CITY AND BOROUGH OF WRANGELL, ALASKA
Wrangell Ozone Generator Procurement

ADDENDUM TO THE CONTRACT

Addendum No: **One (1)**
Pages this Addendum **One (1) Plus 33-Page Engineered Drawing Set**
Previous Addenda Issued: **None**

Current Bid Opening Date: August 20, 2015 at 10:00 a.m.

To: All Bidders of Record **August 13, 2015**

The contract documents are modified as indicated herein. All other terms and conditions remain unchanged. Bidders are required to acknowledge this addendum. Make the following additions to the contract documents:

1. **PART 3 – EXECUTION, 3.1 EXECUTION COORDINATION WITH EQUIPMENT SUPPLIER**

   Add Section 3.1, H. Ozone equipment must be compatible with the plant's existing air capacity of 450 scfh max per air train, as produced by AirSep AS-450 oxygen generators.

2. **DRAWINGS**

   Incorporate engineered drawings, for equipment and connectivity coordination efforts, entitled *Phase 2 Water Systems Improvements (1998)* into the contract documents (33-page engineered drawing set attached).

END OF ADDENDUM NO. 1

2695 Rat (Fuhrs)

CITY OF WRANGELL

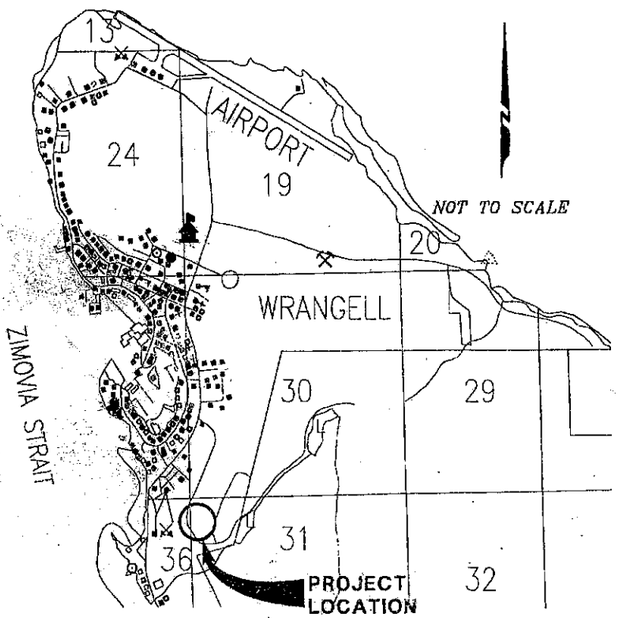
Al Jordan

PHASE 2 WATER SYSTEM IMPROVEMENTS

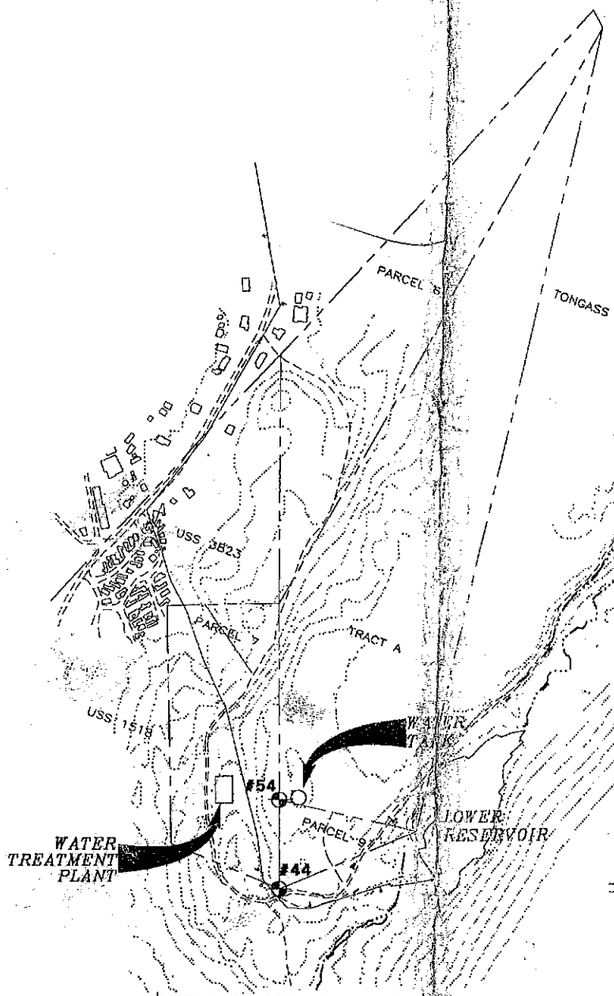
WRANGELL, ALASKA

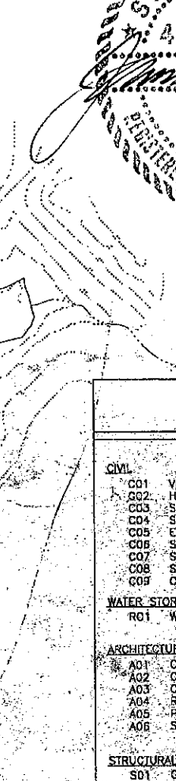
STATE OF ALASKA
49TH
JAMES E. WILSON
No. CE6668
REGISTERED PROFESSIONAL ENGINEER
3/12/98

LOCATION MAP



WRANGELL ISLAND
SOUTHEAST ALASKA





SCALE 1"=400'

VICINITY MAP

DETAIL NOTATIONS

1 / C9 — 1: DETAIL NUMBER; C9: SHEET NUMBER ON WHICH DETAIL APPEARS

INDEX TO DRAWINGS

PROJECT DATUM

ELEVATION DATUM
USC & GS TIDAL BENCH MARK 6, 1954, ELEV 39.27' – M.L.L.W.

BASIS OF BEARING
LINE OF SIGHT BETWEEN ORIGINAL CENTERLINE ANGLE POINT MONUMENTS FOR FRONT STREET ADJACENT TO LOT NO. 7, BLOCK NO. 4 AND LOT NO. 10, BLOCK NO. 5, WRANGELL TOWNSITE. THE RECORD BEARING IS S 51°28'00" E.

DENOTES PROJECT BENCHMARK

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
44	7127.83	9850.14	276.21	ALUM POST WITH 2-1/2" ALUM CAP
54	7593.62	9962.38	306.01	ALUM POST WITH 2-1/2" ALUM CAP

Mac Curtis

REDUCED PLANS!
HALF SCALE PLANS

NO.	REVISIONS	BY	DATE

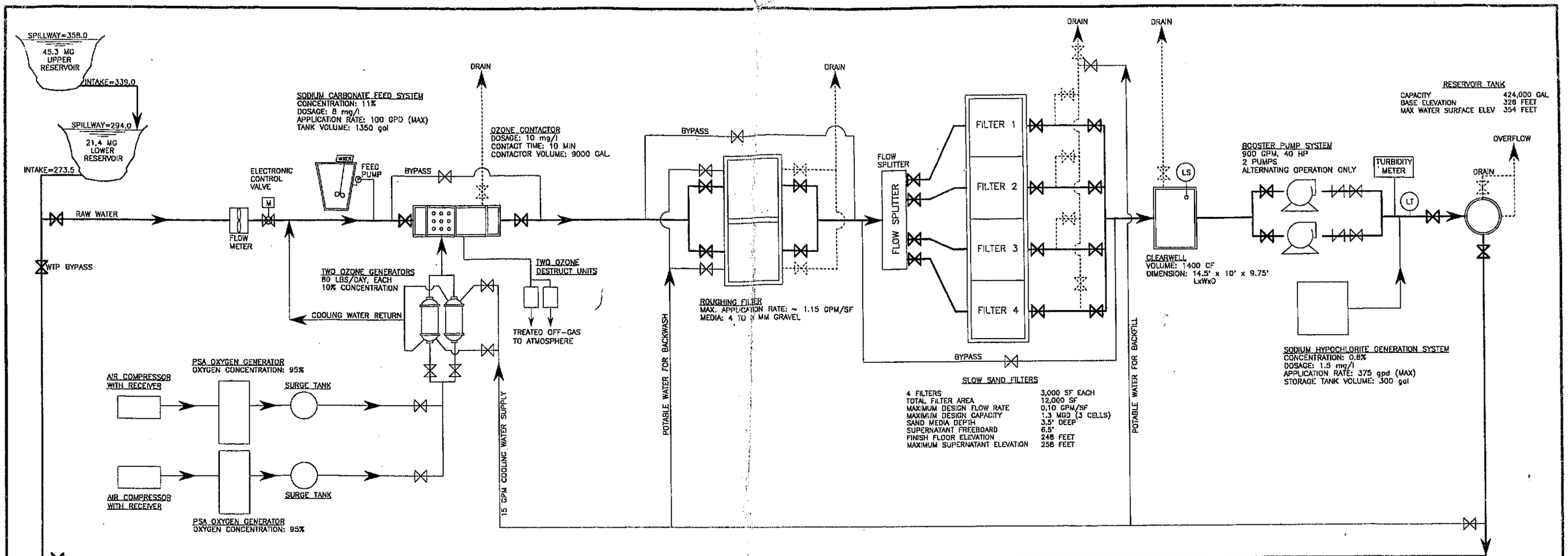
Wilson Engineering
CONSULTING ENGINEERS & SURVEYORS
805 DUPONT STREET
BELLINGHAM, WA 98225
(360) 733-6100
FAX (360) 647-9061

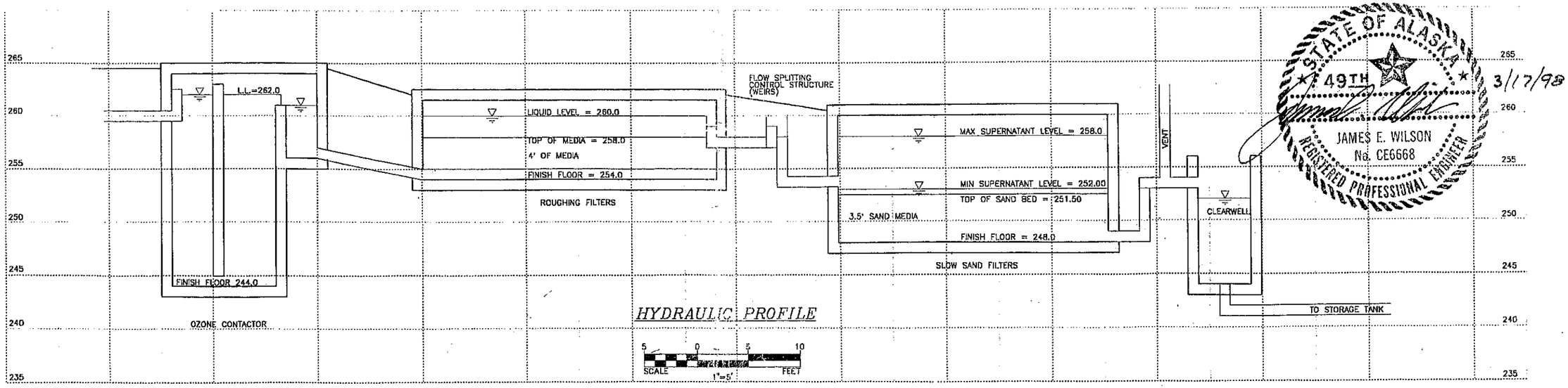
DESIGNED BY:	MAC
DRAWN BY:	WAH
CHECKED BY:	

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
VICINITY MAP, INDEX TO DRAWINGS

DATE	SHEET
3/11/98	C01
SCALE: AS SHOWN	OF
JOB NUMBER: 97070	C09

C:\PROJECT\97070\DWG\97070C01 Wed Mar 11 17:01:24 1998 WAH





HYDRAULIC PROFILE

SCALE 1"=5' (5 0 5 10 FEET)

STATE OF ALASKA 49TH
JAMES E. WILSON
No. CE6668
REGISTERED PROFESSIONAL ENGINEER
3/17/98

NO.	REVISIONS	BY	DATE

Wilson Engineering
CONSULTING ENGINEERS & SURVEYORS

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CHECKED BY:	MAC

CITY OF WRANGELL
WRANGELL ISLAND ALASKA

PHASE 2 WATER SYSTEM IMPROVEMENTS
HYDRAULIC PROFILE & PROCESS SCHEMATIC

DATE	3/12/98
SCALE	AS SHOWN
JOB NUMBER	97070
SHEET	C02
OF	C09

SEE SHEET R01 FOR CONNECTIONS TO EXISTING WATER LINES & RUNS UP TO THE WATER STORAGE TANK.

MATCH LINE "A"

SCALE 1"=10' FEET (10 0 10 20)

SEE SHEET M03 FOR PIPING AND VALVING IN THIS AREA.

8" HDPE/DI ROUGHING FILTER EFFLUENT

INFLUENT HEADER (TYP.)

UNDERDRAIN (TYP.)

FILTER 4 | FILTER 3 | FILTER 2 | FILTER 1

ROUGHING FILTER BYPASS

ROUGHING FILTERS

6" HDPE/DI BACKWASH

8" HDPE/DI POTABLE WATER

YARO HYDRANT

12" HDPE/DI CONTACTOR BYPASS

12" HDPE/DI SLOW SAND BYPASS

12" HDPE/DI DRAIN TO DITCH

6" HDPE/DI SLOW SAND BACKFILL

12" HDPE/DI WTP INFLUENT

12" HDPE/DI WTP EFFLUENT

OZONE CONTACTOR

FFE 2441.00

HDPE/DI MAT'L. TRANSITION

DI

CONTROL BUILDING

EFFLUENT HEADER (TYP.)

OVERFLOW HEADER (TYP.)

30' 10' 20' 20' 20' 20' 10' 30'

8" HDPE/DI CELL EFFLUENT

8" HDPE/DI CELL EFFLUENT

CLEARWELL

PIPE GALLERY

YARD HYDRANT

YARD HYDRANT

8" HDPE/DI SLOW SAND BACKFILL

12" HDPE/DI SLOW SAND EFFLUENT

12" HDPE/DI SLOW SAND BYPASS

8" HDPE/DI SUPERNATANT DRAIN & OVERFLOW TO DITCH

8" HDPE/DI SLOW SAND & CLEARWELL DRAIN TO DITCH

FLOOR DRAIN SYSTEM TO DITCH

8" HDPE/DI SUPERNATANT DRAIN & OVERFLOW TO DITCH

12" HDPE/DI CONTACTOR & ROUGHING FILTER DRAIN TO DITCH

FLOOR DRAIN SYSTEM TO DITCH

XFMR PAD

JET TANK

GENERAL PIPING NOTES:

1. PROVIDE MINIMUM 48" OF COVER OVER ALL PIPING OUTSIDE OF BUILDINGS AND STRUCTURES.
2. ALL BUILDING/STRUCTURE WALL PENETRATIONS SHALL BE PER TYPICAL WALL PENETRATION DETAIL ON SHEET M08.
3. EXTERIOR GATE VALVES. INSTALL VALVE BOXES SUCH THAT THE TOP OF BOX IS FLUSH WITH FINISHED SURFACE. EXTEND VALVE STEMS TO 6" BELOW FINISH SURFACE.
4. PIPING MATERIAL AND LAYOUT WITHIN BUILDINGS AND STRUCTURES SHALL BE AS SHOWN ON THE MECHANICAL PIPING PLANS.
5. ALL EXTERIOR YARD PIPING SHALL BE EITHER HDPE OR DUCTILE IRON PIPE.

LEGEND

(1) 12" HDPE/DI CONTACTOR INFLUENT
(2) 12" HDPE/DI CONTACTOR EFFLUENT
(3) 12" HDPE/DI CONTACTOR DRAIN
GATE VALVE & BOX
NORMAL FLOW DIRECTION

NOTE:
HDPE/DI DESIGNATES PIPE MATERIAL MAY BE EITHER DUCTILE IRON OR HIGH DENSITY POLYETHELYNE, CONTRACTOR'S OPTION.

STATE OF ALASKA 49TH
JAMES E. WILSON
No. CE6668
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3/17/98

C:\PROJECT\97070\DWG\97070C03 Thu Mar 12 15:56:37 1998 WAH

NO.	REVISIONS	BY	DATE

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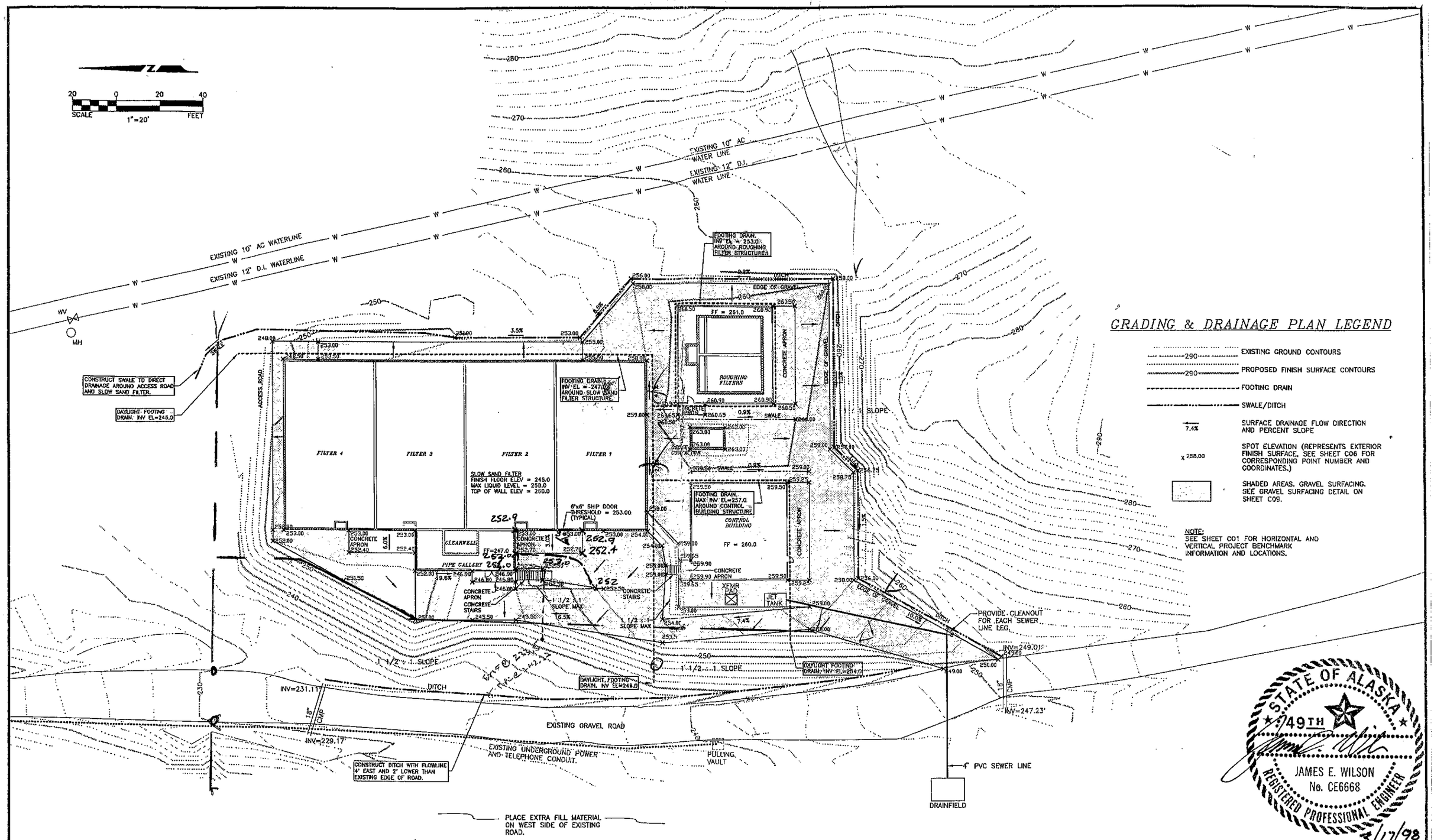
CHECKED BY:	

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
SITE PIPING PLAN

DATE	3/11/98
SCALE	AS SHOWN
JOB NUMBER	97070
SHEET	C03
OF	C09



GRADING & DRAINAGE PLAN LEGEND

- EXISTING GROUND CONTOURS
- PROPOSED FINISH SURFACE CONTOURS
- FOOTING DRAIN
- SWALE/DITCH
- 7.4% — SURFACE DRAINAGE FLOW DIRECTION AND PERCENT SLOPE
- x 258.00 — SPOT ELEVATION (REPRESENTS EXTERIOR FINISH SURFACE, SEE SHEET C06 FOR CORRESPONDING POINT NUMBER AND COORDINATES.)
- SHADED AREAS. GRAVEL SURFACING. SEE GRAVEL SURFACING DETAIL ON SHEET C09.

NOTE:
SEE SHEET C01 FOR HORIZONTAL AND VERTICAL PROJECT BENCHMARK INFORMATION AND LOCATIONS.

STATE OF ALASKA
49TH
JAMES E. WILSON
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3/17/98

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CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
SITE GRADING & DRAINAGE PLAN

DATE	3/17/98
SCALE	AS SHOWN
JOB NUMBER	97070
SHEET	C04
OF	C09

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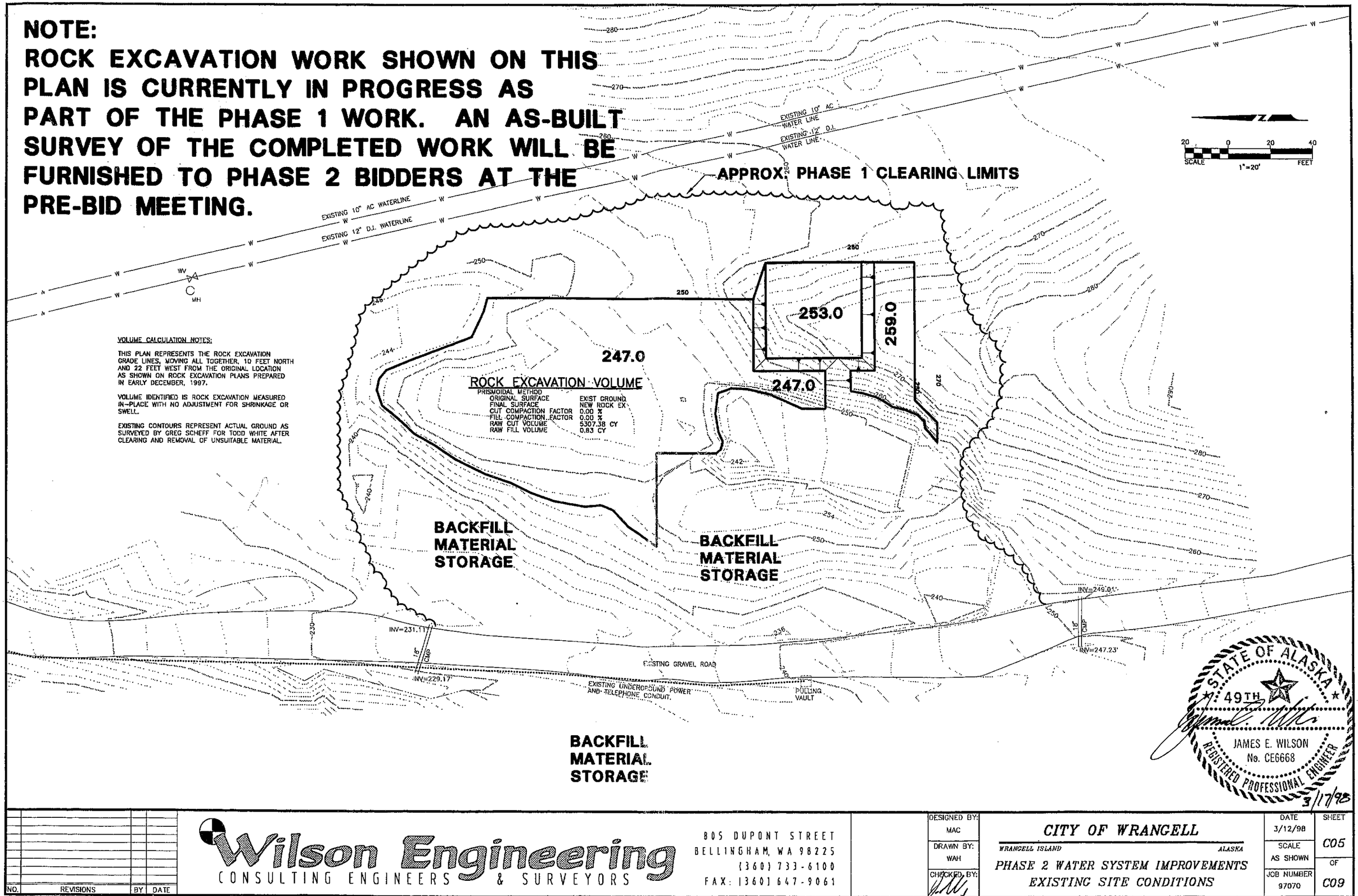
NOTE:
ROCK EXCAVATION WORK SHOWN ON THIS PLAN IS CURRENTLY IN PROGRESS AS PART OF THE PHASE 1 WORK. AN AS-BUILT SURVEY OF THE COMPLETED WORK WILL BE FURNISHED TO PHASE 2 BIDDERS AT THE PRE-BID MEETING.



VOLUME CALCULATION NOTES:

THIS PLAN REPRESENTS THE ROCK EXCAVATION GRADE LINES, MOVING ALL TOGETHER, 10 FEET NORTH AND 22 FEET WEST FROM THE ORIGINAL LOCATION AS SHOWN ON ROCK EXCAVATION PLANS PREPARED IN EARLY DECEMBER, 1997.

VOLUME IDENTIFIED IS ROCK EXCAVATION MEASURED IN-PLACE WITH NO ADJUSTMENT FOR SHRINKAGE OR SWELL.

EXISTING CONTOURS REPRESENT ACTUAL GROUND AS SURVEYED BY GREG SCHEFF FOR TODD WHITE AFTER CLEARING AND REMOVAL OF UNSUITABLE MATERIAL.

STATE OF ALASKA 49TH
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CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
EXISTING SITE CONDITIONS

DATE	3/12/98
SCALE	AS SHOWN
JOB NUMBER	97070
SHEET	C05
OF	C09

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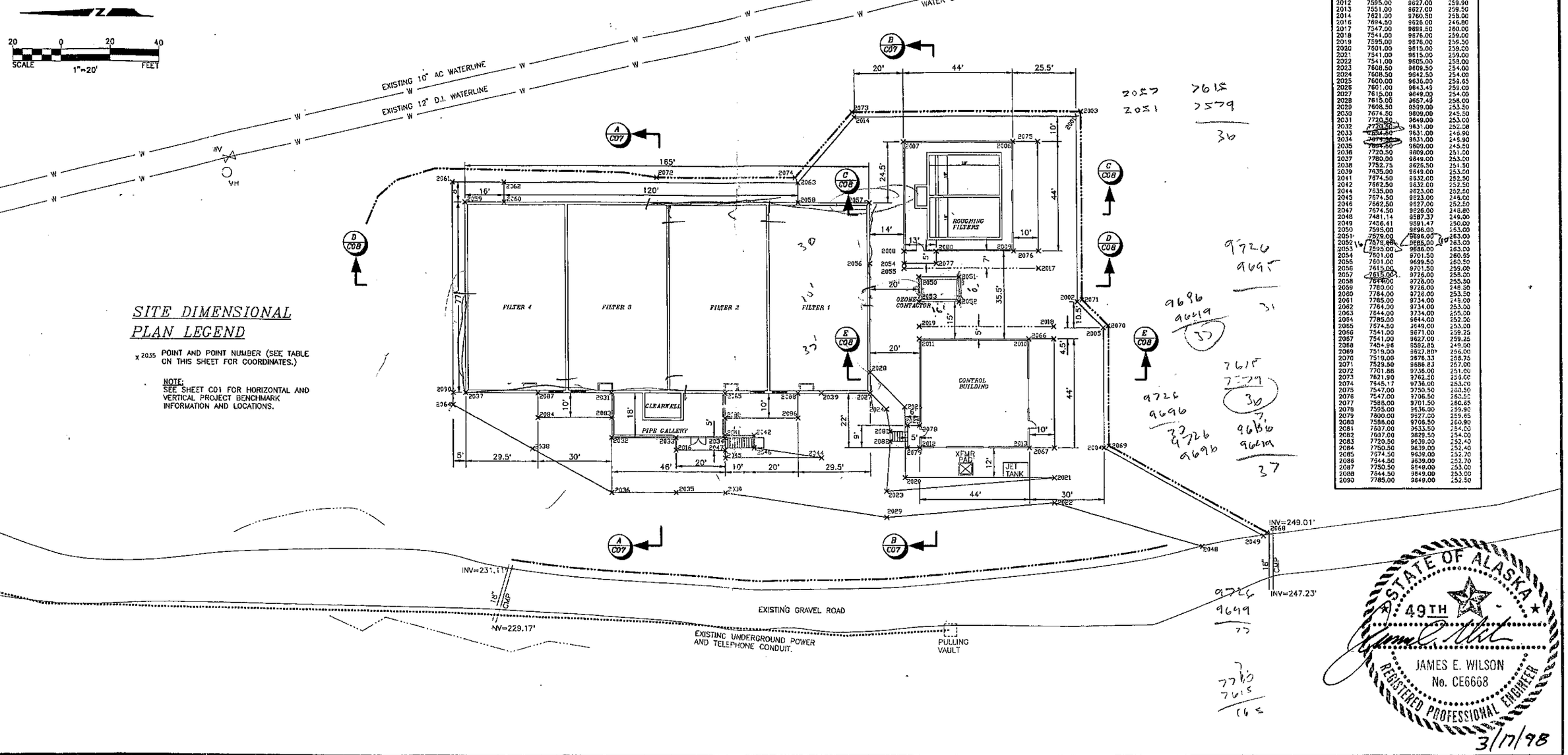

SITE DIMENSIONAL PLAN LEGEND

x 2035 POINT AND POINT NUMBER (SEE TABLE ON THIS SHEET FOR COORDINATES.)

NOTE:
SEE SHEET C01 FOR HORIZONTAL AND VERTICAL PROJECT BENCHMARK INFORMATION AND LOCATIONS.

PNT#	NORTHING	EASTING	ELEVATION
2001	7531.50	9760.50	260.00
2002	7531.50	9685.00	259.00
2003	7529.50	9762.50	258.00
2004	7521.00	9827.00	258.00
2005	7521.00	9675.50	258.75
2006	7587.00	9750.50	260.90
2007	7601.00	9750.50	260.50
2008	7601.00	9706.50	260.90
2009	7557.00	9708.50	260.90
2010	7551.00	9671.00	259.50
2011	7585.00	9671.00	259.50
2012	7595.00	9827.00	259.90
2013	7551.00	9827.00	259.50
2014	7621.00	9760.50	258.00
2016	7694.50	9826.00	246.80
2017	7547.00	8898.50	260.00
2018	7541.00	9876.00	259.00
2019	7595.00	9876.00	256.50
2020	7601.00	9815.00	259.00
2021	7541.00	9815.00	259.00
2022	7541.00	9605.00	258.00
2023	7608.50	8609.50	254.00
2024	7608.50	9642.50	254.00
2025	7600.00	9636.00	259.65
2026	7601.00	9643.49	259.00
2027	7615.00	9649.00	254.00
2028	7615.00	9657.49	258.00
2029	7608.50	8599.00	253.50
2030	7674.50	9809.00	245.50
2031	7720.50	9649.00	253.00
2032	7720.50	9831.00	252.00
2033	7694.50	9631.00	246.90
2034	7674.50	9631.00	245.90
2035	7694.50	9809.00	245.50
2036	7720.50	8809.00	251.00
2037	7780.00	9649.00	253.00
2038	7752.75	8625.50	251.50
2039	7635.00	8649.00	253.00
2041	7674.50	8632.00	252.50
2042	7662.50	8632.00	252.50
2044	7635.00	8623.00	252.50
2045	7674.50	9623.00	246.00
2046	7662.50	9627.00	252.50
2047	7674.50	9626.00	248.80
2048	7481.14	9587.37	249.00
2049	7456.41	9591.47	250.00
2050	7595.00	9696.00	263.00
2051	7529.00	9696.00	263.00
2052	7578.68	9686.00	263.00
2053	7595.00	9686.00	263.00
2054	7601.00	9701.50	260.65
2055	7601.00	9699.50	260.50
2056	7615.00	9701.50	259.00
2057	7615.00	9726.00	258.00
2058	7644.00	9728.00	255.50
2059	7780.00	9726.00	248.50
2060	7784.00	9726.00	253.50
2061	7785.00	9734.00	243.00
2062	7764.00	9734.00	253.00
2063	7844.00	9734.00	255.00
2064	7785.00	9644.00	252.00
2065	7574.50	9649.00	253.00
2066	7541.00	9671.00	259.25
2067	7541.00	9627.00	259.25
2068	7454.98	9592.85	249.00
2069	7519.00	8827.80	256.00
2070	7519.00	9876.33	256.75
2071	7529.50	9886.83	257.00
2072	7701.88	9736.00	251.00
2073	7621.90	9762.50	258.00
2074	7545.17	9736.00	253.00
2075	7547.00	9750.50	260.50
2076	7547.00	9706.50	260.50
2077	7588.00	9701.50	260.65
2078	7595.00	9636.00	259.90
2079	7800.00	9627.00	259.65
2080	7586.00	9706.50	260.90
2081	7637.00	9633.50	254.00
2082	7637.00	9629.50	254.00
2083	7720.50	9639.00	252.40
2084	7750.50	9639.00	252.40
2085	7674.50	9639.00	252.70
2086	7644.50	9639.00	252.70
2087	7750.50	9649.00	253.00
2088	7644.50	9649.00	253.00
2090	7785.00	9649.00	252.50

STATE OF ALASKA
49TH
JAMES E. WILSON
No. CE6668
REGISTERED PROFESSIONAL ENGINEER
3/11/98

NO.	REVISIONS	BY	DATE

Wilson Engineering
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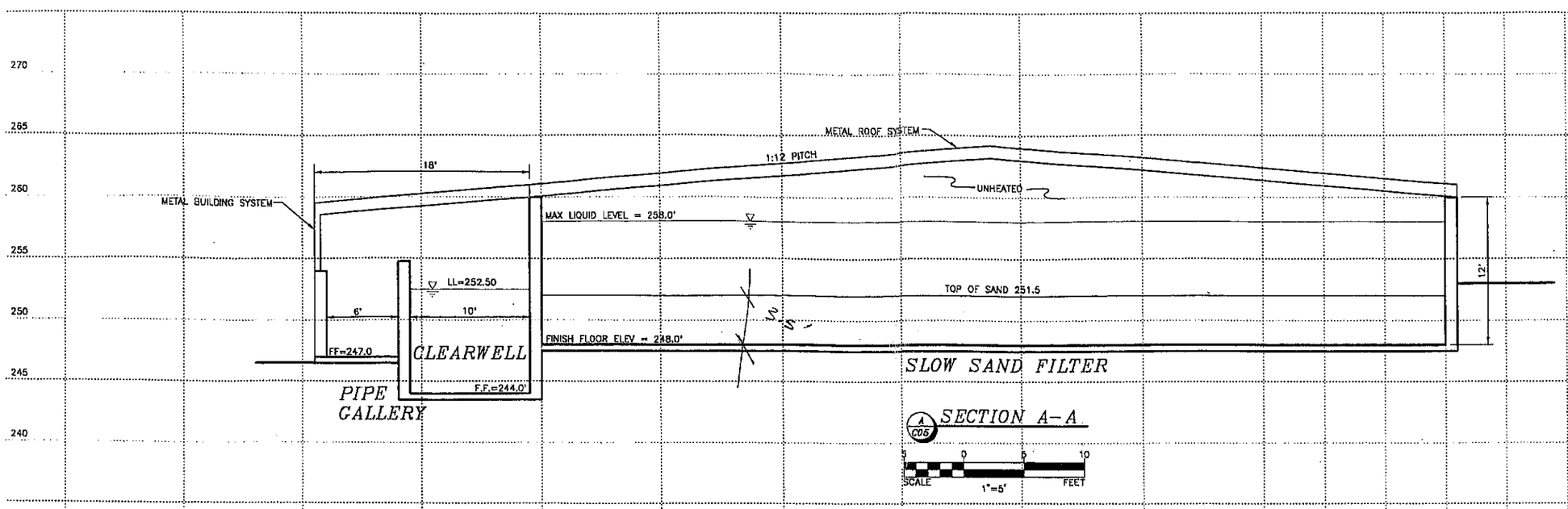
DESIGNED BY:	MAC
DRAWN BY:	WAH
CHECKED BY:	

CITY OF WRANGELL
WRANGELL ISLAND ALASKA

PHASE 2 WATER SYSTEM IMPROVEMENTS
SITE DIMENSIONAL PLAN

DATE	3/11/98
SCALE	AS SHOWN
JOB NUMBER	97070
SHEET	C06
OF	C09

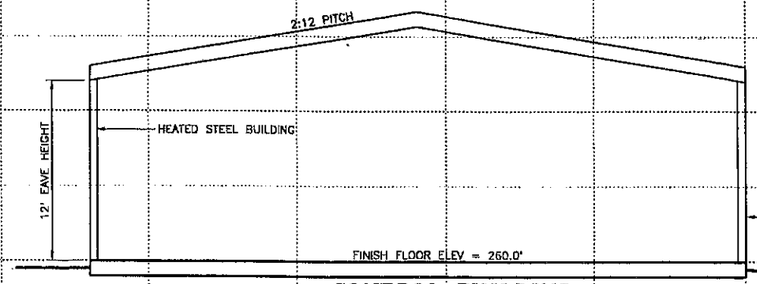


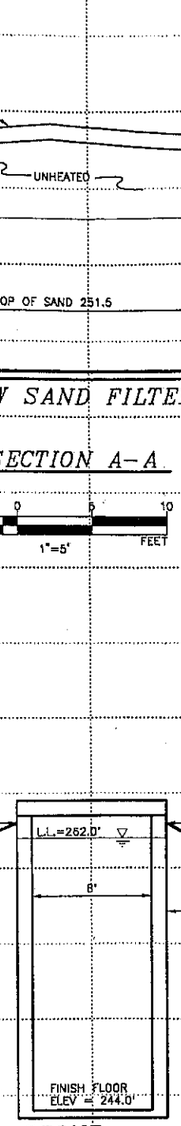
SECTION A–A

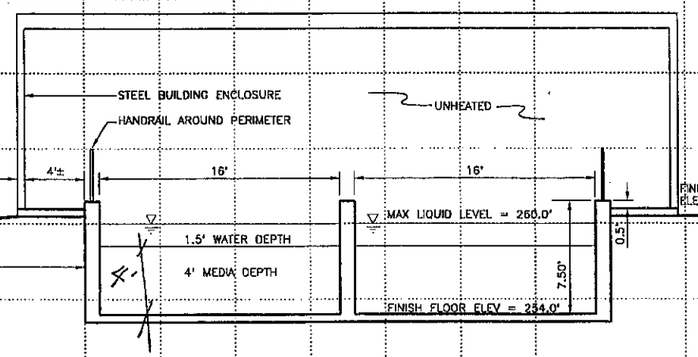
C05

SCALE 1"=5' FEET

5 0 5 10







SECTION B–B

B C05

SCALE 1"=6' FEET

5 0 5 10

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

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DRAWN BY: —
CHECKED BY: J.W.

CITY OF WRANGELL
WRANGELL ISLAND ALASKA

PHASE 2 WATER SYSTEM IMPROVEMENTS
SITE CROSS SECTIONS

DATE 3/11/98
SCALE AS SHOWN
JOB NUMBER 97070
SHEET C07
OF C09

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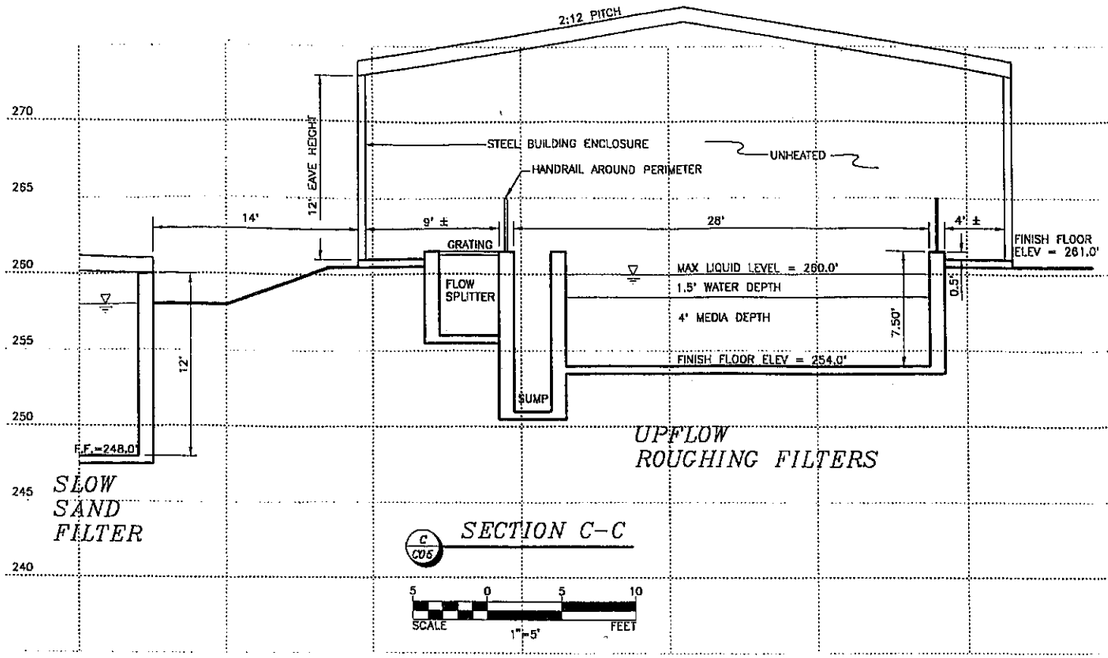

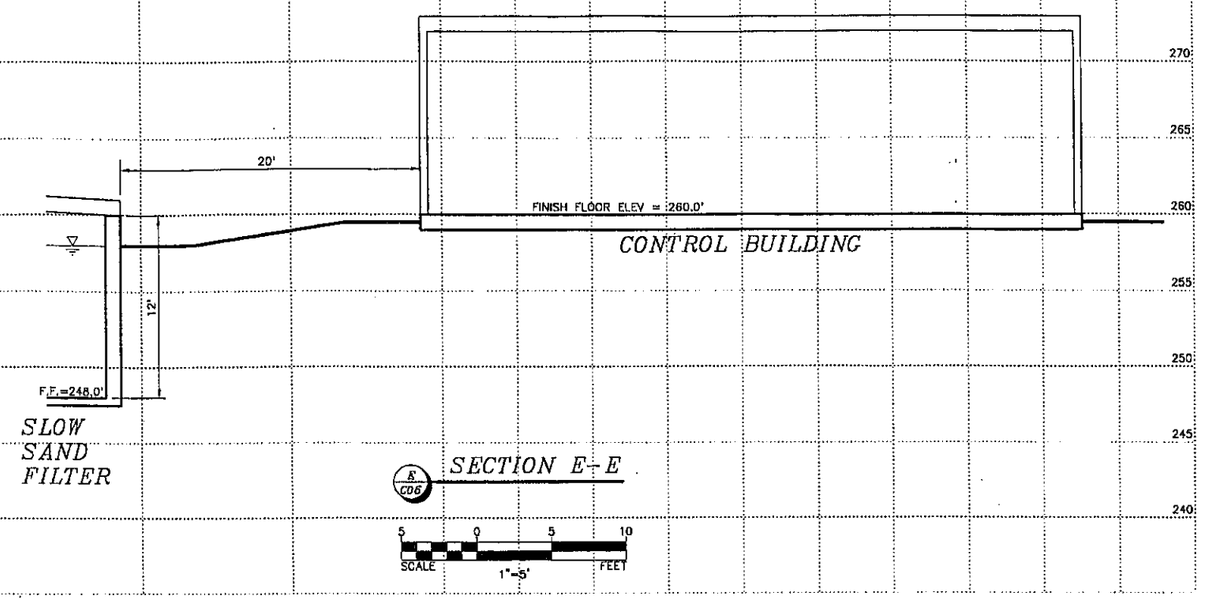

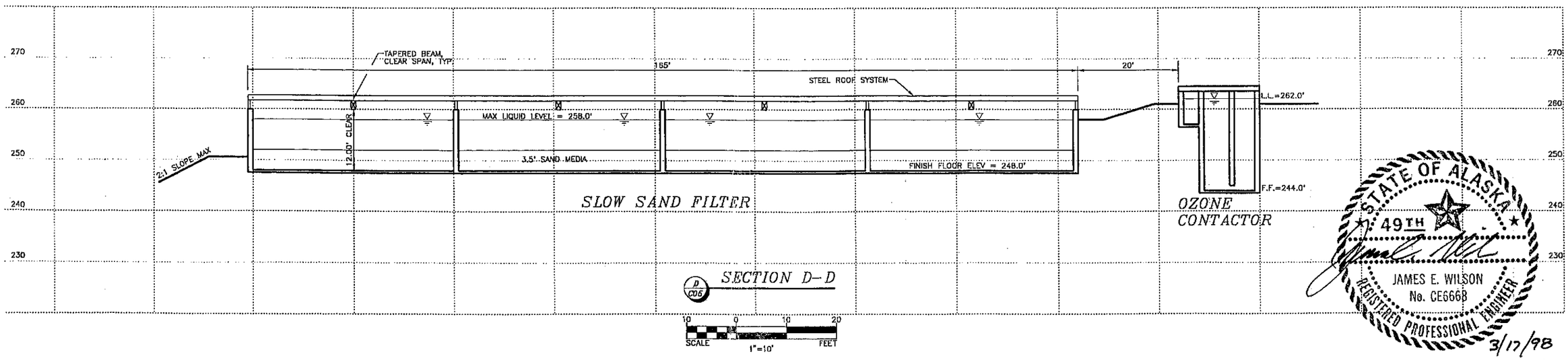

STATE OF ALASKA
49TH
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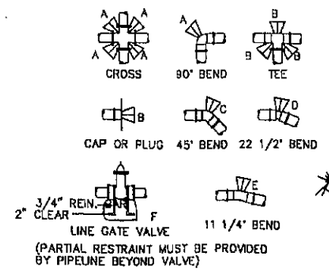
DESIGNED BY: —
DRAWN BY: —
CHECKED BY:

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
SITE CROSS SECTIONS

DATE 3/4/98
SCALE AS SHOWN
JOB NUMBER 97070
SHEET C08
OF C09

C:\PROJECT\97070\DWG\97070C07 Wed Mar 4 15:58:44 1998 WAH



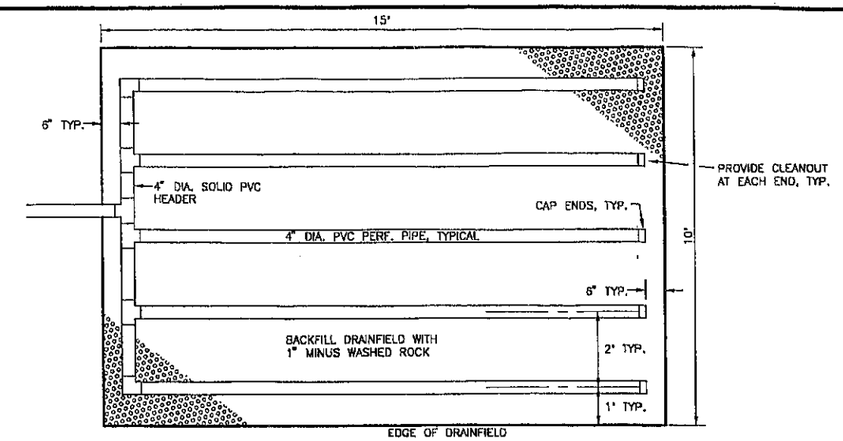
NOTES

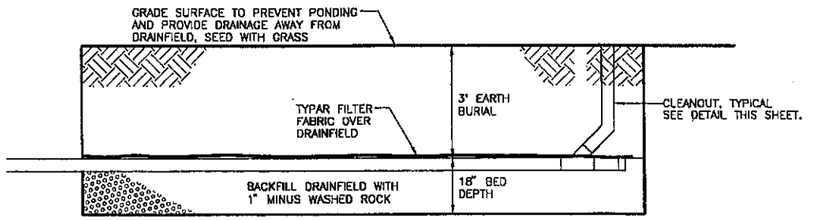
1. SQUARE FEET OF CONCRETE THRUST BLOCK AREA IS BASED ON 200 P.S.I. INTERNAL PRESSURE, A SOIL SAFE BEARING OF 3000 POUNDS PER SQUARE FOOT AND A FACTOR OF SAFETY OF 1.5.
2. BEARING AREA MUST BE ADJUSTED FOR INTERNAL PRESSURES AND LOWER SOIL BEARING VALUES.
3. CONCRETE BLOCKING SHALL BE CAST IN PLACE AND HAVE A MINIMUM OF 1/4 SQUARE FOOT BEARING AGAINST THE FITTING.
4. BLOCK SHALL BEAR AGAINST FITTINGS ONLY AND SHALL BE CLEAR OF JOINTS TO PERMIT TAKING UP OR DISMANTLING JOINT.
5. THE CONTRACTOR SHALL INSTALL BLOCKING WHICH IS ADEQUATE TO WITHSTAND FULL TEST PRESSURE AS WELL AS TO CONTINUOUSLY WITHSTAND OPERATING PRESSURE UNDER ALL CONDITIONS OF SERVICE.
6. CONTRACTOR MAY USE RESTRAINED JOINTS AS APPROVED BY THE CITY AS AN ALTERNATIVE TO THRUST BLOCKING.

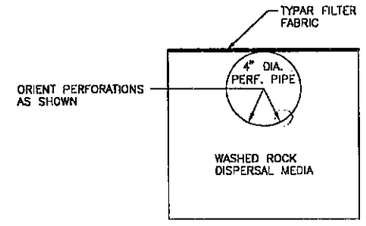
THRUST BLOCK TABLE

	MIN. BEARING AREA SQUARE FEET AGAINST UNDISTURBED SOIL					
PIPE SIZE	A	B	C	D	E	F
4"	2	2	2	2	2	NONE
6"	4	3	2	2	2	NONE
8"	7	5	4	2	2	3
10"	11	8	6	3	2	4
12"	16	12	9	5	3	6
22	16	16	12	6	3	9
29	20	20	16	8	4	13

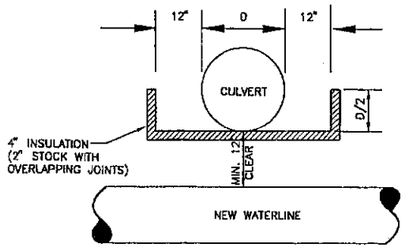
1 THRUST BLOCK SCHEDULE
NOT TO SCALE



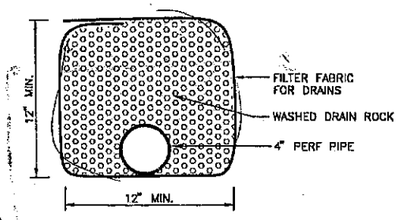




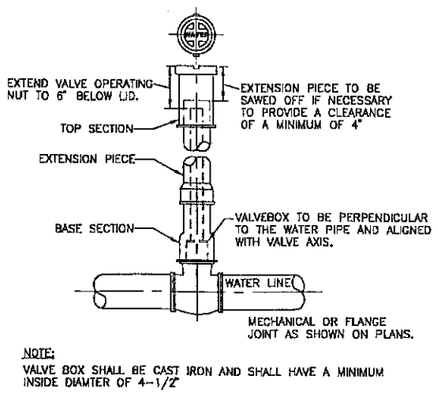
5 DRAINFIELD DETAIL
NOT TO SCALE



2 CULVERT CROSSING
NOT TO SCALE

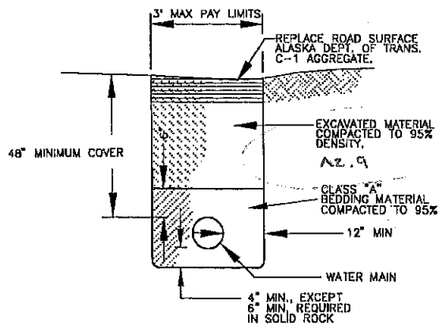


4 FOOTING DRAIN
NOT TO SCALE

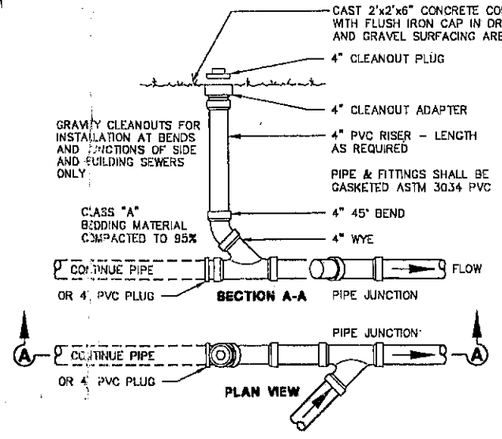


NOTE:
VALVE BOX SHALL BE CAST IRON AND SHALL HAVE A MINIMUM INSIDE DIAMTER OF 4-1/2"

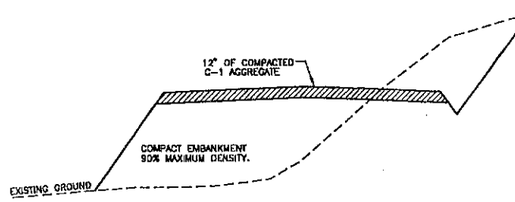
7 VALVE BOX
NOT TO SCALE



3 WATER LINE TRENCH
NOT TO SCALE



4 GRAVITY SEWER CLEANOUT
NOT TO SCALE



6 GRAVEL SURFACING DETAIL
NOT TO SCALE

STATE OF ALASKA
49TH
JAMES E. WILSON
No. CE6668
REGISTERED PROFESSIONAL ENGINEER
3/17/98

NO.	REVISIONS	BY	DATE

Wilson Engineering
CONSULTING ENGINEERS & SURVEYORS

805 DUPONT STREET
BELLINGHAM, WA 98225
(360) 733-6100
FAX: (360) 647-9061

DESIGNED BY: MAC
DRAWN BY: JGC
CHECKED BY:

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
CIVIL DETAILS

DATE 3/17/98
SCALE AS NOTED
JOB NUMBER 97070
SHEET C09
OF C09

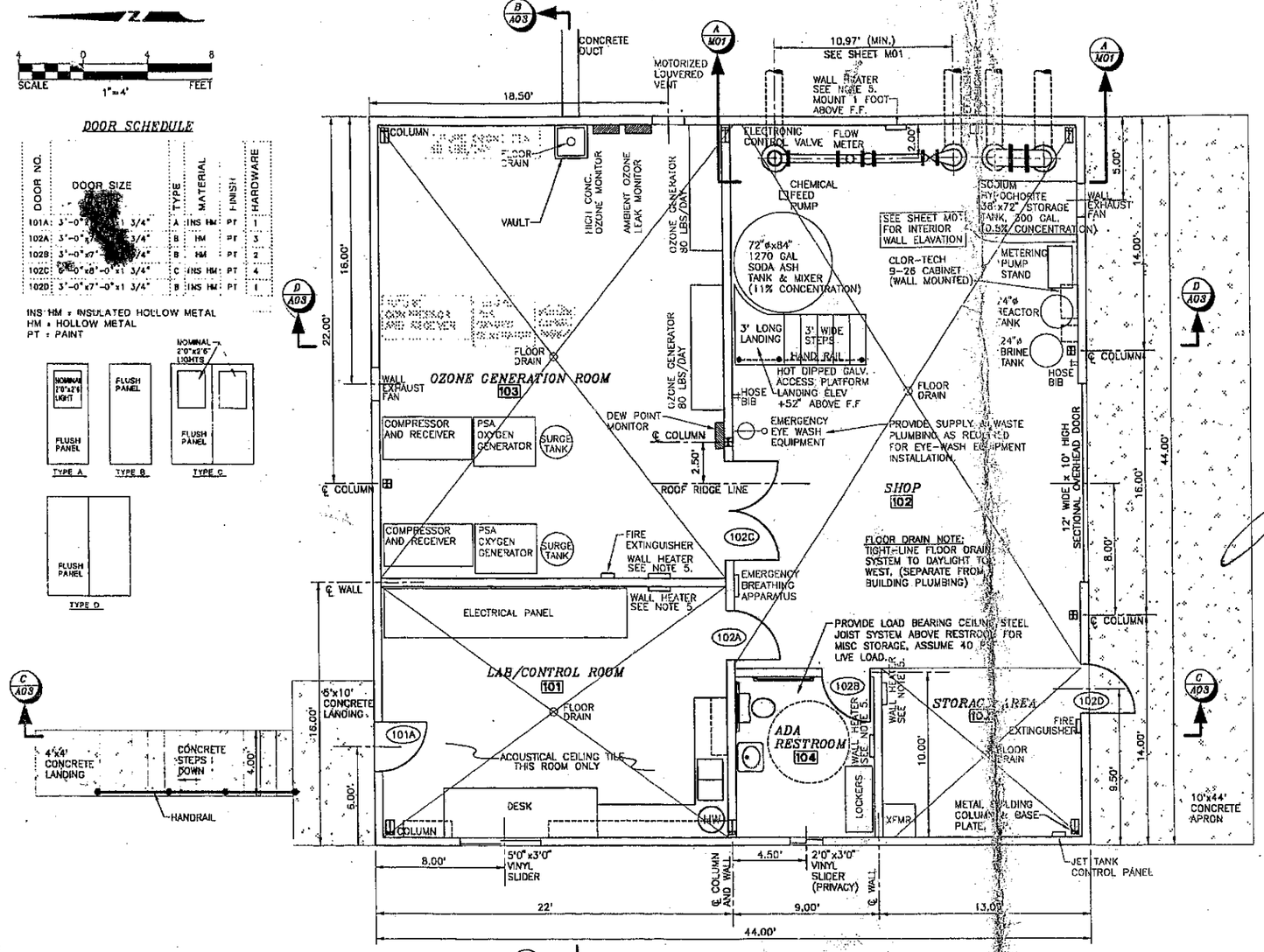
C:\PROJECT\97070\DWG\97070C09 Tue Mar 17 09:30:21 1998 WAH

SCALE 1"=4' FEET (4 0 4 8)

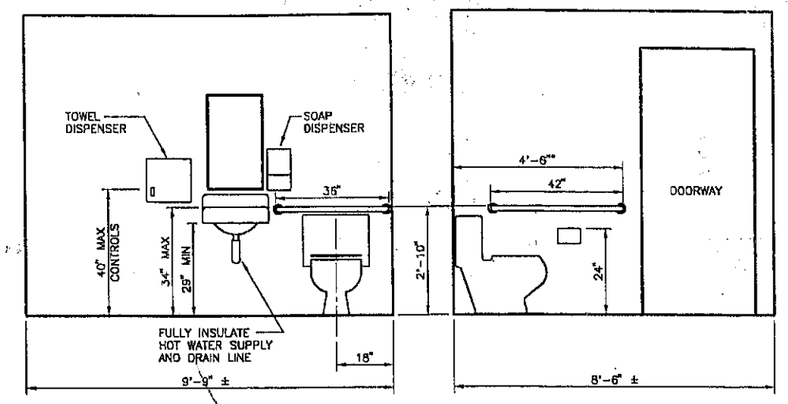
DOOR SCHEDULE

DOOR NO.	DOOR SIZE	TYPE	MATERIAL	FINISH	HARDWARE
101A	3'-0"x7'-0"x1 3/4"	A	INS HM	PT	1
102A	3'-0"x7'-0"x1 3/4"	B	HM	PT	3
102B	3'-0"x7'-0"x1 3/4"	B	HM	PT	2
102C	6'-0"x8'-0"x1 3/4"	C	INS HM	PT	4
102D	3'-0"x7'-0"x1 3/4"	B	INS HM	PT	1

INS HM = INSULATED HOLLOW METAL
HM = HOLLOW METAL
PT = PAINT



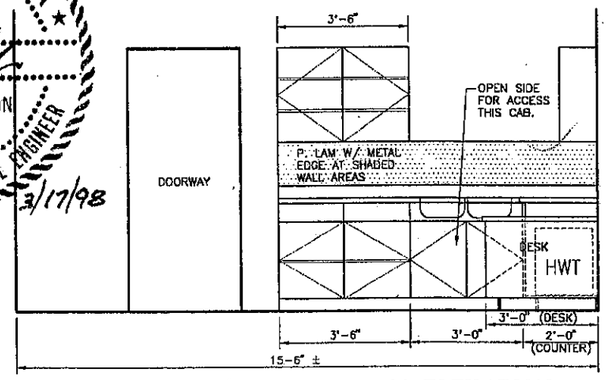
CONTROL BUILDING FLOOR PLAN



RESTROOM ELEVATIONS

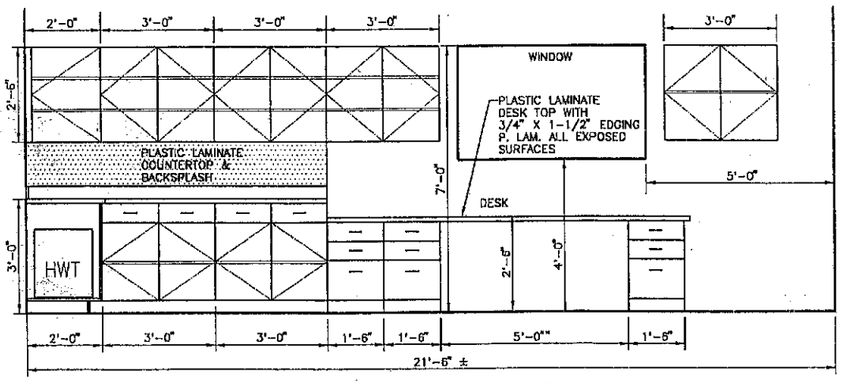
SCALE: 1"=2'

STATE OF ALASKA 49TH
JAMES E. WILSON
No. CE6668
REGISTERED PROFESSIONAL ENGINEER
3/17/98



SOUTH LAB/CONTROL ROOM ELEVATION

SCALE: 1"=2'



WEST LAB/CONTROL ROOM ELEVATION

SCALE: 1"=2'

GENERAL INFORMATION:

1. ALL WORK SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES, THE MORE STRINGENT TO GOVERN, DISCREPANCIES BETWEEN CONTRACT DOCUMENTS AND CODES SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PROMPTLY AND RESOLUTION OBTAINED BEFORE PROCEEDING.
2. BUILDING SHALL BE A RIGID STEEL FRAME, BOLTED FLANGE, PRE-MANUFACTURED BUILDING GENERALLY USING GALVANIZED COLD FORMED SECONDARY STRUCTURAL MEMBERS BOLTED TO WELDED CLIPS WITH PROFILED AND PRE-COATED METAL ROOFING AND SIDING SCREW ATTACHED. BUILDING SHALL BE ENGINEERED, MANUFACTURED AND ERECTED CONSISTENT WITH BOTH AISC (AMERICAN INSTITUTE OF STEEL CONSTRUCTION) AND MBMA (METAL BUILDING MANUFACTURER'S ASSOCIATION).
3. UNIFORM BUILDING CODE CLASSIFICATOINS (1994)
   CONSTRUCTION TYPE: TYPE II-N
   BUILDING OCCUPANCY: F2
4. BUILDING SQUARE FOOTAGE: 1936 SQUARE FEET.
5. 1500 WATT, 5120 BTU, 120 V, 12.5 AMP, CHROME WALL HEATER, GRAINGER #2E434. RECESS MOUNT WITH 2" CLEARANCE FROM FINISH FLOOR, UNLESS NOTED OTHERWISE ON PLAN.

FINISH SCHEDULE

ABBREVIATIONS
SUS CEIL Suspended Ceiling Tile
RES FLR Resilient Flooring
FACT Factory
GWB Gypsum Wall Board
R.B. Rubber Base
EXP STR Exposed Structure

ROOM NAME	ROOM NO.	FLOOR MAT'L	FLOOR FINISH	BASE MAT'L	WALL MAT'L	WALL FINISH	CEILING MAT'L	CEILING FINISH	CEILING HEIGHT
LAB/CONTROL ROOM	101	RES. FLR.	FACT.	6" R.B.	GWB	PAINT	SUS CEIL	FACT	10'-0"
SHOP & STORAGE AREA	102	CONCRETE	SEALER	6" R.B.	GWB	PAINT	EXP STR	NONE	-
OZONE GENERATION ROOM	103	CONCRETE	SEALER	6" R.B.	GWB	PAINT	EXP STR	NONE	-
ADA RESTROOM	104	RES. FLR.	FACT.	4" R.B.	GWB	PAINT	GWB	PAINT	8'-0"

NO.	REVISIONS	BY	DATE

Wilson Engineering
CONSULTING ENGINEERS & SURVEYORS

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DESIGNED BY: MAC
DRAWN BY: WAH
CHECKED BY:

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
CONTROL BUILDING FLOOR PLAN

DATE 3/13/98
SCALE AS SHOWN
JOB NUMBER 97070
SHEET A01
OF A06

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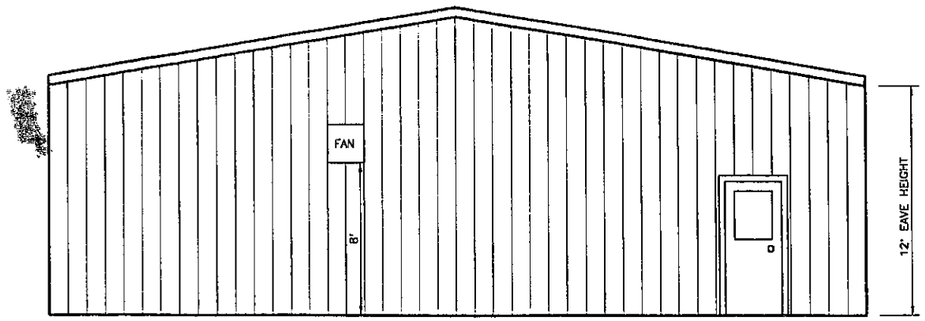
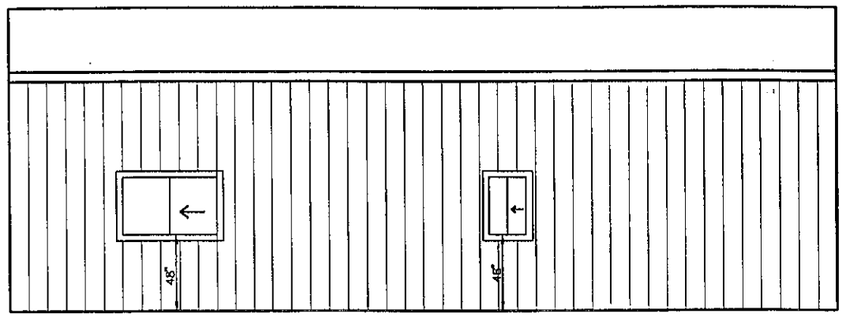
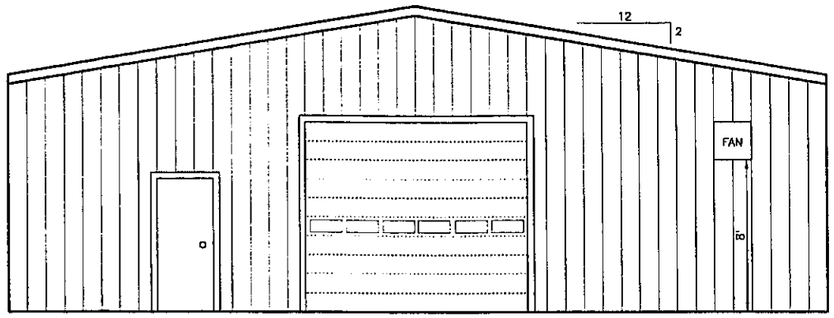


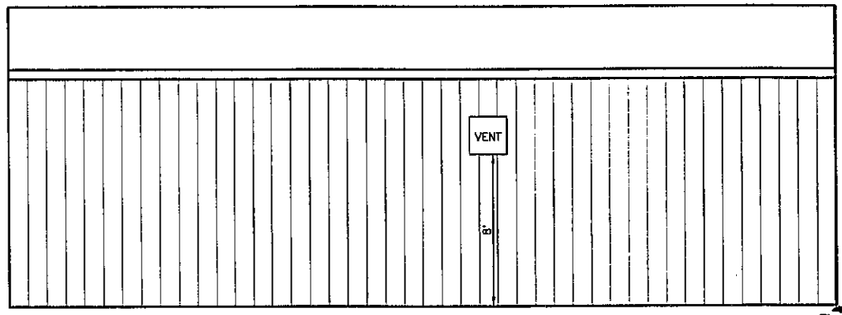
NORTH ELEVATION
SCALE: 1"=4'



WEST ELEVATION
SCALE: 1"=4'



SOUTH ELEVATION
SCALE: 1"=4'



EAST ELEVATION
SCALE: 1"=4'

STATE OF ALASKA
49TH
JAMES E. WILSON
No. CE6668
REGISTERED PROFESSIONAL ENGINEER
3/17/98

NO.	REVISIONS	BY	DATE

Wilson Engineering
CONSULTING ENGINEERS & SURVEYORS

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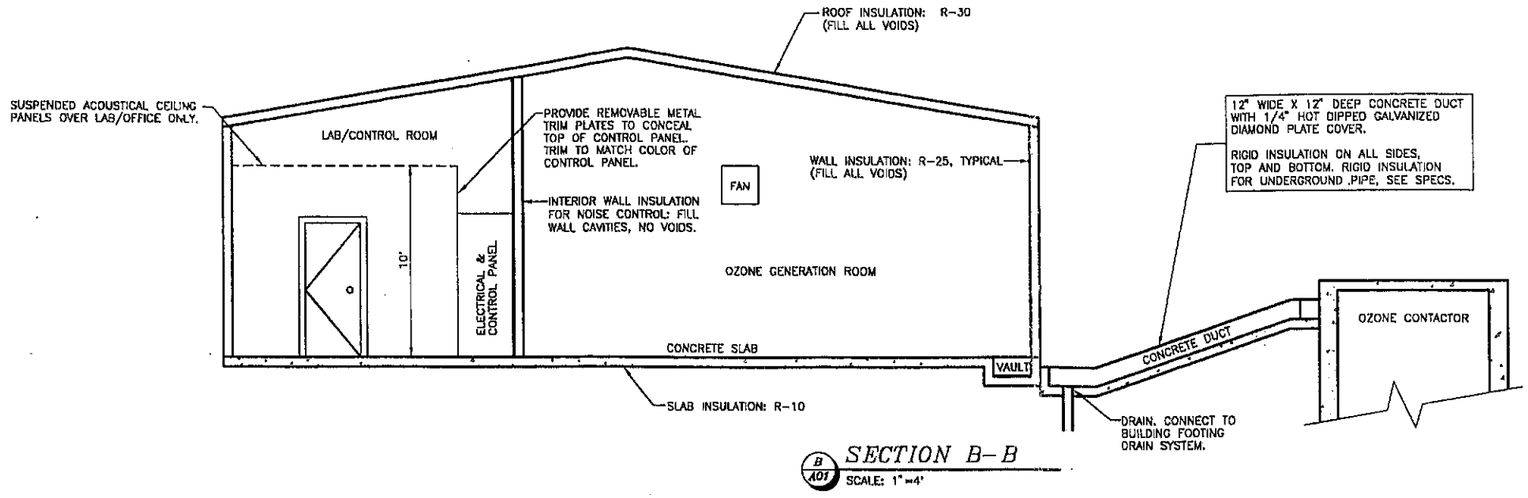
FAX: (360) 647-9061

DESIGNED BY:	JGC
DRAWN BY:	JGC
CHECKED BY:	J.W.

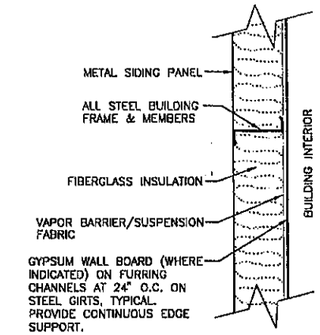
CITY OF WRANGELL
WRANGELL ISLAND *ALASKA*
PHASE 2 WATER SYSTEM IMPROVEMENTS
CONTROL BUILDING ELEVATIONS

DATE	3/12/98
SCALE	AS SHOWN
JOB NUMBER	97070
SHEET	A02
OF	A06

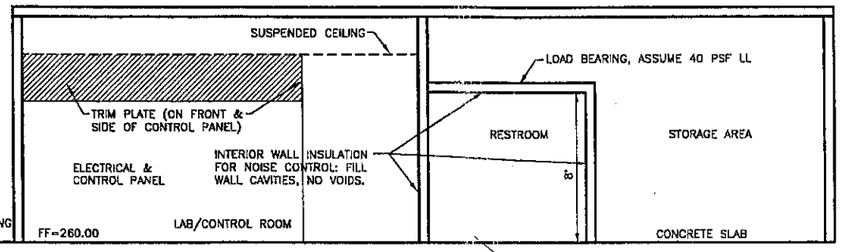
C:\PROJECT\97070\DWG\97070A02 Thu Mar 12 07:24:12 1998 WAH



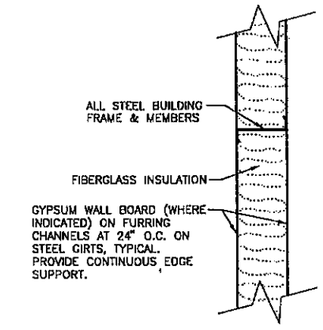
B/A01 SECTION B-B
SCALE: 1"=4'



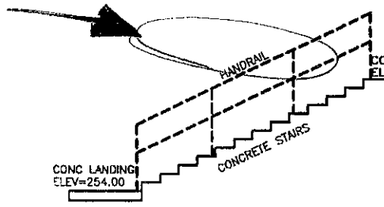
1/- TYPICAL EXTERIOR WALL
SCALE: NOT TO SCALE

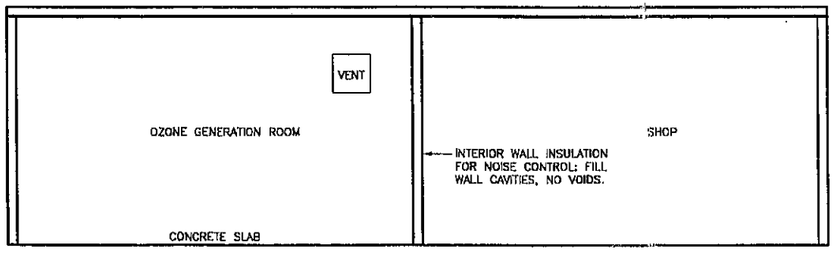


C/A01 SECTION C-C
SCALE: 1"=4'

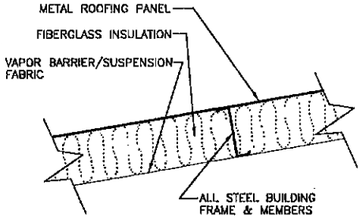


2/- TYPICAL INTERIOR WALL
SCALE: NOT TO SCALE





D/A01 SECTION D-D
SCALE: 1"=4'



3/- TYPICAL ROOF SECTION
SCALE: NOT TO SCALE

STATE OF ALASKA
49TH
JAMES E. WILSON
No. CE6668
REGISTERED PROFESSIONAL ENGINEER
3/17/98

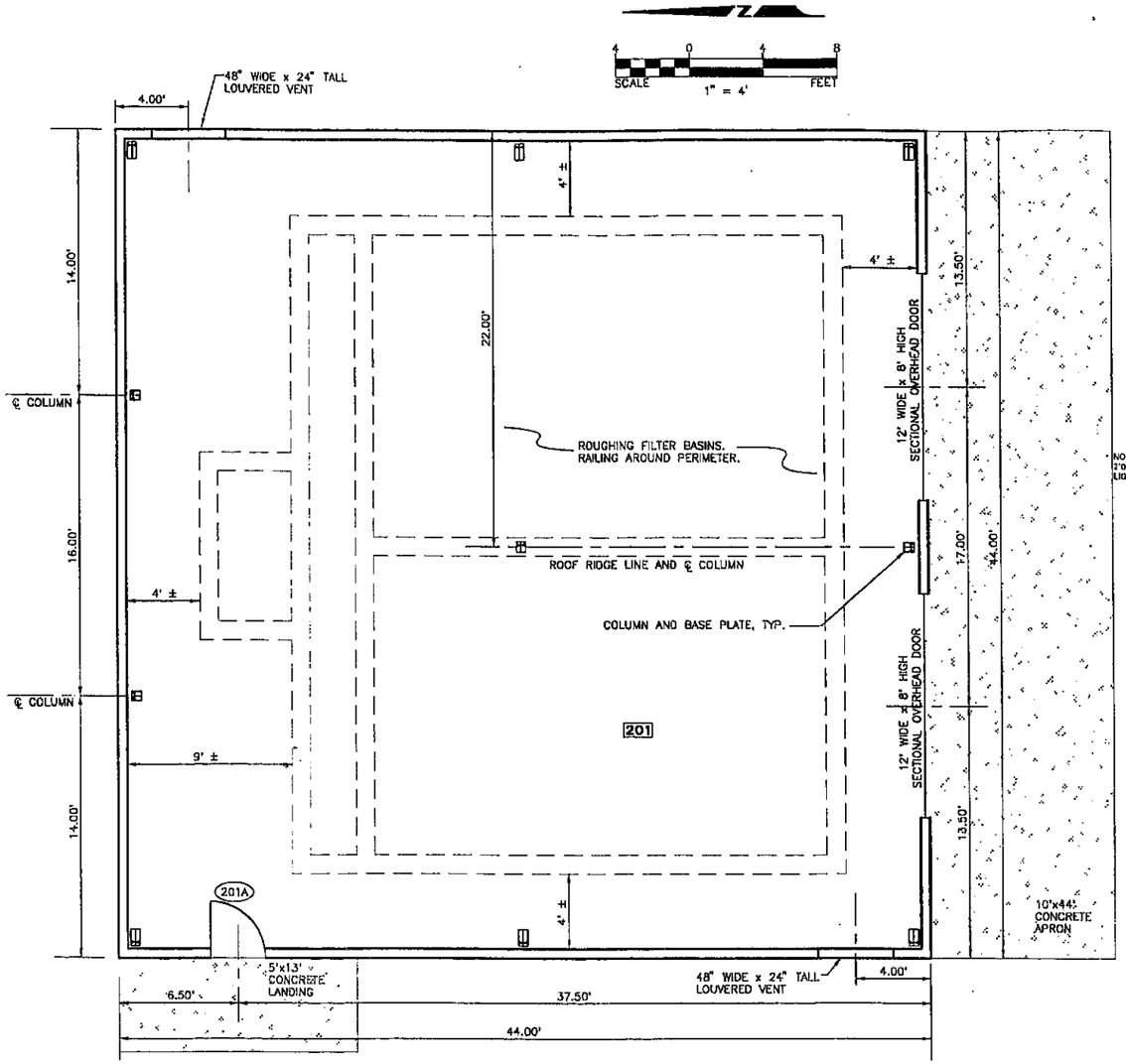
NO.	REVISIONS	BY	DATE

Wilson Engineering
CONSULTING ENGINEERS & SURVEYORS
805 DUPONT STREET
BELLINGHAM, WA 98225
(360) 733-6100
FAX: (360) 647-9061

DESIGNED BY:	JGC
DRAWN BY:	JGC
CHECKED BY:	

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
CONTROL BUILDING SECTIONS

DATE	3/13/98
SCALE	AS SHOWN
JOB NUMBER	97070
SHEET	A03
OF	A06

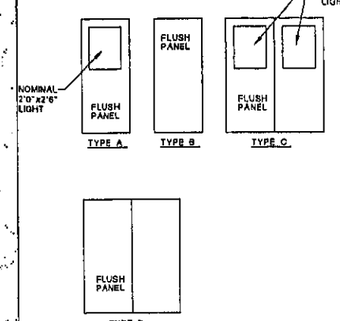


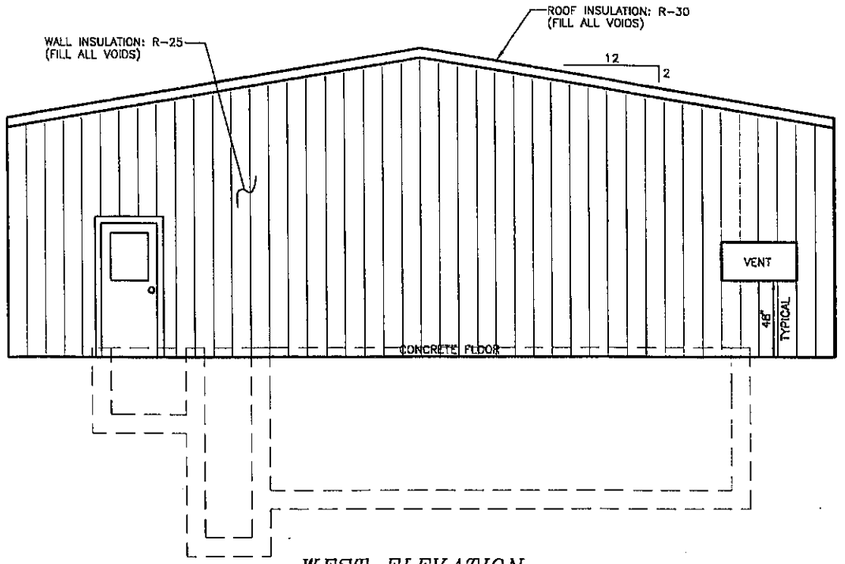
ROUGHING FILTER BUILDING FLOOR PLAN

DOOR SCHEDULE

DOOR NO.	DOOR SIZE WxHxT	TYPE	MATERIAL	FINISH	HARDWARE
201A	3'-0"x7'-0"x1 3/4"	A	INS HM	PT	1

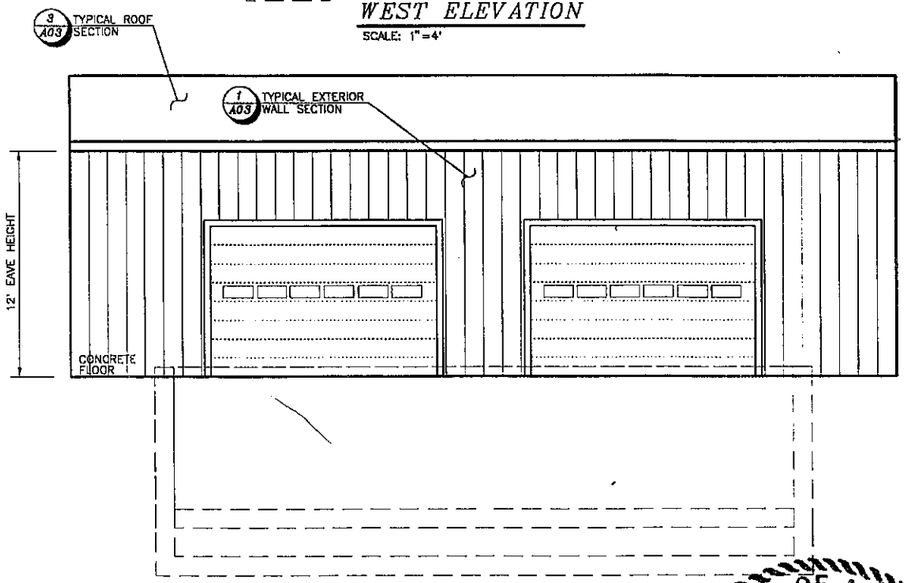
INS HM = INSULATED HOLLOW METAL
HM = HOLLOW METAL
PT = PAINT





WEST ELEVATION

SCALE: 1"=4'



SOUTH ELEVATION

SCALE: 1"=4'

GENERAL INFORMATION:

1. ALL WORK SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES, THE MORE STRINGENT TO GOVERN. DISCREPANCIES BETWEEN CONTRACT DOCUMENTS AND CODES SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PROMPTLY AND RESOLUTION OBTAINED BEFORE PROCEEDING.
2. BUILDING SHALL BE A RIGID STEEL FRAME, BOLTED FLANGE, PRE-MANUFACTURED BUILDING GENERALLY USING GALVANIZED COLD FORMED SECONDARY STRUCTURAL MEMBERS BOLTED TO WELDED CLIPS WITH PROFILED AND PRE-COATED METAL ROOFING AND SIDING SCREW ATTACHED. BUILDING SHALL BE ENGINEERED, MANUFACTURED AND ERECTED CONSISTENT WITH BOTH AISC (AMERICAN INSTITUTE OF STEEL CONSTRUCTION) AND MBMA (METAL BUILDING MANUFACTURER'S ASSOCIATION).
3. UNIFORM BUILDING CODE CLASSIFICATOINS (1994)
   CONSTRUCTION TYPE: TYPE II--N
   BUILDING OCCUPANCY: F2
4. BUILDING SQUARE FOOTAGE: 1936 SQUARE FEET.

FINISH SCHEDULE

ABBREVIATIONS
SUS CEIL Suspended Ceiling Tile
RES FLR Resilient Flooring
FACT Factory
GWB Gypsum Wall Board
R.B. Rubber Base
EXP STR Exposed Structure

ROOM NAME	ROOM NO.	FLOOR MAT'L	FLOOR FINISH	BASE MAT'L	WALL MAT'L	WALL FINISH	CEILING MAT'L	CEILING FINISH	CEILING HEIGHT
ROUGHING FILTER BUILDING	-	CONCRETE	SEALER	NONE	EXP STR	FACT	EXP STR	FACT	-

STATE OF ALASKA 49TH
JAMES E. WILSON
No. CE6668
REGISTERED PROFESSIONAL ENGINEER
3/17/98

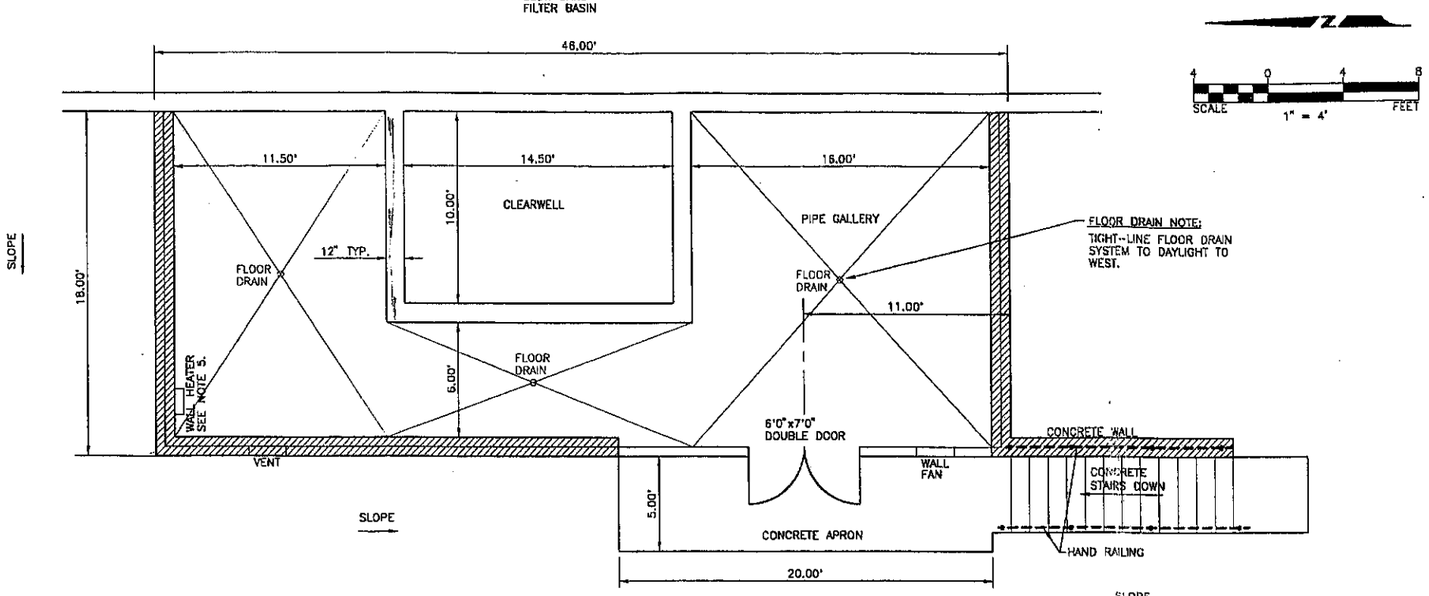
NO.	REVISIONS	BY	DATE

Wilson Engineering
CONSULTING ENGINEERS & SURVEYORS
805 DUPONT STREET
BELLINGHAM, WA 98225
(360) 733-6100
FAX: (360) 647-9061

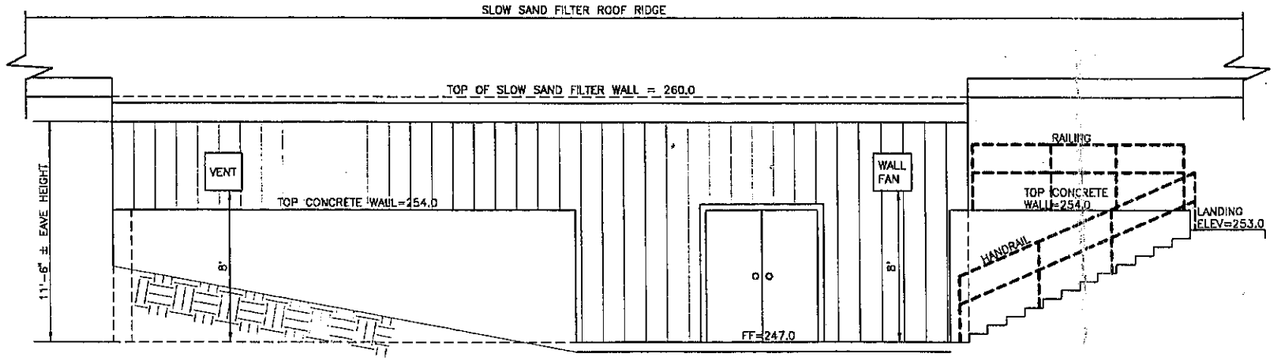
DESIGNED BY: JGC
DRAWN BY: JGC
CHECKED BY:

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
ROUGHING FILTER BUILDING

DATE 3/13/98
SCALE AS SHOWN
JOB NUMBER 97070
SHEET A04
OF A06

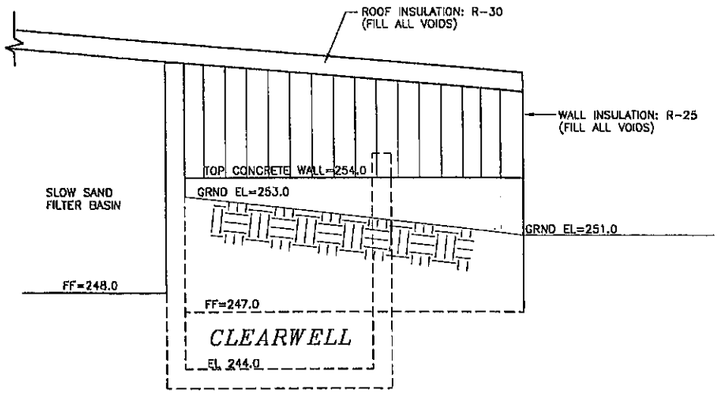


PIPE GALLERY BUILDING PLAN



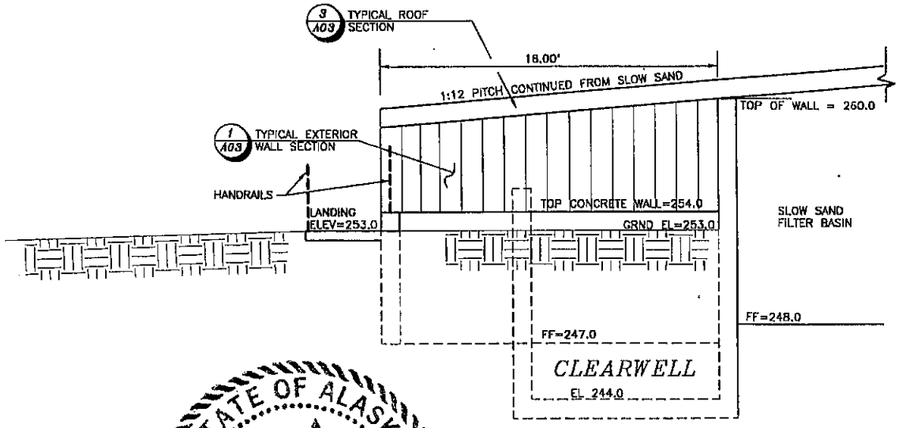
WEST ELEVATION

SCALE: 1"=4'



NORTH ELEVATION

SCALE: 1"=4'



SOUTH ELEVATION

SCALE: 1"=4'

STATE OF ALASKA
49TH
JAMES E. WILSON
No. CE6668
REGISTERED PROFESSIONAL ENGINEER

3/17/98

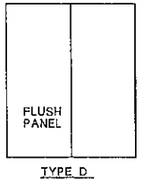
FINISH SCHEDULE

ABBREVIATIONS	ROOM NO.	FLOOR		BASE	WALL		CEILING		
SUS CEIL Suspended Ceiling Tile RES FLR Resilient Flooring FACT Factory GWB Gypsum Wall Board R.B. Rubber Base EXP STR Exposed Structure ROOM NAME		MAT'L	FINISH	MAT'L	MAT'L	FINISH	MAT'L	FINISH	HEIGHT
PIPE GALERY	–	CONCRETE	SEALER	NONE	EXP STR	FACT	EXP STR	FACT	–

DOOR SCHEDULE

DOOR NO.	DOOR SIZE WxHxT	TYPE	MATERIAL	FINISH	HARDWARE
–	6'-0"x7'-0"x1 3/4"	D	INS HM	PT	5

INS HM = INSULATED HOLLOW METAL
HM = HOLLOW METAL
PT = PAINT



TYPE D

GENERAL INFORMATION:

1. ALL WORK SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES, THE MORE STRINGENT TO GOVERN, DISCREPANCIES BETWEEN CONTRACT DOCUMENTS AND CODES SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PROMPTLY AND RESOLUTION OBTAINED BEFORE PROCEEDING.
2. BUILDING SHALL BE A RIGID STEEL FRAME, BOLTED FLANGE, PRE-MANUFACTURED BUILDING GENERALLY USING GALVANIZED COLD FORMED SECONDARY STRUCTURAL MEMBERS BOLTED TO WELDED CLIPS WITH PROFILED AND PRE-COATED METAL ROOFING AND SIDING SCREW ATTACHED. BUILDING SHALL BE ENGINEERED, MANUFACTURED AND ERECTED CONSISTENT WITH BOTH AISC (AMERICAN INSTITUTE OF STEEL CONSTRUCTION) AND MBMA (METAL BUILDING MANUFACTURER'S ASSOCIATION).
3. UNIFORM BUILDING CODE CLASSIFICATOINS (1994)
   CONSTRUCTION TYPE: TYPE II-N
   BUILDING OCCUPANCY: F2
4. BUILDING SQUARE FOOTAGE: 736 SQUARE FEET.
5. 1500 WATT, 5120 BTU, 120V, 12.5 AMP, CHROME FASCO WALL HEATER, GRAINGER #2E434, WITH SURFACE MOUNT HOUSING, GRAINGER #2E443. MOUNT UNIT WITH 2' CLEARANCE FROM FINISH FLOOR & ADJACENT WALL.

NO.	REVISIONS	BY	DATE

Wilson Engineering
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DESIGNED BY:	JGC
DRAWN BY:	MJG
CHECKED BY:	JGC

CITY OF WRANGELL
WRANGELL ISLAND ALASKA

PHASE 2 WATER SYSTEM IMPROVEMENTS
PIPE GALLERY BUILDING

DATE	3/13/98
SCALE	AS SHOWN
JOB NUMBER	97070
SHEET	A05
OF	A06

GENERAL INFORMATION:

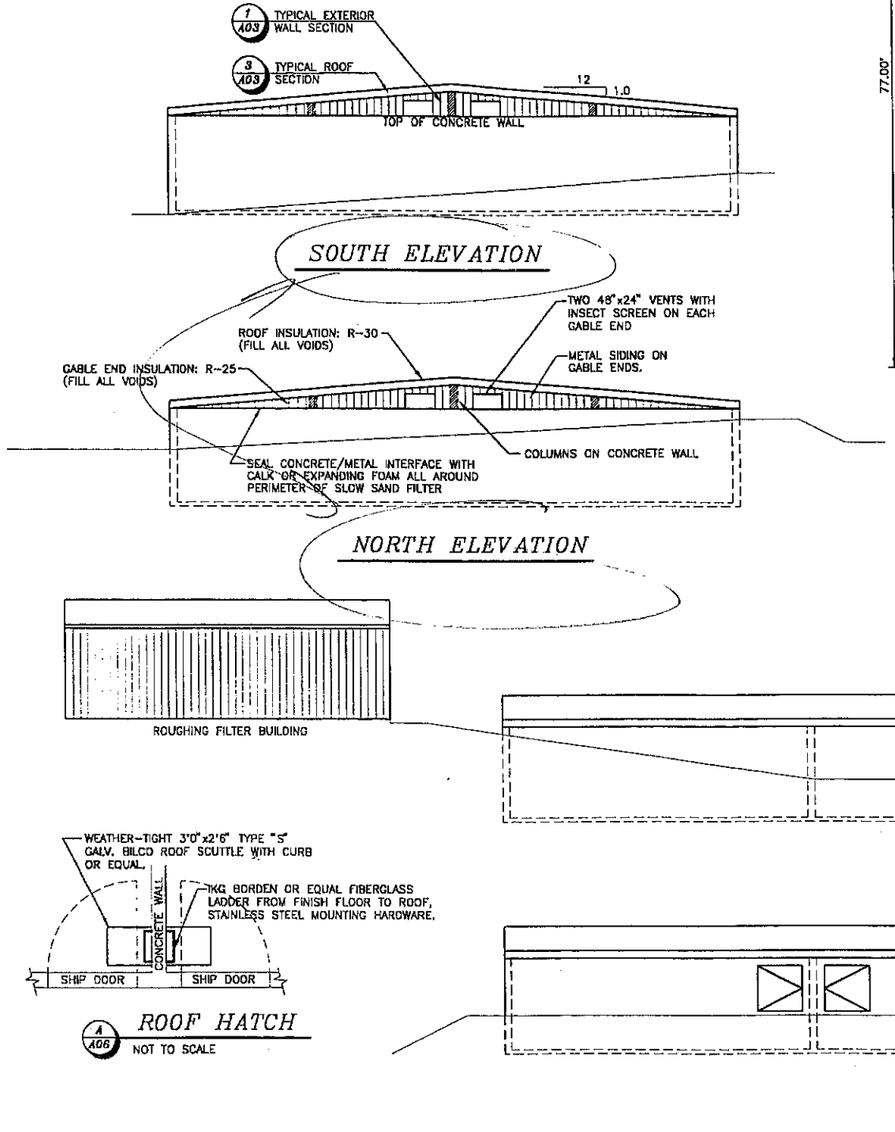
1. ALL WORK SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES, THE MORE STRINGENT TO GOVERN, DISCREPANCIES BETWEEN CONTRACT DOCUMENTS AND CODES SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PROMPTLY AND RESOLUTION OBTAINED BEFORE PROCEEDING.

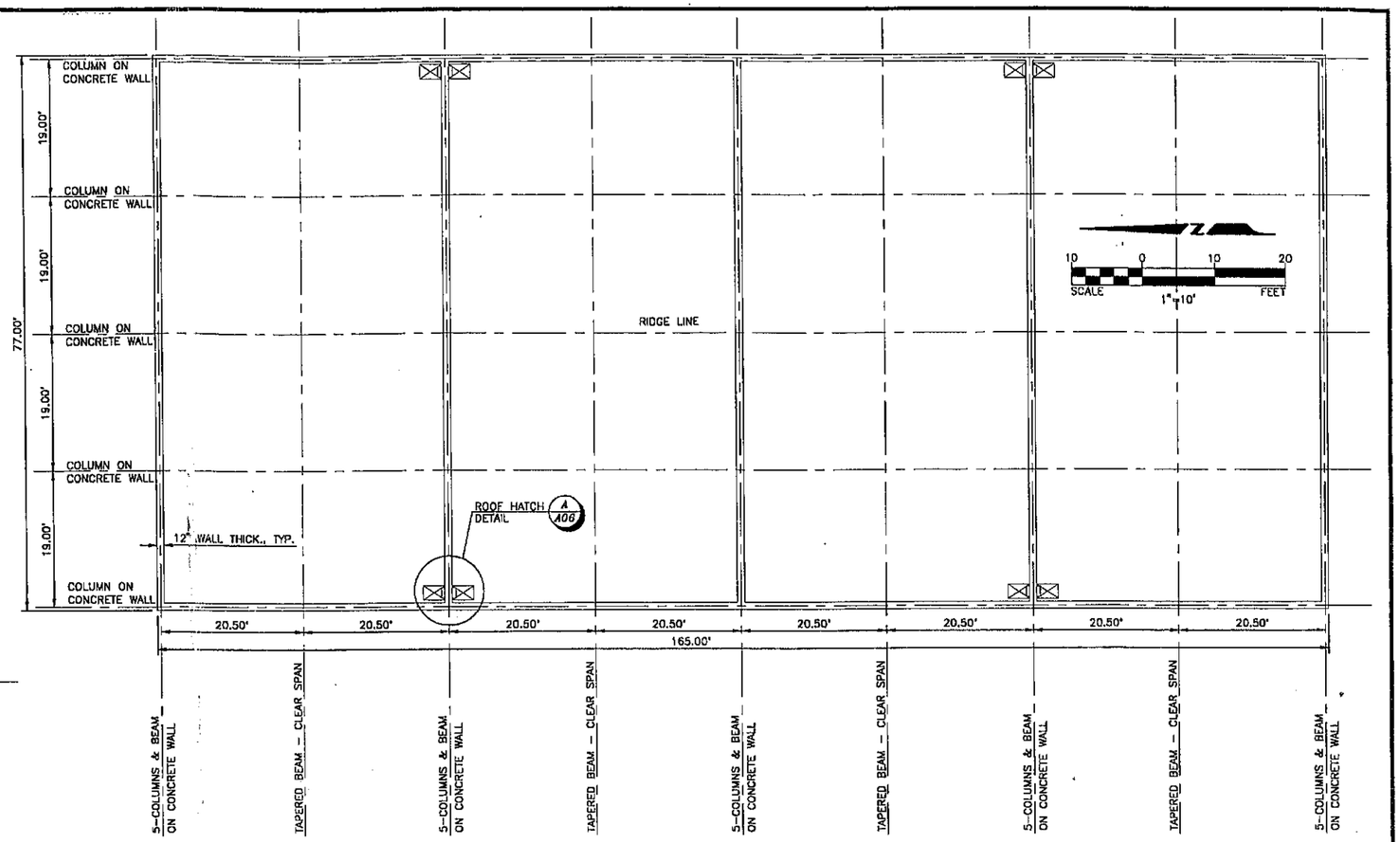
2. ROOF STRUCTURE SHALL BE A RIGID STEEL FRAME, BOLTED FLANGE, PRE-MANUFACTURED BUILDING GENERALLY USING GALVANIZED COLD FORMED SECONDARY STRUCTURAL MEMBERS BOLTED TO WELDED CLIPS WITH PROFILED AND PRE-COATED METAL ROOFING AND SIDING SCREW ATTACHED. BUILDING SHALL BE ENGINEERED, MANUFACTURED AND ERECTED CONSISTENT WITH BOTH AISC (AMERICAN INSTITUTE OF STEEL CONSTRUCTION) AND MBMA (METAL BUILDING MANUFACTURER'S ASSOCIATION).

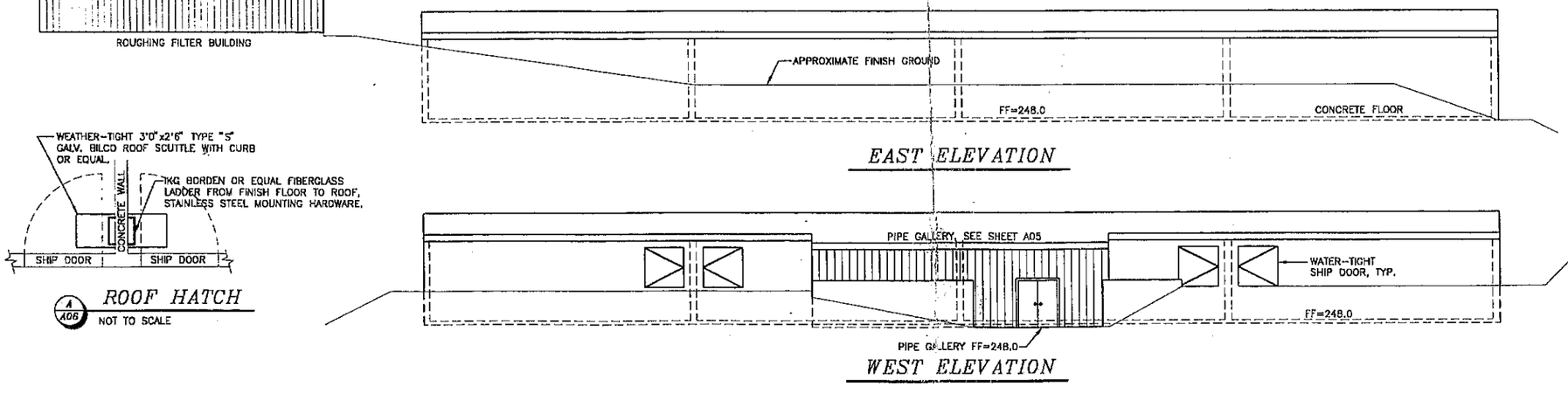
3. UNIFORM BUILDING CODE CLASSIFICATOINS (1994)
   CONSTRUCTION TYPE: TYPE II-N
   STRUCTURE OCCUPANCY: NOT OCCUPIED

4. ROOF SQUARE FOOTAGE: 12,705 SQUARE FEET.

INTERIOR FINISHES:
ROOF: EXPOSED STRUCTURE
GABLE END WALLS: EXPOSED STRUCTURE
WALLS & FLOORS: EXPOSED CONCRETE







A/A06 ROOF HATCH
NOT TO SCALE

STATE OF ALASKA
49TH
JAMES E. WILSON
No. CE6668
REGISTERED PROFESSIONAL ENGINEER
3/17/98

NO.	REVISIONS	BY	DATE

Wilson Engineering
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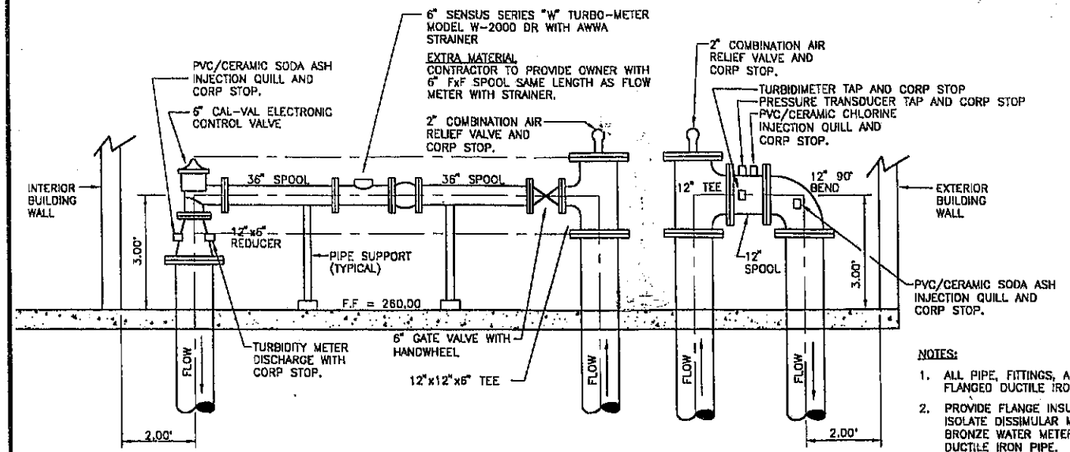
DRAWN BY:	WAH
CHECKED BY:	

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
SLOW SAND FILTER ROOF PLAN & ELEVATIONS

DATE	3/5/98
SCALE	AS SHOWN
JOB NUMBER	97070
SHEET	A06
OF	A06

C:\PROJECT\97070\DWG\97070A06 Fri Mar 13 16:48:23 1998 WAH



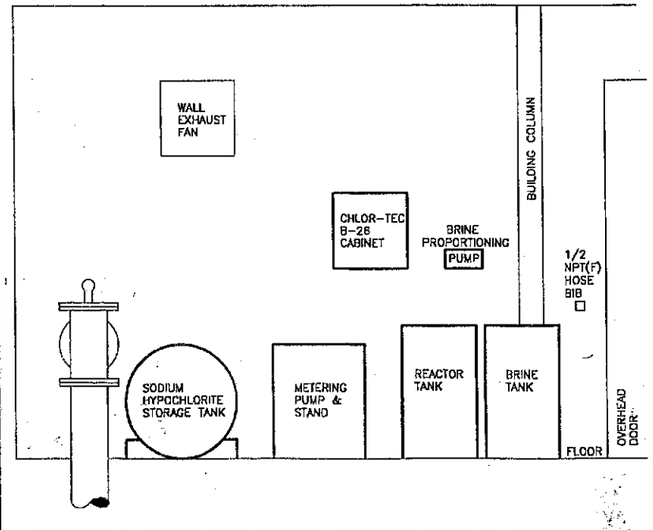
A/A07 SECTION A-A
SCALE: 1"=2'

NOTES:

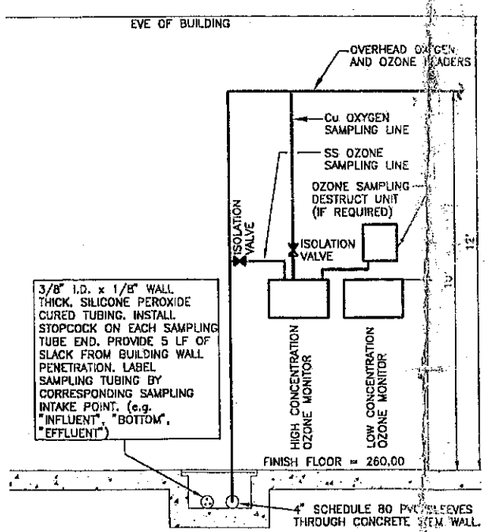
1. ALL PIPE, FITTINGS, AND VALVES SHOWN ARE FLANGED DUCTILE IRON.
2. PROVIDE FLANGE INSULATION KITS TO ISOLATE DISSIMULAR METALS SUCH AS BRONZE WATER METER AND ADJACENT DUCTILE IRON PIPE.
3. EACH TAP AND INJECTION POINT SHOWN, SHALL INCLUDE A CORP STOP FOR ISOLATION OF THE CONNECTING EQUIPMENT.

OZONE GENERATION ROOM PIPING NOTES:

1. OXYGEN HEADER AND OZONE HEADER PIPING SHALL BE SUSPENDED FROM THE CEILING A MINIMUM OF TEN (10) FEET ABOVE FINISH FLOOR ELEVATION. PROVIDE PIPE HANGERS AND SUPPORTS PER 1994 UNIFORM PLUMBING CODE. CONNECT EQUIPMENT TO PIPE HEADERS BY VERTICAL STUBS THAT DROP TO THE EQUIPMENT CONNECTION POINT ELEVATION.
2. COOLING WATER SUPPLY AND RETURN HEADERS SHALL BE PLACED UNDERGROUND FOUR (4) FEET BELOW FINISH FLOOR ELEVATION. VERTICAL STUBS SHALL BE LOCATED AND RISE WITHIN WALL CAVITIES. INSTALL SHUT-OFF VALVES OUTSIDE OF WALL CAVITIES AT ELEVATION OF COOLING WATER CONNECTION TO OZONE GENERATOR CABINET.
3. COOLING WATER SUPPLY AND RETURN HEADERS SHALL BE AN INDEPENDENT SYSTEM AND NOT BE CONNECT TO CONTROL BUILDING WATER SERVICE LINES OR PLUMBING.
4. ALL PIPE EXPOSED TO ROOM SHALL RUN AT RIGHT ANGLES AND/OR PARALLEL TO CEILING, WALLS, AND FLOOR. RUN OVERHEAD PIPING AS CLOSED TO WALLS AS POSSIBLE.
5. ALL STAINLESS STEEL PIPING JOINTS SHALL BE WELDED OR FLANGED.
6. OXYGEN & OZONE GAS PIPING SHALL BE SIZED BY OZONE SYSTEM SUPPLIER.

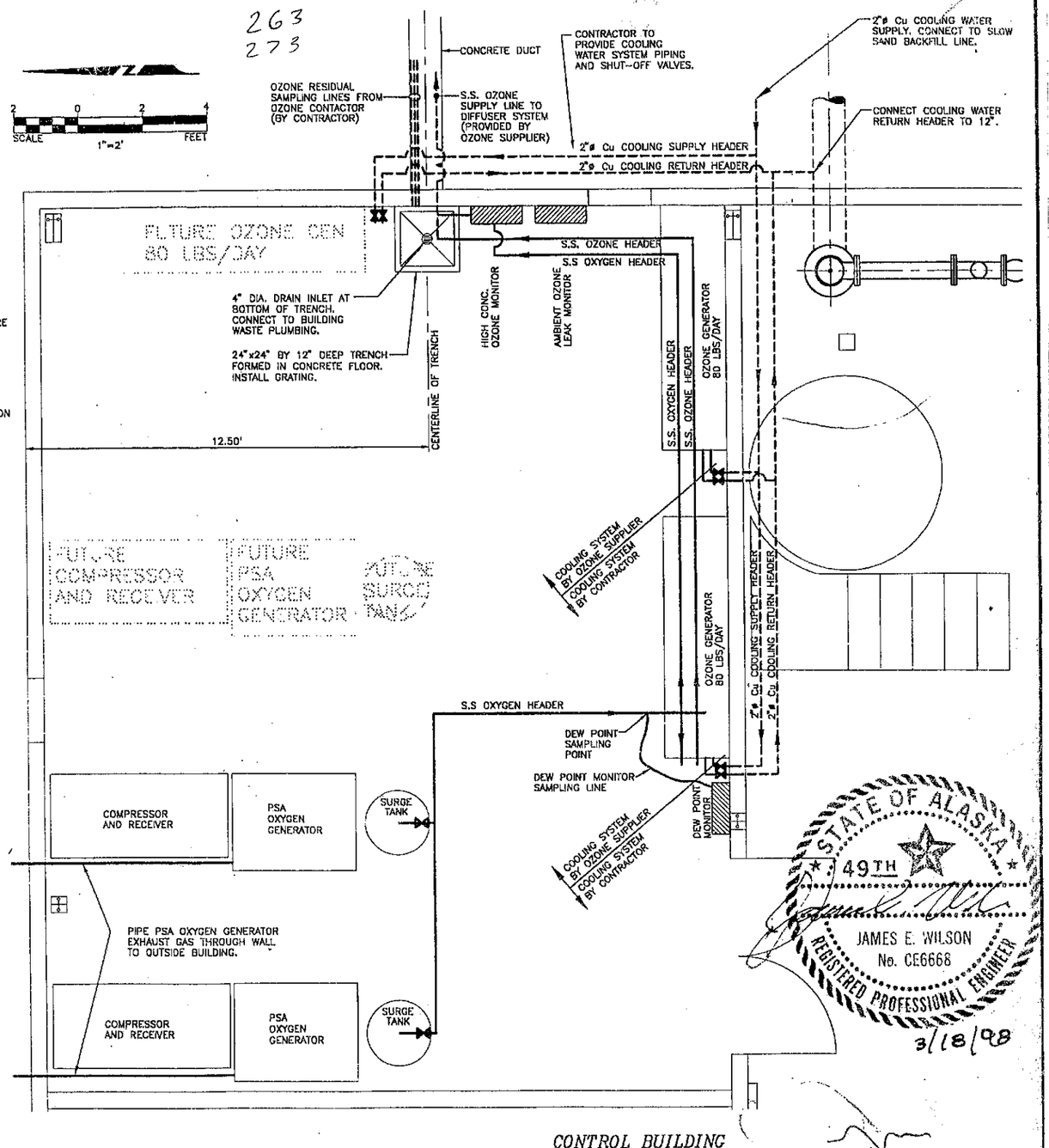


SODIUM HYPOCHLORITE GENERATION SYSTEM
SOUTH WALL ELEVATION
SCALE: 1"=2'



OZONE MONITOR INSTALLATION
EAST WALL ELEVATION
SCALE: 1"=2'

263
273



CONTROL BUILDING
OZONE GENERATION ROOM PIPING

STATE OF ALASKA
49TH
JAMES E. WILSON
No. CE6668
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3/18/98

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CHECKED BY:	

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
CONTROL BUILDING PIPING

DATE	3/13/98
SCALE	AS SHOWN
JOB NUMBER	97070
SHEET	M01
OF	M08

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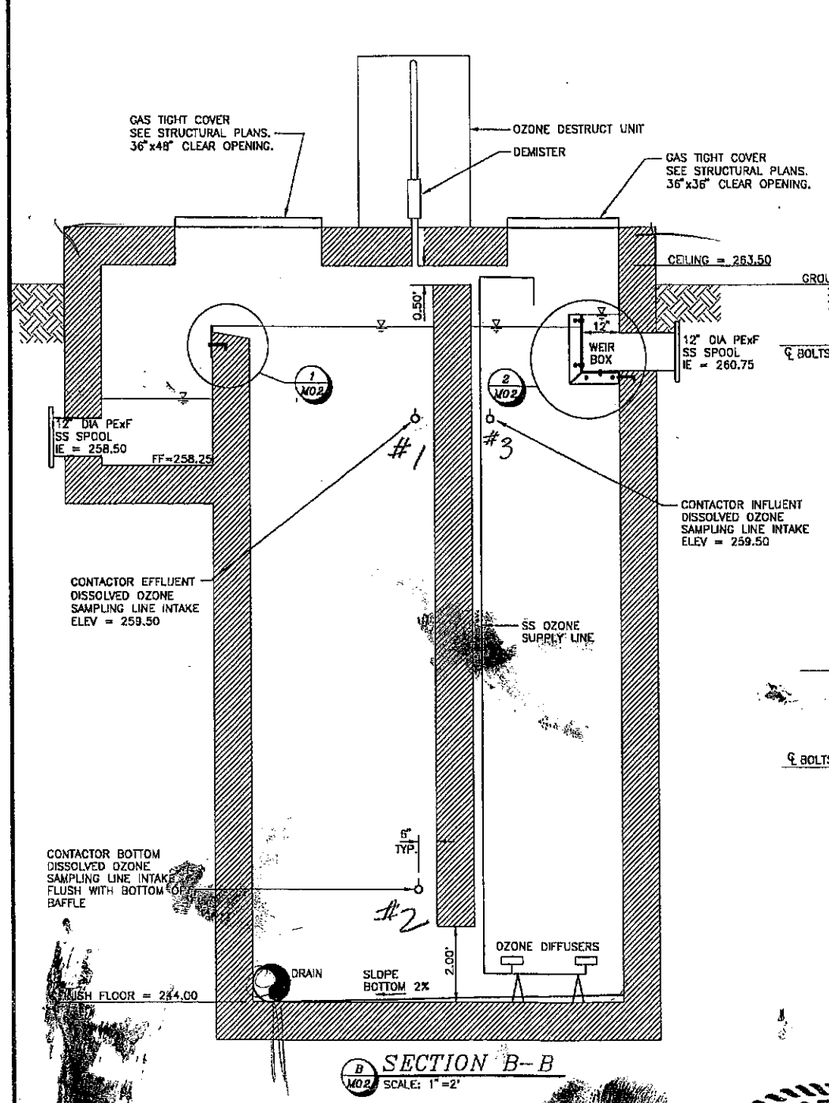
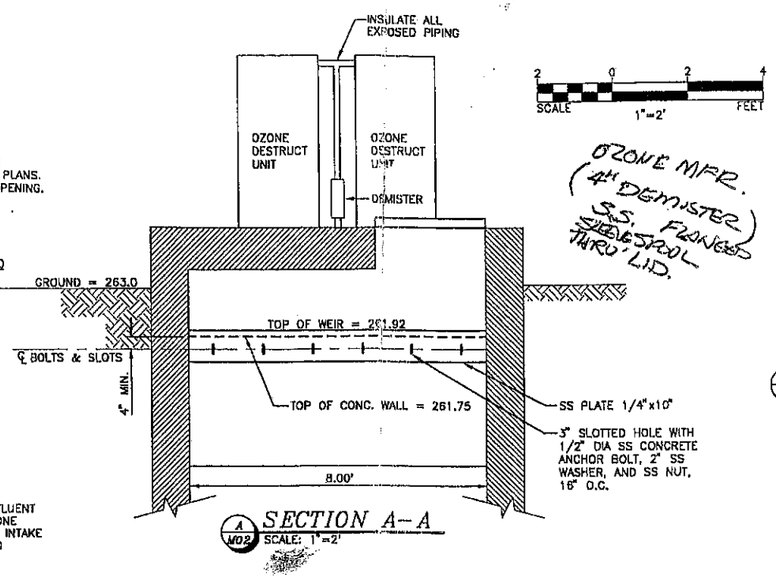
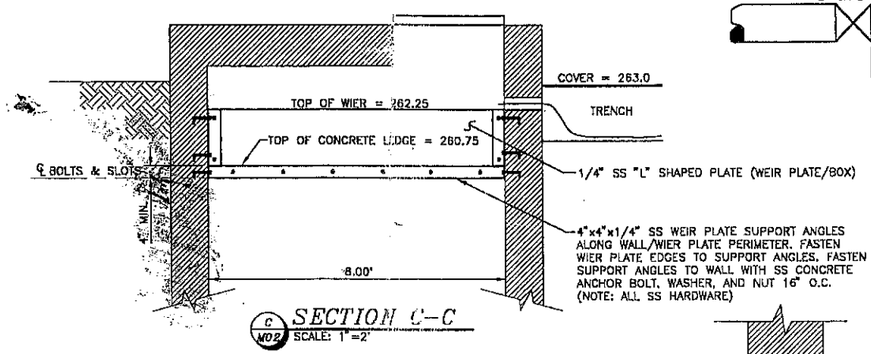


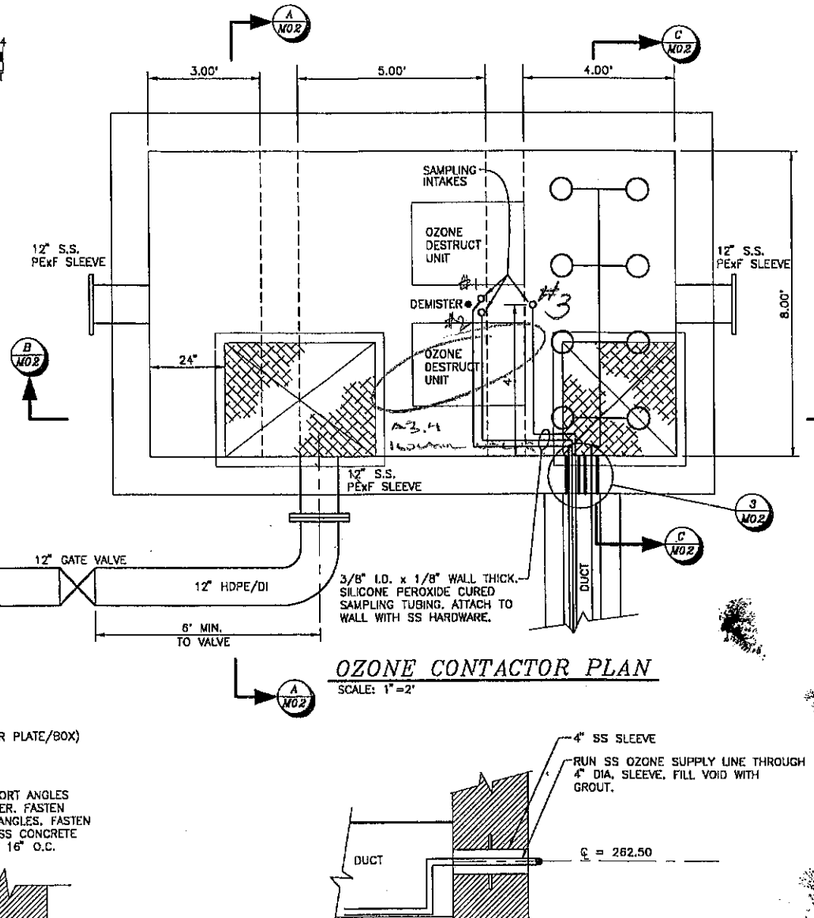
B/M02 SECTION B-B
SCALE: 1"=2'



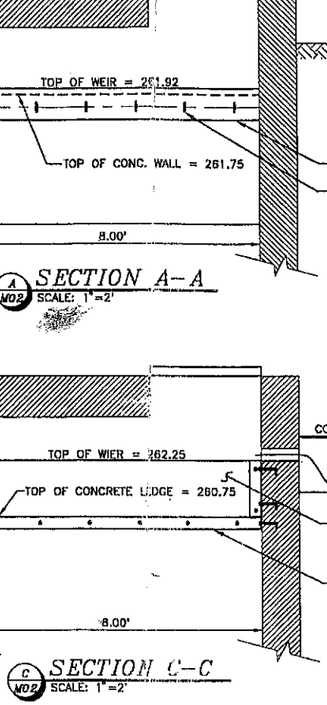
A/M02 SECTION A-A
SCALE: 1"=2'



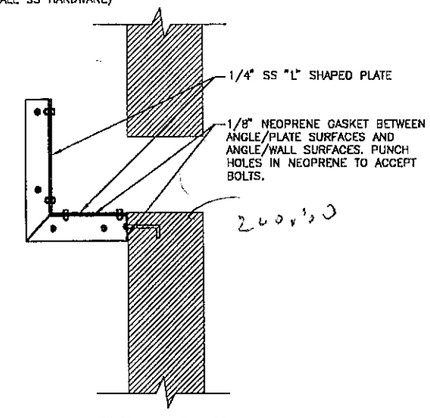
C/M02 SECTION C-C
SCALE: 1"=2'



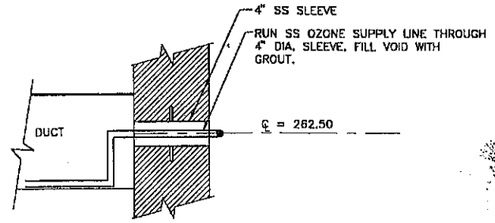
OZONE CONTACTOR PLAN
SCALE: 1"=2'



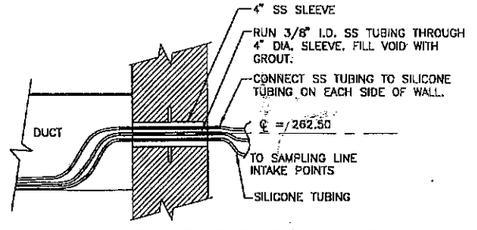
1/M02 WEIR PLATE
SCALE: 1"=1'



2/M02 WEIR BOX
SCALE: 1"=1'



OZONE SUPPLY LINE



DISSOLVED OZONE SAMPLING LINES

3/M02 WALL PENETRATIONS
NOT TO SCALE

STATE OF ALASKA
49TH
JAMES E. WILSON
No. CE6668
REGISTERED PROFESSIONAL ENGINEER
3/17/98

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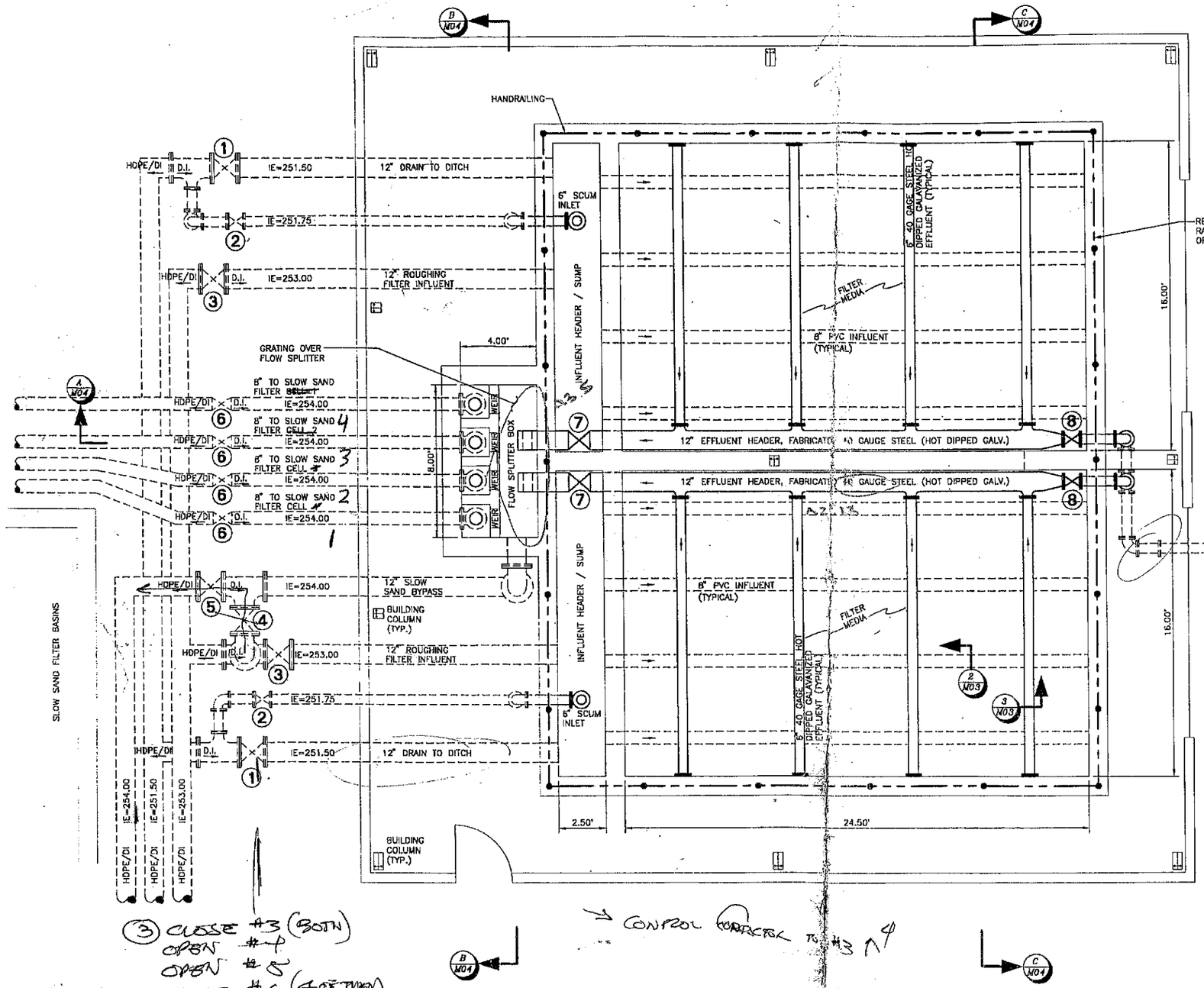
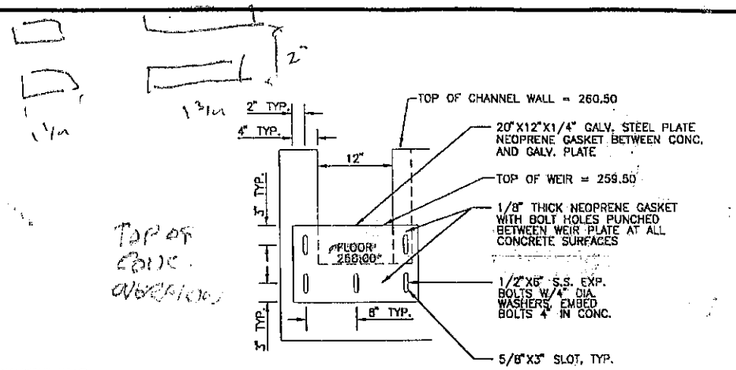
CHECKED BY:	MAC

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
OZONE CONTACTOR

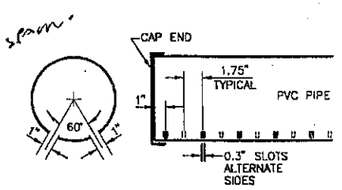
DATE	3/12/98
SCALE	AS SHOWN
JOB NUMBER	97070
SHEET	M02
OF	M08



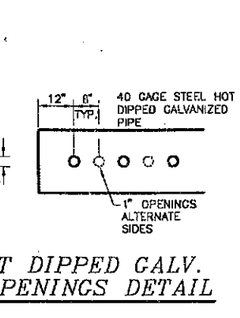
ROUGHING FILTER PLAN
SCALE: 1"=3'



1/M04 RECTANGULAR WEIR PLATE DETAIL
SCALE: 1" = 1'-0"



2/M03 8" PIPE SLOT DETAIL
NOT TO SCALE



3/M03 HOT DIPPED GALV. PIPE OPENINGS DETAIL
NOT TO SCALE

LEGEND

1. 12" DRAIN VALVE
2. 6" SCUM DRAIN VALVE
3. 12" INFLUENT VALVE
4. 12" ROUGHING FILTER BYPASS VALVE
5. 12" SLOW SAND FILTER BYPASS VALVE
6. 8" SLOW SAND CELL SHUT-OFF VALVE
7. 12" ROUGHING FILTER CELL SHUT-OFF VALVE
8. 6" CELL BACKWASH SHUT-OFF VALVE

SCALE 1"=3' FEET

NO.	REVISIONS	BY	DATE

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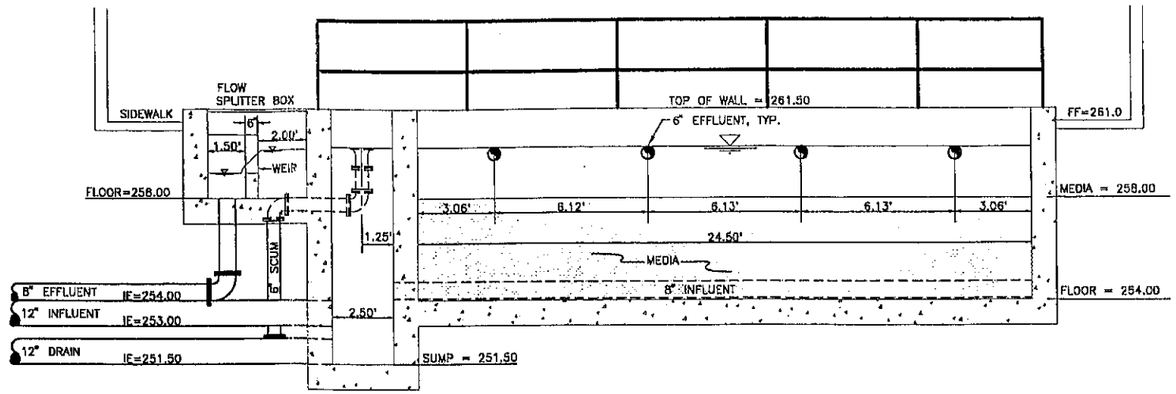
CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
ROUGHING FILTER/FLOW SPLITTER PLAN

DATE	3/12/98
SCALE	AS SHOWN
JOB NUMBER	97070
SHEET	M03
OF	M08



A M03 *SECTION A–A*
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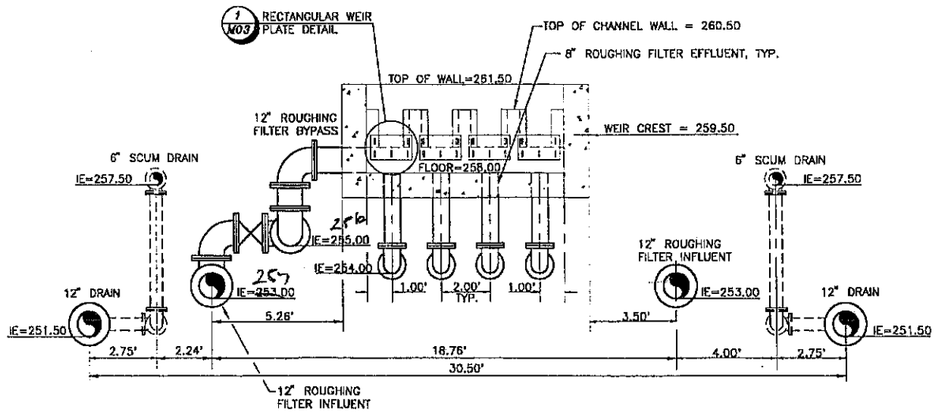

B M03 *SECTION B–B*
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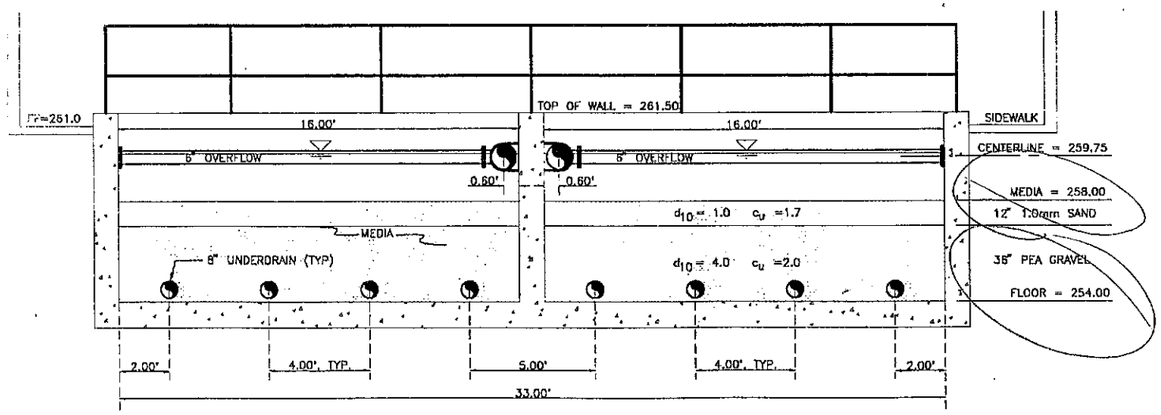

C M03 *SECTION C–C*
SCALE: 1"=3'

d_{10} = EFFECTIVE SIZE (PARTICAL DIAMETER WHICH 10% BY WEIGHT OF SAMPLE ARE SMALLER)

c_u = COEFFICIENT OF UNIFORMITY (d_{60}/d_{10})

STATE OF ALASKA
49TH
JAMES E. WILSON
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3/17/98

C:\PROJECT\97070\DWG\97070M03 Thu Mar 12 17:15:52 1998 WAH

NO.	REVISIONS	BY	DATE

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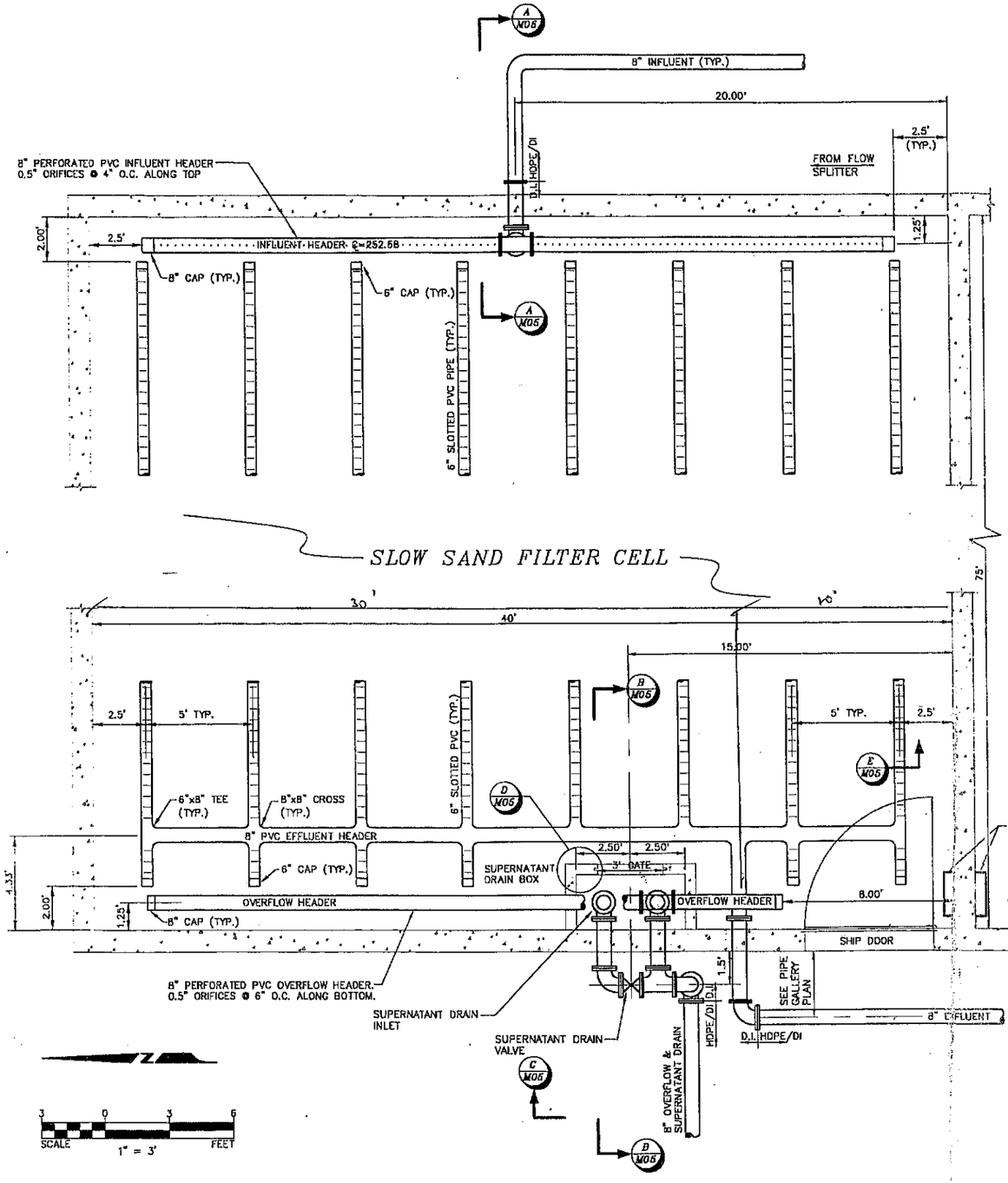
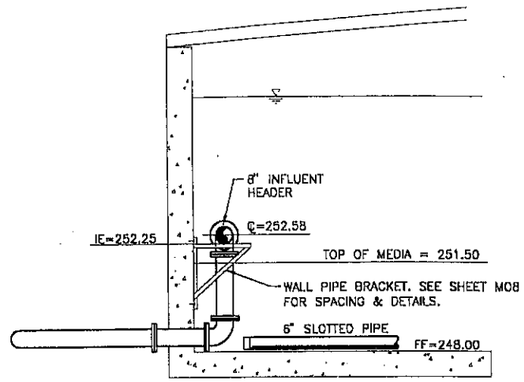
DRAWN BY: JGC
CHECKED BY:

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
ROUGHING FILTER/FLOW SPLITTER SECTIONS

DATE 3/12/98
SCALE AS SHOWN
JOB NUMBER 97070
SHEET M04
OF M08



TYPICAL SLOW SAND FILTER CELL PIPING PLAN



A M06 SECTION A-A
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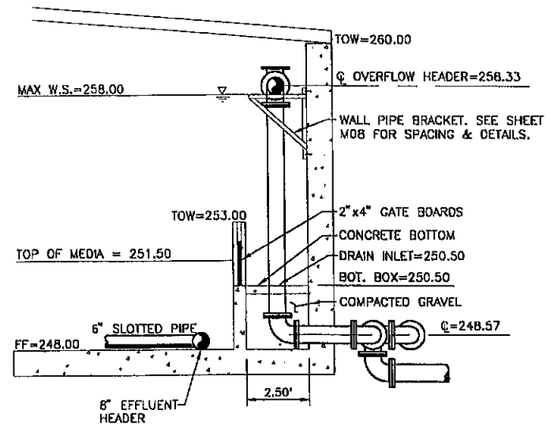

B M06 SECTION B-B
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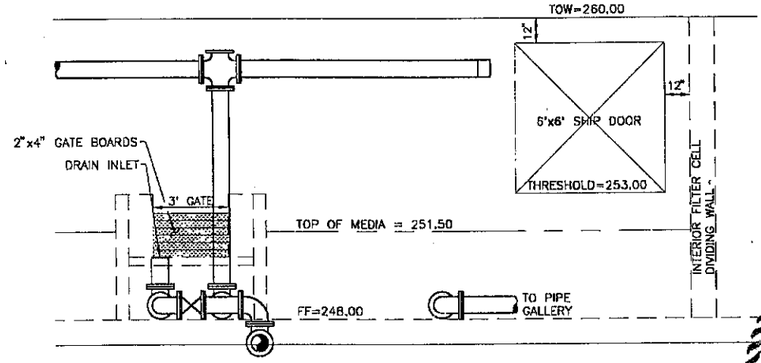

C M06 SECTION C-C
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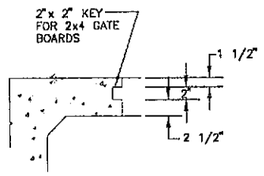
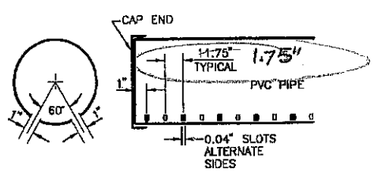


D M05 GATE BOARD KEY
TO TO SCALE



E M06 6" PIPE SLOT DETAIL
NOT TO SCALE

STATE OF ALASKA
49TH
JAMES E. WILSON
No. CE6668
REGISTERED PROFESSIONAL ENGINEER
3/17/98

24825

NO.	REVISIONS	BY	DATE

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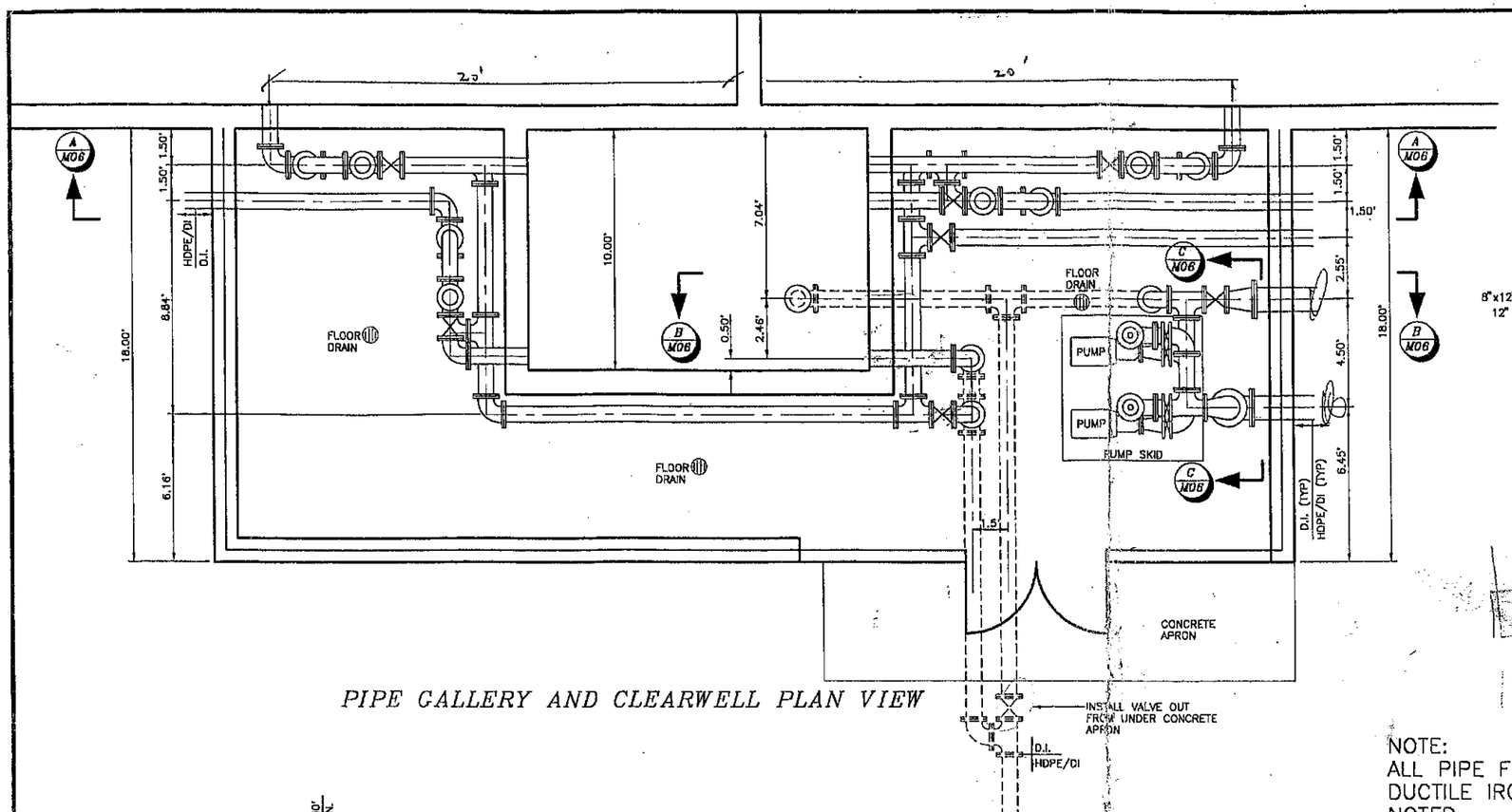
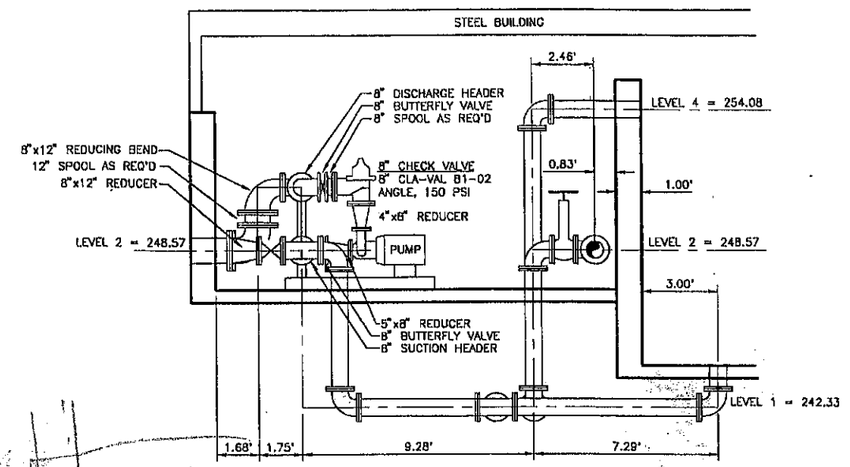
CHECKED BY:	J.E.W.

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
SLOW SAND FILTER CELL PIPING

DATE	3/17/98
SCALE	AS SHOWN
JOB NUMBER	97070
SHEET	M05
OF	M08

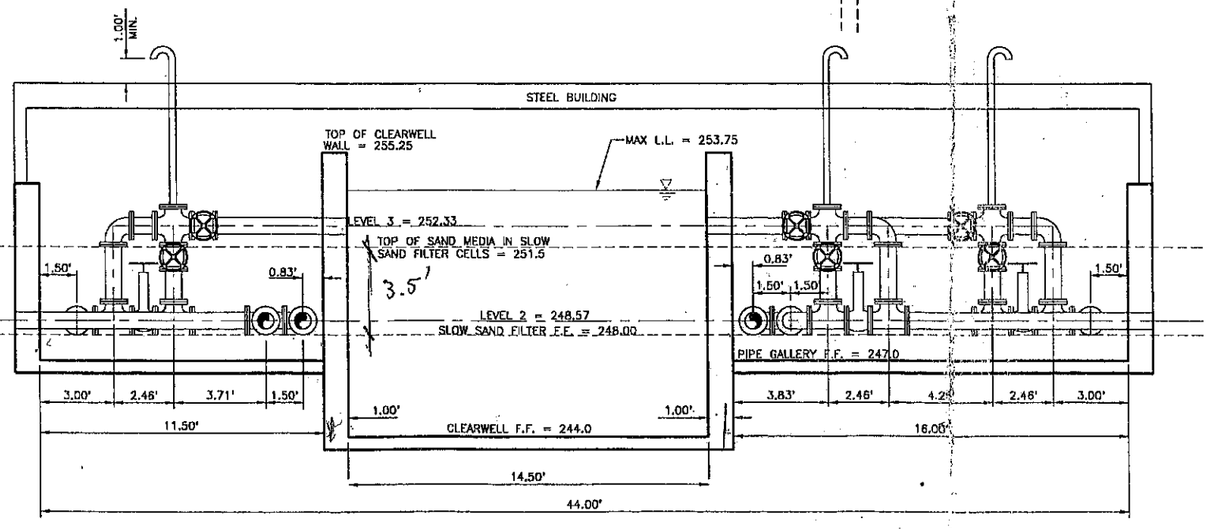


PIPE GALLERY AND CLEARWELL PLAN VIEW

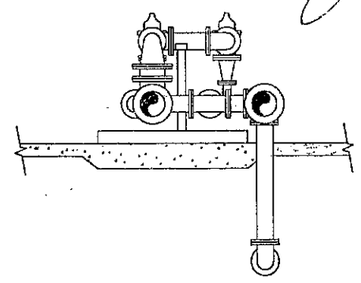


B M06 SECTION B–B

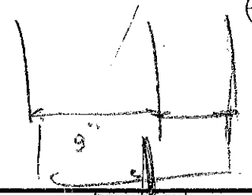
NOTE:
ALL PIPE FITTINGS AND VALVES ARE 8" DUCTILE IRON, FLANGED, UNLESS OTHERWISE NOTED.

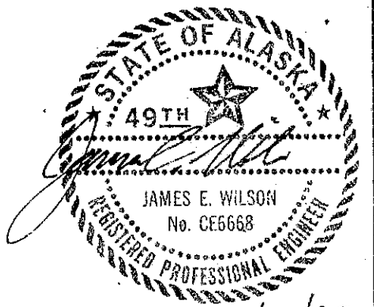


A M06 SECTION A–A



C M06 SECTION C–C





SCALE 1"=3' (3 0 3 6 FEET)

251.56
248.00
3.56

C:\PROJECT\97070\DWG\97070M06 Thu Mar 12 17:28:01 1998 WAH

NO.	REVISIONS	BY	DATE

Wilson Engineering
CONSULTING ENGINEERS & SURVEYORS

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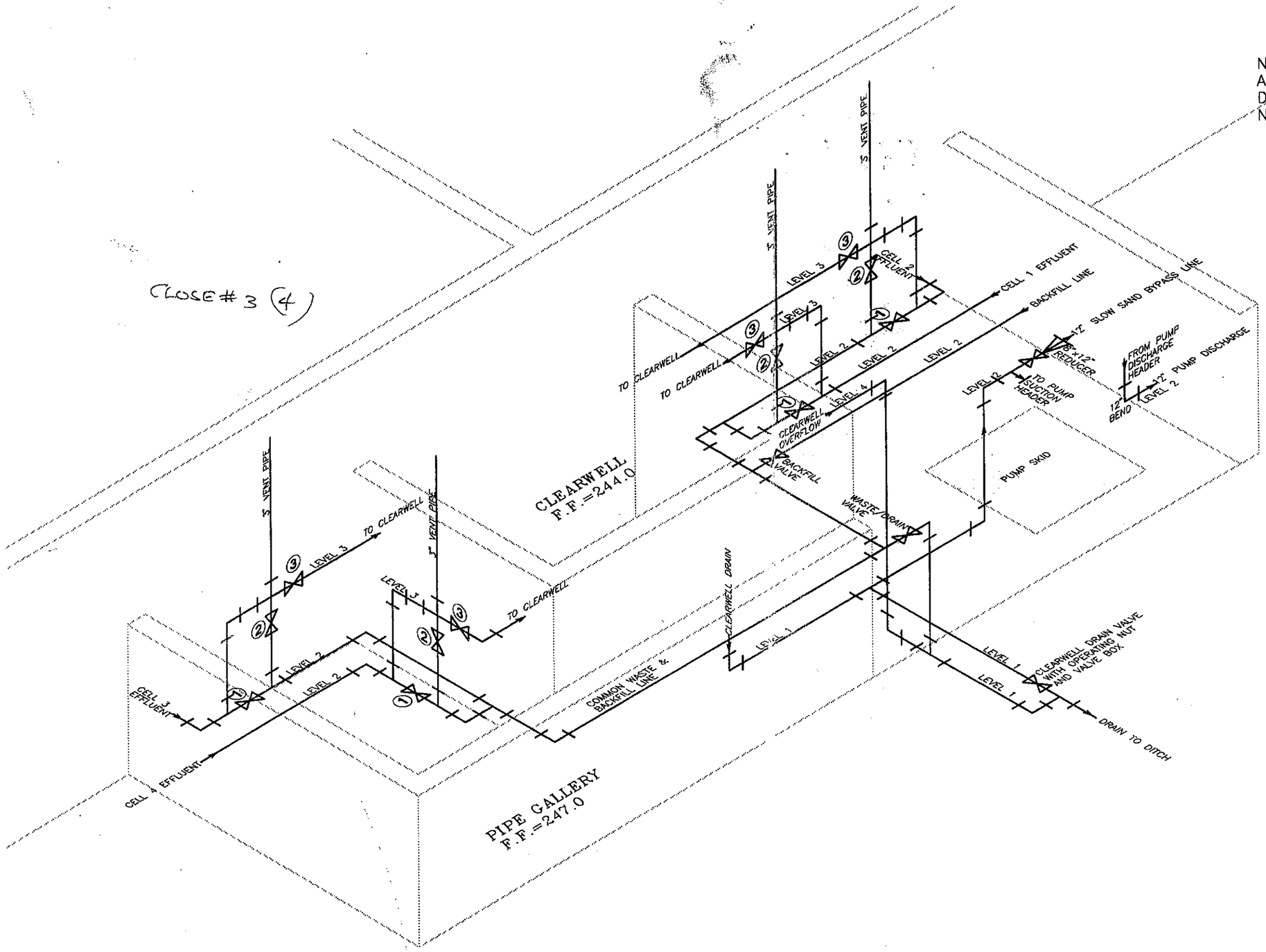
DESIGNED BY:	MAC
DRAWN BY:	WAH
CHECKED BY:	J.E.W.

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
PIPE GALLERY PLAN & SECTIONS

DATE	3/12/98
SCALE	N.T.S.
JOB NUMBER	97070
SHEET	M06
OF	M08

CLOSE #3 (4)



NOTE:
ALL PIPE FITTINGS AND VALVES ARE 8" DUCTILE IRON, FLANGED, UNLESS OTHERWISE NOTED.

PIPE CENTERLINE ELEVATIONS
LEVEL 1 = 242.33
LEVEL 2 = 248.57
LEVEL 3 = 232.33
LEVEL 4 = 254.08

LEGEND

- 90° BEND, SHORT RADIUS
- TEE
- CROSS
- GATE VALVE WITH HANDWHEEL
- (1) CELL DRAIN VALVE
- (2) FILTER TO WASTE & BACKFILL VALVE
- (3) CLEARWELL SHUT-OFF VALVE

STATE OF ALASKA
49TH
JAMES E. WILSON
No. CE6668
REGISTERED PROFESSIONAL ENGINEER
3/17/98

NO.	REVISIONS	BY	DATE

Wilson Engineering
CONSULTING ENGINEERS & SURVEYORS

805 DUPONT STREET
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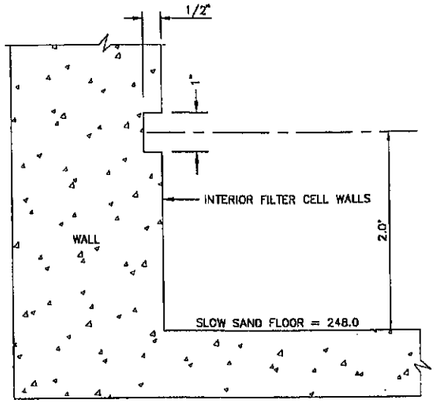
(360) 733-6100
FAX: (360) 647-9061

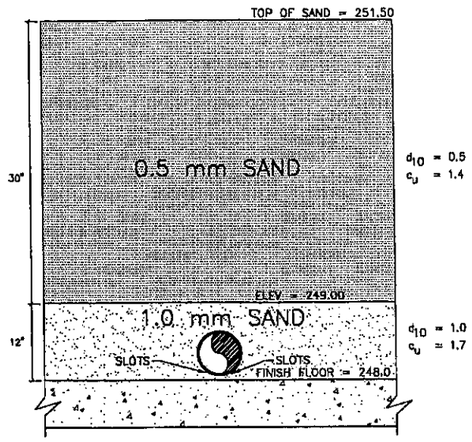
DESIGNED BY:	MAC
DRAWN BY:	WAH
CHECKED BY:	

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
PIPE GALLERY ISOMETRIC

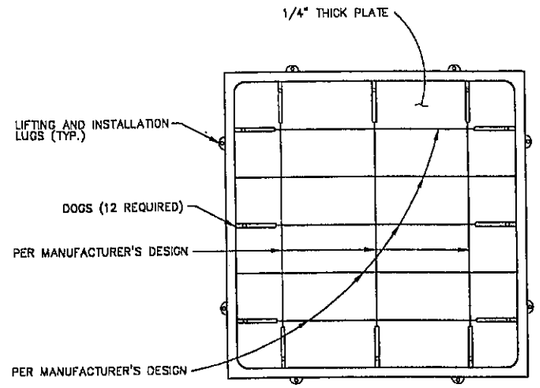
DATE	3/12/98
SCALE	N.T.S.
JOB NUMBER	97070
SHEET	M07
OF	M08



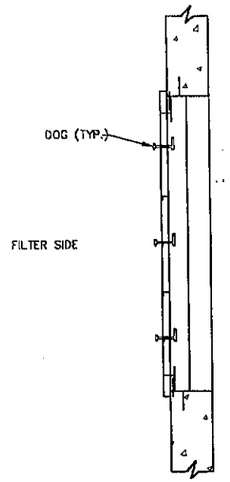
LOW SAND LEVEL INDICATOR NOTCH
N.T.S.



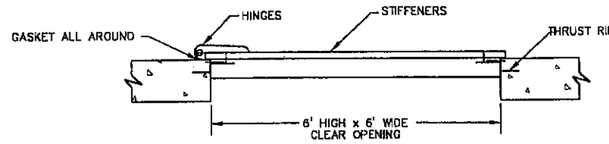
UNDERDRAIN ORIFICE DETAIL
N.T.S.



FRONT VIEW



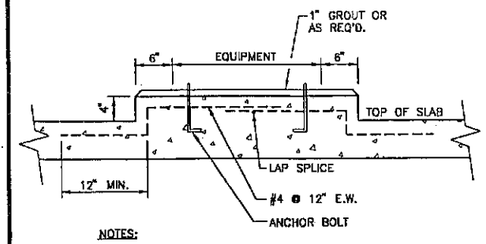
SECTION



SECTION

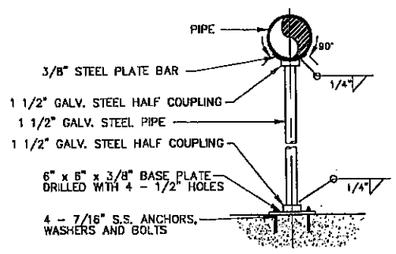
NOTES:
1. THE WATERTIGHT SHIP DOORS SHALL BE AS DESIGNED AND MANUFACTURED BY MANLY MARINE CLOSURES LTD. OR APPROVED EQUAL.
2. ENGINEERING DESIGN AND CALCULATIONS SHALL BE PROVIDED FOR THE DOORS, STAMPED BY AN ENGINEER CERTIFIED IN THE STATE OF WASHINGTON.
3. STRUCTURAL DETAILS ON THIS SHEET ARE FOR REFERENCE ONLY AND ACTUAL DESIGN SHALL BE PERFORMED BY THE MANUFACTURER.

WATERTIGHT DOOR DETAIL



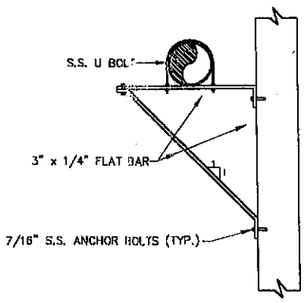
NOTES:
1. PAD DIMENSIONS, ANCHOR BOLT SIZE AND LOCATION AND OTHER EMBEDDED STEEL SHALL CONFORM TO EQUIPMENT MANUFACTURER'S REQUIREMENTS.
2. ALL MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE ANCHORED TO THE EQUIPMENT PAD. ANCHORAGES SHALL MEET THE REQUIREMENTS OF SEISMIC ZONE 2B, AND SHALL WITHSTAND LATERAL AND UPLIFT FORCES DUE TO 90 MPH, EXPOSURE C WIND.

CONCRETE EQUIPMENT PAD
N.T.S.



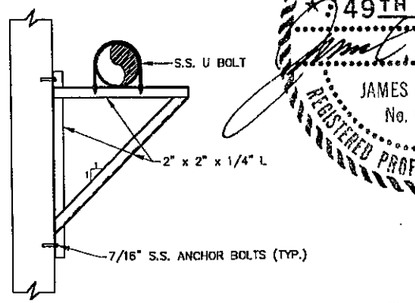
INSTALL SUPPORTS 6'-0" O.C. AND AT HORIZONTAL BENDS

PIPE SUPPORT DETAIL
N.T.S.



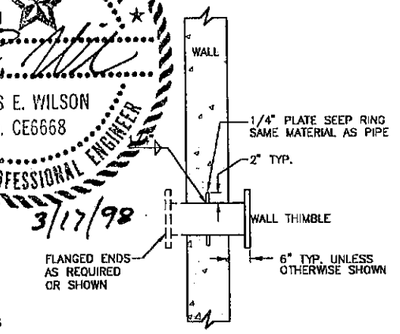
PIPE GALLERY VENTED RISERS - INSTALL WALL PIPE BRACKETS AT 5' O.C.

VERTICAL WALL PIPE BRACKET DETAIL
N.T.S.



INFLUENT HEADER AND OVERFLOW - INSTALL WALL PIPE BRACKETS AT HEADER ENDS AND SPACE BRACKETS @ 4' O.C.

WALL PIPE BRACKET DETAIL
N.T.S.



TYPICAL WALL PENETRATION
N.T.S.

STATE OF ALASKA
49TH
JAMES E. WILSON
No. CE6668
REGISTERED PROFESSIONAL ENGINEER
3/17/98

A2.14 BRACKETS HOT DIP GALVANIZED

NO.	REVISIONS	BY	DATE

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DESIGNED BY:	MAC
DRAWN BY:	WAH
CHECKED BY:	

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
SLOW SAND FILTER DETAILS

DATE	3/12/98
SCALE	N.T.S.
JOB NUMBER	97070
SHEET	M08
OF	M08

C:\PROJECT\97070\DWG\97070M08 Thu Mar 12 17:29:13 1998 WAH

ELECTRICAL SYMBOLS

- LIGHTING FIXTURE, FLUORESCENT PENDANT MOUNTED.
- LIGHTING FIXTURE, FLUORESCENT SURFACE MOUNTED.
- LIGHTING FIXTURE, FLUORESCENT, WALL OR BRACKET MOUNT
- LIGHTING FIXTURE, (HID)

NOTE: SUBSCRIPT "X" ON LIGHTING FIXTURE INDICATES FIXTURE TYPE PER LIGHTING FIXTURE SCHEDULE. "Y" INDICATES CIRCUIT NUMBER. "Z" INDICATES CONTROLLING SWITCH LOCATION IF REQUIRED.

- SWITCH, SINGLE POLE, SINGLE THROW
- SWITCH, 3-WAY
- RECEPTACLE, DUPLEX, GROUNDING TYPE ("G" INDICATES GFCI)
- RECEPTACLE, FOURPLEX, GROUNDING TYPE
- OUTLET, TELEPHONE
- THERMOSTAT
- JUNCTION BOX
- RATE OF RISE HEAT DETECTOR
- SMOKE DETECTOR, IONIZATION TYPE
- SMOKE DETECTOR, PHOTOELECTRIC
- ELECTRICAL EQUIPMENT ENCLOSURE: SWITCHBOARD, MOTOR CONTROL CENTER, CONTROL PANEL, TRANSFORMER OR OTHER EQUIPMENT AS SHOWN
- CONTROL PANEL FURNISHED WITH PROCESS, HVAC OR OTHER EQUIPMENT. IF MOTOR STARTERS ARE REQUIRED, AND ARE NOT SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM, THEY SHALL BE FURNISHED AS PART OF THE CONTROL PANEL
- MOTOR, EXPECTED HORSEPOWER AS SHOWN. "X": INDICATES MOTOR SIZE
- GROUND CONNECTION
- SWITCH, TOGGLE (SPST)
- LIGHTNING ARRESTER
- LIMIT SWITCH, N.C.
- LIMIT SWITCH, N.O.
- SAFETY SWITCH FUSED IF INDICATED BY "F" INSIDE BOX
- SAFETY SWITCH FURNISHED WITH MECHANICAL OR PROCESS EQUIPMENT
- INDICATING LIGHT, PUSH-TO-TEST
- SWITCH, DISCONNECT
- DISCONNECT SWITCH, FUSED
- SWITCH, LEVEL, CLOSES ON RISING LEVEL
- SWITCH, LEVEL, OPENS ON RISING LEVEL
- SWITCH, PRESSURE, CLOSES ON RISING PRESSURE
- SWITCH, PRESSURE, OPENS ON RISING PRESSURE

ELECTRICAL SYMBOLS

- SWITCH, FLOW, CLOSES ON FLOW INCREASE
- SWITCH, FLOW, OPENS ON FLOW INCREASE
- SWITCH, NORMALLY OPEN WITH TIME DELAY CLOSING (T.C.)
- SWITCH, NORMALLY CLOSED WITH TIME DELAY OPENING (T.O.)
- SWITCH, NORMALLY OPEN WITH INSTANT CLOSING AND TIME DELAY OPENING (I.C.T.O.)
- SWITCH, NORMALLY CLOSED WITH INSTANT OPENING AND TIME DELAY CLOSING (I.O.T.C.)
- SWITCH, PUSHBUTTON, NORMALLY OPEN, MOMENTARY CLOSE
- SWITCH, PUSHBUTTON, NORMALLY CLOSED, MOMENTARY OPEN
- SWITCH, PUSHBUTTON, NORMALLY CLOSED/ NORMALLY OPEN
- SWITCH, TWO-POSITION SELECTOR H-HAND, M-MANUAL, R-REMOTE, L-LOCAL, A-AUTOMATIC (ON OFF)
- SWITCH, THREE-POSITION SELECTOR H-HAND, M-MANUAL, R-REMOTE, L-LOCAL, A-AUTOMATIC, O-OFF (H O A)
- CONTROL RELAY OR COIL
- CONTACT, NORMALLY OPEN
- CONTACT, NORMALLY CLOSED
- CONTACT, OVERLOAD RELAY (OL)
- CONTROL STATION (CS)
- CIRCUIT BREAKER, TRIP SETTING/NO. OF POLES AS SHOWN. NOTE THAT FRAME SIZE IS NOT NECESSARILY SHOWN WHEN THE SELECTION IS STANDARD. IN GENERAL, TRIP SETTING, FRAME SIZE, AND NO. OF POLES IS NOT SHOWN WHEN THE CIRCUIT BREAKER IS AN INTEGRAL PART OF THE EQUIPMENT, SUCH AS A COMBINATION MAGNETIC STARTER (400/3)
- FUSE, SIZE AND QUANTITY AS SHOWN. IN GENERAL, CURRENT RATING AND QUANTITY ARE NOT SHOWN FOR CONTROL CIRCUITS OR WHERE THE FUSE IS AN INTEGRAL PART OF THE EQUIPMENT SUCH AS FUSING OF A POTENTIAL TRANSFORMER (200E/3)
- POTENTIOMETER (VARIABLE RESISTOR)
- BUS STAB
- FUSE WITH BLOWN FUSE INDICATOR
- TRANSFORMER, CURRENT (CT)

ELECTRICAL SYMBOLS

- TRANSFORMER, POTENTIAL (PT)
- TRANSFORMER, POTENTIAL (VOLTAGE) WITH PRIMARY FUSE
- COMBINATION MAGNETIC STARTER WITH MOTOR CIRCUIT PROTECTOR (MCP) TYPE CIRCUIT BREAKER DISCONNECT. RATING OF MCP SHALL BE DETERMINED BY THE MANUFACTURER OF THE STARTER AND THEREFORE IS NOT SHOWN ON THE DRAWINGS.
  A: STARTER TYPE:
  FVNR = FULL VOLTAGE NON-REVERSING
  FVR = FULL VOLTAGE REVERSING
  B: NEMA SIZE
  C: CONTROL DIAGRAM NUMBER
- TRANSFORMER, POWER, RATIO AND RATING AS SHOWN
- CONDUIT TURNING UP OR TOWARD VIEWER
- CONDUIT TURNING DOWN OR AWAY FROM VIEWER
- NUMBER INDICATES CONDUIT NO. SHOWING QUANTITY/SIZES OF CONDUIT/WIRES & ROUTING
  C = CONTROL
  J = INSTRUMENTATION
  P = POWER

STATE OF ALASKA 49TH
RALPH J. TITUS
No. 9668
REGISTERED PROFESSIONAL ENGINEER

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Fax. (425) 861-7317

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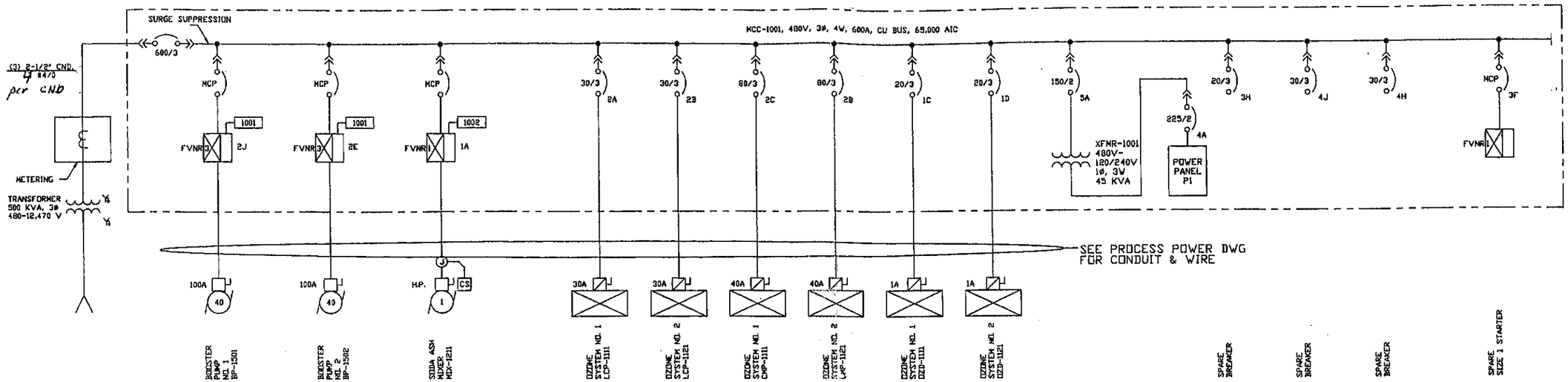
DESIGNED BY:	RJT
DRAWN BY:	CWA
CHECKED BY:	RJT/MAC

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
ELECTRICAL SYMBOLS

DATE	3/16/98
SCALE	NO SCALE
JOB NUMBER	97070
SHEET	E01
OF	E06



MCC-1001 ONE LINE DIAGRAM

PANEL SCHEDULE FOR: PANEL P1

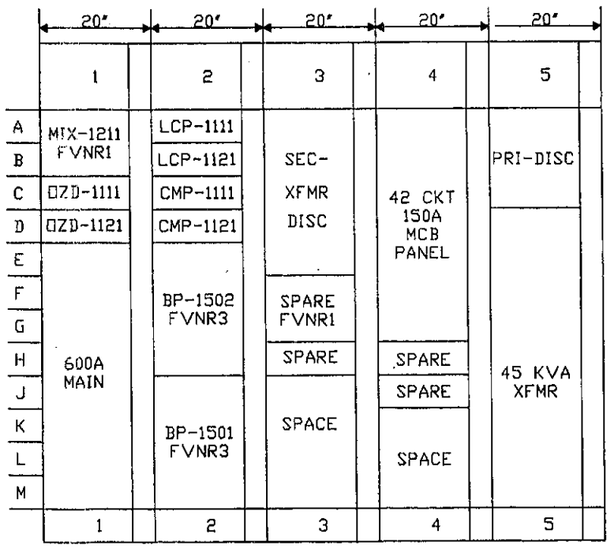
225 AMP PANEL WITH MAIN 225A
120/240 VOLTS 1 PHASE 3 WIRE

DESCRIPTION:	VOLT-AMPS A	VOLT-AMPS B	BRKR A/P	AB		BRKR A/P	VOLT-AMPS A	VOLT-AMPS B	DESCRIPTION:
MAIN CONTROL PANEL (MCP-1001)	1500		30/2	1	2	30/2	1500		MAIN OZONE CNTRL PANEL (OCP-1100)
MAIN CONTROL PANEL (MCP-1001)		1500		3	4			1500	MAIN OZONE CNTRL PANEL (OCP-1100)
HEATER (UH-1001) OZONE ROOM	1500		20/1	5	6	20/1	1500		UNIT HEATER (UH-1002) SHOP
UNIT HEATER (UH-1003) STORAGE AREA		1500	20/1	7	8	20/1		1500	UNIT HEATER (UH-1004) RESTROOM
UNIT HEATER (UH-1005) LAB/CNTRL RM	1500		20/1	9	10	20/1	X		SPARE
SODA ASH FEED PUMP (CFP-1221)		500	20/1	11	12	20/1		500	Co(OCl)2 FEED PUMP (CFP-1621)
LIGHTS: OUTDOOR	300		20/1	13	14	20/1	585		LIGHTS: SHOP
LIGHTS: INDOOR ROUGHING		195	20/1	15	16	20/1		130	LIGHTS: RESTROOM
LIGHTS: INDOOR OZONE	520		20/1	17	18	20/1	650		LIGHTS LAB/CONTROL ROOM
UPS		2500	20/1	19	20	20/1		1200	120V MOTOR (JET TANK)
OUTLETS: OZONE	540		20/1	21	22	20/1	720		OUTLETS: ROUGHING FILTERS
OUTLETS: LAB/BATH		540	20/1	23	24	20/1		X	SPARE
OUTLETS: SHOP	720		20/1	25	26	20/1	360		OUTLETS: OUTSIDE CONTROL BUILDING
OUTLETS: SHOP		720	20/1	27	28	20/1		720	OUTLETS: LAB
SPARE	X		20/1	29	30	20/1	X		SPARE
CNTRL BLDG WALL FANS		1056	20/1	31	32	20/1		180	SMOKE DETECTOR (P218)
HEAT TAPE (P203)	60		20/1	33	34	40/2	3840		LCP-1601
FILTER PANEL 2		1900	50/2	35	36			3840	LCP-1601
FILTER PANEL 2	3530			37	38	20/1	X		SPARE
AIT-1001		500	20/1	39	40	20/1		X	SPARE
FIT-1001	500		20/1	41	42	20/1	X		SPARE
TOTAL VA LEFT	10670	10911							
TOTAL VA RIGHT	9155	9570							
TOTAL VA	19825	20481							
TOTAL AMPS	166	171							

TOTAL CONNECTED LOAD: 40306 VA, 171 AMPS

REMARKS:
ENTRANCE: INTERNAL TO MCC-1001, MOUNTING: MCC-1001. FEEDER SOURCE: 45 KVA XFMR IN MCC-1001, FEEDER SIZE: 3-1/0 AWG, 1-#6G GRD.

POWER PANEL (P1)



MOTOR CONTROL CENTER ELEVATION (MCC-1001)

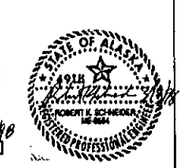
NOTES

FIELD VERIFY NAME PLATE OF EQUIP PRIOR TO ORDERING MCC & FEEDER SIZES

METERING TO BE LOCATED AT 500 KVA TRANSFORMER, BUSHING CT'S ON LOW SIDE, 1" CONDUIT TO METER BASE

H.P. - HORSEPOWER RATED SWITCH

MCC SHALL BE EXPANDABLE TO 6 SECTIONS



DEVITTE & ASSOCIATES, INC.
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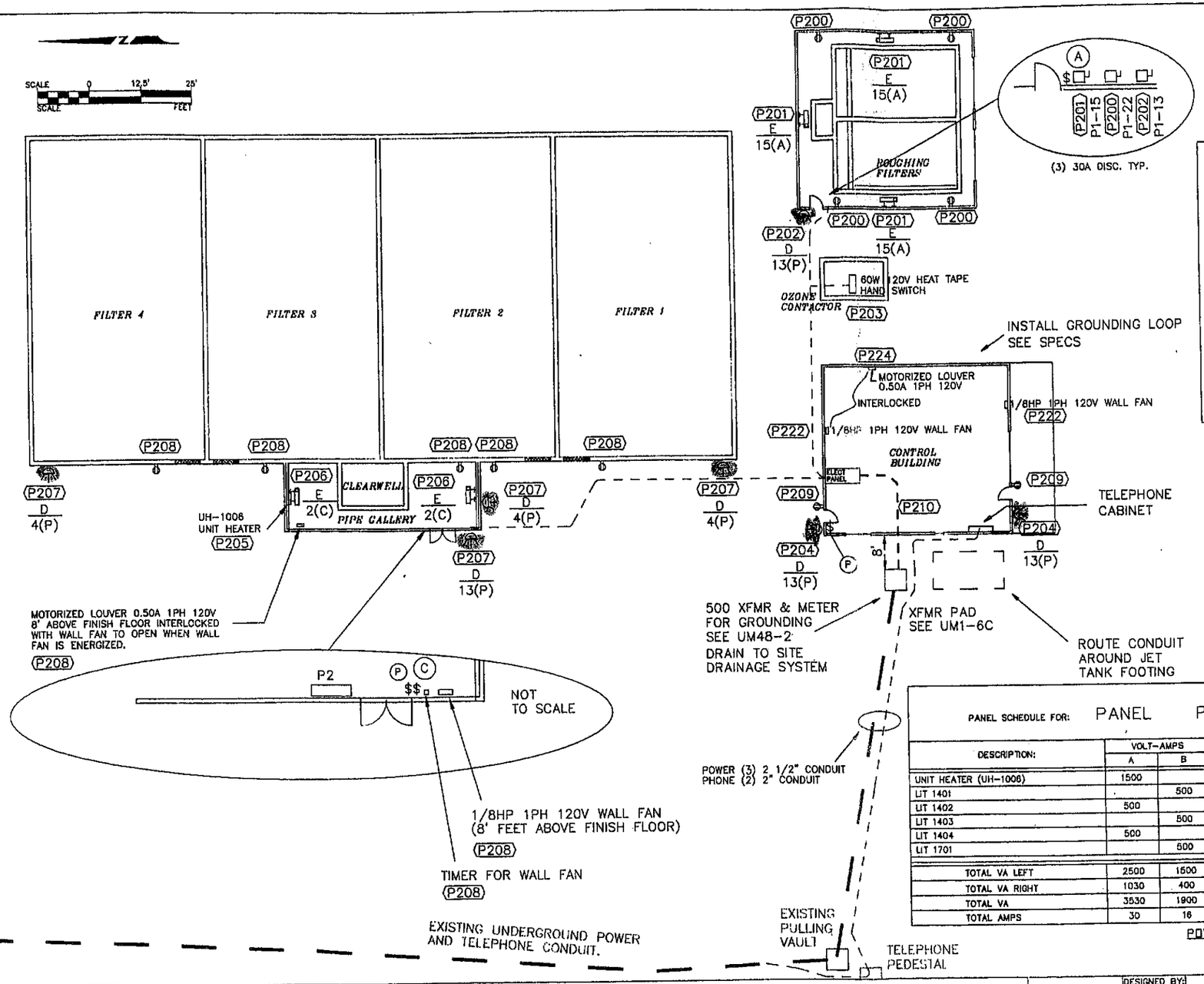
FAX: (360) 647-9061

DESIGNED BY:	JAK/JAS/RKS
DRAWN BY:	JAK
CHECKED BY:	JAS

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
ELECTRICAL - ONE LINE DIAGRAM & MISC. DETAILS

DATE	SHEET
MARCH 1998	E02
NO SCALE	SHEET
	E06



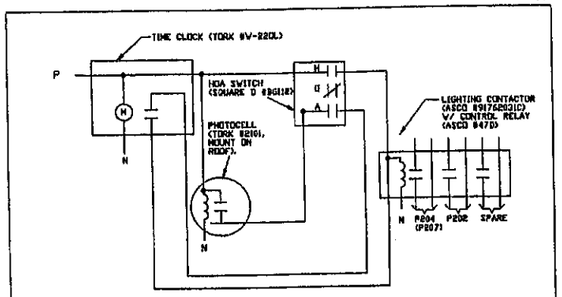
NOTES:

INSTALL ALL OUTSIDE OUTLETS 5' ABOVE THE GROUND.

ALL OUTLETS SHALL BE GFCI.

ALL OUTSIDE OUTLETS SHALL BE WEATHERPROOF WHILE IN USE.

ELECTRICAL COMPETENTS & WIRING NOT TO SCALE



OUTDOOR LIGHTING SCHEMATIC

NOT TO SCALE

PANEL SCHEDULE FOR: PANEL P2 — 100 AMP PANEL, 120/240 VOLTS, 1 PHASE, 3 WIRE

DESCRIPTION:	VOLT-AMPS A	VOLT-AMPS B	BRKR A/P	AB	BRKR A/P	VOLT-AMPS A	VOLT-AMPS B	DESCRIPTION:
UNIT HEATER (UH-1008)	1500		20/1	1 2	20/1	130		INDOOR LIGHTS
LIT 1401		500	20/2	3 4	20/2		400	OUTDOOR LIGHTS
LIT 1402	500		20/1	5 6	20/1	900		OUTLETS
LIT 1403		500	20/1	7 8	20/1		X	SPARE
LIT 1404	500		20/1	9 10	20/1	X		SPARE
LIT 1701		500	20/1	11 12	20/1		X	SPARE
TOTAL VA LEFT	2500	1500	TOTAL CONNECTED LOAD: 5430 VA, 30 AMPS			REMARKS:		
TOTAL VA RIGHT	1030	400						
TOTAL VA	3530	1900						
TOTAL AMPS	30	16						

POWER PANEL (P2)

DEPARTMENT OF ALASKA — ROBERT E. SCHNEIDER — REGISTERED ELECTRICAL ENGINEER

STATE OF WASHINGTON — JEFFREY A. JONES — REGISTERED PROFESSIONAL ENGINEER — EXPIRES: 7/11/98

DITTLE & ASSOCIATES, INC.
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LYNNWOOD, WA (425) 672-9851

NO.	REVISIONS	BY	DATE

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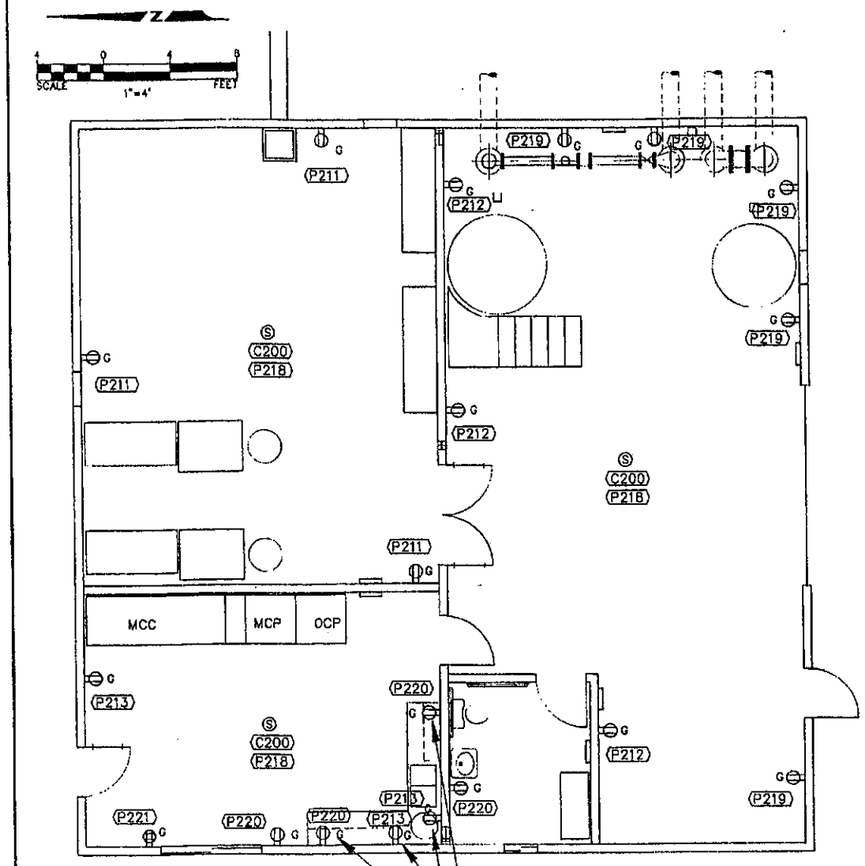
FAX: (360) 647-9061

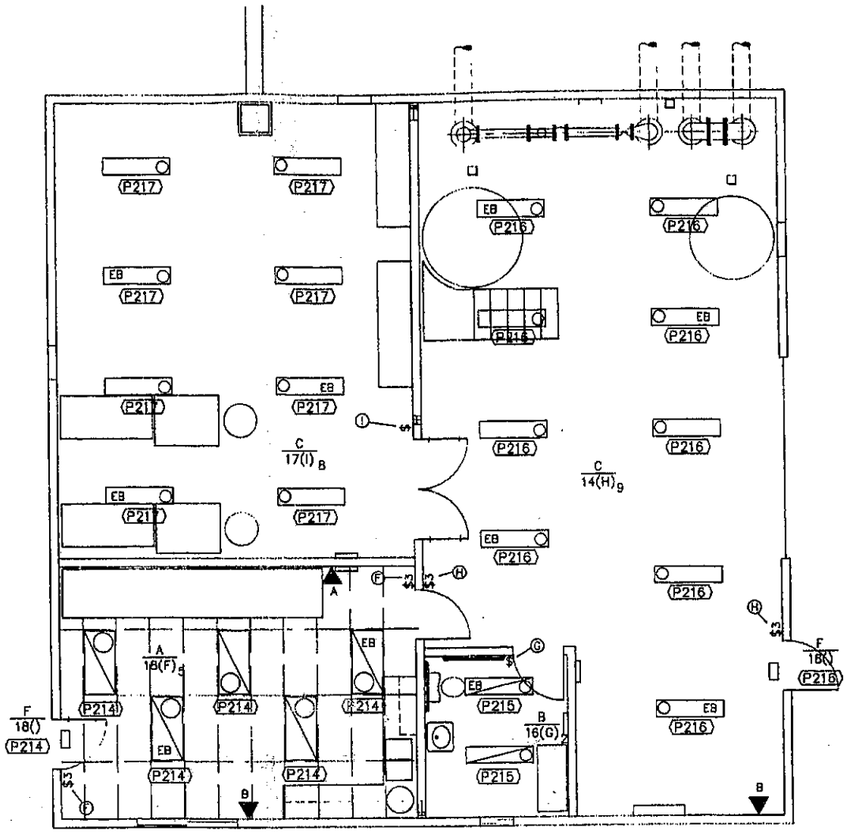
DESIGNED BY: JAK/JAS/RKS
DRAWN BY: JAK
CHECKED BY: JAS

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
WATER TREATMENT PLANT
SITE ELECTRICAL PLAN

DATE: MARCH 1998
SCALE: AS SHOWN
SHEET: E03
SHEET: E06



POWER PLAN



LIGHTING PLAN

NOTES

VENTILATION & HEATING NOT SHOWN ON THIS DRAWING.

A IS LEASED TELEPHONE LINE OUTLET FOR CNTRL

B IS TELEPHONE OUTLET

G IS GFCI OUTLET

ELECTRICAL COMPONENTS AND WIRING NOT TO SCALE

LIGHTING FIXTURE SCHEDULE

SYM	MANUFACTURER NAME	MANUFACTURER CATALOG NO.	FIXT VA	LAMP TYPE	MOUNTING	REMARKS
A	LITHONIA	2SP-G-B-4-32-FW-A12-120-GEBIO	130	T8	RECESSED	LAB, W/EMERGENCY BALLAST AS NOTED
B	LITHONIA	LB-232-A-120-ES	65	T8	SURFACE	RESTROOM, W/EMERGENCY BALLAST AS NOTED
C	LITHONIA	EJ-2-32-120-ES-HC	65	T8	CHAIN	SHOP, W/EMERGENCY BALLAST AS NOTED
D	LITHONIA	TWP-100S-120-CR	100	HPS	SURFACE	OUTDOOR
E	LITHONIA	DHW-2-32-120-ES-CW	65	T8	SURFACE	UNHEATED BLDGS
F	LITHONIA	LQM-S-W-1-G-120-EL N	5		SURFACE	EXIT SIGN

JEFFREY A. SMITH — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — EXPIRES: 5/10/98

STATE OF ALASKA — 49TH — ROBERT K. REDWOOD — REGISTERED PROFESSIONAL ENGINEER

DEITTLE & ASSOCIATES, INC.
Engineers and Consultants
LYNNWOOD, WA
(425) 672-9651

NO.	REVISIONS	BY	DATE

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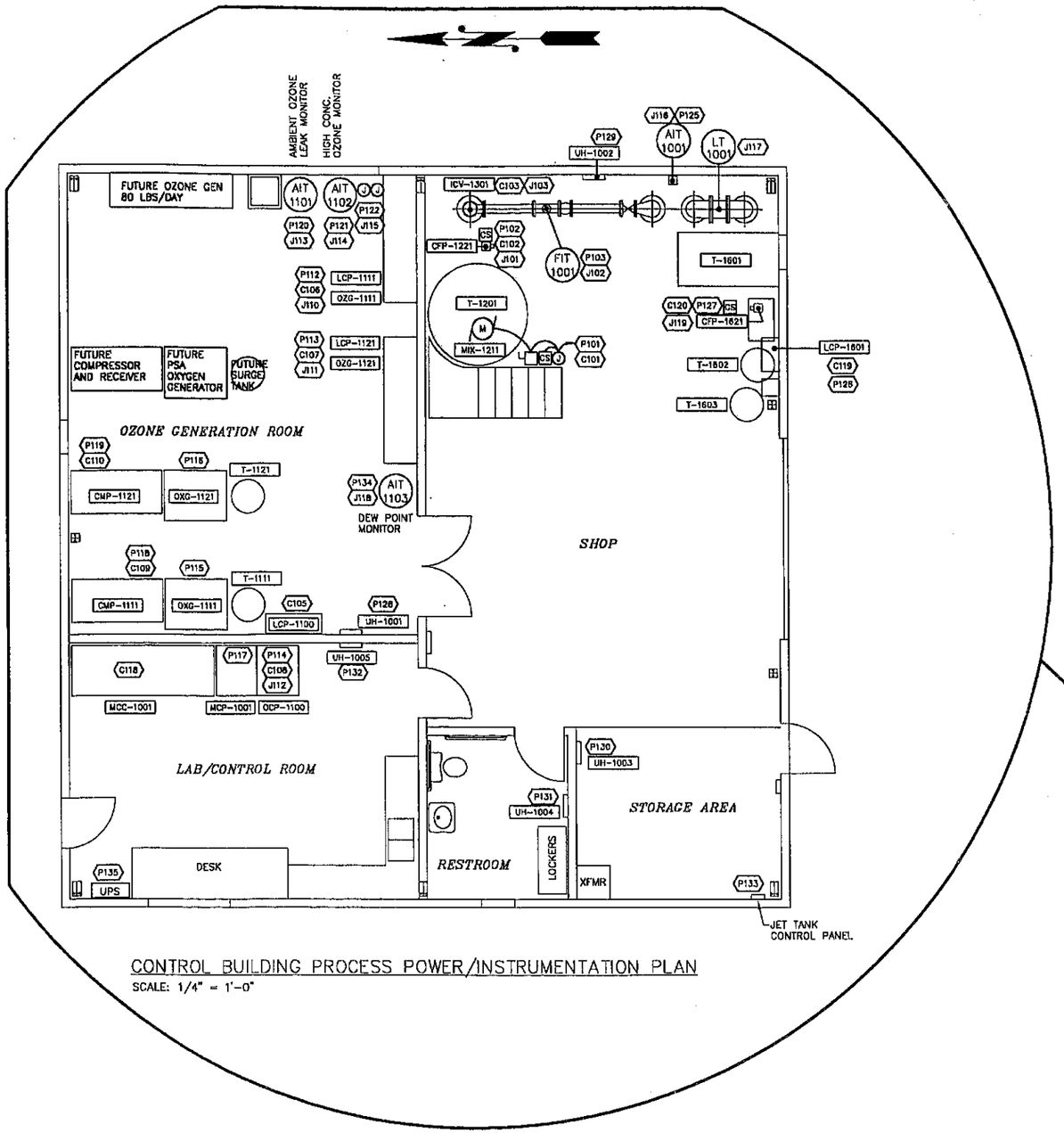
FAX: (360) 647-9061

DESIGNED BY:	JAK/JAS/RKS
DRAWN BY:	JAK
CHECKED BY:	JAS

CITY OF WRANGELL
WRANGELL ISLAND ALASKA

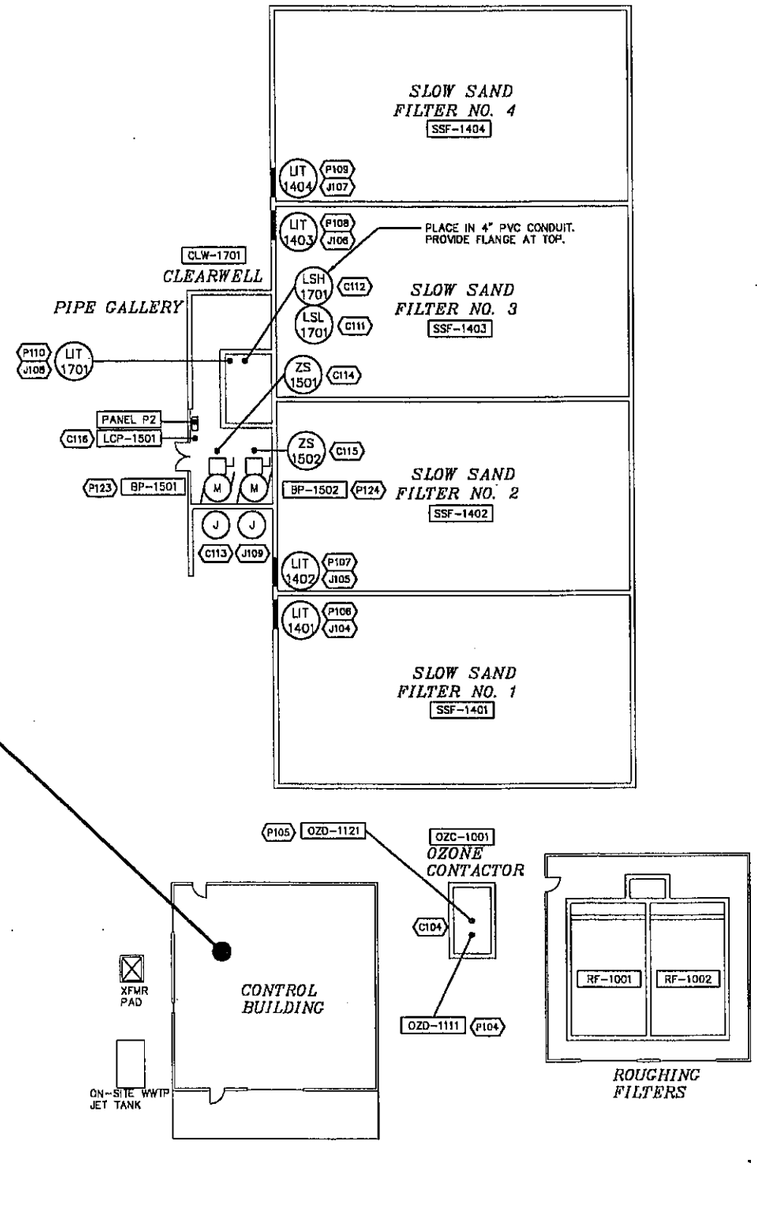
PHASE 2 CONTROL BUILDING AND FACILITY POWER PLAN

DATE	MARCH 98
SCALE	AS SHOWN
JOB NUMBER	97070
SHEET	E-04
OF	E06



CONTROL BUILDING PROCESS POWER/INSTRUMENTATION PLAN

SCALE: 1/4" = 1'-0"



SITE PROCESS POWER/INSTRUMENTATION PLAN

SCALE: 1/16" = 1'-0"

STATE OF ALASKA 49TH
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No. 9668
REGISTERED PROFESSIONAL ENGINEER

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DESIGNED BY:	RJT
DRAWN BY:	CWA/RJT
CHECKED BY:	RJT/MAC

CITY OF WRANGELL
WRANGELL ISLAND ALASKA

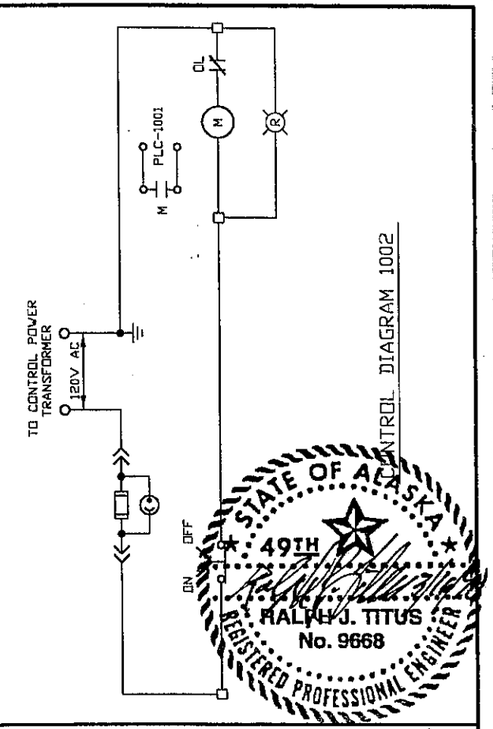
PHASE 2 WATER SYSTEM IMPROVEMENTS
PROCESS POWER/INSTRUMENTATION PLAN

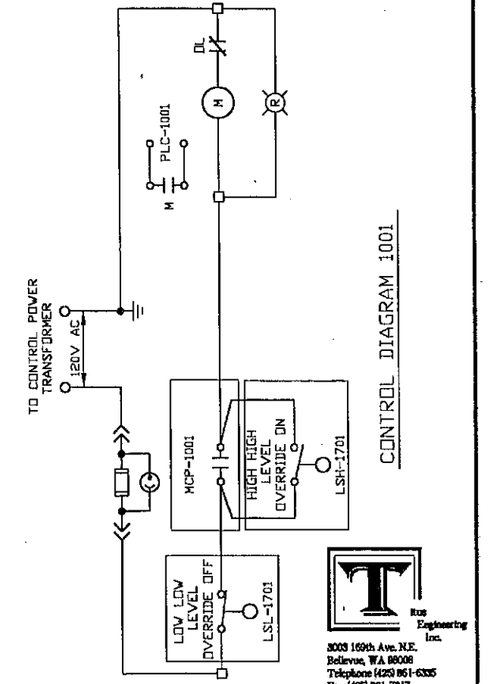
DATE	3/16/98
SCALE	AS NOTED
JOB NUMBER	97070
SHEET	E05
OF	E06

CONDUIT NO.	CONDUCTORS	CONDUIT NO.	CONDUIT SIZE	FUNCTION	FROM	TO	COMMENTS
P101	4-N010	1	1"	POWER	MIX-1211	MCC-1001	ROUTE W/ CONDUIT NO. C101
P102	3-N012	1	1"	POWER	CFP-1221	PANEL P1	-
P103	3-N012	1	1"	POWER	FIT-1001	PANEL P1	-
P104	4-N010	1	1"	POWER	OZD-1111	MCC-1001	-
P105	4-N010	1	1"	POWER	OZD-1121	MCC-1001	-
P106	3-N012	1	1"	POWER	LIT-1401	PANEL P2	-
P107	3-N012	1	1"	POWER	LIT-1402	PANEL P2	-
P108	3-N012	1	1"	POWER	LIT-1403	PANEL P2	-
P109	3-N012	1	1"	POWER	LIT-1404	PANEL P2	-
P110	3-N012	1	1"	POWER	LIT-1701	PANEL P2	-
P111	-	-	-	-	-	-	-
P112	4-N08	1	1"	POWER	OZG-1111	MCC-1001	-
P113	4-N08	1	1"	POWER	OZG-1121	MCC-1001	-
P114	3-N08	1	1"	POWER	OCP-1100	PANEL P1	-
P115	3-N012	1	1"	POWER	OXG-1111	OCP-1100	-
P116	3-N012	1	1"	POWER	OXG-1121	OCP-1100	-
P117	3-N08	1	1"	POWER	MCP-1001	PANEL P1	-
P118	4-N08	1	1"	POWER	CMP-1111	MCC-1001	-
P119	4-N08	1	1"	POWER	CMP-1121	MCC-1001	-
P120	3-N012	1	1"	POWER	AIT-1101	JUNCTION BOX	-
P121	3-N012	1	1"	POWER	AIT-1102	JUNCTION BOX	-
P122	6-N012	1	1"	POWER	JUNCTION BOX	OCP-1100	-
P123	4-N04	1	1 1/2"	POWER	BP-1501	MCC-1001	-
P124	4-N04	1	1 1/2"	POWER	BP-1502	MCC-1001	-
P125	3-N012	1	1"	POWER	AIT-1001	PANEL P1	-
P126	3-N08	1	1"	POWER	LCP-1601	PANEL P1	-
P127	3-N012	1	1"	POWER	CFP-1621	PANEL P1	-
P128	3-N010	1	1"	POWER	UH-1001	PANEL P1	-
P129	3-N010	1	1"	POWER	UH-1002	PANEL P1	-
P130	3-N010	1	1"	POWER	UH-1003	PANEL P1	-
P131	3-N010	1	1"	POWER	UH-1004	PANEL P1	-
P132	3-N010	1	1"	POWER	UH-1005	PANEL P1	-
P133	3-N010	1	1"	POWER	JET TANK	PANEL P1	-
P134	3-N012	1	1"	POWER	AIT-1103	OCP-1100	-
P135	3-N08	1	1"	POWER	UPS	MCP-1001	EMERGENCY BACKUP POWER
-	-	-	-	-	-	-	-
C101	3-N014	1	1"	CONTROL	CONTROL STATION	MCC-1001	ROUTE W/ CONDUIT NO. P101
C102	3-N014	1	1"	CONTROL	CFP-1221	MCP-1001	AUTO MODE STATUS
C103	6-N014	1	1"	CONTROL	ICV-1301	MCP-1001	OPEN/CLOSE CONTROL
C104	10-N014	1	1"	CONTROL	OZD-1111/OZD-1121	OCP-1100	RUN STATUS/START
C105	10-N014	1	1"	CONTROL	LCP-1100	OCP-1100	CONTROL INTERFACING
C106	30-N014	1	1"	CONTROL	LCP-1111	OCP-1100	CONTROL INTERFACING
C107	30-N014	1	1"	CONTROL	LCP-1121	OCP-1100	CONTROL INTERFACING
C108	50-N014	1	2"	CONTROL	OCP-1100	MCP-1001	INTERFACING
C109	12-N014	1	1"	CONTROL	CMP-1111	OCP-1100	INTERFACING
C110	12-N014	1	1"	CONTROL	CMP-1121	OCP-1100	INTERFACING
C111	4-N014	1	1"	CONTROL	LSL-1701	JUNCTION BOX	HARDWIRED TO EACH STARTER VIA JB
C112	4-N014	1	1"	CONTROL	LSH-1701	JUNCTION BOX	HARDWIRED TO EACH STARTER VIA JB
C113	8-N014	1	1"	CONTROL	JUNCTION BOX (JB)	MCC-1001	-
C114	2-N014	1	1"	CONTROL	ZS-1501	LCP-1501	-
C115	2-N014	1	1"	CONTROL	ZS-1502	LCP-1501	-
C116	16-N014	1	1"	CONTROL	LCP-1501	MCP-1001	-
C117	-	-	-	-	-	-	-
C118	20-N014	1	1"	CONTROL	MCC-1001	MCP-1001	-
C119	12-N014	1	1"	CONTROL	LCP-1501	MCP-1001	-
C120	6-N014	1	1"	CONTROL	CFP-1621	MCP-1001	MODE/ALARM

CONDUIT NO.	CONDUCTORS	CONDUIT NO.	CONDUIT SIZE	FUNCTION	FROM	TO	COMMENTS
C200	6-N014	1	1"	CONTROL	SMOKE DETECTOR	MCP-1001	FIRE ALARM SIGNAL PER DETECTOR
P200	3-N010	1	1"	POWER	PANEL P1	ROUGHING FILTER	-
P201	3-N012	1	1"	POWER	PANEL P1	ROUGHING FILTER	-
P202	3-N012	1	1"	POWER	PANEL P1	ROUGHING FILTER	-
P203	3-N012	1	1"	POWER	PANEL P1	OZONE CANT.	-
P204	3-N012	1	1"	POWER	PANEL P1	CONTROL BLDG.	-
P205	3-N10	1	1"	POWER	PANEL P2	FILTERS	-
P206	3-N012	1	1"	POWER	PANEL P2	FILTERS	-
P207	3-N012	1	1"	POWER	PANEL P2	FILTERS	-
P208	3-N010	1	1"	POWER	PANEL P2	FILTERS	-
P209	3-N012	1	1"	POWER	PANEL P1	CONTROL BLDG.	-
P210	12-N04/0	3	2 1/2"	POWER	XFMR	MCC-1001	DUCT BANK, 30" BURY, 7.5"SPACING
P211	3-N012	1	1"	POWER	PANEL P1	CONTROL BLDG.	-
P212	3-N012	1	1"	POWER	PANEL P1	CONTROL BLDG.	-
P213	3-N012	1	1"	POWER	PANEL P1	CONTROL BLDG.	-
P214	3-N012	1	1"	POWER	PANEL P1	CONTROL BLDG.	-
P215	3-N012	1	1"	POWER	PANEL P1	CONTROL BLDG.	-
P216	3-N012	1	1"	POWER	PANEL P1	CONTROL BLDG.	-
P217	3-N012	1	1"	POWER	PANEL P1	CONTROL BLDG.	-
P218	3-N012	1	1"	POWER	PANEL P1	CONTROL BLDG.	-
P219	3-N012	1	1"	POWER	PANEL P1	CONTROL BLDG.	-
P220	3-N012	1	1"	POWER	PANEL P1	CONTROL BLDG.	-
P221	3-N012	1	1"	POWER	PANEL P1	CONTROL BLDG.	-
P222	3-N012	1	1"	POWER	PANEL P1	CONTROL BLDG.	-
P223	3-N06	1	1"	POWER	PANEL P1	PANEL P2	1-N010 GROUND
P224	-	-	-	-	-	-	-
P225	-	-	-	-	-	-	-
P226	-	-	-	-	-	-	-

J101	1-TSP	1	1"	INSTRUMENTATION	CFP-1221	MCP-1001	AUTO SIGNAL
J102	1-TSP	1	1"	INSTRUMENTATION	FIT-1001	MCP-1001	WTP FLOW
J103	1-TSP	1	1"	INSTRUMENTATION	ICV-1301	MCP-1001	ICV-1301 POSITION
J104	1-TSP 3-NO.14	1	1"	INSTRUMENTATION	LIT-1401	JUNCTION BOX	SSF-1401 LEVEL SSF-1401 HIGH LEVEL WARNING
J105	1-TSP 3-NO.14	1	1"	INSTRUMENTATION	LIT-1402	JUNCTION BOX	SSF-1402 LEVEL SSF-1402 HIGH LEVEL WARNING
J106	1-TSP 3-NO.14	1	1"	INSTRUMENTATION	LIT-1403	JUNCTION BOX	SSF-1403 LEVEL SSF-1403 HIGH LEVEL WARNING
J107	1-TSP 3-NO.14	1	1"	INSTRUMENTATION	LIT-1404	JUNCTION BOX	SSF-1404 LEVEL SSF-1404 HIGH LEVEL WARNING
J108	1-TSP 4-NO.14	1	1"	INSTRUMENTATION	LIT-1701	JUNCTION BOX	CLW-1701 LEVEL HIGH & LOW LEVEL WARNINGS
J109	6-TSP 16-NO.14	1	2"	INSTRUMENTATION	JUNCTION BOX	MCP-1001	SSF LEVELS SSF HIGH HIGH LEVEL ALARMS
J110	6-TSP	1	2"	INSTRUMENTATION	LCP-1111	OCP-1100	SIGNAL INTERFACING
J111	6-TSP	1	2"	INSTRUMENTATION	LCP-1121	OCP-1100	SIGNAL INTERFACING
J112	10-TSP	1	2"	INSTRUMENTATION	OCP-1100	MCP-1001	SIGNAL INTERFACING
J113	1-TSP	1	1"	INSTRUMENTATION	AIT-1101	JUNCTION BOX	OZONE MONITORING
J114	1-TSP	1	1"	INSTRUMENTATION	AIT-1102	JUNCTION BOX	OZONE MONITORING
J115	2-TSP	1	1"	INSTRUMENTATION	JUNCTION BOX	OCP-1100	-
J116	1-TSP 3-NO.14	1	1"	INSTRUMENTATION	AIT-1001	MCP-1001	WTP TURBIDITY TURBIDITY HIGH LEVEL WARNING
J117	1-TSP	1	1"	INSTRUMENTATION	LT-1001	MCP-1001	RESERVOIR TANK LEVEL MONITORING
J118	1-TSP	1	1"	INSTRUMENTATION	AIT-1103	OCP-1100	DEW POINT MONITORING
J119	1-TSP	1	1"	INSTRUMENTATION	CFP-1621	MCP-1001	CHEMICAL FEED SIGNAL





C:\PROJECT\97070\DWG\CONTROL\E06 Mon Mar 16 09:45:35 1998 WAH

NO.	REVISIONS	BY	DATE

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CHECKED BY:	RJT/MAC

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
CIRCUIT SCHEDULE & CONTROL DIAGRAMS

DATE	3/16/98
SCALE	NO SCALE
JOB NUMBER	97070
SHEET	E06
OF	E06

INSTRUMENTATION SYMBOLS

SYMBOL	DESCRIPTION
———	CONNECTION TO PROCESS, MECHANICAL LINK, OR INSTRUMENT SUPPLY
---/---	DISCRETE ELECTRIC SIGNAL
- - - - - -	ANALOG ELECTRIC SIGNAL
--#-<P	ELECTRIC POWER, P: VOLTAGE AS INDICATED
~~	ULTRASONIC SIGNAL
-|-|-	HYDRAULIC SIGNAL
---//---	PNEUMATIC SIGNAL
- · — · -	INTERNAL SYSTEM LINK (SOFTWARE OR FIRMWARE)
◇	PLC INPUT/OUTPUT
XXX-XXX	XXX-XXXX: EQUIPMENT IDENTIFICATION
A ⟩ B	A: DRAWING REFERENCE NUMBER B: CONNECTION POINT
	PUMP
MTR	CHEMICAL PUMP
MTR	MIXER
MTR	MOTOR
	FLOW METER
	COMPRESSOR
S	SOLENOID VALVE
	CHECK VALVE
	ISOLATION VALVE
D	DRAIN

INSTRUMENTATION IDENTIFICATION

(ZZ) XXX/XXX Δ XA

AAA SEE INSTRUMENT IDENTIFICATION TABLE

X LOOP NUMBER

YYY TWO OR MORE DIGITS IDENTIFYING LOOP NUMBER

B SUFFIX UTILIZED WHEN TWO OR MORE INSTRUMENTS WITHIN LOOP HAVE SAME FUNCTIONAL IDENTIFICATION I.E.: A: FIRST INSTRUMENT, B: SECOND, C: THIRD, ETC.

Δ ITEMS SUPPLIED BY EQUIPMENT MANUFACTURER

XA PANEL ID (SEE PANEL LOCATIONS)

(ZZ) INDICATES TYPICAL OF ZZ

OTHER INSTRUMENTATION IDENTIFICATION NOTATIONS

SIGNAL CONVERTERS

XXX/XXX NOTE X: PROCESS OR INITIATING VARIABLE
Y: OUTPUT FUNCTION
Z/Z: E: VOLTAGE
I: CURRENT
ISO: ISOLATION
P: PNEUMATIC
PD: PULSE DURATION
PF: PULSE FREQUENCY
R: RESISTANCE
RAMP: RAMP GENERATOR

HAND SELECTOR SWITCHES

XXX/XXX XXX NOTE XXX: AM: AUTO/MANUAL
AO: AUTO/OFF
FOR: FORWARD/OFF/REVERSE
FOS: FAST/OFF/SLOW
FR: FORWARD/REVERSE
HOA: HAND/OFF/AUTO
LL: LEAD/LAG
LR: LOCAL/REMOTE
JOG: JOG
OC: OPEN/CLOSE
OO: ON/OFF
OSC: OPEN/STOP/CLOSE
SS: START/STOP

NOTE: ALL MAINTAINED CONTACT UNLESS NOTED OTHERWISE

ANALYSIS INSTRUMENTS

XXX/XXX XXX NOTE XXX: CL: CHLORINE
H2S: HYDROGEN SULFIDE
OZ: OZONE
PC: PARTICLE COUNTER
PH: PH
TUR: TURBIDITY

INDICATOR LIGHTS

XXX/XXX XXX NOTE XXX: AUTO: AUTO
CLS: CLOSED
FLD: FIELD
HAND: HAND
OC: OPEN/CLOSED
OFF: OFF
OPN: OPENED
RDY: READY
REM: REMOTE
RR: RUN/READY
RUN: RUN

XXX/XXX FIELD MOUNTED

XXX/XXX PANEL FACE MOUNTED

XXX/XXX INTERNAL PANEL MOUNTED

XXX/XXX AUXILIARY PANEL MOUNTED

XXX/XXX INTERNAL AUXILIARY PANEL MOUNTED

XXX/XXX INDICATOR LIGHT

XXX/XXX XXX/XXX MULTIPLE FUNCTION INSTRUMENT

PANEL LOCATIONS

ID	PANEL	LOCATION
01	MCP-1001	LAB/CONTROL ROOM
02	OCP-1100	LAB/CONTROL ROOM
03	LCP-1100	OZONE GENERATION ROOM
04	LCP-1111	OZONE GENERATION ROOM
05	LCP-1121	OZONE GENERATION ROOM
06	LCP-1501	CLEARWELL AREA (BOOSTER PUMPS)
07	LCP-1601	SODIUM HYPOCHLORITE AREA
08	–	NOT USED
09	–	NOT USED

INSTRUMENT IDENTIFICATION TABLE
SEE NOTES BELOW

FIRST-LETTER		SUCCEEDING-LETTERS		
MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A ANALYSIS		ALARM		
B BURNER, COMBUSTION				
C			CONTROL	
D NOT USED	DIFFERENTIAL			
E VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F FLOW RATE	RATIO (FRACTION)	GLASS, VIEWING DEVICE		
G				
H HAND				HIGH
I CURRENT (ELECTRICAL)		INDICATE		
J POWER	SCAN			
K TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L LEVEL		LIGHT		LOW
M MOTOR, MOISTURE	MOMENTARY		MIDDLE, INTERMEDIATE	
N TORQUE				
O OXYGEN		ORIFICE, RESTRICTION		
P PRESSURE, VACUUM		CONNECTION POINT		
Q QUANTITY	INTEGRATE, TOTALIZE			
R RADIATION		RECORD		
S SPEED, FREQUENCY	SAFETY		SWITCH	
T TEMPERATURE			TRANSMIT	
U MULTIVARIABLE		MULTIFUNCTION	NOT USED	
V VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W WEIGHT, FORCE				
X UNCLASSIFIED	X AXIS	WELL	STARTER	
Y EVENT, STATE, OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

INSTRUMENT IDENTIFICATION TABLE NOTES

1. TABLE DEFINES BUILDING BLOCKS OF THE INSTRUMENTATION IDENTIFICATION AND SYMBOLS USED. NOMENCLATURE IS SOMETIMES IDENTIFIED BY NOTATION OUTSIDE OF SYMBOLS UTILIZED. SYMBOLS ARE TO BE USED WITH CONTROL LOOP DESCRIPTIONS, CONTROL DIAGRAMS, ETC.
2. GRAMMATICAL FORM OF SUCCEEDING LETTERS ARE MODIFIED AS REQUIRED. I.E.; "INDICATE" MAY BE "INDICATOR" OR "INDICATING".
3. UTILIZATION OF A DOUBLE HIGH OR LOW MODIFIER, I.E.; LAHH OR LALL INDICATES A VERY HIGH OR VERY LOW CONDITION. IF BOTH MODIFIERS ARE USED, I.E. LAHL; THEN BOTH HIGH AND LOW ALARMS HAVE BEEN COMBINED.
4. ANY FIRST LETTER IF USED IN COMBINATION WITH MODIFYING LETTERS D (DIFFERENTIAL), F (RATIO), M (MOMENTARY), K (TIME OR RATE OF CHANGE), Q (INTEGRATE OR TOTALIZE), OR ANY COMBINATION REPRESENTS A NEW AND SEPARATE MEASURED VARIABLE, AND THE COMBINATION IS TREATED AS A FIRST LETTER ENTRY.
5. FIRST LETTER "U" IS USED FOR MULTI-VARIABLE ALARMS AND FIRST LETTER "Y" IS USED FOR MULTIPLE EVENT FUNCTIONS.
6. FOR FURTHER CLARIFICATION REGARDING INSTRUMENTATION TABLE, SEE ANSI/ISA-S5.1 STANDARD TABLES 1 AND 2.

STATE OF ALASKA
49TH
RALPH J. TITUS
No. 9668
REGISTERED PROFESSIONAL ENGINEER

GENERAL NOTES

1. THIS IS A GENERAL INSTRUMENTATION SHEET, NOT ALL SYMBOLS OR NOTATIONS MAY BE USED ON THIS PROJECT.
2. SEE ELECTRICAL DRAWINGS FOR CONTROL DIAGRAMS. SEE OTHER DISCIPLINE DRAWINGS FOR EQUIPMENT LOCATIONS AND INTERFERENCES.
3. INPUT/OUTPUT POINTS SHOWN ON DRAWINGS ARE NOT ALL INCLUSIVE. SEE SPECIFICATIONS FOR OTHER PLC I/O REQUIREMENTS.

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NO.	REVISIONS	BY	DATE

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DESIGNED BY:	RJT
DRAWN BY:	CWA
CHECKED BY:	RJT/MAC

CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
INSTRUMENTATION SYMBOLS

DATE	3/16/98
SCALE	NO SCALE
JOB NUMBER	97070
SHEET	I01
OF	I03

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PLC-1001

MCP-1001

MCC-1001

LOWER RESERVOIR

WTP MAIN FROM RESERVOIRS

RAW WATER BYPASS

TO CITY OF WRANGELL DISTRIBUTION SYSTEM

103 3

MIX-1211

HS 1211 MTR

T-1201 SODA ASH MIXING TANK

HOA HS 1221 ZE 1221

CFP-1221

120VAC, PANEL P1

FIT 1001

FE 1001

FI 1001

FLOW

103 4

103 5

HIK 1301

YY 1301A

YY 1301B

ZT 1301

OPEN SV CLOSE SV

ICV-1301

120VAC, OCP-1100

AIT 1101

AIT 1102

AIT 1103

△OCP-1100

OZONE SYSTEM ANNUNCIATOR

LOW COOLING WATER	LOW AIR FLOW	LOW GENERATOR PRESSURE	HIGH GENERATOR PRESSURE	LOW INLET PRESSURE	HIGH DEW POINT
CMP-1111 FAIL	CMP-1121 FAIL	GENERATOR INVERTER FAIL	AMBIENT OZONE WARNING	GENERATOR OZONE WARNING	HIGH OZONE TEMP.

YL 1111A RUN — OZG-1111
YL 1111B RUN — COM-1111
YL 1111C RUN — OZD-1111
YL 1121A RUN — OZG-1121
YL 1121B RUN — COM-1121
YL 1121C RUN — OZD-1121

PI 1111 OZONE PRESSURE
AI 1111 OZONE OUTPUT
PI 1121 OZONE PRESSURE
AI 1121 OZONE OUTPUT

HS 1100A HOA — OZG-1111/OZG-1121 SELECT
HS 1100B
HS 1100C POT

HS 1100D HOA — AIR PREP TRAIN NO. 1/ AIR PREP TRAIN NO. 2 SELECT
HS 1100E

△LCP-1100

HS 1100F LR
HS 1100G AIR PREP TRAIN NO. 1/ OFF/ AIR PREP TRAIN NO. 2

MCC-1001

OZD-1121
OZD-1111
OZC-1001

OZONE CONTACTOR

MCC-1001

DRAIN OUTLET

OVERFLOW

CELL 1 RF-1001 | CELL 2 RF-1002

ROUGHING FILTERS

BYPASS

LI 1404 LI 1403 LI 1402 LI 1401

120VAC PANEL P2

LIT 1401 LE 1401 FILTER 1 SSF-1401
LIT 1402 LE 1402 FILTER 2 SSF-1402
LIT 1403 LE 1403 FILTER 3 SSF-1403
LIT 1404 LE 1404 FILTER 4 SSF-1404

SLOW SAND FILTERS

DRAIN OUTLET

103 1

103 2

△LCP-1111

HS 1111A LR — YL 1111A STANDBY
HS 1111B OO — YL 1111B RUN
HS 1111C POT — YL 1111C POWER

SV SV MCC-1001 SV SV

COOLING WATER IN

△OZG-1111

△OZG-1121

△LCP-1121

HS 1121A LR — YL 1121A STANDBY
HS 1121B OO — YL 1121B RUN
HS 1121C POT — YL 1121C POWER

MCC-1001

PSH 1111 PSL 1111 MX 1111 MTR AIR CYLINDER CMP-1111

COMPRESSORS

PSL 1121 PSH 1121 MX 1121 MTR AIR CYLINDER CMP-1121

OXG-1121 OXYGEN GENERATOR

OXG-1111 OXYGEN GENERATOR

T-1121 SURGE TANK

T-1111 SURGE TANK

SV

STATE OF ALASKA ★ 49TH ★ RALPH J. TITUS No. 9668 REGISTERED PROFESSIONAL ENGINEER

NOTES:
1. PIPING & VALVING IS SHOWN FOR GENERAL INSTRUMENTATION PURPOSES. FOR ACTUAL PIPING, VALVING, AND EQUIPMENT INTERCONNECTIONS/COMPONENTS; SEE MECHANICAL/CIVIL DRAWINGS.
2. " △ " INDICATES COMPONENTS PROVIDED AS PART OF OZONE SYSTEM PACKAGE.
3. PROVIDE HIGH LEVEL ALARMS OFF CONTACTS PROVIDED WITH INSTRUMENT INTO PLC FOR LIT-1401, LIT-1402, LIT-1403, AND LIT-1404.

Wilson Engineering
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3003 186th Ave. N.E.
Bellevue, WA 98008
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Fax (425) 861-7317

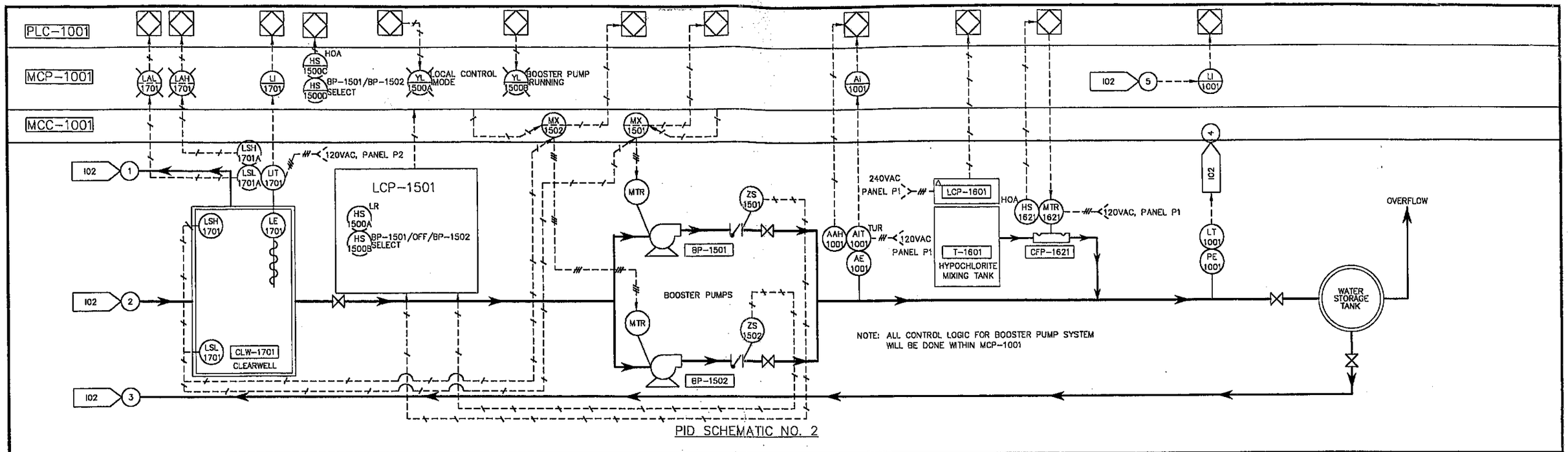
REVISIONS	BY	DATE

DESIGNED BY: RJT
DRAWN BY: CWA/RJT
CHECKED BY: RJT/MAC

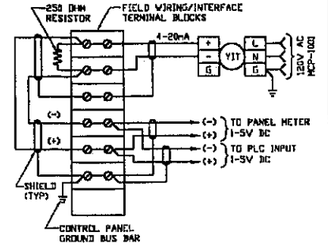
CITY OF WRANGELL
WRANGELL ISLAND ALASKA
PHASE 2 WATER SYSTEM IMPROVEMENTS
PID SCHEMATIC NO. 1

DATE 3/16/98
SCALE NO SCALE
JOB NUMBER 97070
SHEET 102
OF 103

J:\DWG\CONTROL\PID1 Fri Mar 13 15:51:17 1998 WAH

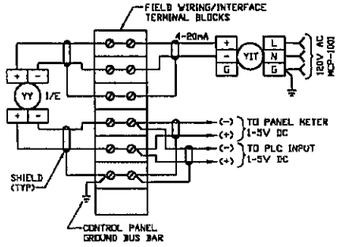


PID SCHEMATIC NO. 2



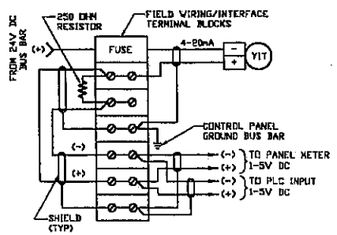
EXTERNALLY POWERED TRANSMITTER WITH ISOLATED OUTPUT

DETAIL 1 NTS



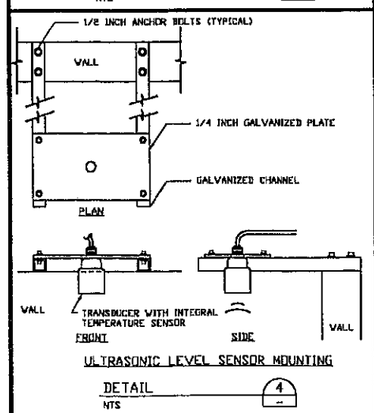
EXTERNALLY POWERED TRANSMITTER WITH NON-ISOLATED OUTPUT

DETAIL 2 NTS



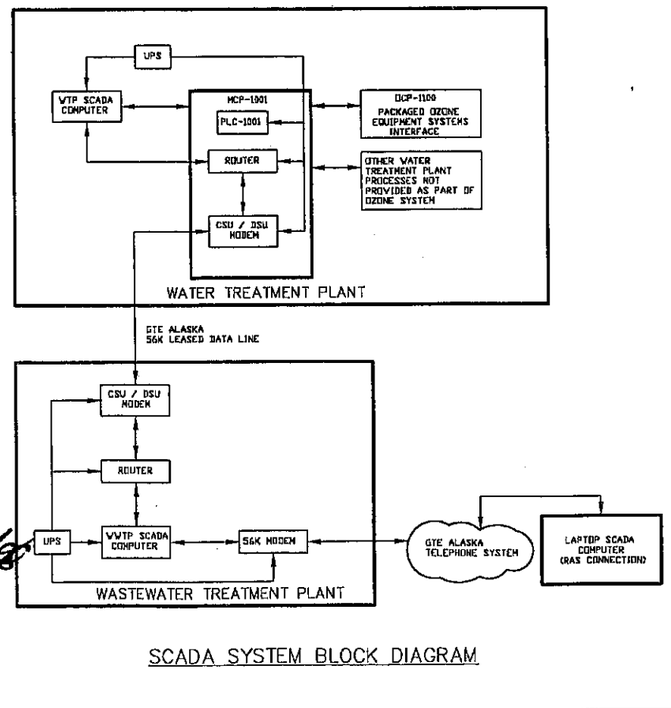
LOOP POWERED TRANSMITTER

DETAIL 3 NTS



ULTRASONIC LEVEL SENSOR MOUNTING

DETAIL 4 NTS



SCADA SYSTEM BLOCK DIAGRAM

STATE OF ALASKA 49TH RALPH J. TITUS No. 9668 REGISTERED PROFESSIONAL ENGINEER

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NO.	REVISIONS	BY	DATE

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DRAWN BY:	CWA/RJT
CHECKED BY:	RJT/MAC

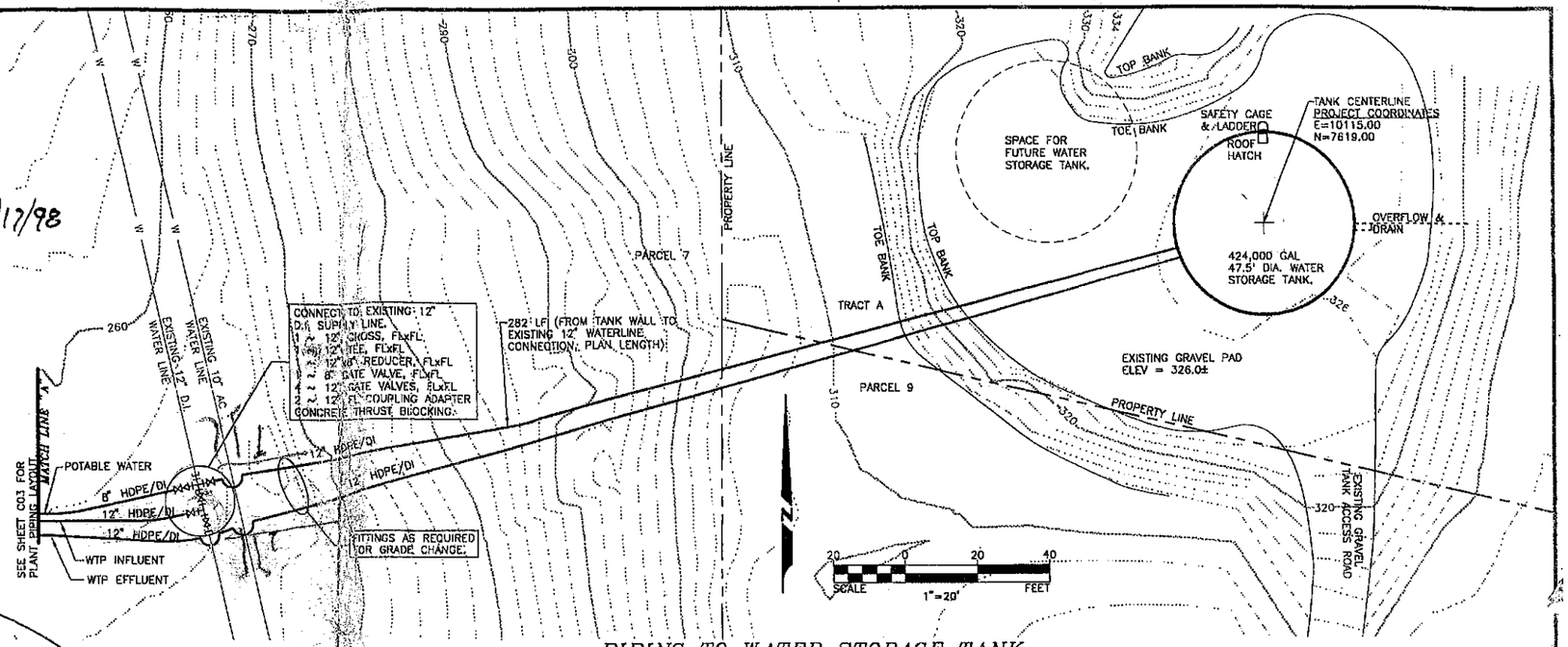
CITY OF WRANGELL
WRANGELL ISLAND ALASKA

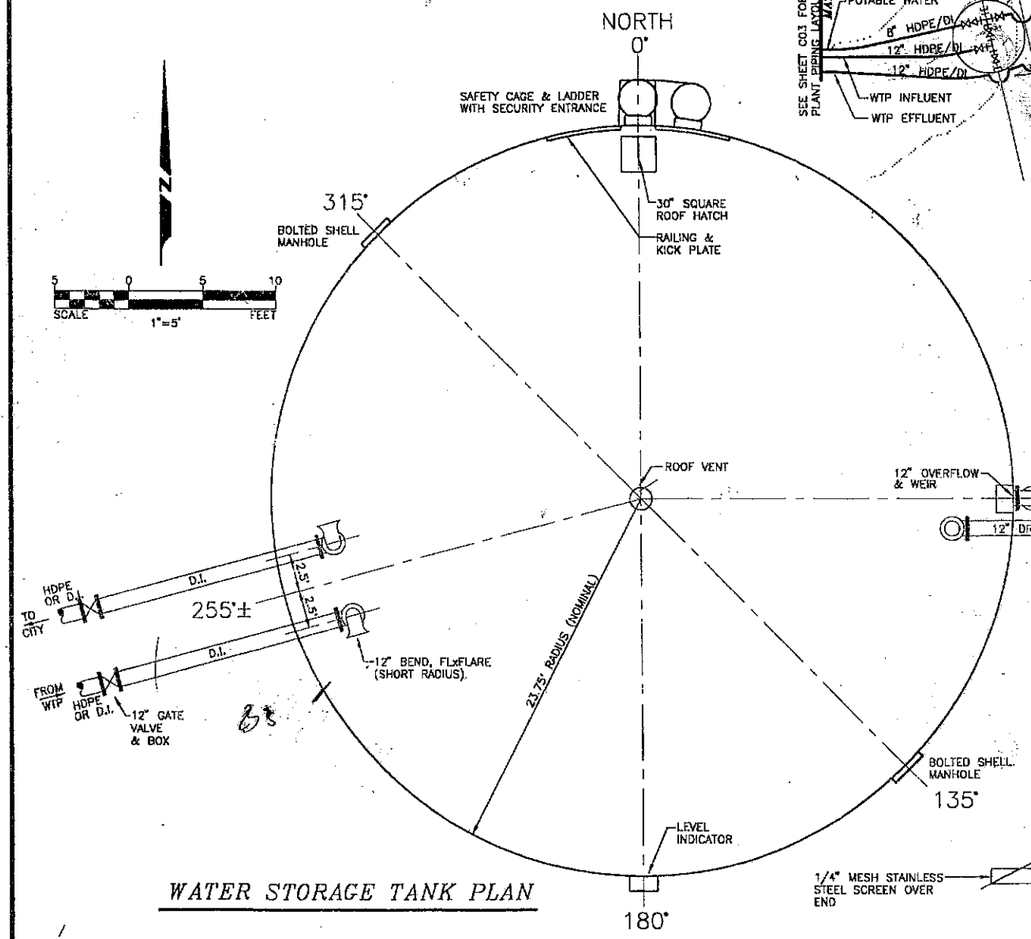
PHASE 2 WATER SYSTEM IMPROVEMENTS
PID SCHEMATIC NO. 2 & MISC. DETAILS

DATE	3/16/98
SCALE	NO SCALE
JOB NUMBER	97070
SHEET	103
OF	103

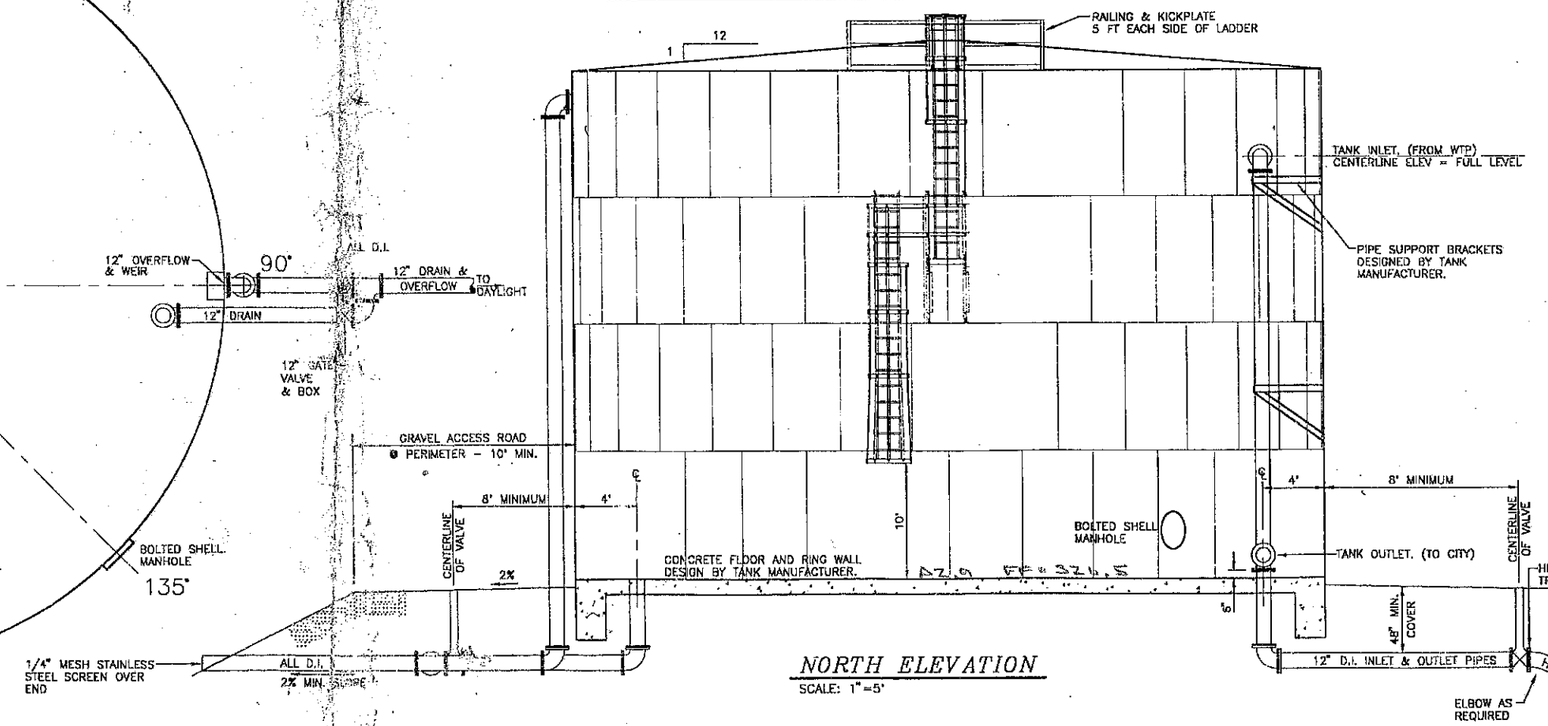
C:\PROJECT\97070\DWG\CONTROL\PID2 Fri Mar 13 15:42:27 1998 WAH

STATE OF ALASKA
49TH
JAMES E. WILSON
No. CE6668
REGISTERED PROFESSIONAL ENGINEER
3/17/98





WATER STORAGE TANK PLAN



PIPING TO WATER STORAGE TANK

NORTH ELEVATION

SCALE: 1"=5'

NO.	REVISIONS	BY	DATE

Wilson Engineering
CONSULTING ENGINEERS & SURVEYORS

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(360) 733-6100
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DESIGNED BY:	WAH
DRAWN BY:	WAH
CHECKED BY:	

CITY OF WRANGELL
WRANGELL ISLAND ALASKA

PHASE 2 WATER SYSTEM IMPROVEMENTS
WATER STORAGE TANK PLAN & PIPING

DATE	3/13/98
SCALE	AS SHOWN
JOB NUMBER	97070
SHEET	R01
OF	R01

C:\PROJECT\97070\DWG\97070R01 Fri Mar 13 16:41:02 1998 WAH