

Willard City Corporation

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80 West 50 South
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Willard, Utah 84340
(435)734-9881

CITY COUNCIL AGENDA ITEM REQUEST FORM

All agenda items and any materials to be presented to the City Council need to be submitted the City Office by noon on the Friday prior to the meeting. 8 copies of all items are required. In addition an electronic copy (CD or email) will be required for all documents containing more than 8 pages or larger than 11" x 17".

All meetings are open meetings and the information presented will become part of the permanent public record.

Please note there is a three minute public comment period at the beginning of each City Council meeting for individuals to make comments. Items requiring action by the City Council will be placed on the agenda for a future meeting.

Date of meeting requested: Nov. 12, 2020 Date form submitted: Nov 6, 2020

Time allotment requested: ☐ 2 min. ☐ 5 min. ☐ 10 min. ☒ Other 20 min.

Subject to be presented: Willard / Perry interlocal agreement and sewer service extension
(Please use specific language as to how you want the item noticed)

Person &/Or Organization submitting item: Mark Mackley

Contact information: Mark Mackley email: markmackley1@gmail.com

Phone number: 801-458-6923

Reason for request: Need for services for existing and
proposed development on the Willard / Perry border

Official action requested: Approval to provide sewer services to the Mackley Hargis Hill
Development after a Willard / Perry interlocal agreement has been approved.

Suggested Motion: "That Willard City agrees to provide sewer service to
the Mackley Hargis Hill Development after an interlocal agreement
with Perry City has been approved."

Please remember to submit 8 copies of all materials that will be presented to the City Council and electronic copies if required.

Have contracts, ordinances, resolutions and/or agreements been approved by the City Attorney? Yes ☐ No ☐



MEMORANDUM

CONSULTING ENGINEERS

To: Chris Davis, Willard City Manager
Bryce Wheelright, Willard City Building Official
From: Chris Breinholt, Willard City Engineer
Date: July 31, 2020
Subject: **Mackley Hargis Hill Development**

I was asked to investigate the ability of the sewer system to service a development just across the City boundary in Perry's city limits. The development is on Hargis Hill Road and appears to be a townhome or apartment style development. There are 52 units.

To analyze sewer flow from the development I applied a factor to convert townhome or apartment units into a unit equivalent to a residential unit or ERU (equivalent residential unit). To do this I apply a factor of 0.67 ERU's per unit.

$$52 \text{ units} \times 0.67 \text{ ERU/unit} = 35 \text{ ERU's}$$

I then looked at the area served by the sewer line in the region. The sewer line that is limiting service in this area is the 8" sewer line in 200 West. It is the northernmost existing section of sewer pipe in 200 West. There is 1600 lf of sewer line laid at a slope of 0.33%. The capacity of an 8" sewer @ 0.33% slope (70% full) capacity is **339 gpm**. This is the amount of flow that this line should be limited to.

I then looked at the area in Willard City that will most likely be serviced by this line. It consists of approximately 250 acres. It is difficult to accurately estimate the number of units that could be built in this area with the possibility of Planned Developments, but a factor of 2 ERU's to 1 acre is often used for the average zoning here. Using this factor, 500 ERU's could be constructed in the area served by this sewer line, however this is difficult to estimate. At this time, I have also seen a concept plan for the Kunzler development that is seeking approximately 211 ERU's in around 46 acres of space served by this line because their open space is in the area below the sewer line and the density is in the area served by the line. If this trend continues, the line will be at capacity much sooner.

The state code uses peaking factors of 2.5 for a sewer considered a collector. I would consider this portion of the sewer system a collector. The flow calculations are as follows.

- $500 \text{ ERU's} \times 0.6076 \text{ gpm/ERU} = 304 \text{ gpm}$ (local – peaking factor of 2.5)
- The capacity of the limiting line in 200 West is 339 gpm.
- The Mackley Hargis Hill development would add $35 \text{ ERU's} \times 0.9722 \text{ gpm/ERU} = 34 \text{ gpm}$ additional flow

I believe that this line will need to be upsized or have an additional 1600 lf of sewer line added to at some point in order to serve future development for this service area. Any extra development outside of Willard City will certainly contribute to this issue.

- 1600 lf 8" sewer line @ \$33.50/lf = \$53,600
- 5 manholes @ \$3750/ea = \$18,750

Existing 8" sewer

20' ASPHALT WITH 2" ROLL GUTTER

HIGHWAY 89

EXIST

SCALE: 1" = 30'

PLAN AND PROFILE FOR

Mackley Hargis Hill

ADINES
TOWN

*A Part of the Southwest Quarter of Section 2
Township 10 North, Range 2 West, S.L.B. & U.*

Drawn By: DRAHN Date: 08/28/18

Designed By:

Checked By

Approved by _____

Griffin, J. H. 1993. *Journal of Great Lakes Research* 19: 1-10.

Driving File

9. NUMBER

HA

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