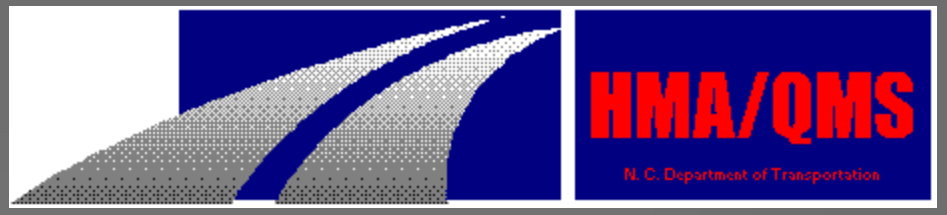


TEST SECTION PROCEDURES (QC)

Allowable Standard Count Range . . .

- After performing Standard Count QC and QA should verify:
  - ➢ “Counts” pass gauge tolerances (LCD display)
  - ➢ “Counts” fall within Allowable Standard Count Range
  - ➢ If “Counts” pass, record results on forms and continue with normal testing procedures
  - ➢ If any “Counts” fail review Standard Count procedures, correct any discrepancies, and take a new Standard Count

STANDARD COUNTS

DENSITY

5359 System 1 (pass)

1636 System 2 (pass)

Allowable Standard Count Range

5413	+ 1.0 %	System 1	- 1.0 %	5305
1656	+ 1.2 %	System 2	- 1.2 %	1616

Test Section…

- Test Section material will be:
  - same source as mix in the Control Strip
  - same type of mix as in the Control Strip
  - same depth as the mix in the Control Strip
- Testing a Test Section:
  - divided into 5 equal segments
  - test sites in each segment will be determined using random sampling procedures
  - results reported on form M&T 516 QC

- Not more than 2,000 linear feet or fraction thereof per day, on pavement placed at the paver laydown width

- Not less than 5 nuclear gauge readings or 25 non-nuclear gauge readings
  - per day
  - per mix type
  - per lot

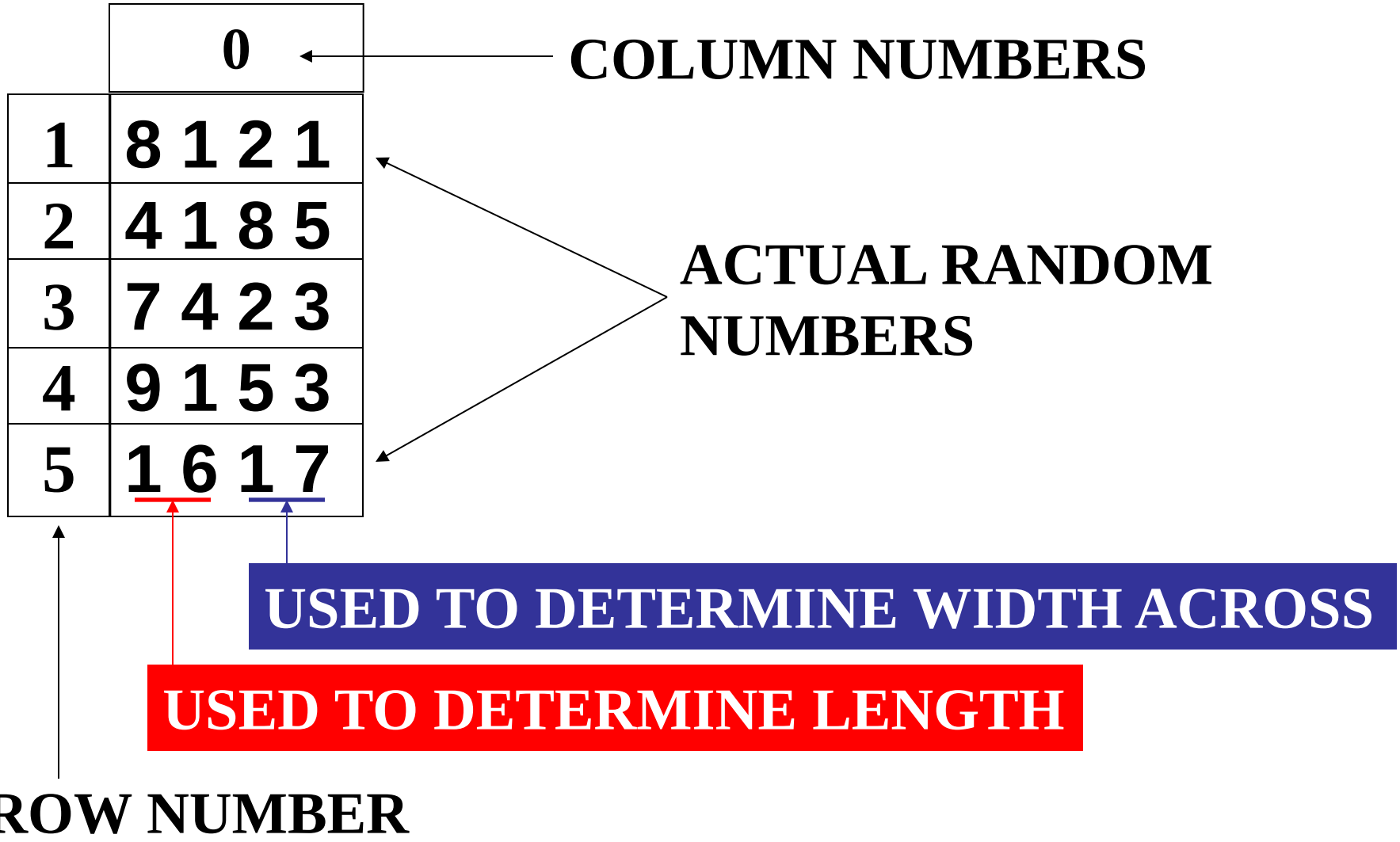
- Do not divide full Test Sections unless approved by the Engineer

- Gauge readings for Density Acceptance or establishment of a Control Strip must be taken after the finish or final roller has completed compaction

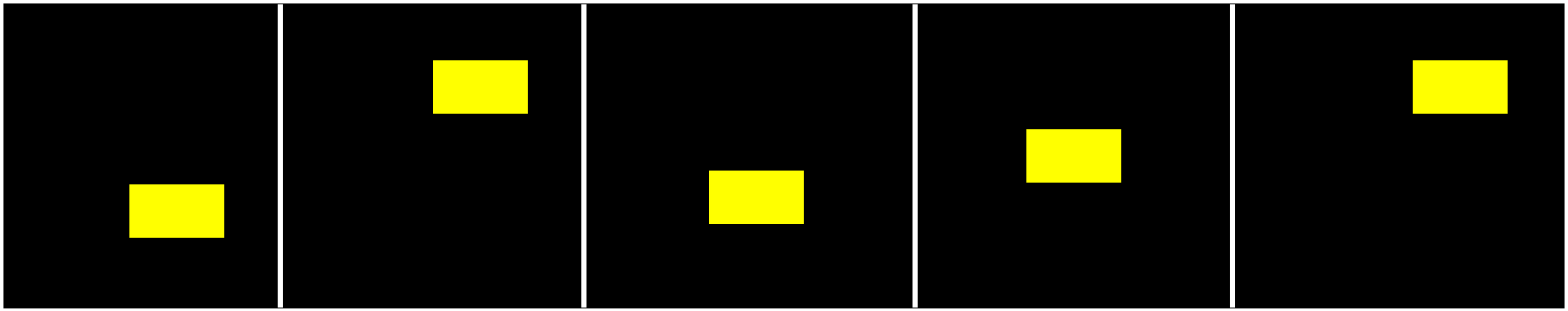
- If the fraction of a Test Section remaining is less than 100 linear ft, it is recommended that the density by represented by the results of the previous Test Section

- If 100 linear ft or more remains another Test Section must be performed

Procedures for randomly locating test sites:



TEST SECTION: 2000 LINEAR FEET



0+00

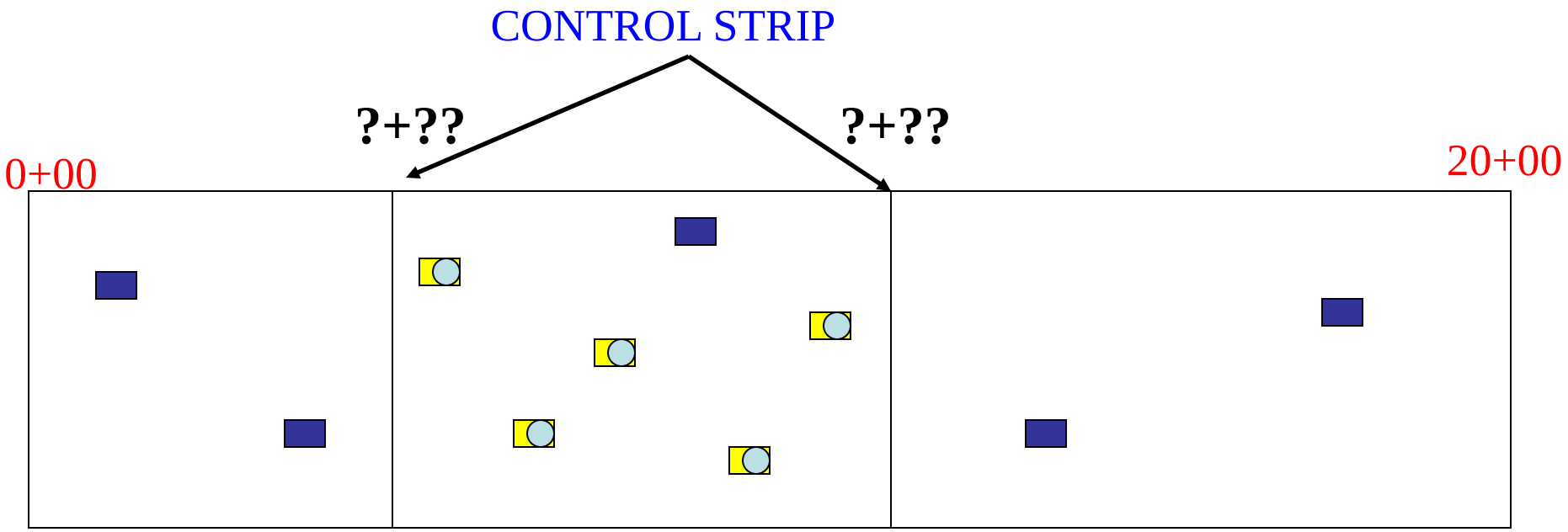
20+00

Beginning production . .

.

- The 1st Test Section will begin with the 1st load of mix, for each mix type. When required, Control Strips shall be included within the first density gauge Test Section of each job mix formula

Diagram Example - 1st Day of Production. . .



- Gauge readings in Test Section
- Control Strip Core
- Gauge readings in Control Strip

- Results shall be in % compaction tabulated on form M&T 516 QC

- If QC density gauge results meet or exceed the minimum requirements and the QA results verify the QC data, the density requirements are satisfied

Numbering Test Sections . . .

- Asphalt Test Sections will have a separate series of numbers for each mix type per paving operation for each contract

- Test Sections for a given contact shall be numbered consecutively per mix type for each paving crew

Numbering (multiple crews) . . .

- Contractor will designate “Crew Number” at the beginning of the operation
- Once designated the number is recorded on the M&T 514, 515, and 516 Forms
- Once designated the crew number will remain the same (for example - if Crew #1 pulls out Crew #2 will remain #2)

Numbering Example:

Crew #1 Test Section – 1, 2, 3, 4, etc

Crew #2 Test Section – 1, 2, 3, 4, etc

Brief Review…

First Day of Production for contract C200000

Contractor begins placing - **I 19.0 C**

Is a Control Strip Required? **Yes**

Location of Control Strip? **Within 1st Test Section**

Control Strip Number? **1QC**

Core Sample Numbers? **1QC, 2QC, 3QC, 4QC 5QC**

During the day's production, enough material is placed to test 5 Test Sections

How are the Test Sections to be numbered?

1QC, 2QC, 3QC, 4QC, 5QC

No mix is placed for the next four days.
On the 5th day the same plant begins producing a RI 19.0 C mix for the same contract [C200000]

Is a Control Strip Required? **Yes**

Location of Control Strip? **Within 1st Test Section**

Control Strip Number? **2 QC**

Core Sample Numbers? **6QC, 7QC, 8QC, 9QC 10QC**

During this day's production, enough material is placed to test 4 Test Sections

How are the Test Sections to be numbered?

6QC, 7QC, 8QC, 9QC

- If the average fails to meet the minimum requirements, the Test Section will initially be considered as failed, but additional rolling may be performed

- A note should be made to the effect that this section was re-rolled and acceptance of the Test Section will be based on the average after re-rolling

Re-testing a density gauge Test Section . . .

If a test section is more than 2.0 percent below the lot average, the Contractor may elect to re-test that nuclear test section...

- Shall be performed in the presence of a representative of the Engineer
- Must be tested within 2 calendar days of the initial test
- Test section will only be re-tested once
- QA comparison readings may be taken at all locations

- Five new random test sites will be determined jointly with a representative of the Engineer
- All re-test readings must be stored and printed
- The average of the 5 new readings will replace the initial test section results
- The lot average will be re-calculated

To ensure understanding, please complete the following questions.

You must score 80% or better to complete the on-line portion of this training course.

How many nuclear gauge measurements are required for each test section?

- A) 1
- B) 3
- C) 4
- D) 5

Correct - Click anywhere to continue

Incorrect - Click anywhere to continue

You must answer the question before continuing

Submit

Clear

How many non-nuclear gauge measurements are required for each test section?

- A) 10
- B) 15
- C) 25
- D) None of the above

Correct - Click anywhere to continue

Incorrect - Click anywhere to continue

You must answer the question before continuing

Submit

Clear

Individual test sites within a test section must be located using random numbers?

- A) True
- B) False

Correct - Click anywhere to continue

Incorrect - Click anywhere to continue

You must answer the question before continuing

Submit

Clear

A test section maybe retested if it is more than _____ below the lot average?

- A) 1.0%
- B) 1.2%
- C) 1.5%
- D) 2.0%

Correct - Click anywhere to continue

Incorrect - Click anywhere to continue

You must answer the question before continuing

Submit

Clear

Density acceptance measurements can be taken before the finish or final roller has completed compacting the area?

- A) True
- B) False

Correct - Click anywhere to continue

Incorrect - Click anywhere to continue

You must answer the question before continuing

Submit

Clear

Quiz

Questions Correct	{correct-questions}
Total Questions	{total-questions}
Accuracy	{percent}
Number of Quiz Attempts	{total-attempts}

Question Feedback/Review Information Will Appear Here

Continue

Congratulations!

You have now completed course:
QMS Density Gauge Online Course - Segment 3

Please click the following link and fill out the form to receive credit for completing this course.

Acknowledgement Form