District Production Protocol R05

PI-PROT-DISTRICT · 19 October 2026 · CURRENT WORKFLOW — supersedes District R04

Identity and revision

Use the existing stable family **PI-PROT-DISTRICT**, revision **R05**. This is a revision of the District Production Protocol, not a second protocol. The current pointer names R05 following Legend's 19 October publication instruction. D01-D21 identify districts; old D01 protocol aliases remain historical and no district is renumbered.

R05 retains R04's twelve stages, Gates A/B/C, four build-package groups, scale reconciliation, building handoffs and shared world requirements. It makes the construction-reference authoring sequence and its completion evidence explicit. The new coverage gate applies before a district reference kit can be called complete. It does not approve any geometry or release paused construction.

CONSOLIDATED.txt contains this guide followed by the unchanged R04 consolidated baseline. R05 controls current workflow conflicts; the previous consolidated release is retained as historical baseline. Earlier releases remain unchanged. A protocol working ZIP contains workflow documents and templates; a populated district build kit is a separate deliverable. Engine playability is neither a prerequisite to author that kit nor evidence that missing references are complete.

The twelve-stage sequence

Step	Required work	Acceptance evidence
01	Intake and atlas	Current district/scene/location extract, source revisions, selected/deferred requirements
02	Shared world frame	Boundary, datum, axes, origin, controls and neighbor connections
03	Identity and modernization	Architecture, landscape, culture, mobility and selected era behavior
04	Master and context	Controlling master, aerial/orbit coverage and player-height views; Gate A
05	Authored layout	Measured roads, parcels, placements and exact spatial exports
06	Topography	Ground/edge references, elevations and sections; Gate B
07	Asset kit	Existing global families, developer collections, new-shell justification and reuse plan
08	Building handoffs	the current Building Protocol exterior/interior scope, dimensions, shell dependencies and crosswalk
09	Engine handoff	Versioned package inventory, launcher preflight and reproducible build order

Step	Required work	Acceptance evidence
10	Blockout and sample	Connected measured blockout, representative playable building/street; Gate C
11	Expand and verify	Kit rollout, selected interiors, connections, streaming, navigation and performance
12	Release and publish	Source/evidence, atlas status, registry, manifests, current web guide and downloads

Design and rough layout can iterate together. Detailed rollout follows the accepted sample. Concept, layout, shell, engine and publication status are distinct. A template's presence does not pass a gate.

Gate A: identity and visual blueprint

Legend accepts the exact master and identity revision. Preserve the approved composition, shore, bridges, signature silhouettes, height intent and material language. Record modernization choices and any disagreement among views. An image is authoritative for its approved visual intent; metric coordinates come from a reviewed layout calibrated to that intent.

Required coverage is named by role: clean overall/overhead and separate ID overlay; front/arrival context; rear/opposite context; east and west orbits; a typical player-height street; signature place/entrance; night or observable behavior when relevant; shared-border/bridge and cross-water sightlines. Select roles by the district's terrain and use. A role can be covered by an existing approved image or explicitly marked not applicable with a reason. A critical unresolved connection/view stays open.

Every reference record names district, ID, camera role, file/hash, revision, era, assets/locations, authority and discrepancies. Include master/layout references in every new image request. Avoid redesigning the district independently at each camera angle. For Crown Key, the existing /CrownKey/reference/ aerial/orbit set is part of the visual evidence, not optional decoration.

Four build-package groups

Group	What it must explain	Crown Key historical example
A. Design references	Master, aerials/orbits, streets, entrances, identity and discrepancies	Current reference register and separate original images
B. Authored measured layout	Editable coastline, roads, bridges, parcels/placements, units and source frame	Unreal References v01 ZIP: 7 files including layout JSON, clean/labeled plan exports and build script
C. Exact layout views	Plan and two useful spatial views derived from the SAME layout revision/hash	Exact Layout Views v01 ZIP: 7 files; overhead and SE/SW views
D. Terrain and edges	Topography/shore intent, sections, slopes, retaining walls, water interfaces and calibrated height data when used	Topo References v01 ZIP: 5 PNGs and README

Yes: the three named ZIPs supplied three complementary build-input groups. None replaces the design aerials, and none by itself proves a build is correct. Exact views must match the layout revision actually being built. The historical topo images are visual intent, not a calibrated elevation raster. The protocol handoff ZIP contains templates/instructions, not those three district-source ZIPs.

PACKAGE_INVENTORY.json records role, revision, path/URL, hash, availability, authority, compatible layout hash and validator evidence. For each required group, supply valid inputs or explicitly record why it is blocked/not applicable. A recoverable local original is not a published download. Do not send a broken link as a complete handoff.

Gate B: measured layout, terrain and scale

Design units are metres; Unreal uses centimetres. Record actual axes, origin, north, sea-level datum, map transform and at least three non-collinear shared controls. Verify conversion in the real import path. Pin coastline, roads, grades, bridge endpoints/widths/clearances, parcel extents and placement transforms. Districts share one frame and the same connection records at both ends.

Compare original source, current source and current engine measurements in SCALE_RECONCILIATION.csv. Inspect imported mesh dimensions and actor/component/baked scale. Record intended changes rather than inferring them from filenames or old captions. Crown Key's v01/v02 discrepancy remains unresolved by this release; it is not permission to shrink or enlarge the island again.

Release blockout only with a named accepted layout and documented conditions. Mark incomplete terrain calibration explicitly. Never infer metres-per-pixel from a perspective aerial. Keep clean overhead, ID overlay, exact views and source JSON/model on the same revision. A later change lists effects on neighbors, bridges, parcels, buildings, interiors, skyline and travel times.

Atlas, story and reusable architecture

Read current creator decisions and the current working atlas before selecting rooms or building scope. Preserve PI-LOC IDs, scene/era status, routes, conceptual AK kit links and unresolved questions. Map requirement to placement, global asset, shell, level/room and test. Do not promote illustrative map pins or a proposed tower assignment to approved geography.

Use developer collections and a limited number of shell families. Separate geometry variants from appearance presets and district placements. Author typical rooms/floors once, then identify their instances. A district does not need a unique building for every location or a complete interior in every tower. the current Building Protocol's A-E tiers control coverage and keep technical plans separate from perspective counts.

Gate C: connected playable sample

Build a representative route, exterior and selected interior at the candidate scale. Test character/camera, furnished room clearances, roads/bridges, collision, navigation, access, water, neighboring sightlines and streaming. Compare matched engine captures to the controlling images. Legend accepts visual conformance; Quik accepts the measured technical approach. Record conditions and remaining issues.

The architecture direction is one project and one authoritative World Partition world with shared coordinates, externally stored actors and reusable assets. Load work regions in the editor. Staging maps are allowed for authoring/tests; independent district saves linked by ordinary level travel are not the default connected-city design. Choose the actual integration map after inspecting current content.

Hundreds of users in a persistent city is a design target. World Partition is spatial streaming, not multiplayer capacity or a persistence service. Test dedicated-server networking, crowded and distributed loads, NPC budgets and durable state separately. Preserve cross-water vistas through an appropriate distant representation; do not assume all distant detailed geometry remains resident.

Engine handoff, launcher and release

Specify engine/project/map version, required plugins, source paths, build/import order, deterministic seeds if used, backups, data/asset dependencies and clean-machine reproduction. The launcher is required infrastructure and remains unverified until it can resolve versions, check files/hashes, run supported jobs, surface errors and reproduce a sample. Do not claim a template implements an importer or launcher.

Release a README with gate states, package inventory, current source and screenshots/tests. Include brief, frame, connections, layout, terrain records, atlas mapping, reuse/placements, building links, shot list, approvals/change log, conformance sheet and engine/launcher QA. Update the registry, manifests and site from the current pointer. Preserve earlier revisions and source art. Only add a future district as a completed case study after it has followed these gates.

The companion shared-world brief gives Quik the integration and daily workflow. Creator-authorized Black Vault sessions, developer collections and building programs are published separately on the production desk, with status intact. This exception does not authorize unrelated Studio-only material or credentials. Workflow publication is not proof of current world readiness.

Companion pages

Production desk · Quik's brief · Developer collections · Crown Key work plan · Grove image plan · Scale register · Black Vault.

Construction-reference sequence within stages 01–09

The recovered Crown workflow is a method: analyze the controlling compact aerial, author a coordinated layout, derive its views, then author location-tied ground and shoreline references. Its historic dimensions were deliberate proposals. Copying a Crown scale, transplanting an old tracing made from another source, or assigning the same section titles to unrelated imagery does not reproduce this method.

Step	Required authored result	Objective evidence
CR1 · sourceandscope	Approved source hierarchy; exact districts, boundary authority and exclusions; current appearance versus metric sources	Source ID, revision, SHA256, bytes, approval locator, role, supersession and discrepancy resolution; boundary/neighbor records
CR2 · observations	Trace visible coastline, road margins, junctions, bridge landings, buildings and block/open-space structure; stop at occlusion	Editable vectors tied to original image coordinates; per-feature source and evidence/inference labels; coverage checklist and unresolved areas

Step	Required authored result	Objective evidence
CR3 · coordinated authored layout	JSON/SVG/model for shore, roads and widths, connected intersections, bridges, blocks, parcels, footprints, placements and massing intent	One revision/hash; reconciled scale/frame/controls; proposed dimensions separately marked and reviewed; stable feature IDs and shared connection endpoints
CR4 · coordinated exports	Clean and labeled overhead, plus overhead/SE/SW massing views derived from that same geometry	Layout/model hash, camera pose/projection, renderer/version, build command and output hashes; geometry parity check and visual comparison
CR5 · ground and shoreline	Location-tied beach/shallows, seawall/promenade, building-to-water edge, bridge landing and park/beach studies as applicable; needed sections	Each image/section names layout location/feature, camera or section line, grade/datum, source versus proposal, dimensions and compatible layout hash
CR6 · populated build kit	Actual district references, layout exports, model/massing, terrain studies, dimension decisions and build instructions	Files and working downloads, manifest/hashes, archive CRC/member checks, package-reference validation, coverage gate report and review conditions
CR7 · separate implementation	Quik receives the accepted scoped kit; native/import return and later actual engine test	Handoff receipt, native/export checks, measured import reconciliation and matched engine captures tracked separately from reference completion

CR2 may begin in image coordinates when calibration is missing. A vector drawing in an oblique image frame is a source observation study, not a north-up measured overhead. An authored north-up proposal must name its assumptions and approval; a measured reconstruction needs a defensible registration. Do not silently turn perspective pixels into uniform metres or invent hidden streets, footprints, ground elevations or viewpoints.

Deliberate design of hidden geometry is permitted in the separate authored proposal layer. Give each proposed footprint, block, road continuation and dimension its rationale, source constraints, affected connections and review state. Preserve observed evidence and compare the proposal against it; never describe an authored choice as observed or verified. Unresolved source visibility is a design decision to record, not a prohibition on progressing toward a usable proposed layout.

For same-scale orthographic comparison, record orthographic span, output dimensions, viewport and pixels per metre, and verify their relationship. Record lens/FOV for perspective cameras instead; they cannot claim a uniform pixel scale. All views still share one layout/model revision.

Source hierarchy and trace evidence

Populate SOURCE_HIERARCHY.json before tracing. Give each source a role: controlling appearance/geography, accepted layout/frame, supplemental close-up, historical method, or framing intent only. Resolve discrepancies explicitly. Record exact source bytes in the application; an attractive replacement image or a filename is not source acceptance. A superseded source can remain historical evidence but cannot silently control new geography.

Each feature records ID, source ID/hash, source coordinates, geometry, visible versus inferred evidence, occlusion, confidence/author tolerance, proposed dimensions, unresolved decisions and later layout correspondence. Roof envelopes and visible facades must be distinguished from ground footprints. Trace both visible road margins where present; a centerline alone does not establish road width or junction geometry. Record block/building coverage across the full agreed district boundary, not only a photogenic crop. Preserve source pixels and immutable historical records.

Three non-collinear shared controls are a minimum frame record, not sufficient calibration of an arbitrary perspective image. State the camera/registration model, residuals and terrain assumptions appropriate to the source. Retain a common world frame, north, origin, water datum, axis/units, neighbor boundaries and bridge connections. Do not use a local warp to conceal conflicts. Historical Crown v0.1, R07 proposals and other scenario dimensions remain separate until reconciled.

Coverage and hard reference gate

Populate CONSTRUCTION_COVERAGE.json. Every required coverage row has an identified inspection domain, expected item count or auditable area/length denominator, observed/authored count, uncovered/occluded regions, evidence paths/hashes, reviewer and disposition. Include the same fields separately for every district in district_coverage; aggregate counts cannot hide an uncovered district. Percentages require a recorded denominator; unknown totals remain unknown. Counts alone never prove a complete district. All district IDs in the agreed scope must appear in the coverage ledger, including explicitly unresolved boundaries.

The required rows are source/scope freshness; coast and water edge; road margins; junctions; bridges/neighbor connections; building ground footprints and block coverage; frame and scale; coordinated layout; clean/labeled overhead and same-geometry massing views; location-tied ground/shore/sections; populated kit; validated downloads and references; and creator review. A genuinely inapplicable shore type or bridge needs an explicit reviewed reason. Essential source, frame, layout, buildings/blocks, downloads and review cannot be waived to manufacture readiness.

Reject condition	Gate consequence	Required correction
Same labels but unrelated images or absent geometry	Reference gate fails	Supply feature correspondence and shared layout/model evidence
Sparse road schematic with missing buildings, blocks or district coverage	Whole-district readiness fails	Complete the agreed coverage or obtain an explicit narrower partial scope
Stale-source tracing or unresolved appearance/geography conflict	Source gate fails	Retrace from the controlling bytes or record an accepted source change

Reject condition	Gate consequence	Required correction
Unmarked speculative dimensions or uniform scale inferred from perspective	Frame/layout gate fails	Label proposals, reconcile controls and record review
Overhead/SE/SW independently generated or inconsistent geometry	Coordinated-views gate fails	Regenerate all views from one layout/massing revision and verify camera/model records
Shore studies not tied to layout locations or missing sections	Terrain-reference gate fails	Identify locations/section lines and compatible layout/datum
Missing downloads, LFS pointers served as files, hash/CRC mismatch or unvalidated references	Package gate fails	Supply recoverable bytes, working delivery and exact inventory validation
Native/export success or engine run used to excuse missing kit content	Reference gate remains failed	Finish and validate the reference kit separately

tools/verify_district_construction.py validates application structure, local file integrity, current source hashes, coverage evidence and the hard readiness conditions. Its negative tests exercise stale sources, schematic-only coverage, speculative scale, mismatched camera/model geometry, missing downloads and invalid package members. A passing partial-draft integrity check is not a passing readiness gate. Human visual/source review remains required; software cannot certify a tracing is faithful merely because hashes match.

The review ZIP contains the guide/templates, not the repository verifier and regression-test source. The regression tests are owner-run evidence. Independent reproduction requires the matching repository tools/test revision; the ZIP alone does not reproduce them.

Partial work and separate acceptance states

Partial work requires an explicit agreement locator and precise scope, exclusions, missing evidence and next step. Label images, package and status as partial. Do not call a four-district study a completed district because one selected region is detailed. A local observation draft may legitimately have unknown scale, missing footprints and no massing views; it must keep the reference gate blocked. Its validation should succeed for honest record integrity while returning reference_kit_ready: false and concrete blockers.

Track these independently: visual modernization; source observation coverage; authored layout/scale acceptance; complete pre-development reference kit; native/export readiness; actual Unreal playability. No automatic promotion occurs between them. The kit can be completed before engine access. A successful engine launch proves only the tested build and interactions, not every reference requirement or live behavior.

The first application is docs/sw-source-layout/R01/: D03 The Grove, D04 South Beach, D20 Sunset Bay and D21 Genesis Campus, using the original WC-REF-005. It begins with source observations, not a measured or ready handoff. The D20/D21 split, exact district limits, calibrated frame, building ground contacts,

blocks and terrain are open. The historical R05 clean-map tracing and R07 scale proposals are not current WC005 geometry.

Development phases and honest progress

Record a whole-region foundation pass before detailed density. Divide the accepted planning arrangement into stable zone IDs without silently accepting new district boundaries. For each zone identify source-mapped planning slots, candidate programs/assets, prerequisite shared routes, proposed phase, deliverable, evidence and owner. A slot ID is not a shell/global asset assignment. Unknown mappings stay unresolved.

Track planning acceptance, foundation, exterior shells, selected interiors, world integration and playtest independently. A concept image, placeholder massing or published protocol does not complete those later stages. Use DEVELOPMENT_PHASES.json; retain null counts and not_verified when actual placement evidence is absent. Do not invent zero or a completion percentage from missing evidence.

Name every percentage and its denominator: selected slots / slots in this exact planning revision is planned allocation; verified placed slots / that revision is placement coverage; zones passing a specified route test / scoped zones is exploration coverage. These describe different things. Whole-region completion is not an unweighted average of differently sized zones or stages; report evidence-based milestones until agreed effort weights and acceptance criteria exist. The SW R02 denominator of 58 is not the whole island.

Recommended SW ordering: SW-00 foundation across all nine zones; SW-01 Crown-facing arrival/civic core; SW-02 marina/west waterfront; SW-03 southern spine and beach circuit; SW-04 northern branch; SW-05 playtest-led density. The separate SW schedule is a recommendation; protocol publication does not dispatch Quik or accept runtime results.

Release and validation

R05 is the current District Production workflow. Generate documents, manifests, bundles and branded pages through tools/build_protocols.py; validate the populated application separately with tools/verify_district_construction.py. The protocol ZIP is a workflow kit, not a complete SW construction package. Keep R04 source documents and downloads available from protocol history.

The recovered R01 SW evidence and original R02 geometry remain dated source layers. Legend accepted the R02 arrangement for planning on 19 October; metric calibration, ground/shoreline detail, Crown/world alignment, complete reference coverage and engine gates remain open. The accepted planning arrangement is not rejected merely because its metre frame remains uncalibrated. The review page links that scoped acceptance and the proposed nine-zone development schedule.