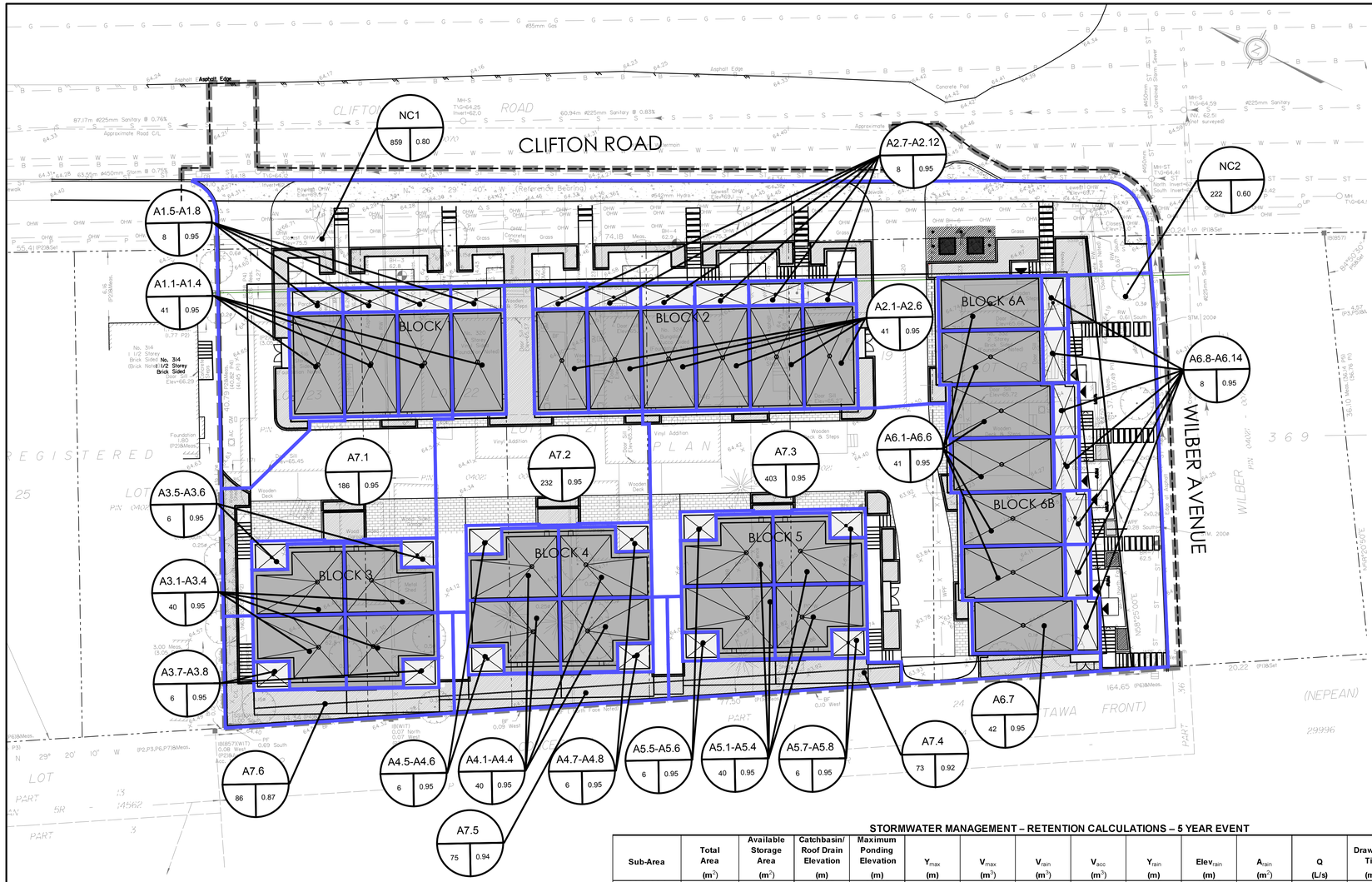


EXISTING / LEGEND / PROPOSED

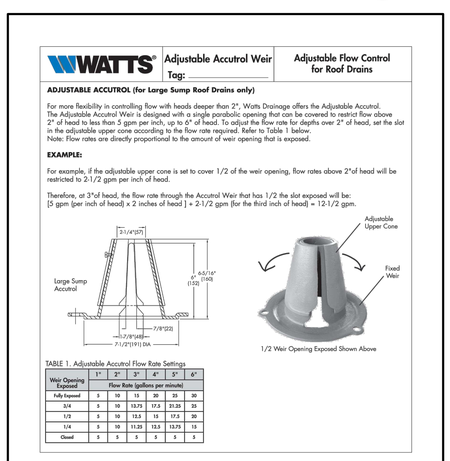
EXISTING	LEGEND	PROPOSED
	FIRE HYDRANT	
	MAINTENANCE HOLE (STORM SEWER)	
	MAINTENANCE HOLE (SANITARY)	
	MAINTENANCE HOLE (UNIDENTIFIED)	
ST	UNDERGROUND STORM SEWER	
S	UNDERGROUND SANITARY SEWER	
W	UNDERGROUND WATER	
P	UNDERGROUND POWER	
GAS	UNDERGROUND GAS	
T	UNDERGROUND TELECOMMUNICATION	
B	BELL CABLE	
OHW	OVERHEAD WIRES	
CB	CATCH BASIN	
GM	GAS METER	
HM	HYDRO METER	
BF	BOARD FENCE	
WPF	WOOD PICKET FENCE	
UP	UTILITY POLE	
AN	ANCHOR	
AC	AIR CONDITIONER	
RW	RETAINING WALL	
Ø	DIAMETER	
+ 65.00	LOCATION OF ELEVATIONS	+ 99,000
+ 65.00	TOP OF CONCRETE CURB / RW ELEVATION	
C/L	CENTRELINE	
	DECIDUOUS TREE	
	CONIFEROUS TREE	
PO-W	WOOD POLE	
S	SIGN	
TB	UNIDENTIFIED TERMINAL BOX	
	PROPERTY LINE	
	EASEMENT	
	WORK LIMIT	
BH-1 62.8	BOREHOLE LOCATION (APPROX.) BED ROCK ELEVATION	
	DRAINAGE DIRECTION	
	OVERLAND FLOW	
	SAW CUT	
	UNIT PAVERS PER CITY DETAIL SC9	
	ASPHALT ROADWAY REMOVALS AND REINSTATMENT WITH SURFACE COURSE KEY PER CITY DETAIL R10	
	RAISED PLANTER (REFER TO LANDSCAPING AND STRUCTURAL PLANS)	
	HEAVY DUTY ASPHALT PAVEMENT STRUCTURE PER DETAIL 202	
	WINDOW WELL DRAIN – MUST BE INDIRECTLY CONNECTED TO THE FOOTING DRAIN SYSTEM	WINDOW WELL

STORMWATER MANAGEMENT – RETENTION CALCULATIONS – 5 YEAR EVENT

Sub-Area	Total Area (m^2)	Available Storage Area (m^2)	Catchbasin/ Roof Drain Elevation (m)	Maximum Ponding Elevation (m)	Y_{max} (m)	V_{max} (m^3)	V_{rain} (m^3)	V_{acc} (m^3)	Y_{rain} (m)	$Elev_{rain}$ (m)	A_{rain} (m^2)	Q (L/s)	Drawdown Time (min)	Comments
A1.1, A1.4	41	34	100.00	100.15	0.15	1.7	0.5	0.5	0.08	100.08	18	0.32	25	RD1.1,RD1.4 (closed)
A1.2, A1.3	41	36	100.00	100.15	0.15	1.8	0.5	0.5	0.08	100.08	19	0.32	25	RD1.2,RD1.3 (closed)
A1.5-A1.8	8	0	100.00	100.00	0.00	0.0	0.0	0.0	0.00	100.00	0	0.38	0	RD1.5 to RD1.8 (free flow)
A2.1, A2.6	41	34	100.00	100.15	0.15	1.7	0.5	0.5	0.08	100.08	18	0.32	25	RD2.1, RD2.6 (closed)
A2.2-A2.5	41	36	100.00	100.15	0.15	1.8	0.5	0.5	0.08	100.08	19	0.32	25	RD2.2 to RD2.5 (closed)
A2.7-A2.12	8	0	100.00	100.00	0.00	0.0	0.0	0.0	0.00	100.00	0	0.38	0	RD2.7 to RD2.12 (free flow)
A3.1-A3.2	40	32	100.00	100.15	0.15	1.6	0.5	0.5	0.08	100.08	17	0.32	24	RD3.1 to RD3.2 (closed)
A3.3-A3.4	40	33	100.00	100.15	0.15	1.7	0.5	0.5	0.08	100.08	17	0.32	24	RD3.3 to RD3.4 (closed)
A3.5-A3.8	6	0	100.00	100.00	0.00	0.0	0.0	0.0	0.00	100.00	0	0.28	0	RD3.5 to RD3.8 (free flow)
A4.1-A4.2	40	32	100.00	100.15	0.15	1.6	0.5	0.5	0.08	100.08	17	0.32	24	RD4.1 to RD4.2 (closed)
A4.3-A4.4	40	33	100.00	100.15	0.15	1.7	0.5	0.5	0.08	100.08	17	0.32	24	RD4.3 to RD4.4 (closed)
A4.5-A4.8	6	0	100.00	100.00	0.00	0.0	0.0	0.0	0.00	100.00	0	0.28	0	RD4.5 to RD4.8 (free flow)
A5.1-A5.2	40	32	100.00	100.15	0.15	1.6	0.5	0.5	0.08	100.08	17	0.32	24	RD5.1 to RD5.2 (closed)
A5.3-A5.4	40	33	100.00	100.15	0.15	1.7	0.5	0.5	0.08	100.08	17	0.32	24	RD5.3 to RD5.4 (closed)
A5.5-A5.8	6	0	100.00	100.00	0.00	0.0	0.0	0.0	0.00	100.00	0	0.28	0	RD5.5 to RD5.8 (free flow)
A6.1	41	35	100.00	100.15	0.15	1.8	0.5	0.5	0.08	100.08	18	0.32	25	RD6.1 (closed)
A6.2-A6.6	41	36	100.00	100.15	0.15	1.8	0.5	0.5	0.08	100.08	19	0.32	25	RD6.2 to RD6.6 (closed)
A6.7	42	35	100.00	100.15	0.15	1.8	0.5	0.5	0.08	100.08	18	0.33	25	RD6.7 (closed)
A6.8-A6.14	8	0	100.00	100.00	0.00	0.0	0.0	0.0	0.00	100.00	0	0.38	0	RD6.8 to RD6.14 (free flow)

STORMWATER MANAGEMENT – RETENTION CALCULATIONS – 100 YEAR EVENT

Sub-Area	Total Area (m^2)	Available Storage Area (m^2)	Catchbasin/ Roof Drain Elevation (m)	Maximum Ponding Elevation (m)	Y_{max} (m)	V_{max} (m^3)	V_{rain} (m^3)	V_{acc} (m^3)	Y_{rain} (m)	$Elev_{rain}$ (m)	A_{rain} (m^2)	Q (L/s)	Drawdown Time (min)	Comments
A1.1, A1.4	41	34	100.00	100.15	0.15	1.7	1.2	1.2	0.13	100.13	29	0.32	63	RD1.1,RD1.4 (closed)
A1.2, A1.3	41	36	100.00	100.15	0.15	1.8	1.2	1.2	0.12	100.12	30	0.32	63	RD1.2,RD1.3 (closed)
A1.5-A1.8	8	0	100.00	100.00	0.00	0.0	0.0	0.0	0.00	100.00	0	0.38	0	RD1.5 to RD1.8 (free flow)
A2.1, A2.6	41	34	100.00	100.15	0.15	1.7	1.2	1.2	0.13	100.13	29	0.32	63	RD2.1, RD2.6 (closed)
A2.2-A2.5	41	36	100.00	100.15	0.15	1.8	1.2	1.2	0.12	100.12	30	0.32	63	RD2.2 to RD2.5 (closed)
A2.7-A2.12	8	0	100.00	100.00	0.00	0.0	0.0	0.0	0.00	100.00	0	0.38	0	RD2.7 to RD2.12 (free flow)
A3.1-A3.2	40	32	100.00	100.15	0.15	1.6	1.2	1.2	0.13	100.13	27	0.32	61	RD3.1 to RD3.2 (closed)
A3.3-A3.4	40	33	100.00	100.15	0.15	1.7	1.2	1.2	0.13	100.13	28	0.32	61	RD3.3 to RD3.4 (closed)
A3.5-A3.8	6	0	100.00	100.00	0.00	0.0	0.0	0.0	0.00	100.00	0	0.28	0	RD3.5 to RD3.8 (free flow)
A4.1-A4.2	40	32	100.00	100.15	0.15	1.6	1.2	1.2	0.13	100.13	27	0.32	61	RD4.1 to RD4.2 (closed)
A4.3-A4.4	40	33	100.00	100.15	0.15	1.7	1.2	1.2	0.13	100.13	28	0.32	61	RD4.3 to RD4.4 (closed)
A4.5-A4.8	6	0	100.00	100.00	0.00	0.0	0.0	0.0	0.00	100.00	0	0.28	0	RD4.5 to RD4.8 (free flow)
A5.1-A5.2	40	32	100.00	100.15	0.15	1.6	1.2	1.2	0.13	100.13	27	0.32	61	RD5.1 to RD5.2 (closed)
A5.3-A5.4	40	33	100.00	100.15	0.15	1.7	1.2	1.2	0.13	100.13	28	0.32	61	RD5.3 to RD5.4 (closed)
A5.5-A5.8	6	0	100.00	100.00	0.00	0.0	0.0	0.0	0.00	100.00	0	0.28	0	RD5.5 to RD5.8 (free flow)
A6.1	41	35	100.00	100.15	0.15	1.8	1.2	1.2	0.12	100.12	29	0.32	63	RD6.1 (closed)
A6.2-A6.6	41	36	100.00	100.15	0.15	1.8	1.2	1.2	0.12	100.12	30	0.32	63	RD6.2 to RD6.6 (closed)
A6.7	42	35	100.00	100.15	0.15	1.8	1.2	1.2	0.12	100.12	29	0.33	62	RD6.7 (closed)
A6.8-A6.14	8	0	100.00	100.00	0.00	0.0	0.0	0.0	0.00	100.00	0	0.38	0	RD6.8 to RD6.14 (free flow)



ANDREW MCCREIGHT
MANAGER (A), DEVELOPMENT REVIEW CENTRAL
PLANNING, REAL ESTATE & ECONOMIC DEVELOPMENT
DEPARTMENT, CITY OF OTTAWA

APPROVED
By Andrew McCreight at 8:07 am, Mar 02, 2023

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THE UNDERGROUND FEATURES AND INFORMATION THAT APPEAR ON THE DRAWINGS WERE OBTAINED FROM THE PUBLIC UTILITY COMPANIES AND/OR FROM THE CITY EACH RESPECTIVELY.

ALL INFORMATION UNDER THE LEGEND 'EXISTING' IS FOR INFORMATION ONLY. COMPLETE OR EXACT LOCATION AND ELEVATION OF UNDERGROUND SERVICES ARE NOT GUARANTEED.

CERTAIN UNDERGROUND FEATURES ON PRIVATE PROPERTY ARE NOT SHOWN ON THE CURRENT DRAWING.

ANYONE WHO PROCEEDS WITH EXCAVATION WORK SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND FEATURES, BY EXPLORATORY EXCAVATIONS, AND SHALL ASSUME FULL RESPONSIBILITY IF THERE IS ANY DAMAGE THAT OCCURS DURING WORK.

THE CONTRACTOR WILL HAVE THE RESPONSIBILITY AND THE OBLIGATION TO VALIDATE, BY EXPLORATORY EXCAVATION, THE SIZE OF THE PUBLIC UTILITIES UNDERGROUND SERVICES AND TO WARN THE ENGINEER OF ANY CONFLICT WITH THE PROJECTED WORK.

no.	date	revision
05	23/02/03	RE-ISSUED FOR S.P. CONTROL
02	21/10/12	ISSUED FOR PERMIT
01	21/06/23	RE-ISSUED FOR S.P. CONTROL

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Hobin Architecture Incorporated
63 Parmilla Street
Ottawa, Ontario
Canada K1S 3K7
T: 613-238-7290
F: 613-235-2005
E: mail@hobinarc.com
hobinarc.com
HOBIN ARCHITECTURE

project title
CLIFTON TOWNS
316-332 CLIFTON ROAD
CLIFTON ROAD, OTTAWA, ONTARIO

drawing title
STORM WATER MANAGEMENT PLAN

drawn	date	scale
SCP	JAN/21	1: 200

project 100021

LICENSED PROFESSIONAL ENGINEER
T. G. KENNEDY
100173201
February 6, 2023
PROVINCE OF ONTARIO

drawing no. C015

revision no.

D07-12-21-0014

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