| | | Significant negative impact on delivery of service for a short period of time | Multiple severe illnesses within a local community | Negative effect on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression) across the district or very negative within any one local community | | | Very poor perception of Council in a local community | Poor districtwide perception of Council | Degradation or damage to, an area of nationally significant recreational / open / natural space or productive land or loss of part of such land | Significant reduction in the level of satisfaction with the amenity of the built environment within local community | | |
| Minor | Some negative impact on service delivery for an extended period of time | Multiple serious injuries with reasonable defence | Minor increase in recorded crime rate trends for selected crimes within a local community | Unplanned disruption to households or commercial premises or community services and/or structures (non-Council owned or operated) | Partnership / relationship with multiple hapu or other local cultural group negatively affected | Information request from the ombudsman in relation to breach of compliance by Council | Limited negative national media coverage | Limited medium term recoverable damage / degradation to an area of critical importance (e.g. unique flora, fauna, biodiversity, quality of life, visitor experience etc) | Damage to significant area of built environment | >\$25K/yr to \$250K/yr | >\$250K/yr to \$2.5M/yr | 10 |
| | | Serious injury | Minor decrease in perception of safety within a local community | Community complaints | | Breach of Act, consent condition or regulation with modest legal rebuke | Negative regional media coverage with reasonable defence | Degradation or damage to, an area of regionally significant recreational / open / natural space or productive land, or loss of part of such land | Significant damage to single building / infrastructure asset (i.e. loss of amenity) | | Minor negative impact on economy across the district | |
| | Negative impact on delivery of service for a short period of time | Permanent disability with reasonable defence | Formal complaint by member of the public or ratepayer with reasonable defence | Somewhat negative effect on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression) across the district or negative within any one local community | | Breach of Act, consent condition or regulation with minor material effect. | Negative local media coverage | Somewhat negative districtwide perception of Council | Minor reduction in the level of satisfaction with the amenity of the built environment across the district | | | |
| | | Illness to several individuals throughout the district | | | | | Poor perception of Council in a local community | | Reduction in the level of satisfaction with the amenity of the built environment within local community | | | |
| Negligible | Limited negative impact on delivery of service for extended period of time | Serious injury with reasonable defence | Unplanned disruption to single household, commercial premises or community service &/or structures (non-Council owned or operated) | Limited negative effect on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression) districtwide or somewhat negative within any one local community | Partnership / relationship with some hapu or other local cultural group negatively affected | Official information request in relation to breach of compliance by Council | Limited regional or local media coverage | Short term recoverable damage / degradation to an area of critical importance (e.g. unique flora, fauna, biodiversity, quality of life, visitor experience etc) | Damage to single building or infrastructure asset (i.e. loss of amenity) | <\$25K/yr | <\$250K/yr | 1 |
| | Limited negative impact on delivery of service for a short period of time | Minor injuries throughout the district | | | | Technical breach of Act, consent condition or regulation but with little or no material effect or legal rebuke | Minor complaint | Negative local media coverage with reasonable defence | Council is somewhat poorly perceived by its peers | | Short term minor damage to asset of significant economic, cultural or heritage value | |
| | | Illness to an individual | | | | | Degradation or damage to, an area of locally significant recreational / open / natural space or productive land, or loss of part of such land | Minor reduction in the level of satisfaction with the amenity of the built environment within local community | | | | |

CONSEQUENCE TABLE - OPPORTUNITIES

| Impact Description | SERVICE DELIVERY Compliance with Key Performance Measures (KPIs) | SOCIAL / CULTURAL | | | | | | ENVIRONMENT | | ECONOMIC | | Consequence Rating | |
|--------------------|--|--|---|--|---|--|--|--|--|------------------------------------|--------------------------------------|--------------------|--|
| | | Health & Wellbeing | Personal Safety & Security | Community | Cultural Partnerships | Compliance / Governance | Reputation / Perceptions of Council | Natural | Built | Direct Cost / Benefit | Indirect Cost / Benefit | | |
| Negligible | Performance measures improved by 2% - within allocated budget and resources | Prevention of minor injuries | | Nil response from community / stakeholders | Partnership / relationship with some hapu or other local cultural group positively affected | Change to consent conditions in favour of the activity | Limited regional media coverage | Short-term environmental enhancement, restoration or protection of a widespread area or area of critical importance (flora, fauna, quality of life, visitor experience etc) | Improvement to, or protection of, single building or infrastructure asset (i.e. loss of amenity) | Less than \$25K benefit per year | Less than \$500K benefit per year | 1 | |
| | | Prevention of illness to individual | | Limited positive effects on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression) | | | Positive local media coverage | | | | | | |
| | | | | | | | Ambivalent perception of Council in a local community | | | | | | Negligible environmental enhancement to an area of nationally or regionally significant recreational / open / natural space or productive land or negligible addition to such land |
| | | | | | | | Ambivalent districtwide perception of Council | | | | | | |
| Minor | Performance measures improved by 5% - within allocated budget and resources | Prevention of serious injuries | Minor decrease in recorded crime rate trends for selected crimes within a local community | Letter of support | Partnership / relationship with multiple hapu or other local cultural group positively affected | Consenting authority changes requirements in favour of the activity | Limited positive national media coverage | Minor environmental enhancement, restoration or protection of a widespread area or area of critical importance (flora, fauna, quality of life, visitor experience etc) | Improvement to, or protection of, significant area of built environment | \$25K to \$250K benefit per year | Greater than \$500K benefit per year | 10 | |
| | | Prevention of illness to several individuals | | Some positive effects on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression) | | | Positive regional media coverage | | | | | | |
| | | | Minor increase in perception of safety within a local community | Sustained positive local media coverage | | | Minor environmental enhancement to an area of nationally significant recreational / open / natural space or productive land or minor addition to such land | | | | | | |
| | | | | Council is positively perceived by its peers | | | | | | | | | |
| | | | | Positive perception of Council in a local community | | | Moderate environmental enhancement to an area of regionally significant recreational / open / natural space or productive land or moderately significant addition to such land | | | | | | |
| | | | | Somewhat negative districtwide perception of Council | | | | | | | | | |
| Medium | Performance measures improved by 10% - within allocated budget and resources | Prevention of permanent disability | Minor decrease in recorded crime rate trends for selected crimes across the district | Submission in support of Council's RMA application or Local Authority consent | Partnership / relationship with Maori or other cultural group positively affected | Consenting authority permanently changes requirements in favour of future activities | Positive national media coverage | Moderate environmental enhancement, restoration or protection of a widespread area or area of critical importance (flora, fauna, quality of life, visitor experience etc) | Improvement to, or protection of, large area of built environment | >\$250K to \$2.5M benefit per year | Greater than \$5M benefit per year | 40 | |
| | | Prevention of severe illness or illness to multiple individuals | | Decrease in recorded crime rate trends for selected crimes within a local community | | | Council seen as champions for the community | | | | | | |
| | | Some reduction in road toll trend | | Positive effect on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression) | | | | | | | | | |
| | | Increase in life expectancy, prevention of permanent disability, or long term positive health effects to several people | Minor increase in perception of safety across the district | | | | | | | | | | |
| | | | Increase in perception of safety within a local community | | | | | | | | | | |
| Major | Performance measures improved by 20% - within allocated budget and resources | Prevention of single fatality | Decrease in recorded crime rate trends for selected crimes across the district | Very positive effect on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression) | Partnership / relationship with Maori or other significant cultural group significantly positively affected | National change to the interpretation of the law in favour of future activities | Positive international media coverage | Major significant environmental enhancement, restoration, creation or protection of a widespread area or area of critical importance (flora, fauna, quality of life, visitor experience etc) | Significant improvement to, or high level of protection of, large area of built environment | >\$2.5M to \$25M benefit per year | Greater than \$25M benefit per year | 70 | |
| | | Prevention of multiple severe illness | | | | | | | | | | | Sustained positive national media coverage |
| | | Reduction in road toll trend | Significant decrease in recorded crime rate trends for selected crimes within a local community | | | | | | | | | | |
| | | Increase in life expectancy, prevention of permanent disability, or long term positive health effects to many people | Perception of safety increases across district | | | | | | | | | | |
| | | | Significant increase in perception of safety within a local community | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Extreme | Performance measures improved by 30% - within allocated budget and resources | Prevention of multiple fatalities | Significant decrease in recorded crime rate trends for selected crimes across the district | Extremely positive effect on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression) | Extremely positive improvement in partnership / relationship with Maori or other significant cultural group | Law change in favour of future activities | Sustained positive national media coverage | Extreme significant environmental enhancement, restoration, creation or protection of a widespread area or area of critical importance (flora, fauna, quality of life, visitor experience etc) | Highly significant improvement to, or highest level of protection of, large area of built environment (i.e. loss of amenity) | >\$25M benefit | Greater than \$250M benefit per year | 100 | |
| | | Prevention of widespread severe illness | | | | | | | | | | | Positive international media coverage |
| | | Significant reduction in road toll trend | | | | | | | | | | | |
| | | Significant increase in life expectancy, prevention of permanent disability, or long term positive health effects to many people | Significant increase in perception of safety across the district | | | | | | | | | | |

Appendix C Likelihood Scoring Table

| LIKELIHOOD TABLE | | | | | |
|------------------|-------------------------|--------------------|------------------------------|---|--------|
| | Consequence Description | Annual Probability | Frequency | Description | Rating |
| Threat | Almost Certain | 50%-100% | Greater than every two years | The threat can be expected to occur <u>or</u> a very poor state of knowledge has been established on the threat | 5 |
| | Likely | 20 - 50% | Once per 2-5 years | The threat will quite commonly occur <u>or</u> a poor state of knowledge has been established on the threat | 4 |
| | Possible | 10 - 20% | Once per 5-10 years | The threat may occur occasionally <u>or</u> a moderate state of knowledge has been established on the threat | 3 |
| | Unlikely | 2 - 10% | Once per 10-50 years | The threat could infrequently occur <u>or</u> a good state of knowledge has been established on the threat | 2 |
| | Very Unlikely | 0-2% | Less than once per 50 years | The threat may occur in exceptional circumstances <u>or</u> a very good state of knowledge has been established on the threat | 1 |
| Opportunity | Very Unlikely | 0%-25% | | The opportunity is very unlikely to be realised <u>or</u> a very low degree of confidence in delivering the gains has been established for the opportunity | 1 |
| | Unlikely | 25 - 50% | | The opportunity is unlikely to be realised <u>or</u> a low degree of confidence in delivering the gains has been established for the opportunity | 2 |
| | Possible | 50 - 75% | | The opportunity will probably be realised <u>or</u> or a moderate degree of confidence in delivering the gains has been established for the opportunity | 3 |
| | Likely | 75 - 90% | | The opportunity is expected to be realised in most circumstances <u>or</u> a high degree of confidence in delivering the gains has been established for the opportunity | 4 |
| | Almost Certain | 90%-100% | | The opportunity is almost certain to be realised <u>or</u> a very high degree of confidence in delivering the gains has been established for the opportunity | 5 |

Appendix D Risk Matrix

| RISK MATRIX | | | | | | | |
|--------------------|------------|-----------------------|----------------------|---------------------|-----------------------|-----------------------|-----------------------|
| | | CONSEQUENCE | | | | | |
| | | Negligible (+/-1) | Minor (+/-10) | Medium (+/-40) | Major (+/-70) | Extreme (+/-100) | |
| Threat | LIKELIHOOD | Almost Certain (5) | Low (5) | Moderate (50) | Very High (200) | Extreme (350) | Extreme (500) |
| | | Likely (4) | Low (4) | Moderate (40) | Very High (160) | Very High (280) | Extreme (400) |
| | | Possible (3) | Negligible (3) | Moderate (30) | High (120) | Very High (210) | Very High (300) |
| | | Unlikely (2) | Negligible (2) | Low (20) | High (80) | High (140) | Very High (200) |
| | | Very Unlikely (1) | Negligible (1) | Low (10) | Moderate (40) | High (70) | High (100) |
| Opportunity | LIKELIHOOD | Very Unlikely (1) | Negligible (-1) | Low (-10) | Moderate (-40) | High (-70) | High (-100) |
| | | Unlikely (2) | Negligible (-2) | Low (-20) | High (-80) | High (-140) | Very High (-200) |
| | | Possible (3) | Negligible (-3) | Moderate (-30) | High (-120) | Very High (-210) | Very High (-300) |
| | | Likely (4) | Low (-4) | Moderate (-40) | Very High (-160) | Very High (-280) | Extreme (-400) |
| | | Almost Certain (5) | Low (-5) | Moderate (-50) | Very High (-200) | Extreme (-350) | Extreme (-500) |

| RISK TREATMENTS | | |
|------------------------|--------------------------|---------------------------------------|
| Risk Level | | Minimum Acceptable Treatment Strategy |
| Consider All | | Avoid |
| >50 - 500 | High, Very High, Extreme | Manage Actively |
| 4 to 50 | Low to Moderate | Manage Passively |
| 1 to 3 | Negligible | Accept |

Note: In all cases the option of avoiding the threat should be considered first

Appendix E Risk Assessments

Completed risk assessments for the wastewater activity have been stored separately in the Council's document management system (TRIM Context). The risk assessments have been completed at an activity wide level and scheme grouping level as follows:

| TRIM Record Number | Title | Contents |
|--------------------|--|--|
| R/10/3/2724 | Wastewater Activity Plan Risk Assessment 2009 2019 - Activity Wide - 3rd December 2008 | Activity Wide Risk Assessment |
| R/10/3/2725 | Wastewater Activity Plan Risk Assessment 2009 2019 - A - Final | Scheme Risk Assessments including: <ul style="list-style-type: none"> • Balfour • Browns • Gorge Road • Lumsden • Manapouri • Monowai • Nightcaps • Stewart island |
| R/10/3/2726 | Wastewater Activity Plan Risk Assessment 2009 2019 - B - Final | Scheme Risk Assessments including: <ul style="list-style-type: none"> • Ohai • Otautau • Riversdale • Riverton • Te Anau • Tokanui • Tuatapere • Wallacetown • Winton |

Appendix F Reticulation Information

28 July 08

Page 1 of 2

Manholes 1,670
 Reticulation 191,646 metres 2,787 pipes
 Cleaning Eyes 832

SEWER INFORMATION
DISTRICT WIDE

GRAVITY MAINS

| Diameter | Length | No. of Pipes | |
|---|----------------|--------------|-----|
| 0 | | 245 | 0% |
| 50 | 818 | 6 | 1% |
| 80 | 67 | 1 | 0% |
| 100 | 16,692 | 279 | 11% |
| 125 | 412 | 1 | 0% |
| 150 | 121,635 | 1,889 | 77% |
| 175 | 150 | 2 | 0% |
| 200 | 2,198 | 28 | 1% |
| 225 | 8,974 | 122 | 6% |
| 250 | 1,191 | 19 | 1% |
| 300 | 2,722 | 34 | 2% |
| 375 | 1,266 | 16 | 1% |
| 450 | 284 | 3 | 0% |
| 475 | 1,874 | 14 | 1% |
| 500 | 10 | 1 | 0% |
| 525 | 20 | 1 | 0% |
| Total Length (excluding Rising mains): | 158,314 | 2,661 | |

GRAVITY MAINS

| | | | |
|---|----------------|--------------|-----|
| U PVC | 53,524 | 873 | 34% |
| PVC (GENERIC) | 42,781 | 711 | 27% |
| ASBESTOS CEMENT (GENERIC) | 45,597 | 624 | 29% |
| M PVC | 1,304 | 24 | 1% |
| CONCRETE (GENERIC) | 8,286 | 94 | 5% |
| CONCRETE SPUN REINFORCED | 4,889 | 64 | 3% |
| EARTHENWARE | 716 | 15 | 0% |
| POLYETHYLENE HIGH DENSITY | 270 | 3 | 0% |
| POLYETHYLENE (GENERIC) | 503 | 2 | 0% |
| VITRIFIED CLAY | 354 | 5 | 0% |
| ASBESTOS CEMENT (CONC.INCASED) | 92 | 1 | 0% |
| Grand Total (excluding Rising Main): | 158,314 | 2,416 | |

28 July 08

SEWER INFORMATION FOR BALFOUR

Manholes 29
 Reticulation 2,536 metres 36 pipes
 Cleaning Eyes 6

GRAVITY MAINS

| Diameter | Length | No. of Pipes | |
|---|--------------|--------------|-----|
| 150 | 2,391 | 34 | 94% |
| 225 | 145 | 2 | 6% |
| Total Length (excluding Rising mains): | 2,536 | 36 | |

| | | | |
|---|--------------|-----------|-----|
| CONCRETE SPUN REINFORCED | 1,447 | 18 | 57% |
| U PVC | 469 | 9 | 18% |
| EARTHENWARE | 475 | 7 | 19% |
| ASBESTOS CEMENT (GENERIC) | 145 | 2 | 6% |
| Grand Total (excluding Rising Main): | 2,536 | 36 | |

RISING MAINS

| Pipe Type | Street Name | Length | No. of Pipes |
|---------------------|-------------|--------|--------------|
| Total Length | | | |

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18 August 08

SEWER INFORMATION FOR BROWNS

Gorge Rd – No Report

| | | |
|---------------|------------|---------|
| Manholes | 2 | |
| Reticulation | 473 metres | 6 pipes |
| Cleaning Eyes | 5 | |

GRAVITY MAINS

| <u>Diameter</u> | <u>Length</u> | <u>No. of Pipes</u> | |
|---|---------------|---------------------|------|
| 100 | 473 | 6 | 100% |
| Total Length (excluding Rising mains): | 473 | 6 | |

| | | | |
|---|------------|----------|------|
| PVC (GENERIC) | 473 | 6 | 100% |
| Grand Total (excluding Rising Main): | 473 | 6 | |

RISING MAINS

| <u>Pipe Type</u> | <u>Street Name</u> | <u>Length</u> | <u>No. of Pipes</u> |
|---------------------|--------------------|---------------|---------------------|
| Total Length | | | |

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28 July 08

SEWER INFORMATION FOR LUMSDEN

| | | | |
|---------------|--------------|-----------|--|
| Manholes | 61 | | |
| Reticulation | 9,254 metres | 111 pipes | |
| Cleaning Eyes | 51 | | |

GRAVITY MAINS

| <u>Diameter</u> | <u>Length</u> | <u>No. of Pipes</u> | |
|---|---------------|---------------------|-----|
| 50 | 503 | 2 | 6% |
| 100 | 80 | 1 | 1% |
| 150 | 7,451 | 102 | 87% |
| 200 | 544 | 5 | 6% |
| Total Length (excluding Rising mains): | 8,577 | 110 | |

| | | | |
|---|--------------|------------|-----|
| ASBESTOS CEMENT (GENERIC) | 7,892 | 105 | 92% |
| POLYETHYLENE (GENERIC) | 503 | 2 | 6% |
| PVC (GENERIC) | 182 | 3 | 2% |
| Grand Total (excluding Rising Main): | 8,577 | 110 | |

RISING MAINS

| <u>Pipe Type</u> | <u>Street Name</u> | <u>Length</u> | <u>No. of Pipes</u> |
|---------------------------|--------------------|---------------|---------------------|
| ASBESTOS CEMENT (GENERIC) | OXFORD ST | 677 | 1 |
| Total Length | | 677 | 1 |

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28 July 08

SEWER INFORMATION FOR MANAPOURI

| | | | |
|---------------|--------------|-----------|--|
| Manholes | 87 | | |
| Reticulation | 7,326 metres | 111 pipes | |
| Cleaning Eyes | 24 | | |

GRAVITY MAINS

| <u>Diameter</u> | <u>Length</u> | <u>No. of Pipes</u> | |
|---|---------------|---------------------|-----|
| 100 | 271 | 4 | 4% |
| 150 | 5,090 | 86 | 81% |
| 225 | 906 | 17 | 14% |
| Total Length (excluding Rising mains): | 6,267 | 107 | |

| | | | |
|---|--------------|------------|-----|
| PVC (GENERIC) | 4,336 | 66 | 69% |
| U PVC | 1,264 | 27 | 20% |
| CONCRETE SPUN REINFORCED | 616 | 11 | 10% |
| ASBESTOS CEMENT (GENERIC) | 36 | 2 | 1% |
| CONCRETE (GENERIC) | 15 | 1 | 0% |
| Grand Total (excluding Rising Main): | 6,267 | 107 | |

RISING MAINS

| <u>Pipe Type</u> | <u>Street Name</u> | <u>Length</u> | <u>No. of Pipes</u> |
|---------------------------|--------------------|---------------|---------------------|
| ASBESTOS CEMENT (GENERIC) | VIEW ST | 424 | 1 |
| ASBESTOS CEMENT (GENERIC) | LINDSAY PL | 109 | 1 |
| POLYETHYLENE LOW DENSITY | MURRELL AV | 432 | 1 |
| PVC (GENERIC) | WAI AU ST | 94 | 1 |
| Total Length | | 1,059 | 4 |

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28 July 08

SEWER INFORMATION FOR MONOWAI

| | | | |
|---------------|------------|----------|--|
| Manholes | 5 | | |
| Reticulation | 486 metres | 12 pipes | |
| Cleaning Eyes | 8 | | |

GRAVITY MAINS

| <u>Diameter</u> | <u>Length</u> | <u>No. of Pipes</u> | |
|---|---------------|---------------------|---|
| | | | % |
| Total Length (excluding Rising mains): | | | |

| | | | |
|---|--|--|---|
| | | | % |
| Grand Total (excluding Rising Main): | | | |

RISING MAINS

| <u>Pipe Type</u> | <u>Street Name</u> | <u>Length</u> | <u>No. of Pipes</u> |
|---------------------|--------------------|---------------|---------------------|
| Total Length | | | |

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28 July 08

SEWER INFORMATION FOR NIGHTCAPS

| | | | |
|---------------|--------------|-----------|--|
| Manholes | 58 | | |
| Reticulation | 8,336 metres | 116 pipes | |
| Cleaning Eyes | 60 | | |

GRAVITY MAINS

| <u>Diameter</u> | <u>Length</u> | <u>No. of Pipes</u> | |
|---|---------------|---------------------|-----|
| 100 | 4,753 | 71 | 60% |
| 150 | 3,219 | 44 | 40% |
| Total Length (excluding Rising mains): | | | |
| | 7,972 | 115 | |

| | | | |
|---|--------------|------------|------|
| PVC (GENERIC) | 7,972 | 115 | 100% |
| Grand Total (excluding Rising Main): | | | |
| | 7,972 | 115 | |

RISING MAINS

| <u>Pipe Type</u> | <u>Street Name</u> | <u>Length</u> | <u>No. of Pipes</u> |
|---------------------|--------------------|---------------|---------------------|
| U PVC | MOFFAT ST | 364 | 1 |
| Total Length | | 364 | 1 |

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28 July 08

SEWER INFORMATION FOR OBAN

| | | |
|---------------|---------------|-----------|
| Manholes | 125 | |
| Reticulation | 25,403 metres | 412 pipes |
| Cleaning Eyes | 82 | |

GRAVITY MAINS

| Diameter | Length | No. of Pipes | |
|---|---------------|--------------|-----|
| 100 | 5,151 | 105 | 34% |
| 125 | 412 | 1 | 3% |
| 150 | 9,464 | 266 | 63% |
| Total Length (excluding Rising mains): | 15,026 | 372 | |

| | | | |
|---|---------------|------------|-----|
| U PVC | 10,238 | 250 | 68% |
| PVC (GENERIC) | 4,788 | 122 | 32% |
| Grand Total (excluding Rising Main): | 15,026 | 372 | |

RISING MAINS

| Pipe Type | Street Name | Length | No. of Pipes |
|-----------------------------|------------------|---------------|--------------|
| POLYETHYLENE MEDIUM DENSITY | HORSESHOE BAY RD | 2,157 | 10 |
| POLYETHYLENE MEDIUM DENSITY | HICKS RD | 883 | 6 |
| POLYETHYLENE MEDIUM DENSITY | ELGIN TE | 784 | 3 |
| POLYETHYLENE MEDIUM DENSITY | BACK RD | 560 | 1 |
| POLYETHYLENE MEDIUM DENSITY | DEEP BAY RD | 492 | 2 |
| POLYETHYLENE MEDIUM DENSITY | EXCELSIOR RD | 305 | 1 |
| POLYETHYLENE MEDIUM DENSITY | THULE RD | 193 | 1 |
| POLYETHYLENE MEDIUM DENSITY | WOHLERS RD | 76 | 1 |
| U PVC | BACK RD | 2,322 | 2 |
| U PVC | MAIN RD | 891 | 1 |
| U PVC | ELGIN TE | 760 | 2 |
| U PVC | HORSESHOE BAY RD | 282 | 2 |
| U PVC | MIRO CR | 83 | 1 |
| POLYETHYLENE (GENERIC) | ELGIN TE | 589 | 7 |
| Total Length | | 10,376 | 40 |

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28 July 08

SEWER INFORMATION FOR OHAI

| | | |
|---------------|--------------|----------|
| Manholes | 72 | |
| Reticulation | 7,527 metres | 86 pipes |
| Cleaning Eyes | 17 | |

GRAVITY MAINS

| Diameter | Length | No. of Pipes | |
|---|--------------|--------------|-----|
| 150 | 6,865 | 77 | 93% |
| 250 | 551 | 8 | 7% |
| Total Length (excluding Rising mains): | 7,417 | 85 | |

| | | | |
|---|--------------|-----------|-----|
| CONCRETE (GENERIC) | 7,065 | 80 | 95% |
| VITRIFIED CLAY | 317 | 4 | 4% |
| PVC (GENERIC) | 34 | 1 | 0% |
| Grand Total (excluding Rising Main): | 7,417 | 85 | |

RISING MAINS

| Pipe Type | Street Name | Length | No. of Pipes |
|---------------------------|--------------|------------|--------------|
| ASBESTOS CEMENT (GENERIC) | BIRCHWOOD RD | 111 | 1 |
| Total Length | | 111 | 1 |

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28 July 08

SEWER INFORMATION FOR OTAUTAU

| | | | |
|---------------|---------------|-----------|--|
| Manholes | 72 | | |
| Reticulation | 14,305 metres | 173 pipes | |
| Cleaning Eyes | 102 | | |

GRAVITY MAINS

| Diameter | Length | No. of Pipes | |
|---|---------------|--------------|-----|
| 150 | 8,912 | 128 | 73% |
| 200 | 901 | 8 | 7% |
| 225 | 2,370 | 32 | 19% |
| Total Length (excluding Rising mains): | 12,183 | 168 | |

| | | | |
|---|---------------|------------|-----|
| U PVC | 11,435 | 160 | 94% |
| PVC (GENERIC) | 748 | 8 | 6% |
| Grand Total (excluding Rising Main): | 12,183 | 168 | |

RISING MAINS

| Pipe Type | Street Name | Length | No. of Pipes |
|---------------------|-------------|--------------|--------------|
| U PVC | ROCHDALE ST | 1,401 | 1 |
| U PVC | GEORGE ST | 417 | 1 |
| U PVC | MAIN ST | 217 | 1 |
| U PVC | KING ST | 75 | 1 |
| U PVC | MARY ST | 12 | 1 |
| Total Length | | 2,122 | 5 |

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11.5\Data\business-xi.pageserver\business-xi.pageserver\child.6\temp\procReportTemp\mg1

28 July 08

SEWER INFORMATION FOR RIVERSDALE

| | | | |
|---------------|--------------|----------|--|
| Manholes | 43 | | |
| Reticulation | 7,879 metres | 80 pipes | |
| Cleaning Eyes | 37 | | |

GRAVITY MAINS

| Diameter | Length | No. of Pipes | |
|---|--------------|--------------|------|
| 150 | 7,086 | 79 | 100% |
| Total Length (excluding Rising mains): | 7,086 | 79 | |

| | | | |
|---|--------------|-----------|-----|
| ASBESTOS CEMENT (GENERIC) | 6,812 | 74 | 96% |
| U PVC | 201 | 3 | 3% |
| PVC (GENERIC) | 73 | 2 | 1% |
| Grand Total (excluding Rising Main): | 7,086 | 79 | |

RISING MAINS

| Pipe Type | Street Name | Length | No. of Pipes |
|---------------------------|-------------|------------|--------------|
| ASBESTOS CEMENT (GENERIC) | ESSEX ST | 793 | 1 |
| Total Length | | 793 | 1 |

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28 July 08

SEWER INFORMATION FOR RIVERTON

Manholes 286
 Reticulation 28,738 metres 400 pipes
 Cleaning Eyes 109

GRAVITY MAINS

| Diameter | Length | No. of Pipes | |
|---|---------------|--------------|-----|
| 100 | 5 | 1 | 0% |
| 150 | 22,435 | 358 | 95% |
| 200 | 169 | 4 | 1% |
| 225 | 409 | 8 | 2% |
| 250 | 511 | 9 | 2% |
| 300 | 50 | 3 | 0% |
| 375 | 23 | 1 | 0% |
| Total Length (excluding Rising mains): | 23,602 | 384 | |

| | | | |
|---|---------------|------------|-----|
| PVC (GENERIC) | 23,471 | 376 | 99% |
| ASBESTOS CEMENT (GENERIC) | 104 | 7 | 0% |
| U PVC | 27 | 1 | 0% |
| Grand Total (excluding Rising Main): | 23,602 | 384 | |

RISING MAINS

| Pipe Type | Street Name | Length | No. of Pipes |
|---------------------|---------------------|--------------|--------------|
| PVC (GENERIC) | HAVELOCK ST | 1,837 | 3 |
| PVC (GENERIC) | TARAMEA BAY RD | 1,018 | 1 |
| PVC (GENERIC) | EVELYN ST | 847 | 1 |
| PVC (GENERIC) | BAY RD | 511 | 1 |
| PVC (GENERIC) | ROCKS HW | 266 | 3 |
| PVC (GENERIC) | BATH RD | 195 | 1 |
| PVC (GENERIC) | PALMERSTON ST | 161 | 2 |
| PVC (GENERIC) | BATES ST | 125 | 1 |
| PVC (GENERIC) | OREPUKI RIVERTON HW | 118 | 1 |
| PVC (GENERIC) | JETTY ST | 42 | 1 |
| PVC (GENERIC) | DELHI ST | 15 | 1 |
| Total Length | | 5,136 | 16 |

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 11.5\Data\business-xi.pageserver\business-xi.pageserver\child.6\temp\procReportTemp\mgj

28 July 08

SEWER INFORMATION FOR TE ANAU

Manholes 421
 Reticulation 43,569 metres 539 pipes
 Cleaning Eyes 120

GRAVITY MAINS

| Diameter | Length | No. of Pipes | |
|---|-------------------|----------------|-----|
| 50 | 270 | 3 | 1% |
| 100 | 1,479 | 10 | 4% |
| 150 | 25,726 | 393 | 70% |
| 175 | 150 | 2 | 0% |
| 200 | 584 | 11 | 2% |
| 225 | 4,537 | 58 | 12% |
| 250 | 129 | 2 | 0% |
| 300 | 1,776 | 23 | 5% |
| 450 | 284 | 3 | 1% |
| 475 | 1,874 | 14 | 5% |
| 500 | 10 | 1 | 0% |
| 525 | 20 | 1 | 0% |
| Total Length (excluding Rising mains): | 36,840 | 521 | 50% |
| ASBESTOS CEMENT (GENERIC) | 15,300 | 210 | 42% |
| M PVC | 1,304 | 24 | 4% |
| PVC (GENERIC) | 324 | 6 | 1% |
| POLYETHYLENE HIGH DENSITY | 270 | 3 | 1% |
| CONCRETE SPUN REINFORCED | 650 | 8 | 2% |
| CONCRETE (GENERIC) | 347 | 6 | 1% |
| Grand Total (excluding Rising Main): | 36,840 | 521 | |

RISING MAINS

| Pipe Type | Street Name | Length | No. of Pipes |
|-----------------------------|--------------|--------------|--------------|
| ASBESTOS CEMENT (GENERIC) | MOKONU ST | 1,751 | 1 |
| ASBESTOS CEMENT (GENERIC) | TOWN CENTRE | 1,215 | 2 |
| ASBESTOS CEMENT (GENERIC) | TE ANAU TE | 321 | 1 |
| ASBESTOS CEMENT (GENERIC) | MILFORD CR | 292 | 1 |
| ASBESTOS CEMENT (GENERIC) | LAKEFRONT DR | 121 | 1 |
| ASBESTOS CEMENT (GENERIC) | MATAI ST | 90 | 1 |
| POLYETHYLENE MEDIUM DENSITY | BREAKSEA ST | 1,301 | 2 |
| U PVC | APARIMA DR | 785 | 1 |
| U PVC | MILFORD CR | 207 | 1 |
| U PVC | MOKONU ST | 118 | 2 |
| U PVC | JACKSON ST | 50 | 1 |
| CONCRETE SPUN REINFORCED | JACKSON ST | 284 | 2 |
| POLYETHYLENE HIGH DENSITY | HAWEA PL | 192 | 1 |
| CONCRETE (GENERIC) | JACKSON ST | 3 | 1 |
| Total Length | | 6,729 | 18 |

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28 July 08

SEWER INFORMATION FOR TOKANUI

| | | |
|---------------|--------------|----------|
| Manholes | 14 | |
| Reticulation | 2,312 metres | 27 pipes |
| Cleaning Eyes | 13 | |

GRAVITY MAINS

| Diameter | Length | No. of Pipes | |
|---|--------------|--------------|------|
| 100 | 1,983 | 26 | 100% |
| Total Length (excluding Rising mains): | 1,983 | 26 | |

| | | | |
|---|--------------|-----------|------|
| U PVC | 1,983 | 26 | 100% |
| Grand Total (excluding Rising Main): | 1,983 | 26 | |

RISING MAINS

| Pipe Type | Street Name | Length | No. of Pipes |
|---------------------|-------------|------------|--------------|
| U PVC | MCEWAN ST | 329 | 1 |
| Total Length | | 329 | 1 |

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11.5\Data\business-xi.pageserver\business-xi.pageserver\child.2\temp\procReportTemp\mg1

18 August 08

SEWER INFORMATION FOR TUATAPERE

| | | |
|---------------|---------------|-----------|
| Manholes | 103 | |
| Reticulation | 11,857 metres | 173 pipes |
| Cleaning Eyes | 49 | |

GRAVITY MAINS

| Diameter | Length | No. of Pipes | |
|---|---------------|--------------|-----|
| 0 | | 3 | 0% |
| 40 | 704 | 1 | 6% |
| 140 | 869 | 1 | 8% |
| 150 | 9,869 | 164 | 86% |
| 225 | 15 | 1 | 0% |
| Total Length (excluding Rising mains): | 11,456 | 170 | |

| | | | |
|---|---------------|------------|-----|
| U PVC | 9,775 | 159 | 86% |
| POLYETHYLENE MEDIUM DENSITY | 1,573 | 2 | 14% |
| STEEL CONCRETE LINED | 34 | 2 | 0% |
| Grand Total (excluding Rising Main): | 11,382 | 163 | |

RISING MAINS

| Pipe Type | Street Name | Length | No. of Pipes |
|-----------------------------|----------------------|------------|--------------|
| POLYETHYLENE MEDIUM DENSITY | HALF MILE RD | 298 | 1 |
| POLYETHYLENE MEDIUM DENSITY | TUATAPERE OREPUKI HW | 39 | 1 |
| Total Length | | 337 | 2 |

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11.5\Data\business-xi.pageserver\business-xi.pageserver\child.3\temp\procReportTemp\mg1

28 July 08

SEWER INFORMATION FOR WALLACETWN

| | | |
|---------------|--------------|-----------|
| Manholes | 58 | |
| Reticulation | 9,151 metres | 100 pipes |
| Cleaning Eyes | 26 | |

GRAVITY MAINS

| Diameter | Length | No. of Pipes | |
|---|--------------|--------------|------|
| 150 | 6,902 | 87 | 100% |
| Total Length (excluding Rising mains): | 6,902 | 87 | |

| | | | |
|---|--------------|-----------|------|
| U PVC | 6,902 | 87 | 100% |
| Grand Total (excluding Rising Main): | 6,902 | 87 | |

RISING MAINS

| Pipe Type | Street Name | Length | No. of Pipes |
|------------------------|-------------|--------------|--------------|
| POLYETHYLENE (GENERIC) | COLLEAN ST | 1,964 | 1 |
| Total Length | | 1,964 | 1 |

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28 July 08

SEWER INFORMATION FOR WINTON

| | | |
|---------------|---------------|-----------|
| Manholes | 190 | |
| Reticulation | 21,737 metres | 294 pipes |
| Cleaning Eyes | 102 | |

GRAVITY MAINS

| Diameter | Length | No. of Pipes | |
|---|---------------|--------------|-----|
| 50 | 45 | 1 | 0% |
| 80 | 67 | 1 | 0% |
| 100 | 935 | 23 | 5% |
| 150 | 16,094 | 235 | 81% |
| 225 | 607 | 5 | 3% |
| 300 | 895 | 8 | 5% |
| 375 | 1,243 | 15 | 6% |
| Total Length (excluding Rising mains): | 19,887 | 288 | |

| | | | |
|--|---------------|------------|-----|
| ASBESTOS CEMENT (GENERIC) | 15,208 | 224 | 76% |
| U PVC | 897 | 14 | 5% |
| CONCRETE SPUN REINFORCED | 2,175 | 27 | 11% |
| EARTHENWARE | 241 | 8 | 1% |
| CONCRETE (GENERIC) | 858 | 7 | 4% |
| PVC (GENERIC) | 380 | 6 | 2% |
| ASBESTOS CEMENT (CONC INCASED) | 92 | 1 | 0% |
| VITRIFIED CLAY | 37 | 1 | 0% |
| Total Length (excluding Rising Main): | 19,887 | 288 | |

| Pipe Type | Street Name | Length | No. of Pipes |
|-----------------------------|----------------|--------------|--------------|
| ASBESTOS CEMENT EVERITE | GREAT NORTH RD | 938 | 1 |
| ASBESTOS CEMENT (GENERIC) | GERRARD PL | 366 | 1 |
| ASBESTOS CEMENT (GENERIC) | MOORE RD | 88 | 1 |
| U PVC | GERRARD PL | 275 | 1 |
| POLYETHYLENE MEDIUM DENSITY | WELSH RD | 183 | 1 |
| Total Length | | 1,850 | 5 |

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