



IBI GROUP
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Memorandum

To/Attention	Eric Harrold	Date	June 24, 2022
From	Ryan Magladry Amy Zhuang	Project No	122507-6.2.3
cc	Melissa Pettem Reuben Noel		
Subject	Golf Course Cart Storage Building - Servicing Memorandum		

IBI Group Professional Services Inc. (IBI, IBI Group) has been retained by Mattamy Homes to provide engineering consultation for the Stonebridge Golf Course new cart storage building, which is proposed as an accessory structure to the Golf Course Clubhouse. The existing golf cart storage building will be removed as a result of the golf course hole #9 reconfiguration. The existing practice putting green will also be relocated to the western portion of the existing parking lot to make way for the hole #9 reconfiguration. A legal plan of the subdivision is included in **Appendix A**. This memorandum will summarize the servicing requirements and design considerations for the proposed cart storage building.

Domestic Water Supply

No new municipal water services and water fixtures are required for the site. A seasonal distribution line will be extended from the existing irrigation system located at the “snack shack” to the north-west of the proposed storage building, and will be used for cart cleaning operations only, and is considered to be non-potable (untreated) and is fed from a branch off the golf course irrigation distribution system. This is not a municipal water service, and it will be operated seasonally, and flushed in the offseason. No municipal approval is required, and it is not required to be constructed to City Standards.

Wastewater System

No new municipal sanitary services and wastewater fixtures are proposed for the new cart storage building.

Stormwater Management

The study area is currently open space, golf course lands surrounded by the existing Stonebridge development. The parcel consists of an existing clubhouse facility and a snack shack building. The cart storage building is located in the southern area of the existing parking lot. Stormwater runoff is captured on-site through sheet drainage and landscaping and parking lot drains, which outlet to the Stonebridge Golf Course pond network, where water quality control is provided.

The on-site minor system was designed to meet the existing conditions of the original clubhouse development. Minor system flow will be conveyed to the existing Catch Basin Manhole (CBMH 3) and utilizing the same ICD as existing. Runoff C calculation of the overall site have been provided in C-550 Storm Drainage Area Plan. The C value comparison between the pre-development and post-development of the adjusted areas within the site are demonstrated in **Table 1.1**. According to the results, the total pervious area in the adjusted areas has increased, and the overall runoff coefficient C has been reduced from 0.68 to 0.64. Therefore, the subject

June 24, 2022

development will have no negative impacts on downstream infrastructure, and thus no additional quantity controls measures are required for this site, as there is no negative impact on the downstream network. A storm sewer calculation design sheet for the two proposed storm pipes is included in **Appendix B**.

Table 1.1 C Value Comparison

CBMH3	Pre-development		Post-development	
	Area (ha)	C	Area (ha)	C
Grass	0.333	0.20	0.395	0.20
Building	0.000	0.90	0.051	0.90
Driveway & Parking	0.744	0.90	0.631	0.90
Total	1.077	0.68	1.077	0.64

Water quality control has been provided by the existing SWMF located at hole #15. As a result of a decreased parking lot area, and an increase in roof and softscape areas, the redevelopment will have an improved benefit on water quality, and no additional on-site water quality measures are required.

Grading

The site will be graded to function with the new practice putting green, as well as to limit disruption to the existing landscape and parking lot areas. As a result of the general east to west slope of the parking lot, and the long flat slab of the new building, the drive aisle is elevated on the north side of the building in order to function with the garage doors at each end of the building.

A 150mm freeboard to the garage doors has been provided for the cart washing station at the east side of the building.

Sediment and Erosion Control Plan

An erosion and sediment control plan will be implemented for the construction of the new cart storage building. The plan will include, as a bare minimum the following measures;

- Silt Sacks placed under the grates of all CB's and CBMH's located within the zone of construction
- Light Duty Silt Fence located along the low-lying perimeter of the construction zone. The South property line is located at the top of an undisturbed heavily treed berm, where siltation concerns are non-existent.

Conclusion

The Stonebridge gold course cart storage building can be serviced to meet the requirements of the City of Ottawa and the MOE.

Regards,



Ryan Magladry, C.E.T
Project Manager





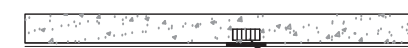


Demetrius Yannoulopoulos
Director – Office Lead

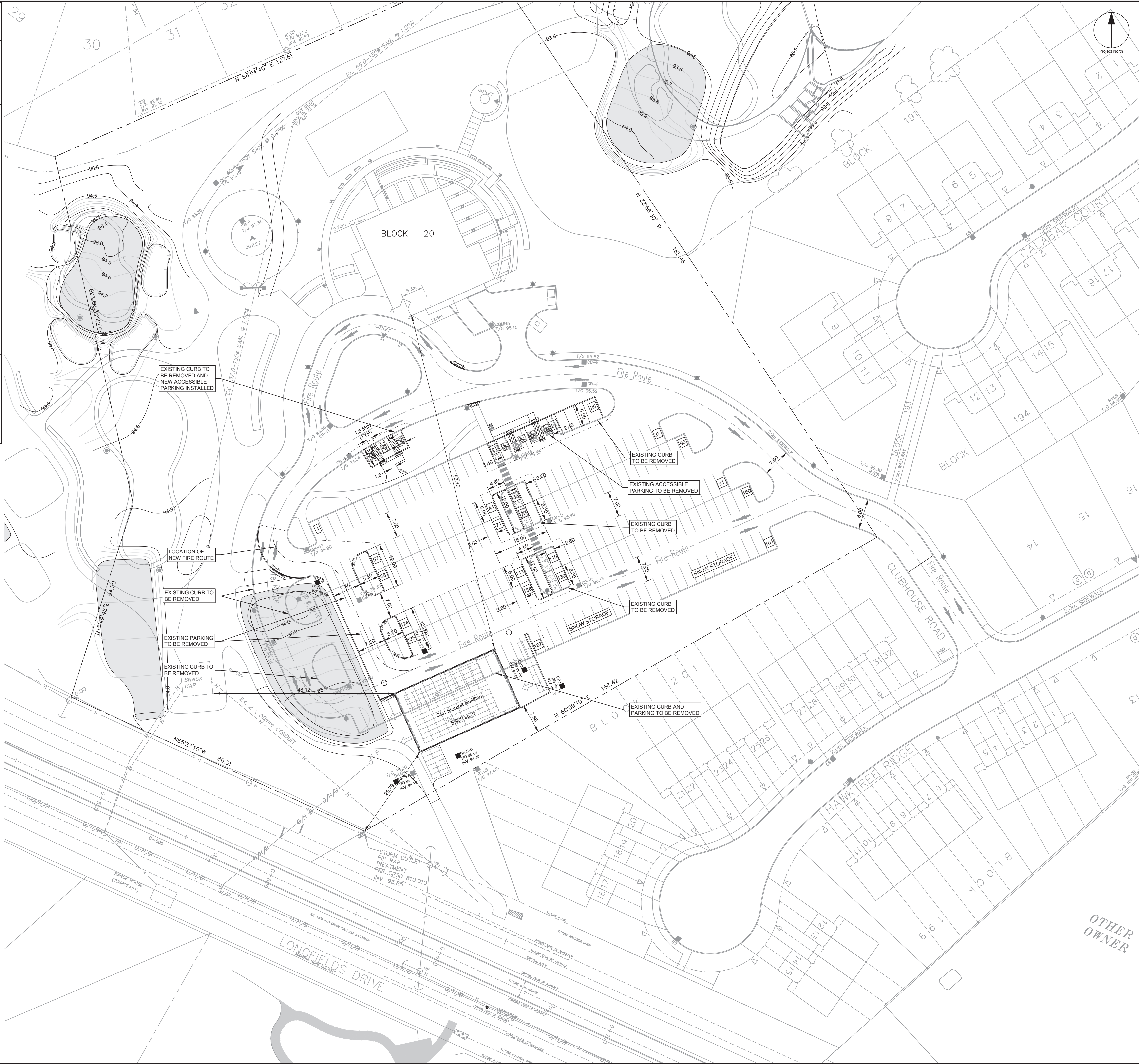


Amy Zhuang, P.Eng.
Intermediate Engineer

Zoning By-law 2008-250	Accessory Structures Section 55	
	Existing	Provided
Front Lot Line Setback	7.5 m	>7.5 m
Interior Side Lot Line or Rear Lot Line not abutting a street	0.6 m	>0.6 m
Maximum Height	6.0 m	5.9 m
Parking		
Parking		
1 space/100m2 GFA + 4 spaces/hole	89	187
	7	7
Accessible Parking	Type A - 3	Type A - 3
4% of provided (parking)	Type B - 4	Type B - 4
Pre-development Parking		
Accessible Parking	3	
Standard Parking	214	
Bicycle Parking		
1 space/1500 m2 GFA	1	2
Minimum Driveway Width	6.0 m	7.5 m
Minimum Aisle	6.7 m	7.0 m
15% of parking lot (3m buffer + interior landscaping)		
Landscaped Area (parking)	±1,650m2	
Full Site	±31,848m2	
Cart Storage Facility GFA	548 m2	
Snack Bar GFA	±69 m2	
Main Building GFA	±724m2	
Lot Coverage	±1,341m2	4.20%
Landscaped Open Space (full site)	± 22,217m2	69.80%
Paved Surface	±8,290m2	26.00%

GENERAL LEGEND

-  BARRIER CURB
-  DEPRESSED BARRIER CURB
-  CONCRETE SIDEWALK
-  TACTILE WALKING SURFACE INDICATOR
-  ASPHALT SIDEWALK / PATHWAY

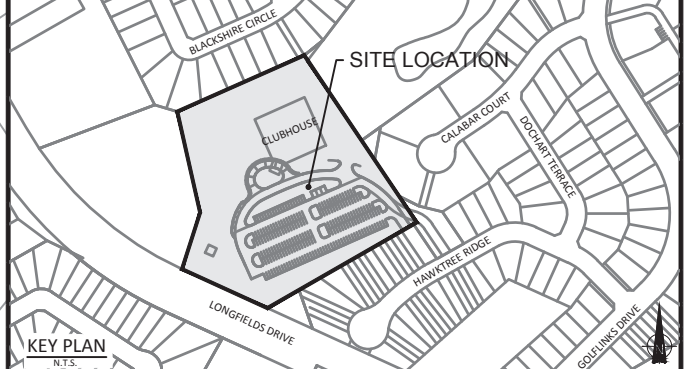


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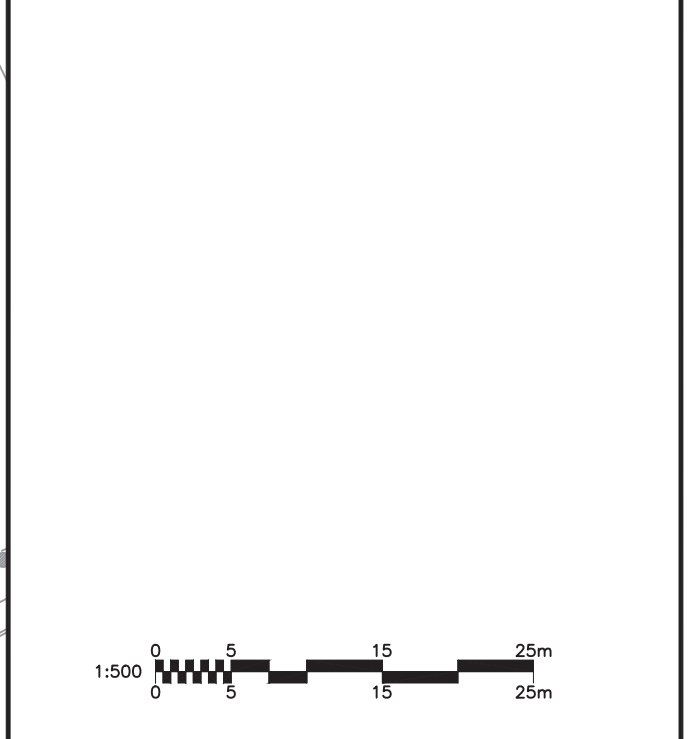
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	1	ISSUED FOR CITY REVIEW	2021-06-16
	2	REVISED AS PER CITY COMMENTS	2021-06-16
	3	ISSUED FOR SPA	2022-06-23
	4	REVISED AS PER CITY COMMENTS	2022-06-23

NOT FOR CONSTRUCTION
 010, FOR NOTES, LEGEND, CB TABLE, AND DETAILS



CONSULTANTS



SEAL

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 ibigroup.com

PROJECT
 STONEBRIDGE CLUBHOUSE
 68 HAWKTREE RIDGE,
 OTTAWA, ON K2J 5N3

PROJECT NO: 122507
 DRAWN BY: D.P.S.
 PROJECT MGR: R.M.

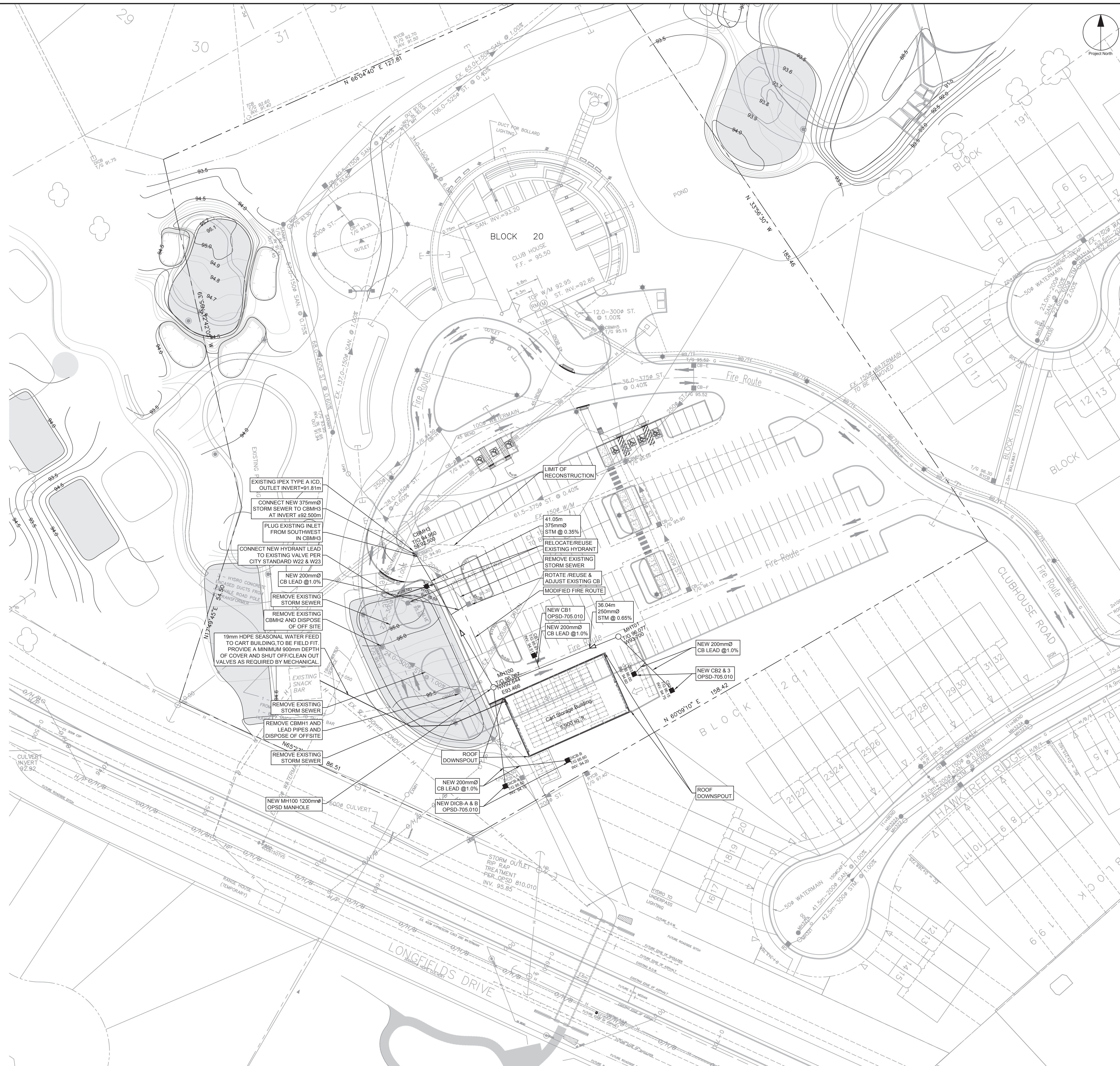
CHECKED BY: R.M.
 APPROVED BY: D.G.Y.

SHEET TITLE
SITE PLAN

SHEET NUMBER **C-050** ISSUE **4**

SERVICING LEGEND

- MH118A SANITARY MANHOLE
- MH109 SANITARY SEWER
- MH118 STORM MANHOLE
- STM STORM SEWER
- 2000 WATERMAIN WATERMAIN
- CB100 STREET CATCHBASIN C/W TOP OF GRATE
- TIG 104.10 CATCHBASIN MANHOLE C/W TOP OF GRATE
- TIG 103.59 DITCH INLET MANHOLE C/W TOP OF GRATE
- RYCB REAR YARD CATCHBASIN C/W TOP OF GRATE
- V&V VALVE AND VALVE BOX
- HYD FIRE HYDRANT C/W BOTTOM OF FLANGE ELEVATION
- 19mm HDPE SEASONAL WATER FEED



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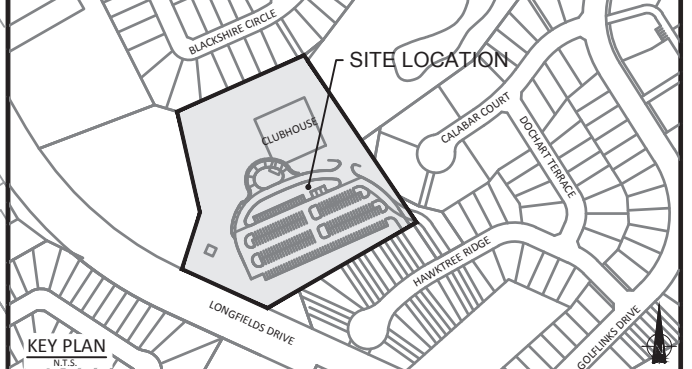
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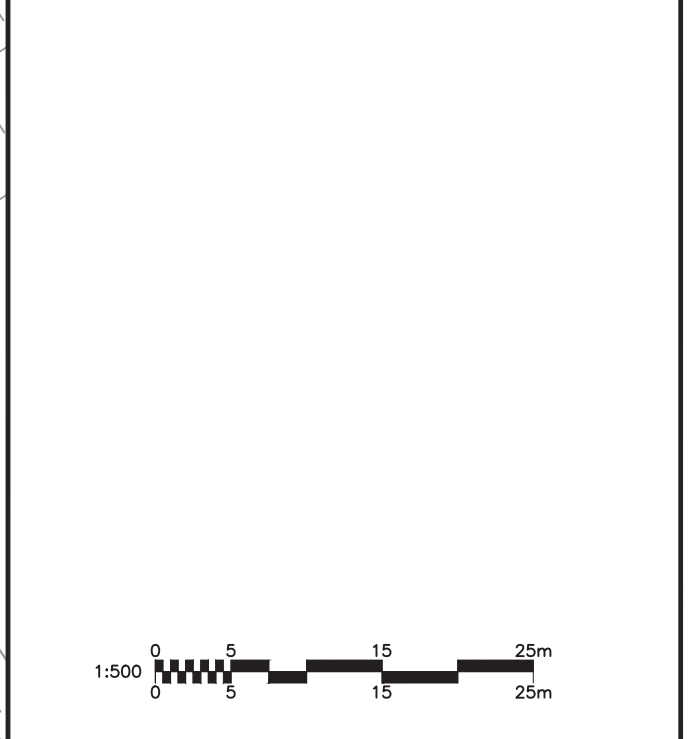
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3	ISSUED FOR SPA	2022-06-16
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PROJECT
 STONEBRIDGE CLUBHOUSE
 68 HAWKTREE RIDGE,
 OTTAWA, ON K2J 5N3

PROJECT NO:
122507

DRAWN BY: D.P.S. **CHECKED BY:** R.M.

PROJECT MGR: R.M. **APPROVED BY:** D.G.Y.

SHEET TITLE
 SERVICING PLAN

SHEET NUMBER C-150 **ISSUE** 4

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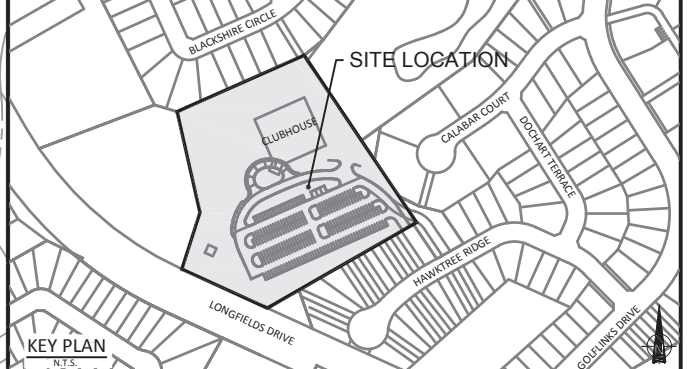
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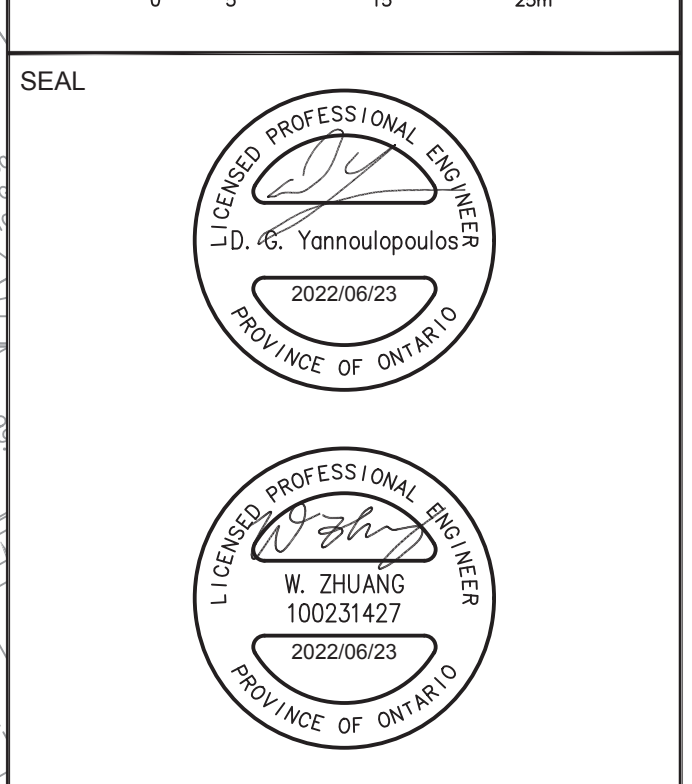
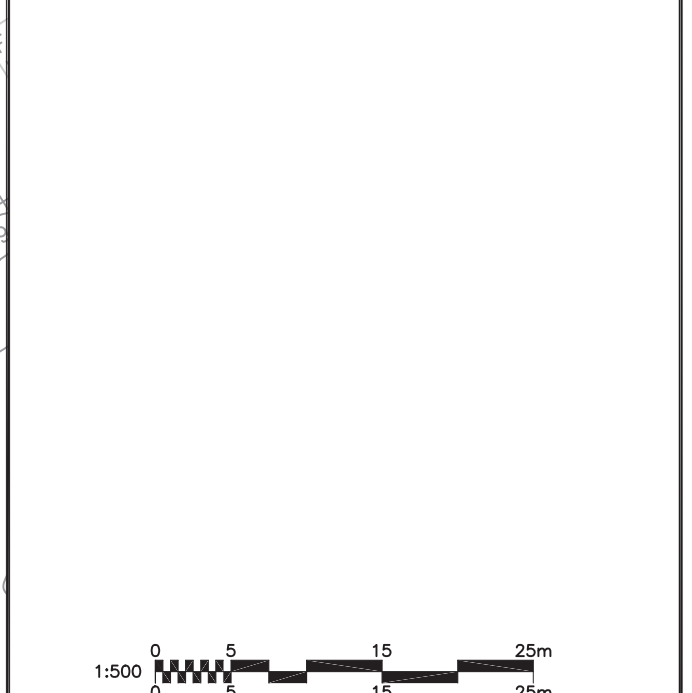
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2	REVISED AS PER CITY COMMENTS	2021-06-16
3	ISSUED FOR SPA	2022-06-16
4	REVISED AS PER CITY COMMENTS	2022-06-23

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PROJECT
STONEBRIDGE CLUBHOUSE
 68 HAWKTREE RIDGE,
 OTTAWA, ON K2J 5N3

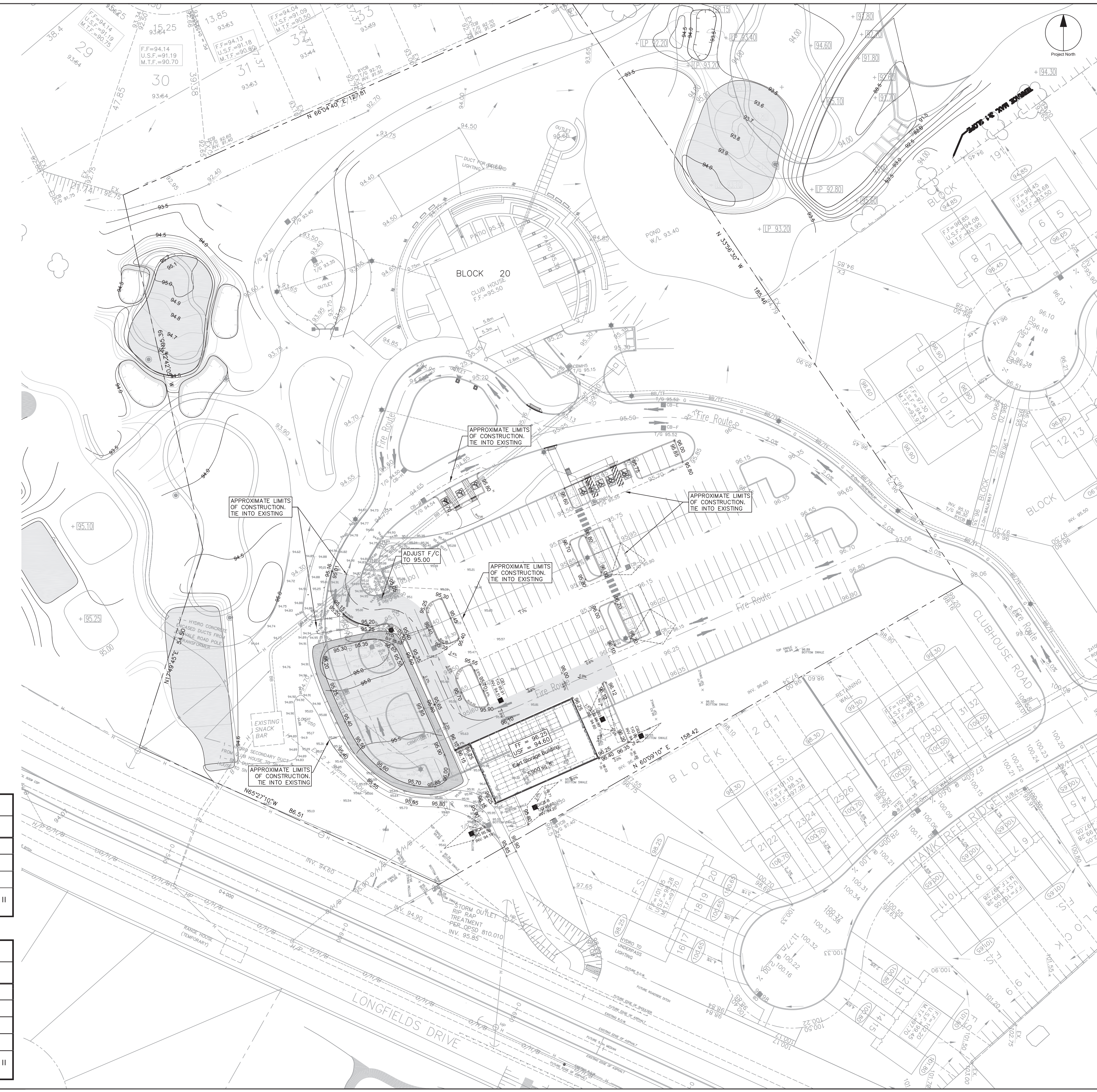
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DRAWN BY: D.P.S. **CHECKED BY:** R.M.

PROJECT MGR: R.M. **APPROVED BY:** D.G.Y.

SHEET TITLE
 GRADING PLAN

SHEET NUMBER C-250 **ISSUE** 4



GRADING LEGEND

	PROPOSED SWALE C/W FLOW DIRECTION
	SLOPE C/W FLOW DIRECTION
	MAJOR OVERLAND FLOW ROUTE
	PROPOSED SPOT GRADE
	PROPOSED SWALE GRADE
	PROPOSED SWALE HIGH POINT GRADE
	LOT CORNER GRADE C/W EXISTING GRADE
	TIE INTO EXISTING GRADE
	PONDING OUTLINE
	HEAVY DUTY ASPHALT

Table 2 - Recommended Pavement Structure - Car Only Parking Areas

Thickness (mm)	Material Description
50	Wear Course - HL-3 or Superpave 12.5 Asphaltic Concrete
150	BASE - OPSS Granular A Crushed Stone
300	SUBBASE - OPSS Granular B Type II
	SUBGRADE - Either fill, in situ soil, or OPSS Granular B Type I or II material placed over in situ soil or fill

Table 3 - Recommended Pavement Structure - Local Roadways

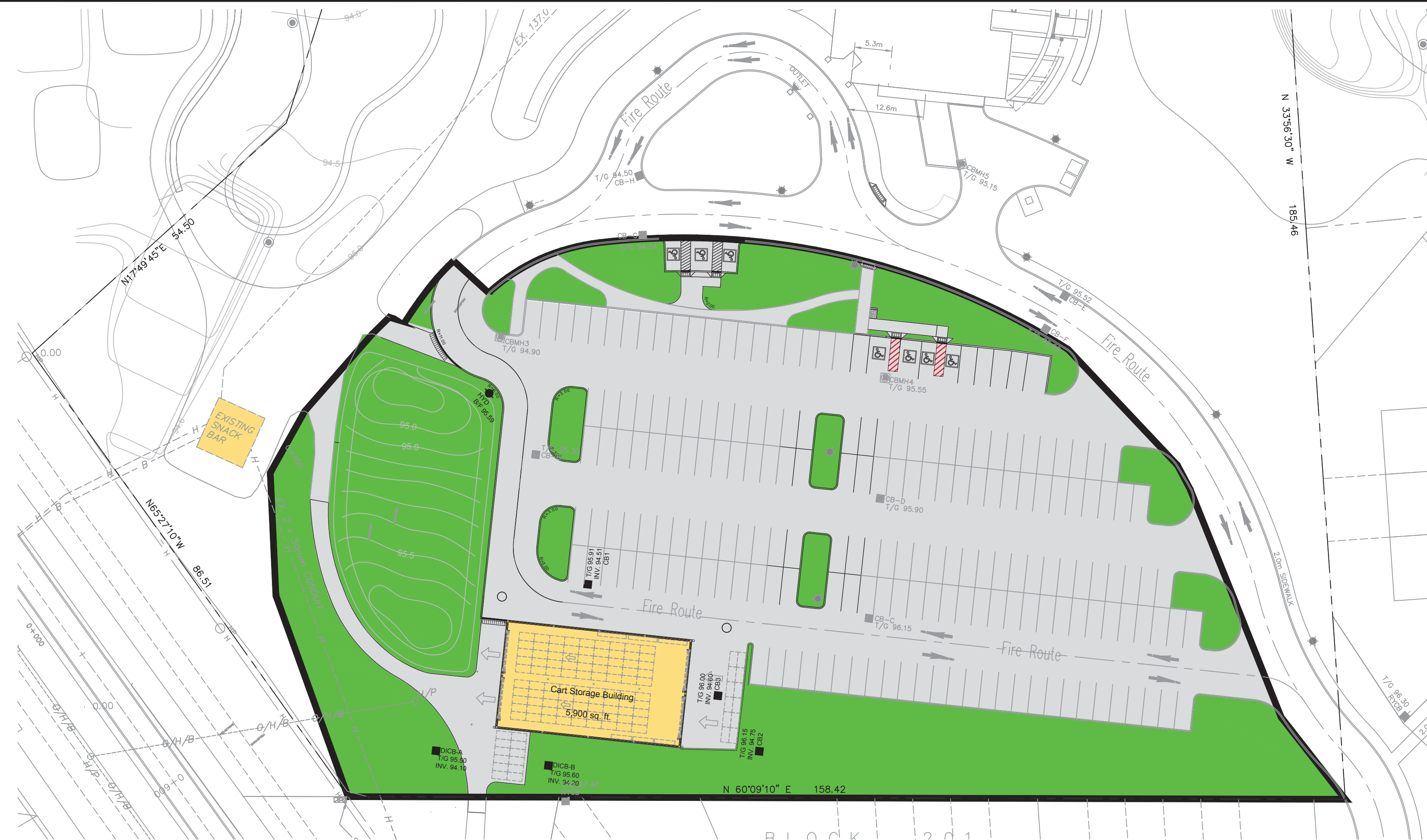
Thickness (mm)	Material Description
40	Wear Course - HL-3 or Superpave 12.5 Asphaltic Concrete
50	Binder Course - HL-8 or Superpave 19.0 Asphaltic Concrete
150	BASE - OPSS Granular A Crushed Stone
400	SUBBASE - OPSS Granular B Type II
	SUBGRADE - Either fill, in situ soil, or OPSS Granular B Type I or II material placed over in situ soil or fill

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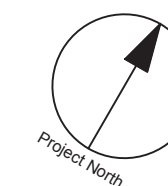
PRE-DEVELOPMENT

1:500



POST DEVELOPMENT

1:500



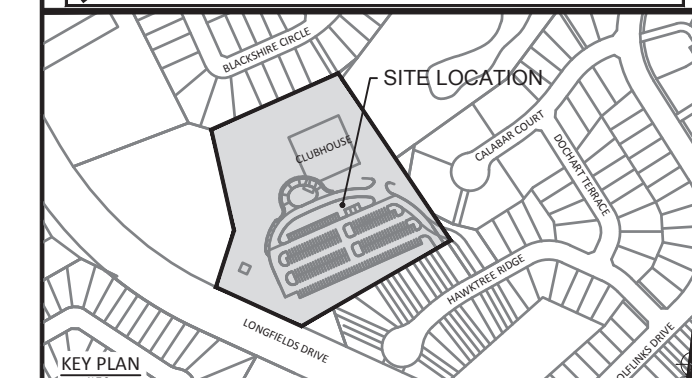
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4	REVISED AS PER CITY COMMENTS	2022-04-12
5	REVISED AS PER CITY COMMENTS	2022-06-16

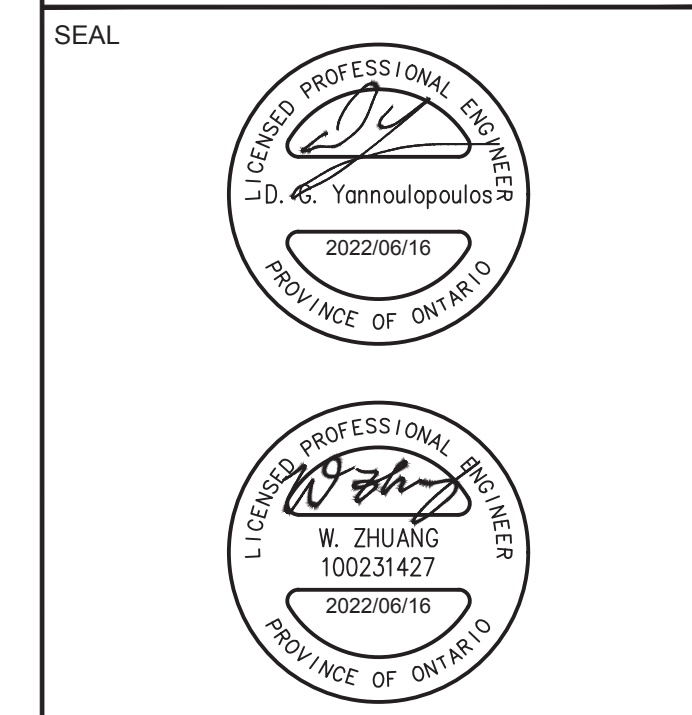
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	Pre-development	Area (ha)	C
CBMH3	Grass	0.333	0.20
	Building	0.000	0.90
	Driveway & Parking	0.744	0.90
	Total	1.077	0.68
CBMH3	Post-development	Area (ha)	C
	Grass	0.395	0.20
	Building	0.051	0.90
	Driveway & Parking	0.631	0.90
Total	1.077	0.64	



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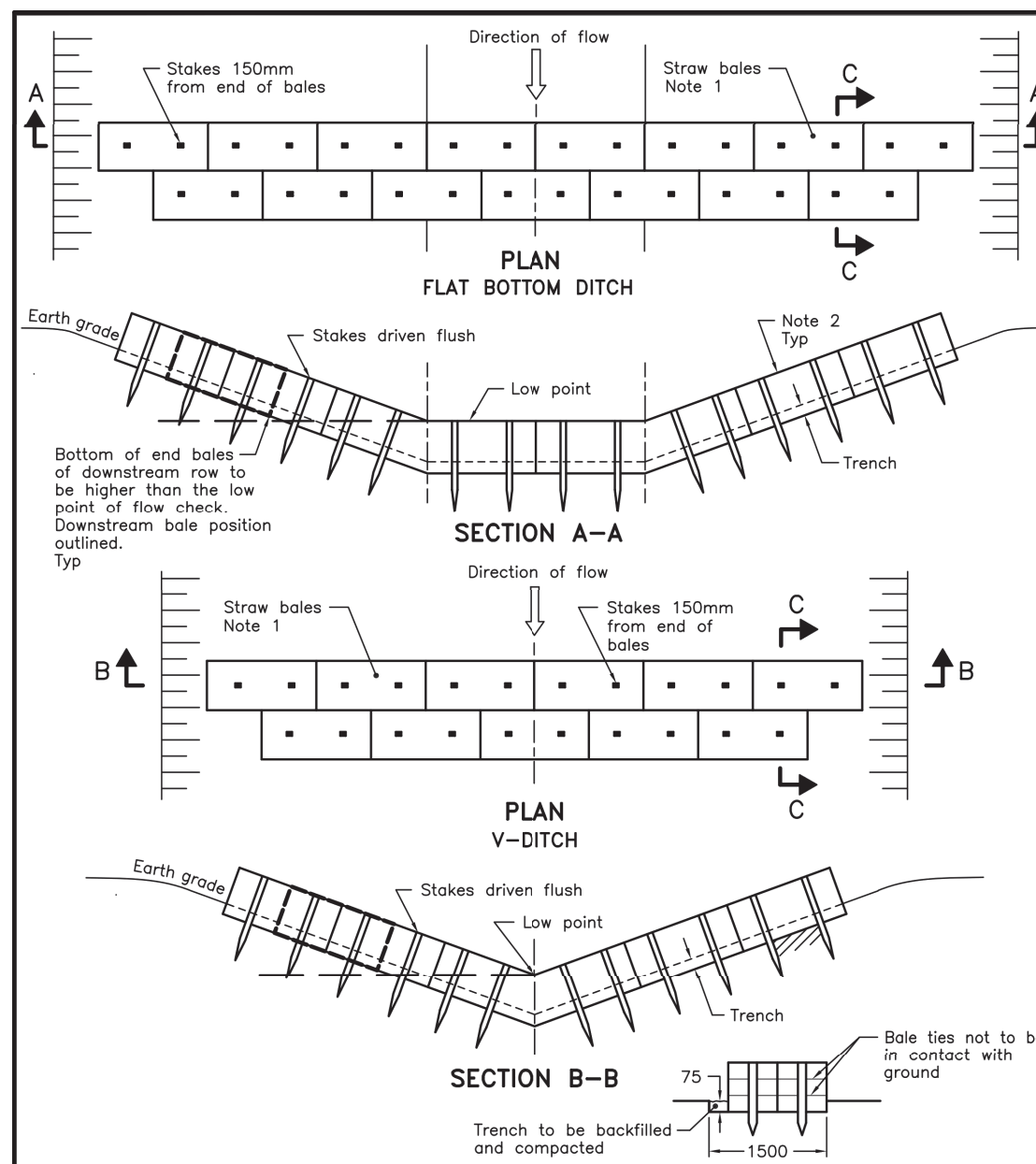
PROJECT
STONEBRIDGE CLUBHOUSE
68 HAWKTREE RIDGE,
OTTAWA, ON K2J 5N3

PROJECT NO:
122507
DRAWN BY:
D.P.S.
PROJECT MGR:
R.M.
CHECKED BY:
R.M.
APPROVED BY:
D.G.Y.

SHEET TITLE
STORM DRAINAGE AREA PLAN

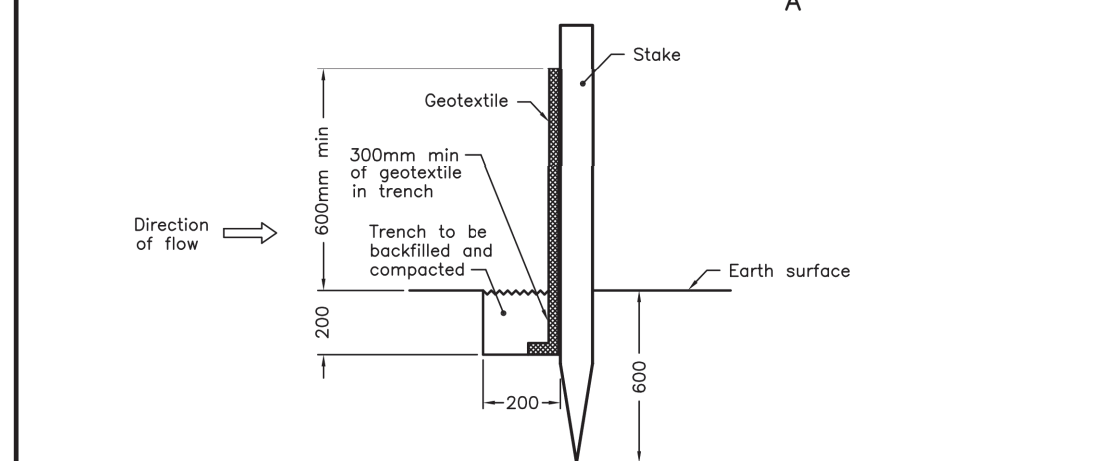
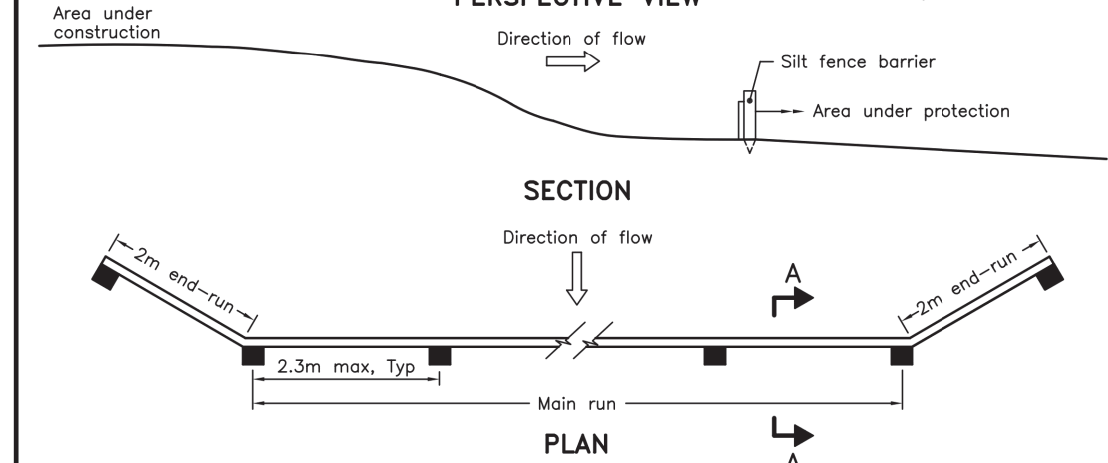
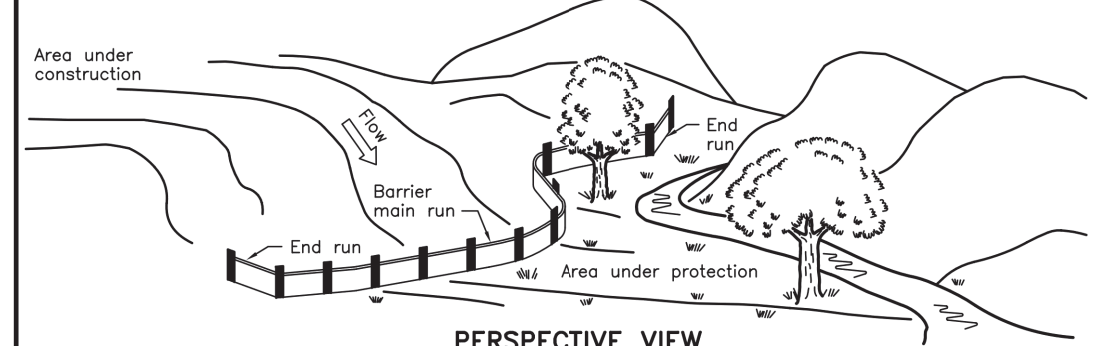
SHEET NUMBER
C-550
ISSUE
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Plotted: Thursday, June 23, 2022 10:22:21 AM by Don Sluma
File Location: \\122507_2701\Longlist7_2_Production\7_2_Design\04_Civil\Sheets\Club House\C-550.dwg



NOTES:
 1 Number of bales varies to suit ditch.
 2 Straw bales to be butted tightly against adjoining bales and shaped to conform to the sides of the ditch to prevent water flow through barrier.
 A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2006 Rev 1
STRAW BALE FLOW CHECK DAM
 OPSD 219.180



NOTE:
 A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2006 Rev 1
LIGHT-DUTY SILT FENCE BARRIER
 OPSD 219.110

NOTES:

THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

- SILT FENCE TO BE ERECTED PRIOR TO EARTH WORKS BEING COMMENCED. SILT FENCE TO BE MAINTAINED UNTIL VEGETATION IS ESTABLISHED OR UNTIL START OF SUBSEQUENT PHASE.
- STRAW BALE SEDIMENT TRAPS TO BE CONSTRUCTED IN EXISTING ROAD SIDE DITCHES. TRAPS TO REMAIN AND BE MAINTAINED UNTIL VEGETATION IS ESTABLISHED.
- SILT SACK TO BE PLACED AND MAINTAINED UNDER COVER OF ALL CATCHBASINS. GEOTEXTILE SILT SACK IN STREET C&B TO REMAIN UNTIL ALL CURBS ARE CONSTRUCTED. GEOTEXTILE FABRIC IN RYCBs TO REMAIN UNTIL VEGETATION IS ESTABLISHED. ALL CATCHBASINS TO BE REGULARLY INSPECTED AND CLEANED, AS NECESSARY, UNTIL SOD AND CURBS ARE CONSTRUCTED.
- CONTRACTOR TO PROVIDE DETAILS ON LOCATION(S) AND DESIGN OF DEWATERING TRAP(S) PRIOR TO COMMENCING WORK. CONTRACTOR ALSO RESPONSIBLE FOR MAINTAINING TRAP(S) AND ADJUSTING SIZE(S) IF DEEMED REQUIRED BY THE ENGINEER DURING CONSTRUCTION.
- CONTRACTOR TO PROTECT EXISTING CATCHBASINS WITH FILTER CLOTH UNDER THE COVERS TO TRAP SEDIMENTATION. REFER TO IDENTIFIED STRUCTURES.
- WORKS NOTED ABOVE ARE TO BE INSTALLED, INSPECTED, MAINTAINED AND ULTIMATELY REMOVED BY SERVICING CONTRACTOR.
- THIS IS A "LIVING DOCUMENT" AND MAY BE MODIFIED IN THE EVENT THE PROPOSED CONTROL MEASURES ARE INSUFFICIENT

LEGEND:

- LIGHT DUTY SILT FENCE AS PER OPSD-219.110
- SNOW FENCE
- STRAW BALE CHECK DAM AS PER OPSD-219.180
- ROCK CHECK DAM AS PER OPSD-219.210
- SILT SACK PLACED UNDER EXISTING CB COVER
- TEMPORARY MUD MAT 0.15m THICK 50mm CLEAR STONE ON NON WOVEN FILTER CLOTH



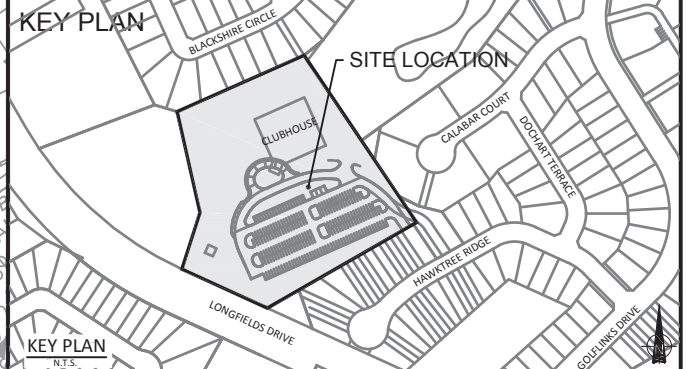
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	2	REVISED AS PER CITY COMMENTS	2021-06-16
	3	ISSUED FOR SPA	2022-06-23
	4	REVISED AS PER CITY COMMENTS	2022-06-23

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 10. FOR NOTES, LEGEND, CB TABLE, AND DETAILS



LEGEND

SCALE: 1:2500

SEAL

IBI GROUP
 Suite 400 - 333 Preston Street
 Ottawa, ON K1S 5N4 Canada
 Tel: 613 225 1311 | 613 241 3300 Fax: 613 225 9868
 ibigroup.com

PROJECT
 STONEBRIDGE CLUBHOUSE
 68 HAWKTREE RIDGE,
 OTTAWA, ON K2J 5N3

PROJECT NO: 122507
DRAWN BY: D.P.S.
PROJECT MGR: R.M.
CHECKED BY: R.M.
APPROVED BY: D.G.Y.

SHEET TITLE
 EROSION AND
 SEDIMENTATION CONTROL
 PLAN

SHEET NUMBER C-950
ISSUE 4

APPENDIX A

- Plan of Subdivision

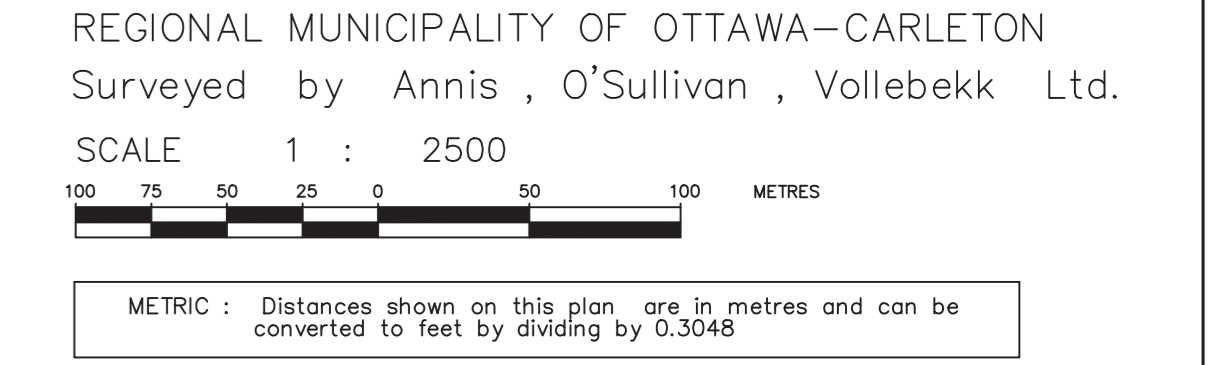
APPENDIX B

- Storm Sewer Calculation Design Sheet

PLANNING & DEVELOPMENT APPROVALS
COMMISSIONER
REGIONAL MUNICIPALITY OF
OTTAWA-CARLETON

I CERTIFY THAT THIS PLAN 4M-
IS REGISTERED IN THE LAND REGISTRY
OFFICE FOR THE LAND TITLES DIVISION OF
OTTAWA-CARLETON NO. 4 AT O'CLOCK
ON THE DAY OF 2000
AND ENTERED IN THE REGISTER FOR
PROPERTY IDENTIFIER
AND THE REQUIRED CONSENTS ARE REGISTERED
AS PLAN DOCUMENT NO. _____
LAND REGISTRAR
This plan comprises part of the land identified by Pins
04732-0574, 04732-0571, 04732-0572 and 04732-0760.

PLAN OF SUBDIVISION OF
PARTS OF LOTS 9, 10, 11 AND 12 AND
PART OF THE ROAD ALLOWANCE
BETWEEN LOTS 10 AND 11
(CLOSED BY BY-LAW NO. 070-99, INST. NO. LT1262699)
CONCESSION 2 (RIDEAU FRONT)
FORMERLY TOWNSHIP OF NEPEAN
NOW CITY OF NEPEAN
REGIONAL MUNICIPALITY OF OTTAWA-CARLETON
Surveyed by Annis, O'Sullivan, Vollebek Ltd.



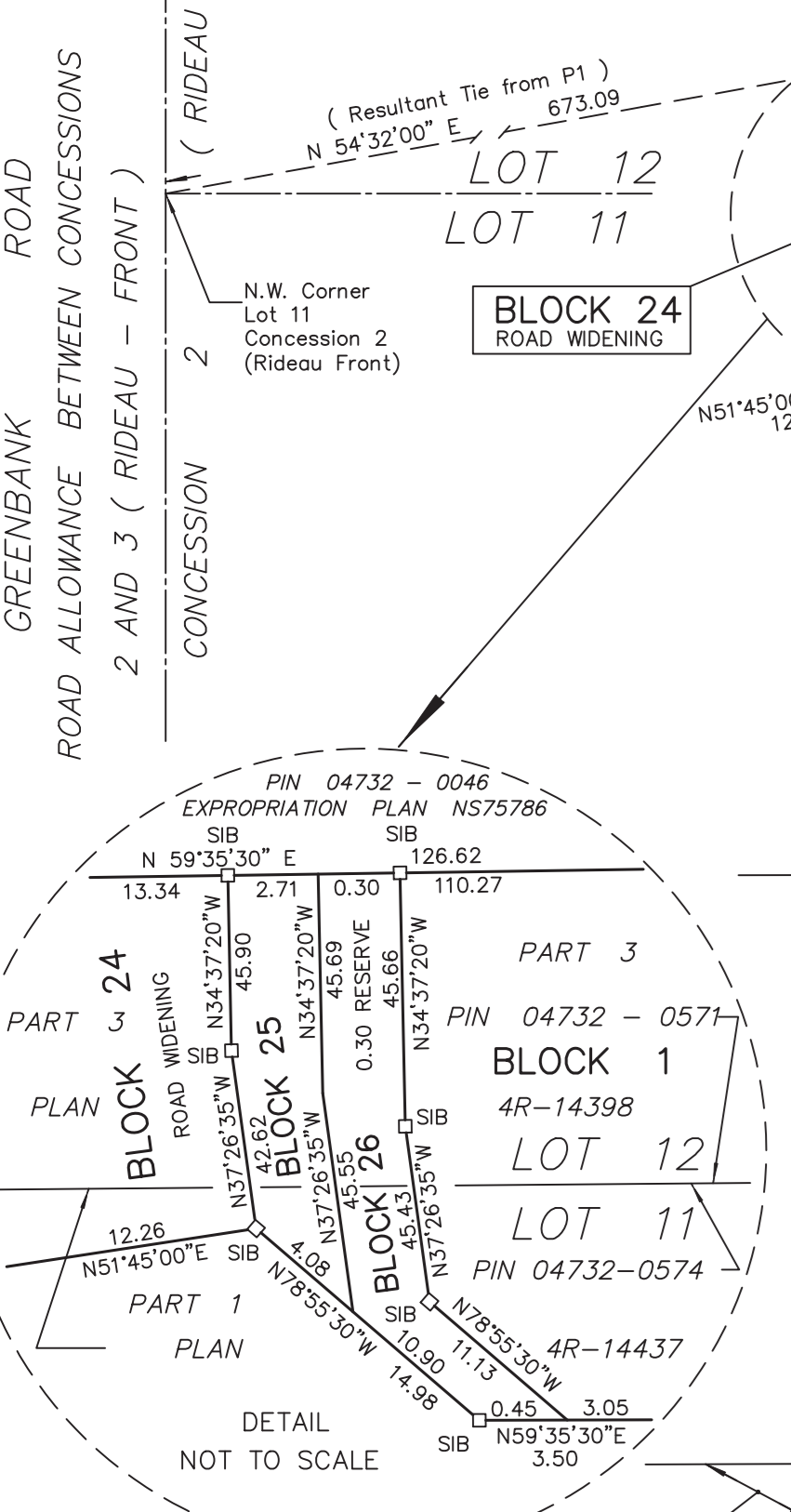
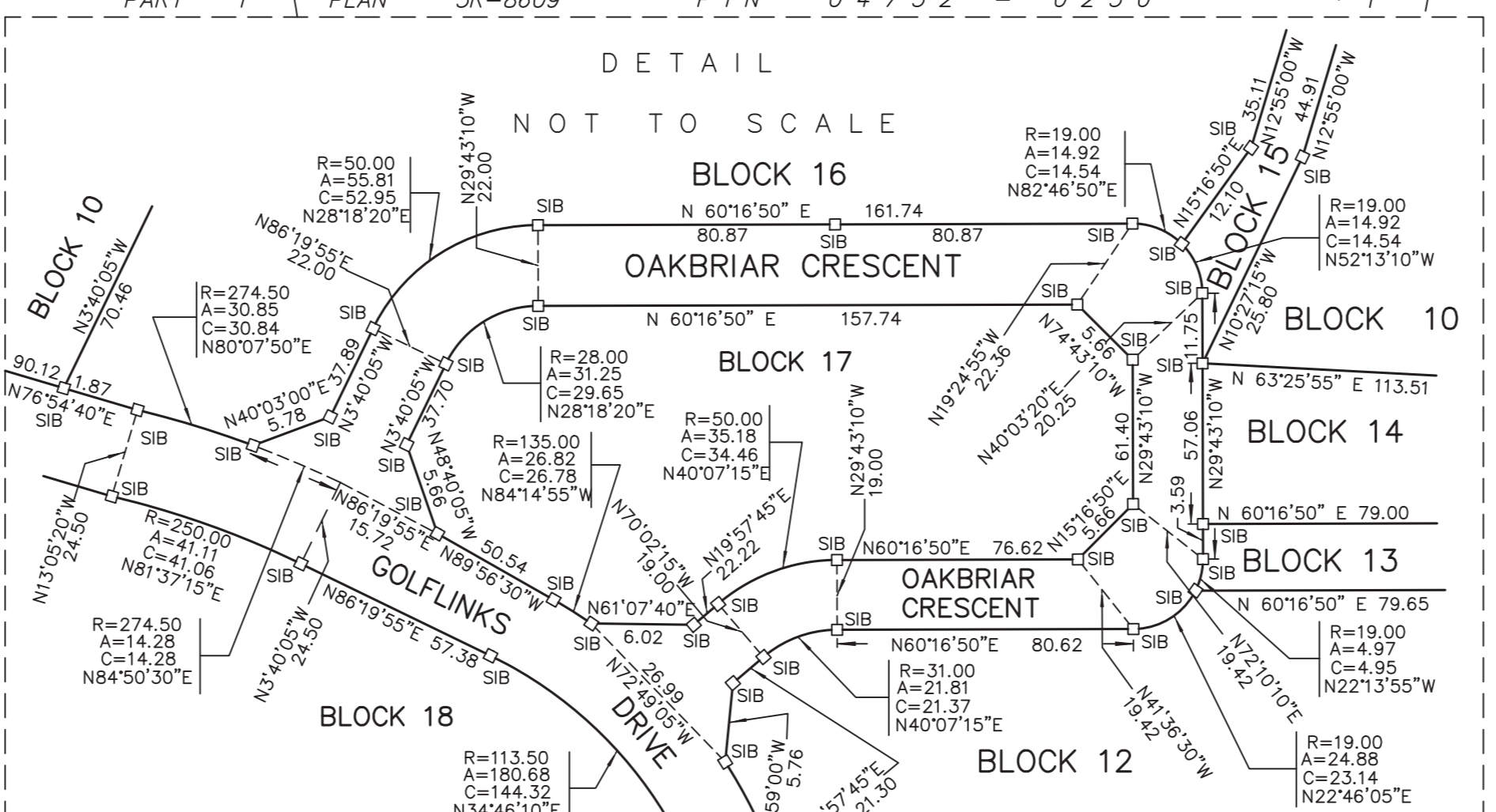
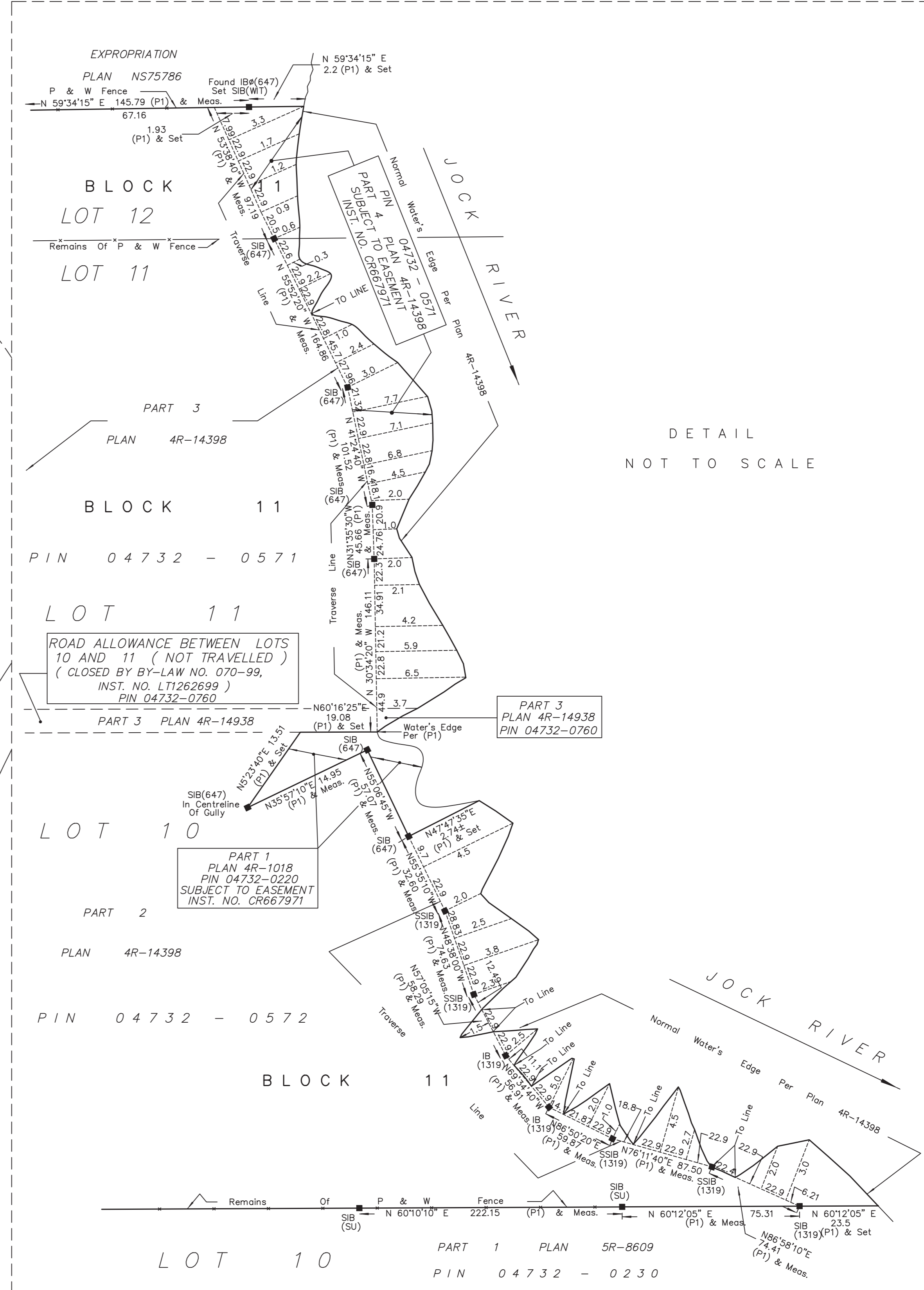
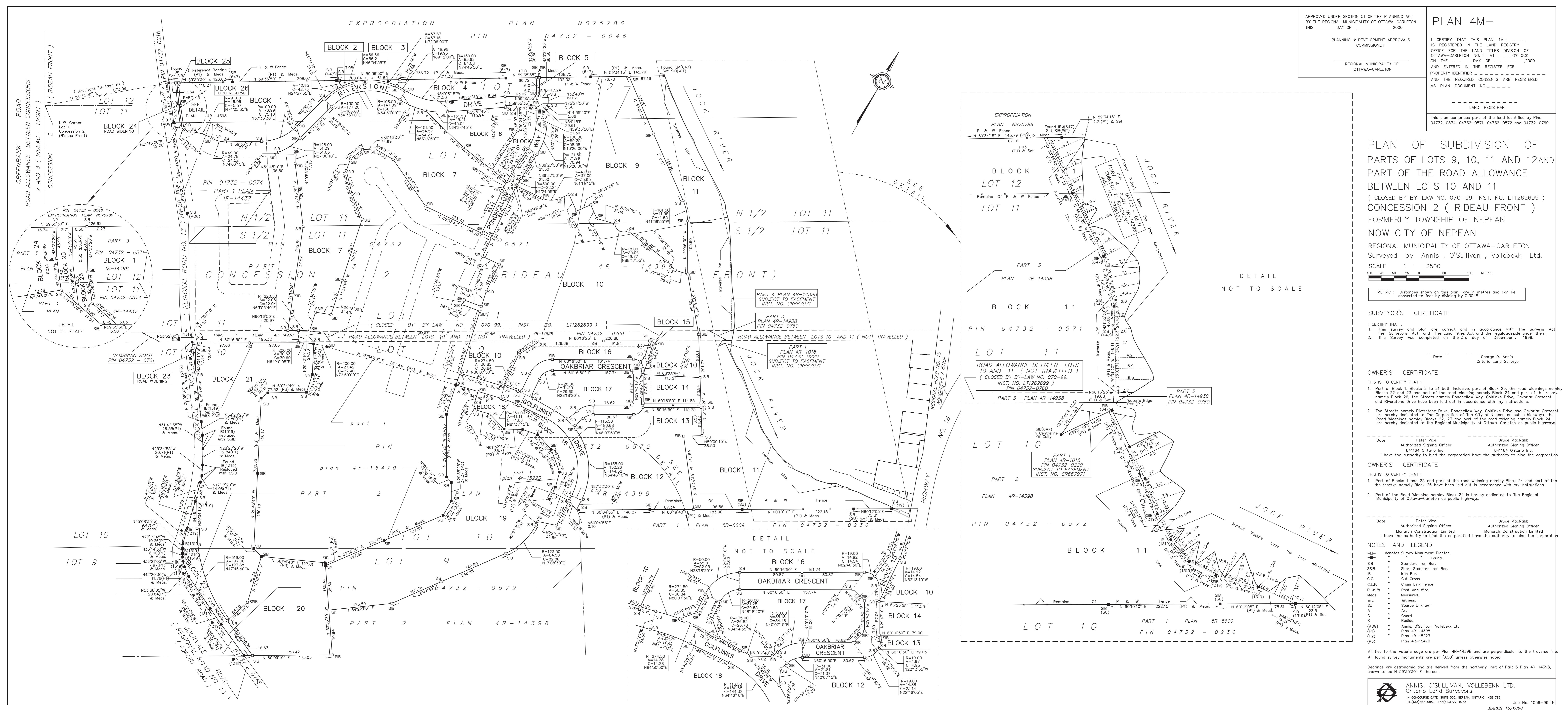
SURVEYOR'S CERTIFICATE
I CERTIFY THAT:
1. This survey and plan are correct and in accordance with The Surveys Act
the Surveys Act and The Land Titles Act and the regulations under them.
2. This Survey was completed on the 3rd day of December, 1999.

OWNER'S CERTIFICATE
THIS IS TO CERTIFY THAT:
1. Part of Block 1, Blocks 2 to 21 both inclusive, part of Block 25, the road widenings namely
Blocks 22 and 23 and part of the road widening namely Block 24 and part of the reserve
namely Block 26, the Streets namely Pondhallow Way, Gollinks Drive, Oakbriar Crescent
and Riverstone Drive have been laid out in accordance with my instructions.
2. The Streets namely Riverstone Drive, Pondhallow Way, Gollinks Drive and Oakbriar Crescent
are hereby dedicated to the Corporation of the City of Nepean as public highways.
The Road Widening namely Block 24 is hereby dedicated to the Regional Municipality of Ottawa-Carleton as public highways.

OWNER'S CERTIFICATE
THIS IS TO CERTIFY THAT:
1. Part of Blocks 1 and 25 and part of the road widening namely Block 24 and part of the
reserve namely Block 26 have been laid out in accordance with my instructions.
2. Part of the Road Widening namely Block 24 is hereby dedicated to the Regional
Municipality of Ottawa-Carleton as public highways.

NOTES AND LEGEND
- denotes Survey Monument Found.
- denotes Survey Monument Found.
SIB - Standard Iron Bar.
SIB - Short Standard Iron Bar.
C.C. - Chain Cross.
C.L.F. - Chain Link Fence.
P & W - Post And Wire.
Meas. - Measured.
Wit. - Witness.
SU - Source Unknown.
A - Arc.
R - Radius.
(AOG) - Annis, O'Sullivan, Vollebek Ltd.
(P1) - Plan 4R-14398.
(P2) - Plan 4R-15223.
(P3) - Plan 4R-15470.

All ties to the water's edge are per Plan 4R-14398 and are perpendicular to the traverse line.
All found survey monuments are per (AOG) unless otherwise noted.
Bearings are astronomic and are derived from the northerly limit of Part 3 Plan 4R-14398,
shown to be N 59°35'30" E thereon.





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STORM SEWER DESIGN SHEET

Stonebridge Clubhouse
 City of Ottawa
 Mattamy Homes

LOCATION				AREA (Ha)										RATIONAL DESIGN FLOW										SEWER DATA															
STREET	AREA ID	FROM	TO	C=	C=	C=	C=	C=	C=	C=	C=	C=	C=	IND 2.78AC	CUM 2.78AC	INLET (min)	TIME IN PIPE	TOTAL (min)	i (2) (mm/hr)	i (5) (mm/hr)	i (10) (mm/hr)	i (100) (mm/hr)	2yr PEAK FLOW (L/s)	5yr PEAK FLOW (L/s)	10yr PEAK FLOW (L/s)	100yr PEAK FLOW (L/s)	FIXED FLOW		DESIGN FLOW (L/s)	CAPACITY (L/s)	LENGTH (m)	PIPE SIZE (mm)			SLOPE (%)	VELOCITY (m/s)	AVAIL CAP (2yr)		
				0.20	0.25	0.40	0.50	0.57	0.64	0.65	0.70	0.76	0.80														IND	CUM				DIA	W	H			(L/s)	(%)	
Clubhouse	MH101	MH101	MH100											0.53	0.53	10.00	0.61	10.61	76.81	104.19	122.14	178.56	40.45	54.87	64.33	94.04	0.00	0.00	40.45	50.02	36.04	250				0.65	0.987	9.57	19.13%
	MH100	MH100	CBMH3											0.32	0.85	10.61	0.72	11.33	74.54	101.08	118.48	173.18	63.13	85.61	100.34	146.67	0.00	0.00	63.13	108.21	41.05	375				0.35	0.949	45.08	41.66%
Definitions:				Notes:										Designed:										Revision															
Q = 2.78CIA, where:				1. Mannings coefficient (n) = 0.013										R.M. W.Z.										No.															
Q = Peak Flow in Litres per Second (L/s)														Checked: D.G.Y.										1. Servicing Memo - Submission No. 1															
A = Area in Hectares (Ha)														Dwg. Reference: 122507-500										2. Servicing Memo - Submission No. 2															
i = Rainfall intensity in millimeters per hour (mm/hr)																																							
[i = 732.951 / (TC+6.199)^0.810] 2 YEAR																																							
[i = 998.071 / (TC+6.053)^0.814] 5 YEAR																																							
[i = 1174.184 / (TC+6.014)^0.816] 10 YEAR																																							
[i = 1735.688 / (TC+6.014)^0.820] 100 YEAR																																							
																								Date: 2022-06-14															
																								Sheet No: 1 of 1															
																								File Reference: 122507-6.04.04															