Committee of Adjustment
Comments from Staff, Public and Agencies

Thursday, June 11, 2020, 4:00 p.m.
Remote meeting live streamed
on guelph.ca/live

Public hearing for applications under sections 45 and 53 of the Planning Act.
City facilities are closed to the public in response to COVID-19. Committee of Adjustment hearings are being held electronically and can be live streamed at guelph.ca/live. For alternate meeting formats, please contact Committee of Adjustment staff.

The public is invited to comment by submitting written comments and/or speaking to an application listed on the agenda. Written comments can be submitted using the contact information listed below. Members of the public who wish to speak to an application are encouraged to contact Committee of Adjustment staff no later than 2:00 p.m. on Thursday, June 11, 2020.

To contact Committee of Adjustment staff by email or phone:
cofa@guelph.ca (attachments must not exceed 20 MB)
519-822-1260 extension 2524
TTY 519-826-9771

When we receive your request, we will send you confirmation and instructions for participating in the hearing. Instructions will also be provided during the hearing to ensure those watching are given the opportunity to speak.

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1. Call to Order

*1.3 Approval of Minutes

2. Current Applications

2.1 A-24/20 96 Oakdale Drive

*2.1.1 Staff Comments

Staff Recommendation: Approval with Condition

2.2 A-25/20 67 Kirkby Court

*2.2.1 Staff Comments

Staff Recommendation: Refusal

2.3 A-26/20 49 Lynwood Avenue

*2.3.1 Staff Comments

Staff Recommendation: Approval

2.4 A-27/20 120 Kathleen Street

*2.4.1 Staff Comments

Staff Recommendation: Approval with Condition

2.5 B-5/20 and A-23/20 14 Winston Crescent

*2.5.1 Staff Comments

Staff Recommendation: Approval with Conditions

2.6 A-10/20 739 Woolwich Street

*2.6.1 Staff Comments

Staff Recommendation: Approval with Condition

Committee of Adjustment Minutes

Thursday, May 28, 2020, 4:00 p.m.
Remote meeting live streamed on guelph.ca/live

Members Present	K. Ash, Chair D. Kendrick, Vice Chair S. Dykstra D. Gundrum L. Janis K. Meads J. Smith
Staff Present	J. da Silva, Council and Committee Assistant S. Daniel, Engineering Technologist T. Di Lullo, Secretary-Treasurer D. McMahon, Manager, Legislative Services/Deputy City Clerk K. Patzer, Planner P. Sheehy, Program Manager-Zoning M. Witmer, Planner

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Call to Order

Chair Ash called the meeting to order (4:18 p.m.)

Opening Remarks

Secretary-Treasurer T. Di Lullo conducted attendance by roll call and confirmed quorum.

Disclosure of Pecuniary Interest and General Nature Thereof

There were no disclosures.

Approval of Minutes

Moved by J. Smith

Seconded by D. Kendrick

That the minutes from the March 12, 2020 Regular Hearing of the Committee of Adjustment, be approved as circulated.

Carried

Requests for Withdrawal or Deferral

There were no requests.

Staff Announcements

Hearing Procedures Update

Secretary-Treasurer T. Di Lullo explained the changes to the Committee of Adjustment hearing procedures outlined in the staff report and read the motion as recommended by staff.

Moved by D. Kendrick

Seconded by S. Dykstra

That the proposed changes to the Committee of Adjustment Hearing Procedures, included as Attachment-1, dated May 28, 2020, be approved.

Carried

Message from Member J. Smith to Staff

Member J. Smith expressed thanks to City staff for their work and for making this Committee of Adjustment hearing possible.

Current Applications

A-17/20 55 Dublin Street South

Owner: 966129 Ontario Inc.

Agent: Donna Haley

Location: 55 Dublin Street South

In Attendance: D. Haley

Chair K. Ash questioned if the sign had been posted in accordance with Planning Act requirements and if the staff comments were received. D. Haley, agent, responded that the sign was posted and comments were received.

After a brief break to allow members of the public to express interest in speaking to the application, no members of the public spoke via electronic participation.

Having considered whether or not the variance(s) requested are minor and desirable for the appropriate development and use of the land and that the general intent and purpose of the Zoning By-law and the Official Plan will be maintained, and that this application has met the requirements of Section 45(1) of the Planning Act, R.S.O. 1990, Chapter P.13 as amended,

Moved by J. Smith

Seconded by D. Kendrick

That in the matter of an application under Section 45(1) of the Planning Act, R.S.O. 1990, c.P13, as amended, a variance from the requirements of Section 4.15.1.5 of Zoning By-law (1995)-14864, as amended, for 55 Dublin Street South, to permit an accessory apartment size of 88.4 square metres, or 32.4 percent of the total floor area of the existing detached dwelling, when the By-law requires that an accessory apartment shall not exceed 45 percent of the total floor area of the building and shall not exceed a maximum of 80 square metres in floor area, whichever is lesser, be **approved**.

Reasons:

This application is approved, as it is the opinion of the Committee that this application meets all four tests under Section 45(1) of the Planning Act.

Any and all written submissions relating to this application that were made to the committee of Adjustment before its decision and any and all oral submissions related to this application that were made at a public hearing, held under the Planning Act, have been, on balance, taken into consideration by the Committee of Adjustment as part of its deliberations and final decision on this matter.

Carried

A-18/20 715 Wellington Street West

Owner: 879011 Ontario Inc.

Agent: N/A

Location: 715 Wellington Street West

In Attendance: C. Corosky

Chair K. Ash questioned if the sign had been posted in accordance with Planning Act requirements and if the staff comments were received. C. Corosky, representative

for the owner, responded that the sign was posted and comments were received. C. Corosky also noted he reviewed staff comments and is in agreement with them.

After a brief break to allow members of the public to express interest in speaking to the application, no members of the public spoke via electronic participation.

Having considered whether or not the variance(s) requested are minor and desirable for the appropriate development and use of the land and that the general intent and purpose of the Zoning By-law and the Official Plan will be maintained, and that this application has met the requirements of Section 45(1) of the Planning Act, R.S.O. 1990, Chapter P.13 as amended,

Moved by L. Janis

Seconded by D. Gundrum

That in the matter of an application under Section 45(1) of the Planning Act, R.S.O. 1990, c.P13, as amended, a variance from the requirements of Section 6.4.3.2.5.1 of Zoning By-law (1995)-14864, as amended, for 715 Wellington Street West, to permit a retail establishment for the sale of pet foods, pet related supplies and accessories and services as an additional use with a total gross floor area greater than 232.25 square metres, when the By-law permits a variety of service commercial uses, and the retail sales and display of electronics and audio-visual equipment, furniture and appliances, and electrical/lighting supplies, but does not permit the retail sale of pet foods, pet related supplies and accessories and services, be **approved**.

Reasons:

This application is approved, as it is the opinion of the Committee that this application meets all four tests under Section 45(1) of the Planning Act.

Any and all written submissions relating to this application that were made to the committee of Adjustment before its decision and any and all oral submissions related to this application that were made at a public hearing, held under the Planning Act, have been, on balance, taken into consideration by the Committee of Adjustment as part of its deliberations and final decision on this matter.

Carried

A-19/20 260 Woodlawn Road West

Owner: Every Home for Christ International/Canada

Agent: Gerry Lall, Royal LePage Royal City Realty Ltd.

Location: 260 Woodlawn Road West

In Attendance: G. Lall

Chair K. Ash questioned if the sign had been posted in accordance with Planning Act requirements and if the staff comments were received. G. Lall, agent, responded that the sign was posted and comments were received.

After a brief break to allow members of the public to express interest in speaking to the application, no members of the public spoke via electronic participation.

Having considered whether or not the variance(s) requested are minor and desirable for the appropriate development and use of the land and that the general intent and purpose of the Zoning By-law and the Official Plan will be maintained, and that this application has met the requirements of Section 45(1) of the Planning Act, R.S.O. 1990, Chapter P.13 as amended,

Moved by K. Meads

Seconded by J. Smith

That in the matter of an application under Section 45(1) of the Planning Act, R.S.O. 1990, c.P13, as amended, a variance from the requirements of Section 6.4.3.2.2.1 of Zoning By-law (1995)-14864, as amended, for 260 Woodlawn Road West, to permit a medical clinic use as an additional permitted use within the existing commercial building, when the By-law permits a variety of uses in the SC.2-2 Zone, but does not permit a medical clinic, be **approved**.

Reasons:

This application is approved, as it is the opinion of the Committee that this application meets all four tests under Section 45(1) of the Planning Act.

Any and all written submissions relating to this application that were made to the committee of Adjustment before its decision and any and all oral submissions related to this application that were made at a public hearing, held under the Planning Act, have been, on balance, taken into consideration by the Committee of Adjustment as part of its deliberations and final decision on this matter.

Carried

A-20/20 128 Starwood Drive

Owner: 1449019 Ontario Inc.

Agent: Sarah Faria, Fusion Homes

Location: 128 Starwood Drive

In Attendance: S. Faria

Chair K. Ash questioned if the sign had been posted in accordance with Planning Act requirements and if the staff comments were received. S. Faria, agent, responded that the sign was posted and comments were received.

After a brief break to allow members of the public to express interest in speaking to the application, no members of the public spoke via electronic participation.

Having considered whether or not the variance(s) requested are minor and desirable for the appropriate development and use of the land and that the general intent and purpose of the Zoning By-law and the Official Plan will be maintained, and that this application has met the requirements of Section 45(1) of the Planning Act, R.S.O. 1990, Chapter P.13 as amended,

Moved by D. Kendrick

Seconded by D. Gundrum

That in the matter of an application under Section 45(1) of the Planning Act, R.S.O. 1990, c.P13, as amended, a variance from the requirements of Section 5.1.1 of Zoning By-law (1995)-14864, as amended, for 128 Starwood Drive, to permit the use of the lot as temporary parking area for the abutting model home at 43 Everton Drive, when the By-law permits a variety of uses, but does not permit a temporary parking area as a stand-alone use, be **approved**, subject to the following conditions:

1. That the temporary gravel parking lot be permitted for a maximum of three (3) years from the date of execution of a development agreement.
2. That the owner enters into a Development Agreement registered on title of the property, requiring that the temporary gravel parking lot be removed within three (3) years of the date of execution of the agreement, or until such time the sales office is removed from the model home at 43 Everton Drive, whichever is sooner.
3. The Owner agrees to apply for a Site Alteration Permit in accordance with the City of Guelph Site Alternation By-Law (2016) – 20097. Further, the Owner agrees to provide all requirements as per section 3 of the Site Alteration By-Law to the satisfaction of the General Manager/City Engineer.

Reasons:

This application is approved, as it is the opinion of the Committee that, with the above noted conditions of approval, this application meets all four tests under Section 45(1) of the Planning Act.

Any and all written submissions relating to this application that were made to the committee of Adjustment before its decision and any and all oral submissions related to this application that were made at a public hearing, held under the Planning Act, have been, on balance, taken into consideration by the Committee of Adjustment as part of its deliberations and final decision on this matter.

Carried

A-21/20 25 Wellington Street West

Owner: 21 Surrey St. Holdings Inc.

Agent: Michael von Teichman, Montik Planning and Development

Location: 25 Wellington Street West

In Attendance: M. von Teichman

Secretary-Treasurer T. Di Lullo noted that correspondence was received after the comment deadline from M. Janzen, managing agent for Nirtag Holding Limited, owner of 15 Surrey Street West and 49 Gordon Street, and M. Da Maren, owner of 15 Surrey Street West, with concerns about the application. She also noted that correspondence was received after the comment deadline from Zelinka Priamo Limited, planning consultant for Belmont Equity Partners, owner of 36 and 40 Wellington Street West, and 89 and 105 Gordon Street, with concerns about the application. She noted that a copy of the correspondence was circulated to the members, staff and the applicant prior to the hearing.

Chair K. Ash questioned if the sign had been posted in accordance with Planning Act requirements and if the staff comments were received. M. von Teichman, agent, responded that the sign was posted and comments were received.

M. von Teichman explained the background of the application and addressed concerns regarding the reduction of parking spaces.

After a brief break to allow members of the public to express interest in speaking to the application, no members of the public spoke via electronic participation.

M. von Teichman agreed with the condition recommended by member J. Smith regarding proposed residential units to not have on-site parking spaces.

Having considered whether or not the variance(s) requested are minor and desirable for the appropriate development and use of the land and that the general intent and purpose of the Zoning By-law and the Official Plan will be maintained, and that this application has met the requirements of Section 45(1) of the Planning Act, R.S.O. 1990, Chapter P.13 as amended,

Moved by J. Smith

Seconded by L. Janis

That in the matter of an application under Section 45(1) of the Planning Act, R.S.O. 1990, c.P13, as amended, a variance from the requirements of Section 6.3.2.5.1 of Zoning By-law (1995)-14864, as amended, for 25 Wellington Street West, to permit a minimum of 43 off-street parking spaces on the property for the office uses and dwelling units within the building, when the By-law requires a total of 51 off-street parking spaces, which is calculated based on 1 parking space per 67 square metres of gross floor area for office uses [21 parking spaces required], 1 parking space per residential dwelling unit [28 parking spaces required], and 0.05 visitor parking spaces per dwelling unit [2 parking spaces required] for apartment buildings with more than 20 dwellings, be **approved**, subject to the following condition:

1. That five (5) of the proposed residential units shall not have on-site parking available.

Reasons:

This application is approved, as it is the opinion of the Committee that, with the above noted condition of approval, this application meets all four tests under Section 45(1) of the Planning Act.

Any and all written submissions relating to this application that were made to the committee of Adjustment before its decision and any and all oral submissions related to this application that were made at a public hearing, held under the Planning Act, have been, on balance, taken into consideration by the Committee of Adjustment as part of its deliberations and final decision on this matter.

Carried

Adjournment

Moved by D. Gundrum

Seconded by S. Dykstra

That this hearing of the Committee of Adjustment be adjourned at 5:42 p.m.

Carried

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K. Ash, Chair

_____

T. Di Lullo, Secretary-Treasurer

Committee of Adjustment Comments from Staff, Public and Agencies

Application Details

Application Number:	A-24/20
Location:	96 Oakdale Drive
Hearing Date:	June 11, 2020
Owner:	University of Guelph
Agent:	Scott Hannah, Reid's Heritage Homes Ltd.
Official Plan Designation:	Medium Density Residential
Zoning:	Retirement Residential 2 (RR.2) Zone

Request: The applicant is seeking relief from the By-Law requirements to permit:

a) a maximum building height of 6.4 metres for the proposed accessory building; and

b) a maximum gross floor area of 200 square metres for a proposed accessory building.

By-Law Requirements: The By-Law requires that:

a) an accessory building or structure shall not exceed 3.6 metres in height; and

b) the total ground floor area of all accessory buildings or structures shall not exceed 70 square metres.

Staff Recommendation

Approval with Condition

Recommended Condition

Engineering Services

1. That prior to the issuance of a building permit, the owner(s) agrees to provide and obtain approval from the City's Engineering Department to the satisfaction of the General Manager/City Engineer on the following documents:
   i. Stormwater Management Report (Brief)
   ii. Grading Plan
   iii. Erosion and Sediment Control Plan

Comments

Planning Services

The subject property is designated "Medium Density Residential" in the City's Official Plan. The "Medium Density Residential" land use designation permits multiple unit residential buildings such as townhouses and apartments. Within residential designations, non-residential uses are permitted that serve the needs of residential neighbourhoods. The requested variances meet the general intent and purpose of the Official Plan.

The subject property is zoned "Retirement Residential 2" (RR.2) according to Zoning By-law (1995)-14864, as amended, which permits a mix of residential and non-residential uses including and apartment building, home for the aged, nursing home, duplex, semi-detached dwellings, accessory uses, medical office, personal service establishment, financial establishment, restaurant and tavern. The general intent of the Zoning By-law in regulating accessory structure size and height is to ensure the accessory structure remains a subordinate use on the property.

The applicant is proposing a 2 storey accessory building (landscape maintenance building) with a 200 square metre ground floor area and a maximum height of 6.4 metres within the Village by the Arboretum. The proposed building will be used to store and maintain landscape equipment for the Village and will include a small second storey area for a lunchroom, office and washroom for the property's landscape crew. The proposed building footprint is less than 1% of the total land area of the Village by the Arboretum.

The requested variances maintain the general intent and purpose of the Official Plan and Zoning By-law, are considered desirable for the development of the land and are considered to be minor in nature. Planning staff recommend approval of the variances.

Engineering Services

Engineering has no concerns with the request of seeking relief from the By-law requirements to permit a maximum building height of 6.4 metres for the proposed accessory building, and a maximum gross floor area of 200 square metres for a proposed accessory building subject to the above noted condition being imposed.

We agree with recommendations made by the Planning and Building staff.

Building Services

This property is located in a Retirement Residential (RR.2) Zone. The applicant is proposing to construct a two-storey accessory building.

Building Services does not object to this variance application to permit an accessory structure with a maximum building height of 6.4 metres and a maximum gross floor area of 200 square metres.

A building permit will be required prior to any construction, at which time requirements under the Ontario Building Code will be reviewed.

Comments from the Public

None

Contact Information

Committee of Adjustment: City Hall, 1 Carden Street, Guelph ON N1H 3A1

519-822-1260 Extension 2524 cofa@guelph.ca

TTY: 519-826-9771 guelph.ca/cofa

Committee of Adjustment Comments from Staff, Public and Agencies

Application Details

Application Number:	A-25/20
Location:	67 Kirby Court
Hearing Date:	June 11, 2020
Owner:	MacKinnon Holdings Ltd.
Agent:	Vivian Patel, Jones Lang LaSalle
Official Plan Designation:	Industrial
Zoning:	Industrial (B.1)

Request: The applicant is seeking relief from the By-Law requirements to permit a minimum building size of 0.61 percent of the lot area.

By-Law Requirements: The By-Law requires a minimum building size of 15 percent of the lot area for lots between 3 to 10 acres.

Staff Recommendation

Refusal

Recommended Conditions

None

Comments

Planning Services

The subject property is designated "Industrial" in the City's Official Plan. Permitted uses within the "Industrial" land use designation include: industrial uses, including manufacturing, fabricating, processing, assembly, warehousing, laboratories, transportation terminals, contractors yards, repair and servicing operations. The requested variance does not conflict with Official Plan policies.

The subject property is zoned "Industrial" (B.1) according to Zoning By-law (1995)-14864, as amended. The applicant is proposing to construct a one-storey industrial building with a gross floor area of 186 square metres on the subject property and requires a variance to facilitate this request. Section 7.3.5.1 of the Zoning By-law requires a minimum building size of 15 percent of the lot area for lots between 3 to 10 acres. The proposed building size represents 0.61 percent of the lot area. The

intent of this zoning regulation is to ensure that industrial lots are appropriately developed with a main building in proportion to their size.

A trucking operation is a permitted use in the B.1 zone, however, other regulations of the Zoning By-law need to be met in order to allow that use. This property was previously part of 405 Laird Road which has a main office and garage for the trucking business. This property was severed off from 405 Laird Road in 2014 and is now an independent property. Staff acknowledge that a trucking operation most likely does not require a building size that occupies 15 percent of the lot area to function and be successful, however, the applicant is proposing a building size that is less than 1 percent of the lot area. A "minor" variance is not determined numerically, however, it is difficult to say that the variance meets the general intent and purpose of the Zoning By-law when the variance requested will result in less than 1 percent of the requirement.

Staff therefore recommend refusal of the application as it does not meet the general intent or purpose of the Zoning By-law, is not considered to be desirable for the appropriate development of the lands and is not considered to be minor in nature.

Engineering Services

Engineering has no concerns with the request of seeking relief from the By-law requirements to permit a minimum building size of 0.61 percent of the lot area.

We agree with recommendations made by Planning and Building staff.

Building Services

This property is located in an Industrial (B.1) Zone. The applicant is proposing to construct a one-storey industrial building with a gross floor area of 186 square metres and 4 parking spaces to support the existing trucking operation.

Building Services supports the comments made by Planning Services.

Comments from the Public

Yes (See Attached)

Contact Information

Committee of Adjustment: City Hall, 1 Carden Street, Guelph ON N1H 3A1

519-822-1260 Extension 2524 cofa@guelph.ca

TTY: 519-826-9771 guelph.ca/cofa

TO THE CITY OF GUELPH:

To Vivian Patel (Vivian.Patel@am.jll.com) and the City of Guelph Committee of Adjustment (CofA@guelph.ca), I am confirming that I am aware of the nature of the submitted minor variance application, I am a neighbouring owner and/or tenant within reasonable proximity, and I support the minor variance application of 67 Kirkby Court (A-25/20 67 Kirkby Court). I believe the proposed application is consistent with the surrounding uses and that a smaller building on the property, consistent with the application, is preferred.

Full Name:	Ryan Kirby, Altruck International Truck Centres
Business Address:	405 Laird Rd. Guelph, Ontario N1G 4P7
Email:	rkirby@altruck.com
Date:	May 30, 2020

Committee of Adjustment Comments from Staff, Public and Agencies

Application Details

Application Number:	A-26/20
Location:	49 Lynwood Avenue
Hearing Date:	June 11, 2020
Owner:	Vahid Tabtabaei-Khorasgani
Agent:	S. Hamid Tabatabaei-Khorasgani
Official Plan Designation:	Low Density Residential
Zoning:	Residential Single Detached (R.1B)

Request: The applicant is seeking relief from the By-Law requirements to permit an accessory apartment size of 86 square metres, or 39 percent of the total floor area of the existing detached dwelling.

By-Law Requirements: The By-Law requires that an accessory apartment shall not exceed 45 percent of the total floor area of the building and shall not exceed a maximum of 80 square metres in floor area, whichever is lesser.

Staff Recommendation

Approval

Recommended Conditions

None

Comments

Planning Services

The subject property is designated "Low Density Residential" in the City's Official Plan. The "Low Density Residential" land use designation permits a range of housing types including single detached residential dwellings with accessory apartments. The requested variance meets the general intent and purpose of the Official Plan.

The subject property is zoned "Residential Single Detached" (R.1B) according to Zoning By-law (1995)-14864, as amended, which permits a single detached dwelling. An accessory apartment is also a permitted use in the R.1B zone, subject to meeting the requirements of Section 4.15.1 of the Zoning By-law. Section 4.15.1.5 requires that accessory apartments not exceed 45% of the total floor area of the building and shall not exceed a maximum of 80 square metres in floor area,

whichever is lesser. The applicant is requesting to permit an accessory apartment with an area of 86 square metres, or 39% of the total floor area of the existing single detached dwelling.

The general intent and purpose of the Zoning By-law in limiting the floor area of an accessory apartment is to ensure that the unit is clearly subordinate and accessory to the primary use and to maintain the appearance of the built form, which in this case is a single detached dwelling. The proposed accessory apartment represents 39% of the total floor area of the dwelling. Based on floor plans submitted by the applicant, the apartment contains one bedroom that is combined with the living room space on the main floor with a rec room and laundry room in the basement, is interconnected to and is smaller than the host dwelling. Planning staff are of the opinion that the accessory apartment is subordinate to the host dwelling unit in size.

The requested variance for accessory apartment size is considered desirable and minor in nature as the accessory dwelling unit is wholly contained within the dwelling and does not exceed 45% of the total floor area of the building.

Planning staff recommend approval of the requested variance to permit an accessory apartment size of 86 square metres in the single detached dwelling.

Engineering Services

Engineering has no concerns with the request of seeking relief from the By-law requirements to permit an accessory apartment size of 86 square metres, or 39 percent of the total floor area of the existing detached dwelling.

We agree with recommendations made by Planning and Building staff.

Building Services

This property is located in a Residential Single Detached (R.1B) Zone. The applicant is proposing to maintain an accessory apartment with an area of 86 square metres (39 percent of the total gross floor area) in the basement of the existing detached dwelling.

Building Services does not object to this variance request to permit an accessory apartment with an area of 86 square metres in lieu of the permitted 80 square metres. The intent of the regulation is to keep the accessory unit subordinate to the main unit. The proposed accessory apartment will make up 39 percent of the total floor area and will therefore remain subordinate and in compliance with the secondary size check (which does not permit the accessory apartment to exceed 45 percent of the total floor area of the building).

Comments from the Public

Yes (See Attached)

Contact Information

Committee of Adjustment: City Hall, 1 Carden Street, Guelph ON N1H 3A1

519-822-1260 Extension 2524 cofa@guelph.ca

TTY: 519-826-9771 guelph.ca/cofa

Old University Neighbourhood Residents' Association Inc.

63 Talbot Street
Guelph, ON, N1G 2G1
June 1, 2020

Committee of Adjustment
City Hall
Guelph, Ontario

sent by email to cofa@guelph.ca

Re: application for 49 Lynwood Ave

Dear Committee Members,

The Executive Committee of the Old University Neighbourhood Residents' Association (OUNRA) has considered the application for relief from the By-Law to permit an accessory apartment of 86 square metres of the floor area while the By-Law limits the floor area to 80 square metres.

This property is owned by an absentee landlord who is not noted for looking after the property and appears to have proceeded with building the apartment without a permit. As the Committee will know, OUNRA as an association, has adopted the practice of actively supporting applications from residents where it is clear that the homeowners are seeking to enhance their properties in ways that help to sustain and advance the Old University Neighbourhood. We do not believe the owner of 49 Lynwood Ave has been acting in ways that encourage our support.

In our view, the requested variance may very well be minor and difficult to object to on narrow planning grounds.

We would, however, encourage the C of A committee members to closely and critically examine whether or not they can approve this application by considering the property owner's past behaviour and sensitivity to Guelph's By-Law requirements.

Yours truly,

John Lawson
President OUNRA

Committee of Adjustment Comments from Staff, Public and Agencies

Application Details

Application Number:	A-27/20
Location:	120 Kathleen Street
Hearing Date:	June 11, 2020
Owner:	Robin William Green
Agent:	Nicolas Spaling
Official Plan Designation:	Low Density Residential
Zoning:	Residential Single Detached (R.1B)

Request: The applicant is seeking relief from the By-Law requirements to permit a minimum left side yard setback of 0.65 metres for the proposed attached garage and addition to the existing dwelling.

By-Law Requirements: The By-Law requires a minimum side yard setback of 1.5 metres.

Staff Recommendation

Approval with Condition

Recommended Condition

Planning Services

1. That the side yard setback of 0.65 metres apply only to the proposed garage addition on the left (south-east) side of the property as shown on the revised sketch dated June 4, 2020.

Comments

Planning Services

The subject property is designated "Low Density Residential" in the City's Official Plan. The "Low Density Residential" land use designation applies to residential areas within the built-up area of the City and permits a range of housing types including single detached residential dwellings. The requested variance to permit a two storey addition with an attached garage that will have a reduced side yard setback, does not conflict with the general intent and purpose of the Official Plan.

The subject property is zoned "Residential Single Detached" (R.1B), according to Zoning By-law (1995)-14864, as amended, which permits a single detached dwelling. The applicant's proposed construction of a two storey addition will have a side yard setback on the left (south-east) side of the property of 0.65 metres, when the by-law requires a side yard setback of 1.5 metres for the two storey dwelling.

The general intent and purpose of the Zoning By-Law in requiring a side yard setback is to provide adequate separation from buildings on adjacent properties in proportion to the building's height, to maintain access and to allow for proper lot grading and drainage.

The property currently contains a detached garage which is proposed to be demolished. The proposed addition to the dwelling includes an attached garage which will maintain the legal parking space for the dwelling. It is noted that the front of the addition will have a 0.75 metre left (south-east) side yard setback; whereas, the rear of the addition will have a 0.65 metre left (south-east) side yard setback.

The applicant has submitted an elevation drawing that shows that the garage will be one storey and the second storey is proposed over and to the rear of the existing house. The second storey and garage addition is in keeping with the character of the streetscape.

The requested variance maintains the general intent and purpose of the Official Plan and Zoning By-law, is considered desirable for the development of the land and is considered to be minor in nature.

Planning staff recommend approval of the application subject to the above noted condition.

Engineering Services

Engineering has no concerns with the request of seeking relief from the By-law requirements to permit a minimum left side yard setback of 0.65 metres for the proposed attached garage and addition to the existing dwelling.

We agree with recommendations made by Planning and Building staff.

Building Services

This property is located in a Residential Single Detached (R.1B) Zone. The applicant is proposing to construct a second floor on the existing one-storey dwelling, as well as constructing a two-storey addition to the rear of the dwelling and an attached garage.

Building Services does not object to this application to permit a minimum left side yard setback of 0.65 metres for the proposed attached garage and addition to the existing dwelling.

Please note windows may be restricted in walls located closer than 1.2 metres to the property lines and the walls may require a fire rating on the inside face. A building permit will be required prior to any construction, at which time requirements under the Ontario Building Code will be reviewed.

Revised Sketches from the Applicant

Please see attached letter and sketches.

Comments from the Public

Yes (See Attached)

Contact Information

Committee of Adjustment: City Hall, 1 Carden Street, Guelph ON N1H 3A1

519-822-1260 Extension 2524 cofa@guelph.ca

TTY: 519-826-9771 guelph.ca/cofa

Juan DaSilva

From:
Sent: Thursday, June 4, 2020 3:46 PM
To: Juan DaSilva
Subject: Changes

June 3, 2020

Committee of Adjustments,

In my application for a minor variance to my side yard set back, I have recently submitted two updated/revised drawings to be added to my file.

First I have added a revised version of the sketch for the proposed minor variance.
Changes made were as follows:
-getting rid of the square area behind the proposed garage
-ending the back of garage in line with the back of the existing house
-showing 1 storey garage addition

Second I have added my now complete elevation drawings of the proposed garage.
-these are to show a little more clearly my plan for what would be being built (1 Storey garage addition)

The reason for the revision and addition of these two documents was to hopefully give you a clearer understanding of what I am proposing. At the time of the original date of the application, I knew the set back I was wanting to propose and had the survey sketch made up for submission. Since the application I have finally decided on a design of the garage itself, and have attached those elevation drawings. I have chose to make it a 1 storey as I believe the 1 storey garage will help to make the building look the best and fit in to the neighbourhood, as well as to be hopefully be more pleasing to the Nieghbours.

Thank you for your consideration, and if there are any more questions or concerns I look forward to answering them at the meeting.

Thanks,

Nick Spaling

June 5, 2020

Committee of Adjustment
City of Guelph
1 Carden Street
Guelph, Ontario
N1H 3A1

Attention: Mr. Juan da Silva

Dear Mr. da Silva,

Re: Minor Variance Application & Sketch
120 Kathleen Street
Part of Lot 7, Concession 3
PIN 71298-0116
Guelph Township
City of Guelph

Proposal:

One minor variance request is being made for the above-mentioned property. The minor variance request is as follows:

A) To permit the side yard setback for the proposed 1 storey building addition to be 0.65m instead of 1.5m as required in Table 5.1.2, Row 7 of the Zoning By-law.

A single-detached dwelling exists on the subject property and the proposal is to construct a second floor on the existing 1 story dwelling, add to the rear and construct an 1 storey attached garage on the driveway side of the property. The existing detached garage will be removed. The Minor Variance is required to allow for the addition to the existing dwelling – specifically the proposed 1 storey garage. The property is zoned Residential R.1B and the remaining zoning requirements are met.

The proposal is very practical and provides a great opportunity to increase the house size and renovate the existing dwelling while adhering to the zoning requirements except for the side yard setback. Preliminary discussions were held with the City of Guelph Staff and no concerns were raised.

Very truly yours,
Nick Spaling

Sketch revised as of June 4th, 2020

"EXHIBITION PARK"

KATHLEEN STREET

ROAD ALLOWANCE BETWEEN RANGE 2 & 3, DIVISION A

PIN 71298-0083

10.05m WIDE

LOT 15

LOT 14

PIN 71298-0090

EXISTING DWELLING #126

LOT 7

15.2

LOT AREA =550m²

9.0

7.7

PIN 71298-0116

1.6

GENERAL

EXISTING 1 STOREY DWELLING #120 PROPOSED TO BE 2 STOREY

PROPOSED 1 STOREY GARAGE 26m²

0.75

PROPOSED 2 STOREY ADDITION 33m²

A

0.65

36.4

36.5

1.7

CONCESSION

DIVISION

GARAGE (TO BE REMOVED)

13.7

13.8

14.9

RESIDENTIAL

PIN 71298-0115

LOT 6

EXISTING DWELLING #118

R1B

3

A

412

O.P.

PLAN

REGISTERED

LOT 13

PIN 71298-0091

ZONING:

PIN 71298-0106

PIN 71298-0107

LOT 5, REGISTERED PLAN 591

MINOR VARIANCE REQUEST:

(A) TO PERMIT A REDUCED SIDE YARD SETBACK FOR THE PROPOSED 1-STOREY BUILDING ADDITION TO BE 0.65m INSTEAD OF 1.5m AS REQUIRED IN TABLE 5.1.2, ROW 7 OF THE ZONING BY-LAW.

MINOR VARIANCE SKETCH

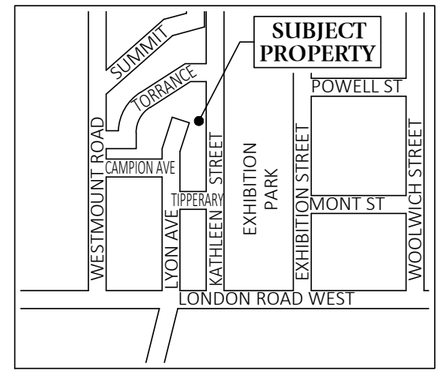
PART OF LOT 7, CONCESSION 3
DIVISION 'A'
GEOGRAPHIC TOWNSHIP OF GUELPH
CITY OF GUELPH
COUNTY OF WELLINGTON

SCALE 1 : 300

0 5 10 15 meters

VAN HARTEN SURVEYING INC.

KEYMAP:



NOTES:

1. **THIS IS NOT A PLAN OF SURVEY AND SHOULD NOT BE USED FOR REAL ESTATE TRANSFERS OR MORTGAGES.**
2. SUBJECT LANDS ARE ZONED RESIDENTIAL (R.1B).
3. SUBJECT LANDS HAVE AN OFFICIAL PLAN DESIGNATION OF GENERAL RESIDENTIAL.
4. DISTANCES ON THIS PLAN ARE SHOWN IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.
5. DIMENSIONS ON THIS SKETCH ARE APPROXIMATE AND HAVE NOT BEEN VERIFIED BY SURVEY.

SURVEYOR'S CERTIFICATE:

THIS SKETCH WAS PREPARED
ON THE 4th DAY OF MAY, 2020
UPDATED 4th DAY OF JUNE, 2020

JEFFREY E. BUISMAN
ONTARIO LAND SURVEYOR

Van Harten SURVEYING INC.
LAND SURVEYORS and ENGINEERS

Waterloo	Guelph	Orangeville
Ph: 519-742-8371	Ph: 519-821-2763	Ph: 519-940-4110

www.vanharten.com info@vanharten.com

DRAWN BY: ARN	CHECKED BY: JEB	PROJECT No. 28220-20

Jun 4, 2020-2:42:01 PM
G:\GUELPHT\DivA\Range3\ACAD\MV LOT 7 (SPALING) UTM.dwg

9.23.6.2. Anchorage of Columns and Posts
(1) Except as provided in Sentences (2) and (3), exterior columns and posts shall be
anchored to resist uplift and lateral movement.
(2) Except as provided in Sentence (3), where columns or posts support balconies, decks,
verandas and other exterior platforms, and the columns or posts extend not more than 600
mm above finished ground level, the supported joists or beams shall be,
(a) anchored to a foundation to resist uplift and lateral movement, or
(b) directly anchored to the ground to resist uplift.
(3) Anchorage is not required for platforms described in Sentence (2) that,
(a) are not more than 1 storey,
(b) are not more than 55 m² in area,
(c) do not support a roof, and
(d) are not attached to another structure, unless it can be demonstrated that differential
movement will not adversely affect the performance of that structure.

9.8.8.1. Required Guards
(1) Except as provided in Sentences (2) and (3), every surface to which access is provided for other than maintenance purposes, including but not limited to flights of steps and ramps, exterior landings, porches, balconies, mezzanines, galleries and raised walkways, shall be protected by a guard on each side that is not protected by a wall for the length where,
(a) there is a difference in elevation of more than 600 mm between the walking surface and the adjacent surface
9.8.8.3. Height of Guards
(1) Except as provided in Sentences (2) to (4), all guards shall be not less than 1 070 mm high.
(2) All guards within dwelling units shall be not less than 900 mm high.
(3) Exterior guards serving not more than one dwelling unit shall be not less than 900 mm high where the walking surface served by the guard is not more than 1 800 mm above the finished ground level.
(4) Guards for flights of steps, except in required exit stairs, shall be not less than 900 mm high.
(5) The height of guards for flights of steps shall be measured vertically from the top of the guard to a line drawn through the leading edge of the treads served by the guard.

The undersigned has reviewed and takes responsibility for this design, and has the qualifications and meets the requirements set out in the Ontario Building Code to be a designer.

QUALIFICATION INFORMATION
Required unless design is exempt under 3.2.4.1. of the building code

Bernie Dobben *Bernie Dobben* **23867**
NAME SIGNATURE BCIN

REGISTRATION INFORMATION
Required unless design is exempt under 3.2.4.1. of the building code

Firm Name: Bernie's Drafting Services BCIN# 31578

Lintel & Beam Schedule
L1=2-2x4
L2=2-2x6
L3=2-2x8
L4=2-2x10
L5=2-2x12
B1 = 3-2x8
B2 = 4-2x10

120 Kathleen Street Guelph

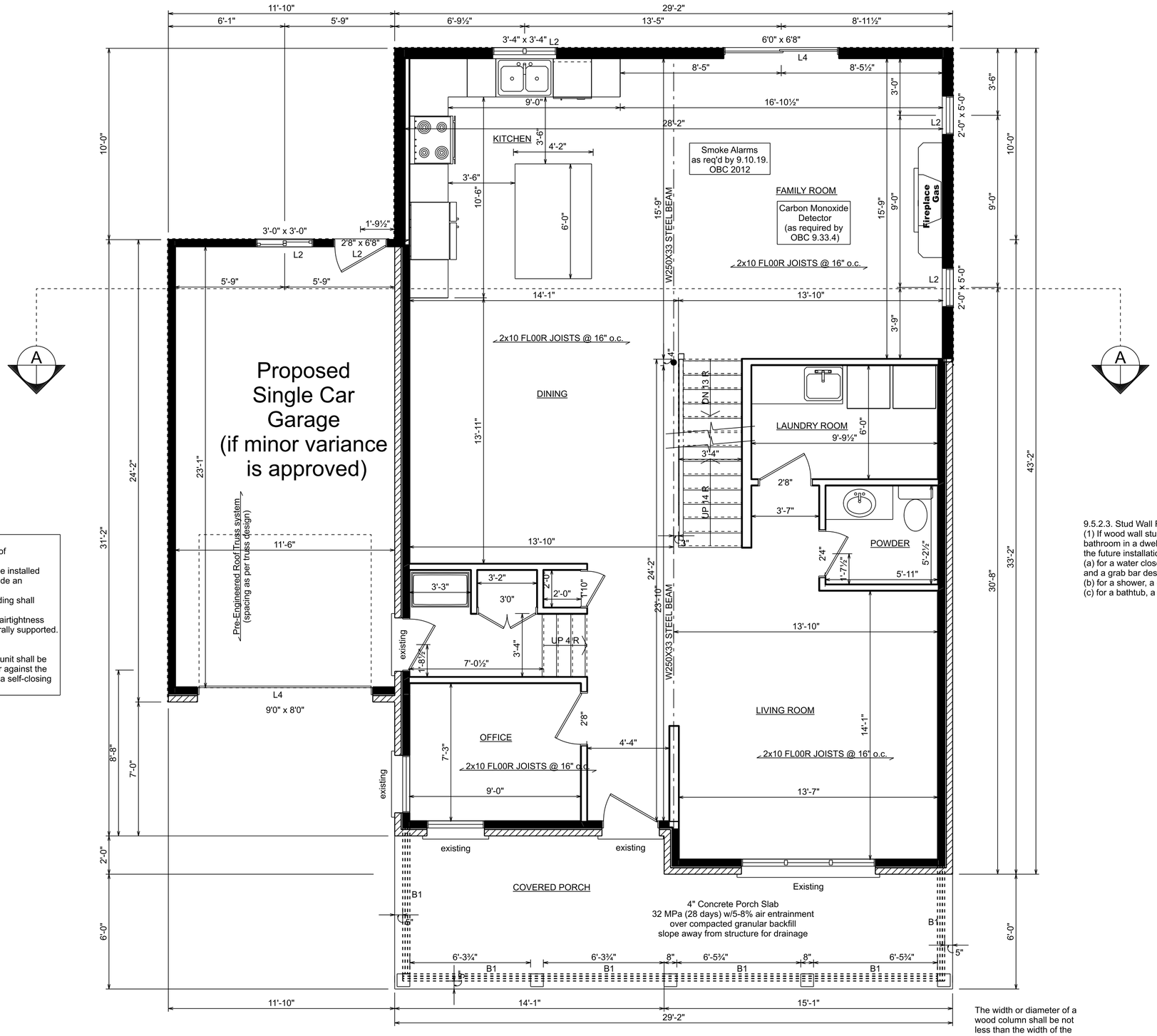
DATE: May 29, 2020
PG: 1 of 8
SCALE: 1/4"=1'0"
PLAN: Front Elevation

Additional Floor Area
Main Floor: 291.7 sqft
Garage: 286 sqft
2nd Floor: 1230.9 sqft
Existing: 939.2 sqft

NOTES
Bernie's Drafting Services and or Bernie Dobben will not be held responsible for any errors or ommissions on these drawings. Contractor to verify all dimmensions prior to construction. All construction to be in accordance with the Ontario Building Code & any other local codes as deemed neccesary by the Local Building Official.

DRAWN BY : **BERNIE'S DRAFTING SERVICES**

Phone1-519-638-5362
Fax 1-519-638-5686
email: berniesdrafting@dobbens.ca



9.10.9.16. Separation of Storage Garages
(4) Where a storage garage is attached to or built into a building of residential occupancy,
(a) an air barrier system conforming to Subsection 9.25.3, shall be installed between the garage and the remainder of the building to provide an effective barrier to gas and exhaust fumes, and
(b) every door between the garage and the remainder of the building shall conform to Article 9.10.13.15.
(5) Where membrane materials are used to provide the required airtightness in the air barrier system, all joints shall be sealed and structurally supported.

9.10.13.15. Doors Between Garages and Dwelling Units
(1) A door between an attached or built-in garage and a dwelling unit shall be tight-fitting and weatherstripped to provide an effective barrier against the passage of gases and exhaust fumes and shall be fitted with a self-closing device.

9.5.2.3. Stud Wall Reinforcement
(1) If wood wall studs or sheet steel wall studs enclose the main bathroom in a dwelling unit, reinforcement shall be installed to permit the future installation of the following:
(a) for a water closet, a grab bar described in Clauses 3.8.3.8.(3)(a) and a grab bar described in Clause 3.8.3.8.(3)(c),
(b) for a shower, a grab bar described in Clause 3.8.3.13.(2)(f), and
(c) for a bathtub, a grab bar described in Clause 3.8.3.13.(4)(c).

The width or diameter of a wood column shall be not less than the width of the supported member. and shall be not less than 184 mm for round columns and 140 mm by 140 mm for rectangular columns

Lintel & Beam Schedule
L1=2-2x4
L2=2-2x6
L3=2-2x8
L4=2-2x10
L5=2-2x12
B1 = 3-2x8
B2 = 4-2x10

120 Kathleen Street Guelph

DATE: May 29, 2020
PG: 2 of 8
SCALE: 1/4"=1'0"
PLAN: Main Floor

Additional Floor Area
Main Floor: 291.7 sqft
Garage: 286 sqft
2nd Floor: 1230.9 sqft
Existing: 939.2 sqft

NOTES
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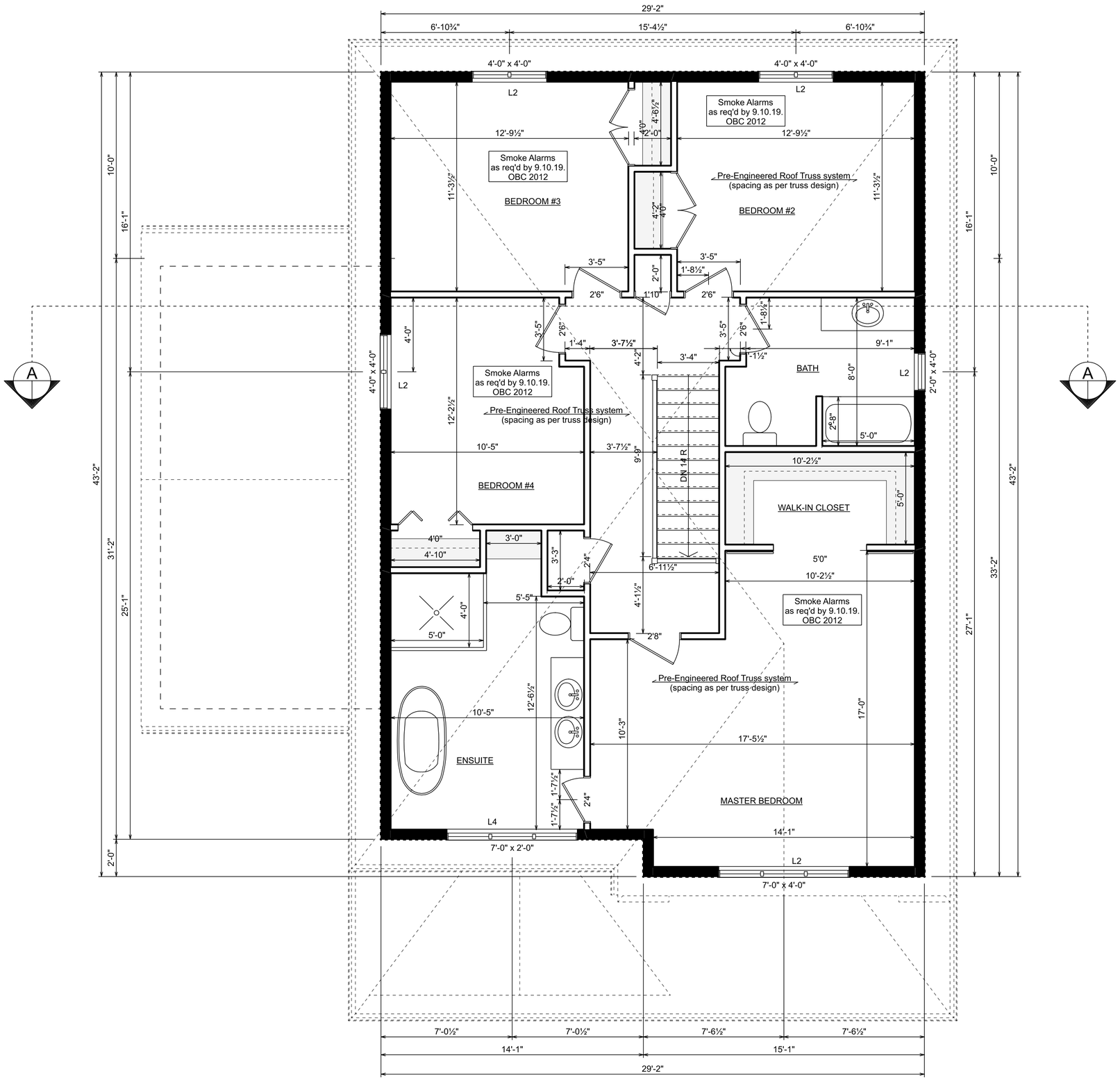

Lintel & Beam Schedule
L1=2-2x4
L2=2-2x6
L3=2-2x8
L4=2-2x10
L5=2-2x12
B1 = 3-2x8
B2 = 4-2x10

120 Kathleen Street Guelph

DATE: May 29, 2020
PG: 3 of 8
SCALE: 1/4"=1'0"
PLAN: 2ND FLOOR

Additional Floor Area
Main Floor: 291.7 sqft
Garage: 286 sqft
2nd Floor: 1230.9 sqft
Existing: 939.2 sqft

NOTES
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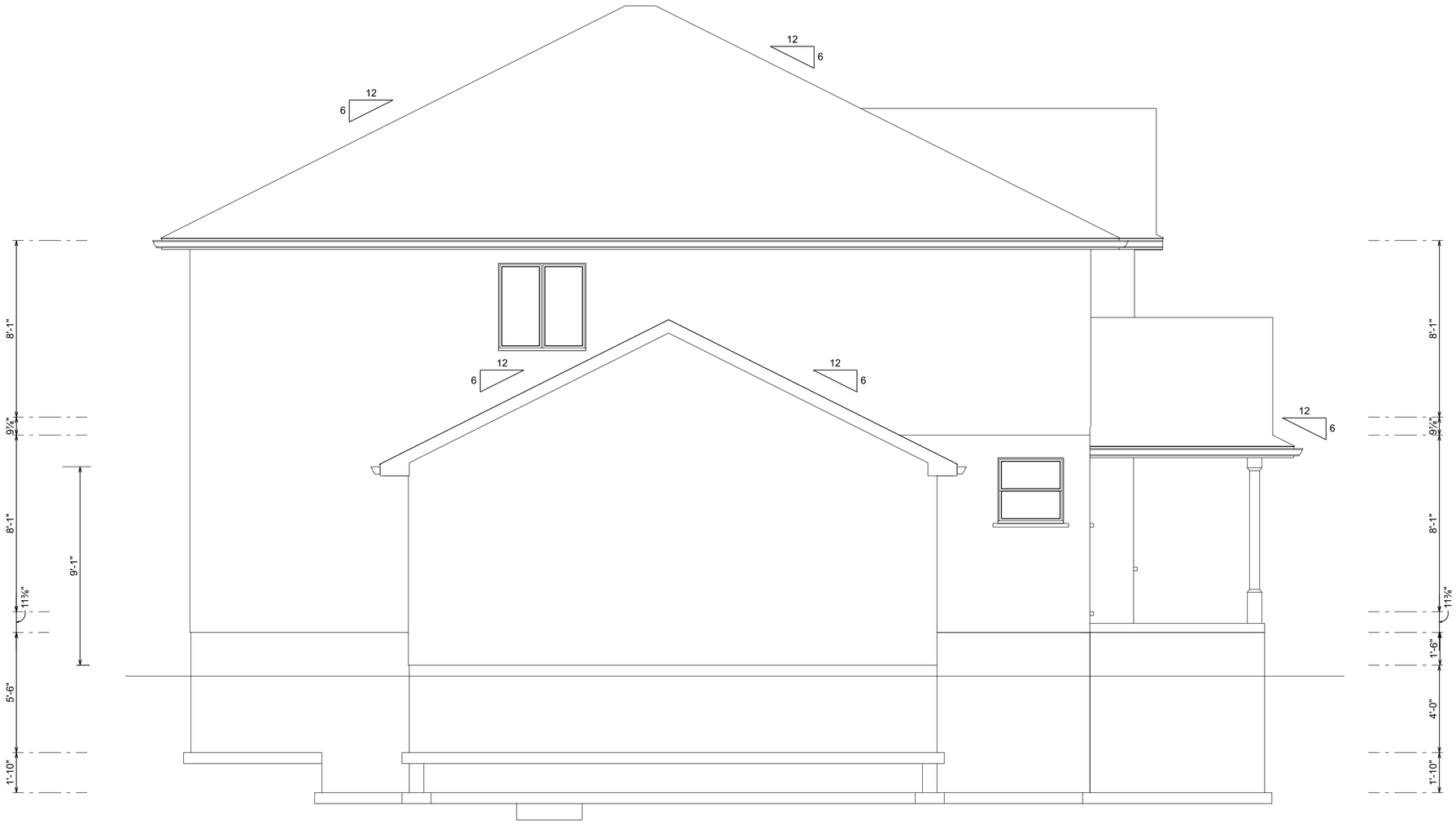

Lintel & Beam Schedule
L1=2-2x4
L2=2-2x6
L3=2-2x8
L4=2-2x10
L5=2-2x12
B1 = 3-2x8
B2 = 4-2x10

120 Kathleen Street
Guelph

DATE: May 29, 2020
PG: 5 of 8
SCALE: 1/4"=1'0"
PLAN: Left Elevation

Additional Floor Area
Main Floor: 291.7 sqft
Garage: 286 sqft
2nd Floor: 1230.9 sqft
Existing: 939.2 sqft

NOTES
Bernie's Drafting Services and or Bernie Dobben will not be held responsible for any errors or ommissions on these drawings. Contractor to verify all dimmensions prior to construction. All construction to be in accordance with the Ontario Building Code & any other local codes as deemed neccessary by the Local Building Official.

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Fax 1-519-638-5686
email: berniesdrafting@dobbens.ca

Lintel & Beam Schedule
L1=2-2x4
L2=2-2x6
L3=2-2x8
L4=2-2x10
L5=2-2x12
B1 = 3-2x8
B2 = 4-2x10

120 Kathleen Street Guelph

DATE: May 29, 2020
PG: 6 of 8
SCALE: 1/4"=1'0"
PLAN: Rear Elevation

Additional Floor Area
Main Floor: 291.7 sqft
Garage: 286 sqft
2nd Floor: 1230.9 sqft
Existing: 939.2 sqft

NOTES
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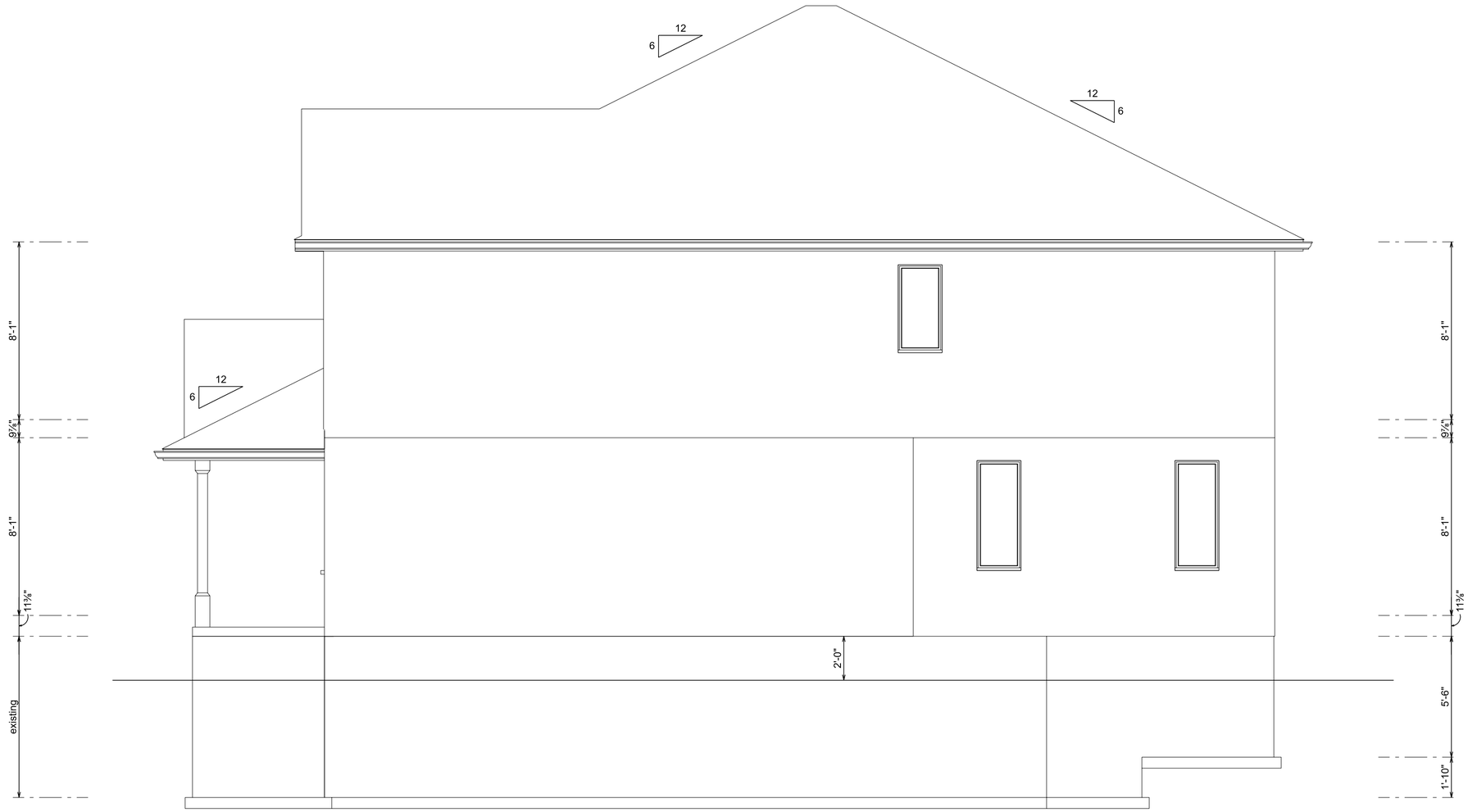


Lintel & Beam Schedule
L1=2-2x4
L2=2-2x6
L3=2-2x8
L4=2-2x10
L5=2-2x12
B1 = 3-2x8
B2 = 4-2x10

120 Kathleen Street Guelph

DATE: May 29, 2020
PG: 6 of 8
SCALE: 1/4"=1'0"
PLAN: Right Elevation

Additional Floor Area
Main Floor: 291.7 sqft
Garage: 286 sqft
2nd Floor: 1230.9 sqft
Existing: 939.2 sqft

NOTES
Bernie's Drafting Services and or Bernie Dobben will not be held responsible for any errors or ommissions on these drawings. Contractor to verify all dimmensions prior to construction. All construction to be in accordance with the Ontario Building Code & any other local codes as deemed neccessary by the Local Building Official.

DRAWN BY : ***BERNIE'S DRAFTING SERVICES***

Phone1-519-638-5362
Fax 1-519-638-5686
email: berniesdrafting@dobbens.ca

9.25.3. Air Barrier Systems
9.25.3.1. Required Barrier to Air Leakage
(1) Wall, ceiling and floor assemblies that separate conditioned spaces from unconditioned spaces shall be constructed so as to include an air barrier system that will provide a continuous barrier to air leakage,
(a) from the interior of the building into wall, floor, attic or roof spaces sufficient to prevent excessive moisture condensation in such spaces during the heating season, and
(b) from the exterior inward sufficient to prevent moisture condensation on the room side during the heating season.
(2) The continuity of the air barrier system shall extend throughout the basement.
9.25.3.2. Air Barrier System Properties
(1) Sheet and panel type materials intended to provide the principal resistance to air leakage shall have an air leakage characteristic not greater than 0.02 L/(s·m2) measured at an air pressure differential of 75 Pa.
(2) Where polyethylene sheet is used to provide the air-tightness in the air barrier system, it shall conform to CAN/CGSB-51.34-M, “Vapour Barrier, Polyethylene Sheet for Use in Building Construction”.
9.25.3.3. Continuity of the Air Barrier System
(1) Where the air barrier system consists of an air-impermeable panel-type material, all joints shall be sealed to prevent air leakage.
(2) Where the air barrier system consists of flexible sheet material, all joints shall be,
(a) sealed with compatible material such as tape or flexible sealant, or
(b) except as required by Sentence (3), lapped not less than 100 mm and clamped, such as between framing members, furring or blocking and rigid panels.
(3) Where an air barrier system consisting of flexible sheet material is installed at locations where it is not supported by an interior finish, such as a behind a bath tub, shower enclosure or fireplace, the continuity of the air barrier shall be maintained by sealing its joints.
(4) Where an interior wall meets an exterior wall, ceiling, floor or roof required to be provided with an air barrier protection, the air barrier system shall extend across the intersection and shall be sealed in accordance with Sentences (1) and (2).
(5) Where an interior wall projects through a ceiling or extends to become an exterior wall, spaces in the wall shall be blocked to provide continuity across those spaces with the air barrier system in the abutting walls or ceiling by,
(a) sealing each air barrier to the blocking, or
(b) wrapping each air barrier around the transition and sealing in accordance with Sentences (1) and (2).
(6) Where an interior floor projects through an exterior wall or extends to become an exterior floor, continuity of the air barrier system shall be maintained from the abutting walls across the floor assembly.
(7) Where an interior floor projects through an exterior wall to become an exterior floor,
(a) the air barrier of the wall under the floor shall be continuous with or sealed to the subfloor or the air barrier on the underside of the floor,
(b) the air barrier of the wall above the floor shall be continuous with or sealed to the subfloor or the air barrier on the top of the floor, and
(c) the spaces between floor joists shall be blocked and sealed.
(8) Where a header wrap is used as an air barrier, it shall be sealed or lapped to the wall air barrier above and below in accordance with Sentences (1) and (2).
(9) Penetrations of the air barrier system, such as those created by the installation of electrical wiring, electrical boxes, piping or ductwork, shall be sealed with compatible material such as tape or caulking to maintain the integrity of the air barrier system over the entire surface.
(10) Penetrations of the air barrier system, such as those created by the installation of doors, windows and other fenestration shall be sealed to maintain the integrity of the air barrier system over the entire surface.
(11) Where an interior air barrier is penetrated by doors, windows and other fenestration, the air barrier shall be sealed to the door frame or window frame with,
(a) compatible tape, or
(b) spray foam insulation.
(12) Where an exterior air barrier is penetrated by doors, windows and other fenestration, the air barrier shall be sealed to the door frame or window frame with,
(a) compatible flexible flashing material,
(b) caulking, or
(c) spray foam insulation.
(13) An access hatch installed through an assembly constructed with an air barrier system shall be weatherstripped around the perimeter to prevent air leakage.
(14) Clearances between chimneys or gas vents and the surrounding construction that would permit air leakage from within the building into a wall or attic or roof space shall be sealed by noncombustible material to prevent such leakage and shall be sealed to the air barrier with tape or another compatible material, and to the vent with high temperature caulking in accordance with the manufacturer’s installation instructions.
(15) Where the foundation wall and floor slab are used as an air barrier, they shall be caulked at all joints, intersections and penetrations.
(16) Sump pit covers shall be sealed.

2.1.1.6. Insulation of Foundation Walls
(1) Foundation walls enclosing heated space shall be insulated from the underside of the subfloor to not more than 200 mm above the finished floor level of the basement. (See Appendix A.)
(2) The insulation required by Sentence (1) may be provided by a system installed,
(a) on the interior of the foundation wall,
(b) on the exterior face of the foundation wall, or
(c) partially on the interior and partially on the exterior, provided the thermal performance of the system is equivalent to that permitted in Clauses (a) or (b).
(3) If a foundation wall is constructed of hollow masonry units, one or more of the following shall be used to control convection currents in the core spaces,
(a) filling the core spaces,
(b) at least one row of semi-solid blocks at or below grade, or
(c) other similar methods.
(4) Masonry walls of hollow units that penetrate the ceiling shall be sealed at or near the ceiling adjacent to the roof space to prevent air within the voids from entering the attic or roof space by,
(a) capping with masonry units without voids, or
(b) installation of flashing material extending across the full width of the masonry.
(5) Except as provided in Sentences (6) and (7), where the basement slab edge is the only part of the slab that is at the exterior ground level such as a walk-out basement, or within 600 mm to the exterior ground level, the insulation around concrete slab shall extend not less than 600 mm below exterior ground level.
(6) Where the concrete slab is within 600 mm of the exterior ground level, the entire surface of the slab shall be insulated.
(7) Where a slab contains heating ducts, pipes, tubes or cables, the entire heated surface of the slab that is in contact with the ground shall be insulated.

9.10.19.1 Smoke Alarms
(1) Within dwelling unit
(2) shall have a visual signalling component
9.10.19.3 Location of Smoke Alarms
(a) there is at least one smoke alarm installed on each storey, including basements, and
(b) on any storey of a dwelling unit containing sleeping rooms, a smoke alarm is installed,
(i) in each sleeping room, and
(ii) in a location between the sleeping rooms and the remainder of the storey, and
if the sleeping rooms are served by a hallway, the smoke alarm shall be located in the hallway.
(2) A smoke alarm required in Sentence (1) shall be installed in conformance with CAN/ULC-S553, “Installation of Smoke Alarms”.
(3) Smoke alarms required in Article 9.10.19.1. and Sentence (1) shall be installed on or near the ceiling.
9.10.19.5. Interconnection of Smoke Alarms
(1) Where more than one smoke alarm is required in a dwelling unit, the smoke alarms shall be wired so that the activation of one alarm will cause all alarms within the dwelling unit to sound.

9.33.4.2. Location of Carbon Monoxide Detectors
(1) Where a fuel-burning appliance is installed in a suite of residential occupancy, a carbon monoxide detector shall be installed adjacent to each sleeping area in the suite.
(2) Where a fuel-burning appliance is installed in a service room that is not in a suite of residential occupancy, a carbon monoxide detector shall be installed,
(a) adjacent to each sleeping area in every suite of residential occupancy that is adjacent to the service room, and
(b) in the service room.
(3) Where a storage garage is located in a building containing a residential occupancy, a carbon monoxide detector shall be installed adjacent to each sleeping area in every suite of residential occupancy that is adjacent to the storage garage.
(4) Where a storage garage serves only the dwelling unit to which it is attached or built in, a carbon monoxide detector shall be installed adjacent to each sleeping area in the dwelling unit.

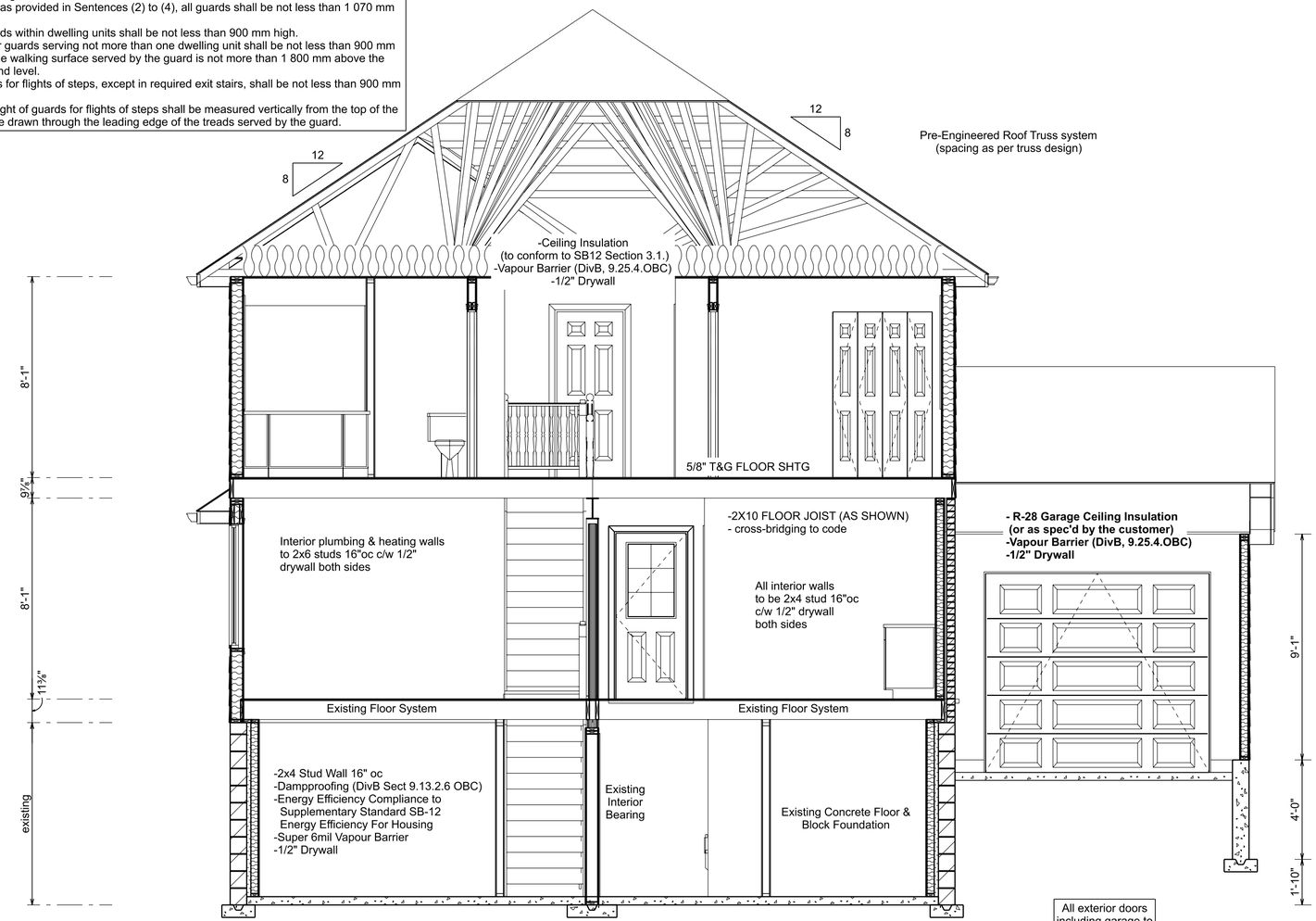
9.33.4.3. Installation and Conformance to Standards
(1) The carbon monoxide detector required by Article 9.33.4.2. shall,
(a) except as permitted in Sentence (2) be permanently connected to an electrical circuit and shall have no disconnect switch between the overcurrent device and the carbon monoxide detector,
(b) be wired so that its activation will activate all carbon monoxide detectors within the suite, where located within a suite of residential occupancy,
(c) be equipped with an alarm that is audible within bedrooms when the intervening doors are closed, where located adjacent to a sleeping area, and
(d) conform to,
(i) CAN/CSA-6.19, “Residential Carbon Monoxide Alarming Devices”, or
(ii) UL 2034, “Single and Multiple Station Carbon Monoxide Alarms”.
(2) Where the building is not supplied with electrical power, carbon monoxide detectors are permitted to be battery operated.

Section 9.19. Roof Spaces
9.19.1. Venting
9.19.1.1. Required Venting
(1) Except where it can be shown to be unnecessary, where insulation is installed between a ceiling and the underside of the roof sheathing, a space shall be provided between the insulation and the sheathing, and vents shall be installed to permit the movement of air from the space to the exterior.

9.19.1.2. Vent Requirements
(1) Except as provided in Sentence (2), the unobstructed vent area shall be not less than 1/300 of the insulated ceiling area.
(2) Where the roof slope is less than 1 in 6 or in roofs that are constructed with roof joists, the unobstructed vent area shall be not less than 1/150 of the insulated ceiling area.
(3) Required vents are permitted to be roof type, eave type, gable-end type or any combination of them, and shall be distributed,
(a) uniformly on opposite sides of the building,
(b) with not less than 25% of the required openings located at the top of the space, and
(c) with not less than 25% of the required openings located at the bottom of the space.
(4) Except where each roof joist space referred to in Sentence (2) is separately vented, roof joist spaces shall be interconnected by installing purlins not less than 38 mm by 38 mm on the top of the roof joists.
(5) Vents shall comply with CAN3-A93-M, “Natural Airflow Ventilators for Buildings”.
9.19.1.3. Clearances
(1) Except as provided in Sentence (2), where venting is provided to a roof joist space, not less than 63 mm of space shall be provided between the top of the insulation and the underside of the roof sheathing.
(2) Where venting is provided at the junction of sloped roofs and exterior walls and where preformed baffles are used to contain the insulation, the baffles shall,
(a) provide an unobstructed air space between the insulation and the underside of the roof sheathing, that is,
(i) not less than 25 mm in dimension, and
(ii) of sufficient cross area to meet the attic or roof space venting requirements of Article 9.19.1.2., and
(b) extend vertically not less than 50 mm above the top of the insulation.
(3) Ceiling insulation shall be installed in a manner that will not restrict a free flow of air through roof vents or through any portion of the attic or roof space.

9.8.8.1. Required Guards
(1) Except as provided in Sentences (2) and (3), every surface to which access is provided for other than maintenance purposes, including but not limited to flights of steps and ramps, exterior landings, porches, balconies, mezzanines, galleries and raised walkways, shall be protected by a guard on each side that is not protected by a wall for the length where,
(a) there is a difference in elevation of more than 600 mm between the walking surface and the adjacent surface
9.8.8.3. Height of Guards
(1) Except as provided in Sentences (2) to (4), all guards shall be not less than 1 070 mm high.
(2) All guards within dwelling units shall be not less than 900 mm high.
(3) Exterior guards serving not more than one dwelling unit shall be not less than 900 mm high where the walking surface served by the guard is not more than 1 800 mm above the finished ground level.
(4) Guards for flights of steps, except in required exit stairs, shall be not less than 900 mm high.
(5) The height of guards for flights of steps shall be measured vertically from the top of the guard to a line drawn through the leading edge of the treads served by the guard.

Acceptable Solutions for Energy Efficiency Compliance After December 31, 2016
(Applies to construction for which a permit has been applied for after December 31, 2016)
Section 3.1. Methods for Achieving Energy Efficiency Compliance
3.1.1. Prescriptive Compliance Packages (See Appendix A.)
3.1.1.1. Energy Efficiency
(1) Except as provided in Articles 3.1.1.4. to 3.1.1.11., the building shall conform to
(a) Article 3.1.1.2. if the building is located in Zone 1 with less than 5000 heating degree days, or
(b) Article 3.1.1.3. if the building is located in Zone 2 with 5000 or more heating degree days.
(2) Except as required in Sentence (5), all walls, ceilings, floors, windows and doors that separate heated space from unheated space, the exterior air or the exterior soil shall have thermal resistance ratings conforming to this Subsection.
(3) Where specified in compliance packages in Tables 3.1.1.2.A to 3.1.1.2.C and Tables 3.1.1.3.A to 3.1.1.3.C, space heating equipment, domestic water heating equipment and heat or energy recovery ventilators shall be provided and have the efficiency rating conforming to this Subsection. (See Appendix A.)
(4) Except as required in Sentence (5), insulation shall be provided between heated and unheated spaces and between heated spaces and the exterior in accordance with this Chapter.
(5) A building envelope assembly that separates a conditioned space from an adjoining storage garage shall be treated as an assembly separating heated space from exterior, even if the storage garage is intended to be heated.
(6) Reflective surfaces of insulating materials shall not be considered in calculating the thermal resistance of building assemblies.
(7) Except as provided in Sentences (8) and 3.1.1.11.(3), where the ratio of the gross area of windows, sidelights, skylights, glazing in doors and sliding glass doors to the gross area of peripheral walls measured from grade to the top of the upper most ceiling is not more than 17%, the building shall comply with a compliance package selected from Tables 3.1.1.2.A to 3.1.1.2.C and Tables 3.1.1.3.A to 3.1.1.3.C, and Table 3.1.1.11. (See Appendix A.)
2012 MMA Supplementary Standard SB-12
Effective Date: July 7, 2016 SB-12 • Page 27
(8) Except as permitted in Sentences 3.1.1.11.(3), where the ratio of the gross area of windows, sidelights, skylights, glazing in doors and sliding glass doors to the gross area of peripheral walls measured from grade to the top of the upper most ceiling is more than 17% but not more than 22%, the building shall comply with a compliance package selected from Tables 3.1.1.2.A to 3.1.1.2.C, Tables 3.1.1.3.A to 3.1.1.3.C and Table 3.1.1.11 and the overall coefficient of heat transfer of the fenestration shall be upgraded to
(a) 1.6 where 1.8 is required by the selected compliance package or permitted by Article 3.1.1.4.,
(b) 1.4 where 1.6 is required by the selected compliance package or permitted by Article 3.1.1.4.,
(c) 1.2 where 1.4 is required by the selected compliance package or permitted by Article 3.1.1.4., and
(d) 1.0 where 1.2 is required by the selected compliance package or permitted by Article 3.1.1.4..
(See Appendix A.)
(9) Where the ratio of gross area of windows, sidelights, skylights, glazing in doors and sliding glass doors to the gross area of peripheral walls measured from grade to the top of the upper most ceiling is more than 22%, the building shall comply with Subsection 3.1.2. (See Appendix A.)
(10) Where a dwelling unit has a walkout basement, the thermal performance level of the exterior basement wall shall be not less than that required for the above grade wall for
(a) the basement wall containing the door opening, and
(b) any basement wall that has an exposed wall area above the ground level exceeding 50% of that basement wall area.
(11) For a conditioned space, the exterior building envelope or envelope that separates conditioned space from unconditioned space shall conform to the applicable values specified in Articles 3.1.1.2. and 3.1.1.3.
(12) Where an enclosed unheated space is separated from a heated space by glazing, the unheated enclosure may be considered to provide a thermal resistance of RSI 0.16.
(13) Where a compliance package in Tables 3.1.1.2.A to 3.1.1.2.C, Tables 3.1.1.3.A to 3.1.1.3.C, or Table 3.1.1.11 specifies a nominal RSI value, effective RSI value and U-Value for a component specified in Column 1 of the Table and the component conforms to one of the thermal values, the component need not conform to the other thermal values specified for the component.
(14) Insulation in the rim joist or header area where the floor assembly and wall assembly intersect shall have a thermal value not less than the thermal value of the insulation in the walls above grade.
(15) Where a compliance package in Tables 3.1.1.2.A to 3.1.1.2.C, Tables 3.1.1.3.A to 3.1.1.3.C, or Table 3.1.1.11 specifies an overall coefficient of heat transfer and an energy rating value for a fenestration component specified in Column 1 of the Table and the component conforms to one of the thermal values, the component need not conform to the other thermal value specified for the component.
(16) Ventilation systems serving dwelling units shall have a heat or energy recovery ventilator. (See Appendix A)
(17) Except as provided in Sentence (18), a building is permitted to be designed in conformance with any of the compliance packages available for the climate zone that the building is located in, if the primary space heating of the building is supplied by
(a) a wood burning appliance,
(b) an earth energy system, or
(c) an air or water source heat pump that does not use electric resistance as a back-up heat source.
(18) For the purpose of Sentence (17), the requirements in the compliance packages for space heating equipment do not apply.
(19) Heat or energy recovery ventilators specified in compliance packages in Tables 3.1.1.2.A to 3.1.1.2.C and Tables 3.1.1.3.A to 3.1.1.3.C, shall meet
(a) the requirements of Article 9.32.3.11. of Division B of the Building Code, and
(b) the minimum SRE required in this Chapter based on a test temperature of 0°C at an air flow rate equal to the principle exhaust flow but need not exceed 30 L/s.
2012 MMA Supplementary Standard SB-12
Page 28 • SB-12 Effective Date: July 7, 2016
(20) Building envelope components that enclose a common space and are exposed to exterior or unconditioned space shall conform to this Subsection.
(21) Heating, ventilating, air-conditioning and lighting systems serving common spaces need not comply with this Subsection but shall comply with the other parts of the Building Code.
(22) Drain water heat recovery units shall be installed in accordance with Article 3.1.1.12.



All Dimensions (ceiling heights, Eave heights, Eave soffit & face, Roof pitch, etc., to conform to the original structure and be confirmed on site by the contractor

-Asphalt shingles (owners choice)
-2 runs of #15 felt eave protection to extend 3' beyond inside line of wall
-Roof Shtg min 3/8" on 24" max support spacing c/w clips
-Metal eavestarter
-Pre-finished seamless aluminum eavestrough
-Morvent insulation stops 48"oc
-Prefinished fascia & vented soffit
-2x6 stud wall 16"oc
-Double top plate & single bottom plate
-Air Barrier System (9.25.3. OBC)
-Pre-finished siding and/or 4" Face brick c/w 1" air space
-Energy Efficiency Compliance to Supplementary Standard SB-12 Energy Efficiency For Housing
-Super 6mil vapour barrier
-1/2" drywall

9.23.6.1. Anchorage of Building Frames

(1) Building frames shall be anchored to the foundation unless a structural analysis of wind and earth pressures shows anchorage is not required.
(2) Except as provided in Article 9.23.6.3., anchorage shall be provided by embedding the ends of the first floor joists in concrete, or fastening the sill plate to the foundation with not less than 12.7 mm diam anchor bolts spaced not more than 2.4 m o.c.
(3) Anchor bolts referred to in Sentence (2) shall be fastened to the sill plate with nuts and washers and shall be embedded not less than 100 mm in the foundation and so designed that they may be tightened without withdrawing them from the foundation

-8" concrete wall
-Tar snap tie holes
-Dampproofing (DivB Sect 9.13.2 OBC)
-Foundation Drainage (Sect 9.14.2 OBC)
-8"x16" footings
-4" 2slot drainage tile covered with 3/4" washed stone (Sect 9.14.3 OBC)

Contractor to confirm finished foundation height so that finished floor in new addition is at same height as existing floor

All exterior doors including garage to house doors to be equipped with deadbolting locks to comply with OBC 9.6.8 (typical)

Lintel & Beam Schedule
L1=2-2x4
L2=2-2x6
L3=2-2x8
L4=2-2x10
L5=2-2x12
B1 = 3-2x8
B2 = 4-2x10

120 Kathleen Street Guelph

DATE: May 29, 2020
PG: 8 of 8
SCALE: 1/4"=1'0"
PLAN: Cross-Section

Additional Floor Area
Main Floor: 291.7 sqft
Garage: 286 sqft
2nd Floor: 1230.9 sqft
Existing: 939.2 sqft

NOTES
Bernie's Drafting Services and or Bernie Dobben will not be held responsible for any errors or ommissions on these drawings. Contractor to verify all dimmensions prior to construction. All construction to be in accordance with the Ontario Building Code & any other local codes as deemed neccesary by the Local Building Official.

DRAWN BY : **BERNIE'S DRAFTING SERVICES**
Phone1-519-638-5362
Fax 1-519-638-5686
email: berniesdrafting@dobbens.ca

Juan DaSilva

From: Janice
Sent: Thursday, June 4, 2020 12:38 PM
To: Committee of Adjustment
Subject: Comments to Variance for 120 Kathleen St - Application #A27/20

To Whom it may concern:

We are the property owners of 118 Kathleen St and have received notice of the variance request for 120 Kathleen St. We have owned and lived at this property since 1983.

We have the following comments for consideration:

The proposal lists attached garage, where the sketch shows 2 storey attached garage which would affect our light, sight lines, shading and privacy.

Our own plans may include a future renovation, this variance affects our property, if approved will this prevent us the same variance considerations?

The sketch does not show the location and nature of the easement on the property. Renovations affecting the land, present concern, will the existing drainage patterns be maintained post construction and that no drainage is directed to our property?

We feel the integrity of this very special neighbourhood we have lived in for 37 years should respect the bylaws that provides us the opportunity to continue to enjoy our property and our future generations as this home is intended to stay in the family.

Regards,
Jim & Janice Phelan
118 Kathleen St
Guelph, ON N1H 4Y3

Committee of Adjustment Comments from Staff, Public and Agencies

Application Details

Application Numbers:	B-5/20 and A-23/20
Location:	14 Winston Crescent
Hearing Date:	June 11, 2020
Owner:	Marie-Jose van der Zande and Alberdina Bouwmeester
Agent:	Jeff Buisman, Van Harten Surveying Inc.
Official Plan Designation:	Low Density Residential
Zoning:	Residential Single Detached (R.1B)

File B-5/20: Consent

Request: The applicant is requesting permission to sever a parcel of land to the rear of 14 Winston Crescent with an area of 97 square metres as a lot addition to the rear of 75 Metcalfe Street. The retained parcel will have frontage along Winston Crescent of 10.9 metres and an area of 300 square metres.

File A-23/20: Minor Variance

Request: The applicant is seeking relief from the By-Law requirements to permit a minimum lot area of 300 square metres.

By-Law Requirements: The By-Law requires that the minimum lot area in a Residential Single Detached (R.1B) Zone be 460 square metres.

Staff Recommendation

Approval with Conditions

Recommended Conditions

File B-5/20

Committee of Adjustment Administration

1. That Minor Variance application A-23/20 is approved at the same time as the consent application and become final and binding.
2. That all required fees and charges in respect of the registration of all documents required in respect of this approval and administration fee be paid, prior to the issuance of the Certificate of Official.

3. That the Secretary-Treasurer of the Committee of Adjustment be provided with a written undertaking from the applicant's solicitor, prior to the issuance of the Certificate of Official, that he/she will provide a copy of the registered instrument as registered in the Land Registry Office within two years of issuance of the Certificate of Official, or prior to the issuance of a building permit (if applicable), whichever occurs first.
4. That prior to the issuance of the Certificate of Official, a Reference Plan be prepared, deposited and filed with the Secretary-Treasurer which shall indicate the boundaries of the severed parcel, any easements/rights-of-way and building locations. The submission must also include a digital copy of the deposited Reference Plan (version ACAD 2010) which can be forwarded by email (cofa@guelph.ca).
5. That upon fulfilling and complying with all of the above-noted conditions, the documents to finalize and register the transaction be presented to the Secretary-Treasurer of the Committee of Adjustment along with the administration fee required for the issuance of the Certificate of Official.
6. That the Owner shall consolidate the severed parcel with the abutting lands to which the severed parcel is to be added as a single parcel ("the consolidation") and that the Owner's solicitor shall provide a firm undertaking in writing to the Secretary-Treasurer of the Committee of Adjustment for the City of Guelph that the solicitor will attend to the consolidation and will provide within 30 days of the date of registration in the Land Registry Office for Wellington (No. 61), or prior to the issuance of a building permit [if applicable], whichever occurs first, a copy of the registered electronic Transfer document including the Certificate of Official and the registered application Consolidation Parcels document.
7. That the Transferee take title of the severed lands in the same manner and capacity as he or she holds his or her abutting lands; and that Section 50(3) or Section 50(5) of the Planning Act, R.S.O. 1990, as amended, shall apply to any subsequent conveyance or any transaction involving the parcel of land that is subject of this consent.

File A-23/20

Committee of Adjustment Administration

1. That Consent Application B-5/20 receives final certification of the Secretary-Treasurer and be registered on title.

Comments

File B-5/20

Planning Services

The subject lands are designated "Low Density Residential" in the Official Plan.

The applicant is proposing to sever the rear portion of 14 Winston Crescent and add it to 75 Metcalfe Street. The subject property is currently developed with a semi-

detached dwelling and detached garage. An associated minor variance application has been submitted for a reduced lot area for the subject property.

The subject lands are currently zoned "Residential Single Detached" (R.1B), according to Zoning By-law (1995)-14864, as amended.

Policy 10.10.1 of the Official Plan provides criteria to consider when evaluating Consent applications. Below is an evaluation of these policies as it relates to the subject application:

i. **That all of the criteria for plans of subdivision are given due consideration.**
Staff have reviewed subdivision criteria of the Official Plan and are satisfied that the application conforms to the policies.

ii. **That the application is properly before the Committee and that a plan of subdivision has been deemed not to be necessary for the proper and orderly development of the City.**

A plan of subdivision is not necessary for the lot addition.

iii. **That the land parcels to be created by the Consent will not restrict or hinder the ultimate development of the lands.**

The proposed lot addition represents orderly development of the land. The reconfiguration of the parcel will provide additional rear yard space for 75 Metcalfe St. and create a more logical lot pattern.

iv. **That the application can be supported if it is reasonable and in the best interest of the community.**

The proposed severance is considered to be appropriate and is supportable.

Staff are satisfied that the proposal meets the Consent policies of the Official Plan and subdivision criteria as outlined in section 51(24) of the Ontario Planning Act. Staff recommend approval of the application.

Engineering Services

The applicant proposes to sever a parcel of land to the rear of 14 Winston Crescent with an area of 97 square metres as a lot addition to the rear of 75 Metcalfe Street. The retained parcel will have frontage along Winston Crescent of 10.9 metres and an area of 300 square metres

Engineering has no concerns with this application.

We agree with recommendations made by Planning and Building staff.

Building Services

This property is located in a Residential Single Detached (R.1B) Zone. The applicant is proposing to sever the rear portion of the subject property as a lot addition to 75 Metcalfe Street.

Building Services does not object to this proposal to sever a parcel of land to the rear of 14 Winston Crescent with an area of 97 square metres as a lot addition to the rear of 75 Metcalfe Street.

Bell Canada

Bell Canada has no concerns.

File A-23/20

Planning Services

The subject property is designated "Low Density Residential" in the Official Plan. The "Low Density Residential" land use designation permits a range of housing types including single and semi-detached residential dwellings. The requested variance meets the general intent and purpose of the Official Plan.

The subject property is zoned "Residential Single Detached" (R.1B), according to Zoning By-law (1995)-14864, as amended. Due to the lot reconfiguration made through Consent application B-5/20, the lot area of the subject property will be reduced to 300 square metres and a variance is therefore required to Table 5.1.2, Row 3 of the Zoning By-law which requires a minimum lot area of 460 square metres. The subject property is currently developed with a legal non-conforming semi-detached dwelling. The intent of the minimum lot area requirement is to ensure that a property can accommodate an appropriate sized house with adequate setbacks and sufficient rear yard amenity area. The subject property is already developed and has sufficient setbacks and rear yard amenity space. The requested variance is considered to meet the general intent and purpose of the Zoning By-law, is considered to be desirable for the appropriate development of the land and is considered to be minor in nature.

Planning staff recommend approval of the application.

Engineering Services

Engineering has no concerns with the request of seeking relief from the By-law requirements to permit a minimum lot area of 300 square metres.

We agree with recommendations made by Planning and Building staff.

Building Services

This property is located in a Residential Single Detached (R.1B) Zone. The applicant is proposing to maintain the existing semi-detached dwelling and detached garage, and sever the rear portion of the subject property as a lot addition to the rear of 75 Metcalfe Street (See file B-5/20). The applicant is requesting a variance to permit a minimum lot area of 300 square meters. Building Services does not object to this variance request.

Comments from the Public

None

Contact Information

Committee of Adjustment: City Hall, 1 Carden Street, Guelph ON N1H 3A1

519-822-1260 Extension 2524 cofa@guelph.ca

TTY: 519-826-9771 guelph.ca/cofa

Committee of Adjustment Comments from Staff, Public and Agencies

Application Details

Application Number:	A-10/20
Location:	739 Woolwich Street
Hearing Date:	June 11, 2020 (deferred from the March 12, 2020 hearing)
Owner:	2448254 Ontario Inc.
Agent:	Drew Gillingham, 536357 Ontario Inc.
Official Plan Designation:	Mixed-Use Corridor
Zoning:	Specialized Service Commercial (SC.1-6) Zone

Request: The applicant is seeking relief from the By-Law requirements to permit retail sale of cannabis and related supplies as an additional permitted use on the subject property.

By-Law Requirements: The By-Law permits a variety of uses in the SC.1-6 Zone, but does not permit retail sale of cannabis and related supplies.

Staff Recommendation

Approval with Condition

Recommended Condition

Planning Services

1. That the variance be approved to permit a Retail use on the property.

Comments

Planning Services

At the time the application was submitted, the subject property was designated "Service Commercial" in the City's Official Plan. The Service Commercial land use designation permits some retail uses. By way of Official Plan Amendment 69, which was approved by Council on January 30, 2020, the subject lands are now designated as "Mixed-Use Corridor". The "Mixed-Use Corridor" land use designation is intended to serve both the needs of residents living and working on-site, in nearby neighbourhoods and employment districts and the wider city as a whole and permits a range of uses including commercial, retail and service uses. In Planning staff's opinion, the requested variance to permit the retail sale of cannabis and

related supplies meets the general intent and purpose of the Official Plan, including OPA 69.

The subject property is zoned "Specialized Service Commercial" (SC.1-6) according to Zoning By-law (1995)-14864, as amended and permits several uses that have a retail character including an artisan studio, bake shop, florist, hardware store, liquor store, personal service establishment, office supply and restaurant and take-out restaurant. Planning staff are currently undertaking the Comprehensive Zoning By-law Review (CZBR) project which includes ensuring the uses in the Zoning By-law align with the Official Plan. The direction of the CZBR discussion paper is to permit retail establishments in areas designated Mixed-use Corridor.

The proposed retail use within the existing building on the property is to permit the sale of cannabis and related supplies. The retail sale of cannabis is permitted within zones that permit a Retail use in the Zoning By-law. Council opted in to permit cannabis retail storefronts as of December 2018. Municipalities do not have the authority to pass bylaws pertaining to the business licensing or specialized zoning of cannabis retail stores. The government has regulated the Alcohol Gaming Commission of Ontario (AGCO) to approve retail storefront business licenses similar to the issuance of liquor licences. Upon the City's receipt of an application for a storefront licence, residents and municipalities have 15 days to provide written comments to the AGCO. While the AGCO is not bound to the comments received, they consider these comments before making a final decision to issue a licence.

City By-law staff been designated by Council to voice Councils concerns to the AGCO if a proposed location is within 150 metres of a sensitive location/concern zone that includes hospitals, mental health facilities, addiction centres, youth and social services, recreational centres, registered daycare centres, youth facilities, University lands, Shelldale, Libraries and the Community Health Centre. At this time, By-law staff have advised the applicant that the property meets the requirements to allow a cannabis store subject to the retail use being permitted, but that may change if any sensitive land uses in the area are established prior to licencing. Planning staff note that there is an active site plan application to facilitate the construction of a new office building located at 735-737 Woolwich Street.

The requested variance to permit a retail use on the property maintains the general intent and purpose of the Official Plan and Zoning By-law, is considered desirable for the appropriate development of the land and is considered to be minor in nature.

Planning staff recommend approval of the application subject to the above noted condition.

Engineering Services

Engineering has no concerns with the request of seeking relief from the By-law requirements to permit a retail sale of cannabis and related supplies as an additional permitted use on the subject property.

We agree with recommendations made by Planning and Building staff.

Building Services

This property is located in a Specialized Service Commercial (SC.1-6) Zone. The applicant is proposing to permit retail sale of cannabis and related supplies as an additional permitted use on the property. The By-law permits a variety of uses in the SC.1-6 Zone, but does not permit retail sale of cannabis and related supplies.

Building Services does not object to this application to permit the retail sale of cannabis and related supplies as an additional permitted use on the subject property.

Comments from the Public

Yes (See Attached)

Contact Information

Committee of Adjustment: City Hall, 1 Carden Street, Guelph ON N1H 3A1

519-822-1260 Extension 2524 cofa@guelph.ca

TTY: 519-826-9771 guelph.ca/cofa

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June 3, 2020

Eric Davis
LSUC Certified Specialist (Municipal Law)
Direct Line: 519.593.3282
edavis@millerthomson.com

File: 0252989.0001

Sent via E-mail - cofa@guelph.ca

Guelph City Hall
1 Carden Street
Guelph, Ontario Canada
N1H 3A1

Attention: Committee of Adjustment

To the Committee of Adjustment:

Re: A-10/20 - 739 Woolwich Street

We are the lawyers for the Canadian Mental Health Association of Waterloo Wellington (the "**CMHA WW**").

Background

As the Committee may recall, our client attended, and opposed, the subject minor variance at the March 12, 2020, Committee of Adjustment meeting.

Our client has, since November 2018 (for the past 18 months), been planning to locate a much-needed youth mental health and additions clinic at the abutting property (735/737 Woolwich Street), which will serve children, teens and young people up to 24 years of age.

As you will note, this project began well before the proposed minor variance application was submitted.

At this point, our client anticipates receiving site plan approval from the City in the next couple of weeks, has already applied for the necessary building permits, and anticipates starting construction shortly thereafter. The commencement of the project is imminent.

Given the amount of work that has been done to date, our client remains seriously concerned in relation to the above-noted minor variance application.

The youth mental health and additions clinic site was specifically chosen by the CMHA WW as it needs to be in close proximity to its clients; to be easily accessible in order to maximize its beneficial impact on its clients and the broader community.

Respectfully, there are many commercial properties in the City that could accommodate, and indeed welcome, a retail cannabis store, but very few at which one could viably locate a youth mental health and addictions clinic.

Enclosed please find several letters in opposition to the proposed minor variance application.

Application Does Not Meet the Four Part Test for a Minor Variance

It is clear that the application in question does not meet the four (4) part test for a minor variance in that it is not: 1) minor in nature; 2) desirable for the appropriate development or use of the land; or, 3) in keeping with the purpose or intent of the Zoning By-law.

Locating a retail cannabis store next to a youth mental health and additions clinic does not create a compatible mix of uses. Some of the CMHA WW's clients may be living with substance misuse issues while others are old enough to buy cannabis legally. Our client does not want their recovery or treatment to be negatively impacted by the proximity of the proposed cannabis retail store.

While children under 18 are not legally allowed to enter cannabis stores, having one next door to where youth may be receiving treatment for mental health and substance use behaviours creates a potential for influence. For those 19 over, the potential for influence is greater given they can legally buy cannabis.

As the Committee can appreciate, our client is trying to assist a very vulnerable and marginalized sector of society, one that is notoriously challenging to reach, and its objectives will be seriously undermined by the new land use being proposed at the subject property.

Our client is also mindful of evidence which suggests that cannabis use can be harmful to a brain that is still developing, which is especially concerning given the age range of the CMHA WW's clients at that location. Evidence exists that shows:

- Youth are at an increased risk as the brain is exceptionally susceptible to adverse effects during this stage of development.
- Youth are also at a disproportionate risk for addiction, developing a cannabis use disorder, depression, anxiety and psychosis.
- Some studies reveal correlations between frequent cannabis use particularly by youth and development of psychotic disorders.
- The risk of developing a substance use problem is doubled in people with mental illness – the clients the CMHA WW may be serving – compared to the general population.

In addition to the foregoing, the subject property (739 Woolwich St.) is zoned SC.1-6, pursuant to section 6.4.3.1.6 of the City's Zoning By-law. That specialized zone only permits retail uses as follows: "Retail Sales of: pool/patio supplies, drapery". It does not permit general retail uses.

It is very clear that the range of permitted uses for the subject property was scaled down from what the SC.1 zone allows and, further, that the "retail" permissions were very specific to only permit "pool/patio supplies, drapery". The range of permissible retail uses was deliberately circumscribed.

As a result, if a cannabis retail store is to be permitted on the subject property, it should be done by way of a zone change, not a minor variance. In the writer's experience, the addition of permitted uses are, in other municipalities, typically done by way of a zone change, not a minor variance. We would respectfully request that the Committee refuse the above-noted application, and suggest that the applicant proceed by way of zone change, especially given the present circumstances and considerations. A zone change would necessitate a more fulsome process and require Council approval.

Finally, we would note that in Schedule "LL" of City of Guelph By-law No. (2013)-19529, the City will object to any cannabis retail store applications: "…if the issuance of a proposed cannabis retail store authorization is not in the public interest having regard to the needs and wishes of the residents of the City of Guelph because the proposed location of the proposed store is within 150 metres of an addiction centre…", which is the case at present.

As a result of the foregoing, the minor variance application does not meet the four part test for a minor variance.

Request for Refusal or Deferral

If the Committee is not prepared to refuse the above-noted application, for the reasons outlined above, we would at least request that this matter be deferred so that all voices can be heard.

The Committee of Adjustment meeting on June 11th is being held remotely and in the midst of a global pandemic. Many of the CHMA WW's clients do not have the phone or computer access to individually participate in the June 11th meeting and cannot participate as a group, given the pandemic.

In order to ensure procedural fairness in relation to the above-noted application, we would respectfully request that a deferral be granted so that we can ensure fulsome, public participation, especially from those that would be the most directly impacted by the Committee's decision. The CHMA WW's clients deserve an opportunity to be heard.

Conclusion

We look forward to being a delegation at the Committee's June 11th meeting and would be pleased to answer any questions you may have at that time.

Finally, we respectfully request to be notified by the Committee and/or the City in relation to any decisions or developments in relation to the above-noted minor variance application.

Thank you.

Sincerely,

MILLER THOMSON LLP
Per: 

Eric Davis

Enclosures

c. Helen Fishburn, Executive Director, CMHA Waterloo Wellington - via email: hfishburn@cmhaww.ca

March 4, 2020

Attention: Trista Di Lullo, ACST
Secretary-Treasurer
Committee of Adjustment, City of Guelph
City Hall, 1 Carden Street
Guelph ON N1H 3A1

Subject: Application Number A-10/20, 739 Woolwich Street

Committee of Adjustment, City of Guelph

I understand that the Committee of Adjustment is considering a request to locate a cannabis shop close to the site that will house the Canadian Mental Health Association.

I urge you to not allow this to happen. Requiring people seeking treatment for addiction and mental health issues to go to an office close to a store selling cannabis would place many of them at risk each time they come for help.

As a community we need to go all out to help people succeed in their efforts to recover, and to do our utmost to avoid creating situations that might set them up for failure.

Regards,

Roy Cameron
Executive Director, Homewood Research Institute

150 Delhi Street, Guelph, ON N1E 6K9 | **E** admin@homewoodresearch.org | **T** 519.824.1010 ext. 32160
HOMEWOODRESEARCH.ORG | Charitable Registration # 86307 3334 RR0001

LINAMAR
Power to Perform

March 4th, 2020

Mayor Cam Guthrie
mayor@guelph.ca

Trista Di Lullo, ACST | Secretary-Treasurer
Committee of Adjustment of the City of Guelph
City Hall, 1 Carden Street
Guelph ON N1H 3A1
trista.dilullo@guelph.ca

Subject: Application Number A-10/20, 739 Woolwich Street

To: The Committee of Adjustment of the City of Guelph

Dear Cam & Trista:

Together with Rose Soligo, I am co-chairing a Campaign to create Youth Wellness Hubs in our region. Needless to say, when one in five youth experience mental health and | or substance use disorders we have a real crisis. I am astonished that 75% of all mental health conditions have their onset by early adulthood. We need to do something and I am writing to ask you both for help!!

I understand that the city is considering a request to permit a retail store selling cannabis to open at 739 Woolwich Street, close to what will be the new site of the Canadian Mental Health Association Waterloo Wellington (CMHA WW).

CMHA WW provides services to those seeking mental health and addiction support, and it's my understanding that their planned new location on Woolwich Street will focus on support for children and youth. Should this permit be granted, we will be putting those children and youth at risk each time they seek help at this location.

Regardless, of personal preferences, perspectives on cannabis, I would strongly encourage you to reject this application. As a community we must support our residents, including youth, by ensuring that help is available to them where and when they need it, and not allowing obstacles, such as a cannabis store, to get in the way of their wellness and recovery.

Any help and guidance you can provide would be much appreciated!!

Best regards,

Jim Jarrell
President & COO
Linamar Corporation

Cc: Rose Soligo
Kaili Hilkewich
Roy Cameron
CyndyForsyth

Rose Zen-Soligo, Registered Psychotherapist (R.P.)

197 Hanlon Creek Blvd, Unit 103 - Guelph, Ontario - N1C 0A1
Phone (519) 835-8966
rose@rosezen.ca

March 4, 2020

Attention: Trista Di Lullo, ACST, Secretary-Treasurer
Committee of Adjustment of the City of Guelph
City Hall, 1 Carden Street
Guelph, Ontario N1H 3A1
trista.dilullo@guelph.ca
citcofa@guelph.ca

Mayor Cam Guthrie
mayor@guelph.ca

Subject: Application Number A-10/20, 739 Woolwich Street

To: The Committee of Adjustment of the City of Guelph

Dear Mayor Guthrie and Ms. Di Lullo,

Together with Jim Jarrell, I am co-chairing a Campaign to create Youth Wellness Hubs in our region. We are working diligently to create services for youth that address mental health issues including, but not limited to, addiction and substance use disorders.

I understand that you are considering a request to permit a retail store selling cannabis to open at 739 Woolwich Street, close to what will be the new site of the Canadian Mental Health Association Waterloo Wellington (CMHA WW).

CMHA WW provides services to those seeking mental health and addiction support, and it is my understanding that their planned new location on Woolwich Street will focus on supports for children and youth. Should this permit be granted, we will be putting those children and youth at risk each time they seek help at this location.

I would strongly encourage you to reject this application. As a community, we must support our residents, including youth, by ensuring that help is available to them where and when they need it, and not allowing obstacles, such as a cannabis store, to get in the way of their wellness and recovery.

I wish to express my personal and heart-felt gratitude for your assistance in this matter.

Respectfully,
Rose Zen-Soligo, RP

Dear City of Guelph Council and Staff,

I am writing on behalf of the Guelph YMCA-YWCA with the full support of our board of directors rejecting the application to permit the sale of cannabis at 739 Woolwich Street.

Our organisation implores decision makers to not only look at the current use of businesses on Woolwich Street but the future uses as well. Proximal to the applicant's property will be the new CMHA facility. This facility will provide mental health supports for children and youth, including addiction supports.

In the fall of 2019, I had the pleasure of touring a centre that will provide many of the same supports that CMHA will be delivering on this future site. The facility was in Kelowna, BC, and is known as the Foundry. It is a facility that is located a little bit outside of the downtown core of Kelowna and this was intentional. The Foundry had over 2,300 unique visitors' access supports and programs in 2019. When I asked about the location of the Foundry and why they choose a site outside of the downtown, core staff shared that the youth who were dealing with substance abuse issues were vocal about choosing a location that was accessible, but not close to the core where they purchased their drugs.

Given the audience that CMHA will be providing services for, I ask our municipal decision makers to treat CMHAs future home in the same way that they would treat a school when considering a permit for the sale of cannabis and deny the application.

Thank you,

Geoff Vogt, CEO

Cyndy Forsyth, Board Chair
Matt McInally, Director
Rob Cliff, Director
Jessica Barrie, Director
Anita Acai, Director

Harold Whiteside, Vice Chair
Jonathan Knowles, Director
Rosemary Fernandes Walker, Director
Heather MacDougal, Director

Family & Children's Services of Guelph and Wellington County

June 02, 2020

To Whom it May Concern,

I am the Executive Director for Family & Children's Services of Guelph and Wellington County, our community's child welfare organization. I am writing this letter to support CMHA's concerns regarding a cannabis retailer potentially being located beside the new location for their child and youth mental health program as well as a new youth hub.

Many, many vulnerable children and youth will be utilizing the services and supports that will be provided at this location and having a cannabis retailer located so close may prove difficult, particularly for those youth struggle with addiction issues. The current legislation, subsection 17(6) of The Cannabis Act and Cannabis Regulations states that:

> "It is prohibited to promote cannabis, a cannabis accessory or a service related to cannabis under subsection 17(6) of the *Cannabis Act* by displaying a brand element of cannabis, of a cannabis accessory or of a service related to cannabis on any thing that is in a school, a public playground, a daycare facility or any other public place frequented mainly by young persons or that is visible from such a place. (section 104.19 of the *Cannabis Regulations*)"

While cannabis is now legal, it is not legal for youth, and can have serious and lasting repercussions for youth and young adults, particularly those with mental health and addiction issues. It has been widely reported that youth using cannabis are at a heightened risk of developing psychosis and schizophrenia and that consistent use results in worse prognosis, more severe symptoms and increased relapse. As well, research has shown that use by adolescents before their brain is fully developed, has been linked to additional health problems such as use of other substances, increased anxiety and depression, poor educational outcomes and other problems.

While the location of a cannabis retailer cannot ensure that youth won't frequent such businesses, having one next door to a place that they frequent often to receive the much-needed help and support they seek is bound to have an impact. It would be akin to an alcoholic attending an AA meeting directly next door to a bar. The frequent reminders that it is right there as they attend the building to focus on

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their wellness is a challenge that is not needed at such a difficult time. Addiction programs and supports strongly advocate avoidance of triggering situations until the person is well into their recovery and is feeling stronger and healthier to avoid relapse.

Thank you,

Sheila Markle, MSW RSW
Executive Director

Canadian Mental Health Association
Waterloo Wellington
Association canadienne pour la santé mentale
Waterloo Wellington

June 3, 2020

City of Guelph Committee of Adjustment
Council Chambers, Guelph City Hall
1 Carden St.
Guelph, ON N1H 3A1

Dear Sir/Madam,

We would like to express our opposition to the proposed permit for the retail sale of cannabis and related supplies on the property at 739 Woolwich Street, Guelph, ON. We ask that you not permit relief from the By-law requirements and allow for the retail sale of cannabis in close proximity to the proposed Canadian Mental Health Association of Waterloo Wellington (CMHA WW) Child & Youth Mental Health Centre/Community Youth Hub building based on the following grounds:

- Our municipality needs to uniformly maintain standards regarding the location of cannabis stores
- it is never advisable to put a vulnerable population into a known high-risk environment

Maintaining municipal standards regarding the location of cannabis stores

- The City of Guelph controls the provincially recommended zoning regulations that require cannabis stores to be at least 150 metres from schools, playgrounds and healthcare facilities. This regulation has been put in place to provide a geographic barrier to protect youth from readily accessing cannabis.
- The City of Guelph set a precedent this week by filing objections to two proposed Guelph cannabis stores due to their proximity to mental health services and a daycare (Guelph Today, June 2, 2020).

Children and youth with mental health and addiction problems are an "at-risk" population for using cannabis

- Research has shown that children and youth with mental health issues have often turned to cannabis, using it as "self-medication" to deal with anxiety and depression.
- Research also shows that children and youth consistently make inaccurate assessments of the risks associated with cannabis – they underestimate that overuse creates addiction, and they believe that because it is "natural and benign," which evidence shows not to be true. Tetrahydrocannabinol (THC) consumed at high levels can cause psychosis which, once occurring, may become a long term mental health concern. Consuming cannabis regularly has been shown to have long term impacts on the developing adolescent brain.
- The use of marijuana by teens has been shown to be detrimental to their developing brains. Research out of McGill (2019) found that children under the age of 18 who used marijuana in their teens were more likely as young adults to have incidences of depression, suicidal ideation and suicide attempts compared to those who didn't use cannabis in their teens.
- The logic that applies is the same common sense logic that suggests that locating a liquor store beside a rehab facility doesn't make sense – when options exist, there is no point in creating

predictable problems. Placing vulnerable children and youth into a high risk environment is not advisable.

For a child struggling with addiction and psychosis, dealing with the constant need to quiet their anxiety, having access to cannabis as a coping mechanism can be just too tempting. Locating a cannabis store next door to a mental health and addictions centre feels like it diminishes the importance of the large body of research that states the negative effects of cannabis on the undeveloped teenage brain. Allowing those two buildings to be located next door to one another presents the appearance that it is okay to use marijuana. As a parent I would not want my child going to a Youth Hub located next door to a cannabis store.

The building of the Child & Youth Mental Health Centre/Community Youth Hub for our community should take priority over the retail sale of cannabis in Guelph. We urge you to take the opinions of the CMHA Waterloo Wellington Board of Directors into account when making your decision.

Sincerely,

Molly Kriksic,
CMHA WW Board President

David Pell,
CMHA WW Board Vice-President

June 2, 2020

To whom it may concern,

As the Executive Director of Wyndham House, an agency that works daily to prevent, reduce and end youth homeless I am writing to express concern regarding plans for a cannabis retailer scheduled to open beside the new children's mental health center in Guelph. While I recognize that cannabis is legal, it is not legal for youth, and has serious and lasting repercussion for those with mental illness, and especially for youth and young adults. It is my understanding that this application poses an interesting issue. On one hand, we advocate for safe consumption practices when it comes to substances. And a regulated market in Ontario provides rules and standards on the production and sales of cannabis that do not exist in the black market. However, I am wanting to include my voice with CMHA Waterloo Wellington's opposition to this application. CMHA is planning a much-needed child and youth wellness hub next door to serve children, teens and young people up to 24-years old, which is being constructed specifically in the north end of Guelph where our data demonstrates are the highest needs in the City.

I am also mindful of evidence which suggests cannabis use can be harmful to a brain that is still developing, which is especially concerning given the age range of our clients at that location. Youth are at an increased risk as the brain is exceptionally susceptible to adverse effects during this stage of development. We in fact see the effects of addiction, and substance use including cannabis.

While I understand fully that children under 18 are not legally allowed to enter cannabis stores, having one next door to a wellness hub where youth may be receiving treatment for mental health and substance use behaviours creates a potential for influence. For those 19 over, the potential for influence is greater given they can legally buy cannabis and may indeed provide it to friends who are much younger. It is my hope that a more appropriate location for a cannabis retail store can be found, a location that is not directly beside a new youth wellness hub makes the most sense.

Respectfully,

Debbie Bentley-Lauzon
Executive Director,
Wyndham House

June 2, 2020

Dear Committee of Adjustment Members:

The Wellington Guelph Drug Strategy (WGDS) supports the request from Canadian Mental Health Association Waterloo Wellington (CMHA WW) to NOT locate a cannabis store on Woolwich Street beside the New Children and Youth Mental Health Hub based on the following grounds:

- Our municipality needs to uniformly maintain standards regarding the location of cannabis stores
- it is never advisable to put a vulnerable population into a known high-risk environment.

<u>Maintaining municipal standards regarding the location of cannabis stores</u>

- The City of Guelph controls the zoning regulations that require cannabis stores to be kept away from schools and playgrounds. This regulation has been put in place to provide a geographic barrier to protect youth from readily accessing cannabis.
- The WGDS believes that CMHA WW's Children and Youth Mental Health Hub should be classified as a "school" with regard to its location, since the population being served is primarily school-aged children.

<u>Children and youth with mental health and addiction problems are at "at-risk" population for using cannabis</u>

- Research has shown that children and youth with mental health issues have often turned to cannabis, using it as "self-medication" to deal with anxiety and depression.
- Research also shows that children and youth consistently make inaccurate assessments of the risk associated with cannabis – they underestimate that overuse creates addiction, and they believe that because it is 'natural" it is benign, which evidence shows not to be true. THC consumed at high levels can cause psychosis which, once occurring may become a long term mental health concern. Consuming cannabis regularly has been shown to have long-term impacts on the developing adolescent brain.
- The logic that applies is the same common sense logic that suggests that locating a liquor store beside a rehab facility doesn't make sense – when options exist, there is no point in creating predictable problems. Placing vulnerable children and youth into a high risk environment is not advisable.

Sincerely,

Kate Vsetula

Adrienne Crowder

Kate Vsetula, Co-Chair WGDS
Director of Community and Organizational Development

Adrienne Crowder, Manager WGDS

Canadian Mental Health Association
Waterloo Wellington
Association canadienne pour la santé mentale
Waterloo Wellington

June 2, 2020

City of Guelph Committee of Adjustment
Council Chambers, Guelph City Hall
1 Carden St.
Guelph, ON N1H 3A1

To Whom It May Concern:

As a child and adolescent psychiatrist I am thrilled to see the forward thinking of CMHA and several community partners in planning and building a welcoming youth centre. It sends a message to children and families that "you are important, we want to work with you on the difficulties you are having, and your community cares about you."

In my opinion potentially locating a cannabis retail store in close proximity to this centre undermines this message, and places youth at risk. I work every day with children and youth who make impulsive decisions and are easily influenced by what they see and hear. A cannabis store adjacent to where we are asking them to come, can prey upon this vulnerability.

The citizens of Guelph may not be fully aware of what a significant drug problem exits for the youth of your city. On our Child and Adolescent Inpatient Psychiatry unit in Kitchener, we admit youth everyday with serious mental health concerns from KW, Cambridge, Guelph and Rural Wellington. Substance abuse is a concern of course in all of those areas, but by far the most impaired youth, with the most serious substance use disorders complicating their mental health issues, consistently come from Guelph. The youth of your city are at risk and under siege from dangerous substance use influences, and I would encourage you to do everything possible to give them the best chance to be successful.

Sincerely,

Dr. John Heintzman, M.D. FRCP(C)
Physician Lead, CMHA Waterloo Wellington
Chief of Psychiatry, Grand River Hospital

Canadian Mental Health Association
Waterloo Wellington
Association canadienne pour la santé mentale
Waterloo Wellington

June 1, 2020

City of Guelph Committee of Adjustment
Council Chambers, Guelph City Hall
1 Carden St.
Guelph, ON N1H 3A1

To Whom It May Concern:

I am a psychiatrist working with our first episode psychosis program at CMHA. I am writing to express concern regarding plans for a cannabis retailer scheduled to open beside our new children's mental health center. While I recognize that cannabis is legal, it is not legal for youth, and has serious and lasting repercussions for those with mental illness, and especially for youth and young adults. Even before legalization, Canada's youth ranked first for their use of cannabis worldwide[1], and this continues to be a daily concern for the clients we serve through CMHA.

It has been well recognized that cannabis use in adolescents increases the risk of developing persistent psychosis and schizophrenia[2,3,4,5]. Cannabis use also decreases the age of onset by 2.7 years[6], which in developing brains often translates to worse prognosis and worse overall functioning and achievement. Furthermore, continued cannabis in those with psychosis, schizophrenia and bipolar illness results in worse prognosis, more relapse, and a more severe symptomatic course[6,7]. Cannabis is also known to cause psychotic episodes, of which 50% convert to schizophrenia[8]. In fact, of all licit and illicit substances, cannabis has the highest risk for inducing psychosis and schizophrenia. In my practice, I spend hours each day speaking with clients about their cannabis use, its impact on their psychosis and their overall functioning.

It is not only psychosis that is directly affected by cannabis. Its use in the developing brain has also been linked to increased risk of developing other substance abuse problems, worsened anxiety and depression, impaired neurological development, cognitive decline, diminished school performance, and diminished lifetime achieves[1]. MRI imaging has shown lower brain volumes and structural changes[1].

Many of the folks in my program identify that their cannabis use has contributed to their psychosis and very much want to stop. However, cannabis addiction, like any other addiction, is a mental illness and it can be difficult to discontinue use. Our youth already have to learn to say no to their peers, and in some cases, their family. Our youth have to learn how to navigate triggers and develop healthy coping skills in place of their cannabis use. The sight and smells of a cannabis store visible each time a youth comes to receive treatment at CMHA would be a difficult and cruel trigger for them to endure. The basic tenets of addiction treatment would recommend that an individual avoid triggering situations, places, and people, especially in the first 90 days after stopping their substance of choice (as the first 90 days have the highest risk of relapse).

Lastly, I would point out the Government of Canada guidelines prohibit promotion of cannabis to youth[9]. The very nature of having a cannabis storefront, clearly visible each time a youth arrives for their mental health appointment, will at the very least result in repeated reminders and a subversive advertisement that cannabis is legal, acceptable, and available. We know that youth are the most susceptible to advertisement, and even without posters or pictures, the mere existence of a storefront will act as an advertisement to youth. In the same way our cities would never consider allowing a cannabis store to

open beside an elementary or high school, I urge you to consider the similar harmful implications this store will have on our most vulnerable youth in Guelph.

I will end by quoting subsection 17(6) of The Cannabis Act and Cannabis Regulations[9]

"It is prohibited to promote cannabis, a cannabis accessory or a service related to cannabis under subsection 17(6) of the Cannabis Act by displaying a brand element of cannabis, of a cannabis accessory or of a service related to cannabis on any thing that is in a school, a public playground, a daycare facility or any other public place frequented mainly by young persons *or that is visible from such a place*. (section 104.19 of the Cannabis Regulations)"[9], italics mine.

Thank you,

Dr. Alexandra Paventi Douglas, M.D. FRCP(C)
Psychiatrist for 1st Step Early Psychosis (KW & Cambridge), CMHA Waterloo Wellington
Assistant Clinical Professor (Adjunct), Department of Psychiatry, McMaster University.
485 Silvercreek Parkway N. Unit 1
Guelph, ON N1K 7K5

1. Cannabis and Canada's children and youth. Position Statement. Canadian Peadiatric Society. May 3, 2017. https://www.cps.ca/en/documents/position/cannabis-children-and-youth
2. Moore TH, Zammit S, Lingford-Hughes A, et al. Cannabis use and risk of psychotic or affective mental health outcomes: a systematic review. Lancet. 2007;370:319-328.
3. Bechtold J, Hipwell A, LewisDA, et al. Concurrent and sustained cumulative effects of adolescent marijuana use on subclinical psychotic symptoms. Am J Psychiatry. 2016;173:781-789.
4. J. van Os, M. Bak, M. Hanssen, R. V. Bijl, R. de Graaf, H. Verdoux, Cannabis Use and Psychosis: A Longitudinal Population-based Study, ***American Journal of Epidemiology***. 15 August 2002. Volume 156, Issue 4; 319–327
5. Bourque J, Afzali MH, Conrod PJ. Association of Cannabis Use With Adolescent Psychotic Symptoms. ***JAMA Psychiatry.*** 2018;75(8):864–866. doi:10.1001/jamapsychiatry.2018.1330
6. Large M, Sharma S, Compton MT, et al. Cannabis use and earlier onset of psychosis: a systematic meta-analysis. Arch Gen Psychiatry. 2011;68(6):555-561.
7. Crockford, D, Addington D. Canadian Schizophrenia Guidelines: Schizophrenia and Other Psychotic Disorders with Coexisting Substance Use Disorders. Canadian Schizophrenia Guidelines. The Canadian Journal of Psychiatry. 2017, Vol. 62(9) 624-634
8. Niemi-Pynttäri JA; Sund R; Putkonen H; Vorma H; Wahlbeck K; Pirkola SP. Substance-induced psychoses converting into schizophrenia: a register-based study of 18,478 Finnish inpatient cases. J Clin Psychiatry. 2013; 74(1):e94-9
9. The ***Cannabis Act*** and ***Cannabis Regulations*** - Promotion prohibitions. Government of Canada. https://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/laws-regulations/promotion-prohibitions.html accessed June 01, 2020.

Canadian Mental Health Association
Waterloo Wellington

Association canadienne pour la santé mentale
Waterloo Wellington

June 1, 2020

City of Guelph Committee of Adjustment
Council Chambers, Guelph City Hall
1 Carden St.
Guelph, ON N1H 3A1

Dear Sir/Madam,

We would like to express our opposition to the proposed permit for the retail sale of cannabis and related supplies on the property at 739 Woolwich Street, Guelph, ON. We ask that you not permit relief from the By-law requirements and allow for the retail sale of cannabis in close proximity to the proposed Canadian Mental Health Association of Waterloo Wellington (CMHA WW) Children's Services and Youth Hub building.

As family members walking the path along side our children with mental health and addictions challenges, we are familiar with the number of barriers that exist between our children and getting the services they need. In the words of one of our children, age 16, "If a weed shop is next to a Youth Hub I guarantee that kids will want to try and influence their friends to try it. Even if they are under age there is always a way to get others to buy it for you or get fake ID".

The use of marijuana by teens has been shown to be detrimental to their developing brains. Research out of McGill (2019) found that children under the age of 18 who used marijuana in their teens were more likely as young adults to have incidences of depression, suicidal ideation and suicide attempts compared to those who didn't use cannabis in their teens.

For a child struggling with addiction and psychosis, dealing with the constant need to quiet their anxiety, having access to cannabis as a coping mechanism can be just too tempting. Locating a cannabis store next door to a mental health and addictions centre feels like it diminishes the importance of the research that states the negative effects of cannabis on the undeveloped teenage brain. By allowing those two buildings to be located next door to one another presents the appearance that it is okay to use marijuana. As a parent I wouldn't want to encourage my child to go to a Youth Hub located next door to a cannabis store.

The building of the Youth Hub for our community should take priority over the retail sale of cannabis in Guelph. We urge you to take the opinions of the CMHA Family Council into account when making your decision.

Sincerely,

CMHA Waterloo Wellington Family Council Members

Canadian Mental Health Association
Waterloo Wellington
Association canadienne pour la santé mentale
Waterloo Wellington

May 31, 2020

City of Guelph Committee of Adjustment
Council Chambers, Guelph City Hall
1 Carden St.
Guelph, ON N1H 3A1

To Whom It May Concern:

As a psychiatrist who works with the children and adolescents of Guelph daily, I feel obliged to warn against current plans to open a cannabis store next to the long-awaited (and desperately needed) Canadian Mental Health Association's Children's Mental Health Building. The children I will be working with there have a range of mental health concerns that often make them even more susceptible to addiction. I am aware the minors I work with will not legally be able to purchase cannabis from the proposed retail store. However, many of these children have adults in their lives who are willing to buy for them. Even for those who don't, passing a cannabis store immediately after an appointment may be all it takes to prompt them to use again as quickly as possible, from whatever source they usually access.

I spend a great deal of time educating the children under my care about the negative effects of cannabis, because many of them believe it's entirely harmless. In fact, for children like these with additional mental health concerns, the risks are actually significantly amplified. Cannabis has been proven to be addictive, to cause mood and anxiety disorders, and prompt psychotic illnesses. Cannabis use is a common reason for loss of focus and motivation with a devastating impact on school, work, and community involvement in the youth I see. There is substantial evidence that cannabis can cause changes in the developing brain that are long-lasting and negative. Further, there is no evidence cannabis has therapeutic value for youth, or for mental health more generally and it is not approved in Canada for treatment of youth or mental health conditions.

It is not unusual for me to have multiple adolescents a month end up in the emergency room with acute anxiety attacks or brief psychotic episodes secondary to cannabis use. It is not unusual for me to have adolescents develop a cyclical vomiting syndrome known to be caused by cannabis. Most, if not all, of the adolescents I see who do not finish high school are chronic cannabis users.

While I understand that cannabis is legal, opening a store next to a building that works night and day to educate the youth of Guelph about the negative impact this substance is having on their lives is sending the wrong message. There are many locations in Guelph where a Cannabis store would be a good fit: next to the city's primary access point for mental health and wellness for children and adolescents isn't it.

Sincerely,

M MacSween

Dr. Margaret MacSween, MSc, MD, FRCP(C)

Psychiatrist – Child & Adolescent Services
Assistant Clinical Professor (adjunct) – McMaster Department of Psychiatry and Behavioural Neurosciences
CMHA Waterloo Wellington
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Wolters Kluwer

Reference for Dr. MacSween's Letter dated May 31, 2020

Cannabis use and disorder: Epidemiology, comorbidity, health consequences, and medico-legal status

Author: David A Gorelick, MD, PhD **Section Editor:** Andrew J Saxon, MD **Deputy Editor:** David Solomon, MD

All topics are updated as new evidence becomes available and our peer review process is complete.

Literature review current through: Apr 2020. | **This topic last updated:** May 24, 2019.

INTRODUCTION

Cannabis (also called marijuana) is the most commonly used illegal psychoactive substance worldwide [1]. Its psychoactive properties are primarily due to one cannabinoid: delta-9-tetrahydrocannabinol (THC); THC concentration is commonly used as a measure of cannabis potency [2].

The legal status of cannabis use, for medical as well as recreational purposes, varies internationally as well as across the United States. The potency of cannabis has increased around the world in recent decades, which may have contributed to increased rates of cannabis-related adverse effects. Cannabis use disorder develops in approximately 10 percent of regular cannabis users, and may be associated with cognitive impairment, poor school or work performance, and psychiatric comorbidity such as mood disorders and psychosis.

The medico-legal context, epidemiology, comorbidity, and health consequences of cannabis use and cannabis use disorder in adults are reviewed here. The pathogenesis, pharmacology, clinical manifestations, course, assessment, diagnosis, and treatment of cannabis use disorder are reviewed separately. Acute cannabis intoxication is also reviewed separately. (See "Cannabis use and disorder in adults: Pathogenesis, pharmacology, and routes of administration" and "Cannabis use and disorder in adults: Clinical manifestations, course, assessment, and diagnosis" and "Treatment of cannabis use disorder in adults" and "Cannabis (marijuana): Acute intoxication".)

EPIDEMIOLOGY

Cannabis grows in nearly every country in the world.

Canna 4 million) worldwide in 2016, approximately 3.9 percent (range 3.4 to 4.8 percent) of the global population age 15 to 64 years [1]. This is a 16 percent increase in prevalence since 2006. Cannabis use is most prevalent in West and Central Africa (13.2 percent, 34.3 million users), North America (12.9 percent, 41.5 million users), and Oceania (11.0 percent, 2.9 million users), and least prevalent in East and South-East Asia (0.6 percent, 9.7 million users), Eastern and South-Eastern Europe (2.4 percent, 5.5 million users), the Caribbean (2.2 percent, 630 thousand users), and Central America (2.8 percent, 820 thousand users) [1].

A large, nationally representative, community-based, epidemiologic survey estimated the 2016 prevalence rate of past-year cannabis use in the community-dwelling United States population (12 years or older) at 13.9 percent (estimated 37.6 million users) and past-month use of 8.9 percent (estimated 24.0 million users) [3]. Cannabis use during the past month increased from 6.2 percent (estimated 14.5 million users) in 2003. The increase in cannabis use over the past decade has occurred largely in adults, rather than adolescents [4]. Cannabis use was initiated by 2.6 million individuals in 2016, almost half (46 percent) 12 to 17 years old [3].

Risk and protective factors for cannabis use include:

- Age – Cannabis use varies with age. The highest past-year prevalence is among young adults (18 to 25 years old) (33.0 percent); the lowest prevalence is among early adolescents (0.5 percent among 12 year olds and 2.8 percent among 13 year olds); past year prevalence is 11.0 percent among those 26 years or older [3]. Cannabis use is rare in those 65 years or older (3.3 percent). In 2016, the mean age of first-time cannabis users was 19.4 years [3].

- Sex – Men are almost twice as likely as women to have used cannabis over the past month, 11.3 versus 6.7 percent, respectively [3]. Men and women initiate cannabis use in roughly comparable numbers and at roughly comparable mean ages [3], suggesting that women may stop cannabis use at higher rates. Pregnant women are less than half as likely as nonpregnant women to have used cannabis in the past month, with rates substantially lower during the third trimester (2.3 percent) than the first trimester (10.4 percent) [3].

- Race and ethnicity – Cannabis use over the past month is more prevalent among those of mixed race (17.7 percent), , blacks or African Americans (11.1 percent), and Native Americans (13.6 percent) compared with the overall non-Hispanic United States population

(9.1 percent), and less prevalent among Asians (3.3 percent) [3]. Cannabis use among whites (9.0 percent), Pacific Islanders (8.6 percent), and Hispanics (7.7 percent) is comparable to that of the general population.

- Education – College graduates have a lower prevalence of cannabis use during the past month (6.6 percent) than do those with less education (8.3 to 11.3 percent) [3]. Full-time college students have the same rate of current use as do their non-student peers.

  The school experience strongly influences risk of cannabis use. Among adolescents enrolled in school, two- threefold greater prevalence of cannabis use during the past month is seen among adolescents with (compared with without) the following characteristics [3]:

  - Failing grades
  - Nonparticipation in extracurricular activities
  - Dislike of school
  - Others in grade who use cannabis, alcohol, or cigarettes

- Employment status – Those employed full-time or not in the labor force (eg, students, retired, disabled) have lower prevalence of cannabis use during the past month than do those working part-time (11.6 percent) or unemployed (7.5 and 4.8 versus 15 percent) [3].

- Income – Adults with income less than $20,000 USD annually have 2.5-times higher rates of cannabis use during the past year than adults with income of at least $70,000 USD annually (15.6 versus 5.9 percent) [5].

- Marital status – Unmarried adults are more likely to have used cannabis during the past year than are married adults or those widowed/separated (21.0 versus 5.5 versus 8.3 percent) [5].

- Legal status – Adults on parole, probation, or supervised release status are approximately three times more likely to have used cannabis in the past month than are individuals not in such legal status [3]. Adolescents with violent or illegal behavior in the past year are at least twice as likely as those without such behavior [3].

- Social network – Among adolescents, a positive relationship with parents and having parents, friends, or peers who disapprove of cannabis use are all associated with at least twofold lower prevalence of cannabis use over the past month [3].

- Religion – Adolescents with frequent attendance at religious services or strong religious beliefs are two to three times less likely to have used cannabis over the past month than those without such protective factors [3].

- Other substance use – Cigarette smokers and alcohol drinkers are each five to six times more likely than nonsmokers and nondrinkers to use cannabis [3]. Binge alcohol drinkers (binge means four to five drinks per drinking occasion) and heavy drinkers (five or more binges per month) are two and three and a half times more likely, respectively, to use cannabis than are non-binge alcohol drinkers [3].

- Geography – Prevalence of cannabis use over the past month in the United States varies somewhat by geographic characteristics [3]. Highest rates are found in the West (11.7 percent) and in large (>1 million population) metropolitan areas (9.5 percent). Lowest rates are found in the South (7.2 percent) and in rural areas (5.5 percent).

Patterns of use — Frequency of cannabis use varies widely among those not in treatment [3]. Almost one-quarter of current users use only one to two days per month, while two-fifths use at least 20 days monthly. Prospective longitudinal studies suggest several distinct patterns of use over time [6]:

- Early onset with persisting chronic use
- Late onset with increasing use over time
- Use limited to adolescence
- Occasional use which never increases

As an example, a prospective, longitudinal study that assessed a nationally representative sample of 26,204 community-dwelling United States adults at baseline and one year later found that 97.46 percent of the 12,786 individuals who had never used cannabis remained nonusers one year later [7]. Of the 5421 current (past-year) cannabis users at baseline, 72.5 percent were still using one year later, while 27 percent had stopped cannabis use. Of the 8074 past cannabis users (those who had stopped use more than one year before baseline), 89.31 percent remained nonusers one year later, while 10.42 percent had resumed use.

Two models have been proposed to explain the sequence of cannabis use in relationship to other psychoactive substance use: the sequential gateway model and the common liability model:

- **Sequential gateway model** – The classical “gateway” model holds that there is a typical sequence of initiation of use of psychoactive substances: first use (usually in adolescence) of legal substances (alcohol, tobacco), followed by cannabis use, and then use of more harmful illegal drugs such as stimulants, opiates, or hallucinogens. The model assumes a causal relationship across the sequence, so that prevention of cannabis use would likely prevent later use of other illegal drugs [8,9].

- **Common liability model** – Pre-existing environmental and genetic factors contribute to all

substance use and substance use disorders, so that use of a specific substance at one time is not a major factor in determining what substance is used at a later time [9].

Data from large, well-controlled, community-based epidemiologic studies and twin studies are generally not consistent with the sequential gateway model, but are often suggestive of the common liability model [9,10]. Cross-national studies suggest that the underlying prevalence of substance use in the population also influences the sequence of substance use [11].

Cannabis use disorder — An estimated 13.1 million individuals world-wide had moderate-severe cannabis use disorder in 2010, a point-prevalence of 0.19 percent [12]. Prevalence was greatest in young adult (20 to 24 years old) males living in high-income regions.

An estimated 4.0 million community-dwelling residents had current (use during past year) cannabis use disorder in the United States in 2016, a prevalence rate of 1.5 percent [3]. Approximately one in eight cannabis users had a cannabis use disorder (12.7 percent). A smaller, more detailed community-based epidemiologic survey found a doubling of the cannabis use disorder rate among adults over a comparable period, from 1.5 percent (standard error 0.08) in 2001 to 2002 to 2.9 percent (standard error 0.13) in 2012 to 2013 [5].

Users of cannabis over the past year are 7.6 (95% CI 4.8-12.0) times more likely than nonusers to develop cannabis use disorder over the next three years, after controlling for potential confounders [13]. Risk of developing cannabis use disorder increases with greater intensity of cannabis use.

There are substantial differences in population rates of cannabis use disorder over the past year among different sociodemographic groups. The risk of cannabis use disorder over the past year among cannabis users (so-called “conditional” cannabis use disorder) varies much less, suggesting that much of the variation in cannabis use disorder rates is more due to differences in rates of cannabis use than to differences in development of cannabis use disorder.

- Age – Prevalence of cannabis use disorder declines substantially with age in adults: 7.5 percent among young adults (18 to 29 years old), 1.3 percent among the middle-aged (45 to 64 years old), and 0.3 percent among older adults 65 years or older [5]. Adolescents (12 to 17 years old) have an intermediate prevalence (2.3 percent) [3].

- Sex – Adult men are more than twice as likely as adult women to have cannabis use disorder over the past year (4.2 versus 1.7 percent, respectively) [5].

- Education – Adults with at least some college education are less likely to have cannabis use disorder over the past year (2.5 percent) than are high school dropouts (3.3 percent) and high school graduates (3.7 percent) [5].

- Race and ethnicity – Native Americans (5.5 percent) and blacks (4.6 percent) have higher cannabis use disorder rates over the past year than whites (2.7 percent) and Asians (1.3 percent) [5]. Hispanics have a rate (2.8 percent) comparable to the general population (2.9 percent).

- Income – Cannabis use disorder rates decline with increasing income from less than $20,000 USD annually to at least $70,000 USD annually [5].

- Urban residence – The cannabis use disorder rate over the past year is greater in urban (3.1 percent) than in rural (2.3 percent) areas [5].

PSYCHIATRIC COMORBIDITY

Cannabis use and use disorder have high rates of comorbidity, in both directions, with several psychiatric disorders, including other substance use disorders. It is often unclear to what extent this is due to a direct causal relationship, the chance co-occurrence of two common conditions, or the presence of risk factors common to both conditions. (See "Co-occurring schizophrenia and substance use disorder: Epidemiology, pathogenesis, clinical manifestations, course, assessment and diagnosis", section on 'Etiologic theories'.)

The most rigorous information comes from large, representative community-based studies, preferably prospective longitudinal studies, rather than cross-sectional. Case series of patients in treatment are less informative, and subject to selection bias.

Alcohol — There is substantial bidirectional comorbidity between cannabis use or cannabis use disorder and alcohol use or alcohol use disorder. A cross-sectional survey of 36,309 community-living adults in the United States found those with current (past 12 months) alcohol use disorder were six times more likely compared with those without alcohol use disorder to have current cannabis use disorder (prevalence rate 10.9 percent [standard error 0.55], adjusted odds ratio 6.0, 95% CI 5.10-6.97). Those with current cannabis use disorder were three to four times more likely to have current alcohol use disorder (prevalence rate 59.4 percent [standard error 2.46], adjusted odds ratio 2.8, 95% CI 2.19-3.60 for men; 59.5 percent [standard error 3.52], adjusted odds ratio 3.8, 95% CI 2.33-6.48 for women) [14]. Prospective longitudinal surveys suggest that cannabis users are 2.0 (95% CI 1.4-2.7) [13] to 5.43 (95% CI 4.54-6.49) [15] times more likely to develop alcohol use disorder over the next three years than are nonusers. Among adults with a history of alcohol use disorder, cannabis use is associated with increased likelihood of persistent alcohol use disorder over the next three years compared with those without cannabis use (odds ratio 1.74, 95% CI 1.56-1.95) [15]. A majority of daily recreational cannabis users also binge

drink alcohol [16].

Tobacco — There is substantial bidirectional comorbidity between cannabis use or cannabis use disorder and cigarette smoking [17]. A cross-sectional survey of 36,309 community-living adults in the United States found those with current (past 12 months) tobacco (nicotine) use disorder about six times more likely than those without tobacco use disorder to have current cannabis use disorder (prevalence rate 8.1 percent [standard error 0.43], adjusted odds ratio 6.2, 95% CI 5.24-7.34) [18] and those with current cannabis use disorder about three times more likely to have current tobacco use disorder (prevalence rate 63.4 percent [standard error 2.31], adjusted odds ratio 3.0, 95% CI 2.43-3.66 for men; 64.8 percent [standard error 3.24], adjusted odds ratio 3.7, 95% CI 2.61-5.26 for women) [14]. A prospective longitudinal study of 34,653 United States adults found that cannabis users, compared with nonusers, were more likely to become cigarettes smokers (adjusted odds ratio 4.45, 95% CI 3.97-5.00) or daily smokers (adjusted odds ratio 2.90, 95% CI 2.10-4.00) [19] and to develop a moderate to severe tobacco use disorder (adjusted odds ratio 1.8, 95% CI 1.2-2.7) over the next three years, after controlling for demographic characteristics and presence of psychiatric disorders [13].

Opiates — A cross-sectional, nationally representative survey of 36,309 community-living United States adults found that individuals with current cannabis use disorder, compared with those without, were more likely to have current opioid use disorder (adjusted odds ratio 4.6, 95% CI 3.0-6.8), after controlling for sociodemographic characteristics, alcohol and cigarette use, and psychiatric diagnoses [20].

Stimulants — A cross-sectional, nationally representative survey of 36,309 community-living United States adults found that individuals with current cannabis use disorder, compared with those without, were more likely to have current cocaine use disorder (adjusted odds ratio 9.3, 95% CI 5.6-15.5) or prescription stimulant use disorder (adjusted odds ratio 4.3, 95% CI 2.3-7.9), after controlling for sociodemographic characteristics, alcohol and cigarette use, and psychiatric diagnoses [20].

Other psychoactive drugs — A cross-sectional, nationally representative survey of 36,309 community-living United States adults found that individuals with current cannabis use disorder, compared with those without, were more likely to have current sedative/hypnotic use disorder (adjusted odds ratio 5.1, 95% CI 2.9-9.0) or “club drug” (eg, MDMA, methamphetamine) use disorder (adjusted odds ratio 16.1, 95% CI 6.3-40.8), after controlling for sociodemographic characteristics, alcohol and cigarette use, and psychiatric diagnoses [20]. Individuals with current cannabis use disorder, compared with those without, had higher prevalence of current hallucinogen use disorder (1.7 percent [95% CI 1.0-3.0] versus 0.0 [95% CI 0.0-0.0]) and current inhalant/solvent use disorder (1.1 percent [95% CI 0.4-2,8] versus 0.0 [95% CI 0.0-0.1],

respectively), but adjusted odds ratios could not be calculated.

Mood disorders — There is substantial comorbidity between cannabis use/cannabis use disorder and mood disorders (depression, bipolar disorder). Secondary analyses of data from a representative sample of 43,093 community-based adults in the United States found that individuals with a lifetime mood disorder were two to three times more likely to have used cannabis during their lifetime compared with those without any psychiatric disorder [21] and to develop a cannabis use disorder after starting cannabis use [21,22]. Cross-sectional studies have found lifetime rates of cannabis use of approximately 70 percent and cannabis use disorder of approximately 30 percent among patients with bipolar disorder [23].

A systematic review of nine published community-based national epidemiologic surveys found a mean prevalence of 17 percent (range 10 to 30 percent) for current cannabis use disorder among respondents with bipolar disorder and a prevalence of 10 to 25 percent for bipolar disorder among respondents with current cannabis use disorder [24]. A systematic review by the same research group that included 78 published studies of inpatient and outpatient clinical populations found a 20 percent prevalence rate for cannabis use disorder among patients with bipolar disorder [25].

A systematic review of seven published prospective longitudinal cohort studies of adults with current mood disorder (five bipolar, two depressive) at baseline found that recent (prior six months) cannabis use was associated with higher levels of mood symptoms over time (2.5-month to five-year follow-up), compared with less intense or nonuse) [26].

Schizophrenia (nonaffective psychosis) — There is substantial comorbidity between cannabis use and schizophrenia; some experts believe that early cannabis use is a causal factor in developing schizophrenia. (See 'Psychotic disorders' below.)

Cross-sectional studies indicate that cannabis users have two- to threefold increased prevalence of schizophrenia compared with nonusers [27]. This association is stronger with earlier age of onset of use (eg, early adolescence), more intense cannabis use, and use of cannabis with high delta-9-tetrahydrocannabinol (THC) content and THC:cannabidiol ratio [28]. Secondary analyses of data from a representative sample of 43,093 community-living adults in the United States found that individuals with lifetime schizophrenia were two to three times more likely to have lifetime cannabis use than those without any psychiatric disorder [21] and to develop cannabis use disorder [21,22].

A systematic review of 53 published studies found that patients with schizophrenia-spectrum disorders had a 23.1 percent prevalence (range 4.5 to 81.1 percent) of cannabis use over the past 6 months and a 42.2 percent (range 19.2 to 89.1 percent) prevalence of lifetime use [29]. A

systematic review of 35 published studies found that patients with schizophrenia-spectrum disorders had a 16.0 percent (8.6 to 28.6 percent interquartile range) prevalence of current cannabis use disorder and a 27.1 percent (12.2 to 38.5 percent interquartile range) prevalence of lifetime cannabis use disorder [30].

The increased prevalence of cannabis use by people with schizophrenia is not likely explained by a shared genetic liability. A cross-sectional study of 6931 adults in the Netherlands Twin Registry found that a polygenic risk score for schizophrenia (derived from a large genome-wide association meta-analysis) accounted for no more than 0.5 percent of the variance in several cannabis use phenotypes, including lifetime and regular use, frequency and quantity of use, and age at initiation of use [31].

A prospective, national, register-based, birth cohort study in Denmark that followed 41,470 people with schizophrenia born in 1955 or later found an increased risk of all-cause mortality in those with cannabis use disorder (hazard ratio 1.24, 95% CI 1.04-1.48, p = 0.0174) [32].

Anxiety disorders — There is substantial comorbidity between anxiety disorders and cannabis use. A meta-analysis of 31 studies involving 112,000 individuals in 10 countries found associations between anxiety disorder and cannabis use (odds ratio = 1.24, 95% CI 1.06-1.45) or cannabis use disorder (odds ratio = 1.68, 95% CI 1.23-2.31) [33].

Secondary analyses of a representative survey of 43,093 community-based adults in the United States found that individuals with a lifetime anxiety disorder were two to three times more likely to have lifetime cannabis use than those without any psychiatric disorder [21] and to develop a cannabis use disorder after starting cannabis use [21,22].

A community-based, nationally representative survey of 36,309 adults in the United States found that one-quarter or more (23.4 percent, standard error 2.30 among men; 36.1 percent, standard error 3.74 among women) of respondents with current cannabis use disorder had a current anxiety disorder, although the adjusted odds ratios were not significant (1.2, 95% CI 0.88-1.56 for men; 0.8, 95% CI 0.58-1.23) [14]. Current prevalence rates for individual anxiety disorders among men and women were specific phobia 8.6 (standard error 1.50) and 9.9 (standard error 1.93) percent, respectively; generalized anxiety disorder 12.2 (standard error 1.88) and 19.9 (3.19) percent, respectively; social phobia 7.1 (standard error 1.42) and 7.2 (standard error 1.76) percent, respectively; and panic disorder 7.4 (standard error 1.20) and 15.2 (standard error 2.81) percent, respectively. None of the adjusted odds ratios were significant.

Posttraumatic stress disorder — Several community-based national epidemiologic studies found comorbidity rates of around 10 percent for current cannabis use disorder and posttraumatic stress disorder (PTSD). For example, a cross-sectional, nationally representative

survey of 36,309 community-living United States adults found the prevalence of current cannabis use disorder among those with current PTSD to be 9.4 percent (standard error 0.94) (adjusted odds ratio 4.3, 95% CI 3.15-4.67) [18] and the prevalence of current PTSD among those with current cannabis use disorder to be 12.3 percent (standard error 1.66) (adjusted odds ratio 1.7, 95% CI 1.12-2.57) for men and 26.9 percent (standard error 3.37) (adjusted odds ratio 1.6, 95% CI 1.01-2.48) for women [14].

A systematic review of four prospective longitudinal cohort studies of adults with PTSD at baseline found that current (prior month) cannabis use was associated with higher levels of PTSD symptoms over time, compared with comparison groups (less intense use or no use) [26].

Obsessive-compulsive disorder — A cross-sectional, nationally representative, household survey of 8841 adult Australians found a 19.9 percent (standard error 7.4) prevalence of obsessive-compulsive disorder among respondents with current cannabis use disorder, compared with 4.6 percent (standard 1.2) among current cannabis users without cannabis use disorder and 2.4 percent (standard error 0.2) among current nonusers [34]. However, the odds ratios for having obsessive-compulsive disorder were not different from one for current cannabis users with cannabis use disorder versus current users without cannabis use disorder (odds ratio 2.3, 95% CI 0.6-8.7) or for current nonusers versus current users without cannabis use disorder (odds ratio 0.8, 95% CI 0.4-1.6).

Attention deficit hyperactivity disorder — Two studies of large, unselected populations suggest a 20 to 30 percent comorbidity rate between attention deficit hyperactivity disorder (ADHD) and cannabis use disorder. A nationally representative survey of 33,488 community-living United States adults found about a 30 percent prevalence of lifetime cannabis use disorder (varying by ADHD subtype: inattentive, hyperactive-impulsive, or combined) among the 965 respondents with ADHD, compared with 5 percent among the 15,614 respondents without ADHD or ADHD-type symptoms (adjusted odds ratio 2.14 [adjusted for socioeconomic characteristics, conduct disorder, major depression, and anxiety disorder], 95% CI 1.58-2.90) [35]. The 17,009 respondents with ADHD-type symptoms (but not meeting full DSM-IV diagnostic criteria for ADHD) also had greater prevalence of lifetime cannabis use disorder (10 percent; adjusted odds ratio 1.29, 95% CI 1.20-1.38). A 2010 to 2011 study of 5103 male Swiss Army conscripts found a 21.9 percent prevalence of current cannabis use disorder among the 215 conscripts with current ADHD, compared with an 8.0 percent prevalence among conscripts without current ADHD (chi-square 48.43, $p < 0.001$) [36].

Personality disorders — There is substantial comorbidity between cannabis use disorder and several personality disorders, especially antisocial and obsessive-compulsive personality disorders. A community-based, nationally representative study of 36,309 adults in the United

States found high rates of current personality disorder in men and women with current cannabis use disorder: 48.2 (standard error 2.51) and 58.6 (standard error 3.17), respectively, two to three times the rate of those without cannabis use disorder (adjusted odds ratios 2.0, 95% CI 1.56-2.65 for men; 3.1, 95% CI 2.14-4.35 for women) [14]. Current prevalence of specific personality disorders included:

- Antisocial personality disorder: 21.8 (standard error 2.12) percent (adjusted odds ratio 1.5, 95% CI 1.08-2.02) for men; 16.1 (standard error 1.95) percent (adjusted odds ratio 1.7, 95% CI 1.13-2.58) for women.
- Borderline personality disorder: 39.1 (standard error 2.32) percent (adjusted odds ratio 2.0, 95% CI 1.46-2.67) for men.
- Schizotypal personality disorder: 24.9 (standard error 2.17) percent (adjusted odds ratio 1.3, 95% CI 0.98-1.85) for men; 33.5 (standard error 3.21) percent (adjusted odds ratio 2.0, 95% CI 1.26-3.18) for women.

Secondary analysis of an earlier community-based, nationally representative study of 43,093 adults in the United States found that cannabis users with any lifetime personality disorder were more than twice as likely to develop cannabis use disorder than those without any disorder (adjusted odds ratio 2.36, 95% CI 2.05-2.71) [22].

Respondents with lifetime cannabis use disorder were 10-fold more likely (odds ratio 10.2, 95% CI 8.77-11.88) to have lifetime antisocial personality disorder than those without cannabis use disorder [37]. Respondents with lifetime cannabis use disorder were also twice as likely to have lifetime childhood conduct disorder (2.2, 95% CI 1.65-3.03) and seven times more likely to have lifetime adult antisocial behavior (7.1, 95% CI 6.47-7.88). Women show this increased prevalence of personality disorders two-three times more than men.

A cross-sectional, population-based study of 1419 adult Norwegian twins found associations between antisocial personality disorder and lifetime cannabis use (beta = 0.23, 95% CI 0.19-0.28) and cannabis use disorder (beta = 0.26, 95% CI 0.21-0.31), after adjusting for age and sex [38]. Similar associations were found between borderline personality disorder and cannabis use (beta = 0.20, 95% CI 0.14-0.26) and cannabis use disorder (beta = 0.12, 95% CI 0.06-0.18). Genetic risks for these two personality disorders explained 32 to 60 percent of the total variance in cannabis use and cannabis use disorder.

ADVERSE EFFECTS OF CANNABIS USE

Cannabis use disorder constitutes a small proportion of the global burden of disease relative to other substance use disorders. Of the approximately two million total disability adjusted life-years lost to substance use disorders (not including tobacco), individual substance use disorders were [12]:

- Alcohol – 47 percent
- Opioids – 24.3 percent
- Amphetamines – 7.0 percent
- Cannabis – 5.5 percent
- Cocaine – 2.9 percent
- Other illicit drugs – 13.4 percent

Large-scale cross-sectional epidemiological studies and smaller prospective longitudinal studies have not found cannabis use to be associated with serious or chronic medical conditions or death from medical conditions [12,39]. Cannabis use is associated with injury and death from motor vehicle accidents [40-43]. As examples:

- A systematic review of 19 published studies found no evidence of an association between heavy cannabis use and adverse health outcomes, except for fatal motor vehicle crashes [39].

- A 2016 40-year longitudinal cohort study of 50,373 Swedish male military conscripts found a small association between heavy cannabis use (>50 times) at baseline (age 18 to 19 years) and overall mortality (hazard ratio 1.4, 95% CI 1.1-1.8) [44]. The association was similar in those with and without a history of psychotic disorder, suggesting that schizophrenia was not a major factor driving the increased mortality. The only specific causes of death associated with heavy cannabis use were infections, cardiovascular, and injuries of unknown cause, all of which showed a positive dose-response relationship with intensity of baseline cannabis use.

- A 13-year prospective longitudinal study of 3124 randomly recruited United States young adults found no association between baseline cannabis use at least four times per month and subsequent decline in self-reported general health [45].

- A 20-year prospective longitudinal study of a representative birth cohort of 1037 individuals born in Dunedin, New Zealand in 1972 to 1973 and recruited at age 18 years found no association between cannabis use or cannabis use disorder and self-reported physical health [46].

- However, a retrospective cohort study using the electronic health records of a four million-

member integrated health system found that the 2752 patients with cannabis use disorder in 2010 were about twice as likely as 2752 demographically matched patients without cannabis use disorder to visit the emergency department or have an inpatient hospitalization over the next five years (all adjusted odds ratios around 2.0 [adjusted for socioeconomic characteristics, tobacco use disorder, and medical comorbidity, but not for psychiatric comorbidity]) [47].

- A cross-sectional survey of a nationally representative sample of 14,715 United States adults aged 50 years or older found that current (past-year) cannabis users, compared with nonusers, were more likely to experience an injury (odds ratio 1.48, 95% CI 1.18-1.85) and to visit an emergency department (odds ratio 6.14) [7].

- Two meta-analyses found that recent cannabis use increased the risk of injury from motor vehicle accident by 32 percent (odds ratio 1.32, 95% CI 1.09-1.59) [42,43] or by 42 percent (odds ratio 1.42, 95% CI 1.19-1.71) [40,41]. A meta-analysis limited to the 10 studies which verified recent cannabis use by blood analysis found an increased risk of 97 percent (odds ratio 1.97, 95% CI 1.35-2.87) [40,41].

Psychosocial functioning and health — Adolescent cannabis use is strongly associated with lower educational attainment and increased use of other drugs, but not with school performance or psychological health; even the strong associations are not clearly causal:

- A systematic review of 16 higher quality prospective longitudinal studies found consistent associations for cannabis use with lower educational attainment, and with increased use of other illegal drugs [48]. A prospective longitudinal study of 1103 French young adults (22 to 35 years old) who had been followed for 19 years found initiation of cannabis use by age 16 years associated with failure to earn a high school degree, compared with those not using cannabis (odds ratio 1.77, 95% CI 1.22-2.55) [49]. Those who initiated cannabis use older than age 16 years had educational attainment comparable to cannabis nonusers.

- The systematic review found inconsistent associations for cannabis use with poor psychological health, and with problematic or criminal behavior [48]. None of the associations was definitely causal, with the possibilities of reverse causation, potential bias, or confounding factors.

- Two 2015 prospective longitudinal studies found no association for adolescent cannabis use with high school academic performance or mental health problems, after controlling for concurrent alcohol and tobacco use [6,50].

Brain structure and function — A systematic review of 56 published neuroimaging studies of

brain structure and function in adult cannabis users found consistent evidence of reduced hippocampal volume and lower hippocampal gray matter density in cannabis users relative to controls and no evidence for changes in whole brain volume; evidence for changes in other brain regions was inconsistent or inconclusive [51]. Functional neuroimaging studies (chiefly functional magnetic resonance imaging) suggested that adult cannabis users, relative to controls, have decreased neuronal activity in anterior cingulate cortex and right dorsolateral prefrontal cortex and increased functional connectivity across brain regions [51]. Findings for other brain regions were inconsistent or inconclusive. Abnormalities of neuronal activity were observed even when cognitive task performance was normal, suggesting that cannabis users may need to engage different levels of neuronal activation to achieve normal performance.

Neuropsychological effects — Cannabis acutely impairs a variety of neuropsychological functions in a dose-dependent manner, especially attention, concentration, episodic memory, and associative learning [52,53]. However, evidence of an association between regular cannabis use and long-term neurocognitive deficits is mixed [53,54].

While meta-analyses and systematic reviews of studies on cannabis-associated neuropsychological function in cannabis users generally show impairment, studies suggest its effects may be time limited [52-56]:

- A meta-analysis of 13 studies including cannabis users with at least one month of abstinence found no differences from nonusers on neuropsychological test performance [55]. This finding suggests that cannabis-associated impairment resolves over the time period needed to eliminate body stores of lipid-soluble cannabinoids.

- A systematic review and meta-analysis of 69 cross-sectional studies of adolescents and young adults (2152 cannabis users and 6575 comparison participants) showed a small overall effect size for reduced cognitive functioning in frequent cannabis users (d = -0.25; 95% CI -0.32 to -0.17) [56]. Five of eight domains were affected: learning, speed of information processing, delayed memory, attention, and aspects of executive function. Fifteen studies that required 72 hours or more of abstinence from cannabis before testing did not show an effect on cognitive functioning, suggesting the effects were time limited.

A review of three long-term prospective longitudinal studies suggested that greater cumulative intensity of cannabis exposure and earlier age of onset of cannabis use were associated with greater persistence of cannabis-associated impairment [57]. A more recent prospective longitudinal study of 5115 adults (aged 18 to 30 years at baseline) found that 84.3 percent were lifetime cannabis users at 25-year follow-up, while only 11.6 percent were current users [58]. Current cannabis use was associated with impaired verbal memory and slower cognitive processing speed. A linear regression analysis that excluded current cannabis users and

controlled for age, use of tobacco, alcohol, and other illegal drugs, and baseline cognitive function found cumulative lifetime cannabis use associated with impaired verbal memory, but not with processing speed or executive function.

Cannabis-induced psychosis — Cannabis use causes transient acute psychosis (cannabis-induced psychosis) in some users. It is not known whether this acute effect is related to the development of schizophrenia associated with chronic cannabis use. (See "Cannabis (marijuana): Acute intoxication", section on 'Toxic effects' and 'Psychotic disorders' below.)

A national registry study that identified 1492 patients who received a diagnosis of cannabis-induced psychosis in the Danish Psychiatric Central Research Register between 1994 and 2014 and followed them through August 2014 found a 41.2 percent (95% CI 36.6-46.2) conversion rate to schizophrenia, with 50 percent of men converting within 2.0 years and 50 percent of women within 4.4 years [59]. The hazard ratio for conversion to schizophrenia, compared with matched comparison subjects without a history of substance-induced psychosis, was 101.7 (95% CI 74.1-139.7).

Psychotic disorders — There is substantial evidence that chronic cannabis use, especially during adolescence, is associated with later development of schizophrenia. The mechanisms responsible for the association between cannabis use and schizophrenia remain unclear. Some experts believe that early cannabis use is a causal factor in developing schizophrenia.

A systematic review of 35 longitudinal studies found an increased risk of psychosis for those who ever used cannabis compared with those who did not (adjusted odds ratio 1.41, 95% CI 1.20-1.65) [60]. There was a significant dose-response relationship, with a twofold increase in risk among those who used cannabis most frequently (odds ratio 2.09, 95% CI 1.54-2.84). The review adjusted for several known confounding factors and excluded cohorts with identified mental illness or substance use problems at baseline.

A prospective longitudinal study of 6534 individuals born in northern Finland in 1986 and evaluated at age 15 to 16 years and again at age 30 years found an increased risk of psychosis for those who used cannabis at least five times by age 15 to 16 years, compared with those who had never used (adjusted hazard ratio 3.02, 95% CI 1.14-7.98) [61]. There was no increased risk for those who used cannabis one to four times. The analysis adjusted for several known confounding factors (eg, prodromal psychosis symptoms at baseline, parental psychosis, frequent alcohol use, daily tobacco smoking) and excluded individuals with a psychosis diagnosis at first evaluation.

Cannabis use exacerbates symptoms in patients with established psychotic disorders such as schizophrenia. A systematic review and meta-analysis of 24 published longitudinal studies

(involving 16,565 participants) found that cannabis use was associated with increased relapse, rehospitalization, and positive symptoms (but not negative symptoms), and poorer level of functioning [62]. A two-year, prospective longitudinal study of 220 adults with first-episode psychosis found a increased risk of relapse with hospitalization during periods of cannabis use (odds ratio 1.13; 95% CI 1.02-1.24) [63]. (See "Co-occurring schizophrenia and substance use disorder: Epidemiology, pathogenesis, clinical manifestations, course, assessment and diagnosis".)

Mood disorders — Most, but not all, prospective longitudinal studies have found that cannabis use or cannabis use disorder is associated with subsequent development of depression or bipolar disorder:

- **Depression** – A 2014 meta-analysis of 14 prospective longitudinal studies that controlled for depression at baseline found that heavy cannabis users had a 1.62 odds ratio (95% CI 1.21-2.16) for developing clinically diagnosed major depression or depressive symptoms, compared with light or nonusers [64]. As an example, a three-year prospective longitudinal study of a representative sample of almost 35,000 community-living United States adults found a bidirectional comorbidity between cannabis use disorder and major depressive disorder [65]. Individuals with cannabis use disorder at baseline had an adjusted odds ratio = 6.61 (95% CI 1.67-26.21) for major depressive disorder at follow-up, after controlling for likely confounding sociodemographic variables. However, a prospective longitudinal community-based study of 34,653 adults found cannabis users at no increased risk of developing a mood disorder (odds ratio 1.2, 95% CI 0.8-1.6) [13].

  A twin study concluded that comorbidity of cannabis dependence and major depressive disorder is probably due to genetic and environmental factors that predispose to both outcomes, rather than a direct causal relationship between cannabis use and depression [66].

- **Bipolar disorder** – A meta-analysis of two studies of individuals with bipolar disorder found cannabis use associated with a threefold increased risk (odds ratio = 2.97, 95% CI 1.80-4.90) for new onset of manic symptoms [67]. As an example, a three-year prospective longitudinal study of community-living United States individuals found that initiation of weekly to almost daily cannabis use was associated with increased incidence of bipolar disorder (adjusted odds ratio = 2.47 [95% CI 1.03-5.92]), while daily use was not associated with increased incidence (0.61 [0.36-1.04]) [68].

  Cannabis use has been found to be associated with earlier age of onset of first manic episode and more frequent mood episodes [23].

Anxiety disorders — Cannabis intake causes transient acute anxiety in many users. Two prospective longitudinal studies had conflicting findings regarding the association between long-term cannabis use and anxiety disorders:

- A prospective longitudinal community-based study of 34,653 United States adults found cannabis users at no increased risk of developing an anxiety disorder (odds ratio 1.0, 95% CI 0.8-1.3) [13].
- A 15-year prospective longitudinal study of 1943 Australian adolescents found daily cannabis use during adolescence associated with a 2.5-fold increased risk of anxiety disorder at age 29 years [69].

Pulmonary — Cannabis smoke contains many of the same respiratory irritants and carcinogens as tobacco smoke [70], although their effects may be moderated by the absence of nicotine [71]. Cannabis smoking acutely irritates the airways and is associated with transient cough, sputum production, wheezing, chest tightness, and airway inflammation, as well as bronchodilatation, which may account for past use of cannabis to treat asthma [70,72].

Cannabis smoking produces acute, transitory respiratory symptoms, but chronic cannabis use is not clearly associated with impaired pulmonary function:

- A systematic review and meta-analysis of 22 published, English-language studies (10 prospective cohort, 12 cross-sectional) found low-strength evidence suggesting that smoking marijuana is associated with cough (risk ratio, 2.04 [95% CI, 1.02 to 4.06]), sputum production (risk ratio, 3.84 [CI 1.62-9.07]), wheezing (risk ratio, 2.83 [CI 1.89-4.23]), and dyspnea (risk ratio, 1.56 [CI 1.33-1.83]) [73]. Evidence on the association between marijuana use and obstructive lung disease and pulmonary function was inconclusive, in part because many cannabis users had little exposure to cannabis, and some studies included smokers of both cannabis and tobacco.
- A systematic review of 12 interventional studies that evaluated the effect of a smoked cannabis challenge on lung function found an 8 to 48 percent decrease in airway resistance lasting up to one hour (eight studies), a 0.15 to 0.25 L increase in forced expiratory volume one (FEV1) (five studies), a 10 percent increase in peak airflow (one study), and immediate reversal of methacholine-induced or exercise-induced bronchospasm in asthma patients (one study) [72].
- A subacute study in which 28 healthy, young adult male cannabis users smoked cannabis cigarettes (2.2 percent delta-9-tetrahydrocannabinol) ad lib for 47 to 59 days (mean of 5.2 cigarettes/day) found decreases, compared with baseline, in FEV1 (3±1 percent), maximal

mid-expiratory flow rate (11±2 percent), plethysmographic specific airway conductance (16±2 percent), and diffusing capacity (8±2 percent) [74]. These findings suggest that regular cannabis smoking for six to eight weeks causes mild airway obstruction.

- A cross-sectional survey (2007 to 2010) of 6723 United States community-living adults (18 to 59 years old) found no association between cumulative cannabis use up to 20 joint-years and performance on standard spirometry tests (forced vital capacity [FVC], forced expiratory volume [FEV], or FEV/FVC) [75]. Greater cumulative use was associated with an odds ratio of 2.1 (95% CI 1.1, 3.9) for an abnormally low (<70 percent) FEV/FVC, which was due to increased FVC, rather than decreased FEV (unlike obstructive lung disease, which is typically associated with decreased FEV).

Limited evidence from small case series and case-control studies suggests that inhalation of cannabis vapor generated by electronic devices may be less irritating to the lungs than inhalation of cannabis smoke [76-78]. This suggestion has some biological plausibility, in that cannabis vapor has less hot gases and less toxic pyrolytic breakdown products, but remains to be confirmed by larger systematic studies.

Cancer — Molecular, cellular, and histopathological evidence, both in vivo and in vitro, plausibly suggests that cannabis smoking may cause cancer [79,80]; however, epidemiologic studies do not consistently show an association. The failure to observe an association may be due, in part, to substantial methodologic limitations in many studies, such as the difficulty controlling for important confounding factors, especially cigarette smoking, the assessment of cannabis use by retrospective self-report, and the small sample sizes for heavy cannabis users.

- **Lung cancer** – A 2006 systematic review of 19 studies evaluating the association between cannabis smoking and lung cancer found associations with alveolar macrophage dysfunction, oxidative stress, and bronchial mucosal abnormalities, but no association with lung cancer after adjusting for tobacco use [80]. A more recent review of six epidemiologic studies also found no association [79]. (See "Cigarette smoking and other possible risk factors for lung cancer", section on 'Marijuana and cocaine'.)

- **Head and neck cancer** – A review of 11 studies found some increased risk and some decreased risk associated with cannabis smoking, possibly due in part to differences in human papillomavirus status (a known causal factor in such cancers) [79]. A pooled analysis of five case control studies including 4029 cases and 5015 controls did not find an association between cannabis use and cancer of the head and neck [81]. (See "Epidemiology and risk factors for head and neck cancer", section on 'Tobacco products'.)

- **Testicular cancer** – A meta-analysis of three case-control studies found cannabis use at

least weekly associated with an increased risk (odds ratio of 2.59 [95% CI 1.60, 4.19]) for non-seminoma testicular cancer compared with never users [82]. There was inconsistent evidence regarding an association with seminoma tumors.

Cardiovascular — Cannabis intake acutely increases sympathetic activity and decreases parasympathetic activity, resulting in release of catecholamines, tachycardia, vasodilation, and an increase in cardiac output and myocardial oxygen demand with little or no increase in blood pressure [83,84]. These acute changes probably account for the orthostatic hypotension associated with cannabis use [85] and the association between cannabis smoking and acute myocardial infarction (although the absolute risk appears to be small).

A 2018 systematic review of 11 published English-language studies concluded that the overall evidence was of insufficient quality to judge whether cannabis use is associated with acute myocardial infarction or stroke, largely because of recall bias, inadequate assessment of cannabis exposure, and the predominance of low-risk cohorts with minimal cannabis exposure [86].

- **Myocardial infarction** – Cannabis smoking may be associated with a modest, short-lived increase in risk of acute myocardial infarction, even in individuals without a history of angina or hypertension. A prospective study followed 3886 adult inpatients with an acute myocardial infarction, 3.2 percent of whom had smoked cannabis within the prior year [87]. Cannabis smokers were less likely than nonsmokers to have a history of angina (12 versus 25 percent) or hypertension (30 versus 44 percent) at their index hospitalization. A case-crossover analysis found a 4.8-fold (95% CI 2.4, 9.5) increased risk of myocardial infarction in the first 60 minutes after cannabis use, which became nonsignificant by the second hour [87]. After a median 3.8 years of follow-up (1913 subjects), weekly cannabis users had a hazard ratio of 4.2 (95% CI 1.2-14.3) for subsequent mortality, compared with nonusers [88]. After up to 18 years of follow-up of the entire cohort, there was no longer any difference in mortality rate between cannabis smokers and nonsmokers (29 percent higher rate, 95% CI 0.81, 2.05) [89].

- **Stroke** – Cannabis use has been associated with stroke, although the absolute risk appears to be small. A review of 64 published cases of stroke associated with cannabis use found that the majority had characteristics suggesting causality, ie, a close temporal relationship, exclusion of other likely causes, and another stroke after reuse of cannabis [90]. A cross-sectional national survey of patients hospitalized for acute ischemic stroke found that cannabis users had a 17 percent increased likelihood of acute ischemic stroke compared with nonusers (odds ratio 1.17, 95% CI 1.15, 1.20) [91].

- **Atrial fibrillation** – Cannabis use has been associated with atrial fibrillation in a growing

number of case reports, although the absolute risk appears to be small [92,93].

Hyperemesis syndrome — Cannabinoid hyperemesis syndrome is a well-defined but apparently relatively rare syndrome involving episodic severe nausea and vomiting and abdominal pain which is relieved by exposure to hot water (shower or bath) [94-96]. Topical capsaicin has shown some benefit, but standard antiemetics and antidopamine agents are of little or no value [97]. The pathophysiology remains unknown, but patients are almost always daily cannabis users for at least one year and symptoms resolve within one to two days of cessation of cannabis use. (See "Cyclic vomiting syndrome", section on 'Chronic cannabis use'.)

Reproductive — Cannabis use has been found to be associated with several reproductive processes:

- **Spermatogenesis** – The endocannabinoid system is involved in regulation of the male reproductive system. In vitro and in vivo studies suggest that cannabis disrupts the hypothalamic-pituitary-adrenal axis, reduces spermatogenesis, and impairs several sperm functions, including motility, capacitation, and the acrosome reaction [98]. A cross-sectional study of 1215 Danish male military recruits who had smoked cannabis within the prior three months found that weekly or more frequent users had a 28 percent (95% CI -48, -1) lower sperm concentration and a 29 percent (95% CI -46, -1) lower total sperm count compared with less frequent users [99].

- **Prolactin** – Acute cannabis use probably has no effect on plasma prolactin levels, although some earlier, small studies showed either increases or decreases [100]. Chronic cannabis users have approximately 20 percent lower plasma prolactin levels than healthy nonusers [100].

- **Neonatal outcomes** – Cannabis use by pregnant women does not appear to affect fetal health or neonatal outcome [101]. As an example, a meta-analysis of 24 studies of the association between cannabis use during pregnancy and neonatal outcomes found a pooled odds ratio of 1.77 (95% CI 1.04-3.01) for low birthweight with any cannabis use (pooled mean difference 109.4 g, 95% CI 38.72-180.12) and increased risk of placement in the neonatal intensive care unit (pooled odds ratio 2.02, 95% CI 1.27-3.21) [102]. There was no cannabis-use association with neonatal body length, head circumference, gestational age, or Apgar score.

  Three retrospective studies of representative cohorts of pregnant women, each containing 8000 to 12000 women, controlled for known confounds such as alcohol and tobacco use [103-105]. All three studies found no adverse neonatal outcomes associated with cannabis use. The second study found that concurrent use of cannabis and tobacco was associated

with increased risks over tobacco use alone: preterm birth (adjusted odds ratio 2.6, 95% CI 1.3, 4.9), low birth weight (adjusted odds ratio 2.8, 95% CI 1.6, 5.0), and increased rates of pre-eclampsia (adjusted odds ratio 2.5, 95% CI 1.4, 5.0) [104]. Secondary analysis of data from a cohort of 1610 singleton, nonanomolous live births identified 2.7 percent with maternal cannabis use during pregnancy (self-report and/or testing of umbilical cord homogenate) [106]. Maternal cannabis use was not associated with adverse pregnancy outcomes (small for gestational age, spontaneous preterm birth, hypertensive disorders of pregnancy) (adjusted odds ratio 1.29, 95% CI 0.56-2.96 [adjusted for maternal tobacco use status and clinical and socioeconomic characteristics]), but was associated with increased neonatal morbidity (chiefly infection and neurologic) or death (adjusted odds ratio 3.11, 95% CI 1.40-6.91 [adjusted for tobacco and illicit drug use status and race]). (See "Substance use by pregnant women", section on 'Marijuana'.)

- **Breast milk** – Cannabinoids appear in breast milk, at levels estimated at 0.8 to 2.5 percent of the maternal dose [101,107]. Limited preclinical evidence suggests that cannabis use may reduce lactation by inhibiting prolactin secretion [108].

Liver — Cannabis use is not associated with acute hepatotoxicity [109]. Daily cannabis use worsens the progression of chronic viral hepatitis C infection. Two cross-sectional studies with a combined 585 consecutive patients with chronic hepatitis C infection undergoing liver biopsy (approximately half cannabis users) found daily cannabis smoking associated with more severe fibrosis (odds ratio 3.4, 95% CI 1.5-7.4) [110] and more severe steatosis (odds ratio 2.1, 95% CI 1.01-4.5) [111].

Dental — Cannabis smoking is associated acutely with dry mouth and irritated oral mucosa, chronically with leukoplakia, inflamed oral mucosa (cannabis stomatitis), increased risk of periodontal disease (gingivitis), and oral candidiasis [112]. A 20-year prospective longitudinal study of a representative birth cohort of 1037 individuals born in Dunedin, New Zealand in 1972 to 1973 and recruited at age 18 years found that cannabis use was associated with poorer periodontal health (beta = 0.10, 95% CI 0.05-0.16) [46].

Ophthalmologic — Cannabis causes conjunctival vasodilation (red eyes) and reduces intraocular pressure [113]. Effects of cannabis on vision are poorly understood, but may include increased photosensitivity and decreased visual acuity

MEDICO-LEGAL CONTEXT

Under the United Nations international Single Convention on Narcotic Drugs (as amended in

1972), the cannabis plant, cannabis resin and its extracts and tinctures are classified under Schedule I, meaning use should be allowed only for “medical and scientific purposes”; cannabis and cannabis resin are also in Schedule IV, meaning use should be limited to “medical and scientific research” [114]. In practice, the legal status of cannabis and its use in health care varies widely internationally [115]. Possession of small amounts is officially legal in Spain, Uruguay, and Canada (effective October 2018) and decriminalized in more than two dozen countries, chiefly in Europe and Latin America. Medical use is legal in more than two dozen countries, including Canada, Australia, and much of Europe. In the United States, cannabis is subject to contradictory legal regulation under state and federal law.

Cannabis and all phytocannabinoids (ie, compounds found in the Cannabis sativa plant) are classified as schedule I compounds under the United States Controlled Substances Act [116]. Schedule I compounds, which are considered to have “high potential for abuse” and “no currently accepted medical use in the United States,” are illegal to possess or use under federal law.

Medical use — As of August 2018, thirty-one US states, the District of Columbia, Puerto Rico, and Guam authorize medical use of cannabis, although not all programs are operational [117]. An additional 15 states have limited programs that authorize use of high cannabidiol/low delta-9-tetrahydrocannabinol (THC) cannabis formulations for treatment of childhood epilepsy, especially refractory seizures. Cannabidiol is a phytocannabinoid without psychoactive effects, so has little or no abuse liability. (See "Seizures and epilepsy in children: Refractory seizures and prognosis", section on 'Cannabinoids'.)

In these states, licensed clinicians can recommend or certify patients with certain specified conditions (which vary by state) to obtain medical cannabis from state-licensed dispensaries (or, in a few states, grow their own) [118]. Federal courts have ruled that such recommendations to patients are free speech protected under the First Amendment and do not violate federal laws regulating “prescribing” of controlled substances.

There are a handful of approved medical uses in numerous countries for cannabis, cannabis-derived products, or synthetic cannabinoids. (See 'Synthetic cannabinoids' below.)

A cannabis extract with equal proportions of THC and cannabidiol (nabiximols, Sativex) is approved for medical use in 27 countries (including Canada), but not in the United States, for treatment of pain and muscle spasticity due to multiple sclerosis. (See "Symptom management of multiple sclerosis in adults", section on 'Cannabinoids'.) A cannabis extract containing only cannabidiol (Epidiolex) was approved by the US Food and Drug Administration for the treatment of intractable childhood epilepsy but is not yet on the market.

Clinicians recommending cannabis for medical treatment should consider:

- Prior experience with cannabis – Patients with no prior experience with cannabis are more likely to experience the psychoactive effects as dysphoric rather than pleasurable. Patients who are regular cannabis users are more likely to be tolerant to some of the adverse effects, eg, cognitive and psychomotor impairment.

- Cannabinoid content – “Dosing” of cannabis is determined by the means of administration, frequency, and amount used as well as the cannabinoid content of the recommended strain (especially in terms of THC and THC:cannabidiol ratio). Some states require labeling of medical cannabis strains or dosing units with their content of major cannabinoids such as THC and cannabidiol. States that have legalized only low THC:high cannabidiol medical cannabis typically have a maximum permitted THC content.

- Route of administration:

  - Smoked and inhaled cannabis have a rapid onset of effect (typically minutes) and relatively short duration of action (typically two to four hours). These routes are preferred by some patients because they allow frequent and precise titration of dose to effect (eg, analgesia).

  - Oral cannabis has a slow onset of effect (typically half to one hour) and long duration of action (typically 4 to 12 hours). This may lead to inadvertent overdosing; when patients don’t experience effects as soon as they expect, they may take another dose, resulting in a cumulative overdose. This is especially likely by patients familiar with the rapid onset of smoked or inhaled cannabis.

- Drug interactions – THC has potential drug-drug interactions with other medications [119]. THC is a substrate for the CYP2C9 and CYP3A4 drug-metabolizing enzymes, so may interact pharmacokinetically with other substances metabolized by these enzymes, such as tricyclic antidepressants (2C9), protease inhibitors (3A4), or sildenafil (2C9, 3A4) [120]. The clinical significance of these interactions has not been established.

- Sedative effect – As a central nervous system (although not respiratory) depressant, THC potentiates the sedative effects of other central nervous system depressants such as alcohol and benzodiazepines. This additive interaction is especially relevant when driving or operating heavy machinery. As an example, a 2015 blinded controlled study of the effects of inhaled (vaporized) cannabis and oral alcohol on simulated driving performance found that a 5 mcg/L blood THC concentration combined with a 0.05 g/210 L breath alcohol concentration produced the same impairment as a 0.08 g/210 L alcohol concentration [121].

There is little information from controlled clinical trials regarding contraindications to use of medical cannabis. Based on known adverse effects of recreational cannabis use, it seems prudent to avoid recommending medical cannabis to individuals with a history of schizophrenia, a recent acute myocardial infarction or episode of cardiac tachyarrhythmia, or who must drive or operate heavy machinery.

Recreational use — As of January 2019, nine states and the District of Columbia will have authorized cannabis for recreational (as well as medicinal) use under state law. Not all the state programs were operational as of August 2018 [117]. Canada will have a recreational cannabis program operational in October 2018.

Synthetic cannabinoids — Synthetic cannabinoids have been approved in some countries for specific clinical indications.

Dronabinol (Marinol synthetic THC) and nabilone (a THC analogue, eg, Cesamet) are classified under schedule III of the Controlled Substances Act in the United States (and similar schedules in other countries) and approved by the US Food and Drug Administration for oral administration in the treatment of:

- Anorexia associated with weight loss in patients with AIDS. (See "Assessment and management of anorexia and cachexia in palliative care", section on 'Cannabis and cannabinoids'.)
- Nausea and vomiting associated with cancer chemotherapy in patients who have failed to respond adequately to conventional antiemetic treatments. (See "Prevention and treatment of chemotherapy-induced nausea and vomiting in adults", section on 'Poor emesis control/rescue therapy'.)

Dronabinol and nabilone are psychoactive, which is often experienced as an adverse effect by cannabis-naïve patients. They appear to have little abuse or diversion liability [122], perhaps because the oral route of administration does not provide the rapid onset and intense euphoria desired by the typical recreational drug user.

Synthetic cannabinoids are discussed further separately. (See "Cannabis use and disorder in adults: Pathogenesis, pharmacology, and routes of administration", section on 'Synthetic cannabinoids'.)

SOCIETY GUIDELINE LINKS

Links to society and government-sponsored guidelines from selected countries and regions

around the world are provided separately. (See "Society guideline links: Cannabis use disorder and withdrawal".)

SUMMARY

- Cannabis is the most commonly used illegal psychoactive substance, used by an estimated 192 million individuals worldwide (3.9 percent of the 15- to 64-year-old population in 2016 and an estimated 37.6 million community-living individuals (13.9 percent of those 12 years and older) in the United States in 2016. (See 'Cannabis use' above.)

- Rates of cannabis use in the United States are higher in young adult men with low incomes and no college education than among other population groups. Approximately one in eight current regular cannabis users develops a cannabis use disorder. (See 'Cannabis use' above and 'Cannabis use disorder' above.)

- Cannabis use before age 17 years is strongly associated with lower educational attainment and increased use of other drugs, but these associations are not clearly causal. (See 'Psychosocial functioning and health' above.)

- Individuals with cannabis use or cannabis use disorder often use other psychoactive substances, especially alcohol and tobacco. Substantial bidirectional comorbidity is seen between cannabis use disorder, schizophrenia, and several other psychiatric disorders, including depression, bipolar disorder (mania), anxiety disorders, and antisocial personality disorder. (See 'Psychiatric comorbidity' above.)

- Cannabis acutely impairs attention, concentration, episodic memory, associative learning, and motor coordination in a dose-dependent manner. Long-term cannabis use is associated with impairment of verbal memory and cognitive processing speed, which resolves after at least a month of abstinence. (See 'Neuropsychological effects' above.)

- Substantial evidence suggests that chronic cannabis use, especially during adolescence, is associated with later development of schizophrenia. The mechanisms responsible for the association between cannabis use and schizophrenia remain unclear. Some experts believe that early cannabis use is a causal factor in developing schizophrenia. (See 'Psychotic disorders' above.)

- Chronic cannabis use has not been found to be associated with serious or chronic medical conditions or death from medical conditions. Cannabis use is associated with injury and death from motor vehicle accidents. (See 'Adverse effects of cannabis use' above.)

- Cannabis smoking is associated with acute, transient respiratory symptoms, but chronic use is not associated with impaired lung function. (See 'Pulmonary' above.)
- Cannabis smoking acutely increases sympathetic activity and myocardial oxygen demand, and is associated with a small increased risk of myocardial infarction and stroke. (See 'Cardiovascular' above.)
- Cannabis use is also associated with periodontal disease, hyperemesis syndrome, and a lower sperm count. Hyperemesis syndrome is a relatively rare condition involving episodic severe nausea and vomiting and abdominal pain. Frequent cannabis smoking has been associated with a lower sperm count; the clinical significance of this finding is unknown. (See 'Dental' above and 'Hyperemesis syndrome' above and 'Reproductive' above.)

ACKNOWLEDGMENTS

The editorial staff at UpToDate would like to acknowledge John Bailey, MD, Robert DuPont, MD, and Scott Teitelbaum, MD, who contributed to an earlier version of this topic review.

REFERENCES

1. United Nations Office on Drugs and Crime, World Drug Report 2018, Vienna 2018.
2. Swift W, Wong A, Li KM, et al. Analysis of cannabis seizures in NSW, Australia: cannabis potency and cannabinoid profile. PLoS One 2013; 8:e70052.
3. Center for Behavioral Health Statistics and Quality, 2016 National Survey on Drug Use an d Health: Detailed Tables, Substance Abuse and Mental Health Services Administration, R ockville 2017.
4. Mauro PM, Carliner H, Brown QL, et al. Age Differences in Daily and Nondaily Cannabis Use in the United States, 2002-2014. J Stud Alcohol Drugs 2018; 79:423.
5. Hasin DS, Saha TD, Kerridge BT, et al. Prevalence of Marijuana Use Disorders in the United States Between 2001-2002 and 2012-2013. JAMA Psychiatry 2015; 72:1235.
6. Bechtold J, Simpson T, White HR, Pardini D. Chronic adolescent marijuana use as a risk

factor for physical and mental health problems in young adult men. Psychol Addict Behav 2015; 29:552.

7. Choi NG, DiNitto DM, Marti CN. Marijuana use among adults: Initiation, return to use, and continued use versus quitting over a one-year follow-up period. Drug Alcohol Depend 2018; 182:19.

8. Van Gundy K, Rebellon CJ. A Life-course Perspective on the "Gateway Hypothesis". J Health Soc Behav 2010; 51:244.

9. Vanyukov MM, Tarter RE, Kirillova GP, et al. Common liability to addiction and "gateway hypothesis": theoretical, empirical and evolutionary perspective. Drug Alcohol Depend 2012; 123 Suppl 1:S3.

10. Richmond-Rakerd LS, Slutske WS, Deutsch AR, et al. Progression in substance use initiation: A multilevel discordant monozygotic twin design. J Abnorm Psychol 2015; 124:596.

11. Degenhardt L, Dierker L, Chiu WT, et al. Evaluating the drug use "gateway" theory using cross-national data: consistency and associations of the order of initiation of drug use among participants in the WHO World Mental Health Surveys. Drug Alcohol Depend 2010; 108:84.

12. Degenhardt L, Ferrari AJ, Calabria B, et al. The global epidemiology and contribution of cannabis use and dependence to the global burden of disease: results from the GBD 2010 study. PLoS One 2013; 8:e76635.

13. Blanco C, Hasin DS, Wall MM, et al. Cannabis Use and Risk of Psychiatric Disorders: Prospective Evidence From a US National Longitudinal Study. JAMA Psychiatry 2016; 73:388.

14. Kerridge BT, Pickering R, Chou P, et al. DSM-5 cannabis use disorder in the National Epidemiologic Survey on Alcohol and Related Conditions-III: Gender-specific profiles. Addict Behav 2018; 76:52.

15. Weinberger AH, Platt J, Goodwin RD. Is cannabis use associated with an increased risk of onset and persistence of alcohol use disorders? A three-year prospective study among adults in the United States. Drug Alcohol Depend 2016; 161:363.

16. Hughes JR, Naud S, Budney AJ, et al. Attempts to stop or reduce daily cannabis use: An intensive natural history study. Psychol Addict Behav 2016; 30:389.

17. Agrawal A, Budney AJ, Lynskey MT. The co-occurring use and misuse of cannabis and tobacco: a review. Addiction 2012; 107:1221.

18. Hasin DS, Kerridge BT, Saha TD, et al. Prevalence and Correlates of DSM-5 Cannabis Use Disorder, 2012-2013: Findings from the National Epidemiologic Survey on Alcohol and Related Conditions-III. Am J Psychiatry 2016; 173:588.

19. Weinberger AH, Platt J, Copeland J, Goodwin RD. Is Cannabis Use Associated With Increased Risk of Cigarette Smoking Initiation, Persistence, and Relapse? Longitudinal Data From a Representative Sample of US Adults. J Clin Psychiatry 2018; 79.

20. Hayley AC, Stough C, Downey LA. DSM-5 cannabis use disorder, substance use and DSM-5 specific substance-use disorders: Evaluating comorbidity in a population-based sample. Eur Neuropsychopharmacol 2017; 27:732.

21. Martins SS, Gorelick DA. Conditional substance abuse and dependence by diagnosis of mood or anxiety disorder or schizophrenia in the U.S. population. Drug Alcohol Depend 2011; 119:28.

22. Lev-Ran S, Imtiaz S, Rehm J, Le Foll B. Exploring the association between lifetime prevalence of mental illness and transition from substance use to substance use disorders: results from the National Epidemiologic Survey of Alcohol and Related Conditions (NESARC). Am J Addict 2013; 22:93.

23. Bally N, Zullino D, Aubry JM. Cannabis use and first manic episode. J Affect Disord 2014; 165:103.

24. Hunt GE, Malhi GS, Cleary M, et al. Comorbidity of bipolar and substance use disorders in national surveys of general populations, 1990-2015: Systematic review and meta-analysis. J Affect Disord 2016; 206:321.

25. Hunt GE, Malhi GS, Cleary M, et al. Prevalence of comorbid bipolar and substance use disorders in clinical settings, 1990-2015: Systematic review and meta-analysis. J Affect Disord 2016; 206:331.

26. Mammen G, Rueda S, Roerecke M, et al. Association of Cannabis With Long-Term Clinical Symptoms in Anxiety and Mood Disorders: A Systematic Review of Prospective Studies. J Clin Psychiatry 2018; 79.

27. Gage SH, Hickman M, Zammit S. Association Between Cannabis and Psychosis: Epidemiologic Evidence. Biol Psychiatry 2016; 79:549.

28. van Winkel R, Kuepper R. Epidemiological, neurobiological, and genetic clues to the mechanisms linking cannabis use to risk for nonaffective psychosis. Annu Rev Clin Psychol 2014; 10:767.

29. Green B, Young R, Kavanagh D. Cannabis use and misuse prevalence among people with psychosis. Br J Psychiatry 2005; 187:306.

30. Koskinen J, Löhönen J, Koponen H, et al. Rate of cannabis use disorders in clinical samples of patients with schizophrenia: a meta-analysis. Schizophr Bull 2010; 36:1115.

31. Verweij KJ, Abdellaoui A, Nivard MG, et al. Short communication: Genetic association between schizophrenia and cannabis use. Drug Alcohol Depend 2017; 171:117.

32. Hjorthøj C, Østergaard ML, Benros ME, et al. Association between alcohol and substance use disorders and all-cause and cause-specific mortality in schizophrenia, bipolar disorder, and unipolar depression: a nationwide, prospective, register-based study. Lancet Psychiatry 2015; 2:801.

33. Kedzior KK, Laeber LT. A positive association between anxiety disorders and cannabis use or cannabis use disorders in the general population--a meta-analysis of 31 studies. BMC Psychiatry 2014; 14:136.

34. Teesson M, Slade T, Swift W, et al. Prevalence, correlates and comorbidity of DSM-IV Cannabis Use and Cannabis Use Disorders in Australia. Aust N Z J Psychiatry 2012; 46:1182.

35. De Alwis D, Lynskey MT, Reiersen AM, Agrawal A. Attention-deficit/hyperactivity disorder subtypes and substance use and use disorders in NESARC. Addict Behav 2014; 39:1278.

36. Vogel T, Dom G, van de Glind G, et al. Is attention deficit/hyperactivity disorder among men associated with initiation or escalation of substance use at 15-month follow-up? A longitudinal study involving young Swiss men. Addiction 2016; 111:1867.

37. Compton WM, Conway KP, Stinson FS, et al. Prevalence, correlates, and comorbidity of DSM-IV antisocial personality syndromes and alcohol and specific drug use disorders in the United States: results from the national epidemiologic survey on alcohol and related conditions. J Clin Psychiatry 2005; 66:677.

38. Gillespie NA, Aggen SH, Neale MC, et al. Associations between personality disorders and cannabis use and cannabis use disorder: a population-based twin study. Addiction 2018;

113:1488.

39. Calabria B, Degenhardt L, Hall W, Lynskey M. Does cannabis use increase the risk of death? Systematic review of epidemiological evidence on adverse effects of cannabis use. Drug Alcohol Rev 2010; 29:318.

40. Hostiuc S, Moldoveanu A, Negoi I, Drima E. The Association of Unfavorable Traffic Events and Cannabis Usage: A Meta-Analysis. Front Pharmacol 2018; 9:99.

41. Hostiuc S, Moldoveanu A, Negoi I, Drima E. Corrigendum: The Association of Unfavorable Traffic Events and Cannabis Usage: A Meta-Analysis. Front Pharmacol 2018; 9:564.

42. Rogeberg O, Elvik R. The effects of cannabis intoxication on motor vehicle collision revisited and revised. Addiction 2016; 111:1348.

43. Rogeberg O, Elvik R, White M. Correction to: 'The effects of cannabis intoxication on motor vehicle collision revisited and revised' (2016). Addiction 2018; 113:967.

44. Manrique-Garcia E, Ponce de Leon A, Dalman C, et al. Cannabis, Psychosis, and Mortality: A Cohort Study of 50,373 Swedish Men. Am J Psychiatry 2016; 173:790.

45. Kertesz SG, Pletcher MJ, Safford M, et al. Illicit drug use in young adults and subsequent decline in general health: the Coronary Artery Risk Development in Young Adults (CARDIA) Study. Drug Alcohol Depend 2007; 88:224.

46. Meier MH, Caspi A, Cerdá M, et al. Associations Between Cannabis Use and Physical Health Problems in Early Midlife: A Longitudinal Comparison of Persistent Cannabis vs Tobacco Users. JAMA Psychiatry 2016; 73:731.

47. Campbell CI, Bahorik AL, Kline-Simon AH, Satre DD. The role of marijuana use disorder in predicting emergency department and inpatient encounters: A retrospective cohort study. Drug Alcohol Depend 2017; 178:170.

48. Macleod J, Oakes R, Copello A, et al. Psychological and social sequelae of cannabis and other illicit drug use by young people: a systematic review of longitudinal, general population studies. Lancet 2004; 363:1579.

49. Melchior M, Bolze C, Fombonne E, et al. Early cannabis initiation and educational attainment: is the association causal? Data from the French TEMPO study. Int J Epidemiol 2017; 46:1641.

50. Meier MH, Hill ML, Small PJ, Luthar SS. Associations of adolescent cannabis use with

academic performance and mental health: A longitudinal study of upper middle class youth. Drug Alcohol Depend 2015; 156:207.

51. Nader DA, Sanchez ZM. Effects of regular cannabis use on neurocognition, brain structure, and function: a systematic review of findings in adults. Am J Drug Alcohol Abuse 2018; 44:4.

52. Crane NA, Schuster RM, Fusar-Poli P, Gonzalez R. Effects of cannabis on neurocognitive functioning: recent advances, neurodevelopmental influences, and sex differences. Neuropsychol Rev 2013; 23:117.

53. Curran HV, Freeman TP, Mokrysz C, et al. Keep off the grass? Cannabis, cognition and addiction. Nat Rev Neurosci 2016; 17:293.

54. Volkow ND, Swanson JM, Evins AE, et al. Effects of Cannabis Use on Human Behavior, Including Cognition, Motivation, and Psychosis: A Review. JAMA Psychiatry 2016; 73:292.

55. Schreiner AM, Dunn ME. Residual effects of cannabis use on neurocognitive performance after prolonged abstinence: a meta-analysis. Exp Clin Psychopharmacol 2012; 20:420.

56. Scott JC, Slomiak ST, Jones JD, et al. Association of Cannabis With Cognitive Functioning in Adolescents and Young Adults: A Systematic Review and Meta-analysis. JAMA Psychiatry 2018; 75:585.

57. Schulte MH, Cousijn J, den Uyl TE, et al. Recovery of neurocognitive functions following sustained abstinence after substance dependence and implications for treatment. Clin Psychol Rev 2014; 34:531.

58. Auer R, Vittinghoff E, Yaffe K, et al. Association Between Lifetime Marijuana Use and Cognitive Function in Middle Age: The Coronary Artery Risk Development in Young Adults (CARDIA) Study. JAMA Intern Med 2016; 176:352.

59. Starzer MSK, Nordentoft M, Hjorthøj C. Rates and Predictors of Conversion to Schizophrenia or Bipolar Disorder Following Substance-Induced Psychosis. Am J Psychiatry 2018; 175:343.

60. Moore TH, Zammit S, Lingford-Hughes A, et al. Cannabis use and risk of psychotic or affective mental health outcomes: a systematic review. Lancet 2007; 370:319.

61. Mustonen A, Niemelä S, Nordström T, et al. Adolescent cannabis use, baseline prodromal symptoms and the risk of psychosis. Br J Psychiatry 2018; 212:227.

62. Schoeler T, Monk A, Sami MB, et al. Continued versus discontinued cannabis use in patients with psychosis: a systematic review and meta-analysis. Lancet Psychiatry 2016; 3:215.

63. Schoeler T, Petros N, Di Forti M, et al. Association Between Continued Cannabis Use and Risk of Relapse in First-Episode Psychosis: A Quasi-Experimental Investigation Within an Observational Study. JAMA Psychiatry 2016; 73:1173.

64. Lev-Ran S, Roerecke M, Le Foll B, et al. The association between cannabis use and depression: a systematic review and meta-analysis of longitudinal studies. Psychol Med 2014; 44:797.

65. Pacek LR, Martins SS, Crum RM. The bidirectional relationships between alcohol, cannabis, co-occurring alcohol and cannabis use disorders with major depressive disorder: results from a national sample. J Affect Disord 2013; 148:188.

66. Lynskey MT, Glowinski AL, Todorov AA, et al. Major depressive disorder, suicidal ideation, and suicide attempt in twins discordant for cannabis dependence and early-onset cannabis use. Arch Gen Psychiatry 2004; 61:1026.

67. Gibbs M, Winsper C, Marwaha S, et al. Cannabis use and mania symptoms: a systematic review and meta-analysis. J Affect Disord 2015; 171:39.

68. Feingold D, Weiser M, Rehm J, Lev-Ran S. The association between cannabis use and mood disorders: A longitudinal study. J Affect Disord 2015; 172:211.

69. Degenhardt L, Coffey C, Romaniuk H, et al. The persistence of the association between adolescent cannabis use and common mental disorders into young adulthood. Addiction 2013; 108:124.

70. Gates P, Jaffe A, Copeland J. Cannabis smoking and respiratory health: consideration of the literature. Respirology 2014; 19:655.

71. Melamede R. Cannabis and tobacco smoke are not equally carcinogenic. Harm Reduct J 2005; 2:21.

72. Tetrault JM, Crothers K, Moore BA, et al. Effects of marijuana smoking on pulmonary function and respiratory complications: a systematic review. Arch Intern Med 2007; 167:221.

73. Ghasemiesfe M, Ravi D, Vali M, et al. Marijuana Use, Respiratory Symptoms, and

Pulmonary Function: A Systematic Review and Meta-analysis. Ann Intern Med 2018; 169:106.

74. Tashkin DP, Shapiro BJ, Lee YE, Harper CE. Subacute effects of heavy marihuana smoking on pulmonary function in healthy men. N Engl J Med 1976; 294:125.

75. Kempker JA, Honig EG, Martin GS. The effects of marijuana exposure on expiratory airflow. A study of adults who participated in the U.S. National Health and Nutrition Examination Study. Ann Am Thorac Soc 2015; 12:135.

76. Loflin M, Earleywine M. No smoke, no fire: What the initial literature suggests regarding vapourized cannabis and respiratory risk. Can J Respir Ther 2015; 51:7.

77. Biehl JR, Burnham EL. Cannabis Smoking in 2015: A Concern for Lung Health? Chest 2015; 148:596.

78. Lee DC, Budney AJ, Brunette MF, et al. Outcomes from a computer-assisted intervention simultaneously targeting cannabis and tobacco use. Drug Alcohol Depend 2015; 155:134.

79. Huang YH, Zhang ZF, Tashkin DP, et al. An epidemiologic review of marijuana and cancer: an update. Cancer Epidemiol Biomarkers Prev 2015; 24:15.

80. Mehra R, Moore BA, Crothers K, et al. The association between marijuana smoking and lung cancer: a systematic review. Arch Intern Med 2006; 166:1359.

81. Berthiller J, Lee YC, Boffetta P, et al. Marijuana smoking and the risk of head and neck cancer: pooled analysis in the INHANCE consortium. Cancer Epidemiol Biomarkers Prev 2009; 18:1544.

82. Gurney J, Shaw C, Stanley J, et al. Cannabis exposure and risk of testicular cancer: a systematic review and meta-analysis. BMC Cancer 2015; 15:897.

83. Thomas G, Kloner RA, Rezkalla S. Adverse cardiovascular, cerebrovascular, and peripheral vascular effects of marijuana inhalation: what cardiologists need to know. Am J Cardiol 2014; 113:187.

84. Pacher P, Steffens S, Haskó G, et al. Cardiovascular effects of marijuana and synthetic cannabinoids: the good, the bad, and the ugly. Nat Rev Cardiol 2018; 15:151.

85. Gorelick DA, Heishman SJ, Preston KL, et al. The cannabinoid CB1 receptor antagonist rimonabant attenuates the hypotensive effect of smoked marijuana in male smokers. Am Heart J 2006; 151:754.e1.

86. Ravi D, Ghasemiesfe M, Korenstein D, et al. Associations Between Marijuana Use and Cardiovascular Risk Factors and Outcomes: A Systematic Review. Ann Intern Med 2018; 168:187.

87. Mittleman MA, Lewis RA, Maclure M, et al. Triggering myocardial infarction by marijuana. Circulation 2001; 103:2805.

88. Mukamal KJ, Maclure M, Muller JE, Mittleman MA. An exploratory prospective study of marijuana use and mortality following acute myocardial infarction. Am Heart J 2008; 155:465.

89. Frost L, Mostofsky E, Rosenbloom JI, et al. Marijuana use and long-term mortality among survivors of acute myocardial infarction. Am Heart J 2013; 165:170.

90. Hackam DG. Cannabis and stroke: systematic appraisal of case reports. Stroke 2015; 46:852.

91. Rumalla K, Reddy AY, Mittal MK. Recreational marijuana use and acute ischemic stroke: A population-based analysis of hospitalized patients in the United States. J Neurol Sci 2016; 364:191.

92. Korantzopoulos P, Liu T, Papaioannides D, et al. Atrial fibrillation and marijuana smoking. Int J Clin Pract 2008; 62:308.

93. Korantzopoulos P. Marijuana smoking is associated with atrial fibrillation. Am J Cardiol 2014; 113:1085.

94. Schreck B, Wagneur N, Caillet P, et al. Cannabinoid hyperemesis syndrome: Review of the literature and of cases reported to the French addictovigilance network. Drug Alcohol Depend 2018; 182:27.

95. Sorensen CJ, DeSanto K, Borgelt L, et al. Cannabinoid Hyperemesis Syndrome: Diagnosis, Pathophysiology, and Treatment-a Systematic Review. J Med Toxicol 2017; 13:71.

96. Lapoint J, Meyer S, Yu CK, et al. Cannabinoid Hyperemesis Syndrome: Public Health Implications and a Novel Model Treatment Guideline. West J Emerg Med 2018; 19:380.

97. Richards JR. Cannabinoid Hyperemesis Syndrome: Pathophysiology and Treatment in the Emergency Department. J Emerg Med 2018; 54:354.

98. du Plessis SS, Agarwal A, Syriac A. Marijuana, phytocannabinoids, the endocannabinoid system, and male fertility. J Assist Reprod Genet 2015; 32:1575.

99. Gundersen TD, Jørgensen N, Andersson AM, et al. Association Between Use of Marijuana and Male Reproductive Hormones and Semen Quality: A Study Among 1,215 Healthy Young Men. Am J Epidemiol 2015; 182:473.

100. Ranganathan M, Braley G, Pittman B, et al. The effects of cannabinoids on serum cortisol and prolactin in humans. Psychopharmacology (Berl) 2009; 203:737.

101. Metz TD, Stickrath EH. Marijuana use in pregnancy and lactation: a review of the evidence. Am J Obstet Gynecol 2015; 213:761.

102. Gunn JK, Rosales CB, Center KE, et al. Prenatal exposure to cannabis and maternal and child health outcomes: a systematic review and meta-analysis. BMJ Open 2016; 6:e009986.

103. Conner SN, Carter EB, Tuuli MG, et al. Maternal marijuana use and neonatal morbidity. Am J Obstet Gynecol 2015; 213:422.e1.

104. Chabarria KC, Racusin DA, Antony KM, et al. Marijuana use and its effects in pregnancy. Am J Obstet Gynecol 2016; 215:506.e1.

105. Ko JY, Tong VT, Bombard JM, et al. Marijuana use during and after pregnancy and association of prenatal use on birth outcomes: A population-based study. Drug Alcohol Depend 2018; 187:72.

106. Metz TD, Allshouse AA, Hogue CJ, et al. Maternal marijuana use, adverse pregnancy outcomes, and neonatal morbidity. Am J Obstet Gynecol 2017; 217:478.e1.

107. Baker T, Datta P, Rewers-Felkins K, et al. Transfer of Inhaled Cannabis Into Human Breast Milk. Obstet Gynecol 2018; 131:783.

108. Barnett E, Sussman S, Smith C, et al. Motivational Interviewing for adolescent substance use: a review of the literature. Addict Behav 2012; 37:1325.

109. Pateria P, de Boer B, MacQuillan G. Liver abnormalities in drug and substance abusers. Best Pract Res Clin Gastroenterol 2013; 27:577.

110. Hézode C, Roudot-Thoraval F, Nguyen S, et al. Daily cannabis smoking as a risk factor for progression of fibrosis in chronic hepatitis C. Hepatology 2005; 42:63.

111. Hézode C, Zafrani ES, Roudot-Thoraval F, et al. Daily cannabis use: a novel risk factor of steatosis severity in patients with chronic hepatitis C. Gastroenterology 2008; 134:432.

112. Cho CM, Hirsch R, Johnstone S. General and oral health implications of cannabis use. Aust Dent J 2005; 50:70.

113. Yazulla S. Endocannabinoids in the retina: from marijuana to neuroprotection. Prog Retin Eye Res 2008; 27:501.

114. Wikipedia. Legality of cannabis by country. https://en.wikipedia.org/wiki/Legality_of_cannabis_by_country (Accessed on August 12, 2018).

115. Wikipedia. Legality of cannabis by country. https://en.wikipedia.org/wiki/Legality_of_cannabis_by_country (Accessed on September 28, 2016).

116. National Conference of State Legislatures. State medical marijuana laws. http://www.ncsl.org/research/health/state-medical-marijuana-laws.aspx (Accessed on August 12, 2018).

117. National Conference of State Legislatures. State medical marijuana laws. http://www.ncsl.org/research/health/state-medical-marijuana-laws.aspx (Accessed on February 12, 2018).

118. Sachs J, McGlade E, Yurgelun-Todd D. Safety and Toxicology of Cannabinoids. Neurotherapeutics 2015; 12:735.

119. Lindsey WT, Stewart D, Childress D. Drug interactions between common illicit drugs and prescription therapies. Am J Drug Alcohol Abuse 2012; 38:334.

120. Stout SM, Cimino NM. Exogenous cannabinoids as substrates, inhibitors, and inducers of human drug metabolizing enzymes: a systematic review. Drug Metab Rev 2014; 46:86.

121. Hartman RL, Brown TL, Milavetz G, et al. Cannabis effects on driving lateral control with and without alcohol. Drug Alcohol Depend 2015; 154:25.

122. Calhoun SR, Galloway GP, Smith DE. Abuse potential of dronabinol (Marinol). J Psychoactive Drugs 1998; 30:187.

Topic 7797 Version 24.0

BUILDING ON THE PROMISE OF YOUTH

June 2, 2020

Committee of Adjustment of the City of Guelph
Council Chambers, Guelph City Hall
1 Carden St.
Guelph, ON
N1H 3A1

To: The Committee of Adjustment of the City of Guelph

I am writing on behalf of the *Integrated Youth Services Network* (IYSN) of Wellington County and Guelph. The IYSN is a grass roots initiative, led by the Rotary Club of Guelph, to realize at least seven (7) physical sites across the area where youth, between the ages of 12 and 26, can partake in a variety of programs and services in a "one stop shop" format. For example, youth may want to upgrade their education, learn how to create a resume, have a musical jam session, receive counselling for mental health and addictions, visit a nurse practitioner or simply do their homework in a quiet space.

For the past year, the IYSN has been working with CMHA Waterloo Wellington and the respective development team, architects, designers and youth in order to occupy up to 8,000 square feet of the first floor of the building at 735 Woolwich Street, Guelph, ON. Extensive thought, time and effort has been put into the space planning in order to ensure it is welcoming, safe and functional for the youth. We expect that some youth will be vulnerable and at risk and others may not be. The IYSN is all about health promotion, injury prevention, early identification and intervention.

The use of marijuana by teens has been shown to be detrimental to their developing brains. Research out of McGill (2019) found that children under the age of 18 who used marijuana in their teens were more likely as young adults to have incidences of depression, suicidal ideation and suicide attempts compared to those who didn't use cannabis in their teens. For a child struggling with addiction and psychosis, dealing with the constant need to quiet their anxiety, having access to cannabis as a coping mechanism can be just too tempting.

To this end, the IYSN would like to express its opposition to the proposed permit for the retail sale of cannabis and related supplies on the property at 739 Woolwich Street, Guelph, ON. The close proximity to the soon to be new site of child and youth programming for the Canadian Mental Health Association Waterloo Wellington (CMHA WW), as well as the premier space for the north Guelph site of a Youth Hub for the IYSN is unacceptable.

Please consider these facts as you deliberate on the issue.

Sincerely,

Cyndy Moffat Forsyth
Chair, Partnership Table of the IYSN