

POROUS PAVEMENT

“A GREEN STEP FORWARD”



OTEC 2009



EATON

KZF DESIGN



Ft. Wright TANK Park & Ride

Owner:

Transit Authority of Northern Kentucky
Andrew Aiello - Deputy General Manager



Contractor:

Eaton Asphalt Paving Company, Inc.
Anthony Ridgeway – Construction Manager



Engineer:

KZF Design Inc.
Henry L. (Hank) Fedders – Project Manager



Storm Water Permitting & Monitoring:

SD#1
Craig Frye – Assistant Project Manager





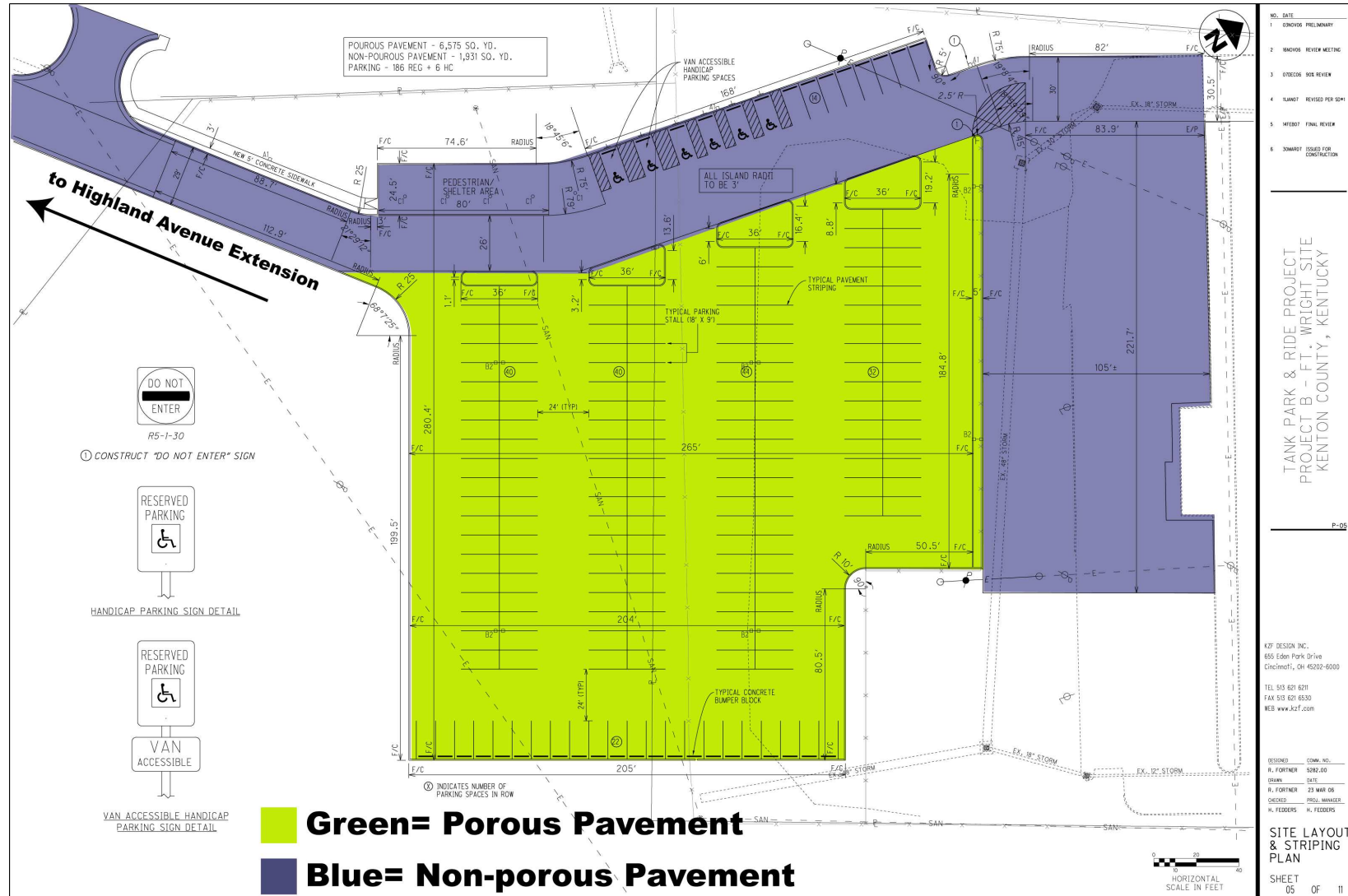
project

- October 2005 - TANK issues RFP for a design/build project for two Park & Rides.
- Mt. Zion Road in Boone County – 75-150 parking spaces and Ft. Wright adjacent to TANK facility – 150-250 parking spaces.
- KZF and Eaton Asphalt Paving Co. partnered to submit bids for both projects and the team was selected for both projects.



design

Site Plan



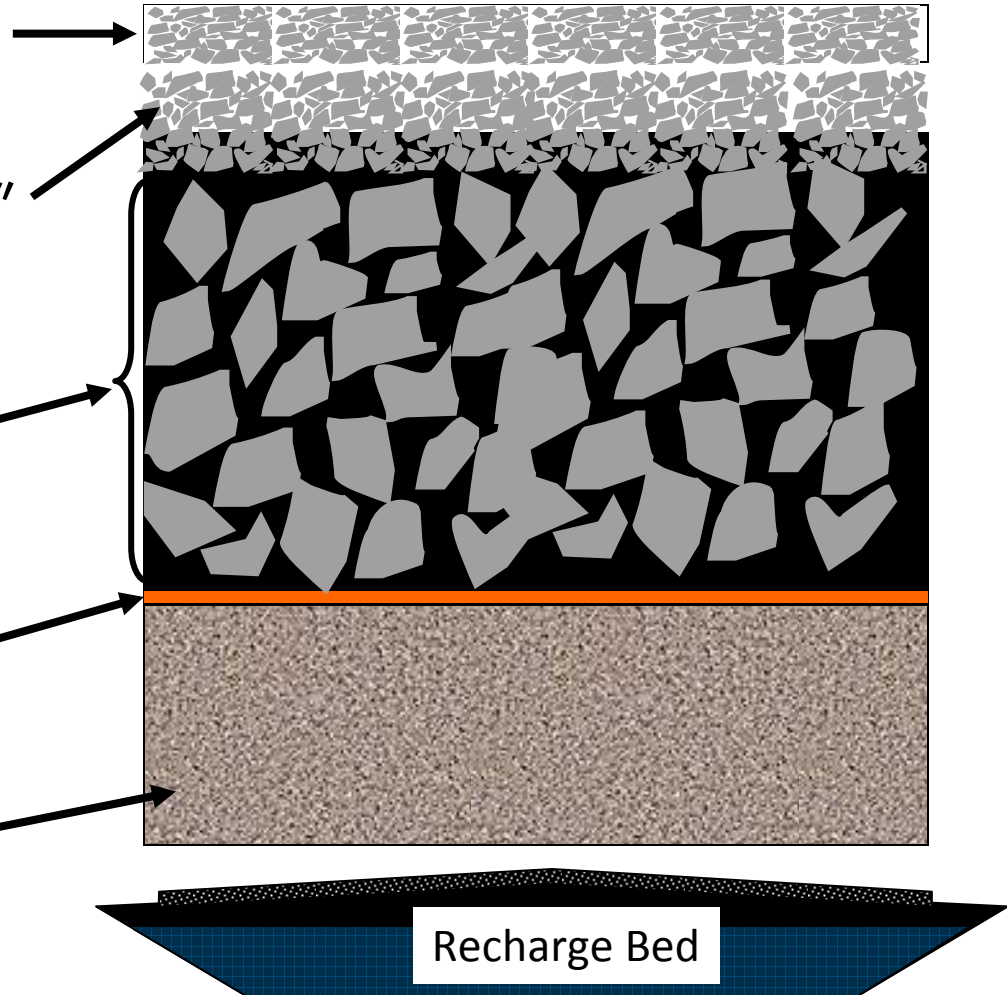
6" Open-Graded HMA
with PG 76-22

Aggregate Interlayer 6"
Thick (#8 stone)

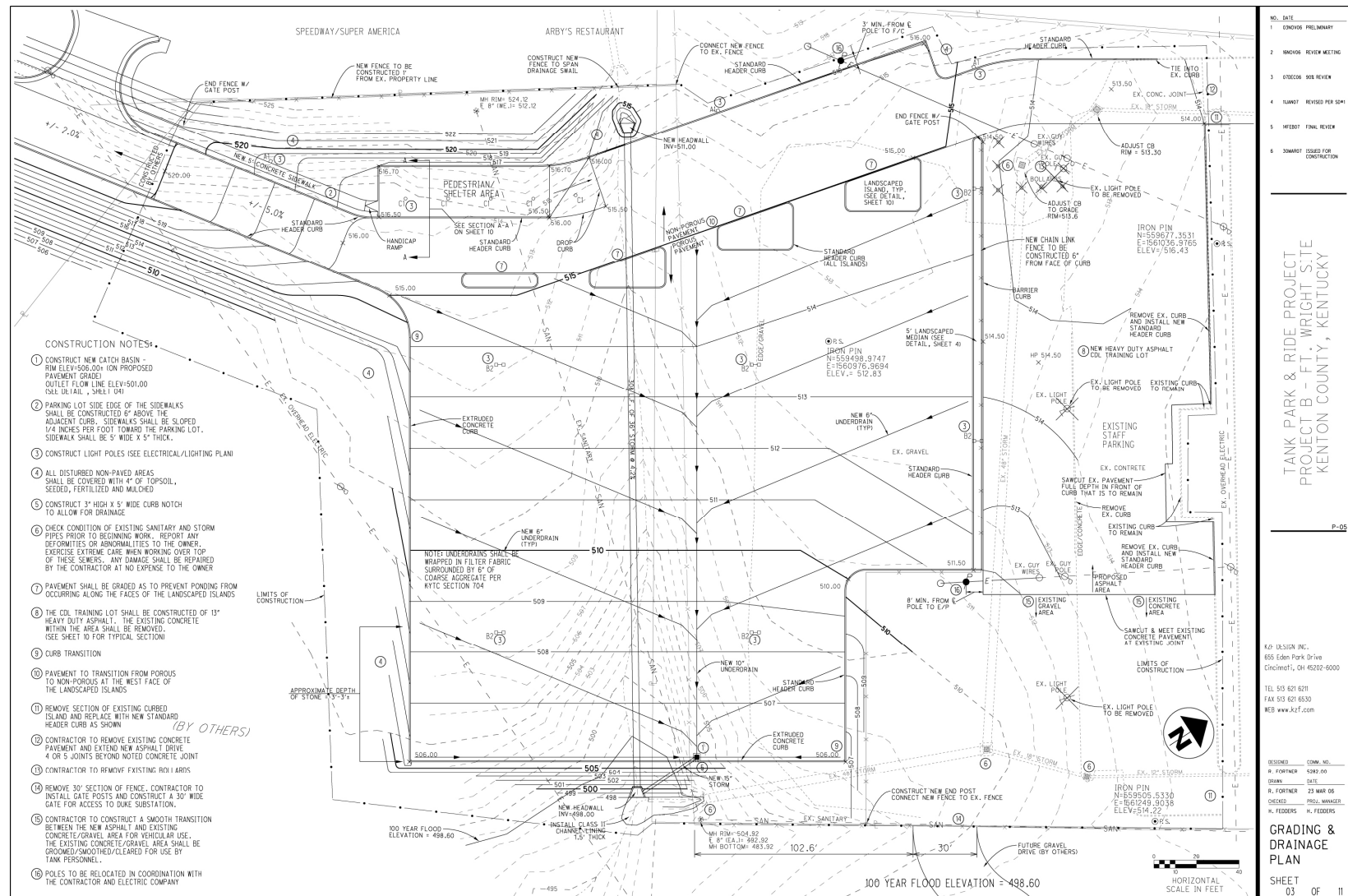
24-36" of #2 Stone

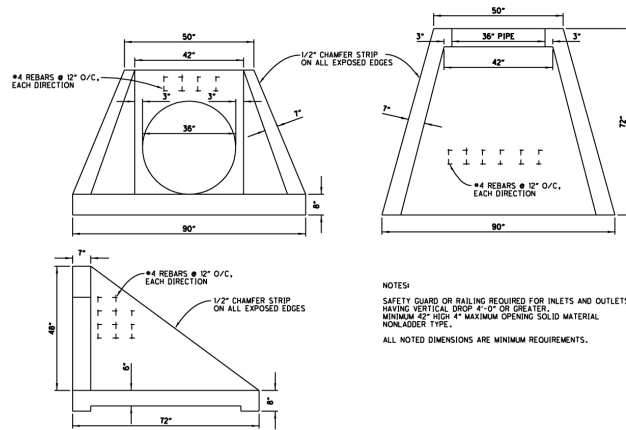
Non-Woven
Geotextile Fabric

Uncompacted Soil
Subgrade

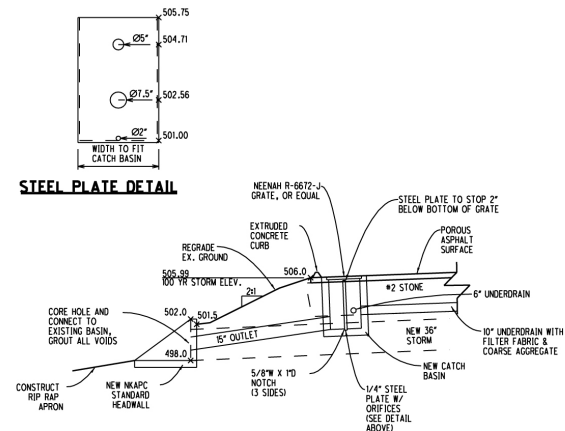


Grading and Drainage Plan

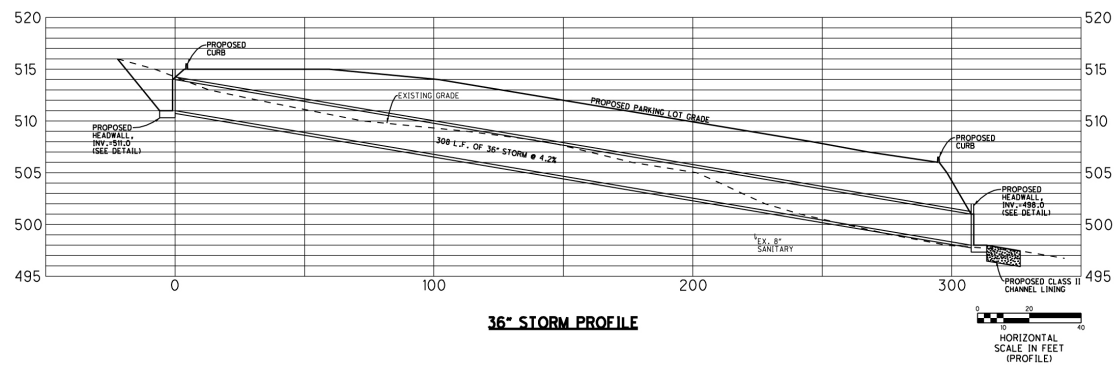




HEADWALL DETAILS



DRAINAGE OUTLET DETAIL



36" STORM PROFILE

NO.	DATE	
1	03NOV06	PRELIMINARY
2	18NOV06	REVIEW MEETING
3	07DEC06	90% REVIEW
4	17JAN07	REVISED PER SD#1
5	14FEB07	FINAL REVIEW
6	30MAR07	ISSUED FOR CONSTRUCTION

TANK PARK & RIDE PROJECT
PROJECT B - FT. WRIGHT SITE
KENTON COUNTY, KENTUCKY

P-05

KZF DESIGN INC.
655 Eden Park Drive
Cincinnati, OH 45202-6000
TEL 513 621 6211
FAX 513 621 6530
WEB www.kzf.com

DESIGNED	COMM. NO.
R. FORTNER	5282.00
DRAWN	DATE
R. FORTNER	23 MAR 06
CHECKED	PROJ. MANAGER
H. FEDDERS	H. FEDDERS

TYPICAL PAVEMENT
SECTION / DETAILS

SHEET
04 OF 11

- 36" CMP storm pipe from KY 17 outlet extended under the entire lot.



- Monitoring device on outlet pipe from control structure.



- Flow baffle.





construction

- Future site of Park & Ride was gravel and vegetated terrain.



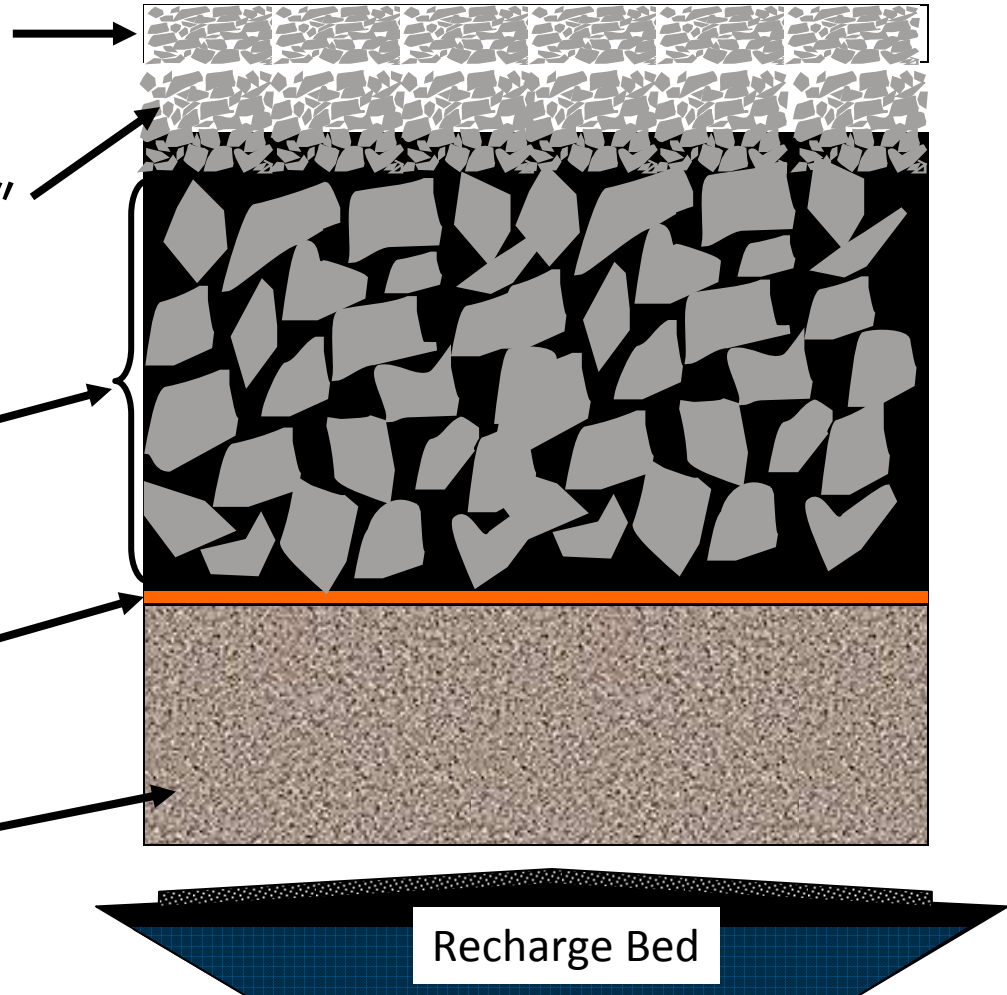
6" Open-Graded HMA
with PG 76-22

Aggregate Interlayer 6"
Thick (#8 stone)

24-36" of #2 Stone

Non-Woven
Geotextile Fabric

Uncompacted Soil
Subgrade



- Trucks kept off of subgrade to avoid further compaction.



- Soil composition affects design of pavement system.



- TOPCON GPS system used to establish level grade.





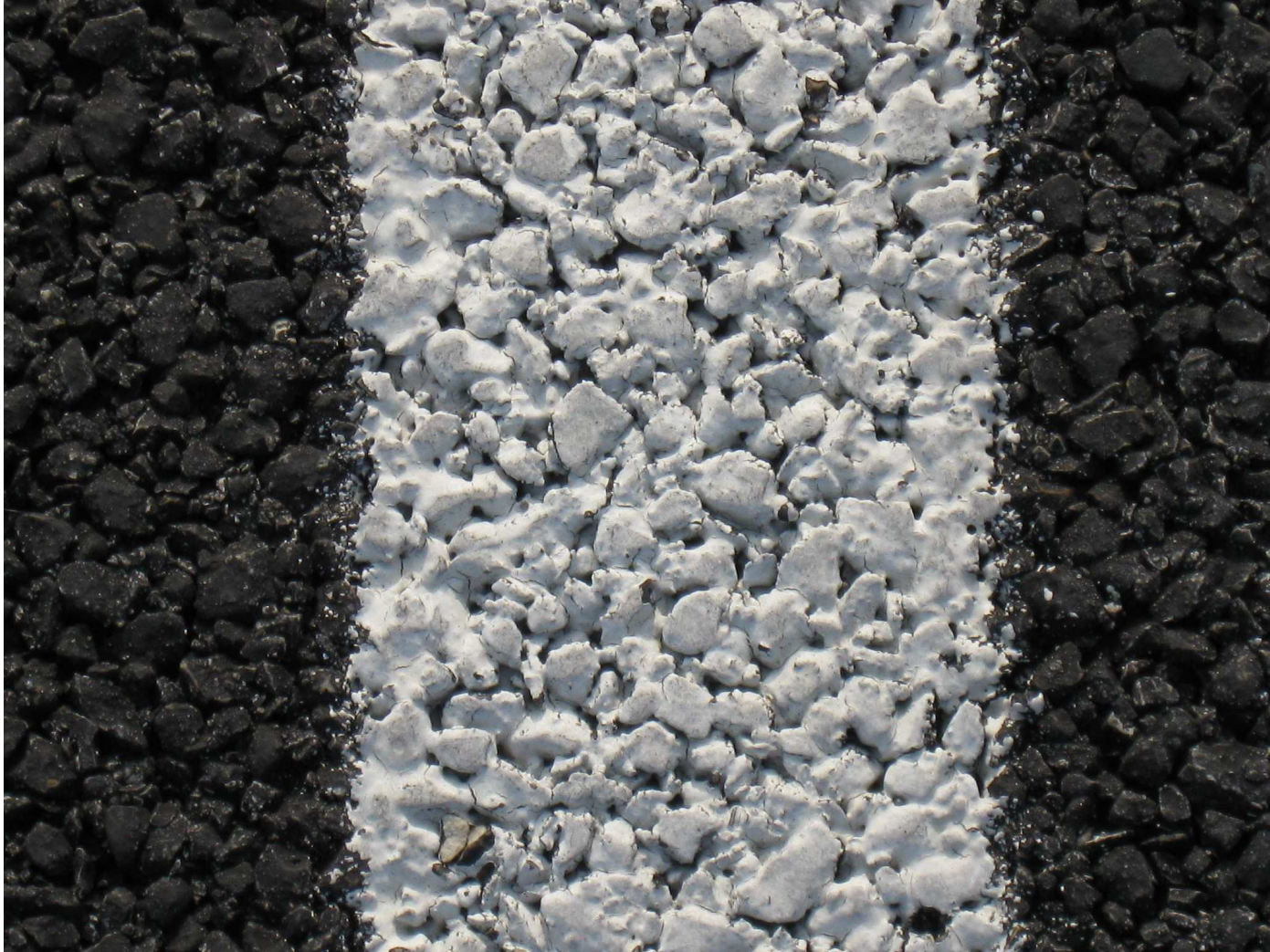
- Park & Ride had to be tied in with KyTC Highland Ave extension being constructed at the same time.
- Design/Build made it easy to make design changes on the fly for the tie in.





completion

- Pervious pavement.



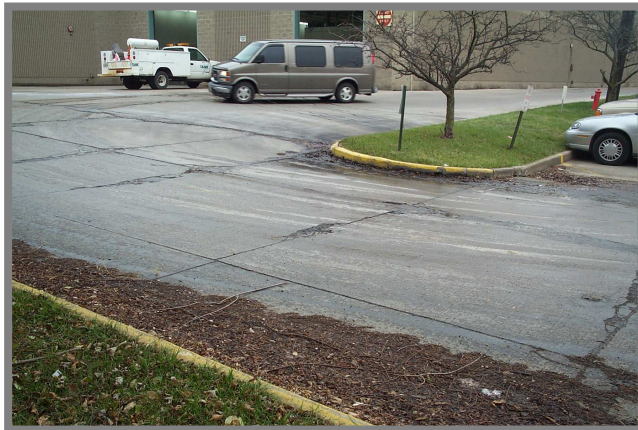
- Pervious pavement vs Standard Pavement.



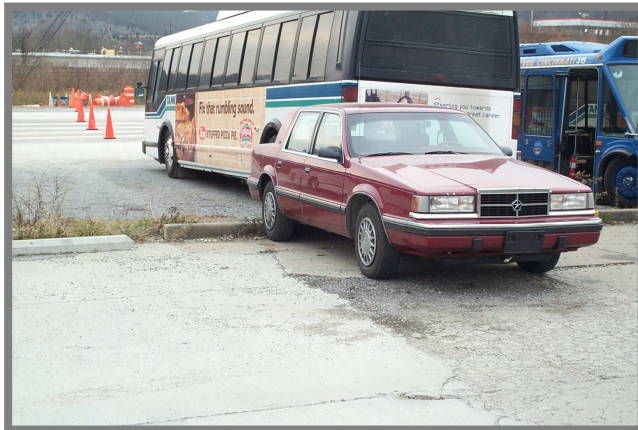
Before & After



Before & After



Before & After



Before

Point of
Reference



- Completed facility.

Point of
reference



- Newly designed shelters, decorative lighting and landscaping.



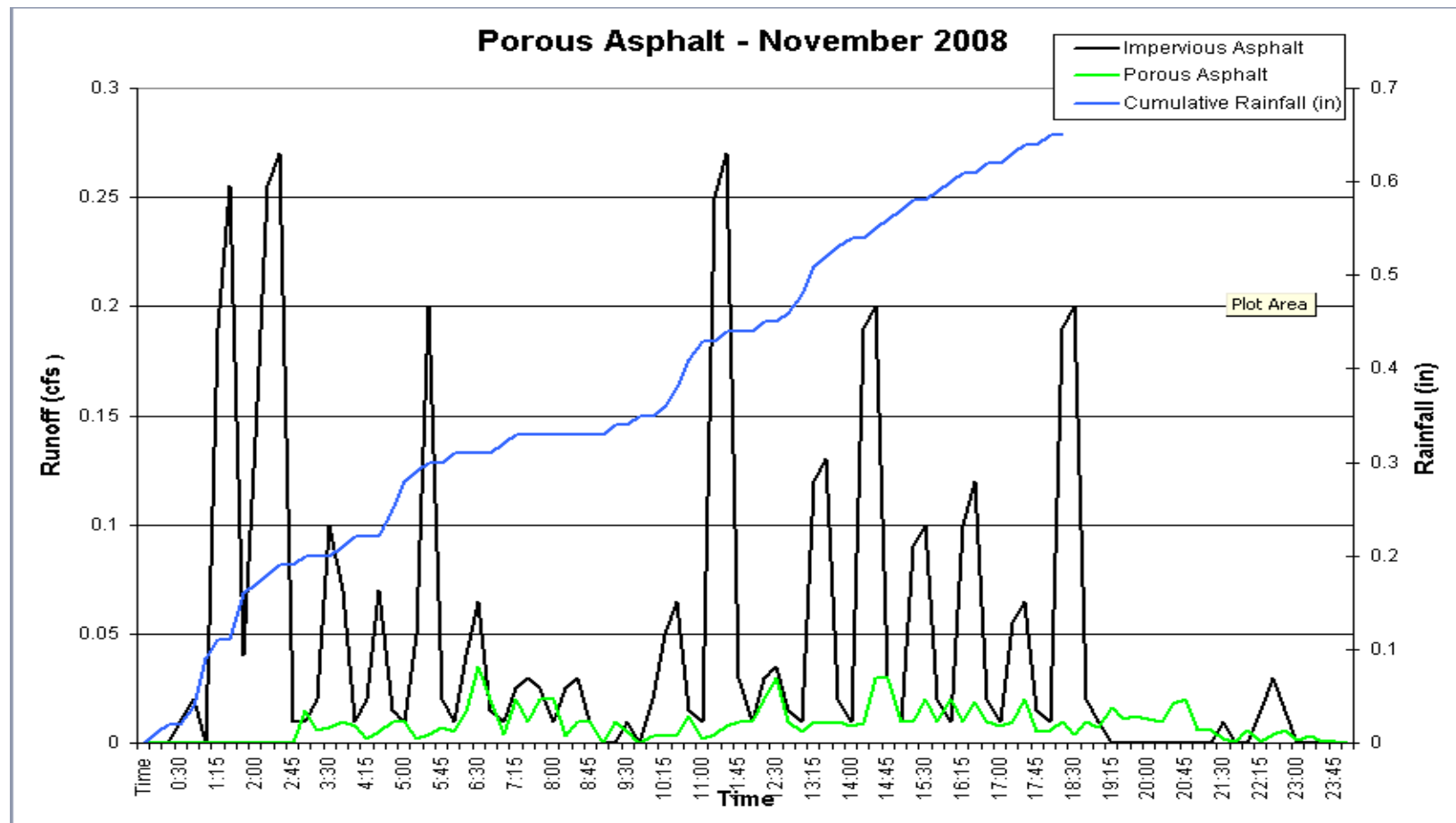


storm
monitoring

- Monitoring Efforts



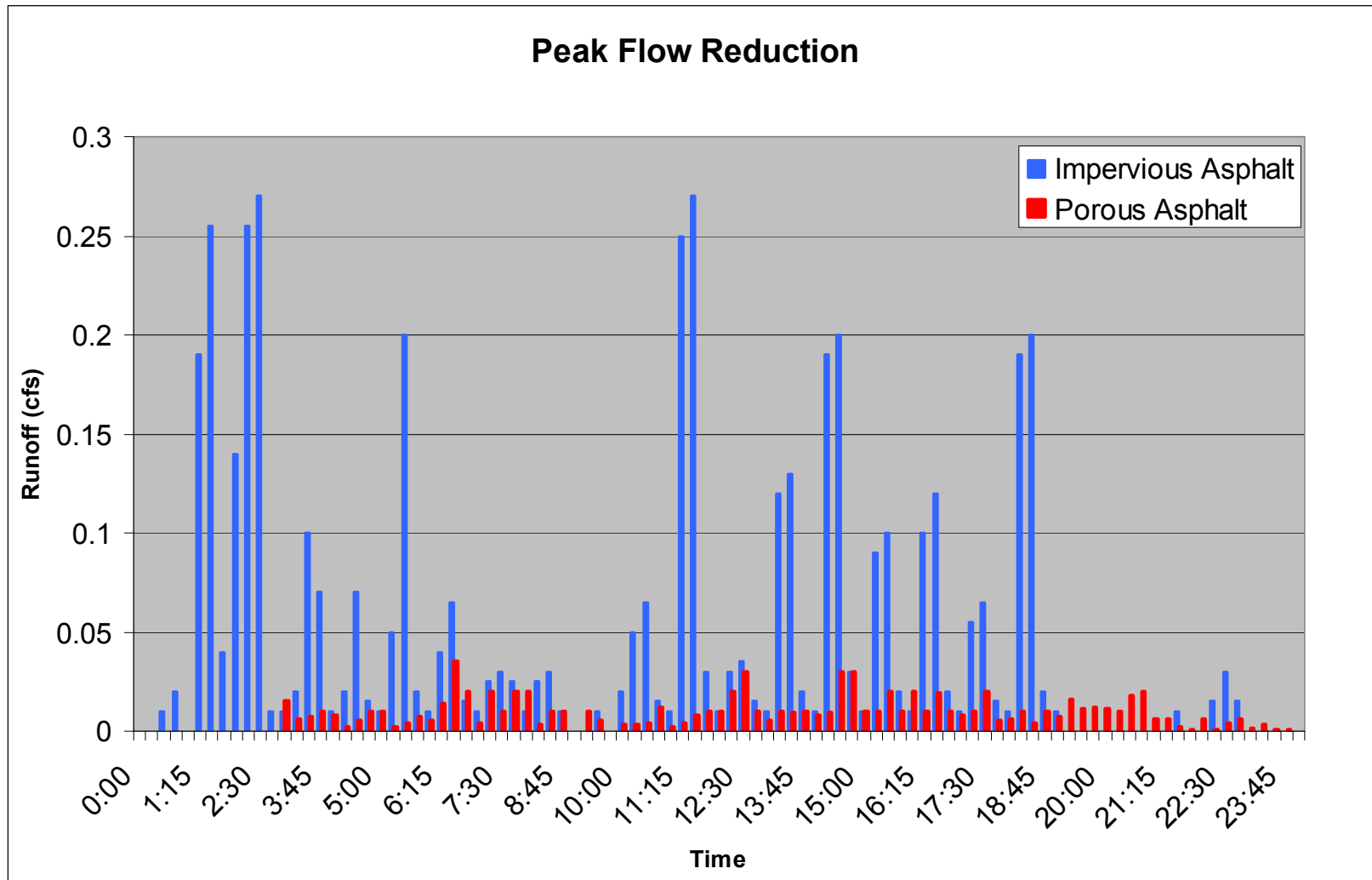
- Quantity



- Volume Reduction

Rainfall (in)	Rainfall (gal)	Measured Runoff (gal)	Infiltration/Evaporation (gal)	Percent Volume Reduction
0.70	24,000	6,000	18,000	75%

- Peak Flow Reduction





Q & A

Contact Information

Owner: Transit Authority of Northern Kentucky
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Contractor: Eaton Asphalt Paving Company, Inc.
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