City of Richmond

Report to Development Permit Panel

To:	Development Permit Panel	**Date:**	October 22, 2018
From:	Wayne Craig Director, Development	**File:**	DP 18-815966
Re:	**Application by I-Fly Vancouver for a Development Permit at 9151 Van Horne Way**		

Staff Recommendation

That a Development Permit be issued which would permit the construction of an indoor recreational skydiving facility at 9151 Van Horne Way with a maximum building height of 24.0 m (78.8 ft.) on a site zoned "Light Industrial (IL)".

Wayne Craig
Director, Development
(604-247-4625)

WC:mm
Att. 4

Staff Report

Origin

I-Fly Vancouver has applied to the City of Richmond for permission to develop an indoor recreational skydiving facility at 9151 Van Horne Way with a maximum building height of 24.0 m (78.8 ft.) on a site zoned "Light Industrial (IL)". The proposed 1,081 m^2 (11,636 ft^2) skydiving facility is being built on the site in addition to an existing 1,859 m^2 (20,010 ft^2) indoor badminton centre and associated surface parking lot.

The main purpose of this Development Permit is to address the form and character of the proposed I-Fly building to be located on the eastern portion of the site. The owner has also agreed to include improvements to the existing badminton centre building and associated parking lot on the western portion of the site.

Servicing works will be required for this project under a Servicing Agreement prior to Building Permit issuance. These works include a 4.0 m (13.1 ft.) wide multi-use asphalt pathway and a boulevard consisting of grass and street trees along the site's entire Van Horne Way frontage. There will also be installation of 170 m (558 ft.) storm main, new fire hydrants, water and sanitary connections, and associated repaving of Van Horne Way (see Attachment 4).

Development Information

Please refer to attached Development Application Data Sheet (Attachment 1) for a comparison of the proposed development data with the relevant bylaw requirements.

Background

Development surrounding the subject site is as follows:

- To the north, there is un-used CPR spur rail line within a statutory-right-of-way (SRW) on the subject site and the Canada Line rail yard on the adjacent property zoned "Light Industrial (IL)".
- To the east, there is the Oak Street Bridge and a vacant site zoned "Light Industrial (IL)".
- To the south, there is a large light industrial building on a site zoned "Light Industrial (IL)".
- To the west, there is a vacant City-owned parcel with the former Bridgeport Trail zoned "Light Industrial (IL)".

Staff Comments

The proposed scheme attached to this report has satisfactorily addressed the significant urban design issues and other staff comments identified as part of the review of the subject Development Permit application. In addition, it complies with the intent of the applicable sections of the Official Community Plan (OCP), City Centre Area Plan (CCAP) and is in compliance with the "Light Industrial (IL)" zone which permits a maximum building height of 25.0 m (82.0 ft.) though issuance of a Development Permit.

Advisory Design Panel Comments

The Advisory Design Panel was in favour of the proposed project. A copy of the relevant excerpt from the Advisory Design Panel Minutes from the September 6, 2018 meeting is attached for reference (Attachment 2). The design response from the applicant has been included immediately following the specific Design Panel comments and is identified in '***bold italics***'.

Analysis

Conditions of Adjacency

- To the south, Van Horne Way fronts the entire property while remaining at its current elevation of approximately 1.0 m (geodetic) elevation adjacent to the project's surface parking lots at the same level; the building podium is located at the City's 2.9 m geodectic flood construction level. The proposed 3.0 m (9.8 ft.) wide landscape strip running along the front of the site provides a buffer to the parking lots and a gradual grade transition up to the I-Fly building podium.
- To the east, the proposed I-Fly building rises above the adjacent elevated Oak Street Bridge deck. The building is located approximately 50 m (164.0 ft.) from the bridge deck, which is more than the minimum 30 m (98.0 ft.) setback from the bridge deck required for this building under the "Light Industrial (IL)" zone.
- There is a vacant City property to the west which the City is the holding for a future use to be determined.
- To the north, the statutory-right-of-way (SRW) for the un-used CPR rail spur running along the northern edge of the parcel prevents development of this area located behind the two buildings. This SRW provides a spatial buffer to the Canada Line rail yard on the property to the north.

Access and Parking

- The main pedestrian pathway to the site is provided near the middle of the block of the Van Horne Way Street frontage that lead to separate on-site pathway routes providing pedestrian access to both of the buildings.
- The existing badminton centre surface parking lot will be re-built with new pavement and landscaped islands; a new parking lot will be constructed for the I-Fly building on the east side of the site.
- The parking lots will be accessed by two driveways leading from Van Horne Way near the western and eastern edges of the site.
- The project includes the required 92 parking spaces with 74 spaces provided for the existing badminton centre and 18 spaces provided for the proposed I-Fly building.
- Each building will be provided with one medium (SU9) loading space.
- Two parking spaces are provided with 240 volt electrical (Level 2) charging stations as a sustainability measure.
- There will be a total of five Class 1 (Occupant) bicycle parking spaces within the badminton building and two bike parking spaces within the I-Fly building. Bike racks will be provided

to accommodate the required Class 2 (Visitor) bicycle parking spaces; with 14 spaces for the badminton building and 12 spaces for the I-Fly building.

Urban Design and Site Planning

- The site is fronted by Van Horne Way with the two parking lots located near the front of the site with 3.0 m (9.8 ft.) landscape strip and 2.0 m (6.6 ft.) concrete sidewalk that provides on-site pedestrian circulation.
- The proposed public multi-use pathway to be built off-site on Van Horne Way will provide pedestrian access for those taking transit and for those bicycling to the site.
- The proposed I-Fly building is setback 6.8 m (22.3 ft.) from the property line along Van Horne Way. Locating the building close to the street is consistent with creating a more pedestrian-oriented, urban street presence.
- The existing badminton centre building is located 44.0 m (144.5 ft.) back from Van Horne Way with the surface parking lot located in front of the building. In the future, the property owner plans to construct a larger, new building close to the Van Horne Way frontage on top of this existing parking lot (see Plan A-17 Development Permit Reference Plans).
- The western driveway entrance provides access to a separate parking lot for use by the existing badminton centre.
- The eastern driveway entrance onto Van Horne Way provides access to a parking lot located between the proposed I-Fly building and the Oak Street Bridge.
- The I-Fly building loading area, recycling/garbage area and mechanical yard are located to the rear of the building adjacent to the un-used CPR spur line.

Architectural Form and Character

- The proposed I-Fly building has a unique design built around wind-generating machinery and the tall interior chases and chambers necessary for an indoor skydiving facility.
- The centre of the building is composed of a tall concrete core which gently slopes inward on the west and east elevations towards the top of the building at 22.0 m (72.2 ft.) above the podium and 24.0 m (78.8 ft.) above finished grade. This core is painted dark and light grey, and dominates the east and west side elevations of building.
- There are sections of the building extending proud of the concrete core on its north and south elevations that rise up to near the top of the building. These sections include metal-like EIFS panels, aluminum panels, windows and louvered vents with wood grain, dark red and grey colours.
- The building includes street-level glazing and several windows located mid-way up the southern building elevation facing Van Horne Way. Aside from a relatively small section of windows facing east towards the Oak Street Bridge, there are no other windows on the building.
- The building is topped by an asymmetrical butterfly roof that generally resembles a large wing.

- Wall-mounted signage is proposed to be located near the top of the north, south and east elevations of the building (See Development Permit Reference Plans). The proposed signage has been preliminarily reviewed by staff for consistency with the City's Sign Bylaw 9700. The signage installed on the building will require a separate Sign Permit in accordance with the Sign Bylaw prior to installation.
- The building's roof-top mechanical equipment, located on the small flat roofs on the building's north and south elevations, will be screened by high parapet walls.
- The existing badminton centre will be repainted in grey tones and the existing loading doors will be replaced with the wood grain aluminum panels to improve its appearance and to complement the design of the proposed I-Fly building.

Landscape Design and Open Space Design

- There is a 3.0 m (9.8 ft.) wide on-site landscape strip with 11 Sweet Gum trees and a carpet of Bearberry and Spirea shrubs along entire site frontage adjacent to Van Horne Way.
- The landscaping slopes up from the above-noted buffer strip to the building podium, thereby reducing its apparent height when viewed from Van Horne Way.
- The building's raised building podium includes railings around the sides and rear of the building adjacent to the parking and loading areas with planters along the edge of the podium facing Van Horne Way.
- The raised concrete podium decks on the front and west sides of the building have outdoor seating areas to activate the space.
- The large existing badminton centre parking lot will be re-built to include seven landscape islands with shrubs and Sentinel Maple trees.
- There are landscape buffers located along the east and west sides, and the rear of the site. The landscape buffers along the rear and west side sides of the site include Western Red Cedar trees to screen the site from the Canada Line rail yard to the north and vacant City lot to the west.
- The applicant will be required to provide a landscape security of $93,127.00 prior to Development Permit issuance.

Crime Prevention Through Environmental Design

- The Development Permit plans include a lighting plan for the parking lot; the building will be illuminated with large, downward lights located with the roof overhangs.
- The raised landscaping to the front of the building removes the need for a railing along most of the front of the podium facing Van Horne Way.

Accessibility

- A wheelchair ramp has been located at the southeast corner of the building adjacent to the parking lot and front pedestrian entrance off of Van Horne Way.
- There will also be room provide for storage of wheelchairs within the I-Fly building.

Energy and Sustainability

The proposed building is not required to meet the City Centre Area Plan's LEED Silver Equivalency Policy due to having a floor area of less than 2,000 m^2 (the maximum building size exempted from the LEED Policy). Nevertheless, the applicant will be including several energy conservation strategies as described in the attached letters from Recollective Consulting Inc. (Attachment 3) which include:

- Two Level 2 charging stations for vehicles.
- Building envelope exceeding the requirements of ASHRAE 90.1 for insulation, glazing, thermal bridging and air tightness.
- Reducing GHG emission by using only electricity for all building systems.

OCP Aircraft Noise Policy

An Airport Noise Covenant was registered on the title of the property in 2009. As the proposed indoor recreation use is a non-sensitive use, an acoustic report will not be required.

Flood Construction Level

A Flood Construction Covenant was registered on the title of the property in 2009, specifying the current applicable 2.9 m geodectic flood construction level, which has been incorporated into the development's design.

Conclusions

As the proposed development would meet applicable policies and Development Permit Guidelines, staff recommend that the Development Permit be endorsed, and issuance by Council be recommended.

Mark McMullen
Senior Coordinator - Major Projects
(604-276-4173)

MM:blg

Attachments:

Attachment 1 Development Application Data Sheet
Attachment 2 Advisory Design Panel Minutes With Applicant Response
Attachment 3 Letters from Sustainability Consultant
Attachment 4 Development Permit Conditions of Approval

City of Richmond

Development Application Data Sheet

Development Applications Department

DP 18-815966 **Attachment 1**

Address: 9151 Van Horne Way

Applicant: I-Fly Vancouver Owner: MBA Asset Management Inc.

Planning Area(s): City Centre

Floor Area Gross: 1,903 m^2 (New I-Fly Building) Floor Area Net: 1,081 m^2 (New I-Fly Building)

	Existing	Proposed
Site Area:	11,499 m^2	11,499 m^2
Land Uses:	Indoor Recreation	Indoor Recreation
OCP Designation:	Industrial	Industrial
Zoning:	Light Industrial (IL)	Light Industrial (IL)
Number of Units:	N/A	N/A

	Bylaw Requirement	Proposed	Variance
Floor Area Ratio (Both Buildings):	1.2	0.26	none permitted
Lot Coverage (Both Buildings):	Max. 80 %	19.8 %	none
Setback – Front Yard:	Min. 3.0 m	20.8 m	none
Setback – East Side Yard: (Oak St. Bridge Deck Setback)	3.0 m (Min. 30.0 m)	> 50 m	none
Setback – West Side Yard:	Min. 0.0 m	> 0.0 m	none
Setback – Rear Yard:	Min. 0.0 m	> 0.0 m	none
Height (m) (in City Centre):	Max. 25.0 m	24.0 m	none
Lot Size:	none	11,499 m^2	none
Off-street Parking Spaces – Commercial (Both Buildings):	92	92	none
Off-street Parking Spaces – Accessible:	2	2	none

Attachment 2

Excerpt from the Minutes from
The Design Panel Meeting

Thursday, September 6, 2018 – 4:00 p.m.
Rm. M.1.003
Richmond City Hall

1. DP 18-815966 – I-FLY INDOOR RECREATION DEVELOPMENT

ARCHITECT: Jensen Fey Architects

PROPERTY LOCATION: 9151 Van Horne Way

Applicant's Presentation

Bill Adams, Adams 1st Consultants, David Fey, Jensen Fey Architects, and Oren Mizrahi, Connect Landscape Architecture, presented the project and together with Ethan Mabe, Parkway Construction, and Justine Markowski, Jensen Fey Architects, answered queries from the Panel on behalf of the applicant.

Panel Discussion

Comments from Panel members present were as follows:

Panel Discussion

Comments from Panel members present were as follows:

- appreciate the project; - ***Thank you***
- facing towards Oak Street Bridge to complement the proposed public art/mural;- ***We previously had similar thoughts- the roof was previously extended out 2 additional feet on the oak street bridge side. Further extension would require larger structural members to support the cantilevered portion. In our opinion this would cause the roof to look too "heavy" and would like to keep it as is.***

- investigate opportunities for creating an expression at the southwest corner of the I-Fly building to help identify the main entry to the building for people coming from the western portion of the site through the surface parking lot fronting the existing badminton centre building; proposed gathering/seating area at the southwest corner of the I-Fly building appears blunt; consider extending the canopy at the main entrance to wrap around the southwest corner of the building or installing a trellis feature to help direct people to the main entrance of the building;- ***We have added a stair on the west portion of the plinth to connect the west side of the building to the west parking and future development. We also pushed the seating and reduced the railing in that area to create a larger entrance and enhance circulation.***
- consider tilting up the edge of the entry canopy facing Oak Street Bridge to reflect/complement the bigger image and character of the building; - ***We appreciate this comment but feel that a horizontal canopy relates better to the front façade design and doesn't compete with the main a-symmetrical roof.***
- exterior lighting should light up the four sides of the building, but highlight and emphasize the entrance side;- ***Agreed. We have incorporated this into our design.***
- appreciate the applicant's presentation and the model; like the proposed building;- ***Thank you.***
- a more detailed planting plan, e.g., including identification of plant species proposed to be installed , would have been useful in understanding the proposed landscaping for the project; landscaping could do a lot to help in wayfinding; applicant needs to provide more details regarding the project's landscape strategy;- ***Agreed. We have provided a more detailed landscape plan as part of the DP submission.***
- agree with the importance of planting along the edges of the site to have more habitat value; support the applicant's approach to the pedestrian realm reflecting the urban character of the building and the strong architectural forms; also support the applicant`s intention to have more planting along the front edge of the site;- ***We agree and we have incorporated this into our new approach.***
- consider introducing a continuous sidewalk and planting a row of trees along its edge on the west side of the I-Fly building to provide a pedestrian connection to the main entry of the building from the rest of the subject site; applicant could reconfigure the lay-out and/or reduce the number of parking stalls on the surface parking lot on the western portion of the site to accommodate this proposed scheme; would complement the proposal to install a canopy or trellis around the southwest corner of the I-Fly building;- ***We aren't able to reduce the number of parking stalls. The design currently has a sidewalk along the west end. We do agree we can add some planter boxes to improve the appearance and access from that side of the building. We also added some pedestrian walk ways from the sidewalk over to the badminton center that also connect to the iFly building.***

- ed areas on the site;- ***Although we are committed to sustainability, a green roof is not feasible in this project due to the need to replace equipment by periodically by removing roof pieces. We would like to pursue a lighter roof color to reduce radiant heat.***
- appreciate the applicant`s presentation; - ***Thank you.***
- I-Fly building and the significant amount of hard surface on the site; ***Although we appreciate this comment, we have worked diligently to come up with a thoughtful design color palette. Our concept is responding to the industrial nature of the site with the concrete "greys." At the same time, we are acknowledging the larger contextual vernacular architecture by incorporating warm "woods" of a Pacific Northwest style. We also need to maintain the iFly branding with the red. We feel that these colors and materials provide a rich contrast; warm woods, cool greys & deep red. As we began to look at lighter color options the richness of these contrasting elements really started to fade. We would like to leave the color palette as is.***
- consider bringing the public art/mural down to the ground level to cover the whole east façade of the building to mitigate the lack of glazing and fenestration on the building and reduce the heat island effect; - ***The mural is not be included at this time.***
- support the Panel members' proposed architectural and landscaping treatments for the building's west façade to soften its appearance; - ***We have added landscape to accommodate this comment.***
- ***- We have designated a portion of the first floor storage space for this purpose.***
- appreciate the applicant's intention to integrate public art into the project which will help activate the building façade facing Oak Street Bridge; - ***We are no longer considering the mural for the building at this time.***
- the canopy helps emphasize the main entrance to the building; however, consider introducing different materials and pedestrian scale texture around the base of the building, particularly on the north [east] side of the building to enhance pedestrian experience towards the main entry to the building; - ***We originally had more textured plinth, however this increased the heaviness to the plinth. We believe that the smooth finish works better and will soften and enhance the pedestrian experience with landscaping where available.***
- consider introducing different colours, patterns, and/or textures on concrete along the edges of the building to help activate the proposed night lighting and reduce the apparent mass at the corners of the building to enhance on-site pedestrian experience, - ***We originally had more textured plinth, however this increased the heaviness to the plinth. We believe that the smooth finish works better and will soften and enhance the pedestrian experience with landscaping where available.***

- ***- We want the main canopy to be the main focal point. After looking at multiple canopy options we believe one focal canopy keeps a clean look and works better with the composition with the façade.***
- look at the relationship of the proposed landscaping for the project with the Bridgeport Trail and its proposed terminus at the new Van Horne Way multi-use pathway running along the front of the site;- ***We have looked at the relationship and we like it as is.***
- consider incorporating pedestrian pathways around the surface parking lot using different surface paving materials and colours to enhance pedestrian circulation and safety throughout the site; will also help break down the large surface parking area on the site; - ***With the added landscape and enhanced walkway. We also added some pedestrian walk ways from the sidewalk over to the badminton center that also connect to the iFly building. We believe we have captured the intent of this comment without drastic change.***
- appreciate the clear presentation of the design team;- ***Thank you.***
- the project has the potential to become a catalyst for development in and around the area;- ***We agree.***
- support the proposal to reduce the amount of surface parking on the site; proposed parking lay-out for the I-Fly building could be mirrored in the parking lot fronting the badminton centre building; with reduced parking, users of badminton and I-Fly facilities could use public transit considering the proximity of Bridgeport Canada Line Skytrain Station to the subject site; - ***We are currently meeting the minimum requirement for the parking based on the occupancy calculations.***
- proposed building form and roof profile are interesting; will not have adverse shadowing and view impacts on adjacent developments; the proposed 24-meter high building will provide an interesting view from Canada Line Skytrain and Oak Street Bridge;- ***Thank you.***
- appreciate the proposed building articulation and façade expression which is reflective of the building's proposed use and its surrounding neighbourhood; however, the proposed mural on a square space on the upper portion of the building appears superficial; support comment from the Panel that the applicant consider bringing the mural down to the whole east façade of the building to enhance the pedestrian arrival experience on the site; - ***We agree and have made this adjustment, however we are still working on the final design of the mural.***

- support the Panel comment that the applicant consider incorporating lighter colours into the building to lighten and brighten up the subject building which is located in an industrial area; - ***Although we appreciate this comment, we have worked diligently to come up with a thoughtful design color palette. Our concept is responding to the industrial nature of the site with the concrete "greys." At the same time, we are acknowledging the larger contextual vernacular architecture by incorporating warm "woods" of a Pacific Northwest style. We also need to maintain the iFly branding with the red. We feel that these colors and materials provide a rich contrast; warm woods, cool greys & deep red. As we began to look at lighter color options the richness of these contrasting elements really started to fade. We would like to leave the color palette as is.***
- support the use of red colour for the "metal-like" exterior insulation and finish system (EIFS) material on the building; proposed colour is appropriate for long-term maintenance; and – ***Thanks.***
- appreciate the use of woodgrain panel materials as these will help soften the building façade; however, consider replacing the wood fence for the mechanical yard with steel fence to match the glass and metal fence that wraps around the building's main entry area; the wood fence currently appears residential and needs to be have a more utilitarian expression.- ***We have modified the material of the fence to have a more metal look.***

(The following written questions and comments were submitted by Jubin Jalili and were read in the meeting by Sara Badyal)

- How will the operation of fly chamber pressurization system affect the building envelop assemblies with respect to positive pressures and what mitigating design features will be provided to accommodate that?- ***The mechanical systems of the building manage the different air pressures with dampers and outside air ducting so that you can operate the wind tunnel with the doors open or closed. The pressure differential is negligible.***
- What will happen if there is a failure in the pressurized capsule/chamber? Are there any safety devices to prevent explosion of the building envelop assemblies?- ***The chamber itself is not pressurized so there is no risk of failure or explosion.***
- City staff to confirm that there is no requirement for this building to be connectable to future District Energy Utility (DEU) systems as the design is proposing to use all electric/stand-alone systems.- ***There is no need for this.***

  (Note: City Staff has confirmed that there is no requirement for the proposed building to be connected to a DEU system)
- ,000 square feet, vestibules are mandatory for BC Building Code compliance;- ***.The front door opens into a conditioned space of less than 3,000 sf (much of the floor area in this building is unconditioned mechanical space) therefore a vestibule is not needed.***

- with the sloped roof design feature, where will the ventilation systems be located? no mechanical rooms are shown on the plans; it seems that the design team is using electric (potentially VRF or split) AC system with outdoor units to be installed within the mechanical enclosure adjacent to the building; however, no space provision for ventilation system is shown;- ***There are mechanical rooms and condenser units on the second roof system.***
- given its low glass-to-wall ratio, the proposed building will satisfy Code compliance through prescriptive measures; ***Thanks for confirming.***
- given the use of electric AC systems (use of VRF technology is highly recommended) and no natural gas, the project will have reduced GHG emissions and is on the right track from the sustainability point of view; and
- use of heat recovery for ventilation is highly recommended. – ***Thank you.***

Panel Decision

It was moved and seconded
That 18-815966 be supported to move forward to the Development Permit Panel subject to the applicant giving consideration to the comments of the Advisory Design Panel.

CARRIED

RECOLLECTIVE

2018-06-29

Sustainability measures for Richmond iFly Skydiving Centre

Hello,

This is an updated letter outlining sustainability strategies for the Richmond iFly project including a response to DP application review comments from the city. This letter further clarifies the strategies outlined in the initial sustainability letter dated February 22, 2018. Please see the original letter for notes on indoor environmental quality, construction waste management, and sustainable site measures.

Infrastructure in Support of Electric Vehicles

Two 240V J1772 Level 2 charging stations will be provided for use of patrons, staff, and users of the adjacent building.

Energy Conservation

In addition to the hot water and lighting energy reductions previously mentioned, the team is focusing on reducing thermal energy demand intensity through a focus on the envelope, exceeding the prescriptive envelope requirements of ASHRAE 90.1-2010 for insulation, glazing, thermal bridging and air tightness.

Green House Gas Emissions

The project will minimize GHG emissions by going all electric for heating, cooling and hot water. There will be no gas connection to the building.

Regards,

Jason Packer, B.Admin, Dip.Tech, LEED AP BD+C, CPHC
Principal, Senior Green Building Strategist

RECOLLECTIVE CONSULTING INC
210 - 128 W Hastings St, Vancouver, BC V6B 1G8
T 604.669.4940 x203
D 604.674.1752
www.recollective.ca jason@recollective.ca

RECOLLECTIVE

2018-02-22

Sustainability measures for Richmond iFly Skydiving Centre

Hello,

The iFly project is based on a number of similar facilities built in various cities throughout North America. In recognition of the City of Richmond's focus on sustainability, this particular iFly Centre will implement a number of green building strategies. The following sustainability measures are included in the design or are being envisioned through design development.

Site and Transportation Strategies

This project is well served by transit with close proximity to the Canada Line Skytrain and numerous bus lines. It will contribute to the options for entertainment and recreation within a growing region of the city. The parking provided meets but does not exceed the minimum required by city bylaws, reflecting the reduced need for vehicle trips due to the location. Furthermore, Level 2 electric vehicle charging will be provided in the parking area.

To encourage cycling, the facility will include secured, indoor bike parking and a shower for staff. Consideration for bikes will include push button door openers for ease of access.

Light coloured roofing materials will be specified to mitigate urban heat island effects. Landscaping on the site will employ native and adaptive species for irrigation savings and reduced maintenance requirements.

Energy and Water Conservation

In addition to reduced irrigation demand, water use will be reduced through the use of low flow fixtures and dual-flush toilets.

Energy savings will result from the use of LED lighting, efficient HVAC systems including variable speed fans and pumps along with envelope upgrades including higher insulation levels and higher performing glazing.

Indoor Air Quality

Entry way systems will be installed at entrances to reduce tracking in of dirt. Low emitting materials will be specified including the following:

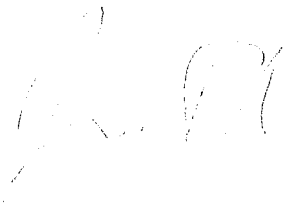
- low VOC paints
- low VOC adhesives and sealants
- formaldehyde free insulation
- formaldehyde free composite wood products
- FloorScore certified flooring

210 – 128 West Hastings Street
Vancouver BC Canada
V6B 1G8

604.669.4940
www.recollective.ca
@recollectiveca

Construction Waste Management
The contractor will engage a waste hauler who can provide tracking and diversion from landfill for construction waste. Separate bins will be located on site during construction to facilitate achievement of waste diversion.

Regards,



Jason Packer, B.Admin, Dip.Tech, LEED AP BD+C, CPHC
Principal, Senior Green Building Strategist

RECOLLECTIVE CONSULTING INC
210 - 128 W Hastings St, Vancouver, BC V6B 1G8
T 604.669.4940 x203
D 604.674.1752
www.recollective.ca jason@recollective.ca

City of Richmond

Development Permit Conditions of Approval

Development Applications Department

IFLY Vancouver - 9151 Van Horne Way
DP 18-815966

The following are to be met prior to forwarding this Development Permit application to Council for approval:

- Receipt of a Letter-of-Credit for landscaping in the amount of $93,127.00.

Prior to future Building Permit issuance, the developer is required to complete the following:

- Enter into a Servicing Agreement (SA) with the City of Richmond for the design and construction of all Engineering and Transportation works and provide a security for the value of all works to the satisfaction of the City as outlined in Appendices 1 and 2 below.
- Include specifications for two outdoors Level 2 charging stations for vehicles within the Building Permit plans.
- The applicant is required to obtain a Building Permit for any construction hoarding associated with the proposed development. If construction hoarding is required to temporarily occupy a street, or any part thereof, or occupy the air space above a street or any part thereof, additional City approvals and associated fees may be required as part of the Building Permit. *For further information on the Building Permit, please contact Building Approvals Department at 604-276-4285.*
- Submission of a construction traffic and parking management plan to the satisfaction of the City's Transportation Department (http://www.richmond.ca/services/ttp/special.htm).

William Adams		24OCT18
Name of Developer/Applicant	Signature	Date

IFLY Vancouver - 9151 Van Horne Way
DP 18-815966

Appendix 1: Engineering & Servicing Works

A servicing agreement is required to design and construct the following works.

1. Water Works:

a. Using the OCP Model, there is 598.0 L/s of water available at a 20 psi residual at the Van Horne Way frontage. Based on your proposed development, your site requires a minimum fire flow of 200 L/s.

b. At Developer's cost, the Developer is required to:
   i. Submit Fire Underwriter Survey (FUS) or International Organization for Standardization (ISO) fire flow calculations to confirm development has adequate fire flow for onsite fire protection. Calculations must be signed and sealed by a Professional Engineer and be based on Building Permit Stage Building designs.
   ii. Confirm the existing southwestern water connection has adequate capacity to serve the proposed development. If it does, it may be retained. If not, it shall be replaced by City crews at the developer's cost.
   iii. Provide fire hydrants per City spacing requirements for commercial land use.

c. At Developer's cost, the City is to:
   i. Cut, cap, and remove the existing northeastern water connection.

2. Storm Sewer Works:

a. At Developer's cost, the Developer is required to:
   i. Perform a capacity analysis to size the proposed storm sewer in Van Horne Way. The analysis shall consider both the existing condition and the 2041 OCP condition. Storm sewers shall be interconnected where possible. Minimum pipe size shall be 600 mm.
   ii. Install approximately 170 m of new storm sewer in Van Horne Road, sized via the required capacity analysis, from the west property line of the development site to existing manhole STMH6290 near the Highway 99 overpass. The new storm sewer shall be located in the roadway at or near the centerline.
   iii. Remove the existing 300 mm storm sewer along the development's south property line.
   iv. Install one new storm service connection, complete with inspection chamber, to serve the development site. Inspection chamber to be located in a right-of-way onsite.
   v. Provide an erosion and sediment control plan for all on-site and off-site works, to be reviewed as part of the servicing agreement.

b. At Developer's cost, the City is to:
   i. Cut and cap all existing storm service connections to the development site and remove inspection chambers.
   ii. Reconnect all existing storm connections, catch basins, and lawn basins to the proposed storm sewer.
   iii. Complete all tie-ins for the proposed works to existing City infrastructure.

3. Sanitary Sewer Works

a. At Developer's cost, the City is to:
   i. Install one new sanitary service connection, complete with inspection chamber.
   ii. Cut and cap the existing service connection to the development site, and remove inspection chamber.

4. Frontage Improvements:

a. The Developer is required to:
   i. Coordinate with BC Hydro, Telus and other private communication service providers:
      a) To pre-duct for future hydro, telephone and cable utilities along all road frontages.
      b) To locate all proposed underground structures (e.g. junction boxes, pull boxes, service boxes, etc.) outside of bike paths and sidewalks.
      c) To locate/relocate all above ground utility cabinets and kiosks required to service the proposed development, and all above ground utility cabinets and kiosks located along the development's frontages, within the developments site (see list below for examples). A functional plan showing conceptual locations for such infrastructure shall be included in the development process design review. Please coordinate with the respective private utility companies and the project's lighting and traffic signal consultants to confirm the requirements (e.g., statutory right-of-way dimensions) and the locations for the aboveground structures. If a private utility company does not require an aboveground structure, that company shall confirm this via a letter to be submitted to the City. The following are examples of statutory right-of-ways that shall be shown on the functional plan and registered prior to SA design approval:
         - BC Hydro PMT – 4.0 x 5.0 m
         - BC Hydro LPT – 3.5 x 3.5 m
         - Street light kiosk – 1.5 x 1.5 m
         - Traffic signal kiosk – 1.0 x 1.0 m
         - Traffic signal UPS – 2.0 x 1.5 m
         - Shaw cable kiosk – 1.0 x 1.0 m
         - Telus FDH cabinet – 1.1 x 1.0 m
   ii. Other requirements as per Transportation comments.

5. General Items:

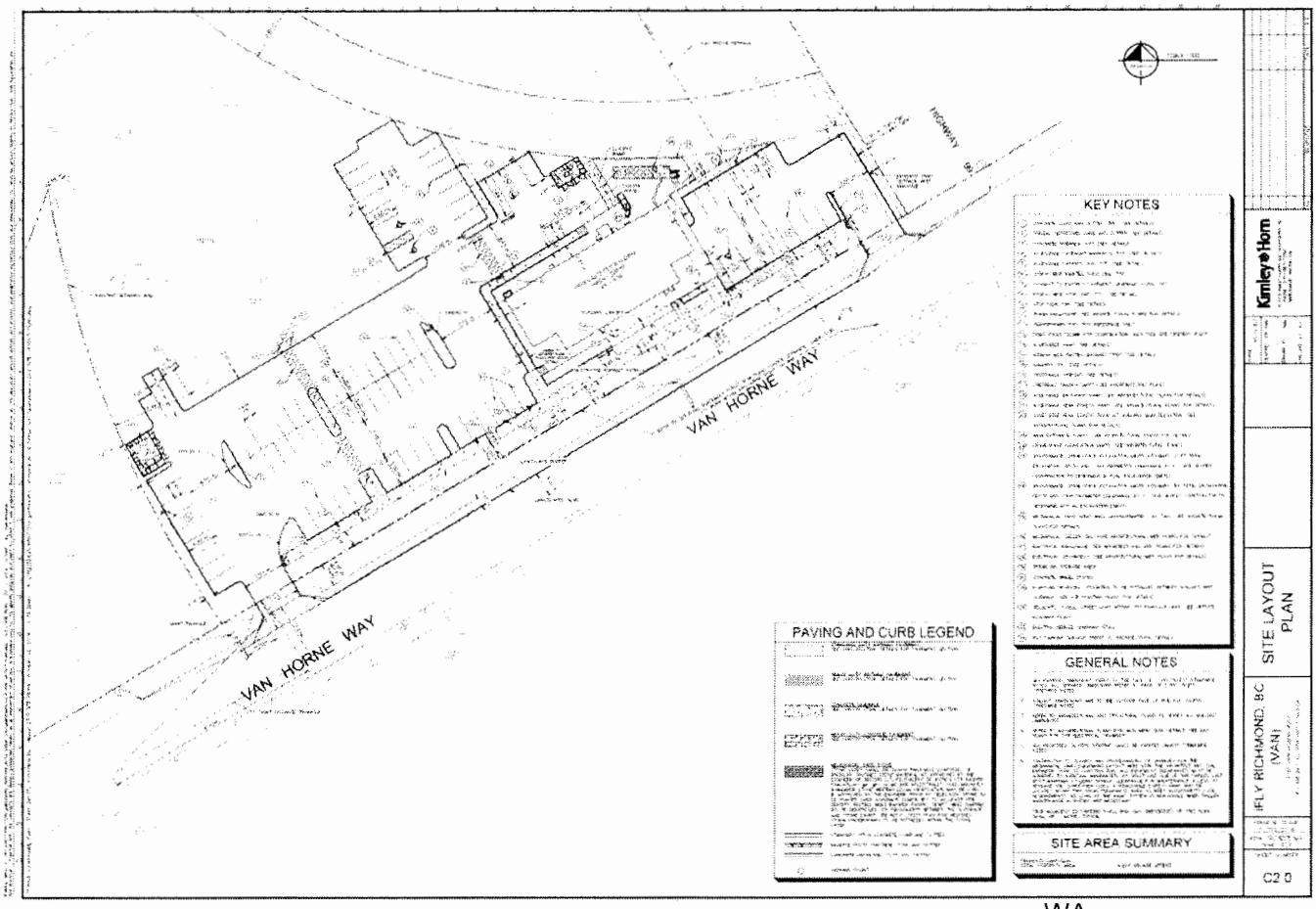
a. The Developer is required to:
   i. Coordinate with TransLink regarding any potential impact or settlement to the adjacent Canada Line guiderail due to site preparation works including preload, excavation, piling, etc.
   ii. Coordinate with Canadian Pacific Railway regarding any potential impact or settlement to the adjacent railway tracks due to site preparation works including preload, excavation, piling, etc.
   iii. Enter into, if required, additional legal agreements, as determined via the subject development's Servicing Agreement(s) and/or Development Permit(s), and/or Building Permit(s) to the satisfaction of the Director of Engineering, including, but not limited to, site investigation, testing, monitoring, site preparation, de-watering, drilling, underpinning, anchoring, shoring, piling, pre-loading, ground densification or other activities that may result in settlement, displacement, subsidence, damage or nuisance to City and private utility infrastructure.

IFLY Vancouver - 9151 Van Horne Way
DP 18-815966

Appendix 2: Transportation Works

The developer will undertake the design and construction of the following frontage improvements under the Servicing Agreement as follows and as generally shown on the plan below.

Along the entire Van Horne Way frontage: Road construction to achieve the following road cross-section: (from south to north):
-Maintain existing yellow centre line;
-Allocate 4.3m as the width of driving surface
-New 0.15m wide barrier curb;
-New 1.5m wide landscaped boulevard with grass and street trees; and
-New 4.0m wide asphalt multi-use pathway (between the boulevard and existing property line)



City of Richmond

Development Permit

No. DP 18-815966

To the Holder:	I-FLY VANCOUVER C/O BILL ADAMS
Property Address:	9151 VAN HORNE WAY
Address:	PO BOX 6051 SILVERDALE, WA 98315 USA

1. This Development Permit is issued subject to compliance with all of the Bylaws of the City applicable thereto, except as specifically varied or supplemented by this Permit.
2. This Development Permit applies to and only to those lands shown cross-hatched on the attached Schedule "A" and any and all buildings, structures and other development thereon.
3. The Development Permit authorizes a maximum building height of 24.0 m (78.8 ft.) pursuant to the "Light Industrial (IL)" zone.
4. Subject to Section 692 of the Local Government Act, R.S.B.C.: buildings and structures; off-street parking and loading facilities; roads and parking areas; and landscaping and screening shall be constructed generally in accordance with Plans #DP18-815966-1 to #DP 18-815966-24 attached hereto.
5. Sanitary sewers, water, drainage, highways, street lighting, underground wiring, and sidewalks, shall be provided as required.
6. As a condition of the issuance of this Permit, the City is holding the security in the amount of $93,127.00 to ensure that development is carried out in accordance with the terms and conditions of this Permit. Should any interest be earned upon the security, it shall accrue to the Holder if the security is returned. The condition of the posting of the security is that should the Holder fail to carry out the development hereby authorized, according to the terms and conditions of this Permit within the time provided, the City may use the security to carry out the work by its servants, agents or contractors, and any surplus shall be paid over to the Holder. Should the Holder carry out the development permitted by this permit within the time set out herein, the security shall be returned to the Holder. The City may retain the security for up to one year after inspection of the completed landscaping in order to ensure that plant material has survived.
7. If the Holder does not commence the construction permitted by this Permit within 24 months of the date of this Permit, this Permit shall lapse and the security shall be returned in full.

Development Permit
No. DP 18-815966

To the Holder:	I-FLY VANCOUVER C/O BILL ADAMS
Property Address:	9151 VAN HORNE WAY
Address:	PO BOX 6051 SILVERDALE, WA 98315 USA

8. The land described herein shall be developed generally in accordance with the terms and conditions and provisions of this Permit and any plans and specifications attached to this Permit which shall form a part hereof.

   This Permit is not a Building Permit.

AUTHORIZING RESOLUTION NO. ISSUED BY THE COUNCIL THE DAY OF , .

DELIVERED THIS DAY OF , .

_____

MAYOR

NOTE: IF DRAWING IS NOT 36" x 48" THEN DRAWING IS NOT TO SCALE.

PROJECT STATISTICS:

LOT AREA: 11,499 m2
PROVIDED LOT COVERAGE: 19.8% (INCLUDING EXISTING BADMINTON BUILDING)
PROVIDE FRONT & EXTERIOR YARD SETBACK: 3m ON VAN HORNE WAY & 2M ON HIGHWAY 99
PROVIDED BUILDING HEIGHT: 23.7m

FLOOR AREA:
BADMINTON = 1,859 m2 IFLY= 1,903 m2

GROSS LEASABLE FLOOR AREA: (SAME AS FLOOR AREA AS ONLY 1 TENANT IN EACH BUILDING)
BADMINTON = 1,859 m2 IFLY= 1,903 m2

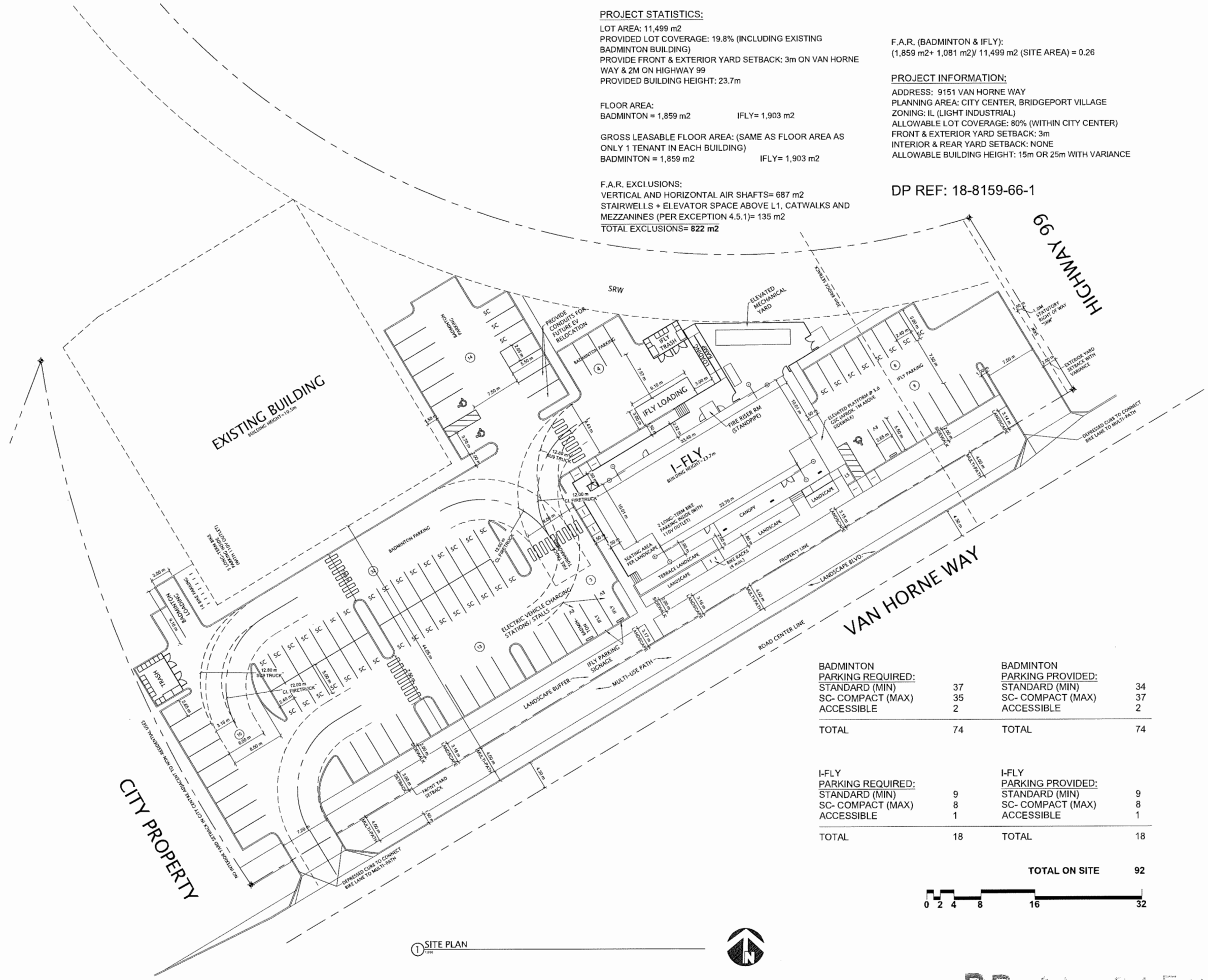
F.A.R. EXCLUSIONS:
VERTICAL AND HORIZONTAL AIR SHAFTS= 687 m2
STAIRWELLS + ELEVATOR SPACE ABOVE L1, CATWALKS AND MEZZANINES (PER EXCEPTION 4.5.1)= 135 m2
TOTAL EXCLUSIONS= **822 m2**

F.A.R. (BADMINTON & IFLY):
(1,859 m2+ 1,081 m2)/ 11,499 m2 (SITE AREA) = 0.26

PROJECT INFORMATION:

ADDRESS: 9151 VAN HORNE WAY
PLANNING AREA: CITY CENTER, BRIDGEPORT VILLAGE
ZONING: IL (LIGHT INDUSTRIAL)
ALLOWABLE LOT COVERAGE: 80% (WITHIN CITY CENTER)
FRONT & EXTERIOR YARD SETBACK: 3m
INTERIOR & REAR YARD SETBACK: NONE
ALLOWABLE BUILDING HEIGHT: 15m OR 25m WITH VARIANCE

DP REF: 18-8159-66-1



BADMINTON PARKING REQUIRED:		BADMINTON PARKING PROVIDED:	
STANDARD (MIN)	37	STANDARD (MIN)	34
SC- COMPACT (MAX)	35	SC- COMPACT (MAX)	37
ACCESSIBLE	2	ACCESSIBLE	2
TOTAL	74	TOTAL	74

I-FLY PARKING REQUIRED:		I-FLY PARKING PROVIDED:	
STANDARD (MIN)	9	STANDARD (MIN)	9
SC- COMPACT (MAX)	8	SC- COMPACT (MAX)	8
ACCESSIBLE	1	ACCESSIBLE	1
TOTAL	18	TOTAL	18

TOTAL ON SITE 92

0 2 4 8 16 32

DP 18-815966-1

MARK	DATE	DESCRIPTION

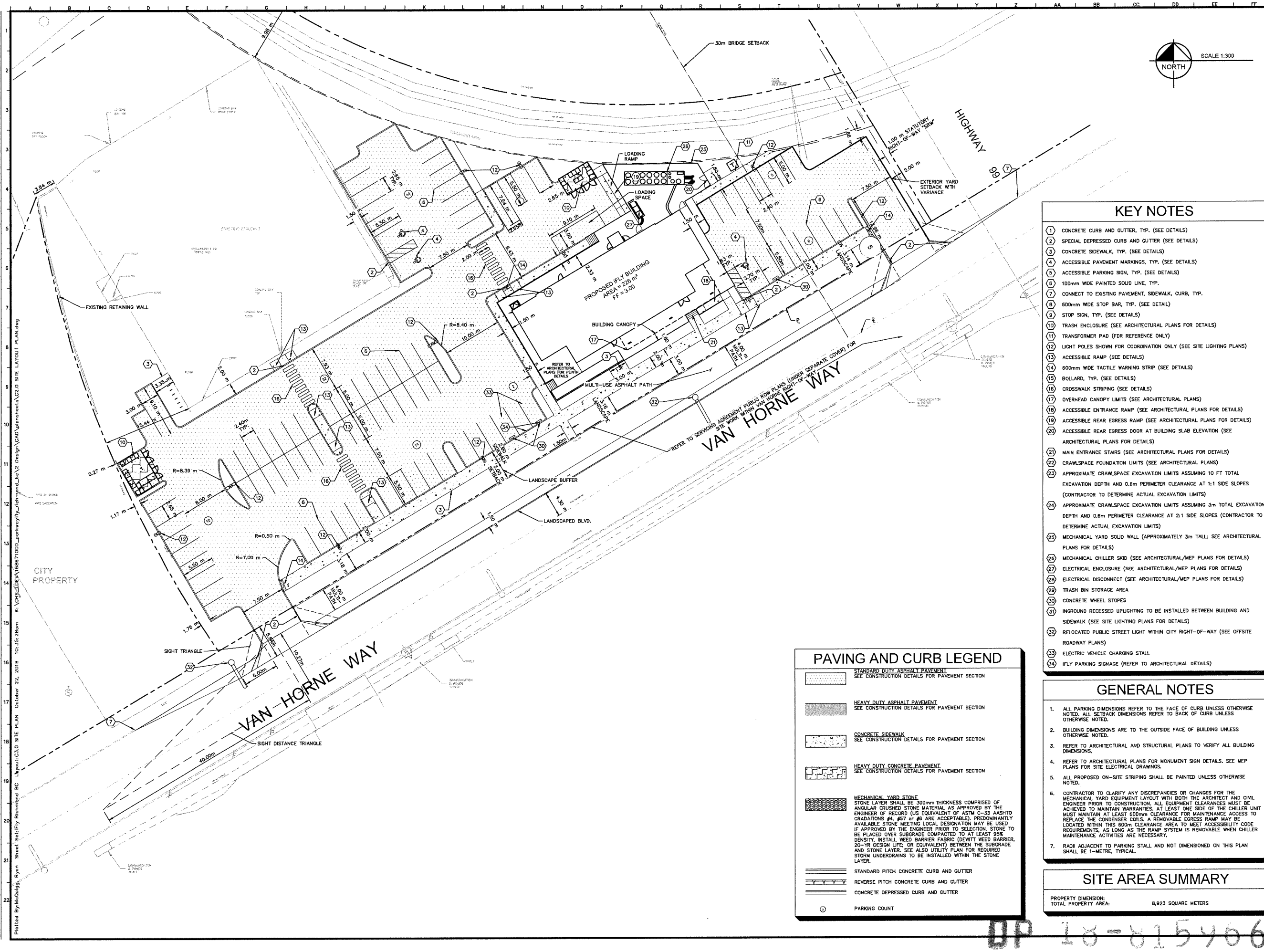
DRAWN BY:	JM
CHECK:	DF
NOTES:	CHECK PLOT
PLOT DATE:	10/01/2018
JOB NO:	5217

I-FLY VANCOUVER
9151 VAN HORNE WAY
RICHMOND, BC V6X 1W2

ARCHITECTURAL SITE PLAN

SHEET: A1.0

OF: SHEETS



KEY NOTES

1. CONCRETE CURB AND GUTTER, TYP. (SEE DETAILS)
2. SPECIAL DEPRESSED CURB AND GUTTER (SEE DETAILS)
3. CONCRETE SIDEWALK, TYP. (SEE DETAILS)
4. ACCESSIBLE PAVEMENT MARKINGS, TYP. (SEE DETAILS)
5. ACCESSIBLE PARKING SIGN, TYP. (SEE DETAILS)
6. 100mm WIDE PAINTED SOLID LINE, TYP.
7. CONNECT TO EXISTING PAVEMENT, SIDEWALK, CURB, TYP.
8. 600mm WIDE STOP BAR, TYP. (SEE DETAIL)
9. STOP SIGN, TYP. (SEE DETAILS)
10. TRASH ENCLOSURE (SEE ARCHITECTURAL PLANS FOR DETAILS)
11. TRANSFORMER PAD (FOR REFERENCE ONLY)
12. LIGHT POLES SHOWN FOR COORDINATION ONLY (SEE SITE LIGHTING PLANS)
13. ACCESSIBLE RAMP (SEE DETAILS)
14. 600mm WIDE TACTILE WARNING STRIP (SEE DETAILS)
15. BOLLARD, TYP. (SEE DETAILS)
16. CROSSWALK STRIPING (SEE DETAILS)
17. OVERHEAD CANOPY LIMITS (SEE ARCHITECTURAL PLANS)
18. ACCESSIBLE ENTRANCE RAMP (SEE ARCHITECTURAL PLANS FOR DETAILS)
19. ACCESSIBLE REAR EGRESS RAMP (SEE ARCHITECTURAL PLANS FOR DETAILS)
20. ACCESSIBLE REAR EGRESS DOOR AT BUILDING SLAB ELEVATION (SEE ARCHITECTURAL PLANS FOR DETAILS)
21. MAIN ENTRANCE STAIRS (SEE ARCHITECTURAL PLANS FOR DETAILS)
22. CRAWLSPACE FOUNDATION LIMITS (SEE ARCHITECTURAL PLANS)
23. APPROXIMATE CRAWLSPACE EXCAVATION LIMITS ASSUMING 10 FT TOTAL EXCAVATION DEPTH AND 0.6m PERIMETER CLEARANCE AT 1:1 SIDE SLOPES (CONTRACTOR TO DETERMINE ACTUAL EXCAVATION LIMITS)
24. APPROXIMATE CRAWLSPACE EXCAVATION LIMITS ASSUMING 3m TOTAL EXCAVATION DEPTH AND 0.6m PERIMETER CLEARANCE AT 2:1 SIDE SLOPES (CONTRACTOR TO DETERMINE ACTUAL EXCAVATION LIMITS)
25. MECHANICAL YARD SOLID WALL (APPROXIMATELY 3m TALL; SEE ARCHITECTURAL PLANS FOR DETAILS)
26. MECHANICAL CHILLER SKID (SEE ARCHITECTURAL/MEP PLANS FOR DETAILS)
27. ELECTRICAL ENCLOSURE (SEE ARCHITECTURAL/MEP PLANS FOR DETAILS)
28. ELECTRICAL DISCONNECT (SEE ARCHITECTURAL/MEP PLANS FOR DETAILS)
29. TRASH BIN STORAGE AREA
30. CONCRETE WHEEL STOPES
31. INGROUND RECESSED UPLIGHTING TO BE INSTALLED BETWEEN BUILDING AND SIDEWALK (SEE SITE LIGHTING PLANS FOR DETAILS)
32. RELOCATED PUBLIC STREET LIGHT WITHIN CITY RIGHT-OF-WAY (SEE OFFSITE ROADWAY PLANS)
33. ELECTRIC VEHICLE CHARGING STALL
34. iFLY PARKING SIGNAGE (REFER TO ARCHITECTURAL DETAILS)

PAVING AND CURB LEGEND

- STANDARD DUTY ASPHALT PAVEMENT — SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION
- HEAVY DUTY ASPHALT PAVEMENT — SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION
- CONCRETE SIDEWALK — SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION
- HEAVY DUTY CONCRETE PAVEMENT — SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION
- MECHANICAL YARD STONE — STONE LAYER SHALL BE 300mm THICKNESS COMPRISED OF ANGULAR CRUSHED STONE MATERIAL AS APPROVED BY THE ENGINEER OF RECORD (US EQUIVALENT OF ASTM C-33 AASHTO GRADATIONS #4, #57 or #6 ARE ACCEPTABLE), PREDOMINANTLY AVAILABLE STONE MEETING LOCAL DESIGNATION MAY BE USED IF APPROVED BY THE ENGINEER PRIOR TO SELECTION. STONE TO BE PLACED OVER SUBGRADE COMPACTED TO AT LEAST 95% DENSITY. INSTALL WEED BARRIER FABRIC (DEWITT WEED BARRIER, 20-YR DESIGN LIFE, OR EQUIVALENT) BETWEEN THE SUBGRADE AND STONE LAYER. SEE ALSO UTILITY PLAN FOR REQUIRED STORM UNDERDRAINS TO BE INSTALLED WITHIN THE STONE LAYER.
- STANDARD PITCH CONCRETE CURB AND GUTTER
- REVERSE PITCH CONCRETE CURB AND GUTTER
- CONCRETE DEPRESSED CURB AND GUTTER
- ⊙ PARKING COUNT

GENERAL NOTES

1. ALL PARKING DIMENSIONS REFER TO THE FACE OF CURB UNLESS OTHERWISE NOTED. ALL SETBACK DIMENSIONS REFER TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. BUILDING DIMENSIONS ARE TO THE OUTSIDE FACE OF BUILDING UNLESS OTHERWISE NOTED.
3. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS TO VERIFY ALL BUILDING DIMENSIONS.
4. REFER TO ARCHITECTURAL PLANS FOR MONUMENT SIGN DETAILS. SEE MEP PLANS FOR SITE ELECTRICAL DRAWINGS.
5. ALL PROPOSED ON-SITE STRIPING SHALL BE PAINTED UNLESS OTHERWISE NOTED.
6. CONTRACTOR TO CLARIFY ANY DISCREPANCIES OR CHANGES FOR THE MECHANICAL YARD EQUIPMENT LAYOUT WITH BOTH THE ARCHITECT AND CIVIL ENGINEER PRIOR TO CONSTRUCTION. ALL EQUIPMENT CLEARANCES MUST BE ACHIEVED TO MAINTAIN WARRANTIES. AT LEAST ONE SIDE OF THE CHILLER UNIT MUST MAINTAIN AT LEAST 600mm CLEARANCE FOR MAINTENANCE ACCESS TO REPLACE THE CONDENSER COILS. A REMOVABLE EGRESS RAMP MAY BE LOCATED WITHIN THIS 600mm CLEARANCE AREA TO MEET ACCESSIBILITY CODE REQUIREMENTS, AS LONG AS THE RAMP SYSTEM IS REMOVABLE WHEN CHILLER MAINTENANCE ACTIVITIES ARE NECESSARY.
7. RADII ADJACENT TO PARKING STALL AND NOT DIMENSIONED ON THIS PLAN SHALL BE 1-METRE, TYPICAL.

SITE AREA SUMMARY

PROPERTY DIMENSION:
TOTAL PROPERTY AREA: 8,923 SQUARE METERS

DP 18-815966

No.	REVISIONS	DATE	BY

Kimley»Horn

2555 E. CHANDLER BLVD., SUITE 2
PHOENIX, AZ 85048
WWW.KIMLEY-HORN.COM

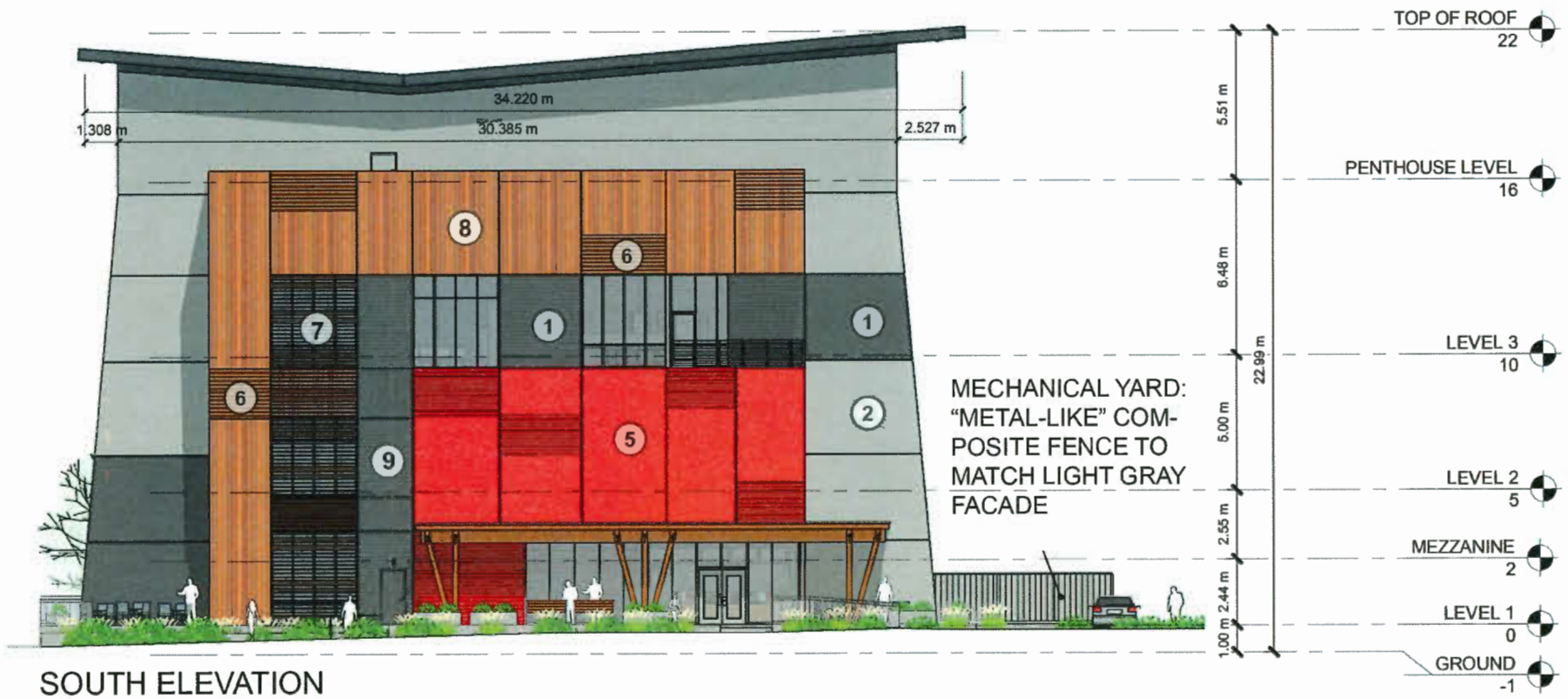
SCALE: AS NOTED
DESIGNED BY: RMM
DRAWN BY: RMM
CHECKED BY: NJG

SITE LAYOUT PLAN

iFLY RICHMOND, BC (VAN)
9151 VAN HORNE WAY
RICHMOND, BC V6X 1W2, CANADA

ORIGINAL ISSUE: 10/05/2018
KHA PROJECT NO. 168671000
SHEET NUMBER C2.0

WEST ELEVATION



SOUTH ELEVATION

NORTH ELEVATION

EAST ELEVATION

1. CONCRETE- DARK GRAY
2. CONCRETE- LIGHT GRAY
3. "METAL-LIKE" EIFS (STOLIT MILANO FINISH)- DARK GRAY
4. "METAL-LIKE" EIFS (STOLIT MILANO FINISH)- LIGHT GRAY
5. "METAL-LIKE" EIFS (STOLIT MILANO FINISH)- RED
6. ALUMINUM WOODGRAIN PANEL HORIZONTAL APPLICATION
7. ALUMINUM "WOOD-LIKE" LOUVERS OVER WINDOW
8. ALUMINUM WOODGRAIN PANEL VERTICAL APPLICATION
9. "METAL-LIKE" EIFS WITH HORIZONTAL REVEALS- DARK GRAY
10. "METAL-LIKE" EIFS WITH HORIZONTAL REVEALS- LIGHT GRAY

ELEVATIONS & MATERIALS

09.21.2018

A-13

DP 18-815966-3

PERSPECTIVES

09 24.2018

A-10 -4

DP 18-815966

PERSPECTIVES

09.24.2018

A-11

DP 18-815966-5

PERSPECTIVES

09.24.2018

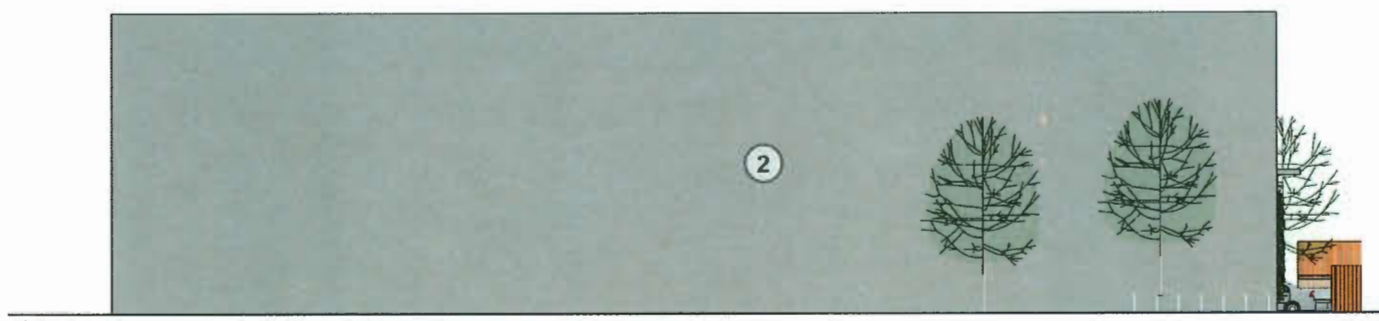
A-12

DP 18-815966-6

MECHANICAL SCREENING

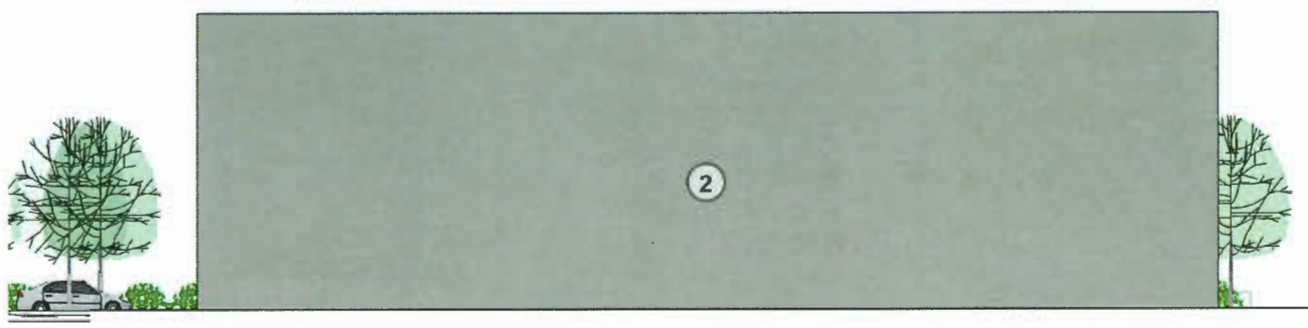
03.29.2018

EXISTING BUILDING HEIGHT = 10.5 m

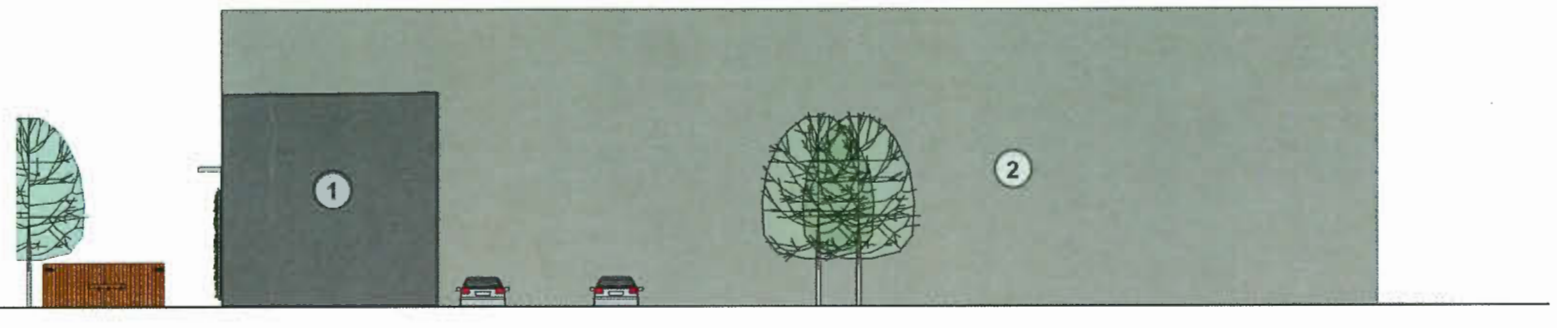


WEST ELEVATION

SOUTH ELEVATION



NORTH ELEVATION



EAST ELEVATION

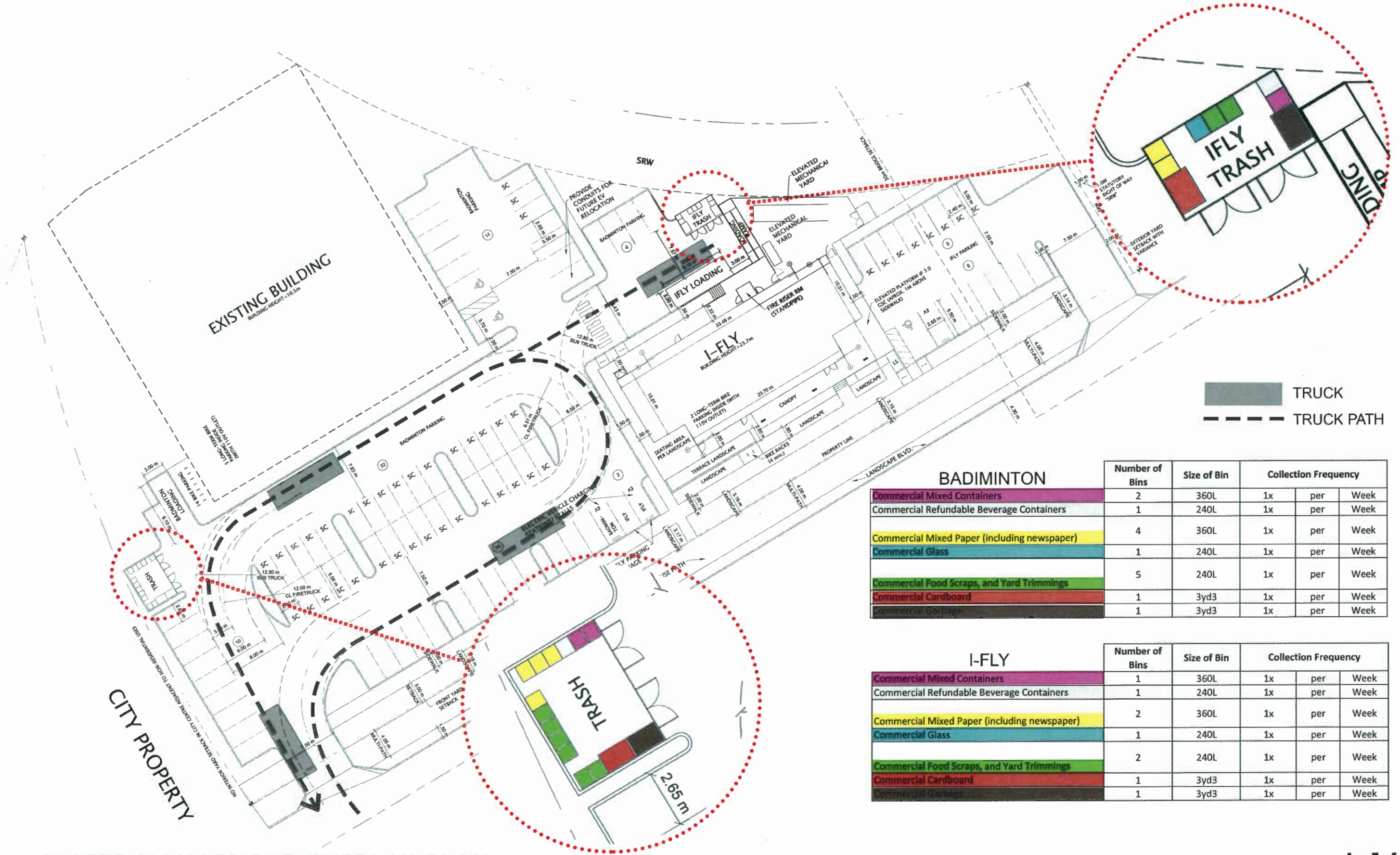
1. CONCRETE- DARK GRAY
2. CONCRETE- LIGHT GRAY
3. "METAL-LIKE" EIFS (STOLIT MILANO FINISH)- DARK GRAY
4. "METAL-LIKE" EIFS (STOLIT MILANO FINISH)- LIGHT GRAY
5. "METAL-LIKE" EIFS (STOLIT MILANO FINISH)- RED
6. ALUMINUM WOODGRAIN PANEL HORIZONTAL APPLICATION
7. ALUMINUM "WOOD-LIKE" LOUVERS OVER WINDOW
8. ALUMINUM WOODGRAIN PANEL VERTICAL APPLICATION
9. "METAL-LIKE" EIFS WITH HORIZONTAL REVEALS- DARK GRAY
10. "METAL-LIKE" EIFS WITH HORIZONTAL REVEALS- LIGHT GRAY

ELEVATIONS & MATERIALS

05.25.2018

A-14

DP 18-815966-8



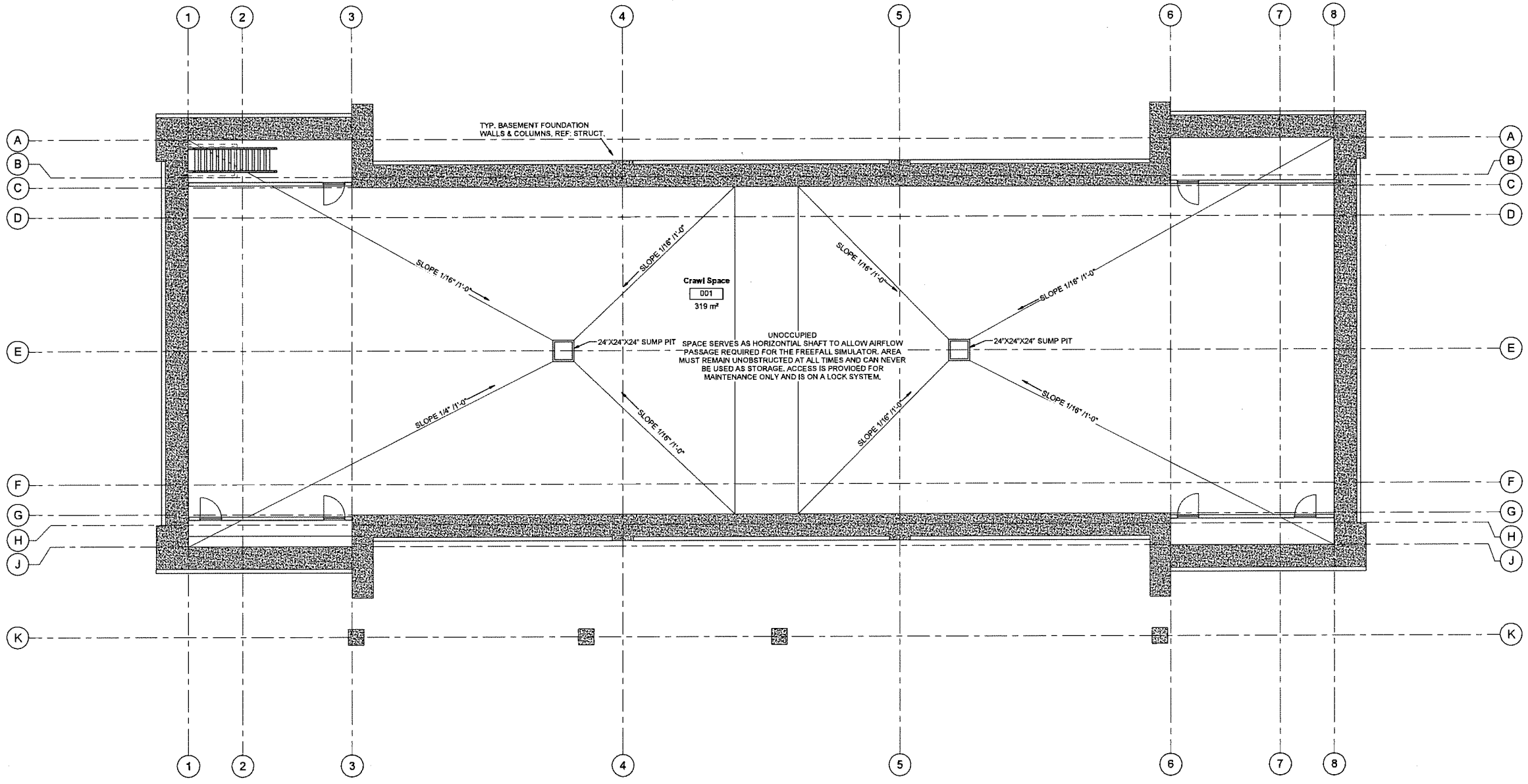
BADIMINTON

	Number of Bins	Size of Bin	Collection Frequency		
Commercial Mixed Containers	2	360L	1x	per	Week
Commercial Refundable Beverage Containers	1	240L	1x	per	Week
Commercial Mixed Paper (including newspaper)	4	360L	1x	per	Week
Commercial Glass	1	240L	1x	per	Week
Commercial Food Scraps, and Yard Trimmings	5	240L	1x	per	Week
Commercial Cardboard	1	3yd3	1x	per	Week
Commercial Garbage	1	3yd3	1x	per	Week

I-FLY

	Number of Bins	Size of Bin	Collection Frequency		
Commercial Mixed Containers	1	360L	1x	per	Week
Commercial Refundable Beverage Containers	1	240L	1x	per	Week
Commercial Mixed Paper (including newspaper)	2	360L	1x	per	Week
Commercial Glass	1	240L	1x	per	Week
Commercial Food Scraps, and Yard Trimmings	2	240L	1x	per	Week
Commercial Cardboard	1	3yd3	1x	per	Week
Commercial Garbage	1	3yd3	1x	per	Week

WASTE MANAGEMENT OVERLAY PLAN



1 Crawl Space
1 : 50

REVISIONS

MARK	DATE	DESCRIPTION

DRAWN:	IR
CHECKED:	DF
JOB NO:	5217

I-FLY VANCOUVER
9151 VAN HORNE WAY
RICHMOND, BC V6X 1W2

Floor Plan - Crawl Space

SHEET:
A2.0

OF: SHEETS

DP 18-815966-10

General Floor Plan Notes

1. ALL DIMENSIONS ARE TO FACE OF STUD & EDGE OF ROUGH OPENINGS, U.N.O.

2. DOWEL CONC WALK INTO FOUNDATION WALL AT EXTERIOR DOORS, STOREFRONT DOORS AND STOREFRONT SYSTEM.

3. REFER TO STRUCTURAL DRAWINGS FOR COLUMN DESIGNATIONS AND ADDITIONAL INFORMATION.

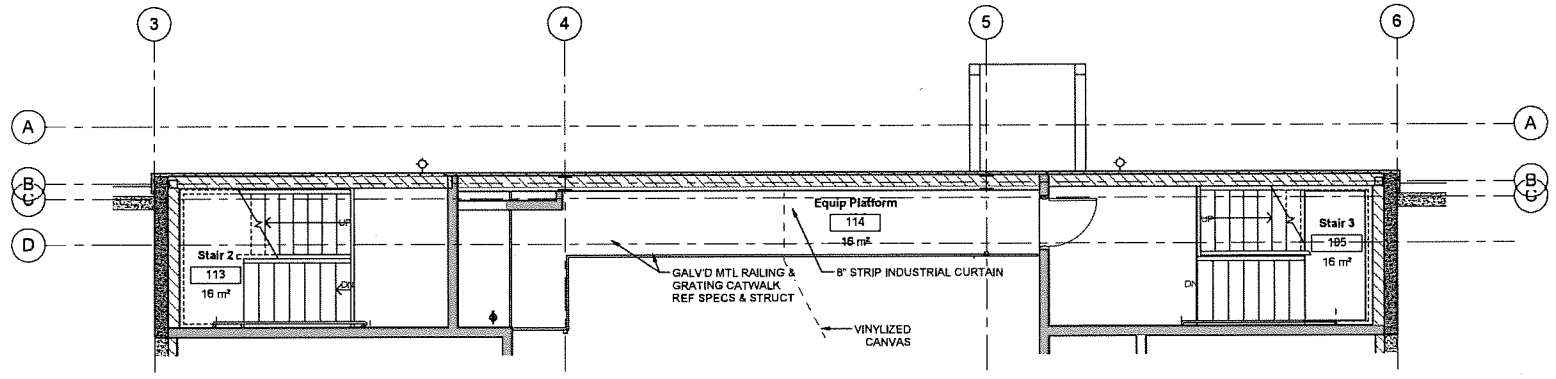
4. REFER MEP DRAWINGS FOR UTILITIES RUN UNDER SLAB. COORDINATE WITH OWNER'S PROGRAM.

5. REFER TO ELEVATIONS FOR EXTENT OF STOREFRONT WORK.

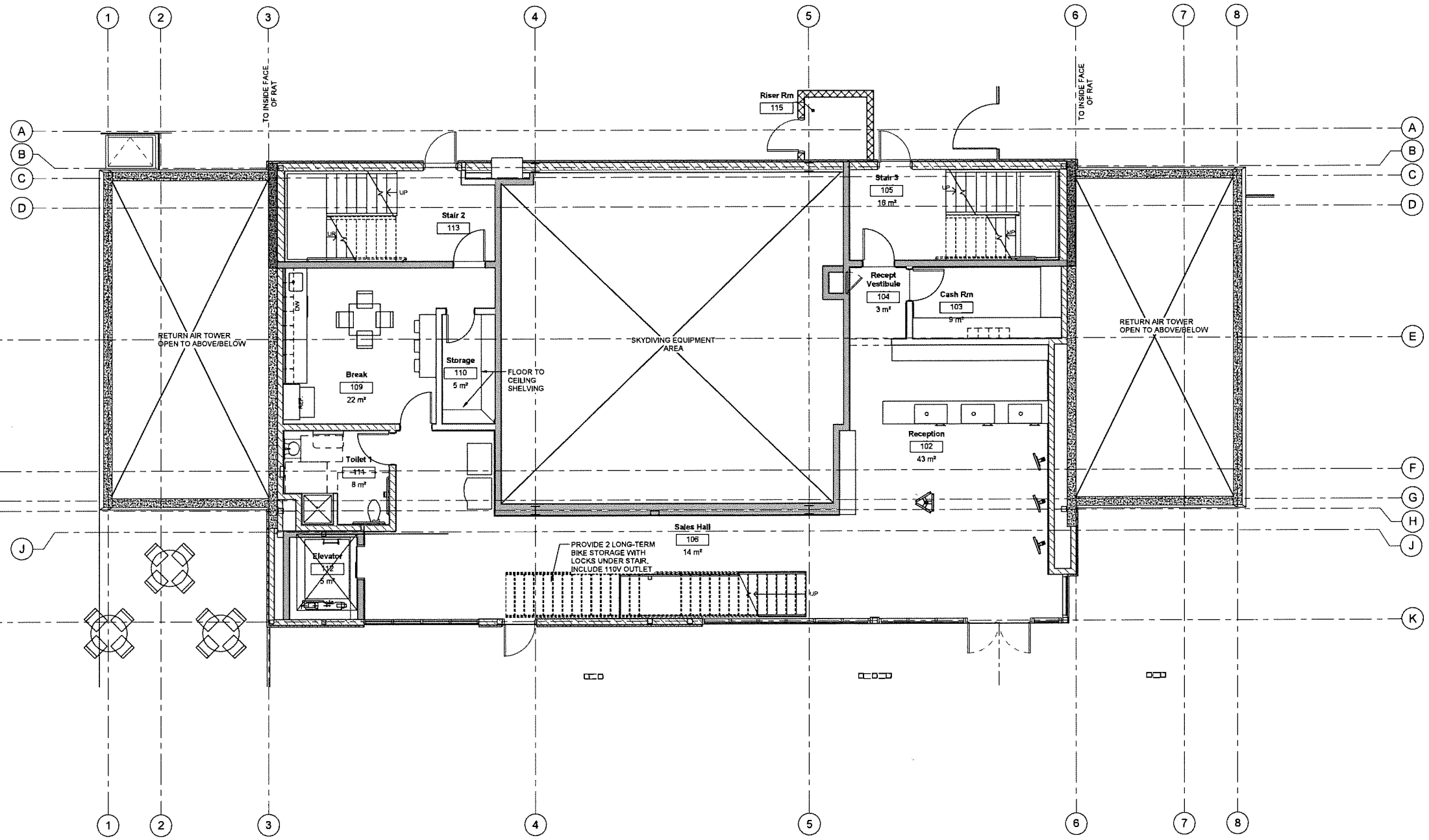
6. REFER TO LANDSCAPE PLANS FOR SIDEWALK PLANS & DETAILS.

NOTE: GRAY HATCHED WALLS INDICATE FIRE RATED ASSEMBLY REF WALL TYPES FOR UL NUMBERS & DETAILS

DIAGONAL HATCHED WALLS INDICATE INSULATED CAVITY REF WALL TYPES FOR DETAILS



2 Floor Plan - Mezzanine (Equipment Platform)
1 : 50



1 Floor Plan - Level 1 (Ground Floor)
1 : 50

REVISIONS		
MARK	DATE	DESCRIPTION

DRAWN:	IR
CHECKED:	DF
JOB NO:	5217

I-FLY VANCOUVER
9151 VAN HORNE WAY
RICHMOND, BC V6X 1W2

Floor Plan - Level 1 & Mezzanine

SHEET: A2.1

OF: SHEETS

DP 18-815966-11

General Floor Plan Notes

1. ALL DIMENSIONS ARE TO FACE OF STUD & EDGE OF ROUGH OPENINGS, U.N.O.

2. DOWEL CONC WALK INTO FOUNDATION WALL AT EXTERIOR DOORS, STOREFRONT DOORS AND STOREFRONT SYSTEM.

3. REFER TO STRUCTURAL DRAWINGS FOR COLUMN DESIGNATIONS AND ADDITIONAL INFORMATION.

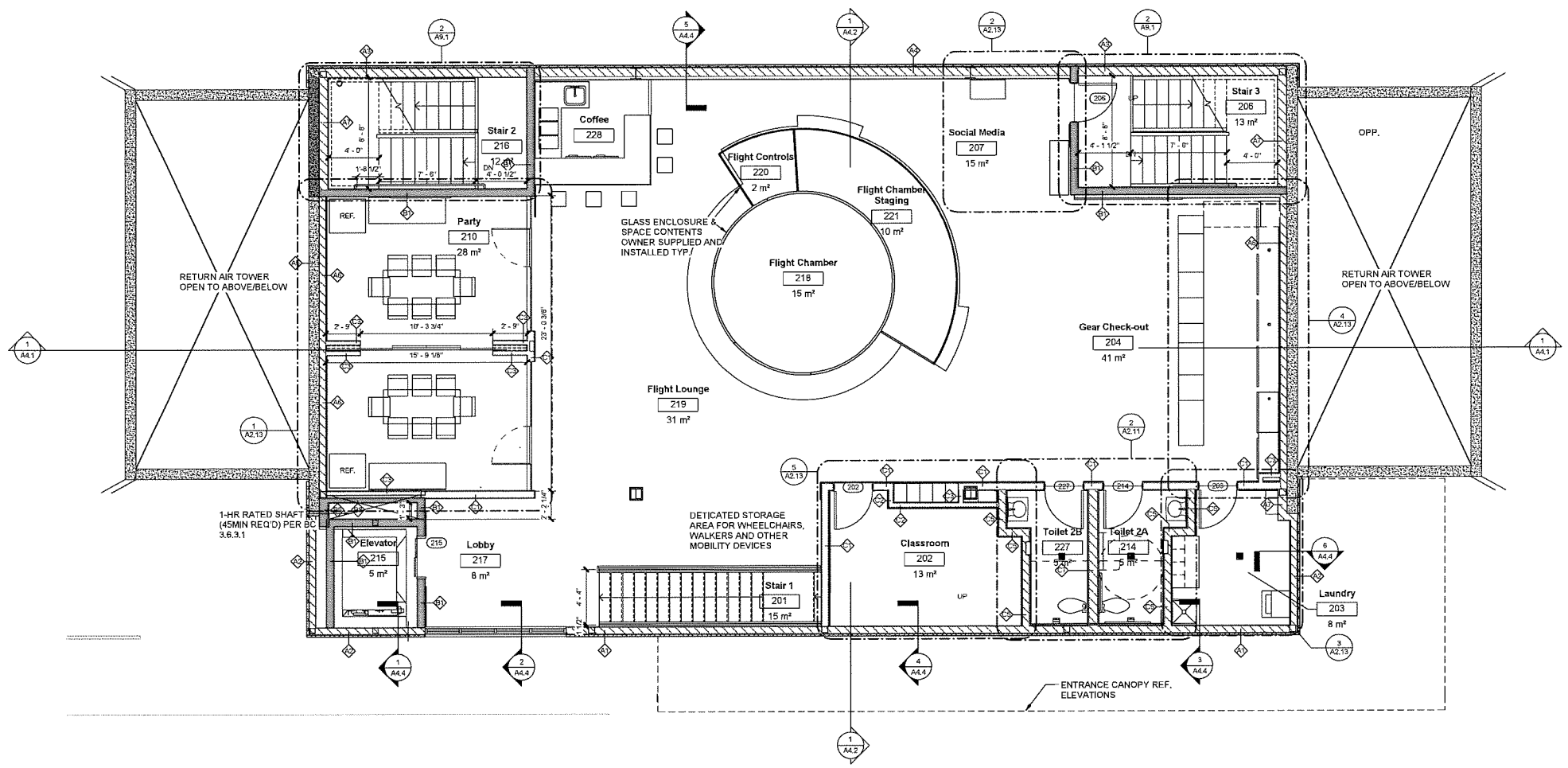
4. REFER MEP DRAWINGS FOR UTILITIES RUN UNDER SLAB. COORDINATE WITH OWNER'S PROGRAM.

5. REFER TO ELEVATIONS FOR EXTENT OF STOREFRONT WORK.

6. REFER TO LANDSCAPE PLANS FOR SIDEWALK PLANS & DETAILS.

NOTE: GRAY HATCHED WALLS INDICATE FIRE RATED ASSEMBLY REF WALL TYPES FOR UL NUMBERS & DETAILS

DIAGONAL HATCHED WALLS INDICATE INSULATED CAVITY REF WALL TYPES FOR DETAILS



1 Floor Plan - Level 2
1 : 50

REVISIONS		
MARK	DATE	DESCRIPTION

DRAWN:	IR
CHECKED:	DF
JOB NO:	5217

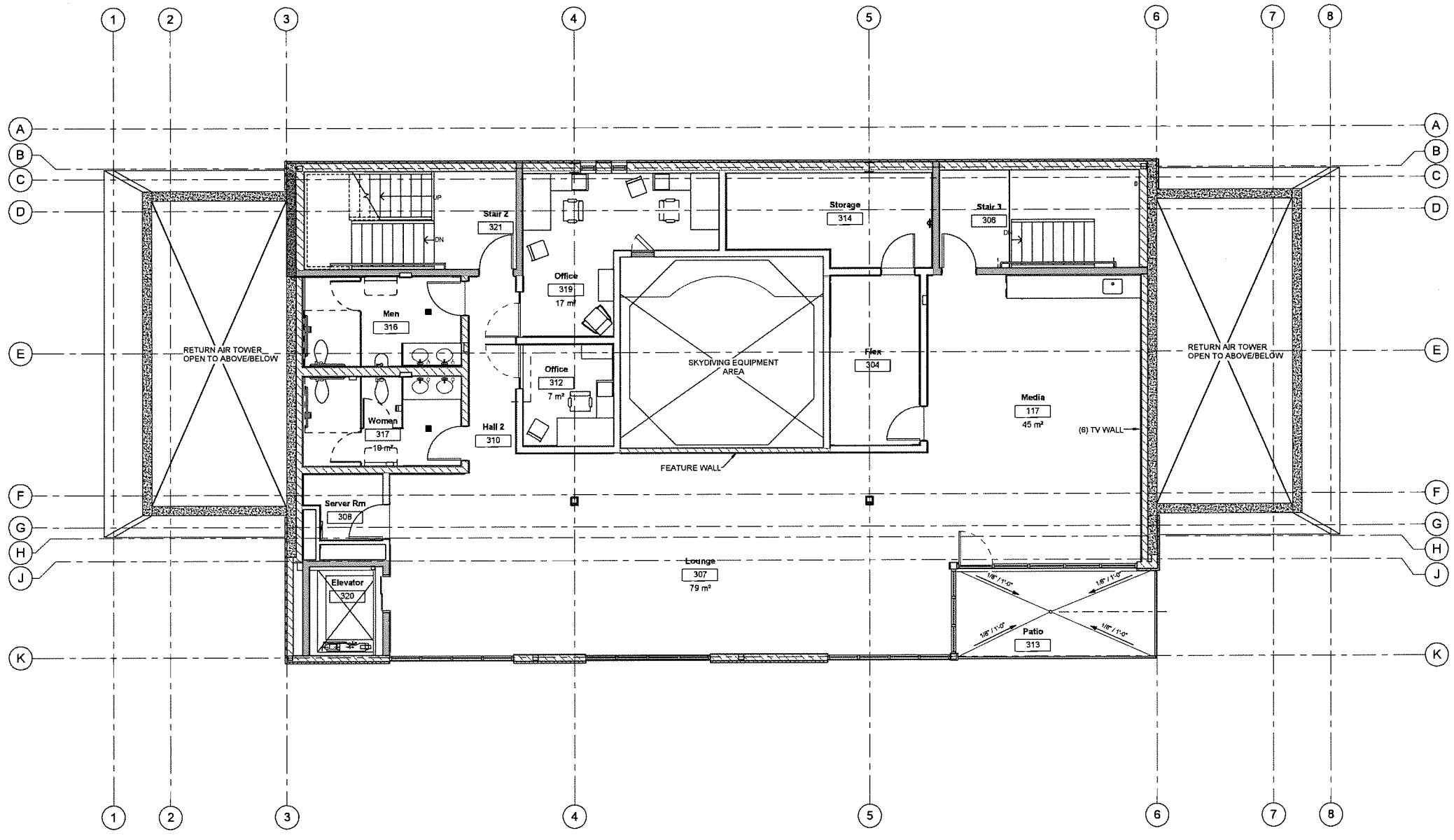
I-FLY VANCOUVER
9151 VAN HORNE WAY
RICHMOND, BC V6X 1W2

Floor Plan - Level 2

SHEET: A2.2

OF: SHEETS

DP 18-815966-12



1 Floor Plan - Level 3
1 : 50

REVISIONS		
MARK	DATE	DESCRIPTION

DRAWN:	IR
CHECKED:	DF
JOB NO:	5217

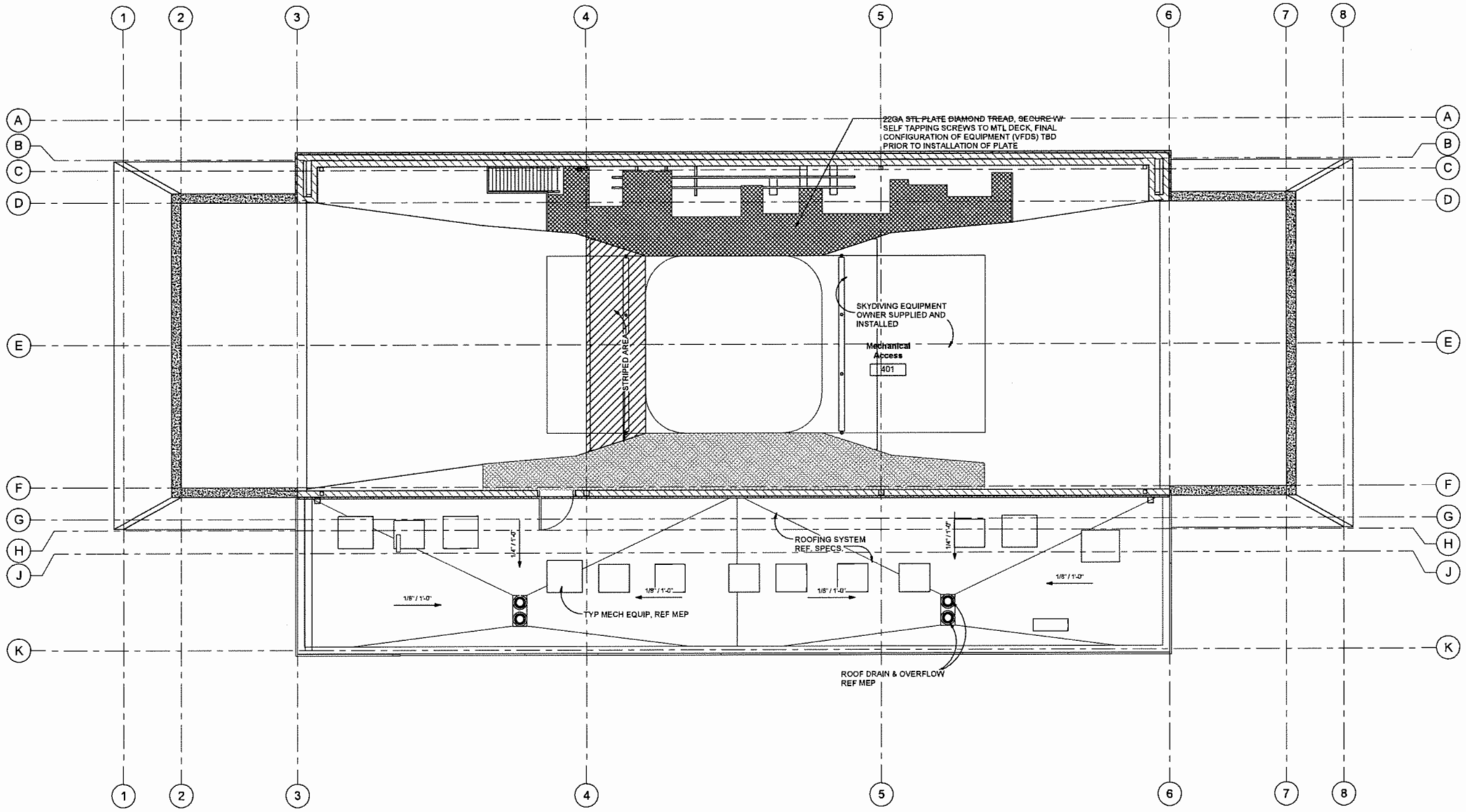
I-FLY VANCOUVER
9151 VAN HORNE WAY
RICHMOND, BC V6X 1W2

Floor Plan - Level 3 & Service Deck Access

SHEET: A2.3

OF SHEETS:

DP 18-815966-13



1 Floor Plan - Penthouse Level
1 : 50

REVISIONS		
MARK	DATE	DESCRIPTION

DRAWN:	IR
CHECKED:	DF
JOB NO:	5217

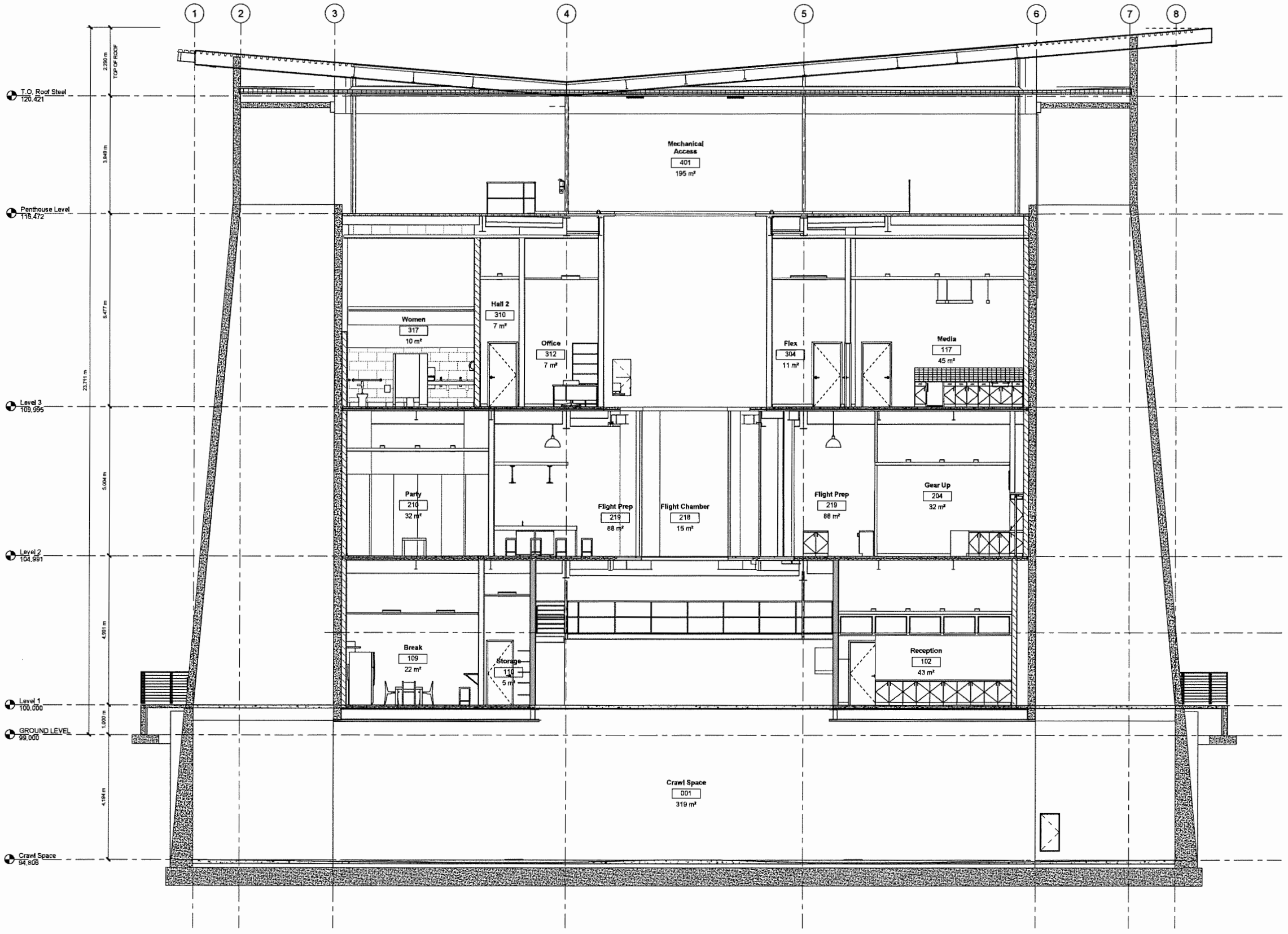
I-FLY VANCOUVER
9151 VAN HORNE WAY
RICHMOND, BC V6X 1W2

Floor Plan - Penthouse Level

SHEET:
A2.4

OF: SHEETS

DP 18-815966 - 14



1 LONGITUDINAL SECTION
1 : 50

REVISIONS		
MARK	DATE	DESCRIPTION

DRAWN:	IR
CHECKED:	DF
JOB NO:	5217

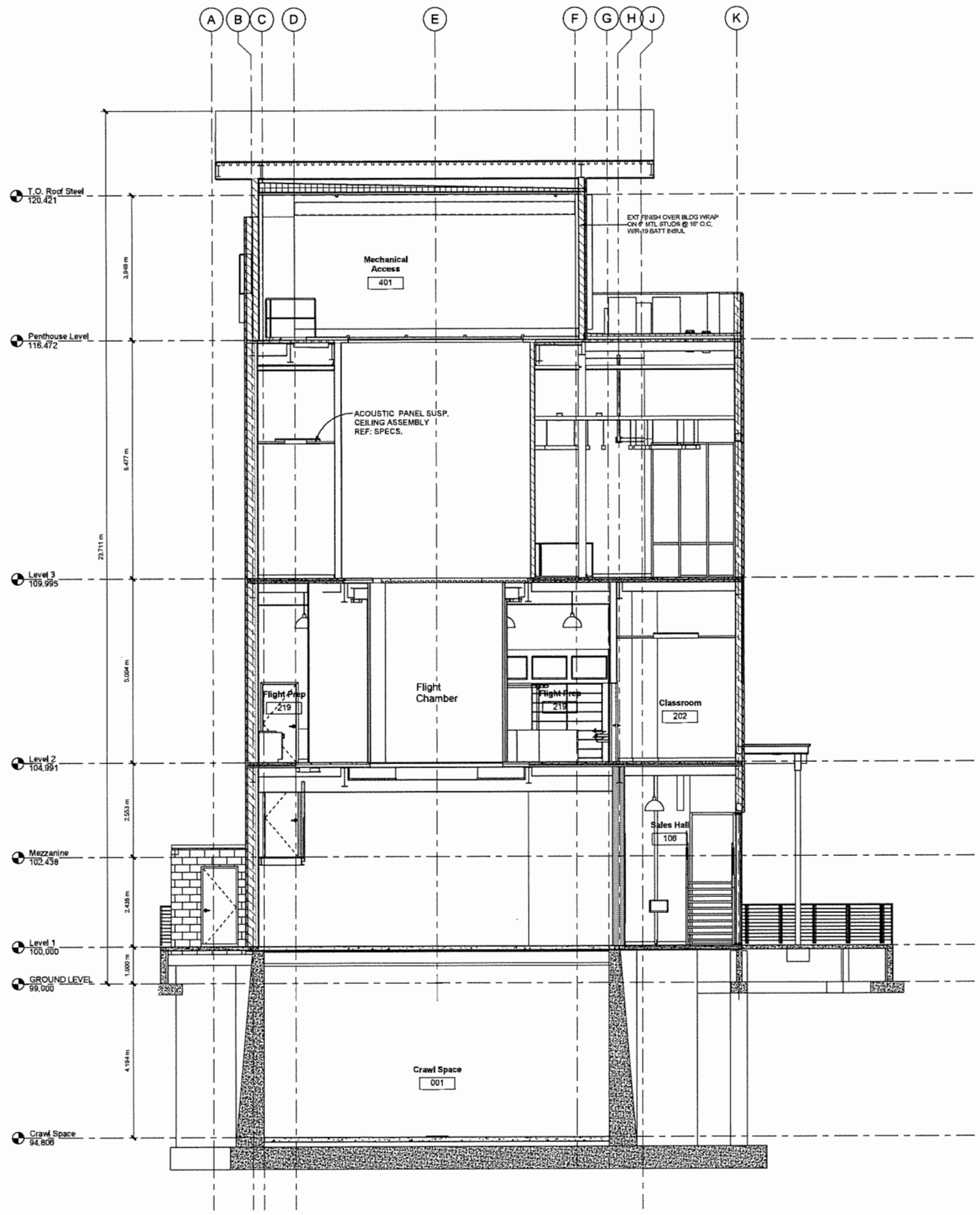
I-FLY VANCOUVER
9151 VAN HORNE WAY
RICHMOND, BC V6X 1W2

Building Sections

SHEET:
A4.1

OF: SHEETS

UP 18-815966-15



1 Building Section
1 : 50

REVISIONS		
MARK	DATE	DESCRIPTION

DRAWN:	IR
CHECKED:	DF
JOB NO:	5217

I-FLY VANCOUVER
9151 VAN HORNE WAY
RICHMOND, BC V6X 1W2

Building Sections

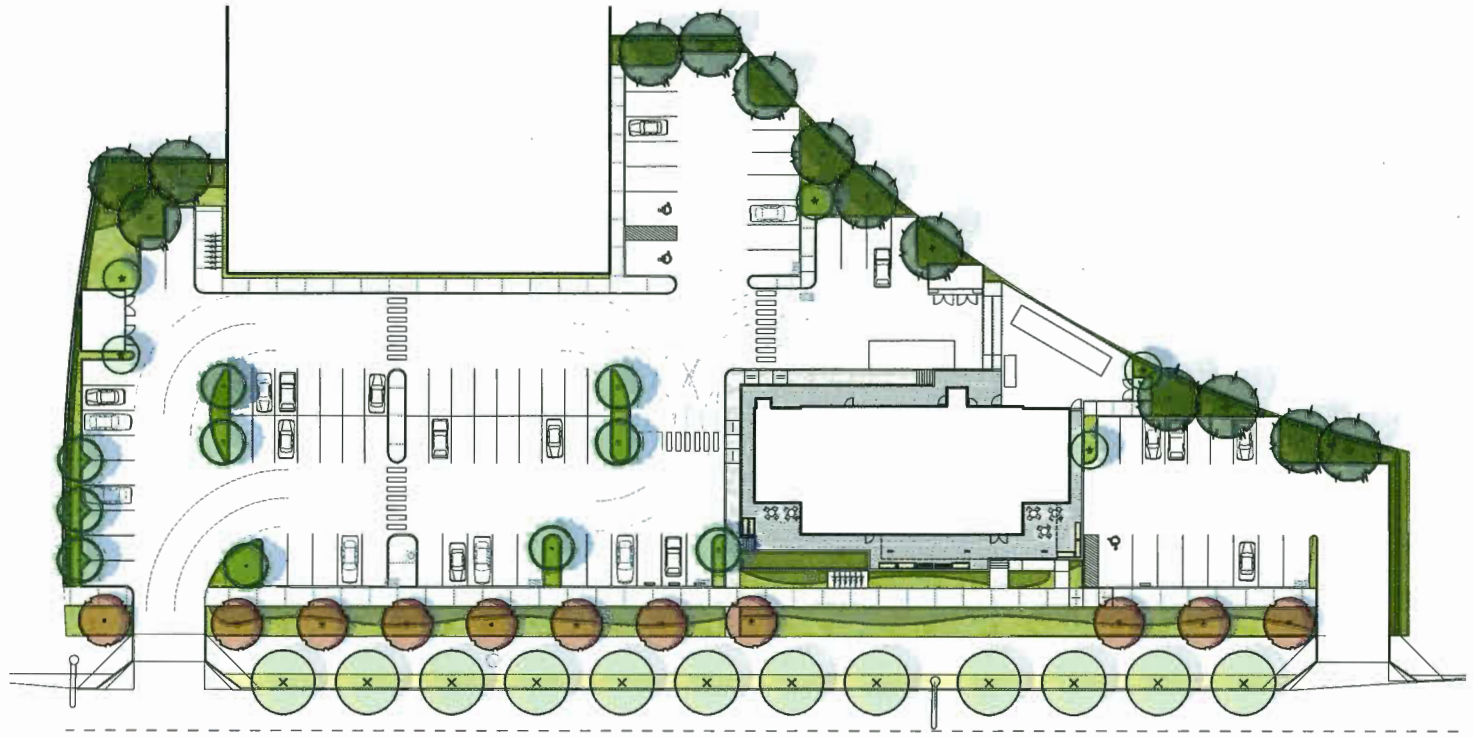
SHEET:
A4.3
OF ... SHEETS

DP 18-815966 -16

I FLY

RICHMOND, BRITISH COLUMBIA

RE-ISSUED FOR DEVELOPMENT PERMIT APPLICATION



LANDSCAPE DRAWING INDEX

DRAWING INDEX	
SHEET No.	**SHEET NAME**
L0.0	COVER SHEET & DRAWING LIST
L1.0	OVERALL SITE PLAN
L2.0	LANDSCAPE MATERIALS & FURNISHINGS
L2.1	PLANTING PLAN - WEST
L2.2	PLANTING PLAN - EAST
L3.0	LANDSCAPE DETAILS - SOFTSCAPE
L3.1	LANDSCAPE DETAILS - SECTIONS

GENERAL NOTES

ALL LANDSCAPE ARCHITECTURAL DRAWINGS IN THIS PACKAGE SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS, DETAILS, SPECIFICATIONS, AND/OR OTHER CORRESPONDANCE THAT MAY BE ISSUED DURING THE COURSE OF THE CONTRACT.

IF A DISCREPANCY OCCURS BETWEEN THE DRAWINGS AND THE SPECIFICATIONS OR ANY OTHER DOCUMENT ASSOCIATED WITH THE PROJECT, THE CONFLICT SHALL BE REPORTED IN WRITING TO THE OWNER OR OWNERS REPRESENTATIVE TO OBTAIN CLARIFICATION AND APPROVAL BEFORE PROCEEDING WITH WORKS.

ALL EXISTING INFORMATION IS BASED ON AVAILABLE RECORDS AND SHALL NOT BE CONSTRUED TO BE COMPLETE OR ACCURATE. THE CONTRACTOR SHALL VISIT THE SITE TO VERIFY THE TRUE EXISTING CONDITIONS. ANY UNCLEAR ISSUES SHALL BE CLARIFIED WITH THE OWNER OR OWNERS REPRESENTATIVE. NO CLAIM SHALL BE ALLOWED FOR EXTRAS WHICH MAY ARISE THROUGH NEGLECT OF THIS ADVICE.

THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXISTENCE, LOCATION, AND ELEVATION OF ALL UTILITIES AND CONCEALED STRUCTURES, AND IS RESPONSIBLE FOR NOTIFYING THE APPROPRIATE COMPANY, DEPARTMENT OR PERSON(S) OF ITS INTENTION TO CARRY OUT ITS OPERATIONS.

LAYOUT OF HARDSCAPE, SITE FURNITURE, GROWING MEDIA, TREES, PLANTING, AND ALL OTHER MATERIALS IS TO BE STAKED OUT AND APPROVED BY OWNER OR OWNERS REPRESENTATIVE.

ALL PLANTING SHALL BE IN ACCORDANCE WITH THE CANADIAN LANDSCAPE STANDARD, LATEST EDITION.

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3	RE- ISSUED FOR DP APPLICATION	18-09-24
2	RE- ISSUED FOR DP APPLICATION	18-08-10
1	ISSUED FOR DEVELOPMENT PERMIT APPLICATION	18-02-27

REVISIONS

IFLY RICHMOND

Richmond, British Columbia

Scale:	N/A
Drawn:	PM/DS
Reviewed:	DS
Project No.	06-606

COVER SHEET
AND DRAWING LIST

L0.0

DP 18-815966

1 LAYOUT PLAN
Scale: 1:200

PROGRAM LEGEND	TREE LEGEND	SOFTSCAPE LEGEND	HARDSCAPE LEGEND
1 BIKE RACKS	STREET TREES	MEDIUM SHRUB PLANTING	CONCRETE UNIT PAVERS
2 LANDSCAPE BUFFER	DECIDUOUS TREES	LOW SHRUBS + GROUNDCOVER PLANTING	CONCRETE
3 MULTI-PATH	CONIFEROUS TREES	LAWN	BENCH
4 LANDSCAPE BOULEVARD		METAL PLANTERS	
5 12" UNIT BLOCK WALL			
6 HEDGE			

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REVISIONS

IFLY RICHMOND

Richmond, British Columbia

Scale:	1:200
Drawn:	PM
Reviewed:	DS
Project No.	06-606

LAYOUT PLAN

L1.0

DP 18-815966

PLANT MATERIALS

Stewartia pseudocamellia
Japanese Stewartia

Acer rubrum
'Scarlet Sentinel'
Scarlet Sentinel Maple

Liquidambar styraciflua
'Worplesdon'
Sweetgum

Western Red Cedar
Thuja plicata

TREES

Spiraea bumalda 'Goldflame'
'Goldflame' Spiraea

Rhododendron
yakushimanum'Hotei'
Yellow Rhododendron

Stipa tennuissima
Mexican Feather Grass

Buxus microphylla
'Winter Beauty'
Boxwood

SHRUBS

Arctostaphylos uva-ursi
Bearberry

Polystichum munitum
Western Sword Fern

Rubus calycinoides
Emerald Carpet

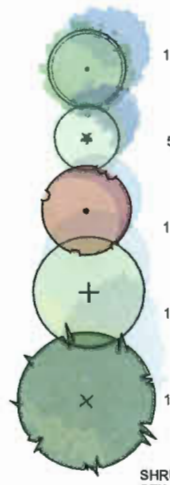
Mahonia repens
Creeping Oregon Grape

GROUND COVERS, FERNS, AND VINES

Liriope muscari
Big Blue Lilyturf

PERENNIALS, BULBS AND ANNUALS

PLANT LIST



TREES QTY.	BOTANICAL NAME	COMMON NAME	SIZE
14	Acer rubrum 'Scarlet Sentinel'	Scarlet Sentinel Maple	6cm cal., B&B 6 ft standard minimum
5	Stewartia pseudocamellia	Japanese Stewartia	6cm cal., B&B
11	Liquidambar styraciflua 'Worplesdon'	Worplesdon Sweetgum	7cm cal., B&B
12	Street Tree	Street tree species and size as per city of Richmond	
13	Thuja plicata	Western Red Cedar	

SHRUBS QTY.	BOTANICAL NAME	COMMON NAME	SIZE
298	Buxus microphylla 'Winter Beauty'	Boxwood	
366	Polystichum munitum	Western Sword Fern	#2 pot
71	Rhododendron 'Hotei'	Yellow Rhododendron	#5 pot
612	Spiraea x bumulda 'Goldflame'	Goldflame Spiraea	#2 pot
331	Stipa tenuissima	Mexican Feather Grass	#2 pot

GROUND COVERS AND VINES QTY. (m2)	BOTANICAL NAME	COMMON NAME	SIZE
161	Arctostaphylos uva-ursi	Bearberry	4"(10cm) pot
78	Mahonia repens	Creeping Oregon Grape	4"(10cm) pot
56	Rubus calycinoides	Emerald Carpet	4"(10cm) pot

PERENNIALS, BULBS, AND ANNUALS QTY.	BOTANICAL NAME	COMMON NAME	SIZE
	Liriope muscari	Big Blue Lilyturf	

LAWN (m2)		
168	Sodded Lawn Area (square metres)	Contractor to confirm final area

NOTES:
1) In case of discrepancy between plant numbers on this list and on the plan, the latter shall prevail.
2) All planting shall be in accordance with BC Landscape Standard, latest edition.
3) All planting beds to be mulched with 2" (50mm) of Answer Garden Products 'Humus builder' or approved equal.

MATERIALS/ FURNISHINGS

UNIT PAVING

BIKE RACK MODEL
MODEL: SCBR 1602, SURFACE MOUNT
SUPPLIER: MAGLIN (1.855.904.0330)
FINISH: POWDERCOAT SILVER FINETEX

BENCH SEATING
MODEL: MLB1055-W
SUPPLIER: MAGLIN (1.855.904.0330)

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REVISIONS

IFLY RICHMOND

Richmond, British Columbia

Scale:	As Shown
Drawn:	PM
Reviewed:	DS
Project No.	06-606

PLANTING MATERIALS

L2.0

DP 18-815966-19

PLANT LIST

TREES QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
14	Acer rubrum 'Scarlet Sentinel'	Scarlet Sentinel Maple	6cm cal., B&B 6 ft standard minimum	as shown
5	Stewartia pseudocamellia	Japanese Stewartia	6cm cal., B&B	as shown
11	Liquidambar styraciflua 'Worplesdon'	Worplesdon Sweetgum	7cm cal., B&B	as shown
12	Street Tree	Street tree species and size as per city of Richmond		
13	Thuja plicata	Western Red Cedar		as shown

SHRUBS QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
298	Buxus microphylla 'Winter Beauty'	Boxwood		
366	Polystichum munitum	Western Sword Fern	#2 pot	24" o.c
71	Rhododendron 'Hotei'	Yellow Rhododendron	#5 pot	36" o.c
612	Spiraea x bumulda 'Goldflame'	Goldflame Spiraea	#2 pot	24" o.c
331	Stipa tenuissima	Mexican Feather Grass	#2 pot	24" o.c

GROUND COVERS AND VINES QTY. (m2)	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
161	Arctostaphylos uva-ursi	Bearberry	4"(10cm) pot	15" o.c
78	Mahonia repens	Creeping Oregon Grape	4"(10cm) pot	15" o.c
56	Rubus calycinoides	Emerald Carpet	4"(10cm) pot	15" o.c

PERENNIALS, BULBS, AND ANNUALS QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	Liriope muscari	Big Blue Lilyturf		12" o.c

LAWN (m2)			
168	Sodded Lawn Area (square metres)	Contractor to confirm final area	

PLANTING NOTES

1. ALL PLANTING SHALL BE IN ACCORDANCE WITH THE CANADIAN LANDSCAPE STANDARD LATEST EDITION.

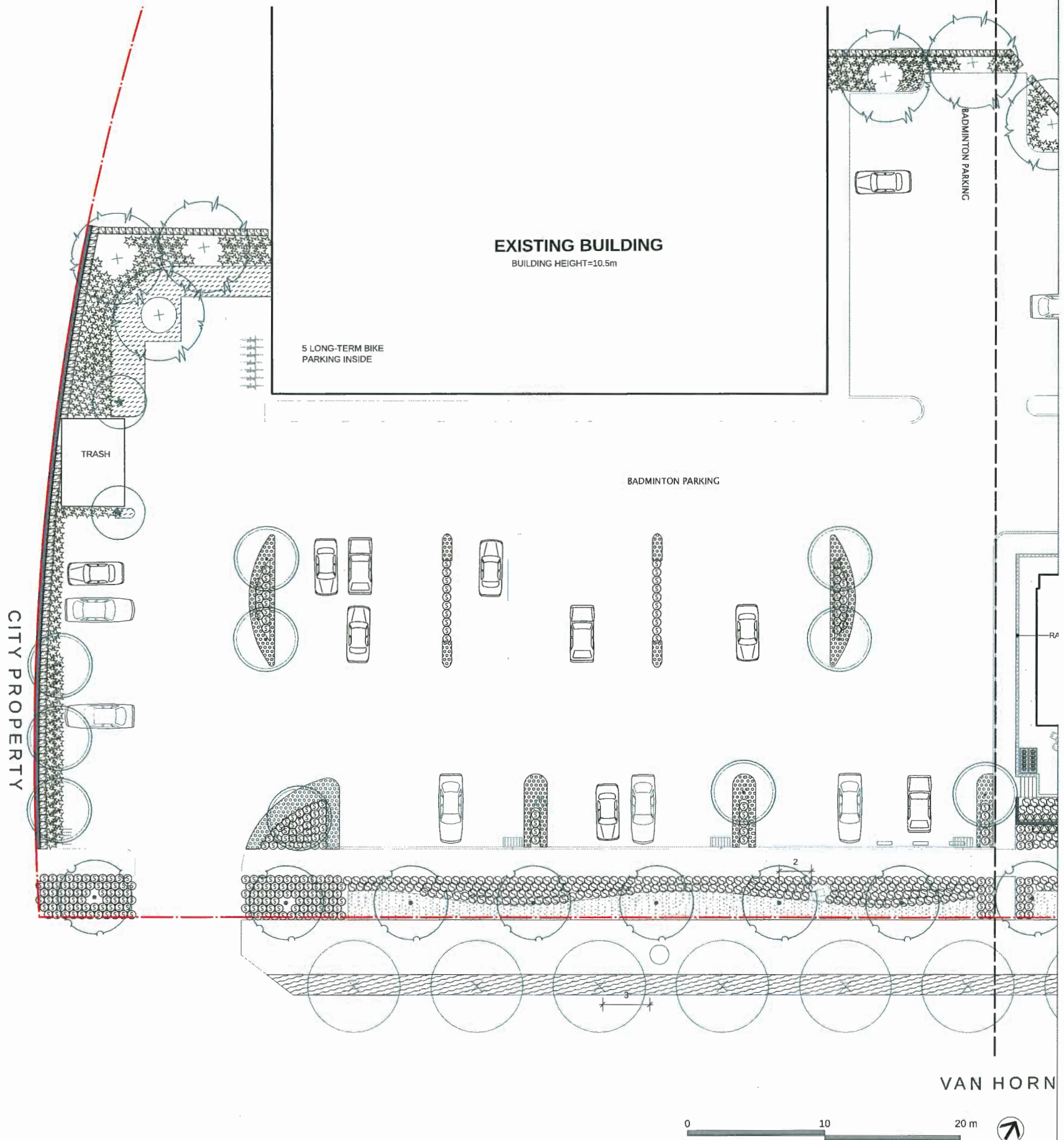
2. IN CASE OF DISCREPANCY BETWEEN PLANT NUMBERS ON THE LIST AND ON THE PLAN THE LATTER SHALL PREVAIL.

3. FINAL OFF-SITE TREE AND PLANT SCHEDULE SUBJECT TO APPROVAL BY CITY OF RICHMOND.

4. FINAL TREE LOCATIONS AND SPACING TO BE STAKED OUT AND APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

5. ALL PLANTING AREAS ARE TO BE MANUALLY WATERED FROM TIME OF INSTALLATION FOR DURATION PER SPECIFICATIONS. GATOR BAGS TO BE EMPLOYED FOR ALL TREE PLANTING WITH 1-YEAR LANDSCAPE MAINTENANCE PER SPECIFICATIONS.

6. GROWING MEDIUM DEPTHS PER DETAILS AND SPECIFICATIONS.



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Scale:	As Shown
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Project No.	06-606

PLANTING MATERIALS

L2.1

DP 18-815966-20

PLANT LIST

TREES QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
14	Acer rubrum 'Scarlet Sentinel'	Scarlet Sentinel Maple	6cm cal., B&B 6 ft standard minimum	as shown
5	Stewartia pseudocamellia	Japanese Stewartia	6cm cal., B&B	as shown
11	Liquidambar styraciflua 'Worplesdon'	Worplesdon Sweetgum	7cm cal., B&B	as shown
12	Street Tree	Street tree species and size as per city of Richmond		
13	Thuja plicata	Western Red Cedar		as shown

SHRUBS QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
298	Buxus microphylla 'Winter Beauty'	Boxwood		
366	Polystichum munitum	Western Sword Fern	#2 pot	24" o.c
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GROUND COVERS AND VINES QTY. (m2)	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
161	Arctostaphylos uva-ursi	Bearberry	4"(10cm) pot	15" o.c
78	Mahonia repens	Creeping Oregon Grape	4"(10cm) pot	15" o.c
56	Rubus calycinoides	Emerald Carpet	4"(10cm) pot	15" o.c

PERENNIALS, BULBS, AND ANNUALS QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	Liriope muscari	Big Blue Lilyturf		12" o.c

LAWN (m2)			
168	Sodded Lawn Area (square metres)	Contractor to confirm final area	

PLANTING NOTES

1. ALL PLANTING SHALL BE IN ACCORDANCE WITH THE CANADIAN LANDSCAPE STANDARD LATEST EDITION.

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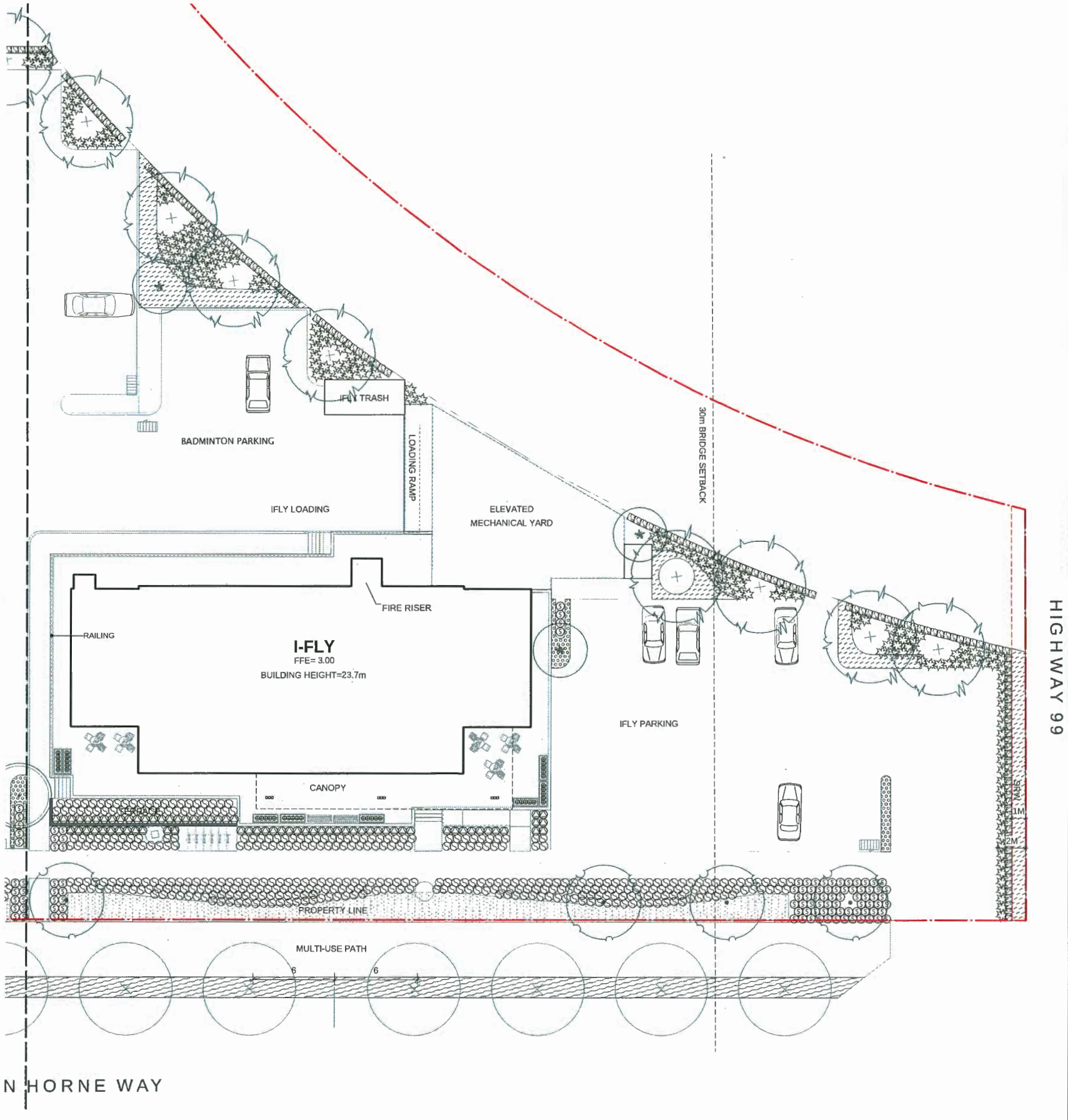
6. GROWING MEDIUM DEPTHS PER DETAILS AND SPECIFICATIONS.



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REVISIONS

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Richmond, British Columbia

Scale:	As Shown
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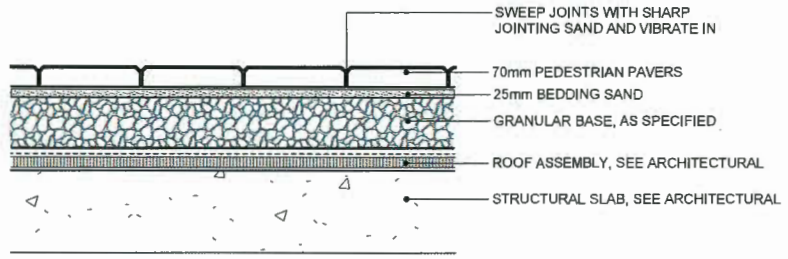
Project No.	06-606

PLANTING MATERIALS

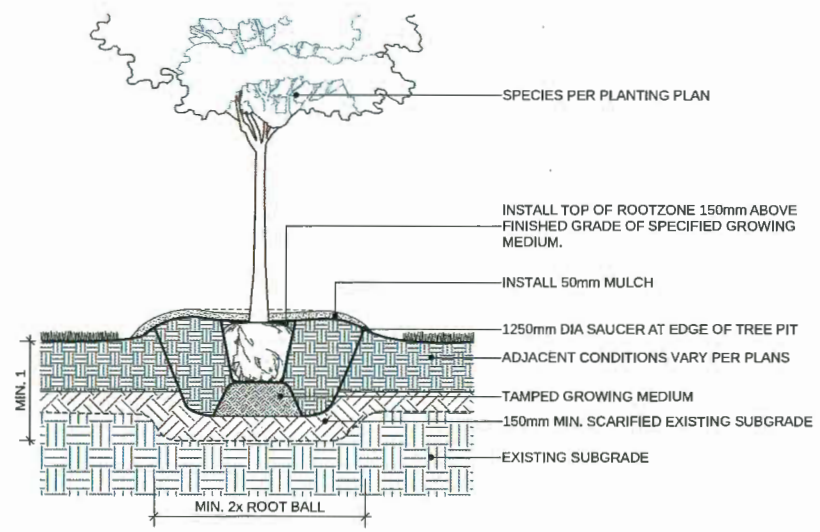
L2.2

DP 18-815966-21

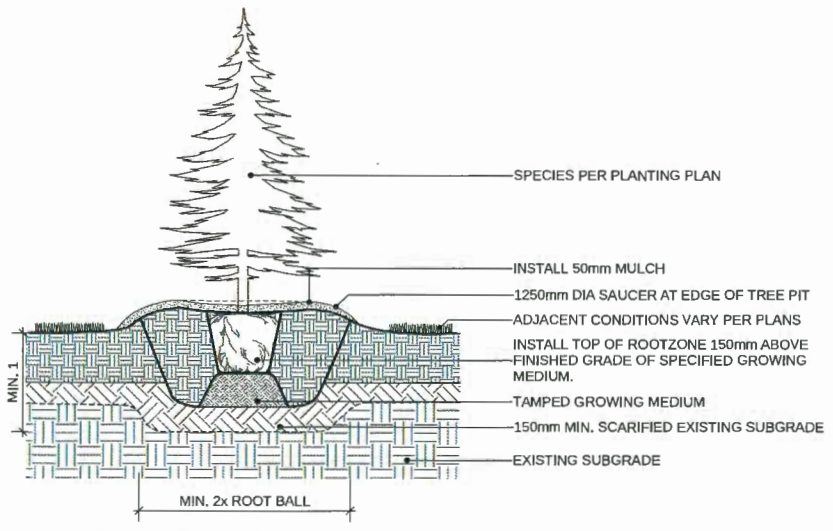


NOTE:
USE CONCRETE HIDDEN EDGE RESTRAINT WHEN PAVERS ARE NOT ADJACENT TO A SOLID EDGE CONDITION.

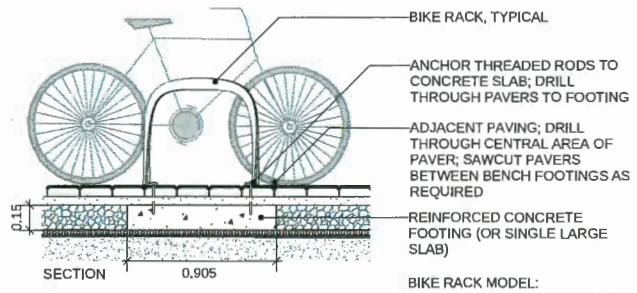
1 PEDESTRIAN UNIT PAVERS ON SLAB (TYPICAL)
Scale: 1:10



2 DECIDUOUS TREE PLANTING ON GRADE (TYPICAL)
Scale: 1:20

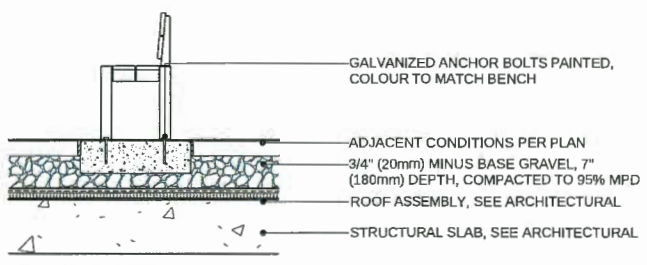


3 CONIFEROUS TREE PLANTING ON GRADE (TYPICAL)
Scale: 1:20



BIKE RACK MODEL:
MODEL: SCBR 1602, SURFACE MOUNT
SUPPLIER: MAGLIN (1.855.904.0330)
FINISH: POWDERCOAT SILVER FINETEX

4 BIKE RACK (TYPICAL)
Scale: 1:20



5 BENCH (TYPICAL)
Scale: 1:20

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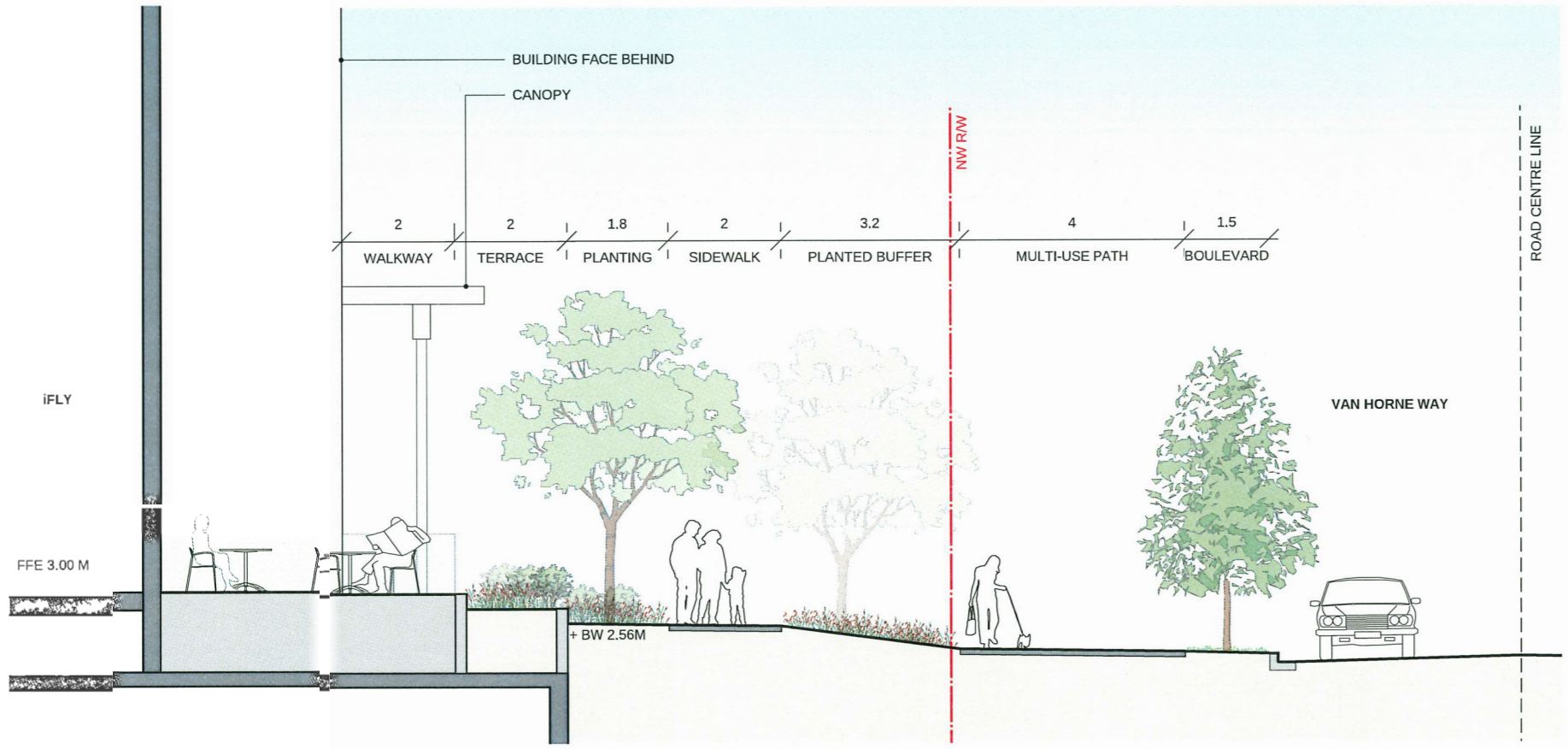
Project No.	06-606

DETAILS

L3.0

DP 18-815966 -22



1 VAN HORNE WAY SECTION
Scale: 1:50

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Project No.	06-606

SECTION

DP 18-815966 — L3.1

LIGHT LEVEL STATISTICS

Parking Area	Avg	Max	Min	Max/Min	Avg/Min
Badminton	1.5 fc	4.5 fc	0.2 fc	22.5:1	7.5:1
iFly	1.6 fc	3.2 fc	0.1 fc	32.0:1	16.0:1

EXTERIOR LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	LAMPS	MANUFACTURER	VA
S1	LED POLE MOUNTED FIXTURE, TYPE IV DISTRIBUTION, 2 HEAD CONFIGURATION @180, PROGRAMMABLE MOTION SENSOR WITH DIMMING CONTROL LUMINAIRE WILL DIM TO 50% POWER, 50% LIGHT OUTPUT. IF MOTION IS DETECTED WHILE LUMINAIRE IS OPERATING AT 50%, THE LUMINAIRE RETURNS TO 100% POWER AND LIGHT OUTPUT. THE LUMINAIRE REMAINS ON HIGH UNTIL NO MOTION IS DETECTED FOR THE DURATION PERIOD, AFTER WHICH THE LUMINAIRE RETURNS TO LOW. 22'-6" ROUND TAPERED STEEL POLE ON 30" CONCRETE POLE BASE, 64 HIGH BRIGHTNESS LEDS, 350 MA DRIVE CURRENT,120-277V. INCLUDE ONE (1) REMOTE CONTROL TO PROGRAM AND CONTROL THE FIXTURES.	LED 6,731 LUMENS 4000K	PHILIPS GARDCO GULLWING LED SERIES, GL13-APD-2@90-4-70LA-6453-NW-UNV	140
S2	LED POLE MOUNTED FIXTURE, TYPE II DISTRIBUTION, PROGRAMMABLE MOTION SENSOR WITH DIMMING CONTROL LUMINAIRE WILL DIM TO 50% POWER, 50% LIGHT OUTPUT. IF MOTION IS DETECTED WHILE LUMINAIRE IS OPERATING AT 50%, THE LUMINAIRE RETURNS TO 100% POWER AND LIGHT OUTPUT. THE LUMINAIRE REMAINS ON HIGH UNTIL NO MOTION IS DETECTED FOR THE DURATION PERIOD, AFTER WHICH THE LUMINAIRE RETURNS TO LOW. 22'-6" ROUND TAPERED STEEL POLE ON 30" CONCRETE POLE BASE, 64 HIGH BRIGHTNESS LEDS, 530 MA DRIVE CURRENT,120-277V, HOUSE SIDE SHIELD.	LED 9,870 LUMENS 4000K	PHILIPS GARDCO GULLWING LED SERIES, GL13-APD-1-2-105LA-6453-NW-UNV	101
S3	LED POLE MOUNTED FIXTURE, TYPE III DISTRIBUTION, PROGRAMMABLE MOTION SENSOR WITH DIMMING CONTROL LUMINAIRE WILL DIM TO 50% POWER, 50% LIGHT OUTPUT. IF MOTION IS DETECTED WHILE LUMINAIRE IS OPERATING AT 50%, THE LUMINAIRE RETURNS TO 100% POWER AND LIGHT OUTPUT. THE LUMINAIRE REMAINS ON HIGH UNTIL NO MOTION IS DETECTED FOR THE DURATION PERIOD, AFTER WHICH THE LUMINAIRE RETURNS TO LOW. 22'-6" ROUND TAPERED STEEL POLE ON 30" CONCRETE POLE BASE, 64 HIGH BRIGHTNESS LEDS, 530 MA DRIVE CURRENT,120-277V, HOUSE SIDE SHIELD.	LED 9,385 LUMENS 4000K	PHILIPS GARDCO GULLWING LED SERIES, GL13-APD-1-3-105LA-6453-NW-UNV	101

NOTES:
1. THE FIXTURES SPECIFIED DO NOT SHOW ALL OF THE OPTIONS REQUIRED FOR INSTALLATION. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED MOUNTING EQUIPMENT, FLANGE KITS, SUPPORTS, PENDANTS, ETC. REQUIRED FOR THE SPECIFIC CEILING TYPE AND/OR SURFACE AT NO ADDITIONAL COST. CONTRACTOR SHALL COORDINATE AND VERIFY CEILING TYPES AND MOUNTING CONDITIONS WITH ARCHITECTURAL CEILING PLANS.
2. CONTRACTOR SHALL PROVIDE DIMMABLE BALLAST FOR ALL LIGHT FIXTURES IN THE DAYLIGHTING ZONE(S), NO ADDITIONAL COST.
3. ALL LED LAMPS SHALL BE 3500K UNLESS NOTED OTHERWISE.
4. FINISHES ARE TO BE SELECTED BY ARCHITECT.

GENERAL NOTES

1. ALL WORK SHOWN OR CALLED FOR SHALL MEET THE REQUIREMENTS OF ALL LATEST ADOPTED STATE/PROVINCIAL, LOCAL, N.E.C., AND ALL APPLICABLE NFPA STANDARDS.

2. ALL MATERIAL SHALL BE NEW WITH UL LABEL. ALL LISTED MATERIAL SHALL BE INSTALLED PER LISTING OR LABELING.

3. ALL BURIED WIRING SHALL BE COPPER, SOLID, TYPE THHN OR THWN CONDUCTORS IN CONDUIT/CONDUIT UNDER DRIVABLE SURFACES SHALL BE SCHEDULE 80 PVC. OTHER SHALL BE SCHEDULE 40 PVC, UNLESS NOTED OTHERWISE.

4. ALL OVERHEAD WIRING SHALL BE ALUMINUM, TYPE UF CONDUCTORS. STEEL MESSENGER CABLE TO BE RAN PARALLEL WITH UF CONDUCTORS. CONTRACTOR SHALL PROVIDE ALL REQUIRED MOUNTING EQUIPMENT, AND SUPPORTS TO TERMINATE CABLES.

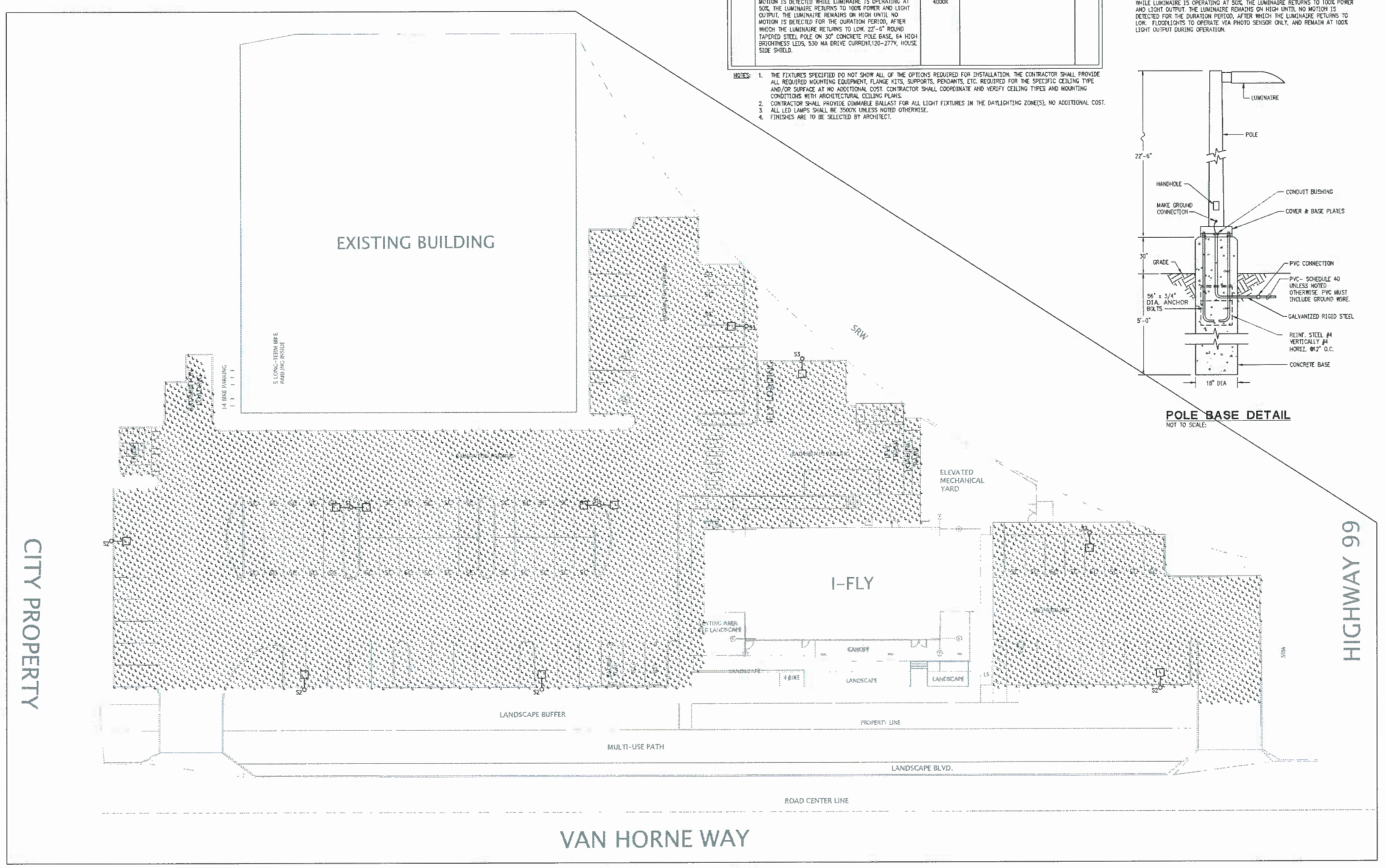
5. PROVIDE NEW 20A-1P CIRCUIT BREAKERS IN EXISTING PANEL. SEE PANEL SCHEDULE.CONDUIT RISER TO PANEL SHALL BE GALVANIZED RIGID STEEL ABOVE GRADE.

6. REMOVE ALL EXISTING UTILITIES TO EXISTING BUILDINGS BEING DEMOLISHED. REFER TO ARCHITECTURAL DEMO PLAN. COORDINATE REMOVAL OF EXISTING UTILITIES WITH: SNOHOMISH CO. PUD, COMCAST, WAVE G. FIELD VERIFY EXISTING CONDITIONS AND COORDINATE EXACT SCOPE OF DEMO WORK WITH GENERAL CONTRACTOR PRIOR TO BID.

7. SECURE AND PAY FOR ALL PERMITS, AND INSPECTIONS.

8. REMOVE ALL EXISTING UTILITIES TO BUILDING, AS REQUIRED BY SERVING UTILITIES. COORDINATE PRIOR TO BID.

9. LIGHTING CONTROLS TO BE VIA ON-BOARD LUMINAIRE PHOTO SENSOR AND AUTOMATIC DIMMING. PHOTO SENSOR ACTIVATES LIGHTS FROM DUSK TILL DAWN. LUMINAIRE WILL DIM TO 50% POWER, 50% LIGHT OUTPUT. IF MOTION IS DETECTED WHILE LUMINAIRE IS OPERATING AT 50%, THE LUMINAIRE RETURNS TO 100% POWER AND LIGHT OUTPUT. THE LUMINAIRE REMAINS ON HIGH UNTIL NO MOTION IS DETECTED FOR THE DURATION PERIOD, AFTER WHICH THE LUMINAIRE RETURNS TO LOW. FLOODLIGHTS TO OPERATE VIA PHOTO SENSOR ONLY, AND REMAIN AT 100% LIGHT OUTPUT DURING OPERATION.



ELECTRICAL SITE LIGHTING PLAN
SCALE: 1/16" = 1'-0"

POLE BASE DETAIL
NOT TO SCALE:

Electrical Consultants, Inc.
19018 36th Avenue West, Suite E
Lynnwood, Washington 98036
Phone (425) 775-1799 FAX (425) 774-9820

Mark	Date	Description
1	08/29/18	PERMIT SET - REVISED SITE PLAN

DRAWN:	JT
CHECKED:	BA
JOB NO:	18008

Jensen/Fey
Architecture and Planning
7730 LEARY WAY NE
REDMOND, WA 98052
TEL: 425.216.0320 FAX: 425.216.9329

I-FLY VANCOUVER
9151 VAN HORNE WAY
RICHMOND, BC V6X 1W2

ELECTRICAL SITE LIGHTING PLAN

SHEET: E2.1

DP 18-815966-24

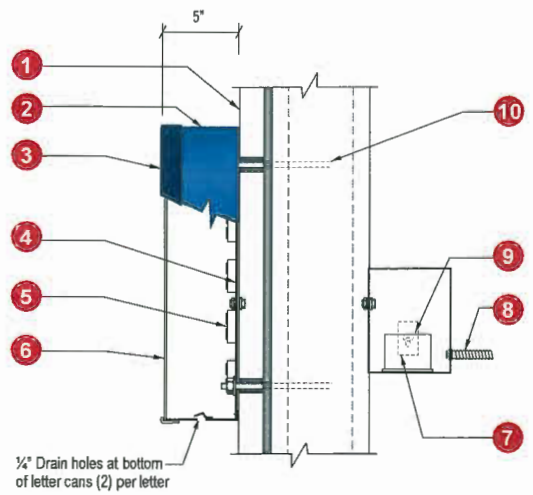
IFLY / IFLY 6' CHANNEL LETTERS / REAR ELEVATION

Power Requirements:

1 Dedicated 20 amp circuit
120 Volt
Timer installed next to breaker box
J-Box installed within 6' of sign location
Power installed above roofline

Specifications:

1. Existing Facade: Varies Per Location
2. .040 Aluminum letter returns painted to match iFly Color Specifications
3. .125" x 1" trim cap to match iFly Color Specifications
4. .063 Aluminum backs
   (interior of sign can painted white for maximum illumination)
5. White LEDs
6. 3/16" White Acrylic Faces with 1st surface applied vinyl
7. Waterproof disconnect switch per UL Specifications
8. Primary electrical feed
9. Power Supply
10. Mounting hardware to suit building construction



Section LED Individual Channel Letters
Front-Lit (Remote) Scale: N.T.S.

Channel Letter Sidewalls

Wrisco Pre Painted Aluminum
Chevron Blue

PMS 280

Channel Letter Trim Cap

Jewelite Trim Cap
Navy Blue (Matches PMS 288C)

PMS 280

Channel Letter Faces with Vinyl Overlay

PMS 280

Rohm and Haas 7328 White Plex
w/ Translucent High Performance Film
Applied w/ 1/4" White Border for Better Color Illumination
Oracal 8500 / 007 Dark Blue (Matches PMS 281C)

Parvin-Clauss
SIGN COMPANY
Design • Fabrication • Installation • Maintenance
165TubewayDrive•CarolStream•Illinois60188
Tel/630-510-2020 • Fax/630-510-2074
e-mail/signs@parvinclauss.com
www.parvinclauss.com

PROJECT:

CONSTRUCTION • ARCHITECTURE
PARKWAY

iFly
9151 Van Horne Way
Richmond, BC V6X 1W2
Canada

CUSTOMER APPROVAL:

DATE

AUTHORIZED SIGNATURE

REPRESENTATIVE: Lisa Staszak / LS
DRAWN BY: Bill Marlow
DATE: 7.12.18
SCALE: 3/8" = 1'
SHEET NO.: 1 of 5
WORK ORDER: 80087
FILE NAME: PWC80087

REVISIONS:

1 7.26.18 - size
2 8.10.18
3
4
5
6
7
8

This sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.

This sign is built to UL Standards for operation in North America.

DP 18-815966 - Reference Plan

IFLY / INDOOR SKYDIVING 3'-6" REAR ELEVATION

Power Requirements:

1 Dedicated 20 amp circuit
120 Volt
Timer installed next to breaker box
J-Box installed within 6' of sign location
Power installed above roofline

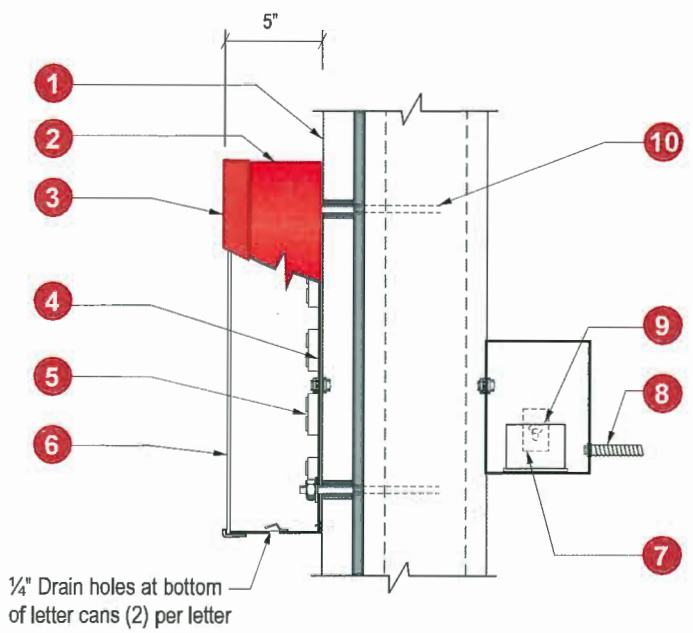
Specifications:

1. Existing Facade: Varies Per Location
2. .040 Aluminum letter returns painted to match iFly Color Specifications
3. .125" x 1" trim cap to match iFly Color Specifications
4. .063 Aluminum backs
   (interior of sign can painted white for maximum illumination)
5. White LEDs
6. 3/16" White Acrylic Faces with 1st surface applied vinyl
7. Waterproof disconnect switch per UL Specifications
8. Primary electrical feed
9. Power Supply
10. Mounting hardware to suit building construction

Channel Letter Sidewalls
Wrisco Pre Painted Aluminum Red — PMS 186

Channel Letter Trim Cap
Jewelite Trim Cap Red (Matches PMS 187C) — PMS 186

Channel Letter Faces
Rohm and Haas 2793 Red Plex — PMS 186



Section LED Individual Channel Letters
Front-Lit (Remote) Scale: N.T.S.

Parvin-Clauss
SIGN COMPANY
Design • Fabrication • Installation • Maintenance
165 Tubeway Drive • Carol Stream • Illinois 60188
Tel/630-510-2020 • Fax/630-510-2074
e-mail/signs@parvinclauss.com
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Richmond, BC V6X 1W2
Canada

CUSTOMER APPROVAL:

DATE

AUTHORIZED SIGNATURE

REPRESENTATIVE: Lisa Staszak / LS
DRAWN BY: Bill Marlow
DATE: 7.12.18
SCALE: 3/16" = 1'
SHEET NO.: 2 of 5
WORK ORDER: 80087
FILE NAME: PWC80087

REVISIONS:

1 7.26.18 - size
2 8.10.18
3
4
5
6
7
8

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DP 18-815966 – Reference Plan

IFLY / IFLY 5' STANDARD / SIDE ELEVATION

Total Square Feet: 117.5

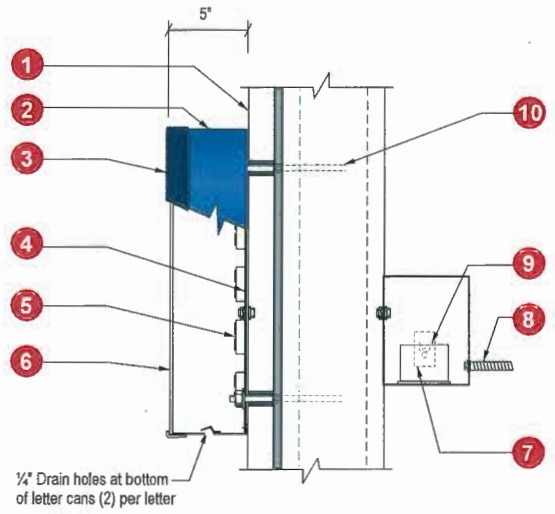
Note: Depending on access signs maybe installed on 2" square tube frames with power supplies installed above roofline.
Frames will be painted to match building facade.

Power Requirements:

1 Dedicated 20 amp circuit
120 Volt
Timer installed next to breaker box
J-Box installed within 6' of sign location
Power installed above roofline

Specifications:

1. Existing Facade: Varies Per Location
2. .040 Aluminum letter returns painted to match iFly Color Specifications
3. .125" x 1" trim cap to match iFly Color Specifications
4. .063 Aluminum backs
   (interior of sign can painted white for maximum illumination)
5. White LEDs
6. 3/16" White Acrylic Faces with 1st surface applied vinyl
7. Waterproof disconnect switch per UL Specifications
8. Primary electrical feed
9. Power Supply
10. Mounting hardware to suit building construction



Section LED Individual Channel Letters
Front-Lit (Remote) Scale: N.T.S.

Channel Letter Sidewalls

Wrisco Pre Painted Aluminum Chevron Blue — PMS 280

Wrisco Pre Painted Aluminum Red — PMS 186

Channel Letter Trim Cap

Jewelite Trim Cap Navy Blue (Matches PMS 288C) — PMS 280

Jewelite Trim Cap Red (Matches PMS 187C) — PMS 186

Channel Letter Faces with Vinyl Overlay

Rohm and Haas 7328 White Plex w/ Translucent High Performance Film Applied w/ 1/4" White Border for Better Color Illumination Oracal 8500 / 007 Dark Blue (Matches PMS 281C) — PMS 280

Rohm and Haas 2793 Red Plex — PMS 186

DP 18-815966 – Reference Plan

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Canada

CUSTOMER APPROVAL:

DATE

AUTHORIZED SIGNATURE

REPRESENTATIVE: Lisa Staszak / LS

DRAWN BY: Bill Marlow

DATE: 7.12.18

SCALE: 3/8" = 1'

SHEET NO.: 3 of 5

WORK ORDER: 80087

FILE NAME: PWC80087

REVISIONS:

1 7.26.18 - add to s.o.w.
2 8.10.18
3
4
5
6
7
8

This sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.

IFLY / INDOOR SKYDIVING 4' STANDARD FRONT ELEVATION

65'-0"

4'-0"

INDOOR SKYDIVING

Note: Depending on access signs maybe installed on 2" square tube frames with power supplies installed above roofline. Frames will be painted to match building facade.

IMPORTANT: If installed on typical rear elevation it is required that the building gutters be 70' apart from inside to inside of gutters.

Total Square Feet: 260

Power Requirements:

1 Dedicated 20 amp circuit
120 Volt
Timer installed next to breaker box
J-Box installed within 6' of sign location
Power installed above roofline

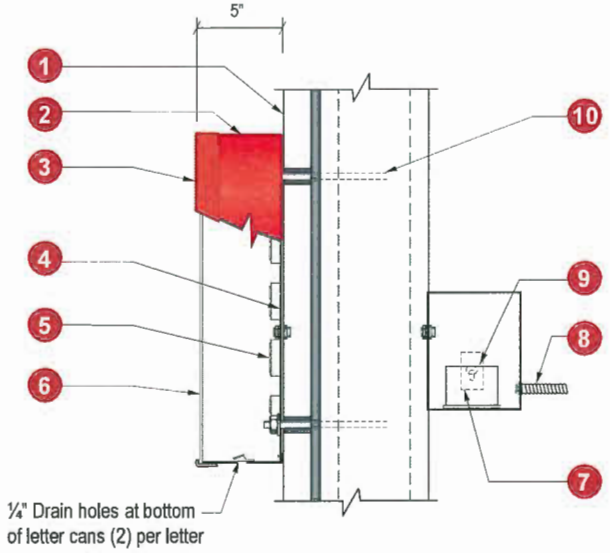
Specifications:

1. Existing Facade: Varies Per Location
2. .040 Aluminum letter returns painted to match iFly Color Specifications
3. .125" x 1" trim cap to match iFly Color Specifications
4. .063 Aluminum backs
   (interior of sign can painted white for maximum illumination)
5. White LEDs
6. 3/16" White Acrylic Faces with 1st surface applied vinyl
7. Waterproof disconnect switch per UL Specifications
8. Primary electrical feed
9. Power Supply
10. Mounting hardware to suit building construction

Channel Letter Sidewalls
Wrisco Pre Painted Aluminum Red — PMS 186

Channel Letter Trim Cap
Jewelite Trim Cap Red (Matches PMS 187C) — PMS 186

Channel Letter Faces
Rohm and Haas 2793 Red Plex — PMS 186



Section LED Individual Channel Letters
Front-Lit (Remote) Scale: N.T.S.

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CUSTOMER APPROVAL:

DATE

AUTHORIZED SIGNATURE

REPRESENTATIVE: Lisa Staszak / LS
DRAWN BY: Bill Marlow
DATE: 7.12.18
SCALE: 3/16" = 1'
SHEET NO.: 4 of 5
WORK ORDER: 80087
FILE NAME: PWC80087

REVISIONS:

1 7.26.18 - add to s.o.w.
2 8.10.18 - adjust size
3
4
5
6
7
8

This sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.

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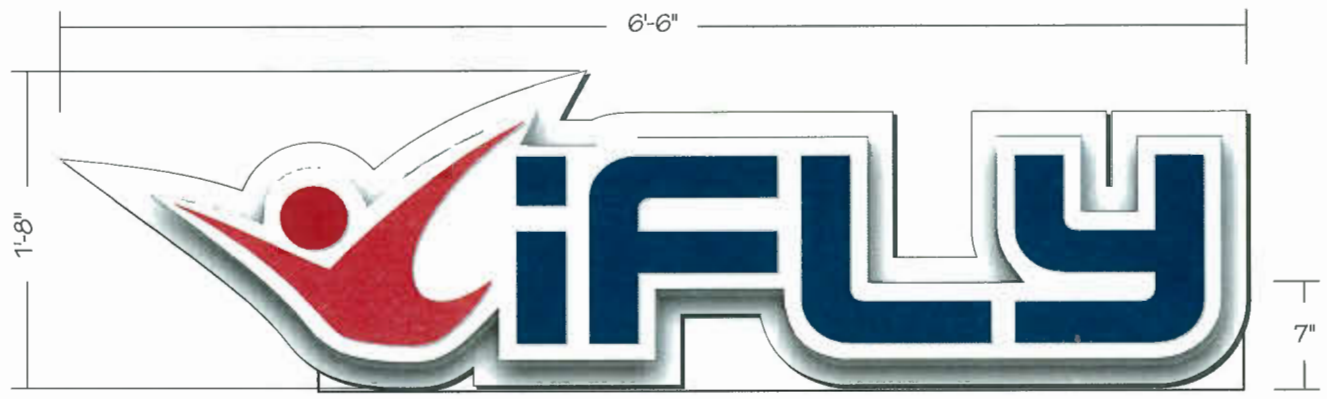
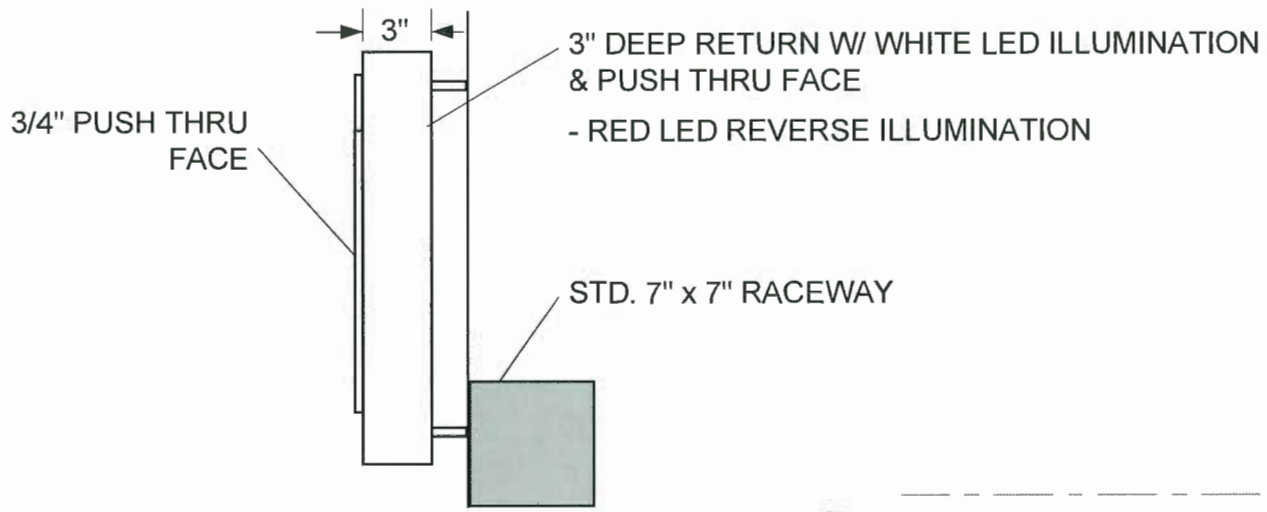
DP 18-815966 - Reference Plan

IFLY / ENTRY SIGN STANDARD / ENTRY CANOPY SIGN



Night View



SIDE VIEW, N.T.S.

White aluminum logo box, illuminated with white LEDs, mounted to awning

PMS 280

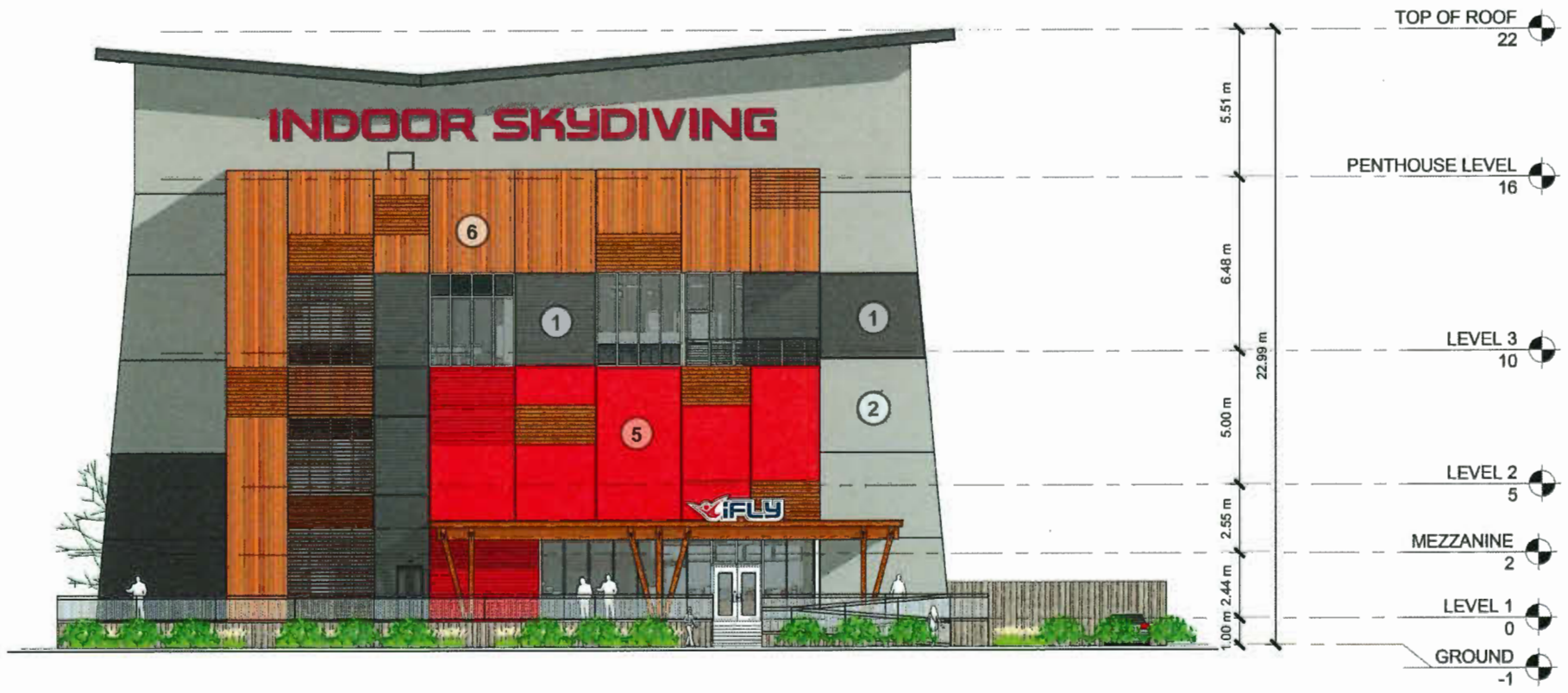
Rohm and Haas 7328 White Plex
w/ Translucent HP Film Applied w/ 1/4"
White Border for Better Color Illumination
Oracal 8500 / 007 Dark Blue (Matches PMS 281C)

PMS 186

Rohm and Haas 7328 White Plex
w/ Translucent HP Film Applied w/ 1/4"
White Border for Better Color Illumination
3M 3630-53 Cardinal Red (Matches PMS 187C)

Power Requirements:

1 Dedicated 20 amp circuit
120 Volt
Timer installed next to breaker box
J-Box installed within 6' of sign location



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PROJECT:

CONSTRUCTION • ARCHITECTURE
PARKWAY

iFly
9151 Van Horne Way
Richmond, BC V6X 1W2
Canada

CUSTOMER APPROVAL:

DATE

AUTHORIZED SIGNATURE

REPRESENTATIVE: Lisa Staszak / LS

DRAWN BY: Bill Marlow

DATE: 7.12.18

SCALE: 1/4" = 1'

SHEET NO.: 5 of 5

WORK ORDER: 80087

FILE NAME: PWC80087

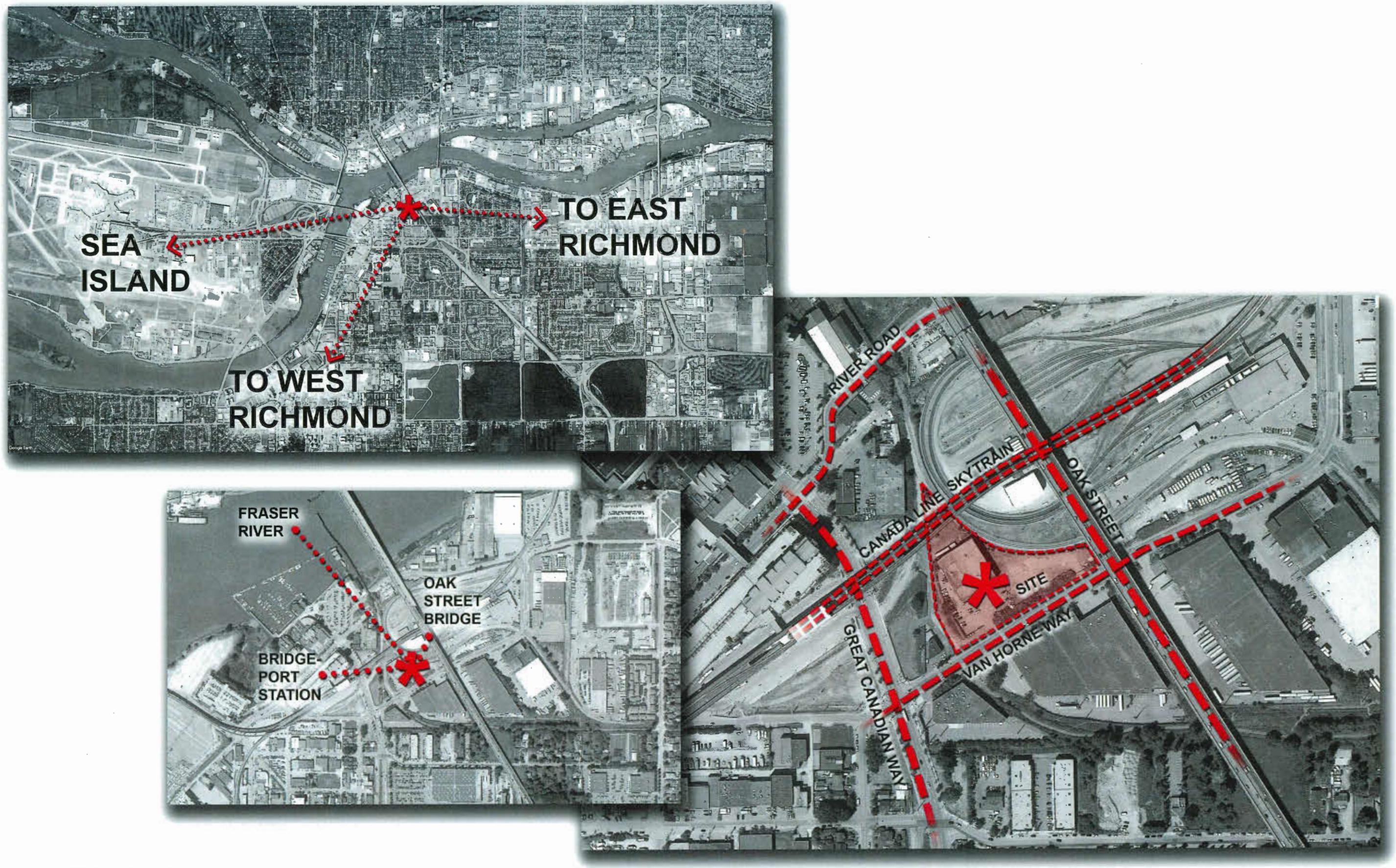
REVISIONS:

1 7.26.18 - add to s.o.w.
2 8.10.18 - adjust size
3
4
5
6
7
8

This sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.

This sign is built to UL Standards for operation in North America.

DP 18-815966 - Reference Plan

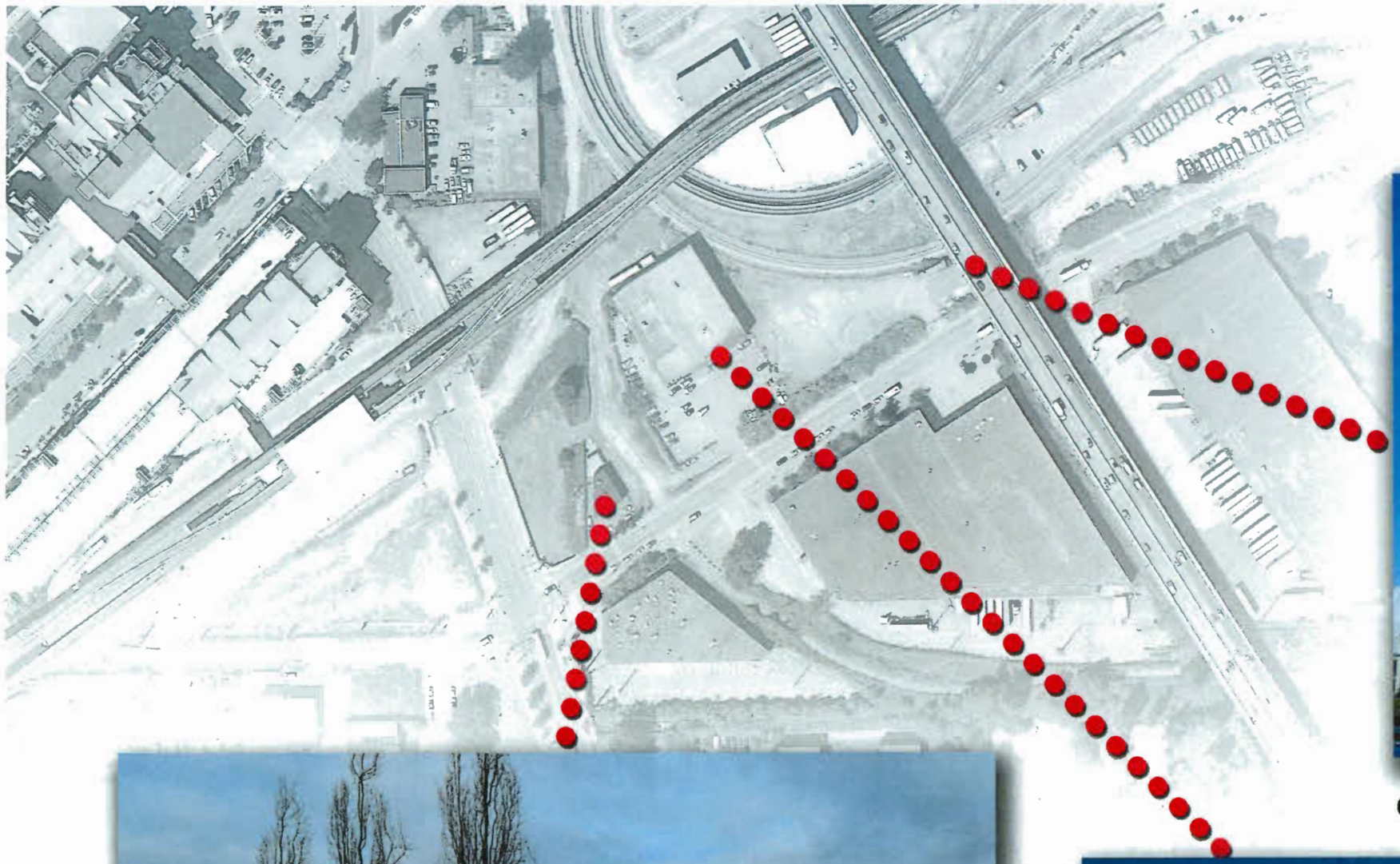


CONTEXT MAPS

06.29.2018

A-00

DP 18-815966 - Reference Plan



OAK STREET BRIDGE ADJACENT TO SITE

PROJECT SIDE OF STREET ADJACENT TO SITE

EXISTING BADMINTON BUILDING ON PROJECT SITE

CONTEXT PHOTOS

02.23.2018

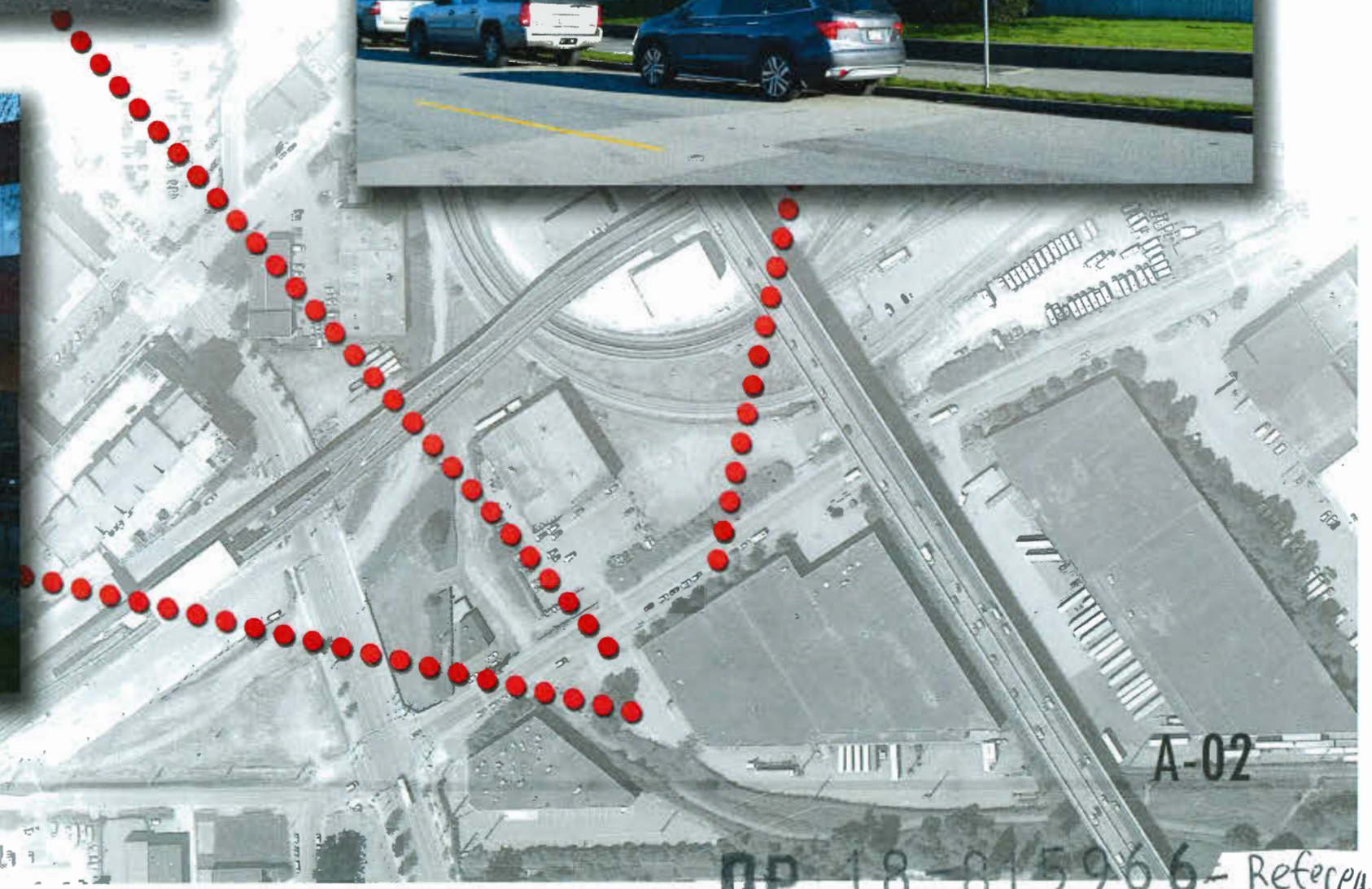
A-01

DP 13-815966 - Reference Plan

BUILDING OPPOSITE SIDE OF STREET AT ENTRY

BUILDING FACADE OPPOSITE SIDE OF STREET ALONG VAN HORNE WAY

BUILDING OPPOSITE SIDE OF STREET PARKING



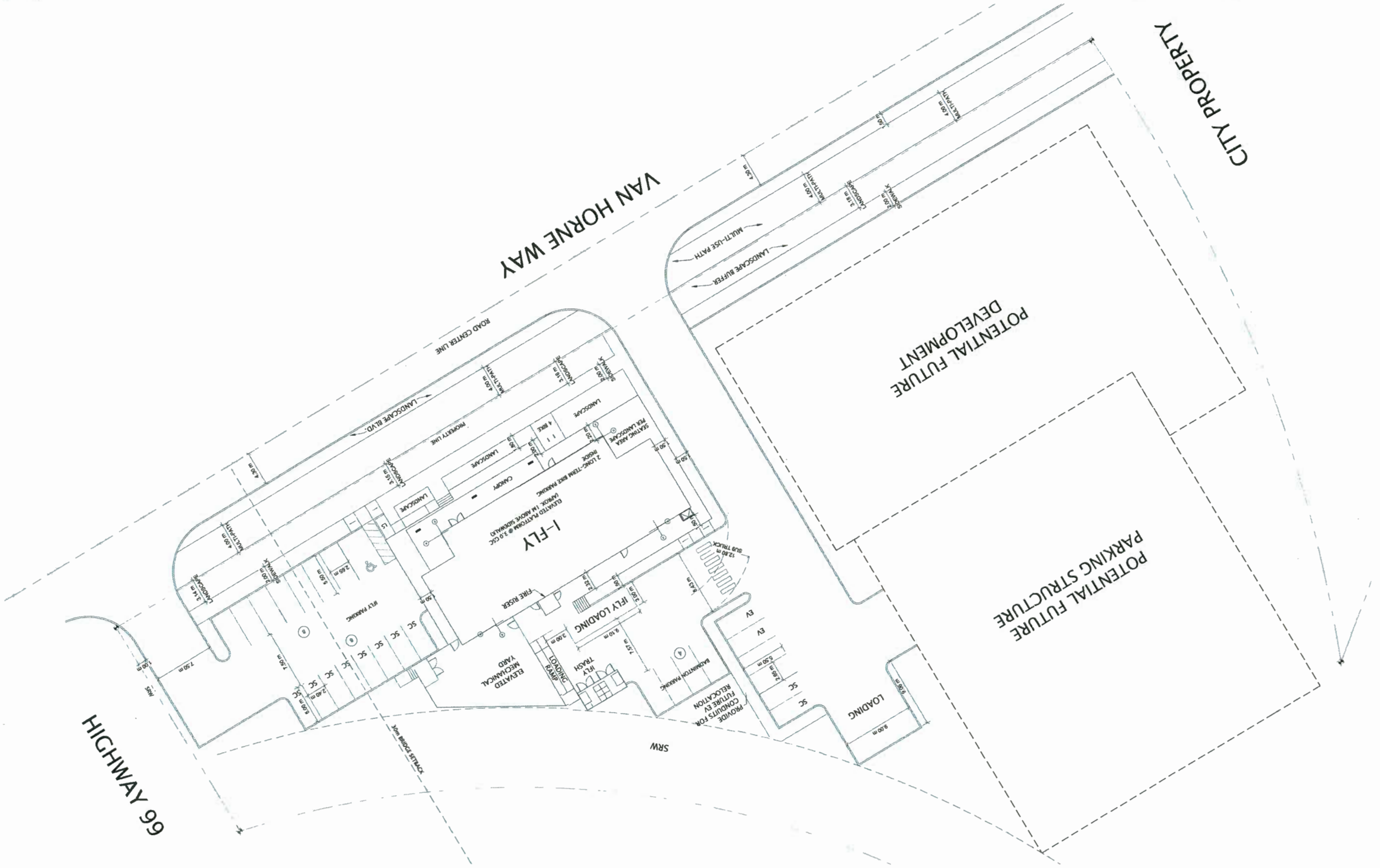
CONTEXT PHOTOS

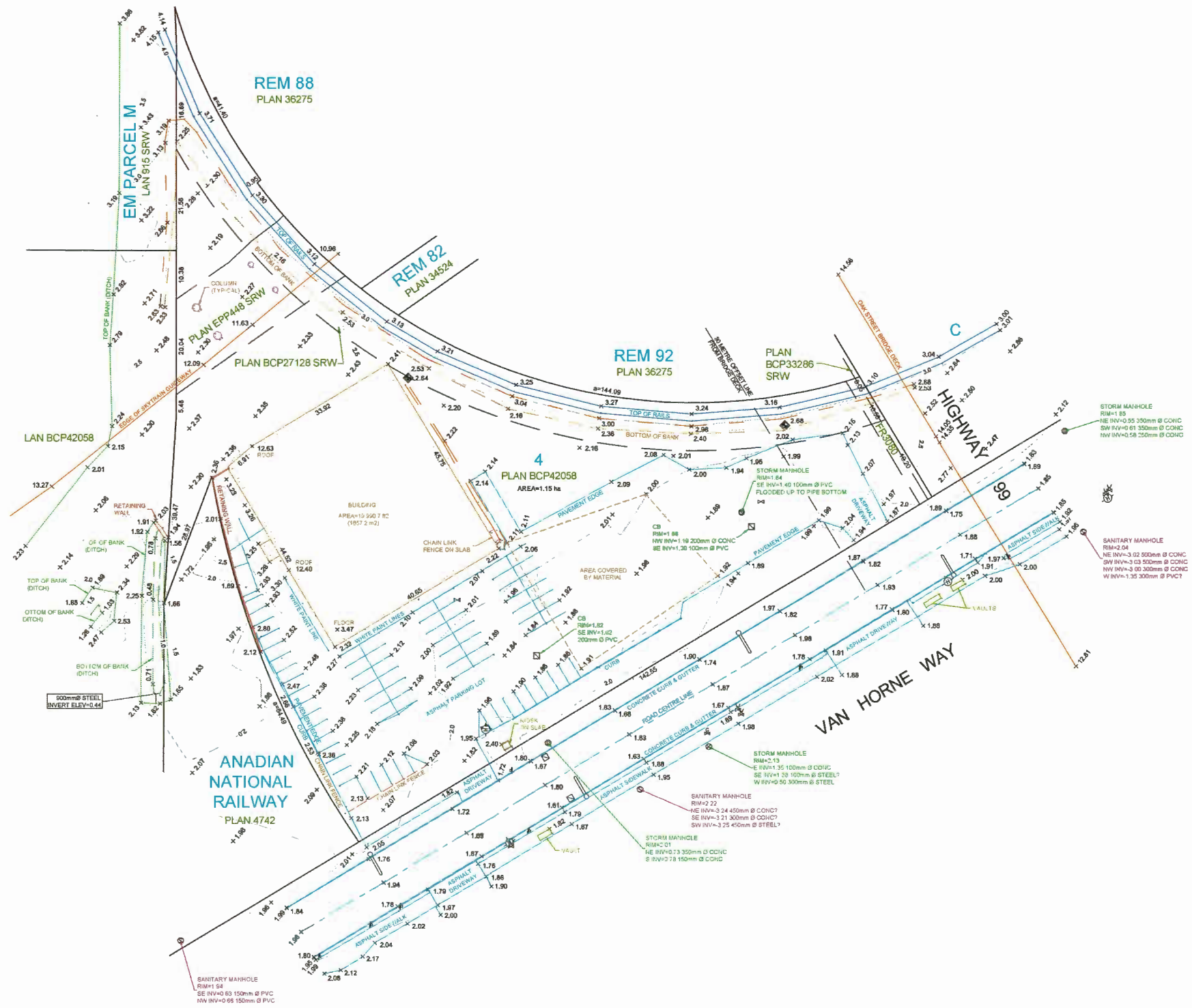
A-02

DP 18-815966 - Reference Plan

DP 18-815966 – Reference Plan

A-17





LEGEND

+55.24	DENOTES SPOT ELEVATION
m	DENOTES METRE(S)
m2	DENOTES SQUARE METRE(S)
ft2	DENOTES SQUARE FEET
55.0	DENOTES EXISTING CONTOUR
	BOLLARD
	CATCH BASIN - MANHOLE
	CATCH BASIN (TOP INLET)
	CULVERT
H	FIRE HYDRANT
	LAMP STANDARD
	MANHOLE
S	MANHOLE - SANITARY
ST	MANHOLE - STORM
	MONITORING WELL
	SIGN POST
G	VALVE - GAS
W	VALVE - WATER
V	VAULT

NOTES

1. THE SURVEY IS ON A LOCAL GROUND COORDINATE SYSTEM. BEARINGS ARE UTM GRID, DERIVED FROM OBSERVATIONS TO GCM 78H8463 AND 78H8492.
2. TO CONVERT TO UTM ZONE10 NAD83(CSRS) 4.0.0.BC.1.GVRD, MULTIPLY BY THE COMBINED FACTOR OF 0.9996038 ABOUT GCM 78H8463.
3. ELEVATIONS ARE IN METRES AND ARE REFERRED TO GEODETIC DATUM CVD28GVRD USING MONUMENT GCM 77H4970 AT THE INTERSECTION OF BROWN ROAD AND BROWN GATE, ELEVATION= 1.793 METRES.
4. CONTOUR INTERVAL IS 0.5 METRES.
5. PARCEL DIMENSIONS REPRESENTED ON THIS PLAN ARE DERIVED FROM FIELD MEASUREMENTS.
6. UNREGISTERED INTERESTS HAVE NOT BEEN INCLUDED OR CONSIDERED.
7. THE SURVEY REPRESENTED BY THIS PLAN WAS COMPLETED ON THE 6TH OF JANUARY, 2018.

THIS PROPERTY MAY BE SUBJECT TO THE FOLLOWING:
NOTICE OF INTEREST, BUILDERS LIEN ACT (S.3(2)), SEE BV16279 FILED 2003-01-16
ZONING REGULATION AND PLAN UNDER THE AERONAUTICS ACT (CANADA) FILED 10.02.1981 UNDER NO. T17084 PLAN NO. 61216
STATUTORY RIGHT OF WAY
F73080 - BC HYDRO & POWER AUTHORITY
RD58945, RD174308 - TOWNSHIP OF RICHMOND
BA215278, BA215279 - CANADIAN PACIFIC RAILWAY COMPANY
CA954817, CA954819 - SOUTH COAST BC TRANSPORTATION AUTHORITY
BB1099370 - CITY OF RICHMOND/VANCOUVER AIRPORT AUTHORITY
COVENANT BB1099367, BB1099369
ASSIGNMENT OF RENTS CA3805133

THIS TOPOGRAPHIC PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROFESSIONAL REFERENCE MANUAL AND IS CERTIFIED CORRECT THIS 10TH DAY OF JANUARY, 2018.

JASON G. HAMEL, BCLS, CLS
THIS DOCUMENT IS NOT VALID UNLESS ORIGINALLY SIGNED AND SEALED.

Rev	Date	Description	Survey	Drawn	App'd
0	2018-01-09	TOPO	MR/SA	CM	JH

0 1:500 25

ORIGINAL DWG SIZE: ANSI D (22" x 34")
ALL DIMENSIONS ARE IN METRES

McElhanney
McElhanney Associates Land Surveying Ltd.
Suite 2300
13450 - 102 Avenue
Surrey BC
Canada V3T 5X3
Tel 604 596 0391

Approved Sealed

PARKWAY CONSTRUCTION
1000 CIVIC CIRCLE, LEWISVILLE, TEXAS, USA 75067

TOPOGRAPHIC SURVEY PLAN OF
LOT 4 SECTION 22 BLOCK 5 NORTH RANGE 6 WEST
NEW WESTMINSTER DISTRICT PLAN BCP42058
9151 VAN HORNE WAY, RICHMOND, BC
PID: 028-018-141

Drawing No. 08858-01

Project Number	Rev.
2112-08858-0	0

DP 18-815966-Reference Plan

GRADING LEGEND

	TP = TOP OF PLINTH
	EP = EDGE OF PAVEMENT
	FL = FLOW LINE
	TC = TOP OF CURB
	ME = MATCH ELEVATION
	TF = TOP OF FOUNDATION
	R = RIM ELEVATION
	TW = TOP OF WALL
	FG = FINISHED GRADE
	TS = TOP OF STAIRS
	BS = BOTTOM OF STAIRS
——XXX——	PROPOSED CONTOUR
- - -XXX- - -	EXISTING CONTOUR
— — —	RIDGE LINE
— · · · ←	PROPOSED SWALE
═V═V═V═V═	REVERSED PITCH CURB AND GUTTER
——AR——	ACCESSIBLE ROUTE

GRADING NOTES

1. CONTRACTOR TO VERIFY ALL EXISTING TOPOGRAPHY AND STRUCTURES ON THE SITE AND IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING WORK.
2. ALL PAVEMENT SPOT GRADE ELEVATIONS AND RIM ELEVATIONS WITHIN OR ALONG CURB AND GUTTER REFER TO EDGE OF PAVEMENT ELEVATIONS UNLESS OTHERWISE NOTED.
3. ALL ELEVATIONS SHOWN DEPICT FINISHED GRADE OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED. GENERAL CONTRACTOR TO COORDINATE WITH EXCAVATION, LANDSCAPE AND PAVING SUBCONTRACTORS REGARDING TOPSOIL THICKNESS FOR LANDSCAPE AREAS AND PAVEMENT SECTION THICKNESS FOR PAVED AREAS TO PROPERLY ENSURE ADEQUATE CUT TO ESTABLISH SUBGRADE ELEVATIONS.
4. NO EARTHEN SLOPE SHALL BE GREATER THAN 3:1, UNLESS OTHERWISE NOTED.
5. MAXIMUM SLOPE IN ACCESSIBLE PARKING SPACES AND LOADING ZONES SHALL NOT EXCEED 2.0% IN ALL DIRECTIONS.
6. MAXIMUM RUNNING SLOPE SHALL NOT EXCEED 5% AND CROSS SLOPE SHALL NOT EXCEED 2% ON ALL SIDEWALKS AND ACCESSIBLE ROUTES UNLESS OTHERWISE NOTED.
7. WHEELCHAIR RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TAC GEOMETRIC DESIGN GUIDE. THE MAXIMUM SLOPE OF ALL WHEELCHAIR RAMPS SHALL NOT EXCEED 8% AND APPROPRIATE LANDING PADS BE PROVIDED (AS PER TAC).
8. WHEN NATURAL FLOW OF DRAINAGE IS AWAY FROM CURB, CONTRACTOR TO INSTALL REVERSE GUTTER PITCH.
9. MATCH EXISTING ELEVATIONS AT THE PROPERTY LIMITS.

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: RMM
DRAWN BY: RMM
CHECKED BY: NJG

Kimley»Horn
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PHONE: 630-487-5550
WWW.KIMLEY-HORN.COM

GRADING PLAN

iFLY RICHMOND, BC (VAN)
9151 VAN HORNE WAY
RICHMOND, BC V6X 1W2, CANADA

ORIGINAL ISSUE: 10/05/2018
KHA PROJECT NO. 168671000
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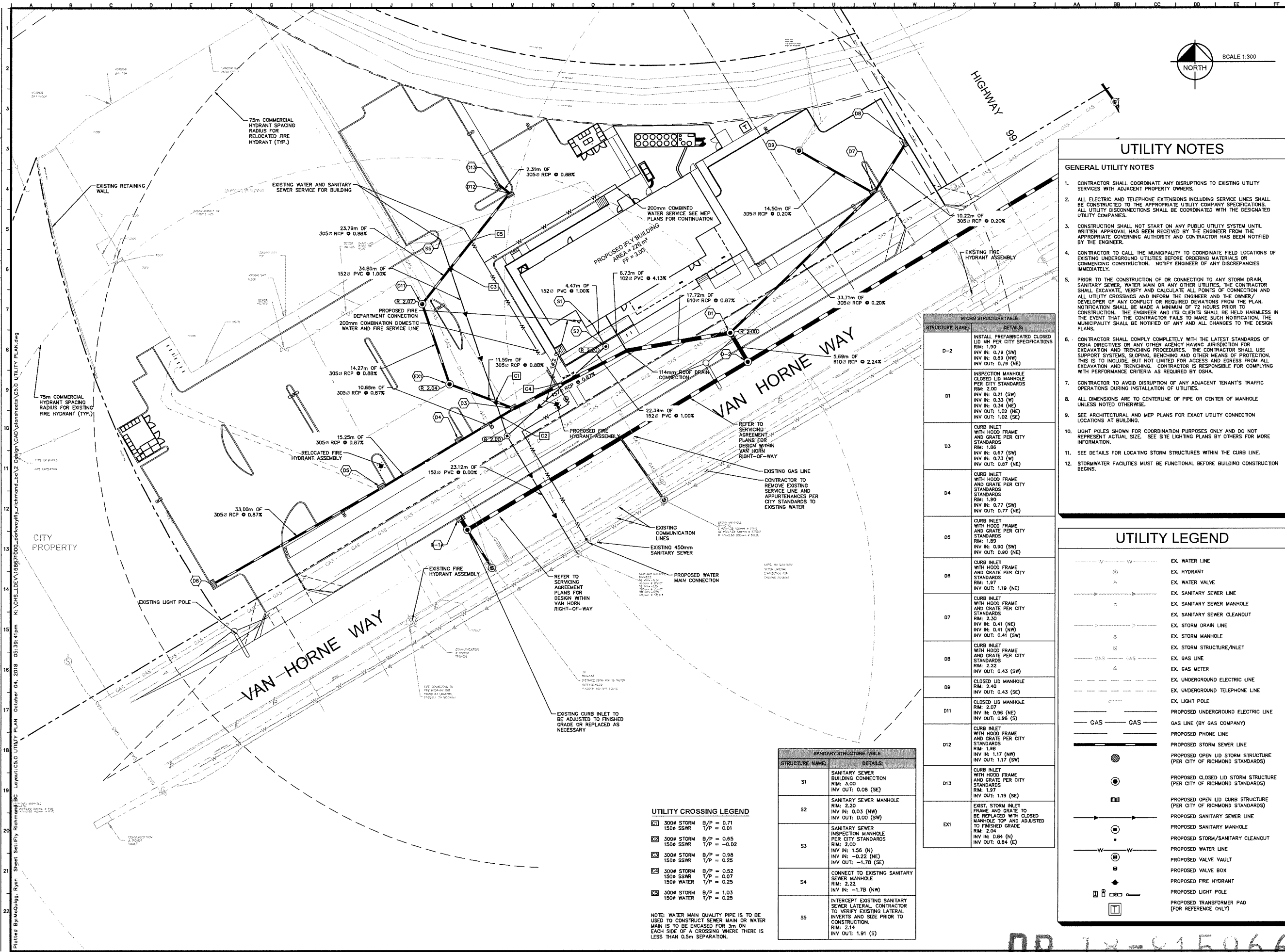
DP 18-815966 - Reference Plan

Plotted By:McQuigg, Ryan Sheet Set:iFly Richmond BC Layout:C4.0 GRADING PLAN October 04, 2018 05:39:06pm K:\CHS_LDEV\168671000_parkway\ifly_richmond_bc\2 Design\CAD\plansheets\C4.0 GRADING PLAN.dwg



STORM STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
D-2	INSTALL PREFABRICATED CLOSED LID MH PER CITY SPECIFICATIONS RIM: 1.90 INV IN: 0.79 (SW) INV IN: 0.89 (NW) INV OUT: 0.79 (NE)
D1	INSPECTION MANHOLE CLOSED LID MANHOLE PER CITY STANDARDS RIM: 2.00 INV IN: 0.21 (SW) INV IN: 0.33 (W) INV IN: 0.34 (NE) INV OUT: 1.02 (NE) INV OUT: 1.02 (SE)
D3	CURB INLET WITH HOOD FRAME AND GRATE PER CITY STANDARDS RIM: 1.86 INV IN: 0.67 (SW) INV IN: 0.73 (W) INV OUT: 0.67 (NE)
D4	CURB INLET WITH HOOD FRAME AND GRATE PER CITY STANDARDS STANDARDS RIM: 1.90 INV IN: 0.77 (SW) INV OUT: 0.77 (NE)
D5	CURB INLET WITH HOOD FRAME AND GRATE PER CITY STANDARDS RIM: 1.89 INV IN: 0.90 (SW) INV OUT: 0.90 (NE)
D6	CURB INLET WITH HOOD FRAME AND GRATE PER CITY STANDARDS RIM: 1.97 INV OUT: 1.19 (NE)
D7	CURB INLET WITH HOOD FRAME AND GRATE PER CITY STANDARDS RIM: 2.30 INV IN: 0.41 (NE) INV IN: 0.41 (NW) INV OUT: 0.41 (SW)
D8	CURB INLET WITH HOOD FRAME AND GRATE PER CITY STANDARDS RIM: 2.22 INV OUT: 0.43 (SW)
D9	CLOSED LID MANHOLE RIM: 2.40 INV OUT: 0.43 (SE)
D11	CLOSED LID MANHOLE RIM: 2.07 INV IN: 0.96 (NE) INV OUT: 0.96 (S)
D12	CURB INLET WITH HOOD FRAME AND GRATE PER CITY STANDARDS RIM: 1.98 INV IN: 1.17 (NW) INV OUT: 1.17 (SW)
D13	CURB INLET WITH HOOD FRAME AND GRATE PER CITY STANDARDS RIM: 1.97 INV OUT: 1.19 (SE)
EX1	EXIST. STORM INLET FRAME AND GRATE TO BE REPLACED WITH CLOSED MANHOLE TOP AND ADJUSTED TO FINISHED GRADE RIM: 2.04 INV IN: 0.84 (N) INV OUT: 0.84 (E)

SANITARY STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
S1	SANITARY SEWER BUILDING CONNECTION RIM: 3.00 INV OUT: 0.08 (SE)
S2	SANITARY SEWER MANHOLE RIM: 2.20 INV IN: 0.03 (NW) INV OUT: 0.00 (SW)
S3	SANITARY SEWER INSPECTION MANHOLE PER CITY STANDARDS RIM: 2.00 INV IN: 1.56 (N) INV IN: -0.22 (NE) INV OUT: -1.78 (SE)
S4	CONNECT TO EXISTING SANITARY SEWER MANHOLE RIM: 2.22 INV IN: -1.78 (NW)
S5	INTERCEPT EXISTING SANITARY SEWER LATERAL. CONTRACTOR TO VERIFY EXISTING LATERAL INVERTS AND SIZE PRIOR TO CONSTRUCTION. RIM: 2.14 INV OUT: 1.91 (S)

UTILITY CROSSING LEGEND

- C1 300ø STORM B/P = 0.71; 150ø SSWR T/P = 0.01
- C2 300ø STORM B/P = 0.65; 150ø SSWR T/P = -0.02
- C3 300ø STORM B/P = 0.98; 150ø SSWR T/P = 0.25
- C4 300ø STORM B/P = 0.52; 150ø SSWR T/P = 0.07; 150ø WATER T/P = 0.25
- C5 300ø STORM B/P = 1.03; 150ø WATER T/P = 0.25

NOTE: WATER MAIN QUALITY PIPE IS TO BE USED TO CONSTRUCT SEWER MAIN OR WATER MAIN IS TO BE ENCASED FOR 3m ON EACH SIDE OF A CROSSING WHERE THERE IS LESS THAN 0.5m SEPARATION.

UTILITY NOTES

GENERAL UTILITY NOTES

1. CONTRACTOR SHALL COORDINATE ANY DISRUPTIONS TO EXISTING UTILITY SERVICES WITH ADJACENT PROPERTY OWNERS.
2. ALL ELECTRIC AND TELEPHONE EXTENSIONS INCLUDING SERVICE LINES SHALL BE CONSTRUCTED TO THE APPROPRIATE UTILITY COMPANY SPECIFICATIONS. ALL UTILITY DISCONNECTIONS SHALL BE COORDINATED WITH THE DESIGNATED UTILITY COMPANIES.
3. CONSTRUCTION SHALL NOT START ON ANY PUBLIC UTILITY SYSTEM UNTIL WRITTEN APPROVAL HAS BEEN RECEIVED BY THE ENGINEER FROM THE APPROPRIATE GOVERNING AUTHORITY AND CONTRACTOR HAS BEEN NOTIFIED BY THE ENGINEER.
4. CONTRACTOR TO CALL THE MUNICIPALITY TO COORDINATE FIELD LOCATIONS OF EXISTING UNDERGROUND UTILITIES BEFORE ORDERING MATERIALS OR COMMENCING CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
5. PRIOR TO THE CONSTRUCTION OF OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, WATER MAIN OR ANY OTHER UTILITIES, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTION AND ALL UTILITY CROSSINGS AND INFORM THE ENGINEER AND THE OWNER/ DEVELOPER OF ANY CONFLICT OR REQUIRED DEVIATIONS FROM THE PLAN. NOTIFICATION SHALL BE MADE A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER AND ITS CLIENTS SHALL BE HELD HARMLESS IN THE EVENT THAT THE CONTRACTOR FAILS TO MAKE SUCH NOTIFICATION. THE MUNICIPALITY SHALL BE NOTIFIED OF ANY AND ALL CHANGES TO THE DESIGN PLANS.
6. CONTRACTOR SHALL COMPLY COMPLETELY WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING AND OTHER MEANS OF PROTECTION. THIS IS TO INCLUDE, BUT NOT LIMITED FOR ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH PERFORMANCE CRITERIA AS REQUIRED BY OSHA.
7. CONTRACTOR TO AVOID DISRUPTION OF ANY ADJACENT TENANT'S TRAFFIC OPERATIONS DURING INSTALLATION OF UTILITIES.
8. ALL DIMENSIONS ARE TO CENTERLINE OF PIPE OR CENTER OF MANHOLE UNLESS NOTED OTHERWISE.
9. SEE ARCHITECTURAL AND MEP PLANS FOR EXACT UTILITY CONNECTION LOCATIONS AT BUILDING.
10. LIGHT POLES SHOWN FOR COORDINATION PURPOSES ONLY AND DO NOT REPRESENT ACTUAL SIZE. SEE SITE LIGHTING PLANS BY OTHERS FOR MORE INFORMATION.
11. SEE DETAILS FOR LOCATING STORM STRUCTURES WITHIN THE CURB LINE.
12. STORMWATER FACILITIES MUST BE FUNCTIONAL BEFORE BUILDING CONSTRUCTION BEGINS.

UTILITY LEGEND

- EX. WATER LINE
- EX. HYDRANT
- EX. WATER VALVE
- EX. SANITARY SEWER LINE
- EX. SANITARY SEWER MANHOLE
- EX. SANITARY SEWER CLEANOUT
- EX. STORM DRAIN LINE
- EX. STORM MANHOLE
- EX. STORM STRUCTURE/INLET
- EX. GAS LINE
- EX. GAS METER
- EX. UNDERGROUND ELECTRIC LINE
- EX. UNDERGROUND TELEPHONE LINE
- EX. LIGHT POLE
- PROPOSED UNDERGROUND ELECTRIC LINE
- GAS LINE (BY GAS COMPANY)
- PROPOSED PHONE LINE
- PROPOSED STORM SEWER LINE
- PROPOSED OPEN LID STORM STRUCTURE (PER CITY OF RICHMOND STANDARDS)
- PROPOSED CLOSED LID STORM STRUCTURE (PER CITY OF RICHMOND STANDARDS)
- PROPOSED OPEN LID CURB STRUCTURE (PER CITY OF RICHMOND STANDARDS)
- PROPOSED SANITARY SEWER LINE
- PROPOSED SANITARY MANHOLE
- PROPOSED STORM/SANITARY CLEANOUT
- PROPOSED WATER LINE
- PROPOSED VALVE VAULT
- PROPOSED VALVE BOX
- PROPOSED FIRE HYDRANT
- PROPOSED LIGHT POLE
- PROPOSED TRANSFORMER PAD (FOR REFERENCE ONLY)

NO.	REMISIONS	DATE	BY

Kimley»Horn

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UTILTY PLAN

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