METROLINX

OPERATIONS (GO & UP) AND SAFETY DIVISION

Adjacent Track Open (ATO)

Standard

Document Title
Adjacent Track Open (ATO) Standard

Document Information	
Historical ID **New ID**	MXSD-SSP-L2-COP-0006 SD-008-PCL-0001
Revision	2.0
Revision Date	November 21, 2024
Initial Compliance Date	Oct 23, 2023
Division	Safety
Document Owner	Vice-President, Safety Operations & Safety (GO & UP)

Approvals			
Name	**Position**	**Approval Date**	**Signature**
Approved by: Farah Kassam	Vice-President, Safety	December 20,2024	
Approved by: Wesley Suh	Executive Vice President, Network and Service Planning and Design	December 20, 2024	
Approved by:	Safety Standards Steering Group (SSSG)	Sept 20, 2024	Approved with conditions
Prepared by: Jason Dixon	Senior Manager, Safety Training and Competence	November 21, 2024	

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

Table of Contents

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

Document Title	Adjacent Track Open Standard	**Revision**	2.0
Document ID	SD-008-PCL-0001	**Review Frequency**	Annually

Record of Revisions

Date	Initiated by	Revision History	Revision
2023-10-23	Paul Murphy	Initial Publication	1.0
2024-11-21	ATO Review Team	Annual revisions	2.0

List of Acronyms

Acronym	Meaning
ATO	Adjacent Track Open
MLD	Movement Limiting Device
PDT	Project Delivery Team
RCAC	Rail Corridor Access and Control
SWP	Safe Work Pack

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

Reference Documentation

Document and Date of Approval (if applicable)	Document Number (if applicable) Historical Doc ID / New ID
ATO Calculator (excel document) – REV 1.0 – Oct 12, 2023	MXSD-SSP-LST-0006.07 / SD-008-LST-0005
ATO Management Assurance Checklist – REV 1.0 – Oct 12, 2023	MXSD-SSP-LST-0006.03 / SD-008-LST-0003
ATO Site Coordinator Checklist – REV 1.0 – Oct 12, 2023	MXSD-SSP-L3-FRM-0006.04 / SD-008-LST-0004
ATO Work Plan – REV 1.0 – Oct 12, 2023	MXSD-SSP-L3-FRM-0006.01 / SD-008-FRM-0002
ATO Pre-Site Survey – REV 1.0 – Oct 12, 2023	MXSD-SSP-L3-FRM-0006.05 / SD-008-FRM-0004
ATO On Site Change Control – REV 1.0 – Oct 12, 2023	MXSD-SSP-L3-FRM-0006.02 / SD-008-FRM-0003
Briefing Record Form– REV 1.0 – Oct 12, 2023	MXSD-SSP-L3-FRM-0006.06 / SD-008-FRM-0005
Canadian Rail Operating Rules	
Hierarchy of Control Workforce Protection Standard	SD-008-STD-0005

Applicable Terms

Term	Definition
Adjacent Track	Any live railway track next to a worksite that could be impacted by working construction machinery, which could foul the open track.
Adjacent Track Open (ATO)	Describes a working methodology where measures and controls are put in place to ensure that Construction activities on a Worksite do not Foul an Adjacent Track that is open to rail traffic or being used by engineering trains or rail mounted equipment.
ATO Calculator	The Metrolinx control system calculator used as a tool to assist the assessment and planning of ATO working.
ATO Planner	A person appointed by the Constructor that is suitably competent and experienced to produce an ATO Work Plan and fulfill the

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

	duties defined in this document.
ATO Responsible Manager	A person appointed by the Constructor who is suitably competent and experienced to critically review, challenge and approve/reject the ATO Work Plan and any proposed changes thereto and fulfill the duties defined in this document.
ATO Site Coordinator	A person appointed by the Constructor during the planning process who is suitably competent to supervise ATO Working in line with the approved ATO Work Plan and fulfill the duties defined in this document.
ATO Work Plan	The working document that is prepared by the ATO Planner and approved the ATO Responsible Manager who defines the measures and controls that will be implemented to allow ATO Working as further outlined in this document.
ATO Working	Undertaking Construction activities on a Worksite in an ATO environment in line with the approved ATO Work Plan and under the supervision of the ATO Site Coordinator.
Audit	A systematic, independent and documented method for obtaining evidence and evaluating it objectively to determine the extent to which the audit criteria is fulfilled. Audits cover a broad scope and assess the effectiveness of the overall system or process(es).
Capital Projects Group (CPG)	The Metrolinx business group responsible to developing Metrolinx' infrastructure.
Competent or Competency	Ability to apply knowledge and skills to achieve intended results
Construction	Means the common usage of the term in its broadest sense, and includes the meaning of the term as it appears in the Ontario Occupational Health and Safety Act, that being: Erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or equipment, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.
Construction Contract	A contract executed between Metrolinx and a Constructor to provide Construction.
Construction and Maintenance Equipment	Used for construction activities and/or to transport labor, equipment or materials to, on or around a Worksite including any

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

	attachment or any load being carried.
Constructor	The organization appointed by Metrolinx under a Construction Contract to undertake Construction who is solely responsible for performing the Construction work it is contracted to perform and is identified as the "Constructor" in the contract.
Designated Person	A Designated Person is the person responsible for carrying out any tasks assigned to them within this document.
Employee	Is a person competent to regulatory and company standards employed by the company. Applies to contract employees and employees of other companies and railways operating and/or performing other rules related duties on the host railway trackage.
Foreman	CROR Competent person responsible for the protection of track, trackwork and track units on a section of track they have authority for/In charge of the safe passage of movements through their protection limits
Foreseeably Foul	The test of foreseeability for Fouling a live track is that the Construction and Maintenance Equipment and any associated load at its maximum reach cannot reach the Foul point of the live track even in the event of human error but not considering deliberate acts.
Foul	Any incursion by Construction and Maintenance Equipment of the Foul point of the combined maximal kinematic envelope of a train or other track mounted vehicle that may operate on a live track. The test of foreseeability for Fouling a live track is that the Construction and Maintenance Equipment and any associated load at its maximum reach cannot reach the Foul point of the live track even in the event of human error but not considering deliberate acts.
Foul point	The outermost limit of the Dynamic Envelope of all conventional gauged Movements and Track Units that may operate on main track, either calculated using a gauging system tool or estimated using the guidelines set out in the General Engineering Instructions. The calculation tools can be used, but in Movement Limiting Device settings, absolute measurements must be understood.
Height Limiter	A purpose designed and certified device that can be set to limit the vertical arc of the boom, jib or dipper of a piece of equipment

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

	to a specific height.
Hi-Rail Equipment	Means on-track Hi-Rail machines, on-track Hi-Rail and equipment, portable and transportable Hi-Rail and equipment or other mobile machines including road vehicles operated on or near the railway and used for infrastructure related activities as described in the scope of this document.
Inspection	The process of examining an individual product, asset and/or process, to ensure specified requirements are met, at a specified moment in time.
Live Track	Any track that is open to rail traffic and is not otherwise closed.
Metrolinx	An agency of the Government of Ontario which includes GO Transit, Presto and UP Express.
Metrolinx ATO Champion	The nominated Metrolinx Person who will provide guidance and direction for ATO where required.
Movement Limiter	A purpose designed and certified device that can be fitted to a piece of equipment to limit its movement to specific parameters.
Movement Limiting Device (MLD)	Movement limiting devices are certified devices that are built into or fitted to a piece of machinery/equipment to restrict the movement of the machinery/equipment and/or its attachments and protect against any exceedance of specified physical lateral and vertical limits of work. There are 2 levels of MLD: High performance MLDs are designed and setup to ensure that there is no credible single point failure that would cause the system to fail to an unsafe condition. and Low performance MLDs that do not meet the above. MLDs include movement limiters, reach limiters and height limiters
Nominated Role	A specific role under the Standard defined in this document.
Person in Charge (PIC)	A person involved in the planning and who is on site where the work is being undertaken and has the overall accountability of supervising and overseeing works. They must hold a valid supervisory competence and make sure planned controls are put in place to keep persons safe from trains, activity, and site risks.

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

Planned Limit of Work	The closest distance from a Live Track to the machine or its load during the planned operation.
Position of Safety	is a place not foul of any live track(s) where it is safe to stand when a train is passing.
Positive Protection	means the track is secured in accordance with CROR Protection of Track Work (Rules 41, 42, 841, 842) or Track Occupancy Permit (Rules 849 to 864 inclusive).
Project	Means the common usage of the term and includes the meaning of the term as it appears in the Ontario Occupational Health and Safety Act, that being a Construction Project, whether public or private, including: the construction of a building, bridge, structure, industrial establishment, mining equipment, shaft, tunnel, caisson, trench, excavation, highway, railway, street, runway, parking lot, cofferdam, conduit, sewer, water main, service connection, telegraph, telephone or electrical cable, pipeline, duct or well, or any combination thereof." "the moving of a building or structure. and" "any work or undertaking, or any lands or appurtenances used in connection with construction. CPG procures contracts for Construction under a Project.
Project Delivery Team	The Metrolinx team responsible for managing the Project and the Construction Contracts let thereunder.
Property	also referred to as "Metrolinx Property" means real estate, owned or leased, including but not limited to the USRC, Rail Corridors, train and bus facilities, train and bus stations and parking lots.
Protecting Foreman	A suitably competent and experienced person in accordance with the Canadian Rail Operating Rules who is responsible for competent Employee in charge of the protection of track work and track units.
Organization	Any organization undertaking work under contract to, or managed by, a Metrolinx function, including maintenance, renewal and enhancements activities.
Rail Corridor (on or near the line)	Refers to the Metrolinx owned and operated subdivisions of the railway infrastructure, rail maintenance/layover yards and all property between property fences, or if no fences everywhere within 30 feet of the outermost rails.

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

Reach Limiter	A purposed designed device which limits the distance which a boom/jib/dipper can reach
Red Zone	Is an area where Movements and Track Units are still in operational use, these areas should be treated as Live Track.
Safe System Of Work	A structured process designed to reduce the risk of harm when employees face unavoidable hazards at work
Separation Distance	Distance between the planned limit of work and the foul point of the live track.
Site Delivery Team	The Contractor's team that is responsible to delivering the Construction
Slew Limiter	A purposed designed device which limits the horizontal rotation in which a boom/jib/dipper can be slewed/moved.
Suitably Competent Person	Referring to an individual means that the person has the required skills, knowledge, experience, training, accreditation and certification to undertake a task or role to which they are assigned.
Superelevation (Cant)	is the difference in height between the outer and the inner rail on a curve.
Track Closure	Where a track is not open to any train movement and the track is secured in accordance with CROR Protection of Track Work (Rules 41, 42, 841, 842) or Track Occupancy Permit (Rules 849 to 864 inclusive) and the control of a Protecting Foreman.
USRC	means the "Union Station Rail Corridor", the rail corridor located approximately between Strachan Avenue and the Don River.
Worker	means anyone performing work within a Rail Corridor.
Workforce	means any group performing work within a Rail Corridor.
Worksite	A specific site under a contract for Construction where a Constructor undertakes Construction.

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

1 Introduction

1.1 Background

Working with any track open to traffic must only be undertaken in accordance with the principles outlined within this document and Metrolinx General Engineering Instructions and applicable legislative requirements.

To carry out Construction activities on a Worksite where an Adjacent Track is open to traffic and a Track Closure is not practicable, Adjacent Track Open (ATO) working - where an Adjacent Track is open to rail traffic - is permissible. provided a documented risk assessment has been carried out by a competent person and the agreed appropriate controls are in place. The risk assessment and proposed controls must be captured in an ATO Work Plan prior to any work commencing and approved by a designated ATO Responsible Manager.

ATO is meant to allow for work to continue as trains pass, and all ATO planning must consider this in ensuring a Safe System of Work. The safety of employees, passengers, and the public must be guaranteed prior to delivering work under ATO.

ATO is not a means of providing Positive Protection if ATO is being carried out from a track the track where work is taking place must be under positive protection as defined in the CROR.

The planning and coordination of work using ATO is the responsibility of the party carrying out the work.

The ATO standard is meant for equipment operations only. Except for the Protecting Foreman and those overseeing ATO or Equipment, no other workers are allowed under ATO.

This standard is best read after completing the Adjacent Track Open Training Course and is a component of a suite of standards regarding the planning of work and the protecting of workers in the rail corridor.

1.2 Purpose

This defines the process to be implemented by an organization in respect of ATO Working:

- evaluate the possibility of undertaking Construction activities on or adjacent to the Rail Corridor where Construction and Maintenance Equipment could foreseeably Foul an Adjacent Track.
- to identify the specific controls that will be implemented to create a Safe System Of Work.
- to validate work is safe to proceed as trains pass on adjacent track.
- to seek approval to undertake ATO Working. and
- to manage ATO Working including managing any change to the assumed working environment.

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

1.3 Coverage of this Standard

This covers Construction activities undertaken on or adjacent to Metrolinx' Rail Corridor where Hi-Rail and all types of Construction and Maintenance Equipment could foreseeably foul a track open to traffic.

This does not cover working on or adjacent to tracks that are electrified. Specific approval for undertaking Construction activities in this type of environment must be obtained from Rail Corridor Access and Control (RCAC) via the relevant Project Delivery Team (PDT).

The Metrolinx Hierarchy of Control for Planning work must always be used with Green Zone (options 1 – 5) Protection always being the first choice and only when this cannot be done moving to Red Zone Working. Safety of the work force is always the priority. Please reference the Hierarchy of Control standard for more details.

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

2 Roles and Responsibilities

2.1 Organizational Roles and Responsibilities

2.1.1 Duties of the Standard Owner

Metrolinx's Vice President Safety is accountable for the development, management, scope and implementation of the Standard and shall:

- establish and maintain the required standards for ATO working.
- review and approve proposed revisions to ATO working.
- work with the Metrolinx Safety Training Team to establish the competency required for any employee undertaking a Nominated Role under this standard.
- review and act upon non-conformances to this standard.

2.1.2 Duties of the Constructor

To the extent that this standard applies to Construction activities undertaken by the Constructor, the Constructor shall ensure that:

- the requirements prescribed by this standard are implemented.
- implement and document regular audits of the performance against the requirements of this standard are undertaken and timely corrective measures are implemented to address any non-conformances.
- ensure all employees required to undertake ATO work are briefed and trained on the requirement of this standard and undergo regular audits to demonstrate compliance.
- the equipment, materials and protective devices as prescribed are provided.
- the equipment and materials provided by the Constructor are maintained in good condition, tested and conform to the legislative requirements, Metrolinx Standards and manufacturer's specifications and requirements.
- the measures and procedures prescribed are carried out in the workplace. and
- the protective devices and MLD's provided by the Constructor must be authorized and approved by Metrolinx.

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

2.1.3 Responsible, Accountable, Consulted and Informed

- Responsible – The person who owns/executes the project, task, or work.
- Accountable – The person who will hold ultimate accountability for ensuring the task is completed and puts systems in place to enable its completion.
- Consulted – The person who has the ability or knowledge needed to complete the work. These can be stakeholders, subject matter experts, or anyone else who is key to completing the work.
- Informed – People who must be kept informed of the work, but not necessarily consulted.

The 'RACI' principle describes the participation of each of the various roles when delivering the tasks detailed in this document and is outlined in the following table:

Role	RACI	Level of Briefing
Standard Owner	Responsible	Awareness
Capital Projects Group	Informed	Awareness
Operations	Informed	Awareness
Delivery Teams	Informed	Awareness
Maintenance Contractors	Informed	Awareness
Rail Corridor Access Control	Consulted	Full briefing
Rail Training	Consulted	Full briefing
Construction Safety	Informed	Full briefing
Project Delivery Team	Responsible	Full briefing
ATO Champion	Accountable	Full briefing
ATO Responsible Managers	Accountable	Full briefing
ATO Planners	Responsible	Full briefing
ATO Site Coordinators	Responsible	Full briefing

Table 2: RACI Roles and Responsibilities

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

2.2 Nominated Roles

The following are Nominated Roles under this standard and must be undertaken by a Competent and Suitably Competent Person. For Capital Projects Group projects these roles can be the responsibility of the Project Delivery Team.

2.2.1 ATO Champion

A nominated person within an organization who leads on matters pertaining to ATO Working for that organization.

The ATO Champion is an individual that can demonstrate management level experience within the rail industry working with Hi Rail and Construction and Maintenance Equipment in a live rail environment.

The ATO Champion must have achieved competency through completion of an approved Metrolinx ATO course.

The ATO Champion is responsible for:

- assuring the Competency of all Nominated Role holders within their organization.
- demonstrating the Competency of an individual proposed for a Nominated Role.
- ensuring that this standard and associated standards are briefed to all Nominated Role holders within their organization including any revisions thereto issued by Metrolinx.
- providing guidance to the ATO Responsible Manager to clarify any issues arising with the application of this .
- contacting the standard owner to seek guidance and/or clarify any issues arising with the implementation of this standard.

2.2.2 ATO Responsible Manager

A nominated person(s) in an organization/Project who has sufficient knowledge and experience of the work methodology and ATO Working to review, challenge, and amend, where applicable, all ATO Working on a Project. Has the required competency to demonstrate knowledge or the application of a task successfully and consistently, which can be demonstrated through qualification of an approved Metrolinx ATO course.

The ATO Responsible Manager must also have suitable knowledge of the ATO Change Control Process and be able to authorize on site changes if necessary.

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

The ATO Responsible Manager is responsible for:

- reviewing, challenging and where necessary amending the ATO Work Plan and/or ATO risk assessment.
- briefing ATO Planners.
- authorizing the ATO Works Plan.
- reviewing and authorizing all change requests in respect of the ATO Works Plan including on site changes.
- demonstrating control of the ATO authorization process.

2.2.3 ATO Planner

A nominated person in the Site Delivery Team who completes the ATO Risk Assessment and prepares the ATO Work Plan for authorization and knows the Worksite on which ATO Working is planned to be undertaken. Has the required competency to demonstrate knowledge or the application of a task successfully and consistently, which can be demonstrated through qualification of an approved Metrolinx ATO course.

The ATO Planner is responsible for:

- undertaking the required due diligence to gather as much information and detail as is required to undertake a through ATO risk assessment and develop the ATO Work Plan.
- seeking guidance from and/or clarifying any issues arising from the ATO risk assessment or and where necessary raising this to the ATO Champion.
- submitting the completed ATO Work Plan to the ATO Responsible Manager for review and authorization including making amendments as required to address any comments from the ATO Responsible Manager.
- submitting and properly briefing the ATO Site Coordinator prior to commencing any ATO Working.
- submitting the ATO risk assessment to the Metrolinx Project Delivery Team where it has demonstrated that ATO Working is not required.
- managing any amendments or changes to the ATO risk assessment and/or ATO Work Plan and ensuring updated and properly version-controlled documents are authorized, circulated and briefed.
- ensuring all superseded versions of the ATO risk assessment and ATO Work Plan are retained and securely stored for audit purposes.
- Identifying when the use of MLDs is not required for the planned work.

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

2.2.4 ATO Site Coordinator

A nominated person in the Site Delivery Team who undertakes the site coordination duties for all ATO Working identified in the ATO Work Plan. Has the required competency to demonstrate knowledge or the application of a task successfully and consistently, which can be demonstrated through qualification of an approved Metrolinx ATO course.

The ATO Site Coordinator:

- is appointed during the ATO planning stage.
- has knowledge of Worksite and the proposed Construction activities. and
- can undertake a dual role if the ATO Work Plan can still be monitored effectively and implemented safely.

The ATO Site Coordinator is responsible for:

- advising and supporting the ATO Planner with the ATO risk assessment and the preparation of the ATO Work Plan.
- ensuring they are in possession of the most recent authorized copy of the ATO Work Plan.
- providing a detailed briefing to all relevant site staff on the arrangements for ATO Working and ensure workers understand the speed and distance of passing trains.
- ensuring that the control measures identified on the ATO Work Plan have been tested, implemented and are monitored for all Construction and Maintenance Equipment involved in ATO Working.
- ensuring the planned safe systems of work are implemented and tested prior to the ATO Working commencing.
- complete the ATO Site Coordinators Checklist for ALL ATO Working.
- ensuring the minimum permissible planned Separation Distance is maintained by Construction and Maintenance Equipment.
- reviewing and challenging all ATO Working relevant to the individual ATO Work Plan that covers it.
- seeking authorization for and implementing a change under the ATO Change Control Process (Appendix E) if required.

On completion of the appropriate ATO training for the roles specified, candidates will be issued with a Competency Card from the Metrolinx and or approved training organization and will set an expiry date of two (2) years from the date the training was undertaken, and a register of those trained will be maintained identifying those that have been trained.

2.2.5 ATO Equipment Operator

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

A qualified equipment operator that has been trained and deemed competent who will operate the equipment on-site. They must have the required training and competence on the equipment being operated, the use of MLDs if applicable, and required railway knowledge. For the use of ATO on-track the operator must be CROR qualified.

The ATO Equipment Operator:

- is appointed prior to the start of work and all certification and competence must be validated and remain valid for the duration of the work plan.
- has knowledge of Worksite and the proposed Construction activities. and
- can validate that controls put in place are sufficient for the location and type of work they will be performing.

The ATO Equipment Operator is responsible for:

- conducting an onsite validation that the equipment is operating as expected, and any controls are sufficient to not foul live track.
- they must validate that MLDs are properly setup and configured. If any variance is found they must report this to the ATO Site Coordinator and can't begin work until rectified.
- They must review and understand their role and requirements under the ATO Work Plan.
- participating in the railway job briefing and the ATO briefing, or construction briefing and ask questions in anything related to their work is unclear
- if at any point of the shift they identify any changes or errors with the equipment or it's controls, MLDs, or anything that could cause their equipment to foul live tracks they must stop and contact the ATO Site Coordinator to rectify the issue before resuming work.

3 Procedure

3.1 Long-Term Planning

The Constructor shall consider the impact of their Construction on the Rail Corridor and seek to remove the need for ATO Working. The option to book Track Closures should be the first choice as part of their long- term planning of the works.

Where ATO Working is undertaken the Metrolinx Network Access Planning Standard (NAPS) and the Constructor's delegated authority must be involved with the planning of any works.

3.2 ATO Planning

The ATO Planner undertakes a thorough ATO risk assessment that covers but is not limited to the following in respect of the Worksite:

- key dimensions e.g., distance from nearest running rail to Worksite boundaries.

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

- deliveries to the Worksite.
- access and egress arrangements.
- transit to and from.
- travel within Worksite, to and from access and egress points.
- crossing Tracks.
- on tracking and off tracking.
- where work can safely continue as trains pass

A site-specific survey shall be undertaken prior to the production of the ATO Work Plan, to assess the planned Construction activities and the planned minimum Separation Distance for Construction and Maintenance Equipment. The survey must also consider the items listed above.

The ATO risk assessment is documented in a format that is acceptable Metrolinx ATO Designated Person.

Should these risk assessments identify ATO Working as a potential risk, control measures are to be detailed in an ATO Work Plan.

3.3 Construction and Maintenance Equipment that cannot Foreseeably Foul

When planning work and where the ATO risk assessment establishes that the Construction and Maintenance Equipment at its maximum reach/gauge (including load and attachments), cannot physically reach the Foul point, even in the event of human error but not taking into account deliberate acts, the Constructor is not required to follow the detailed planning process in this document.

The ATO risk assessment provides the evidence that distance from the Foul point has been assessed and the method adopted and/or a permanent form of protection will ensure this does not reduce and the required Separation Distance will be maintained.

The decision-making process must be documented using the ATO risk assessment, if the ATO Calculator or drawings have be used as part of the decision-making process these must be securely stored on site along with the ATO risk assessment.

3.4 Construction and Maintenance Equipment that can Foreseeably Foul

Where the ATO risk assessment establishes that the Construction and Maintenance Equipment can foreseeably reach the Foul point, then the Constructor follows the detailed planning process in this document for each discrete Construction activity and each discrete Worksite location, e.g., the on-track site may be different to the site of work.

In line with the risk profile of the works, assurance checks must be carried out by the organization.

3.5 Detailed Planning Process

The Detailed Planning process outlined within this document shall be followed as described

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

herein.

As part of the detailed planning process and based on the ATO risk assessment, the ATO Planner shall consider the following aspects to identify if the Construction works may require ATO Working and if so, determine what control measures are required:

- location of the Worksite in relation to the Rail Corridor.
- the Construction and Maintenance Equipment being used and potential alternatives.
- the access arrangements.
- loading/unloading requirements.
- on/off tracking arrangements.
- control options that could be used.

The ATO Planner shall:

- undertake further investigations at the Worksite to the extent they are necessary to develop the ATO Work Plan.
- completes the ATO Work Plan with the details of the planned ATO works.
- includes as much detail as possible when completing the ATO risk assessment.
- develops the ATO Work Plan in line with the requirements set out within this document.
- uses the ATO Calculator or detailed drawing/sketch to ensure that the planned method of ATO working meets the requirements of this Standard.

The ATO Planner submits the completed ATO Work Plan to the ATO Responsible Manager for authorization together with:

- the relevant ATO Calculator sheet (if used).
- detailed drawing/sketches used.
- the completed ATO risk assessment.

The ATO Responsible Manager shall review the ATO Work Plan and supporting information and:

- if the ATO Work Plan is adequate, authorize it and notify the ATO Planner.
- if the ATO Work Plan is not adequate, return it to the ATO Planner with comments and/or recommendations on the amendments that are required to allow it to be authorized.

In the use of High Performance MLDs, the calculation tools can be used but in MLD settings absolute measurements must be understood.

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

If the ATO Responsible Manager has concerns as to the adequacy of the ATO Work Plan, they consult with the ATO Champion who shall, if necessary, consult the Rail Compliance Officer for further clarification or guidance.

Once the ATO Work Plan is authorized by the ATO Responsible Manager, the ATO Responsible Manager issues an authorization number and the ATO Planner securely stores a copy of the ATO Work Plan, associated documentation and authorization on site for audit purposes.

Once the ATO Work Plan is authorized by the ATO Responsible Manager, the ATO Site Coordinator will be issued the ATO Work Pack at least 5 days in advance of the work taking place.

At Metrolinx's reasonable request, the ATO Planner shall issue a copy of the ATO Work Plan and associated documentation to Metrolinx.

The following templated documents shall be used as part of the detailed planning process:

Document Name	Document Number
ATO Work Plan	MXSD-SSP-L3-FRM-0006.01
ATO Calculator (excel document)	MXSD-SSP-LST-0006.07
ATO Responsible Manager's Authorization Tracker (excel document)	MXSD-SSP-LST-0006.08
Hierarchy of Control	MXSD-SD-008-STD-005

Table 3: List of template documents for the detailed planning phase

3.6 Risk Controls

When identifying the controls to be put in place for the ATO working, the ATO Planner considers the duration and complexity of the works and equipment numbers to be used shall be considered to determine the correct levels of supervision. The ATO Planner must evaluate the number of ATO Site Coordinators required for each project based on the information provided in the pre-assessment pack and pre-site survey.

Construction and Maintenance Equipment and operators must be under the control of a person appointed to supervise and direct the Construction and Maintenance Equipment operations. Controls must be based on multiple layers of controls that would take several deliberate actions to overcome.

In operation, all Construction and Maintenance Equipment and/or its load must always be more than four feet from the Foul Point of any Live Track, the planned Limit of Work must consider all parts of the Construction and Maintenance Equipment including any load, attachments, or

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

counterweight that could Foul the Live Track and the closest to the foul point shall be used for the calculation.

The control must endeavor to work to the highest level of control available with the proposed Construction and Maintenance Equipment. When working between tracks, each affected Adjacent Track that is live will require controls to be applied. Where Adjacent Tracks are significantly higher or lower in grade than the area in the Worksite where the work is taking place, MLD's that restrict height movements must also be used.

The ATO risk assessment must demonstrate that the controls put in place will ensure that Construction and Maintenance Equipment at its maximum reach / height (including load and attachments) cannot reach the Foul point of a Live Track, even in the event of human error but not taking into account deliberate acts.

The Constructor determines the Foul Point in accordance with instructions found within this document.

3.7 Specific Control Considerations

When operating over thirteen (13) feet from the nearest open track where it is deemed Construction and Maintenance Equipment **cannot** Foreseeably Foul there is no requirement for ATO Working.

Controls when operating over thirteen (13) feet from the nearest open track where it is deemed Construction and Maintenance Equipment **can** Foreseeably Foul

The following control measures must be in place and implemented:

- An ATO Site Coordinator must be appointed and on site for durations of the task.
- Operations must be supervised at all times by relevant competent person.
- The position and orientation of the machine relative to the live track must be maintained.
- A load stabilization method to maintain orientation must be in place (where required).
- The system must be tested prior to the work commencing and when the plan changes.
- Where ATO control measures change, there must be visible demarcation to identify this location.
- A two-way radio communication system must be in use.
- Safety devices must be secured so that the operator cannot override them.
- The use of Construction and Maintenance Equipment that has a High Performance MLD fitted is preferred. Where a High Performance MLD is not fitted, it is acceptable to use a Low Performance MLD as long as they have worked correctly during the test and there is no cause to question their reliability. If MLDs are fitted, they must be set up to the planned limit of work and be active.

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

- Where a MLD is not fitted to the Construction and Maintenance Equipment, other methods must be implemented to protect the work limits (e.g., wall, barrier, train, tunnel, demarcation etc.)

Controls when operating less thirteen (13) feet from the nearest open track where it is deemed Construction and Maintenance Equipment **can** Foreseeably Foul

The controls listed within this document must be implemented and at least one of the additional controls:

- The Construction and Maintenance Equipment must be fitted with a High Performance MLD which must be configured and functioning correctly during all ATO works.
- A load stabilization method must be implemented that can reliably prevent the load from swinging towards the Live Track.
- Introduce another method to ensure that the Construction and Maintenance Equipment and any load cannot physically Foul the Live Track (e.g., wall, barrier, mechanical devices, train, and tunnel) and that the method used can be demonstrated to reliably prevent the Construction and Maintenance Equipment and load from Fouling.

Note: When planning to use a High Performance MLD, the position and orientation must be guaranteed to a fixed datum point. This is critical for HI Rail and Construction and Maintenance Equipment when working next to an operational railway.

The controls within this document are based on nominally straight track.

3.8 Planning for Contingencies

When considering ATO Working, foreseeable contingencies must be anticipated, planned for, and recorded when they are likely to be required. Examples of contingencies that should be considered include but are not limited to:

- different Construction and Equipment being provided to that on which the ATO Work Plan is based.
- where ATO Working controls are dependent upon the time a train service is booked to pass the Worksite to enable a planned Track Closure to be taken.
- late arrival of engineering trains delays work.
- Any issues or events that affect the planned ATO works or the planned approach as authorized under the ATO Work Plan, the ATO Planner shall:
    - amend the ATO Work Plan and as required, the ATO risk assessment and any associated information.
    - submit the revised ATO Work Plan and associated information to the ATO Responsible Manager for review and authorization of the change.

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

- The ATO Site Coordinator ensures that ATO Working under the changed ATO Work Plan are suspended until the revised ATO Work Plan is authorized.

3.9 Implementing, Testing, and Monitoring ATO Controls

All those involved in the ATO Working and the Construction works undertaken shall be briefed by the ATO Site Coordinator on the methodology and controls detailed in the ATO Work Plan and ATO risk assessment.

In addition to all standard briefings, the ATO Site Coordinator ensures all operatives understand the controls provided in line with the ATO Work Plan and the planned Limit of Working together with other key information from the ATO risk assessment and ATO Work Plan that are different to their normal means and methods of working.

The ATO Site Coordinator ensures the control systems are implemented in accordance with the ATO Work Plan and undertakes checks to ensure that any controls implemented to prevent the Construction and Equipment from Fouling a Live Track remain effective.
Prior to commencement of any ATO Working the ATO Site Coordinator must validate the track distances shown in the ATO Work Plan by tape measure or laser measure tool.

The ATO Site Coordinator must keep records of the checks carried out using the following listed documentation as guidance:

Document Name	Document Number
Adjacent Track Open (ATO) Calculator	MXSD-SSP-LST-0006.07
Adjacent Track Open (ATO) Site Coordinator Checklist	MXSD-SSP-L3-FRM-0006.04
Adjacent Track Open (ATO) Management Assurance Checklist	MXSD-SSP-L3-FRM-0006.03

Table 4: ATO Site Coordinator audit documents

3.10 Change Control

3.10.1 Planning Change

Following authorization of the ATO Work Plan, if a change in the work methodology, location or Construction and Maintenance Equipment is identified prior to the ATO Working starting on site ("Planning Change"), the ATO Planner shall amend the ATO Work Plan and any additional information impacted by the Planning Change and submits a revised ATO Work Plan to the ATO Responsible Manager for authorization.

The ATO Planner ensures the revised ATO Work Plan is version controlled and all previous versions are marked "Superseded" and stored securely on site for audit purposes.

3.10.2 Onsite Change

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

Once ATO Working has commenced, if a change is identified to ATO Work Plan or any of the information on which it was authorized ("Onsite Change"), the ATO Site Coordinator shall stop the Construction operations on the Worksite and move all parties to a Position of Safety and complete the On-site Change Control form ("ATO Change Form") with details of the change.

The ATO Site Coordinator shall submit the ATO Change Form to the ATO Responsible Manager and the ATO Responsible Manager reviews the Onsite Change and if satisfied, authorizes the Onsite Change. The ATO Responsible Manager seeks clarification and/or additional information from the ATO Site Coordinator as required to allow the proposed Onsite Change to be considered and the ATO Site Coordinator makes any amendments to the ATO Change Form so allow it to be authorized.

The ATO Responsible Manager provides a unique authority number with any authorized change and the ATO Responsible Manager and the ATO Site Coordinator maintain a log of all authorized changes.

Following authorization of an Onsite Change, the ATO Site Coordinator completes a new ATO Site Coordinator Check list prior to the ATO Working restarting.
The Onsite Change control process flowchart is contained within the document.

4 Skills and Competencies

4.1 Skills

The following three (3) areas shall be considered when selecting individuals to undertake the Nominated Roles:

- Technical Skills: the skills required to carry out the role including underpinning knowledge.
- Non-Technical Skills: the skills that underpin the technical skills required for the role.
- Functional Skills: describes the other skills required such as literacy, numeracy, and IT skills.

4.1.1 Non-Technical Skills (NTS)

Generic skills that underpin and enhance technical tasks. A technical task requires a practical understanding of the relevant techniques, procedures, roles and responsibilities, all of which are formally assessed to ensure the person can carry out the safety-critical task. But apart from that specialist, technical knowledge, safety-critical staff will also draw on a range of NTS to carry out a task. These include the ability to take in information, focus, make decisions and communicate with others. NTS plays a vital role in safety by helping people anticipate, identify, and mitigate errors. A detailed explanation is included in the attached supplementary documentation. The competency requirements and responsibilities of specified roles related to ATO are detailed in the attached supplementary documentation.

5 Document Control and Record

The ATO Responsible Manager shall submit the following documents to the Rail Corridor Access and Control Team via the Metrolinx Portal:

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

- ATO Site Coordinator Checklist including any updates following a change:
- ATO Site Visit Checklist.
- Working Site Survey (including ATO).
- Safe Work Pack (SWP) – Briefing Record Form.

The ATO Responsible Manager shall develop, implement and maintain a register of the ATO related documents covered by the together with any revisions made thereto the ATO documents over the term of the Construction Contract and shall maintain copies of the log and the specific ATO documents in line with the requirements of the Construction Contract.

The ATO Planner shall ensure that copies of all completed ATO documents are submitted to the Metrolinx Project Document Controller for retention in the format that the Metrolinx Document Controller reasonably requires.

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

6 Supplementary Documentation

6.1 Supporting documents

The following documents shall be used in conjunction with this

Document Name	Document Number
Adjacent Track Open (ATO) Work Plan	MXSD-SSP-L3-FRM-0006.01
Adjacent Track Open (ATO) On Site Change Control	MXSD-SSP-L3-FRM-0006.02
Adjacent Track Open (ATO) Management Assurance Checklist	MXSD-SSP-FRM-0006.03
Adjacent Track Open (ATO) Site Coordinator Checklist	MXSD-SSP-FRM-0006.04

Table 5: Supplementary Documentation

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

Appendix A: Non-Technical Skills (NTS)

Non-Technical Skills Category	Non-Technical Skills
Situational Awareness	• Attention to detail • Overall awareness • Maintain concentration • Retain information • Anticipation of risk
Communication	• Listening (people not stimuli) • Clarity • Assertiveness • Sharing information
Decision Making and Action	• Effective decisions • Timely decisions • Diagnosing and solving problems • Systematic and thorough approach
Cooperation and Working with Others	• Considering others' needs • Supporting others • Treating others with respect • Dealing with conflict / aggressive behaviour • Positive attitude towards rules and procedures
Workload Management	• Multi-tasking and selective actions • Prioritizing • Calm under pressure

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

Non-Technical Skills Category	Non-Technical Skills
Self-Management	• Motivation • Confidence and imitative • Maintain and develop skills and knowledge • Prepared and organized

Table 6: Non-Technical Skills (NTS)

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

Appendix B : ATO Nominated Roles Competency Requirements and Responsibilities

Full detail of these roles is contained within this standard.

Role	Employee substantive Role	ATO Responsibility
ATO Planner	Project Planner, Lift Planner, Supervisor / Manager, Construction Manager, Junior Engineer	The individual must have suitable knowledge and experience to complete the ATO Work Plans and must always plan work to the principles of prevention. The ATO Planner must insert as much detail as possible when completing the ATO Work Plan, seeking guidance from the ATO Responsible Manager/ Champion if necessary. All ATO work plans must be developed considering this standard. Upon completion, the ATO Work Plan must be submitted to the ATO Responsible Manager for review and authorization, Once the plan has been authorized and a unique authorization number issued the ATO Work Planner will then submit the plan to the ATO Site Coordinator who will be undertaking the work. Should the plan be returned with no authorization number the ATO Work Planner will review any comments / instruction received from the ATO Responsible Manager and make any amendments necessary. The plan will then be resubmitted to the Responsible Manager for review and authorization. Should any amendments / changes to the ATO Work Plan be required the ATO Work Planner must create an updated version of the work plan ensuring it is version controlled and reviewed following the change. (All versions of the plan must be kept for auditing purposes).

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

ATO Responsible Manager	Project Manager, HSE Managers, Contractors Nominated Manager, Senior Engineers Construction and Maintenance Equipment Manager	Review the control measures for adequacy and either authorize or reject the controls proposed in the ATO Work Plan. Require the implementation of additional controls prior to authorizing the ATO Work Plan. Refer to the ATO Champion for guidance. Approve all Planning Change and Onsite Change requests. The ATO Responsible Manager must be able to demonstrate control of the approval process.
ATO Site Coordinator	Site Supervisor, Site Manager, Person in Charge of Work, Team Leader, Senior team member	The ATO Site Coordinator must be in possession of an authorized copy of the ATO Work Plan and be able to review and challenge ATO Working relevant to that individual plan. The ATO Site Coordinator must ensure that the control measures identified on the ATO Work Plan have been tested, implemented and are monitored for all Construction and Maintenance Equipment (including Loads) that is working alongside tracks that are open to traffic. The individual is responsible for the detailed briefing of all relevant site staff as to the arrangements of ATO Working and must ensure the minimum permissible Planned Separation distance and the ATO Work Plan are implemented and tested prior to the work commencing while off track in a safe area before on tracking the machine. The system must be checked again once on track to ensure orientation and the system parameters are still correct. The ATO Site Coordinator must have a detailed knowledge of the ATO change control process and be able to implement on site change control if necessary, using the on-site Change Control Checklist The ATO Site Coordinator must complete the ATO Site Coordinators checklist for all ATO Working.

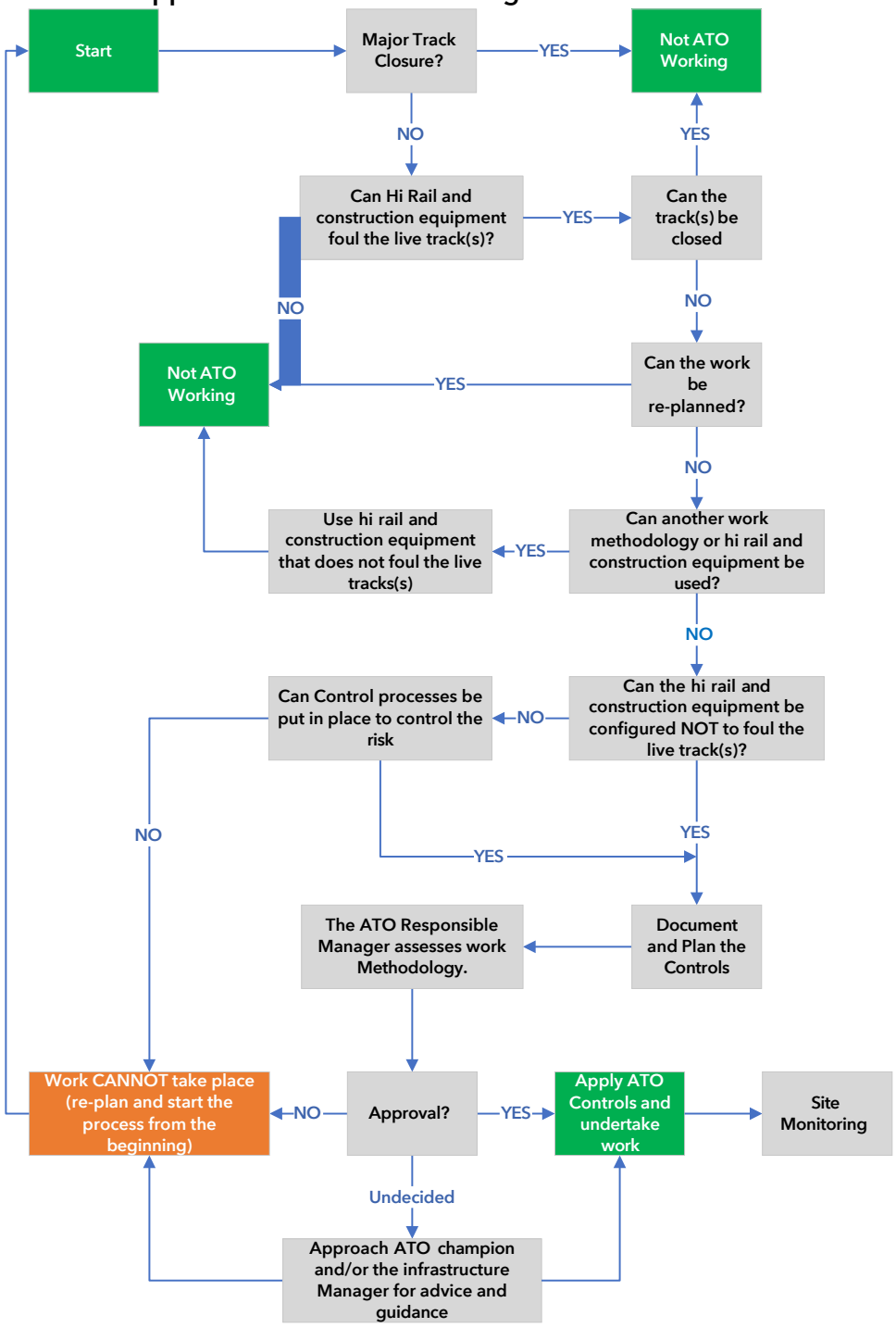
The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

		The ATO Site Coordinator must be issued with the following: ATO Site Coordinator Armlet for easy identification Measuring tool (tape measure, laser)

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

Table 6: Non-Technical Skills (NTS)

Appendix C: Detailed Planning Process Flowchart



The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

Step	Description	Comment
1	**Start** - Plan work methodology.	The provisional outline methodology must be confirmed and developed into a detailed methodology to control the work activities. ATO requirements must be assessed around any already agreed access. Design development may also highlight needs for ATO Working that were not previously foreseen.
2	Is there a Minor/Major Track Closure?	YES – If all tracks at the location are closed for the full duration of the works, then no additional ATO controls are required. NO – If any track(s) remains open that can be affected, the processes detailed in this standard must be followed.
3	Can Construction and Maintenance Equipment, attachment / load Foul the live track(s)?	The proposed working methodology and selected Construction and Maintenance Equipment must be assessed to determine whether there are risks of Fouling a Live Track. Risks identified must be recorded for audit and approval purposes.
4	Can the track(s) be closed?	Where tracks can be Fouled during the work, the option of closing live tracks for the duration of the activities should be the first choice. This could include reviewing whether additional Track Closures are available which were not considered or available in the long-term planning.

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

Step	Description	Comment
5	Can the work be replanned to prevent ATO Working?	Consider retiming the work to a period when the affected tracks can be closed for the duration of the work activities. Consider breaking the job down into sections of ATO activity that can each be timed to be protected by a Track Closure. YES –the work is replanned then adequate access must be arranged, and detailed planning finalized, then no additional ATO controls are required. NO – Where replanning the work does not reduce the risk as far as is reasonably practicable then a different methodology or alternative Construction and Maintenance Equipment must be considered (go to stage 6 below).
6	Can another work methodology or Construction and Maintenance Equipment be selected?	The original methodology and / or types of Construction and Maintenance Equipment selected must be reviewed to determine if an alternative way of working can be found. Where suitable alternative Construction and Maintenance Equipment or a different methodology can be found that reduces the risks as far as is reasonably practicable then the detailed work planning may proceed.
7	Can Construction and Maintenance Equipment, attachment / load be configured NOT to foul live track(s)?	**YES** – The foul point must be calculated as described in Table 9: Calculating the Foul Point Example and the appropriate control measures in 7a implemented **NO** – Work must not continue as the risk of Fouling a Live Track cannot be mitigated.

8	Control measures	• Engineering Controls, for example
		  ○ movement limiting devices
		  ○ Physical barrier
		• These must be used with additional process controls. e.g., spotter, fencing, two-way radio comms, assurance checks etc.
		
		Where the Construction and Maintenance Equipment, attachment/load is closer than 3000 mm (curved track) to the

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

		nearest live track one or more

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

Step	Description	Comment
		of the following must be used. • High performance MLD (Digital) • Track Closure must be used/in place. • The physical barrier must have the ability to prevent the Construction and Equipment from Fouling the Live Track Where a MLD is not fitted to the Construction and Equipment (or not being used), the Construction and Maintenance Equipment must be maintained at least the maximum reach including attachment or load does not encroach the high-performance area. Other methods should also be implemented (e.g., wall, barrier, train, tunnel, demarcation etc.)
9	Document ATO Work Plan	ATO Work Plan must be documented for approval by ATO Responsible Manager.
10	ATO Responsible Manager Approval	• All ATO Working methodology must be assessed by an ATO Responsible Manager. • This includes works that will be delivered in whole or part with live track(s). • The Responsible Manager must review the control measures for adequacy and either: o Authorized the controls proposed o Approve with the implementation of additional specified controls o Reject the proposed controls and require resubmission of plan Where the ATO Responsible Manager does not require further guidance to make a decision, continue to step 11.
11	Referral to ATO Champion	• Where the ATO Responsible Manager needs further guidance, the work must not proceed, and they must refer the proposed work to the ATO Champion. Where the ATO Champion needs additional guidance, they may contact the Metrolinx ATO Champion.

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

Step	Description	Comment
12	Apply ATO controls	• The approved control measures must be implemented and tested by the ATO Site Coordinator before the work is authorized to start, while off track in a safe area before on tracking the machine. • The work package plan, work method statements, supporting Safety documentation and site supervision must include checks by the controller of the Construction and Maintenance Equipment that the control measures are correctly implemented, tested and will remain in place for the full duration of the activity that could foul the live track. • When using MLD's to prevent any part of the Construction and Maintenance Equipment from fouling a live track, these must be tested prior to undertaking the activity. • MLD's where fitted with a locking system, shall be secured such that the operator is not able to over-ride them. unless a documented risk assessment determines this is not required. • They are properly set up and that they are switched on and remain so during the work. Works must not start until the required controls are in place and tested, provided that the control measures remain effective throughout the duration of the works.
	Works Proceed	• The ATO Responsible Manager shall arrange for appropriate assurance arrangements to be in place. If there is a change on site, works must stop until the change control process has been carried out.

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

Appendix D: Determining the Foul Point

If used, a copy of the control system calculator must be saved alongside the work plan for audit purposes. Control system calculator is based on straight (>16in (400m) curve radius), for radii less than 1300 feet (400 m) advice should be sought from the ATO Champion or the guidance table in the Appendixes.

The Foul Point shall be determined through the utilization of the ATO Calculator or other gauging software.

Where absolute working clearances are not required, the foul point should be calculated as follows:

- Distance from nearest ballast shoulder of the live track + super elevation (cant)allowance.

	Planned limit of work: the further limit that the machine or its load will need to reach to undertake the works.
	The calculated or estimated fouling (or foul) point.
	The separation distance (distance between the planned limit of work and the fouling point of the open line.

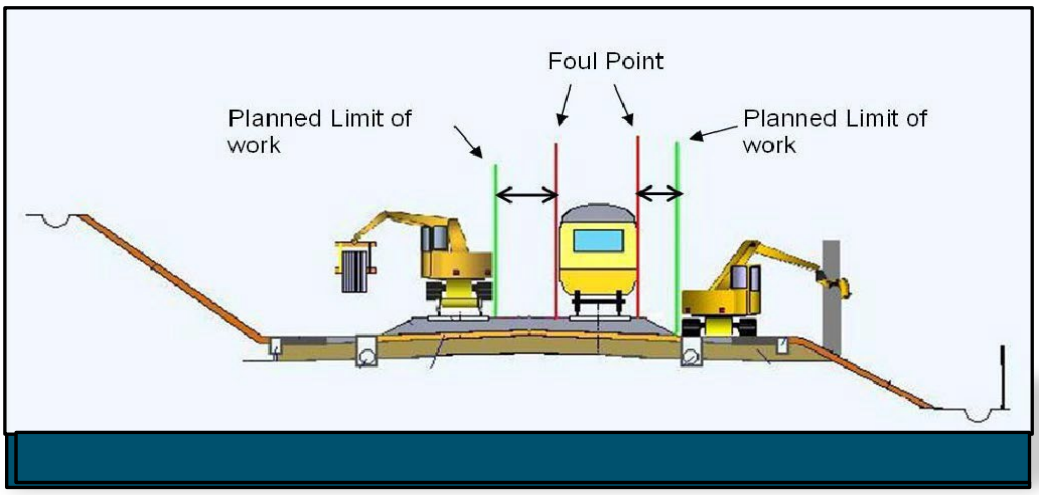
Table 8: Curve Radius Type and ATO Foul Point

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

**Foul points will need to be confirmed on non GO-Tracks.*

Curve Radius (of Adjacent Track)	Foul Point [before Superelevation (CANT) Allowance]
Straight Track	36in (900 mm)
Curve radius more than 1310 ft (400 m)	40in (1000 mm)
Curve radius more than 660ft - 1310 ft (201 – 400 m)	43 in (1100 mm)
Curve radius more than 246ft – 656ft (75 - 200 m)	55in (1400 mm)

Table 9: Curve Radius and Foul Point



The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

The superelevation (cant) allowance should be calculated as follows:

(working height (mm) x superelevation (mm)) / 1435

Calculating the Foul Point Example		
A Hi-Rail vehicle is planned to work up to a height of 197in (5000mm) adjacent to a live track with 22in (550mm) curve radius and 6in (150mm) superelevation (cant) towards the Hi-Rail vehicle.		
Foul point Before Superelevation (Cant) Allowance	=	40in (1000 mm) (From within this document- since the curve radius is more than 400m)
Allowance for Superelevation (Cant)	=	$\frac{197\text{in}}{57\text{in} \; xx \; 6\text{in}} = 21\text{in}$
Foul Point	=	40in + 20in = 60in
Foul Point cannot be less then 84in, or 7 feet. If the calculation is less than 84in, then the calculation should be adjusted to 84 in from the toe of the closest live rail of the adjacent track.		

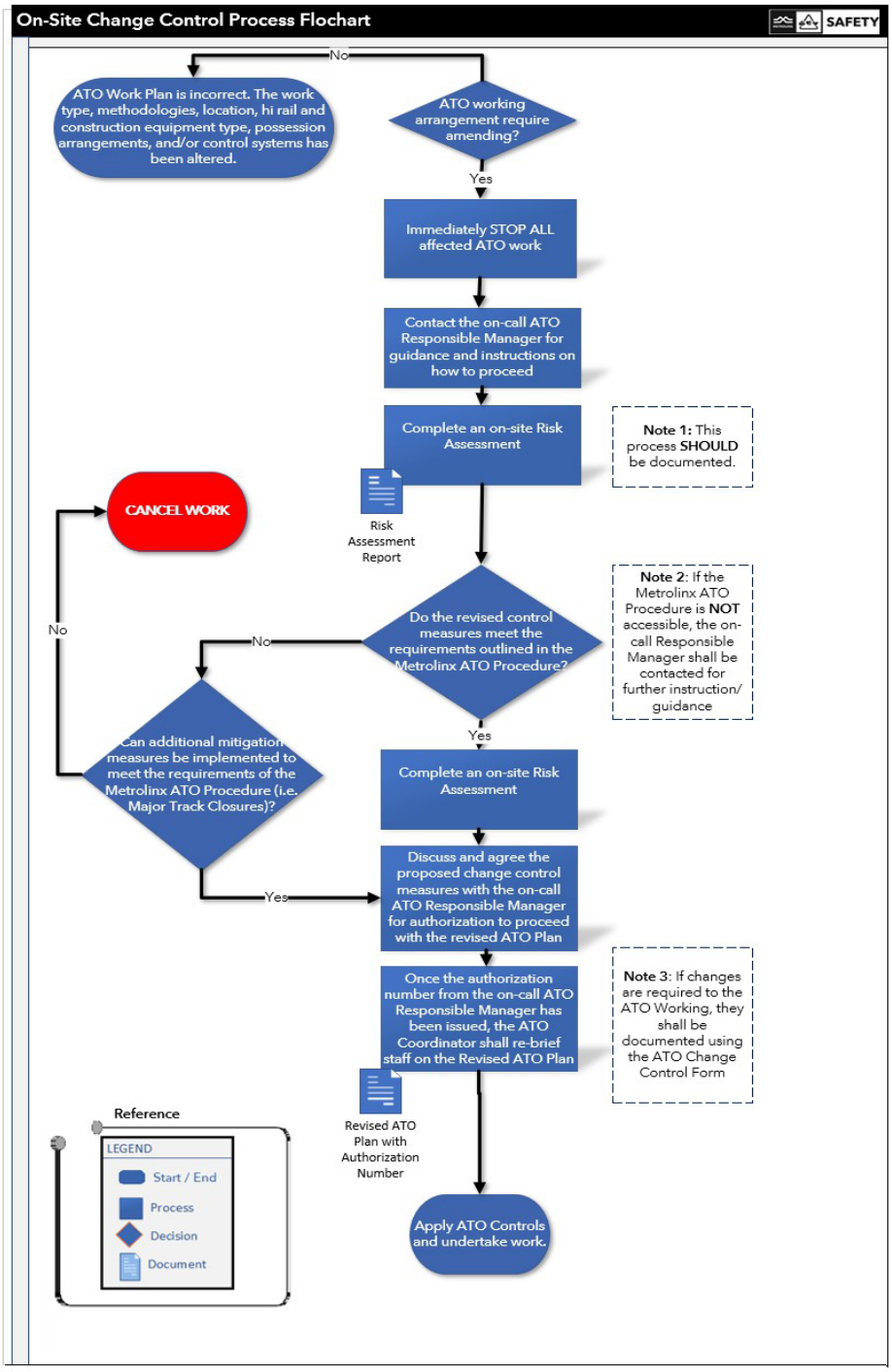
Table10: Calculating the Foul Point Example

Curve Radius (of Adjacent Track)	Foul Point [before Superelevation CANT) Allowance]	Minimum Exclusion Distance
	Before Superelevation [CANT] Allowance	
Straight Track	36in	47in
Curve radius more than 1312ft	40in	51in
Curve radius more than 660ft – 1312	43in	55in
Curve radius more than 246 – 656 feet	55in	67in

Table 11: Curve Radius Type, ATO Foul Point & Minimum Exclusion Distance

The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*

Appendix E: On-site Change Control Process Flowchart



The Owner Metrolinx must accept each **Adjacent Track Open Plan, from the Constructor, to confirm it adheres to the Constructor's ATO Work Plan (submitted previously and approved by the Owner Metrolinx). The Owner Metrolinx is not assuming the role of Constructor, by providing this template for the Constructor.*