Pervious Concrete Construction

Chapter 5

The Goal
Pre-Construction Planning

- Plans and Specifications
- Crew Size
- Ready Mix Supplier
- Tools & Equipment
- Weather

Plans and Specs

- Subgrade requirements
- Pavement layout
- Cross-section

- Does it all make sense?

NOTE: Avoid Percolation or Permeability rate specifications when possible

There is no current test method within ASTM to actually test this. If you cannot test it, why specify it?
Crew Size

4 - 8 PEOPLE

Ready Mix Supplier

- Experience with Pervious
- Within Haul Time/Distance
- Make sure they understand pervious

Estimating quantity for 10 ft x 20 ft x 6 in slab =
\[
\frac{[10 \text{ ft} \times 20 \text{ ft} \times (6 \text{ in} / 12 \text{ in/ft})]}{27 \text{ ft}^3/\text{yd}^3} = 3.7 \text{ cubic yards (about 4 cubic yards)}
\]
What Will the Weather Be?

- Sunny
- Cloudy
- Rainy
- Snowy
- Hot
- Cold

Tools and Equipment

- Equipment matched to size of the job
- Sufficient tools to do the work
- Curing materials delivered before concrete placement
Site Preparation – Survey and Grades

- Plans and Specifications
  - Material Type
  - Elevation and Slope
  - Moisture Content
  - Compaction
- Typically grade to 1/10th of one foot (approx. 1-1/8th inches)
- Typically finish pavement to 1/4 inch of spec.

Site Preparation – Moisture Content

MOISTEN SUBGRADE
Site Preparation – Cut and Fill

[Image]

Site Preparation - Compaction

COMPACT TO 92 - 95% OF MODIFIED PROCTOR
Don’t over compact
Subgrade must remain permeable
Filter Fabric if Specified

Non-woven geotextile fabric is often specified

Setting Forms

Wood or steel forms can be used

Use string lines to set form elevation
Forming at Beginning of Pour

Placing Riser Strips
Riser Strip Result

Thinking Ahead

- Crew size / duties
- Construction sequence
- Lane lengths / widths
- Equipment moves
- Delivery scheduling
Crew Duties – 7 Man Crew

- 1 handles chute
- 2 rake and level
- 2 strike-off
- 2 compact, finish and cure

Construction Sequence
Planning Equipment Moves

Equipment Moves
Concrete Delivery Scheduling

- Unloading time per truck
  - Usually longer than conventional concrete
- Paving lanes
- Local Traffic
- Weather

Finishing: The Typical Process

- Spreading
- Strike-off
- Compacting
- Jointing/Edging
- Curing