



Facilities Department

1875 W. LOWELL AVENUE | TRACY, CA
P: 209.830.3200 | F: 209.830.3204



ADDENDUM NO. 1

Date: December 23, 2022

Issued by: Tracy Joint Unified School District

Project: **Project #2022/23-002 Tracy High Tennis Court Repairs**

This addenda shall supersede the original Information, attachments, and specifications regarding this project where it adds to, deletes from, clarifies or otherwise modifies them. All other conditions and any previous addenda shall remain unchanged.

BID QUESTIONS ANSWERED:

Bid Walk Questions:

1. What supplier carries the specified asphalt fiber in specification 32 12 16.26?
 - a. Forti-Fi Fiber is available from any supplier upon request per the manufacturer listed below. Manufacturer has stated "We will supply anybody in need of fiber. Takes two weeks to deliver". Granite has a fiber feeder in Ukiah and gets their fiber from Forti Fi. Teichert uses the ACE fiber by default, but is able to order and use the Forti Fi Fiber as well. Manufacturer contact is below to anyone who would like to reach out:

MIKE HASS
Pacific Geosource - Project Manager
10778 SW Manhasset Dr.
Tualatin, OR 97062
Cell 503.214.0376
Office 877.454.8096
PACIFICGEOSOURCE.COM
mhass@pacificgeosource.com

2. Will alternatives be accepted for the specified fiber?

Official Response: Yes, alternatives reasonably found to be "equal" will be accepted via substitution request. See answer to pre-bid question 5 below as well for additional information on this issue.

3. Is there an engineer's estimate?

Official Response: Yes, the engineers estimate for this project is \$874,000.00, not including any required contingencies per the contract.

Pre-Bid Questions (Via email):

1. I wanted to ask if the asphalt they spec'd for this is the pyrite free mix? With out that you will have rust looking spots show up on the courts as the pyrite rises and bonds to the paint and causes major discoloration.

Official Response: We have not typically specified that on the asphalt paving for tennis courts in this area and have not experienced the discoloration indicated, however, if it is a concern of a surfacing installer as a means to deliver a successful project, yes, the asphalt mix should be pyrite free and we have amended specification section 32 12 00 – Section 2.01.F to state this as part of this addendum for all bidders to appropriately bid.

2. Can you confirm if this project has a PLA agreement?

Official Response: No PLA agreement required.

3. Can you confirm if this project is a Buy American project?

Official Response: Yes, it is listed in the bidding documents, Section 00 45 46.09.

4. Would chain link fence be an approved replacement for the poultry cages, details 10 & 11 on plan sheet C3.2?

Official Response: This would be acceptable as long as the fenced enclosures are provided with a ceiling. A substitution request may be submitted to use chain link fencing as opposed to the pre-manufactured cages, however, contractor sill need to provide proposed shop drawings of the intended construction.

5. I am having difficulty finding an asphalt supplier that uses the Forti Fi fiber in their HMA products Teichert Aggregates has a mix with ACE Fiber and state it is a superior product. Is this a product that can be substituted?

Recent testing performed by NCAT and MnROAD showed a significant difference (~20%) in cracking tolerance performance (Ideal-CT) in a study of the ACE fiber compared to the Forta-Fi Fiber. This was a study performed on actual production mixes, not lab mixes. At this time, the ACE fiber is not considered an acceptable alternative and is not viewed as a superior product for this reason. Documentation from those studies is provided for reference as part of this document.

PLAN CHANGES

None

PROJECT MANUAL / SPECIFICATION CHANGES

Specification 00 11 16 – “Notice to Bidders”, Line 6:

REVISE “**December 28, 2022**” to read “**January 4th, 2023**”

Specification 32 12 00 – Part 2, Section 2.01.F

Add to end of section F, “All aggregates used in tennis court paving shall be pyrite free”.

OTHER DOCUMENTATION PROVIDED:

None

ATTACHMENTS

NCAT and MnROAD – Powerpoint and Ideal-CT documentation

END OF ADDENDUM NO. 1

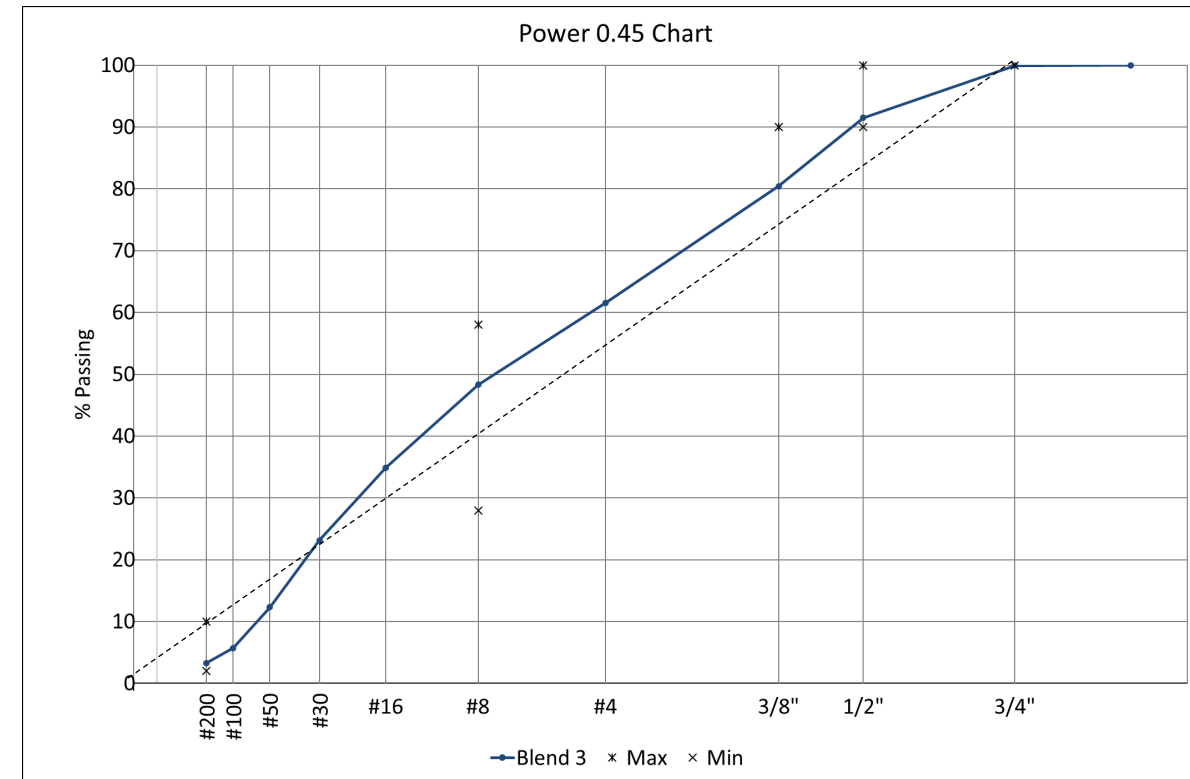
An aerial photograph showing a multi-lane highway under construction or recently completed, winding through a dense forest. The road surface is light-colored, contrasting with the green and brown foliage. A semi-transparent white box is overlaid on the left side of the image, containing text.

Northern AG (RCC) Construction Experience & Research Plan

*Fall 2022 Sponsor Meeting
September 20, 2022
Nathan Moore, P.E.*

RCC Mix Designs - Blend

- Blend from Martin Marietta
- Blend Properties
 - Air voids = 3.5%
 - VMA = 15.8%
 - AC% = 5.7%



RCC Mix Designs - Tests

- Tests Selected for BMD design
 - IDEAL-CT
 - HWTT
 - DCT (no pass/fail criteria)
- More tests to be run on plant-mixed samples
- Short-term aging 4 hours vs. two hours

RCC Mix Designs – Test Criteria

- IDEAL-CT
 - Consulted with Texas A&M researchers, MnDOT, and internal NCAT staff
 - Agreed on 100 @ 4 hour STOA @ 135°C
- HWTT
 - Potential for rutting
 - Originally chose 46°C, changed to 43°C because it put the control mix at 12.5 mm of rutting at approx. 10K passes

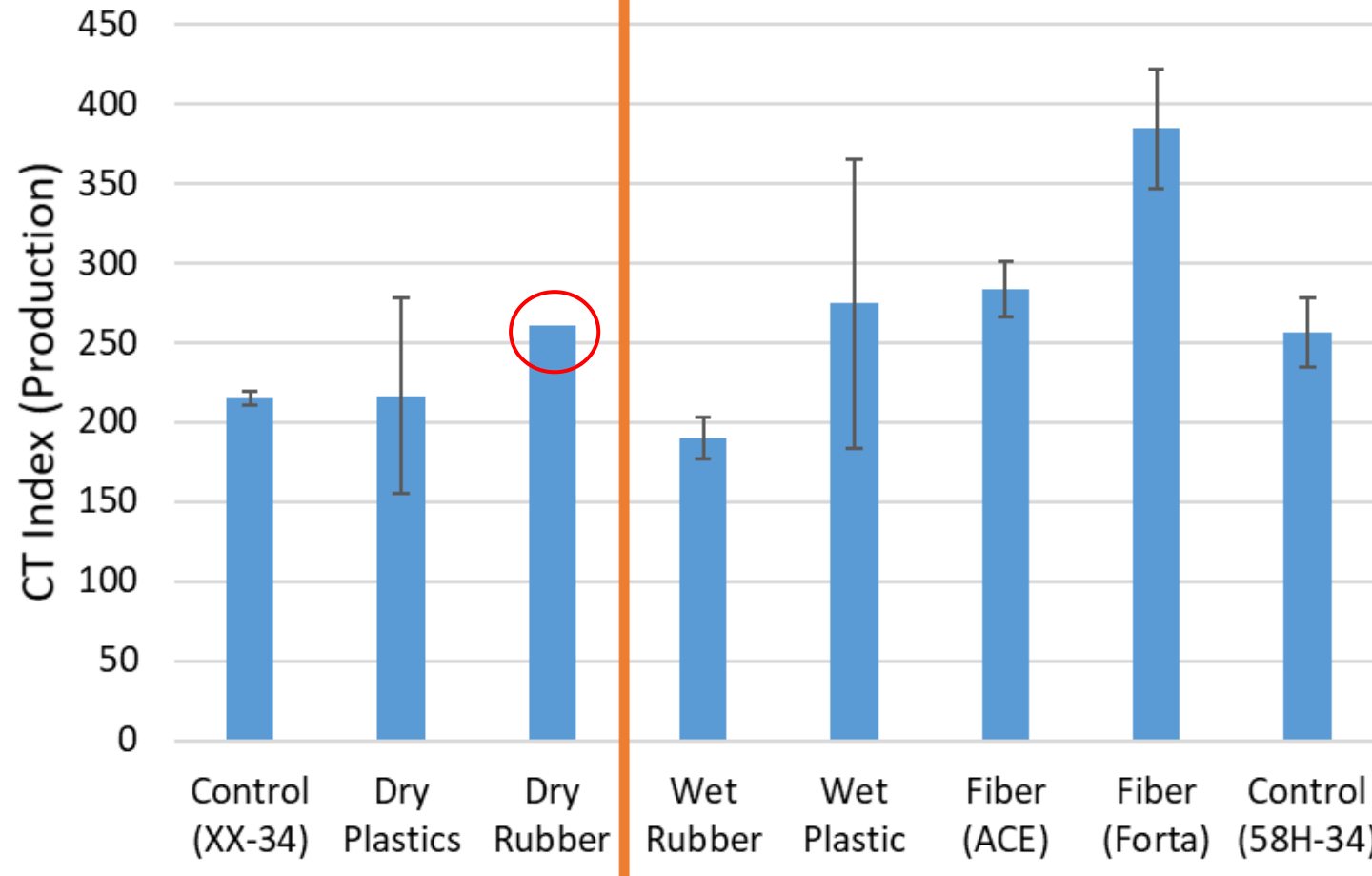
Construction QA Results

	JMF/ Target	Control 58H-34	Control XX-34	Dry Rubber	Dry plastic	Wet Rubber	Fibers Forta	Fibers Ace	Wet Plastic
Cell	JMF	39	38	37	36	35	34	33	32
P _b (%)	5.7	5.6	5.7	5.5	5.8	5.6	5.8	5.6	5.5
P _{2.36}	48	49	47	48	51	53	48	48	49
P _{0.075}	3.3	3.5	3.3	3.3	3.3	3.6	3.3	3.2	3.2
V _a (%)	3.5	1.9%	1.7%	6.0%	1.7%	1.8%	1.9%	2.1%	2.4%
In-Place Density	N/A	94.9	95.9	94.6	94.5	95.2	95.1	95.1	94.5

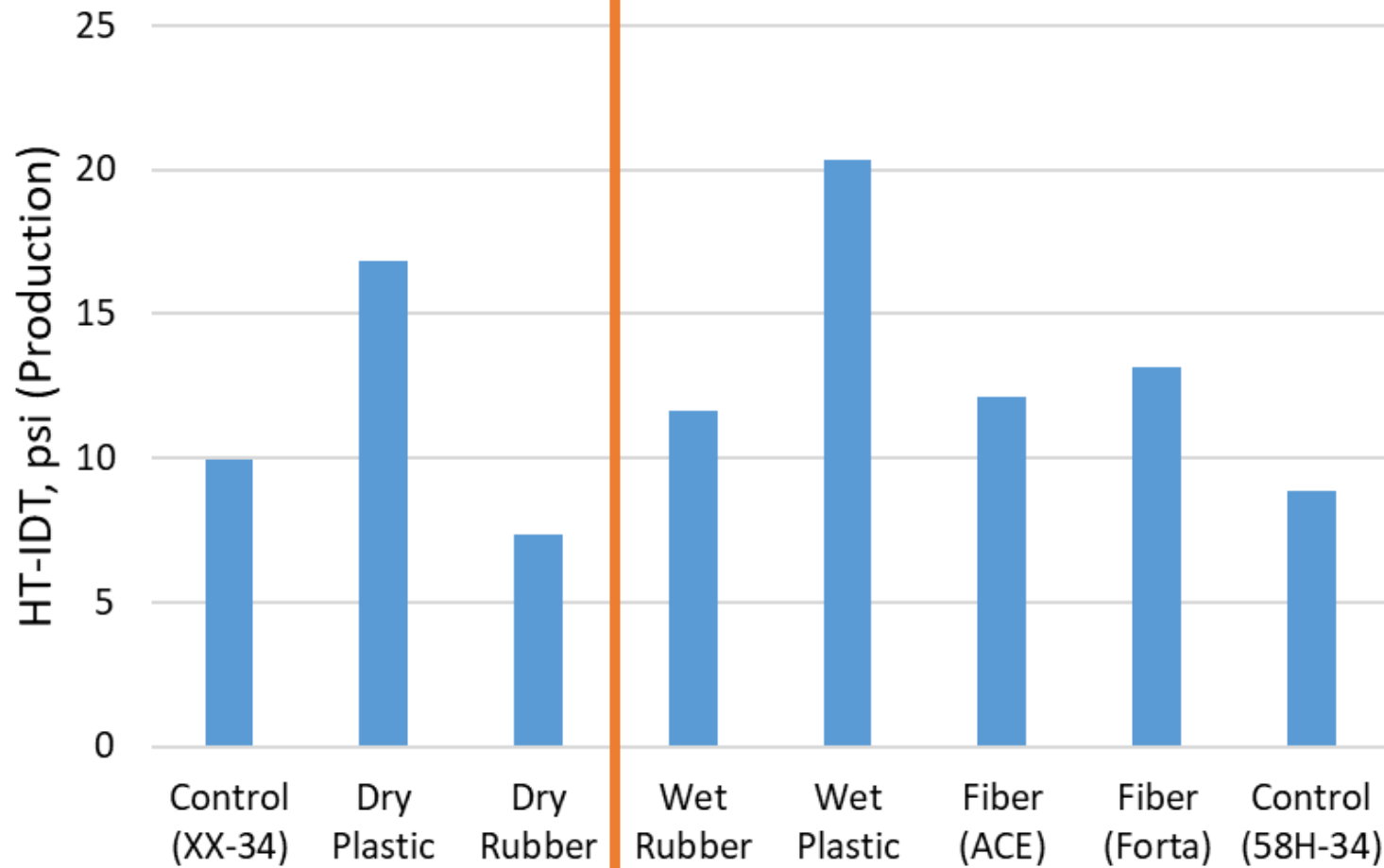
Additive Group Production BMD

- Main focus during construction was on gradation and AC%
- Rapid rutting test (HT-IDT) performed on site for future reference
- Design pucks and extra BMD samples taken back to NCAT lab and tested

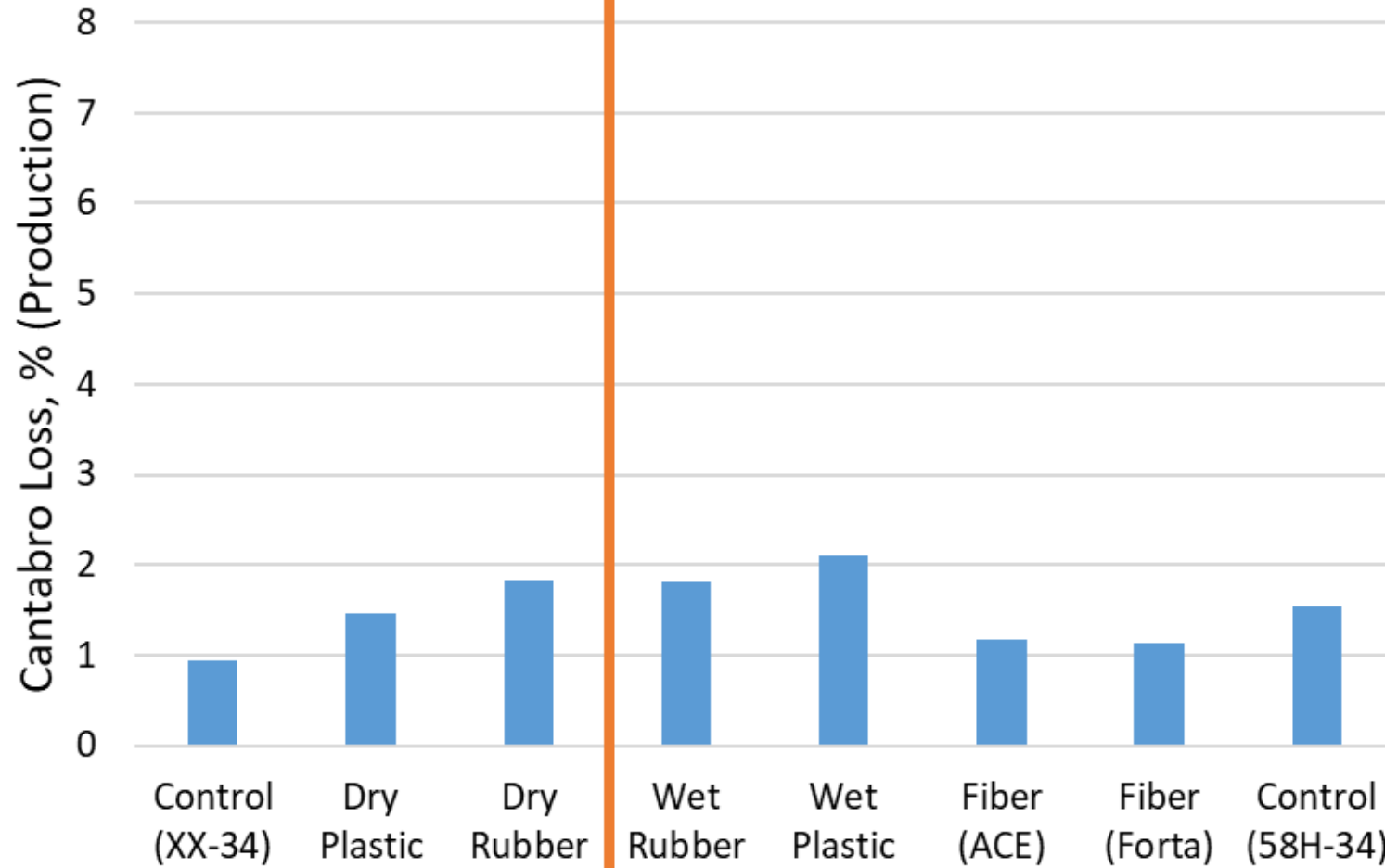
RCC Production BMD Results – IDEAL-CT



RCC Production BMD Results – HT-IDT



RCC Production BMD Results – Cantabro



Summary of RCC Results

- Consistency in the test sections
- Great diversity in lab results
- Opportunity to validate/modify BMD targets
- Opportunity to validate or develop new models to address state-of-the-art additives

Acknowledgements

- MnDOT and MnROAD
 - Trucking Facility
- Martin Marietta
 - Don Petty, Todd Tveit, Brad Paul
- NCAT Mobile Lab Team
 - Mark Brewer & Robert Scroggins
- NCAT Lab
 - Adam Taylor
 - Tina Taylor
 - NCAT co-op students

Questions?



TECHNOLOGY DEPLOYED IN MATC

INDIRECT TENSILE ASPHALT CRACKING TEST (IDEAL-CT)

Determine the cracking potential of your asphalt mixtures

HOW IT WORKS

The IDEAL-CT is an indirect tension test that determines the cracking potential of asphalt mixtures with a fracture mechanics-based parameter: Cracking Tolerance Index (CT_{Index}). Asphalt mixture specimens are conditioned and fabricated to 150 mm in diameter and 62 mm in height, with 7.0 ± 0.5 percent air voids, no notching/cutting necessary. The test is run at room temperature with a monotonic loading rate of 50 mm/minute of cross-headed displacement.

The larger the CT_{Index} value, the better the cracking resistance.



Image Source: FHWA
Load Frame performing Ideal-CT

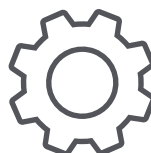
IDEAL-CT FEATURES

Highly

VERSATILE



Quick Preparation and
OPERATION



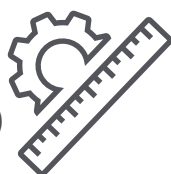
Field Laboratory

ACCESSIBLE



Retrofit for
existing load frame

COSTS ~\$4,000



New load frame
and equipment

COSTS ~\$12,000



Tests at least

3 REPLICATES

for each sample



Generates a CT_{Index}
for each sample in

<5 MINUTES



Meets

ASTM D8225

standards and specifications*



Current Performance Testing Program Evaluations of IDEAL-CT in: Texas, Oklahoma, Virginia, Kentucky, Minnesota, Maine, Vermont, National Center for Asphalt Technology (NCAT).

LEARN MORE AT [HTTPS://WWW.FHWA.DOT.GOV/PAVEMENT/ASPHALT/TRAILER/TESTING.CFM](https://www.fhwa.dot.gov/pavement/asphalt/trailer/testing.cfm)

* These standards and specifications are not FHWA requirements.