

## UNIV. OF NORTH CAROLINA WILMINGTON

### WILMINGTON, NC - STORMWATER CASE STUDY

To better serve its students, The University of North Carolina Wilmington embarked on a \$45 million outdoor enhancement program intended to upgrade the school's athletic facilities. This plan includes a wide variety of projects encompassing new intramural and club sports fields, rehabilitated varsity practice and game fields, public access buildings and storage and service facilities. There was a total of four new fields built; two with synthetic turf and two with natural grass.



Due to the relatively large site disturbance and strict drainage requirements of the new playing fields, substantial underground stormwater detention was required. Because of the difference in the water table throughout the system, two different-sized chamber detention systems were needed.

<b>System 1:</b>	
Storage Provided	11,243 CF
Area	16,290 SF
Chamber Model	Contacto <sup>®</sup> Field Drain C-4HD
# Units	414
<b>System 2:</b>	
Storage Provided	10,225 CF
Area	11,189 SF
Chamber Model	Contacto <sup>®</sup> 100HD
# Units	395
<b>Project Engineer</b>	Sports Construction Management, Inc. Lexington, NC
<b>Contractor</b>	East Coast Contracting, Inc. Wilmington, NC

In a stormwater management system like this one, water is stored underground beneath the playing fields within the CULTEC systems until it is discharged downstream at a controlled rate.

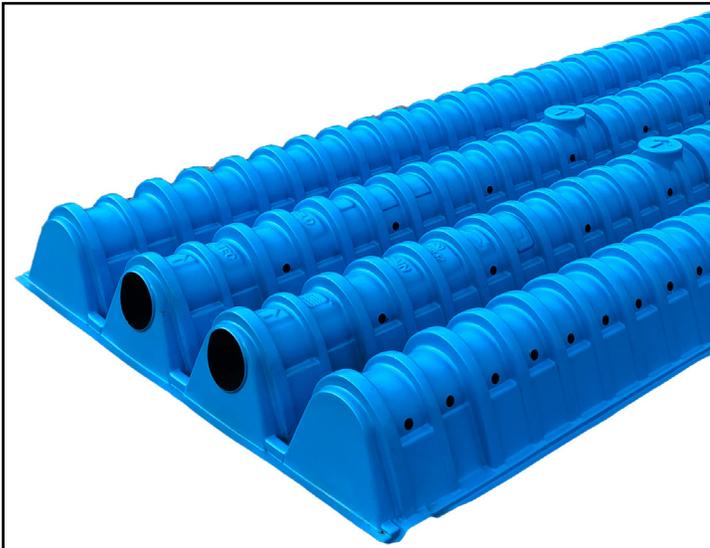
"The high water-table was a problem, as it provided very little room for storm water to infiltrate back into the ground," said Jon Shell, CULTEC's Southeast Regional Sales Manager. "Our Contactor<sup>®</sup> C-4HD<sup>™</sup> chamber was selected for the first field, and the Contactor<sup>®</sup> 100HD<sup>™</sup> chambers on the second field."

In addition, the detention system needed to withstand traffic loads up to 8,000 lbs. per axle. Due to its heavy duty capability, the CULTEC Contactor chambers were a great fit for both ground water and traffic requirements.

# CULTEC CONTACTOR® & RECHARGER® STORMWATER SOLUTIONS

For the first system, 414 Contactor Field Drain C-4HD stormwater chambers were used. CULTEC's Contactor Field Drain C-4HD chamber stands 8.5 inches tall, making it the lowest profile chamber in the CULTEC product line.

For this field, the chambers were covered by six inches of stone, followed by two inches of stone and finished off with 1.75 inches of artificial turf. The total storage area was slightly less than 16,300 ft<sup>2</sup> and provides a storage capacity of 11, 243 ft<sup>3</sup> in a horizon of only 18.5 inches from system invert elevation to final grade.



**Contacto<sup>®</sup> Field Drain C-4HD Chambers**

The second system featured 396 Contactor 100HD chambers, another low-profile model at 12.5 inches tall. Similar to the first system, the chambers were covered with eight inches of stone and 1.75 inches of artificial turf for an overall depth of 22.25 inches. The system provides 10,225 ft<sup>3</sup> of water storage, within an area of 11,189 ft<sup>2</sup>.

"I had never installed CULTEC chambers before. In the past we've done some fairly large pipe systems but this was the first shallow-water system," said site contractor, Joby Hawn of East Coast Contracting. "The CULTEC system installed quickly and efficiently – its lightweight and easy to handle."

According to the general contractor on-site, Shane Harkey of Sports Construction Management, "We build around 50 fields with about 4 million square feet of turf a year, and it was my first time installing a CULTEC system. The chambers were packed up on pallets for easy storage – and they didn't take up much room on the site. We were able to install about fifty chambers per hour with only two installers."

"Working with CULTEC was great. From their outside sales representatives to their internal Technical Specialists, if we had any questions about the amount of weight the structures would hold, where we should place the materials or anything else all we had to do was ask and we got an immediate answer. Jon even came to the job site to be a resource for us. I would definitely recommend CULTEC for stormwater management." Hawn continued.



**Contacto<sup>®</sup> 100HD Chambers**



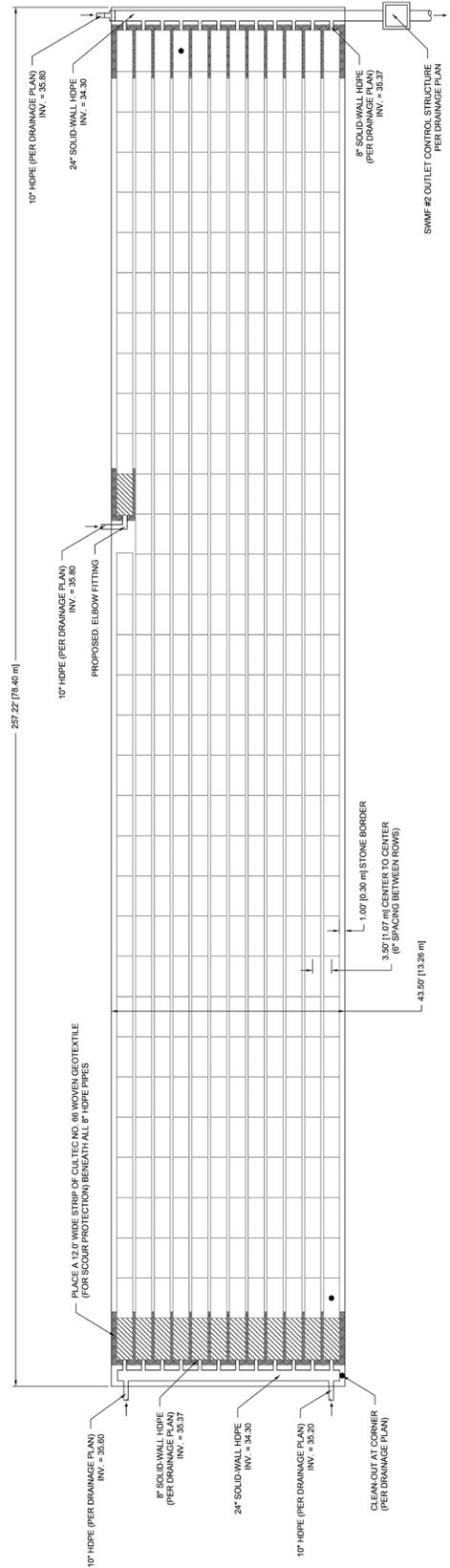
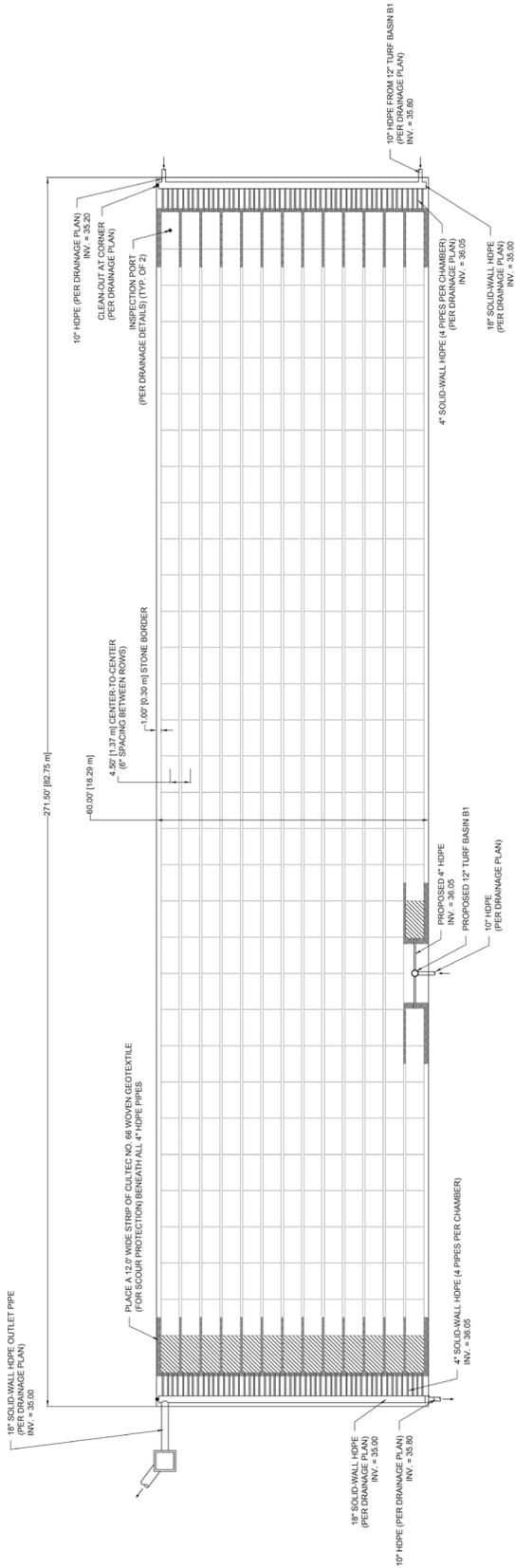
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## STORMWATER SOLUTIONS



RETENTION • DETENTION • INFILTRATION • WATER QUALITY