

# MEMORANDUM

1986/87  
State of Alaska

TO: Alvin G. Ott  
Regional Supervisor  
Habitat Division

DATE: September 17, 1987

FILE NO:

TELEPHONE NO: 451-6192

THRU:

SUBJECT: Seward Peninsula  
Field Trip,  
6/22-26/87

FROM: Alan Townsend and *APM*  
Robert McLean *McL*  
Habitat Biologists  
Habitat Division  
Department of Fish and Game

June 22, Townsend and McLean arrived in Nome at approximately 10:00 am. A 4x4 pickup truck had been reserved, and was ready at ADOT/PF. Sample bottles and copies of NPDES permits were delivered to ADEC from the Fairbanks ADEC office. We checked in at the ADF&G office and outlined our plans for the week.

## NOME CAUSEWAY

The first ever barge was unloading onto the causeway. Since no cranes, docks, or ramps are available on the causeway yet, the barge was unloaded with its own crane.

The breach in the causeway has an effective opening of approximately 200 feet at the water surface. A east to west current was visible on June 22. On June 23, the causeway's affect on nearshore sediment transport was clearly visible--a distinct plume was visible from the air with turbid water on the west side and nearly clear water on the east side. Photographs were taken from the air as we were departing Nome in a Cessna 206 for an overflight of placer mining areas.

## PLACER MINING

June 22, APP Mining - Speciman Gulch. Mr. Plockowitz and Bert Pettigrew were processing 50-60 cyd in a shaker screen equipped sluice plant. They were recycling the washwater and collecting the entire flow of Speciman Gulch (est. flow less than 1 cfs). Two pre-settling ponds and one recycle pond was being used. Less than 1 cfs was leaching through the pond walls and flowing to Anvil Creek which appeared nearly clear. Mr. Pettigrew was advised that he was operating without having filed an APMA or receiving the required

permits. Mr. Pettigrew stated that Mr. Tanner, a joint venture member, had taken care of the permit applications. Mr. Pettigrew was advised to promptly submit a completed APMA.

June 23, APP Mining - Speciman Gulch. McLean, Bauer, and Townsend viewed APP Mining from a Cessna 206 charter. Anvil Creek was slightly turbid (greenish) in two of the old dredge ponds through which it flows. The path of the APP Mining effluent could not be followed because of riparian vegetation.

June 24, APP Mining - Speciman Gulch. McLean and Townsend observed a highly turbid discharge crossing Glacier Creek Road at Speciman Gulch. Water samples were collected from Anvil Creek and Speciman Gulch. Settleable solids were measured in the samples from Anvil Creek, above and below the Speciman Gulch confluence, and from Speciman Gulch, both above and below APP Minings discharge. Two separate samples were collected from above the mining discharge. One sample measured trace settleable solids; the other measured zero settleable solids. The Anvil Creek sample collected below the Speciman Gulch confluence measured 13 ml/L SS. The Speciman Gulch sample collected below the mine discharge measured 130 ml/L SS. The solids were entering the creek from a drainpipe in the recycling pond. The operator had uncovered the pipe to drain the recycling pond. The settling pond located below the road crossing was already filled with solids and nearly the entire flow of the discharge was entering the creek. This discharge lasted less than an hour; however, the clear water flowing into the recycling pond from a Speciman Gulch spring was resuspending some of the previously deposited solids and discharging lower SS levels to the creek.

June 26, APP Mining - Speciman Gulch. Townsend issued a Notice-of-Violation (NOV) to Mr. Pettigrew for the June 24 discharge to Anvil Creek. Mr. Carl Plockowitz signed the NOV and agreed to promptly submit an APMA. Mr. Noel Tanner, joint venture member of APP Mining, came in to Mr. Plockowitz's apartment while Townsend was discussing the NOV with Plockowitz and showed a copy of a recently completed APMA for APP Mining on Speciman Gulch stating that he would be sending the APMA and \$100.00 check to ADNR in the next mail.

June 23. J. Bauer (ADEC), R. McLean, and A. Townsend conducted aerial reviews of placer mining along a route from Nome to Granite Mt. to Candle to Deering to Garfield to Anvil Mt. to Cripple River and back to Nome.

Alaska Gold Dredges #5 and #6 - APMA's 871025 and 871026. Dredge #6, near the Snake River, was operating with small volume discharge from the dredge pond to settling pond between the thaw field and beach. A readily noticeable plume of turbid water extended from the beach for several hundred yards. Nearshore turbidity was being added by wave action from Norton Sound.

Dredge #5 was also operating and turbid water escaping from the dredge pond was being pumped back from an impoundment on Dry Creek. Both Bourbon and Dry creeks were turbid from water loss from Dredge #5.

Buster Creek, Hoogenborn, APMA 872022. A dozer was on site near an ice field but no 1987 mining activity was apparent.

Casadepaga River, Gold Prospectors of America. A backhoe and loader were parked near the buildings but no 1987 mining activity was apparent. The overland access from the Solomon River was visible for 10 miles.

Sweepstakes Creek, Hatch, APMA 872108. Recent area of mining activity was apparent but none appeared to be from 1987.

Bear Creek, Parent, APMA 872032. The airstrip had been graded, 4 settling ponds were in place (offstream) and were full of turbid water but the operation was not sluicing at the time. A new mining cut was open and mining had occurred in 1987.

Quartz Creek, Granite Investment, APMA 871136. A dozer was working on the airstrip but no sluice or washplant was observed. A newly cut ditch extending approximately ½ mile parallel to the creek was discharging suspended sediments to Quartz Creek and the creek was turbid throughout its length to the Kiwalk River.

Candle Creek, M. Vial, APMA 872090. Operator was still setting up and stripping.

Candle Creek, V. Vial, APMA 872055. Active mining in progress with recycle. However, overburden that had been stockpiled between the mine cut and creek was melting and bleeding a considerable quantity of sediments into Candle Creek. Mr. Berg, claim owner, was contacted and advised of the problem which he said he would get corrected. Bauer took water samples.

Jump Creek, V. Vial, APMA 872056. Resuspension of sediments and erosion occurring in 1986 mine cut. No sign of 1987 mining activity.

Imnachuk River, unknown owner, no APMA. Mining equipment present near buildings close to the forks. No apparent mining activity in either 1986 or 1987.

Garfield Creek, Tachick, APMA 871314. Stripping with dozer on west bench above the creek. Access route appeared to be heavily rutted and muddy and was visible for 10-15 miles.

Boulder Creek, Mullikin, APMA 871389. A small backhoe was on site but no mining activity for this season was apparent.

American Creek, Gold Prospectors of America, APMA 872105. A dozer was on site and a small area of dirt work had been done near the grounded bucketline dredge.

Iron Creek, owner unknown, no APMA. Small track loader and suction dredge present but not operating. A vehicle was observed moving toward this site along the creek about 2 miles downstream.

Basin Creek, Engstrom, APMA 871489. The bucketline dredge appeared to be grounded. The Nome-Taylor Road construction contractor was excavating a large pit about ½ mile downstream from the dredge (free overburden removal?) adjacent to the creek.

Dorothy Creek, owner unknown, no APMA. A dozer was on site, old tailings were present but the only recent work appeared to be access improvements and building improvements.

Cripple River, Gold Prospectors of America, APMA unknown. A western frontier type town has been built on east bench, including boardwalks. No mining activity seen on the river but several hand sluice/shakers were on the beach. Nobody seemed to be present.

Enclosures (4)

cc: C. Lean, Comm Fish - Nome  
J. Coady, Game - Nome  
J. Clark, Sport Fish - Fairbanks  
J. Knudsen, USFWS - Nome  
R. Randall, Comm Fish - Anchorage

ENCLOSURE #1

Seward Peninsula General Permit Crossings  
ADF&G Field Inspection - June 22-26, 1987  
A. Townsend and R. McLean

Lower Glacier Creek Crossing - FG87-III-GP-012

Ground inspection 6/22/87. Water level low. Extensive gravel bars exposed. Approximately 14 instream fords between the Glacier Creek Road and the Snake River. No bank cuts or streambed damage noted. Recommended for continued general permit status.

Nome River Crossing at Buster Creek - FG87-III-GP-003

Ground inspection 6/22/87. Trail continues on opposite side up to the dredge site on Dexter Creek. Water level low, approximately 14 to 16 inches deep. No bank or streambed damage noted. One-quarter mile up the Dexter Creek trail, 2 full and one partially full 55-gallon drums were noted lying on their sides in the tundra on the south side of the trail. Three-eighths of a mile up the trail, an additional 5 full 55-gallon drums of lube oil were also noted lying on their sides in the tundra on the south side of the trail. No leakage was noted for any of the drums. Recommended for continued general permit status.

Niukluk River Crossing at Council - FG87-III-GP-015

Aerial inspection 6/23/87 at an altitude of approximately 2,500 feet. No stream bank damage noted. Tailing ponds (reported to contain fish) are located on opposite side of the proposed Council runway extension; not adjacent to the Niukluk River as had been previously thought. Recommended for continued general permit status.

Pilgrim River Crossing near Iron Creek - FG87-III-GP-009

Aerial inspection 6/23/87 at an altitude of approximately 800 to 1,000 feet. Water level low, visual clarity high. No stream bank or bed damage noted. Upland trail appeared to be in good shape with little rutting or erosion observed. Recommended for continued general permit status.

Penny River Crossing - FG87-III-GP-002

Aerial inspection 6/23/87 at an altitude of approximately 1,000 feet. Water level low, visual clarity high. No stream bank or bed damage noted. Several tents and small beach mining operations were located in this vicinity. Recommended for continued general permit status.

Cripple River Crossing - FG87-III-GP-001

Aerial inspection 6/23/87 at an altitude of approximately 1,000 feet. Water level low, visual clarity high. No stream bank or bed damage noted. No additional construction was noted at GPAA's camp adjacent to this crossing. One 4x4 Suburban and two small front end loaders were noted at the GPAA camp. Recommended for continued general permit status.

Solomon River Crossing at Lees Camp - FG87-III-GP-010

Ground inspection 6/25/87. Water level low, visual clarity high. No stream bank or bed damage noted. Indications of light vehicular use were noted. A single set of tracks for a heavy piece of wheeled equipment was also noted. The streambed at this crossing appears to be quite solid. Recommended for continued general permit status - consideration should also be given to increasing the allowable gross vehicle weight restriction from the current 10,000 GVW to a revised 20,000 GVW on a one year trial basis.

Big Hurrah Creek Crossing - FG87-III-GP-011

Ground inspection 6/25/87. Water level low, visual clarity high. At existing low water level, only one small stream channel crossing is required. No stream bank or bed damage noted. Indications of light vehicular use were noted. The streambed at this crossing appears to be quite solid. Recommended for continued general permit status - consideration should also be given to increasing the allowable gross vehicle weight restriction from the current 10,000 GVW to a revised 20,000 GVW on a one year trial basis.

ENCLOSURE #2

Nome-Council Project MP 42 to 53  
ADF&G Field Inspection - June 25, 1987  
A. Townsend and R. McLean

STATION 1109+00 (French Creek)

- ° Inspected 6/25/87 at 1700 hours
- ° 48 inch CMP at approximately 1.0 slope; set at thalweg; Class II riprap apron extends 10 to 12 feet downstream at outlet. Possible fish barrier at lower flows due to tightly placed riprap.

Recommendations: Remove 1 or 2 large boulders by hand from west side of outlet channel to create clear channel. Leave remainder of riprap to provide outlet protection at higher flows.

STATION 1071+60 (Orphan Creek)

- ° Inspected 6/25/87 at 1716 hours.
- ° 48 inch CMP set 6 inches below thalweg; substantial bend in lower half of culvert has resulted in an overall hydraulic gradient of approximately 2.8% (5.6% in lower half). Outlet backwater control extended approximately 7 feet upstream into culvert barrel. Water depth in culvert barrel 2 to 3 inches; 12 inches deep in backwatered section at outlet. Mean surface velocity 0.5 f/s as determined by timing the passage of a stick through the culvert barrel.

Recommendations: monitor closely - if excessive outlet scour or barrel velocities develop due to excessive slope, an outlet control structure which provides fish passage may be needed to backwater the CMP.

Riprap in stream channel at inlet should be removed.

STATION 1045+48

- ° Inspected 6/25/87 at 1731 hours.
- ° 48 inch CMP set 4 inches below thalweg at approximately 1% slope. Inlet bridged over with snow. Some stream bed material in lower 1/4 of culvert barrel. Extensive riprap apron at outlet.

Recommendations: Installation looks good. Riprap placement at outlet is excellent, well placed, and should be left intact.

STATION (Approximately) 999+20

- ° Inspected 6/25/87 at 1746 hours.
- ° 48 inch CMP set approximately 6 inches above thalweg. Water surface profile drops approximately 18 to 20 inches between inlet and outlet. Nearly all of the drop is in the lower 3/8ths of the barrel. Large riprap in outlet apron has brought water surface up to the outlet lip.

Recommendations: Riprap placement at outlet is good and should be left in place. Culvert should be monitored. If excessive velocities develop due to slope, effective backwater control structure(s) at the outlet may be necessary.

STATION (Approximately) 863+40

- ° Inspected 6/25/87 at 1808 hours.
- ° 48 inch CMP high water relief pipe. Set approximately one foot below thalweg. Good gravel substrate throughout length of culvert barrel. Culvert slope approximately 0.8%. Water depth in barrel 6 to 8 inches. Outlet riprap apron in position and well placed. Overburden had been pushed out onto ice over outlet stream channel. 10 to 12 foot high overburden piles had been pushed up to the stream banks in the SW, SE, and NE quadrants. NW quadrant overburden pile was set back approximately 50 feet from the stream bank.

Recommendations: Riprap placement at outlet is good and should be left in place. Overburden piles in the SW, SE, and NE quadrants should be pulled back 50 feet from the stream bank as per project specifications.

STATION 839+00 (Vinegar Creek)

- ° Inspected 6/25/87 at 1824 hours.
- ° 42 inch (?) CMP set approximately 2 inches below thalweg at approximately 1% slope. Some sand deposited

in lower 5 feet of culvert barrel. Ice plug half eroded in center of culvert.

Recommendations: None.

East Fork Solomon River

- ° Numerous heavy equipment fords at multiple sites were noted throughout the length of the project. Instream gravel from berm piles had been pushed up into stockpiles apparently prior to any intended actual use. A significant amount of fill material had been sidecast from the old road bed into the active channel of the East Fork.
- ° Surface runoff from excavated cuts and fills was contributing significant sediment loads to the East Fork. A sediment plume was evident in the main channel of the Solomon River downstream from its confluence with the East Fork.

Recommendations: A schedule for necessary instream activity should be developed. All other instream activity, inclusive of gravel pushing/stockpiling operations, should be avoided. All runoff channels should be fitted with gravel (not overburden) check dams to reduce non-point source pollution of the Solomon River.

ENCLOSURE #3

Nome-Taylor Road Project MP  
ADF&G Field Inspection - June 22-26, 1987  
A. Townsend and R. McLean

STATION 1067 (Hoodoo Creek)

- ° Inspected 6/22/87 at 2039 hours.
- ° 48 inch CMP; downstream culvert invert perched approximately 20 inches; upstream culvert invert perched approximately 10-12 inches above thalweg.
- ° Culvert not aligned with original stream channel; south outlet stream bank cut to accommodate culvert.

STATION 1084+40 (Darling Creek)

- ° Inspected 6/22/87 at 2055 hours and 6/24/87 at 1300 hours.
- ° 60 inch CMP; non-bedded outlet, perched 2 feet above scour pool thalweg; inlet perched 8 inches above stream thalweg; approximate slope of culvert invert was 2 to 2½ %.
- ° Cross-check with permit authorizations indicated that the 60 inch CMP was suppose to have been installed at STATION 1081. The 11'5" by 7'3" pipe arch installed at STATION 1081 was suppose to have been installed in Darling Creek. A meeting was requested with Ron Davenau, ADOT&PF Maintenance Supervisor, and Mr. Adams, ADOT&PF Project Supervisor, on 6/26/87 at 1000 hours to discuss the permit non-compliance. ADOT&PF acknowledged that a "station bust" had occurred. Several options were suggested by ADOT&PF to correct the non-compliance:
  1. rechannelization of Darling Creek to STATION 1081 (Pipe Arch).
  2. Removal of the 60 inch CMP and replacement with the permitted pipe arch.
  3. Other various combinations of CMP's.

Townsend and McLean denied further consideration of Option #1, citing loss of downstream fish habitat, inadequate hydraulic capacity for the combined flow of the two drainage areas, and unacceptable velocities for

fish passage. Davenau and Adams agreed to replace the 60 inch CMP with a pipe arch; however, it was determined that the only available 11'5" by 7'3" pipe arch was located in Nebraska and would cost approximately \$100K to obtain. Davenau and Adams requested that consideration be given to other alternative CMP combinations. Numerous options were considered and hydraulically modelled utilizing ADOT&PF Environmental's computer modelling program (via phone link to Fairbanks). An experimental twin 60 inch CMP culvert battery was approved subject to the following express understandings:

1. The remedial authorization was experimental;
2. The experimental prototype would be evaluated by ADF&G for 2 to 3 years; and
3. If the experimental prototype was ultimately determined inadequate for fish passage, it would be replaced with the originally permitted 11'5" by 7'3" pipe arch during construction of the next adjoining road project segment (FY 90-91?).

A schematic diagram of the approved experimental culvert battery is depicted in Enclosure 4.

- ° Approximately 24 small Arctic char were observed at the culvert outlet by Townsend and McLean. Approximately 12 to 15 Arctic char (2" to 3") and one 6" Arctic char were observed at culvert inlet.

#### STATION 1081

- ° Inspected 6/22/87 at 2055 hours
- ° 11'5" by 7'3" Pipe arch installed instead of the permitted 60 inch CMP. Drains small muskeg area. Installed pipe in excess of fish passage requirements.
- ° Two small Arctic grayling and three small Arctic char observed by Townsend and McLean at culvert inlet.

#### DAVID CREEK

- ° Inspected 6/22/87 by 2122 hours.
- ° Same culvert in place as in 1986.

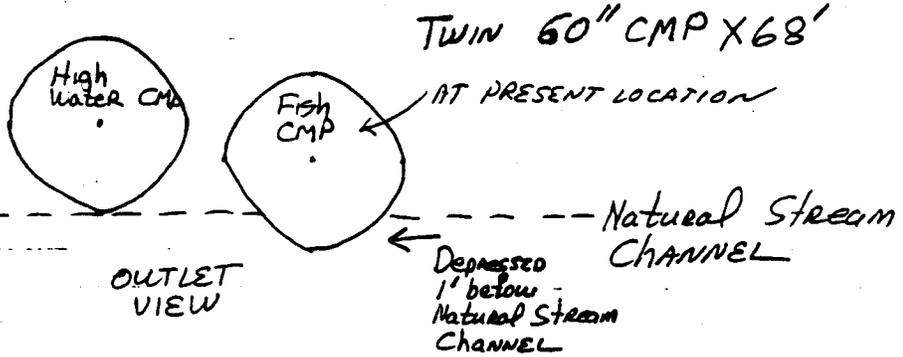
- Timber which was partially blocking the culvert inlet in 1986 was gone.
- Inlet contraction was resulting in an approximate 2 foot high headwall.
- Outlet invert perched approximately 18 to 24" above stream thalweg.
- Inlet armor beginning to fail.

SAMPSON CREEK

- Inspected 6/24/87.
- Approximate 12 foot pipe arch; highway fill 15 to 20 foot deep.
- Culvert inlet and outlet set well; stream cobble present in culvert barrel; Class II riprap well placed in culvert.

# ENCLOSURE #4

DARLING CREEK STATION 1084+40  
 ADF#6 6/25/87 AUTHORIZED RETROFIT  
 AHT & MAC



## DARLING CREEK

### HYDROLOGY

$Q_{1.25} = 33 \text{ cfs}$   
 $Q_{2.33} = 54 \text{ cfs}$   
 $Q_5 = 66 \text{ cfs}$   
 $Q_{50} = 165 \text{ cfs}$   
 $Q_{100} = 210 \text{ cfs}$

Hydraulics (Twin 60" CMP w/ 2' buried 1 foot below thalweg)  
 $2.8 \text{ fps}$   
 $2.9 \text{ fps}$  Depth of Flow 2.0'  
 $3.4 \text{ fps}$  Depth of Flow 3.2'

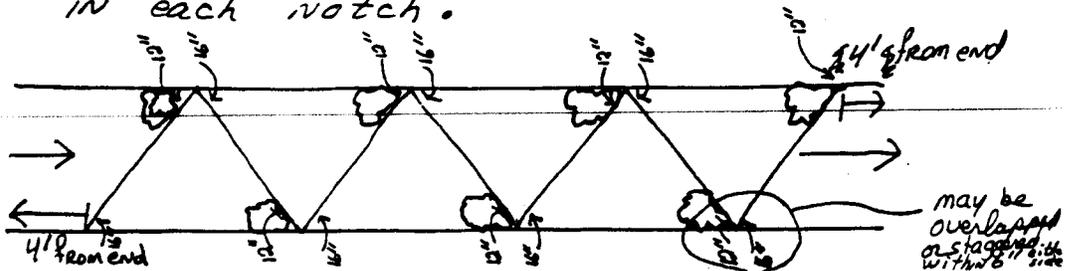
### SPECIFICATIONS

Both 60" CMP set @ stream gradient not to exceed 0.5%

One CMP set 1 foot below thalweg

ONE CMP set @ thalweg

Baffle system installed in fish passage CMP (depressed invert) consisting of rebar baffles with hand placed CLASS II RIP RAP set in each notch.



1998

## **Nome Board of Fisheries Meeting**

### **Overview of Habitat Division's Permitting Efforts in Nome**

The Northern Region Habitat and Restoration Division is based out of Fairbanks and had little presence in Nome during the 1970s and early 1980s. Field staff numbered less than 4 for all of northern Alaska north of the Alaska Range until 1984. In 1985 the division began making at least one trip to the Seward Peninsula annually and coordinated with the Divisions of Commercial Fisheries and Management Development and Sport Fish, who were and remain our primary "eyes and ears" in this region. It is estimated that over 90% of all inwater activities in anadromous fish streams were not permitted or regulated in the mid-1980s. Staff established dialog with local development interests, native corporations, civic groups, state and federal agencies, and media and today an estimated 95% of all instream activities are regulated under ADF&G's Fish Habitat Permitting Program.

Currently, staff spend an average of six staff weeks annually in Nome conducting compliance inspections and coordinating with industry and other agencies/native corporations on habitat enhancement projects. While this is less than desirable, it represents the limit of what existing staff levels can support.

In 1997, 147 permit reviews were conducted in northwestern Alaska. Of that, approximately 32 were for sub-district 1. Similar levels of activity are anticipated in 1998.

At this time I would like to give you a brief recap of our assessment of drainage specific habitat conditions for chum salmon in sub-district 1.

### **Cripple River**

The Cripple River is at the western edge of the heavy mining activity that occurred in conjunction with the Nome gold rush. The main river has not been dredged; however, both historic and current placer operations occur on Oregon Creek upstream of the Blogett Highway bridge. Hardrock exploration is occurring in the upper Cripple River watershed approximately 10 miles upstream of the Blogett Highway bridge. Many of the tributary streams along the west side of the Cripple River were historically mined and / or diverted into ditch / flumes to support sluicing operations. While this undoubtedly had adverse impacts on other anadromous fish species, it is not known to have impacted chum salmon spawning or rearing habitat.

Today, a commercial / sans tourist placer mining operation exists at the mouth of the Cripple River. Gold Prospectors Association of American has maintained this facility since the early 1980s on private claims. Up to 250 tourists are present at any one time between mid-June and the first week of August. Satellite camps with up to 12 individuals each are located on Bowhead Creek, Arctic Creek, Stella Creek, and Fox Creek. Most mining activity occurs along the Norton Sound beachline immediately east of the Cripple River using hand-fed rocker boxes. Limited pick and shovel and small suction dredge mining occurs at satellite camps. No dredging is authorized in the Cripple River proper. Operations are field inspected annually. No instream activities, including ATV use within chum salmon spawning areas, is allowed. Although criminal citations for instream violations were issued in the mid-1980s, no subsequent violations have occurred.

The lower one mile of Oregon Creek was extensively mined for gravel in the mid-1970s. This activity significantly impacted this reach of the tributary; however, it primarily impacts Dolly varden stocks and is located upstream of documented chum salmon spawning habitat.

### **Penny River**

No historic mining activity is known to have occurred in the Penny River watershed although access to mining prospects are known to have forded the Penny River upstream of documented chum salmon spawning areas. Hardrock mining exploration presently is occurring in the highlands west of the Penny River (Cominco Alaska).

### **Snake River**

Historic and current placer mining operations occur in numerous headwater and tributary streams (notably Goldbottom Creek, Bangor Creek, Iron Creek, and Glacier Creek). Instream equipment fords occur at two locations within known chum salmon spawning habitat but are presently regulated (since the mid-1980s) under a Fish Habitat Permit. Instream activities are restricted to a point to point crossing along tradition access routes. Chum salmon spawning habitat appears to be of high quality and has not been impacted by human activities.

### **Nome River**

The Nome River experienced intense mining activity in the first 40 years of this century. Numerous tributaries were mined for gold. Given the practices of the time, it is presumed that significant sediment loads were delivered to the mainstem Nome River. However, current substrate analysis indicates that the mainstem spawning gravels appear to have recovered from earlier mining activities. Approximately eight mines currently exist in tributary streams. Each mine has strict effluent limitations that preclude discharges in excess of 0.2 ml/l settleable solids.

From 1950 to 1990 road construction and maintenance activities impacted the Nome River on numerous occasions. The road is constructed of river gravel and in many segments appears to have impacted the river floodplain and river channel. One large river gravel mining site (mid 1980s) near Banner Creek is just now reaching a stable configuration. No instream gravel mining has been authorized since the mid-1980s. Instream activities and vehicle fords are strictly regulated. In recent years, ADOT&PF has cooperatively worked with ADF&G to construct off-channel fish enhancement structures (e.g., over wintering ponds) in the upper watershed.

### **Solomon River**

The Solomon River was extensively mined in the first 30 years of this century and less intensively for another 15 years after that. Thirteen gold dredges are thought to have operated simultaneously on this system. The lower river is known to have had at least three dredge passes over it. Road access to the Council mining area was constructed through the Solomon River floodplain and included instream gravel mining. The river is still seeking to reestablish a stable channel (including the majority of the known chum salmon spawning habitat).

A new mining operation is proposing to explore gold deposits adjacent to the lower Solomon River in 1998. The operator has agreed to restrict inwater activities and is willing to work with ADF&G to enhance lower Solomon River channel conditions if that will help restore optimum chum salmon spawning conditions.

Although the Solomon River is visibly impacted, at this time, it is staff's judgment that current chum salmon returns to the Solomon River are less than the residual habitat is capable of supporting.

## **Talking points - Riverine habitat quality, Northern Norton Sound chum salmon systems.**

This overview starts in the Northwest and works to the east through Subdistrict 1 to selected streams in Subdistricts 2 and 3.

### **Sinuk River - River of Concern**

The Sinuk River is a pristine river that has little evidence of mining or other developmental impacts throughout most of its length. Limited floodplain gravel mining occurred for road construction during the mid-1970s to 1980s immediately downstream of the Blogett Highway bridge crossing. The U.S. Army National Guard conducts military training activities in the upper headwaters (Stewart River); however, no inwater activities have been authorized. This river supported a village and later a small mission at its mouth until the 1930s. Today it is crossed by Blogett Highway at the upper limit of chum spawning habitat. It has relatively little boat traffic. There is one active subsistence camp at the river's outlet.

### **Cripple River**

The Cripple River is at the western limit of the heavy mining activity associated with the Nome gold rush. The main river has not been dredged; however, both historic and current placer mining activities occurred in the Oregon Creek watershed upstream of the Blogett Highway bridge. Many of tributary streams along the west side of the Cripple River also were historically mined and/or diverted into a ditch/flumes to support sluicing operations. Upland hardrock lode mine exploration is occurring in the upper headwaters of the Cripple River and Oregon Creek. There is extensive winter overflow and icing in previously disturbed segments (Oregon Creek) where width/depth ratio has increased and as a result there is some impact on winter water flows downstream. We do not feel that historic or current mining operations have a significant impact on present chum salmon spawning habitat.

The Cripple River supported a subsistence fishery in the late 1950s. During the 1980s, this stream supported several subsistence camps at its mouth. Based on the 1982 tagging study results, chum salmon destined for streams northwest of Cape Nome are believed to first come ashore in Norton Sound at Cape Nome and then move north and west to their spawning streams. The area northwest of Cape Nome (Western Subdistrict 1) has been closed to commercial fishing for all species of salmon since 1983 and it has been closed to saltwater subsistence salmon fishing from June through at least mid-July since 1991. The Cripple River has been closed to sport and subsistence fishing for chum salmon for 6 years and the river has been posted as such. Since the early 1980s, there has been a tourist mining operation headquartered on private claims at the mouth of the Cripple River. Up to 250 tourists may be present at the camp at any one time between mid-June to the first week of August. Satellite camps with up to 12 individuals each are located on Bowhead Creek, Arctic Creek, Sidney Creek, and Fox Creek. Most mining activity occurs along the Norton Sound beachline immediately east of the Cripple River using

hand-fed rocker boxes. Limited pick and shovel and small suction dredging mining occurs at the satellite camps in tributary streams. No dredging is authorized in the Cripple River proper. These operations are field inspected and monitored annually by the department's Habitat Division and are strictly prohibited from mining or operating ATVS within this river's chum salmon spawning areas.

Extensive gravel mining for highway construction occurred in the lower one mile of Oregon Creek upstream of known chum salmon spawning areas. Although habitat values for Dolly Varden and coho salmon juveniles remains low today within the mined section, gravel mining activities do not appear to have significantly impacted or destabilized downstream chum salmon spawning habitats.

Even with a Fish and Wildlife Protection presence out of the Nome office, illegal sport harvest is thought to occur in this system.

## **Subdistrict 1**

### **Penny River**

This is a small river with its mouth a mile from the mining camp at the Cripple River. During the 1980s, three subsistence camps existed at the mouth of this river. Sport fishing effort and traffic on the beach has caused these camps to be virtually abandoned. The salmon returns to the Penny River has been subject to the same commercial, sport and subsistence restrictions described for the Cripple River above. No historic mining activities are known to have occurred within the watershed although access to mining prospects in the upper Cripple River did cross the Penny River upstream of known chum salmon spawning areas. Hardrock lode mining exploration presently is occurring in the highlands west of the Penny River. One family residence is located near the Blogett Highway bridge.

Even with a Fish and Wildlife enforcement presence out of the Nome office, illegal sport harvest is thought to occur in this system.

### **Snake River** - River of Concern

The Snake River mouth is the port of the City of Nome. The River was the city water source for most of the past 100 years. The lower mile of the river has been channelized and dredged for gold. Today the river is diverted around the airport. The lower six miles of the river follows a former beach line and the substrate is mostly sand, a poor spawning substrate for salmon. Upstream, spawning habitat is much better. The stream has a good year round flow of water, high quality spawning gravel and excellent water quality. The road system provides many access points for all forms of recreational use. The level of use is relatively high. Fish racks dating from the 1960s and 1970s can be found near chum salmon spawning beds, however they have not been used for twenty years. This stream is judged by staff to have some of the best chum salmon spawning habitat in the area yet it has some of the lowest returns. The Department has operated a small instream-incubator on a tributary to this river since 1992 to help restore chum salmon to this

system. For the first time in years, we believe that the chum salmon escapement goal for this system was attained in 1997 based on the counts at the tower project.

The maximum potential for chum salmon on this river is not known. The habitat appears to be of high quality and winter flow rates are high. Salmon production prior to the gold rush may have been quite high. Early records indicated a seasonal fish camp existed somewhere near the mouths of the Nome and Snake Rivers in the late 1800s.

Historic and current placer gold mining occurred in the numerous headwater and tributary streams (notably Goldbottom Creek, Bangor Creek, Iron Creek, and Glacier Creek). Instream equipment vehicle fords occur at two locations within known chum salmon spawning areas but have been regulated under a Fish Habitat Permit since 1986 by the Habitat Division. Instream activities currently are restricted to a limited bank to bank crossings along traditional access routes.

#### **Nome River** - River of Concern

This river is located three miles east of the City of Nome. Like the Snake River, there is easy access to this river for both recreational and subsistence users. This river has supported a small community, Fort Davis, and fish camps at its mouth since the early part of this century. The people there harvest marine mammals and salmon from Norton Sound and Nome River. During the 1970s and early 1980s there was a small commercial salmon fishery that operated in this general vicinity. Prior to 1974, there was an undocumented fishery that sold cured fish for human and dog use from this area. Since 1985, the escapement goal for the Nome River has been met only one time, although survey conditions were poor for a number of those years. For the past six years severe harvest restrictions have been in place.

The Nome River saw some intense mining in the first 40 years of this century. Numerous tributaries were dredged for gold. Substrate analysis of the spawning beds indicate that they have recovered from earlier mining activities. Approximately eight mines currently operate in tributaries with strict limits on sediment discharge. Field inspections by the Habitat Division indicate only limited permit compliance problems with existing operations.

From 1950 to 1990 road construction and maintenance impacted the stream on occasion. The Kougarok Road runs parallel to the river, often in the flood plain. The road is constructed from river gravel in different segments. The river changed its channel and gradient at the largest gravel pit sites. The river is just now reaching a stable configuration at a site near one of the larger gravel pit areas at Banner Creek. There is extensive winter overflow and icing in previously disturbed segments where width/depth ratio has increased and as a result, there is some impact to winter water flow rates downstream. Today, the Nome River, is a clear river with excellent spawning substrate and adequate winter flow rates. We have operated a small instream incubator near the upper limit of chum spawning habitat on this river since 1992 to help restore the chum salmon to this system.

**Flambeau River** - River of Concern

The chum salmon escapement goal for this system was not attained in 1997 although survey conditions were considered poor. However, it was attained during the previous three years. This is a small pristine river with minimal human use. There is a large seasonal fish camp situated at the estuary mouth. There have been a series of settlements and fish camps on this river system for thousands of years. The entrance to Safety Sound has moved within the last 100 years and so have the settlements. The rivers of Safety Sound have supported salmon harvests for a long time.

Recently escapements have recovered to some extent in this system and we hope that trend will continue.

**Eldorado River** - Former River of Concern

The Eldorado and Flambeau Rivers have a common mouth. The Eldorado is the largest chum salmon producing stream in Subdistrict 1. The Eldorado is also a fairly pristine river with relatively little recent human use. Several of the tributaries above the salmon spawning beds received heavy mining impacts in the first 30 years of this century. Those portions of the watershed have long ago reached a stable state and are not thought to have an impact on the current salmon spawning habitat quality. The Safety Sound streams now support the bulk of the subsistence fishing effort in this Subdistrict. Subsistence harvests have been severely limited for the last six years on this river since it has a relatively small pink salmon return and is managed with chum salmon as the focus.

**Bonanza River** - River of Concern

This is a small pristine river which flows into Safety Sound. The chum salmon returns are small and have been difficult to monitor due to the large number of pink salmon in this river. The stream has relatively little chum salmon habitat. This stream has had very little mining impact or any other development.

**Solomon River** - River of Concern

The Solomon River was heavily mined during the first 30 years of this century and less intensely mined for another 15 years after that. Thirteen gold dredges are thought to have operated simultaneously on this system. In addition to that, roads were constructed in the flood plain of the river. The mining has now been limited to almost no impact. Much of the earlier road system has been relocated out of the active floodplain. River channels are slowly recovering through natural revegetation and channel adjustment. There is extensive winter overflow and icing in previously disturbed segments where the width/depth ratio has increased and as a result is some impact on winter water flows downstream. The river is still seeking a stable channel with the lower reaches (including the majority of chum salmon spawning habitats) being relatively more stable and productive. Salmon habitat is recovering and there is no historical record concerning conditions of the premining stream bed. Although further channel reclamation would result in further improvement of the habitat for spawning salmon, it is the staff's

judgment that the current chum salmon return is less than the existing salmon habitat is capable of supporting.

Significant recreational and commercial instream vehicle access occurs in the West Fork of the Solomon River along a traditional RS2477 access route to the Casadepaga River and American Creek mining areas. These instream equipment fords are regulated under a Fish Habitat Permit issued by the Habitat Division and occur upstream of known chum salmon spawning areas. Another access road extends up Big Hurrah Creek to the abandoned Little Hurrah lode mine. Recreational vehicle traffic, and recently renewed interest in the Little Hurrah lode prospect, occurs. ADOT&PF relocated the access road out of the active floodplain (except for a single ford crossing) in 1989.

We have operated a small instream-incubation box on this river since 1995 to help restore the chum salmon there. Success in producing fry has been limited at this site due to the low gradient at the water source.

### **Subdistrict 2**

The **Fish River** System - Former River of Concern

This is historically the largest chum producing system in Norton Sound. There is a long record of human use of this chum salmon stock. The chum salmon of this river declined to a low point in the late 1980s and have recovered to some extent since that time. During the gold rush there was heavy mining on this system, however it peaked earlier than at Nome. The mining impacts have reached a relatively stable state today and are not thought to be a significant problem any longer. In the last twenty years, Nome residents have come to rely on this chum stock for a major portion of their chum salmon needs as stocks more proximal to Nome declined.

### **Subdistrict 3**

**Kwiniuk River** - Former River of Concern

The Kwiniuk River stock has attained the escapement goal for the past four years. The former commercial fishery in this Subdistrict had to be completely closed to bring the return back. The river is pristine with only a single ATV trail to its headwaters and a road to its mouth from nearby Elim. The only human development is at the mouth where there is an abandoned FAA station, an abandoned fish processing plant, and a seasonal fish camp.

**Tubutulik River** - River of Concern

This stock has met its escapement goal three of the last four years. The river is pristine with very little human impacts on it. There is an old village site two miles from the mouth and a modern day seasonal fish camp on the barrier spit near the river mouth. The stock is depressed with little associated harvest or impacts to explain the current poor returns.

1986/87

From: FH3CRFM --JDCVM1  
To: FH3CAGO --JDCVM1 Al Ott

Date and time 08/26/87 21:12:04

From: Robert (Mac) F. McLean  
Habitat Biologist III  
ADF&G/Habitat Division/Fairbanks 451-6192  
Subject: East Fork Solomon

Well, I can't say that it looked perfect, as Horner's signoff memo indicated - but its not as bad as it was. I'll go over the photos with you in detail when I return - but to make a long story short - we are going to have to get someone in PKW or DOT back out to repair a couple of places. 1. We've got a total blockage (french drain due to riprap)at STATION 999+10. About 25 linear feet of riprap was pushed into the outlet pool. We tried to hand clear a partial opening but the boulders are much to heavy. Heavy equipment (backhoe) will be needed. 2. At several points, the old road was not pulled out and canted correctly back toward the desired river channel. Even at current low flows, multiple channels are starting to develop again. About two miles of old road bed need to be regraded (sloped up into the hillside) and bermed to prevent breaching and multiple channel formation. The only way we are going to get a good riffle to pool ratio back in this segment of the stream will be to keep the river in one channel and let natural hydrologic forces recut a channel. There is a very real danger that if the river is allowed to spread out that french drains will develop.

cc: FH3CRFM --JDCVM1

ALASKA DEPARTMENT OF FISH AND GAME  
HABITAT AND RESTORATION DIVISION

*Status of H&R Division Salmon Enhancement/Restoration Projects  
Within the Norton Sound Management Area*

October 29, 1993

The ADF&G, Habitat and Restoration Division, initiated or participated in the following enhancement/restoration projects within the Norton Sound Management Area during the period 1985 to 1993. Individual activities occurred either as cooperative ventures with other state or federal agencies, private landowners, or as required mitigation specified in the permitting process for other land use activities.

Survey data, site pictures, permit applications and other supplemental information may be obtained from Habitat and Restoration Division staff biologist Mac McLean at 451-6192.

**COMPLETED PROJECTS**

**Banner Creek Material Site:** ADOT&PF - Progressive material site reclamation with concurrent construction of interconnecting channels and littoral habitat for coho salmon rearing. Pond complex connected via culvert and short creek to the Nome River immediately downstream of documented coho salmon spawning area. Project initiated in 1984; site expansion in 1990; additional remedial work (design by H&RD) completed by the ADOT&PF in 1993 to resolve a Corps of Engineers' Notice of Violation.

Approximately 20 acres of rearing habitat created; 70% littoral habitat (<2 meters) with maximum depth of 12 feet; continuous winter water flow including upwellings at upper end of pond. Potential exists for creation of small chum salmon spawning area within the upwellings. Arctic grayling, Dolly Varden juveniles, coho salmon juveniles, whitefish and a single pair of adult sockeye salmon (1992) documented in the pond.

Deficiencies: Riparian vegetation sparse - additional willow planting necessary to provide cover. H&RD to coordinate with CFMD staff to establish community volunteer or high school project to undertake the willow planting.

**Kink Corner (MP 22.4 Nome-Taylor Road):** ADOT&PF - New material site development constructed to provide fish rearing upon reclamation. Backwater connection through 6 foot diameter culvert to the Nome River. Design initiated in 1989; project constructed 1992-93.

Approximately 5.5 acres of rearing habitat created. Maximum depth 16+ feet; 20% littoral habitat (<2 meters). South and eastern sides have been revegetated. Excess material stockpiled along western side. Area will be rehabilitated as material is used up on road maintenance activities. Site located immediately upstream of open water (winter) area in Nome River suspected of being a coho salmon and Dolly Varden spawning area. Juvenile coho salmon and Dolly Varden observed in the pond/material site in August 1993. Fisheries survey/population estimates to be completed Summer 1994.

Deficiencies: None identified at this time. Site evaluation to be completed Summer 1994.

**East Fork Solomon River:** ADOT&PF - Restoration of nine miles of stream channel following removal of roadbed from active river bed. Work completed in 1986.

Dolly Varden, sculpin and grayling identified to date. No documented salmon spawning although pink and coho salmon are documented in the adjacent West Fork Solomon River. Extensive aufeis formation may limit use of stream for spawning.

Deficiencies: Bankfull stream channel was not established. Stream valley was recontoured and allowed to establish its own channel. Resulted in significant braiding which is only now beginning to gather into a single channel. Braided configuration promoted aufeis formation which delayed vegetative recovery.

**Pilgrim River (MP 59):** ADOT&PF - Reestablished culvert connection and fish access to several acres of side channel rearing habitat for coho salmon, Dolly Varden, and Arctic grayling. Evaluated and surveyed potential material site (20 to 40 acres) that could eventually be interconnected to the reconnected side channel rearing area. Small upwelling in adjacent man-made floodplain material site currently supports spawning chum salmon. Additional spawning opportunities may be created if/when additional material sites are developed. Juvenile Dolly Varden, juvenile coho salmon, Arctic grayling. Sockeye salmon migrate past this site but it is uncertain whether juveniles will utilize the rearing habitat.

Deficiencies: A beaver dam has periodically blocked the reestablished culvert and requires annual maintenance.

**Darling Creek:** ADOT&PF - Retrofit of an existing highway culvert to remove fish barrier. Completed in 1986. Rebar/rock weirs installed within the existing culvert barrel to correct velocity barrier. Adult pink salmon and juvenile Dolly Varden documented upstream of the culvert structure.

Deficiencies: None identified to date. Site is monitored annually. Bedload movement appears normal; organic debris has passed structure without blocking culvert.

**Sulphur Creek:** ADOT&PF, BLM and ADF&G - Retrofit of an existing highway culvert to correct perched outlet condition. Completed in 1989. Large riprap placed in outlet scour pool to reduce hydraulic scour and promote deposition of stream bedload. Deposition of bedload material has raised the stream thalweg approximately three feet (1989 to 1992) at culvert outlet and has eliminated the perched culvert barrier.

In 1990-91, BLM and ADF&G-H&R staff completed an evaluation of Sulphur Creek for possible installation of instream habitat enhancement structures (primarily to create coho salmon rearing habitat). Proposed structures were authorized by the Corps of Engineers but were not constructed due to concerns that construction of the structures might further destabilize the stream morphology which already exhibits signs of instability due to historic washouts of the road culvert. Project is on hold pending further hydraulic analysis of the stream.

Juvenile Dolly Varden documented upstream of the culvert; juvenile coho salmon and Dolly Varden documented in creek downstream of culvert.

**Deficiencies:** None identified to date. Site is monitored annually. Bedload movement appears normal; organic debris has passed structure without blocking culvert. No bank erosion evident within culvert outlet scour pool.

**Solomon River:** ADOT&PF - In response to a Notice of Violation issued by the Corps of Engineers to ADOT&PF in 1992, H&RD staff prepared a remediation plan for the COE which included construction of several boulder clusters within the mainstem Solomon River upstream of Lees Camp. Work was completed in 1993.

Target species - juvenile Dolly Varden, juvenile coho salmon, and Arctic grayling.

Deficiencies: None identified to date. Site will be monitored annually.

### PENDING PROJECTS

**Dexter Creek:** ADOT&PF - Planned construction of a downstream rock-filled gabion and/or Class III riprap tailwater control structure at the outlet of Dexter Creek to backwater existing culvert which is perched approximately 1.5 feet. Revegetation (willow plantings) of the upper watershed also proposed subject to approval from private land owners. Activity permitted in 1992; actual work pending ADOT&PF funding and project scheduling.

Sculpins, juvenile coho salmon, and juvenile Dolly Varden documented both upstream and downstream of culvert. At this time (pre-construction) relative abundance upstream of the partial culvert barrier is substantially lower than the lower reaches of the stream.

**Fox River (MP 65 Nome-Council Road):** ADOT&PF - New material site proposal to support maintenance and operations activities and new highway reconstruction. Designed in two aliquot parts to provide fish rearing upon reclamation. Downstream creek connection to the Fox River. Design initiated in 1989; project permitted in 1993. Construction scheduled for 1994+ (??) dependent upon on ADOT&PF funding and project scheduling.

Approximately 8 acres of rearing habitat will be created. Target species include juvenile coho salmon and Dolly Varden. Potential for upwelling chum salmon spawning area at head of pond. Coho and chum salmon are documented to spawn in the adjacent Fox River.

**Little Hurrah Creek** (third order tributary to Solomon River): Thor Gold - Proposed hardrock mine would have eliminated Little Hurrah Creek and created a 240 foot deep open pit within the Little Hurrah Creek valley floor. H&RD staff worked with the developer during preparation of the Environmental Assessment to design reclamation measures that would establish a functional lake with littoral habitat features upon completion of mining activities. The primary target species included Dolly Varden, Arctic grayling and coho salmon. Juvenile Dolly Varden documented in Little Hurrah Creek. Dolly Varden and pink salmon spawning documented within Big Hurrah Creek. Permit applications were submitted in 1989 but withdrawn in 1991 for financial reasons. Future status is unknown.

**Basin Creek:** Engstrom Mining - In conjunction with an ADOT&PF highway project, the private landowner developed a 16 foot deep, 20 acre material site adjacent to Basin Creek. A subsequent channel breach in 1989 flooded the mine site forming a lake. Basin Creek currently flows through the pond. Water levels drop significantly during late

winter. H&RD staff are to determine whether the pond provides overwintering habitat and will make remedial recommendations to the land owner. Additionally, during dry, hot summer periods outlet channel dries up and isolates lake from Basin Creek. Lower Basin Creek also dries up during these periods isolating the creek from the Nome River. H&RD staff will evaluate the outlet barriers and provide remedial recommendations, as appropriate, to the landowner.

Arctic grayling and juvenile Dolly Varden have been documented in the man-made pond. Potential use by juvenile coho salmon.

### CONCEPTUAL PROJECTS (Preliminary Field Assessment Completed)

**Anvil Creek** (Alaska Gold, Inc.): Two separate gold mining operations (operating under lease from Alaska Gold) located immediately north and west of the Nome-Beltz High School have created seven ponds totalling over 20 surface acres. Three of the ponds are presently connected to Anvil Creek and support documented populations of juvenile coho salmon and Dolly Varden. The ponds were surveyed in 1993 to establish relational elevations and facilitate preparation of a plan for interconnecting all of the ponds with Anvil Creek. Additional remedial activities may include riparian revegetation with willow cuttings and potential coho salmon fry releases from the Nome-Beltz High School Educational Hatchery. The Division of Commercial Fish Management and Development (formerly FRED) has the lead for coordination with Alaska Gold and the Nome-Beltz High School. H&RD staff are providing technical support and are developing the proposed reclamation plan.

**Hastings Creek:** Vezey/Martinson Dredge - A gravel mining operation initiated in 1993 will remove approximately 25,000 cubic yards of material. Total estimated gravel reserves could eventually affect up to 15 acres of creek, floodplain, and downstream tidal estuary. The site was evaluated and surveyed in 1993. A conceptual plan was developed in conjunction with the contractor and includes provisions for developing up to 20 foot deep off-channel excavations in aliquot parts. Upon depletion of the gravel reserves, each cell will be interconnected with a final downstream connection to the tidal estuary. The reclaimed site is intended to provide waterfowl and seabird nesting habitat; rearing habitat for Dolly Varden in the upper freshwater portion; and estuarine habitat for outmigrant pink salmon in the lower brackish water section.

**Center Creek:** Alaska Gold, Inc. - An on-going mining operation will divert the upper headwaters of this creek into Little Creek and excavate several large off-channel pits that are expected to fill with ground and surface water upon completion of mining. The current assessment focuses on the potential for interconnecting these lake features to Center Creek and/or Little Creek to provide summer rearing and overwintering habitat for juvenile coho salmon, Dolly Varden and potentially Arctic grayling. Juvenile coho salmon, juvenile Dolly Varden, sculpin and blackfish have been documented at the road crossing.

**Dry Creek:** Alaska Gold, Inc. - Fisheries evaluation and site inspection completed in 1993. Several options identified for construction of rearing ponds within or adjacent to active stream channel in conjunction with proposed gold dredging operations. Juvenile coho salmon and juvenile Dolly Varden documented adjacent to Icy View Subdivision.

**Glacier Creek Road:** ADOT&PF - Culvert survey completed in 1992. Remedial recommendation transmitted to the ADOT&PF in a January 1993 report. Potential material sites were surveyed in 1993 to evaluate potential fish and wildlife habitat

enhancement potential. Sculpins, juvenile coho salmon, and juvenile Dolly Varden documented (not necessarily all in each stream) in tributary streams to the Snake River. Pink, chum and coho salmon spawning documented in Glacier Creek.

**Nome-Taylor Road (MP 26 to 28, Nome-Taylor Road):** ADOT&PF - Maintenance and Operations staff requested H&RD staff to complete an evaluation of potential material sites with fisheries enhancement potential between Mileposts 26 to 28 along the Nome River. A site survey was completed in 1992. Several potential sites for development of fish rearing ponds (similar to Kink Corner - MP 22.4) were identified. One spring also was identified which potentially could be utilized to establish a chum salmon spawning channel. Further evaluation of flow rates and temperature regime is required. Preliminary site plans are under development. Target species include juvenile coho salmon and Dolly Varden.

**Sinuk River:** Bering Straits Native Corporation - Historic, shallow, surface-scrap of gravel along the west bank resulted in extensive riparian disturbance and shifts in the river channels. The site was evaluated and surveyed in 1988-89. Conceptual plans have been developed for stabilization of the existing river channel and creation of a deep backwater pond. Target species include Arctic grayling, Dolly Varden and coho salmon.

**Rocky Mountain Creek:** ADOT&PF - The existing culvert is perched approximately four feet at the culvert outlet. H&RD staff have prepared a corrective plan for ADOT&PF which includes the placement of a series of large riprap groins downstream of the culvert outlet to backwater the perched outlet. It is anticipated that bedload deposition within each of the groin pools will eventually reestablish a normal stream gradient similar to that observed with remedial actions in Sulphur Creek.

**Solomon River (MP 37):** - Martinson Dredge - At the request of the contractor, potential material sites at Milepost 37 of the Nome-Council Road were evaluated. A site development plan is in preparation that will create an inter-connected off-channel rearing pond within the Solomon River floodplain.

**Pilgrim River (MP 60.5):** ADOT&PF - Preliminary site evaluation and survey of an existing material site to evaluate the potential for establishment of an eight to ten acre off-channel rearing pond. Baseline assessment completed; however, further work placed on hold pending resolution of adjacent private landowners (native allotments) concerns regarding access restrictions and potential hydraulic river bank alterations.

# MEMORANDUM

# State of Alaska<sup>1988</sup>

DEPARTMENT OF FISH AND GAME

TO: Ms. Patti Wightman  
Division of Governmental  
Coordination

DATE: June 18, 1988

FILE NO.:

TELEPHONE NO.: 451-6192

SUBJECT: Norton Sound 53  
SID AK88052413/F

FROM:   
Alvin G. Ott, Regional Supervisor  
Habitat Division  
Department of Fish and Game

The Alaska Department of Fish and Game (ADF&G) has completed its coastal consistency review of the Alaska Department of Transportation and Public Facilities (ADOT&PF) subject application for after-the-fact authorization (for 1988 activities) and new authorization (for subsequent years) to construct new dikes and to maintain existing protective and diversionary dikes and roadway embankments at several locations on the Nome, Pilgrim, Sinuk, and Tisuk Rivers near Nome. Proposed fill material consists of cobbles and boulders obtained from river gravel bars in the vicinity of the proposed diking and totals approximately 72,362 cubic yards. It is anticipated that yearly diking and material extraction may be necessary at the identified locations where severe icing and subsequent breakup flooding sever or destroy roadway embankment.

The Nome, Pilgrim and Sinuk Rivers have been specified as being important for the spawning, rearing or migration of anadromous fishes in accordance with AS 16.05.870(a). Chum and pink salmon occur in each river system. In addition, coho salmon, Arctic char, and whitefish are present in the Sinuk River and chinook salmon, Arctic char and whitefish occur in the Pilgrim River. Documentation exists for spawning and rearing within these stream systems within or adjacent to the proposed work areas.

Most of the proposed diking has been in place for several years (decades in certain instances) and totals approximately 37,000 feet in length (7+ miles). An unquantified amount of fish habitat is believed to have been lost as a result of the diking and yearly material extraction and rebuilding of the dikes. A conservative estimate of the current habitat loss is that an equivalent distance of stream channel is presently unavailable for fish habitat as the total linear length of diking currently in place (7+ miles). The unavailable habitat consists of blocked side channels, upwelling areas, covered (filled) side channels, and riparian cover. Much of the disturbed habitat would be suitable for use by rearing coho, chinook

and Arctic char if restoration of the channels, water flow, and riparian vegetation was completed.

The ADF&G has identified the existing diking as a fishery habitat concern and formally requested in a memorandum dated April 28, 1988 (Enclosure 1) that the ADOT&PF develop a plan and schedule to construct permanent roadway erosion protection facilities that would eliminate the need for yearly mining of streambed gravels and reconstruction of the protective berms and facilitate restoration of the impacted fish habitat. Notwithstanding this request, the ADF&G issued emergency authorization pursuant to AS 16.05.840 and AS 16.05.870 on April 29, 1988 (Enclosure 2) for the ADOT&PF to repair existing diking in anticipation of the Spring 1988 breakup. The emergency authorization granted by this permit expired June 1, 1988.

Based upon our review, we find the subject application not consistent with the Standards of the Alaska Coastal Management Program (ACMP). Specifically, the proposed activity will adversely affect fish habitat (6 AAC 80.130(b), wetlands (6 AAC 80.130(c)(2), and the natural water flow (6 AAC 80.130(c)(7). Nonetheless, with respect to the ADOT&PF's request for after-the-fact authorization for the Spring 1988 emergency diking, we find that the completed activity satisfies the requirements of 6 AAC 130(d) for approval of a non-consistent activity. Inasmuch as other feasible and prudent alternatives to continued yearly diking may be identified by the ADOT&PF pursuant to the ADF&G's April 28 request, we do not similarly find that future authorization for this activity satisfies the requirements of 6 AAC 80.130(d). Accordingly, we recommend that future authorization be found not consistent until the ADOT&PF has completed an assessment of all possible alternatives and developed a plan for construction of permanent roadway erosion protective structures.

Enclosures (2)

cc: **Pete McGee**, ADEC  
**Jerry Brossia**, ADNR  
**Bryan MacLean**, BSCRSA  
**Mike Tinker**, ADOT&PF

AGO:BM

1996



REPLY TO ATTENTION OF:

DEPARTMENT OF THE ARMY  
U.S. ARMY ENGINEER DISTRICT, ALASKA  
P.O. BOX 898  
ANCHORAGE, ALASKA 99506-0898  
JULY, 30 1997

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CERTIFIED

Regulatory Branch  
North Section  
V-960826

RECEIVED  
AUG 04 1997

Mr. Randy Romenesko  
City of Nome  
Post Office Box 281  
Nome, Alaska 99762-0281

Alaska Dept. of Fish & Game  
Habitat - Region III

Dear Mr. Romenesko:

This is a Notice of Alleged Violation involving noncompliance with the terms and/or conditions of Department of the Army (DA) permit number 4-960826, Snake River 10, issued to the City of Nome (City) on February 10, 1997. The permit authorized the City to dredge up to 56,000 cubic yards of material from 5.6 acres of waters of the United States (U.S.), including the existing boat harbor, a 200' X 100' X 10' channel within the Snake River, and a creek channel at the north end of the project area. In addition, the permit authorized the construction of sheet pile retaining walls, the installation of two seasonal floating docks, and the placement of up to 18,625 cubic yards of dredged, gravel, and riprap fill material into 1.2 acres of tidelands for harbor stabilization and/or future development activities. The harbor is located at Nome, Alaska, within sections 26, and 35, T. 11 S., R. 34 W., Kateel River Meridian.

The violations are alleged to consist of the following work which was conducted in association with the above-referenced permit:

a. On-site photographs indicate that dredged material was removed from the small boat harbor during the City's dredging operation, transported across the ice, and dumped in the middle of the frozen Snake River. Although some of the dredged material may have been ice and snow, photographs taken after break-up, show mounds of dredged material piled high enough to surface the Snake River. In addition, Corps of Engineers post 1996 and pre 1997 surveys indicate that the amount of material to be dredged from within the Federal project limits more than doubled during that timeframe.

Special condition #2 of your DA permit (page 2) requires that: "The dredged material shall be contained (ie: bermed), to prevent it from exceeding the disposal area limits, and/or reentering waters of the U.S." Your DA permit authorized the placement of the dredged harbor material within the specified disposal area limits, behind sheetpile or a containment berm; not out in the Snake River channel.

b. On-site photographs also indicate that some of the City's harbor dredge material was placed on the adjacent tidelands, ~~without a containment berm.~~ Consequently, it appears that some of this material has reentered waters of the U.S.

Again, special condition #2 of your DA permit reads as above; prohibiting any authorization that would allow that material to slough back into waters of the U.S.

c. We have been made aware of the fact that the City has a sewer line replacement project underway, and that some excess material from that project has been placed as fill on the tidelands around the harbor perimeter.

The City's small boat harbor project was reviewed and evaluated in accordance with the City's application and plans. According to those plans, dredged material would be removed from the harbor basin and placed within the specified tideland/upland disposal area limits. The disposal area would then be capped with a 24" thick layer of pit run gravel. The DA permit did not authorize the placement of fill material obtained from other sources, such as the sewer line replacement project.

My staff is currently conducting an investigation of the alleged violations. To ensure that all pertinent information is available for our evaluation and is included in the public record, you are invited to provide any information which you feel should be considered. We specifically request that you provide the following information:

a. Why was the dredged material placed on the Snake River instead of the permitted disposal site?

b. When was the dredge work done?

c. Why was the disposal site not bermed prior to the placement of the dredged fill material? When was the berm constructed?

d. What is the name, address, and telephone number of any contractors who have participated in the dredge work?

e. Where is the location of the sewer line replacement project(s)?

f. If the sewer line is being replaced, why is the fill material not being reused for that project?

g. Where in the disposal area is/was the excess material from the sewer line replacement project being placed? When was this work done?

h. Was the sewer line fill material tested? Was the material found to be a clean, suitable fill source?

i. Was the sewer line fill material stockpiled in wetlands prior to transport to the disposal area?

j. What is the name, address, and telephone number of any contractors who have participated in the sewer line replacement work?

k. Are current plans for the site different from those attached to the permit? If so, what are the new plans for the site, including total area of waters of the United States that have been filled and/or are projected to be filled?

l. Please include any other information you wish to provide concerning the history of the activity.

We will withhold further enforcement action for 20 days from the date of this letter to allow you to submit the above requested information.

You are advised that substantial penalties are available for conducting work in waters of the U. S., including wetlands, without the necessary DA authorization(s).

Section 12 of the Rivers and Harbors Act provides civil penalties, including fines of not less than \$500, and not more than \$2,500, per day of violation or imprisonment of up to one year, or both, for any person who violates Section 10 of the Rivers and Harbors Act.

Section 309 of the Clean Water Act provides penalties, including fines of up to \$50,000 per day or imprisonment for up to three years for any person who knowingly violates Section 301 of the Act.

For informational purposes, copies of this letter are being provided to the agencies and individuals on the enclosed list.

Please contact Ms. Shannon Hansen at (907) 753-2716, toll free in Alaska at (800) 478-2712, or by mail at the letterhead address, if you have any questions.

Sincerely,

*for Shannon Hansen*  
Steve Meyers  
Unit Coordinator

Enclosure

1997



# CITY OF NOME

AUG 27 1997

P.O. BOX 281 - NOME, ALASKA 99762  
TELEPHONE (907) 443-5242

Alaska Dept. of Fish & Game  
Habitat - Region III

CERTIFIED

21 August, 1997

FILE COPY

- SGW \_\_\_\_\_
- CRH \_\_\_\_\_
- RFM
- AGO uo
- RAP \_\_\_\_\_
- RTS \_\_\_\_\_
- AHT \_\_\_\_\_
- PKW \_\_\_\_\_
- IFW \_\_\_\_\_

Mr. Steve Meyers, Unit Coordinator  
 Regulatory Branch, North Section  
 Department of the Army  
 U.S. Army Engineers District, Alaska  
 P.O. Box 898  
 Anchorage, Alaska 99506-0898

Ref.: U.S. Army Corps of Engineers File No. V-960826

Subject: City of Nome Small Boat Harbor Project  
 Permit Number 2-960826  
 Notice of Alleged Violation

Dear Mr. Meyers:

This letter is the response of the City of Nome to the U. S. Army Corps of Engineers Notice of Alleged Violation, dated July 30, 1997. To facilitate communications, we respond in the same format as your letter.

## I. RESPONSES TO ALLEGATIONS

### Item a: Allegation That Dredged Material Was Disposed Of In Snake River.

The dredging in the Small Boat Harbor pursuant to the subject Corps permit was performed by the City of Nome during the period of April 21 through April 25, 1997, while local temperatures were still below freezing. The average ice thickness in the harbor area during the excavation period was 4 feet to 6 feet in depth. The work was supervised and directed by a City of Nome employee who is a graduate (M.S.) environmental engineer, and the work was accomplished using rented equipment including a large backhoe, rubber-tired off-road haul trucks and support dozers.

In order to safely excavate the dredged materials from the ice platform, the City spread 440 cubic yards of sand on top of the ice, spread over a surface area of 158,543 square feet including the dredge area, the haul road, and the permitted fill area.

government, under the direct supervision of a registered, graduate environmental engineer.

**At no time was dredged material placed in the Snake River channel during the excavation.** All dredged material was properly placed in the approved fill areas.

Item b: Allegation That Dredged Material Was Placed On Adjacent Tidelands Without A Containment Berm.

The City of Nome is hard-pressed to respond to this allegation, because it comes as a mere three-sentence, summary accusation with neither factually supported assertions nor documentation.

The purpose of containment in Special Condition No. 2 is stated quite specifically "to prevent [dredged material] from exceeding the disposal area limits, and/or reentering waters of the U. S." The Notice of Alleged Violation artfully does not assert that dredged materials exceeded the disposal area limits or reentered waters. The Notice alleges only vaguely that "it appears" from some photograph (not included in the NAV for review and analysis by the City) that some materials have reentered waters of the U. S. Fortunately, the true facts are far more comforting than mistaken perceptions derived from a picture.

The materials were excavated and placed in the fill area during the period from April 21 through April 25, 1997. Temperatures in Nome were well below freezing all of those four days. Excavating during frozen conditions made the material very easily manageable. Surfaces re-froze very quickly, acting as one form of containment.

The material characteristics at the time of excavation were very dense and/or frozen. The method of excavation, using a large backhoe in winter rather than a cutter/suction dredge or dragline, resulted in highly manageable, virtually dewatered materials being extracted. The materials were then end-dumped and dozed into the stockpile. All materials were placed beyond a buffer zone of at least 50 feet from the edge of the excavation, to prevent material from reentering the excavation site.

In addition, the dredged materials were constantly contained and managed with a D-10N dozer until the completion of the dredging. Because of the

facility. If the material does not meet trench backfill standards, and does not contain utilidor materials, it has been used for general fill at other City jobs including the small boat harbor.

Beginning about July 5, and continuing to August 9, 1997, approximately 6,600 cubic yards of this material was trucked directly from the excavation sites shown on Attachment B and placed within the Permit area behind a rock containment dike in the northeast corner of the small boat harbor. Attachment A indicates where this fill area is located.

These materials were exclusively clean, native soils suitable for small boat harbor fill. The composition is gravel (6-inch minus) and sand, with some limited silts or organics. Some of the materials were frozen at the time of deposit.

The City of Nome recognizes that this use of imported soils from the Utilidor Replacement Project as fill near the small boat harbor was a technical mistake contrary to the letter of the Permit. However, it was inadvertent, minor in nature, and resulted in no damage. This import of materials has been stopped, and will not recur.

## II. RESPONSES TO REQUEST FOR INFORMATION

a. "Why was the dredged material placed on the Snake River instead of the permitted disposal site?" Only ice blocks with surficial dirt were placed on the Snake River. Ice blocks with significant frozen dirt were placed in the fill area. The mound in your photographs is grounded ice coated with dirt.

b. "When was the dredge work done?" All dredging was accomplished from the ice platform during the period from April 21 through April 25, 1997, while temperatures were below freezing.

c. "Why was the disposal site not bermed prior to the placement of the dredged fill material? When was the berm constructed?" Nothing in the Permit says that the disposal site must be "bermed prior to the placement." ~~The Permit only requires containment, to prevent the material from~~ exceeding the disposal area and/or reentering waters of the U.S. The dense and/or frozen materials were contained effectively and successfully by multiple measures (including berming), namely by using a backhoe to

contractors. All of the work is being performed in house by the City of Nome municipal division known as Nome Joint Utilities.

k. "Are current plans for the site different from those attached to the permit? If so, what are the new plans for the site, including total area of waters of the United States that have been filled and/or are projected to be filled?" At this point in time, approximately 0.9 acres of the permitted 1.2 acres have been filled. Future plans for the site may change, but not materially. No more activities will occur in the permitted area until the matter has been addressed fully in a separate application to modify the Permit.

l. "Please include any other information you wish to provide concerning the history of the activity." The City of Nome is an environmentally sensitive public government, very concerned and cautious to prevent any damage to the waters or marine life of the local area. The small boat harbor project is being supervised and monitored by a graduate environmental engineer employed by the City. All material was excavated carefully and efficiently before break-up, and only ice blocks with surficial dirt were placed on the Snake River ice rather than into the fill. All excavated materials were carefully contained from the first moment of fill activities, and no fill has reentered the waters.

The Nome Utilidor Replacement Project also provided significant improvements to utility worker safety and public health improvements for the community at Nome. While the use of some of this fill at the small boat harbor was a technical error, that fill was sorted carefully, with unsuitable material being transported to the dump closure project, and only a relatively small quantity of clean, suitable native materials used at the small boat harbor. This material was carefully bermed behind rock, and there is no evidence of contamination or of material exceeding the boundaries of the fill area.

The formal Notice of Alleged Violation is based in an unfortunate misunderstanding and an unfortunate misinterpretations of photographs. The City of Nome has conscientiously devoted long hours, many resources, and much money to the preparation of this response, with sincere hopes that a clear, full explanation here can result in a speedy return by all parties to constructive investments of time and money into the on-going improvements at Nome.

Copies Furnished:

Mr. William D. McGee  
Regional Environmental Supervisor  
Alaska Department of Environmental  
Conservation  
610 University Avenue  
Fairbanks, Alaska 99709-3643

Dr. Al Ott  
Regional Supervisor, Region III  
Habitat Protection Section  
Alaska Department of Fish and Game  
1300 College Road  
Fairbanks, Alaska 99701-1599

Project Coordinator  
Office of Management and Budget  
Division of Governmental Coordination  
Southcentral Regional Office  
3601 C Street, Suite 370  
Anchorage, Alaska 99503-5930

Alaska Operations Office  
Environmental Protection Agency  
222 West Seventh Avenue, # 19  
Anchorage, Alaska 99513-7588

Ms. Ann Rappoport  
Field Supervisor  
U.S. Fish and Wildlife Service  
Ecological Service Anchorage  
605 West 4th Avenue, Room 62  
Anchorage, Alaska 99501-2249

Mr. Ronald J. Morris  
Western Alaska Ecological Supervisor  
National Marine Fisheries Service  
222 West Seventh Avenue, # 43  
Anchorage, Alaska 99513-7577

Ms. Nancy Welch  
Regional Manager  
Alaska Department of Natural  
Resources  
Division of Land  
Northern Regional Office  
3700 Airport Way  
Fairbanks, Alaska 99709-4699

Ms. Judith Bittner  
Alaska Department of Natural  
Resources  
State Historic Preservation Office  
3601 C Street, Suite 1278  
Anchorage, Alaska 99503-5921

## LIST OF ATTACHMENTS

- ( A ) Area of NJUS Utilidor Project Material Fill.
- ( B ) Nome Joint Utility Utilidor Replacement Project - 1997.
- ( C ) Nome Joint Utility Utilidor Replacement Project typical cross-section.
- ( D ) Photo's

# NOPE SMALL BOAT HARBOR

CONCEPTUAL PLAN

REVISED 12-16-96

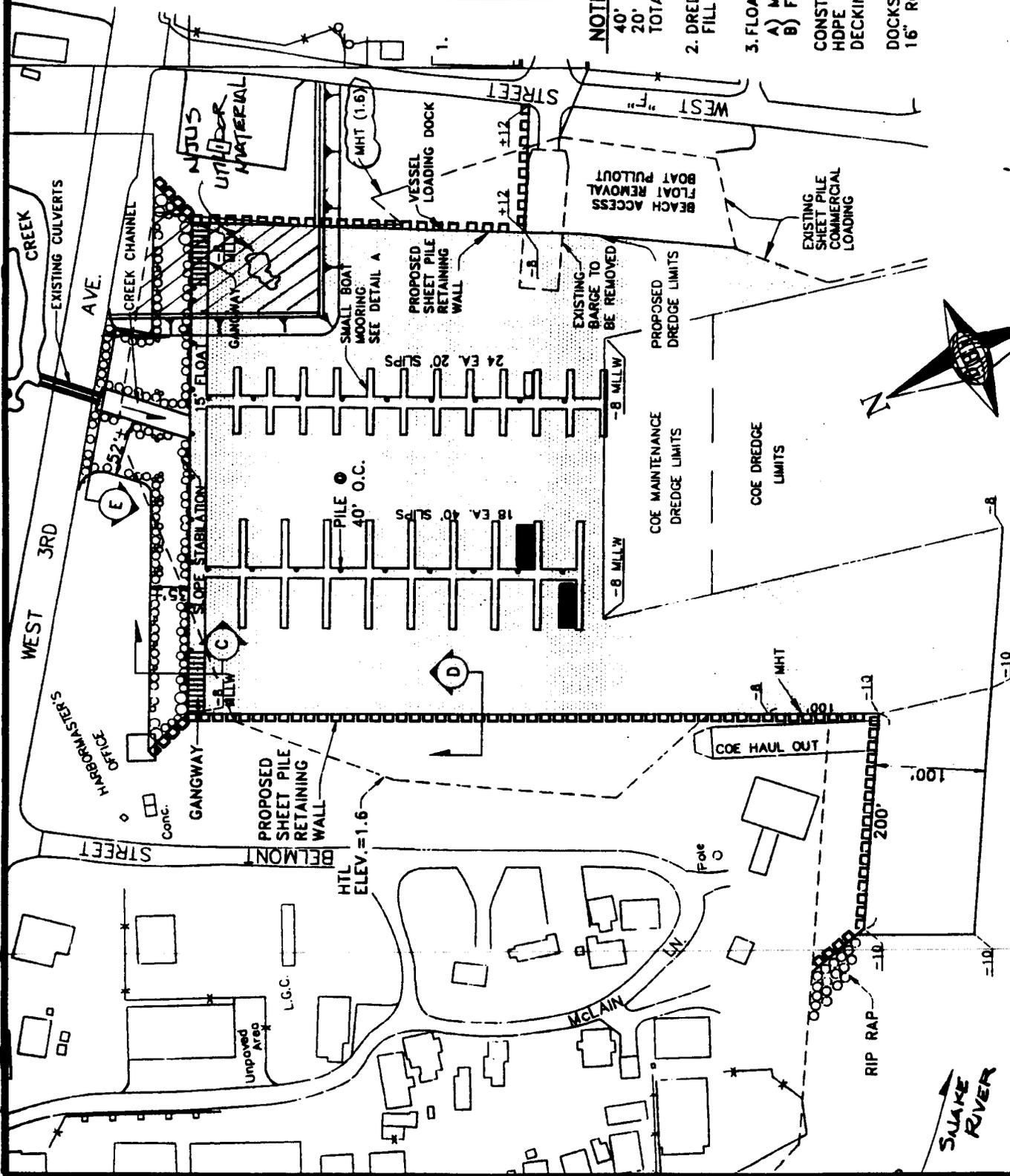
DHI CONSULTING ENGINEERS  
 CIVIL SURVEYING • PLANNING



Telephone: (907) 444-1900 Fax: (907) 444-1283

8 BOSTON AVE. ANCHORAGE, ALASKA 99516

W.D. 95183 COMP. FILE: B33CAD SCALE 1"=100' DATE: 12-9-96 BY: DDH



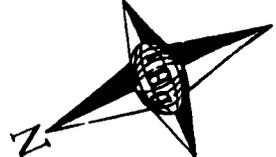
**NOTES:**

40' SLIPS	36
20' SLIPS	48
<b>TOTAL SLIPS</b>	<b>84</b>

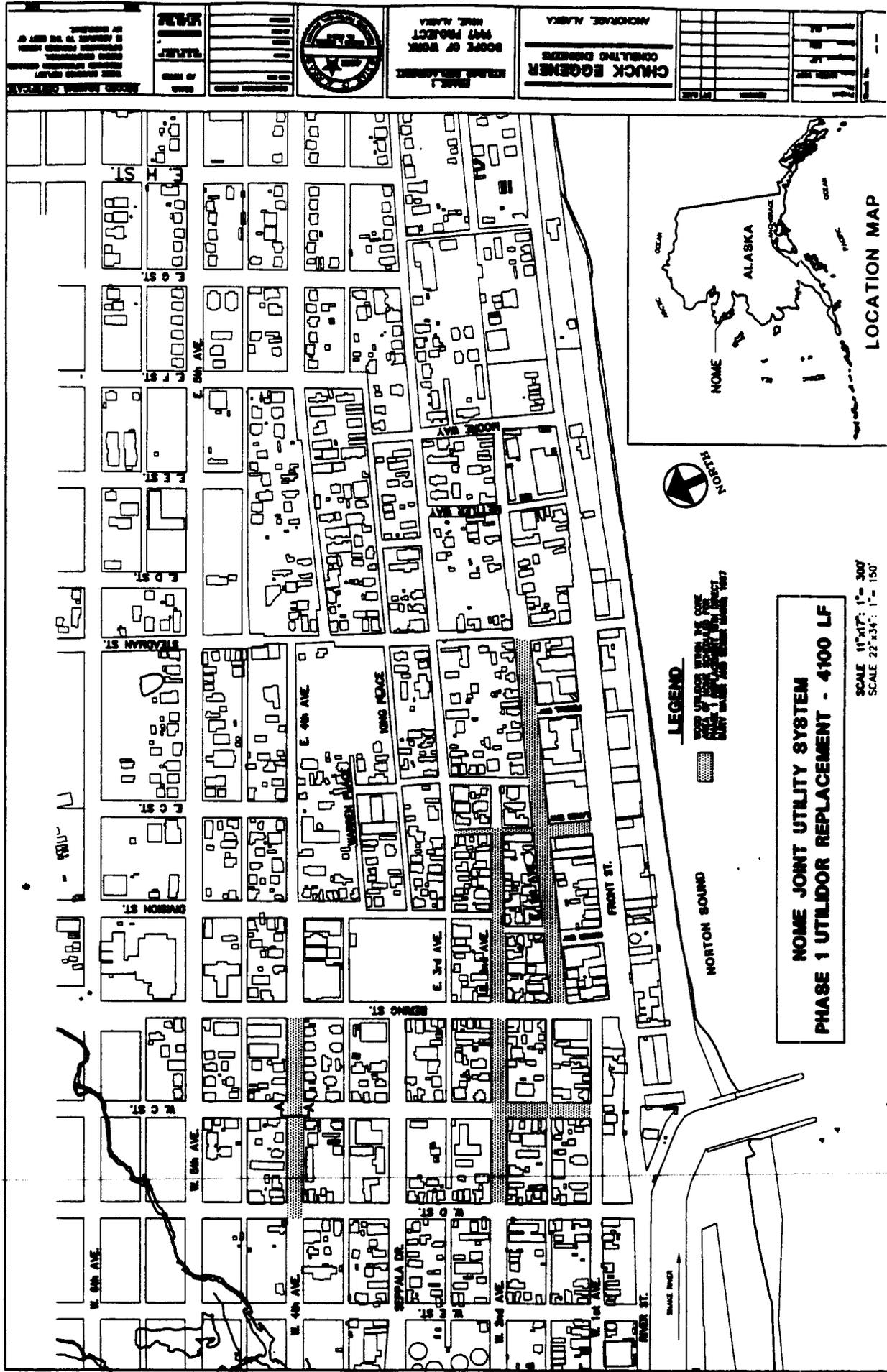
2. DREDGE = 41,000 TO 65,000 C.Y.  
 FILL 55,000 TO 65,000 C.Y.

3. FLOATIN DOCK:

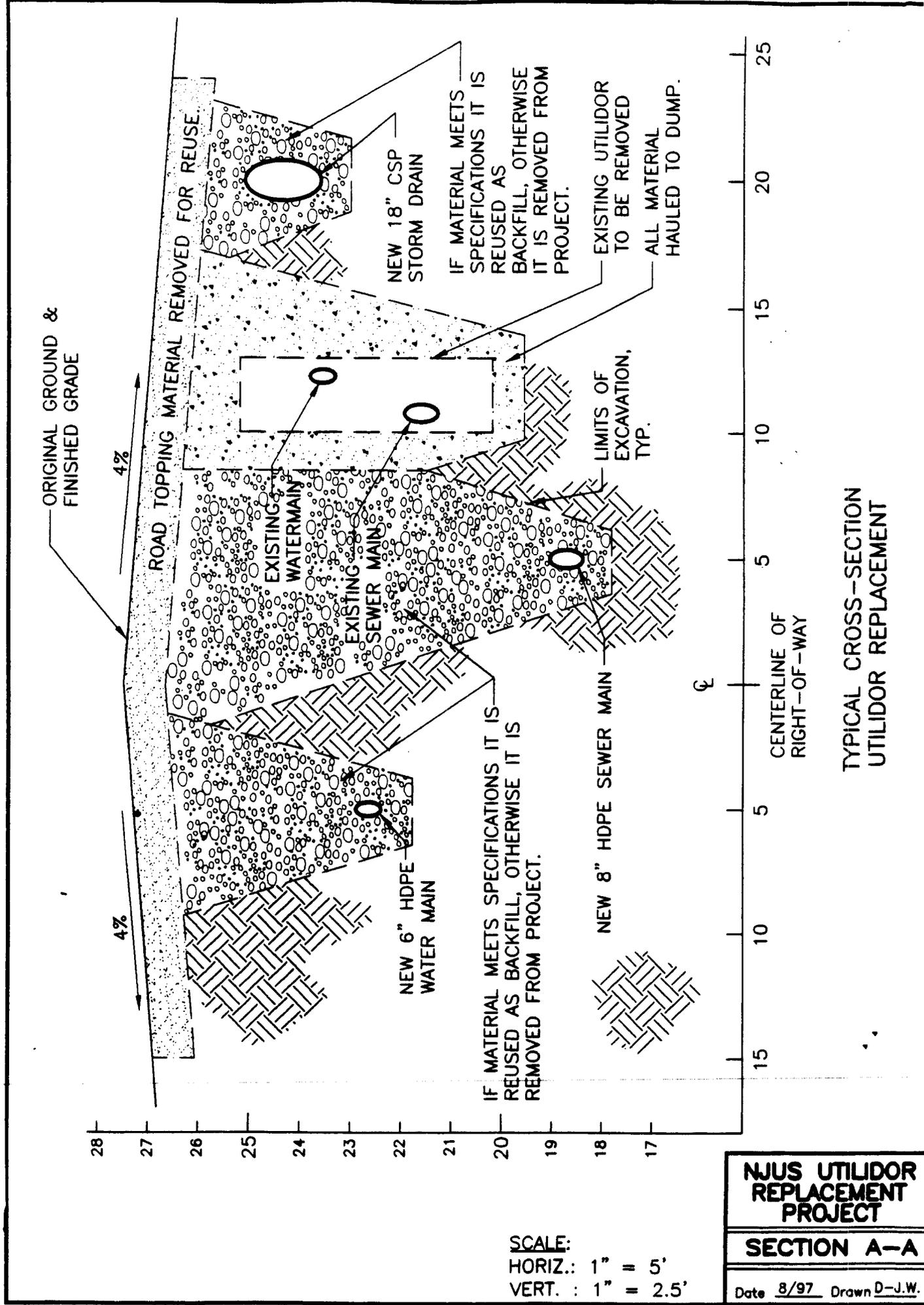
- A) MAIN DOCK - 15' WIDE
  - B) FINGER DOCKS 8' WIDE
- CONSTRUCTION WILL CONSIST OF HDPE OR STEEL FLOATS W/ WOOD DECKING (NON TREATED)
- DOCKS WOULD BE ANCHORED WITH 16" ROUND STEEL PILE.



# Attachment (B): NJUS Utilidor Replacement Project - 1997



# Attachment (C): NJUS Utilidor Replacement Project Typical Cross-section



TYPICAL CROSS-SECTION UTILIDOR REPLACEMENT

Attachment (D): City of Nome Photo's

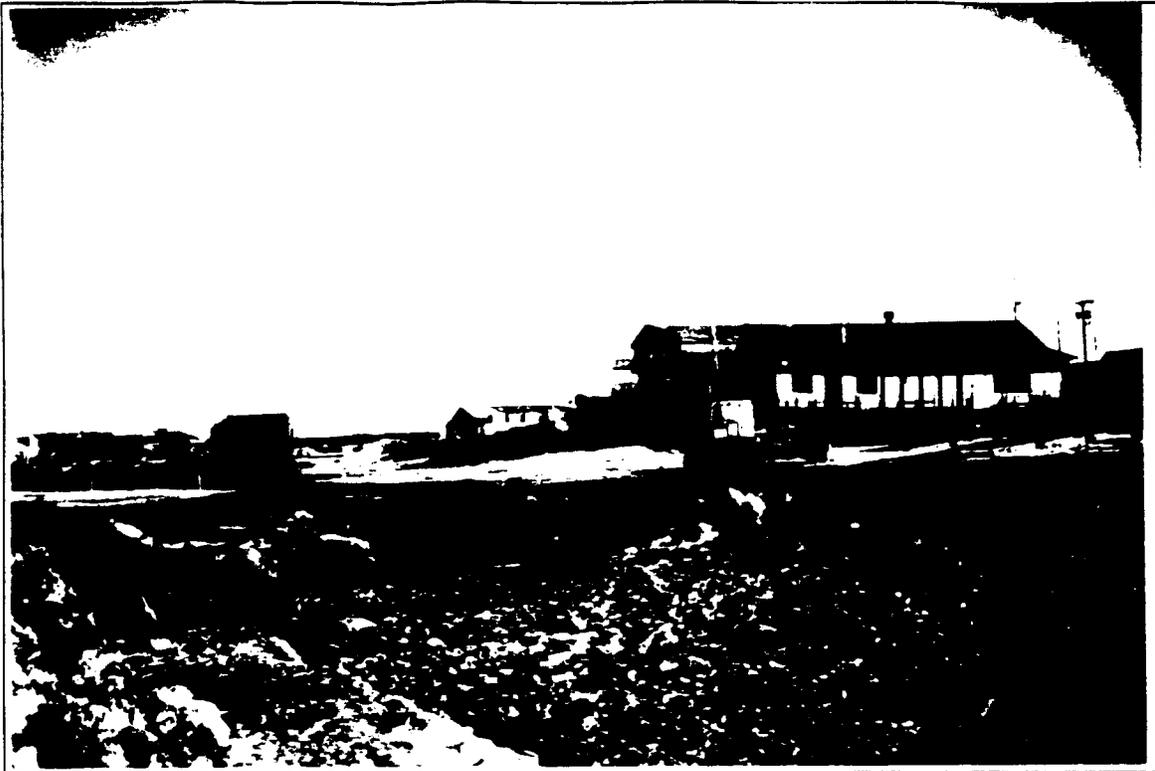


Photo 1: Nome Small Boat Harbor Project. Looking west. Photo taken at SE corner of excavation. Task: hauling ice to river.



Photo 2: Nome Small Boat Harbor Project. Looking north. Photo taken at SE corner of excavation. Task: dredging and preparing north edge of work site.



Photo 3: Nome Small Boat Harbor Project. Looking north. Photo taken at SW corner of excavation. Task: removing ice before dredging.



Photo 4: Nome Small Boat Harbor Project. Looking north. Photo taken at SW corner of excavation. Task: removing ice before dredging.

Attachment (D): City of Nome Photo's

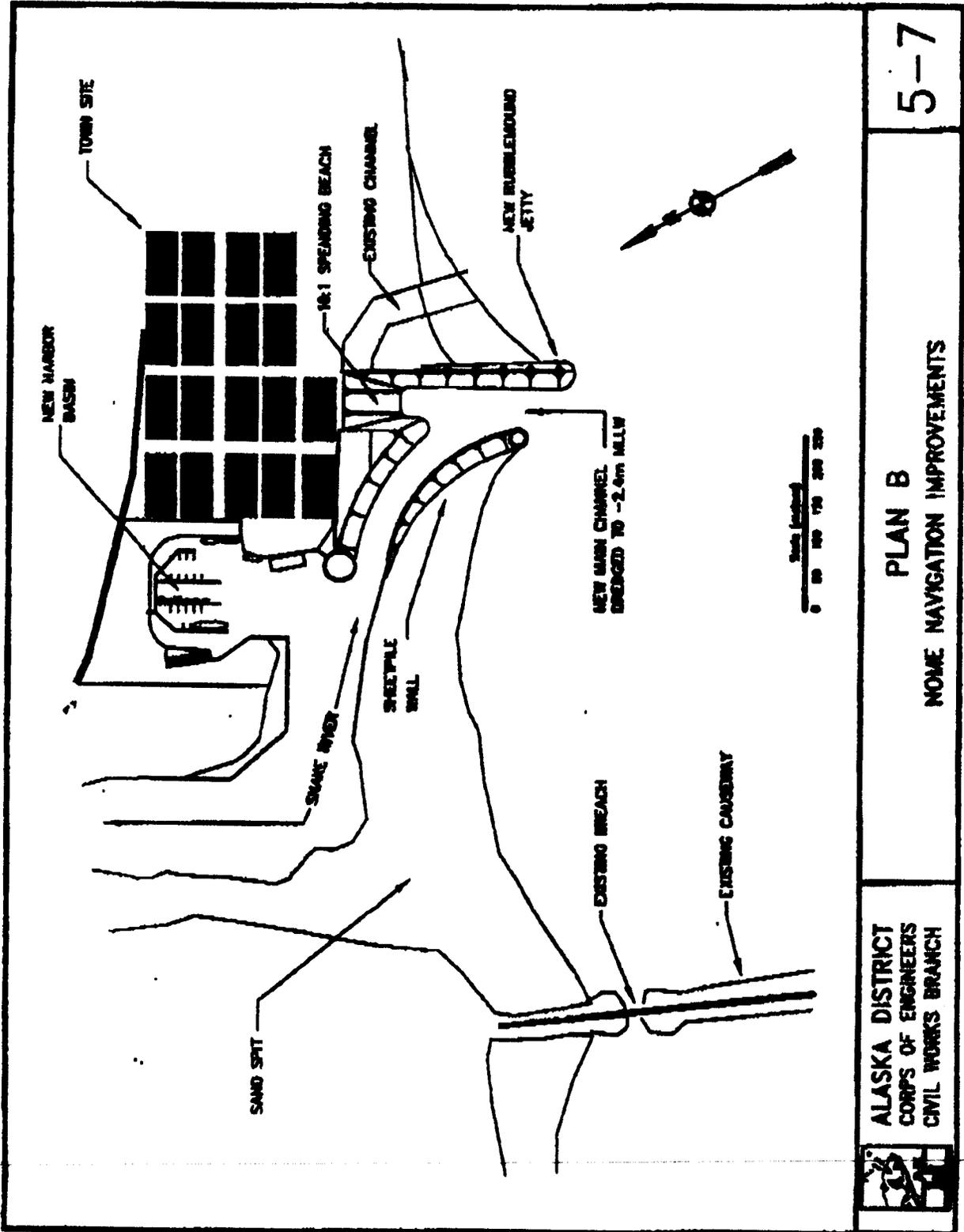


Photo 5: Nome Small Boat Harbor Project. Looking SW. Photo taken at new anchor location. Task: relocate anchor.



Photo 6: Nome Small Boat Harbor Project. Looking WNW. Photo taken at east limit of dredge area. Task: dredging. Note buffer zone between dredge stockpile & dredging area.



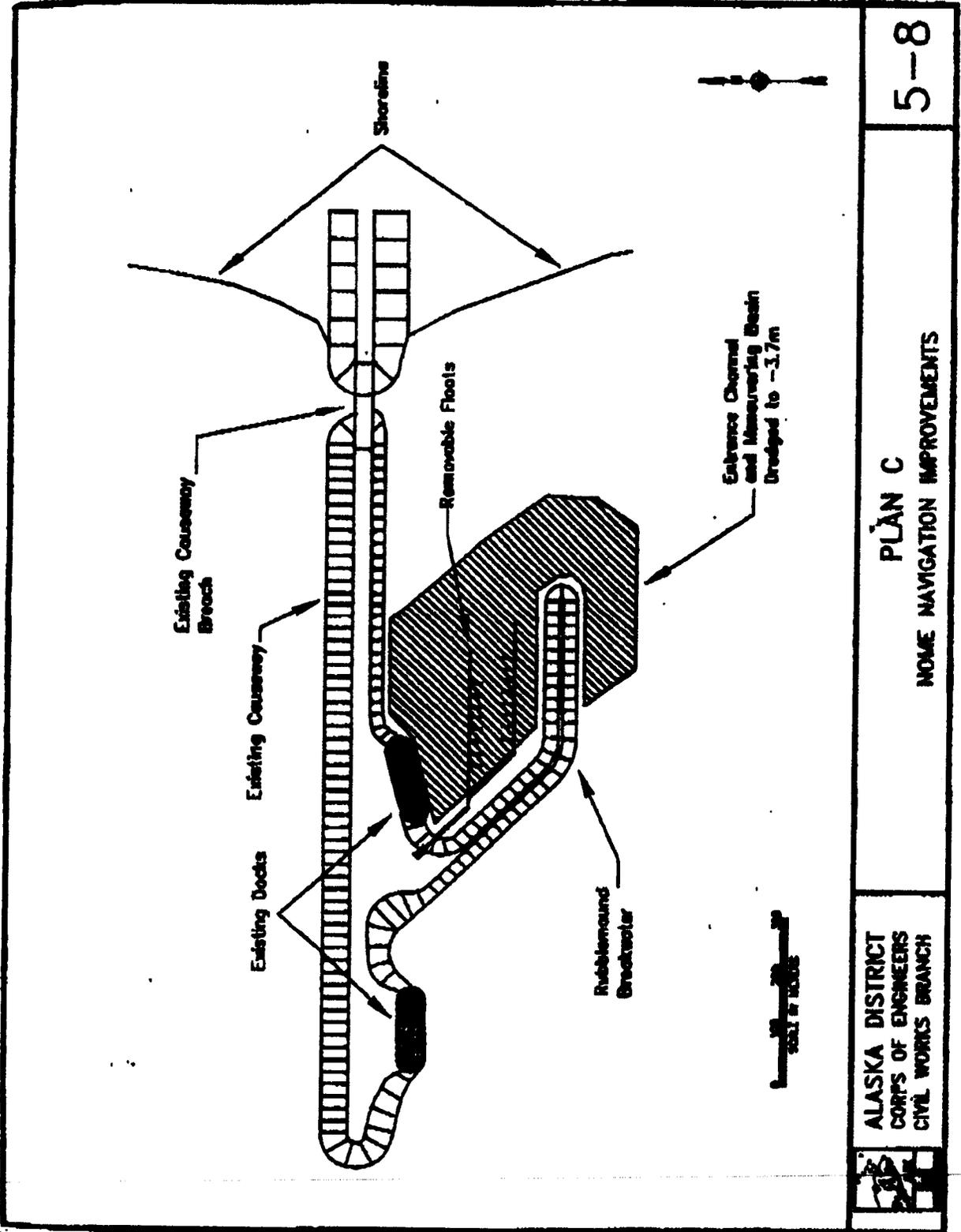


5-7

PLAN B  
NOME NAVIGATION IMPROVEMENTS

ALASKA DISTRICT  
CORPS OF ENGINEERS  
CIVIL WORKS BRANCH

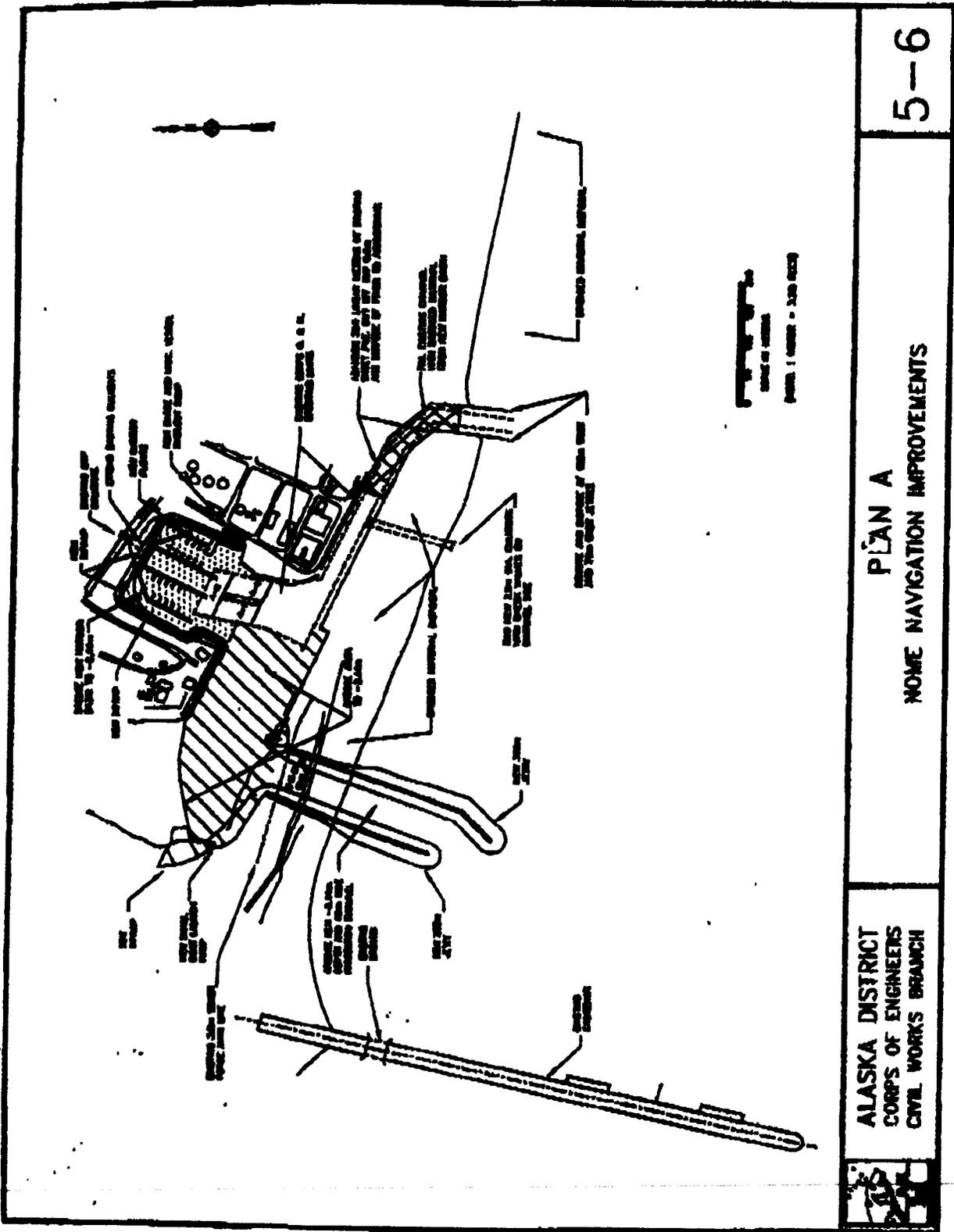
CIVIL WORKS BRANCH NOME NAVIGATION IMPROVEMENTS



5-8

PLAN C NOME NAVIGATION IMPROVEMENTS

ALASKA DISTRICT CORPS OF ENGINEERS CIVIL WORKS BRANCH



5-6

ALASKA DISTRICT  
CORPS OF ENGINEERS  
CIVIL WORKS BRANCH



# MEMORANDUM

1986/87  
State of Alaska

TO: Alvin G. Ott  
Regional Supervisor  
Habitat Division

DATE: October 21, 1986

FILE NO:

TELEPHONE NO: 479-3106

FROM: Robert F. McLean *RFM*  
Dick Shideler  
Habitat Biologists  
Habitat Division

SUBJECT: Nome Field Trip -  
August 4-8, 1986

General observations and activities associated with McLean and Schideler's Seward Peninsula field inspection, August 4-8, 1986, are presented below. A separate report is in preparation for Alaska Department of Transportation and Public Facilities' (ADOT/PF) highway projects.

General Stream Crossings: Ten stream ford crossings were field inspected and photographed to evaluate their continued suitability for general permit status. The Niukluk River, Sweetcake Creek, Ophir Creek #1 and #2, and Kougarok River #1-3 ford crossings were not inspected due to inaccessibility stemming from high water conditions. The Snake River crossing also was not inspected due to time limitations. Charlie Lean, Commercial Fisheries - Nome, reports that the Kougarok River crossings are at the extreme upper limit of anadromous fish distribution and may only be utilized for salmon spawning during years with extreme high fish returns.

Pilgrim River (Iron Creek): Ground reconnaissance. 4x4/heavy equipment access route to Iron Creek mining area. Historical route; significant current use. The crossing is located in an area of discontinuous sockeye salmon spawning and Arctic grayling overwintering habitat. The actual crossing, however, has purportedly received nearly continuous use for the past eight decades and is therefore presumed to have little current value as spawning habitat. The overland access route connects with the Nome-Taylor highway at Milepost 47.5. RECOMMEND continued general permit status. Photos available.

Snake River: No observations conducted this field trip. Crossing located at upper limit of anadromous designation. RECOMMEND continued annual reauthorization as a generally permitted crossing pending future on-site investigation.

Nome River #1 (Sampson Creek): Accesses mountain

ridges on divide between Nome and Snake river valleys (connects with Glacier Creek Road). Extensively utilized by hunters. Crossing is located in the upper reach of pink salmon and chum salmon spawning areas in most years. East stream bank gradual; west stream bank approximately 1 foot above water line - some bank degradation apparent. Stream substrate cobble with limited fines; area previously dredged earlier this century. RECOMMEND continued general permit status. Photos available.

**Nome River #2 (Divide Creek):** Purported historic crossing; actual utilization uncertain. Crossing ill-defined; single set of vehicle tracks on opposite bank. Stream substrate cobble; limited fines; area previously dredged. Horse drawn grader adjacent to crossing in overflow channel. Charlie Lean (CF-Nome) will attempt to verify current usage.

**Nome River #3 (Dorothy Creek):** Defined crossing; stream substrate cobble with limited fines; water depth approximately 6 inches to 1 foot at time of inspection. Accesses mountain ridges on divide between Nome and Snake river valleys (connects with Glacier Creek Road). Extensively utilized by hunters. RECOMMEND continued general permit status. Photos available.

**Nome River #4 (Clara Creek):** Accesses historic gold mining operation on Clara Creek. Crossing approximately  $\frac{1}{4}$  mile from Nome-Taylor Highway. Uncertain of current status of mine (no APMA received in 1986). Actual crossing not inspected. Demonstrated public need questionable; Charlie Lean (CF-Nome) will attempt to quantify existing useage. Photo available.

**Nome River #5 (Buster Creek):** Well defined crossing approximately 1-2 feet deep (much shallower at normal water flows); limited potential for spawning use due to high probability of winter freeze-down. Road access available on both banks; no bank degradation apparent from past usage. Stream bottom firm with mixed cobble substrate; fines largely absent in substrate; limited risk of downstream sedimentation from continued use as a ford crossing. RECOMMEND continued general permit status. Photos available.

**Cripple Creek:** Aerial reconnaissance. Well defined crossing located just above beach high water line; approximately 3 feet deep at time of inspection. Access from Nome along beach. No bank degradation apparent from past usage. Stream substrate cobble; few fines apparent. RECOMMEND continued general permit status. Photos available.

**Penny River:** Aerial reconnaissance. Well defined crossing located just above terminal beach lagoon at first gravel bar. Access from Nome along beach. Water depth  $1\frac{1}{2}$  to 2 feet deep at time of inspection. No bank degradation apparent from past usage. Stream substrate cobble; few fines apparent. RECOMMEND continued general permit status. Photos available.

**Solomon River (Lees Camp):** Historic crossing; well defined. Water depth  $3\frac{1}{2}$  to 4 feet deep at time of inspection. No significant bank degradation apparent from past usage. Stream substrate cobble; few fines apparent. Observed large wheeled loader make an actual crossing - no noticeable substrate compression observed; very minor and short-lived induced sedimentation from vehicle passage. RECOMMEND continued general permit status. Photos available.

**Big Hurrah Creek:** Historic crossing at confluence of Big Hurrah and the Solomon River. Broad, braided, shallow floodplain; water depth 6 inches to 1 foot at time of inspection. Stream substrate cobble; limited fines; previously dredge. Drove state vehicle across first channel; no induced sedimentation observed. RECOMMEND continued general permit status. Photos available.

Proposed General Stream Crossings: Five new proposed AS 16 permit crossings were inspected.

**Snake River** (proposed access route of length of river): Aerial reconnaissance. Historic route up the entire length of the Snake River. Existing trail is discontinuous and has not received any apparent recent use. ~~RECOMMEND that route not be generally permitted.~~

**Glacier Creek #1** (proposed): Aerial reconnaissance. Access route from highway to Snake River. Cabin constructed on opposite bank of Snake River circa 1981-82. Historic route, clearly defined road

located out of the bed of the creek (ordinary high water) for most of route. Several point to point crossings discernable at shallow, compacted riffle areas. RECOMMEND general permit status. Photos available.

Glacier Creek #2 (proposed): Aerial and ground reconnaissance. Historic road to mining camps in upper watershed. Occasionally used by recreational hunters. Stream substrate cobble with limited fines. Previously dredged. Established off-channel road visible from air in upper 2/3 of stream. Channel side-cutting has blocked existing road at several locations. Road relocation or instream travel required. RECOMMEND general permit status if public usage warrants. Additional documentation on utilization rates to be collected by ADF&G Game Division and Commercial Fisheries Division. Photos available.

Big Hurrah Creek (proposed access route up length of streambed): Ground reconnaissance of lower end. Historic access to mining areas in upper watershed. Infrequently utilized at present by recreational hunters. (For physical description see previous entry for Big Hurrah Creek crossing). RECOMMEND general permit status only if public usage warrants. At this time such levels of usage do not appear to exist.

Shovel Creek (proposed access route up streambed from an ingress point adjacent to Wayne Tachick's placer operation): Historic access route to upstream mining operations. Currently extensively utilized by recreational hunters. According to Charlie Lean, CP - Nome, the access route follows the east/northeast bank of Shovel Creek (above ordinary high water); crossing the bed of the stream once, possibly twice, several miles upstream from Wayne Tachick's operation. Shovel Creek has been documented only as an Arctic char rearing system; no spawning has been noted to date. RECOMMEND general permit status.

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Inspiration Offshore Mining: Everett Braun has recently been transferred by IMI from their New York City corporate office to Nome and has assumed his duties as IMI's Project Coordinator. Laura Cosell (Nome resident) has been hired as IMI's Public Relations director. Jim Gillis was recently hired as IMI's Environmental Engineer in charge of the water quality monitoring programs. The Bima arrived (late July)

intact and without damage after its barge trans-oceanic shipment from the South China Seas. Renovation and retooling is currently in progress. An unconfirmed rumour is that the Bima has significant structural and mechanical problems which may limit its utility in Alaskan waters. Specifically, unconfirmed reports indicated that the Bima's plumbing system does not have any drain valves which could be utilized in freezing weather to purge the water system. Secondly, the Bima purportedly does not have any provisions for space heating. Finally, it is reported that all of the electrical motors on board vessel are rusted out and will require replacement.

Gold Prospectors Association of America (George Massie): An aerial overflight was made on August 8th of George Massie's operation at the mouth of the Cripple Creek. Carl Grovogual, Game Division - Nome, piloted the department's Piper P-3 Cub. Beach prospectors with hand-fed rocker boxes were noted at the mouth of the Penny River. Massie's operation consisted of a large, recently built camp located on the east bank of the Cripple Creek. Thirteen centralized buildings, three storage/workshop buildings, one small crawler loader, and one small tractor with front bucket were noted onsite. A second small tractor with front bucket and attached trailer was located on the west bank of the Penny River and, based on its setup, appeared to be utilized for transport of GPAA's clients.

The aerial overflight continued up the length of the Cripple Creek. Just upstream of the confluence of Fox Creek with the Cripple Creek, on the southeast bank of the Cripple Creek, a small cabin and two beached inflatable rafts were noted. Two unidentified individuals in yellow chest waders were observed operating small suction dredges within the Cripple Creek along a cut bank. No known AS 16 permits had been issued for the observed activities. Upon returning to Nome, Roger Aulabaugh, AST/FWP, was notified of the apparent AS 16 violation. Assistance in obtaining field verification was requested.

The purported overland access road along the east bank of the Cripple Creek consisted of little more than a series of ruts which appear to have stemmed from thermal degradation resulting from prior use. According to Charlie Lean, ~~Commercial Fish - Nome, the route was utilized once 2 to 3~~ years ago by a front end loader. The "overland" route crosses within and on the bed of the Cripple Creek at approximately six locations.

Richard Lee - Jerome Creek Placer Mining: Mr. Lee's claims were inspected on August 5th and 7th. The permitted movement

of Mr. Lee's skid-mounted washplant across the Solomon River occurred on August 1st. No significant damage to the bed or banks of the Solomon River were evident. However, extensive and significant instream alterations of the bed and banks of Jerome Creek were noted. Approximately 1/2 mile of Jerome Creek is affected. It appeared that a cat had bladed both sides of the creek and then made a pass back down through the middle. Two complete blocks to fish passage were noted: one consisting of an earthen and vegetative berm; the other an earthen berm which forced the stream overland through the vegetative cover. Two large overburden/tailing piles, two dozers (one D-4 or D-6, the other similiarly sized but an older vintage), and a skid-mounted wash plant were also noted. No operators were on site. Subsequent conversations with Mr. Tachick indicated that Mr. Lee had returned to Tin City; leaving two employees behind (we later learned that both employees were staying across the Solomon River at Lees Camp with Mr. Tachick). No NPDES or AS 16 permits had been issued for the noted activities. On August 7th, one unidentified salmonid, approximately four inches long, was observed in a side pool of Jerome Creek immediately below the disturbed section.

Wayne Tachick - Shovel Creek Placer Mining: Operation inspected on August 7th. Shut down for equipment repairs and pond cleanout at the time of inspection. Tachick's operation is a total recycle system located entirely off-river. No disturbance or apparent discharge to Shovel Creek noted. At time of inspection, Shovel Creek's water quality was excellent with an apparent visual turbidity level of less than 1 NTU. Mr. Tachick was purging his filled settling ponds with a garbage pump; discharge directed overland to a diked lowland area of willows 200 to 400 yards offset from Shovel Creek.

Noel Tanner - Anvil Creek Placer Mining: This operation was inspected on August 8th and found to be in non-compliance with the approved mining plan and AS 16 authorization. Actual operation is adjacent to the east bank of Anvil Creek and is located approximately 1/2 to 1 mile west of the approved location. No operators were present; although some equipment was on-site (trailer-mounted 13.5 inch Berkeley Pump Model B-4 with 8 inch intake hose). Three settling ponds had been constructed:

- 1st - approximately 130' by 50' by 4' (upper end full of pea-size gravel, lower end full of silt and emerging aquatic plants).
- 2nd- approximately 130' by 45' by 8'.

3rd - approximately 140' by 40' by 10'

First order successional vegetation was emergent from the banks of all three settling ponds - indicating fairly recent origin. The outfall from the 3rd settling pond was directed first through a 3' by 40' long culvert and then through a shallow ditch (200' long) to Anvik Creek.

Cooper Gulch Placer Mining: An off-site inspection from the Nome-Glacier Creek Road vantage was conducted August 6th and 8th. This large, open-pit mining operation is located immediately behind the high school-ADOT/PF complex and just east of Midnight Spring. Charlie Lean, Commercial Fish - Nome, and Carl Gravogaul, Game Division - Nome, indicated that they thought the operation was controlled by Noel Tanner. Approximately 300 plus acres have been disturbed. Local concern over this operation is high; predominately due to concerns that the city's water supply (Midnight Spring) may be interrupted or contaminated.

Specimen Gulch: An unknown placer mining operation was uncovered on August 6th; located just upstream (100 to 200 yards) of the Specimen Gulch Creek crossing of the Nome-Glacier Creek road. A subsequent (August 7) check with the Bub Loiselle of the Environmental Protection Agency and the ADNR-DOM APMA office indicated that no state or federal permits had been secured for the operation. Carl Gravogaul indicated on August 8th that Noel Tanner had told him one week prior that both his Anvil Creek and Specimen Gulch Creek camps were in operation.

Specimen Gulch Creek discharges into the Anvil Creek approximately 1/4 mile downstream of the road crossing. This portion of Anvil Creek is not currently designated in the anadromous stream catalog.

A cat loader, large dozer, and vibrating wash plant were observed in operation on August 6th. On August 8th, the cat was observed stripping and stockpiling material, no sluicing was evident. One settling pond and no stream by-pass were noted. Water samples were collected at the downstream end of the Specimen Gulch Creek road culvert (approximately 100 to 200 yards downstream of pond outlet) on August 6th (1632 hours) and August 8th (1603 hours). Both sets of samples were transported to Fairbanks for in-house analysis. Results follow:

	<u>August 6</u>	<u>August 8</u>
Settleable		
Solids	5.0 ml/l	0.4 ml/l
Turbidity	7,424 NTU	2,032 NTU

A parallel water sample was collected on August 8th (1540 hours) at the upstream end of the Anvil Creek culvert crossing of the Nome-Teller road (located several miles downstream of the Specimen Gulch Creek operation). Settleable solids were non-detectable; turbidity - 2.5 NTU.

Nome Causeway: Construction nearing completion. Final keyed riprap to be placed at the nose of the causeway by mid-August. The permitted fifty foot breach was in place, but temporarily plugged, in apparent compliance with specifications. According to an unidentified Peter Kiewitt employee which we spoke to on August 7th, the plug was to be pulled by the second week of August.

Outside Agency Contacts:

Ron Davena, ADOT/PF, Project Coordinator, Nome  
Jim Cronk, ADOT/PF, Nome Council MP 42-53 Project  
Manager, Nome  
Roger Aulabaugh, AST/FWP, Nome  
John Vasik, District Attorney, Nome  
Theresa ?, Office of the Governor  
Simon Mausley, ADEC, Nome  
Joyce Beelman, ADEC, Fairbanks (on field trip in Nome)  
Everett Braun, Inspiration Mines Incorporated, Nome

cc: Al Townsend, HD, Fairbanks

RFM/RTS:rfm