CARVINS COVE FILTER PLANT IMPROVEMENTS – PHASE 1

ROANOKE, VIRGINIA

INDEX OF DRAWINGS

1 COVER SHEET

A. GENERAL DRAWINGS

G1 – INDEX OF DRAWINGS
G2 – ABBREVIATIONS & LEGEND
G3 – KEY SHEET
G4 – DIMENSIONAL LAYOUT
G5 – FILTER PLANT SITE SEDIMENT & EROSION CONTROL PLAN
G6 – EXIST. TREATMENT PLANT SITE TOPO

B. ACCESS ROAD

AR1 – ACCESS ROAD – PLAN
AR2 – ACCESS ROAD – PLAN
AR3 – ACCESS ROAD – PROFILE
AR4 – ACCESS ROAD – CROSS-SECTIONS
AR5 – ACCESS ROAD – CROSS-SECTIONS
AR6 – ACCESS ROAD – CROSS-SECTIONS
AR7 – ACCESS ROAD – CROSS-SECTIONS
AR8 – ACCESS ROAD – CROSS-SECTIONS
AR9 – ACCESS ROAD – CROSS-SECTIONS

C. INTAKE STRUCTURE

IS1 – INTAKE STRUCTURE – GENERAL SITE PLAN
IS2 – INTAKE STRUCTURE – DEMOLITION
IS3 – INTAKE STRUCTURE – ELEVATIONS & SECTIONS
IS4 – INTAKE STRUCTURE – PLAN, SECTIONS AND DETAILS
IS5 – INTAKE STRUCTURE – SCREEN DETAILS
IS6 – INTAKE STRUCTURE – INTAKE ORIFICE DETAILS
IS7 – INTAKE STRUCTURE – MISCELLANEOUS DETAILS
IS8 – INTAKE STRUCTURE – MECHANICAL & ELECTRICAL

D. RAW WATER LINE

RW1 – RAW WATER LINE – PLAN & PROFILE
RW2 – RAW WATER LINE – PLAN & PROFILE
RW3 – RAW WATER LINE – PLAN & PROFILE
RW4 – RAW WATER LINE – PLAN & PROFILE
RW5 – RAW WATER LINE – THRUST RESTRAINT DETAILS
RW6 – RAW WATER LINE – DETAILS
RW7 – RAW WATER LINE – VENTURI VAULTS AND DETAILS

E. LOW LIFT PUMP STATION

PS1 – LOW LIFT PUMP STATION – SITE PLAN
PS2 – LOW LIFT PUMP STATION – PIPING PLAN & SECTIONS
PS3 – LOW LIFT PUMP STATION – ARCHITECTURAL PLAN AND SECTIONS
PS4 – LOW LIFT PUMP STATION – SECTIONS
PS5 – LOW LIFT PUMP STATION – ELEVATIONS
PS6 – LOW LIFT PUMP STATION – TYPICAL DETAILS
PS7 – LOW LIFT PUMP STATION – ELECTRICAL
PS8 – LOW LIFT PUMP STATION – MECHANICAL
PS9 – LOW LIFT PUMP STATION – MODIFICATIONS TO EXIST. PUMP STA.
PS10 – LOW LIFT PUMP STATION – STORM DRAIN PROFILES

F. EXISTING PRETREATMENT FACILITIES

EP1 – GENERAL PLAN
EP2 – EXISTING PLANT LAYOUT
EP3 – NEW PLANT LAYOUT
EP4 – PLANT HYDRAULIC PROFILE
EP5 – YARD PIPING
EP6 – AERATION BASIN IMPROVEMENTS
EP7 – FLASH MIX & FLOW SPLITTER FOR EXISTING PLANT
EP8 – 1954 FLOC. MIXING BASIN IMPROVEMENTS
EP9 – 1954 FLOC. MIXING BASIN IMPROVEMENTS
EP10 – 1944 FLOC. MIXING BASIN EFFLUENT IMPROVEMENTS
EP11 – 1944 SEDIMENTATION BASIN IMPROVEMENTS
EP12 – 1954 SEDIMENTATION BASIN IMPROVEMENTS
EP13 – 1944 SEDIMENTATION BASIN EFFLUENT IMPROVEMENTS
EP14 – YARD PIPING PROFILES
EP15 – BACKWASH RATE CONTROLLER VAULT & METER VAULTS
EP16 – MISCELLANEOUS DETAILS – 1
EP17 – MISCELLANEOUS DETAILS – 2

G. 12 MGD PRETREATMENT BASINS

PB1 – 12 MGD PRETREATMENT BASINS – FOOTING PLAN
PB2 – 12 MGD PRETREATMENT BASINS – TOP OF CONCRETE PLAN
PB3 – 12 MGD PRETREATMENT BASINS – SECTIONS
PB4 – 12 MGD PRETREATMENT BASINS – SECTIONS
PB5 – 12 MGD PRETREATMENT BASINS – SECTIONS
PB6 – 12 MGD PRETREATMENT BASINS – BAFFLE DETAILS
PB7 – 12 MGD PRETREATMENT BASINS – BAFFLE DETAILS

H. 4 MG FINISHED WATER RESERVOIR & WASHWATER TANK

FR1 – 4 MG FIN. WATER RESERVOIR & WASHWATER TANK – GRADING PLAN
FR2 – 4 MG FIN. WATER RESERVOIR – PLAN, SECTION, DETAILS
FR3 – 4 MG FIN. WATER RESERVOIR – SECTION & DETAILS
FR4 – 4 MG FIN. WATER RESERVOIR – SECTION & DETAILS
FR5 – 4 MG FIN. WATER RESERVOIR – ROOF SLAB REINF.& WOOD BAFFLES
FR6 – RES. EFFLUENT SUMP & WASHWATER PUMP STA. PLAN & SECT.
FR7 – 4 MG FIN. WATER RESERVOIR – PLATFORMS & LADDERS
FR8 – WASHWATER TANK – PLANS & SECTIONS
FR9 – GENERAL DETAILS

I. FILTERS AND FILTER PIPING

FL1 – FILTER INFLUENT, EFFLUENT & WASH WATER PIPING
FL2 – EXISTING 1944 FILTER PIPING AND VALVES
FL3 – EXISTING 1954 FILTER PIPING AND VALVES
FL4 – 1944 FILTER PIPING IMPROVEMENTS
FL5 – 1954 FILTER PIPING IMPROVEMENTS
FL6 – FILTER MEDIA AND SURFACE WASH PIPING
FL7 – HOUSE SERVICE WATER & HYDR. CONTROL WATER SYSTEM
FL8 – FILTER INFL. & EFFL. PIPING & CONNECTIONS DETAILS
FL9 – FILTER PIPING AND VALVES DETAILS & SOLENOID VALVE SCHEMATIC

J. ARCHITECTURAL DRAWINGS – TREATMENT PLANT

A1 – PARTIAL SITE PLAN
A2 – ADMINISTRATION BUILDING – DEMOLITION PLANS
A3 – ADMINISTRATION BUILDING – ELEVATIONS
A4 – ADMINISTRATION BUILDING – PLANS & DETAILS
A5 – ADMINISTRATION BUILDING – PLANS & DETAILS
A6 – ADMINISTRATION BUILDING – SECTIONS & DETAILS
A7 – ADMINISTRATION BUILDING – WALL SECTIONS & DETAILS
A8 – CHEMICAL BUILDING 1 – ELEVATIONS & SCHEDULES
A9 – CHEMICAL BUILDING 1 – FLOOR PLAN & DETAILS
A10 – CHEMICAL BUILDING 1 – PLANS & DETAILS
A11 – CHEMICAL BUILDING 1 – SECTIONS & DETAILS
A12 – CHEMICAL BUILDING 1 – WALL SECTIONS
A13 – MISCELLANEOUS ELEVATIONS, PLANS, & DETAILS
A14 – CHEMICAL BUILDING 2 – ELEVATIONS, PLANS & SECTIONS

K. MECHANICAL DRAWINGS – TREATMENT PLANT

M1 – FILTER BLDG.–VENTILATION & DEHUMIDIFICATION SYSTEMS
M2 – ADM. & FILTER BLDG.–MODIF. TO STEAM HEATING SYSTEM
M3 – ADM.& FILTER BLDG.–DEMOLIT. TO PRES. STEAM HEAT SYSTEMS
M4 – ADM. & CHEM. BLDG.–HVAC SCHEMATICS
M5 – ADMINISTRATION BLDG.–HVAC SYSTEMS – PLANS
M6 – ADMINISTRATION BLDG.–HVAC SYSTEMS – SECTIONS & DETAILS
M7 – CHEMICAL BUILDINGS 1 & 2 – HVAC SYSTEMS – PLANS
M8 – CHEMICAL BUILDINGS 1 & 2 – HVAC SYSTEMS – SCHEMATICS & DETAILS
M9 – HVAC SYSTEMS – TYPICAL DETAILS
M10 – HVAC SYSTEMS – TYPICAL DETAILS
M11 – HVAC SYSTEMS – TYPICAL DETAILS
M12 – HVAC EQUIPMENT SCHEDULE

L. ELECTRICAL DRAWINGS – TREATMENT PLANT

E1 – ELECTRICAL SITE PLAN
E2 – ADM. & FILTER BLDG. – ELECTRICAL ONE LINE DIAGRAM
E3 – CHEMICAL BUILDING – ELECTRICAL ONE LINE DIAGRAM
E4 – ELECTRICAL CONTROL ELEMENTARY DIAGRAMS 1
E5 – ELECTRICAL CONTROL ELEMENTARY DIAGRAMS 2
E6 – ADM. BLDG. – EXISTING PLANS & ONE LINE DIAGRAM
E7 – ADM. BLDG. – ELECTRICAL PLANS
E8 – ADM. BLDG. – LIGHTING PLANS
E9 – FILTER BLDG. – ELECTRICAL PLANS
E10 – FILTER BLDG. – PIPE GALLERY SECTIONS
E11 – FILTER BLDG. – MISCELLANEOUS DETAILS
E12 – CHEMICAL BLDG. – ELECTRICAL PLANS
E13 – 1954 BASINS – ELECTRICAL PLAN
E14 – 12 MGD PRETREATMENT BASINS – ELECTRICAL PLANS
E15 – MISCELLANEOUS ELECTRICAL PLANS AND DETAILS
E16 – PROCESS INSTRUMENTATION DIAGRAM
E17 – SCADA SYSTEM BLOCK DIAGRAM
E18 – CHEMICAL BUILDING 2 – ELECTRICAL & INSTRUMENTATION DIAGRAMS
E19 – CHEMICAL BUILDING 2 – ELECTRICAL PLANS

M. CHEMICAL FEED DRAWINGS – TREATMENT PLANT

K1 – CHEMICAL BUILDING 1 – PLAN AND DETAILS
K2 – CHEMICAL BUILDING 1 – SCHEMATICS
K3 – CHEMICAL PIPING PLANS, SECTIONS & DETAILS
K4 – CHEMICAL BUILDING 1 – ELEVATIONS AND DETAILS
K5 – CHEMICAL YARD PIPING PLAN
K6 – CHEMICAL BUILDING 2 – PLAN & DETAILS
K7 – CHEMICAL BUILDING 2 – SCHEMATICS
K8 – CHEMICAL BUILDING 2 – ELEVATIONS AND DETAILS

N. BOXLEY HILLS PUMP STATION

BH1 – BOXLEY HILLS PUMP STATION – ELECTRICAL IMPROVEMENTS

O. SCADA SYSTEM – REMOTE STATIONS

SR1 – SCADA SYSTEM MAP
SR2 – WATER SYSTEM SCHEMATIC
SR3 – CRYSTAL SPRING PUMPING STATIONN
SR4 – DELRAY, BOXLEY HILLS & HOLLINS PUMPING STATIONS
SR5 – CHAPEL FOREST, PEAKWOOD & STATESMAN PUMPING STATIONS
SR6 – LAKEWOOD, FRANKLIN ROAD, CHESTNUT HILLS & ROUND HILLS PUMPING STATIONS
SR7 – ELEVATED TANKS, STANDPIPES & RESERVOIRS

DRAWING OF RECORD
DATE: SEP 30 1997

MATTERN & CRAIG
CONSULTING ENGINEERS • SURVEYORS
ROANOKE VIRGINIA

ALVORD, BURDICK & HOWSON
ENGINEERS CHICAGO

DESIGNED:
DRAWN:
CHECKED:

COMMONWEALTH OF VIRGINIA
YA-TAI LIN
NO. 022786
PROFESSIONAL ENGINEER

REV.	DATE	DESCRIPTION	BY	APP.

CARVINS COVE FILTER PLANT IMPROVEMENTS – PHASE I
ROANOKE, VIRGINIA

INDEX OF DRAWINGS

DATE JULY 1992
COMM. NO. 9130
SHEET G1

PLAN NO. 6199