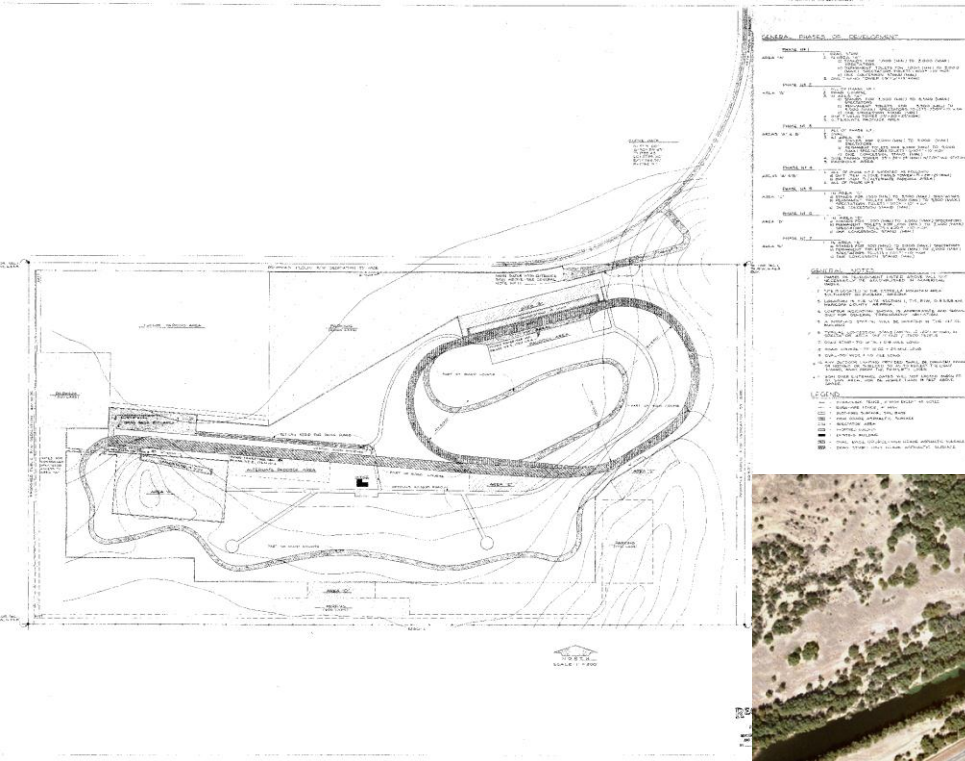




TRACK REPAVING PROJECT

BILL BRANIFF, P.E.
SENIOR DIRECTOR, CONSTRUCTION
ISC DESIGN & DEVELOPMENT



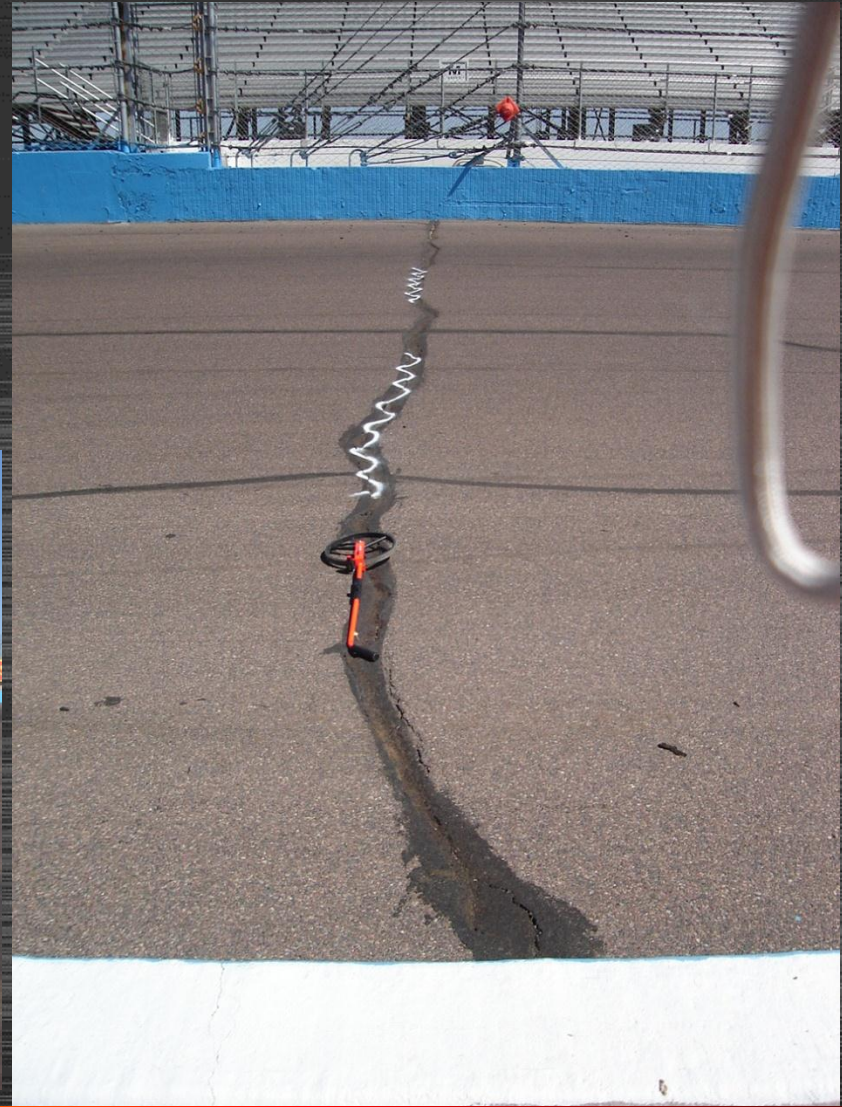
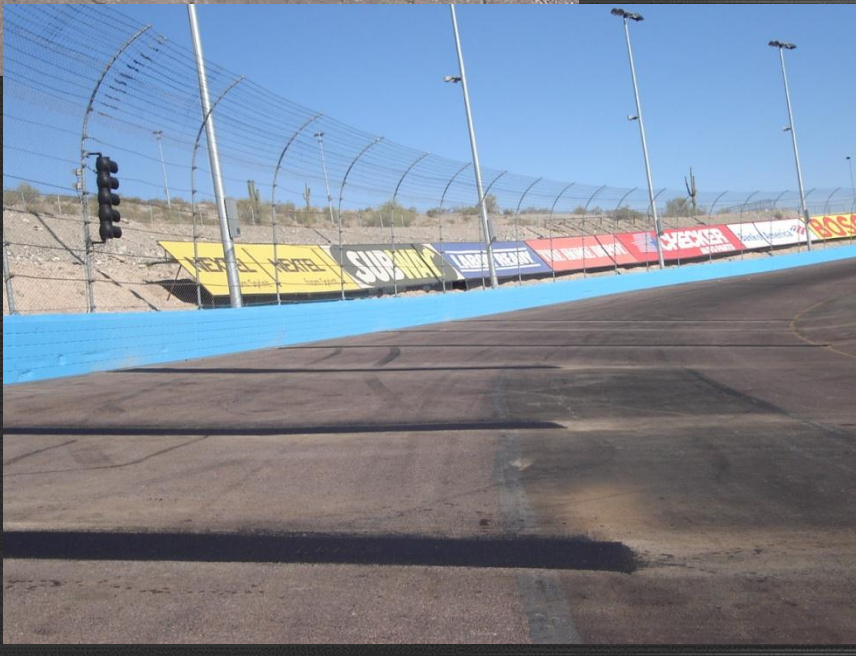


- Opened 1964
- Previously Paved 1993

- 1.0 Mile Oval Track
- Banking:
11 deg. Turns 1 & 2
9 deg. Turns 3 & 4



Pavement Condition 2011



Track Re-Paving Challenges

- Side-by-side racing
- Uniform vs. Variable banking
- Paving Material Specifications
- Surface Smoothness and Texture
- Existing Infrastructure

Computer Modeling of Racing Surface

- Side-by-side racing is a product of
Track 'wearing-in' (3 years +/-)

Track geometry (immediate)

- Modeling inputs
Track Surface (x, y, z coordinates)

Vehicle Characteristics (Center of gravity, hp, aero map)

- Modeling outputs
Lap Times, Speed, Chassis loading

Race Lines

Modeling Example: Homestead Miami Speedway

Existing Track Characteristics:

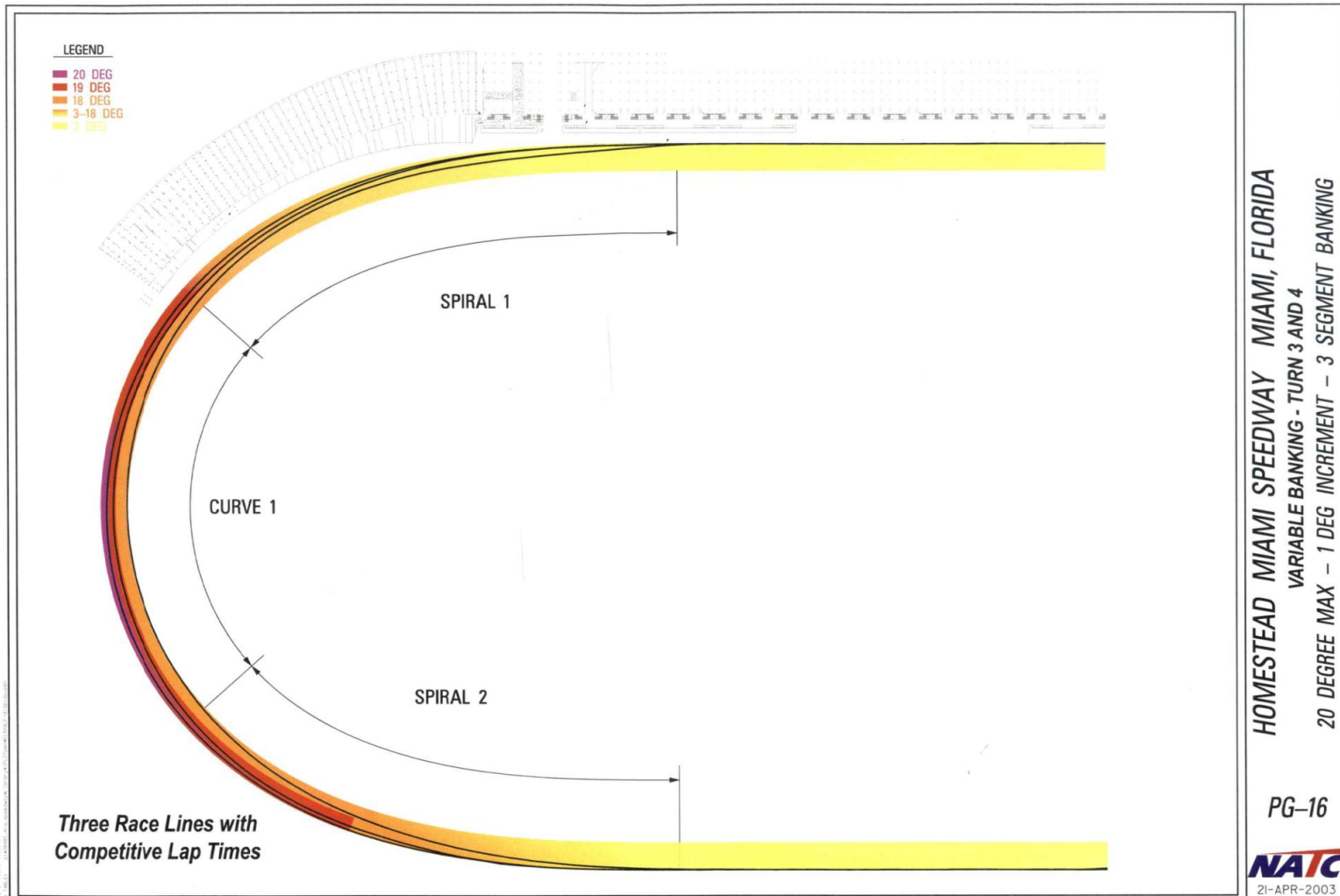
- Flat banking in turns
- Single-file racing



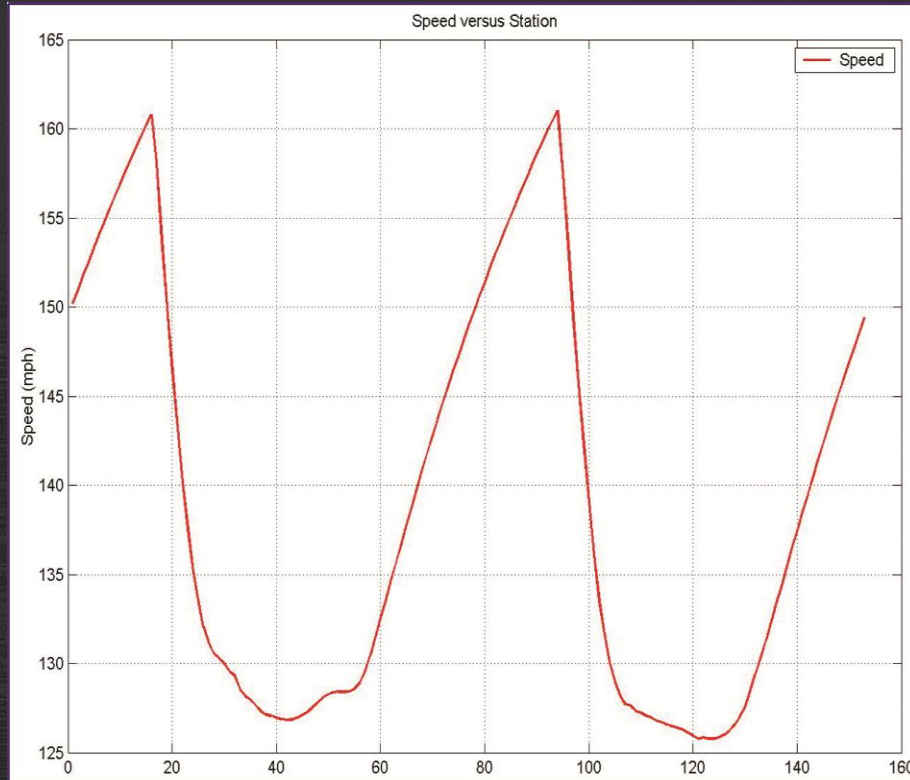
Goal: Create side-by-side racing by constructing 3 lanes that have similar lap times

- variable banking
- iterative computer modeling

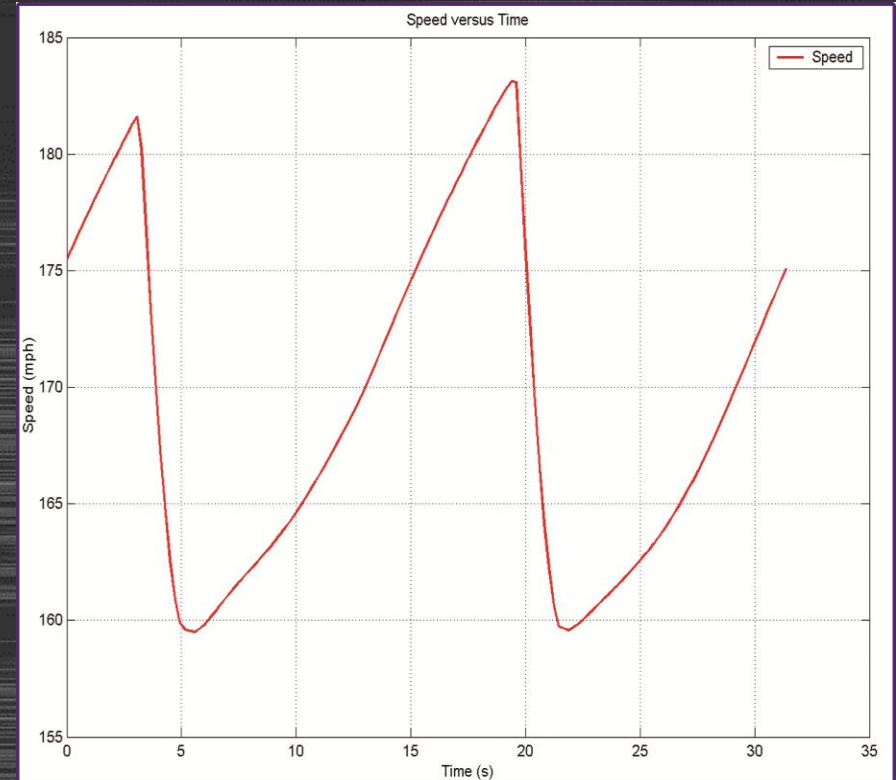
3 Lanes, Similar Times



Speed Traces

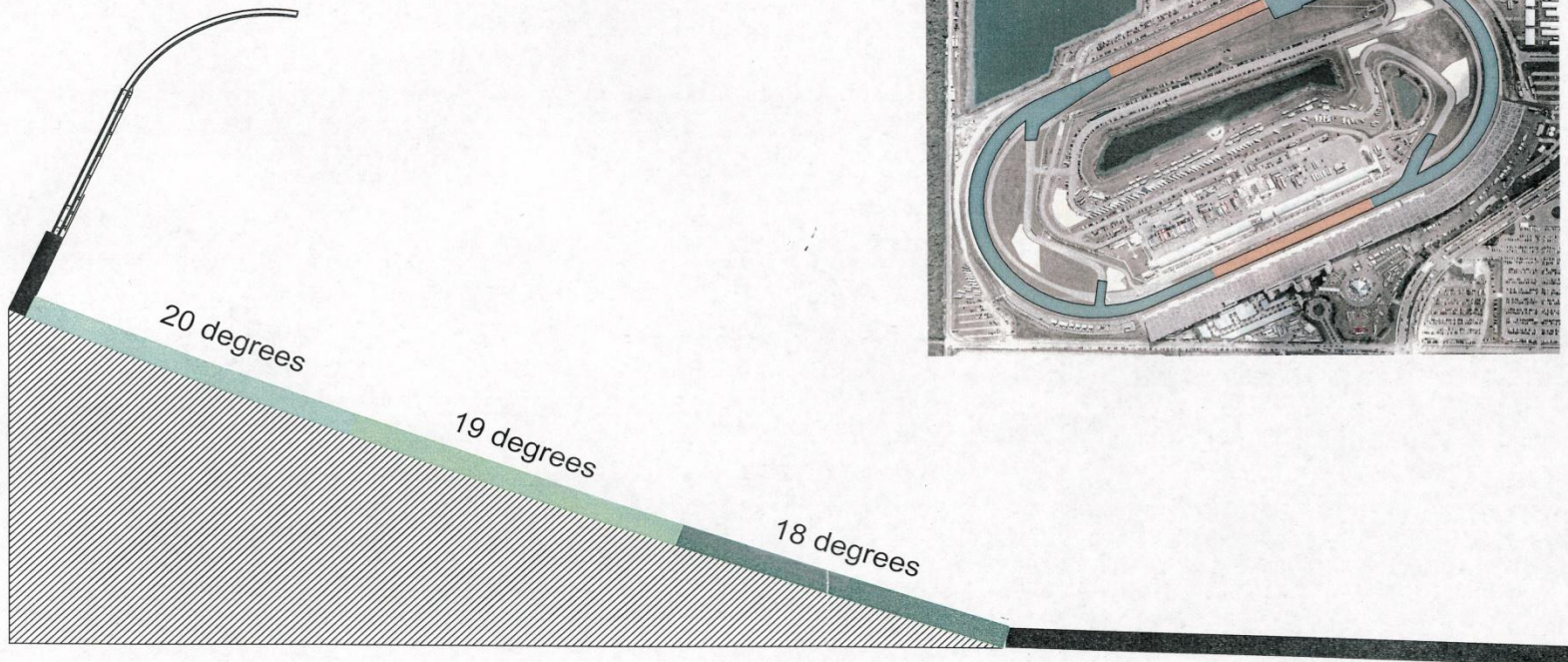


Before



After

Variable Banking



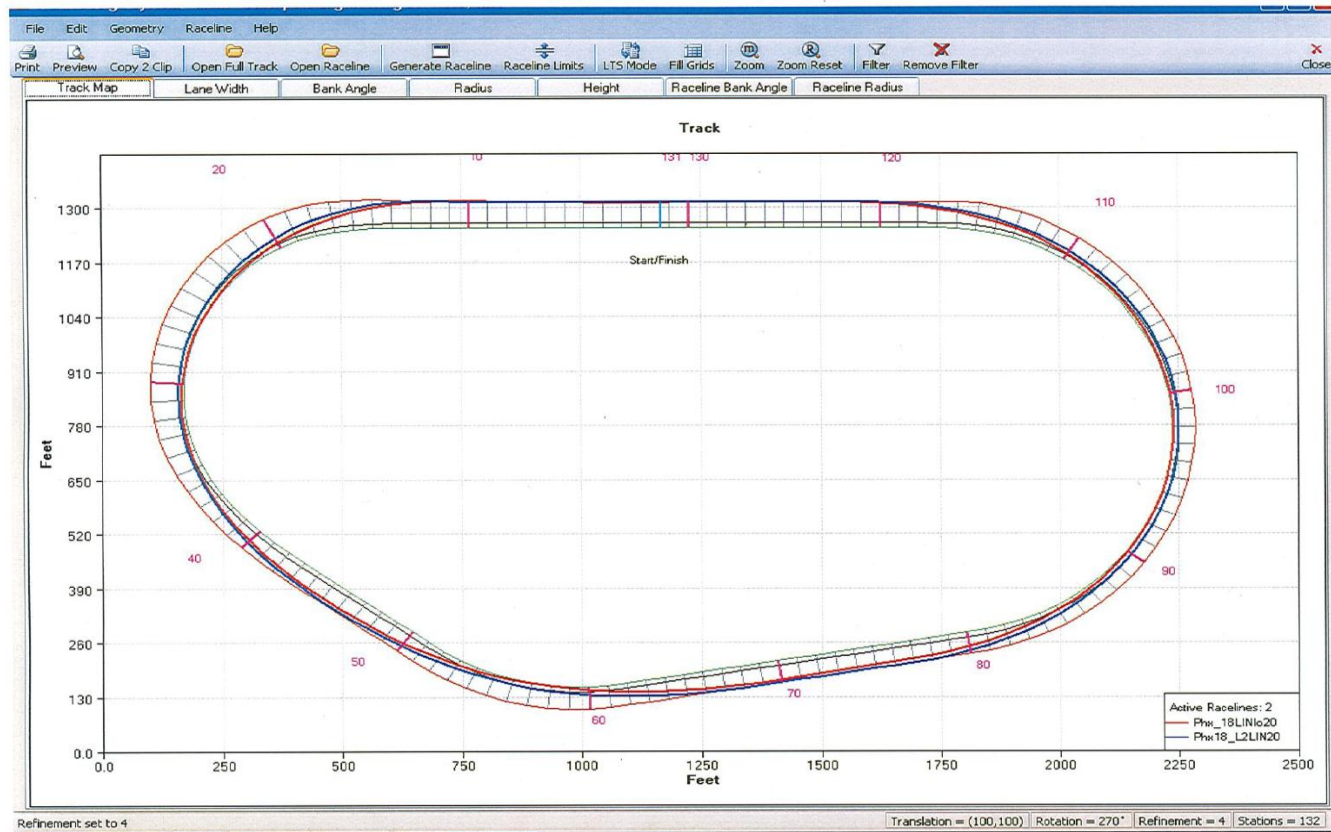
Point of Maximum Banking

Turns 1-2 & 3-4

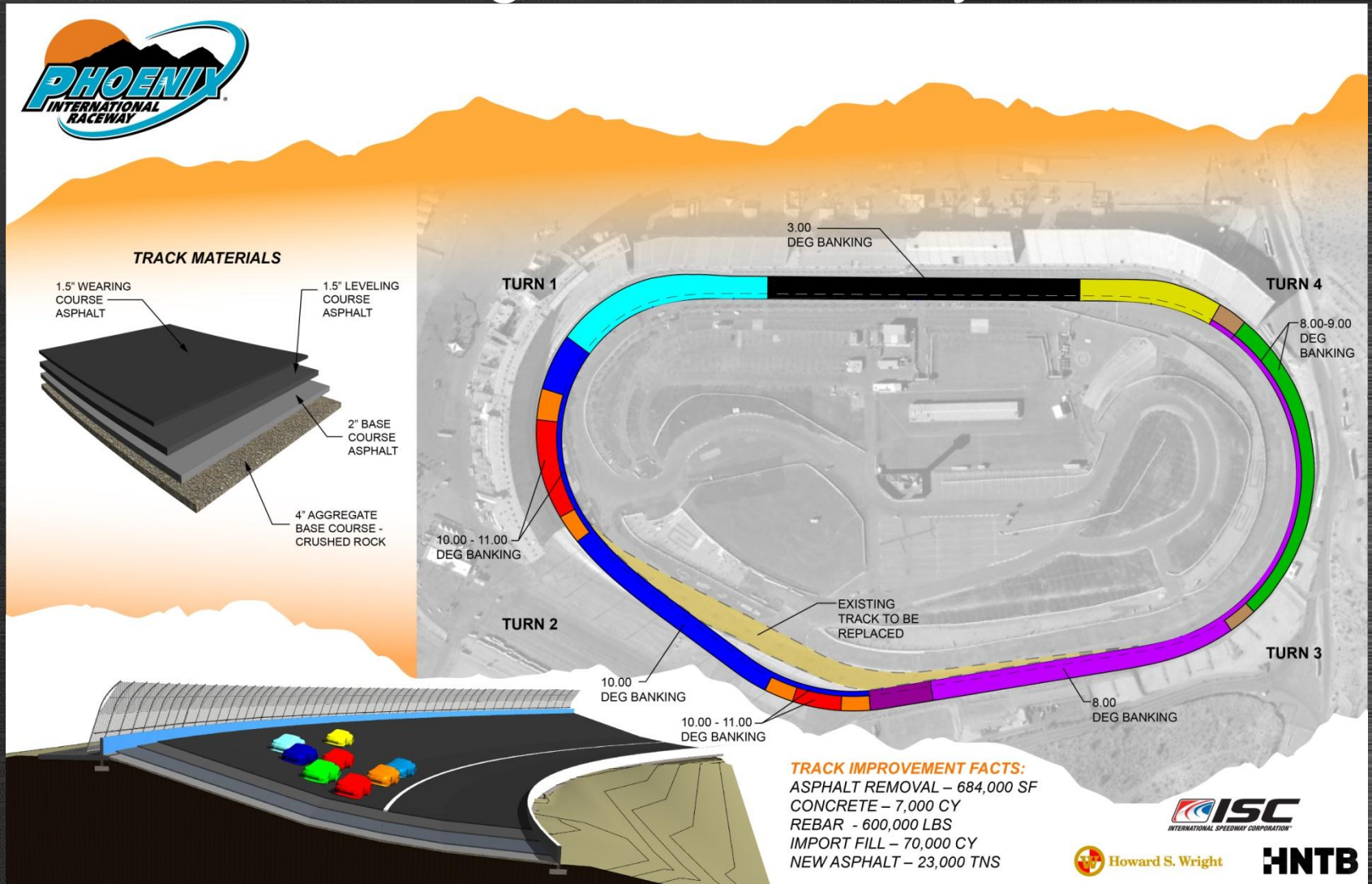
NASCAR

PHOENIX
INTERNATIONAL
RACEWAY

Phoenix Modeled Race Lines



Phoenix Reconfigured Geometry



Pavement Specification

- PG 82-22 Asphalt Cement
180 degree softening pt.
- Marshall Mix Design
4,000 lbs stability
- 8" / mile PRI
0.1 blanking band
- 96% Gmm target density

Pedestrian Tunnels – Turns 1 & 2



Pit Wall Reconstruction



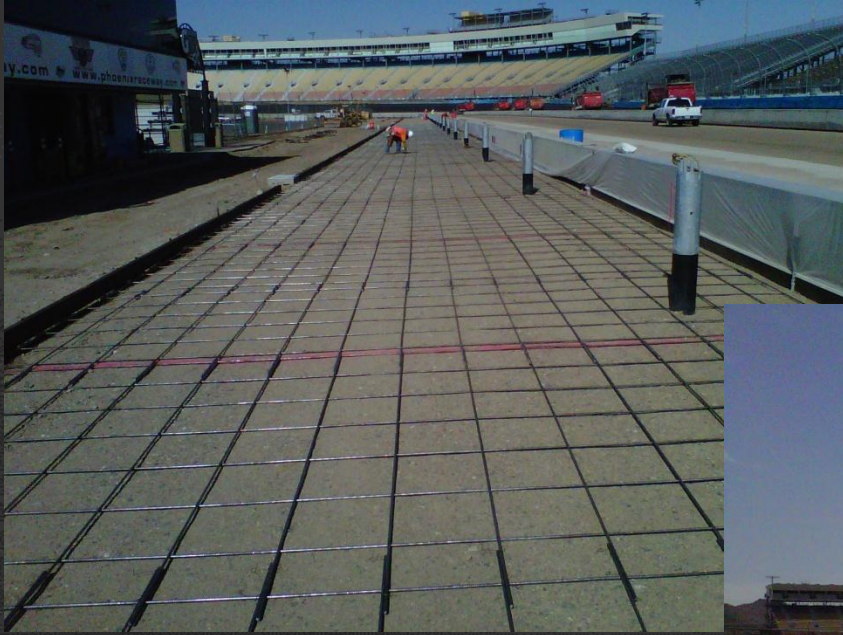
Crash Wall Reconstruction



Concrete Pit Stalls



Concrete Crew Boxes



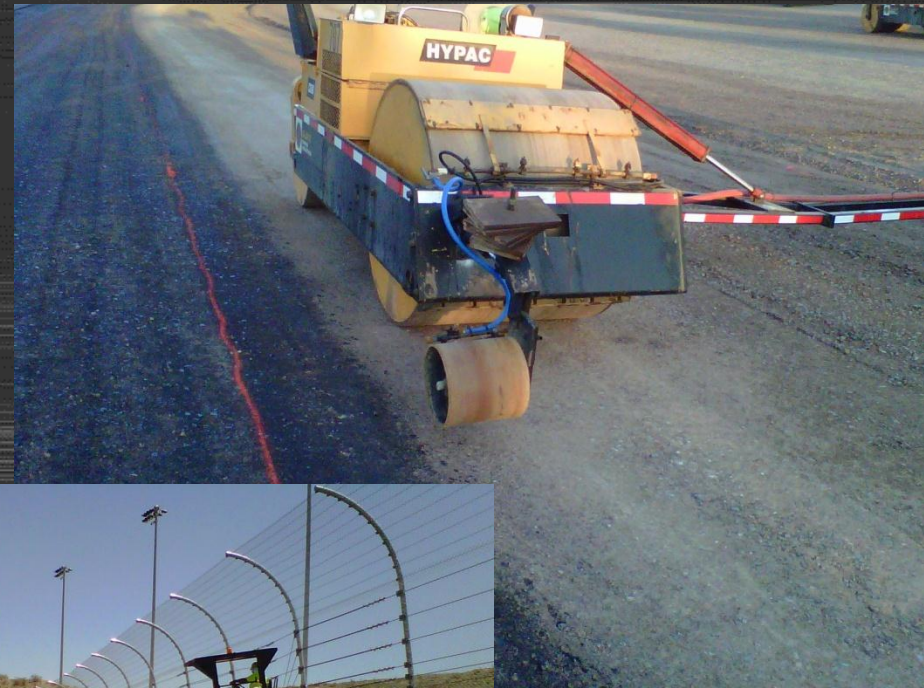
Paving Train



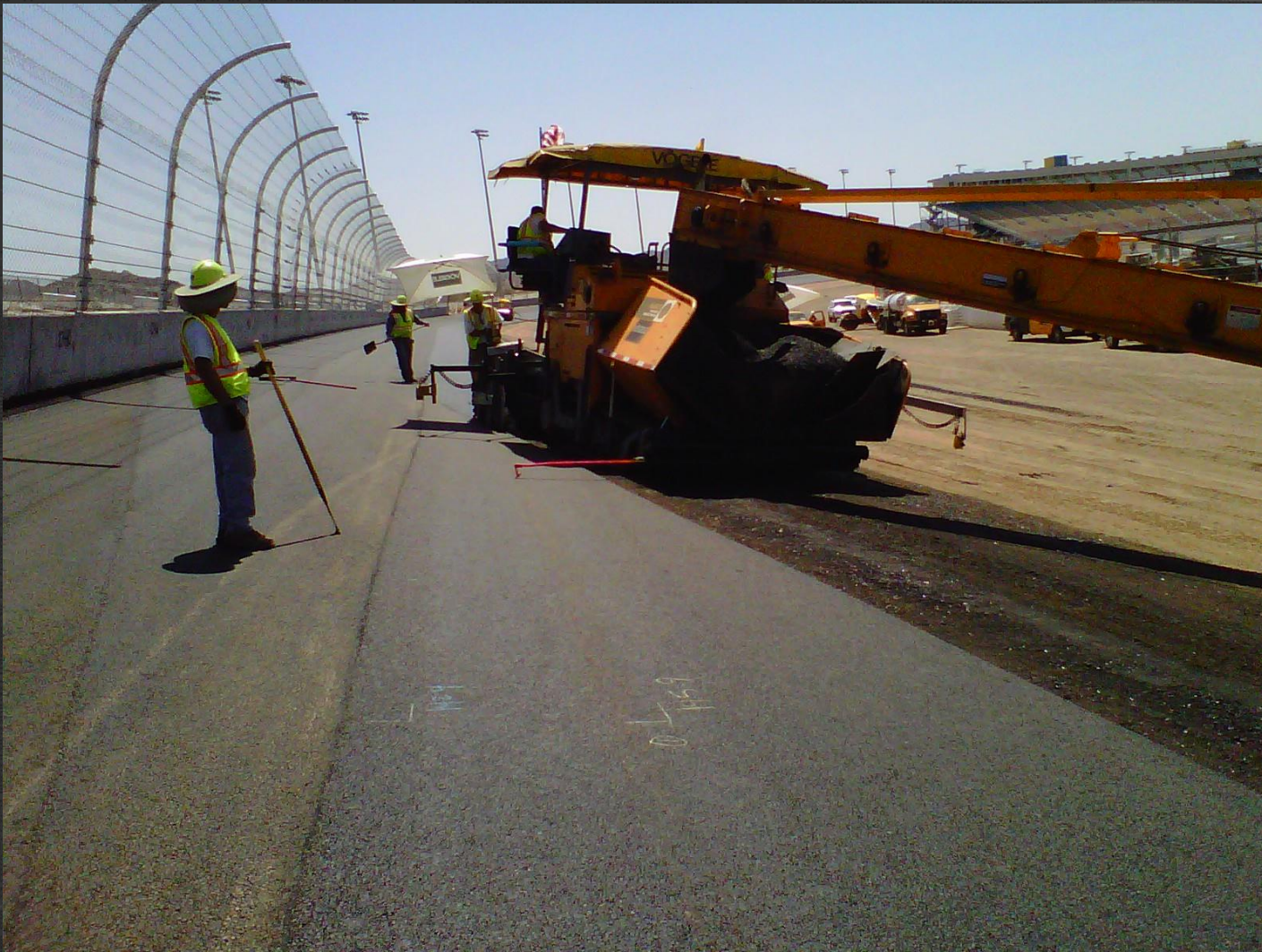
Paving Train



Specialized Equipment



Spiral Joint



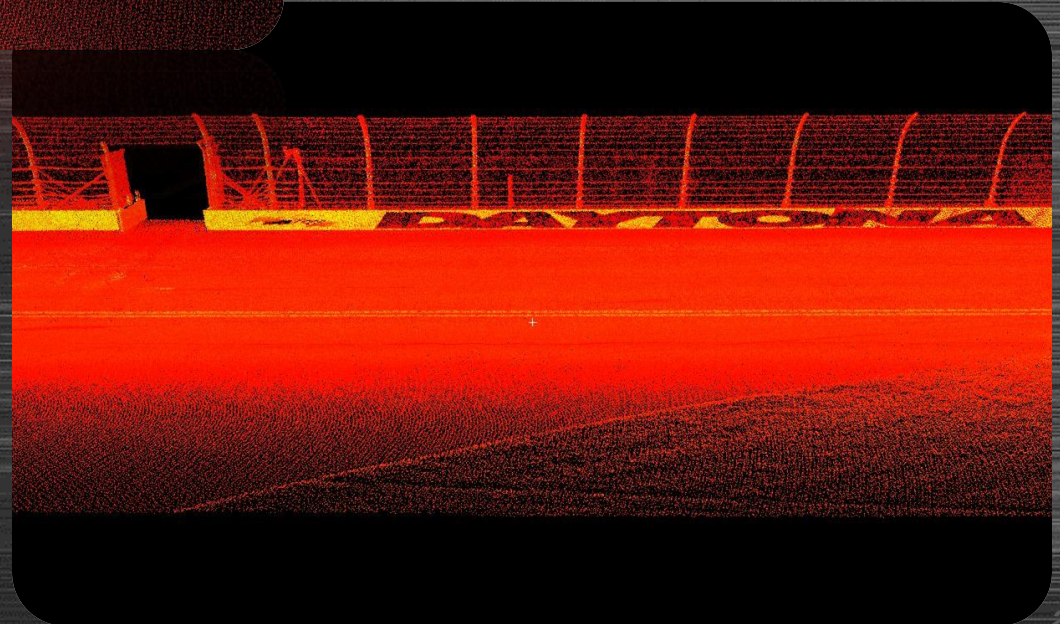
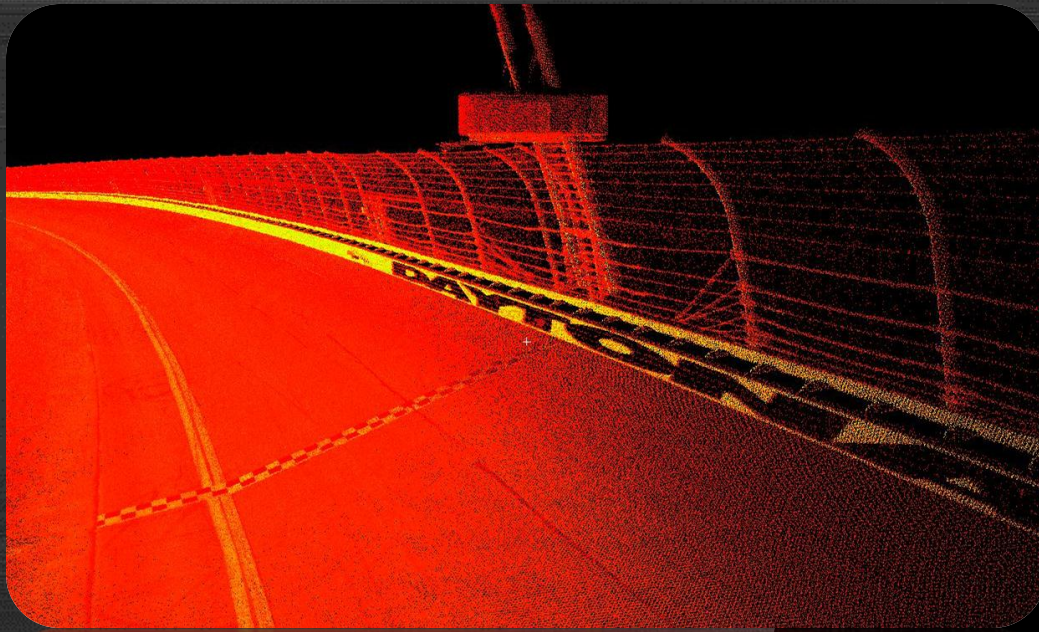
Pizza cut



Quality Control



Other Tracks.....



Laser Survey to Maintain Existing Geometry

12/1/2011

26



ON-SITE ASPHALT PLANT

RIM ROAD FILL





12/1/2011

28



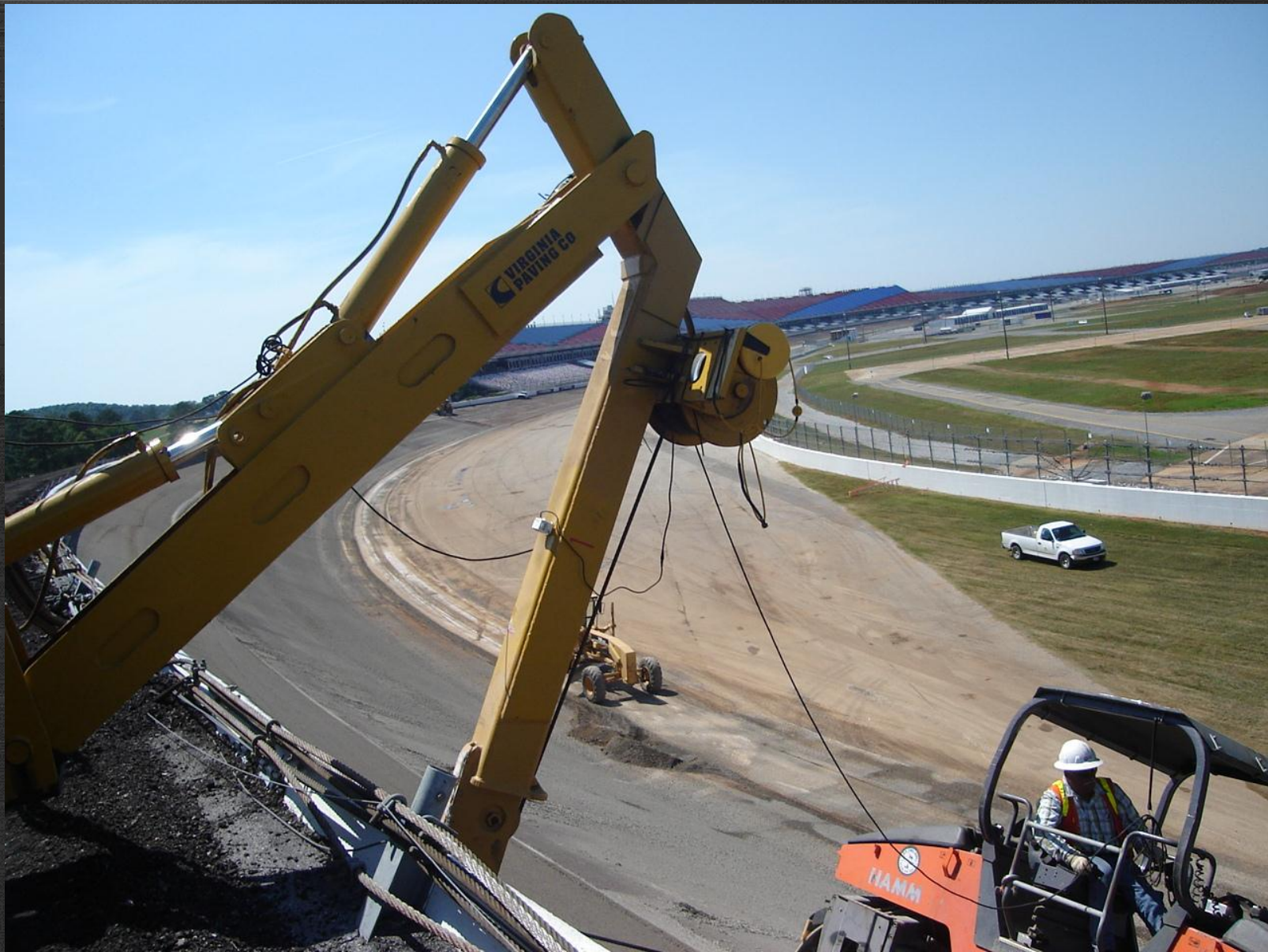




NIGHT PAVING









QUESTIONS