

Carmangay Water Distribution System

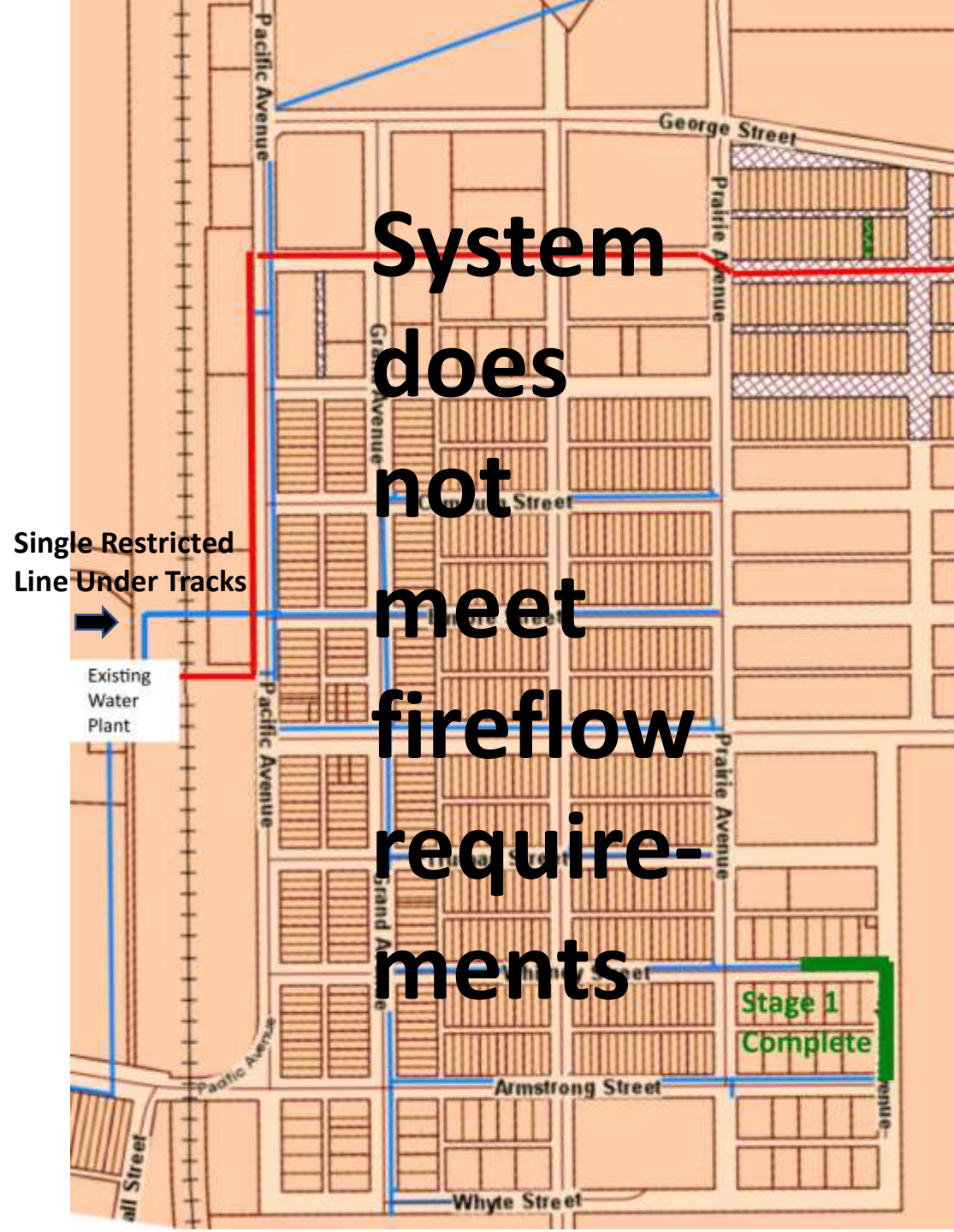
Go Forward Plan

November 12, 2019





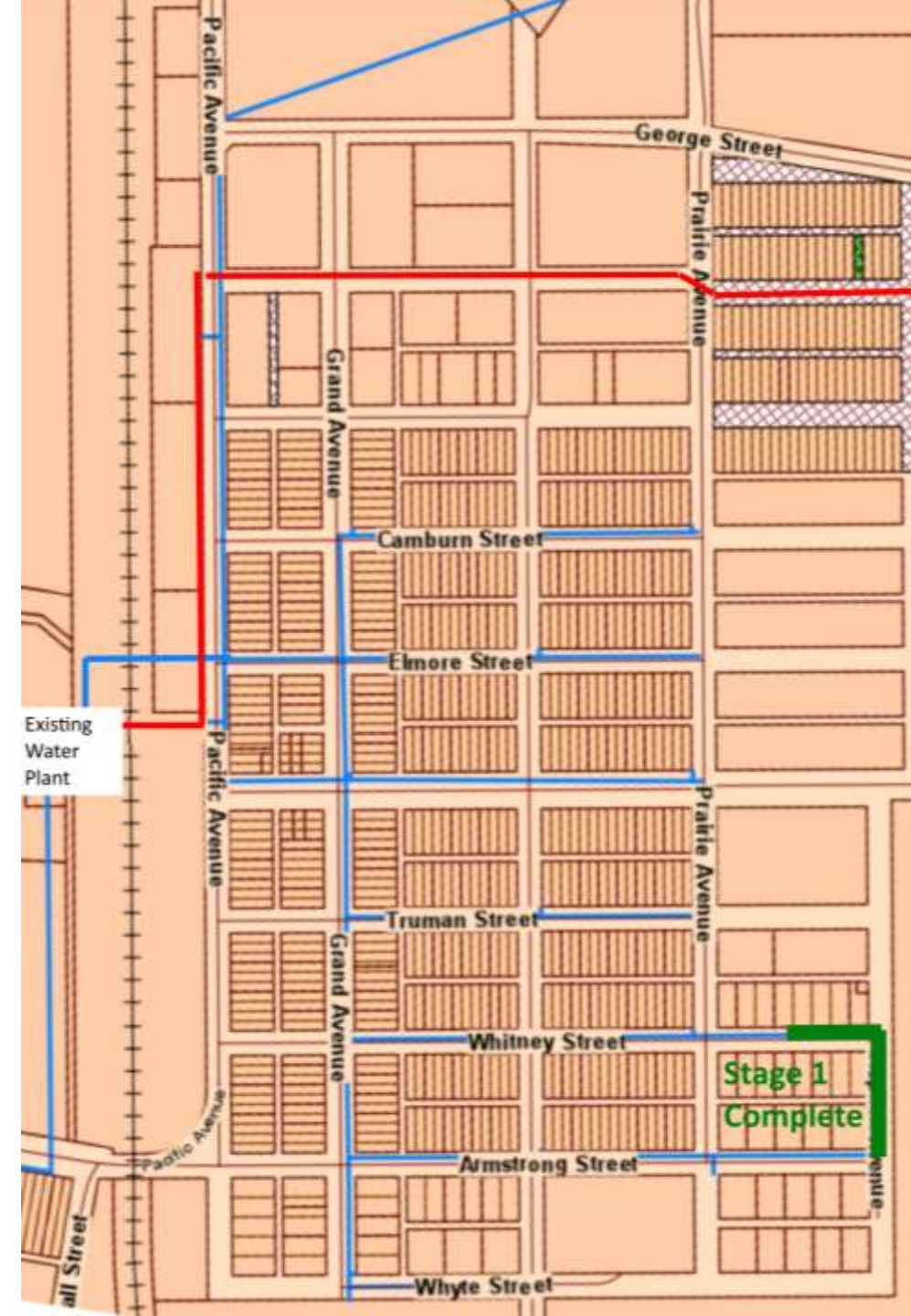
Imminent Change is needed



System does not meet fireflow requirements

Completed to Date

- Water modelling by engineering firm was done to understand current status and suggested fixes.
- Stage 1 – New water loop from Whitney St to Armstrong St via Stephen Ave.
- Confirmed location and condition of pre-existing 10-inch sanitary line under CP tracks.
- Engineering firm confirmed that repairs to old system and new system would be approximately the same amount.



Solution 1 –
Upgrade
Existing
Facility
Budget
Estimate \$1.5
Million

Pros

Project can be completed over a number of years

No additional land requirements are needed

No additional power/gas services are needed

Solution 1 – Upgrade Existing Facility Budget Estimate \$1.5 Million

Cons

Existing pumps and electrical are in very poor condition and need imminent replacement

CPR approval time frame could be extensive

CPR Steel encasement costs are likely even with located existing sanitary line and were not included in current pricing

Bank settlement or line breaks are a possibility

3-5 year timeframe for construction to achieve residential fire flow

Undocumented piping exists in current water plant yard

Currently approved development will increase demand on current system

Additional reservoir capacity – costs are required to meet fire suppression requirements

Existing concrete reservoir has had cracks and is advanced in lifespan

Solution 2 –
New NE
Distribution
Plant
Budget
Estimate \$1.5
Million

Pros

Will be completed in a shorter construction time frame

Will be built on Village owned land

Will achieve residential fire flow upon completion

Project is eligible for an AMWWP grant that would provide 75% of funding

Will be investigating electricity from water pressure

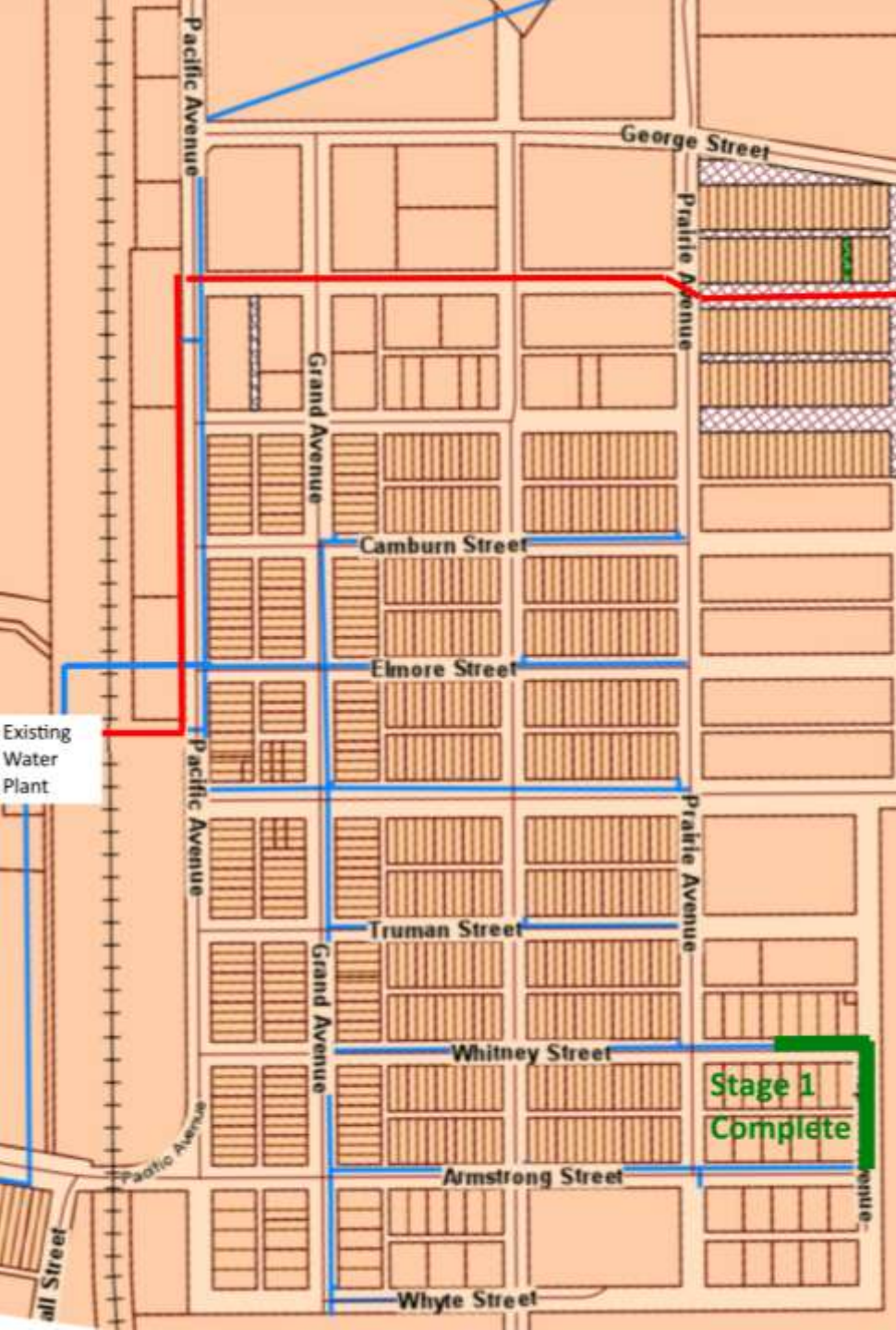
Solution 2 –
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Cons

A sanitary line may need to be constructed to the water plant

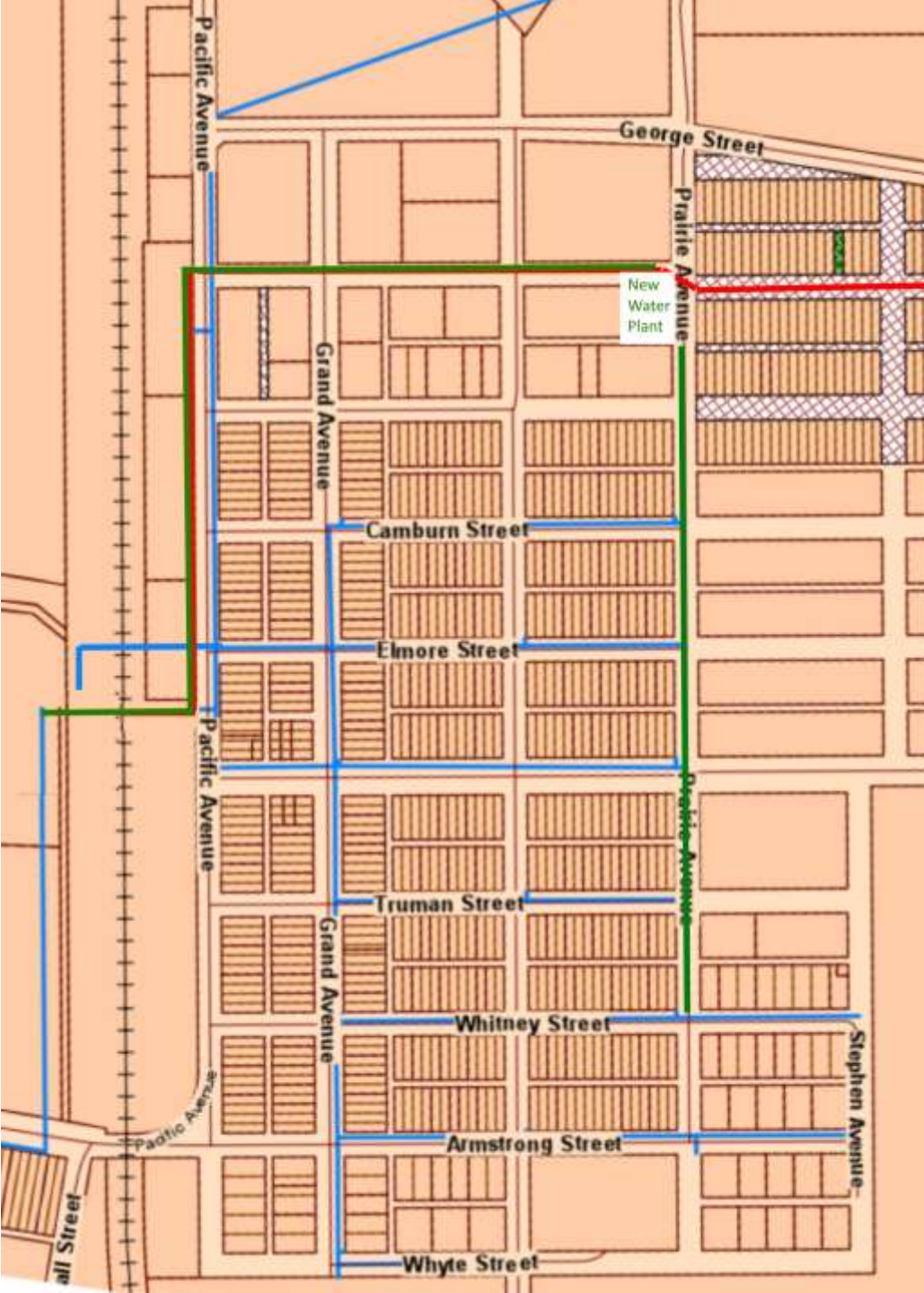
Three phase power may need to be extended approximately 1 block to the site

Project will need to be completed in a shorter timeframe and can't be staged



Solution 2 - Process

- **Existing Water System**
- Water supplied by red TVRWC line
- Blue lines are existing water distribution system
- Green line is completed recent work (Stage 1)



Solution 2 - Process

Proposed NE Reservoir Water System

- New water plant constructed in the area of James and Prairie.
- Green line is repurposed existing TVRWC line to supply west side of track customers. This will also provide services for commercial lots that are adjacent along James Street.
- Second Green line will complete looping of all dead-end lines and provide fire flow.