

# Western Intake Partnership

## Chatham County Conditional District Rezoning Request Public Hearing Presentation

January 16, 2024



Western Intake  
Partnership

- **Introductions**
- **Items for Presentation**
  - Project Purpose/Components
  - Vicinity Map
  - Concept for Raw Water Intake and Tunnel to RWTF
  - Preliminary Site Plan
  - Landscape/Planting Plan
  - Visual Impact (Renderings)

# WIP Regional Water Treatment Facility (RWTF)



## Western Intake Partnership (WIP)

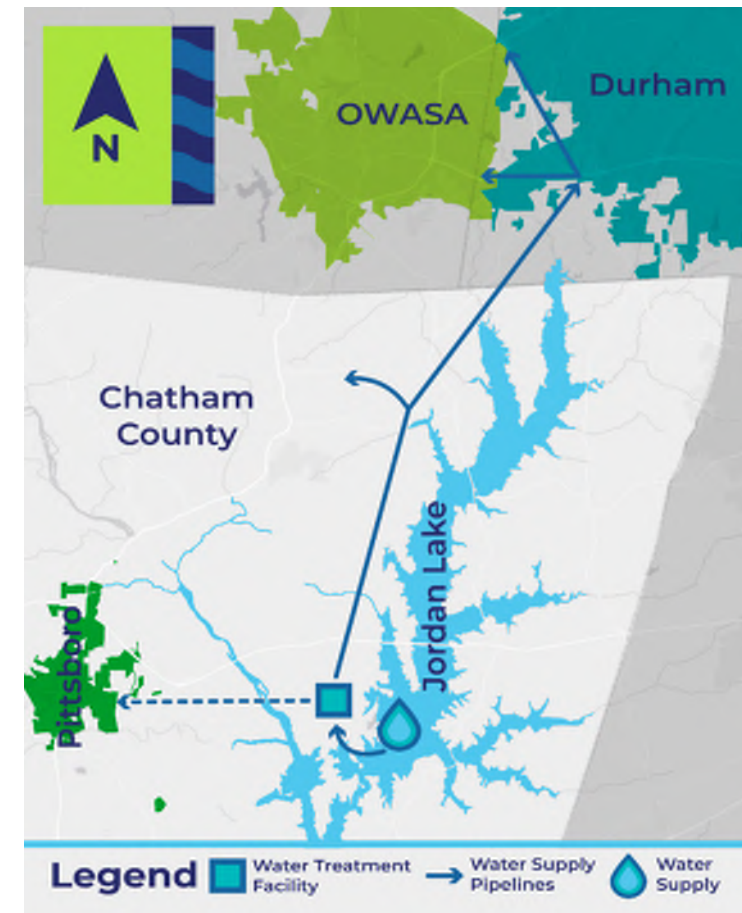
- Chatham County, City of Durham, Town of Pittsboro, OWASA
- Current owner of RWTF site – OWASA

## Project Purpose and Benefits

- Construct a new surface water treatment facility to meet long-term water supply needs and access Partners' Jordan Lake allocations
- Benefits include public health and fire protection

## Project Components

- Jordan Lake Intake & Raw Water Pump Station/Pipeline to RWTF
- New Regional Water Treatment Facility (initial capacity ~20 mgd, plans for future expansion)
- Finished Water Transmission Pipelines (~16 miles initially)



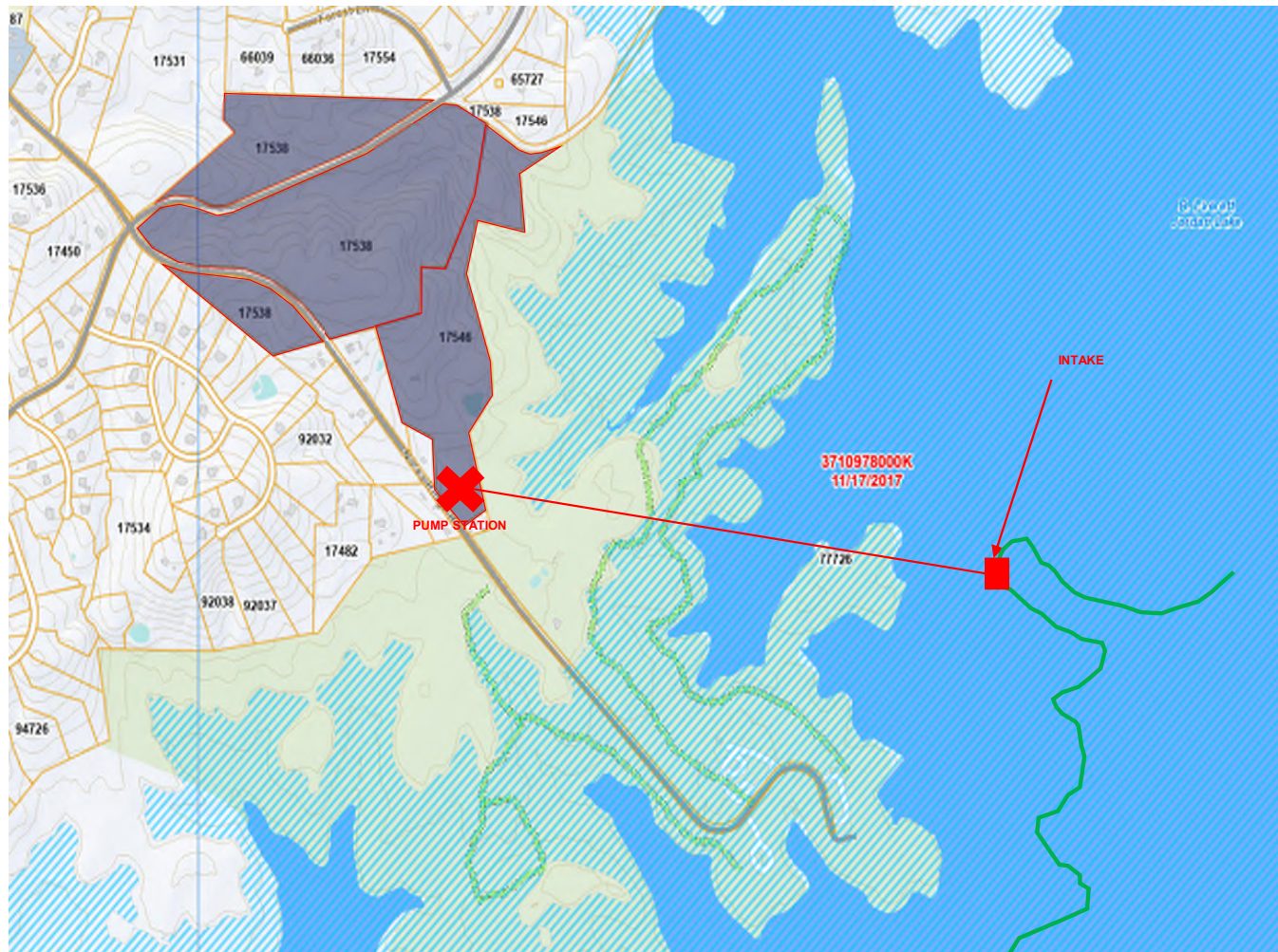


# WIP RWTF Vicinity Map





# Concept for Raw Water Intake and Tunnel to RWTF

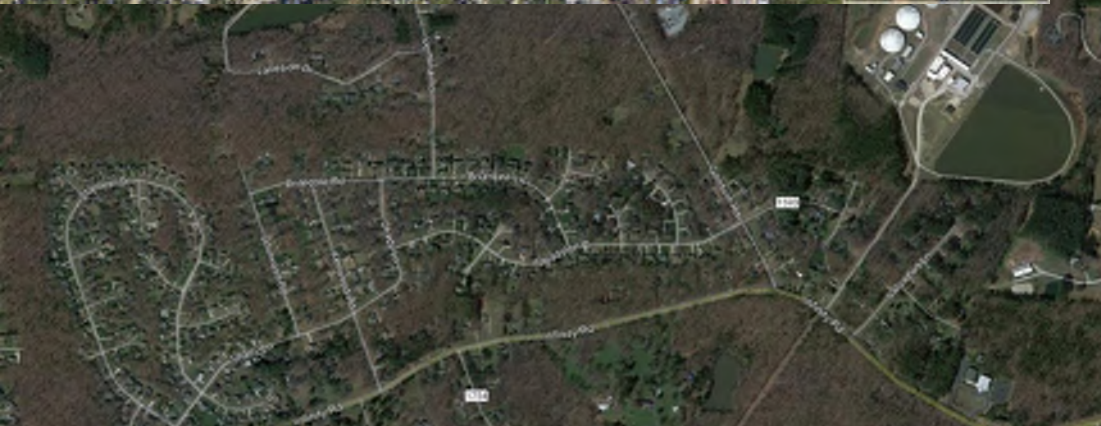


## What's included in a Regional Water Treatment Facility?

- ~10-20 employees typical
  - Plant tours for student groups are common
- 2+ entrances
- Fencing & gates
- Physical security (CCTV cameras, key-card access for gates & buildings)
- Employee & visitor parking
- Administration offices
- Laboratory
- Maintenance shop
- Electrical power supply
- Emergency generators
- Storage tanks for untreated and treated water
- Treatment basins & facilities
- Chemicals to treat the water
- Disinfection process
- Treated water (“finished water”) pump station
- Facility to thicken, store & haul away solids/sediments from treatment process
- Roads, stormwater management
- Space for future expansion

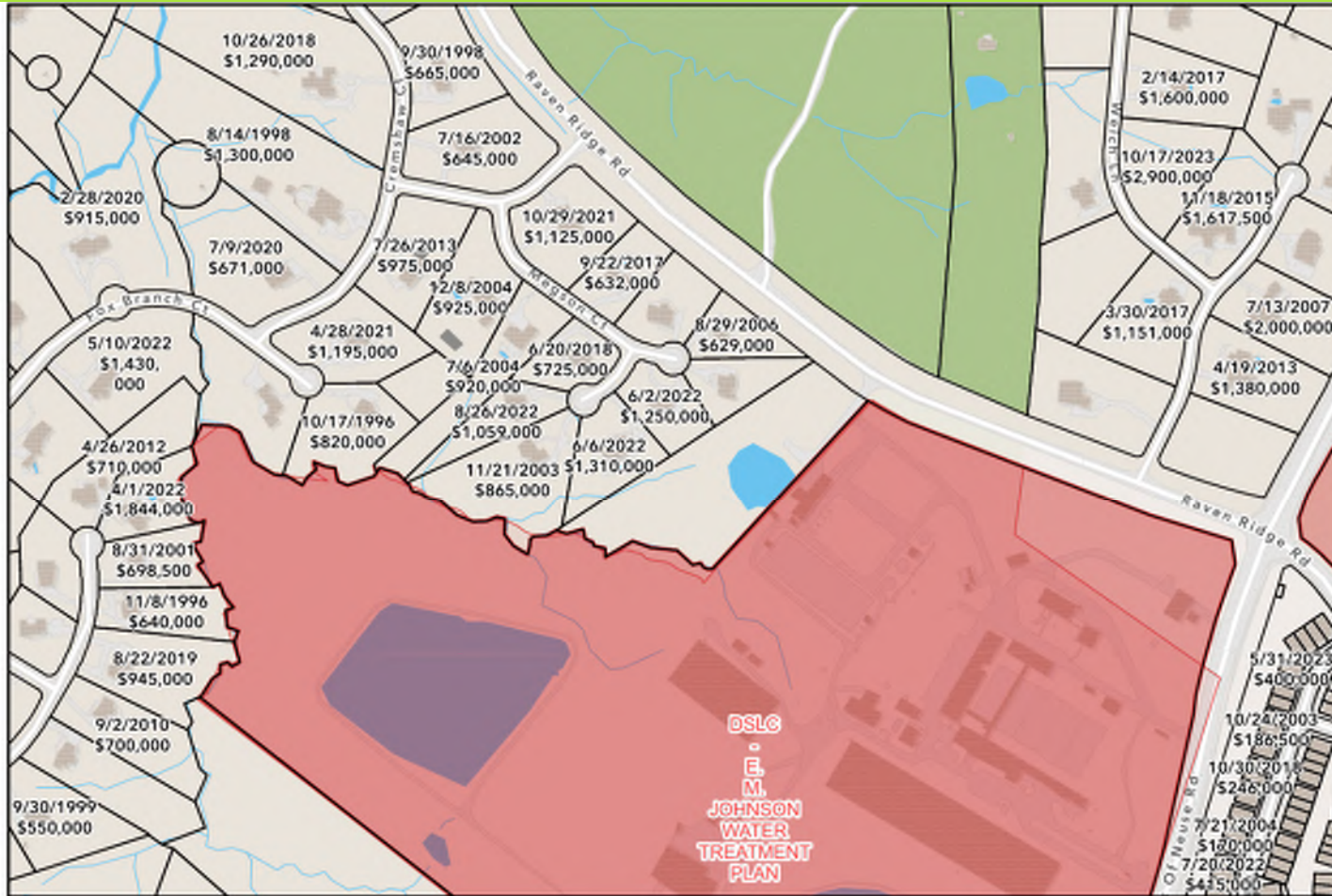


# Water Treatment Facilities Next to Residential Areas is Very Common as Shown for Cary, Durham, and 2 Raleigh Facilities

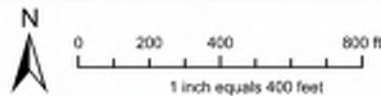




# Raleigh E.M. Johnson Water Treatment Plant with Surrounding Residential Areas



Sale Dates/Prices from Wakegov.com iMAPS



**Disclaimer**  
 iMAPS makes every effort to produce and publish the most current and accurate information possible. However, the maps are produced for information purposes, and are NOT surveys. No warranties, expressed or implied, are provided for the data therein, its use, or its interpretation.



# Preliminary Site Plan



- KEY:**
- 1 ADMIN OPERATIONS BUILDING (227'x311')
  - 2 MAINTENANCE BUILDING (118'x68')
  - 3 SUBSTATION / TRANSFORMERS (80'x175')
  - 4 7.5MG RAW WATER STORAGE TANK (2 No. 190' DIA.)
  - 5 RAW WATER OZONE INJECTION BUILDING AND CONTACTORS (86'x40')
  - 6 RAPID MIX (37'x15')
  - 7 FLOCCULATION (8 No. 62'x19')
  - 8 SEDIMENTATION BASINS WITH PLATE SETTLERS (4 No. 170'x30')
  - 9 OZONE GENERATORS AND SETTLED WATER CONTACTORS (152'x66')
  - 10 FILTERS (152'x150')
  - 11 GAC (122'x118')
  - 12 HSPS (195.5'x175')
  - 13 SMO CLEARWELL (2 No. 160' DIA.)
  - 14 ELECTRICAL / GENERATORS BLDG (130'x190')
  - 15 CHEMICAL BLDG (200'x100')
  - 16 LOX STORAGE (80'x48')
  - 17 GRAVITY THICKENER (2 No. 62' DIA.)
  - 18 THICKENED SOLIDS PS (70'x30')
  - 19 DEWATERING BLDG (92'x92')
  - 20 THICKENED SOLIDS STORAGE (2 No. 42' DIA.)
  - 21 BW EQ BASIN (80'x60')
  - 22 BW PLATE SETTLERS AND RECYCLE PS (90'x40')
  - 23 RECLAMATION BASINS (2 No. 175'x175')
  - 24 SEPTIC DRAINAGE FIELD (150'x150')
  - 25 RAW WATER PUMP STATION (85'x75')
  - 26 PAC BLD (14' DIA.)
  - 27 OPTIONAL WEIGH STATION (100'x12')
  - 28 FUEL STORAGE FOR STANDBY GENERATORS (80'x45')
  - 29 CAKE STORAGE (160'x120')
  - 30 DUPLEX SEPTIC PS (12'x4') AND VALVE BOX (7'x7')
  - 31 ELECTRICAL BUILDINGS (80'x40')
  - 32 POSSIBLE IX (250'x185')
  - 33 SURGE TANKS (15'x28')
  - 34 FUTURE RO OR GAC/IX
- LEGEND:**
- PROPOSED FACILITY - 30 MGD (PHASE 1, 2021)
  - POSSIBLE FUTURE FACILITIES - 48 MGD (PHASE 2)
  - POSSIBLE FUTURE FACILITIES TO BUILDOUT (PHASE 3)
  - ASPHALT ROAD
  - CONCRETE PAVEMENT
  - GRAVEL ROAD
  - WETLAND
  - OPEN WATER
  - APPROXIMATE LOCATION OF EXISTING CEMETERY (TO BE REVISED FOLLOWING DETERMINATION OF CEMETERY BOUNDARY)
  - STORMWATER CONTROL MEASURE (SCM)
  - EPHEMERAL STREAM
  - INTERMITTENT STREAM
  - 60' SETBACK FROM INTERMITTENT STREAM
  - WIP RWTY
  - 50' SETBACK FROM PROPERTY LINE
  - 100' SETBACK FROM PROPERTY LINE
  - 100' SETBACK FROM ROADS
  - PERMETER FENCE

# Preliminary Site Plan on Aerial

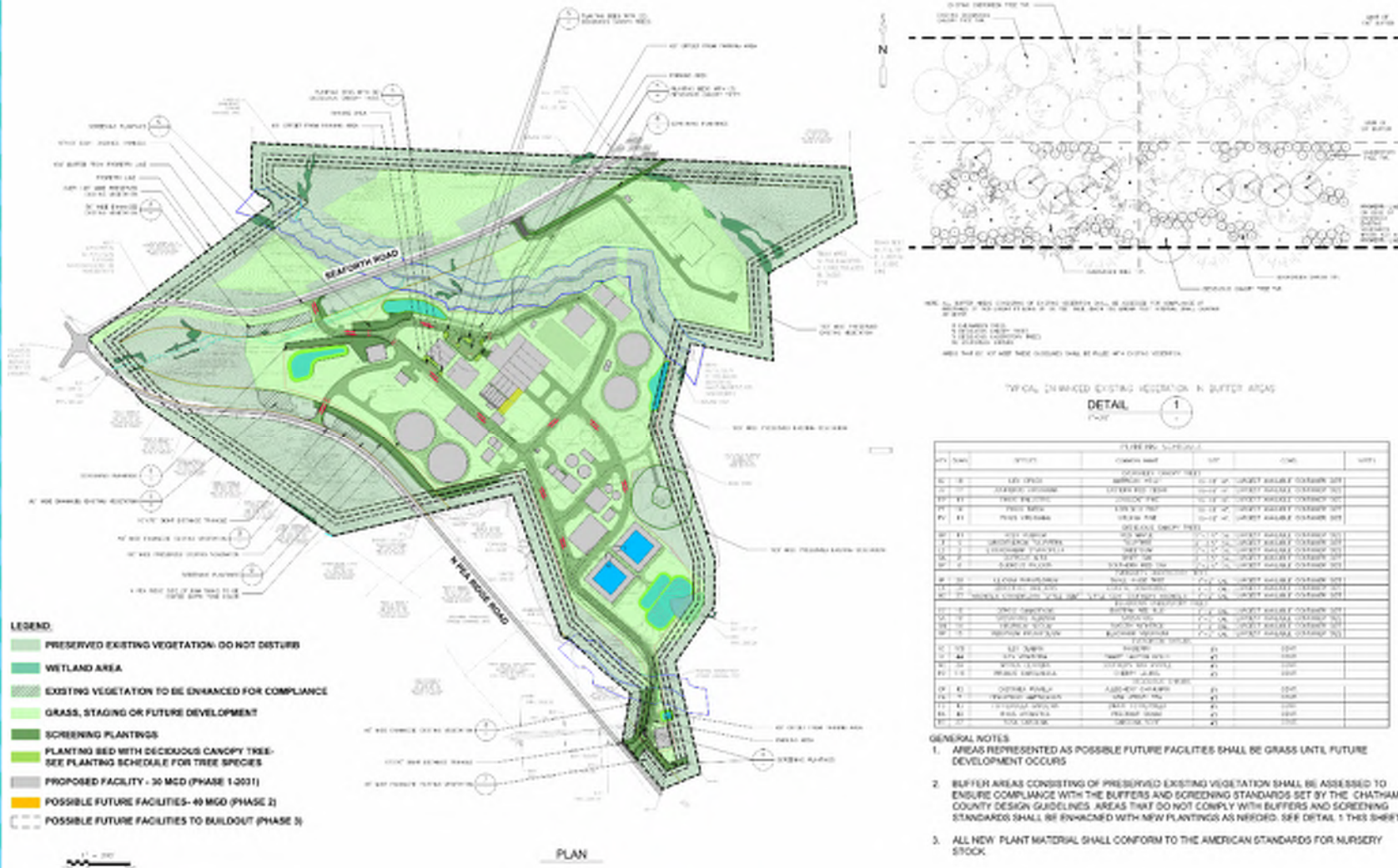


- KEY:**
- 1 ADMIN OPERATIONS BUILDING (227'x51')
  - 2 MAINTENANCE BUILDING (119'x96')
  - 3 SUBSTATION / TRANSFORMERS (60'x75')
  - 4 7.5MG RAW WATER STORAGE TANK (2 No. 180' DIA.)
  - 5 RAW WATER OZONE INJECTION BUILDING AND CONTACTORS (66'x48')
  - 6 RAPID MIX (37'x16')
  - 7 FLOCCULATION (5 No. 62'x19')
  - 8 SEDIMENTATION BASINS WITH PLATE SETTLERS (4 No. 70'x30')
  - 9 OZONE GENERATORS AND SETTLED WATER CONTACTORS (152'x66')
  - 10 FILTERS (152'x130')
  - 11 GAC (123'x154')
  - 12 HSPS (155.5'x75')
  - 13 IMG CLEARWELL (2 No. 180' DIA.)
  - 14 ELECTRICAL / GENERATORS BLDG (120'x119')
  - 15 CHEMICAL BLDG (269'x100')
  - 16 LIX STORAGE (60'x45')
  - 17 GRAVITY THICKENER (2 No. 62' DIA.)
  - 18 THICKENED SOLIDS PS (78'x30')
  - 19 DENATURING BLDG (92'x82')
  - 20 THICKENED SOLIDS STORAGE (2 No. 42' DIA.)
  - 21 BW EQ BASIN (80'x60')
  - 22 BW PLATE SETTLERS AND RECYCLE PS (80'x80')
  - 23 RECLAMATION BASINS (2 No. 175'x175')
  - 24 SEPTIC DRAINAGE FIELD (150'x150')
  - 25 RAW WATER PUMP STATION (60'x70')
  - 26 PAC SILO (14' DIA.)
  - 27 OPTIONAL WEGH STATION (110'x12')
  - 28 FUEL STORAGE FOR STANDBY GENERATORS (60'x45')
  - 29 CAKE STORAGE (160'x120')
  - 30 DUPLEX SEPTIC PS (12'x6') AND VALVE BOX (3'x3')
  - 31 ELECTRICAL BUILDING (60'x48')
  - 32 POSSIBLE IX (126'x100')
  - 33 SURGE TANKS (35'x39')
  - 34 FUTURE RO OR GAC/IX

- LEGEND:**
- PROPOSED FACILITY - 30 MGD (PHASE 1 - 2031)
  - POSSIBLE FUTURE FACILITIES - 40 MGD (PHASE 2)
  - POSSIBLE FUTURE FACILITIES TO BUILDOUT (PHASE 3)
  - ASPHALT ROAD
  - CONCRETE PAVEMENT
  - GRAVEL ROAD
  - WETLAND
  - OPEN WATER
  - APPROXIMATE LOCATION OF EXISTING CEMETERY (TO BE REVISID FOLLOWING DETERMINATION OF CEMETERY BOUNDARY)
  - STORMWATER CONTROL MEASURE (SCM)
  - EPHEMERAL STREAM
  - INTERMITTENT STREAM
  - 60' SETBACK FROM INTERMITTENT STREAM
  - WIP RWTF
  - 50' SETBACK FROM PROPERTY LINE
  - 100' SETBACK FROM PROPERTY LINE
  - 180' SETBACK FROM ROADS
  - PERIMETER FENCE



# Preliminary Planting/Landscape Plan



# Preliminary Planting/Landscape Plan



VIEW 1



VIEW 4



VIEW 2



VIEW 5



VIEW 3



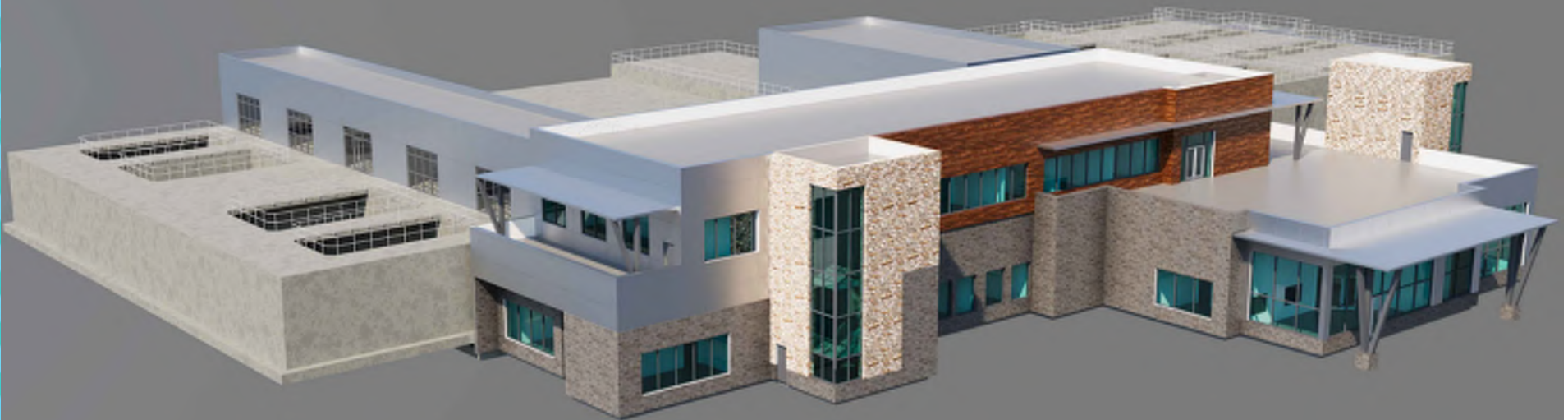
VIEW 6



# Aerial View of Preliminary Site Plan



# Tentative Operations Building Visual – Natural Aesthetic







# Questions & Discussion