BALMORAL VILLAGE

TOWN OF COLLINGWOOD
COUNTY OF SIMCOE

MUNICIPALITY

TOWN OF COLLINGWOOD
PLANNING SERVICES
55 STE. MARIE ST., UNIT 303
COLLINGWOOD, ONTARIO, L9Y 0W6

DRAWING	TITLE
100	SITE PLAN
101A	GENERAL SERVICING PLAN, NORTH–WEST
101B	GENERAL SERVICING PLAN, SOUTH–WEST
101C	GENERAL SERVICING PLAN, EAST
102A	GRADING PLAN, NORTH–WEST
102B	GRADING PLAN, SOUTH–WEST
102C	GRADING PLAN, EAST
102D	GRADING SECTIONS
103	SANITARY DRAINAGE AREA PLAN
104	STORM DRAINAGE AREA PLAN
105	WATER DISTRIBUTION PLAN
106A	STORM WATER MANAGEMENT POND
106B	STORM WATER MANAGEMENT POND FACILITY DETAILS
107	SEDIMENT EROSION CONTROL PLAN
108	DESIGN NOTES & TYPICAL SECTIONS
109	COMPOSITE UTILITY PLAN

DEVELOPER

ROYALTON HOMES INC.
10114 HWY 26, UNIT 4
COLLINGWOOD, ONTARIO, L9Y 3Z1

COLLINGWOOD SENIORS GP LTD.
3205 EPWORTH CRESCENT,
OAKVILLE, ONTARIO, L6M 0B3

DEVELOPER'S ENGINEER

CROZIER & ASSOCIATES Consulting Engineers

THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
COLLINGWOOD, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
WWW.CFCROZIER.CA
INFO@CFCROZIER.CA

MASTER LEGEND

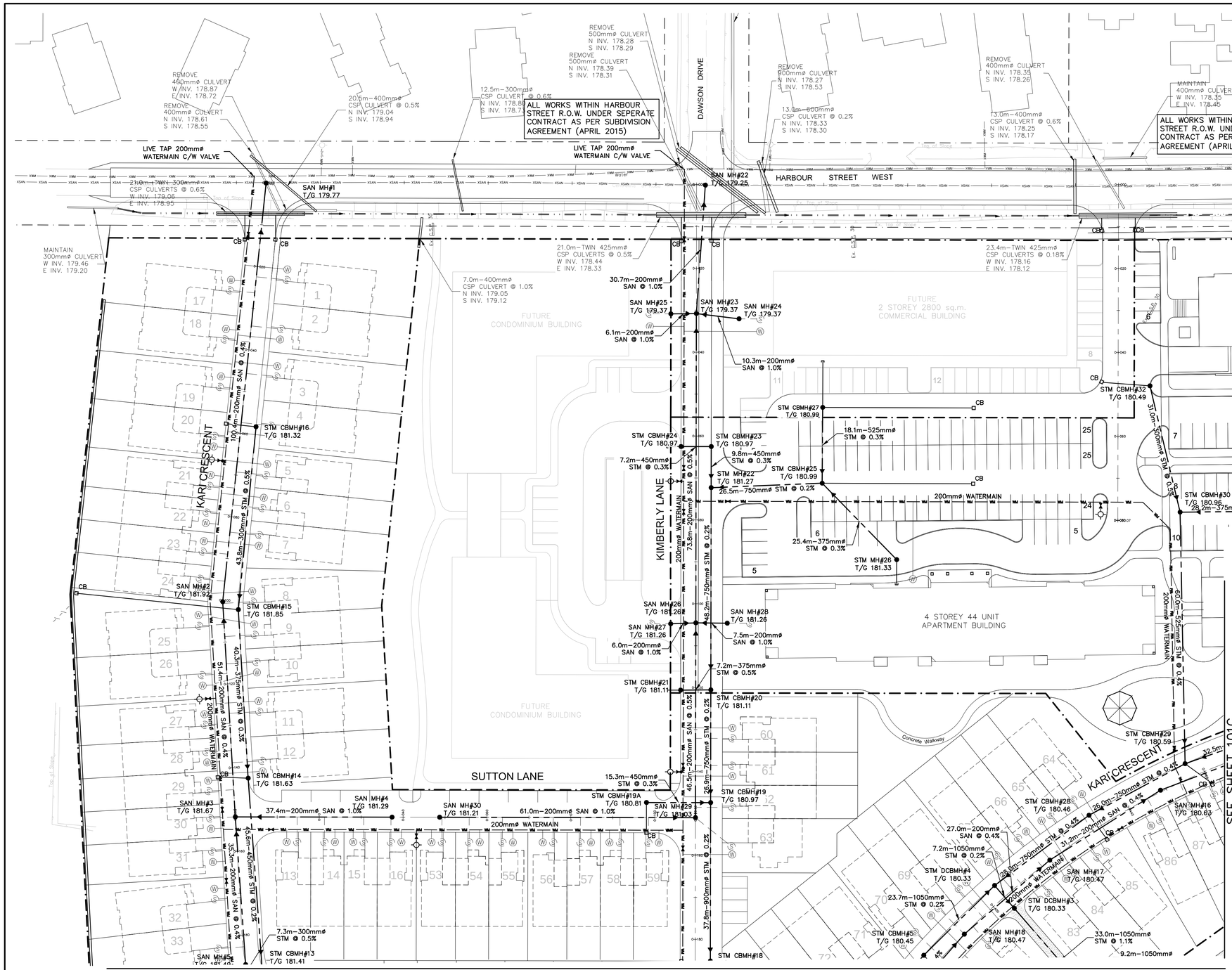
EXISTING FEATURES (EX.)

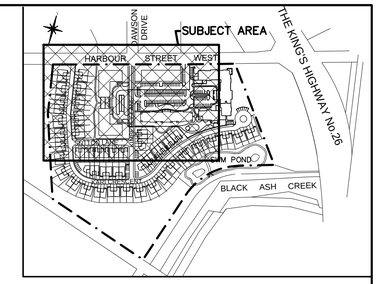
- EX. CONTOUR
- EX. GRADE
- EX. TREELINE
- EX. WATERCOURSE
- EX. DITCH
- EX. WATERMAIN
- EX. WATER SERVICE
- EX. FIRE HYDRANT & VALVE
- EX. SANITARY SEWER & MANHOLE
- EX. SANITARY FORCEMAIN
- EX. SANITARY SERVICE
- EX. STORM SEWER & MANHOLE
- EX. STORM CATCHBASIN
- EX. STORM DOUBLE CATCHBASIN
- EX. STORM CATCHBASIN MANHOLE
- EX. STORM DOUBLE CATCHBASIN MANHOLE
- EX. GAS MAIN
- EX. BELL LINE
- EX. BELL PEDESTAL
- EX. CABLE TELEVISION PEDESTAL
- EX. HYDRO POLE
- EX. LIGHT STANDARD
- EX. SIGN
- EX. BUILDING
- EX. BENCHMARK NUMBER & LOCATION
- EX. BOREHOLE NUMBER & LOCATION

PROPOSED FEATURES (PR.)

- PR. PROPERTY LIMITS
- PR. ELEVATION
- PR. ELEVATION (MATCH EX. ELEVATION)
- PR. SWALE & SLOPE
- PR. DITCH DRAINAGE
- PR. WATERMAIN & VALVE
- PR. WATER SERVICE
- PR. FIRE HYDRANT & VALVE
- PR. WATER VALVE CHAMBER
- PR. WATER QUALITY TESTING STATION
- PR. SANITARY SEWER & MANHOLE
- PR. SANITARY FORCEMAIN
- PR. SANITARY SERVICE
- PR. SANITARY CATCHMENT
- SANITARY CATCHMENT POPULATION (3.5ppu)
- SANITARY CATCHMENT AREA (ha)
- PR. STORM SEWER & MANHOLE
- PR. CATCHBASIN
- PR. DOUBLE CATCHBASIN
- PR. CATCHBASIN MANHOLE
- PR. DOUBLE CATCHBASIN MANHOLE
- PR. STORM CATCHMENT
- AREA (ha)
- RUN–OFF CO–EFFICIENT (5 YEAR)
- AREA ID
- PR. CURB CUT
- PR. CANADA POST COMMUNITY MAIL BOX
- PR. TRANSFORMER
- PR. STOP SIGN
- PR. NAME SIGN
- PR. NO PARKING SIGN
- PR. FENCE
- PR. HEAVY DUTY SILT FENCE
- PR. STRAW BALE CHECK FLOW
- PR. ROCK CHECK DAM
- PR. SLOPE (3:1 MAX.)
- SECTION I.D.
- SECTION DETAIL
- SHEET NUMBER

PROJECT No.: 362-4007





LEGEND

+230.00	PROPOSED GRADE
+230.00	PROPOSED GRADE (MATCH EX.)
2%	GRADE DIRECTION
RW	RETAINING WALL
	STORM FLOW DIRECTION

STORM STRUCTURE TABLE

Structure ID	Size	OPSD	Inverts		T/G
Inlet#1	Headwall		South	177.30	178.62
MH#2	1800mm	701.012	North South	177.37 177.32	179.10
DCBMH#3	1800mm	701.012	North South	177.76 177.73	180.33
DCBMH#4	2400mm	701.013	East West	178.08 177.86	180.33
CBMH#5	1800mm	701.012	South West	177.78 178.05 177.90	180.45
CBMH#6	1800mm	701.012	West East	178.16 178.11	180.58
CBMH#7	1800mm	701.012	West East	178.24 178.19	180.66
MH#8	1800mm	701.012	West East	178.31 178.26	180.73
MH#9	2400mm	701.013	North West South East	178.41 178.70 178.93 178.33	180.10
CBMH#10	1200mm	701.010	West East	178.88 178.83	181.00
MH#11	1200mm	701.010	West East	178.98 178.93	181.22
MH#12	1200mm	701.010	North South	179.06 179.01	181.31
CBMH#13	1500mm	701.011	North West South	179.17 179.32 179.09	181.41
MH#13A	1200mm	701.010	West East	179.41 179.36	181.49
CB#13B	600x600mm	705.010	East	179.57	180.30
CBMH#14	1200mm	701.010	North South	179.34 179.26	181.63
CBMH#15	1200mm	701.010	North West South	179.55 179.55 179.48	181.85
CB#15A	600x600mm	705.010	East	179.74	180.70
CBMH#16	1200mm	701.010	South	179.77	181.32
CBMH#17	1800mm	701.012	North South	178.45 178.42	180.66
CBMH#18	1800mm	701.012	North South	178.53 178.50	180.78
CBMH#19	2400mm	701.013	North West South	178.76 179.06 178.61	180.97
CBMH#19A	1200mm	701.010	East	179.10	180.81
CBMH#20	1800mm	701.012	North West South	178.84 179.19 178.81	181.11
CBMH#21	1200mm	701.010	East	179.22	181.11
CB#21A	600x600mm	705.010	North	178.96	180.78
MH#22	1800mm	701.012	North East South	179.24 179.02 178.94	181.27
CBMH#23	1200mm	701.010	West South	179.35 179.27	180.97
CBMH#24	1200mm	701.010	East	179.37	180.97
CBMH#25	1800mm	701.012	North East South West	179.30 179.45 179.45 179.07	180.99
CB#25A	600x600mm	705.010	West	179.67	180.94
MH#26	1200mm	701.010	North	179.52	181.33
CBMH#27	1500mm	701.011	North East South	179.43 179.58 179.35	180.99
CB#27A	600x600mm	705.010	West	179.79	180.94
CB#27R	600x600mm	705.010	South	179.49	181.60
CBMH#28	1500mm	701.011	East West	178.24 178.19	180.46
CBMH#29	1800mm	701.012	North East West	178.57 178.57 178.34	180.59
CBMH#30	1500mm	701.011	North East South	179.03 178.96 178.81	180.96
CBMH#31	1200mm	701.010	North West	179.17 179.10	180.92
CBMH#32	1200mm	701.010	South	179.19	180.49
MH#33	1200mm	701.010	East West	178.71 178.66	180.75
DCBMH#34	1500mm	701.011	North East	178.96 178.81	180.72
MH#35	1200mm	701.010	South	179.12	181.30
CB#36	600x600mm	705.010	South	179.29	180.92

SANITARY STRUCTURE TABLE

Structure ID	Size	OPSD	Pipe Inverts		T/G
MH#1	1200mm	701.010	South	176.75	179.76
MH#2	1200mm	701.010	South North	177.20 177.15	181.93
MH#3	1200mm	701.010	East South North	177.49 177.44 177.41	181.67
MH#4	1200mm	701.010	West	177.86	181.31
MH#5	1200mm	701.010	South North	177.63 177.58	181.49
MH#6	1200mm	701.010	South North	177.76 177.71	181.38
MH#7	1200mm	701.010	East West	177.88 177.83	181.29
MH#8	1200mm	701.010	East West	178.03 177.98	181.17
MH#9	1200mm	701.010	West	178.32	180.87
MH#10	1200mm	701.010	South	176.16	179.32
MH#11	1200mm	701.010	South North	176.27 176.22	178.68
MH#12	1200mm	701.010	South North	176.43 176.38	178.68
MH#13	1200mm	701.010	West North	176.81 176.73	181.13
MH#14	1200mm	701.010	West East	176.96 176.91	180.88
MH#15	1200mm	701.010	West East	177.18 177.13	180.81
MH#16	1200mm	701.010	West East	177.38 177.33	180.53
MH#17	1200mm	701.010	West East	177.55 177.50	180.47
MH#18	1200mm	701.010	West East	177.71 177.66	180.46
MH#19	1200mm	701.010	West East	177.90 177.85	180.65
MH#20	1200mm	701.010	West East	178.02 177.97	180.72
MH#21	1200mm	701.010	East	178.19	180.92
MH#22	1200mm	701.010	South	176.40	179.26
MH#23	1200mm	701.010	South East West North	176.76 176.79 176.79 176.71	179.48
MH#24	1200mm	701.010	West	176.89	179.41
MH#25	1200mm	701.010	East	176.85	179.41
MH#26	1200mm	701.010	South East West North	177.16 177.21 177.21 177.13	181.26
MH#27	1200mm	701.010	East	177.27	181.19
MH#28	1200mm	701.010	West	177.28	181.19
MH#29	1200mm	701.010	West North	177.47 177.39	181.03
MH#30	1200mm	701.010	East	178.08	181.21

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BENCHMARKS

GEODETIC BENCHMARK 72U313 HAVING AN ELEVATION OF 179.63.

TEMPORARY BENCHMARKS

TBM#1–
TBM#2–
TBM#3–

Town

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	FIRST SUBMISSION	07/22/2015

Engineer

Engineer

Project

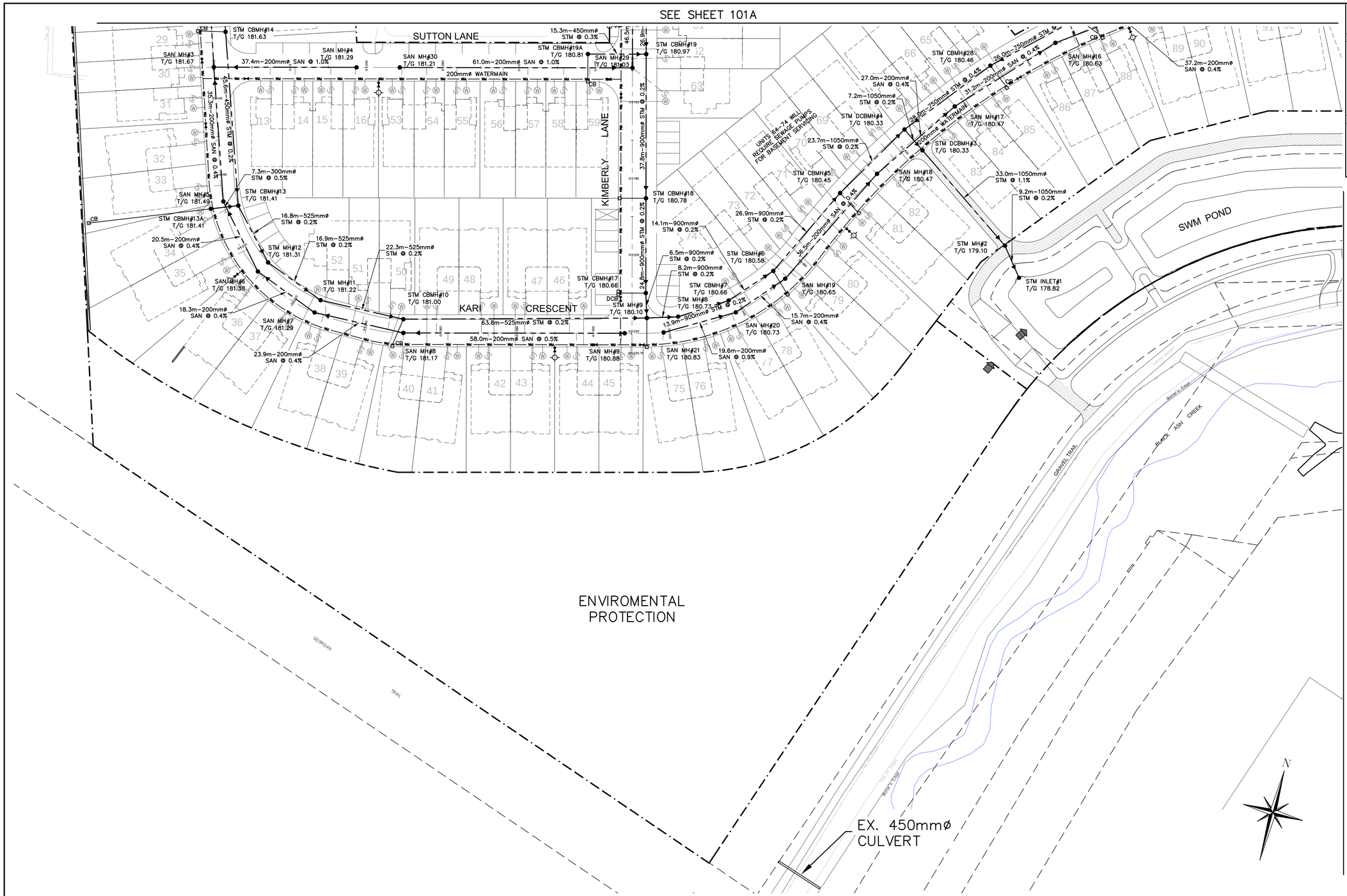
BALMORAL VILLAGE – SITE PLAN
TOWN OF COLLINGWOOD

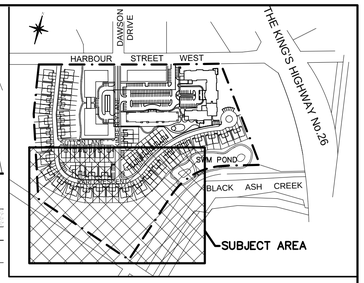
Drawing

GENERAL SERVICING PLAN – NORTH-WEST

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
COLLINGWOOD, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
WWW.CFCROZIER.CA
INFO@CFCROZIER.CA

Drawn By	Design By	Project
J.O.	S.W.	362–4007
Scale 1:500	**Date** 06/29/2015	**Check By** D.T.	**Drawing** 101A





LEGEND

+230.00	PROPOSED GRADE
+230.00	PROPOSED GRADE (MATCH EX.)
2%	GRADE DIRECTION
RW	RETAINING WALL
	STORM FLOW DIRECTION

NOTE:
ALL FILL ENTERING THE SITE SHALL COMPLY WITH ONTARIO MINISTRY OF THE ENVIRONMENT "MANAGEMENT OF EXCESS SOIL GUIDE – A GUIDE FOR BEST PRACTICES".

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BENCHMARKS

GEODETIC BENCHMARK 72U313 HAVING AN ELEVATION OF 179.63.

TEMPORARY BENCHMARKS

TBM#1–
TBM#2–
TBM#3–

Town

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	FIRST SUBMISSION	07/22/2015

Engineer

Engineer

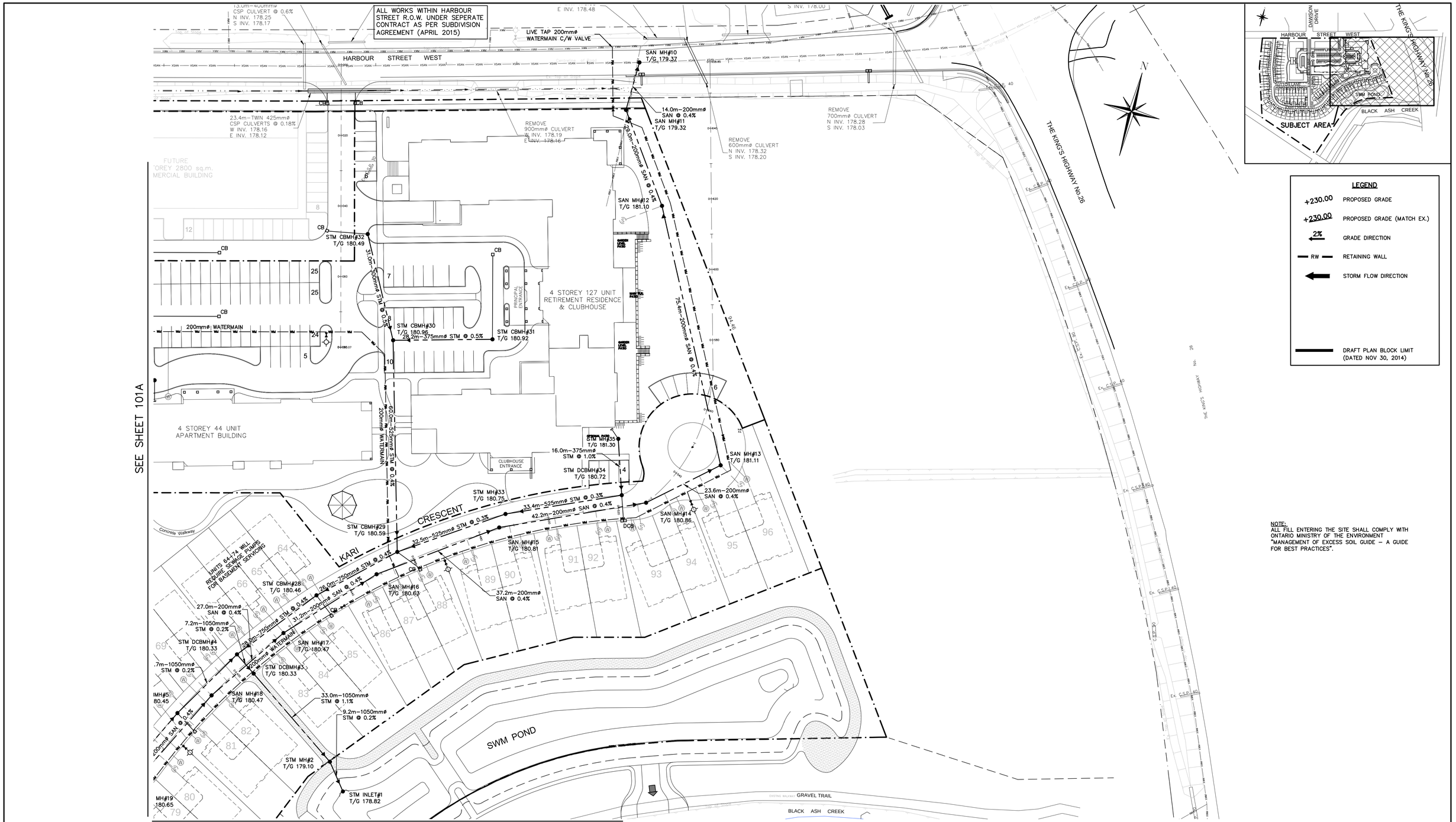
Project
BALMORAL VILLAGE – SITE PLAN
TOWN OF COLLINGWOOD

Drawing
GENERAL SERVICING PLAN – SOUTH-WEST

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
COLLINGWOOD, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
WWW.CFCROZIER.CA
INFO@CFCROZIER.CA

Drawn By	Design By	Project
J.O.	S.W.	362–4007

Scale	Date	Check By	Drawing
1:500	06/29/2015	D.T.	101B



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BENCHMARKS

GEODETIC BENCHMARK 72U313 HAVING AN ELEVATION OF 179.63.

TEMPORARY BENCHMARKS

TBM#1–
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TBM#3–

Town

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	FIRST SUBMISSION	07/22/2015

Engineer

Engineer

Project

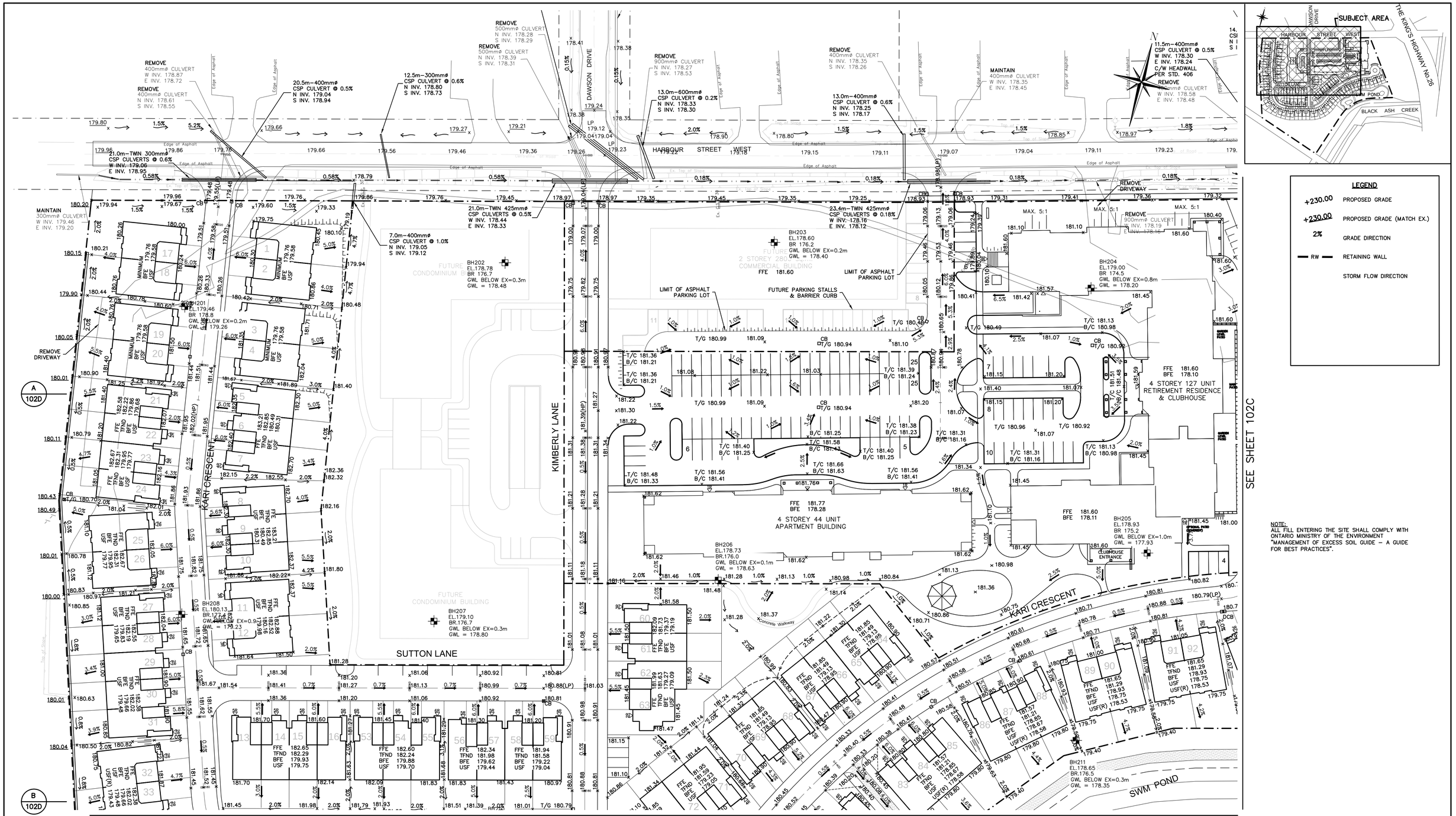
BALMORAL VILLAGE – SITE PLAN
TOWN OF COLLINGWOOD

Drawing

GENERAL SERVICING PLAN – EAST

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING, 40 HURON STREET, SUITE 301, COLLINGWOOD, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
WWW.CFCROZIER.CA
INFO@CFCROZIER.CA

Drawn By	Design By	Project
J.O.	S.W.	362–4007
Scale 1:500	Date 06/29/2015	Check By D.T.	Drawing 101C



LEGEND

+230.00	PROPOSED GRADE
+230.00	PROPOSED GRADE (MATCH EX.)
2%	GRADE DIRECTION
RW	RETAINING WALL
	STORM FLOW DIRECTION

NOTE:
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BENCHMARKS

GEODETIC BENCHMARK 72U313 HAVING AN ELEVATION OF 179.63.

TEMPORARY BENCHMARKS

TBM#1–
TBM#2–
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Town

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	FIRST SUBMISSION	07/22/2015

Engineer

Engineer

Project

BALMORAL VILLAGE – SITE PLAN
TOWN OF COLLINGWOOD

Drawing

GRADING PLAN – NORTH–WEST

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
COLLINGWOOD, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
WWW.CFCROZIER.CA
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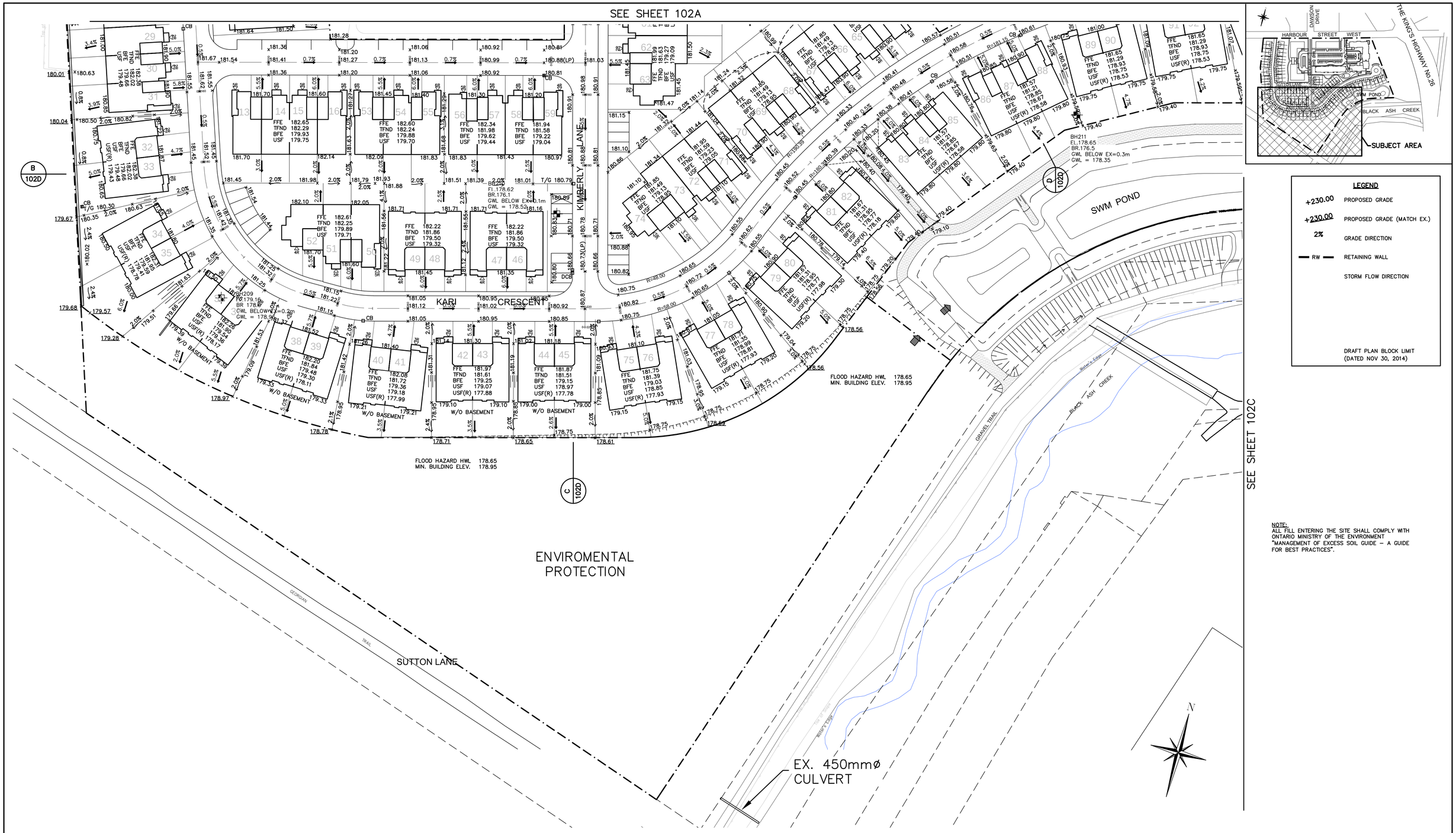
Drawn By	Design By	Project
J.O.	S.W.	362–4007
Scale 1:500	Date 06/29/2015	Check By D.T.	Drawing 102A



LEGEND

+230.00	PROPOSED GRADE
+230.00	PROPOSED GRADE (MATCH EX.)
2%	GRADE DIRECTION
RW	RETAINING WALL
	STORM FLOW DIRECTION
	DRAFT PLAN BLOCK LIMIT (DATED NOV 30, 2014)

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BENCHMARKS

GEODETIC BENCHMARK 72U313 HAVING AN ELEVATION OF 179.63.

TEMPORARY BENCHMARKS

TBM#1–
TBM#2–
TBM#3–

Town

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	FIRST SUBMISSION	07/22/2015

Engineer

Engineer

Project
BALMORAL VILLAGE – SITE PLAN
TOWN OF COLLINGWOOD

Drawing
GRADING PLAN – SOUTH–WEST

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
COLLINGWOOD, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
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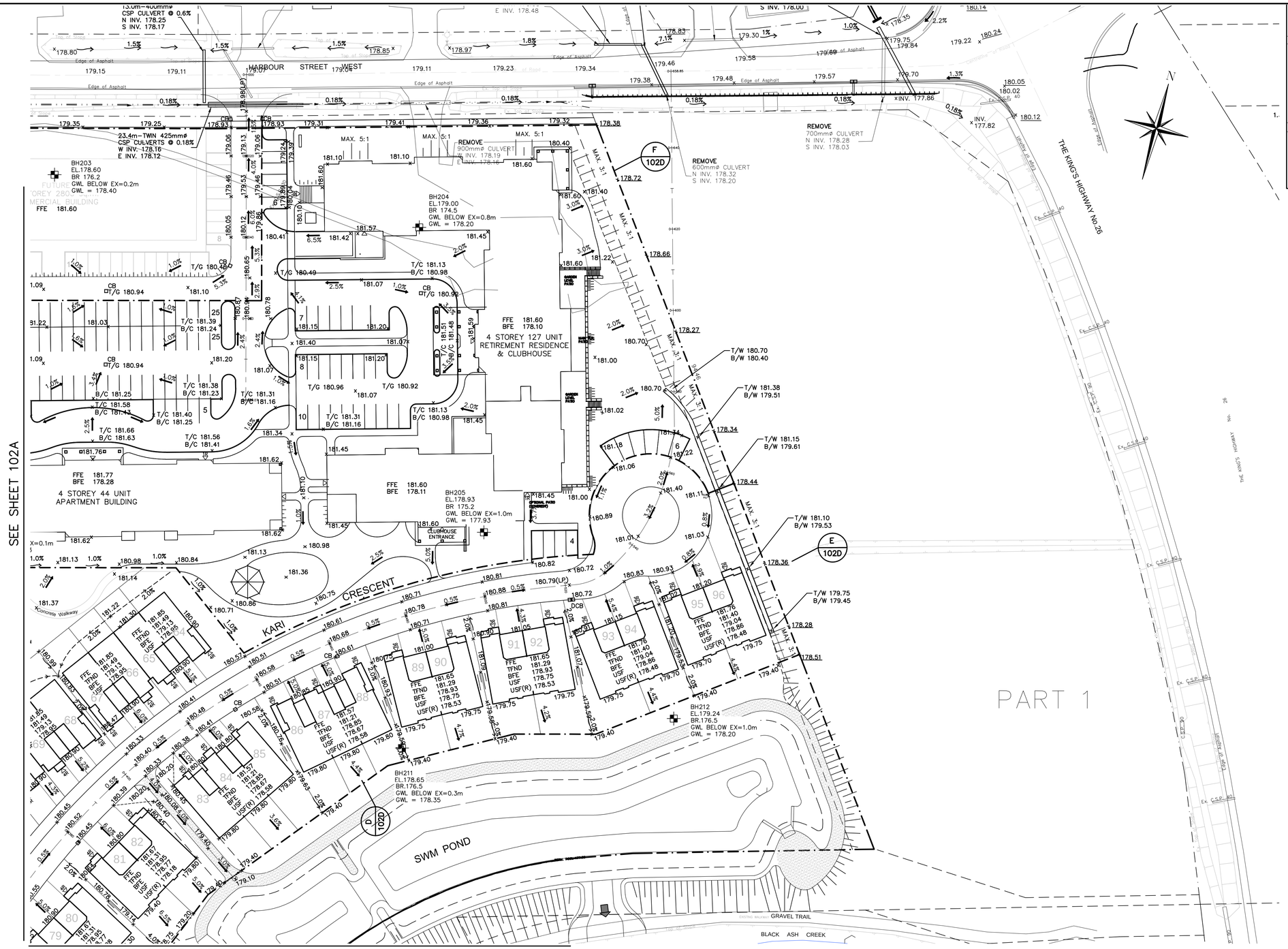
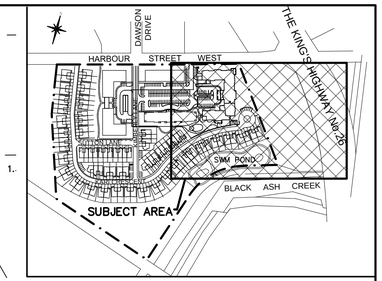
INFO@CFCROZIER.CA

Drawn By	Design By	Project
J.O.	S.W.	362–4007
Scale 1:500 / Date 06/29/2015	Check By D.T.	Drawing 102B





LEGEND

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+230.00	PROPOSED GRADE (MATCH EX.)
2%	GRADE DIRECTION
RW	RETAINING WALL
	STORM FLOW DIRECTION
	DRAFT PLAN BLOCK LIMIT (DATED NOV 30, 2014)

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BENCHMARKS
GEODETIC BENCHMARK 72U313 HAVING AN ELEVATION OF 179.63.

TEMPORARY BENCHMARKS
TBM#1–
TBM#2–
TBM#3–

Town

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Engineer

Engineer

Project
BALMORAL VILLAGE – SITE PLAN
TOWN OF COLLINGWOOD

Drawing
GRADING PLAN – EAST

CROZIER & ASSOCIATES Consulting Engineers
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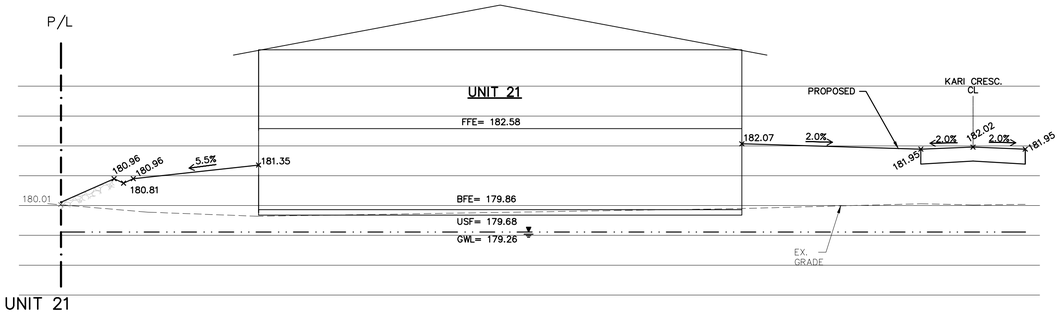
INFO@CFCROZIER.CA

Drawn By	J.O.	Design By	S.W.	Project	362–4007
Scale 1:500	Date 06/29/2015	Check By	D.T.	Drawing	102C



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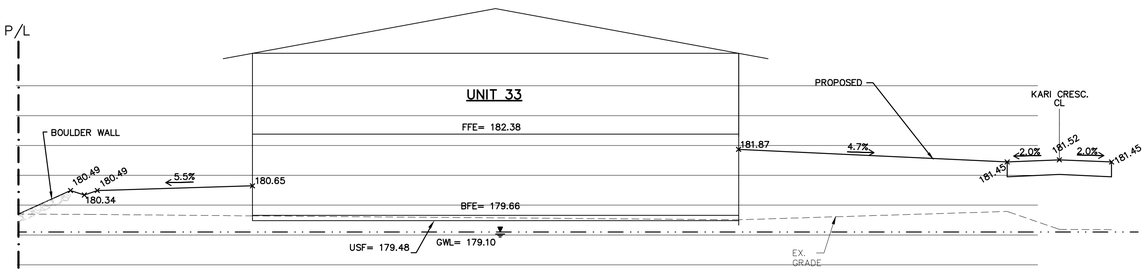
UNIT 21



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102D
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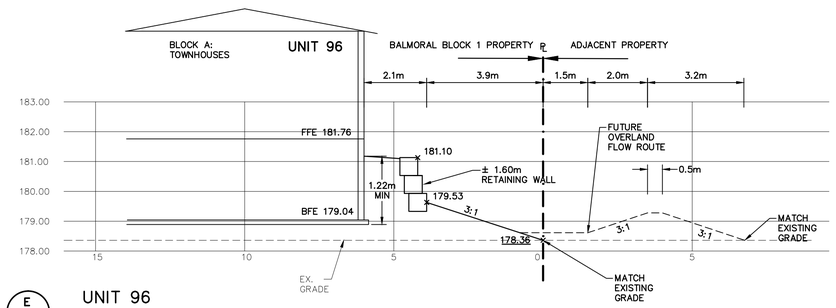

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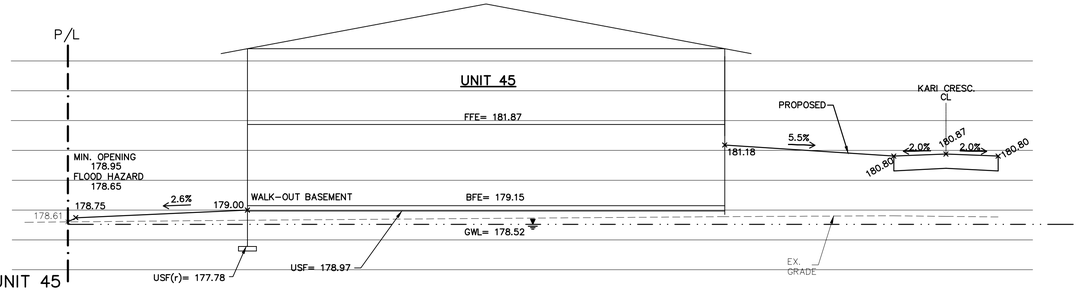

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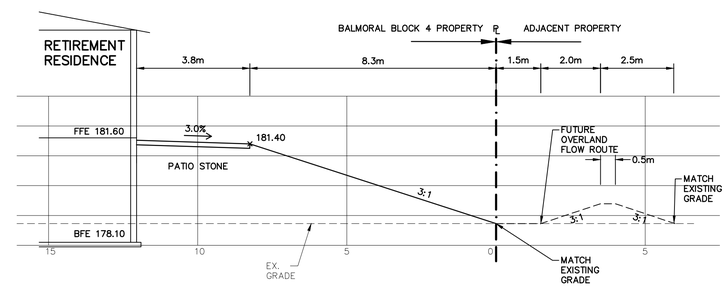
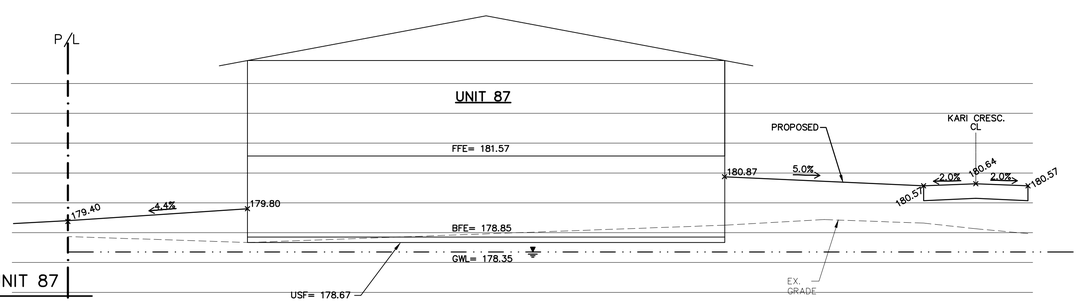
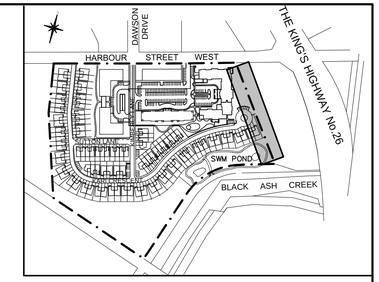


F
102D
RETIREMENT RESIDENCE



D
102D
UNIT 87



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BENCHMARKS

GEODETIC BENCHMARK 72U313 HAVING AN ELEVATION OF 179.63.

TEMPORARY BENCHMARKS

TBM#1–
TBM#2–
TBM#3–

Town

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	FIRST SUBMISSION	07/22/2015

Engineer

Engineer

Project

BALMORAL VILLAGE – SITE PLAN
TOWN OF COLLINGWOOD

Drawing

OVERLAND STORM RELIEF CHANNEL SECTIONS

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
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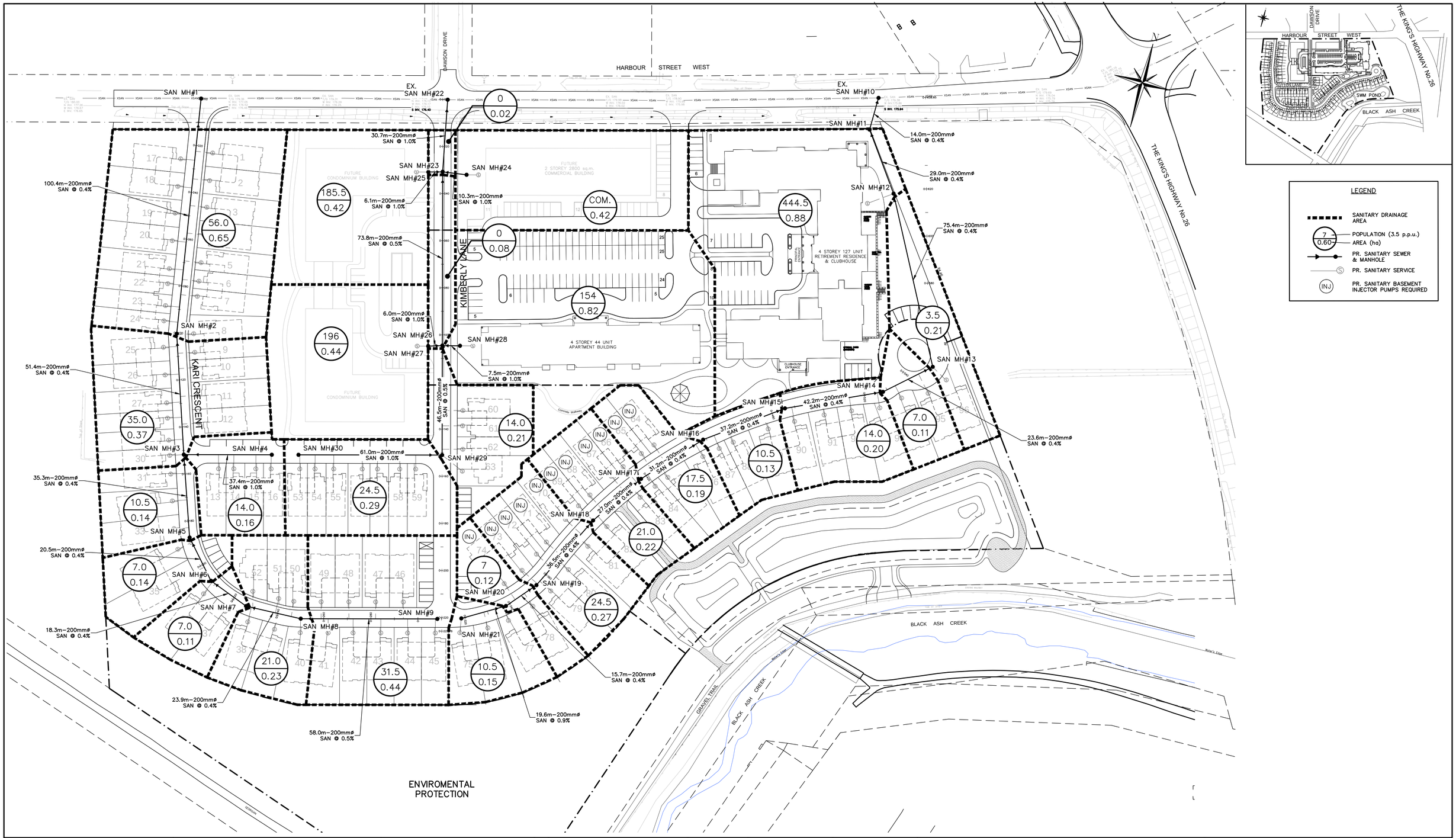
Drawn By	Design By	Project
J.O.	J.O.	362–4007

Scale	Date	Check By	Drawing
1:100	06/29/2015	D.T.	102D



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GEODETIC BENCHMARK 72U313 HAVING AN ELEVATION OF 179.63.

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Town

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	FIRST SUBMISSION	07/22/2015

Engineer

Engineer

Project

BALMORAL VILLAGE – SITE PLAN
TOWN OF COLLINGWOOD

Drawing

SANITARY DRAINAGE AREA PLAN

CROZIER & ASSOCIATES Consulting Engineers
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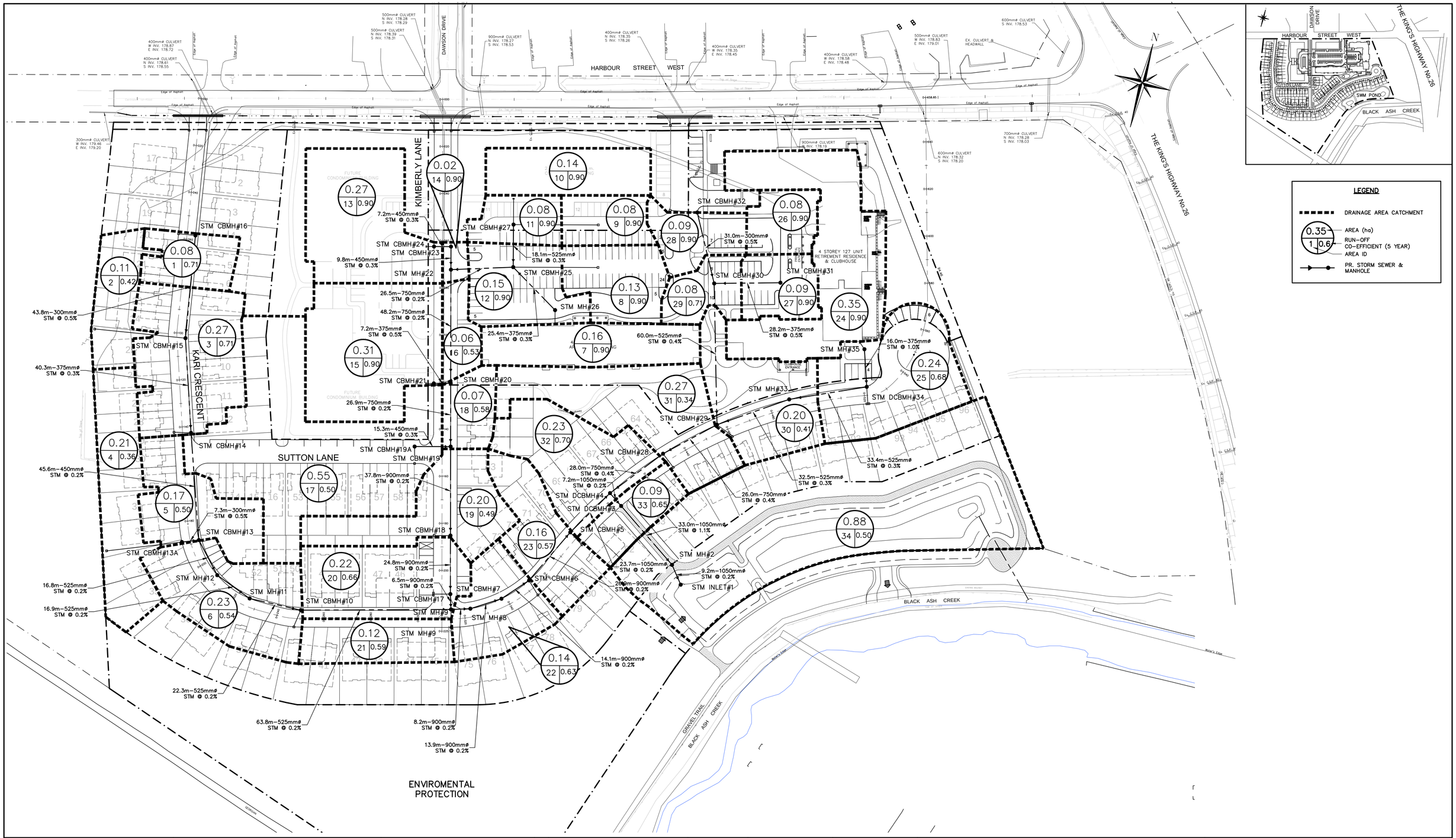
Drawn By	J.O.	Design By	S.W.	Project	362–4007
Scale 1:1000	Date 06/29/2015	Check By	D.T.	Drawing	103



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BENCHMARKS

GEODETIC BENCHMARK 72U313 HAVING AN ELEVATION OF 179.63.

TEMPORARY BENCHMARKS

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TBM#2–
TBM#3–

Town

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	FIRST SUBMISSION	07/22/2015

Engineer

Engineer

Project

BALMORAL VILLAGE – SITE PLAN
TOWN OF COLLINGWOOD

Drawing

STORM DRAINAGE AREA PLAN

CROZIER & ASSOCIATES Consulting Engineers
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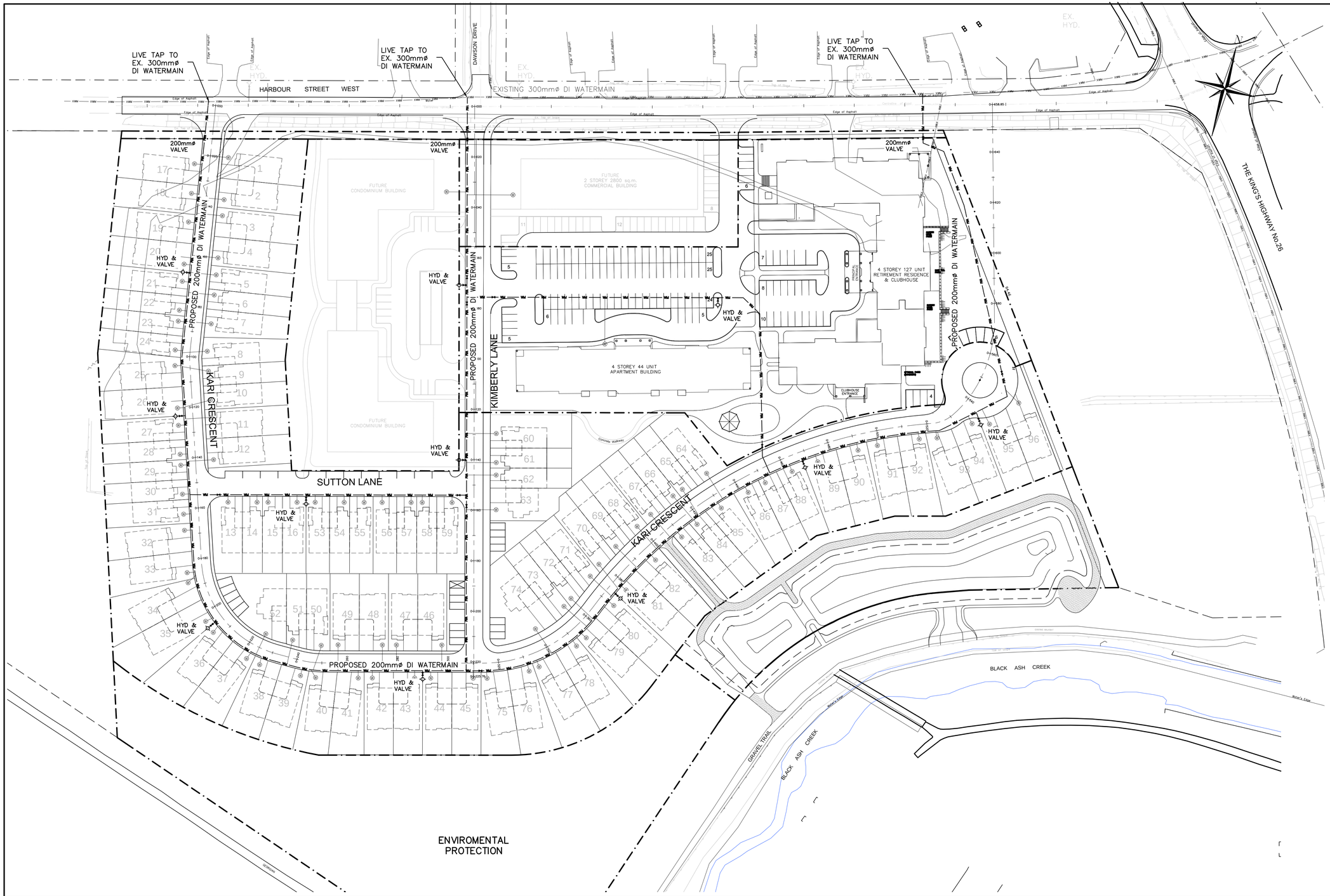
Drawn By	J.O.	Design By	S.W.	Project	362–4007
Scale	1:750	Date	06/29/2015	Check By	D.T.	Drawing	104



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BENCHMARKS

GEODETIC BENCHMARK 72U313 HAVING AN ELEVATION OF 179.63.

TEMPORARY BENCHMARKS

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Town

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	FIRST SUBMISSION	07/22/2015

Engineer

Engineer

Project

BALMORAL VILLAGE – SITE PLAN
TOWN OF COLLINGWOOD

Drawing

WATER DISTRIBUTION PLAN

CROZIER & ASSOCIATES Consulting Engineers
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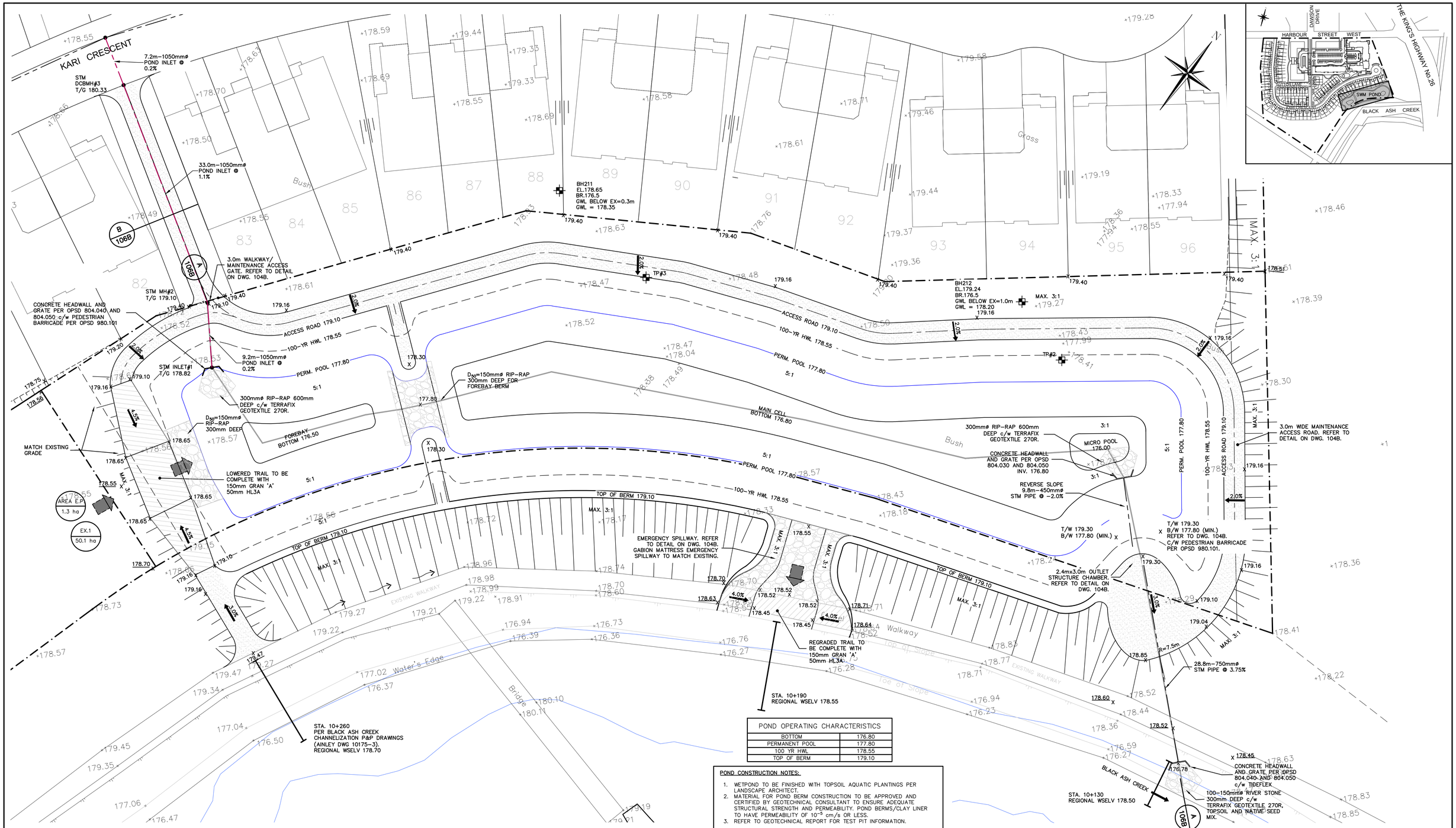
Drawn By	J.O.	Design By	S.W.	Project	362–4007
Scale	1:750	Date	06/29/2015	Check By	D.T.
Drawing	105				



POND OPERATING CHARACTERISTICS	
BOTTOM	176.80
PERMANENT POOL	177.80
100 YR HWL	178.55
TOP OF BERM	179.10

POND CONSTRUCTION NOTES:

1. WETPOND TO BE FINISHED WITH TOPSOIL AQUATIC PLANTINGS PER LANDSCAPE ARCHITECT.
2. MATERIAL FOR POND BERM CONSTRUCTION TO BE APPROVED AND CERTIFIED BY GEOTECHNICAL CONSULTANT TO ENSURE ADEQUATE STRUCTURAL STRENGTH AND PERMEABILITY. POND BERMS/CLAY LINER TO HAVE PERMEABILITY OF 10^{-5} cm/s OR LESS.
3. REFER TO GEOTECHNICAL REPORT FOR TEST PIT INFORMATION.

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GEODETIC BENCHMARK 72U313 HAVING AN ELEVATION OF 179.63.

TEMPORARY BENCHMARKS

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Town

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	FIRST SUBMISSION	07/22/2015

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BALMORAL VILLAGE – SITE PLAN
TOWN OF COLLINGWOOD

Drawing

STORM WATER MANAGEMENT POND

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING, 40 HURON STREET, SUITE 301, COLLINGWOOD, ON L9Y 4R3
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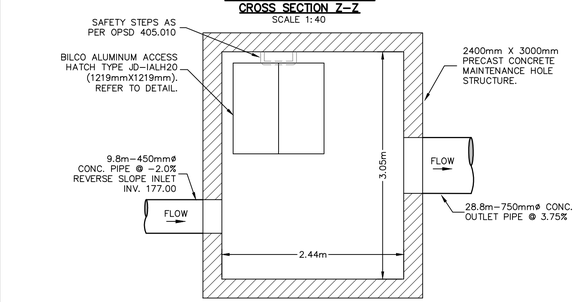
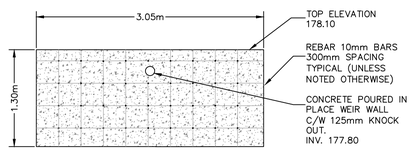
Drawn By	J.O.	Design By	D.T.	Project	362–4007
Scale	1:250	Date	06/29/2015	Check By	D.T.	Drawing	106A

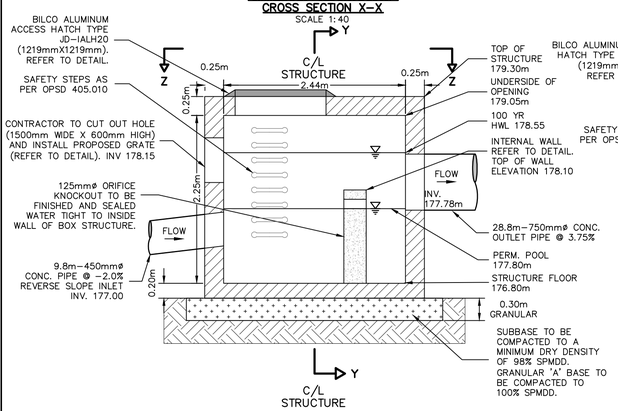
SWMF OUTLET STRUCTURE CROSS SECTION Z–Z
SCALE 1:40



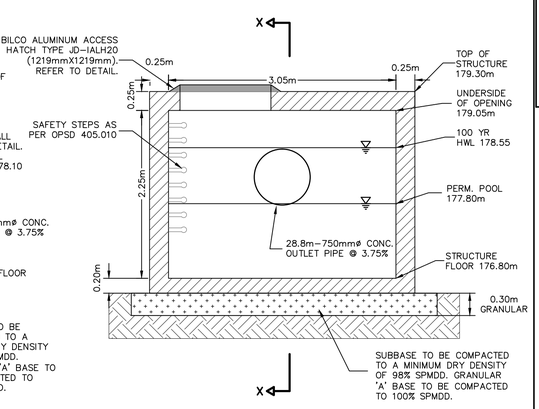
CONCRETE WEIR WALL DETAIL
SCALE 1:40



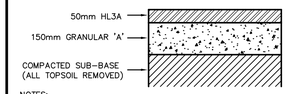
SWMF OUTLET STRUCTURE CROSS SECTION X–X
SCALE 1:40



SWMF OUTLET STRUCTURE CROSS SECTION Y–Y
SCALE 1:40

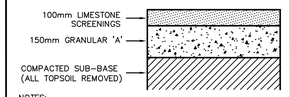


PAVED TRAIL AT SPILLWAY DETAIL
SCALE: N.T.S.



NOTES:
REFER TO CONSTRUCTION NOTES FOR DETAILS ON PLACEMENT OF MATERIALS.

DETAIL 'A'
ACCESS ROAD STRUCTURE DETAIL
SCALE: N.T.S.



NOTES:
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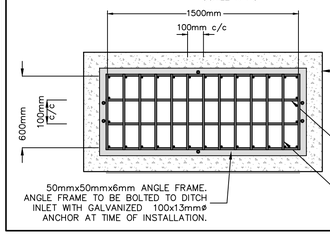
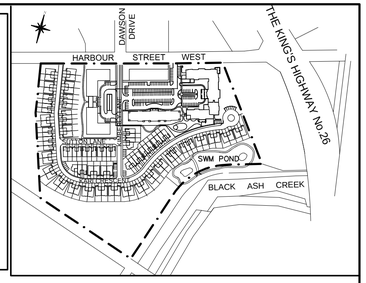
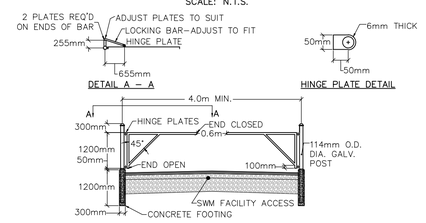
CUT–OUT
SCALE N.T.S.



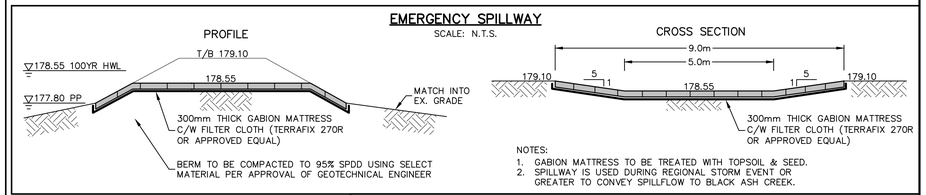


WALKWAY/MAINTENANCE ACCESS GATE
SCALE: N.T.S.

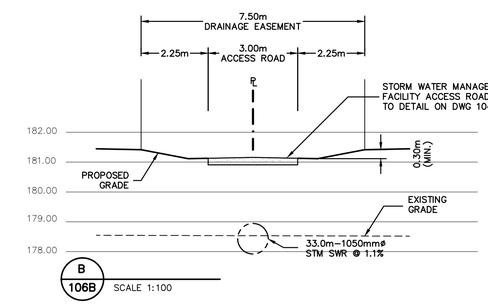


NOTES:
1. CONCRETE 30 MPa. MIN. AFTER 28 DAYS.
2. ALL JOINTS TO BE WELDED.
3. WELDING SHALL CONFORM TO THE LATEST ISSUE OF C.S.A. SPECIFICATION W59.
4. GATE TO BE PREMANUFACTURED AND HOT DIPPED GALVANIZED.
5. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW & APPROVAL OF TOWN & ENGINEER PRIOR TO FABRICATION.
6. WALKWAY/MAINTENANCE GATE TO BE INSTALLED LIMITS OF ROAD ALLOWANCE.

EMERGENCY SPILLWAY
SCALE: N.T.S.

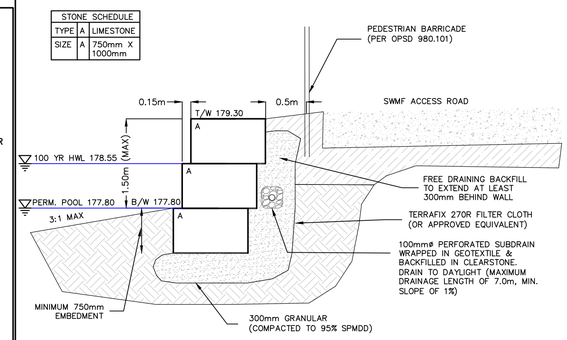


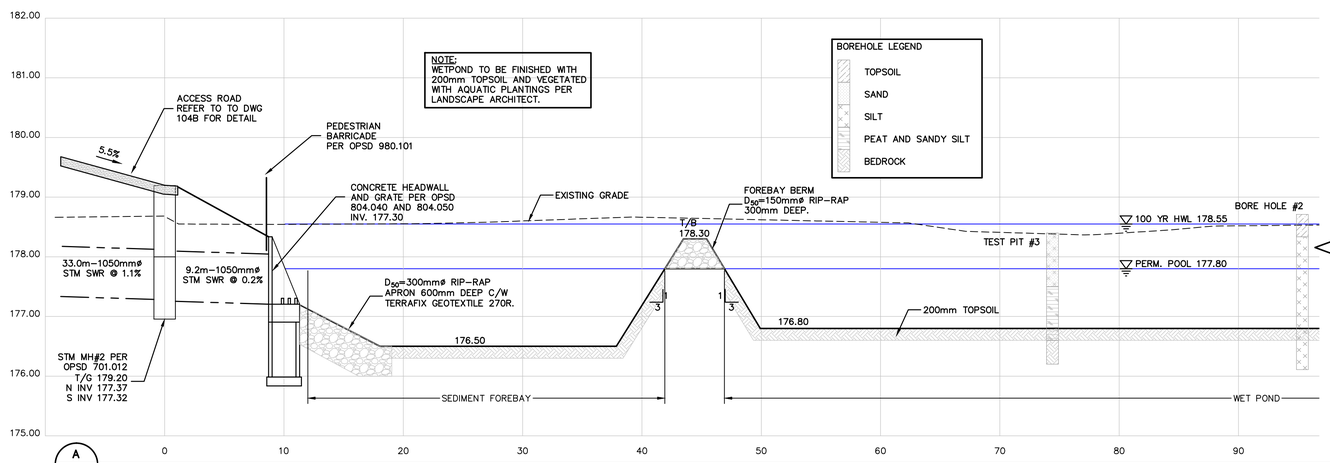
NOTES:
1. GABION MATTRESS TO BE TREATED WITH TOPSOIL & SEED.
2. SPILLWAY IS USED DURING REGIONAL STORM EVENT OR GREATER TO CONVEY SPILLFLOW TO BLACK ASH CREEK.

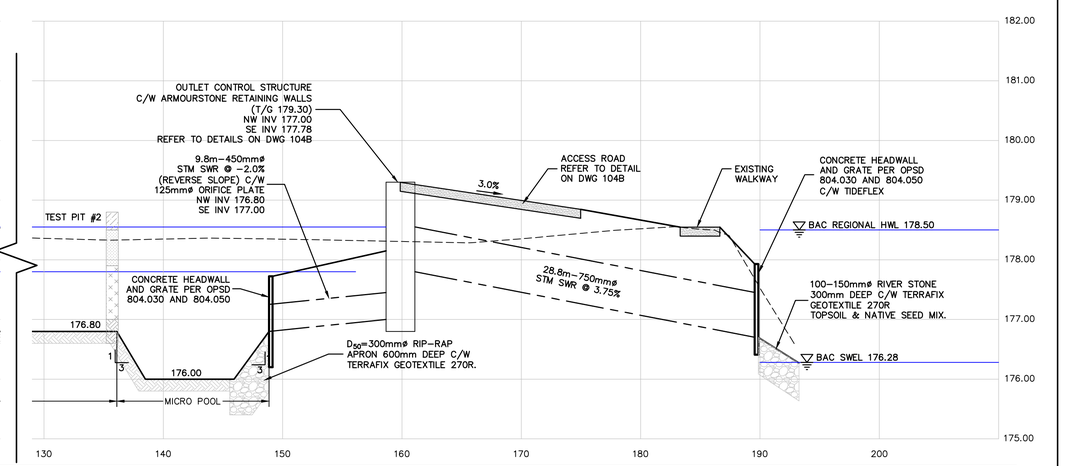


PRE–ENGINEERED OUTLET STRUCTURE ARMOURSTONE RETAINING WALL
N.T.S.

STONE SCHEDULE		
TYPE	A	LIMESTONE
SIZE	A	750mm X 1000mm







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BENCHMARKS
GEODETIC BENCHMARK 72U313 HAVING AN ELEVATION OF 179.63.

TEMPORARY BENCHMARKS
TBM#1–
TBM#2–
TBM#3–

Town

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	FIRST SUBMISSION	07/22/2015

Engineer

Engineer

Project
BALMORAL VILLAGE – SITE PLAN
TOWN OF COLLINGWOOD

Drawing
STORM WATER MANAGEMENT POND
FACILITY DETAILS

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING, 40 HURON STREET, SUITE 301, COLLINGWOOD, ON L9Y 4R3
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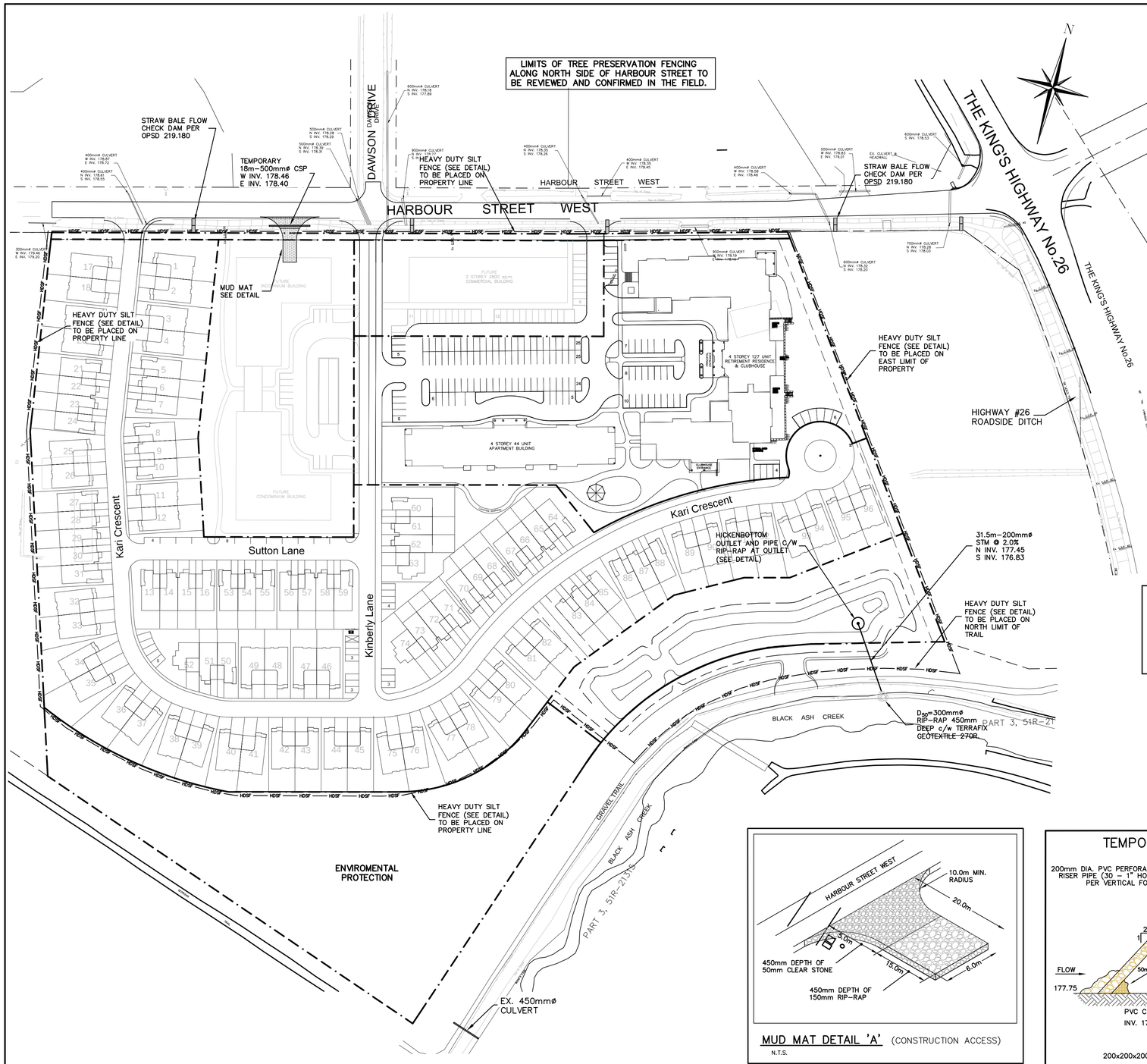
Drawn By	J.O.	Design By	D.T.	Project	362–4007
Scale	1:250	Date	06/29/2015	Check By	D.T.	Drawing	106B



GENERAL NOTES:

1. No maintenance or repair work on construction equipment is allowed within 30 metres of an existing water course or ditch.
2. All Sediment and Erosion control facilities and works are to be constructed and in place to the approval of the Site Engineer prior to any grading operations commencing. Typical works include silt fences, construction access mud mat and rock check dams and straw bale flow checks.
3. All temporary topsoil stockpiles are to be provided with the necessary sediment and erosion control features. If stockpiles are to remain for a period longer than 30 days, stockpiles shall be hydroseeded and surrounded with silt fence.
4. The Site Project Engineer and Contractor shall undertake weekly inspections of all sediment/erosion control facilities during the extent of the entire construction project as well as after all rain events 13 millimeters or greater. The weekly inspections are to be completed on an Erosion and Sediment Control Inspection Report.
5. The Site Engineer shall provide weekly status reports to the Municipality and Conservation Authority advising of the condition of structures and maintenance works that have been undertaken.
6. During the construction period, a street cleaning schedule will be undertaken on a minimum weekly basis, or as directed by the Site Engineer or Municipality.

CONSTRUCTION IMPLEMENTATION:

A. Pre–Construction
1. Site Engineer to advise Conservation Authority of staff responsible for site sediment control supervision, inspection and maintenance, including after hour contacts.
2. Site Engineer to provide written inspection and maintenance schedule of sediment control devices.
3. Contractor to install all sediment control devices as identified on the approved erosion control plan prior to implementation of topsoil stripping or earthworks operations.

B. During Construction (Site and Building Works)
1. Contractor to ensure topsoil, stripping, grading and underground works conform to approved grading, servicing and erosion control plans.
2. Site Engineer to conduct required weekly inspection, maintenance and reporting of sediment controls to the Conservation Authority.
3. Contractor to stabilize site as required throughout site construction schedule.

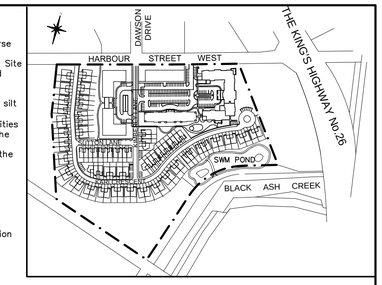
C. Post Construction (Including Building Construction)
1. Contractor to complete final site stabilization and revegetation works.
2. Contractor to remove all sediment control devices after the Site is stabilized to a condition equal to, or better than, pre–construction and as directed by Site Engineer.

MAINTENANCE & OPERATIONS OF SEDIMENT CONTROLS

A) Silt Fence
1. Silt fence must be inspected weekly for rips or tears, broken stakes, blow–outs and accumulation of sediment.
2. Silt fence must be inspected following all 13mm or greater rain storm event or as directed by Site Engineer.
3. Sediment must be removed from silt fence when accumulation reaches 50% of the height of the fence.
4. All silt fences must be removed only when the entire site is stabilized and as directed by the Site Engineer.

B) Rock Flow Check Dam
1. Remove accumulated sediment up stream of the check dam if greater than 50% of dam height.
2. Silt removal must be undertaken with care to minimize down stream sedimentation in swale or ditch.
3. Rock Check Dam and all accumulated sediment must be removed with care once the construction site is stablized and as directed by the Site Engineer.

C) Straw Bale Flow Check
1. Remove accumulated sediment up stream of the straw bale check dam if greater than 50% of dam height.
2. Silt removal must be undertaken with care to minimize down stream sedimentation in swale or ditch.
3. Straw Bale Flow Check and all accumulated sediment must be removed with care once the construction site is stablized and as directed by the Site Engineer.



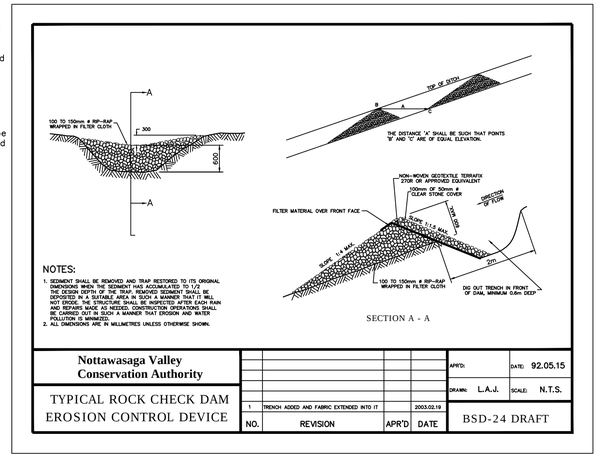
LEGEND

- SILT FENCE PER DETAIL BSD–23
- ROCK CHECK DAM PER DETAIL BSD–24
- STRAW BALE CHECK FLOW (PER OPSD 219.180)
- MUD MAT (REFER TO DETAIL)

NOTE:

A) SWM POND TO BE CONSTRUCTED AS A TEMPORARY SEDIMENT BASIN C/W HICKENBOTTOM OUTLET. BASIN DESIGN TO BE DETERMINED AT THE SITEPLAN APPROVAL STAGE DEPENDING ON SPECIFIC BLOCK AND DEVELOPMENTS PHASING

B) BASIN TO PROVIDE THE FOLLOWNG VOLUMES:
– PERMANENT POOL 1300m³
– ACTIVE STORAGE 875m³

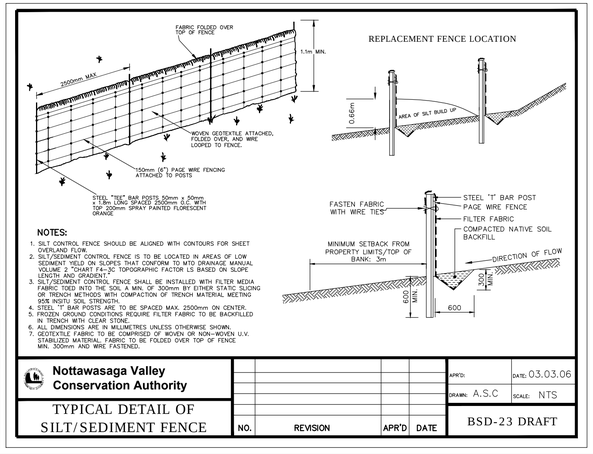


NOTES:

1. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO HALF THE DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA IN SUCH A MANNER THAT IT WILL NOT ERODE. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION IS MINIMIZED.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

SECTION A - A

Nottawasaga Valley Conservation Authority					APR'D:	DATE: 92.05.15
					DRAWN: L.A.J.	SCALE: N.T.S.
TYPICAL ROCK CHECK DAM EROSION CONTROL DEVICE	1	TRENCH ADDED AND FABRIC EXTENDED INTO IT		2003.02.19	BSD-24 DRAFT	
	NO.	REVISION		APR'D DATE		

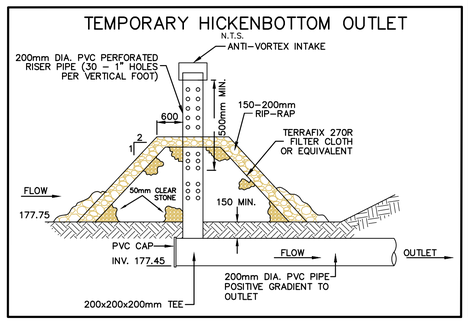


NOTES:

1. SILT CONTROL FENCE SHOULD BE ALIGNED WITH CONTOURS FOR SHEET OVERLAND FLOW.
2. SILT/SEDIMENT CONTROL FENCE IS TO BE LOCATED IN AREAS OF LOW SEDIMENT YIELD ON SLOPES THAT CONFORM TO MTO DRAINAGE MANUAL VOLUME 2 "CHART F4–3C TOPOGRAPHIC FACTOR LS BASED ON SLOPE LENGTH AND GRADIENT".
3. SILT/SEDIMENT CONTROL FENCE SHALL BE INSTALLED WITH FILTER MEDIA FABRIC TOED INTO THE SOIL A MIN. OF 300mm BY EITHER STATIC SLICING OR TRENCH METHODS WITH COMPACTION OF TRENCH MATERIAL MEETING SITE INSITU STRENGTH.
4. STEEL "T" BAR POSTS TO BE SPACED MAX. 2500mm ON CENTER.
5. FROZEN GROUND CONDITIONS REQUIRE FILTER FABRIC TO BE BACKFILLED IN TRENCH WITH CLEAR STONE.
6. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
7. GEOTEXTILE FABRIC TO BE COMPRISED OF WOVEN OR NON–WOVEN U.V. STABILIZED MATERIAL. FABRIC TO BE FOLDED OVER TOP OF FENCE MIN. 300mm AND WIRE FASTENED.

Nottawasaga Valley Conservation Authority					APR'D:	DATE: 03.03.06
					DRAWN: A.S.C	SCALE: NTS
TYPICAL DETAIL OF SILT/SEDIMENT FENCE	NO.	REVISION		APR'D DATE	BSD-23 DRAFT	

MUD MAT DETAIL 'A' (CONSTRUCTION ACCESS)
N.T.S.



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BENCHMARKS

GEODETIC BENCHMARK 72U313 HAVING AN ELEVATION OF 179.63.

TEMPORARY BENCHMARKS

TBM#1–
TBM#2–
TBM#3–

Town

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	FIRST SUBMISSION	07/22/2015

Engineer

Engineer

Project

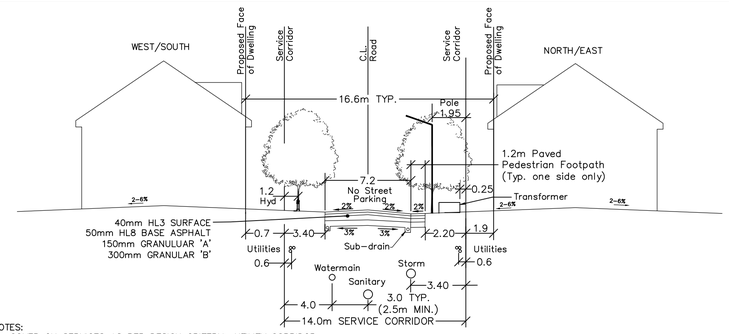
BALMORAL VILLAGE – SITE PLAN
TOWN OF COLLINGWOOD

Drawing

SEDIMENT EROSION CONTROL PLAN

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING, 40 HURON STREET, SUITE 301, COLLINGWOOD, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
WWW.CFCROZIER.CA
INFO@CFCROZIER.CA

Drawn By	Design By	Project
J.O.	J.O.	362–4007
Scale 1:1000	Date 06/29/2015	Check By D.T.	Drawing 107

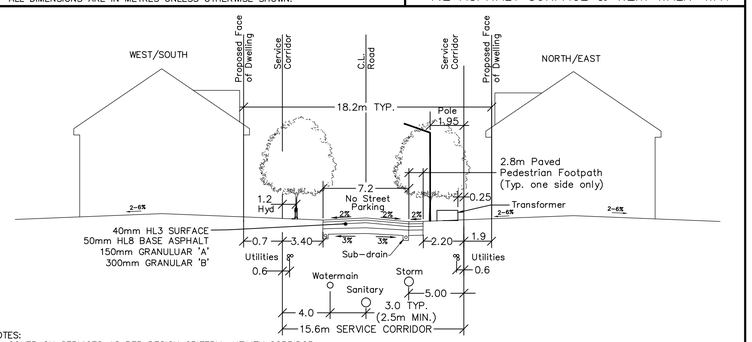


NOTES:
1. COVER ON SERVICES AS PER DESIGN CRITERIA. UTILITY CORRIDOR SHALL HAVE MINIMUM COVER OF 0.9m.
2. TREES TO BE PLACED IN LOCATIONS AS PER APPROVED LANDSCAPE PLAN.
3. HYDRANTS AND WATERMAINS TO BE ON OPPOSITE SIDE OF ROAD FROM ELECTRICAL TRANSFORMER.
4. TRANSFORMERS TO BE LOCATED ON SIDE STREETS WHERE POSSIBLE.
5. HYDRO & WATER METERS TO BE LOCATED AT END OF TOWNHOUSE BLOCKS.
6. GAS MAIN & METERS TO BE LOCATED AT REAR OF UNITS.
7. LOCATION OF 1.2m WALKWAY VARIES. WALKWAY TO BE CONSTRUCTED TO FULL DEPTH (PER ROAD). REFER TO 101 FOR LOCATION.
8. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SHOWN.

"KARI CRES, STA 0+010 TO 0+310"

TOWN OF COLLINGWOOD

BALMORAL VILLAGE
14.0m SERVICE CORRIDOR
TYPICAL CROSS-SECTION
7.2 ASPHALT SURFACE & 1.2m WALK-WAY



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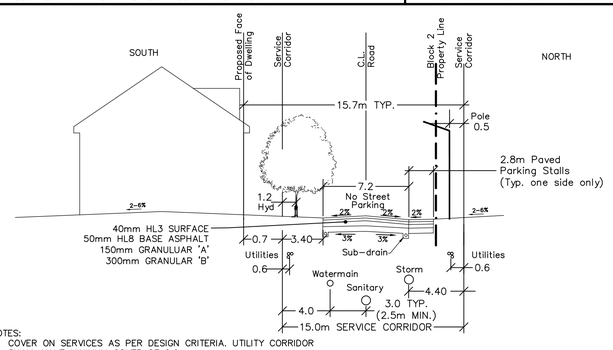
"KIMBERLY LANE, STA 0+010 TO 0+220"
"KARI CRES, STA 0+310 TO 0+530"

TOWN OF COLLINGWOOD

BALMORAL VILLAGE
15.6m SERVICE CORRIDOR
TYPICAL CROSS-SECTION
7.2 ASPHALT SURFACE & 2.8m WALK-WAY



NOTES:
1. COVER ON SERVICES AS PER DESIGN CRITERIA. UTILITY CORRIDOR SHALL HAVE MINIMUM COVER OF 0.9m.
2. TREES TO BE PLACED IN LOCATIONS AS PER APPROVED LANDSCAPE PLAN.
3. HYDRANTS AND WATERMAINS TO BE ON OPPOSITE SIDE OF ROAD FROM ELECTRICAL TRANSFORMER.
4. TRANSFORMERS TO BE LOCATED ON SIDE STREETS WHERE POSSIBLE.
5. HYDRO & WATER METERS TO BE LOCATED AT END OF TOWNHOUSE BLOCKS.
6. GAS MAIN & METERS TO BE LOCATED AT REAR OF UNITS.
7. LOCATION OF 1.2m WALKWAY VARIES. WALKWAY TO BE CONSTRUCTED TO FULL DEPTH (PER ROAD). REFER TO 101 FOR LOCATION.
8. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SHOWN.

"SUTTON LANE"

TOWN OF COLLINGWOOD

BALMORAL VILLAGE
14.0m SERVICE CORRIDOR
TYPICAL CROSS-SECTION
7.2 ASPHALT SURFACE & 2.8m PARKING

CONSTRUCTION NOTES:

A) GENERAL – CONSTRUCTION

1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH TOWN OF COLLINGWOOD STANDARDS, OPSD AND OPSS. WHERE CONFLICT OCCURS, TOWN OF COLLINGWOOD STANDARDS TO GOVERN.
2. TRENCH BACKFILL (OPSD 802.010 & 802.013) TO BE SELECT NATIVE MATERIAL OR IMPORTED SELECT SUBGRADE TO OPSS 1010. BACKFILL TO BE PLACED IN MAXIMUM 200mm THICK LIFTS AND COMPACTED TO 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
3. PIPE COVER AND BEDDING TO BE GRANULAR 'A' (MINIMUM 150mm DEPTH, COMPACTED TO A MINIMUM 95%SPMDD).
4. ALL TOPSOIL AND EARTH EXCAVATION TO BE STOCK PILED OR REMOVED TO AN APPROVED SITE AS DIRECTED BY ENGINEER.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DETAILED LAYOUT OF THE WORK. THE DEVELOPER'S ENGINEER WILL CONFIRM ALL BENCH MARK ELEVATIONS AND HORIZONTAL ALIGNMENT FOR THE CONTRACTOR.
6. ALL PROPERTY BARS TO BE PRESERVED AND REPLACED BY O.L.S. AT CONTRACTOR'S EXPENSE IF REMOVED DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENTS FOR THE SUPPLY OF TEMPORARY WATER AND POWER.
8. DEWATERING TO BE CARRIED OUT IN ACCORDANCE WITH OPSS-517 AND 518 TO MAINTAIN ALL TRENCHES IN A DRY CONDITION. OWNER RESPONSIBLE FOR OBTAINING M.O.E. PERMIT IF REQUIRED.
9. ALL ENGINE DRIVEN PUMPS TO BE ADEQUATELY SILENCED, SUITABLE FOR OPERATION IN A RESIDENTIAL DISTRICT.
10. DISTURBED AREAS OUTSIDE THE DEVELOPABLE LANDS TO BE REINSTATED TO PREVIOUS CONDITION OR BETTER.
11. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY ALL UTILITY COMPANIES PRIOR TO COMMENCING WORK AND CO-ORDINATE CONSTRUCTION AND LOCATES ACCORDINGLY.
12. ALL ROCK EXCAVATION PER OPSS-206.
13. ALL EXCAVATION MUST BE CARRIED OUT IN FULL COMPLIANCE WITH MOST RECENT GUIDELINES OF OHSA. NATIVE SOILS ARE CLASSIFIED AS TYPE 3 SOIL.

B) ROADS

1. SUBGRADE AND BOULEVARD MATERIAL TO BE COMPACTED TO A MINIMUM DRY DENSITY OF AT LEAST 95% SPMDD. SUBGRADE TO BE PROOF ROLLED AND CERTIFIED PRIOR TO PLACING GRANULAR 'B'.
2. GRANULAR 'A' AND 'B' ROAD BASE TO BE COMPACTED TO 100% OF THE MATERIAL'S RESPECTIVE SPMDD AND PLACED IN MAX. 150mm LIFTS. REFER TO GEOTECHNICAL REPORT FOR FURTHER DETAILS.
3. ROADWAYS TO BE CONSTRUCTED WITH MINIMUM 450mm GRANULAR 'B' TYPE 1, 150mm GRANULAR 'A', 50mm HL8 BASE COURSE ASPHALT, & 50mm HL3 SURFACE COURSE ASPHALT.
4. SELECT SUBGRADE MATERIAL, OR IMPORTED GRANULAR MATERIAL APPROVED BY THE ENGINEER, COMPACTED TO 98% SPMDD TO BE USED AS FILL IN ALL AREAS WHERE PROPOSED PIPE INVERTS ARE HIGHER THAN EXISTING GRADE OR AS INSTRUCTED BY THE ENGINEER.
5. ALL GRANULARS AND ASPHALT MATERIALS AND PLACEMENT TO BE IN ACCORDANCE WITH OPSS 314 AND OPSS 310.
6. JOINTS WITH EXISTING ASPHALT TO BE SAW CUT STRAIGHT WITH MIN. 0.5m LAP JOINT PRIOR TO PLACING NEW ASPHALT AND TACK COAT APPLIED TO EXISTING ASPHALT.
7. STOP SIGNS AND STREET SIGNS TO TOWN STANDARDS.
8. REINSTATEMENT OF ALL DISTURBED BOULEVARDS TO INCLUDE REGRADING, 100mm TOPSOIL AND SOD TO OPSS 570
9. REINSTATEMENT OF DRIVEWAYS ON NORTH SIDE OF HARBOUR STREET SHALL BE MIN. 50mm HL3A, 150mm GRAN 'A' TO EXISTING CONDITION OR BETTER.
10. 100mm ø PIPE SUBDRAINS SHALL BE PROVIDED UNDER EDGE OF CURB ON BOTH SIDES OF THE ROAD PER OPSD 216.021.
11. ALL SUBDRAINS TO BE CONSTRUCTED IN ACCORDANCE WITH OPSS 405. SUBDRAIN TO BE INSTALLED IN GRANULAR 'A' TRENCH AND CONNECTED TO EACH CB OR CBMH.
12. SUBDRAINS TO BE PERFORATED OTHER THAN THE 2m SECTION IMMEDIATELY UPSTREAM OF ALL STRUCTURES WHICH SHALL BE NON-PERFORATED.
13. ENTRANCES TO DEVELOPMENT C/W CULVERT END TREATMENTS PER STD. No. 406. 5:1 SLOPES.

C) SANITARY SEWERS

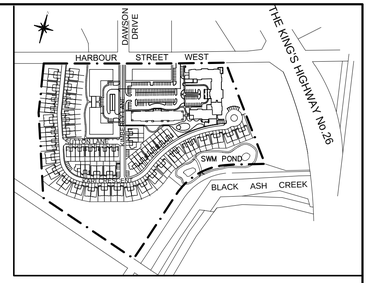
1. M.H.'S TO OPSD – 701.010, 701.030, & 704.010.
2. BENCHING TO OPSD – 701.021.
3. STEPS TO OPSD – 405.010.
4. BACKFILL AND EMBEDMENT TO OPSD – 802.010 CLASS 'B', GRANULAR 'A' BEDDING.
5. TRENCH BACKFILL TO BE SELECT NATIVE MATERIAL AS APPROVED BY ENGINEER OR IMPORTED GRANULAR MATERIAL.
6. FRAMES AND COVERS TO OPSD – 401.01 TYPE 'A' (CLOSED COVER).
7. SERVICE CONNECTIONS TO OPSD – 1006.020 (125mm), GRANULAR 'A' BEDDING, TEST FITTING, 125 x 100 REDUCER, PLUG AND 2x4 MARKER POST PAINTED GREEN. MINIMUM GRADE TO BE 2.0%
8. RADIUS BENDS TO BE USED ON SANITARY SEWER CONNECTIONS WHERE THE ANGLE OF CONNECTION BETWEEN THE SERVICE AND SEWER EXCEEDS 90°.
9. BACKFILL AND EMBEDMENT MATERIAL TO BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
10. MANHOLES FRAMES TO BE SET TO BASE COURSE ASPHALT ELEVATION AND RAISED PRIOR TO PLACING SURFACE COURSE ASPHALT.
11. PIPE SUPPORT AT MAINTENANCE HOLES AS PER OPSD 708.020.
12. ALL MAINTENANCE HOLES, UNLESS EXPRESSLY IDENTIFIED ARE 1200mm ø.
13. GENERAL INSTALLATION AND TESTING OF SEWERS AND APPURTENANCES TO BE IN ACCORDANCE WITH OPSS 407, 408, 409 (CCTV), 410, 421 AND ALL SPECIFICATIONS REFERENCED WITHIN THESE SECTIONS.
14. SANITARY SEWER – SDR 35 PVC.
15. SANITARY SERVICE – SDR 28 PVC – 125mm PER OPSD 1006.020 SEWER SERVICE CONNECTION FOR FLEXIBLE PIPE.
16. FROST STRAPS PER OPSD 701.100.

D) WATERMAINS

1. BACKFILL AND EMBEDMENT TO OPSD – 802.010 CLASS 'B', GRANULAR 'A' EMBEDMENT.
2. TRENCH BACKFILL TO BE SELECT NATIVE MATERIAL AS APPROVED BY ENGINEER OR IMPORTED GRANULAR MATERIAL.
3. THRUST BLOCKS TO OPSD – 1103.010 AND 1103.020 WHERE SUITABLE SOILS ARE ENCOUNTERED.
4. SERVICE CONNECTIONS TO OPSD – 1104.010, 100mm GRANULAR 'A' EMBEDMENT AND COVER OVER PIPE. TERMINATE AS NOTED C/W CURB STOP AND BOX.
5. HYDRANTS TO OPSD – 1105.010 DRAIN PLUGS SHALL BE INSTALLED WHERE HIGH WATER TABLE IS ENCOUNTERED.
6. BACKFILL AND EMBEDMENT MATERIAL TO BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
7. MINIMUM COVER ON WATERMAIN AND SERVICES TO BE 1.7m.
8. GATE VALVES, BENDS AND HYDRANT LEADS AND FITTINGS TO BE CONNECTED WITH ROLMAC GRIPPER RING RESTRAINING GLANDS.
9. CLEARANCE BETWEEN WATERMAINS AND SEWERS TO BE AS PER MOE GUIDELINES, MINIMUM 0.5m VERTICAL SEPARATION WHERE SEWER IS ABOVE WATERMAIN & 2.5m MINIMUM HORIZONTAL SEPARATION.
10. ALL SERVICES TO BE DIRECT TAPPED.
11. LIVE TAPS TO EX. 300mmø WATERMAIN ALONG HARBOUR STREET ARE TO BE CONDUCTED BY AN APPROVED CONTRACTOR UNDER CPU INSPECTION.
12. FOLLOWING TESTING, CONTRACTOR SHALL OPERATE EACH WATER SERVICE TO VERIFY FULL FLOW AND PRESSURE AT THE CURB STOP TO THE SATISFACTION OF THE ENGINEER.
13. GENERAL INSTALLATION AND TESTING OF WATERMAIN AND APPURTENANCES TO BE IN ACCORDANCE WITH OPSS 701 AND ALL SPECIFICATIONS REFERENCED WITHIN THESE SECTIONS. COMPLETE WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH REQUIREMENTS OF AWWA SHANDARD C651-99. REFER TO DETAIL ON DWG 108 FOR TYPICAL TEMPORARY CONNECTION. ALL WATERMAIN TESTING & CHLORINATION WILL BE CONDUCTED BY CPU AT CONTRACTORS COST. WATERMAINS ARE NOT TO BE CONNECTED TO EXISTING WATERMAINS UNTIL BACTERIALOGICAL TESTING HAS BEEN SUCCESSFULLY COMPLETED & CERTIFIED BY TOWN.
14. COMPLETE WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH REQUIREMENTS OF O. REG. 459/00 & SATISFACTION OF TOWN.
15. WATERMAIN – CLASS 52 OR PRESSURE CLASS 350 CEMENT LINED DUCTILE IRON. CONDUCTIVITY CONNECTORS TO BE USED ON ALL JOINTS.
16. WATERMAIN SERVICES – 20mm ø TYPE 'K' SOFT COPPER PIPE.
17. MAIN STOPS TO 301-A3H3, 3/4", BALL STYLE, AWWA THREAD BY COMPRESSION CAMBRIDGE BRASS.
18. CURB STOPS TO 202-H3H3, 3/4", BALL STYLE WITH DRAIN. COMPRESSION JOINT BY CAMBRIDGE BRASS.
19. A CURB STOP & EXTENSION SERVICE BOX & MAIN STOP MUST BE INSTALLED ON EACH SERVICE USING COMPRESSION JOINT FITTINGS.
20. ALL CURB STOPS FOR SERVICES WITHIN ASPHALT TO BE LOCATED IN VALVE BOXES INSTALLED FLUSH TO FINISHED GRADE OF ASPHALT. CAP FOR VALVE BOX TO BE MARKED WITH 'W' & PAINTED BLUE.
21. SERVICE BOXES TO NUMBER 7, D-I CLOW OR MUELLER, 24" BLACK ROADS STRAIGHT C/W CAP PAINTED BLUE.
22. ALL SERVICES SHALL BE METERED. METERS TO BE COMPLETE WITH REMOTE READOUT OR RADIO READ AS DETERMINED BY THE TOWN.
23. HYDRANTS – CENTURY NUMBER 1, OPEN LEFT (O/L), 2 HOSE, 33B PLUMBER PORT. 6" MJ BASE, SELF-DRAINING YELLOW BASE WITH SILVER BONNET AND PORTS.
24. VALVES – RESILIENT SEATED, RSGV MECHANICAL JOINT, OPEN LEFT CLOW OR MUELLER WITH 5-SL-48 SLIDING VALVE BOX C/W CAP PAINTED BLUE.
25. MECHANICAL JOINT DUCTILE FITTINGS – AWWA/ANSI C153/A21.53.
26. HYDRANTS TO BE INSTALLED C/W HYDRANT MARKER STAKES PER TOWN & CPU STANDARD "FLEX STAKE HYDRANT MARKER MODEL FHV804, 48" LONG, COLOUR YELLOW WITH REFLECTIVE HYDRANT GRAPHIC ON BOTH SIDES". MARKER TO BE POSITIONED ON THE RIGHT PORT AS VIEWED FROM STREET.
27. 50mmø WATERMAIN LOOP– TYPE 'K' COPPER.
28. ALL VALVES TO BE OPERATED BY THE CPU OR TOWN. CONTRACTOR TO PROVIDE MIN. 48hr NOTIFICATION FOR REQUEST.
29. HYDRANTS ARE TO BE 1.67m LONG. MAKE-UP PIECES, IF REQUIRED, ARE TO BE INSTALLED IMMEDIATELY ABOVE THE BEND.
30. ALL FITTINGS ARE TO BE LEAD FREE.
31. TRACER WIRE SHALL BE INSTALLED IF CONTINUITY OF PIPE IS BROKEN. TRACER WIRE MUST BE 12 AWG THW SOLID PLASTIC COVERED, TW4 75°C 600V OR APPROVED EQUIVALENT. A CONTINUITY TEST MUST ALSO BE COMPLETED AND ACCEPTED.
32. THE GEOTECHNICAL REPORT SHALL TEST THE NATIVE MATERIAL TO DETERMINE SOIL CORROSIVITY AND COMMENT ON THE REQUIREMENT FOR CORROSION RESISTANCE MEASURES.

E) STORM SEWERS

1. MH TO OPSD 701.010, 701.011 AND DCBMH TO OPSD – 701.011, 701.012, C/W SUMP UNLESS NOTED OTHERWISE.
2. STEPS TO OPSD 405.010.
3. M.H. FRAMES AND GRATES TO OPSD – 401.010 OPEN COVER.
4. DICB'S TO OPSD – 705.030, 705.040.
6. DCBMH FRAMES AND GRATES TO OPSD – 400.020
7. PIPE SUPPORT AT DCBMH'S TO OPSD – 708.020.
8. DCB LEADS – 300mm ø DOUBLE TO OPSD – 708.010, 708.030.
9. PROTECTION DURING CONSTRUCTION TO OPSD – 808.010.
10. BACKFILL AND EMBEDMENT TO OPSD – 802.010 (FLEXIBLE PIPE) CLASS 'B', GRANULAR 'A' EMBEDMENT OR OPSD – 802.030, 802.031 AND 802.032 (RIGID PIPE) GRANULAR 'A' EMBEDMENT.
11. BACKFILL AND EMBEDMENT MATERIAL TO BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% OF THE MATERIAL'S SPMDD.
12. MAIN SEWERS SHALL BE PVC PIPE (OPSS 410), MIN. PIPE STIFFNESS SHALL BE 320 kPa. ALL PIPE TO BE JOINED WITH A GASKETTED BELL AND SPIGOT SYSTEM.
13. FROST STRAPS PER OPSD 701.100.



F) CONCRETE TRAIL CONSTRUCTION

1. CONCRETE TRAIL TO BE 3.0m WIDE AND 150mm THICK.
2. 30MPa WITH 6-8% ENTRAINED AIR.
3. 6X6 6Ga WELDED WIRE MESH.
4. 200mm GRANULAR 'A' BASE COMPACTED TO 95% SPDD.
5. BROOM FINISH WITH TOOLED EDGES AND CONTROL JOINTS.

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BENCHMARKS

GEODETIC BENCHMARK 72U313 HAVING AN ELEVATION OF 179.63.

TEMPORARY BENCHMARKS

TBM#1–
TBM#2–
TBM#3–

Town

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	FIRST SUBMISSION	07/22/2015

Engineer

Engineer

Project

BALMORAL VILLAGE – SITE PLAN
TOWN OF COLLINGWOOD

Drawing

DESIGN NOTES AND TYPICAL SECTIONS

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
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705 446-3520 F
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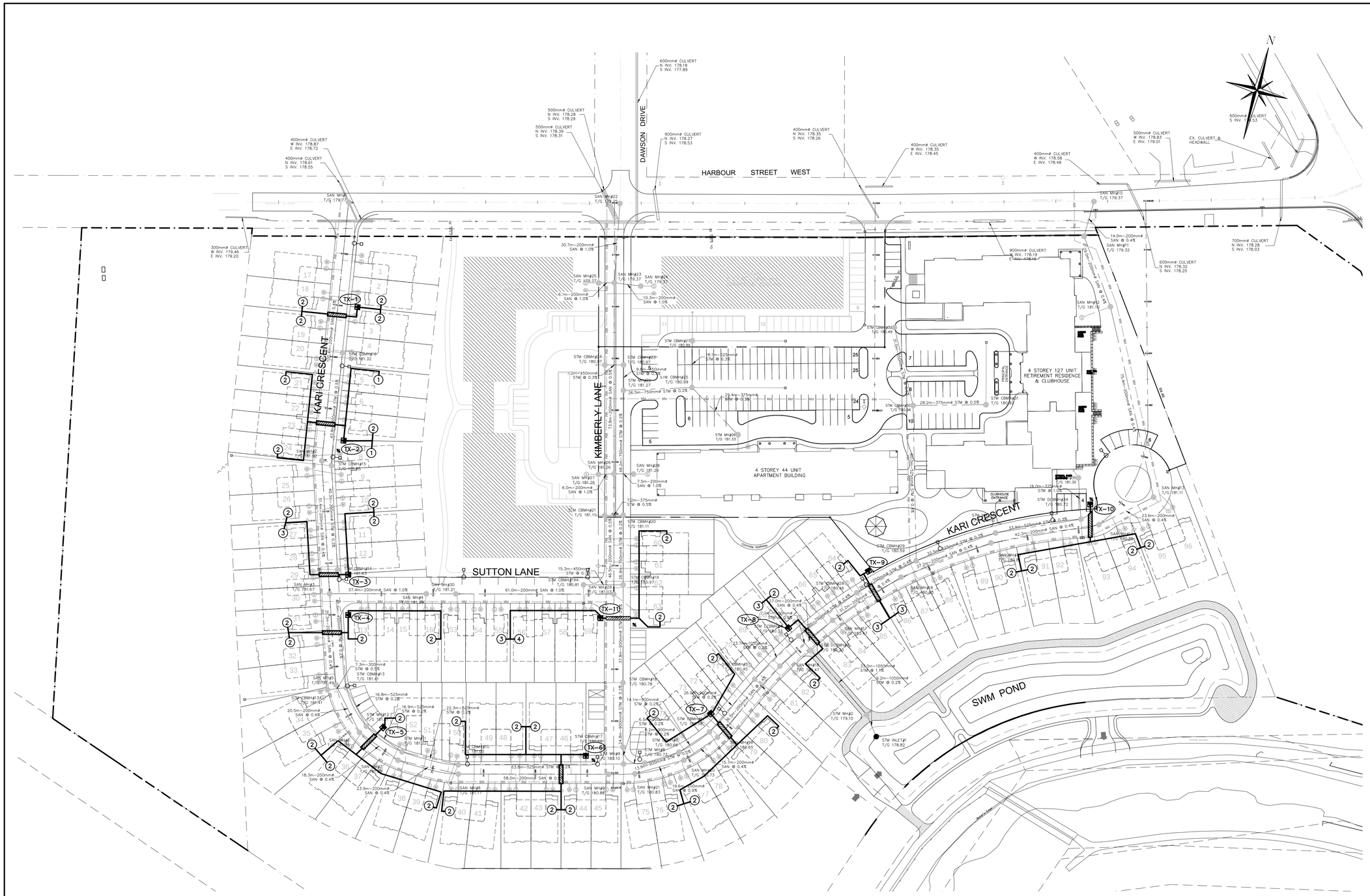
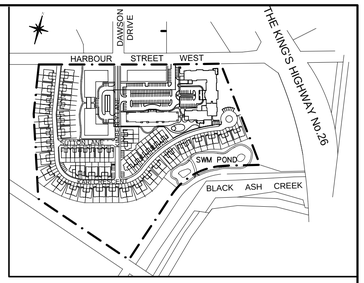
1:1000	06/29/2015	D.T.	108





LEGEND

EXISTING FEATURES (EX.)

- EX. WATERCOURSE
- EX. HYDRANT & VALVE
- EX. VALVE CHAMBER
- EX. WATERMAIN
- EX. SAN SEWER & MH
- EX. SAN FORCEMAIN
- EX. STM SEWER & MH
- EX. GAS
- EX. BELL
- EX. OVERHEAD HYDRO & POLES
- +230.00 PROPOSED GRADE
- +230.00 PROPOSED GRADE (MATCH EX.)

PROPOSED FEATURES (PR.)

- PR. BUILDING ENVELOPE
- PR. TRANSFORMER
- PR. DUCT
- PR. GAS MAIN (BY OTHERS)
- PR. STREETLIGHT
- PR. STREETLIGHT PEDESTAL
- PR. DUCT BANK

GENERAL NOTES:

1. STREET LIGHT LOCATIONS DEPENDANT ON PHOTOMETRIC ANALYSIS THAT HAS YET TO BE COMPLETE. LIGHTS WILL BE AT INTERSECTION OF ROADS.

1. THIS DRAWING IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC. AND THE REPRODUCTION OF ANY PART WITHOUT PRIOR WRITTEN CONSENT OF THIS OFFICE IS STRICTLY PROHIBITED.

2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO CONSTRUCTION.
3. THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT.
4. DO NOT SCALE THE DRAWINGS.
5. ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

BENCHMARKS

GEODETIC BENCHMARK 72U313 HAVING AN ELEVATION OF 179.63.

TEMPORARY BENCHMARKS

TBM#1–
TBM#2–
TBM#3–

Town

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	FIRST SUBMISSION	07/22/2015

Engineer

Engineer

Project

BALMORAL VILLAGE – SITE PLAN
TOWN OF COLLINGWOOD

Drawing

COMPOSITE UTILITY PLAN

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING,
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