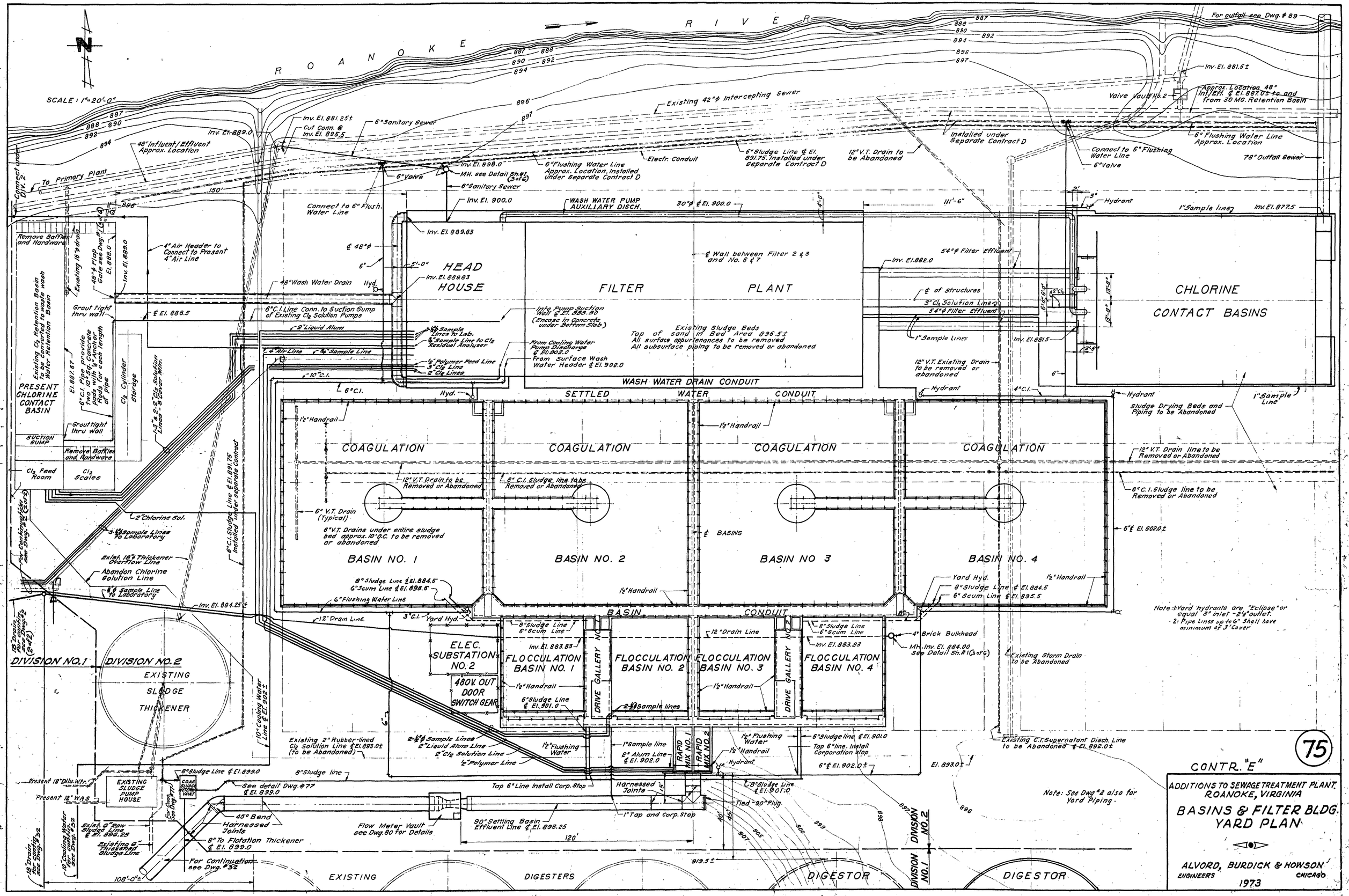
SCALE: 1"=20'-0"
ROANOKE RIVER
For outfall see Dwg. # 89
Inv. El. 881.5±
Approx. Location 48" Int/Eff. ℄ El. 887.0± to and from 30 MG. Retention Basin
Valve Vault No. 2
Existing 42"ϕ Intercepting Sewer
Inv. El. 881.25±
6" Sanitary Sewer
Cut Conn. @ Inv. El. 895.5
Inv. El. 889.0
48" Influent/Effluent Approx. Location
Connect under Div. 2
To Primary Plant
150'
6" Valve
Inv. El. 898.0"
MH. see Detail Sh. #1 (3 of 6)
6" Sanitary Sewer
6" Flushing Water Line Approx. Location, Installed under Separate Contract D
Electr. Conduit
6" Sludge Line ℄ El. 891.75. Installed under separate Contract D
12" V.T. Drain to be Abandoned
Installed under Separate Contract D
Connect to 6" Flushing Water Line
6" Valve
6" Flushing Water Line Approx. Location
78" Outfall Sewer
Connect to 6" Flush. Water Line
Inv. El. 900.0
WASH WATER PUMP AUXILIARY DISCH.
30"ϕ ℄ El. 900.0
111'-6"
Hydrant
1" Sample line
Inv. El. 877.5
Remove Baffles and Hardware
4" Air Header to Connect to Present 4" Air Line
Inv. El. 888.0
Existing 16"ϕ drain
48"ϕ Flap Gate see Dwg. # (3 of 6)
Inv. El. 889.83
℄ 48"ϕ
6"
5'-0"
HEAD HOUSE
48" Wash Water Drain
Hyd.
Grout tight thru wall
℄ El. 888.5
6" C.I. Line Conn. to Suction Sump of Existing Cl2 Solution Pumps
Existing Cl2 Retention Basin Converted to Wash Water Retention Basin
PRESENT CHLORINE CONTACT BASIN
El. 887.67
6" C.I. Pipe provide 3" ϕ Concrete pads with Anchor Rods for each length of pipe
Cl2 Cylinder Storage
Grout tight thru wall
SUCTION SUMP
Remove Baffles and Hardware
Cl2 Feed Room
Cl2 Scales
2" Liquid Alum
Sample Lines to Lab.
Sample Line to Cl2 Residual Analyser
4" Air Line
Sample Line
1/2" Polymer Feed Line
3" Cl2 Line
2" Cl2 Lines
10" C.I.
6" C.I.
Hyd.
Inlet Pump Suction Well ℄ El. 889.50 (Grease in Concrete under Bottom Slab)
From Cooling Water Pump Discharge ℄ El. 902.0
From Surface Wash Water Header ℄ El. 902.0
FILTER PLANT
℄ Wall between Filter 2 & 3 and No. 6 & 7
Existing Sludge Beds
Top of sand in Bed Area 896.5±
All surface appurtenances to be removed
All subsurface piping to be removed or abandoned
54"ϕ Filter Effluent
Inv. El. 882.0
℄ of structures
3" Cl2 Solution Line
54"ϕ Filter Effluent
1" Sample Lines
Inv. El. 881.5
12" V.T. Existing Drain to be removed or abandoned
6"
4" C.I.
Hydrant
CHLORINE CONTACT BASINS
WASH WATER DRAIN CONDUIT
SETTLED WATER CONDUIT
1" Sample Line
Sludge Drying Beds and Piping to be Abandoned
1 1/2" Handrail
COAGULATION
COAGULATION
COAGULATION
COAGULATION
12" V.T. Drain line to be Removed or Abandoned
12" V.T. Drain to be Removed or Abandoned
8" C.I. Sludge line to be Removed or Abandoned
8" C.I. Sludge line to be Removed or Abandoned
6" V.T. Drain (Typical)
6" V.T. Drains under entire sludge bed approx. 10' O.C. to be removed or abandoned
℄ BASINS
6" ℄ El. 902.0±
BASIN NO. 1
BASIN NO. 2
BASIN NO 3
BASIN NO. 4
2" Chlorine Sol.
3-1/2" Sample Lines to Laboratory
For Cooling Water see Dwg. # 32 (Sh. 3)
Exist. 12" Thickener Overflow Line
Abandon Chlorine Solution Line
1/2" Sample Line to Laboratory
6" C.I. Sludge Line ℄ El. 891.75 Installed under separate contract
Inv. El. 894.25±
8" Sludge Line ℄ El. 884.5
6" Scum Line ℄ El. 895.5
6" Flushing Water Line
12" Drain Line
3" C.I.
Yard Hyd.
Yard Hyd.
8" Sludge Line ℄ El. 884.5
6" Scum Line ℄ El. 895.5
BASIN CONDUIT
8" Sludge Line
6" Scum Line
Inv. El. 883.83
12" Drain Line
Inv. El. 883.83
4" Brick Bulkhead
MH. Inv. El. 884.00 See Detail Sh. #1 (3 of 6)
Note: 1- Yard hydrants are "Eclipse" or equal 3" inlet - 2 1/2" outlet.
2- Pipe lines up to 6" shall have minimum of 3' cover
Existing Storm Drain to be Abandoned
ELEC. SUBSTATION NO. 2
480V. OUT DOOR SWITCH GEAR
FLOCCULATION BASIN NO. 1
DRIVE GALLERY NO. 1
FLOCCULATION BASIN NO. 2
FLOCCULATION BASIN NO. 3
DRIVE GALLERY NO. 2
FLOCCULATION BASIN NO. 4
1 1/2" Handrail
6" Sludge Line ℄ El. 901.0
2-1/2" Sample lines
DIVISION NO. 1
DIVISION NO. 2
EXISTING SLUDGE THICKENER
10" Cooling Water Line ℄ El. 902±
Existing 2" Rubber-lined Cl2 Solution Line ℄ El. 893.0± (to be Abandoned)
2-1/2" Sample Lines
2" Liquid Alum Line
2" Cl2 Solution Line
1/2" Polymer Line
1 1/2" Flushing Water
1" Sample line
2" Alum Line ℄ El. 902.0
RAPID MIX NO. 1
RAPID MIX NO. 2
1 1/2" Flushing Water
1 1/2" Handrail
Hydrant
6" Sludge line ℄ El. 901.0
Tap 6" line. Install Corporation stop
6" ℄ El. 902.0±
Existing C.I. Supernatant Disch. Line to be Abandoned ℄ El. 892.0±
El. 893.0±
Note: See Dwg. # 2 also for Yard Piping.
Present 12" Dilu. W.Tr.
Present 12" WAS
EXISTING SLUDGE PUMP HOUSE
8" Sludge Line ℄ El. 899.0
COAG. SLUDGE VACUUM VALVE
See detail Dwg. # 77 ℄ El. 899.0
8" Sludge line
Tap 6" Line Install Corp. Stop
Harnessed Joints
8" Sludge Line ℄ El. 901.0
Tied 90° Plug
1" Tap and Corp. Stop
45° Bend
Harnessed Joints
8" To Flotation Thickener ℄ El. 899.0
For Continuation see Dwg. # 32
Flow Meter Vault see Dwg. 80 for Details
90" Settling Basin Effluent Line ℄ El. 893.25
120'
108'-0"±
919.5±
EXISTING DIGESTERS
DIGESTOR
DIGESTOR
DIVISION NO. 2
DIVISION NO. 1
75
CONTR. "E"
ADDITIONS TO SEWAGE TREATMENT PLANT
ROANOKE, VIRGINIA
BASINS & FILTER BLDG.
YARD PLAN
ALVORD, BURDICK & HOWSON
ENGINEERS
CHICAGO
1973