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MEMORANDUM

TO: Roger Waldon, Planning Director

FROM: Dan Jones, Fire Chief 

COPY TO: Cal Horton, Town Manager
Flo Miller, Asst. Town Manager

SUBJECT: Fire Protection in the Development Ordinance

DATE: September 13, 2001

The purpose of this memo is to request that provisions be added to the draft Town of Chapel Hill Development Ordinance that would require water mains and fire hydrants be installed and operational prior to the issuance of building permits for new development or commercial projects. There are numerous communities that currently have such requirements and there is basis in national codes for this type of requirement. Construction projects and the accumulation of combustible materials related to construction are just as prone to destructive fire as completed structures, maybe more so, and the practice of allowing construction without the completion of the hydrant system needed to suppress such fires create unreasonable hazard within the community.

Discussion

Currently the practice in Chapel Hill is to require the installation of water mains and hydrants as part of the development review process but those utilities and fire protection features do not necessarily have to be operational until just prior to the issuance of a Certificate of Occupancy. The problem with this practice is that fires in structures that are under construction or fires in building materials stored on-site are not uncommon. There have been a number of incidents around the country of major fires occurring in partially constructed buildings or complexes. We in Chapel Hill have experienced fires at construction sites but fortunately none to date that grew to significant size.

Construction sites frequently have a mix of materials and practices that create scenarios of combustible materials in proximity to ignition sources. This combined with the possibility that paved surfaces and access for fire apparatus are not yet in place setup the potential for a significant fire. Not having readily available water supply on site for firefighting purposes further complicates any suppression effort. The current design standard for Chapel Hill requires that fire hydrants be placed so that the furthest portion of a building and all building areas of a site plan are within 500' of a hydrant. Making those hydrants operational prior to the beginning of construction insures at least minimal fire protection is in place before any hazard is established.

There is basis requiring fire hydrants in several established model codes. The National Fire Protection’s Fire Code Standard 241, Chapter 6, Section 7.2.2 says, “Where underground water mains and hydrants are to be provided, they shall be installed, completed and in service prior to construction work”. The International Fire Code 2000, which has been adopted as the North Carolina State Building Code 2002 Edition also, appears to address this issue. In Chapter 5, Section 508.1 it states “An approved water supply capable of supplying the required fire flow for fire protection shall be provided to premises upon which facilities, buildings or portions of buildings are hereafter constructed or moved into or within the jurisdiction”. Although we do not use the Uniform Fire Code that is in effect in some states, it is our understanding from jurisdictions that use it that Section 902 requires that water supply be already established during construction.

We offer as example, the following jurisdictions that currently require hydrants to be installed and operational prior to construction beginning on site. We believe there to be many communities across the state and nation that utilize this standard.

Burlington, NC

Cary, NC

Fuquay-Varina, NC

St. Cloud, FL

Gainesville, FL

Prince George’s County, MD

Sarasota County, FL

Clackamas County, OR

Conclusion

It is my recommendation that the Town of Chapel Hill include in the Development Ordinance a requirement that water mains and fire hydrants must be installed and operational based on the site plan approval prior to the issuance of building permits. This provision would establish water supply for fire protection during the construction phase when combustible materials and partially constructed buildings are on site. This would be especially important where larger structures are involved, whole complexes are being built or where fire sprinkler systems are to be included but are never operational until the structure is nearly finished and ready for a Certificate of Occupancy. I do not believe this would create significant delays for any project if the developer plans ahead to meet the requirement. From an economic standpoint, it provides the fire department with the necessary resource to keep a small fire incident from destroying a project that is well along in construction because there was not adequate water supply for firefighting.

I believe that this could be a significant fire protection improvement for the Town in light of anticipated and potential projects in the future of this community. Please advise if further information is needed.