INDIANA DEPARTMENT OF TRANSPORTATION
100 North Senate Avenue
Room N758 CM
Indianapolis, Indiana 46204
www.in.gov/indot
Mike Braun, Governor
Lyndsay Quist, Commissioner

APPROVED MINUTES

March 20, 2026, Standards Committee Meeting

(AS REVISED)

Revisions to the Final Draft Minutes are:

- **Item No. 4:** Mr. Reilman requested the withdrawal of Item No. 4, pending further review.
- **Item No. 6:** It was **requested** by Mr. Koch that the language in 506.08 be revised to align with the current drawings. Mr. Dave concurred.

April 24, 2026

TO: Standards Committee

FROM: Scott Trammell, Secretary

RE: Minutes from the March 20, 2026, Standards Committee Meeting

The March 2026 Standards Committee meeting was called to order by Mr. Pankow, Chair, at 09:00 a.m. on Friday, March 20, and was held virtually via *Teams*. The meeting was adjourned at 10:40 a.m. The next meeting is scheduled for Thursday, **April 16**, 2026.

The following committee members were in attendance:

Pankow, Gregory, Chairman, Director, Construction Management
Boruff, David Traffic Engineering
Koch, Mike, District Construction, Fort Wayne
Novak, Joseph, Construction Management
Orton, Mark, Highway Engineering
Harris, Tom*, Construction Technical Support
Rearick, Anne, Asset Management
Dave, Kumar, Pavement Engineering
Clawson, Sam**, Materials and Tests
White, Peter, Bridge Engineering
Wooden, John, Contract Administration
**Proxy* for Pelz, Kurt
***Proxy* for Reilman, Jim

Also, the following attendees were present:

Awwad, Nathan, INDOT	Mouser, Elizabeth, INDOT
Barnes, Tracy, INDOT	Pepenella, Keith, INDOT
Beeson, Matthew, INDOT	Pastuszka, Elizabeth, Asphalt Indiana
Burris, Terry, Milestone	Powell, Traci, INDOT
Cosenza, Nicholas, INDOT	Ranck, Amanda, INDOT
Duncan, Thomas, FHWA	Hauser, Derrick, INDOT
Fox, Gary, INDOT	Lewis, Sarah, INDOT
Feutz, Douglas, INDOT	Thornton, Donald, INDOT
Galetka, Jason, INDOT	Trammell, Scott, INDOT
Laracuente, Luis, INDOT	Schneider, Brad, guest
Smith, Charles, INDOT	Hile, Joe, guest
Mueller, Bart, INDOT	Wheat, Faith, INDOT
Jacobs, David L., INDOT	Widdifield, Joan, INDOT
Leckie, John, IRMCA	Wortkoetter, Andrew, INDOT
Osborn, Dan, ICI	Nunley, Cindy, INDOT

The following items were listed for consideration:

A. GENERAL BUSINESS

❖ OLD BUSINESS *(No items were listed)*

❖ NEW BUSINESS

Approval of the Minutes from the January 15 meeting

Mr. Pankow requested a motion to approve the minutes of the January 15, 2026, meeting.
Motion: Mr. Novak
Second: Mr. Koch
Ayes: 10
Nays: 0

ACTION: PASSED AS SUBMITTED

B. CONCEPTUAL PROPOSAL

(No items were listed)

C. STANDARD SPECIFICATIONS, PROVISIONS, AND DRAWINGS PROPOSAL

❖ OLD BUSINESS *(No items were listed)*

❖ NEW BUSINESS

Item No. 1 Mr. Reilman pg. 4

2026 Standard Specifications:

219.02	Materials
219.04	Testing and Mix Design

219.07	Preparation of Soils
219.13	Curing
219.14	Proofrolling
219.16	Basis of Payment
ACTION:	PASSED AS REVISED

Item No. 2 — Mr. Reilman — pg. 9

2026 Standard Specifications:

715.04	Excavation
ACTION:	WITHDRAWN

Item No. 3 — Mr. Reilman — pg. 13

2026 Standard Specifications:

203.23	Embankment other than Rock, with Strength or Density Control
203.27	Method of Measurement
203.28	Basis of Payment
ACTION:	PASSED AS REVISED

Item No. 4 — Mr. Reilman — pg. 19

Recurring Special Provision:

204-R-727	GEOTECHNICAL INSTRUMENTATION
ACTION:	WITHDRAWN

Item No.5 — Mr. Reilman — pg. 28

Recurring Special Provision:

106-C-277	BUILD AMERICA, BUY AMERICA ACT REQUIREMENTS
ACTION:	PASSED AS REVISED

Item No. 6 — Mr. Dave — pg. 34

2026 Standard Specifications:

SECTION 506	PCCP PATCHING

Standard Drawings:

E 503-CCPJ-02	SAWED JOINTS AND JOINT SEALANT
E 506-CCPP series	
ACTION:	PASSED AS REVISED

cc: Committee Members
FHWA
ICI

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Minor edits are needed to include the option to use blended cement (type 1L), add a clause about proofrolling, and remove requirements for use of curing compound.

PROPOSED SOLUTION: Add option to use blended cement, add clause regarding proofrolling requirements, and delete requirement to use liquid membrane curing compound since a geotextile is required on the top of the cement stabilized subgrade. This geotextile is used to separate the subgrade or subbase.

APPLICABLE STANDARD SPECIFICATIONS: 219

APPLICABLE STANDARD DRAWING: No

APPLICABLE DESIGN MANUAL CHAPTER: No

APPLICABLE SECTION OF GIFE: Section 3

APPLICABLE RECURRING SPECIAL PROVISION OR PLAN DETAILS: create new RSP

PAY ITEMS AFFECTED: No

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad Hoc committee consisting of Nayyar Siddiki and Samuel Clawson

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: N/A

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman and Nayyar Siddiki

Title: State Material Engineer

Division: Materials and Test

E-mail: Jreilman@INDOT.IN.GOV

Date: 1/23/2026

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? No
Will approval of this item affect the Qualified Products List (QPL)? No
Will this proposal improve:

- Construction costs? Yes
- Construction time? Yes
- Customer satisfaction? Yes
- Congestion/travel time? N/A
- Ride quality? No

Will this proposal reduce operational costs or maintenance effort? No

Will this item improve safety:

- For motorists? No
- For construction workers? No

Will this proposal improve quality for:

- Construction procedures/processes? Yes
- Asset preservation? No
- Design process? N/A

Will this change provide the contractor more flexibility? Yes

Will this proposal provide clarification for the Contractor and field personnel? Yes

Can this item improve/reduce the number of potential change orders? No

Is this proposal needed for compliance with:

- Federal or State regulations? N/A
- AASHTO or other design code? N/A

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda:

SECTION 219 - CEMENT STABILIZED SUBGRADE SOIL
219.02 Materials
219.04 Testing and Mix Design
219.07 Preparation of Soils
219.13 Curing
219.14 Proofrolling
219.16 Basis of Payment

The Standard Specifications are revised as follows:

SECTION 219, BEGIN LINE 10, INSERT AS FOLLOWS:

219.02 Materials

Materials shall be in accordance with the following:

Blended Cement, Type IL..... 901.01(b)
Portland Cement, Type I..... 901.01(b)
Water 913.01
Note: *Blended cement and* ~~P~~*p*ortland cement may be used dry or as a slurry. Soils shall meet the requirements of 215.02.

SECTION 219, BEGIN LINE 24, INSERT AS FOLLOWS:

219.04 Testing and Mix Design

Testing and mix design shall be in accordance with 215.03. The Contractor shall be responsible for all tests required to determine the optimum cement content for producing cement stabilized subgrade soil with a minimum unconfined compressive strength of 300 psi at seven days. The quantities of portland cement shall be based on 6% of the maximum dry density of the soils. Laboratory testing and mix design shall be performed by a qualified geotechnical consultant in accordance with the Department's Design Procedures for Soil Modification or Stabilization. The unconfined compressive strength test shall be performed in accordance with AASHTO T 208. Sulfate tests for water shall be performed in accordance with ASTM D516.

The mix design, test results, and the geotechnical consultant recommendations shall be submitted to the Engineer and to the Department's Geotechnical Engineering Division for approval at least five business days prior to use. *If the type of cement is changed from Type I to Type IL or from Type IL to Type I, a new mix design shall be submitted for approval.*

SECTION 219, BEGIN LINE 48, INSERT AS FOLLOWS:

219.07 Preparation of Soils

Soil preparation shall be in accordance with 215.06. All rocks greater than 2 in. encountered before or after mixing the soils and chemical modifiers shall be removed.

When stabilization of foundation soils with cement is required in a cut or at-grade section, *proofrolling is required in accordance with 203.26 to delineate the soft soil. When it does not meet the proofrolling requirements,* the top 12 in. of soil for cement stabilized subgrade soil shall be removed and stockpiled prior to constructing the 14 in. thick stabilization of foundation soils with cement. When the stabilization of foundation soils with cement is complete, the 12 in. of cement stabilized subgrade soil shall then be placed.

SECTION 219 - CEMENT STABILIZED SUBGRADE SOIL
219.02 Materials
219.04 Testing and Mix Design
219.07 Preparation of Soils
219.13 Curing
219.14 Proofrolling
219.16 Basis of Payment

When stabilization of foundation soils with cement is required in a fill section, it shall be constructed prior to placement of the 12 in. of soil for cement stabilized subgrade soil.

SECTION 219, BEGIN LINE 158, DELETE AND INSERT AS FOLLOWS:

219.13 Curing

The surface shall be maintained in moist condition with no visible dry areas for the first seven days after mixing with cement.

Liquid membrane forming compound shall be applied in accordance with 504.04(a) to the surface and reapplied as applicable for the first seven days to aid in curing and prevent loss of moisture. ~~*Lightweight equipment, up to 4 tons, may be used on the cement stabilized subgrade during curing operations.*~~

SECTION 219, BEGIN LINE 174, DELETE AS FOLLOWS:

219.16 Basis of Payment

The accepted quantity of cement stabilized subgrade soil will be paid for at the contract unit price per square yard.

Approved adjustments for cement that exceed the limit of 219.04 will be included in a change order for materials only and paid for as additional cement for subgrade soil stabilization. Payment for additional cement for subgrade soil stabilization will be made for direct delivered material costs incurred by the Contractor and will not include any other markups.

Payment will be made under:

Pay Item	**Pay Unit Symbol**
Cement Stabilized Subgrade Soil	SYS

The cost of performing mix design, services of a qualified geotechnical consultant, scarification of the soil, spreading and mixing of the cement and soil, compaction of the resultant mixture, shaping the soil, work required due to adjustments of modifier proportioning, work required due to weather conditions, correction of deficient areas, water required for the stabilization process, soil trimming, liquid membrane forming compound, and all operations needed to meet the requirements of this specification shall be included in the cost of the pay item.

COMMENTS AND ACTION

219.02 Materials
219.04 Testing and Mix Design
219.07 Preparation of Soils
219.13 Curing
219.14 Proofrolling
219.16 Basis of Payment

DISCUSSION:
This item was introduced and presented by Mr. Clawson, sitting in as proxy for Mr. Reilman, who stated that minor edits are needed to include the option to use blended cement, type 1L, add a clause about proofrolling, and remove requirements for use of a curing compound.

Mr. Clawson proposed to add the option to use blended cement, add a clause regarding proofrolling requirements, and delete the requirement to use liquid membrane curing compound since a geotextile is required on the top of the cement stabilized subgrade. This geotextile is used to separate the subgrade or subbase.

Mr. Schneider asked about curing and the 4 ton weight limit. Are we still able to use a curing compound?
Mr. Siddiki responded that several contractors were involved in this and it was suggested to keep the 4 ton limit.
Mr. Pankow asked about the liquid membrane forming compound and if we can leave that language in the spec?
Following some discussion, it was agreed to leave the original language in 219.13, by removing the new language and the cross-out. The revisions to keep the curing compound language are as shown.

Mr. Clawson revised his motion, which was seconded by Mr. Dave.
There was no further discussion and this item passed as revised.

Motion: Mr. Clawson Second: Mr. Dave Ayes: 10 Nays: 0 FHWA Approval: YES	**Action:** ___ Passed as Submitted _X_ Passed as Revised ___ Withdrawn
2026 Standard Specifications Sections: 219 pp. 258 - 262. Recurring Special Provisions or Plan Details: NONE Standard Drawing affected: NONE Design Manual Chapter: NONE GIFE Section: Section 3	_X_ **2028** Standard Specifications ___ Revise Pay Items List ___ Notification to Designers if change is not addressed by RSP _X_ Create RSP (No. 219-R-815) Effective: September 1, 2026 ___ Revise RSP (No.___) Effective: ___ Standard Drawing Effective: ___ Create RPD (No. ___) Effective: _X_ GIFE Update ___ Frequency Manual Update ___ AWP Update

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: When rock or soft rock is excavated, it is not level causing problems during construction when placing the pipe. *Also, settlement of backfill is being observed on pipe installations.*

PROPOSED SOLUTION: Update the language to cover soft rock and shale and that 12 in. should be excavated and replaced with Coarse Aggregate No. 8. *Add requirement to use geotextile when using coarse aggregate.*

APPLICABLE STANDARD SPECIFICATIONS: Yes

APPLICABLE STANDARD DRAWING: No

APPLICABLE DESIGN MANUAL CHAPTER: No

APPLICABLE SECTION OF GIFE: No

APPLICABLE RECURRING SPECIAL PROVISION OR PLAN DETAILS: 715-R-809

PAY ITEMS AFFECTED: No

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad Hoc committee consisting of Nayyar Siddiki and Samuel Clawson

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: revise existing RSP 715-R-809 to include these changes. Keep existing BFU.

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman and Nayyar Siddiki

Title: State Material Engineer

Division: Materials and Test

E-mail: Jreilman@INDOT.IN.GOV

Date: 1/23/26

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? No
Will approval of this item affect the Qualified Products List (QPL)? No
Will this proposal improve:

Construction costs? N/A
Construction time? Yes
Customer satisfaction? Yes
Congestion/travel time? N/A
Ride quality? No

Will this proposal reduce operational costs or maintenance effort? No

Will this item improve safety:

For motorists? No
For construction workers? Yes

Will this proposal improve quality for:

Construction procedures/processes? Yes
Asset preservation? Yes
Design process? N/A

Will this change provide the contractor more flexibility? Yes

Will this proposal provide clarification for the Contractor and field personnel? Yes

Can this item improve/reduce the number of potential change orders? No

Is this proposal needed for compliance with:

Federal or State regulations? N/A
AASHTO or other design code? N/A

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda:

SECTION 715, BEGIN LINE 227, DELETE AND INSERT AS FOLLOWS:

715.04 Excavation

Unless otherwise directed, the trench cross-sectional dimensions shall be as shown on the plans. The trench bottom shall give full support to the pipe as shown on the plans. Recesses shall be cut to receive any projecting hubs or bells.

Where pipe is to be placed in fill sections, a portion of the fill shall be constructed prior to installation of the pipe as shown on the plans.

Where rock*, soft rock, shale,* or boulder formation is encountered at or above the proposed trench bottom elevation, the trench shall be excavated at least ~~8~~*12* in. below the proposed grade, backfilled with ~~structure backfill~~*coarse aggregate No. 8*, and compacted in accordance with 211.04. *Structure backfill shall be coarse aggregate No. 8 in accordance with 904.05.*

In case a firm foundation is not encountered at the required grade, the unstable material shall be removed to a depth that when replaced with suitable material, usually B borrow, compacted, and properly shaped, it will produce a uniform and stable foundation along the entire length of the pipe. A timber mat shall be placed to hold the pipe to line and grade if necessary.

All trenches shall be kept free from water until any joint filling material has hardened sufficiently not to be harmed.

SECTION 715, BEGIN LINE 366, INSERT AS FOLLOWS:

Where material other than structure backfill is allowed and used for backfilling, it shall be of such nature that compacts readily. The portion around and for 6 in. above the top of the pipe shall be free from large stones. The material shall be placed in layers not exceeding 6 in. loose measurement, and each layer shall be compacted thoroughly by means of mechanical tamps. *Where coarse aggregate is used for structure backfill, geotextile shall be installed.*

COMMENTS AND ACTION

715.04 Excavation

DISCUSSION:
Mr. Clawson introduced and presented this item explaining that when rock or soft rock is excavated, it is not level, causing problems during construction when placing the pipe. Also, settlement of backfill is being observed on pipe installations.

Mr. Clawson proposed to update the language to cover soft rock and shale and that 12 in. should be excavated and replaced with coarse aggregate No. 8., and to add a requirement to use geotextile when using coarse aggregate.

Prior to the meeting: Mr. Koch mentioned that our backfill method drawings, 715-BKFL-**, denotes structure backfill as a cushion with a variable depth "A". From a construction perspective, I would prefer 'structure backfill' as it is a material already on hand. If the proposal is passed, please amend the standard drawing series (material & depth) and in Section A-A, should depth "A" become 12 in. instead of a variable depth?

Revisions resulting from questions and comments received from Mr. Reilman and Mr. Clawson prior to the meeting are shown in these minutes.

Mr. Clawson **withdrew** this item pending further review, due to conflicts with several standard drawings that Geotech will need to work out.

Motion: Mr. Clawson Second: Mr. Ayes: Nays: FHWA Approval:	**Action:** ___ Passed as Submitted ___ Passed as Revised _X_ Withdrawn
2026 Standard Specifications Sections: 715.04 p. 749. Recurring Special Provisions or Plan Details: 715-R-809 PIPE CULVERTS, AND STORM AND SANITARY SEWERS Standard Drawing affected: NONE Design Manual Chapter: NONE GIFE Section: NONE	___ 2028 Standard Specifications ___ Revise Pay Items List ___ Notification to Designers if change is not addressed by RSP ___ Create RSP (No.__) Effective: ___ Revise RSP (No.__) Effective: ___ Standard Drawing Effective: ___ Create RPD (No. __) Effective: ___ GIFE Update ___ Frequency Manual Update ___ AWP Update

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Occasionally a situation arose where the use of lightweight aggregate for embankment would be advantageous. A specification does not currently exist for this application.

PROPOSED SOLUTION: Draft a lightweight aggregate section for the 203 embankment section.

APPLICABLE STANDARD SPECIFICATIONS: Yes

APPLICABLE STANDARD DRAWING: No

APPLICABLE DESIGN MANUAL CHAPTER: No

APPLICABLE SECTION OF GIFE: No

APPLICABLE RECURRING SPECIAL PROVISION OR PLAN DETAILS: Yes, create new 203 RSP

PAY ITEMS AFFECTED: Yes, create two new pay items

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad Hoc committee consisting of Nayyar Siddiki and Samuel Clawson

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: As required by the project's Geotechnical Report. *904-M-076 must also be included in the contract.

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman for Nayyar Siddiki

Title: State Materials Engineer

Division: Materials and Tests

E-mail: Jreilman@indot.in.gov

Date: 2/24/2026

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? No
Will approval of this item affect the Qualified Products List (QPL)? No
Will this proposal improve:

Construction costs? N/A
Construction time? N/A
Customer satisfaction? N/A
Congestion/travel time? N/A
Ride quality? N/A

Will this proposal reduce operational costs or maintenance effort? N/A

Will this item improve safety:

For motorists? N/A
For construction workers? N/A

Will this proposal improve quality for:

Construction procedures/processes? Yes
Asset preservation? Yes
Design process? Yes

Will this change provide the contractor more flexibility? N/A

Will this proposal provide clarification for the Contractor and field personnel? N/A

Can this item improve/reduce the number of potential change orders? N/A

Is this proposal needed for compliance with:

Federal or State regulations? No
AASHTO or other design code? No

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda:

SECTION 203 – EXCAVATION AND EMBANKMENT
203.23 Embankment other than Rock, with Strength or Density Control
203.27 Method of Measurement
203.28 Basis of Payment

203-X-xxx EMBANKMENT CONSTRUCTION WITH LIGHTWEIGHT AGGREGATE

(Adopted xx-xx-xx)

The Standard Specifications are revised as follows:

SECTION 203, AFTER LINE 1162, INSERT AS FOLLOWS:

203.23.2 Blank

203.23.3 Lightweight Aggregate Embankment

When shown on the plans, lightweight aggregate, LWA, of the type specified shall be used to construct the embankment. The LWA shall be either expanded shale or foamed glass in accordance with 904.08 and that same material shall be used throughout the embankment unless otherwise shown on the plans.

(a) General Requirements

The grade shall be prepared in accordance with 203.09. A layer of geotextile of the type shown on the plans and in accordance with 918.02 shall be placed on the prepared grade. The LWA shall not be placed in standing water or mixed with soil or other aggregate. LWA shall be placed in lifts a maximum of 12 in. thick by tracked equipment that does not crush the LWA. Construction equipment that in the determination of the Engineer causes crushing of the LWA shall immediately be removed from the embankment. The LWA shall be compacted as specified for the material below. Excessive compaction shall be avoided to minimize crushing of the LWA.

Lateral underdrains shall be installed at the bottom of LWA embankments. Lateral underdrains shall be trenched into the embankment after it has reached an elevation at least 2 ft above existing ground. The bottom of the trench shall be at the top of existing ground with adjustment made for the slope of the drain. The trench shall be located within 2 ft of the toe of slope. The trench shall be backfilled with the LWA material used for the embankment and mechanically compacted to meet the compaction requirements herein. Lateral underdrains shall be 6 in. diameter Type 4 pipe in accordance with 715.02(d) and shall be enclosed in geotextile for underdrains in accordance with 918.02. Lateral underdrains shall be spaced a maximum of 100 ft longitudinally along the centerline of the embankment, shall outlet into the roadside ditch on each side of the embankment, shall extend a minimum of 8 ft horizontally into the embankment, and shall be sloped at a minimum of 0.2%.

Underdrain outlet protectors in accordance with 718.06 shall be installed at the outlet end of each lateral underdrain.

Each lift of LWA embankment shall extend transversely over the entire area and be kept smooth and uniform. The LWA shall be encapsulated with the same geotextile used on the prepared grade and encased with sandy clay loam, clay loam, silty clay loam, or silty clay in accordance with 903.02. The encasement shall be 12 in. in depth, with 6 in. of

material suitable for the growth of vegetation, measured perpendicular to the face of the slope, and constructed in accordance with 203.09. The LWA and soil encasement shall be constructed concurrently.

The LWA embankment shall be constructed to an elevation 2 ft below the bottom of the subgrade unless otherwise shown on the plans. The remainder of the embankment and subgrade shall be constructed with structure backfill or aggregate in accordance with 211 and 207. The same geotextile as that used on the prepared grade shall be used to separate the top of the LWA embankment from the structure backfill or aggregate.

(b) Expanded Shale

Each lift shall be compacted using a vibratory roller weighing no more than 10 t. Four roller passes at the lowest frequency shall be performed per lift. The placement of the expanded shale shall be performed with equipment that does not crush the expanded shale.

(c) Foamed Glass Aggregate

Foamed glass aggregate, FGA, shall be compacted using a walk-behind plate compactor. Four passes of the walk-behind plate compactor shall be used to compact each FGA lift.

SECTION 203, AFTER LINE 1461, INSERT AS FOLLOWS:

(l) Blank

(m) Measurement of Lightweight Aggregate as Borrow

LWA of the specified material will be measured by the ton in accordance with 109.01(b). Geotextiles will be measured in accordance with 214.05.

SECTION 203, AFTER LINE 1561, INSERT AS FOLLOWS:

LWA expanded shale or foamed glass will be paid for at the contract unit price per ton.

Coal ash used as borrow will be paid for at the contract unit price for borrow.

Excavation of coal ash will be paid for at the contract unit price for common excavation.

Geotextiles of the type specified will be paid for in accordance with 214.06.

Payment will be made under:

Pay Item	**Pay Unit Symbol**
Borrow	CYS
Breaking Pavement	SYS

SECTION 203 – EXCAVATION AND EMBANKMENT
203.23 Embankment other than Rock, with Strength or Density Control
203.27 Method of Measurement
203.28 Basis of Payment

Cased Test Holes.....LFT
Embankment Foundation Soils Treatment.....SYS
Embankment.....CYS
Excavation, Common.....CYS
Excavation, Peat.....CYS
Excavation, Rock.....CYS
Excavation, Unclassified.....CYS
Excavation, Waterway.....CYS
Excavation, Y.....CYS
Exploratory Cores.....LFT
Exploratory Drilling.....LFT
Linear Grading.....LFT
LWA, Expanded Shale.....*TON*
LWA, Foamed Glass.....*TON*
Water for Shale.....kGAL.

SECTION 203, BEGIN LINE 1632, DELETE AS FOLLOWS:

~~The cost of geotextiles shall be included in the cost of other pay items.~~

SECTION 203, AFTER LINE 1638, INSERT AS FOLLOWS:

The costs for the use of LWA in embankment construction, including but not limited to encasement, additional erosion and sediment control measures, lateral underdrains, underdrain outlets, and all incidentals shall be included in the cost of other pay items in this section.

COMMENTS AND ACTION

203.23 Embankment other than Rock, with Strength or Density Control
203.27 Method of Measurement
203.28 Basis of Payment

DISCUSSION:
This item was introduced and presented by Mr. Clawson who stated that occasionally a situation arose where the use of lightweight aggregate for embankment would be advantageous. A specification does not currently exist for this application.
Mr. Clawson proposed drafting a lightweight aggregate section for the 203 embankment specification.

Mr. Koch asked whether, if this item passes, the proposal would be merged with 904-M-076 or if the BFU would pull both RSPs into the CIB. Mr. Reilman responded that the BFU would be revised to pull both this RSP and 904-M-076 together into a contract.
Mr. Koch also asked about the intent of the encasement soils. Should topsoil be placed over the embankment or is the intent for the encasing soil to be suitable for the growth of vegetation? Otherwise, folks will design and build the embankment dimensions without a growth layer as the specification it did not require one. Mr. Siddiki replied that if geotextile is not used, soils would intrude into the lightweight aggregate; therefore, separation is important.
Mr. Koch asked if topsoil should be placed over the embankment or is the intent for the encasing soil to be suitable for the growth of vegetation? The committee agreed and the revisions are as shown.

Revisions resulting from questions and comments received from Mr. Reilman prior to the meeting are shown in these minutes.
There was no further discussion and this item passed as revised.

Motion: Mr. Clawson Second: Mr. Koch Ayes: 10 Nays: 0 FHWA Approval: YES	**Action:** ___ Passed as Submitted _X_ Passed as Revised ___ Withdrawn
2026 Standard Specifications Sections: 203 pp. 178, 186, 188, and 188. Recurring Special Provisions or Plan Details: proposed new Standard Drawing affected: NONE Design Manual Chapter: NONE GIFE Section: TBD	_X_ 2028 Standard Specifications _X_ Revise Pay Items List ___ Notification to Designers if change is not addressed by RSP _X_ Create RSP (No. 203-R-816) Effective: September 1, 2026 ___ Revise RSP (No.___) Effective: ___ Standard Drawing Effective: ___ Create RPD (No. ___) Effective: ___ GIFE Update _X_ Frequency Manual Update _X_ AWP Update

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: There is a need to add settlement monuments and a way to monitor cracks due to settlement or movement in the geotechnical instrumentation section.

PROPOSED SOLUTION: Add language describing settlement monuments and crack gauges to 204.

APPLICABLE STANDARD SPECIFICATIONS: 204 and RSP 204-R-727

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE: None

APPLICABLE RECURRING SPECIAL PROVISIONS: revise RSP 204-R-727

PAY ITEMS AFFECTED: create new pay item for settlement monument in the 204 section

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad hoc: Nayyar Siddiki and Samuel Clawson

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: Use the current BFU for RSP 204-R-727

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman for Nayyar Siddiki

Title: State Materials Engineer

Organization: INDOT

Phone Number: (317) 522-9692

Date: 2/24/26

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? No
Will approval of this item affect the Approved Materials List? No
Will this proposal improve:

Construction costs? N/A

Construction time? N/A

Customer satisfaction? N/A

Congestion/travel time? N/A

Ride quality? N/A

Will this proposal reduce operational costs or maintenance effort? N/A

Will this item improve safety:

For motorists? N/A

For construction workers? N/A

Will this proposal improve quality for:

Construction procedures/processes? Yes

Asset preservation? Yes

Design process? N/A

Will this change provide the contractor more flexibility? N/A

Will this proposal provide clarification for the Contractor and field personnel? N/A

Can this item improve/reduce the number of potential change orders? N/A

Is this proposal needed for compliance with:

Federal or State regulations? No

AASHTO or other design code? No

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda:

204-R-727 GEOTECHNICAL INSTRUMENTATION

(Revised xx-xx-26)

The Standard Specifications are revised as follows:

SECTION 204, BEGIN LINE 1, DELETE AND INSERT AS FOLLOWS:

SECTION 204 – GEOTECHNICAL INSTRUMENTATION

204.01 Description

This work shall consist of providing, installing, and maintaining geotechnical instrumentation including settlement plates, settlement stakes, lateral stakes, *vibrating wire settlement systems, settlement monuments, crack gauges,* and standpipe piezometers as directed and in accordance with 105.03.

MATERIALS

204.02 Materials

Materials shall be in accordance with the following:

B Borrow	904.06
Bentonite Chips and Powder	*913.06*
Coarse Aggregate, Class D or Higher, Size No. 53	904.03
Ottawa Sand*	AASHTO T 252
Portland Cement, Type I or 1L	*901.01(b)*
Structure Backfill, Size No. 30	904.05
Water	*913.01*

* Ottawa Sand shall have a minimum permeability of 25 ft/day.

~~Bentonite chips shall consist of commercially processed angular fragments of pure bentonite, without additives.~~ Bentonite-cement grout shall consist of a mixture with the ratio of 25 lb of bentonite *powder* to 94 lb of portland cement, Type I *or 1L* ~~in accordance with 901.01(b)~~ and 30 gal. of water.

Crack gauges shall be in accordance with the type or configuration specified in the Geotechnical Report.

SECTION 204, AFTER LINE 95, DELETE AND INSERT AS FOLLOWS:

204.04 Vibrating Wire Settlement Systems

A vibrating wire settlement system from the Department's QPL for Vibrating Wire Settlement Systems shall be provided. A vibrating wire settlement system will be considered for inclusion on the QPL by following ITM 806, Procedure U. The settlement system shall consist of sensor, tubing, and reservoir system. The system shall also have the capability of being attached to a datalogger and be remotely monitored via a cell phone modem.

Structure backfill shall be No. 30 sand in accordance with 904.05.

The Contractor shall submit ~~a Type D certification in accordance with 916 and~~ the manufacturer's calibration report for the settlement system to the Engineer and to the Department's Geotechnical Engineering Division two weeks prior to beginning construction. The Contractor shall supply the hardware, software, power supply, and monitoring system.

A qualified geotechnical consultant, from the Department's list of Qualified Geotechnical Consultants, shall install these devices as specified by the manufacturer.

(a) Installation Requirements

Prior to installation, the settlement system materials shall be assembled and inspected for defects in accordance with manufacturer's instructions and recommendations. The Contractor shall verify that all cable and tube lengths are of sufficient length to facilitate proper installation and layout. Cables and tubes shall be labeled with a unique instrument number using a permanent marking system at the terminal end, at the sensor end, and at 50 ft intervals in between.

The settlement cells shall be mounted onto rigid plates. The Contractor shall also install at least two survey pins on the plates and provide easy access to the markers for a survey crew to measure elevations using standard tools.

The Contractor shall provide details for protecting the signal cables and tubing at the connection from the reservoir to the settlement plate.

Sharp bends where the signal cable and tubing exit the embankment shall be avoided. All signal cable and tubing shall be run in a 1 ft deep by 1 ft, minimum, wide trench using structure backfill for 3 in. under the cable and 3 in. over the cable, or other approved method, to protect the signal cable and tubing from damage. The Contractor shall run cabling and tubing leaving enough slack to provide necessary strain relief for the anticipated movements in accordance with the manufacturer's recommendations.

Only hand tools shall be used to place and compact fill material for a height of 1 1/2 ft above signal cable, tubing, and the settlement plate. The Contractor shall avoid driving heavy equipment that causes rutting deeper than 2 in. over or near the signal cable, tubing, and settlement plate until the height of the fill over the signal cable, tubing, and settlement plate reaches at least 5 ft.

The signal cable and tubing shall terminate at a datalogger inside a lockable readout enclosure. The enclosure shall be mounted on a post driven into stable ground as close as possible to the right of way line. The Contractor shall keep the fluid reservoir vertical at all times. The sensor and tubing shall be at a lower elevation than the instrument reservoir at all times. The enclosure and instrument tubing from the ground into the reservoir enclosure shall be protected from thermal influence.

After the completion of the installation, a detailed installation log shall be completed. The as-built location in a horizontal position shall be determined for both the sensor and the reservoir to an accuracy of ±1 ft and the elevation for both the sensor and the reservoir determined to an accuracy of ±0.01 ft.

After the completion of the installation, a post-installation acceptance test shall be performed by obtaining three independent readings from the sensor in accordance with the manufacturer's recommendations. The acceptance test shall be performed prior to backfilling of the trench. This shall be accomplished using a vibrating wire readout compatible with the installed settlement system. Elevations obtained from all three readings shall be within a range of 0.02 ft from each other. The Engineer will review the data from these readings to determine whether the instrument is acceptable.

The Contractor shall be responsible for any damage to the vibratory wire settlement systems.

(b) Instrument Reading and Documentation

Monitoring will be performed by the Department's Geotechnical Engineering Division. Measurements at each instrument will include the raw readings from the settlement cell, the temperature at the settlement cell, and the temperature at the reservoir. Instruments will be read in accordance with 204.03(b), or as recommended by the Engineer.

The Geotechnical Engineering Division will keep a weekly record which lists for each settlement system, sensor elevation, reservoir elevation, and list of pay items. A copy of each weekly report shall be provided to the Engineer.

204.04*5* Standpipe Piezometers

SECTION 204, AFTER LINE 197, INSERT AS FOLLOWS:

204.06 Settlement Monument

Settlement monuments shall be installed on embankments upon completion of construction of the embankment to determine vertical deformations. These monuments are either used alone or in coordination with settlement vibratory gauges or settlement plates. The physical targets shall be 3 in. by 3 in. by 24 in. long, 12 in. of which ~~should~~shall be set firmly in the ground, ~~are~~and placed to measure vertical settlement. Physical targets may be concrete, wood, or other material that will maintain its shape throughout the duration of monitoring and is suitable to the Engineer. The Contractor shall ensure that the settlement monument is protected from damage or impacts from construction traffic. Conventional survey techniques ~~will~~shall be used to determine any changes in elevation. A benchmark shall be located outside the influence of the embankment to serve as a reference monument. Measurement will be taken at the same interval of other settlement plates or vibratory gauges.

Readings will be taken every seven days until the settlement rate per week is 1/4 in. or less for four consecutive weeks in addition to settlement plates and vibratory

~~rollers~~gauges. The data will be reported to the ~~INDOT~~Department's Division of Geotechnical Engineering.

204.07 Crack Gauges

Crack gauges shall be provided as shown on the plans and will be used to measure cracks or joints. The crack gauge provided shall be in accordance with the type or configuration ~~listed in the Geotechnical Report~~specified. Gauges shall be installed on smooth and clean surfaces over a crack or joint to visually monitor relative vertical and horizontal deformation by the Engineer without requiring the use of survey equipment. Gauges shall be protected from weather ~~when needed~~. Monitoring will continue for the time period as specified ~~in the Geotechnical Report,~~ but no longer than the date of substantial completion.

~~SECTION 204, BEGIN LINE 198, DELETE AND INSERT AS FOLLOWS:~~

204.05~~6~~*8* Method of Measurement

Settlement plates, settlement stakes, lateral stakes, *vibrating wire settlement systems, settlement monuments, crack gauges,* standpipe piezometers, and water monitoring boreholes will be measured by the number of units installed *and accepted*.

~~*Crack gauges will not be measured for payment.*~~

204.06~~7~~*9* Basis of Payment

Settlement plates, settlement stakes, lateral stakes, *vibrating wire settlement systems, settlement monuments, crack gauges,* standpipe piezometers, and water monitoring boreholes will be paid for at the contract unit price per each.

Payment will be made under:

Pay Item	Pay Unit Symbol
Crack Gauge	*EACH*
Settlement Monument	*EACH*
Settlement Plate	EACH
Stake, Lateral	EACH
Stake, Settlement	EACH
Standpipe Piezometer	EACH
Vibrating Wire Settlement System	*EACH*
Water Monitoring Borehole	EACH

The cost of furnishing, installing, and maintaining settlement plates, extension pipes, cover pipes, B borrow, structure backfill, coarse aggregate and all necessary incidentals shall be included in the cost of settlement plates.

The cost of furnishing all tools, labor, and materials necessary to complete the installation, maintenance, and baseline reading of vibratory wire settlement systems as specified by the manufacturer shall be included in the cost of the vibratory wire settlement

system pay item.

The cost of furnishing, installing, maintaining, and removing crack gauges shall be included in the cost of ~~the other pay items in this section~~the crack gauge pay item.

The cost of backfilling water monitoring boreholes will be included in the cost of water monitoring boreholes.

The cost of handholes, protective covers, bentonite chips, bentonite-cement grout, Ottawa sand, tips, casing, drilling, tubing or PVC pipe, backfilling and measurements will be included in the cost of standpipe piezometers.

No additional compensation will be made for any costs incurred related to the repair of settlement plates, pipes, settlement stakes, lateral stakes, *vibratory wire settlement systems,* or standpipe piezometers as the result of damage by the Contractor.

No payment will be made for unacceptable settlement plates, pipes, settlement stakes, lateral stakes, vibratory wire settlement systems, crack gauges, or standpipe piezometers. No payment will be made for delays and expenses incurred by the Contractor, through changes necessitated by improper or unacceptable installation, material or equipment.

COMMENTS AND ACTION

204-R-727 GEOTECHNICAL INSTRUMENTATION

DISCUSSION:
Mr. Clawson introduced and presented this item stating that there is a need to add settlement monuments and a way to monitor cracks due to settlement or movement in the geotechnical instrumentation section.

Mr. Clawson proposed to add language describing settlement monuments and crack gauges to 204.

Prior to the meeting: Mr. Koch stated that during the previous review an item for 'crack gauge' was included within the proposal. With the cost now included within the items of this section, if the Geotech report only recommends 'crack gauge' and no other 204 items, we would not have a method to pay for the work. Perhaps amend the language to 'the cost shall be included in the cost of other items'? Not my favorite language as Geotech reports could be significant and specifics could be overlooked. Mr. Reilman concurred with Mr. Koch's revision.

Revisions resulting from questions and comments received from Mr. Reilman prior to the meeting are shown in these minutes.

Ms. Mouser asked about the Geotech Report and if that becomes part of the contract. After discussion the language was revised as shown.

Further discussion by Mr. Clawson, Mr. Siddiki, Mr. Pankow, Mr. Novak and others concerning crack gauges, and how they would be paid, ensued. The committee agreed to revise the language to include a pay item for crack gauges, as shown.

Mr. Clawson revised his motion, which was seconded by Mr. Koch. There was no further discussion and this item passed as revised.

After the meeting: Additional change, shown in these minutes, by David L. Jacobs stating that when a material is required to be from a QPL, Construction must create an acceptance record to document the product's presence on the list. Requiring the Contractor to submit a Type D certification in accordance with 916 would result in Construction having to create a second acceptance record solely to document that the Contractor provided a piece of paper.

The Contractor shall submit ~~a Type D certification in accordance with 916 and~~ the manufacturer's calibration report for the settlement system to the Engineer and to the Department's Geotechnical Engineering Division two weeks prior to beginning construction. The Contractor shall supply the hardware, software, power supply, and monitoring system.

Per Mr. Reilman's request, this item was withdrawn at the April 16, 2026, Standards Committee meeting during these minutes approval, pending further review.

COMMENTS AND ACTION

204-R-727 GEOTECHNICAL INSTRUMENTATION

[continued]

Motion: Mr. Clawson Second: Mr. Orton Ayes: 10 Nays: 0 FHWA Approval: YES	**Action:** ___ Passed as Submitted ~~X~~ Passed as Revised X Withdrawn *(see* April 16, 2026 SC meeting's minutes*)*
2026 Standard Specifications Sections: 204 pp. 190 - 194. Recurring Special Provisions or Plan Details: 204-R-727 GEOTECHNICAL INSTRUMENTATION Standard Drawing affected: NONE Design Manual Chapter: NONE GIFE Section: NONE	~~X~~ 2028 Standard Specifications ~~X~~ Revise Pay Items List ___ Notification to Designers if change is not addressed by RSP ___ Create RSP (No.___) Effective: ~~X~~ Revise RSP (No. ~~204-R-727~~) Effective: ~~September 1, 2026~~ ___ Standard Drawing Effective: ___ Create RPD (No. ___) Effective: ~~X~~ GIFE Update ~~X~~ Frequency Manual Update ~~X~~ AWP Update

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: The 106-C-277 RSP for Build America, Buy America needs to be updated to reflect the new requirements effective in October 2026.

PROPOSED SOLUTION: Incorporate the suggested language to update the existing RSP 106-C-277.

APPLICABLE STANDARD SPECIFICATIONS: None

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE:

APPLICABLE RECURRING SPECIAL PROVISIONS: RSP 106-C-277

PAY ITEMS AFFECTED: None

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad hoc: Jim Reilman, Charles Smith

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: (317) 522-9692

Date: 3/2/26

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? No
Will approval of this item affect the Approved Materials List? No
Will this proposal improve:

Construction costs? N/A

Construction time? N/A

Customer satisfaction? N/A

Congestion/travel time? N/A

Ride quality? N/A

Will this proposal reduce operational costs or maintenance effort? N/A

Will this item improve safety:

For motorists? N/A

For construction workers? N/A

Will this proposal improve quality for:

Construction procedures/processes? N/A

Asset preservation? N/A

Design process? N/A

Will this change provide the contractor more flexibility? N/A

Will this proposal provide clarification for the Contractor and field personnel? Yes

Can this item improve/reduce the number of potential change orders? N/A

Is this proposal needed for compliance with:

Federal or State regulations? Yes

AASHTO or other design code? No

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda:

106-C-277 BUILD AMERICA, BUY AMERICA ACT REQUIREMENTS
[for Federal-Aid Contracts Only]

(Revised xx-xx-26)

The Standard Specifications are revised as follows:

SECTION 106, BEGIN LINE 109, DELETE AND INSERT AS FOLLOWS:

(c) *Build America,* Buy America Requirements

All contracts shall be supplied with steel and iron products, *construction materials, and manufactured products* that are produced in the United States. Steel and iron products, *construction materials, and manufactured products* shall comply with IC 5-16-8, *2 CFR 184*, and 23 CFR 635.410.

A *Build America,* Buy America Certification shall be submitted and received for each product or source of material prior to being incorporated into the contract in accordance with 916. *An example certification is shown in 916.03(e). In lieu of the example certification, alternate certifications such as the PEAS Domestic Materials Self-Certification Form or certifications containing all ~~of~~ the information shown on the certification in 916.03(e) will be acceptable.*

SECTION 106, BEGIN LINE 132, INSERT AS FOLLOWS:

a. Exceptions

The Engineer may grant specific written permission to use foreign steel or iron products when both of the following conditions apply:

(1) The total cost of all foreign products to be used does not exceed 0.1 percent of the total Contract cost, or $2,500, whichever is greater. The cost is the value of the product as delivered to the project.

(2) The specified products are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet the requirements of the Contract Documents. The Engineer may require the Contractor to obtain letters from three different suppliers documenting the unavailability of a product from a domestic source if the shortage is not previously established by the Department.

2. Construction Materials

All construction materials incorporated permanently into a contract that serve an ongoing need to the finished product shall be manufactured in the United States. All manufacturing processes for the construction materials shall occur in the United States.

3. Manufactured Products

All manufactured products incorporated permanently into a contract that serve an ongoing need to the finished product shall have ~~had final assemblyat least 55% of the total cost of components used to make the manufactured product derived from components made~~

~~*in the United States*~~*final assembly in the United States and have greater than 55% of the manufactured products components, by cost, be mined, produced, or manufactured in the United States.*

SECTION 916, BEGIN LINE 21, INSERT AS FOLLOWS:

916.02 Types of Certifications

Certifications shall be Type A, Type B, Type C, Type D, *Build America,* Buy America, or as required under other types. When specified, the type of certification provided for a material shall be in accordance with the Frequency Manual except as otherwise specified. Specific information and test results required in Type A, Type B, and other types of certifications will be listed in the material specifications. Sample forms for Type A, Type B, Type C, Type D, and *Build America,* Buy America certifications are shown in 916.03. Sample forms for other type certifications are shown in ITM 804.

SECTION 916, BEGIN LINE 57, INSERT AS FOLLOWS:

(e) *Build America,* Buy America Requirement

All steel and iron materials and products, *construction materials, and manufactured products* used in the contract shall be certified to be in accordance with 106.01(c).

SECTION 916, BEGIN LINE 221, INSERT AS FOLLOWS:

(e) Sample *Build America,* Buy America Certification Form

***BUILD AMERICA*, BUY AMERICA CERTIFICATION**

SECTION 916, AFTER LINE 260, INSERT AS FOLLOWS:

2. Construction Materials

In accordance with 106.01(c)2, I hereby certify that all construction materials and manufacturing processes for the materials listed below occurred in the United States of America or territories subject to its jurisdiction.

*Material Name**	*Quantity (units)*
_____	_____
_____	_____
_____	_____

* *Identifying information shall be shown when appropriate. A separate certification is required for each different manufacturer.*

_____ _____
Signature of Company Official Title

Date: _____ _____
Company Name

_____ _____
Signature of Contractor Official Title

Date: _____

3. Manufactured Products

In accordance with 106.01(c)3, I hereby certify that ~~all manufactured products listed below had final assemblyat least 55% of the total cost of components used to make the manufactured product listed below are derived from components made~~the product had final assembly in the United States and has greater than 55% of the manufactured product's components, by cost, mined, produced, or manufactured in the United States of America or territories subject to its jurisdiction.

*Material Name**	*Quantity (units)*
_____	_____
_____	_____
_____	_____

* *Identifying information shall be shown when appropriate. A separate certification is required for each different manufacturer.*

_____ _____
Signature of Manufacturing Company Official *Title*

Date: _____ _____
Company Name

_____ _____
Signature of Contractor Official *Title*

Date: _____

COMMENTS AND ACTION

106-C-277 BUILD AMERICA, BUY AMERICA ACT REQUIREMENTS

DISCUSSION:
This item was introduced and presented by Mr. Clawson who stated that RSP 106-C-277 for Build America, Buy America needs to be updated to reflect the new requirements that are effective in October 2026.

Mr. Clawson proposed to incorporate the suggested language to update the existing RSP 106-C-277, as revised.

Mr. Clawson revised his motion which was seconded by Mr. Orton.

There was no further discussion and this item passed as revised.

Motion: Mr. Clawson Second: Mr. Boruff Ayes: 10 Nays: 0 FHWA Approval: YES	**Action:** ___ Passed as Submitted _X_ Passed as Revised ___ Withdrawn
2026 Standard Specifications Sections: Recurring Special Provisions or Plan Details: 106-C-277 BUILD AMERICA, BUY AMERICA ACT REQUIREMENTS Standard Drawing affected: NONE Design Manual Chapter: NONE GIFE Section: TBD	~~_X_~~ 2028 Standard Specifications (**not** to incorporate into 2028 SS) ___ Revise Pay Items List ___ Notification to Designers if change is not addressed by RSP ___ Create RSP (No.___) Effective: _X_ Revise RSP (No. 106-C-277) Effective: November 1, 2026 ___ Standard Drawing Effective: ___ Create RPD (No. ___) Effective: _X_ GIFE Update _X_ Frequency Manual Update ___ AWP Update

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Installing dowel bars into existing pavement requires sound concrete. In practice, this has led to additional removal to find intact concrete, increasing the length of patching in the field, and leading to overruns on contracts. New transverse joints were allowed to be offset from the existing joint, which allowed early sympathy cracking to occur. Removal of concrete required chipping at corners, which increased time required and led to damage to the concrete that remained in place.

PROPOSED SOLUTION: The key changes include:

- Allow oversawing in both the transverse and longitudinal directions to facilitate easier removal of existing concrete and reduce the need for manual chipping.
- Use deformed bars at the end of longer patches instead of placing dowel bars
- Match transverse joint locations with those in adjacent pavement

APPLICABLE STANDARD SPECIFICATIONS: 506

APPLICABLE STANDARD DRAWING: 506-CCPP with corresponding changes to terminology in 503-CCPJ-02

APPLICABLE DESIGN MANUAL CHAPTER: 603

APPLICABLE SECTION OF GIFE: Section 9

APPLICABLE RECURRING SPECIAL PROVISION OR PLAN DETAILS: N/A

PAY ITEMS AFFECTED: 506-06333 PCCP PATCHING, FULL DEPTH

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad-hoc including Sipes, Scott; Laracuente, Luis A; Novak, Josep; Fegan, Roland; Nantung, Tommy; Cosenza, Nicholas; Lowther, Jason

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: If a contract includes pay item, 506-06333 PCCP PATCHING, FULL DEPTH

IMPACT ANALYSIS (attach report): Completed, see Attached

Submitted By: Nick Cosenza on behalf of Kumar Dave

Title: Pavement Design Engineer

Division: Highway Engineering

E-mail: ncosenza@indot.in.gov

Date: 3/3/26

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? No
Will approval of this item affect the Qualified Products List (QPL)? No
Will this proposal improve:

- Construction costs? Yes
- Construction time? Yes
- Customer satisfaction? Yes
- Congestion/travel time? Yes
- Ride quality? Yes

Will this proposal reduce operational costs or maintenance effort? Yes

Will this item improve safety:

- For motorists? Yes
- For construction workers? Yes

Will this proposal improve quality for:

- Construction procedures/processes? Yes
- Asset preservation? Yes
- Design process? Yes

Will this change provide the contractor more flexibility? Yes

Will this proposal provide clarification for the Contractor and field personnel? Yes

Can this item improve/reduce the number of potential change orders? Yes

Is this proposal needed for compliance with:

- Federal or State regulations? N/A
- AASHTO or other design code? N/A

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda: N/A

The Standard Specifications are revised as follows:

SECTION 506, BEGIN LINE 1, DELETE AND INSERT AS FOLLOWS:

SECTION 506 – PCCP PATCHING

506.01 Description

This work shall consist of the removal and replacement of jointed plain PCCP or jointed reinforced PCCP in accordance with 105.03.

MATERIALS

506.02 Materials

Materials shall be in accordance with the following:

Admixtures	912.03
Calcium Chloride, Type L	913.02
Chemical Anchor System	901.05
Coarse Aggregate, Class A or Higher, Size No. 11	904.03
Concrete Coarse Aggregate, Class AP	904.03, ITM 226
Dowel Bar Assemblies	503.04
Dowel Bars	910.01(b)10
Fine Aggregate, Size No. 23	904.02
Coal Ash	901.02
Joint Fillers	906.01[A]
Joint Sealing Materials	906.02(a)2
Portland Cement	901.01(b)
Rapid Hardening Hydraulic Cement	901.01(d)
Silica Fume	901.04
Slag Cement	901.03
Water	913.01

[A] A flexible foam expansion joint material meeting the requirements of ASTM D5249, Type 2 may also be used for the ~~retrofit pressure relief~~*expansion* joint. If the flexible foam expansion joint is used, the basis for use will be a Type C certification in accordance with 916.

Coarse aggregate for partial depth patching shall be size No. 11. Coarse aggregate for full depth patching shall be size No. 8. Coarse aggregate for patches shall be dolomite, limestone, or gravel.

Retrofitted tie bars *along the longitudinal joint* shall be No. 5 or No. 6 epoxy coated reinforcing bars in accordance with 910.01(b)9.

SECTION 506, BEGIN LINE 158, DELETE AND INSERT AS FOLLOWS:

(a) Patches Less than or Equal to ~~15~~*20* ft in Length

SECTION 506, BEGIN LINE 218, DELETE AND INSERT AS FOLLOWS:

(b) Patches Greater than ~~15~~*20* ft in Length

SECTION 506, BEGIN LINE 351, DELETE AND INSERT AS FOLLOWS:

506.07 General

Patch areas shown on the plans or marked by the Engineer as greater than ~~15~~*20* ft in length may be subdivided. If a patch is subdivided, concrete mix in accordance with 506.04(b) shall be used in all portions of the patch and the requirements for opening to traffic will be in accordance with 506.12(b).

506.08 PCCP Removal

PCCP removal areas will be marked. The Contractor may saw cut the patch areas prior to removing the patch. When the lane is subject to intermittent closures, the saw cutting shall occur no more than 24 h prior to removing the patch.

Vertical saw cuts around the perimeter of the removal areas shall be made in the PCCP and shall be full depth. Transverse cuts that define the ends of the patch shall be straight and perpendicular to the centerline. ~~In no case shall the transverse joint be over-cut into the adjacent pavement~~*Tolerance of the saw cut into adjacent panels shall be as shown on the plans, or as approved. Saw cuts into adjacent panels shall be sealed with hot pour joint sealant in accordance with 503.05. Epoxy may be substituted for hot pour joint sealant, as approved.* Following the saw cutting, the concrete that remains in the corners of the patch area shall be removed by pneumatic hammers that do not damage the adjacent PCCP or shoulders. Pneumatic hammers shall not exceed 45 lb.

PCCP removal areas shall not remain open overnight. Shoulders or adjacent PCCP damaged during the removal shall be repaired as directed.

SECTION 506, BEGIN LINE 397, DELETE AND INSERT AS FOLLOWS:

(b) Full Depth Removal

After the full depth saw cut is completed, vehicle mounted removal equipment may be used to remove the concrete provided this equipment does not damage the adjacent sound concrete.

Removal areas in the same lane which are closer than 10 ft shall require the PCCP between these areas to be removed and replaced. If a transverse joint is located within the removal area, the limits of removal shall be as shown on the plans.

Full depth saw cutting and removal shall be extended at the direction of the Engineer until sound PCCP is encountered to allow the drilling and installation of ~~dowel~~ *tie* bars for load transfer. Removal operations shall not damage the existing PCCP that is sound and is to remain in place.

Existing subbase shall be completely removed. Before removing any type of asphalt treated, cement treated, or concrete subbase, the Contractor shall saw cut the outline of the

removal area using a power-driven saw with a diamond blade. The Contractor shall cut the asphalt treated subbase at least 2 in. deep on a neat line perpendicular to the subbase surface. The Contractor shall cut the cement treated subbase or concrete subbase full depth.

506.09 Concrete Mixing and Transportation

(a) For Patches Less than or Equal to ~~15~~*20* ft in Length

SECTION 506, BEGIN LINE 440, DELETE AND INSERT AS FOLLOWS:

(b) For Patches Greater than ~~15~~*20* ft in Length

For patches containing portland cement, the mixing and transportation shall be in accordance with 502.10. If concrete containing CSA cement is used, it may be batched and mixed in a mobile volumetric mixer meeting the requirements of 722.09, regardless of the patch length. Calibration of the mobile mixer shall be in accordance with 722.13. Alternatively, a mixer from a CSA cement supplier may be used, if approved by the Engineer.

SECTION 506, BEGIN LINE 487, DELETE AND INSERT AS FOLLOWS:

(b) Full Depth

Subgrade treatment and subbase shall be constructed as shown on the plans.

~~Dowel bars,~~*A retrofit transfer joint, consisting of epoxy coated tie bars in accordance with 910.01(b)9,* shall be installed to provide load transfer from the adjoining PCCP to the patch. *The tie bars shall be installed in accordance with 503.03(g) and as shown on the plans.* The diameter of the drilled holes shall be no more than 1/8 in. greater than the diameter of the ~~dowel~~*tie* bar. ~~Dowel~~*Tie* bars shall be placed parallel to the pavement surface and to the longitudinal joint. ~~Dowel~~*Tie* bar alignment tolerances shall be as shown on the plans.

~~Dowel~~*The* holes shall be drilled using hydraulic, electric, or pneumatic percussion drills without spalling or damaging the existing concrete. Drills shall be capable of independent adjustment of each drill shaft in the horizontal and vertical direction. ~~The device used to drill dowel holes shall be slab-riding and be capable of drilling a minimum of three holes at a time.~~ The drilled holes shall be free of dust, moisture, and grease prior to installation of the ~~dowel~~*tie* bars. The chemical anchor system shall be injected to the back of the hole to eliminate air pockets prior to inserting the ~~dowel~~*tie* bar.

The quantity of material injected shall be sufficient to disperse the chemical anchor material along the entire length of the dowel bar and completely fill all voids around the bar. Application of the chemical anchor system by buttering it onto the ~~dowel~~*tie* bar will not be allowed.

After the anchor system has been injected, the ~~dowel~~*tie* bar shall be fully inserted in the hole using a back-and-forth twisting motion, leaving the proper length exposed. If it is necessary to use a hammer to seat the ~~dowel~~*tie* bar, the exposed end shall be protected with a wood block.

~~A lightweight plastic, clear or semi-transparent grout retention ring shall be installed after each dowel bar is inserted into the hole. The grout retention ring shall be pushed flush to the vertically sawn concrete surface and shall be used to help retain the chemical anchor system in the dowel hole.~~

Retrofit tie bars *along the longitudinal joint shall be installed when the length of the patch exceeds 100 ft. The retrofit tie bars shall be installed* in accordance with 503 and as shown on the plans. The tolerance for horizontal and vertical translation shall be the same as for ~~dowel~~*tie* bars *for the retrofit transverse joint.*

~~Joint filler and grout retention rings shall be placed and installed at the pressure relief joint as shown on the plans. Oversized holes shall be drilled in the joint filler no more than 1/2 in. over the dowel bar diameter and at a spacing to match the installed dowel bars. The oversized holes are to allow a tolerance for ease of installation of the joint filler up against the sawed face without interference with the dowel bars. The joint filler shall be attached to the sawed face without wrinkles or buckling.~~

~~Joint filler material with vertical slits or cuts will be rejected. Grout retention discs shall be installed to make the annular space between the dowel and the oversized hole mortar-tight. The joint material may be spliced along vertical joints that are joined and sealed with tape. The joint material shall not be spliced in the horizontal direction. An alternate method of installing a joint filler that has a mortar tight seal around the dowel bar may be used if approved by the Engineer.~~

All patches ~~longer than 15 ft~~ shall be placed in accordance with 502.12~~ and shall have joints in accordance with 503~~. *When required, joints shall be in accordance with 503.* Dowel bars *and assemblies for D-1 contraction joints* shall be installed within the boundaries of the patch at a spacing as shown on the plans or as approved by the Engineer.

Patches longer than ~~15~~*20* ft shall be finished in accordance with 504. Patches ~~longer than 15 ft~~ constructed with concrete containing portland cement, shall be cured in accordance with 504.04(a) unless ambient air and concrete temperatures warrant following the requirements in 506.11.

Patches constructed in accordance with 506.04(b) and containing CSA cement shall be water cured in accordance with 702.22(a)1 except that soaker hoses will not be required. Water curing shall be initiated after finishing and as soon as the concrete patch can support the wet covering. Water curing shall be maintained for a minimum of 1 1/2 h and shall be removed no sooner than 1 h before the patch is opened to traffic.

Concrete shall be placed around manholes or similar structures in accordance with 720.

Sawing and sealing of transverse joints may be omitted when the existing PCCP is to be overlaid as part of the contract.

506.12 Opening to Traffic

For purposes of this section, traffic shall include construction vehicles, construction equipment, and all non-construction vehicles. Any construction vehicle or equipment that may damage the PCCP shall not be used on the PCCP unless adequate protection is provided. Joint cutting saws may be operated on the PCCP as determined by the Contractor.

(a) For Patches Less than or Equal to ~~15~~*20* ft in Length

SECTION 506, BEGIN LINE 580, DELETE AND INSERT AS FOLLOWS:

(b) For Patches Greater than ~~15~~*20* ft in Length

Traffic shall not be allowed on the PCCP until a modulus of rupture from flexural strength testing in accordance with the appropriate value in the table below is achieved. The modulus of rupture will be determined by averaging two beams.

Concrete Mix in accordance with:	Minimum Modulus of Rupture, psi
502.04(a)	550
506.04(b)	425

506.13 Method of Measurement

Partial depth patching and full depth patching will be measured by the square yard.

D-1 contraction joints and retrofitted tie bars*, along the longitudinal joint,* used in PCCP patching will be measured in accordance with 503.07.

When subgrade treatment is specified, it will be measured in accordance with 207.05.

New subbase will be measured in accordance with 302.08 *or 309.07*.

PCCP removal, subbase removal, concrete, finishing, curing, and sawing and sealing of joints will not be measured for payment.

~~Retrofit pressure relief joints, retrofit contraction joints,~~*Retrofit transverse joints,* non-vapor barrier bonding agent, anchored ~~dowel~~*tie* bars installed at the beginning and end of the patch, individual ~~dowel~~*tie* bars, joint fillers, joint materials, drilling holes for ~~dowel~~*tie* bars, ~~grout retention rings,~~ and chemical anchor systems will not be measured for payment.

506.14 Basis of Payment

PCCP patching will be paid for at the contract unit price per square yard for the type of patching required.

D-1 contraction joints and retrofitted tie bars *placed along the longitudinal joint* used in PCCP patching will be paid for in accordance with 503.08.

Subgrade treatment will be paid for in accordance with 207.06.

New subbase will be paid for in accordance with 302.09 *or 309.08*.

Partial depth patches which have been directed to be full depth will be paid for at the contract unit price per square yard for PCCP patching, partial depth, plus 80% of the contract unit price per square yard for PCCP patching, full depth.

Payment will be made under:

Pay Item	**Pay Unit Symbol**
PCCP Patching, Full Depth	SYS
PCCP Patching, Partial Depth	SYS

The cost of PCCP removal, subbase removal, concrete, finishing, curing, and sawing and sealing of joints shall be included in the cost of PCCP patching.

The cost of ~~retrofit pressure relief joints, retrofit contraction joints,~~*retrofit transverse joints,* non-vapor barrier bonding agent, anchored ~~dowel~~*tie* bars installed at the beginning and end of the patch, individual ~~dowel~~*tie* bars, joint fillers, joint materials, drilling holes for ~~dowel~~*tie* bars, ~~grout retention rings,~~ and chemical anchor systems shall be included in the cost of PCCP patching.

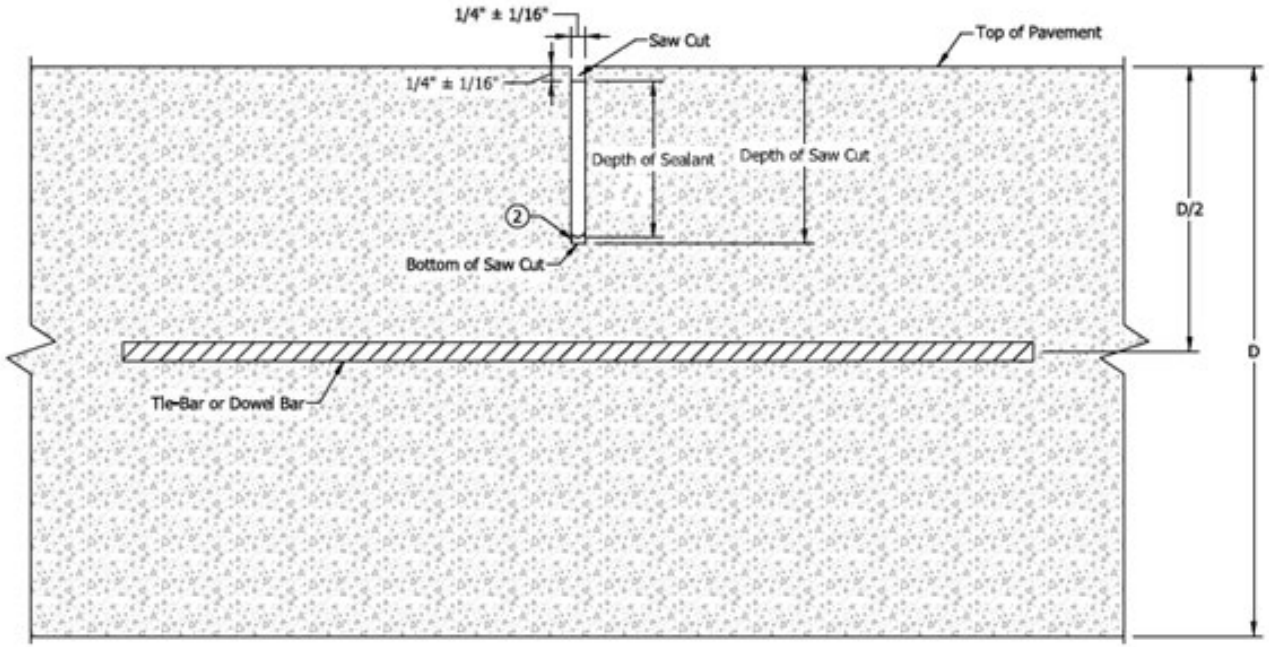
The cost of corrections for pavement smoothness and retexturing shall be included in the cost of PCCP patching.

Repair or replacement of adjacent PCCP or shoulder damaged by the Contractor shall be made at no additional cost to the Department.

E 503-CCPJ-02 SAWED JOINTS AND JOINT SEALANT (WITH SHOWN MARKUPS)

TYPE OF JOINT	DEPTH OF SAW CUT	DEPTH OF SEALANT
Longitudinal Joint	D/3	2" (min.)
D-1 Contraction Joint	D/3	2" (min.)
Retrofit Contraction Joint (3)	1"	Bottom of Saw Cut
Retrofit Pressure Relief Joint (3)	1"	Bottom of Saw Cut
Transverse Construction Joint	1"	Bottom of Saw Cut
Longitudinal Construction Joint	1"	Bottom of Saw Cut

Retrofit Transverse Joint



TRANSVERSE AND LONGITUDINAL
SAW CUT WITH HOT POURED SEALANT

NOTES:

1. Multiple passes of sealant may be required.
2. Backer rod shall not be installed.
3. For retrofit contraction joint and pressure relief joint details, see Standard Drawing Series E 506-CCPP.

Retrofit Transverse Joint

D = PCCP Thickness

INDIANA DEPARTMENT OF TRANSPORTATION

SAWED JOINTS
AND
JOINT SEALANT
SEPTEMBER 2020 2026

STANDARD DRAWING NO. E 503-CCPJ-02

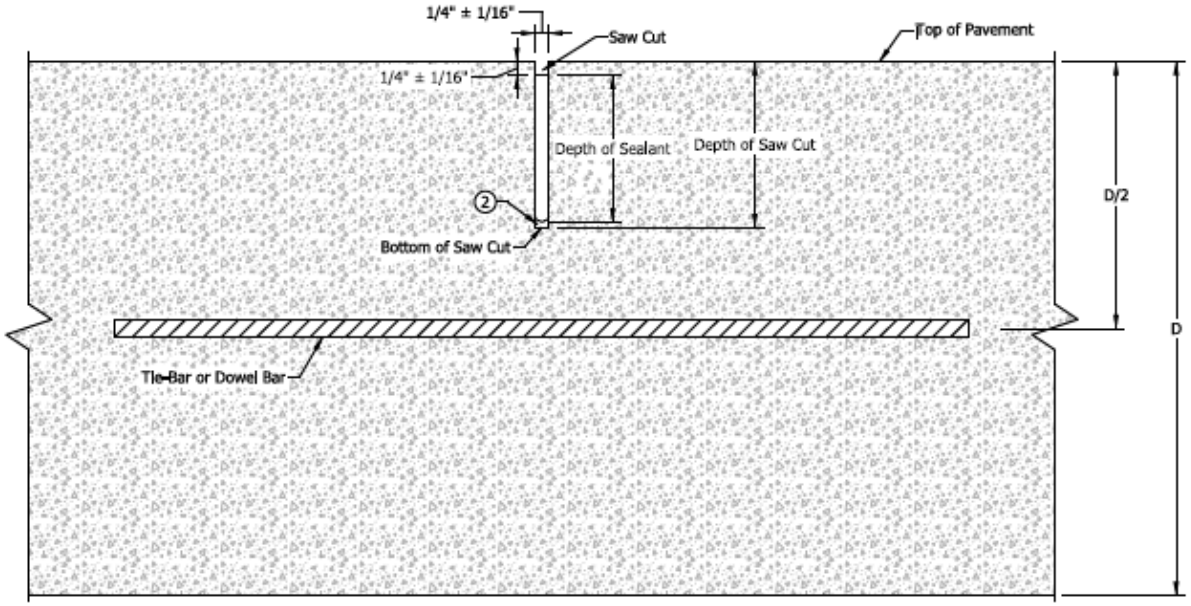
ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

03/10/20
DESIGN STANDARDS ENGINEER DATE

05/08/20
CHIEF ENGINEER DATE

E 503-CCPJ-02 SAWED JOINTS AND JOINT SEALANT (REVISED DRAFT)

TYPE OF JOINT	DEPTH OF SAW CUT	DEPTH OF SEALANT
Longitudinal Joint	D/3	2" (min.)
D-1 Contraction Joint	D/3	2" (min.)
Retrofit Transverse Joint (3)	1"	Bottom of Saw Cut
Transverse Construction Joint	1"	Bottom of Saw Cut
Longitudinal Construction Joint	1"	Bottom of Saw Cut



TRANSVERSE AND LONGITUDINAL
SAW CUT WITH HOT POURED SEALANT

NOTES:

1. Multiple passes of sealant may be required.
2. Backer rod shall not be installed.
3. For Retrofit Transverse Joint details, see Standard Drawing Series E 506-CCPP.

D = PCCP Thickness

INDIANA DEPARTMENT OF TRANSPORTATION

SAWED JOINTS
AND
JOINT SEALANT
SEPTEMBER 2026

STANDARD DRAWING NO. E 503-CCPJ-02

ELIZABETH P. MOUSER REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER DATE

CHIEF ENGINEER DATE

E 506-CCPP-01 CONCRETE PAVEMENT PATCHING INDEX AND GENERAL NOTES (WITH SHOWN MARKUPS)

INDEX	
SHEET NO.	SUBJECT
1	Concrete Pavement Patching Index and General Notes
2	~~Joint Details~~ Tie Bar Alignment and Sawcut Tolerances
3	~~Joint Placement~~ Sawcut Removal Details
4	~~Patch Length ≥ 6' and ≤ 15'~~ Retrofit Transverse Joint Details
5	~~Patch Length > 15' and ≤ 60'~~ Patch Length >6' ≤ 20 ft
6	Patch Length > ~~60'~~ 20'
~~7~~	~~Dowel Alignment and Saw Cut Tolerances~~

GENERAL NOTES:

1. Dowel bars shall be epoxy coated.
2. Tie-bars shall be epoxy coated.
3. Additional preparation of existing subgrade will be determined by the Engineer.
4. See Standard Drawing E 503-CCPJ-02 for sawed joint and joint sealant details.
5. See Standard Drawing E 503-CCPJ-03 for D-1 contraction joint details.
6. See Standard Drawing E 503-CCPJ-05 for retrofitted tie-bar details.
7. The minimum patch length shall be 6 ft.

INDIANA DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT PATCHING
INDEX AND GENERAL NOTES

SEPTEMBER ~~2020~~ 2026

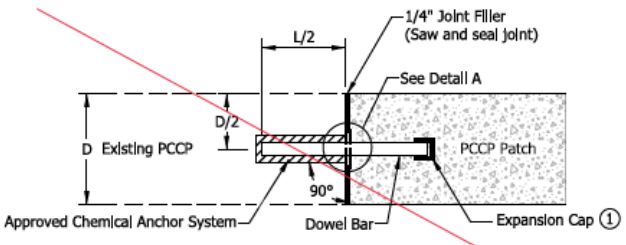
STANDARD DRAWING NO. E 506-CCPP-01

ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

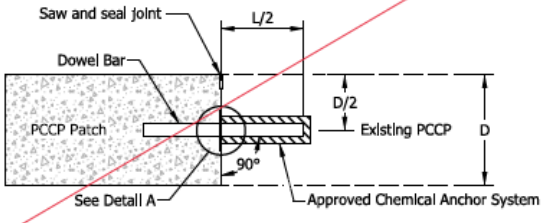
03/10/20
DESIGN STANDARDS ENGINEER DATE

05/01/20
CHIEF ENGINEER DATE

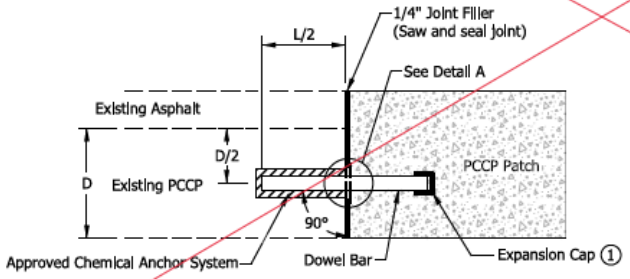
E 506-CCPP-02 JOINT DETAILS (WITH SHOWN MARKUPS)



PCCP

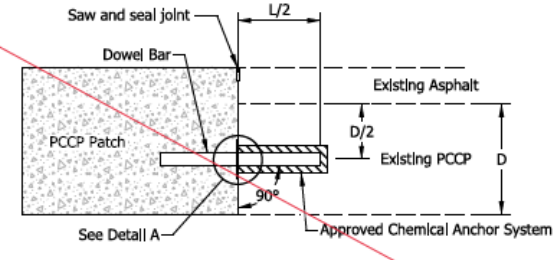


PCCP



COMPOSITE PAVEMENT

RETROFIT PRESSURE RELIEF JOINT



COMPOSITE PAVEMENT

RETROFIT CONTRACTION JOINT

NOTE:

(1) Expansion cap shall be placed with a gap of 1/4 in. minimum between end of dowel bar and cap.

2. Dowel bar diameter shall be as follows:
   - 1 in. for existing PCCP thickness 10 in. or less
   - 1.5 in. for existing PCCP thickness greater than 10 in.

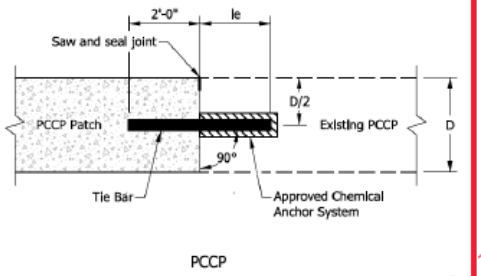
3. Dowel bar length shall be 1 ft 2 in. minimum and 1 ft 6 in. maximum, regardless of dowel diameter.

4. Sawing and sealing joints shall be omitted where the concrete patch is to be overlaid with asphalt or concrete.

LEGEND

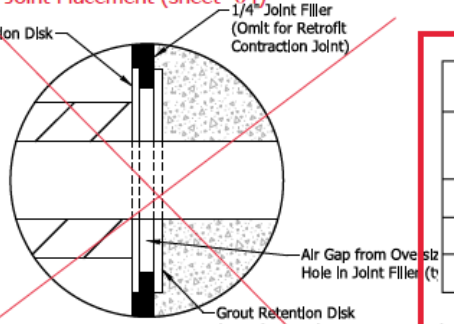
D = Existing PCCP Thickness
L = Dowel Bar Length

Combine new Retrofit Transverse Joint details with Joint Placement (sheet -04)



PCCP

add new detail for composite pavement



DETAIL A

(Retrofit Pressure Relief Joint shown
Retrofit Contraction Joint same by opposite hand)

TIE BAR SIZES FOR RETROFIT TRANSVERSE JOINT		
Pavement Thickness, D	Tie Bar Size	Minimum, le
Less than 9"	#5	1'-0"
9" through 12"	#8	1'-8"
Greater than 12"	#10	2'-0"

NT OF TRANSPORTATION

DETAILS

NEER 2020 2026

NO. E 506-CCPP-02 04

No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

03/10/20

DESIGN STANDARDS ENGINEER DATE

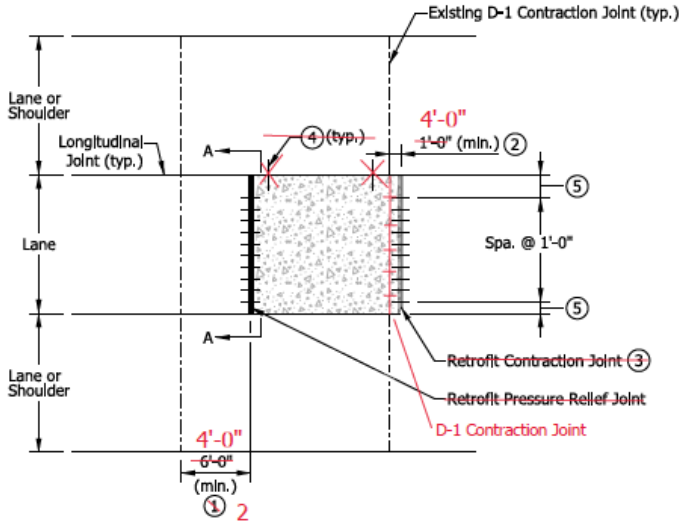
05/01/20

CHIEF ENGINEER DATE

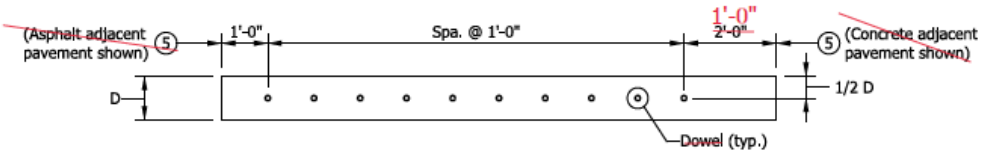
E 506-CCPP-03 JOINT PLACEMENT (WITH SHOWN MARKUPS)

Add new detail for sawcut removal (sheet -03)

Combine these details with new Retrofit Transverse Joint details (sheet -04)



PLAN



SECTION A-A

NOTES:

1. Retrofit pressure relief joints and retrofit contraction joints shall be placed a minimum of 6 ft from an existing D-1 contraction joint located in the same lane as the patch.
2. Retrofit pressure relief joints and retrofit contraction joints shall be placed a minimum of 1 ft from an existing D-1 contraction joint located in a lane adjacent to the patch.
3. Where the total patch length exceeds 60 ft, a retrofit pressure relief joint shall be used in lieu of the retrofit contraction joint.
4. Retrofitted tie-bars as required for patches greater than 15 ft.
5. Distance to first dowel shall be as follows:
   - 1 ft 0 in. where adjacent pavement is asphalt
   - 2 ft 0 in. where adjacent pavement is concrete

1. Retrofit Transverse Joint shall be placed at each end of the patch.
2. Retrofit Transverse Joints shall be placed a minimum of 4 ft from an existing D-1 Contraction Joint.
3. Sawing and sealing joints shall be omitted where the concrete patch is to be overlaid with asphalt or concrete.
4. Tie bar size and embedment (le) shall be as shown on table this sheet.

LEGEND

D = Existing PCCP Thickness

INDIANA DEPARTMENT OF TRANSPORTATION

JOINT PLACEMENT

SEPTEMBER 2020 2026

STANDARD DRAWING NO. E 506-CCPP-03 04

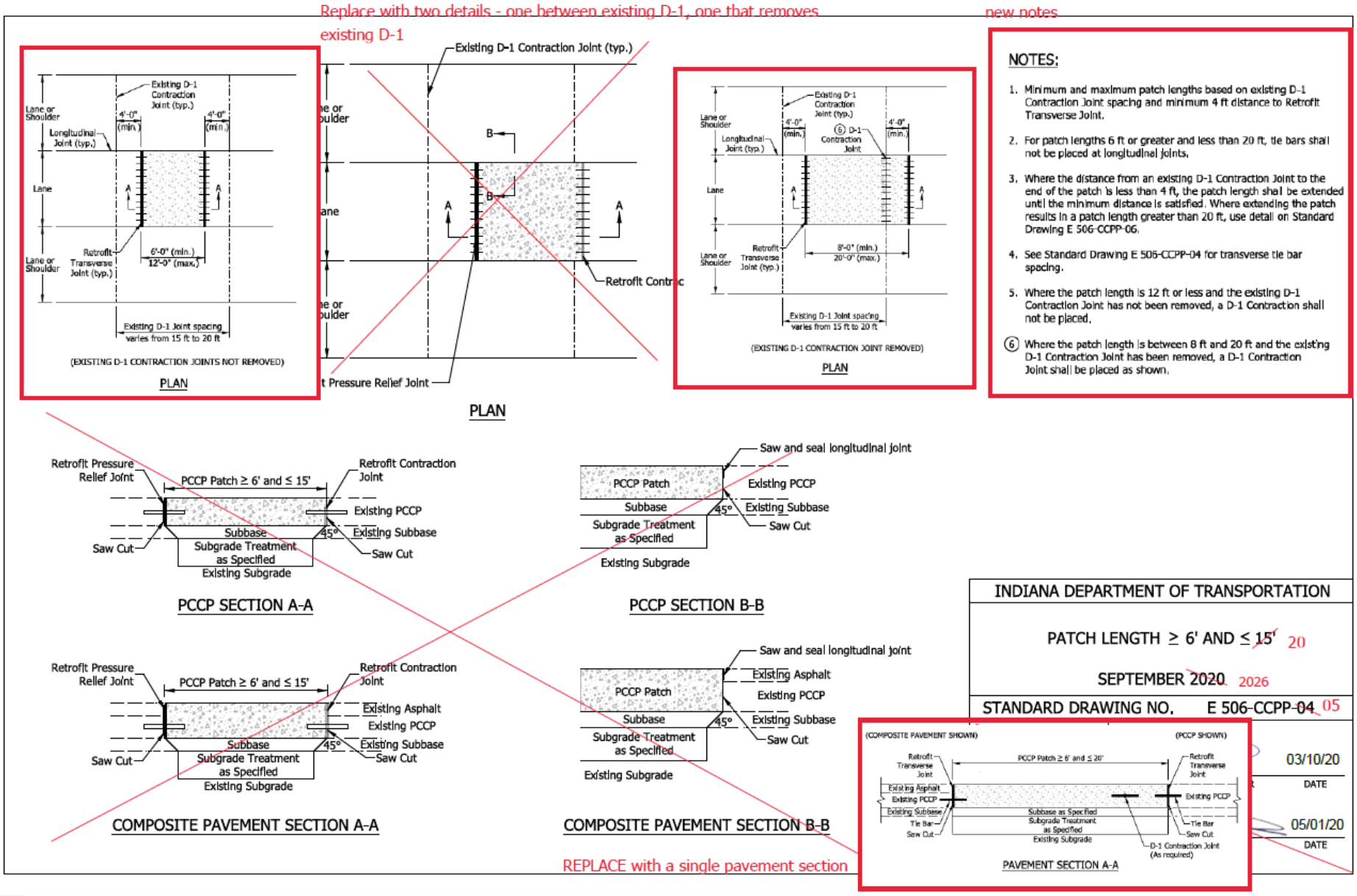
ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

03/10/20
DESIGN STANDARDS ENGINEER DATE

05/01/20
CHIEF ENGINEER DATE

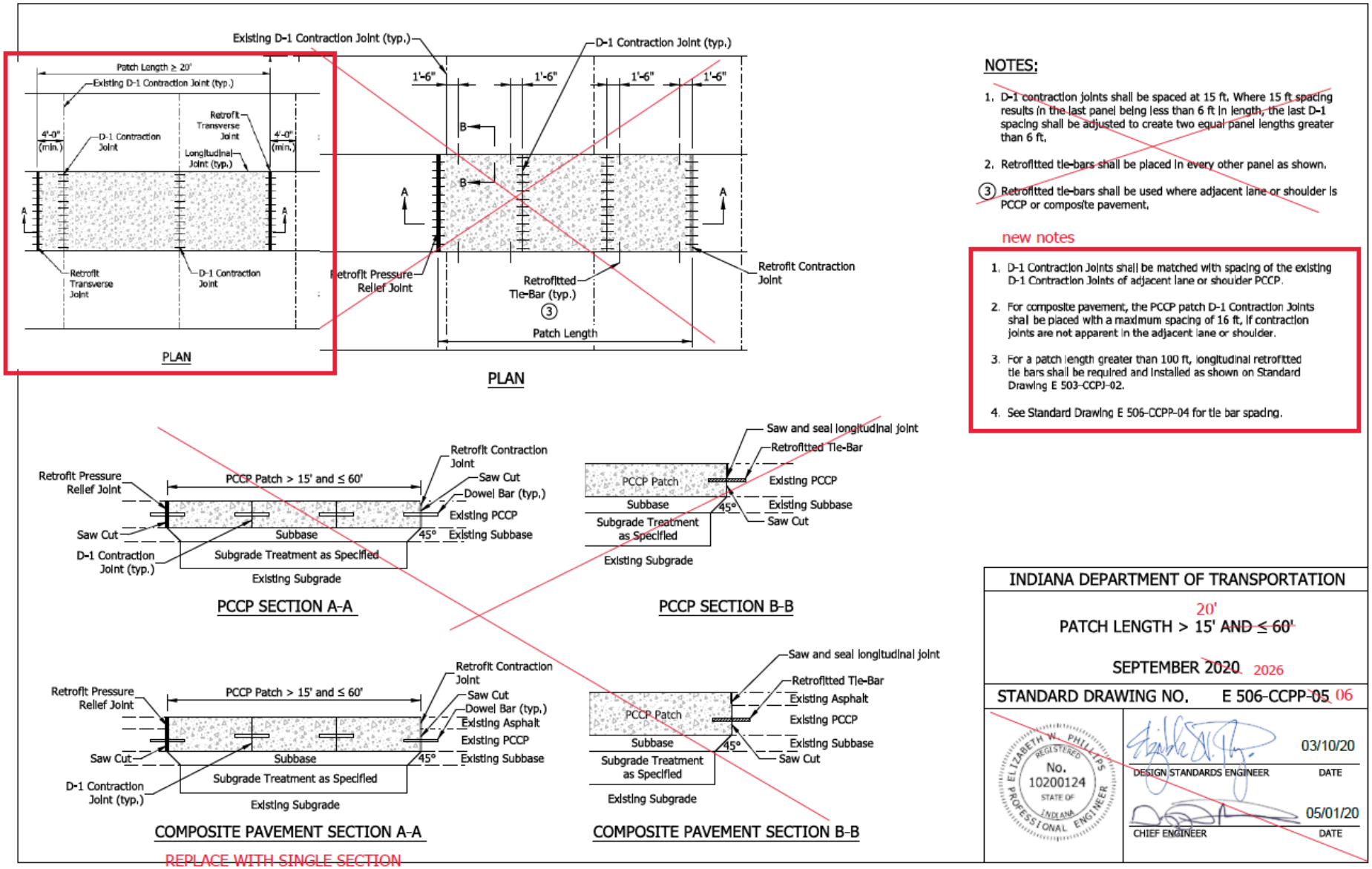
REVISION TO 2026 STANDARD SPECIFICATIONS and STANDARD DRAWINGS

E 506-CCPP-04 PATCH LENGTH (WITH SHOWN MARKUPS)



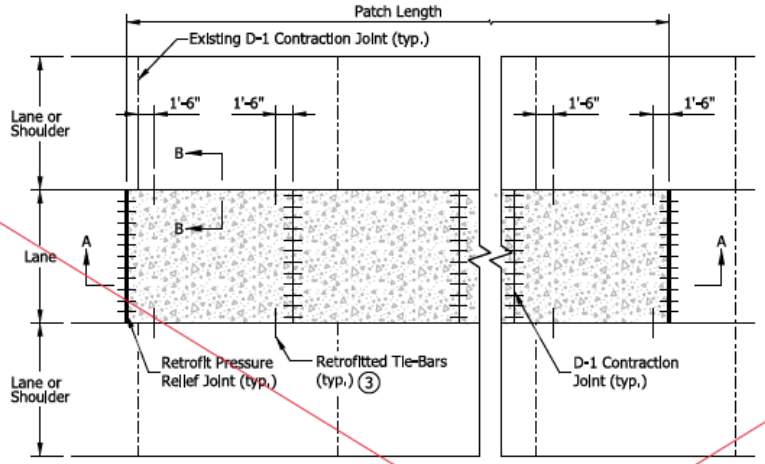
REVISION TO 2026 STANDARD SPECIFICATIONS and STANDARD DRAWINGS

E 506-CCPP-05 PATCH LENGTH (WITH SHOWN MARKUPS)



E 506-CCPP-06 PATCH LENGTH (WITH SHOWN MARKUPS)

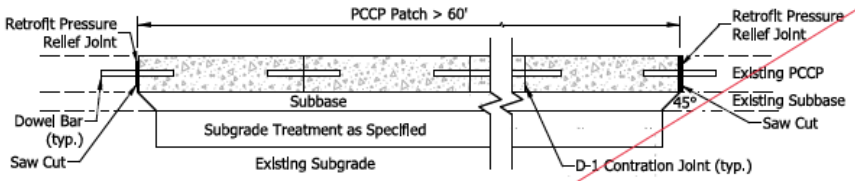
DELETE SHEET



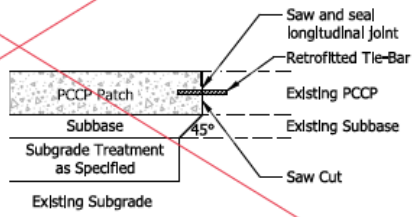
PLAN

NOTES:

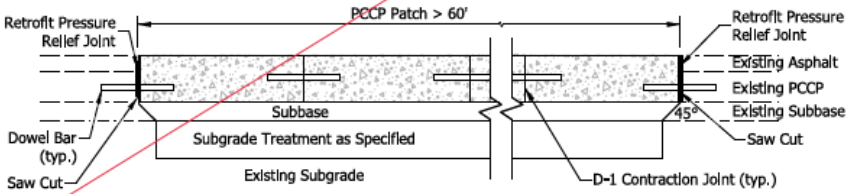
1. D-1 contraction joints shall be spaced at 15 ft. Where 15 ft spacing results in the last panel being less than 6 ft in length, the last D-1 spacing shall be adjusted to create two equal panel lengths greater than 6 ft.
2. Retrofitted tie-bars shall be placed in every other panel as shown.
3. Retrofitted tie-bars shall be used where adjacent lane or shoulder is PCCP or composite pavement.



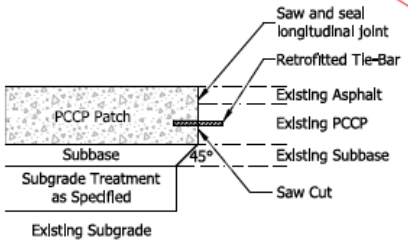
PCCP SECTION A-A



PCCP SECTION B-B



COMPOSITE PAVEMENT SECTION A-A



COMPOSITE PAVEMENT SECTION B-B

INDIANA DEPARTMENT OF TRANSPORTATION

PATCH LENGTH > 60'

SEPTEMBER 2020 2026

STANDARD DRAWING NO. E 506-CCPP-06

ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

03/10/20
DESIGN STANDARDS ENGINEER DATE

05/01/20
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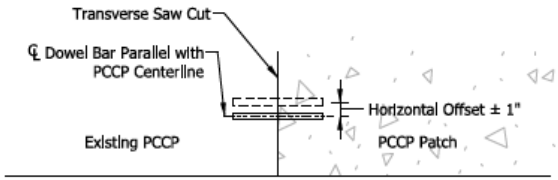
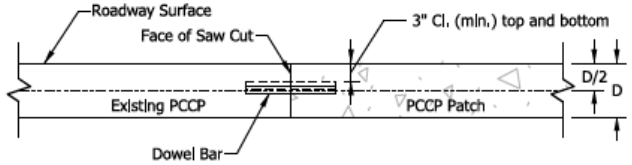
E 506-CCPP-07 DOWEL ALIGNMENT AND SAWCUT TOLERANCES (WITH SHOWN MARKUPS)

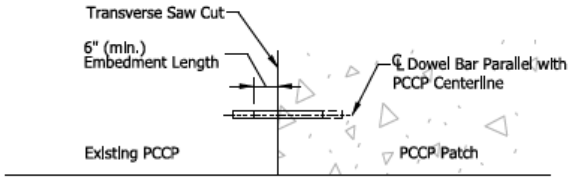
Move contents to Sheet -02



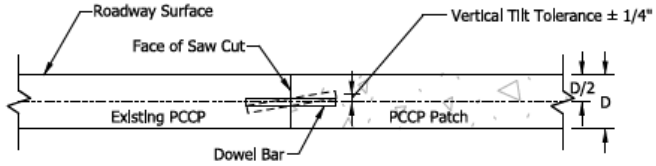
PLAN HORIZONTAL TRANSLATION



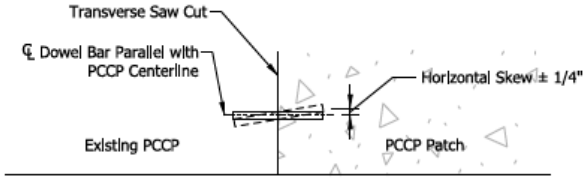
ELEVATION VERTICAL TRANSLATION



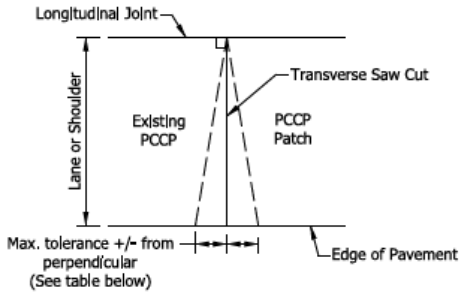
PLAN LONGTITUDINAL TRANSLATION



ELEVATION VERTICAL TILT



PLAN HORIZONTAL SKEW



WIDTH OF LANE OR SHOULDER	MAX. TOLERANCE
10'	1 5/8"
12'	2"
14'	2 5/16"

PLAN SAW CUT

LEGEND

D = Existing PCCP Thickness
Mis-Aligned Dowel Bar
Properly Aligned Dowel Bar

INDIANA DEPARTMENT OF TRANSPORTATION

DOWEL ALIGNMENT AND SAWCUT TOLERANCES

SEPTEMBER 2020 ~~2020~~ 2026

STANDARD DRAWING NO. E 506-CCPP-~~07~~ 02

ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

03/10/20
DESIGN STANDARDS ENGINEER DATE

05/01/20
CHIEF ENGINEER DATE

E 506-CCPP-01 CONCRETE PAVEMENT PATCHING INDEX AND GENERAL NOTES (REVISED PROPOSED DRAFT)

INDEX	
SHEET NO.	SUBJECT
1	Concrete Pavement Patching Index and General Notes
2	Tie Bar Alignment and Saw Cut Tolerances
3	Saw Cut Removal Details
4	Retrofit Transverse Joint Details
5	Patch Length ≥ 6' and ≤ 20'
6	Patch Length > 20'

GENERAL NOTES:

1. Tie-bars shall be epoxy coated.
2. Additional preparation of existing subgrade will be determined by the Engineer.
3. See Standard Drawing Series E 503-CCPJ for sawed joint and joint sealant details.
4. See Standard Drawing E 503-CCPJ-03 for D-1 Contraction Joint details.
5. See Standard Drawing E 503-CCPJ-05 for retrofitted tie bar details.
6. The minimum patch length shall be 6 ft.

INDIANA DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT PATCHING
INDEX AND GENERAL NOTES

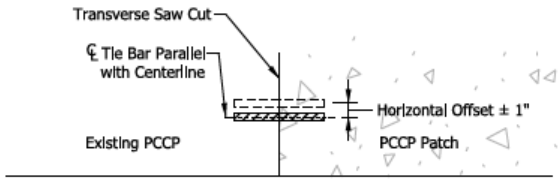
SEPTEMBER 2026

STANDARD DRAWING NO. E 506-CCPP-01

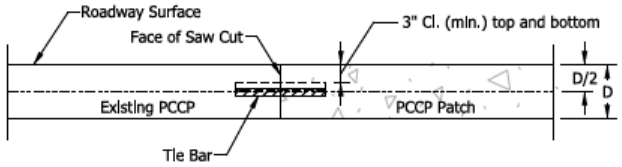
DESIGN STANDARDS ENGINEER DATE

CHIEF ENGINEER DATE

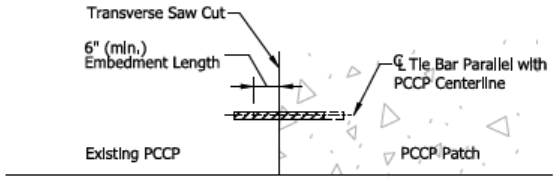
E 506-CCPP-02 TIE BAR ALIGNMENT AND SAWCUT TOLERANCES (REVISED PROPOSED DRAFT)



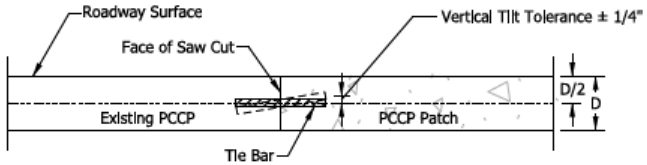
PLAN - HORIZONTAL TRANSLATION



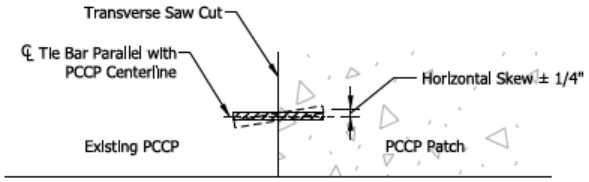
ELEVATION - VERTICAL TRANSLATION



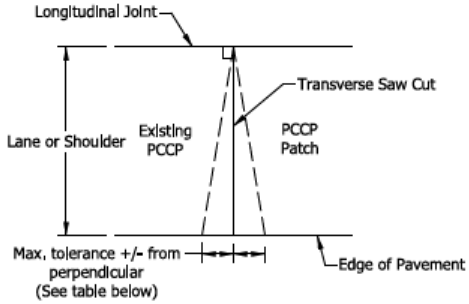
PLAN - LONGTITUDINAL TRANSLATION



ELEVATION - VERTICAL TILT



PLAN - HORIZONTAL SKEW



WIDTH OF LANE OR SHOULDER	MAX. TOLERANCE
10'	1 5/8"
12'	2"
14'	2 5/16"

PLAN - SAW CUT

NOTES:

1. Tie bar alignment and saw cut shall be as shown.

LEGEND

D = Existing PCCP Thickness
Mis-Aligned Tie Bar
Properly Aligned Tie Bar

INDIANA DEPARTMENT OF TRANSPORTATION

TIE BAR ALIGNMENT AND SAWCUT TOLERANCES

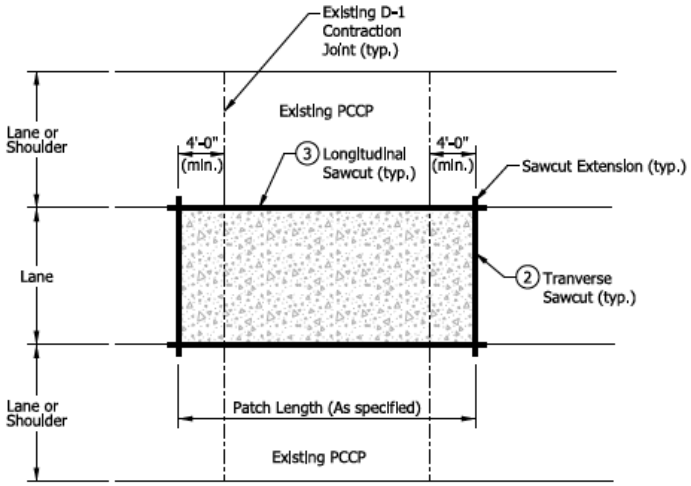
SEPTEMBER 2026

STANDARD DRAWING NO. E 506-CCPP-02

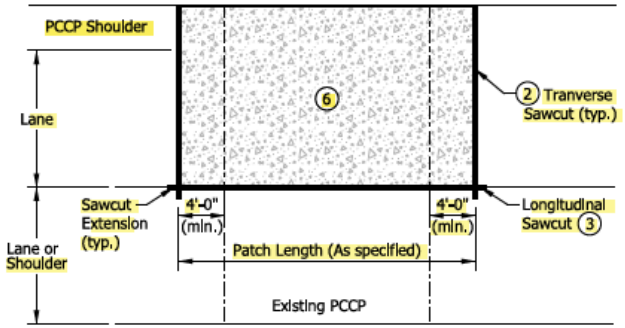
DESIGN STANDARDS ENGINEER DATE

CHIEF ENGINEER DATE

E 506-CCPP-03 SAWCUT REMOVAL DETAILS (REVISED PROPOSED DRAFT)



PLAN



PLAN
(PCCP Shoulders without Longitudinal Joint)

NOTES:

1. The portion of the sawcut that extends into an adjacent lane or shoulder that will remain in place shall be cleaned and sealed with hot-poured joint sealant. Epoxy may be substituted for hot-poured joint sealant, as approved.

(2) Extend transverse sawcut into adjacent PCCP lane or shoulder a maximum 12 in. or as approved to complete a full-depth cut.

(3) Extend longitudinal sawcut beyond the patch a maximum 12 in. or as approved to complete a full depth cut.

4. D-1 Contraction Joint placement and Retrofit Transverse Joint details not shown for clarity.

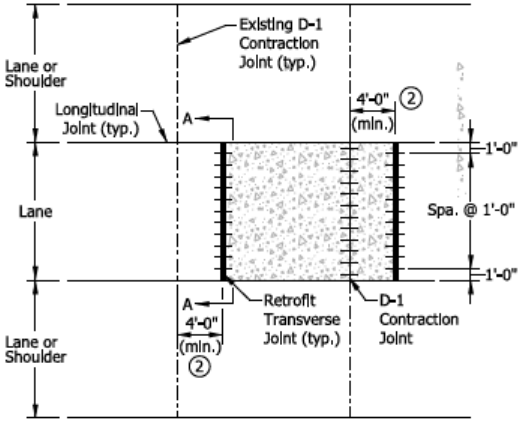
5. The length of the sawcut extension shall not alter the approved maintenance of traffic configuration.

(6) Where a longitudinal joint is not present between the existing lane and PCCP shoulder, the sawcut and removal shall include the full width of the shoulder.

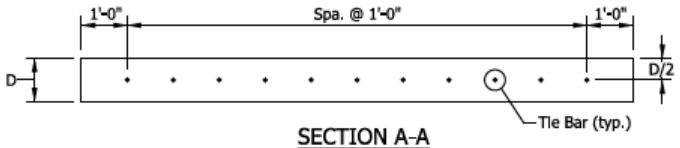
INDIANA DEPARTMENT OF TRANSPORTATION	
SAWCUT REMOVAL DETAILS SEPTEMBER 2026	
STANDARD DRAWING NO. E 506-CCPP-03	
	DESIGN STANDARDS ENGINEER DATE CHIEF ENGINEER DATE

E 506-CCPP-04 RETROFIT TRANSVERSE JOINT DETAILS (REVISED PROPOSED DRAFT)

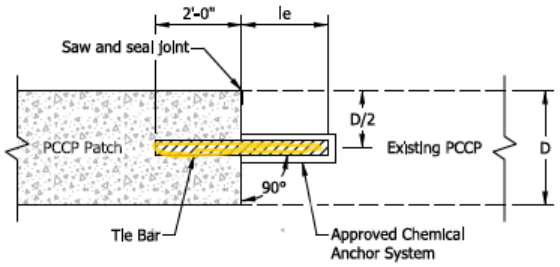
TIE BAR SIZES FOR RETROFIT TRANSVERSE JOINT		
Pavement Thickness, D	Tie Bar Size	Minimum, le
Less than 9"	#5	1'-0"
9" through 12"	#8	1'-0"
Greater than 12"	#10	1'-0"



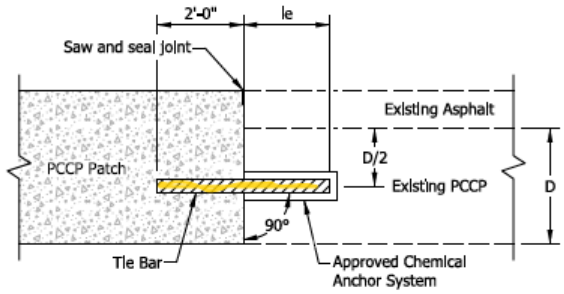
PLAN



SECTION A-A



PCCP



COMPOSITE PAVEMENT

RETROFIT TRANSVERSE JOINT

NOTES:

1. Retrofit Transverse Joint shall be placed at each end of the patch.
2. Retrofit Transverse Joints shall be placed a minimum of 4 ft from an existing D-1 Contraction Joint.
3. Sawing and sealing joints shall be omitted where the concrete patch is to be overlaid with asphalt or concrete.
4. Tie bar size and embedment (le) shall be as shown on table this sheet.

LEGEND

D = Existing PCCP Thickness

INDIANA DEPARTMENT OF TRANSPORTATION

RETROFIT TRANSVERSE JOINT DETAILS

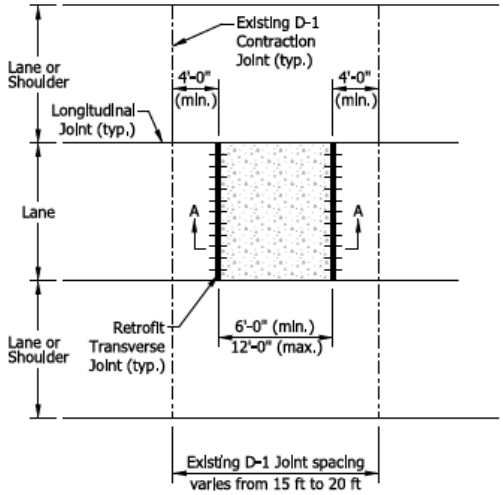
SEPTEMBER 2026

STANDARD DRAWING NO. E 506-CCPP-04

DESIGN STANDARDS ENGINEER DATE

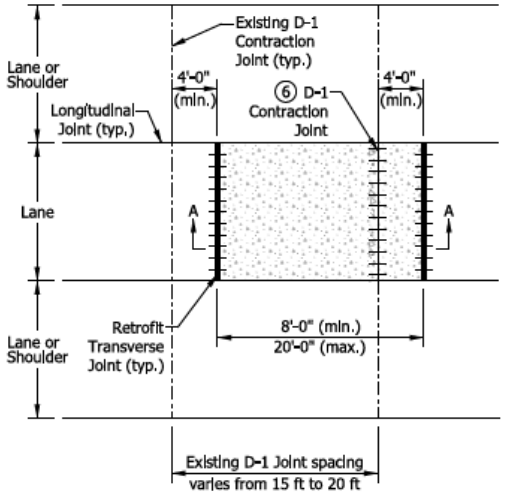
CHIEF ENGINEER DATE

E 506-CCPP-05 PATCH LENGTH≥ 6' AND ≤ 20' (REVISED PROPOSED DRAFT)



(EXISTING D-1 CONTRACTION JOINTS NOT REMOVED)

PLAN



(EXISTING D-1 CONTRACTION JOINT REMOVED)

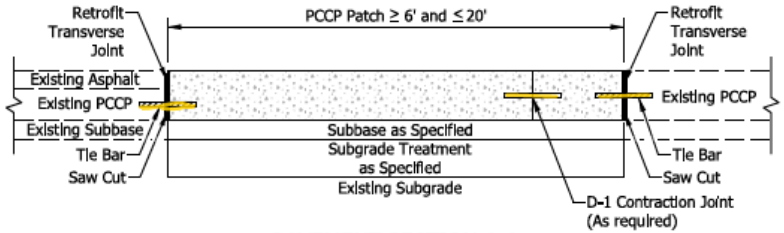
PLAN

NOTES:

1. Minimum and maximum patch lengths based on existing D-1 Contraction Joint spacing and minimum 4 ft distance to Retrofit Transverse Joint.
2. For patch lengths 6 ft or greater and less than 20 ft, tie bars shall not be placed at longitudinal joints.
3. Where the distance from an existing D-1 Contraction Joint to the end of the patch is less than 4 ft, the patch length shall be extended until the minimum distance is satisfied. Where extending the patch results in a patch length greater than 20 ft, use detail on Standard Drawing E 506-CCPP-06.
4. See Standard Drawing E 506-CCPP-04 for transverse tie bar spacing.
5. Where the patch length is 12 ft or less and the existing D-1 Contraction Joint has not been removed, a D-1 Contraction shall not be placed.

(6) Where the patch length is between 8 ft and 20 ft and the existing D-1 Contraction Joint has been removed, a D-1 Contraction Joint shall be placed as shown.

(COMPOSITE PAVEMENT SHOWN) (PCCP SHOWN)



PAVEMENT SECTION A-A

INDIANA DEPARTMENT OF TRANSPORTATION

PATCH LENGTH ≥ 6' AND ≤ 20'

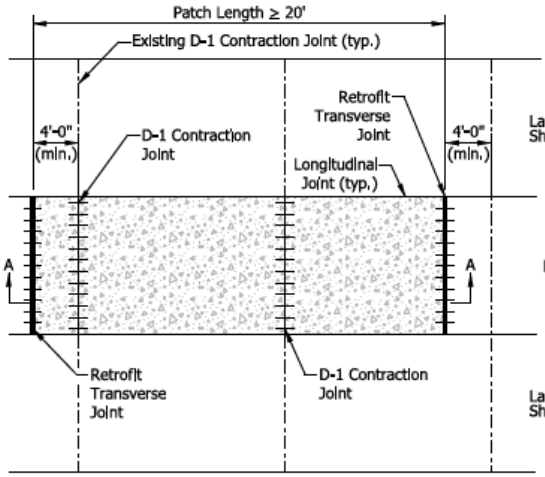
SEPTEMBER 2026

STANDARD DRAWING NO. E 506-CCPP-05

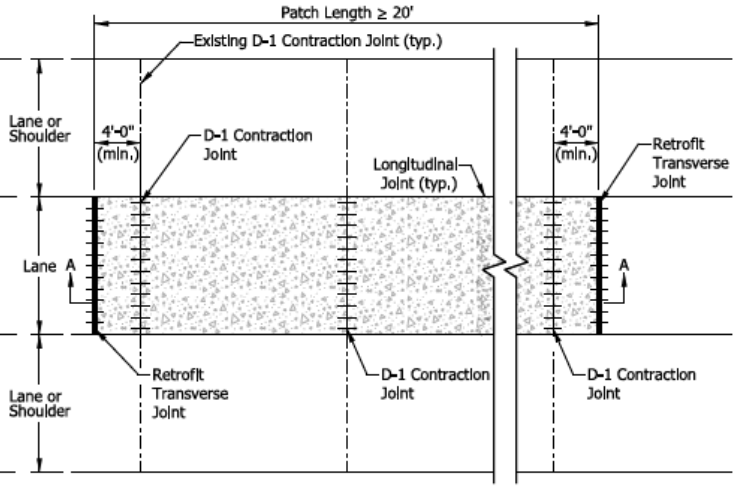
DESIGN STANDARDS ENGINEER DATE

CHIEF ENGINEER DATE

E 506-CCPP-05 PATCH LENGTH > 20' (REVISED PROPOSED DRAFT)



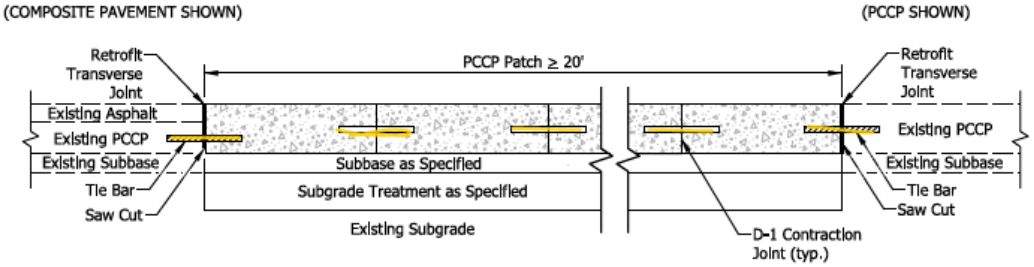
PLAN



PLAN

NOTES:

1. D-1 Contraction Joints shall be matched with spacing of the existing D-1 Contraction Joints of adjacent lane or shoulder PCCP.
2. For composite pavement, the PCCP patch D-1 Contraction Joints shall be placed with a maximum spacing of 16 ft, if contraction joints are not apparent in the adjacent lane or shoulder.
3. For a patch length greater than 100 ft, longitudinal retrofitted tie bars shall be required and installed as shown on Standard Drawing E 503-CCPJ-02.
4. See Standard Drawing E 506-CCPP-04 for tie bar spacing.



PAVEMENT SECTION A-A

INDIANA DEPARTMENT OF TRANSPORTATION

PATCH LENGTH > 20'

SEPTEMBER 2026

STANDARD DRAWING NO. E 506-CCPP-06

DESIGN STANDARDS ENGINEER DATE

CHIEF ENGINEER DATE

COMMENTS AND ACTION

SECTION 506 – PCCP PATCHING
E 503-CCPJ-02 SAWED JOINTS AND JOINT SEALANT
E 506-CCPP series

DISCUSSION:

This item was introduced and presented by Mr. Dave who explained that installing dowel bars into existing pavement requires sound concrete. In practice, this has led to additional removal to find intact concrete, increasing the length of patching in the field, and leading to overruns on contracts. New transverse joints were allowed to be offset from the existing joint, which allowed early cracking to occur. Removal of concrete required chipping at corners, which increased the time required and led to damage to the concrete that remained in place.

Mr. Dave proposed to incorporate the following changes:

- Allow oversawing in both the transverse and longitudinal directions to facilitate easier removal of existing concrete and reduce the need for manual chipping.
- Use deformed bars at the end of longer patches instead of placing dowel bars
- Match transverse joint locations with those in adjacent pavement.

Further details concerning drawings were provided by Mr. Cosenza.

Mr. Koch stated that, in reference to the proposed language in 506.08, cutting into an adjacent panel creates a crack propagation potential. In the past I had the Contractor fill the void/cut with epoxy, same material to anchor dowel bars as it is on hand, chemical anchor system. Please consider amending. Mr. Dave agreed.

In reference to 506.11(b), Mr. Koch stated that 100 ft without tie bars seems excessive, potentially allowing a degree of lane separation, such as water infiltration, mud pumping, and such. Ideally, we would tie patches to adjacent whole panels. Mr. Dave responded that the recommendation of 100 ft without tie bar comes from FHWA on a tangent section so we will keep it 100 ft. However, we can add a note that tie bars are required for superelevation and embankment section. Mr. Koch concurred.

In reference to drawing 506-CCPP-03, Mr. Koch stated that the goal is to cleanly remove the area to be patched without the need for excessive jackhammering to minimize damage and gain efficiency. Mr. Koch also mentioned that 12 in. overcut is not enough in most situations due to the variations in depth of the existing pavement, since 12 in. PCCP is not typically 12 in., and for composite roadways. Please increase the overcut to a max of 2 ft with epoxy filling the cut. Mr. Koch asked to please consider including a note stating that 'The allowable overcutting shall not alter the planned MOT'. Hoping to avoid an inefficiency claim if the MOT only allows for a foot offset.

Mr. Dave responded that the FHWA recommends only 6 inches, but we have increased to 12 inches. We have seen on US 31 that 12 in. worked well. I don't have problem if they want to adjust in construction to take out concrete without jack hammering.

Mr. Koch stated that he is hoping the inclusion of epoxy within the sawcut would be a suitable mitigation strategy to allow for a less destructive removal.

Mr. Dave responded that the epoxy will not restore the integrity of concrete. The epoxy will only prevent the freeze and Thaw damage during the winter, according to Mr. Nantung.

In reference to drawing 506-CCPP-04, Mr. Koch stated that he is uncertain as to our expectations, usually deformed bars are depicted with hatching. Are we intending smooth or deformed retrofit transverse joint tie bars? Observing the installation of retrofit bars over the years, it is a struggle for a crew to consistently

glue the bars into the correct plane. I tend to believe/assume most retrofit joints will be locked due to out of plane bars. Mr. Dave agreed and stated that the dowels bars shall be deformed, as stated above.

Mr. Cosenza added that the proposed change to an epoxy for a saw cut into the existing slab, not at an existing joint, is not as clearcut as it first appears. The chemical anchor system specification and requirements are specifically for epoxies bonded to steel and has a pull out strength requirement. I don't believe referencing the chemical anchor system to fill in the saw cut will work without additional changes to the specification. I do have an epoxy for random longitudinal crack remediation for 503.06 and 901.06, which looks to be the closest match. I would propose some changes if we do go the epoxy route. I do still believe the hot pour joint sealant would work for both joint and slab saw overcuts.

Mr. Koch shared some past experiences and therefore suggested the following:

1. Allow max 16 in. overcut, 18 in. could be ok if we prefer a round number.
   Please do include a plan note stating that the MOT cannot be altered.

2. Fill the overcut with a semi thick epoxy
   Same material as the chemical anchoring system as the material is on hand
   The epoxy will not puddle into the working joint, simple materials could be used to dike the epoxy such as cardboard/thin wood.

In reference to drawing 506-CCPP-04 (05 & 06), Mr. Koch suggested that, in order to avoid confusion as deformed bar is preferred at the construction joint, please consider amending the thickness of the depicted tie bar in a manner that differs from d-1 / dowel bars, similar to 503-CCPJ-02.

Mr. Sipes stated that, regarding the 12 in. max oversaw, the dimension of oversaw needed to fully saw through the existing concrete depending on the depth of the concrete pavement and the diameter of the saw blade being used. I believe the intent is to eliminate damage to the bottom half of the pavement adjoining the patch by saw cutting all the way through the pavement in the corners. The detail and note for the oversawing should allow enough flexibility to determine the length of oversaw required to achieve the goal. In some cases, 12 in. will not be sufficient, which may be one of Mr. Koch's concerns.

Mr. Nantung replied that he agrees with Mr. Sipes, and that he, Mr. Nantung, was the one that put this overcut as a concern in the past and I and several staff from INDOT have already tried to make a deal with the contractors about 15 years ago. We expressed our concern to Steve Friess and Mike Byers at that time. They said that this issue can be easily resolved if the pavement cutting contractor uses smaller diameter blades. Steve Friess was the one that said, using a vertical saw is common practice in several State DOTs. He suggested giving the contractors those two options, and it can be done.

Mr. Koch replied that a smaller blade can and should be used, yet a 12 in. pavement is not typically 12, usually at least 1/2 in. thicker, plus we need certainty that the pavement is fully cut otherwise it will be locked into place. If we assume a 15 in. cut, the overcut would be the same.

Mr. Dave responded that the goal of overcutting is to remove the existing pavement without jackhammering or chipping manually. There seems to be few options as described by Mr. Nantung. However, in reality, the contractor will not change the blade or use vertical saw to remove the existing pavement for the patching. Though the 12 in. overcut will be ok for most of the pavement, we can increase overcutting to max 14 in. or 16 in. to cover thicker pavement if everyone agrees. We don't want to initiate cracks beyond overcutting.

COMMENTS AND ACTION

SECTION 506 – PCCP PATCHING
E 503-CCPJ-02 SAWED JOINTS AND JOINT SEALANT
E 506-CCPP series

Further discussion ensued and minor revisions to some drawings will occur outside of the meeting. Mr. Dave revised his motion, which was seconded by Mr. Koch.

The revised draft reflects the discussions documented in these minutes.

Summary of revisions:

- Updated hatch of tie bars to align with the 503-CCPJ series.
- Removed hatch of dowel bars to remain consistent with the 503-CCPJ series.
- Added a new saw-cut detail to Sheet -03 to address the potential for diagonal cracking in the lane when a longitudinal saw cut is made at a narrow shoulder. Based on discussions with Nick Cosenza, the cracking risk appears to stem from pouring the lane and shoulder monolithically (16-ft slab). Added new Note 6.
- Revised Sheet -03, Note 1 to allow epoxy in lieu of hot pour, as approved.
- Revised the table on Sheet -04 to specify a minimum 1'-0" embedment (le) for all tie bar sizes.

During the approval of these minutes at the April 16, 2026, SC meeting, Mr. Koch requested that the language in 506.08 be revised (shown highlighted) to align with the current drawings. Mr. Dave concurred.

Motion: Second: Ayes: 10 Nays: 0 FHWA Approval: YES	**Action:** ___ Passed as Submitted _X_ Passed as Revised ___ Withdrawn
2026 Standard Specifications Sections: 506 pp. 451 - 465. Recurring Special Provisions or Plan Details: NONE Standard Drawing affected: E 503-CCPJ-02 and E 506-CCPP series Design Manual Chapter: Chapter 603 GIFE Section: Section 9	___ 2028 Standard Specifications ___ Revise Pay Items List ___ Notification to Designers if change is not addressed by RSP _X_ Create RSP (No. 506-R-817) Effective: September 1, 2026 ___ Revise RSP (No.___) Effective: _X_ Standard Drawings E 503-CCPJ-02 and E 506-CCPP series Effective: September 1, 2026 ___ Create RPD (No. ___) Effective: _X_ GIFE Update ___ Frequency Manual Update _X_ AWP Update