

APPENDIX B: TEST SITE INSPECTION DATA

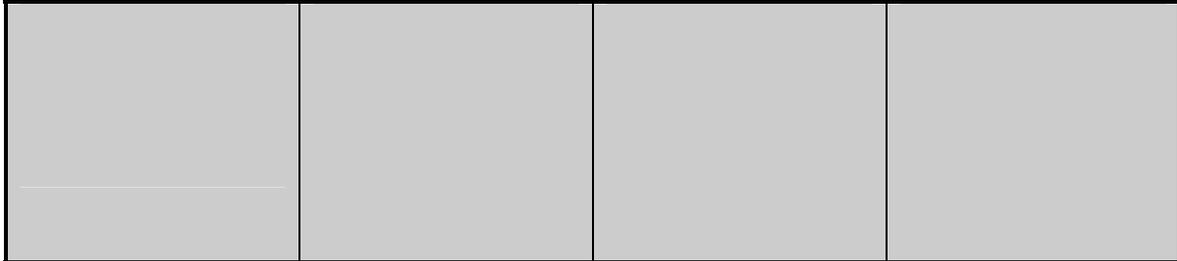
Site 0

DATE: 10/13/1999

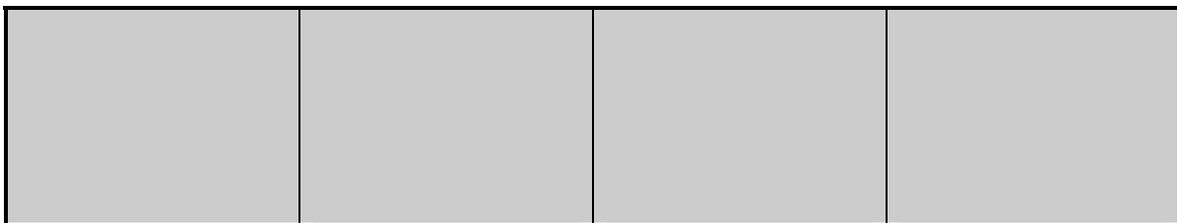
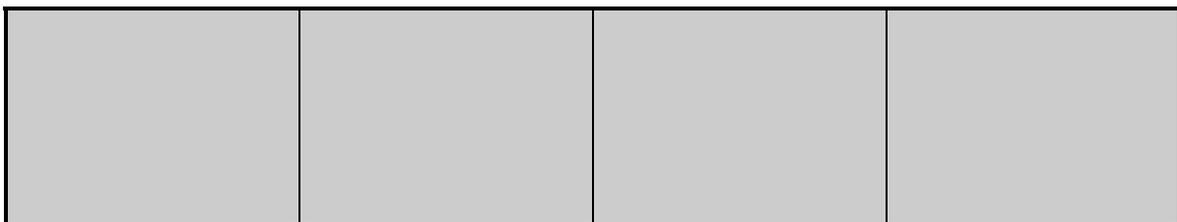
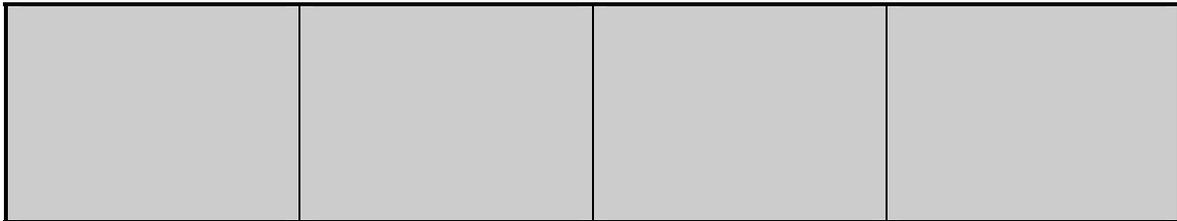
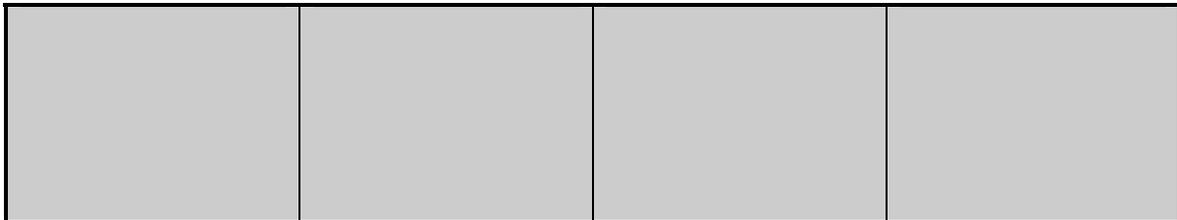
SITE #: 0

LOCATION: Route: US-23 SB; Starts @ Sta 432+27; South of MP 6; Section A of MDOT Aggregate Study

JOINT SPACING: 27' (8.2 m), 10' (3.0 m) tied concrete shoulders



*****SLAB 1*****
TYPICAL MRD SLAB



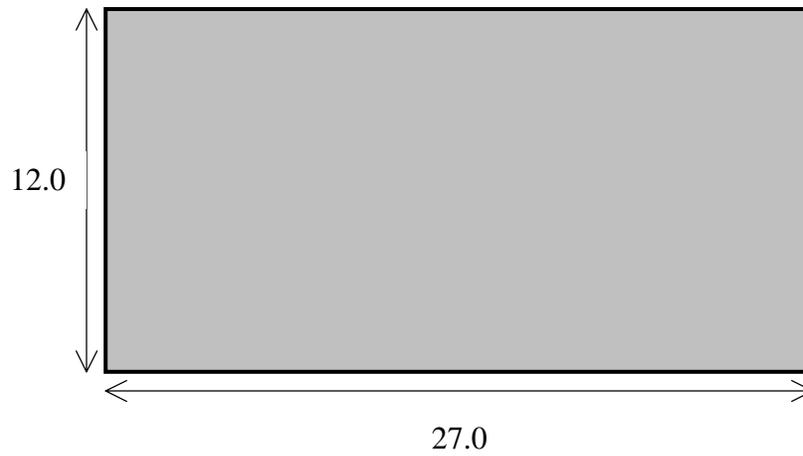
KEY: <i>Transverse Cracking</i>	<i>Patching</i>		1. Spalling	5. High steel
Low	Full-depth Concrete 		2. D-Cracking	6. Polished agg
Moderate ●●●●●	Asphalt Patch 		3. Poor sealant	7. Faulting
High ●●●●	Expansion joint 		4. ASR	8. Long. crack

COMMENTS: Shrinkage cracking every 6-8"; shoulder is different concrete type than mainline pavement (different color)

CRACK SPACINGS:

<u>Slab 1</u>	<u>Slab 2</u>	<u>Slab 3</u>	<u>Slab 4</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 5</u>	<u>Slab 6</u>	<u>Slab 7</u>	<u>Slab 8</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 9</u>	<u>Slab 10</u>	<u>Slab 11</u>	<u>Slab 12</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 13</u>	<u>Slab 14</u>	<u>Slab 15</u>	<u>Slab 16</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 17</u>	<u>Slab 18</u>	<u>Slab 19</u>	<u>Slab 20</u>
J ₁ -C ₁ C ₁ -C ₂	J ₂ -C ₁ C ₁ -C ₂	J ₃ -C ₁ C ₁ -C ₂	J ₄ -C ₁ C ₁ -C ₂

TYPICAL MRD SLAB: Slab 1



COMMENTS: Shrinkage cracking typically 6-8" apart and very tight, predominantly transverse; No Popouts.

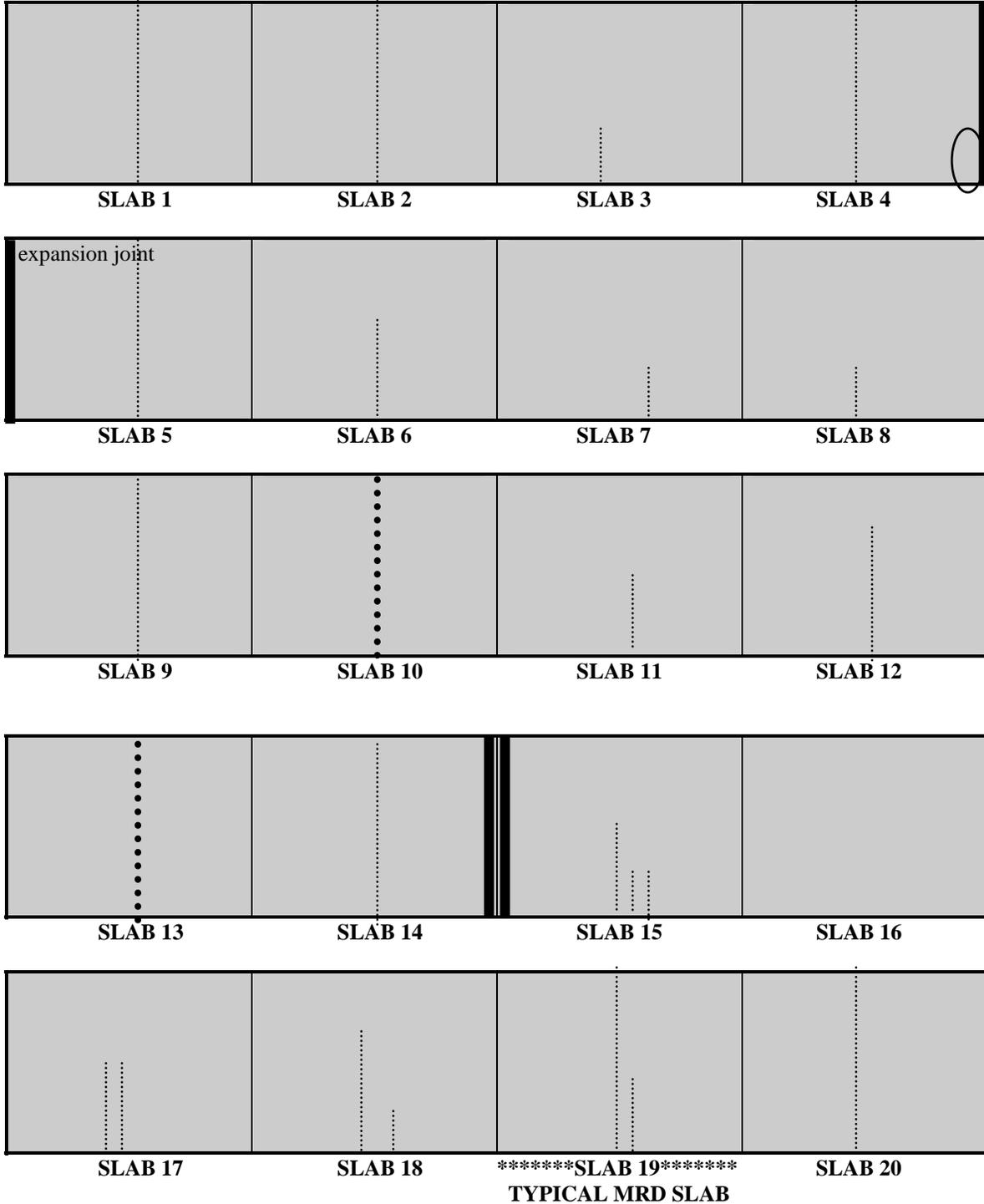
Site 1

DATE: 7/24/1999

SITE #: 1

LOCATION: Route: US-23 SB; Starts @ Sta 328+13; 54' south of MP 4; Section B of MDOT Aggregate Study

JOINT SPACING: 27' (8.2 m), 10' (3.0 m) tied concrete shoulders



KEY: Transverse Cracking

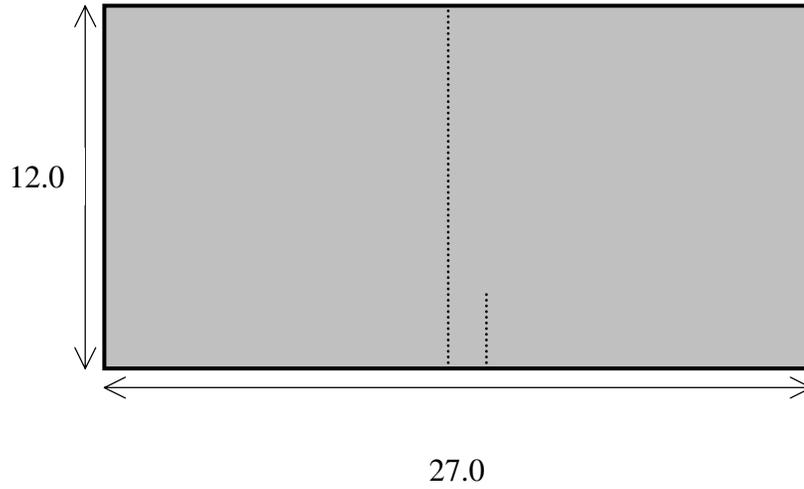
- Low
- Moderate
- High

COMMENTS: Small hole in Slab 7, Construction repairs (exopy) on Slab 15; Slag Coarse Aggregate

CRACK SPACINGS:

<u>Slab 1</u>	<u>Slab 2</u>	<u>Slab 3</u>	<u>Slab 4</u>
J ₁ -C ₁ 14.5'	J ₂ -C ₁ 12.0'	J ₃ -C ₁ 12.0'	J ₄ -C ₁ 12.0'
C ₁ -C ₂			
C ₂ -C ₃			
<u>Slab 5</u>	<u>Slab 6</u>	<u>Slab 7</u>	<u>Slab 8</u>
J ₁ -C ₁ 14.0'	J ₂ -C ₁ 13.0'	J ₃ -C ₁ 19.0'	J ₄ -C ₁ 15.0'
C ₁ -C ₂			
C ₂ -C ₃			
<u>Slab 9</u>	<u>Slab 10</u>	<u>Slab 11</u>	<u>Slab 12</u>
J ₁ -C ₁ 11.0'	J ₂ -C ₁ 12.0'	J ₃ -C ₁ 15.0'	J ₄ -C ₁ 13.0'
C ₁ -C ₂			
C ₂ -C ₃			
<u>Slab 13</u>	<u>Slab 14</u>	<u>Slab 15</u>	<u>Slab 16</u>
J ₁ -C ₁ 14.5'	J ₂ -C ₁ 12.0'	J ₃ -C ₁ 12.5'	J ₄ -C ₁
C ₁ -C ₂	C ₁ -C ₂	C ₁ -C ₂ 1.5'	C ₁ -C ₂
C ₂ -C ₃	C ₂ -C ₃	C ₂ -C ₃ 1.0'	C ₂ -C ₃
<u>Slab 17</u>	<u>Slab 18</u>	<u>Slab 19</u>	<u>Slab 20</u>
J ₁ -C ₁ 10.5'	J ₂ -C ₁ 12.0'	J ₃ -C ₁ 13.0'	J ₄ -C ₁ 12.0'
C ₁ -C ₂ 1.0'	C ₁ -C ₂ 4.0'	C ₁ -C ₂ 2.0'	C ₁ -C ₂
C ₂ -C ₃	C_{2}-C_{3}	C_{2}-C_{3}	C_{2}-C_{3}

TYPICAL MRD SLAB: Slab 19



COMMENTS: A slight amount of staining on Crack 2

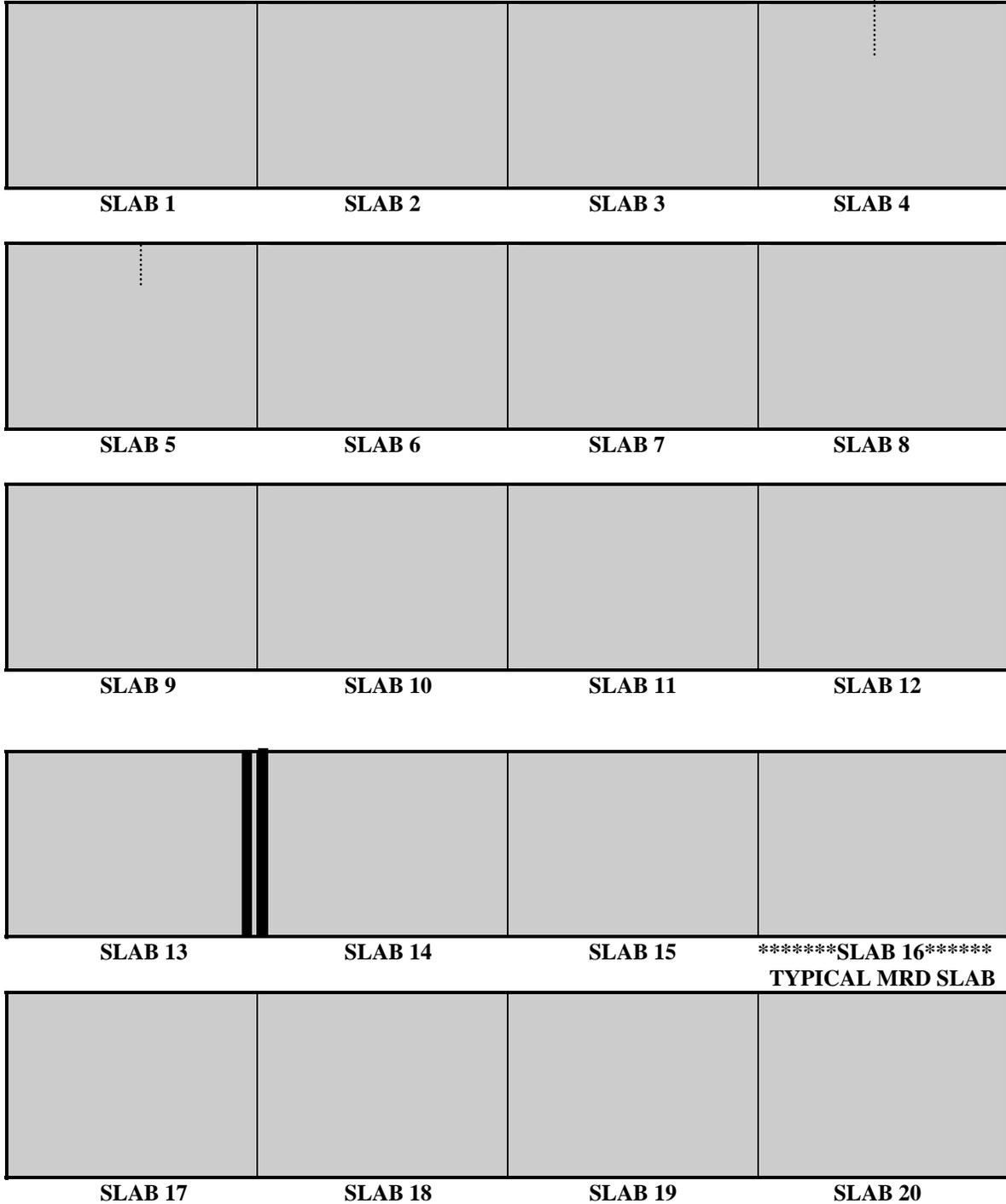
Site 2

DATE: 7/24/1999

SITE #: 2

LOCATION: Route: US-23 SB; Starts @ Sta 314+92; 8' south of "Start C" sign; Section C of MDOT Aggregate Study

JOINT SPACING: 27' (8.2 m), 10' (3.0 m) tied concrete shoulders



KEY: Transverse Cracking

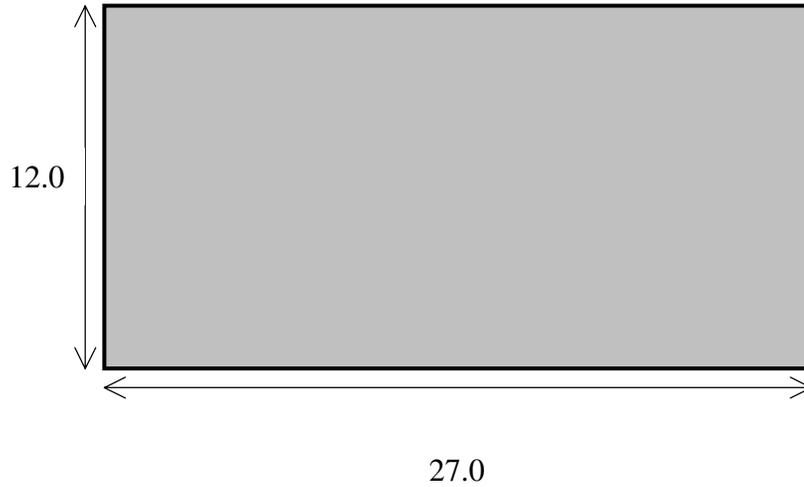
- Low
- Moderate
- High

COMMENTS: Stain on Crack 1 of Slab 5, Poor construction grooving on entire site, Coring hole on Slab 10, Construction repairs (exopy) on Slabs 13 and 14; Natural Gravel Coarse Aggregate

CRACK SPACINGS:

<u>Slab 1</u>	<u>Slab 2</u>	<u>Slab 3</u>	<u>Slab 4</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ 12.5' C ₁ -C ₂ C ₂ -C ₃
<u>Slab 5</u>	<u>Slab 6</u>	<u>Slab 7</u>	<u>Slab 8</u>
J ₁ -C ₁ 12.0' C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 9</u>	<u>Slab 10</u>	<u>Slab 11</u>	<u>Slab 12</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 13</u>	<u>Slab 14</u>	<u>Slab 15</u>	<u>Slab 16</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 17</u>	<u>Slab 18</u>	<u>Slab 19</u>	<u>Slab 20</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃

TYPICAL MRD SLAB: Slab 16



COMMENTS: Surface texture irregularities; popouts: 2-3 per m²

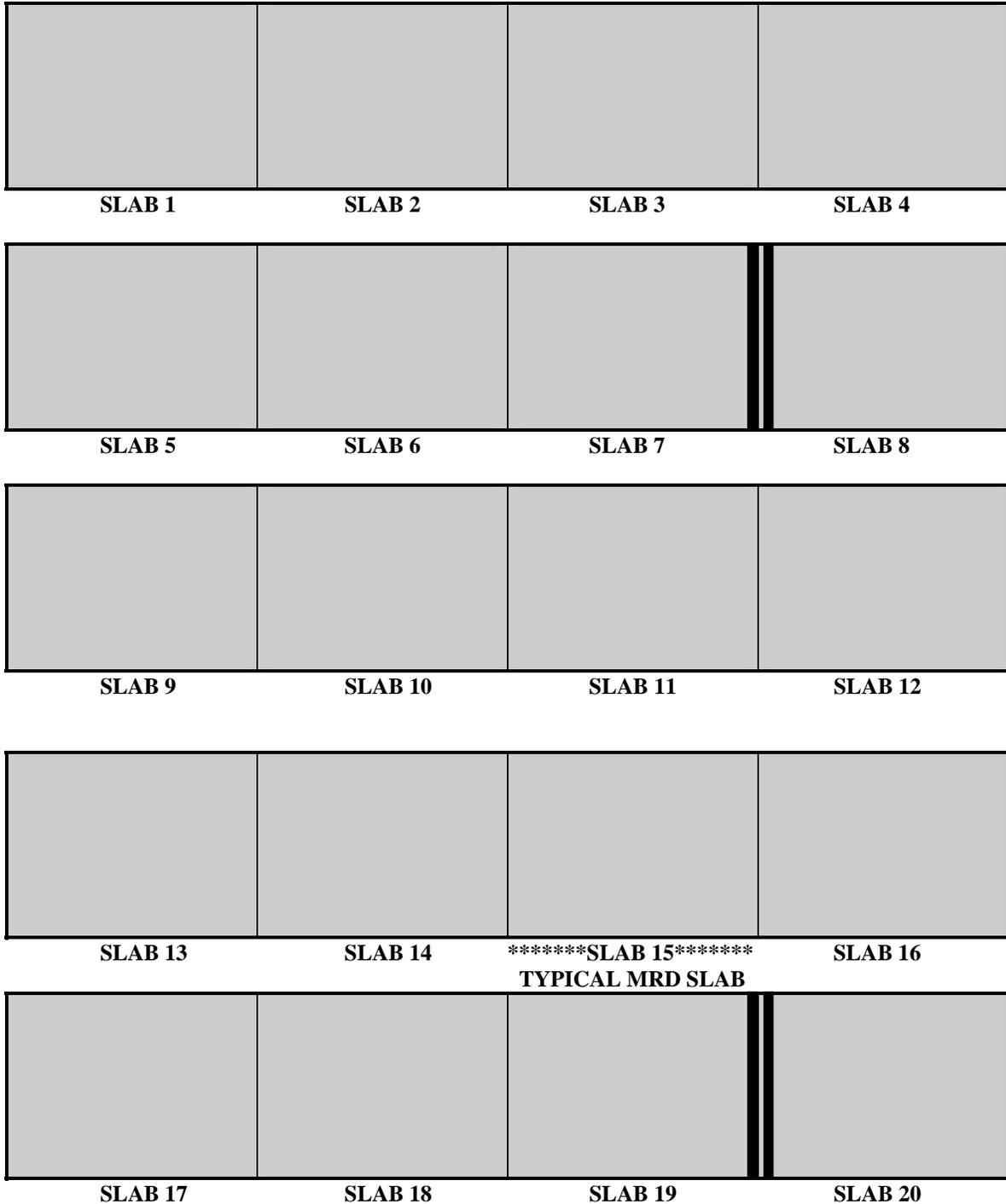
Site 3

DATE: 7/24/1999

SITE #: 3

LOCATION: Route: US-23 SB; Starts @ Sta 243+69; Section D of MDOT Aggregate Study

JOINT SPACING: 27' (8.2 m), 10' (3.0 m) tied concrete shoulders



KEY: Transverse Cracking

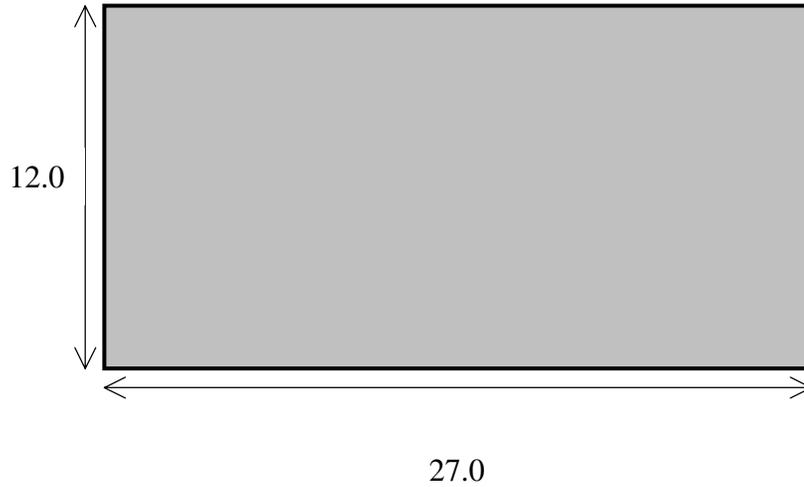
- Low
- Moderate
- High

COMMENTS: Joint sealant drop between Slabs 14 and 15, Poor construction grooving on entire site, Coring hole on Slab 9, Possible dowel misalignment cracks on Slabs 2 and 3; Crushed Limestone Coarse Aggregate

CRACK SPACINGS:

<u>Slab 1</u>	<u>Slab 2</u>	<u>Slab 3</u>	<u>Slab 4</u>
J ₁ -C ₁	J ₂ -C ₁	J ₃ -C ₁	J ₄ -C ₁
C ₁ -C ₂			
C ₂ -C ₃			
<u>Slab 5</u>	<u>Slab 6</u>	<u>Slab 7</u>	<u>Slab 8</u>
J ₁ -C ₁	J ₂ -C ₁	J ₃ -C ₁	J ₄ -C ₁
C ₁ -C ₂			
C ₂ -C ₃			
<u>Slab 9</u>	<u>Slab 10</u>	<u>Slab 11</u>	<u>Slab 12</u>
J ₁ -C ₁	J ₂ -C ₁	J ₃ -C ₁	J ₄ -C ₁
C ₁ -C ₂			
C ₂ -C ₃			
<u>Slab 13</u>	<u>Slab 14</u>	<u>Slab 15</u>	<u>Slab 16</u>
J ₁ -C ₁	J ₂ -C ₁	J ₃ -C ₁	J ₄ -C ₁
C ₁ -C ₂			
C ₂ -C ₃			
<u>Slab 17</u>	<u>Slab 18</u>	<u>Slab 19</u>	<u>Slab 20</u>
J ₁ -C ₁	J ₂ -C ₁	J ₃ -C ₁	J ₄ -C ₁
C ₁ -C ₂			
C ₂ -C ₃			

TYPICAL MRD SLAB: Slab 15



COMMENTS: Shrinkage cracking typically 6-8" apart and very tight, predominantly transverse;
Popouts: ~ 1 per m²

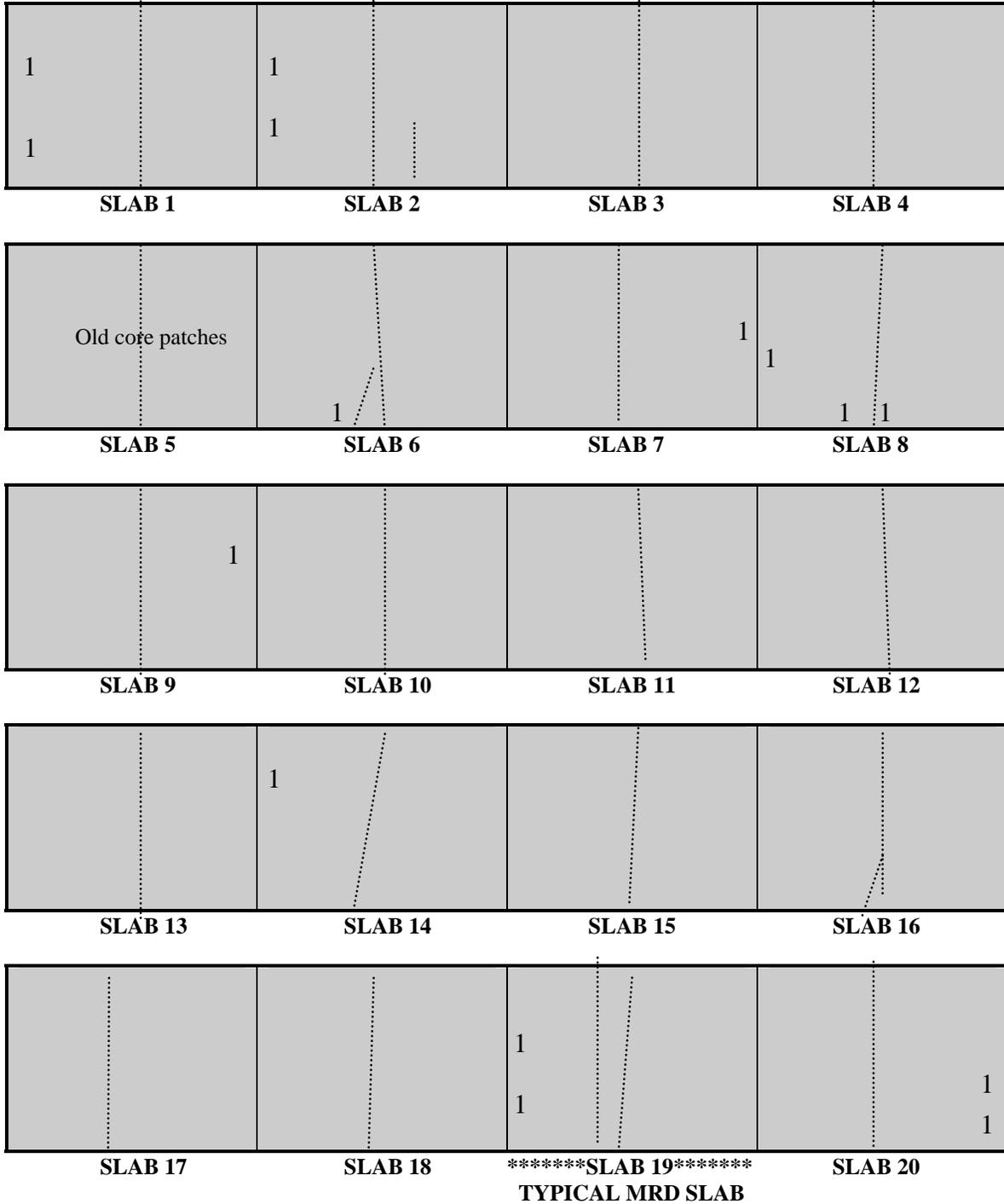
Site 4

DATE: 10/5/1999

SITE #: 4

LOCATION: Route: US-23 SB; Starts @ Sta 610+56; South of Hill Road; Between MP 89 & 90

JOINT SPACING: 27' (8.2 m), 10' (3.0 m) tied concrete shoulders



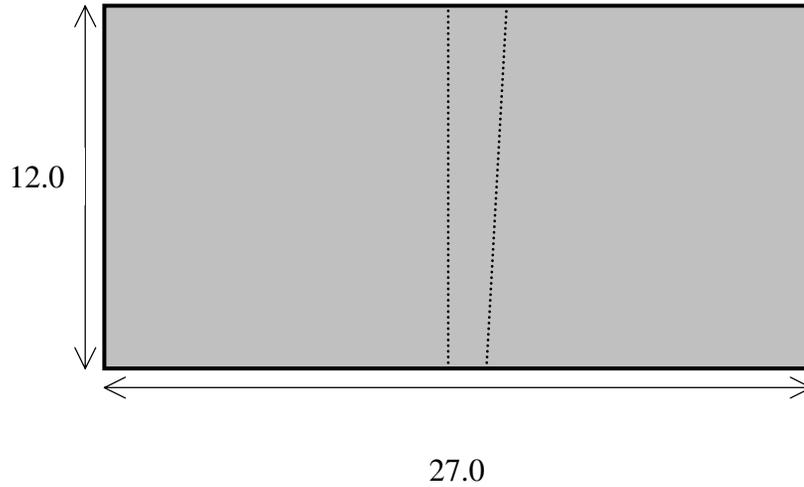
KEY: <i>Transverse Cracking</i>	<i>Patching</i>		1. Spalling	5. High steel
Low	Full-depth Concrete		2. D-Cracking	6. Polished agg
Moderate ●●●●●	Asphalt Patch		3. Poor sealant	7. Faulting
High ●●●●	Expansion joint		4. ASR	8. Long. crack

COMMENTS: ASR-like cracking in shoulder near joints; ASR-like cracking on entire mainline pavement; All joints sealants are deficient; Slag coarse aggregate

CRACK SPACINGS:

<u>Slab 1</u>	<u>Slab 2</u>	<u>Slab 3</u>	<u>Slab 4</u>
J ₁ -C ₁ 16.0'	J ₂ -C ₁ 10.0'	J ₃ -C ₁ 16.0'	J ₄ -C ₁ 15.0'
C ₁ -C ₂	C ₁ -C ₂ 4.0'	C ₁ -C ₂	C ₁ -C ₂
C ₂ -C ₃	C_{2}-C_{3}	C_{2}-C_{3}	C_{2}-C_{3}
<u>Slab 5</u>	<u>Slab 6</u>	<u>Slab 7</u>	<u>Slab 8</u>
J ₁ -C ₁ 14.0'	J ₂ -C ₁ 12.0'	J ₃ -C ₁ 12.0'	J ₄ -C ₁ 14.0'
C ₁ -C ₂			
C ₂ -C ₃			
<u>Slab 9</u>	<u>Slab 10</u>	<u>Slab 11</u>	<u>Slab 12</u>
J ₁ -C ₁ 17.0'	J ₂ -C ₁ 14.0'	J ₃ -C ₁ 13.0'	J ₄ -C ₁ 13.0'
C ₁ -C ₂			
C ₂ -C ₃			
<u>Slab 13</u>	<u>Slab 14</u>	<u>Slab 15</u>	<u>Slab 16</u>
J ₁ -C ₁ 13.0'	J ₂ -C ₁ 10.0'	J ₃ -C ₁ 12.0'	J ₄ -C ₁ 13.0'
C ₁ -C ₂			
C ₂ -C ₃			
<u>Slab 17</u>	<u>Slab 18</u>	<u>Slab 19</u>	<u>Slab 20</u>
J ₁ -C ₁ 12.0'	J ₂ -C ₁ 12.0'	J ₃ -C ₁ 14.0'	J ₄ -C ₁ 12.0'
C ₁ -C ₂	C ₁ -C ₂	C ₁ -C ₂ 2.0'	C ₁ -C ₂
C_{2}-C_{3}	C_{2}-C_{3}	C_{2}-C_{3}	C ₂ -C ₃

TYPICAL MRD SLAB: Slab 19



COMMENTS: Longitudinal cracking (~ 6" spacing) in slab due to connecting ASR-like cracks;
Severe ASR-like cracking throughout entire slab; Popouts: 0.5 per m²

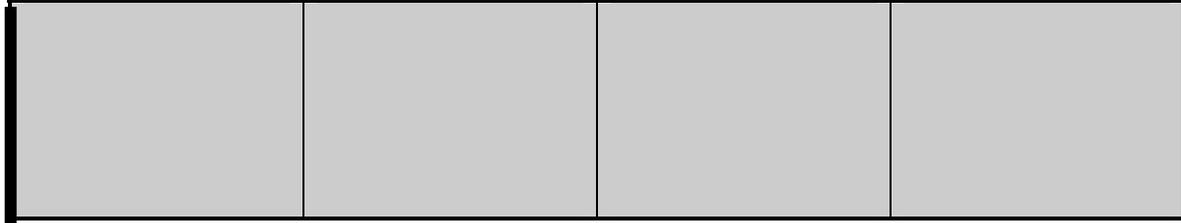
Site 4A

DATE: 10/13/1999

SITE #: 4A

LOCATION: Route: US-23 SB; Starts @ Sta 176+36; Right at MP 1; Section E of MDOT Aggregate Study

JOINT SPACING: 27' (8.2 m), 10' (3.0 m) tied concrete shoulders



SLAB 1

SLAB 2

SLAB 3

*****SLAB 4*****

TYPICAL MRD SLAB

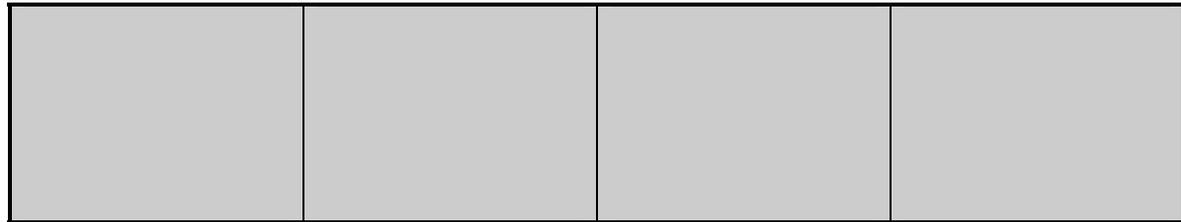


SLAB 5

SLAB 6

SLAB 7

SLAB 8

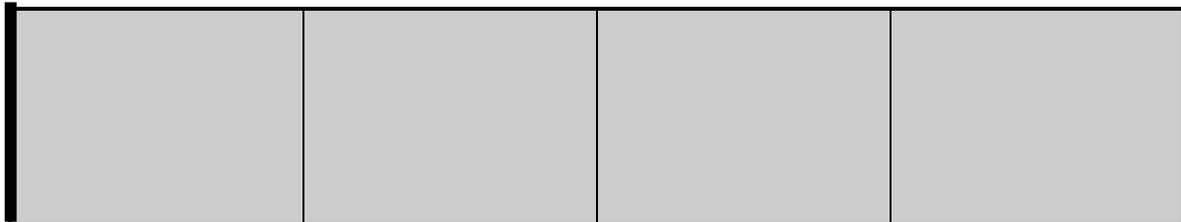


SLAB 9

SLAB 10

SLAB 11

SLAB 12

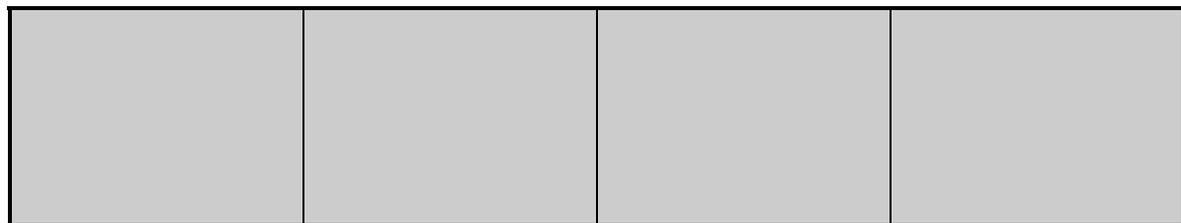


SLAB 13

SLAB 14

SLAB 15

SLAB 16



SLAB 17

SLAB 18

SLAB 19

SLAB 20

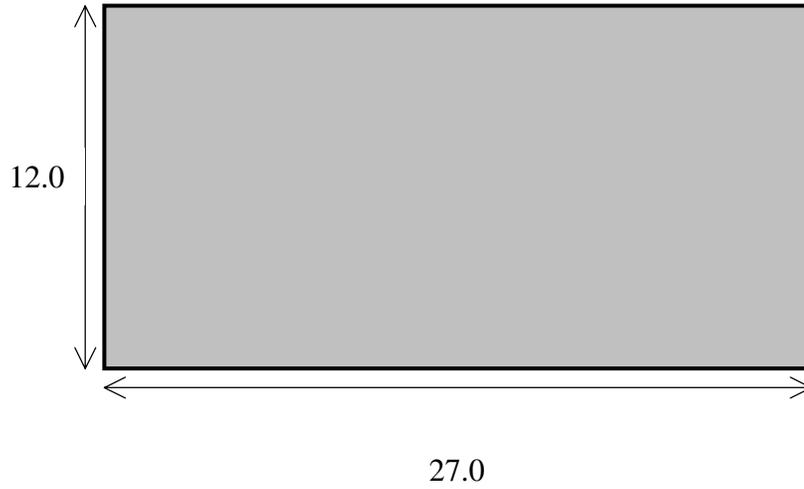
KEY: <i>Transverse Cracking</i>	<i>Patching</i>		1. Spalling	5. High steel
Low 	Full-depth Concrete		2. D-Cracking	6. Polished agg
Moderate •••••	Asphalt Patch		3. Poor sealant	7. Faulting
High •••••	Expansion joint		4. ASR	8. Long. crack

COMMENTS: Some popouts; no other distinguishable distresses

CRACK SPACINGS:

<u>Slab 1</u>	<u>Slab 2</u>	<u>Slab 3</u>	<u>Slab 4</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 5</u>	<u>Slab 6</u>	<u>Slab 7</u>	<u>Slab 8</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 9</u>	<u>Slab 10</u>	<u>Slab 11</u>	<u>Slab 12</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 13</u>	<u>Slab 14</u>	<u>Slab 15</u>	<u>Slab 16</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 17</u>	<u>Slab 18</u>	<u>Slab 19</u>	<u>Slab 20</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃

TYPICAL MRD SLAB: Slab 4



COMMENTS: Popouts: 3 per m²

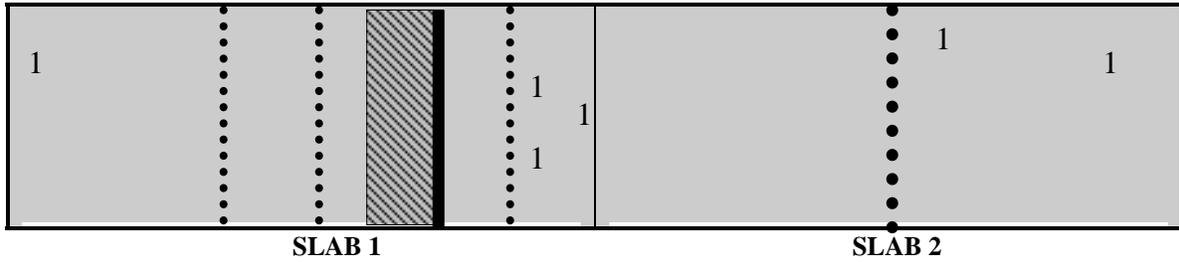
Site 6

DATE: 10/5/1999

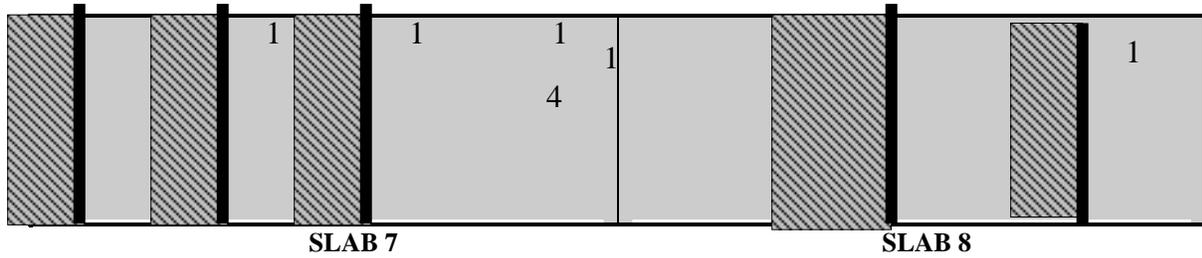
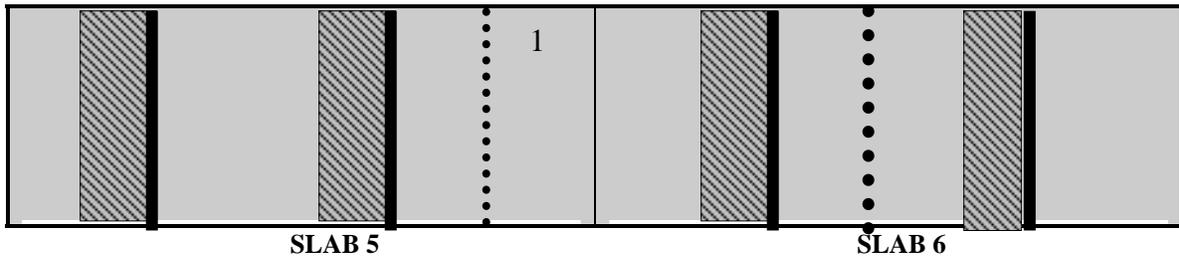
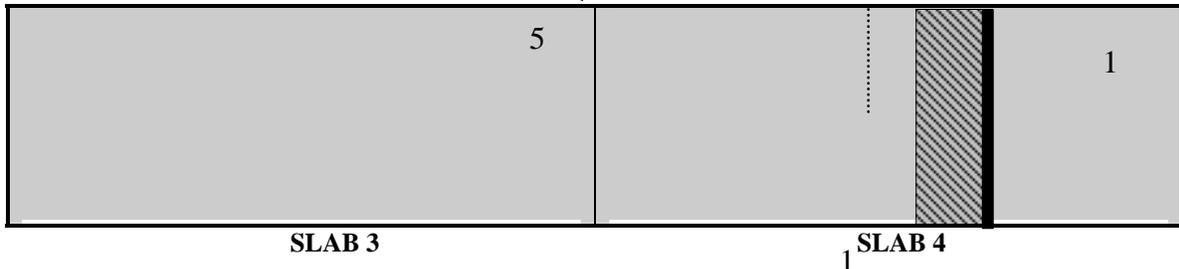
SITE #: 6

LOCATION: Route: I-69 EB; Starts @ Sta 1534+93; Between MP 154 & 155; Just East of Turnaround; East of Exit 153

JOINT SPACING: 71' (21.6 m), asphalt shoulders



*****TYPICAL MRD SLAB*****



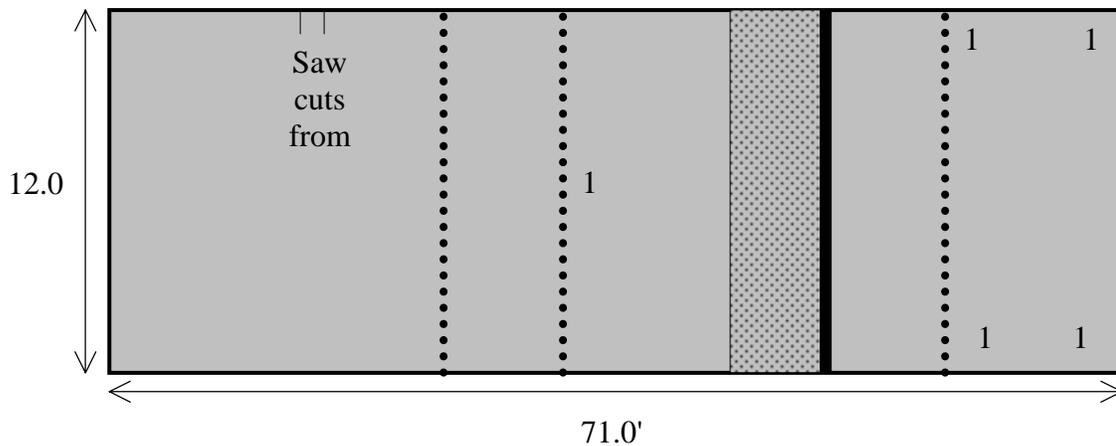
KEY: <i>Transverse Cracking</i>	<i>Patching</i>		1. Spalling	5. High steel
Low 	Full-depth Concrete		2. D-Cracking	6. Polished agg
Moderate 	Asphalt Patch		3. Poor sealant	7. Faulting
High •••••	Expansion joint		4. ASR	8. Long. crack

COMMENTS: Lane-shoulder dropoff; polished agg in wheelpath; popouts; lane-lane faulting; tar and chip repair throughout the entire site (especially near longitudinal joint); natural gravel pavement

CRACK SPACINGS:

<u>Slab 1</u>	<u>Slab 2</u>	<u>Slab 3</u>	<u>Slab 4</u>
J ₁ -C ₁ 31.0'	J ₂ -C ₁ 38.0'	J ₃ -C ₁	J ₄ -C ₁ 38.0'
C ₁ -C ₂ 10.0'			C ₁ -P ₁ 9.0'
C ₂ -P ₁ 5.0'			
P ₁ -P ₁ 6.0'			
P ₁ -C ₃ 9.0'			
<u>Slab 5</u>	<u>Slab 6</u>	<u>Slab 7</u>	<u>Slab 8</u>
J ₅ -P ₁ 10.0'	J ₆ -P ₁ 14.0'	J ₇ -P ₁ 0.0'	J ₈ -P ₁ 17.0'
P ₁ -P ₁ 6.0'	P ₁ -P ₁ 6.0'	P ₁ -P ₁ 6.0'	P ₁ -P ₁ 15.0'
P ₁ -P ₂ 20.0'	P ₁ -C ₁ 14.0'	P ₁ -P ₂ 6.0'	P ₁ -P ₂ 11.0'
P ₂ -P ₂ 6.0'	C ₁ -P ₂ 15.0'	P ₂ -P ₂ 6.0'	
P ₂ -C ₁ 10.0'		P ₂ -P ₃ 14.0'	

TYPICAL MRD SLAB: Slab 1



COMMENTS: General comments apply; Chip and seal repairs extensive along longitudinal joint; Polished agg (severe) in wheelpath; Popouts: ~ 2.5 per m²

Site 11

DATE: 9/10/1999

SITE #: 11

LOCATION: Route: US-27 NB; Starts @ Sta 521+16; Past Rest Area as well as ramp for West 10 to 115; Past MP 179; 13' north of "27 North" sign

JOINT SPACING: 99' (30.2 m), asphalt shoulders



SLAB 1



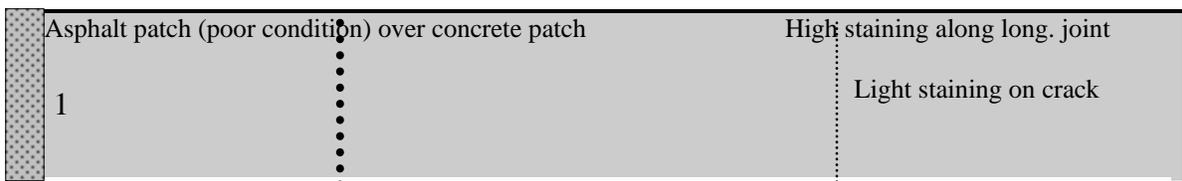
SLAB 2



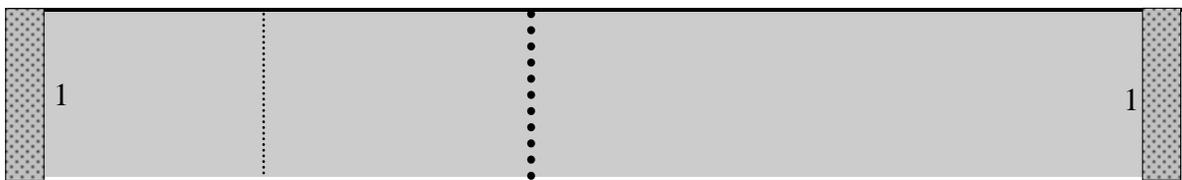
SLAB 3



SLAB 4



SLAB 5



SLAB 6

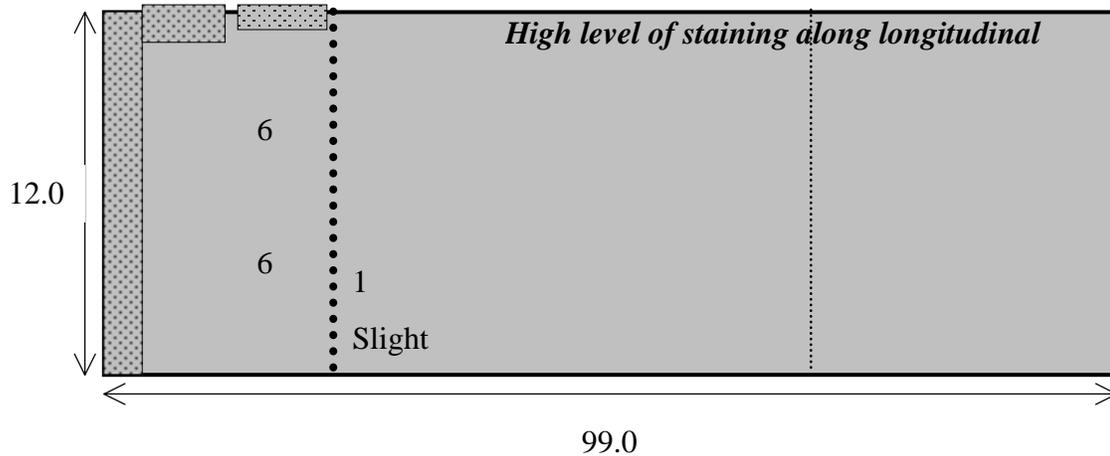
KEY: <i>Transverse Cracking</i>	<i>Patching</i>		1. Spalling	5. High steel
Low	Full-depth Concrete		2. D-Cracking	6. Polished agg
Moderate ●●●●●	Asphalt Patch		3. Popouts	7. Faulting
High ●●●●	Expansion joint		4. ASR	8. Long. crack

COMMENTS: Longitudinal joint is completely spalled and asphalt repaired in many spots; high steel in a few areas; large amount of polished aggregate; many popouts throughout site; large amount of small, tight cracks (possibly old shrinkage cracks)

CRACK SPACINGS:

<u>Slab 1</u>	<u>Slab 2</u>	<u>Slab 3</u>
J ₁ -C ₁ 84.0'	J ₂ -C ₁ 65.0'	J ₃ -C ₁ 19.0'
		C ₂ -C ₂ 12.0'
<u>Slab 4</u>	<u>Slab 5</u>	<u>Slab 6</u>
	J ₅ -C ₁ 26.0'	J ₆ -C ₁ 22.0'
	C ₁ -C ₂ 46.0'	C ₁ -P ₆ 24.0'

TYPICAL MRD SLAB: Slab 5



COMMENTS: Shrinkage-like cracking which is very tough to see, predominantly transverse; Polished agg (severe) in wheelpath; Popouts: ~ 2-3 per m²

Site 12

DATE: 9/10/1999

SITE #: 12

LOCATION: Route: US-27 SB; Starts @ Sta 843+45 (stationing in passing lane); Next to North Star Golf Course (next to 1st green and pond); across street from 4143 US-27 NB (white house with barn); Site ends a Rainbow Lake billboard, before Hayes Road and North Star driving range

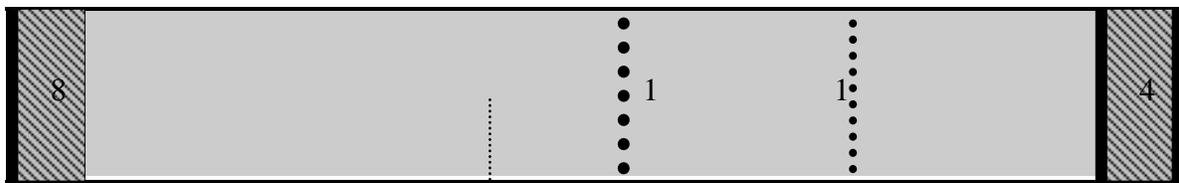
JOINT SPACING: 99' (30.2 m), asphalt shoulders



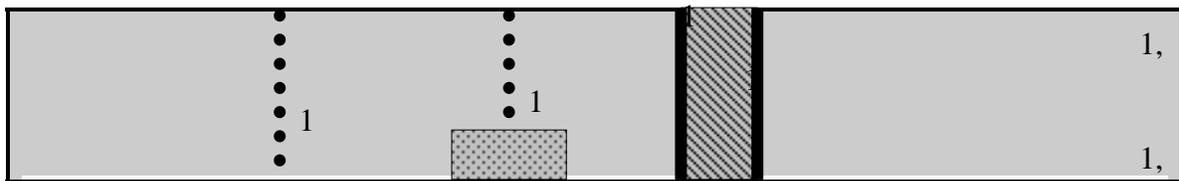
SLAB 1



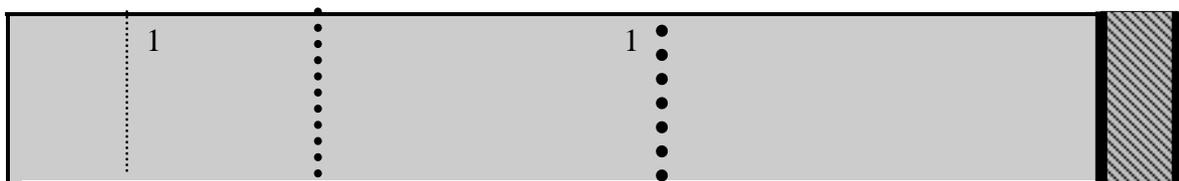
SLAB 2



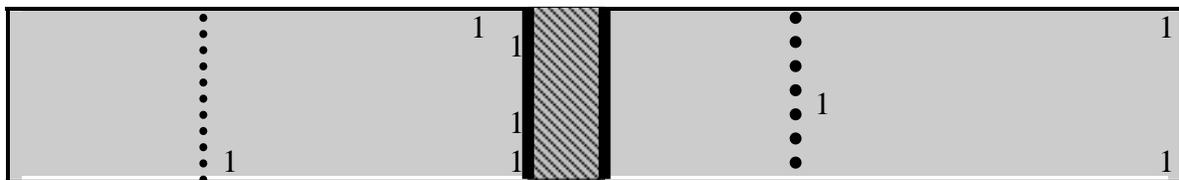
SLAB 3



SLAB 4



SLAB 5



SLAB 6

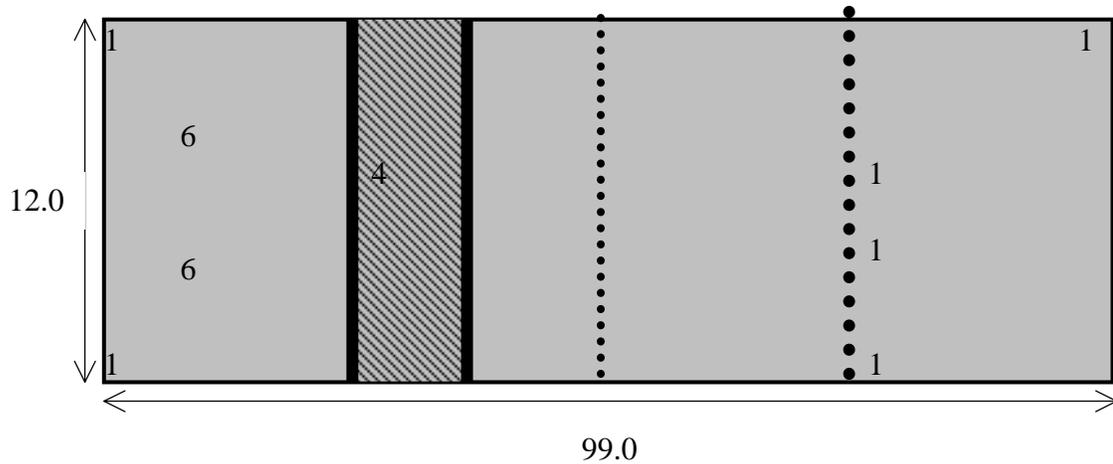
KEY: <i>Transverse Cracking</i>	<i>Patching</i>		1. Spalling	5. High steel
Low	Full-depth Concrete		2. D-Cracking	6. Polished agg
Moderate ●●●●●	Asphalt Patch		3. Popouts	7. Faulting
High ●●●●	Expansion joint		4. ASR	8. Long. crack

COMMENTS: Polished agg and tiny cracks (possibly old shrinkage cracking) throughout site

CRACK SPACINGS:

<u>Slab 1</u>		<u>Slab 2</u>		<u>Slab 3</u>	
J ₁ -C ₁	8.0'	J ₂ -P ₁	17.0'	J ₃ -P ₂	0.0'
C ₁ -C ₂	82.0'	P ₁ -P ₁	6.0'	P ₂ -P ₂	6.0'
C ₂ -J ₂	9.0'	P ₁ -C ₂	12.0'	P ₂ -C ₁	41.0'
		C ₂ -C ₃	38.0'	C ₁ -C ₂	11.0'
		C ₃ -J ₃	26.0'	C ₂ -C ₃	23.0'
				C ₃ -P ₃	15.0'
				P ₃ -P ₃	5.0'
				P ₃ -J ₄	0.0'
<u>Slab 4</u>		<u>Slab 5</u>		<u>Slab 6</u>	
J ₄ -C ₁	21.0'	J ₅ -C ₁	13.0'	J ₆ -C ₁	15.0'
C ₁ -C ₂	19.0'	C ₁ -C ₂	13.0'	C ₁ -P ₆	28.0'
C ₂ -P ₄	15.0'	C ₂ -C ₃	?	P ₆ -P ₆	6.0'
P ₄ -P ₄	7.0'	C ₃ -P ₅	?	P ₆ -C ₂	15.0'
P ₂ -J ₅	35.0'	P ₅ -P ₅	6.0'	C ₂ -C ₃	23.0'
		P ₃ -J ₆	0.0'	C ₃ -J ₇	35.0'

TYPICAL MRD SLAB: Slab 2



COMMENTS: Shrinkage-like cracking which is very tough to see, predominantly transverse; Popouts: ~ 3 per m²

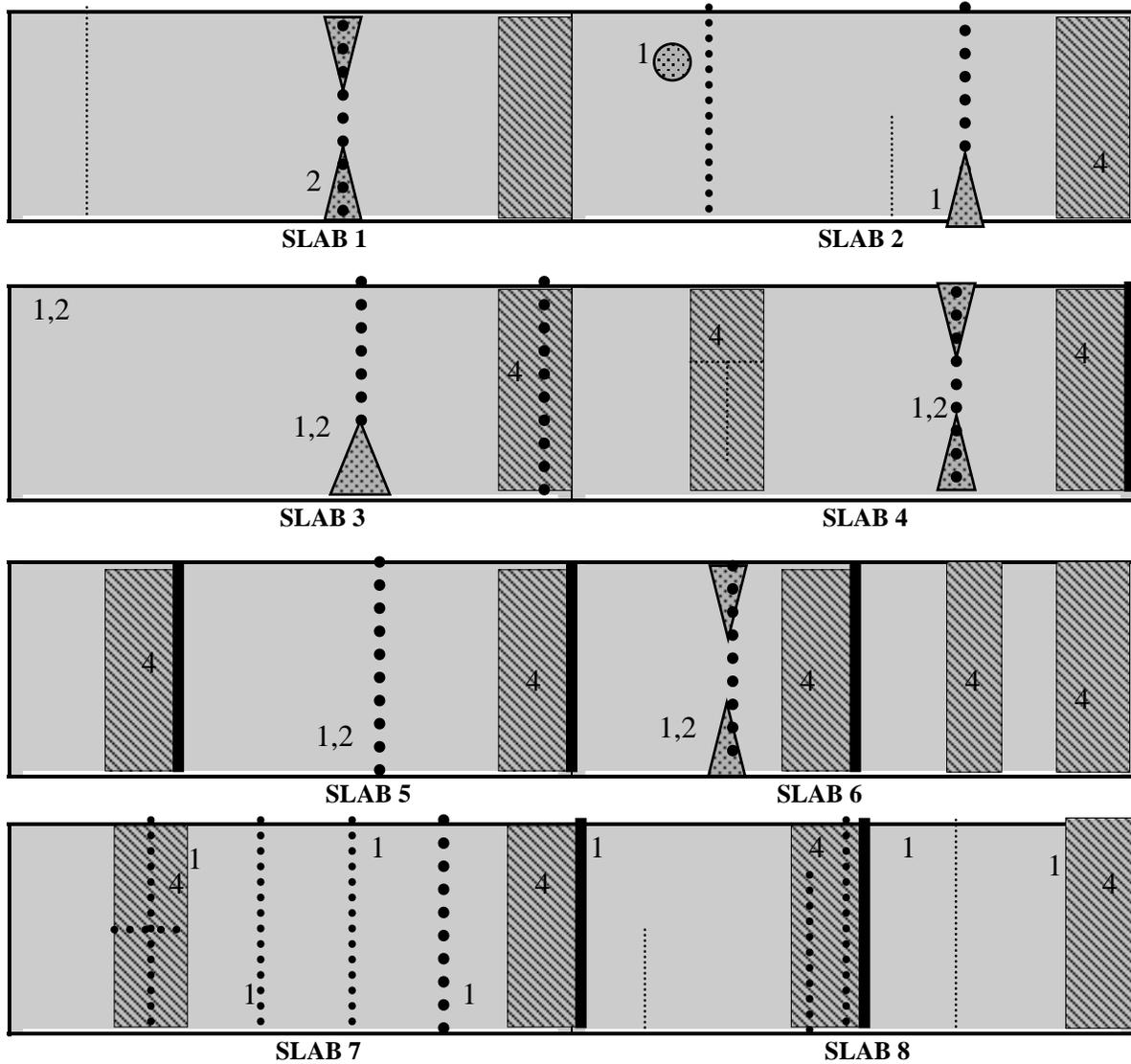
Site 13

DATE: 9/10/1999

SITE #: 13

LOCATION: Route: M-46 EB; Starts @ Sta 170+18; West of Edmore; East of "Reduced Speed 40 mph" sign; approximately 1/4 mile east of Edmore Auto Sales; One lane each way, no turn lane for traffic control purposes, fairly wide shoulder

JOINT SPACING: Approximately 75' (22.9 m), asphalt shoulders



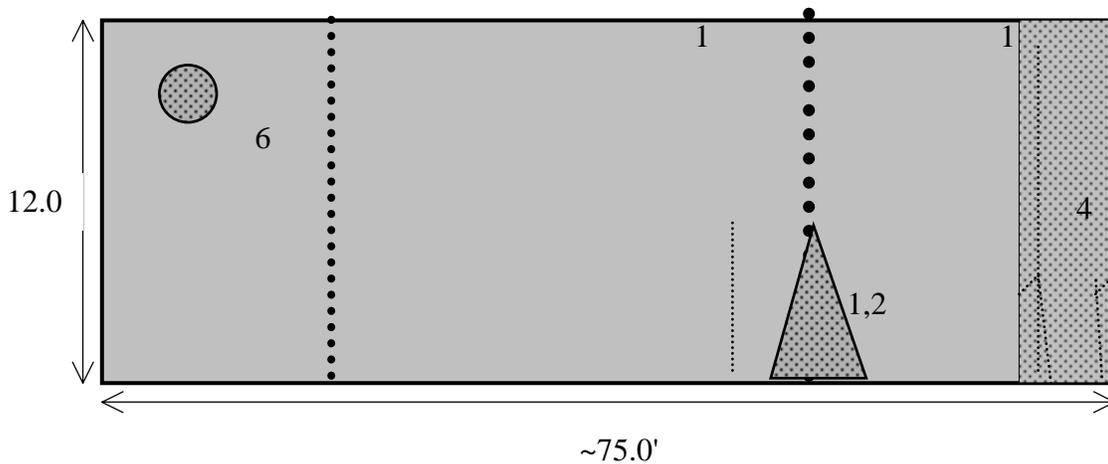
KEY: <i>Transverse Cracking</i>	<i>Patching</i>		1. Spalling	5. High steel
Low	.....	Full-depth Concrete	2. D-Cracking	6. Polished agg
Moderate	.....	Asphalt Patch	3. Popouts	7. Faulting
High	.....	Expansion joint	4. ASR	8. Long. crack

COMMENTS: All joints have been repaired by a full-depth patch, making joint spacing difficult to determine; ASR in most concrete patches; D-cracking on many severe cracks; Many popouts, high steel, and polished aggregate in the wheelpaths

CRACK SPACINGS:

<u>Slab 1</u>	<u>Slab 2</u>	<u>Slab 3</u>	<u>Slab 4</u>
J ₁ -C ₁ 12.0'	J ₂ -C ₁ 9.0'	J ₃ -C ₁ 50.0'	J ₄ -P ₁ 21.0'
C ₁ -C ₂ 44.0'	C ₁ -C ₂ 41.0'		P ₁ -C ₁ 39.0'
	C ₂ -C ₃ 5.0'		
<u>Slab 5</u>	<u>Slab 6</u>	<u>Slab 7</u>	<u>Slab 8</u>
J ₅ -P ₁ 14.0'	J ₆ -C ₁ 14.0'	J ₇ -P ₁ 9.0'	J ₈ -P ₁ 6.0'
P ₁ -C ₁ 38.0'	C ₁ -P ₁ 13.0'	P ₁ -P ₁ 14.0'	P ₁ -C ₁ 49.0'
		P ₁ -C ₁ 9.0'	
		C ₁ -C ₂ 6.0'	
		C ₂ -C ₃ 9.0'	

TYPICAL MRD SLAB: Slab 2



COMMENTS: ASR in patch; D-cracking near major crack; Polished agg (severe) in wheelpath; Popouts: ~ 3 per m²

Site 14

DATE: 10/5/1999

SITE #: 14

LOCATION: Route: M-81 EB; No station numbering; East of Caro; Starts 160' East of intersection of M-81 and Mcgregory/Lazell Road; Approximately 4.7 miles of M-81/M-24 intersection in Caro; One lane each way, no turn lane for traffic control purposes, gravel shoulder on rising grade

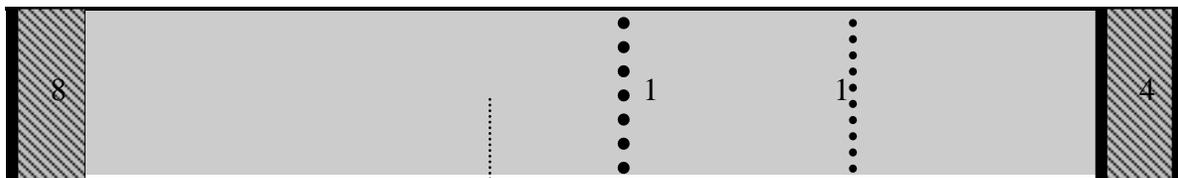
JOINT SPACING: Approximately 99' (30.2 m), gravel shoulders



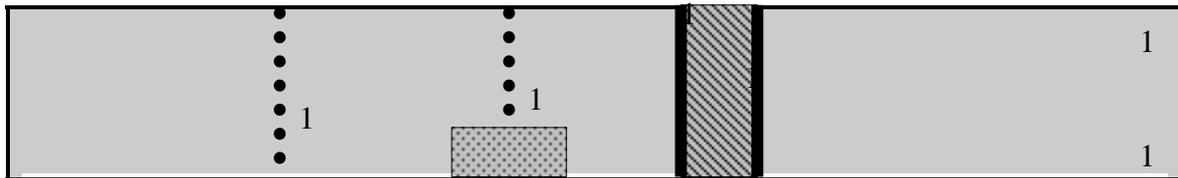
SLAB 1



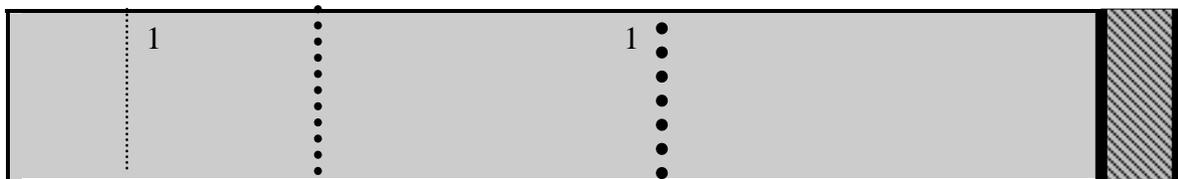
SLAB 2



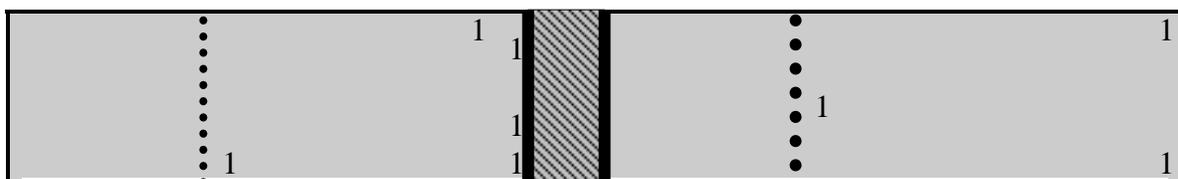
SLAB 3



SLAB 4



SLAB 5



SLAB 6

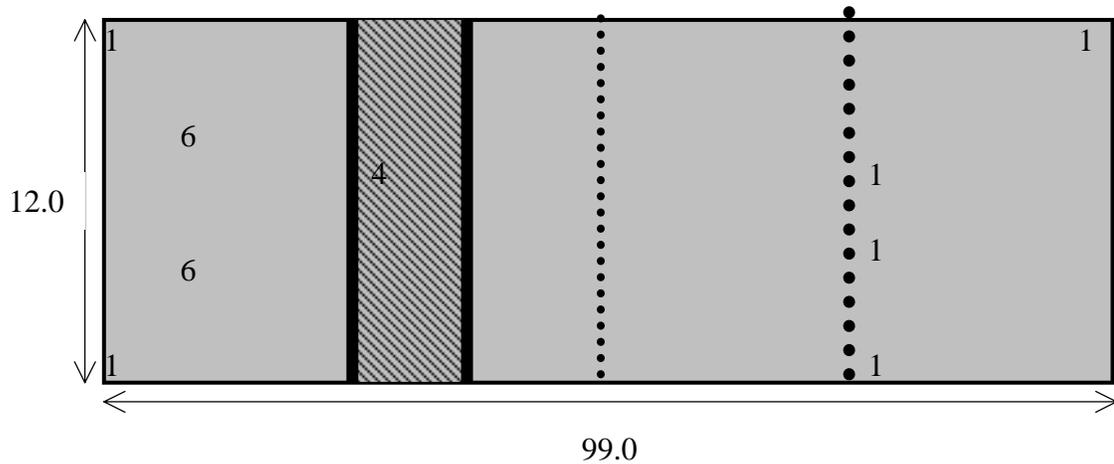
KEY: <i>Transverse Cracking</i>	<i>Patching</i>		1. Spalling	5. High steel
Low Moderate High ●●●●	Full-depth Concrete Asphalt Patch Expansion joint	 	2. D-Cracking 3. Popouts 4. ASR	6. Polished agg 7. Faulting 8. Long. crack

COMMENTS: Polished agg and tiny cracks (possibly old shrinkage cracking) throughout site

CRACK SPACINGS:

<u>Slab 1</u>	<u>Slab 2</u>	<u>Slab 3</u>
J ₁ -C ₁ 8.0'	J ₂ -P ₁ 17.0'	J ₃ -P ₂ 0.0'
C ₁ -C ₂ 82.0'	P ₁ -P ₁ 6.0'	P ₂ -P ₂ 6.0'
C ₂ -J ₂ 9.0'	P ₁ -C ₂ 12.0'	P ₂ -C ₁ 41.0'
	C ₂ -C ₃ 38.0'	C ₁ -C ₂ 11.0'
	C ₃ -J ₃ 26.0'	C ₂ -C ₃ 23.0'
		C ₃ -P ₃ 15.0'
		P ₃ -P ₃ 5.0'
		P ₃ -J ₄ 0.0'
<u>Slab 4</u>	<u>Slab 5</u>	<u>Slab 6</u>
J ₄ -C ₁ 21.0'	J ₅ -C ₁ 13.0'	J ₆ -C ₁ 15.0'
C ₁ -C ₂ 19.0'	C ₁ -C ₂ 13.0'	C ₁ -P ₆ 28.0'
C ₂ -P ₄ 15.0'	C ₂ -C ₃ ?	P ₆ -P ₆ 6.0'
P ₄ -P ₄ 7.0'	C ₃ -P ₅ ?	P ₆ -C ₂ 15.0'
P ₂ -J ₅ 35.0'	P ₅ -P ₅ 6.0'	C ₂ -C ₃ 23.0'
	P ₃ -J ₆ 0.0'	C ₃ -J ₇ 35.0'

TYPICAL MRD SLAB: Slab 2



COMMENTS: Shrinkage-like cracking, which is very tough to see, predominantly transverse;
Popouts: ~ 3 per m²

Site 17

DATE: 9/21/1999

SITE #: 17

LOCATION: Route: US-31 SB; South of Grand Haven; Just south of Hayes Street Light; 32' south of turnaround sign "Hayes St East, North 31"; Next to "Michigan Apples 4 Miles on Right at Light" sign; No station numbers (diamond ground) or MP numbers

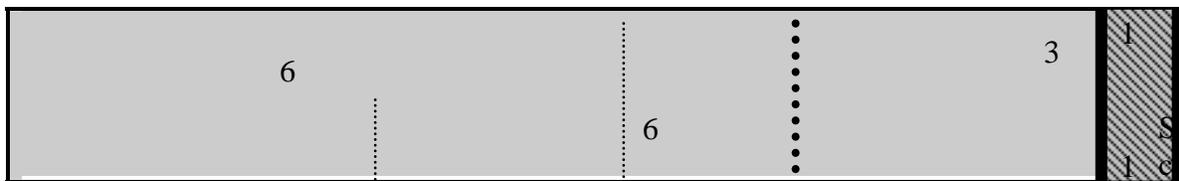
JOINT SPACING: 99' (30.2 m), asphalt shoulders



SLAB 1



SLAB 2



SLAB 3



SLAB 4



SLAB 5



SLAB 6

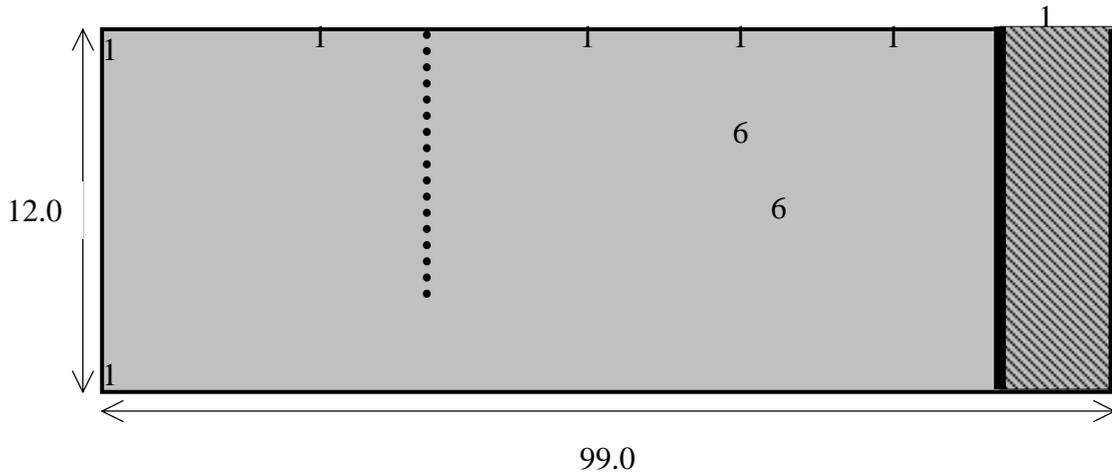
KEY: <i>Transverse Cracking</i>	<i>Patching</i>		1. Spalling	5. High steel
Low	Full-depth Concrete		2. D-Cracking	6. Polished agg
Moderate●●●●●	Asphalt Patch		3. Poor sealant	7. Faulting
High ●●●●●	Expansion joint		4. ASR	8. Long. crack

COMMENTS: Entire site is diamond ground, shrinkage cracking throughout site (tough to see due to surface texture after grinding)

CRACK SPACINGS:

<u>Slab 1</u>	<u>Slab 2</u>	<u>Slab 3</u>
J ₁ -P ₁ 42.0'	J ₂ -P ₁ 93.0'	J ₃ -C ₁ 35.0'
		C ₁ -C ₂ 21.0'
		C ₂ -C ₃ 15.0'
		C ₃ -P ₁ 22.0'
<u>Slab 4</u>	<u>Slab 5</u>	<u>Slab 6</u>
J ₄ -P ₁ 93.0'	J ₅ -P ₁ 93.0'	J ₆ -C ₁ 35.0'
	C ₁ -C ₂ 13.0'	C ₁ -P ₁ 58.0'

TYPICAL MRD SLAB: Slab 6



COMMENTS: Shrinkage-like cracking throughout slab; Popouts: ~ 1.5 per m² - could be due to diamond grinding; joint before patch is completely missing sealant.

Site 18

DATE: 9/21/1999

SITE #: 18

LOCATION: Route: I-196 SB; South of Holland; Just south of MP 42; Starts @ Station 517+54; Next to "Saugatuck Dunes State Park" sign

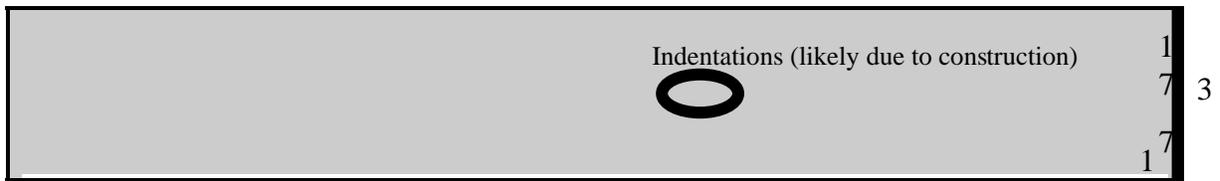
JOINT SPACING: 99' (30.2 m), asphalt shoulders



SLAB 1



SLAB 2



SLAB 3



SLAB 4



SLAB 5



SLAB 6

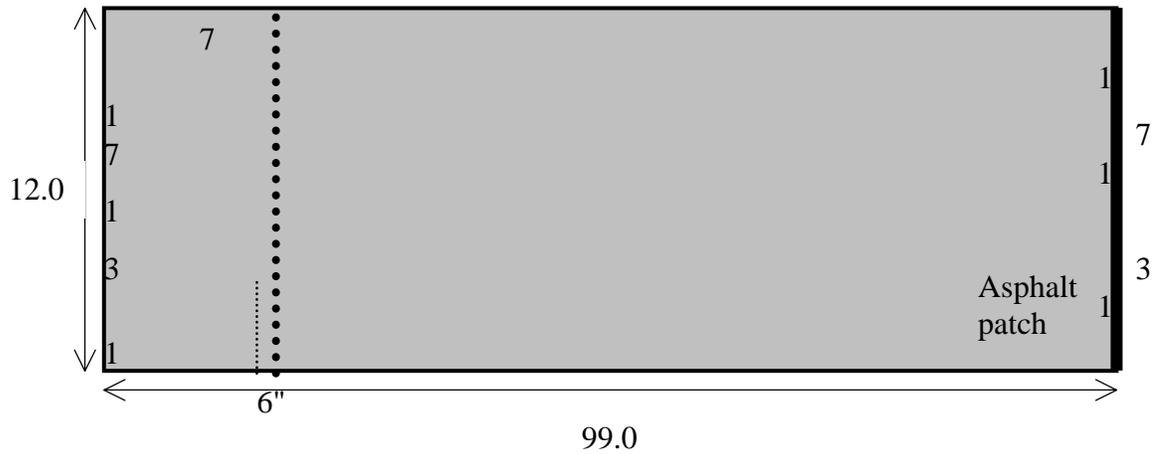
KEY: <i>Transverse Cracking</i>	<i>Patching</i>		1. Spalling	5. High steel
Low	Full-depth Concrete 		2. D-Cracking	6. Polished agg
Moderate●●●●●	Asphalt Patch 		3. Poor sealant	7. Faulting
High ●●●●●	Expansion joint 		4. ASR	8. Long. crack

COMMENTS: Large amount of shrinkage cracking and polished agg throughout site

CRACK SPACINGS:

<u>Slab 1</u>	<u>Slab 2</u>	<u>Slab 3</u>
J ₁ -C ₁ 60.0'?	J ₂ -P ₁ 48.0'	
	P ₁ -C ₁ 14.0'	
<u>Slab 4</u>	<u>Slab 5</u>	<u>Slab 6</u>
J ₄ -C ₁ 16.0'		J ₆ -P ₁ 93.0'

TYPICAL MRD SLAB: Slab 4



COMMENTS: Shrinkage-like cracking throughout slab; Popouts: ~ 0.5 per m²; Polished agg in wheelpath

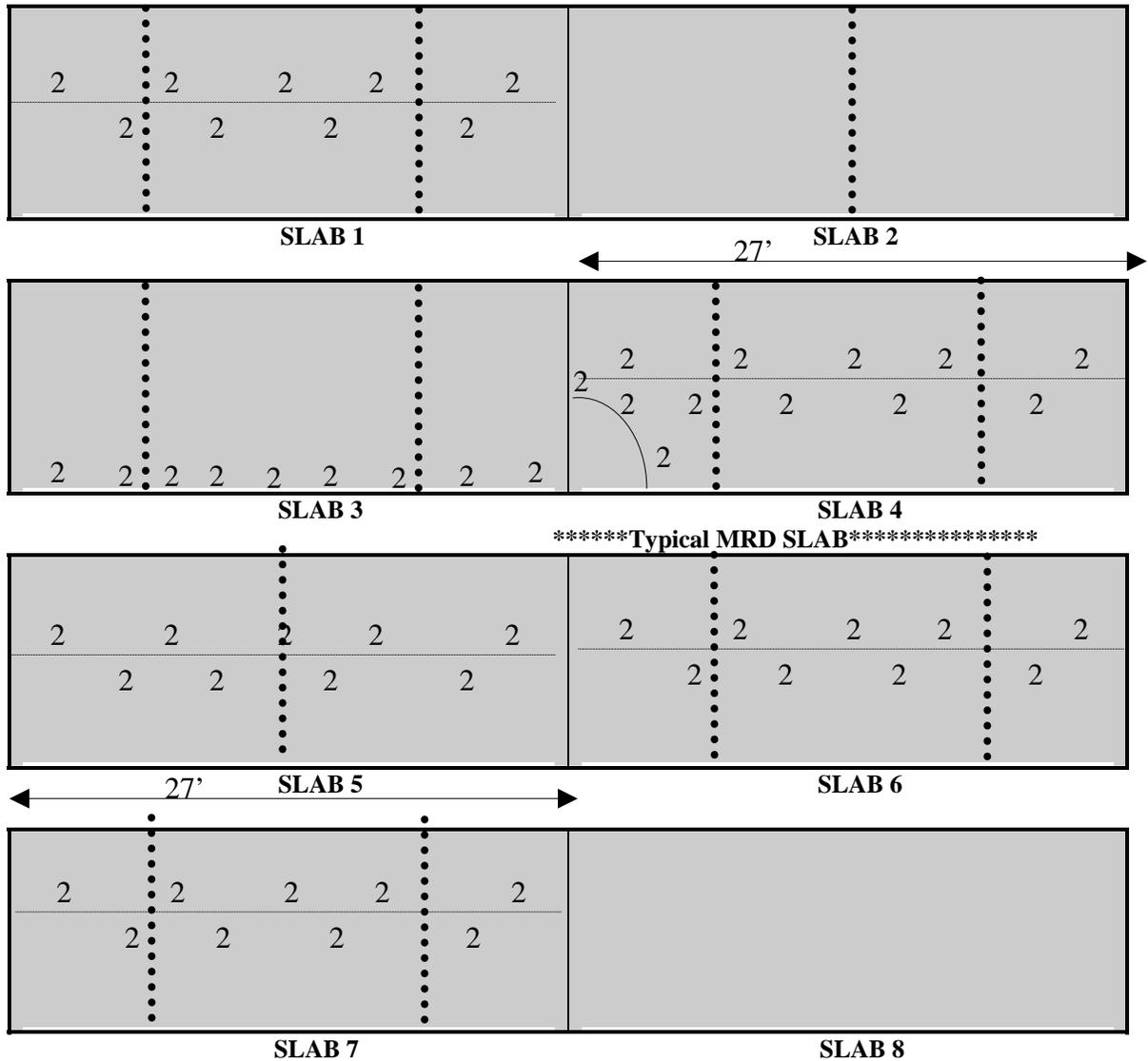
Site 19

DATE: 08/21/2000

SITE #: 19

LOCATION: M-53 North; Starts @ Sta 517+57; Between 17th and 18th Mile Road, Just in front of Total Gas station.

JOINT SPACING: 71' (21.6 m), asphalt shoulders



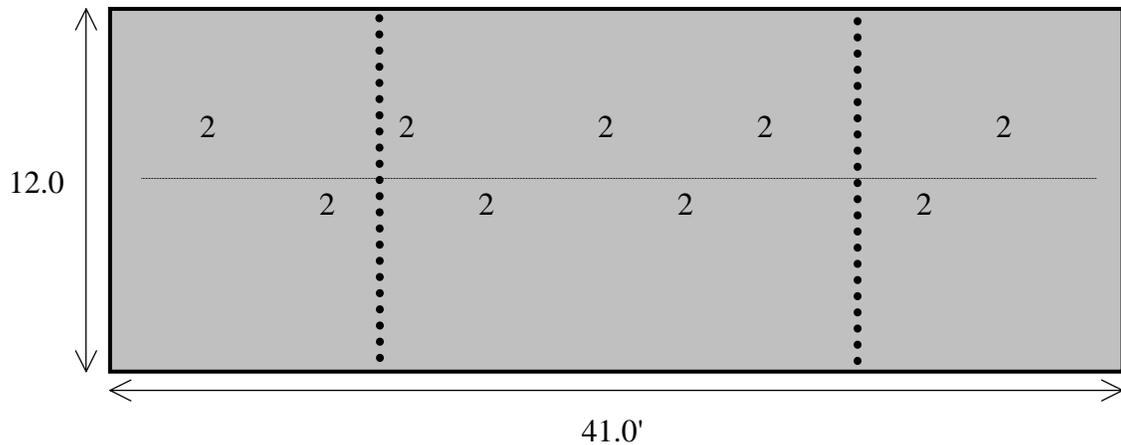
KEY: <i>Transverse Cracking..</i>	<i>Patching</i>		1. Spalling	5. High steel
Low	Full-depth Concrete		2. D-Cracking	6. Polished agg
Moderate	Asphalt Patch		3. Poor sealant	7. Faulting
High	Expansion joint		4. ASR	8. Long. crack

COMMENTS: Third point cracking in every slab; ASR kind of cracking is visible along the longitudinal crack and by the edge of the pavement.

CRACK SPACINGS:

<u>Slab 1</u>	<u>Slab 2</u>	<u>Slab 3</u>	<u>Slab 4</u>
J ₁ -C ₁ 13'0"	J ₂ -C ₁ 14'0"	J ₃ -C ₁ 14'0"	J ₄ -C ₁
C ₁ -C ₂ 14'0"		C ₁ -C ₂ 26'0"	C ₁ -P ₁
Edge-LC 6'5"			
<u>Slab 5</u>	<u>Slab 6</u>	<u>Slab 7</u>	
J ₅ -P ₁ 16'0"	J ₆ -C ₁ 13'6"	J ₇ -C ₁ 12'10"	
	C ₁ -C ₂ 13'8"	C ₁ -C ₂ 14'2"	
		P ₁ -P ₂	
		P ₂ -P ₂	
		P ₂ -P ₃	

TYPICAL MRD SLAB: Slab 4



COMMENTS: General comments apply. Longitudinal crack at the middle of the slab and D-cracking is observed along the longitudinal crack.

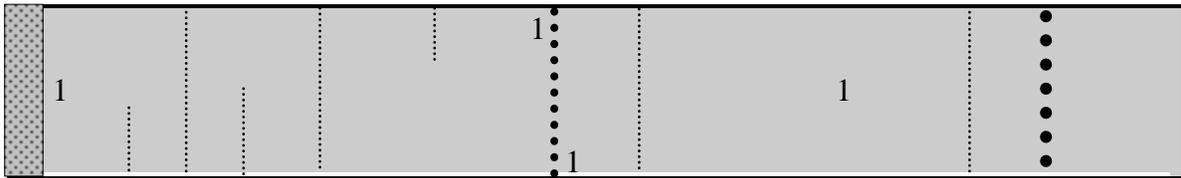
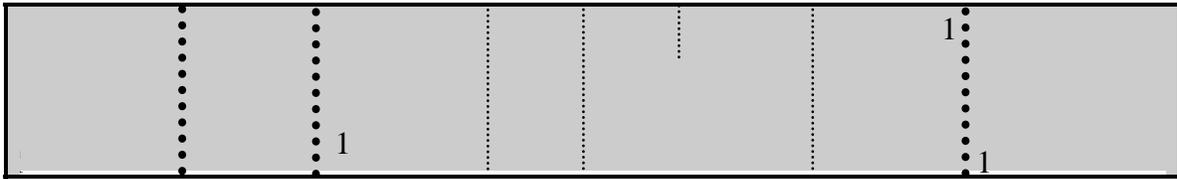
Site 22

DATE: 5/16/2000

SITE #: 22

LOCATION: Route: I-75 NB; Starts @ Sta 277+21; North of Mackinaw Bridge and North of MP 349;

JOINT SPACING: 99' (30.2 m), asphalt shoulders



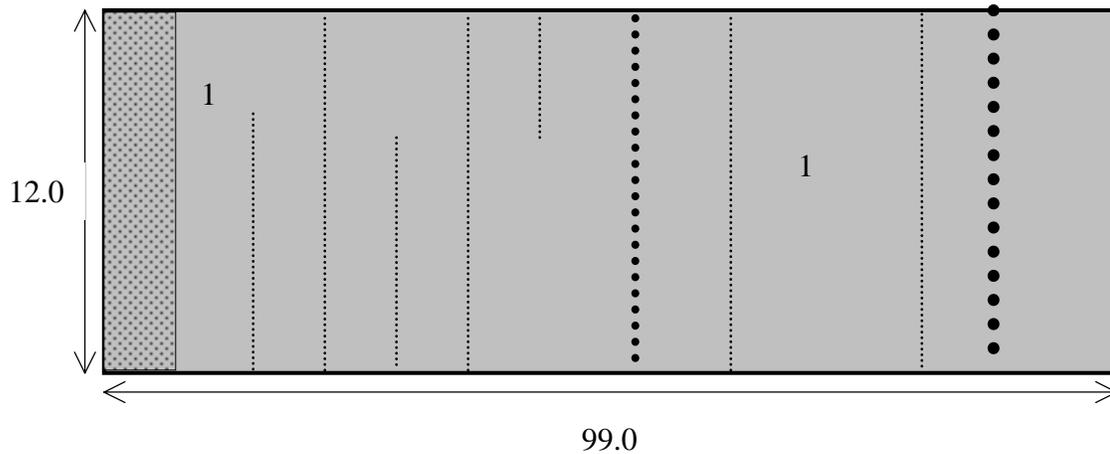
KEY: <i>Transverse Cracking</i>	<i>Patching</i>		1. Spalling	5. High steel
Low 	Full-depth Concrete 		2. D-Cracking	6. Polished agg
Moderate 	Asphalt Patch 		3. Popouts	7. Faulting
High •••••	Expansion joint 		4. ASR	8. Long. crack

COMMENTS: Longitudinal joint is completely spalled; large amount of polished aggregate; many popouts throughout site; large amount of small, tight cracks (possibly old shrinkage cracks)

CRACK SPACINGS:

<u>Slab 1</u>	<u>Slab 2</u>	<u>Slab 3</u>
J ₁ -C ₁	J ₂ -C ₁	J ₃ -C ₁ C ₂ -C ₂
<u>Slab 4</u>	<u>Slab 5</u>	<u>Slab 6</u>
	J ₅ -C ₁ C ₁ -C ₂	J ₆ -C ₁ C ₁ -P ₆

TYPICAL MRD SLAB: Slab 1



COMMENTS: Shrinkage-like cracking which is very tough to see, predominantly transverse; Polished agg (severe) in wheelpath; Popouts: ~ 1 per m²

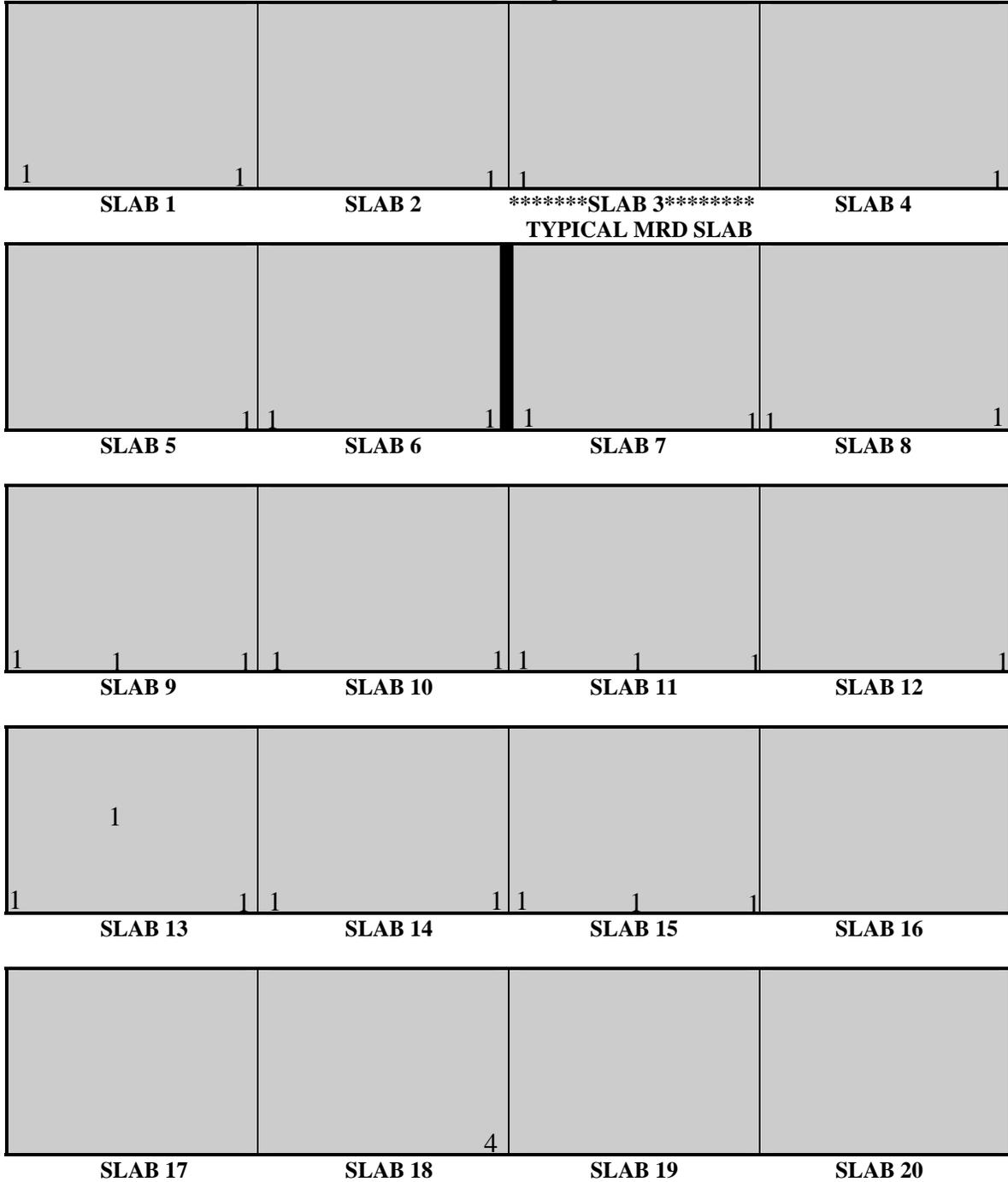
Site 26A

DATE: 5/4/2000

SITE #: 26A

LOCATION: Route: US-10 WB; Starts @ Sta 137+08; Before Next Right Sign;

JOINT SPACING: Varied Between 18', 12', 13' with Asphalt Concrete shoulders



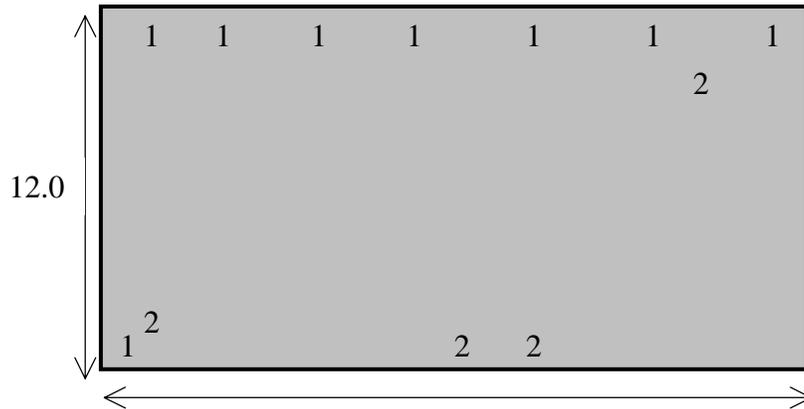
KEY: <i>Transverse Cracking</i>	<i>Patching</i>		1. Spalling	5. High steel
Low	Full-depth Concrete		2. D-Cracking	6. Polished agg
Moderate ●●●●●	Asphalt Patch		3. Poor sealant	7. Faulting
High ●●●●	Expansion joint		4. ASR	8. Long. crack

COMMENTS: Longitudinal joint completely spalled, Possible D-cracking at joints and cracks, Popouts: ~2 per m²

CRACK SPACINGS:

<u>Slab 1</u>	<u>Slab 2</u>	<u>Slab 3</u>	<u>Slab 4</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 5</u>	<u>Slab 6</u>	<u>Slab 7</u>	<u>Slab 8</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 9</u>	<u>Slab 10</u>	<u>Slab 11</u>	<u>Slab 12</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 13</u>	<u>Slab 14</u>	<u>Slab 15</u>	<u>Slab 16</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 17</u>	<u>Slab 18</u>	<u>Slab 19</u>	<u>Slab 20</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃

TYPICAL MRD SLAB: Slab 3



13.0

COMMENTS: Longitudinal joint completely spalled; Possible D-cracking at joints; Map cracking near joint and shoulder; Popouts: ~2 per m²

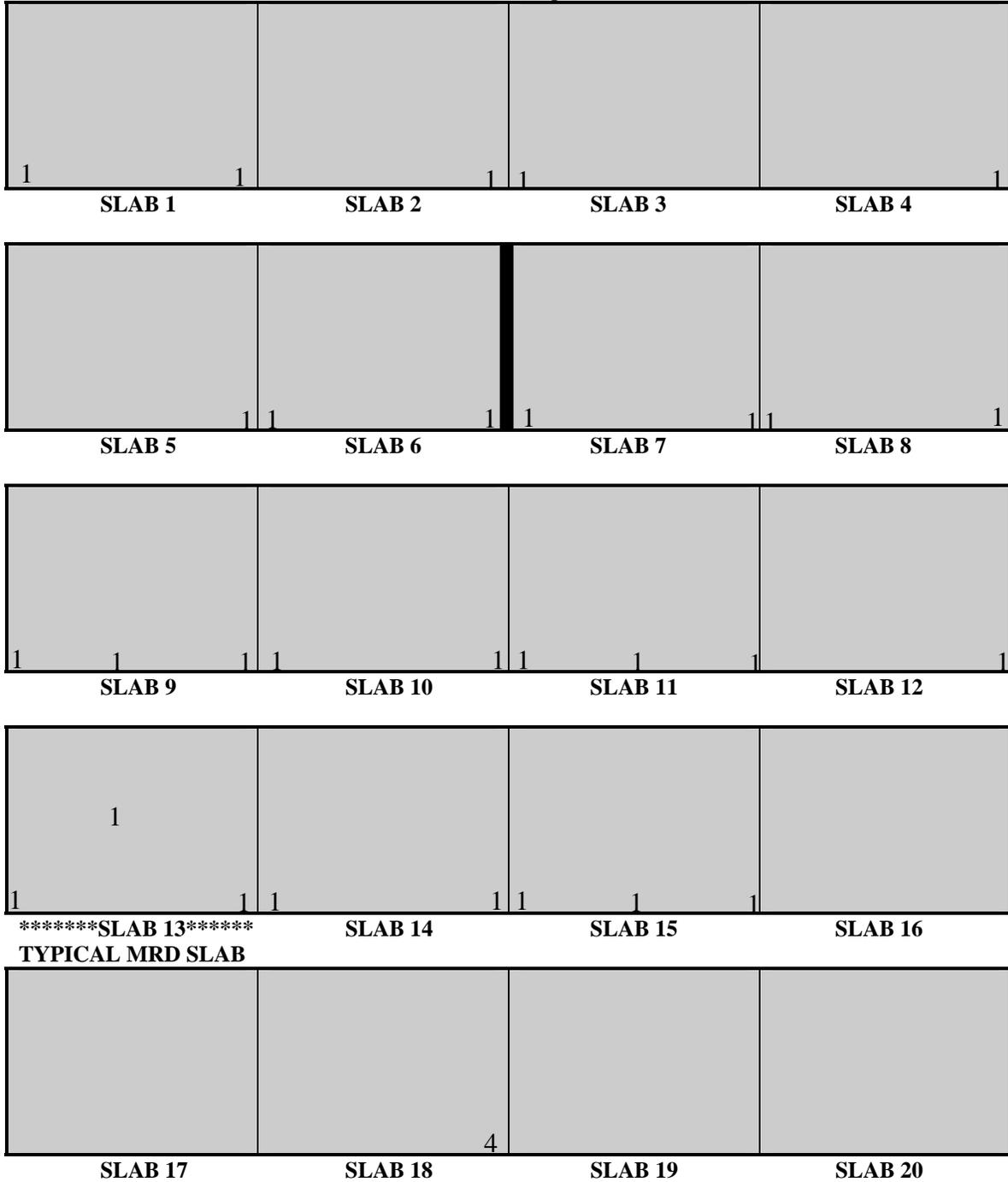
Site 26B

DATE: 5/4/2000

SITE #: 26B

LOCATION: Route: US-10 WB; Starts @ Sta 137+08; Before Next Right Sign;

JOINT SPACING: Varied Between 18', 12', 13' with Asphalt Concrete shoulders



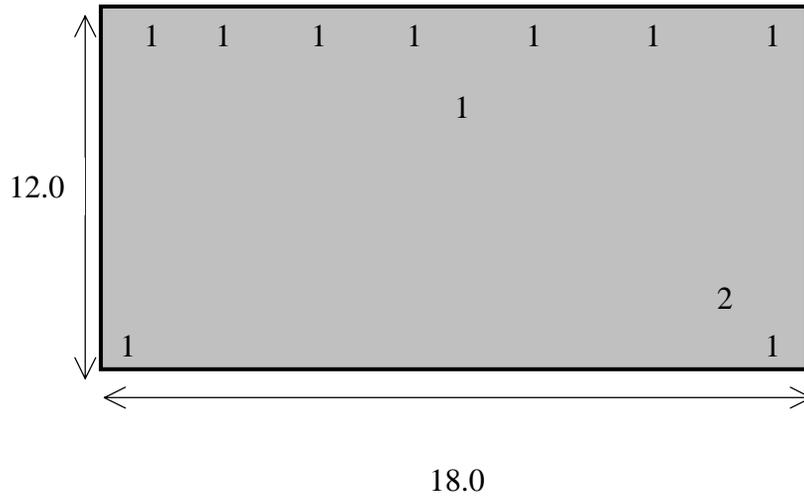
KEY: <i>Transverse Cracking</i>	<i>Patching</i>		1. Spalling	5. High steel
Low	Full-depth Concrete 		2. D-Cracking	6. Polished agg
Moderate ●●●●●	Asphalt Patch 		3. Poor sealant	7. Faulting
High ●●●●	Expansion joint 		4. ASR	8. Long. crack

COMMENTS: Longitudinal joint completely spalled, Possible D-cracking at joints and cracks, Popouts: ~2 per m²

CRACK SPACINGS:

<u>Slab 1</u>	<u>Slab 2</u>	<u>Slab 3</u>	<u>Slab 4</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 5</u>	<u>Slab 6</u>	<u>Slab 7</u>	<u>Slab 8</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 9</u>	<u>Slab 10</u>	<u>Slab 11</u>	<u>Slab 12</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 13</u>	<u>Slab 14</u>	<u>Slab 15</u>	<u>Slab 16</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 17</u>	<u>Slab 18</u>	<u>Slab 19</u>	<u>Slab 20</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃

TYPICAL MRD SLAB: Slab 13



COMMENTS: Longitudinal joint completely spalled; Possible D-cracking at joints; Map cracking near joint and shoulder; Popouts: ~2 per m²

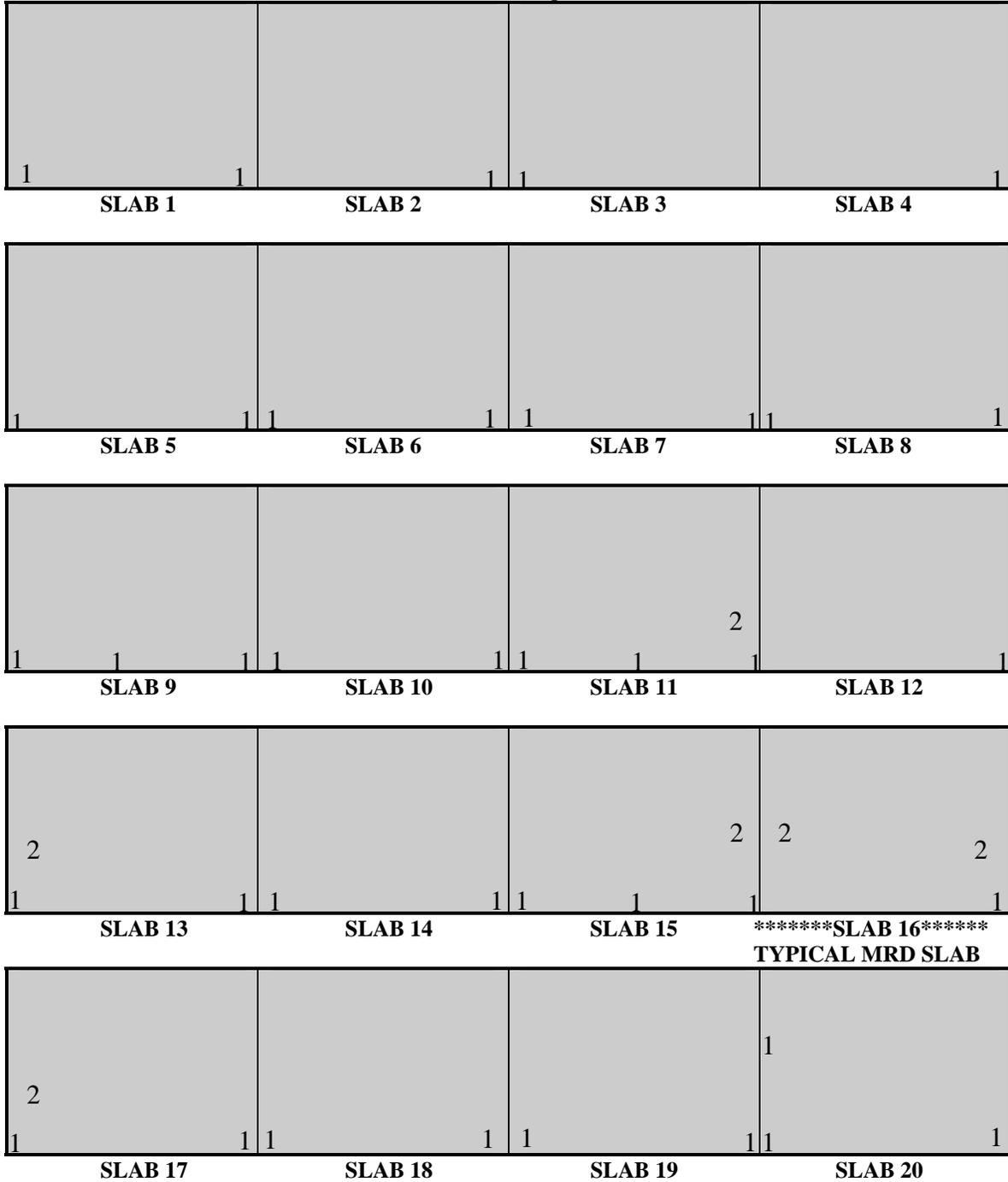
Site 27

DATE: 5/4/2000

SITE #: 27

LOCATION: Route: US-10 WB; Starts @ Sta 114+00; After Next Right Sign;

JOINT SPACING: Varied Between 18', 12', 13' with Asphalt Concrete shoulders



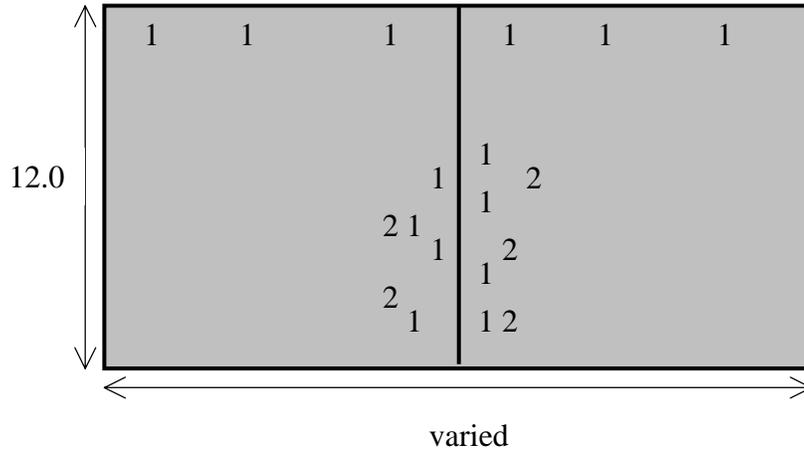
KEY: <i>Transverse Cracking</i>	<i>Patching</i>		1. Spalling	5. High steel
Low 	Full-depth Concrete 		2. D-Cracking	6. Polished agg
Moderate 	Asphalt Patch 		3. Poor sealant	7. Faulting
High •••••	Expansion joint 		4. ASR	8. Long. crack

COMMENTS: Same as 26A and B although the spalling is more severe.

CRACK SPACINGS:

<u>Slab 1</u>	<u>Slab 2</u>	<u>Slab 3</u>	<u>Slab 4</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 5</u>	<u>Slab 6</u>	<u>Slab 7</u>	<u>Slab 8</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 9</u>	<u>Slab 10</u>	<u>Slab 11</u>	<u>Slab 12</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 13</u>	<u>Slab 14</u>	<u>Slab 15</u>	<u>Slab 16</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃
<u>Slab 17</u>	<u>Slab 18</u>	<u>Slab 19</u>	<u>Slab 20</u>
J ₁ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₂ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₃ -C ₁ C ₁ -C ₂ C ₂ -C ₃	J ₄ -C ₁ C ₁ -C ₂ C ₂ -C ₃

TYPICAL MRD SLAB: Slab 15/16



COMMENTS: Same as 26A and B although the spalling is more severe.

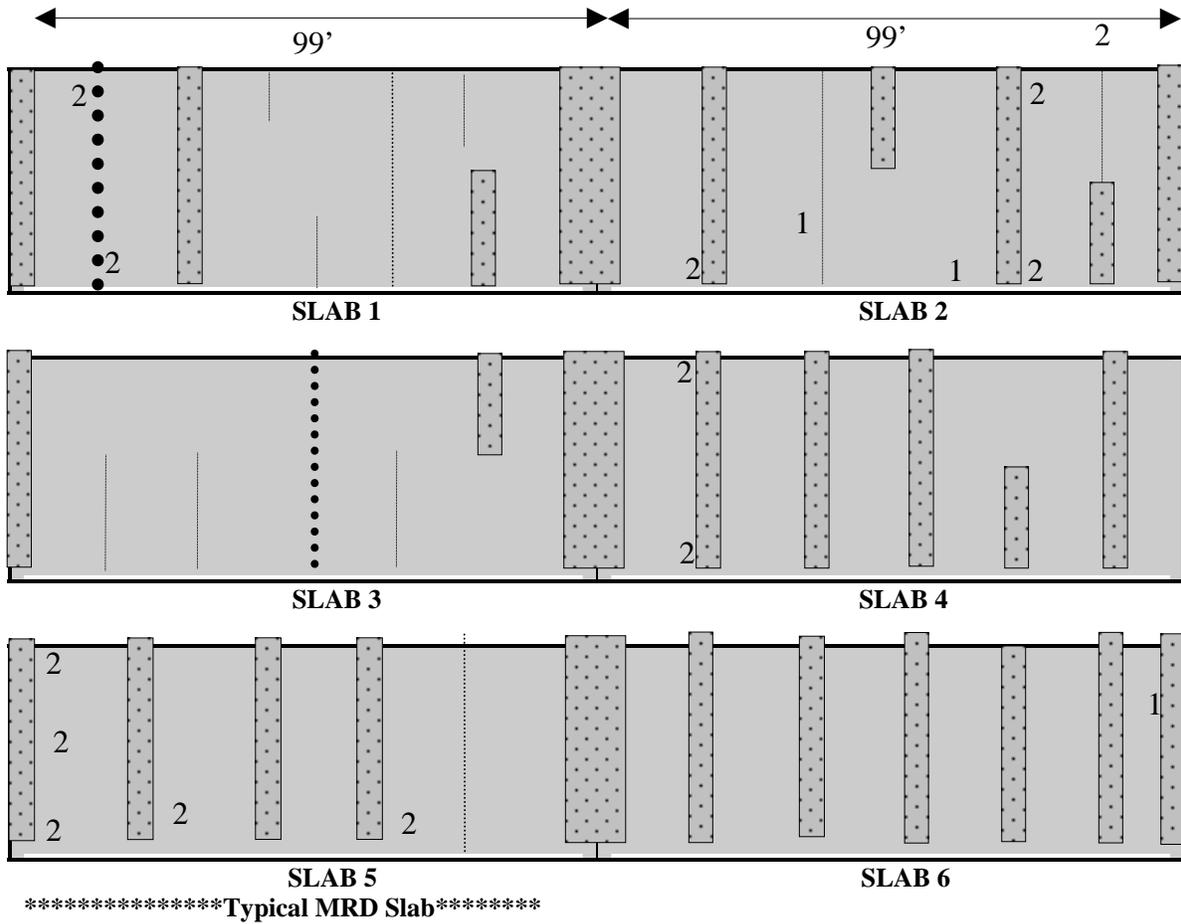
Site 28

DATE: 05/23/2000

SITE #: 28

LOCATION: Route: US-27 SB; Starts @ Sta 519+07; Between MP 155 & 156; Just North of Entrance Ramp;

JOINT SPACING: 99', asphalt shoulders



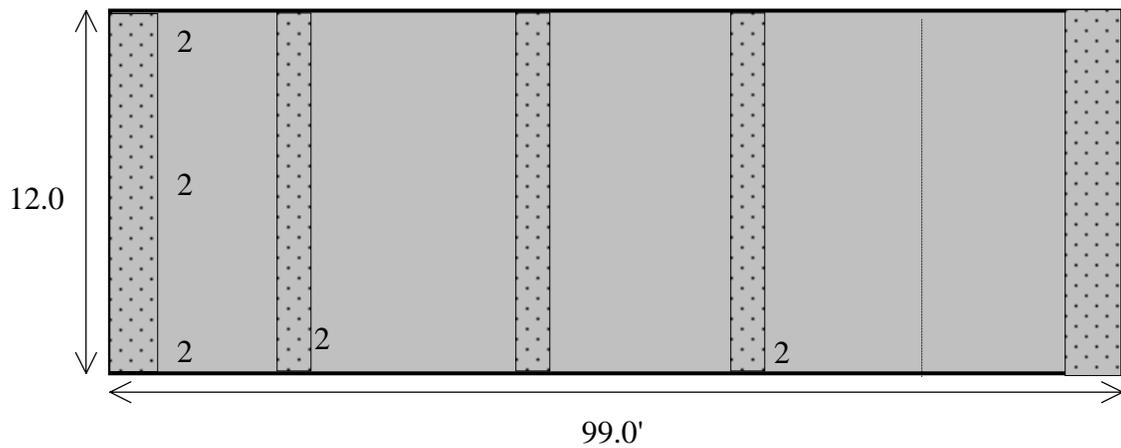
KEY: <i>Transverse Cracking</i>	Low	..... ●●●●●	<i>Patching</i>	Full-depth Concrete		1. Spalling	5. High steel
	Moderate	●●●●	Asphalt Patch	Expansion joint		2. D-Cracking	6. Polished agg
	High	●●●●	Asphalt Patch	Expansion joint		3. Poor sealant	7. Faulting
						4. ASR	8. Long. crack

COMMENTS: Most of the Transverse Cracks are asphalt patched. Spalling on the Longitudinal joints (every 6 feet) but already been patched too. Popouts occurred here and there.

CRACK SPACINGS:

<u>Slab 1</u>	<u>Slab 2</u>	<u>Slab 3</u>	<u>Slab 4</u>
J ₁ -C ₁	J ₂ -C ₁ 38.0'	J ₃ -C ₁	J ₄ -C ₁ 38.0'
C ₁ -C ₂			C ₁ -P ₁ 9.0'
C ₂ -P ₁			
P ₁ -P ₁			
P ₁ -C ₃			
<u>Slab 5</u>	<u>Slab 6</u>		
J ₅ -P ₁	J ₅ -P ₁		
P ₁ -P ₁	P ₁ -P ₁		
P ₁ -P ₂	P ₁ -P ₂		
P ₂ -P ₂ 6.0'	P ₂ -P ₂ 6.0'		
P ₂ -C ₁ 10.0'	P ₂ -C ₁ 10.0'		

TYPICAL MRD SLAB: Slab 3



COMMENTS: General comments apply; Chip and seal repairs extensive along longitudinal joint; Polished agg (severe) in wheelpath; Popouts: ~ 1-2 per m²

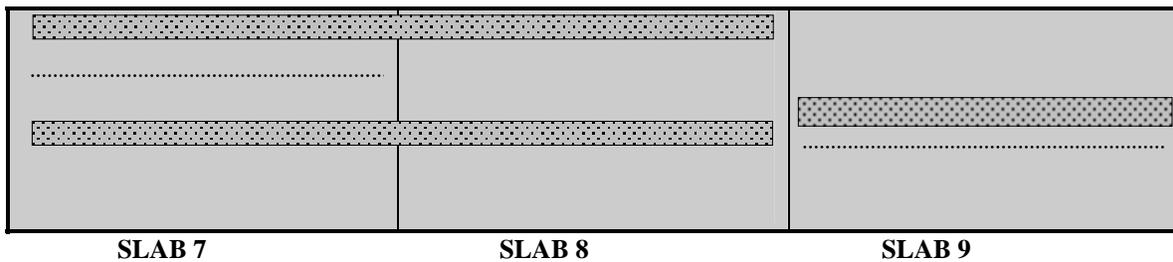
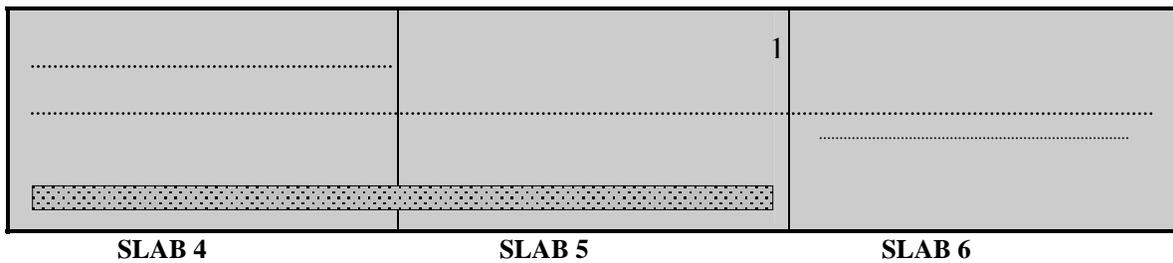
Site 29

DATE: 06/29/2000

SITE #: 29

LOCATION: I-275 SB, Exit 11A, South Huron Road towards East and ends at Willow Metropark. Three lanes road is approaching toward the park.

JOINT SPACING: 74' and 10' concrete shoulder.



KEY: <i>Trans./Lon. Cracking</i>	<i>Patching</i>		1. Spalling	5. High steel
Low	Full-depth Concrete		2. D-Cracking	6. Polished agg
Moderate ●●●●●	Asphalt Patch		3. Poor sealant	7. Faulting
High ●●●●	Expansion joint		4. ASR	8. Long. crack

COMMENTS: Each of the longitudinal cracking exhibits D-Cracking. Most of the slab has D-Cracking at Longitudinal cracking and at longitudinal joints. Some of the cracks are asphalt patched.

CRACK SPACINGS:

Slab 1

J₁-C₁
C₁-C₂
C₂-P₁
P₁-C₃

Slab 2

J₂-C₁
C₁-C₂
C₂-C₃

Slab 3

J₃-C₁
C₁-C₂
C₂-C₃

Slab 4

J₄-C₁
C₁-C₂
C₂-C₃

Slab 5

J₁-C₁
C₁-C₂
C₂-C₃

Slab 6

J₂-C₁
C₁-C₂
C₂-C₃

Slab 7

J₃-C₁
C₁-C₂
C₂-C₃

Slab 8

J₄-C₁
C₁-C₂
C₂-C₃

Slab 9

J₁-C₁
C₁-C₂
C₂-C₃

Slab 10

J₂-C₁
C₁-C₂
C₂-C₃

Slab 11

J₃-C₁
C₁-C₂
C₂-C₃

Slab 12

J₄-C₁
C₁-C₂
C₂-C₃

Slab 13

J₁-C₁
C₁-C₂
C₂-C₃

Slab 14

J₂-C₁
C₁-C₂
C₂-C₃

Slab 15

J₃-C₁
C₁-C₂
C₂-C₃

Slab 16

J₄-C₁
C₁-C₂
C₂-C₃

Slab 17

J₁-C₁
C₁-C₂
C₂-C₃

Slab 18

J₂-C₁
C₁-C₂
C₂-C₃

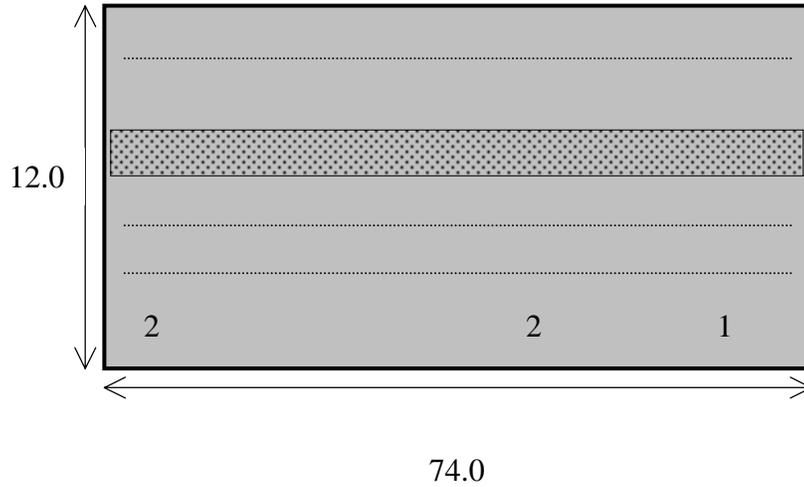
Slab 19

J₃-C₁
C₁-C₂
C₂-C₃

Slab 20

J₄-C₁
C₁-C₂
C₂-C₃

TYPICAL MRD SLAB: Slab 2/3



COMMENTS: Longitudinal cracking in slab due to connecting ASR-like cracks; Severe ASR-like cracking throughout entire slab; Popouts: 0.5 per m².