



CI-0410

TAB 4: STATION INFRASTRUCTURE
Union Pearson Express (UPE)

OVERVIEW

This section outlines key criteria that are intended to provide guidelines in designing the rail platforms that will accommodate the Union Pearson Express (UPE) service and associated rail vehicles at GO rail line stations. These guidelines are to be integrated into the overall design of GO and/or UPE rail line stations, where applicable. For additional details, the consultant shall refer to other relevant subjects of the DRM.

BASIS OF CRITERIA

The UPE service will provide a premium express rail shuttle service between Union Station and Pearson Airport (Terminal 1 or T1 station); at present two intermediate rail line station locations on the Georgetown corridor have been identified at Bloor and Weston GO stations. The design requirements and basis of criteria listed below form the basis of design at rail line stations. Detailed design will be developed at the individual project level, based on existing site conditions. The Union Station and Terminal 1 locations will have additional, site specific, infrastructure and operational requirements.

Requirement	Description
Assumptions	<ul style="list-style-type: none"> > Design for three (3) car length vehicles. > Integration with existing rail platform elements of the GO Rail Station; > Platform location at one extremity of the GO platform. > Shared accessibility with GO platform barrier free amenities to meet or better AODA and other industry accessibility standards. > Customer amenities that will match the Designated Waiting Area (DWA) features of the GO mini platform. > Minimized walking distances to main access points as site conditions allow. > Boarding height difference (at UPE platform will be different from that at the GO mini platform) > Tangent Track conditions.



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Exclusions	<ul style="list-style-type: none"><li data-bbox="560 531 889 562">> UPE Branding elements<li data-bbox="560 594 1198 625">> Electronic signage (only conduit shall be provided)<li data-bbox="560 657 1089 688">> Premium customer amenities, if required.<li data-bbox="560 720 938 751">> Future electrification impact.



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DESIGN REQUIREMENTS

Requirement	Description
Accessibility	> Defined accessible route with related amenities and signage.
Edge Protection	> Detectable tactile platform edges, handrails etc.
Location	> Integration with GO platform to minimize overall walking distances.
Weather protection	> Waiting area, i.e. Shelter or Canopy;
Customer Amenities	> Matching DWA features of GO mini platform.
Snow Melting	> The UPE Platforms shall be snowmelted, refer to the relevant DRM section for specifications.
Fare Handling Systems	> Shall be either free standing or integrated weather protected fare vending machines. Access hatches “ handholes” locations shall be identified not conflicting with snowmelt or foundations.
Electrical Power Supply and Distribution	> Separate subpanel for power with illumination control for shared access with GO rail stations; cable chase raceways, etc.,
Communication Systems	> Zoned PA: <ul style="list-style-type: none"> • CCTV to be provided and shall be able to view UPE separately as an extension of GO services sharing and utilizing existing GO IT infrastructure.
Rail Clearances	> The UPE platform shall follow the clearance criteria as outlined in the Heavy Rail Tab of the DRM based on CN Rail data, applicable also to CP Rail.
Horizontal Gap	> The platform shall have a 50mm horizontal gap between step from the UPE car and edge of UPE platform with a 16mm vertical and 25mm horizontal tolerance under normal passenger load



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	<p>considerations to meet industry accessibility guidelines.</p>
Platform Height	<p>> The UPE platform shall be designed at 1203mm height above top of rail with considerations for ideal conditions and future operational requirements and will include at a minimum allowances for:</p> <ul style="list-style-type: none"> • Accessibility tolerances • Track settlement; • Tolerance and wear and tear of wheel; • Wear and tear of rail and • Industry tolerances for track laying
Platform Refuge	<p>> A refuge area shall be designed within the platform underside as a safety feature, which could also be used for running cables. Possible noise attenuation measures must be considered.</p>
Integral Platform Edge Protection	<p>> Shall be provided with consideration for snowmelt heat transfer, material selection to withstand operational and environmental factors, and width should not violated the integrity of the clearance envelope requirements.</p>
Platform Width and Cross Slopes:	<p>> The overall width of the UPE island platform, from clearance envelope to clearance envelope is 7158mm (23'-6"). The overall width of the UPE side platform, from clearance envelope to clearance envelope is 3479mm (11'-5). Cross and longitudinal slopes shall follow existing GO Rail platforms profile.</p>
Platform Access	<p>> Passageways, shelters and stairways shall be located to encourage balanced train loading and unloading. Surge and queuing spaces shall be provided ahead of every barrier and change in circulation, direction, or mode.</p>
Platform Exiting	<p>> Emergency exiting shall provide minimum access/egress from the UPE platform to meet the requirements of the Ontario Building</p>



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	<p>Code and occupant load of the UPE under peak conditions.</p> <ul style="list-style-type: none"> > Exits shall provide safe egress from trains and platforms under normal operational and emergency conditions. > Platforms and exits shall be sized to allow passengers to completely clear the platform prior to the arrival of the next train. Secondary access or exit points should be provided in a visible location
Platform Furnishings	<ul style="list-style-type: none"> > Benches, trash receptacles, fare collection equipment, newspaper racks, etc. shall be standardized to provide a uniform appearance within the overall station context and for ease of maintenance and replacement. (TBD per UPE Branding requirements)
Holistic Wayfinding and Signage	<ul style="list-style-type: none"> > Shall be integrated within the existing station signage system (integrated within the accessibility route). > Platform identification, etc. shall aim to create obvious, simple and clear signage between modes of transportation maintaining a degree of graphic continuity. > Signage placement shall conform to all applicable clearance restrictions.
Platform Lighting	<ul style="list-style-type: none"> > Shall be in any area that is used to load and unload a train. > The lighting elements shall extend the entire length of the platform and shall demarcate the platform and emphasize the platform edge and vertical vehicle surfaces
Operational Considerations	<ul style="list-style-type: none"> > Train spot marker locations and longitudinal dimension from mini platform needs identification. > Two (2) car consist positioning (centered in position 1-2 or position 2-3) needs to be determined. > Rail should be replaced when ballast is replaced to maintain tolerances



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Refer to the UPE Platform Plan and Section schematic for detailed description of platform design elements.



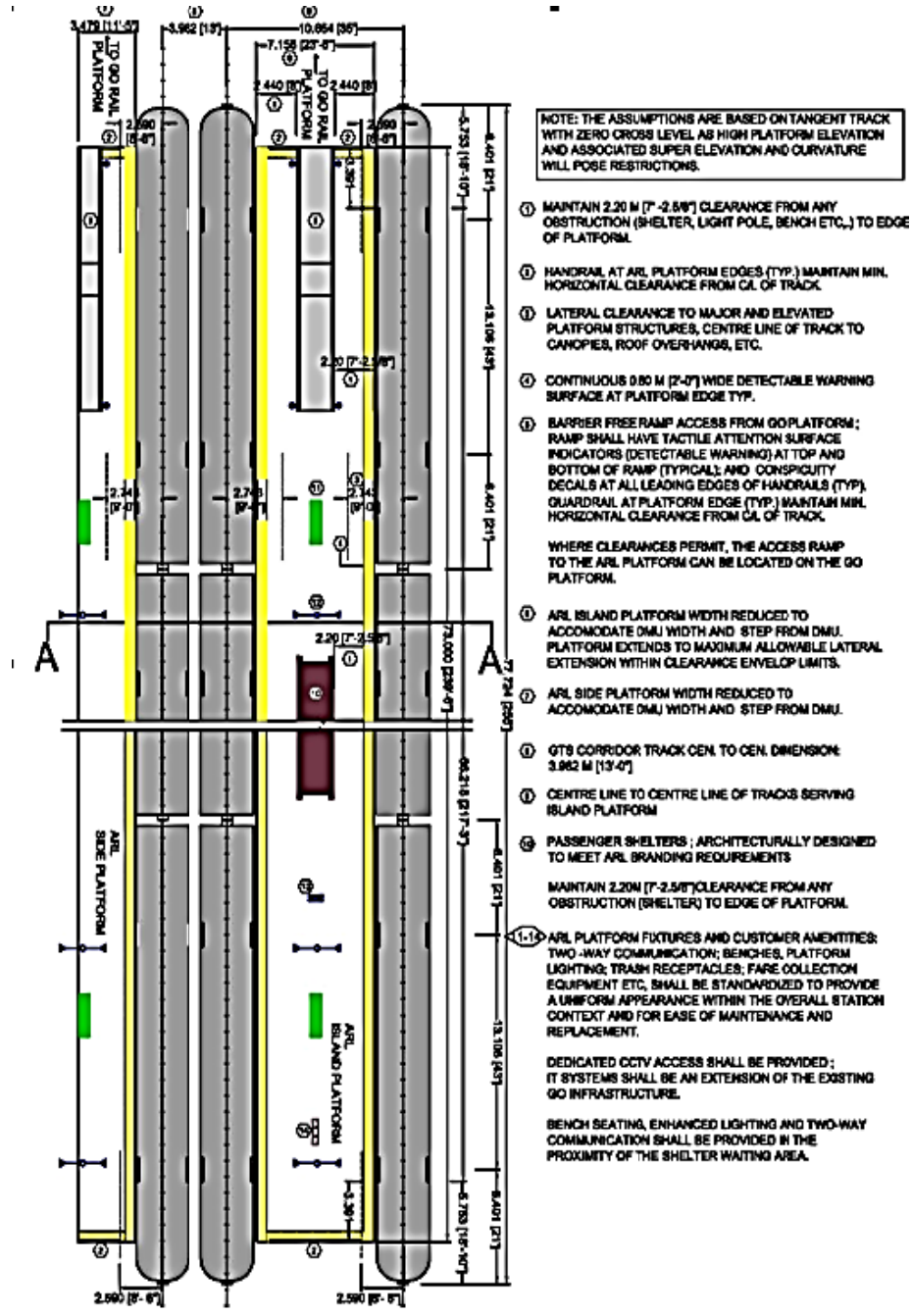
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TAB 4: STATION INFRASTRUCTURE
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FIGURE: UPE PLATFORM PLAN

SECTION:
Tab 4:
Station
Infrastructure

FIGURE:
UPE
Platform
Plan





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TAB 4: STATION INFRASTRUCTURE
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FIGURE: UPE PLATFORM SECTION

SECTION:
Tab 4:
Station
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FIGURE:
UPE
Platform
Section

