

2153
VILLAGE

OF

TUNUNAK, ALASKA

PHASE III

SANITATION

IMPROVEMENTS

1995

Prepared for:

TUNUNAK TRADITION ELDERS COUNCIL

P.O. BOX 50

TUNUNAK, ALASKA

Grants thru:

STATE OF ALASKA,

VILLAGE SAFE WATER AND

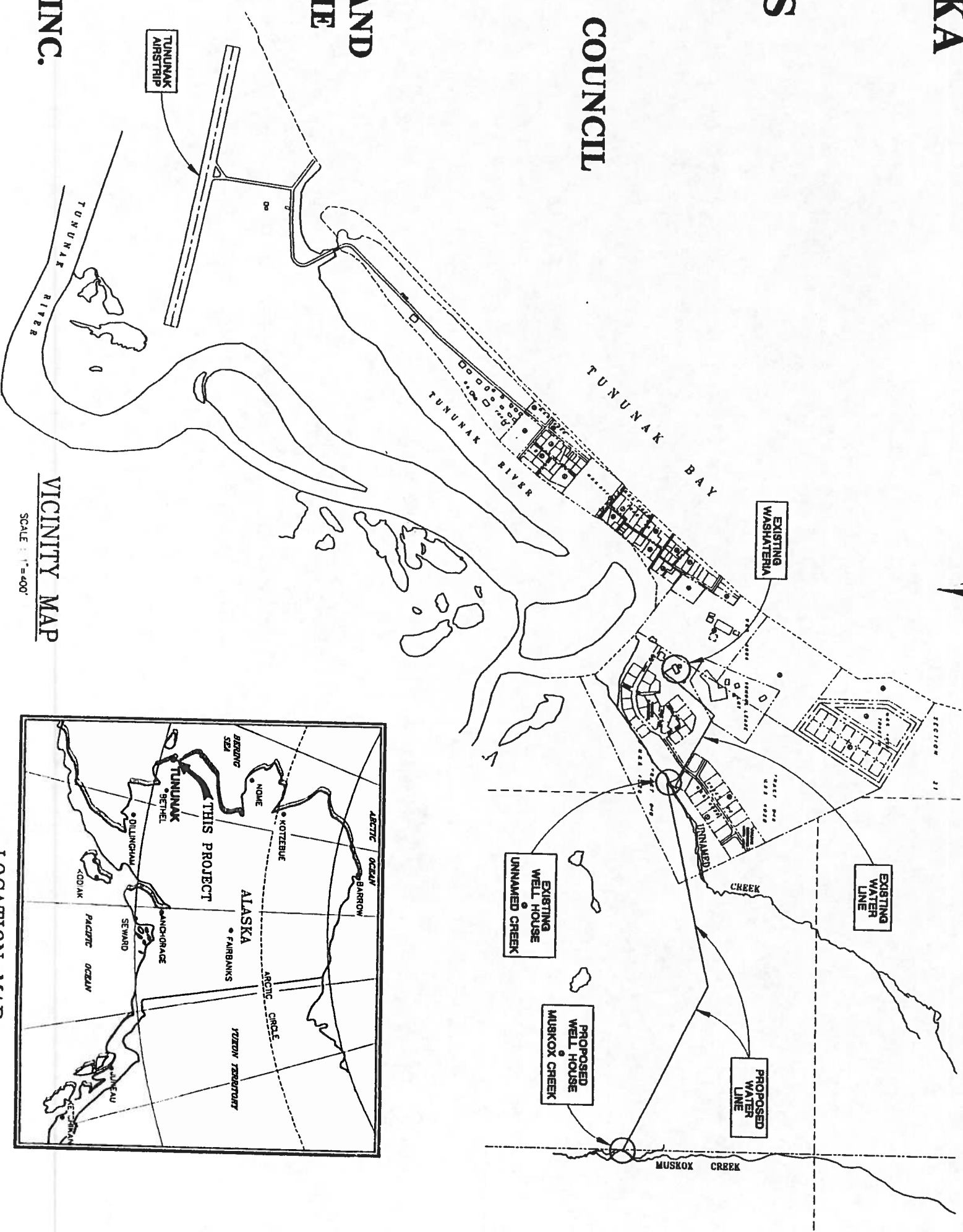
U.S.D.A. FARMERS HOME

ADMINISTRATION

Prepared by:

PHUKAN CONSULTING

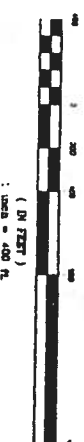
ENGINEERS & ASSOCIATES, INC.



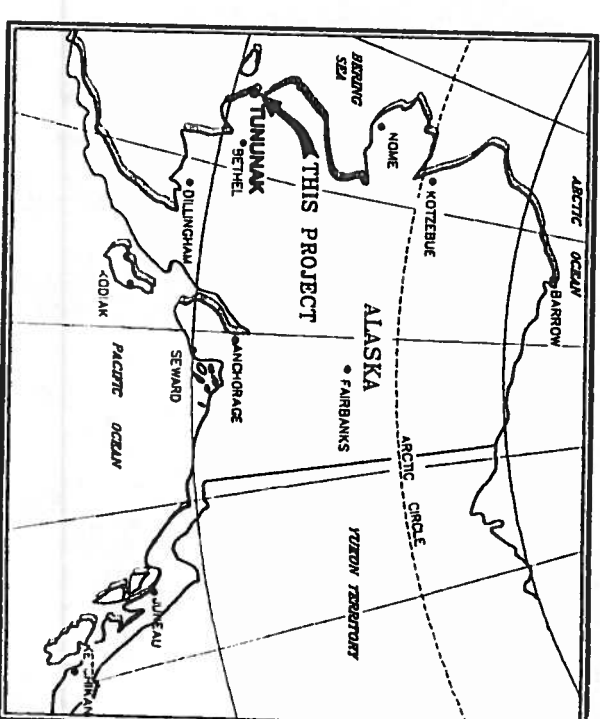
VICINITY MAP

SCALE: 1"=400'

GRAPHIC SCALE



LOCATION MAP



INDEX TO SHEET

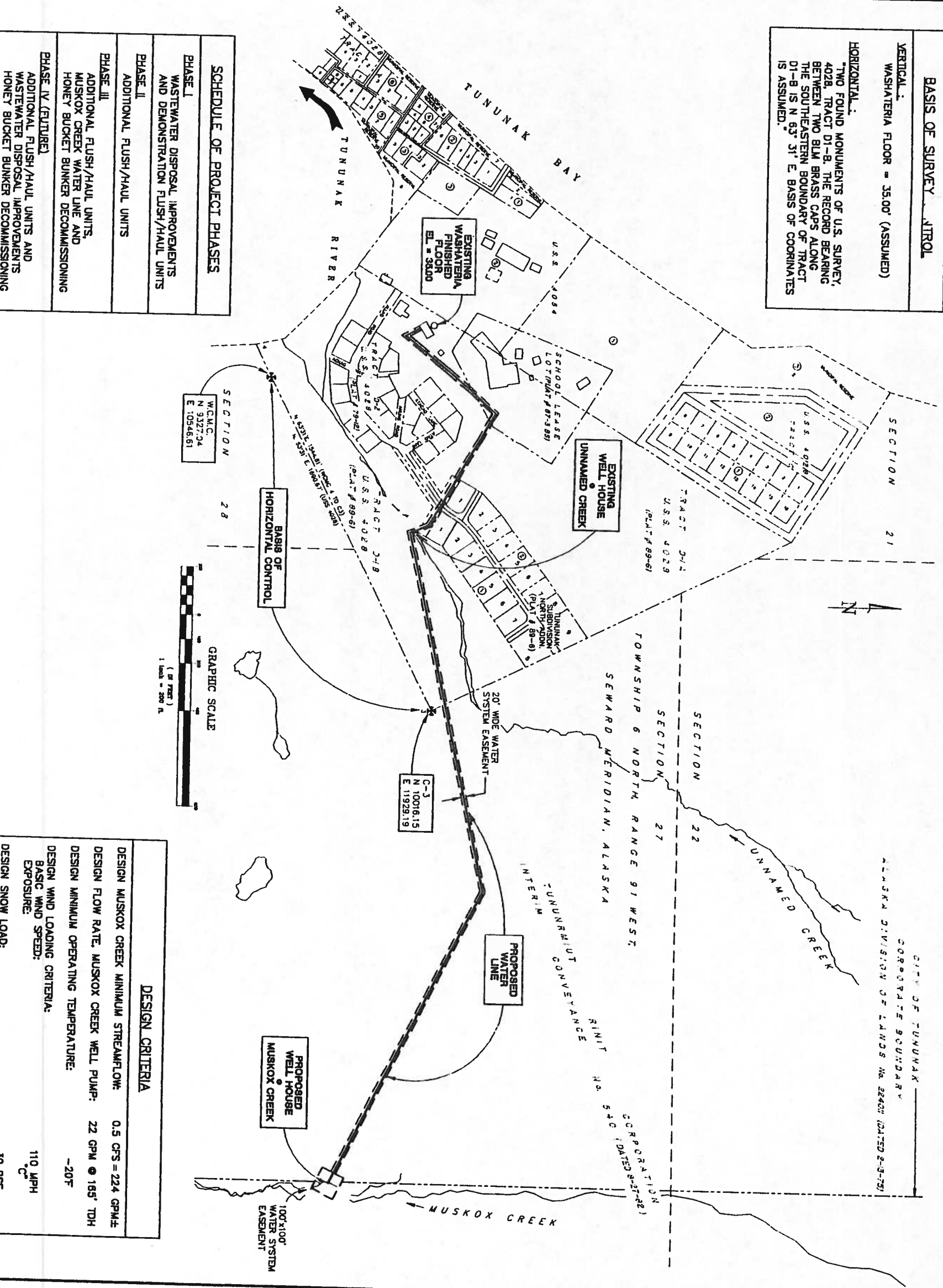
COVER SHEET

INDEX TO SHEETS, SCHEDULE OF PROJECT PHASES, DESIGN CRITERIA, AND BASIS OF SURVEY CONTROL	C-1
WATER LINE IMPROVEMENTS WASHATERIA TO UNNAMED CREEK WELHOUSE	C-2
WATER LINE IMPROVEMENTS UNNAMED CREEK WELHOUSE TO STA. 18+00.00	C-3
WATER LINE IMPROVEMENTS STA. 18+00.00 TO MUSKOK CREEK WELHOUSE	C-4
UNNAMED CREEK WELHOUSE SITE MUSKOK CREEK WELHOUSE	C-5
WATER LINE IMPROVEMENTS WATER SYSTEM DETAILS	C-6
GENERAL STRUCTURAL NOTES AND WASHATERIA AND UNNAMED CREEK WELHOUSE STRUCTURAL DETAILS	S-1
MUSKOK CREEK WELHOUSE PLANS, SECTIONS AND DETAILS	S-2
MUSKOK CREEK WELHOUSE STRUCTURAL DETAILS	S-3
INSULATED BOXES PLANS, SECTIONS AND DETAILS	S-4
INSULATED BOXES PLANS, SECTIONS, DETAILS AND NOTES	S-5
INSULATED BOX DETAILS	S-6
WASHATERIA PIPING UNNAMED CREEK WELHOUSE PIPING	M-1
MUSKOK CREEK WELHOUSE PIPING	M-2
MECHANICAL PIPING LAYOUT	M-3
WATER LINE IMPROVEMENTS FABRICATION DETAILS	M-4
WATER LINE IMPROVEMENTS FABRICATION DETAILS	M-5
WASHATERIA IMPROVEMENTS BAG FILTERS AND PIPING	M-6

BASIS OF SURVEY CONTROL

VERTICAL:
WASHATERIA FLOOR = 35.00' (ASSUMED)

HORIZONTAL:
TWO FOUND MONUMENTS OF U.S. SURVEY, 4028, TRACT D1-B, THE RECORD BEARING BETWEEN TWO BLM BRASS CAPS ALONG THE SOUTHEASTERN BOUNDARY OF TRACT D1-B IS N 63° 31' E BASIS OF COORDINATES IS ASSUMED.



SCHEDULE OF PROJECT PHASES

PHASE I WASTEWATER DISPOSAL IMPROVEMENTS AND DEMONSTRATION FLUSH/HAUL UNITS
PHASE II ADDITIONAL FLUSH/HAUL UNITS
PHASE III ADDITIONAL FLUSH/HAUL UNITS, MUSKOK CREEK WATER LINE AND HONEY BUCKET BUNKER DECOMMISSIONING
PHASE IV (FUTURE) ADDITIONAL FLUSH/HAUL UNITS AND WASTEWATER DISPOSAL IMPROVEMENTS HONEY BUCKET BUNKER DECOMMISSIONING

GRAPHIC SCALE
1 inch = 200 ft

DESIGN CRITERIA

DESIGN MUSKOK CREEK MINIMUM STREAMFLOW:	0.5 CFS = 224 GPM±
DESIGN FLOW RATE, MUSKOK CREEK WELL PUMP:	22 GPM @ 165' TDH
DESIGN MINIMUM OPERATING TEMPERATURE:	-20°F
DESIGN WIND LOADING CRITERIA:	110 MPH
BASIC WIND SPEED:	30 PSF
DESIGN SNOW LOAD:	125 PSF

DESIGN LIVE LOAD, MUSKOK CREEK WELL HOUSE:



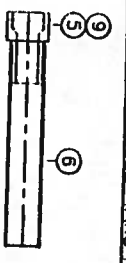
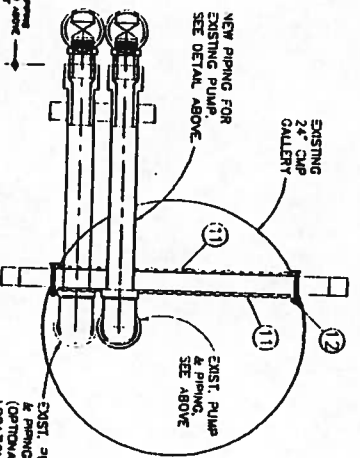
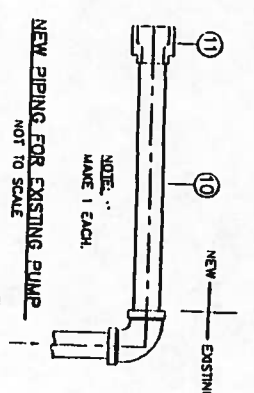
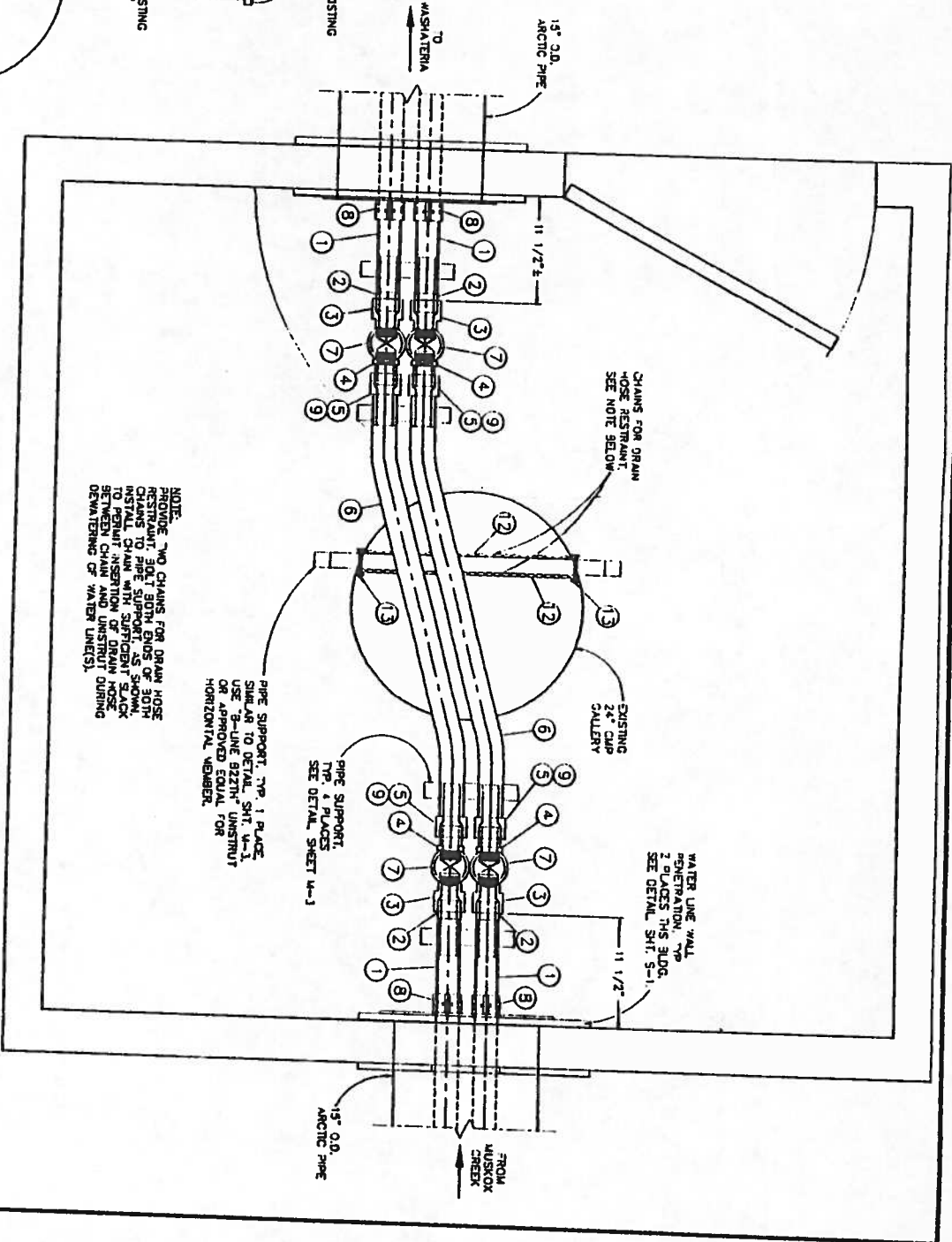
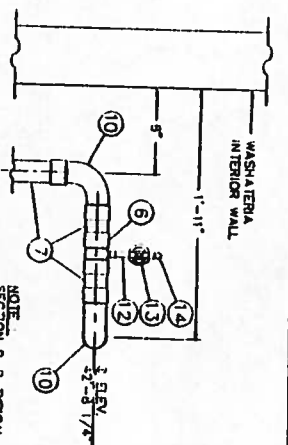
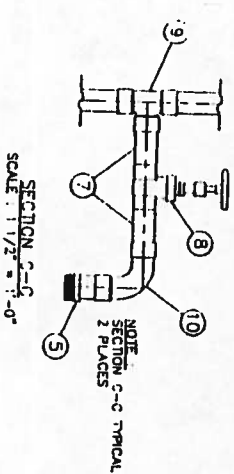
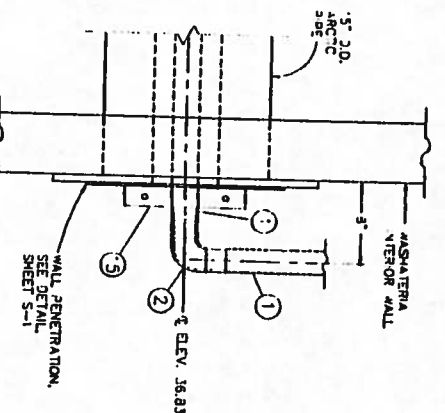
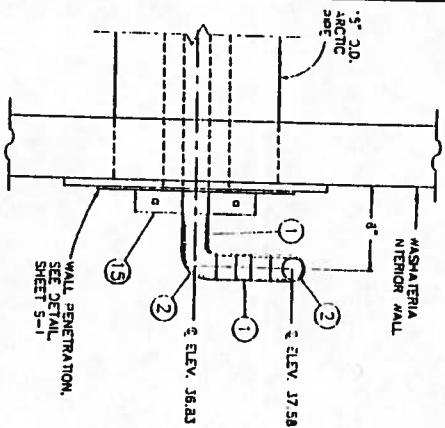
PHUKAN CONSULTING ENGINEERS & ASSOCIATES, INC.
Civil • Geotechnical • Surveying • Environmental
2702 Gambell St., Suite 201, Anchorage, AK, 99503
Tel: (907) 272-7111 Fax: (907) 277-3177

VILLAGE OF
TUNUNAK, ALASKA
PHASE II
SANITATION IMPROVEMENTS
1995

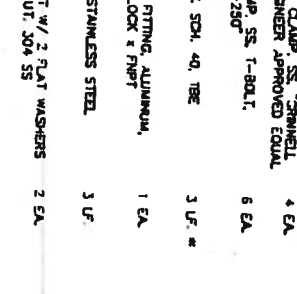
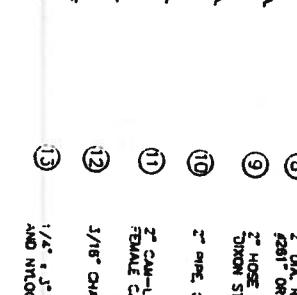
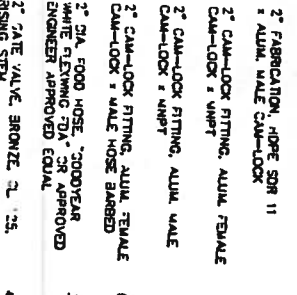
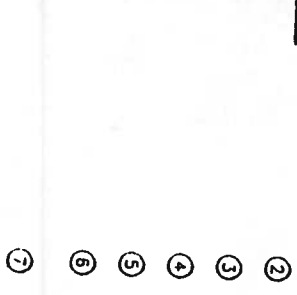
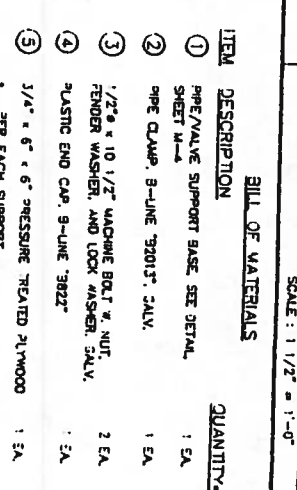
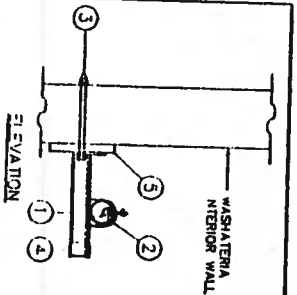
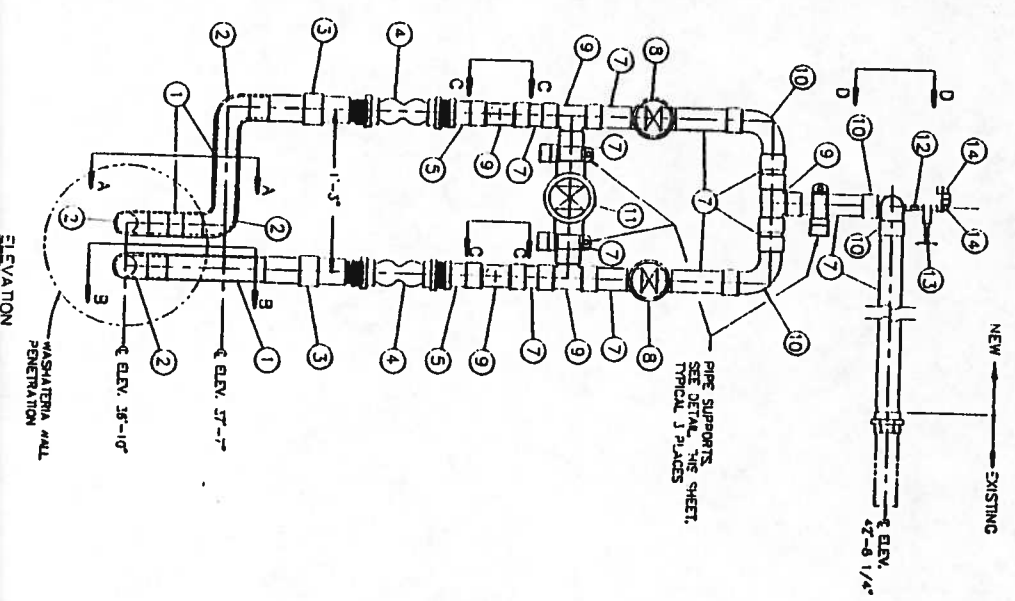


INDEX TO SHEETS, SCHEDULE OF PROJECT PHASES, DESIGN CRITERIA, AND BASIS OF SURVEY CONTROL

SCALE	DATE	BY	CHECKED	DATE	BY
1" = 200'	7/13/95	JA	7/13/95	JA	7/13/95
SHEET C-1 OF 1					



ITEM	DESCRIPTION	QUANTITY
①	2" DIA. PIPE, HOPE SOR 17	1 LOT
②	2"-90° ELBOW, HOPE SOR 11	4 EA
③	2" DIA. TRANSITION FITTING, HOPE SOR 11 x JOA SS UNPT	2 EA
④	2" DIA. DOUBLE SPHERE UNION, WETNAPLEX™ OR APPROVED EQUAL	2 EA
⑤	2" DIA. MALE STREET ADAPTER, SWEAT COPPER x UNPT	4 EA
⑥	2" x 2" x 1/2" TE SWEAT COPPER	1 EA
⑦	2" DIA. PIPE, TYPE "V" COPPER	10 L.F.
⑧	3" GATE VALVE, BRONZE CL. 125 SWEAT ENDS, NON-RISING STEM	4 EA
⑨	2" x 2" x 2" TE SWEAT COPPER	5 EA
⑩	2"-90° ELBOW, LONG TURN FEMALE SWEAT COPPER	8 EA
⑪	2" GLOBE VALVE, BRONZE CL. 125, SWEAT ENDS	1 EA
⑫	1/2" DIA. PIPE, TYPE "V" COPPER	5 L.F.
⑬	1/2" GATE VALVE, BRONZE CL. 125 SWEAT ENDS, NON-RISING STEM	1 EA
⑭	1/2"-90° STREET ELBOW, CLOSE RUFF, SWEAT COPPER	2 EA
⑮	2" DIA. RISER CLAMP, SS, CORNELL 4261 R OR EQUIVETER APPROVED EQUAL	2 EA



1 WASHATERIA PIPING IMPROVEMENTS

2 WALL PIPE SUPPORT

UNNAMED CREEK WELLHOUSE PIPING IMPROVEMENTS

PHUKAN
CONSULTING ENGINEERS & ASSOCIATES, INC.
Civil • Geotechnical • Surveying • Environmental
3702 Gambell St., Suite 201, Anchorage, AK, 99503
Tel: (907) 272-7111 Fax: (907) 272-7177

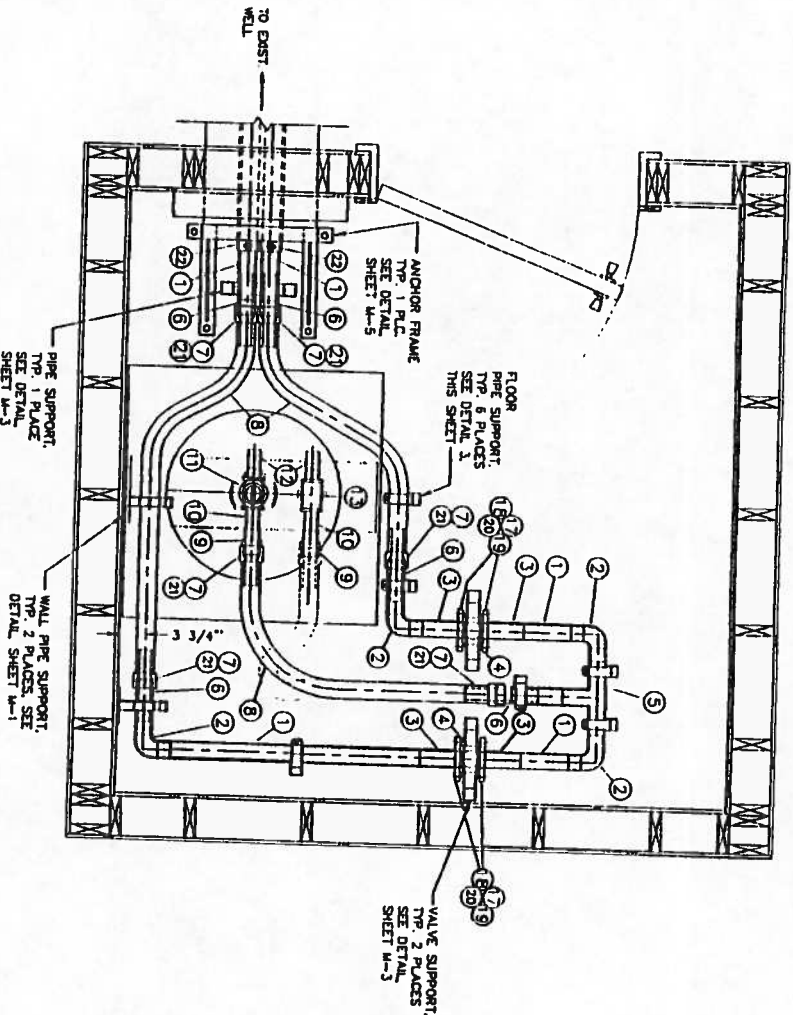
VILLAGE OF
TUNUNAK, ALASKA
PHASE III
SANITATION IMPROVEMENTS

STATE OF ALASKA
JAN 19 1908
RECEIVED
TERRITORY OF ALASKA
UNNAMED CREEK WELHOUSE PIPING
SCALE

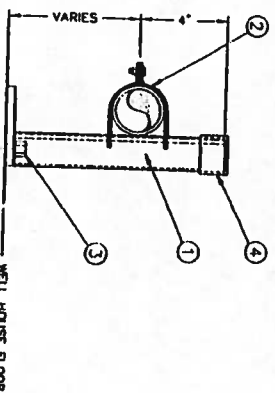
BILL OF MATERIALS

ITEM	DESCRIPTION	QUANTITY
1	2" PIPE, HOPE SDR 17	1.00'
2	2"-90° ELBOW, HOPE SDR 11	4 EA
3	2" MOLOD FLANGE CONNECTOR, HOPE SDR 11	4 EA
4	2" BUTTERFLY VALVE, 24" DIAM. BGS. OR ENGINEER APPROVED EQUAL	2 EA
5	2" TEI, HOPE SDR 11	1 EA
6	2" FITTING, HOPE SDR 11 x ALUM.	5 EA
7	2" CAM-LOCK FITTING, ALUM. FEMALE CAM-LOCK x BARBED	6 EA
8	2" FOOD HOSE, 300' YEAR WHITE FLEXING FLY, OR ENGINEER APPROVED EQUAL	20 LF
9	2" CAM-LOCK FITTING, ALUM. MALE CAM-LOCK x RIFT	2 EA
10	2" x 5" LONG PIPE, HEPCL SCH 40, GALV. STEEL, TEE	3 EA
11	2" CROSS, CL 150, GALV. AL.	1 EA
12	2" PLUG W/ RIMMY LEE, CL 150 GALV. AL. x SCH 40 GALV. STEEL, SEE DETAIL, SHEET M-5	2 EA
13	2" TEE, CL 150, GALV. AL.	1 EA
14	2" PLUG W/ 1" L.D. LIFTING EYE, CL 150 GALV. AL. x A36, SEE DETAIL, SHEET M-5	1 EA
15	2" PIPE, SCH 40 GALV. TEE	10 LF
16	2" RIFT SUBMERGIBLE WELL PUMP, 2 HP, 240 V, SINGLE PHASE, 3/4" NPT, 240 V, 3/4" NPT, OR APPROVED EQUAL, SEE NOTE BELOW, CL 150, DL	1 EA
17	2" FLANGE GASKET, CL 150, 1/8" RED RUBBER	4 EA
18	5/8" x 6" LONG STUDS, 304SS, NC	8 EA
19	5/8" NUTS, 304SS, NC	16 EA
20	2" HOSE CLAMP, SS, 1-BOLT, TUBON STBC-250	6 EA
21	2" RISER CLAMP, SS, 2-BOLT, RST, OR ENGINEER APPROVED EQUAL	2 EA
22	3/4" x 4" LONG STUDS, 304 SS	8 EA
23	3/4" NUTS, 304 SS	16 EA
24	6" x 4" FLANGE GASKET, CL 150, 1/8" RED RUBBER	1 EA
25	2" U-BOLT, WITH NUTS, GALV.	2 EA

* CUT TO LENGTH IN FIELD.
- REMOVE INTERNAL CHECK VALVE.

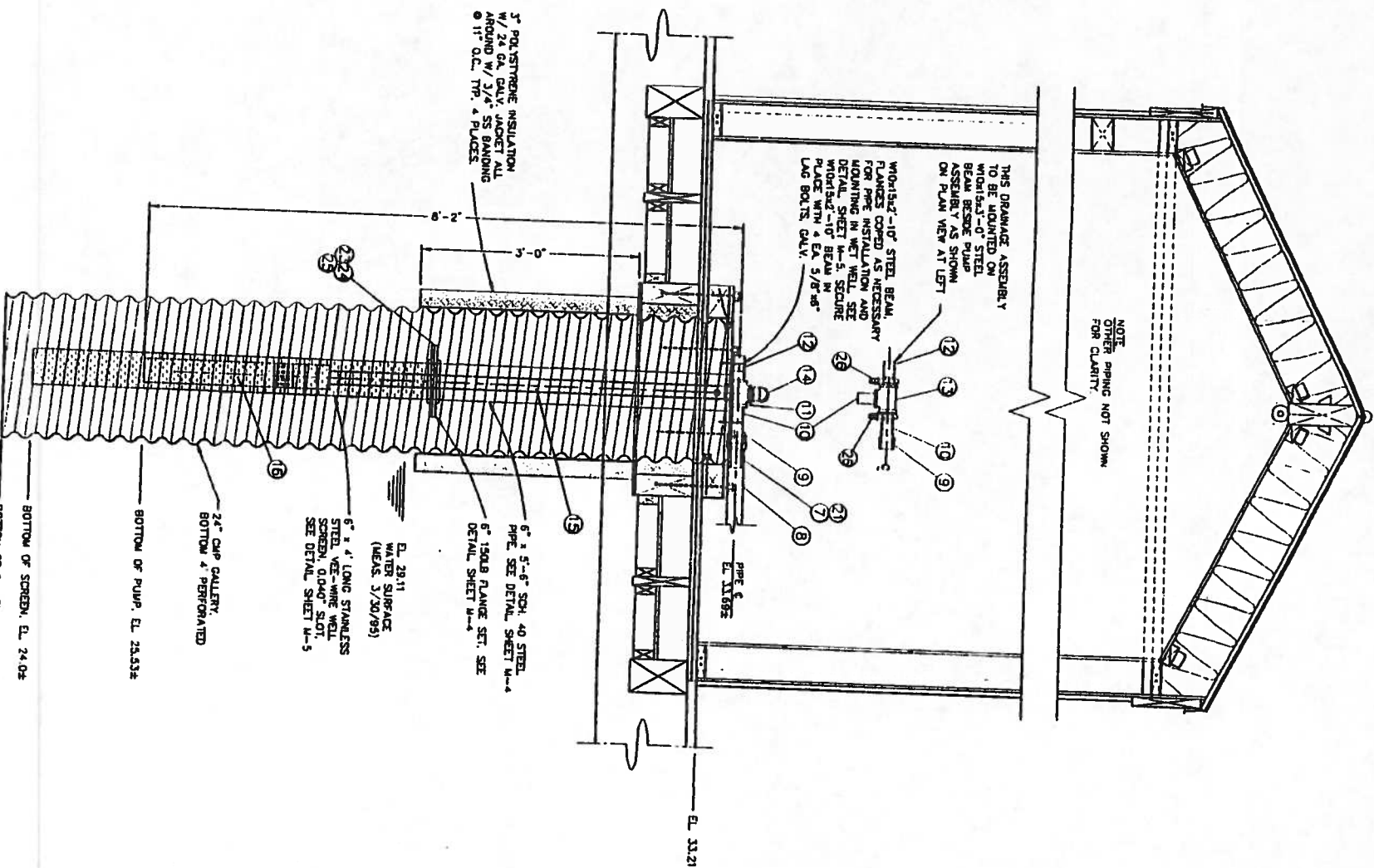


1 MUSKO CREEK PROPOSED PIPING LAYOUT
SCALE: 1/4" = 1'-0"



ITEM	DESCRIPTION	QUANTITY (PER EA SUPPORT)
1	PIPE/VALVE SUPPORT BASE, SEE DETAIL, SHEET M-4	1 EA
2	PIPE CLAMP, 8-LINE "B2013"	1 EA
3	LAG BOL.: (W/ FLAT WASHER), 1/2" x 1-1/2" GALV.	2 EA
4	PLASTIC END CAP, 8-LINE "B222"	1 EA

3 FLOOR PIPE SUPPORT
SCALE: 1/4" = 1'-0"

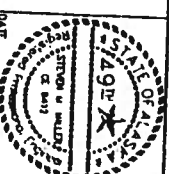


2 MUSKO CREEK WELLHOUSE PUMP ASSEMBLY
SCALE: 1/4" = 1'-0"

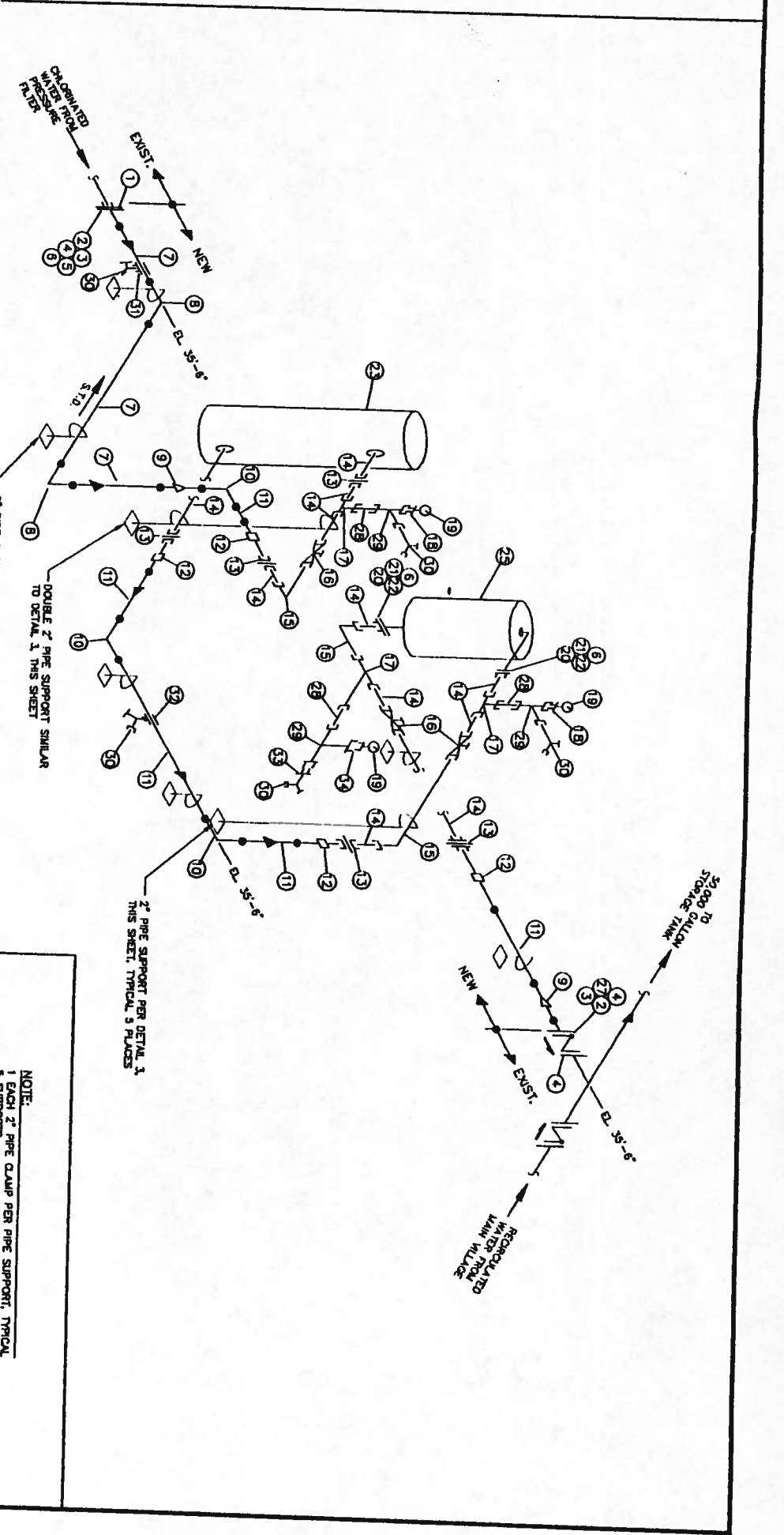
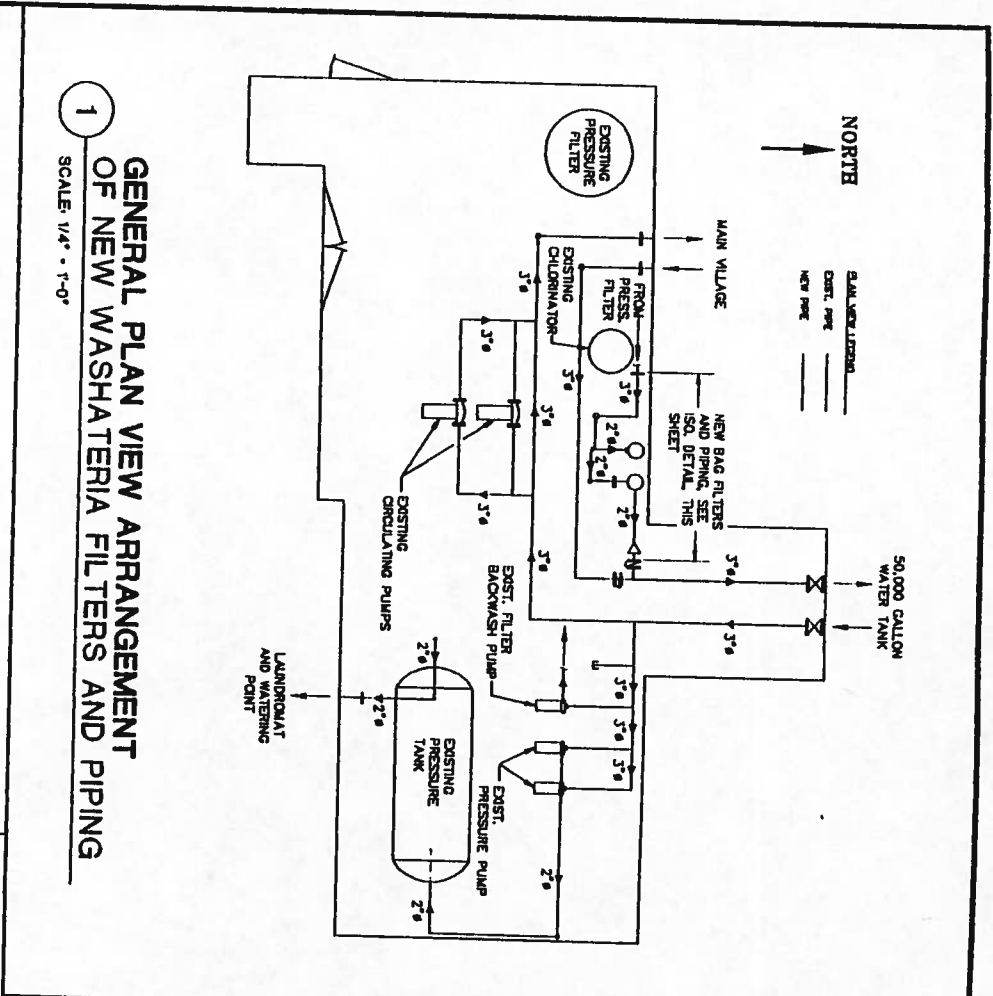
DATE	BY	DATA	DATE	REVISIONS	BY
		Sanitary Screen			
		Storm Screen			
		Water			
		Gas			
		Transmission			
		Electric			
		Control TV			
		Equipment			
		Location			

PHUKAN CONSULTING ENGINEERS & ASSOCIATES, INC.
Civil • Geotechnical • Surveying • Environmental
2702 Gambell St., Suite 201, Anchorage, AK, 99503
Tel: (907) 272-7111 Fax: (907) 277-3177

VILLAGE OF
TUNUNAK, ALASKA
PHASE III
SANITATION IMPROVEMENTS
1995



MUSKO CREEK WELLHOUSE PIPING
SHEET M-2 OF 2
DATE 7/1/95
DRAWN J.A./NVC



WASHATERIA GENERAL NOTES

- ELEVATION DATA
THE ELEVATION DATA FOR THIS PROJECT IS WASHATERIA FLOOR = 35'0".
- DISINFECTION OF NEW BAG FILTERS AND ASSOCIATED NEW PIPING SHALL BE DISINFECTED WITH A SOLUTION OF 1% CHLORINE/WATER SOLUTION FOR 12 CONTINUOUS HOURS. SUCH A SOLUTION CAN BE MADE BY ADDING 1.5 GALLONS OF 5% ACTIVE INGREDIENTS WITH 500 PARTS PORTABLE WATER. AFTER DISINFECTION, NEW FILTERS AND PIPING SHALL BE FLUSHED WITH PORTABLE WATER UNTIL FLUSH WATER, AT THE EXISTING ENDS OF PIPING, IS FREE OF NOTICEABLE CHLORINE TASTE AND/OR ODOR.
- WHERE 12 HOUR CHLORINATION IS NOT PRACTICAL, THE EXISTING AND NEW TIE-IN COMPONENTS SHALL BE THOROUGHLY SATURATED WITH UNDILUTED CHLORINE BLEACH, APPLIED WITH A SQUIRT BOTTLE. BLEACH SHALL BE LEFT ON THE SURFACES.
- SAFETY
POTENTIAL SAFETY HAZARDS INCLUDE, BUT ARE NOT LIMITED TO, FIRE, CHEMICAL BURNS (FROM CHLORINE), ELECTRICAL SHOCK/BURN/ELECTROCUTION, Cuts, LIFTING INJURIES, AND SPREADING OF FAMILIARIZING DISEASE (FROM INADEQUATE DISINFECTION). THE SUBMITTER SHALL TAKE ALL RESPONSIBLE AND PRUDENT MEASURES TO ELIMINATE OR MINIMIZE SAFETY HAZARDS.

BILL OF MATERIALS

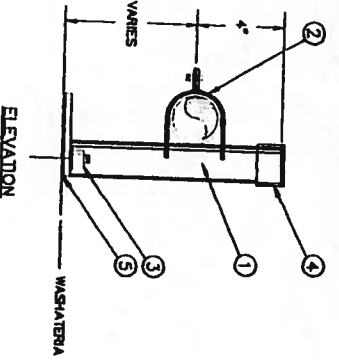
ITEM	DESCRIPTION	QUANTITY	ITEM	DESCRIPTION	QUANTITY
1	3" FLANGE, COPPER, SWEAT x 150 LB	1 EA	21	2" FLANGE GASKET, 1/8" RED RUBBER, 150 LB	2 EA
2	3" MOLDED FLANGE CONNECTOR, HOPE SDR 11, NSF APPROVED	2 EA	22	5/8" x 4" LONG STUDS, 304SS, NC	8 EA
3	3" CONVOLUTED BACKUP RING, 304SS, 150 LB	2 EA	23	2" BAG FILTER, WITH 304SS HOUSING, PART, T-P PRODUCTS	1 EA
4	3" FLANGE GASKET, 1/8" RED RUBBER, 150 LB	3 EA	24	1/2" x 3" WEDGE ANCHOR WITH NUT, FLAT WASHER, AND LOCK WASHER, 304SS	8 EA
5	5/8" x 1-1/2" STUDS, 304SS, NC	4 EA	25	2" BAG FILTER, WITH 304SS, 150 LB, FLANGED HOUSING, T-P PRODUCTS NUMBER 523" WITH 1.5 MICRON DISPOSABLE BAG, AND ADJUSTABLE LEIS	1 EA
6	5/8" NUTS, 304SS, NC	24 EA	26	1.5 MICRON DISPOSABLE BAG FOR ITEM 25 ABOVE	12 EA
7	3" PIPE, HOPE SDR 11, NSF APPROVED	10 LF	27	5/8" x 8" STUDS, 304SS, NC	4 EA
8	3" 90° ELBOW, HOPE SDR 11, NSF APPROVED	2 EA	28	1" x 2" LONG NIPPLE, 304SS, SCH 40, TBE	3 EA
9	3" x 2" REDUCER, HOPE SDR 11, NSF APPROVED	3 EA	29	1" x 1" x 3/4" REDUCING TEE, 304SS, CL 150	3 EA
10	2" 90° ELBOW, HOPE SDR 11, NSF APPROVED	10 LF	30	3/4" BOILER DRUM, BRONZE, W/PT	5 EA
11	2" PIPE, HOPE SDR 11, NSF APPROVED	10 LF	31	3" x 3/4" NPT TAPPING SADDLE, POLYPROPYLENE	1 EA
12	2" TRANSITION, HOPE SDR 11 x 304SS W/PT, NSF APPROVED	4 EA	32	2" x 3/4" NPT TAPPING SADDLE, POLYPROPYLENE	1 EA
13	2" UNION, 304SS, CL 150, THREADED	5 EA	33	1" x 3/4" NPT TAPPING SADDLE, POLYPROPYLENE	1 EA
14	2" x 2-1/2" LONG NIPPLE, 304SS, SCH 40, TBE	11 EA	34	3/4" x 1/4" BUSHING, 304SS, THREADED	1 EA
15	2" 90° STREET ELBOW, 304SS, CL 150, THREADED	3 EA	35	15 MICRON REUSABLE POLYPROPYLENE BAG FOR ITEM 23 ABOVE	1 EA
16	2" GATE VALVE, BRONZE, CL 125, RISING STEM, THREADED	3 EA	36	25 MICRON REUSABLE POLYPROPYLENE BAG FOR ITEM 23 ABOVE	1 EA
17	2" x 2" x 1" TEE, 304SS, THREADED	3 EA			
18	1" x 1/4" BUSHING, 304SS, THREADED	2 EA			
19	2" FACE x 1/4" NPT PRESSURE GAGE, 0 - 100 PSI, STAINLESS CASE, 1/4" NPT, OR APPROVED EQUAL	3 EA			
20	2" FLANGE, 304SS, NPT x CL 150, SCH 40	2 EA			

* NOT SHOWN

PIPING ISOMETRIC

NOT TO SCALE

NOTE:
1 EACH 2" PIPE CLAMP PER PIPE SUPPORT, TYPICAL
2 EACH 2" PIPE CLAMP PER PIPE SUPPORT, TYPICAL
1 SUPPORT, TYPICAL
1 EACH 3" PIPE CLAMP PER PIPE SUPPORT, TYPICAL
2 SUPPORTS



BILL OF MATERIALS

ITEM	DESCRIPTION	QUANTITY (PER EA. SUPPORT)
1	PIPE/VALVE SUPPORT BASE, SEE DETAIL, SHEET W-4	1 EA
2	PIPE CLAMP, 8-LINE "B2015" OR "B2015"	1 EA OR 2 EA (SEE NOTE)
3	1/2" x 3" WEDGE ANCHOR W. NUT, FLAT WASHER AND LOCK WASHER, 304 SS	2 EA
4	PLASTIC END CAP, 8-LINE "B202"	1 EA
5	1/8" x 3" x 4" NEOPRENE RUBBER PAD	1 EA

FLOOR PIPE SUPPORT

SCALE 1-1/2" = 1' - 0"

DATE	BY	DATA	BY	DATE	REVISIONS	BY
10/20/94	SKM	Initial Design				
10/20/94	DKS	Revise				
		Check				
		Design				
		Client				
		Legend				
		Revisions				

PEUKAN CONSULTING ENGINEERS & ASSOCIATES, INC.
Civil • Geotechnical • Surveying • Environmental
203 W 15th, Suite 104, Anchorage, AK, 98501
Tel: (907) 272-7111 Fax: (907) 277-3177

VILLAGE OF TUNUNAK, ALASKA
PHASE III SANITATION IMPROVEMENTS

STATE OF ALASKA

99th DISTRICT

1994

WASHATERIA IMPROVEMENTS

BAG FILTERS AND PIPING

SHEET

M6

DATE

10/20/94

SCALE

1-1/2" = 1' - 0"

DATE

7/13/95

SCALE

1-1/2" = 1' - 0"

DATE

7/13/95

SCALE

1-1/2" = 1' - 0"