



City of Maple Ridge
Advisory Design Panel
AGENDA

Wednesday, June 15, 2022 at 4:00 pm
Held Virtually Via Zoom Teleconference

Join the meeting from your computer, tablet or smartphone
<https://mapleridge-ca.zoom.us/j/82341020208?pwd=V3c3VWVuRzhZVTRQKsveVhNNS9CUT09>

Or join the meeting using your phone
Dial: 1-778-907-2071 Meeting ID: 823 4102 0208 Password: 644119

1. **CALL TO ORDER**
2. **APPROVAL OF THE AGENDA**
3. **ADOPTION OF MINUTES – May 18, 2022**
4. **QUESTION PERIOD**
5. **NEW AND UNFINISHED BUSINESS**
6. **PROJECTS**

6.1	Development Permit No:	2019-402-DP	4:15pm
	Applicant:	J. Illiscupidez, Centex Petroleum	
	Project Architect:	Rick Balbi, Rick Balbi Architect Ltd.	
	Project Landscape Architect:	Jones Landscape Architecture	
	Proposal:	Commercial Service Station and restaurant/convenience store	
	Location:	9450 287 Street	
	File Manager:	Michelle Baski	

7. **CORRESPONDENCE**
8. **ADJOURNMENT**

Next Meeting: July 20, 2022

Agenda Items Submission Deadline: July 6, 2022

QUESTION PERIOD

Question Period provides the public with the opportunity to ask questions or make comments on subjects that are of concern to them. Each person will be given 2 minutes to speak.
Up to ten minutes in total is allotted for Question Period.

The Minutes of the Regular Meeting of the Maple Ridge Advisory Design Panel (ADP)
held via Zoom teleconference on Wednesday, May 18, 2022 at 4:00 pm.

PANEL MEMBERS PRESENT

Meredith Mitchell, Vice Chair	Landscape Architect BCSLA
Sang Kim	Architect AIBC
Andrea Scott	Architect AIBC
Jose Gonzalez	Landscape Architect BCSLA

STAFF MEMBERS PRESENT

Wendy Cooper	Staff Liaison, Planner
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PANEL MEMBERS ABSENT

Jaswinder Gabri	Architect AIBC
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1. CALL TO ORDER

2. APPROVAL OF AGENDA

R/2022-050

It was moved and seconded

That the agenda for the May 18, 2022 Advisory Design Panel meeting be approved as circulated.

CARRIED UNANIMOUSLY

3. ADOPTION OF MINUTES

R/2022-051

It was moved and seconded

That the minutes for the April 13, 2022 Advisory Design Panel meeting be adopted.

CARRIED UNANIMOUSLY

4. QUESTION PERIOD – NIL

5. NEW AND UNFINISHED BUSINESS - NIL

6. PROJECTS

6.1 Development Permit No: 2021-061-RZ / 21783 Lougheed Highway.

The Chair welcomed the project team to the meeting and introduced the members of the ADP. The Staff Liaison provided a brief overview of a 6-storey 121-unit apartment building with some ground floor commercial in the C-7 Zone. A previous submission was made before the ADP meeting held on March 23, 2022. The ADP requested that changes be considered by the applicant. The ADP requested

that the proposal be re-submitted and presented at a future meeting. The project team presented how the concerns of the March 23, 2022 ADP meeting have been addressed and answered questions from the Panel.

R/2022-052

It was moved and seconded

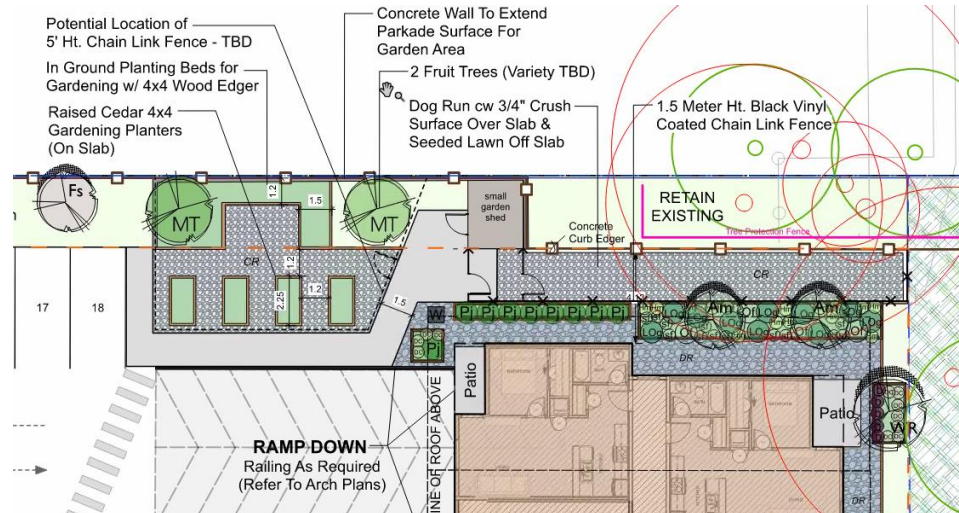
That the Advisory Design Panel has reviewed application 2021-061-DP and recommends that the application be supported and the following concerns be addressed as the design develops and submitted to planning staff for follow-up.

Architectural Comments:

- Ensure the refuse access door can accommodate larger bin sizes.
- Ensure adequate headroom at parking ramp for refuse pickup vehicle.
- Consider adding access at the north end of the corridor at ground level for residential outdoor amenity area.

Landscape Comments:

- The amenity areas proposed need to fulfill the Development Permit guidelines as well as, *Zoning Bylaw 2019-7600*.
- The mounded grass area indicated as amenity space for residents with the singular trees should be enhanced for privacy and programmability to ensure that it can be functionally used by the residents of the building.
- The amenity area proposed at the north east corner has opportunities to include additional programming, for example child play.
- Recommend relocating the commercial door next to the lobby door on slab amenity space to provide greater separation between public and private space.
- Recommend rotating planting beds separating commercial amenity and private amenity to ensure more complete separation of space.
- Ensure proposed sod areas on slab are flush with hard paved walking surfaces.
- Recommend that the chain link fencing enclosing the community garden space be reconsidered with softer material.
- Consider removing the sod from the community garden area and expanding the community garden plots.
- Consider relocating the garden shed within the community garden fenced area.
- Confirm construction of retaining wall and garden shed on the community garden area is allowed within setback.
- Provide cross sections for amenity area from neighbouring property to building to identify height of proposed retaining wall and materiality.



- Provide cross sections and details and how grade change will be achieved at tree protection area and all interfaces with adjacent properties.
- Provide details on how the grade changes will transition with the statutory right-of-way and the single family residential homes located to the north. Ensure landscape grading plan resolves interface with the existing trees. Ensure, if permitted, that the exposed portion of the retaining wall is aesthetically pleasing to the residential use to the north, consider setback and screening.
- Ensure the storm water on sloped sod landscape at north property line is captured onsite.
- The proposed retaining wall may require a fence, due to a fall height issue.
- The proposed sod along the northern property line may present maintenance issues.
- Ensure stormwater report and plans are provided to Planning Staff with resolution of storm water drainage on north and west property line.

CARRIED UNANIMOUSLY

7. CORRESPONDENCE - NIL

8. ADJOURNMENT

There being no further business, the meeting adjourned at 6:00 p.m.

The next regular meeting of the Advisory Design Panel will be held on Wednesday, June 15, 2022.

Meredith Mitchell, Chair

/wc

City of Maple Ridge

TO: Advisory Design Panel
FILE NO: 2019-402-DP
SUBJECT: 9450 287 Street

MEETING DATE: June 15, 2022

PURPOSE:

An Advisory Design Panel (ADP) submission has been received for the subject property located at 9450 287 Street (see Appendix A), to permit the construction of a service station with three commercial retail units. The subject property is approximately 1.3 ha (3.2 acres) in area, and is currently zoned CS-2 (Service Station Commercial) and M-2 (General Industrial); however, the proposed development is only on the CS-2 (Service Station Commercial) zoned portion of the lot, which is approximately 0.99 ha (2.4 acres) in area and is a former service station. The proposed development consists of approximately 578 m² (6,222 ft²) of commercial floor space. The allowable lot coverage is 40%, and the proposed lot coverage is less than 10% for the CS-2 (Service Station Commercial) zone portion of the lot.

The applicant is requesting the ADP to review the development application for form and character (see Appendix B). A Design Rational (see Appendix C) has been provided by the Project Architect. The ADP submission checklist (see Appendix D) is also attached for reference. The Development Data Sheet (see Appendix E) provides a quick summary of the project details.

This Development Permit application is subject to Section 8.5 of the Official Community Plan for Commercial Developments.

BACKGROUND:

Applicant:	J. Iliscupidez
Legal Description:	Lot 29 Except: Part on Statutory Right of Way Plan LMP3310, District Lot 438, Group 1, New Westminster District Plan 47148
OCP:	
Existing:	Commercial and Industrial
Proposed:	Commercial and Industrial
Within Urban Area Boundary:	No
OCP Major Corridor:	Yes
Zoning:	
Existing:	CS-2 (Service Station Commercial) and M-2 (General Industrial)
Proposed:	CS-2 (Service Station Commercial) and M-2 (General Industrial)
Surrounding Uses:	
North:	Use: Industrial Zone: M-2 (General Industrial) Designation: Industrial
South:	Use: Industrial Zone: RS-3 (Single Detached Rural Residential) and M-2 (General Industrial)

East:	Designation:	Industrial and Rural Residential
	Use:	Industrial
	Zone:	M-2 (General Industrial)
West:	Designation:	Industrial
	Use:	Single-Family Residential and Vacant
	Zone:	RS-3 (Single Detached Rural Residential) and CS-3 (Recreation Commercial)
	Designation:	Rural Residential and Commercial
Existing Use of Property:	Industrial and Decommissioned Service Station	
Proposed Use of Property:	Industrial and Service Station, Restaurant and Convenience Store	
Site Area:	1.32 ha. (3.3 acres)	
Access:	287 Street	
Servicing requirement:	Rural Standard	

DEVELOPMENT PERMIT AREA:

This development is subject to Section 8.5 of the Official Community Plan for Commercial Development Permit Area Guidelines (see Appendix F).

The following is a summary of the applicable Key Guidelines Concepts and a brief assessment of the proposal's compliance with the guidelines, as provided by the Project Architect:

1. Avoid conflicts with adjacent uses through sound attenuation, appropriate lighting, landscaping, traffic calming and the transition of building massing to fit with adjacent development.

"Landscape is designed along the periphery of the parking areas and along property lines abutting roads. Site lighting is designed in such a way that it will reduce light pollution."

2. Encourage a pedestrian scale through providing outdoor amenities, minimizing the visual impact of parking areas, creating landmarks and visual interest along street fronts.

"The layout of landscaping provides visual cues and supports pedestrian and vehicular circulation."

3. Promote sustainable development with multimodal transportation circulation, and low impact building design.

"The project has mostly retained existing building shell, like roof, floors and walls. Reuse of building materials will make the building low impact."

4. Respect the need for private areas in mixed use development and adjacent residential areas.

"Not applicable, as the surrounding development is mainly industrial."

5. The form and treatment of new buildings should reflect the desired character and pattern of development in the area by incorporating appropriate architectural styles, features, materials, proportions and building articulation.

"The project is a one-storey, simple rectangular shaped commercial building. The exterior building finishes have siding like corrugated metal, hardie planks, and brick veneer, which reflect characteristics of surrounding buildings."

Additional details on the development are provided in the Building Design, Massing and Siting section of the guidelines checklist.

PLANNING COMMENTS:

1. Proposal:

This Commercial Development Permit is for the development of a service station, with three commercial retail units. An existing building will be renovated for the new development. The property will be accessed from 287 Street. Details of the building materials, colours, and landscaping are attached (see Appendix G).

2. Context:

The subject property is a former service station, surrounded by industrial land to the north, east, and south, and residential land to the west.

3. OCP and Zoning Compliance:

The subject property is designated *Commercial* and *Industrial* in the Official Community Plan and is zoned CS-2 (Service Station Commercial) and M-2 (General Industrial). The proposed development is on the CS-2 (Service Station Commercial) zoned portion of the lot only.

The proposed development consists of 578 m² (6,222 ft²) of commercial floor space. The allowable lot coverage is 40%, and the proposed lot coverage is less than 10%.

4. Parking and bicycle storage:

The required parking for the commercial use, based on 1/20m² gross floor area for the two retail units is 22 spaces, plus 1 per 3 seats for the restaurant use, which is 7 spaces, for a total required parking amount of 29 parking spaces. Forty-six parking stalls are provided, two of which are accessible parking stalls. Bicycle parking is not required, but 6 bike stalls are provided. A five-car stack up is required for drive-thru uses in the CS-2 zone and the proposed development allows for 18 cars to be stacked onsite.

5. Environmental, Sustainability & Stormwater Management:

The stormwater management plan consists of two onsite retention ponds on the east side of the development, which will eventually drain to existing catchbasins/dry well located at the east end of the road ditch along the north side of Loughheed Highway.

6. Garbage/Recycling:

Garbage receptacles are provided along the north end of the property, the details of the enclosure screening are provided in Appendix G.

7. Engineering Servicing Upgrades:

Servicing upgrades along 287 Street, if required, will be identified at the Building Permit stage. Servicing upgrades along Loughheed Highway are under the jurisdiction of the Ministry of Transportation and Infrastructure, and they are supportive of the proposed development.

CONCLUSION:

The proposed development complies with the Commercial Development Permit Area Guidelines.

The Planning Department requests that the Advisory Design Panel provide comments on the development proposal.



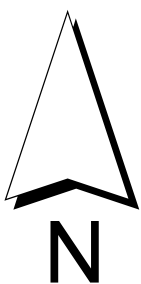
Prepared by: Michelle Baski, ASCT, MA
Planner

The following appendices are attached hereto:

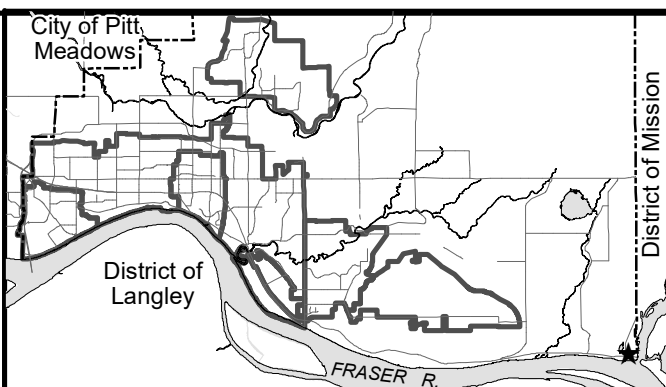
- Appendix A – Ortho Map
- Appendix B – ADP Submission Request Form
- Appendix C – Design Rationale
- Appendix D – ADP Submission Checklist
- Appendix E – Development Data Sheet
- Appendix F – Development Permit Area Guidelines Checklist
- Appendix G – Architectural and Landscaping Plans



Aerial Imagery from the Spring of 2018



Scale: 1:2,500



9450 287 STREET
PID: 000-444-031

PLANNING DEPARTMENT



MAPLE RIDGE

British Columbia

mapleridge.ca

FILE: 2019-402-RZ
DATE: Nov 20, 2019

BY: PC



Advisory Design Panel Submission Request Form

The City of Maple Ridge Advisory Design Panel (ADP) meets monthly. Refer to the attached schedules for submission deadline dates and for the minimum submission requirements. Before making your submission, contact your File Manager to establish what constitutes a complete ADP submission package for your project. Forward your complete submission package for the ADP through your File Manager well in advance of the deadline date.

Application Information:

Name of Applicant _____

File number _____

Address of site _____

Current Zone _____ Proposed Zone _____

Seeking to appear before the ADP on this date _____

Architect Information:

Submission will be presented to ADP by:

Architect _____

Landscape Architect _____

Other Professional (State Name & Role) _____

Note.: The Architects are required to prepare plans and to attend and to present all developments to the ADP that are in the Major Occupancy categories cited in the Table below taken from AIBC Bulletin 31 Buildings Requiring the Services of an Architect. For the entire bulletin, click [here](#).

Major Occupancy per the current building codes	Use	Types of Building or Parts of Building requiring the services of an architect under section 60 of the Architects Act.
Group A (Part 3)	Public Assembly	<ul style="list-style-type: none"> any one-storey building with an unsupported span exceeding 9 m or gross area exceeding 275 m²; any building of more than one storey with gross area exceeding 235 m²; and all schools, any size
Group B (Part 3)	Hospital, Sanatorium, or Home for the Aged Institutional	<ul style="list-style-type: none"> any building (excluding veterinary hospital) with a capacity exceeding 12 beds any building with gross area exceeding 470 m²
Group C Residential	Hotel or similar occupancy	<ul style="list-style-type: none"> any building containing 5 or more dwelling units any building containing 11 or more guest rooms
Group D & E	Commercial	<ul style="list-style-type: none"> any building with gross area exceeding 470 m²
Group F (F1: Part 3)	Industrial	<ul style="list-style-type: none"> any building with gross area exceeding 470 m²

**CITY OF MAPLE RIDGE
ADVISORY DESIGN PANEL
2019 APPLICANT SCHEDULE**

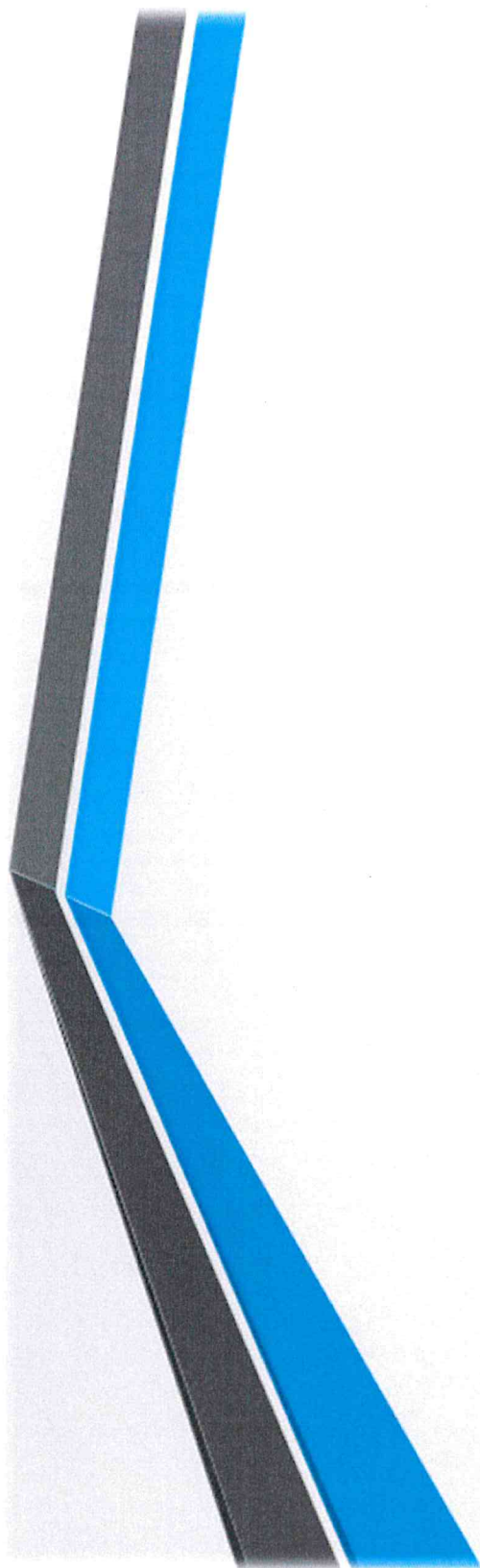
Meeting Date	Applicant Deadline
January 16, 2019	December 17, 2018
February 20, 2019	January 28, 2019
March 20, 2019	February 25, 2019
April 17, 2019	March 25, 2019
May 15, 2019	April 18, 2019
June 19, 2019	May 27, 2019
July 17, 2019	June 24, 2019
NO AUGUST MEETING	
September 18, 2019	August 26, 2019
October 16, 2019	September 23, 2019
November 20, 2019	October 28, 2019
NO DECEMBER MEETING	

DESIGN RATIONALE

ARCHITECT RICK BALBI

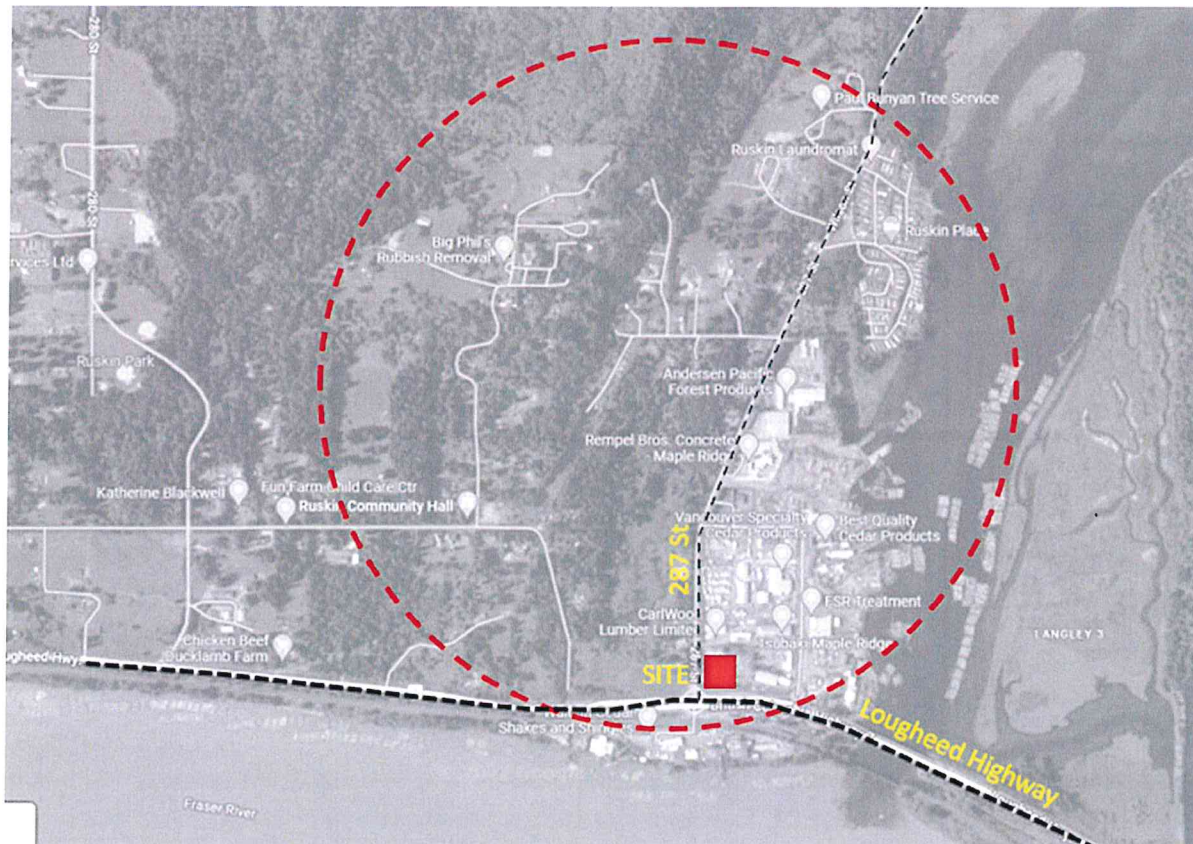
AXIOM ARCHITECTURE INC.

DATE: 2022-05-27



PROJECT DESCRIPTION

The Ruskin Centrex proposed commercial development is located at the intersection of Lougheed Highway and 287 street, Maple Ridge, BC. The strategic location of this development will benefit the surrounding industrial area and people travelling on the highway.



The proposed building consists of a restaurant, convenience store, and retail unit. The gas filling station is in the south part of the site. The restaurant will have outdoor patios, drive-thru lanes, and ample parking space to accommodate the flow of customers.

The project is an alteration to the existing one-story commercial building. The shell of the building will remain the same while existing windows and doors will be replaced. The building facade will be renovated with bright silver metal siding, brick veneer, and light blue Hardie siding.

SITE CONTEXT

The site is bounded by the Lougheed highway to the South, and 287 Street to the West. The proposed development site currently has two site accesses: on the northwest and southwest sides. Each access is located on 287 Street. The proposed development will have only one access on the Northwest side. Other access will be eliminated to meet the requirements of MOTI. The site is largely flat with no existing trees.

DESIGN RATIONALE

The project is a one-story, simple, rectangular-shaped building that faces the Lougheed Highway. The exterior building finishes reflect the characteristics of the neighboring building and will be commercial in character. Since the building is located at an intersection, it will feature significant corner and pop-out architectural wall features. The glazed area is designed mainly at front elevations facing the highway, and entrances are easily identifiable and clearly visible from the street.

The project is utilizing an existing roof which is visually covered by new parapets. Continuous weather protection like canopies, overhangs, and awnings are provided at the entrance of restaurants and convenience stores.

The service areas and drive-thru are located at the back of the building. Refuse areas are also on the rear side of the building and will be properly enclosed with metal fencing.

Signage is designed to complement the scale and architectural details and are located at ground level only. All signage will conform to the Maple Ridge Sign Bylaw. Separate signage will be provided to each tenant.

Site lighting is designed to remove glare and direct visibility of a light source from the public quickly. The project will feature well-lit public areas and clear sightlines between private and public spaces. A pedestrian crossing will be provided from the main building to 287 Street. Both vehicle and bicycle parking spaces are provided as per Maple Ridge bylaws. The site entrance has sufficient space for two car lengths between the street edge and the exit gate.



The building finishes feature siding like corrugated metal, Hardie planks, brick veneer, and glazing. Colors are used to differentiate one unit from another, but a common color palette has been selected based on surrounding buildings.

A handwritten signature in blue ink, appearing to read 'A. Ball's'.

Signature & Date

MAY 27, 2022

11995 Haney Pl.
Maple Ridge British Columbia
V2X 6A9

May 27, 2022

Attention: Michelle Baski

**Re: Landscape Design Rationale
Ruskin Centex – 287 St. and Lougheed Hwy., Maple Ridge, BC**

We are happy to present the following landscape design rationale for the Ruskin Centex development in Maple Ridge, British Columbia. The following rationale has been prepared for review by the Maple Ridge Advisory Design Panel:

Plant Material Layout

Deciduous and coniferous trees in the perimeter landscape yards enhances site boundaries and provides a visual buffer to adjacent land uses. Internal site landscaping in parking lot islands and drive thru isles softens the buildings architecture, reduces building scale, and provides visual cues for pedestrian and vehicular circulate.

Plant Material Selection

A broad planting palette, including deciduous, coniferous and flowering ornamental trees have been selected for year-round and seasonal colour. All trees and shrubs have been chosen for regional suitability within the 8B hardiness zone.

Ground Cover


Decorative rock mulches, wood mulch and sod complete the ground cover in landscape areas. A combination of wood mulch over topsoil is used in tree and shrub planting beds for its moisture retentive and nutrient recycling qualities. All ground covers have been selected to support tree and shrub vitality

We hope that the above rationale communicates the design intent for this landscape development. Should you have any questions, please do not hesitate to contact us.

Sincerely,

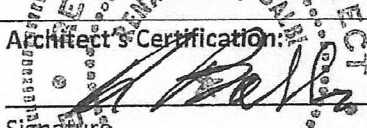



Ryan Jones, AALA
Jones Landscape Architecture

 <div style="display: inline-block; text-align: left;"> MAPLE RIDGE British Columbia mapleridge.ca </div>	<h2 style="margin: 0;">ADP Submission Checklist</h2>
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Application No. 2019-402-DP File Manager Michelle Baski

This checklist is being provided to you by your File Manager, to assist in preparing the materials for submission to the Advisory Design Panel (ADP). Please refer to the ADP Submission Form and the ADP Requirements Brochure for submission requirements in terms of explanatory letters, plans, supporting information and specifications on size and numbers of copies to be submitted. Address your questions to the File Manager or the Planning Liaison to the ADP.

Certification of Complete ADP Submission:		The Alberta Association of Landscape Architects
Architect's Certification:  Signature _____ Date <u>Feb 22/22</u> Print name <u>Ryan Jones</u>	Project Landscape Architect's Certification:  Signature _____ Date <u>Feb 22/22</u> Print name <u>Ryan Jones</u>	

Submission Materials	Required (File Manager to indicate if required)	Provided
A. ADP Submission Form (Submitted and signed by Architect)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Covering Letter including explanations about:		
1. Project description/analysis (Detailed information Required)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Architectural and Landscaping Design rationale (Detailed information Required)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Statement in brief about the following:		
a. DP Key Concepts Compliance	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. DP Guideline Compliance	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Stormwater management strategy with emphasis on Tier A requirements integrated into landscaping plans	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Public Art / Amenities, etc.	<input type="checkbox"/>	<input type="checkbox"/>
e. Sustainability practices	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Other _____	<input type="checkbox"/>	<input type="checkbox"/>
C. Site and Neighbourhood Context		
1. Context Review – Context Plan with existing/proposed buildings and trees, vegetation, roads, existing / proposed grading, and other major features within the site, on the abutting properties, the public realm and along the road allowances / lanes.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Photographs of site and surrounding sites.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Development Permit Area Checklist (Note: The Architect is responsible to describe how the project complies with each guidelines, or if not applicable, a description of why not applicable. Please use fillable forms on line.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>

E. Architectural Plans (Site and Building(s)):		
1. Site Plan and layout	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Site sections	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Streetscape elevation	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Streetscape elevations with landscaping and boulevard trees superimposed	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Shadow analysis	<input type="checkbox"/>	<input type="checkbox"/>
6. Lighting analysis (on building and on site)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Floor Plans for all levels, including underground and roof tops	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Waste collection /recycling (inside of buildings)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. Storage, including bicycle storage (inside and outside)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. Building elevation (all sides)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. Signage (attached to building and free standing)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12. Colours and materials	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13. Material board	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14. Building sections	<input checked="" type="checkbox"/>	<input type="checkbox"/>
15. 3D renderings of site, building(s) and associated landscaping	<input checked="" type="checkbox"/>	<input type="checkbox"/>
F. Landscaping Plans:		
1. Landscaping plan and layout with specifications and planting details	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Storm water management works focused on Tier A requirements integrated into landscaping plan with details	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Landscaping details, including public art, signage, lighting, play and other amenity areas, fences, retaining walls,	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Waste collection /Recycling (exterior areas/structures)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Details for pedestrian amenity and furniture features provided	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Details for hard surfacing areas / patterns	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Tree retention and management plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Site sections for lot grading, drainage, landscaping, retaining walls and relationship to adjacent grades / City roads / lanes	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. Pedestrian, bicycle, equestrian path interconnections	<input type="checkbox"/>	<input type="checkbox"/>
G. Green Building/Sustainability initiatives	<input type="checkbox"/>	<input type="checkbox"/>
H. Engineering-related Information:		
1. Site grading plans	<input checked="" type="checkbox"/>	<input type="checkbox"/>
I. Other	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>



mapleridge.ca

DEVELOPMENT DATA SHEET

Existing /Proposed Zone CS-2 Date Prepared 2022-05-27

Required Development Data	Minimum Required or Maximum Allowed	Proposed (Complies or state variance needed)
LOT AREA* (in square metres)		
Gross Total	2,100.00	13,219.00
Less Road Widening / Truncations	-	
Less Park	-	
Net Total	2,100.00	13,219.00
LOT COVERAGE (in % of net lot area)		
Total Site Coverage	40% MAXIMUM	4.369% (577.60 SQ.M.)
SETBACKS (in metres)		
Front	9.00	21.28
Rear	6.00	44.20
Side #1 (N,S,E, or W)	6.00	33.27
Side #2 (N,S,E, or W)	7.50	25.15
Side #3 (N, S, E or W)		
SETBACKS – Underground Structures (in metres)		
Front	-	-
Rear	-	-
Side #1 (N,S,E, or W)	-	-
Side #2 (N,S,E, or W)	-	-
Side #3 (N, S, E or W)	-	-
BUILDING HEIGHT (in metres/storeys)		
Principal	7.5	4.92
Accessory	-	-
NUMBER OF RESIDENTIAL UNITS		
Bachelor	-	-
One Bedroom	-	-
Two Bedroom	-	-
Three Bedroom +	-	-
Total	-	-
GROSS FLOOR AREA (in square metres)		
Residential	-	-
Retail Commercial	-	577.60
Office Commercial	-	-
Other Commercial (Type _____)	-	-
Institutional	-	-
Industrial	-	-
TOTAL GROSS FLOOR AREA	779.00	577.60

* If the development site consists of more than one lot, lot dimensions pertain to the entire site.

Required Development Data		Minimum Required or Maximum Allowed	Proposed (Complies or variance needed?)
DENSITY			
# of units/ha (gross)	-	-	-
# of units/ha (net)	-	-	-
Gross Floor Area	-	-	-
Floor Space Ratio (net)	-	-	-
AMENITY SPACE (area in square metres)			
Common Activity Area	-	-	-
Useable Open Space	-	-	-
PARKING (number of spaces)			
Residential and Multi-Residential Uses			
Multi-Residential Town Centre (Bach Units)			
Multi-Residential Town Centre (1 Bdr Units)			
Multi-Residential Town Centre (Added Bdr)			
Commercial Uses	22		46
Educational & Assembly Uses			
Institutional Use			
Industrial Use			
Business Park Uses			
Comprehensive			
Other			
Number of spaces for visitors			
TOTAL NUMBER OF PARKING SPACES			
Number of total for disabled	-		2
Number of total (and %) small cars		%	
Number of total (and %) tandem spaces		%	
TOTAL OFF STREET LOADING SPACE(S)	1		1
BICYCLE PARKING (number of spaces)			
Short Term Bicycle Parking	3		3
Long Term Bicycle Parking	1		3

OTHER – state YES or NO for each. If YES describe on separate sheet.			
Heritage Site	NO	Tree Survey/Assessment Provided	NO
Watercourse/Steep Slopes	NO	Covenants, Stat ROW & Easements	NO

I hereby certify that all the above information is true and correct. I acknowledge that any error or omissions are the sole responsibility of the undersigned and not the Development and Environmental Services Department.

Prepared by: **RICK BALBI**

Print Name



(Please print form and sign above)

NOTE: To be prepared by an Architect for ADP Submission or by an owner/agent (applicant) for Development Application.



Commercial Development Permit Area Guidelines Checklist

Pursuant with Section 8.5 of the Official Community Plan, commercial developments will be assessed against the form and character guidelines established by Council and summarised below.

This checklist is to be prepared by the architect of record for the project to demonstrate the proposed design was developed in accordance with the form and character guidelines. Please assess and describe the compliance of the proposed design of the project with respect to the **Key Guideline Concepts** and with the **Form and Character Guidelines**.

Description of the **Key Guideline Concepts** should be suitable for File Managers to quote in Development Permit Application Reports to Council. For the **Form and Character Guidelines**, clearly describe how the proposed design complies with each of the listed guidelines, or describes why a guideline is not complied with or why it is inapplicable.

This checklist is to accompany Development Permit Applications and submissions to the ADP.

8.5.1 Key Guideline Concepts	Describe how this project and the design complies
1. Avoid conflicts with adjacent uses through sound attenuation, appropriate lighting, landscaping, traffic calming and the transition of building massing to fit with adjacent development.	Landscape is designed along periphery of parking areas and along property lines abutting to roads. Site Lighting is designed in such a way that it will reduce light pollution.
2. Encourage a pedestrian scale through providing outdoor amenities, minimizing the visual impact of parking areas, creating landmarks and visual interest along street fronts.	Layout of landscaping provides visual cues and supports pedestrian and vehicular circulation.
3. Promote sustainable development with multimodal transportation circulation, and low impact building design.	Project has mostly retained existing building shell like roof, floors and walls. Reuse of building materials will make the building low impact.
4. Respect the need for private areas in mixed use development and adjacent residential areas.	Not applicable. Surrounding development is majorly industrial development.
5. The form and treatment of new buildings should reflect the desired character and pattern of development in the area by incorporating appropriate architectural styles, features, materials, proportions and building articulation.	Project is one storey, simple rectangular shaped commercial building. Exterior building finishes has sidings like corrugated metal , hardie planks, brick veneer which reflects characteristics of surrounding buildings.

Guideline 8.5.2 A Building Design, Massing and Siting	Describe how the proposed design complies with each of the listed guidelines, or describes why a guideline is not complied with or why it is inapplicable.
<p>1. The form and treatment of new buildings should reflect the desired character and pattern of development in the area by incorporating appropriate architectural styles, roof forms, facade modulation, architectural features, fenestration patterns, building elements and proportions and building articulation.</p>	<p>Project is one storey commercial building. Exterior building finishes has sidings like corrugated metal , hardie planks, brick veneer and glazing. Colours are used to differentiate one unit from another, through the number of colours but limited to three colors and common colour palette has been selected based on surrounding buildings finishes. Additional colours are used only as an accents or trim.</p>
<p>2. Exterior finishes should be wood, brick, natural stone or other materials of warm appearance. Substantial areas of concrete should be avoided. Expanses of solid wall or glass are unacceptable.</p>	<p>Building materials will be commercial in character. Exterior building finishes has sidings like corrugated metal, hardie planks, brick veneer. Glazing is used majorly on front elevations and partly on side elevations as a commercial requirement.</p>
<p>3. New buildings adjacent to existing small scale buildings such as houses should be designed to provide visual interest whilst protecting the privacy and livability of both properties.</p>	<p>Not applicable. Surrounding development is majorly industrial development.</p>
<p>4. Significant corners should be given added emphasis with vertical architectural features and roofscape features. At intersections, the definition of corners should be reinforced by buildings that front on both streets.</p>	<p>Corner and pop out architectural wall feature is designed, as building is located at intersection of roads. Glazed area is designed mainly at front elevations facing main street. Project is using existing roof and it is visually covered by new parapets.</p>
<p>5. Development should be sited to have the building frontage on the main street alignment.</p>	<p>Building is existing building and front elevation is facing main street.</p>
<p>6. Projects located on slopes should be developed in a manner which creates a step in perceived height, bulk and scale between developments.</p>	<p>Not applicable, as site is not located on slopes.</p>
<p>7. Design and construction of buildings should account for maximum sound attenuation between commercial and adjacent residential uses. To ensure that noise generated on the site is addressed in the most appropriate manner, Council may request that a noise attenuation study be prepared.</p>	<p>Not applicable. Surrounding development is majorly industrial development.</p>

Guideline 8.5.2 A (Continued)	
8. Continuous weather protection, such as canopies, structural awnings, or building overhangs, is strongly promoted where at-grade retail uses are included in a development and over common entries to commercial and/or mixed-use developments that front a public sidewalk or open space.	Canopies and overhangs are provided at the entrance of restaurants and convenience store.
9. Developments adjacent to treed slopes, ravines and watercourses must respect natural vegetation, use natural landscaping to retain soils on the site and may require additional setbacks as established by agencies having jurisdiction. Creeks and ravines are encouraged to be retained in their natural state.	Not applicable, as site is not located at mentioned locations.
10. Developments are encouraged to redirect water from rooftop runoff and downspouts into vegetated areas or rain barrels for later irrigation use.	Storm water management infrastructure is designed to manage roof top runoff water. Please refer storm water management plan.
11. Buildings should be designed and located on a site to: a) preserve and incorporate natural features or views; b) ensure proper orientation and relationship to adjoining residential uses; c) minimize impacts on natural features and agricultural lands; d) accommodate natural grades to ensure minimal grading is required.	Not applicable, as site is not located at mentioned locations.
Guideline 8.5.2 B Refuse, Recycling and Servicing Areas	Describe how the proposed design complies with each of the listed guidelines, or describes why a guideline is not complied with or why it is inapplicable.
1. The design of a roof, placement of mechanical units and satellite dishes, etc. should take into account views of the roof from adjacent buildings.	Roof top units will be screened.

Guideline 8.5.2 B (Continued)	
2. Service areas should have differentiated access to minimize visual impact as well as conflicts with pedestrians.	Service areas are located at the rear the building.
3. Refuse receptacles must be located indoors or within service areas out of view from pedestrian access. Garbage and waste material should be stored in containers that are weatherproof and animal-resistant.	Refuse areas are located at the rear side of the building and proper fencing will be done. Containers will be weather proof.
4. Mechanical equipment, drive-through uses, service or car wash bays, restrooms, vending machines, unenclosed storage, and public telephones should be oriented on the site to face away from adjacent residential development. Whenever possible, these uses should not be visible from an adjacent residential property.	Not applicable. No residential properties around the site. Drive through is located at the rear side of the building.
Guideline 8.5.2 C Street Front	Describe how the proposed design complies with each of the listed guidelines, or describes why a guideline is not complied with or why it is inapplicable.
1. Particular attention should be made to the image presented to the streetfront.	Not applicable. Site is not located at street fronts.
2. New development should emphasize the street frontages by incorporating differentiated front, side and rear oriented facades. Facades should incorporate vertical and horizontal relief in a well-proportioned rhythm appropriate to the intended scale of development.	Not applicable
3. Buildings with over 15 metres of street frontage should break the horizontal mass of the building with vertical elements in a rhythmic pattern.	Not applicable
4. Streetfront landscaping will incorporate street trees for definition of site boundaries and enhancement of public space.	Not applicable

Guideline 8.5.2 C (Continued)	
5. Vehicle access on a street frontage should be located to the side of the building away from the pedestrian entrance and should be designed to minimize the impact on streetscape appearance and disruption to pedestrian movement.	Not applicable
Guideline 8.5.2 D Signage and Lighting	Describe how the proposed design complies with each of the listed guidelines, or describes why a guideline is not complied with or why it is inapplicable.
1. Signage should be integrated with the design of a building, preferably at ground level only, and its size and design should complement the scale and architectural detail of the building.	Signages are designed as per building proportions and located at ground level only. Attached are the details of signages.
2. High intensity illumination directed at adjoining properties should be avoided. Commercial signage and high intensity illumination adjacent to residential uses should be minimized in order to protect residential amenity.	No high intensity illuminations are directed to adjacent properties and residential amenities are not existing near site.
3. Lighting and signage should be designed so as to have no direct source of light visible from the public right-of-way.	Lighting and signages has been designed in such away that no direct light source is visible from public right of way. Please refer lighting study plans and signages details submitted.
4. All signage must conform to the Maple Ridge Sign Bylaw. In the event of a conflict between the Maple Ridge Sign Bylaw and these guidelines, the latter should take precedent.	All signages will conform to the Maple Ridge sign bye law. Please refer signages details submitted.
5. In multiple-tenant commercial or mixed-use buildings, signs should be designed to present a unified appearance. Signage space should be provided for upper storey tenancies.	Separate signage space has been provided for each tenant.

Guideline 8.5.2 E Vehicle Access, Parking, and Circulation	Describe how the proposed design complies with each of the listed guidelines, or describes why a guideline is not complied with or why it is inapplicable.
<p>1. Buildings and structures should be located to ensure safe traffic circulation and access and adequate on-site parking. Parking should be encouraged in smaller units to avoid a monotonous appearance.</p>	<p>Adequate parking capacity is provided. Parking is divided in three groups. Please refer site plan.</p>
<p>2. Parking and storage areas should be appropriately screened. Low level landscape screening should be provided to parking areas adjacent to public streets.</p>	<p>Landscape is designed along periphery of parking areas and along property lines abutting to roads. Storage areas will be screened by proper fencing.</p>
<p>3. Where possible, parking and servicing should be located underground or to the rear of buildings to minimize the impact on streetscape appearance and pedestrian amenity. In all new buildings the portion of the structure used for parking and servicing should be adequately screened and should be architecturally compatible with the rest of the building.</p>	<p>Parking are divided in groups. Some parking spots are located at rear of the building and some are located adjacent to street. Parking adjacent to streets are screened by landscape. Storage areas will be screened by proper fencing.</p>
<p>4. Existing lanes should be used for vehicle access, loading and servicing. Upgrading of lanes in terms of attractive treatment and screening of parking access and loading and service areas is encouraged.</p>	<p>Existing lanes are used for vehicle access, loading and servicing.</p>
<p>5. Vehicle access should be located to the side of the building away from the pedestrian entrance and should be designed to minimize the impact on streetscape appearance and disruption to pedestrian movement.</p>	<p>Not applicable, as site is not located at street front.</p>
<p>6. Lanes, and driveways should conform to the existing grades as closely as possible to ensure minimal disruption of slopes and vegetation. On steep terrain, access should be aligned, wherever possible, to run parallel rather than counter to, natural contours and existing grades.</p>	<p>Not applicable, as the building and access roads are existing.</p>

Guideline 8.5.2 E (Continued)	
7. Shared vehicle access between adjoining sites should be considered where access for parking at the rear of the property is limited. Joint or shared access should also be considered between adjoining developments to minimize disruption of pedestrian sidewalks and to maximize landscaping and permeable surfaces. Integration of driving aisles and pedestrian walkways between adjacent sites is also strongly encouraged.	Not applicable, adjoining sites have no such conditions as mentioned in guidelines.
8. Minimize the amount of asphalt surfaces in parking areas by integrating a variety of paving materials such as concrete, decorative pavers or by using alternate surface treatments.	Not applicable, as the building, access roads are existing.
9. Above ground parking structures should not front public streets at grade. Non-parking uses or special façade treatments must be provided along street frontages to enhance the building's appearance to the public realm. On non-street fronting facades, parking structures should be treated to avoid long blank walls at grade, such as massed landscape treatments or attention to design detailing on the façade.	Not applicable. Project is not having above ground parking structures.
10. Parking control equipment, such as ticket dispensers and card readers, should be located at a sufficient distance from a public street to prevent parking queues extending onto the street. Similarly, a minimum distance of one car length, and preferably two car lengths, should be provided between an exit gate and the street edge to accommodate cars waiting to merge into traffic.	Distance of two car lengths is provided between exit gate and street edge at both entry exit points.
11. Rooftop parking structures should include design elements, including landscaping, to reduce the visual impact from the street and surrounding uses.	Not applicable. Project is not having above ground parking structures.

Guideline 8.5.2 F Pedestrian and Bicycle Access	Describe how the proposed design complies with each of the listed guidelines, or describes why a guideline is not complied with or why it is inapplicable.
1. Development should improve pedestrian amenity through interesting design detail at ground level, easily identifiable entrances, shop fronts with clear untinted glazing, concentration of signage at ground level, attractive landscaping and well defined pedestrian crossings for driveways and roadways.	Building has clear glazing windows and identifiable entrances. Signages are at ground level as building is one storey.
2. A well defined pedestrian access to the commercial use will be provided from the public sidewalk. Design will ensure that pedestrian use is given precedence over vehicular use. Where possible, at least one pedestrian connection should be provided through the main block of buildings.	Pedestrian crossing has been provided from main building to 287 st.
3. Facilities for cyclists should be considered for all developments.	Bicycle parking has been provided on site.
Guideline 8.5.2 G Landscaping and Open Space	Describe how the proposed design complies with each of the listed guidelines, or describes why a guideline is not complied with or why it is inapplicable.
1. Landscaping should be supplemented to identify and define public space, to present a pleasing image and to soften the transition from adjacent land uses to the commercial development.	Landscape trees, shrubs and grass has been proposed in landscape yards along the perimeter of the site to provide a buffer from neighboring lands uses.
2. Adjacent residential uses should be adequately protected by significant landscaping or the provision of screening or both.	Not applicable. Adjacent land uses are not residential.
3. Street trees will be a required component of all new development for definition of site boundaries and enhancement of public space. Simplicity in landscaping materials is desirable and should be encouraged for screening purposes. Deciduous tree species should be considered in landscape plantings to permit light penetration in winter. Mature vegetation should be retained where possible.	Deciduous trees have been proposed in the landscape yards along 287 Street and the Peter Lougheed highway to enhance public street and site boundaries.

Guideline 8.5.2 G (Continued)	
4. Aesthetic values along frontages and on-site ought to be enhanced by significant landscaping on all property lines and around buildings. Street trees should be used to provide the landscaping variety that would soften the character and scale of the area.	Tree, shrubs and decorative rock mulches have been proposed in parking lot islands and drive thru isles directly adjacent to the building to soften the image and support the pedestrian scale. Layout of landscaping provides visual cues and supports pedestrian and vehicular circulation.
5. Landscape planting and screening should be used to create interesting views and focal points into and out of the site for pedestrians, passing drivers and building tenants on the site or adjacent to it.	Landscape trees and shrub have been proposed at along 287 Street to enhance site entrance and define circulation into the site. Perimeter trees frames views into the site.
6. Open space should be usable, attractive and well-integrated with the design of the building. Open space, in many cases, will be achieved with courtyards, recessed balconies, terraced balconies, roof top gardens, and atria.	Programmed open spaces have not been considered in the landscape drawings.
7. Landscaping should reinforce design continuity with neighbouring properties and the streetscape by providing consistency in street trees, plant materials, and other landscaping elements.	Trees and shrubs have been selected for regional suitability within the 8B hardiness zone.
8. Landscaping should define the purpose and emphasize the desired character and function of public and private space. All private and semi-private open space should be clearly defined as such and should be controllable by those meant to benefit and be responsible for it, thus encouraging use, pride and safety.	Private spaces have not been provided in this land use class.
9. Distinguish public and semi-public spaces from private spaces. Design symbolic barriers through: a) building and site design; b) changes in paving, vegetation, or grading; or c) architectural features, such as low walls, bollards or raised planters.	Private spaces have not been provided in this land use class.

Guideline 8.5.2 H Crime Prevention through Environmental Design (CPTED)	Describe how the proposed design complies with each of the listed guidelines, or describes why a guideline is not complied with or why it is inapplicable.
1. Developments should be designed to maximize opportunities for natural surveillance allowing people to easily view what is happening around them during the course of everyday activities. Crime Prevention through Environmental Design principles and techniques are encouraged.	Chain link fencing is used to maximise natural surveillance. Entries are clearly visible from roads. No blind corners in and around the building. Clear sightlines between public and private spaces. Well lit public areas which will not produce glare or dark shadows. Landscaping will not obstruct natural surveillance.
2. Crime Prevention through Environmental Design (CPTED) principles should be incorporated into the design of all parking facilities.	Entries are clearly visible from roads. No blind corners in and around the building. Clear sightlines between public and private spaces. Well lit public areas which will not produce glare or dark shadows. Landscaping will not obstruct natural surveillance.
3. Design the interior spaces and exits from any underground and above ground parking structures for maximum visibility within the parking area. Entries should be highly visible, well lit and spaced at convenient intervals. Hidden spaces, obscured alcoves and blind corners should be avoided in the design and layout of the parking facilities.	Clearly visible entries and well lit parking layouts has been designed to achieve clear sightlines between public and private spaces.
4. Walls and ceilings of parking structures, particularly underground structures, should be painted white to enhance or reflect light.	Not applicable, no underground parkings in the project.
Guideline 8.5.2 I Universally Accessible Design	Describe how the proposed design complies with each of the listed guidelines, or describes why a guideline is not complied with or why it is inapplicable.
1. All non-vehicular routes be fully accessible. Sidewalks and pathways should be wide enough for wheelchair / scooters and should include a tactile strip for the visually impaired. Curb-cuts and curb let-downs should be provided in appropriate locations to facilitate safe, convenient, and direct access from parking spaces to buildings for people with disabilities.	Pathways are wide enough for wheelchairs. Direct access from parking spaces and 287st to buildings has been provided with pedestrian crossings.

Guideline 8.5.2 I (Continued)	
2. Locate parking spaces allocated for people with disabilities as close as possible to the main entrance to a building.	Barrier free parking has been provided near entrance of the building.
3. Building entries should be: a) clearly addressed with large numbers visible from the street; b) directly accessed from the street without stairs; and c) provided with weather protection, exterior lighting, and power-assisted door openers.	Building has signages which are clearly visible from road. Entrances can be easily identifiable with clear glazing doors and proper entrance door signs. Building is one storey and directly accessible. Canopies and awnings will be installed for weather protection.
Guideline 8.5.2 J Bicycle Storage and Parking	Describe how the proposed design complies with each of the listed guidelines, or describes why a guideline is not complied with or why it is inapplicable.
1. Provide short term bicycle parking facilities, such as bicycle racks, at grade close to building entrances. Bicycle parking should be in well-lit locations and clearly visible from a main building entrance and/or public roads. Bicycle racks should be made of sturdy, theft-resistant material, securely anchored to the floor or grounds.	Bicycle parking has been provided which can be visible from entrance. Also parking sign for Bicycles will be installed. The parking area will be well lit and the bike racks will be securely anchored to the ground.
2. Provide long term bicycle parking facilities in secure storage areas within buildings. Bicycle storage areas provided as part of a parking structure should be located close to elevators and access points. In mixed-use buildings, bicycle storage facilities for residents are to be separate from those for the commercial uses.	Not applicable, as building is not mix used and multistoried.
3. Large-scale developments are encouraged to provide end-of-trip facilities, such as showers and lockers, within the development for the convenience of employees.	Not applicable, as its small scale development.

Project Information

To be completed by the Architect on record for this project:

File Number 2019-402-QF

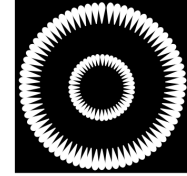
Date prepared: Feb 22/2012

Architect R Balbi
Print Name



RUSKIN CENTEX

9450 287 Street , Maple Ridge , BC



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No.	Description	Date
1	ISSUED FOR REVIEW	2019-01-09
2	ISSUED FOR DEVELOPMENT PERMIT	2021-11-13
3	ISSUED FOR DEVELOPMENT PERMIT	2022-05-17

CONTRACTOR

SEAL

CLIENT

DRAWN BY:	MD
CHECKED BY:	C.M. VALIENTE
ARCHITECT:	JOHN LEHNERS, P. ENG.
PROJECT No.:	180214
SHEET ISSUE DATE:	DECEMBER 03, 2021
PROJECT STATUS:	DEVELOPMENT PERMIT

PROJECT

RUSKIN CENTEX

DESCRIPTION

Cover Page

DRAWING NO.	G1.10	SHEET 1 11
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EXTERIOR PERSPECTIVE

ARCHITECTURAL		
SHEET No.	SHEET NAME	CURRENT REVISION DATE
A1.01	Existing and Demolition Plan	
A1.10	Main Floor Plan	
A1.20	Roof Plan	
A1.30	Reflected Ceiling Plan	
A2.00	Existing & Demolition Elevations	
A2.10	Building Elevations	
A2.11	Elevations	
A3.10	Building Sections	
A3.11	Wall Sections	
A3.12	Wall Sections	
A4.10	Enlarged Plan - Men's & Women's Washroom	
A6.10	Window & Door Schedules	
G1.10	Cover Page	
G1.20	General Notes, Abbreviations, Symbols & BCA	

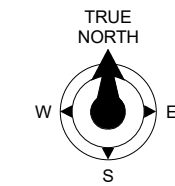
STRUCTURAL		
SHEET No.	SHEET NAME	CURRENT REVISION DATE
S0.1	Structural Cover Page	
S1.0	Foundation Plan	
S2.0	Roof Framing Plan	
S3.0	Foundation Details	
S4.0	Framing Details	
S4.1	Framing Details	

MECHANICAL		
SHEET No.	SHEET NAME	CURRENT REVISION DATE
M1.0	Mechanical Cover Page	
M2.0	Foundation Plumbing Layout	
M3.0	Main Floor Plumbing Layout	
M3.1	Main Floor Water Plumbing Layout	
M4.0	Main Floor HVAC Layout	
M5.0	Roof Mechanical Layout	
M6.0	Plumbing Fixture Schedule	
M7.0	Mechanical Specifications and Schedules	

ELECTRICAL		
SHEET No.	SHEET NAME	CURRENT REVISION DATE
E1.0	Electrical Site Plan	
E2.0	Main Floor Lighting Plan	
E3.0	Main Floor Power & Auxiliary Plan	
E3.1	Roof Floor Power Plan	
E4.0	Single Line Diagram, Schedule and Details	
E5.0	Exterior Lighting Elevation	
E6.0	Lighting Schedule	
E7.0	Fire Alarm Details	
E8.0	Electrical Specifications	

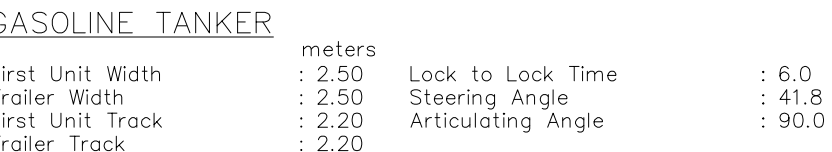


THIS SITE

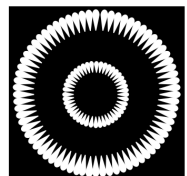


DRAWING LIST

VICINITY MAP



SITE AREA	TOTAL 1.3219 ha. (3.257 AC.)	
ZONING	COMMUNITY COMMERCIAL ZONE (CS-2)	
BUILDING AREA	CONVENIENCE STORE 173.26 sq.m., FOOD PARTNER (RESTAURANT) 404.34 sq.m	
	REQUIRED	PROVIDED
BUILDING HEIGHT	7.5m MAX	4.92m
FRONT YARD	3.0m	21.28m
REAR YARD	6.0m	44.20m
INTERIOR SIDE YARD	0 m	33.27m
EXTERIOR SIDE YARD	3.0m	25.15m
LANDSCAPE AREAS	1.5m FROM LOT LINE	1.62m
PARKING	C-STORE	
REQUIREMENTS	1SPACE PER 30 sq.m GFA = 241.64 Sq.m./30 = 8.0 SPACES	46 SPACES PROVIDED
	TIM HORTONS & FOOD PARTNER (RESTAURANT)	
	1SPACE PER 3 SEATS = 20 SEATS PER RESTAURANT = 13.33 SPACES = 14 SPACES	
	22 SPACES REQUIRED	
LOADING AREA	1SPACE REQUIRED	1 SPACES PROVIDED



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ISSUED FOR CONSTRUCTION IN THE TABLE BELOW.

DO NOT SCALE THIS DRAWING

[illegible]

ARCHITECT



CLIENT

SEAL

PERM

DRAWN BY:	RP
CHECKED BY:	RICK BALBI
ARCHITECT:	RICK BALBI
PROJECT #:	180214
SCALE:	1:400

PROJECT

RUSKIN CENTEX

DESCRIPTION

SITE PLAN

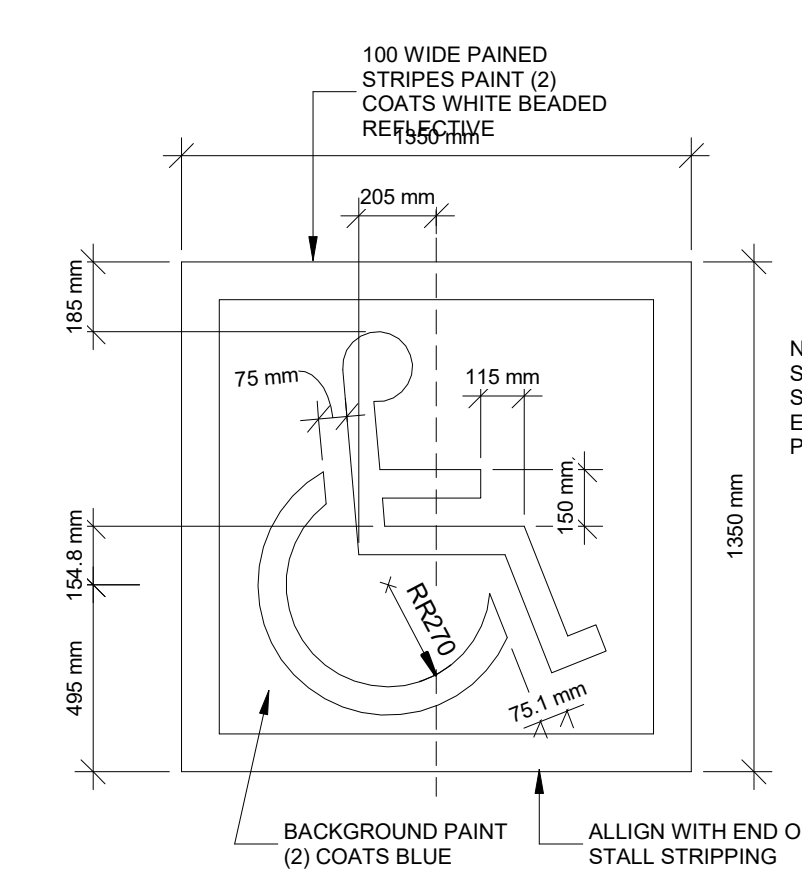
DRAWING NO.

SP-01

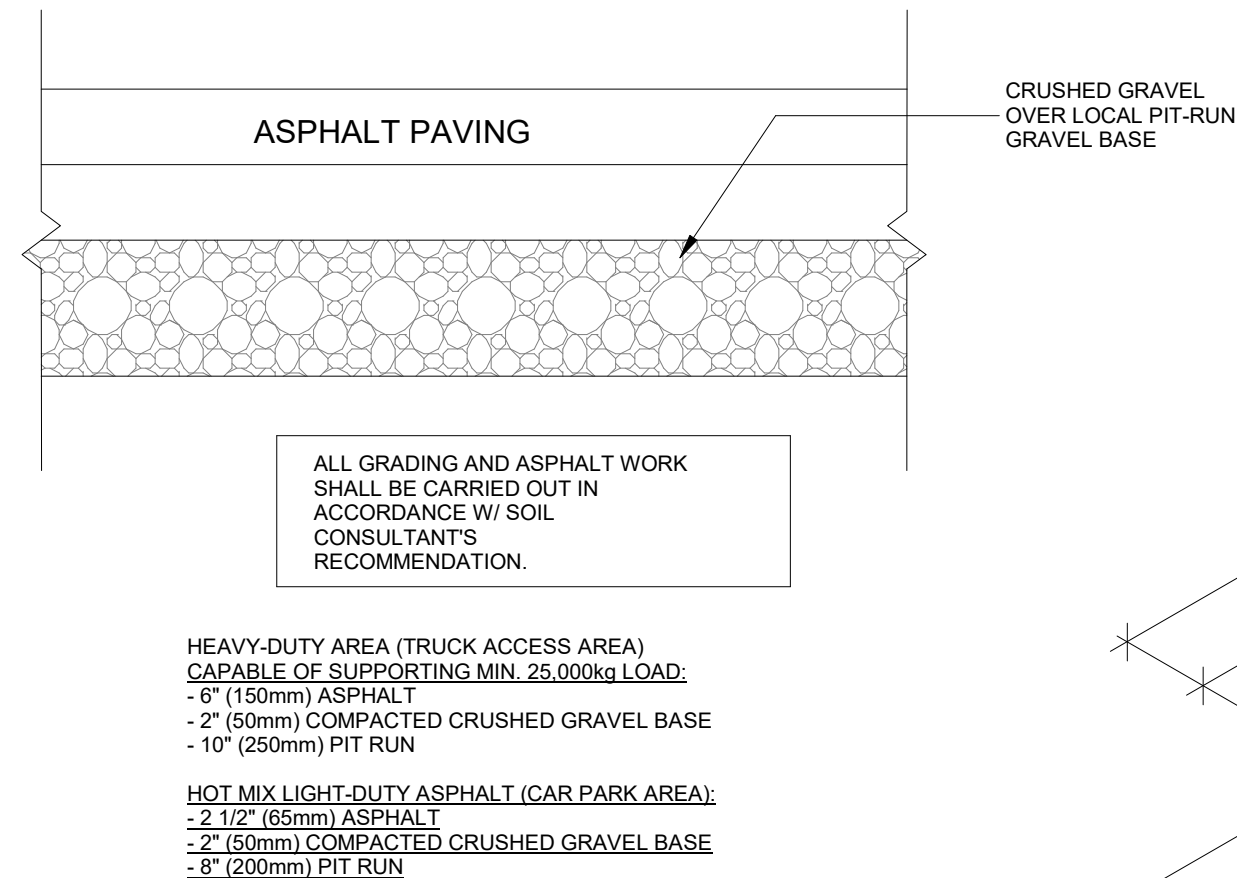
SHEE

2

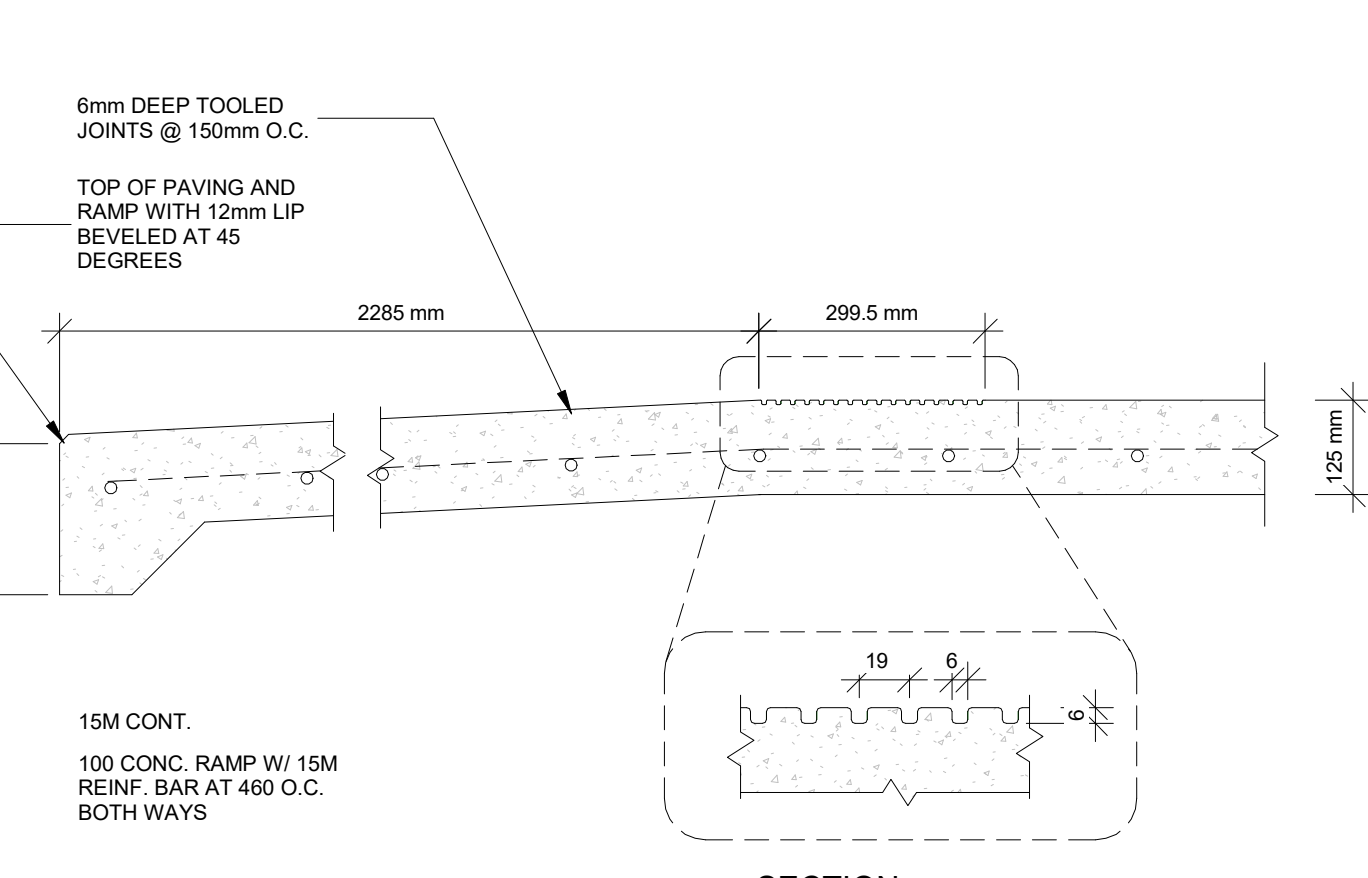
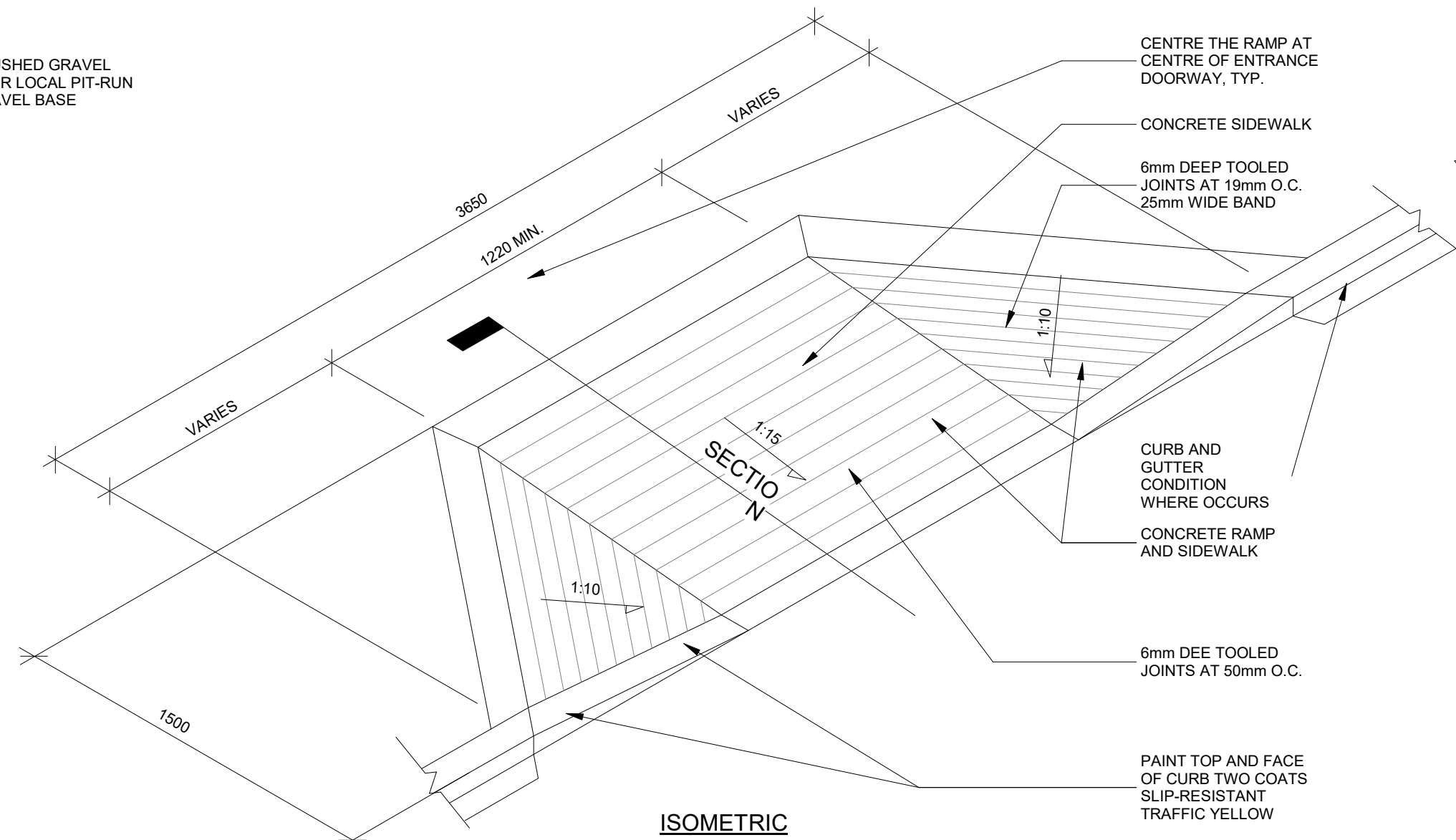
11



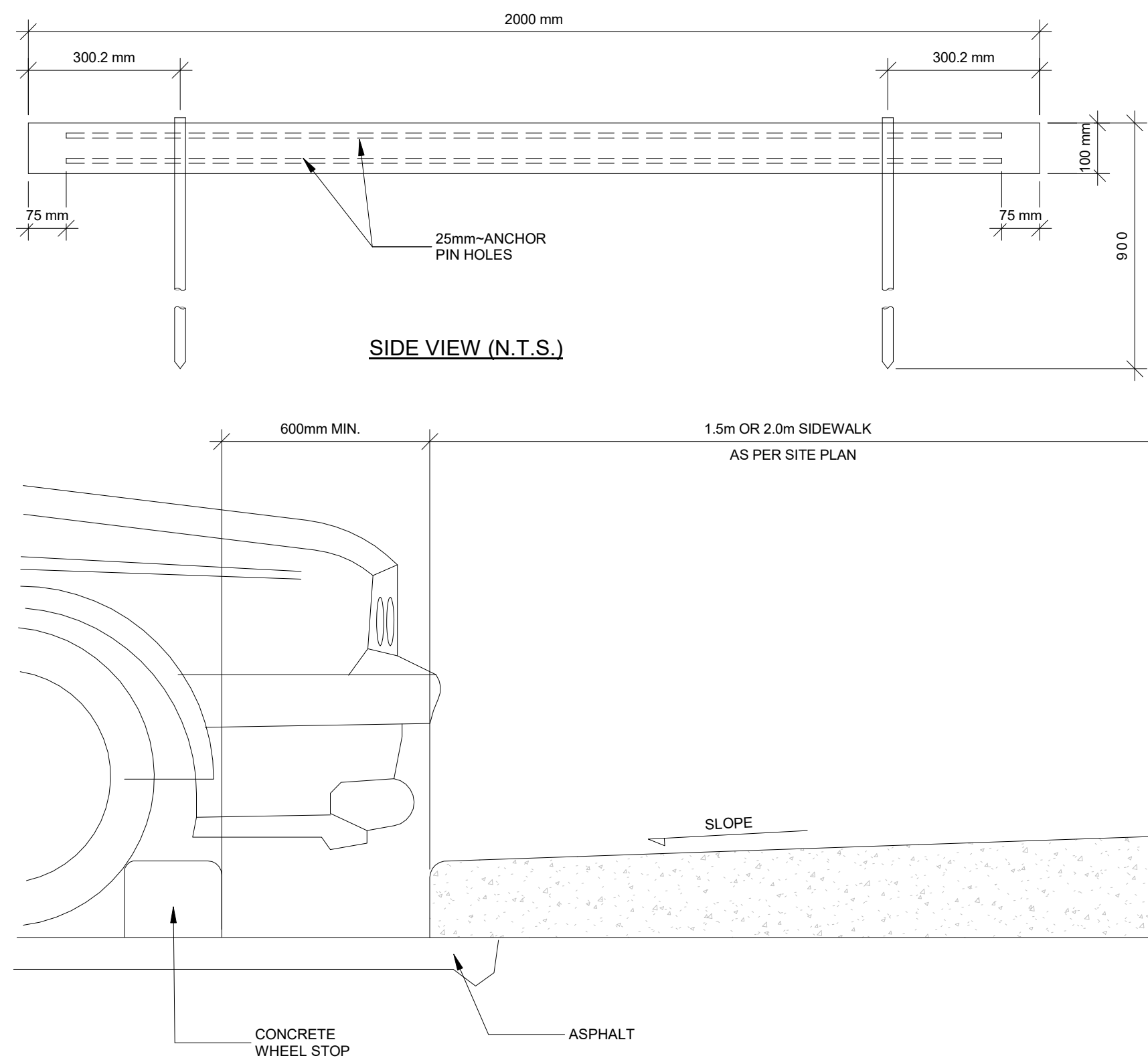
1 Std Barrier-free Stall Pavement Marking
A0.30 1 : 20



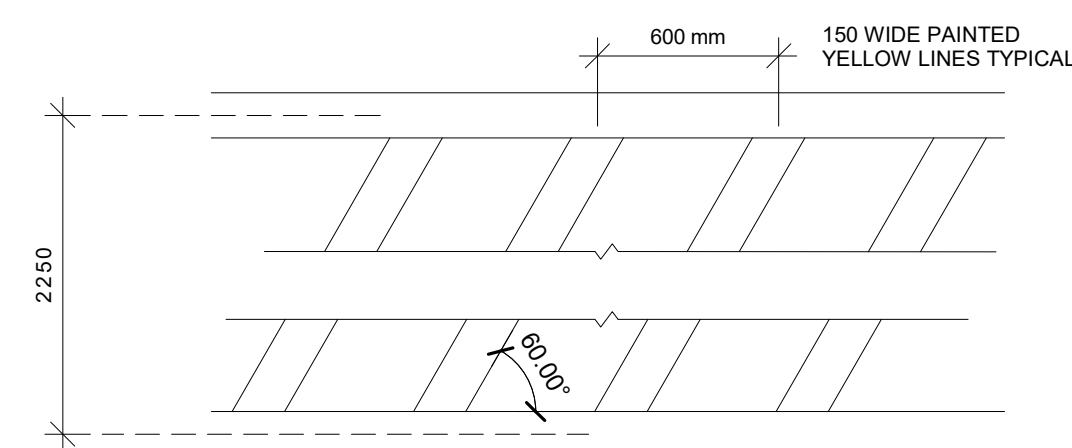
2 Standard Paving Detail
A0.30 1 : 10



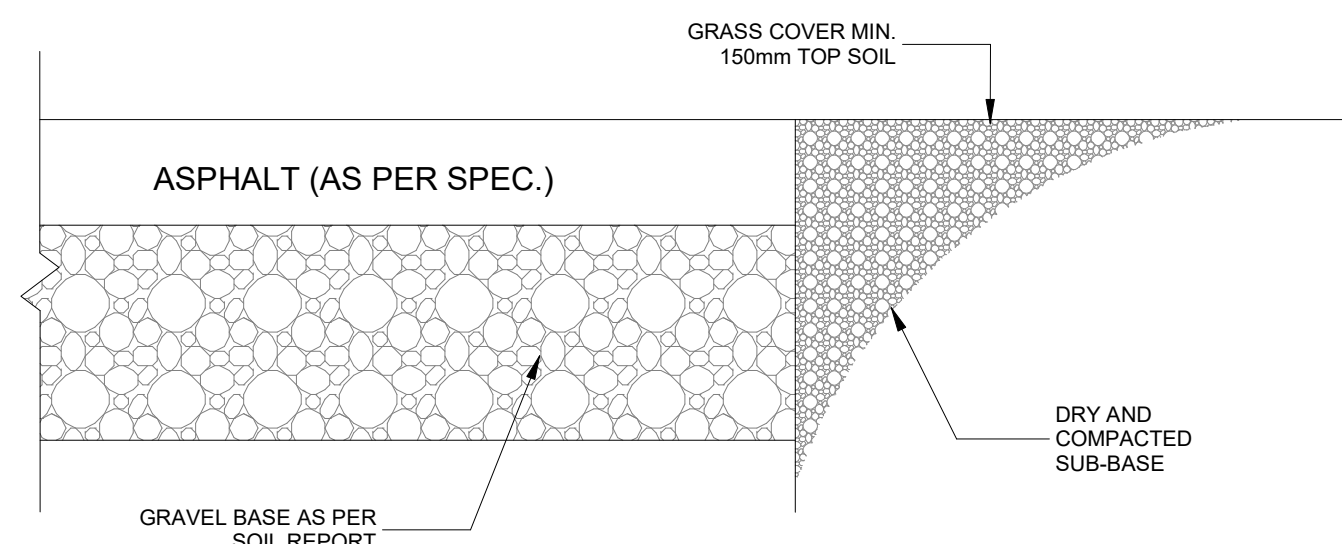
3 Standard Barrier-free Curb Cut
A0.30 1 : 10



5 Typical Driveway detail
A0.30 1 : 25

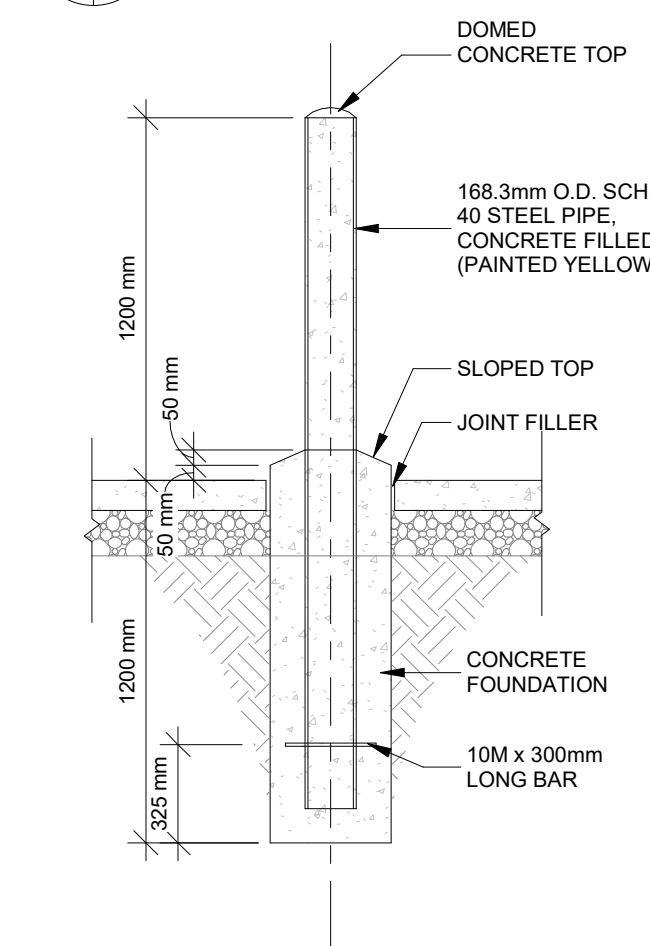
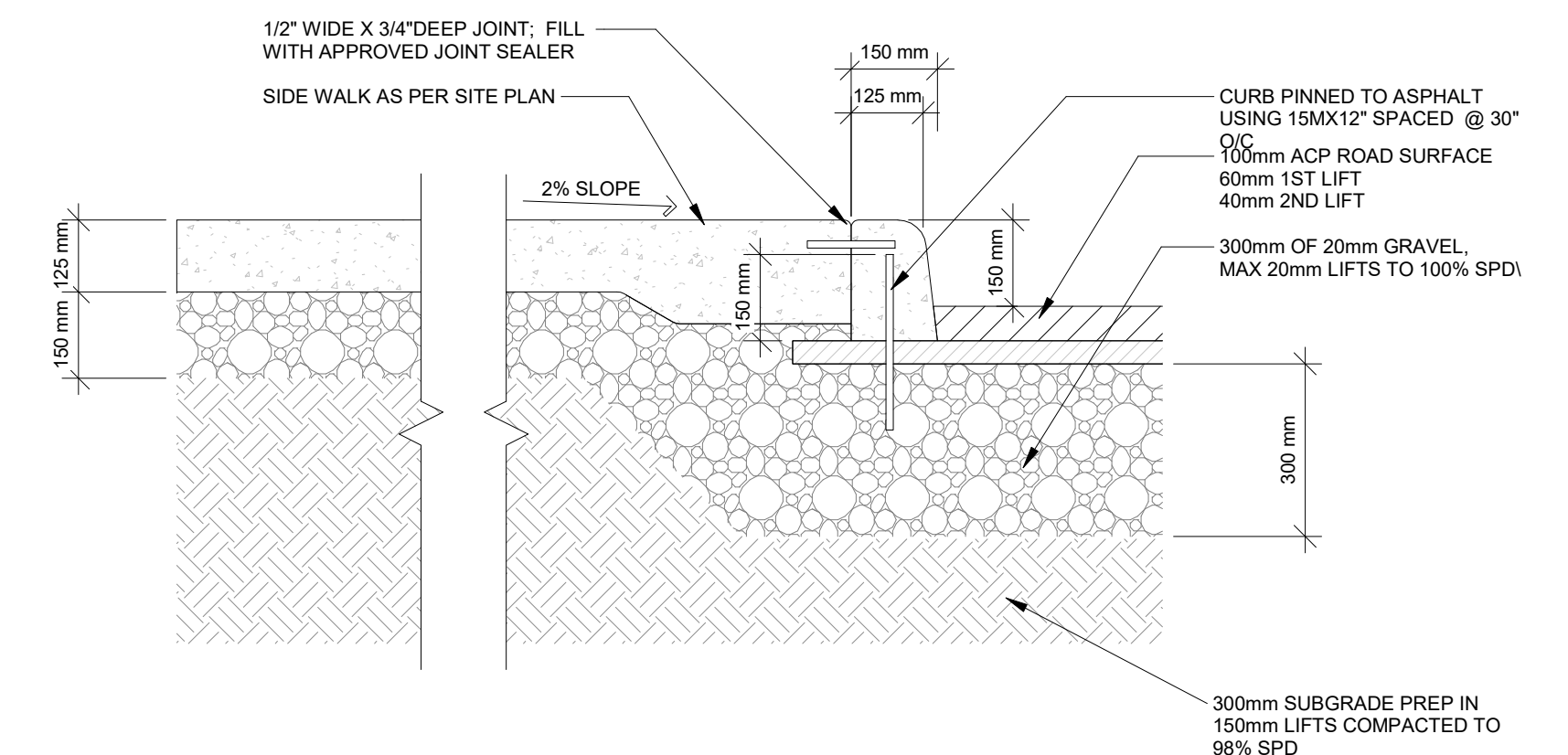


6 Standard Pedestrian Cross-walk Pavement Marking Detail
A0.30 1 : 25



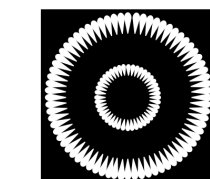
7 Standard Conc. Apron Detail
A0.30 1 : 10

8 Typical Asphalt-to-Grass detail
A0.30 1 : 10



10 Std Barrier-free Accessible Curb detail
A0.30 1 : 10

11 Typical Bollard detail
A0.30 1 : 25



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No.	Description	Date
1	ISSUED FOR REVIEW	2019-01-09
2	ISSUED FOR DEVELOPMENT PERMIT	2021-11-13
3	ISSUED FOR DEVELOPMENT PERMIT	2022-05-17

CONTRACTOR

SEAL

CLIENT

DRAWN BY: C.M. VALIENTE
CHECKED BY:
ARCHITECT: JOHN LEHNERS, P. ENG.
PROJECT No.: 180214
SHEET ISSUE DATE: DECEMBER 03, 2021
PROJECT STATUS: DEVELOPMENT PERMIT

PROJECT

RUSKIN CENTEX

DESCRIPTION

Site Details

DRAWING NO. **A0.30** SHEET **3** OF **11**



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NOTES

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ISSUED FOR CONSTRUCTION IN THE TABLE BELOW.

DO NOT SCALE THIS DRAWING.

ARCHITECT

REAL	PERMIT

DRAWN BY:	RP
CHECKED BY:	RICK BALBI
ARCHITECT:	RICK BALBI
PROJECT #:	180214
SCALE:	1:400

PROJECT

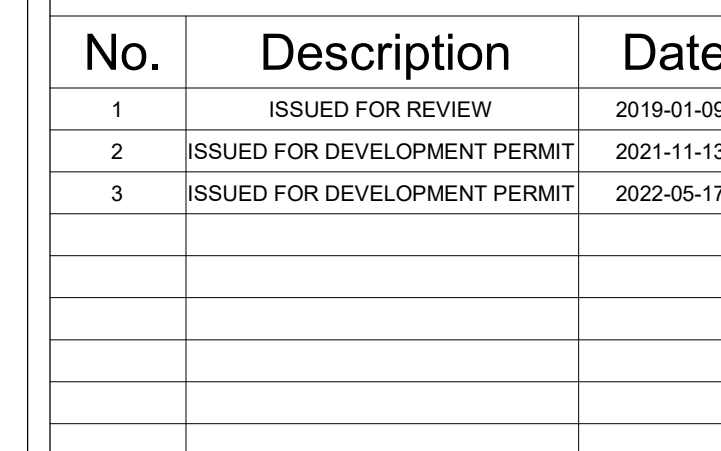
RUSKIN CENTEX

DESCRIPTION

SITE PLAN

DRAWING NO.	SHEET
SP-01	4 / 1





CONTRACTOR

SEAL

CLIENT

DRAWN BY: MD

CHECKED BY:	RICK BALBI
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ARCHITECT: RICK BALBI

PROJECT No.:	180214
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SHEET ISSUE DATE: DECEMBER 03, 2021

PROJECT STATUS:	DEVELOPMENT PERMIT
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PROJECT

RUSKIN CENTEX

DESCRIPTION

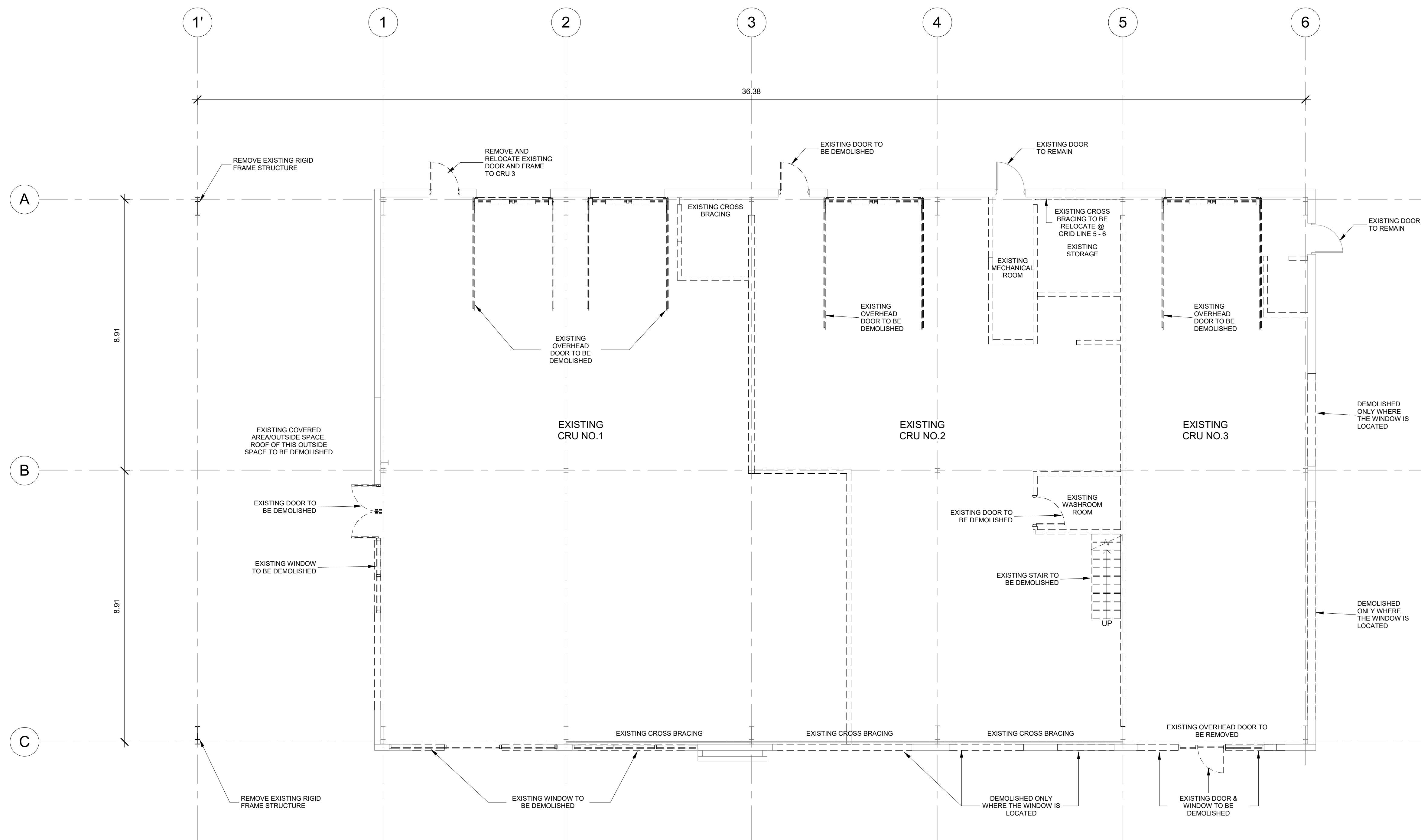
Existing and Demolition Plan

DRAFTING NO.

A1.01

SHEET
5
1

2022-05-17 5:41:17 PM



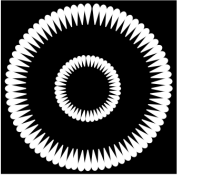
DEMOLITION NOTES

1. COORDINATE SCOPE OF ELECTRICAL DEMOLITION WITH ARCHITECTURAL, MECHANICAL, AND PLUMBING DRAWINGS. SEE SPECIFICATIONS.
2. UNLESS OTHERWISE NOTED, REMOVE ALL ELECTRICAL, LUMINAIRES, EQUIPMENT, SYSTEMS, DEVICES, OUTLETS, SWITCHES, PULL BOXES, CONDUIT, AND RACEWAYS AS REQUIRED TO COMPLETELY TAKE OUT THE ELECTRICAL ITEMS SHOWN TO BE REMOVED. DISCONNECT AND REMOVE ALL ELECTRICAL ITEMS TO BE REMOVED. WHEN BEING REMOVED, REMOVE ALL WIRING, CONDUIT, RACEWAYS, OUTLET BOXES, ETC. SUPPORTING OR SERVING THE ITEMS REMOVED.
3. REMOVE BRANCH CIRCUIT WIRING AND CONDUCTORS FROM PANELBOARD. DISCONNECT OUTLET OR JUNCTION BOX THAT WILL REMAIN IN SERVICE. WHERE COMPLETE CIRCUITS ARE DEMOLISHED, REMOVE WIRING AND RACEWAY BACK TO PANELBOARD. REMOVE FROM PANELBOARD. REVISE THE PANELBOARD SCHEDULE TO INDICATE THAT THE DEMOLISHED CIRCUIT'S BREAKER IS "SPARE".
4. REMOVE ALL CONDUCTORS, WIRING, AND CONDUIT (WHATEVER PRESENT) INCLUDING, BUT NOT LIMITED TO FIRE ALARM, POWER, VOICEDATA, SECURITY, INTERCOM, AND PAGING IN DEMOLITION AREA THAT ARE NO LONGER IN USE OR ALREADY ABANDONED. NO CONDUCTORS OR CONDUIT SHALL BE LEFT IN PLACE. REMOVE REMAINING EXISTING WIRING AND CONDUIT BACK TO SOURCE.
5. CONCEALED CONDUIT THAT CANNOT BE REMOVED DUE TO INACCESSIBILITY MAY BE ABANDONED. CONDUCTORS SHALL BE REMOVED AND CONDUIT CUT FLUSH WITH SURFACE.
6. UTILITY BOXES THAT CANNOT BE REMOVED DUE TO FLUSH MOUNTING IN PARTITIONS NOT BEING REMOVED SHALL BE PROVIDED WITH A BLANK DEVICE PLATE. UNLESS NOTED TO BE FILLED AND FINISHED FLUSH WITH

WALL LEGEND:

----- EXISTING WALL TO
----- BE DEMOLISHED

===== EXISTING WALL TO
===== REMAIN



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CONTRACTOR

SEAL

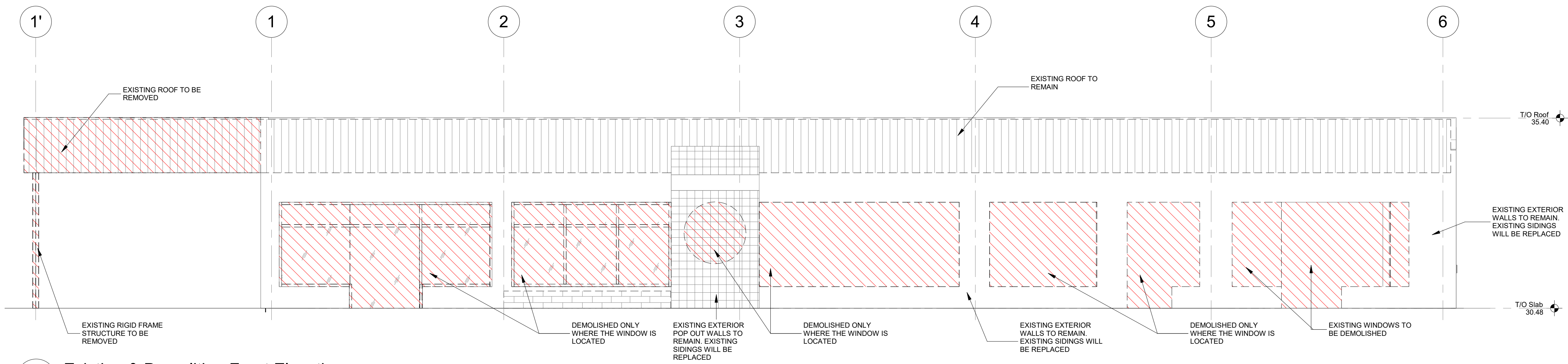
CLIENT

DRAWN BY:	RP
CHECKED BY:	RICK BALBI
ARCHITECT:	RICK BALBI
PROJECT No.:	180214
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PROJECT STATUS:	DEVELOPMENT PERMIT

PROJECT

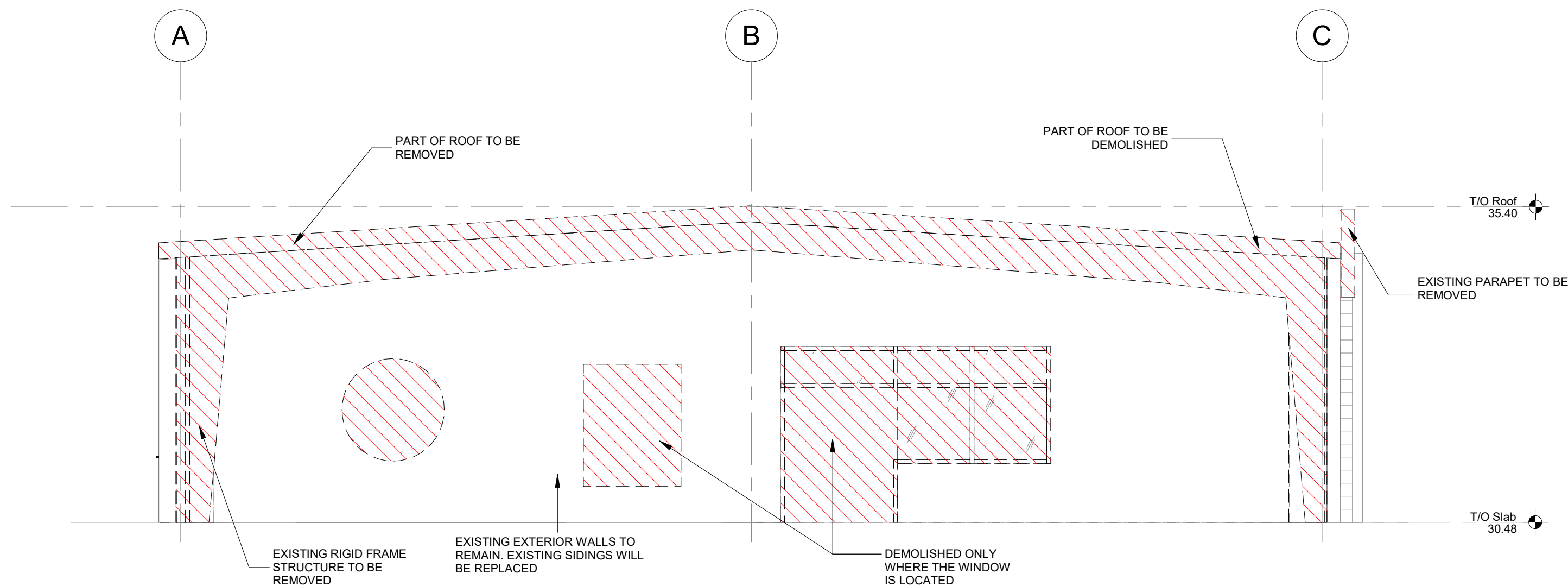
RUSKIN CENTEX

DESCRIPTION	Existing & Demolition Elevations
DRAWING NO.	A2.00
SHEET	6
11	



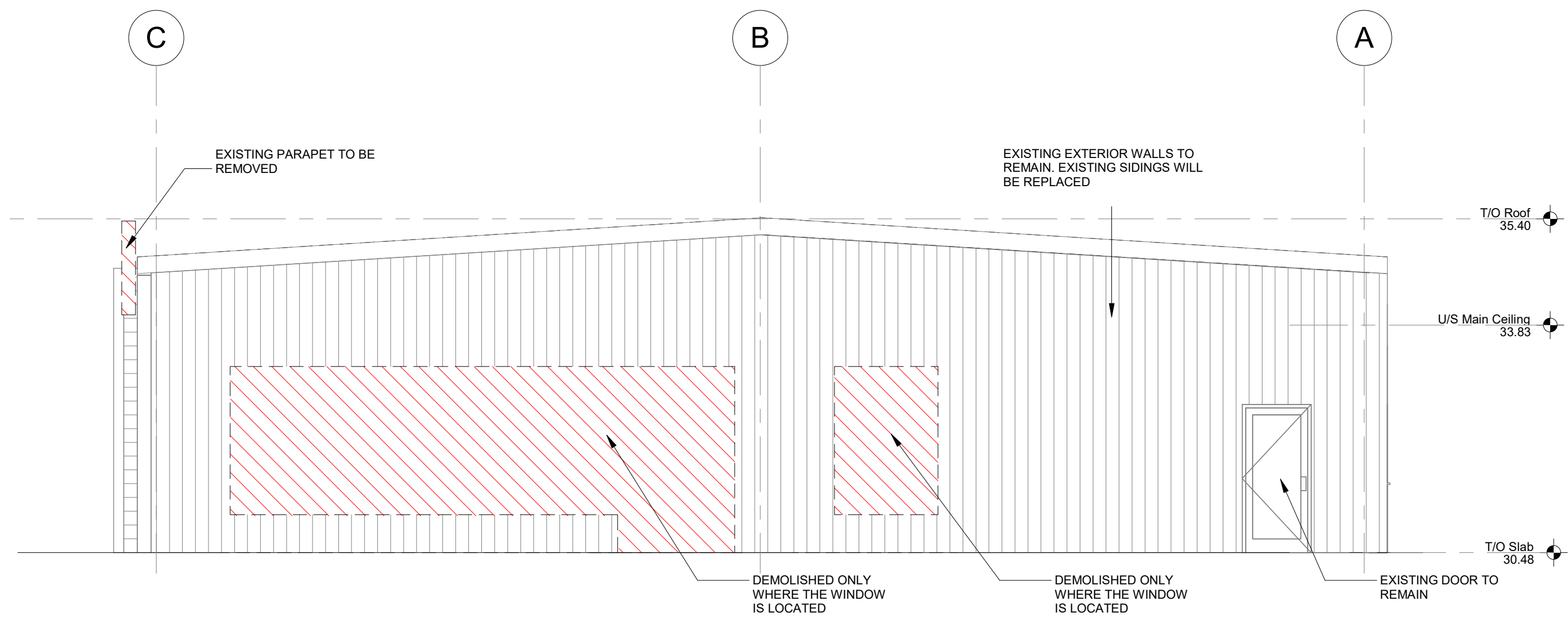
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A2.00 1 : 64



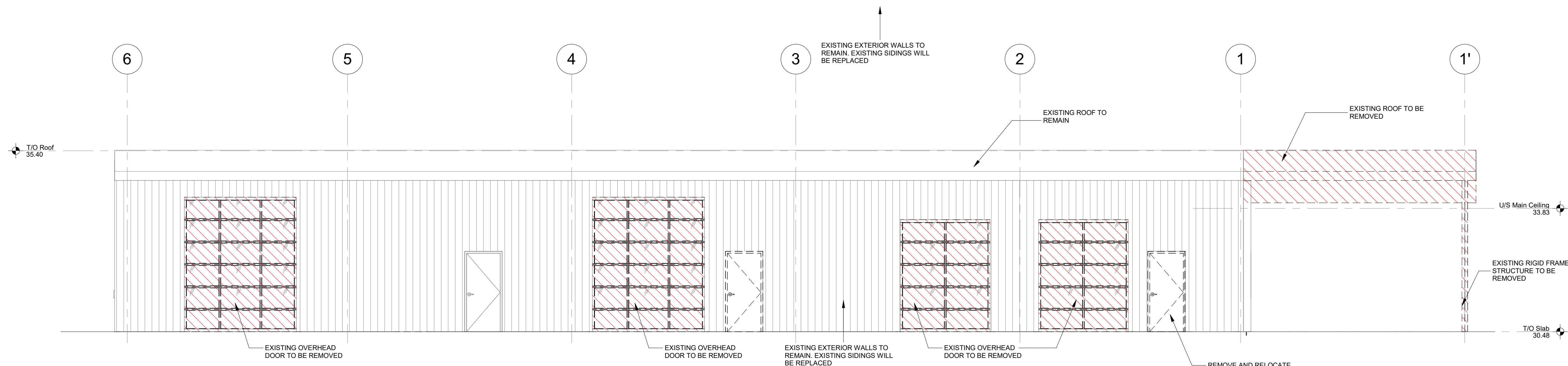
2 Existing & Demolition Left Side Elevation

A2.00 1 : 64



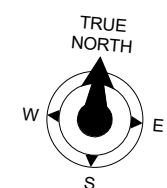
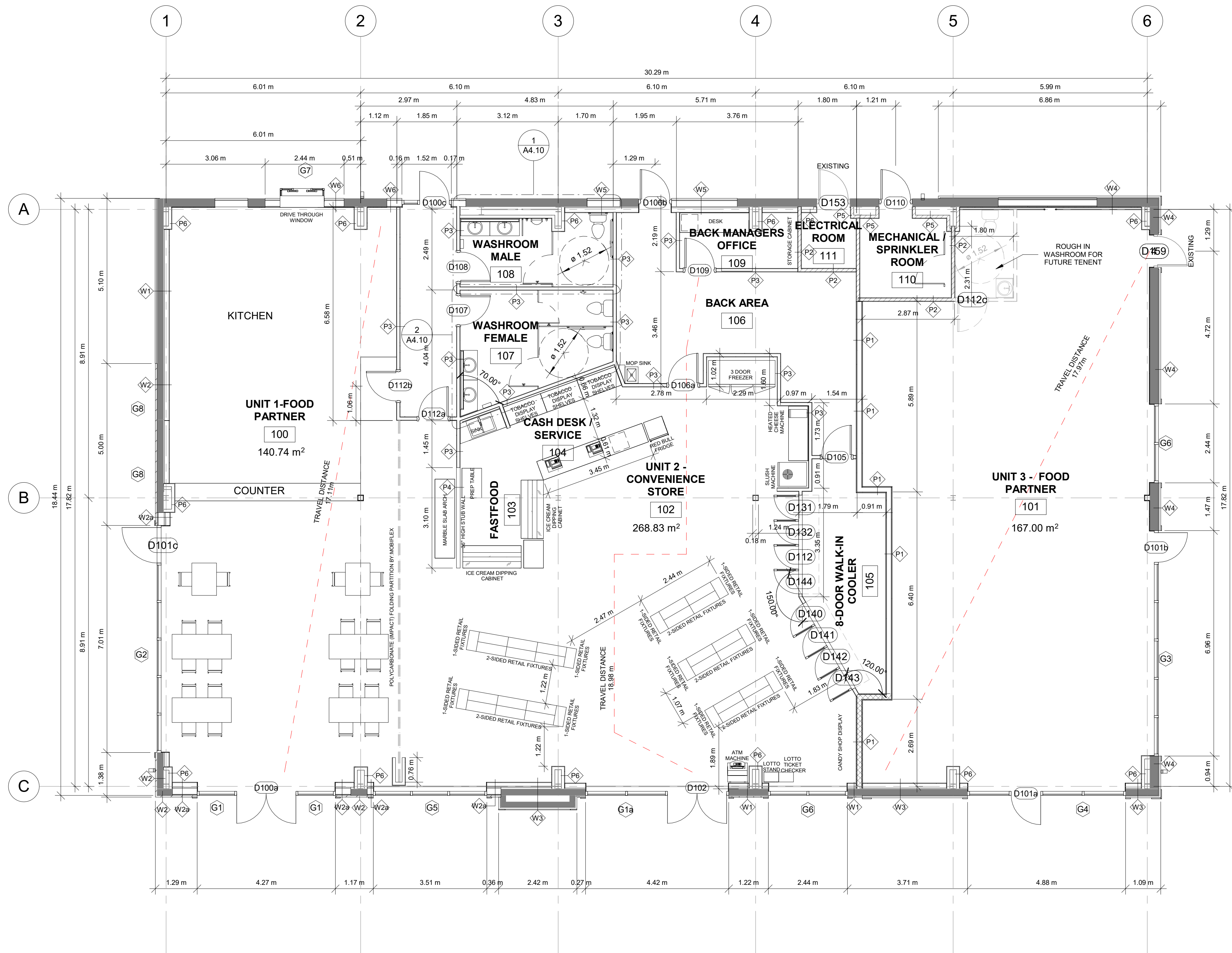
3 Existing & Demolition Right Side Elevation

A2.00 1 : 64



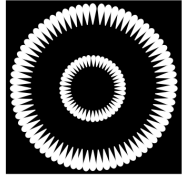
4 Existing & Demolition Rear Elevation

A2.00 1 : 64

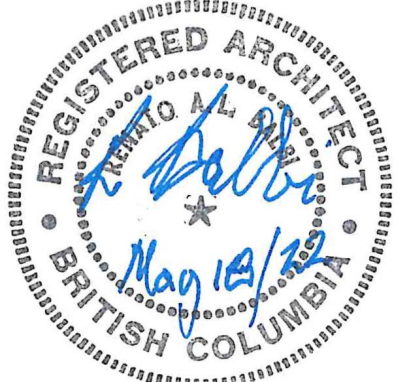


1 Main Floor Plan
A2.00/A1.10 1 : 75

WALL TYPE SCHEDULE		
W1		EXTERIOR WALL (TIM HORTON'S & CONVENIENCE STORE SIDE) - VERTICAL CORRUGATED (CL 6025) METAL CLADDING; VIOLET 2624 BRIGHT SILVER METALLIC FINISH (INSTALLED AS PER MANUFACTURER SPECS) - 25 GA. 7/8" DEPTH METAL HAT FURRING @ 16" O.C. (HORIZONTAL) - EXISTING MASONRY WALL - 1" AIR SPACE - 2x6 WOOD STUDS @ 16" O.C. C/W MID BLOCKING - R20 BATT INSULATION - 6 mil POLYETHYLENE VAPOUR BARRIER - 5/8" G.W.B.; TAPED & PAINTED
W2		EXTERIOR WALL (TIM HORTON'S SIDE) - 2-1/4 x 5-5/8 BRICK; COLOR TO BE SELECTED BY OWNER (INSTALLED AS PERMANUFACTURER SPECS) - EXISTING MASONRY WALL - 1" AIR SPACE - 2x6 WOOD STUDS @ 16" O.C. C/W MID BLOCKING - R20 BATT INSULATION - 6 mil POLYETHYLENE VAPOUR BARRIER - 5/8" G.W.B.; TAPED & PAINTED
W2a		EXTERIOR WALL (TIM HORTON'S SIDE) - 2-1/4 x 5-5/8 BRICK; COLOR TO BE SELECTED BY OWNER (INSTALLED AS PERMANUFACTURER SPECS) - 1" AIR SPACE - SELF-ADHERED WATER RESISTIVE BARRIER - 7/16" OSB SHEATHING - 2x6 WOOD STUDS @ 16" O.C. C/W MID BLOCKING - R20 BATT INSULATION - 1" AIR SPACE - 2x6 WOOD STUDS @ 16" O.C. C/W MID BLOCKING - 6 mil POLYETHYLENE VAPOUR BARRIER - 5/8" G.W.B.; TAPED & PAINTED
W3		EXTERIOR WALL (CONVENIENCE STORE & UNIT-3 SIDE) - HARDIE PLANK LAP SIDING; 7" EXPOSURE SELECT CEDARMILL CAPE-COD BLUE (INSTALLED AS PERMANUFACTURER SPECS) - 25 GA. 7/8" DEPTH METAL HAT FURRING @ 16" O.C. (VERTICAL) - EXISTING MASONRY WALL - 1" AIR SPACE - 2x6 WOOD STUDS @ 16" O.C. C/W MID BLOCKING - R20 BATT INSULATION - 6 mil POLYETHYLENE VAPOUR BARRIER - 5/8" G.W.B.; TAPED & PAINTED
W4		EXTERIOR WALL (UNIT-3 SIDE) - HARDIE PLANK LAP SIDING; 7" EXPOSURE SELECT CEDARMILL CAPE-COD BLUE (INSTALLED AS PERMANUFACTURER SPECS) - 52 GA. 7/8" DEPTH METAL HAT FURRING @ 24" O.C. (VERTICAL) - EXISTING METAL WALL - 5/8" G.W.B.; TAPED & PAINTED
W5		EXTERIOR WALL (TO MATCH EXISTING) - EXTERIOR METAL CLADDING TO MATCH EXISTING (INSTALLED AS PER MANUFACTURER SPECS) - WATER RESISTIVE BARRIER - 3/4" O.S.B. SHEATHING - 2x6 WOOD STUDS @ 16" O.C. C/W MID BLOCKING - R20 BATT INSULATION - 1" AIR SPACE - 2x6 WOOD STUDS @ 16" O.C. C/W MID BLOCKING - R20 BATT INSULATION - 5/8" TYPE "X" G.W.B.; TAPED & PAINTED
W6		EXTERIOR WALL (TO MATCH EXISTING) - EXTERIOR METAL CLADDING TO MATCH EXISTING (INSTALLED AS PER MANUFACTURER SPECS) - WATER RESISTIVE BARRIER - 7/16" O.S.B. SHEATHING - 2x6 WOOD STUDS @ 16" O.C. C/W MID BLOCKING - R20 BATT INSULATION - 3/4" O.S.B. SHEATHING - 5/8" TYPE "X" G.W.B.; TAPED & PAINTED
P1		DEMISING WALL - 2 LAYERS 5/8" TYPE "X" G.W.B.; TAPED & PAINTED - 2x4 WOOD STUDS @ 16" O.C. - R20 BATT INSULATION - 2 LAYERS 5/8" TYPE "X" G.W.B.; TAPED & PAINTED
P2		INTERIOR WALL PARTITION - 1 HR. F.R.R. - 5/8" TYPE "X" G.W.B.; TAPED & PAINTED - 2x4 WOOD STUDS @ 16" O.C. - R12 BATT INSULATION - 5/8" TYPE "X" G.W.B.; TAPED & PAINTED
P3		INTERIOR WALL PARTITION - NON-RATED - 1/2" G.W.B.; TAPED & PAINTED - 2x4 WOOD STUDS @ 16" O.C. - R12 BATT INSULATION - 1/2" G.W.B.; TAPED & PAINTED
P4		36" HIGH STUB WALL - NON-RATED - 1/2" G.W.B.; TAPED & PAINTED - 2x4 WOOD STUDS @ 16" O.C. - 1/2" G.W.B.; TAPED & PAINTED
P5		FURR-OUT WALL PARTITION - 1 HR. F.R.R. - 5/8" TYPE "X" G.W.B.; TAPED & PAINTED - 2x4 WOOD STUDS @ 16" O.C.
P6		FURR-OUT WALL PARTITION - 1 HR. F.R.R. - 5/8" G.W.B.; TAPED & PAINTED - 2x4 WOOD STUDS @ 16" O.C.
		- CROSS HATCH INDICATES 2 HR. FIRE SEPARATION
		- DIAGONAL HATCH INDICATES 1 HR. FIRE SEPARATION
		- NOTE: EXTEND FIRE RATED WALLS TO U/S OF FLOOR/ROOF ABOVE



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SEAL

CLIENT

DRAWN BY: RP
CHECKED BY: RICK BALBI
ARCHITECT: RICK BALBI
PROJECT No.: 180214
SHEET ISSUE DATE: FEBRUARY 09,2022
PROJECT STATUS: DEVELOPMENT PERMIT

PROJECT

RUSKIN CENTEX

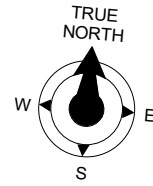
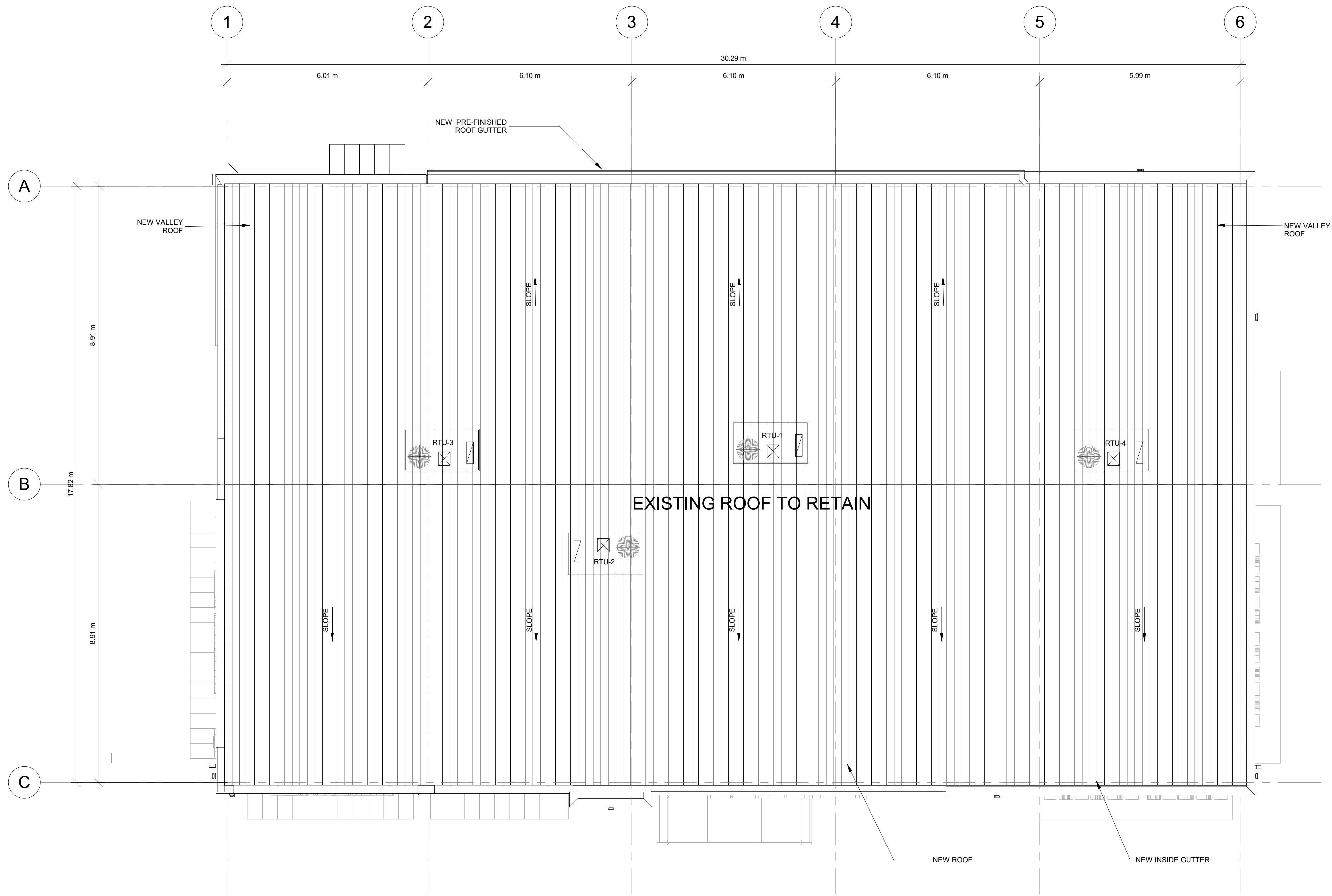
DESCRIPTION

Main Floor Plan

DRAWING NO. A1.10

SHEET 7
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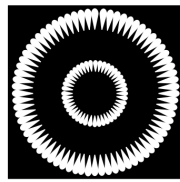
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1 Roof Plan
A2.00/A1.20 1 : 75

ROOF NOTES:

- ENGINEER OF RECORD SHALL SIZE GUTTERS AND DOWNSPOUTS BASED ON THE TRIBUTARY ROOF AREA AND THE LOCAL RAINFALL DESIGN CRITERIA.
- ALL ROOF TOP PENETRATIONS, INCLUDING PLUMBING VENTS AND MECHANICAL CURE, SHALL HAVE FLASHING INSTALLED THAT IS COMPATIBLE WITH ROOF SLOPE AND ROOF MATERIALS. PAINT ALL PENETRATIONS TO MATCH ADJACENT ROOF MATERIAL.



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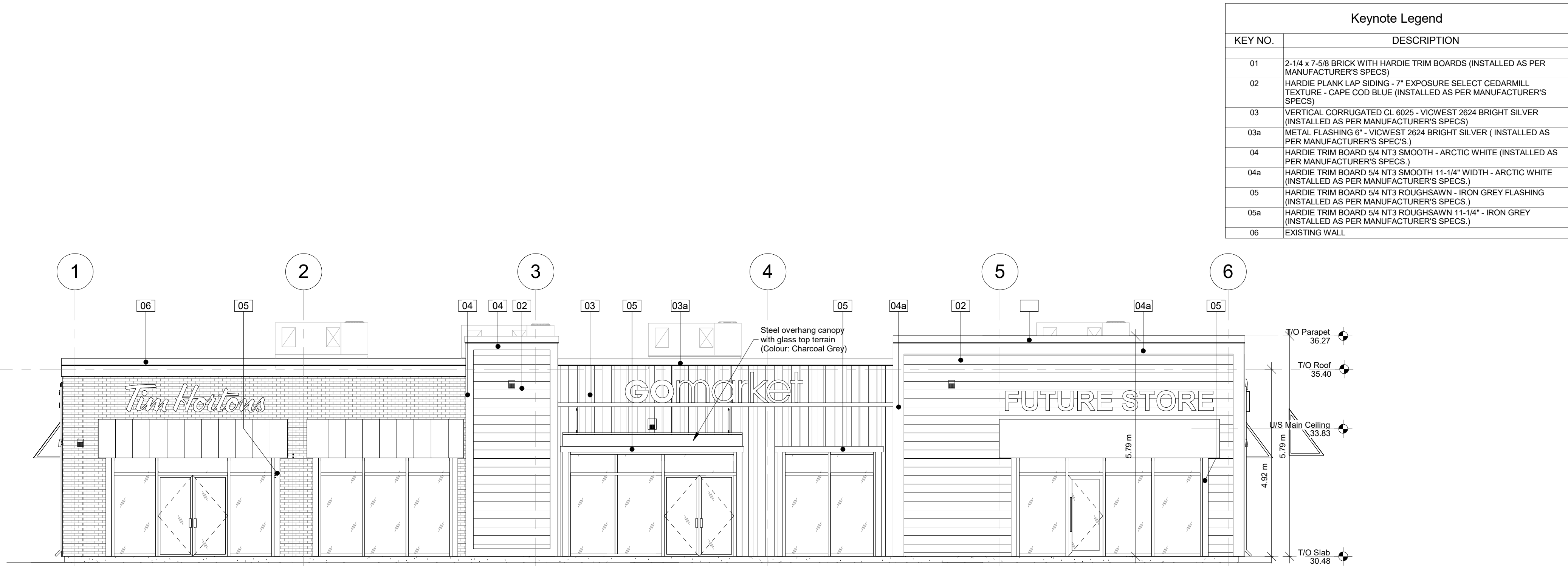
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PROJECT

RUSKIN CENTEX

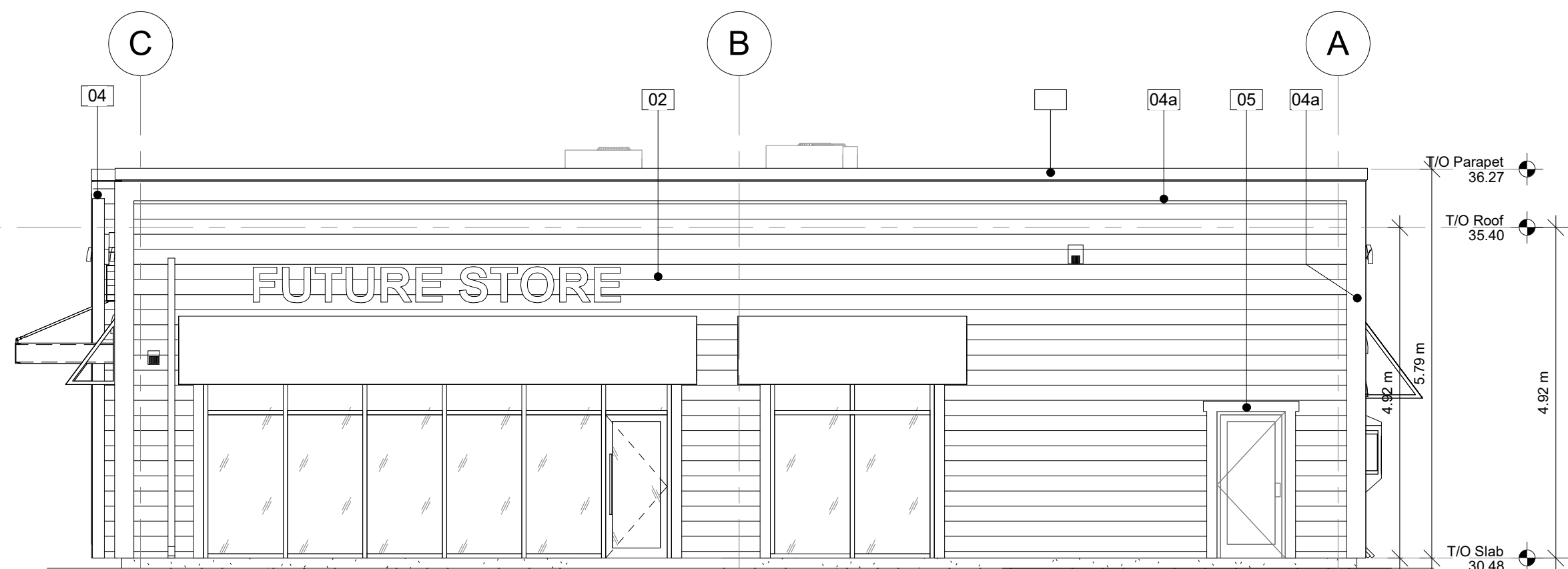
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Roof Plan	
DRAWING NO.	SHEET
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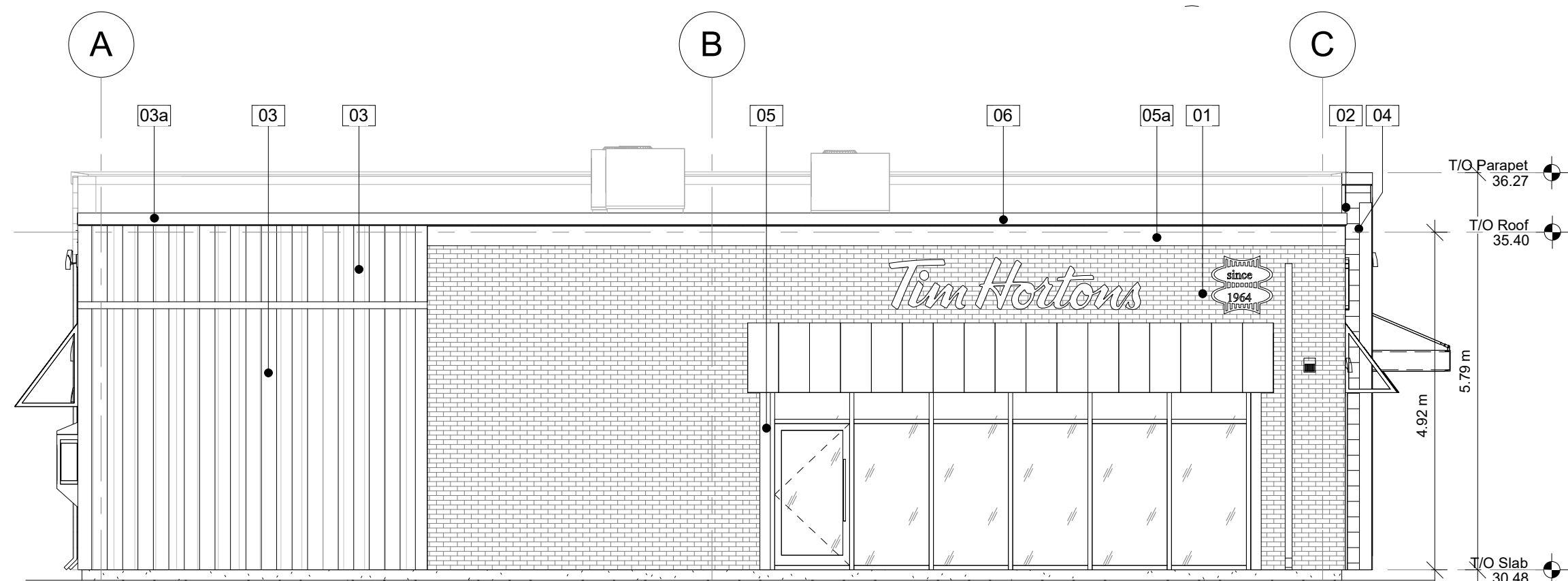
Keynote Legend	
KEY NO.	DESCRIPTION
01	2-1/4 x 7-5/8 BRICK WITH HARDIE TRIM BOARDS (INSTALLED AS PER MANUFACTURER'S SPECS)
02	HARDIE PLANK LAP SIDING - 7" EXPOSURE SELECT CEDARMILL TEXTURE - CAPE COD BLUE (INSTALLED AS PER MANUFACTURER'S SPECS)
03	VERTICAL CORRUGATED CL 6025 - VICWEST 2624 BRIGHT SILVER (INSTALLED AS PER MANUFACTURER'S SPECS)
03a	METAL FLASHING 6" - VICWEST 2624 BRIGHT SILVER (INSTALLED AS PER MANUFACTURER'S SPECS.)
04	HARDIE TRIM BOARD 5/4 NT3 SMOOTH - ARCTIC WHITE (INSTALLED AS PER MANUFACTURER'S SPECS.)
04a	HARDIE TRIM BOARD 5/4 NT3 SMOOTH 11-1/4" WIDTH - ARCTIC WHITE (INSTALLED AS PER MANUFACTURER'S SPECS.)
05	HARDIE TRIM BOARD 5/4 NT3 ROUGHSAWN - IRON GREY FLASHING (INSTALLED AS PER MANUFACTURER'S SPECS.)
05a	HARDIE TRIM BOARD 5/4 NT3 ROUGHSAWN 11-1/4" - IRON GREY (INSTALLED AS PER MANUFACTURER'S SPECS.)
06	EXISTING WALL

MATERIAL AND COLOR LEGEND					
KEY NO.	MATERIAL SAMPLE	MATERIAL/PRODUCT	MANUFACTURER	COLOUR / FINISH	REMARKS
01		2-1/4 x 5-5/8 BRICK		TO BE SELECTED BY OWNER	
02		HARDIE PLANK LAP SIDING WITH COLORPLUS TECHNOLOGY THICKNESS = 5/16" WIDTH = 8.25" EXPOSURE = 7"	JAMES HARDIE	CAPE COD BLUE; SELECT CEDARMILL	
03		VERTICAL CORRUGATED CL 6025	VICWEST	2624 BRIGHT SILVER METALLIC FINISHES	
03a		METAL FLASHING WIDTH = 6"	VICWEST	2624 BRIGHT SILVER	
04		HARDIE TRIM NT3 THICKNESS = 1" WIDTH = 7 1/4"	JAMES HARDIE	5/4 SMOOTH; ARCTIC WHITE	FLASHING
04a		HARDIE TRIM NT3 THICKNESS = 1" WIDTH = 11 1/4"	JAMES HARDIE	5/4 SMOOTH; ARCTIC WHITE	
04b		HARDIE TRIM NT3 THICKNESS = 1" WIDTH = 7 1/4"	JAMES HARDIE	WHITE	FLASHING
05		HARDIE TRIM NT3 THICKNESS = 1" WIDTH = 5 1/2 "	JAMES HARDIE	5/4 ROUGHSAWN; IRON GREY	ALL WINDOWS TO HAVE WINDOW TRIM
05a		HARDIE TRIM NT3 THICKNESS = 1" WIDTH = 11 1/4 "	JAMES HARDIE	5/4 ROUGHSAWN; IRON GREY	
06		METAL FLASHING		IRON GREY	

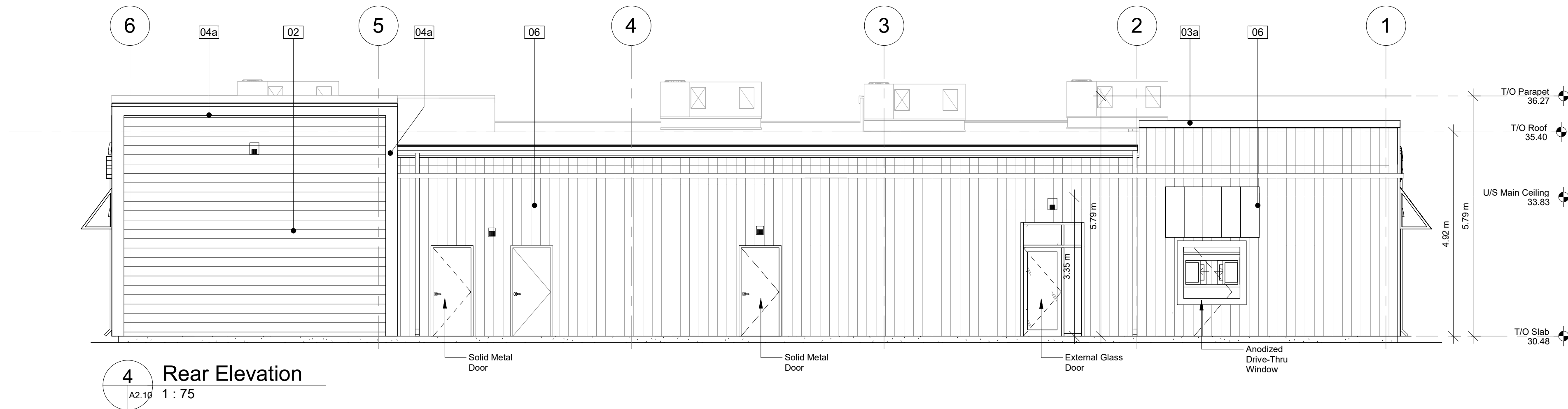
1 Front Elevation
A2.10 1 : 75



2 Right Side Elevation
A2.10 1 : 75



3 Left Side Elevation
A2.10 1 : 75



4 Rear Elevation
A2.10 1 : 75

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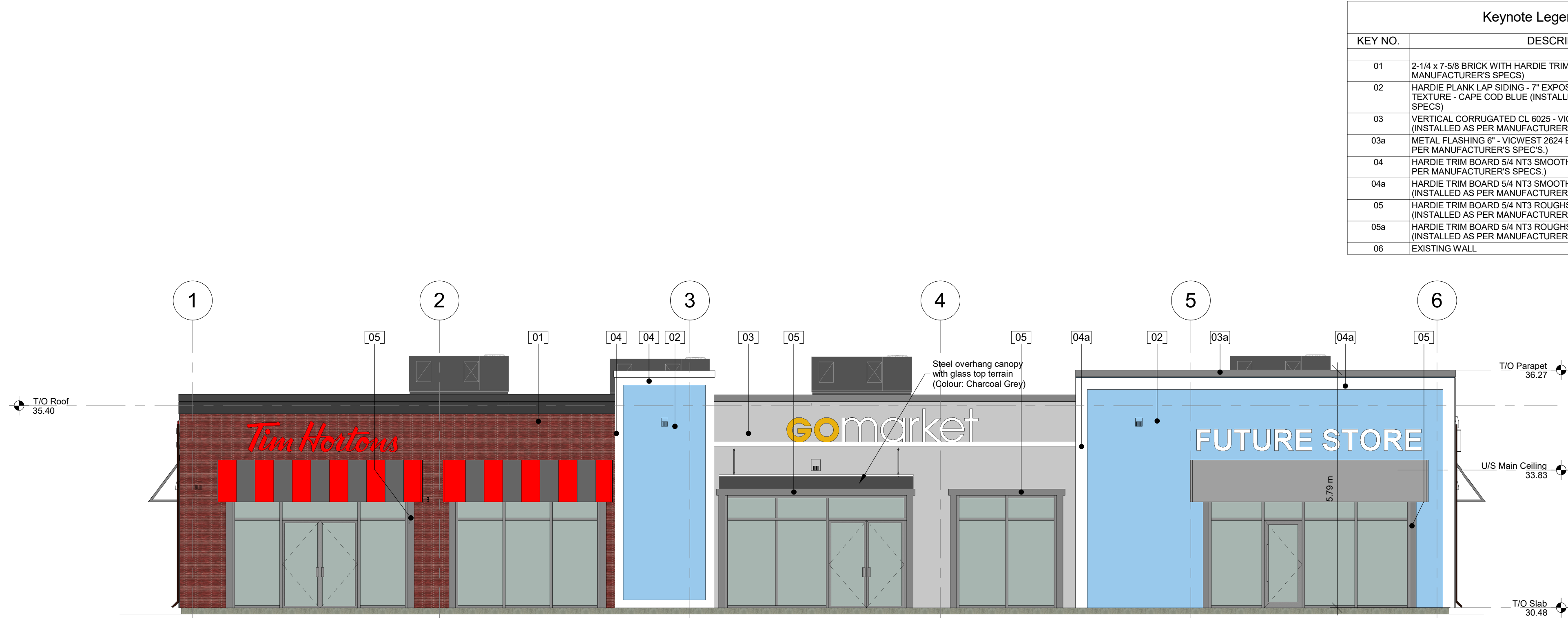
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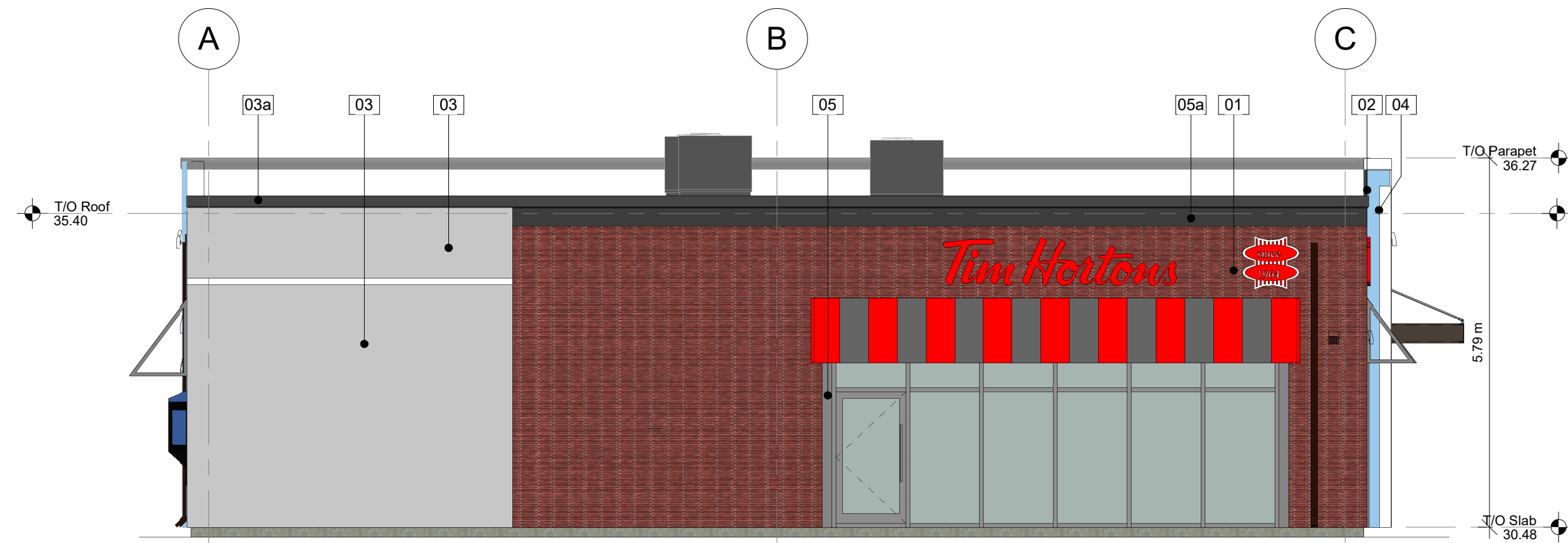
PROJECT

RUSKIN CENTEX

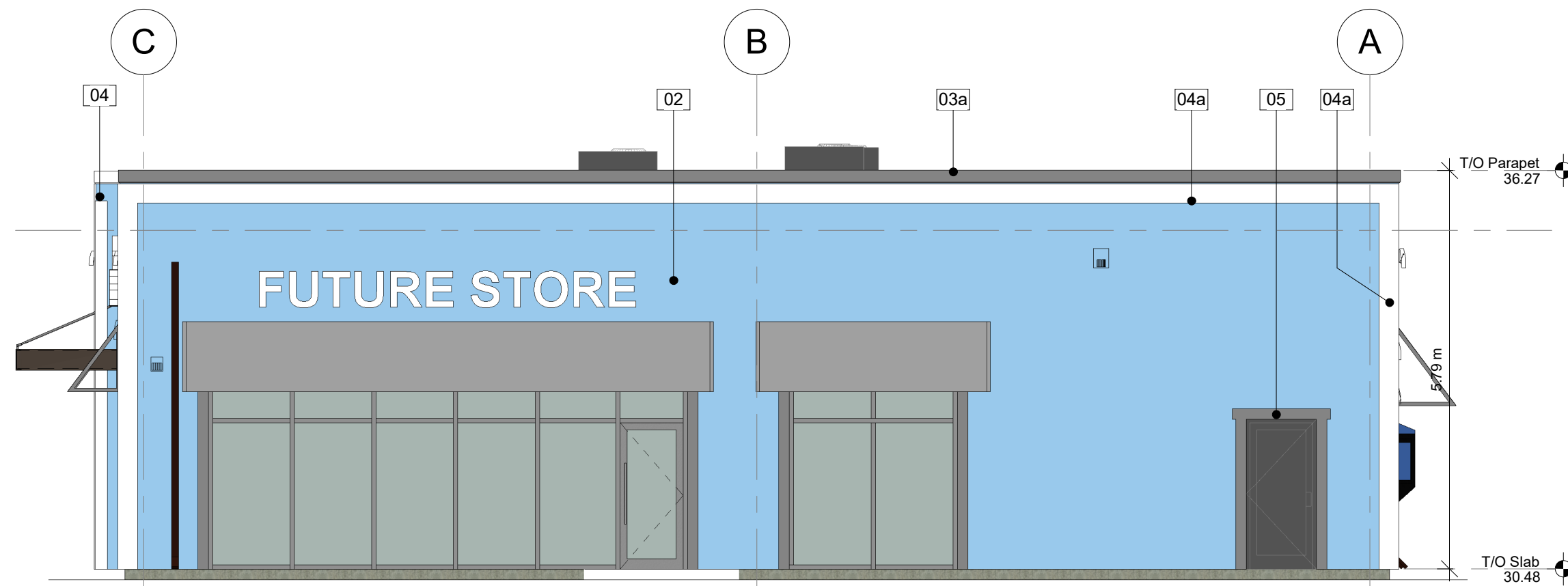
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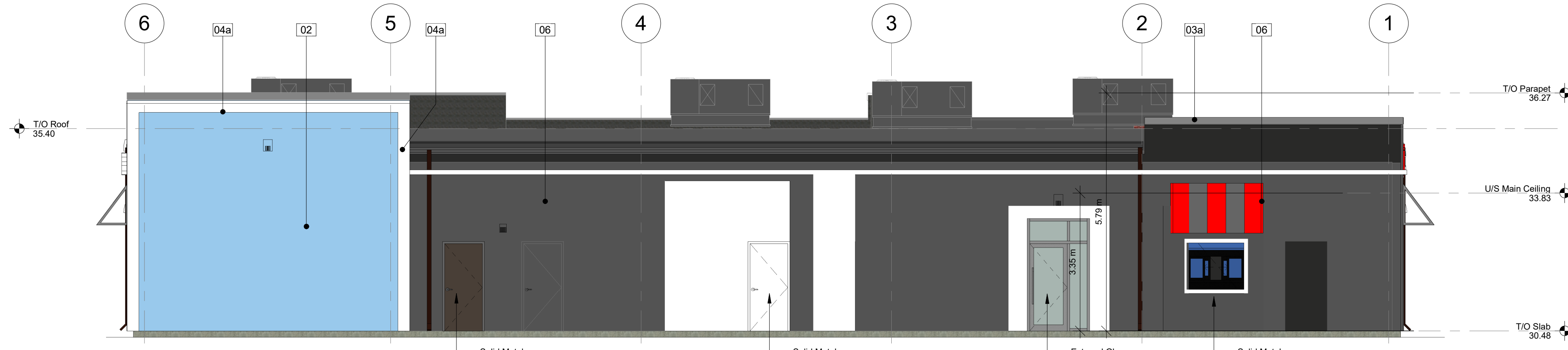
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A2.11 1 : 75



2 Left Side Elevation- Rendered
A2.11 1 : 75



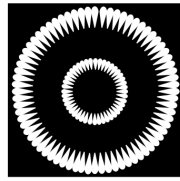
4 Right Side Elevation- Rendering
A2.11 1 : 75



3 Rear Elevation- Rendering
A2.11 1 : 75

Keynote Legend	
KEY NO.	DESCRIPTION
01	2-1/4 x 7-5/8 BRICK WITH HARDIE TRIM BOARDS (INSTALLED AS PER MANUFACTURER'S SPECS)
02	HARDIE PLANK LAP SIDING - 7" EXPOSURE SELECT CEDARMILL TEXTURE - CAPE COD BLUE (INSTALLED AS PER MANUFACTURER'S SPECS)
03	VERTICAL CORRUGATED CL 6025 - VICWEST 2624 BRIGHT SILVER (INSTALLED AS PER MANUFACTURER'S SPECS)
03a	METAL FLASHING 6" - VICWEST 2624 BRIGHT SILVER (INSTALLED AS PER MANUFACTURER'S SPECS.)
04	HARDIE TRIM BOARD 5/4 NT3 SMOOTH - ARCTIC WHITE (INSTALLED AS PER MANUFACTURER'S SPECS.)
04a	HARDIE TRIM BOARD 5/4 NT3 SMOOTH 11-1/4" WIDTH - ARCTIC WHITE (INSTALLED AS PER MANUFACTURER'S SPECS.)
05	HARDIE TRIM BOARD 5/4 NT3 ROUGHSAWN - IRON GREY FLASHING (INSTALLED AS PER MANUFACTURER'S SPECS.)
05a	HARDIE TRIM BOARD 5/4 NT3 ROUGHSAWN 11-1/4" - IRON GREY (INSTALLED AS PER MANUFACTURER'S SPECS.)
06	EXISTING WALL

MATERIAL AND COLOR LEGEND					
KEY NO.	MATERIAL SAMPLE	MATERIAL/PRODUCT	MANUFACTURER	COLOUR / FINISH	REMARKS
01		2-1/4 x 5-5/8 BRICK		TO BE SELECTED BY OWNER	
02		HARDIE PLANK LAP SIDING WITH COLORPLUS TECHNOLOGY THICKNESS = 5/16" WIDTH = 8.25" EXPOSURE = 7"	JAMES HARDIE	CAPE COD BLUE; SELECT CEDARMILL	
03		VERTICAL CORRUGATED CL 6025	VICWEST	2624 BRIGHT SILVER METALLIC FINISHES	
03a		METAL FLASHING WIDTH = 6"	VICWEST	2624 BRIGHT SILVER	
04		HARDIE TRIM NT3 THICKNESS = 1" WIDTH = 7 1/4"	JAMES HARDIE	5/4 SMOOTH; ARCTIC WHITE	FLASHING
04a		HARDIE TRIM NT3 THICKNESS = 1" WIDTH = 11 1/4"	JAMES HARDIE	5/4 SMOOTH; ARCTIC WHITE	
04b		HARDIE TRIM NT3 THICKNESS = 1" WIDTH = 7 1/4"	JAMES HARDIE	WHITE	FLASHING
05		HARDIE TRIM NT3 THICKNESS = 1" WIDTH = 5 1/2"	JAMES HARDIE	5/4 ROUGHSAWN; IRON GREY	ALL WINDOWS TO HAVE WINDOW TRIM
05a		HARDIE TRIM NT3 THICKNESS = 1" WIDTH = 11 1/4"	JAMES HARDIE	5/4 ROUGHSAWN; IRON GREY	
06		METAL FLASHING		IRON GREY	



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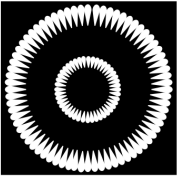
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ARCHITECT:	RICK BALBI
PROJECT No.:	180214
SHEET ISSUE DATE:	DECEMBER 03, 2021
PROJECT STATUS:	DEVELOPMENT PERMIT

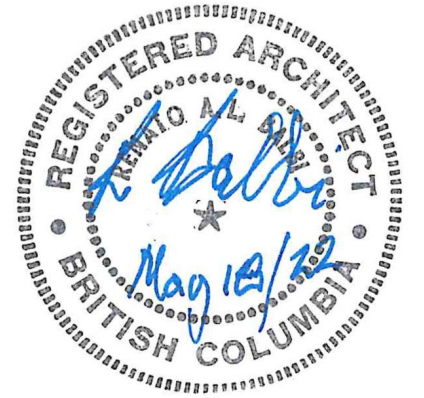
PROJECT

RUSKIN CENTEX

DESCRIPTION	
Elevations	
DRAWING NO.	SHEET
A2.11	10
	11



Rick Balbi Architect Ltd.
#15, 5917 - 1st A^{ve} Street S.W.
Calgary, Alberta T2H 0G4
Ph: (403) 253 - 2853 Fax: (403) 253 - 3078
general@rbalbi.ca



No.	Description	Date
1	ISSUED FOR REVIEW	2019-01-09
2	ISSUED FOR DEVELOPMENT PERMIT	2021-11-13
3	ISSUED FOR DEVELOPMENT PERMIT	2022-05-17

CONTRACTOR

SEAL

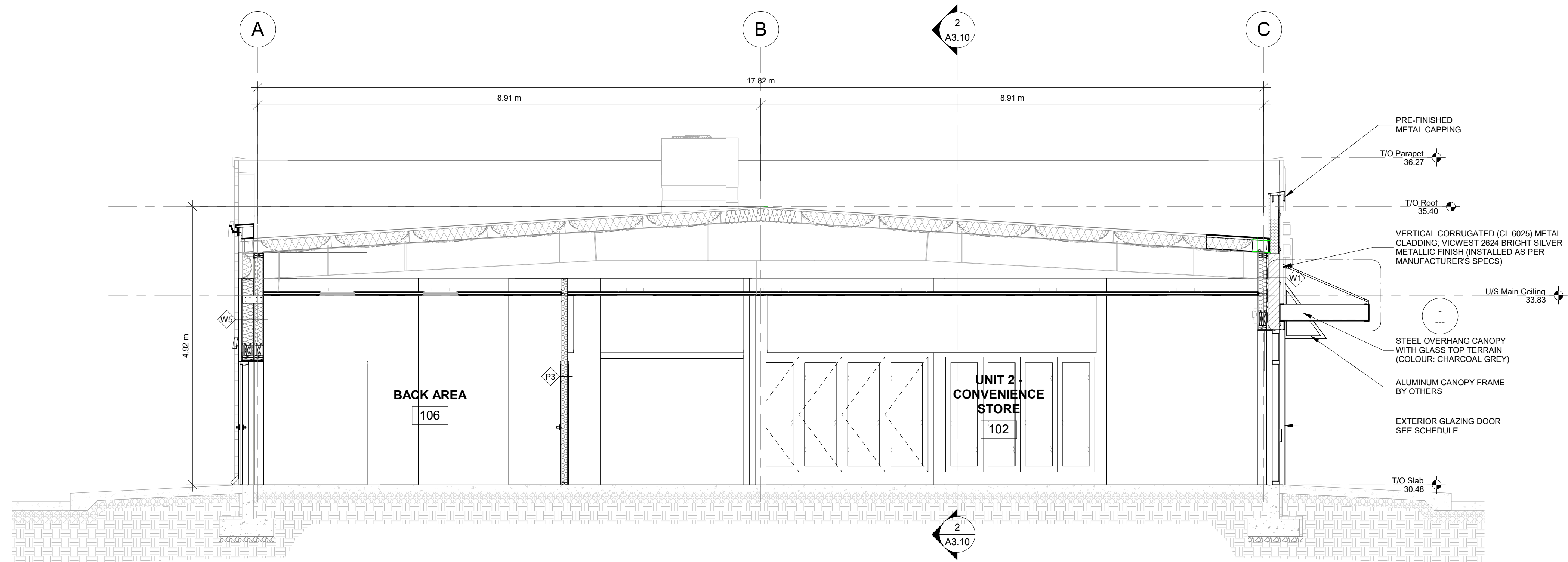
CLIENT

DRAWN BY:	CVP
CHECKED BY:	RICK BALBI
ARCHITECT:	RICK BALBI
PROJECT No.:	180214
SHEET ISSUE DATE:	DECEMBER 03, 2021
PROJECT STATUS:	DEVELOPMENT PERMIT

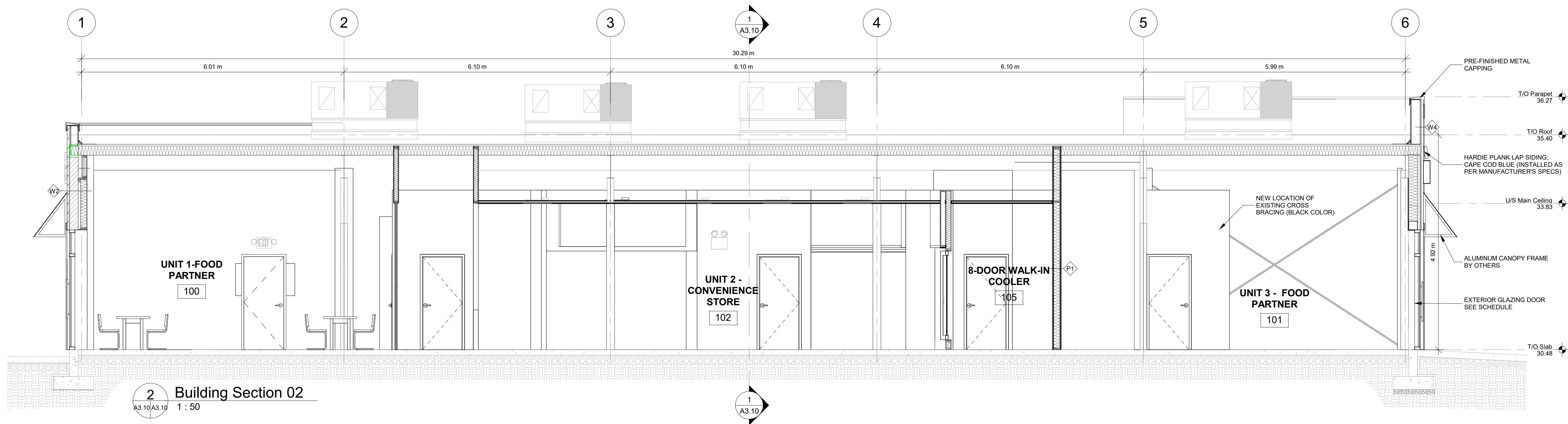
PROJECT

RUSKIN CENTEX

DESCRIPTION
Building Sections
DRAWING NO.
A3.10
SHEET
11
11

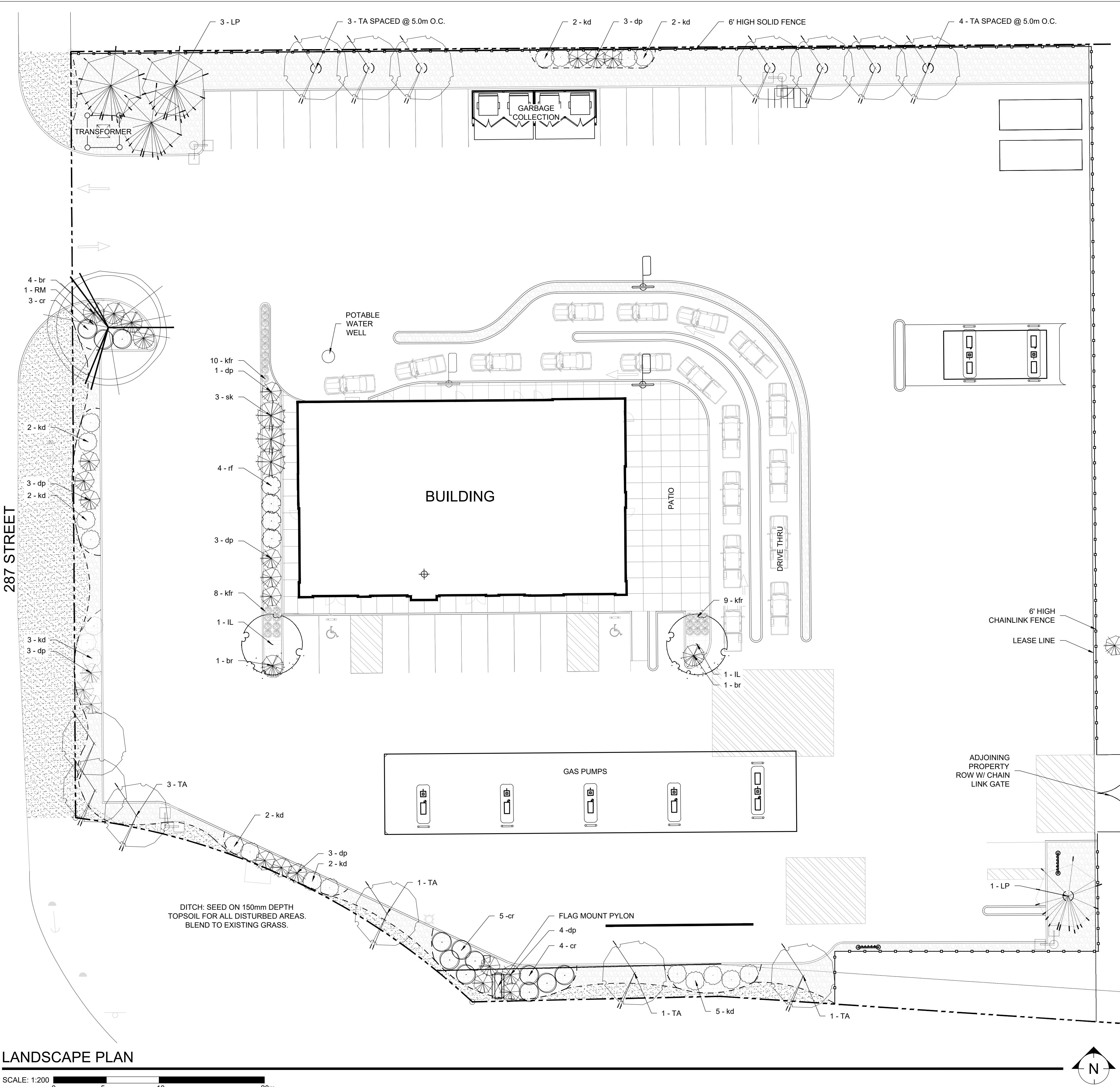


1 Building Section 01
A3.10/A3.10 1 : 50



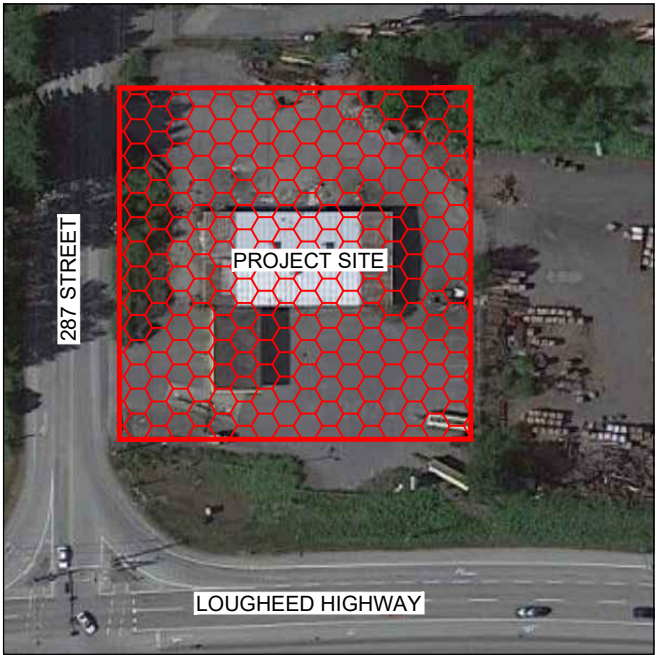
2 Building Section 02
A3.10/A3.10 1 : 50

2022-05-17 5:41:32 PM



LANDSCAPE PLAN

KEY PLAN



SCALE:
NOT TO SCALE

ZONING:
COMMUNITY COMMERCIAL ZONING (CS2)

LEGAL LAND DESCRIPTION:
LSD 16, SECTION 35, TOWNSHIP 2
RANGE 4, WEST OF 7TH MERIDIAN

MUNICIPAL ADDRESS:
287 ST. AND LOUGHEED HIGHWAY
MAPLE RIDGE, BC

LEGEND

- SOD ON 150mm DEPTH TOPSOIL. SOD TO BACK OF CURB AND EDGE OF SIDEWALKS. ENSURE SMOOTH TRANSITION WITH ADJACENT SURFACES. QTY. 367.60 m²
- 100mm DEPTH SHREDDED SELF-BINDING CEDAR WOOD CHIP MULCH ON 350mm DEPTH TOPSOIL TO BE PLACED LEVEL WITH ADJACENT SURFACES, CROWN IN CENTER OF PLANTING BED. QTY. 251.90 m²
- 150mm DEPTH, 75-100mm Ø RIVER ROCK MULCH INSTALLED WITH HD LANDSCAPE FABRIC WITH AN OVERLAP OF 500mm. QTY. 595.10 m²
- PROPERTY LINE
- ALUMINUM EDGER

NOTES

- Refer to Town of Maple Ridge General Construction Standards in its latest edition. Plant material and construction methods shall meet or exceed CSLA standards.
- 1.0 SOIL
 - 1.0 Plant material and construction methods shall meet or exceed CSLA standards..
 - 1.1 Contractor to submit soil samples be used for the intended project to a professional Agrologist for analysis and recommendations.
 - 2.0 PLANT MATERIAL
 - 2.1 All plant material is to be nursery grown stock and shall meet or exceed the horticulture standards of the "Guide Specifications for Nursery Stock" of the Canadian Nursery Trades Association for size, height, spread, grading, quality and method of cultivation.
 - 3.0 MULCHES
 - 3.1 A mulch sample must be provided by the contractor for approval prior to site installation.
 - 3.2 Wood mulch to be free of insects & disease, branches, leaves, shavings, sawdust, weeds, and stones.
 - 4.0 WATERING
 - 4.1 Contractor to water all plant material, seed and sod on-site to ensure continuous healthy growth.
 - 4.2 Contractor to supply clean fresh water, water tanker, equipment, sprinkler and labour necessary to adequately and efficiently apply water to all plant material, seed and sod on-site.
 - 4.3 Contractor to monitor moisture levels of individual plants species and apply sufficient water to each plant to ensure continuous healthy growth. Apply sufficient water to obtain moisture saturation of the rootball of the plant.
 - 5.0 RESTORATION REQUIREMENTS:
 - 5.1 Prevent damage to fencing, plant materials, natural features, benchmarks, buildings, pavement, curbs, culverts, and utilities, and make good any changes.

PLANT LIST

Key	Qty	Common Name	Botannical Name	Size	Remarks
TREES					
DECIDUOUS					
IL	2	Ivory Silk Tree Lilac	<i>Syringa reticulata</i> 'Ivory Silk'	60mm cal.	W.B single leader/ specimen
RM	1	Red Rocket Red Maple	<i>Acer rubrum</i> 'Red Rocket'	60mm cal.	W.B single leader/ specimen
TA	13	Trembling Aspen	<i>Populus tremuloides</i>	60mm cal.	W.B single leader/ specimen
CONIFEROUS					
LP	4	Lodgepole Pine	<i>Pinus contorta latifolia</i>	2500mm ht.	W.B single leader/ specimen
SHRUBS					
DECIDUOUS					
cr	12	Champlain Rose	<i>Rosa 'Champlain'</i>	450-600mm ht.	container/ specimen
rf	4	Rainbow Fizz™ Spirea	<i>Spiraea japonica</i> 'Matgold'	450-600mm ht.	container/ specimen
kd	20	Kelsey Dwarf Dogwood	<i>Cornus sericea</i> 'Kelseyi'	450-600mm ht.	container/ specimen
CONIFEROUS					
dp	20	Dwarf Mugo Pine	<i>Pinus mugo</i> var. <i>pumilio</i>	450-600mm spr.	container/ specimen
br	6	Blue Rug Juniper	<i>Juniperus horizontalis</i> 'Wiltonii'	450-600mm spr.	container/ specimen
sk	3	Skyrocket Upright Juniper	<i>Juniperus scopulorum</i> 'Skyrocket'	1200mm ht.	container/ specimen
PERENNIALS					
kfr	27	Karl Foerster Reed Grass	<i>Calamagrostis x acutiflora</i> 'Karl Foerster'	2 year pot	600mm O.C

No	Rev	Description	Date	By
00	00	Issued for Municipal Review	05/18/22	RJ

Jones
LANDSCAPE ARCHITECTURE

47 Greenwich Crescent, St Albert, AB
Tel (587) 983-3498
Email ryan@jonesla.ca

Seal

RUSKIN CENTEX

287 ST. AND LOUGHEED HIGHWAY
MAPLE RIDGE, BC

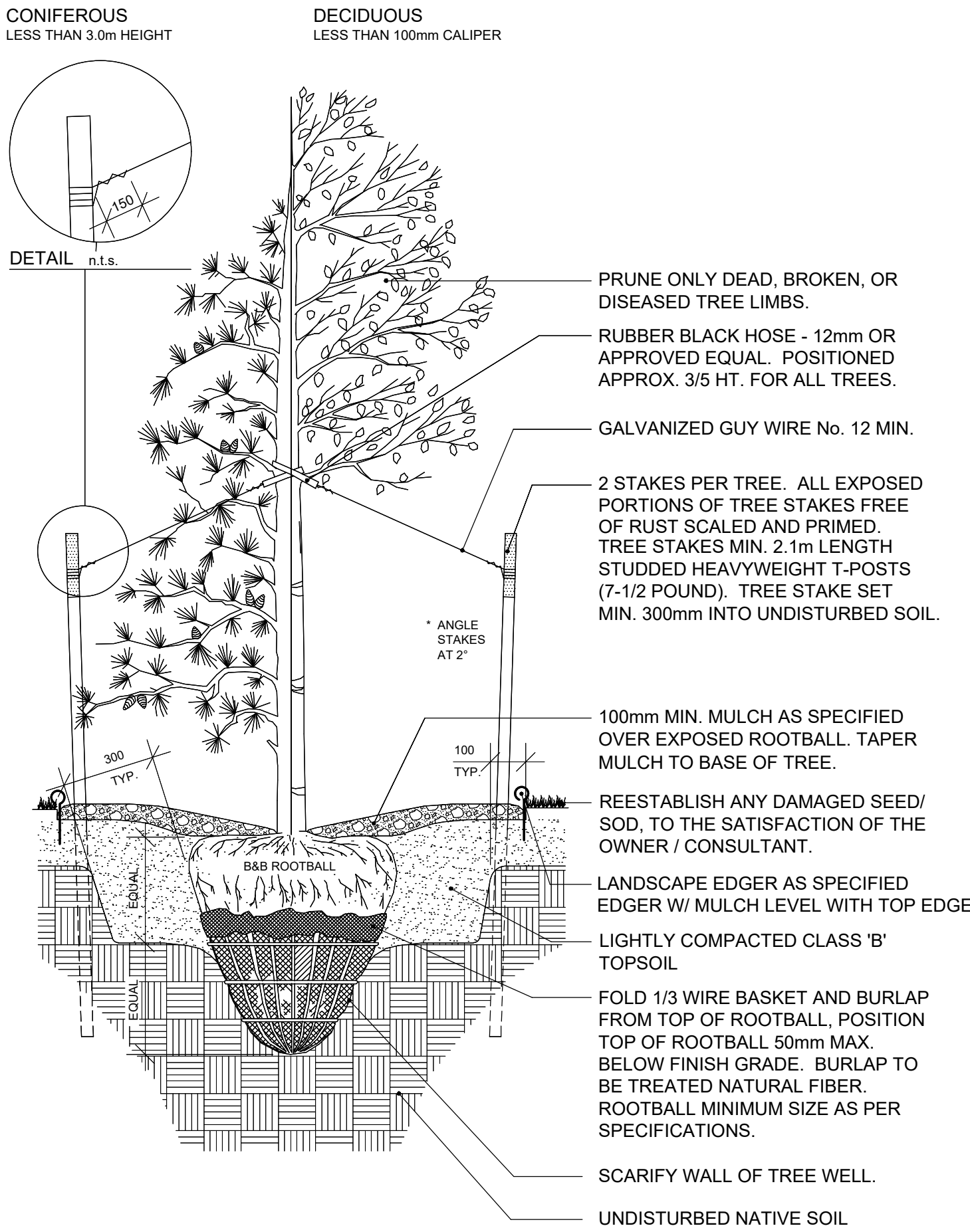
Drawing

LANDSCAPE PLAN

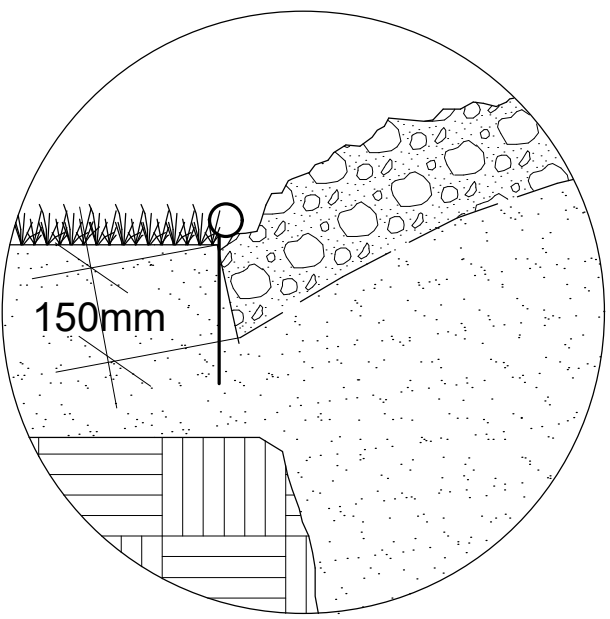
Scale:	AS NOTED	Job No.:	
Date:	2022-05-18	Drawn by:	VM
Checked by:	RJ	Designed by:	RJ

L1
Sheet Number

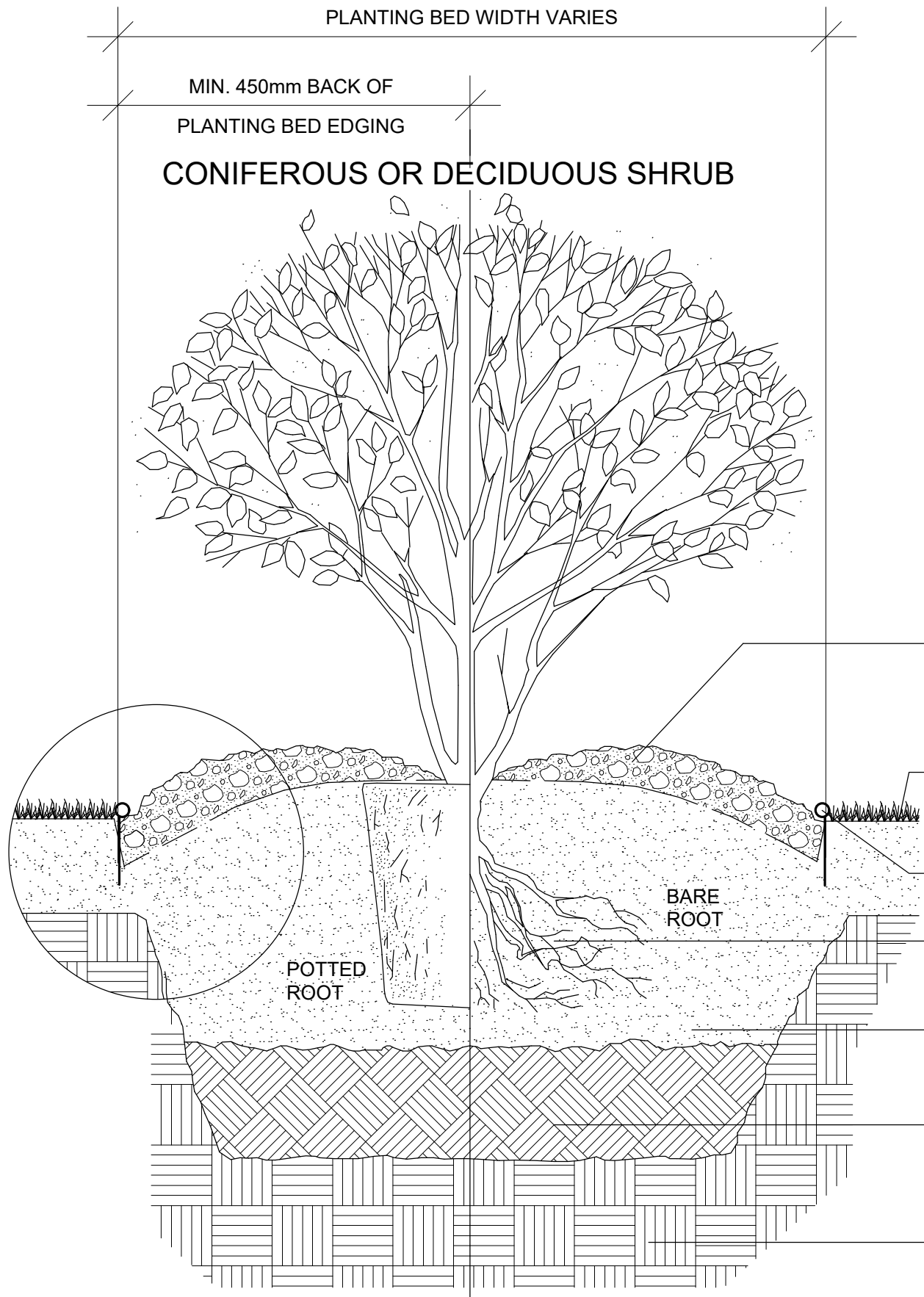
00
Revision



- NOTES:
1. IF MINIMUM UTILITY SETBACKS PERMIT POSITION TREE STAKES INTO DIRECTION OF PREVAILING WINDS.
 2. ALL TREE STAKES TO MAINTAIN MINIMUM 1.0m CLEARANCE FROM ALL U.G. POWER, TELEPHONE AND GAS ALIGNMENTS.
 3. DIG ALL ROOT HOLES BY HAND WHEN CLOSER THAN 1.0m TO U.G. POWER, TELEPHONE AND GAS ALIGNMENTS.
 4. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.



TYPICAL
EDGING DETAIL



- NOTES:
1. PRUNE ONLY DEAD, BROKEN, OR DISEASED BRANCHES TO MAINTAIN PROPER SHRUB FORM. DECIDUOUS ONLY.
 2. DO NOT ROTOTILL WITHIN 1.0m OF U.G. POWER, TELEPHONE AND GAS ALIGNMENTS.
 3. LANDSCAPE WEED LINER (OPTIONAL) PRIOR TO EXCAVATION FOR SHRUB. CUT WEED LINER AT 120mm INTERVALS FROM CENTER OF PROPOSED SHRUB LOCATION. ROLL WEED LINER BACK BEYOND LIMITS OF ROOTBALL AND PLANT SHRUB. ROLL WEED LINER BACK, WATER IN AND MULCH AS REQUIRED.
 4. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

1 TYPICAL TREE INSTALLATION

2 TYPICAL SHRUB PLANTING

Jones
LANDSCAPE ARCHITECTURE

47 Greenwich Crescent, St Albert, AB
Tel (587) 983-3498
Email ryan@jonesla.ca

RUSKIN CENTEX

287 ST. AND LOUGHEED HIGHWAY
MAPLE RIDGE, BC

DETAILS

Scale:	AS NOTED	Job No.:	
Date:	2022-05-18	Drawn by:	VM
Checked by:	RJ	Designed by:	RJ



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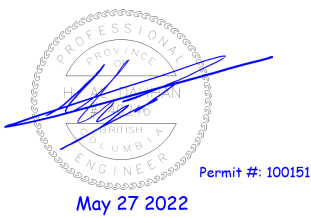
DO NOT SCALE THIS DRAWING.

[illegible]

ARCHITECT

CLIENT

REAL



PERMIT

DRAWN BY: RADP

CHECKED BY: AL NEIL CABALLES

ENGINEER: MOSES NORGA, P. ENG

PROJECT #: 180214

SCALE: AS NOTED

PROJECT

Ruskin Centex

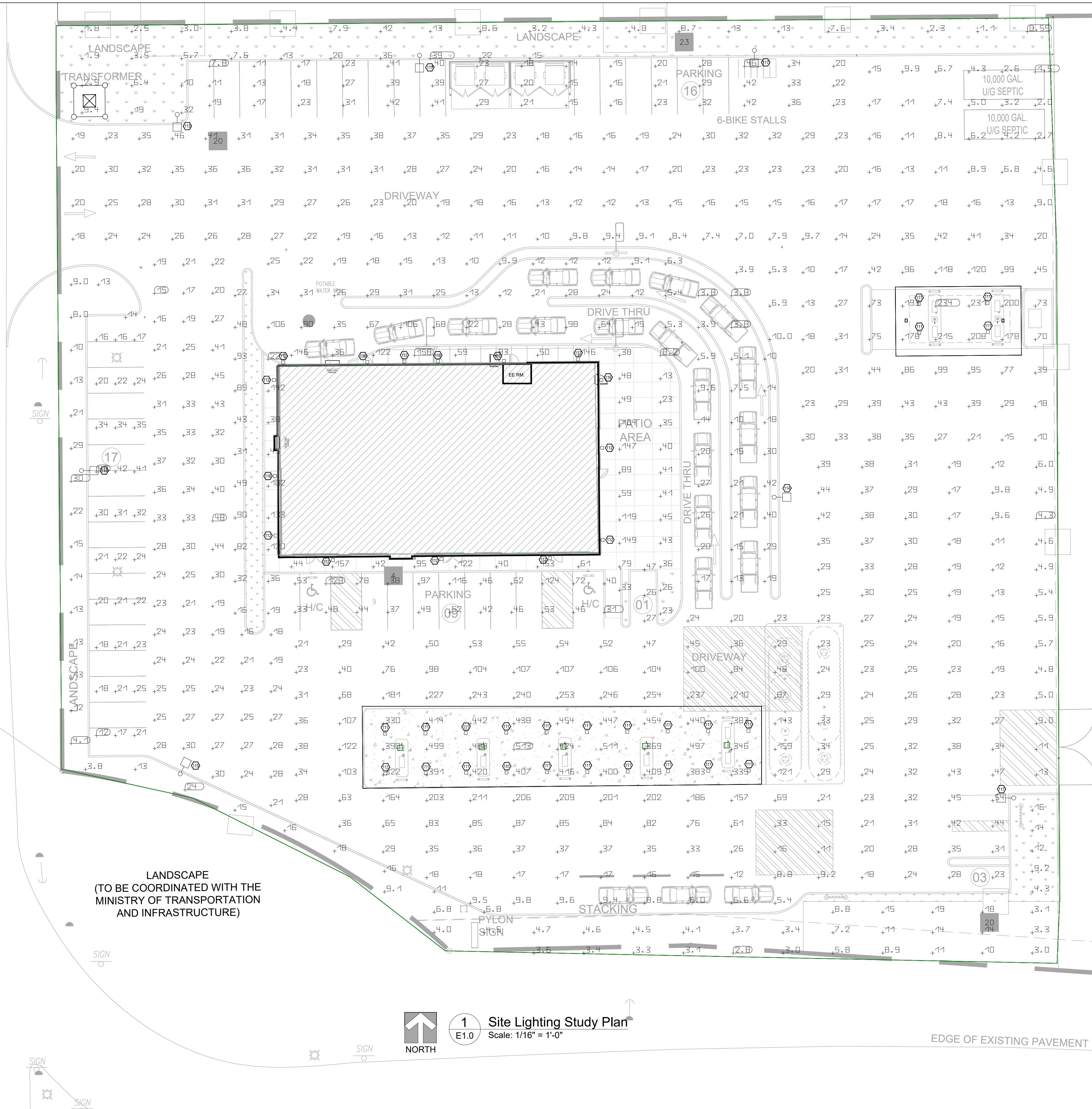
DESCRIPTION

Site Lighting Study Plan

DRAWING NO.

E1.0

1/



Design Criteria Sheet for Climate Change Resilience

Highway Infrastructure Engineering Design and Climate Change Adaptation
BC Ministry of Transportation and Infrastructure
(Separate Criteria Sheet per Discipline)
(Submit all sheets to the Chief Engineers Office at:
BCMoTI-ChiefEngineersOffice@gov.bc.ca)

Project: *Silverdale Centex (gas-station, c-store & food partner)*
 Type of work: *Commercial re-development*
 Location: *9450 287 Street, Maple Ridge, BC*
 Discipline: *Civil Engineering Design*

Design Component	Design Life or Return Period	Design Criteria + (Units)	Design Value Without Climate Change	Change in Design Value from Future Climate	Design Value Including Climate Change	Adaptation Cost Estimate (\$)	Comments / Notes / Deviations / Variances
300mm stormwater pipe from STM CBMH-1 to CBMH-2	100yr RP	Flow Rate (m ³ /s)	0.040	0.0084	0.0484	\$0	Storm sewer pipe connected two storm storage ponds, will be surcharged during the storm event
300mm stormwater pipe from STM CBMH-2 to STC-EF04	100 yr RP	Flow Rate (m ³ /s)	0.113	0.0113	0.137	\$0	inlet control device to be used to control the release rate at 1:5 year pre-development flow rate 0.113 m ³ /s
250mm stormwater pipe outlet pipe from STC-EF04 to CB/DW-3	100 yr RP	Flow Rate (m ³ /s)	0.113	0.0113	0.137	\$0	Outlet storm pipe to CB/DW-3 at 1:5 year pre-development flow rate 0.113m ³ /s

Explanatory Notes / Discussion:

Design Criteria

The drainage design criteria for the project are based on the principals outlined in the BCMoTI Supplement to TAC Geometrics Design Guide –1000 Hydraulics Chapter. This drainage assessment is limited to evaluating onsite storm sewer pipes. No pavement drainage, roadside ditches, or catch basin design is included in this scope of work. The design criteria noted below provide a summary of the key design items.

Hydrology

- Flow rates to be calculated using the Rational Method
- Rainfall Intensity Duration Frequency (IDF) Data to be based on IDF CC Tools for ungauged IDF for Lat: 49.17388° and Lon: -122.42822° (onsite location)

Sewer Pipes

- Sewer pipes diameter between 250mm to 300 mm are to be sized for the pre-development 5-year return period design flow rate
- Outlet-controlled 250mm pipe is to be sized to limit the head loss across the culvert to 250 mm
- Inlet-controlled 300mm is to be sized to limit the headwater-to-diameter (HW/D) ratio to 0.9

Design Life

75 year – return period design

Climate Change Risk

In accordance with BCMoTI Climate Change Technical Circular T-04/19, the potential impacts of future climate change need to be considered on all Ministry projects. For the drainage design components of this project, future climate change is anticipated to increase the amount of rainfall.

Climate Change Estimate

IDFFC (Western University Ontario)

Using the IDFFC tool to estimate increases to rainfall intensities for Ungauged IDF onsite for Lat: 49.17388° and Lon: - 122.42822° gauge from year 2015 to 2100. Using climate Model SSP5.85 change scenario, looked at the estimated increases to rainfall rates for a variety of return periods and storm durations. Looking at storm durations from 5 minutes to 24 hours for the 100-year return period, the estimated increase in rainfall intensity to 21%.

Flow Estimate

Estimated the post development 100-year peak flow rate for the storm sewer pipe using the Rational Method. The peak flow is a function of the catchment area, runoff coefficient, and rainfall intensity. To account for climate change, applied an increase of 21%, resulting in a design rainfall intensity of 140 mm/hr. Using these values, estimated a peak 100-year design flow rate of 0.272 m³/s. However, the allowable stormwater flow rate from site is restricted to pre-development 1:5 year return period flow rate.

Results-Sewer Hydraulic

Estimated length of the storm sewer pipe CBMH-2 to STC-EF04 and STC-EF-04 to CB/DW-3 are 16.653m and 5.5m; at 2.3% and 6.0% slope; and have pipe capacity of 0.156m³/s and 0.155m³/s, respectively. At the restricted design flow rate of 0.113 m³/s, therefore, the storm sewer pipes appear to have sufficient capacity

Recommended by: Engineer of Record: Edmund Li, P.Eng.
(Print Name / Provide Seal & Signature)



Date: May 06, 2022

Engineering Firm: ELI Consulting Inc.

Accepted by BCMoTI Consultant Liaison: _____
(For External Design)

Deviations and Variances Approved by the Chief Engineer: _____
Program Contact: Chief Engineer BCMoTI

Subdivision Development Drainage Report – Revision 1

**Proposed Silverdale Centex (Gas Station, C-store & Food Partners)
9450 287 Street, Maple Ridge, BC**

eDAS File# 2021-05741

DP File # 2019-402-DP

Prepared for:

Centex Petroleum

Prepared by:

***ELI* Consulting, Inc.**

Civil Engineering, Erosion & Sediment Control

230 Edgebrook Circle NW
Calgary, Alberta T3A 5A2
Canada
Phone: (403) 607-0049
email: edmund@eliconsult.ca

May 06, 2022

Attention: Ms. Sally Case
Development Officer | Service Area 6
Ministry of Transportation and Infrastructure
310-1500 Woolridge Street
Coquitlam, British Columbia
V3K 0B8

March 31, 2022

eDAS File# 2021-05741 – Site Grading Plan

Dear Sally:

On behalf of Centex Petroleum, we are submitting a copy of the Subdivision Development Drainage Report to support the development of Silverdale Centex (Gas Station, C-store and Food Partner) for 9450 287 Street Maple Ridge, BC for your review and approval.

We trust this additional information is sufficient for your approval. Should you require any additional information, please do not hesitate to call me at 403-607-0049.

Sincerely,



Edmund Li, P.Eng.

ELI Consulting Inc.

1.0 Introduction

ELI Consulting Inc. (ELI) has been retained by the Centex Petroleum to prepare a Subdivision Development Drainage Report (SDDR) in support of design drawings for the approval for Application Submission Confirmation eDAS File # 2021-05741 Site Grading Plan for an existing site re-development of proposed Silverdale Centex Gas Station, C-Store, and Food Partner at 9450 287 Street, Maple Ridge, BC. This report outlines the results of the pre and post-development flows, design storm details, and detention storage and run-off flow control.

2.0 Site Description and Drainage Design

The project site is located in Maple Ridge, BC, bounded by Lougheed Highway to the south, 287 Street to the west and existing commercial development to the north and east. (see Figure 1), is legally described as Rem 29 Plan 47148. The existing site is occupied by Ruskin Gas Station and C-Store. The proposed site re-development included demolition/renovation of existing building with new Centex Petroleum Gas Station, C-Store and Food Partner.



Fig # 1 Project Site

The existing site development study area covers about 0.8344ha, which consisted of sub-catchment area SC 1-1-1 (building roof area) = 671m², sub-catchment area SC 1-2-1 (concrete area) = 156m², sub-catchment area SC 1-3-1 (asphalt area) = 7199m² and sub-catchment area SC 1-4-1 (landscaping area) = 318m² (see Drawing SP-03 Drainage Plan – Pre-Development).

The pre-development stormwater run-off on the north side of the existing building was draining overland free flow from west to east to the neighbouring property then free flow overland to an existing catchbasin (assumed to be drywell) at the end of road ditch along north side of Lougheed Highway; and the stormwater run-off on the southwest portion of the existing building was captured by the existing onsite catchbasins that were connected to an existing manhole (assumed to be dry well) onsite and the stormwater run-off of remaining southeast portion of the existing building was draining free flow overland to the road ditch along north side of Lougheed Highway.

All drainage from site ultimately drains to existing catchbasin/dry well located at the east end of the road ditch

along north side of Lougheed Highway.

The proposed site re-development study area covers about 0.834ha, which consisted of sub-catchment area SC 1-1-1 (building roof area) = 574m², sub-catchment areas SC 1-2-1, 1-2-2, 1-2-3, 1-2-4, 1-2-5, 1-2-6, 1-2-7, and 1-2-8 (concrete area) = 11321m², sub-catchment area SC 1-3-1 (asphalt area) = 5435m² and sub-catchment areas SC 1-4-1, 1-4-2 and 1-4-3 (landscaping area) = 982m². (see Drawing SP-04 – Drainage Plan - Post Development)

The permissible discharge from site equals to the run-off generated from the post development 1:100 year storm event to be controlled at the pre-development run-off generated from 1:5 years storm event. The post development stormwater run-off generated from the site collects at two (2) stormwater retention ponds TL #1 and TL #2 located on the east side of the development. The sub-catchment area SC 1-4-2, 1-2-5, 1-2-6, 1-2-7, 1-2-8 and north portion of 1-3-1 are draining into TL#1, similarly, sub-catchment area SC 1-1-1, 1-2-1, 1-2-2, 1-2-3, 1-2-4, 1-4-1 and remaining portion 1-3-1 are draining into TL-2. The sub-catchment area 1-4-3 is draining free flow overland into the road ditch along the north side of Lougheed Highway.

The post development stormwater retention pond TL#1 is drained via STM CBMH-1 to STM CBMH-2, and stormwater retention pond TL#2 is drained via STM CBMH-2. An Inlet Control Device with orifice opening R=70mm to be installed at STM CBMH-2. Both stormwater retention ponds operate as one combined stormwater retention pond which is made possible by the fact that the rim elevations of both ponds is within 0.1m. All

All post development stormwater run-off drainage from site ultimately drains to existing catchbasin/dry well located at the east end of the road ditch along north side of Lougheed Highway.

2.1 Design Objectives

The design criteria for the project site are based on drainage design submission of Ministry of Transportation and Infrastructure, BC Supplement to TAC section 1010.03, including climate change design criteria sheet, and City of Maple Ridge Design and Construction Documents Part 1 Design Criteria Manual.

- All drainage systems must include run-off controls to limit post-development peak discharge rates to the pre-development rate for 5 year return period storms.
- All additional Ministry requirement is an assessment of the receiving ditch or watercourse for peak flows greater than a 5 year return period up to a 100 year return period.
- Will the roof runoff be directed to a foundation drainage system (collected/drained underground) or downspouts discharge directly on the ground? If there will be a foundation drainage system, where will it be connected to? Also, could part of the pavement runoff be collected throughcatch basins and discharged to the underground system.

The pertinent design criteria and strategy are as follows:

2.2 Water Quantity

For urban watershed up to 1Km², using Design Storm based on Rational Method

$$Q_p = CiA/360$$

- Q_p is the peak flow, m³/s
 C is the runoff coefficient
 i is the rainfall intensity = P/T_c mm/hr
 P is the total precipitation, mm
 T_c is the time of concentration, hr
 A is the drainage area, ha

Table 1 - Pre-Development Site Condition

SURFACE	AREA (m ²)	RUNOFF COEFFICIENT C
EX. ROOF AREA	671	1.00
EX. CONCRETE AREA	156	1.00
EX. ASPHALT AREA	7199	0.90
EX. LANDSCAPING AREA	318	0.30
TOTAL	8344	0.89

Table 2 - IDF CC Tools for Ungauged IDF

Ungauged IDF for: Lat: 49.17388 °, Lon: -122.42822 °

Station Info | **IDF historical data ?** | IDF under climate change ?

GEV

Tables | Plots | Interpolation Equations

Total precipitation amounts are presented in mm and precipitation intensity rates are presented in mm/h for different return periods (T) presented in years

☐ Total PPT (mm) ☒ Intensity rates (mm/h)

T (years)	2	5	10	20	25	50	100
5 min	40.91	55.80	67.37	80.30	84.38	99.03	115.63
10 min	30.06	39.75	46.99	54.91	57.36	66.11	75.85
15 min	25.41	32.80	37.95	43.26	44.83	50.24	55.94
30 min	18.06	22.54	25.44	28.40	29.21	32.19	35.37
1 h	12.26	14.96	16.86	18.84	19.43	21.49	23.71
2 h	9.58	11.63	13.07	14.56	15.01	16.54	18.17
6 h	6.74	7.75	8.41	9.05	9.23	9.87	10.53
12 h	5.17	6.25	6.99	7.73	7.94	8.67	9.42
24 h	3.76	4.69	5.33	5.96	6.15	6.77	7.41

Time Of Concentration

(From City of Maple Ridge Design Criteria Manual, section D5.4)

$$T_c = T_i + T_t$$

Where

T_c = time of concentration (minutes)

T_i = inlet or overland flow time (minutes)

T_t = travel time in sewer, ditches, channels or water courses (minutes)

Inlet or Overland Flow Time (T_i)

Typical inlet times for urban areas commercial/Industrial/Institutional = 5 minutes

Travel Time (T_t)

$$T_t = C_t * L * n / 12s^{0.5}$$

Where T_t = TRAVEL TIME (MINUTES)

C_t = Flow travel coefficient (0.5)

L = Length of flow (131 m)

n = Roughness coefficient
0.013 asphalt, concrete lined channels, PVC pipe, or Concrete pipe

s = Slope in m/m (0.0145)

Therefore:

$$T_t = 0.5 * 131 * 0.013 / 12(0.0145)^{0.5}$$

$$= 0.59 \text{ minutes}$$

$$T_c = 5 + 0.59 = 5.59 \text{ minutes}$$

Pre-development Storm Runoff Calculation:

Allowable discharge rate Q_{p1} to road ditch based on ungauged IDF for Lat: 49.17388° and Lon: -122.42822°
(onsite location) 5 year return period
5 minutes duration $i = 55.80\text{mm/hr}$

$$Q_{p1} = CiA/360 \text{ (m}^3\text{/s)}$$

where C = runoff coefficient
 A = drainage area (ha)
 i = rainfall intensity (mm/hr)

$$Q_{p1} = (0.887*0.8344*55.80)/360$$
$$= 0.115 \text{ m}^3\text{/s}$$

Allowable discharge rate Q_{p1} to road ditch based on ungauged IDF for Lat: 49.17388° and Lon: -122.42822°
(onsite location) 5 year return period
5.59 minutes duration $i \sim 55\text{mm/hr}$

$$Q_{p1} = CiA/360 \text{ (m}^3\text{/s)}$$

where C = runoff coefficient
 A = drainage area (ha)
 i = rainfall intensity (mm/hr)

$$Q_{p1} = (0.887*0.8344*55)/360$$
$$= 0.113\text{m}^3\text{/s}$$

Allowable discharge rate Q_{p1} to road ditch based on ungauged IDF for Lat: 49.17388° and Lon: -122.42822°
(onsite location) 5 year return period
15 minutes duration $i = 32.80\text{mm/hr}$

$$Q_{p1} = CiA/360 \text{ (m}^3\text{/s)}$$

where C = runoff coefficient
 A = drainage area (ha)
 i = rainfall intensity (mm/hr)

$$Q_{p1} = (0.887*0.8344*32.80)/360$$
$$= 0.067 \text{ m}^3\text{/s}$$

Table 3 Post Development Site Condition

SURFACE	AREA (m ²)	RUNOFF COEFFICIENT C
ROOF AREA	574	1.00
CONCRETE AREA	1321	1.00
ASPHALT AREA	5435	0.90
LANDSCAPING AREA	982	0.30
TOTAL	8344	0.85

Table 4 - IDF CC Tools for Ungauged IDF under Climate Change

Ungauged IDF for: Lat: 49.17388 °, Lon: -122.42822 °

Station Info

IDF historical data ?

IDF under climate change ?

Climate Model Selection

SSP1.26 ?

SSP2.45 ?

SSP3.70 ?

SSP5.85 ?

Comparison Graphs ?

Tables

Plots

Interpolation Equations

Box Plot - Uncertainty ?

Total precipitation amounts presented in mm and precipitation intensity rates presented in mm/h for different return periods (T) presented in years

☐ Total PPT (mm)
 ☒ Intensity rates (mm/h)

T (years)	2	5	10	20	25	50	100
5 min	47.14	65.46	80.26	95.95	100.92	119.22	140.00
10 min	34.63	46.62	55.98	65.62	68.60	79.58	91.84
15 min	29.27	38.48	45.21	51.69	53.61	60.48	67.73
30 min	20.81	26.44	30.31	33.94	34.94	38.75	42.83
1 h	14.12	17.55	20.08	22.51	23.23	25.87	28.70
2 h	11.04	13.64	15.57	17.40	17.95	19.92	22.00
6 h	7.77	9.10	10.01	10.82	11.04	11.88	12.75
12 h	5.95	7.34	8.33	9.23	9.50	10.44	11.41
24 h	4.33	5.51	6.35	7.13	7.35	8.15	8.98

Post Development Storm Runoff Calculation:

Actual discharge rate Q_{p2} to road ditch based on ungauged IDF for Lat: 49.17388° and Lon: -122.42822°
(onsite location) 100 year return period under climate change
5 minutes duration $i = 140.00\text{mm/hr}$

$$Q_{p1} = CiA/360 \text{ (m}^3\text{/s)}$$

where C = runoff coefficient
 A = drainage area (ha)
 i = rainfall intensity (mm/hr)

$$\begin{aligned} Q_{p1} &= (0.85 \cdot 0.8344 \cdot 140) / 360 \\ &= 0.276 \text{ m}^3/\text{s} \end{aligned}$$

Actual discharge rate Q_{p2} to road ditch based on ungauged IDF for Lat: 49.17388° and Lon: -122.42822°
(onsite location) 100 year return period under climate change
5.59 minutes duration $i \sim 138\text{mm/hr}$

$$Q_{p1} = CiA/360 \text{ (m}^3\text{/s)}$$

where C = runoff coefficient
 A = drainage area (ha)
 i = rainfall intensity (mm/hr)

$$\begin{aligned} Q_{p1} &= (0.85 \cdot 0.8344 \cdot 138) / 360 \\ &= 0.272 \text{ m}^3/\text{s} \end{aligned}$$

Actual discharge rate Q_{p2} to road ditch based on ungauged IDF for Lat: 49.17388° and Lon: -122.42822°
(onsite location) 100 year return period under climate change
15 minutes duration $i = 67.73\text{mm/hr}$

$$Q_{p1} = CiA/360 \text{ (m}^3\text{/s)}$$

where C = runoff coefficient
 A = drainage area (ha)
 i = rainfall intensity (mm/hr)

$$\begin{aligned} Q_{p1} &= (0.85 \cdot 0.8344 \cdot 67.73) / 360 \\ &= 0.133 \text{ m}^3/\text{s} \end{aligned}$$

Design Volume (Small Catchments)

(From City of Maple Ridge Design Criteria Manual, section D7.2)

$$\text{Storage Volume} = Tr * (Q_{p2} - Q_{rel}) + 0.5 * T_c * ((1/Q_{p2}) - (1/Q_{p1})) * (Q_{rel})^2$$

Where	Tr	=	duration of specified storm (seconds)	
	Tc	=	Time of Concentration (seconds)	5.59minutes
	Q _{p1}	=	peak flow for storm duration Tr=Tc (m ³ /s)	0.113m ³ /s
	Q _{p2}	=	peak flow for specified storm duration (m ³ /s)	
	Q _{rel}	=	maximum release rate (m ³ /s)	0.113m ³ /s

Table 5 Results of 1:100 year storm event required storage volume

Hyd No.	Rainfall Duration Tr (min)	Rainfall intensity I (mm/hr)	Peak Flow Q _{p2} (m ³ /s)	Inflow Runoff Volume (m ³)	Max Release Rate Q _{rel} (m ³ /s)	Required Storage Volume (m ³)
1	5	140	0.276	82.8	0.113	37.72
2	15	67.73	0.133	119.7	0.113	15.15
3	5.59	138	0.272	91.2	0.113	42.25

Table 6 Results of Stormwater Retention Storage Pond Analysis

Number ¹	Low Point Elevation	Spill Conditions			1:100 Year Event Results				MG Elevation ³
		Capacity m ³	Depth m	Elevation m	Storage Volume ² m ³	Spillover Volume m ³	Depth m	Elevation m	
TL #1	9.415	88	0.245	9.660	42.25	0	0.200	9.615	10.63
TL #2	9.448		0.212	9.660		0	0.167		

Table 6 Permissible Discharge Rates and On-site Storage Requirements

Location	Manhole Number	Invert	Rim Elevation	HGL	Area	Discharge Rate	Storage Volume
		(m)	(m)	(m)	(ha)	(m ³ /s)	(m ³)
TL #1	CBMH-01	8.115	9.415	9.660	0.2950	0.113	42.25
TL #2	CBMH-02	7.880	9.448	9.660	0.5394		

The selection of Orifice ICDs is such that the catchbasin manhole CBMH and stormwater retention ponds have adequate capacity to convey the resulting peak 1:100 year discharge rate under climate change IMPACT without resulting in overflow conditions.

The overall flow exiting the entire site is 0.113 m³/s is equal to the total permissible discharge rate of 0.113 m³/s.

The storm storage pond volume required is 42.25m³, and storm storage ponds volume provided is 88m³.

All flows are to be fully retained within the site without spill onto the surrounding roadways or properties for a 1:100year design event.

Release Control - Orifice ICD calculation

$$\begin{aligned} Q_{rel} &= 0.6 \cdot 3.1416 \cdot r^2 (2 \cdot 9.81 (H-r))^{0.5} \\ &= 0.6 \cdot 3.1416 \cdot (0.102)^2 (2 \cdot 9.81 (1.78 - 0.102))^{0.5} \\ &= 0.113 \text{ m}^3/\text{s} \end{aligned}$$

Therefore Orifice Opening R=102mm

2.3 Water Quality

For water quality enhancement, the runoff from catchment 1 be treated by on-site oil/grit separator Stormceptor STC-EF04 prior to release to STM DRYWELL CB/ DW-3 at the road ditch.

2.4 Major - Minor System

There is no existing public storm sewer system at 287 Street except road ditches along Lougheed Highway.

There is a storm sewer minor system on the site to capture and control to limit post-development peak discharge rates for 1:100 year return period storm to the pre-development rate for 5 year return period storms.

2.5 Minor System Capture

Table 7 Results of On-site Storm Sewer System Analysis

Pipe Section		Size	Slope	Capacity	Velocity	Peak 1:100 Year Flow
From	To	(mm)	(%)	(L/s)	(m/s)	(L/s)
CBMH-1	CBMH-2	*300	0.3	66.7	0.996	113
CBMH-2	STC-EF04	300	2.3	156.3	2.33	113
STC-EF04	CB/DW-3	250	6.0	155.3	3.36	113

CBMH-1 to CBMH-2 *300 mm storm pipe is under surcharge condition during storm event.

3.0 Summary of Findings, Conclusions, and Recommendations

1. Pre-Development 1:5 year storm return period with 5.59 minutes duration run-off flow rate = $0.113 \text{ m}^3/\text{s}$.
2. Post Development 1:100 year storm return period under climate change impact with 5.59 minutes duration peak flow rate = $0.276 \text{ m}^3/\text{s}$.
3. Stormwater storage volume required under climate change impact = 42.25 m^3 , and stormwater pond TL#1 and # 2 storage volume provided 88 m^3 .
4. Post Development Permissible Discharge Rate is equal to Pre-Development run-off flow rate $0.113 \text{ m}^3/\text{s}$.
5. Post Development Permissible Discharge Rate is controlled by Orifice plate with opening $R=102 \text{ mm}$.
6. Water quality from site to be treated by Stormceptor STC-EF04 prior to discharge to STM drywell CB/DW-03
7. The existing site do not have public storm sewer along 287 Street, controlled release from site to be discharged into STM drywell CB/DW-03 at Lougheed Highway north road ditch.
8. The section of Lougheed Highway north road ditch does not have any other outlet except thru catchbasin drywell infiltration.
9. There is no new ditch or culvert required for the project.
10. The proposed building does not have foundation drains, and the roof drains to be directed to asphalt pavement.

CORPORATE AUTHORIZATION

We agree and certify that all requirements on this template have been reviewed and properly identified as part of this submission. We understand that this template will be used as a tool for review and approval of drainage reports and accept responsibility and liability for the designs in this submission.



RESPONSIBLE ENGINEER

EDMUND LI, P.ENG

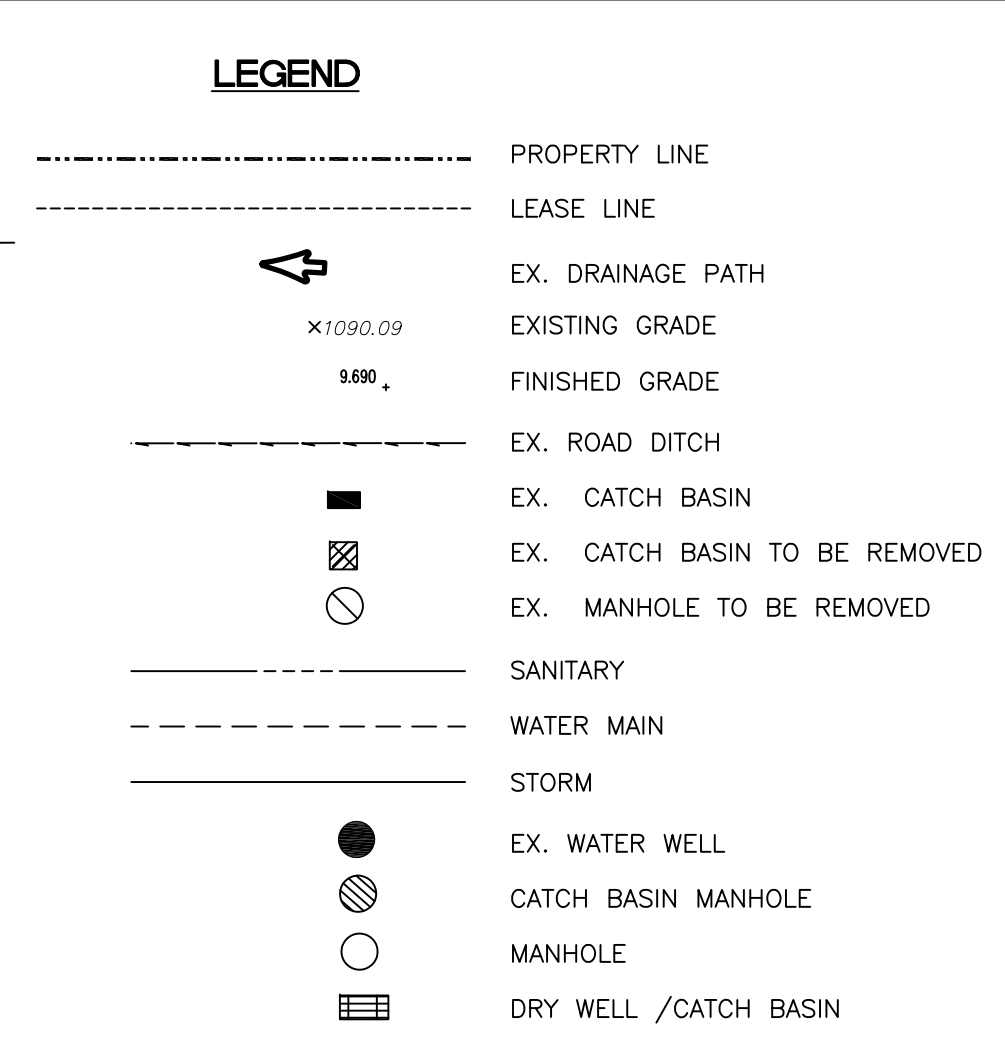
MAY 06, 2022

Drawings

SP 01	Site Servicing Plan
SP 02	Grading Plan
SP 03	Drainage Plan – Pre-Development
SP 04	Drainage Plan – Post Development
SP 05	Details

REFERENCES

- BC MoTI Supplement to TAC Geometric Design Guide
- City of Maple Ridge – Design and Construction Documents Part 1 Design Criteria Manual
- Manning's Calculator – J.F. Sabourin and Associates Inc.
- Technical Circular T-04/19
- IDF CC Tool – Western University Ontario

[illegible]

GENERAL NOTES:



MUNICIPAL ADDRESS
9450 287 STREET
MAPLE RIDGE, BC

LEGAL ADDRESS
REM 29
PLAN 47148

OWNER:

CENTEX PETROLEUM

PROJECT:
**SILVERDALE CENTEX
(GAS STATION, C-STORE &
FOOD PARTNERS)**

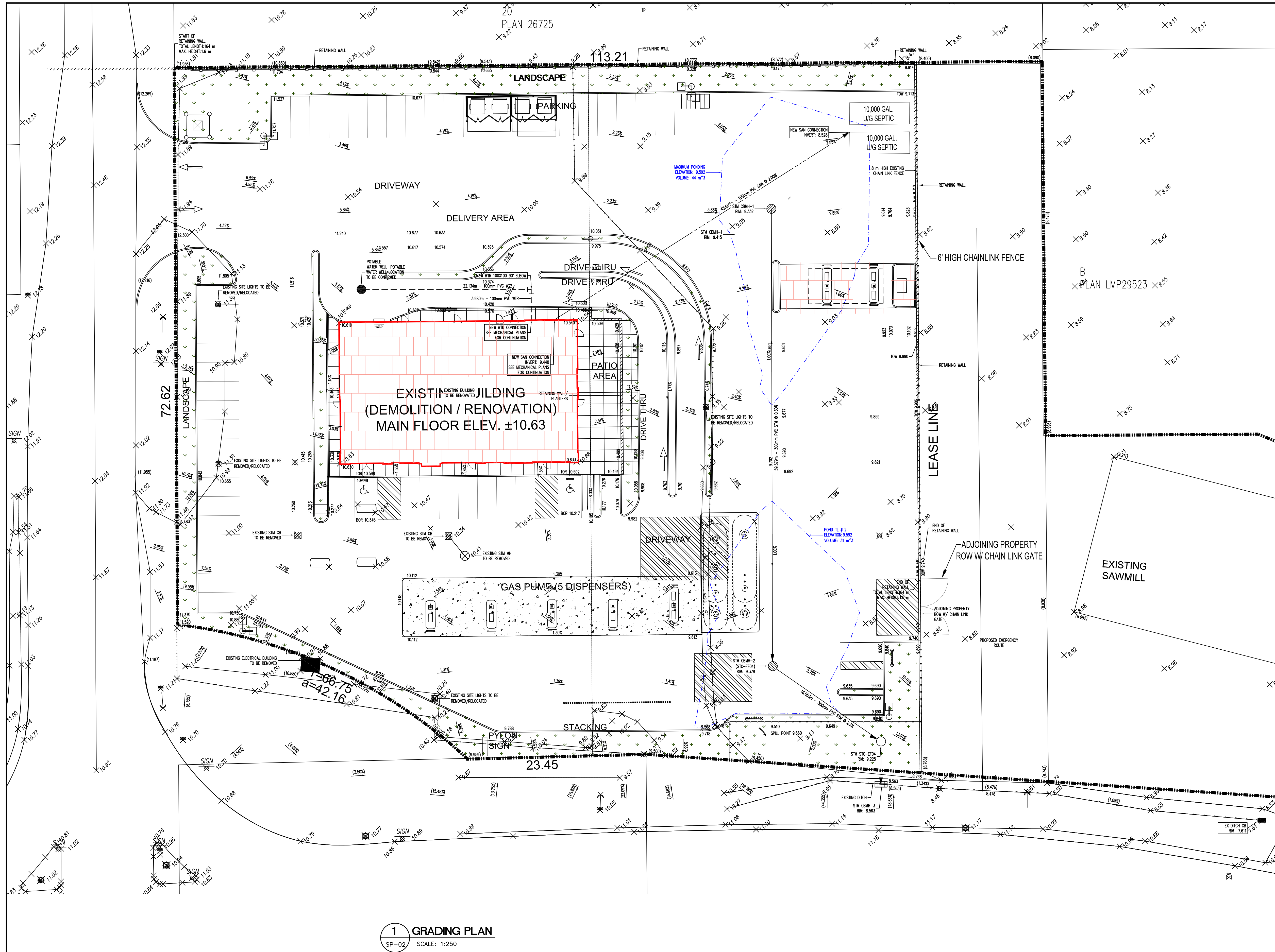
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SITE SERVICING PLAN

DRAWN BY: ELI	CAD FILE: E22-01-SP01
DESIGNED BY: ELI	DATE: 20/01/2022
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SP-01	2



LEGEND

- PROPERTY LINE
LEASE LINE
EX. DRAINAGE PATH
EXISTING GRADE
FINISHED GRADE
EX. ROAD DITCH
EX. CATCH BASIN
EX. CATCH BASIN TO BE REMOVED
EX. MANHOLE TO BE REMOVED
SANITARY
WATER MAIN
STORM
EX. WATER WELL
CATCH BASIN MANHOLE
MANHOLE
DRY WELL /CATCH BASIN

- GENERAL NOTES:
1. ALL ELEVATIONS, STATIONS, PIPE LENGTH, AND DIMENSIONS IN METRES AND PIPE SIZES IN MILLIMETRES UNLESS NOTED OTHERWISE.
 2. SITE PLAN IS PROVIDED BY DESIGN WORKS.
 3. EXISTING TOPOGRAPHY SURVEY INFO IS PROVIDED BY WADE & ASSOCIATES LAND SURVEYING LTD.
 4. ALL EXISTING UNDERGROUND UTILITIES AND SITE SERVICES ARE BASED ON EXISTING SITE SURVEY INFORMATION. IT IS STRONGLY RECOMMENDED HYDROVAC OF THESE LINES PRIOR TO CONSTRUCTION.
 5. ALL WORK TO CONFORM TO THE CITY OF MAPLE RIDGE DESIGN AND CONSTRUCTION STANDARDS.
 6. CONTRACTOR TO CONFIRM LOCATION OF ALL ON-SITE EXISTING UTILITIES TIE-IN PRIOR TO CONSTRUCTION & NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
 7. CONTRACTOR SHALL CHECK ALL PLANS, REPORT ANY CONFLICTS TO ENGINEER PRIOR TO CONSTRUCTION.



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REM 29
PLAN 47148

OWNER:

CENTEX PETROLEUM

PROJECT:
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FOOD PARTNERS)**

TITLE:
GRADING PLAN

DRAWN BY:	CAD FILE:
ELI	E22-01-SP01
DESIGNED BY:	DATE:
ELI	20/01/2022
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ELI	AS SHOWN

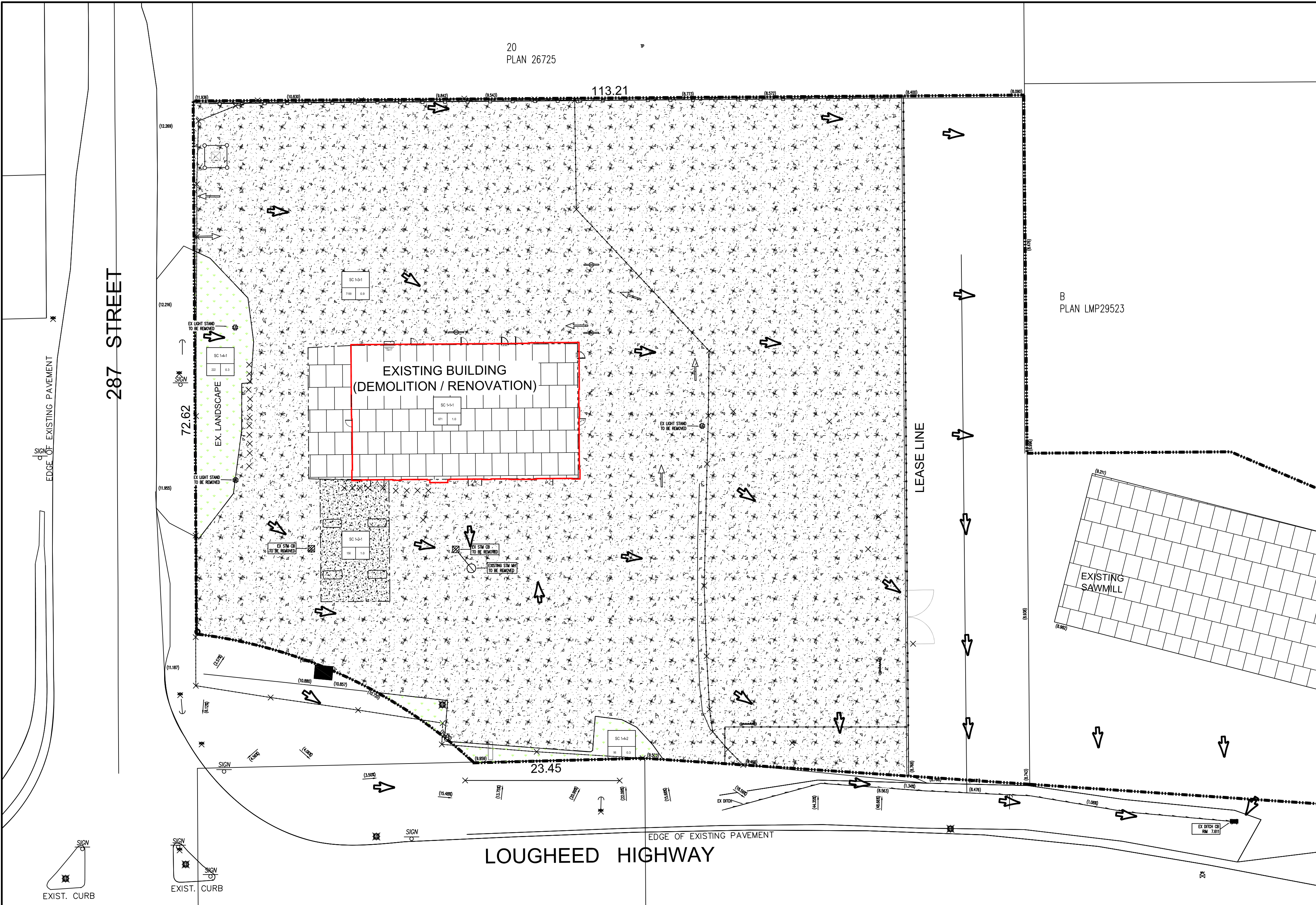
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SP-02

2



EXISTING (PRE-DEVELOPMENT) SITE CONDITIONS

SURFACE	AREA (m²)	C
EX. ROOF	671	1.00
EX. CONCRETE	156	1.00
EX. ASPHALT	7199	0.90
EX. LANDSCAPING	318	0.30
TOTAL	8344	0.89

LEGEND

-----	PROPERTY LINE
-----	LEASE LINE
→	EX. DRAINAGE PATH
[Pattern]	EX. ROOF AREA
[Pattern]	EX. CONCRETE AREA
[Pattern]	EX. ASPHALT AREA
[Pattern]	EX. LANDSCAPING AREA
[Box]	SUB-CATCHMENT AREA ID

TIME OF CONCENTRATION

Where $T_c = T_i + T_t$
 T_c = TIME OF CONCENTRATION (minutes)
 T_i = INLET OR OVERLAND FLOW TIME (minutes)
 T_t = TRAVEL TIME IN SEWER, DITCHES, CHANNELS OR WATER COURSES (minutes)

INLET OR OVERLAND FLOW TIME (T_i)
TYPICAL INLET TIMES FOR URBAN AREAS COMMERCIAL/INDUSTRIAL/INSTITUTIONAL
= 5 minutes

Travel Time (T_t)
 $T_t = C_t * L * n / 12s^{0.5}$
Where T_t = TRAVEL TIME (MINUTES)
 C_t = FLOW TRAVEL COEFFICIENT (0.5)
 L = LENGTH OF FLOW (131 M)
 n = ROUGHNESS COEFFICIENT
0.050 NATURAL CHANNELS
0.030 EXCAVATED DITCHES OR PACKED CLAY
0.013 ASPHALT OR CONCRETE LINED CHANNELS
0.013 CONCRETE OR PVC PIPE
 s = SLOPE IN M/M (0.0145)

Therefore:
 $T_t = 0.5 * 131 * 0.013 / 12(0.0145)^{0.5}$
= 0.59 minutes
 $T_c = 5 + 0.59 = 5.59$ minutes

PRE-DEVELOPMENT STORM RETENTION CALCULATIONS
BASED ON RATIONAL METHOD

FOR 1:5 YEAR RUNOFF COEFFICIENT $R=0.887$
ALLOWABLE DISCHARGE RATE Q_{p1} TO PUBLIC STORM SYSTEM
BASED ON UNGAUGED IDF FOR LAT: 49.17388° AND LON: -122.42822° (ONSITE LOCATION) 5 YEAR RETURN PERIOD
5 MINUTES DURATION $I = 55.80$ mm/hr
 $Q_{p1} = C I A / 360$ (m³/s)
WHERE C = RUNOFF COEFFICIENT
 A = DRAINAGE AREA (ha)
 I = RAINFALL INTENSITY (mm/hr)
= $0.887 * 0.8344 * 55.80 / 360$
= 0.115 m³/s

ALLOWABLE DISCHARGE RATE Q_{p1} TO PUBLIC STORM SYSTEM
BASED ON UNGAUGED IDF FOR LAT: 49.17388° AND LON: -122.42822° (ONSITE LOCATION) 5 YEAR RETURN PERIOD
5.59 MINUTES DURATION $I = 55$ mm/hr
 $Q_{p1} = C I A / 360$ (m³/s)
WHERE C = RUNOFF COEFFICIENT
 A = DRAINAGE AREA (ha)
 I = RAINFALL INTENSITY (mm/hr)
= $0.887 * 0.8344 * 55 / 360$
= 0.113 m³/s

ALLOWABLE DISCHARGE RATE Q_{p1} TO PUBLIC STORM SYSTEM
BASED ON UNGAUGED IDF FOR LAT: 49.17388° AND LON: -122.42822° (ONSITE LOCATION) 5 YEAR RETURN PERIOD
15 MINUTES DURATION $I = 32.80$ mm/hr
 $Q_{p1} = C I A / 360$ (m³/s)
WHERE C = RUNOFF COEFFICIENT
 A = DRAINAGE AREA (ha)
 I = RAINFALL INTENSITY (mm/hr)
= $0.887 * 0.8344 * 32.80 / 360$
= 0.067 m³/s

1 DRAINAGE PLAN - PRE-DEVELOPMENT
SP-03 SCALE: 1:300



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REM 29
PLAN 47148

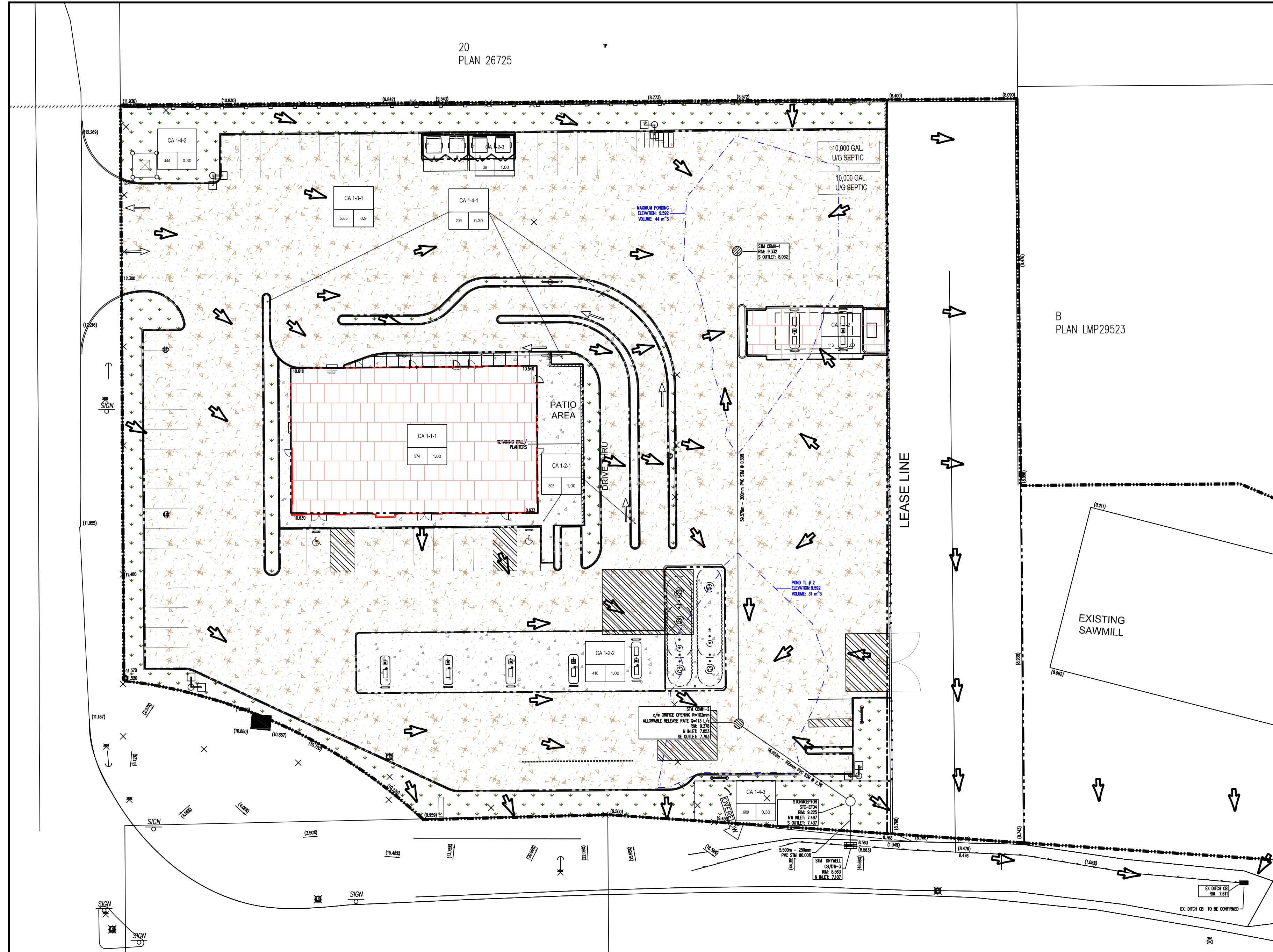
OWNER:
CENTEX PETROLEUM

PROJECT:
SILVERDALE CENTEX
(GAS STATION, C-STORE & FOOD PARTNERS)

TITLE: DRAINAGE PLAN - PRE-DEVELOPMENT	
DRAWN BY: ELI	CAD FILE: E22-01-SP01
DESIGNED BY: ELI	DATE: 20/01/2022
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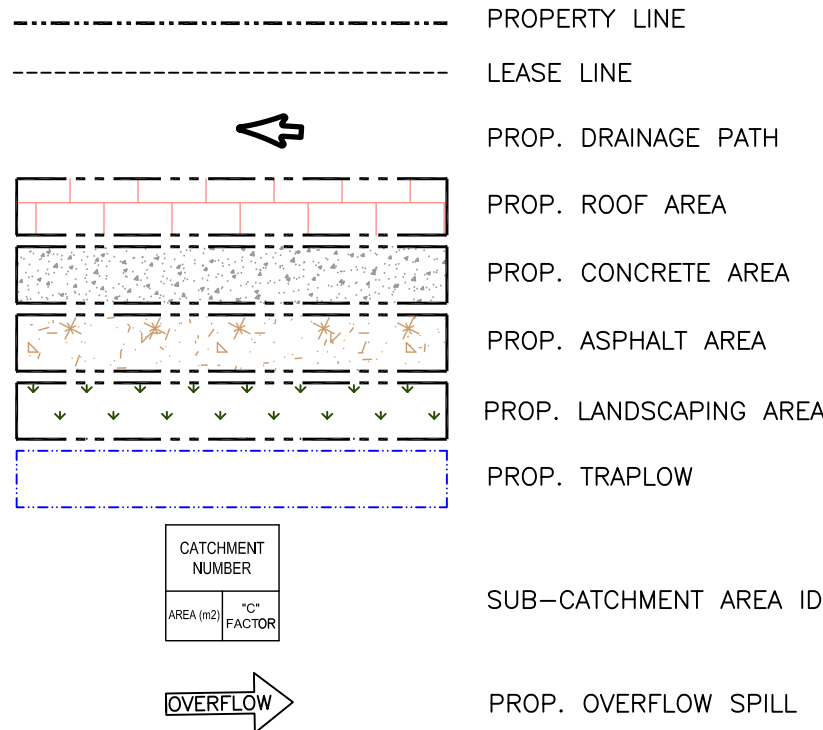
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1 DRAINAGE PLAN - POST DEVELOPMENT
SP-04 SCALE: 1:300

LEGEND



POST DEVELOPMENT SITE CONDITIONS

SURFACE	AREA (m ²)	C
ROOFS	687	1.00
CONCRETE	760	1.00
ASPHALT	5635	0.90
LANDSCAPING	1262	0.30
TOTAL	8344	0.83

POST DEVELOPMENT STORM RETENTION CALCULATIONS
BASED ON RATIONAL METHOD

ACTUAL DISCHARGE RATE Q_{p2} TO PUBLIC STORM SYSTEM BASED ON UNGAUGED IDF FOR LAT: 49.17388° AND LON: -122.42822° (ONSITE LOCATION) 100 YEAR RETURN PERIOD
5 MINUTES DURATION $I = 140.00\text{mm/hr}$
 $Q_{p2} = CIA/360 \text{ (m}^3/\text{s)}$

WHERE C = RUNOFF COEFFICIENT
A = DRAINAGE AREA (ha)
I = RAINFALL INTENSITY (mm/hr)
 $= 0.85 \times 0.8344 \times 140.0 / 360$
 $= 0.276 \text{ m}^3/\text{s}$

ACTUAL DISCHARGE RATE Q_{p2} TO PUBLIC STORM SYSTEM BASED ON UNGAUGED IDF FOR LAT: 49.17388° AND LON: -122.42822° (ONSITE LOCATION) 100 YEAR RETURN PERIOD
5.59 MINUTES DURATION $I = 138.00\text{mm/hr}$

$Q_{p2} = CIA/360 \text{ (m}^3/\text{s)}$
WHERE C = RUNOFF COEFFICIENT
A = DRAINAGE AREA (ha)
I = RAINFALL INTENSITY (mm/hr)
 $= 0.85 \times 0.8344 \times 138 / 360$
 $= 0.272 \text{ m}^3/\text{s}$

ACTUAL DISCHARGE RATE Q_{p2} TO PUBLIC STORM SYSTEM BASED ON UNGAUGED IDF FOR LAT: 49.17388° AND LON: -122.42822° (ONSITE LOCATION) 100 YEAR RETURN PERIOD
15 MINUTES DURATION $I = 67.73\text{mm/hr}$

$Q_{p2} = CIA/360 \text{ (m}^3/\text{s)}$
WHERE C = RUNOFF COEFFICIENT
A = DRAINAGE AREA (ha)
I = RAINFALL INTENSITY (mm/hr)
 $= 0.85 \times 0.8344 \times 67.73 / 360$
 $= 0.133 \text{ m}^3/\text{s}$

Storage Volume = $Tr \times (Q_{p2} - Q_{rel}) + 0.5 \times T_c \times ((1/Q_{p2}) - (1/Q_{p1})) \times (Q_{rel})^2$

Where	Tr	=	duration of specified storm (seconds)	
	Tc	=	time of concentration (seconds)	5.59 minutes
	Qp1	=	peak flow for storm duration $Tr = Tc$ (m ³ /s)	0.1130 m ³ /s
	Qp2	=	peak flow for specified storm duration (m ³ /s)	
	Qrel	=	maximum rate (m ³ /s)	0.1130 m ³ /s

Given: $Q_{rel} = 0.140\text{m}^3/\text{s}$ and $T_c = 5.59$ minutes

Post development 1:100 year return

Hyd No.	Rainfall Duration Tr (min)	Rainfall Intensity I (mm/hr)	Peak Flow QP2 (m ³ /s)	Inflow Runoff Volume (m ³)	Max Release Qrel (m ³ /s)	Required Storage Volume (m ³)
1	5	140	0.2760	82.8	0.113	37.72
2	15	67.73	0.1330	119.7	0.113	15.15
3	5.59	138	0.2720	91.2	0.113	42.25

* STORMWATER POND STORAGE VOLUME PROVIDED 75m³
GREATER REQUIRED STORAGE VOLUME 42.25m³



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OWNER:

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**DRAINAGE PLAN -
POST DEVELOPMENT**

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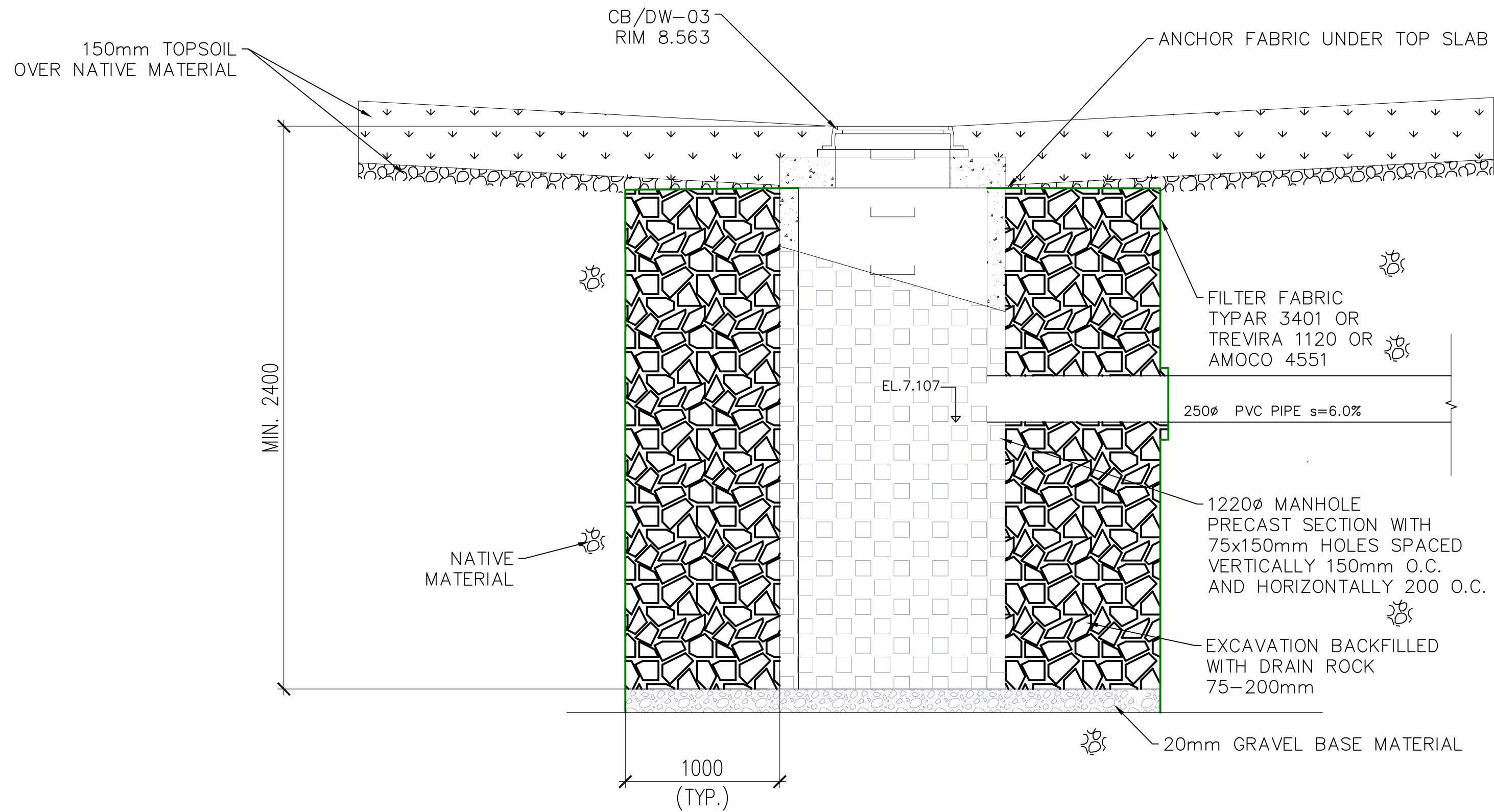
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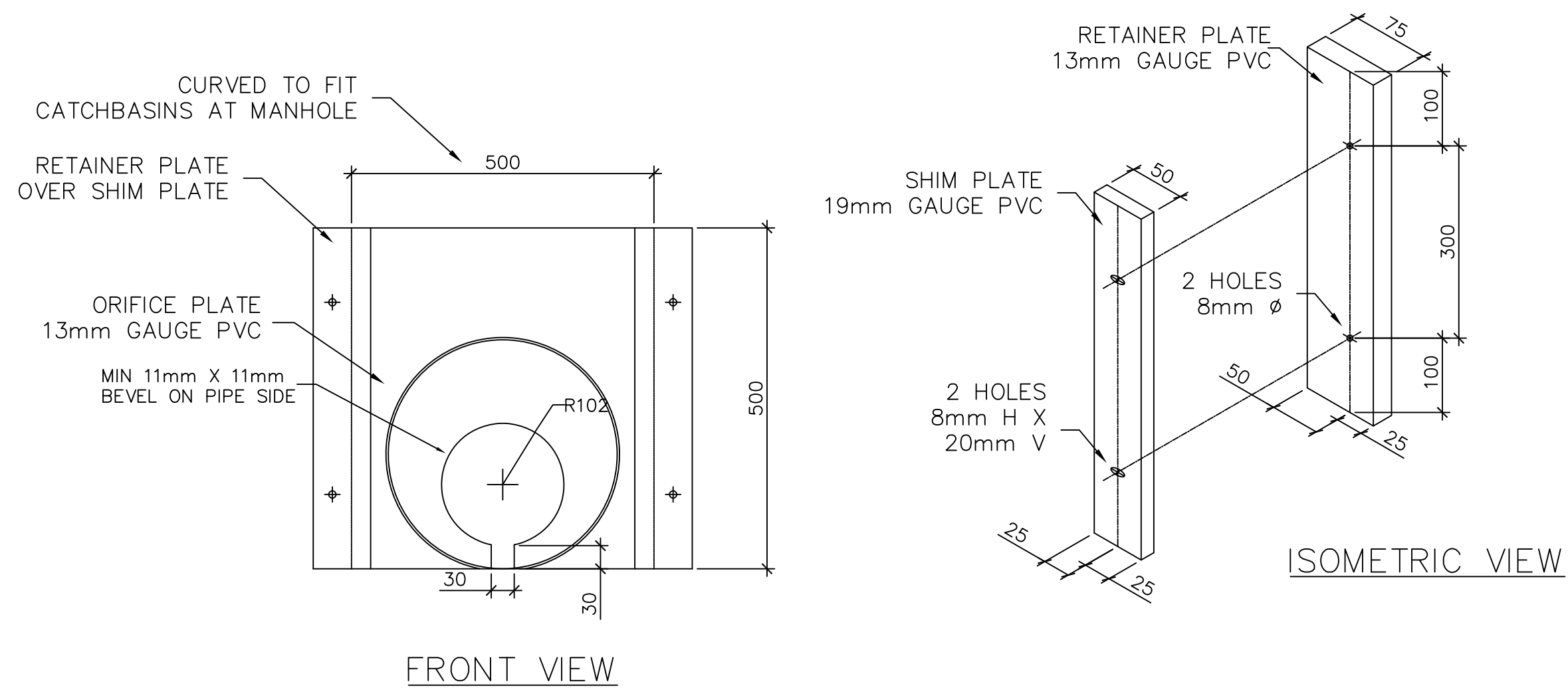
REV NO.

SP-04

2



1 CATCH BASIN/DRY WELL (CB/DW-3) DETAIL
SP-05 SCALE: N.T.S.



2 ICD ORIFICE PLATE DETAIL
SP-05 SCALE: N.T.S.

REV	DD/MM/YY	BY	ELI	ISSUED FOR APPROVAL	DESCRIPTION
10					
9					
8					
7					
6					
5					
4					
3					
2					
1					
0	31/03/22				

GENERAL NOTES:



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OWNER:
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PROJECT:
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TITLE:
DETAILS

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