



City of Naples

City Council Chambers
735 Eighth Street South
Naples, Florida 33940

-SUBJECT-	Page
DISCUSSION CONCERNING FIRE SPRINKLER ORDINANCE.	1-3
PRESENTATION BY DR. HAROLD WANLESS OF THE UNIVERSITY OF MIAMI REGARDING THE RISING SEA AND IMPACT ON MANGROVE ECOLOGY.	3-5
DISCUSSION OF TROY PROPERTY.	5-6
DISCUSSION OF ORDINANCE AUTHORIZING THE CITY MANAGER TO DIRECT THE POSTING OF PARKING RESTRICTION SIGNS.	6
PROGRAM BUDGETING - FIRE DEPARTMENT.	6

COUNCIL MEMBERS	M O T I O N	S E C O N D	VOTE		A B S E N T
			Y E S	N O	

In response to Mr. Crawford, Mr. Mario Lamendola advised that the Southern Standard Building Code bases sprinkler requirements on number of occupants and the size of the building. Mr. Crawford asked if that was based on commercial or residential requirements and Mr. Lamendola advised that the Standard Building Code has definite requirements for sprinklers when a building has exceeded certain limitations, whether residential or commercial.

Mayor Putzell asked if the proposed recommendation required that, before the ordinance, regarding sprinkler requirements for new construction is adopted, the Fire Department would over the next 24 months conduct an inspection to determine which buildings may require "retrofit" for sprinklers, would develop standards to implement the program, and then would propose an ordinance for consideration by Council. "Is that a fair summary of what the Committee is recommending?" he asked.

Mr. Forsythe said it was the opinion of the Committee that there should be an inspection of the existing buildings in the City, and if certain buildings are fire hazardous, they should be made to conform with the sprinkler requirement under the Southern Standard Building Code and the National Fire Protection Association (NFPA). This would be the same requirement for remodeling and expansion, he said.

Mrs. Anderson-McDonald said, "Then what you are saying is any building that contemplates increasing the hazards that you consider they already have, would then have to make the 'retrofit' to include the sprinklers." Mr. Forsythe advised that there are several buildings in the Old Naples area that, should they expand, would require "retrofit" because the building would not meet the requirements of the Codes.

Mr. Graver clarified what was proposed by the Committee insofar as the Fire Chief and Fire Marshal conducting a survey of buildings in the area; then Council would decide if they want the "retrofit" to be compulsory in those buildings. The argument, he continued, is that the Southern Standard Building Code, under certain instances, allows fire retardant materials to be used in place of fire sprinklers.

Mr. Forsythe explained that one of the Committee's objections was to the verbiage of the ordinance requiring all new construction to install sprinklers with an inspection of all existing buildings that "might" require "retrofit". "We thought this was a double standard," he said.

City Manager Jones said that he felt the discussion regarding sprinklers was the same as in November with the Committee still being opposed. The staff's position, he continued, is that now is an appropriate time to enact the ordinance that was originally proposed.

Fire Chief Ijams reviewed the proposed language for the new ordinance with Council (Attachment #4). He advised Council that this proposed ordinance would be presented for their approval at the next Council meeting, December 17, 1986. Chief Ijams further advised that although he respected the Committee's

CITY OF NAPLES, FLORIDA

City Council Minutes

Date 12/03/86

COUNCIL MEMBERS	M O T I O N	S E C O N D	VOTE		A B S E N T
			Y E S	N O	

Directors for The Conservancy. Dr. Wanless, he continued, will discuss the study of the rising sea and impact on mangrove ecology. This is also relevant to the City's consideration regarding the Collier Development Company's Development of Regional Impact (DRI), Mayor Putzell said.

Dr. Wanless showed Council a slide presentation. He explained that his presentation would tie in three things: mangroves as a community, hurricanes, and seaots.

Dr. Wanless gave Council a brief history of the changes that have evolved regarding sea level. During the ice age, approximately 15,000 years ago, a person could have either driven 150 miles to Miami or 120 miles from what is now Naples to "Naples West"; sea level was down 300-400 feet. After Florida started coming out of the ice age, the sea level increased approximately 1 meter every 100 years which began to flood the continental shelves. About 7,-8,000 years ago, sea level started to slow down. The sea level 5,000 years ago was rising about 25 centimeters, 1 foot every 100 years; then around 3,200 years ago, the sea level rose much slowly, approximately 4 centimeters every 100 years. Dr. Wanless explained that in the past 50-60 years, the tidal gauge records show that sea level has already increased during this period 2.5 centimeters. This is following the same pattern as 5,000 years ago with sea level rising 1 foot every 100 years. "This could be the beginning of the 'Greenhouse Effect'", Dr. Wanless said.

The "Greenhouse Effect", Dr. Wanless continued, suggests that the earth is going to warm from the build-up of carbon dioxide. Dr. Wanless further advised that the increase in sea level could have been observed in the intercoastal zone by the height of the barnacles and oysters on various pilings in this region.

Dr. Wanless also explained that the mangrove community is encroaching into what was once fresh water environments. This is due partly to the rise in sea level and the various cities lowering the fresh water level. "If you look at the seaward end of these coasts, they are subjected to much accentuated erosion", he said.

Dr. Wanless referred to Randall Parkinson, a graduate student, who has been studying the 10,000 Island area. His studies have shown that there are several zones in this maze of islands: inland (which is limestone) and a coastal complex area (which is made up of mangroves and oyster bars). Dr. Wanless referred to a cross-section of core taken from the 10,000 Islands and showed how during the rapid rise of sea level 5,000 years ago, the mangrove community could not maintain itself. After the sea level slowed, the oysters started to take hold and the bays started to fill in until it was finally shallow enough for the mangroves to colonize. Dr. Wanless said if the sea level had remained slow, the 10,000 Island area would probably be filling in. This would have been a time when beaches are stable and when seagrass and mud fill in so that mangroves can move across; however, this is not what is happening now.

Dr. Wanless again referred to the "Greenhouse Effect" which could ultimately reduce the many mangrove communities. During the 3,000 years of

SUPPLEMENTAL ATTENDANCE LIST

Charles Andrews
Herb Anderson

Wayne Lecureux
Bob Galloway

Reverend Walter Lauster
Tish Gray

NEWS MEDIA

Kevin Parks, News Press
Donna Winn, TV-9
Tom McCutcheon, TV-9
Chuck Curry, Naples Daily News
Hilary Hutchison, TV-9
William Upham, Naples Star

Other interested citizens and visitors.

December 2, 1986

Naples City Council
City Hall
Naples, Florida

Honorable Body,

The following is the report of the special committee established by Mayor Putzell to study further the proposed additions to the 1985 Southern Standard Building Code regarding fire sprinklers.

The committee was composed of Architects Dave Moyer, Mario Lamadola and Robert Forsythe; Contractors Gary Carlson, Bill Jones and Phil Pugh; Fire Chief Norris Ijams; Fire Marshal Wayne Martin; City Building Official Cliff Gordon; Director of Community Planning Roger Berry and Councilman John Graver.

Three general meetings were held and numerous subcommittee meetings to attempt to secure answers regarding many questions that were asked.

Some of these related to costs of installation, savings on insurance, licenses required for the installation of sprinklers, the types of buildings that should be covered, and retrofit. The minutes of the meetings attached spell out more in detail the reports given and the discussions that were held.

It was agreed that the first consideration was life safety, the second was protection of structures and the third was cost of installation.

Facts were presented to the committee showing that there would be a savings on insurance where sprinklers are installed.

Representatives of the construction industry were of the opinion that the requirements of The Southern Standard Building Code and NFPA is quite adequate to protect the citizens of Naples.

It was felt by certain members of the committee that additional requirements for new construction was not valid unless the retrofit of existing buildings would also be included in as much as many of the older buildings in town are not built to the standards that are now required for new buildings.

The committee worked well together; however, unanimous conclusions were not reached but the following two motions were passed as recommendations to City Council by a majority attending the last meeting of the committee:

1. The City of Naples Fire Department shall conduct an inspection to determine what existing structures, except single family in the city, may require a retrofit for a fire sprinkler system and will develop standards to implement such a program within 24 months. Such a program will set the standard for an ordinance to be proposed for adoption by City Council. Passed unanimously.

2. It was moved that the original wording regarding the proposed sprinkling ordinance for all new construction be removed and let the Southern Standard

Building Code along with the NFPA stand as the requirements for sprinklers. This motion passed four for and three against.

The committee stands by to answer any question that you may have and we thank you for giving us the opportunity to serve on this study.

Respectfully submitted,

Robert E. Forsythe
 Robert E. Forsythe
 Chairman

Property	Estimated Sprinkler System Cost	Estimated Annual Savings	Estimated Sprinkler System Cost	Estimated Annual Savings	Estimated Sprinkler System Cost	Estimated Annual Savings
Food Processing Plant	\$1,200,000	\$250,000	\$1,200,000	\$250,000	\$1,200,000	\$250,000
Wood Products Plant	\$800,000	\$150,000	\$800,000	\$150,000	\$800,000	\$150,000
Metal Stamping Plant	\$1,500,000	\$300,000	\$1,500,000	\$300,000	\$1,500,000	\$300,000
Submarket	\$300,000	\$60,000	\$300,000	\$60,000	\$300,000	\$60,000
Bowling Lane	\$400,000	\$80,000	\$400,000	\$80,000	\$400,000	\$80,000
Church	\$100,000	\$20,000	\$100,000	\$20,000	\$100,000	\$20,000
Country Club	\$2,000,000	\$400,000	\$2,000,000	\$400,000	\$2,000,000	\$400,000
Restaurant	\$500,000	\$100,000	\$500,000	\$100,000	\$500,000	\$100,000
Warehouse	\$1,000,000	\$200,000	\$1,000,000	\$200,000	\$1,000,000	\$200,000
Cigar Manuf. (cigaring plant)	\$1,500,000	\$300,000	\$1,500,000	\$300,000	\$1,500,000	\$300,000
Faint Ware-house	\$800,000	\$160,000	\$800,000	\$160,000	\$800,000	\$160,000
Shopping Center	\$1,200,000	\$240,000	\$1,200,000	\$240,000	\$1,200,000	\$240,000
Training	\$400,000	\$80,000	\$400,000	\$80,000	\$400,000	\$80,000

Source: Fittler and Company, General Fire Protection Systems Co., Inc.

ARE SAVINGS POSSIBLE FROM INSTALLATION OF SPRINKLER SYSTEMS?

Case Studies of Insurance Savings on Sprinklered Properties

Property	Insurance Before Sprinklers	Insurance After Sprinklers	Sprinkler System Cost	Annual Savings	Sprinkler System Amortization
Food Processing Plant	\$308,377	\$ 7,709	\$177,100	\$300,668	7 months
Wood Products Plant	\$ 9,253	\$ 1,556	\$ 17,187	\$ 7,697	27 months
Metal Stamping Plant	\$ 74,000	\$11,843	\$ 69,753	\$ 62,157	13 months
Supermarket	\$ 3,350	\$ 1,173	\$ 7,611	\$ 2,227	3-¼ years
Bowling Lanes	\$ 4,069	\$ 2,116	\$ 15,000	\$ 1,953	7-½ years
Church	\$ 3,186	\$ 1,134	\$ 18,040	\$ 2,052	8-½ years
Country Club	\$ 52,500	\$11,100	\$ 21,250	\$ 41,400	6 months
Restaurant	\$ 5,820	\$ 786	\$ 15,815	\$ 5,034	3 years
Warehouse	\$ 7,000	\$ 1,680	\$ 22,286	\$ - 5,320	4 years
Carpet Manufacturing Plant	\$ 30,780	\$ 6,156	\$ 64,790	\$ 24,624	2-½ years
Paint Warehouse	\$ 26,300	\$ 6,575	\$ 52,300	\$ 19,725	2-½ years
Shopping Center	\$ 19,850	\$ 5,955	\$ 62,196	\$ 13,895	4-½ years
Nursing	\$ 10,200	\$ 5,610	\$ 24,200	\$ 4,590	5 years

Sources: Phillips and Company, Grinnell Fire Protection Systems Co., Inc.

FIRE SPRINKLERS REQUIRED.

- A. New construction shall be equipped with automatic fire sprinkler systems installed according to the N.F.P.A. 13 or 13D in the following classifications of occupied structures: Assembly, Educational, Health Care, Detention and Correctional, Mercantile, Residential, Business, Industrial and storage with the exception of the following:
 - a) Those detached structures less than two hundred and ten (210) square feet.
 - b) Structures built on single family residential lots. (ie: single family house, garage, shed)
 - c) Detached one story unenclosed covered vehicle storage areas.

- B. The City of Naples Fire Department will conduct an inspection of all properties to determine that existing structures in the City may require retrofitting for a fire sprinkler system and will develop standards to implement such a program within twenty-four (24) months. Such a program will set the standards for an ordinance to be proposed for adoption by City Council.

A LOOK AT THE PERFORMANCE OF AUTOMATIC SPRINKLER

Detailed records kept by manufacturers, insurers, public authorities, fire prevention societies, and because these are the records that are used for further development of sprinkler installation and to justify sprinklers in our buildings and fire codes it is vital to understand they have been objectively gathered and held up to public scrutiny for about 100 years.

Records indicate that sprinkler are 96.2% effective. This is not a guess. It is the result of analyzing more than 58,000 fires over a 30 year period. In addition, records also show that 6 out of 10 cases sprinklers extinguished fires without any human assistance. In other instances, they held the fire in check until fire crews arrived. Added up, we will have almost 100% efficiency on extinguishment of fires in their incipency.

WHAT ARE THE FUNCTIONS OF SPRINKLER SYSTEMS?

Sprinkler systems automatically detect fire, immediately sound an alarm, go into firefighting operations and remain in operation as long as the fire constitutes a danger.

Only automatic sprinkler systems do all four. This is why they are the best single source of fire protection.

AT WHAT TEMPERATURE DO SPRINKLERS OPERATE?

Temperature Ratings Classifications

<u>Maximum Ceiling</u> <u>Temperature (F)</u>	<u>Temperature Rating</u> <u>of Sprinkler Head (F)</u>
100	135 - 170
150	175 - 225
225	250 - 300
300	325 - 375
375	400 - 475
475	500 - 575

WHAT ARE THE COSTS OF SPRINKLER INSTALLATIONS?

Cost of complete sprinkler system depends on many factors, such as; building type and construction, availability of water supply and degree of hazard of the occupancy.

The major code organization have released average costs of sprinkler systems installations.

Building officials and code administrators
 .67 to \$1.35 square foot

International Conference of Building Officials
 \$1.35 square foot

Southern Building Code Congress
 \$1.25 square foot

Retrofit installations in existing building can be expected to cost some what more depending on difficulty of installation. This cost may be as much as 50% more than new installation costs.

DO ALL SPRINKLERS OPERATE WHEN FIRE OCCURS?

No. Only those sprinklers directly over the fire operate and discharge water. All others simply remain ready to operate in the event the fire spreads or another fire breaks out.

IS NAPLES WATER SYSTEM ADEQUATE AND RELIABLE TO SUPPORT THE DEMAND OF MANDATORY SPRINKLER INSTALLATIONS?

Facts developed from Water Distribution Department and fire flow tests conducted from selected areas and reviewed and studied by a fire protection engineer documented both volume and pressure to be more than adequate for any fire sprinkler system demand.

The analysis was based on peak demand and worst case scenarios.

WHAT ABOUT WATER DAMAGE?

Reports and comments of water damage due to fires in sprinkled buildings are often exaggerated, due to comparisons with the small fire loss which occurs thanks to the sprinkler.

The amount of water which is put on a fire by fire department hoses in an unsprinkled building is nearly always tens and hundreds of times more than that which sprinklers would have discharged. The fire damage as reflected by insurance claims is also many times greater.

Loss records of Factory Mutual Research indicate that the probability of a sprinkler discharging accidentally due to a defect is 1 in 16,000,000 per year.

1/2" orifice standard size opening

10 lb pressure	=	18 G.P.M.
15 lb pressure	=	22 G.P.M.
20 lb pressure	=	25 G.P.M.

For comparison sake our smallest nozzle on a booster line - 60 G.P.M.

1 3/4" line normally used - 200 G.P.M.

WHO WILL TEST AND INSPECT SPRINKLER SYSTEMS?

Testing procedure for sprinkler ordinance.

All fire protection equipment systems shall be tested annually. This testing is to be done by qualified personnel and documentation of all testing is to be submitted to the Bureau of Fire Prevention upon completion.

Qualified person

Certified contractor of fire protection systems.