Appendices

Appendix A. Core Variables and Notation

This appendix consolidates the principal symbols, variables, and operator meanings used throughout Paper A-14. Its purpose is not to introduce new claims, but to keep the gravity framework internally consistent once the paper is compiled into a full manuscript.

A.1 Foundational Gravity Variables

$\Phi^E(x)$: Entropic or collapse potential. The generated scalar landscape whose structural height encodes instability, accessibility, and collapse tension.

g(x): Gravity field in CUWF, defined as the slope of the generated landscape: g(x) := $-\nabla\Phi^E(x)$.

$\nabla\Phi^E(x)$: Gradient of the generated landscape. Points in the direction of steepest ascent; its negative gives the natural descent direction.

Δ^E: Entropic Laplacian or collapse-based regularization operator. Governs smoothing, shaping, and structural stabilization of the generated terrain.

S_E(x): Collapse-source field. The source-side quantity that sculpts the generated landscape in the CUWF-native sourcing relation.

τ: Collapse sequencing parameter. Tracks internal ordering of stabilization events and is distinct from observer-reported clock time.

κ: Effective mobility or response parameter in descent equations. In coarse-grained classical regimes it may become approximately universal.

A.2 Dynamical and Structural Objects

x: Position or state-location in the relevant configuration space. Not restricted in principle to ordinary Euclidean position.

dx/d**τ**: Descent evolution of a state with respect to collapse sequencing.

H(x): Hessian of the generated landscape, defined by H(x) := $\nabla\nabla\Phi^{E}$(x). Encodes local second-derivative structure and tidal response.

p(x, **τ**): Distribution over configurations used in the quantum-compatible continuity description.

v(x): Drift field or effective descent velocity, usually written v(x) = dx/d**τ** = $-\kappa\nabla\Phi^{E}$(x).

v_⊥(x): Tangential or contour-following component used in orbit-channel descriptions.

η(x): Effective dissipation profile governing loss of tangential persistence in orbit/inspiral language.

n_E(x): Effective structural refractive-index analogy used in the light-bending section.

A.3 Source and Coarse-Grained Mass Terms

M_E: Effective coarse-grained CUWF sourcing strength, introduced schematically through an integral of S_E over a region.

m: Classical effective mass parameter used at the interface level in expressions such as F = m g. Interpreted in CUWF as emergent coupling-and-inertia measure rather than primitive source of pull.

$U^E(x)$: Effective potential-energy bookkeeping quantity defined by $U^E(x) := m\,\Phi^E(x)$ at the observer-facing level.

N: Support or normal reaction in constraint situations. Used to explain weight as blocked descent rather than primitive pull.

Appendix B. Canonical Equation Ladder Summary

The following compact relations summarize the full mechanistic ladder of A-14 in one place. They should be read as a continuity chain, not as unrelated equations.

$$g(x) := -\nabla\Phi^E(x)$$

$$dx/d\tau = -\kappa\,\nabla\Phi^E(x)$$

$$\Delta^E\,\Phi^E(x) = S\_E(x)$$

$$\Phi^E = (\Delta^E)^{-1}\,S\_E$$

$$g = -\nabla(\Delta^E)^{-1}\,S\_E$$

$$\partial p/\partial\tau + \nabla\cdot(p\,v) = 0$$

$$v(x) = dx/d\tau = -\kappa\,\nabla\Phi^E(x)$$

$$F\_g(x) := m\,g(x) = -m\,\nabla\Phi^E(x)$$

$$U^E(x) := m\,\Phi^E(x)$$

$$F\_g(x) = -\nabla U^E(x)$$

Taken together, these relations express the full CUWF claim of A-14: source sculpts landscape, landscape defines slope, slope governs descent, and classical force-language appears only as an interface-level translation once stable macroscopic bodies and constraint conditions are introduced.

Appendix C. Layer Vocabulary Used in A-14

Because many misunderstandings arise from layer-mixing, the following terms should be kept distinct throughout the paper.

Generative layer:

The deepest explanatory layer used in A-14. Here gravity is understood as slope on a generated entropic or collapse landscape.

Interface layer:

The observer-facing layer in which force-language, weight, support reaction, and classical bookkeeping quantities are introduced.

Effective geometry layer:

The descriptive layer in which GR-like geometric summaries may be read as stable pathway summaries of the generated landscape.

Quantum layer (Q-layer):

The regime in which states are represented as spreads over accessible configurations and channel competition remains unresolved.

Measurement / record layer (M-layer):

The regime in which collapse selects a persistent history record and stabilizes one channel family strongly enough for record-compatibility.

Classical layer (C-layer):

The regime in which the record has become robust under further updates and motion appears trajectory-like and deterministic.

Reporting layer:

The calibration and metrology layer in which SI units, Newtonian constants, and ordinary observational quantities are introduced for comparison.

Appendix D. Reader Rules for Interpretation

Do not read force-language as the primitive ontology of A-14 unless the text is explicitly discussing observer-facing or classical reporting language.

Do not read geometry-language as the generative starting point unless the text is explicitly discussing effective GR-style description.

Treat Φ^{E} as generated structural height, not as a literal physical height in ordinary space.

Use τ for mechanism-level sequencing. Use ordinary clock time only after calibration or observational translation.

Treat weight as constraint reaction, not as proof that gravity itself is primitive force.

Treat orbit as channel-supported persistence, not as a contradiction to descent.

Treat black-hole no-escape as pathway closure before treating it as evidence of infinite pull.

Treat singularity language cautiously; it may reflect descriptive breakdown or layer-mapping failure rather than an ontological spike.

Appendix E. Suggested Integration Notes for Final Compilation

Keep the canonical law g(x) := $-\nabla\Phi^{E}$(x) visually consistent everywhere in the manuscript.

Keep τ and t sharply distinguished across all sections and front matter.

When using Newtonian or GR comparisons, make explicit whether the passage is mechanism-language, effective-description language, or reporting-language.

Keep all claims about dark matter, black-hole information, and quantum gravity framed as disciplined directions unless a separate quantitative derivation has been completed elsewhere in the CUWF series.

If the full compiled manuscript later includes OMML equations, convert the equation strings in Appendix B into OMML blocks while preserving the exact symbol choices used here.