IMPLEMENTING FRICTION RIDGE REGISTRY STANDARDS

OSAC Friction Ridge Subcommittee

Registry Implementation Task Group / Presenter(s)

MANDATORY DISCLAIMER

- *This presentation was produced by members of the Friction Ridge Subcommittee and does not necessarily reflect the views or policies of the Organization of Scientific Area Committees for Forensic Science (OSAC), National Institute of Standards and Technology (NIST), or the United States Government.*

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WHO COMES UP WITH THESE STANDARDS?

- Local, state, federal and international practitioners and subject matter experts
- Laboratory directors
- Prosecution and defense lawyers and judges at various levels of jurisdiction
- Human factors and cognitive experts and psychologists
- Quality systems experts

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ARE THESE STANDARDS SUPPORTED BY SCIENCE?

- Yes…
- Also no.
- Documents are not typically drafted using direct references to published research. When they are directly relied upon, the works will be cited in the document
- Tying documents to specific citations takes away from the level of flexibility the documents are intended to have. Documents may not be updated as quickly as research is published.
- Subcommittee members are selected for their knowledge, training and experience in their relevant fields. That collective body of knowledge informs the consensus process used to produce the documents in a technically sound manner.

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WHY SHOULD MY AGENCY IMPLEMENT THESE STANDARDS AND RECOMMENDATIONS?

- They have been drafted using the collective knowledge and experiences of technical, legal and academic ***experts in the relevant scientific community***
- They consider the input of external stakeholders and any member of the public as an additional layer of perspective
- They represent reasonable compromise in potentially contentious technical areas with limited or no support in the published scientific literature
- They follow the rules of an internationally-recognized and well-defined process of standards development
- They provide evidence of a commitment to a technically sound work product

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WHO ENFORCES THE IMPLEMENTATION OF STANDARDS?

- Not the accrediting bodies, although that may change in the future
- Not the federal government
  - Grant funding incentives have been discussed in the past but don't currently exist (that we are aware of)
  - QAS requirements for CODIS access are special
- Some state and local governments (e.g. TX Forensic Science Commission)
- **Judges, juries and the people you serve**

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REGISTRY DOCUMENTS ARE NOT INTENDED TO BE:

- All-encompassing guides
- An all-or-nothing proposition
- Policy and procedures for your agency

****Your agency is responsible for developing the written policies and procedures by which you operate.****

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OK. SO, WHERE DO I START?

- Download, review and retain the documents from the registry.
- Use the documents and related checklists & fact sheets to write or update **YOUR OWN POLICIES AND PROCEDURES**
  - Weigh the requirements and recommendations against your local jurisdiction's rules and regulations, applicable statutes and case law, operational factors and available resources
  - Collaborate with your stakeholders and include them wherever possible
- Make the hard choices where necessary and own them

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WHAT DO YOU MEAN HARD CHOICES???

- Documents are produced with a certain level of flexibility
- The subcommittee tries to acknowledge that not every agency is able to comply with every clause, and not every clause may apply to every service provider
- Agencies must review and understand the spirit of the requirements and recommendations and implement in a way that makes sense for themselves and their stakeholders
- An industrial-sized tool chest is not always necessary to change a spark plug

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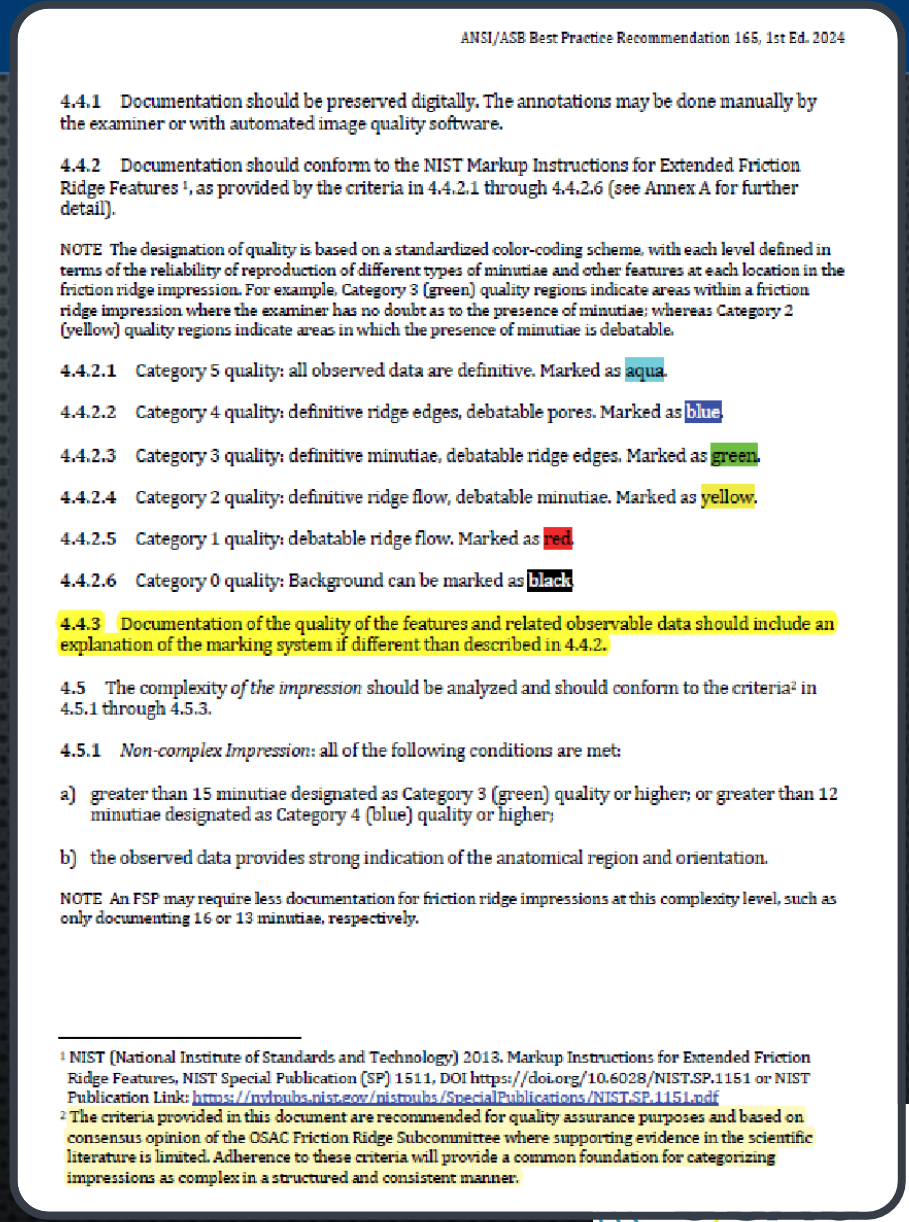
CAN YOU GIVE AN EXAMPLE?

- ANSI/ASB BPR-165: BPR for Analysis of Friction Ridge Impressions
  - Is overwhelming at first glance
  - Intent is to document assessed level of confidence in the data being observed
  - Informs the practitioners in the perceived level of complexity
  - Why? Because research and common sense have shown us that the likelihood for error is directly proportional to the complexity of the examination
  - Assessing complexity informs the examiners on a particular examination strategy and the need for additional QA measures
- Clause 4.4.3 allows agencies to implement a different scheme that may be simplified, yet achieve the same or a similar intended result



ANSI/ASB Best Practice Recommendation 165, 1st Ed. 2024

4.4.1 Documentation should be preserved digitally. The annotations may be done manually by the examiner or with automated image quality software.

4.4.2 Documentation should conform to the NIST Markup Instructions for Extended Friction Ridge Features [1], as provided by the criteria in 4.4.2.1 through 4.4.2.6 (see Annex A for further detail).

NOTE The designation of quality is based on a standardized color-coding scheme, with each level defined in terms of the reliability of reproduction of different types of minutiae and other features at each location in the friction ridge impression. For example, Category 3 (green) quality regions indicate areas within a friction ridge impression where the examiner has no doubt as to the presence of minutiae; whereas Category 2 (yellow) quality regions indicate areas in which the presence of minutiae is debatable.

4.4.2.1 Category 5 quality: all observed data are definitive. Marked as aqua.

4.4.2.2 Category 4 quality: definitive ridge edges, debatable pores. Marked as blue.

4.4.2.3 Category 3 quality: definitive minutiae, debatable ridge edges. Marked as green.

4.4.2.4 Category 2 quality: definitive ridge flow, debatable minutiae. Marked as yellow.

4.4.2.5 Category 1 quality: debatable ridge flow. Marked as red.

4.4.2.6 Category 0 quality: Background can be marked as black.

4.4.3 Documentation of the quality of the features and related observable data should include an explanation of the marking system if different than described in 4.4.2.

4.5 The complexity *of the impression* should be analyzed and should conform to the criteria[2] in 4.5.1 through 4.5.3.

4.5.1 *Non-complex Impression*: all of the following conditions are met:

a) greater than 15 minutiae designated as Category 3 (green) quality or higher; or greater than 12 minutiae designated as Category 4 (blue) quality or higher;

b) the observed data provides strong indication of the anatomical region and orientation.

NOTE An FSP may require less documentation for friction ridge impressions at this complexity level, such as only documenting 16 or 13 minutiae, respectively.

[1] NIST (National Institute of Standards and Technology) 2013. Markup Instructions for Extended Friction Ridge Features, NIST Special Publication (SP) 1511, DOI https://doi.org/10.6028/NIST.SP.1151 or NIST Publication Link: https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.1151.pdf

[2] The criteria provided in this document are recommended for quality assurance purposes and based on consensus opinion of the OSAC Friction Ridge Subcommittee where supporting evidence in the scientific literature is limited. Adherence to these criteria will provide a common foundation for categorizing impressions as complex in a structured and consistent manner.

ARE YOU SAYING WE CAN WILLY-NILLY PICK AND CHOOSE WHAT WE FOLLOW?

- Yes…
- Also no.
- In the end, your stakeholders will decide if you made the appropriate decisions
- OSAC is not the standards police and cannot dictate what agencies will or will not follow
- Your examiners will be the ones presenting their work in a court of law. Agencies must provide them with the tools and guidance to produce quality work that will withstand that level of scrutiny
- Agencies are free to implement the documents as they are, disregard them completely, disregard portions that do not apply or make operational sense for them with a reasonably valid justification
- Providers are also free to apply more stringent requirement

****The implementation effort must be a deliberate and thought-out process.****

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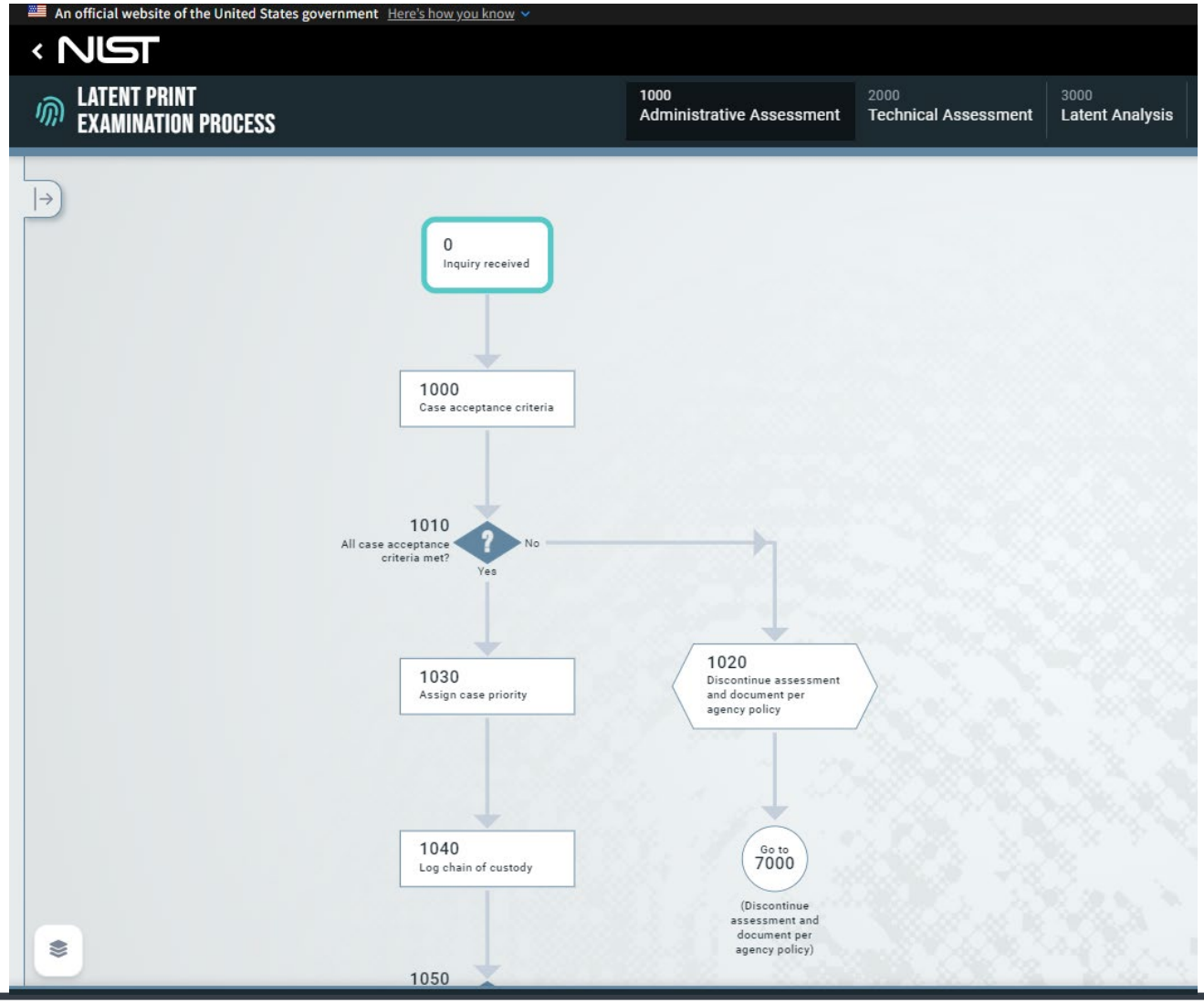
HOW CAN WE GET THERE FROM HERE?

- Start from the beginning!
  - Process mapping your own workflow establishes a logical order and hierarchy for your policy & procedure documents
  - OSAC process map may help

https://ipm.nist.gov/lpe or search "NIST Friction Ridge Interactive Process Map"



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MAJOR TYPES OF DOCUMENTS

- Standards
  - Use “Shall” language – sets objectively verifiable requirements
- Best Practice Recommendation (BPR)
  - Use “Should” language, may include secondary “shall”s – sets out optimal way to carry out an action(s)
- Guidelines
  - Supplements content in a standard or BPR
- Technical Report (TR)
  - Information only
- dictated by the ASB style guide

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OTHER WORK PRODUCTS

- Bibliographies or bibliographic references
- Interlaboratory comparisons
- Process maps
- Research & development needs
- Reference documents
- Standards Development Maps
- Technical Guidance Documents
- Webinars, presentations & training videos
- OSAC Lexicon
- Surveys

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BE ON THE LOOKOUT FOR KEYWORDS

- "Shall" indicates a requirement
  - In a policy, a requirement invokes the need for objective evidence of compliance
- "Should" indicates a recommendation
  - Consider justification for disregarding a recommendation, may not be necessary if implementing an alternate means of compliance
- "May" indicates permission and "can" indicates a possibility or capability – usually where more than one technically sound option exists or limited support in literature is present
- The search function can be helpful here
- These keywords are also defined in the introduction of every OSAC proposed document

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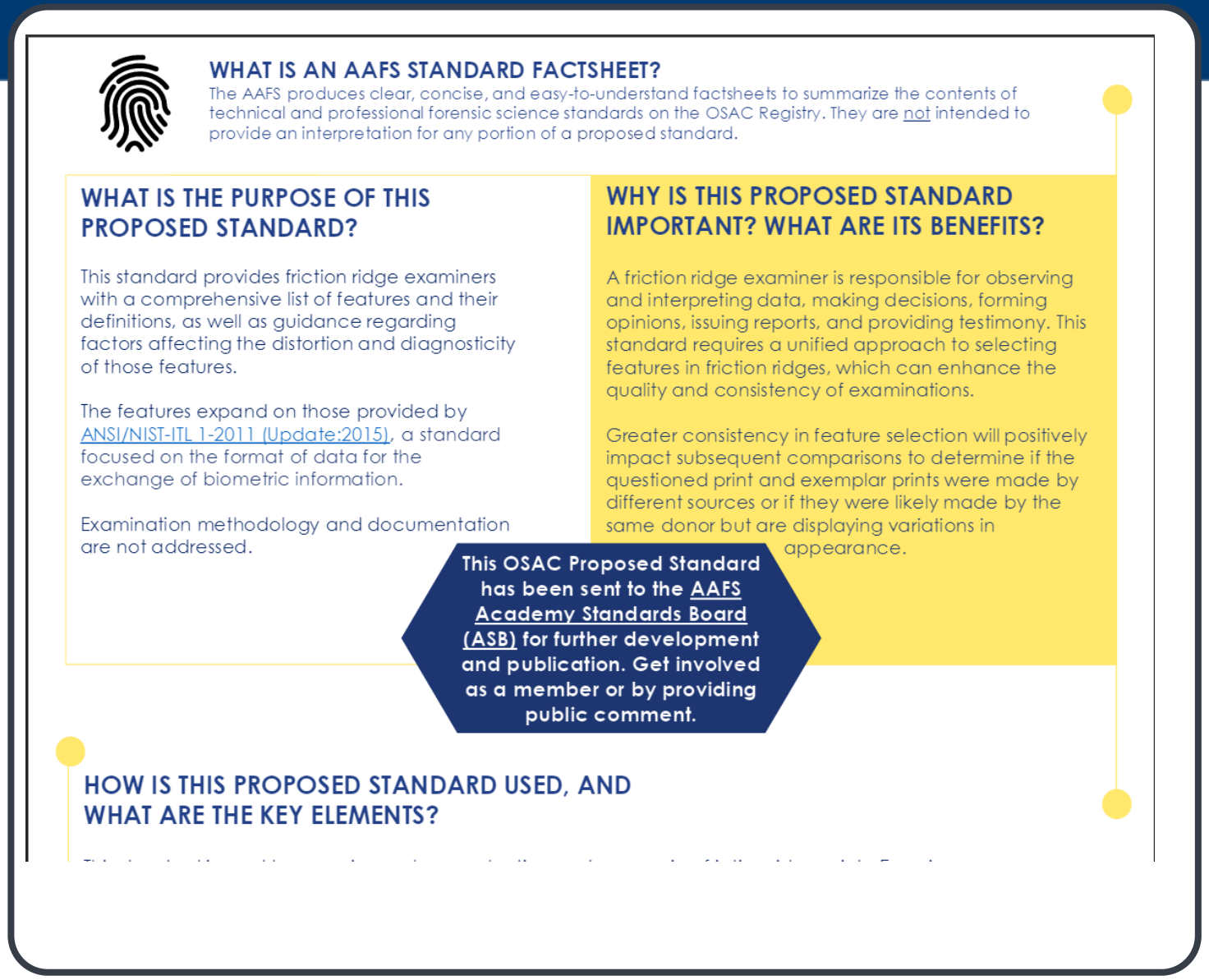

WHAT IS AN AAFS STANDARD FACTSHEET?

The AAFS produces clear, concise, and easy-to-understand factsheets to summarize the contents of technical and professional forensic science standards on the OSAC Registry. They are not intended to provide an interpretation for any portion of a proposed standard.

WHAT IS THE PURPOSE OF THIS PROPOSED STANDARD?

This standard provides friction ridge examiners with a comprehensive list of features and their definitions, as well as guidance regarding factors affecting the distortion and diagnosticity of those features.

The features expand on those provided by ANSI/NIST-ITL 1-2011 (Update:2015), a standard focused on the format of data for the exchange of biometric information.

Examination methodology and documentation are not addressed.

WHY IS THIS PROPOSED STANDARD IMPORTANT? WHAT ARE ITS BENEFITS?

A friction ridge examiner is responsible for observing and interpreting data, making decisions, forming opinions, issuing reports, and providing testimony. This standard requires a unified approach to selecting features in friction ridges, which can enhance the quality and consistency of examinations.

Greater consistency in feature selection will positively impact subsequent comparisons to determine if the questioned print and exemplar prints were made by different sources or if they were likely made by the same donor but are displaying variations in appearance.

This OSAC Proposed Standard has been sent to the AAFS Academy Standards Board (ASB) for further development and publication. Get involved as a member or by providing public comment.

HOW IS THIS PROPOSED STANDARD USED, AND WHAT ARE THE KEY ELEMENTS?

FACT SHEETS

- Provide a concise overview of the purpose and intent of a document
- Produced by AAFS for each document on the registry after OCT 2020

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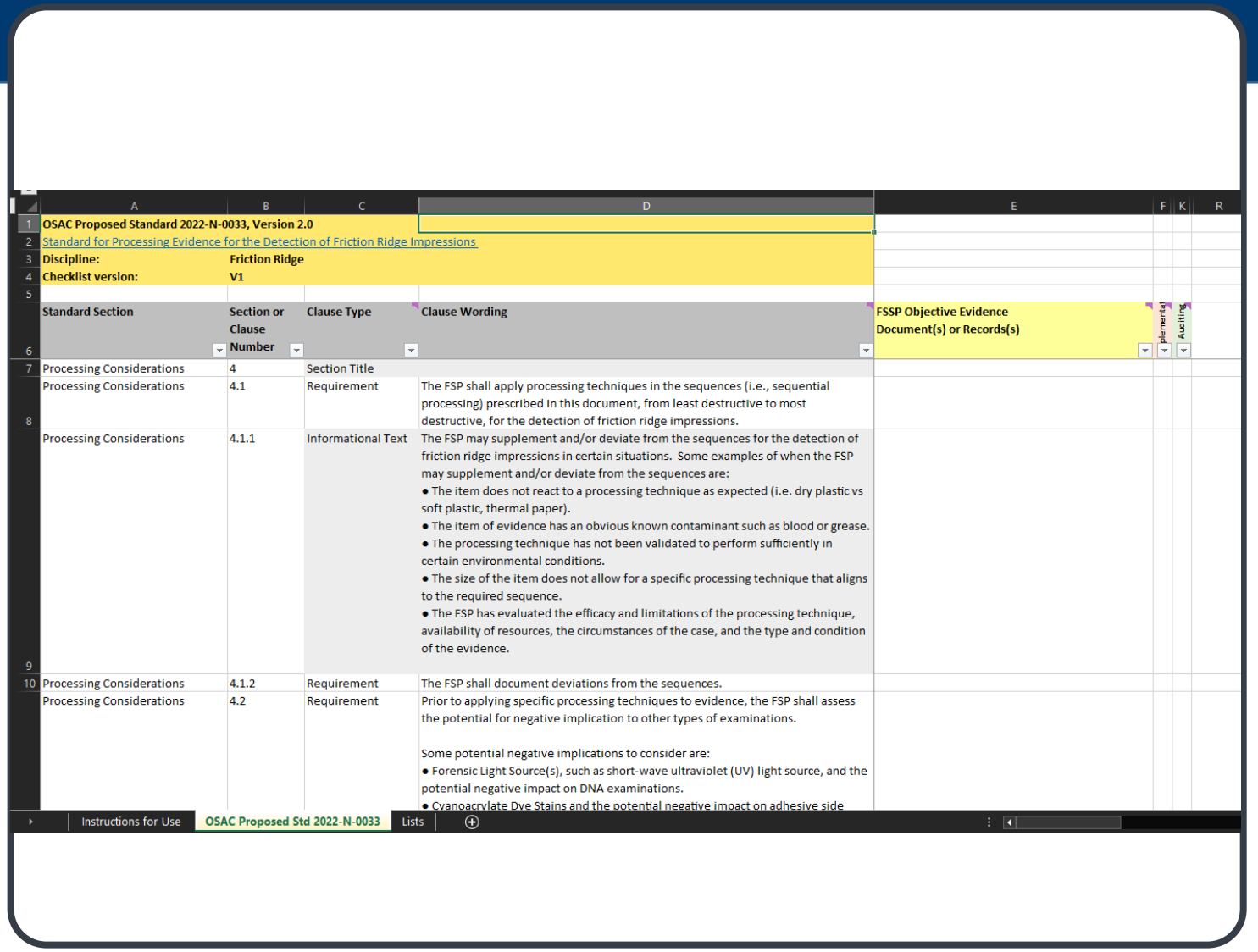
CHECKLISTS

- Helpful in step-by-step clause evaluation
- Document a provider's full, partial or non-conformance to a standard or bpr by clause number
- Produced by AAFS for each document on the registry after OCT 2020



	A	B	C	D	E	F	K	R
1	**OSAC Proposed Standard 2022-N-0033, Version 2.0**							
2	Standard for Processing Evidence for the Detection of Friction Ridge Impressions							
3	**Discipline:**	**Friction Ridge**						
4	**Checklist version:**	**V1**						
5								
6	**Standard Section**	**Section or Clause Number**	**Clause Type**	**Clause Wording**	**FSSP Objective Evidence Document(s) or Records(s)**	plementa	Auditing	
7	Processing Considerations	4	Section Title					
8	Processing Considerations	4.1	Requirement	The FSP shall apply processing techniques in the sequences (i.e., sequential processing) prescribed in this document, from least destructive to most destructive, for the detection of friction ridge impressions.				
9	Processing Considerations	4.1.1	Informational Text	The FSP may supplement and/or deviate from the sequences for the detection of friction ridge impressions in certain situations. Some examples of when the FSP may supplement and/or deviate from the sequences are: • The item does not react to a processing technique as expected (i.e. dry plastic vs soft plastic, thermal paper). • The item of evidence has an obvious known contaminant such as blood or grease. • The processing technique has not been validated to perform sufficiently in certain environmental conditions. • The size of the item does not allow for a specific processing technique that aligns to the required sequence. • The FSP has evaluated the efficacy and limitations of the processing technique, availability of resources, the circumstances of the case, and the type and condition of the evidence.				
10	Processing Considerations	4.1.2	Requirement	The FSP shall document deviations from the sequences.				
	Processing Considerations	4.2	Requirement	Prior to applying specific processing techniques to evidence, the FSP shall assess the potential for negative implication to other types of examinations. Some potential negative implications to consider are: • Forensic Light Source(s), such as short-wave ultraviolet (UV) light source, and the potential negative impact on DNA examinations. • Cyanoacrylate Dye Stains and the potential negative impact on adhesive side			

Instructions for Use | OSAC Proposed Std 2022-N-0033 | Lists

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OSAC REGISTRY IMPLEMENTATION: A HOW TO GUIDE

- Available on the OSAC website
  - Search: OSAC registry implementation
- Outlines the recommended steps
  - Prepare/learn
  - Plan
  - Implement
  - Manage/maintain

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OSAC Registry Implementation: A How-to Guide

Introduction

The Organization of Scientific Area Committees (OSAC) for Forensic Science is a collaborative body of more than 550 forensic science practitioners and other experts representing all levels of the government, academia, and industry. Administered by the National Institute of Standards and Technology (NIST), OSAC's mission is to facilitate the development of science-based standards and to encourage the use of these standards throughout the forensic science community. The goal is to have stakeholders in the forensic science community and legal system embrace the approved standards on the OSAC Registry and implement them into everyday practice. Implementation will improve consistency across forensic science disciplines and increase confidence in the accuracy and reliability of a forensic science service provider's (FSSP) outputs. These positive benefits enhance the confidence in FSSP's reports and the credibility of FSSP's expert testimony in the courts of law.

OSAC REGISTRY

OSAC Registry implementation means a FSSP has incorporated an OSAC Registry standard into their management system (i.e., quality) documents. OSAC has previously published comprehensive guidance on OSAC Registry Implementation. Successful incorporation of, and compliance to, an OSAC Registry standard is currently self-declared by a FSSP. OSAC does not audit nor independently assess any claims of OSAC Registry standard(s) implementation or continued compliance. Any self-declaration by a FSSP that it is following an OSAC Registry standard will be observable in documents and records of the FSSP. This document provides further suggestions on how a FSSP can demonstrate successful incorporation and routine compliance.

Section 1 of this document lists possible pathways for incorporation and relevant considerations. This section includes an intermediate stage when a FSSP cannot fully incorporate an OSAC Registry standard. Section 2 of this document provides further discussion to assist FSSPs in their evaluation and incorporation of applicable OSAC Registry standards.

How, and to what degree, a FSSP implements an OSAC Registry standard is at its discretion; it is most aware of potential enhancements to its practices and management system. As such, OSAC

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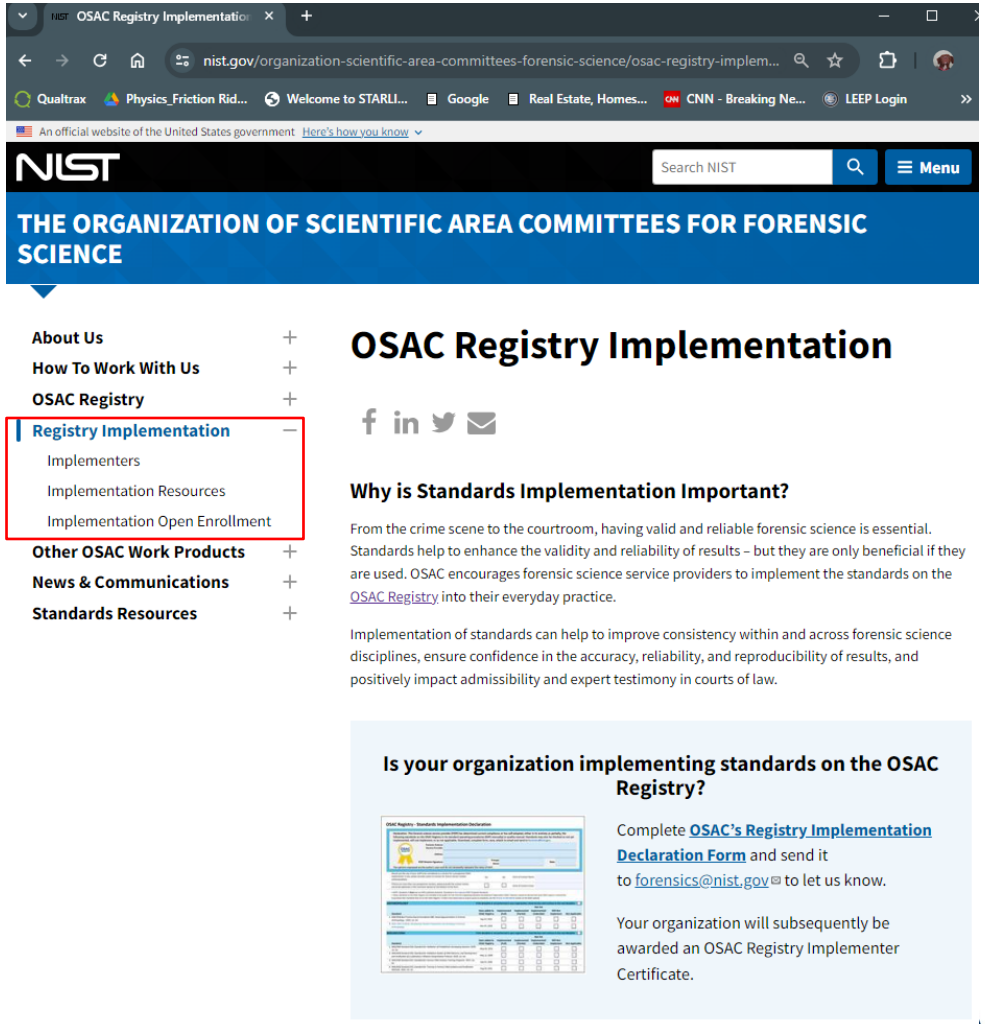
OSAC WEB RESOURCES

- Friction Ridge Subcommittee Page – Search "**OSAC FRS**"
  - Current Work
  - Documents on the registry
  - Legacy documents
- Implementation Resources – Search "**NIST Standards Implementation**"
  - Registry Implementation Declaration Form
  - Registry Implementation Resources



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WHAT DOES THIS LOOK LIKE IN PRACTICE?

- Similar to a quality management system in an accredited laboratory or agency
  - Structured policy and procedure documents that outline the requirements of YOUR workflow – **Say what you do and how**
  - Quality assurance (mitigation) and quality control (detection) strategies – **specify ways to not screw it up**
    - Assessment of risk
  - Periodic auditing for conformance to agency policy and procedures – **check that you are doing what you said you would do, how you said you would do it**
    - May be internal or external
  - Bask in the peace of mind that comes with doing the right things correctly – **all anyone can ask is that you act in good faith to produce reliable results**
    - Seek out and use every resource available to you
    - **Exercise due diligence in carrying out technically sound, fair and impartial examinations**

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NO REALLY, WHAT DOES THIS LOOK LIKE IN REAL LIFE?

- 3 possibilities:
  - Your agency is accredited and has established policies and procedure documents
  - Your agency is not accredited and has policies and procedure documents
  - Your agency is not accredited, you have no PPG's and you are out there flying by the seat of your pants struggling to survive while herding a clowder of feral cats with your hair on fire
- No matter what, your desired end-state should be to have technically sound, written policies and procedures you can rely on and point to as objective evidence that you are doing the right things and **using them**

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NO REALLY, WHAT DOES THIS LOOK LIKE IN REAL LIFE?

- Accredited or not, if you have documented policies and procedures you will want to start there
  - Conduct a gap analysis of your existing documents against published standards and BPRs
  - Compare your workflow against established OSAC Friction Ridge published and proposed standards and BPRs and identify gaps and differences
- Use the steps on the implementation webpage:
  - Prepare / learn
  - Plan
  - Implement
  - Manage/maintain

https://www.nist.gov/organization-scientific-area-committees-forensic-science/osac-registry-implementation

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PREPARE / LEARN

- “Enlist support from management and get familiar with the OSAC Registry and the standards *applicable to your organization*”
- Decide on a coherent structure for your document(s) (e.g. many accredited labs organize their SOP’s based on the structure of the relevant accreditation standard such as ISO17025)
  - In the absence of an accrediting standard, a documented process map can be used
- For each major policy document or section, look for relevant literature that supports your stated practice or approach and use them as references in your document

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PLAN

- “Determine which standards are applicable to your organization, along with the requirements you may already be following. Enlist the help of other FSSP’s and mentors for technical guidance on implementation.”

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IMPLEMENT

- Publish your policy and procedure document(s) and give your examiners an opportunity to review and put them into practice
  - Make this process a systematic procedure to build on a culture of quality
  - You may go through a number of iterations as procedures turn into practice and you find out what works for your agency and what doesn't
- "Document your implementation status and let OSAC known about your accomplishments by completing 'OSAC's Registry Implementation Declaration Form'"

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MANAGE / MAINTAIN

- Establish a periodic review period for your quality documents to ensure they stay up to date
- Implement a meaningful mechanism for staff to suggest edits or improvements
- Conduct periodic audits of work product to check for conformance and document any corrective actions taken
- “Continue to monitor the OSAC Registry for new standards and share updates with on your organization’s implementation status.”

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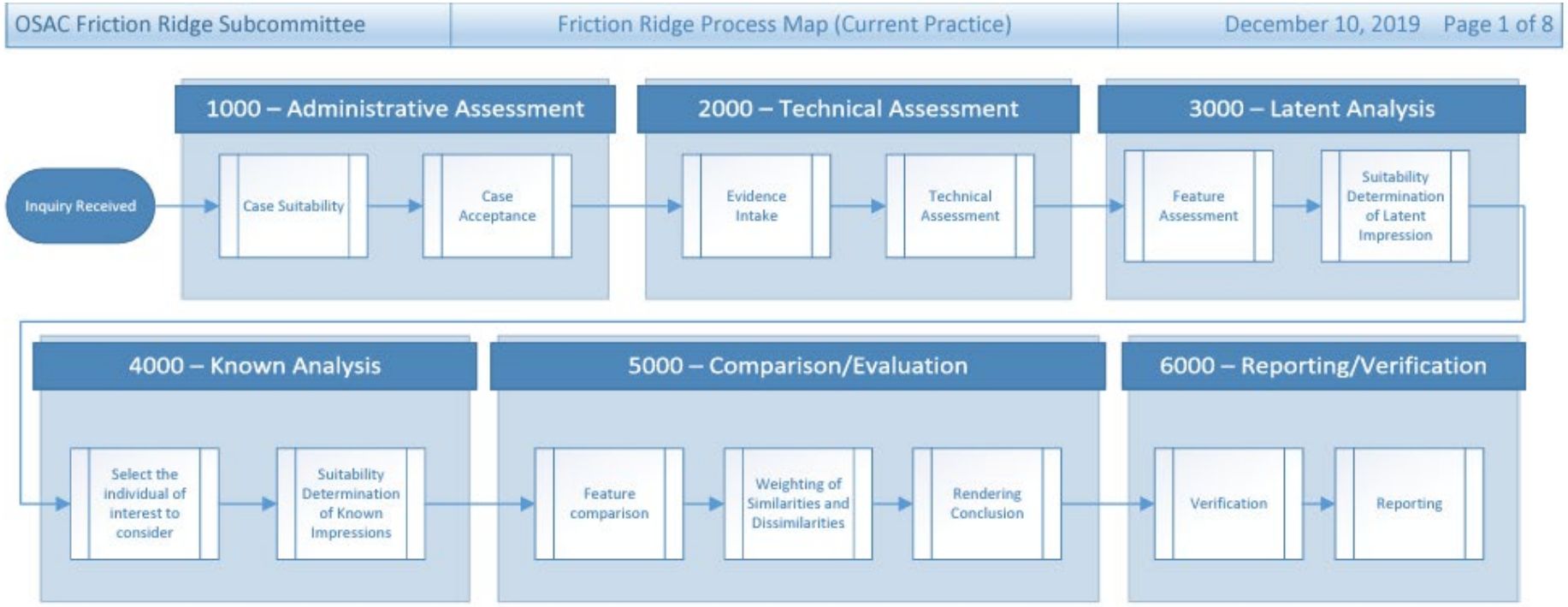
NO POLICY & PROCEDURE DOCUMENTS? NO PROBLEM.



- Use a documented process map to develop your procedures from scratch

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YET ANOTHER DISCLAIMER

- The following slides contain examples of quality documents and standard operating procedures published by laboratories on the open internet. They may not be their most current version in use.
- The use of these examples here is purely for illustrative and educational purposes and does not imply endorsement or any express or implied fitness for purpose by the OSAC Friction Ridge Subcommittee
- We thank the relevant agencies for making their documents freely available

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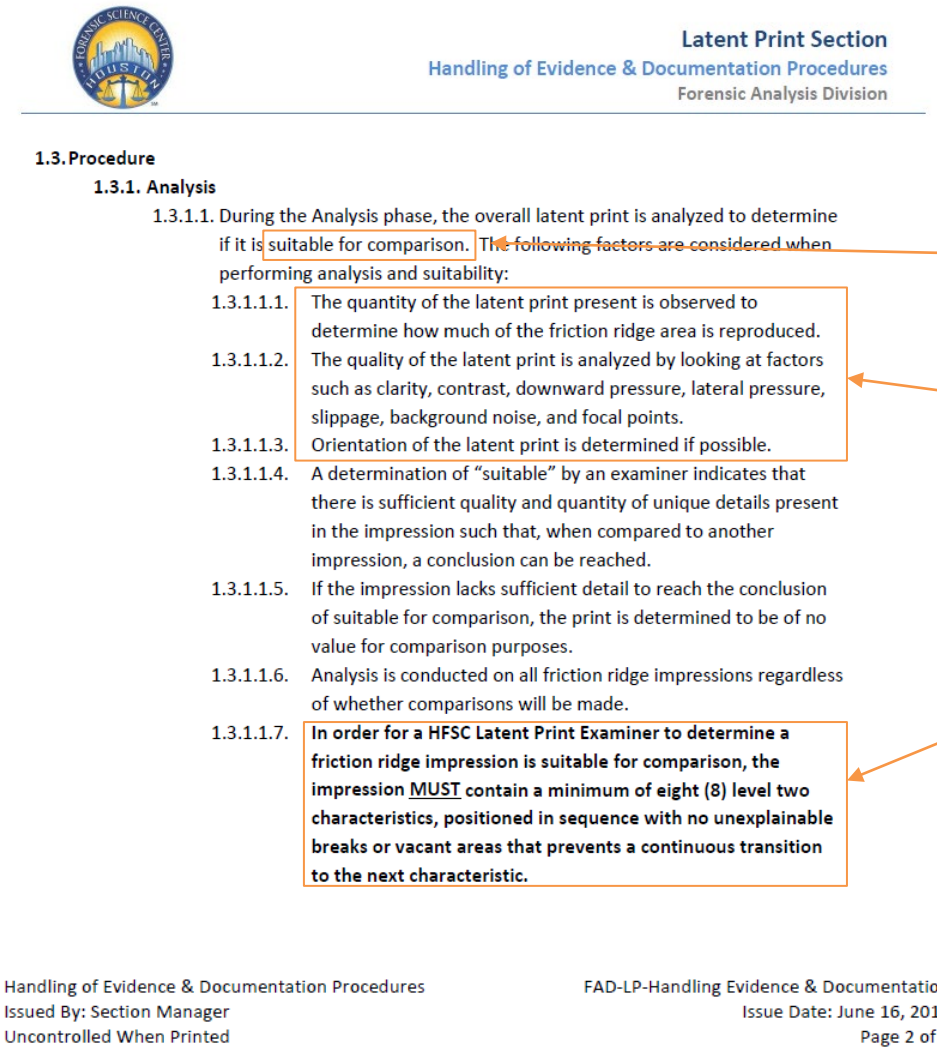
HAVE DOCUMENTS, WILL TRAVEL…



Latent Print Section
Handling of Evidence & Documentation Procedures
Forensic Analysis Division

1.3. Procedure

1.3.1. Analysis

1.3.1.1. During the Analysis phase, the overall latent print is analyzed to determine if it is suitable for comparison. The following factors are considered when performing analysis and suitability:

1.3.1.1.1. The quantity of the latent print present is observed to determine how much of the friction ridge area is reproduced.

1.3.1.1.2. The quality of the latent print is analyzed by looking at factors such as clarity, contrast, downward pressure, lateral pressure, slippage, background noise, and focal points.

1.3.1.1.3. Orientation of the latent print is determined if possible.

1.3.1.1.4. A determination of "suitable" by an examiner indicates that there is sufficient quality and quantity of unique details present in the impression such that, when compared to another impression, a conclusion can be reached.

1.3.1.1.5. If the impression lacks sufficient detail to reach the conclusion of suitable for comparison, the print is determined to be of no value for comparison purposes.

1.3.1.1.6. Analysis is conducted on all friction ridge impressions regardless of whether comparisons will be made.

1.3.1.1.7. **In order for a HFSC Latent Print Examiner to determine a friction ridge impression is suitable for comparison, the impression MUST contain a minimum of eight (8) level two characteristics, positioned in sequence with no unexplainable breaks or vacant areas that prevents a continuous transition to the next characteristic.**

Handling of Evidence & Documentation Procedures
Issued By: Section Manager
Uncontrolled When Printed

FAD-LP-Handling Evidence & Documentation
Issue Date: June 16, 2016
Page 2 of 6

- Stated examination approach
- Examination criteria
- Established minimum standard for utility
- **Make sure to address all the "shall's" applicable to your agency**

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WE ARE ACCREDITED. HEAR US ROAR (OR MEOW)

Processing Overview

1 INTRODUCTION

A. The FBI Laboratory Friction Ridge Discipline uses a variety of techniques and procedures to detect latent prints.

B. The Overview provides overall information addressing processes utilized in the FBI Laboratory Friction Ridge Discipline, to include:

- chemicals and reagents used in the processes;
- reagent checks;
- processing sequences;
- preservation of visualized prints; and
- hazardous waste management.

C. Personnel will refer to the specific procedure for each process to obtain detailed information on that process.

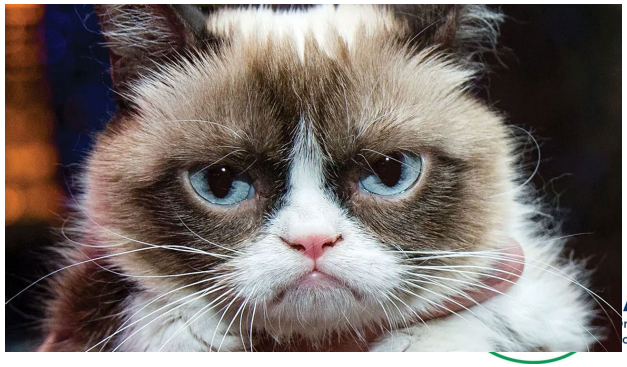
D. Available resources in addition to the judgment of the person conducting the processing (within the bounds of good laboratory technique and quality control) determine what examination procedures are appropriate and/or acceptable for certain circumstances as encountered in the daily forensic casework of the FBI Laboratory Friction Ridge Discipline.

2 SCOPE

These procedures are intended for use by appropriately qualified employees who have received training in the processes and chemicals used to develop latent prints.

FRD-300-09: Processing Overview	Page 2 of 9	Issue Date: 05/16/2022

- Use a logical progression when organizing your documents based on YOUR workflow
- Many procedures will be operationally driven based on your agency's case load and available resources



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YIN VS. YANG

4. Processing Considerations

4.1 The FSP shall apply processing techniques in the sequences (i.e., sequential processing) prescribed in this document, from least destructive to most destructive, for the detection of friction ridge impressions.

4.1.1 The FSP may supplement and/or deviate from the sequences for the detection of friction ridge impressions in certain situations. Some examples of when the FSP may supplement and/or deviate from the sequences are:

- The item does not react to a processing technique as expected (i.e. dry plastic vs soft plastic, thermal paper).
- The item of evidence has an obvious known contaminant such as blood or grease.
- The processing technique has not been validated to perform sufficiently in certain environmental conditions.
- The size of the item does not allow for a specific processing technique that aligns to the required sequence.
- The FSP has evaluated the efficacy and limitations of the processing technique, availability of resources, the circumstances of the case, and the type and condition of the evidence.

4.1.2 The FSP shall document deviations from the sequences.

4.2 Prior to applying specific processing techniques to evidence, the FSP shall assess the potential for negative implication to other types of examinations. Some potential negative implications to consider are:

- Forensic Light Source(s), such as short-wave ultraviolet (UV) light source, and the potential negative impact on DNA examinations.

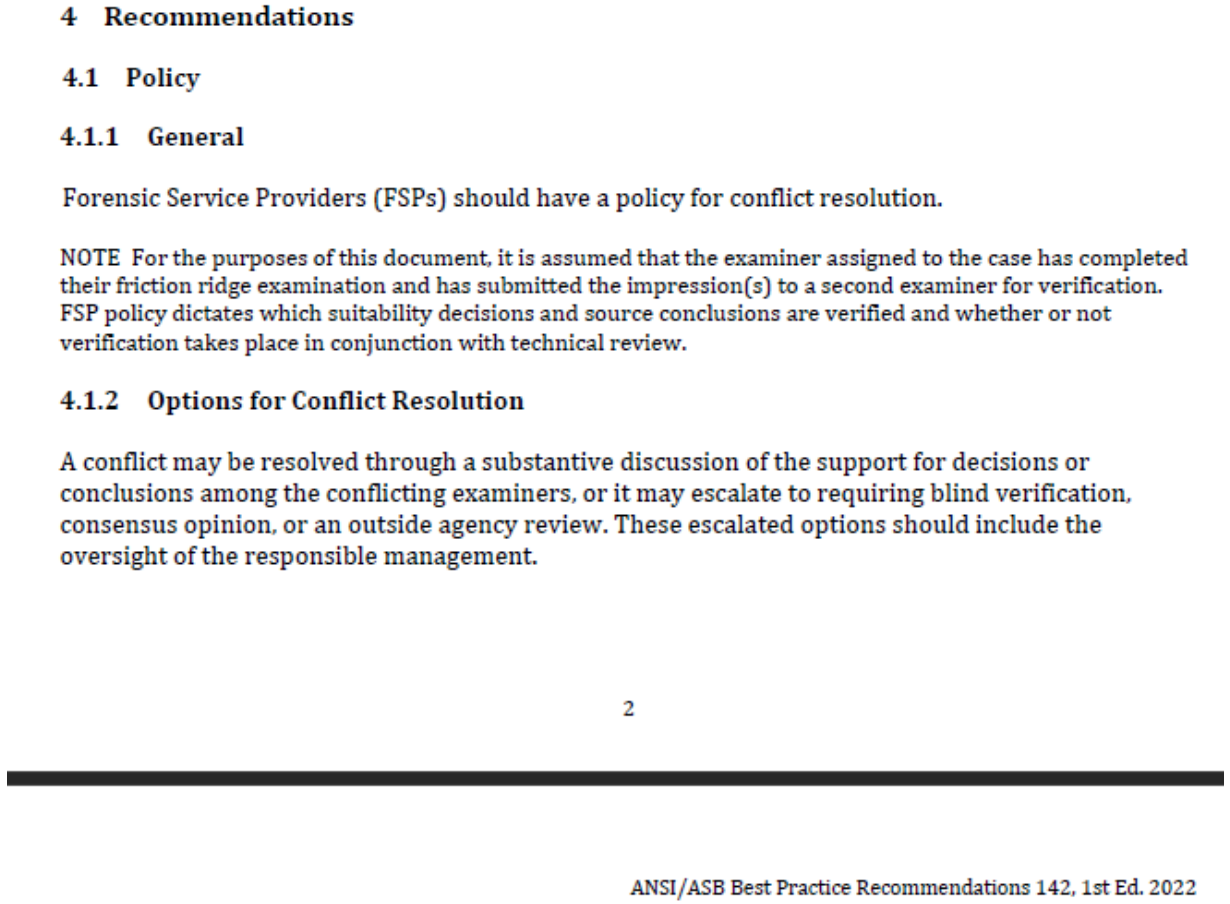
7.2 Proper Sequences and Types of Processes

Correct processing techniques increases the probability of developing the best quality ridge detail. Adherence to the listed sequences ensures the best opportunity to develop all ridge detail and minimizes the chance of destroying prints. Surfaces on which prints are deposited can be divided into two basic categories-porous and nonporous. Non-porous evidence retains the print on the surface of the item. Some examples include plastic bags, glass, metal, finished wood. Porous evidence absorbs the print into the surface of the item. Some examples include checks, letters, money, cardboard and newspaper.

Listed in Table 1 are the recommended sequential processes for porous, nonporous, semi porous, and some unique and/or difficult surfaces. Depending on the circumstances, all of the recommended processes will not always be performed. This is left to the discretion of the scientist.

AN EXAMPLE OF OUR OWN

- Decide: standalone conflict resolution policy or include in other relevant PPG (i.e. ACE-V or FR Examination Manual)
  - Establish decision points subject to verification (utility, ID, Exclusion, All)
  - Technical review considerations
  - What steps will your examiners follow to resolve conflicts?



4 Recommendations

4.1 Policy

4.1.1 General

Forensic Service Providers (FSPs) should have a policy for conflict resolution.

NOTE For the purposes of this document, it is assumed that the examiner assigned to the case has completed their friction ridge examination and has submitted the impression(s) to a second examiner for verification. FSP policy dictates which suitability decisions and source conclusions are verified and whether or not verification takes place in conjunction with technical review.

4.1.2 Options for Conflict Resolution

A conflict may be resolved through a substantive discussion of the support for decisions or conclusions among the conflicting examiners, or it may escalate to requiring blind verification, consensus opinion, or an outside agency review. These escalated options should include the oversight of the responsible management.

2

ANSI/ASB Best Practice Recommendations 142, 1st Ed. 2022

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AN EXAMPLE OF OUR OWN (CONTINUED)

5. Differences of Opinion and Conflict Resolution

5.1. Differences of opinion will be resolved through inter-examiner discussion whenever possible. Differences of opinion are an expected part of the examination, verification, and review process, and should not be considered criticism or taken in a negative way. The Section Chief (or designee) is responsible for mediating conflicts that are not resolved through inter-examiner discussions.

5.1.1. When differences of opinion in suitability or source conclusion occur, the verifying examiner shall:

- document their opinion(s) in the case record (documentation may include charts, text, and/or narrative),
- with the exception of potentially erroneous identifications, return the case record to the original examiner, and
- in instances of potentially erroneous identifications, alert the Section Chief.

5.1.1.1. The examiner and verifier may meet to discuss their differing opinions and the examiner may opt to report out the more conservative conclusion when the verifying examiner is in agreement.

5.1.1.2. Additional documentation created during the resolution of differences in opinion shall be added to the case record. This shall include documentation of how the difference was resolved.

5.1.1.3. If matters are not resolved at this level, the verifying examiner will bring the case to the Section Chief (or designee) for mediation.

5.2. Mediation shall occur when a difference of opinion cannot be resolved through inter-examiner discussion, at which point it is considered a conflict.

5.3. The Section Chief (or designee) mediating the conflict shall assess the extent and complexity of the issue and determine the appropriate form of mediation to resolve the conflict.

5.3.1. Mediation may include one or more of the following:

- This is where you can build in flexibility for your agency where needed

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- This “Should” is a shall for ANAB-accredited FSSP’s by virtue of AR3125 § 7.2.1.1
- Why is this best practice?
- Why might a FSSP opt not to document observable data?

4 Analysis of Friction Ridge Impressions

4.1 The examiner selects a questioned impression which has been assessed as having observable data and potential utility.

4.2 The observable data in the questioned friction ridge impression is analyzed and should be documented by the examiner prior to comparison with an exemplar friction ridge impression.

At a minimum, sufficient minutiae should be documented to support the examiner's utility decision (i.e., ridge endings, bifurcations, and dots).

4.3 The features and related observable data that should be considered during the analysis include classification pattern, ridge flow, minutiae, creases or wrinkles, and scars, as well as their individual attributes, such as type, location, orientation, shape, texture, and morphology.

4.4 The quality of the features and related observable data should be analyzed and documented by the examiner.

ANSI/ASB Best Practice Recommendation 165, 1st Ed 2024 – Best Practice Recommendation for Analysis of Friction Ridge Impressions

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- This color scheme is complicated
- How are we supposed to get any work done? This is a waste of time
- We use already-published documents as references when available and fit for purpose
- FSP's do not have to use the same references
- The days of "trust me, I'm an expert" are over. We have to show our work.

4.4.1 Documentation should be preserved digitally. The annotations may be done manually by the examiner or with automated image quality software.

4.4.2 Documentation should conform to the NIST Markup Instructions for Extended Friction Ridge Features [1], as provided by the criteria in 4.4.2.1 through 4.4.2.6 (see Annex A for further detail).

NOTE The designation of quality is based on a standardized color-coding scheme, with each level defined in terms of the reliability of reproduction of different types of minutiae and other features at each location in the friction ridge impression. For example, Category 3 (green) quality regions indicate areas within a friction ridge impression where the examiner has no doubt as to the presence of minutiae; whereas Category 2 (yellow) quality regions indicate areas in which the presence of minutiae is debatable.

4.4.2.1 Category 5 quality: all observed data are definitive. Marked as aqua.

4.4.2.2 Category 4 quality: definitive ridge edges, debatable pores. Marked as blue.

4.4.2.3 Category 3 quality: definitive minutiae, debatable ridge edges. Marked as green.

4.4.2.4 Category 2 quality: definitive ridge flow, debatable minutiae. Marked as yellow.

4.4.2.5 Category 1 quality: debatable ridge flow. Marked as red.

4.4.2.6 Category 0 quality: Background can be marked as black.

4.4.3 Documentation of the quality of the features and related observable data should include an explanation of the marking system if different than described in 4.4.2.

4.5 The complexity *of the impression* should be analyzed and should conform to the criteria[2] in 4.5.1 through 4.5.3.

- ANSI/ASB Best Practice Recommendation 165, 1st Ed 2024 – Best Practice Recommendation for Analysis of Friction Ridge Impressions
- NIST Special Publication 1151 Markup for Extended Friction Ridge Features, 2013

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WHAT IS THIS CONCLUSION SCALE SORCERY?

- BPR defines 5 possible conclusions & lists their required criteria

> **4.2 Evaluation**
>
> **4.2.1** The similarities and dissimilarities are evaluated to formulate a source conclusion and should be supported by the criteria in 4.2.1.1 through 4.2.1.5.

- BPR **does not require** the use of all 5
- Your SOPs should define what conclusions you may report and their criteria

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IN SUMMARY

- The OSAC-FRS actively seeks to produce technically sound documents to guide agencies in developing their own practices, policies & procedures while considering the variety of available agency resources and accreditation status
- OSAC documents are not intended to be step-by-step guides
- FSP's are responsible for developing their own SOPs, being responsive to the needs of their stakeholders
- Implementation of standards is not an all-or-nothing proposition
  - Help and mentorship is available if needed!
- Adherence to any industry standards is an ongoing endeavor and we are no different
- This is a lot of hard work!!!

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SO, WHAT NOW?

- Stay up to date on the goings-on at OSAC and the ASB consensus body
  - Participate in open comment periods!
  - Send feedback to the FRS on specific document & research needs
  - Consider self-declaration of adherence to standards on the OSAC website
- Put out the fire in your hair and start writing
  - Remember how to eat an elephant

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