

TERMS OF REFERENCE FOR REPORT PREPARATION

1 GENERAL

- 1.1. Reports are to be prepared as per the attached Terms of Reference for Professional Reports to the City of Kelowna.
- 1.2. The policy, legislation, bylaw or regulatory framework that triggered the preparation of the Environmental Assessment must be clearly described within the introductory section of the EA.
- 1.3. As with all reports, an integrative approach is critical to the assessment of impacts and development of recommendations. Consultants must consider and integrate relevant findings and recommendations from other studies completed or underway that relate to the site, as part of the Environmental Assessment.
- 1.4. The complete Environmental Assessment (EA) is to include the following phases:
 - 1.4.1. **Environmental Inventory Phase**, or pre-planning phase, based on existing biological and physical conditions, or such conditions prior to any recent site disturbances.
 - 1.4.2. **Impact Assessment Phase** outlining the impact of proposed or intended developments to be addressed in the EA.
 - 1.4.3. **Protection, Mitigation, Compensation, and Implementation Strategy** presenting recommendations to prevent or minimize impacts from development activities on the natural environment.

2. ENVIRONMENTAL INVENTORY

- 2.1. A fundamental task within the Inventory Phase is the stratification of communities occurring within the study area based on their environmental sensitivity. This is a key element in the planning process as it identifies area constraints and opportunities (avoidance/conservation, mitigation, and restoration) thus encouraging a more sensitively integrated and sustainable development plan. Although exclusive ESA criteria have not been formally adopted by the City, the following four-class rating system has been adopted by the RDCO, as adapted from the works of local Registered Professional Biologists, and is widely applied throughout the Okanagan Valley:

ESA – 1 (Very High) - These areas contain significant vegetation and wildlife characteristics representing a diverse range of sensitive habitat. These features contribute significantly to the overall connectivity of the habitat and ecosystems. Avoidance and conservation of ESA-1 designations should be the primary objective. If development should occur within these areas, compensation to promote no net loss 3:1 of equivalent functioning habitat may be required only after it proves impossible or impractical to maintain the same level of ecological function. Refer to City of Kelowna OCP Chapter 7.8 for aquatic habitat compensation policies.

ESA – 2 (High) - These areas of moderate significance, contribute toward the overall diversity and contiguous nature of the surrounding natural features. If development is pursued in these areas portions of the habitat should be retained and integrated to maintain the contiguous nature of the landscape. Some loss to these ESAs can be offset by habitat improvements to the remaining natural areas found on property.

ESA – 3 (Moderate) - These areas are typically polygons delineated as low significance representing disturbed habitats or fragmented features. These areas contribute to the diversity to the landscape, although based on the condition and adjacency of each habitat the significant function within the landscape is limited. If development is pursued in these areas the impacts should be offset by habitat improvements in other more sensitive natural areas found on property.

ESA – 4 (Low) - These delineated areas contribute little or no value to the overall diversity or vegetation, soils, terrain and wildlife characteristics of the area. Development is encouraged to be focused to these sites before consideration developing higher rated sites of the area. These areas shall not be considered as areas for restoration and enhancement or as recruitment as higher value ESA in offsetting development in other areas.

ESA Criteria - A complexity of factors may contribute to an area's environmental sensitivity rating. Although an exclusive ESA criterion has not been formally adopted by the City of Kelowna, principle components will be required in evaluating communities/polygons. At a minimum, communities/polygons will be stratified and evaluated in terms of habitat/ecosystem rarity, wildlife habitat suitability, rare and endangered species' occurrence potential, functional condition (i.e., ecological connectivity, level of disturbance, seral stage, structural stage etc.), and fragility.

Stratifying ESAs will be completed from a primarily objective approach relying on existing information and a professional understanding about the functional requisites for respective wildlife, communities, and ecosystems. The specific criteria/rating system developed and used in the evaluation will be appended to the EA report. Where ESA evaluations require a more subjective approach, a clearly articulated discussion/rationale will be provided in the report.

- 2.2. The personnel completing the biophysical inventory will include, at minimum, a Qualified Environmental Professional (QEP) with extensive experience with the ecosystems and wildlife species of the Okanagan region, with standard development practices and with published Best Management Practices. The professional must be prepared to work within a comprehensive design process where the development proposal adapts to requirements from multiple approval agencies;
- 2.3. Sub consultants completing components of the EA will be appropriate Qualified Environmental Professionals with, at minimum, membership in the professional accreditation organization relevant to the contribution to the EA, as well as extensive experience in the Okanagan region, use standard development practices and published Best Management Practices. The professional must be prepared to work within a comprehensive design process where the development proposal adapts to requirements from multiple approval agencies;
- 2.4. Pre-existing information for the site collected by government agencies or in published literature will be gathered, assessed and presented. Inventory and mapping tools such as the Sensitive Habitat Inventory and Mapping (SHIM), Kelowna Shore Zone Fisheries and Wildlife Habitat Assessment (AHI), and Foreshore Inventory and Mapping (FIM) are to be considered descriptive preliminary flagging tools to identify known sensitive communities. Qualified Environmental Professionals may need to undertake further detailed assessments depending on the project scope and site conditions.
- 2.5. Conduct field assessments to meet the policy and regulatory requirements at the appropriate time of year and frequency.
- 2.6. Clearly identify gaps in the existing information and state the best ways to fill these information gaps. Provide additional fieldwork as identified to fill information gaps to reach the desired level of information to conduct the EA. Information gaps may also be filled from local information sought from other interested parties including current and past owners, neighbors, and other local groups to make up for the typical short time-frame and limited fieldwork undertaken to complete EAs.
- 2.7. Where facts are incomplete or surmised, the levels of confidence or reliability in the environmental knowledge will be assessed and documented. Knowledge gaps required for an assessment outlined in a specific TOR that could not be filled will be assessed and the impact of a lack of such knowledge documented.

3. IMPACT ASSESSMENT

- 3.1. Provide measurable parameters that will help establish whether the proposed development will cause impacts, or if mitigation can be achieved and successful;
- 3.2. Based on the proposed development options, inventory work to date and ESA mapping, describe how the development options may impact the key factors and environmental quality of the study area. Discuss the significance of these impacts to the existing environmental conditions of the study area and of the related area beyond the study area.
- 3.3. Consider and integrate findings from other studies completed or underway that relate to the site and impact assessment;
- 3.4. Discuss the sensitivity of environmental factors to potential development. Based on the inventory and ESA stratification, prepare Environmentally Sensitive Area (ESA) base maps for overlaying site maps of project components. Identify potential areas of conflict and describe the potential sensitivity of different environmental factors to anticipated alterations of the landscape by the proposed development.

Consider surrounding lands, and their uses and impacts in a Cumulative Impact Analysis. In most cases on very small parcels, individual environmental impacts may be small and therefore difficult to measure and/or assess, or seem negligible in total impact. However, cumulative impacts of the same nature on adjacent lands, or all similarly-zoned land, or all land with similar future generalized use, may be large or even extreme.

4. PROTECTION, MITIGATION, COMPENSATION, AND IMPLEMENTATION

City of Kelowna 2020 Official Community Plan Natural Environment Policies clearly encourage protection of unique or special natural features through diligent site design. As per the ESA rating system and criteria outlined in section 2, the recommended protection, mitigation, compensation and implementation strategies must demonstrate that "avoidance and conservation of ESA-1 designations" is the primary objective in developing the recommendations.

- 4.1. Provide development options that illustrate workable relationships between key factors or sensitive features of the site, and proposed development of the site (e.g. zoning, land uses, infrastructure components, buffers, protection and rehabilitation zones, etc.). Clearly present these options on site plans;
- 4.2. Describe efforts taken to avoid impacts to Very High to High Environmentally Sensitive Areas (ESA), including but not limited to, locating building and infrastructure development footprints and zones of disturbance outside of ESAs;
- 4.3. Provide protection, mitigation, compensation and enhancement recommendations for the design, preconstruction and construction phases of the project to prevent or minimize development impacts. Clearly present these recommendations on site plans.
- 4.4. Habitat Balance Sheet - Where it has been demonstrated that avoidance of Very High to High ESAs is not possible, provide a habitat balance sheet identifying the following:
 - 4.4.1. Proposed locations, amounts (m²), and types of habitat lost or negatively impacted
 - 4.4.2. Proposed locations, amounts (m²) and target habitat types to be gained through habitat construction, restoration or enhancement. Indicate whether the replacement habitat is of the same type as the lost habitat (i.e., in-kind or out-of-kind) to ensure 'like for like' compensation.
 - 4.4.3. Identify proposed impacted areas and proposed mitigation or compensation areas on an accompanying map indicating proposed development and ESAs overlap.
 - 4.4.4. Describe and provide rationale for each impact to High and Very High ESAs, efforts taken to avoid impacts, and proposed mitigation or compensation measures with appropriate compensation ratios.
 - 4.4.5. Where projects affect aquatic habitat, and compensation for loss of aquatic habitat is necessary and acceptable to the City, DFO and MOE, compensation ratios must take into account factors such as:
 - 4.4.5.1. Time lags in achieving habitat replacement.

- 4.4.5.2. Risks associated with the success of compensation measures; the relative significance of the impacted habitat (e.g. does it support threatened, endangered and / or economically important species).
 - 4.4.5.3. Whether compensation is occurring on site or off-site; and
 - 4.4.5.4. Whether the replacement habitat is of the same type as the lost aquatic habitat
 - 4.4.5.5. Demonstration of a no-net loss or a net gain in productive capacity of aquatic habitat.
- 4.5. Consider and integrate findings and recommendations from other studies completed or underway that relate to the site and impact assessment;
- 4.6. Recommend strategies to deal with linear parks including the identification of existing trails, those areas not suitable for trails (“no go zones”), as well as suitable locations for formal trails, viewing locations, access points and riparian crossings, taking into consideration sustainable trail design and construction details. Ensure coordination of linear access corridors with riparian management area requirements as per City of Kelowna OCP Section 14.1.33 (BL 9580);
- 4.7. Recommend strategies to deal with hazard conditions (e.g., forest interface buffers, fire breaks, flooding, rock-fall shadow zones). Ensure coordination with Geotechnical Assessments completed or underway;
- 4.8. Prepare drafts for proposed Restrictive Covenants, Statutory Right of Way Agreements, Easements and/or Zoning options to indicate extent of protection and limits of activity;
- 4.9. Habitat or biological assessments completed to satisfy legal requirements of other levels of government (e.g. Department of Fisheries and Oceans) may be included within an EA, but should be identified as to the requirements they are addressing and assessing, and their relationship to any City requirements. This may include:
- 4.9.1. Recommending environmental works that could mitigate fish, wildlife or environmental impacts (e.g. by providing modifications to development design, footprint, timing, equipment, or providing on/off site habitat or environmental improvements to avoid or minimize adverse impacts);
 - 4.9.2. Providing ‘typical’ design drawings in addition to text. The intent is to apprise other members of the development team of the technical considerations that need to be incorporated into the design;
 - 4.9.3. Providing improved or new fish, wildlife or environmental enhancement opportunities; and
 - 4.9.4. Providing details stating how the works or strategies for mitigation and/or enhancement will be carried out and provide approximate cost estimates (see Bonding Section below).
- 4.10. All mitigative, restoration, and compensative prescriptions will include clearly articulated performance standards that are based on the best available science and that reflect the structural and functional objectives of projects;
- 4.11. Provide recommendations for future assessments (e.g. procedures, protocol, TOR); and
- 4.12. State how the recommended strategies for mitigation and enhancement will be carried out and who is accountable for potential unintended but foreseeable impacts. Itemize recommended monitoring and reporting milestones.