



Wilbarger Creek Regional Wastewater Treatment Facility Design and Bid Phase

June 22, 2021



Conceptual Design Phase

Conceptual Design Phase – Began November 2020 – Currently Wrapping up

- Planning Items

- Geotechnical Exploration
- Public Outreach Plan
- Environmental Services
- Hydrology and Hydraulic Studies
- Agency Coordination
- Survey

- Conceptual Design

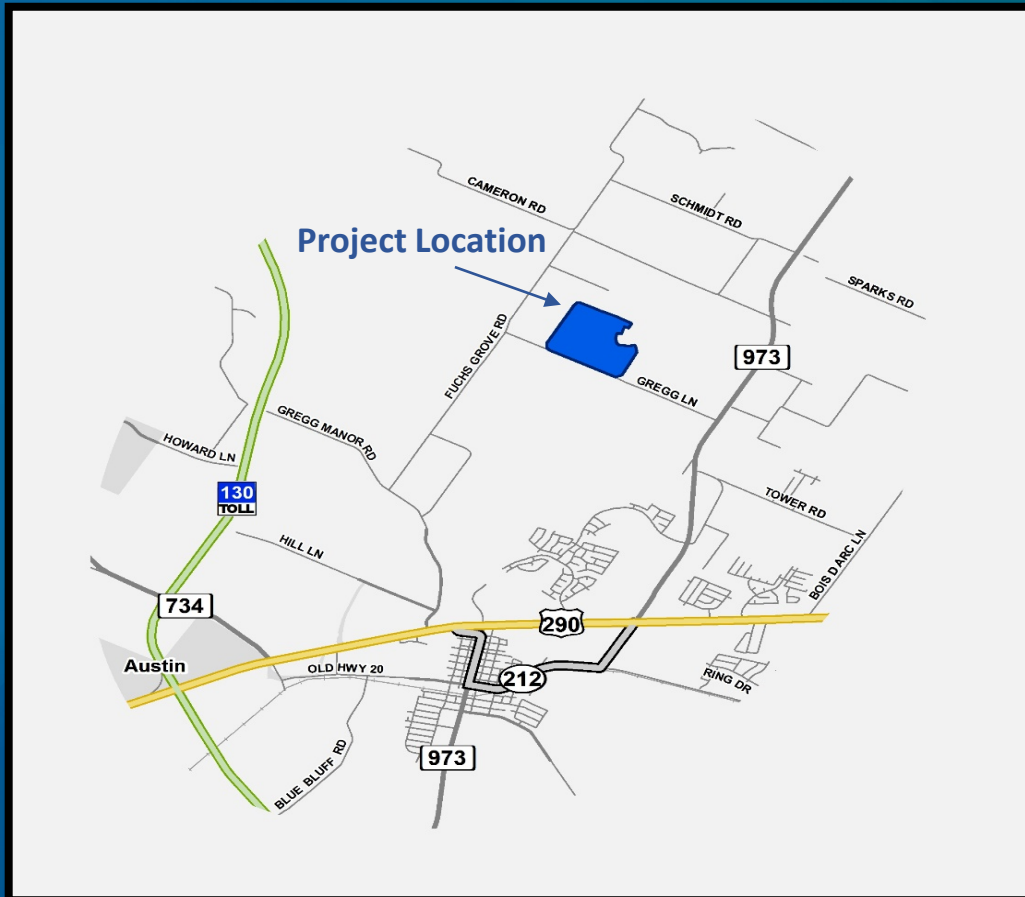
- Initial Treatment Capacity Evaluation
- Facility Design



Project Location

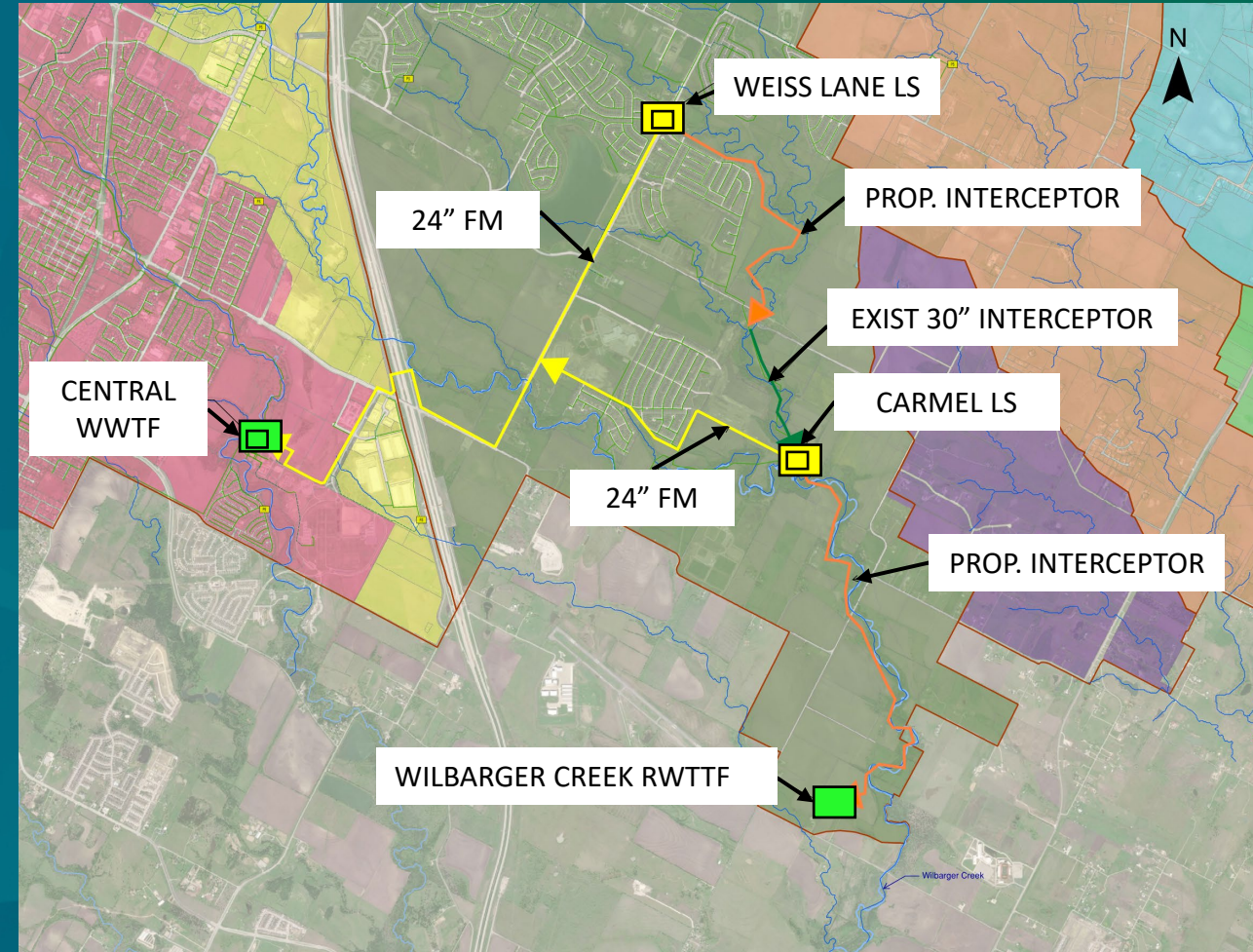
The proposed project is located at 10100 Gregg Lane, Pflugerville, TX on property that is owned by the City of Pflugerville.

The site consists of 159-acres, bound on the east by Wilbarger Creek.



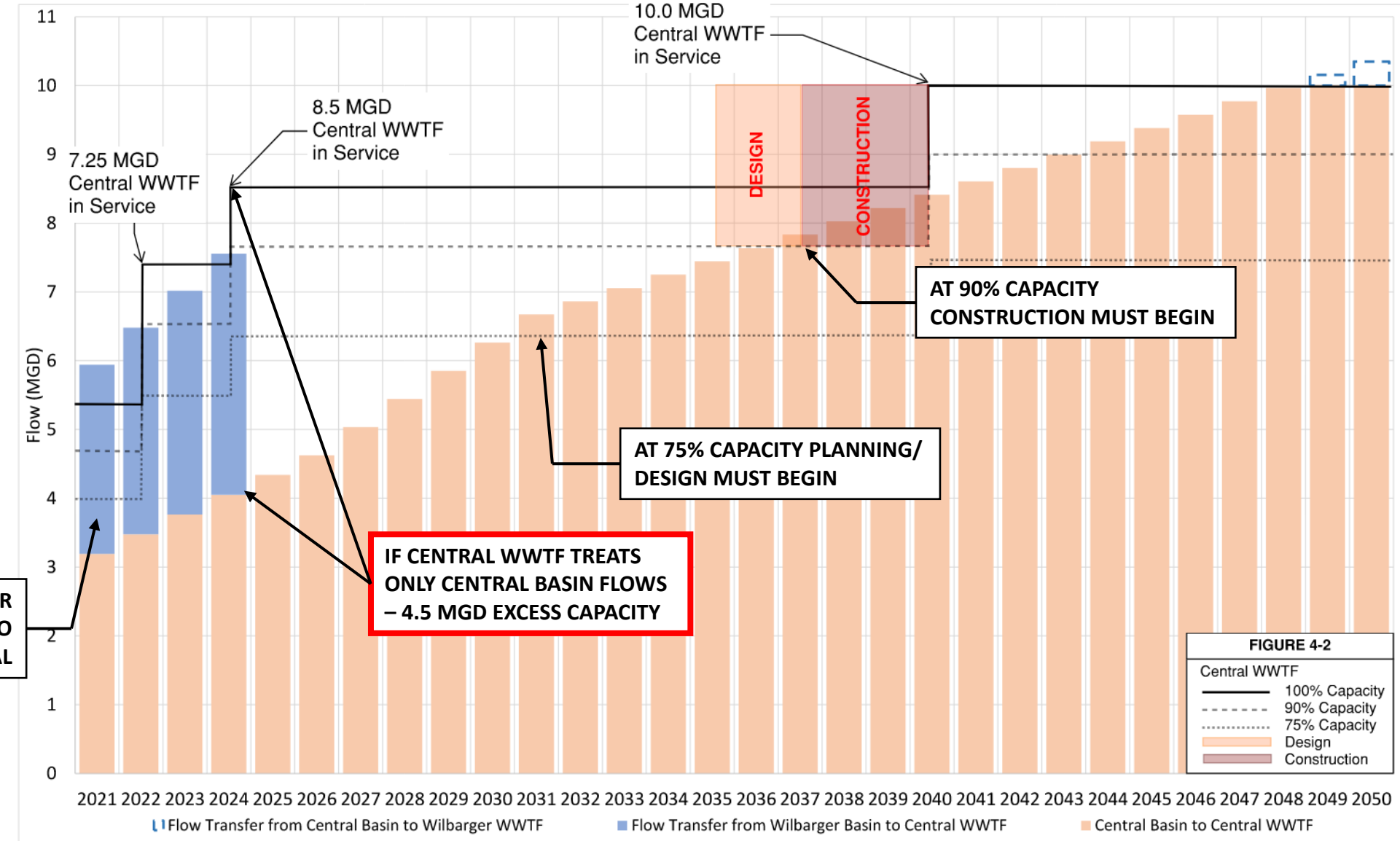
Wilbarger Creek RWWTF Initial Treatment Capacity Evaluation

- Goal
 - Match future treatment capacity to the flow projections and maximize use of existing infrastructure
- Evaluated 3 Alternatives
 - Alternative A1: Construct a new **8.0 MGD** Wilbarger Creek RWWTF
 - Alternative A2: Construct a new **4.0 MGD** Wilbarger Creek RWWTF
 - Alternative A3: Construct a new **6.0 MGD** Wilbarger Creek RWWTF



Central WWTF Capacity

- Current planned expansion to 8.5 MGD by 2024
- Flow Transfer – Keep capacity below 90% to prevent triggering new construction requirement
- Assume min. 2-yr design and construction



BLUE = FLOW TRANSFER FROM WILBARGER TO CENTRAL

IF CENTRAL WWTF TREATS ONLY CENTRAL BASIN FLOWS – 4.5 MGD EXCESS CAPACITY

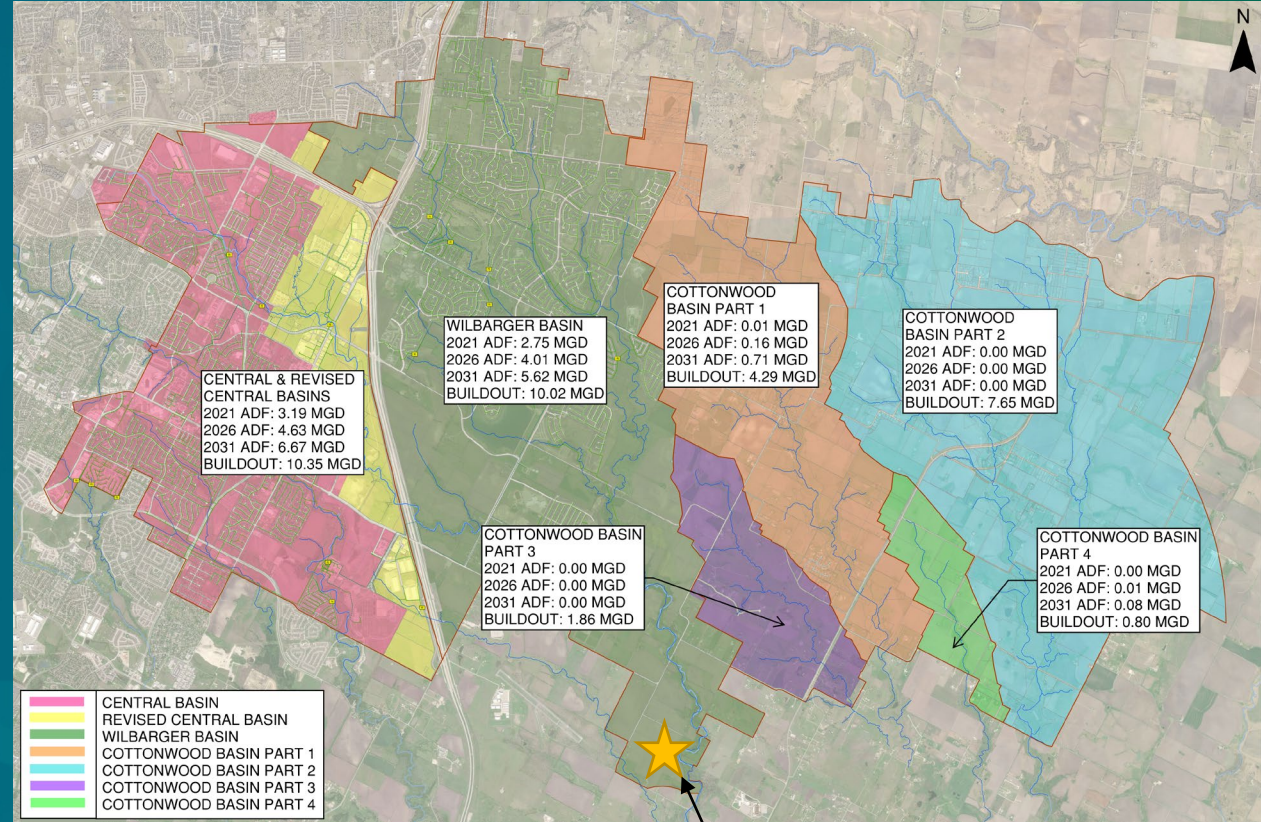
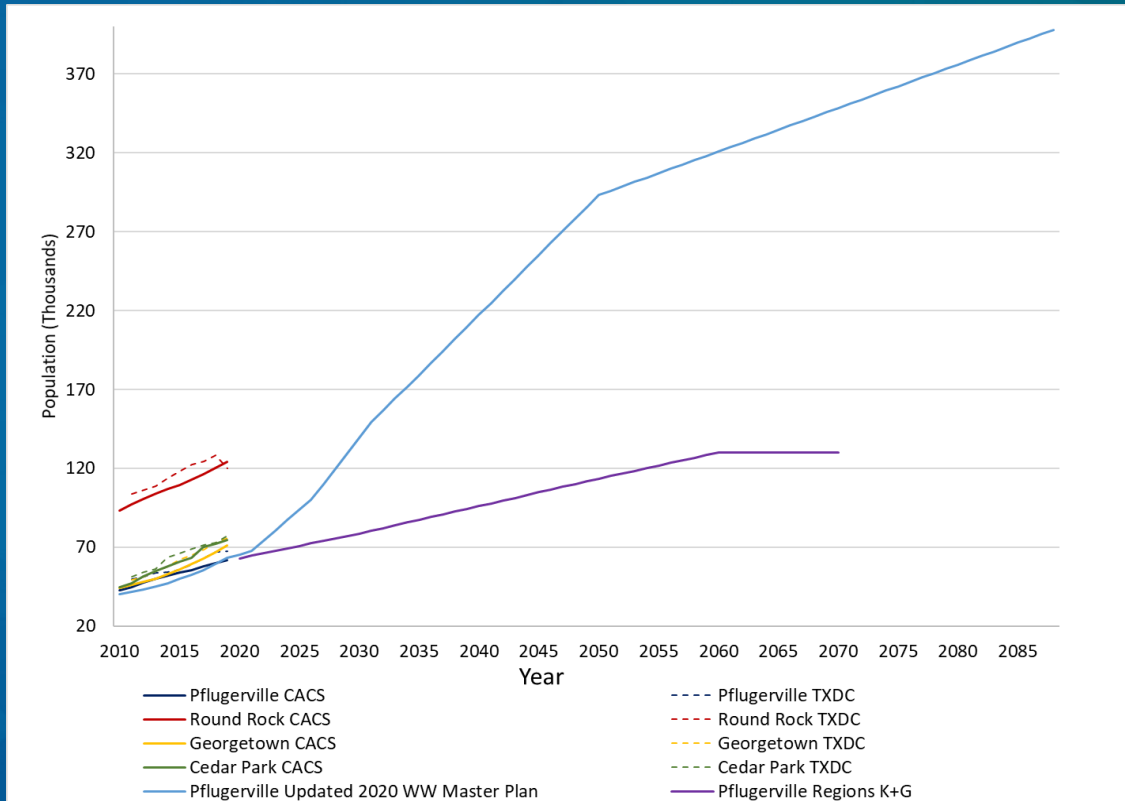
AT 75% CAPACITY PLANNING/ DESIGN MUST BEGIN

AT 90% CAPACITY CONSTRUCTION MUST BEGIN

FIGURE 4-2
 Central WWTF
 — 100% Capacity
 - - - 90% Capacity
 ····· 75% Capacity
 ■ Design
 ■ Construction



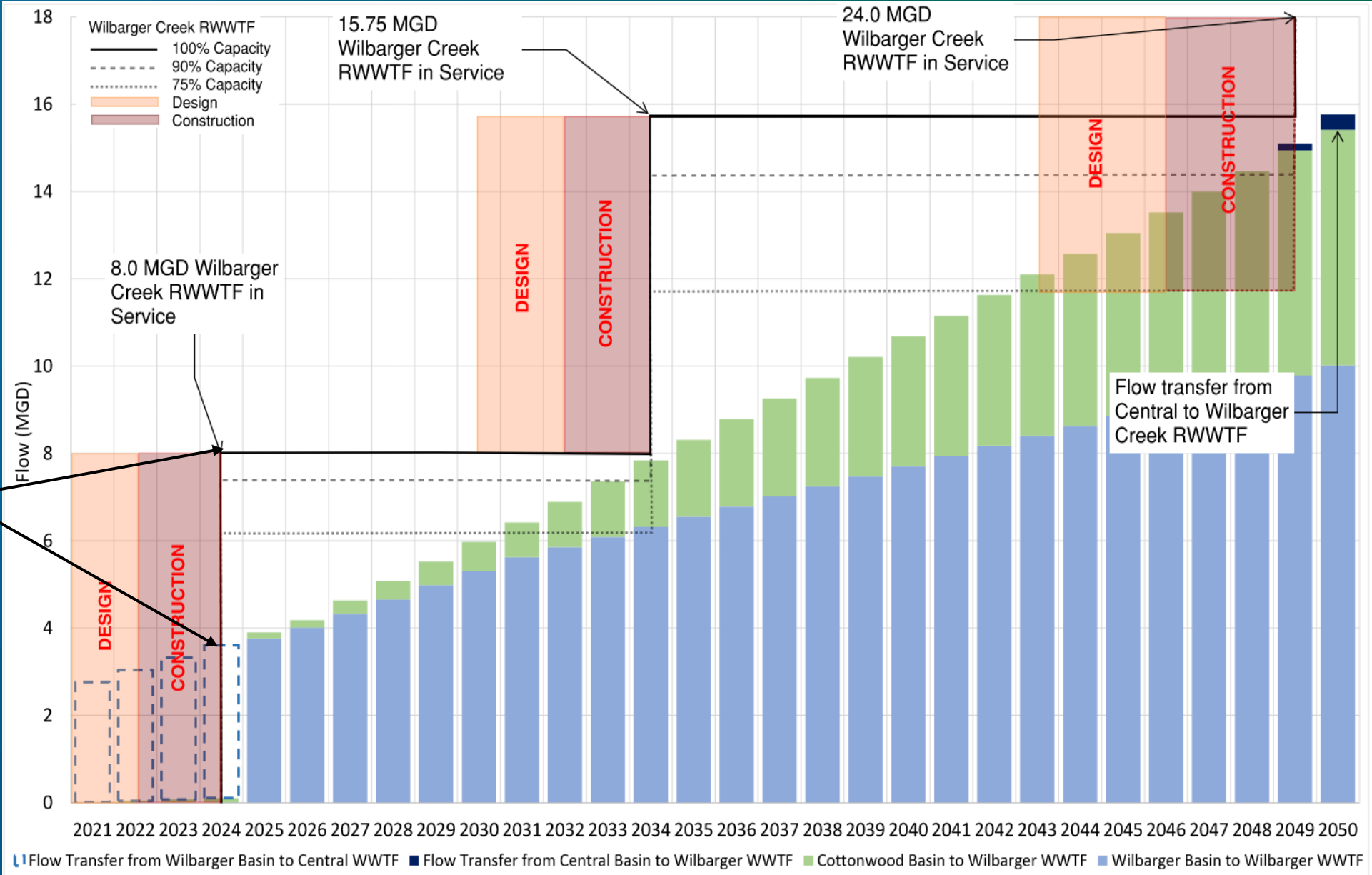
Updated population and flow projections per sewer basin (12/18/2020)



Prop. Location Wilbarger Creek RWWTF



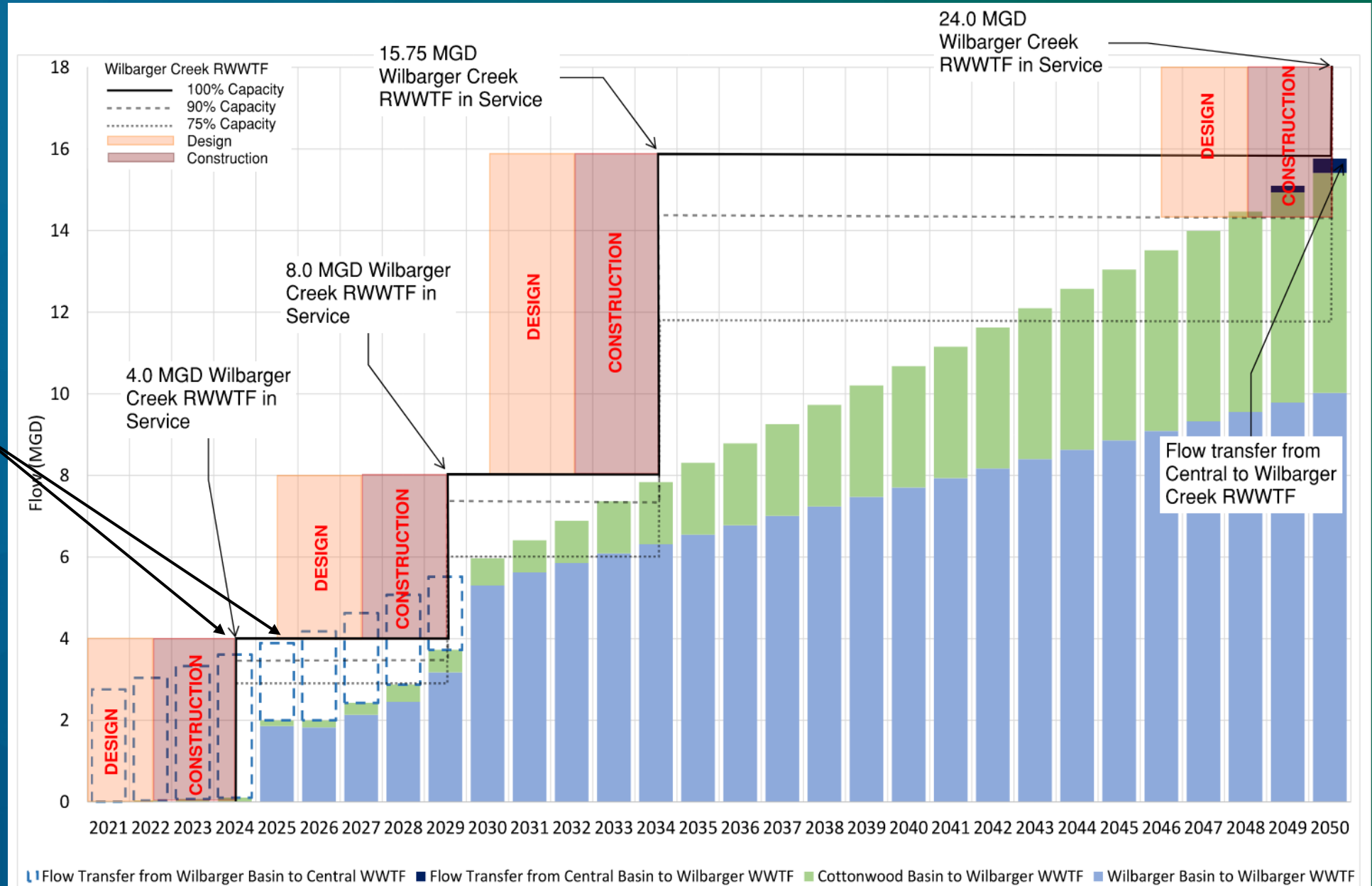
Alternative A1 – 8 MGD Wilbarger Option



INITIAL EXCESS CAPACITY

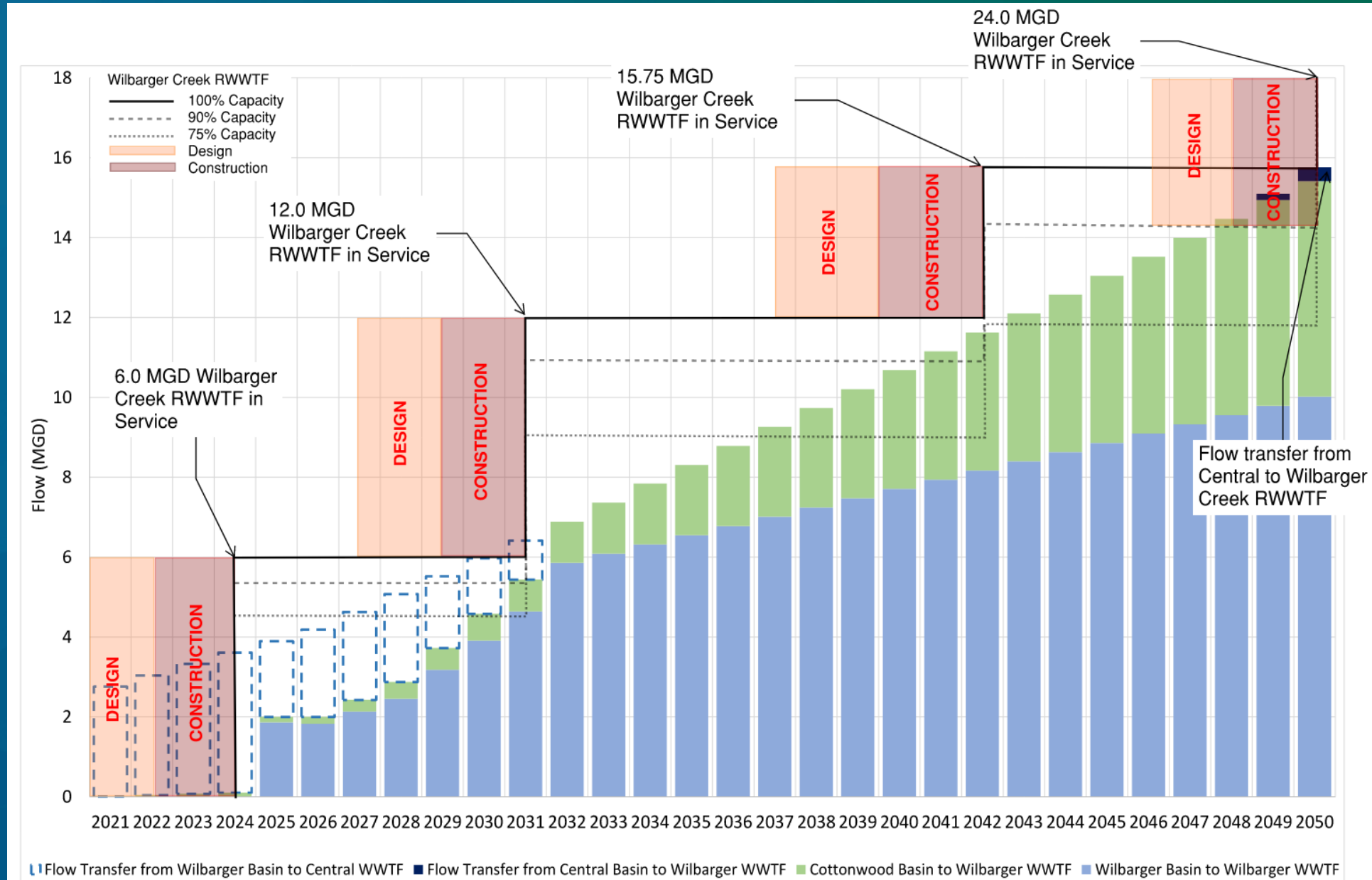
Flow transfer from Central to Wilbarger Creek RWWTF

Alternative A2 – 4 MGD Wilbarger Option



Alternative A3 – 6 MGD Wilbarger Option

Best matches flow projections, capacity and construction phasing



30-year Net Present Value Evaluation

Alt. No.	Description	30-yr NPV
A1	Wilbarger Creek RWWTF initial phase of construction at 8.0 MGD .	\$352,200,000
A2	Wilbarger Creek RWWTF initial phase of construction at 4.0 MGD .	\$354,700,000
A3	Wilbarger Creek RWWTF initial phase of construction at 6.0 MGD .	\$340,200,000

- NPV Evaluation Included
 - Cost of initial construction
 - Cost of future expansions
 - Cost of flow transfer (Weiss Lane and Carmel Lift Stations)



Recommendation: 6-MGD Plant

- Uses the City's existing treatment capacity at the Central WWTF
- Allows time between future expansions
- Lowest 30-year NPV
- Provides enough initial treatment capacity for the City to remain flexible in future decision making

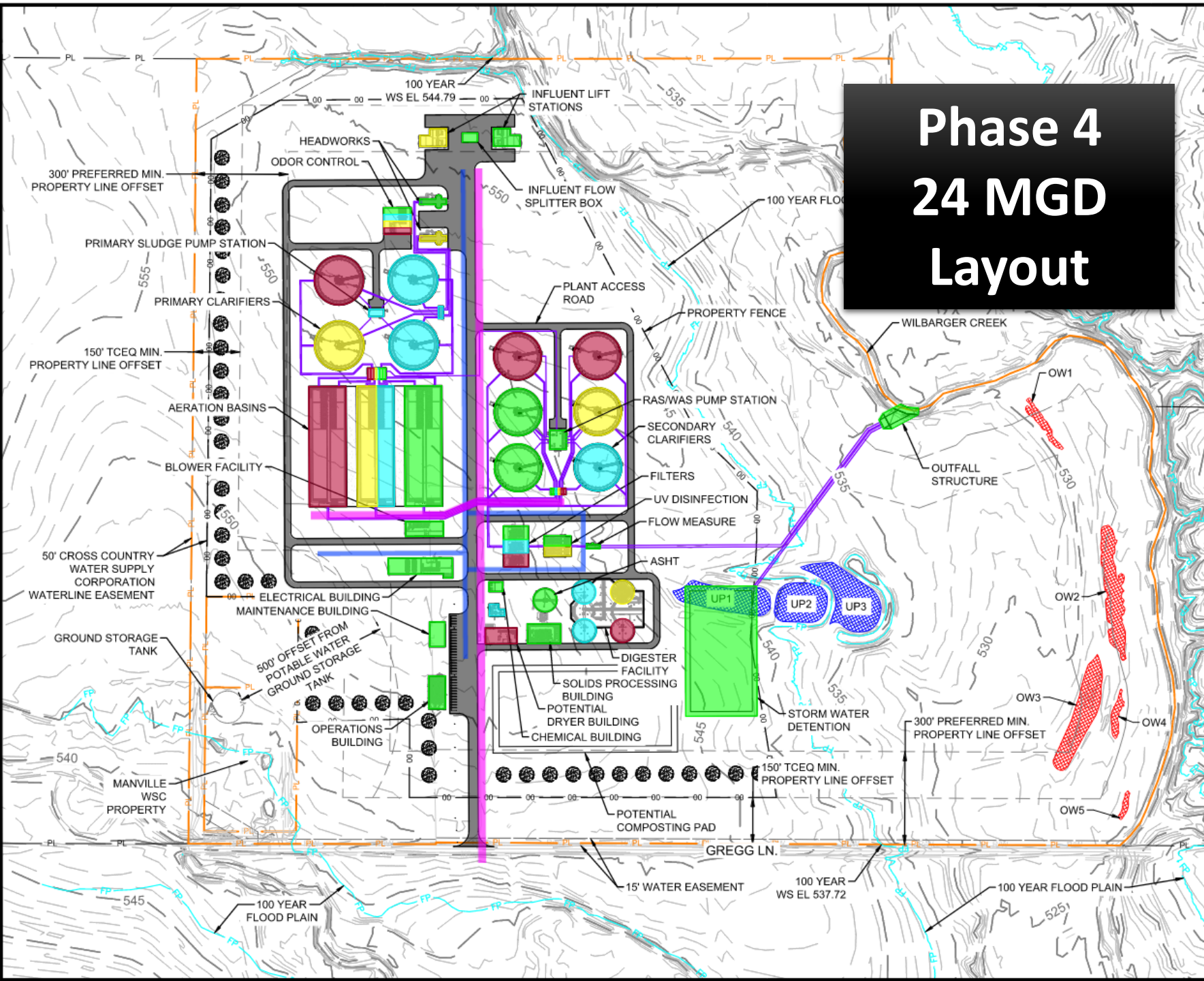


Phase 4 24 MGD Layout



(IN FEET)
**FIGURE 8-1
CONCEPTUAL SITE LAYOUT**

- NON-JURISDICTIONAL STOCK PONDS (UPLAND PONDS)
- JURISDICTIONAL PONDS (OPEN WATERS)
- WILBARGER SITE BOUNDARY
- ADJOINING PROPERTY LINE
- PROPERTY FENCE
- PROCESS PIPING
- 100 YEAR FLOOD PLAIN
- ELECTRICAL CORRIDOR
- PIPING CORRIDOR
- SITE PAVEMENT
- PHASE 1: 6.0 MGD AADF; 24 MGD P2HF
- PHASE 2: 12.0 MGD AADF; 48 MGD P2HF
- PHASE 3: 15.75 MGD AADF; 55 TO 63 MGD P2HF
- PHASE 4: 24 MGD AADF; 84 TO 96 MGD P2HF



NOTES:
1. THIS LAYOUT SHOWS A CONCEPTUAL PLANT ARRANGEMENT AND IS SUBJECT TO CHANGE DURING DESIGN.



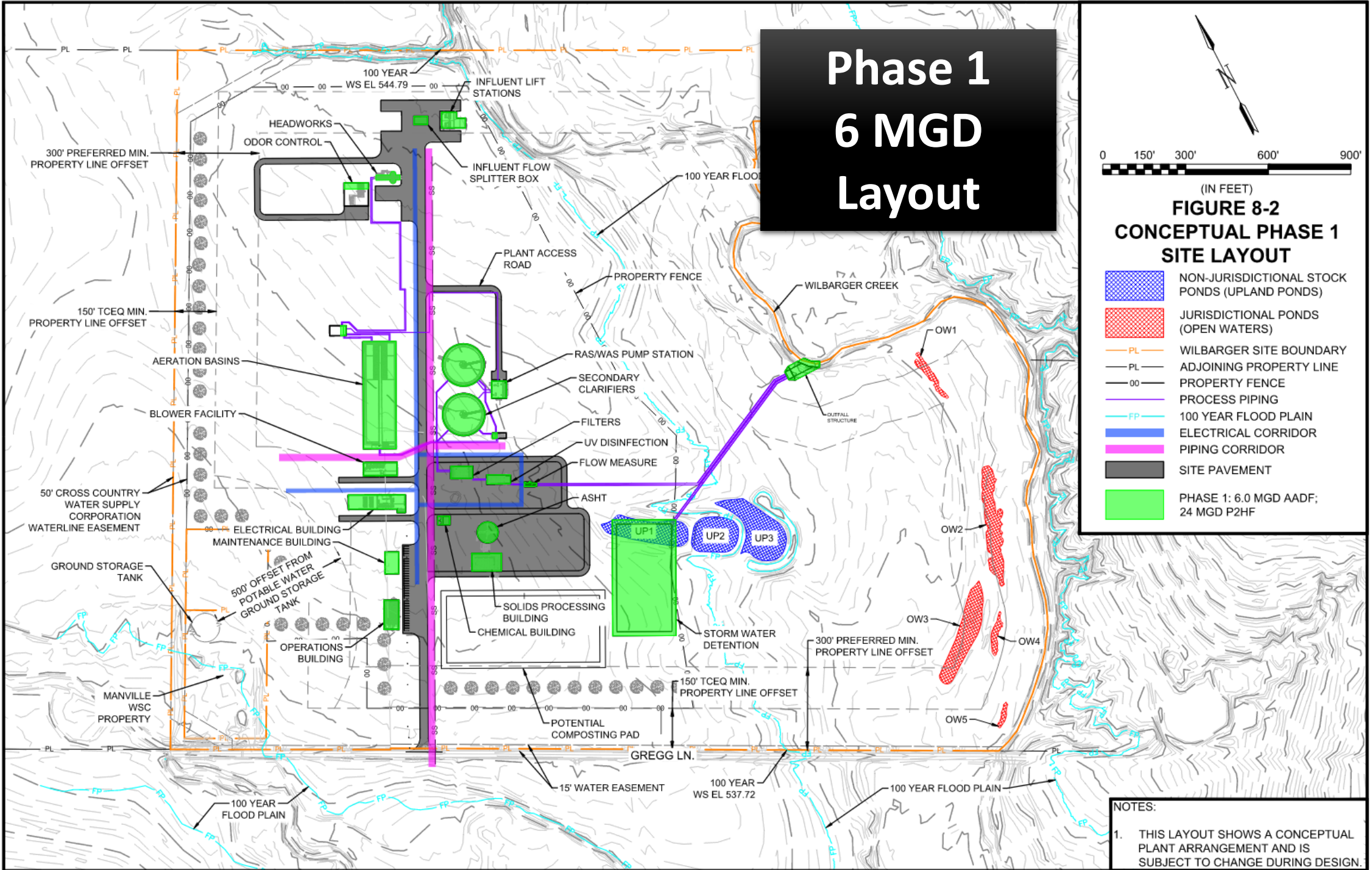
Phase 1 6 MGD Layout



(IN FEET)

FIGURE 8-2 CONCEPTUAL PHASE 1 SITE LAYOUT

- NON-JURISDICTIONAL STOCK PONDS (UPLAND PONDS)
- JURISDICTIONAL PONDS (OPEN WATERS)
- WILBARGER SITE BOUNDARY
- ADJOINING PROPERTY LINE
- PROPERTY FENCE
- PROCESS PIPING
- 100 YEAR FLOOD PLAIN
- ELECTRICAL CORRIDOR
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- PHASE 1: 6.0 MGD AADF; 24 MGD P2HF



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Questions

