

01_PROJECT_OVERVIEW.md

****BAT Migration Project - Complete Overview****
****Consolidated Project Reference****

****Consolidates:**** START_HERE.md, BAT_MIGRATION_PROJECT_BRIEF.md,
BAT_NAVIGATION_GUIDE.md, ANALYSIS_SUMMARY.md, BAT_INTEGRATION_COMPLETE_SUMMARY.md
****Created:**** November 10, 2025
****Last Updated:**** November 10, 2025
****Version:**** 2.0
****Status:**** Active - Primary Reference

🔄 EXECUTIVE SUMMARY

What We're Building

A unified SQL database and Excel toolset that consolidates ****Richmond American**** and ****Holt Homes**** Builder Acceleration Tools (BATs) into a single, maintainable system ready for their ****March 2026 merger****.

Why It Matters

- ****65,000+ material line items**** need proper database structure
- ****Two incompatible systems**** must work together
- ****March 2026 merger deadline**** creates urgency
- ****\$170,000+ annual value**** in time savings
- ****Zero pricing errors**** through database validation

Project Scope

- ****Timeline:**** 12 weeks (November 11 - February 28, 2026)
- ****Investment:**** 148 hours (12.3 hours/week)
- ****Team:**** Corey (lead), William (Richmond), Alicia (Holt)
- ****Technology:**** SQLite database + Python tools + Excel interface
- ****Outcome:**** Merger-ready unified system with 8 weeks production testing

📊 CURRENT STATE (Ground Truth)

Richmond BAT Status

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Plans Active: 9 of 44 (20%)  
Plans to Import: 35 (80%)  
Material Line Items: 55,604 total  
Unique SKUs: 581  
Status: Ready for automated import  
Source: RAH\_MaterialDatabase.xlsx (confirmed)  
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****Critical Issues:****

- ✗ Triple-encoded elevation data (|10.82BCD appears 3 places)
- ✗ No standardized coding system
- ✗ Manual price updates (tool needs enhancement)
- ✗ Can't query across plans easily
- ✗ Excel file size approaching limits

Holt BAT Status

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Plans Active: 47 of 50 (94%)  
Plans to Import: 3 remaining  
Material Line Items: 9,373 total  
Communities: 5 (CR, GG, HA, HH, WR)  
Status: Nearly complete  
Python Updater: Production ready  
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****Advantages:****

- ☒ Pricing updater working (holt_updater.py)
- ☒ Most plans already documented
- ☒ Community structure clear
- ☒ Clean data structure

Combined Reality

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Total Plans: 44 Richmond + 50 Holt = 94 plans  
Total Materials: 55,604 + 9,373 = 64,977 line items  
Database Size: Needs proper SQL database  
Systems: Incompatible (need translation layer)  
Merger Deadline: March 2026 (4 months)  
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🎯 TARGET STATE (Vision)

March 2026: Unified System

****Database Layer:****

- SQLite database with 10 core tables
- 65,000+ materials properly normalized
- Single source of truth for all data
- Translation layer for Richmond ↔ Holt codes
- Fast queries (milliseconds vs minutes)
- Proper relationships and constraints

****Excel Interface:****

- Material order generator (15 min → 2 min)
- Price lookup tool (instant results)

- Plan comparison tool
- Automated price update workflow
- Familiar interface for team

****Operational Benefits:****

- ☒ Zero pricing errors (database validation)
- ☒ Consistent data (single source)
- ☒ Fast decision-making (instant queries)
- ☒ Better customer service (faster quotes)
- ☒ Merger-ready (unified system)
- ☒ Scalable (Manor Homes future integration)

🗓️ 12-WEEK ROADMAP

PHASE 1: Foundation (Weeks 1-4) - 52 hours

****Week 1 (Nov 11-15): Coding Standards & Architecture**** ★ CURRENT WEEK

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Monday (4 hours): Analysis Complete ☒

- └ Item numbering audit
- └ Richmond structure audit
- └ 45 pages documentation created

Tuesday (6 hours): Architecture Decisions ● CRITICAL

- └ Decision 1: Plan-Pack Relationship
- └ Decision 2: Plan-Elevation Model
- └ Decision 3: Internal Option Codes
- └ Database schema design (10 tables)

Wednesday-Thursday (8 hours): Documentation

- └ Coding standards document
- └ Import mapping rules
- └ Team review preparation

Friday (2 hours): Team Validation

- └ William review (Richmond perspective)
- └ Alicia review (Holt perspective)
- └ Finalize Week 1 deliverables

Deliverables:

- ☒ item_numbering_patterns.txt (Monday)
- ☒ richmond_structure.txt (Monday)
- ⌚ 3 architecture decision documents (Tuesday)
- ⌚ schema_design_v1.sql (Tuesday)
- ⌚ BAT_Coding_Standards.docx (Wed-Thu)
- ⌚ Team validation complete (Friday)

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****Week 2 (Nov 18-22): Pricing Tools - 10 hours****

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- | Enhance Holt updater (logging, preview)
- | Build Richmond updater (full functionality)
- | Create price schedule
- | Test both systems

Deliverables:

- ⌚ Enhanced holt_updater.py
- ⌚ richmond_updater.py
- ⌚ RUN_RICHMOND_UPDATE.bat
- ⌚ Price schedule documentation

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****Week 3 (Nov 25-29): Standardization - 14 hours****

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- | Table inventory (both BATs)
- | Define naming convention
- | Batch rename all tables
- | Create cross-reference sheets

Deliverables:

- ⌚ Table_Inventory_Complete.xlsx
- ⌚ All tables renamed per convention
- ⌚ Holt community cross-reference
- ⌚ Validation complete

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****Week 4 (Dec 2-6): Plan Details - 8 hours****

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- | Add Arch/Eng date columns
- | Populate dates for all plans
- | Foundation checkpoint
- | Ready for content phase

Deliverables:

- ⌚ Complete Plan Index with dates
- ⌚ Foundation Phase complete

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PHASE 2: Content Import (Weeks 5-8) - 32 hours

****Week 5 (Dec 9-13): Small Plans - 8 hours****

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Import: 8 small Richmond plans (<500 materials each)
Plans: G18L, G19E, G21D, G31H, G33H, G44H, G48H, G148
Method: Python automated import
Source: RAH_MaterialDatabase.xlsx

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****Week 6 (Dec 16-20): Medium Plans - 8 hours****

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Import: 12 medium Richmond plans (500-1500 materials)

Plans: G01H, G17E, G17F, G22M, G23H, G29A, G44C, G56H, G591, G592, G593, G601

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****Week 7 (Dec 23-27): Large Plans - 8 hours****

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Import: 8 large Richmond plans (1500-3000 materials)

Plans: G250, G260, G639, G654, G698, G712, G730, G760

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****Week 8 (Dec 30-Jan 3): Final Plans - 8 hours****

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Import: 7 largest Richmond plans (3000+ materials)

Plans: G603, G914, LE01, LE91, LE92, LE93, LE95

Validation: Complete dataset verification

Status: 100% plan coverage achieved

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PHASE 3: Infrastructure & Testing (Weeks 9-12) - 64 hours

****Week 9-10 (Jan 6-17): Database & Tools - 40 hours****

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- | Database strategy decision (SQLite vs SharePoint)
- | Create database and populate
- | Build Excel tools (Material Order, Price Lookup)
- | Apply consistent formatting
- | User testing

Deliverables:

⌚ bat_master.db (if SQLite chosen)

⌚ Excel tools operational

⌚ Formatting complete

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****Week 11 (Jan 20-24): Enhancements - 12 hours****

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- | Data extraction tools
- | Enhanced documentation
- | Additional features
- | Optimization

Deliverables:

⌚ Export tools functional

⌚ Comprehensive documentation

⌚ Performance optimized

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****Week 12 (Jan 27-31): Testing & Validation - 12 hours****

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- Comprehensive testing
- User acceptance testing
- Bug fixes
- Final documentation
- Production sign-off

#### Deliverables:

- ⌚ All tests passed
- ⌚ Team trained
- ⌚ System production-ready
- ☑ MERGER READY (February 2026)

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📖 NAVIGATION GUIDE

How to Use This Documentation

Your Primary References:

1. ****This File (01_PROJECT_OVERVIEW.md)**** - Project context, status, roadmap
2. ****02_MASTER_PLAN.md**** - Detailed week-by-week execution plan
3. ****03_FOUNDATION_GUIDE.md**** - Week 1 detailed tasks and checklists
4. ****04_CODING_STANDARDS.md**** - Architecture decisions and standards
5. ****05_REFERENCE_DATA.md**** - Analysis findings and data

When to Use Each File:

Situation	Use This File
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"What's this project about?"	01_PROJECT_OVERVIEW.md (this file)
"What do I do today?"	02_MASTER_PLAN.md → Current Week
"How do I complete Week 1?"	03_FOUNDATION_GUIDE.md
"What's our coding standard?"	04_CODING_STANDARDS.md
"What did Monday's analysis find?"	05_REFERENCE_DATA.md
"What changed in v2.0?"	MIGRATION_MAP.md
"Which files are obsolete?"	DEPRECATED_FILES.md

Conflicting Information Resolution

Old documentation had conflicts. Here's the truth:

Topic	Old Confusion	TRUTH (v2.0)
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Richmond Plans	"70+", "80+", "44"	**44 plans confirmed**
Pricing Updater	"Broken", "Working"	**Production ready, needs enhancements**
Week 2 Hours	16h, 6h, 9.5h	**10 hours validated**
Total Hours	158h, 148h	**148 hours (10h saved)**
Timeline	16 weeks, 12 weeks	**12 weeks confirmed**

****When in doubt:**** Trust this consolidated v2.0 documentation.

🌀 SUCCESS CRITERIA

Week 1 Complete When:

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#### Technical:

- ✓ Item numbering patterns documented
- ✓ Richmond structure mapped
- ⌚ Three architecture decisions made
- ⌚ Database schema designed (10 tables)
- ⌚ Coding standards documented
- ⌚ Import mapping rules defined

#### Validation:

- ⌚ William validated (Richmond perspective)
- ⌚ Alicia validated (Holt perspective)
- ⌚ You can explain each decision
- ⌚ Team understands and agrees

#### Readiness:

- ⌚ Week 2 tools can be built on this foundation
- ⌚ Week 5-8 imports have clear target structure
- ⌚ No ambiguity about data structure
- ⌚ Confident in the architecture

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Project Complete When (Week 12):

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#### Technical:

- ✓ All 44 Richmond plans imported
- ✓ All 50 Holt plans documented
- ✓ 65,000+ materials in database
- ✓ Pricing data current
- ✓ Excel tools operational
- ✓ Zero critical bugs
- ✓ <5% data error rate

#### Operational:

- ✓ Team trained on new system
- ✓ Material orders in <2 minutes
- ✓ Price lookups instant
- ✓ Both builders using daily
- ✓ Documentation complete
- ✓ Backup procedures in place

#### Strategic:

- ✓ Merger-ready system
- ✓ 8 weeks production testing complete
- ✓ Scalable for Manor Homes
- ✓ Knowledge transfer complete

### ### March 2026 Merger Success:

- ✓ Single unified system operational
- ✓ Both teams productive on Day 1
- ✓ No disruption to business
- ✓ Smooth merger transition
- ✓ System stable and reliable

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## ## ⑧ VALUE PROPOSITION

### ### Time Savings Analysis

#### \*\*Current Manual Process:\*\*

- Material order creation: 15-20 minutes
- Price lookup: 5-10 minutes per item
- Plan comparison: 30-60 minutes
- Price update: 30 minutes per update
- Cross-plan queries: 1-2 hours (or impossible)

#### \*\*With Database System:\*\*

- Material order: 2-3 minutes (85% reduction)
- Price lookup: <10 seconds (95% reduction)
- Plan comparison: 2 minutes (95% reduction)
- Price update: 5 minutes (85% reduction)
- Cross-plan queries: Seconds (new capability)

**\*\*Annual Value: \$170,000+ in time savings\*\***

### ### Quality Improvements

- ☒ Zero pricing errors (database validation)
- ☒ Consistent data (single source of truth)
- ☒ Fast decision-making (instant queries)
- ☒ Better customer service (faster quotes)
- ☒ Merger-ready (unified system)
- ☒ Scalable (future growth support)

### ### Return on Investment

Investment: 148 hours × \$40/hour = \$5,920

Annual Return: \$170,000+ in time savings

Payback Period: 2 weeks

3-Year ROI: 3,400%+

Plus intangible benefits:

- └ Merger readiness (priceless)
- └ Knowledge preservation
- └ Team capability growth
- └ Competitive advantage

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## ## 🚀 GETTING STARTED

### ### First-Time Setup (Today - 1 hour)

#### \*\*Step 1: Read This Overview (15 min)\*\*

- ☒ You're doing it now!
- Understand project scope
- Know the timeline
- Grasp success criteria

#### \*\*Step 2: Review Master Plan Summary (15 min)\*\*

- Open: 02\_MASTER\_PLAN.md
- Read: Executive Summary
- Scan: 12-Week Roadmap
- Focus: Week 1 section

#### \*\*Step 3: Understand Week 1 (20 min)\*\*

- Open: 03\_FOUNDATION\_GUIDE.md
- Review: Week 1 detailed tasks
- Note: Tuesday is critical (architecture decisions)
- Check: Team review scheduled Friday

#### \*\*Step 4: Check Conflicts Resolved (10 min)\*\*

- Read: MIGRATION\_MAP.md
- Understand: What changed in v2.0
- Verify: You have clean documentation

### ### Before Starting Work (30 min)

#### \*\*Pre-Flight Checklist:\*\*

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- [ ] Both BAT files accessible
- [ ] Material Database files available
- [ ] 4 hours/day blocked on calendar
- [ ] William Hatley available for questions
- [ ] Alicia Vandehey available for review
- [ ] Text editor ready for notes
- [ ] SQL editor ready (or text file for schema)
- [ ] You understand Tuesday's importance

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### ### Monday's Work (Already Complete ☒)

**\*\*Completed November 10, 2025:\*\***

- ☒ Item numbering audit (2 hours)
- ☒ Richmond structure audit (2 hours)
- ☒ 45 pages documentation created
- ☒ item\_numbering\_patterns.txt
- ☒ richmond\_structure.txt
- ☒ WEEK1\_MONDAY\_SUMMARY.txt

### ### Tuesday's Work (CRITICAL - 6 hours) ●

**\*\*This is the most important day of the project:\*\***

**\*\*Session 1 (2 hours): Understand Hierarchies\*\***

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- └ Map Richmond plan/elevation/option relationships
- └ Map Holt plan/community/pack relationships
- └ Document findings
- └ Prepare for decisions

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**\*\*Session 2 (2 hours): Make Architecture Decisions\*\***

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Decision 1: Plan-Pack Relationship (30 min)

- └ Question: Universal Pack vs Plan-Specific Pack?
- └ Test with real data examples
- └ Document decision with rationale

Decision 2: Plan-Elevation Model (30 min)

- └ Question: Elevation as Variant vs Dimension?
- └ Solve triple-encoding problem
- └ Document decision with rationale

Decision 3: Internal Option Codes (60 min)

- └ Question: Which format is standard?
- └ Translation table strategy
- └ Document decision with rationale

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**\*\*Session 3 (2 hours): Design Database Schema\*\***

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- └ Create schema\_design\_v1.sql
- └ Define 10 core tables
- └ Establish relationships
- └ Add Prism SQL migration notes
- └ Test with example queries

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## ## 🗝️ TECHNICAL ARCHITECTURE

### ### Database Strategy

**\*\*Development Phase (Weeks 1-8): SQLite\*\***

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Pros:

- ☒ Zero-config, file-based
- ☒ Fast for development
- ☒ Standard SQL
- ☒ Portable
- ☒ Free and open source

Format: Single .db file

Size: ~50MB for 65K records

Performance: Millisecond queries

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**\*\*Production Phase (Weeks 9-12): Prism SQL Migration\*\***

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Your Construction Platform uses Prism SQL (PostgreSQL-based)

Migration Strategy:

- └ Design SQLite schema with Prism compatibility notes
- └ Develop in SQLite (Weeks 1-8)
- └ Test with real data
- └ Export to CSV
- └ Import to Prism with type conversion
- └ Validate in production

Type Conversions:

- └ INTEGER → SERIAL (auto-increment)
- └ REAL → DECIMAL(10,2) (precision)
- └ TEXT → VARCHAR(n) (optional)
- └ INTEGER (0/1) → BOOLEAN
- └ TEXT (ISO8601) → TIMESTAMP

Timeline: Week 9-10 migration

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### ### Python Tools Ecosystem

**\*\*Current (Production Ready):\*\***

- holt\_updater.py (390 lines, fully functional)
- Updates pricing from CSV files
- Validated and documented

**\*\*To Create (Week 2):\*\***

- richmond\_updater.py (similar to Holt version)
- Enhanced logging and preview features
- Batch file launchers

**\*\*To Create (Weeks 5-8):\*\***

- import\_richmond\_materials.py (automated plan import)
- validate\_imports.py (data quality checks)

### ### Excel Interface

**\*\*Current:\*\***

- Excel + VBA for user interface
- Familiar to team
- Complex formulas and macros

**\*\*Future (Weeks 9-10):\*\***

- Excel + ODBC connection to database
- Simplified formulas (database-backed)
- Material Order Generator tool
- Price Lookup tool
- Plan Comparison tool

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## ## 👥 TEAM & ROLES

### ### Core Team

**\*\*Corey Boser - Project Lead\*\***

- Technical architecture
- Database design
- Python development
- Project management
- Final decision authority

**\*\*William Hatley - Richmond Expert\*\***

- Richmond BAT knowledge
- Item numbering validation
- Plan usage priorities
- Price level validation
- Business requirements

**\*\*Alicia Vandehey - Holt Expert\*\***

- Holt BAT knowledge
- Community mappings
- Plan Index accuracy
- Current process workflows
- Business requirements

## **\*\*Claude (AI) - Technical Architect\*\***

- Schema design guidance
- Documentation creation
- Code generation
- Decision support
- Best practices

### **### Decision Framework**

#### **\*\*You Decide:\*\***

- Technical implementation details
- Tool feature priorities
- Testing procedures
- Daily work schedule

#### **\*\*Team Input Needed:\*\***

- Coding standards (Week 1)
- Table naming conventions (Week 3)
- Formatting themes (Week 9)
- User acceptance testing (Week 12)

#### **\*\*Manager Approval Needed:\*\***

- Database strategy (Week 9)
- Major timeline changes
- Resource needs
- Merger readiness sign-off

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## **## ⚠ RISK & MITIGATION**

### **### Top 5 Risks**

#### **\*\*1. Architecture Decisions Wrong\*\***

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Impact: HIGH - Would require full rebuild

Probability: LOW with proper Week 1 process

Mitigation:

- └─ Thorough analysis complete (Monday)
- └─ Test with real data (Tuesday)
- └─ Team validation (Friday)
- └─ Small pilot before full migration
- └─ Buffer time in schedule

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#### **\*\*2. File Size Growth\*\***

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Impact: MEDIUM - Excel performance issues

Probability: HIGH as data grows

Mitigation:

- └ Database migration (Week 9-10)
- └ Monitor file sizes weekly
- └ Compress/archive old data
- └ SharePoint or SQL as backup plan

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****3. Team Adoption****

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Impact: HIGH - Wasted effort if not used

Probability: LOW with proper involvement

Mitigation:

- └ Involve team in Week 1 decisions
- └ Weekly demos of new features
- └ Make new way easier than old way
- └ Celebrate wins publicly
- └ Get manager support

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****4. Merger Timeline Acceleration****

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Impact: HIGH - Incomplete system

Probability: MEDIUM in corporate environment

Mitigation:

- └ Prioritize Weeks 1-8 (core functionality)
- └ Weeks 9-12 can compress if needed
- └ Have "MVP" checkpoint at Week 8
- └ Communicate progress to management
- └ Document what's MVP vs nice-to-have

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****5. Data Quality Issues****

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Impact: MEDIUM - Errors in database

Probability: MEDIUM with 65K records

Mitigation:

- └ Validation scripts (Week 2)
- └ Test imports on small batches first
- └ Manual spot-checks
- └ Team review of data
- └ Rollback procedures

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📞 SUPPORT & ESCALATION

Getting Help

****For Architecture Questions:****

- Reference: 04_CODING_STANDARDS.md

- Ask Claude in project conversation
- Escalate to team review if needed

****For Richmond-Specific Questions:****

- Contact: William Hatley
- Topics: Item codes, plans, pricing
- Schedule: Week 1 Friday review

****For Holt-Specific Questions:****

- Contact: Alicia Vandehey
- Topics: Communities, processes
- Schedule: Week 1 Friday review

****For Strategic Questions:****

- Contact: Dave Templeton (manager)
- Topics: Timeline, resources, merger
- As needed

When You're Stuck

****Decision Tree:****

1. Not sure what to do? → 02_MASTER_PLAN.md → Current Week
2. Technical question? → 04_CODING_STANDARDS.md
3. Need data? → 05_REFERENCE_DATA.md
4. Confused by old docs? → MIGRATION_MAP.md + DEPRECATED_FILES.md
5. Still stuck? → Team consultation

☒ QUICK SANITY CHECK

Before proceeding, confirm you understand:

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- [ ] Richmond has 44 plans total (not 70+ or 80+)
- [ ] Holt updater is production ready (not broken)
- [ ] Week 2 requires 10 hours (not 16 or 6)
- [ ] Total project is 148 hours (not 158)
- [ ] Timeline is 12 weeks (not 16)
- [ ] Tuesday is critical architecture day
- [ ] Database will use SQLite then migrate to Prism
- [ ] March 2026 merger is the deadline
- [ ] This v2.0 documentation is the truth
- [ ] Old documentation may have conflicts

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****All checked?**** You're ready to proceed! 🚀

🕒 IMMEDIATE NEXT STEPS

If Starting Fresh

1. ☒ Read this overview (you just did)
2. ⌚ Read 02_MASTER_PLAN.md (30 minutes)
3. ⌚ Read 03_FOUNDATION_GUIDE.md (20 minutes)
4. ⌚ Prepare for Tuesday's architecture session

If Continuing Week 1

1. ☒ Monday analysis complete
2. 🌀 Tuesday: Architecture decisions (6 hours) **← CURRENT**
3. ⌚ Wednesday-Thursday: Documentation (8 hours)
4. ⌚ Friday: Team validation (2 hours)

If Need Specific Information

- Project context → This file (01_PROJECT_OVERVIEW.md)
- Detailed timeline → 02_MASTER_PLAN.md
- Week 1 tasks → 03_FOUNDATION_GUIDE.md
- Architecture decisions → 04_CODING_STANDARDS.md
- Analysis data → 05_REFERENCE_DATA.md

📝 VERSION HISTORY

Version 2.0 - November 10, 2025

- Consolidated 5 separate documents into this overview
- Resolved all conflicting information
- Added Prism SQL migration strategy
- Enhanced navigation guidance
- Added GitHub-style version control
- Clarified success criteria
- Updated with Monday's completed work

Version 1.0 - November 9, 2025

- Original fragmented documentation
- Multiple conflicting sources
- See DEPRECATED_FILES.md for list

🌱 MOTIVATION

Why This Will Succeed

Strong Foundation:

- ☒ Thorough analysis (Monday's 45 pages complete)
- ☒ Real data examined (746 items, 94 plans)
- ☒ Problems identified and documented
- ☒ Clear architecture path forward

****Clear Plan:****

- ☒ 12-week timeline with buffer
- ☒ Weekly deliverables defined
- ☒ Success criteria established
- ☒ Risks identified and mitigated

****Right Technology:****

- ☒ SQLite → Prism migration path clear
- ☒ Python for automation
- ☒ Excel for familiar interface
- ☒ Standard SQL for queries

****Team Buy-In:****

- ☒ William & Alicia involved (Friday review)
- ☒ Addresses real pain points
- ☒ Significant time savings
- ☒ March 2026 merger creates urgency

You've Got This! 🧐

****Three documents rule everything:****

1. This file (01_PROJECT_OVERVIEW.md) - Understand the project
2. Master Plan (02_MASTER_PLAN.md) - Execute the work
3. Foundation Guide (03_FOUNDATION_GUIDE.md) - Complete Week 1

****The foundation you build this week determines whether this project succeeds or becomes technical debt.****

****Let's build it right! 🚀****

****Document Owner:**** Corey Boser

****Last Updated:**** November 10, 2025

****Next Review:**** After Week 1 completion

****Status:**** Active - Primary Reference

****Ready? Open 02_MASTER_PLAN.md to see your detailed execution plan →****