

City of Mesa
Central Mesa Reuse Pipeline – Plants
Intermediate Pump Station
Mesa CIP No. CP0896

B&V Project 411073
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City of Mesa Development Services
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**Central Mesa Reuse Pipeline – Plants (Intermediate Pump Station)
3626 E. Thomas Road
Council Use Permit and Bonus Intensity Zone Narrative**

Site Description

The proposed Central Mesa Reuse Pipeline (CMRP) Intermediate Pump Station (IPS) project is part of a multi-site improvements project that is critical to the City of Mesa (COM) fulfilling its future water supply requirements. The proposed CMRP project will ultimately convey reclaimed water from the COM's water reclamation plants to the Gila River Indian Community (GRIC) for agricultural irrigation purposes. By providing reclaimed water to the GRIC, the City will receive, in exchange, a portion of the GRIC's Central Arizona Project (CAP) water credits at a favorable rate and at a ratio that will allow the City to supply water to meet its future needs. Conveyance of reclaimed water to the GRIC will require the construction of a new transmission pipeline, improvements to existing reclaimed water pump stations, and construction of the new IPS, located at 3626 E Thomas Road. The proposed IPS will include the following major facilities:

- A 25-ft tall steel reclaimed water storage tank with a volume of approximately 0.5 million gallons
- A 13-ft tall 13,300-gallon horizontal surge tank to accommodate potential pipeline pressure surges and to protect the CMRP system infrastructure
- A 17-ft tall masonry electrical building will provide the secured storage for pump motor starters, variable frequency drives (VFDs) and monitoring / control equipment
- Three new reclaimed water pumps, located outside with vertical motors ~12-ft tall
- Above grade valves, piping, and monitoring and control equipment
- A retention basin to collect site runoff

The IPS site is located on the northeast corner of the intersection of Val Vista Drive and Thomas Road in Mesa, Arizona. The site is somewhat triangular in shape and is bounded on the north by a drainage channel and SR-202 owned by the Arizona Department of Transportation (ADOT).

For infrastructure security reasons an 8-ft perimeter wall is required around the site perimeter. As this is a tall wall, it will be the primary site design aesthetic. The south and west sides of the site will be coordinated with the wall planned for the future development on the south side of E

Thomas Road to be harmonious. Landscaping on the south and west sides of the site will utilize native vegetation to encourage biodiversity, reduce environmental impacts, and conserve water.

The development adjacent to the IPS site, Estates at Pioneer Crossing at 3559 N. Val Vista Dr, includes the extension of the sidewalk on the north side of East Thomas Rd. along the south side of the IPS site all the way to the cul-de-sac and ties into the development for Estates at Pioneer Crossing. The Estates at Pioneer Crossing will also modify the existing sidewalk ramp on the northeast corner of E. Thomas Rd. and Val Vista Dr. to meet current ADA standards per COM Std. Det. M-44.02 or .03.

For infrastructure security, this unmanned site will include video surveillance and will be monitored by City of Mesa. During regular operations, the IPS site will be visited once per day by one COM truck, pickup size. Visits may be less frequent when the IPS pumps are not operating. Since the secured site is unmanned and limits public access, designated parking areas and secure bicycle storage is not needed.

A shade canopy with exposed steel columns will be installed over critical electrical equipment associated with the surge tank to protect the equipment from UV exposure and extreme temperatures. More sensitive electrical equipment will be housed in the air conditioned, masonry electrical building.

A fire alarm system is required and will be provided for the new electrical building. Fire sprinklers are not required in the building because it falls under exemption #2 section 903.3.1.1 of the Mesa Code Ordinances, and will meet the following provisions of NFPA 13:

- The room will be dedicated to electrical equipment only.
- Only dry type electrical equipment is used.
- Equipment is installed in a 2-hour fire rated enclosure including protection for penetrations.
- No combustible storage is permitted to be stored in the room.

Request for Council Use Permit (CUP)

The COM recently purchased this undeveloped property from ADOT with the intended use being for the construction of the IPS. The property was zoned General Industrial (GI) and will remain GI zoning. Per Section 11-7-2 of the Mesa Zoning Ordinance (MZO), the proposed major utilities use is allowed within the GI zoning district with granting of a Council Use Permit. A CUP is being requested for the IPS site.

The General Plan character area designation for the IPS site is Neighborhood Village Center and is also located within the Falcon Field Sub-Area. The proposed project will advance the goals and be consistent with the purposes of the General Plan and Sub-Area by:

- Providing infrastructure support for the wide range of opportunities for the employment of professionals, technical experts, and high-skilled labor in high-quality settings.
- Developing a previously unutilized area to help the City of Mesa achieve its future water supply goals and provide a needed service for the City.

- Supporting Mesa's Water Resources goal of ensuring an adequate, reliable water supply to create and maintain great neighborhoods, grow and maintain diverse and stable jobs, and provide rich, high-quality public spaces.
- Providing critical infrastructure improvements needed for anticipated growth.
- Support environment and conservation efforts by maximizing resource efficiency that will benefit future generations.
- Providing fiscally sound planning, design, and construction of a public facility.
- Implementing landscape that restores natural desert beauty to the area and is cognizant of aviation safety concerns.

The proposed project will not be injurious or detrimental to surrounding properties. This project will support the continued growth and development of the surrounding area and the greater City of Mesa. The design of the IPS site architecture has been coordinated with neighboring developments to be consistent and blend into the community. Additionally, there are adequate public services, facilities, and infrastructure to support this project.

Bonus Intensity Zone

We are aware of the importance in providing a site design that adheres to the principles and standards detailed in MZO Section 11. It is not without considerable effort that we have determined that strict compliance to all principles under Section 11 is impractical. Due to the site constraints, direct requests from the City, and need to protect critical Mesa infrastructure and maintain site safety, the project team is requesting a Bonus Intensity Zone (BIZ) Overlay District, as described in Mesa Zoning Ordinance (MZO) section 11-21.

Table 1 has summarized the variances being requested by providing the relevant MZO section number, the corresponding requirement(s) of that section, the variance being requested based on what is actually being provided, and a reasoning for that variance. Following Table 1 is a justification for these variances based on superior quality design elements that are being provided.

Table 1: Variance Request Summary

MZO Section	Requirement	Variance Requested	Reasoning
11-7-3	<ul style="list-style-type: none"> • Arterial street side setback: 15-ft for landscape; 15-ft landscape width • Collector street side setback: 20-ft for building and landscape; 20-ft landscape width (E. Thomas Rd.) • Freeway side setback: 30-ft for building and landscape (north side of site) • Rear setback: 0-ft for building and 15-ft for landscape (east side of site) 	<ul style="list-style-type: none"> • Arterial street side setback: 0-ft for landscape; 19-ft landscape width • Collector street side setback: 1-ft 9-in minimum for building, 0-ft for landscape; 5-ft 5in min landscape width • Freeway side setback: 9-ft 3-in minimum for building, 0-ft for landscape (no landscaping) • Rear setback: 11-ft 2-in for building, 0-ft for landscape (no landscaping) 	<p>In order to accommodate all necessary design features and equipment in this unique site configuration where space is limited, not all building and landscaping setbacks as defined in this section can be met. As illustrated on the site plan, with all setbacks in place the maximum site dimensions would be 53-ft 9-in, which would not even be large enough for the 66-ft diameter water storage tank. The available site area would be approximately 9,700 SF. The total occupied area for above grade structures and equipment is approximately 7,400 SF, which would be over 76% of the total available site area. This would be impractical for site safety and access to equipment.</p> <p>In an effort to provide a site configuration that considers Mesa personnel and maintenance staff needs related to the equipment, no landscaping has been provided on the rear (east) or freeway (north) sides of the property. A landscape setback would not be required on the rear side of the property if the electrical building was located against the site wall, however access is needed on the east side of the building and locating a building close to a wall also presents security concerns.</p> <p>Landscaping has been provided on the arterial and collector street sides, however for similar previously mentioned reasons the required setbacks have not been met. For the collector street, the minimum landscaping width is below 20-ft so that traffic site triangles remain free of interference.</p>
11-30-9(l)	6-ft tall wall on interior lot lines	8-ft tall site perimeter walls	The City of Mesa has requested the site perimeter walls to be 8 feet tall for critical infrastructure security.

Table 1: Variance Request Summary

MZO Section	Requirement	Variance Requested	Reasoning
11-30-10	25-ft radius setback from intersection	23-ft radius setback from intersection	The setback from the corner of the site to the Val Vista Dr. and Thomas Rd. intersection is 23-ft to accommodate requirements for the retention basin and necessary equipment on the site. Transportation has previously confirmed that this deviation is acceptable.
11-32-(4)(A)	50-ft setback for parking spaces along main drive aisles connecting directly to a street	36-ft 5-in setback for parking (minimum measured dimension)	No parking spaces exist on the site however it is expected that City vehicles accessing the site will park along the single wraparound driveway connected to Thomas Rd. or on the driveway to the electrical building. Parking along the north side of the main wraparound driveway will have a setback range of 58-ft to 75-ft 7-in, however the setback for parking on the driveway to the electrical building will at minimum be 35-ft 9-in. This variance is being requested to accommodate the unique site configuration and accommodate all necessary design features of the site. Parking at the site will not be open to the public, only Mesa operations and maintenance personnel will have access to the site.
11-33-3(A)	<ul style="list-style-type: none"> • Collector Streets require 1 tree and 6 shrubs per 25 linear feet of site frontage (E. Thomas Rd. is 448-ft and would require 18 trees and 107 shrubs) • Collector Street minimums: 25% of trees shall be 36" box, 50% of trees shall be 24" box, 50% of shrubs shall be 5 gallon. 	<ul style="list-style-type: none"> • Along E. Thomas Rd. there are 0 trees and 59 shrubs • 0% of trees are 36" box; 0% of trees are 24" box • 100% of shrubs are minimum 5 gallon; 10% of shrubs are 15 gallon 	<p>Trees are unable to be planted along Thomas Rd. due to the SRP easement for the overhead power line and the SRP Technical Provisions requirement that states that trees are prohibited from being planted in such easements.</p> <p>To mitigate pipeline infrastructure corrosion, Mesa Water Resources has requested that no landscaping or water emitting irrigation be placed within 10-ft of the new buried pipelines entering the site, resulting in 110-ft of the frontage being free of landscaping. Native seed mix over these areas and vines/trellises on the walls are also undesirable due to maintenance concerns and site security concerns respectively. Additionally, to maintain traffic visibility and safety, there are no plants in the designated sight visibility triangles. Because of this, the total number of shrubs is unable to be met.</p>

Table 1: Variance Request Summary

MZO Section	Requirement	Variance Requested	Reasoning
11-33-3(B)(2)	<ul style="list-style-type: none"> • 15-ft width landscape yard for non-single residence uses adjacent to non-single residence uses • 50% vegetative cover • Minimum of 3 non-deciduous trees and 20 shrubs per 100 linear feet • Minimum tree size shall be 15-gallon for GI districts. 	<p>For east side (37-ft 3-in):</p> <ul style="list-style-type: none"> • 0-ft width landscape yard (no landscaping) • 0% vegetative cover • 0 out of 2 non-deciduous trees and 0 out of 8 shrubs <p>For north side (350-ft):</p> <ul style="list-style-type: none"> • 0-ft width landscape yard (no landscaping) • 0% vegetative cover • 0 out of 11 non-deciduous trees and 0 out of 70 shrubs 	<p>In order to accommodate all necessary design features and equipment in this unique site configuration where space is limited, not all landscaping requirements as defined in this section can be met. In an effort to provide a site configuration that considers Mesa personnel and maintenance staff needs related to the equipment, no landscaping has been provided on the rear (east) or freeway (north) sides of the property.</p>

We are committed to providing the following superior design qualities in return for the requested modifications to the standards:

- To provide a greater degree of compatibility with the surrounding area, the IPS site wall has been designed to match the perimeter wall of the development south of E. Thomas Rd. (Estates at Pioneer Crossing). This coordination will create consistency in the area's aesthetic and allow the site to blend into the surroundings while also exceeding typical site perimeter wall design standards.
- The architectural finish of the masonry electrical building has been designed to be coordinated with the IPS site wall and the wall of the residential development south of E. Thomas Rd.
- Along N. Val Vista Dr. (Arterial Street) 6 trees will be provided in the landscaping exceeding the required 5 trees.
- Along N. Val Vista Dr. (Arterial Street) 100% of the trees will be 36-in box size exceeding the requirement that a minimum of 50% of trees be at least 24-in box size and a minimum of 25% of trees be at least 36-in box size.
- Along N. Val Vista Dr. (Arterial Street) 28 shrubs will be provided in the landscaping exceeding the required 26 shrubs.
- Along N. Val Vista Dr. (Arterial Street) and E. Thomas Rd. (Collector Street) 100% of all shrubs will be 5-gallon or larger which exceeds the requirement that a minimum of 50% of shrubs be 5-gallon or larger. Additionally, 9 of the shrubs will be 15-gallon.
- Bio-swales have been provided in the landscaping design to promote water efficiency and support storm water management by cleaning storm water before it percolates into the ground.
- When selecting plants for the site landscaping, their effect on the surrounding area was considered to promote their viability and long-term maturation. All nine plant types are heat and drought tolerant, all can tolerate the heat reflected by the site wall, and all survive well on streetscapes.
- The masonry electrical building has been designed to be fully insulated to meet the City of Mesa's Energy Conservation Code. The HVAC system at the electrical building has also been designed with an economizer for further energy efficiency.
- The pumps at the IPS site have been designed with premium efficiency rated motors and variable frequency drives to further energy savings and efficiency.

We appreciate your review of this submission for this critical City of Mesa project. Please contact us with any further questions.

Thank you,



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