

**PERMIT ISSUED UNDER the authority of clause 17(2) (d) of the *Endangered Species Act, 2007***

**Issued to:** Her Majesty the Queen in  
right of Ontario as  
represented by the Ontario  
Ministry of Transportation  
Windsor Borders Initiative Group  
Implementation Group  
659 Exeter Road  
London, ON, N6E 1L3

**Permit No: AY-D-001-11**

**Expiry Date: December 31, 2021**

**Project Title:** Construction of the Windsor-Essex Parkway (WEP) Portion of the Detroit River International Crossing (DRIC) Project

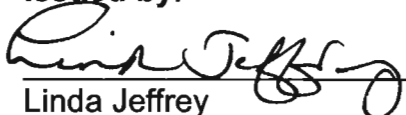
**Project Description:** The WEP will be the new highway connection between Highway 401 and the proposed plaza and bridge between the Cities of Windsor and Detroit. It consists generally of: a six-lane urban service road connecting existing Highway 3 to existing Huron Church Road, a multi-use trail network, greenspace, tunnels, bridges, interchanges and all associated features such as lighting, ATMS, signs, etc.

**Authorization:** This Permit authorizes Her Majesty the Queen in right of Ontario, as represented by the Ministry of Transportation ("MTO"), to engage in the activities specified in Schedule A attached to the Permit that would otherwise be prohibited by section 9 and section 10 of the Endangered Species Act, 2007 in relation to Butler's Gartersnake (*Thamnophis butleri*) and Eastern Foxsnake (Carolinian population) (*Pantherophis gloydi*) and their habitat.

The authorizations provided by this Permit do not apply unless the holder complies with Schedules A and B, which are attached and form part of this Permit.

**Location:** Permit Lands in the City of Windsor, Town of Tecumseh, Town of LaSalle and County of Essex as identified in Appendix A.

**Issued by:**

  
Linda Jeffrey  
Minister of Natural Resources

AUG 15/2011  
Date of Issuance:

### **Schedule A: Detailed Description of Authorization:**

This Permit authorizes the MTO to engage in the activities described below in respect of the species and numbers of individuals identified below.

<b>Species</b>	<b>Number of Individuals</b>	<b>Authorized Activity</b>
Butler's Gartersnake	Not limited	Kill, harm, harass, capture, take, possess and transport as necessary to carry out activities authorized by this Permit, and to fulfill Conditions 11 and 14.
Eastern Foxsnake (Carolinian population)	Not limited	Kill, harm, harass, capture, take, possess and transport as necessary to carry out activities authorized by this Permit, and to fulfill Conditions 12, 13, and 14.

<b>Habitat</b>	<b>Location</b>	<b>Authorized Activity</b>
Butler's Gartersnake	ESA Footprint designated in Appendix A	Damage and destroy habitat, carry out activities authorized by this Permit, and to fulfill Conditions 11 and 14.
Eastern Foxsnake (Carolinian population)	ESA Footprint designated in Appendix A	Damage and destroy habitat, carry out activities authorized by this Permit, and to fulfill Conditions 12, 13, and 14.

## **Schedule B: Conditions**

### **General**

1. Definitions. In this Permit, the following words shall have the following meanings:
  - a. "Active Construction Site" means any area within the Permit Lands where any construction activity associated with the Windsor-Essex Parkway is currently occurring or will occur within the next 24 hours.
  - b. "Construction" means erection, alteration, repair, dismantling, demolition, structural maintenance, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with the Windsor-Essex Parkway, but does not include the erection of fencing or temporary snake barriers.
  - c. "ESA Footprint" means the lands within the Permit Lands on which there will be an impact to either Butler's Gartersnake or Eastern Foxsnake (Carolinian population) from construction and related activities associated with the construction of the Windsor-Essex Parkway, designated in Appendix A.
  - d. "MTO" means the Ministry of Transportation of Ontario and its agents.
  - e. "Permit" means Permit number AY-D-001-11, issued under clause 17(2) (d) of the Endangered Species Act, 2007 for the "Construction of the Windsor-Essex Parkway (WEP) Portion of the Detroit River International Crossing (DRIC) Project".
  - f. "Permit Lands" means the lands on which activities authorized by this Permit shall be carried out, including activities related to construction, mitigation and restoration, designated in Appendix A.
  - g. "Pre-construction" means foundation investigations, geotechnical investigations, soil investigations, legal surveying, archaeology surveying and salvage, fisheries surveying, and demolishing or removing human-made structures prior to the approval of a Management Plan required by this Permit.

2. The following Appendices form part of this Permit:

Appendix A – Permit Lands and ESA Footprint

Appendix B – Butler’s Gartersnake Impact Sites

Appendix C – Toronto Zoo Snake Hibernacula Construction Plans & Instructions

3. The designated representative of the Ministry of Natural Resources (“MNR”) Aylmer District office, for the purposes of the activities outlined within this Permit, will be:

Mitch Wilson  
District Manager  
Ministry of Natural Resources, Aylmer District  
615 John Street North  
Aylmer, ON N5H 2S8  
Tel: 519-773-4710 Fax: 519-773-9014  
Email: [Mitch.Wilson@ontario.ca](mailto:Mitch.Wilson@ontario.ca)

4. If MNR Aylmer District office changes its designated representative for the purposes of the activities authorized or required by this Permit, MNR will provide notice in writing to the Permit holder.
5. A copy of this Permit shall be kept in a location at the Active Construction Site, where it can be produced immediately upon request.
6. A designated MTO representative shall be identified to MNR in writing, to the attention of the designated representative of the MNR Aylmer District office, a minimum of seven days prior to carrying out any activity authorized by this Permit.
7. Any changes to the designated MTO representative shall be identified to MNR in writing, to the attention of the designated representative of the MNR Aylmer District office, within 72 hours of the change.
8. Before any person begins working on any aspect of the construction of the Windsor-Essex Parkway within the Permit Lands, MTO shall provide that person with a fact sheet identifying each of the species at risk named by this Permit and providing general species-specific guidance with respect to appropriate actions to be taken whenever a member of these species is encountered.
9. Before any person begins carrying out any mitigation or monitoring activities authorized by this Permit, MTO shall ensure that the person

receives training on relevant species at risk by persons authorized by MNR.

- a. MTO shall keep records setting out who has received species at risk training.
- b. MTO shall make these records available to MNR upon request.

10. MTO may undertake pre-construction activities prior to the approval of a Management Plan required by this Permit if,

- The pre-construction activity is screened according to MNR-approved criteria for potential impacts to the species identified in Schedule A, and
  - The result of the screening indicates that the pre-construction activity will not impact any individual members of those species.
- a. Despite Condition 10, MTO shall not undertake pre-construction activities at the Permit Lands (Appendix A) or the Butler's Gartersnake Impact Sites (Appendix B), prior to the development and approval of the applicable Management Plan required by Condition 11(b).

**Butler's Gartersnake (*Thamnophis butleri*)**

11. Activities authorized by this Permit in relation to Butler's Gartersnake, including activities required to mitigate impacts on Butler's Gartersnake individuals, shall occur in accordance with this Condition:

- a. In this Condition the following words shall have the following meanings:
  - i) "Active Season" means March 15 to October 31, in any year.
  - ii) "Butler's Gartersnake Impact Sites" (the "Impact Sites") means the sites identified in Appendix B.
  - iii) "Butler's Gartersnake Restoration Sites" means the areas where habitat restoration creation or enhancement will occur as identified in the MNR approved Butler's Gartersnake Management Plan.
  - iv) "Relocate" means to move to a new location.

- v) "Key habitat feature" means thermoregulation, hibernaculum or live birthing site suitable for Butler's Gartersnake.
  - vi) "Targeted salvage operation" means a concerted effort to capture all Butler's Gartersnakes in an area using specified capture methodologies over a specified period of time, as detailed in the approved Butler's Gartersnake Management Plan.
  - vii) "Incidental encounter" means any encounter with a Butler's Gartersnake that does not occur as part of a targeted salvage operation.
- b. MTO shall develop a Butler's Gartersnake Management Plan, which must be approved by MNR prior to undertaking any construction activity or targeted salvage operation that will have an impact on Butler's Gartersnake individuals or their habitat within the ESA Footprint, or any habitat restoration, enhancement or creation activities. The approved Butler's Gartersnake Management Plan shall provide detailed information with respect to the goals, methods and techniques that MTO shall adopt for activities relating to Butler's Gartersnake and shall, at a minimum, address each of the following:
- i) Construction timing windows
  - ii) Capture and release protocols and methodologies
  - iii) Capture and release timing windows
  - iv) Protocols for over-wintering Butler's Gartersnakes
  - v) Methodologies and timelines for the enhancement, restoration, and creation of habitat
  - vi) Key habitat feature creation protocols and designs
  - vii) Monitoring of created key habitat features
  - viii) Adaptive management strategies
- c. MTO shall carry out activities described in the approved Butler's Gartersnake Management Plan in accordance with that plan.

- d. Prior to August 31<sup>st</sup>, 2011, MTO shall create one hibernaculum, located on the east side of [REDACTED] constructed in accordance with the directions and plans developed by the Toronto Zoo (Appendix C).
  - i) MTO shall create the hibernaculum within the Restoration Site, in habitat that is suitable to support Butler's Gartersnake.
  - ii) MTO shall ensure that the created hibernaculum is adjacent to naturally occurring features that could serve as natural hibernacula for Butler's Gartersnake individuals.
- e. Despite Condition 11(d), MTO may use hibernaculum creation plans that provide equal or greater protection to Butler's Gartersnake individuals than the methods described in that condition, if outlined in the approved Butler's Gartersnake Management Plan or as approved by MNR.
- f. Prior to any construction activities occurring within the Impact Sites, and prior to any targeted salvage operation, MTO shall erect effective temporary Butler's Gartersnake barriers at the Impact Sites.
  - i) The temporary Butler's Gartersnake barriers shall be of a nature that they will not pose a risk of entanglement for Butler's Gartersnake individuals and shall be secure so that Butler's Gartersnake individuals may not pass under the barrier or between any openings to enter or re-enter the Impact Sites.
  - ii) MTO shall erect all temporary Butler's Gartersnake barriers by no later than May 15th of the first year in which construction activities are scheduled within the Impact Sites, or by another date approved by MNR to account for seasonal variations.
  - iii) MTO shall inspect the temporary Butler's Gartersnake barriers a minimum of twice daily, during periods when Butler's Gartersnake individuals are active, and shall capture and release any Butler's Gartersnake individuals found inside the snake barrier in accordance with Conditions 11(j) and (k).
  - iv) MTO shall leave the temporary Butler's Gartersnake barriers in place for the entire period during which active construction

is occurring, and shall maintain the temporary Butler's Gartersnake barriers to ensure that the barrier does not harm Butler's Gartersnake individuals, and that there are no openings by which Butler's Gartersnake individuals might enter or re-enter the Impact Sites.

- g. Prior to any construction activities occurring within the Impact Sites, and prior to any targeted salvage, MTO shall ensure that there is a mix of cover objects, that are appropriate for providing shelter to Butler's Gartersnake individuals, placed outside the Active Construction Site and directly adjacent to the area outside of the temporary Butler's Gartersnake barriers.
  - i) Cover objects may include particle board, plywood, wood, corrugated tin, other materials outlined in the approved Butler's Gartersnake Management Plan or as approved by MNR.
  - ii) Cover objects shall be of an appropriate size and spaced to provide adequate shelter to Butler's Gartersnake individuals.
  - iii) MTO shall place cover objects at a maximum of every fifteen metres of temporary snake barrier or as detailed in the approved Butler's Gartersnake Management Plan, or as approved by MNR.
- h. MTO shall make every reasonable effort to capture Butler's Gartersnake individuals whenever they are encountered within the Impact Sites through a targeted salvage operation, in accordance with Condition 11(j), and whenever incidentally encountered within all Active Construction Sites, in accordance with Conditions 11(j) (iii-vii). MTO shall release all captured Butler's Gartersnake individuals in accordance with Condition 11(k).
- i. All persons who will be engaged in targeted salvage operations or in the release of Butler's Gartersnake individuals shall be trained in proper snake handling procedures prior to conducting any activity authorized by Condition 11.
  - i) MTO shall keep records of this training on file and shall make these records available to MNR upon request.
- j. Prior to the commencement of any construction activities within the Impact Sites, MTO shall conduct a targeted salvage operation



after Butler's Gartersnake mating behaviour has occurred and before June 30<sup>th</sup>. MTO shall again conduct a targeted salvage operation immediately prior to beginning construction, or as otherwise approved by MNR. During these targeted salvage operations within the Impact Sites MTO shall capture all Butler's Gartersnake individuals in accordance with the following conditions:

- i) MTO shall use coverboards that provide for the protection of Butler's Gartersnake individuals and are approved by MNR as the primary method for capture of Butler's Gartersnake individuals, and shall place coverboards at an appropriate density for successful snake salvage throughout the Impact Sites no later than the start of the Active Season of the year in which the targeted salvage operation is to occur.
- ii) MTO shall inspect underneath all cover boards for Butler's Gartersnake individuals at least twice every day, once between the hours of 6:00 a.m. and 9:00 a.m. and once between the hours of 6:00 p.m. and 9:00 p.m., unless otherwise directed by MNR.
- iii) MTO shall transfer all Butler's Gartersnake individuals captured into individual, light-coloured, drawstring cotton sacks before placing them into a non-airtight Butler's Gartersnake Storage Tub described in Condition 11 (j) (v), and shall store them out of direct sunlight for a maximum of 24 hours before releasing them in accordance with Condition 11(k).
- iv) Despite Condition 11(j) (iii), if captured Butler's Gartersnake individuals will be used for radio telemetry monitoring, they may be stored for a period of up to 72 hours, unless otherwise specified by a member of the College of Veterinarians of Ontario.
- v) MTO shall ensure that Butler's Gartersnake Storage Tubs are light in colour and have lids, and that each lid has multiple small punctures.
- vi) Despite Condition 11(j) (v), MTO may use Storage Tubs that provide equal or greater protection for Butler's Gartersnake individuals than the tubs described in that Condition, as outlined in the approved Butler's Gartersnake Management Plan or as approved by MNR.

- vii) MTO shall make the Storage Tubs mentioned in Conditions 11(j) (v) or 11(j) (vi) and the cotton sacks mentioned in Condition 11(j) (iii) available for use within the Active Construction Sites at all times.
- k. MTO shall release all Butler's Gartersnake individuals captured within the Permit Lands in accordance with the following conditions. These conditions apply to Butler's Gartersnake individuals captured as a result of a targeted salvage operation conducted in accordance with Condition 11(j), and all Butler's Gartersnake individuals that are incidentally encountered and captured:
- i) All Butler's Gartersnake individuals captured between the start of the Active Season and August 31<sup>st</sup> of any year shall be released in the Restoration Sites, or other areas that have been approved by MNR outside of Active Construction Sites and outside of the Impact Sites that contain habitat suitable to support for Butler's Gartersnake.
  - ii) Despite Condition 11(k)(i), MTO may capture and release Butler's Gartersnake individuals other than at a time falling between the start of the Active Season and August 31<sup>st</sup> of any year, if:
    - Doing so would result in equal or greater protection to Butler's Gartersnake individuals than if the capture and release occurred between those dates, and
    - The capture and release is conducted in accordance with the approved Butler's Gartersnake Management Plan, or
    - MTO receives prior approval by MNR.
  - iii) No adult Butler's Gartersnake individuals shall be relocated more than 50m from the capture site, unless otherwise authorized by MNR or in accordance with the approved Butler's Gartersnake Management Plan.
  - iv) Juvenile Butler's Gartersnake individuals that have not previously over-wintered (hibernated) shall be released in the Restoration Sites or in an area outside the Active Construction Site approved by MNR.

- v) MTO shall ensure that all captured Butler's Gartersnake individuals are released within 0.5 metres of a suitable natural or artificial cover object and encouraged to take shelter under that object or, shall place the snake under the cover object if it is possible to do so in such a manner as to avoid any potential injury to the Butler's Gartersnake individuals.
  - vi) Should Butler's Gartersnake individuals be incidentally encountered within the Permit Lands, or should an active hibernaculum be uncovered between September 1<sup>st</sup> of one year and the start of the Active Season of the following year, MTO shall capture the Butler's Gartersnake individuals and follow the appropriate course of action identified in the approved Butler's Gartersnake Management Plan. Any release of these individuals shall be in accordance with conditions 11(k) (i) to (v).
- I. MTO shall carry out activities for the mitigation of impacts on the habitat of Butler's Gartersnake, in accordance with this Condition:
- i) MTO shall develop habitat creation and restoration provisions in the Butler's Gartersnake Management Plan and shall have the Plan approved by MNR prior to undertaking any habitat restoration, enhancement, creation or other mitigation activities.
  - ii) MTO shall create new key habitat features sufficient to support the Butler's Gartersnake individuals captured from within the Impact Sites and released at the Restoration Sites, in accordance with the approved Butler's Gartersnake Management Plan, or as otherwise authorized by MNR. The new key habitat features shall be created at a ratio of 3 to every 1 that is damaged or destroyed.
  - iii) The 3 to 1 ratio set out in condition 11 (I) (ii) applies to confirmed hibernacula and live birthing sites that will be damaged or destroyed. Under the 3 to 1 ratio:
    - One feature must be created prior to damaging or destroying the impacted key habitat feature, and the remaining 2 features shall be created prior to December 31st, 2019.

- MTO shall create all new hibernacula in accordance with the directions and plans developed and implemented by the Toronto Zoo (Appendix C), unless otherwise directed by MNR.
- iv) MTO shall restore, enhance or create habitat suitable to support Butler's Gartersnake individuals in the amount of 10.75 hectares within the [REDACTED] Restoration Site.
  - v) In other Restoration Sites, MTO shall identify the total area of habitat for Butler's Gartersnake that will be impacted by construction within the ESA Footprint, and provide the total area to MNR in writing no later than March 30<sup>th</sup>, 2012. Based on the total area of Butler's Gartersnake habitat that will be impacted, MTO shall create, enhance or restore habitat for Butler's Gartersnake at a ratio of 2 hectares to every 1 hectare that is damaged or destroyed, provided that a minimum area of 15 hectares of habitat for Butler's Gartersnake shall be created, enhanced or restored prior to December 31<sup>st</sup>, 2019. MTO shall obtain the approval of MNR for the specific locations of lands where it will restore, enhance or create habitat.
  - vi) The restored or enhanced habitat referred to in conditions 11(I) (iv) and (v) shall include open foraging habitat, thermoregulation sites, cover for concealment, suitable live birthing and hibernation sites, and natural corridors linking all of these habitat elements.
  - vii) Prior to relocating any snakes from the Impact Sites to the Restoration Sites and prior to any construction within the Impact Sites, MTO shall ensure that Butler's Gartersnake habitat at the Restoration Sites has been restored, enhanced or created in accordance with Conditions 11(I)(ii), (iii) and (iv).
  - viii) The MTO may restore, enhance or create a portion of the habitat for Butler's Gartersnake required under condition 11(I) (v), on lands located outside of the Permit Lands, if the specific locations are approved by MNR as suitable to sustain the species and specified in the Butler's Gartersnake Management Plan. The amount of land outside the Permit Lands used for this purpose shall not exceed 25% of the area of the Restoration Sites.

- m. MTO shall install permanent barriers adjacent to habitat of Butler's Gartersnake that are suitable for preventing Butler's Gartersnake individuals from accessing the freeway and service roads of the Windsor Essex Parkway. The barrier will be designed to allow Butler's Gartersnake individuals to access ecopassages and other natural linkages. Barrier locations, specifications and installation methods shall be approved by MNR.
- n. The damage, destruction or removal of any known or suspected Butler's Gartersnake live birthing sites located within the ESA Footprint shall occur in accordance with the following conditions:
  - i) Known or suspected live birthing sites shall not be damaged, destroyed, removed or interfered with between the start of the Active Season and August 15<sup>th</sup> in any year.
  - ii) The known or suspected live birthing site shall be carefully examined by a person considered to be an expert on Butler's Gartersnake to determine whether there are Butler's Gartersnake neonates or multiple gravid females are present.
  - iii) If the expert determines there are no Butler's Gartersnake neonates or gravid females present within the known or suspected live birthing site, the site may be damaged, destroyed or altered.
  - iv) If the expert determines there are Butler's Gartersnake neonates present within the known or suspected live birthing site, MTO shall capture, store and release the individuals into a created or natural live birthing site outside the Active Construction Site in accordance with Conditions 11(j) and (k).
  - v) If the expert determines that multiple gravid female Butler's Gartersnakes are present within the known or suspected live birthing site, the gravid female(s) will be taken into captivity until post partum at which time MTO shall capture and release the Butler's Gartersnake individuals in accordance with Conditions 11(j) and (k).
- o. MTO shall immediately transport Butler's Gartersnake individuals that have been injured beyond the possibility of unassisted

recovery to a member of the College of Veterinarians of Ontario for treatment or euthanasia.

- i) MTO shall select a member of the College of Veterinarians of Ontario who is trained to handle and treat or euthanize snakes.
  - ii) MTO shall report such incidents to the designated representative of the MNR Aylmer District office within 24 hours or the end of the next working day, whichever occurs first.
- p. MTO shall contact the designated representative of the MNR Aylmer District office within 72 hours, or as otherwise approved by MNR, if a Butler's Gartersnake individual is killed as a result of any activity authorized by this Permit, or if any person conducting an activity authorized by this Permit should find a deceased Butler's Gartersnake.
  - i) MTO shall handle the carcasses of all deceased Butler's Gartersnake individuals in accordance with the MNR approved Butler's Gartersnake Management Plan.
- q. MTO shall ensure that the fencing surrounding the Butler's Gartersnake [REDACTED] is maintained. Any alterations to the fencing must be approved by MNR.
- r. MTO shall have scientific research studies undertaken in accordance with this condition. The studies shall be undertaken by qualified experts, chosen in consultation with MNR and approved by MNR. The studies shall be as follows:
  - i) A habitat selection study that employs recognized habitat selection analyses and scientific methodologies for the purpose of identifying habitat use by Butler's Gartersnake within the Permit Lands in order to guide future habitat management activities for Butler's Gartersnake. Upon completion of the study, MTO shall use its results to prepare a scientific research paper and submit it for publication in a peer reviewed journal.
  - ii) A pilot project that employs scientifically tested snake road crossing designs for the purposes of identifying whether underpasses are effective in creating habitat connectivity and preventing road mortality of Butler's

Gartersnakes. To facilitate this study, MTO shall create an ecopassage under an existing road that bisects areas known to be occupied by Butler's Gartersnakes. The project shall include monitoring of the ecopassage carried out over a minimum of two Active Seasons after it is constructed. The preferred location of the ecopassage will be at a road with active public use, and the location of the ecopassage shall be approved by MNR.

- iii) Four scientific research papers, based on research and data collection within the Permit Lands on the following topics in relation to Butler's Gartersnake. These papers shall be submitted for publication in peer reviewed scientific journals:
  - Population size and growth.
  - Movement patterns.
  - Key habitat features.
  - Behaviour.
  
- s. MTO shall develop best management practices with respect to Butler's Gartersnake for vegetation maintenance practices. Management practices shall include at a minimum:
  - Optimal timing windows for grass mowing.
  - Minimum heights for mower blades in sensitive areas.
  - A map indicating sensitive areas for Butler's Gartersnakes within the Permit Lands where the best management practices should be targeted.
  
- i) When the best management practices are developed, they shall be approved by MNR and incorporated in to the Butler's Gartersnake Management Plan.
  
- ii) MTO shall allow the MNR to make the best management practices that are developed under this condition available for general public use.

- t. During the time that this permit is in effect, MTO shall undertake the following stewardship activities on a continuing basis within the City of Windsor and the Town of LaSalle:
- Promote the vegetation maintenance best management practices with respect to Butler's Gartersnake that are developed under condition 11(s).
  - Develop and distribute educational materials related to tall grass prairie restoration and creation.
  - Identify opportunities for tall grass prairie restoration efforts in areas suitable for habitat of Butler's Gartersnake.
  - Outreach to private property owners to encourage and develop initiatives that will increase public knowledge and promote protection of Butler's Gartersnake.
- u. MTO shall ensure that the design of [REDACTED] of the WEP allows for the passage of snakes and is constructed in accordance with the following conditions:
- i) An ecopassage shall be created that will connect the [REDACTED] with the [REDACTED], and will allow movement of Butlers Gartersnake and Eastern Foxsnake between these two areas.
  - ii) MTO shall construct a culvert under the multi-use trail on [REDACTED] to allow for the passage of snakes. The design and location of the culvert under the multi-use trail shall be approved by the MNR.
  - iii) Despite condition 11(u) (ii), MTO may allow for the passage of snakes across the multi-use trail by means other than a culvert, if it provides greater or equal protection to Butler's Gartersnake, subject to approval by MNR.
- v. On an annual basis while this permit is in effect, MTO shall support the activities of conservation or stewardship organizations which conduct research on, or work to create, restore or conserve tall grass prairie suitable for habitat of Butler's Gartersnake in Ontario.



MTO shall meet with MNR annually to decide upon the measures that MTO will undertake to fulfill this condition, and the selected conservation or stewardship activities and organizations that MTO will support shall be approved by MNR.

**Long-term protection of the Butler's Gartersnake Restoration Site**

- w. Before the expiry of this Permit, MTO shall provide for the long-term protection of Butler's Gartersnake individuals and their habitat within the Restoration Sites by granting a conservation easement to a conservation body under the *Conservation Land Act*, R.S.O. 1990, c. C. 28. The conservation body and the terms of the conservation easement must be approved by MNR.
- x. Despite Condition 11(w), MTO may provide for the long-term protection of Butler's Gartersnake individuals and their habitat located within the Restoration Sites by a method other than by granting a conservation easement, if that method is approved by MNR as providing equal or greater long-term protection than a conservation easement.

**Eastern Foxsnake (Carolinian population) (*Pantherophis gloydi*)**

12. Activities authorized by this Permit in relation to Eastern Foxsnake (Carolinian population), ("Eastern Foxsnake") as well as activities required to mitigate impacts on Eastern Foxsnake individuals, shall occur in accordance with this Condition:

- a. In this Condition the following words shall have the following meanings:
  - i) "Key habitat feature" means hibernacula, egg-laying nest or brush pile
  - ii) "Relocate" means to move to a new location.
  - iii) "Targeted salvage operation" means a concerted effort to capture all Eastern Foxsnake individuals in a given area by repeating specified capture methodologies over a specified period of time.
  - iv) "Active search" means a concerted effort to capture all Eastern Foxsnake individuals in a given area by walking through suitable habitat and actively lifting or

deconstructing suitable habitat features and searching known or suitable basking sites.

- v) "Incidental encounter" means whenever an Eastern Foxsnake individual is encountered outside of a targeted salvage operation.
- b. MTO shall develop an Eastern Foxsnake Management Plan, which must be approved by MNR prior to undertaking any activity that will have an impact on Eastern Foxsnake individuals within the ESA Footprint. The approved Eastern Foxsnake Management Plan must provide detailed information with respect to the goals, methods and techniques MTO will adopt for activities relating to Eastern Foxsnake and must, at a minimum, address the following:
- i) Site alternation timing windows
  - ii) Capture and release protocols and methodologies
  - iii) Capture and release timing windows
  - iv) Protocol for over-wintering Eastern Foxsnakes
  - v) Eastern Foxsnake habitat enhancement, restoration, creation and management methodologies and timelines
  - vi) Eastern Foxsnake key habitat feature creation protocols and designs
  - vii) Monitoring of created key habitat features
  - viii) Adaptive management strategies
- c. MTO shall carry out activities described in the approved Eastern Foxsnake Management Plan in accordance with that plan.
- d. MTO shall erect temporary Eastern Foxsnake barriers at Active Construction Sites that are within or adjacent to Eastern Foxsnake habitat.
- i) The temporary Eastern Foxsnake barrier shall be effective and shall be designed to prevent Eastern Foxsnake individuals from entering or re-entering the Active Construction Sites, in accordance with the approved Eastern Foxsnake Restoration and Management Plan.

- ii) MTO shall ensure that temporary Eastern Foxsnake barriers are erected, by April 15<sup>th</sup> of any year, or another date approved by MNR, at all sites where construction will be occurring in that year.
  - ix) During construction, MTO shall inspect all temporary Eastern Foxsnake barriers daily when the snakes are not hibernating, and shall capture, transport and release any Eastern Foxsnake individuals found inside the barriers in accordance with Conditions 12(g) and (h).
  - x) The temporary Eastern Foxsnake barriers shall remain in position until all construction activities have ceased and will be maintained to ensure that there are no openings by which Eastern Foxsnake individuals may enter or re-enter the Active Construction Site.
- e. MTO shall make every reasonable effort to capture Eastern Foxsnake individuals in accordance with Condition 12(g), whenever they are encountered within the ESA Footprint through a targeted salvage operation in accordance with Condition 12(g) or, when incidentally encountered within the Active Construction Sites. MTO shall release all captured Eastern Foxsnake individuals in accordance with Condition 12(h).
- f. Before any person may be involved in a targeted salvage operation or in the release of Eastern Foxsnakes, MTO shall ensure that the person receives training in proper snake handling procedures.
  - i) MTO must keep records of this training on file and must make these records available to MNR upon request.
- g. Prior to the commencement of any construction activities within Active Construction Sites that are within or adjacent to Eastern Foxsnake habitat and between the dates of April 15<sup>th</sup> and October 15<sup>th</sup> of any year, MTO shall conduct targeted salvage operations to capture Eastern Foxsnake individuals. MTO shall again conduct a targeted salvage operation immediately prior to beginning construction or as approved by MNR. All targeted salvage operations shall be in accordance with the approved Eastern Foxsnake Management Plan and in accordance with the following conditions:

- i) MTO shall use both cover boards and active searching methods to assist with the capture of all Eastern Foxsnake individuals encountered in Active Construction Sites.
- ii) MTO shall conduct active searching operations involving:
  - Daily searches of the Active Construction Sites at which temporary Eastern Foxsnake barriers have been erected shall occur from 1 hour after dawn until 1 hour before dusk, over a minimum of five consecutive days.
  - Examination and deconstruction of all known or suspected key habitat features as well as other point source features, including but not limited to debris piles, woodpiles, brush piles, logs, tree stumps, compost piles and leaf piles, within the Active Construction Sites.
- iii) MTO shall conduct cover board salvage operations as follows:
  - Coverboards approved by MNR shall be placed at an appropriate density for snake salvage, throughout the Active Construction Sites, no later than March 15<sup>th</sup> in any year.
  - The underside of all cover boards shall be inspected for Eastern Foxsnake individuals every day for the duration of the salvage operation, between the hours of 6:00 p.m. to 9:00 p.m., unless otherwise directed by MNR.
- iv) MTO shall transfer any captured Eastern Foxsnake individuals into an individual, light-coloured, drawstring cotton sack, before placing it into an Eastern Foxsnake Storage Tub (described in Condition 12(g)(v)).
- v) MTO shall ensure that Eastern Foxsnake Storage Tubs are light in colour and have non-airtight lids that latch closed.
- vi) Despite Condition 12(g) (v) MTO may use tubs that provide equal or greater protection for Eastern

Foxsnake individuals than the tubs described in that condition, if identified in the approved Eastern Foxsnake Management Plan or as approved by MNR.

- vii) MTO shall make the Storage Tubs mentioned in Conditions 12(g)(v) or (vi) and the cotton sacks mentioned in Condition 12(g)(iv) available for use within Active Construction Sites at all times.
  - viii) MTO shall store captured Eastern Foxsnake individuals out of direct sunlight, for a maximum of 24 hours before releasing them in accordance with Condition 12(h).
  - ix) Despite Condition 12(g)(viii), if Eastern Foxsnake individuals will be used for radio telemetry monitoring, Eastern Foxsnake individuals may be stored for a period of up to 72 hours, unless otherwise specified by a member of the College of Veterinarians of Ontario.
- h. MTO shall release all Eastern Foxsnake individuals captured within Active Construction Sites in accordance with the following conditions:
- i) All Eastern Foxsnake individuals captured as a result of the salvage operation outlined in Condition 12(g) and all Eastern Foxsnake individuals that are incidentally encountered and captured within Active Construction Sites between April 1<sup>st</sup> and August 31<sup>st</sup> of any year shall be released in the Restoration Sites or an area approved by MNR that is outside the Active Construction Site that is associated with a natural linkage to suitable habitat features and shall not be more than 250m from the capture site.
  - ii) Any Eastern Foxsnake individuals incidentally encountered within Active Construction Sites between September 1<sup>st</sup> and October 31<sup>st</sup> of any year shall be captured and MTO shall follow the appropriate course of action identified in the approved Eastern Foxsnake Management Plan.
  - iii) Should Eastern Foxsnake individuals be incidentally encountered within the Active Construction Site between November 1<sup>st</sup> and March 31<sup>st</sup> of any two consecutive years, or should an active hibernacula be uncovered, MTO shall capture the snakes, store them in individual, light-coloured, drawstring cotton sacks

which are placed into an Eastern Foxsnake Storage Tub described in Condition 12(g)(v) or (vi), and then immediately contact the designated representative of the MNR Aylmer District office immediately to seek direction. MTO shall ensure that the Eastern Foxsnake Storage Tub with the captured snakes is stored in a building or vehicle at a temperature between 4 and 10 degrees Celsius until the Eastern Foxsnake individuals are retrieved. Alternatively, MTO may follow the appropriate course of action identified in the approved Eastern Foxsnake Management Plan.

- iv) MTO shall ensure that all captured Eastern Foxsnake individuals are released within 0.5 metres of a suitable natural or artificial cover object and encouraged to take shelter under that object or, shall place the Eastern Foxsnake individual under the cover object if it is possible to do so in such a manner as to avoid any potential injury to the Eastern Foxsnake individual.
- i. Subject to Condition 10, the demolition or removal of any house, shed, barn or other building, culvert or dug well located within the ESA Footprint shall only occur in accordance with the following conditions:
- i) Prior to demolition or removal, structures shall be screened, as per the criteria identified in the approved Eastern Foxsnake Management Plan, by a person considered to be an expert on Eastern Foxsnake, to determine whether the structure may serve as Eastern Foxsnake habitat. Other human-made structures will be identified and screened in accordance with the protocol identified in the approved Eastern Foxsnake Management Plan, or as approved by MNR.
  - ii) Prior to demolition or removal, all structures that have been determined through the screening in Condition 12(i)(i) to be suitable habitat for Eastern Foxsnake shall be examined by a person considered to be an expert on Eastern Foxsnake, to determine whether the structure does serve as Eastern Foxsnake habitat and whether there are Eastern Foxsnake individuals present within or under the structure.
  - iii) If the expert determines that Eastern Foxsnake individuals are present within or under the structure between April 1<sup>st</sup> and August 31<sup>st</sup> of any year, MTO shall

capture, transport and release the snakes to a location outside the Active Construction Site in accordance with Conditions 12(g) and (h).

- iv) If the expert determines that Eastern Foxsnake individuals are present within or under the structure between September 1<sup>st</sup> and October 31<sup>st</sup> of any year, MTO shall capture, transport and release the snakes in the manner identified in the MNR approved Eastern Foxsnake Management Plan.
  - v) If the expert determines that Eastern Foxsnake individuals are present within or under the structure between November 1<sup>st</sup> and March 31<sup>st</sup> of any year, MTO shall leave the structure undisturbed until after April 1<sup>st</sup>, at which time MTO shall capture, transport and release the individuals in accordance with Conditions 12(g) and (h). Thereafter, MTO may demolish or remove the structure.
- j. The damage, destruction or removal of any known or suspected natural hibernation site located within the ESA Footprint shall only occur between April 15<sup>th</sup> and September 1<sup>st</sup> of any year and after the following screening measures have been taken:
- i) The natural hibernation site shall be examined by a person considered to be an expert on Eastern Foxsnake to determine whether there are Eastern Foxsnake individuals present.
  - ii) If the expert determines there are no Eastern Foxsnake individuals are present within or under the known or suspected natural hibernation site, MTO may damage, destroy or alter the hibernation site.
  - iii) If the expert determines there are Eastern Foxsnake individuals present within or under the known or suspected natural hibernation site between April 15<sup>th</sup> and September 1<sup>st</sup>, MTO shall capture, transport and release the snakes in accordance with Conditions 12(g) and (h).
  - iv) If an Eastern Foxsnake natural hibernation site is incidentally encountered between September 1<sup>st</sup> and October 31<sup>st</sup> of any year, and the expert determines there are Eastern Foxsnake individuals present within or under

the feature, MTO shall follow the appropriate course of action identified in the MNR approved Management Plan.

- v) If an Eastern Foxsnake natural hibernation site is incidentally encountered between November 1<sup>st</sup> and March 31<sup>st</sup> of any year, and the expert determines there are Eastern Foxsnake individuals present within or under the feature, MTO shall leave the feature undisturbed until after May 1<sup>st</sup>, at which time MTO shall capture, transport and release the individuals in accordance with Conditions 12(g) and (h). Thereafter, MTO may demolish or removed the hibernation site.
- k. The damage, destruction or removal of any known or suspected Eastern Foxsnake nesting site located within the ESA Footprint shall occur in accordance with the following conditions:
- i) The known or suspected nesting site shall be carefully examined by a person considered to be an expert on Eastern Foxsnake to determine whether there are Eastern Foxsnake individuals or Eastern Foxsnake eggs present.
  - ii) If the expert determines there are no Eastern Foxsnake individuals or Eastern Foxsnake eggs present within the known or suspected nesting site, the site may be damaged, destroyed or altered.
  - iii) If the expert determines there are Eastern Foxsnake individuals present within the known or suspected nesting site, MTO shall capture, store and release the individuals into a created or natural nesting site outside the Active Construction Site in accordance with Conditions 12(g) and (h).
  - iv) If the expert determines Eastern Foxsnake eggs are present within the known or suspected nesting site, the site shall be enclosed with temporary Eastern Foxsnake barriers, monitored on a daily basis and left undisturbed until the eggs have hatched. The hatched juvenile Eastern Foxsnake individuals shall be captured and released in accordance with Conditions 12(g) and (h).
- l. MTO shall install permanent barriers adjacent to habitat of Eastern Foxsnake that are suitable for preventing Eastern Foxsnake individuals from accessing the freeway and service roads of the Windsor Essex



Parkway. The barrier will be designed to allow Eastern Foxsnake individuals to access ecopassages and other natural linkages. Barrier locations, specifications and installation methods shall be approved by MNR.

- m. MTO shall conduct an external and internal visual inspection of all pieces of equipment on the active construction site prior to start-up or operation.
- n. MTO shall use Curlex® NetFree™ 100% biodegradable erosion control blankets for all erosion control.
- o. Despite Condition 12(n), MTO may use alternative erosion control blankets that provide equal or greater protection to Eastern Foxsnake individuals than the blankets described in that condition, as approved by MNR.
- p. MTO shall immediately transport any Eastern Foxsnake individuals that have been injured beyond possibility of self-recovery to a member of the College of Veterinarians of Ontario for treatment and/or euthanasia.
  - i) MTO shall select a member of the College of Veterinarians of Ontario who is trained to handle and treat or euthanize snakes.
  - ii) MTO shall report such incidents to the designated representative of the MNR Aylmer District office within 24 hours or the end of next business day, whichever occurs first.
- q. MTO shall contact the designated representative of the MNR Aylmer District office within 72 hours if an Eastern Foxsnake individual is killed as a result of any activity authorized under this Permit, or if any person conducting an activity authorized under this Permit finds a deceased Eastern Foxsnake individual.
  - i) MTO shall transport the carcasses of all deceased Eastern Foxsnake individuals encountered to the MNR Aylmer District office within 72 hours of contacting the designated representative.

13. MTO shall carry out activities for the mitigation of impacts on the habitat of Eastern Foxsnake, in accordance with this Condition:

- a. MTO shall develop habitat creation and restoration provisions in the Eastern Foxsnake Management Plan, which must be approved by MNR.
- b. Prior to December 31st, 2019, MTO shall enhance or create habitat that is suitable to support Eastern Foxsnake across 110 hectares.
  - i) MTO shall select areas for habitat enhancement or creation that provide natural linkages between existing and created habitat features, foraging opportunities and cover opportunities.
- c. MTO shall create new key habitat features at a ratio of 3 to every 1 that is damaged or destroyed, and in accordance with the following conditions:
  - Under the 3 to 1 ratio, one new key habitat feature must be created prior to damaging or destroying the impacted key habitat feature or relocating Eastern Foxsnake individuals. The remaining 2 features shall be created prior to December 31<sup>st</sup>, 2019.
  - MTO shall create all new hibernacula in accordance with the directions and plans developed and implemented by the Toronto Zoo (Appendix C), unless otherwise directed by MNR.
- d. MTO shall create new key habitat features required by this Permit within 50 – 250 meters of the existing features that will be destroyed by construction of the Windsor-Essex Parkway, unless otherwise authorized by MNR. The new key habitat features must be directly adjacent to, and connected with a natural linkage to other Eastern Foxsnake habitat.
  - All created key habitat feature locations and designs must be approved by MNR.

14. MTO shall retain a qualified biologist to monitor and report on the capture and release of Butler's Gartersnakes and Eastern Foxsnakes occurring under this Permit, and to monitor and report on the progress of habitat enhancement and creation for Butler's Gartersnakes and Eastern Foxsnakes occurring under this Permit. The qualified biologist must monitor and report on these activities throughout all stages of construction, and for a period of five years post construction, as follows:

- a. Prior to undertaking any construction activity, targeted salvage operation, habitat restoration, enhancement, or creation activities, MTO shall develop a Snake Monitoring Plan, which must be approved by MNR. The Snake Monitoring Plan shall include detailed information on the following, at a minimum:
  - i) Mark-recapture (through cover board use) survey methodologies and timelines for Butler's Gartersnake.
  - ii) Radio telemetry survey methodologies and timelines for Butler's Gartersnake.
  - iii) Active survey methodologies and timelines for Eastern Foxsnake.
  - iv) Radio telemetry survey methodologies and timelines for Eastern Foxsnake.
  - v) Monitoring methodologies and timelines for captured Butler's Gartersnakes and captured Eastern Foxsnakes that were released within the Permit Lands outside the Active Construction Site(s).
  - vi) Plans for daily inspections of construction equipment at the Active Construction Site.
  - vii) Timing for snake management in relation to construction activities.
- b. MTO shall carry out activities described in the approved Snake Monitoring Plan in accordance with that plan.
- c. MTO shall provide annual monitoring reports to MNR and to the Ontario Natural Heritage Information Centre, starting one year after the Permit comes in to effect. The monitoring reports shall contain the following information with respect to Butler's Gartersnake and Eastern Foxsnake:
  - i) Date of capture and release.
  - ii) Location of capture and release, including coordinates and datum.
  - iii) Date and type of tending.

- iv) Health status of released individuals: good, poor, or dead.
- v) Number of captured, released, relocated, injured and deceased individuals.
- vi) Whether or not natural reproduction is occurring.
- vii) Effectiveness of temporary and permanent snake exclusion barriers.
- viii) Effectiveness of targeted salvage operations.
- ix) Status and effectiveness of all habitat restoration, enhancement or creation efforts occurring in compliance with the conditions of this Permit.
- x) Status of restored, enhanced or created habitat and created key habitat features.
- xi) Damage to habitat by wildlife, people or events.
- xii) Photographic record of restored, enhanced or created habitat.
- xiii) Effectiveness of mitigation measures and adaptive management.

d. The designated representatives for MNR and MTO, identified in Conditions 3 and 6 shall organize annual meetings to discuss the annual reports and discuss opportunities for adaptive management.

- i) The designated representatives for MNR and MTO may invite additional persons to attend the meetings.

15. MTO shall submit a Final Report, no later than December 31<sup>st</sup> 2021, which summarizes all monitoring activities conducted throughout the entire construction and post-construction monitoring periods and summarizes the status and success or failure of all mitigation actions.

16. This permit comes in to effect on the date it is signed.

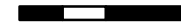




LEGEND

-  ESA Footprint
-  WEP Footprint
-  Permit Lands

400 200 0 400 metres



Data Sources: LGL Limited field surveys, Spring 2006  
aerial photography.

APPENDIX A  
PERMIT LANDS AND  
ESA FOOTPRINT



<b>Project:</b> TA8008	<b>Appendix:</b> A
<b>Date:</b> June 2011	<b>Prepared By:</b> MWF
<b>Scale:</b> 1 : 35,000	<b>Checked By:</b> CJA

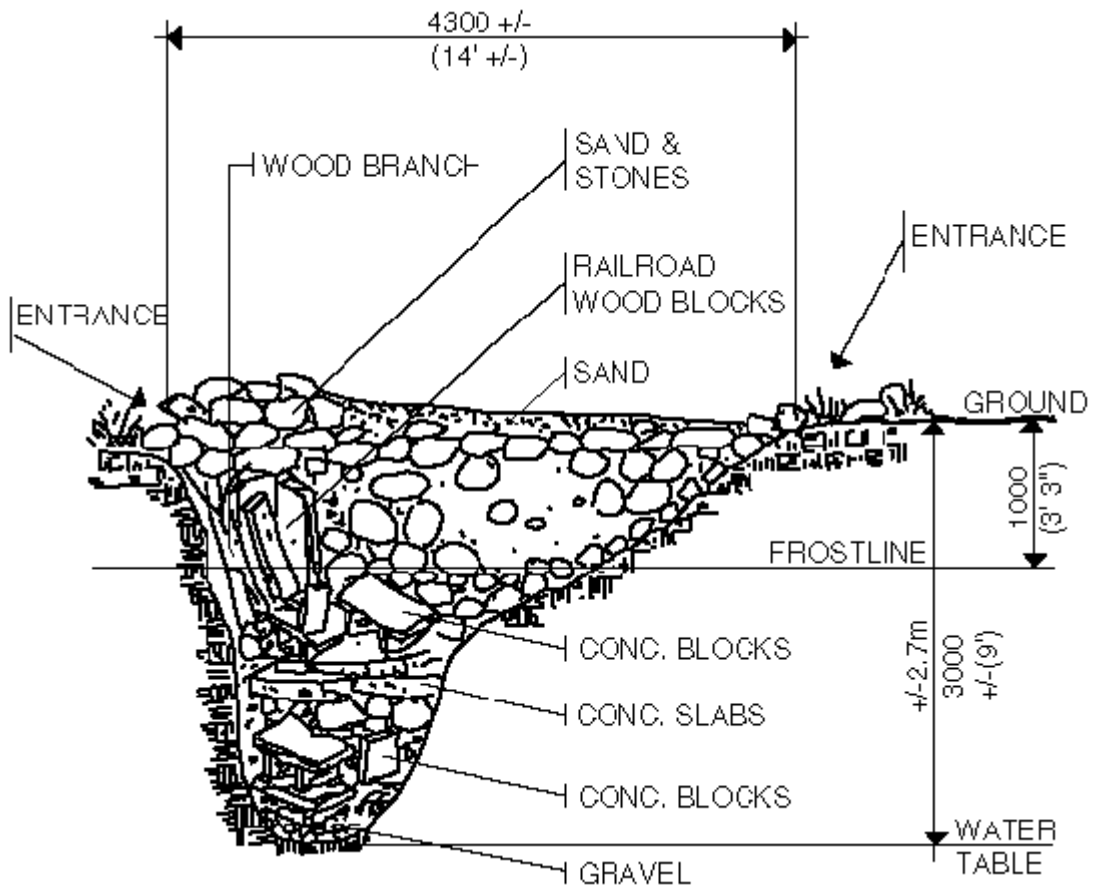


## Appendix B

*This appendix has been removed as it indicates location of sensitive species.*

## **Appendix C – Toronto Zoo Hibernacula Construction Plans and Instructions**

1. Select a well-drained site protected from cold winds, with good sun exposure (south-facing). Ensure that surface and ground water flows away from the site (i.e. build on upland areas). If not, drainage pipes below the frost line may be required to prevent flooding.
2. Your snake hibernaculum can be sized to fit the available space, but it must be deeper than the frost line (at least 2 meters deep). Snakes prefer an overwintering site that is close to the water table, but not flooded. Moist air ensures that snakes do not dehydrate over the dry winter months.
3. Place rubble in the bottom to create chambers for the snakes. Chambers created at different depths allow the snakes to move vertically and horizontally to select a preferred temperature/humidity microhabitat.
4. Concrete blocks or PVC drain pipes (with holes cut into the sides along the length of the pipe) can be used for entrances and passages to allow the snakes multi-level access. Snakes use these passage ways to move to the bottom of the pit and into the underground chambers. It is necessary to hand place the concrete blocks to ensure that a space or tunnel extends down into the bottom of the pit at each of the corners. Continue to fill the pit with larger rocks, old concrete blocks and slabs, maintaining as many openings and chambers as possible.
5. Cap with an insulating layer of smaller rock rubble. Be sure to leave the entrances open and keep the top clear of shrubs that may grow as the site matures.
6. Protect emerging snakes from predators by having cover objects such as logs, rock piles, brush and uncut grass nearby.
7. In the spring (mid April to late May), monitor your site to determine if wildlife are using the hibernaculum.



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