Southeast Planning Review and Adjustment Committee / Comité de révision de la planification de la Commission du Sud-Est

Wednesday, December 17, 2025 / Le mercredi 17 décembre, 2025

Staff Report / Rapport du personnel

Subject / Objet : Conditional Use / Usage conditionnel

File number / Numéro du fichier 25-1844

From / De :

Sam Gerrand
Planner / Agent d'aménagement

Reviewed by / Révisé par :

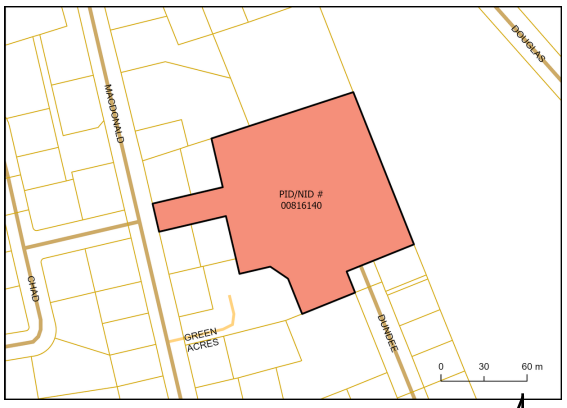
Lori Bickford
Planning Manager/Planner / Gestionnaire de planification/Urbaniste

General Information / Information générale

Applicant / Requérant :
Wes Michaud W&K Properties Inc.

Landowner / Propriétaire :
Wes Michaud W&K Properties Inc.

Proposal / Demande :
The applicant proposes a two story, six unit multiple unit dwelling on Dundee Drive (currently PID 00816140), which is a conditional use of the Town Center Zone. / *Le requérant propose une habitation multifamiliale de deux étages comptant six unités sur la promenade Dundee (NID 00816140), lequel constitue un usage conditionnel dans la zone centre-ville.*



Property Location Map
Carte de localisation du terrain

Subject Property / Proprieté en question

Site Information /Information du site

PID / NID: 00816140

Lot Size / Grandeur du lot: 14,386 m2

Location / Endroit :
Dundee Drive, Town of Salisbury / Village de Salisbury

Current Use / Usage présent :
Residential / *Résidentiel*

Zoning / Zonage :

Town Center (TC) / *Centre-ville*

Future Land Use Designation / Désignation de l'utilisation future du sol :

Surrounding Use & Zoning / Usage des environs & Zonage :

The subject property is abutted by the Town Center (TC) and Residential (R) zone. A mix of residential, institutional and commercial uses are present in the area. / *La propriété en question est adjacente aux zones centre-ville et résidentielle. On retrouve dans les environs un mélange d'usages résidentiels, institutionnels et commerciaux.*

Municipal Servicing / Services municipaux:

The development has access to the public sewer system, but will provide water services on a

Access-Egress / Accès/Sortie :

Dundee Drive and MacDonald Road

Policies / Politiques

Statements of Public Interest / *Déclarations d'intérêt public*

SP1 Promote efficient development and land use patterns that are in the best interests of the Province, local governments and residents of the Province in the long-term / *Favoriser l'aménagement efficace et les modes d'utilisation des terres qui sont dans l'intérêt supérieur à long terme de la province, de ses gouvernements locaux et de ses résidents.*

SP2 Promote a range of housing options such as size, type, density and design throughout communities. / *Favoriser l'utilisation d'une gamme d'options relatives aux logements, notamment en ce qui a trait à la taille, au type, à la densité et à la conception de ceux-ci dans l'ensemble des communautés.*

Municipal Plan / *Plan municipal*

4.4.2 It is a policy to create a Town Centre zone in which to permit high density residential development within the Town Centre subject to terms and conditions imposed by the Planning Review and Adjustment Committee. When considering the imposition of terms and conditions the following shall be considered, but not limited to: / *Il est établi comme politique de créer une zone Centre-ville dans laquelle une densité résidentielle élevée est permise, sous réserve des modalités et conditions imposées par le Comité de révision de la planification. Lors de l'examen de l'imposition de modalités et conditions, les éléments suivants doivent être pris en considération, sans toutefois s'y limiter :*

a) the location and access to off-street parking and the design of the parking lot layout; / *l'emplacement du stationnement hors rue, son accès et la conception de son aménagement;*

b) provisions for the preservation of the existing landscape by minimizing tree and soil removal; / *les dispositions visant à préserver le paysage existant en minimisant l'enlèvement des arbres et du sol;*

c) buffering from adjacent properties; / *le tamponnage vis-à-vis des propriétés adjacentes;*

d) drainage; and / *le drainage*

e) water supply assessment / l'évaluation de l'approvisionnement en eau.

Zoning and/or Subdivision Regulation / Réglementations de zonage et/ou de lotissement

Zoning By-law / *Arrêté de zonage*

3.6 One Dwelling Per Lot / *Une habitation par lot*

No developer shall construct more than one dwelling on a lot in the Residential Serviced or the Rural or Rural Residential zones. More than one dwelling on a lot shall be permitted in the Town Centre, Residential Neighbourhood Service or Dwelling Group zones provided that: / *Aucun promoteur ne doit construire plus d'une habitation sur un lot dans les zones Résidentielle desservie, Rurale ou Résidentielle rurale. Plus d'une habitation sur un lot est permise dans les zones Centre-ville, Services résidentiels du quartier ou Groupe d'habitations, pourvu que :*

a) the number of combined units does not exceed the maximum number set in the zone; / *le nombre total d'unités ne dépasse pas le nombre maximal établi pour la zone;*

b) the minimum zone requirements are complied with; and / *les exigences minimales de zone soient respectées;*

c) the dwellings maintain a minimum separation distance of 3.0 metres (10 feet). */ les habitations maintiennent une distance de séparation minimale de 3,0 mètres (10 pieds).*

7 Town Center Zone / *Zone centre-ville*

7.1 Permitted Uses / *Usages permis*

d) The following uses are permitted subject to such terms and conditions as may be imposed by the Planning Review and Adjustment committee: / *Les usages suivants sont permis sous réserve des modalités et conditions pouvant être imposées par le Comité de révision de la planification :*

i) multiple unit dwelling / *habitation multifamiliale*

7.2 Zone requirements / *Exigences de la zone*

d) All residential multiple unit dwellings require a water study by a New Brunswick licensed engineer. / *Toutes les habitations multifamiliales exigent une étude de l'eau réalisée par un ingénieur titulaire d'une licence au Nouveau-Brunswick.*

Internal Consultation & External Consultation / Consultations internes et externes

Internal Comments / *Commentaires internes*

The application was reviewed and discussed by planning staff at Plan 360. / *La demande a été examinée et discutée par le personnel de planification de Plan360.*

Municipal Comments - Town of Salisbury / *Commentaires municipaux - Ville de Salisbury*

The CAO and public works departments at the Town of Salisbury were consulted. Overall, the Town is well-aware of the project because of the recent rezoning and Type 2 subdivision process and has no concerns. The Town confirmed that while the subdivision process is not complete, the LFPP and cash in lieu has been agreed to and paid and the final steps of the subdivision agreement (Provisional Acceptance) are underway. The Town would be

comfortable with a building permit for the project being issued once the new road is complete and accessible by the public. / *Le DPA et les services des travaux publics de la Ville de Salisbury ont été consultés. De manière générale, la Ville est bien au courant du projet en raison du récent rezonage et du processus de lotissement de type 2, et elle n'a aucune préoccupation. La Ville a confirmé que, bien que le processus de lotissement ne soit pas encore complété, les terrains d'utilité publique et la contribution en argent comptant ont été convenus et payés, et que les dernières étapes de l'entente de lotissement (Acceptation provisoire) sont en cours. La Ville serait à l'aise qu'un permis de construction soit délivré pour le projet une fois que la nouvelle route sera terminée et accessible au public.*

Provincial Comments - Department of Local Government and Environment / *Commentaires provinciaux – ministère des Gouvernements locaux et de l'Environnement*

Branches of the Department of Local Government including the Climate Change Secretariat, Environmental Impact Assessment, Source and Surface Water, and Air and Water Sciences were consulted. These branches were also contacted during the rezoning process and did not offer further comments beyond the comments included at that time. / *Les directions du ministère, incluant le Secrétariat des changements climatiques, l'Évaluation d'impact sur l'environnement, les Eaux souterraines et de surface, ainsi que les Sciences de l'air et de l'eau, ont été consultées. Ces directions avaient également été sollicitées lors du processus de rezonage et n'avaient pas de commentaires supplémentaires au-delà de ceux fournis à ce moment-là.*

Environmental Impact Assessment: / *Évaluation d'impact sur l'environnement :*
"*The EIA branch decision as provided last year stands (*that no EIA is required*) and there is no further comment.*" / *« La décision rendue par la direction de l'EIE l'an dernier demeure inchangée (aucune EIE n'est requise) et aucun autre commentaire n'a été formulé. »*

Climate Change Secretariat: / *Secrétariat des changements climatiques :*

"-Ensure sewer lines remain functional and do not create any leakage into the immediate environment during extreme rainfall events, that are projected to increase in frequency and intensity in the future. / « – Assurer que les conduites d'égout demeurent fonctionnelles et ne causent aucune fuite dans l'environnement immédiat lors d'épisodes de pluies extrêmes, dont la fréquence et l'intensité devraient augmenter dans l'avenir.
-Ensure stormwater infrastructure is properly sized, remains functional, and will not impact the immediate environment during extreme rainfall events, that are projected to increase in frequency and intensity in the future. / – Assurer que les infrastructures de gestion des eaux pluviales sont de taille adéquate, demeurent fonctionnelles et n'ont aucun impact sur l'environnement immédiat lors d'épisodes de pluies extrêmes, dont la fréquence et l'intensité devraient augmenter dans l'avenir.
-Ensure well water is not at risk to projected future flood elevations or saturated soil conditions associated with projected flood elevations, stormwater, or other hazards related to overland flooding. / – Assurer que l'eau de puits n'est pas à risque en raison des niveaux d'inondation projetés ou des conditions de sol saturé associées aux élévations d'eau, aux eaux pluviales ou à tout autre danger lié au ruissellement des eaux de surface.
-To reduce exposure to extreme heat days above 30 and 35 Degrees Celsius, which are projected to increase across New Brunswick. It is recommended that residential units are equipped with proper air conditioning capability." / – Afin de réduire l'exposition aux journées de chaleur extrême dépassant 30 °C et 35 °C, dont la fréquence devrait augmenter au Nouveau-Brunswick, il est recommandé que les unités résidentielles soient dotées d'un système de climatisation adéquat. »

Discussion

The subject property is on the edge of Salisbury's Town Center. To the east are a cluster of institutional uses such as the elementary to high schools, and municipal offices, with the rest of the Town Center behind. To the west are primarily residential uses. / *La propriété en question est située en bordure du centre-ville de Salisbury. À l'est se trouve un ensemble d'usages institutionnels, notamment l'école secondaire, l'école élémentaire et les bureaux municipaux, tandis que le reste du centre-ville se situe au-delà. À l'ouest, le secteur est principalement composé d'usages résidentiels.*

In 2024, the property was rezoned to the Village Center zone (now called Town Center) to permit higher density residential development. The proposal at this time included the extension of Dundee Drive as a public street and the creation of five lots for multiple unit dwellings. The amendments to the by-laws included one condition: / *En 2024, la propriété a été rezonée à la zone Centre-village (aujourd'hui appelée Centre-ville) afin de permettre un développement résidentiel de plus haute densité. La proposition à ce moment-là prévoyait le prolongement de la promenade Dundee en rue publique ainsi que la création de cinq lots destinés à des habitations multifamiliales. Les modifications aux arrêtés comportaient une condition :*

That the permitted main uses are limited to single unit dwelling, two unit dwelling, semi-detached dwelling or a multiple unit dwelling subject to terms and conditions imposed by the Planning Review and Adjustment Committee. / *Que les usages principaux permis soient limités à une habitation unifamiliale, une habitation bifamiliale, une habitation jumelée ou une habitation multifamiliale, sous réserve des modalités et conditions imposées par le Comité de révision de la planification.*

This condition intended to recognize that while the zoning of the property is Town Center, the use is limited to residential as it was not considered desirable to have other commercial uses permitted in the Town Center at this location. To reflect this intention, the future land use designation of the property remained residential through the recent Municipal Plan and Zoning By-law consolidation process (2025). / *Cette condition visait à reconnaître que, bien que la propriété soit zonée Centre-ville, l'usage devait demeurer strictement résidentiel, car il n'était pas jugé souhaitable de permettre d'autres usages commerciaux dans ce secteur particulier du Centre-ville. Pour refléter cette intention, la désignation d'usage futur de la propriété est demeurée résidentielle lors du récent processus de consolidation du Plan municipal et de l'Arrêté de zonage (2025).*

Currently, the applicant proposes a six unit multiple unit dwelling on the the subject property. This is a permitted use on the property as allowed by the 2024 rezoning application (by-law No. 51-4) which remains in effect; however, in accordance with the condition imposed through that rezoning process, new multiple unit dwellings are subject to terms and conditions of the Planning Review and Adjustment Committee (PRAC). The conditional use application is not to debate whether or not the land use is appropriate at the subject property, but rather to allow the PRAC to evaluate projects on a case-by-case basis, ensure design standards are met, and impose any reasonable terms and conditions the Committee sees fit. / *À l'heure actuelle, le requérant propose une habitation multifamiliale de six unités sur la propriété visée. Il s'agit d'un usage*

permis en vertu de la demande de rezonage de 2024 (arrêté no 51-4). Toutefois, conformément à la condition imposée dans le cadre de ce processus, toute nouvelle habitation multifamiliale est assujettie aux modalités et conditions du Comité de révision de la planification (CRP). La demande d'usage conditionnel ne vise donc pas à déterminer si l'usage est approprié pour la propriété, car cette question a déjà été tranchée par le rezonage de 2024, mais plutôt à permettre au CRP : d'évaluer le projet au cas par cas; de s'assurer que les normes de conception sont respectées; d'imposer toute modalité ou condition raisonnable que le Comité juge nécessaire.

The Municipal Plan provides policy language to guide the Committee in evaluating projects that involve multiple unit dwellings. The key items to consider are: a) the location and access to off-street parking and the design of the parking lot layout; b) provisions for the preservation of the existing landscape by minimizing tree and soil removal; c) buffering from adjacent properties; d) drainage; and e) water supply assessment. / *Le Plan municipal fournit des énoncés de politique pour orienter le Comité dans l'évaluation des projets comportant des habitations multifamiliales. Les principaux éléments à considérer sont : a) l'emplacement et l'accès su stationnement hors rue ainsi que la conception de son aménagement; b) les dispositions prévues pour préserver le paysage existant en minimisant l'enlèvement des arbres et du sol; c) le tamponnement vis-à-vis des propriétés adjacentes; d) le drainage; e) l'évaluation de l'approvisionnement en eau.*

The six unit building provides eight parking stalls (exceeding the required 1.25 parking ratio), two of which are within interior garages. Where the building abuts residential properties at the rear of the lot, existing vegetation is to remain providing some separation between the subject property and the existing single unit dwelling. The application includes stamped civil drawings detailing the servicing, stormwater management, drainage, and sediment and erosion control plan for the project. A water study is also supplied and confirms that water supply is adequate for the proposed use. / *Le bâtiment de six unités propose huit espaces de stationnement (dépassant le ratio requis de 1,25), dont deux situés dans des garages intérieurs. Là où le bâtiment est voisin de propriétés résidentielles à l'arrière du lot, la végétation existante sera conservée, offrant ainsi une séparation naturelle entre la propriété visée et l'habitation unifamiliale existante. La demande comprend également des plans civils estampillés détaillant les services, la gestion des eaux pluviales, le drainage ainsi que le plan de contrôle des sédiments et de l'érosion. Une étude d'eau est également fournie et confirme que l'approvisionnement en eau est adéquat pour l'usage proposé.*

All other requirements of the by-law in terms of building design and lot requirements (i.e. setbacks, lot coverage, parking) are met. */ Toutes les autres exigences de l'arrêté en matière de conception du bâtiment et d'exigences de lot (p. ex. marges de retrait, couverture du lot, stationnement) sont respectées.*

Finally, it is noted that the developer is in the final stages of constructing the extension of Dundee Drive, and, as of the time of this report, the final subdivision plan has not be approved by a Development Officer. Once approved and registered with the Province, this subdivision plan will create a separate lot for the proposed six unit building and provide access the new extension of Dundee Drive. The Salisbury Zoning By-law allows multiple dwellings on a lot, so the registration of that subdivision plan is not required prior to this conditional use approval. However, adequate access to the building should be confirmed at the time of building permit application by the Town of Salisbury. Given that the construction of the road is underway, this could include verification that the road construction is complete and open to public access. / *Enfin, il est indiqué que le promoteur est dans les dernières étapes de la construction de l'extension de*

la promenade Dundee. Au moment de la rédaction du présent rapport, le plan final de lotissement n'avait pas encore été approuvé par un agent d'aménagement. Une fois approuvé et enregistré auprès de la Province, ce plan créera un lot distinct pour l'habitation multifamiliale de six unités proposées et fournira l'accès à la nouvelle extension de la promenade Dundee. L'Arrêté de zonage de Salisbury permet les habitations multifamiliales sur un lot; ainsi, l'enregistrement du plan de lotissement n'est pas nécessaire avant l'approbation de l'usage conditionnel. Toutefois, un accès adéquat au bâtiment devra être confirmé au moment de la demande de permis de construction par la Ville de Salisbury. Étant donné que la construction de la route est en cours, cette confirmation pourrait inclure la vérification que la route est complétée et ouverte à l'accès public.

Public Notice / Avis public

Public notices were sent to landowners within 60m of the property on December 3rd, 2025. / *Des avis publics ont été envoyés aux propriétaires dans un rayon de 60 mètres de la propriété le 3 décembre 2025.*

Legal Authority / Autorité légale

Conditional Uses: / *Usages conditionnels :*

53(3) In prescribing the purposes for which land, buildings and structures in a zone may be used, a zoning by-law may: ...En prescrivant les fins auxquelles des terrains, des bâtiments et des constructions dans une zone quelconque peuvent être affectés, l'arrêté de zonage peut prévoir l'une quelconque des dispositions suivantes :
(c) prescribe particular purposes ... / y désigner des fins particulières :
(i) in respect of which the advisory committee or regional service commission, subject to subsection (5), may impose terms and conditions, and / pour lesquelles le comité consultatif ou la commission de services régionaux peut, sous réserve du paragraphe (5), imposer des modalités et des conditions,
(ii) that may be prohibited by the advisory committee or regional service commission if compliance with the terms and conditions imposed under subparagraph (i) cannot reasonably be expected. / que peuvent interdire le comité consultatif ou la commission de services régionaux lorsqu'il apparaît raisonnable de s'attendre qu'il ne sera pas satisfait aux modalités et aux conditions imposées en vertu du sous-alinéa (i).

The Community Planning Act also provides parameters for the PRAC when imposing conditions: */ La Loi sur l'urbanisme établit également les paramètres dont doit tenir compte le CRP lors de l'imposition de conditions :*

53(4) Terms and conditions imposed under paragraph (3)(c) shall be limited to those

considered necessary by the advisory committee or regional service commission to protect: / Les modalités et les conditions imposées en vertu de l'alinéa (3)c) se limitent à celles que le comité consultatif ou la commission de services régionaux juge nécessaires pour protéger :
(a) properties within the zone or in abutting zones, or / soit les biens situés dans la zone ou dans des zones y attenantes;
(b) the health, safety and welfare of the general public. / soit la santé, la sécurité et le bien-être du grand public.

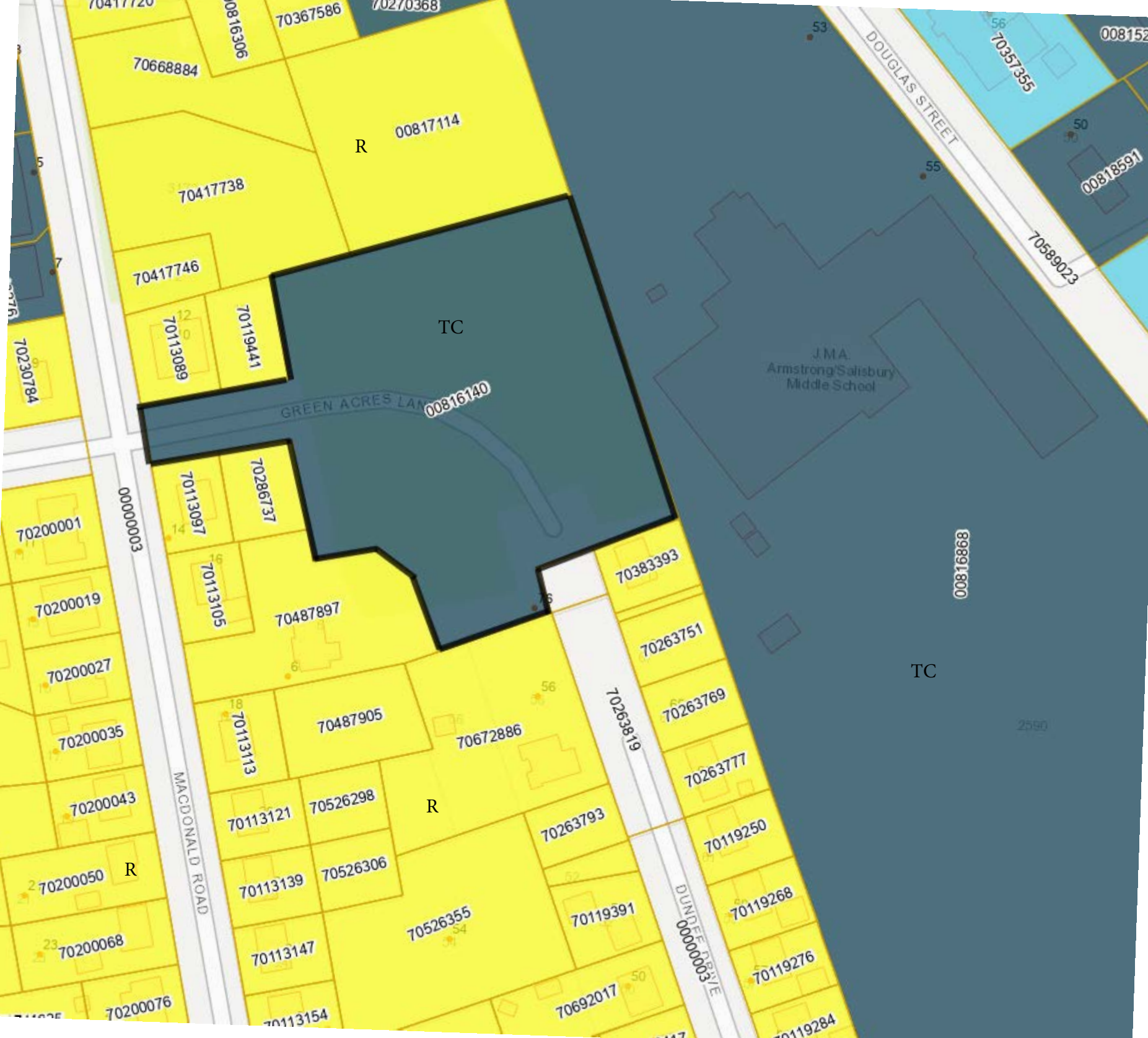
Recommendation / Recommandation

Staff respectfully recommend that the SE PRAC approve the conditional use application for a 6 unit multiple unit dwelling on the property known as PID 00816140 subject to the following conditions: / *Le personnel recommande respectueusement que le Comité de révision de la planification du Sud-Est approuve la demande d'usage conditionnel visant une habitation multifamiliale de six logements sur la propriété portant le NID 00816140, sous réserve des conditions suivantes :*

(1) That the development shall be in general conformity with the submitted site plan and floor plans. / *Que l'aménagement soit en conformité générale avec le plan de localisation et les plans d'étage soumis;*

(2) That prior to a building permit being issued, the Town of Salisbury determine that the access to the building is suitable and provide written approval for the access to the development. / *Qu'avant la délivrance d'un permis de construction, la Ville de Salisbury confirme que l'accès au bâtiment est adéquat et fournisse une approbation écrite pour l'accès au site.*

Note: This report was written in english and translated to a bilingual document. Where a conflict exists between the two languages, the language the report was written shall prevail. / ***Note**: ce rapport a été rédigé en anglais et traduit en version bilingue. En cas de conflit entre les deux langues, la langue dans laquelle le rapport a été rédigé a préséance.*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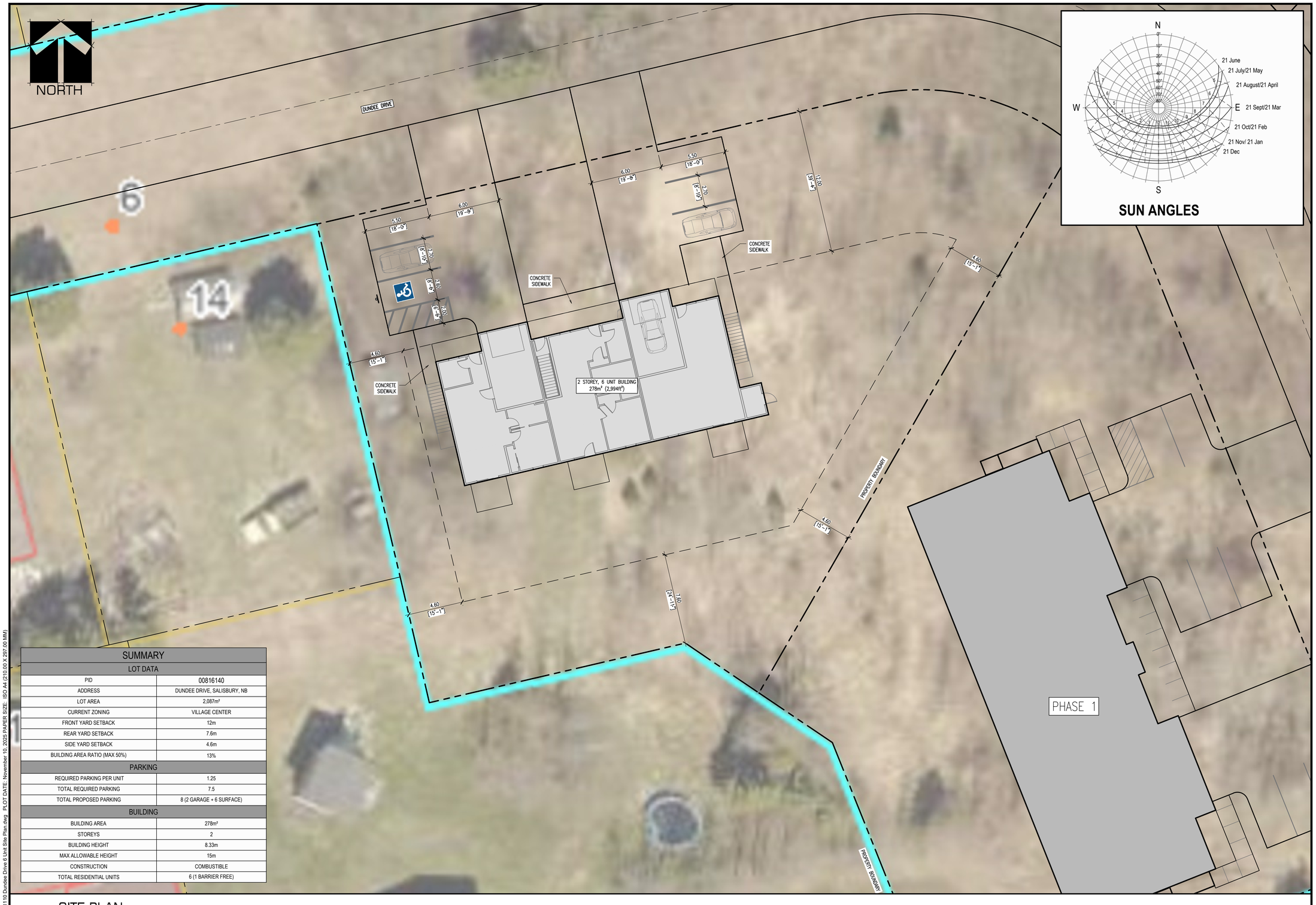


SUN ANGLES

SUMMARY	
LOT DATA	
PID	00816140
ADDRESS	DUNDEE DRIVE, SALISBURY, NB
LOT AREA	2,087m²
CURRENT ZONING	VILLAGE CENTER
FRONT YARD SETBACK	12m
REAR YARD SETBACK	7.6m
SIDE YARD SETBACK	4.6m
BUILDING AREA RATIO (MAX 50%)	13%
PARKING	
REQUIRED PARKING PER UNIT	1.25
TOTAL REQUIRED PARKING	7.5
TOTAL PROPOSED PARKING	8 (2 GARAGE + 6 SURFACE)
BUILDING	
BUILDING AREA	278m²
STOREYS	2
BUILDING HEIGHT	8.33m
MAX ALLOWABLE HEIGHT	15m
CONSTRUCTION	COMBUSTIBLE
TOTAL RESIDENTIAL UNITS	6 (1 BARRIER FREE)

1 SITE PLAN
SCALE: 1:150m

1:150
0 3 6 15m

Polyline Designs INC.
BUILDING AND SITE DESIGN SERVICES
MONCTON OFFICE
506.850.3630
melissa@polylinedesigns.ca
SUSSEX OFFICE
506.434.1157
kelly@polylinedesigns.ca
WWW.POLYLINEDESIGNS.CA

GENERAL NOTES:

1. THE CONTRACTOR IS HELD RESPONSIBLE TO VERIFY ALL DIMENSIONS, THEIR RELATIONSHIP TO EXISTING SITE CONDITIONS AND THE PROPOSED WORK INTENDED FOR INSTALLATION PRIOR TO COMMENCING OR INSTALLING THE WORK. REPORT ANY DISCREPANCIES THAT MAY AFFECT THE WORK TO THE CONSULTANT FOR REVISION PRIOR TO PROCEEDING. ALL WORK INSTALLED SHALL BE DEEM AS BEING VERIFIED BY THE CONTRACTOR AND BECOMES THE CONTRACTOR'S SOLE RESPONSIBILITY FOR CORRECTNESS.
2. THE DRAWINGS AND SPECIFICATIONS ARE NOT INTENDED TO DEPICT EACH AND EVERY CONDITION OR DETAIL OF CONSTRUCTION. AS THE KNOWLEDGEABLE PARTY IN THE FIELD, THE CONTRACTOR IS IN THE BEST POSITION TO VERIFY THAT ALL CONSTRUCTION IS COMPLETED IN A MANNER WHICH WILL PROVIDE A WATERTIGHT STRUCTURE. THE CONTRACTOR HAS THE SOLE RESPONSIBILITY FOR ENSURING THE WATERTIGHT INTEGRITY OF THE STRUCTURE.
3. PERFORM ALL WORK TO THE 2020 EDITION OF THE NATIONAL BUILDING CODE OF CANADA.
4. DRAWINGS ARE THE INTELLECTUAL PROPERTY OF POLYLINE DESIGNS INC. AND ALL COPYRIGHT IS RESERVED.
5. THIS DRAWING MAY NOT BE USED IN WHOLE OR IN PART FOR ANY PROJECT OTHER THAN THAT DESIGNATED HEREIN.
6. ALL REQUIRED PERMITS MUST BE OBTAINED BY OWNER PRIOR TO ANY CONSTRUCTION.

Rev.	Date	Description

Stamp:
DRAFT
November 10, 2025

6 UNIT APARTMENT BUILDING - PHASE 2

DUNDEE DRIVE
SALISBURY, NEW BRUNSWICK

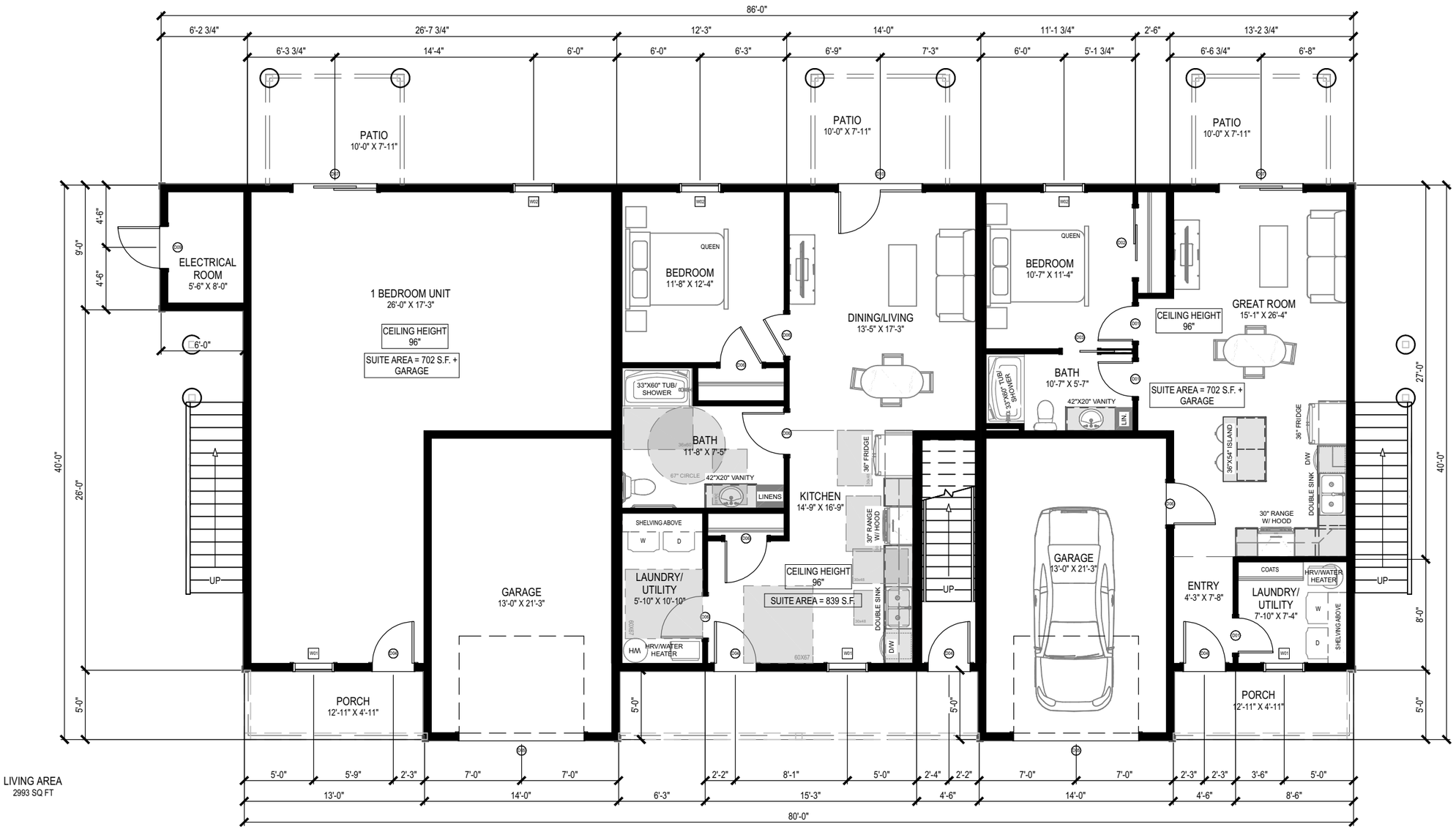
Drawing Title:
ARCHITECTURAL SITE PLAN

Drawn By:	RB/MD
Scale:	AS SHOWN
Project No:	24-265
Date:	NOV. 2025

L1.0
REV 0

FILE NAME: 251110 Dundee Drive 6 Unit Site Plan.dwg PLOT DATE: November 10, 2025 PAPER SIZE: ISO A4 (210.00 X 297.00 MM)

PRELIMINARY DESIGN
NOT FOR CONSTRUCTION



LIVING AREA
2993 SQ FT

DOOR SCHEDULE				
NUMBER	QTY	WIDTH	HEIGHT	DESCRIPTION
D01	11	30"	80"	HINGED-DOOR P03
D02	1	60"	80"	SLIDER-DOOR P03
D03	3	30"	80"	POCKET-DOOR P03
D04	6	36"	80"	EXT. HINGED-GLASS PANEL
D05	2	108"	84"	GARAGE-PANEL
D06	6	36"	80"	HINGED-DOOR P03
D07	5	72"	80"	EXT. SLIDER-GLASS PANEL
D08	3	48"	80"	SLIDER-DOOR P03
D09	1	36"	80"	EXT. HINGED-SLAB
D10	1	72"	80"	EXT. DOUBLE HINGED-GLASS PANEL

WINDOW SCHEDULE							
NUMBER	QTY	WIDTH	HEIGHT	EGRESS	DESCRIPTION	TOP	BOTTOM
W01	9	36"	48"		SINGLE HUNG	84"	36"
W02	6	36"	48"	YES	SINGLE HUNG	84"	36"
W03	2	36"	36"	YES	SINGLE HUNG	84"	48"

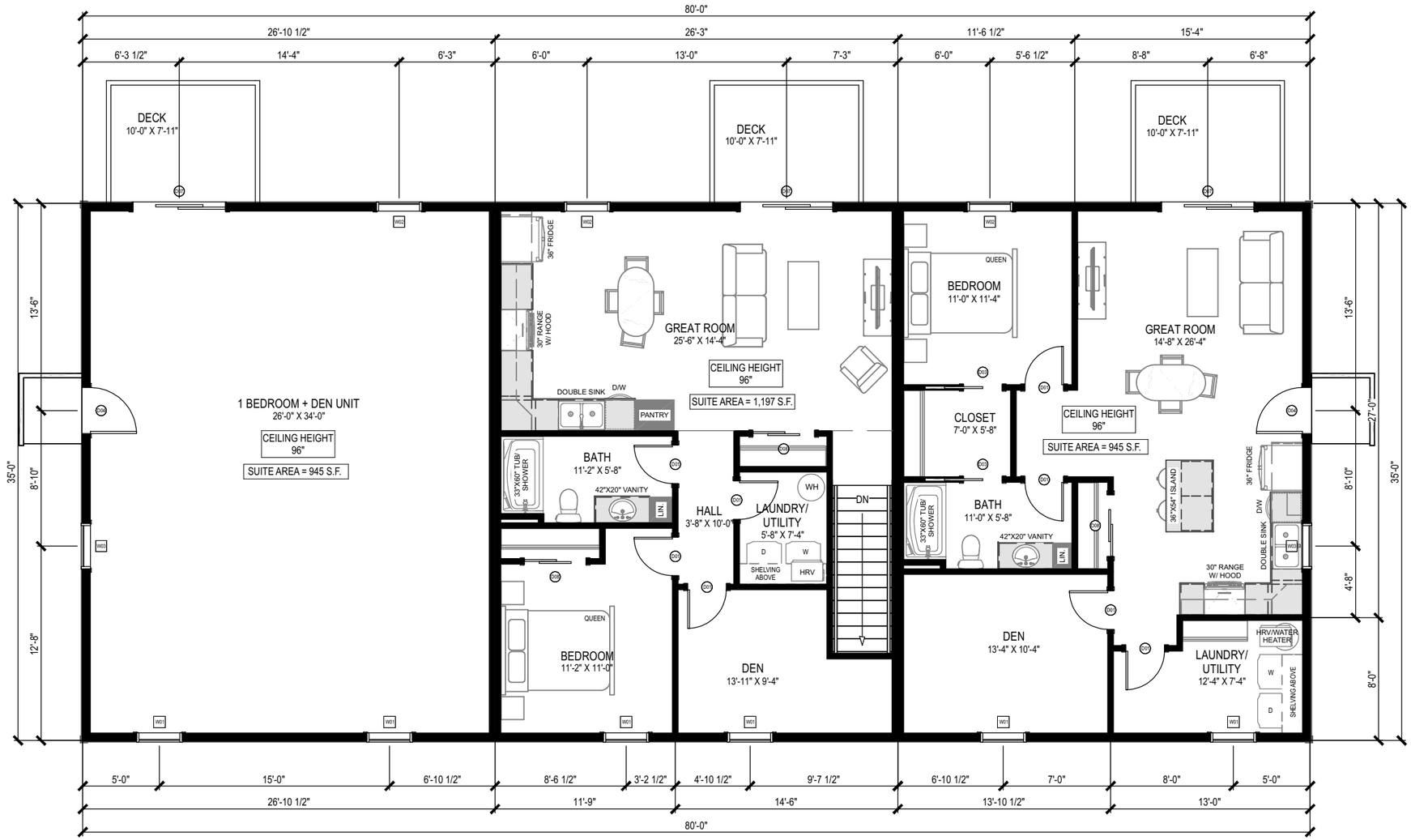
Polyline Designs Inc.

SCALE = 1/8" = 1'-0"
11" x 17"

1st Floor

2 STOREY, 6 UNIT APARTMENT BUILDING
DUNDEE DRIVE, SALISBURY, NB
October 9, 2025
DRAFT #5

PRELIMINARY DESIGN
NOT FOR CONSTRUCTION



LIVING AREA
2800 SQ FT

Polyline Designs Inc.

SCALE = 1/8" = 1'-0"
11" x 17"

2nd Floor

2 STOREY, 6 UNIT APARTMENT BUILDING
DUNDEE DRIVE, SALISBURY, NB
October 9, 2025
DRAFT #5

PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

Front Elevation

Polyline Designs Inc.

SCALE = 1/8" = 1'-0"
11" x 17"

2 STOREY, 6 UNIT APARTMENT BUILDING
DUNDEE DRIVE, SALISBURY, NB
October 9, 2025
DRAFT #5

PRELIMINARY DESIGN
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Rear Elevation

Polyline Designs Inc.

SCALE = 1/8" = 1'-0"
11" x 17"

2 STOREY, 6 UNIT APARTMENT BUILDING
DUNDEE DRIVE, SALISBURY, NB
October 9, 2025
DRAFT #5

PRELIMINARY DESIGN
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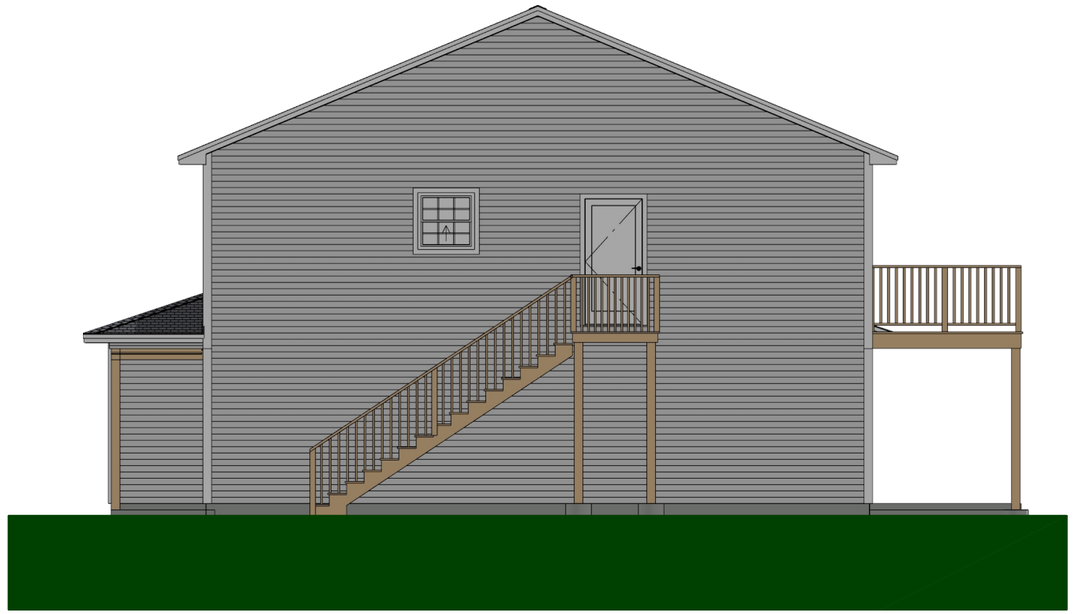
Right Elevation



Left Elevation

Polyline Designs Inc.

SCALE = 1/8" = 1'-0"
11" x 17"

2 STOREY, 6 UNIT APARTMENT BUILDING
DUNDEE DRIVE, SALISBURY, NB
October 9, 2025
DRAFT #5

PRELIMINARY DESIGN
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Polyline Designs Inc.

Camera 1

SCALE = 1/8" = 1'-0"
11" x 17"

Camera 2

2 STOREY, 6 UNIT APARTMENT BUILDING
DUNDEE DRIVE, SALISBURY, NB
October 9, 2025
DRAFT #5

PRELIMINARY DESIGN
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Level 1 Overview

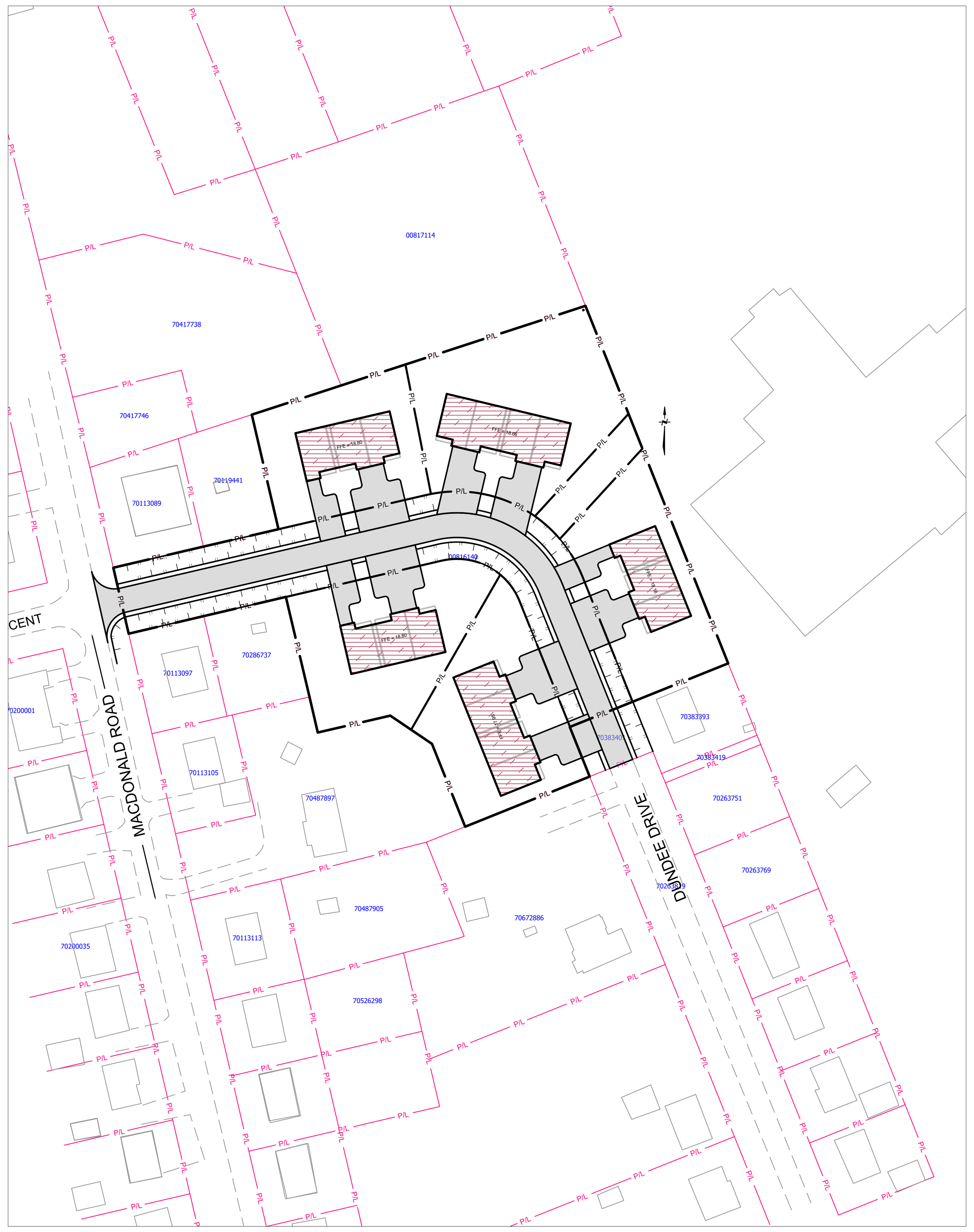
Level 2 Overview

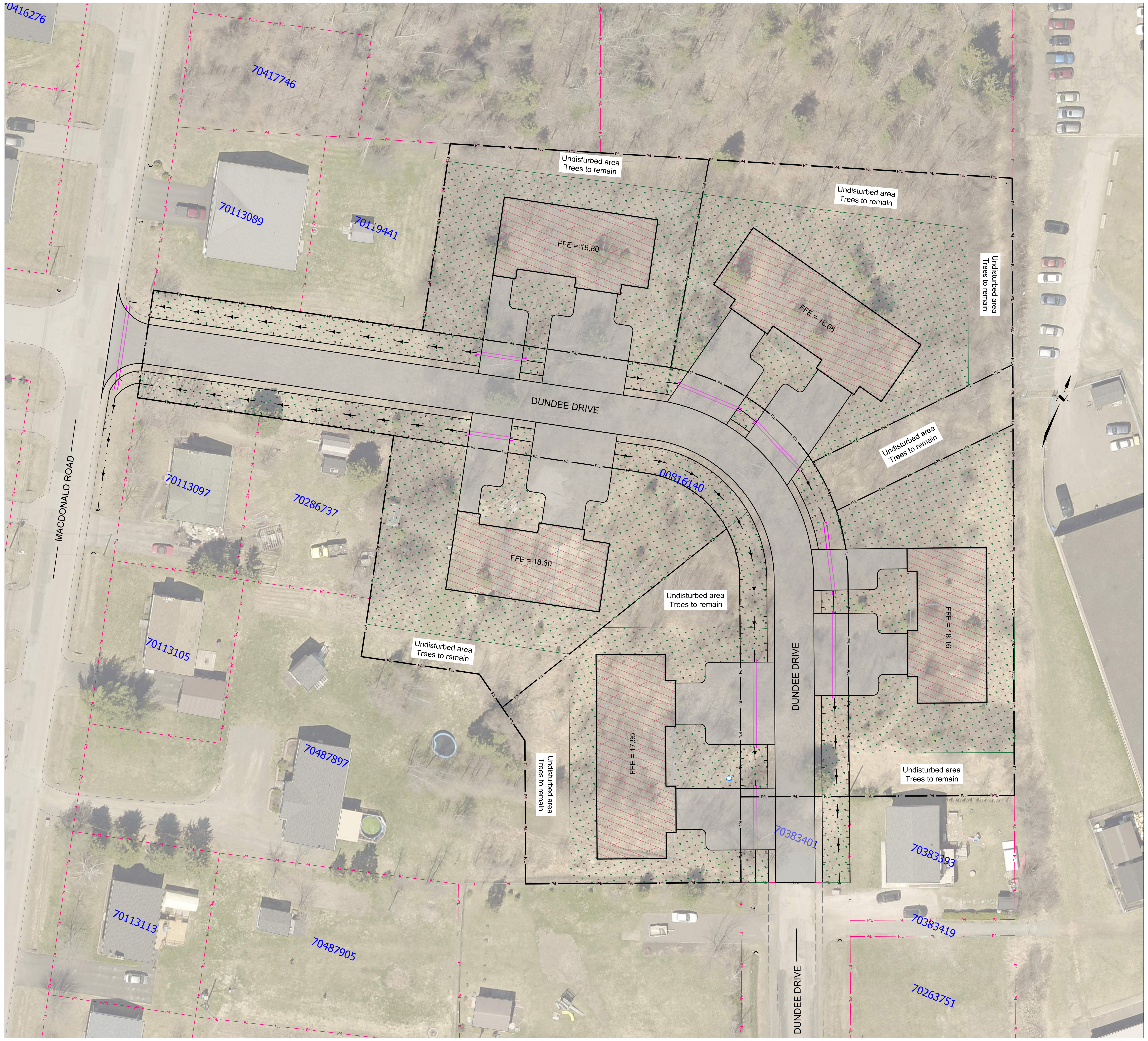
Polyline Designs Inc.

SCALE = 1/8" = 1'-0"
11" x 17"

2 STOREY, 6 UNIT APARTMENT BUILDING
DUNDEE DRIVE, SALISBURY, NB
October 9, 2025
DRAFT #5

WES MICHAUD - DUNDEE DRIVE
SALISBURY - WESTMORLAND COUNTY, NB





DRAWING LIST

DON - MORE SURVEYS & ENGINEERING LTD.

REGISTERED PROFESSIONAL ENGINEER Province of New Brunswick
M5990
Andrew K. Toole
Signature
2024-10-08
Date
Province du Nouveau-Brunswick INGENIEUR IMMATRICULÉ

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NEW BUILDING AREAS
NEW ASPHALT AREAS
NEW CONCRETE AREAS
NEW GRAVEL AREAS
NEW GRASS AREAS
NEW WOODED AREAS

REVISION:

No.	DATE Y/M/D	DESCRIPTION
2	2024-10-08	ISSUED FOR REVIEW
1	2024-09-27	ISSUED FOR REVIEW

DWG: 23382ESP2
DATED: 2024-08-30

DESIGNED BY: A. Toole
DRAWN BY: S. Danbaba
CHECKED BY: A. Toole
IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE
Scale: Horizontal 1:400 Vertical N/A
SCALE: 1:250 METRIC 5 4 3 2 1 0 5 10 15

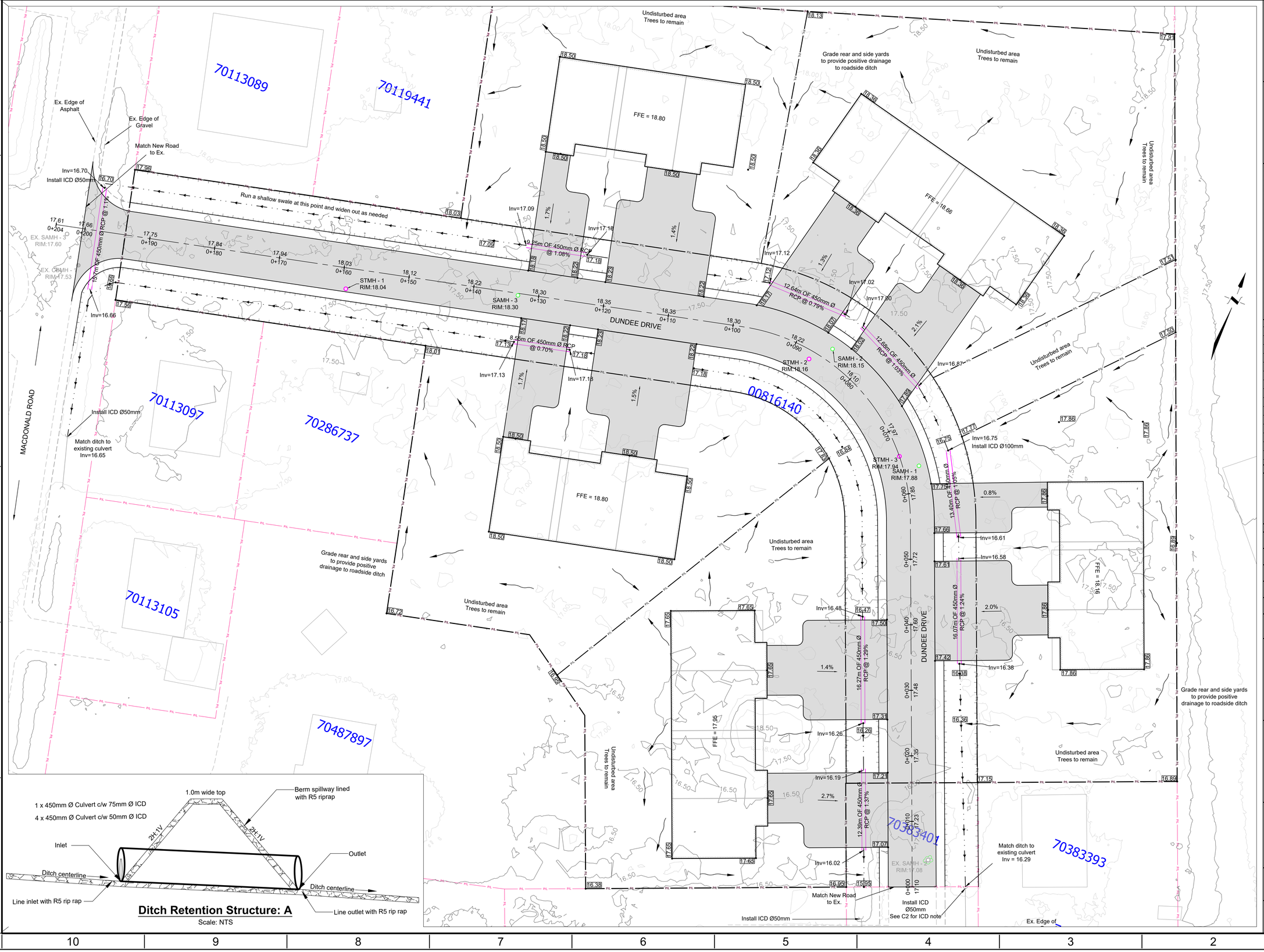
CLIENT:
WES MICHAUD

PROJECT:
DUNDEE DRIVE

TITLE:
COVER SHEET

SHEET C1 of 6

ISSUE: ISSUED FOR REVIEW
DATE OF: 2024-10-08
REV # 2



DON-MORE SURVEYS & ENGINEERING LTD.

REGISTERED PROFESSIONAL ENGINEER Province of New Brunswick
M5990
Andrew K. Toole
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LEGEND	NEW	EXISTING
EDGE OF PAVEMNET		
CURB		
SURFACE PROFILE		
TOP OF SLOPE		
SWALE / DITCH		
SPOT ELEVATION	● 6.68	+8.71
BUILDING		
SIDEWALK		
PARKING MARKING		
PROPERTY BOUNDARY	PL	
PROPERTY LINE	PL	
EASEMENT		
CURB & DRIVEWAY CUT		
FLOW ARROW		
GRADE ARROW		
CULVERT		
HEADWALL		
FENCE	x	
CATCH BASIN		
SIDEWALK		
PHASE BNDY		

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1	2024-09-27	ISSUED FOR REVIEW

DWG: 23382ESP2 — DATED: 2024-08-30

DESIGNED BY: A. Toole
DRAWN BY: S. Danbaba
CHECKED BY: A. Toole

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE

Scale: Horizontal 1:250 Vertical N/A

SCALE: 1:250 METRIC
5 4 3 2 1 0 5 10 15

CLIENT:
WES MICHAUD

PROJECT:
DUNDEE DRIVE

TITLE:
GRADING PLAN

SHEET C2 of 6

ISSUE: ISSUED FOR REVIEW
DATE OF: 2024-10-08
REV # 2

STORM

1. ALL STORM PIPE TO BE IN ACCORDANCE WITH THE TOWN OF SALISBURY SPECIFICATIONS AND OF THE DIAMETER NOTED ON THE DRAWINGS.
2. STORM LATERALS TO BE 100mmØ PVC DR35 (WHITE) IN ACCORDANCE WITH THE TOWN OF SALISBURY SPECIFICATIONS UNLESS OTHERWISE NOTED.
3. CATCH BASIN LATERALS TO BE 200MMØ PVC DR35 AT MINIMUM 2.0% UNLESS OTHERWISE DIRECTED BY ENGINEER.
4. ALL JOINTS TO BE BELL AND SPIGOT TYPE WITH RUBBER GASKETS TO CSA A257.3.
5. ALL STORM MANHOLES TO BE PRE-CAST TO CSA A257.4 AND ASTM C478 OF THE DIAMETER NOTED ON THE DRAWINGS OR BASED ON MANUFACTURER'S RECOMMENDATIONS.
6. ALL MANHOLES TO BE 1050Ø UNLESS OTHERWISE NOTED.
7. ALL STORM MANHOLES TO BE CONSTRUCTED IN ACCORDANCE WITH THE TOWN OF SALISBURY SPECIFICATIONS.
8. ALL STORM MANHOLE FRAMES AND COVERS TO BE CAST IRON TO ASTM A48, CLASS 30 B AS PER TOWN OF SALISBURY SPECIFICATIONS.
9. ALL CATCH BASINS TO BE OF THE TYPE SPECIFIED IN THE CATCH BASIN SCHEDULE AND INSTALLED IN ACCORDANCE WITH THE TOWN OF SALISBURY SPECIFICATIONS. CATCH BASINS TO BE EQUIPPED WITH INLET CONTROL.
10. ALL CATCH BASINS AND STORM MANHOLES TO HAVE MINIMUM 100mm GRADE RING AND 12mm RUBBER RISER BETWEEN FRAME & CONCRETE COVER.
11. ALL STORM STUBS TO BE PLUGGED/CAPPED. LOCATION TO BE MARKED WITH A 38mm X 89mm WOOD STAKE FROM INVERT OF PIPE TO 300mm BELOW FINISH GRADE.
12. ONLY FOUNDATION DRAIN TO BE CONNECTED TO THE NEW STORM.

SANITARY

1. ALL SANITARY PIPE TO BE IN ACCORDANCE WITH THE TOWN OF SALISBURY SPECIFICATIONS AND OF THE DIAMETER NOTED ON THE DRAWINGS.
2. SANITARY LATERALS TO BE 100mmØ PVC DR35 (GREEN) IN ACCORDANCE WITH THE TOWN OF SALISBURY SPECIFICATIONS UNLESS OTHERWISE NOTED.
3. ALL JOINTS TO BE IN ACCORDANCE WITH THE TOWN OF SALISBURY SPECIFICATIONS.
4. ALL SANITARY MANHOLES TO BE PRE-CAST TO CSA A257.4 AND ASTM C478 OF THE DIAMETER NOTED ON THE DRAWINGS OR BASED ON MANUFACTURER'S RECOMMENDATIONS.
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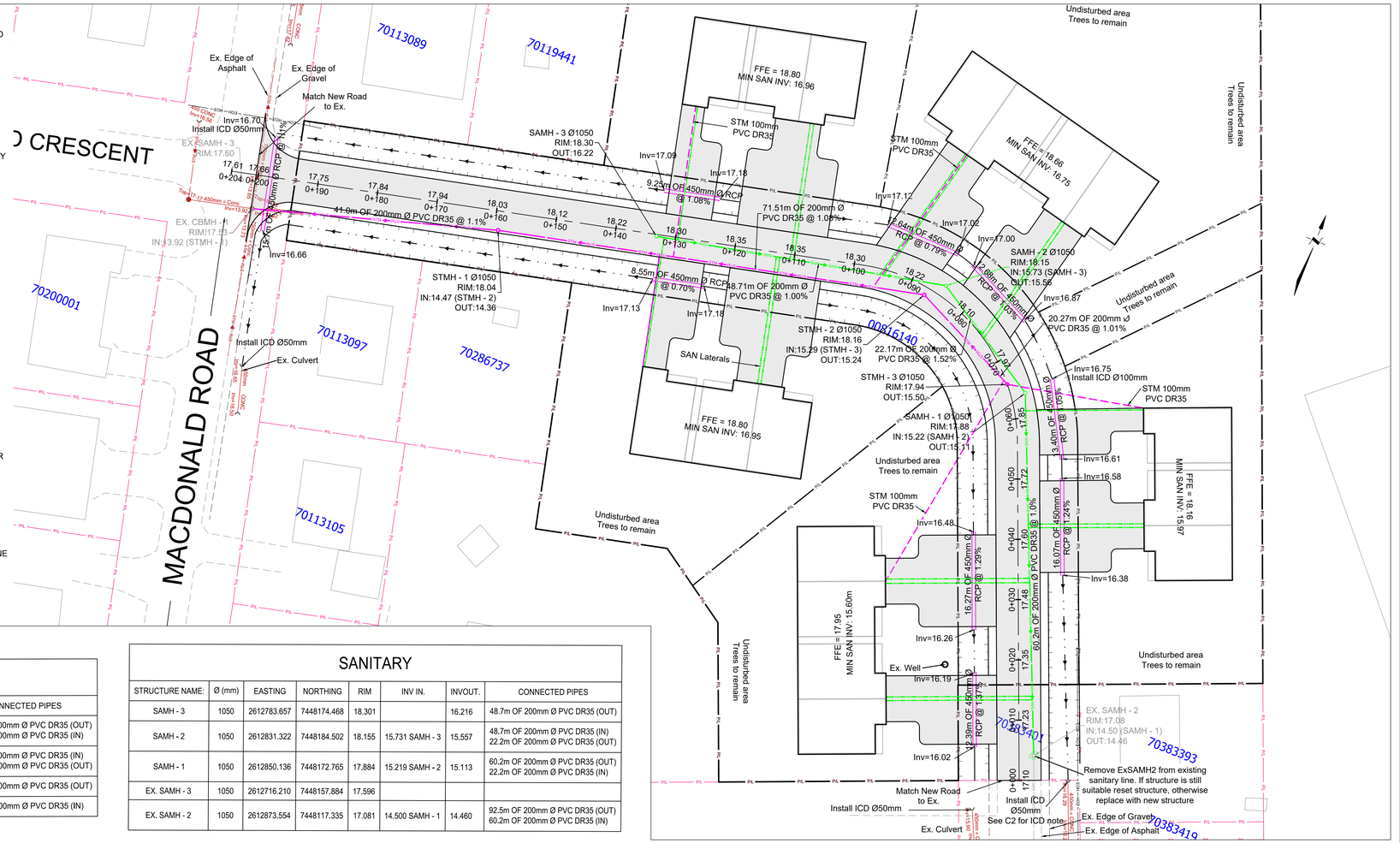
6. ALL SANITARY MANHOLES TO BE CONSTRUCTED IN ACCORDANCE WITH THE TOWN OF SALISBURY SPECIFICATIONS.
7. ALL STORM MANHOLE FRAMES AND COVERS TO BE CAST IRON TO ASTM A48, CLASS 30 AS PER TOWN OF SALISBURY SPECIFICATIONS.
8. ALL SANITARY MANHOLES TO HAVE MINIMUM 100mm RISER BETWEEN FRAME & CONCRETE COVER. TOP RISER TO BE MADE OF RUBBER.
9. ALL SANITARY STUBS TO BE PLUGGED/CAPPED. LOCATION TO BE MARKED WITH A 38mm X 89mm WOOD STAKE FROM INVERT OF PIPE TO 300mm BELOW FINISH GRADE.
10. CONTRACTOR SHALL PLACE RIGID FOAM INSULATION (AS PER TOWN OF SALISBURY SPECIFICATIONS) AT DIRECTION OF ENGINEER BETWEEN THE SANITARY LINE AND ANY CROSSING PIPES WHERE THE SEPARATION IS LESS THAN 450mm, OR, OVER THE SANITARY LINE WHERE DEPTH OF COVER IS LESS THAN 1.5m.
11. CONTRACTOR IS RESPONSIBLE FOR TESTING OF SANITARY MAINS TO THE TOWN OF SALISBURY STANDARDS.

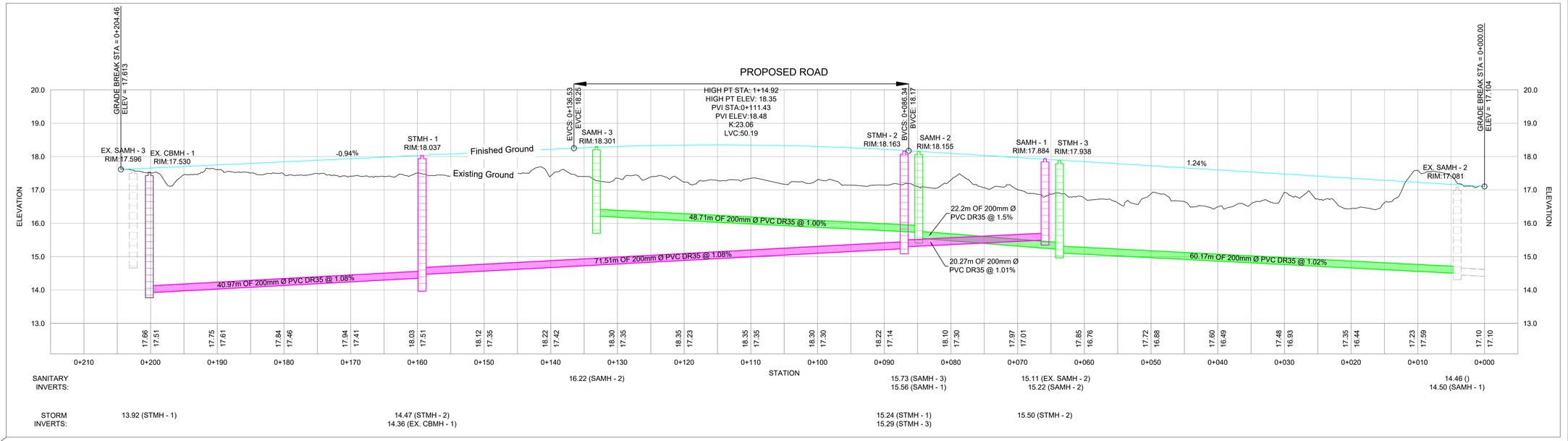


STORM

STRUCTURE NAME:	Ø (mm)	EASTING	NORTHING	RIM	INV IN.	INVOUT.	CONNECTED PIPES
STMH - 2	1050	2612828.543	7448181.766	18.163	15.295 STMH - 3	15.241	71.5m OF 200mm Ø PVC DR35 (OUT) 20.3m OF 200mm Ø PVC DR35 (IN)
STMH - 1	1050	2612758.852	7448165.734	18.037	14.469 STMH - 2	14.361	71.5m OF 200mm Ø PVC DR35 (IN) 41.0m OF 200mm Ø PVC DR35 (OUT)
STMH - 3	1050	2612846.831	7448173.015	17.938		15.500	20.3m OF 200mm Ø PVC DR35 (OUT)
EX. CBMH - 1	1050	2612719.577	7448154.071	17.530	13.920 STMH - 1		41.0m OF 200mm Ø PVC DR35 (IN)

SANITARY

STRUCTURE NAME:	Ø (mm)	EASTING	NORTHING	RIM	INV IN.	INVOUT.	CONNECTED PIPES
SAMH - 3	1050	2612783.657	7448174.468	18.301		16.216	48.7m OF 200mm Ø PVC DR35 (OUT)
SAMH - 2	1050	2612831.322	7448184.502	18.155	15.731 SAMH - 3	15.557	48.7m OF 200mm Ø PVC DR35 (IN) 22.2m OF 200mm Ø PVC DR35 (OUT)
SAMH - 1	1050	2612850.136	7448172.765	17.884	15.219 SAMH - 2	15.113	60.2m OF 200mm Ø PVC DR35 (OUT) 22.2m OF 200mm Ø PVC DR35 (IN)
EX. SAMH - 3	1050	2612716.210	7448157.884	17.596			
EX. SAMH - 2	1050	2612873.554	7448117.335	17.081	14.500 SAMH - 1	14.460	92.5m OF 200mm Ø PVC DR35 (OUT) 60.2m OF 200mm Ø PVC DR35 (IN)



DON-MORE SURVEYS & ENGINEERING LTD.

REGISTERED PROFESSIONAL ENGINEER
Province of New Brunswick
M5590
Andrew K. Toole
Signature
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INGÉNIEUR | IMMATRICULÉ(E)

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LEGEND	NEW	EXISTING
SANITARY MAIN	SAN NYS	ESAN NYS
SANITARY LATERAL		
WATER MAIN	DI FH EW	DI FH EW
WATER LATERAL		
STORM MAIN		
STORM LATERAL		
CULVERT		
UTILITY OVER HEAD	OH	EOH
NATURAL GAS	GAS	EGAS
UTILITY UNDERGROUND	UG	EUG
PROPERTY BOUNDARY	PL	PL

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DWG: 23382ESP2 DATED: 2024-08-30

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DRAWN BY: S. Danbaba
CHECKED BY: A. Toole

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE

Scale:
Horizontal 1:400 Vertical 1:50
SCALE: 1:250 METRIC
5 4 3 2 1 0 5 10 15

CLIENT:
WES MICHAUD

PROJECT:
DUNDEE DRIVE

TITLE:
SERVICING PLAN & PROFILE

SHEET C3 of 6

ISSUE: ISSUED FOR REVIEW
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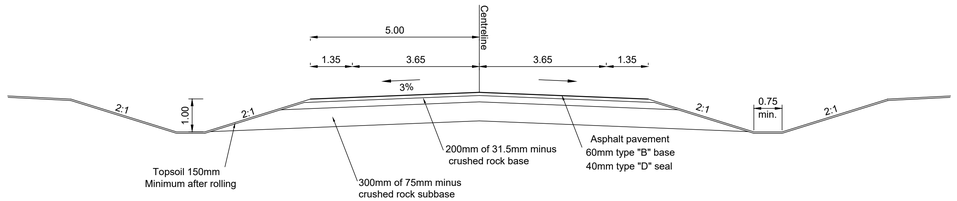
REV # 2

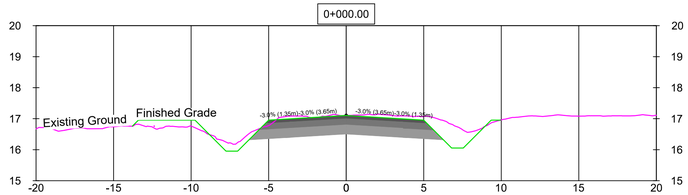


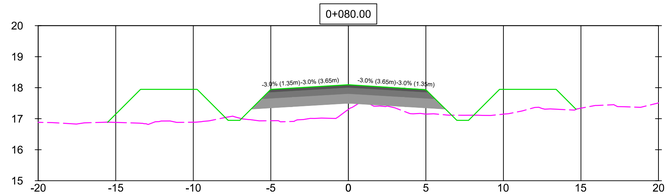
Typical road section

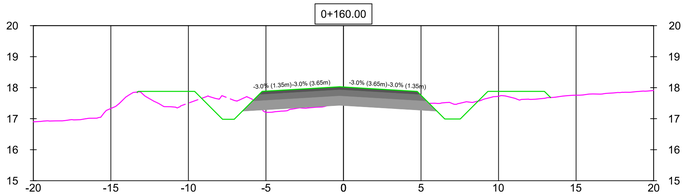
Scale: NTS

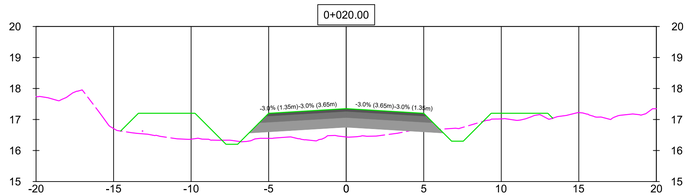
Notes:

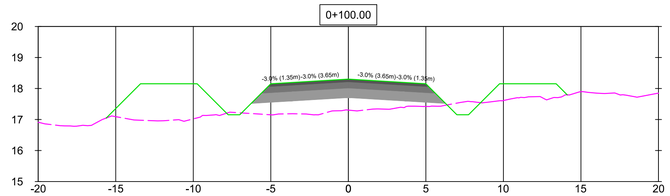
1. To tie the typical section to existing swales, widen out as needed.
2. Ditches to be finished with 150mm of topsoil and hydroseeded.
3. Asphalt crown to be carried to centreline of culvert.
4. Gravel driveways to match to edge of gravel shoulder.
5. Asphalt driveways to match to edge of asphalt.

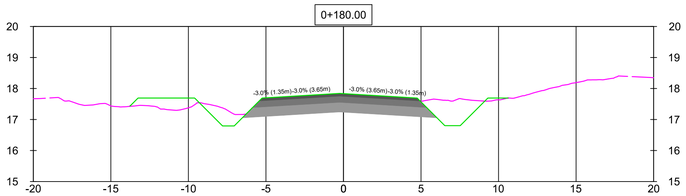


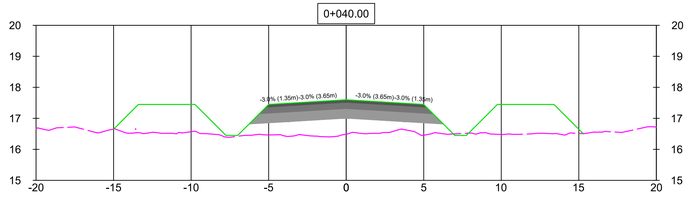


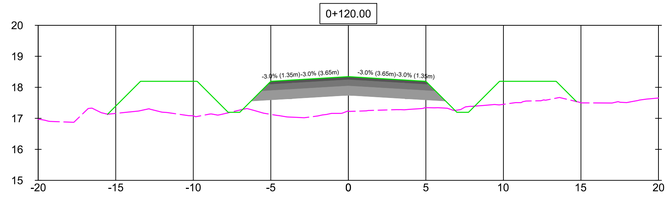


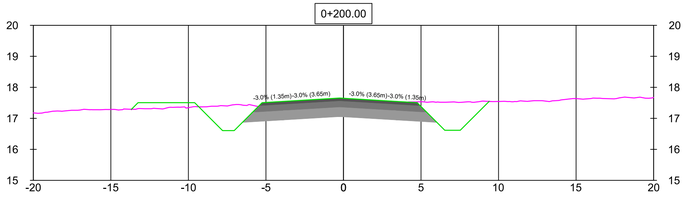


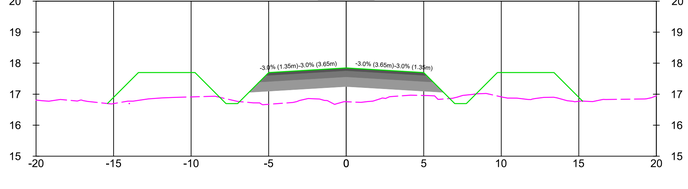


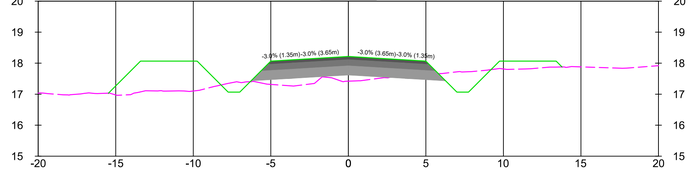












DON - MORE
SURVEYS & ENGINEERING LTD.

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M5990
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1	2024-09-27	ISSUED FOR REVIEW

DWG: 23382ESP2
DATED: 2024-08-30

DESIGNED BY: A. Toole
DRAWN BY: S. Danbaba
CHECKED BY: A. Toole

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE

Scale:
Horizontal 1:200 Vertical 1:100

SCALE: 1:200 METRIC
4 3 2 1 0 4 8 12

CLIENT:

WES MICHAUD

PROJECT:

DUNDEE DRIVE

TITLE:

CROSS SECTIONS

SHEET C4 of 6

ISSUE: ISSUED FOR REVIEW
DATE OF: 2024-10-08

REV # 2

STORMWATER MANAGEMENT NOTES

STORM WATER MODELED USING HYDROCAD V10.00 SOFTWARE, USING THE USDA NATURAL RESOURCES CONSERVATION SERVICE METHOD (FORMALLY SCS).

1. WORK COMPLETED IN ACCORDANCE WITH THE CITY OF MONCTON STORM DRAINAGE DESIGN CRITERIA MANUAL, MARCH 7, 2016 VERSION.
2. 2 AND 24HR CHICAGO STORM DISTRIBUTION USED.
   - 100 YEAR STORM (24HR) - TOTAL RAINFALL: 140mm
   - 5 YEAR STORM (24HR) - TOTAL RAINFALL: 84mm
3. IA/S RATIO = 0.2
4. ANTECEDENT MOISTURE CONDITION = 2 (AVERAGE (NORMAL) CONDITIONS)
5. PRE-DEVELOPMENT CATCHMENT DRAINAGE BOUNDARIES MATCH POST-DEVELOPMENT BOUNDARIES.

USSCS METHOD HYDROLOGIC SOIL GROUP CLASSIFICATION

A. SOIL GROUP A: VERY LOW RUNOFF POTENTIAL AND VERY HIGH INFILTRATION RATE, CONSISTENT WITH WELL DRAINED SAND AND GRAVEL.

B. SOIL GROUP B: MODERATE RUNOFF POTENTIAL AND INFILTRATION RATE, CONSISTENT WITH SAND AND SILT.

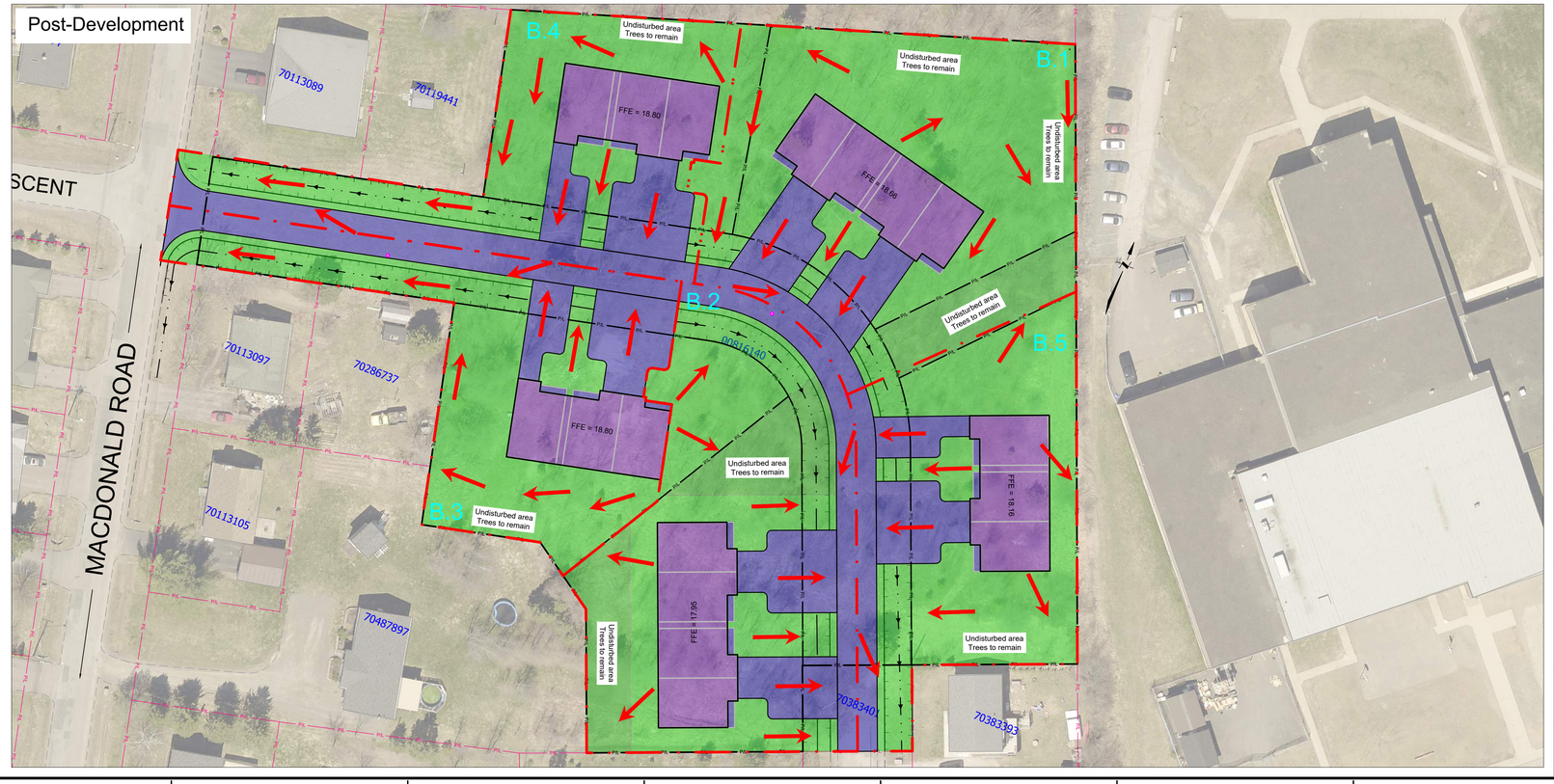
C. SOIL GROUP C: HIGH RUNOFF POTENTIAL AND LOW INFILTRATION RATE, CONSISTENT WITH CLAY AND SAND.

D. SOIL GROUP D: VERY HIGH RUNOFF POTENTIAL AND VERY LOW INFILTRATION RATE, CONSISTENT WITH SATURATED CLAYS AND HIGH WATER TABLES.

PRE DEVELOPMENT CATCHMENT AREAS (A.#)			
CATCHMENT ID	AREA (m²)	CN	TC (min)
A.1	14847	65	17.500

POST DEVELOPMENT CATCHMENT AREAS (B.#)			
CATCHMENT ID	AREA (m²)	CN	TC (min)
B.1	3679	73	5.000
B.2	3,454	75	5.000
B.3	2638	79	5.000
B.4	2,501	80	5.000
B.5	2,573	78	5.000
TOTAL	14,847	% IMPERVIOUS	38.02%

PEAK FLOW SUMMARY			
RAIN EVENT	PRE	POST W/O SWM	POST W/ SWM
1:5 YR (m^3/s)	0.0384	0.1811	0.0348
1:100 YR (m^3/s)	0.1617	0.4980	0.0440



DON - MORE
SURVEYS & ENGINEERING LTD.

REGISTERED PROFESSIONAL ENGINEER
Province of New Brunswick
M5590
Andrew K. Toole
Signature
2024-10-08
Date
Province du Nouveau-Brunswick
INGÉNIEUR IMMATRICULÉ

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LAND USE	PRE	POST
ASPHALT		
GRASS		
GRAVEL		
ROOF		
WOODS		
WETLAND		
LOTS		
SUBCATCHMENT		
SUBCATCHMENT ID	A.#	B.#
FLOW DIRECTION		
APPROX. 5YR FLOOD	5 YR	5 YR
APPROX. 100YR FLOOD	100 YR	100 YR

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Scale: Horizontal 1:250 Vertical N/A

SCALE: 1:250 METRIC
5 4 3 2 1 0 5 10 15

CLIENT:
WES MICHAUD

PROJECT:
DUNDEE DRIVE

TITLE:
STORMWATER MANAGEMENT PLAN

SHEET C5 of 6

ISSUE: ISSUED FOR REVIEW
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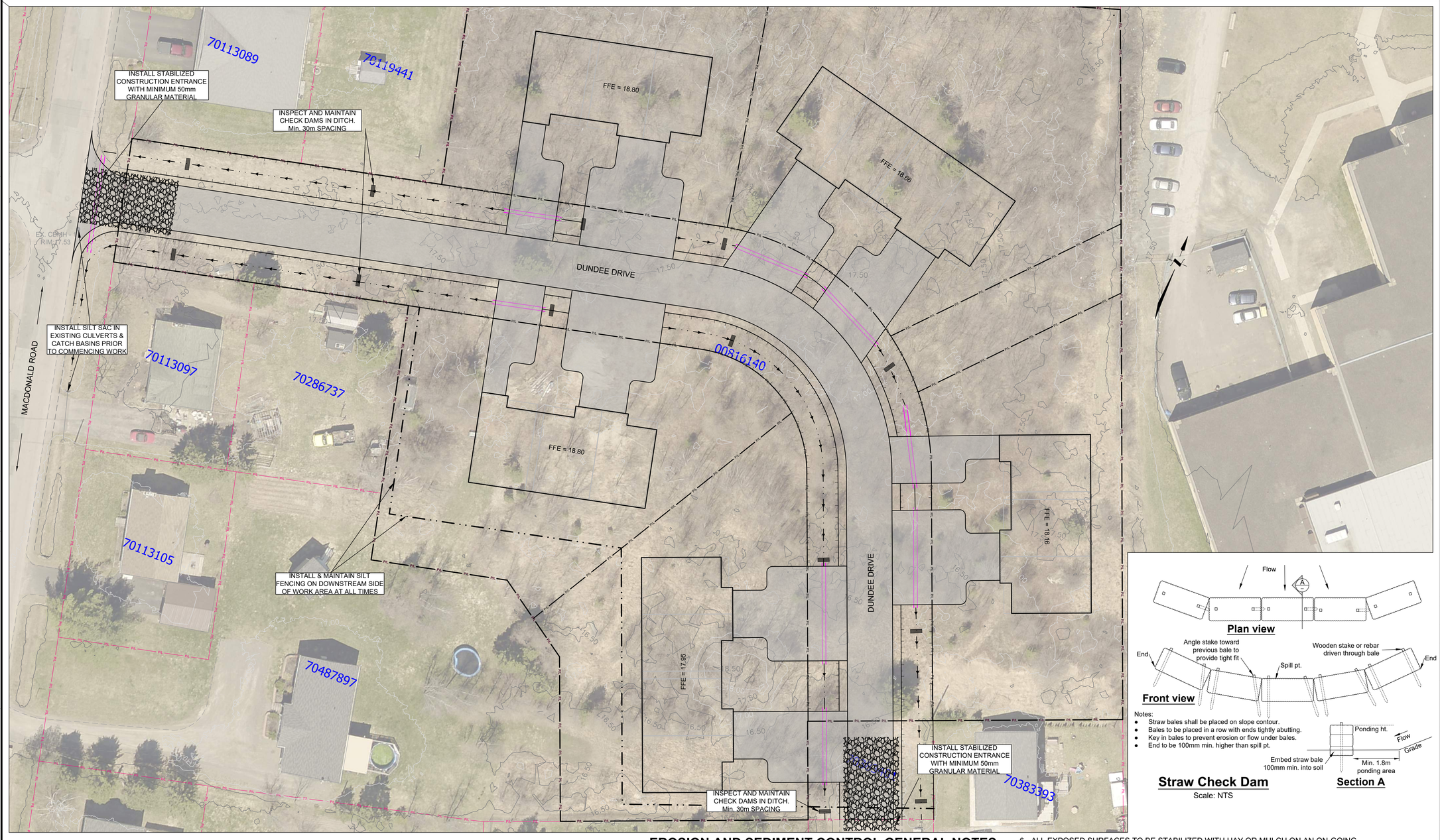
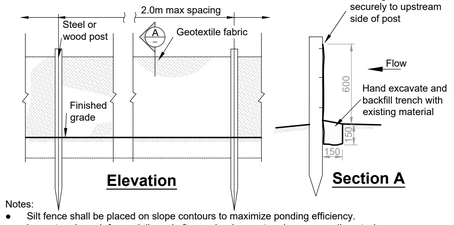
REV # 2



Sediment Control Fence

Scale: NTS



Notes:
- Silt fence shall be placed on slope contours to maximize ponding efficiency.
- Inspect and repair fence daily and after each rain event and remove sediment when accumulated silt reached 200mm depth.
- Removed sediment shall be deposited to an area which will not contribute sediment off-site.

EROSION AND SEDIMENT CONSTRUCTION SCHEDULE

1. CLEAR SITE WHERE REQUIRED. DO NOT GRUB.
2. INSTALL EROSION AND SEDIMENTATION CONTROL MEASURES SUCH AS SILT FENCE, CHECK DAMS AND OTHER MEASURES.
3. INSTALL SILT SACS IN ALL DOWN STREAM CULVERTS WITHIN 30 METERS OF CONSTRUCTION ENTRANCE.
4. COMPLETE GRUBBING. GRUB ONLY THE AREAS REQUIRED.
5. COMPLETE MASS EXCAVATION AND DITCH CONSTRUCTION.
6. COMPLETE ROAD WORK. STABILIZE EXPOSED SOIL TO PREVENT EROSION. SUBJECT TO RAINFALL FORECASTS, EXPOSED SOIL MAY REQUIRE TARPING, INCLUDING STOCK PILE AREAS.
7. COMPLETE ROAD AND DITCH AREA CONSTRUCTION, INSTALL TOPSOIL AND SOD OR HYDROSEED ANY REMAINING AREAS.

EROSION AND SEDIMENT CONTROL GENERAL NOTES

1. CONSTRUCTION ACTIVITY TO BE CARRIED OUT BASED ON THE PRINCIPLE THAT PREVENTION OF SEDIMENT LADEN RUN-OFF IS THE FOCUS RATHER THAN RELYING ON TREATMENT AT OUTFALL. THIS IS TO BE ACCOMPLISHED BY MINIMIZING EXPOSED SOIL. ONCE EXCAVATION HAS BEGUN IN A PARTICULAR AREA, THE WORK IS TO BE COMPLETED IN THAT AREA, INCLUDING FINAL GRADING AND STABILIZATION.
2. TRIBUTARY STORMWATER FROM SITE TO BE DIRECTED TO SEDIMENTATION CONTROL DEVICES AT ALL TIMES DURING CONSTRUCTION.
3. COVER AND STABILIZE EXPOSED SURFACES WITH HAY, MULCH, WOOD CHIPS OR IMPERMEABLE MEMBRANE (SUCH AS A TARP) AS REQUIRED TO PREVENT SEDIMENT RUN-OFF. MAINTAIN COVERAGE THROUGHOUT CONSTRUCTION PERIOD.
4. CONTRACTOR TO LEAVE SEDIMENTATION CONTROL MEASURES IN SERVICE UNTIL ENGINEER OR THE MUNICIPALITY REQUESTS THAT THEY BE TAKEN OUT OF SERVICE.
5. CONTRACTOR TO HAVE ADDITIONAL SILT FENCE, BAILED HAY, HAY AND/OR MULCH ON SITE FOR MAINTENANCE AND INSTALLATION OF ADDITIONAL MEASURES AS REQUIRED.
6. ALL EXPOSED SURFACES TO BE STABILIZED WITH HAY OR MULCH ON AN ON-GOING BASIS. IT WILL NOT BE ACCEPTABLE TO LEAVE EXPOSED SURFACES TO THE END OF THE JOB AND STABILIZE ALL EXPOSED SURFACES AS ONE LARGE JOB.
7. ALL EXPOSED AREAS NOT FINISHED WITH ASPHALT, GRAVEL, SOD OR RIPRAP TO BE HYDROSEEDED.
8. ALL WORKS TO BE PERFORMED IN ACCORDANCE WITH REQUIREMENTS OF THE NEW BRUNSWICK DEPARTMENT OF THE ENVIRONMENT AND THE Municipality.
9. CONTRACTOR TO INSPECT SEDIMENT CONTROL STRUCTURES AND MAKE NECESSARY REPAIRS WEEKLY AND BEFORE AND AFTER ALL RAINFALL EVENTS EXCEEDING 10mm.
10. CONTRACTOR TO OBTAIN COPIES OF ALL NECESSARY PERMITS REQUIRED TO PERFORM WORKS AND SHALL COMPLY WITH ALL PERMIT REQUIREMENTS AND CONDITIONS.
11. THE SEDIMENT AND EROSION CONTROL MEASURES OUTLINED ON THIS PLAN ARE RECOMMENDATIONS ONLY. DEPENDING ON SITE CONDITIONS DURING CONSTRUCTION, ADDITIONAL MEASURES MAY BE REQUIRED.

DON - MORE SURVEYS & ENGINEERING LTD.

REGISTERED PROFESSIONAL ENGINEER Province of New Brunswick
M5990
Andrew K. Toole
Andrew Toole
Signature
2024-10-08
Date
Province du Nouveau-Brunswick
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LEGEND:

SILT FENCE	
CHECK DAM	
HEADWALL	
CULVERT	
SWALE / DITCH	
RUMBLE STRIP	

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SCALE: 1:250 METRIC
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CLIENT:

WES MICHAUD

PROJECT:

DUNDEE DRIVE

TITLE:

EROSION AND SEDIMENTATION CONTROL PLAN

SHEET C6 of 6

ISSUE: ISSUED FOR REVIEW
DATE OF: 2024-10-08

REV # 2


SALISBURY
SALISBURY

506.433.4427 (Sussex)
506.652.7358 (Saint John)
info@dmse.ca
www.dmse.ca

Ref: 23382ESP2-DesignReport-R2
Oct 8th, 2024

Trevor Douthwright
Manager, Infrastructure & Public Works
56 Douglas Street,
Salisbury, NB E4J 3E3

Via E-Mail: works@salisburynb.ca

DUNDEE DRIVE - TOWN OF SALISBURY

Don-More Surveys & Engineering Ltd. (Don-More) has been engaged to provide surveying and engineering services related to the development of a street extension and five townhouses located on PID 00816140.

The parcel is currently an undeveloped property and is mostly trees. The property is located at the end of Dundee Drive, off of Macdonald Road in Salisbury, NB. The project's full development will consist of the extension of Dundee Drive to connect MacDonald Road and the development of five townhouse buildings with a total of 34 units.

Water Servicing

The units will be serviced by on-site wells and as such this is considered to be outside the scope of this report.

Sanitary Servicing

The existing 200mm Ø sanitary line in Dundee Drive will be extended through the development to service the new units. The existing manhole located at the end of Dundee Drive is far off level and in high flow situations, solids are pooling on the uphill side of the structure. This structure will be removed from the existing line, inspected and if the structure is still serviceable, will be re-installed prior to the new sanitary line being installed.

The new sanitary line will be an extension of the existing 200mm Ø line. Three new sanitary manholes will be installed.

The new units will be serviced by individual 100mm Ø laterals connected to the main at a minimum slope of 2%.

The development was modelled using a population of 119 persons (3.5 persons per unit).

This results in an average daily flow of 45220 liters per day with a peak flow 2.418 liters per second.

This new flow was then compared to the existing length of pipe at the end of Dundee Drive. This last section of existing pipe is a 200mm Ø pipe at 1.1% slope. This has a theoretical capacity of 34 liters per second. The new flow would represent 4% of this theoretical flow.

See appendix A for additional calculations.

Stormwater Analysis

The existing site today is mostly wooded and slopes south towards Dundee Drive. There are minor swales at the south end of the site that direct sheet flow from the site into the roadside ditches adjacent to Dundee Drive.

The development of the site will result in a change of land use to more impervious surfaces. The new road through the site will have roadside ditches. Lots on the upper side (north and east of the new road), will be graded so the entire lot area drains to the roadside ditch. Lots on the lower side (south and west of the new road), will be graded so the front half of the lot drains to the roadside ditch, and the rear portion of the lot continues to sheet drain to the south of the site.

The roadside ditches will act as retention ponds for the development. The culverts under the driveways will be equipped with Inlet Control Devices (ICD's), to slow down the rate of flow in the ditches. The connection of the new ditch to the existing ditch on Dundee will also incorporate a berm with a control device in it to slow down the release of the water from the roadside ditch.

Stormwater Modelling

Stormwater modelling was completed using HydroCAD V10.00 software using the USDA Natural Resources Conservation Service method (formerly the SCS method). Time of Concentration was calculated using the Curve Number/Lag Method which utilizes an overall CN value as well as the average land slope and hydraulic length. An antecedent moisture condition of 2 or average normal conditions was used. Rainfall data was modelled based on Moncton-NB data and using a 2hr and 24-hour Chicago storm distribution using a total rainfall of 140 mm for a 1:100 year 24-hour event, and 84 mm total rainfall for a 1:5 year 24-hour event.

In determining the curve numbers for the various catchment areas we need to consider soil groups and land uses. The site was modelled as USCS soil class "B" which characterizes the

soil with moderate infiltration rates when thoroughly wetted, and consists of sand and silt. Soil classes were chosen based on a visual inspection of various parts of the site during initial excavation.

The land uses and any upstream area that would direct water onto the development site were identified for the site. Once the catchment areas were defined, curve numbers were calculated. Land uses and catchment areas can be found on sheet C5 for both pre and post-development. The pre-development catchment areas are identified by A.# and post-development catchment areas are identified by B.#. Full calculations and results are shown in Appendix B, only key findings will be highlighted here.

Pre-Development Analysis

The pre-development condition is considered to be the state of the land before any construction takes place. Today the property is an undeveloped wooded lot. The elevation change over the site ranges from 18.50m at rear to 16.50m in the front. The catchment area consists of the property and the upstream drainage area.

Pre-Development Catchments			
Area Label	**Area (m2)**	**CN**	**Tc(min)**
A.1	14,847	65	17.5

Post-Development Analysis

The post-development sub catchment is identical in size to that of the pre catchment.The post development changes in the land uses of the site is enough to control the peak flows below the pre-development levels. See the table below for the summary.

Post-Development Catchments			
Area Label	**Area (m2)**	**CN**	**Tc(min)`**
B.1	3,679	73	5.0
B.2	3,454	75	5.0
B.3	2,638	79	5.0
B.4	2,501	80	5.0
B.5	2,573	78	5.0
TOTAL	14,847	% IMPERVIOUS	38.02%

Results of Stormwater Management

Following the results of the storm water model, we find there is no negative impact on peak flows. To ensure this, the undeveloped property must be upgraded with topsoil and sod / hydroseed. Moreso, the recent modification made on the number of units will decrease the percentage of imperviousness in the stormwater calculation, hence impact the post development results positively.

A summary table of the resulting balanced flows can be found below. For additional details please refer to Appendix B and the design drawings.

Resulting Peak Flow Summary Table		
Return Period	**Pre-Development**	**Post-Development**
1:5 yr (m3/s)	0.0384	0.0348
1:100 yr (m3/s)	0.1617	0.0440

Closing

We trust this is sufficient for your present needs. Please feel free to contact the undersigned at 506.652.7258 or at@dmse.ca for any additional information or clarification.

Yours truly,

Don-More Surveys & Engineering

T 506.433.4427 4-60 Maple Avenue, Sussex, NB E4E 2N5 www.dmse.ca
T 506.652.1522 520 Somerset Street, Saint John, NB E2K 2Y7 info@dmse.ca

Appendix A

Supplementary Sanitary Calculation

T 506.433.4427 4-60 Maple Avenue, Sussex, NB E4E 2N5 www.dmse.ca
T 506.652.1522 520 Somerset Street, Saint John, NB E2K 2Y7 info@dmse.ca

Sanitary Calculations Project 23382 Wes Michaud

Proposed Development

Units	34	Units	
Population	119	Persons	(at 3.5 persons/unit)
Site area	14,847	m²	

Peak daily domestic flow

PDF=P q M / 86.4 + I A

Notes: Peak Design flow including extraneous flows (l/s)

PDF		
P	0.119	Design population in thousands
q	***380***	***(Updated May 2022)*** Average daily domestic flow (380 L/cap.day)
M	4.222	Peaking factor (Using Harman Equation)
I	0.140	Peak extraneous flow (L/s.ha)
A	1.485	Tributary area (ha)
Average Daily Flow (new building)	45220	l/day
Peak Flow (new building)	**2.418**	**l/s**

% of existing pipe capacity

Pipe size (diameter)	200	mm
Pipe slope	1.1	%
Manning's 'n'	0.013	
Pipe Capacity	34	l/s
% of existing pipe capacity contributed by development	7.03%	

Pipe velocity

Q=aV

Q	2.418	l/s
pipe diameter	200	mm
V=	0.077	m/s

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Appendix B

Supplementary Storm Calculation

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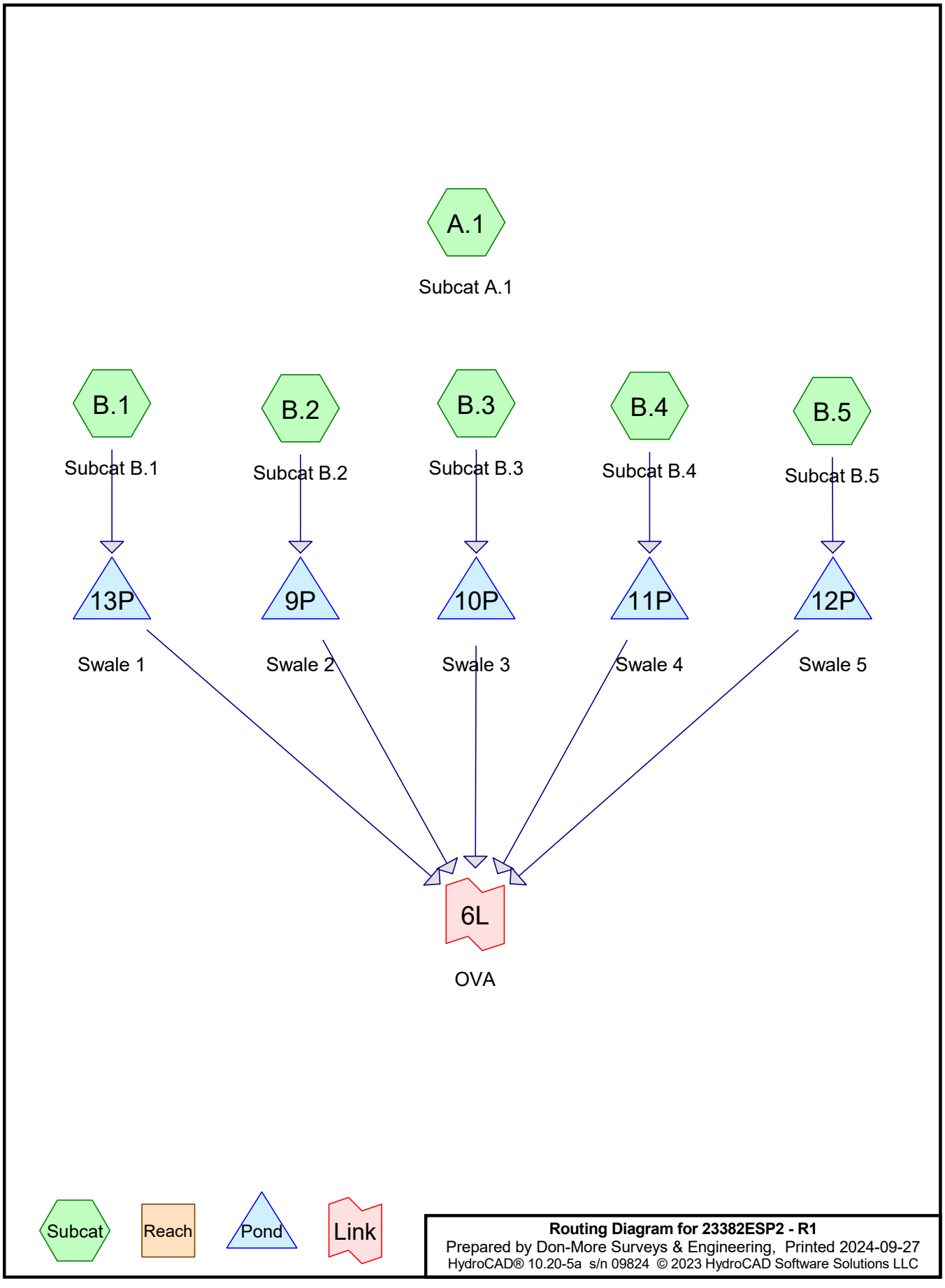


Routing Diagram for 23382ESP2 - R1

Prepared by Don-More Surveys & Engineering, Printed 2024-09-27

Summary for Subcatchment A.1: Subcat A.1

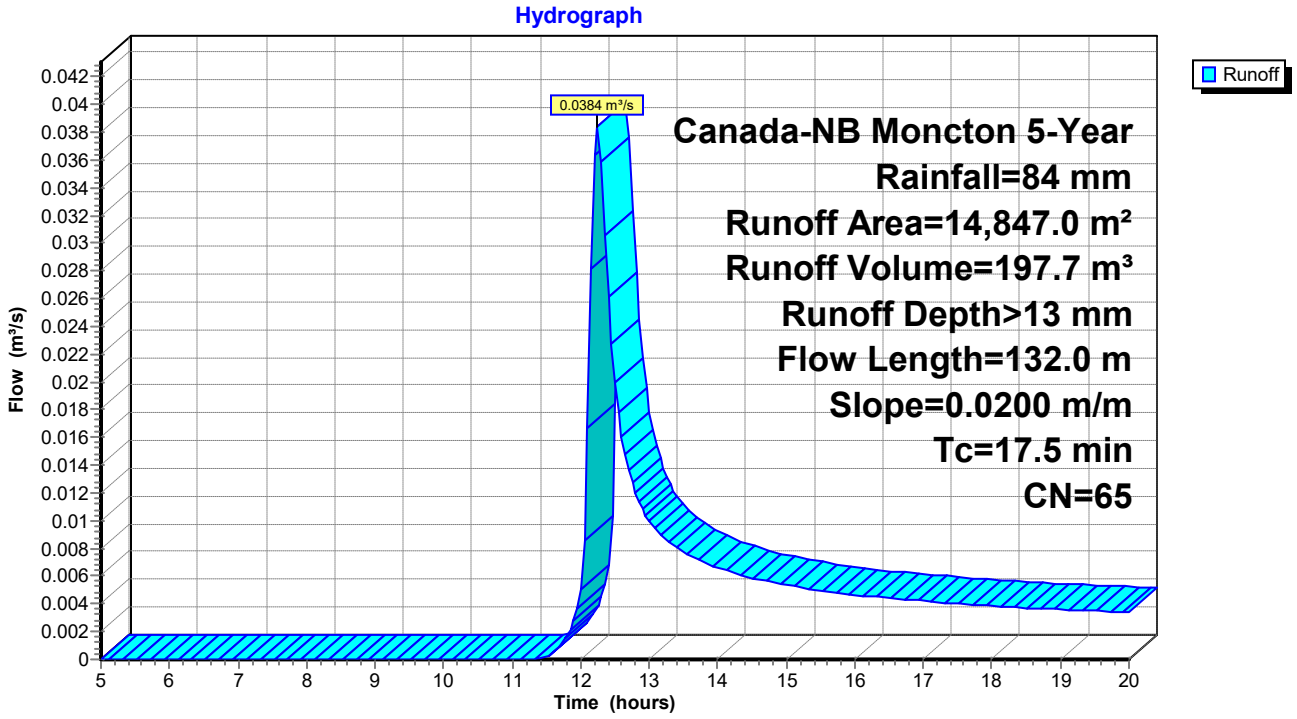
Runoff = 0.0384 m³/s @ 12.25 hrs, Volume= 197.7 m³, Depth> 13 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Canada-NB Moncton 5-Year Rainfall=84 mm

Area (m²)	CN	Description
14,847.0	65	Woods/grass comb., Fair, HSG B
14,847.0		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
17.5	132.0	0.0200	0.13		**Lag/CN Method,**

Subcatchment A.1: Subcat A.1



Summary for Subcatchment B.1: Subcat B.1

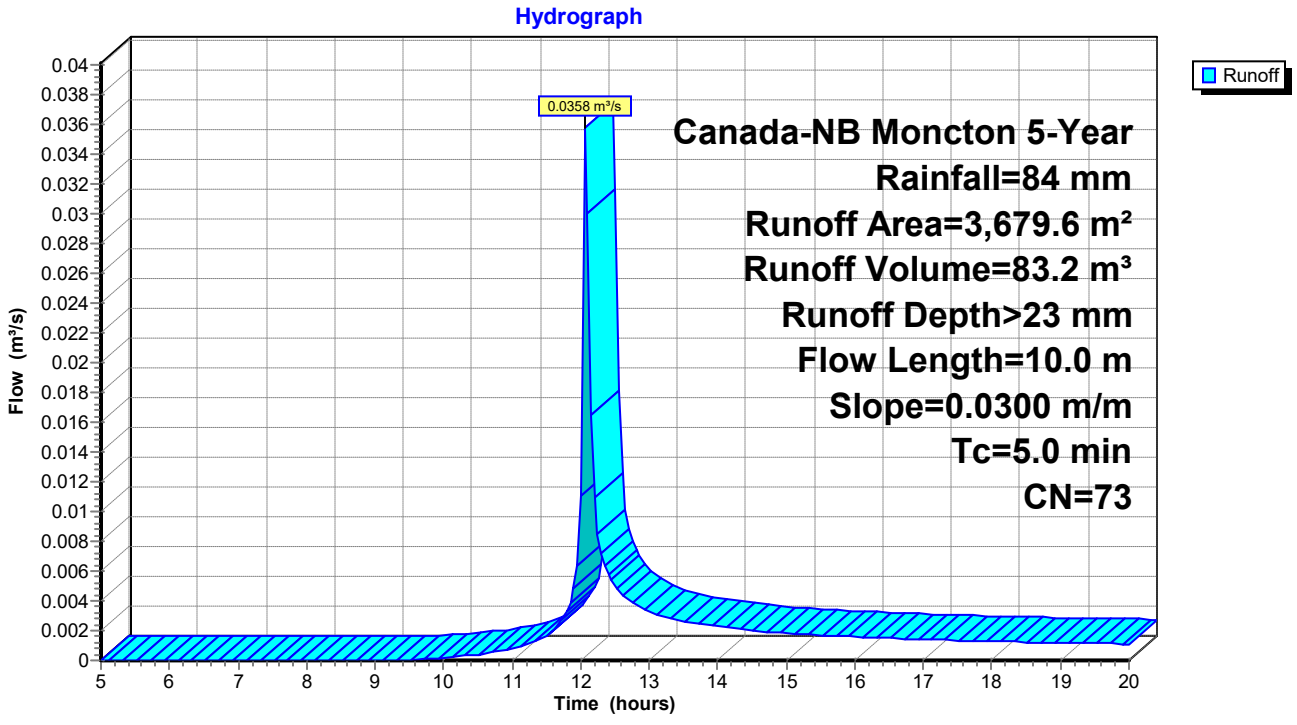
Runoff = 0.0358 m³/s @ 12.07 hrs, Volume= 83.2 m³, Depth> 23 mm
Routed to Pond 13P : Swale 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Canada-NB Moncton 5-Year Rainfall=84 mm

Area (m²)	CN	Description
1,455.4	61	>75% Grass cover, Good, HSG B
418.7	98	Paved parking, HSG B
141.6	89	Paved roads w/open ditches, 50% imp, HSG B
515.1	98	Roofs, HSG B
1,148.8	65	Woods/grass comb., Fair, HSG B
3,679.6	73	Weighted Average
2,675.0		72.70% Pervious Area
1,004.6		27.30% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
1.5	10.0	0.0300	0.11		**Lag/CN Method,**
1.5	10.0	Total, Increased to minimum Tc = 5.0 min			

Subcatchment B.1: Subcat B.1



Summary for Subcatchment B.2: Subcat B.2

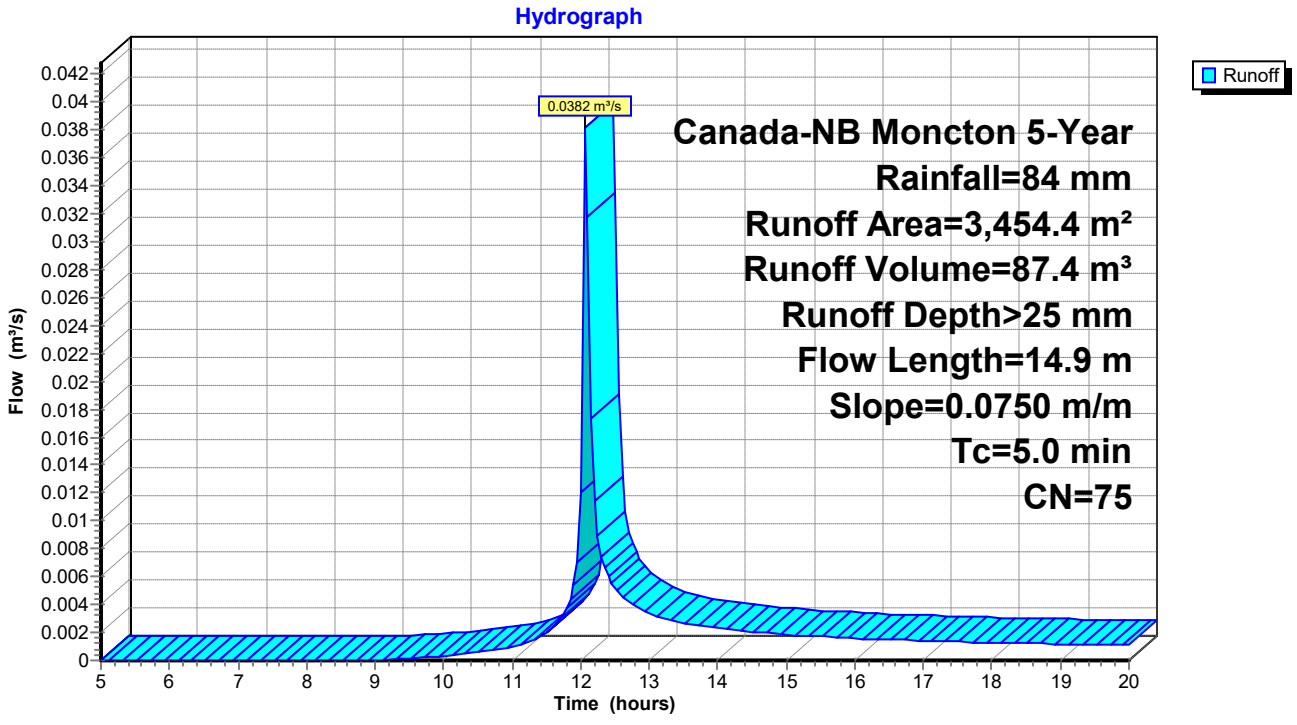
Runoff = 0.0382 m³/s @ 12.07 hrs, Volume= 87.4 m³, Depth> 25 mm
Routed to Pond 9P : Swale 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Canada-NB Moncton 5-Year Rainfall=84 mm

Area (m²)	CN	Description
1,403.2	61	>75% Grass cover, Good, HSG B
449.2	98	Paved parking, HSG B
374.0	89	Paved roads w/open ditches, 50% imp, HSG B
515.1	98	Roofs, HSG B
713.0	65	Woods/grass comb., Fair, HSG B
3,454.4	75	Weighted Average
2,303.2		66.67% Pervious Area
1,151.2		33.33% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
1.2	14.9	0.0750	0.21		**Lag/CN Method,**
1.2	14.9	Total, Increased to minimum Tc = 5.0 min			

Subcatchment B.2: Subcat B.2



Summary for Subcatchment B.3: Subcat B.3

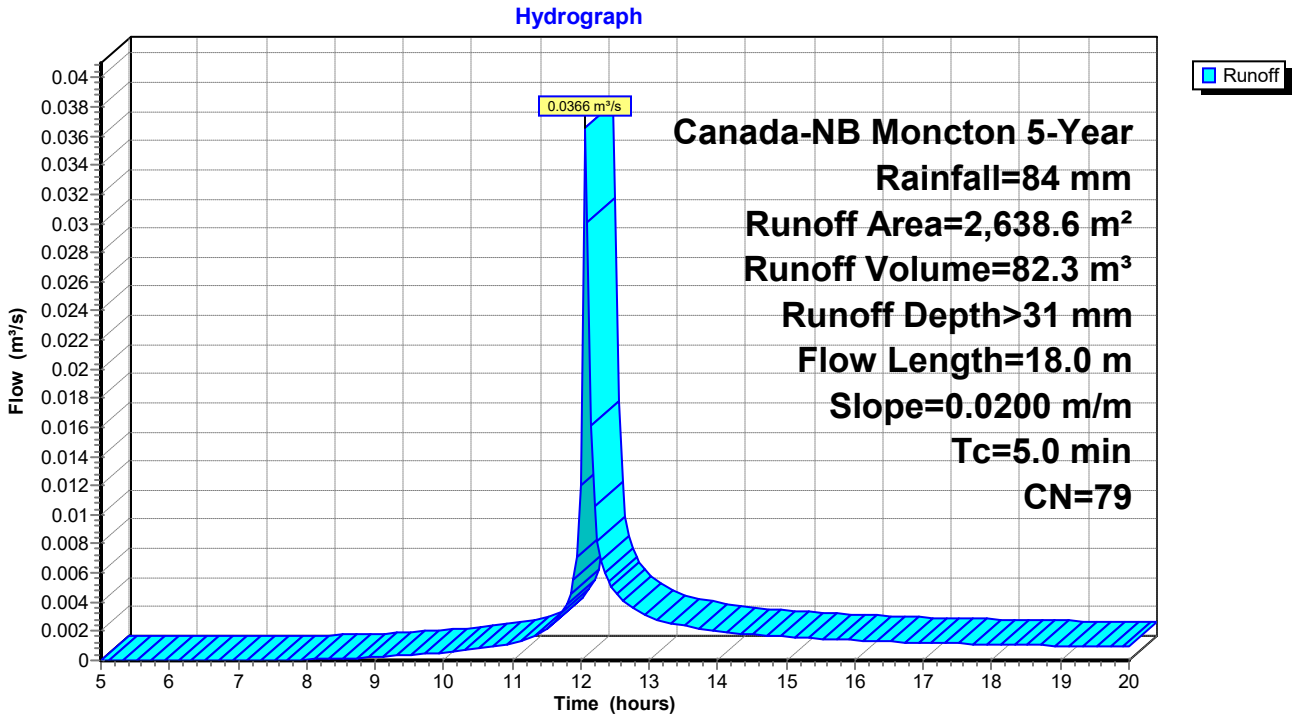
Runoff = 0.0366 m³/s @ 12.07 hrs, Volume= 82.3 m³, Depth> 31 mm
Routed to Pond 10P : Swale 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Canada-NB Moncton 5-Year Rainfall=84 mm

Area (m²)	CN	Description
1,023.6	61	>75% Grass cover, Good, HSG B
497.8	98	Paved parking, HSG B
359.3	89	Paved roads w/open ditches, 50% imp, HSG B
515.1	98	Roofs, HSG B
242.8	65	Woods/grass comb., Fair, HSG B
2,638.6	79	Weighted Average
1,446.0		54.80% Pervious Area
1,192.6		45.20% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
2.4	18.0	0.0200	0.12		**Lag/CN Method,**
2.4	18.0	Total, Increased to minimum Tc = 5.0 min			

Subcatchment B.3: Subcat B.3



Summary for Subcatchment B.4: Subcat B.4

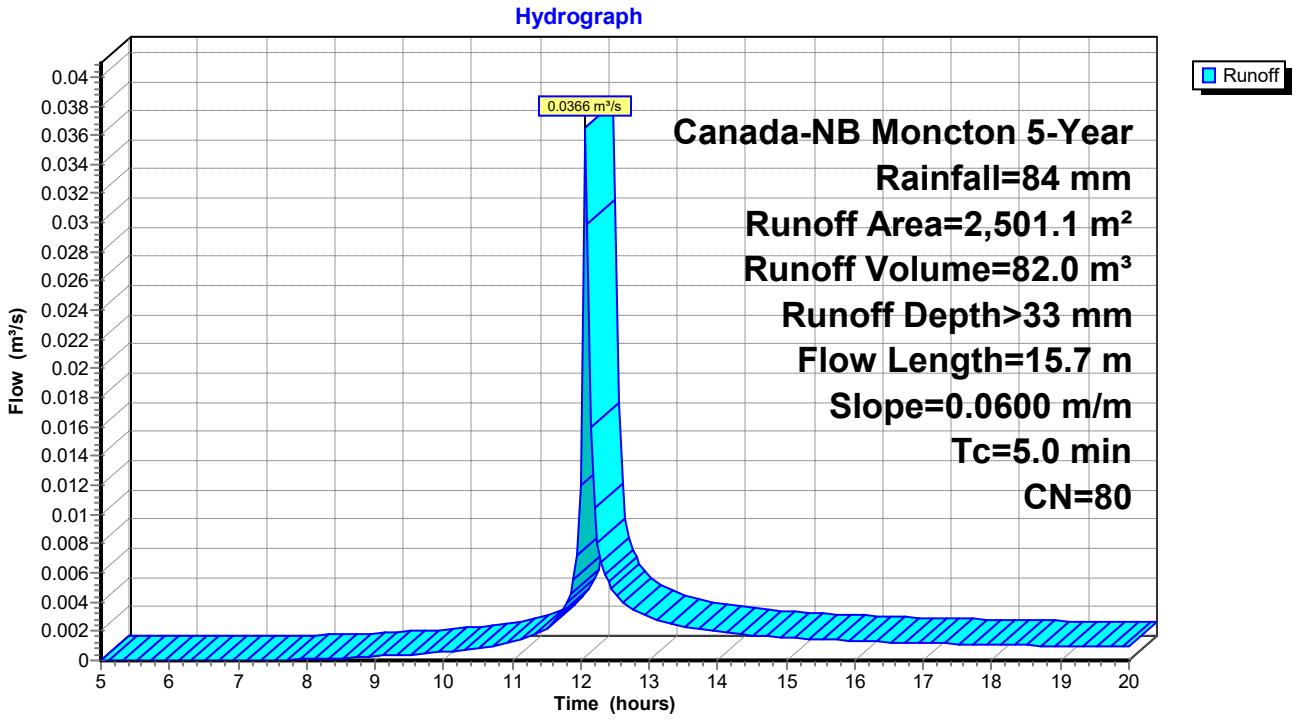
Runoff = 0.0366 m³/s @ 12.07 hrs, Volume= 82.0 m³, Depth> 33 mm
Routed to Pond 11P : Swale 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Canada-NB Moncton 5-Year Rainfall=84 mm

Area (m²)	CN	Description
920.7	61	>75% Grass cover, Good, HSG B
497.9	98	Paved parking, HSG B
367.5	89	Paved roads w/open ditches, 50% imp, HSG B
515.1	98	Roofs, HSG B
199.9	65	Woods/grass comb., Fair, HSG B
2,501.1	80	Weighted Average
1,304.4		52.15% Pervious Area
1,196.8		47.85% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
1.2	15.7	0.0600	0.22		**Lag/CN Method,**
1.2	15.7	Total, Increased to minimum Tc = 5.0 min			

Subcatchment B.4: Subcat B.4



Summary for Subcatchment B.5: Subcat B.5

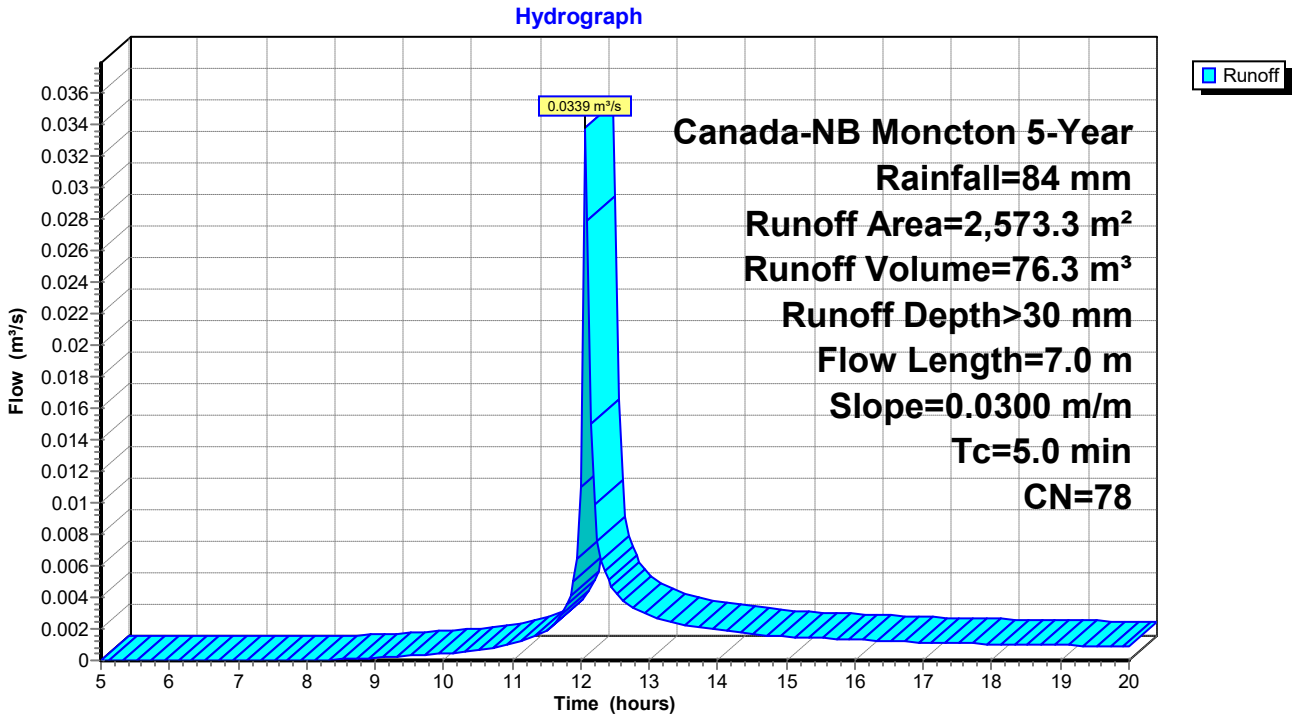
Runoff = 0.0339 m³/s @ 12.07 hrs, Volume= 76.3 m³, Depth> 30 mm
Routed to Pond 12P : Swale 5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Canada-NB Moncton 5-Year Rainfall=84 mm

Area (m²)	CN	Description
1,089.0	61	>75% Grass cover, Good, HSG B
466.7	98	Paved parking, HSG B
236.8	89	Paved roads w/open ditches, 50% imp, HSG B
515.1	98	Roofs, HSG B
265.7	65	Woods/grass comb., Fair, HSG B
2,573.3	78	Weighted Average
1,473.1		57.25% Pervious Area
1,100.2		42.75% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
1.0	7.0	0.0300	0.12		**Lag/CN Method,**
1.0	7.0	Total, Increased to minimum Tc = 5.0 min			

Subcatchment B.5: Subcat B.5



Summary for Pond 9P: Swale 2

Inflow Area = 3,454.4 m², 33.33% Impervious, Inflow Depth > 25 mm for 5-Year event
Inflow = 0.0382 m³/s @ 12.07 hrs, Volume= 87.4 m³
Outflow = 0.0057 m³/s @ 12.44 hrs, Volume= 87.3 m³, Atten= 85%, Lag= 22.3 min
Primary = 0.0057 m³/s @ 12.44 hrs, Volume= 87.3 m³
Routed to Link 6L : OVA

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 17.390 m @ 12.44 hrs Surf.Area= 108.0 m² Storage= 16.6 m³

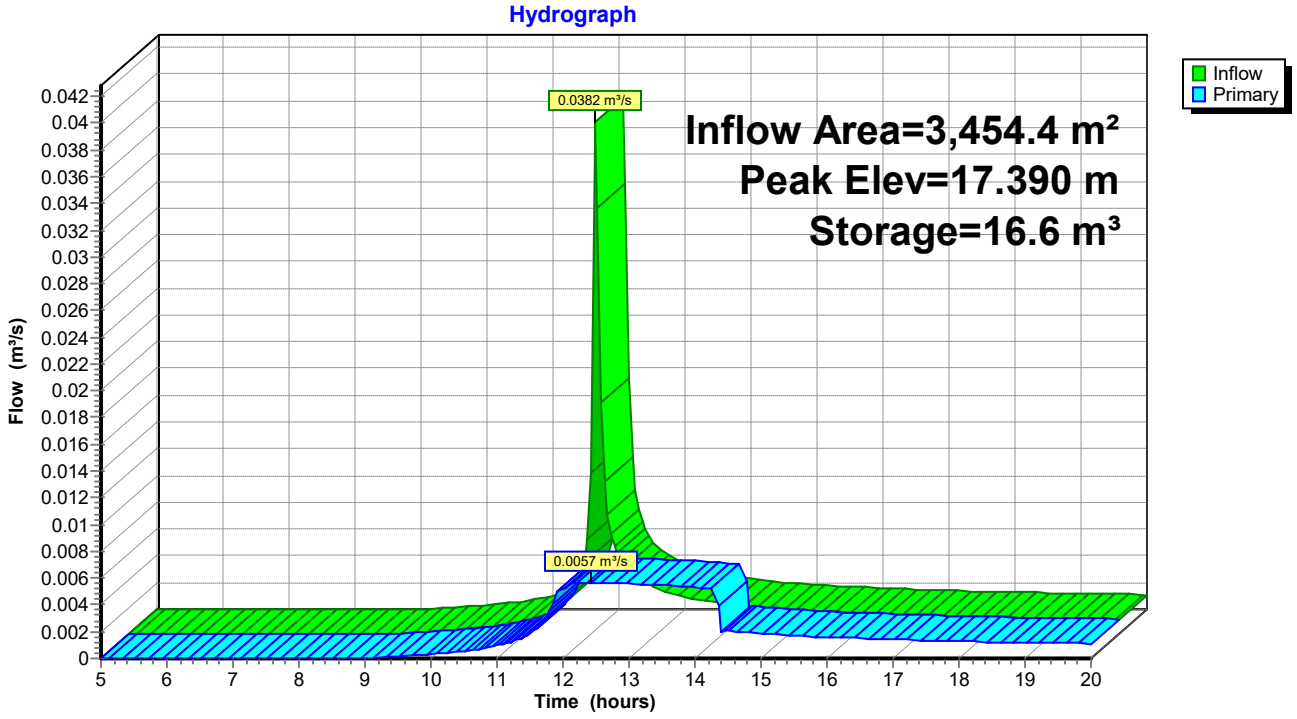
Plug-Flow detention time= 17.3 min calculated for 87.3 m³ (100% of inflow)
Center-of-Mass det. time= 16.9 min (852.0 - 835.1)

Volume	Invert	Avail.Storage	Storage Description
#1	17.180 m	116.2 m³	**0.75 mW x 67.03 mL x 0.75 mH Prismatoid Z=2.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	16.190 m	**50 mm Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.0057 m³/s @ 12.44 hrs HW=17.390 m (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.0057 m³/s @ 2.88 m/s)

Pond 9P: Swale 2



Summary for Pond 10P: Swale 3

Inflow Area = 2,638.6 m², 45.20% Impervious, Inflow Depth > 31 mm for 5-Year event
Inflow = 0.0366 m³/s @ 12.07 hrs, Volume= 82.3 m³
Outflow = 0.0044 m³/s @ 12.55 hrs, Volume= 82.1 m³, Atten= 88%, Lag= 29.2 min
Primary = 0.0044 m³/s @ 12.55 hrs, Volume= 82.1 m³
Routed to Link 6L : OVA

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 17.380 m @ 12.55 hrs Surf.Area= 129.3 m² Storage= 18.3 m³

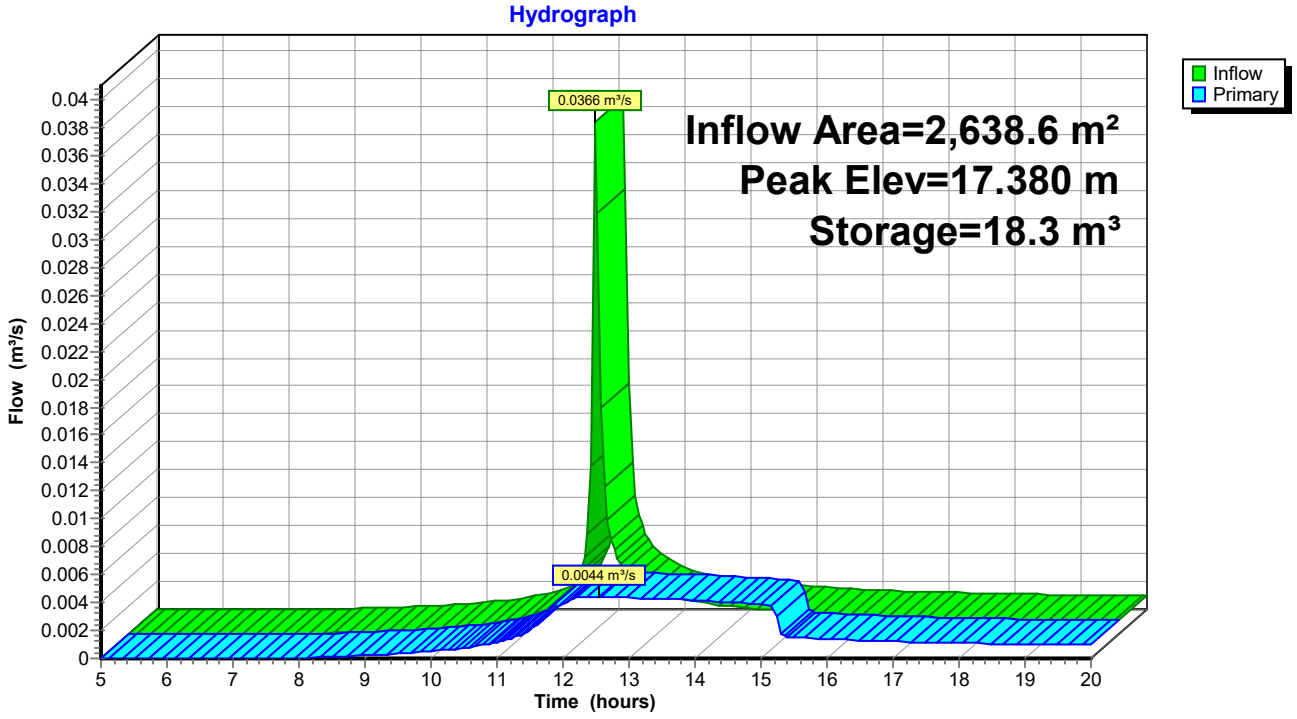
Plug-Flow detention time= 27.9 min calculated for 82.1 m³ (100% of inflow)
Center-of-Mass det. time= 27.3 min (848.6 - 821.3)

Volume	Invert	Avail.Storage	Storage Description
#1	17.190 m	146.4 m³	**0.75 mW x 84.90 mL x 0.75 mH Prismatoid Z=2.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	16.650 m	**50 mm Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.0044 m³/s @ 12.55 hrs HW=17.380 m (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.0044 m³/s @ 2.23 m/s)

Pond 10P: Swale 3



Summary for Pond 11P: Swale 4

Inflow Area = 2,501.1 m², 47.85% Impervious, Inflow Depth > 33 mm for 5-Year event
Inflow = 0.0366 m³/s @ 12.07 hrs, Volume= 82.0 m³
Outflow = 0.0049 m³/s @ 12.46 hrs, Volume= 81.9 m³, Atten= 87%, Lag= 23.9 min
Primary = 0.0049 m³/s @ 12.46 hrs, Volume= 81.9 m³
Routed to Link 6L : OVA

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 17.639 m @ 12.46 hrs Surf.Area= 106.3 m² Storage= 16.9 m³

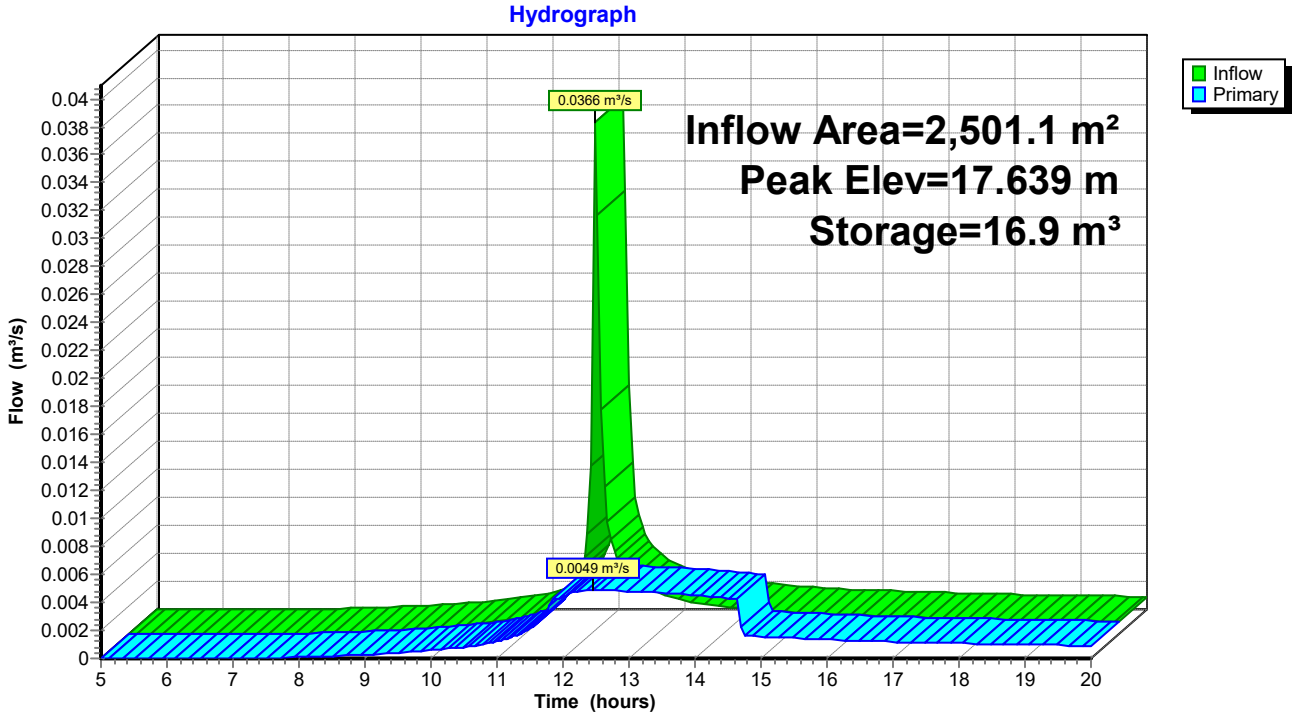
Plug-Flow detention time= 21.2 min calculated for 81.6 m³ (100% of inflow)
Center-of-Mass det. time= 20.8 min (838.6 - 817.8)

Volume	Invert	Avail.Storage	Storage Description
#1	17.420 m	111.9 m³	**0.75 mW x 64.50 mL x 0.75 mH Prismatoid Z=2.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	16.750 m	**50 mm Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.0049 m³/s @ 12.46 hrs HW=17.639 m (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.0049 m³/s @ 2.47 m/s)

Pond 11P: Swale 4



Summary for Pond 12P: Swale 5

Inflow Area = 2,573.3 m², 42.75% Impervious, Inflow Depth > 30 mm for 5-Year event
Inflow = 0.0339 m³/s @ 12.07 hrs, Volume= 76.3 m³
Outflow = 0.0041 m³/s @ 12.55 hrs, Volume= 76.2 m³, Atten= 88%, Lag= 29.3 min
Primary = 0.0041 m³/s @ 12.55 hrs, Volume= 76.2 m³
Routed to Link 6L : OVA

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 16.931 m @ 12.55 hrs Surf.Area= 79.9 m² Storage= 17.3 m³

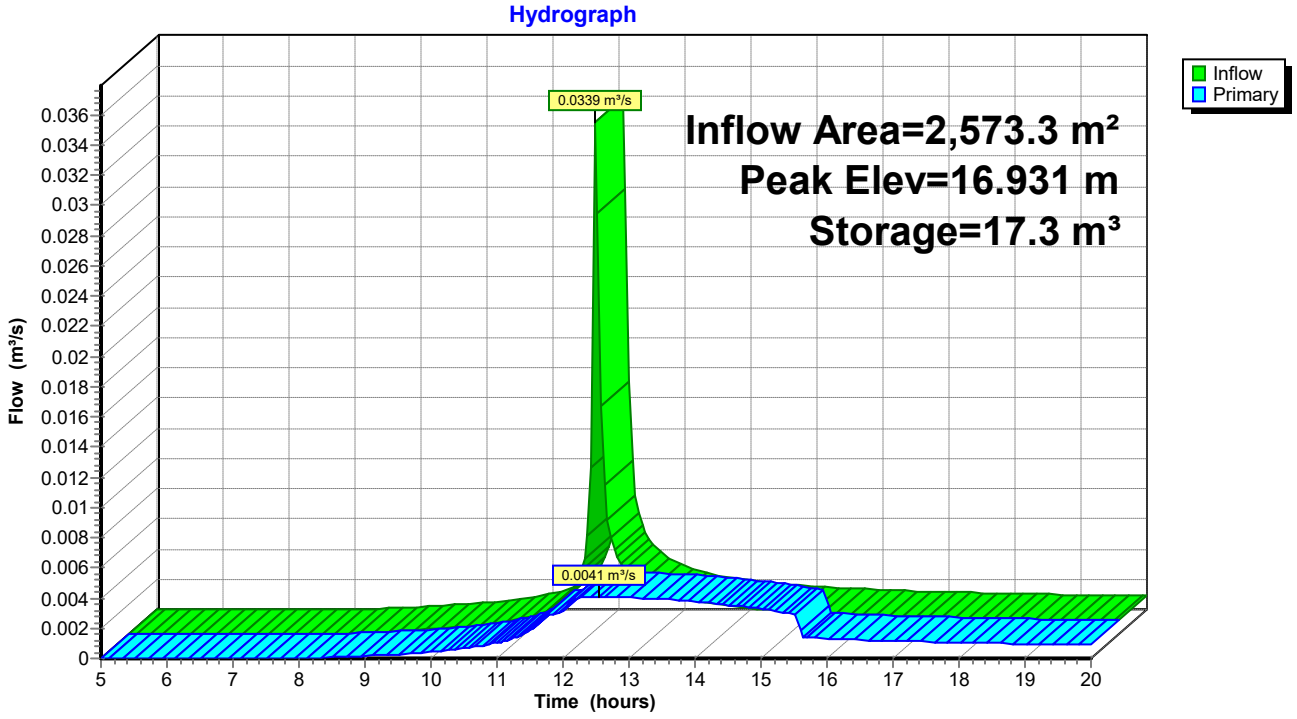
Plug-Flow detention time= 29.6 min calculated for 76.2 m³ (100% of inflow)
Center-of-Mass det. time= 29.1 min (854.0 - 824.8)

Volume	Invert	Avail.Storage	Storage Description
#1	16.610 m	67.2 m³	**0.75 mW x 38.01 mL x 0.75 mH Prismatoid Z=2.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	16.290 m	**50 mm Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.0041 m³/s @ 12.55 hrs HW=16.931 m (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.0041 m³/s @ 2.09 m/s)

Pond 12P: Swale 5



Summary for Pond 13P: Swale 1

Inflow Area = 3,679.6 m², 27.30% Impervious, Inflow Depth > 23 mm for 5-Year event
Inflow = 0.0358 m³/s @ 12.07 hrs, Volume= 83.2 m³
Outflow = 0.0162 m³/s @ 12.16 hrs, Volume= 82.5 m³, Atten= 55%, Lag= 5.7 min
Primary = 0.0162 m³/s @ 12.16 hrs, Volume= 82.5 m³
Routed to Link 6L : OVA

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 17.399 m @ 12.16 hrs Surf.Area= 38.7 m² Storage= 6.3 m³

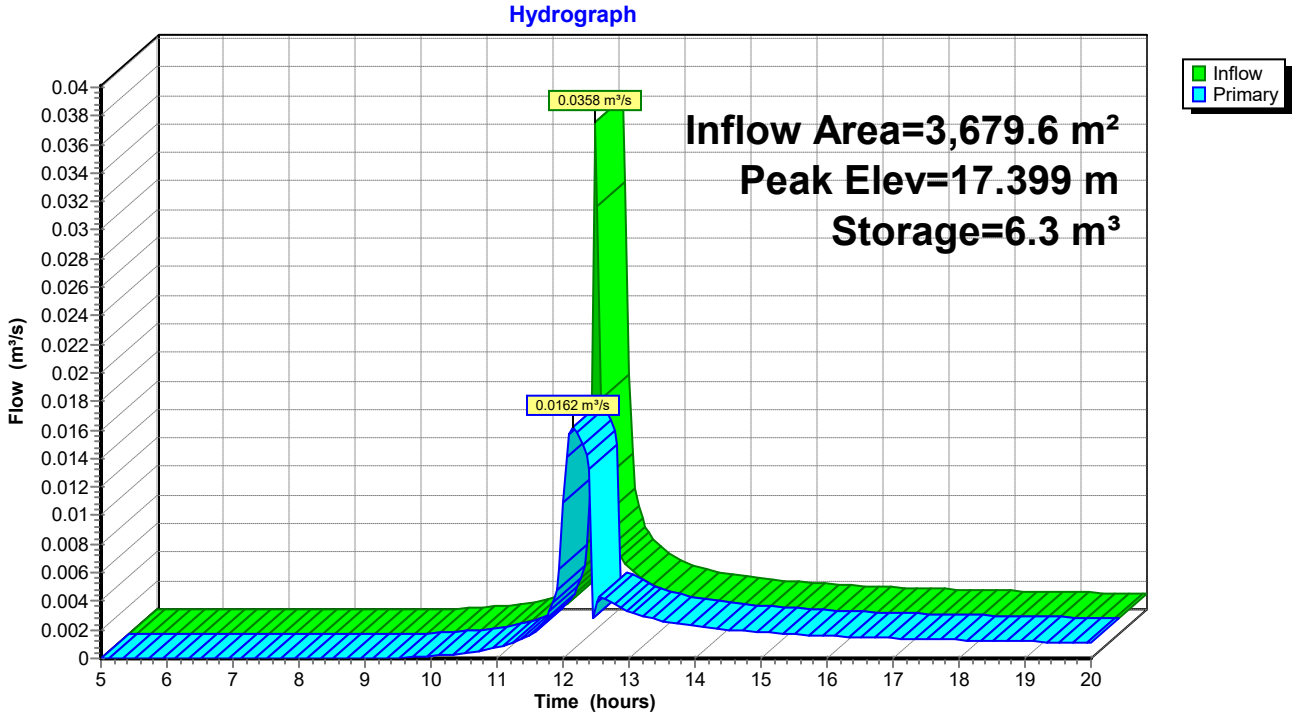
Plug-Flow detention time= 5.2 min calculated for 82.5 m³ (99% of inflow)
Center-of-Mass det. time= 2.0 min (843.8 - 841.9)

Volume	Invert	Avail.Storage	Storage Description
#1	17.170 m	40.7 m³	**0.75 mW x 22.30 mL x 0.75 mH Prismatoid Z=2.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	16.750 m	**100 mm Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.0161 m³/s @ 12.16 hrs HW=17.395 m (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.0161 m³/s @ 2.05 m/s)

Pond 13P: Swale 1

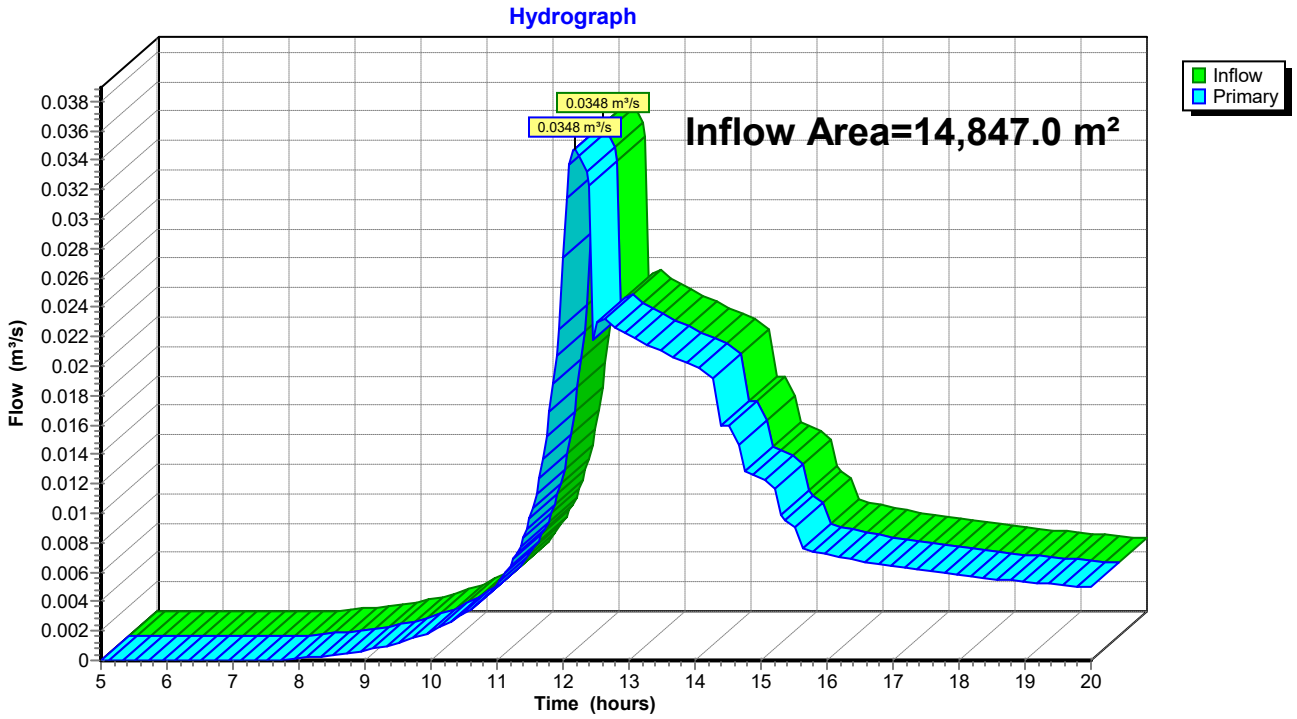


Summary for Link 6L: OVA

Inflow Area = 14,847.0 m², 38.02% Impervious, Inflow Depth > 28 mm for 5-Year event
Inflow = 0.0348 m³/s @ 12.18 hrs, Volume= 409.9 m³
Primary = 0.0348 m³/s @ 12.18 hrs, Volume= 409.9 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link 6L: OVA



Summary for Subcatchment A.1: Subcat A.1

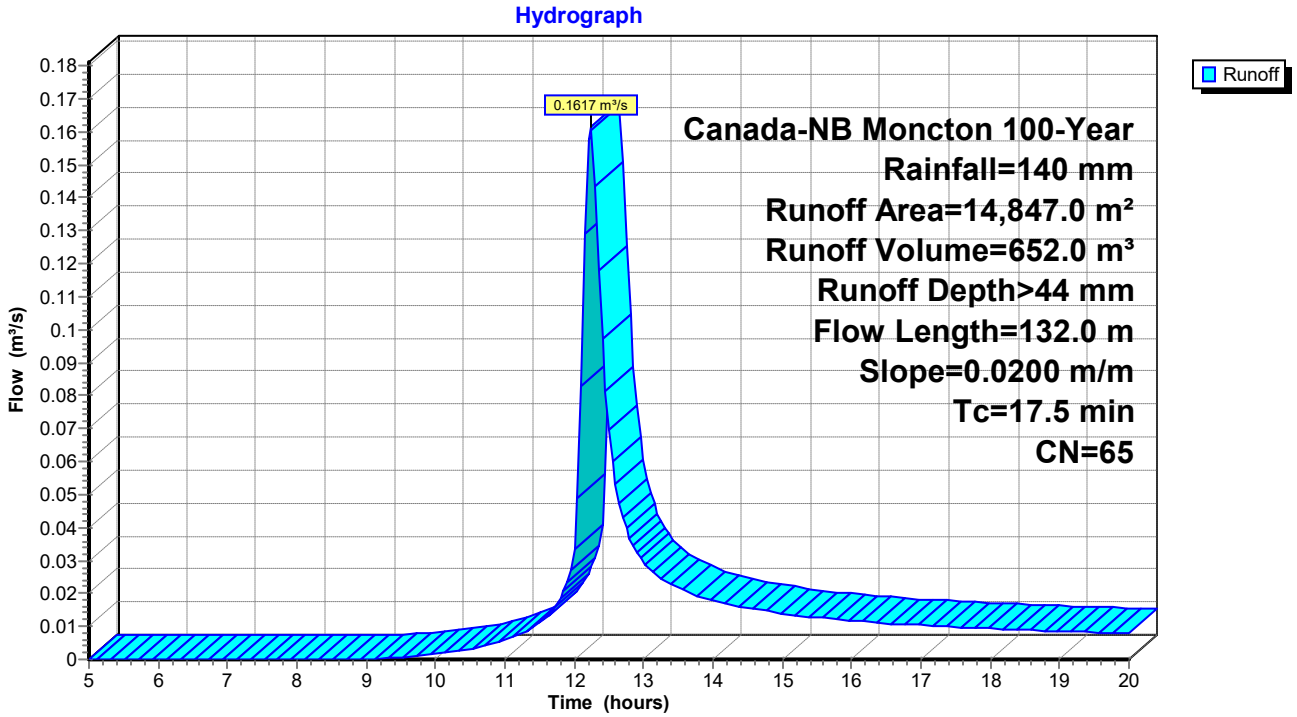
Runoff = 0.1617 m³/s @ 12.23 hrs, Volume= 652.0 m³, Depth> 44 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Canada-NB Moncton 100-Year Rainfall=140 mm

Area (m²)	CN	Description
14,847.0	65	Woods/grass comb., Fair, HSG B
14,847.0		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
17.5	132.0	0.0200	0.13		**Lag/CN Method,**

Subcatchment A.1: Subcat A.1



Summary for Subcatchment B.1: Subcat B.1

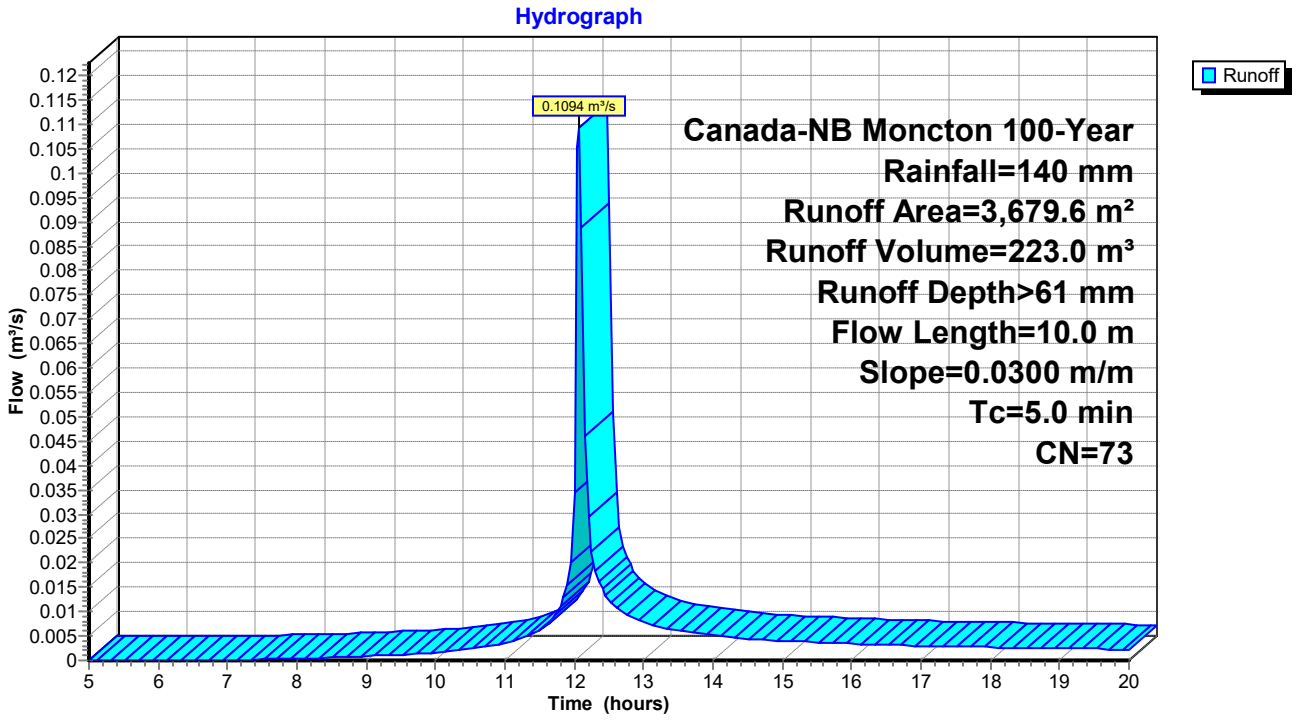
Runoff = 0.1094 m³/s @ 12.07 hrs, Volume= 223.0 m³, Depth> 61 mm
Routed to Pond 13P : Swale 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Canada-NB Moncton 100-Year Rainfall=140 mm

Area (m²)	CN	Description
1,455.4	61	>75% Grass cover, Good, HSG B
418.7	98	Paved parking, HSG B
141.6	89	Paved roads w/open ditches, 50% imp, HSG B
515.1	98	Roofs, HSG B
1,148.8	65	Woods/grass comb., Fair, HSG B
3,679.6	73	Weighted Average
2,675.0		72.70% Pervious Area
1,004.6		27.30% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
1.5	10.0	0.0300	0.11		**Lag/CN Method,**
1.5	10.0	Total, Increased to minimum Tc = 5.0 min			

Subcatchment B.1: Subcat B.1



Summary for Subcatchment B.2: Subcat B.2

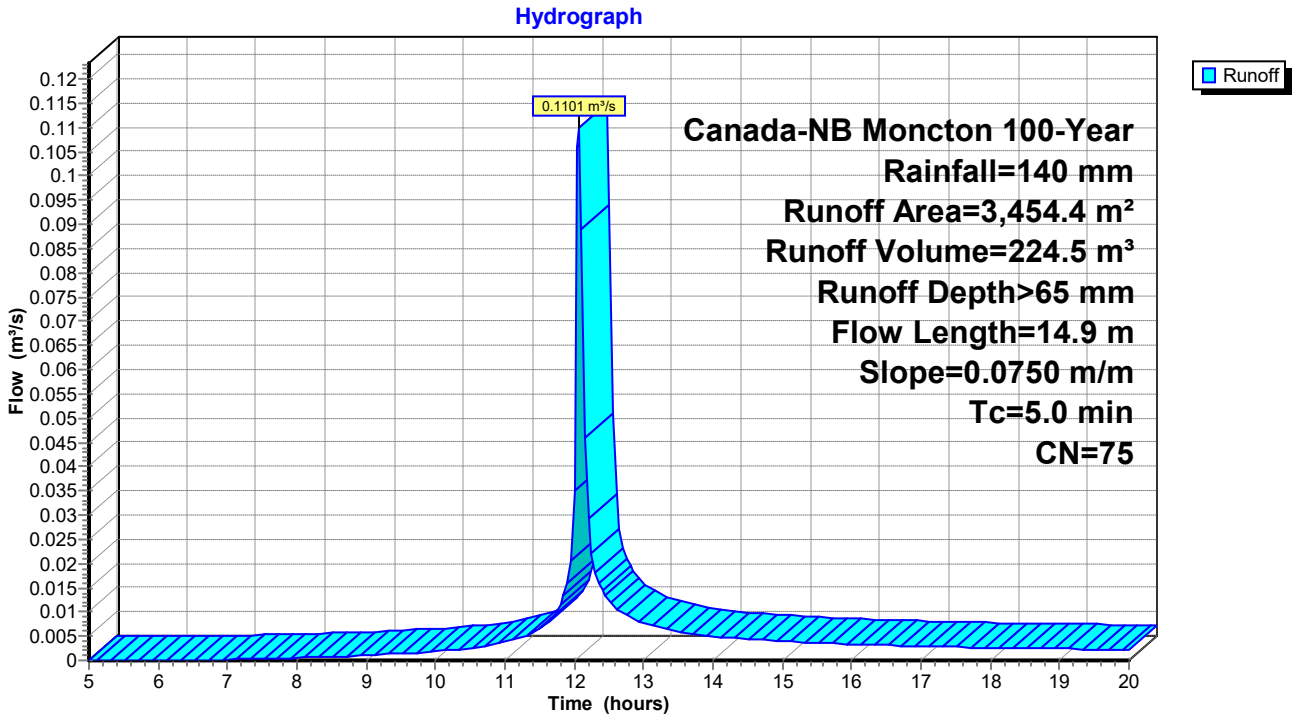
Runoff = 0.1101 m³/s @ 12.07 hrs, Volume= 224.5 m³, Depth> 65 mm
Routed to Pond 9P : Swale 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Canada-NB Moncton 100-Year Rainfall=140 mm

Area (m²)	CN	Description
1,403.2	61	>75% Grass cover, Good, HSG B
449.2	98	Paved parking, HSG B
374.0	89	Paved roads w/open ditches, 50% imp, HSG B
515.1	98	Roofs, HSG B
713.0	65	Woods/grass comb., Fair, HSG B
3,454.4	75	Weighted Average
2,303.2		66.67% Pervious Area
1,151.2		33.33% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
1.2	14.9	0.0750	0.21		**Lag/CN Method,**
1.2	14.9	Total, Increased to minimum Tc = 5.0 min			

Subcatchment B.2: Subcat B.2



Summary for Subcatchment B.3: Subcat B.3

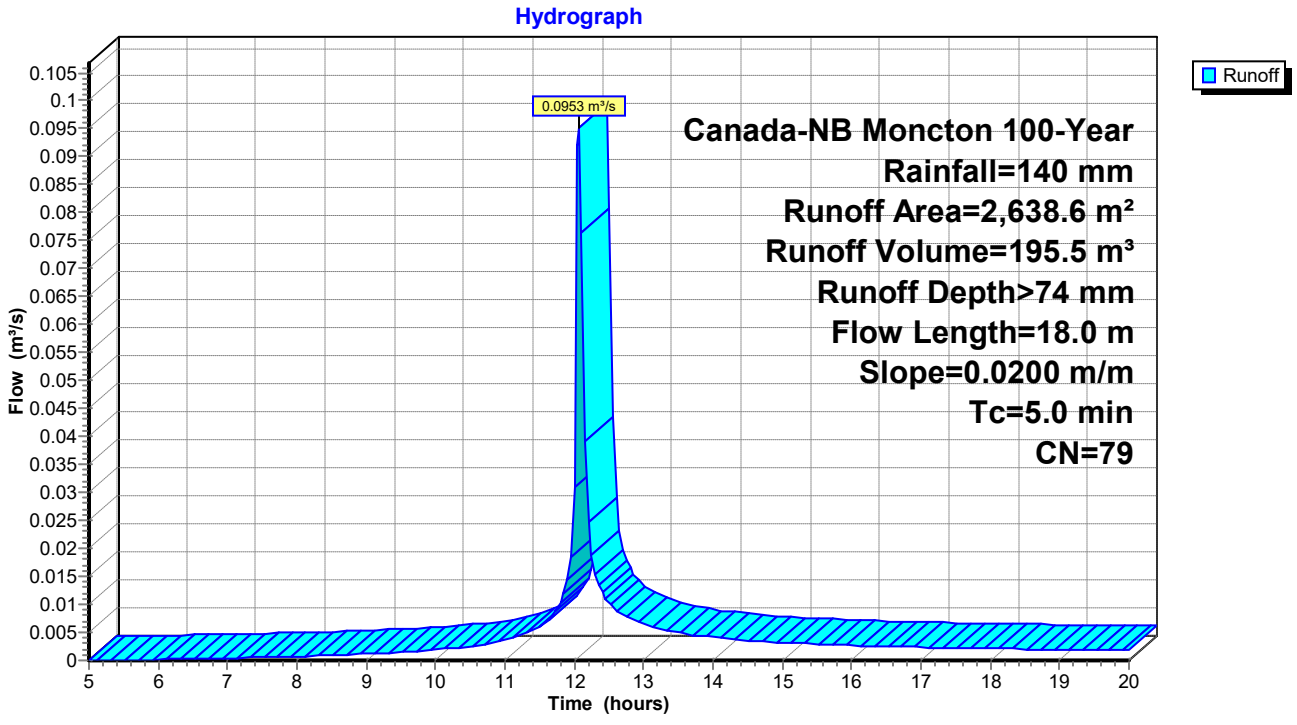
Runoff = 0.0953 m³/s @ 12.06 hrs, Volume= 195.5 m³, Depth> 74 mm
Routed to Pond 10P : Swale 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Canada-NB Moncton 100-Year Rainfall=140 mm

Area (m²)	CN	Description
1,023.6	61	>75% Grass cover, Good, HSG B
497.8	98	Paved parking, HSG B
359.3	89	Paved roads w/open ditches, 50% imp, HSG B
515.1	98	Roofs, HSG B
242.8	65	Woods/grass comb., Fair, HSG B
2,638.6	79	Weighted Average
1,446.0		54.80% Pervious Area
1,192.6		45.20% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
2.4	18.0	0.0200	0.12		**Lag/CN Method,**
2.4	18.0	Total, Increased to minimum Tc = 5.0 min			

Subcatchment B.3: Subcat B.3



Summary for Subcatchment B.4: Subcat B.4

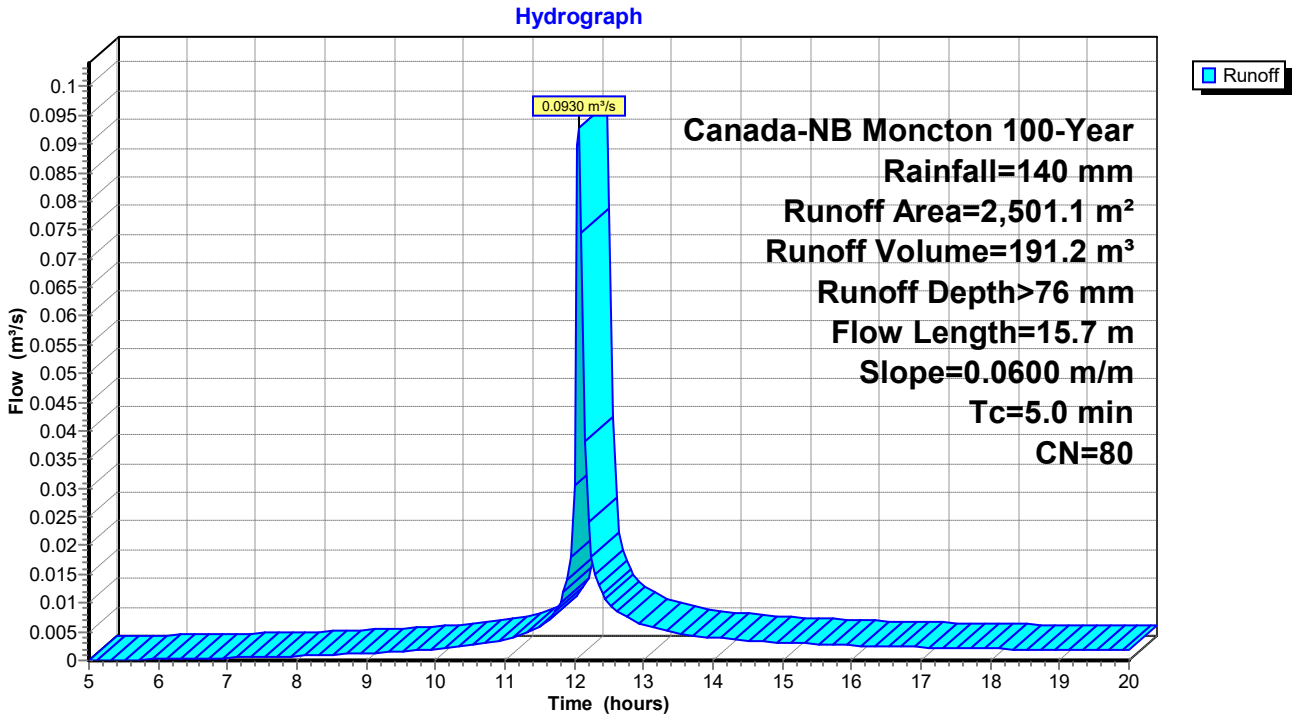
Runoff = 0.0930 m³/s @ 12.06 hrs, Volume= 191.2 m³, Depth> 76 mm
Routed to Pond 11P : Swale 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Canada-NB Moncton 100-Year Rainfall=140 mm

Area (m²)	CN	Description
920.7	61	>75% Grass cover, Good, HSG B
497.9	98	Paved parking, HSG B
367.5	89	Paved roads w/open ditches, 50% imp, HSG B
515.1	98	Roofs, HSG B
199.9	65	Woods/grass comb., Fair, HSG B
2,501.1	80	Weighted Average
1,304.4		52.15% Pervious Area
1,196.8		47.85% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
1.2	15.7	0.0600	0.22		**Lag/CN Method,**
1.2	15.7	Total, Increased to minimum Tc = 5.0 min			

Subcatchment B.4: Subcat B.4



Summary for Subcatchment B.5: Subcat B.5

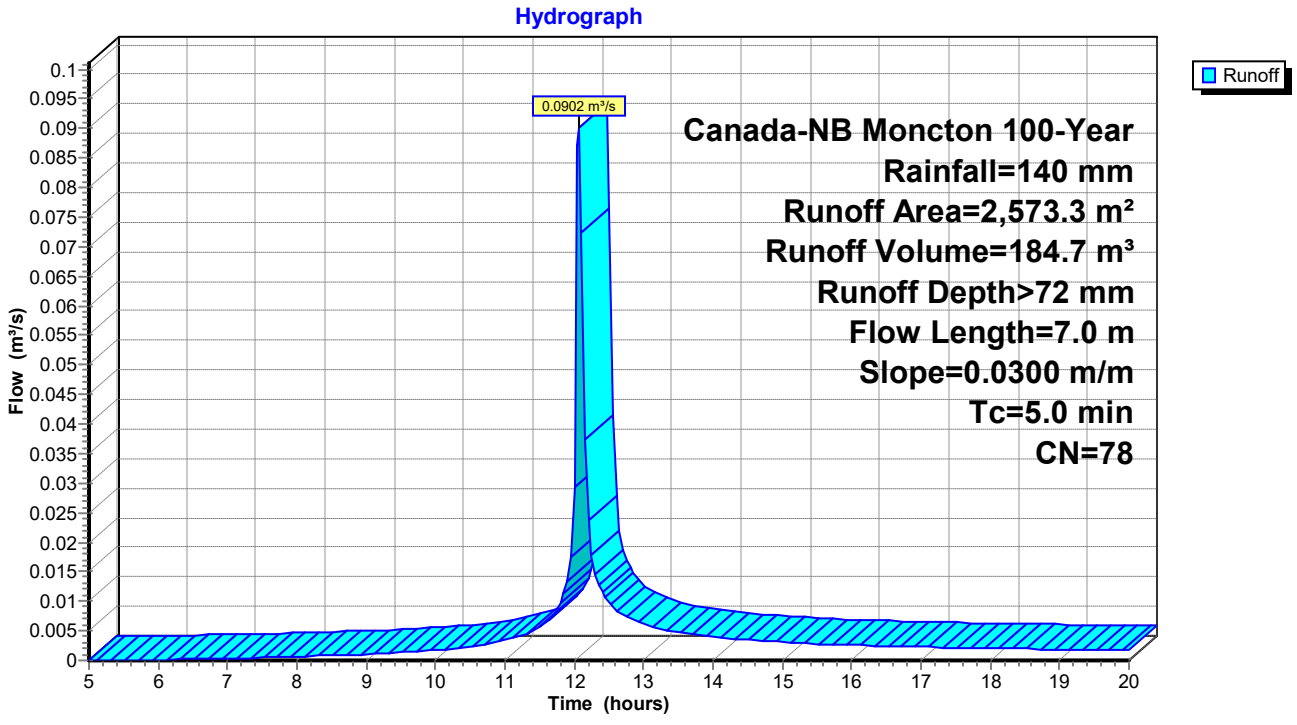
Runoff = 0.0902 m³/s @ 12.06 hrs, Volume= 184.7 m³, Depth> 72 mm
Routed to Pond 12P : Swale 5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Canada-NB Moncton 100-Year Rainfall=140 mm

Area (m²)	CN	Description
1,089.0	61	>75% Grass cover, Good, HSG B
466.7	98	Paved parking, HSG B
236.8	89	Paved roads w/open ditches, 50% imp, HSG B
515.1	98	Roofs, HSG B
265.7	65	Woods/grass comb., Fair, HSG B
2,573.3	78	Weighted Average
1,473.1		57.25% Pervious Area
1,100.2		42.75% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
1.0	7.0	0.0300	0.12		**Lag/CN Method,**
1.0	7.0	Total, Increased to minimum Tc = 5.0 min			

Subcatchment B.5: Subcat B.5



Summary for Pond 9P: Swale 2

Inflow Area = 3,454.4 m², 33.33% Impervious, Inflow Depth > 65 mm for 100-Year event
Inflow = 0.1101 m³/s @ 12.07 hrs, Volume= 224.5 m³
Outflow = 0.0065 m³/s @ 13.31 hrs, Volume= 215.0 m³, Atten= 94%, Lag= 74.9 min
Primary = 0.0065 m³/s @ 13.31 hrs, Volume= 215.0 m³
Routed to Link 6L : OVA

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 17.763 m @ 13.31 hrs Surf.Area= 213.8 m² Storage= 76.5 m³

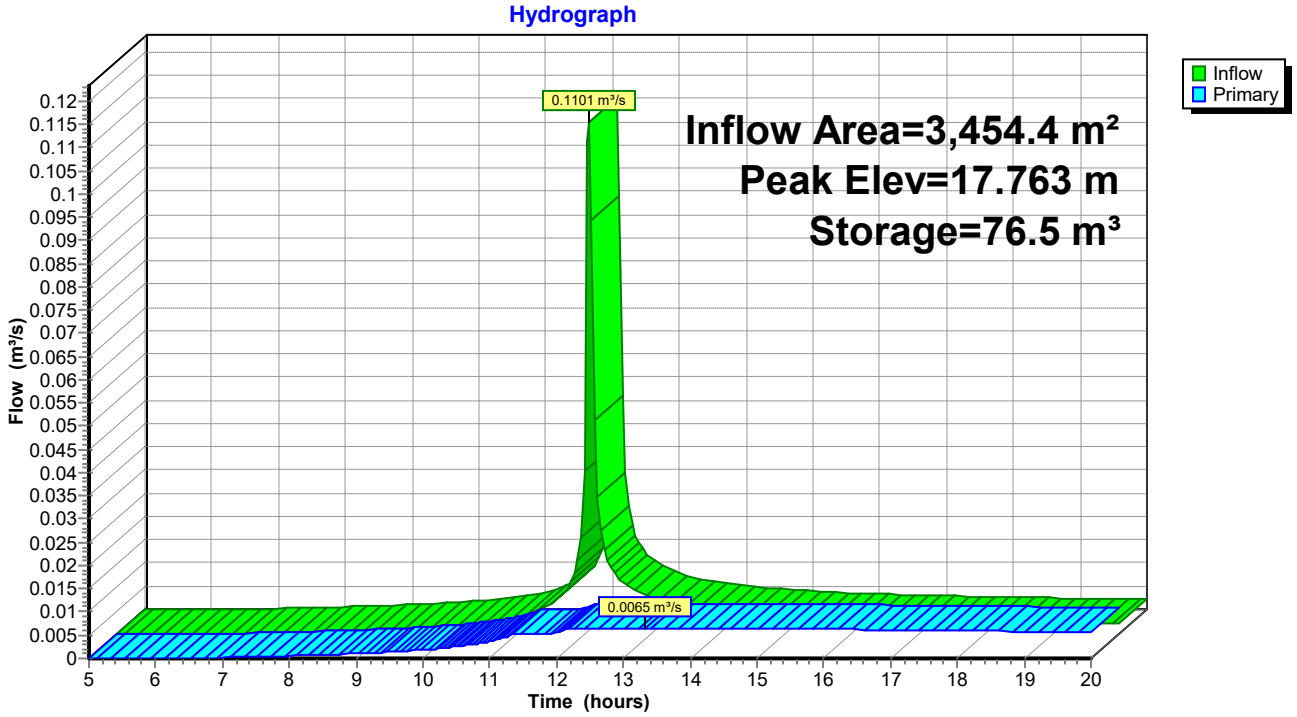
Plug-Flow detention time= 113.7 min calculated for 214.2 m³ (95% of inflow)
Center-of-Mass det. time= 97.4 min (901.0 - 803.6)

Volume	Invert	Avail.Storage	Storage Description
#1	17.180 m	116.2 m³	**0.75 mW x 67.03 mL x 0.75 mH Prismatoid Z=2.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	16.190 m	**50 mm Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.0065 m³/s @ 13.31 hrs HW=17.763 m (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.0065 m³/s @ 3.31 m/s)

Pond 9P: Swale 2



Summary for Pond 10P: Swale 3

Inflow Area = 2,638.6 m², 45.20% Impervious, Inflow Depth > 74 mm for 100-Year event
Inflow = 0.0953 m³/s @ 12.06 hrs, Volume= 195.5 m³
Outflow = 0.0052 m³/s @ 13.38 hrs, Volume= 177.4 m³, Atten= 95%, Lag= 79.2 min
Primary = 0.0052 m³/s @ 13.38 hrs, Volume= 177.4 m³
Routed to Link 6L : OVA

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 17.667 m @ 13.38 hrs Surf.Area= 230.8 m² Storage= 70.0 m³

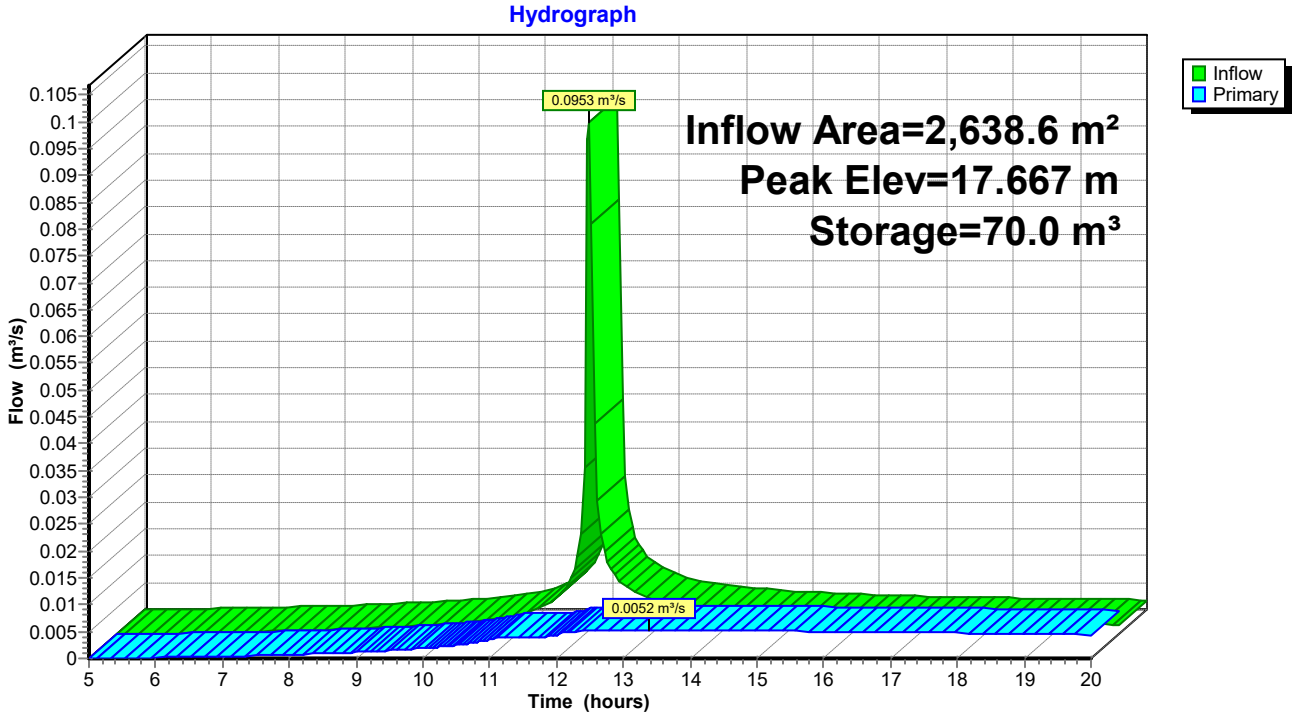
Plug-Flow detention time= 129.9 min calculated for 177.4 m³ (91% of inflow)
Center-of-Mass det. time= 96.1 min (888.1 - 792.0)

Volume	Invert	Avail.Storage	Storage Description
#1	17.190 m	146.4 m³	**0.75 mW x 84.90 mL x 0.75 mH Prismatoid Z=2.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	16.650 m	**50 mm Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.0052 m³/s @ 13.38 hrs HW=17.667 m (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.0052 m³/s @ 2.65 m/s)

Pond 10P: Swale 3



Summary for Pond 11P: Swale 4

Inflow Area = 2,501.1 m², 47.85% Impervious, Inflow Depth > 76 mm for 100-Year event
Inflow = 0.0930 m³/s @ 12.06 hrs, Volume= 191.2 m³
Outflow = 0.0057 m³/s @ 13.15 hrs, Volume= 189.1 m³, Atten= 94%, Lag= 64.8 min
Primary = 0.0057 m³/s @ 13.15 hrs, Volume= 189.1 m³
Routed to Link 6L : OVA

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 17.953 m @ 13.15 hrs Surf.Area= 192.1 m² Storage= 63.7 m³

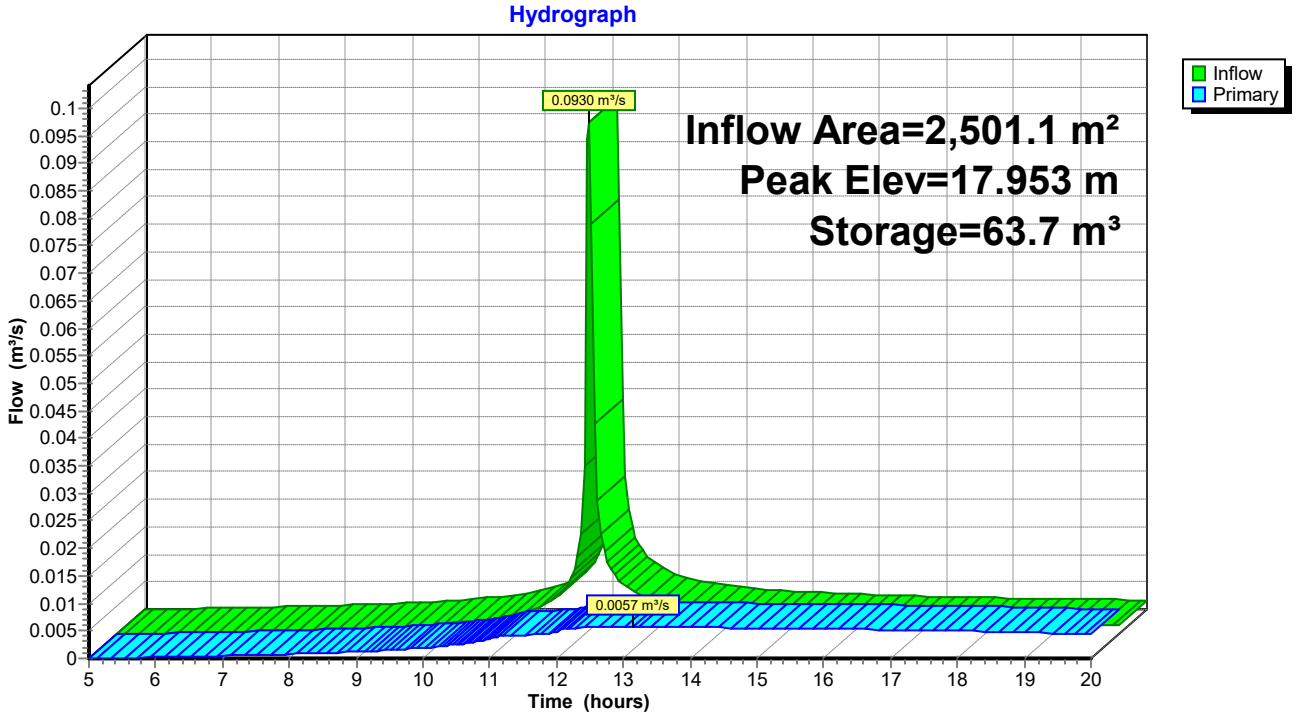
Plug-Flow detention time= 101.0 min calculated for 189.1 m³ (99% of inflow)
Center-of-Mass det. time= 96.4 min (885.4 - 789.0)

Volume	Invert	Avail.Storage	Storage Description
#1	17.420 m	111.9 m³	**0.75 mW x 64.50 mL x 0.75 mH Prismatoid Z=2.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	16.750 m	**50 mm Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.0057 m³/s @ 13.15 hrs HW=17.953 m (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.0057 m³/s @ 2.89 m/s)

Pond 11P: Swale 4



Summary for Pond 12P: Swale 5

Inflow Area = 2,573.3 m², 42.75% Impervious, Inflow Depth > 72 mm for 100-Year event
Inflow = 0.0902 m³/s @ 12.06 hrs, Volume= 184.7 m³
Outflow = 0.0053 m³/s @ 13.25 hrs, Volume= 170.9 m³, Atten= 94%, Lag= 71.0 min
Primary = 0.0053 m³/s @ 13.25 hrs, Volume= 170.9 m³
Routed to Link 6L : OVA

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 17.352 m @ 13.25 hrs Surf.Area= 152.4 m² Storage= 66.0 m³

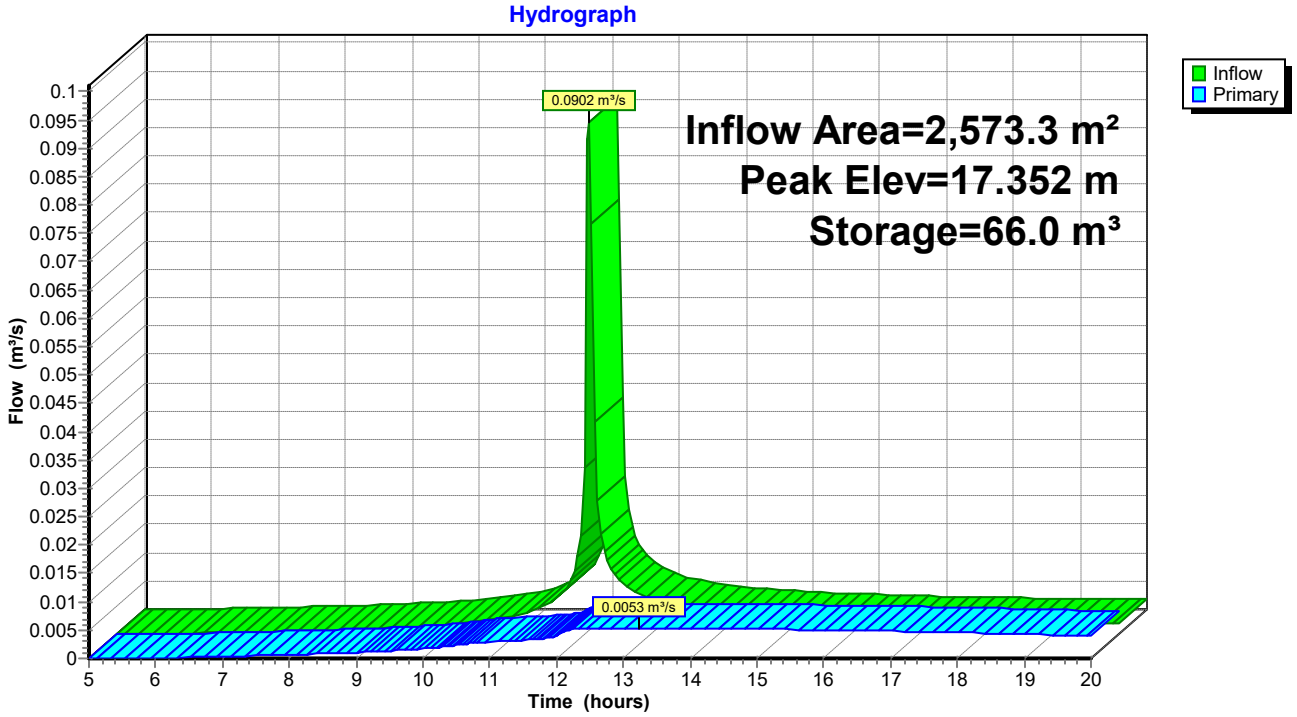
Plug-Flow detention time= 124.0 min calculated for 170.9 m³ (93% of inflow)
Center-of-Mass det. time= 96.3 min (891.2 - 795.0)

Volume	Invert	Avail.Storage	Storage Description
#1	16.610 m	67.2 m³	**0.75 mW x 38.01 mL x 0.75 mH Prismatoid Z=2.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	16.290 m	**50 mm Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.0053 m³/s @ 13.25 hrs HW=17.352 m (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.0053 m³/s @ 2.71 m/s)

Pond 12P: Swale 5



Summary for Pond 13P: Swale 1

Inflow Area = 3,679.6 m², 27.30% Impervious, Inflow Depth > 61 mm for 100-Year event
Inflow = 0.1094 m³/s @ 12.07 hrs, Volume= 223.0 m³
Outflow = 0.0219 m³/s @ 12.26 hrs, Volume= 223.8 m³, Atten= 80%, Lag= 11.7 min
Primary = 0.0219 m³/s @ 12.26 hrs, Volume= 223.8 m³
Routed to Link 6L : OVA

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 17.903 m @ 12.26 hrs Surf.Area= 92.9 m² Storage= 39.1 m³

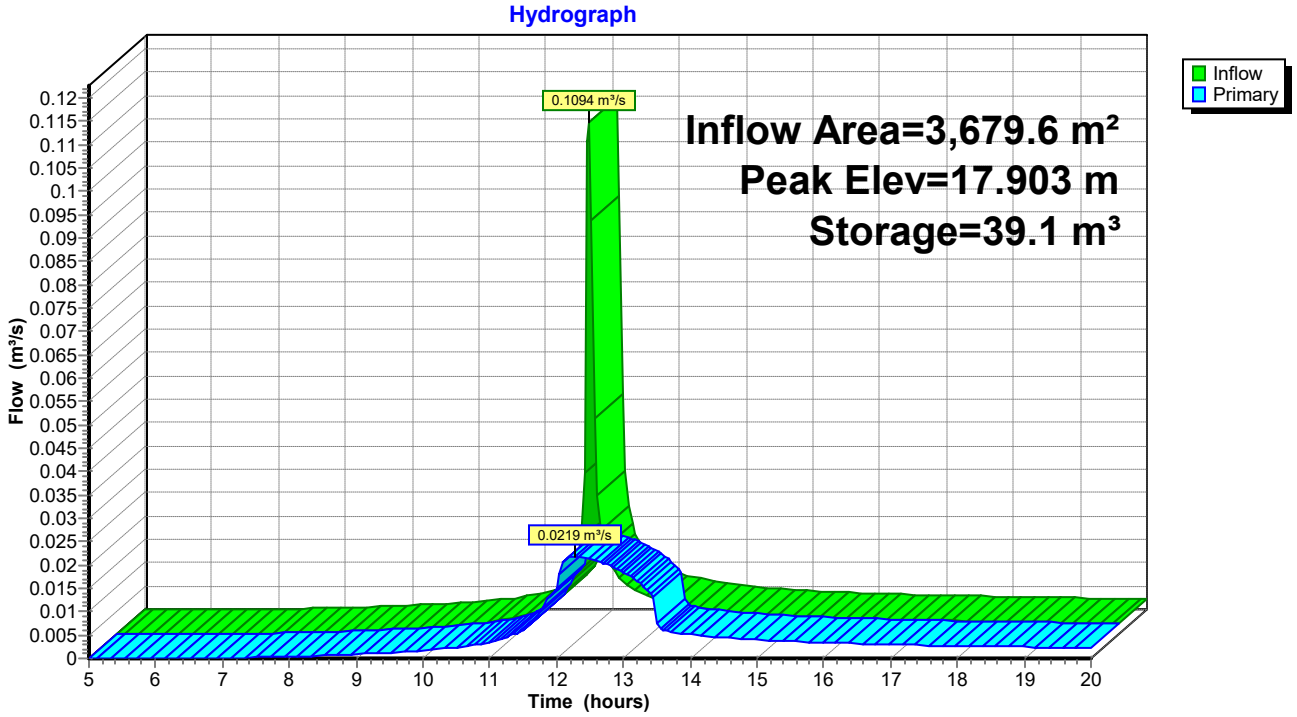
Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 8.6 min (817.6 - 809.0)

Volume	Invert	Avail.Storage	Storage Description
#1	17.170 m	40.7 m³	**0.75 mW x 22.30 mL x 0.75 mH Prismatoid Z=2.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	16.750 m	**100 mm Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.0219 m³/s @ 12.26 hrs HW=17.902 m (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.0219 m³/s @ 2.79 m/s)

Pond 13P: Swale 1

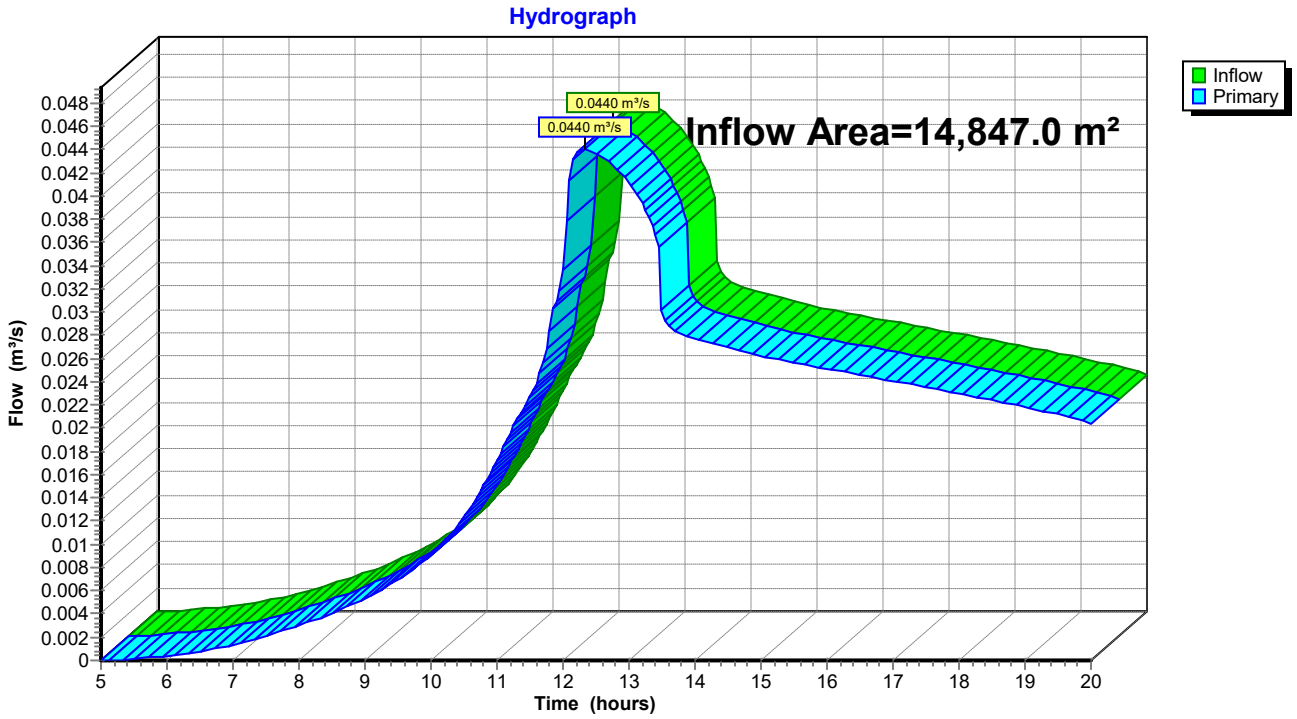


Summary for Link 6L: OVA

Inflow Area = 14,847.0 m², 38.02% Impervious, Inflow Depth > 66 mm for 100-Year event
Inflow = 0.0440 m³/s @ 12.33 hrs, Volume= 976.3 m³
Primary = 0.0440 m³/s @ 12.33 hrs, Volume= 976.3 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link 6L: OVA



CRAIG HYDROGEOLOGIC INC.

Groundwater and Soil Contamination
Groundwater Protection
Resource Development
Site Remediation
Site Professional

MICHAUD CAPITAL CORPORATION
BRAEMAR LOT APARTMENT BUILDING 2

WSSA REPORT
24 HOUR PUMP TEST

SALISBURY, NB

October, 2025

Prepared for: **Michaud Capital Corp.**
Atten: Dr. Wes Michaud
221 Main Street, Unit 1
Sussex, NB
E4E 0M3

Prepared by: **Craig HydroGeoLogic Inc.**
479 Maces Bay Road
Maces Bay, N.B.
E5J 1T39
Phone: 506-659-3064

Date: October 27, 2025

Craig HydroGeoLogic Inc.
479 Maces Bay Road. Maces Bay, NB E5J 1T3
Telephone 506-**659-3064** Email dcraig@craighydrogeologic.ca
http://www.craighydrogeologic.ca/

MICHAUD CAPITAL CORPORATION
BRAEMAR LOT APARTMENT BUILDING 2

WSSA REPORT
24 HOUR PUMP TEST

SALISBURY, NB

October 2025

INTRODUCTION

Craig HydroGeoLogic Inc. was retained by Dr. Wes Michaud of Michaud Capital Corp. to conduct pump testing on a potential groundwater supply well (PW1 in this report) as specified in the EIA Water Supply Source Assessment Guidelines (April 2017) prescribed by the New Brunswick Department of Environment and Local Government (NBDELG). The pump testing is part of the approval process which is required for Michaud Capital Corp. to obtain an approval to construct and operate the groundwater supply well to provide water for a proposed residential apartment building (Building 2, Braemar Lot) in Salisbury, NB.

This report presents the results of the pump test and conclusions and recommendations based on the results of the pump test. This report was prepared by Craig HydroGeoLogic Inc. for the clients, Dr. Wes Michaud and Michaud Capital Corp., and the report presents the results of pump testing a groundwater supply sourced from a production wells (PW1). The groundwater produced from the production well is intended to be the water supply for a six-unit apartment building proposed to be built on PID 00816140 (Building 2, Braemar Lot) located on McDonald Road, Salsbury, NB.

The report is based on the application of scientific principles and professional judgment to certain facts with resultant subjective interpretations. For example, but not limited to,

interpolation between boreholes is an accepted industry practice, however, actual subsurface conditions may vary from that interpolated and such variation could impact observations, discussions, conclusions and recommendations in the report. Professional judgments expressed herein are based on the facts currently available within the existing data, scope of work, budget and schedule. The material and information in the report reflect Craig HydroGeoLogic Inc.'s best judgment in light of the information available at the time of report preparation. Any use which a third party makes of this report, or any reliance on or decision(s) to be made based on this report are the responsibility of the third party(ies). Craig HydroGeoLogic Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken based on this report.

SCOPE

The scope of the assessment is as follows:

1. To conduct a 24-hour pump test on the proposed water supply well (PW1) as specified in the EIA Water Supply Source Assessment guidelines prescribed by the New Brunswick Department of Environment and Local Government, and;
2. To produce a report with the findings of the pump testing and recommendations with regard to the development/operation of the proposed groundwater supply.

SITE DESCRIPTION

LOCATION

Michaud Capital Corp. is proposing a residential apartment development on PID 00816140. The property is in Salisbury, NB, east of McDonald Road and north of the end

of Dundee Drive. The property is referred to as the Braemar Lot, and this pump test is for Building 2, Building 1 is approved and under construction.

EXISTING DEVELOPMENT/OPERATION

PID 00816140 is under development with a partly constructed access road and Building 1 is under construction on the southern part of the site. The site is surrounded on the north, west and south sides by existing residential development and, on the east side is a large school. All the surrounding properties are serviced by private wells but have a municipal sewage system.

REQUIRED WATER QUANTITY

As mentioned above, a six-unit apartment building is proposed which will have six 1-bedroom units. The design water demand for private recreational or residential homes is prescribed in the NBDELG Water Supply Assessment Guideline as follows:

"The per-person requirement shall be 450 liters per day. Peak demand occurs for a period of 120 minutes each day. This is equivalent to a peak demand rate of 3.75 liters/minute (0.82 igpm) for each person. The basic minimum pumping test rate is this rate multiplied by the "likely number of persons per well" which, for a single-family residence shall be the number of bedrooms plus one."

For a single bedroom unit, the design population is 2, based on the NBDELG design criteria. For the total of six one-bedroom units the design population is 6*2 = 12 individuals. Using that number the total water demand per day is 12*450 = 5,400 L/day (0.82 igpm or 3.75 l/min over 24 hours). The peak flow rate is 12 * 3.75 = 45 L/min (9.9 igpm). Based on the average daily water requirement of 3.75 L/min or 0.82 igpm (5.4 m^3/day), an EIA would not be required as the trigger is 50 m^3/day, and the site is within an incorporated area (Salisbury).

SITE DESCRIPTION

General

The location of the proposed production well (PW1) and the two observation wells (OBS1 and OBS2) are shown in Figure 1. The existing land use in the general area is residential and institutional. The existing development in the area relies on private wells but has a municipal sewage system.

Based on the most recent site visit (October 9, 2025) and the existing land use in the area, the potential contamination of ground water resources by previous land uses does not appear to be an issue for the new well development. The land on which the exploration wells are located is was undeveloped, although it is currently under development.

Geology and Hydrogeology

A 100-meter radius well log search of the NB Environment Well Log Database was conducted around PID 00816140 on September 30, 2025. The well log search provided a total of 13 well logs. Copies of the 13 well logs are provided in Appendix 1, at the back of this report. The search radius was not increased beyond 100 meters so as to try and focus on the area of the proposed apartment building as much as possible.

Geology: The overburden in the general area of the site is a brown clay till. According to the well logs in the area the till ranges from 4.9 to 33.8 meters (16 to 111 feet) in thickness. The overburden is not used as a water source in the local area, and it is the bedrock that forms the local aquifer. The bedrock in the area is mapped as Late Carboniferous age sedimentary rocks which form the Salisbury Formation. The rock is composed of reddish mudstone, siltstone, and sandstone. There are some conglomerate and minor thin coal seams that may also be present.

Hydrogeology: A 100-meter search of the NBDELG well log database was conducted around PID 00816140. A total of 13 well logs were returned.

Table 1: 100 Meters Search Radius

Well Depth (feet)	**Estimated Yield (igpm)**	**Depth to Bedrock (feet)**	**Casing Length (feet)**
Average: 197.9	Average: 5.8	Average: 39.6	Average: 63.5
Median: 185	Median: 5	Median: 25	Median: 67
Minimum: 90	Minimum: 4	Minimum: 16	Minimum: 30
Maximum: 300	Maximum: 9	Maximum: 111	Maximum: 118

As can be seen from the above information contained in Table 1, the 13 well logs found in the database for wells in this area have an average depth of 197.9 feet with an estimated average yield of approximately 5.8 igpm. The average estimated yield of 5.8 igpm and the observed median yield of 5 igpm are greater than the typical domestic well instantaneous needs of approximately 3 igpm. The minimum yield observed was 4 igpm, observed in two wells with depths of 25 and 188 feet. The maximum yield observed in the well logs was 9 igpm observed in a well with a depth of 300 feet. This well was drilled in 2023 for the first apartment building on site. Most of the well records from the database are probably for single homes and, as such, would only be drilled deep enough to provide sufficient water for a single home. A summary of the individual well log data is provided in the Appendices.

NB Environment Well Water Chemistry Database: A search of the NB Environment well chemistry database was conducted for a radius of 175 meters around PID 00816140 on October 16, 2025. The precise locations of the wells from which the ground water chemistry was obtained are not available due to right to privacy considerations for the property owners. The results from the data available in the NB Environment database are provided in Table 2 which follows. A total of eight sample records were provided for inorganic chemistry as a result of the database search. The average value of the measured

Table 2

CDWQG = Canadian Drinking Water Quality Guideline

NBDOE Groundwater Chemistry Database

Parameter	ALK_T (mg/L)	Al (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Br (mg/L)	COND (µSIE/cm)	Ca (mg/L)	Cd (µg/L)
	227	0.025	1.5	0.042	0.025	0.1	509	2.75	0.5
	230	0.025	1.5	0.04	0.142	0.1	966	31.4	0.5
	238	0.039	1.5	0.029	0.058	0.124	853	5.64	0.5
	231	0.43	1.5	0.045	0.021	0.1	631	1.75	0.5
	178	0.025	1.5	0.021	0.771	0.108	1240	144	0.5
	239	0.36	1.5	0.043	0.013	0.1	531	1.1	0.5
	185	0.14	1.5	0.041	0.046	0.755	1030	3.11	0.5
	186	0.03	1.5	0.023	0.046	0.1	923	4.33	0.5
Mean	**212**	**0.13**	**1.5**	**0.036**	**0.14**	**0.19**	**835**	**24.26**	**0.5**
CDWQG		**MAC = 2.9**	**MAC = 10**	**MAC = 5**	**MAC = 2**				**MAC = 7**

Parameter	Cl (mg/L)	Cr (µg/L)	Cu (µg/L)	E_coli P/A (P/A)	F (mg/L)	Fe (mg/L)	HARD (mg/L)	K (mg/L)	Mg (mg/L)
	12	11	10	Ab	**2.52**	0.254	7.51	0.62	0.15
	159	14	10	Ab	0.416	0.048	97.5	2.2	4.62
	106	35	11	Ab	**1.93**	**0.338**	16	1.1	0.46
	31.3	14	34	Ab	**4.19**	0.245	5.11	0.5	0.18
	269	13	10	Ab	0.197	0.194	442	2.6	20
	5.57	10	10	Ab	**1.96**	**0.323**	3.16	0.5	0.1
	196	10	10	Ab	**1.97**	0.262	8.38	0.7	0.15
				Ab			7.8		
				Ab					
	167	10	10	Ab	1.14	0.142	12	0.972	0.288
Mean	**118.2**	**15**	**13**		**1.79**	**0.226**	**66.6**	**1.1**	**3.24**
CDWQG	**AO = 250**	**MAC = 50**	**MAC = 2000 AO = 1000**		**MAC = 1.5**	**AO = 0.3**		.	

MAC = Maximum Acceptable Concentration

AO = Aesthetic Objective

Table 2

CDWQG = Canadian Drinking Water Quality Guideline

NBDOE Groundwater Chemistry Database

Parameter	Mn (mg/L)	NO2 (mg/L)	NO3 (mg/L)	NOX (mg/L)	Na (mg/L)	PH (pH)	Pb (µg/L)	SO4 (mg/L)	Sb (µg/L)
	0.024	0.05	0.05	0.05	119	8.64	1	19.9	1
	0.27	0.05	0.2	0.25	180	8.11	1	8.74	1
	0.072	0.05	0.05	0.05	186	8.42	1	17.4	1
	0.033	0.05	0.05	0.05	146	8.97	3.3	39.3	1
	0.52	0.05	0.74	0.79	59	7.96	1	10	1
	0.014	0.05	0.05	0.05	129	9.13	1.2	25.2	1
	0.021	0.05	0.05	0.05	216	8.84	1	19.9	1
			0						
	0.034	0.05	0.05	0.062	214	8.55	1	10.4	1
Mean	**0.124**	**0.05**	**0.14**	**0.17**	**156**	**8.578**	**1.3**	**18.86**	**1**
CDWQG	**AO <0.02 MAC 0.12**	**MAC = 10**	**MAC = 10**	**MAC = 10**	**AO = 200**	**7.0-10.5**	**MAC = 5**	**AO = 500**	**MAC = 6**

Parameter	Se (µg/L)	TC-P/A (P/A)	TURB (NTU)	Tl (µg/L)	U (µg/L)	Zn (µg/L)	TDS (mg/L)
	1.5	Ab	4.41	1	11	5	294
	1.5	Ab	0.79	1	13	5	526
	1.5	Ab	8.2	1	5.6	10	462
	1.6	**Pr**	116	1	2.3	30	363
	1.5	Ab	1.5	1	7.7	6	616
	1.5	Ab	14	1	3.8	5	308
	1.5	Ab	5.5	1	1.2	5	550
		Ab					
		Ab					
	1.5	Ab	3.1	1	6.3	5	510
Mean	**1.5**		**19.19**	**1.0**	**6.4**	**9**	**454**
CDWQG	**MAC = 50**		**<1.0**		**MAC = 20**	**AO = 5000**	

MAC = Maximum Acceptable Concentration

AO = Aesthetic Objective

result and the Guidelines for Canadian Drinking Water Quality, February, 2024 (GCDWQ) are included in the table for comparison purposes. Any parameter which exceeds the GCDWQ concentration is bolded and shaded for ease of recognition in the data table.

Out of the eight well chemistry records available, one well exceeded the GCDWQ for chloride of 250 mg/L with measured concentrations of 269 mg/L. Two other chemistry records exceeded the GCDWQ for sodium of 200 mg/L with measured concentrations of 214 and 216 mg/L. Waters containing elevated concentrations of chloride and sodium should not be consumed or used for cooking; however, they can be used for bathing. Higher than normal levels of sodium chloride would likely cause corrosion and shorten the life of plumbing, hot water heaters and any appliances that come in contact with the water. Treatment options for removing sodium and chloride include reverse osmosis and distillation. Such units are available from local suppliers and installers. Alternatively, water with elevated concentrations of sodium chloride can be replaced with bottled water for drinking and cooking.

Out of the eight chemistry records available, five samples had elevated concentrations of fluoride (1.93, 1.96, 1.97, 2.52, and 4.19 mg/L) compared to the GCDWQ of 1.5 mg/L. Fluoride occurs naturally in minerals and soils. According to the Guidelines for Canadian Drinking Water Quality, sixth edition, 1996, the optimum concentration of fluoride in drinking water for the reduction of dental caries is 1.0 mg per liter. The appearance of dental fluorosis (mottling of teeth) may be objectionable at fluoride concentrations above 1.5 mg per liter. The US EPA has a health-based criteria for fluoride of 4.0 mg/L and a secondary criterion of 2.0 mg/L for cosmetic effects as referenced above for the Canadian Drinking Water Guideline. One exceedance of 4.19 mg/L exceeds the 4.0 mg/L health-based criteria. The other four do not. The US EPA criteria is based on 70 years of exposure. Elevated fluoride concentrations can be treated with reverse osmosis systems in order to provide water for drinking or cooking. The water is suitable for bathing. Bottled water can be used to replace this water for drinking or cooking if desired.

Elevated concentrations of iron and manganese are common in many groundwater aquifers in New Brunswick, and some elevated concentrations are found in the data for this bedrock aquifer in this general location. Out of the eight chemistry sample results available, two exceeded the guideline for iron (MAC 0.3 mg/L), and seven samples exceeded the aesthetic guideline for manganese (AO <0.02 mg/L). Such elevated concentrations are normally due to natural conditions within the aquifer. The applicable GCDWQ for iron and manganese discussed above are aesthetic objectives. Iron and manganese can cause staining of plumbing fixtures and laundry and may be associated with smells imparted to the water. Manganese also has a Maximum Acceptable Concentration (MAC) which is based on human health, and two of the seven observed manganese esthetic exceedances were greater than the GCDWQ MAC for manganese of 0.12 mg/L with concentrations of 0.27 and 0.52 mg/L being measured. Iron and manganese can usually be readily removed by commercial water treatment systems at the hardness observed in this water. Water treatment equipment suppliers in NB have extensive experience with removing iron and/or manganese from domestic water supplies.

A total of seven out of the eight chemistry records available had elevated turbidity present in the samples. The elevated levels of turbidity may be related to the relative newness of the wells, and they may not have had sufficient time, or use, to clear naturally. The water samples in the database are provided from the water well testing certificates which are provided by the well drilled immediately after the well has been drilled. As a result, the majority of the analytical results come from new wells. Most new wells clear naturally with time and use. At levels in excess of 5 NTUs turbidity may become noticeable to consumers and therefore, objectionable. The turbidity may be the result of elevated concentrations of iron and or manganese or the presence of particulate in the water.

Microbiological Results: A total of 10 sample results were available in the data set for E. coli analysis. Out of these results, no well had a detection of E. coli. A total of nine sample results were available for total coliform analysis and out of these nine results, one well had a detection of total coliform. Total coliforms are natural soil bacteria and are commonly present in private well water systems, particularly associated with elevated turbidity. Such

detections are usually easily treated and corrected by shock chlorination of the wells and associated plumbing systems.

In general terms the groundwater chemistries found in the NBDELG database are not unusual for this area and reflect natural aquifer conditions. All other parameters measured, other than those specifically discussed above, had concentrations below the GCDWQ .

SURFACE WATER

Surface Streams: The site is located within the developed area of Salisbury, NB, and local drainage is controlled by ditches and storm sewers. There are no surface waters located within 60 m of the test property. The Petitcodiac River is located approximately 420 meters southwest of the site at its closest point.

GWUDI Assessment:

Step 1: GWUDI Screening (NB Protocol)

1. **In a sensitive setting**: The location of the well PW1 is shown in Figure 2. The production well (PW1) is cased to 30.5 meters (100 feet) below the ground surface and the well log does not indicate any significant accumulations of sand and/or gravel which extend below the water table in the area. The wells are not in a sensitive setting.
2. **In proximity to surface water:** Ground water wells are considered to be in proximity to surface water if they are within 60 meters. The closest surface water is at least approximately 400 meters from PW1.
3. **Improper well construction:** The wells is new and constructed by licensed well drillers. PW1 is cased to the 30.5 meters (100 feet) depth.
4. **Water quality indicative of surface water:** The water quality samples collected during the pump test did not indicate surface water. The microbiology samples were all non-detect.

Based on the above GWUDI screening well PW1 screens out under the New Brunswick protocol.

FIELD TESTING PROGRAM

Antecedent and Pump Test Period Weather

The temperatures and precipitation amount for the weather immediately before and during the pump test are provided below in Table 3. The data source is Environment Canada; the closest operating station is Moncton/Greater Moncton Romeo Leblanc Intl A (Temp Data and Precipitation Data) NB. In Table 3 the time period of the pump test and recovery is shaded.

Table 3: Antecedent and Test Period Weather

Date	Max. Temp. C	Min. Temp. C	Avg. Temp. C	Total Precip. mm
Sept. 29, 2025	24.2	9.7	17.0	Trace
Sept. 30, 2025	18.4	5.8	12.1	0.0
Oct. 1, 2025	13.3	2.4	7.9	1.0
Oct. 2, 2025	15.0	3.1	9.1	0.0
Oct. 3, 2025	22.0	3.2	12.6	0.0
Oct. 4, 2025	20.6	4.9	12.8	0.0
Oct. 5, 2025	21.3	5.6	13.5	Trace
Oct. 6, 2025	30.4	12.1	21.3	0.0
Oct. 7 2025	26.0	10.7	18.4	0.0
Oct. 8 2025	20.2	6.0	13.1	27.6
Oct. 9, 2025	10.0	0.2	5.1	0.0
Oct. 10, 2025	13.0	-1.3	5.9	0.0

As can be seen in the above Table 3 there was some precipitation one day before the start of the pump test. During the actual pump test no precipitation was recorded, there was no recorded precipitation during the period of recovery. Based on the above information it seems unlikely that groundwater recharge from precipitation significantly impacted ground water levels during the pump test and recovery periods. Although significant rain fell the day before the pump test was conducted, the conditions before that rain had been an extended drought and it is doubtful that significant recharge would occur, given the soil dryness. Regional groundwater levels are known to be depressed during the time of the pump test by the lengthy drought.

Field Testing Program

One new test well (PW1) was drilled on site at the location shown in Figure 2 and the well log is provided in Appendix 1, at the back of this report. PW1was identified as having good potential for water supply development based on estimated safe yield and location. Two existing wells on site were used as observation wells, OBS1 and OBS2, the locations of which are also shown in Figure 2.

PW1 (tag 0071484) is a six-inch diameter well drilled on September 30, 2025. The well is 76.2 meters (250 feet) in depth, cased to 30.5 meters (100 feet) and the well driller estimated a safe yield of 22 igpm. OBS1 (tag 0068692) is a six-inch diameter well drilled on November 30, 2023. The well is 87.5 meters (287 feet) in depth, cased to 32.0 meters (105 feet) and the well driller estimated a safe yield of 4 igpm. OBS2 (tag 0067782) is a six-inch diameter well drilled on April 4, 2024. The well is 91.4 meters (300 feet) in depth, cased to 36.0 meters (118 feet) and the well driller estimated a safe yield of 9 igpm. OBS1 is 83 meters (272.3 feet) from well PW1, OBS2 is located approximately 53 meters (173.9 feet from PW1.

Field Testing

Well PW1 was the production well that was pumped for the 24-hour pump test. The wells, OBS1 and OBS2 were used as observation wells. The water levels in PW1 were measured manually. Recording pressure transducers was installed in OBS1 and OBS2 on the morning of October 9, 2025, prior to the start of the pump test. Water levels were recorded by the pressure transducers every five minutes during the pump test and recovery period. The pressure transducers remained in the wells until they were retrieved on the afternoon of October 10, 2025, following the completion of the pump test and recovery. In order to actively track the associated drawdown caused by pump testing PW1, the water levels in the observation wells were also measured manually every hour during the pumping phase of the test.

The initial static level in each well was measured prior to installing the pressure transducers. The initial static level in PW1 was -9.93 m below the top of casing (BTOC), in OBS1 the initial static was -9.85 m BTOC, and in OBS2 the initial static was -10.33 m BTOC.

Well PW1was pump tested for 24 hours starting on October 9, 2025 and extending into October 10, 2025. The pump intake was set at approximately 54.9 meters (180 feet) BTOC. In well PW1, pumping was started at 10:15 am , October 9 at a flow rate of 98.2 L/min (15 igpm). This rate was slowly reduced until 7:15 pm that evening when the flow was stabilized at 54.6 L/min (12 igpm). A water quality sample was collected from PW1 on October 9, 2025.

It is the Top of Casing that is used as the reference point for all groundwater level measurements during the pump test and recovery period.

The well coordinates are as follows:

			PID
PW1	65°2.55′W	46°1.45′N	00816140
OBS1	65°2.50′W	46°1.43′N	00816140
OBS2	65°2.53′W	46°1.43′N	00816140

Water Quality Testing

Well PW1 was pump tested for 24 hours starting on October 9, 2025 and extending into October 10, 2025. A microbiological and an inorganic potable water chemistry sample was collected from PW1 on October 9, 2025. The water samples collected during this pump test were analyzed at RPC laboratories in Moncton and Fredericton, NB. These are the analytical results of these samples that are provided below. The laboratory certificates are provided in Appendix 2 at the back of this report.

Inorganic Results: The general inorganic chemistry, trace metal, and microbiological analytical results for the groundwater samples collected during the pump test are provided in Tables 4 and 5 which follows In Table 4 (inorganic parameters) any parameter that exceeds the Guideline Canada Drinking Water Quality (GCDWQ) is bolded and shaded for ease of recognition.

As can be seen in Table 4 all the inorganic chemistry and trace metal parameters measured met the New Brunswick Drinking Water Quality Guidelines except for fluoride, iron and turbidity. The water sample had an elevated concentration of fluoride (2.2 mg/L) compared to the New Brunswick Drinking Water Guideline of 1.5 mg/L. Fluoride occurs naturally in minerals and soils. According to the Guidelines for Canadian Drinking Water Quality, sixth edition, 1996, the optimum concentration of fluoride in drinking water for the reduction of dental caries is 1.0 mg per liter. The appearance of dental fluorosis (mottling of teeth) may be objectionable at fluoride concentrations above 1.5 mg per liter. The US EPA has a health-based criteria for fluoride of 4.0 mg/L and a secondary criterion of 2.0 mg/L for cosmetic effects as referenced above for the Canadian Drinking Water Guideline. The exceedance of 2.2 mg/L does not exceed the 4.0 mg/L health-based criteria. The US EPA criteria is based on 70 years of exposure. Elevated fluoride concentrations can be treated with reverse osmosis systems in order to provide water for drinking or cooking. The water is suitable for bathing. Bottled water can be used to replace this water for drinking or cooking if desired.

Elevated concentrations of iron are common in many groundwater aquifers in New Brunswick and iron has an elevated concentration in the sample collected during the pump test. The measured

result of 0.51 mg/L exceeded the MAC 0.3 mg/L guideline Such elevated concentrations are normally due to natural conditions within the aquifer. The above GCDWQ for iron is an aesthetic objectives. Iron can cause staining of plumbing fixtures and laundry and may be associated with smells imparted to the water. The elevated turbidity observed is expected to reduce to acceptable levels with time and further pumping.

Microbiological Results: No E. coli or total coliforms were detected as is shown in Table 5.

Table 4: Major inorganic ion chemistry for the groundwater sample from Well during 24-hour pump test, Salisbury WSSA.

					Guidelines
Sample ID	PW1				Canadian Drinking Water Quality Guidelines
Sample Date	Oct 9, 2025				
Sodium (mg/L)	129				AO ≤200
Potassium (mg/L)	0.40				
Calcium (mg/L)	1.35				
Magnesium (mg/L)	0.09				
Alkalinity (as $CaCO_3$) (mg/L)	260				
Chloride (mg/L)	12				AO ≤250
Sulphate (mg/L)	26				AO ≤500
Nitrate + Nitrite (as N) (mg/L)	<0.05				MAC 10.0
Iron (mg/L)	**0.51**				AO ≤0.3
Manganese (mg/L)	0.029				AO ≤0.02 MAC 0.12
Aluminum (mg/L)	0.190				
Antimony (mg/L)	<0.0001				MAC 0.006
Arsenic (mg/L)	0.001				MAC 0.01
Barium (mg/L)	0.027				MAC 2.0
Boron (mg/L)	0.042				MAC 5.0
Cadmium (mg/L)	<0.00001				MAC 0.007
Chromium (mg/L)	<0.001				MAC 0.05
Copper (mg/L)	<0.001				MAC ≤2.0 AO ≤ 1.0
Fluoride (mg/L)	**2.2**				MAC 1.5
Lead mg/L)	0.0003				MAC 0.005
Selenium (mg/L)	<0.001				MAC 0.05
Uranium (mg/L)	0.0080				MAC 0.02
Zinc (mg/L)	0.001				
pH	8.8				
Turbidity (NTU)	**39.0**				1
Conductivity (µS/cm)	552				
Colour TCU	<5				
Hardness (calc) mg/l as $CaCO_3$	3.7				

AO = Aesthetic Objective

MAC = Maximum Acceptable Concentration

Microbiology Results

A microbiological sample was collected from the production well for analysis. The results of these are provided below. The laboratory certificate is provided in the Appendix.

Table 5: Microbiology Results

Well	Date and Time (d-m-y) (12 hr.)	E. coli	Total Coliform
Current Pump Test Results			
PW1	9-10-25	0	0

As can be seen in Table 5 above, there were no detections of either E. coli or Total Coliforms in the microbiological sample.

Field Pump Testing

A 24-hour pump test for Well PW1 was started at 10:15 am on October 9, 2025, and conducted until 10:15 am, October 10, 2025, when the pump was turned off and the water level allowed to recover. Pumping was started at an initial flow rate of 98.2 L/min (15 igpm). This rate was slowly reduced until 7:15 pm that evening when the flow was stabilized at 54.6 L/min (12 igpm). Following completion of the 24 hours of pumping the well was allowed to recover. A water quality sample was collected from PW1 on October 9, 2025.

Aquifer Parameters PW1

The arithmetic plot of the drawdown and recovery curve for Well PW1 is shown in Figure 3. The log plot of the drawdown and recovery curve for Well PW1 is provided in Figure 4 which also shows the trend line for the analysis carried out below. The analytical method reference is C.W. Fetter, 1994: Applied Hydrogeology, Macmillan College Publishing Company Inc. Pages 214 – 241. It is the Jacob straight line method that was used.

During the 24-hour pump test the total drawdown was 31.77 meters.

PW1 Transmissivity

$T=2.3Q / 4\pi\Delta s = 0.183Q / \Delta s$
where $Q = 12$ igpm $= 78.6$ L/min $= 54.6$ m^3/day
and $\Delta s = 4.0$ from the slope of the trend line shown in Figure 3

Then $T = (0.183*54.6) / 4.00 = 2.5$ m^2/day

Based on the Jacob straight line method the aquifer transmissivity is estimated at 2.5 m^2/day, indicating a hydraulic conductivity of approximately 0.04 m/day (b = 61.0 meters). The results can be considered within the normal range for the bedrock aquifer as is found in the local area and is in general agreement with the parameters determined during the 2024 site pump test. The specific capacity is estimated at approximately 0.38 igal (1.73 liters) per meter of drawdown. Upon shutdown of the pump test, the wells recovery was monitored. Well PW1 recovered to 75% of the total drawdown after 180 minutes of recovery.

PW1 was pump tested at 78.6 L/minute in order to see any associated drawdown in OBS1 and OBS2. In fact, the average water demand over 24 hours is predicted to be 3.75 L/minute for the proposed Apartment building (see Required Water Quantity). We can derive a trend line for a constant pumping rate (Q) of 3.75 L/minute using the following.

For PW1

$T=2.3Q / 4\pi\Delta s = 0.183Q / \Delta s$
rearranging we get

$\Delta s = 0.183Q / T$

where Q = 3.75 L/minute = 5.4 m^3/day = 0.82 igpm
and using T = 3.60 m^2/day
Therefore Δs = 0.4 meters

We can construct a trend line of this slope as is shown in Figure 4. Based on this trend line, at the 100-day (144,000 min) mark with negligible recharge, well PW1 would have approximately 1.8 meters of drawdown.

Figure 5 shows the residual drawdown plotted against the ratio of t/t'. The plot indicates an approach to zero drawdown at a positive intercept. The Δs from the trend line showing is 5.8, which yields a T = 0.6 m^2/day

The observed water level fluctuations in OBS1 are shown in Figure 6. The initial height of water above the pressure transducer in OBS1 was 15.17 meters. In OBS1 the maximum drawdown observed during the pump test is 5.25 meters. It is clear from the irregularities in the plotted drawdown line in Figure 6 that OBS1 is also being influenced to a lesser extent by other pumping wells in the neighborhood. The observed water level fluctuations in OBS2 are shown in Figure 7. The initial static in OBS1 was -10.31 meters BTOC. In OBS2 the maximum drawdown observed during the pump test is 22.2 meters.

The distance drawdown relationship for PW1, OBS1, and OBS2 is shown in Figure 8. It is apparent based on the results of the pump test that PW1 and OBS2 are hydraulically linked to a greater degree than PW1 and OBS1 or OBS2 and OBS1. Given that the aquifer is fractured bedrock this is probably not unusual as water flow depends on individual fractures the hydraulic characteristics of which can vary with distance. If the drawdown in OBS2 is discounted as being closely linked to PW1 and only the data from PW1 and OBS1 are used, then the predicted zero radius is approximately 200 meters.

DISCUSSION

Water Chemistry: The analytical results of the groundwater sample collected from PW1 during the the pump test are provided in Tables 4 and 5. All parameters measured meet drinking water guidelines with the exception of fluoride, iron, and turbidity. The water supply will require treatment to reduce the concentration of fluoride to an acceptable concentration. It is expected that the elevated level of iron and turbidity will decrease to acceptable levels with further time and pumping as the vast majority of most wells will clear naturally. It is recommended that an additional sample be collected from PW1 after it has been connected to the building plumbing system and run for a day or so at a low pumping rate (<1 igpm) to try and facilitate clearing of the well water.

Water Quantity: Well PW1 was pumped at a rate of 78.6 L/min (12 igpm) for 24 hours during the pump test. Wells PW1, OBS1 and OBS2 had measured drawdowns of approximately -31.77, -10.31 and -22.2 meters after the pumping portion of the test ended.

As outlined in the section on Required Water Quantity, the proposed apartment building will require a total water flow of 5,400 liters per day (5.4 m^3/day, 3.75 L/min, or 0.82 igpm). The total daily flow of 3.75 L/min or 0.82 igpm is well within the capacity of PW1. The peak design flow for the apartment building is 45 L/min (9.9 igpm). This this flow can be obtained from PW1 (assuming approval for a maximum pumping rate of 78.6 L/min (12 igpm)). These numbers are suggested for planning purposes at this stage of the project. Any such water system design should be conducted by a qualified engineer with experience in designing such systems.

These design numbers used for the design flow estimation are recognized as being high and also plan for the maximum number of users, a condition that is relatively unusual. In any event, it appears, based on the pump test, that PW1 has sufficient capacity to provide adequate water for the proposed project.

PW1 Average Daily Water Demand: Well PW1 was pumped at a minimum of 78.6 L/min (12 igpm) for 24 hours in order to assess the impacts on water levels in the aquifer at that rate. In fact, as outlined above, the average water demand for PW1 over a 24-hour period is estimated to be 0.82 igpm (3.75 L/min) providing water to the apartment building. We can derive a trend line for a pumping rate (Q) of 3.75 L/minute (0.82 igpm) as shown in Figure 4. Based on this trend line, at the 100-day (144,000 min) mark with negligible recharge, well PW1 would have approximately 1.8 meters of drawdown.

Potential Drawdown Impacts on Adjacent Wells: OBS2 is located closest to the proposed production well (PW1); however, OBS2 appears to be closely linked to PW1, based on the pump test results. OBS2 is located farther from the proposed production well (PW1) but the interaction between the two probably better represents the overall drawdown that would be observed in the aquifer over a larger area. During the pump test the impact of pumping PW1 at 78.6 L/min (max. drawdown -31.77 meters) was a maximum drawdown in OBS2 of -10.31 meters after 24 hours. Based on the projections for pumping PW1 at the average daily demand rate shown in Figure 4, the projected drawdown at 1440 minutes (one day) would be approximately <1 meters in PW1. For PW1 the ratio of drawdown pumping at 78.6L/min compared to the drawdown predicted pumping at a rate of 3.75 L/min is approximately 1/31.77 = 0.03. Based on this we can predict that pumping PW1 at the average daily demand rate outlined above would induce approximately 0.03 * 10.31 = 0.3 meters of drawdown in OBS2 after 1440 minutes or one day. Pumping in PW1 at 12 igpm, combined with some storage would not be constant. There would be periods of recovery throughout the day and recharge to the aquifer will occur periodically. Therefore the actual drawdown in OBS2 would be less than the 0.3 meters predicted.

Potential for Saltwater Intrusion: Given the distance of the proposed development from the seacoast, saltwater intrusion is not considered to be a factor at this site. Groundwater recharge between the site and the seacoast would rule out any intrusion occurring over such distances.

CONCLUSIONS AND RECOMMENDATIONS

Based on the above information relating to water quantity it is concluded that Well PW1:

1. Has sufficient potential ground water resources for the intended use, and;

2. Will not aggravate any existing or create new water supply problems.

The inorganic water quality sample collected during the pump test did not indicate any water quality problems with the exception of fluoride and possibly iron. Groundwater from the well will require treatment to reduce measured concentrations of fluoride and possibly iron to acceptable levels compared to the NB Drinking Water Quality Guidelines. It is recommended that an additional sample be collected from PW1 after it has been connected to the building plumbing system and run for a day or so at a low pumping rate (< 1 igpm) to try and facilitate clearing of the well water. The measured concentrations of any problem parameters can be further assessed at that time.

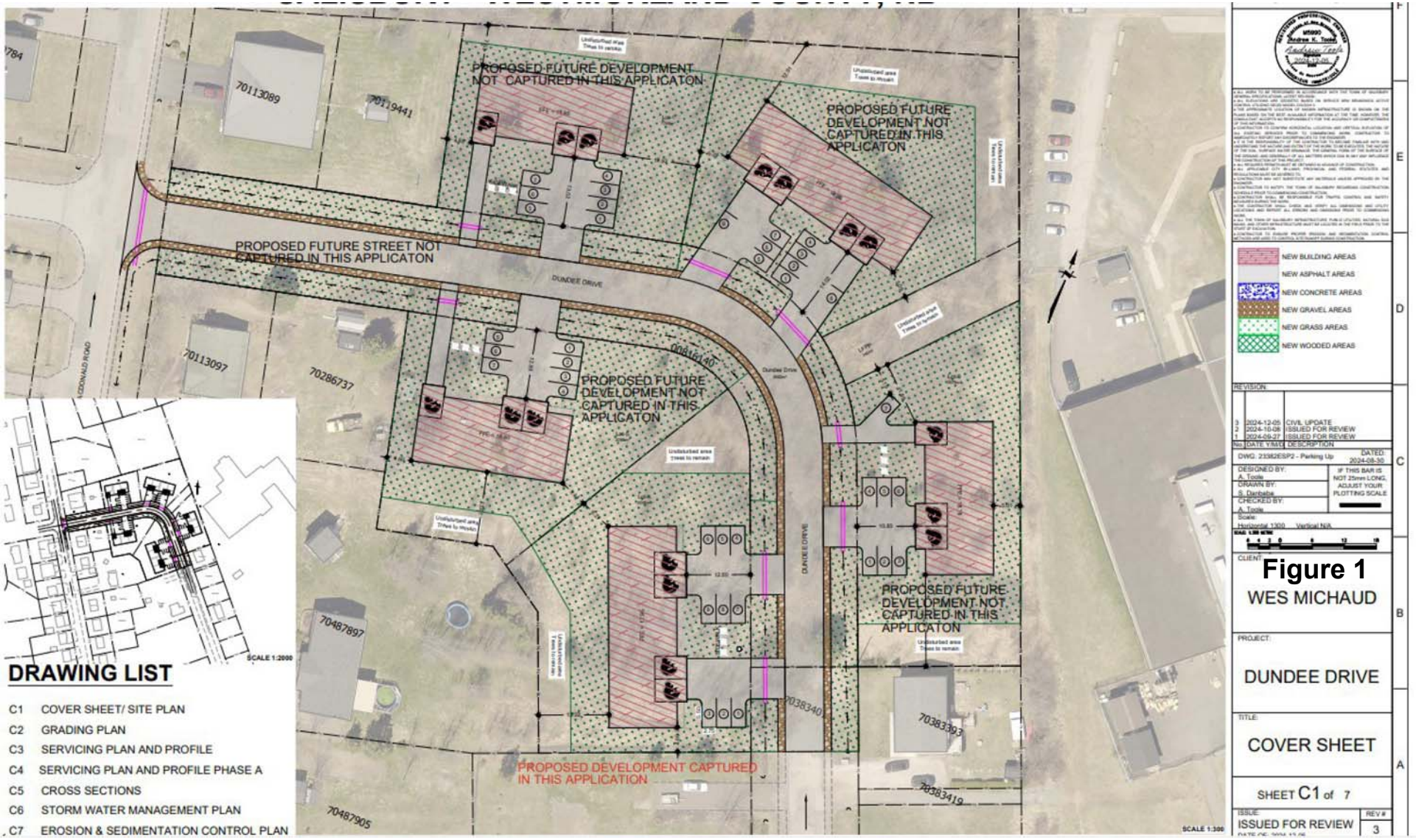
Based on the above, it is recommended that well PW1 be approved for an average 24-hour pumping rate of 0.82 igpm (3.75 L/min) with a peak pumping rate of 12 igpm (78.6 L/min) for no more than 120 minutes a day. The water supply will require water treatment to reduce the observed concentration of fluoride and possibly iron to acceptable levels.

Report Prepared by:

Craig HydroGeoLogic Inc.

Douglas Craig, M.Sc., P. Geo.

Hydrogeologist


PROPOSED FUTURE DEVELOPMENT NOT CAPTURED IN THIS APPLICATON
PROPOSED FUTURE DEVELOPMENT NOT CAPTURED IN THIS APPLICATON
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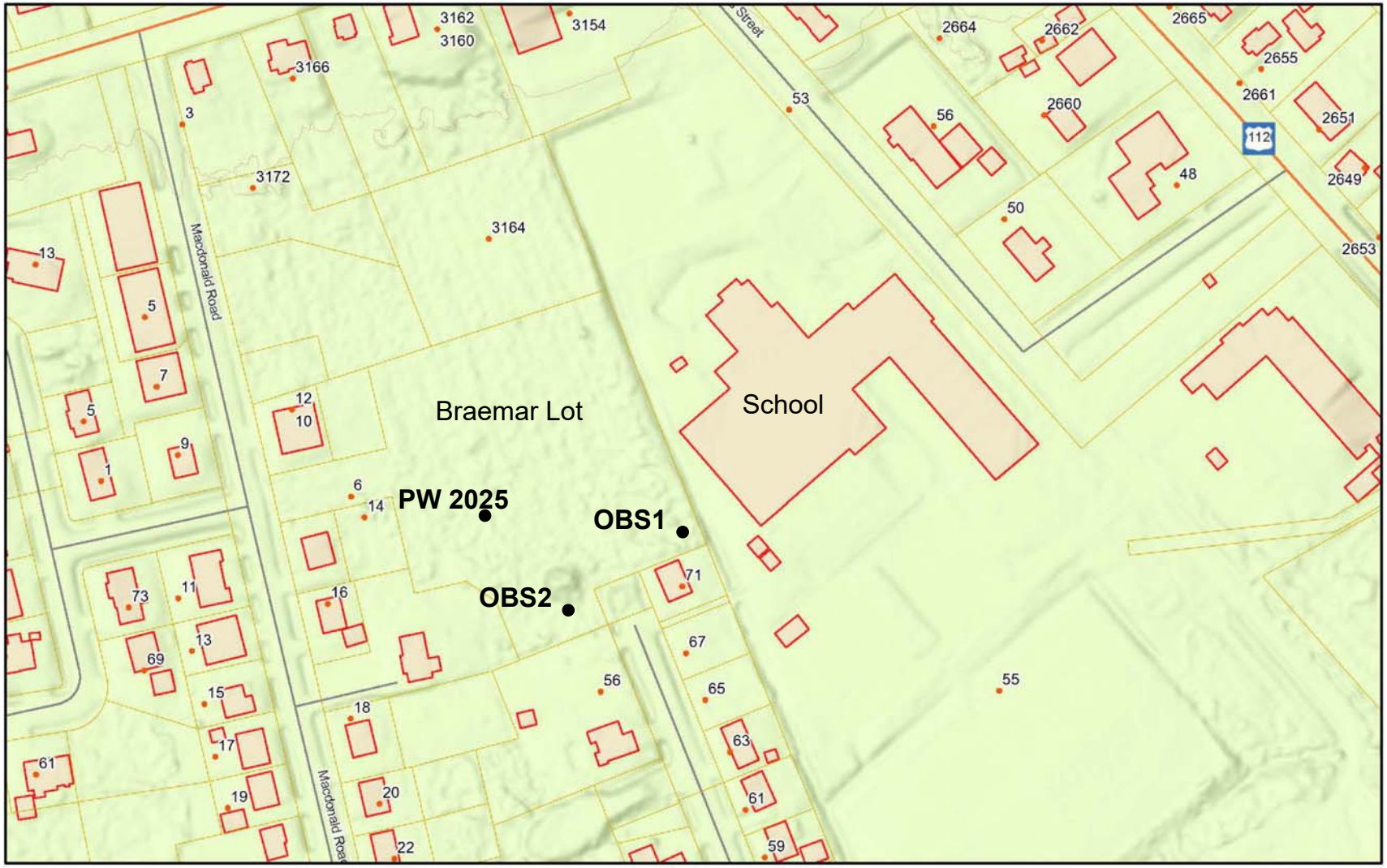
PROPOSED DEVELOPMENT CAPTURED IN THIS APPLICATION
DUNDEE DRIVE
70113089
70119441
70113097
70286737
70487897
70487905
70383393
70383419
SCALE 1:300
SCALE 1:2000
DRAWING LIST
C1 COVER SHEET/ SITE PLAN
C2 GRADING PLAN
C3 SERVICING PLAN AND PROFILE
C4 SERVICING PLAN AND PROFILE PHASE A
C5 CROSS SECTIONS
C6 STORM WATER MANAGEMENT PLAN
C7 EROSION & SEDIMENTATION CONTROL PLAN
NEW BUILDING AREAS
NEW ASPHALT AREAS
NEW CONCRETE AREAS
NEW GRAVEL AREAS
NEW GRASS AREAS
NEW WOODED AREAS
REVISION
3 2024-12-05 CIVIL UPDATE
2 2024-10-08 ISSUED FOR REVIEW
1 2024-06-27 ISSUED FOR REVIEW
DWG. 2338ZESP2 - Parking Up
DATED 2024-08-30
DESIGNED BY: A. Toole
DRAWN BY: S. Dambaba
CHECKED BY: A. Toole
Scale: Horizontal 1300 Vertical N/A
CLIENT
WES MICHAUD
PROJECT:
DUNDEE DRIVE
TITLE:
COVER SHEET
SHEET C1 of 7
ISSUE:
ISSUED FOR REVIEW
REV #
3

Figure 1

Figure 2: Site Location and Test Wells

GeoNB Map Viewer



2024-05-22, 8:45:27 a.m.

Civic Addresses

Buildings

Large Scale

parcels

Year of Photography

1:2,257

0 105 210 420 ft

0 30 60 120 m

Service New Brunswick, Service New Brunswick / Service Nouveau-Brunswick, Department of Environment and Local Government / Ministère de

GeoNB

This map is a graphical representation which approximates the size, configuration and location of features. This map is not intended to be used for legal descriptions or to calculate exact dimensions or area.

Figure 3: PW1 Arithmetic Plot of Drawdown.

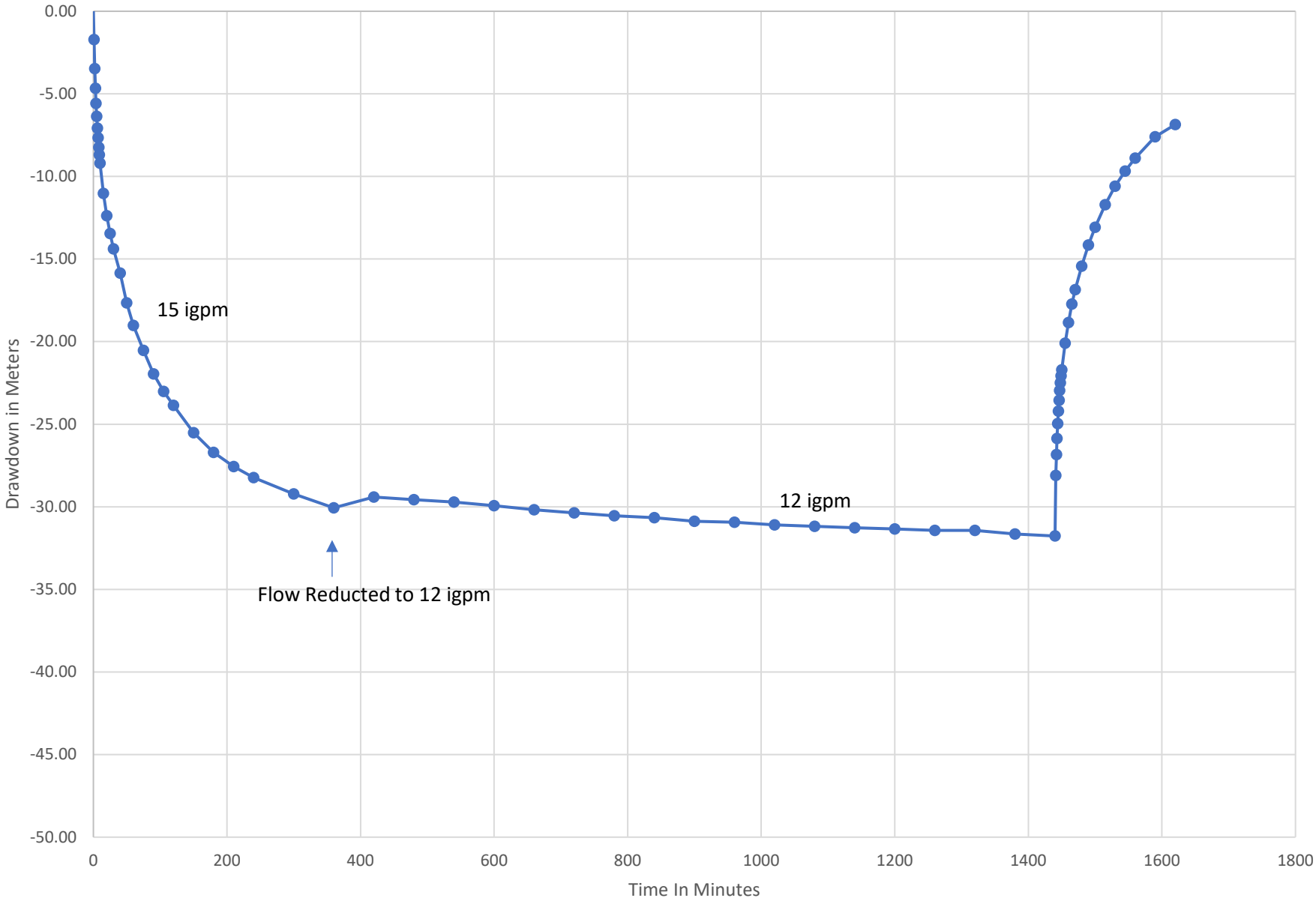


Figure 4: PW1 Log Plot of Drawdown

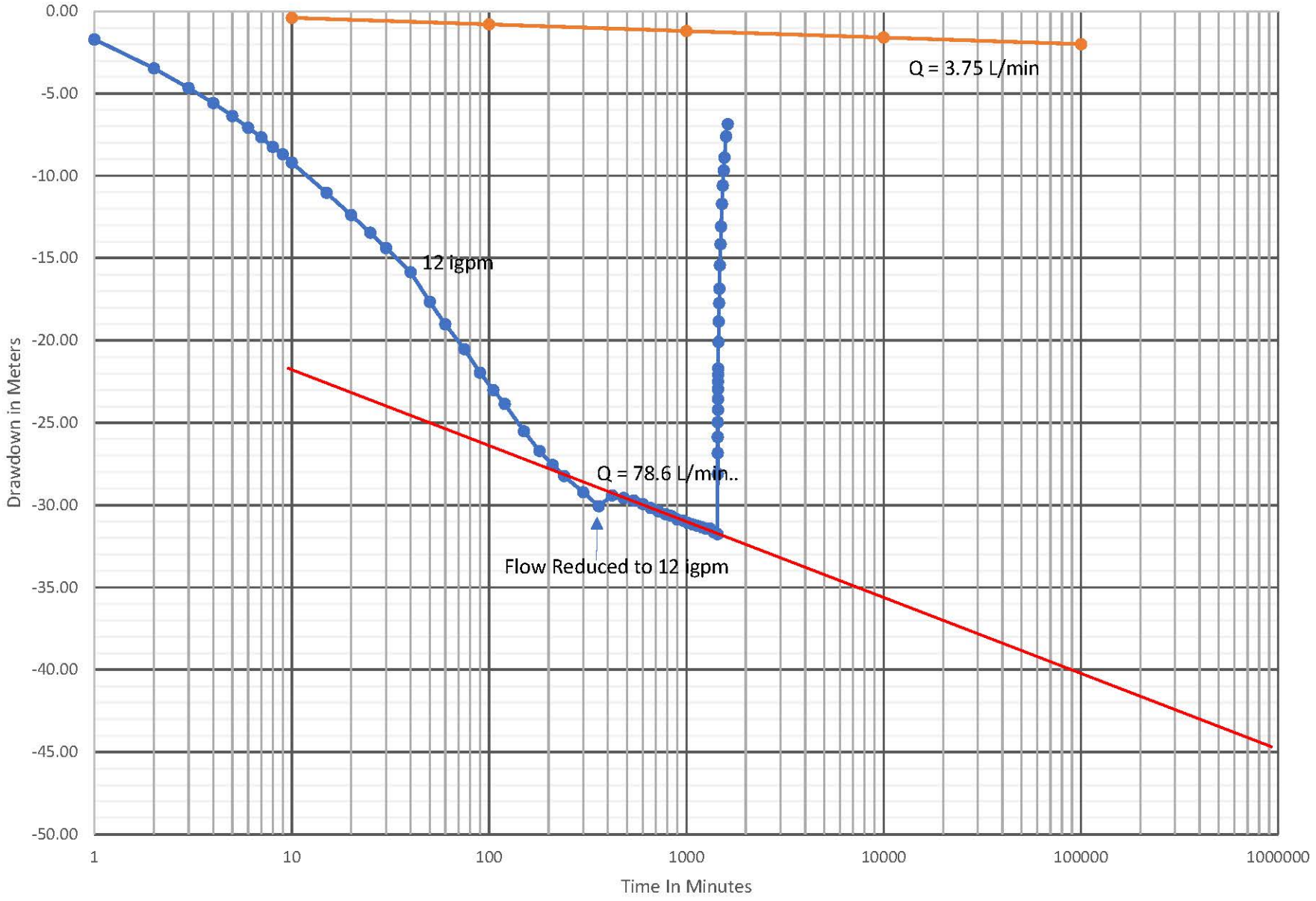


Figure 5: Residual Drawdown vs t/t'

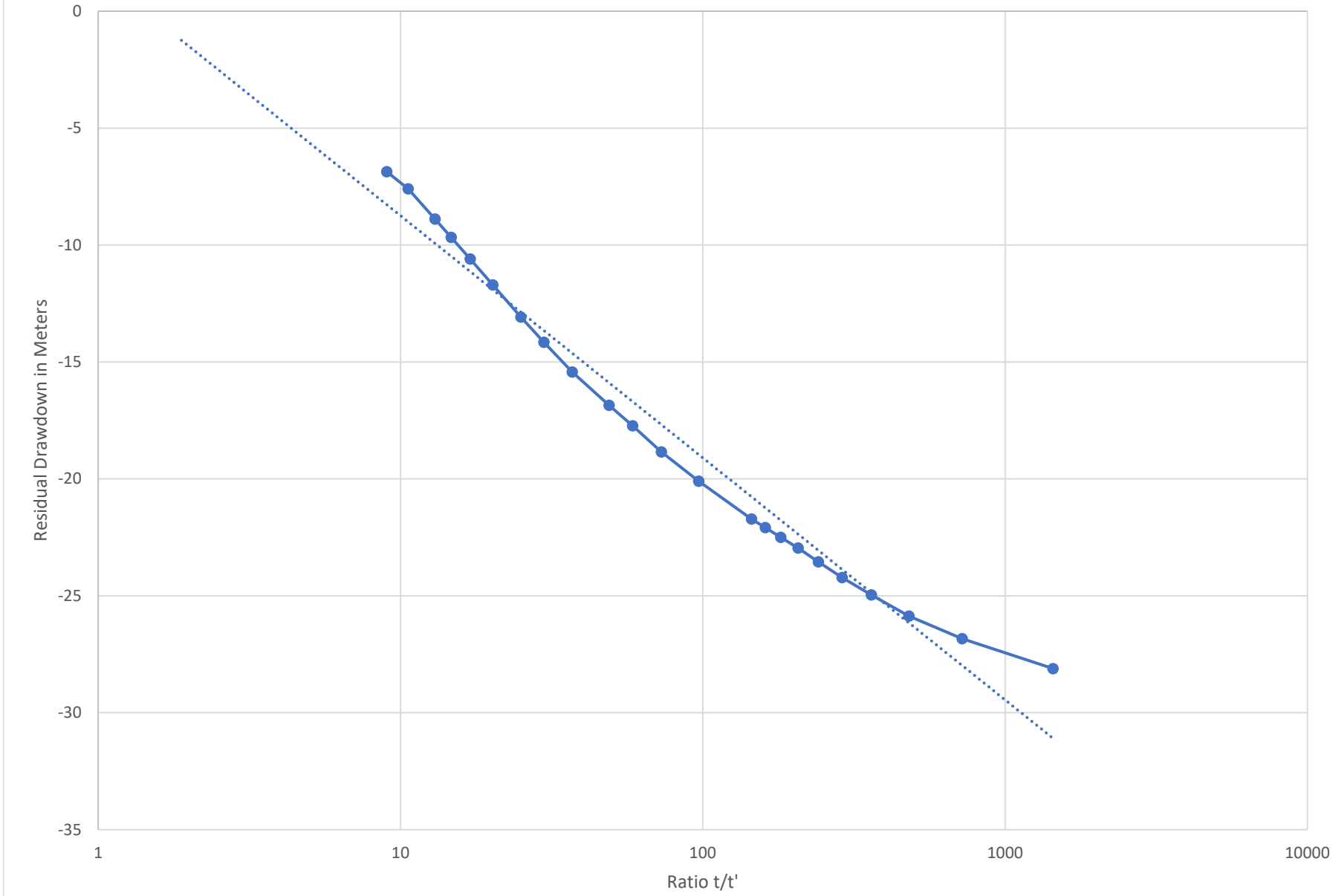


Figure 6: Groundwater Level OBS1

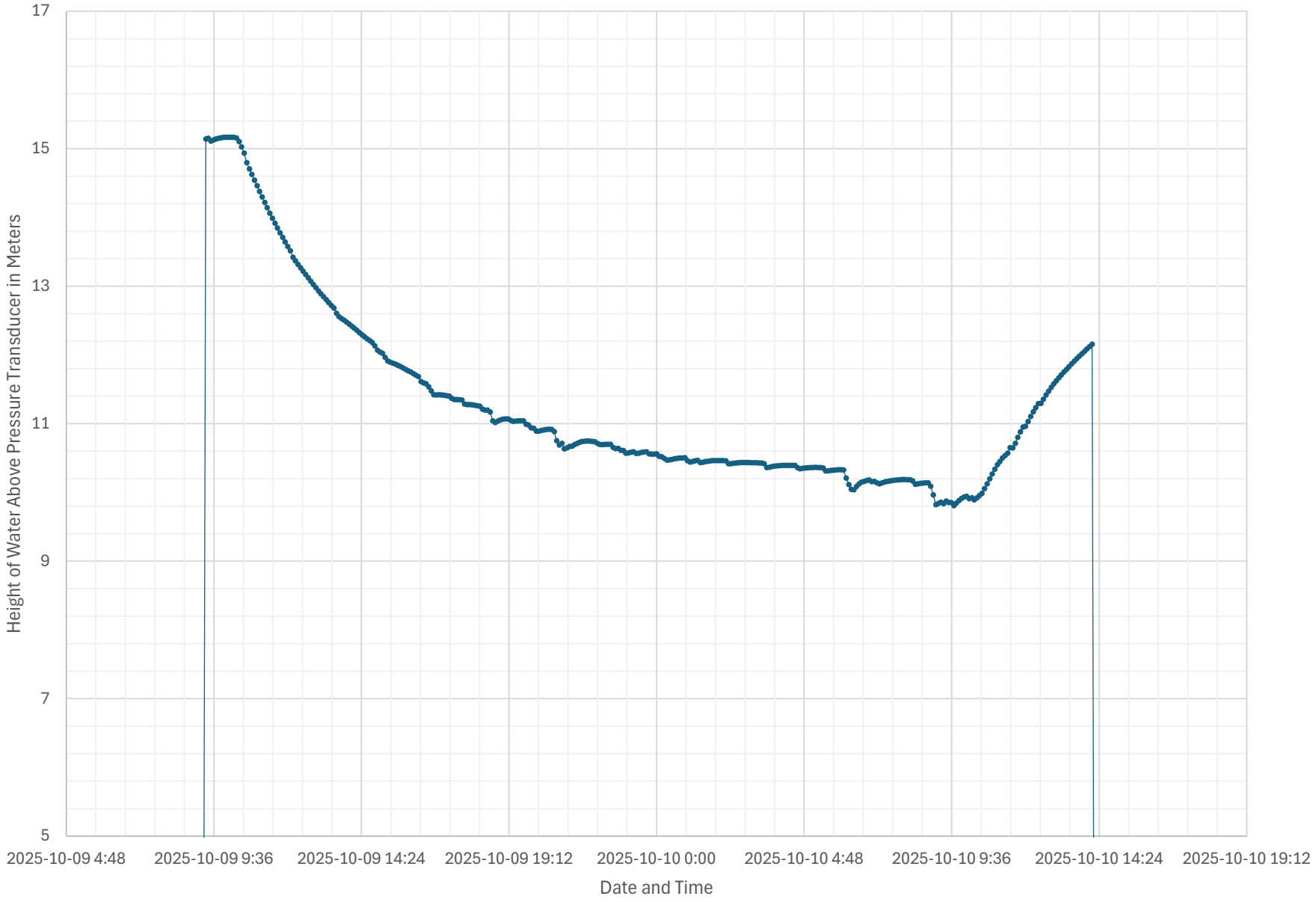


Figure 7 : Water Level in OBS2 Below Top of Casing

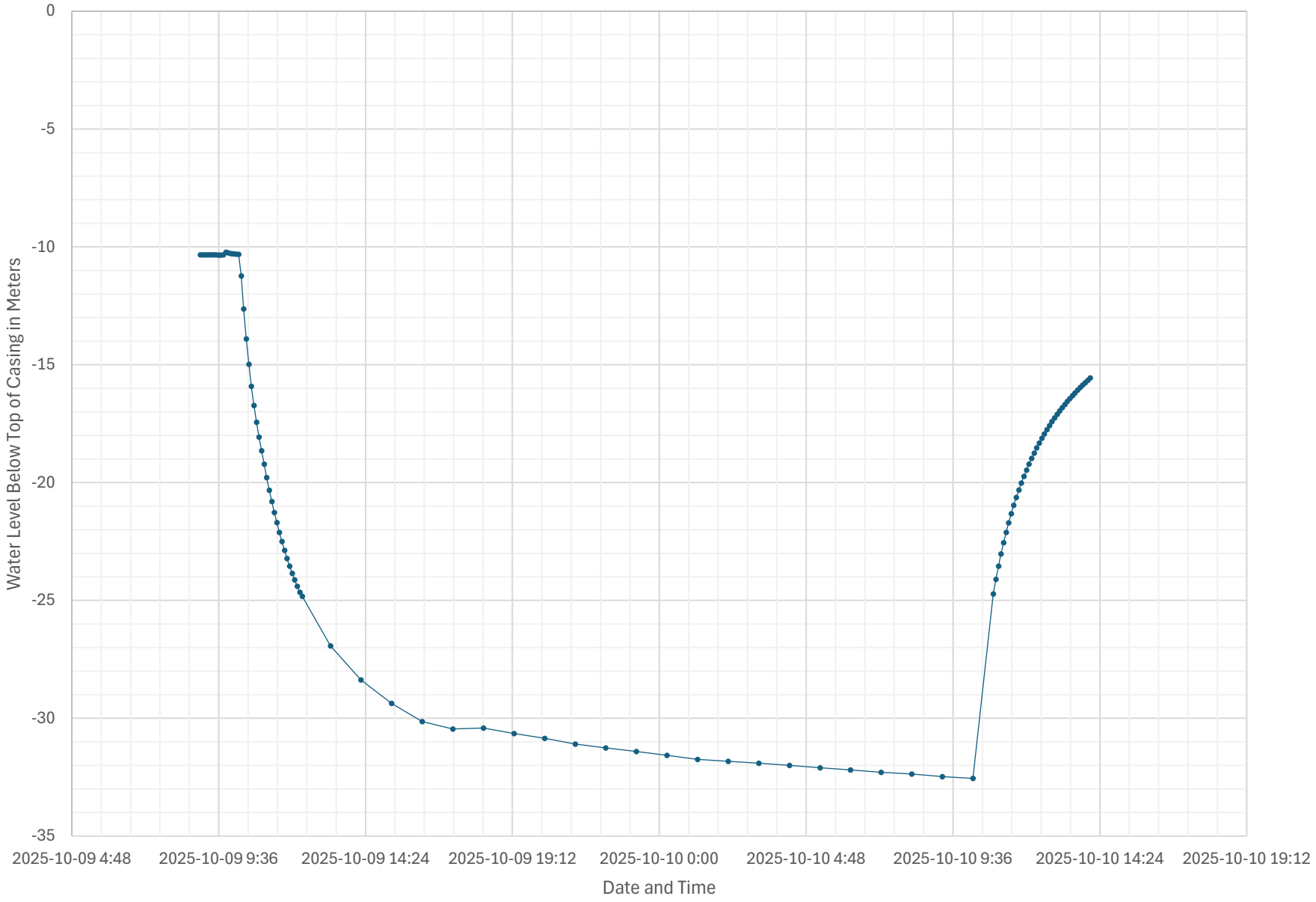
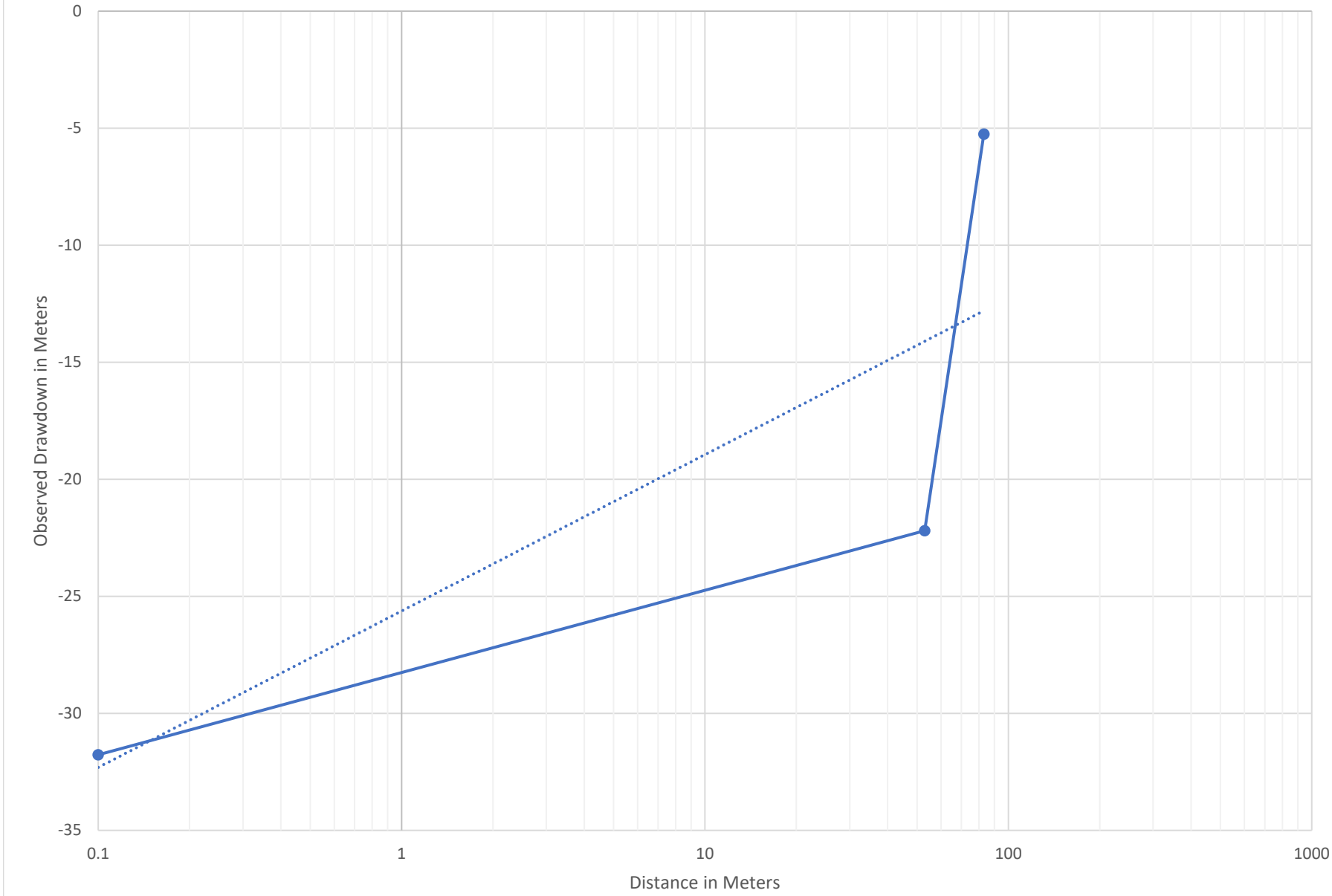


Figure 8: Distance Drawdown



Appendix 1

Well Logs

WM Salsbury Apt Building #2

100 meter radius around PID 00816140

Well Depth (Feet)	**Estimated Yield** (igpm)	**Depth to Bedrock** (Feet)	**Casing Length** (Feet)
188	4	30	53
180	8	25	67
152	5	20	69
240	5	18	30
160	8	45	71
180	5	30	67
220	4	25	68
90	8		
185	6	25	40
180	5	20	30
220	5	16	44
278	4	110	105
300	9	111	118
Well Depth (Feet)	**Estimated Yield** (igpm)	**Depth to Bedrock** (Feet)	**Casing Length** (Feet)

Median	185	5	25	67	Median
average	197.9	5.8	39.6	63.5	AVERAGI
max	300	9	111	118	max
min	90	4	16	30	min
count	13				

New Nouveau Brunswick

ENVIRONMENT & LOCAL GOVERNMENT

WATER WELL DRILLER'S REPORT

62135

OFFICE USE ONLY	HEALTH CODE	LAB NO	SAMPLE RECEIVED DATE
FIELD NO	HEALTH OFFICE	EVENT NO	YR MO DAY

SAMPLE RECEIVED BY

TESTING VOUCHER INFORMATION **MANDATORY FOR WATER TEST**

SEE BACK FOR DETAILS **PLEASE PRINT**

INFORMATION INCLUDED HEREIN SHOULD BE THE WELL OWNER AT TIME OF SAMPLING

FIRST NAME LAST NAME

ADDRESS (MAIL RESULTS TO)

CITY/TOWN/VILLAGE PROV POSTAL CODE

DAYTIME PHONE FAX NO

TEL NO SAMPLE COLLECTED YR MO DAY HR MIN AM PM

DO YOU NEED A SAMPLE FOR YOUR MORTGAGE?

IF YOU WISH THE RESULTS TO BE RELEASED TO A MORTGAGE INSTITUTION PLEASE INCLUDE THE FOLLOWING CONTACT INFORMATION:

SEE BACK FOR DETAILS

ATTENTION OF

TEL NO FAX NO

SIGNATURE OF WELL OWNER

WAS THE COST OF THIS WELL FINANCED BY NB HOUSING?

YES ☐ ☑ NO

WELL / WATER USE:

INDUSTRIAL ☐ ABANDONED ☐ DOMESTIC ☑

EXPLORATORY ☐ MUNICIPAL ☐ MONITORING ☐

HEAT PUMP ☐ OBSERVATION ☐ OTHER ☐

TYPE OF WORK COMPLETED: NEW WELL ☑ DEEPENED ☐

OTHER

METHOD:

CABLE TOOL ☐ ROTARY ☑ OTHER

CASING INSTALLED:

LENGTH OF CASING ABOVE GROUND 2 FT 0 IN

STEEL 6" DIAM FROM 0 FT TO 100 FT

PVC IN DIAM FROM FT TO FT

SLOTTED IN DIAM FROM FT TO FT

SCREENS: TYPE SLOT SIZE

IN DIAM FROM FT TO FT

DRIVE SHOE ☑ YES ☐ NO

SETBACKS: SEE BACK FOR DETAILS

SEPTIC TANK (1) N/A FT

SEPTIC TANK (2) ±200 FT FIELD (2) ±200 FT FIELD (1) N/A FT

*RIGHT OF WAY OF ANY PUBLIC ROAD: ☐ (1) ROAD (2)

CENTER OF ROAD ☑ (1) 66 (2)

SETBACKS MEASURED (NEW CONSTRUCTION)

APPROXIMATE SETBACKS AS INDICATED BY HOMEOWNER (EXISTING CONST.)

FLOWING WELL? YES ☐ NO ☑ IF YES-RATE igpm (approx)

AQUIFER TEST: METHOD AIR ☐ BAILER ☐ PUMP ☐

INITIAL WATER LEVEL: 30 FT BELOW TOP OF CASING

PUMPING RATE 20 igpm DURATION 1 hrs min

FINAL WATER LEVEL 40 FT. BELOW TOP OF CASING

ESTIMATED SAFE YIELD: 22 igpm

WELL GROUTED? YES ☐ NO ☑

FROM FT TO FT GROUT TYPE:

DRILLING FLUIDS USED: YES ☐ NO ☑

TYPE

P.I.D. NO.	WELL I.D. NO.
00816540	71484

WELL OWNER INFORMATION

INFORMATION INCLUDED HEREIN SHOULD BE THE WELL OWNER AT TIME OF DRILLING

FIRST NAME LAST NAME

Michaud CAPITAL Corp

ADDRESS

CITY/TOWN/VILLAGE PROVINCE POSTAL CODE

WELL LOCATION. SAME AS ABOVE OR

CIVIC NUMBER STREET NAME

SADUNDEE DRIVE

CITY/TOWN/VILLAGE

SALISBURY

WELL PAID FOR BY PROVINCIAL DEPT OF

WELL ON RESERVE? YES ☐ NO ☑

WELL ALREADY TAGGED? YES ☐ NO ☑

OLD WELL ID

DRILLER'S LOG*

FROM (FT)	TO (FT)	COLOUR	ROCK TYPE
GROUND LEVEL	80	brown	TILL
80	206	red	Shale
206	215	red	Sandstone
215	250	red	Shale

IF INSUFFICIENT SPACE PLEASE USE ADDITIONAL SHEETS

TOTAL WELL DEPTH: 250 FT DEPTH TO BEDROCK: 80 FT

WATER BEARING 1 12 igpm AT 184 FT 2 igpm AT FT

FRACTURE ZONES 3 igpm AT FT 4 igpm AT FT

PUMP INSTALLATION: INSTALLED ☐ NOT INSTALLED ☑

PUMP INTAKE SETTING. (Recommended) 200 FT BELOW TOP OF CASING

PUMP TYPE: SUBMERSIBLE ☑ JET ☐ TURBINE ☐

OTHER

WELL DISINFECTED? YES ☑ NO ☐

TYPE Ch pellets

DRILLER'S COMMENTS

DRILLING COMPANY: Bill Kyte Well Drilling

COMPLETION DATE: 25 09 30 (YR MO DAY) LICENSE NO. 309

G.P.S. (OPTIONAL)

I CERTIFY THAT THE WELL HEREIN DESCRIBED HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE WATER WELL REGULATION UNDER THE NEW BRUNSWICK CLEAN WATER ACT.

Signature of Driller: Tom MacEachern

Signature of Helper: MATT DUNN / Cody MacLean

WHITE - NB DENV
BLUE - Homeowner / Voucher
YELLOW - Homeowner
PINK - Drilling Company

KEEP THIS REPORT WITH YOUR IMPORTANT DOCUMENTS

New Nouveau Brunswick

ENVIRONMENT & LOCAL GOVERNMENT

WATER WELL DRILLER'S REPORT

00048068

OFFICE USE ONLY	HEALTH CODE	LAB NO	SAMPLE RECEIVED DATE
FIELD NO	HEALTH OFFICE	EVENT NO	YR MO DAY

SAMPLE RECEIVED BY

TESTING VOUCHER INFORMATION **MANDATORY FOR WATER TEST**

SEE BACK FOR DETAILS **PLEASE PRINT**

INFORMATION INCLUDED HEREIN SHOULD BE THE WELL OWNER AT TIME OF SAMPLING

FIRST NAME LAST NAME

ADDRESS (MAIL RESULTS TO)

CITY/TOWN/VILLAGE PROV POSTAL CODE

DAYTIME PHONE FAX NO

TEL NO SAMPLE COLLECTED YR MO DAY HR MIN AM PM

DO YOU NEED A SAMPLE FOR YOUR MORTGAGE? SEE BACK FOR DETAILS

IF YOU WISH THE RESULTS TO BE RELEASED TO A MORTGAGE INSTITUTION PLEASE INCLUDE THE FOLLOWING CONTACT INFORMATION:

ATTENTION OF

TEL NO FAX NO

SIGNATURE OF WELL OWNER

WAS THE COST OF THIS WELL FINANCED BY NB HOUSING?

YES ☐ ☒ NO

WELL / WATER USE:

INDUSTRIAL	☐	ABANDONED	☐	DOMESTIC	☑
EXPLORATORY	☐	MUNICIPAL	☐	MONITORING	☐
HEAT PUMP	☐	OBSERVATION	☐	OTHER	☐

TYPE OF WORK COMPLETED: NEW WELL ☑ DEEPENED ☐

OTHER

METHOD:

CABLE TOOL ☐ ROTARY ☑ OTHER

CASING INSTALLED:

LENGTH OF CASING ABOVE GROUND 2 FT IN

STEEL 6" Diam From 0 FT TO 105 FT

PVC IN DIAM FROM FT TO FT

SLOTTED IN DIAM FROM FT TO FT

SCREENS: TYPE SLOT SIZE

IN DIAM FROM FT TO FT

DRIVE SHOE ☐ YES ☐ NO

SETBACKS: SEE BACK FOR DETAILS

SEPTIC TANK (1) Nil FT

SEPTIC TANK (2) Nil FT FIELD (2) Nil FT FIELD (1) Nil FT

*RIGHT OF WAY OF ANY PUBLIC ROAD ☐ (1) ROAD (2)

CENTER OF ROAD ☐ (1) 100 (2)

SETBACKS MEASURED (NEW CONSTRUCTION)

APPROXIMATE SETBACKS AS INDICATED BY HOMEOWNER (EXISTING CONST.)

FLOWING WELL? YES ☐ NO ☑ IF YES-RATE igpm (approx)

AQUIFER TEST: METHOD AIR ☑ BAILER ☐ PUMP ☐

INITIAL WATER LEVEL 25 FT BELOW TOP OF CASING

PUMPING RATE 5 igpm DURATION 1 hrs 0 min

FINAL WATER LEVEL 70 FT. BELOW TOP OF CASING

ESTIMATED SAFE YIELD: 4 igpm

WELL GROUTED? YES ☐ NO ☑

FROM FT TO FT GROUT TYPE:

DRILLING FLUIDS USED: YES ☐ NO ☑

TYPE

DRILLER'S COMMENTS

29 DEC

G.P.S. (OPTIONAL)

I CERTIFY THAT THE WELL HEREIN DESCRIBED HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE WATER WELL REGULATION UNDER THE NEW BRUNSWICK CLEAN WATER ACT.

Signature of Driller: TOM MACEACHERN

Signature of Helper: MIKE ARNOLD

P.I.D. NO. 00816140 WELL I.D. NO. 68692

WELL OWNER INFORMATION

INFORMATION INCLUDED HEREIN SHOULD BE THE WELL OWNER AT TIME OF DRILLING

FIRST NAME LAST NAME: MICHAUD CAPITAL CORP

ADDRESS: 25 Chad Cres

CITY/TOWN/VILLAGE PROVINCE POSTAL CODE: SALISBURY NB E4J 3N1

WELL LOCATION, SAME AS ABOVE OR

CIVIC NUMBER STREET NAME: 6 BRAEMAR DR

CITY/TOWN/VILLAGE: SALISBURY

WELL PAID FOR BY PROVINCIAL DEPT OF

WELL ON RESERVE? YES ☐ NO ☐

WELL ALREADY TAGGED? YES ☐ NO ☐

OLD WELL ID

DRILLER'S LOG*

FROM (FT)	TO (FT)	COLOUR	ROCK TYPE
GROUND LEVEL	82	BROWN	TILL
82	110	Red	CLAYSTONE
110	157	Red	SANDSTONE
157	170	BROWN	CONGLOMERATE
170	287	Red	SHALE

IF INSUFFICIENT SPACE PLEASE USE ADDITIONAL SHEETS

TOTAL WELL DEPTH: 287 FT DEPTH TO BEDROCK: 82 FT

WATER BEARING 1 3/4 igpm AT 127 FT 2 3/4 igpm AT 135 FT

FRACTURE ZONES 3 1/2 igpm AT 157 FT 4 2 igpm AT 178 FT

PUMP INSTALLATION: INSTALLED ☐ NOT INSTALLED ☑

PUMP INTAKE SETTING. (Recommended) 260 FT BELOW TOP OF CASING

PUMP TYPE: SUBMERSIBLE ☑ JET ☐ TURBINE ☐

OTHER

WELL DISINFECTED? YES ☑ NO ☐

TYPE Ch Pellets

DRILLING COMPANY: Bill Kyte Well Drilling

COMPLETION DATE: 23 11 30 (YR MO DAY) LICENSE NO. 309

WHITE	- NB DENV
BLUE	- Homeowner / Voucher
YELLOW	- Homeowner
PINK	- Drilling Company

KEEP THIS REPORT WITH YOUR IMPORTANT DOCUMENTS

Brunswick

ENVIRONMENT & LOCAL GOVERNMENT

WATER WELL DRILLER'S REPORT

00048233

OFFICE USE ONLY	HEALTH CODE	LAB NO	SAMPLE RECEIVED DATE
FIELD NO	HEALTH OFFICE	EVENT NO	YR MO DAY

SAMPLE RECEIVED BY

TESTING VOUCHER INFORMATION MANDATORY FOR WATER TEST

SEE BACK FOR DETAILS **PLEASE PRINT**

INFORMATION INCLUDED HEREIN SHOULD BE THE WELL OWNER AT TIME OF SAMPLING

FIRST NAME LAST NAME

ADDRESS (MAIL RESULTS TO)

CITY/TOWN/VILLAGE PROV POSTAL CODE

DAYTIME PHONE FAX NO

TEL NO SAMPLE COLLECTED YR MO DAY HR MIN AM PM

DO YOU NEED A SAMPLE FOR YOUR MORTGAGE? **SEE BACK FOR DETAILS**

IF YOU WISH THE RESULTS TO BE RELEASED TO A MORTGAGE INSTITUTION PLEASE INCLUDE THE FOLLOWING CONTACT INFORMATION:

ATTENTION OF

TEL NO FAX NO

SIGNATURE OF WELL OWNER

WAS THE COST OF THIS WELL FINANCED BY NB HOUSING?

YES ☐ NO ☑

WELL / WATER USE:

INDUSTRIAL ☐ ABANDONED ☐ DOMESTIC ☑

EXPLORATORY ☐ MUNICIPAL ☐ MONITORING ☐

HEAT PUMP ☐ OBSERVATION ☐ OTHER ☐

TYPE OF WORK COMPLETED: NEW WELL ☑ DEEPENED ☐

OTHER

METHOD:

CABLE TOOL ☐ ROTARY ☑ OTHER

CASING INSTALLED:

LENGTH OF CASING ABOVE GROUND 2 FT ___ IN

STEEL 6" Diam From 0 FT TO 118 FT

PVC ___ IN DIAM FROM ___ FT TO ___ FT

SLOTTED ___ IN DIAM FROM ___ FT TO ___ FT

SCREENS: TYPE ___ SLOT SIZE ___

___ IN DIAM FROM ___ FT TO ___ FT

DRIVE SHOE YES ☑ NO ☐

SETBACKS: SEE BACK FOR DETAILS

SEPTIC TANK (1) N/I FT

SEPTIC TANK (2) N/I FT FIELD (2) N/I FT FIELD (1) N/I FT

*RIGHT OF WAY OF ANY PUBLIC ROAD ☐ (1) ___ ROAD (2) ___

CENTER OF ROAD ☑ (1) 195 (2) ___

SETBACKS MEASURED ___ (NEW CONSTRUCTION)

APPROXIMATE SETBACKS AS INDICATED BY HOMEOWNER ___ (EXISTING CONST.)

FLOWING WELL? YES ☐ NO ☑ IF YES-RATE ___ igpm (approx)

AQUIFER TEST: METHOD AIR ☑ BAILER ☐ PUMP ☐

INITIAL WATER LEVEL 26 FT BELOW TOP OF CASING

PUMPING RATE 8 igpm DURATION ___ hrs ___ min

FINAL WATER LEVEL 70 FT. BELOW TOP OF CASING

ESTIMATED SAFE YIELD: 9 igpm

WELL GROUTED? YES ☐ NO ☑

FROM ___ FT TO ___ FT GROUT TYPE: ___

DRILLING FLUIDS USED: YES ☐ NO ☑

TYPE ___

P.I.D. NO.	WELL I.D. NO.
00816140	67782

WELL OWNER INFORMATION

INFORMATION INCLUDED HEREIN SHOULD BE THE WELL OWNER AT TIME OF DRILLING

FIRST NAME LAST NAME

Michaud CAPITAL CORP

ADDRESS

CITY/TOWN/VILLAGE PROVINCE POSTAL CODE

Well # 2

WELL LOCATION: SAME AS ABOVE OR

CIVIC NUMBER STREET NAME

6 BRAEMAR DRIVE

CITY/TOWN/VILLAGE

SALISBURY

WELL PAID FOR BY PROVINCIAL DEPT OF ___

WELL ON RESERVE? YES ☐ NO ☑ WELL ALREADY TAGGED? YES ☐ NO ☑ OLD WELL ID

DRILLER'S LOG*

FROM (FT)	TO (FT)	COLOUR	ROCK TYPE
GROUND LEVEL	103	Red	CLAY
103	111	Red	Claystone
111	160	Red	Shale
160	165	grey	Shale
165	300	Red	Shale

IF INSUFFICIENT SPACE PLEASE USE ADDITIONAL SHEETS

TOTAL WELL DEPTH: 300 FT DEPTH TO BEDROCK: 103 FT

WATER BEARING 1 2 igpm AT 160 FT 2 2 igpm AT 175 FT

FRACTURE ZONES 3 2 igpm AT 255 FT 4 3 igpm AT 270 FT

PUMP INSTALLATION: INSTALLED ☐ NOT INSTALLED ☑

PUMP INTAKE SETTING. 280 FT BELOW TOP OF CASING (Recommended)

PUMP TYPE: SUBMERSIBLE ☑ JET ☐ TURBINE ☐

OTHER ___

WELL DISINFECTED? YES ☑ NO ☐

TYPE Ch Pellets

DRILLER'S COMMENTS ___

DRILLING COMPANY: Bill Kyte Well Drilling

COMPLETION DATE: 24 04 24 (YR MO DAY) LICENSE NO. 309

G.P.S. (OPTIONAL)

I CERTIFY THAT THE WELL HEREIN DESCRIBED HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE WATER WELL REGULATION UNDER THE NEW BRUNSWICK CLEAN WATER ACT.

Signature of Driller: Tom MacEachern

Signature of Helper: Mike Arnold

WHITE - NB DENV
BLUE - Homeowner / Voucher
YELLOW - Homeowner
PINK - Drilling Company

KEEP THIS REPORT WITH YOUR IMPORTANT DOCUMENTS

Appendix 2

Ground Water Chemistries

Report/Rapport: 566316-MB
Date: 10-Oct-25
Date Received/Reçu: 09-Oct-25

CERTIFICATE OF ANALYSIS / CERTIFICAT D'ANALYSE

for/pour
Craig HydroGeoLogic Inc
479 Maces Bay Road
Maces Bay, NB E5J 1T3

rpc
115A Harrisville Blvd
Moncton NB
Canada E1H 3T3
Tel: 506.855.6472
rpc.ca

Attention: Doug Craig

Location: Salisbury NB WM

Examination of Water/Examen de l'eau

RPC Sample ID/No. d'échantillon de RPC:				566316-1
Client Sample ID/ID d'échantillon du client:				PW1
Date collected/Date du prélèvement:				9-Oct-25
Analytes/Paramètre(s)	**Method Méthode**	**Date Analyzed Date Analysé**	**Units Unités**	
Total Coliforms/Coliformes totaux	MICRO10	9-Oct-25	MPN/100mL	0
E. coli	MICRO10	9-Oct-25	MPN/100mL	0

This report relates only to the sample(s) and information provided to the laboratory.

Le présent rapport ne s'applique qu'aux échantillons et à l'information transmis au laboratoire.

LEGEND:

RL/SD = Reporting Limit/Seuil de déclaration cfu/ufc = Colony Forming Units/Unités formant des colonies

MPN/NPP = Most Probable Number/Nombre Plus Probable

Nadine Godin
Microbiology Supervisor
Moncton Laboratory/Laboratoire de Moncton

Luc LeBouthillier
Lab Technician
Moncton Laboratory/Laboratoire de Moncton

Report ID: 566316-IAS
Report Date: 21-Oct-25
Date Received: 09-Oct-25

CERTIFICATE OF ANALYSIS

for
Craig HydroGeoLogic Inc
479 Maces Bay Road
Maces Bay, NB E5J 1T3

rpc
921 College Hill Rd
Fredericton NB
Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: Doug Craig
Project #: Not Available
Location: Salisbury NB WM

Analysis of Potable Water

RPC Sample ID:					566316-1
Client Sample ID:					PW1
Date Sampled:					9-Oct-25
Analytes	**Units**	**RL**	MAC	AO	
Alkalinity (as $CaCO_3$)	mg/L	2	-	-	260
Chloride	mg/L	0.5	-	250	12
Colour	TCU	5	-	15	< 5
Conductivity	µS/cm	1	-	-	552
Fluoride	mg/L	0.05	1.5	-	2.2
Nitrate + Nitrite (as N)	mg/L	0.05	10	-	< 0.05
pH	units	-	-	-	8.8
Phosphorus	mg/L	0.02	-	-	< 0.02
r-Silica (as SiO_2)	mg/L	0.1	-	-	7.8
Sulfate	mg/L	1	-	500	26
Total Organic Carbon	mg/L	0.5	-	-	1.0
Turbidity	NTU	0.1	-	-	39.0
Calculated Parameters					
Hardness (as $CaCO_3$)	mg/L	0.2	-	-	3.7
TDS (calc)	mg/L	-	-	500	339
Saturation pH (5°C)	units	-	-	-	9.1
Langelier Index (5°C)	-	-	-	-	-0.31

This report relates only to the sample(s) and information provided to the laboratory.

RL = Reporting Limit; MAC = Maximum Acceptable Concentration; AO = Aesthetic Objective

Guidelines are from Guidelines for Canadian Drinking Water Quality.

Troy Smith
Supervisor
Inorganic Analytical Services

Krista Skinner
Senior Chemical Technician
Inorganic Analytical Services

Report ID: 566316-IAS
Report Date: 21-Oct-25
Date Received: 09-Oct-25

CERTIFICATE OF ANALYSIS

for
Craig HydroGeoLogic Inc
479 Maces Bay Road
Maces Bay, NB E5J 1T3

rpc
921 College Hill Rd
Fredericton NB
Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: Doug Craig
Project #: Not Available
Location: Salisbury NB WM

Analysis of Metals in Potable Water

RPC Sample ID:					566316-1
Client Sample ID:					PW1
Date Sampled:					9-Oct-25
Analytes	**Units**	**RL**	MAC	AO	
Aluminum	mg/L	0.001	2.9	-	0.190
Antimony	mg/L	0.0001	0.006	-	< 0.0001
Arsenic	mg/L	0.001	0.01	-	0.001
Barium	mg/L	0.001	2	-	0.027
Boron	mg/L	0.001	5	-	0.042
Cadmium	mg/L	0.00001	0.007	-	< 0.00001
Calcium	mg/L	0.05	-	-	1.35
Chromium	mg/L	0.001	0.05	-	< 0.001
Copper	mg/L	0.001	2	1	< 0.001
Iron	mg/L	0.02	-	0.1	0.51
Lead	mg/L	0.0001	0.005	-	0.0003
Lithium	mg/L	0.0001	-	-	0.0094
Magnesium	mg/L	0.01	-	-	0.09
Manganese	mg/L	0.001	0.12	0.02	0.029
Molybdenum	mg/L	0.0001	-	-	0.0095
Nickel	mg/L	0.001	-	-	< 0.001
Potassium	mg/L	0.02	-	-	0.40
Selenium	mg/L	0.001	0.05	-	< 0.001
Sodium	mg/L	0.05	-	200	129.
Strontium	mg/L	0.001	7	-	0.026
Thallium	mg/L	0.0001	-	-	< 0.0001
Uranium	mg/L	0.0001	0.02	-	0.0080
Vanadium	mg/L	0.001	-	-	0.008
Zinc	mg/L	0.001	-	5	0.001

Report ID: 566316-IAS
Report Date: 21-Oct-25
Date Received: 09-Oct-25

CERTIFICATE OF ANALYSIS
for
Craig HydroGeoLogic Inc
479 Maces Bay Road
Maces Bay, NB E5J 1T3

rpc
921 College Hill Rd
Fredericton NB
Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Methods

Analyte	RPC SOP #	Method Reference	Method Principle
pH	IAS-M03	APHA 4500-H^+ B	pH Electrode - Electrometric
Alkalinity (as $CaCO_3$)	IAS-M43	EPA 310.2	Methyl Orange Colourimetry
Chloride	IAS-M44	APHA 4500-CL E	Ferricyanide Colourimetry
Fluoride	IAS-M30	APHA 4500-F- D	SPADNS Colourimetry
Sulfate	IAS-M45	APHA 4500-SO_4 E	Turbidimetry
Nitrate + Nitrite (as N)	IAS-M48	APHA 4500-NO_3 H	Hydrazine Red., Derivitization, Colourimetry
r-Silica (as SiO_2)	IAS-M46	APHA 4500-SI F	Heteropoly Blue Colourimetry
Carbon - Total Organic	IAS-M57	APHA 5310 B	Combustion/NDIR
Turbidity	IAS-M06	APHA 2130 B	Nephelometry
Colour	IAS-M55	APHA 2120 Color (A,C)	Single Wavelength Spectrophotometry
Conductivity	IAS-M04	APHA 2510 B	Conductivity Meter - Electrode
Trace Metals	IAS-M01/IAS-M29	EPA 200.8/EPA 200.7	ICP-MS/ICP-ES

Appendix 3

Field Results

Pump Test

Craig HydroGeoLogic Inc.
Office Phone: 506-659-3064
Doug Craig Cell: 506-333-2844
dcraig@craighydrogeologic.ca

3820100 on gauge pre-start
3997600 at end of test on gauge

Pump and Recovery Test Data
Field Sheet

Project: _____ Client: _____

Well ID: PW1 Well Diameter: 6"

Location: Salisbury WM. Reference Pt. For Measurement: TOC

Static Level: 9.93 m Date: 25-10-9 Final Level: _____ Date: _____

~~33~~ 32.39 ft 10th of foot

*******Record Unit of Measurement********

Time	Elapsed Time (min)	Depth to Water	Drawdown	Pumping Rate	Time Since Start
10:15	0	33.39		15 igpm	0 hr
	1	39.0			
	2	44.8			
	3	48.7			
	4	51.7		15.5 igpm	
	5	54.25		15.3 "	
	6	56.6		15.2 "	
	7	58.53			
	8	60.42			
	9	61.97			
10:25	10	63.54		14.9	
30	15	69.55			
35	20	73.98		14.7	
40	25	77.55			
45	30	80.56		14.1	
55	40	85.42		14.8 – made slight adjustment	
11:05	50	91.32			
15	60	95.77		14.6	1.0 hr
11:30	75	100.75		14.5	
45	90	105.42			1.5 hr
12:00	105	108.88		14.0	
15	120	111.65		14.5	2.0 hr – Made slight adjustment
45	150	117.10		14.2	2.5 hr
1:15	180	121.00		13.9	3 0 hr
45	210	123.84		13.7	3.5 hr

10th of foot

└ Made slight adjusment, pump is now wide open at ball valve

Craig HydroGeoLogic Inc.
Office Phone: 506-659-3064
Doug Craig Cell: 506-333-2844

5:00 pm
Made adjustment
to 12 igpm.

Pump and Recovery Test Data
Field Sheet

Project:_____ Client:_____

Well ID:_____ Well Diameter:_____

Location:_____ Reference Point For
Measurement:_____

Static Level:_____ Date:_____ Final Level:_____ Date:_____

*******Record Unit of Measurement********

Time	Elapsed Time (min)	Depth to Water	Drawdown	Pumping Rate	Time Since Start
2:15	240	126.00		13.7	4 hr
3:15	300	~~129.28~~		13.4	5 hr
4:15	360	~~132.08~~		13.3	6 hr
5:15	420	~~130.129.9~~		~~[illegible]~~ gpm	7 hr
6:15	480	130.4			8 hr
7:15	540	130.9		12.2gpm	9 hr
8:15	600	131.6		12.1gpm	10 hr
9:15	660	132.4		12gpm	11 hr
10:15	720	133		12gpm	12 hr
11:15	~~840~~ 780	133.6		12gpm	13 ~~14~~ hr
12:15am	~~960~~ 840	134		12gpm	14 ~~16~~ hr
1:15am	~~1080~~ 900	134.7		12gpm	15 ~~18~~ hr
2:15	~~1200~~ 960	134.9		12gpm	16 ~~20~~ hr
3:15	~~1320~~ 1020	135.4		12gpm	17 ~~22~~ hr
4:15 ~~4:15~~	~~1440~~ 1080	135.7		12gpm	18 ~~24~~ hr
5:15	1140	136		12gpm	19
6:15	1200	136.2		12gpm	20
7:15	1260	136.5		12gpm	21
8:15	1320	136.5		12gpm	22
9:15	1380	137.2		12gpm	23
10:15	1440	137.62		12gpm	24

Craig HydroGeoLogic Inc.
Office Phone: 506-659-3064
Doug Craig Cell: 506-333-2844
dcraig@craighydrogeologic.ca

Recovery

Pump and Recovery Test Data
Field Sheet

Project: Salisbury WM Client: _____

Well ID: PW1 Well Diameter: 6"

Location: Salisbury Reference Pt. For Measurement: TOC

Static Level: _____ Date: _____ Final Level: _____ Date: _____

*******Record Unit of Measurement********

Time	Elapsed Time (min)	Depth to Water	Drawdown	Pumping Rate	Time Since Start
10:15	0	135.60			0 hr
16	1	125.61			
17	2	121.43			
18	3	118.24			
19	4	115.27			
20	5	112.83			
21	6	110.65			
22	7	108.69			
23	8	107.19			
24	9	105.82			
25	10	104.62			
10:30	15	99.34			
10:35	20	95.22			
10:40	25	91.55			
10:45	30	88.70			
10:55	40	84.00			
11:05	50	79.83			
11:15	60	76.30			1.0 hr
11:30	75	71.81			
11:45	90	68.16			1.5 hr
12:00	105	65.14			
12:15	120	62.55			2.0 hr
12:45	150	58.31			2.5 hr
1:15pm	180	55.90			3 0 hr
1:45	210	52.490			3.5 hr

Observation Wells
Pump Test

Craig HydroGeoLogic Inc.
Phone: 506-453-9914
Fax: 506-452-7913

Pump and Recovery Test Data
Field Sheet For Observation Wells With Transducers Installed

9.85 m = 33'4"
10.33 m = 33'7"

Project: Salisbury WM Client: _____

Well ID: Obs1 + 2 Well Diameter: 6"

Location: Salisbury Reference Point For Measurement: TOC

Static Level: _____ Date: 9-10-25 Final Level: _____ Date: _____

*******Record Unit of Measurement********

Time	Elapsed Time	Depth to Water OBS1	Depth to Water OBS2	Comments
	0	9.85 m	10.33 m.	
	1 hour	10.791m	20.290m	
	2 hour	11.581m	24.562	
	3 hour	12.170	26.925m	
	4 hour	12.607	28.372m	
	5 hour	13.051	29.366m	
	6 hour	13.293	30.141m	
	7 hour	13.56	30.45 M	
	8 hour	13.78	30.71m	
	9 hour	13.95	30.65	
	10 hour	14.09	30.85	
	11 hour	14.31	31.09	
	12 hour	14.31	31.26	
	13 hour	14.38	31.41	
	14 hour	14.46	31.57	
	15 hour	14.57	31.74	
	16 hour	14.6[illegible]	31.83	
	17 hour	14.64	31.91	
	18 hour	14.67	32	
5:15	19 hour	14.69	32.10	
	20 hour	14.77	32.19	
	21 hour	14.90	32.29	
8:15	22 hour	14.87	32.36	
9:15	23 hour	15.21	32.48	
10:15	24 hour	15.16	32.55	

A portion of the water level data for the observation wells was recorded using data logging pressure transducers. As a result, that field data is in electronic format. If you desire the electronic files, please contact the report issuer.