

## Foundations and Floor Slabs at Grade

### Components

- Spread footings and wall footings
- Trenched footings/turned down footings
- Drilled piers
- Reinforced concrete foundation walls
- Reinforced concrete masonry walls utilizing normal weight masonry units with all cores grouted and reinforced
- Concrete grade beams
- Driven piles and pile caps
- Auger cast piles and pile caps
- Other systems if recommended and acceptable to the geotechnical engineer and the structural engineer
- Where expansive clays are present on the site, the geotechnical investigation is to address such and special foundation and floor slab systems and/or undercutting and backfilling shall be utilized as recommended by the geotechnical engineering investigation.

### Standards

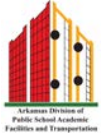
1. Foundations shall be designed by a structural engineer to meet the recommendations given by a geotechnical engineer based upon his geotechnical investigation and report and in accordance with the current state building code.
2. Structurally sound
3. Deflections and differential movement to be limited to magnitudes compatible with other building components
4. Compatible with soil type
5. Water Barrier
6. Long life expectancy
7. Do not use calcium chloride in concrete.
8. Sub-slab ventilation in areas with radon or potential soil gas submissions. Requirement for such is to be determined by qualified testing agency.
9. Concrete minimum compressive strength at 28 days to be as required by structural engineer's design, but shall be no less than the following:
  - Foundations - 3,000 psi
  - Floor slabs - 3,000 psi
  - Precast systems - 5,000 psi. Strength of concrete provided is to be tested by independent testing lab, during construction.
10. Concrete reinforcing steel shall be a minimum grade 60 and meet the requirements of the current state building code and structural engineer's design.
11. Project site concrete mixing shall not be used, unless otherwise approved by an independent testing agency.

#### Fly-Ash

Concrete materials may use 10%-20% fly-ash as replacement, but not addition. Mix design to be done by qualified independent testing agency.

#### Form Release

Use low- and non-toxic form releases.



12. For classrooms and corridor areas, use no less than a 4" thick concrete slab with 6x6 - W1.4 x W1.4 welded wire fabric.
13. Under concrete building slabs, place a minimum 10 mil vapor barrier and compact a minimum of 4" of drainage fill material unless geotechnical engineering investigation recommends otherwise.