MOTION NO. 8716

1

2 A MOTION relating to implementation of
3 the Management Audit of the BALD PERMITS
4 Automation System.

5
6   WHEREAS, K.C.C. 2.20.035 states that the auditor's office

7 shall perform program results audits to determine whether the

8 desired results or benefits of a county program are being

9 achieved, whether the objectives established by the council are

10 being met, and whether the agency has considered alternatives

11 which might yield desired results at a lower cost, and

12   WHEREAS, the management audit of the BALD PERMITS

13 Automation System operated by the building and land development

14 division (BALD) was presented to and accepted by the council

15 committee-of-the-whole on May 29, 1992, and

16   WHEREAS, the PERMITS Automation System Audit contained

17 recommendations to improve the effectiveness of the BALD

18 PERMITS system, described in full in the Summary of Audit

19 Findings and Recommendations attached hereto as Exhibit A, and

20   WHEREAS, K.C.C. 2.20.050 states that agency actions will

21 be taken to correct deficiencies cited by the auditor, and

22 audited agencies will establish completion dates by which such

23 actions and changes will be implemented, and

24   WHEREAS, the executive's response to the audit generally

25 concurred with the audit findings and recommendations, and

26   WHEREAS, the executive's response identified steps taken

27 or planned to implement audit recommendations; but did not

28 specify completion dates for the majority of implementation

29 actions, and

30   WHEREAS, a matrix summarizing the timeframes stated in the

31 executive response is attached hereto as Exhibit B, and a draft

32 prioritization of audit recommendations is attached hereto as

33 Exhibit C;

NOW THEREFORE BE IT MOVED by the Council of King County:

A. The department of parks, planning and resources and the building and land development division shall provide a report to the council, no later than September 30, 1992, outlining actions which demonstrate BALD has complied with audit recommendations.

B. The report shall also detail which recommendations have not been implemented and the reasons therefore; activities necessary to complete the unimplemented recommendations; and dates by which implementation will occur. BALD shall make every effort to adhere to the priorities for implementation established in Exhibit C. The auditor's office shall evaluate the accuracy and completeness of the report prepared by the building and land development division.

PASSED this _____6th_____ day of ___July_____, 19_92_.

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

_____
Chair

ATTEST:

_____
Clerk of the Council

SUMMARY OF FINDINGS AND RECOMMENDATIONS

FINDING II-A. <u>Additional data research and analysis during the systems development life cycle could have resulted in the RFP specifications and contract award focusing on the specific permitting processes and tasks most likely to benefit from automation.</u>

RECOMMENDATIONS

● **BALD management should implement the following actions to improve the applicability of the PERMITS system to BALD's permit processes:**

II-A-1. Review the original RFP specifications to identify those tasks that were applicable to the subdivision and short subdivision processes but not included in PERMITS. Evaluate the applicability of those tasks to current needs. Consider development of a PERMITS system enhancement to accomplish those tasks.

II-A-2. Prior to submitting future requests for development of new PERMITS modules, perform an analysis of the potential benefits of the enhancements. Ensure that the enhancements can reduce permit processing problems and that they focus on those areas most likely to benefit from automation.

FINDING II-B. <u>User involvement in development of the automated permit processing system was limited to the automation committee representatives. As a result, section- and unit-level users' expectations and needs for the automated system were not met.</u>

RECOMMENDATIONS

● **BALD management should implement the following actions to maximize unit-level user involvment in planning for future PERMITS system modifications and/or enhancements:**

II-B-1. Establish procedures for obtaining user-level input regarding problems and potential enhancements. Include the procedures in the BALD supplement to the <u>Sierra PERMITS User Guide</u> (see related recommendation III-B-2).

II-B-2. Establish procedures, which include obtaining input from unit-level users and other County agencies, for evaluating and prioritizing the list of future enhancements. Consider using the in-house user group representatives in this process (see related recommendation III-C-1).

FINDING II-C. <u>Although general system implementation plans were developed during the feasibility study and RFP, no detailed plan was developed once the PERMITS system was purchased. As a result, BALD Automation Services staff spent their time "putting out fires" rather than working toward established objectives.</u>

RECOMMENDATIONS

● **BALD management should implement the following recommendations to increase the direction provided to Automation Services staff for implementing future PERMITS modifications and upgrades and responding to users' requests for support:**

II-C-1. Develop an annual work program for Automation Services. The program should prioritize both recurring workload and expected projects related to PERMITS.

II-C-2. Develop a system implementation plan to complete the remaining implementation steps of the original PERMITS system (i.e., reporting and situs file use). Update the plan to accommodate necessary deviations and implement future PERMITS enhancements and upgrades. Minimally, the plan should include time for planning development of PERMITS enhancements; documenting, testing, implementing, and evaluating the effectiveness of PERMITS enhancements and upgrades; and training users.

FINDING II-D. <u>A post-implementation evaluation of the PERMITS system was not conducted to determine whether the system: 1) met its formal objectives, 2) achieved anticipated cost savings, and 3) operated under adequate internal controls. As a result, BALD management did not implement necessary corrective actions.</u>

<u>RECOMMENDATIONS</u>

● **BALD management should take the following actions to determine the effectiveness of the PERMITS system and future enhancements and upgrades:**

II-D-1. Conduct a post-implementation evaluation of the current PERMITS system. Identify remaining unmet user needs for both BALD (including unit-level users) and other County agencies. Develop a list of enhancements needed to satisfy those needs. Conduct post-implementation evaluations of future enhancements and upgrades within six months after implementation.

II-D-2. Review the list of original RFP specifications which were not included in the contract. Determine whether modifying PERMITS to include those items would satisfy some of the unmet needs identified during the post-implementation evaluation. Include those that would be in the prioritized list of future enhancements.

● **The following recommendation would be initiated by the County Council rather than BALD.**

II-D-3. The County Council should consider initiating a standard EDP audit of the PERMITS sytem. The audit should focus on the effectiveness of system controls in preventing, detecting, and correcting errors. The audit should also include a review of the adequacy of the separation of responsibilities to ensure data integrity.

FINDING III-A. <u>Training provided to Sierra PERMITS users was both insufficient and inadequate, limiting their ability to use the system to its full potential.</u>

<u>RECOMMENDATIONS</u>

● **BALD management should implement the following actions to ensure that training is provided to all users in a timely manner:**

III-A-1. Conduct a training needs assessment in BALD sections and other County agencies which were not surveyed by audit staff to determine training required on a section and unit basis.

III-A-2. Include other County agency users in training sessions to enhance their understanding and use of the system.

III-A-3. Prepare an annual training program, schedule all users to attend, and obtain evaluation of the adequacy of training provided (including immediate feedback and delayed evaluations after users have had an opportunity to apply the techniques learned). Training provided should include basic, refresher, system updates and other specific areas identified in the needs assessments and trainee feedback.

III-A-4. Modify the training curriculum to ensure relevant screens and modules for sections and units are used so that personnel receive adequate training on "their" screens, as well as other system applications.

III-A-5. Set up a drop-in training center in the training conference room, staffed during preadvertised times to encourage staff needing assistance to obtain it.

III-A-6. Consider assigning a BALD Automation Services employee to sections or units either on a rotational basis or for a specified number of hours per day/week to assist units in achieving proficiency and to assist in determining areas where additional training is needed.

III-A-7. Provide in-depth training for a lead PERMITS staff person in each section and unit to promote consistent dissemination of PERMITS information to BALD staff (see related Recommendation III-C-1). Consider sending the lead PERMITS staff from each section

EXHIBIT A

and/or unit to the annual Sierra users' group meeting to receive the free training offered on recent system enhancements.

III-A-8. Maintain a record of system training received by each employee to be used to determine future training needs and budget requirements.

FINDING III-B. Documentation provided to PERMITS system users was both insufficient and inadequate, limiting their ability to use the automated system.

RECOMMENDATIONS

● **BALD management should implement the following actions to improve the availability and adequacy of user documentation:**

III-B-1. Provide a current edition of the Sierra PERMITS Users Manual (without modification) to each County employee who uses the system, including those in other County agencies. The manual should be provided in looseleaf format to facilitate subsequent updates and revisions.

III-B-2. Develop a supplement to the Sierra PERMITS Users Manual which incorporates information on customized PERMITS system features and modifications purchased by BALD; simple, step-by-step instructions for each section and unit, augmented by examples; and current "need-to-know" information. The supplement should contain an index, as well as cross-references to the various units' use of system features.

- The supplement should be centrally-developed (or centrally coordinated and reviewed) to promote standardization of system use. Central development may assist in identifying deficiencies in system usage and facilitate development of a training outline (see related Recommendation III-A-1).

- Consider the use of a contract with a technical writer to prepare complete user documentation, depending on BALD staff availability.

- Distribute a copy of the supplement to each system user, including other County agencies.

III-B-3. In conjunction with development of the Sierra PERMITS Users Manual supplement, develop a section- and unit-specific data dictionary, describing what each field represents to each unit and section. Distribute copies to each PERMITS user.

III-B-4. Revise the supplement to the Sierra PERMITS Users Manual and the section and unit data dictionary as system modifications or enhancements are made. Develop procedures to ensure all users receive Sierra PERMITS Users Manual updates, as well as the supplement and data dictionary revisions, prior to implementation of the changes. Consider having each employee sign-off to acknowledge receipt of the replacement pages. The updates and revisions should be used during training sessions conducted on system changes (see related Recommendation III-A-3).

III-B-5. Provide appropriate materials from the Technical Reference Manual to those PERMITS leads in sections and units with responsibility for technical functions such as setting up and maintaining user-defined tables, including routing tables. (See related Recommendation III-C-1.)

FINDING III-C. System support was inadequate to assist staff in using the PERMITS system effectively and efficiently.

RECOMMENDATIONS

● **BALD management should implement the following steps to improve the effectiveness of system support:**

III-C-1. Pinpoint responsibility for specific tasks related to providing user assistance by designating a staff person within each section and unit as a PERMITS lead. Responsibilities should be added to the job descriptions of the designated staff.

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Additional training should be provided to ensure a level of proficiency which enables them to provide accurate and timely assistance to unit staff (see related Recommendation III-A-7). Ensure that a replacement is designated and trained if one of the system leads changes duties or transfers. The PERMITS lead should remain the primary liaison between the section and Automation Services for problem resolution.

III-C-2. Establish a help center within Automation Services to provide immediate assistance by telephone to users. The need for assistance should diminish as other recommendations are implemented (e.g., training and documentation enhancements) and as users become more proficient at using the Sierra PERMITS System.

III-C-3. Develop a standard method for notifying users, in writing, of system revisions or procedural changes, e.g., distribute replacement pages to the Sierra PERMITS Users Manual or supplement (see related Recommendation III-B-4).

III-C-4. Review the work priorities and staffing requirements in Automation Services, based on current and projected needs, to ensure that users' needs can be met for reporting; system changes, updates, and enhancements; and problem resolution. The review should include an evaluation of the cost-effectiveness of using Automation Services staff for performing nonautomation duties, such as telephone and electrical coordination and installation services. Automation Services staff should maintain task time logs to document the actual time spent performing support activities.

III-C-5. Consider decentralizing some of the routine automation support tasks, e.g., screen design, table definitions, and report generation, currently assigned to Automation Services to enable Automation Services staff to respond to critical needs in a timely manner. The decentralized tasks should be assigned to the designated section and unit PERMITS system leads in accordance with Recommendation III-C-1 above.

III-C-6. Establish a formal process for the users' group meetings. Develop a schedule for meeting on a monthly basis, with a written agenda based on discussion topics solicited in advance. Maintain minutes of the meetings. Provide handouts to attendees to augment the discussion. Where appropriate, provide sufficient copies of the handouts for the attendees to disseminate to PERMITS users in their respective sections or agencies. Develop a process for formally notifying all PERMITS users of the results of the meetings.

III-C-7. Expand the users' group to include unit as well as section leads, designated in accordance with Recommendation III-C-1 above, to ensure that issues discussed will address needs from all levels: unit, section, BALD, and other County agencies.

III-C-8. Develop and document procedures for requesting and prioritizing routine and nonroutine requests for assistance. Include procedures for identifying and responding to issues to be addressed at each level: unit PERMITS system lead, section liaison, or Automation Services.

FINDING III-D. BALD has not established a systematic quality control program to ensure the validity of PERMITS system data. As a result, staff reported incomplete, inaccurate, inconsistent, and noncurrent data.

RECOMMENDATIONS

● **BALD management should take the following actions to assess and ensure the validity of system data:**

III-D-1. Validate the accuracy and completeness of PERMITS data by sampling (with statistical accuracy) data fields for each section and unit and comparing the electronic records to the source documents. Establish an acceptable level of data validity and an ongoing monitoring program to maintain the target level once achieved. Consider the use of a contract with a systems consultant to conduct the sample and recommend a monitoring program, depending on BALD staff availability.

III-D-2. Review and determine the need for designating responsible parties for data entry in each section and/or unit for both the short and long term. Evaluate the feasibility of using data entry support staff, rather than professional staff (e.g., inspectors, engineers,

and planners), given factors such as the availability of terminals and lack of training, to ensure timely and accurate input (see related Recommendation III-F-2).

III-D-3. For permits and applications processed by all sections, identify mandatory and optional data entry fields (application information and/or status), based on both BALD and other County agency needs, for permits processed by each section and unit. Ensure that these fields are clearly identified as mandatory or optional in the Sierra PERMITS Users Manual supplement (see related Recommendations III-B-2 and III-B-3).

III-D-4. Develop routine error and exception reports for all major permit/application types to ensure ongoing data quality control. Monitor the areas and frequency of required corrections to determine the need for additional training or system modifications or enhancements (see related Recommendation III-E).

III-D-5. Consider implementing expanded use of the PERMITS validation tables feature for PERMITS screens and other potential system enhancements, e.g., an enhancement which prevents Step B from being input if Step A data has not been input or is invalid.

III-D-6. Develop standard procedures for terminology and field usage among both units and sections to promote consistency, accuracy, and understandability of data. Include the procedures in the Sierra PERMITS Users Manual Supplement (see related Recommendation III-B-3).

III-D-7. Evaluate the need for duplicate files based on type of data maintained and used. Where determined appropriate, phase out duplicate files after quality control procedures have been implemented and the acceptable level of data validity has been achieved (see Recommendation III-D-1 above).

FINDING III-E. BALD has not effectively implemented available report writing software or PERMITS on-line reports to meet operational and management reporting needs.

RECOMMENDATIONS

● **BALD management should implement the following steps to establish an adequate reporting capability.**

III-E-1. Explore ways to maximize the use of the PERMITS resident reporting capability, including a review of "activity" level functions with unit and section management to determine potential applications; providing training and documentation to produce these reports; and providing system access for unit supervisors or other staff identified by section/unit management.

III-E-2. Reactivate the request to Sierra for PERMITS programming changes to provide reports at the project level. Subsequently assess the cost-effectiveness and utility of programming to allow development-level reporting.

III-E-3. Establish procedures for requesting, prioritizing, and providing nonroutine reports, to be run by Automation Services, for use by sections, units, and other user agencies.

III-E-4. Survey users to identify recurring or common reporting needs among multiple sections and units. Develop standardized reports to be produced by Automation Services staff for multiple users.

III-E-5. Develop report menus to enable units, sections, and other agencies to produce their own routine reports, selecting criteria such as time period, type of activity, and desired fields.

III-E-6. Train unit and section leads to use HP Access to develop the capability for independent use. Provide copies of the HP Access manual to unit and section leads and users in other agencies who use HP Access to produce reports. Ensure each unit is equipped appropriately and has log-on access to HP Access.

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III-E-7. Evaluate the feasibility of acquiring alternative reporting software such as QUIZ or PAL to facilitate report production. (Funding for additional report writing software was approved in the 1991 budget).

FINDING III-F. BALD management has not developed or applied criteria to objectively determine need or to allocate "required" hardware. This resulted in some units having insufficient hardware for the number of PERMITS users and, consequently, minimized the use of PERMITS in those units.

RECOMMENDATIONS

● **BALD management should implement the following actions to improve the availability of hardware to PERMITS users:**

III-F-1. Collect (through user interviews and system records) and analyze data pertaining to PERMITS usage to identify peak usage hours and usage trends among units and sections.

III-F-2. Establish formal hardware allocation criteria for terminals, PCs, and printers to provide an objective basis for determining individual and total system hardware requirements and for requesting and distributing system hardware among users.

III-F-3. Based on the foregoing analysis and criteria, evaluate the following options and consider preparation of a supplemental budget request to satisfy remaining unmet hardware requirements:

A. Evaluate the applicability and cost-effectiveness (on a unit-by-unit basis) of using data entry specialists for both the short and long term, depending on function and cost, as described in detail in Recommendation III-D-2.

B. Investigate the cost-effectiveness of purchasing lower-cost clone hardware from alternate sources (i.e., non-Hewlett-Packard vendors).

C. Research and evaluate the cost-effectiveness of portable field units or a scanning system for field data as an alternative to purchasing additional terminals for and requiring data input by field staff.

III-F-4. Develop an equipment replacement plan which addresses both useful life and technological obsolescence for system hardware. Consider establishing a separate equipment replacement fund or subfund within the BALD fund.

FINDING III-G. The PERMITS system was not perceived to be user friendly by BALD staff, resulting in inexperienced users having difficulty in operating the system.

RECOMMENDATIONS

● **BALD management should implement the following actions to improve the user friendliness of the Sierra PERMITS system:**

III-G-1. Consult with PERMITS system users to reevaluate their requirements for system usage and identify suggested improvements. Redesign existing screens or create new screens to accommodate identified user needs.

III-G-2. Review system features to identify specific changes which would improve the user friendliness of the Sierra PERMITS system. Potential changes might include improved menu, text-inputting and system-maneuvering functions, as well as an expanded on-line help feature.

III-G-3. Determine the cost of programming changes to accomplish this objective. Depending on cost, recommend these changes as either contracted programming from Sierra Computer Systems, Inc., or propose the changes as part of the jurisdiction user group enhancements.

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FINDING III-H. <u>BALD's implementation of the PERMITS system structure limited the ability to link and track permits at the project and activity levels.</u>

<u>RECOMMENDATIONS</u>

● **BALD management should implement the following actions to improve the permit tracking ability of the PERMITS system:**

III-H-1. Reevaluate the need to reserve the development level for MPDs. Consider removing the restrictions on use of the development level to improve tracking capabilities for multiple permits, phased projects, and related activities within the units.

III-H-2. Evaluate the need for an additional level based on input from BALD sections and units. Consider contracting with Sierra Computer Systems, Inc., to expedite programming of a system enhancement for a fourth level or mainframe version of the "set processing" feature, as well as a modification to allow user-defined numbering at the development level, based on the results of the evaluation.

FINDING III-I. <u>Data from active older, pre-PERMITS projects and permits may be incomplete or duplicated, limiting the PERMITS system's ability to retrieve and report on active projects, particularly when parcel numbers are missing.</u>

<u>RECOMMENDATIONS</u>

● **BALD management should implement the following actions to improve the ability to track pre-PERMITS projects:**

III-I-1. Update the pre-PERMITS files to ensure all have accurate (current or retired) parcel numbers. Delete duplicate files and voided activities and projects or transfer them to an archived history file.

III-I-2. Evaluate the major permit categories to determine the need and cost-effectiveness of updating the PERMITS system to include closed commercial project files. Based on this assessment, establish a program to enter priority historic permit data.

FINDING III-J. <u>The PERMITS situs file database has not been maintained and updated as planned. As a result, users reported outdated, missing, and inconsistent situs information which has restricted the usefulness of the database as a reference and reporting resource.</u>

<u>RECOMMENDATIONS</u>

● **BALD and Parks Planning and Resources department management should take the following actions to improve the accuracy and completeness of the situs database:**

III-J-1. Develop a custom computer program to ensure timely transfer of Assessor's data to the PERMITS situs files. Consider use of a contract with a programmer or Sierra Computer Systems to accomplish this, depending on the availability of BALD automation staff.

III-J-2. Establish routine communication with the Assessor's Office and System Services to identify measures which would minimize or resolve discrepancies between the Assessor's PBS and BALD situs databases.

III-J-3. Establish a Situs Maintenance and Data Quality Committee with representatives from BALD and other County user agencies (including System Services and the Assessor's Office) to establish policy and monitor data quality for the database (see related Recommendation IV-4).

The Committee should meet quarterly (at minimum) to perform the following functions:

1. Review the initial recommendations for situs elements and current special data needs, and develop an updated listing of required situs file data items.

2. Establish data quality goals for the situs file and assign responsibility for data development and updating.

3. Prepare interagency agreements to implement data development and updating responsibilities and monitor results.

4. Evaluate the cost-effectiveness of situs enhancements and prepare recommendations for equitable funding by user agencies and for implementation.

5. Per KCC 2.36.045 funding requests for PERMITS system enhancements would be reviewed and monitored by the Data Processing Policy Oversight Committee (DPPOC).

FINDING III-K. PERMITS users reported difficulties in gaining access to Assessor's data through the system interface, resulting in time-consuming delays in obtaining the required information.

RECOMMENDATIONS

● **BALD management should implement the following actions to ensure accessibility of the Assessor's data:**

III-K-1. Identify the frequency and type of problems users have in accessing the Assessor's data. Research the causes of the "access denied" messages and take appropriate corrective action (e.g., increase the number of ports, improve the connections, or provide training specifically related to accessing the Assessor's data).

III-K-2. Maintain effective communication with Assessor's staff to obtain prior notice of changes in the Assessor's system which might affect BALD staff access.

FINDING IV. Minimal documentation, training and reporting capabilities, coupled with unreliable remote connections and data quality problems, resulted in general underutilization of the PERMITS system by other County user agencies.

RECOMMENDATIONS

● **Management in BALD and other County user agencies should implement the following steps to improve the effectiveness of the PERMITS system in all user departments:**

GENERAL

IV-1. Provide up-to-date system training and documentation for other County agency PERMITS users (see related Recommendations III-A-1 through III-A-8).

IV-2. Develop and include documentation specific to non-BALD County agencies' tasks so that BALD staff and other system users are informed of the ways in which data may be used by and its importance to all system users (see related Recommendations III-B-1 through III-B-5).

IV-3. Evaluate the need to designate and/or budget for PERMITS analyst time in other County agencies, specifically in the SWM and Roads divisions. This would ensure the system is integrated with other management information systems used in those agencies, that user-defined tables are structured and screens designed to maximize agency use, and that required reports are routinely generated.

IV-4. Establish a County agency users group, with representatives from SWM, Roads, Comprehensive Planning, EH, and other non-BALD County agencies which may be brought on-line in the future to provide a forum for their concerns and needs (see related Recommendations III-C-6 and III-C-7).

IV-5. Establish a Situs Maintenance and Data Quality Committee, with representatives from BALD and other County agencies (including Systems Services and the Assessor's Office) to meet quarterly to assess compliance with and identify

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obstacles to implementing interagency protocols, and establish and monitor progress towards goals for data integrity (see related Recommendation III-J-3).

AGENCY SPECIFIC

Surface Water Management, Department of Public Works

IV-6.   SWM and BALD should reevaluate the costs and benefits of entering and maintaining drainage basin and critical drainage area designations on the system's situs file (see related Recommendation III-J-3).

IV-7.   SWM and BALD should review the process for identifying and transmitting information from SWM to BALD on drainage complaints handled by the Drainage Investigation Unit, to ensure that BALD and SWM staff are informed of permit, complaint, and enforcement activity which may be occurring on a specific parcel.

Environmental Health Division, Department of Public Health

IV-8.   EH should be provided adequate reporting capabilities: BALD and EH should provide training and equipment to allow the EH system analyst to produce reports using the PERMITS resident reporting capability, HP-Access, or other effective software reporting package (see related Recommendations III-E-1 through III-E-6).

IV-9.   EH and BALD should establish a protocol for handling EH requests for system support which ensures available back-up staff, and expeditious forwarding to and response from Hewlett-Packard, Sierra, or other County system vendor. It should also provide for access by designated EH staff to system vendors if BALD Automation Services staff cannot respond within a specified time frame (see related Recommendation III-C-4).

IV-10.   EH and BALD should jointly develop an annual work plan which identifies time frames and responsibilities for addressing system development issues such as the use of scanner interface with the PERMITS system for EH inspectors and other potential enhancements summarized in Appendix 16.

Comprehensive Planning Section, Department of Parks, Planning and Resources

IV-11.   Comprehensive Planning should be provided adequate reporting capabilities to accomplish their mandated responsibilities: BALD and the Planning Division should provide training, documentation, software and equipment to allow the system analysts and planners to routinely produce reports which extract and summarize data within the PERMITS database (see related Recommendations III-E-1 through III-E-6).

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Audit Recommendation Number	Audit Recommendation Title	Disagree/Respon.../Unclear
II-A-1	Review RFP specifications for automatable tasks	
II-A-2	Analyze benefits of proposed enhancements	
II-B-1	Establish procedures for user input	
II-B-2	Evaluate/prioritize proposed enhancements	
II-C-1	Develop Automation Services work program	
II-C-2	Revise/update system implementation plan	
II-D-1	Conduct post-implementation evaluation	
II-D-2	Review RFP specifications for unmet needs	
II-D-3	Conduct standard EDP audit of PERMITS	
III-A-1	Conduct training needs assessment	
III-A-2	Include other agency users in training sessions	
III-A-3	Prepare annual training program	
III-A-4	Develop training relevant to section/unit	
III-A-5	Establish drop-in training center	
III-A-6	Establish training outreach	
III-A-7	Provide in-depth training for lead workers	
III-A-8	Keep training records	
III-B-1	Distribute current PERMITS manuals	
III-B-2	Draft supplement for custom features	
III-B-3	Draft data dictionary	
III-B-4	Update documentation as changes occur	
III-B-5	Provide technical documentation to lead workers	X
III-C-1	Designate section/unit leads	
III-C-2	Create telephonic help desk	
III-C-3	Provide written notification of system changes	
III-C-4	Document and review support staff work	
III-C-5	Consider decentralized support	X (Poten...
III-C-6	Formalize users' group	
III-C-7	Expand users' group	
III-C-8	Document support requests	

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EXHIBIT B

Audit Recommendation Number	Audit Recommendation Title	Disagree/Respon.../Unclear
III-D-1	Validate data quality	
III-D-2	Consider use of data entry specialists	
III-D-3	Identify mandatory/optional data	
III-D-4	Develop error/exception reports	
III-D-5	Consider expanded use of validation tables	
III-D-6	Standardize terminology/field usage	
III-D-7	Phase out duplicate paper files	
III-E-1	Maximize use of on-line reports	
III-E-2	Request reporting programming changes	
III-E-3	Establish procedures for report production	
III-E-4	Determine reports needed	
III-E-5	Develop report menus	
III-E-6	Train leads to produce reports	
III-E-7	Evaluate other report writing software	
III-F-1	Identify system-use patterns	
III-F-2	Establish objective hardware needs assessment/allocation	
III-F-3 (A-C)	Request hardware funding based on review of options	
III-F-4	Develop equipment replacement plan	
III-G-1	Consult users regarding ease of use	
III-G-2	Identify changes to increase user-friendliness	
III-G-3	Evaluate cost-effectiveness of programming changes	
III-H-1	Reevaluate use limitations - development level	X
III-H-2	Evaluate costs/benefits of fourth level	X
III-I-1	Update pre-PERMITS files	
III-I-2	Evaluate need to add historic commercial files	
III-J-1	Update Assessor data on situs file	
III-J-2	Improve communication with Assessor's Office	
III-J-3	Create Situs Maintenance & Data Quality Committee	
III-K-1	Monitor problems with Assessor connection/data	?
III-K-2	Communicate access procedure changes	
IV-1	Provide training and current documentation	
IV-2	Develop agency-specific documentation	?
IV-3	Evaluate need for additional PERMITS analyst time	?
IV-4	Establish separate County agency users' group	?
IV-5	Establish Situs Maintenance & Data Quality Committee	?
IV-6	Evaluate costs/benefits to update situs	?
IV-7	Review process for transfer of complaint information	?
IV-8	Provide adequate reporting capabilities (EH)	?
IV-9	Establish protocol for system support	?
IV-10	Develop joint work plan	?
IV-11	Provide adequate reporting capabilities (Planning)	?

EXHIBIT B

PRIORITIZATION OF AUDIT RECOMMENDATIONS

OPERATIONAL RECOMMENDATIONS

Audit Recommendation Number	Audit Recommendation Title	Implementation Status
WORK PROGRAM II-C-1	*Develop Automation Services work program	
DOCUMENTATION III-B-1, III-B-5, IV-1	*Distribute current PERMITS manuals system wide, and provide appropriate technical documentation to lead workers	
III-B-2, III-B-3, IV-2	*Prepare & distribute complete user documentation (e.g. a supplement for custom features and a data dictionary)	
DATA QUALITY III-D-1	*Validate data quality and set target quality level	
III-D-4	*Develop error/exception reports	
III-D-3	*Identify mandatory/optional data	
III-D-6	*Standardize terminology/field usage	
III-D-5	Consider expanded use of validation tables	
III-D-2	Consider use of data entry specialists	
REPORTS III-E-4, IV-8, IV-11	*Determine reports needed	
III-E-5, IV-8, IV-11	*Develop report menus	
III-E-6	*Train leads to produce reports	
III-E-3	Establish procedures for requesting reports	
III-E-1	Maximize use of on-line reports	
III-E-7	Evaluate other report writing software	
III-E-2	Request reporting programming changes	
TRAINING III-A-1	*Conduct training needs assessment	
III-A-7	*Provide in-depth training for lead workers	
III-A-4	*Develop training relevant to section/unit	
III-A-3	*Prepare and provide annual training program	Partial
III-A-2, IV-1	*Include other agency users in training sessions	
III-A-6	Establish training outreach	
III-A-5	Establish drop-in training center	
SYSTEM SUPPORT III-C-1	*Designate section/unit leads	
III-C-3	*Provide written notification of system changes	
III-C-6, IV-4	*Formalize users' group; establish separate user group for outside agencies	Partial
III-C-7	Expand users' group	Partial
III-C-8	Document support requests	Partial
III-C-4	Document and review Automation Services staff work	Partial
III-C-5	Consider decentralized support	
III-C-2	Create telephone help desk	
SITUS DATA III-J-1	Update Assessor and other data on situs file	
IV-5, III-J-3 (1-5)	*Create Situs Maintenance & Data Quality Committee	
IV-6	Evaluate costs/benefits of entering & maintaining drainage basin & critical drainage designations	
HARDWARE III-F-1	*Identify system-use patterns	
III-F-2	*Establish objective hardware needs assessment/allocation	
III-F-3 (A-C)	Request hardware funding based on review of options	
III-F-4	Develop equipment replacement plan	
PRE-PERMITS DATA III-I-1	Update pre-PERMITS files	
III-I-2	Evaluate need to add historic commercial files	

EXHIBIT C

RECOMMENDATIONS PERTAINING TO OUTSIDE AGENCIES

Audit Recommendation Number	Audit Recommendation Title	Implementation Status
IV-9, IV-10	*Establish protocol for system support for Env. Health; develop joint work plan with Env. Health	
IV-8, IV-11	*Provide adequate reporting capabilities for Planning and Env. Health	
IV-3	*Evaluate need for additional PERMITS analyst time for outside agencies	
IV-7	Review process for transfer of drainage complaint information	

OVERALL SYSTEM RECOMMENDATIONS

Audit Recommendation Number	Audit Recommendation Title	Implementation Status
II-B-1	*Establish procedures for user input for system enhancements	Partial
II-B-2	*Evaluate/prioritize proposed enhancements	
II-D-1	Conduct post-implementation evaluation	
II-A-2, II-D-2	Review RFP specifications for unmet needs and automatable tasks	
II-A-2	Analyze benefits of proposed enhancements resulting from RFP review	
II-D-3	Conduct standard EDP audit of PERMITS	
III-G-1	Consult users regarding ease of use	
III-G-2	Identify changes to increase user-friendliness	
III-G-3	Evaluate cost-effectiveness of programming changes	

ONGOING RECOMMENDATIONS

Audit Recommendation Title	Audit Recommendation Title	Implementation Status
II-C-2	Revise/update system implementation plan	
III-B-4	Update documentation as changes occur	
III-A-8	Keep training records	
III-D-7	Phase out duplicate paper files	
III-J-2, III-K-2	Improve communication with Assessor's Office (situs and access)	
III-K-1	Monitor problems with Assessor connection/data	
III-H-1	Reevaluate use limitations - development level	
III-H-2	Evaluate costs/benefits of fourth level	

EXHIBIT C