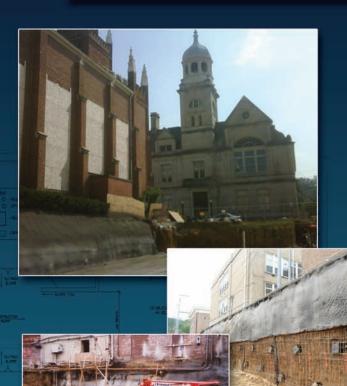
FRANKLIN COUNTY COURTHOUSE

SHORING · UNDERPINNING · SHOTCRETE · HELICAL PILES · TIEBACKS · MICROPILES · GROUTED JACKED PILES



PROJECT DESCRIPTION:

Project Date: July 2011

Project Name: Franklin County Courthouse

Project Location: Frankfort, KY

Engineer of Record: Magnum-Geo Solutions

Poage Engineers

General Contractor: Rising Sun Developing Co.

Construction Manager: Codell Construction

Owner: Commonwealth of Kentucky

Scope: Shoring, Underpinning, Shot-

crete using Helical Piles, Helical Tiebacks, Micropiles & Grouted

Jacked Piles.

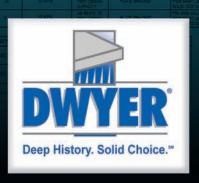
· 82 Helical Tiebacks

· 60 Soil Nails

· 25 Grouted Jacked Piles

· 4300 sq.ft of Shotcrete Shoring

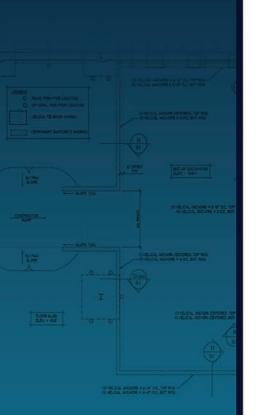






Toll Free: 877.399.3726 www.dwyercompanies.com





SHORING & UNDERPINNING PLAN

HELICAL MICHOR SHORMS SCHEDLE

LI QUANTITY DESKIN CAPACITY MIN LENSING PER CAP SHAFT DIA

S MICHOR EAST CAPACITY STATEMENT CANCEL TRANSPORTED TO THE SHAFT DIA

STATEMENT CAPACITY CANCEL TRANSPORTED TO THE SHAFT DIA

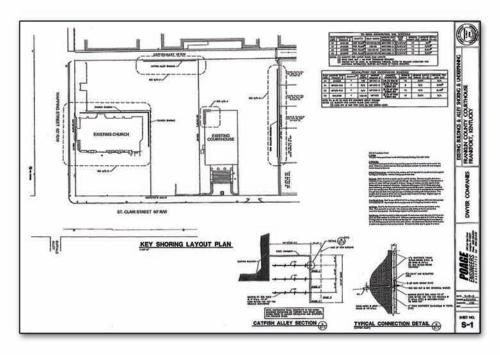
STATEMENT CANCEL TO THE SHAFT DIA

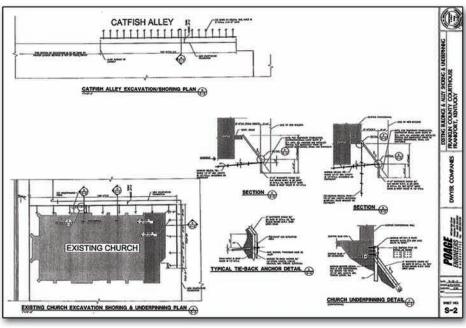
STATEMENT

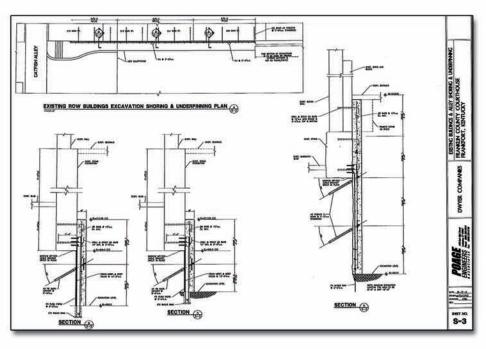
		MICH							
		201000	##D		HELIX SHAFT HELIX SHAFT (STANDARD DIGIT)				
+ BED DÉTALE FON LEIGHT MELLANDRÉIGE									

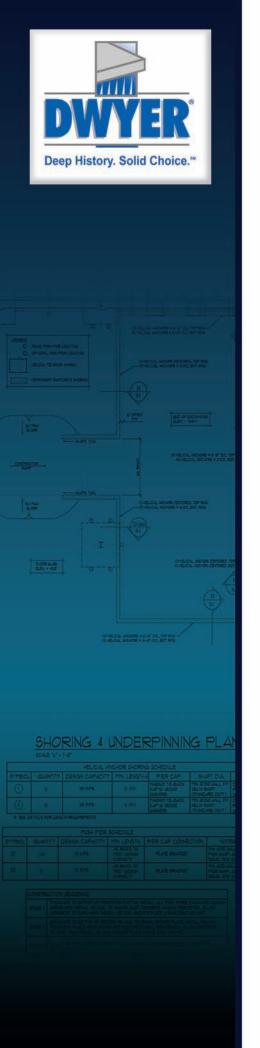
				MATERIAL PROPERTY.					
				PLAT PRODE					

CONTROL SCIENCE OF STREET STATE AND ALL ALTER POST CALLY SHOW
THAT I STATE STREET STREET STATE AND ALL ALTER POST CALLY SHOW
THAT I STATE STREET STATE STATE









FRANKLIN COUNTY COURTHOUSE

Project: Franklin County Judicial Center

CM: Codell Construction

GC: Rising Sun Developing Company

Shoring Engineer: Poage Engineers & Mag-Geo Solutions

In the summer of 2011, Dwyer Companies contracted to perform a design build shoring system for the Franklin County Judicial Center Project. The foundation system for the new Courthouse addition, tunnel and parking structure was to be installed in the range of 11'-14' below the stone foundations of the adjacent structures. According to the (Kentucky Historical society) the original Courthouse was named the Frankfort Courthouse and was constructed in 1835 to serve the town and state capitol of Kentucky. The Roman Catholic Church also built within this block when they constructed the Good Shepherd Church in 1850 to follow the growing Irish and German Catholic populations to the area. In latter years the city block was filled out with various merchant owned buildings on Main St. the north eastern boundary for the block. All of the block's structures were erected with the limitations of 1800's construction capabilities. Therefore the subsequent renovation and expansion of the original Courthouse posed great shoring concerns for all of these pre-civil war edifices.

At the time of construction the most popular foundation system of this region was locally quarried limestone. Due to the site limitations and stone foundations, Dwyer teamed with Poage Engineers & Mag-Geo Solutions to perform the design build project. The project consisted of 4 separate phases all carrying a unique design.

Dwyer installed a helical tie-back shotcrete wall along the Northwestern wall of Good Shepherd Church and helical underpins to the attached confessional. Catfish Alley serves as the blocks northwestern border and was shored to ensure that the neighboring businesses, churches and school in the adjacent block would not be disrupted. Due to the close proximity of the Episcopal Church foundation wall to the alley, a soil nailing system was chosen to reduce the embedment length of the helicals. The wall was excavated in 5' lifts until the total excavation height of 14' was met. Each section contained a dewatering system and shotcrete finish.

The Row Buildings themselves brought on a myriad of challenges. All 4 buildings shared the same lot line and were constructed with stone foundations terminating at various depths. A concrete retaining wall that was installed sometime in the 1900's and had to be removed in sections during the shoring process to access the footings. All of the foundations were underpinned using a grouted jack down pile method in order to achieve the necessary capacities in an area inaccessible to equipment. Subsequently following the vertical members a concrete haunch and helical tie-back method was employed to ensure the stone foundation did not roll out when exposed. After the footing was secured both lateral / vertical, the building was excavated in 4' cuts. Each 4' vertical cut was followed by a row of helical tie-backs, a dewatering system and rebar reinforced shotcrete wall until the appropriate depth for each building was met.

The design team decided to employ the same jack-down pile method for the Courthouse. Due to higher loads, we were forced to work on both sides of the foundation wall to reduce eccentricity. After the vertical installation, a helical tie-back & concrete haunch method was employed to ensure rotational stability. This was followed by a single row of helical tie-back anchors in shotcrete retention wall system.

For the entire project a total of 82 helical tie-backs, 60 soil nails, & 25 grouted jack down piles were installed in conjunction with over 4300 square feet of shotcrete.