

CITY OF EDEN, N. C.

A special (retreat) continued meeting of the City Council, City of Eden was held on Friday, March 12, 2004 at 8:30 a.m., in the Council Chambers, 308 East Stadium Drive. Those present for the meeting were as follows:

Mayor:	Philip K. Price
Mayor Pro Tem:	Christine H. Myott
Council Members:	Donna Turner
	Billy Vestal
	Bruce Nooe
	Jerry Epps
	C. H. Gover, Sr.
	Wayne Tuggle, Sr.
City Manager:	Brad Corcoran
City Clerk:	Kim J. Scott
News Media:	Kim Mitchell, <u>Eden Daily News</u>

MEETING CONVENED:

Mayor Price called the special meeting of the City Council to order and welcomed those in attendance.

City Manager Brad Corcoran noted that they would begin by discussing a variety of issues dealing with water and sewer. He added that they would conclude with a discussion on greenways and hopefully there would be time for other items that Council might want to bring up.

Mr. Corcoran then issued a special thank-you to Mr. Dennis Asbury, Director of Public Utilities; Charles Van Zandt, Superintendent Wastewater Treatment; Terry Shelton, Superintendent of Water Filtration; and Bill Harvey, Superintendent of Collection & Distribution for their assistance with this presentation. He also thanked Mr. Asbury and Mr. Van Zandt for their assistance with the PowerPoint presentation and he also thanked the various engineering firms who participated in the studies. He noted that due to the length of this presentation, once they get into the specific projects, he would not read everything dealing with each project, but he would move through some information quicker than others for adequate time for questions at the end.

Mr. Corcoran then began the PowerPoint presentation.

Water & Wastewater Infrastructure Needs

He stated that on February 11, 2004 representatives from W.K. Dickson appeared before the City Council and made a presentation on the 20 year Comprehensive Water & Wastewater Master Plan.

They identified twenty-six (26) different projects equaling a projected cost of (\$29.3 million that needed to be addressed) between FY 2004-2005 and FY 2007-2008 (four years).

He then noted the listing of the projects in the prioritization order that was presented to Council that night. That listed included:

2004-2008 Water & Wastewater CIP

1.	Meadow Greens PS Upgrade	552,000
2.	WWTP Solids Management	2,475,000
3.	High Service Pumping Upgrade	1,072,000
4.	Railroad PS Replacement	2,200,000
5.	Telemetry Improvements	180,000
6.	New Raw Water Intake Facility	5,000,000
7.	Covenant Branch PS Upgrade	691,000*
8.	Dan River PS Upgrade	490,000*
9.	Kuder Street PS Upgrade	415,000*

10.	Junction Street PS Upgrade	341,000
11.	Bridge Street PS Upgrade	231,000
12.	Fourth Street PS Upgrade	89,000
13.	Dogwood PS Upgrade	67,000
14.	Sanitary Sewer Evaluation Study	212,000
15.	System-wide Cleaning/Inspection Program	2,830,000
16.	VCP Renewal	5,397,000
17.	RCP Replacement	1,062,000
18.	Distribution System Maintenance Program	717,000
19.	Interceptor Capacity Improvements	356,000
20.	Small Diameter (2") Water Main Replacements	3,444,000
21.	Replace 6" SS Collectors	355,000
22.	Old Water System Pipe Replacements	883,000
23.	Byrd Street Tank Demolition	55,000
24.	Water Master Plan Update	69,000
25.	Wastewater Master Plan Update	93,000
26.	WWTP Expansion Planning (PER/EA)	<u>100,000</u>
	Total	29,376,000

He stated that in addition, there were fourteen (14) other projects which were identified that will need to be completed at some point between FY 2008-2009 and FY 2019-2020. The estimated cost for these projects equals \$62,746,000 in present day dollars.

2008-2020 Water & Wastewater CIP

1.	Distribution System Maintenance Program	1,500,000
2.	WW System-wide Cleaning & Inspection Program	3,396,000
3.	Replacement of 6" SS Collectors	355,000
4.	Interceptor Capacity Improvements	438,000
5.	RCP Pipe Replacement	2,465,000
6.	VCP Pipe Renewal	20,314,000
7.	Wastewater Master Plan Update	80,000
8.	WWTP Land Acquisition & Engineering	3,175,000
9.	WWTP (5 MGD) Construction	25,000,000
10.	Small Diameter (2") Water Main Replacement	3,321,000
11.	Water System Looping	938,000
12.	Old Water System Pipe Replacement	1,614,000
13.	Water Master Plan Update	80,000
14.	WTP Expansion Planning (PER/EA)	<u>70,000</u>
	Total	62,746,000

On February 12, 2004 the City Manager asked Mr. Dennis Asbury to assemble his management team in an effort to prepare detailed project summary sheets and a re-prioritization (from their point of view) of the projects that needed to be undertaken.

Mr. Dennis Asbury, Terry Shelton, Charles Van Zandt, and Bill Harvey have worked very hard over the past several weeks to prepare updated project summary sheets and other information for today's retreat.

On March 3, 2004 and March 10, 2004, the City Manager met with Mr. Asbury, Mr. Shelton, Mr. Van Zandt, and Mr. Harvey to review the information that had been gathered and to finalize the preparation for today's presentation.

He noted that they have obtained some updated cost information, have re-prioritized the projects they felt were critical to their continued success and have updated the project summary sheet for each project.

In reviewing what needed to be done:

Project: Pump Station Renewal Program: Meadow Greens Pump Station

Priority: 1
Budgetary Cost: \$552,000
Project Summary: Project involves design, bidding and construction to meet the following:

- Step screen capable of screening a maximum of 1,050 gpm
- 10 foot-diameter wet well approximately 13 feet in depth
- Two submersible pumps with 75 HP, 1770 RPM 3-phase/60 Hertz/460-Volt submersible motors capable of pumping approximately 680 gpm at 155 feet of TDH.
- Constant speed duplex controls using automatic level control with mercury float switches and reduced voltage motor starter.
- Separate check valve vault. A pig launching station could easily be incorporated in another vault
- Electrical utility primary upgrade to 480V, 3 phase.
- New electrical distribution equipment and circuitry including a permanent standby power generation unit with automatic transfer switch.
- New electrical equipment and circuitry to serve new pumps and auxiliary equipment.
- SCADA system modifications and upgrades.

Project Justification: With certainty, the Meadow Greens Pump Station lacks flow and head capacity to convey the dry and wet weather peak flows. Additionally, the improvements to increase the Meadow Greens Pump Station capacity so it can adequately convey the current dry and wet weather flows will also need to allow flexibility and adaptability for future expansion to meet projected conditions through the planning horizon. Other major problems with this station include the following:

- Check valves that clog frequently
- Location of check valve
- Discontinued pump line
- Excessive wear and tear-suction and discharge valves have never been replaced
- Inadequate service disconnect
- Insufficient dry well lighting
- No permanent backup power
- Code violations including ventilation and electrical concerns
- Limited wet well storage capacity below the influent pipe
- Approach pipe remains submerged

Project Objectives/Goals: Objectives include meeting current and future demands, eliminating SSOs, reducing maintenance issues, increasing pumping performance and capacity, reducing the maintenance on the check valves thus improving safety by reducing exposure to the health hazards of wastewater, utilizing newer control technology, and reducing high repair costs on outdated technology, preventing grease buildup thereby reducing maintenance issues, reducing the frequent loss of radio modem telemetry and increasing reliability by adding permanent standby power.

Project: Wastewater Treatment Plant Solids Management
Priority: 2
Budgetary Cost: \$2,475,000
Project Summary: Project involves improving the solids handling capabilities at the Mebane Bridge Wastewater Treatment Plant by implementing the Immediate and Short Term and Long Term recommendations as outlined in the Mebane Bridge Solids Study.

- Under the Immediate recommendation phase, the design work is being finalized for an Alum Sludge Pump Station for the Water Filtration Plant. This design prevents the alum sludge from entering at the head of the aeration basins and diverts this flow to the sludge lagoons. Also, this phase calls for the removal of excess inert solids that have accumulated in the aeration basins. This project should be completed by late summer of 2004.
- Under the Short Term recommendation phase, it was recommended that a permanent solids dewatering facility be constructed. This facility would allow for dewatering of solids produced in the plant on a continuous basis. Unlike the current method of land application of liquid biosolids, this method is not weather dependent and more importantly, not dependent on the limited storage facilities currently in use.
- Under the Long Term recommendation phase (not recommended yet for implementation), it was recommended that a new aerobic digester facility be added at a projected cost of \$3,533,000 to provide for better handling of the sludge and permit the plant to reach its design capacity.

Project Justification: Eliminate occurrences with excess suspended solids leaving the plant along with operational difficulties associated with solids management and inventory.

- The WWTP has experienced a significant increase in solids production over the past ten years. In 1993, the annual average liquid biosolids removal was approximately two to four million gallons. Currently, we are removing approximately ten million gallons of liquid biosolids annually.

Mr. Corcoran noted that in just a ten year period, they have gone from the two to three million gallons to ten million gallons.

Mayor Price asked where it was coming from to which Mr. Corcoran referred the question to Mr. Van Zandt.

Mr. Van Zandt explained that it was mainly textiles.

Council Member Vestal questioned why it was from textiles to which Mr. Van Zandt replied that they were still getting the same amount of flow today as ten years ago, and then some. He noted that ten years ago National (*National Textiles*) had increased twice the amount.

This in itself creates numerous obstacles.

- Inadequate digester size for solids produced. This is the final treatment process of solids. The solids must be properly digested before any type of disposal method can be performed. Typical digestion time is about seven days. We currently are lucky to get two to three days digestion. We are currently able to meet all EPA Sludge Criteria with the methods we currently employ. However, there is no guarantee that we could continue to meet these criteria for any length of time due to the short digestion time.
- Limited liquid storage facilities. The Mebane Bridge WWTP has two, two million gallon Sludge Storage Lagoons (upper lagoon and lower lagoon). This allows for four million gallons of storage at any given time. The upper lagoon is a rubber lined lagoon designed for storage of two million gallons of liquid sludge. The lower lagoon is an earthen lagoon. This lagoon was constructed in the early to mid 1980s and over the years, has accumulated quite a bit of sludge on the banks that has reduced the storage capacity of the lagoon. For example of storage, the upper lagoon was recently

- emptied to within three to four feet of the bottom. With the current solids load on the WWTP, we had to pump to the upper lagoon and it was full within three days. This only reduced the solids loading in the WWTP by approximately 10%. Typical solids loading on a treatment plant of this type is 3000 - 6000 mg/l (milligrams per liter). The Mebane Bridge WWTP's solids loading over the past several years have been in the range of 8000 – 10,000 mg/l. This summer, we have seen the solids loading as high as 12,000 mg/l. This could explain why there have been several solids violations of the NPDES Permit.
- Liquid biosolids removal.
 Liquid biosolids is land applied to several different farms permitted within Rockingham County. The land application of this sludge is dependent on several factors.
 Weather – The last two years have been very trying in respect to the land application of liquid biosolids. Last year's drought presented difficulty because of the land being too dry and some of the farmers would not allow the contractor to apply the liquid biosolids in fear of burning up their grass. This year has been another issue with all of the wet weather. Since October 2002, the contractor has only been able to land apply approximately 2.3 million gallons as opposed to the year prior of approximately 10 million gallons.
 Land Availability – It is becoming more difficult to find land suitable or available for land application of the liquid biosolids. With the increase in new subdivisions in rural areas, this is taking away a significant amount of the fields suitable for this application. Also, depending on the location of the land and the proximity of neighbors, this could create some problems for the landowners.
 Farmers – We are at the mercy of the landowners. We can only apply when they are ready. Their reasons for making us wait can vary from grass laying in the wrong direction to the wind blowing too hard in one direction.

Project Objectives/Goals Achieve permit compliance, greater solids handling capabilities by improving the plant's flexibility and reliability.

Project: Enhancement of High Service Pumping
 Priority: 3
 Budgetary Cost: \$1,072,000
 Project Summary: Project will involve transforming the constant speed high service pumps to adjustable speed pumps and will include installation of adjustable frequency drive controllers, reconfiguration of the existing electrical distribution system of the high service pumps, upgrade of the SCADA (Supervisory Control and Data Acquisition) and control instrumentation, bypass of the VFDs (Variable Frequency Drive) in order to return to constant speed pumping in the event one or both drives fail, and installation of an enclosure suitable for the adjustable speed drives and the high service pumps.

Project Justification: This project will provide flexibility, reliability, and redundancy – three elements that are important for a water pumping system. City staff will have the reality to operate the pumps based on a constant speed platform or use of the adjustable speed drives. Fewer motor starts should reduce maintenance and produce savings on electric costs. This project will also improve system pressure and reduce the large variations of pressure, often

experienced when the high service pumps are not operating. More consistent pressures should improve customer satisfaction for services delivered.

The enclosure of the high service pumps will improve cold weather dependability, which has been a significant problem over the years during freezing temperatures. The enclosure will also enhance the security of the critical pumping assets by housing them inside a building.

During high demand periods of summer and early fall the variable speed will allow running two pumps and match the actual demand requirements as opposed to pumping too much or too little with fixed capacity pumps. Being able to pump closely matching actual demand will reduce pressure spikes associated with broken pipes and possible leaks we see with constant speed pumps.

Project

Objectives/Goals: Flexibility to operate pumps at either constant or variable speed depending upon the demand; Reliability and redundancy in the event of the failure of one of the pumps; Buffer the wide pressure fluctuations improving service to the City's customers. This plan offers a cost effective alternative to building costly elevated tank storage and should increase pump life expectancy.

Project: Pump Station Renewal Program: Railroad Pump Station

Priority: 4

Budgetary Cost: \$2,200,000 – Total Project Cost

Project Summary: Project involves replacing the existing pump station with a submersible type station and emergency generator (standby power) to convey the maximum amount of flow that the current force main will reasonably allow. There have been several overflows of the station caused by the design of the current station and growth of the industrial customer it serves. The possibility will be there to take the Dry Creek Wastewater Treatment Plant offline by diverting hat flow into the pump station.

Project Justification:

- Influent flow is hazardous and corrosive to existing pump equipment.
- Check valves are in the vertical position resulting in blockages without frequent maintenance.
- Suction and discharge valves do not fully seat.
- Cavitation is occurring due to insufficiently sized suction pipe and high temperatures associated with the influent industrial wastewater.
- There are confined space entry issues.
- Extreme noise hazards.
- No backup or emergency power source.
- Cost savings by taking the Dry Creek WWTP offline.

Project

Objectives/Goals: Objectives include reducing maintenance issues, improving pumping performance, improving safety, utilizing newer technology, and providing emergency power to prevent SSOs during power outages.

Project: Telemetry Improvements

Priority: 5

Budgetary Cost: \$180,000

Project Summary: Project involves upgrading the City's existing SCADA (Supervisory

Control and Data Acquisition) system which experiences frequent lapses in data transmission. The new system would have the following components: Motorola 450 MHz radios with 10 watts of output power, Yagi directional antenna with 13dB+ and a 50-ft antenna at the WWTP and 20-ft antennas at each pump station. The improved radio system will significantly enhance the reliability of the SCADA and therefore our ability to monitor all aspects of the water/wastewater operation.

Project Justification: To provide the City with reliable telemetry system particularly when problems emerge at each pump station. The problems can be power loss, failures in operation or intrusion by trespassers creating security concerns. Each of these situations need to be addressed quickly to avoid service failures, sewer overflows or damage by intruders. Currently, there are times when some sites go off line for up to six hours or more and we are in the blind unless personnel are dispatched to the site to verify conditions. Outside of Monday through Friday 7 to 3:30; there is only the wastewater plant operator and the C & D operator on call to respond. These situations most often occur in bad weather and the wastewater operator is busy with plant operations. Frequent call backs of the C&D operator are both costly and annoying, but are a necessity when the telemetry cannot be thoroughly trusted.

The current telemetry installed in 1993 operates on 72 MHz. This low band frequency was an extremely poor choice because the radios are only one watt and this frequency does not get the signal out from the low elevations nor will it penetrate through thick foliage at some locations. The proposed 450 MHz radio equipment is much better suited for the site locations where we have to provide more reliable service.

Project Objectives/Goals: To increase the system’s reliability and provide continuous monitoring of the pump stations. The proposed new equipment will be better able to function in all weather conditions and provide continuous information in the worst situations when feedback from the remote site is needed the most. To insure that accurate records of pump station failures are readily available to protect the City in all possible reporting situations to the State agencies.

Project: Demolition Work – Byrd Street Tank & Check Valves
Priority: 6 & 31
Budgetary Cost: \$25,000 & 30,000
Project Summary: This project entails the removal of Byrd Street Tank and the main line check

Phase one will include the removal of the main line check valves at a budgetary cost of \$25,000.

Phase two will include the actual demolition of the Byrd Street Tank at a budgetary cost of \$30,000.

Project Justification: The removal of the check valves will improve system reliability and operations by eliminating unidirectional flow. The Byrd Street Tank does not greatly benefit the system from an operational and water quality perspective. Removal of this tank would reduce potential water quality problems as well as upkeep on an elevated tank.

Project Objectives/Goals: Goals of this project include elimination of unidirectional flow and

increased system reliability as well as reducing the exposure to water quality issues.

Project:	New Raw Water Intake Facility	
Priority:	7 Phase I Permitting	
	15 Phase II Design	
	29 Phase III Construction	
Budgetary Cost:	7 Phase I Permitting	\$237,000 (2004-2005)
	15 Phase II Design	\$392,000 (2005-2006)
	29 Phase III Construction	\$2,595,000 (2006-2007)
		<u>\$2,595,000 (2007-2008)</u>
	Total	\$5,819,000

Project Summary: This project involves the permitting, design and construction of a new larger capacity raw water intake over a period of 4 to 6 years. The project will be developed in three phases to control costs and to deliver a produce the City can grow with for several decades. The project will be staged in three phases. Phase One will consist of everything necessary to obtain a withdrawal permit for the water capacity requested, ensure long term protection for a Class IV Watershed upstream and proper clearance for siting of the pump station on the stream. Phase Two will consist of the engineering design of the pump station and development of detailed projected costs. Phase Three will consist of the actual construction and approval to operate.

- Phase One will consist of the withdrawal permit, site selection evaluation, environmental assessment and multi-agency clearance to proceed. Each segment of this phase is critical to the overall goal of obtaining the withdrawal permit. It is anticipated that this segment will be the most time consuming because there are so many State agencies that must review the information and issue approval to clear the way for the withdrawal permit to be issued.
- Phase Two will consist of the actual engineering design of the pump station. The design phase will incorporate all of the data gathered in the permitting phase one as to the site location, best water quality locations and comply with the recommendations or requirements set forth in the withdrawal permit issued by the State. It is anticipated that this phase of the project can be completed in 12 months or less.
- Phase Three construction is expected to progress over a two budget period. The cost of the project would be staged half in the 2006-07 and half in 2007-08. It would be anticipated that the new pump station would come on line early in 2008. In the interim, we have a plan ready to implement supplemental pumping to sustain our operation should drought conditions return prior to the completion of the new raw water intake.

Project Justification: The extreme drought conditions that existed from 1998 through 2002 saw record low levels of water in the Dan River. The low water levels created severe problems for our current raw water pump station causing the intake screens to emerge from the water surface. This low water level created insufficient head to feed water to the turbine pumps and prevented operation. Supplemental diesel pumps were necessary to add extra water to the pump station wetwell for the turbine pumps to function. This action allowed us to meet our demand requirements for the months of July and August of 2002.

Project

Objectives/Goals: The objectives of this project are to provide a secure and reliable water source in times of drought, to promote long term growth and economic development, to establish Eden as stake holder in the Dan and Smith Rivers as a regional water resource and meet future needs to the year 2050. This project will maximize the potential water resource of both Rivers and afford Eden the ultimate protection from drought for the future.

Project: Pump Station Renewal Program: Covenant Branch Pump Station

Priority: 8

Budgetary Cost: \$691,000

Project Summary: Project involves upgrading the existing pump station to include the following:

- Step screen capable of screening a maximum of 1,200 gpm.
- Replacement of the three existing extended long shafts vertical frame mounted centrifugal pumps with two dry pit submersible pumps capable of discharging 1,200 gpm at 242 feet TDH and driven by 150 HP, 1770 RPM, 3-Phase/60-Hertz/460-Volt submersible motor de-rated for 135 HP by water cooling jacket and adjustable – frequency drives.
- A third or auxiliary dry pit submersible pump may be required to handle minimum influent flows if the influent rate is less than the discharge rate of the primary pump at its minimum speed. Alternatively, the primary pumps could cycle on and off provided sufficient storage is available. In this case, surcharged conditions on the interceptor would be unavoidable and not a favorable way of dealing with this situation. Further assessment will be required during the flow monitoring and design phase to assess the variance of flows and the range of pump speeds, efficiencies and discharge rates.
- Piping modifications to rearrange the check valve and isolation discharge valve from a vertical position to a horizontal position.
- Replacement of the suction isolation valves with new plug valves.
- Potable 3-inch water line extension with appurtenances to provide water for daily housekeeping issues at the pump station and proposed step screen.
- Upgrade of electrical distribution equipment and circuitry including a permanent standby generator with automatic transfer switch.
- New electrical equipment and circuitry to serve new pumps and auxiliary equipment.
- SCADA system modifications and upgrades.

Project

Justification: Based on best available flow data, the Covenant Branch Pump Station's high flow pump capacity and head is not capable of conveying peak wet weather flows and modifications are needed. Provided the City achieves a reasonable reduction of I&I within the Merriman Street Basin and the high flow pump is modified to meet its estimated peak wet weather flows, Covenant Branch Pump Station will have plenty of capacity through the planning period. Other deficiencies that need fixing are:

- Poor placement of the check valves
- Lack of potable water supply
- Poor performing isolation valves
- No permanent backup power
- No standby high flow pump

- Control issues
- Ventilation concerns
- Inefficient, messy and laborious trash removal system
- Submerged approach pipe

Project

Objectives/Goals: Objectives include eliminating SSOs, reducing maintenance issues, improving pumping performance, reducing the maintenance on the check valves thus improving safety by reducing exposure to the health hazards of wastewater, utilizing newer control technology, reducing high repair costs on outdated technology and increasing pump station capacity and increasing reliability by enhancing the radio modem telemetry and adding standby power.

Project: Pump Station Renewal Program: Dan River Pump Station

Priority: 9

Budgetary Cost: \$490,000

Project Summary: Project involves replacing the existing prefabricated can type installation with

submersible pump station including the following:

- 10-foot diameter wet well approximately 33.5 feet deep.
- Two submersible pumps with 30 HP, 1180 RPM 3-phase/60-Hertz/460-Volt submersible motor capable of pumping approximately 680 gpm at 155 feet of TDH.
- Adjustable-frequency drive operation.
- Separate check valve vault. A pig launching station could easily be incorporated in another vault.
- Upgrade of electrical distribution equipment and circuitry including a permanent standby generator with automatic transfer switch.
- New electrical equipment and circuitry to serve new pumps and auxiliary equipment.
- SCADA system modifications and upgrades.

Project

Justification: Dan River Pump Station does not have the ability to convey the peak wet weather flow and contains numerous problems including:

- Poor placement of the check valves
- Poor performing isolation valves
- Difficult confined space entry with tight access and quarters
- No permanent backup power source
- Undersized wiring
- Ventilation concerns
- Electrical code violations
- Confusion created by in place abandoned equipment
- Removed air release and vacuum valve
- Submerged approach pipe

Project

Objectives/Goals: Objectives include eliminating SSOs, reducing maintenance issues and improving safety by providing better access for repair and/or inspection (elimination of a confined space entry), increasing reliability by enhancing the radio modem telemetry and adding standby power.

Project: Pump Station Renewal Program: Kuder Street Pump Station
 Priority: 10
 Budgetary Cost: \$415,000

Project Summary: Project involves upgrading the existing pump station, which is 38 years old. The upgrade will include new controls, discharge valves, new motors, safety enhancements for improved confined space entry and permanent ladders for drive shaft access, rebuilding of the existing two pumps, installation of a standby peak pump, emergency backup power and piping modifications to rearrange check valve orientation. This has never had any upgrade of the original equipment installed in 1966.

Project Justification: Discharge valves have been in operation since the original installation. Additionally, having the check valves in the vertical position creates the possibility for blockages in the line unless frequent maintenance is provided. Upgrading this pump station will reduce the high costs associated with repairing the outdated controls, provide the pumping redundancy required by regulation, as well as reduce maintenance issues related to the check valves.

The pump station has been well maintained and the equipment repaired and rebuilt numerous times but the technology of the control systems is totally outdated. New repair parts for the control system have not been available for at least 10 to 15 years. We have managed to keep the system in operation using cannibalized parts from equipment left over when sister pump stations (Bridge Street and Junction) were upgraded ten years ago. A significant failure of this equipment (such as a lightning strike) could leave us without sufficient repair parts to maintain the operation of this pump station. The check valves and discharge valve in this pump station are well worn and were designed for a 20-year service in a horizontal orientation; these valves are 38 years old and were installed in a vertical orientation. These valves are critical to operating and maintaining the pump station and must be good condition.

Project Objectives/Goals: Objectives include reducing maintenance issues, improving pumping performance, improving safety, utilizing newer technology, meeting regulatory requirements, and reducing high repair costs on outdated technology.

Project: Phased Small Diameter Water Main Improvements
 Priority: 11 – Phase 1 \$400,000
 24 – Phase 2 \$3,044,000
 Total \$3,444,000

Budgetary Cost: \$3,444,000 (Annualized cost - \$688,800)

Project Summary: Project involves methodically removing the 2-inch diameter or smaller pipe that makes up 22 percent of the distribution system and replacing it with 6-inch pipe.

Phase 1 - Assumes that adequate funding is not available to fund the \$688,800 per year for five years as proposed by the consultant. It is a far less aggressive approach than recommended by the consultant. This is based over a four year period.

Phase 2 – The entire project was assumed by the consulting engineer to be contracted out over a five-year period. The total cost may be reduced by an estimated 15% if additional manpower and equipment are approved. If done in-house the project will be significantly longer than the five years originally proposed.

Project

Justification:

The majority of the 2-inch pipe is galvanized iron or steel and has experienced problems with leakage, taste, odor, and low pressure and flow. Additionally, fire hydrants cannot be placed on any mains that are smaller than 6-inches in diameter. As a result of the quantity of 2-inch lines the City lacks proper hydrant density in many areas and also exceeds NCDENR regulations with regards to number of residences being served.

Project

Objectives/Goals:

To eliminate the problems (leakage, taste, odor, low pressure and flow) being experienced by the galvanized iron or steel pipe and to provide a distribution system that can deliver sufficient capacity for normal usage and fire suppression situations. Ensure compliance with NCDENR regulations.

Project:

System-wide Cleaning and Inspection Program

Priority:

12 – Option 1 \$160,000

19 – Option 2 \$2,830,000

Budgetary Cost:

\$2,830,000 (\$566,000 – Annualized)

Project Summary:

Project involves the systematic cleaning and inspection of the City’s collection system to increase flow capacity, identify defects, and provide a comprehensive mapping of the system (i.e. confirm size, pipe material, number of taps, etc.)

Option one involves the purchase of a Pearpoint P400 series Television Pipeline Inspection System incorporated into a GMC Savana, 507 liter V-8 Gas engine (4) speed automatic transmission, cab air conditioning, (4) wheel drive with 159” wheel base 12’ Hi-Cube aluminum van with full width barn doors. This would be used by the new three-man Inflow & Infiltration crew being recommended. The work would be ongoing at a minimum of 10% per year. This option assumes the funding of additional labor and resources, which will become part of the Divisions operating budget. An approximated savings of 66% over contracting out.

Option two consists of contracting out over a period of five years to do the entire City of Eden’s collection system. However the requirements to inspect 10% of our collection lines per year is a continual requirement by the State. Remember this is only for the cleaning and inspection.

Mayor Price asked where this cost came from to which Mr. Corcoran replied that it was from W.K. Dickson’s Master Plan.

Mayor Price asked if they had received current bids to which Mr. Corcoran asked in terms of what. Mayor Price asked how they arrived at that (figure).

Mr. Corcoran replied that he thought that they looked at the linear feet of line out there that needed to be tv’d, cleaned and inspected and looked at the going rate and came up with their figure.

Project
 Justification: Maintaining a cleaning and internal inspection program enhances the operation and maintenance of a system. It extends the life of the system, reduces the exposure to SSOs and emergency calls, minimizes liability risks, reduces hydrogen sulfide exposure, and identifies problem areas.

Such a program satisfies the ‘System-wide Collection Permit’ requirements that 10 percent of the collection system lines be cleaned each year.

Project
 Objectives/Goals: Meet the regulatory/permitting requirements, extend the life of the City’s collection system, take an aggressive approach to reducing or eliminating SSOs.

Project: Pipe Renewal – Problematic Vitrified Clay Pipe
 Priority: 13 – Phase 1 \$100,000
 20 – Phase 2 \$5,297,000
 Budgetary Cost: \$5,397,000 (Annualized Cost - \$1,079,400)

Project Summary: Project involves rehabilitation of the City’s vitrified clay pipe through the use of cured-in-place-pipe liners where possible. Project will inevitably involve point repairs to some sections but the majority of the pipe can likely be rehabilitated rather than replaced. The renewal program also includes there furbishment of the manholes along these segments using cementitious lining.

Phase 1 assumes that adequate funding is not available to fund the \$1,079,400 per year for five years as proposed by the consultant. It is a far less aggressive approach than recommended by the consultant.

Phase 2 – The entire project was assumed by the consulting engineer to be contracted out over a five-year period.

Project
 Justification: The inflow and infiltration (I/I) rate for vitrified clay pipe is significantly higher than for other pipe materials and the majority of this pipe was installed prior to the 1960s. In addition to the known I/I problems associated with vitrified clay pipe, pipe of this type installed prior to the late 1960s was installed with a simple mortar joint as I/I was not considered to be a problem. Additionally, clay pipe prior to the 1950s was thinner and much shorter with the overall quality control in the manufacturing and processing techniques being lacking.

Project
 Objectives/Goals: To aggressively attack the City’s I/I problem and extend the piping system’s service life.

Project: Pipe Renwal – Reinforced Concrete Pipe
 Priority: 14 – Phase 1 \$100,000
 21– Phase 2 \$962,000 (\$212,380 – Annualized)
 Budgetary Cost: \$1,062,000 (\$212,380 - Annualized)

Project Summary: Project involves systematically replacing all reinforced concrete pipe which will enhance several large diameter mains.

Option 1 assumes that adequate funding is not available to fund the \$212,300 per year for five years as proposed by the consultant. It is a far less aggressive approach than recommended by the consultant.

Option 2 – The entire project was assumed by the consulting engineer to be contracted out over a five-year period.

Project

Justification: The reinforced concrete pipe is most likely contributing to inflow and infiltration rates as this type of material is highly prone to corrosion by wastewater when the lines are running on the minimum slope and the wastewater loading rate on the pipe is not sufficient to maintain a desired velocity of 2 feet per second. Replacing the problematic reinforced concrete pipe will enhance several large diameter mains and reduce inflow and infiltration in these areas.

Project

Objectives/Goals: To minimize emergency conditions, aggressively attack the City’s inflow and infiltration problems, and enhance the flow capacity of several of the City’s large diameter mains.

Project: Routine Distribution System Assessment and Standard Maintenance
Program

16 – Phase 1	\$68,000
22 – Phase 2	\$649,000
Total	\$717,000

Budgetary Cost: \$717,000 (Annualized Cost of \$143,440)

Project Summary: This improvement entails the equipment and resources to implement a routine distribution system assessment and standard maintenance program including collection of much needed system data, maintenance and repair of permanent blow-off assemblies, system-wide flushing program, valve exercise program, cross-connection control program and a meter testing, maintenance and repair program.

Phase one includes the purchase of three new vehicles for the five additional employees being recommended.

Phase two is putting the personnel and equipment recommended in Phase one to work with necessary materials and other support as described in the Master Plan.

Project

Justification: This project is needed to improve the City’s maintenance program and meet NCDENR inspection checklist and obtain comprehensive information and a higher level of detail about the state of our system.

Project

Objectives/Goals Establish and implement the needed maintenance programs and develop detailed costs of upgrades to eliminate structural integrity, hydraulic capacity, leakage and water quality concerns within the distribution-piping network.

Project: Pump Station Renewal Program: Bridge Street Pump Station
Priority: 17
Budgetary Cost: \$231,000

Project Summary: Project involves upgrading the existing pump station, which is 38 years old. The upgrade will include discharge valves, rebuilding of the existing pumps, piping modifications to rearrange check valve orientation, Confined Space entry improvements, installation of permanent vertical ladders for drive shaft maintenance and installation of permanent emergency backup power.

Project Justification: Suction and discharge valves have been in operation since the original installation. The pump station has never had any upgrade of the original valves installed in 1966 for the Metropolitan Sanitary Sewer District that predated the City's consolidation. Additionally, having the check valves in the vertical position creates the possibility for blockages in the line unless frequent maintenance is provided. For these reasons the pump station is subject to increased risk of these valves contributing to blockages or inoperability that could lead to sewer overflows at the pump station or on the adjacent outfalls. Currently the pump station does not have permanent emergency backup power, but does have a connection for the portable generator the city owns. The Master Plan has proposed that there are also safety enhancements that are needed to the spiral staircase access and the installation of permanent ladders for maintaining the pump drive shafts to comply with OSHA regulations.

Project Objectives/Goals: Objectives include reducing maintenance issues, improving pumping performance, reducing the maintenance on the check valves, improving safety by reducing exposure to the health hazards of a wastewater environment, providing permanent backup power and lessening the duration and impact of sewer system overflows.

Project: Pump Station Renewal Program: Junction Pump Station
Priority: 18
Budgetary Cost: \$341,000

Project Summary: Project involves upgrading the existing pump station, which is 38 years old. The upgrade will include discharge valves, rebuilding of the existing pumps, piping modifications to rearrange check valve orientation, Confined Space entry improvements, installation of permanent vertical ladders for drive shaft maintenance and installation of permanent emergency backup power.

Project Justification: Suction and discharge valves have been in operation since the original installation. The pump station has never had any upgrade of the original valves installed in 1966 for the Metropolitan Sanitary Sewer District that predated the City's consolidation. Additionally, having the check valves in the vertical position creates the possibility for blockages in the line unless frequent maintenance is provided. For these reasons the pump station is subject to increased risk of these valves contributing to blockages or inoperability that could lead to sewer overflows at the pump

station or on the adjacent outfalls. Currently the pump station does not have permanent emergency backup power, but does have a connection for the portable generator the city owns. The Master Plan has proposed that there are also safety enhancements that are needed to the spiral staircase access and the installation of permanent ladders for maintaining the pump drive shafts to comply with OSHA regulations.

Project

Objectives/Goals: Objectives include reducing maintenance issues, improving pumping performance, reducing the maintenance on the check valves, improving safety by reducing exposure to the health hazards of a wastewater environment, providing permanent backup power and lessening the duration and impact of sewer system overflows.

Project: Capacity Improvements for Interceptors
Priority: 23
Budgetary Cost: \$356,000

Project Summary: Project involves increasing the capacity for the Dry Creek, Tanyard, Fieldcrest and Highland interceptors.

Project

Justification: Hydraulic restrictions limit the flow capacity of the collection system exposing the collection system to surcharging conditions and ensuing sanitary sewer overflows. Furthermore, regulatory code stipulates that a sewer must be able to convey its peak flow without surcharging.

Project

Objectives/Goals: To eliminate the hydraulic restrictions or system bottlenecks.

Project: Pipe Renewal – Upsizing 6-inch and smaller collection mains
Priority: 25
Budgetary Cost: \$355,000 (\$71,000 – Annualized)

Project Summary: Project involves replacing 38 segments (9,350 LF) of 6-inch gravity sewer. The majority of these pipes are found in two locations – the northeast section of the service area along Fieldcrest Road and just west of the Smith River.

Project

Justification: NCDENR regulations stipulate that the minimum pipe diameter size of gravity sewers for public wastewater collection systems shall be eight inches.

In addition to being in conflict with regulatory code, the 6-inch mains (mostly old vitrified clay) exhibit hydraulic restrictions, poor structural integrity, and excess infiltration and inflow.

Project

Objectives/Goals: To remove substandard (6-inch versus 8-inch) line sizes from the City's system while also eliminating a large amount of problematic vitrified clay pipe.

Project: Pump Station Renewal Program: Fourth Street Pump Station
Priority: 26
Budgetary Cost: \$89,000

Project Summary: Project involves replacing the existing pump with a submersible type station to eliminate the substandard wet well, provide adequate access, and provide a standby pump.

Project Justification:

- Replacing this pump station will eliminate the substandard wet well, will enhance safety by providing adequate access for maintenance, and will provide the proper redundancy required by regulation. Replacing this pump station will eliminate the substandard wet well.
- Will enhance safety by providing adequate access for maintenance.

Will provide the proper redundancy required by regulation.

Project Objectives/Goals:

Objectives include reducing maintenance issues, improving pumping performance, improving safety and conforming to regulatory requirements.

Project: Pump Station Renewal Program: Dogwood Pump Station
Priority: 27
Budgetary Cost: \$67,000

Project Summary: Project involves replacing the existing pump with a submersible type station.

Project Justification:

- Improper access for maintenance of pumps.
- Confined space issue.
- Backup power as required by regulation.

Project Objectives/Goals:

Objectives include the enhancement of maintenance and safety issues. If a bypass main is viable, the City would reduce operation and maintenance costs.

Project: Renewal of Old System Piping & Appurtenances
Priority: 28
Budgetary Cost: \$883,000 (Annualized Cost - \$176,599)

Project Summary: Project involves the replacement or rehabilitation of the cast iron and galvanized pipe that is currently experiencing degradation and corrosion. As part of this project, the City would also try and eliminate all older galvanized services and lead goosenecks (connections) where possible.

The project also includes the installation of hydrant valves on the hydrant legs.

Project
Justification:

This project will strengthen the distribution system by eliminating the tuberculated pipe. This would benefit the City by decreasing pipe friction thereby improving flow capacity, minimizing water quality issues and complaints, and increasing fire flows. The project will also improve the reliability and performance of the City's fire suppression system.

Project
Objectives/Goals:

To improve reliability and flow capacity in the distribution system; enhance safety by increasing fire flows, and minimize or eliminate water quality issues caused by old galvanized pipe.

Project: Sanitary Sewer Evaluation Studies (SSES)
Priority: 30
Budgetary Cost: \$212,000 (\$42,400 - Annualized)

Project Summary: Project will provide comprehensive information regarding the state of the City of Eden's sanitary sewer system and the needed upgrades and renewal efforts to bring it into compliance. A SSES report is generated which details the procedures, equipment and results of each activity performed, identifies the system defects, prioritizes (ranks) projects, details recommendations, and provides a preliminary cost estimate associated with the selected repairs. The data gathered, which includes the results from smoke and/or dye testing, manhole inspection, night flow isolation, and digital images is then incorporated with staff comments prior to the generation of the final report outlining recommendations.

Sewer Subsystems Needing SSES:

- Matrimony Creek
- Smith River East
- Smith River West
- Miscellaneous Areas

Project
Justification:

Project will provide the City with the information necessary to make sound decisions on which segments of the collection system are in the greatest need of repair. The report generated as a result of the SSES identifies the system defects, prioritizes or ranks them and includes a preliminary cost estimate associated with the selected rehabilitation methods.

Project
Objectives/Goals:

Provide the Collection/Distribution Department with comprehensive information about the state of the City's system as well as identify the upgrades that will be required to bring the system into compliance with their community's needs.

Project: Water Master Plan Enhancement and Maintenance
Priority: 32
Budgetary Cost: \$69,000

Project Summary: Project involves a detailed evaluation of the water treatment facilities including a detailed inspection of the facilities and in depth assessment of pending regulations and their affects on the plant. Also includes additional field work and data collection to improve the City's hydraulic distribution model, a Power Management Evaluation, and System Maintenance Assessment.

The second phase includes the maintenance of the plan due to changing conditions in growth, development and policies.

Project Justification: This project supports continued proactive planning in a holistic fashion.

Project Objectives/Goals: The project will provide the City a comprehensive plan to meet the demanding needs of operating and maintaining a public drinking water system.

Project: Wastewater Master Plan Enhancement and Maintenance
Priority: 33
Budgetary Cost: \$93,000

Project Summary: Project involves a detailed evaluation of the wastewater treatment facilities including a detailed inspection of the facilities and in depth assessment of pending regulations and their affects on the plants. Also includes development of pump station models and assessment of the station's hydraulic performance.

Second component includes maintenance of the plan due to changing conditions in growth, development, and policies.

Project Justification: This project supports continued proactive planning in a holistic fashion.

Project Objectives/Goals: Provide the City with a comprehensive plan to meet the demanding needs of a wastewater collection system.

Project: Wastewater Treatment Plant Expansion (PER and E.A. Phase)
Priority: 33
Budgetary Cost: \$100,000

Project Summary: Project involves evaluating the alternatives for expansion of the Mebane Bridge Wastewater Treatment Plant to meet regulatory requirements (80/90 Rule) and meet projected capacity. In this case, forecasts indicate

that sometime during 2006 to 2007, the plant will be 80% utilized. The planning phase will facilitate the required preliminary engineering report and environmental assessment.

Project

Justification:

Based on population projections including both residential and commercial development, the Mebane Bridge Plant will reach 80 percent capacity in 2007. Based on the 80/90 Regulatory Rule, the City will need to begin planning of a new (or expanded) wastewater treatment plant when the plant reaches 80 percent capacity. Construction of new facilities is called for when the plant reaches 90 percent capacity.

Project

Objectives/Goals:

To provide adequate treatment capacity and meet NCDENR Regulations.

Mr. Corcoran then explained the following:

- The updated and re-prioritized listing prepared by staff breaks several projects down into different phases and equals an updated total cost of \$30,355,000.
- Unfortunately, this is much more than we can afford based upon our existing water and sewer service rates and incoming revenue. An updated breakdown of these projects looks as follows:

PROJECTS RECOMMENDED FOR FUNDING

1. Meadow Greens PS Renewal	552,000
2. WWTP Solids Management	2,475,000
3. High Service Pumping Upgrade	1,072,000
4. Railroad PS Replacement	2,200,000
5. Telemetry Improvements	180,000
6. Demolition – Check Valve Removal	25,000
7. Raw Water Pump Station Phase I	237,000
8. Covenant Branch PS Renewal	691,000
9. Dan River PS Renewal	490,000
10. Kuder Street PS Renewal	415,000
11. Phased Small Dia. Water Main Imp.	400,000
12. Cleaning & Inspection Option 1-CCTV & Truck	160,000
13. Pipe Renewal-Vitrified Clay Phase I	100,000
14. Pipe Renewal-Reinforced Concrete Phase I	100,000
15. Raw Water Pump Station Phase II	392,000
16. Distribution System – O&M – 3 Trucks	68,000
17. Bridge Street PS Renewal	231,000
18. Junction PS Renewal	<u>341,000</u>
Subtotal	\$10,129,000

PROJECTS RECOMMENDED – FUNDING NOT AVAILABLE

19. Cleaning & Inspection Program Option 2	2,830,000
20. Pipe Renewal-Vitrified Clay Phase II	5,297,000
21. Pipe Renewal-Reinforced Concrete Phase II	962,000
22. Distribution System – O&M – Phase II	649,000
23. Capacity Improvements – Interceptors	356,000
24. Phased Small Dia. Water Main Improvements	3,044,000

25. Pipe Renewal – Upsizing 6” & Smaller Collections	355,000
26. Fourth Street PS Renewal	89,000
27. Dogwood PS Renewal	67,000
28. Renewal – Old System Piping & Appurtenances	883,000
29. Raw Water Pump Station Phase III	5,190,000
30. Sanitary Sewer Evaluation Studies (SSES)	212,000
31. Demolition – Byrd Street Water Tank Removal	30,000
32. Water Master Plan Enhancement & Maintenance	69,000
33. Wastewater Master Plan Enhancement & Maint.	93,000
34. Wastewater Treatment Plant Expansion (80/90 Rule)	<u>100,000</u>
Subtotal	\$20,226,000
Total	\$30,355,000

Mr. Corcoran explained that they have broken out approximately \$10,129,000 before they got to how they could pay for things recommended for financing and everything else they listed as Funding Not Available, which totaled approximately \$20.2 million for their combined total of \$30,355,000.

- We will need to borrow a significant portion of the funds necessary to fund these improvements, we will need to maintain adequate staffing levels in order to get everything done and we must continue to raise our water and sewer rates on an incremental basis.
- In fact, one of the reasons we are consistently denied grant funds is due to our low water and sewer rates coupled with the funding agencies perception on our ability to pay.

Mr. Corcoran reminded them that the projects that they have just discussed merely represent the beginning. There was another \$62 million plus worth of projects that they have not even discussed.

- We have significant infrastructure needs facing our community over the course of the next two decades and we need to become committed to a long-term plan of action and implementation. They must act now.

Mr. Corcoran pointed out that Mr. Asbury, Mr. Van Zandt, Mr. Harvey or Mr. Shelton would be happy to address specific questions about any of the projects that he briefly touched upon.

Mayor Price asked if they were keeping abreast of where they were with Danville (Virginia), the people of Roxboro (Caswell County) and the Dan River.

Mr. Asbury explained that they were probably a little different than theirs in that they have two lines that they were going to run about 17 miles each, both across different wetland areas. He stated that they thought they had put about \$600,000 into their environmental permitting phases up front. He added that he did not think that theirs would be that large, however they started out with a request of 30 million gallons per day and the last information he had said that had been turned down to 10 million gallons per day and he could not really say if that was what the State was saying or if they did it on their own.

Mayor Price asked if he thought that would affect their request.

Mr. Asbury replied that he thought that it would affect their experience but if the agencies of Virginia and North Carolina that have worked together on it and they probably have a keener insight of the issues now regarding the river, so it was very likely they would be scrutinized very carefully.

Council Member Gover asked how much money to date have they spent on Meadow Greens.

Mr. Asbury replied that he did not have a ball park figure.

Council Member Gover pointed out that they approved money in the past to upgrade Meadow Greens and they were still having the same problems there and now they want to spend another \$552,000. He asked if that would alleviate the problems.

Mr. Asbury replied that they certainly hoped so. He explained that the Meadow Greens Pump Station has been the most troublesome station in terms of sewer system overflows into creeks. They had the money that Council Member Gover was referring to initially and it was a considerable amount that was addressed at fixing the problem and its source dealing with inflow and infiltration which was basically cracks in pipes, cracks in manholes, open manholes, lines connected to downspouts and a lot of that was eliminated, but certainly not all of it. He stated that I&I was a very difficult thing to fix. He knew that the City of Nashville was in the middle of a great big project now doing some very innovative type of funding and design build type of things in order to change the face of I&I work and to make it more expeditious, but the money that they saw deals basically with rebuilding that pump station.

He noted that the reason they changed their focus was basically the staff was called to Winston-Salem by the North Carolina Department of Environment and Natural Resources and were pretty much read the "riot act". They were told pretty much in no uncertain terms that the State was sick and tired of SSO's everywhere and if they did not want to have a moratorium then they needed to focus on eliminating SSO's. Obviously the most desirable thing was to eliminate it from the collection system so that they did not have to pump it, because if they were pumping it they were paying electricity and the cost for maintaining a pump station, but again, they felt like they have been given a fairly clear direction from the State that they want it taken care of. He added that as a matter of fact they had to send them, in order for the State to approve the sewer connection, water extension lines for the new Walmart, Ruby Tuesday and the Eden building project where the new Presbyterian Church was going to be, they had to submit a fairly long explanation to them under the City Manager's signature, committing the city to take positive action. That was the only way they could pull that project out and keep it moving so that was where they were going, but to tell that he could guarantee anything 100%, he could not, but he thought that they could look at it and if there were questions about it, they could probably address them up front before they start construction.

Council Member Nooe asked if there was anything in the replacement sections that was dealing with anyone of those flows at the several pump stations or were they just trying to upgrade their pump stations to handle whatever rainwater or surface water gets in there.

Mr. Asbury replied that there were a couple of things in there. One was the SSES studies that were recommended and he noted that they have very low priority. The main reason for the low priority, they already know the system leaks. He added that he was not sure they need to spend a lot more money having someone tell them that it leaks. It might be better to delay that cost down the road and determine whether they were actually accomplishing anything with I&I, but the question, were they going to address I&I in other areas he thought that was the question.

Council Member Nooe stated that he did not know what the best way was, to try to reduce that before they upgrade their pump station because they did not know how much flow they were trying to pump anyway, it may or may not work.

Mr. Asbury replied that was true and that was the problem they ran into when they built the Covenant Branch Pump Station. It was required, the State looked at it, they looked at the design and they asked what the basis was for the size of the pumps and the engineer said it was a guess. They looked at the basin and the people and then guessed. Well, they (State) stopped the project there and would not approve it. They required them to do a flow analysis in those sub basins that go to Covenant Branch and once all of that data was in and reviewed, the Covenant Branch Pump Station was approved contingent upon the city removing 70% of the I&I that was there, the idea not being to build it to pump an infinite amount of I&I. Fortunately they have not been able to fund I&I repair work in that basin so that 70% has been removed and they were still seeing overflows there on a regular basis almost as bad as Meadow Greens. They have completed another SSES in the north side at the east end of town, the Draper area that drains to the Dry Creek Wastewater Treatment Plant. They also have from that a list of pipes and he was sure they read the report, estimates for costs of doing all of that. He noted that as Mr. Corcoran mentioned earlier, there will be a request for additional people to help do this and additional

equipment. He explained that they would like to do this in-house and felt like they could do it in-house cheaper than hiring crews to come in from the outside.

Mr. Van Zandt added that at sites such as Kuder or Bridge Street, those were not upgrading upsized pumps, those were just the position of the check valves....

Council Member Nooe stated that he knew there were several of them that were just outdated and need to be updated, but there were several that were listed and one of the reasons was the amount of flow coming in and...

Mr. Van Zandt explained that a lot of it has to do with the design of the check valve and their position and that restricts a lot of the flow, they were in a vertical position and you get grit, everything piles up when that suction shuts down and when the pumps are cut on, the pumps cannot pump fast enough.

Council Member Nooe stated that he also understood that if they do pump all this flow, what was this going to do to their treatment plant. They would have bypass there since they have so much inflow.

Mr. Asbury replied that they probably would have some more solids violations especially until they get the solids problem under control, but yes, it was more expensive to do that, to build a pump station and pumping rainwater was more expensive to fix holes in pipes.

Council Member Nooe asked what he would like to see done. He asked if it was attacking these pump stations and then pumping all that water into the treatment plant going to cause a bypass or was it that it should be put more time and effort and money into upgrading or replacing lines and fixing inflow.

Mr. Asbury replied that given the current position of the DEHNR organization, he did not think they have a choice. Now whether they were persuaded otherwise, such as a delegation of elected officials talking with them could persuade them that Eden was in tough times and does not need to be spending money on projects that could be resolved maybe in a longer time frame, but with less money, then some of that would not have to be done, and/or done in the order that was being done, or to be extended and he thought that as they indicated earlier, if they fix the I&I first, then they could have a much better handle on how much flow was going to go to that pump station and to build a much more efficient station than they could by just guessing.

Mayor Price asked if he was saying the State was telling them not to do that.

Council Member Nooe stated that he thought what was happening was what he read in reports, it had gone on so long, they were tired of seeing it and they need to do something and this would do something fast.

Mr. Corcoran agreed that was correct.

Council Member Gover stated that was the reason he had asked about Meadow Greens. Would this alleviate the problem with overflows. He stated that it was quite embarrassing that they were having so many overflows and have spent money toward those overflows trying to alleviate it, but unfortunately out of all of the information they have, he was amazed to spend that kind of money on a study and they have not pinpointed it for them and here they were in a guessing game with millions of dollars, after spending \$80,000 plus on a study that could not pinpoint what they need to do. He noted that in looking down through there, Covenant Branch, Meadow Greens and they were still having those overflow problems daily, whether they have "x" number of inches of rain or whatever, they were not fixing the problem and neither have they been shown what the problems were all of these years and it did not just happen yesterday.

Council Member Vestal noted that on the Railroad Pump Station, the building of the lagoon at National (Textiles), did that not alleviate some of the problems that they were having at that pump station. The problem that they were having was that all of a sudden there was a surge coming down and when they built that lagoon, he questioned if they were still going to have to spend \$2 million or had that been alleviated.

Mr. Asbury replied that it alleviated the hydraulic slug loading that they were getting, it comes at a much more even pace now than it did before which was very helpful, the pump station being able to handle what was discharged, it did not surcharge into the lines.

He stated that when they dealt with them in the late 1980's and early 1990's, they were in Martinsville looking for a place to locate and they decided that this would be a great place, but they did not have the treatment capacity on that end. They needed to move quickly, so in cooperation with Rockingham County and several State agencies that force main and pump station was put on a very fast track. He noted that the pump station that was brought in was basically a package station, it comes in already built, concrete shell, and it has been problematic from the beginning and age has not helped that at all. He stated that he figured, as the Rouse's mentioned in the presentation (audit presentation) they have a significant number of eggs in one basket and if that station goes down, they would not be able to service some of or at least one of their major customers. He stated that their concern was to have that station up and running and not have any more bypasses and to be reliable for National.

Council Member Vestal asked if the companies were paying their fair share of what they were supposed to be paying...to which Mr. Van Zandt replied every penny and dime and Mr. Asbury added that the calculation also included some manpower costs and also some equipment maintenance cost and personnel.

Council Member Turner pointed out that as they look at their water mains, this was what they keep talking about, it was their ace in the hole and they really have to have this water ready for future industries and it just seems all of this was very important and cannot being ignored any longer.

Council Member Nooe added that it was just a matter of what was the best use of the money. He suggested that the City Council might meet with the DEHNR or whoever and show them that they were committed to fixing these problems...and fixing I&I if that was the best way to go and then do the pump stations or do what was the best for the city as far as getting a good product in the end, getting the most bang for the dollar. He stated that they did not want to spend a half million dollars on a pump station and then not do what it intends, if they could spend half a million on I&I up there and spend \$150,000 to upgrade a pump station, it may be a better use of city funds.

Mr. Asbury stated that the DEHNR folks from the Winston Salem regional office would be willing to come and meet with the whole Council to which Mayor Price asked if that would be agreeable to everyone

Council Member Vestal commented that they have been talking about that, this was not the first time this conversation had taken place but he thought it was the way to go.

Mayor Price asked the City Manager if he and Mr. Asbury could take care of it.

Mr. Van Zandt added that one thing to keep in mind, they were talking about 1960s and 1970s technology and this was 2004, there were not a lot of repair parts out there.

Council Member Nooe stated that they were talking about two different things. The outdated pump stations definitely needed to be repaired and upgraded and it was just an amount of upgrade that they need. They need to fix the I&I and fix the pump stations and get it up to speed. The older ones need to be done no matter what, like the Meadow Greens with half a million dollars spending on it, and they have I&I problems and did not know whether that half million would fix it or not, they need to go back and take a look and see what was best...

Mr. Asbury stated that he thought definitely the city would be wise to meet with some State Representative and explain what their situation was and what their interests were and for them to understand the Council's commitment to protect the environment and want to do it, not only expeditiously, but cost effectively. He thought it was an excellent idea.

Council Member Gover asked the City Manager if this was where his committee came in.

Mr. Corcoran asked the Mayor if he wanted a meeting set up with the entire Council or the

Water and Sewer Committee.

Mayor Price replied that he thought it would depend on the severity of the comments Mr. Asbury had received from the State. If they were getting to the point of demanding that the City of Eden do things and talking about moratoriums then they needed to look into the eyes of all the City Council.

Mr. Corcoran commented that his gut tells him that they may be willing to discuss some of those other pump stations, but he doubted they would be willing to discuss Meadow Greens. They were probably not going to back off on that one, because of all of the development out there, that was what caused this whole thing to get started. They were concerned, but not nearly as concerned about Covenant Branch and some of those others right now as they were Meadow Greens. They might be able to sit down and meet with them, but he would think it would be more conducive to be at a committee type meeting where they could sit at a table and roll up their sleeves and talk back and forth, than a City Council meeting and if it needed to come to a City Council meeting they could go from there.

Council Member Vestal stated that Eden was just like any other city, they have ignored this for years and that was why they were in the situation they were in now.

Council Member Gover added that just guessing was not solving the problem.

Council Member Tuggle asked if they would be able to give them the specifics as to what to put their money toward.

Council Member Gover commented that he had hoped those studies would give them that information that they need and so now they need to find out exactly what Mr. Nooe was talking about with the I&I and see if they could come up with a good plan to alleviate it so they would know whether to increase their pump or decrease it. If they were increasing their pump they would have trouble on the other end. This was where they have to find out.

Mr. Asbury stated that he thought that they did have a lot of good information. A lot of the area, the majority of the city's collection system has not been looked at. It has not done SSES work. He thought the last one was done in 1972, in some of the areas of the city, especially in the Leaksville Spray area, back up in Northridge.

Mayor Price asked what SSES meant to which Mr. Asbury replied it was a Sanitation Sewer Evaluation Study.

Council Member Nooe stated that they would be doing those in house if they get the camera crew and all that approved.

Mr. Asbury agreed, that was the point they were trying to make. If they change the focus and get the additional people and equipment they need, they certainly would not be able to approach it at the same speed that was put out in this presentation for bonds. It was based on basically 4 or 5 years worth of work and they may have seen people around town with big sewer vacuum trucks stopping traffic and that kind of thing, those folks come in and that was their bread and butter, they come in with a whole bunch of people and they do it, and they have technicians who go back and prepare the reports. If they (in-house) did it here it would be a little more low tech and one of the requirements that the State has with Mr. Harvey was that he clean and inspect 10% every year of the collection system and that was basically 13 miles a year. Of course at the moment that was just not possible with the equipment they have. He did think that there may be some ability to delay; there may be some ability to change focus...

Council Member Tuggle stated that if they were to approve this team...he was saying it was low tech, he asked if this was something that would be very cost efficient as well as something in the long run would really take care of preventive maintenance and then in the long run would be better doing that than having a group of people coming in.

Mr. Corcoran agreed. He stated that one of the disadvantages in his mind and maybe their mind about doing all of the tv and cleaning and inspection works in a five year period was okay they have identified everything but they did not have the money available to go take care of

everything. So they spend all that money to fix it, but over years conditions change and new problems develop. He thought the approach that needed to be taken was they have a pretty good idea of where their problem areas were, go out to an area, clean it, inspect it, if it needs to be fixed, dedicate some money to fix it then move to the next area. But to go out and spend \$2.8 million to fix everything in one swoop over a series of years and say here was the magnitude of what they need to do, they would not have the money or resources to do all of that work in a nice time span, thereby eventually that \$2.8 million worth of work becomes outdated and then they need to do it again.

Mayor Price asked if they needed to do it all at one time.

Mr. Corcoran replied well that was their point, they felt like no they did not.

Mayor Price asked if they could hire it out to which Mr. Corcoran replied that if they hire it out it would be more expensive, their recommendation was to go with additional manpower, period.

Mr. Harvey commented that when he looked at this, if he hired a crew, the vehicles, operating expense, etc., they could not be doing it; say in a four year period, but in the long run they would be saving about 66% of that money by having a crew there, (because) that crew would be ongoing.

He noted the I&I that are identified that could be reasonably done by the city are 6' or 8' in depth or less. He used the word reasonably because once they get about 6' or 8' depth that pretty much stops with the equipment that they have to work with. Once they have assessed it and took their films, they would have to contract out that type of work, but a lot of that stuff could be done in 6' or 8' depth.

Mr. Harvey then referred to Meadow Greens. He stated that was not just the idea of if you do the pump station or you do the inflow, it was a combination of both. He noted that he had only been there about 22 months, but to the I&I's that they have done or completed by C&D, they had to use temporary employees, kind of alternating so they kind of keep up with some things and have fallen short on some, but even in wet weather it has been less severe in total gallons than it was a year ago.

It still has not stopped the overflows but they could see where the frequency and the total gallons has been less.

Council Member Tuggle asked if this would help with the speculations of what problems would be, this would identify them, they go right to it, work it out, fix it and that was preventative maintenance and save that much money in the long run.

Mr. Harvey (in discussing preventative maintenance) noted that (with the camera they have) they just could not see, because it only looked straight ahead. He referred to a uni-directional camera that was 360 degrees, they could put it on disc, instead of the old vhs tape, it was something that could be put on a slide show for presentations and stuff. They get permanent data.

Mr. Asbury added they could also go back and look at it after they fixed it to see if it was gone.

Council Member Tuggle pointed out that without a preventative maintenance crew it was really speculation on what the problems were to a certain extent. Where if they could have somebody on hand who could go out right then and check things out and do some preventative maintenance, try to get it done it would save money and certainly a lot of valuable time. He asked if he was correct in saying that.

Mr. Asbury agreed that he thought so.

Mr. Harvey explained that if they were going with a minimum of 10% done the first year, great, that was a plus, basically a minimum of 10% means that basically they would have put that camera in every foot of line in the city in 10 years where as they were talking about 24 years.

Mr. Corcoran noted that this kind of goes into the next thing (to be discussed). They have actually four more presentations to make in the next 30 minutes dealing with water and sewer. Basically, this was connected with some of what they (staff) thought and some of what they

(Council) have requested to be addressed.

He then referred to a memo that he had sent to Council (dated March 9, 2004), subject being "Additional Manpower Request – C&D".

He noted that he had recently met with Mr. Dennis Asbury, Director of Public Utilities and Mr. Bill Harvey, Superintendent, Collections and Distribution to discuss the current workload being handled by our C&D division field personnel and the need for additional manpower.

Since July 1, 2003, the C&D division field personnel (seven FTE employees) have completed a total of 1,263 work orders. On workdays when everyone was present they run two three-man crews and one man as a rover to check out problems and do minor work orders. Since July 1, 2003 they have been averaging the following:

1. 3.7 fully staffed workdays per week, this is due to leave, holidays and comp time.
2. A total of 35 work orders completed a week. The break down is as follows:
 - a. Greater than 8 Water Leaks per week repaired
 - b. Greater than 5.5 Sewer Stoppages per week unstopped
 - c. Less than 1 Camera sewer line per week
 - d. Greater than 4 Checks on water leaks, sewers or other problems
 - e. Greater than 1 Dress Up per week
 - f. Greater than 1.5 Inflow & Infiltration problems per week
 - g. Greater than 2 Installation of taps comprising of (water, sewer, irrigation taps)
 - h. Less than 1 Low pressure problems
 - i. Less than 1 Locates
 - j. Greater than 1 Pump out sludge
 - k. Greater than 3 Remove, repair or replace meter, cleanouts, valves, valve boxes, manhole lids, water services, sewer laterals
 - l. Greater than 6 Other work orders such as cut trees, turn on or offs, snow removal, read meters, training, etc.

Unfortunately, the work in the C&D division has only been reactive to their system's daily problems and little to no proactive – preventative type measures has been undertaken. As Mr. Harvey put it in a memorandum to dated March 2, 2004, "**SIMPLY STATED WE ONLY HAVE ENOUGH CURRENT MANPOWER TO TAKE CARE OF THE CURRENT WORK LOAD WITH LITTLE OR NO TIME STAFFED ADEQUATELY TO BE ABLE TO INSTALL WATER LINES OR DO OTHER SPECIALTY WORK.**"

Added to those current staffing shortcomings were the existing requirements of the Collection System Permit Program Plan and Recordkeeping Requirement by DENR's Division of Water Resources (Attachment 1) and the existing requirements of DENR's Public Water Supply Section (Attachment 2).

In addition to the existing State requirements they were failing to meet they also have no staff available for preventative maintenance on their collection system including the televising, inspection and cleaning of all sewer lines on a regularly scheduled basis. Furthermore, they did not have adequate staff to implement various 2" water main replacement projects.

He noted that he had been told that in the late 1980's and early 1990's they had a C&D division that consisted of a Superintendent, Assistant Superintendent, and five three-man crews for a total of (17) employees. There were four three-man crews mainly assigned to the distribution system and one three-man crew mainly assigned to the collection system. The three-man collection crew was eliminated at the end of FY 1992-93 and the four three-man crews assigned mainly to the distribution system was reduced to its current total of seven field personnel positions over the course of several years. As such, they have seen a total reduction of eight (8) FTE field personnel positions.

On the other hand, over the course of the past several years they have witnessed the tightening of regulatory requirements for both public distribution systems as well as public collection systems. In addition, they now have capital available to undertake several much needed capital improvement projects and preventative maintenance projects but insufficient staff. *He referred*

that one of the most significant changes since he had gotten there, the Council voted to raise rates and they actually have some money to do things. He noted that if they look at the audits from the 1990's they would find very little studies or capital improvements done.

Their water and sewer system were vital to the long-term success of their community and was in need of immediate attention. In order to meet current workload, undertake preventative maintenance measures, implement various 2" water line replacement projects and meet both the water and wastewater requirements being promulgated by the State of North Carolina a total of eight (8) additional FTE field personnel were required. Attachment 3 provides a breakdown of these positions and their primary areas of proposed responsibility.

He stated that he and the Department of Public Utilities staff each felt that they were at a point of no return and that if they wish to be proactive they have to have a sufficient work force. As such, they would respectfully request support for their request.

Mr. Corcoran then referred to the following attachments that were included with the memorandum and stated that they could read this on their own:

Attachment 1

Collection System Permit Program Plan
And
Recordkeeping Requirements

Below are the minimum plan documents and record-keeping requirements for permitted and deemed permitted collection systems. Plans and records must be available for inspection by the North Carolina Department of Environmental and Natural Resources (Division of Water Resources).

1. Map of the Collection System: The map must show the locations of all lines and pump stations. Mapping parameters should include the following:

- a) Line size*
- b) Slope (if available)
- c) Pipe material*
- d) Approximate age*
- e) Flow direction*
- f) Manhole information
 - i) Identification
 - ii) Age
 - iii) Materials
 - iv) Type (number of inlets, etc.)
- g) Pump station information
 - i) Identification*
 - ii) Location*
 - iii) Pump type (model) and capacity*
 - iv) Number of pumps at station
 - v) Back-up power source
- h) Location of all tributary collection system connections*
- i) Number of active service taps*

* Minimum requirement

Mapping of the entire system must be completed by January 4, 2001 for deemed permitted facilities. Permitted facilities must provide a rough sketch immediately and then map at least 10% of the system each year over the next ten years or until completed. Extensions to the

collection system must be incorporated to the map within one year of construction completion.

2. Capital Improvement Plan: This should cover at least a three to five year life span and account for the life and depreciation of the collection system. The Division does not recommend relying exclusively on grants and loans for long term planning. An excellent source of assistance in preparing a plan is available from The North Carolina Rural Economic Development Center at 919-250-4314.

3. Grease Control Plan: This includes restaurant inspection and enforcement programs and educational programs for residential customers as well as commercial establishments. A sewer use ordinance should be established that prohibits any user from discharging fats, oils and grease into the sewer system and provides the authority for the municipality to enforce upon violators.

4. Contingency Plan for Pump Failure at Each Pump Station: The plan should state procedures for initiating repair or replacement of pumps. Post at each pump station and keep copies at other pertinent locations.

5. Schedule for Reviewing All Inspection, Maintenance and Operational Logs: A review schedule should be documented for review of these logs. The Division recommends a checklist form where the date of review can be entered for each type of log reviewed. The log date range could also be recorded.

6. Recurring Problem Plan: If log review indicates an obvious problem, the source of the problems must be documented along with a plan to address the problem and an implementation schedule.

7. Schedule for Testing Emergency and Standby Equipment: This could be in the form of a checklist that shows when equipment should be tested, equipment location and testing procedures (or reference to where they can be found). This is linked to Item 8 below.

8. Routine Pump Station Inspection and Maintenance Program: This should include a minimum:

- a) Inspecting, cleaning and removing debris from the pump station structure, outside perimeter and wet well;
- b) Inspecting and exercising all valves;
- c) Inspecting and lubricating pumps and other mechanical equipment;
- d) Verifying the proper operation of the alarms, telemetry system and auxiliary equipment;
- e) Other testing procedures as documented in Item 7.

It is recommended that this be in a checklist form that could remain at the pump station, possibly in a notebook for completion by personnel performing their routine inspections. The pump manufacturer's operation and maintenance manual should be reviewed to develop operation and maintenance requirements for the pump inspection and maintenance program.

9. Right of Way Maintenance: Some form of tracking right of way clearing and maintenance should be kept to show work activity throughout the year. This could be a map that is highlighted and dated to show the work performed or some type of written form that indicates the location, date, observations and activity. This log can also be used to document a general observation of lines as discussed in Item 16.

10. Cleaning Program Plan: A record form should be kept that shows at a minimum, the date, location of cleaning, type of cleaning and other general observations during cleaning (type of debris, quantity, etc.). At least 10% of the entire collection system should be cleaned each year

11. Response Action Plan: These items, at a minimum, must be included in the plan:

- a) Contact phone numbers for 24-hr response, including weekdays and holidays;
- b) Response time (worst case);

- c) Equipment list and spare parts inventory (pump parts, spare pumps, pipe, manhole covers, etc.);
 - d) Access to cleaning equipment;
 - e) Access to construction crews, contractors and/or engineers;
 - f) Source(s) of emergency funds;
 - g) Site sanitation and clean up materials
 - h) Post-overflow/spill assessment;
- Post this plan at each pump station and other pertinent locations

12. Sanitary Sewer Overflow (SSO) Evaluation Log: This can be the State form or an individually made form that includes the State form information at a minimum. It is required that any type spills whether reportable or not be documented. Spills that are reported to the State should be on the required form.

13. Inspection Logs: These must be maintained for all inspections of:

- a) Sewer lines;
- b) Pump stations;
- c) Wastewater collection system-related equipment.

Logs should include the date and time, inspector, items inspected, findings and any maintenance, repairs or corrective actions taken. For pump stations, this log could be combined with the Routine Pump Station Inspection and Maintenance Program Log described above in Item 8 and kept at the pump station in a notebook. For manholes, the inspection log could include a brief sketch of the manhole showing incoming and exiting pipes, manhole materials, age, identification, general observations, specific items to inspect and actions required. These records must be maintained for a minimum of three years.

NOTE: Pump stations not connected to telemetry systems must be inspected at least daily until July 1, 2001 and every day thereafter. Pump stations with telemetry must be inspected at least once per week.

14. Maintenance Logs: These must be maintained for all inspections of:

- a) Sewer lines;
- b) Pump stations;
- c) Wastewater collection system-related equipment.

Logs should include the date, person completing maintenance, maintenance performed and results or additional corrective action necessary (this would include "no problems" or "further maintenance necessary" such as ordering another part or finishing the job at another date). Maintenance items for pump stations identified in Item 8 can also be included in this form. These records must be maintained for a minimum of three years.

15. Construction Record Drawings and Specifications for Modifications/Extensions: These must be maintained for the life of that portion of the collection system and incorporated into the comprehensive map of the entire collection system within one year of construction completion.

16. General Observation Log: This will be to conform to the permit requirement to observe the entire collection system throughout the course of every year, including outfall lines. This could be similar to the Right of Way Maintenance log such as a map highlighting the areas observed (and date) or some other written type form indicating the date and areas observed. Regularly traveled paths, sewer cleaning, right of way maintenance and areas visible by the general public all count as an "observed" portion of the line. It is the lines that are not regularly seen by the public or the maintenance crews that are of concern and need to be recorded as looked at sometime throughout the year.

17. High Priority Line Inspection Form: All aerial lines, sub-waterway crossings, siphons, lines contacting surface water, lines positioned parallel to stream banks and subject to eroding in such a manner that may threaten the sewer line and any other segment of the collection system that is designated as high priority must be inspected every six months. The log must state the area inspected, the date, method of inspection and any corrective actions initiated or performed.

18. Complaint Log: This log should be used to record customer complaints. The date, complaint location, problem, inspection date, inspector, observation, corrective action initiated or performed and any follow up should be tracked.

Overall, when developing and implementing inspection and maintenance logs, tracking dates and locations are essential to your record keeping as in many instances, permit compliance will depend on it.

The user of computer software for mapping and record keeping is encouraged but is sometimes not feasible. The Division does not require records to be kept on computer. However, it is recommended that there be a central location where all records can be easily located.

Mr. Corcoran pointed out that the second attachment included the actual summarized copy of an official letter they received September 16, 2002, from DEHNR basically telling them two years ago to start doing those things and they were still not doing it.

Attachment 2

Public Water Supply Section Requirements

On September 16, 2002 Mr. Bill Harvey, Superintendent, Collection and Distribution received a letter from the North Carolina Department of Environment and Natural Resources (Public Water Supply Section) outlining a number of items that need to be addressed in order to meet existing requirements. They include:

1. Continue with efforts to accurately inventory and map the locations of mains, valves, hydrants and other distribution system components.
2. Replace substandard mains (those less than two (2) inch diameter); replacement of galvanized mains is recommended. We understand a program for replacement of substandard mains has been initiated.
3. Locate and test water system blow-offs. As needed, repair, replace, and/or install blow-off assemblies or hydrants (as applicable) at dead end mains.
4. Develop and implement a system-wide flushing program and document flushing activities.
5. Locate and test water system valves; develop, implement, and document a valve-exercising program.
6. Ensure acceptable minimum free chlorine residual concentrations are maintained throughout the distribution system, especially for dead-end and low turnover locations. Document free chlorine residuals daily throughout the distribution system.
7. Develop a written cross-connection control program to include an inventory of devices, and a schedule for maintenance and testing. Develop a public awareness program for cross-connection prevention.
8. Formalize a meter testing, maintenance, and repair program; develop other strategies to minimize unaccounted water use.

Mr. Corcoran noted that the last attachment gave a snapshot of how the people should be utilized.

Additional Manpower – Primary Areas of Responsibility

Collection System

- Three (3) people - I/I preventative maintenance crew including TVing, inspection & cleaning of sewer lines. In addition, meet existing DENR requirements for a public wastewater system.

Distribution System

- One (1) person - Meter testing, maintenance and repair program. Implementation of cross-connection control program and public awareness campaign. Water sampling.
- Two (2) people - System-wide flushing program, valve-exercising program, fire hydrant maintenance.
- Two (2) people - Chlorine residual readings, locate, test and repair/replace blow-off assemblies, locate water system valve.

Note: The two two (2) man crews would also be combined together to form a construction team in order to handle the 2” water main replacement projects.

He noted that if they would look at their two inch waterline replacement projects, they have all sorts of needs. He added that the recommendations that were set forth in the first program were tied in with these staffing recommendations that would be included for consideration in the upcoming budget.

He then referred to another memorandum presented to Council dated March 4, 2004 entitled “Water & Sewer Rates”.

That memorandum consisted of the following, which Mr. Corcoran read to Council:

Background

The City of Eden completed a detailed Water & Wastewater Rate Analysis on February 22, 2002. This report, prepared by the City Manager, helped to lay the groundwork for the current situation and a general plan of action.

The report found that the original rate structure developed in 1990 and revised in 1999-2000 was not set up to generate revenues for future capital outlay improvements or to account for depreciation.

Mr. Corcoran explained that in other words, all that rate structure was designed to do was to make sure they could meet their operational costs. If they go back and look at the audit and what was actually spent, as he had said before, they would see that the system was sitting idle and there was not much work being done on the infrastructure.

It was designed to deal exclusively with operational costs. We also discovered that the estimated revenue that would be created as a result of the 1999-2000 increase was significantly less than anticipated due to an error in the interpretation of the data received from Mr. David Cain, P.E., Finkbeiner, Pettis, & Strout, Inc. The 2002 report noted that “it is apparent that the use of the water and sewer related fund balances and transfers to the General Fund over the years, has compromised the city’s ability to fund future capital projects, ongoing preventative maintenance programs and much needed capital outlay equipment.”

In other words, Mr. Corcoran explained that they were not using, even the available money they had in water and sewer they were not really using for capital projects, they were using that money elsewhere to fund other needs.

The 2002 report recommended a multi-step process in relation to our current situation and the City Council initially adopted the recommended water and sewer rate structure from the report but rescinded a portion of the rate increase a few months later following public dissent.

Current Rate Structure Characteristics

The fixed charge sometimes referred to as a minimum meter charge or basic charge (customer cost) are common for water and wastewater systems. Water and wastewater systems incur various costs that are fixed or fairly consistent regardless of the rate of water use for each customer. As noted in the earlier report, the fixed or basic charge for each water main tap size needs to recover the fixed components of the city's water and wastewater system. These costs include:

- Debt associated with capital cost
- Expenses associated with servicing and maintaining a customer's account
- Expenses associated with installing, servicing and maintaining a customer's meter
- Expenses associated with standard operational issues such as laboratory testing, chemical supplies, etc.)

The consumption charge recovers those costs that are not retrieved by the fixed charge. These charges are based upon the amount of water used or consumed, generally measured by reading the water meters. Often, these charges are variable since they are dependent on the amount of water usage, which can vary from day to day.

As noted in the February 22, 2002 report, the City of Eden utilizes the uniform rate structure although this type of billing platform puts the large volume users without special contracts or privileged to a reasonable, negotiated rate at a disadvantage. Any increases in the consumption charge will place financial hardship on these customers. Thus, the City of Eden has adopted an economic rate for all customers (in particular Karastan and Liberty Embroidery) using in excess of 5,000,000 gallons of water per month. The objective of the economic development rate is to establish a provision for industrial retention and provide an incentive for new industrial growth.

As the 2002 report conveyed, there were deficiencies with the rate structure. For one, surcharges on the basic and consumption charges for the customers that are located outside city limits were low when compared to neighboring systems. Thus, a hike in the surcharge factor was retained. Currently, the City is surcharging the basic and consumptive charges 100% for customers outside of the City's boundaries. This surcharge brings Eden up to par with similar systems although many customers using sewer outside the incorporated limits are typically surcharged 150%. The City could consider an additional levy on its sewer customers outside its boundaries as one means to obtain additional revenue.

Another finding of the previous evaluation was the low basic charge, in particular for standard taps in the range of 5/8-inch and 3/4-inch. Because of the public dissention, the basic charges were increased for commercial accounts but residential accounts were slightly increased but remain extremely low.

The majority of the City's water and sewer customers fall into the 3/4 - inch category. As explained in the 2002 report, Eden is not recovering its fixed costs associated with providing water and sewer service to these customers. Consequently, the City of Eden is missing out on a large revenue base.

Because of the overwhelming number of the 3/4 -inch services and the extremely low charge assessed to these customers, the importance of increasing the basic charge is understandable. A higher basic charge translates into more guaranteed revenue which bolsters the City's bond rating and provides the City a means to afford additional debt service.

The low basic charge on 3/4 -inch meters prompted a comparative analysis by W.K. Dickson as a component of the work they completed on the water and sewer master plan. Their survey

concluded that the basic charge on a $\frac{3}{4}$ -inch meter is still well below the market value. Using data tabulated by the North Carolina League of Municipalities in its study titled How Much Does Clean Water Cost?-2000, Eden's basic charge for residential meters is well below the standard value for municipalities with a population between 10,000 to 24,999. Using the revised water rates, Eden ranks as the sixth lowest cost out of the 28 communities that fit the population criteria and that participated in this study. Several of the communities that have higher basic charges are also experiencing tough economic times including Shelby, Kinston, Kings Mountain, Elizabeth City and Henderson.

The City fared a little better in its charge for $\frac{3}{4}$ - inch commercial meters ranking 18th out of the same set of communities. However, there are several distressed municipalities that are charging more than Eden including Kings Mountain and Kinston to name a few.

The survey for basic charges on sewer is very similar. Again, Eden's basic charge on a residential sewer tap is one of the lowest in the state compared to similar size communities even after the modest increase during 2002. Likewise, its basic charge for commercial customers is also low, ranking in the lower half of the 28 communities surveyed.

A survey of Eden's consumptive charges for both water and sewer resulted in similar rankings. The City has a low cost per 1,000 gallons for its residential customers, ranking near the bottom. The commercial rates appear to be situated closer to the average value.

Lastly, a review was conducted of the equivalent meter factor. Equivalent meter values are determined by the equivalent number of $\frac{5}{8}$ -inch or $\frac{3}{4}$ -inch water meters needed to equal the flow of any particular larger water meter. The equivalent meter value is then multiplied to the basic charge of a $\frac{3}{4}$ -inch meter to determine the charge for the larger meters. The logic is the greater the meter size, the greater amount of water that can pass through placing a greater amount of stress on the system. Thus, the basic charge for large meters needs to be higher to recover the greater amount of the demand costs attributed to the larger meters. The percentage spread between the meters appears reasonable aside for the small difference between a 6-inch and 8-inch meter.

In conclusion, the City's rates for water and sewer are generally below the market value and need adjustment. The limiting condition is the low fixed or basic charge of our $\frac{3}{4}$ -inch residential meters although other factors are attributing to the revenue shortfall including undervalued consumptive charges and fixed costs associated with customer service that have not been included in the basic charge.

Many residents and other water users oppose a rate increase and normally cite the same argument that often is heard by other communities whenever there is a proposal to adjust rates. This argument is centered on the rationale of the inability of residents on fixed incomes and low salaries to afford a rate increase or the hardship that a rate increase will place on residents where money is tight.

While this may be true, there are many examples that can be used to defend a rate increase besides the fact that it is justified. The cities of Kinston, Elizabeth City and Lumberton are very similar in size to the City of Eden. Much like Eden, these communities have also seen an economic downturn and are feeling the stresses of declining industrial and manufacturing base. According to the survey data collected by W.K. Dickson, these cities generally have higher water and sewer rates than Eden does. However, the median household income within these municipalities is less than that earned by Eden's residents and the percentage of people living in poverty is higher than the estimated value within Eden. Therefore, higher water and sewer rates for Eden's residential customers are a reasonable expectation if our system is to remain solvent while addressing our many needs.

In summary, the average monthly charge for water and sewer service, based on a typical 5,000 gallon per month usage, is \$30.00 (the market trend). The City of Eden should strive to get its rates in line with the market value for providing water and sewer service.

Conclusions and Recommendations

Despite the fact that our Water and Sewer Fund currently has a good fund balance we have no choice but to look forward. There is no doubt that the City will find itself in a financial crisis if water and sewer rates remain status quo. Given the large capital cost of the much needed water and wastewater infrastructure improvements, equipment outlay, operational expenses, preventative maintenance needs and other essential items in the CIP, the City's water and wastewater customers will have to pay more for the services they receive.

The existence of large industrial customers has allowed the City some flexibility in its rate structure for other customers. The loss of one of these "large" industrial customers would place a significant financial burden on the remaining customers and significant rate increases would be needed immediately. Staff has consistently recommended regular rate increases on an incremental basis and that recommendation has not changed with this latest memorandum. We are recommending that water and sewer rates be increased effective with the January, 2005 billing cycle (basically 3 years since the last increase). Specific recommendations will be submitted during the fall of 2004 and are likely to include the following:

Increasing Tier Structure – Consumption Charges

We feel that the City Council should consider the adoption of an increasing tier usage charge (volumetric charge) for the residential customer. This volumetric charge is dependent upon the amount of water used as recorded by the water meter. A tiered rate structure encourages efficient water use and primarily targets excessive and abusive water uses and excessive irrigation practices.

This type of rate structure includes multiple tiers and depends on many factors such as demographics, historical water use, irrigation practices, lot sizes and many other parameters. Based on a previous review of the water use records during 2001, several key observations were made in regards to water use by the residential sector (3/4-inch meter) within the service area of Eden.

Within City Limits

- Approximately 50% (3,130) of the residential customers use between 0-5,000 gallons per month.
- Approximately 32% (2,044) of the residential customers use between 5,000-10,000 gallons per month.
- Approximately 15% (929) of the residential customers use between 10,000-20,000 gallons per month.
- Approximately 1.6% (98) of the residential customers use greater than 20,000 gallons per month but less than 30,000 gallons per month.
- Approximately 1.5% (87) of the remaining 3/4-inch meters use greater than 30,000 gallons per month (primarily apartment complexes).

Outside City limits

- Approximately 55.6% (295) of the residential customers use between 0-5,000 gallons per month.
- Approximately 29.6% (157) of the residential customers use between 5,000-10,000 gallons per month.
- Approximately 13.7% (73) of the residential customers use between 10,000 gallons per month.
- Approximately 0.9% (4) of the residential customers use greater than 20,000 gallons per month but less than 35,000 gallons per month.
- One residential customer uses greater than 100,000 gallons per month.

Although a more exhaustive survey would be justified to ascertain the optimal tier groupings, the tiers could be set as follows:

- Tier 1 - 0-5,000 gallons per month

- Tier 2 - 5,000 - 10,000 gallons per month
- Tier 3 - 10,000 - 20,000 gallons per month.
- Tier 4 - Greater than 20,000 gallons per month

Using these tiers, the City could then set rates to promote efficient water use among its residential customers. Naturally, the volumetric charge for Tier 1 would be set to the current rate per 1,000 gallons consumed. The City could then increase the volumetric charge for each increasing usage tier. Based on a survey of municipalities that utilize this type of approach, the increase in volumetric charge is between \$0.25 to \$0.50 per tier.

A simple analysis was performed to illustrate the increased revenue that an increasing tier structure would provide. Using water records that were sorted by rate code (meter size) and then by usage, an average usage rate for the above noted tiers was determined. Then, revenue from the volumetric charge (consumption) was computed based on the uniform structure (\$1.39 per 1,000 gallons). A range of revenue was also calculated for an increasing tier structure. Revenue was computed by increasing the consumption charge per tier from \$0.25 to \$0.50. The net increase was then determined.

The results of this analysis are contained in the water and sewer master plan prepared by W.K. Dickson. This analysis concluded that the City could potentially receive additional revenue from water consumptive charges on the ¾-inch meters as follows:

- \$75,000 annually from the residential faction within City limits given the volumetric rate increases \$0.25 per 1,000 gallons per tier; or
- \$150,000 annually from the residential faction within the City limits given the volumetric rate increase \$0.50 per 1,000 gallons per tier; and
- \$6,200 annually from the residential faction outside City limits given the volumetric rate increases \$0.25 per 1,000 gallons per tier; or
- \$12,400 annually from the residential faction outside City limits given the volumetric rate increases \$0.25 per 1,000 gallons per tier.

Additional revenue would also be received by adopting the same type of structure for the consumptive charge on sewer service.

In conclusion, an increasing usage tier structure is a viable option for the City of Eden. It promotes efficient water use and is an effective means of water conservation. It does not penalize the residents, typically those that are on a fixed income, which are using water at the subsistence level. It allows those residents that desire to irrigate to do so albeit at a higher but justified rate. It allows the City to recover costs of providing water to those residents that opt to continue to use an excessive amount of water. The logic here is the customers that can afford to irrigate and use water inefficiently can also afford the premium of doing so. Lastly, regulators and grant agencies look favorably on water purveyors that are using an increasing rate structure.

He noted that as most of them know, they do have a program in place that allows people to install a second water meter. So, it did not necessarily have to get the people, if they decide to irrigate their yard and they do it on the sewer side, they did not necessarily have to hit down there, go put in a second meter and they could do their irrigation or wash their cars and they would pay on the water only.

He also noted that in his weekly report last week, unfortunately they did not receive their \$400,000 grant application for Meadow Greens. They were very surprised and felt that if they ever had a strong project that was it. They contacted the Rural Center to find out what the problem was. He referred to an email he had received on March 9th. It basically told him that they had received 110 grant applications. Out of that total they only funded 32. So, 32 out of 110 got money. The lowest project funded had total points of 235. Eden had 190 points. Where that put them was basically in the middle of the stack that was not funded. They were not even on the threshold of being funded. They then asked what they could do to become funded. Two big things that stood out, the city could possibly get the maximum of 25 points, but it would have to adopt an increasing tier rate structure. It goes hand in hand with their pay as you throw program. The more water you use, the more you should pay. It also noted that the biggest item

that continually hurts the City of Eden is its ability to pay score. Based upon their city's population and tax base, etc., their city has an extremely high ability to pay. As a result, they received 0 points out of 25. Unfortunately this strength adversely affects any and all grant opportunities for the City of Eden. They look at Eden's water and sewer rates, which are about the lowest in the state. And they were competing against others who have rates way up here, so because they did not have an increasing tier structure and their water and sewer rates, they would never receive a grant for a water and sewer system until those two items were addressed and that was straight from the funding agency that does this stuff.

Mayor Price asked Mr. Corcoran to provide the Council with a copy of that email.

Economic Development Rate

They also feel the City should continue to support the economic development rate in hopes of retaining key large water users and providing incentives for new industries to locate within the confines of Eden.

Wastewater Surcharge

The study conducted by W.K. Dickson noted that many customers using sewer outside the incorporated limits are typically surcharged 150% and that "the City should consider additional levy on its sewer customers outside its boundaries as one means to obtain additional revenue." They feel this recommendation has merit and should be considered as a component of the next rate increase proposal.

Fixed Charge

Finally, they feel the fixed charge (sometimes referred to as a minimum meter charge or basic charge) needs to recover a greater percentage of the fixed cost components of the City's water and wastewater system. As such, they would recommend that this be considered as a component of the next rate increase proposal.

He noted that would be forthcoming in the future, but if they did not continue to look at their rates, and do so incrementally slowly over time, it had been three years, all of a sudden, it will be ten years later and they would be right back to where they were in 2002, and needing to address a large rate increase. So their recommendation was that they increase the rates effective with the January 2005 billing cycle.

Mr. Corcoran noted that one member of Council had asked about sewer backup, property damage and backwater valves. He referred to a summary that their technical review committee had worked on. He added that due to the time, he would let the Council look over it and they would be available to answer any questions they may have.

The following is a summary of what Mr. Corcoran was referring to:

Sewage Backups – Property Damage – Backwater Valves

The Technical Review Committee has on several occasions discussed the subject of sewage backups and potential solutions to the problem. According to the North Carolina League of Municipalities sewer backups are the most common sewer related problem facing homeowners.

Backups can be caused by a blockage in either the customer's line or in the city's line. When a blockage occurs on the customer's line sewage discharged by the customer will backup into the customer's plumbing and fixtures. This is commonly seen first in the lowest drain, which is usually a shower, or a bathtub drain. A clean out on the customer's line can be used to drain the line while a plumber is called.

Sewer mains are designed so that if a blockage occurs in the main the sewage will discharge onto the ground through the first upstream manhole cover from the blockage before sewage backs up onto a customer's property.

Under certain prescribed conditions the state building code requires that a backwater valve be installed between the customer's property and the sewer main to protect the customer's property from sewer backups. The stipulated condition is one in which the elevation of the rim of the first upstream manhole from the customer's tap is higher than the overflow rim of the lowest fixture on the customer's property. The most common fixture that meets this description is the rim of a shower stall.

Initially the Technical Review Committee saw a mandatory backwater valve requirement on all connections as a possible solution to the problem of sewer backups onto private property. Our building inspectors informed us that the building code also prohibits the installation of backwater valves when the above described conditions do not exist.

Obviously prevention of blockages and resulting sewage backups is the most desirable solution. Blockages can be caused in a number of ways. The most common blockage is caused by grease buildup in the line from food preparation and cleanup. It is very common in areas where restaurants are concentrated. Grease buildup is also common in residential areas. From the City's perspective a familiarity with problem areas and frequent cleaning of lines in the problem areas can go a long way toward eliminating sewage backups caused by grease.

Charles Van Zandt, Wastewater Superintendent is responsible for administration of the City's Industrial Pretreatment Program. One aspect of this program involves what is known in the wastewater industry as FOG (fats, oils, and greases). Mr. Van Zandt and Ralph Potter, Chief Plant Operator & Pretreatment Supervisor are in the initial stages of developing a program to reduce the discharge of fats, oils, and greases into the City's sewer system. This will hopefully reduce the frequency of blockages caused by grease.

While grease blockages create most blockages one should never underestimate the ingenuity of people to create sewer line blockages. Every conceivable thing that can be flushed or poured down a drain or shoved into a manhole or pipe has been. We've had sewage blockages caused by such varied things as five-gallon plastic buckets, panty hose, adult diapers, and Christmas trees. It is difficult to plan for and prevent the innovative and unexpected blockages.

The North Carolina League of Municipalities - Risk Management Office has offered suggestions for responding to sewage backups that enter and/or cause damage to private property. Bill Harvey, Collection and Distribution Superintendent has used the League's suggestions in developing a set of guidelines for Collection and Distribution System personnel responding to backups. The guidelines have been tested and seem to be yielding the desired results.

The Technical Review Committee discussed the possibility of a voluntary compliance program in which the City would provide a backwater valve and a portion of a plumber's fee for installation of the valve on the customer's line. Because of the very narrow range in which a backwater valve is permitted by the Building Code it would be difficult to impossible to identify individual customers who would need a backwater valve under the present Code. The majority of homes in the community would not need or be allowed to install a backwater valve. Determining the elevations of manhole rings on the first upstream manhole and the elevations of the lowest points where a sewage backup would be a very difficult one to accomplish. It would require entry into each customer's home to determine if the lowest point was a toilet, bathtub, or shower stall.

In addition to increased cleaning of sewer mains in problem areas by the C&D Division, the Technical Review Committee recently considered a draft ordinance presented by Mr. Harvey. The Committee unanimously agreed that the draft ordinance should be forwarded to the City Attorney for his review. If approved the ordinance will be forwarded to the City Council for consideration. The purpose of the ordinance is to protect the City against repeated claims for damage caused by sewage backups. The ordinance contains the following provisions:

(a) In areas of the city that have been determined to experience sanitary sewer back-ups by the city engineer, drainage piping serving fixtures which have flood level rims located below the elevation of the next upstream manhole cover of the public sewer serving such drainage piping shall be protected from backflow of sewage by installing an approved type backwater valve. Fixtures above such elevation shall not discharge through a required backwater valve.

(b) Backwater valves required by this section shall consist of manually operated valves. In addition, approved valves, which are automatic in operation, as described in XXXX may also be used by are not required.

NOTE: In existing structures where the installation of backwater valves are desired, but not required, these provisions shall not apply.

(c) If such property owner who has once suffered sewer damage and has filed a claim with the city does not within forty-five (45) days execute, deliver and file with the city clerk a waiver of claims for any future damages resulting from back flow of sewage resulting from the clogging of the city sewer lines, from any cause, releasing the city of any future and further damages or expense or if said property owner does not within forty-five (45) days install a backwater valve in his building sewer line and if within forty-five (45) days does further damage occur, said property owner shall be responsible for damages.

Mr. Corcoran explained that the final handout in this grouping of information, he was also asked to do some research into the history of contributions from the Water & Sewer Fund into the General Fund. He then referred to a chart that he had prepared for them. He noted this was directly from the audited financial statements from the City of Eden for all these years. That handout included the following information:

History of Contributions from Water/Sewer Fund to General Fund

<u>Audit Year</u>	<u>Contribution</u>	<u>Reimbursements in Place</u>
June 30, 1982	0	No
June 30, 1983	0	No
June 30, 1984	0	No
June 30, 1985	0	No
June 30, 1986	0	No
June 30, 1987	0	No
June 30, 1988	0	No
June 30, 1989	\$31,177	No
June 30, 1990	\$18,561	No
June 30, 1991	\$367,129	No
June 30, 1992	\$491,180	No
June 30, 1993	\$528,720	No
June 30, 1994	\$1,030,000	No
June 30, 1995	\$673,200	No
June 30, 1996	Reimbursement Policy Started	

Notes

- (1) These figures came directly from the audit report for each year referenced above.
- (2) City Council minutes indicate that the City Council voted unanimously to transfer

\$500,000 from the W/S Fund to the General Fund to help offset the cost of purchasing the new City Hall, the renovation and computer cost.

(3) A formal reimbursement policy was implemented in FY 1995-1996 upon the recommendation of the city auditors. This reimbursement program is still in place today.

Mr. Corcoran noted that each of them were aware that in their Water & Sewer Fund there was a transfer that takes place each year of monies out of Water & Sewer Fund to reimburse the General Fund for a portion of its expenses. In 1995-1996 the contributions per se stopped and they became this reimbursement, prior to that date, there was no reimbursement in place. In talking with the auditors, they treated this money that you see under contribution as basically that purpose.

He noted that he also looked to see what was transferred towards this building. The only record he could actually find was in the City Council Minutes there was a motion where the Council voted unanimously to transfer \$500,000 from the Water & Sewer Fund to the General Fund to help offset the cost of purchasing this building, renovation and computer costs. In talking with the auditors, they thought that was perfectly logical and made sense because this building was housing Finance, Billing, Engineering, and Administration and that there were Water & Sewer activities. There would be a new computer cost and they felt that some contribution from the Water & Sewer Fund to the General Fund in their minds was warranted.

There was some brief discussion regarding sewer backups into residential homes and Mr. Corcoran noted that they have to look (trying) to keep this from happening again in the future. He explained that Mr. Asbury has described this in his report, but they have to meet specific conditions even to do that installation and he goes into explanation in there about how cumbersome that would be in terms of the elevation of the manhole lid and comparing that to the elevation of something in the house and it would have to meet certain requirements to do it. Mr. Harvey has put together an ordinance with some ideas on this and the Technical Review Committee has looked at that and was forwarding that to the City Attorney for his input. Once that was done, it would come to Council.

Mr. Asbury added that in the report, Mr. Harvey has refined the response procedure in high detail with his staff so they know who to call, what to say or what not to say and they were also working with Teri Clifton in Personnel as she was the contact for the insurance agent at the League of Municipalities.

Mayor Price asked if he was talking about the ones (that occurred) when the city was using the machine.

Mr. Harvey replied that they were talking about the ones when a blockage occurs in a main line and it backs up and you get enough hit that you hit a house at a lower elevation that can (*inaudible*) manhole that it forces back into the raw sewage (and) forces back into the house.

Mayor Price asked if the insurance carrier was working with them.

Mr. Harvey replied that they send the information and the staff developed a standard operation guideline to respond to those and when they get that call it has already happened.

Council Member Gover asked how it built up so much pressure. He thought they were using a vacuum on the truck. He asked if they were using the pressure also.

Mr. Harvey replied that they were not talking about the truck.

Council Member Gover replied that he was talking about the truck and he thought when they go to clean out, he was getting a lot of calls and he was sure the rest of them (Council) were too.

Mr. Harvey explained that when you go and clean and you were using the sewer vac, and they were talking about just clean lines that was not stopped up, they go downstream to the lowest elevation of the sewer line and you run it upstream, so the spray was always flowing downstream. If the individual houses, plumbing, was proper, you do not get spray in the houses. That means that their (*inaudible*).

Mr. Harvey discussed stopped up sewer lines in individual houses and high and low elevations. *Note: Most of Mr. Harvey's comments were inaudible as he was not sitting at the Council's table, plus there was a lot of background noise.*

He explained that a lot of times if it was grease stoppage, and this you did not know and the line passes through this massive grease, it was just like a big water hole, it gets through the grease and everything collapses behind it, now you have got this additional water, that was where a lot of times this comes up in the house. He noted that if they looked at the number of sewers that they do in the course of a year, and the situation of when this happens, it was very, very low and less than 1%.

Council Member Tuggle asked if a camera would help.

Most of Mr. Harvey's reply was inaudible. He replied that the maintenance of the lines and getting your history established, because once your camera was in focus it would help tremendously because now you were cleaning the lines on a regular basis instead of reactionary.

Mr. Asbury added that generally the procedure was that you use the sewer vac to clean the line before you camera it. One thing he would like to add, they were talking earlier about additional crews and being able to do work in-house. There were some specialties they would not be able to do in-house, slip lining, repair in place type procedures require specialized equipment and crews and those certainly would be contracted out, for a city this size it was certainly not cost effective to try to maintain that kind of equipment.

Mayor Price commented that he hoped the City Manager was sure. Several years ago, a bad situation happened in the city which had to do with blockage and a citizen had some problems and their (insurance) carrier needed to be involved.

Mr. Asbury replied that the carrier did provide them with quite a bit of information, recommendations and that was used by Mr. Harvey to create his response time.

Mr. Corcoran added that just to let them know sort of their plan going from here, they realize that was a wealth of information this morning and it was a lot to digest. Based on where they go from here, just so they know, the additional manpower request would go from here and find itself on the doorstep of the Personnel Committee in the future as they begin to work on the budget. That would be brought to that Committee for further discussion and hopefully their intention was to include that in the upcoming budget.

The Water & Sewer rate proposal would go to the Finance Committee and that begins to be formulated to make sure that the Finance Committee was involved in the formulation of some type of proposal, also if there was any additional questions concerning the history of contributions from the Water & Sewer Fund to the General Fund, that would go to the Finance Committee.

The issue on the sewage backups, property damage, backwater valves, that would go to the Water & Sewer Committee and then this morning's presentation on specific projects was a constant prioritization, re-prioritization. If they have the meeting with DEHNR and depending upon what they tell them they may reprioritize this list even further so all of those issues would go to the Water & Sewer Committee and they would help work with staff and then as each of these areas were ready for actual Council votes and action it would come back to Council. So just so they would know there was a plan of action already in mind on how to take what they have heard this morning and make sure that it was moved along the proper path so they all can consider.

Mayor Price questioned the 3.7 fully staffed work days per week and if that was consistent.

Mr. Harvey replied that it was over an average.

Mayor Price asked how much overtime work was.

Mr. Harvey replied that the overtime was not even figured.

Mayor Price stated that if the overtime was figured how many work days would they have out of five.

Mr. Harvey replied probably about 4.1 or somewhere in that area.

There was a short break before the Council returned to their discussion.

Financial Plan of Action

How do we pay for everything?

Mr. Corcoran began his next presentation by thanking each Department and Division Head who expedited the updating of their 5-year CIP for him. He also thanked Mrs. Lori Ford (Director of Finance and Human Resources) and Mrs. Dala Stanley (Accounting Coordinator) for their information obtained from local financial institutions and the Local Government Commission and also to Mrs. Debbie Galloway (Planner) for her PowerPoint work.

Existing Conditions

- Limited financial resources
- Desire to maintain current tax rate and service rates
- Significant infrastructure projects needing immediate attention
 - General Fund
 - Economic Development
 - Water and Sewer

A very problematic situation!

General Fund

- The updated Capital Improvement Plan (CIP) for the General Fund has identified total needs equaling \$4,923,656 for the next five years.
- This figure does not include any additional funds for the development of Freedom Park or the implementation of raw economic development initiatives.
- The figure does include \$364,000 in mandated costs for the EPA Phase II Stormwater Application and Permit Process and \$600,000 in street resurfacing funds that will need to be spent in FY 2005-06 and FY 2006-07.
- The Police Department has not purchased a new vehicle (other than insurance replacements) since 2000 and now has twenty (20) vehicles in excess of 100,000 miles. Thirteen (13) of these vehicles have in excess of 110,000 miles.
- The Street Department, Solid Waste Department and Parks, Recreation and Facility Maintenance Department are all in need of replacing various vehicles, pieces of equipment and addressing other capital improvement projects.
- A breakdown of the updated 5-year CIP for the General Fund is as follows:

Department	Amount Requested
Administration	\$10,000
Business Development	\$10,000
Engineering	\$1,023,750
Finance & Personnel	\$32,000
Fire	\$290,000
Fleet Maintenance	\$136,700
Parks, Recreation & Facilities Maintenance	\$423,000
Planning & Inspections	\$58,000
Police	\$965,265
Solid Waste	\$1,041,441
Streets	\$934,500
Total	\$4,923,656

Economic Development

- The PowerPoint presentation on March 8, 2004 identified several funding needs/possibilities. Those include:

Additional soil borings
 Acquisition of options to purchase land
 Development of ready-go-sites
 Implementation of virtual shell building program and necessary site work
 Possible acquisition of land
 Possible construction of shell building

- If the city proceeds with each and every possibility as outlined, a total of approximately \$3,346,751 would be needed.

- A rough breakdown of this total is as follows:

Soil borings – Two sites	\$10,000
Land/Option Acquisitions – Several Sites	\$913,500
Ready-Go-Sites – Two Sites	\$1,352,141
Virtual Shell Building Program – Two Sites	\$60,000
Shell Building	<u>\$1,011,110</u>
Total	\$3,346,751

Water and Sewer

- The PowerPoint presentation from earlier this morning identified a total of twenty-six (26) different projects at a projected cost of \$30,355,000 that are in need of being completed between FY 2004-05 and FY 2007-08.
- In addition, there were fourteen (14) other projects which were identified that will need to be completed at some point between FY 2008-09 and FY 2019-20. The estimated cost for these projects equals \$62,746,000.

Summary of Existing Needs

- A breakdown of the existing needs facing the City over the next few years is as follows:

Source	Amount Needed
General Fund	\$4,923,656
Economic Development	\$3,346,751
Water and Sewer	<u>\$30,355,000</u>
Total	\$38,625,407

Existing Fund Balances

- The audited financial statements for the period ending June 30, 2003 indicated a General Fund Fund Balance of \$6,278,504 which represented an increase of \$2,121,032 in just the past three years.
- The amount undesignated, and thereby available for appropriations equaled \$4,364,871. The amount undesignated on June 30, 2003 that was in excess of three months operating expenses was \$1,952,697.

Mr. Corcoran asked them to recall that the previous City Council in the past voted that at all times they wanted to maintain a minimum of three month operating expenses in undesignated funds.

- As such, \$1,952,697 in the General Fund Fund Balance is available if needed.
- The audited financial statements for the period ending June 30, 2003 indicated a Water and Sewer Fund Fund Balance of \$6,568,042 which represented an increase of \$2,222,448 in just the past three years.
- Although the existing fund balance is available for use as needed, it was the City

- Manager’s recommendation that they refrain from using any funds from the Water and Sewer Fund Fund Balance.
- We need to maintain these funds as a precautionary measure in the event a large water and/or sewer customer leaves the area.
- The current FY 2003-04 budget includes funds to begin addressing some of these needs. Some of this funding will be unspent and available for use in FY 2004-05 to help offset a portion of the estimated costs. These may include:

Project/Fund	Amount of Funds Unencumbered and Remaining in Account as of 2/29/04
Industrial Development	\$170,997
Kuder Street Pump Station	\$78,000
Sewer Rehabilitation	\$382,478
Railroad Pump Station	\$647,500
Bio-solids Treatment	\$450,800
Waterline Upgrades	\$49,400

Plan of Action

- Identified needs are much greater than available financial resources.
- Needs must be prioritized.
- Don’t ignore one area (General Fund, Economic Development, Water and Sewer) in lieu of another.
- Develop a long-term strategy and immediately proceed with implementation.

Installment Loans

- The City of Eden is currently making debt service related payments on the 1990 \$23,000,000 revenue bond referendum for water and sewer improvements. The total amount of bonds sold was \$19,605,744. This bond will be paid in full in FY 2008-09.
- The total long term principal debt at June 30, 2003 was \$7,972,844.
- As of June 30, 2003 the City of Eden had a legal debt margin of \$54,273,404.
- An analysis of our existing finances and discussions with the Local Government Commission has revealed that we could borrow up to a maximum of \$10 million dollars without an immediate need to raise our tax rate and other service rates, nor the need to jump through a multitude of legal and regulatory “red tape”.
- This installment loan would be designed to carry us through this interim period until we can retire our larger debt service obligation in FY 2008-09, thereby freeing up additional funds for another bond issue.
- On February 12, 2004 the City Manager received some preliminary installment loan quote information from various banking institutions located inside the City of Eden.
- Preliminary quotes were sought and received for a loan amount of \$10 million dollars with payback periods of fifteen (15) years and twenty (20) years.
- The preliminary quotes range from 3.74% - \$853,951 to 4.12% - \$906, 974 for a term of fifteen (15) years and 4.29% - \$754,837 to 4.71% - \$782,814 for a term of twenty (20) years.
- There is ninety (90) day lead time to get the funding in place.
- Several lending institutions noted that we could save a considerable amount of money over the life of the loan by making monthly payments.
- We would only make draws on the loan as the money was needed. Several projects will not be completed until FY 2005-06 and FY 2006-07.

Recommendations

- Immediately proceed forward with the solicitation of formal bids/quotations from local lending institutions for an installment loan of \$10 million dollars. The term of the loan should be fifteen (15) years with monthly payments.
- This will provide us with a portion of the funds necessary to address our multitude of needs while saving valuable tax dollars by utilizing a term of fifteen (15) years, as opposed to twenty (20) years, and a monthly payment plan option, as opposed to an

- annual payment plan option.
- The proceeds should be broken down as follows:

General Fund:	\$1,000,000
Economic Development	\$1,500,000
Water and Sewer	<u>\$7,500,000</u>
Total:	\$10,000,000
- Let's review the specific recommendations for each area:

General Fund:

- Set aside \$250,000 from the undesignated General Fund Fund Balance for the creation of a revolving loan type program to fund larger condemnation, nuisance abatement, demolition type projects.
- Authorize the City Attorney to pursue collection procedures so that the funds expended can be retrieved and then re-allocated for additional projects.
- Utilize a total of \$600,000 from the undesignated General Fund Fund Balance during FY 2005-06 and FY 2006-07 to help fund the additional street resurfacing projects.
- The use of \$250,000 and \$600,000 from the undesignated General Fund Fund Balance will still leave \$1,102,697 as the amount of funds that are available and undesignated in excess of three months operating expenses. This provides us with a "cushion" if needed.
- Utilize the \$1,000,000 in installment loan proceeds to replace vehicles, replace equipment and fund other capital improvement needs within the various departments that make up the City's General Fund. Set aside \$364,000 from the \$1,000,000 for the EPA Phase II Stormwater Application and Permit Process. If for some reason, the \$364,000 is not needed for this purpose, it could be utilized to fund other needs within the General Fund.

Mr. Corcoran pointed out that this is a mandated requirement, it was not optional, it was law and once they come under those guidelines they would have to do it, so they recommended setting aside a portion of those funds so they were ready for it, if it comes to fruition.

Economic Development

- Utilize the \$1,500,000 in installment loan proceeds as needed to pursue the acquisition of options/land, the development of ready-go sites, the implementation of a virtual shell building program(s) and to set aside some funds for the possible construction of a shell building.
- Utilize the \$170,997 remaining in the current FY 2003-04 budget (as of 2/29/04) for Industrial Development on additional soil borings, the acquisition of options/land, engineering/design fees, and the development of ready-go sites.

Water and Sewer

- Several projects are very large in nature and will take more than one fiscal year to complete. As such, the initial debt service payments will not be costly, thereby freeing up additional funds in FY 2004-05 for other projects.
- Existing revenues are sufficient enough to cover the anticipated debt service payment and still provide additional revenues to fund a limited portion of the needed projects on a pay-as-you-go basis.
- If the recommended increase in water and sewer service rates is adopted and effective with the January 2005 billing cycle (basically 3 years since the last increase) additional revenues will be available to fund an even greater portion of the needed projects on a pay-as-you-go basis.
- Existing revenues + an increase in water and sewer service rates + \$7,500,000 in installment loan proceeds still equals an insufficient amount of revenue to address all of our identified needs.

In response to Council Member Myott's concern over rate increases, Mr. Corcoran explained that he had said they would not have to raise rates immediately. Even if they raise their water and sewer rates, they were still not going to be able to touch it, they would just be able to do a

little bit more, but even if they raise their water and sewer rates one time, borrowing \$7.5 million and the existing rate they have in place, it would still not equal all the needs they have.

Mayor Price asked how far off he thought they would be before they would have to worry about a raise to which Mr. Corcoran replied the recommendation was January 2005.

Mr. Corcoran then presented a snapshot of the recommended use of the \$7.5 million of installment loan proceeds:

Recommendations – Water & Sewer

- Utilize the \$7,500,000 in installment loan proceeds to complete the following:

Project	Assigned Priority	Project Total	Funds Already Spend and/or Still Available as of 2/29/04	Funding Needed
Meadow Greens Pump Station Upgrade	1	\$552,000	\$382,400	\$169,600
WWTP Bio-Solids Management	2	\$2,475,000	\$537,700	\$1,937,300
Enhancement of High Service Pumping	3	\$1,072,000		\$1,072,000
Railroad Pump Station Upgrade	4	\$2,200,000	\$799,200	\$1,400,800
Telemetry Improvements	5	\$180,000		\$180,000
Raw Water Intake – Permitting	6	\$237,000	\$201,500	\$35,500
Covenant Branch Pump Station Upgrade	7	\$691,000		\$691,000
Dan River Pump Station Upgrade	9	\$490,000		\$490,000
Kuder Street Pump Station Upgrade	10	\$415,000	\$78,000	\$337,000
System-wide Cleaning & Inspection Program – Camera Truck	12	\$160,000		\$160,000
Pipe Renewal – Vitrified Clay Pipe	13	\$31,400		\$31,400
Pipe Renewal – Reinforced Concrete Pipe	14	\$31,400		\$31,400
Raw Water Intake – Design	15	\$392,000		\$392,000
Bridge Street Pump Station Upgrade	17	\$231,000		\$231,000
Junction Pump Station Upgrade	18	\$341,000		\$341,000
Totals:		\$9,498,800	\$1,998,800	\$7,500,000

- In the FY 2004-05 budget, fund the following additional items:

Project	Assigned Priority	Funding Needed
Check Valve Removal	6	\$25,000
Phased Small Diameter 2” Waterline Replacement Projects	11	\$200,000
Pipe Renewal: Vitrified Clay Pipe	13	\$68,600
Pipe Renewal: Reinforced Concrete Pipe	14	\$68,600
Distribution System Assessment & Maintenance – 3 Trucks	16	\$68,000

- Pay-as-you-go funding will be provided on an annual basis for on-going phased small diameter 2” waterline replacement projects, vitrified clay pipe and reinforced concrete pipe renewal projects and the necessary additional manpower.
- As various projects are completed and additional funds become available, we will need to work our way down the list of assigned priorities. The adoption and implementation of

- the proposed water and sewer service rate increase in January 2005 will go a long way in helping to expedite this process.
- Once the existing 1990 bond referendum loan has been retired in FY 2008-09, a new bond issue should be prepared to help fund many of the other needs facing the City prior to 2020.
- Maintain a constant level of funding in future budgets as it relates to debt service payments. "Protect and preserve" that annual funding allocation so it is there when needed again in FY 2009-10.

Mayor Price asked if he got the price of what a revenue bond would be interest rate wise.

Mr. Corcoran replied, no, after listening to the Council, the things he heard was, we do not want to raise rates right now, try to avoid that, or we do not want to do a large bond issue, so if they did not do either, it was rally pretty simple. They looked at how much money they have on hand and how that matched up, then they went to the local Government Commission and asked if they went to a bank and borrowed money, how much could they legally borrow. That was where the \$10 million came from. They said once they go past that, it was a whole new ballgame.

Mayor Price asked if they said anything about the interest costs if they did have a revenue bond. If they saved a few points there he thought they were dramatically lowering their cost.

Mr. Corcoran replied that they may save a little bit and a revenue bond was what he recommended initially two years ago, but again the sentiment expressed to me from just about everybody at one time or another was that they were not in favor of revenue bonds.

Mayor Price commented that he for one would be interested in knowing what the approximate interest rate would be on revenue bonds. If they were borrowing that kind of money and they could perhaps reduce their rate it would behoove them to take a look at it.

Council Member Epps asked if they had a large water user in the next year, would that help keep the rates down with the citizens.

Mr. Corcoran replied that obviously it would, but it was a double edged sword. People have often asked what the plan of action was if they lost one of their large water and sewer industries. Obviously there was not a whole lot they could do. If they were to lose one of their large water and sewer industries they could reduce a little bit of cost, but no where close to offset the loss of revenue. They have one customer that provides several million dollars worth of revenue, so obviously if they came in, but they have to temper that with the likelihood of that happening.

Council Member Tuggle questioned that with the tiered system it would increase the poor people's water rates. When he looked at it that was his main concern, people who did not have the ability to pay and were on fixed incomes.

Mr. Corcoran replied that they felt, and again they have to look at numbers, they intend to recommend a modest rate increase. He stated that they thought that if they continue to raise their rates every three years, then they could do it in a very modest fashion and did not get hit with a big one. That was why they like it. The only aspect of the points that would hit the minimum user, the people on limited incomes, would be an adjustment to the fixed meter charge rate and that was where they would get them and they felt that that should be adjusted minimally. He added that he was not saying to go out and double it and he was not even saying 50%, but they did feel that needs to be increased a little bit and if they increase that, that was where they would get that person who was using that minimum amount of water. The increased tier rate, he thought they would probably want to start with their basic consumption charge now of 1.39. So if they left that at 1.39 or just a very small increase, then those people between 0 and 5,000 gallons a month, which again were 50% of the people, would see no increase on their consumptive charge, but then it was the people that use between 5 and 10 and 10 and 15 and those higher tiers that would see the increase.

Council Member Tuggle asked if they could make sure that those people would not see any increase and the difference be made up with the people who had the ability to pay.

Mr. Corcoran replied that if they did not want to do anything on the fixed meter charge, then that would take care of it a lot. He asked that they also understand there may be a family out there at the level of poverty and maybe they have 3 or 4 kids and maybe they were using 15,000 gallons a month, so they were not going to be able to not get everyone. If they go to an increasing tier structure and they were using 15,000 gallons of water, then yes they would be hit to some small extent.

Council Member Tuggle explained that it just bothered him about the little old lady sitting out there on a fixed income, every time they were hit with a little bit here and a little bit here and a little more here, then before they knew it, it was a lot of money for them, not very much for him, but it would be for them. He stated that he would like to make sure that somehow or another they did not see any kind of rate increase.

Mr. Corcoran pointed out that for the single families, that the couples, people who have a low consumption of usage, (they) would not see much of a rate increase, so in that example, the lady, or the man, or the retired couple, now, on the other hand if they have a retired couple or a man or a lady and they have an irrigation system in their yard and they were using it to water their yard throughout the summer and then they hire boys to come and wash the car in the driveway, they were using the water and would get hit. That was their choice.

Council Member Tuggle added that he had said this was going before the Finance Committee and they would sit down and take a good close look at everything.

Mr. Corcoran agreed that the considered proposals would be brought to the Finance Committee this fall.

Council Member Vestal questioned where he came up with \$5,000.

Mr. Corcoran replied that it was from the Master Plan report. They have not done any additional work yet on that. If they look at the financial plan that W.K. Dickson included, that was their figure, they said 0 to \$5,000. He added that he could not remember, but it was in their notebook there, how many people fell in that category.

Council Member Vestal stated that was okay, people falling in the category, but if he recalled going back in the water & sewer meetings and also in the Council sessions last year, if they average, he thought they came up with almost \$7,000 to which Mayor Price agreed.

Mr. Corcoran replied that he thought that was the average. He thought what they did, what they said, if they look at records that 3,130 of their residential customers or 50% use between 0 and 5,000 and approximately 32% of their customers or 2,044 use between 5,000 and 10,000 gallons. So 82% of their residential customers use less than 10,000 gallons a month and then 15% use between 10 and 20 and then they have basically 3.1% use an excess of 20,000.

Council Member Vestal explained that what he was getting at, he was getting to what Council Member Tuggle was talking about, little old couples did not use more than 5,000 gallons.

Mr. Corcoran stated that that would be part of the proposal, maybe the tier end of 0 to 5.

Council Member Tuggle commented that they would have to take a look at it in the Finance Committee and try to find some adjustment.

Mr. Corcoran suggested maybe the tier 0 to 7,000 or 0 to 7500, whatever, this was just for illustrative purposes of how in theory it would work.

Council Member Tuggle pointed out that if he was not mistaken he was thinking that Eden had like 13% of the poverty level. He asked if there were any figures that would say that relates to those people that were impoverished that relates to how much water they use. That was probably an obscure...nobody in the world would ever know...to which Mr. Asbury commented that they had talked about it at one point and were not able to legally create a special water sewer rate for a class of customer base...

Mrs. Stultz asked if they did not look at doing it based on the Homestead indenture one time trying to address those elderly folk.

Council Member Gover stated that their water cost was not such a lick as their sewer and their base fix rate was really what gets the people. When they were getting the rates cut back the sewage was their main culprit on hitting the people. They have to really watch that, that sewer would sneak up on them. There was no way of metering their sewer; they were going to pay that of course in their water bill. He pointed out that when they keep in mind of their rates, they have to watch that sewer...

Council Member Tuggle added that he would assume that was what the Finance Committee would do, take a really close look at it and get as much information as needed...

Council Member Gover also added that he was one of those 20,000 gallons a month users and he was going to be hit on water and sewer as he had three grandchildren.

Mr. Corcoran replied that was his point. There were several families that were within the

poverty guidelines that because they have so many kids, they use a lot of water, so it was impossible unfortunately to devise a rate structure that was not going to hit everybody that was in poverty.

Council Member Tuggle stated that they really ought to be certainly aware of it and do everything they could to try catch as many as they could.

Mr. Corcoran replied that was why he was really attracted to the increasing tier rate because he thought it did that. He thought that, in his mind already, because he knew the Council's feeling, they did not intend to bring forward any huge rate increase for those fixed income people let alone anyone else.

He recalled that the last rate increase was significant and that was not a pleasant thing for the Council to do but they did it and now look at the results. The results had now generated over a million dollars a year to use on capital improvement projects, so while that was good, they could not stop and they need to get to a just like everyone else, a system of looking at rates every few years and raising them incrementally. Again, he stated they had no intention of recommending this big rate increase, but if they could raise them just enough in average to keep pace with inflation or a little bit of inflation, if that generated \$200,000 that was \$200,000 more they had to help fund those projects and at least they were continuing to move forward. If they did not do anything they were going to be there in 2008 and 2009 and were going to say "oh my gosh, where did the years go and why didn't we raise rates in between".

Council Member Gover pointed out that was why they raised the rates, to have this extra money to do these things and in two years they accumulated, like what they were witnessing here on some of their projects, that they were utilizing their money, so therefore if they had to go to a loan situation, that was enough to pay their loan, even without an increase (as) they have already had that increase...

Mr. Corcoran replied that it was enough to pay this month; of course they really need a lot bigger loan than what they were doing.

Council Member Gover pointed out that they were looking at just starting something; they have a massive program, twenty year program and one four-hour discussion here. He was talking about \$92 million and they were applying it back to their needs.

Mr. Corcoran explained that basically if they look at the sheet, basically what they did was this \$7.5 million, it would be able to knock off \$10 million worth of the \$30 million that was needed in the next four years, so it was addressing a third. Then their feeling was, money that would be available in next year's budget, the pay-as-you-go money would be able to knock off another significant portion of it over the course of the next four years.

Council Member Tuggle commented that even though this was just starting point at least they have started somewhere. He stated that he felt they had to be in a preventative maintenance mode as opposed to a reactionary mode in the past and at least think long term whatever was involved.

Mr. Corcoran noted that the most important thing to he wanted to leave with them was the need to move now. For instance, the Railroad Pump Station was going out to bid anytime now. It was done, it was engineered, they have already spent a bunch of money, it was about to go to bid. That bid would come back, that contract would be let and funds would be needed in July. He noted that Meadow Greens was ready to roll. They have got several projects that were ready to roll and they did not have the money, so what they would like to do, they would like to be in a position that on July 1st they could hit the ground running. There was three months lag time in getting loan money in place so what they would like to do, while they were working on the budget, they were considering the budget, and the nice thing about this loan was they did not have to be super specific and go in and tell the lending institution that exactly this amount of dollars was going to be spent on this project, what they there, was more than what they would need, if they could go in and have authority to begin this process to get this funding in place, then what they see March and April, April and May, May to June, by the time they all meet in June to vote for the budget, they would also be in the position to have funding in place so that when July 1st hits, they hit the ground running and were ready to roll.

Mayor Price asked if someone would like to make the motion to authorize the Manager to get the funding in place.

A motion was made by Council Member Epps seconded by Council Member Turner to authorize the City Manager to get the funding in place.

Council Member Gover questioned that the Finance Committee should be meeting on that also and bringing the recommendation.

Mayor Price referred the concern to the City Manager.

Mr. Corcoran replied that they could do that, if that was what they all want. Their feeling was that the need was so apparent; they need the \$10 million. Now if they want to change the breakup, clearly there was time to do that between now and June and the Finance Committee could meet about that. He used as an example, that they thought that \$8 million should be water and sewer and \$1 million here...they all have time to do that but he thought the bottom line was they need \$10 million.

Council Member Tuggle stated for clarification, he was saying to just move on with the money and then they could do the break up later.

Mr. Corcoran replied right, they could go to the lending institution and say here was what was presented and here was the general makeup, but the Finance Committee was going to be meeting in the next two weeks, they could start to look at it. Again, they felt like they have the right equation here, with the million and million and a half and seven, and part of the reason they did that was this, the Water and Sewer Fund was a lot more blessed than the General Fund. What he meant by that was they would still have some excess money available for projects on a pay-as-you-go basis, plus, that was where the rates need to be increased, on the Water and Sewer Fund side. On the other hand the General Fund was very tight. There were no new taxes or revenue coming in and the ability to make a debt service payment on the General Fund was very limited, and they could not really withstand much more than what was proposed. On the other hand, they could not go out and buy any of this equipment without that million. So, it could be changed by the Committee but a lot of time and thought has gone through this equation and this financial plan and whether they were here before the Finance Committee, they felt that it needed to be \$1 million, \$1.5 million...

Mayor Price asked if the Finance Committee had seen this to which Mr. Corcoran replied, no because this was just literally done, this was the Budget Retreat.

Council Member Vestal pointed out that the Mayor just asked for a motion to do away with what he had asked for a while ago. He questioned if he wanted to check on the interest rates on revenue...to which Mayor Price explained that they were not authorizing, that was authorizing him to find the funds not to borrow it from a bank or go to a revenue bond. In fact, if that revenue bond comes back at a lower percentage rate, including the fees, he thought that was a point and time when the Finance Committee needed to take a look at it and make a recommendation. He explained that they were just authorizing him to begin the work on finding money.

Mr. Corcoran added that was the other thing, once they start the process they were not obligated either, they were just starting the process at the bank, but they could find out the revenue bond information this afternoon. That would not take that long to do it.

Council Member Tuggle added that they could always rescind this vote anyway.

Mr. Corcoran noted that again, they were just starting the process; there was no obligation to the bank. It was going to take a month to get rates quoted.

Mrs. Ford added that it would take a month to get rates quoted and it had to be approved by the LGC before they could do anything else.

Mr. Corcoran stated that they could discuss it again in the upcoming meeting of the Finance Committee and at that time they would have the information on the revenue bonds. He added that he would tell them that if the Council decided to go to revenue bonds their recommendation would probably change and they would probably recommend that they borrow more money, because they actually have the ability to borrow more money on the water and sewer side. It made a lot more sense when they could borrow it and leverage it than do a pay-as-you-go if they could. The only reason they were sticking with the \$10 million was because that was the maximum that the Local Government Commission allowed through a local lending institution.

Council Member Tuggle clarified that all this was doing was to allow him to start the process to which Mr. Corcoran added, to start getting bids and quotes from the banks.

Action on the motion was as follows: All Council Members voted in favor of this motion. This motion carried.

Mr. Corcoran introduced Mrs. Kelly Stultz to begin the presentation of the Greenways.

Proposed City of Eden Greenway System
Smith River Greenway – Pilot Plan

Project Chronology

- 1969 As early as 1969, the Planning Board recommended that this same area along the Smith River be designated as a community park.
- Oct. 6, 1988 NC Department of Natural Resources & Community Development presented the Smith River Park Conceptual Plan to the City.
- Mar. 18, 2003 Dan River Basin Association (DRBA) meeting at City Hall to discuss a possible trail along the Smith River, City Staff were present at this meeting.
- Mar. 25, 2003 Greenway & Trails Committee created as a sub-committee of the Planning Board.
- May 29, 2003 Mr. Mike Covey, DRBA member, addressed a letter to Ms. Kelly Stultz, Director of Planning & Inspections, containing DRBA's ideas for the proposed greenway.
- July 4, 2003 Debbie Galloway, City Planner, visited the Catawba River Greenway in Morganton, NC, identified as one of the finest greenways in the state.
- July 8, 2003 First meeting of the Greenways & Trails Committee, along with representatives from the Planning Department, the Parks & Recreation Department and the Piedmont Triad Council of Government (PTCOG).
- Sept. 2003 Ms. Kelly Stultz presented a report to the City Manager outlining the status of the project and including recommendations and conclusions.
- Dec. 18, 2003 The Eden 2005 Plan Report issued, highlighting the development of a greenway and trail system as a goal for the community.
- Jan. 22, 2004 Greenways & Trails Committee meeting to discuss status of the project and identify next steps.
- Jan. 23, 2004 Call for proposals issued for NCDOT Bicycle & Pedestrian Planning Grant initiative.
- Feb. 10, 2004 Ms. Kelly Stultz and Ms. Debbie Galloway met with Ms. Hanna Cockburn of the PTCOG to discuss the grant application.
- Feb. 13, 2004 Mr. Mike Dougherty, Ms. Kelly Stultz and Ms. Debbie Galloway visited Danville, VA and met with Ms. Karen Cross, Danville Parks & Recreation, and Mr. Gerald Fisher, Director of Community Development, to discuss Danville's trail system and possible funding options.
- Feb. 18, 2004 Resolution of support received from PTCOG for the City of Eden's grant application.
- April 2, 2004 Grant applications due.

Greenway Committee Members

Mike Covey, DRBA

Phil Hunnicutt, DRBA

Dot Evans, Community Appearance Commission

Steve Cochran, Planning Board

Dr. Charles Kinney, Planning Board

Proposed Smith River Greenway

- Trail loop approx. 5.66 miles (about a 2-hour walk)
- Route primarily follows sewer lines and an old road bed parallel to the Smith River, from behind the YMCA on Kennedy St. north to the old railroad trestle.
- Proposed trail to be left in a basically natural state with minimal improvements (no paving, etc.)

Mrs. Stultz pointed out that one of the things that alternate information they were able to glean, tells them that a trail system that did not have any connectivity in a community would not be used a lot. So as they begin this process and see there were places to get on and off and how to get a trail system, for her, if they were going to ask her today what she thought the best plan would be as they create that, would be to take Freedom Park as the hub and make sure that as they, over the next twenty years, as they decide to do this, begin to spend a little money and apply for grants to prepare a system of trails and pedestrian ways, would be to use it so they could get from one part of the community to the park to another, on the system.

Estimated Costs for Pilot Area

Survey	\$20,000
Title Work	1,100
Mowing (2 additional times per year)	1,100
Grading (as needed – each time)	700
ATV & Trailer (for Police access)	5,500
Storage Building for ATV	1,000
*Signage	1,500
ATV Gas & Maintenance (annual)	<u>300</u>
TOTAL	\$31,200

*Advocates for Eden’s Future have offered to pay for signage.

Note: These estimates do not include costs for parking areas, restrooms or other amenities.

Mrs. Stultz noted that the DRBA people were convinced that this would be relatively inexpensive and in a lot of ways they were right, but there were always expenses whenever a local government pays for a project. She noted that the survey work was an estimate if they ended up having to survey inch of that trail. She added that the City Attorney, Mr. Medlin, had informed her that in looking at it, there may be a good portion of that, because of existing information and it’s proximity to the river that a legal description could be prepared that would be adequate without having to pay for that survey work, so that \$20,000 needed an asterisk beside it.

She also noted that the type of work and money that would be paid to Mr. Medlin, most of that would be for sewer easement. They spoke with Mr. Asbury about how much they spend to mow it and if they were going to use it as a trail, they were guessing it would have to be mowed an additional two times a year. There would also need to be some graded as it followed an old road bed.

She added that when there was a public trail, the police had to patrol it. Most jurisdictions, the police use either horses, which they were not able to do, or a four-wheeler, ATV. To do that, they would need a place to leave it. They could likely place it on the YMCA property.

She noted that if they removed the survey, it did look a lot better. They had some local groups who were being approached at the moment, with a possibility of contributing some of the money to do this.

Council Member Gover questioned the liabilities.

Mrs. Stultz replied that they had talked with the Risk Management folks who do their liability insurance and they said that they would not have any increased premiums.

Council Member Gover replied that maybe not, but they were still liable.

Mrs. Stultz explained that it would have to be under their liability insurance like any other public facility.

Mayor Price asked if the sewer line was not already surveyed.

Mrs. Stultz replied that it was, but some parts of this were not on a sewer line, and some of those lines were put in place a lot of years ago and a lot predated Mr. Nooe and easement documents were not quite the way they were presented now.

Council Member Gover noted that some of those outfalls were really rough and needed to be bush-hogged.

Mrs. Stultz agreed and as they do each one they would assess that and that would be part of the planning process.

Council Member Turner asked if they would rate sections of the trail, for difficulty like they would rapids.

Mrs. Stultz replied they would and there would be, all the cities they have seen that do this, there were different trails for different kind of folks. The money would come from sources, obviously there was the city budget, even if they did not ask for an appropriation, if they allowed Mrs. Galloway and her to spend a lot of time on it, they were paying them to be here and so there was that money.

Council Member Nooe asked when the parking areas, restrooms and stuff that were not included going to be needed and what was the estimated cost.

Mrs. Stultz replied that they were not a requirement but they could leave it for this little rough terrain area. They put that because as the city does an entire system, they were not going to want a huge system that did not have that.

Council Member Nooe stated, so a lot of the areas that they were planning on doing a park and projective costs for that...to which Mrs. Stultz replied yes, and they would as they do the overall planning process, but the money, there was city budgetary money and then there were grant funds. They have been working with several local organizations trying to find money and then there was always in kind donations from people who agree to do work and donate.

Where Do We Get the Money?

City Budget
Grants
Private Organizations (DRBA, Advocates for Eden's Future)
Volunteer Labor, Donations

What Has Been Done So Far?

- Mike Covey, (DRBA) has personally contacted most of the property owners along the proposed trail regarding their willingness to allow their property to be used for the greenway. All of their responses have been positive.
- Letters of support received from Advocates for Eden's Future, Eden Chamber of Commerce, Eden Preservation Society and Morehead Memorial Hospital as well as a resolution endorsing the city's grant application from the PTCOG.
- Title work for required easements is being prepared by City Attorney Tom Medlin.
- A quote for required survey work has been requested.
- Planning Department Staff is currently working on the grant application for a NCDOT Bicycle & Pedestrian Planning Grant to assist with the development of a master plan for a community greenway system.

NC Department of Transportation Bicycle & Pedestrian Planning Grant Initiative

- Purpose: To encourage the development of comprehensive local bicycle and pedestrian plans
- Who Can Apply? All NC municipalities are eligible, approx. 10-12 grants will be awarded each year.
- Type of Grant: Matching Grant (30% City, 70% DOT for populations 10,000-50,000)
- Funding Cap: \$35,000 Bicycle Plans
\$24,500 Pedestrian Plans

Mrs. Galloway then presented some photographs of the Catawba River Greenway in Morganton, NC.

After the presentation, Mrs. Stultz explained that gets to where they were. A greenway program was something that was very common with other jurisdictions and there were others in the county. She stated that in light of all the budgetary issues that they all have she was not feeling up to be asking the Council to be handing her a boatload of money this morning to proceed with this program but what they would like to have was permission to prepare budget numbers and present them to Council as part of their 2004-05 department budget to begin the installation of this pilot plan. It would be a very low stress low maintenance kind of program. The other thing they needed today was to apply for the grant. Should they receive the grant and receive it in the maximum amount of \$35,000 that would mean a \$15,000 commitment from the City Council to pay for the study and to have the plan formulated. What that would mean was that once they received the grant fund, they would send out an RFP to have somebody come out and do that. If it was less than \$50,000 obviously their contribution would be lower and so would the dates as part of the grant program. The maximum they would be asking them for would be \$15,000 to make that application. They did have a funding source or two locally that they were trying to get to contribute money towards that \$15,000 but in order for them, and they were going to pursue that as aggressively as they could to hope to mitigate the request that they asked for, but they did need Council's permission to apply.

Mayor Price asked if there were any conversation on this subject.

Council Member Myott asked if this had anything to do with the 87 bridge project that Council would be approached with.

Mrs. Stultz replied no, she would tell them that there has been an application applied for in the name of the City of Eden and received and they had to send the money to reapply this next year for the river access that was going to go in down there and they could not do the project this year because the bridge was not finished. That was different and apart from this. She added that hopefully before she retired, there would be enough connectivity as they pursue this so that those river accesses that were put in place with other grant money would be a part of the system but now this was just for the planning document.

Mrs. Galloway added also that was what the grant would be for, a planning grant to develop an entire system not just the Smith River system, but a whole city-wide system that could be implemented through the years, that was what the grant application they were requesting was for.

Mrs. Stultz agreed and stated that would bring in a lot of public involvement and they would find out from citizens exactly what they want, what staff wanted and what Council wanted and compare documents that would reflect those.

Council Member Gover asked again the amount of the grant to which Mrs. Stultz explained that the maximum amount would be \$35,000 from the state which would mean if they put up 70 and the city put up 30, the City Council would have to make a commitment of \$15,000 assuming she could not find any other sources to pay for the equipment. If they reward a smaller amount, then they all would be paying a smaller amount, but \$15,000 was the worst case scenario.

Council Member Tuggle asked if he did not think there were an awful lot of people in the community who would volunteer and really help develop the trails and picnic areas and places to take their children and those types of things.

Mrs. Stultz agreed that she did, if she looked at all the economic development information they get on how to make Eden more attractive, both for their citizens to keep them here and to bring in outsiders, those kinds of amenities were always at the top of the list and it was what she heard when she was venturing around the community. She thought it was something their citizens had a lot of interest in.

Council Member Vestal stated that he thought they should keep Mr. Asbury, Mr. Shelton, or somebody along that line involved because their rivers go anywhere from where they were now to twenty-five feet above where they were right now.

Mrs. Stultz agreed and they did not want to, assuming the Council let them apply for this grant and they do the program, they would be intimately involved because the last thing they need was to have people traipse by and monkey with the stuff.

Mayor Price added that the one in 1988 was classified as a flood plain park.

Mrs. Stultz agreed and it was designed so if the river comes up the river comes down and that was the sort of things they would learn and find out as they go through the process of doing the

project and doing the study.

Mayor Price noted that the request was to permit the staff to continue with making the budget numbers for the 2004-05 budget and to request authorization to apply for the grant for the maximum \$35,000 and would require a \$15,000 contribution from the city.

A motion was made by Council Member Tuggle seconded by Council Member Turner to permit the staff to fund their 2004-05 budget for the plan and to authorize the staff to proceed with the grant application with a commitment (\$15,000) from the city for matching funds. All Council Members voted in favor of this motion. This motion carried.

Mr. Corcoran stated in closing, there was free time for other issues Council would like to discuss.

Council Member Vestal stated that there seemed to be some confusion on a motion the other day. He explained that his point was that one recommendation was to move on away from the Whitt property and proceed with other projects and he had been against spending any more money on the Whitt project and that was why he had voted against that motion, because of the attachment.

A motion was made by Council Member Vestal seconded by Council Member Nooe to follow the City Manager's recommendation without the attachment of spending any more money on the Whitt property.

Mayor Price commented that the recommendation, as he had talked about the other day, was to permit two things, one to resolve the highway entrance over there and negotiations with the State to get their quote as to where the entranceway would be, and the second would be to negotiate with Dan River Water in regard as to who was going to supply water for that site. He asked what they were talking about in money for those two negotiations and that was purely what he had asked for it to be.

Mr. Corcoran replied that as he had said the other day, as far as the access issue, there was really not much involved there. That was just a matter of waiting for DOT to get back with them on a figure, so there really other than maybe an occasional letter no money. The money would be the Dan River thing and he had no idea how long that would take. He added that he could tell them that they were supposed to have met with them this Tuesday night, the bad weather came in, and they cancelled their meeting, so they did not meet with them. They have an election next week for a new board and once that was seated, they would have that meeting, but they have indicated that if the city wanted to discuss the industrial park, legal counsel needed to be present, so it was hard to tell how long those negotiations would take, so obviously negotiating something with Dan River would involve staff time and it would involve Mr. Medlin's time at his hourly rate.

Mayor Price asked if he was talking about ten hours of Mr. Medlin's time.

Mr. Corcoran replied that he had no idea. He stated that he could tell him that they met with them that one day for two hours and they were going to go into the PowerPoint presentation which was another two hours. He did not think ten hours would get all the issues resolved, but he really had nothing to place an estimate on. He could tell him there was not much to any money involved in the access but there would be some money involved in the Dan River Water.

Council Member Turner asked if there was money in the current budget designated for working on that site and if they could use that money.

Council Member Nooe stated that he thought there were several; he included who did not want to spend any money on the Whitt Site, period. Then, after the Manager's presentation he was still of the opinion he did not want to spend any more money on that site period.

Council Member Vestal added that his figure on Phase I and Phase II, he did not think included the \$350,000 cubic yards of fill to go in there

Mr. Corcoran replied that was right and what it said was that it was an estimate and he noted at the bottom 450 to 550 and of that they knew that 350 was for the remaining engineering and permitting. Then they would still have whatever unanswered questions and again the other thing he pointed out the other day, the most significant unanswered question was the flood plain encroachment and whether or not they would get that approval and that was a significant thing. The other thing was that they still need all their offsite easements for sewage extension, etc. He explained that having those two pieces of information would be good, but it would certainly not put them on the threshold to being able to do anything.

Council Member Epps questioned if some large organization did not want any other properties and was looking at that, how long it would be if they could up and run that if it were to come up.

Mr. Corcoran replied that the first thing to remember, if they had a large company come in and wanted a large tract of land they would have to go back to Phase II. Secondly, he guessed on the plus side, was that Stimmel and Associates have said they could finish engineering and permitting within a matter of less than six months. That sort of ties in nicely with the fact that in the existing contract there was a timber clause that says that on the date that they make their option effective, the owner has 6 months before they could touch his land, so that six months was there, whether they were done today or tomorrow, so six months has expired they could finish their engineering and permitting but they would still have to do the flood plain and encroachment and go through that entire approval process. They would still have to do all their offsite acquisition of easements for sewer extensions. There were just a multitude of other things that would still have to be done.

Council Member Epps stated that they still have twelve (12) more years' option on the property.

Mr. Corcoran replied that he thought until 2017.

Council Member Epps asked so if something came up they would not be out in the woods, they would be on base.

Mr. Corcoran replied right, if at any time the Council wanted to move they could, they have an option until 2017.

Mayor Price commented and he assured everyone on Council that he was behind the City Manager's recommendation but he wanted to look back to just where they were in this community and what has happened. He explained that he had asked a couple of questions. He agreed with Council Member Nooe about the cost on Phase I. He explained that his question went unanswered and it was why did somebody not go up and take a look at Phase II and what that did. It was never addressed because no one ever looked at it. That was a different question and they could go in later on if someone showed some interest and the City Manager has mentioned that as well, perhaps it did warrant some consideration. He noted that he had posed this to Ms. Perry (Director of Economic Partnership), and asked if somebody big came to Rockingham County, for example a chip manufacturer, and had a need for a lot of sewage capacity, a heavy weight operation, there was not a place in Rockingham County that they could come, but Eden. Eden has the capacity built into their system to handle it. It bothers him, and he was behind everything that the City Manger had mentioned and he was going to support it, but it bothered him that they did not have a large piece of land available for some activity to happen that a project would have to come to Eden and he thought in the whole scheme of things, that was where he was coming from. He stated that they knew obviously that he supported this project and he thought they ought to have that piece of property available. He pointed out that this was probably the best community in the south. They have schools, proximity to the colleges and hospitals, they have weather, wonderful facilities in this community to grow on, but they have skipped a beat and the people of this community did not deserve to skip many more beats and they were going to have some hard times if they did not take some proactive decisions. He added that they needed to count pennies but they needed to be thinking big in this community. He closed by saying that was all he had to say about it and he certainly supported everyone on this Council with the project and he was going to run just as hard as he could to make it happen.

Council Member Vestal added that to follow up on that, they were not cutting it totally out; they still have 12 more years.

Mayor Price agreed and those were the two big time consuming things and the one with the State that should be negotiated and would not cost one red dime. The second thing came in their report and should be reasonable.

Council Member Epps added that he wanted to say that instead of using the phrase, "don't spend any more money on the Whitt property", just say "at this time", because down the road they may have to.

Mayor Price stated that the motion was to accept the City Manager's recommendation without having any more money spent on the Whitt property.

Council Member Vestal pointed out that was not exactly what he had said. He explained that it was without the attachment to the Whitt property. The easement and Dan River Water, the attachment the other day, would cost the city money. He explained that his motion was to go with the City Manager's recommendation without the Whitt property attachment.

Action on the motion was as follows: All Council Members voted in favor of this motion. This motion carried.

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Mayor Price stated that he was going to have to leave as he had to represent the city at the Salvation Army, but he did want to make some statements. He explained that he wanted to present to the Council, sometime in the future, a benchmarking program that has to do with benchmarking and productivity and employees. He explained that he had talked about this for several years and he would appreciate their consideration of that. Other communities in North Carolina have used it and it was a good way to compare what their employees were doing to similar size cities and different types of jobs. It was something that would warrant their attention as he thought they were going into an area where they were spending a lot of money. He pointed out that they were making a request for a lot of additional labor and he thought it was time to take a look at just exactly what they were doing inside their city.

Council Member Vestal asked if this was for the entire employees.

Mayor Price replied in the affirmative and Council Member Gover commented that it sounded like a good idea.

A motion was made by Council Member Vestal seconded by Council Member Gover to adjourn. All Council Members voted in favor of this motion. This motion carried.

Respectfully submitted,

Kim J. Scott
City Clerk

ATTEST:

Philip K. Price
Mayor