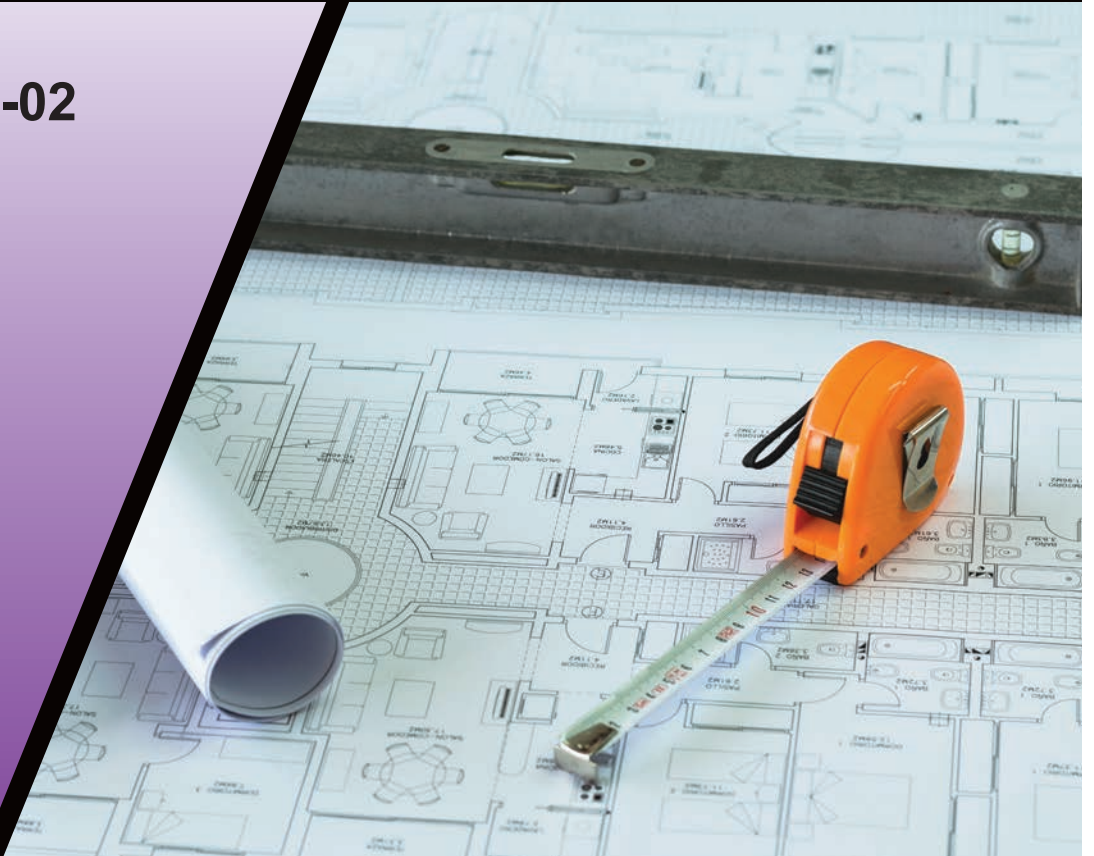


County of Hawai'i
Office of the County Auditor



Department of Public Works
Building Permit Process

Report No. 2025-02
April 30, 2025



Tyler J. Benner

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April 30, 2025

Honorable Dr. Holeka Goro Inaba, Council Chair
and Members of the Hawai'i County Council
Hawai'i County Council
25 Aupuni Street
Hilo, Hawai'i 96720

Dear Council Chair Inaba and Council Members,

We have completed our audit of the permitting and inspection processes at the Department of Public Works, Building Division. This audit was conducted in accordance with generally accepted government auditing standards and the Hawai'i County Charter Section 3-18(d)(2).

The goal was to compare stated permit procedures with the actual user experience. This evaluation assessed project elements, from permit application through final inspection, to ensure a timely, accurate, and streamlined process compliant with applicable regulations and service standards.

While the Building Division has been fully committed to enhancing its procedures and software system, the audit found inconsistencies in documented processes, operating practices, fragmented resource materials, and variability in its performance.

Several recommendations were made to strengthen operations, consolidate resource materials, provide consistent performance, and establish internal controls. Addressing these issues enables the Division to provide more equitable support to all users, ensure smoother and more efficient permit processing, and enhance overall accountability, resulting in improved satisfaction and trust from the community.

In response to a draft of this report, management expressed general agreement with our results. Their complete response to this audit can be found on pages 93 – 131 Management Response.

We appreciate the participation of management and staff in the Department of Public Works, who shared their time and expertise during the audit. To improve government accountability and ensure audit recommendations are implemented or resolved, we continuously monitor the status of recommendations using our remediation tracker.

To view the department's status, visit us at <https://www.hawaiicounty.gov/our-county/legislative/office-of-the-county-auditor>.

If you have any questions or concerns about the status of the recommendations discussed, feel free to contact me at 961-8386. Thank you.

Respectfully,

Tyler J. Benner

County Auditor

cc: C. Kimo Alameda, Ph.D., Mayor
William V. Brilhante Jr., Managing Director
Merrick Nishimoto, Deputy Managing Director
Neil Azevedo, Acting Director
Julann Sonomura, P.E., Building Division Chief
Aaron J. Spielman, AIA, Deputy Building Division Chief
Jon Henricks, County Clerk
Diane Nakagawa, Finance Director

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Permit Dashboard



Without written documentation such as policies/procedure manuals, it becomes extremely difficult to keep complex systems organized and predictable for permit staff and applicants. The results is inefficiencies, personal preferences, and some level of chaos creeping into the system. These items lead to non-predictability for permit applicants which in turn leads to unnecessary complaints to upper management and elected officials.

~James Tinner, Code Support Group

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Finding 2: Permit System Launched Prematurely Before Full Configuration & Optimization

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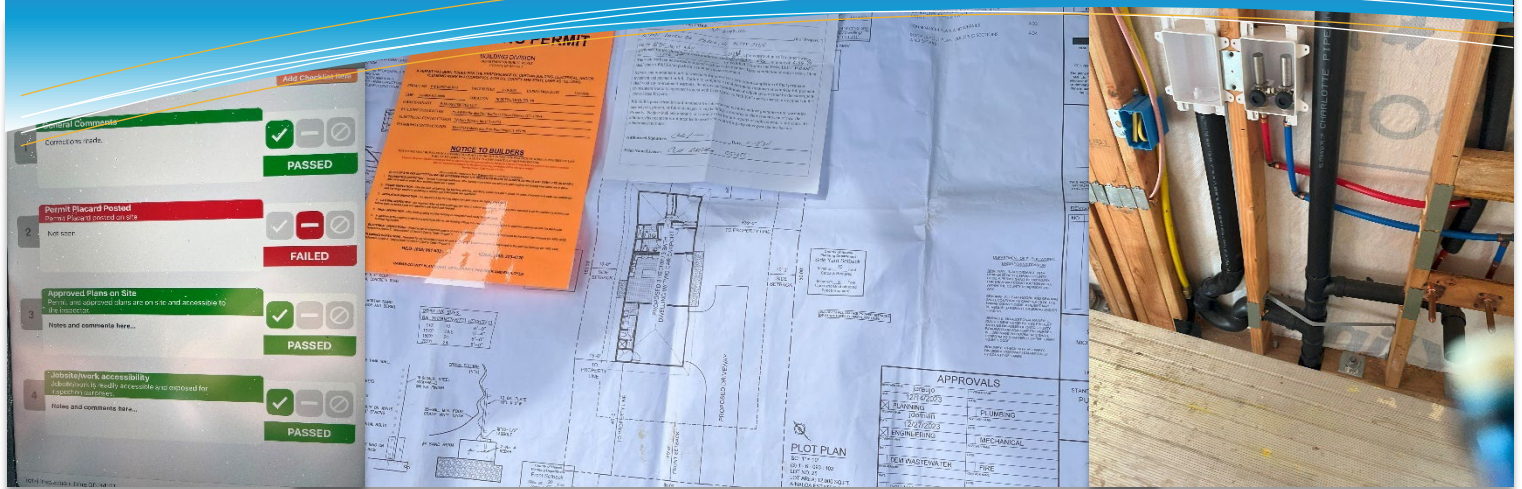
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Building Permit Process



Why The Office of the County Auditor (OCA) Conducted This Audit.

Hawai'i's housing crisis, driven by high home prices, limited affordable options, and an aging housing stock, is exacerbated by a complex regulatory environment and systemic inefficiencies in the building permitting process. The County of Hawai'i's Building Division is responsible for safeguarding public safety through permitting and inspections. However, delays and enforcement challenges, some of which are industry-wide and not unique to the County of Hawai'i, have created obstacles for residents, incentivized unpermitted construction, and undermined public trust.

In 2021, the County introduced the Electronic Permitting and Information Center (EPIC) system, transitioning from a three-permit process (Building, Plumbing, and Electrical permits) to a streamlined one-permit process. However, long wait times are still perceived, leading to ongoing public frustration. A performance audit was initiated to evaluate whether internal controls and processes function effectively to support fair and efficient permitting and inspection systems.

This audit aimed to align documented processes with user experiences, identify bottlenecks and inefficiencies, and recommend improvements to enhance operational transparency, accountability, and public trust in the permitting and inspection systems.

We found that the permitting system was launched prematurely while the Building Division was still learning the system's capabilities and refining its one-permit process to the 2018 County Code. However, experience gained over time, improvements to the workflow, and performance monitoring continue to be the division's top priority.

To strengthen internal controls and improve business processes, we make the following recommendations:

Finding 1: The Volume of Applications Contributes to Delays		
To Address Application Volume		
Workflow Step		We make the following recommendation
All	1	Exempt Qualified Low-Risk Applications
	2	Implement Self-Certification and Provide Public Duty Doctrine Training
	3a	Pilot Third-Party Review Services During Peak Periods
	3b	Enhance AI Integration in Plan Review Processes

Finding 2: The Permit System Launched Prematurely Before Full Configuration and Optimization		
To Address Application Time		
To Improve Workflow Steps		We make the the following recommendation
Upload Stage	4	Dedicate a Pre-Screening Function
Upload Stage Intake Stage	5	Enforce Ascending Date-Driven Priority Protocol
	6	Strengthen Customer Education and Outreach
Intake Stage Multi-Agency	7	Reduce Instances of Resubmissions
	8	Monitor and Evaluate First-Pass Rates
	9	Streamline Workflow Management
Multi-Agency Out Processing	10	Update Staff and Public Education Materials
	11	Consolidate Reviews
	12	Enhance Interagency Cooperation
	13	Automate Invoicing and Issue Provisional Permits for Construction Start
Out Processing	14a	Enforce Consistent Timeframes for the Permit Evaluation Process
	14b	Review and Update Administrative Rules to Establish Maximum Timelines for Reviews

Finding 3: Redundant Data Collection		
To Address Application Complexity		
To Improve Workflow Steps		We make the following recommendation
Location	15	Reduce Redundant Data Collection
Finding 4: Manual Process Drives the Workflow		
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Finding 5: No Contact Validation and Categorization		
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	22	Implement a Formal Complaint Handling Process
	23	Integrate Lean Six-Sigma Training into Staff Development

To Address Gaps In Inspection Practices		
Finding 10: No Policies and Procedures		
To Improve Workflow		We make the following recommendation
Inspection	24	Establish Policies and Procedures
Finding 11: Limited Management Oversight		
Inspection	25	Increase Management Oversight
Finding 12: Lack of Training		
Inspection	26	Develop Training Program
Finding 13: Lack of Critical Enhancements		
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County of Hawai‘i Office of the County Auditor



Introduction & Background

About Us

Mission

It is our mission to independently serve the County Council and the citizens of Hawai'i County by promoting accountability, fiscal integrity, and transparency in local government. We conduct performance and financial audits of County agencies and programs in accordance with Government Auditing Standards.

The Office of the County Auditor examines the use of public funds, evaluates operations and activities, and provides analyses, options, and recommendations to decision-makers in an objective manner. Our work supports County government in managing public resources, delivering public services, and upholding the public trust.

Audit Authority

Hawai'i County Charter §3-18 establishes an independent audit function within the Legislative Branch through the Office of the County Auditor (OCA).

Purpose

The audit evaluated the efficiency and effectiveness of the County of Hawai'i's building permit process by aligning stated permit procedures with the actual user experience. We assessed project elements, from permit application through final inspection, to ensure a timely, accurate, and streamlined process compliant with applicable regulations and service standards.

Performance Audit Definition

Performance audits provide objective analysis, findings, and conclusions to assist management and those charged with governance and oversight with, among other things, improving program performance and operations, reducing costs, facilitating decision-making by parties responsible for overseeing or initiating corrective action, and contributing to public accountability.

Our objective in performance auditing is to improve public services provided by the County government. We do this by recommending specific actions to address the issues we raised and by providing valuable information to the public, the administration, program leadership, the county council, and the mayor.

Objective, Scope, and Methodology

Objective

Do the internal controls at the Department of Public Work's Building Division ensure the timely issuance of building permits and compliance with Chapter 5 of the Hawai'i County Construction Administrative Code?

Scope

The audit was conducted from September 2023 to April 2025, we:

- Evaluated Electronic Processing and Information Center (EPIC) datasets from July 26, 2021, to March 31, 2024
- Evaluated permit processes and practices from September 2023 to April 2025

While the Building Division (BD) tracks timelines based on specific review criteria, the audit included all applications in the queue for the specified time. This results in differences in how application timelines were calculated between BD and OCA.

We did not evaluate:

- "Legacy Permits" permits evaluated outside or before EPIC (July 26, 2021)
 - Permits issued in Lotus Magnet, and hardcopy submissions
- Engineering Only
- Permit Metric Reports
- Cash handling processes

Methodology

To accomplish our objective, we:

- Developed an understanding of the County's building permit policies and procedures, practices, and processes from intake to final inspection
- Analyzed internal control systems and control environment
- Assessed compliance with applicable laws, rules, and other relevant governance
- Conducted stakeholder interviews
- Corroborated information with appropriate staff
- Attended "How to Reduce Building Permit Delays in Hawai'i" seminar
- Reviewed, as needed, information pertinent to the building permit process
- Conducted site visits to observe workflows and inspection practices
- Noted exceptions and made recommendations
- Was mindful of potential fraud, waste, and abuse as it relates to the audit objective
- Conducted this performance audit in accordance with Generally Accepted Government Auditing Standards

These standards require that we plan and perform the audit to obtain sufficient and appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Definitions

ADA: The Americans with Disabilities Act is a federal civil rights law that prohibits discrimination against people with disabilities in everyday activities. The ADA prohibits discrimination on the basis of disability, just as other civil rights laws prohibit discrimination on the basis of race, color, sex, national origin, age, and religion. The ADA guarantees that people with disabilities have the same opportunities as everyone else to enjoy employment opportunities, purchase goods and services, and participate in state and local government programs.

BD: The Building Division oversees the administration, review, coordination, and enforcement of building codes within the County of Hawai'i. Responsible for the repair and maintenance of County-owned buildings. Responsible for contracting building repair, renovation, and new facilities construction.

BLUEBEAM STUDIO: Bluebeam is a software application used by professionals in construction, architecture, and engineering. It is designed for creating, editing, marking up, and collaborating on PDFs, with features tailored to streamline project documentation and workflows.

DEM-WW: The Department of Environmental Management Wastewater Division is responsible for the operation and maintenance of 120 miles of sewer mains, 16 pump stations, 7 treatment facilities, and the closure of the large-capacity cesspools. The wastewater division accepts 5 million gallons of wastewater for treatment daily and cleans and inspects approximately 20 miles of sewer lines annually.

DOH: The State of Hawai'i's Department of Health functions under the leadership of the State Director and Deputy Director and includes attached offices and agencies. Most DOH programs are under one of three administrations: health resources, environmental health, and behavioral health.

EPL: Electronic Permitting System or e-Permitting Portal is a software system that allows state and local permitting authorities to submit permits electronically and supporting documents to regulatory authorities.

EPIC: The County of Hawai'i's Electronic Processing and Inspection Center powered by EnerGov to better serve the public. EPIC helps:

- Tracks and manages plan applications and requests and Building and Engineering permit applications received by both departments
- Allows community members to submit a number of plan applications, engineering grading, grubbing, stockpiling permit applications, and building permit applications online.
- Accepting electronic plans allows multiple approving agencies to review the plans concurrently. Once a building permit is issued, contractors can request inspections and view the results of the inspections online.
- To improve transparency, customers can track the application's progress as it is going through the approval process online. Support of credit card and electronic check payments online.

INSPECTIONS

FOUNDATION/SLAB INSPECTION: County Code, Chapter Five, Section 5-8-4 (2) and (3), Inspections state the following conditions need to be met for foundation/slab inspections:

- (2) Footing and foundation inspections shall be made after excavations for footings are complete and any required reinforcing steel is in place. Any required forms shall be in place for concrete foundations before inspection. Materials for the foundation shall be on the job, except where concrete is ready mixed in accordance with ASTM C 94; the concrete need not be on the job.
- (3) Concrete slab and under-floor inspections shall be made after in-slab or under-floor reinforcing steel and building service equipment, conduit, termite spray, vapor barriers, piping accessories, and other ancillary equipment items are in place, but before any concrete is placed or floor sheathing installed, including the subfloor.

FRAMING INSPECTION: County Code, Chapter Five, Section 5-8-4 (4) Inspections state the following conditions need to be met for framing inspections: Framing inspections shall be made after the roof deck or sheathing, all framing, fireblocking, and bracing are in place and pipes, chimneys and vents to be concealed are complete and the rough electrical, plumbing, heating wires, pipes, and ducts are approved.

FINAL INSPECTION: County Code, Chapter Five, Section 5-8-5 (a) and (b) state the following:

- The final inspection shall be made after all work the permit requires is completed.
- A certificate of inspection may be issued upon request by the contractor on record, provided all fees required by the construction code have been satisfied. (2020, ord 20-61, sec 2.)

IECC: The International Energy Conservation Code addresses energy efficiency on several fronts, including cost, energy usage, use of natural resources, and the impact of energy usage on the environment.

IRC: The International Residential Code is a comprehensive, stand-alone residential code establishing minimum regulations for one- and two-family dwellings and townhouses using prescriptive provisions. It is founded on broad-based principles that make the use of new materials and new building designs possible.

IWS: An Individual Wastewater System - an on-site system for treating and disposing wastewater. Approved IWS treatment equipment includes a septic tank, aerobic treatment unit, passive aerobic systems that still require a septic tank, bioreactor garden, composting toilets, and incinerator toilets. Composting toilets and incinerator toilets only treat toilet waste. Shower and kitchen wastewater still require treatment and disposal.

Legacy System: Refers to a holdover from the past. It could be a system, process, or even a mindset. In the workplace, it often describes older methods or technologies that were useful in their time but might now be outdated or inefficient compared to newer options.

NEC: The National Electrical Code, also known as NFPA 70, is the U.S. standard for the safe installation of electrical systems.

NESHAP: The National Emission Standards for Hazardous Air Pollutants are the stationary source standards for hazardous air pollutants (HAPs). HAPs are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects birth defects, or adverse environmental effects.

NFPA: Established in 1896, the National Fire Protection Association is the authority on fire, electrical, and building safety.

SHPD: The State of Hawai'i Historic Preservation Division is comprised of three branches, Architecture, Archaeology, and History and Culture, and together they collectively strive to preserve and protect Hawai'i's historic identity.

UPC: Designated as an American National Standard, the Uniform Plumbing Code is a model code developed by the International Association of Plumbing and Mechanical Officials (IAPMO) to govern the installation and inspection of plumbing systems.

Noteworthy Achievements and Events

We are pleased to report that the Department of Public Works Building Division (BD) has taken proactive steps to enhance the permitting process, addressing certain control weaknesses on its initiative and identified during the audit. We appreciate BD's cooperation and commitment to aligning with industry best practices. Specifically, BD has reported the following actions:

- **Participated in the Mayor's Building Permit Task Force** to improve the building permit system. Members of the task force include contractors, drafters, realtors, architects, engineers, and county staff (January 2025)
- **Compiled a list of the top five rejection comments** to release a FAQ or memo aimed at assisting the public with common errors (January 2025)
- **Hired a Permit System Coordinator (August 2024):**
 - Completed various training guides
 - Created a training calendar, program syllabus, and instructional videos for staff
 - Provided hands-on training to intake teams
- **Configured automated emails** to remind customers of pending permit applications and statuses that require their action, including:
 - Email reminder to pay Building Permit Plan Review Fees (December 2023)
 - Email reminder to resolve permit conditions for applications (November 2023)
 - A reminder that the application is about to expire:
 - 30-day notice
 - 90-day notice
 - A reminder that the permit placard is about to expire:
 - 60-days notice
- **Hired an Information Systems Analyst (October 2023):**
 - Completed various EPIC system enhancements
 - Began developing an inspection workflow
- **Provided Cloud + Delta memo** to enhance the plan resubmittal process (October 2022)

- **Implemented lead time tracking** for application uploads, including:
 - Established date-driven queues in July 2023
 - Introduced date ticklers to manage pending applications < 30 days (April 2024)

Facilitated weekly brainstorming meetings to promote process improvement (October 2022)

We conduct follow-ups at the appropriate time to assess whether all recommendations have been implemented or resolved and to what extent.

Background

What permit challenges exist in Hawai'i?

Hawai'i faces a growing housing crisis, marked by surging home prices, a lack of affordable options, and an aging housing inventory—38 years on average as of 2024. The state's highest-in-the-nation regulatory environment exacerbates these challenges, compounding delays in new construction and repairs while driving some residents to seek more affordable alternatives out-of-state. Environmental catastrophes have further strained housing availability, wiping out entire communities and highlighting the urgent need for efficient and effective building oversight.

BD plays an important role in coordinating efforts among multiple agencies to safeguard public safety and welfare by regulating most structures' design, construction, and maintenance. However, systemic inefficiencies and limited enforcement capacity hinder its ability to fulfill this mission. These challenges burden residents navigating complex permitting processes, encourage unpermitted construction that may pose safety risks, and result in lost property tax revenues that could otherwise support essential public services.

In its current state, the system risks worsening Hawai'i's housing dilemma, underserving residents, and undermining public trust. Addressing these issues is essential to ensure a fair, efficient, and equitable process that balances safety, sustainability, and accessibility, ultimately supporting the County's broader goal of fostering a thriving community.

Permits are required for most building, electrical, and plumbing work involving a building or structure. This includes new construction, additions or alternations, repairs, renovations, and demolitions. The BD's purpose is "to provide minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location and maintenance of all buildings and structures within the County and certain equipment."¹

What is the EPIC system?

The county launched its Electronic Permitting and Information Center (EPIC) system in July 2021. Developed over five years at a cost exceeding \$2.5 million, EPIC is a paperless permitting system designed to streamline the building permit application and review process. It allows applicants, such as homeowners, contractors, and developers, to submit

¹ Hawaii County Building Code Section 5A-1-2. Purpose.
<https://www.hawaiicounty.gov/home/showpublisheddocument/302737/637853542567970000> Date accessed: 1/31/25

applications, upload documents, track permit status, and communicate with staff online. EPIC also allows multiple agencies to review the permit application simultaneously. The transition to EPIC marked the end of paper applications, with the county no longer accepting them as of July 2021. Kiosks are set up at the Hilo and Kona Building offices to assist the public with application submissions and system learning.

Training videos and an informational webinar are offered to help users learn how to navigate the system.

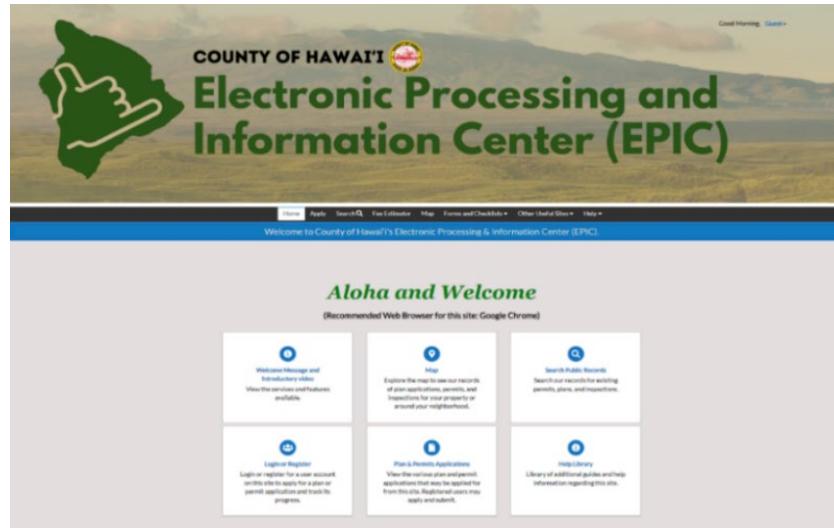


Figure 1: Electronic Processing and Information Center (EPIC) homepage

How much revenue did the Department of Public Works generate from building permits?

In fiscal year 2022-23, residential and non-residential building permits generated \$5,010,769.76 in revenue.

Why were building permit processes selected for review?

In Hawai'i, permit delays present a significant challenge, with residents frequently facing wait times of months or even years for approvals. The new electronic permitting system, EPIC, was introduced to improve the process. However, long wait times (Figure 1.4, page 18) and challenges within both the system and its processes have contributed to ongoing public skepticism.

A performance audit of DPW building permits was included in the Office of the County Auditor's (OCA) fiscal year 2024-25 annual audit plan. We determined that a thorough evaluation of the County's building permit processes was warranted to determine if the internal controls system worked as designed.

In 2022, the County contracted James Tinner of Code Support Group to analyze the permitting processes. The objective was to assess BD’s workflow to identify redundancies and reduce application approval times.

Tinner identified key contributors to delays and made 12 recommendations in a *Report Regarding Operations within the Building Code Division of the Hawaii County Public Works Department* (“Tinner Report”). He concluded that “Permit processing systems are extremely complex. Without written documentation such as policies/procedure manuals, it becomes extremely difficult to keep complex systems organized and predictable for permit staff and applicants. The results is inefficiencies, personal preferences, and some level of chaos creeping into the system. These items lead to non-predictability for permit applicants which in turn leads to unnecessary complaints to upper management and elected officials.” (Attachment A)

Separately, the Grassroot Institute of Hawai‘i, a nonprofit policy research group dedicated to promoting accountable government, researched and published a report identifying and proposing seven low-cost solutions to expedite building permits. These include:

- Allowing preapproved building plans
- Exempting basic work that does not pose major safety risks
- Streamlining solar project approvals
- Grandfathering unpermitted dwellings
- Allowing third-party approvals and issuing certain building permits
- Adopting “shot clocks”
- Reducing fees

The Grassroots methodology involved analyzing permitting practices, consulting industry stakeholders, and comparing regulatory frameworks in other regions to develop practical recommendations.

The solutions proposed by BD and external groups represent a broad spectrum of options to improve the building permit process. While some solutions overlap, others may contradict each other. This summary does not endorse or express an opinion on any specific solution but highlights areas of agreement and divergence for consideration.

Figure 1.1: Proposed Solutions Across Stakeholders

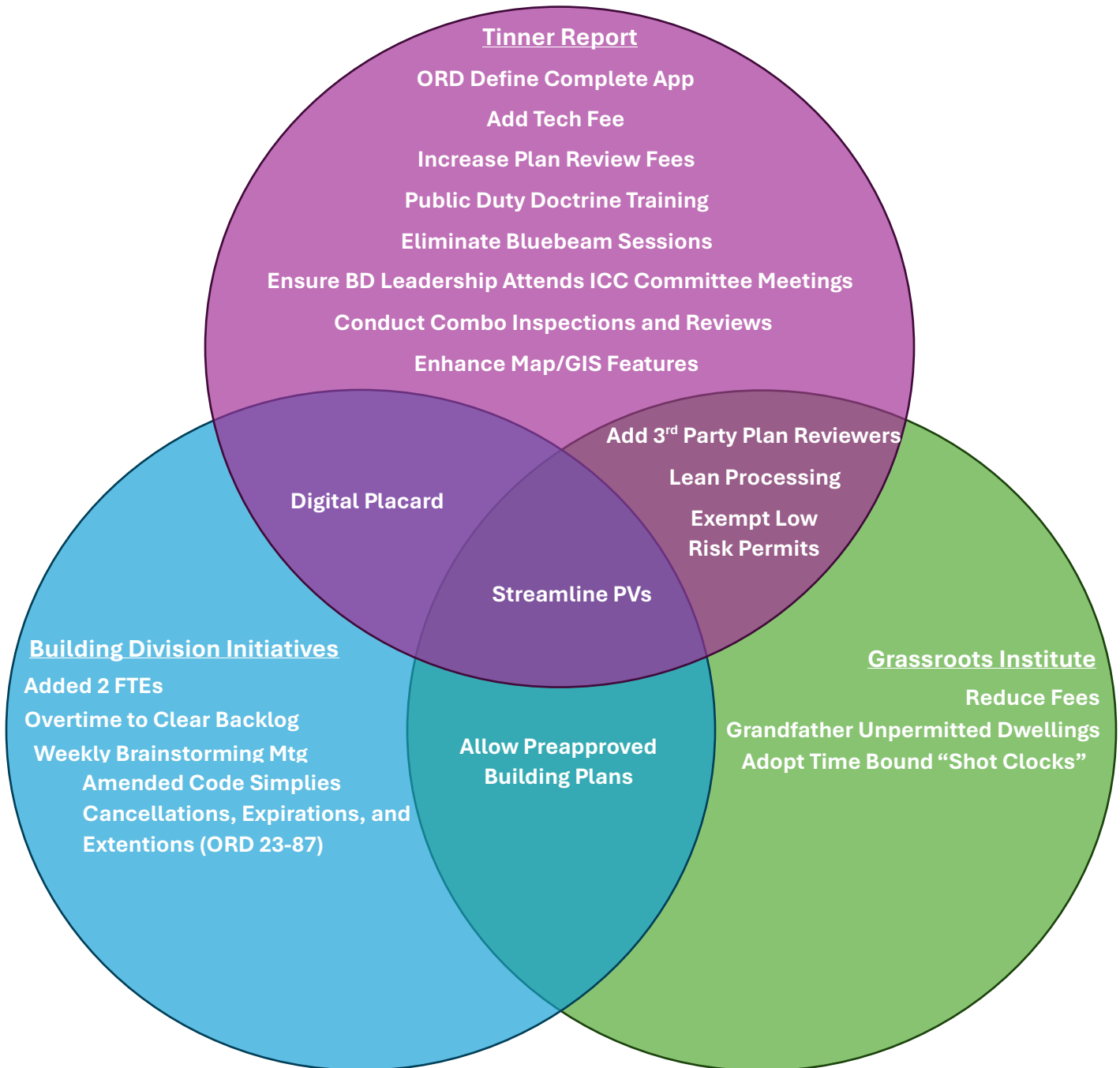


Figure 1.1: Proposed Solutions Across Stakeholders, Compiled Office of the County Auditor

Types of Permits.

Project applications are classified into five main categories and divided into 32 specific permit types.

Figure 1.2: Types of Permits	
Building - Non-Residential (11)	Building - Residential (12)
Addition	Model Home Design Pre-Approval
Alteration	Addition
Demolition	Alternation
Electrical Only	Demolition
Emergency Demo/Repair/Reconstruction	Electrical Only
Move	Emergency Repair/Reconstruction
New Construction	Move
Plumbing Only	New Construction
Photovoltaic	Plumbing Only
Swimming Pool/Hot Tub/Jacuzzi	Photovoltaic
Temporary Structure Building	Solar Water Heater
	Swimming Pool/Hot Tub/Jacuzzi
Regulatory Inspections (5)	
Adult Day Care	Liquor
After School Program	Preschool
Day Care	
Grading, Grubbing, Stockpiling (3)	
Grubbing	Stockpiling
Grading	
Sign (1)	
Sign	

Figure: 1.2: Types of Permits. Department of Public Works Building Division

Comparisons of Permit Applications vs. Approvals.

We analyzed 15,575* application uploads from the EPIC system spanning July 2021 through March 2024 to evaluate submission trends and performance measures. During this period, the BD issued 11,134** permits. The blue line represents the number of permit applications submitted, while the yellow line reflects the number of permits issued over the same timeframe.

Figure 1.3: Permit Applications vs. Approvals Over Time*

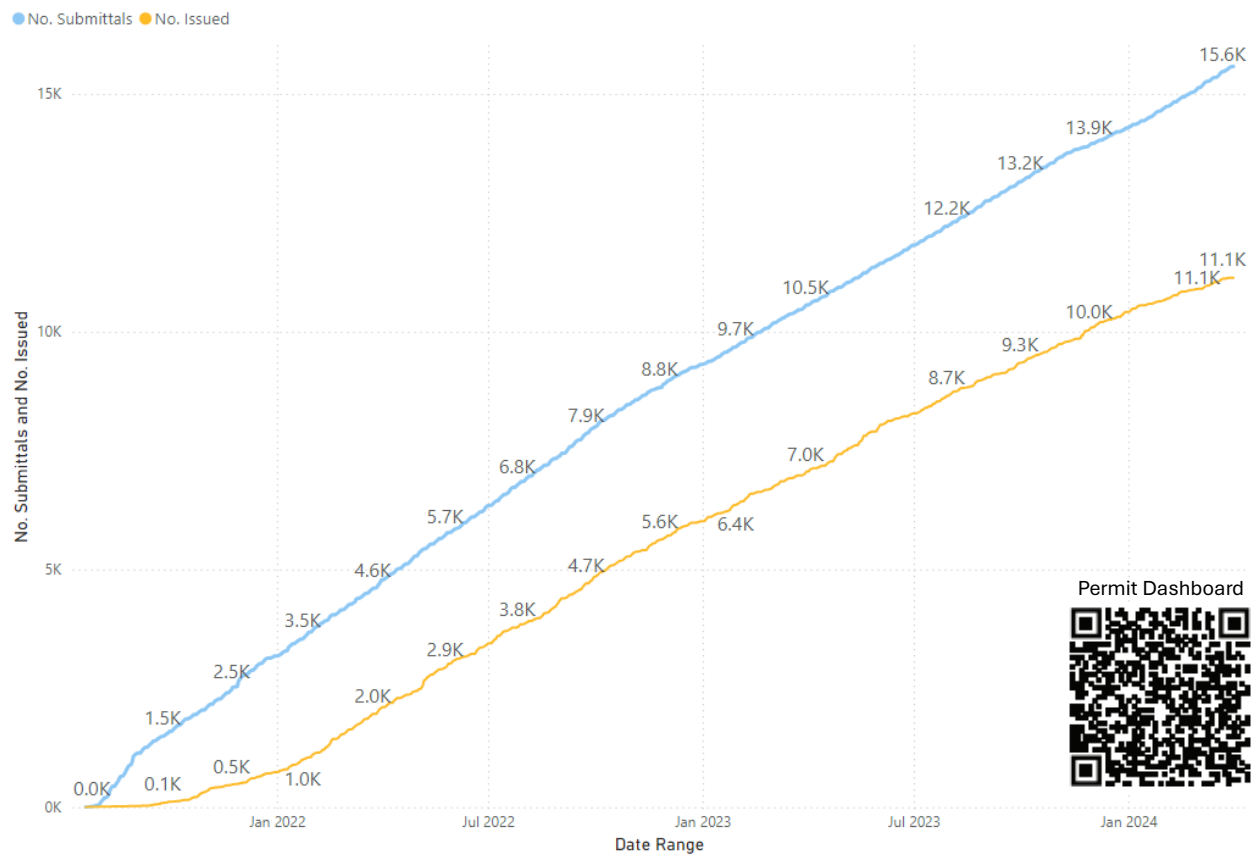


Figure 1.3: Permit Applications vs. Approvals Over Time. Compiled Office of the County Auditor

***Note:** A total of 16,364 permits were reviewed less 786 *Engineering Only permits* were excluded from the review. Additionally, 2 *Agricultural Exemption Permits*, and 1 *MSO Working Permit* was removed, resulting in a net total of 15,575 *permits*. Permits issued in Lotus, Magnet, Legacy, or hardcopy submissions were not evaluated.

**Reports from DPW, EPIC System Report, and Auditor's Request for Permit Applications for the period July 2021 to March 2024.

Office of the County Auditor Permit Dashboard. <https://www.hawaiicounty.gov/our-county/legislative/office-of-the-county-auditor/audit-reports>. Data provided by Building Division. Compiled Office of the County Auditor.



Figure 1.4: Online Permit Application Volume, Type, and Time *

Permit Work Class	Count Permit Number	% of Permit Number	Avg. Days
⊕ Residential Move Permit	3	0.02%	435.0
⊕ Non-Residential New Construction	367	2.36%	327.9
⊕ Non-Residential Addition	43	0.28%	294.1
⊕ Residential Addition	339	2.18%	249.7
⊕ Non-Residential Alteration	892	5.73%	246.8
⊕ Residential	3	0.02%	238.0
⊕ Residential New Construction	3695	23.72%	233.8
⊕ Residential Alteration	340	2.18%	220.9
⊕ Residential Demolition Permit	144	0.92%	183.6
⊕ Liquor	62	0.40%	177.4
⊕ Day Care	4	0.03%	175.7
⊕ Sign Permit	133	0.85%	168.8
⊕ Non-Residential Demolition Permit	61	0.39%	168.6
⊕ Residential Swimming Pool/Hot Tub/Jacuzzi	245	1.57%	151.1
⊕ Non-Residential PV Permit	113	0.73%	129.5
⊕ Preschool	7	0.04%	115.0
⊕ Adult Day Care	7	0.04%	112.0
⊕ Non-Residential Swimming Pool/Hot Tub/Jacuzzi	10	0.06%	111.0
⊕ Residential Emergency	13	0.08%	110.4
⊕ Residential Solar Water Heater Permit	423	2.72%	96.9
⊕ Non-Residential Plumbing Only Permit	245	1.57%	90.2
⊕ Non-Res Emergency Demo/Repair/Reconstruction	15	0.10%	89.9
⊕ Non-Residential Electrical Only Permit	799	5.13%	84.5
⊕ Residential Plumbing Only Permit	980	6.29%	65.3
⊕ Model Home Design Pre-Approval	73	0.47%	64.1
⊕ Temporary Structure Permit	122	0.78%	59.0
⊕ Residential PV Permit	3922	25.18%	47.1
⊕ Residential Electrical Only Permit	2513	16.13%	45.1
⊕ Grading Permit	1	0.01%	
⊕ Residential Single Family	1	0.01%	
Total	15575	100.00%	114.8

Legend: Avg days 114.8 ▲ +/- 5 days of mean. ● < 5 days below mean ◆ >5 days above mean

Figure 1.4: Online Permit Application Volume, Type, and Time. Compiled Courtesy County Auditor

*Auditor Note: We did not evaluate permits issued in Lotus, Magnet, Legacy, or hardcopy submission. Source: Report Provided by DPW EPIC, System Report. "Auditor Request for Permit applications between July 2021 to March 2024. OCA Permit Dashboard. <https://www.hawaiicounty.gov/our-county/legislative/office-of-the-county-auditor/audit-reports>. Data provided by the Building Division. Compiled Office of the County Auditor.

Figure 1.4 represents the volume of applications received during the period. The average processing time reflects the interval between the date applications are uploaded and permits issued. This calculation includes time spent with both the department and the customer.

This approach differs from the division's methodology, which calculates processing time from task assignment to completion. During the audit period, the division did not track or account for the time spent with the applicant, as this time is outside their direct control. Our methodology, which considers the entire process from applicant submission to permit issuance, better reflects user expectations for overall turnaround time².

Building Permit Processes.

We examined the division's building permitting practices for both residential and non-residential permits. To account for process variations based on permit type, we used the new construction residential process as a baseline to establish a foundational understanding.

BD has educational materials it provides to the public to outline aspects of its building permit process. Figure 1.5 was designed to maintain legacy processes in which paper plans were reviewed sequentially, and a three-permit system was used. For example, the residential permit steps are visually outlined below, comprising seven simple steps.

Building Division's Residential Building Permit Process

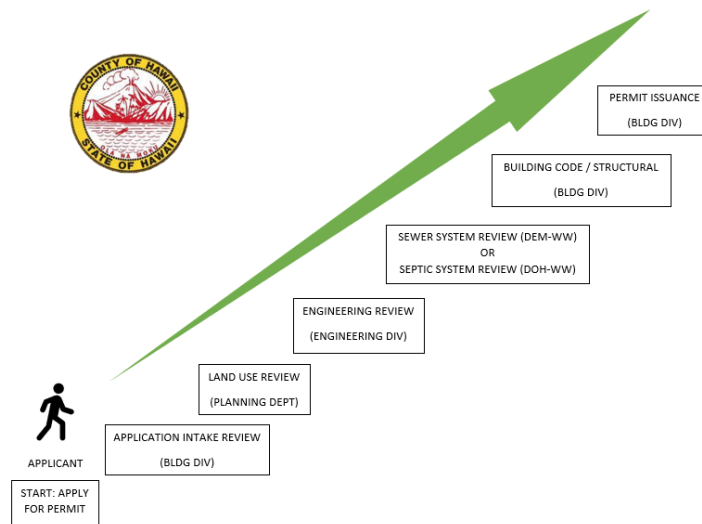


Figure 1.5: Building Division's Residential Building Permit Process

² DPW Building Division. *Comparison of the Average Number of Days to Process Permits*. https://records.hawaiicounty.gov/weblink/1/edoc/140091/BLG_Permit_Issuance_Metrics.pdf Accessed: 12/27/24

Figure 1.6 shows what the one-permit system is:



Department of Public Works Building Permit Process

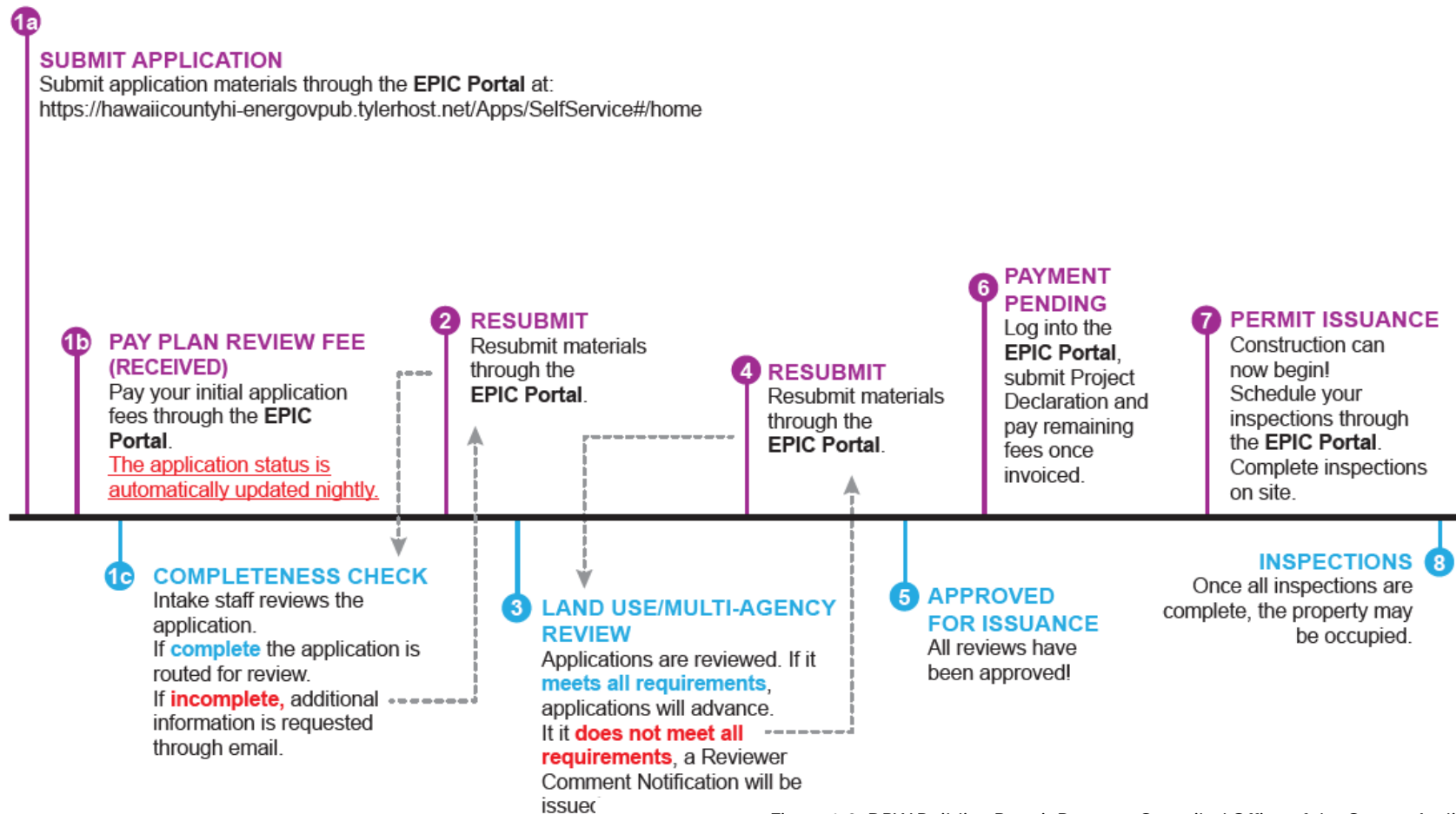


Figure 1.6: DPW Building Permit Process. Compiled Office of the County Auditor

1a. Submit Application.

Property owners, contractors, or agents applying on their behalf prepare an application by creating a profile in the EPIC system and submitting it through the online portal. The application includes selecting and describing the project type, identifying professional trades, detailing building specifications, completing external forms such as a property owner declaration and site plans (blueprints), signing the submission, and submitting the application.

1b. Pay Plan Review Fee.

A plan review fee is charged at the time of application submission in addition to the permit fee. This fee is 20% of the permit fee, with a minimum charge of \$50. The fee must be submitted along with the application, plans, and specifications required under HCC §5-4-1.

1c. Completeness Check.

The intake staff reviews the application. If complete, the application is routed for review. If it is incomplete, additional information is requested through an email from the intake clerk.

2. Resubmit.

When it is ready to be reviewed, applications are received by a ten-member intake team. Team members self-assign applications and check for completeness. Teams are expected to prioritize the oldest applications first, advancing those with approvals or returning incomplete applications to the applicant for corrections or resubmittals. If the application is deficient, the applicant is notified by email of deficiencies that need corrections. After corrections have been made, the application re-enters the queue for re-evaluation.

3. Land Use/Multi-Agency Review.

When approved at intake, the application progresses to the Planning Department for a land use review. This review ensures that the property type suits the zoning and required setbacks. Land use review is not required for all permit types, such as Electrical or Plumbing-Only Permits.

The application then moves to a multi-agency review. During this stage, multiple agencies work in parallel, and the agencies involved depend on the type of permit being sought. These may include Plumbing, Department of Health (DOH)-Wastewater (if the plan calls for an individual wastewater system), DOH-Food Safety reviews all non-residential projects, Engineering, Fire (for non-residential projects only), Electrical, Mechanical, Structural, Department of Environmental Management (if the plans call for a connection to a County Sewer System).

The workflow is designed to notify all agencies when an application is disapproved, and subsequent resubmittal may be required to address any changes.

Once all agencies involved in the multi-agency review have approved the application, it proceeds to the out-processing stage, where the plans are reviewed again for completeness.

4. Resubmit.

At any stage of the review process, an application may be returned due to incorrect or incomplete information caused by the applicant or staff errors. In either case, the applicant is notified. Once corrections are received, the application re-enters the queue for re-valuation. This “reset” can occur multiple times.

5. Approved for Issuance.

All steps have been completed, and pending some housecleaning the applicant is greenlit for a permit.

6. Payment Pending.

The applicant is invoiced, payment is collected, and the applications again enter a queue awaiting issuance.

7. Permit Issuance.

The application qualifies for issuance once payment and required project declarations are received.

8. Permitted Inspections.

Permitted projects under construction require oversight by county inspectors at various stages of construction. For example, once permits are approved, a residential new construction project undergoes multiple inspections (in order of inspections):

- Foundation (Building, Electrical, Plumbing)
- Framing (Building, Electrical, Plumbing)
- Final Inspections (Building, Electrical, Plumbing)

In accordance with Hawai'i County Code § 5-8-3, only the contractor/owner builder, electrical contractor, and plumbing contractor can request an inspection. Once construction is completed and the dwelling passes final inspections, the permit is closed, and occupancy can occur.

Certificate of Occupancy (CO).

COs only apply to nonresidential construction. These structures cannot be used or occupied, nor can the occupancy classification be changed until the appropriate authority has issued a certificate of occupancy.

County of Hawai'i Office of the County Auditor



Chapter 2: Audit Results Volume

Audit Activity.

To identify bottlenecks in the permitting process, we:

- Analyzed EPIC-generated datasets from July 26, 2021, through March 31, 2024, including 15,575 permits, with an estimated valuation of \$3,367,225,885³
- Reviewed *Hawai'i County Code Chapter 5 Construction Administrative Code*, “Tinner Report⁴,” and the Grassroots Institute of Hawai'i Policy Brief⁵ (October 2024)
- Researched the Public Duty Doctrine
- Benchmarked other municipalities that use self-certification and/or third-party review services
 - City of Phoenix, AZ
 - City of Denver, CO
 - City of Fort Worth, TX

One obstacle affecting permits is volume. High permit application volume can overwhelm the system, causing delays and backlogs. Efficiently managing large volumes ensures timely processing and prevents bottlenecks.

Application Volume.

Figure 2 shows the volume of applications and the number of permits being issued. Applications received (blue line) and permits processed (yellow line) over time do not account for withdrawn, canceled, or expired permits. Lines remain parallel to one another when a system is functioning optimally. When the lines intersect, it indicates that the division's capacity exceeds demand, and when the lines diverge, demand is outpacing the division's ability to process applications.

³ Office of the County Auditor Permit Dashboard. <https://www.hawaiicounty.gov/our-county/legislative/office-of-the-county-auditor/audit-reports>. Data provided by Building Division. Compiled Office of the County Auditor.

⁴ James Tinner, “Consultant’s Report: COM 36.1 (2022-24)” <https://records.hawaiicounty.gov/Weblink/0/doc/1049842/Page1.aspx>. Accessed 11-20-24

⁵ Grassroots Institute of Hawai'i. Policy Brief, (October 2024), *Seven low-cost ways to speed up permitting in Hawai'i Expediting the issuance of building permits is critical to making a dent in Hawaii's housing crisis*. https://www.grassrootinstitute.org/wp-content/uploads/2023/12/241007_pb_permits.pdf. Accessed 11/20/24

Figure 2: Application Volume Outpaces Permit Issuance

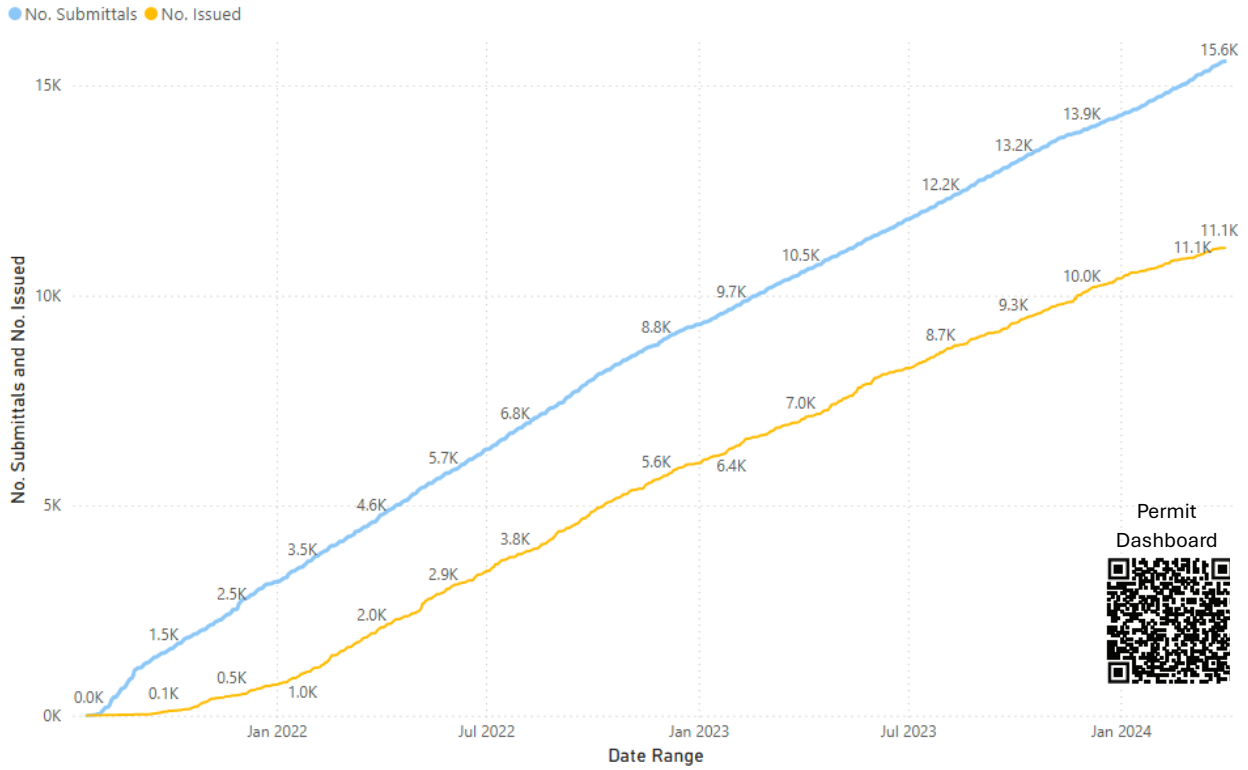


Figure 2: Application Volume Outpaces Permit Issuance, data extracted from EPIC, Analyzed Office of the County Auditor, Figure 2 does not include resubmittal. Office of the County Auditor Permit Dashboard.

<https://www.hawaiicounty.gov/our-county/legislative/office-of-the-county-auditor/audit-reports>

Data provided by the Building Division. Compiled Office of the County Auditor

As of March 31, 2024, the volume of applications (blue line) and the division’s processing capacity (yellow line) were on divergent paths. To address this issue, solutions should focus on reducing the volume of applications requiring reviews, increasing the division’s capacity to process applications or a combination of both strategies.

Municipalities nationwide face unique housing challenges, prompting the development of a wide range of proposed solutions to expedite permit processing at both state and local levels. Following the launch of the EPIC system, the Roth administration contracted the “Tinner Report,” which focused on an analysis of “current permitting processes”. The Grassroots Institute of Hawai‘i also published a Policy Brief in October 2024 proposing solutions to expedite permit issuance. Similarities between solutions are outlined below to reduce volume and increase capacity:

Figure 2.1: Solutions Designed to Reduce Volume	
Grassroot Institute of Hawai‘i⁶	Tinner Report⁷
Exempt basic repairs and other nonstructural work that does not pose major safety risks.	Reserve internal licensed engineering staff for complex structures and allow licensed design professionals to self-certify conventional single-family homes, reducing inefficiencies and addressing risk intolerance through Public Duty Doctrine training.
Exempt qualifying rooftop photovoltaic systems from building permits.	Exempt rooftop photovoltaic systems meeting established criteria from requiring a licensed design professional. Only an electrical permit with fire access verification is required by the electrical inspector.

Figure 2.1: Solutions Designed to Reduce Volume. Compiled Office of the County Auditor

Photovoltaic (PV) applications accounted for a significant portion (25%) of the total workload, representing 3,922 of the 15,575 applications. If PV systems were exempted, the total applications would reduce to approximately 11,653, comparable to the 11,134 permits issued during the review period. Since PV systems generally have faster turnaround times, removing them from the workflow should free up resources to focus on more complex projects requiring greater effort and processing time.

Increasing resource availability would shorten the average time for more labor-intensive applications. However, the overall number of permits processed might decrease as the system shifts from handling simpler tasks to prioritizing more complex applications.

⁶ Grassroots Institute of Hawai‘i. Policy Brief, (October 2024), Seven low-cost ways to speed up permitting in Hawai‘i Expediting the issuance of building permits is critical to making a dent in Hawai‘i’s housing crisis. https://www.grassrootinstitute.org/wp-content/uploads/2023/12/241007_pb_permits.pdf. Accessed 12-27-24

⁷ County of Hawai‘i. COM 36.1 Supporting material for Communication 36 <https://records.hawaiicounty.gov/Weblink/0/doc/1049842/Page1.aspx> Accessed: 12-27-24

BD processes PV permits for systems under 10 kW, contributing to the volume of applications. Exempting these systems from permitting could provide significant reductions. Ordinance 24-93 Bill 212 (Draft 1) separately raised the dollar threshold for certain non-structural permits from \$7,500 to \$25,000, further easing the workload. Both reflect policy choices with the potential to substantially lower application volume.

Self-Certification.

Self-certification allows qualified professionals to confirm that their work meets building codes, speeding up permit approval without full government review. The Tinner Report discussed this concept, which noted BD's extreme risk intolerance and preference to review nearly all proposed work, except where exemptions are defined under HCC §§5-3-21 through 5-3-25. BD expressed concerns regarding high error rates and incorrect submissions by licensed design professionals. These conditions emphasize building a collaborative relationship with design professionals, setting clear expectations, and gradually fostering trust to ensure accurate and reliable permit submissions.

Self-Certification Program.

We benchmarked the City of Phoenix, Arizona, which uses a self-certification program.

To qualify for self-certification, licensed architects and engineers must meet the following eligibility requirements:

1. Have at least three years of professional experience in building code compliance
2. Be a registered professional within the state
3. Successfully complete the city's self-certification training course. This training must be renewed every three years and includes requirements to:
 - a. Obtain and maintain sufficient professional liability insurance
 - b. Complete the necessary training classes

Requirements for Self-Certifying Projects.

Licensed architects or engineers must maintain the following documentation:

- Proof of adequate professional liability insurance
- A certification statement confirming eligibility for self-certification, a clean record free of fraud or similar violations, and compliance with self-certification requirements for the project
- A letter from the property owner or tenant stating they have authorized the work will correct any errors or misrepresentations and will undertake necessary remedial actions to ensure compliance with the law

- A “hold harmless” letter indemnifying the city against any costs or damages arising from the design, construction, code compliance review, or permit issuance for the project
- A completed self-certification application

Audits and Inspections.

Self-certified projects are subject to the following review processes by the municipality to ensure compliance:

- **Random Audits:** At least 10% of self-certification applications undergo a random audit.
- **Automatic Audits:** Certain types of projects are automatically audited, including:
 - Remodels of 25,000 square feet or more
 - Shell buildings of 25,000 square feet or more
 - New buildings of 10,000 square feet or more
 - New electrical and instrumentation occupancies
 - Public assembly occupancies with a capacity of 300 or more
 - Medical marijuana facilities
 - Ambulatory care facilities
 - An initial review of standardized plans intended for repeated use

After plan approval and commencement of work, inspections are conducted to verify that construction aligns with the approved plans. This combination of audits and inspections helps identify and resolve compliance issues within the self-certification process.

Streamlined Permit Approval.

Once the design professional meets all eligibility requirements and submits the necessary documentation, the permit approval process can be completed within one to five days.

In addition to the existing controls implemented in the City of Phoenix's self-certification program, other internal controls that could further enhance the robustness of such a program might include the following:

- Program pilot and phased implementation
- Standardized checklists
- Publicly accessible code interpretations
- Post-audit improvement mechanisms
- Automated compliance validation tools
- Continuous feedback and revision
- Robust accountability measures
- Escalating penalties for non-compliance, including decertification

For Approved Self-Certified Professionals, the permit approval process can be completed within one-to-five days.

- Partnerships with professional organizations
- Public-private oversight mechanisms
- Annual program review

Public Duty Doctrine Training.

The Public Duty Doctrine limits liability for government agencies performing public functions, such as approving application packets or conducting inspections. Under this doctrine, liability for construction failures is generally a civil matter between the contractor and citizen, as the government’s duties and responsibilities are to the public, not individuals. However, a government entity may assume additional liability when it makes independent assessments of design professionals' work rather than simply verifying that required documents are on file and accurate.

Training in the Public Duty Doctrine can help staff better understand the limits of their responsibilities and reduce unnecessary liability exposure.

Currently, intake staff and plan reviewers are supervised by a licensed professional. However, staff without professional licenses are making judgments on work submitted by design professionals without continuous training to evaluate complex or technical details.

Figure 2.2: Solutions Designed to Increase Capacity
Grassroot Institute of Hawai‘i and Tinner Report
Allow third parties to approve and issue certain building permits and/or allow third-party plan review services.

Figure 2.2: Solution Designed to Increase Capacity. Compiled Office of the County Auditor

Third-Party Review Services.

Third-party services involve external organizations or professionals hired to perform specific tasks or functions, such as plan reviews and inspections, on behalf of a municipality to enhance efficiency and expertise in the permit process. Third-party reviews can take various forms, depending on model adoption and organizational needs.

On one end of the spectrum, municipalities may pursue a strategy of Business Process Outsourcing plan review functions to organizations, which manage permit submissions, customer service, and administrative tasks. This model focuses on efficiency and scalability, making it suitable for jurisdictions facing high application volumes or limited resources. For example, the City of Denver, Colorado, uses this approach to scale permit review processes.

Alternatively, some municipalities, such as Fort Worth, Texas, have adopted a third-party certification model. The City of Fort Worth maintains a local roster of at least eight certified firms authorized to perform plan reviews and inspections.

These firms undergo a thorough approval process to ensure they meet the city’s qualifications and adhere to local codes and standards. This model allows applicants to select an approved private agency to expedite their permit review and/or conduct inspections while ensuring that the municipality retains oversight and control over compliance and enforcement.

These two models demonstrate the different levels of delegation and oversight that can be applied, providing municipalities with the flexibility to balance efficiency with control and enforcement.

Without a scalable solution, backlogs become routine, eventually leading to the need for more full-time staff as demand grows. By adjusting staffing to match baseline demand, third-party review services can provide temporary support during peak periods, helping to manage backlogs and ensure timely processing. This approach offers flexibility to handle fluctuations in application volume without permanently increasing staff levels.

The “backlog” refers to accumulating permit applications that have not yet been reviewed or approved due to high volume, staffing limitations, or other delays. It represents the number of pending permits awaiting processing.

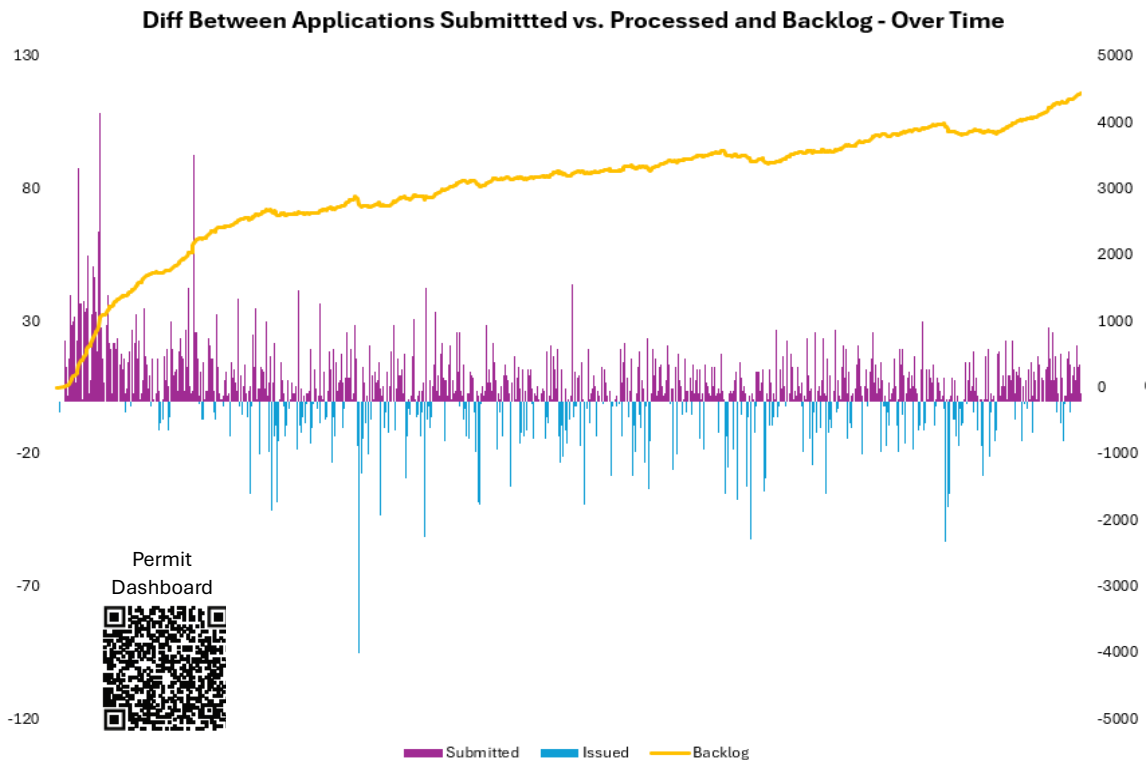


Figure 2.3: Difference Between Applications Submitted vs. Processed and Backlog - Over Time. Data extracted from EPIC Analyzed Office of the County Auditor

Figure 2.3 shows the daily net difference between applications submitted by customers (purple bars) and permits issued by staff (blue bars). Only a purple or blue bar is shown for each date, reflecting the net outcome of submitted applications and processed permits. The left axis represents the number of applications submitted (positive values) or permits processed (negative values).

The yellow line represents the cumulative backlog over the audit period, which generally trends upward and is shown on the right secondary axis. From earliest to latest, the x-axis represents the audit period from July 26, 2021, to March 31, 2024.

Our analysis indicates that, on average, 16 applications were submitted daily, while staff processed 12 applications per day, resulting in a persistent backlog. This issue was further exacerbated by 26 significant surges in application submissions, where daily uploads exceeded the usual daily average by over sevenfold.

Technical outages and software downtimes prevented BD from conducting meaningful reviews, hampering operations and contributing to the backlog. Surges and downtime combined have a significant impact on processing delays for applicants.

Artificial Intelligence (AI).

Municipalities can use technology as a scalable solution to address the growing permitting process demands without increasing human resources. AI refers to applying advanced computational systems that utilize machine learning, natural language processing, and data analytics to streamline and enhance the evaluation of construction plans and permit applications. AI is one tool that should enhance efficiency and accuracy and provide scalability while ensuring compliance with regulations to increase the capacity of permit processing workflows.

BD currently uses Bluebeam Revu, a plan review software that assists in identifying errors and inconsistencies in submitted building plans. While this software supports accurate reviews, the rapid evolution of additional AI-powered tools offers opportunities to expand and optimize the permitting process even further.

Emerging technologies can complement existing systems by automating a broader range of tasks, such as advanced application error detection, predictive analysis of potential code violations, and streamlined workflows for applicants and reviewers. AI can also simplify complex zoning and code research, enabling faster and more precise determinations, which are not fully addressed by current solutions. These advancements allow reviewers to focus on higher-value tasks, such as critical decision-making and policy alignment, rather than repetitive administrative tasks.

BD can reduce processing times, alleviate backlogs, and optimize resource allocation by integrating these tools alongside existing platforms. Given AI's dynamic and evolving nature, agencies must remain proactive in monitoring advancements and identifying integrations that address specific operational needs. Leveraging evolving solutions alongside current tools can ensure compliance, improve service quality, and better meet the growing demands of permitting processes.

Conclusions.

The persistent delays and backlogs in the permitting system are driven by several conditions: high application volume, resource constraints, and the lack of scalable solutions. Key factors contributing to these challenges include the disproportionate allocation of resources to low-risk applications, limited automation in the review process, and the absence of mechanisms like self-certification and third-party reviews to manage demand surges effectively. These conditions emphasize the importance of reducing application volume and increasing processing capacity to alleviate backlogs and improve the user experience.

To Reduce Application Volume
We make the following recommendations

FINDING 1: The Volume of Applications Contributes to Delays

Cause of the Condition

1. The volume of applications submitted for permits consistently outpaces the division's processing capacity.
2. A substantial portion of applications consists of rooftop photovoltaic (PV) systems (25%), which consume division resources despite being low-risk and fast to process.
3. Intake and plan review team members without professional licenses evaluate submissions prepared by licensed design professionals.
4. Sudden and unpredictable application surges and software downtime disrupt normal operations and strain division resources.
5. The division does not have scalable solutions, such as third-party review services, to effectively manage surges in permit applications.
6. Low-risk and low-complexity applications that could be exempted are being reviewed.
7. BD is hesitant to adopt a self-certification program for licensed design professionals.
8. The current permitting process relies on limited automation, with existing tools providing only basic capabilities in plan reviews.

Effect of the Condition

1. Persistent backlogs in permit processing result in extended applicant delays, impacting project timelines and increasing user dissatisfaction.
2. Allocating resources to review low-risk applications, such as PV systems, limits the division's ability to focus on complex projects requiring greater attention.
3. Division staff making independent assessments of licensed design professionals' work without sufficient training exposes the County to potential liability and inefficiencies.
4. The operational disruptions from surges in applications and software downtime result in staff resources being stretched thin, leading to increased workloads and difficulty maintaining efficient processing.
5. The lack of scalable solutions contributes to prolonged delays in application processing, further escalating the backlog.
6. Reviewing low-risk and low-complexity applications that could be exempted diverts resources from processing more complex projects, contributing to backlogs and delays.

7. The absence of self-certification options for standard residential designs restricts processing efficiency, leaving the entirety of application volume dependent on departmental review.
8. Limited automation leads to slower workload management and contributes to delays.

Recommendation 1

Exempt Qualified Low-Risk Applications.

Evaluate low-risk, low-impact applications (i.e., PV, solar water heater, water tanks, fences, and walls) to identify opportunities to increase exemptions. The goal is to reduce application volume, increase departmental capacity, and reallocate staff resources to focus on more complex applications.

Recommendation 2

Implement Self-Certification and Provide Public Duty Doctrine Training.

Establish a self-certification program for licensed design professionals to certify standard residential designs, reserving engineering staff for more complex reviews. This initiative aims to expedite processing, improve efficiency, and reduce backlogs. Support the program with regular Public Duty Doctrine training to clarify staff roles in verifying submissions rather than independently reassessing certified work.

Recommendation 3a

Pilot Third-Party Review Services During Peak Periods.

Pilot a program using third-party plan review services as needed, addressing unpredictable surges that exceed baseline capacity. Scalable solutions seek to minimize backlogs without needing long-term staffing increases while ensuring consistent processing times.

Recommendation 3b

Enhance AI Integration in Plan Review Processes.

Explore opportunities to integrate advanced AI-powered tools into plan review processes to augment existing capabilities.

Elements include, but are not limited to:

- Automating error detection, discrepancies, or irregularities
- Identifying code compliance issues
- Simplifying zoning research

County of Hawai'i Office of the County Auditor



Chapter 2: Audit Results Processing Time

Audit Activity.

To evaluate the efficiency of processing times in the permitting system, we:

- Analyzed EPIC-generated datasets from July 26, 2021, through March 31, 2024. This included 15,575 permits, with an estimated valuation of \$ 3,366,687,558⁸
- Interviewed staff and those charged with governance
- Reviewed applicable Administrative Rules, guides, and other written guidance
- Reviewed “Tinner Report” recommendations
- Attended the seminar, “Seven Low-Cost Ways to Speed Up Permitting in Hawai‘i”
- Researched Lean Six Sigma for Service principles

Another obstacle affecting permits is processing time. The time it takes to process permits impacts project timelines, business operations, and public services. Reducing processing time improves efficiency and helps meet construction, development, or regulatory compliance deadlines.

Application Processing Time.

We analyzed the time involved in the permit process to evaluate the system's overall efficiency. By understanding time factors, the division can pinpoint delays, bottlenecks, or inefficiencies that hinder progress. Metrics, including lead, cycle, and processing times, provide distinct insights into process performance.

- **Lead time** measures the total duration from application submission to permit issuance, offering a view of the applicant’s overall experience and the predictability of the process.
- **Cycle time** focuses on the time taken to complete major stages within the process, highlighting the Division’s internal efficiency at the stage level.
- **Processing time** drills deeper into individual activities within each stage, helping to pinpoint specific tasks and activities that contribute to delays.

Lean Six Sigma, for the service industry, is a methodology that combines Lean's focus on eliminating waste and improving process flow with Six Sigma's emphasis on reducing variation and improving quality.

Lean Six Sigma for Service emphasizes the importance of concurrent monitoring metrics to develop a comprehensive understanding of the permitting process. It accounts for the complexities inherent in permitting, such as variations in application types, procedural inconsistencies, or external factors impacting timelines. By addressing these complexities, BD can implement targeted improvements that enhance internal productivity while improving transparency, consistency, and the overall user experience.

⁸ Office of the County Auditor Permit Dashboard. <https://www.hawaiicounty.gov/our-county/legislative/office-of-the-county-auditor/audit-reports>. Data provided by Building Division. Compiled Office of the County Auditor.

Figure 3: Lean Six Sigma for Service Industry

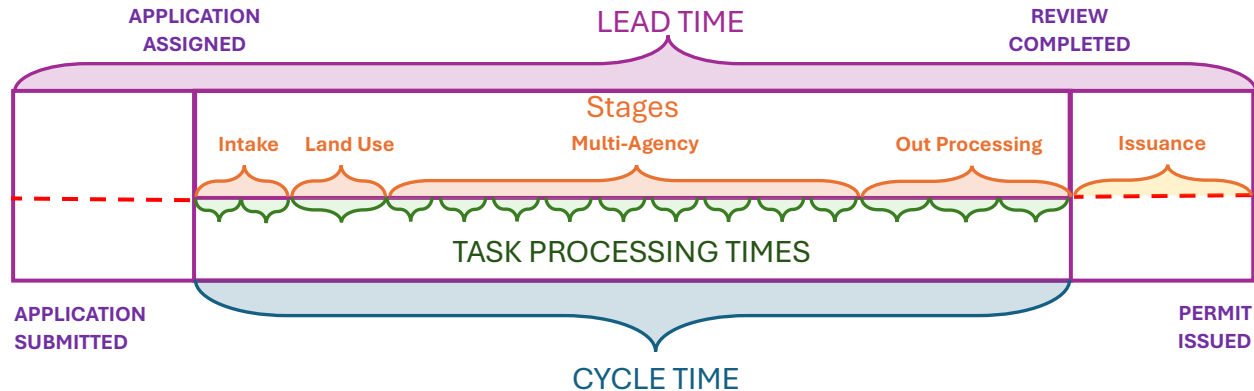


Figure 3: Lean Six Sigma for Service Industry. Compiled Office of the County Auditor, visual not to drawn to scale

Three Types of Durations.

- **Lead Time** represents the total duration from application submission to permit issuance, covering all stages and delays, including any time the application spends idle with the division or with the applicant for resubmissions. Lead time is important for assessing the overall user experience and the predictability of the permitting processing from start to finish.
- **Cycle Time** represents the total duration a permit spends within each main stage of the process, from when it enters a stage (such as intake, land use, multi-agency review, or out-processing) to when it exits that stage and moves to the next. Cycle time captures the entire span of a permit’s progress within each major stage, offering an overview of the efficiency of each stage.

While cycle time can provide valuable insights into internal productivity, it must be measured correctly. BD pauses the clock when applications are returned to the customer for corrections or resubmittal, which affects the measurement. However, delays may be caused by unclear or missing instructional materials, inconsistent guidance, or overly complex requirements from BD, as well as misunderstandings or incomplete submissions from the customer.

While it’s rational to discount time spent with the customer outside the department’s control, tracking and analyzing these interactions is still critical to understanding delays and making informed improvements. By measuring this time, BD can reduce the duration and frequency of returned applications to the customer.

- **Processing Time** refers to the duration spent on individual activities within each stage of the permitting process, such as completing forms, reviewing checklists, and conducting specific compliance tasks. Analyzing processing time at this activity level makes it possible to identify where time is being dedicated.

During the audit period, BD focused on cycle time, when applications are assigned and actively being worked on. However, limiting the focus may obscure factors that impact the overall lead time. For instance, the time at the beginning, when applications are submitted and awaiting initial assignment, and at the end, after reviews have been completed and the permit is awaiting issuance, are not fully captured in the cycle time. These periods contribute significantly to the total lead time and should be considered in any process efficiency analysis. Subsequently, in April 2024, BD began monitoring lead time during the audit.

Additionally, BD uses averages to assess its performance through stages. While averages can be a helpful metric, they can mask significant variability. For example, if four permits take 25, 35, 35, and 100 days to issue, BD may report an average issuance time of 48.7 days. While this might reflect a positive outcome for the first three applicants, the final applicant's experience is markedly different, conflicting with performance reports.

Variability among time intervals can reveal areas where improvements are necessary. We examined the stages in the application process from a perspective of time and an analysis of the first pass rate (the percentage of applications that are completed correctly and approved without requiring corrections or resubmittal. It reflects the efficiency and accuracy of the initial attempt), the minimum, maximum, and average number of reviews and days at each review stage, along with common reasons for rejections.

Figure 3.1: 15,575 Applications Upload to Assignment.

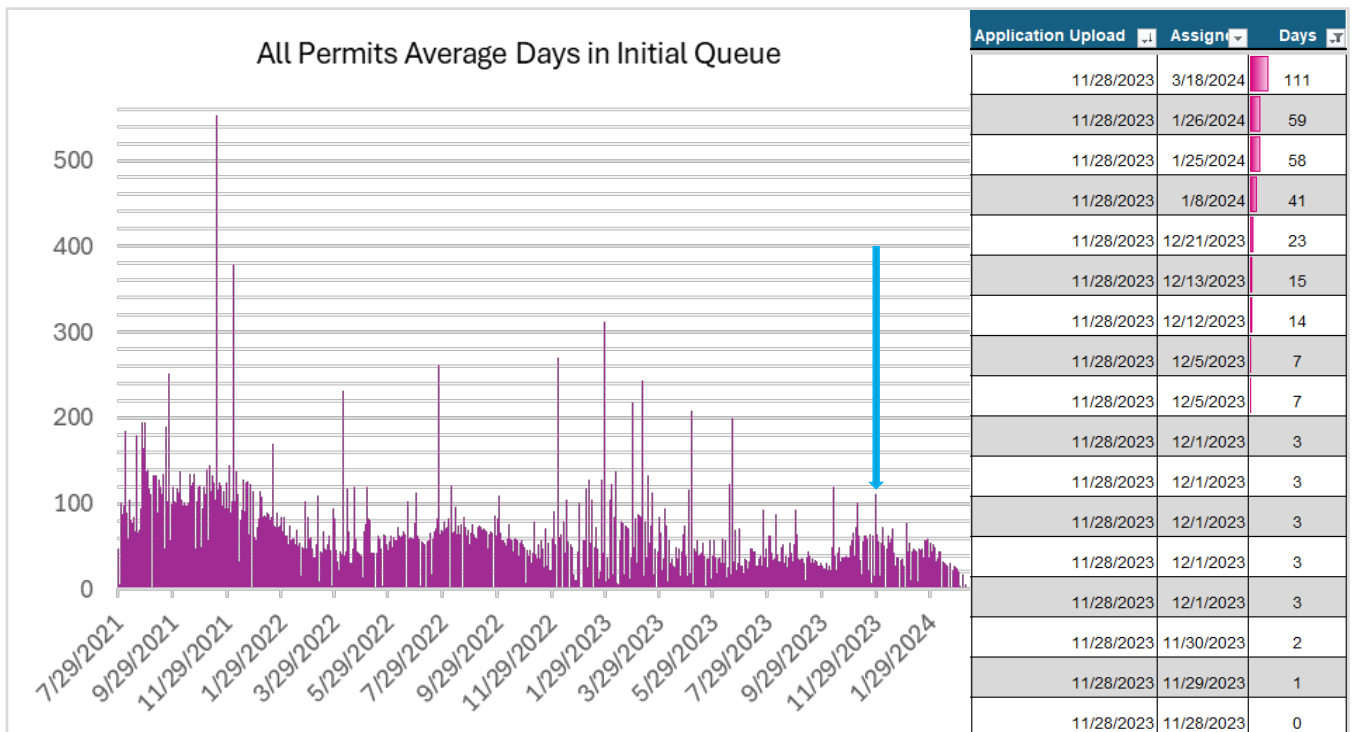


Figure 3.1: Applications Upload to Assignment. Data extracted from EPIC, compiled Office of the County Auditor

Figure 3.1 shows the time between permit uploads to the EPIC portal and their selection for review. The system allows for application submissions without payment, and staff may begin reviews after payment is received.

Although queue times have generally decreased, Figure 3.1 highlights significant variability in assignment times. For example, on November 28, 2023, 17 applications were uploaded, with assignment times ranging from same-day processing (0 days) to 111 days (March 18, 2023). This inconsistency in assignment times reflects inefficiencies in the assignment process that require resolution. On average, applications spend approximately **37** days in the queue before assignment.

During the audit period, BD did not account for initial wait times in its performance calculations, leading to a disconnect between reported performance and user experience. Subsequently, this has been corrected, and initial wait times are now included in performance assessments. Addressing missing or incomplete documentation earlier in the process should reduce queue times and improve user experience. BD also reported that wait times caused by pending customer action outside their control contribute to delays.

Management directed staff to prioritize older permit numbers during the audit period, but the permitting software did not effectively enforce this directive. Additionally, periodic shifts in priorities to focus on specific types of permits have introduced inconsistencies. When the queue is not cleared before shifting priorities, incomplete permits may remain inactive for extended periods. These delays compound when attention returns to the original category, as older permits may become buried within the queue.

First-in, first-out is a processing approach where tasks or items are handled in the exact order they are received, ensuring that the oldest submissions are addressed first. This method promotes fairness, consistency, and efficiency by preventing newer tasks from being prioritized over older ones unless exceptions are explicitly defined.

Conclusion.

The time analysis of the upload stage revealed significant variability in assignment, prioritization, and queue management. Improvements have been and continue to be made. However, until early intervention designed to cut the wait time is implemented and date-driven assignments are enforced through permissions or are strictly monitored and enforced by management, BD will continue to struggle to increase user satisfaction. Findings and recommendations aim to address these challenges and provide actionable steps for improvement.

To Improve Processing Efficiencies & Reduce Processing Time at Upload Stage
We make the following recommendations

FINDING 2: The Permit System Launched Prematurely Before Full Configuration and Optimization

Cause of the Condition

1. BD lacked a dedicated pre-screening function to verify application completeness early in the process, resulting in lost time for the customer.
2. BD's focus on cycle time overlooks causes for delays, while manual self-assignment of permits lacked automated prioritization or date-driven protocols.

Effect of the Condition

1. Applications with missing or incomplete documents are inevitably returned after being assigned, resulting in lost time that could have been avoided if applicants had been notified immediately, unnecessarily prolonging application timelines.
2. Inconsistent processing workflows lead to inequitable delays among permits.

Recommendation 4:

Dedicate a Pre-Screening Function.

Establish a dedicated pre-screening process to verify application completeness before assignment to an intake clerk. This function should identify and request missing or incomplete documents, proactively address common errors to improve first-attempt approvals, and reduce subsequent errors and delays.

Recommendation 5:

Enforce Ascending Date-Driven Priority Protocol.

Assign permits in ascending order based on the oldest dates, ensuring that older applications and submittals, including those requiring applicant action, are processed first to prevent out-of-order selections. Exceptions should be made through direct management assignments. Adopting this protocol could reduce variances and promote consistent workflow.

Stage 2: – Intake Review*⁹.

When applications are assigned, they begin with an Intake Review. During this stage, an intake team member verifies the application for accuracy and completeness.

Intake reviews typically range from a few minutes to several hours, depending on the complexity.

- a. **First Pass Rate:** 79% Approval, 21% Rejected
- b. **Number of Reviews:** 9 Maximum, 1 Minimum, 1 Average
- c. **Days at Review:** 263 Maximum, 0 Minimum, 5 Average

In addition to the overall approval and rejection percentages, it's important to understand how often customers must resubmit during the process.

Applicants incur costs for returns and resubmittals under **Hawai'i County Code §5-7-1 (b)**. The code specifies: “No additional plan review fee is assessed for a second submittal. Plan review fees for subsequent submittals shall be: \$250 for a third submittal, \$500 for a fourth submittal, and \$1,000 for each additional submittal.” Fees are not assessed for intake errors.

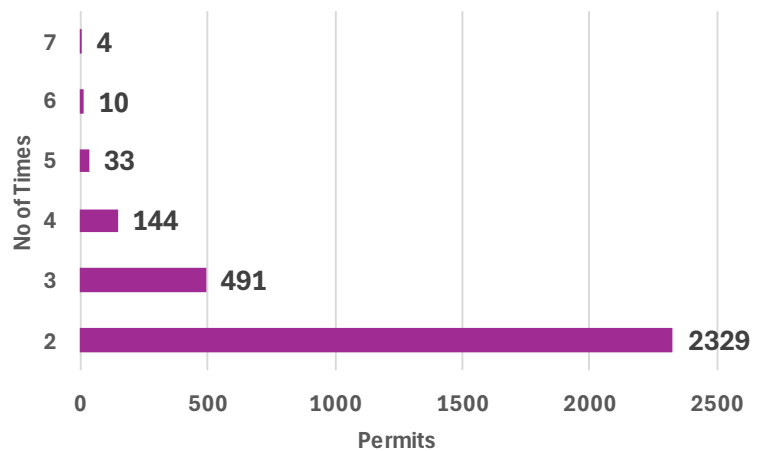


Figure 3.2: Number of Resubmittal at Intake, data extracted from EPIC Analyzed Office of the County Auditor

Figure 3.2 The vertical axis represents the number of times an application was reviewed at intake. The horizontal axis shows how many applications from the population underwent a review. As an example, 2,329 applications were reviewed twice at the intake stage.

Reviewers noted common reasons for rejection:

Missing or Incomplete Information.

- Missing Tax Map Key (TMK) numbers
- Incomplete site plans (e.g., missing water sources, septic/cesspool systems, or solar panel locations)

⁹ *Auditor Note: At Intake stage, we identified at least 20 instances where the assigned date was a date after the completion date, these discrepancies were treated as zero.

- Missing professional stamps, signatures, or required statements from licensed architects/engineers
- Omitted documentation, such as:
 - American Plywood Association (APA) structural calculations
 - Code analysis or IECC compliance details

Improper Labeling and Formatting.

- Improperly labeled dimensions or plans marked "Not for Construction"
- Incomplete or improperly formatted PDFs
- Plans with less than three minor deviations proceed, while plans that do not meet the latest standards adopted (IRC, IBC, NEC, and IECC) are returned for corrections

Project-Specific Requirements.

- Missing stamped electrical plans for systems exceeding 200 amps
- Missing plumbing plans for properties with four or more bathrooms
- Omitted detailed demolition site plans, as required for certain projects

Documentation Errors.

- Incomplete, outdated, or unsigned property owner and project declaration forms.
- Mismatched information with real property tax records
- Missing verification documents for authorized signatories (e.g., LLC or trust documentation)

Failure to Address Corrections.

- Prior review corrections not addressed
- Missing detailed response letters explaining how corrections were resolved

Special Approvals.

- Missing required approvals, such as:
 - Solar water heater variances
 - State Department of Health wastewater system approvals
 - Hawaiian Homelands letters (where applicable)
- Variance requests lacking justification or completeness

Errors During Resubmission.

- Duplicate permit submissions
- Unreadable file uploads
- Failure to use the EPIC system's resubmittal features correctly

Conclusions.

Analysis of the intake review stage reveals rejections caused by incomplete applications, outdated documentation requirements, and underutilized technology. Rejections delay the review process and impose additional costs on applicants. Addressing these conditions obligates BD to provide information that gives applicants a strong understanding of requirements, leverage EPIC system features, and employ validation tools to reduce errors during initial submissions. Additionally, tracking how applications are progressing error-free enables data-driven process improvements.

To Improve Processing Efficiencies and Reduce Days at Intake Stage
We make the following recommendations

FINDING 2: The Permit System Launched Prematurely Before Full Configuration and Optimization

Cause of the Condition

1. Applications are often incomplete or incorrect due to applicants' lack of understanding, the complexity of the submission requirements, and the EPIC system configuration.
2. The intake review process underutilizes real-time validation tools to identify incomplete submissions immediately.
3. Documentation requirements are confusing and not updated when processes change.
4. Performance metrics for monitoring the first-pass rate are not established

Effect of the Condition

1. A significant portion of applications (21%) is rejected at intake, on first pass, requiring multiple resubmissions, prolonging the overall process.
2. Applicants are frequently required to resubmit, leading to delays and frustration.
3. Rejections due to common errors and persistent issues with submissions, along with inconsistent application quality, increase the workload for both applicants and staff
4. Without first-pass rate monitoring, the division cannot identify and address systemic issues, leading to continued inefficiencies and high rates of follow-ups.

Recommendation 6

Strengthening Customer Education and Outreach.

Conduct periodic training workshops, either in person or virtual, for applicants and staff to ensure expectations are communicated and understood by those who interact with the system. Pre-recorded training videos should be periodically updated as operations change.

Recommendation 7

Reduce Instances of Resubmissions.

Leverage EPIC system features to implement real-time validation prompts for incomplete submissions, and assistance within the system's limitations may include but is not limited to tooltips, pop-ups, help icons, chatbots, etc.

Recommendation 8

Monitor and Evaluate First-Pass Rates.

Use established metrics to increase the first-pass rate of applications and analyze trends to identify and address recurring issues. Use this data to refine the intake process continually.

Stage 3 – Land Use Review.

After intake approval, applications are forwarded to the Planning Department for land use review. At this stage, the land use reviewer verifies the street address and checks the application for applicable zoning or land use issues. If issues are discovered, applicants are emailed a plan review comment letter, and the application is returned for correction. If approved, it is marked as completed and awaits multi-agency assignment for further review. Land use review is not required for electrical, plumbing, solar water heaters, or regulatory inspections.

Review time generally ranges from one to three days.

- a. **First Pass Rate:** 89% Approval, 11% Rejected
- b. **Number of Reviews:** 7 Maximum, 1 Minimum, 1 Average
- c. **Days at Review:** 366 Maximum, 0 Minimum, 6 Average

Figure 3.3 shows the frequency of application re-reviews at the land use review stage. The vertical axis represents the number of times an application was reviewed. The horizontal axis shows how many applications from the population were required to undergo a review.

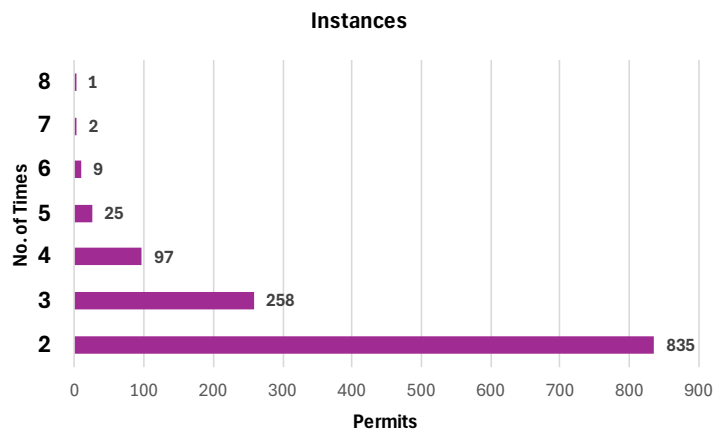


Figure 3.3: Land Use Re-Evaluation, data extracted from EPIC compiled Office of the County Auditor

Reviewers noted common reasons for rejection:

Special Management Area (SMA) Considerations.

- Applications failing to account for Special Management Area requirements

Site Plan Revisions.

- Blurred or missing dimensions on submitted site plans

Temporary Structures.

- Proposed temporary structures in zones where such structures are not permitted

Zoning and Setback Compliance.

- Non-compliance with zoning and setback requirements

Conclusions.

The land use review stage appeared to function efficiently during the audit period, with a high first-pass approval rate and a relatively short average review time. While some applications were returned for corrections, this stage is not a barrier and facilitates the timely progression of applications to subsequent reviews.

Stage 4 – Multi-Agency Review.*¹⁰

The multi-agency review stages represent the most extensive and time-consuming portion of the active permit processing workflow. During this stage, applications are routed simultaneously to relevant agencies based on a predetermined workflow tailored to the specific permit type. Depending on the type, up to ten different agencies may be involved in reviews.

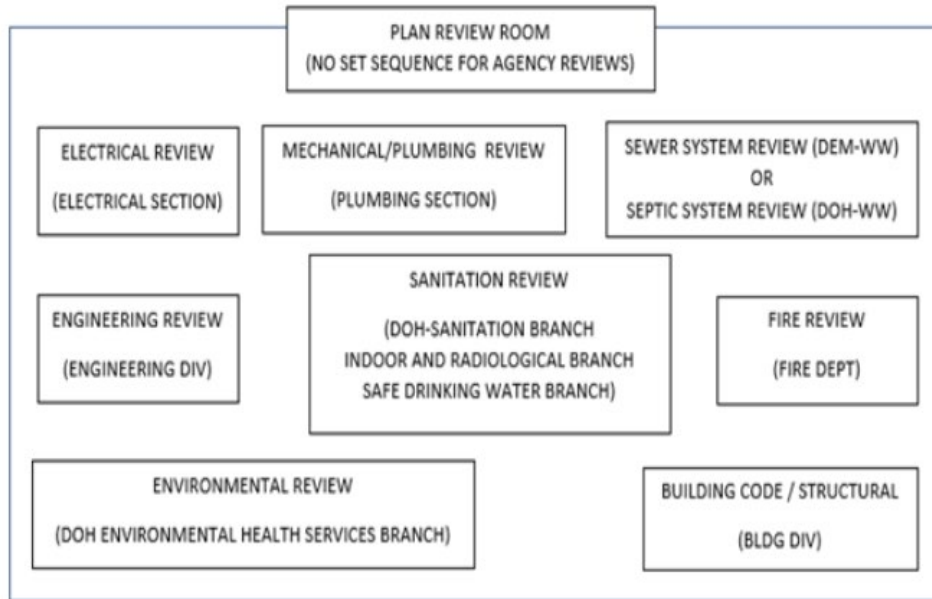


Figure 3.4: Plan Review Room from EPIC system

Concurrent reviews ensure that each agency evaluates the application for compliance within its area of jurisdiction while reducing overall processing time and minimizing delays caused by sequential review workflows.

Electrical Review.

An electrical plan review ensures that the electrical systems in construction projects comply with the applicable 2020 National Electrical Code (NEC) and the 2018 International Energy Conservation Code (IECC) standards. The primary objective is identifying and addressing potential hazards or noncompliance issues before construction begins.

The reviewer assesses submitted plans and specifications for completeness and compliance. This includes:

- **Plan Verification:** Ensuring signed and sealed plans accurately detail the scope of electrical work

¹⁰ *Auditor Note: We omitted – Historic List Check, HLC(33, 100% not required), SHPD(2)

- **Equipment Identification:** Confirming proper labeling of electrical equipment for clear identification
- **Lighting and Power Plans:** Reviewing floor plans to verify the accuracy of circuit, conduit, wiring sizes, and exterior lighting
- **Emergency Systems:** Checking placement and power supply for exit signs and emergency lighting. The reviewer also evaluates panelboard and lighting fixture schedules for system capacity and intended use, while symbol keys and diagrams clarify technical aspects. Specifications are examined to confirm that materials and installations, such as conduit, wiring, grounding, and transformers, meet code requirements.

Work assignments are divided into residential and non-residential reviews. Reviewers also handle phone, email, and in-person inquiries, adding to their daily workload. The time required for a review depends on the project's size and complexity.

One significant challenge noted by staff is the high volume of photovoltaic (PV) system permits, particularly those under 10 kW. These projects require inspection permits but not an electrical plan review. However, they appear in project queues, artificially increasing the workload.

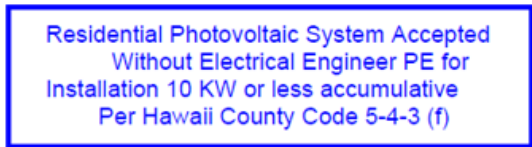


Figure 3.5: Example of PV stamp used by BD from EPIC system

The time required for an electrical review varies depending on the project's scope and complexity, with larger projects requiring more time and smaller or simpler ones being reviewed more quickly.

- a. **First Pass Rate:** 96% approval, 4% Rejected
- b. **Number of Reviews:** 5 Maximum, 1 Minimum, 1 Average
- c. **Days at Review:** 139 Maximum, 1 Minimum, 3.4 Average

Reviewers noted common reasons for rejection:

- General electrical plan and compliance requirements
- Electrical systems and scope
- Code references and legal compliance

Mechanical/Plumbing Review.

The mechanical and plumbing review focuses on verifying that designs adhere to safety and health requirements, ensuring the systems function while remaining compliant with applicable codes.

Residential Plumbing Review.

Residential plumbing review is limited to projects with four or more bathrooms per HCC §5-4-3(i). These reviews focus on the complexities of larger plumbing systems, including:

- Waste and venting systems
- Correct sizing and placement of cleanouts
- Water supply and pressure management

If air conditioning is included, the review ensures compliance with equipment specifications, ducting, condensate disposal, and energy code requirements.

Non-Residential Applications.

Non-residential reviews vary widely in complexity, from simple tenant improvements to large-scale projects like hospitals, restaurants, and hotels. Specific considerations include:

- **Plumbing Systems** (e.g., restaurants):
 - Grease waste isolation
 - Grease interceptor sizing
 - Trap protection, indirect waste, and cross-connection systems
- **Mechanical Systems**
 - Cooking hoods, ventilation, and fire suppression systems
 - HVAC components, ducting, and condensate management
 - Required outside air, fire dampers, and system separation compliance

Streamlining Opportunities.

Staff noted opportunities to streamline the mechanical and plumbing review process by filtering out projects that do not require review. For example, residential plans with fewer than four bathrooms appear in the work queue, requiring extra time to mark as "not required." This unnecessary step delays processing.

Challenges also arise from resubmissions. Management explained that the staff did not understand the Cloud+Delta convention. Projects failing at any multi-agency review stage are sent back to all reviewers, including those who previously approved them. This creates redundant reviews, which are time-consuming and resource-intensive. Automation to exclude unnecessary projects and resubmissions should significantly enhance efficiency.

Reviewer time varies based on project complexity and plan quality. Typically, residential reviews take 10 to 20 minutes, smaller non-residential projects take 30 to 45 minutes, and larger, more complex plans may take an hour or longer.

- a. **First Pass Rate:** 92% Approval, 8% Rejected
- b. **Number of Reviews:** 6 Maximum, 1 Minimum, 1 Average
- c. **Days at Review:** 135 Maximum, 1 Minimum, 5.7 Average

Reviewers noted common reasons for rejection:

- Missing HVAC plans, plumbing plans, and specifications
- Noncompliance with outdoor plumbing fixtures
- Propane gas system requirements
- Missing water and gas system drawings
- General ordinance compliance
- Plan corrections, missing details, and miscellaneous compliance issues

Structural Review.

The review ensures construction projects comply with applicable safety and design standards to prevent structural failure. This includes verifying that designs provide sufficient strength, stiffness, and proper assembly. The review focuses on code compliance and the integrity of the structural system while identifying plans that may need more precise documentation. Special attention is given to Hawai'i County's unique seismic activity and wind load requirements.

Projects in areas with wind speeds exceeding 140 mph require detailed analysis to ensure they meet structural requirements. However, projects in areas with wind speeds below 140 mph or those with slab-on-grade designs generally do not require such reviews. These applications are manually marked as "not required" for review, which artificially increases the workload. When these applications are returned for resubmission at any stage of the multi-agency review process, all reviewers— including those who previously approved them— receive the applications again. While these applications are manually passed, the process causes delays as team members must sift through them to determine which ones require review and which can be approved without further scrutiny.

Reviewer time ranged from a few minutes to a few days.

- a. **First Pass Rate:** 80% Approval, 20% Rejected
- b. **Number of Reviews:** 5 Maximum, 1 Minimum, 1 Average
- c. **Days at Review:** 242 Maximum, 1 Minimum, 9 Average

Reviewers noted common reasons for rejection:

- Missing or incomplete structural design
- Review requirements

Engineering Review. (DPW - Engineering Division) (*Auditor note includes “Eng West” in dataset)

The Engineering Division evaluates permit submissions for compliance with regulations concerning grading, floodplain management, and drainage requirements. This includes reviewing site plans for accurate property identification, ensuring grading and fill slopes adhere to Hawai‘i County Code Chapter 10, and verifying compliance with floodplain requirements, such as delineating flood zone boundaries and providing base flood elevation documentation.

Submissions must address drainage structures, retaining walls, and compliance with setback requirements. Plans are checked for consistency with approved reports and calculations. Additionally, permits require confirmation of grading permits, floodplain management certifications, and alignment with civil engineering standards for design and safety.

Reviewer time generally ranges from 10 to 15 minutes to an hour to review.

- a. **First Pass Rate:** 99% Approval, 1% Rejected
- b. **Number of Reviews:** 5 Maximum, 1 Minimum, 1 Average
- c. **Days at Review:** 241 Maximum, 1 Minimum, 4.4 Average

Reviewers noted common reasons for rejection:

Floodplain Management Requirements.

- Applications failed to comply with floodplain management standards
- Missing documentation, such as flood elevation certificates or floodproofing designs
- Failure to indicate or accurately map flood zone boundaries on site plans

Grading and Drainage.

- Non-adherence to slope, setback, and drainage structure standards
- Poor drainage design leading to potential water flow or erosion issues
- Inadequate plans for stormwater management and water runoff control

Site Plan Discrepancies.

- Inconsistencies between site plans and approved reports
- Mismatched or incomplete property details, such as incorrect lot dimensions or boundaries

Driveway and Encroachment Issues.

- Violations in driveway design, such as improper widths, slopes, or material specifications
- Structural encroachments into County rights-of-way or easements

Documentation Errors or Omissions.

- Missing or incomplete valuation breakdowns required for review
- Lack of supporting reports, such as geotechnical, drainage, or environmental impact assessments

Building Code Review (Residential).

Building plan reviews encompass assessing life safety requirements, prescriptive structural design, and compliance with various regulatory frameworks, including the Construction Administrative Code (Chapter 5) and other applicable codes. These reviews ensure all submitted plans adhere to structural, design, and safety standards.

For residential plan reviews, the focus is on verifying the completeness of submissions, ensuring that resubmittals adequately address correction items, and confirming compliance with relevant codes. Plans must be signed and stamped by licensed professionals when required, and specific calculations, such as those for brace wall designs or wind load compliance, must be included where applicable.

Specific guidance can lead to confusion, particularly regarding differences between the County Code and state-adopted building codes. For instance, while the County Code Chapter 5A refers to the 2006 International Building Code (IBC), the state has adopted the 2018 edition with amendments. In this example, the design professionals could mistakenly assume they only need to comply with the older 2006 standards, which could lead to serious noncompliance issues when the state's newer standards are enforced.

Subsequently, management reported they updated applicable references to the 2006 HCC with the state-adopted code and are awaiting state adoption of 2021 and 2024.

Furthermore, any preapproved home designs become outdated when the county updates the newer IBC versions. As a result, developers or homeowners may face costly delays or redesigns to meet current standards. This introduces financial risks, legal exposure, and significant rework, particularly for those unfamiliar with the code's evolution or the implications of its amendments.

Separately, inconsistencies in terminology create confusion, particularly when similar terms are used interchangeably. For example, the status designations "requires applicant action" and "requires resubmittal" are often treated as synonymous by staff. This overlap can lead to the mis-designation of applications, skewing statistical data and performance reports. As a result, the tracking of application progress becomes inaccurate, making it difficult to assess processing times and overall efficiency.

Review time varies depending on the complexity of the project and/or the completeness of the plans, ranging from 2 hours to 2 days while also performing other related duties.

- a. **First Pass Rate:** 77% Approval, 23% Rejected
- b. **Number of Reviews:** 7 Maximum, 1 Minimum, 1 Average
- c. **Days at Review:** 285 Maximum, 1 Minimum, 26 Average

Reviewers noted common reasons for rejection:

- Document submission and format requirements, correction items, and resubmission instructions
- Structural and engineering requirements
- Building code compliance
- Plan corrections for specific trades
- Additional documentation requirements
- Other miscellaneous comments

Plan Reviews Non-Residential.

Non-residential reviews are very similar to residential reviews but focus on commercial applications, which are generally more complex than residential projects.

Review time varies depending on the complexity of the project and/or the completeness of the plans, ranging from 2 hours or up to 2 days while also performing other related duties.

- a. **First Pass Rate:** 64% Approval, 36% Rejected
- b. **Number of Reviews:** 6 Maximum, 1 Minimum, 2 Average
- c. **Days at Review:** 277 Maximum, 1 Minimum, 31 Average

Reviewers noted common reasons for rejection:

- Revisions and resubmissions required
- Compliance with specific requirements
- Variances and special approvals
- Missing special inspection forms and certifications
- Unresolved corrections
- Other miscellaneous comments

County Sewer Access Review. (completed by the Department of Environmental Management Wastewater Division (WWD))

Applications must include a request to perform work on the Public Sewer System Form and a plot plan illustrating the intended connection. Plans must address conditions such as proper sewer cleanouts, grease interceptor installations, or compliance with wastewater pretreatment requirements. Submissions are reviewed for complete and accurate documentation.

- a. **First Pass Rate:** 84% Approval, 16% Rejected
- b. **Number of Reviews:** 4 Maximum, 1 Minimum, 1 Average
- c. **Days at Review:** 189 Maximum, 1 Minimum, 20 Average

Reviewers noted common reasons for rejection:

- Connection to public sewer system
- Incomplete forms
- Plot plan sketch requirements

- Sewer engineering plans and approvals
- Inspection coordination with WWD
- Sewer disconnection
- Demolition
- Miscellaneous sewer-related comments

Septic System Review. (completed by the Department of Health, Wastewater Branch)

Evaluate applications for an Individual Wastewater System (IWS) prepared by licensed engineers to verify compliance with design, capacity, and setback requirements. Oversees the proper abandonment of cesspools, upgrades to septic systems, and wastewater variances, ensuring adherence to environmental regulations.

Currently, one licensed engineer based in Kona is assigned to review all applications from Kona but could also review applications from other parts of Hawaii Island. Applications from Hilo are routed to Honolulu, where they are combined with applications from other municipalities within the state. Natural disasters like the Lahaina Fire can shift priorities and impact the review process. The Department of Health (DOH) staff estimates receiving up to 40 applications statewide per day, contributing to an approximate two-month backlog. Additionally, applications outside of DOH’s purview, such as PV roof mount installations, add to the delays by overwhelming the queue.

Reviews typically range from 15 to 20 minutes up to one day to complete.

- First Pass Rate:** 88% Approval, 12% Rejected
- Number of Reviews:** 5 Maximum, 1 Minimum, 1 Average
- Days at Review:** 208 Maximum, 1 Minimum, 12 Average

Reviewers noted common reasons for rejection:

- Wastewater capacity and bedroom count limitations
- DOH requirements for system design
- As-built drawings and site plan deficiencies
- Cesspool upgrade and replacement requirements
- Wastewater variances and compliance with environmental regulations
- Other miscellaneous comments

Department of Health Food Safety. (DOH-FS)

DOH-FS evaluates compliance with health and safety standards for food establishments, mechanical ventilation systems, and demolition projects. Key documentation includes the Food Establishment Plan Review Application for kitchen-related projects, Form 1¹¹ for ventilation system designs, and the Notification of Demolition and Renovation for hazardous materials projects.

¹¹ Department of Health. Form 1 <https://health.hawaii.gov/wastewater/files/2017/06/Form1.pdf> Accessed: 12/30/24

Reviews focus on ventilation and exhaust systems, proper sink placement, and compliance with National Emission Standards for Hazardous Air Pollutants (NESHAP) in demolition projects. Additionally, specialized approvals may be required from the Indoor Air and Radiological Health Branch or the Food Safety Branch.

Review time depends on the applicant's response to DOH-FS requirements.

- a. **First Pass Rate:** 88% Approval, 12% Rejected
- b. **Number of Reviews:** 4 Maximum, 1 Minimum, 1 Average
- c. **Days at Review:** 155 Maximum, 1 Minimum, 8 Average

Reviewers noted common reasons for rejection:

- Food establishment plan review and permits
- Handwashing and utility sink requirements
- Notices of demolition and renovation
- Miscellaneous corrections and instructions

Fire Review. (completed by Hawai'i Fire Department (HFD))

HFD reviews ensure compliance with the Hawai'i State Fire Code, Chapter 17 of the Hawai'i County Code, and NFPA standards. Key areas evaluated include fire department access, water supply, and fire protection systems. Access evaluations consider road width, surface, slope, turning radius, building distance, vertical clearance, and obstructions. Water supply checks include hydrant location, fire flow, and alternative sources.

Fire protection systems, such as alarms, sprinklers, standpipes, and suppression systems, are assessed based on building size, occupancy type, construction type, and occupancy load per the IBC. The required systems must adhere to NFPA standards and sprinkler plans.

Additional reviews cover specific occupancies like aircraft hangars, fuel farms, malls, and hazardous materials, including fuel storage. Temporary structures require permits and fees. The department collaborates with inspectors throughout the process for guidance and compliance verification.

Review time generally ranges from two to three hours per plan to complete.

- a. **First Pass Rate:** 83% Approval, 17% Rejected
- b. **Number of Reviews:** 5 Maximum, 1 Minimum, 1 Average
- c. **Days at Review:** 89 Maximum, 1 Minimum, 6.3 Average

Reviewers noted common reasons for rejection:

- Access and water supply requirements
- Contact details
- Inspector clarifications

Conclusion.

During multi-agency reviews, applications take an average of 49 days to navigate complex coordination, with several systemic obstacles. Applications are often rerouted back into review queues despite additional filtering for DEM-WW and DOH, prior approvals, creating redundant work and delaying final decisions. The influx of unnecessary permits—classified as "not required"—clogs review queues, diverting valuable resources away from critical applications.

RES REVIEWING AGENCIES	
REVIEWER	REVIEWER
REVIEW DATE	REVIEW DATE
<input type="checkbox"/> PLANNING	<input type="checkbox"/> MECHANICAL
REVIEW: NOT REQUIRED	REVIEW: NOT REQUIRED
<input checked="" type="checkbox"/> ENGINEERING	<input checked="" type="checkbox"/> STRUCTURAL
REVIEWER	REVIEWER
REVIEW DATE	REVIEW DATE 12/07/2024
<input type="checkbox"/> DEM WASTEWATER	<input checked="" type="checkbox"/> BUILDING
REVIEWER	
REVIEW DATE	
<input type="checkbox"/> DOH WASTEWATER	
REVIEWER	
REVIEW DATE	
<input type="checkbox"/> ELECTRICAL	
REVIEWER	
REVIEW DATE 12/06/2024	
<input checked="" type="checkbox"/> PLUMBING	

Figure 3.6: Example of “Not Required” workflow used by BD from EPIC system

Confusion caused by inconsistent use of terms disrupts the process, leading to miscommunication between agencies and applicants. Employees’ limited understanding of their peers’ responsibilities contributes to fragmented coordination, duplicative efforts, and resource mismanagement. Some reviews require significant human resources despite having a 99% approval rate, which raises concern about their necessity and the overall benefit relative to the time invested.

To Improve Processing Efficiencies and Reduce Days at Multi-Agency Stage
We make the following recommendations

FINDING 2: The Permit System Launched Prematurely Before Full Configuration and Optimization

Cause of the Condition

1. Applications are redundantly routed back into review queues despite having previously received approval.
2. Workflow management processes lack optimization.
3. Review queues are inundated with permits that are not required.
4. Similar terms are inconsistently applied.
5. Agencies lack awareness of other multi-agency tasks.
6. The necessity of some reviews raises concerns about the time vs. benefit due to human resource requirements and high approval rates.

Effect of the Condition

1. When applications are returned to review queues, it prolongs the permitting process, creates redundant work, and delays final approvals.
2. Inefficient workflow management results in extended processing times, reduced capacity to handle submissions, and increased frustration for applicants.
3. The influx of unnecessary permits overwhelms review queues, diverting resources and attention from critical applications.
4. Delays arise from errors in classification or interpretation.
5. Lack of understanding of all multiagency review steps leads to fragmented coordination, duplicative efforts, and inefficiencies in the review process.
6. The resource-intensive nature of some reviews and high approval rates divert resources from potentially higher-priority activities without significantly impacting outcomes.

Recommendation 9

Streamline Workflow Management.

Implement routing tools to ensure applications progress in a clear and sequential order, appear only once when approved, and are routed only to the necessary parties based on permit type.

Recommendation 10

Update Staff and Public Education Materials.

Review and update internal and external guidance to ensure definitions and their associated usage are clearly communicated to both the workforce and to the public and are applied consistently.

Recommendation 11

Consolidate Reviews.

Consolidate reviews and redeploy staff to value-added tasks.

Recommendation 12

Enhance Interagency Cooperation.

Ensure consistent processing by State agencies through a supplemental agreement. Coordinate with state agencies to establish clear expectations for processing timelines, priority allocation, and feedback.

The agreement should outline measurable production standards, such as defined timeframes for reviews and prioritization criteria, to ensure consistency in processing applications.

Additionally, the agreement should include mechanisms for regular collaboration and periodic reviews to address balancing the workload across agencies and changing priorities.

Stage 5: Application Out Processing.

Once all multi-agency reviews are completed and approved, the application moves to out-processing, where documentation is re-checked for accuracy and completeness.

Out processing takes 15-20 minutes and up to one day.

- a. **First Pass Rate:** 95% Approval, 5% Rejected
- b. **Number of Reviews:** 6 Maximum, 1 Minimum, 1 Average
- c. **Days at Review:** 124 Maximum, 1 Minimum, 5 Average

Intake teams may review the same documentation multiple times, up to five times, at different process stages.

Reviewers noted common reasons for rejection:

- Missing, incomplete, or incorrect project declaration forms
- Missing owner signature, plan submission and corrections, stamps, and miscellaneous errors.

Conclusions.

The permitting process involves two critical quality control steps: Intake (front-end completeness checks) and out-processing (back-end completeness checks). While these steps ensure quality and accuracy, their combined implementation contributes to time delays, creating a bottleneck in the overall process.

Front-End Completeness Checks: These are performed during intake to validate that applications are complete and accurate before entering the review process. They help prevent downstream errors by catching issues early.

Back-End Completeness Checks:

During out-processing, checks ensure all required approvals and conditions are met before issuing a permit. This includes verifying contractor licenses to ensure they are valid professional licenses before work begins. While each step has merit, the combined process leads to duplicated efforts and wasted time.

For example:

- **Front-end checks** already ensure that applications entering the process are complete, reducing the likelihood of errors that back-end checks would catch.
- **Back-end checks** repeat this validation, with little additional value when thorough intake checks are performed.

Impact on Timeliness: This dual-check approach increases processing times and diverts resources better utilized elsewhere. By introducing unnecessary layers of verification, the system ultimately slows permit issuance.

To Improve Processing Efficiencies and Reduce Days at Out Processing Stage
We make the following recommendations

FINDING 2: The Permit System Launched Prematurely Before Full Configuration and Optimization

Cause of the Condition

The processing stage is a final review that duplicates completeness checks already performed at earlier stages of the process.

Effect of the Condition

While the out-processing is designed to ensure accuracy and quality, it causes delays, increases costs, and leads to unnecessary duplication of effort.

Recommendation 13

Automate Invoicing and Issue Provisional Permits for Construction Start.

Upon successful completion of the last multi-agency review, automate invoicing the applicant and issuing a provisional permit to begin construction, and automate and/or integrate outstanding fee collection before final inspection into the system.

Stage 6 – Permit Issuance.

Finally, the application enters a waiting period before the permit is issued. During this time, final fees are collected, and the applicant uploads the required Project Declaration Form if it hasn't already been submitted with the initial application. This step is largely outside BD's control and depends on the applicant's action.

Figure 3.7 shows the number of days an application waits for a permit to be granted, appearing from the earliest left-to-right. Average wait times were 30 days with persistent and significant fluctuations. Permit issuance typically takes a few minutes to a few days. EPIC system enables staff from the east and west offices to process applications from a shared pool.

Figure 3.7: Issuance queue

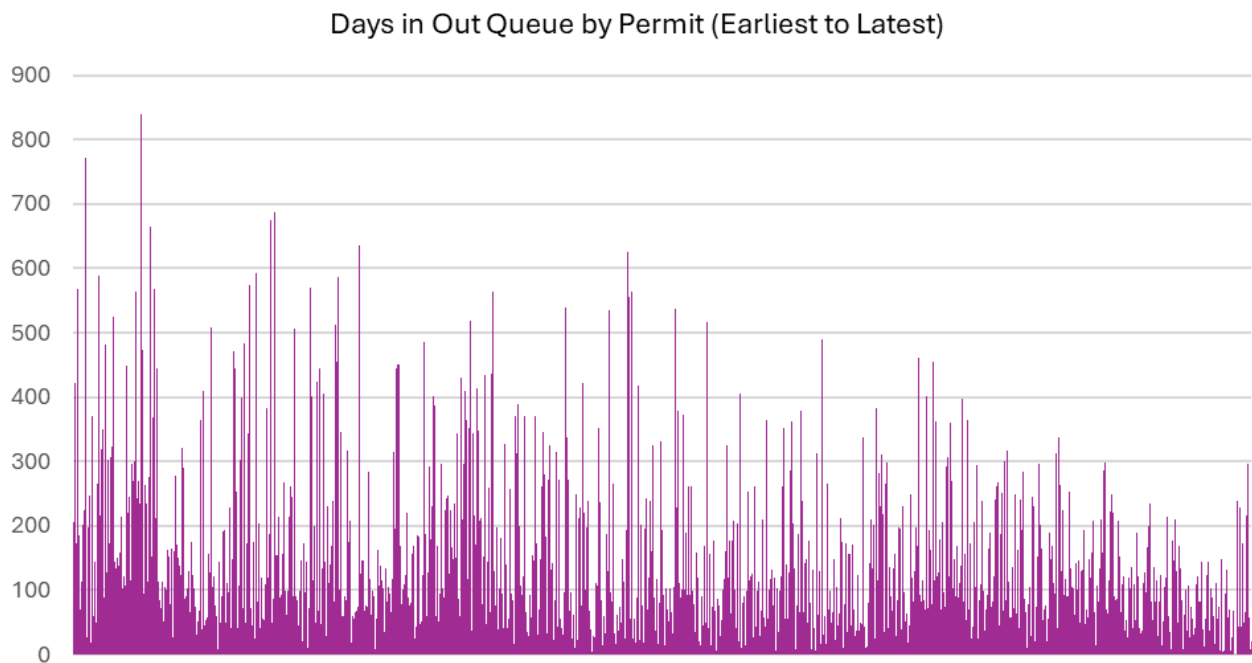


Figure 3.7: Issuance queue, data extracted from EPIC, compiled Office of the County Auditor

To establish overall time limits and hold the review function accountable to maximum review periods, the Grassroots Institute of Hawai'i recommended that counties in Hawai'i adopt "shot clocks," a practice used by other municipalities across the country. "Shot clocks" refer to the set time government agencies have to issue or deny a permit application, with penalties for missing deadlines. This approach would impose time constraints and maximum timelines on permit reviews to accelerate processing. The legal framework to support this is already in place under HRS §91-13.5 (a), which states:

"Unless otherwise provided by law, an agency shall adopt rules that specify a maximum time period to adopt or deny a business or development-related permit license or approval, provided that the application is not subject to state-administered permit programs delegated, authorized, or approved under federal law."

BD has also formalized time limits for permit reviews in its **Rules of the Building Division Governing the Enforcement of Codes and Regulations Part II, §2.2 General**. Which states:

“...Complete applications and supplemental data (i.e. plans, specifications, and computations) for permits shall be submitted to the building official for review and approval as required by each effective code or regulation. Each permit/plan reviewer for each Code within the Building division shall have thirty (30) days to review completed submittals. Should a reviewer of the building division fail to take action within the time limitation, approval would be automatic pursuant to the requirements of Hawai‘i Revised Statutes.”

However, despite the provisions in HRS §91-13.5 9(a) and the Building Division Code Enforcement Rules §2.2, the EPIC system does not enforce this time limit.

Conclusion.

Average wait times often exceed 30 days, and permit issuance fluctuates greatly. While some of these delays are outside the control of the Building Division, particularly during the applicant's waiting period for final fees and documents, there are still opportunities to improve efficiency. The lack of enforcement of time limits, despite established rules in HRS §91-13.5 and the Building Division's regulations, contributes to unnecessary delays in permit issuance. Implementing "shot clocks" or strict time constraints, along with more consistent enforcement of existing deadlines, would help expedite the permit process, reduce costs for applicants, and hold the review function accountable to its timelines. By enforcing these rules and updating administrative guidelines, the Building Division can ensure timely permit issuance and provide a smoother experience for applicants.

To Improve Processing Efficiencies and Reduce Days at Permit Issuance
We make the following recommendations

FINDING 2: The Permit System Launched Prematurely Before Full Configuration and Optimization

Cause of the Condition

The Building Division does not follow or enforce administrative rules regarding maximum time limits.

Effect of the Condition

Permit applications are held up unnecessarily, adding to costs and delays for the applicants.

Recommendation 14a

Enforce Consistent Timeframes for the Permit Evaluation Process.

BD enforces its rules to ensure it either meets its required deadlines or advances the applications by default approval.

Recommendation 14b

Review and Update Administrative Rules to Establish Maximum Timelines for Reviews.

Review and update its administrative rules to set maximum timelines for reviews that it can reasonably adhere to.

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County of Hawai'i Office of the County Auditor



Chapter 2: Audit Results Complexity

Audit Activity.

To identify obstacles in the permitting system, we:

- Analyzed EPIC-generated datasets from July 26, 2021, through March 31, 2024, including 15,575 permits, with an estimated valuation of \$ 3,366,687,558¹²
- Reviewed Hawai'i Revised Statutes §489E-7 Legal recognition of electronic records, electronic signatures, and electronic contracts
- Reviewed applicable Administrative Rules, guides, and other written guidance
- Reviewed the *Hawai'i County Code Chapter 5 Construction Administrative Code*, "Tinner Report,"¹³ and the Grassroots Institute of Hawai'i Policy Brief¹⁴ (October 2024)
- Attended the seminar, "Seven Low-Cost Ways to Speed Up Permitting in Hawai'i"
- Interviewed staff and those charged with governance
- Navigated the EPIC portal as an end-user
- Researched Lean Six Sigma for Service principles
- Benchmarked County of Phoenix, AZ, using the Energov portal

Another obstacle affecting permits is complexity. The more complex the permit requirements are, the more resources are needed to review and approve them. Simplifying complex procedures reduces errors, enhances consistency, and speeds up the overall process.

Application Complexity Overview.

Lean Six Sigma for Service principles emphasize the importance of developing a holistic understanding of processes to identify bottlenecks, inefficiencies, and variability at all levels to reduce complexity, increase speed, and improve quality. Lean Six Sigma for Service is a methodology that combines the principles of Lean (focuses on reducing waste and improving efficiency) with Six Sigma (focuses on reducing variability and improving quality) optimizing processes. It emphasizes a systematic, data-driven approach to understanding and improving workflows, particularly in service-oriented environments.

The "Tinner Report" (Attachment A) recommended that BD hire an external consultant to educate staff about lean process improvement. The consultant would document each step, interaction, and workflow involved in the permit application process, from intake to issuance. They would also evaluate whether each step is legally required or necessary and eliminate unnecessary steps, potentially reducing workloads by 15 to 40 percent.

¹² Office of the County Auditor Permit Dashboard. <https://www.hawaiicounty.gov/our-county/legislative/office-of-the-county-auditor/audit-reports>. Data provided by Building Division. Compiled Office of the County Auditor.

¹³ James Tinner, "Consultant's Report: COM 36.1 (2022-24)" <https://records.hawaiicounty.gov/Weblink/0/doc/1049842/Page1.aspx>. Accessed 11-20-24

¹⁴ Grassroots Institute of Hawai'i. Policy Brief, (October 2024), Seven low-cost ways to speed up permitting in Hawai'i Expediting the issuance of building permits is critical to making a dent in Hawai'i's housing crisis. https://www.grassrootinstitute.org/wp-content/uploads/2023/12/241007_pb_permits.pdf. Accessed 11-20-24

Management reported that staff were still learning the system and refining the one-permit process during the Electronic Permitting System (EPL) rollout. Although the Mayor’s Office selected a contractor with good intentions, their involvement became a distraction. At that stage, the division’s priority was to get the system operational, and the added coordination required for the consultant pulled focus from that effort. While engaging a consultant might have been more effective before going live, their involvement during an unstructured implementation offered limited value.

Although the division's capacity to implement broader process improvements was constrained during this period, the recommendations offered—such as those from Tinner—are still applicable.

Tinner recommended defining by ordinance what constitutes a complete permit application. This would streamline the process by creating clear expectations and alignment between the department and the applicant, reducing confusion and ensuring all required documents are submitted upfront. BD’s goal is to issue Residential Building Permits within 60 calendar days of submittal when applications are complete, as long as no corrections are needed.

We found.

Navigating the various educational materials is cumbersome. Material consists of the Permit Application Checklist,¹⁵ Tips for a Successful Permit Application Intake,¹⁶ and a library of forms.¹⁷ Despite BD’s efforts to clarify application requirements, end-users often struggle to find the necessary information.

¹⁵ County of Hawai’i DPW Building Division. “Permit Applicant Checklist”. Page 1 of 2. https://records.hawaiicounty.gov/weblink/1/edoc/140083/BLG_Permit_Applicant_Checklist.pdf Accessed 1/2/25

¹⁶ County of Hawai’i DPW Building Division. “Tips For a Successful Permit Application Intake”. https://records.hawaiicounty.gov/weblink/1/edoc/140084/BLG_Tips_for_Successful_Permit_App.pdf Accessed 1/2/25

¹⁷ County of Hawai’i DPW Building Division. “Building Forms”. <https://hawaii-county-public-works-hawaiicountygis.hub.arcgis.com/pages/blg-building-forms> Accessed 1/2/25

Figure 4: Permit Applicant Checklist



COUNTY OF HAWAI'I DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

PERMIT APPLICANT CHECKLIST

This checklist is designed to assist permit applicants by informing them of documents that may be required in addition to their permit application to obtain a building permit. If the applicable documents are not included with the application the application may not be accepted for processing.

Documents REQUIRED with Application	
<input type="checkbox"/>	Licensed Design Professional (Architect or Structural Engineer) with an email address is REQUIRED to be included in as a Permit Contact. Obtain the Design Professional's contact information from them to avoid creating multiple accounts that could result in communication errors.
<input type="checkbox"/>	Property Owner with an email address is REQUIRED to be included in as a Permit Contact. Obtain the Property Owner's contact information from them to avoid creating multiple accounts that could result in communication errors.
<input type="checkbox"/>	Property Owner Declaration Form is REQUIRED. The Property Owner should be the same party as the party listed on the County of Hawaii Real Property Tax (RPT) Office website. For example, if the RPT shows the owner an entity such as a Trust, Corporation, LLC, or other entity, then that entity should be listed as the Property Owner.
<input type="checkbox"/>	Proof of Ownership is REQUIRED when the Property Owner is different from the party listed on the County of Hawaii Real Property Tax (RPT) Office website. If the property has recently been purchased, provide Proof of Ownership such as a Purchase Contract or Warranty Deed or other legal documentation. Note that the Proof of Ownership must include TMK, Buyer, and Seller names.
<input type="checkbox"/>	Department of Hawaiian Home Lands (DHHL) approval is REQUIRED when the property is on Hawaiian Home Lands. Submit letter of approval from DHHL.
<input type="checkbox"/>	Project Declaration Form is REQUIRED to be submitted <u>at the same time</u> that the Permit application is submitted for the following Permits Types: <ul style="list-style-type: none"> • Electrical Only • Plumbing Only • Photovoltaic • Solar Hot Water Heater. For all other Permit Types, Project Declaration Form is not required to be submitted with the Application but will be REQUIRED <u>prior to the issuance of the Permit</u> .
<input type="checkbox"/>	Habitat for Humanity approval documentation is REQUIRED when this is a Habitat for Humanity project.

Documents REQUIRED with Application	
<input type="checkbox"/>	Flood Zone Packet is REQUIRED if the permit work on property is located within a FEMA Special Flood Hazard Areas: Flood Zones A, AE, AH, AO, V, or VE. To determine if your property is in the Flood Zone, visit the Flood Hazard Assessment Tool (FHAT) website Flood Zone Packet for A zones Flood Zone Packet for V zones
<input type="checkbox"/>	Building Division Historic Property Certification form is REQUIRED for ALL applications. State and County Projects: Historic Property Certification 6E-8 Privately Owned Properties: Historic Property Certification 6E-10 To download a current list, go to the State of Hawaii State Historic Preservation website or click here for the list Nominated and Listed Properties on the Hawai'i and National Registers of Historic Places .
<input type="checkbox"/>	Building Division Ag Structure Declaration of Compliance for HRS 46-88 (Act 203) is REQUIRED if using the HRS 46-88 Exemption; the permit will be for a structure that will not be used as dwellings or lodging units; and the floor area of the structure meets the HRS 46-88 requirements.
<input type="checkbox"/>	Residential PV Worksheet is REQUIRED if drawings are NOT prepared and stamped by a registered professional architect or structural engineer licensed in the State of Hawai'i.
<input type="checkbox"/>	Building Division ADA Certification or documentation of ADA exemption is REQUIRED for all privately owned Non-Residential or Commercial.
<input type="checkbox"/>	Disability and Communication Access Board (DCAB) Review/Approval letter is REQUIRED for all State and County of Hawaii projects.
<input type="checkbox"/>	Building Division Special Inspections Form is REQUIRED per the 2018 IBC Chapter 17.
<input type="checkbox"/>	Approved Solar Water Heater Variance Approval is REQUIRED when an alternate type of water heater is being installed instead of a solar water heater.
<input type="checkbox"/>	For Sign permit applications, an acknowledgement letter from the Kailua Village Design Commission or the Pahoa Village District is REQUIRED when signs are constructed in the special design districts of Kailua Village and Pahoa Village as stipulated in the Hawai'i County Code, Chapter 3 – Signs .
<input type="checkbox"/>	LED Outdoor Light Fixture Certification is REQUIRED if outdoor lighting fixtures are present when in project. Reference Hawaii County Code Chapter 14 , Article 9, Entitled Outdoor Lighting Ordinance and Chapter 9, Entitled Electricity.

Figure 4: County of Hawai'i DPW Building Division. Permit Applicant Checklist
https://records.hawaiicounty.gov/webink/1/edoc/140083/BLG_Permit_Applicant_Checklist.pdf. Accessed: 1/2/25

Overview of EPIC Seven-Step Permit Process.

After creating a user profile and selecting a permit type, the EPIC portal takes the user through a seven-step process:

Step 1. Location

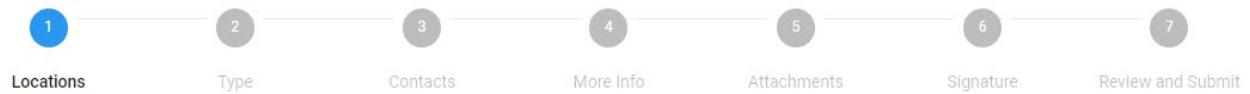


Figure 4.1: Step 1 “Location” from EPIC System

The application process begins with the selection of a project location. Once identified, the location is added to the project, and the system captures key details such as the project type, parcel number, and address (if assigned). If there are no extenuating conditions—such as the property being located in a Special Management Area or flood zone, the applicant can continue to the next step. However, additional compliance steps are required if such conditions exist before the application can proceed.

The screenshot shows a form with the following fields and values:
Type: Project Site Location
25 AUPUNI ST, HI
Main Address
Parcel Number
220120040000
Main Parcel
A blue 'Remove' button is located at the bottom of the form.

Figure 4.2: Example of “Type” based off TMK from EPIC system

We found.

Information captured at this step is not used to prefill other data points or satisfy other steps later in the application. We benchmarked the functionality and effectiveness of the County of Hawai‘i’s Energov portal by comparing workflows.

Maricopa County, AZ, replaced its Accela Permitting System with Energov in June 2024. Maricopa has a robust mapping

service that uses the Environmental Systems Research Institute (“ESRI”) satellite overlay to distinguish properties by zoning use type and districts visually.

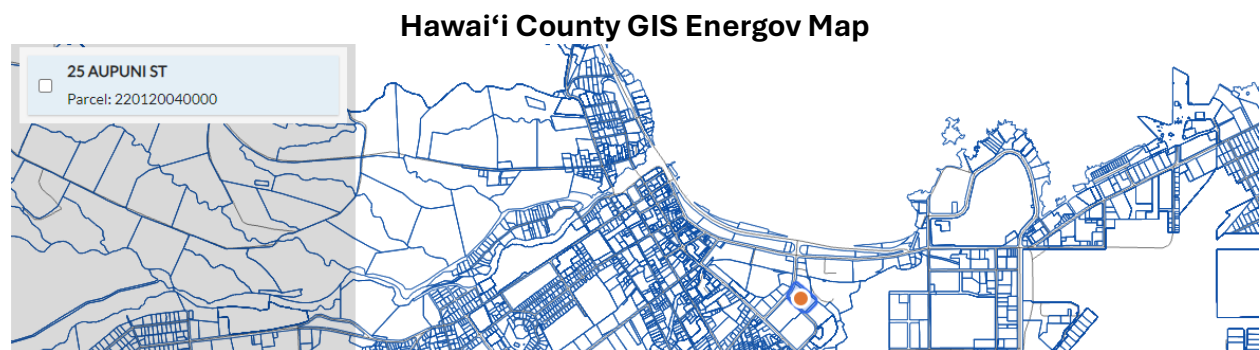


Figure 4.3: Hawai‘i County GIS Energov

Maricopa County GIS Engergov Map



Figure 4.4: Maricopa County GIS Mapping Applications

The difference in mapping service sophistication highlights the potential to use more advanced mapping to identify common errors early in the process.

Step 2. Type

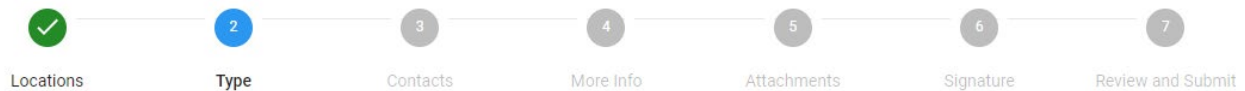


Figure 4.5: Step 2 “Type” from EPIC system

In the “Type” screen, the applicant is asked to provide a detailed description, including a valuation, materials, and labor list.

We found.

The current process of requiring detailed project descriptions is a *Legacy system* practice that no longer serves its original purpose. Historically, BD staff developed specific preferences for how project descriptions should be formatted and written. Guides instruct employees to “enter a thorough description of work as you would be walking through the structure.” However, this approach was developed when BD did not retain plans, and on-site inspectors relied on detailed descriptions for guidance.

With the arrival of the electronic system, the ability to retain plans, and the requirement to have site plans available, the value of continuing this practice no longer justifies time and resources. Modernizing this process should lead to greater efficiency without compromising the quality or accuracy of reviews. Contrary to the guidance provided to staff, applicant instructions are vague. This results in applicant descriptions almost always being rewritten by staff for new residential construction permits.

Figure 4.6: Comparison of Customer vs. Staff Instructions New Residential Construction Permit	
EPIC Portal Instructions for Customer	Written Instructions for Staff New Residential Construction Permit
<p>Please provide a description of your project along with the valuation costs of all materials, labor, etc...</p> <p>Portal example, "Pacific Condos 1 of 15: New Single-Family Dwelling, etc..."</p>	<p>Edit the description of work by clicking on the pencil icon.</p> <p>a. Using the plans, enter a thorough description of work as you would be walking through the structure. Your first sentence should always start with (1-Permit), followed by a summary of the work. Next, you will describe all uses as shown on the floor plan, including the bathroom, kitchen, and laundry room fixtures in an orderly manner as though you are walking through the structure.</p> <p>Example of description for a new dwelling:</p> <p>(1-Permit) New 3-bedroom, 2-bathroom single family dwelling with on-demand gas water heater (approved solar variance #xxxxxx-xx-25-10), concrete slab foundation, 7'2" high galvanized steel water tank, and septic system.</p> <p>Open covered entry lanai into living room/dining room/kitchen (refrigerator, double compartment sink, range/oven), bedroom #2, bedroom #3, bathroom #2 (lavatory, water closet and tub/shower combo), master bedroom with walk in closet and master bathroom (two lavatories, water closet, shower stall and separate jacuzzi tub). Attached two car garage (overhead garage door) with open utility area (washer, dryer, laundry tray) and enclosed storage closet (OnDemand water heater within).</p>

Figure 4.6: EPIC Portal Instructions for Customers vs. Written Instructions for Staff for New Residential Construction Permit
Compiled Office of the County Auditor

Step 3. Contacts

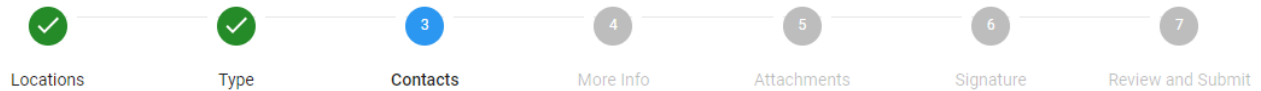


Figure 4.7: Step 3 “Contacts” from EPIC system

The “Contacts” screen is designed to collect stakeholders associated with the project, including owners, designers, and professional trades. A “contact” refers to an individual associated with a permit authorized to access its details.

We Found.

The system does not sort contacts by stakeholder type, making the step error-prone because anyone with an EPIC profile could be incorrectly categorized as a contact or a trade professional.

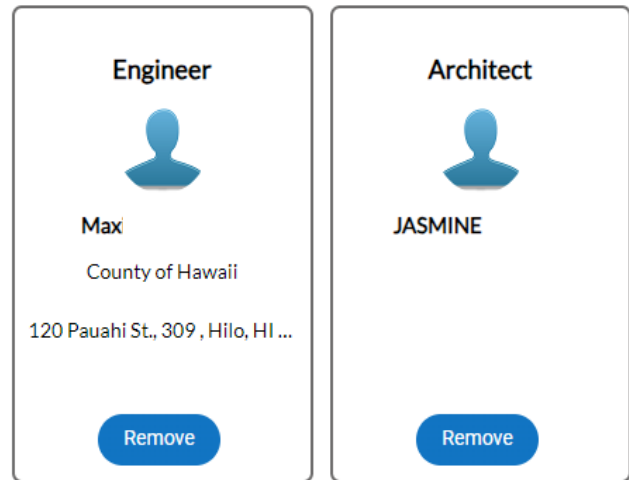


Figure 4.8: Two examples of contact(s) from EPIC system

Additionally, there is no validation to ensure that only qualified individuals appear under the relevant trade categories. For example, when selecting 'plumbing' as a trade, the system does not filter out unlicensed or inactive plumbers. This increases the risk of errors by allowing contractors who may not be in good standing to be assigned to projects.

Without restrictions, applicants could designate themselves as a plumber and an electrician, even if they only hold a license in one trade. Maintaining separate lists to ensure accuracy and prevent misclassification is important.

Step 4. More Info

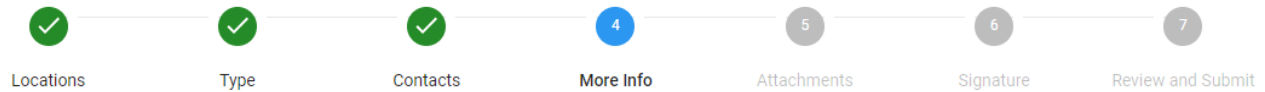


Figure 4.9: Step 4 “More Info” from EPIC system

The "More Info" screen is designed to collect additional details and varies according to project type. Applicants are instructed to provide comprehensive project details to avoid delays in permit approval.

We found.

Evaluating the screen's structure and data points highlights potential clarity, data validation, and redundancy issues.

Tooltips and Help Icons.

A tooltip is a brief, context-specific message box that provides information when hovering over a field, while a help icon offers more detailed guidance upon clicking or hovering. Numerous data points lack explanation and leave casual users unsure what specific information is being requested of them. Some examples that lack appropriate context:

- Declaration Exemption Number
- + Add Row
- Fire resistance ratings table

Automation.

In the Residential New Construction permit type, applicants must provide the "Pre-approved House Package Number." Despite BD already possessing the preapproved plan information, the portal still requires applicants to input it instead of auto-populating it or exempting applicants from re-entering it.

Data Collection.

There is redundancy between information collected in the “Type,” “More info,” and “Attachments” screens, particularly regarding site plans and declaration forms. We found that Hawai'i County collects at least 122 data points (Figure 4.9a) compared to Maricopa County, Arizona, which collects 27 data points for a Residential New Construction application (Figure 4.9b).

Figure 4.9a: Comparison of Data Points Collected

Hawai'i County, HI (122)

<p>Hawai'i County – New Residential Construction</p> <ul style="list-style-type: none"> • Building Info <ul style="list-style-type: none"> • Project Declaration Type: <ul style="list-style-type: none"> • Contractor • Declaration Exemption Number • Work begun without permit • If work started, are walls open for inspection? • Violation Number (if applicable) • Type of Use with Proposed Work: <ul style="list-style-type: none"> • Single-Family Dwelling • Examples of Accessory Structures: Retaining Wall/Fence, Detached Garage, Water Tank/Pool • Project Type: <ul style="list-style-type: none"> • Private • Special Project Classification: <ul style="list-style-type: none"> • County Government Project • Habitat for Humanity • Hawai'i Community College's Model Home Project • Major Disaster Recovery • Number of Building Stories • Number of Units • Multiple Building Structure - Building ID • Square Footage: <ul style="list-style-type: none"> • New Floor Area • Major Floor Area • Accessory Floor Area • Utilities <ul style="list-style-type: none"> • Desired Method of Permit Delivery • Total Number of Water Tanks • Water Tank Info Details • Water Tank Details • Valuation • Sewer Connection Type: <ul style="list-style-type: none"> • Public • Private • Septic • Cesspool • Other • Meter Equipment Exceeding 200 Amps • PV Installation Location: <ul style="list-style-type: none"> • Roof Mount • Ground Mount • PV Info Details: <ul style="list-style-type: none"> • PV Details • Valuation • Batteries Valuation Details: <ul style="list-style-type: none"> • Battery Details • Valuation 	<p>Hawai'i County</p> <ul style="list-style-type: none"> • Batteries Valuation Details: <ul style="list-style-type: none"> • Battery Details • Valuation • Retaining Wall Information Details: <ul style="list-style-type: none"> • Location • Valuation • Max Height • Project Includes <ul style="list-style-type: none"> • Pre-Approved House Package Number <ul style="list-style-type: none"> • Principal Type of Frame • Building Height • Roofing Type • Exterior Finish • Interior Finish • Number of Bedrooms • Number of Full Bathrooms (4 or more require plumbing plans/diagrams) • Number of Half Bathrooms • Number of Garages • Number of Carports • Number of Detached Bedrooms/Guestrooms • Number of Washers • Number of Dryers • Number of Laundry Trays • Water Heater Info Details: <ul style="list-style-type: none"> • Type • Water Heater Details • Valuation • Other Details: <ul style="list-style-type: none"> • Skylights • Basement • Porches • Patio Cover • Decks • Lanai • Bar Sinks • Fire Sprinklers • BBQ • Tiki Torches • Electric Vehicle Charging Station • Free Standing Sculpture 	<p>Hawai'i County</p> <ul style="list-style-type: none"> • Miscellaneous Valuation Information <ul style="list-style-type: none"> • Total Number of AC Units • HVAC/AC Information Details: <ul style="list-style-type: none"> • HVAC/AC Details • Valuation • Total Number of Pool/Spa(s) • Pool/Spa Information Details: <ul style="list-style-type: none"> • Pool/Spa Details • Valuation • Quantity of Heaters • Total Number of Fireplaces • Fireplace Information Details: <ul style="list-style-type: none"> • Type • Location • Valuation • Total Number of Other Valuation Items • Other Valuation Items Details: <ul style="list-style-type: none"> • Description • Valuation • Plan Review Information <ul style="list-style-type: none"> • Type of Construction: <ul style="list-style-type: none"> • Various Classifications (e.g., I-FR Sprinkled, VA, VB, VN Sprinkled, etc.) • Occupancy Code: <ul style="list-style-type: none"> • R-1, R-2, R-3, R-4, U • Plans by Qualification • Foundation Type • Setbacks: <ul style="list-style-type: none"> • Front • Rear • Left • Right • Distance to Nearest Building (FT) <p style="text-align: center;">-End-</p> <p style="text-align: center;">122 DATA POINTS COLLECTED</p>
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Figure 4.9a: Comparison of Data Points Collected Hawai'i County, HI (122) Compared to Maricopa County, AZ (27)
Compiled Office of the County Auditor

Figure 4.9b: Comparison of Data Points Collected

Maricopa County, AZ (27)

- Maricopa County, AZ –
Building New Construction**
- Number of Stories
 - Building Height
 - Number of Units
 - Included in Plan:
 - Accessory
 - Pools and Spas
 - Fence
 - Minor Plumbing
 - Minor Electrical
 - Minor Mechanical
 - Solar Water Heater
 - Solar Roof Mounted
 - Fire Sprinklers
 - Pool Type
 - Electrical Upgrade
 - Miscellaneous Information
 - Fence Length (in feet)
 - Fence Type
 - Propane Tank (Gallons)
 - Pool Perimeter Length
 - Solar System Size (KW)
 - Service Providers
 - Electric Provider
 - Gas Provider
 - Water Provider
 - Sewer Provider
 - Fire District
- End-
- 27 DATA POINTS
COLLECTED**

Figure 4.9b: Comparison of Data Points Collected Hawai'i County, HI (122)
Compared to Maricopa County, AZ (27)
Compiled Office of the County Auditor

The EPIC-ENERGOV portal is an opportunity to collect unique essential data. During the audit period, data was collected redundantly from plans, the portal, and forms.

Step 5. Attachments

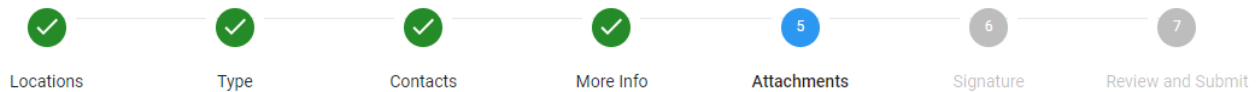


Figure 4.10: Step 5 “Attachments” from EPIC System

The “Attachments” screen is designed to collect required external documents (Figure 4.11).

Building Permit Application Checklist.¹⁸

The building permit application checklist includes additional documents required with the application including:

Figure 4.11: Comparison of Required vs Contingent Documentation	
Documents Required for All Permit Types	Depends on Permit type Geography of permit*, Age of building**
Licensed Design Professional, Permit Contact (Architect or Structural Engineer) with an email address	Proof of Ownership-Depending on if recently purchased
Property Owner with an email address, Permit Contact	Residential PV Worksheet
Property Owner Declaration Form	Building Division ADA Certification or Documentation of ADA Exemption
Building Division Special Inspections Form	Disability and Communication Access Board (DCAB) Review/Approval Letter
Project Declaration Form	Approved Solar Water Heater Variance Approval
	Acknowledgement Letter from the Kailua Village Design Commission or the Pahoia Village District
	Habitat for Humanity Approval Documentation
	Flood Zone Packet *Note Flood Zone maps and form links are broken
	Building Division Ag Structure Declaration of Compliance for HRS §46-88 (Act 203)*
	Department of Hawaiian Home Lands (DHHL) Approval*
	Building Division Historic Property Certification Form**

Figure 4.11 : Comparisons of Required vs. Contingent Document. Compiled Office of the County Auditor

¹⁸ County of Hawai'i DPW Building Division. “Permit Application Checklist.” https://records.hawaiicounty.gov/webink/1/edoc/140083/BLG_Permit_Applicant_Checklist.pdf. Accessed: 1/2/25

We found.

The Project Declaration form is a requirement, but BD’s portal instructions mislead applicants by indicating it is optional. BD website guidance states:

*“If the contact you would like to add does not exist within our system, please provide their information on **either** the property owner declaration form **or** the project declaration form.”*

These contradicting instructions create confusion about whether one or both declaration forms are required or need to be included. Both are required. This is further complicated by instructions stating:

*“Both forms are form-fillable PDFs and may be completed **electronically**, then attached to this case in the attachment area of the application.”*

Additionally, BD requires a wet signature, meaning the form must be printed, signed, scanned, and uploaded. This misleading instruction is one of the most common errors.

- **Electronic Plan Review Guide.**

The purpose of this guide is to consolidate instructions into a single source for different users navigating the system. It includes an overview for the general public, homeowners, real estate agents, and others, along with a review process flowchart.

There are two versions of the same document titled “Electronic Processing & Information Center Application Guidelines - Electronic Drawing Format,” one version, dated April 18, 2023,¹⁹ is available on the County’s DPW website, while a more recent version, dated June 3, 2024,²⁰ is accessible only on the EPIC portal. When multiple versions exist, confusion and errors increase.

In the June 3, 2024 version, the "Revisions and Resubmittals" section requires design professionals to annotate plans using the “Cloud+Delta” directive outlined in Memorandum No. 23-003. This memo is not easily accessible in the Building Forms library, Permit Applicant Checklist, or the EPIC portal. Users must search for it on the County’s DPW website on the Design Details & Guidelines page. Consolidating guidelines into a single location would increase transparency while reducing errors.

¹⁹ County of Hawai‘i DPW Building Division. *Electronic Processing & Information Center Application Guidelines Electronic Drawing Format April 18, 2023 Version 1.5.* https://records.hawaiicounty.gov/weblink/1/edoc/140085/BLG_EPlan_Review_v15_20230418.pdf Accessed: 1/2/25

²⁰ County of Hawai‘i DPW Building Division. *Electronic Processing & Information Center Application Guidelines Electronic Drawing Format June 03, 2024 Version 1.6.* <https://www.hawaiicounty.gov/home/showdocument?id=306099&t=638531758415813169> Accessed: 1/2/25

- **Property Owner Declaration Form.**²¹

This legacy form verifies property ownership, authorizes permit submission, and ensures all listed contacts receive application-related communications. It requires a parcel number and location address, which are already collected in the portal's 'Location' screen, making the form redundant.

This legacy form, a common cause of application rejections, is unnecessary as the portal supports digital signatures. While HCC §5-4-1(a)(7) requires the owner's consent via signature, digital signatures are legally equivalent to wet signatures, making the form obsolete.

- **Project Declaration Form.**²²

This legacy form requires applicants to specify their role in the project, identifying whether they are licensed contractors or owner-builders. Licensed contractors must provide licensing details. This form is a common reason for rejection due to missing, unsigned, or incorrect submissions. This form was initially developed to create compliance with Chapter 444 Hawai'i Revised Statutes; however, the portal is capable of collecting this information, making it obsolete.

Step 6. Signature

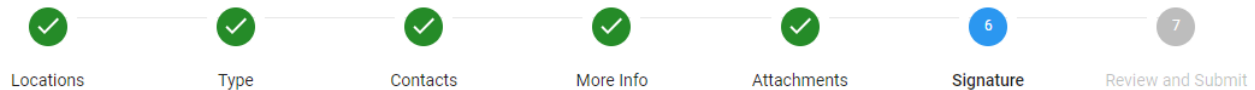


Figure 4.12: Step 6 “Signature” from EPIC system

The “Signature” screen is designed to collect the digital signature, where the applicant certifies and confirms the accuracy of the information and authorization to apply for a permit on the specified property. By typing their name as an electronic signature, the applicant attests to their awareness of relevant regulations.

Hawai'i Revised Statutes §489E-7²³ grants legal recognition to electronic records, signatures, and contracts. It ensures that electronic forms cannot be denied legal effect or enforceability solely due to their format. Additionally, electronic records fulfill writing requirements, and electronic signatures satisfy signature requirements.

²¹ County of Hawai'i DPW Building Division. *Property Owner Declaration Form*. <https://www.hawaiicounty.gov/home/showdocument?id=306136> Accessed 1/2/25

²² County of Hawai'i DPW Building Division. *Project Declaration Form*. <https://www.dpw.hawaiicounty.gov/home/showpublisheddocument/306224> Accessed 1/2/25

²³ Hawaii Revised Statutes §489-E7(d) *Legal recognition of electronic records, electronic signatures, and electronic contracts*. https://www.capitol.hawaii.gov/hrscurrent/Vol11_Ch0476-0490/HRS0489E/HRS_0489E-0007.htm Accessed 3/28/25

Not utilizing appropriate technology creates unnecessary barriers, even though HRS §489-E7(d) recognizes electronic signatures as legally valid. HCC §5-4-1(a)(7) does not require a wet signature. The EPIC system already includes a built-in digital signature function that could be used to streamline the process.

SIGNATURE

By submitting this form I certify that the information provided is correct and that I am authorized to apply for a permit on the property specified.
I am also acknowledging that I have read Planning's [Single Family Dwelling Notice](#) and [First Farm Dwelling Notice](#).

*Please type your name as consent to electronically sign this application.

Enable Type Signature

March, 31 2025

X Draw Signature Here

Figure 4.13 Screen shot of digital signature from EPIC system

Step 7. Review and Submit

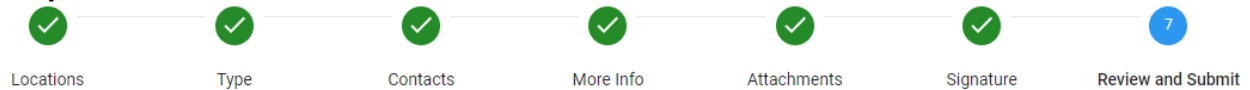


Figure 4.14: Step 7 “Review and Submit” from EPIC system

At the “Review and Submit” stage, the applicant is charged the greater of 20 percent of the original permit fee (Figure 4.14) or a minimum fee of \$50, as specified in HCC § 5-7-19(a). This charge represents an initial fee collection. The final collection may include additional fees for resubmittals or a plan review adjustment fee due to permit valuation.

Figure 4.14: Fee Schedule

PERMIT FEES	
General Construction	
Valuation	Fees
\$0 to \$500	\$10
\$501 to \$2,000	\$10 for the first \$500 plus \$1.50 for each additional \$100 or fraction thereof, to and including \$2,000.
\$2,001 to \$25,000	\$32.50 for the first \$2,000 plus \$7.50 for each additional \$1,000 or fraction thereof, to and including \$25,000.
\$25,001 to \$50,000	\$205 for the first \$25,000 plus \$6 for each additional \$1,000 or fraction thereof, to and including \$50,000.
\$50,001 and up	\$355 for the first \$50,000 plus \$3 for each additional \$1,000 or fraction thereof.
Other	
Carport, garages, porches, patios or lanais and detached U structures.	\$10 per 100 sq. ft. or fraction thereof.

Figure 4.14: Hawai'i County Code 5-7-3 (b) Fee schedule. Permit Fees.

Accountability and Transparency.

In addition to previous explanations, additional opportunities exist to simplify processes and improve service delivery. Lean Six Sigma eliminates inefficiencies and reduces complexity. Certain administrative and procedural challenges continue to hinder the department's ability to operate efficiently. Process improvements should enhance efficiency and fairness in three key areas: application completeness criteria, complaint handling, and staff training.

We found.

- **Application Completeness Criteria.**

The Tinner Report recommended defining a complete permit application by ordinance to create clear expectations and reduce inefficiencies. Although Chapter 5, Article 4 Permit Application provides an overview of what is required, the section has not been updated to reflect electronic document handling since 2020. This lack of clarity leads to frequent resubmissions, processing delays, and frustration for both parties. Without a standardized definition, staff rely on discretionary judgment, increasing inconsistencies.

In addition to defining application completeness, the division would benefit from a uniform process for addressing complaints. When complaints are handled inconsistently or bypass formal channels, it can disrupt workflows and create perceptions of unequal treatment. A standardized approach would promote fairness, maintain operational focus, and support consistent service delivery for all applicants.

This lack of clarity leads to frequent resubmissions, processing delays, and frustration for both parties. Without a standardized definition, staff rely on discretionary judgment, increasing inconsistencies. A clear legal standard would improve transparency, streamline processing, and reduce unnecessary back-and-forth.

- **Complaint Handling.**

Complaints are addressed through a Request Assistance form or by emailing cohbuild@hawaiiicounty.gov. Management reported that applicants sometimes seek to expedite project reviews by raising concerns with the administration, which impacts staff efficiency in managing the queue. In-person and phone inquiries are also disruptive. Applicants who experience delays in the permitting process frequently escalate their concerns directly to the administration. These complaints are prioritized over others, often resulting in quicker resolutions. However, this prioritization creates a perception of unequal treatment, as applicants without direct access to administrative channels may experience delays.

No policies, procedures, or administrative rules outline uniform complaint handling to prevent administrative pressure from prioritizing certain applications over others in the queue. Complaints vary widely in how they are addressed based on who receives them and the level of attention they receive. Staff are frequently pulled from routine tasks to fast-track priority complaints, affecting the department's standard workflow. Applicants who do not similarly escalate their concerns are disadvantaged.

- **Staff Training.**

The Tinner Report recommended that staff receive expert training from an external consultant specializing in lean process improvement. Specialized training would reduce non-value-added steps, make data-driven decisions, and improve application consistency. However, despite the recommendation, staff did not receive the recommended training, and the process remained undocumented, with no targeted date for a structured review to identify and eliminate unnecessary tasks. Subsequently, during the audit, management also suggested consulting with a specialist familiar with the EPL's features to provide guidance and recommendations for improving workflows and processes.

Conclusions.

Unnecessary complexity, inconsistencies, and unclear guidance slow the submittal process, while external forms and cumbersome data entry add redundant steps. Instead of adapting to align with applicant needs and software capabilities, the system has been forced to conform to outdated processes, diminishing the intended benefits of modernization. Challenges remain while the County has tried clarifying requirements and upgrading its system.

To Reduce Complexity of the Applications
We make the following recommendations

To Simplify “Location” Step:

FINDING 3: Redundant Data Collection

Cause of the Condition

The EPIC portal captures location data during the application process, but this data is not utilized to prefill other forms or satisfy later steps.

Effect of the Condition

Applicants are required to repeatedly enter the same data, increasing the time and effort needed to complete the application contributing to errors and frustration.

Recommendation 15

Reduce Redundant Data Collection.

Use information captured early in the process to auto-populate fields in later steps, eliminating repetitive inputs.

To Simplify “Type” Step:

FINDING 4: Manual Processes Drives the Workflow.

Cause of the Condition

Building Division staff preferences for reformatting project descriptions results in manual rewriting of applicant-provided information.

Effect of the Condition

Manual rewriting of project descriptions is unnecessary and leads to delays in application processing.

Recommendation 16

Eliminate Manual Processes.

Eliminate unnecessary project description rewrites. Elements to consider include:

- Update employee guides
- Update applicant instructions in the EPIC portal.

To Simplify “Contacts” Step.

FINDING 5: No Contact Validation and Categorization

Cause of the Condition

The system does not sort or validate contact information, mixing trade professionals with other users and failing to ensure licensing compliance.

Effect of the Condition

Errors in contact categorization contribute to application rejections and delays.

Recommendation 17

Validate and Categorize Contact Information.

Implement data validation to ensure contacts are accurately categorized (e.g., licensed professionals versus property owners). Create separate lists or filters for trade professionals in good standing.

To Simplify “More Info” Step.

FINDING 6: Insufficient Clarity to Guide Data Collection

Cause of the Condition

Many data fields lack tooltips or explanations, making it unclear what is required. The system redundantly collects information already captured in prior steps or attached documents. Automation opportunities, including auto-populating pre-approved plan data, remain underutilized.

Effect of the Condition

Redundant data entry causes delays.

Recommendation 18

Refine the "More Info" Screen.

Streamline data collection by eliminating redundancies between the "Type" and "More Info" screens. Focus on essential inputs and pre-populate or exempt input fields for known values, such as pre-approved house package numbers.

To Simplify “Attachments” Step.

FINDING 7: Building Division Uses Outdated Forms

Cause of the Condition

Despite software modernization, inconsistent instructions and outdated forms from prior practices are still used.

Effect of the Condition

Misleading instructions and the requirement for wet signatures create unnecessary burdens on applicants, contributing to high rejection rates.

Recommendation 19

Eliminate Outdated Forms.

Remove the Property Owner and Project Declaration Forms by integrating their essential data directly into the portal. This reduces the need for applicants to provide the same information in multiple places.

To Simplify “Signature and Review” Step.

FINDING 8: Not Utilizing Digital Signature Feature

Cause of the Condition

The digital signature feature is limited in application and does not replace wet signatures required for declaration forms.

Effect of the Condition

Not replacing wet signatures with digital signatures prolongs processing times.

Recommendation 20

Enable Digital Signature.

Allow digital signatures across all forms, replacing physical wet signatures to simplify and accelerate the application process.

To Improve Accountability and Transparency.

FINDING 9: Improve Accountability and Transparency

Cause of the Condition

1. **Application Completeness Criteria:** There is no ordinance or guidance in the rules defining what constitutes a complete application.
2. **Complaint Handling:** There is no standardized policy or procedure for handling applicant complaints uniformly.
3. **Staff Training.** The division has not implemented structured training programs in Lean Six-Sigma principles or process improvement methodologies.

Effect of the Condition

1. **Application Completeness Criteria:** The absence of an ordinance clearly defining a complete application leads to frequent resubmissions, delays, and inconsistent expectations between staff and applicants.
2. **Complaint Handling:** Without a formalized complaint-handling process, applicants who escalate their concerns directly to the administration receive preferential treatment, while others experience longer delays, creating a perception of inequity in service delivery.
3. **Staff Training:** The absence of Lean Six Sigma training leads staff to add redundant steps and workarounds instead of eliminating inefficiencies. Over time, this compounds process complexity, increasing delays and making future improvements harder to implement because BD is learning basic configuration and capabilities.

Recommendation 21

Define Application Completeness by Ordinance.

Establish a legally binding definition of a "complete" permit application through ordinance, or administrative rules.

Recommendation 22

Implement a Formal Complaint Handling Process.

Develop and implement a standardized complaint-handling system, preferably electronic, that ensures uniform treatment of applicant concerns. Establish policies and procedures that define complaint prioritization criteria, response timelines, and escalation protocols.

Recommendation 23

Integrate Lean Six-Sigma Training into Staff Development.

- a. **Engage a Lean Six-Sigma Expert Consultant** – Conduct a comprehensive evaluation of permitting workflows to identify and eliminate non-value-added steps.
- b. **Train Staff in Lean Six-Sigma Principles** – Establish a structured training program through policies and procedures that embed process improvement methodologies and require continuous re-evaluation and adaptation to operational changes.

County of Hawai'i Office of the County Auditor



Chapter 2: Audit Results Inspections

Audit Activity.

To identify gaps in the inspection process, we:

- Gained an understanding of the inspection process through:
 - Site visits
 - Ride-alongs with eight inspectors and one inspector aide
 - Interviews with four supervisors and three staff members
 - Observations of monthly Building, Electrical, and Plumbing meetings
 - Review of Building Division Inspection Reports
 - Review of complaint reports and meeting notes
- Reviewed relevant governance:
 - Hawai'i County Code (HCC) § 5-8-1, Article 8 Inspections
 - 2018 State Building Code
 - Government Accountability Office (GAO) The Green Book²⁴
 - Tinner Report

We participated in ride-alongs to observe the inspection process, comparing county codes, job descriptions, and supervision. Eight ride-alongs were scheduled: six in Hilo with Building, Electrical, and Plumbing Inspectors and two in Kona with Building Inspectors.

Electrical inspectors must hold supervising electrical journeyman licenses. Plumbing Inspectors must hold a plumbing journeyman license. Despite their role in final walkthroughs and permit sign-offs, the Kona Building Inspectors are not required to be licensed.

One of the Building Inspection Supervisors was evasive to auditors' multiple requests for ride-alongs. After repeated attempts, it was decided to discontinue pursuing their participation to avoid further delays.

Site visits included interviews with inspection supervisors in Hilo and Kona and attendance at monthly Building, Electrical, and Plumbing meetings. Interviews with building inspection supervisors and select inspectors highlighted management concerns about the inspection process.

²⁴ U.S. Government Accountability Office (GAO). *Standards for Internal Control in the Federal Government* (The Green Book). September 2014, by the Comptroller General of the United States. <https://www.gao.gov/assets/gao-14-704g.pdf> (accessed February 12, 2025)

Inspections Overview.

When construction begins, inspections are conducted at various stages to ensure that work complies with applicable codes, adheres to local regulations, and aligns with the approved plans. Hawai'i County Code § 5-8-3 outlines the process for requesting these inspections.

According to HCC § 5-8-3, the contractor or appropriate trade professional must file a request for inspection with the authority having jurisdiction, and requests may be submitted in writing, in person, online, by facsimile, or by telephone if allowed. It is the responsibility of the person doing the work to ensure that the construction will pass all prescribed code requirements under the construction code before requesting an inspection.

Requests for inspection must be submitted no less than two working days and no more than three working days before the desired inspection date. Once a request is received, the jurisdiction authority will inspect within two working days (excluding weekends or holidays) or arrange with the contractor to reschedule for a later date if necessary.

Inspectors use the mobile version of EPIC on tablets during inspections. This tool centralizes project elements and loads inspection data. However, it cannot load plans when there is no wireless access. Plans can be downloaded to the application before conducting the inspection. Additionally, an approved permit requires that plans be kept on the job site at all times per Section 5-5-6 of the Construction Administrative Code. The permit holder is responsible for keeping the work accessible and exposed for examination. Additionally, supervising professionals, such as the contractor, electrician, or plumber, may be required to be present on-site. The inspector's role is to assess compliance with the construction code and either approve the work or issue a written notice detailing any deficiencies. If non-compliance is identified, the work must be altered, corrected, or removed to meet code requirements before proceeding.

For new residential construction, required inspections typically include:

- **Foundation/Slab** – The foundation/slab inspection is the first step in the permit inspection process. Once construction work is finished in this phase, the owner/contractors for the specific disciplines must request inspections for electrical, plumbing, and building work performed. After the electrical and plumbing inspections are approved, a building inspection is conducted, and upon passing, construction is allowed to proceed with a concrete pour and framing.

- **Framing** - After construction work is finished, owners/contractors for the specific disciplines request inspections for electrical, plumbing, and building work performed. Once approved and the inspection passes, construction can proceed to the final phase.
 - Insulation
 - Lathing (support, underlayment backing)
 - Electrical
 - Plumbing
- **Final** - After construction, a final inspection, including plumbing, electrical, and building inspections, is requested. Once approved, the project receives sign-off and is ready for occupancy.

Certificate of Occupancy (CO).

- COs only apply to nonresidential construction. These structures cannot be used or occupied, nor can the occupancy classification be changed until the appropriate authority has issued a certificate of occupancy.
- Exception for the Certificate of Occupancy is :
 - Group R-3 (Residential, Division 3) typically includes single-family homes, duplexes, and townhouses not more than three stories high.
 - Group U (Utility and Miscellaneous) includes private garages, carports, sheds, agricultural buildings, and other accessory structures.

While the building permit process coordinates and ensures compliance with permits issued by other agencies, it does not manage inspections for those agencies. Therefore, agencies such as the Engineering Division, Fire Department, Planning Department, Department of Environmental Management Wastewater Division, Department of Health Food Safety Division, and Department of Health Wastewater Division must approve the construction before issuing a Certificate of Occupancy.

We Found.

Policies and Procedures.

The Building Division lacks written policies and procedures for management oversight and permit inspections, leading to inconsistencies across all inspection disciplines. Inspectors operate autonomously and develop their inspection methods, resulting in variations in documentation, inspection standards, and enforcement practices. This inconsistency creates challenges when inspectors swap work areas and when permits must be reassigned due to absences.

Additionally, there is no standardized requirement for documenting inspections, such as photographing placards, plans, or critical failures or entering inspection reports onsite. As a result, documentation practices vary, and reports are often completed after the fact, increasing the overall timeline.

The GAO's Green Book requires management to document policies to ensure effective oversight, risk mitigation, and operational consistency. Specifically:

- **12.03:** Management must document responsibilities and control activities necessary for operational effectiveness.
- **12.04:** Policies should define procedures, including the timing and corrective actions needed when deficiencies are identified.
- **12.05:** Policies and procedures must be periodically reviewed to ensure continued relevance and effectiveness.

Conclusion.

Without written policies and procedures aligned with these standards, the BD lacks a structured framework for inspections, increasing the risk of inconsistent enforcement, miscommunication, and oversight.

To Improve Inspections Practices
We make the following recommendations

FINDING 10: No Policies and Procedures

Cause of the Condition

The lack of documented policies and procedures for management oversight and permit inspections is caused by the absence of a consistent framework and clear guidelines.

Effect of the Condition

Without documented policies and procedures, management oversight and permit inspections lead to potential inefficiencies and difficulty maintaining uniform standards across disciplines.

Recommendation 24

Establish Policies and Procedures.

We recommend the Building Inspections Group create written policies and procedures for management oversight and inspections to ensure consistent field practices across disciplines.

Management Oversight.

The Building Division lacks consistent management oversight across inspection teams, resulting in variations in supervision, work review, and enforcement of inspection standards. While supervising inspectors are responsible for verifying subordinate’s work, resolving complaints, and ensuring team safety, there is no standardized approach to how these responsibilities are carried out. Inconsistency creates gaps in accountability and quality control across disciplines.

Additionally, inspection supervisors are required to review plans for permitting. Therefore, supervisors were not assigned vehicles; instead, they did “ride-alongs” with staff to verify the accuracy of inspections. Without direct field oversight, management cannot ensure that inspections are performed consistently or that deficiencies are addressed promptly.

The GAO’s Green Book emphasizes management’s responsibility for oversight, control, and remediation of deficiencies, specifically:

- **Principle 2 - Oversight of the Internal Control System:** Management must establish oversight mechanisms to monitor operations, assess risks, and ensure control activities are effectively implemented.
- **Principle 2 - Input for Remediation of Deficiencies:** Management is responsible for identifying and addressing control weaknesses to improve operational effectiveness.

Conclusion.

Without a structured oversight framework, the BD lacks controls to ensure uniform inspection practices, timely issue resolution, and accountability in the field.

FINDING 11: Limited Management Oversight	
Cause of the Condition	
Management allowed inspection supervisors autonomy, resulting in variations in oversight processes and limited access to resources, such as vehicles, leading to inconsistencies in inspection practices, including limited field spot-checks and lack of standardized procedures for work review, issue resolution, and safety enforcement.	
Effect of the Condition	
Customers experience inconsistent service quality, and inspectors face inconsistent guidance.	
Recommendation 25	
Increase Management Oversight. We recommend that BD Inspection teams strengthen management oversight by developing standardized procedures for reviewing work, resolving issues, and routine spot-checks. Supervisors should have daily access to vehicles to support effective oversight.	

Training.

The Building Division lacks a formalized and comprehensive training program for inspection supervisors and inspectors, resulting in inconsistent proficiency levels with critical tools and evolving industry standards. Inspectors require additional training on the EPIC application, tablets, and inspection tools to utilize available resources fully. Supervisors who must analyze backend inspection data have varying proficiency levels with EPIC, limiting their ability to oversee and evaluate inspections effectively.

Additionally, when industry codes change, there is no structured process to ensure all inspectors receive necessary updates, creating a risk of outdated practices. Specific inspection teams, such as Electrical Inspectors, have requested specialized training in key areas like medical facilities and large PV farms, which would benefit other disciplines.

The GAO's Green Book emphasizes the need for management to recruit, develop, and retain competent personnel, stating:

- **4.05:** (Training) Management must enable personnel to develop role-specific competencies, reinforce standards, and tailor training to meet operational needs.

Conclusion.

Without a structured training program aligned with these principles, the division risks errors and non-compliance with industry standards, ultimately affecting the quality and consistency of inspections.

FINDING 12: Lack of Training.
Cause of the Condition
No ongoing training for supervisors and inspectors on the EPIC application, tablets, and specialized inspection areas.
Effect of the Condition
Staff are underutilizing the technology.
Recommendation 26
Develop Training Program. Establish a formal, ongoing training program for the inspections group after EPL is configured that includes: <ul style="list-style-type: none">• Training on the EPIC application and tablets, in collaboration with the EPIC application project team• Develop targeted training modules for specialized inspection areas• Implement procedures to provide regular refresher training when applicable industry code changes are adopted• Develop a process to track employee participation (e.g., sign-in sheets, staff records) and maintain a record of completed training sessions

EPIC Enhancements.

Certain critical controls for effective management oversight, data security, and operational efficiency have not been operationalized. Currently, all supervisors, inspectors, and inspector aides share the same access privileges, increasing the risk of unauthorized changes and compromising data security. Additionally, the software allows personnel to backdate inspection reports without time limitations. Auditors observed reports entered weeks to months after the original inspection, raising concerns about the accuracy and reliability of the documented findings. Without role-based access controls, sensitive information remains vulnerable, and the principle of segregation of duties is not upheld.

Additionally, EPIC does not generate exception reports. Exception reports are summaries that flag errors or anomalies. Without exception reporting, it is difficult for supervisors to identify inspection inconsistencies, errors, or trends requiring corrective action. Without this functionality, oversight is weakened, reducing accountability and limiting management's ability to address performance issues.

Another significant issue is the inaccuracy of geo pin locations, which results in difficulty locating inspection sites. This problem was observed in nearly every ride-along, causing inefficiencies, wasted time, and potential errors in inspection records.

The GAO's Green Book emphasizes the importance of application controls and security management in internal control systems:

- **11.08:** Design of Appropriate Control Activities: Application controls should ensure data validity, completeness, accuracy, and confidentiality.
- **11.14:** Design of Security Management: User access should be restricted based on job responsibilities, ensuring proper segregation of duties and timely updates when roles change.

Conclusion.

Because BD did not apply critical enhancements, EPIC remains insufficient for ensuring secure access, consistent oversight, and operational accuracy, undermining the efficiency and reliability of the inspection process.

FINDING 13: Lack of Critical Enhancements.

Cause of the Condition

The EPIC system was only configured for inspection and supervisor and inspector) user roles limiting role-specific functionality. Additionally, the absence of an exception report for inspections hinders effective monitoring and oversight. Furthermore, the Geo Pin software has limitations in accurately determining the location of some project sites on the island.

Effect of the Condition

The lack of role differentiation in the EPIC system limits functionality, reducing efficiency and oversight. The absence of an exception report hinders the monitoring of inspections, increasing the risk of non-compliance. Additionally, Geo Pin software inaccuracies can misidentify project site locations, leading to wasted time, potential errors, and delays in inspections.

Recommendation 27

Opportunities for Critical Enhancements.

We recommend that the Building Division implement the following:

- Implement role-based access controls in EPIC, assigning separate privileges based on job functions such as Supervising Inspectors, Inspectors, and Inspector Aides.
- Develop exception reporting to monitor and address potential inspection abnormalities.
- Enhance Geo pin functionality to improve job site location accuracy.

Chapter 3

Fraud, Waste, and Abuse

As a practice, we remain mindful and document instances of fraud, waste, and abuse within the scope of the audit objective and not departmentwide or countywide.

During the audit, management reported ongoing investigations and pending litigation.

What is the Definition of Abuse?

“Abuse” involves deficient or improper behavior compared to behavior that a prudent person would consider reasonable and necessary given the facts and circumstances. This includes the misuse of authority or position for personal gain or the benefit of another. Abuse does not necessarily involve fraud or illegal acts.

Inspectors play a critical role in the building process by ensuring compliance with codes, regulations, and safety standards. Their approval is required at key stages of construction, influencing project timelines, costs, and overall feasibility. Their decisions can expedite or delay progress, and any inconsistencies, errors, or misconduct in inspections can impact structural integrity, safety, and regulatory compliance.

We identified disciplinary actions against employees within the inspection group during the audit. The Office of the County Auditor also received multiple complaints through its Fraud, Waste, and Abuse Hotline. While a complaint alone does not confirm wrongdoing, the allegations raised included the following:

- A contractor claimed an inspector approved inspections by phone without going onsite.
 - The allegation was reported under the condition of anonymity, the inspector was not named, and OCA was not able to substantiate the allegation.

- An inspector takes money in exchange for favorable inspection outcomes.
 - The allegation was reported anonymously, and the OCA was not able to substantiate it.

- Inspectors approve inspections without going onsite and backdating entries into the system.
 - This allegation was reported by DPW leadership, who subsequently initiated disciplinary action against the employee(s). We commend their transparency in reporting the issue and taking corrective action.

These actions may be considered abusive behavior when the allegations are confirmed to be accurate. Determining whether a specific act constitutes abuse often requires a legal or adjudicative process beyond the auditor's role.

Recommendations made throughout this report, particularly with regards to the Inspections Group, if enacted in good faith, will:

Policies and Procedures.

- Require inspectors to take pictures of placards, sites, and critical failures to ensure they are onsite for each inspection and dispel claims to the contrary.

EPIC Enhancement.

- **Role-Based Access Controls:** Setting up access by user role ensures that entries cannot be backdated without prior approval from the building chief or their designee. This protects inspectors from potential accusations of improper recordkeeping and ensures accountability is shared at an appropriate level.
- **Exception Reporting:** Automated exception reports provide monitoring to detect, prevent, and deter anomalous entries. This promotes good recordkeeping habits, reinforces accountability, and helps ensure that employees' work is consistently documented.

Public trust in the inspection process is vital, and all stakeholders—government officials, contractors, and the community—play a role in upholding fairness and compliance. We encourage vigilance and accountability to ensure the system serves its intended purpose without undue influence or misconduct.

We encourage employees and members of the public to report instances of waste, fraud, and abuse in county operations.

(808) 480-8213 fraud and waste
(808) 480-8279 abuse
concern@hawaiicounty.gov

Conclusion

The Department of Public Works Building Division audit highlighted persistent challenges in the permitting and inspection processes, affecting efficiency, transparency, and public trust. While ongoing efforts have been made to streamline operations, systemic inefficiencies continue to impact applicants, staff, and the broader community.

Key findings indicate that high application volumes, inconsistent processing timelines, and unnecessary complexity contribute to delays. Although the Building Division has some guides, workflows, and monitoring practices, some are outdated, and certain areas lack them. These gaps highlight the need for process improvements, including providing clear expectations through administrative rules, policies and procedures, standardized workflows, and robust monitoring practices. Additionally, the lack of effective oversight in the inspection process raises concerns about compliance and accountability.

To address these issues, we recommend a multi-faceted approach that tackles the problem from different perspectives—reducing application volume, improving processing time, and simplifying complexity. Addressing all three factors simultaneously creates a cumulative effect that strengthens efficiency and accountability at every level of the permitting process. Reducing volume through exemptions and self-certification frees up resources for more complex projects. Improving processing time by enforcing date-driven prioritization and automation minimizes delays. Simplifying complexity through better public guidance, clearer requirements, and technology enhancements ensures that applications are processed correctly the first time.

While management has acknowledged some challenges and taken steps to address inefficiencies, further commitment is needed to resolve the underlying issues fully. A comprehensive strategy that integrates these solutions alleviates backlogs and builds a predictable, transparent permitting system that responds to the community's needs.

Moving forward, ongoing oversight and proactive management will be essential to sustaining these improvements, ensuring compliance with best practices, and fostering a culture of accountability and service excellence.

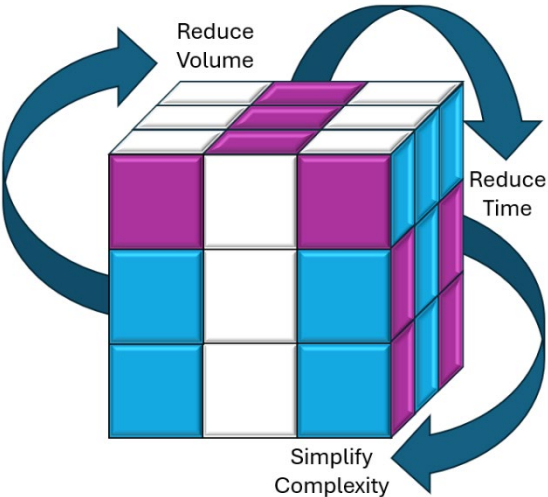


Figure 5: Rubik Cube created, courtesy County Auditor

Chapter 4

Management Response

C. Kimo Alameda, Ph.D.
Mayor

William V. Brilhante, Jr.
Managing Director



Neil A. Azevedo
Acting Director

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April 25, 2025

Mr. Tyler Benner
County Auditor
County of Hawai'i
120 Pauahi St. #309
Hilo, HI 96720

RE: Management Response to Building Permit Audit

Dear Mr. Benner,

The Building Division (BD) remains steadfast in its commitment to streamlining processes while ensuring that its core responsibility to safeguard the health, safety, and welfare of the community is always upheld. BD continues to explore innovative solutions aimed at improving operational efficiency but recognizes that any adjustments to the permitting process must be supported by data and in alignment with our duty to maintain public safety and regulatory compliance. BD is dedicated to pursuing technology-driven solutions that enhance efficiency without compromising these critical standards.

Below are BD's responses to each of the recommendations outlined in the audit:

FINDING 1: The Volume of Applications Contributes to Delays

Recommendation 1: Exempt Qualified Low-Risk Applications.

The BD agrees that some permit types, such as residential photovoltaic (PV) systems under 10kW, are low risk. Since March 2023, BD has issued these permits without formal plan review, requiring only plan review current with a field inspection. Inspectors may approve minor design changes during inspection, which has improved efficiency and have been well received by applicants and staff.

However, BD emphasizes that inspections remain essential, especially for owner-builders who may not have the technical expertise to identify construction issues. Inspections are the final

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safeguard to ensure compliance with safety codes. Before recommending exemptions for any permit type, BD will make decisions based on data.

Action Plan
Exempt Qualified Low-Risk Applications

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Track inspection outcomes for low-risk permits	Record number of inspections passing without and after corrections during the inspection.	Monthly inspection data collected	Create data points to identify inspections passing after corrections were made during inspections; use existing and new data to create custom reports	Provides empirical basis for exemption decisions	Start July 2025, ongoing
Collect and review data for one year	Aggregate and analyze inspection data for all qualifying low-risk permits	12 months of data compiled and reviewed	Assign data analysis to BD staff	Ensures decisions are based on current, local trends	Complete by July 2026
Assess whether inspections consistently identify issues	Compare rates of corrections and undetected issues	Summary report with findings	Use collected data and staff expertise	Confirms if inspection phase is critical for low-risk permits	Report by August 2026
Recommend code amendments if justified	If data supports, draft and propose Ordinance for qualifying permits	Draft Ordinance proposal submitted	Collaborate with legal and policy teams	Aligns with BD's mission to streamline and ensure safety	Proposal by September 2026

BD remains committed to streamlining processes while upholding its core responsibility to protect community health, safety, and welfare.

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Recommendation 2: Implement Self-Certification & Public Duty Doctrine Training.

The BD aims to improve plan quality, evaluate the feasibility of self-certification for low-risk permits, and strengthen staff understanding of the Public Duty Doctrine. Current data shows a significant portion of permits require corrections, especially for complex projects, highlighting the need for continued oversight and professional accountability.

The table below summarizes the percentage of permits not returned for corrections during the audit period (July 26, 2021 – March 31, 2024):

Permit Type	Percent Not Returned for Corrections
Residential	61%
Non-Residential (Commercial)	25%
Electric Only	71%
Plumbing Only	62%
PV Residential	82%
PV Non-Residential (Commercial)	40%

These percentages indicate that errors and deficiencies in submitted plans remain common, particularly in non-residential and PV commercial permits. Implementing self-certification under these conditions could increase public safety risks and reduce accountability.

Action Plan
Implement Self-Certification & Public Duty Doctrine Training

SMART Goal	Specifics	Measurable Outcome	Achievable Steps	Relevance	Time-Bound Deadline
Improve plan submission quality by design professionals	Reduce the percentage of permits returned for corrections by 10% across all permit types	Annual correction rate reports	Collaborate with licensing board and provide feedback	Reduces errors, supports code compliance	By June 2026
Evaluate feasibility of self-certification for select low-risk permits	Review permit data to identify candidate permit types for pilot self-certification	Quarterly data analysis and recommendation	Assign data review to BD management	Ensures any self-certification is safe and effective	Quarterly review, first by September 2025

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SMART Goal	Specifics	Measurable Outcome	Achievable Steps	Relevance	Time-Bound Deadline
Provide Public Duty Doctrine and code compliance training for all BD staff	Conduct one training session for all staff on Public Duty Doctrine and code compliance	100% staff attendance and completion records	Schedule and deliver training	Reinforces legal and safety responsibilities	By March 2026

Recommendation 3a: Pilot Third-Party Review Services During Peak Periods.

The BD acknowledges the potential benefits of third-party review services during peak periods but must comply with state legal constraints that limit outsourcing of core governmental functions. Instead, BD is focusing on improving the quality of initial plan submittals to reduce re-reviews and manage workload peaks internally.

Action Plan
Pilot Third-Party Review Services During Peak Periods

SMART Goal	Specifics	Measurable Outcome	Achievable Steps	Relevance	Time-Bound Deadline
Increase percentage of permits approved without corrections	Raise the rate of first-time approvals for all permit types by 10% from current baselines	Quarterly tracking of correction rates	Conduct targeted outreach and training for design professionals	Reduces re-reviews and internal workload	By June 2026
Reduce average permit review turnaround time	Decrease average time from application to approval by 5%	Review cycle time reports	Streamline internal review processes and monitor performance	Improves customer service and operational efficiency	By June 2026
Monitor and reassess need for third-party review annually	Review permit volume, correction rates, and turnaround times each year	Annual summary and recommendation	Analyze annual data and stakeholder feedback	Ensures adaptability and responsiveness	Annually, each March

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3b: Enhance AI Integration in Plan Review Processes.

The BD recognizes the strategic value of Artificial Intelligence (AI) in streamlining and modernizing the plan review process. BD’s long-term vision is to leverage AI to increase efficiency, consistency, and scalability in permit processing, while maintaining high standards for public safety and regulatory compliance.

**Action Plan
 Enhance AI Integration in Plan Review Processes**

SMART Goal	Specifics	Measurable Outcome	Achievable Steps	Relevance	Time-Bound Deadline
Complete EnerGov platform configuration	Finalize configuration of EnerGov’s Inspection and Code Enforcement modules	EnerGov modules fully operational	Assign dedicated IT resources to project	Provides foundation for AI integration	By December 2025
Secure additional IT staffing to support AI integration	Obtain approval and hire one Information Systems Analyst IV (ISA IV) position	ISA IV position filled and onboarded	Submit staffing request; complete recruitment process	Ensures sufficient capacity for technology initiatives	By March 2026
Pilot AI-assisted plan intake and review tools	Launch a pilot project using AI to automate evaluation of at least three intake checklist items	Pilot project launched and results documented	Collaborate with IT and external partners; select pilot scope	Demonstrates AI’s effectiveness in BD’s workflow	By December 2026
Evaluate and report on AI pilot outcomes	Assess pilot results for accuracy, efficiency gains, and compliance with legal/industry standards	Written evaluation report with recommendations	Collect and analyze pilot data; prepare summary report	Informs future scaling and investment in AI technology	By March 2027

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Finding 2: The Permit System Launched Prematurely Before Full Configuration and Optimization

The BD acknowledges that the EnerGov permit system was launched before it was fully configured and agrees that this early implementation resulted in a range of operational challenges. As of March 21, 2025, BD is addressing 154 system enhancements, each intended to resolve specific inefficiencies and improve the functionality of core modules within EnerGov.

The premature rollout affected all major aspects of the system, including permit issuance, inspections, and complaint management. These impacts have made it clear that a fully functional permit system depends not just on the permit issuance workflow, but also on the successful configuration of the Inspection and Complaint Modules. These modules are essential, as they support critical functions such as verifying compliance in the field and managing code enforcement cases—responsibilities that are central to BD’s mission.

At this stage, BD is prioritizing the stabilization and refinement of these foundational modules before moving on to optimize more advanced features of the permit process. This approach is intended to ensure that the system can reliably support day-to-day operations and provide the level of service expected by both staff and the public.

BD appreciates the auditor’s recommendations and remains committed to fully optimizing the EnerGov system. Achieving this goal will require additional IT resources, ongoing collaboration with stakeholders, and a continued focus on resolving outstanding system enhancements. Through these efforts, BD aims to deliver a permit system that is efficient, reliable, and capable of meeting the operational needs of the Division as well as the expectations of the community it serves.

Recommendation 4: Dedicated Pre-Screening Function.

The BD agrees that a dedicated pre-screening function will improve the quality of permit applications, reduce resubmittals, and enhance efficiency for both applicants and staff. BD supports integrating this feature into the existing permit system and is committed to a structured, measurable, and time-bound approach to implementation.

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**Action Plan
 Dedicated Pre-Screening Function**

SMART Goal	Specifics	Measurable Outcome	Achievable Steps	Relevance	Time-Bound Deadline
Secure additional IT capacity	Obtain approval and hire one Information Systems Analyst IV (ISA IV)	ISA IV position filled and onboarded	Submit staffing request and complete recruitment	Provides technical resources for pre-screening module	By March 2027
Design and configure pre-screening module	Develop system requirements, configure, and test pre-screening workflow in EnerGov	Pre-screening module configured and tested	Collaborate with IT, vendors, and end users	Ensures module meets applicant and staff needs	By June 2027
Launch pre-screening function	Deploy pre-screening module for all new permit applications	Module live in production system	Provide user training and support	Reduces incomplete/inaccurate submissions	By September 2027
Monitor and evaluate impact	Track reduction in resubmittals and applicant errors post-launch	Quarterly performance reports	Analyze application data and gather user feedback	Measures effectiveness and guides further improvements	First report by December 2027

Recommendation 5: Enforce Ascending Date-Driven Priority Protocol.

The BD fully supports the principle of an ascending, date-driven priority protocol to ensure fairness, transparency, and predictability in the permit review process. In September 2022, BD established Priority Hubs that organize permit applications by type and ascending date order, creating first-come, first-served worklists so permits are processed equitably. In April 2024, BD refined this approach by launching a new workload report format, providing permit clerks, plan reviewers, and multi-agency partners with clear information on each application’s position and status throughout all review phases.

While this structure has improved transparency and accountability, BD recognizes the need to track instances when permits are processed out of date order—whether due to external agency direction, emergency work, or other justifiable circumstances. To address this, BD will

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immediately implement a manual log to record such occurrences and ensure accountability for exceptions to the standard queue. In the long term, BD intends to develop an automated tracking system to capture these exceptions within the EnerGov platform, with a target implementation timeline of two years.

BD remains committed to upholding fair and consistent permit processing practices and will continue to refine internal systems and reporting tools to support this objective.

Action Plan
Enforce Ascending Date-Driven Priority Protocol

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Maintain date-driven Priority Work Lists	Organize all permit applications by type and ascending date order using Priority Work Lists (completed 2022)	100% of permits tracked and processed by date order	Staff trained; ongoing monitoring	Ensures fairness, transparency, and predictability	Ongoing monitoring
Issue updated workload and queue position reports	Provide weekly reports showing permit status and queue position (new format completed April 2024)	Weekly distribution of queue position/status reports	Automated report generation and distribution	Increases transparency and accountability	Ongoing monitoring
Implement manual log for out-of-order processing	Immediately begin recording all instances and reasons when permits are processed out of date order	Monthly review of manual exception log	Develop log template; assign staff responsibility	Maintains accountability for protocol exceptions	Begin May 2025
Develop automated exception tracking in EnerGov	Design and launch an automated system to capture and report exceptions within EnerGov	Automated exception tracking system operational	Collaborate with IT; define requirements; test and deploy	Ensures long-term, systematic enforcement of protocol	By May 2027

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Recommendation 6: Strengthening Customer Education and Outreach.

The BD agrees that robust customer education and outreach are essential for improving the permitting experience, reducing application errors, and increasing efficiency. BD is actively pursuing a multi-faceted strategy to strengthen customer support through clearer communication, more accessible resources, and targeted training for all user groups.

**Action Plan
 Strengthening Customer Education and Outreach**

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Redesign BD website	Improve navigation and provide easier access to forms, guidelines, checklists, FAQs, and instructional materials	Launch of redesigned website	Collaborate with IT and communications; update content; monitor analytics	Increases accessibility and empowers applicants to self-serve	By December 2025
Update training materials	Align all customer-facing materials with current EPIC and EnerGov systems	100% of materials updated and available online	Assign staff to review, revise, and publish materials	Reduces confusion and ensures users have current information	By December 2025
Produce and publish instructional videos	Create at least six new instructional videos for staff and public users	Three videos published and tracked for viewership	Utilize new video software; script, record, and distribute videos	Supports visual learners and addresses common questions	By December 2025
Conduct targeted training sessions	Host at least four in-person or virtual sessions for contractors, repeat applicants, and owner-builders	Four sessions held; participant attendance recorded	Schedule events; develop agendas and materials; promote to target audiences	Provides direct support and clarifies complex requirements	By May 2026

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Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Enhance support for owner-builders	Request additional clerical staffing to provide over-the-counter and personalized assistance	Staffing request submitted and tracked; support available for one-time applicants	Prepare justification; submit hiring request; train new staff	Addresses unique needs of owner-builders and improves their experience	Request by December 2025
Monitor and report on outreach effort	Track performance of permit applications that are correct at first pass	15% increase in the number of permit applications that are correct	Collect data; analyze trends; report to management and adjust efforts as needed	Ensures continuous improvement and accountability	Monitoring begins January 2026

Recommendation 7: Reduce Instances of Resubmissions.

The BD agrees that reducing permit resubmissions is critical to streamlining the permitting process, minimizing delays, and improving customer satisfaction. BD’s primary strategy is to implement real-time validation during the application process, which will guide applicants, flag incomplete or inaccurate entries, and provide immediate feedback. This approach is supported by industry best practices and proven technology solutions that have demonstrated significant reductions in resubmittals and review cycles.

To achieve this, BD is pursuing the integration of a pre-screening validation function within the existing permit platform. Successful implementation will require additional IT resources, specifically the addition of an Information Systems Analyst IV (ISA IV). With this support, BD anticipates the new functionality can be developed and operational within two years. This enhancement will work alongside ongoing efforts to improve plan quality, customer education, and review efficiency.

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**Action Plan
 Reduce Instances of Resubmissions**

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Secure IT resources	Request and hire an Information Systems Analyst IV (ISA IV) to support system enhancements	ISA IV position filled and onboarded	Prepare justification, submit hiring request, complete recruitment	Provides technical capacity to implement real-time validation	By March 2027
Develop pre-screening validation function	Design and configure real-time validation for permit applications within the existing platform	Pre-screening validation tool developed and tested	Collaborate with IT, define requirements, configure and test system	Reduces errors and incomplete submissions at the source	By September 2027
Launch and integrate validation feature	Deploy the pre-screening validation tool for all new permit applications	Functionality live in production system	Provide user training and support, update application workflow	Minimizes resubmittals and expedites review process	By December 2027
Monitor and evaluate impact	Track and report on resubmittal rates and user feedback after implementation	Quarterly performance reports; 15% reduction in resubmittals	Analyze permit data, collect applicant feedback, adjust process as needed	Ensures continuous improvement and measures success	First report by March 2028

Recommendation 8: Monitor First Pass Approval Rates.

The BD agrees that monitoring first pass approval rates is essential for evaluating the effectiveness of the permit review process and identifying opportunities for improvement. BD has already implemented monthly sampling and internal Performance Reports to track key metrics, including first pass approval rates, processing times, and resubmittals. These efforts support a data-driven approach to continuous improvement and more efficient service delivery.

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Action Plan
Monitor First Pass Approval Rates

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Generate and review Performance Reports	Track processing duration, total permits reviewed, first pass approvals, corrections, and resubmittals	Performance Reports generated and distributed monthly	Automate data extraction; distribute reports to management and review teams	Enables data-driven workflow adjustments and accountability	Started June 2023, ongoing, monthly
Refine and expand performance monitoring	Enhance data collection and reporting methods as needed to capture emerging needs and best practices	Updated reporting tools and expanded metrics	Solicit feedback from staff; update templates and processes as necessary	Ensures monitoring remains relevant and effective	Annually, every June

Recommendation 9: Streamline Workflow Management.

The BD acknowledges that workflow management has been a challenge, especially during the transition to the EnerGov system when permit clerks played a key role in routing permit reviews.

Since implementation, BD has made several improvements—such as creating custom fields in EnerGov for better sorting and tracking, collaborating with partner agencies to align workflows, and addressing technical limitations through the November 2024 system upgrade. These changes have reduced complexity and improved efficiency.

BD is now preparing to implement a new “2-step submittal” process by July 2025, which is expected to further streamline workflows, reduce administrative overhead, and improve processing times.

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Action Plan
Recommendation 9: Streamline Workflow Management

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Refine workflow configuration in EnerGov	Use custom fields and agency feedback to optimize permit routing and tracking within EnerGov	Reduced manual routing; improved workflow consistency	Collaborate with agencies; update fields; monitor workflow performance	Ensures permits are routed efficiently and consistently	Ongoing, with quarterly review
Address technical limitations	Implement EnerGov upgrade (completed Nov 2024) to eliminate repeated opening/closing of review sessions	Fewer workflow bottlenecks and reduced staff workload	Complete upgrade; train staff on new features	Reduces inefficiencies and complexity in the review process	Completed June Nov 2024
Implement 2-step submittal process	Transition to a 2-step permit application and review process by July 2025	Decreased administrative overhead; faster processing	Develop process map; update system; train staff and applicants	Streamlines intake and review, improving turnaround times	By June 2025
Monitor and optimize workflow performance	Regularly review workflow metrics and gather user feedback to identify and resolve bottlenecks	Quarterly workflow performance reports	Collect data; hold review meetings; implement targeted improvements	Supports continuous improvement and high-quality service delivery	Quarterly, starting July 2025

Recommendation 10: Update Staff and Public Education Materials.

Refer to response in Recommendation 6.

Recommendation 11: Consolidate Reviews.

The BD agrees that consolidating reviews is key to improving the efficiency and clarity of the permit review process. BD is actively implementing the Cloud+Delta concept to streamline plan resubmittals and revisions. This method allows updated plan sheets to be inserted over originals, which are then marked as "superseded," while the full original set is retained. Changes are

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clearly highlighted with “clouded” markings, making it easier for reviewers to identify and compare revisions.

To ensure consistency and clarity, BD is revising the Cloud+Delta guidelines and will distribute them to staff and the public by May 2025. This will provide clear, step-by-step instructions for implementing the process. BD is confident this will reduce confusion, accelerate review cycles, and lead to faster, more efficient permit approvals.

**Action Plan
 Consolidate Reviews**

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Revise Cloud+Delta guidelines	Update and clarify instructions for staff and applicants on the Cloud+Delta resubmittal and revision process	Revised guidelines completed and approved	Draft updates; review with stakeholders; finalize documentation	Ensures consistent and clear application of the consolidation method	By June 2025
Distribute revised guidelines	Provide revised Cloud+Delta guidelines to all staff and make them publicly available to applicants	Guidelines distributed to 100% of staff and posted online	Email distribution; website update; training sessions	Promotes transparency and user understanding	By July 2025
Train staff and educate applicants	Conduct training for staff and offer informational sessions or materials for applicants on the updated process	Number of staff trained and applicant sessions held	Schedule and deliver training; develop FAQs and quick guides	Ensures effective adoption and reduces confusion	By August 2025

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Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Monitor implementation and feedback	Track use of the Cloud+Delta process, collect feedback, and identify areas for further improvement	Quarterly review of process effectiveness	Gather user feedback; review permit review timelines and issues	Supports continuous improvement and efficient permit approvals	First review by October 2025, ongoing quarterly

Recommendation 12: Enhance Interagency Cooperation.

The BD acknowledges the importance of strong interagency cooperation to ensure a smooth and efficient permit review process. BD recognizes that delays—such as those experienced in 2024 due to Department of Health Wastewater Division (DOH-WW) staff shortages—can impact overall progress. Through discussions with DOH-WW, BD identified that a lack of access to real-time workload data hindered their ability to manage reviews efficiently. In response, BD IT implemented weekly Review Listing Reports starting January 2024, providing all key reviewing agencies with comprehensive, up-to-date information on permit applications awaiting their action.

These efforts have resulted in improved interagency review times and clearer communication across all involved departments. BD remains committed to fostering collaboration, transparency, and continuous improvement in the permit review process.

**Action Plan
 Enhance Interagency Cooperation**

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Issue weekly Review Listing Reports	Distribute detailed reports to all reviewing agencies, listing all pending permit applications and status	100% of agencies receive weekly reports; improved review times	Automate report generation and email distribution	Enables agencies to track workloads and manage review timelines	Ongoing, started Jan 2025

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Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Maintain agency communication channels	Hold regular check-ins and feedback sessions with partner agencies to address issues and clarify processes	Number of meetings held; documented feedback and resolutions	Schedule monthly meetings; document and follow up on action items	Strengthens cooperation and problem-solving	Monthly, ongoing
Monitor interagency review performance	Track and analyze review timelines before and after implementation of weekly reports	Quarterly performance reports; reduction in review delays	Collect and compare review data; share findings with all stakeholders	Ensures accountability and measures impact	Quarterly, first report June 2025
Refine report content and delivery	Solicit agency feedback to improve the format, frequency, and content of Review Listing Reports	Updated report format based on feedback; higher agency satisfaction	Distribute feedback surveys; implement changes as needed	Supports continuous improvement and responsiveness	Review biannually, next by December 2025

Recommendation 13: Automate Invoicing and Issue Provisional Permits.

The BD agrees that automating invoicing could significantly improve efficiency and accuracy in the permitting process. BD also acknowledges the operational complexities of managing fee collection, particularly regarding the timing of payments and the potential risks of collecting fees at Final Inspection. BD maintains that prompt fee payment is essential, and if this standard is upheld, the need for provisional permits may be minimized. Nevertheless, BD is committed to exploring both the automation of invoicing and the feasibility of a provisional permit process to ensure best practices and operational effectiveness.

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Action Plan
Automate Invoicing and Issue Provisional Permits

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Assess invoicing automation needs	Review current invoicing workflows and identify requirements for automation	List of system requirements and process gaps	Map current processes; consult with staff and finance	Lays foundation for efficient, accurate invoicing	By June 2026
Secure IT resources	Request and hire an Information Systems Analyst IV (ISA IV) to support system enhancements	ISA IV position filled and onboarded	Prepare justification; submit hiring request; complete recruitment	Provides technical capacity for automation	By March 2026
Develop and test automated invoicing	Design, configure, and pilot an automated invoicing system within the permit platform	Automated invoicing system developed and tested	Collaborate with IT, define requirements, configure and test system	Reduces manual errors and expedites fee collection	By June 2026
Evaluate and refine invoicing process	Monitor system performance and gather feedback from users and finance staff	Performance reports; user satisfaction surveys	Collect data, hold review meetings, implement improvements	Ensures system meets operational and customer needs	First review by September 2026
Review provisional permit practices	Research best practices and consult stakeholders on the need and design for provisional permits	Summary report and recommendations	Benchmark other jurisdictions; hold stakeholder discussions	Ensures policy aligns with industry standards and local needs	By December 2026

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Recommendation 14a: Enforce Consistent Timeframes for Permit Evaluation.

The BD recognizes the importance of enforcing consistent timeframes for permit evaluations to ensure efficiency, transparency, and predictability in the permitting process. Since January 2024, BD has reduced the standard plan review timeframe from 90 days to 30 days for most permits, with exceptions only for planning-related reviews that require additional time due to complexity. BD is committed to upholding these 30-day review timelines, monitoring compliance, and collaborating with partner agencies to ensure timely processing.

**Action Plan
 Enforce Consistent Timeframes for Permit Evaluation**

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Maintain 30-day review standard	Enforce a 30-day review timeframe for all permit evaluations except complex planning reviews	95% of reviews completed within 30 days	Configure EnerGov alerts; communicate standard to all reviewers	Ensures efficiency and predictability in permit processing	Ongoing, review monthly
Track and analyze deviations	Monitor and document all instances where reviews exceed the 30-day timeframe	Monthly deviation reports and root cause analysis	Assign staff to track deviations; analyze causes and trends	Identifies bottlenecks and supports continuous improvement	First report by June 2025, ongoing monthly
Collaborate with partner agencies	Coordinate with other departments/agencies to uphold review timeframes and resolve delays	Number of interagency meetings; improved compliance	Hold regular coordination meetings; share performance data	Promotes accountability and timely multi-agency reviews	Monthly, ongoing
Adjust workflows as needed	Refine internal processes and resource allocation based on monitoring results and feedback	Reduced deviations and improved processing times	Review data, solicit feedback, implement workflow changes as needed	Ensures adaptability and sustained performance	Quarterly, starting June 2025

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Recommendation 14b: Review and Update Administrative Rules to Establish Maximum Timeframes for Review:

The BD acknowledges the need to review and update the 1998 Administrative Rules, which were designed for sequential permit plan reviews but do not reflect current simultaneous multi-agency workflows. BD is actively revising these rules to align with modern, concurrent review processes—resulting in significant time savings and clearer expectations for applicants and agencies. A key focus of the revision is to ensure compliance with the State of Hawaii Historic Preservation Division’s (SHPD) requirements under HRS 6e-42, which mandates SHPD review and comment on potential effects to historic properties. BD is working with Corporation Counsel to finalize these updates and is targeting December 2025 for completion and adoption.

**Action Plan
 Review and Update Administrative Rules to
 Establish Maximum Timeframes for Review**

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Review and map current workflows	Analyze and document actual permit review processes, including all agency touchpoints and SHPD coordination	Completed process maps and workflow documentation	Convene process mapping team; gather input from all participating agencies	Ensures rules reflect real, current practices and interagency dependencies	By June 2025
Draft revised Administrative Rules	Update rules to establish maximum review timeframes and procedures for concurrent, multi-agency reviews	Draft of revised Administrative Rules completed	Collaborate with Corporation Counsel and agency partners; draft new language	Aligns rules with efficient, modern review practices and statutory requirements	By September 2025
Address SHPD and statutory requirements	Integrate HRS 6e-42 compliance and procedures for SHPD review and comment into the updated rules	SHPD coordination procedures included in draft	Consult with SHPD and legal counsel; incorporate required procedures	Ensures legal compliance and effective historic property review	By September 2025

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Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Solicit stakeholder and public input	Share draft rules with agencies, stakeholders, and the public for feedback and improvement	Documented feedback and summary of revisions	Hold review sessions, collect comments, revise draft as needed	Promotes transparency, buy-in, and practical implementation	By October 2025
Finalize and adopt updated rules	Complete legal review, finalize language, and formally adopt new Administrative Rules	Adoption of new Administrative Rules	Submit for approval; complete formal adoption process	Establishes enforceable, up-to-date review timeframes and procedures	By December 2025

Finding 3: Redundant Data Collection

Recommendation 15: Reduce Redundant Data Collection.

The BD agrees that reducing redundant data collection by automating data entry—such as auto-populating fields—will improve efficiency and reduce manual errors in the permitting process. BD recognizes that collaboration with the Department of Information Technology’s Geographic Information System (GIS) Section is essential for this enhancement. With the addition of an Information Systems Analyst IV (ISA IV), BD estimates this improvement can be achieved within three years. Automating data population will streamline the application process, reduce administrative burden, and improve the customer experience.

**Action Plan
 Reduce Redundant Data Collection**

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Assess redundant data collection points	Identify all fields in the permit process where data is repeatedly entered or manually copied	Comprehensive list of redundant data fields	Review current forms and workflows; consult staff and applicants	Establishes baseline for automation efforts	By March 2026

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Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Collaborate with GIS and IT teams	Work with Department of IT's GIS Section to design auto-population solutions for identified fields	Draft integration plan and technical requirements	Schedule planning meetings; define data sources and integration points	Ensures technical feasibility and effective data integration	By June 2026
Secure IT staffing	Request and hire an Information Systems Analyst IV (ISA IV) to support automation development	ISA IV position filled and onboarded	Prepare justification, submit hiring request, complete recruitment	Provides necessary technical expertise for project	By December 2026
Develop and implement automation	Configure and deploy auto-population features in the permit system	Automated data population live in production system	Develop, test, and roll out automation; provide staff training	Reduces manual entry, errors, and administrative burden	By June 2027
Monitor and evaluate impact	Track reduction in manual data entry and user feedback on process improvements	Quarterly reports on efficiency gains and error rates	Collect usage data, survey users, adjust automation as needed	Ensures continuous improvement and customer satisfaction	First report by September 2027; ongoing quarterly

Finding 4: Manual Processes Drives the Workflow

Recommendation 16: Eliminate Manual Processes.

The BD recognizes the importance of eliminating manual processes to improve efficiency and reduce human error in the permit application process. Previously, residential permit descriptions required manual rewriting by clerks. In June 2024, BD implemented an automated system that now auto-populates permit descriptions from custom fields, significantly streamlining the process and minimizing manual data entry. BD remains committed to further automating workflows and eliminating any remaining manual steps to enhance operational efficiency and customer experience.

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**Action Plan
 Eliminate Manual Processes**

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Implement automated permit description population	Auto-populate residential permit descriptions from custom fields (completed March 2025)	100% of new residential permits use auto-generated descriptions	Configure system fields; test automation; train staff	Eliminates manual rewriting, reduces errors, and saves time	Completed March 2025
Monitor automation effectiveness	Track error rates and staff feedback on new automated process	Quarterly report on error rates and process issues	Collect data from permit system; survey clerks and applicants	Ensures automation is functioning as intended	First report June 2025; ongoing quarterly
Identify and automate remaining manual processes	Review all permit workflows to find other manual steps suitable for automation	List of remaining manual tasks and automation plan	Map workflows; prioritize automation opportunities; develop solutions	Drives continuous improvement and greater efficiency	By December 2025
Evaluate and expand automation capabilities	Assess potential for further automation, such as AI-driven data entry and validation	Recommendations for next-phase automation	Research best practices; consult IT and vendors; pilot new features	Keeps BD at the forefront of permit process innovation	By March 2026

Finding 5: No Contact Validation and Categorization

Recommendation 17: Validate and Categorize Contract Information.

The BD acknowledges that validating and categorizing contract information would significantly improve the accuracy and efficiency of the permitting process. Implementing this enhancement

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requires integration with the State Department of Commerce and Consumer Affairs (DCCA) Professional Vocational Licensing (PVL) system, which manages professions and vocations, including contractors. Prior use of the integration proved problematic and left BD verifying information manually.

With the addition of an Information Systems Analyst IV (ISA IV), BD estimates that this enhancement can be completed within two years, provided there is sufficient collaboration and technical support for seamless system integration.

Action Plan
Validate and Categorize Contract Information

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Collaborate with DCCA PVL Tyler Support, Maui County, and IT teams	Coordinate with DCCA PVL to enable secure data exchange and system integration	Signed agreement and technical integration plan	Initiate discussions; define data access protocols; agree on technical requirements	Ensures access to authoritative, real-time licensing data	By June 2026
Secure IT staffing	Request and hire an Information Systems Analyst IV (ISA IV) to support integration and automation	ISA IV position filled and onboarded	Prepare justification; submit hiring request; complete recruitment	Provides technical capacity for project implementation	By December 2026
Develop and implement integration	Build and test system interface to validate and categorize contract/license information automatically	Automated validation and categorization live in system	Configure integration; test with sample data; train staff and applicants	Reduces errors and manual effort; improves permit accuracy	By April 2027
Monitor and evaluate impact	Track system performance, error rates, and user feedback after implementation	Quarterly reports on validation accuracy and efficiency	Collect data; analyze trends; adjust process and system as needed	Ensures continuous improvement and customer satisfaction	First report by July 2027; ongoing quarterly

Finding 6: Insufficient Clarity to Guide Data Collection

Recommendation 18: Refine “More Information” Screen.

The BD recognizes the importance of refining the “More Information” screen to improve the accessibility, clarity, and consistency of permit data for both staff and applicants. BD is actively revising custom fields within the “Type” and “More Info” screens to ensure that displayed information is user-friendly, accurate, and consistent across all permit types. This initiative will streamline data presentation and enhance the overall user experience.

**Action Plan
 Refine “More Information” Screen**

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Review and assess current screens	Evaluate existing “Type” and “More Info” screens and identify fields needing revision	Comprehensive assessment and list of required changes	Gather user feedback; audit current fields and data presentation	Establishes baseline for targeted improvements	By June 2025
Revise custom fields and layout	Update custom fields and reorganize layout for clarity, consistency, and ease of use	Revised field structure and improved screen layout	Collaborate with IT; design and test new field configurations	Ensures information is accurate, clear, and user-friendly	By September 2025
Implement and deploy enhancements	Launch updated “More Information” and “Type” screens in the permit system	New screens live in production system	Finalize changes; deploy updates; notify and train users	Improves user experience and data accessibility	By December 2025
Monitor and collect feedback	Gather feedback from users post-implementation and make further refinements as needed	User satisfaction surveys and feedback reports	Distribute surveys; review feedback; plan additional adjustments	Supports continuous improvement and best practices	First review by March 2026; ongoing quarterly

Action Plan

Finding 7: Building Division Uses Outdated Forms

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Recommendation 19: Eliminate Legacy Forms.

The BD acknowledges the importance of eliminating legacy forms to streamline and modernize the permit application process. BD is actively revising key forms, including the Ownership Declaration, Project Declaration (contractor), and Transfer forms (owner, contractor, design professional). While integrating these forms into the EnerGov system is a desirable and strategic objective, it is a complex undertaking that requires new workflow development, historic data preservation, and e-signature integration to ensure compliance and full functionality.

BD anticipates that full implementation of this enhancement will take approximately five years. During this period, BD will collaborate closely with IT teams and stakeholders to ensure a seamless transition to an automated, integrated system that improves efficiency and user experience.

**Action Plan
 Eliminate Legacy Forms**

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Revise and standardize key forms	Update Ownership Declaration, Project Declaration, and Transfer forms for clarity and completeness	Revised forms approved and available for use	Review and update forms; consult with legal and process experts	Ensures forms are accurate, compliant, and user-friendly	By June 2025
Develop digital workflows and integration	Design new EnerGov workflows for revised forms and plan for e-signature and data preservation	Digital workflows mapped and documented	Collaborate with IT; define requirements; create workflow designs	Supports automation and seamless data management	By December 2026
Pilot digital forms and e-signature	Implement pilot for at least one form in EnerGov with e-signature capability	Pilot launched; feedback collected	Configure system; train users; collect and analyze pilot results	Tests feasibility and gathers user feedback for full rollout	By December 2027

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Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Fully integrate all forms in EnerGov	Automate and integrate all revised forms into EnerGov, preserving historic data and enabling e-signature	100% of targeted forms available digitally	Complete system configuration; migrate data; finalize integration	Achieves full elimination of legacy forms and manual processes	By March 2028
Monitor and optimize new processes	Track user adoption, error rates, and efficiency gains; refine workflows as needed	Quarterly performance and satisfaction reports	Collect usage data; survey users; implement improvements	Ensures continuous improvement and long-term sustainability	First report by June 2028; ongoing quarterly

Finding 8: Not Utilizing Digital Signature Feature.

Recommendation 20: Enable Digital Signatures.

Tyler Technologies’ Enterprise Permitting & Licensing (EPL or Energov) system does not currently offer a built-in electronic signature feature for applicants within the permit application process. While the system provides a robust platform for online permit submission, document uploads, workflow automation, and centralized data management, it does not natively support electronic signatures as part of the applicant workflow.

Applicants are able to upload signed documents, and digital signatures may be utilized in related processes—such as inspections or internal approvals—but the core EPL permit application workflow does not include integrated e-signature capabilities at this time. BD will continue to monitor Tyler’s product updates and explore integration options with third-party e-signature solutions to address this functionality gap and further streamline the permitting process.

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**Action Plan
 Enable Digital Signatures**

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Assess current EPL e-signature capabilities	Review EPL documentation and consult with Tyler Technologies on native e-signature options	Confirmation of current system limitations	Meet with Tyler support; review product documentation	Clarifies system capability and compliance need	June 2025
Identify and evaluate third-party e-signature integrations	Research compatible e-signature platforms and integration methods with EPL	List of viable integration solutions	Survey available products; consult IT and legal for compatibility and compliance	Enables secure, compliant e-signature workflow	December 2025
Initiate pilot integration of selected e-signature tool	Test integration of chosen e-signature platform with EPL	Successful pilot; applicant and staff feedback	Configure sandbox environment; conduct pilot with select users	Moves toward seamless digital permitting process	March 2026
Update policies and train staff/applicants	Revise internal policies and provide training on new e-signature process	100% relevant staff trained; positive feedback	Develop training materials; conduct sessions; update documentation	Ensures adoption and compliance	September 2026
Monitor user experience and effectiveness	Collect feedback and track processing times and error rates post-implementation	Improved efficiency; reduced processing errors	Implement feedback forms; review metrics quarterly	Supports continuous improvement	Ongoing (quarterly)

Finding 9: Improve Accountability and Transparency

Recommendation 21- Define Application Completeness by Ordinance.

The BD recognizes that the current Hawai'i County Code outlines permitting requirements, but lacks a clear, codified definition of "application completeness," which can cause confusion for applicants and inconsistent review practices. BD agrees that establishing a comprehensive

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definition of application completeness through a formal Ordinance will provide greater transparency, consistency, and efficiency in the permitting process. Codifying these requirements will also support best practices by making completeness standards accessible and enforceable for both staff and the public.

Action Plan
Define Application Completeness by Ordinance

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Review best practices and existing codes	Analyze local, state, and national examples for defining application completeness and intake checklists	Summary of best practices and model ordinance language	Research other jurisdictions; consult best practice guides and legal counsel	Ensures new ordinance aligns with proven, effective approaches	By September 2025
Draft ordinance language	Develop clear, comprehensive ordinance language defining application completeness for all permit types	Draft ordinance completed and internally reviewed	Collaborate with stakeholders; draft and circulate ordinance language	Provides a transparent, enforceable standard for all applicants	By December 2025
Solicit stakeholder and public input	Share draft ordinance with staff, agencies, and the public for feedback and refinement	Documented feedback and summary of revisions	Hold review sessions; collect written comments; revise draft as needed	Promotes buy-in, clarity, and practical implementation	By March 2026
Introduce and adopt ordinance	Submit finalized ordinance to County Council for consideration and adoption	Ordinance adopted and published	Prepare legislative materials; present to Council; support adoption	Establishes legal standard for application completeness	By September 2026
Develop and publish intake checklists	Create and publish clear checklists for each permit type, based on the new ordinance	Checklists available online and at permit counter	Draft, review, and publish checklists; train staff on new procedures	Supports consistent, efficient, and fair application screening	By September 2026

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Recommendation 22- Implement a Formal Complaint Handling Process.

The BD agrees with the recommendation to implement a formal complaint handling process. BD recognizes that the high volume of permit complaints has made it challenging to respond effectively and in a timely manner. Establishing a structured process will enable BD to better track, categorize, and resolve complaints, ensuring consistent, transparent, and fair responses.

**Action Plan
 Implement a Formal Complaint Handling Process**

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Develop complaint handling policy	Draft formal policy outlining steps for receiving, categorizing, tracking, and resolving complaints	Policy approved and distributed to staff	Research best practices; draft policy; review with leadership	Establishes a consistent, transparent complaint process	By July 2025
Implement complaint tracking system	Configure or acquire a system to log, track, and monitor complaints	Complaint tracking system operational	Identify system needs; configure or procure solution; train staff	Enables timely and accurate tracking and reporting	By September 2025
Train staff on new procedures	Conduct training for all relevant staff on the formal complaint process	100% of staff trained and knowledgeable	Develop training materials; schedule and deliver sessions	Ensures process is followed consistently and effectively	By October 2025
Launch public complaint submission portal	Provide an accessible online portal for submitting and checking status of complaints	Portal live and accessible to the public	Design and implement portal; test usability; announce availability	Improves access and transparency for customers	By November 2025

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Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Monitor, review, and report on complaints	Track complaint resolution times, outcomes, and customer satisfaction; report quarterly	Quarterly reports on complaint trends and resolution	Collect data; analyze trends; share findings with leadership	Supports continuous improvement and accountability	First report by January 2026; ongoing quarterly

Recommendation 23: Integrate Lean Six Sigma in Staff Development.

The BD recognizes the value of Lean Six Sigma (LSS) as a proven methodology for improving operational efficiency, reducing waste, and enhancing service quality in government. By adopting LSS principles, BD aims to streamline workflows, standardize processes, and foster a culture of continuous improvement. BD will begin by training supervisors in Lean Six Sigma before December 2025, with plans to expand training to additional staff as the program matures. This approach will help BD identify inefficiencies, implement data-driven solutions, and improve service delivery for both staff and the public.

**Action Plan
 Integrate Lean Six Sigma in Staff Development**

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Launch supervisor LSS training	Enroll all BD supervisors in Lean Six Sigma Yellow Belt (or equivalent) training	100% of supervisors complete initial LSS training	Identify training provider; schedule sessions; track completion	Builds internal leadership and capacity for process improvement	By December 2025
Expand staff LSS training	Offer Lean Six Sigma training to additional staff based on pilot results and operational needs	At least 25% of staff trained in LSS by end of 2026	Assess training needs; enroll staff; monitor participation	Embeds continuous improvement culture across the organization	By June 2026

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Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Establish LSS performance tracking	Implement system for tracking LSS project outcomes and process improvements	Quarterly reports on LSS project impacts	Collect data from projects; analyze results; report to management	Ensures accountability and sustains improvement momentum	First report by December 2026; ongoing quarterly
Communicate and celebrate results	Share LSS successes and lessons learned with all staff and stakeholders	Number of communications and staff engagement metrics	Prepare newsletters, presentations, and recognition events	Builds buy-in and reinforces a culture of continuous improvement	Ongoing, starting December 2026

Finding 10: No Policies and Procedures

Recommendation 24: Establish Policies and Procedures.

The BD acknowledges the critical importance of establishing comprehensive policies and procedures to ensure consistency, transparency, and efficiency in operations. While initial steps—such as collecting checklists and holding monthly inspection section meetings—are underway, BD recognizes that a formal, cohesive set of policies and procedures is essential for improving service quality and operational effectiveness.

Due to limited internal resources, BD plans to procure a consultant to assist in developing these policies and procedures. This initiative is a top priority, as clear and standardized procedures are fundamental to delivering high-quality, consistent services.

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**Action Plan
 Establish Policies and Procedures**

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Collect and review existing materials	Gather all current checklists, informal policies, and procedures for evaluation and integration	Comprehensive inventory of existing resources	Assign staff to collect documents; provide to consultant	Establishes baseline for formalization and standardization	By December 2025
Develop scope of work for consultant	Define objectives, deliverables, and expectations for consultant-led policy and procedure development	Scope of work document completed and approved	Consult stakeholders; draft and review scope with leadership	Ensures project is focused and aligned with BD's priorities	By March 2026
Procure and onboard consultant	Select and contract with a qualified consultant to lead the policy and procedure development process	Consultant hired and project initiated	Issue RFP; evaluate proposals; complete contracting and onboarding	Brings expertise and capacity to address resource limitations	By June 2026
Draft comprehensive policies and procedures	Develop formal, written policies and procedures covering all key BD operations and functions	Draft policies and procedures completed	Consultant drafts documents; review with BD staff and leadership	Ensures consistency, transparency, and operational efficiency	By December 2026
Solicit feedback and finalize documents	Share drafts with staff and stakeholders for input; revise and finalize as needed	Final policies and procedures approved	Hold review sessions; collect feedback; incorporate revisions	Promotes buy-in and ensures practicality and clarity	By March 2027

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Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Implement and train staff	Roll out new policies and procedures to all staff and provide training on application and compliance	100% of staff trained; policies in daily use	Schedule training sessions; distribute materials; monitor adoption	Ensures effective and consistent application across the division	By June 2027

Finding 11: Limited Management Oversight

Recommendation 25: Increase [Inspection] Management Oversight.

The BD acknowledges the importance of enhanced supervisory oversight for inspection staff. Equipping Supervising Inspectors with essential tools—such as vehicles, iPads, and cell phones—will improve their ability to monitor, support, and guide field inspectors effectively. While full implementation will require time and resource allocation, BD is prioritizing this effort. In the interim, BD will immediately require regular ride-alongs to strengthen supervision and accountability. These actions, combined with the ongoing development of formal policies and procedures, will ensure consistent, high-quality inspections and effective team oversight.

**Action Plan
 Increase Inspection Management Oversight**

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Equip Supervising Inspectors	Provide vehicles, iPads, and cell phones to all Supervising Inspectors	Percentage of Supervising Inspectors equipped with all tools	Assess needs; procure equipment; distribute to staff	Enables effective field oversight and communication	100% equipped by June 2025
Implement regular ride-alongs	Require Supervising Inspectors to conduct scheduled ride-alongs with staff inspectors	Number of ride-alongs per month; feedback reports	Develop schedule; document observations and feedback	Fosters real-time feedback, quality control, and accountability	Immediate, ongoing monthly

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Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Develop oversight policies and procedures	Create formal guidelines for inspection oversight, reporting, and performance review	Oversight policy approved and distributed	Draft policies; review with leadership; train staff	Standardizes expectations and ensures consistent supervision	By December 2025
Monitor and evaluate oversight effectiveness	Track inspection quality, staff performance, and feedback from Supervising Inspectors	Quarterly oversight and performance reports	Collect data; review reports; implement improvements as needed	Supports continuous improvement and high-quality inspections	First report by June 2026; ongoing quarterly

Finding 12: Lack of Training

Recommendation 26: Develop a Training Program.

The BD is committed to ensuring that all relevant staff receive comprehensive and ongoing training on the latest Building, Electrical, and Plumbing model codes. BD routinely schedules training sessions to keep staff informed of code changes and maintain high proficiency in code application. For electrical work, BD follows the National Electric Code (NEC) and provides targeted NEC training for staff involved in electrical permitting and inspections. While BD does not permit PV generating plants per Ordinance 25-22, all permitted electrical work complies with the NEC.

**Action Plan
 Develop an Inspection Training Program**

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Schedule regular code update trainings	Organize training sessions on Building, Electrical, and Plumbing model code updates	Number of trainings held; % staff trained	Identify code changes; schedule sessions; track attendance	Ensures staff remain current and proficient in code application	Quarterly, ongoing
Provide NEC training for electrical staff	Deliver targeted National Electric Code (NEC) training for electrical permitting staff	100% of electrical staff complete NEC training	Develop curriculum; enroll staff; monitor completion	Maintains compliance and safety in electrical permitting	Annually, ongoing
Track and document staff training	Maintain records of all training sessions and staff participation	Up-to-date training logs and compliance reports	Implement tracking system; update logs after each session	Demonstrates compliance and supports accountability	Ongoing
Update training materials as needed	Revise and update training resources to reflect code changes and regulatory developments	Updated materials available for all staff	Review code changes; update manuals, presentations, and handouts	Ensures training is accurate and up to date	Within 3 months of code update

Finding 13: Lack of Critical Enhancements

Recommendation 27: Opportunities for Criteria Enhancements.

The Building Division (BD) appreciates the auditor's inspection recommendation regarding opportunities for criteria enhancements within the Inspection Module. BD is committed to leveraging this guidance to further strengthen operational efficiency, data integrity, and inspection quality. As part of our ongoing configuration of the Inspection Module, BD will implement tiered access privileges to prevent inspectors from backdating inspection reports, ensuring the accuracy and reliability of inspection data. Additionally, BD IT has developed zone-based inspection tracking and is prioritizing the creation of reports summarizing deficiencies and trends to support equitable workload assignment and continuous improvement.

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To expedite these enhancements and ensure robust implementation, BD is seeking to add an Information Systems Analyst IV (ISA IV) to the team. The full configuration of the Inspection Module is expected to be completed within one year, with progress monitored through measurable outcomes and regular reviews.

Action Plan
Opportunities for Critical Inspection Enhancements

Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Implement tiered access privileges	Configure user roles to restrict report editing and prevent backdating	No unauthorized backdating incidents; audit log reviews	Define access levels, update system permissions, test safeguards	Ensures data integrity and compliance	July 2025
Develop and deploy deficiency and trend reports	Create automated reports summarizing deficiencies, trends, and corrective actions	Reports generated and reviewed in management meetings	Design report templates, automate data extraction, schedule regular report dissemination	Supports continuous improvement and transparency	January 2026
Expedite module enhancements by hiring ISA IV	Recruit and onboard an Information Systems Analyst IV to accelerate configuration	Position filled; project milestones met ahead of schedule	Post job, conduct interviews, onboard candidate, assign to project	Increases capacity for timely and effective enhancements	March 2026
Standardize inspection criteria and templates	Review and update inspection checklists and criteria for consistency and clarity	Updated templates in use; positive staff feedback	Audit current criteria, consult stakeholders, revise templates, train staff	Improves inspection quality and consistency	June 2026

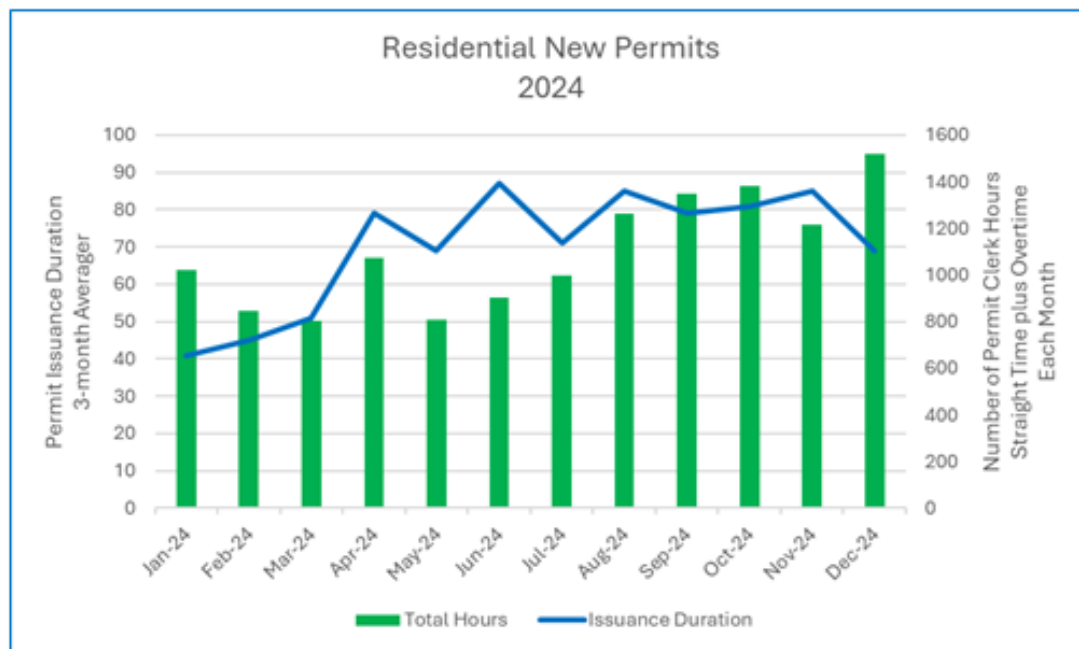
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Action Item	Specifics	Measurable Outcome	Achievable Steps	Relevance to Objective	Time-Bound Deadline
Provide training on new criteria and system tools	Deliver targeted training sessions for staff on updated module features and criteria	100% staff trained; training assessments above 80% pass rate	Develop training materials, schedule sessions, conduct assessments, gather feedback	Ensures effective adoption and sustained improvement	June 2026
Monitor and review progress	Establish regular progress reviews and feedback mechanisms	Quarterly progress reports; documented improvements	Schedule review meetings, collect feedback, adjust action plan as needed	Maintains accountability and supports ongoing adaptation	Ongoing (quarterly)

Conclusion

In summary, BD is committed to continuous improvement through a combination of process optimization, technology-driven solutions, and expanded collaboration across departments and agencies. BD remains focused on improving access, transparency, and education for all users to enhance their ability to navigate the permitting system confidently. By investing in additional IT resources and training, BD will continue to refine workflows, eliminate manual processes, and establish clear policies and procedures to ensure consistency and efficiency.

BD noted the auditor did not identify a constraint with permit clerks. However, BD's internal data from 2024 clearly demonstrates that a shortage of clerical staff directly contributed to significant delays in permit issuance. This challenge was exacerbated by high application volumes and an interface outage in March 2024 with the electronic plan review application, which placed additional strain on existing staff and extended processing times.



To proactively address this issue and prevent future delays, BD has determined that at least two additional clerical positions are necessary to maintain efficient permit processing. Increasing clerical capacity will help ensure timely document intake, reduce backlogs, and improve communication with applicants and stakeholders. This staffing enhancement aligns with best practices for streamlining permitting processes, as insufficient staffing is a well-documented factor in permit delays across jurisdictions.

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BD seeks to secure the resources including additional clerical staff and an ISA IV needed to support operational efficiency and uphold service standards for the community. By investing in additional clerical staff, BD will be better positioned to manage workload fluctuations, minimize processing times, and deliver a more responsive permitting experience.

Our commitment to performance data, ongoing staff development, and effective collaboration will continue to strengthen our operations, improve customer outcomes, and foster a transparent, efficient permitting process. The BD remains dedicated to these goals and will continue to work toward providing the highest standards of service and safety to our community.

Sincerely,



Neil A. Azevedo
Acting Director
Department of Public Works

Attachments

Report Regarding Operations within the Building Code Division of the Hawai'i County Public Works Department. An excerpt from Communication 36.1 (2022-24)²⁵:

Mitchell D. Roth
Mayor

Lee E. Lord
Managing Director



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Stephen M. Pause, P.E.
Director

Malia Kekai
Deputy Director

MEMORANDUM

Date: 12 December 2022

To: County Council
Cost of Government Commission
Other Stakeholders

From: Stephen Pause, PE, Director 

Subject: Transmittal of "Report Regarding Operations within the Building Code Division of the Hawaii County Public Works Department"

Attached is the report that discusses the findings from an assessment of operations in the Building Division of Department Public Works. James Tinner was retained by the Administration in August 2022 to evaluate the inefficiencies within the Building Division specifically as they may lead to delays in intake, processing, and issuance of building permits. In addition to his familiarity with the Energov (EPIC) permitting software, Mr. Tinner has a wealth of experience in code enforcement and administration as a former building official, plans examiner, building inspector, and fire marshal in the Pacific Northwest.

The report provides a number of recommendations, with some similar to what our Building Division is already working on, and others that are more nuanced and require a longer-term or more strategic implementation. A summary is provided below.

In-Progress by Building

TINNER RECOMMENDATION	STATUS
Look into third-party plan review services	Met with HGEA to discuss union issues; initial feedback is not positive
Eliminate the need for applicant to come back to permit center to obtain permit placard	Applicants are now able to print their permit after issuance
Eliminate "sessions" in Bluebeam Revu process	Evaluating effect of eliminating "sessions" in Bluebeam Revu

County of Hawai'i is an Equal Opportunity Provider and Employer.

²⁵ Lee Loy, Susan L.K. *Supporting material for Communication 36. Communication 36.1 (2022-24)*. <https://records.hawaiicounty.gov/WebLink/0/doc/1049842/Page1.aspx> Accessed: 4/7/2025.

Future Attention

TINNER RECOMMENDATION	COMMENT
Implement a technology fee to pay for enhancements to Energov	County does not presently charge a fee
Investigate increasing plan review fees to industry standard (65% of permit fee)	County presently charges 20% permit fee upfront
Conduct Lean Process Improvement training https://www.lean.org/ The lean process is a method for creating a more effective business by eliminating wasteful practices and improving efficiency.	Reviewing County permitting process in a structured manner could drive out inefficiency and eliminate non-value-added steps
Provide Public Duty Doctrine training for staff	Noted
Investigate allowing building plans reviewers performing structural review for simple projects	Will consider after assessing Plans Examiner workload once all vacancies are filled (only 4/7 positions are presently filled); currently, Structural Engineer's reviews reduces the workload on Plans Examiners who are primarily focused on life-safety compliance
Investigate allowing building inspectors to perform combination inspections	Requires consultation with HGEA regarding work jurisdiction; Inspector positions currently require Supervisory Electrician Licenses for Electrical Inspectors and Journeyman or Master Plumber Licenses for Plumbing Inspectors
Define by Ordinance what constitutes a complete permit application	Will evaluate need for an Ordinance after the effectiveness of the REVISED Application Checklist is implemented.
Provide support to allow Building Chief and Deputy to participate in the ICC Committee Action Hearings and Annual Business Meetings	Noted
Provide additional GIS integration within EPIC to automatically let applicant know if subject property has restrictions such as flood plain or geological hazards	Noted as a future enhancement that can be used to determine when Engineering Review will be required for Building Permits

The Building Division is working on a number of approaches to improve permitting. These are summarized below.

ACTION	DESCRIPTION
Communication	Improve public outreach with stakeholders; hold "talk story" sessions with design professionals, drafters, contractors, others; share review checklists; improve permit issue metric and include average duration for permits to be issued

Re-design EPIC Website	Organize and make website user-friendly, including a complete list of forms that are needed in the permitting process; include links to related agencies.
Dedicated IT Support for Energov (staff)	Improve staff efficiency by having a dedicated IT specialist available to help troubleshoot customized automation unique to the Building Division
ICC Training and Certification for Inspectors and Plan Examiners	Create classification of work for ICC Certification that recognizes training and level of skill of Inspectors and Plans Examiners
Staff Vacancies	Develop strategy for hiring and retaining staff; 5-step Plans Examiners for on-the-job training (done); Certification Classification for Inspectors (ongoing).
Reassess Duties for Permit Clerks	Assessed Permit Clerk duties; revising processes for permit application, resubmittal and revisions to ensure that documents are complete and correctly formatted to enable Permit Clerk to maximize their productivity
Staff Meetings	Weekly "Brainstorming" Meetings to identify areas for improvement; action items identified in table and progress tracked.
e-Filing	Organize documentation in shared drive readily accessible to the Building Division; this creates consistency through available information resources and uniform procedures
Utilize filters to identify permits that should be prioritized	Deployed Priority Tiles to identify projects that can be expedited based on the scope of work that is essential to community life and safety; provides for educational needs; and is limited and simple for quick review; Priority Tiles used at permit intake, plan review, and permit out-processing
Revise Permit Application Checklist	Provide more clarity on permit application requirements with weblinks to the appropriate agencies and forms; require the Design Professional to be listed as a Permit Contact; require Design Professional to review and certify the Application Checklist
Develop EPIC "Decision Engine" version of the Application Checklist	User-friendly version of the checklist
Create "Self-Certify" Permit Application	Applicants will have the option bypass the conventional Permit Intake to reduce processing time; if Permit Clerks confirm the permit is complete, then plans will go immediately to Plan Review; if applications are found to be incomplete, then they will be

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	rejected (cancelled); there is no fee assessment if the application is rejected; the conventional review by Permit Clerks will still be available where the permit application is "active" while awaiting corrections; once corrections are submitted then applications will await re-review in the queue before progressing
Reject Incomplete Permit Applications	Prohibit applications submitted as "place holders" that then requires Permit Clerks to contact them for missing information
Update Residential Plans Designer Checklist Already Posted on the Website	Update for 2018 International Residential Code (IRC) that applicants can use to create a complete set of plans
Finalize and Post Non-Residential/Commercial Designer Checklist on the Website	Finalize checklist for current Codes that applicants can use to create a complete set of plans
Plan Resubmittals and Revisions Format	Require Corrections Letter for Plan Resubmittals; require Design Professional Narrative for Plan Revisions; require all changes be annotated with the "Cloud and Delta" drafting method to highlight the extent of changes; utilize Bluebeam "compare" feature.
Three-strike Rule	Plan reviewer can mark up to three corrections and then approve, "as noted"; if more than three corrections needed, resubmittal will be required
Encourage Communication between Design Professional and Plans Reviewer during Review	Authorize Plans Examiners to have discussions with Design Professionals when design intent is not clear; annotate plans to document revision: "...per telecon with XX on date" instead of requiring resubmittals.
Consider No Plan Review - "Plans Subject to Field Inspection"	For Residential PV less than 10kW; Electric ONLY less than 200A; Plumbing ONLY less than 4-bathrooms.

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Director Lee Lord
Office of the Mayor
Hawai'i County, HI

Report regarding operations within the Building Code Division of the Hawai'i County Public Works Department

Project scope: To identify inefficiencies within the building division of the Public Works Department that may lead to delayed intake, processing, and issuance of building and/ or associated construction permits.

Project limitation: operations within the fire code division, public works permitting division, planning department and health department are outside of the scope of this report.

Methodology: Online research of permitting and legal information relative to building and associated permits as well as face to face interviews with building division permitting staff and a limited number of permit applicants. Interviews with staff were held between October 3, 2022-October 7, 2022. Staff interviews were representatives of permit clerks (permit technicians), inspectors, plans examiners and division managers. Below are general interview questions and generalized responses of each group that was interviewed.

Permit Clerks:

Q. How do you receive most of you permit applications?

A. Most are received electronically through the EPIC permit system.

Q. I understand that you use Tyler Energov as your permit records system. What does EPIC do that Energov does not do?

A. The permit clerks could not provide a clear answer to the question however it became clear to me that EPIC provide enhanced initial permit application ability for the applicants.

Q. Does EPIC require specific information such as building occupancy, construction type, height, etc. to be input by permit applicant before the application process can continue?

A. No

Q. Does EPIC provide automated geographic information such as whether a property is in a flood hazard zone to the permit applicant?

A. No

Q. It appears the owner declaration form and contractor declaration forms must be submitted as separate documents and are not part of the EPIC or Energov systems. Is that correct?

A. Yes, they are separate documents that must be provided by the permit applicant.

Q. Do you issue very many rooftop solar voltaic building permits and if so, can you tell me how many?

A. Yes, we issue a lot of them, but I can't tell you how many.

Do you require building permits for all rooftop solar installations?

A. Yes

Q. Are simple projects prioritized?

A. To some degree yes but there is no formal procedure for doing so.

Q. May I obtain a copy of your policy and procedure manuals?

A. We don't have policy or procedure manuals.

Q. I understand that Hawai'i state law requires that the county verifies the licenses of each contractor with each permit application. I also understand that the State will provide a list of licensed contractors for use in required contractor verification. Does the County utilize that list or do you perform an online search for contractor information with each permit application.

A. The information is within EPIC but it is not automatically validated. Permit Clerks validate the information prior to permit issuance.

Q. When staff meetings take place is a written meeting agenda distributed to staff?

A. No

Q. Your online checklist shows that once all reviews are approved, the applicant must come to the building division do have a permit placard printed to be posted on the jobsite. What is the purpose of the placard?

A. So that the inspector driving by knows there is a permit for the work being done.

Plans examiners:

Q. Do you use Bluebeam Revu to conduct your reviews?

A. Yes

Q. Is Revu integrated with Energov?

A. I don't think so.

Q. How do you know when a new project is ready for review?

A. (A little ambiguous). We are notified by the permit clerks.

Q. Do you prioritize simple projects to get them "out the door" more quickly?

A. Somewhat, yes.

Q. When minor corrections are needed on the plans do you redline them and approve the plans?

A. Sometimes.

Q. When corrective items are noted on plans do you attempt to contact the designer by phone and/ or email or do you always input the corrections into Energov without additional contact attempt methods?

A. Corrections are entered into Energov. We typically do not use additional contact methods.

Q. When are plans sent to the structural engineer for review?

A. When the other plans examiners determine structural review is needed.

Q. Are you familiar with the Public Duty Doctrine?

A. No.

Q. When workloads are overwhelming, do you utilize third party plan review?

A. We've done so on a vey short term basis in the past.

Q. Do you require the industry standard delta and revision cloud when changes are made on plans?

A. No

Q. Do you use the "compare" feature in Bluebeam Revu to identify what changes are made to different iterations of plans?

A. No

Q. Does your division use the "Sessions" feature of Bluebeam Revu?

A. Yes

Q. Do you have an ordinance or policy that defines what a "complete" set of plans is?

A. No

Q. Do you require an engineer or architect to analyze the impact of rooftop solar systems on the

building's roof structure?

A. Yes

Inspectors:

Q. Do you require licensed plumbers to perform plumbing inspections?

A. We have dedicated inspectors that perform plumbing inspections.

Q. Does state law require that plumbing inspectors be licensed plumbers?

A. Unsure

Q. Must final plumbing inspections be completed prior to calling for the building final inspection?

A. Yes

Q. Can the general contractor request plumbing inspections?

A. No. Only the plumbing contractor can request plumbing inspections.

Q. When electrical inspections are requested is the general contractor allowed to request the inspection?

A. No. Only the electrical contractor is allowed to request electrical inspections.

Q. Is there a state requirement that electrical inspectors be licensed electricians?

A. We believe that the answer is "yes"

Q. Do you allow building inspectors to perform inspections for minor plumbing and/ or electrical installations?

A. No

Q. When a rooftop solar installation is inspected, does the building inspector go on the roof to check the structural connections?

A. No

Q. When the rooftop solar installation electrical inspection is called for, does the electrical inspector look at the structural connections on the roof?

A. No

Q. Do you allow any level of self-certification for minor maintenance permits such as water heater change-outs?

A. No

Conclusions:

Permit processing systems are extremely complex. Without written documentation such as policy/procedure manuals it becomes extremely difficult to keep complex systems organized and predictable for permit staff and permit applicants. The result is inefficiencies, personal preferences, and some level of chaos creeping into the system. These items lead to non-predictability for permit applicants which in turn leads to unnecessary complaints to upper management and elected officials.

The lack of written meeting agendas leads to ineffective use of staff time during staff meetings. If there is no agenda, there should be no meeting.

As you know, there are a significant number of open plan review positions. This is not unique to Hawaii County but rather is an industry-wide concern. It's somewhat worsened by the low rate of pay being offered by Hawaii County. Third-party plan review is a possible solution and seems to be the trend in the industry.

The current plan review fees being charged might make it difficult to retain the services of third-party review. Current building plan review fee is 20% of the building permit fee. Industry standard and the fee called out in in the generic International Building Code (IBC) is 65% of the building permit fee. As you are aware, raising fees brings political implications.

Compartmentalization of duties among inspection staff also leads to inefficiencies as does assignment of virtually all structural plan review being performed by licensed engineering staff in the plan review section. Using licensed engineers to perform structural review projects scoped up to conventionally built single-family houses is extremely unusual in the industry. Finding a third-party plan review firm that would utilize this practice would hover somewhere where the needle is close to “Impossible”. There also appears to be an extreme over reliance on internal engineering staff even though the project has been designed by licensed design professions such as architects or engineers. The talents and expertise of internal licensed staff is best reserved for extremely complex structures. This over reliance appears to (at least in part) stem from extreme risk intolerance. Such intolerance can be partially muted with training in the tenants of the Public Duty Doctrine.

Rooftop photovoltaic systems are typically extremely light weight (typically less than 4 PSF) Research and experience in major southwest mainland jurisdictions has demonstrated that there is little benefit in requiring the time and expense of requiring licensed design professionals to design these systems. Washington State as example, specifically exempts systems meeting established criteria from requiring a licensed design professional. It’s estimated that well over 95% of rooftop systems fall within the limitations established by Washington State. Several jurisdictions have decided that building permits for these systems provide no benefit other than collection of permit fees so no longer require building permits but rather simply issue an electrical permit and ask the electrical inspector to verify required fire fighter access paths from the ground when they perform the electric inspection.

There are several other areas where staff can be better utilized such as allowing the building inspector to perform plumbing inspections at the same time as the framing inspection for simple structures such as single-family homes.

While there may be some benefit in not allowing the general contractor to call for plumbing or electrical inspections, the benefit is extremely minor but is quite an inconvenience to the permit holder. It is also a procedure I’ve not seen in my 34-year career.

There are some additional efficiencies that can be made but would require minor changes to the County Code.

Staff members I interviewed were all unaware of what a Lean Process Improvement program is. Lean process improvement program involves a Lean Consultant leading meetings, usually over several days where staff identifies every touch, movement, contact, flow, etc. of the permit application intake through issuance process and documents each (usually by writing each on a sticky note and attaching them to a wall). Each item is then questioned as to the necessity of why the item is being performed. If the item cannot be validated as either necessary or legally mandated, the item is deemed unnecessary and eliminated. The process typically results in a 15%-40% reduction in workload.

It is obvious that a great deal of time and money has been used to implement the Energov and EPIC systems. My limited observation of EPIC indicates to me that the implementation was intended to make

applying for a permit as painless for the applicant as possible and to a great extent looks to have been successful. This is particularly true given the challenges that Energov is well known for. While there are no perfect permit systems in existence, Tyler's Energov is well known in the building permit industry as being particularly problematic. With adequate revenues, the problems eventually always come to a resolution.

I've worked with several jurisdictions that have implemented Energov and one commonality seems to be that the sales team makes promises that the technical installation team can't keep or at least can't keep while staying within the contract budget. Typically, this results in added and unanticipated expenditures after the system goes live. Additionally, there are always things that permit and IT staff find they wished they had done differently. In conversation with building division staff there appears to be some of the same angst in this regard as I've heard from several other jurisdictions.

There is always some level of ongoing customization with any permit system therefore there is always a need for a revenue stream (in addition to annual maintenance charges) to pay for such customization.

It appears EPIC was designed to make permit application as easy as possible for applicants without predefined "you can't go to step B until you complete step A" types of requirements. While on the surface this methodology seems like great customer service, it's counterproductive by putting additional work on the permit clerks so actually results in a delay in permit processing. A better methodology is to utilize drop down pick lists and require applicants to choose the appropriate information from each pick list before they can move on to the next item. Doing so will reduce the workload of the permit clerks and keep the "chess clock" on the applicant's side until the application is completed. If that change is decided to be implemented, it will create a need for significant additional revenue for the vendor.

Another item noted is that there does not appear to be a user-friendly method for applicants to access GIS data via EPIC or Energov. I've heard this complaint from several developers.

The building chief (building official is the position title used in the International Building Code (IBC)) from what I've learned has had no participation in national code development. The same holds true for the assistant building chief. Each year, code change proposals are sent to the appropriate International Code Council (ICC) committee for consideration. The committees meet in the spring where testimony both pro and con are put under consideration and at the end of about a one-week session, the committees will send their recommendations forward for ICC staff to compile.

In the fall of each year, ICC holds their annual business meeting (ABM) where the full membership will listen to testimony both pro and con and then vote whether to accept the committee's recommendations. The ABM's are rotated around major mainland cities each year. These 11-day meetings not only give the building chief knowledge of what code changes will be in the next code cycle but also provides the building chief the knowledge of the reason behind each change. That knowledge gives them the ability to properly interpret the code changes as well as the ability to bring that knowledge back to the jurisdiction and pass it along to building division staff.

While travel around the nation is expensive, it's typically far less expensive than sending multiple staff to mainland training events. The current building chief has never been to one of these events.

Recommendations:

- Implement a technology fee to pay for enhancements to Energov. These fees are not unusual (typically around \$25.00 per permit).
- Investigate increasing plan review fees to industry standard (65% of the permit fee).
- Conduct Lean Process Improvement training for all building division staff (<https://www.lean.org>/<https://www.lean.org>). This will necessitate hiring a consultant proficient in the Lean process.
- Provide Public Duty Doctrine training for all building division staff. This can usually be facilitated by the jurisdiction's legal staff.
- Investigate allowing building plan reviewers performing structural review for simple projects.
- Investigate allowing building inspectors to perform combination inspections.
- Look into third-party plan review services.
- Define by ordinance what constitutes a complete permit application.
- Assuming that data connectivity is generally available across the jurisdiction, eliminate the need for the permit applicant to come back to the permit center to obtain a permit placard. Instead, provide access to be able to print and post the permit and an inspector to access permit information remotely when they feel necessary.
- Provide budgetary support to allow the building chief and assistant building chief to participate in the ICC Committee Action Hearings (spring meeting) and the ICC Annual Business Meetings (fall).
- Eliminate the use of "Sessions" in the Bluebeam Revu process. The same result can be achieved provided both Hilo and Kona are on the same Local Area network (LAN) without the inordinate amount of work setting up a "session" each review creates. Most jurisdictions where all review staff are on the same LAN have stopped using sessions.
- Provide additional GIS integration within EPIC to automatically let the permit applicant know if the subject property has restrictions such as flood plain or geologic hazards.

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