

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Concrete encasement for exposed H pile bents is currently included in the cost of reinforced concrete encased H pile, which is paid for by linear foot installed. The length of installed piling can vary significantly from the estimated lengths shown on the schedule of pay items. The limits of concrete encasement is shown on the plans and doesn't vary based on the amount of piling driven. Therefore, when the length of piling driven exceeds the estimated length, the State is essentially paying for more concrete encasement than is actually installed. When the length of piling driven is less than the estimated length, the Contractor is providing concrete encasement that wasn't included in their bid price.

The measurement and payment for the epoxy coated portion of piling is currently unclear and may lead to confusion.

PROPOSED SOLUTION: The concrete encasement will be separated from the H piles for measurement and payment. This will allow for more consistent and equitable costs of the concrete encasement.

The measurement and payment for the epoxy coated portion of piling will be clarified.

APPLICABLE STANDARD SPECIFICATIONS: 701

APPLICABLE STANDARD DRAWINGS: E 701-BPIL (no changes required)

APPLICABLE DESIGN MANUAL SECTION: 17-5.03(02)

APPLICABLE SECTION OF GIFE: 5.7 Driven Piling (no changes required)

APPLICABLE RECURRING SPECIAL PROVISIONS: N/A

PAY ITEMS AFFECTED: 701-02945 PILE, STEEL H, REINFORCED CONCRETE ENCASED, HP 12 X 74, 701-97805 PILE, STEEL H, REINFORCED CONCRETE ENCASED, HP 10 X 42, 701-97874 PILE, STEEL H, REINFORCED CONCRETE ENCASED, HP, 12 X 53, 701-XXXXX Reinforced Concrete Encasement for H Piles [new pay item]

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

[CONTINUED]

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad hoc committee including Mir Zaheer, Aamir Turk, Mahmoud Hailat, Jim Reilman, Derrick Hauser, Zachariah Corrice, and Katherine Smutzer.

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

IMPACT ANALYSIS (attach report):

Submitted By: Pete White for Mark Orton

Title: Standards Engineer

Organization: INDOT Standards and Policy

Phone Number: 317-233-3840

Date: Dec. 30, 2020

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

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? No

Construction time? No

Customer satisfaction? No

Congestion/travel time? No

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? No

Asset preservation? No

Design process? No

Will this change provide the contractor more flexibility? No

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? 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: These changes will lead to more equitable payment for concrete encasement for H piles and clarification for the payment of epoxy coated piles.

REVISION TO STANDARD SPECIFICATIONS

SECTION 701 - DRIVEN PILING
701.14 Method of Measurement
701.15 Basis of Payment

(Note: Proposed changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 701, BEGIN LINE 754, DELETE AND INSERT AS FOLLOWS:

701.14 Method of Measurement

The driven length of treated timber piles, untreated timber piles, steel pipe piles, steel H piles, and concrete piles will be measured by the linear foot to the nearest 0.1 ft. This includes piles used as indicator test piles, dynamic test piles, or static load test piles. Measurement will be made only for the actual number of linear feet of piling complete in place. For concrete piles, this length will not include extensions or the portion of the pile cutoff to make the extension.

Dynamic pile load test, static pile load test, indicator test pile restrike, dynamic test pile restrike, pile shoes, and conical pile tips will be measured per each.

Epoxy coated piles will be measured by the linear foot complete in place. If the plans indicate that epoxy coating is only required on the upper portion of the piles, this portion will be measured by the limits shown on the plans, and the remaining uncoated portion below will be measured by the linear foot to the nearest 0.1 ft of driven length.

~~Epoxy coated piles, pre~~Prebored holes, and cored holes in rock will be measured by the linear foot complete in place of the diameter specified.

~~Concrete encasement, c~~Class A concrete, reinforcing bars, epoxy coating, reaction piles if not used as production piles, splices, end plates, predrilling, cleaning of drilled holes, drilling fluids, sealing materials, casing, jetting, followers, spudding, or other methods used to facilitating pile driving will not be measured for payment.

Reinforced concrete encasement for steel H piles will be measured by the linear foot as shown on the plan or as directed.

701.15 Basis of Payment

All treated timber piles, untreated timber piles, steel pipe piles, steel H piles, and concrete piles driven will be paid for by the linear foot. Payment will be made only for the actual number of linear feet of piling complete in place. Extensions for concrete piles will be paid for in accordance with 109.05.

Driven piles used as indicator test piles or dynamic test piles that are left in place and subsequently used as production piles will be paid for by the linear foot as either production indicator test piles or production dynamic test piles. Reaction piles used in a static pile load test that are left in place and subsequently used as a production pile will be paid for by the linear foot as the type of production pile they represent. Driven piles used

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as indicator test piles, dynamic test piles, or static load test piles that are not used as production piles will be paid for by the linear foot as non-production dynamic, indicator, or static test piles respectively.

If the quantity of driven piling is less than the plan quantity or the quantity as ordered by the Engineer, the Department will pay 50% of the cost to re-stock unused piling if the Contractor elects to re-stock piling and provides a paid invoice showing the re-stocking fee. Payment will be made for piling, restock.

~~The Epoxy coated portion of the~~ piles may be furnished and driven at lengths greater than those shown on the plans. These additional lengths of epoxy coated piles left in place and accepted will be paid for as ~~either steel pipe piles or steel H piles~~ *the uncoated portion below the plan limits of required epoxy coating.*

Prebored holes and cored holes in rock will be paid for at the contract price in linear feet.

Payment will be made under:

Pay Item	Pay Unit Symbol
Conical Pile Tip, _____ pile size	EACH
Cored Hole in Rock, _____ in. diameter	LFT
Dynamic Pile Load Test.....	EACH
Pile Shoe, _____ pile size	EACH
Pile, Concrete _____ x _____ size	LFT
Pile, Prestressed Concrete _____ x _____ size	LFT
Pile, Steel H, Epoxy Coated, HP _____ x _____ size	LFT
Pile, Steel H, HP _____ x _____ size	LFT
Pile, Steel H, Reinforced Concrete	
Encased, HP _____ x _____ size	LFT
Pile, Steel Pipe, _____, _____ pipe wall thickness diameter	LFT
Pile, Steel Pipe, Epoxy Coated, _____, _____ pipe wall thickness diameter	LFT

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Pile, Timber	LFT
Pile, Timber, Treated.....	LFT
Piling, Restock	LS
Prebored Hole, _____ in. diameter	LFT
<i>Reinforced Concrete Encasement for H Piles</i>	<i>LFT</i>
Static Pile Load Test, _____ pile size	EACH
Test Pile, Dynamic, _____, pile size Non-Production	LFT
Test Pile, Dynamic, Production	LFT
Test Pile, Dynamic, Restrike	EACH
Test Pile, Indicator, _____, pile size Non-Production	LFT
Test Pile, Indicator, Production	LFT
Test Pile, Indicator, Restrike.....	EACH
Test Pile, Static Load, _____, pile size Non-Production	LFT

All costs associated with the dynamic pile load test except the cost of the test pile and test pile restrike shall be included in the cost of the dynamic pile load test.

All costs associated with the static pile load test except the cost of the test pile shall be included in the cost of the static pile load test. The cost of reaction piles used in the static load test and not incorporated into the work as production piles shall be included in the cost of the static load test.

The cost of furnishing and placing concrete, B borrow, or bentonite grout necessary to fill pilot holes, and all necessary incidentals shall be included in the cost of the pay items of this section.

The cost of the following shall be included in the cost of the piling.

- (a) predrilling pilot holes;
- (b) pile sleeves *for predrilling*;
- (c) maintaining open holes during pile driving;
- (d) broken, bent, damaged, or misplaced piles;
- (e) concrete filling ~~or concrete encasement~~;
- (f) corrective location or alignment measures;
- (g) epoxy coating;
- (h) splicing piles and jetted sites;
- (i) modifying or replacing pile driving equipment;
- (j) redriving piles which have heaved more than 1/4 in.;

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SECTION 701 - DRIVEN PILING

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- (k) plain and epoxy coated reinforcing bars;
- (l) repairing epoxy coating;
- (m) replacing epoxy coated piling;
- (n) restriking production piles not shown as test piles;
- (o) piles which are not acceptable or damaged during driving;
- (p) piles which were not driven in accordance with these specifications;
- (q) piles driven with the tops lower than the cutoff elevation;
- (r) spudding or jetting of piles;
- (s) end plates for pipe piles;
- (t) all straps on treated and untreated timber piling; and
- (u) all labor, equipment, and necessary incidentals.

No additional payment will be made if the Contractor elects to furnish and drive thicker walled pipe piles than specified.

An increase in the size of a pile cap to satisfy edge distance clearance requirements, when approved, shall be at no additional cost to the Department.

If the method for driving the piles is specified as 701.05(b) and the contract is a local public agency contract, the Contractor shall include the cost of acquiring the PDA consultant in the cost of the Dynamic Pile Load Test.

The cost of mobilization and demobilization for pile driving operations shall be included in the cost of mobilization and demobilization in accordance with 110.04.

The cost to control sediment in water from jetting operations shall be included in the cost of the piling.

The cost of forms, falsework, class A concrete, reinforcing bars, and necessary incidentals shall be included in the cost of reinforced concrete encasement for H piles.

COMMENTS AND ACTION

701.14 Method of Measurement
 701.15 Basis of Payment

DISCUSSION:

<p>Motion: Second: Ayes: Nays: FHWA Approval:</p>	<p>Action: <input type="checkbox"/> Passed as Submitted <input type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn</p>
<p>Standard Specifications Sections referenced and/or affected: 701 pg. 573 thru 576.</p>	<p><input type="checkbox"/> 2022 Standard Specifications <input type="checkbox"/> Revise Pay Items List</p>
<p>Recurring Special Provision references in: NONE</p>	<p><input type="checkbox"/> Create RSP (No. __) Effective: RSP Sunset Date:</p>
<p>Standard Drawing affected: E 701-BPIL (no changes required)</p>	<p><input type="checkbox"/> Revise RSP (No. __) Effective: RSP Sunset Date:</p>
<p>Design Manual Sections: 17-5.03(02)</p>	<p><input type="checkbox"/> Standard Drawing Effective:</p>
<p>GIFE Sections cross-references: 5.7 Driven Piling (no changes required)</p>	<p><input type="checkbox"/> Create RPD (No. __) Effective: <input type="checkbox"/> GIFE Update <input type="checkbox"/> SiteManager Update</p>