Clinton High School
Additions and Renovations
Clinton, Tennessee

Renovation	96,320 s.f.
Addition	35,000 s.f.
Student Capacity	1,250
Construction Cost	$ 4,870,000
Cost/s.f.	$ 37
Cost per Student	$ 3,896
Completion	1994

ARCHITECTS
WEEKS
AMBROSE
McDONALD
INC.

Originally designed and built circa 1968 under the influence of the now abandoned "round school" theories promulgated at that time, this school had so many design flaws that consideration was given to demolish and replace it on the same site. However, the school was retained and a substantial addition built in 1985. It temporarily solved overcrowding, but ignored the original building design and its problems, such as poor circulation, odd shaped spaces, awkward connections and open plan classrooms.

The original roof had always leaked and the HVAC system including ductwork had been placed on the roof and was trapping water in numerous places. A dead flat area of the roof also contributed to the water infiltration into the building. Air quality had become a serious liability and concern. The original scope included correction of major HVAC and roofing deficiencies, but eventually grew to include a major renovation and additions. All of the HVAC was removed from the original roof and water source heat pump units were installed in each classroom.

Roofing Solutions: Approximately 100,000 s.f. of existing roofing systems were removed down to the original deck. Certain portions (mainly circulation areas) had an 8 inch thick concrete roof deck which was more than sufficient to support a new ballasted EPDM roofing system with tapered EPS insulation for positive drainage. This roof system was chosen as the most economical solution for these areas.

The fine arts wing flat roofs and classroom pod domed roofs were constructed with gypsum deck over form board and therefore were not structurally sufficient to support a ballasted system. Therefore the fine arts wing was re-roofed with a lightweight fully adhered EPDM membrane over ½" fiberboard over tapered EPS insulation for positive drainage. The classroom pods were also covered with a fully adhered EPDM membrane over ½" fiberboard over 1½" rigid insulation. Since the domed roofs were visible from the ground, they were painted with the roofing manufacturer's approved coating in a light color for reflectivity. Also new internal curved gutters were rebuilt behind an existing steel plate fascia at the perimeter of the circular domed roofs.

A test of the Gymnasium roof revealed it would rise and fall 8" over a 24 hour period due to temperature changes. Therefore it was re-roofed with a fully adhered, coated EPDM membrane over ½" fiberboard over the gypsum deck because of the EPDM's elongation properties.

New additions were structured to support a ballasted EPDM membrane over loose laid tapered EPS insulation over ¾" perlite board on a steel deck, again for economic reasons. For the first time in 25 years, the school is a functional, easily maintainable, dry facility with acceptable air quality.