

PROCESS FOR CERTIFICATION OF MATERIALS**PURPOSE**

This Section sets forth the process for certifying the quality of materials used in Mn/DOT contracts. This process differs from Technical Memorandum 99-34-MRR-08 in that it contains some revised terminology that is necessary to accommodate the "Field Final" process instituted by the Office of Construction & Innovative Contracting effective November, 1 2002.

This process for Materials Certification applies to all Mn/DOT (including Mn/DOT consultants) construction and maintenance contract projects whether or not federal funding is involved. Projects administered by local agencies shall follow the process required by the State Aid Division.

BACKGROUND

The Mn/DOT Quality Assurance Program consists of all those planned and systematic actions necessary to provide confidence that a product or service provided by a highway construction contractor or a construction product vendor meets Mn/DOT's requirements for quality.

The Quality Assurance Program consists of three parts:

1. Acceptance Program
2. [Independent Assurance Program](#), and
3. [Materials Certification](#).

Each of the three major parts of the Mn/DOT Quality Assurance Program include several specific components as listed below:

Acceptance Program	Acceptance/Assurance/Verification Sampling and Testing Quality Control Testing (Certified Plants) Small Quantity Acceptance Schedule of Materials Control Qualified Laboratories (Central, District, and Field) AMRL Laboratory Accreditation Plant Monitoring Certified Plants Technician Certification Equipment Calibration Approved Products Pre-Cast Plant Inspection Dispute Resolution Independent Assurance Inspector (IAI)
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Independent Assurance	Evaluations and Reviews Schedule of Independent Assurance Sampling and Testing Laboratory Companion Samples (from Schedule of Materials Control) Proficiency Samples (Round Robins)
Materials Certification	Project Materials Certification (Current Tech Memo) OM Annual Project Compliance Reviews State Aid Division Project Audits/Reviews

The following describes the process for the Materials Certification part of the Quality Assurance Program.

DEFINITIONS

Acceptance Program. All factors that comprise Mn/DOT's determination of the quality of products as specified in the contract requirements. These factors include verification sampling, testing, and inspection and may include results of quality control sampling and testing.

AMRL. AASHTO Materials Reference Laboratory.

Approved Products. Products which can be accepted based upon a manufacturer's representation that a product complies with all contract requirements, usually identified by a product name. Common examples are concrete admixtures, joint sealers, raised pavement markers, and sign sheeting.

Certified Products. Products which can be accepted based upon a manufacturer's certificate of compliance. Certified products are sometimes referred to as from "certified sources" or "approved manufacturers." Common examples are asphalt, cement, fly ash, paint, and seed.

Field sampling and testing. Acceptance tests identified in the *Schedule of Materials Control* as "Field Tests," taken and performed by a Mn/DOT representative. Field tests are commonly run in the field or in a field laboratory, but may be run at any qualified laboratory.

Independent Assurance (IA) Program. Activities that are an unbiased and independent evaluation of all the sampling and testing procedures used in the Acceptance Program. The program covers sampling procedures, testing procedures, and testing equipment, and is defined in the *Schedule of Independent Assurance Sampling and Testing*.

Laboratory testing or field companion testing. Tests performed by a Mn/DOT District or central laboratory on a companion sample to the field test, as identified in the “Schedule of Materials Control.” Not to be performed by the same person and/or equipment as the field test.

Materials Certification. A process that provides reasonable assurance that all aspects of the Acceptance Program have been satisfactorily completed and that the materials incorporated are in close conformance to the contract specifications.

OM. The Office of Materials includes the Geotechnical Engineering Section, the Materials Engineering Section and the Pavement Engineering Section. The Pavement Engineering Section contains the Bituminous and Concrete Units. The Geotechnical Engineering Section contains the Grading and Base Unit. These units are traditionally referred to as the “specialty offices.”

Proficiency samples. Homogeneous samples that are distributed and tested by two or more laboratories. The test results are compared to assure that the laboratories are obtaining the same results. Commonly, two homogenous samples are created by splitting a larger sample and are called “companion samples.”

Quality assurance testing or quality control companion testing. Testing performed by a Mn/DOT representative on companion samples to the contractor or vendor’s quality control samples. Also known as QA testing.

Quality control sampling and testing. Testing performed by the contractor on samples taken by the contractor for process control which is used as a part of the acceptance decision as defined by the “Schedule of Materials Control.” Also known as QC testing or process control testing. A Mn/DOT representative is required to observe a minimum number of some types of quality control samples and tests.

Qualified laboratories. Laboratories that are capable as defined by appropriate Mn/DOT programs. As a minimum, each laboratory has a program for checking test equipment and the laboratory keeps records of calibration checks. Qualified sampling and testing personnel are used whenever performing acceptance tests for Mn/DOT or Federal-aid projects.

Qualified sampling and testing personnel. Personnel who are certified by the Technical Certification Program for tests they perform.

Verification companion testing. Testing performed by the contractor or vendor

on a companion to Mn/DOT's verification sample. These test results are required to be used in the contractor or vendor's quality control program.

Verification sampling and testing. Sampling and testing which is performed by a Mn/DOT representative, excluding the contractor and vendor, on samples taken by a Mn/DOT representative independently of the quality control samples and which is used as a part of the acceptance decision to validate the quality of the material which is being accepted based upon quality control testing.

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Field Documentation

The Acceptance Program is used to verify material quality as materials are incorporated into a project, accepted, and paid for. Whenever exceptions to the Acceptance Program requirements occur, those exceptions and corresponding resolutions are documented.

During the course of the project, and prior to or at the time of Final Acceptance of Work (Mn/DOT Spec 1516.2), the Project Engineer will record exceptions and resolutions on form TP-02171-04 and/or document exceptions and resolutions by Supplemental Agreement, Change Order or Backsheet Item. The Project Engineer will consult with and request input from the District Materials Engineer and the appropriate Specialty Offices. Both the Project Engineer and the District Materials Engineer sign form TP-02171-04 to indicate that they have had the opportunity to provide input. Specialty Offices provide input to form TP-02171-04 or provide separate documentation that allows the Project Engineer to complete the form. [Additions to accommodate the Field Final process are shown the next 3 paragraphs in bold - any questions that specifically deal with the Field Final process should be directed to Jennie Carlson in OCIC @ 651-366-4207.]. **All other questions concerning the Material Certification Process should be directed to either the appropriate specialty office in the Maplewood Central Lab or to your own District Materials Office.**

At the time of Final Acceptance of Work, and prior to the Project Engineer signing the Field Final and sending it to the Contractor for signature, form TP-02171-04 should be completed and all exceptions resolved. When the Engineer signs the Final Voucher to send to the Contractor the project is certified.

When the Final Voucher is returned signed by the Contractor, Form TP-02171-04 must be addressed by the Project Engineer on the Final Voucher Date Tracking Form by placing the date certified in the space provided on the form. (For sample Final Voucher Date Tracking Form see Section 5-591.370). Lacking this date on the Final Voucher Date Tracking Form, the Assistant District Engineer Construction will not sign and fully execute the

Final Voucher.

As a part of the fully executed Final Voucher Package, Form TP-02171-04 is submitted to the Office of Construction and Innovative Contracting in the Special Contract Requirements File.

The Office of Construction and Innovative Contracting need not review the content of form TP-02171-04 to complete the certification. The Office of Materials will review the content of the form for its own information and to provide feedback to District personnel. **All exceptions to the Acceptance Program requirements must be recorded on form TP-02171-04 or listed on the Summary Report of supplemental agreements, change orders, and backsheet items attached to form TP-02171-04.**

The following are EXCEPTIONS:

Failing Tests	Any failure of an acceptance test, meaning a field test, quality control test, or verification companion test. Corrections or deducts resulting from failing tests must be listed as resolutions of exceptions.
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Missing Tests	Any missed field test, quality control test, or verification test. Tests include required observations of quality control tests.
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Test Tolerance	Any tolerance failure between an acceptance test and the corresponding companion proficiency or Independent Assurance sample test. Companion sample tests are performed between:
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Field and Laboratory samples
Quality control and quality assurance samples
Verification and verification companion samples
Field and Independent Assurance samples
Quality control and Independent Assurance samples
Plant observer's quality assurance or verification samples and IA samples

Note that when an acceptance test passes and the companion proficiency or Independent Assurance sample fails but is within the allowed tolerance, there is no exception to be documented.

Non-Certified	Any acceptance samples taken or tests performed by
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Testers	non-certified or under-certified testers. This includes contractor quality control tests when used for acceptance and agency verification tests. Tests not performed in a qualified laboratory are also exceptions.
Other Exceptions	Material accepted from a non-approved source, missing certificates of compliance, etc.
Exception Clarifications	<p>Independent Assurance tests fails and is out of tolerance <u>is an</u> Exception.</p> <p>Individual test out of tolerance, but moving average within limits <u>is an</u> Exception for individual test out of tolerance.</p> <p>Bituminous test results in the warning band (year 2000 and older specifications) <u>is an</u> Exception, reduce payment in accordance with specifications.</p> <p>Paving without a Mixture Design Report/Recommendation <u>is an</u> Exception.</p>

The following are Not Exceptions:

Low concrete cylinder strength. Not an exception unless cylinder strength is specified on that project.

Field QC test passes, lab QA test fails and the tests are within tolerance.

Independent Assurance test fails and is within tolerance of a passing field test.

QA test does not meet JMF/broadband requirements, QC test meets requirements and the tests are within tolerance.

Out of tolerance test on Bituminous summary sheet, with a retest that is within tolerance.

Bituminous gradation tests outside the current Mixture Design Report/JMF but within the requested mix adjustment. Not an exception if the requested mix adjustment is approved. When the request is approved, it should be considered effective from the time it was made and noted on the daily summary sheet.

Missed Independent Assurance (IA) tests. Not an exception that must be listed on the Materials Certification Exception summary Form. However, Mn/DOT must provide an Annual IA Report to the Federal Highway Administration that lists the number of missed IA tests. The District Materials Engineer is responsible for tracking the number of missed IA tests and reporting that number annually to the Pavement Engineer for compilation into the Mn/DOT annual report to the FHWA. The latest version of the Exceptions Summary Form has check boxes to assist with the tracking of IA activities.

NOTE The Automation Section in the Office of Construction and Innovative Contracting, have developed a summary type report in the field computer application for change orders, supplemental agreements and backsheets items.

All exceptions not covered by change orders, supplemental agreements or backsheets summary reports need to be listed on the Exception Summary Form. A copy of the change order, supplemental agreement, and backsheets summary reports must be attached to the “[Exception Summary Form](#)” TP-02171-04.

Resolutions are required for all exceptions recorded on form TP-02171-04. Resolutions can be brief, but must describe the action taken or the rationale for taking no action. Supporting documentation should be contained in the file. Examples of actions taken as resolutions may include “standard deduct applied,” or “\$ per unit deduct applied,” or “mix change made and testing rate increased,” or “testing equipment recalibrated, test rerun and passed,” etc.

Resolutions may also result in no actions having been taken. This is an acceptable resolution when accompanied by appropriate rationale. Often, “substantial compliance” or “in close conformity” will be used as resolutions in these situations. Generally these resolutions should only be used for a minor test failure or the omission of a few out of many required tests. Rationale for taking no action must be included on the form or referenced.

Certificate of Final Contract Acceptance

Materials Certification applies to the Acceptance Program activities only. The certification instrument will be the Certificate of Final Contract Acceptance contained on the Final Voucher. It is the responsibility of the project engineer to verify that all aspects of the Acceptance Program were complied with and that exceptions are appropriately resolved and duly documented in the project file. For information, the statement on the Final Voucher reads as follows:

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This is to certify that to the best of my knowledge and belief the items of work shown in the statement of work certified herein have been actually furnished in accordance with the plans and specifications. This project has been completed in accordance with the laws, standards and procedures of Minnesota as they apply to projects in this category and, if applicable, approved by the Federal Highway Administration.

Dated:

Signature: _____

Project Engineer

By signing the Certificate of Final Acceptance, the Project Engineer is certifying that all aspects of the project have been properly completed. This Technical Memorandum describes the materials aspects of that certification. The certification for materials consists of the following.

1. All materials incorporated into the project were in conformance with the approved plans, special provisions, and specifications (including approved changes).
2. The required number of observations were made and/or samples taken, tested, and compared to companion sample test results (where applicable) in conformance with the minimum testing rates listed in the "Schedule of Materials Control" and project special provisions.
3. All Mn/DOT and contractor project personnel performing acceptance testing were certified at the appropriate level for the tests performed. All acceptance tests not performed by project personnel were performed by a qualified laboratory or by Mn/DOT central or plant inspection.
4. All acceptance samples taken and tested as a companion to an independent assurance sample were within tolerance limits of the independent assurance companion samples.
5. Any exceptions to items 1-4 and resolutions to those exceptions have been duly documented and appropriate corrective measures have been taken. Form TP-02171-04 has been completed, placed in the file, and copies sent.

Project Compliance Reviews

Project Compliance Reviews may be conducted by the Pavement and Geotechnical Engineering Sections of OM and by other specialty offices such as Agriculture, Materials/Metals, and Chemical. The Federal Single Audit is a separate process conducted independently by the Mn/DOT Auditor's office.

A committee from the Office of Materials will annually select projects from within various categories to review for compliance with the requirements of the Materials Certification process. Reviewing will also be done to determine compliance with Mn/DOT requirements to submit reports to OM.

Review rates and project categories will be determined by this committee. The rate may vary from category to category of project, and complex project categories may be reviewed at a higher rate. The rates may be adjusted by this committee as deemed necessary to provide reasonable assurance that the Materials Certification process is being complied with.

Both irregularities and areas of outstanding performance found during reviews will be reported back to the Project Engineer and District/Metro Materials Engineer. The Project Engineer, with the cooperation of the District/Metro Materials Engineer, will address, and if possible correct, all irregularities. The Assistant District/Metro Engineer will receive a copy of the District/Metro results and the Project Engineer's explanations.

If the Districts or Metro perform in-house review processes that meet the requirements of the Pavement Section for compliance reviews, the Pavement Engineer may delegate review responsibility to the District/Metro Materials Engineer and reduce or eliminate reviews performed by the Office of Materials.

It is the responsibility of the Office of Materials to compile the results of the Project Compliance Reviews performed by the various specialty offices, and the audit results from the Mn/DOT Auditor's Office. The compiled results will be summarized and evaluated for needed improvements to the Quality Assurance Program.

Independent Assurance

Independent Assurance is not an integral part of the Materials Certification Process. However boxes are provided on the Materials Certification Exceptions Summary Form to assist the tracking of Independent Assurance activities. The District Materials Engineer is responsible for annually reporting the Independent Assurance activities to the Mn/DOT Pavement Engineer independently of the Materials Certification process.

QUESTIONS

If you have questions concerning Materials Certification contact the Materials Office at (651) 366-5592.

5-591.430

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Dist./Metro Materials Engineer	Date	Project Engineer	Date
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ATTACH SUMMARY REPORTS OF SUPPLEMENTAL AGREEMENTS, CHANGE ORDERS, and BACKSHEET ITEM EXCEPTIONS.

☒ No Independent Assurance Required
☐ Independent Assurance Required
☐ Independent Assurance Completed Without Exceptions
☐ Independent Assurance Completed With Exceptions

Information regarding Independent Assurance is available in the District L.A. or Project Engineer Files
 Original: Retain in Project File
 Copy: State Materials Testing Engineer - MS 845
 Copy: Financial Operations Section - MS 215
 Copy: District Materials Engineer
 Copy: Office of Construction - MS 650

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Minnesota Department of Transportation

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To: All Construction Resident Engineers;
Project Engineers; Project Supervisors;
Project Personnel; Consultants

Date: 08/27/07

From: Dave Van Deusen
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Waters Edge Bldg.
(651)234-7354

Subject: Materials Certification Process;

It has come to our attention that with the many new faces in Mn/DOT over the past few years, and with an increased use of Consultants in Project Administration, we need to clarify the Final Materials Certification process and the required supporting information needed to get approval. The goal here is to better help you understand the Materials Certification Exception Summary Form, and create a package for submittal that is simple and complete. This will also expedite the Exception Form through the certification process. This memo is meant to be a **quick summary guide** of the Manual's *detailed* process, and is **not** meant to replace it, please consult the Contract Administration Manual for in-depth explanations and Exception Clarifications. The website can be found at: <http://www.dot.state.mn.us/const/tools/conadminmanual.html>. We are still operating off the process defined in the Contract Administration Manual last updated April 15, 2005; under "Documentation of pay Item Quantities" (5-591.410).

This process for Materials Certification applies to all Mn/DOT (including Mn/DOT Consultants) Construction and Maintenance Contract projects, whether or not Federal-Aid funding is involved. Projects administered by local agencies shall follow the process required by the State Aid Division, which has elected to follow the Standard Certification process in Federal-Aid projects as explained above, unless the project is funded by 100% state-aid or local funds (no Federal aid), in which case the IAST schedule does not apply. Please contact The Independent Assurance office or State Aid Office if you are unsure if the project status is subject to State Aid requirements.

BACKGROUND;

Federal requirement (23 CFR 637) states that for all Federal-Aid highway projects, State DOT's have a Quality Assurance/Acceptance Program in place to insure compliance. The Mn/DOT Quality Assurance Program consists of all those planned and systematic actions necessary to provide confidence that the product or service provided by a highway construction contractor, personnel, or construction product vendor meets Mn/DOT's requirements for quality.

The Quality Assurance Program consists of three parts:

1. **Acceptance Program** (QC/QA program, Technician, lab, Plant, and Equipment Certifications, approved products, Schedule of Materials Control).
2. **Independent Assurance Program** (Inspector evaluations and reviews, calibrations, Laboratory companion and proficiency samples, project Tech help).
3. **Materials Certification** (Project Materials Certification-current tech memo, Maplewood Office of Materials Annual Project Compliance Reviews, State Aid Project Audits/Reviews).

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Field Documentation

The Acceptance Program is used to verify material quality as materials are incorporated into a project, accepted, and paid for. Whenever exceptions to the Acceptance Program requirements occur, those exceptions and corresponding resolutions **must** be documented.

During the course of the project, and prior to or at the time of Final Acceptance of Work (Mn/DOT Spec 1516.2), The Project Engineer will record exceptions and resolutions on form TP-02171-04 (Materials Certification Exception Summary) and/or document exceptions and resolutions by Supplemental Agreement, Change Order, or Back sheet Items. The Project Engineer will consult with and request input from the appropriate Specialty Offices, or District Materials Engineer. Both the Project Engineer and District Materials Engineer sign form TP-02171-04 to indicate that they have had the *opportunity* to review the project during construction, and provide input. The Specialty Offices may provide direct input to form TP-02171-04, or they will provide **separate documentation** (Metro Inspection Fax Letters) that allows the Project Engineer to complete the form. At the time of final acceptance of work, form TP-02171-04 **must** be completed and **all** exceptions resolved.

If form TP-02171-04 is not submitted correctly, or if all exceptions and resolutions have not been accounted for, The Office of Construction and Contract Administration will delay submittal of the Final Payment Voucher and may not certify the Project.

All exceptions to the Acceptance Program requirements must be recorded on form TP-02171-04, or listed on the Summary Report of supplemental agreements, change orders, and back sheet items attached to form TP-02171-04.

The following are job **EXCEPTIONS**:

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| Failing Tests | Any failure of an acceptance test- meaning a field test, quality control test, or verification companion test. Corrections or deductions resulting from failing tests must be listed as resolutions of exceptions. |
| Missing Tests | Any missed field test, quality control test, or verification test. Tests include required observations of quality control tests.
<u>NEW</u> : Metro Inspection Staff shortage = Missing verification test. |
| Test Tolerance | Any tolerance failure between an acceptance test and the corresponding companion proficiency or Independent Assurance sample test. Companion sample tests are performed between: <ul style="list-style-type: none">• Field and Laboratory samples• Quality control and Quality assurance samples• Verification and verification companion samples• Field and Independent Assurance samples• Quality control and Independent Assurance samples• Plant monitor's quality assurance or verification samples and IA samples |

Note; when an acceptance test passes and the companion proficiency or Independent Assurance sample fails, but is *within* the allowed tolerance, there is **no** exception that has to be documented.

Non-Certified Testers Any acceptance samples taken or tests performed by non-certified or

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under-certified testers. This includes contractor quality control tests when used for acceptance and Agency verification tests. Tests not performed in a qualified (certified) laboratory or field testing lab.

Other Exceptions

Material accepted from a non-approved source, missing Certificates of Compliance, etc. Paving without a approved Mix Design Report or Recommendation = Exception.
Independent Assurance tests fails **and** is out of tolerance = Exception
Mix or paving out of a Non-Certified plant =Exception

The following are **NOT Exceptions**:

- Field QC test passes, lab QA test fails, and the tests are within field/lab tolerance.
- Independent Assurance test fails, but is *within* tolerance of the passing field test.
- Low concrete cylinder strength break. This is not an exception unless cylinder strength is specified on that project. Any pattern of bad breaks should send up a red flag to be investigated.

This is a Partial list of the most common non-exceptions; consult The Contract Administration Manual and/or the Spec book for a complete list.

RESOLUTIONS:

Resolutions are required for **all** exceptions recorded on form TP-02171-04. Resolutions can be brief, but must describe the action taken or the rationale for taking no action. Supporting documentation should be contained in the file and list the document reference in the appropriate column. Examples of actions taken as resolutions may include "standard deduction applied", or "\$ per unit deducted applied", or "mix rate changed and testing rate increased", or "testing equipment recalibrated, test rerun and passed", or "area re-watered and re-compacted, test rerun and passed" etc.

Resolutions may also result in no actions having been taken. This is an acceptable resolution when accompanied by appropriate rationale. Often, "substantial compliance" or "Materials incorporated in-place performing satisfactory", or "in close conformity" will be used for resolutions in these situations. Generally these resolutions should *only* be used for a **minor** test failure or the omission of a few out of many required tests. Rationale for taking no action **must** be included on the form.

Final Materials Certification Summary form (TP-02171-04)

It is the responsibility of the Project Engineer to verify that all aspects of the Acceptance Program were complied with and that any exceptions are appropriately resolved, and corrective measures and/or monetary deductions have been taken and duly documented on the form. By signing the Materials Certification Summary form in the lower right hand part of the sheet, the Project Engineer is certifying that all aspects of the project have been properly completed.

The District/Metro Materials Engineer is responsible for making sure all Independent Assurance activities are completed, tracked, and reported on the form in the lower left hand corner. The District/Metro Materials Engineer

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(IAI) is responsible for checking the appropriate box in the lower left hand corner of the form, not the Project Engineer. The Independent Assurance check is reported annually and is *separate* from the Materials Certification Process. It is an unbiased and independent evaluation of all the sampling and testing procedures used in the Acceptance Program, and aids the Project Engineer in assuring overall Project compliance.

The following paperwork **MUST** be attached and included in the overall Packet to expedite form TP-02171-04 through the process: Any errors, missing faxes, rosters, back sheet items, Change orders, etc. will delay the process by having to return the form back to the Project Engineer for the required paperwork and/or corrections.

- Materials Certification form (TP-02171-04) completely filled out, all Material Specialty items used on Project listed, and any Exception Descriptions and subsequent Resolutions correctly accounted for.
- Materials Certification form (TP-02171-04) Signed in ink by the Project Engineer in the lower right hand corner. (Do not check boxes in the lower left hand of the form).
- Project Technician Roster listing ONLY the technicians/testers/samplers that actually did physical testing on the project (Density, DCP, Gradations, Air, Shump Cylinders, etc.) Do not list visual inspectors or personnel involved in checking finals/office personnel.
- If *Metro Inspection* was used on the project, include the Faxes from Concrete (Dick Kasa) or Bituminous (Deb Evans). The Fax from Metro Inspection office confirms they have reviewed their files for any Materials exceptions (Plant & Lab-they could have additional Exceptions you are not aware of.) on the listed projects, have consulted the proper Specialty office and have recommended the appropriate Resolution if any. If another Agency or Consultant lab did the QA work, include test results and their review/report/ and recommendation of the project and any action that should be taken.
- Any Supplemental Agreements, Change Orders, or Back Sheet Item Exceptions.

With all the required information included or attached, the Exception Summary form then begins the process for final Certification. Independent Assurance will review their Project records and lab reports, and check sample IAI/ Field/Lab tolerances. If an IAI missing, failing, uncertified, or test tolerance Exception is found; it, along with the lab reports, will be sent back to the Project Engineer to be included on the Exception Form, along with the suitable Resolution from the Engineer.

If after reviewing the Exception Summary form all is found correct, IAI then checks the appropriate box in the lower left hand corner of the form, initials and dates it, and then sends it on the District/Metro Materials Engineer. Who after review, either signs and returns the form/packet to the Project Engineer for final processing, or can elect to return it unsigned for incomplete paperwork or improper/missing Resolutions to Exceptions.

Hopefully this Memo will help assist you through the sometimes confusing process of Materials Certification, and will help to speed the procedure along correctly. Please try to remember the purpose of this method is to provide *reasonable* assurance that all aspects of the Acceptance program have been satisfactorily completed and that the materials incorporated are in close conformance to the Contract Specifications.

If you have any questions to this Memo, please feel free to contact either Dave VanDeusen, Metro District Materials Engineer @ (651) 234-7350, or Tim Sinclair Pavement Management/IAI @ (651) 234-7354