

Agenda – City Centre Community Committee – April 9, 2019

PUBLIC HEARINGS

**Item No. 4 Subdivision and Rezoning – 206, 216, 218, 228, 230, 236, 244 and 248
Good Street
(Fort Rouge – East Fort Garry Ward)
File DASZ 28/2018 [c/r DAV 184543/2018D]**

WINNIPEG PUBLIC SERVICE RECOMMENDATION:

1. That development application No. DASZ 28/2018 for the subdivision and rezoning of land at 206-248 Good St. be adjourned.

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File: DASZ 28/2018
Applicant: Ironclad Developments Inc. (Gavin Williamson)
Subject:



Premises Affected: 206, 216, 218, 228, 230, 236, 244 and 248 Good Street

- Exhibits Filed:
1. Application dated December 21, 2018
 2. Notification of Public Hearing dated February 13, 2019
 3. Manitoba Status of Titles 1499761/1, 1575921/1, 1687075/1, 1687078/1, 2143969/1, 2167707/1, 2167709/1, 2167711/1 and 2338083/1
 4. Letter of authorization dated November 28, 2018 from Michelle Rasmussen, Kerry Rasmussen, The Parking Authority Inc. and A Parking Spot Company Inc. to Gavin Williamson, Ironclad Developments Inc.

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- Exhibits Filed (continued):
5. Surveyor's Building Location Certificate and sketch dated between April 26, 2018 and May 10, 2018
 6. Caveat 232925
 7. Plans (20 pages)
 8. Report from the Urban Planning Division dated April 2, 2019
 9. Inspection Report

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The Winnipeg Public Service to advise that all statutory requirements with respect to this application have been complied with.

REPRESENTATIONS:

In Support:

In Opposition:

For Information:

For the City:

Moved by Councillor

That the report of the Winnipeg Public Service be taken as read.

Moved by Councillor

That the receipt of public representations be concluded.

Moved by Councillor

That the recommendation of the Winnipeg Public Service be concurred in / not be concurred in and forwarded to the Executive Policy Committee via the Priority Rezoning Process / Standing Policy Committee on Property and Development, Heritage and Downtown Development.

Moved by Councillor

That the following supporting reasons be provided, namely:

Moved by Councillor

That the public hearing with respect to this application be concluded.

ADMINISTRATIVE REPORT

Title: DASZ 28/2018 – 206-248 Good St

Issue: For consideration at the public hearing for a subdivision and rezoning for the construction of a 6-storey, 145-unit residential building.

Critical Path: City Centre Committee as per the Development Procedures By-law and The City of Winnipeg Charter.

AUTHORIZATION

Author	Department Head	CFO	CAO
B. Smith, RPP	n/a	n/a	n/a

RECOMMENDATIONS

1. That development application No. DASZ 28/2018 for the subdivision and rezoning of land at 206-248 Good St. be **adjourned**.

REASON FOR THE REPORT

- Rezoning applications require a Public Hearing as per the *Development Procedures By-law* and *The City of Winnipeg Charter*.
- The Report is being submitted for the Committee’s consideration of the development application at the Public Hearing.

IMPLICATIONS OF THE RECOMMENDATIONS

If the recommendations of the Urban Planning Division are concurred in, the subdivision and rezoning for DASZ 29/2018 – 206-248 Good St. will be **adjourned**.

Reasons for the Public Service recommendation of adjournment are listed on pp. 8-11 of this report.

HISTORY

On July 30, 2018, the applicant filed a pre-application with the City and received a feedback report on August 24, 2018.

CONSULTATION

In preparing this Report there was consultation with:
All City departments as part of the pre-application process.

SUBMITTED BY

Department: Planning, Property and Development
Division: Urban Planning
Prepared by: Andrew Ross, RPP, MCIP
Date: April 2, 2019
File No: DASZ 28/2018

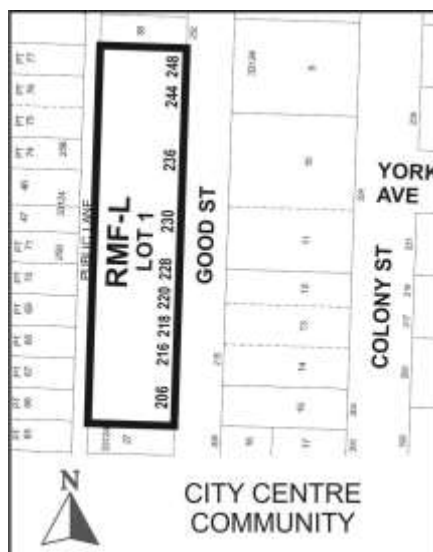
APPENDIX 'A'

DATE: April 2, 2019
FILE: **DASZ 28/2018**
RELATED FILES: DAV 18-184543D
COMMUNITY: City Centre Community
NEIGHBOURHOOD #: **103** - West Broadway

SUBJECT: For a subdivision and rezoning for DASZ 29/2018 – 206-248 Good St, for the construction of a 6-storey, 145 unit residential building.

LOCATION: 206 Good ST

LEGAL DESCRIPTION: LOT 28/29 PLAN 33124 84/85 ST JA



APPLICANT: Gavin Williamson
57158 Symington 20E RD Unit 101
Springfield , Manitoba R2J 4L6

OWNER: 845 DAKOTA ST 23
Winnipeg , Manitoba R2M 5M3

SITE DESCRIPTION

The subject property is located on the west side of Good Street mid-way between Broadway Avenue to the south and St. Mary Avenue to the north. It is located in the West Broadway neighbourhood of the Fort Rouge – East Fort Garry ward.

The property is identified as being located within a Mature Community in the *Complete Communities Direction Strategy*.

The property is currently zoned “R2” – Residential Two-family. The proposed subdivision would combine eight (8) contiguous lots into one (1) lot with a size of 36,230 sq. ft. (.83 ac.), with a total frontage of 390 ft. along Good Street.

The property is currently vacant aside from one single family dwelling located at 230 Good Street, which will be demolished as part of the development.



Figure 1: Aerial Photo of Subject Site and Surrounding Uses (flown 2018)

SURROUNDING LAND USE AND ZONING (See Figure 2)

North: Two-family residential uses (zoned “R2” – Residential Two-family).

South: Multifamily residential uses (zoned “R2” – Residential Two-family).

East: Good Street, then multifamily and surface parking uses (zoned “C2” – Commercial Community, “C1” – Commercial Neighbourhood, and “RMF-L” – Residential Multifamily (Large)).

West: Rear lane, then Single Family, Two-family, and multifamily residential uses (zoned “R2” – Residential Two-family).



Figure 2: Zoning of site and surrounding area.

DESCRIPTION OF THE PROPOSED DEVELOPMENT

The applicant seeks approval to subdivide and rezone the subject lands from an “R2” – Residential Two-family District to an “RMF-L” - Residential Multifamily (Large) District.

The proposed subdivision would combine eight (8) contiguous lots into one (1) lot with a size of 36,230 sq. ft. (.83 ac.), with a total frontage of 390 ft. along Good Street.

The rezoning would allow for the development of a six storey multifamily residential building with 145 units.

The proposal includes partially below-ground parking, a gym, a theatre, and bicycle storage.

The development requires variances for dwelling unit density, front yard, north and south side yards, rear yard, parking, landscaping, length of parking stalls off the lane, buffering of parking, and parking lot interior landscaping. See the Administrative Report for Associated File No. DAV 18-184543/D for more information.

ANALYSIS AND ISSUES

COMPLETE COMMUNITIES DIRECTION STRATEGY

As per the *Complete Communities Direction Strategy*, the proposed development falls within the Areas of Stability – Mature Communities policy area. Key policies guiding development within Areas of Stability include:

- Support low to moderate change in low-density neighbourhoods through development and redevelopment that is complimentary to the existing scale, character and built form.
- Support Complete Communities by ensuring diverse and high quality housing stock.
- In order to meet the full life-cycle of housing needs within the community, promote a mix of housing type and tenure, such as duplexes, low rise apartments, secondary suites, semi-detached homes, townhouses.

The proposal to rezone this property to “RMF-L” supports a moderate density increase to a Mature Community in a location directly adjacent to downtown, and adds to the mix of housing types in the neighbourhood in alignment with goals of Complete Communities.

BUILDING HEIGHT

A maximum height of 6 storeys is supportable in this context, which has building heights ranging from 1-6 storeys.

DENSITY

The maximum density for RMF-L is 400 sq. ft. of lot area per dwelling unit, which would allow 90 units. The proposal is for a density of 249.86 sq. ft. of lot area per dwelling unit, allowing the proposed 144 units.

The Urban Planning Division may support minor density variances provided Charter requirements can be satisfied. Prior to the submission of their application, the Division indicated to the applicant that the large density variance being requested in this case will warrant a close review of all development and design factors with the proposal.

TRANSPORTATION AND SITE ACCESS

- **Pedestrian access**
Pedestrian access to the building is via a central front entrance, a rear building entrance, and raised individual entrances for main-level units facing Good Street.
- **Cycling access**
Bicycle access to the building is via the central access and a bike parking room on the main level or bike stalls located in the parkade.
- **Vehicular access**
Vehicular access to the development is comprised of a central front approach off Good St. to the parkade, and rear lane access to parking stalls off the lane. A turn movement analysis provided by Dillon Consulting Ltd. shows functional flow for access and egress to and from the parkade.
Front vehicular approaches are generally not ideal because they cause conflicts between drivers and sidewalk pedestrians, and they fragment the public sidewalk. When a rear lane exists for access, generally front approaches are not encouraged. In this case, given Public Works identified the need for an approach given the scale of the development, the Urban Planning Division supports the approach. The Division conveyed to the applicant that if a front approach is provided, it should be take into account the following considerations:

- The approach be designed as a level-crossing sidewalk with brick pavers as surface treatment. This will help calm vehicular entry/ exit traffic and increase safety for pedestrians.
- The Urban Planning Division will be happy to review options for this once a concept is drawn-up. Public Works will also require review as they are the approving authority for approaches.

It is unclear from the drawings at this stage if these considerations for the approach are taken into account.

- Lane width
The Department of Public Works requires that the applicant widen the existing rear public lane right-of-way by 1.373m abutting the subject properties.
- The Department of Public Works did not require a transportation study for this development.

PARKING

A parking study prepared by Dillon Consulting Ltd. was provided by the applicant. The Study indicates that the shortage of required off-street parking for the development can be addressed through locational efficiencies (walkable neighbourhood, located adjacent to downtown), and due to the presence of high frequency transit, nearby pedestrian and cycling routes, and the availability of on-street parking spaces in the study area at all six (6) observation periods.

TREES

Public

The City of Winnipeg Parks Division indicates that given the development is mid-high rise set close to the sidewalk, the building will significantly impact the existing boulevard trees (damage, stress and soil compaction at root zone).

Urban Forestry Branch inspected the site and provided the valuation for eleven City boulevard trees potentially needing removal as a result of the development. Tree replacement or compensation will be required.

Private

An arborist report prepared by Shelemy Arborist Services was provided by the applicant. The Report indicates that there are six trees within 2 metres or less of the property line that will require protection or removal during construction. This includes 2 elms, 1 Ash, and 3 maples. The report outlines measures the developer should take to preserve the appropriate trees.

WATER AND WASTE SERVICING

The City of Winnipeg Water and Waste Department has indicated the following to the developer:

- Water service

There is not adequate fire flow for the proposed development. The proponent shall either:

- Propose building construction upgrades to demonstrate compliance with fire flow requirements (described at <http://winnipeg.ca/waterandwaste/dept/waterdemand.stm>) at the building permit stage. In order to achieve adequate fire flow, measures such as splitting the building area with a firewall, adding a sprinkler system and/or upgrading to non-combustible construction are needed;
 - Reduce the proposed density and adjust their proposed site plan to match existing service levels; or
 - Provide a servicing report, prepared by a qualified municipal engineer to the satisfaction of the Director of Water & Waste, outlining the water service upgrades required for the proposed development. The applicant would be required enter into a Servicing Agreement to upgrade, at no expense to the City, all water mains required to service the Planned Area, as indicated by the servicing report prepared by the municipal engineer.
- Wastewater & Land Drainage
The proposed development is located in a combined sewer district. The sum of the wastewater and land drainage runoff peak discharge from the proposed development cannot exceed the allowable discharge rate:
 - The allowable discharge rate will be the sum of the existing peak wastewater and the peak land drainage discharged.
 - The peak land drainage discharged from the site must be based on a c-value of 0.60, with a 5 year rainfall event applied.
 - The existing and proposed peak wastewater discharge must be estimated using the Wastewater Flow Estimation guidelines found on the City of Winnipeg website
 - (<http://winnipeg.ca/waterandwaste/dept/wastewaterFlow.stm>), unless otherwise approved.

Winnipeg Transit, Fire Paramedic Service, and Local Improvements did not note any concerns.

PUBLIC CONSULTATION

The applicant held an open house at All Saints Anglican Church on September 12, 2018. The applicant indicates that the feedback was largely positive, with some residents concerned about housing affordability. The applicant also engaged with the West Broadway BIZ and the West Broadway Community Organization.

REASONS FOR RECOMMENDATION OF ADJOURNMENT

As noted, the applicant is requesting a large density variance (62% above the maximum density permitted in the highest density residential category – RMF-L – Residential Multifamily -Large).

Beginning with the Public Service feedback letter from the pre-application process as well as in subsequent meetings, the Urban Planning Division indicated to the applicant that in order to receive support from the Division for this large increase in development rights, the applicant would need to work closely with the Division on all aspects of the project's design.

There are two main issues outstanding which have **not** been addressed to the satisfaction of the Division. As such, the Division recommends adjournment of this application to allow time for these issues to be addressed. The outstanding issues are:

ISSUE #1: BUILDING STREET CONDITION

Over the past year, the Urban Planning Division has engaged regularly with the applicant in attempt to come to agreement on the issue of the building's street condition (the way in which the building presents itself to the street). The following is the Division's position on this issue.

- A building's street condition is one of the most important project design considerations for residential developments set close to a public sidewalk.
- When dealing with a residential development of the scale of 206-248 Good St. the street condition becomes all the more important. The building is 390 ft. long fronting Good St. and the public sidewalk. This is approximately 1/3 of the entire length of this 1,218 foot-long block. As such, the building will define the street condition for a large portion of the block.
- The Division recommends that 'active uses' be provided for portions of buildings that face streets and sidewalks. 'Active uses' can include residential units or entranceways, common areas, stairwells, or other amenity spaces that are visible from the sidewalk behind glass, promoting a vibrant and active street condition. 'Active uses' adjacent to sidewalks are an essential part of good urban design, and are a measure toward promoting the City of Winnipeg's urban design policies as articulated in Direction 4 of the Urban Design section of *Complete Communities*.
- For the proposed development, the plans show that the building face on Good St. contains a series of 10-step staircases leading up to a raised main floor along the 390 ft. length. Below that, at street level, there is a brick wall concealing a parking garage.
- With an average step height being 7.5-7.75 inches, a 10-step staircase equates to approximately 6-6.5 ft. of height. This means that the ground floor of the building will be above the heads of most people, and the presentation against the sidewalk for the majority of the 390 ft. length of the building will be brick wall. See Figure 2 below for a depiction of this condition.
- With some new development, the main floor of a residential building will project somewhat above grade. Generally, the Division supports a height equivalent to approximately 3-5 steps above grade to accommodate basements and/or below-grade parking structures.

- However beyond 3-5 steps or approximately 3 ft. in height, the building's active uses' get physically removed from the street level.



Figure 3: Main floor height visualization. See Appendix 1 for larger view.

In early discussions starting in May, 2018 the applicant indicated that the parking garage needed to project out of the ground as proposed because the property was not deep enough front-to-back to provide for a long enough down-ramp into the parkade.

At the recommendation of the Division, the applicant did a pre-application. Feedback from the Division as part of the pre-application offered solutions to this issue:

Excerpt from City pre-application feedback, June 27, 2018:

Parking garage

- *We recommend that the parking garage be constructed completely below grade. This would allow all units, the gym, and other active uses to be fully at grade where they best enliven the street with at-grade access, street level windows and pedestrian activity. In earlier discussions the applicant indicated the following reasons for not providing a fully sunken parking garage:*
 1. *Insufficient lot depth for a fully below-grade ramp. To address this concern we recommend the developer either:*
 - *Run the ramp parallel to the building off the lane, or*
 - *As was done recently done at 570 Stradbrook, run the approach perpendicular to the building off the lane going in through the rear part of the side yard, and curving under.*
 - *If a front approach is required, then the ramp could be curved – either under the building if located mid-building, or going in through the side yard from the street, and under.*

2. *Security for street-facing at-grade units. To address this concern we recommend the developer design individual front entrances/ terraces/ yards with CPTED principles. An example would be short fencing as a deterrent to access to front yards. This would provide similar protection as the few steps up the developer currently shows on the plans.*

Subsequent to the pre-application feedback, as a compromise the Division offered support for a main level height projection of about half of what was proposed. The applicant indicated that they did not wish to revise their plans. The applicant stated that they were not able to locate the parking further below grade because of issues related to the height of the water table in the area. The Division requested a copy of an engineer's report so that they could verify and review information related to the water table.

The applicant filed their development application and provided Zoning and Permits Division with an engineer's report as part of the application. A City of Winnipeg Engineer reviewed the submitted engineer's report and provides the following assessment:

Having done a cursory review of the September 2018 report by Silvestre Urbano "Testholes at Good Street Apartment Development, Foundation Recommendation for the Proposed 6-Storey Wood Framed" I have the following comments:

- *The Report appears to be written specifically for a pre-determined lower floor located 1.8 m below grade. The report confirms that a floor a 1.8 m below grade would be acceptable, and provides recommendations for same.*
- *However, the report does not appear to consider the possibility of a floor located at a greater depth and does not seem to identify any constraints that would make a lower floor elevation concept infeasible.*
- *The 3 testhole logs included in the Report, all identify a groundwater level of 7.6 m below grade (at the end of drilling) which is substantially below the 1.8 floor level.*

The engineer's report does not appear to suggest that excavating lower than 1.8 m. would be infeasible due to the water table as their measurements show the water table as being located 7.6 m below grade. According to the International Parking and Mobility Institute, typical parking structures have a floor-to-floor height of approximately 3.2 to 3.5 metres. The engineer's report appears to suggest that a fully below grade parking facility as well as other infrastructure (i.e. land drainage storage tank), could both potentially be accommodated before ground water becomes an issue.

Further illustrating this point, it should be noted that there are two existing functional fully-below-grade parking facilities in the immediate vicinity, very close to this property. Specifically:

- Colony Square Building. Located ½ block north of the subject property, this building contains a fully-below-grade parking facility. A spokesperson for the property indicates that there are no apparent issues with ground water affecting the parking facility.
- Great West Life Building. Located ½ block east of the subject property, this building contains a fully-below-grade parking facility. A spokesperson for the property indicates there are no apparent issues with ground water affecting the parking facility.

Given the above, the Urban Planning Division is not satisfied that the City has been provided information suggesting the parking facility cannot be built fully below grade in order to provide for a supportable building street condition as requested by the City.

ISSUE #2: FUNCTIONAL ISSUE - PAKRING STALLS OFF THE LANE

The required length of parking stalls accessed directly from a lane per Winnipeg Zoning By-Law 200/06 is 23 ft. The applicant is proposing a length 16 ft.

At times, the Division supports a variance for the length of stalls, however it does not support less than approximately 21 ft. Stall lengths less than 21 ft. are not functional because insufficient stall lengths cause:

- Longer parked vehicles extending into the lane, causing problems for City of Winnipeg snow plow operations and passing motorists.
- Little or no space for snow storage.

With a building length of 390 ft., these issues are exacerbated, creating a functionality issue for both residents and the City of Winnipeg Department of Public Works along the public lane.

As a solution, the Division suggested to the applicant that they slightly reduce the front to back depth of their building however the applicant did not wish to revise their plans.

RECOMMENDATION

The Urban Planning Division recommends **adjournment** of the subdivision and rezoning for 206-248 Good Street, for the following reasons:

- A large density variance is being requested in this case (62% above the maximum density permitted in the highest density residential category – RMF-L – Residential Multifamily (Large). In order to gain support from the Urban Planning Division for this large increase in development rights, the outstanding key issues need to be addressed.
- New multifamily housing with amenities such as a gym and bicycle storage can be a welcome addition to the West Broadway neighbourhood. However, multifamily development should not come at the expense of key issues that negatively impact the street presentation and functionality of the project.
- The plans show that the main floor of the building is raised 6-6.5 ft. above ground level. This removes the 'life' of the building away from street level. It leaves a brick wall and a series of 10-step staircases for the first 6-6.5 ft. above street level. The pedestrian experience is negatively impacted because a brick wall provides no interplay between interior and exterior of the building at the sidewalk level, which can have a 'deadening' effect on the street condition.
- With a building as long as the proposed building (390 ft. or approximately 1/3 of the length of the block), the street condition becomes all the more important given the increased impact on the streetscape.

- The proposed 16 ft. length of parking stalls off the lane instead of 23 ft. will cause larger parked vehicles to extend into the public laneway and will create functionality issues for City of Winnipeg snow plowing operations.
- The City is not satisfied that the applicant has addressed the clearly articulated key issues of the building's ground level street presentation and the functional issue of the rear parking.
- Should the development move forward under the current plans, the Division is concerned about the precedent this might set for other multifamily developments in the neighbourhood.
- The Division recommends that the application be adjourned and that the applicant revise their plans in a manner that takes the Public Service feedback into account.

ADJOURNMENT - NEXT STEPS

Adjournment allows time for the applicant and Public Service to work together to resolve outstanding issues with a development proposal to gain a supportive approval recommendation. The following are some options the applicant could explore in order to address the outstanding Key Issues identified in this report and gain a supportive approval recommendation:

- 1) Lower the building so that the main floor is either at grade or projects no more than approximately ~3 ft. above grade.
- 2) If greater ramp length is needed to reach a lower parkade floor, curve/ turn the parkade ramp, or provide ramp access in the side yard.
- 3) If parking stalls are not feasible to provide off the lane, remove those stalls and submit a parking management plan that includes the provision of car share vehicles in order to help offset the resulting parking shortage.

This Report Submitted by:
 Planning, Property and Development Department
 Urban Planning Division
 Report Prepared by: Andrew Ross RPP, MCIP
 DASZ 28/2018 – 206-248 Good St.

By-Law No. _____		File No. DASZ 28/2018	
Atlas Sheet No. AA24		Explanation	
<p>CITY CENTRE COMMUNITY</p>		<p>An application for the approval of the plan of subdivision shown outlined below and for a proposed zoning change to By-law No. 200/2006 by rezoning the land located at 206, 216, 218, 228, 230, 236, 244 & 248 Good Street from an "R2" RESIDENTIAL TWO-FAMILY DISTRICT to an "RMF-L" RESIDENTIAL MULTI-FAMILY (LARGE) DISTRICT to facilitate the consolidation of lots to allow for the construction of a multi-family dwelling.</p>	
THIRD READING : _____		EFFECTIVE DATE : _____	
ZONING AGREEMENT : YES <input type="checkbox"/> NO <input type="checkbox"/>		CAVEAT No. _____	

SCHEDULE B

Report of the Administrative Coordinating Group

RE: Proposed Subdivision and Rezoning on land located at 206, 216, 218, 228, 230, 236, 244 & 248 Good Street - City Centre Community - DASZ 28/2018

The Administrative Coordinating Group (ACG) reviewed the servicing requirements for DASZ 28/2018. The applicant should take into consideration the following servicing and design requirements and comments in the redevelopment of the site and if necessary, enter into a servicing agreement:

1) Plan Considerations

The Developer shall, at no expense to the City, legally open property required for a 1.373m widening to the existing north-south public lane right-of-way, along the full length of the existing north-south public lane, abutting the west limit of the Planned Area, as determined by and to the satisfaction of the Director of Public Works.

2) Water Service

There is not adequate fire flow for the proposed development as submitted. Therefore, the applicant shall either:

- a) Propose building construction upgrades to demonstrate compliance with fire flow requirements at the building permit stage and described at:
<http://winnipeg.ca/waterandwaste/dept/waterdemand.stm>)
- b) In order to achieve adequate fire flow, measures such as splitting the building area with a firewall, adding a sprinkler system and/or upgrading to non-combustible construction are needed;
- c) Reduce the proposed density and adjust the proposed site plan to match existing service levels; or
- d) Enter into a Servicing Agreement to upgrade, at no expense to the City, all water mains required to service the Planned Area, to the satisfaction of the Director of Water and Waste.

3) Wastewater & Land Drainage:

The proposed development is located in a combined sewer district; the sum of the wastewater and land drainage runoff peak discharge from the proposed development cannot exceed the allowable discharge rate determined as follows:

- a) The allowable discharge rate will be the sum of the existing peak wastewater and the peak land drainage discharged.
- b) The peak land drainage discharged from the site must be based on a c-value of 0.60, with a 5 year rainfall event applied.
- c) The existing and proposed peak wastewater discharge must be estimated using the Wastewater Flow Estimation guidelines found on the City of Winnipeg website (<http://winnipeg.ca/waterandwaste/dept/wastewaterFlow.stm>), unless otherwise approved.

4) Construction Traffic

The Developer shall ensure that construction traffic uses access routes as determined by the Director of Public Works. The Developer shall maintain, at no expense to the City, the access routes in a clean, dust free and safe condition, free of dropped and tracked-on mud, and shall undertake regular scraping and sweeping of streets until building construction, including landscaping is complete, all as determined by and to the satisfaction of the Director of Public Works.

5) Litter and Refuse Control and Clean-Up

- a) The Developer shall, at no expense to the City, and of its own volition, initiate and control the regular cleanup of litter and refuse from the contractors and builders for this development, both on-site and off-site, during the installation of services and construction of buildings, until substantial completion of all construction, as determined by and to the satisfaction of the Director of Public Works.
- b) The cleanup of litter and refuse shall be done on a regular basis as determined by the Director of Public Works. This shall include initiating action and assuming any costs in remedying the situation to the satisfaction of the Director of Public Works.

6) By-laws and Approvals

The Developer shall pay all of its and the City's costs, fees, and expenses associated with the preparation and attainment of approval for registration of the Zoning By-law(s) and plan(s) of subdivision, including all Municipal Board, Land Titles Office and other fees and expenses, all survey, engineering and advertising fees and costs, and all expenses incidental to the preparation of the Agreement and the physical development of the Planned Area.

7) Professional Fees

- a) The Developer shall pay the full cost of all design services, including preliminary engineering studies, servicing reports, servicing criteria, construction drawings and specifications, and grading and landscaping plans and specifications, to be provided by Consulting Engineer(s) approved by the City, for the design of the municipal services, if required, and associated works required to serve the Planned Area;
- b) The Developer shall pay the full cost of construction and landscaping supervision services provided by or on behalf of the City for field inspection, preparation of progress estimates, provision of as-built drawings by March 31 of the year following substantial performance of the work, and all other engineering consulting services related to the installation and acceptance of municipal services, if required, and all associated works to serve the Planned Area.

8) Administration Fees

The Developer shall, prior to the release of the subdivision mylars for registration in the Land Titles Office, pay to the City, the administration fee plus applicable GST, to help defray the City's administration and related costs associated with the preparation and implementation of the Servicing Agreement if a Servicing Agreement is required.

THIS REPORT SUBMITTED BY:

Administrative Co-ordinating Group
File No. DASZ 28/2018
March 25, 2019

"Original Signed by G. Jasper"

G.V. Jasper P. Eng.,
Planning, Property and Development Department
Land Development

"Original Signed by M. Gajda"

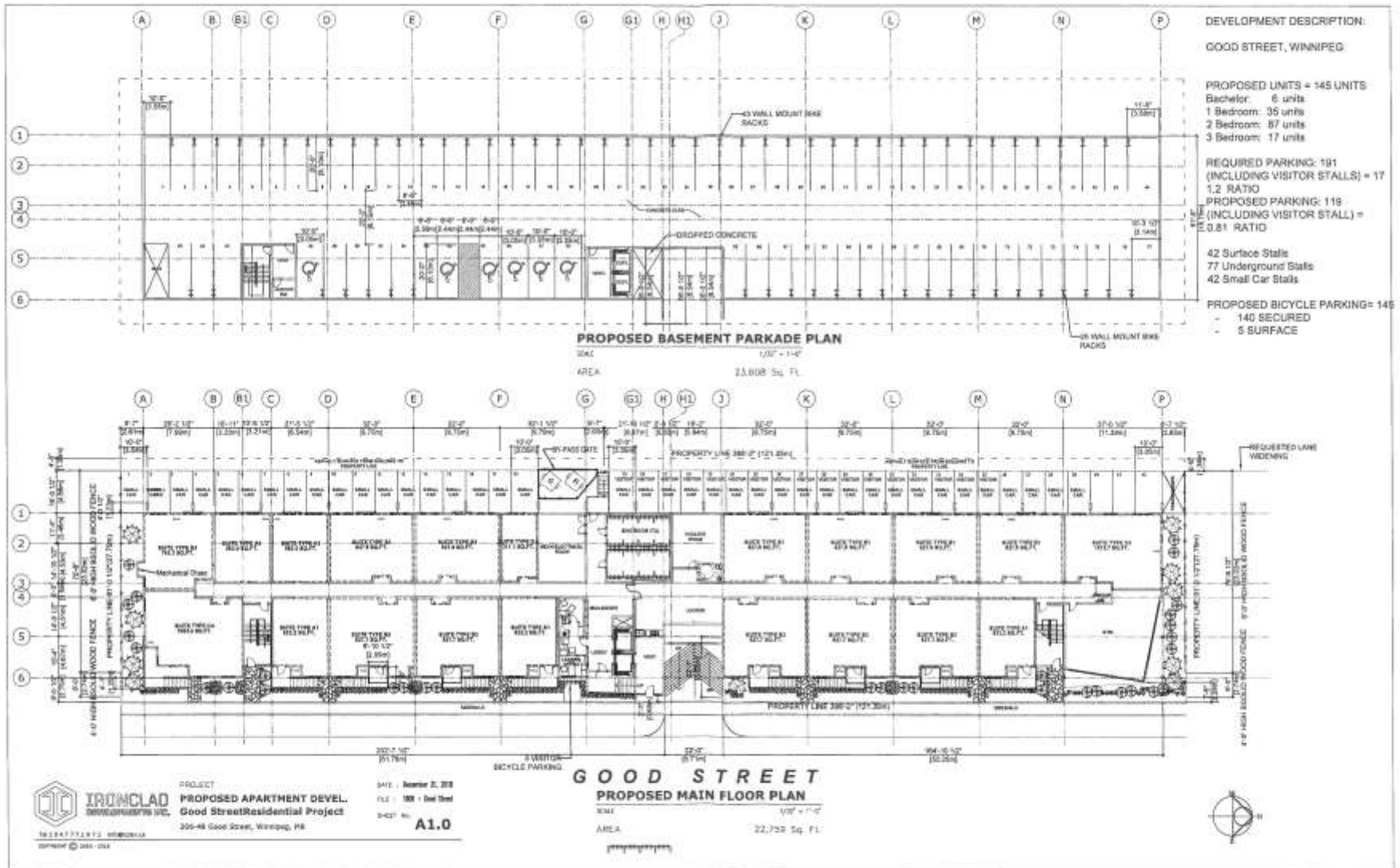
M. Gajda, P. Eng.
Water & Waste Department

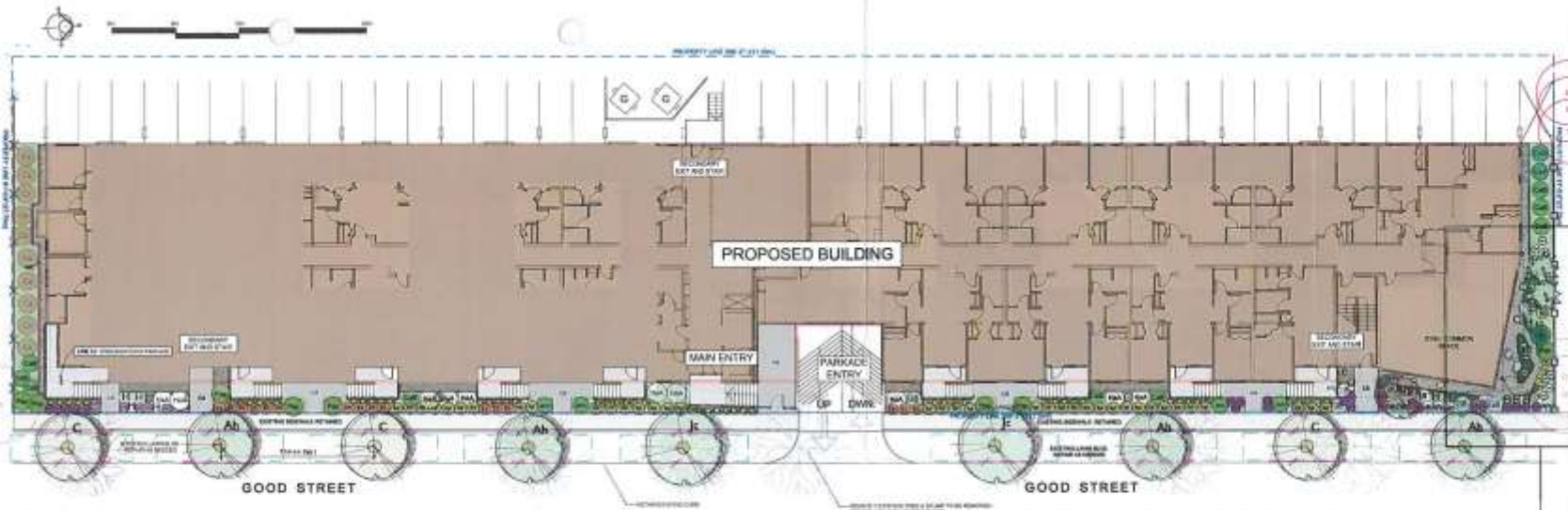
"Original Signed By C.J. Desjardine"

C.J. Desjardine, M.Sc., P. Eng.
Public Works Department, Transportation Division

Appendix 1 - Main floor height visualization







Date	Revisions	By
June 20, 2018	Initial Landscape Plan	SL
July 20, 2018	Revised Landscape Plan	SL
August 20, 2018	Final Landscape Plan	SL



Project:
GOOD STREET APARTMENT
Whisper, MI

Sheet Title:
Landscape Plan

Date: October 13, 2018
Scale: 1:125 MAIN PLAN
Drawn By: SL/SL
Project No.:

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Drawing No. **L1**

LEGEND

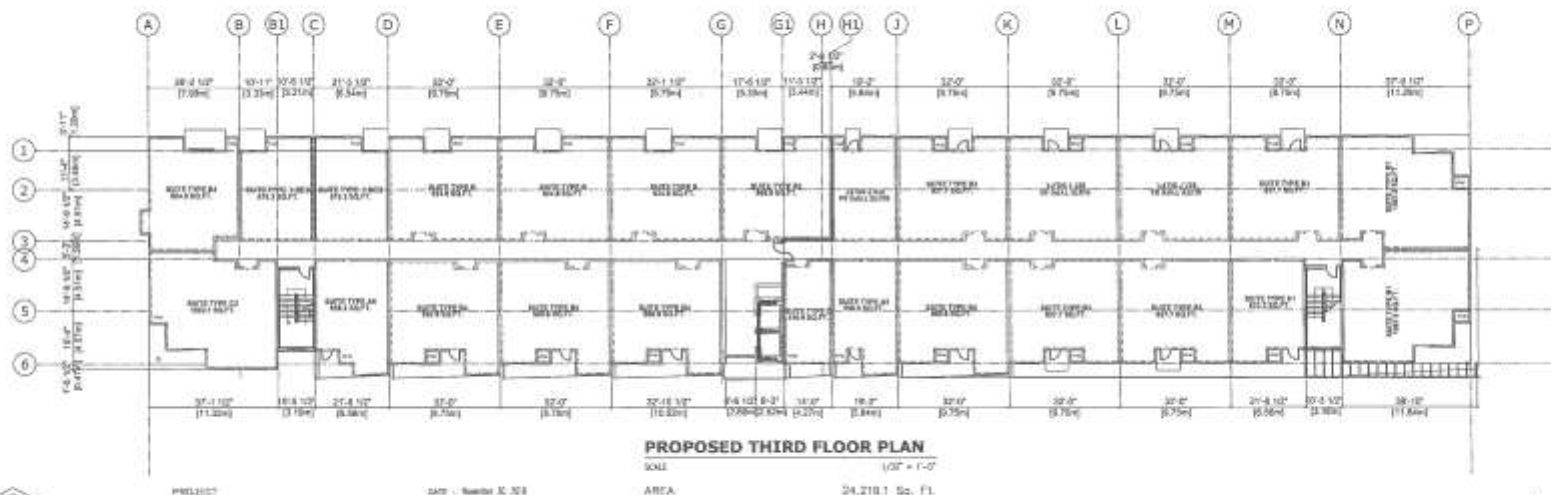
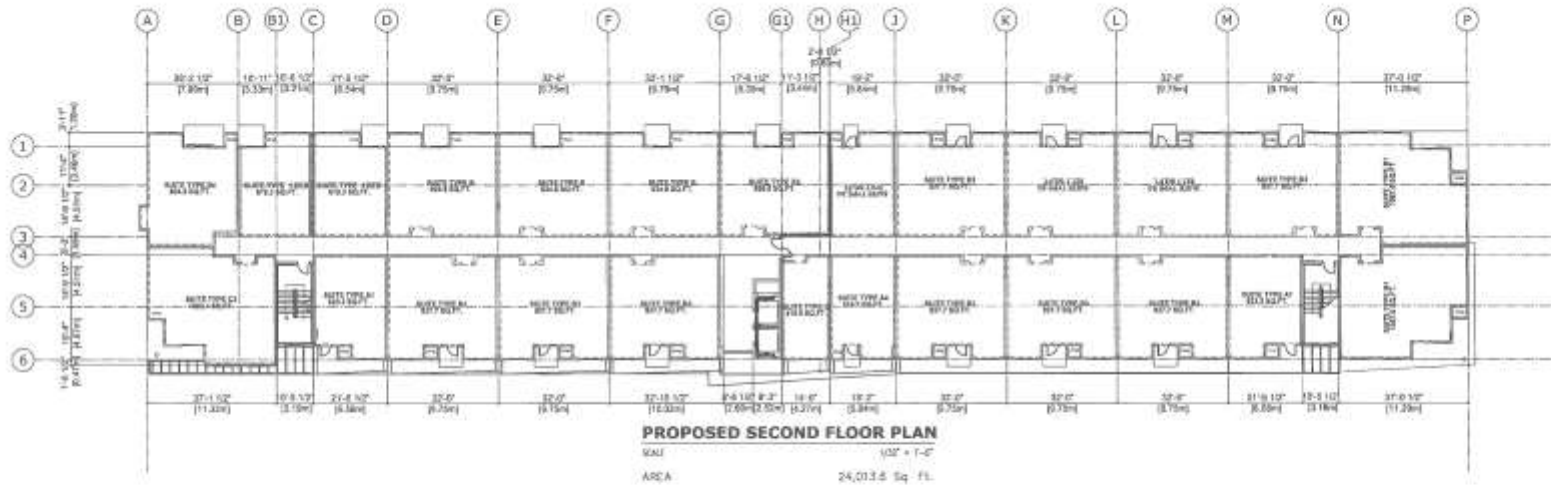
- PROPOSED LINE
- CONCRETE BRUSH FINISH FOR PAVEMENT
- PLANTING BEDS OR OTHER FINISHED FLOOR SURFACES ON WHICH PLANTS WILL BE PLANTED. ON THESE ARE PLANTED ALL PLANTS EXCEPT THOSE PLANTS INDICATED BY A SYMBOL WHICH ARE PLANTED ON UNFINISHED FLOOR SURFACES.
- 12" x 12" ALUMINUM EXPANSION JOINTS AS REQUIRED TO MEET CODES (IN 20' CYP)
- EXISTING WALKWAYS ALONG PROPERTY LINE TO BE RETAINED (HATCH IF APPLICABLE)
- 12" x 12" PRECAST CONCRETE WALKWAY (12' x 12' x 4")
- 12" x 12" PRECAST CONCRETE WALKWAY (12' x 12' x 4")
- 12" x 12" PRECAST CONCRETE WALKWAY (12' x 12' x 4")
- AREA TO BE REGRADED TO MEET EXISTING GRADE
- EXCAVATE TO 18" MAX DEPTH AND INSTALL APPROXIMATE DRAINAGE SLOPE (1:12) FOR 18" (SEE PLAN)
- ROOT PROTECTION TO BE INSTALLED (SEE PLAN FOR APPROXIMATE DIMENSIONS)
- AREAS TO BE MAINTAINED TO BE MAINTAINED REFER TO ANNOTATED REPORT
- ROOT PROTECTION ZONE (RPS) FOR EXISTING TREES TO BE MAINTAINED AND PROTECTED (SEE PLAN FOR APPROXIMATE DIMENSIONS). ALL PROPOSED PLANTING MATERIALS TO BE MAINTAINED ON SITE.

PLANT LIST

SYMBOL	BOTANICAL NAME	COMMON NAME	COUNT	SIZE
Trees				
Am	<i>Acer glabrum</i>	American Maple	1	4cm Cal.
Pf	<i>Pinus strobus 'Fastigiata'</i>	Scotch Spruce Pine	1	1.5M Ht. Top
Bs	<i>Pinus pungens 'Bakeri'</i>	Bakeri Blue Spruce	2	1.5M Ht. Top
Proposed Boulevard Trees				
Ah	<i>Alnus A. incana</i>	Harriet's Ruine Harrow Alder	4	4cm Cal.
C	<i>Carya C. scaberrima</i>	Delta Hickories	2	3cm Cal.
Jc	<i>Juglans Juglans</i>	Bittersweet	2	4cm Cal.
Shrubs				
Ch	<i>Cornus alba 'Balthasi'</i>	Silver Variegated Dogwood	11	#2 pot
Cd	<i>Cornus sericea</i>	Red Twig Dogwood	10	#2 pot
Kd	<i>Kalmia latifolia 'Lobelia'</i>	Kalmia dogwood	8	#2 pot
Ds	<i>Desmodium illinoense</i>	Dwarf Burning Bush	14	#2 pot
HdA	<i>Hydrangea arborescens 'Annabelle'</i>	Annabelle Hydrangeas	10	#2 pot
GB	<i>Pinus pungens 'Glaucus globosa'</i>	Glaucus Blue Spruce	8	#2 pot
Jsc	<i>Juglans nigra 'Calgary Carpet'</i>	Calgary Carpet Juniper	4	#2 pot
Pap	<i>Pinus strobus 'Partridge'</i>	Dwarf Norway Spruce	8	#2 pot
Sg	<i>Spirea japonica 'Goldflame'</i>	Goldflame Spirea	37	#2 pot
Ss	<i>Spirea japonica 'Little Princess'</i>	Little Princess Spirea	4	#2 pot
Sb	<i>Symphoricarpos albus</i>	Strawberry	1	#2 pot
Perennials				
Hf	<i>Heuchera heuchera</i>	Northern Maidenhair Fern	12	#1 pot
Hc	<i>Heuchera 'Ginkgo Crisp'</i>	Ginkgo Crisp Heuchera	11	#1 pot
Hs	<i>Heuchera 'Gold Standard'</i>	Gold Standard Heuchera	4	#1 pot
Hh	<i>Heuchera 'Hollywood'</i>	Hollywood Coralbells	31	#1 pot
Groundcovers / Grasses / Vines				
Ca	<i>Carex acutiformis 'Karl Foerster'</i>	Foerster's Reed Grass	55	#1 pot
	<i>Thymus praecox 'hercynicus'</i>	Woolly Thyme	48	4" pot



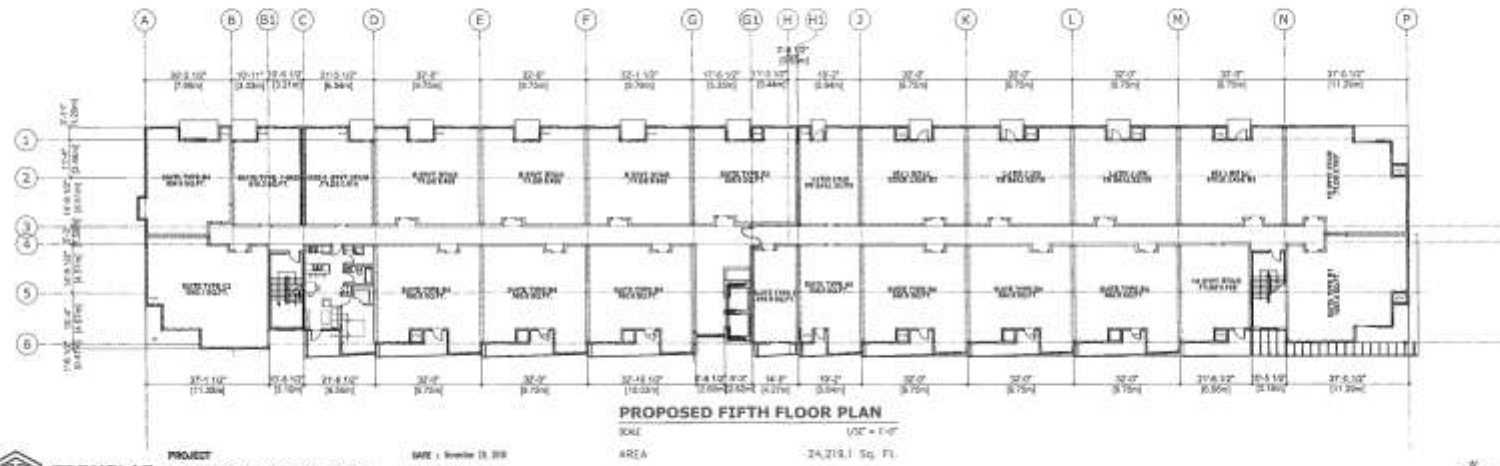
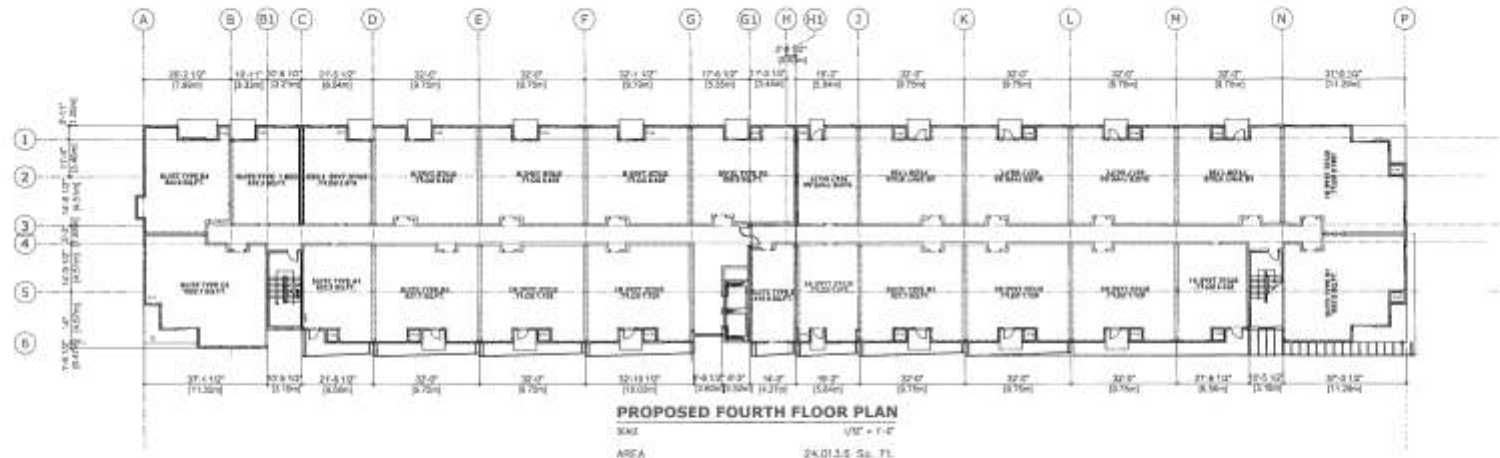
ALL WORK WITHIN ROOT PROTECTION ZONE OF EXISTING TREES TO BE SUPERVISED BY A CERTIFIED ARBORIST



PROJECT
PROPOSED APARTMENT DEVEL.
Good Street Residential Project
 200-40 Good Street, Windang, NY

DATE: November 8, 2018
 TITLE: IFR - 2nd Sheet
 SHEET No. **A1.1**

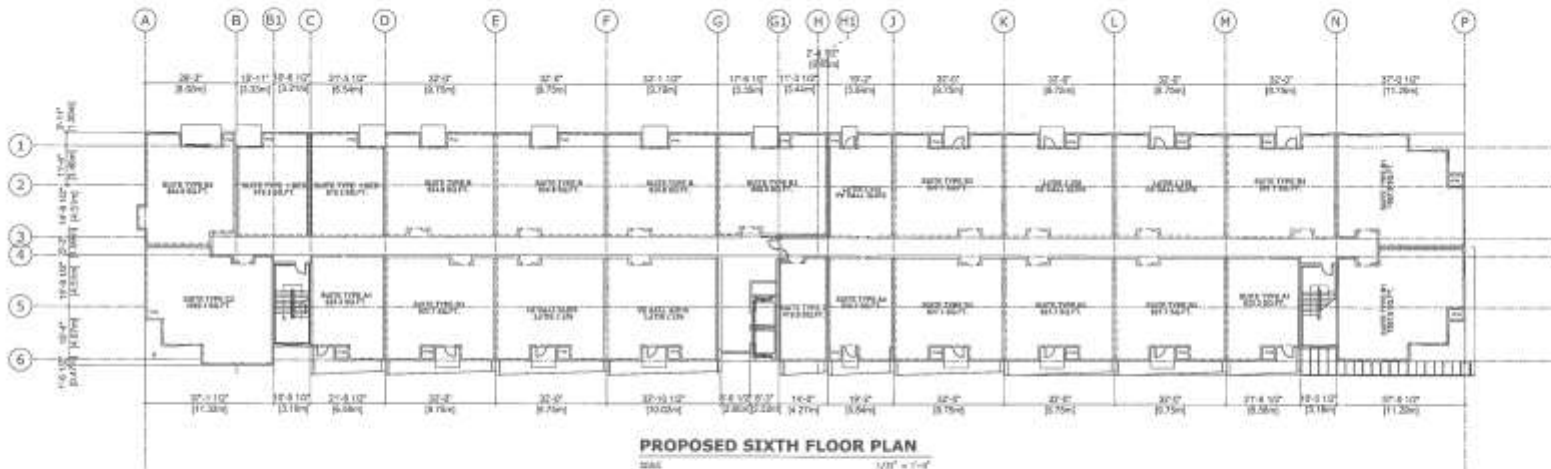




IRONCLAD
 PROJECT
PROPOSED APARTMENT DEVEL.
 Good Street Residential Project
 208-48 Good Street, Whiteps, MB

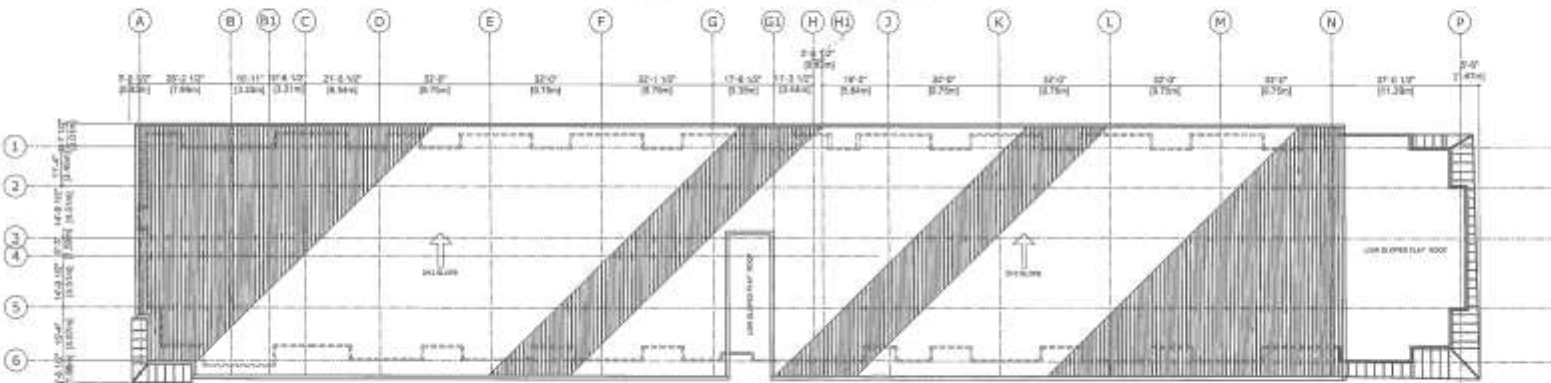
DATE: November 18, 2010
 FILE: 100 - Good Street
 SHEET NO. **A1.2**





PROPOSED SIXTH FLOOR PLAN

SCALE: 1/8" = 1'-0"
 AREA: 24,013.6 Sq. Ft.



PROPOSED ROOF PLAN

SCALE: 1/8" = 1'-0"
 AREA:



PROJECT
PROPOSED APARTMENT DEVEL.
 Good Street Residential Project
 226-48 Good Street, Winnipeg, MB

DATE: November 20, 2018
 FILE: 1801 - Good Street
 SHEET No.

A1.3





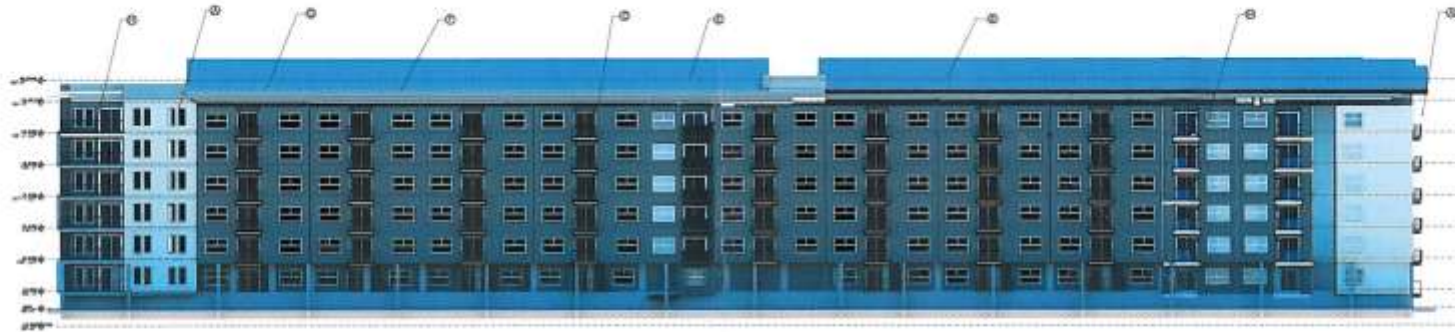
PROPOSED FRONT ELEVATION
SCALE: 1/8" = 1'-0"



PROPOSED FRONT ELEVATION
SCALE: 1/8" = 1'-0"

- LEGEND**
- ① HARDS PANELS (ARCTIC WHITE)
 - ② STAINED HARDS PANELS (CREAM)
 - ③ HARDS PANELS (IRON GRAY)
 - ④ BLACK ALUMINUM PANELS W/ CLEAR TEMPERED GLASS
 - ⑤ PRE-FINISHED METAL ROOF (BLACK)
 - ⑥ PRE-FINISHED ALUMINUM FASCIA AND SOFFIT
 - ⑦ DECK FASCIA HARDS
 - ⑧ BLACK ALUMINUM POCKET RAILING
 - ⑨ CULTURED STONE
 - ⑩ ACRYLIC STUCCO (CHARCOAL GRAY)
 - ⑪ ACRYLIC STUCCO (BLUE)


IRONCLAD
 CONSTRUCTION INC.
 PROJECT: **PROPOSED APARTMENT DEVEL.**
Good Street Residential Project
 306-48 Good Street, Wrentham, MA
 DATE: November 20, 2018
 FILE: 188 - Good Street
 SHEET NO: **A2.0**



PROPOSED REAR ELEVATION
100' + 11"



PROPOSED REAR ELEVATION
100' + 11"

LEGEND

- ① HARDY PANELS (ARCTIC WHITE)
- ② STAINED HARDY PANELS (CEDAR)
- ③ HARDY PANELS IRON GRAY
- ④ BLACK ALUMINUM FINISH TO CLEAR TEMPERED GLASS
- ⑤ PRE-FINISHED METAL ROOF (BLACK)
- ⑥ PRE-FINISHED ALUMINUM FASCIA AND SOFFITS
- ⑦ DECK FASCIA HARDY
- ⑧ BLACK ALUMINUM POCKET RAILING
- ⑨ CULTURED STONE
- ⑩ ACRYLIC STUCCO (CHARCOAL GREY)
- ⑪ ACRYLIC STUCCO (BLUE)



PROJECT
PROPOSED APARTMENT DEVEL.
Good Street Residential Project
300-40 Good Street, Minneapolis, MN

DATE - November 25, 2018
FILE - 188 - Good Street
SHEET NO. **A2.1**



PROPOSED LEFT SIDE ELEVATION
SCALE 1/8" = 1'-0"



PROPOSED RIGHT SIDE ELEVATION
SCALE 1/8" = 1'-0"



PROPOSED LEFT SIDE ELEVATION
SCALE 1/8" = 1'-0"



PROPOSED RIGHT SIDE ELEVATION
SCALE 1/8" = 1'-0"

LEGEND

- ① HARDC PANELS (ARCTIC WHITE)
- ② STAINED HARDC PANELS (CEDAR)
- ③ HARDC PANELS (ROCK GRAY)
- ④ BLACK ALUMINUM FINISHING W/ CLEAR TEMPERED GLASS
- ⑤ PRE-FINISHED METAL ROOF (BLACK)
- ⑥ PRE-FINISHED ALUMINUM FASCIA AND SOFFITS
- ⑦ TRICK FASCIA HARBOR
- ⑧ BLACK ALUMINUM PICKET RAILING
- ⑨ CULTURED STONE
- ⑩ ACRYLIC STUCCO (CHARCOAL GRAY)
- ⑪ ACRYLIC STUCCO (BLUE)



PROJECT
PROPOSED APARTMENT DEVEL.
Good Street Residential Project
300-49 Good Street, Minneapolis, MN

DATE: November 25, 2019
PLC: 100 - Good Street
SHEET NO. **A2.2**

TEL: 612.477.1172
WWW.IRONCLAD.COM



PROJECT
PROPOSED APARTMENT DEVEL.
Good Street Residential Project
 328-48 Good Street, Winkley, PA

DATE : November 21, 2018
 FILE : 180 - Good Street
 SHEET No. **A3.0**

PERSPECTIVE VIEWS
 2018

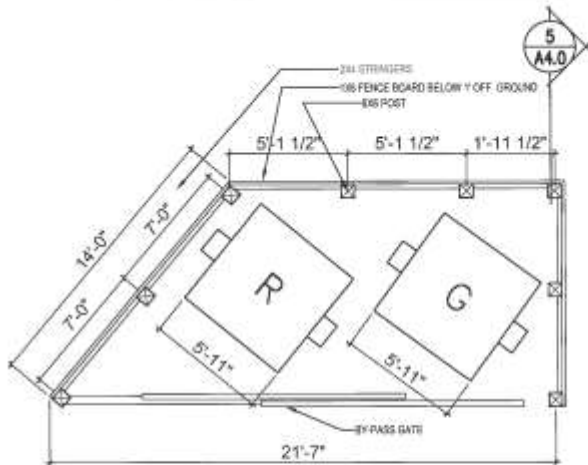


PROJECT
PROPOSED APARTMENT DEVEL.
Good Street Residential Project
 306-48 Good Street, Winnipeg, MB

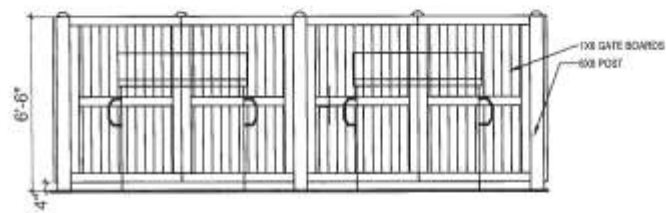
DATE | November 26, 2018
 FILE | 180 - Good Street
 SHEET NO. **A3.1**

PERSPECTIVE VIEWS

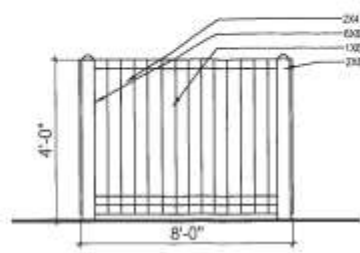
SCALE



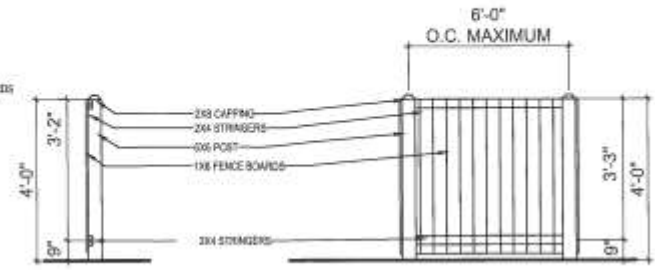
1 GARBAGE ENCLOSURE PLAN
A4.0 SCALE 1/4"=1'-0"



2 GARBAGE ENCLOSURE ELEVATION (FRONT)
A4.0 SCALE 1/4"=1'-0"



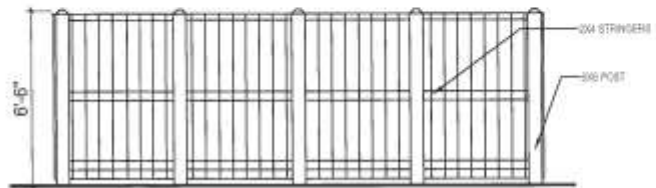
3 FENCE ELEVATION (SIDE)
A4.0 SCALE 1/4"=1'-0"



5 FENCE/ ENCLOSURE SECTION
A4.0 SCALE 1/4"=1'-0"

6 FENCE ELEVATION
A4.0 SCALE 1/4"=1'-0"

NOTE: ALL FENCE & GARBAGE ENCLOSURE WOOD TO BE CEDAR-TONE PRESSURE TREATED TO MATCH BUILDING EXTERIOR.



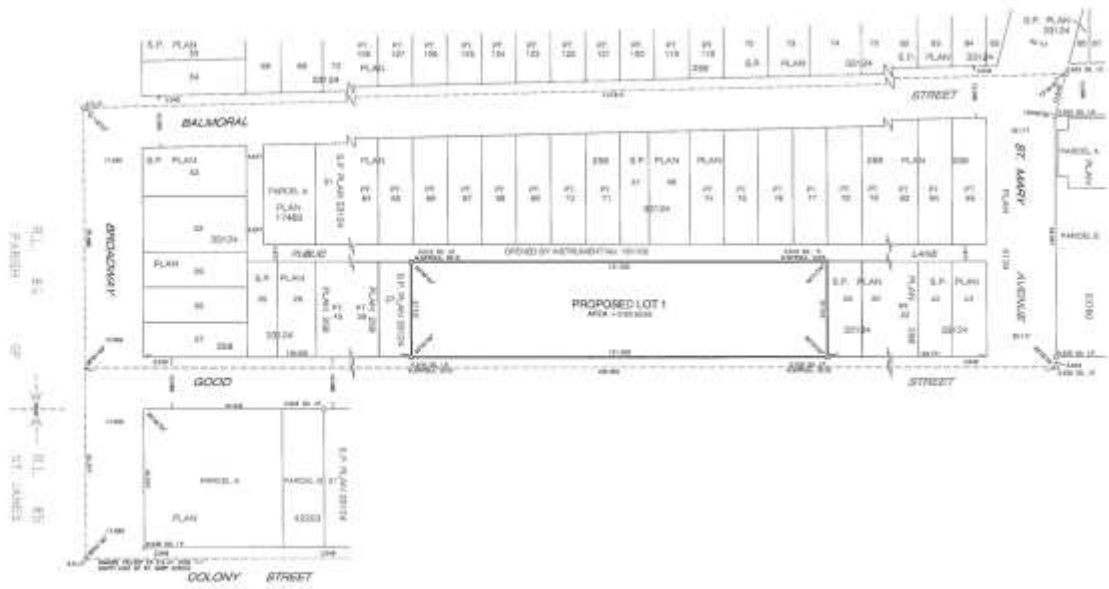
4 GARBAGE ENCLOSURE ELEVATION (REAR)
A4.0 SCALE 1/4"=1'-0"



PROJECT
PROPOSED APARTMENT DEVEL.
Goldstream Residential Project
1862 Goldstream Avenue, Victoria, BC

DATE = November 15, 2011
FILE = 100 - 1001 Street
PROJECT No. A4.0

METRIC



PROPOSED PLAN OF SUBDIVISION
OF PART OF
RIVER LOT 84, PARISH OF ST. JAMES

BEING
LOTS 28 TO 37, BOTH INCLUSIVE, PLAN 33124

CITY OF WINNIPEG
MANITOBA
SCALE 1 : 500



NOTES
ALL DIMENSIONS ARE IN METERS AND MAY BE CONVERTED TO FEET BY MULTIPLYING BY 3.2808.
ALL DIMENSIONS FOUND ON THIS PLAN ARE DESCRIBED AND SHOWN THIS
LAND REFERRED TO BY THIS PLAN IS BOUND BY THE FOLLOWING:
ALL PLANS REFERRED TO ARE AS NOTED IN THE WINNIPEG LAND TITLE OFFICE.
THIS PLAN IS MADE IN ACCORDANCE WITH SECTION 148 OF THE SPECIAL CHARTER OF THE CITY OF WINNIPEG.

AFFIDAVIT
I, _____, CLERK OF THE CITY OF WINNIPEG, MANITOBA, DO HEREBY CERTIFY AND SAY THAT I DO HEREBY
CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE SLAVEY HAS MADE BETWEEN THE DATES OF APRIL 20TH AND
MAY 10TH 2014, AND THAT THE SLAVEY AND PLAN ARE CORRECT AND TRUE TO THE BEST OF AN HONEST MAN'S BELIEF.

SIGNED TO BESEEN ME AT THE CITY OF WINNIPEG, _____, MANITOBA, LAND SURVEYOR
THIS 28TH DAY OF NOVEMBER, 2014.

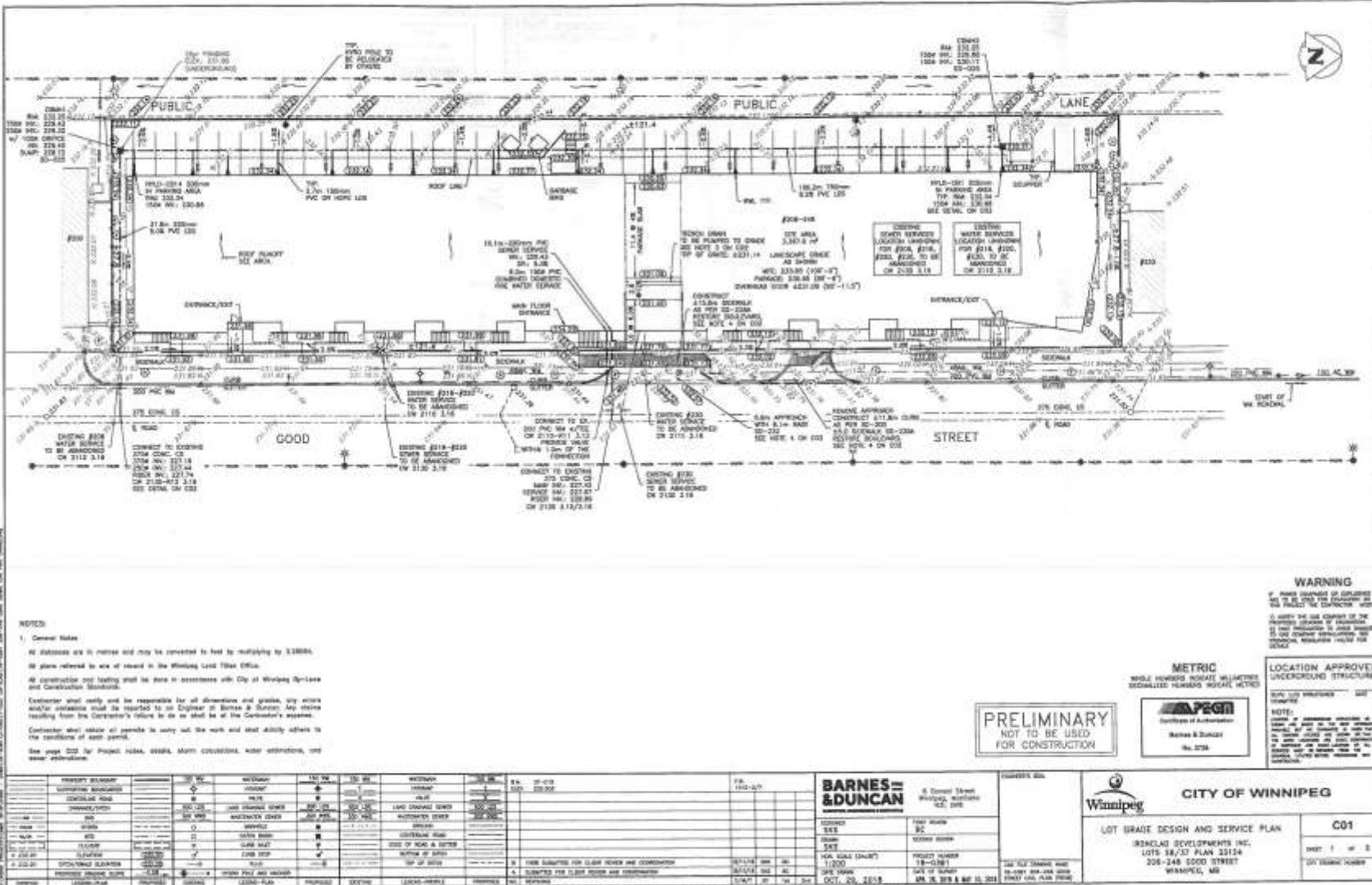
I, _____, CLERK OF THE CITY OF WINNIPEG,
DO HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE SLAVEY AND PLAN ARE CORRECT AND TRUE TO THE BEST OF AN HONEST MAN'S BELIEF.

**FOR CITY OF WINNIPEG
USE ONLY**

APPROVED AND FILED IN THE
WINNIPEG LAND TITLE OFFICE
THIS _____ DAY OF _____ 2014.
AT PLAN NO. _____
FOR STREET RECORDS
REGISTERED IN _____

THE APPLICANT IS HEREBY TO BE KNOWN AS THE APPLICANT.
APPROVED THIS _____ DAY OF _____ 2014.
NAME OF APPLICANT _____
AS APPLICANT THIS _____ DAY OF _____ 2014.
NAME OF SURVEYOR _____

BARNES & DUNCAN
LAND SURVEYORS
114 - 10000
RIVER ROAD, WINNIPEG, MANITOBA
R3V 1A1



NOTES

- General Notes
- All distances are in metres and may be converted to feet by multiplying by 3.2808.
- All plans referred to are of record in the Planning and Design Office.
- All construction not leading shall be done in accordance with City of Winnipeg By-Laws and Construction Standards.
- Contractor shall verify and be responsible for all dimensions and grades, any errors and/or omissions shall be reported to an Engineer at Barnes & Duncan. Any omissions resulting from the Contractor's failure to do so shall be at the Contractor's expense.
- Contractor shall advise all permits to carry out the work and shall strictly adhere to the conditions of such permits.
- See page 002 for Project notes, 0004, 0005, 0006, 0007, 0008, 0009, 0010, 0011, 0012, 0013, and 0014.

WARNING
 IF THESE DIMENSIONS OR LOCATIONS ARE TO BE USED FOR FOUNDATION OR TO PROJECT THE CONTRACTOR SHALL CONSULT THE CITY ENGINEER OF THE PROJECT AND/OR CONSULT THE PROJECT ENGINEER OF THE PROJECT.
 IF ANY DIMENSIONS OR LOCATIONS ARE TO BE USED FOR FOUNDATION OR TO PROJECT THE CONTRACTOR SHALL CONSULT THE CITY ENGINEER OF THE PROJECT.

LOCATION APPROVED UNDERGROUND STRUCTURES

METRIC
 WHOLE NUMBERS INDICATE MILLIMETRES
 DECIMALIZED NUMBERS INDICATE METRES



NOTE:
 THESE ARE THE MINIMUM REQUIREMENTS FOR FOUNDATION AND UNDERGROUND STRUCTURES. THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND GRADES. ANY ERRORS AND/OR OMISSIONS SHALL BE REPORTED TO AN ENGINEER AT BARNES & DUNCAN. ANY OMISSIONS RESULTING FROM THE CONTRACTOR'S FAILURE TO DO SO SHALL BE AT THE CONTRACTOR'S EXPENSE.

PRELIMINARY
 NOT TO BE USED
 FOR CONSTRUCTION

PROPERTY BOUNDARY SUPPLEMENTARY INFORMATION	STREET PUBLIC LANE	ADJACENT RESIDENTIAL ZONE	ADJACENT COMMERCIAL ZONE	ADJACENT INDUSTRIAL ZONE	ADJACENT MIXED USE ZONE	ADJACENT LAND SERVICE ZONE	ADJACENT MUTUALITY ZONE	ADJACENT CITY	ADJACENT COUNTY	ADJACENT PROVINCE	ADJACENT COUNTRY	ADJACENT OTHER
OWNER BRANCLAD DEVELOPMENTS INC.	PROJECT NUMBER C01	PROJECT NAME LOT GRADE DESIGN AND SERVICE PLAN	DATE OCT. 20, 2018	SCALE 1:1000	DRAWN BY [Name]	CHECKED BY [Name]	DATE OCT. 20, 2018	PROJECT NUMBER C01	PROJECT NAME LOT GRADE DESIGN AND SERVICE PLAN	DATE OCT. 20, 2018	SCALE 1:1000	DRAWN BY [Name]

STORMWATER RUNOFF CALCULATIONS

The analysis of runoff from the site was calculated using the method outlined in accordance with the Manning Manual (1974).

Runoff intensities were calculated based on a 10 minute storm according to the curve in the table below:

Runoff Period (Hours)	A	B	C	Peak Intensity was based on a 10 minute storm (mm/hr)
6	1100.0	9	0.840	128.0
24	560.0	9	0.840	128.0

The area of the lot is 2,207.34 m² (8,522 sq ft).

PRE-DEVELOPMENT RUNOFF CALCULATION

Runoff was calculated based on a 10 minute storm according to the curve in the table below:

Runoff Intensity = 128.0 mm/hr (5.08 in/hr)

Runoff = 285.3 mm (11.23 in)

POST-DEVELOPMENT RUNOFF CALCULATION

Runoff was calculated based on a 10 minute storm according to the curve in the table below:

Surface Type	Runoff Coefficient	SC-11 Street	SC-11 Parking	SC-11 Driveway	Area (m ²)	Area (sq ft)
Asphalt/Concrete	0.80	811.8	0	0	811.8	871.8
Building Foot	0.80	0	30.0	246.0	376.0	407.0
Grass	0.15	306.1	0	0	306.1	330.6
Total		1117.9	30.0	246.0	1493.9	1609.4
Weighted C	0.70	0.90	0.85			

The weighted runoff coefficient for the developed site is 0.68.

The peak development runoff was calculated based on a 10 minute storm based on an intensity of 128.0 mm/hr (5.08 in/hr).

Runoff = 191.6 mm (7.54 in)

RUNOFF CALCULATIONS

Runoff Area (A)	Runoff Coefficient (C)	Runoff Intensity (I, mm/hr)	Avg. Depth (D, mm)	Runoff Rate (Q, L/s)
SC-11 Street	0.80	128.0	10.0	32.0
SC-11 Parking	0.80	128.0	10.0	24.0
SC-11 Driveway	0.80	128.0	10.0	24.0
Grass	0.15	128.0	10.0	3.6
Total				83.6

The runoff from (SC-11) is controlled with an overflow area located in (SC-11). The overflow outlet flows to (SC-11).

Outlet Structure: (SC-11)

Notes:
 1. S = Slope 0.15
 2. C = 0.8
 3. n = Hydraulic roughness
 4. A = Area of flow
 5. R = Hydraulic radius

Structure	Flow (L/s)	Flow (cfs)	Flow (gpm)
SC-11 Street	32.0	0.72	31.5
SC-11 Parking	24.0	0.54	23.5
SC-11 Driveway	24.0	0.54	23.5
Grass	3.6	0.08	3.5
Total	83.6	1.88	82.5

SEWAGE CALCULATIONS

Flow rates were determined for the proposed development were calculated using the following method:

Total population: 10 (0.000 m³/day)

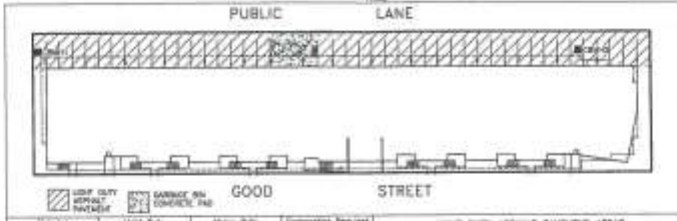
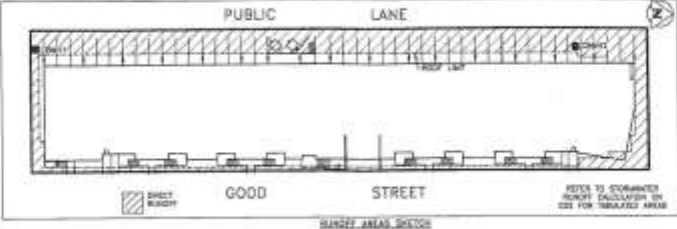
Total sewage: 10 (0.000 m³/day)

Maximum flow: 10 (0.000 m³/day)

Minimum flow: 10 (0.000 m³/day)

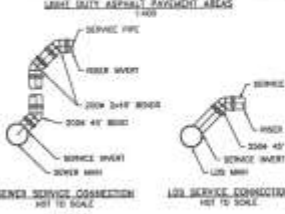
Flow storage: 10 (0.000 m³/day)

PRELIMINARY
TO BE USED FOR CONSTRUCTION



LIGHT DUTY ASPHALT PAVEMENT AREAS

Material	Light Duty	Heavy Duty	Construction Required
Asphalt	75 mm	75 mm	Asphalt
Base Course	150 mm	200 mm	Asphalt
Subbase	150 mm	200 mm	Asphalt
Subgrade	415 mm	450 mm	Asphalt

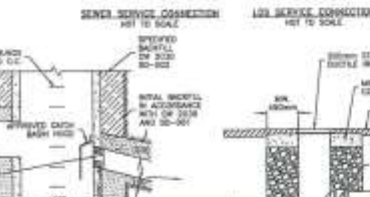


WATER DEMAND ESTIMATION

Average Day Water Demand (ADD) = 1.0 L/s
 Peak Hour Water Demand (PHW) = 1.5 L/s

WASTEWATER FLOW ESTIMATION

Design Dry Weather Flow (DDWF) = 1.0 L/s
 Design Wet Weather Flow (DWWF) = 1.5 L/s



NOTES

- General Notes
 - All dimensions are in millimeters and may be converted to feet by multiplying by 0.003281.
 - All plans referred to are of record in the Winnipeg Land Title Office.
 - All construction and testing shall be done in accordance with City of Winnipeg By-Laws and Construction Standards.
 - Location of underground utilities are shown on this plan information available but is guaranteed to show that all utilities are shown on this plan. Location of all utilities shall be confirmed by the contractor before proceeding with construction.
 - Contractor shall verify and be responsible for all dimensions and grades, any errors and/or omissions must be reported to an Engineer at Barnes & Duncan any errors resulting from the Contractor's failure to do so shall be at the Contractor's expense.
 - Excavation shall adhere to permits to carry out the work and shall strictly adhere to the conditions of each permit.
- Lot Grade Elevation
 - Building Elevation (Elev.) was set based on grade elevations to be set by a qualified and experienced surveyor, in accordance with the City of Winnipeg Land Title Office (LTO) and the City of Winnipeg By-Laws and Construction Standards.
 - Excavation elevations, survey elevations, elevations and the water table elevations shall be verified with a leveling staff and a level. All elevations shall be reported to the City of Winnipeg By-Laws and Construction Standards.
 - Water table elevations shall be reported to the City of Winnipeg By-Laws and Construction Standards.
- Lot Service Pipe
 - All water service pipe and sewer service pipe specifications for this project shall be in accordance with the City of Winnipeg Standard Construction Specifications (SCS) and the City of Winnipeg Approved Products for Underground Use in the City of Winnipeg.
 - Water service pipe and sewer service pipe shall be installed in accordance with the City of Winnipeg Standard Construction Specifications (SCS) and the City of Winnipeg Approved Products for Underground Use in the City of Winnipeg.
 - Water service pipe and sewer service pipe shall be installed in accordance with the City of Winnipeg Standard Construction Specifications (SCS) and the City of Winnipeg Approved Products for Underground Use in the City of Winnipeg.
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 - Water service pipe and sewer service pipe shall be installed in accordance with the City of Winnipeg Standard Construction Specifications (SCS) and the City of Winnipeg Approved Products for Underground Use in the City of Winnipeg.
- Road and Roadway Elevation
 - All street and roadway elevations shall be shown in accordance with the City of Winnipeg Standard Construction Specifications (SCS) and the City of Winnipeg Approved Products for Underground Use in the City of Winnipeg.
 - For information please to appropriate agencies within the City of Winnipeg please approach: Building Department, 224-444-2222.

LOCATION APPROVED
UNDERGROUND STRUCTURES

WARNING

IF YOU ARE NOT SURE OF THE LOCATION OF UNDERGROUND UTILITIES, CONTACT THE CITY OF WINNIPEG AT 224-444-2222.

Runoff	Runoff	Runoff	Runoff
SC-11 Street	32.0	0.72	31.5
SC-11 Parking	24.0	0.54	23.5
SC-11 Driveway	24.0	0.54	23.5
Grass	3.6	0.08	3.5
Total	83.6	1.88	82.5

METRIC

Runoff	Runoff	Runoff	Runoff
SC-11 Street	32.0	0.72	31.5
SC-11 Parking	24.0	0.54	23.5
SC-11 Driveway	24.0	0.54	23.5
Grass	3.6	0.08	3.5
Total	83.6	1.88	82.5

BARNES & DUNCAN

100 The Forks Mall
 100 The Forks Mall
 100 The Forks Mall

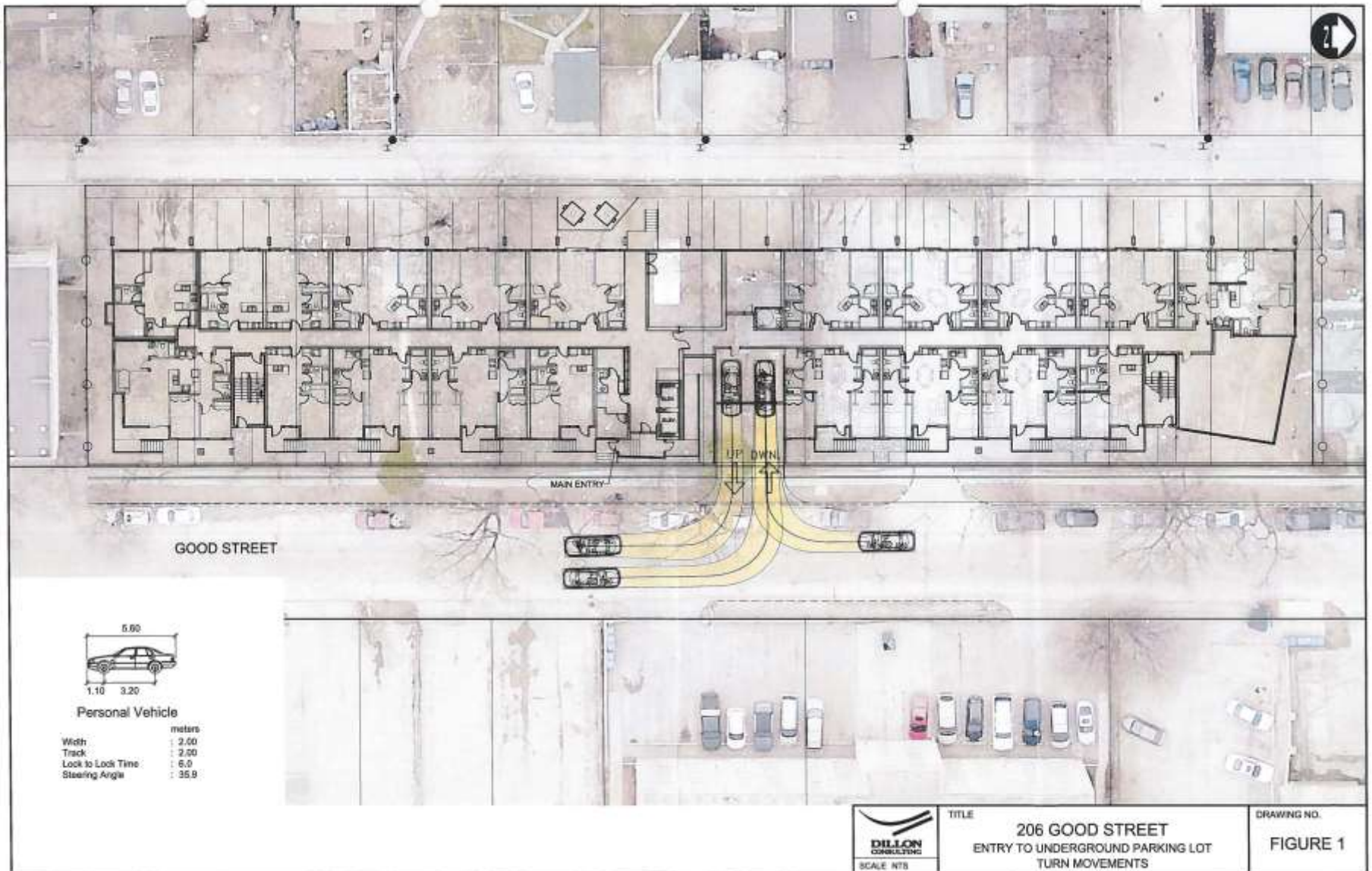
CITY OF WINNIPEG

STORMWATER CALCULATIONS AND NOTES

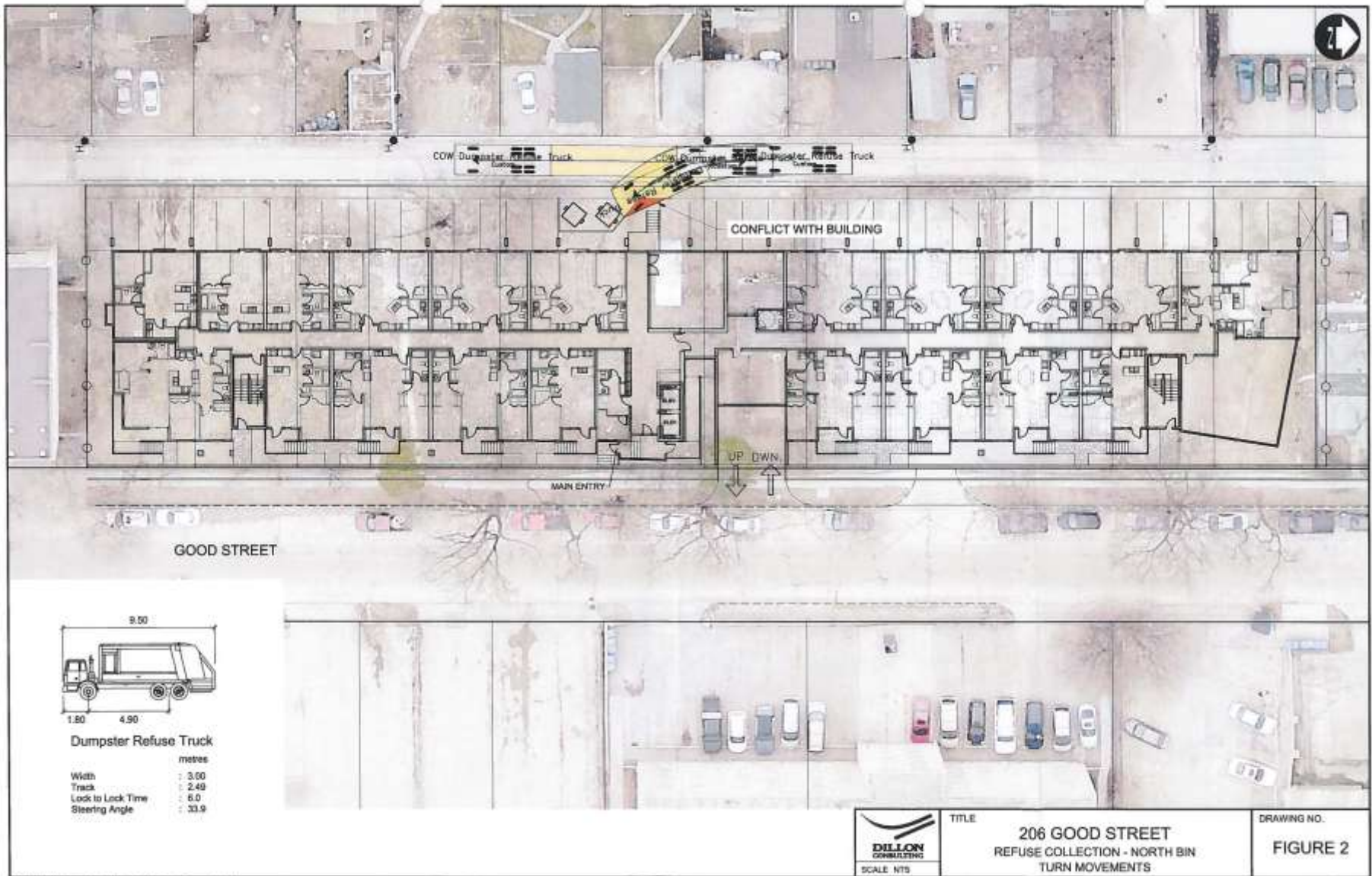
WINDLAD DEVELOPMENTS INC.
 336-248 0023 STREET
 WINNIPEG, MB

NOTES

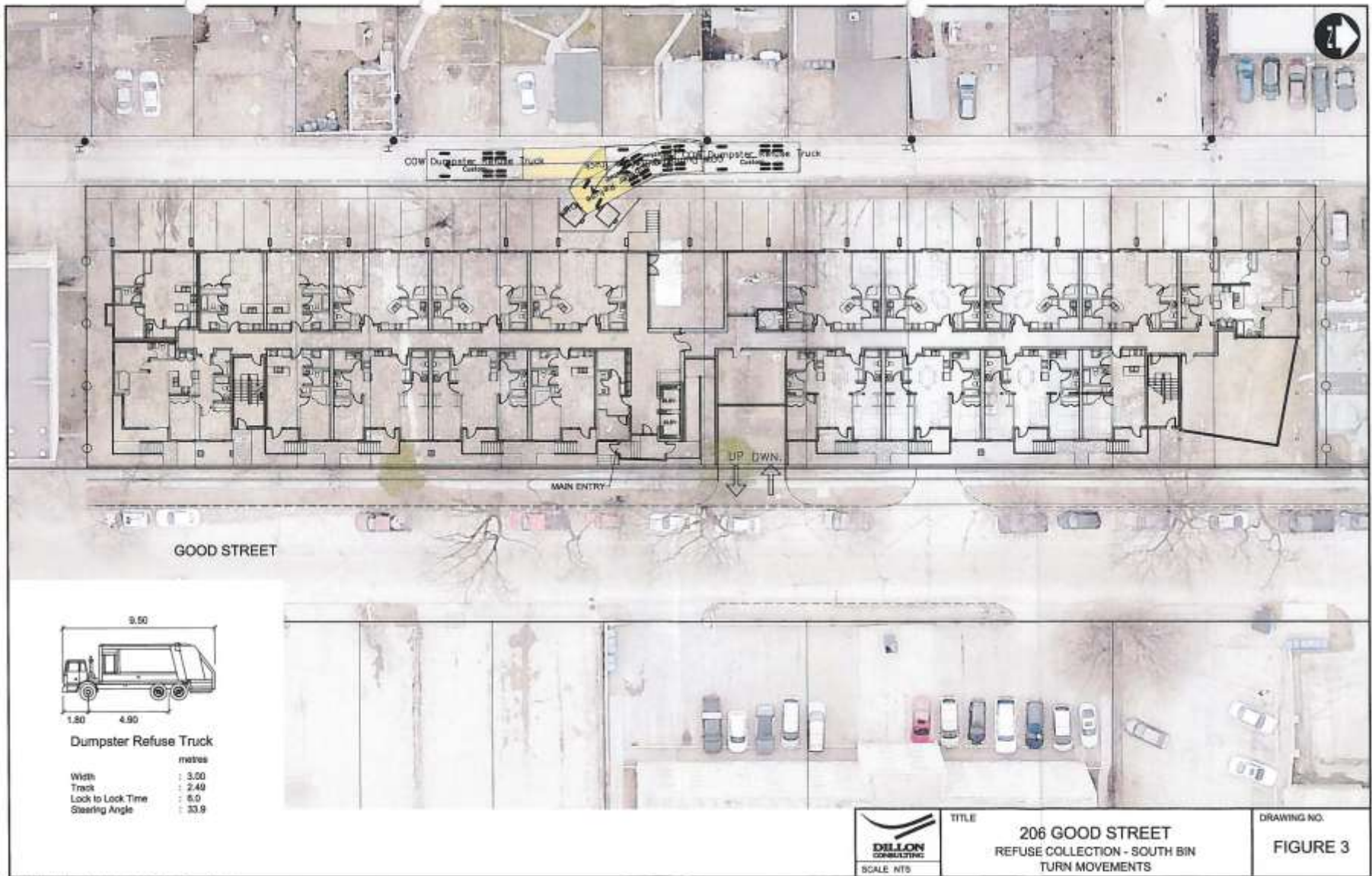
1. THIS PLAN IS THE PROPERTY OF BARNES & DUNCAN AND IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF BARNES & DUNCAN.



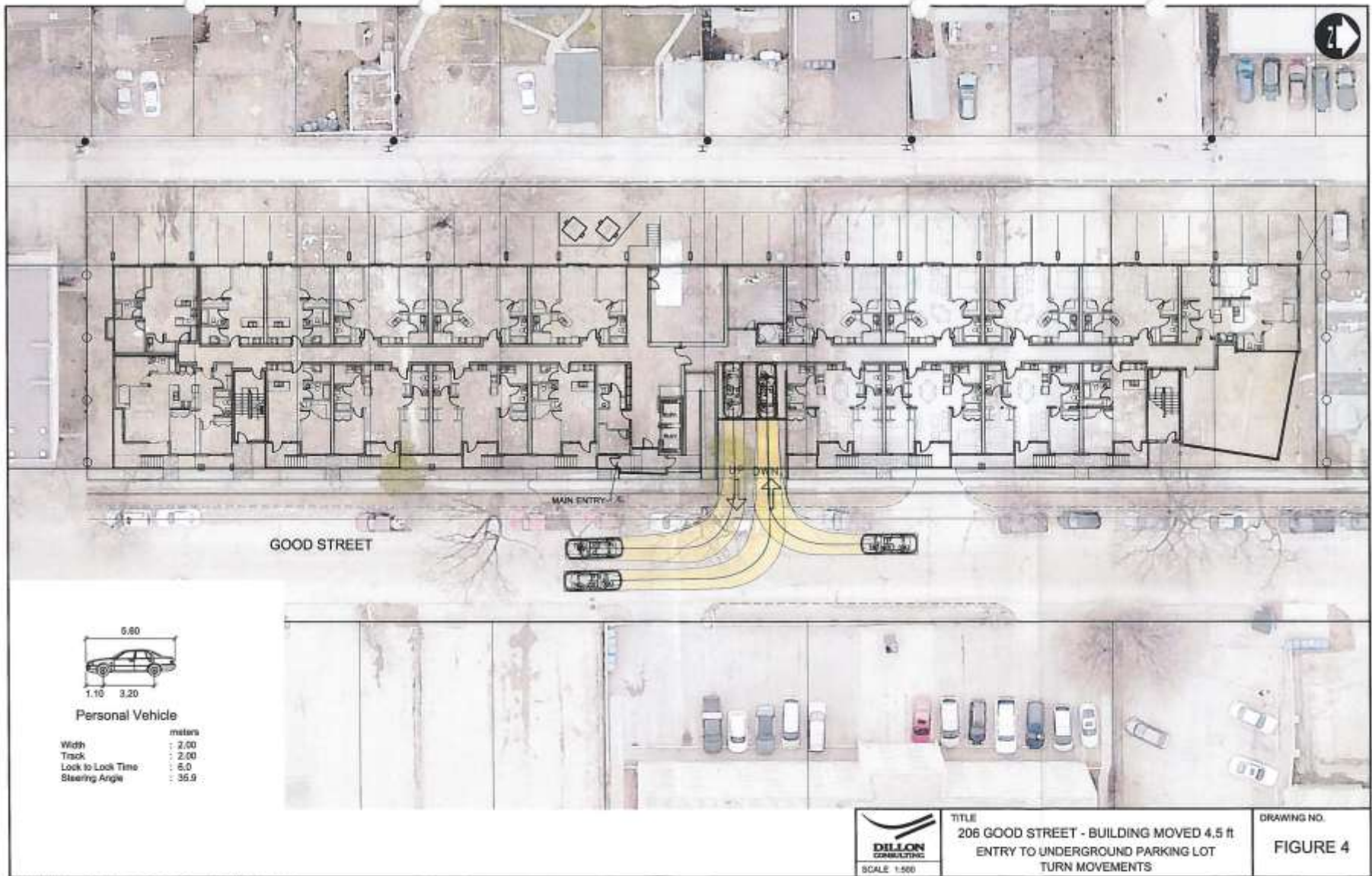
C:\DAO\Holding #\Good Street (RR)\AutoTurn-Testa.dwg



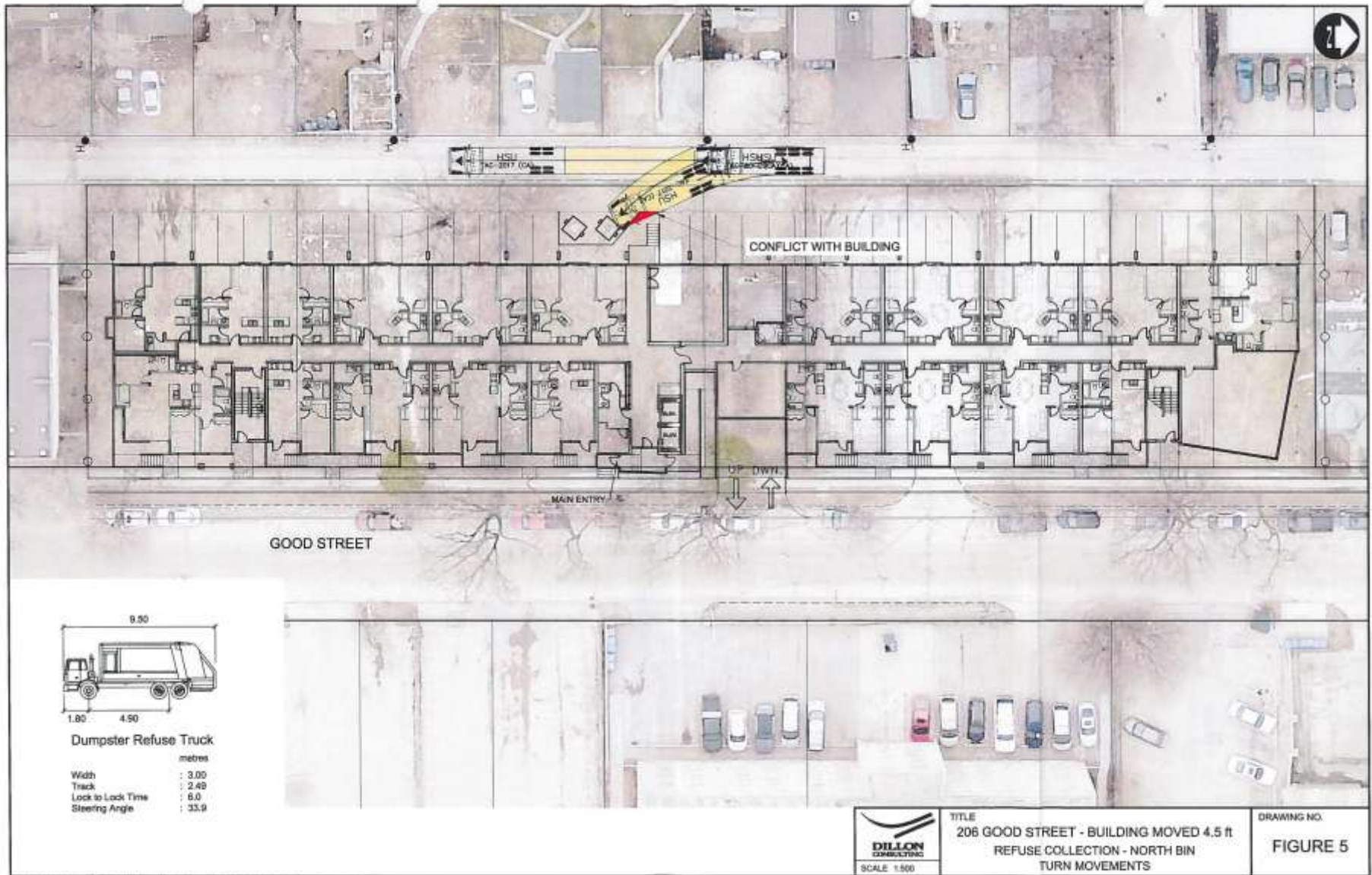
G:\DAD\holding #\Good Street Infill\AutoTurn-Tests.dwg



G:\CAD_Holding_g\206 Good Street Infil\AutoTurn-Tests.dwg



G:\CAD_haling #\Good Street\1011\AutoTurn-Tests-BuildingMoved.dwg



Dumpster Refuse Truck
metres

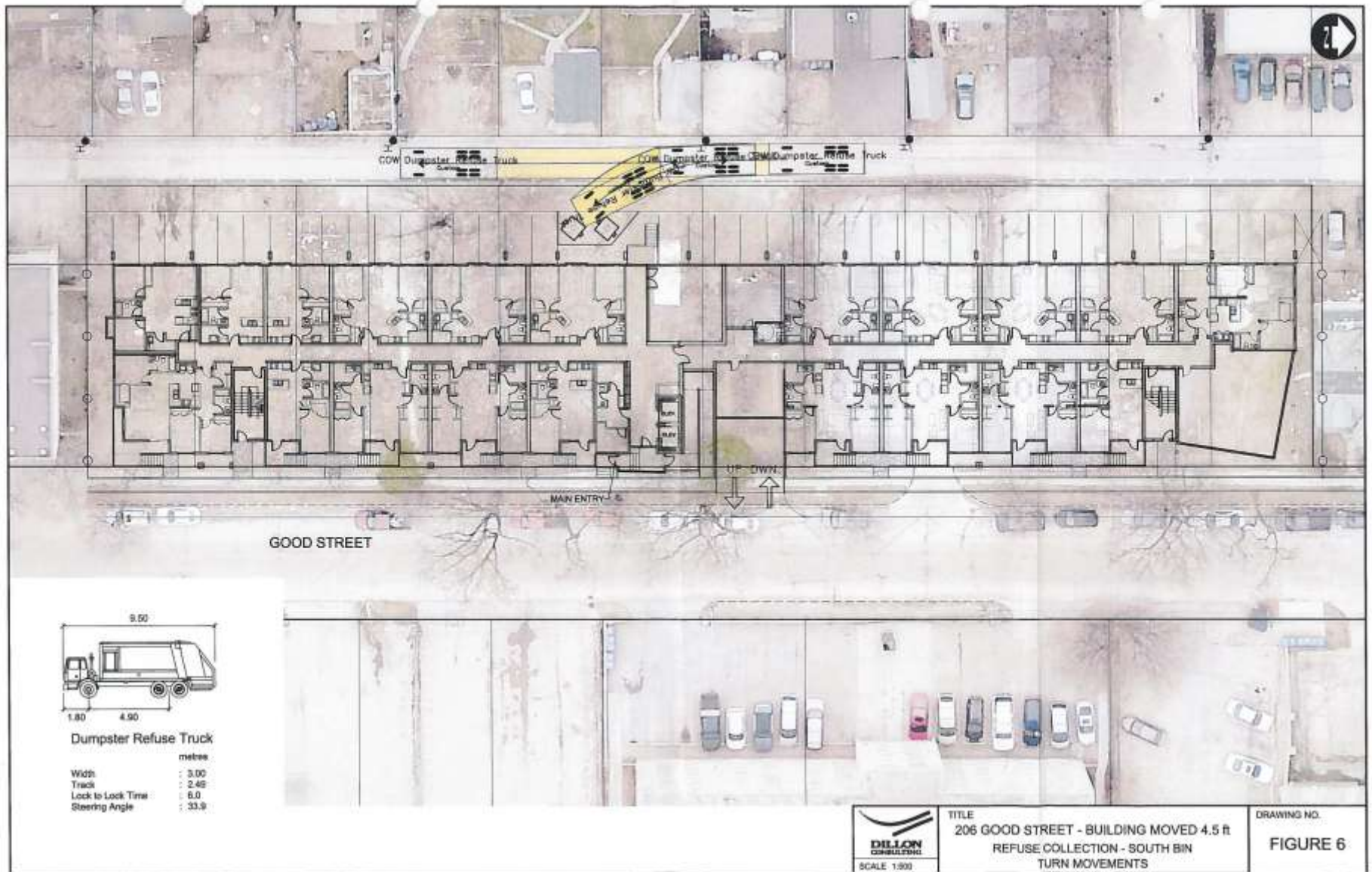
Width	: 3.00
Track	: 2.40
Lock to Lock Time	: 6.0
Steering Angle	: 33.9



TITLE
206 GOOD STREET - BUILDING MOVED 4.5 ft
REFUSE COLLECTION - NORTH BIN
TURN MOVEMENTS

DRAWING NO.
FIGURE 5

D:\CAD\holding #\Good Street info\AutoTurn-Tests-BuildingMoved.dwg



© \CAD_holding #\Good Street Infil\AutoTurn-Tests-BuildingMoved.dwg