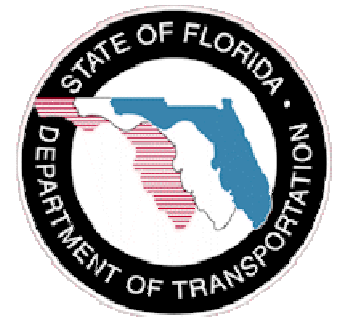


Bridge Fire – Lake County

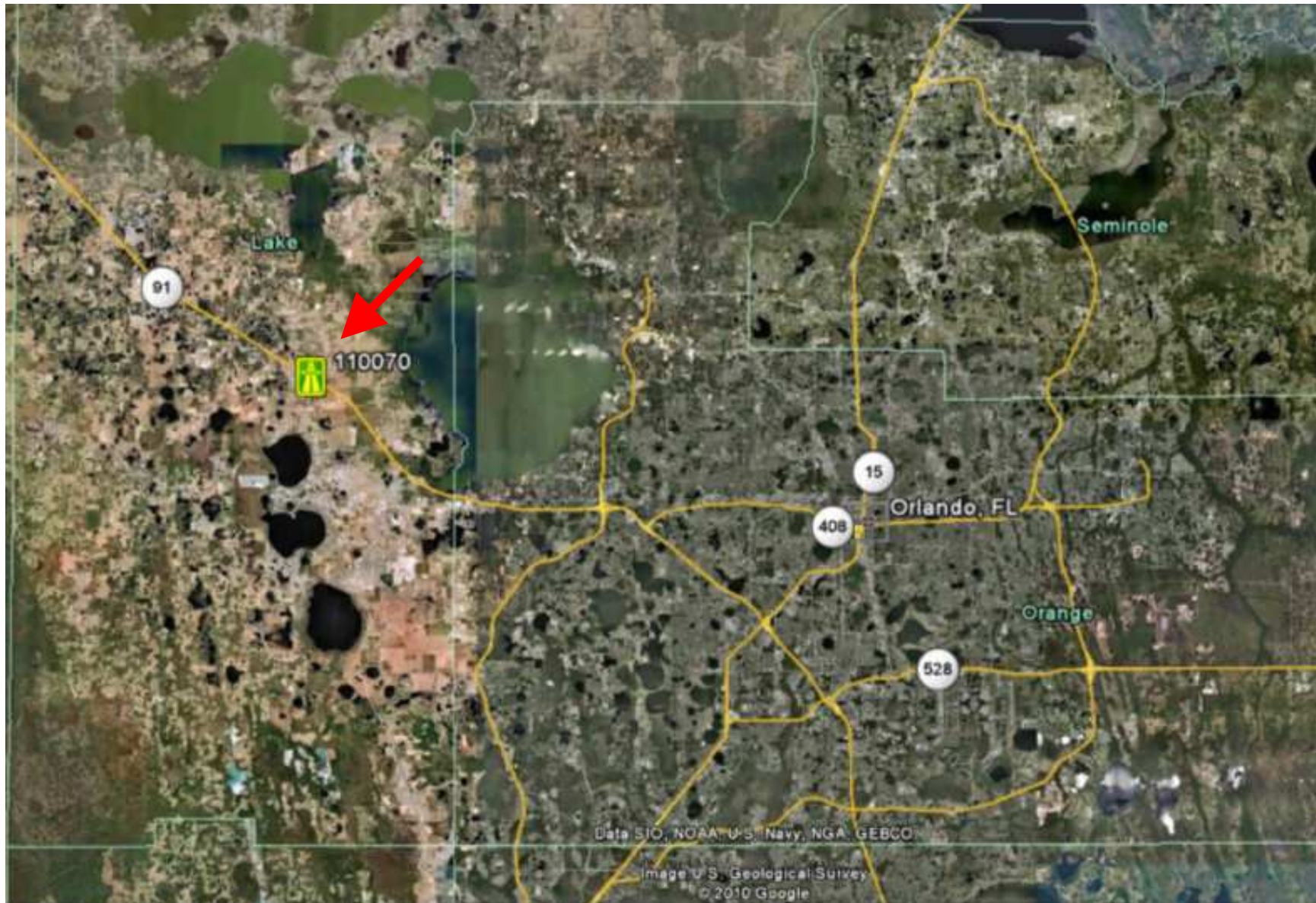
MP 282 – Turnpike over CR 561



Aran Lessard
Florida's Turnpike Enterprise
Structures Maintenance

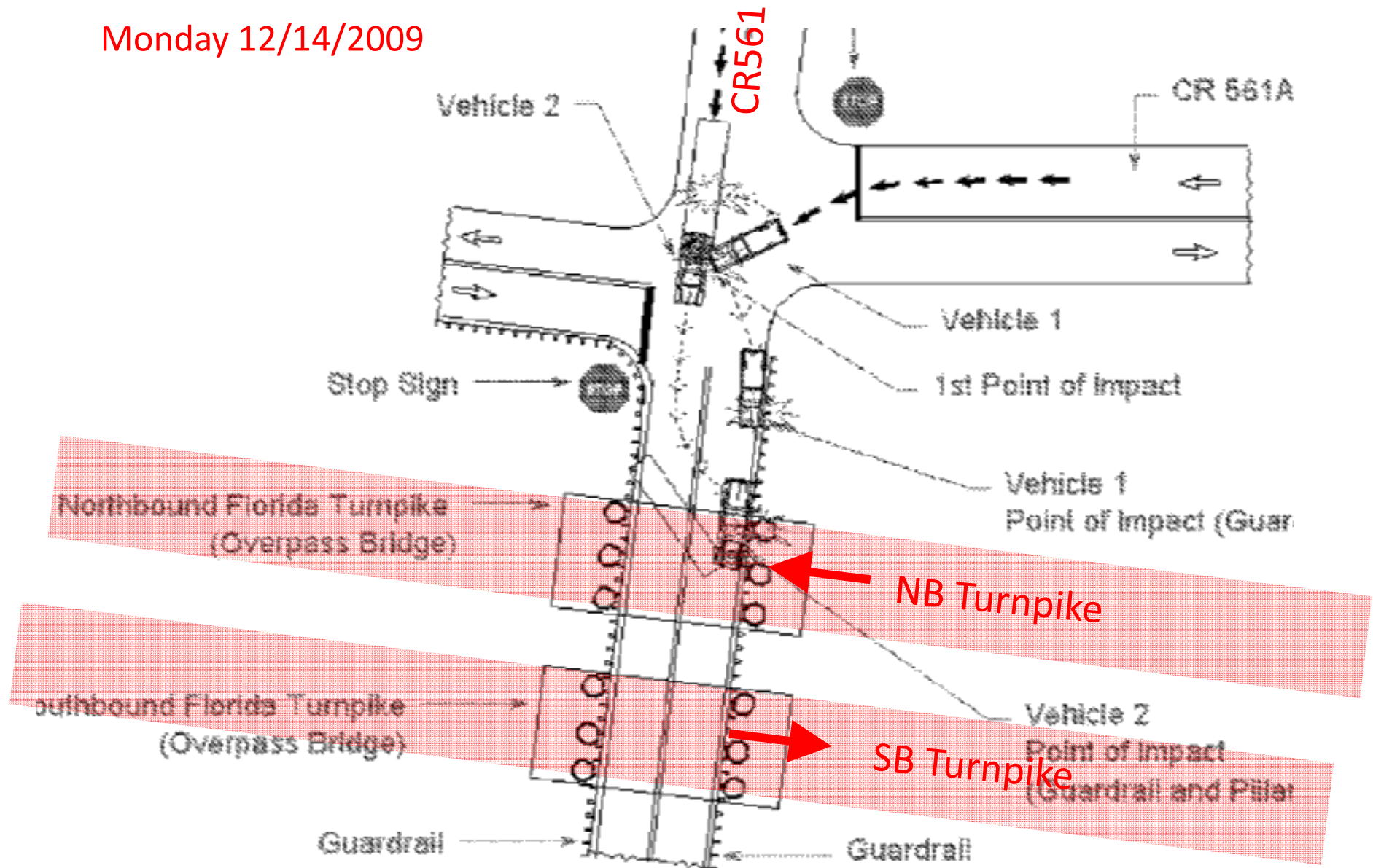


Location



Accident and Incident Response

Monday 12/14/2009



Accident and Incident Response

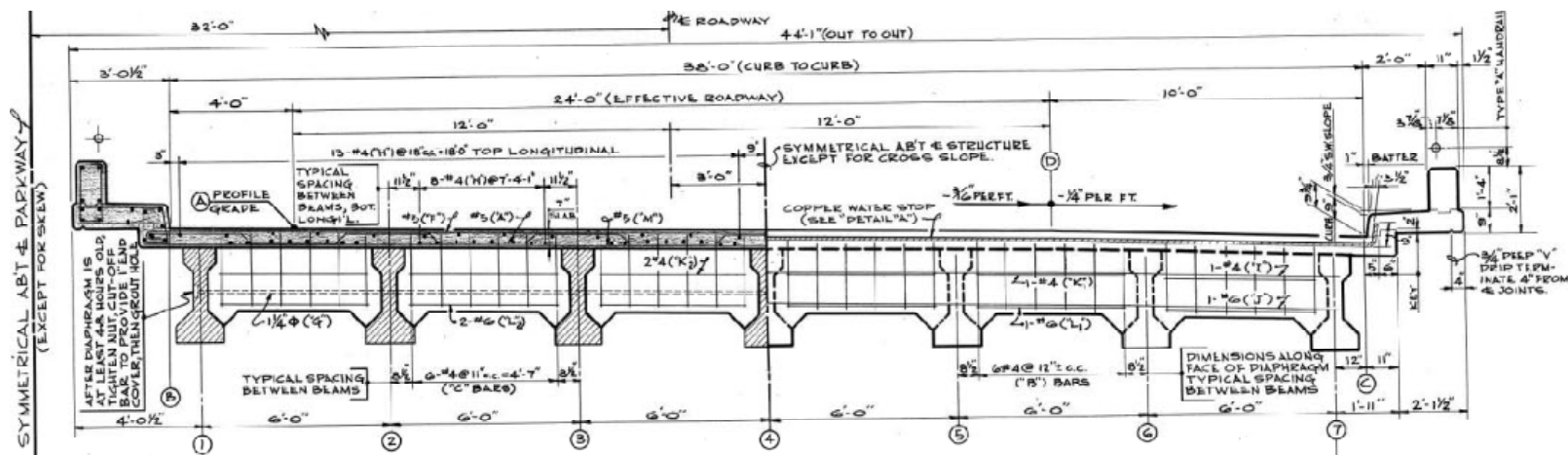


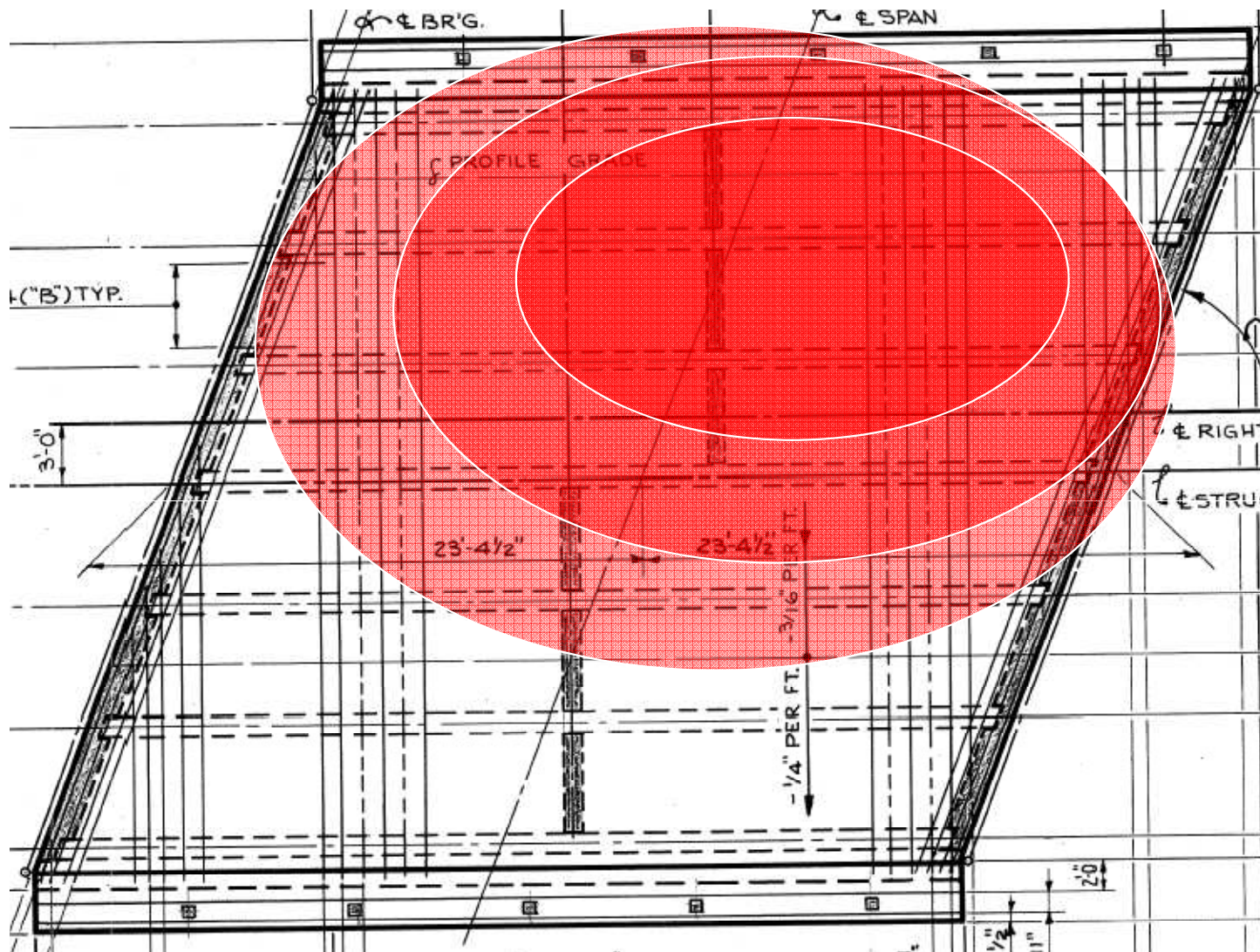
Accident and Incident Response

- Accident resulted in Fire under Turnpike Northbound Bridge
- Lake County Fire and Rescue
 - CR 561 Closed
- FHP Troop K
 - Turnpike Closed
- Turnpike traffic detoured off system
- Fire Extinguished
 - SB Turnpike Reopens
 - CR 561 Remains Closed
 - NB Turnpike Remains Closed
- NB Turnpike Traffic Detour



[illegible]

[illegible]



BM 2-7

BM 2-6

BM 2-5

BM 2-4

BM 2-3

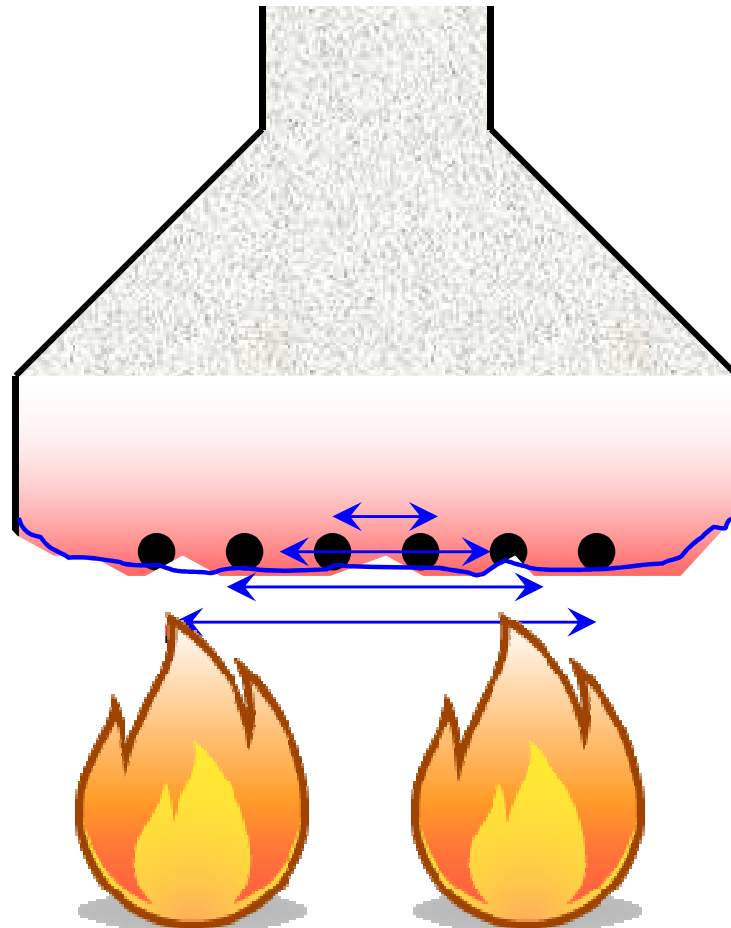
BM 2-2

BM 2-1

CL SR 91 (Turnpike)

Prestressed Concrete – Heat Exposure

- **Delamination of Concrete:**
 - Thermal Gradient (Hot Surface yet Cooler Interior)
 - Surface Expands at Greater Rate than Interior
 - Subsurface Cracking – Sounds “Hollow”
 - Widespread Spalling and Delamination



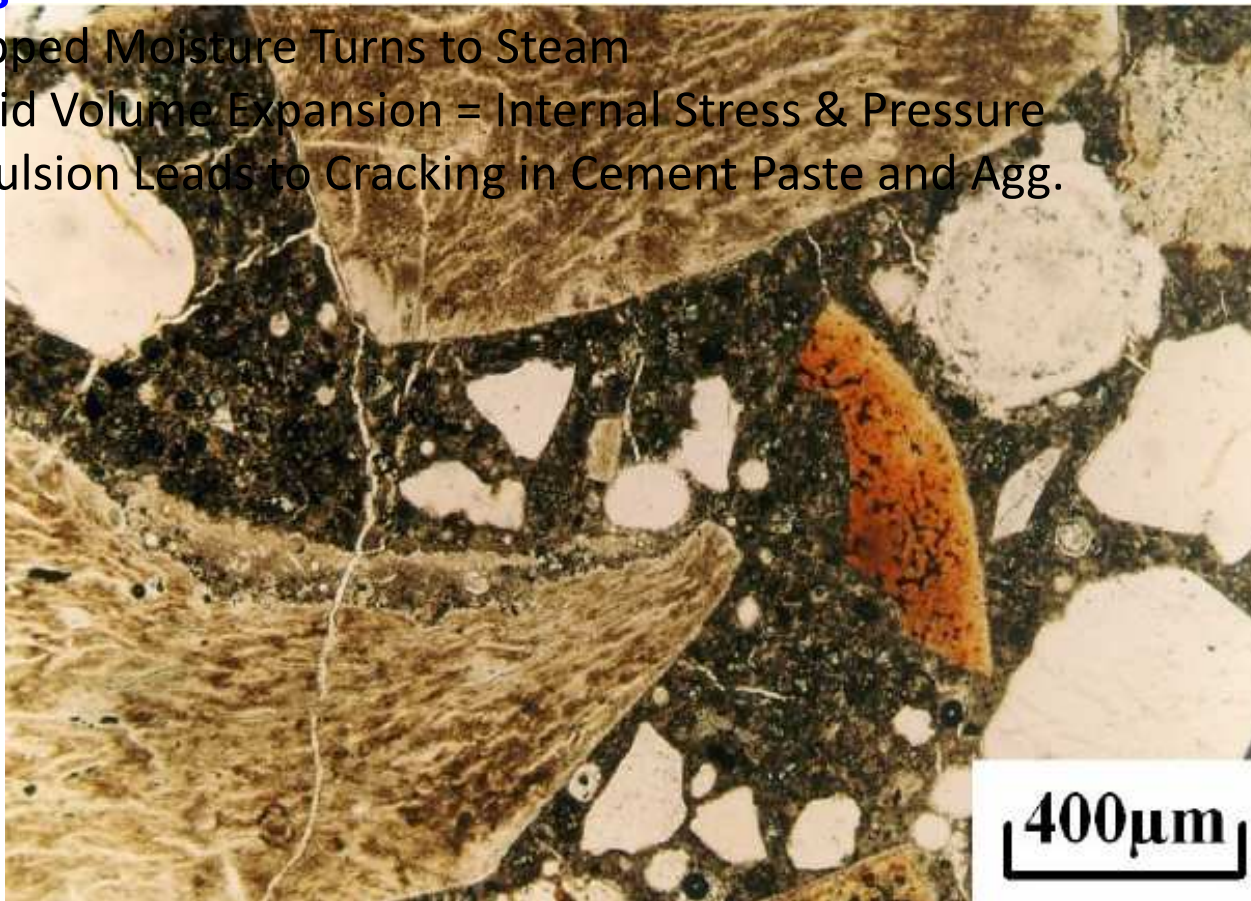
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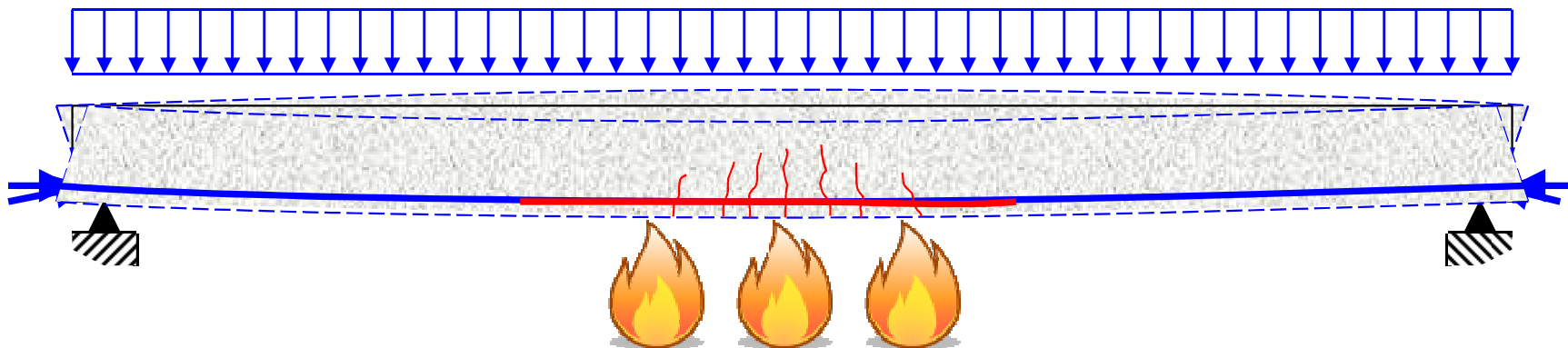
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- **High Heat Exposure to Concrete Matrix:**
 - Release of CO₂ in Cement Paste – Contraction Cracking
 - Breakdown of Chemical Structure of Cement Paste & Agg.
 - Concrete Becomes Friable, Porous & Weak

Prestressed Concrete – Heat Exposure



Bridge 110070 – Damage Details

- Concrete Deck:
 - Large Delaminations with Exposed Steel
 - Widespread Map Cracking
 - Areas of Concrete “softness”, easily removed when struck with hammer.
- P/S Concrete Beams:
 - Delaminations and Strand Exposure along length (5 of 7 beams)
 - Cracking and “softness” along exposed surfaces (webs and flanges)
- Bearing Pads (Pier 2):
 - Appear “brittle” and flake easily when hit with hammer
- Pier Caps and Columns:
 - Delaminations with areas of exposed steel
- Spans 1 and 3:
 - Localized hollow areas at beam ends (5 to 6 Loc.)

Bridge 110070 – Fire Damage



Project Mission & Organization:

- Restore Turnpike NB Traffic ASAP:

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Project Mission & Organization:

- Restore Turnpike NB Traffic ASAP:
 - Construct Traffic Diversion
 - (1) NB Lane on SB Bridge
- Repair NB Turnpike Bridge 110070:
 - Replace Span 2 Superstructure
 - Repair / Strengthen Substructure (Pier Columns and Caps)
 - Misc. Repairs to Spans 1 and 3
- Traffic Management:
 - 24/7 Roadway Response through site
- Coordinate with Other Agencies, etc.:
 - D5, D2, D3, CO, Lake County, OOCEA, etc.
- Public Outreach:
 - Public Information, Media Briefings, etc.

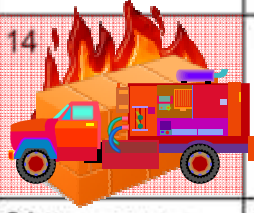
Incident Response Timeline

- 6:36 AM Accident Occurs
- 7:23 AM Incident Response
- 2:30 PM Structural Assessment
- 3:00 PM Mission & Target Dates
- 4:00 PM Met with Contractors
- 5:30 PM Declaration of Emergency
- 11:00 PM Roadway Diversion Contract Awarded
- 11:00 AM Daily Turnpike Briefings
- 3:00 PM Bridge Repair Contract Awarded



Emergency Contracts

December 2009

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29	30	1	2	3	4	5
6	7	8	9	10	11	12
13	14 	15	16	17	18	19
20	21 Winter Solstice	22	23	24	25 Christmas	26
27	28	29	30	31 New Year's Eve	1	2

Emergency Contracts

- **Roadway Diversion and Maintenance of Traffic**
 - Lane Construction Corporation
 - \$774K to open diversion by 8am December 16th
 - \$50K Bonus for restoring normal traffic flow at an Earlier Date TBD Later
- **Bridge Reconstruction Contract**
 - Cone & Graham Construction
 - \$831K Open to Traffic by 3pm December 31st
 - \$150K Bonus for opening at an Earlier Date TBD Later
- **Support Incident Management**
 - The Car Store
 - \$50K for two prepositioned wreckers

Work Progress

12/14 Accident Occurs

12/16 NB Diversion Open

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28	29	1	2	3	4	5
6	7	8	9	10	11	12
	13	14	15	16	17	18
	19	20	21 Winter Solstice	22	23	24
	25 Christmas	26	27	28	29	30
	31 New Year's Eve	1	2	3	4	5



Work Progress

12/14

12/16



Saturday

5

12

19

26

2

V



- 12/14 Accident Occurs
- 12/16 NB Diversion Open
- 12/17 Span 2 Demo Complete
- 12/18 Booms Set

Saturday
5
12

14	15	16	17	18	19
21 Winter Solstice	22	23	24	25 Christmas	26
28	29	30	31 New Year's Eve	1	2



Coordination

- Team Turnpike
 - Maintenance
 - Public Information
 - Traffic Operations
 - Construction
 - Production
 - Materials
 - Toll Operations
 - FHP
- Construction Contractors
- FDOT Districts 2, 3, 5 and Central Office
- OOCEA
- Lake County



Traffic Management

- Traffic Management Center (TMC)
- Cameras
- Vehicle Detection Devices
- DMS Boards
- Portable Message Boards
- Highway Advisory Radios
- CB Radio Alert System
- Hourly Reports
 - Travel Speeds
 - Volume
- Toll Suspensions
- Traffic Queue Protection



Travel and Traffic Information

- News Conference and Releases
- Internet
 - Email
 - Web Blogs
 - floridasturnpike.com
 - FL511.com
- Posters
 - Toll Plazas
 - Service Plazas and Fuel Stations
 - Rest Areas & Welcome Centers
- Customer Calls



Mission Success

- Safety First
- Event +24 Hours Critical
- Serve our Customers
 - Travel & Traffic Information
- Right People
 - Can Do Attitude
 - Motivated
 - TEAMWORK!



Questions??



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