BUILDING A NEW ATHLETIC COMPLEX IN ROCKFORD

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Located 10 miles northeast of Grand Rapids is the city of Rockford; a community of 3700 residents known primarily as the home of Hush Puppies shoes. Although the city itself is small, the surrounding Rockford School district is considerably larger covering a 100 square mile area encompassing approximately 20,000 citizens.

Over the past seven years the Rockford School District has been one of the fastest growing districts in western Michigan with a 53% increase in students during that time. An average of 300 new students have entered the Rockford schools each year. This year was a down year with only 255 new students. Looking at it another way, this translates into ten to 12 new classrooms needed each year.

With that type of growth, the Rockford schools have been in a constant state of construction. During the past seven years, additional classrooms have been added to all elementary schools twice; and a new elementary has been opened. As the secondary schools began to feel the squeeze, a citizens committee was formed to review options for handling the overcrowding at our current high school. After considering several alternatives, it was the recommendation of the committee that an entire new high school complex be constructed. Following the committee's recommendation, Rockford School District voters approved a $40 million bond issue in November 1989 and the next June voted to include a swimming pool with the high school.

Included with the high school bond issue were several athletic facilities:

- A new football stadium
- Varsity and practice baseball fields
- Varsity and practice softball fields
- Track and field facilities
- Soccer practice field
- Two football practice fields
- Eight tennis courts

The impetus for these new fields was the desire of Rockford's citizens to begin development of an extensive intramural program as well as interscholastic athletics.

Building athletic facilities was not new to the district but constructing good facilities was another matter. During one of the earlier bond issues, several athletic fields had been built at Rockford's Middle School. These fields suffered from poor design regarding usage and site considerations as well as poor construction. The low bidder was more adept at building highways and sewer systems. Consider that these fields were:

- Poorly designed; for example, a varsity soccer field that would require players making a corner kick to run down a hill.
- Built on a heavy clay soil without the benefit of drainage.
- Poorly constructed without properly removing rocks and other debris.
- Poorly maintained following establishment, particularly in light of the drought of 1988.

With this experience as a guide, the Rockford School Board determined early in the construction process that our new athletic complex would be done properly using modified soils, proper irrigation and adequate drainage. In meetings with the architect, Greiner, Inc., and particularly their landscape architect, Mark Wrona, this desire was emphasized repeatedly.

Since this new complex was being built adjacent to the previously constructed facilities a first concern was soil types. Early on, the engineers did test borings for the buildings and determined that in addition to the heavier topsoil, there were also two types of sand on site. Once this discovery had been made, the next step was to send samples to Michigan State University to determine the size distribution. When Dr. Trey Rogers sent back the report, the topsoil, as expected, was not recommended for heavy traffic areas such as ball fields. One of the sand samples proved to have too wide a particle size range with a high percentage of fines while the other sand type was nearly perfect for use in turfgrass root zones. With this information in hand, we were nearly ready to work with the architect as to the best procedure to follow to assure that the district wound up with the type of athletic facilities they desired.

To fully realize the potential of this 80 acre building site and the desired athletic components, a complete analysis of the site and its surrounding relationships was undertaken.

Site soils, slopes, natural drainage patterns and wetlands were carefully dealt with to get the most for dollars allocated for site work. Although often not immediately apparent, each and every site has its inherent conditions which offer opportunities and limitations. The Rockford High School site varied in elevation by 35'. Before the project is complete over 400,000 cubic yards of soil will be moved. Yet without careful placement of the various site components, much more soil would have had to be moved.

Early on during the planning of the project, future expansion was a key consideration. Although not every site athletic component of the project would be included within the project's initial base bid, provisions were made for future expansion. Site for future classroom expansion was defined. Electrical, paving, curbing, draining and irrigation systems were installed with future expansion in mind, thereby avoiding costly removals and relocations. For example, a main line irrigation loop, supplied by the projects construction well, was run around the building with connecting fittings which would provide for future irrigation system expansion.

Some of the planning economies that were taken advantage of included expanding the sites' existing natural low areas for storm water retention. Also, existing sands on-site were used to modify heavy topsoil, build up a workable building pad, and for foundation for paved areas. Locating the football stadium adjacent to the school to take advantage of the existing grade to create at-grade seating of the same cost as raised bleachers will benefit the school. By locating the stadium closely adjacent to the buildings existing restrooms in the school could serve double use during athletic events, thereby saving the costs of constructing a separate restroom, concessions, and team room building.

Typically athletic fields falter due to compaction which results from overuse and the inability of the soil growing media topsoil to pass water. Poor field drainage is the number one cause of turf failure. The soils of the Rockford region can be characterized as heavy clay. Finding existing uniform

course grained sands on-site was a boon to this project. The stadium field composed of uniform sands below 15' of clay would provide excellent drainage. A proposed underdrainage system initially planned for, and bid, was eliminated. The stadium fields growing media (traditionally referred to as topsoil) consisted of 75% sand, 15% peat, 10% topsoil, and the equivalent of 80 lbs of "Sand Aid" per 1000 square feet. "Sand Aid" was chosen as an soil amendment to provide nutrient holding and using capacity without retaining moisture.

The soil, mix for the remaining fields was composed of a 50% course sand, 50% topsoil mix over a sand/tile drainage system. All growing media was mixed on site with a special blending machine to ensure a homogenous mixture.

Seed mixes were tailored to the specific use of the turf. The stadium field and perimeter site turf will receive different uses, levels of maintenance and irrigation. For example, for high traffic, non-irrigated rough areas, fescue was specified. Also, special seed mixes were used in non-use areas to reduce maintenance and cover highly erodible slopes.

All playing fields at Rockford High School will have an additional advantage not often afforded to many new sports fields. All fields will be allowed to grow a minimum of two growing seasons (one Spring and one Fall) prior to their use. With well established turf, grounds maintenance people will not be forced to try to make up the typical shortcomings associated with quick use, including shallow rooting and compaction. Rockford has hired a new grounds manager for their new highschool. Plans have been made for a fertility program, equipment requirements and policy for field use, to ensure that their new fields are not abused.

A combination of factors can make your project a winning one. A knowledgeable Owner representing a positive, supporting community and taking best advantage of your available site design opportunities are the keys to success.