Construction of Permeable Pavement Systems

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Permeable Pavement Systems
Sheet Flow vs. Concentrated Flow
Preconstruction Meeting

Scheduling
• Late in the site schedule
• Short durations to get pavement installed

Check site Conditions
• Soil types – bedrock, infiltration rates
• Groundwater elevation
Preconstruction Meeting

Planning

• Protect area from construction site run-off
• Protect the area from construction traffic
Material Approval

Submittals
• Aggregate gradations
• Aggregate sources
• Porosity testing
Experienced Contractors

- Employee certifications
- Previous number of installations
- Training
Excavation to Subgrade

- Limit compaction
- Use appropriate equipment
- May Leave 6” on initial cut if used for sediment control
Excavation to Subgrade

• Confirm soil types and infiltration rates
• Confirm groundwater levels
• Verify bearing capacity
Underdrain (if included)

- Route to outfall
- Drain down in less than 72 hours
System Outfall
- Safely discharge excess stormwater
- Non-erosive
Monitoring Wells

- Need to be protected
- May be located outside of pavement but must still be in the aggregate storage layer.
Aggregate Storage Layer Material

- Open Graded
- Less than 5% p200
- Minimum porosity of 30%
- Locally available material
- Store and handle the aggregate to prevent contamination
Aggregate Installation

- Minimum storage layer of 12"
- Upper “choker” layer of smaller stone
Larger sites require special planning and sequencing to limit tacking and rutting as the base material is installed.
Fabrics (when required)
- Soil separation
- Strengthen the subgrade

Liners
- Prohibited infiltration areas
Permeable Concrete Pavement

Special Techniques

Special Tools
When it’s down...

It’s DONE
Permeable Concrete Pavers
Special Considerations

- Leveling course—#8 fractured and washed
- Installed from finished surface
- Remove and reinstall for repairs
- Labor intensive handwork at cut ins
Jointing Stone

- #8 fractured Stone
- Remove and replace to restore the permeability
Permeable Asphalt Pavement
Special Considerations for Rutting

- Manpower to direct trucks
- Labor/Equipment - remove ruts prior to surfacing, just ahead of the paver
• Roll in static mode only
• Roll only to smooth the surface
• Use perimeter controls to prevent run-on when possible
• Covering the surface is not always sufficient

Not Done Until Final Stabilization is Complete

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Protect the Finished Surfaces

- Limit construction traffic to decrease tracking
Protect the Finished Surfaces

• No storage of loose materials on the surface
• Educate superintendents and subcontractors
Signage
• Identify location
• Describe purpose
• Identify activities that should not occur – seal coating, material storage

Permeable Pavement Area
Permeable pavement is located in these 4 parking stalls.

DO NOT –
• Seal coat the pavement
• Stockpile loose materials
• Use sand for ice control

Designed to safely infiltrate & clean storm water.

Please call 262-884-2360 with questions.
Final Inspection

- Visual inspection during rainstorm to ensure the systems function
- If necessary clean or repair
Patching and Repair

• Up to 10% of pavement area may be patched with impervious pavement during lifetime
• As long as it does not effect the performance of the system