Company Use

ROAD RECYCLING EQIPMENT

Cory Maupin
Wirtgen Recycling Application Specialist

Company Use

WIRTGEN RECYCLING EQUIPMENT

Company Use

Recycler/ Stabilizer/ Mixer (WR)

WIRTGEN

The WR series of machines are used for three primary jobs. Mixing, Pulverizing or stabilizing a layer of material. They come in 3 sizes WR200 (429 HP) WR240 (600 HP) and WR250 (755 HP). All three versions have 7’10” wide drum and can cut asphalt and be equipped with pump systems to inject binders or water into the mixing housing.

Company Use

Wirtgen Cold Recycler CR380

WIRTGEN

The CR380 (1039 HP) is primarily a cold recycler built to cut pavement while injecting and mixing in binders and then convey the mixture directly into a following paver to repave. The machine can be used for CIR, FDR and milling processes. It is usually equipped with pump systems for dosing binders and compaction water into the mixture.

Company Use

KMA 240 Mobile Mixing Plant

WIRTGEN

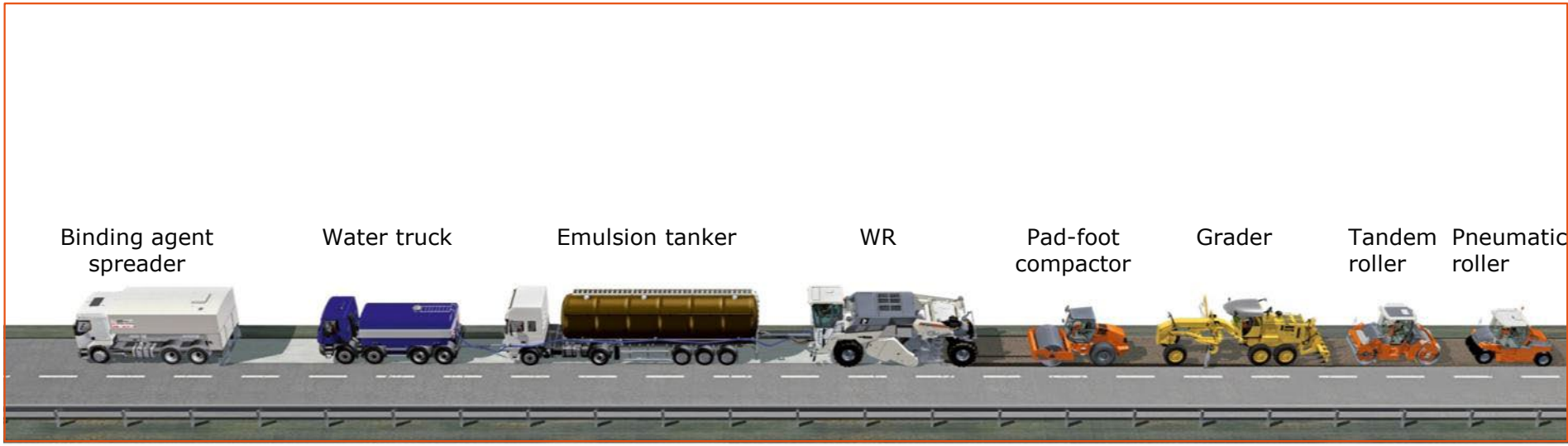
The KMA 240 is mobile mixing plant capable of being transported to a location and set up in less than an hour to produce material at the rate of 265 tons / hour. The plant comes equipped with three different binder systems to dose into two different aggregates. The plant can be feed from a city water supply, tanker truck or and onboard 1100-gallon tank. The cement can be feed from a vertical silo or with individual bags. It can use emulsion or foamed bitumen. The final material can be loaded directly into a truck or stockpiled.

Company Use

ROAD RECYCLING USING FULL DEPTH RECLAMATION (FDR)

WIRTGEN

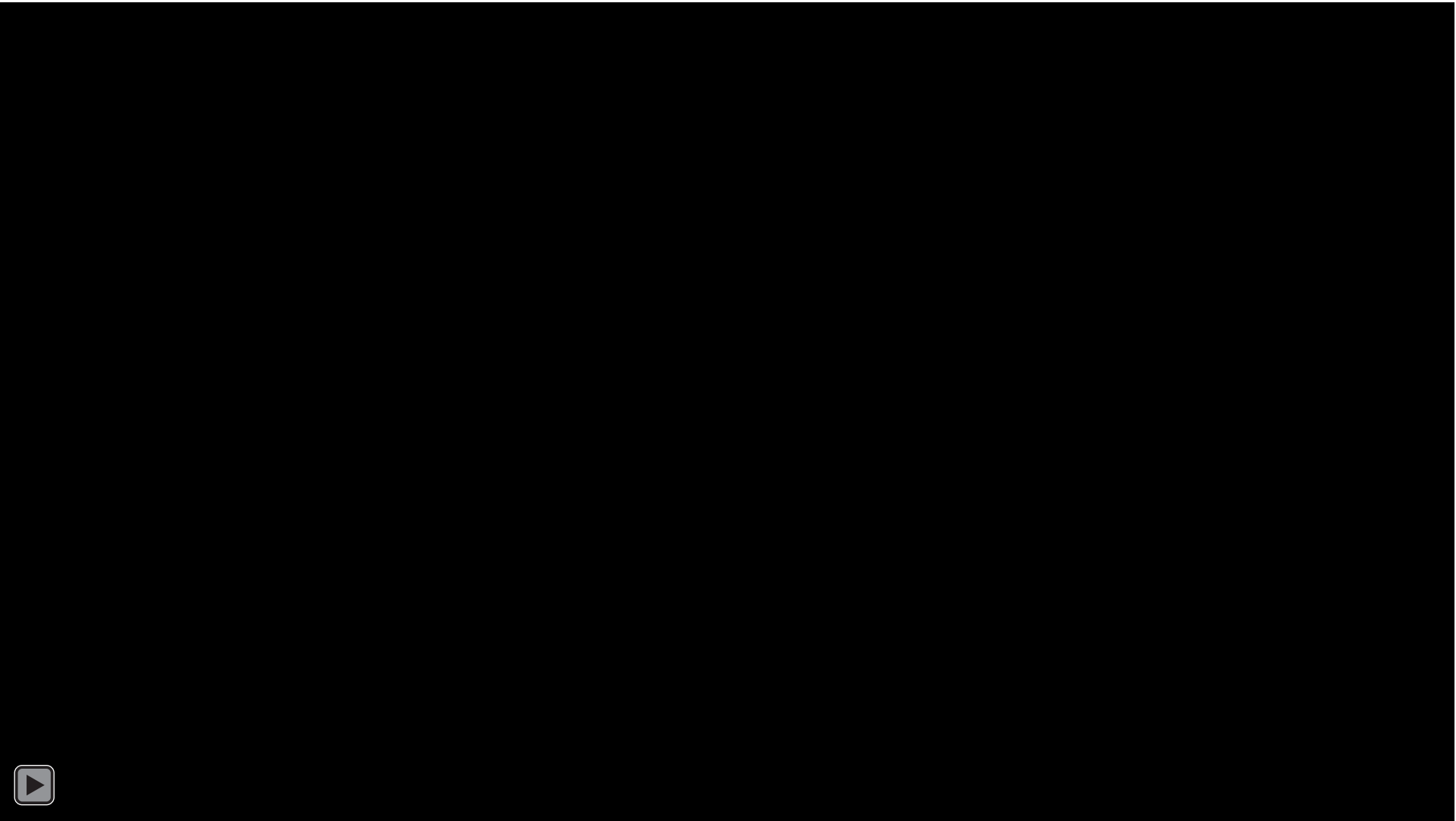
Recycling with Foamed or Emulsified Bitumen (BSM)



Company Use

FDR With Cement

WIRTGEN



Company Use

BSM recycling

WIRTGEN

Company Use

Process Shortcomings

- Multiple passes per lane
- Blade can segregate material while putting on grade
- Maintaining consistent moisture content can be a challenge
- Safety issues with constant forward/reverse action of all equipment

Company Use

Paver Laid FDR

WIRTGEN

Company Use

Paver-Laid FDR

Necessary Equipment Innovations:

- Recycler with:
  - Depth ability up to 12”
  - Injection system for small or large volumes of material
- Paver with:
  - Larger tunnels and augers
  - Ability to lay mats up to 15” in depth
  - Screeds with high density compaction

Company Use

Paver-Laid FDR

Company Use

Paver-Laid FDR

Company Use

Paver-Laid FDR

Company Use

Paver-Laid FDR

WIRTGEN

Pros:

- Full lane width in one pass
- All one direction except for rollers
- Safer for workers and traveling public
- Less segregation = higher quality
- Shorter schedules means less disruption

Cons:

- Recycled layer will likely need to be trimmed
- Equipment investment

Company Use

COLD IN PLACE RECYCLING (CIR)

Company Use

Single Unit CIR Recycling Train

WIRTGEN

1. Active filler spreader
2. Water Truck
3. Bitumen Tanker
4. Cold Recycler

5. Paver
6. Tandem Steel Drum Roller
7. Pneumatic Roller

Company Use

Cold In-Place Recycling

WIRTGEN

Company Use

COLD CENTRAL PLANT RECYCLING (CCPR)

Company Use

Cold Central Plant Recycling

Another Tool in the Tool Box

Allows road owner to:

- Stretch funding or # of miles
- Address the cause of failure not symptom
- Re-utilize the good material
- Utilize jobsite material OR Stockpile RAP

Contractors can use their existing equipment

Pavers, rollers, tandems

Company Use

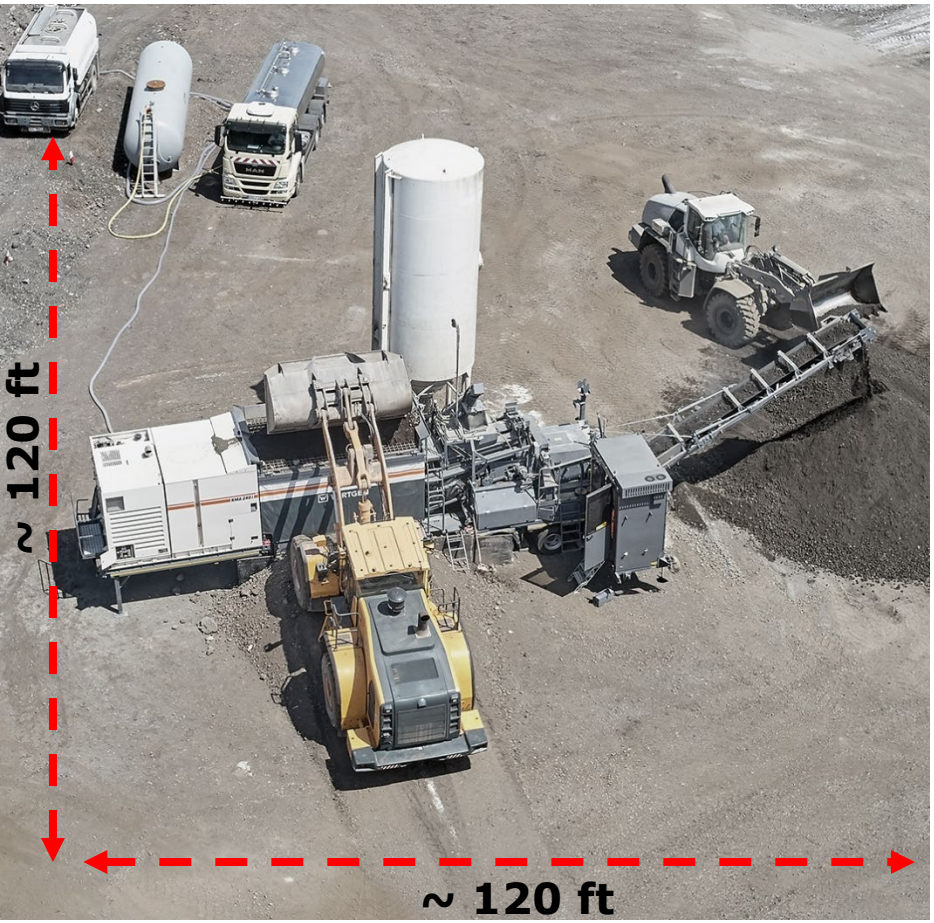
Flexible Production

- The **mobile design** of the cold recycling mixing plant allows the machine to be transported directly to the job site, saving both time and money
- **The KMA 240 (i) is capable of processing a wide variety of base materials, such as:**
  - recycled construction materials
  - milled asphalt material
  - demolished concrete
  - virgin road construction materials
- **Binding agents such as:**
  - Cement,
  - Bitumen emulsion
  - foamed bitumen

Company Use

One-of-a-Kind Mobility and Flexibility

WIRTGEN



- **Small footprint**
- **flexible connection options**
  - Water
  - Emulsion
  - Bitumen
- **Cement / Lime connection**
  - Via a stationary silo on the left or right or
  - Fed by hand
- **Stand-alone job site operation**
  - The plant's own diesel engine
  - independent on the public power grid
  - guarantees an exceptionally high daily output
  - operated extremely efficiently for up to two days on single tank of fuel.

Company Use

Product Positioning KMA 240i

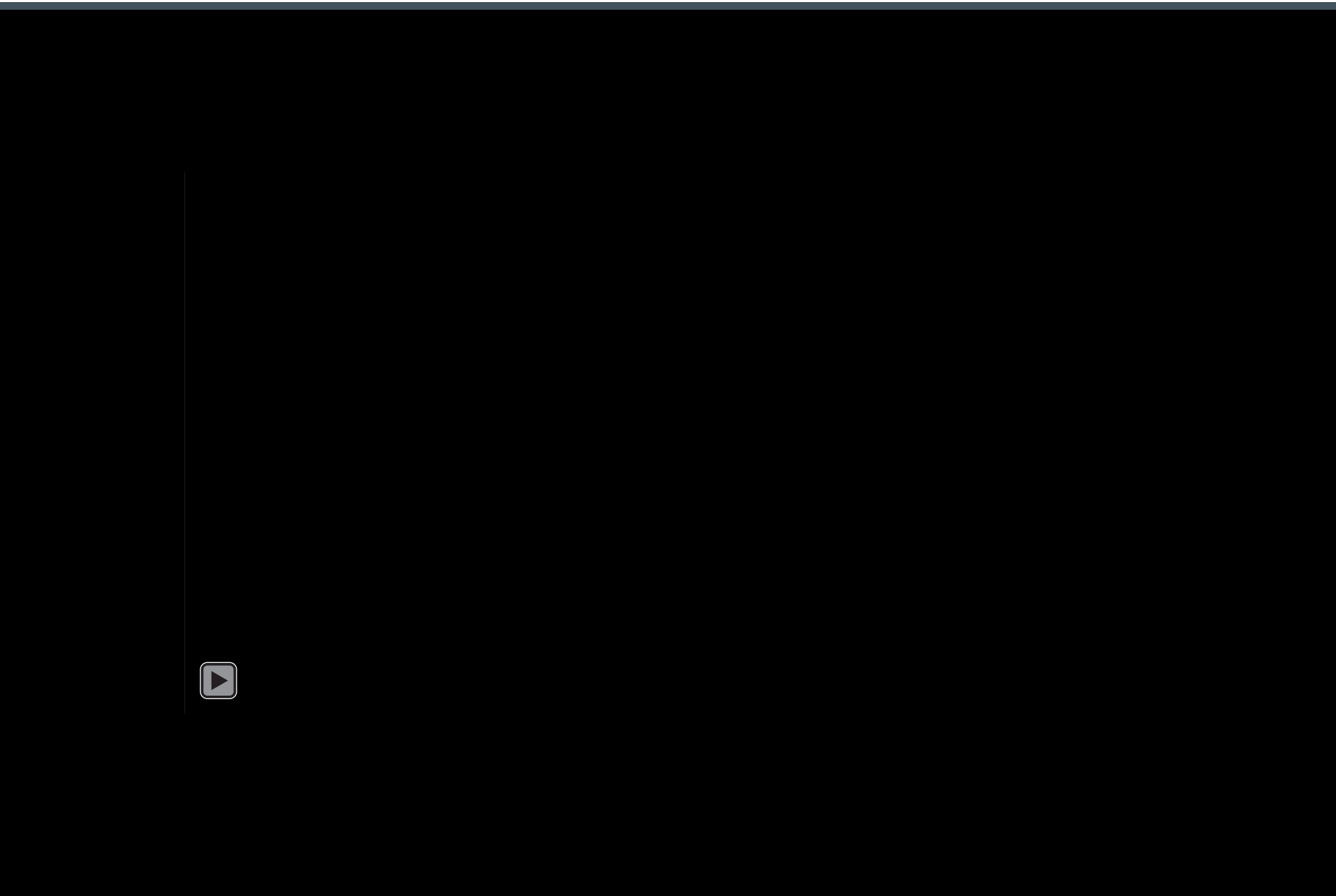
WIRTGEN

- The mix is ideally suited for any type of **construction project**, e.g.:
  - Cement-treated base (CTB)
  - Long-lasting bituminous base layers
  - Road and path construction
  - Parking lots
  - Industrial areas
- The ability to produce **RCC or Roller-Compacted Concrete** with up to 16% cement content
- The ability to produce **cold mixes** and **patch mix** with precise dosing accuracy.

Company Use

Animation Material Flow

WIRTGEN



Company Use

Compaction

Double vibratory after blade
12-15 ton

Pneumatic 15-25 ton
Roll for smooth finish

Company Use

JOB EXAMPLES

Company Use

Ashley County Arkansas CR 92

WIRTGEN

Average Depth 8-10 inch depth 6 inch asphalt depth

Work performed by Johnsonville Company LLC
Hermitage, AR (870)463-8237

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Company Use

Ashley County Arkansas CR 92

WIRTGEN

Company Use

Ashley County Arkansas CR 92

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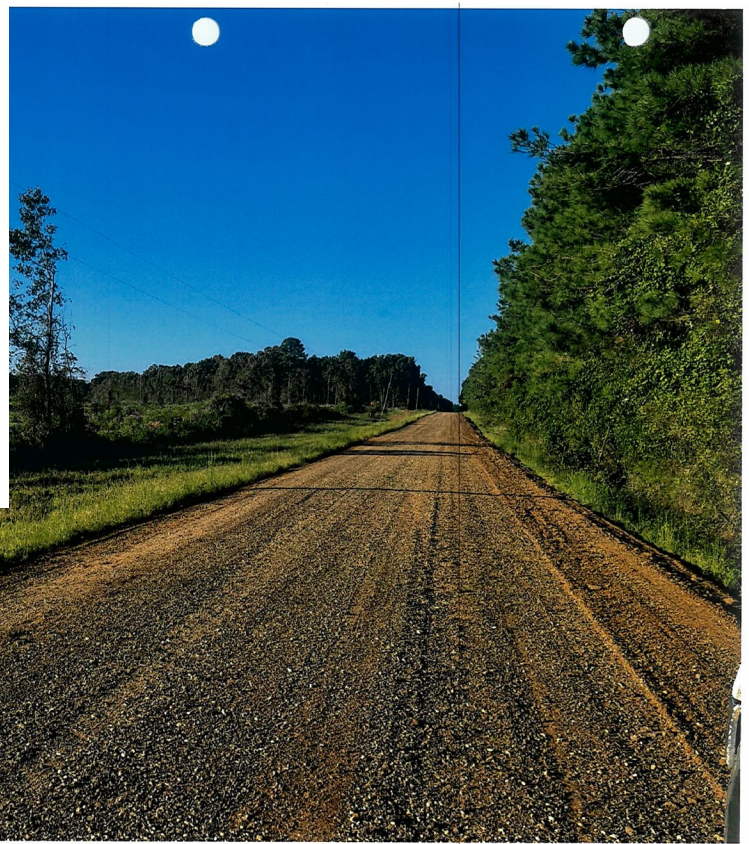
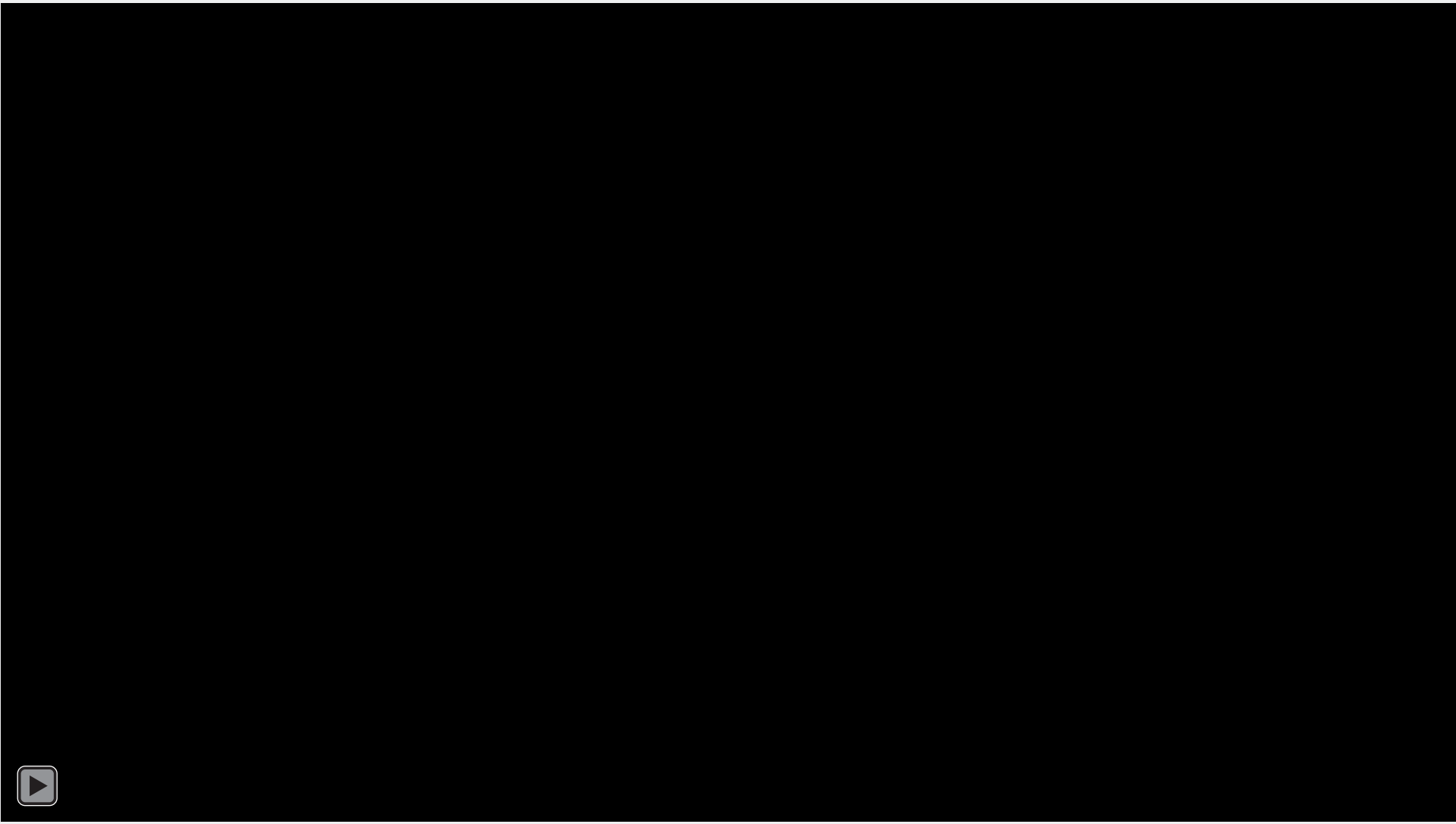


Company Use

San Jose CA Monterey Rd

WIRTGEN



Company Use

Virginia I-81/I-64 Interstate Projects

WIRTGEN

Company Use

CIR – New Concept New Jersey

Construction April

August

Company Use

Rt. 17 on James River Bridge, VA Beach

WIRTGEN

Company Use

FM541 near San Antonio