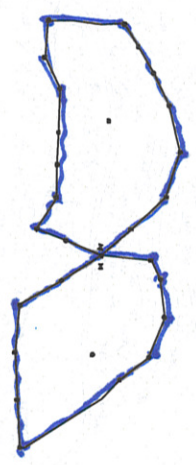
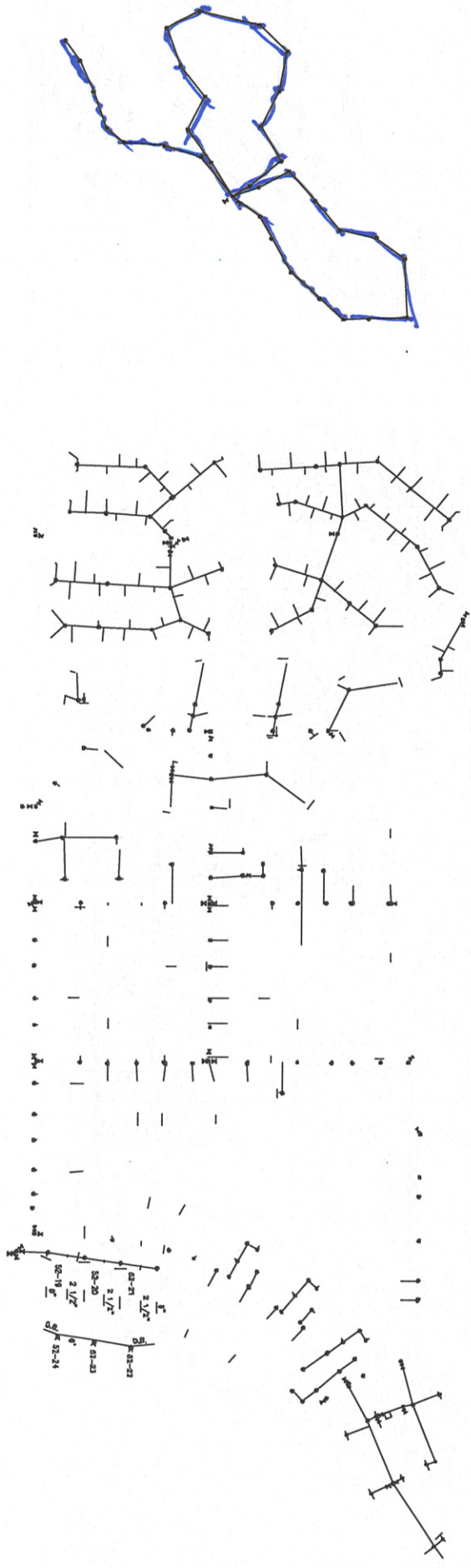


**801 units: Direct-bury versus utilidor-  
enclosed underground utility piping  
systems in the 801-lease areas.**

Information provided by Eielson AFB  
9/14/2010

Historically, the installation (354 CES) operated, maintained, repaired, or replaced the both the utilidor and the utilidor enclosed utility piping. The MFH maintenance contractor operated, maintained, and repaired the direct bury utility piping.

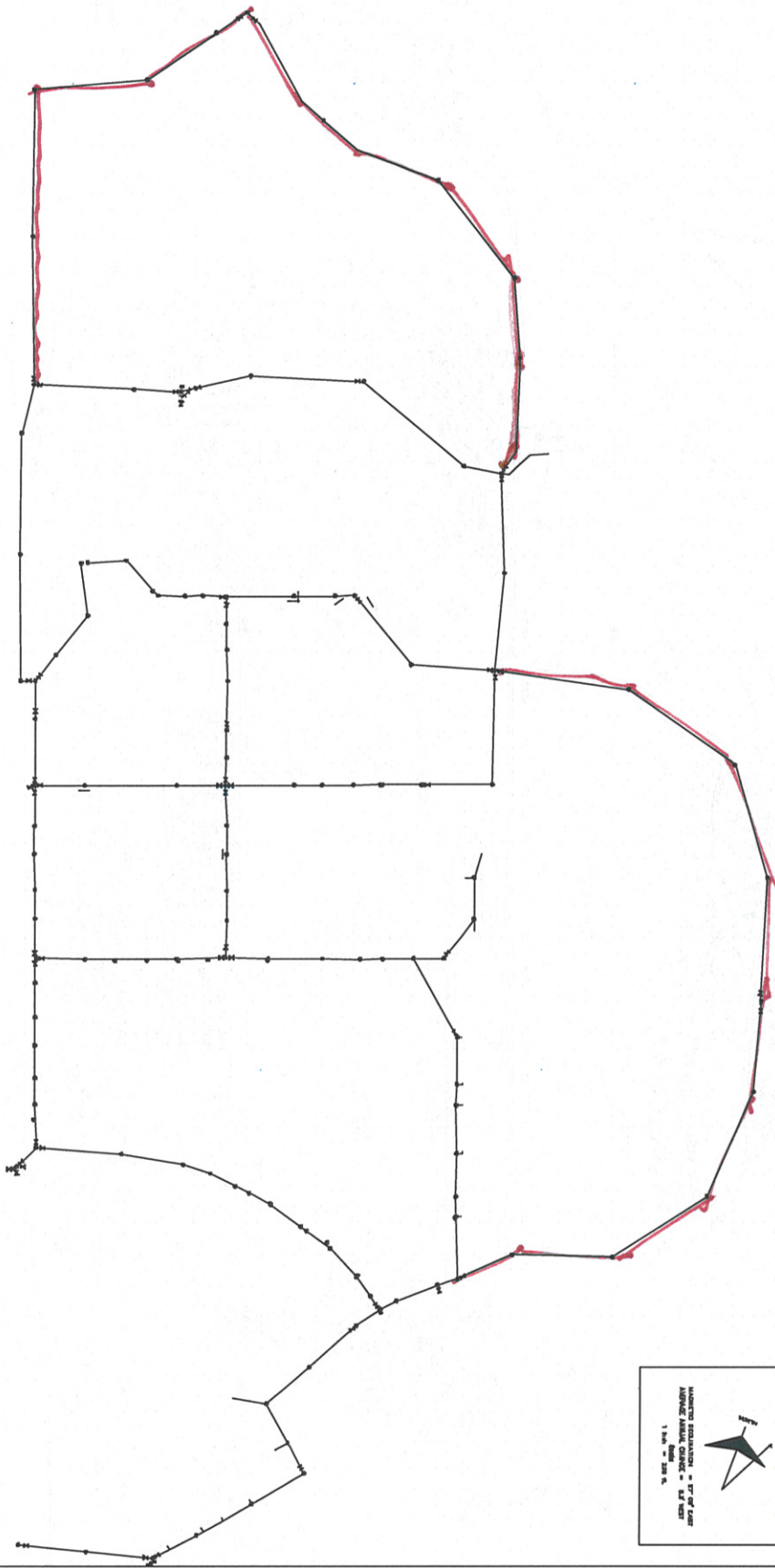
Following page (Blue Color Code): This map provides a single line depiction of the DIRECT-BURY underground utility piping serving the 801-lease areas. The direct bury piping systems include: heat supply & return, drinking water supply & return with fire hydrants located on drinking water supply piping, and wastewater (sewer) collection piping. NOTE: The direct bury piping systems need repairs; either continued repair of increasingly frequent breaks, or a total repair-by-replacement effort. Also, the heat supply/return piping transports heated liquid (water); the heat supply water leaves the primary mechanical buildings at approximately 190 degF & the heat return water comes back to the primary mechanical buildings at approximately 140 degF.



**Contractor**

HORIZONTAL SCALE - 1" = 100' HORIZ.  
 VERTICAL SCALE - 1" = 20' VERT.  
 1" = 100'

Following page (Red Color Code): This map provides a single line depiction of the UTILIDOR-ENCLOSED underground utility piping serving the 801-lease areas. The utilidor enclosed piping systems include steam supply & condensate return, drinking water distribution, and wastewater collection piping.



**Government**



NUMERICAL REPRESENTATION - 1" = 10' OF LAND  
ADVERSE PARTY'S CLAIM - 1/4" = 1' OF LAND  
1 inch = 100 feet

The picture below provides an example of the typical Point of Demarcation (POD) within the 801-lease areas' direct bury utility piping; the 'utility' (installation) retains the large diameter secondary distribution/supply/return/collection piping; the PO becomes responsible for the small diameter building/unit service laterals. Please note: some of these manholes are located >25ft from the building/unit served.



This picture provides an example of a delaminated, steel heat supply/return pipe; the MFH maintenance contractor repaired this pipe when it failed due to external corrosion. We suspect similar corrosion problems with the direct bury steel heat supply/return pipe in both the Moose Lake and French Creek neighborhoods.



Shown below is an example of the excessive scale build-up in the steel heat supply/return pipe; due to leaks, we must add make-up water on a regular (constant) basis; the hardness & trace minerals in the make-up water drop out of solution when heated; excessive scale build-up presents several problematic issues--most notably: scale masks corrosion nodules, decreases pipe flow capacity, detrimentally impacts heat transfer.



The picture below provides an example of external corrosion of small diameter building/unit service lateral pipes. Again, we suspect similar corrosion problems with small diameter service lateral piping in both the Moose Lake and French Creek neighborhoods.

