A. PURPOSE: To define a method by which tape evidence will be collected and / or examined and / or compared.

B. **RESPONSIBILITY:**

Forensic Science Examiner who has successfully completed tape training is accordance with the Trace Section Training Manual (SOP-TR-01)

The Director or Supervisor may act as the co-signor of a report which includes tape comparisons.

C. SAFETY:

The appropriate measures for the proper handling of biohazard materials, sharps instruments and chemicals will be used according to the Connecticut State Forensic Science Laboratory Safety Manual.

D. PROCEDURE: Set up

1. The examiner will use his / her discretion to assess the probative value of the evidence; as well as, determine the types and extent of the examinations conducted.
2. The examiner may deem it necessary to vary from the set tape analysis protocol based on the evidence submitted. If a variation in the tape analysis procedure is necessary, the submitting agency will be notified.
3. If at any time during the comparison of a known and an unknown tape the examiner determines a significant difference, no further examinations will be conducted and the paint will be deemed "dissimilar".

E. PROCEDURE: Documentation

1. Evidence will be documented. (SOP-TR-05) Evidence Documentation.
2. Evidence and tape samples examined in the Trace Section will be documented on the appropriate Quality Record Worksheet. The required information will be recorded. These worksheet will remain in the case jacket.
3. The examiner may photo document tape-type evidence.

F. PROCEDURE: Collection

1. Questioned and known tape samples may be submitted to the laboratory as piece(s) of tape or on a roll.
2. Tape evidence may be transferred from other sections of the Laboratory to the Trace Section for further examination.
3. Tape may be removed from other types of evidence during examination within the Trace Section.
4. The examiner will determine the best method to remove tape from an item of evidence based on the evidence submitted.

G. PROCEDRUE: Analysis and Comparison

1. Topical debris which is adhering to tape evidence may be removed prior to analysis. This may be conducted by using an appropriate solvent solution. (Ex. Acetone or "Undo")
2. It may be necessary to consult with the Latent Print Section of the Laboratory to determine the best order for an analysis scheme. Some forms of instrumental analysis must be preformed prior to superglue fuming and latent print chemical processing.
3. Upon comparing a questioned and a known tape sample the examiner may first attempt to determine if a physical match of the tapes may be made. The examiner will determine if two samples may be physically matched together. If two samples are physically matched together the examiner may photograph the "matched" area and may include this photograph in the report.
4. If an examiner determines that two samples are a physical match, thus the two items were once one continuous piece, no further examinations may be necessary.
5. When comparing an unknown and a known tape sample the following scheme will generally be followed, based on the examiner's discretion – all or some of the following may be used: Comparison of-
    a. Gross Overall Physical Characteristics – Macroscopic / Microscopic Examination
    b. Physical Characteristics of the Structure (backing / scrim / adhesive)
    c. Chemical Composition (back / scrim / adhesive)
    d. Instrumental analysis may be used : FT-IR

<u>*The tape sample used for visual-type examinations will then be used for instrumental analysis.</u>

<u>*Warp and Fill thread counts for the scrim may be +/- 2 to be deemed similar.</u>

6. Supplemental examinations may be utilized at the discretion of the examiner for the determination of location, recovery, collection, identification or comparison of tapes. These examinations may include UV light, alternate light source (Crime Lights-brand), florescence microscopy, microspectrophotometery, solubility or SEM EDAX. If one or more of these supplemental forms of examination are utilized, their use will be documented in the case jacket.

   ** If a tape-type sample will be examined via SEM EDAX, an examiner from the Chemistry Section of the Forensic Science Laboratory may perform the analytical analysis needed and provide the data/ results/ images to the Trace Evidence Examiner. The data / results / images provided will be included in the case jacket for the case examined.

H. PROCEDURE: Storage

1. Tape samples may be packaged / stored on a plastic sleeve or between glass microscope slides or a similar method. The examiner will determine the best method to secure tape-type evidence for examination and / or storage. A variation of the previously listed methods may be used.
2. Retained tape evidence from a case will be placed in a sealed envelope with the examiner's initials across the seal and stored in the appropriate long-term storage area.

I. PROCEDURE: Report Writing

1. The examiner will assess the macroscopic / microscopic optical results and comparisons and analytical data (instrumental analysis) along with utilizing their training and experience to determine if two tapes are similar or dissimilar.
2. Upon the completion of a tape comparison, the examiner may utilize wording similar to those listed below. The examiner will use their training and experience to draft a report, which reflects the results obtained on a case-by-case basis.

   Typical statements used when writing a report may include:

   *Gray duct tape was located on item #1 (tape "from the suspect"). The adhesive, scrim and backing of this tape exhibited microscopic and instrumental characteristics similar to the duct tape "from the vehicle."

   Submission #1 consisted of clear tape. The adhesive and back of this tape exhibited similar characteristics to the adhesive and tape of submission #2.

*Gray duct tape located in submission #1 exhibited dissimilar characteristics to submission #2 "roll of tape".

*Submission #1 was a piece of tape. Submission #1 physically fit the end of submission #2 (roll of tape). Thus, these two items were once one continuous item.

The examiner will consult with the co-signer to draft a report, which best reflects the results obtained.