
MEMORANDUM

TO: TIM LUKE
FROM: TROY WINWARD
SUBJECT: HOAGLAND TUNNEL ALTERNATIVES
DATE: 1/26/2005

Overview:

Propose to transfer delivery of water from the Hoagland Tunnel Ditch to the Sandy Pipeline. Water not diverted to the Hoagland Tunnel Ditch would instead be diverted to the Jones Hatchery through the raceways and discharge into the Bar-S Ditch Pipeline and into the Curren Ditch. Thereby adding up to 6 cfs to both the Jones Hatchery and the upper end of the Curren Ditch. The flow of water through the Jones Hatchery and into the Curren ditch would need to equal the amount diverted from the Sandy Pipeline. This would require accurate measurement devices at lateral from the Sandy Pipeline Vault to the Hoagland Tunnel users and at intake of the Bar-S pipeline.

Alternatives:

- a) Replace Hoagland Tunnel water with Sandy Pipeline water by diverting water from the Sandy Pipeline vault. Diverting from the vault would require approximately $\frac{3}{4}$ mile of mainline from the vault to the existing stand pipe (Fig. 1 and Fig. 2) that is currently fed by a siphon from the Hoagland tunnel. The flow required to deliver the sum of all the water rights affected is 6.30 cfs (Table 1). This could likely be delivered by an 18-inch mainline although further analysis is needed to verify mainline sizing. The system could be enclosed to convey water to the current stand pipe and then back through the siphon to the Hoagland ditch to provide delivery of Littlefair water right (Fig. 1). This would likely require a booster pump to provide delivery to Littlefair. Alternatively, water could continue to be delivered through the Hoagland Tunnel Ditch to deliver Littlefair water. Another concern in the implementation of this alternative is the delivery of the domestic rights to Omohundro and Morris. A potential solution to this problem is to drill well for each of the domestic sites. Costs for this alternative include installation of mainline, relocation of current pumps, and ongoing power consumption.
- b) A second option is to replace Hoagland Tunnel water with Sandy Pipeline water by rediverting Sandy Pipeline water from the Curren Ditch. The Sandy Pipeline water that discharges to the Curren Ditch would be diverted to an existing depression owned by Butch Morris. The water would then be pumped from this pond to the standpipe and diverted to existing POU's using the existing

infrastructure. A less expensive option would be to pump directly from the Curren ditch thus negating improvement cost construct pond and negating losses associated with a pond. This would require approximately 1000 feet of mainline with capacity of 5.58 cfs (15 inch diameter mainline). Littlefair water would still be delivered by the Hoagland Tunnel ditch or could be pumped back through the siphon to the location further south on the Hoagland ditch which is currently the siphon intake. The domestic rights would also be a concern in delivery as in alternative a and installation of domestic wells may be necessary. Again costs would include relocation of pumps, installation of mainline, and ongoing power consumption.

Hoagland Tunnel Service Area (without Jones diversion)

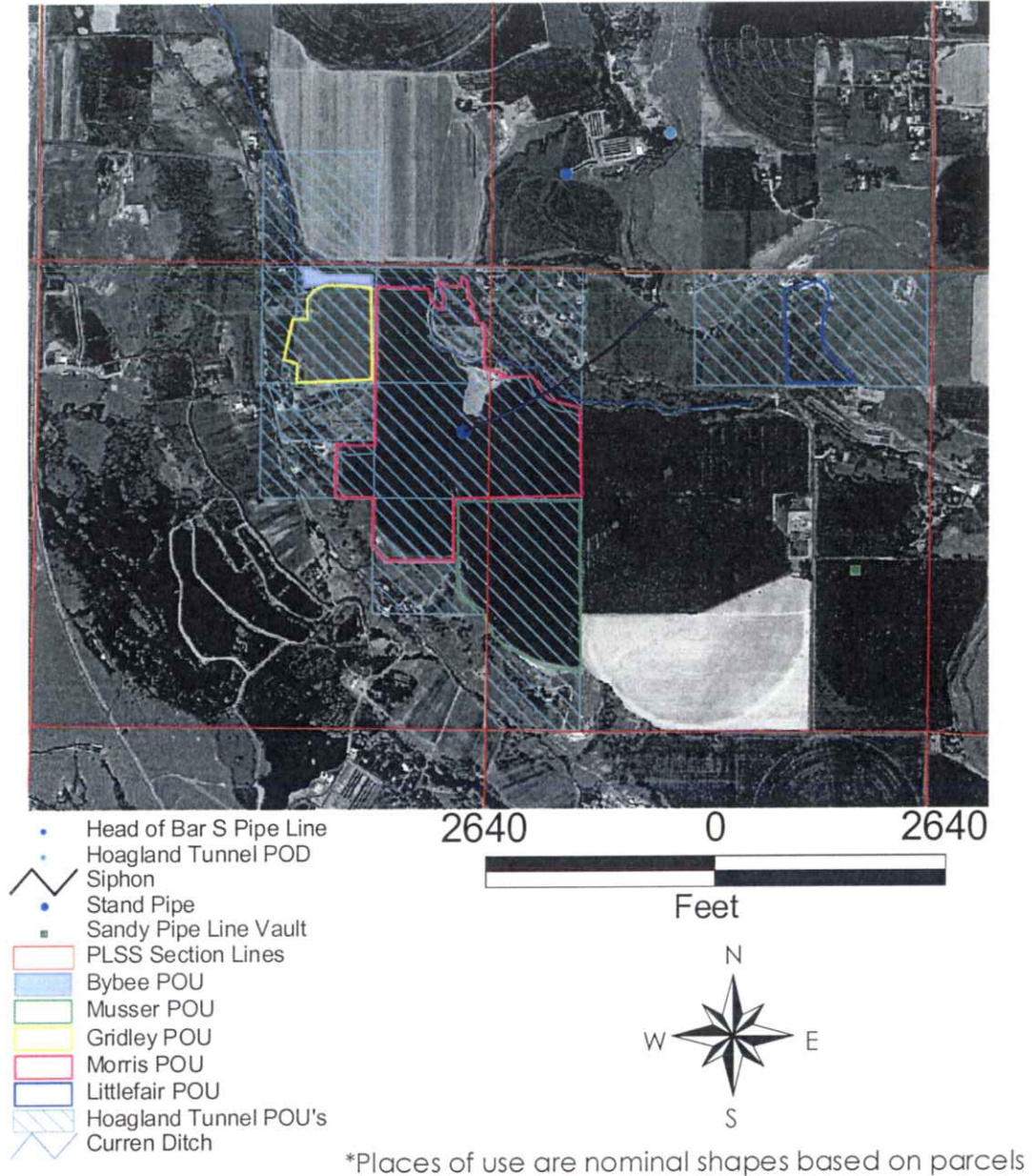


Figure 1. Map of Hoagland Tunnel Delivery Areas

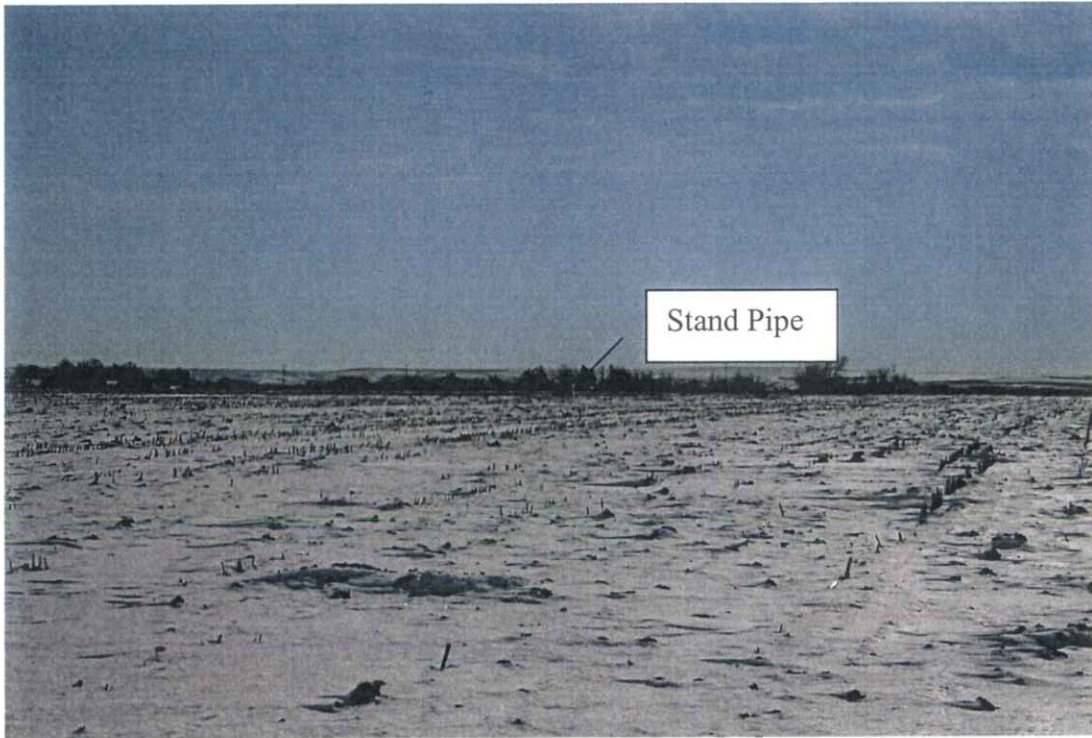


Figure 2. Stand Pipe from Hoagland Tunnel located in irrigated field.



Figure 3. Morris anticipated pond area and Curren Ditch in foreground (ditch is barely visible).

Table 1. Water rights serviced by Hoagland Tunnel Ditch affected by proposed delivery changes.

Owner(s)	Sequence	Suffix	Priority Date	Rate(cfs)	Acres	Water Use(s)
DICE, JUDITH A (Current); DICE, PHILIP F (Current)	41	A	12/12/1901	0.02	0.7	IRRIGATION, STOCKWATER
OMOHUNDRO, NEVADA B (Current)	41	B	12/12/1901	0.02		DOMESTIC
BYBEE, GERTRUDE B OWSLEY (Current)	41	C	12/12/1901	0.08	2.5	IRRIGATION
MORELAND, MARY L (Current); MORELAND, RODNEY D (Current)	41	F	12/12/1901	0.03	1.5	IRRIGATION
GRIDLEY, Doris M (Current)	41	G	12/12/1901	0.48	23.9	IRRIGATION
DICE, JUDITH A (Current); DICE, PHILIP F (Current)	41	H	12/12/1901	0.03	1.6	IRRIGATION
MORRIS, HOWARD L (Current); MORRIS, RHONDA K (Current)	61		12/12/1901	2.22	123	DOMESTIC, IRRIGATION, STOCKWATER
MORRIS, HOWARD L (Current); MORRIS, RHONDA K (Current)	62		5/1/1912	0.28	123	IRRIGATION
MORRIS, HOWARD L (Current); MORRIS, RHONDA K (Current)	63		11/1/1915	0.8	123	IRRIGATION
MUSSER, J ALVIN (Current); MUSSER, TIM (Current)	116		12/12/1901	1.14	57	IRRIGATION
LITTLEFAIR, LARRY J (Current); LITTLEFAIR, TARA G (Current)	119		12/12/1901	0.2	15	IRRIGATION
LITTLEFAIR, LARRY J (Current); LITTLEFAIR, TARA G (Current)	120		7/8/1915	0.5	15	IRRIGATION
BROOKS, ANDREE G (Current)	16090		12/12/1901	0.04	1	IRRIGATION
HORNOCKER, LESLIE (Current); HORNOCKER, MAURICE (Current)	16091		12/12/1901	0.46	13	IRRIGATION