INDIANA DEPARTMENT OF TRANSPORTATION OFFICE OF MATERIALS MANAGEMENT

MATERIAL CERTIFICATION AND APPROVED LIST APPLICATION FORMS
ITM No. 804-19

1.0 SCOPE.

1.1 This procedure covers the forms to be used for various types of material certifications and applications to approved products lists. Included forms that are indicated as Type A, Type B, Type C, Type D certifications are in accordance with the Department's Standard Specifications, Section 916.03. The forms contained herein pertain to specific materials.

1.2 This ITM may involve hazardous materials, operations, and equipment and may not address all of the safety problems associated with the use of the test method. The user of the ITM is responsible for establishing appropriate safety and health practices and determining the applicability of regulatory limitations prior to use.

2.0 TERMINOLOGY. Definitions for terms and abbreviations shall be in accordance with the Department’s Standard Specifications, Section 101.

3.0 SIGNIFICANCE AND USE. This ITM provides forms containing required information about materials. Depending on the material, the forms shall be completed and submitted by the Contractor, a manufacturer, a supplier, a fabricator, or other designated companies furnishing the material to a Department contract. The information shall be presented in a format shown in this ITM. The information shall be complete, accurate, pertaining to the materials furnished, and without omissions of required information shown on the forms. Unless shown otherwise, the types of certifications shall be in accordance with the Department's Standard Specifications, Section 916.02.

4.0 MATERIAL CERTIFICATION AND APPROVED LIST APPLICATION FORMS.

<table>
<thead>
<tr>
<th>Form Name</th>
<th>ITM Section No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliance for Plants</td>
<td>4.1</td>
</tr>
<tr>
<td>Nursery Inspection</td>
<td>4.2</td>
</tr>
<tr>
<td>Welding Electrode</td>
<td>4.3</td>
</tr>
<tr>
<td>Fly Ash Source</td>
<td>4.4</td>
</tr>
<tr>
<td>Cement</td>
<td>4.5</td>
</tr>
<tr>
<td>Geosynthetic Materials</td>
<td>4.6</td>
</tr>
<tr>
<td>Geotextiles</td>
<td>4.6.1</td>
</tr>
</tbody>
</table>
Certification for Geotextile Properties under Riprap and Revetment Applications 4.6.1.01
Certification for Geotextile Properties for Underdrains and Drainage Applications 4.6.1.02
Certification for Geotextile Properties for Pavement or Subgrade Stabilization 4.6.1.03
Certification for Geotextile for Silt Fence 4.6.1.04
Certification for Geomembrane 4.6.2
Certification for Geocell Confinement System 4.6.3
Geogrid 4.6.4
Certification for Type 1A Geogrid Used for Foundations 4.6.4.01
Certification for Type 1B Geogrid Use for Subgrade 4.6.4.02
Certification for Type II Geogrid Used for Embankment 4.6.4.03
Certification for Type III Geogrid Used for Modular Block Wall 4.6.4.04
Ground Granulated Blast Furnace Slag Source 4.8
Silica Fume 4.9
Type A - Epoxy Coated Reinforcing and Dowel Bars 4.10
Type B - Reinforcing and Dowel Bars 4.11
Non-Epoxy PCC Sealer 4.12
Neutralized Vinsol Resin Air Entraining Admixtures 4.13
Air Entraining Admixture Manufactured in Proportions other than AASHTO T 157 and Type A, B, C, D, E, F and G Admixtures 4.14
Rapid Setting Patch Materials 4.15
Certification of Compliance for Coating Formulation 4.20
Certification of Compliance for Structural Steel Coating Systems 4.21
Annual Certification Letter for Reflective Sheeting 4.22
Profile Wall HDPE Liner Pipe Certification 4.23
Solid Wall HDPE Liner Pipe Certification 4.24
Asphalt Emulsion 4.25
Annual Certification for Delineators 4.26
Type D Certification for CIR and CCPR Recycling Treatments 4.27
Type D Certification for Cement and Asphalt Emulsion Stabilized FDR 4.28
4.1 Compliance for Plants.

CERTIFICATION OF COMPLIANCE FOR PLANTS

I hereby certify that the following listed plants which were supplied to ______________________ for contract No._________ comply with Indiana Department Contractor of Transportation specifications set out in subsection 914.08.

The number and species of plants supplied shall be listed in this space. The species shall be the exact pay item.

I understand that State and/or Federal funds are involved in the work in which this material will be used and that any misrepresentation on my part constitutes fraud.

__________________________________________________________________________________________
(Date) (Signature of Company Official)

__________________________________________________________________________________________
(Date) (Signature of Contractor)
4.2 Nursery Inspection.

CERTIFICATE OF NURSERY INSPECTION

No. _________________Indianapolis, Indiana, Date _____________________________

This is to certify that the nursery stock grown by ________________________________
located at ____________________________, Indiana, consisting of ________________ acres
(________________ hectares), has been inspected by the undersigned or his authorized
representative, on ______________________, 2_____ in compliance with Indiana Code 14-24-5,
14-24-9, 14-24-10, and 14-24-11, and has been found apparently free from destructively injurious
insects and plant diseases.

This certificate covers ____________________________________and is valid, unless
revoked for cause until October 1, 20_______.

Signed: _________________________________________________________________
(State Entomologist)
4.3 Welding Electrode.

WELDING ELECTRODE CERTIFICATION

______________________________
Manufacturer's Name and Address

Supplied to: __________________________________________

Date: ________ Quantity: __________ Order No.: __________ Project: No.___________

This is to certify that _____________________________ ASTM-AWS classification (EXXX) as
(trade name)
supplied under the above order number, is of the same classification, manufacturing process, and
material requirements as the electrodes tested on _________________, 2_____.

All tests required by specification AWS A5.1 or AWS A5.5 were performed in accordance with
this specification and the above electrode met all the requirements. The electrodes are marked in
accordance with AWS A5.1 or AWS A5.5.

The chemical and mechanical properties of the deposited weld metal were as follows:

<table>
<thead>
<tr>
<th>Property</th>
<th>5/32 in.</th>
<th>3/16 in.</th>
<th>1/4 in.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DC+</td>
<td>AC</td>
<td>DC+</td>
</tr>
<tr>
<td>Tensile Strength psi</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yield Strength psi</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elongation % in 2k</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charpy V Notch Ft Lbm at ___ °F</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manganese %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silicon %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nickel %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chromium %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molybdenum %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vanadium %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fillet Tests Position as required</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiographic Test</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fillet Test, Radiograph, Chemistry, and Mechanical Properties are not required for the following
sizes:_______________________________________________________

Operations supervised by __________________________________________
4.4 Fly Ash Source.

FLY ASH SOURCE CERTIFICATION

___________________________, as contracted by, _____________________________ certifies
(Broker) (Power Company)

that all class_______ fly ash, produced by the _______________________________
(F or C) (Name and/or Unit No.)

Power Plant of ________________________________,
(Power Company)

located in __________________, ________________________________, shipped for
(City) (State)

use on Indiana Department of Transportation projects will be produced under appropriate quality
control and will comply with all AASHTO M 295 Specifications and Indiana Department of
Transportation Standard Specifications requirements.

___________________________, as contracted by, _____________________________
(Broker) (Power Company)

shall comply with the Indiana Department of Transportation Standard Specifications for all quality
assurance testing and reporting requirements.

___________________________
(Date) (Broker)

___________________________
(Signature)

___________________________ agrees that any part of the above named
(Power Company)

power plant associated with the production of such fly ash may be checked by properly identified
representatives of the Indiana Department of Transportation.

___________________________
(Date) (Power Company)

___________________________
(Signature)
4.5 Cement.

CEMENT CERTIFICATION

The ____________________________

(Manufacturer and Location)
certifies that type __________________________cement in this shipment conforms to the
(type of cement)
requirements of the Indiana Department of Transportation Standard Specifications; and Source of
Shipment_____________________________; (if other than production location)
Purchaser and/or Consignee ________________________________;
Point of Delivery ________________________________;
Silo Identification ________________________________;
Carrier and Truck Number ________________________________;
Date of Shipment ______________________________________;
Quantity of Cement in kilograms (pounds) ____________________________;
and Other Information ______________________________________
If Portland-Pozzolan cement, type IP or IP-A, is being shipped, the certification shall
further state:
Class of ASTM C 618 Fly Ash ____________________________; and Percentage of Pozzolan
_______ % based on the mass of the Portland-Pozzolan cement.

__________________________________  ______________________________
(Date)  (Signature)
4.6.1.01 GEOSYNTHETIC MATERIALS, GEOTEXTILES.

(a) CERTIFICATION FOR GEOTEXTILES PROPERTIES FOR RIPRAPH AND REVETMENT APPLICATIONS

________________________ is a non-woven or woven geotextile consisting of strong, rot resistant, chemically stable long-chain synthetic polymer material dimensionally stable with distinct and measurable openings. The plastic yarn or fibers used in this geotextile consist of a longchain synthetic polymer composed of at least 85 percent by mass of polyolefin, polyesters, or polyamides; and contains stabilizers and inhibitors added to the base plastic to make the filaments resistant to deterioration due to ultraviolet and heat exposure. This geotextile is calendared or otherwise finished so that the yarns or fibers will retain their relative position with respect to each other.

All damaged geotextile shall be replaced for the entire width of the roll. The Contractor shall furnish the product labeled that clearly indicates the manufacturer’s or suppliers name, product identification, lot number, manufactured date, roll dimensions. Geotextiles used for Department projects shall be NTPEP listed and shall be in accordance with AASHTO M 288 and the Department’s Approved Materials List.

I hereby certify that the primary sampling units were selected in accordance with ASTM D 4354, Type_______________________, and NTPEP No.____________________________. The results of testing each primary sampling unit are reported as follows:

Please note that no more than one application per worksheet will be accepted.

<table>
<thead>
<tr>
<th>Test</th>
<th>Method ASTM</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grab Tensile Strength, min.</td>
<td>D 4632</td>
<td>lbs</td>
</tr>
<tr>
<td>Grab Elongation</td>
<td>D 4632</td>
<td>%</td>
</tr>
<tr>
<td>CBR Puncture Strength, min.</td>
<td>D 6241</td>
<td>lbs</td>
</tr>
<tr>
<td>Trapezoid Tear Strength, min.</td>
<td>D 4533</td>
<td>lbs</td>
</tr>
<tr>
<td>UV Degradation Resistance 500 hrs, min.</td>
<td>D 4355, D 6637</td>
<td>%</td>
</tr>
<tr>
<td>Apparent Opening Size, AOS, min.</td>
<td>D 4751</td>
<td></td>
</tr>
<tr>
<td>Permittivity, min.*</td>
<td>D 4491</td>
<td>sec⁻¹</td>
</tr>
</tbody>
</table>

Note: All values are minimum average roll values (MARV) as determined in accordance with ASTM D4354 in weaker principal direction, except AOS is based on maximum average roll value.

*The nominal coefficient or permeability was determined by multiplying permittivity value by nominal thickness. The nominal thickness is measured under a normal load of 280 psi (1.93 MPa).

I understand that State and/or Federal funds and/or services are involved in the work in which this material will be used and that any misrepresentation on my part constitutes fraud.

________________________ (Manufacturer’s Name)  ______________________ (Signature of Manufacturer’s Official)
________________________ (Date)  ______________________ (Title of Official)
4.6.1.02 GEOSYNTHETIC MATERIALS, GEOTEXTILES

(b) CERTIFICATION FOR GEOTEXTILE PROPERTIES FOR UNDERDRAINS AND DRAINAGE APPLICATIONS

is a non-woven or woven needle punched or heat bonded geotextile consisting of strong, rot resistant, chemically stable long-chain synthetic polymer materials, dimensionally stable with each other including selvedges. The plastic yarn or fibers used in this geotextile consist of at least 85 percent by weight (mass) of polyolefin, polyesters, or polyamides; and contain stabilizers and inhibitors added to the base plastic to make the filaments resistant to deterioration due to ultraviolet and heat exposure.

All damaged geotextile shall be replaced for the entire width of the roll. The Contractor shall furnish the product labeled that clearly indicates the manufacturer’s or suppliers name, product identification, lot number, manufactured date, roll dimensions. Geotextiles used for Department projects shall be NTPEP listed and shall be in accordance with AASHTO M 288 and the Department’s Approved Materials List.

I hereby certify that the primary sampling units were selected in accordance with ASTM D 4354, Type , and NTPEP No. . The results of testing each primary sampling unit are reported as follows:

Please note that no more than one application per worksheet will be accepted.

<table>
<thead>
<tr>
<th>Test</th>
<th>Method ASTM</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grab Tensile Strength, min.</td>
<td>D 4632</td>
<td>lbs</td>
</tr>
<tr>
<td>Grab Elongation</td>
<td>D 4632</td>
<td>%</td>
</tr>
<tr>
<td>CBR Puncture Strength, min.</td>
<td>D 6241</td>
<td>lbs</td>
</tr>
<tr>
<td>UV Degradation Resistance 500 hrs. min.</td>
<td>D 4355, D 6637</td>
<td>%</td>
</tr>
<tr>
<td>Apparent Opening Size, AOS.</td>
<td>D 4751</td>
<td></td>
</tr>
<tr>
<td>Permittivity, min.</td>
<td>D 4491</td>
<td>sec(^{-1})</td>
</tr>
</tbody>
</table>

Notes: 1. All values are minimum average roll values (MARV) as determined in accordance with ASTM D4354 in weaker principal direction, except AOS size is based on maximum average roll value
2. Type 3 Value is maximum average roll value (Max ARV) as determined in accordance with ASTM D4354

I understand that State and/or Federal funds and/or services are involved in the work in which this material will be used and that any misrepresentation on my part constitutes fraud.

(Manufacturer's Name) (Signature of Manufacturer's Official)

(Date) (Title of Official)
(c) CERTIFICATION FOR GEOTEXTILE PROPERTIES FOR PAVEMENT OR SUBGRADE STABILIZATIONS

______________________________ is a non-woven or woven needle punched or heat bonded geotextile consisting of strong, rot resistant, chemically stable long-chain synthetic polymer materials, dimensionally stable with each other including selvedges. The plastic yarn or fibers used in this geotextile consist of at least 85 percent by weight (mass) of polyolefin, polyesters, or polyamides; and contain stabilizers and inhibitors added to the base plastic to make the filaments resistant to deterioration due to ultraviolet and heat exposure.

All damaged geotextile shall be replaced for the entire width of the roll. The Contractor shall furnish the product labeled that clearly indicates the manufacturer’s or suppliers name, product identification, lot number, manufactured date, roll dimensions. Geotextiles used for Department projects shall be NTPEP listed and shall be in accordance with AASHTO M 288 and the Department’s Approved Materials List.

I hereby certify that the primary sampling units were selected in accordance with ASTM D 4354, Type ________________________, and NTPEP No. _________________________. The results of testing each primary sampling unit are reported as follows:

Please note that no more than one application per worksheet will be accepted.

<table>
<thead>
<tr>
<th>Test</th>
<th>Method ASTM</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grab Tensile Strength, min.</td>
<td>D 4632</td>
<td>lbs</td>
</tr>
<tr>
<td>Wide Width Tensile, @ 5% Strain</td>
<td>D4595</td>
<td></td>
</tr>
<tr>
<td>Grab Elongation</td>
<td>D 4632</td>
<td>%</td>
</tr>
<tr>
<td>CBR Puncture Strength, min.</td>
<td>D 6241</td>
<td>lbs</td>
</tr>
<tr>
<td>Trapezoid Tear Strength, min.</td>
<td>D 4533</td>
<td>lbs</td>
</tr>
<tr>
<td>UV Degradation Resistance 500 hrs., min.</td>
<td>D 4355, D 6637</td>
<td>%</td>
</tr>
<tr>
<td>Apparent Opening Size, AOS, min.</td>
<td>D 4751</td>
<td></td>
</tr>
<tr>
<td>Soil Retention, Pore size O50/O95 min</td>
<td>D 6767</td>
<td></td>
</tr>
<tr>
<td>Permittivity, min.</td>
<td>D 4491</td>
<td>sec⁻¹</td>
</tr>
</tbody>
</table>

Note: All values are minimum average roll values (MARV) as determined in accordance with ASTM D4354 in the principal direction, except AOS size is based on maximum average roll value.

I understand that State and/or Federal funds and/or services are involved in the work in which this material will be used and that any misrepresentation on my part constitutes fraud.

______________________________
(Manufacturer's Name)

______________________________
(Signature of Manufacturer's Official)

______________________________
(Date)

______________________________
(Title of Official)
4.6.1.04  GEOSYNTHETIC MATERIALS, GEOTEXTILES.

(d) CERTIFICATION FOR GEOTEXTILE PROPERTIES FOR SILT FENCE

is a non-woven or woven needle punched or heat bonded geotextile consisting of strong, rot resistant, chemically stable long-chain synthetic polymer materials, dimensionally stable with each other including selvedges. The plastic yarn or fibers used in this geotextile consist of at least 85 percent by weight (mass) of polyolefin, polyesters, or polyamides; and contain stabilizers and inhibitors added to the base plastic to make the filaments resistant to deterioration due to ultraviolet and heat exposure.

All damaged geotextile shall be replaced for the entire width of the roll. The Contractor shall furnish the product labeled that clearly indicates the manufacturer’s or suppliers name, product identification, lot number, manufactured date, roll dimensions. Geotextiles used for Department projects shall be NTPEP listed and shall be in accordance with AASHTO M 288 and the Department’s Approved Materials List.

I hereby certify that the primary sampling units were selected in accordance with ASTM D 4354, Type__________________, and NTPEP No.______________________. The results of testing each primary sampling unit are reported as follows:

Please note that no more than one application per worksheet will be accepted.

<table>
<thead>
<tr>
<th>Test</th>
<th>Method ASTM</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grab Tensile Strength, min.</td>
<td>D 4632</td>
<td>lbs</td>
</tr>
<tr>
<td>Grab Elongation</td>
<td>D 4632</td>
<td>%</td>
</tr>
<tr>
<td>UV Degradation Resistance 500 hrs. min.</td>
<td>D 4355</td>
<td>%</td>
</tr>
<tr>
<td>Apparent Opening Size, AOS, min.</td>
<td>D 4751</td>
<td></td>
</tr>
<tr>
<td>Permittivity, min.*</td>
<td>D 4491</td>
<td>sec⁻¹</td>
</tr>
</tbody>
</table>

Notes:
(1) The value in weaker principal direction where applicable. All numerical values will represent the minimum average roll value. Test results from a sampled roll in a lot shall be in accordance with or shall exceed the minimum values shown in the above table. The stated value are for non-critical, non-severe conditions. Lots shall be sampled in accordance with ASTM D 4354.
(2) The values reflect the minimum criteria currently used. Performance tests may be used to evaluate silt fence performance if deemed necessary by the Engineer.

*The nominal coefficient or permeability was determined by multiplying permittivity value by nominal thickness. The nominal thickness is measured under a normal load of 280 psi (1.93 MPa).

I understand that State and/or Federal funds and/or services are involved in the work in which this material will be used and that any misrepresentation on my part constitutes fraud.

(Manufacturer's Name) (Signature of Manufacturer's Official)

(Date) (Title of Official)
4.6.2.01  918.05 TYPE IA GEOGRID

CERTIFICATION FOR TYPE IA GEOGRID FOR EMBANKMENT

_________________________ is a Geogrid consisting of a regular network of connected polymer tensile elements with aperture geometry sufficient to permit significant mechanical interlock with the surrounding material. The geogrid structure shall be dimensionally stable and shall be able to retain its geometry under construction stresses. The geogrid structure shall have resistance to damage during construction, ultraviolet degradation, and all forms of chemical and biological degradation encountered in the soil being stabilized.

I hereby certify that __ primary sampling units were selected in accordance with ASTM D 4354. The material contains a minimum of 97% polypropylene in accordance with ASTM D 4101 and a minimum of 0.5% carbon black in accordance with ASTM D 1603. The results of testing each primary sampling unit are reported as follows:

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Unit</th>
<th>Value, min.</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aperture Area</td>
<td>Calibered</td>
<td>sq. in</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>Open Area</td>
<td>COE CW02215</td>
<td>percent</td>
<td>&gt; 50.0 ≤ 80.0</td>
<td></td>
</tr>
<tr>
<td>Junction Strength</td>
<td>ASTM D 7737</td>
<td>lb/ft</td>
<td>---</td>
<td></td>
</tr>
</tbody>
</table>

**Tensile Modulus**

<table>
<thead>
<tr>
<th></th>
<th>Test Method</th>
<th>Unit</th>
<th>Value, min.</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine Direction</td>
<td>ASTM D 6637 1,2,3</td>
<td>lb/ft</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td>Cross Machine Direction</td>
<td>ASTM D 6637 1,2,3</td>
<td>lb/ft</td>
<td>10,000</td>
<td></td>
</tr>
</tbody>
</table>

**Ultimate Strength**

<table>
<thead>
<tr>
<th></th>
<th>Test Method</th>
<th>Unit</th>
<th>Value, min.</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine Direction</td>
<td>ASTM D 6637 2,3</td>
<td>lb/ft</td>
<td>800</td>
<td></td>
</tr>
<tr>
<td>Cross Machine Direction</td>
<td>ASTM D 6637 2,3</td>
<td>lb/ft</td>
<td>800</td>
<td></td>
</tr>
<tr>
<td>Ultraviolet Stability</td>
<td>ASTM D 4355</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
</tbody>
</table>

Notes:

1. Secant modulus at 5%
2. Results for both the machine direction and cross machine directions are required
3. Minimum average roll values shall be in accordance with ASTM D 4759

I understand that State and/or Federal funds and/or services are involved in the work in which this material will be used and that any misrepresentation on my part constitutes fraud.

(Date)                      (Manufacturer Name)
(Signature of Manufacturer Official) (Title of Official)
4.6.2.02  918.05 TYPE IB GEOGRID

CERTIFICATION FOR TYPE IB GEOGRID FOR SUBGRADE

____________________________ is a Geogrid consisting of a regular network of connected polymer tensile elements with aperture geometry sufficient to permit significant mechanical interlock with the surrounding material. The geogrid structure shall be dimensionally stable and shall be able to retain its geometry under construction stresses. The geogrid structure shall have resistance to damage during construction, ultraviolet degradation, and all forms of chemical and biological degradation encountered in the soil being stabilized.

I hereby certify that _____ primary sampling units were selected in accordance with ASTM D 4354. The material contains a minimum of 97% polypropylene in accordance with ASTM D 4101 and a minimum of 0.5% carbon black in accordance with ASTM D 1603. The results of testing each primary sampling unit are reported as follows:

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Unit</th>
<th>Value, min.</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aperture Area</td>
<td>Calibered</td>
<td>sq. in</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>Open Area</td>
<td>COE CW02215</td>
<td>percent</td>
<td>&gt; 50.0 ≤ 80.0</td>
<td></td>
</tr>
<tr>
<td>Junction Strength</td>
<td>ASTM D 7737</td>
<td>lb/ft</td>
<td>788</td>
<td></td>
</tr>
</tbody>
</table>

**Tensile Modulus**

<table>
<thead>
<tr>
<th></th>
<th>Test Method</th>
<th>Unit</th>
<th>Value, min.</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine Direction</td>
<td>ASTM D 6637 1,2,3</td>
<td>lb/ft</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td>Cross Machine Direction</td>
<td>ASTM D 6637 1,2,3</td>
<td>lb/ft</td>
<td>10,000</td>
<td></td>
</tr>
</tbody>
</table>

**Ultimate Strength**

<table>
<thead>
<tr>
<th></th>
<th>Test Method</th>
<th>Unit</th>
<th>Value, min.</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine Direction</td>
<td>ASTM D 6637 2,3</td>
<td>lb/ft</td>
<td>800</td>
<td></td>
</tr>
<tr>
<td>Cross Machine Direction</td>
<td>ASTM D 6637 2,3</td>
<td>lb/ft</td>
<td>800</td>
<td></td>
</tr>
<tr>
<td>Ultraviolet Stability</td>
<td>ASTM D 4355</td>
<td>---</td>
<td>70% at 500 hrs</td>
<td></td>
</tr>
</tbody>
</table>

Notes:

1. Secant modulus at 5%
2. Results for both the machine direction and cross machine directions are required
3. Minimum average roll values shall be in accordance with ASTM D 4759

I understand that State and/or Federal funds and/or services are involved in the work in which this material will be used and that any misrepresentation on my part constitutes fraud.

______________________________  ______________________________
(Date)  (Manufacturer Name)

______________________________  ______________________________
(Signature of Manufacturer Official)  (Title of Official)
4.6.3 918.05 TYPE II GEOGRID

CERTIFICATION FOR TYPE II GEOGRID USED FOR EMBANKMENT

__________ is a Geogrid consisting of a regular network of connected polymer tensile elements with aperture geometry sufficient to permit significant mechanical interlock with the surrounding material. The geogrid structure shall be dimensionally stable and shall be able to retain its geometry under construction stresses. The geogrid structure shall have resistance to damage during construction, ultraviolet degradation, and all forms of chemical and biological degradation encountered in the soil being stabilized.

I hereby certify that _____ primary sampling units were selected in accordance with ASTM D 4354. The results of testing each primary sampling unit are reported as follows:

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Unit</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Area</td>
<td>COE CW02215</td>
<td>Percent</td>
<td></td>
</tr>
<tr>
<td><strong>Tensile Modulus</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine Direction</td>
<td>ASTM D 6637(^1,2)</td>
<td>lb/ft</td>
<td></td>
</tr>
<tr>
<td><strong>Creep Limited Strength</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine Direction at 5 % strain</td>
<td>ASTM D 5262(^2)</td>
<td>lb/ft</td>
<td></td>
</tr>
<tr>
<td>Ultraviolet Stability</td>
<td>ASTM D 5262(^2)</td>
<td>lb/ft</td>
<td></td>
</tr>
</tbody>
</table>

Notes:

1. Secant modulus at 2%
2. Minimum average roll values shall be in accordance with ASTM D 4759

I understand that State and/or Federal funds and/or services are involved in the work in which this material will be used and that any misrepresentation on my part constitutes fraud.

________________________                 ________________________
(Date)                                (Manufacturer Name)

______________________________                 ________________________
(Signature of Manufacturer Official)   (Title of Official)
**4.6.4.04 918.05 TYPE III GEOGRID**

**CERTIFICATION FOR TYPE III GEOGRID USED FOR MODULAR BLOCK WALL**

TYPE III GEOGRID is a Geogrid consisting of a regular network of connected polymer tensile elements with aperture geometry sufficient to permit significant mechanical interlock with the surrounding material. The geogrid structure shall be dimensionally stable and shall be able to retain its geometry under construction stresses. The geogrid structure shall have resistance to damage during construction, ultraviolet degradation, and all forms of chemical and biological degradation encountered in the soil being stabilized.

I hereby certify that _____ primary sampling units were selected in accordance with ASTM D 4354. The material shall be high-density polyethylene, HDPE, polypropylene, PP, or polyester, PET, polymers and have the following properties. The results of testing each primary sampling unit are reported as follows:

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Unit</th>
<th>Results (Min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Area</td>
<td>COE CW 02215</td>
<td>percent</td>
<td></td>
</tr>
<tr>
<td>Ultraviolet Stability</td>
<td>ASTM D 4355</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Ultimate Strength, Machine Direction</td>
<td>ASTM D 6637</td>
<td>lb/ft</td>
<td></td>
</tr>
<tr>
<td>Long-Term Design Strength, Allowable, LTDS, Machine Direction</td>
<td>GRI-GG4</td>
<td>lb/ft</td>
<td></td>
</tr>
</tbody>
</table>

1. Geogrid shall have an adequate open aperture to establish proper interlock between geogrid and backfill material.
2. Minimum Average Roll Value, MARV, in accordance with ASTM D 4759 shall be calculated as the average minus two standard deviations.
3. 

\[
LTDS = \frac{T_{ult}}{(RF_{CR})(RF_{IR})(RF_{D})}
\]

Where:
- \(T_{ult}\) = Ultimate strength
- \(RF_{CR}\) = Reduction factor for creep
- \(RF_{IR}\) = Reduction factor for installation damage
- \(RF_{D}\) = Reduction factor for durability

4. The minimum reduction factors for design are as follows: \(RF_{CR} = 2.6\) for HDPE, 4.0 for PP, 1.6 for PET
- \(RF_{IR} = 1.10\)
- \(RF_{D} = 1.10\)

Independent-laboratory test results for creep test in accordance with ASTM D 5262 shall be submitted.
CERTIFICATION TYPE III GEOGRID USED FOR MODULAR BLOCK WALL

I understand that State and/or Federal funds and/or services are involved in the work in which this material will be used and that any misrepresentation on my part constitutes fraud.

__________________________  ____________________________
(Date)  (Manufacturer Name)

__________________________  ____________________________
(Signature of Manufacturer Official)  (Title of Official)
4.6.2 918.03 CERTIFICATION FOR GEOMEMBRANE

_________________________ is a geomembrane fabricated from high density polyethylene, HDPE, consisting of strong, rot resistant, chemically stable long-chain synthetic polymer materials, dimensionally stable with distance and measurable openings. The manufacturers shall submit the tests for the intended use to the Department.

All damaged geomembrane shall be replaced for the entire width of the roll. The Contractor shall furnish the product labeled that clearly indicates the manufacturers or suppliers name, product identification, lot number, manufactured date, roll dimensions. Testing results must meet or exceed the requirements listed. Geomembranes used for Department projects shall be tested by a NTPEP approved laboratory.

The geomembrane shall meet the following requirements per 918.03.

I hereby certify that primary sampling units were selected in accordance with ASTM D4354. The results of testing each primary sampling unit are reported as follows:

Please note that no more than one application per worksheet will be accepted.

<table>
<thead>
<tr>
<th>Test</th>
<th>Method ASTM</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density, min.</td>
<td>D 1505</td>
<td>pcf</td>
</tr>
<tr>
<td>Sheet Thickness</td>
<td>D 5199</td>
<td>mils</td>
</tr>
<tr>
<td>Tear Resistance</td>
<td>D 1004</td>
<td>lbs</td>
</tr>
<tr>
<td>Resistance Soil Burial</td>
<td>D 3083</td>
<td>% retained</td>
</tr>
<tr>
<td>pH</td>
<td>AASHTO T 289</td>
<td></td>
</tr>
<tr>
<td>Roll Width</td>
<td>Calibered</td>
<td>ft</td>
</tr>
</tbody>
</table>

All values are minimum average roll values (MARV) as determined in accordance with ASTM D 4354

I understand that State and/or Federal funds and/or services are involved in the work in which this material will be used and that any misrepresentation on my part constitutes fraud.

_________________________________________  ________________________________
(Date)                                                (Manufacturer Name)

_________________________________________  ________________________________
(Signature of Manufacturer Official)  (Title of Official)
4.6.3  918.04 CERTIFICATION FOR GEOCELL CONFINEMENT SYSTEM

________________________ is a Geocell Confinement System that is a lightweight, flexible mat that consists of high density polyethylene strips. The mat shall be perforated and the strips shall be ultrasonic bonded together to form a strong configuration. Cell seam strength shall be uniform over full depth.

All damaged Geocell Confinement Systems shall be replaced for the entire width of the roll. The Contractor shall furnish the product labeled that clearly indicates the manufacturers or suppliers name, product identification, lot number, manufactured date, roll dimensions. Testing results must meet or exceed the requirements listed. Geocells used for Department projects shall be tested by a NTPEP approved laboratory. The Geocell shall be from the Department’s Approved Materials List.

The Geocell Confinement System shall meet the following requirements per 918.04.

I hereby certify that __________ primary sampling units were selected in accordance with ASTM D 4354. The results of testing each primary sampling unit are reported as follows:

Please note that no more than one application per worksheet will be accepted.

<table>
<thead>
<tr>
<th>Test</th>
<th>Method ASTM</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheet Thickness</td>
<td>D 5199</td>
<td>mils</td>
</tr>
<tr>
<td>Environmental Stress Crack Reduction, min.</td>
<td>D 1693</td>
<td>hours</td>
</tr>
<tr>
<td>Short-Term Seam Peel Strength for 4 in. depth</td>
<td>D 6392</td>
<td>lbs/ft</td>
</tr>
<tr>
<td>Percent Open Area</td>
<td>COE 02215</td>
<td>%</td>
</tr>
<tr>
<td>Nominal Expanded Cell Size</td>
<td>Calibered</td>
<td>in.</td>
</tr>
</tbody>
</table>

Note:
1. Carbon Black shall be minimum 1.5% by weight in accordance with ASTM 5199.

I understand that State and/or Federal funds and/or services are involved in the work in which this material will be used and that any misrepresentation on my part constitutes fraud.

__________________________  __________________________
(Manufacturer’s Name)        (Signature of Manufacturer’s Official)

__________________________  __________________________
(Date)                      (Title of Official)
4.8 Ground Granulated Blast Furnace Slag Source.

GROUND GRANULATED BLAST FURNACE SLAG SOURCE CERTIFICATION

This is to certify that all grade ___________, ground granulated blast furnace slag (GGBFS),
(100 or 120)
produced by ____________________________________________________________
(Manufacturer's Name)
from granulated blast furnace slag from
_______________________________________________________________
(Steel Company)
located in _____________________________, ____________________________
(City) (State)
manufactured at ____________________________________________________
(Location of Manufacturing Plant)
using _______________________________________________________________
(Type of Manufacturing Facility)
and shipped for use on Indiana Department of Transportation projects will be produced under
appropriate quality control. The GGBFS will comply with all ASTM C 989 Specification and
Indiana Department of Transportation Standard Specifications requirements.
_____________________________ also agrees that any part of the
(Manufacturer's Name)
above named steel company and its manufacturing plant associated with the production of such
ground granulated blast furnace slag may be checked at regular intervals by properly identified
representatives of the Indiana Department of Transportation.

As an approved source of ground granulated blast furnace slag,
_______________________________________________________________ shall be in accordance with the
(Manufacturer's Name)
Indiana Department of Transportation Standard Specifications for all quality assurance testing and
report requirements.

______________________________________________________________  
(Date) (Manufacturer's Name)

______________________________________________________________
(Signature)
4.9 Silica Fume.

43.9 SILICA FUME CERTIFICATION

This is to certify that all silica fume produced by __________________________
(Supplier's Name)
from __________________________
(Manufacturer's Name)
located in __________________________
(City) (State)
manufactured at __________________________
(Location of Manufacturing Plant)
using __________________________
(Type of Manufacturing Facility)
and shipped for use on Indiana Department of Transportation projects shall be produced under
appropriate quality control. The silica fume may be checked at regular intervals by properly
identified representatives of the Department.

As an approved supplier of silica fume __________________________
(Supplier's Name)
shall be in accordance with all quality assurance testing and reporting requirements.

__________________________________  __________________________
(Date) (Supplier's Name)

__________________________________
(Signature)
4.10 Type A - Epoxy Coated Reinforcing and Dowel Bars.

**EPOXY COATED REINFORCING AND DOWEL BARS TYPE A CERTIFICATION**

Contract Number _______________________________________________________________

Contractor Name _______________________________________________________________

Steel Manufacturer Name ________________________________________________________

B/L, Invoice or Weigh Ticket Number ______________________________________________

Material Destination (other than contract location) _____________________________________

This is to certify that the materials furnished by the coater for epoxy coated steel for the contract described above comply and are in accordance with the specification limits.

<table>
<thead>
<tr>
<th>Test</th>
<th>Method</th>
<th>Specification Limits</th>
<th>Range of Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxy Thickness</td>
<td>ASTM A 775</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coating Flexibility</td>
<td>ASTM A 775</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

__________  __________
(Date)      (Coater Company Name)

________________________________________________________

–

(Signature of Coater Company Official)

________________________________________________________

–

(Title)
4.11 Type B - Reinforcing and Dowel Bars.

REINFORCING AND DOWEL BARS TYPE B CERTIFICATION

Contract Number _______________________________________________________________

Contractor Name _______________________________________________________________

Steel Manufacturer Name ________________________________________________________

B/L, Invoice or Weigh Ticket Number ______________________________________________

Material Destination (other than contract location) ___________________________________

This is to certify that for the contract described above, the materials furnished are as follows:

<table>
<thead>
<tr>
<th>Bar Designation, Grade &amp; Heat Number</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The materials comply and are in accordance with the specification limits.

<table>
<thead>
<tr>
<th>Test</th>
<th>Method</th>
<th>Specification Limits</th>
<th>Range of Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Strength</td>
<td>ASTM A 615</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yield Strength</td>
<td>ASTM A 615</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elongation</td>
<td>ASTM A 615</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit Weight</td>
<td>ASTM A 615</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deformation Height (reinforcing bars)</td>
<td>ASTM A 615</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All Chemical analysis requirements are in accordance with ASTM specifications.

** This certification shall be prepared and signed by the steel supplier

______________________________________________________________________________

(Date) (Steel Supplier Company Name)

______________________________________________________________________________

(Signature of Steel Company Official) (Title)
4.12 Non-Epoxy PCC Sealer.

NON-EPOXY PCC SEALER CERTIFICATION

The PCC sealer, _______________________________________________________________,

(Sealer Name)

manufactured by_______________________________________________________________

(Manufacturer Name)

is a ________________________________________________________________

(Sealer Type)

based PCC sealer in accordance with NCHRP 244, Series IV, southern climate weathering test.

The percentage of active ingredients is _____________________________________________.

The recommended application rate is _____________________________________________.

The recommended application method is _____________________________________________.

____________________________________________________________

(Date) (Signature of Manufacturer Official)

____________________________________________________________

>Title of Official)
4.13 Neutralized Vinsol Resin Air Entraining Admixtures.

NEUTRALIZED VINSOL RESIN AIR ENTRAINING ADMIXTURE CERTIFICATION

________________________, manufactured by _______________________________________

(Admixture Name) (Manufacturer Name)

is an aqueous solution of vinsol resin that has been neutralized with sodium hydroxide.

The ratio of sodium hydroxide to vinsol resin is one part of sodium hydroxide to _____________ parts of vinsol resin, by weight (mass).

The percentage of solids based on residue at 221°F is __________________________.

No other additive of chemical agent is present in this solution.

The recommended dosage is ____________________________________________________.

______________________________ ________________________________

(Date) (Signature of Manufacturer Official)

____________________________________________________________

– (Title of Official)
4.14 Air Entraining Admixture Manufactured In Proportions Other Than AASHTO T 157 And Type A, B, C, D, and E Admixtures.

AIR ENTRAINING ADMIXTURE MANUFACTURED IN PROPORTIONS OTHER THAN AASHTO T 157 AND TYPE A, B, C, D, AND E ADMIXTURES
CERTIFICATION

________________________, manufactured by ______________________________
(Admixture Name) (Manufacturer Name)
is in accordance with 912.03 for type __________________. ________________________________
(Admixture Name)
The ion content of ______________________________________________ is ____________.
Chloride is not added as an ingredient of manufacture.
The recommended admixture dosage is ________________________________.
Attached herewith are dated test reports substantiating full compliance with the specifications. If irregularities are found in the test results, copies of the original data shall be submitted prior to reconsideration of the certification.

________________________
(Date) (Signature of Manufacturer Official)

____________________________________________________________
(Title of Official)
4.15 Rapid Setting Patch Materials

RAPID SETTING PATCH MATERIALS CERTIFICATION

______________________________, manufactured by______________________________
(Rapid Setting Patch Material Name) (Manufacturer Name)

is a single packaged dry mix rapid setting patch material for use on bridge decks, highways and similar applications.

______________________________ requires only water just prior to mixing, does not (Rapid Setting Patch Material Name)
contain soluble chlorides as an ingredient of manufacture, and does not require chemical additives.

______________________________ is packaged in _______________ bags.
(Rapid Setting Patch Material Name) lb

The neat yield is _________ yd³ and shall allow a __________ percent extension, by weight, with a ______________ in. (mm) round aggregate.

The shelf life of ______________________________ is ____________ months.
(Rapid Setting Patch Material Name)

The repair depth range is from _________ in to ________ in.

______________________________ does not require curing material, nor a bonding agent
(Rapid Setting Patch Material Name)

and may be sealed with an epoxy sealer.

______________________________ is ____________________ color.
(Rapid Setting Patch Material Name)

______________________________ will be mixed using ____________________.
(Rapid Setting Patch Material Name)

______________________________ is in accordance with ASTM C 928.
(Rapid Setting Patch Material Name)

_____________________________________________________________________________
(Date) (Signature of Manufacturer Official)

________________________________
(Title of Official)

26 of 37
4.20 Compliance for Coating Formulation

COATING FORMULATION CERTIFICATION

This certifies the coating formulation _____________________________
(Formulation or Product Identification)

of _________________________ manufactured by _________________________
(Type of Coating) (Manufacturer Name)

at ___________________________________________________________________
(Plant Location, City & State)

is in accordance with the Indiana Department of Transportation Standard Specifications.

No changes have been made to the formulation or to the production process for this coating. The QCP and MSDS for this coating has been provided to the Office of Materials Management and is current.

_________________________ ____________________________
(Date) (Signature of Manufacturer Representative)

____________________________________
(TITLE)
4.21 Compliance for Structural Steel Coating Systems

STRUCTURAL STEEL COATING SYSTEMS CERTIFICATION

This certifies the structural steel coating system consisting of

__________________________________ (Primer Identification)

______________________________________________ (Intermediate Coating Identification)

and _______________________________ manufactured by (Finish Coat Identification)

__________________________________ (Manufacturer Name)

at ____________________________________________ (Plant Location City & State)

is in accordance with INDOT Standard Specifications. No changes have been made to the formulations or the production process of these coatings. The QCP and MSDS for these coatings have been provided to the Office of Materials Management and are current.

__________________________________________ (Date) (Signature of Manufacturer Representative)

– (Title)
4.22 Annual Certification Letter for Reflective Sheeting

REFLECTIVE SHEETING ANNUAL CERTIFICATION LETTER

This certifies the reflective sheeting types listed below are in accordance with INDOT Standard Specifications. No changes have been made to the production process. The material is the same material as the material that was furnished for the evaluation sample and was subsequently placed on the Indiana Department of Transportation list of approved materials for Reflective Sheeting. The Manufacturer is:

______________________________________________________________________
(Manufacturer Name)

at ______________________________________________________________________
(Manufacturer Address)

and the list of products are:

<table>
<thead>
<tr>
<th>Product Name/Number</th>
<th>AASHTO Type</th>
<th>Adhesive Class</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

____________________________________________________
(Date) (Signature of Manufacturer Representative)

_______________________________________________
(Title)
4.23 Profile Wall HDPE Liner Pipe Certification.

CERTIFICATION FOR PROFILE WALL HDPE LINER PIPE

This certifies the Profile Wall HDPE Liner Pipe

______________________________
(Product Trade Name)

of _______ nominal diameter, manufactured by

______________________________
(size)

______________________________
(Manufacturer Name)

at___________________________________________________
(Plant location, City & State)

is in accordance with the Indiana Department of Transportation Standard Specifications and ASTM F 894. This material is to be used for and by the following and is substantiated by the test results included herein.

Contract Number __________________ Contractor Name __________________________
Identifying Print Line Information ____________________________________________
or Lot Number _______________________________________________________________
Material Destination (if other than contract location) ________________________________

<table>
<thead>
<tr>
<th>Test</th>
<th>Method</th>
<th>Specification Limits</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resin Density</td>
<td>ASTM D 3350</td>
<td>0.940, minimum</td>
<td></td>
</tr>
<tr>
<td>Resin Melt Index</td>
<td>ASTM D 3350 Condition (190, 2.16)</td>
<td>0.4, maximum</td>
<td></td>
</tr>
<tr>
<td>RSC*</td>
<td>ASTM F 894 @ 3% Deflection</td>
<td>160 minimum for circular installations, 250 minimum for deformed installations</td>
<td></td>
</tr>
<tr>
<td>ID</td>
<td>ASTM F 894</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>Wall Thickness (Pipe)</td>
<td>ASTM F 894</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>Wall Thickness (Bell)</td>
<td>ASTM F 894</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>Wall Thickness (Spigot)</td>
<td>ASTM F 894</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>Flattening</td>
<td>ASTM F 894 (after 40% Compression)</td>
<td>No Defects per F894 on any of the three test specimens</td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>ASTM F 894</td>
<td>± 2 in. of specified or nominal length</td>
<td></td>
</tr>
</tbody>
</table>

*In lieu of RSC, the PS (in accordance with ASTM F 894, X1) may be reported, provided the adjustment factor C, in accordance with ASTM D 2412, and the mean diameter D, are also reported. **These values vary depending on the pipe size. Contractor shall include the appropriate value from ASTM.
Joint Type (Circle one): Bell/Spigot  Screw Type  Grooved Press-On  Butt Fused  Ext.
Welded

Other (specify) _________________________________________________________________

__________________________________________  ______________
(Date)  (Signature of Manufacturer’s Representative)  (Title)
4.24 Solid Wall HDPE Liner Pipe Certification.

CERTIFICATION FOR SOLID WALL HDPE LINER PIPE

This certifies the Solid Wall HDPE Liner Pipe, ______________________________________ ,  
(Product Trade Name)

of _______ nominal diameter, manufactured by _____________________________________  
(size) (Manufacturer Name)

at ______________________________________________________________________  
(Plant location, City & State)

is in accordance with the Indiana Department of Transportation Standard Specifications  
and AASHTO M 326 or ASTM F 714. This material is to be used for and by the following  
and is substantiated by the test results included herein.

Contract Number ________________ Contractor Name ____________________________________  
Identifying Print Line Information __________________________________________________  
or Lot Number ____________________________________________________________________  
Material Destination (if other than contract location) ________________________________

<table>
<thead>
<tr>
<th>Test</th>
<th>Method</th>
<th>Specification Limits</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resin Density</td>
<td>ASTM D 3350</td>
<td>0.940 – 0.955</td>
<td></td>
</tr>
<tr>
<td>Resin Melt Index</td>
<td>ASTM D 3350 Condition (190, 2.16)</td>
<td>0.15, maximum</td>
<td></td>
</tr>
<tr>
<td>Liner OD</td>
<td>AASHTO M 326</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>Liner Wall Thickness</td>
<td>AASHTO M 326</td>
<td>Nominal OD, in in., divided by 32.5, minimum (For 12 in. use 12.750 in. and for 13 in., use 13.375 in.)Given ID, subtract from OD provided and divide by 2 to determine wall thickness, then use spec above</td>
<td></td>
</tr>
<tr>
<td>or ID</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liner DR (Actual</td>
<td>AASHTO M 326</td>
<td>30.0, minimum</td>
<td></td>
</tr>
<tr>
<td>Calculated)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>AASHTO M 326</td>
<td>Minimum of 99% of specified length, or 1/2 in. less than specified length, whichever is shorter</td>
<td></td>
</tr>
</tbody>
</table>

* These values vary depending on the pipe size. Contractor shall include the appropriate value from AASHTO.
Joint Type (Circle one): Bell/Spigot Screw Type Grooved Press-On Butt Fused Ext. Welded
Other (specify)

(Date)  (Signature of Manufacturer’s Representative)  (Title)
4.25 Asphalt Emulsion

TYPE A CERTIFICATION FOR ASPHALT EMULSION

Emulsion Supplier: _______________ and _______________ Name Source Number

Sample Identification: _______________

Represented Quantity: _______________ Sample Date: _______________

Gallons

<table>
<thead>
<tr>
<th>Test Method</th>
<th>Asphalt Emulsion</th>
<th>*Limits</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>AASHTO T 59</td>
<td>Viscosity, Saybolt Furol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AASHTO T 59</td>
<td>Demulsibility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AASHTO T 59</td>
<td>Oil Distillate by Distillation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AASHTO T 59</td>
<td>Residue by Distillation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AASHTO T 59</td>
<td>Sieve Test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AASHTO T 49</td>
<td>Penetration @ 25°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AASHTO T 50</td>
<td>Float Test @ 60°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AASHTO T 301</td>
<td>Elastic Recovery @ 4°C (if applicable)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Standard Specification section 902.01(b)

The represented quantity (gallons) noted for this asphalt emulsion conform to Standard Specification section 902.01(b).

This material has been sampled and tested within the last 14 calendar days.

Certification is valid for 14 days after date of signature.

Signature:____________________________  Date:_________________________

Representative
4.26 Annual Certification for Delineators.

ANNUAL CERTIFICATION FOR DELINEATORS

Delineator Manufacturer: ________________________________________________

Name

Manufacturer Address: ________________________________________________

Address

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
<th>Approval Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This certifies the delineators listed above are in accordance with INDOT Standard Specifications. No changes have been made to the production process. The material is the same material as the material that was furnished for the evaluation sample and was subsequently placed on the Indiana Department of Transportation list of approved materials for Delineators.

The represented delineator(s) conform to Standard Specification section 926.02

Signature: ________________________________ Date: ________________

Representative
4.27 Cold In-Place Recycling and Cold Central Plant Recycling

INDIANA DEPARTMENT OF TRANSPORTATION

TYPE D CERTIFICATION FOR
CIR AND CCPR RECYCLING TREATMENTS

Contractor/Subcontractor: __________________________________________ Name

Sample Identification: __________________________________________

Represented Quantity: ____________________________ SYS

Sample Date: ______________

<table>
<thead>
<tr>
<th>RECYCLING TREATMENT (circle one)</th>
<th>CIR</th>
<th>CCPR</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEST</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth of Pulverization</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>Pulverized Material Gradation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asphalt Emulsion Content</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Content</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compacted In-Place Field Density</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field Moisture Content for Curing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth of Laydown</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Pulverized Material Moisture Content</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

*Frequency per Standard Specification section 416.03 for CIR or 417.03 for CCPR

This Certification represents 1 day of production.

This certifies the Quality Control testing was completed and is in accordance with the Indiana Department of Transportation Standard Specifications.

_________________________________________  _____________________________
Signature: ________________________________ Date: _______________________

Representative
4.28 Full Depth Reclamation

INDIANA DEPARTMENT OF TRANSPORTATION

TYPE D CERTIFICATION FOR
CEMENT AND ASPHALT EMULSION STABILIZED FDR

Contractor/Subcontractor: _____________________________________________

Name

Sample Identification: ______________

Represented Quantity: ______________ SYS

Sample Date: ______________

<table>
<thead>
<tr>
<th>RECYCLING TREATMENT (circle one)</th>
<th>CEMENT</th>
<th>ASPHALT EMULSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEST</td>
<td>*Number of Tests Completed</td>
<td></td>
</tr>
<tr>
<td>Depth of Pulverization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulverized Material Gradation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-place Moisture of Pulverized Material</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compacted In-Place Field Density</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cement Application Rate</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Maximum Density and Moisture Content of Stabilized Material</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Asphalt Emulsion Content</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Maximum Density and Moisture Content of Injected Material</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Field Moisture Content for Curing</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

*Frequency per Standard Specification section 307.03 for Cement FDR or 308.03 for Asphalt Emulsion FDR

This Certification represents 1 day of production.

This certifies the Quality Control testing was completed and is in accordance with the Indiana Department of Transportation Standard Specifications.

Signature: ____________________________ Date: ____________________________

Representative

37 of 37