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Oconee Joint Regional Sewer Authority

**GOLDEN CORNER COMMERCE PARK
WASTEWATER TREATMENT & DISPOSAL
SYSTEM**

FAIRPLAY, SOUTH CAROLINA

August 5, 2008



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TOTAL WASTE TREATMENT AND DISPOSAL CAPACITY	250,000 GPD
DOMESTIC WASTEWATER (50% OF 1,980 EMPLOYEES AT 40 GPD/CAP – INDUSTRIES W/KITCHEN FACILITIES)	(-39,600 GPD)
DOMESTIC WASTEWATER (50% OF 1,980 EMPLOYEES AT 25 GPD/CAP – WITHOUT KITCHEN FACILITIES)	(-24,750 GPD)
AVAILABLE WASTEWATER CAPACITY FOR INDUSTRIAL WET PROCESSES	185,650 GPD





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WASTEWATER TREATMENT & DISPOSAL ALTERNATIVES

1. ON-SITE TREATMENT AND LAND APPLICATION SYSTEM
2. ON-SITE TREATMENT AND LAND APPLICATION SYSTEM WITH FUTURE DISCHARGE TO CLEVELAND CREEK
3. CONVEYANCE TO CONEROSS WWTP FOR TREATMENT
4. ON-SITE SEPTIC TANK SYSTEMS FOR INITIAL DEVELOPMENT



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WASTEWATER TREATMENT & DISPOSAL ALTERNATIVE PHASE I PROBABLE CONSTRUCTION COST (50,000 GPD)

1. ON-SITE TREATMENT AND LAND APPLICATION SYSTEM WITH FUTURE DISCHARGE TO CLEVELAND CREEK **\$3,448,700**
2. CONVEYANCE TO CONEROSS WWTP FOR TREATMENT **\$7,256,100**
3. ON-SITE SEPTIC TANK SYSTEMS FOR INITIAL DEVELOPMENT





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SEPTIC TANK RESTRICTIONS

- DOMESTIC SANITARY WASTEWATERS ONLY
- NO PROCESS WASTEWATER
- NO FLOOR DRAINS CONNECTED TO SYSTEM
- SEPTIC TANK AT EACH SITE WITH SITE OWNER RESPONSIBLE FOR OWNERSHIP AND MAINTENANCE
- SEPTIC TANK EFFLUENT TO COLLECTION SYSTEM DESIGNED TO FIT INTO LONG TERMED PARK DEVELOPMENT



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COMMUNITY TRENCH INFILTRATION SYSTEM

- ONE PARTY RESPONSIBLE FOR OPERATION AND MAINTENANCE
- INFILTRATION AREA IN UNDISTURBED AREA NOT IMPACTED BY CUT, FILL & COMPACTION
- 100% REPLACEMENT AREA REQUIRED
- RESTRICTED FLOW LIMIT FOR EACH PLANT SITE
- SYSTEM CONSIDERED AS INTERIUM MEASURE





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DHEC SIZING GUIDELINES FOR BUSINESSES, OFFICES & FACTORIES

- EMPLOYEE / SHIFT 15 GPD
- ADD FOR SHOWER 10 GPD
- ADD FOR FOOD SERVICE (PAPER & PLASTIC UTENSILS) 10 GPD



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PER MASTER PLAN:

- POTENTIAL TOTAL BUILDINGS 5,250,000 SF
- ESTIMATED EMPLOYMENT 1,980 Employees
- EMPLOYEES PER 1,000,000 SF 38 Employees





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ESTIMATED DOMESTIC FLOW PER SITE

- ASSUMED 200,000 SF AVERAGE BLDG
- 76 EMPLOYEES
- 25 GPD / EMPLOYEE
- 1,900 GPD / BLDG SITE (AVERAGE)

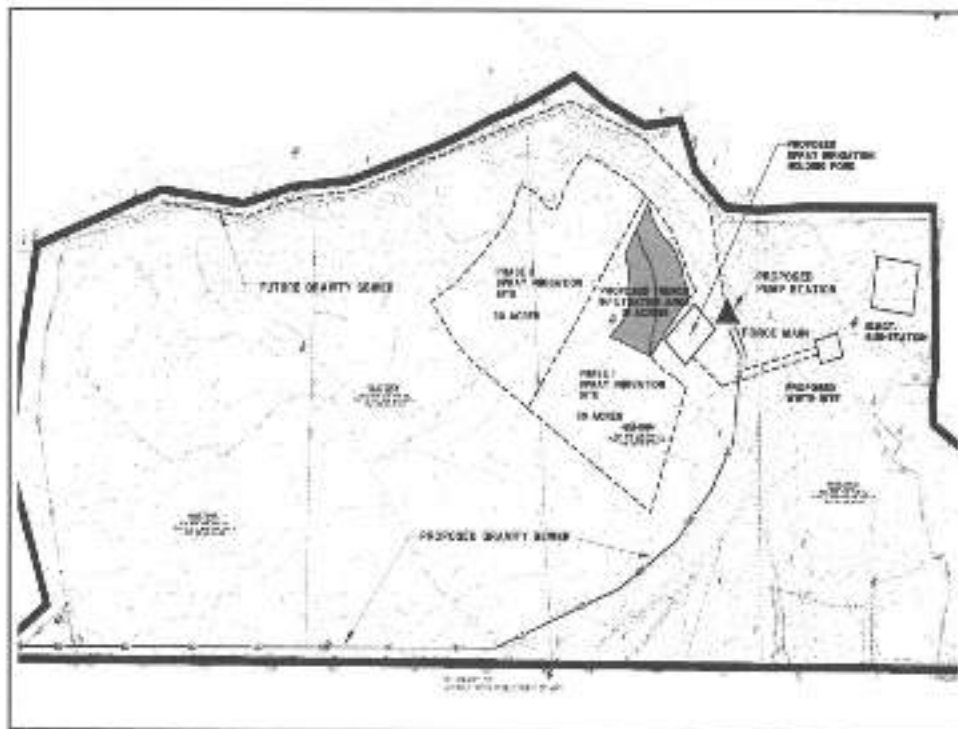


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PROJECTED SEPTIC TANK PER SITE

- TANK VOLUME = 1,125 GAL + 75% PEAK FLOW (GPD)
- REQ'D SITE SEPTIC TANK VOL. = 2,550 GALLONS
- TWO - 1,500 GALLON SEPTIC TANKS /SITE
- APPROXIMATE INSTALLED COST \$3,000 / SITE
- SEPTIC TANK EFFLUENT PUMPS \$6,000 / SITE





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PROPOSED GRAVITY SEWER COLLECTION SYSTEM *

GRAVITY SEWER SYSTEM	\$559,500
• PUMP STATION W/ EMER. POWER	\$249,500
• TOTAL GRAVITY SEWER & PUMP STA.	\$809,000

* COLLECTION SYSTEM AND PUMP STATION MAY BE DOWNSIZED TO MEET INITIAL SITE DEVELOPMENT REQUIREMENTS

WK DICKSON



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TRENCH INFILTRATION SYSTEM

- DESIGN BASED ON 0.3 GPD/SF
- TRENCH WIDTH @ 3 FT WITH 28 INCHES STONE
- TRENCHES @ 10 FT O.C.
- ASSUME 1,200,000 SF DEVELOPMENT (23% BUILDOUT)
- TOTAL DOMESTIC WASTEWATER = 11,400 GPD



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TRENCH INFILTRATION SYSTEM

- TOTAL DOMESTIC WASTEWATER = 11,400 GPD
- REQ'D TRENCH LENGTH = 12,667 LF
- AREA REQ'D = 3 AC + 3 AC AREA IN RESERVE
- PROBABLE CONSTRUCTION COST = \$200,000
- 6 AC INFILTRATION AREA LAND COST = \$ 48,000





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SEPTIC TANK OPTION COST SUMMARY

SITE DEVELOPMENT COST (1,900 GPD / SITE)

- SEPTIC TANK \$3,000 / SITE
- STEP (IF REQ'D) \$6,000 / SITE

GCCP COST (11,400 GPD CAPACITY)

- GS & PS INFRASTRUCTURE \$809,000
- INFILTRATION SYSTEM \$200,000
- ENGINEERING & OWNER COST \$173,000
- 6 ACRE LAND VALUE \$ 48,000
- TOTAL GCCP INITIAL COST \$1,230,000



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TRENCH INFILTRATION SYSTEM ANNUAL O&M

	<u>ANNUAL COST</u>
• SITE INSPECTION (2/MONTH, INCL TRAVEL)	\$2,150
• GRASS MAINTENANCE (6 TIMES/ YR)	\$4,200
TOTAL ANNUAL COST:	\$6,350
• 1 SITE (1,900 GPD, 5 DAYS / WK)	\$12.85/1,000 GALS
• 6 SITES (11,400 GPD, 5 DAYS/WK)	\$2.14 / 1,000 GALS



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COLLECTION SYSTEM, PUMP STATION & TRENCH INFILTRATION SYSTEM ANNUAL O&M

	<u>ANNUAL COST</u>
• SITE INSPECTION (1/WEEK, INCL TRAVEL)	\$6,000
• PUMP STATION POWER & MAINTENANCE	\$2,500
• FM & COLLECTION SYSTEM MAINTENANCE	\$3,300
• GRASS MAINTENANCE (6 TIMES/ YR)	\$4,200
TOTAL ANNUAL COST:	\$16,000



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Alt. 2
Phase I

ON-SITE TREATMENT, LAND APPLICATION AND FUTURE DISCHARGE TO CLEVELAND CREEK

Probable
Construction
Cost

GCCP GS & PUMP STA.	\$ 809,100
50,000 GPD PHASE I WWTP	1,129,500
DEDICATED 30 AC SPRAY IRRIGATION	745,700
ENGINEERING & OWNER COST	476,400
LAND COST (36 AC)	288,000
GRAND TOTAL ALT 2 – PHASE 1:	\$3,448,700





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Ait. 2
Phase I

**ON-SITE TREATMENT, LAND
APPLICATION WITH INTERIM SEPTIC
TANK SYSTEM (50,000 GPD)**

Probable
Construction
Cost

GCCP GS & PUMP STA.	\$ 809,100
TRENCH INFILTRATION SYSTEM	200,000
50,000 GPD PHASE I WWTP	1,129,500
DEDICATED 30 AC SPRAY IRRIGATION	745,700
ENGINEERING & OWNER COST	511,900
LAND COST (36 AC)	<u>288,000</u>
GRAND TOTAL :	\$3,684,200

 WK
DICKSON