Internal Project Plan

This detailed, day-level internal project schedule accounts for realistic buffers, clear tasks, and explicit daily objectives. Adjustments have been made to reflect precise CI/CD alignment with the official PHP library and to support effective planning given ADHD considerations.

Phase 1: Research & API Design (1.5 weeks)

Week 1

- **Day 1:** Review official PHP & pygeocodio repositories (4 hrs), Document key differences (2 hrs)
- **Day 2:** Analyze Geocodio API docs/OpenAPI spec (3 hrs), Initial API draft outline (3 hrs)
- **Day 3:** Refine API structure and class methods (4 hrs), Preliminary internal review (2 hrs)
- **Day 4:** Adjustments based on feedback (3 hrs), Buffer for clarity/revisions (3 hrs)
- **Day 5:** Finalize detailed API design spec (4 hrs), Start README & internal docs (2 hrs)

Week 2

- **Day 6:** Complete README/internal docs clearly (3 hrs), Buffer/review time (3 hrs)

Phase 2: Core Implementation (Sync) (2.5 weeks)

Week 2

- **Day 7:** Set up repository, project skeleton (3 hrs), Initial forward geocoding method (3 hrs)
- **Day 8:** Reverse geocoding methods (single, batch) (4 hrs), initial unit tests (2 hrs)
- **Day 9:** Batch forward geocoding methods (4 hrs), unit testing & troubleshooting (2 hrs)

Week 3

- **Day 10:** Address parsing methods (4 hrs), Data appending methods (2 hrs)
- **Day 11:** Comprehensive error handling design and implementation (4 hrs), input validation (2 hrs)
- **Day 12:** Unit tests to 70% coverage (4 hrs), Documentation draft for sync client (2 hrs)
- **Day 13:** Buffer, internal code review & revisions (6 hrs)

Week 4

- **Day 14:** Finalize synchronous implementation & documentation (4 hrs), buffer (2 hrs)

Phase 3: Async Implementation (3 weeks)

Week 4

- **Day 15:** Async client initial design (3 hrs), initial async geocoding

methods (3 hrs)

Week 5

- **Day 16:** Async reverse geocoding methods (4 hrs), unit tests (2 hrs)
- **Day 17:** Async batch geocoding/reverse geocoding (4 hrs), preliminary async examples (2 hrs)
- **Day 18:** Implement async rate limit management (4 hrs), debugging/testing async methods (2 hrs)
- **Day 19:** Buffer for async troubleshooting & optimizations (6 hrs)
- **Day 20:** Complete dual sync/async interface clearly (4 hrs), refine async examples/docs (2 hrs)

Week 6

- **Day 21:** Performance testing & benchmarks (4 hrs), buffer/revisions (2 hrs)

Phase 4: Enhancements & Robustness (1.5 weeks)

Week 6

- **Day 22:** Implement robust rate limiting/exponential backoff (4 hrs), logging (2 hrs)

Week 7

- **Day 23:** Advanced error handling/documentation (4 hrs), buffer (2 hrs)
- **Day 24:** Optional caching exploration (4 hrs), internal reviews/revisions

(2 hrs)

- **Day 25:** Final robustness enhancements (3 hrs), detailed internal documentation (3 hrs)

Phase 5: Testing & Documentation (2 weeks)

Week 8

- **Day 26:** Expand unit tests (coverage ≥90%) (4 hrs), integration tests setup (2 hrs)
- **Day 27:** Complete integration tests (4 hrs), buffer for test debugging (2 hrs)
- **Day 28:** Draft comprehensive user documentation for Geocodio docs site (4 hrs), review internally (2 hrs)

Week 9

- **Day 29:** Refine user documentation, create additional clear examples/tutorials (4 hrs), buffer/revisions (2 hrs)
- **Day 30:** Final documentation reviews and adjustments with Geocodio team (3 hrs), buffer (3 hrs)

Phase 6: CI/CD Automation & PyPI Publishing (1 week)

Week 10

- **Day 31:** Set up GitHub Actions CI workflows (matching PHP library) (4 hrs), manual CI testing/revisions (2 hrs)

- **Day 32:** Implement PyPI publishing automation (4 hrs), buffer/troubleshooting deployment (2 hrs)
- **Day 33:** Final CI/CD verification, documentation for maintainers (4 hrs), buffer for final adjustments (2 hrs)

Total Timeline Summary

Phase	Duration
Research & API Design	1.5 weeks
Core Implementation (Sync)	2.5 weeks
Async Implementation	3 weeks
Enhancements & Robustness	1.5 weeks
Testing & Documentation	2 weeks
CI/CD Automation & PyPI Publishing	1 week
Total	**11.5 weeks**

Buffers: Explicit daily buffers included for flexibility, iteration, and ADHD-friendly task management.

🚩 Clarifications & Assumptions

- **CI/CD parity:** Duplicated precisely from Geocodio’s PHP library; no additional versioning tooling included.
- **Documentation:** Fully prepared for integration with Geocodio's official docs.

This internal schedule provides explicit daily objectives and clear buffers, aiding predictability and task initiation.