

**VILLAGE OF WINDSOR
BOARD RESOLUTION 2018-29**

**APPROVING FUNDS TO COMPLETE REPAIRS TO THE SANITARY SEWER
SYSTEM ALONG CTH DM**

WHEREAS, the Village engineers recommend certain rehabilitation work to the sanitary sewer system along County Highway DM, including lateral trimming and infiltration grouting, as specified in the report of Baxter & Woodman dated January 30, 2018; and

WHEREAS, the Village engineers estimate the work will cost \$21,000, and preparation of a bid package for the work will cost approximately \$4,000; and

WHEREAS, on April 10, 2018, the Utility Commission recommended approval of the expenditure of up to \$25,000 for the recommended work and bid package preparation.

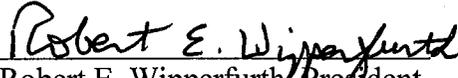
NOW, THEREFORE, BE IT RESOLVED by the Village Board of the Village of Windsor that rehabilitation of the sanitary sewer along CTH DM as recommended in the Baxter & Woodman report is hereby approved in an amount not to exceed \$25,000 for the work and preparation of a bid package for same.

BE IT FURTHER RESOLVED, the budget is hereby amended as follows to address the above expenditure:

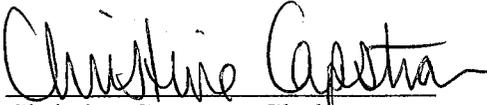
Account Number 420-00-53820-831-000, S-Maintenance of Collection System,
Increased \$25,000.

The above and foregoing resolution was duly adopted by the Village Board of the Village of Windsor, Dane County, Wisconsin at a meeting held on the 19th of April, 2018, by a vote of 4 in favor and 0 opposed.

VILLAGE OF WINDSOR


Robert E. Wipperfurth, President

Attested by:


Christine Capstran, Clerk

INCORPORATED BY REFERENCE:

Baxter & Woodman Report dated January 30, 2018

Memo

To: Village of Windsor and Windsor Utility Commission

From: Jerry Groth, P.E.

Date: April 10, 2018

Subject: Utility Engineer's Report/Project Status Update

4A) Engineer's Report: Attached please find a status update report for the various projects that we are working on with Windsor Water and Sewer Utilities.

Commission Action for Items 4C and 4D are requested at this time.

4B) Booster Station Project Updates (Windsor Crossing)

Comment: Construction is nearing completion with final punch list items remaining, including paving, landscaping and retaining wall. The generator has been successfully started and SCADA from booster station is now connected to central SCADA system. We are also in the process of fine-tuning the booster pump station operation to provide for smoother pump transitions during generator start up/shut down and during fire hydrant flushing. Late spring is causing current delays in getting exterior work completed.

No Commission action requested at this time

4C) County DM Roadway, Watermain and Sanitary Sewer Improvements

Comments: Major items completed last month are noted below:

1. Design efforts for CTH DM street reconstruction and storm sewer design is proceeding. The existing roadway is not in center of right of way. We will be discussing with Kevin Richardson to see if it is worth moving roadway more to the north. It also appears that consideration of sidewalks may be required due to ADA requirements.
2. Permit to bore under the railroad for new watermain was submitted to Canadian Pacific Railroad.
3. Hydraulics to confirm fire flows with new watermain were finalized based on past ISO fire flow from 2010, which alleviated concerns with performing a field fire flow or developing a hydraulic computer model.
4. Results of the Environmental Database Records within ¼ mile of DM was received and reviewed.
5. Two environmental clean ups were reported in the EDR records search, including Ben H. Anderson Manufacturing and the old Railroad Depot site. Both sites are now closed meaning that DNR believes that all cleanup efforts are completed to their satisfaction.
6. Based on both sites being remediated, we are assuming that we will not encounter a major environmental issue with constructing the watermain. Provisions will be in place in the event that we encounter contaminated soils and/or groundwater.
7. The EDR search also discovered an "active" buried gasoline tank at 4656 CTH DM. With Village's assistance, we will contact the Owner to confirm its presence and compliance with current Underground Storage Tank regulations.
8. Pre-final watermain plans and specifications for the watermain will be finalized in the next few weeks and sent to staff for final review along with DNR Permit application.

9. We had previously identified some sanitary sewer repairs along DM. We recommend that these repairs be performed in the next 8 months (along with other work on CV) in advance of advertising the work on DM such that in the event that the work efforts would require open cutting, that we would be able to incorporate those tasks when watermain work is complete. The estimated cost of the DM sanitary sewer work previously identified in a memo dated January 30, 2018 was \$21,000. This work will be performed on a time and material basis due to the level of effort not being able to be determined until the repairs have started. A bid package could be prepared for approximately \$4,000. Alternatively, Baxter & Woodman, Inc. could assist in soliciting bid prices and rates from trenchless utility contractors and coordinating the work, without more official bidding of work, similar to pre-purchasing the booster pump skid.
10. We are ahead of schedule on this project, as we are not planning to bid this until sometime next year and construct the project in year 2019.

Commission action requested at this time to approve repairs to CTH DM sanitary sewers.

4D) County CV, Golf Drive and Fairway Circle Sanitary Sewer Improvements

Comments:

In addition to the improvements to CTH DM, recommendations for sanitary sewer improvements to CTH CV, Golf Drive and Fairway Circle were also outlined. As similarly discussed above we recommend scheduling these improvements in the next 8 months. The estimated total costs for the recommended improvements is \$300,000. Further, there are additional improvements detailed in the memo that should be planned to take place concurrent with the CTH CV roadway improvements. CTH CV construction is slated for 2020, hence these improvements could be split up into two packets of work to reduce total costs.

Commission Action is requested at this time to allow for appropriate bidding solicitation of any desired "advanced" sanitary sewer improvements along CTH CV, Golf Drive and Fairway Circle.

4E) Well No. 3 Well Siting Study

Comment: We began efforts to site Well No. 3 at Cradle Hill Park. These efforts included the following items:

1. Preparing a Well Siting Investigation Report including:
 - A description of the need for the construction of a new well
 - Proposed borehole construction drawings detailing the well diameter, depths, construction details and geologic formations.
 - Assessment of potential contamination sources of the aquifer below the proposed site.
 - Determining hydraulic characteristics of the aquifer including calculating the zone of influence nearby the aquifer.
2. Topographic survey of site.
3. We have also requested a joint meeting with DNR and PSC to confirm well location.

No Commission action requested at this time

4F) Bear Tree/Cortland Park Condominium Development Updates

Comment: We received revised watermain and sanitary sewer plans for Bear Tree/Cortland Park Condominium development showing water and sanitary sewer connections to the Village of Windsor while maintaining the "hard piped" manually operated interconnect with Village of Deforest at NW corner of Reardon Road and Pederson Crossing. We will perform a fire flow test as weather permits.

No Commission action requested at this time

4G) Maly/Acker Four-Plex Water Service and Sanitary Sewer Lateral Line Plan (Golf Drive)

Comment: The contractor requested a plan showing horizontal and vertical spacing for 6 water services and 6 sanitary sewer laterals installed across Golf Drive. Our plans roughly shows 12-inch centerline to centerline spacings between 1 inch water services and 18-inch centerline to centerline spacings between 4 inch sanitary laterals, to provide minimal separation for initial compaction efforts and future repairs, similar to previous installations.

No Commission action requested at this time

4H) Windsor South Well #1 Water Meter Replacement / Repair

Comment: Utility staff replaced a water meter at Well No. 1 with a new mag-meter and discovered that the waterline between the well and reservoir is not holding water and causing the meter to read inaccurately during times when water leaves the line. We are investigating the leak.

No Commission action requested at this time

4I) Staff Report

Comment: Door Creek Church Plans were submitted for review. The property is located within the Village of Deforest with Windsor Water and Sewer. Water and sewer will be provided through existing water service and sewer laterals from Pederson Crossing.

No Commission action requested at this time

Respectfully submitted,

BAXTER & WOODMAN, INC.
CONSULTING ENGINEERS



Gerald D. Groth, P.E.

Memo

To: Village of Windsor Utilities

From: Mark E. Langer, PE

Date: January 30, 2018

Project No.: 171214

Subject: CTH CV - Suggested Utility Improvements

Provided below is a summary of the water main and sanitary sewer utility improvements that are currently under discussion as a result of the planned improvements to CTH CV in the Village of Windsor.

CTH CV - Sanitary Sewer

- The Expeditors, Inc. completed internal camera inspection of 7,243 feet of sanitary sewers between May 16, 2017 and May 22, 2017 along CTH CV.
- Internal camera inspection of 51 private sanitary sewer laterals was also attempted. Of the 51 initially attempted only 18 were deemed to be completed by the Expeditors, Inc. Reasons for not being able to complete the private lateral inspections were changes in pipe size preventing entry by the camera, long laterals resulting in not enough cable to reach the end, debris in the laterals and bends in the laterals.
- The televising of the private laterals displayed three that exhibited infiltration. Infiltration adds to the flow in the sanitary sewer and therefore additional costs to the Utility for ongoing wastewater treatment.
- Recommendations for sanitary sewer utility improvements are made with respect to the public mains only. The Village of Windsor Utility considers all sanitary sewer laterals to be private from the sewer main connection to the termination point (e.g. Private residence).
- The attached exhibit illustrates suggested proposed sanitary sewer improvements along CTH CV. The improvements will be separated into two categories - Prior to CTH CV and during CTH CV. In general, the work that can take place prior to CTH CV would be completed using trenchless construction methods whereas the work during CTH CV would use open cut construction methods. Further, the trenchless construction methods are classified by priority using high, medium and low descriptions. The open cut construction methods are primarily sanitary sewer replacements.

- Prior to CTH CV
 - Most of the high priority work is recommended due to severe infiltration. Work that can be completed prior to CTH CV includes approximately 1,100 lineal feet of sanitary sewer lining as well as grouting of sewer lines and manholes. The estimated construction cost to complete this work including engineering and contingencies is \$90,000.
 - The medium priority work could be scheduled in conjunction with the high priority work or be performed at a future time. If staff knows of issues within these segments or has maintenance concerns with these segments, we suggest expediting the construction work. If no concerns exist with operations, we suggest a follow up internal camera inspection of these segments in three to five years. Medium priority consisted of approximately 260 lineal feet of sanitary sewer. The estimated construction cost to complete this work including engineering and contingencies is \$17,000.
 - The low priority work could also be scheduled at any time. These segments appear to be operational but show defects that could lead to additional maintenance requirements. Low priority consisted of approximately 1,000 lineal feet of sanitary sewer. The estimated construction cost to complete this work including engineering and contingencies is \$60,000.
- During CTH CV construction
 - As previously described the work that should be scheduled during the CTH CV roadway reconstruction is mostly reconstruction by open cut methods. While more expensive than trenchless sanitary sewer repairs, open cut construction will provide the best end result of any of the suggested sanitary sewer improvements. In addition to sanitary sewer main replacement, reconstruction generally includes the replacement of sewer laterals as desired by the utility and manhole replacements.
 - The recommendations for the open cut and trenchless construction methods were reviewed with respect to the anticipated water main improvements to be discussed later. The proposed reconstruction of CTH CV as well as the previously mentioned water main improvements affords the Village substantial savings over a normal sanitary sewer reconstruction project. This will be realized by Dane County paying the costs of the pavement replacement as well as some economy in utility construction costs when combined with the water main reconstruction.
 - The cost estimate including engineering and contingencies used for sanitary sewer improvement when pavement replacement is required was \$295/lineal foot. After removing pavement replacement related items, the cost lowers to slightly over \$200/lineal foot. The per foot cost estimate including engineering and contingencies of the trenchless construction ranges from \$60/lineal foot (low priority) to \$83/lineal foot (high priority) based on the estimates compiled in the previous section (Prior to CTH CV). After removing sanitary sewer lateral replacements from the sanitary reconstruction costs, the estimate lowers from \$200/lineal foot to \$130/lineal foot for the open cut construction method. Further, it can be expected that some savings will be realized from the concurrent water main replacement.
 - Approximately 2,700 lineal feet of sanitary sewer should be scheduled for reconstruction during the Dane County CTH CV construction project. The estimated construction cost to complete this work including engineering and contingencies is \$590,000.

Additional Sanitary Sewer Construction

- Rehabilitation of the sanitary sewers along Golf Drive and Fairway Circle are included in the attachments. This work is mostly trenchless construction and necessary to eliminate infiltration into the sewers. In total approximately 2,800 lineal feet of sanitary sewers need rehabilitation. The estimated construction cost to complete this work including engineering and contingencies is \$197,000.
- No lateral televising was attempted in sewers along Golf Drive and Fairway Circle.
- This work could be completed at the same time as the sanitary sewer construction part suggested Prior to CTH CV
- Discussion of the rehabilitation of the sanitary sewers along CTH DM in Morrisonville was included in a memo dated August 28, 2017. Follow up with a trenchless utility contractor and Village Utility Staff have provided further information that was used to develop an estimated cost for the work. In total approximately 30 locations will require trimming of lateral connections. Three locations require grouting to eliminate infiltration. Perform further inspection of the sewers between the lift station and sanitary manhole MORR-20 to determine the cause of the performance deficiencies in the sewers between MORR-20 and MORR-21. Trimming of the laterals will likely be performed on a time and material basis for which a Contractor has provided an estimated rate as well as how many could be expected to be completed per hour. The total costs for sanitary sewer improvements including engineering and contingencies in Morrisonville along CTH DM is \$21,000.

Water Main Replacement

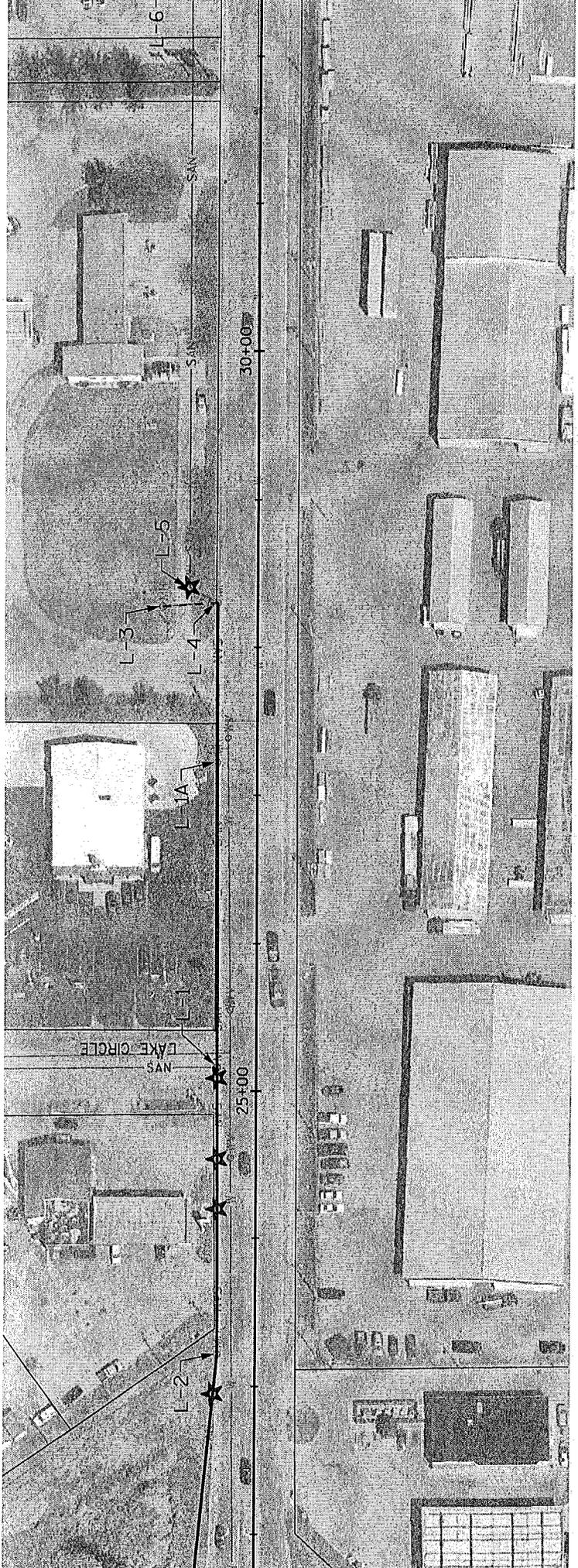
- Two segments of water main are scheduled to be replaced. The first segment includes approximately 2,700 lineal feet between the Lift Station just north of Lake Windsor and Golf Drive. The second segment includes approximately 2,200 lineal feet between Windsor Road and Diamond Drive. Both segments will be replaced with 8-inch water main. See the attachments for illustrations of these locations. The estimated construction cost to complete this work including engineering and contingencies is \$1,180,000.00.
- A third segment is shown in the attachments between Golf Drive and 300 feet south of Windsor Road. This segment includes approximately 1,800 lineal feet. The estimated construction cost to complete this work including engineering and contingencies is \$420,000.00.

Summary

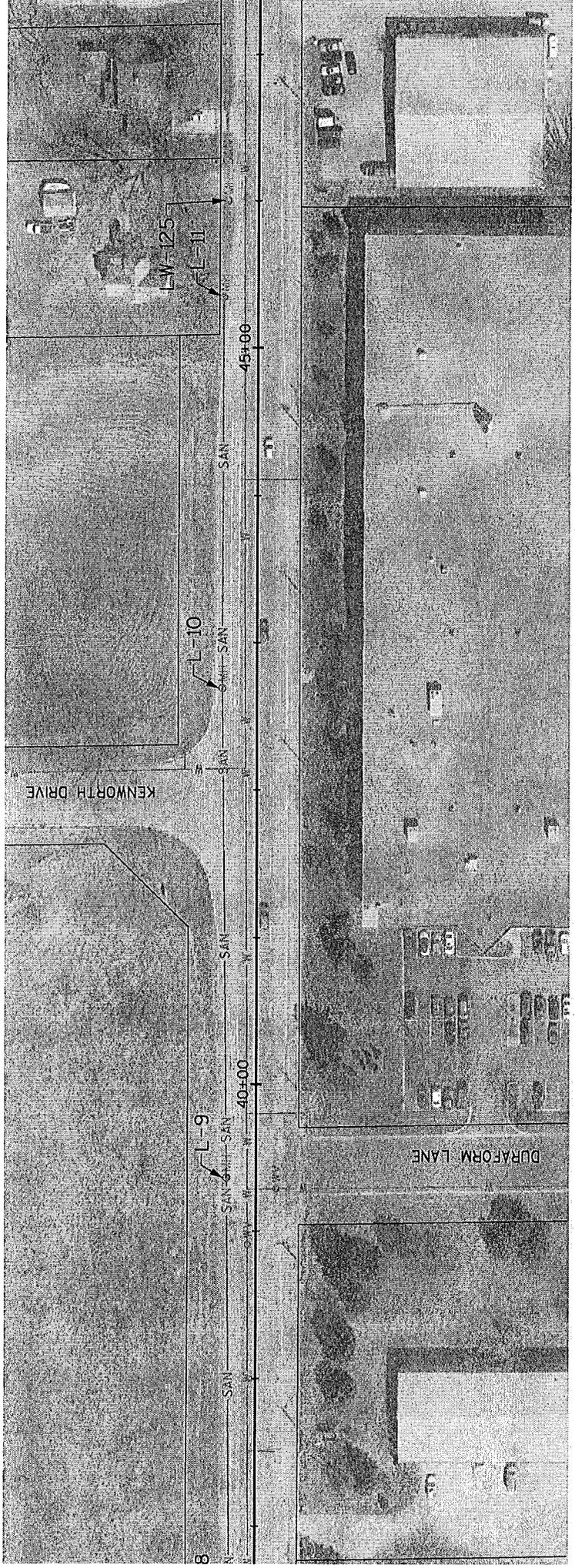
- High priority construction prior to CTH CV totaled \$90,000 for 1,100 feet of sewers.
- Medium priority construction prior to CTH CV totaled \$17,000 for 260 feet of sewers.
- Low priority construction prior to CTH CV totaled \$60,000 for 1,000 feet of sewers.
- Sanitary sewer reconstruction during CTH CV totaled \$590,000 for 2,700 feet of sewers.
- Additional sanitary sewer construction totaled \$197,000 for 2,800 feet of sewers along Golf Drive and Fairway Circle.
- Additional sanitary sewer rehabilitation along CTH DM totaled \$21,000 for lateral trimming and infiltration grouting.
- Water main replacement during CTH CV totaled \$1,180,000 for 4,900 feet of water main.
- Additional water main replacement during CTH CV totaled \$420,000 for 1,800 feet of water main.

Recommendations

- Determine if the additional water main replacement during CTH CV is to be completed.
- Schedule the reconstruction of the sanitary sewer and water main along CTH CV to take place concurrent with the CTH CV roadway construction. The total cost for this work including engineering and contingencies is \$1,770,000. If the additional water main construction is desired the total will increase by an additional \$420,000.
- Baxter & Woodman, Inc. would schedule survey to take place this spring with plan development to occur in the summer and fall. Bidding documents would be prepared to be included in the Dane County roadway construction project.
- Schedule the CTH CV high priority, Golf Drive and Fairway Circle trenchless construction for as soon as can be completed. If funds are available, include the CTH CV medium priority sanitary sewer construction. Baxter & Woodman, Inc. would prepare bidding documents this spring and construction would take place this summer.
- If the medium priority construction is not scheduled, perform follow up internal camera inspection of the medium priority and low priority sewers in three to five years.
- Perform grouting and trimming of lateral connections in sewers along CTH DM. Baxter & Woodman, Inc. could include this work within the bidding documents for the CTH CV trenchless construction. Alternatively, because this construction will likely be completed on a time and material fee, Baxter & Woodman, Inc. could assist Village Utility Staff in seeking contractors and pricing to perform this work.
- Investigate sewers between the lift station and MORR-20.



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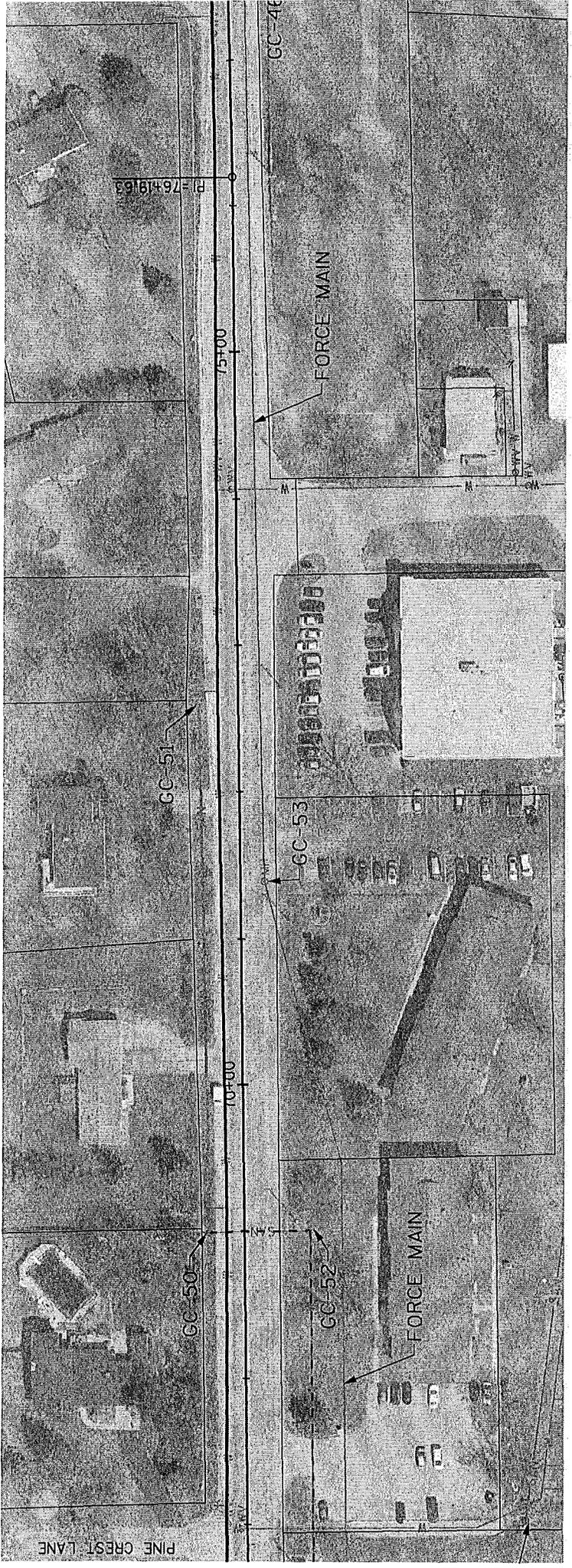


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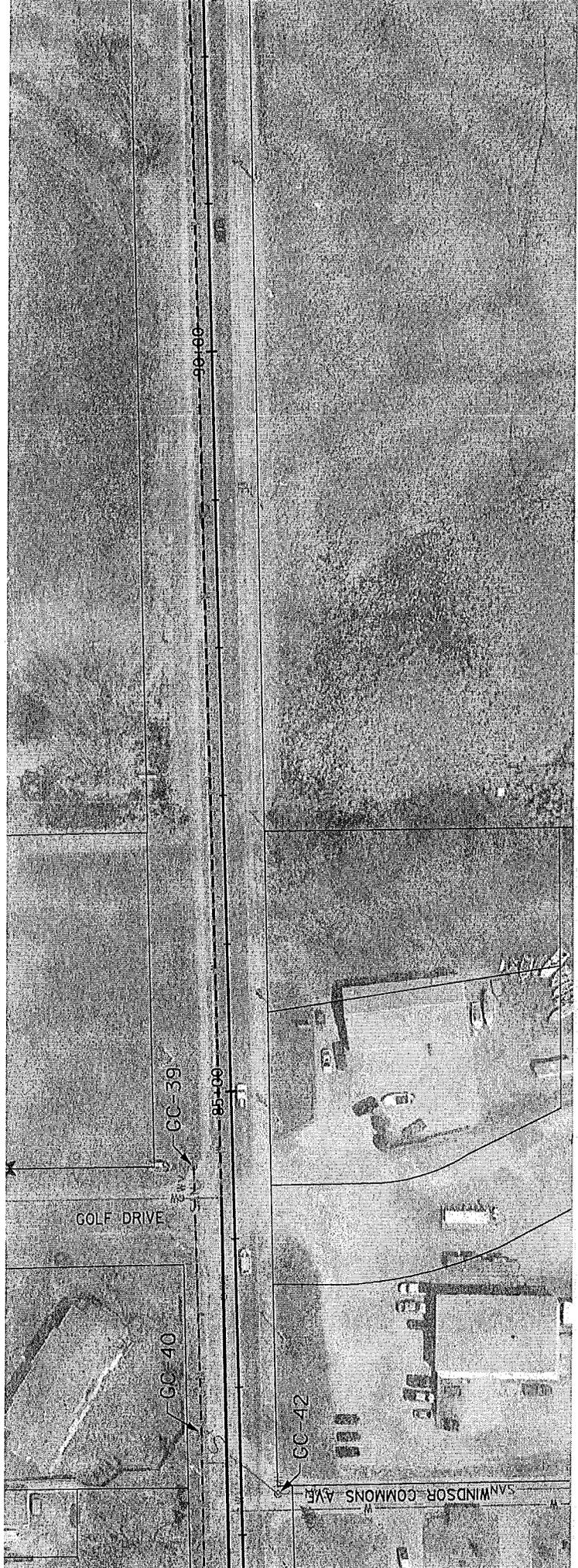
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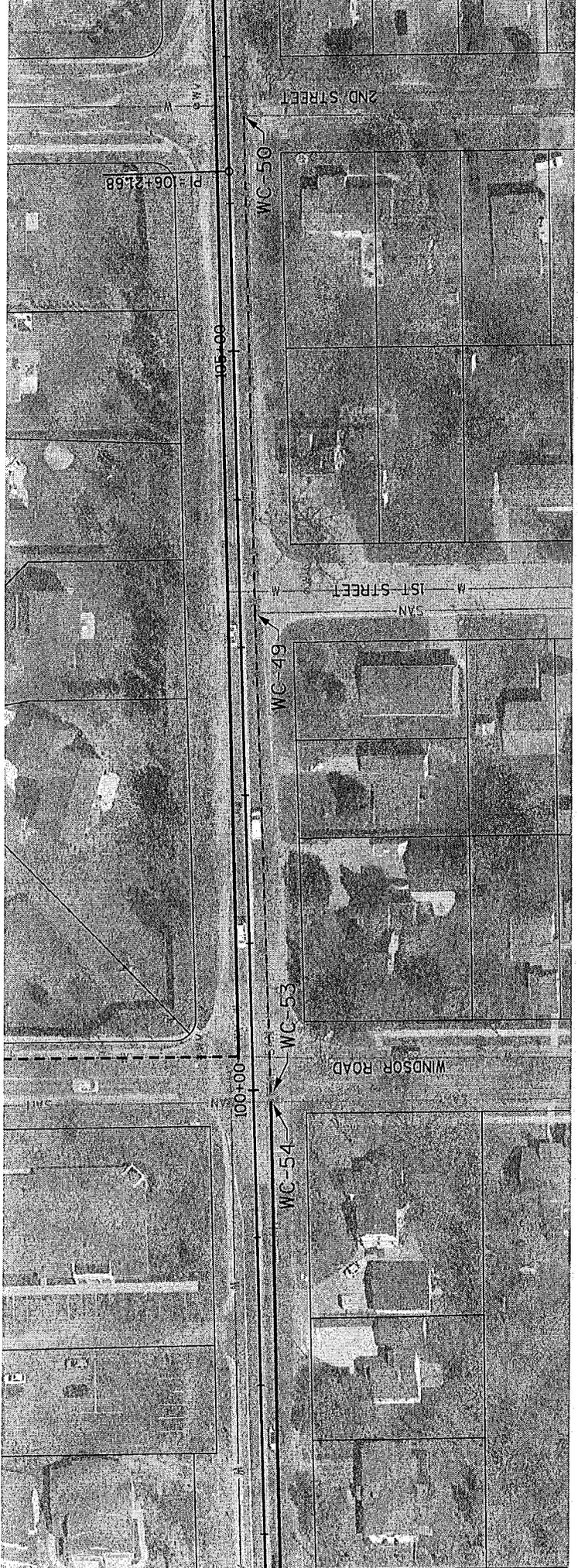
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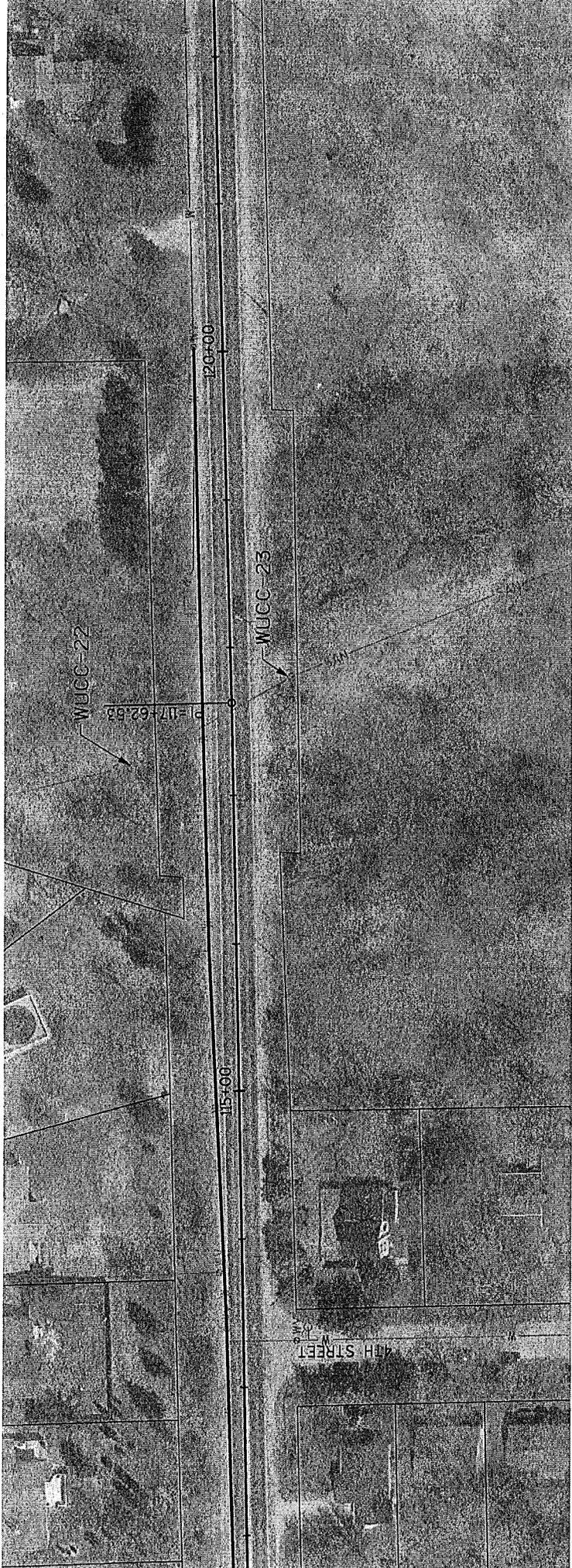


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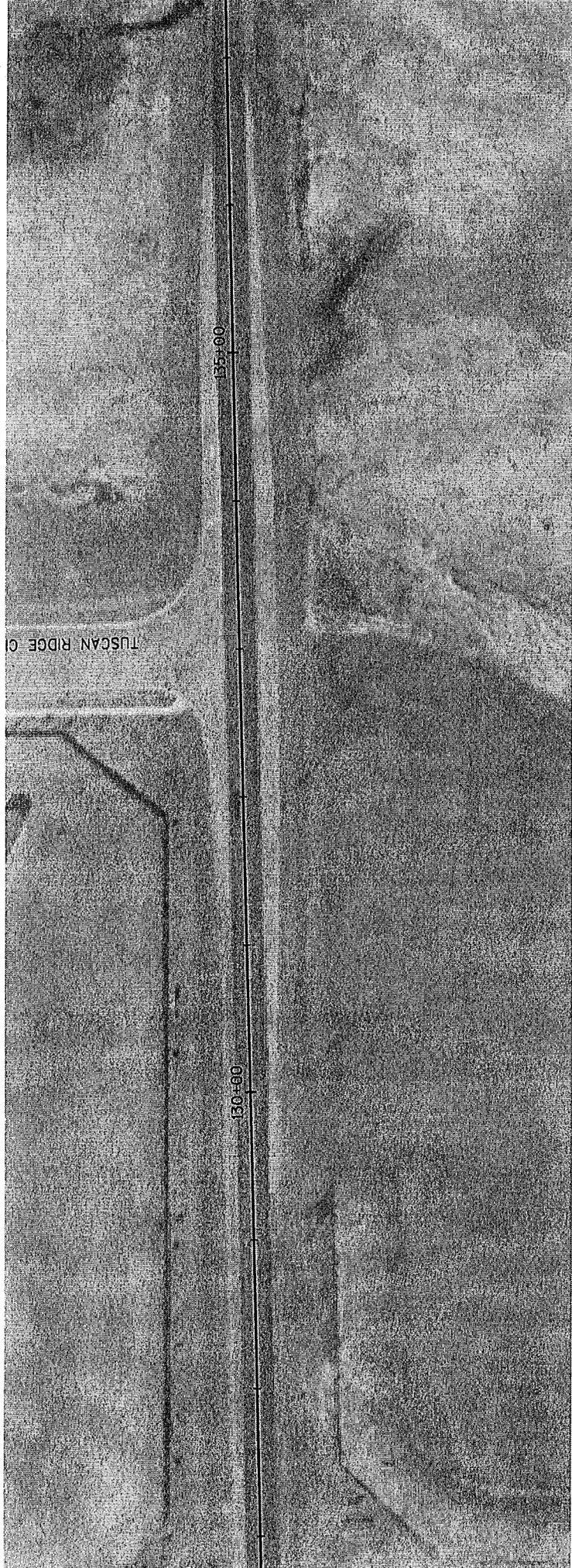
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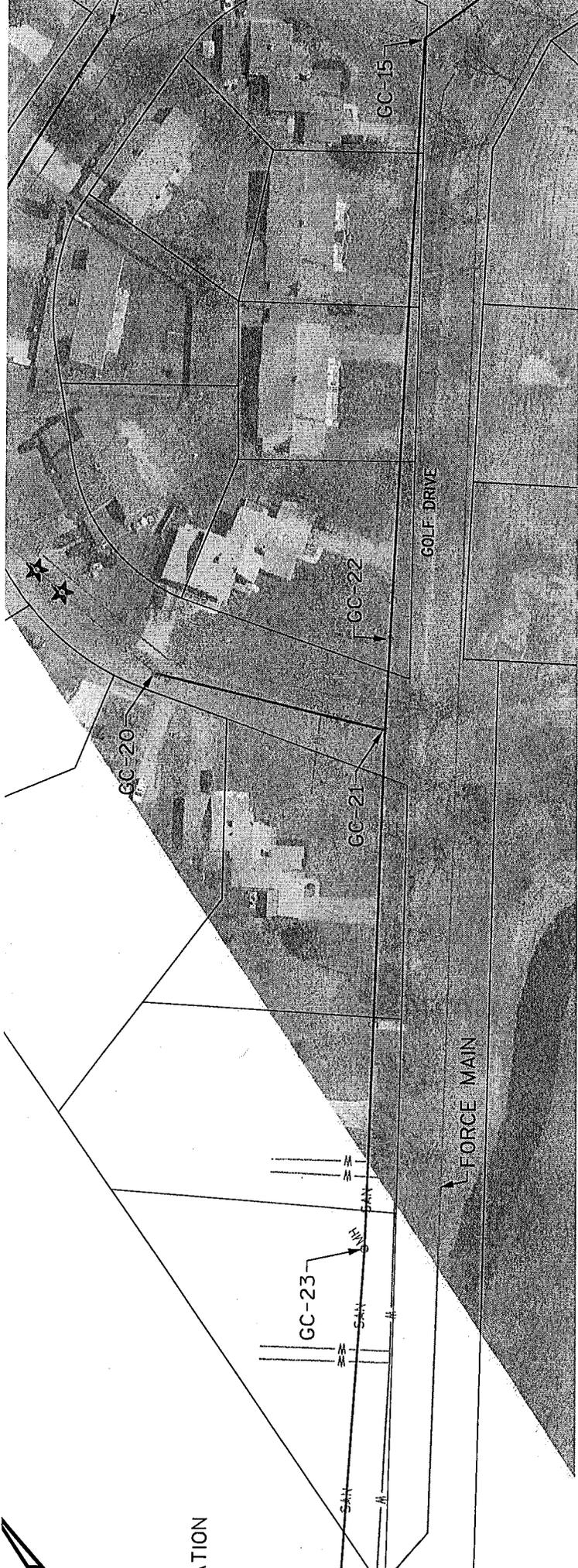
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