Appendix N: Final Preferred Solutions Conceptual Designs – Little Lake Watershed
TIE EXISTING LOCAL STORM SEWER INTO PROPOSED TRUNK STORM SEWER

EXISTING STORM SEWER TO REMAIN

EXISTING STORM SEWER TO REMAIN

RELOCATE SANITARY SEWER TO PROVIDE MINIMUM HORIZONTAL SEPARATION FROM STORM SEWER

CARTWRIGHT AVE

SIMPSON ST

STANLEY ST

LINDSAY CRT

DARCEL CRES

LIVATERMAN WAY

CARDINAL ST

HADDEN CRES

TWIN 2400 mm x 1200 mm CONC. BOX TRUNK STORM SEWER

REMOVE AND REPLACE EXISTING LOCAL STORM SEWER WITH TRUNK STORM SEWER

SWMF LT-02

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LEGEND

EX. WATERCOURSE
EX. STORM MAINTENANCE HOLE
EX. STORM SEWER
EX. PROPERTY LINE
PROPERTY ACQUISITION
TRUNK STORM SEWER (PREFERRED ROUTE)
EX. SANITARY MAINTENANCE HOLE
EX. SANITARY SEWER
EX. WATERMAIN

DRAINAGE MASTER PLAN
FINAL PREFERRED ALTERNATIVE SOLUTION

PROJECT No. 141
TRUNK STORM SEWER No. 5
LITTLE LAKE WATERSHED

SCALE = 1:1,500

DATE: MARCH 2019
THE CITY IS TO PROGRESSIVELY ACQUIRE LAND OR EASEMENTS FOR DRAINS, WATERCOURSES AND STORAGE AREAS CROSSING OR UPON PRIVATE PROPERTY WHERE IT IS CONSIDERED IN THE CITY’S INTEREST TO DO SO (BY-LAW 90-92 TO PROHIBIT OBSTRUCTION OF DRAINS & WATERCOURSES). PROPERTY ACQUISITION VIA EASEMENT, BLOCK, LOT OR PARCEL IS TO THE CITY’S DISCRETION.

LEGEND
- PR STORM MAINTENANCE HOLES
- EX. STORM MAINTENANCE HOLES
- EX. WATERMAIN
- PR. STORM SEWER
- EX. SANITARY SEWER
- EX. SANITARY MAINTENANCE HOLE
- PR. LID

EXISTING SWMF OUTLET CONTROLS:
1) 2 - 800 mm ø CSP CULVERTS (INV. = 263.50 m)
2) 1 - DICB (RIM ELEV. 264.20 m)
3) 1 - DICB (RIM ELEV. 265.10 m)
4) 1 - 6.5 m WIDE OVERFLOW WEIR WITH OVERFLOW INLET @ 266.10 m

EXISTING SWMF OUTLET CONTROLS TO BE RELOCATED:
1) 2 - 800 mm ø CSP CULVERTS (INV. = 263.50 m)
2) 1 - DICB (RIM ELEV. 264.20 m)
3) 1 - DICB (RIM ELEV. 265.10 m)
4) 1 - 6.5 m WIDE OVERFLOW WEIR WITH OVERFLOW INLET @ 266.10 m

PROPOSED SWMF OUTLET CONTROLS:
1) 1 - 170 mm ø ORIFICE (INV. 263.50 m)
2) 1 - DICB (RIM ELEV. 264.20 m)
3) 1 - 1050 mm ø OUTLET PIPE (INV. 263.50)
4) 1 - 6.5 m WIDE OVERFLOW WEIR (INV. 266.85 m)

Swmf Retrofit for Water Quality Treatment and Peak Flow Attenuation:
Level 3 "Basic" Treatment (60% TSS Removal)
Phosphorus Reduction = 68.8 kg/yr
Swmf Details:
Bottom Elevation = 261.00 m
Permanent Pool Elevation = 263.50 m
Top Elevation = 267.25 m
Permanent Pool Volume = 3,550 m³
Surface Area = 7,470 m²
Active Storage = 19,030 m³
Peak Flow Attenuation = 25 yr Through 100 yr storm

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Stabilize existing channel banks with bio-engineered bank treatment to address bank erosion/failure (see details)

Legend:
- Bank Erosion
- Bed Erosion/Knickpoint
- Infrastructure at Risk
- PR. Storm Maintenance Hole
- PR. Storm Sewer
- EX. Sanitary Sewer
- EX. Watercourse
- EX. Watermain
- EX. Storm Maintenance Hole
- EX. Storm Sewer
- EX. Property Line
- Property Acquisition

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DRAINAGE MASTER PLAN
FINAL PREFERRED ALTERNATIVE SOLUTION
PROJECT No. 143
WATERCOURSE IMPROVEMENT No. 24
LITTLE LAKE WATERSHED
SCALE = 1:1,000
DATE: MARCH 2019
EX. STORM MAINTENANCE

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SWMF RETROFIT FOR WATER QUALITY TREATMENT:
LEVEL 1 "ENHANCED" TREATMENT (80% TSS REMOVAL)
PHOSPHORUS REDUCTION = 0 kg/year

SWMF DETAILS:
BOTTOM ELEVATION = 273.00 m
PERMANENT POOL ELEVATION = 275.00 m
TOP ELEVATION = 276.70 m
SURFACE AREA = 11,500 m²
PERMANENT POOL VOLUME = 12,100 m³
ACTIVE STORAGE = 16,530 m³
PEAK FLOW ATTENUATION = 25 mm THROUGH 5 yr STORM

EXISTING SWMF OUTLET CONTROLS:
1) 1 - 145 mm ø ORIFICE (INV. = 275.30 m)
2) 1 - 5 m WIDE OVERFLOW WEIR
   (5:1 SIDE SLOPES, INV. = 275.69 m)

PROPOSED SWMF OUTLET CONTROLS:
1) 1 - 270 mm ø ORIFICE (INV. = 275.80 m)
2) 1 - 15 m WIDE OVERFLOW WEIR
   (5:1 SIDE SLOPES, INV. = 275.80 m)

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